



Full wwPDB/EMDatabank EM Map/Model Validation Report ⓘ

Jan 4, 2017 – 05:47 AM EST

PDB ID : 5AJ0
EMDB ID: : EMD-2875
Title : Cryo electron microscopy of actively translating human polysomes (POST state).
Authors : Behrmann, E.; Loerke, J.; Budkevich, T.V.; Yamamoto, K.; Schmidt, A.; Penczek, P.A.; Vos, M.R.; Burger, J.; Mielke, T.; Scheerer, P.; Spahn, C.M.T.
Deposited on : 2015-02-19
Resolution : 3.50 Å(reported)
Based on PDB ID : 4UJE

This is a Full wwPDB/EMDatabank EM Map/Model Validation Report
for a publicly released PDB/EMDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<http://wwpdb.org/validation/2016/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

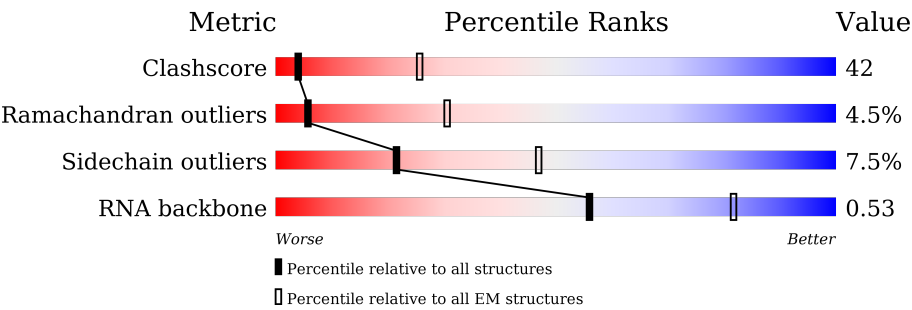
MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20028442

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.








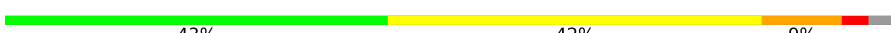
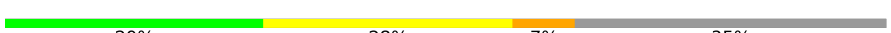




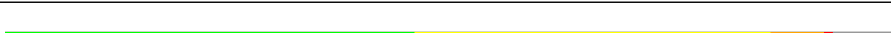



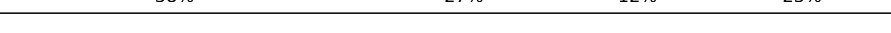









Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	114402	924
Ramachandran outliers	111179	726
Sidechain outliers	111093	686
RNA backbone	3027	244

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5%

Mol	Chain	Length	Quality of chain
1	A3	194	28% 28% 18% 7% 19%
2	A4	121	23% 38% 36% ..
3	AA	257	54% 39% 5% .
4	AB	403	41% 50% 5% ..
5	AC	427	43% 35% 6% . 15%
6	AD	297	53% 39% 7% ..
7	AE	288	20% 30% 15% . 33%
8	AF	248	52% 38% . . 6%







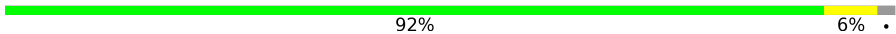

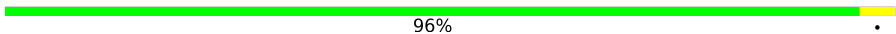


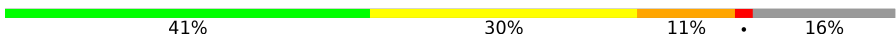



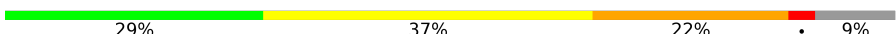
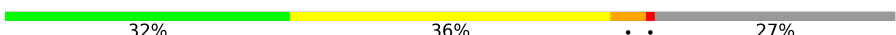
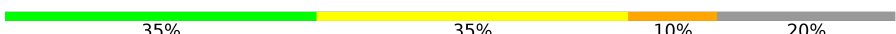







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Mol	Chain	Length	Quality of chain
9	AG	266	
10	AH	192	
11	AI	214	
12	AJ	178	
13	AK	317	
14	AL	211	
15	AM	215	
16	AN	204	
17	AO	203	
18	AP	184	
19	AQ	188	
20	AR	196	
21	AS	176	
22	AT	160	
23	AU	128	
24	AV	140	
25	AW	157	
26	AX	156	
27	AY	145	
28	AZ	136	
29	Aa	148	
30	Ab	159	
31	Ac	115	
32	Ad	125	
33	Ae	135	

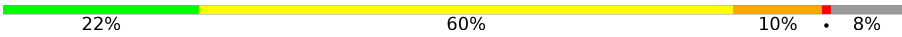
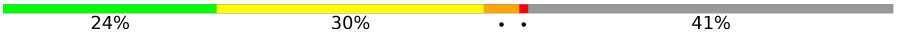



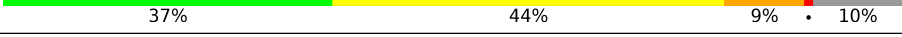
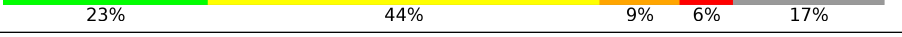

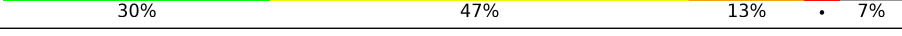

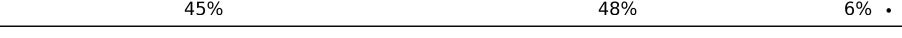
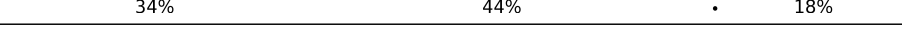

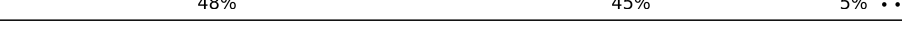


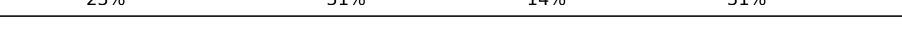

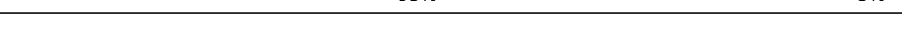




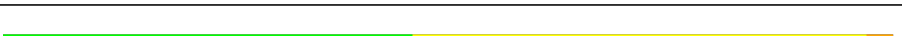

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Mol	Chain	Length	Quality of chain
34	Af	110	
35	Ag	117	
36	Ah	123	
37	Ai	105	
38	Aj	97	
39	Ak	70	
40	Al	51	
41	Am	128	
42	An	25	
43	Ao	106	
44	Ap	92	
45	Aq	165	
46	At	137	
47	Au	217	
48	A2	5029	
49	B1	1869	
50	BA	295	
51	BB	264	
52	BC	293	
53	BD	243	
54	BE	263	
55	BF	204	
56	BG	249	
57	BH	194	
58	BI	208	



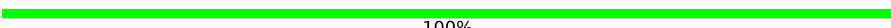
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Mol	Chain	Length	Quality of chain
59	BJ	194	
60	BK	165	
61	BL	158	
62	BM	132	
63	BN	151	
64	BO	151	
65	BP	145	
66	BQ	146	
67	BR	135	
68	BS	152	
69	BT	145	
70	BU	119	
71	BV	83	
72	BW	130	
73	BX	143	
74	BY	133	
75	BZ	125	
76	Ba	115	
77	Bb	84	
78	Bc	69	
79	Bd	56	
80	Be	59	
81	Bf	156	
82	Bg	317	
83	Bv	76	

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Mol	Chain	Length	Quality of chain
83	Bw	76	 51% 49%
84	Bx	28	 18% 82%
85	By	24	 100%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
86	MG	B1	1941	-	-	X	-

2 Entry composition

There are 87 unique types of molecules in this entry. The entry contains 218559 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A3	157	Total	C	N	O	P	0	0
			3337	1489	587	1104	157		

- Molecule 2 is a RNA chain called 5S Ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A4	119	Total	C	N	O	P	0	0
			2541	1132	454	836	119		

- Molecule 3 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	AA	252	Total	C	N	O	S	0	0
			1930	1209	395	320	6		

- Molecule 4 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	AB	394	Total	C	N	O	S	0	0
			3178	2024	596	544	14		

- Molecule 5 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	AC	363	Total	C	N	O	S	0	0
			2888	1817	577	480	14		

- Molecule 6 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	AD	294	Total	C	N	O	S	0	0
			2392	1510	436	432	14		

- Molecule 7 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	AE	194	Total	C	N	O	S	0	0
			1571	1013	294	263	1		

- Molecule 8 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AF	234	Total	C	N	O	S	0	0
			1950	1252	376	313	9		

- Molecule 9 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AG	234	Total	C	N	O	S	0	0
			1880	1197	362	317	4		

- Molecule 10 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AH	191	Total	C	N	O	S	0	0
			1526	960	285	275	6		

- Molecule 11 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AI	208	Total	C	N	O	S	0	0
			1692	1074	327	278	13		

- Molecule 12 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AJ	169	Total	C	N	O	S	0	0
			1353	855	252	240	6		

- Molecule 13 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AK	109	Total	C	N	O	S	0	0
			872	554	159	151	8		

- Molecule 14 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AL	205	Total	C	N	O	S	0	0
			1657	1036	344	273	4		

- Molecule 15 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AM	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

- Molecule 16 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AN	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 17 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AO	195	Total	C	N	O	S	0	0
			1606	1034	315	252	5		

- Molecule 18 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AP	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 19 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AQ	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 20 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AR	181	Total	C	N	O	S	0	0
			1517	938	329	241	9		

- Molecule 21 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AS	175	Total	C	N	O	S	0	0
			1449	921	283	234	11		

- Molecule 22 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AT	157	Total	C	N	O	S	0	0
			1284	815	250	214	5		

- Molecule 23 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AU	99	Total	C	N	O	S	0	0
			808	518	141	147	2		

- Molecule 24 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AV	129	Total	C	N	O	S	0	0
			969	613	182	169	5		

- Molecule 25 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	AW	121	Total	C	N	O	S	0	0
			989	617	202	167	3		

- Molecule 26 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	AX	117	Total	C	N	O	S	0	0
			958	612	180	165	1		

- Molecule 27 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	AY	127	Total	C	N	O	S	0	0
			1064	668	216	177	3		

- Molecule 28 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AZ	134	Total	C	N	O	S	0	0
			1103	712	207	181	3		

- Molecule 29 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Aa	147	Total	C	N	O	S	0	0
			1162	736	237	186	3		

- Molecule 30 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Ab	68	Total	C	N	O	S	0	0
			559	344	122	90	3		

- Molecule 31 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Ac	103	Total	C	N	O	S	0	0
			801	508	141	145	7		

- Molecule 32 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Ad	106	Total	C	N	O	S	0	0
			879	555	170	152	2		

- Molecule 33 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Ae	129	Total	C	N	O	S	0	0
			1064	673	220	166	5		

- Molecule 34 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Af	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 35 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Ag	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 36 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Ah	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 37 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Ai	97	Total	C	N	O	S	0	0
			794	497	168	124	5		

- Molecule 38 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Aj	84	Total	C	N	O	S	0	0
			689	423	152	109	5		

- Molecule 39 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Ak	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

- Molecule 40 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Al	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 41 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Am	50	Total	C	N	O	S	0	0
			411	254	87	64	6		

- Molecule 42 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	An	25	Total	C	N	O	S	0	0
			240	145	64	28	3		

- Molecule 43 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Ao	105	Total	C	N	O	S	0	0
			863	542	175	140	6		

- Molecule 44 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Ap	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 45 is a protein called 60S ribosomal protein L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Aq	138	Total	C	N	O	S	0	0
			1046	654	196	193	3		

- Molecule 46 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	At	122	Total	C	N	O	S	0	0
			980	607	204	165	4		

- Molecule 47 is a protein called 60S ribosomal protein L10a.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Au	217	Total	C	N	O	S	0	0
			1744	1114	314	307	9		

- Molecule 48 is a RNA chain called Human 28S ribosomal RNA gene.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	A2	3612	Total	C	N	O	P	0	0
			77427	34482	14158	25175	3612		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A2	245	C	-	INSERTION	GB 337381
A2	246	C	-	INSERTION	GB 337381
A2	247	C	-	INSERTION	GB 337381
A2	4684	G	-	INSERTION	GB 337381

- Molecule 49 is a RNA chain called Human 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	B1	1708	Total	C	N	O	P	0	0
			36456	16274	6546	11928	1708		

- Molecule 50 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	BA	215	Total	C	N	O	S	0	0
			1704	1083	298	315	8		

- Molecule 51 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	BB	212	Total	C	N	O	S	0	0
			1722	1093	308	307	14		

- Molecule 52 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	BC	222	Total	C	N	O	S	0	0
			1724	1114	296	304	10		

- Molecule 53 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	BD	220	Total	C	N	O	S	0	0
			1709	1090	308	304	7		

- Molecule 54 is a protein called 40S ribosomal protein S4, Y isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	BE	257	Total	C	N	O	S	0	0
			2031	1298	381	344	8		

- Molecule 55 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BF	190	Total	C	N	O	S	0	0
			1502	939	285	271	7		

- Molecule 56 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BG	232	Total	C	N	O	S	0	0
			1884	1176	379	322	7		

- Molecule 57 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BH	183	Total	C	N	O	S	0	0
			1479	941	272	265	1		

- Molecule 58 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	BI	207	Total	C	N	O	S	0	0
			1696	1064	334	293	5		

- Molecule 59 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	BJ	179	Total	C	N	O	S	0	0
			1495	953	299	241	2		

- Molecule 60 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	BK	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 61 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	BL	153	Total	C	N	O	S	0	0
			1258	804	235	213	6		

- Molecule 62 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	BM	120	Total	C	N	O	S	0	0
			931	584	164	174	9		

- Molecule 63 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	BN	149	Total	C	N	O	S	0	0
			1202	770	228	203	1		

- Molecule 64 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	BO	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

- Molecule 65 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	BP	120	Total	C	N	O	S	0	0
			999	636	188	168	7		

- Molecule 66 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	BQ	139	Total	C	N	O	S	0	0
			1109	704	210	192	3		

- Molecule 67 is a protein called 40S ribosomal protein S17-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	BR	125	Total	C	N	O	S	0	0
			1011	634	187	186	4		

- Molecule 68 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	BS	139	Total	C	N	O	S	0	0
			1154	725	233	195	1		

- Molecule 69 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	BT	143	Total	C	N	O	S	0	0
			1112	697	214	198	3		

- Molecule 70 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	BU	97	Total	C	N	O	S	0	0
			769	483	144	138	4		

- Molecule 71 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	BV	81	Total	C	N	O	S	0	0
			617	380	114	118	5		

- Molecule 72 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	BW	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 73 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	BX	139	Total	C	N	O	S	0	0
			1080	682	214	181	3		

- Molecule 74 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	BY	125	Total	C	N	O	S	0	0
			1015	642	199	169	5		

- Molecule 75 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	BZ	86	Total	C	N	O	S	0	0
			688	442	129	116	1		

- Molecule 76 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Ba	97	Total	C	N	O	S	0	0
			774	481	160	128	5		

- Molecule 77 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Bb	80	Total	C	N	O	S	0	0
			625	391	116	111	7		

- Molecule 78 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Bc	62	Total	C	N	O	S	0	0
			488	297	97	92	2		

- Molecule 79 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Bd	51	Total	C	N	O	S	0	0
			427	269	87	66	5		

- Molecule 80 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Be	55	Total	C	N	O	S	0	0
			437	272	96	68	1		

- Molecule 81 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Bf	73	Total	C	N	O	S	0	0
			601	379	115	100	7		

- Molecule 82 is a protein called Guanine nucleotide-binding protein subunit beta-2-like 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	Bg	314	Total	C	N	O	S	0	0
			2440	1537	425	466	12		

- Molecule 83 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Bv	76	Total	C	N	O	P	0	0
			1623	723	290	534	76		
83	Bw	76	Total	C	N	O	P	0	0
			1623	723	290	534	76		

- Molecule 84 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	Bx	28	Total	C	N	O	P	0	0
			561	252	56	225	28		

- Molecule 85 is a protein called NASCENT CHAIN.

Mol	Chain	Residues	Atoms				AltConf	Trace
85	By	24	Total	C	N	O	0	0
			120	72	24	24		

- Molecule 86 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
86	An	1	Total	Mg	0
			1	1	
86	Bx	1	Total	Mg	0
			1	1	
86	Ae	2	Total	Mg	0
			2	2	
86	AB	2	Total	Mg	0
			2	2	
86	BD	1	Total	Mg	0
			1	1	
86	Bv	2	Total	Mg	0
			2	2	
86	AA	1	Total	Mg	0
			1	1	
86	A4	9	Total	Mg	0
			9	9	
86	BX	1	Total	Mg	0
			1	1	
86	AN	2	Total	Mg	0
			2	2	
86	B1	72	Total	Mg	0
			72	72	

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Mol	Chain	Residues	Atoms		AltConf
86	A2	220	Total 220	Mg 220	0
86	AY	1	Total 1	Mg 1	0
86	A3	8	Total 8	Mg 8	0
86	Aa	3	Total 3	Mg 3	0

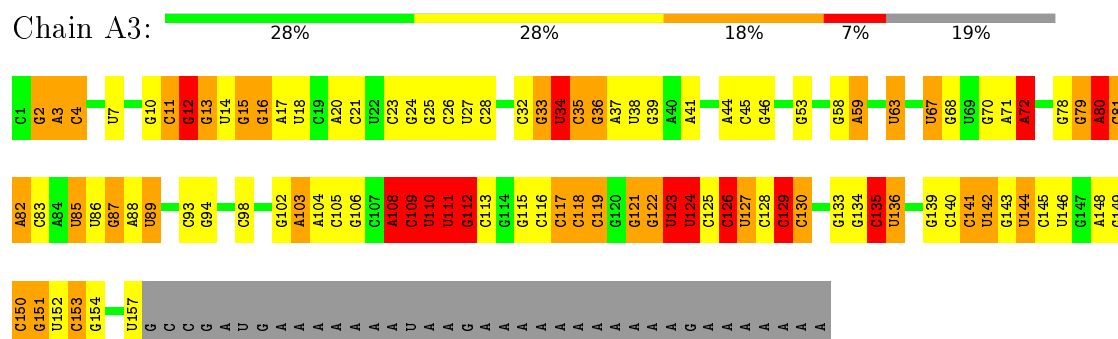
- Molecule 87 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
87	Ap	1	Total 1	Zn 1	0
87	Ao	1	Total 1	Zn 1	0
87	Aj	1	Total 1	Zn 1	0
87	Bd	1	Total 1	Zn 1	0
87	Ba	1	Total 1	Zn 1	0

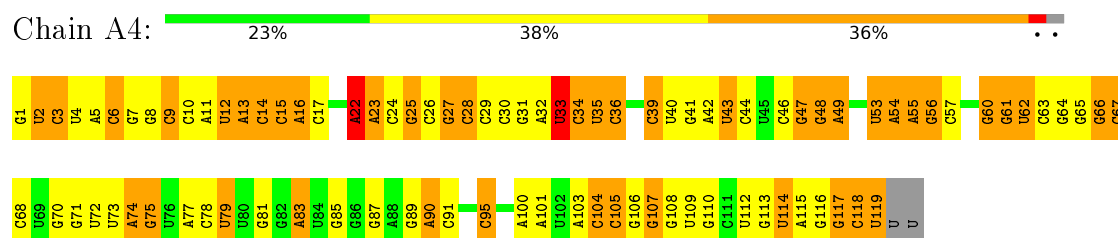
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

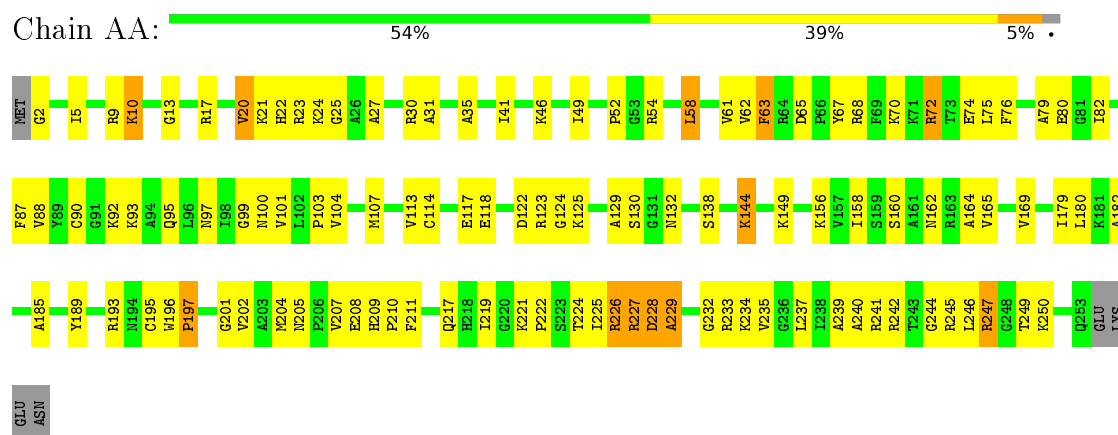
• Molecule 1: 5.8S rRNA



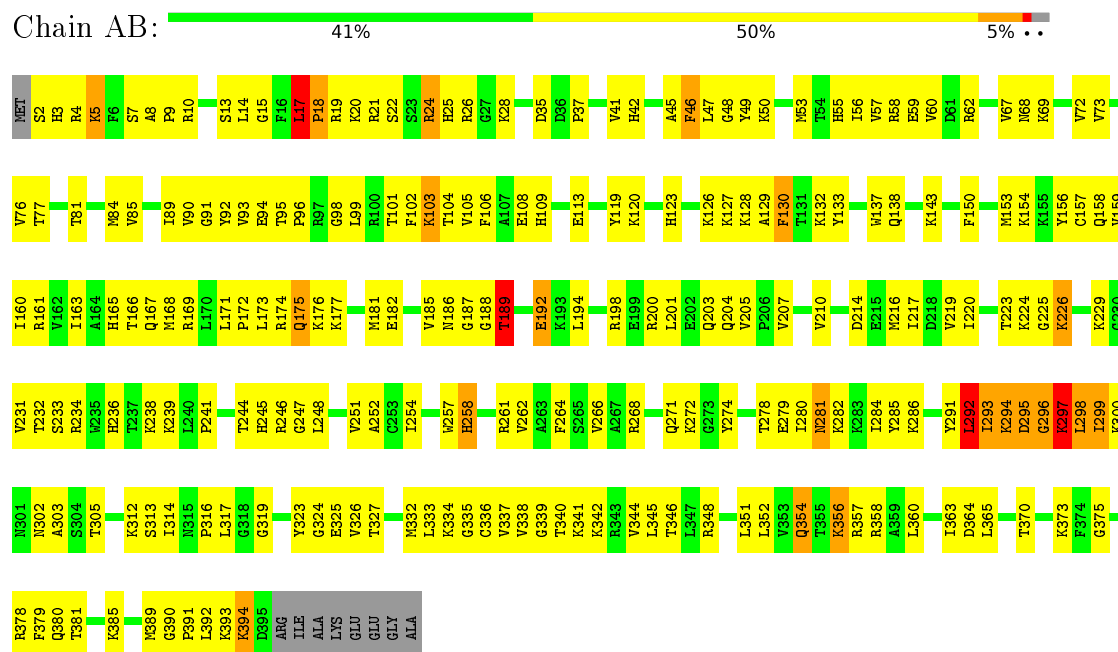
• Molecule 2: 5S Ribosomal RNA

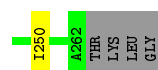


• Molecule 3: 60S ribosomal protein L8



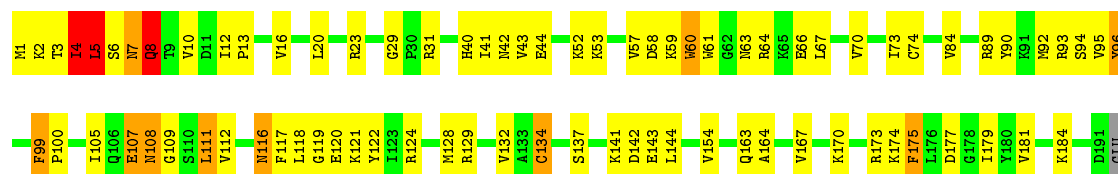
• Molecule 4: 60S ribosomal protein L3





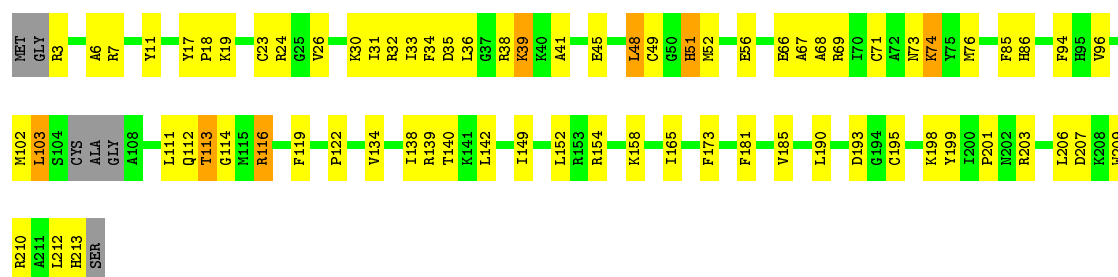
- Molecule 10: 60S ribosomal protein L9

Chain AH: 58% 35% 5% ..



- Molecule 11: 60S ribosomal protein L10

Chain AI: 63% 31% ..



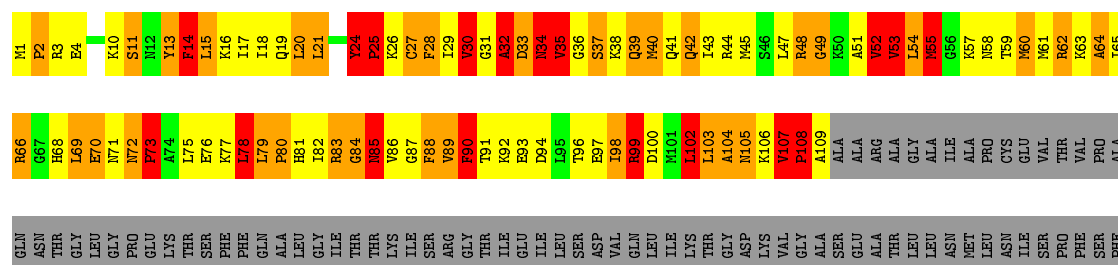
- Molecule 12: 60S ribosomal protein L11

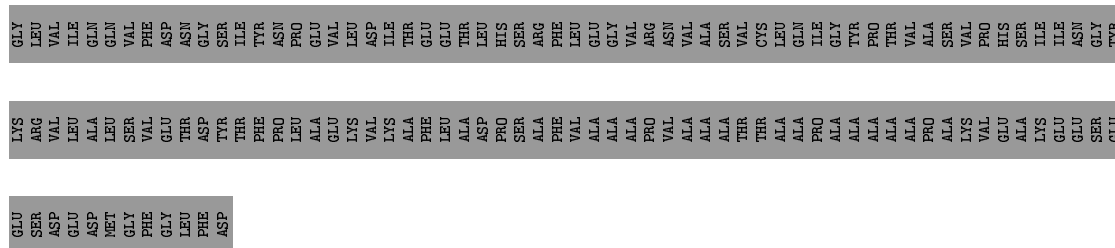
Chain AJ: 56% 35% .. 5%



- Molecule 13: 60S acidic ribosomal protein P0

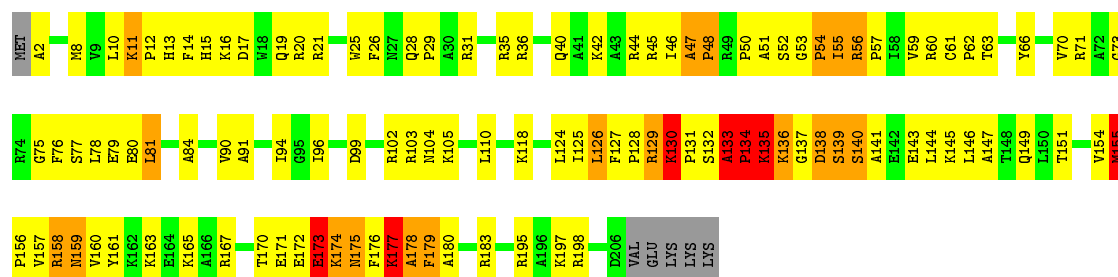
Chain AK: 5% 14% 10% 6% 66%



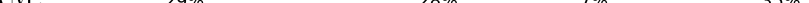


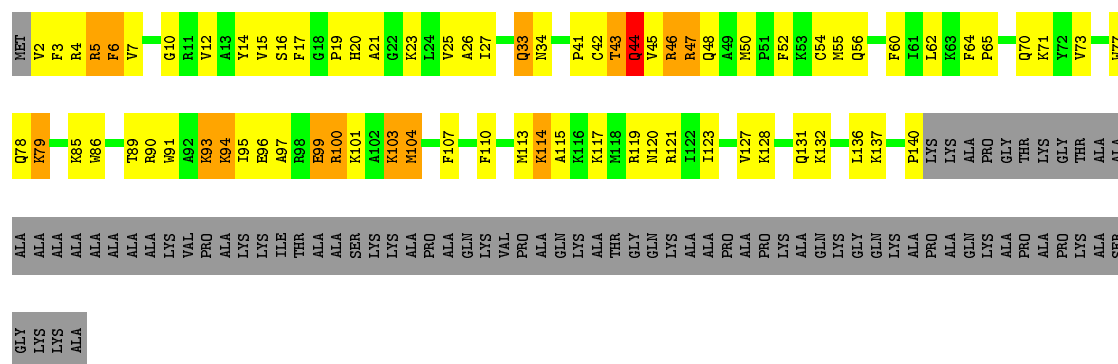
- Molecule 14: 60S ribosomal protein L13

Chain AL:  43% 42% 9% . .



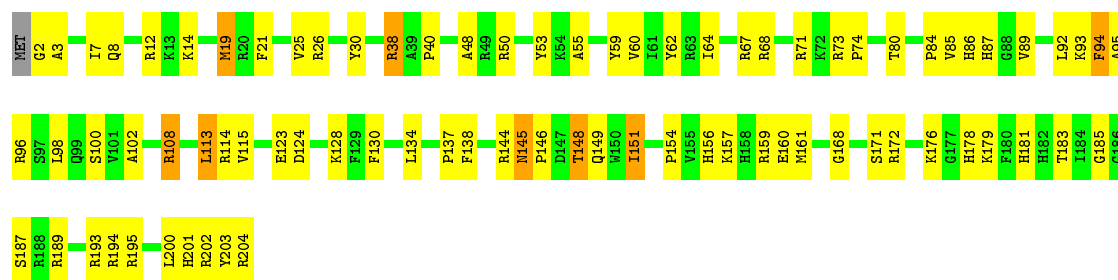
- Molecule 15: 60S ribosomal protein L14

Chain AM: 



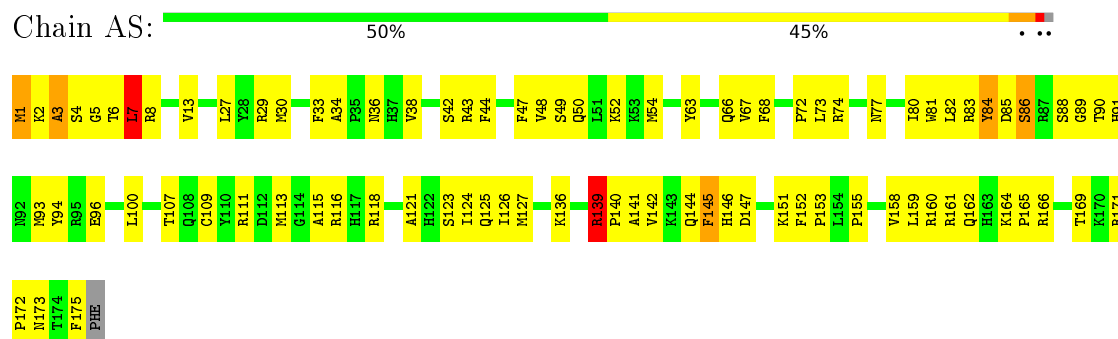
- Molecule 16: 60S ribosomal protein L15

Chain AN:  59% 36% 5%

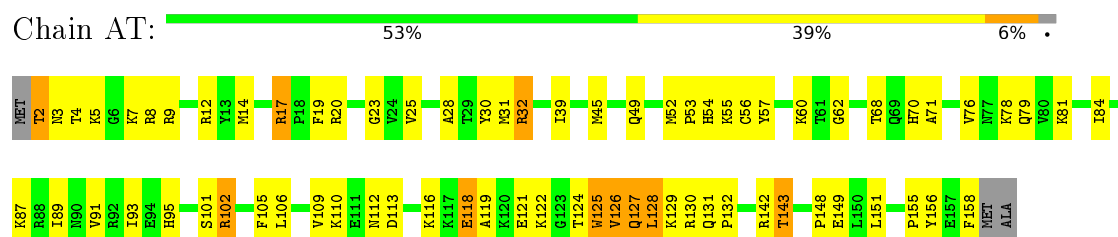


- Molecule 17: 60S ribosomal protein L13a

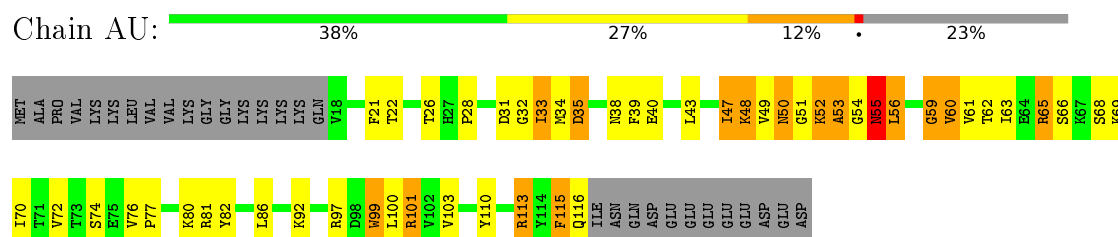
- Molecule 21: 60S ribosomal protein L18a



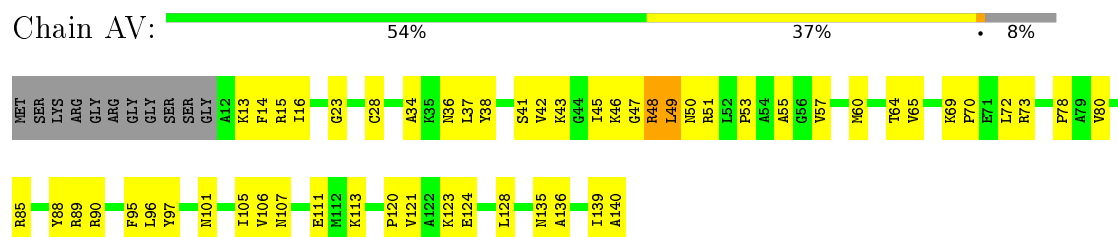
• Molecule 22: 60S ribosomal protein L21



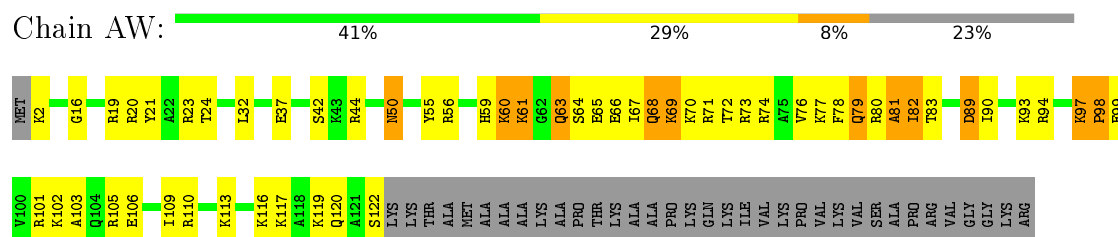
• Molecule 23: 60S ribosomal protein L22



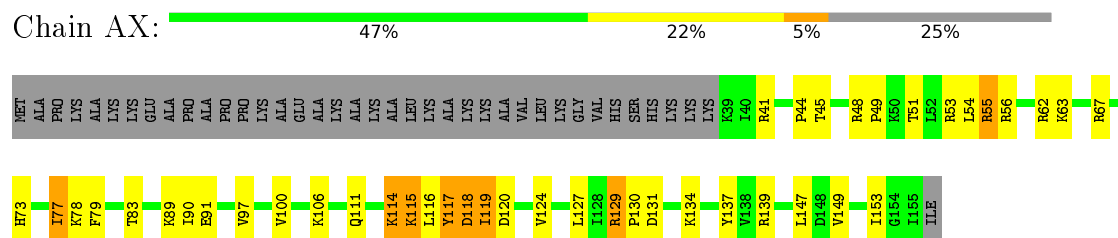
• Molecule 24: 60S ribosomal protein L23



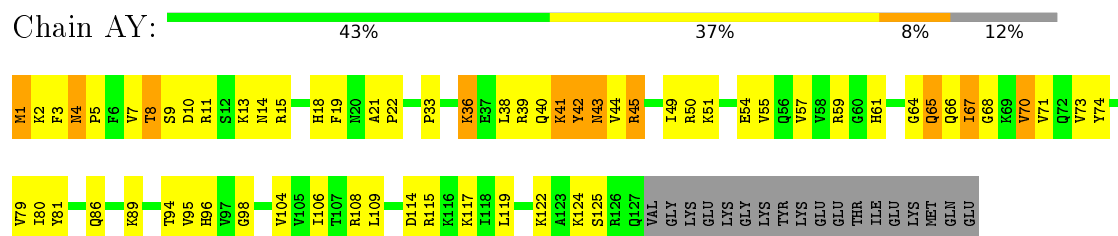
• Molecule 25: 60S ribosomal protein L24



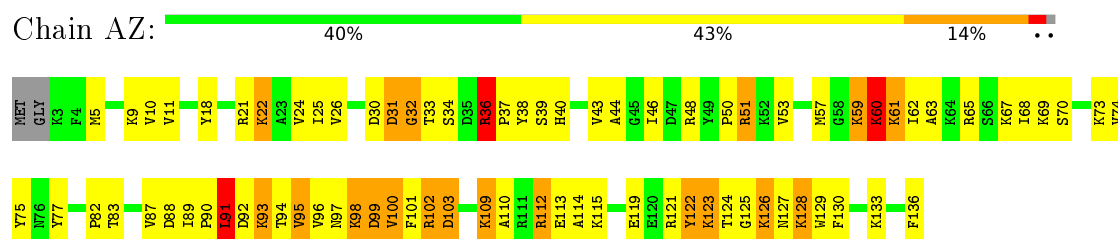
• Molecule 26: 60S ribosomal protein L23a



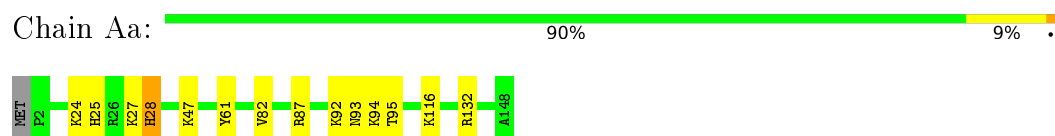
- Molecule 27: 60S ribosomal protein L26



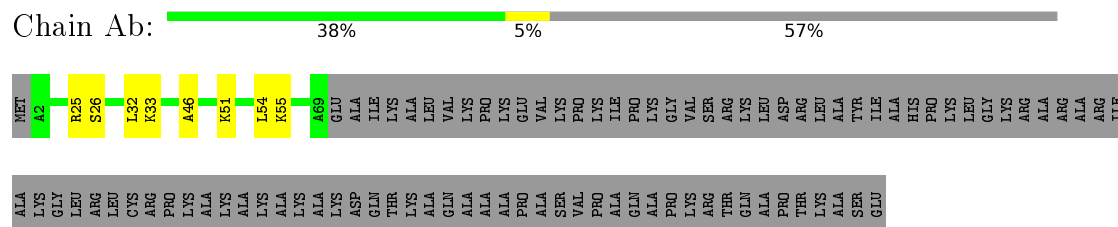
- Molecule 28: 60S ribosomal protein L27



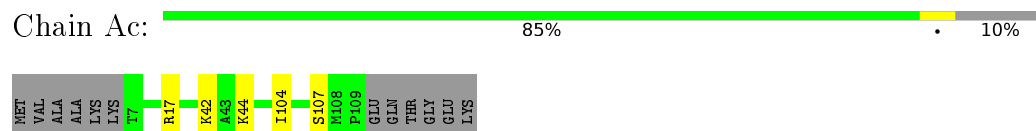
- Molecule 29: 60S ribosomal protein L27a




- Molecule 30: 60S ribosomal protein L29

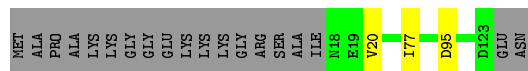


- Molecule 31: 60S ribosomal protein L30



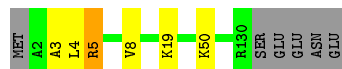
- Molecule 32: 60S ribosomal protein L31

Chain Ad:  82% 15%



- Molecule 33: 60S ribosomal protein L32

Chain Ae:  91%



- Molecule 34: 60S ribosomal protein L35a

Chain Af:  90% 6%




- Molecule 35: 60S ribosomal protein L34

Chain Ag:  91% 6%



- Molecule 36: 60S ribosomal protein L35

Chain Ah:  83% 16%



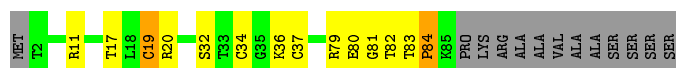
- Molecule 37: 60S ribosomal protein L36

Chain Ai:  85% 8% 8%




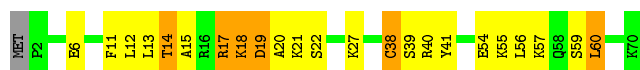
- Molecule 38: 60S ribosomal protein L37

Chain Aj:  72% 12% 13%



- Molecule 39: 60S ribosomal protein L38

Chain Ak:  66% 24% 9% .



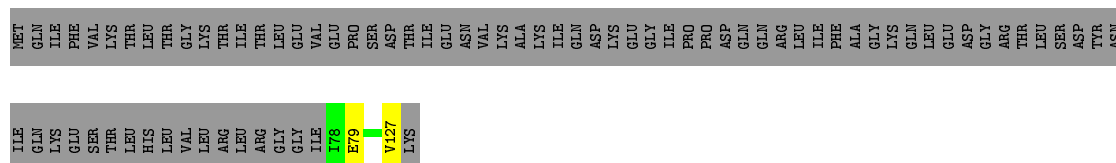
- Molecule 40: 60S ribosomal protein L39

Chain Al:  92% 6% .



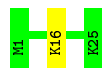
- Molecule 41: Ubiquitin-60S ribosomal protein L40

Chain Am:  38% 61% .




- Molecule 42: 60S ribosomal protein L41

Chain An:  96% .



- Molecule 43: 60S ribosomal protein L36a

Chain Ao:  88% 11% .



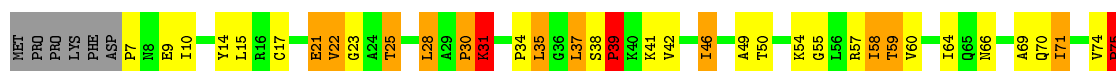
- Molecule 44: 60S ribosomal protein L37a

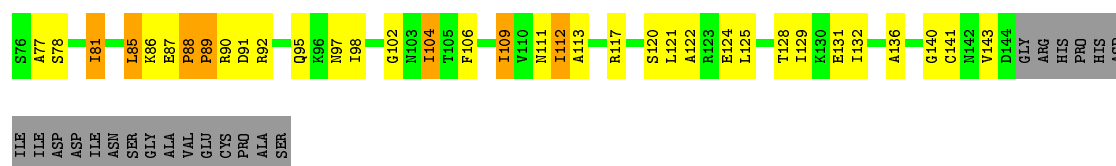
Chain Ap:  93% 5% .



- Molecule 45: 60S ribosomal protein L12

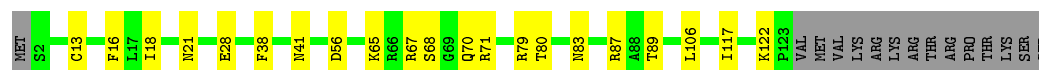
Chain Aq:  41% 30% 11% 16% .





- Molecule 46: 60S ribosomal protein L28

Chain At: 74% 15% 11%



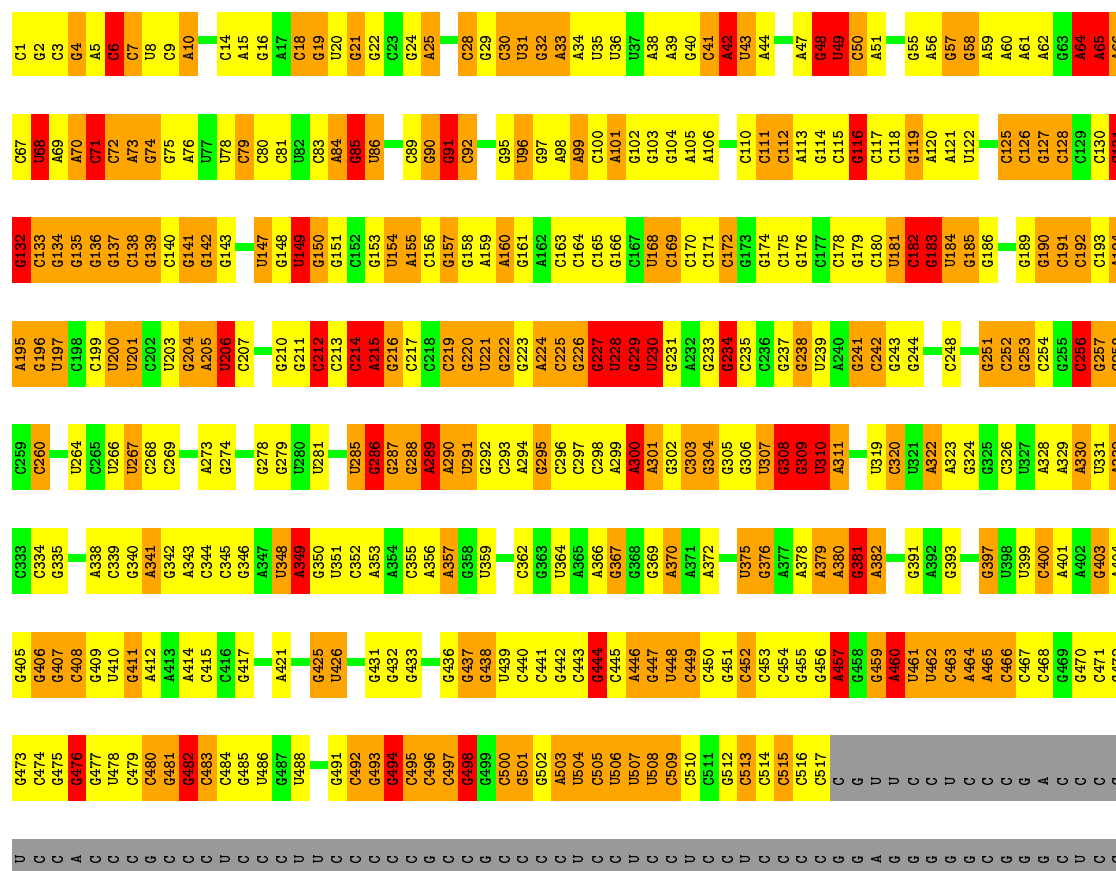
- Molecule 47: 60S ribosomal protein L10a

Chain Au: 87% 10% 3%



- Molecule 48: Human 28S ribosomal RNA gene

Chain A2: 25% 26% 17% 1% 31%

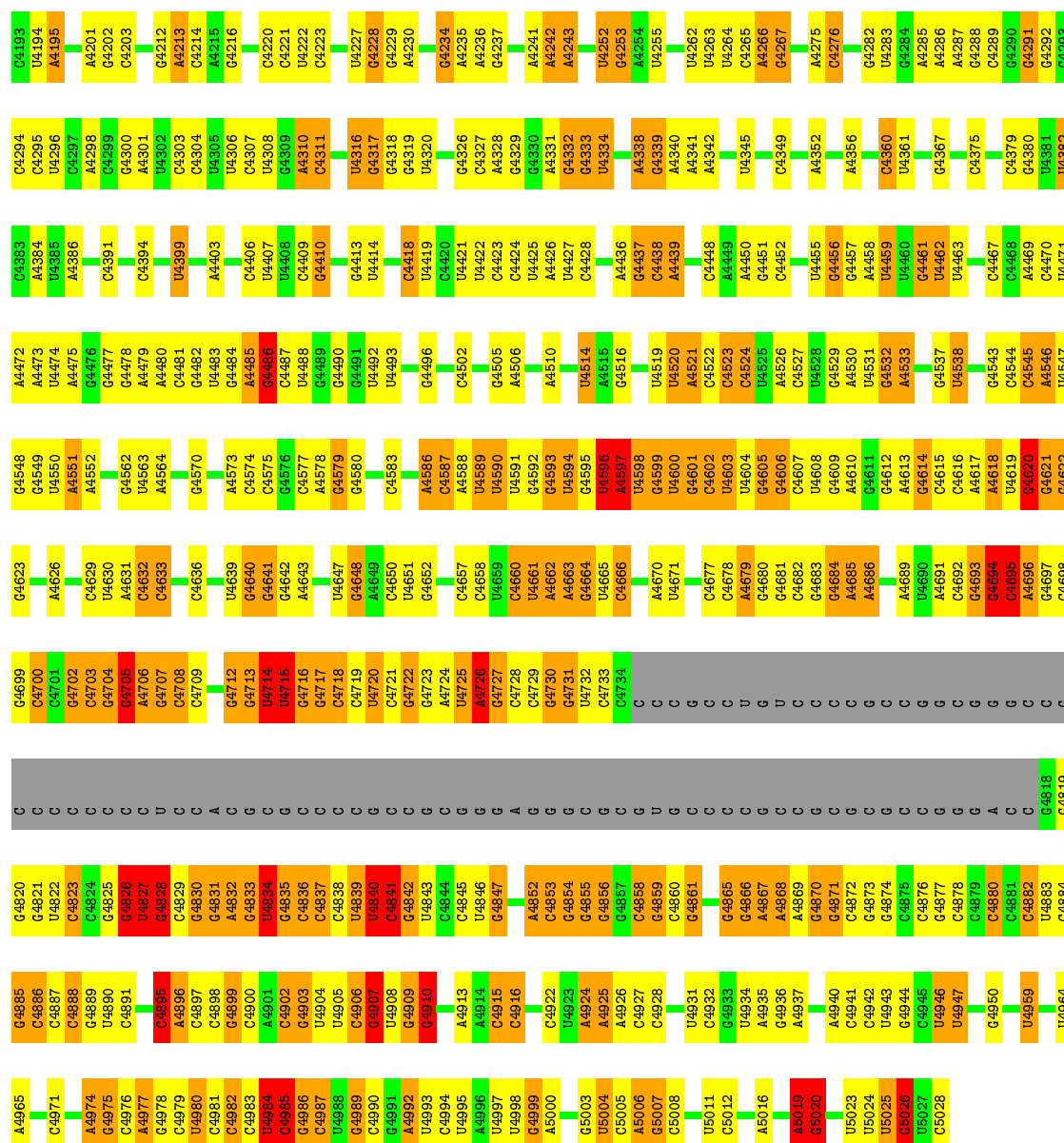




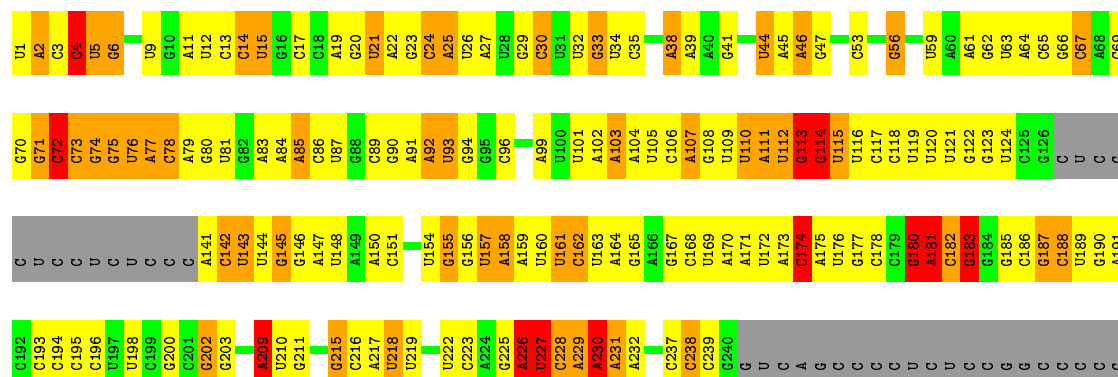




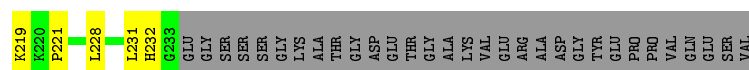


Chain B1:

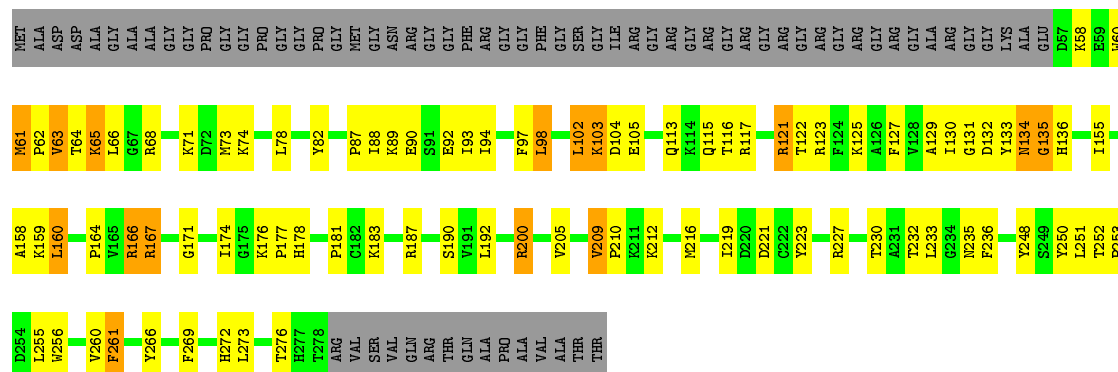




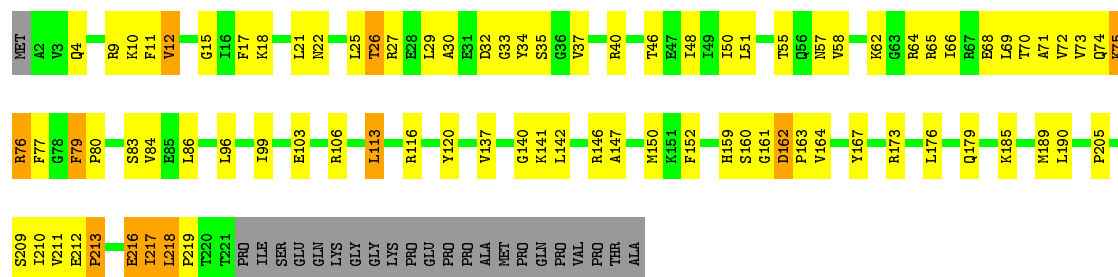
- Molecule 52: 40S ribosomal protein S2

Chain BC: 45% 26% 5% 24%



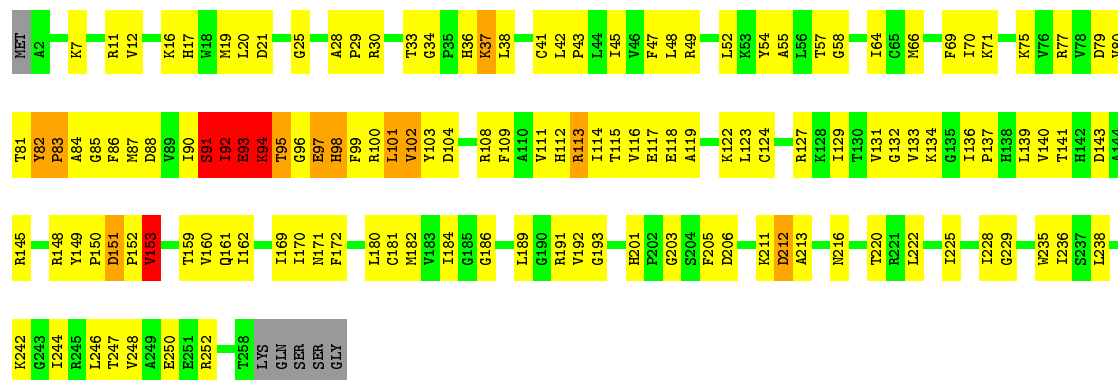
- Molecule 53: 40S ribosomal protein S3

Chain BD: 56% 30% 5% 9%



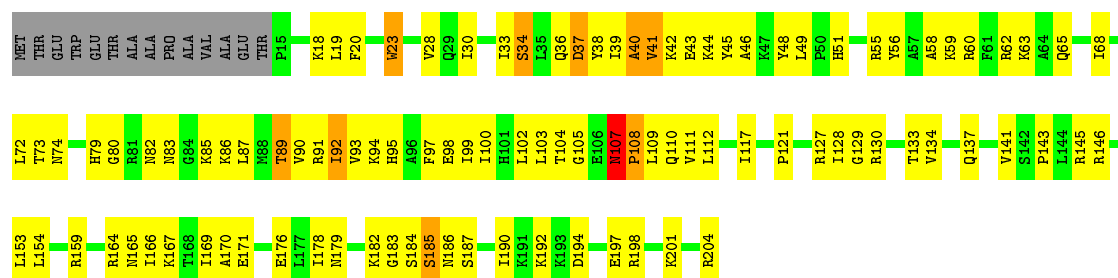
- Molecule 54: 40S ribosomal protein S4, Y isoform 1

Chain BE: 47% 45%

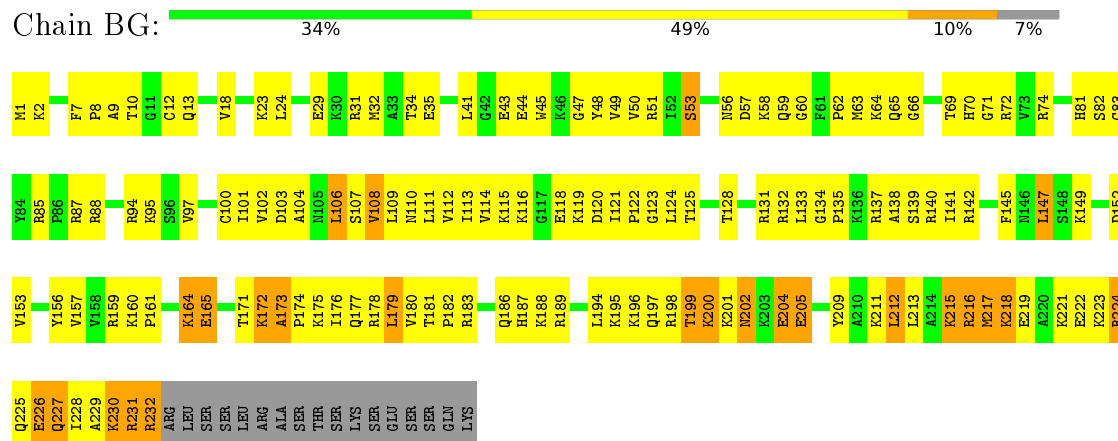


- Molecule 55: 40S ribosomal protein S5

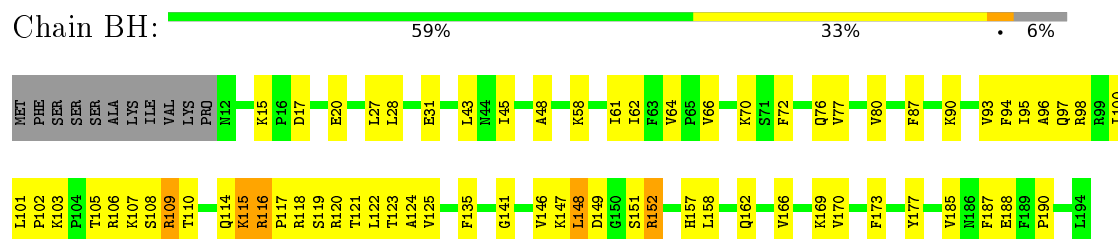
Chain BF: 44% 45% 7%



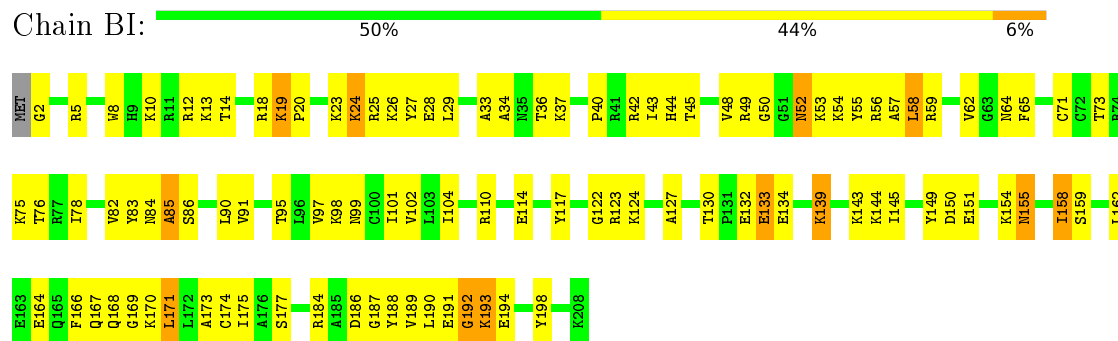
• Molecule 56: 40S ribosomal protein S6



• Molecule 57: 40S ribosomal protein S7



• Molecule 58: 40S ribosomal protein S8



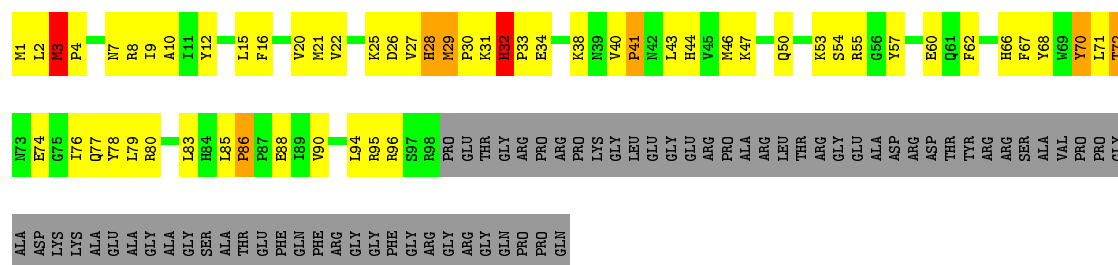
• Molecule 59: 40S ribosomal protein S9





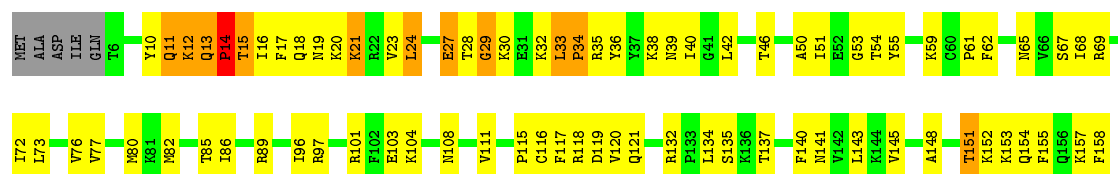
• Molecule 60: 40S ribosomal protein S10

Chain BK: 24% 30% 41%



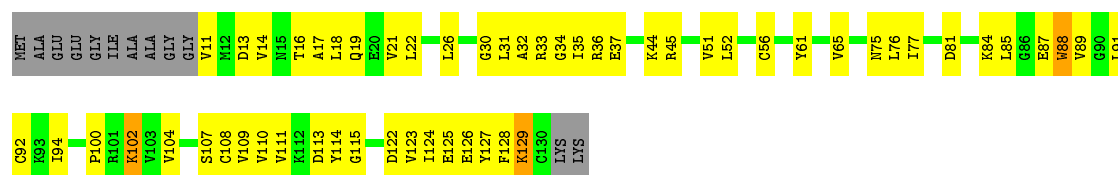
• Molecule 61: 40S ribosomal protein S11

Chain BL: 47% 42% 7%



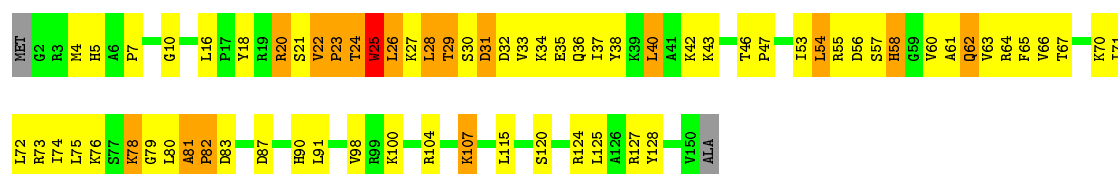
• Molecule 62: 40S ribosomal protein S12

Chain BM: 48% 40% 9%

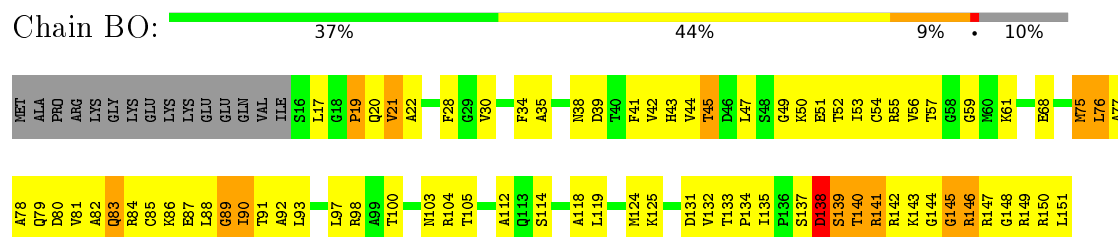


• Molecule 63: 40S ribosomal protein S13

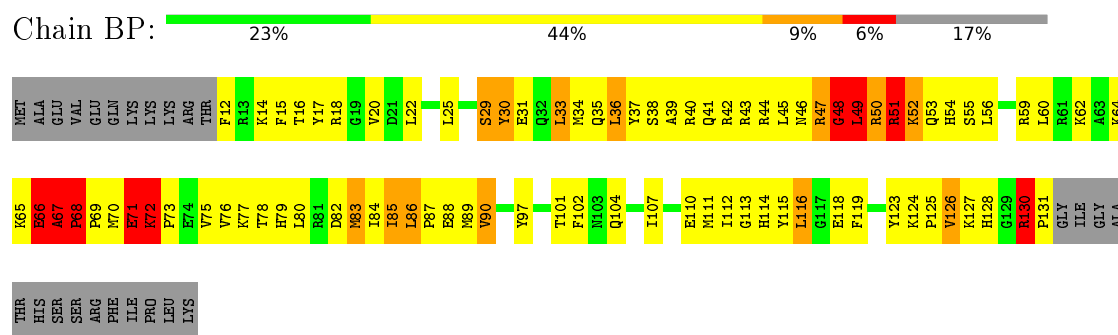
Chain BN: 52% 35% 11%

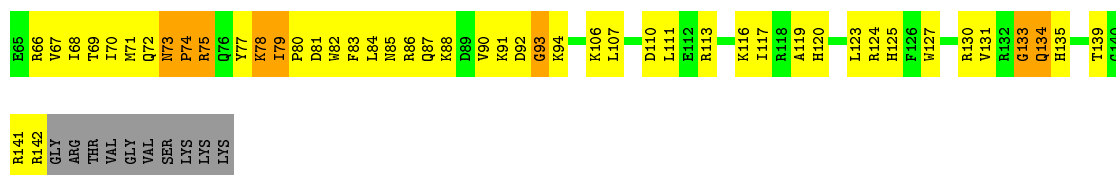


- Molecule 64: 40S ribosomal protein S14



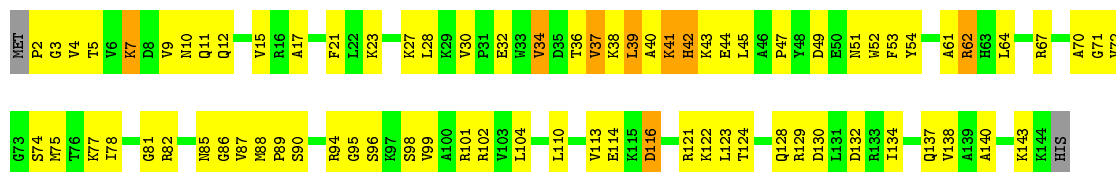
- Molecule 65: 40S ribosomal protein S15





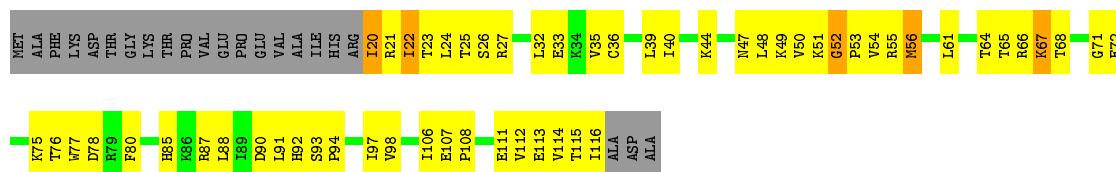
- Molecule 69: 40S ribosomal protein S19

Chain BT: 45% 48% 6% .



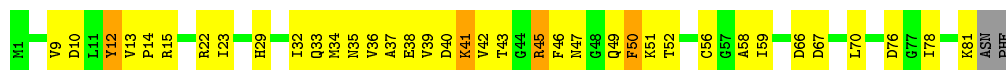
- Molecule 70: 40S ribosomal protein S20

Chain BU: 34% 44% 18% .



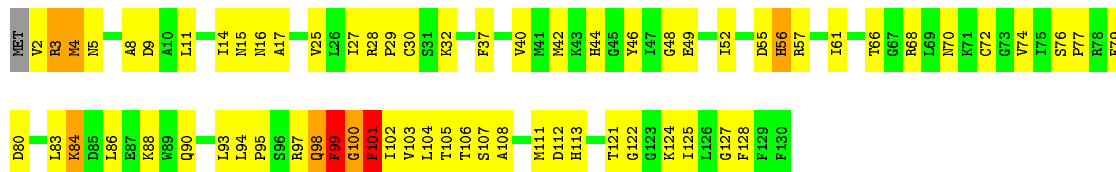
- Molecule 71: 40S ribosomal protein S21

Chain BV: 53% 40% 5% .



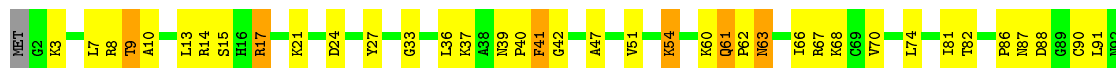
- Molecule 72: 40S ribosomal protein S15a

Chain BW: 48% 45% 5% ..



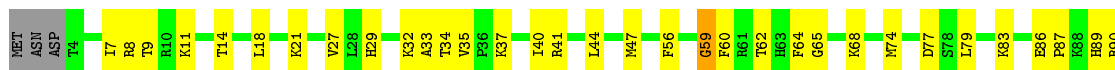
- Molecule 73: 40S ribosomal protein S23

Chain BX: 51% 38% 8% ..




- Molecule 74: 40S ribosomal protein S24

Chain BY: 52% 39% 6%



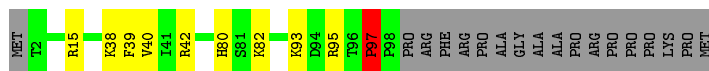
- Molecule 75: 40S ribosomal protein S25

Chain BZ: 



- Molecule 76: 40S ribosomal protein S26

Chain Ba: 76% 8% • 16%




- Molecule 77: 40S ribosomal protein S27

Chain Bb:  93% • 5%



- Molecule 78: 40S ribosomal protein S28

Chain Bc:  84% . . 10%




- Molecule 79: 40S ribosomal protein S29

Chain Bd:  71% 18% 9%



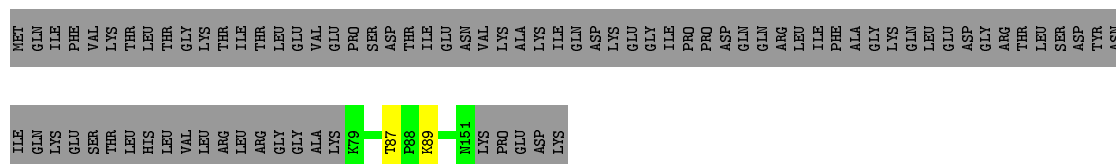
- Molecule 80: 40S ribosomal protein S30

Chain Be:  80% 14% 7%



- Molecule 81: Ubiquitin-40S ribosomal protein S27a

Chain Bf:  46% 53%



- Molecule 82: Guanine nucleotide-binding protein subunit beta-2-like 1

Chain Bg:  96%



- Molecule 83: tRNA

Chain Bv:  46% 51%



- Molecule 83: tRNA

Chain Bw:  51% 49%



- Molecule 84: mRNA

Chain Bx:  18% 82%



- Molecule 85: NASCENT CHAIN

Chain By:  100%

There are no outlier residues recorded for this chain.

4 Experimental information

Property	Value	Source
Reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	Depositor
Number of particles used	313321	Depositor
Resolution determination method	Not provided	Depositor
CTF correction method	Not provided	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20.00	Depositor
Minimum defocus (nm)	2000.00	Depositor
Maximum defocus (nm)	4500.00	Depositor
Magnification	205000	Depositor
Image detector	TVIPS TEMCAM-F416 (4K X 4K)	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >2	RMSZ	# Z >2
1	A3	1.12	40/3726 (1.1%)	1.17	52/5804 (0.9%)
10	AH	0.38	0/1545	0.54	1/2077 (0.0%)
11	AI	0.41	0/1730	0.61	1/2311 (0.0%)
12	AJ	0.39	0/1376	0.59	0/1841
13	AK	0.85	3/886 (0.3%)	1.53	23/1188 (1.9%)
14	AL	0.48	3/1688 (0.2%)	0.73	5/2260 (0.2%)
15	AM	0.39	0/1161	0.64	0/1554
16	AN	0.39	0/1746	0.57	0/2338
17	AO	0.37	0/1638	0.60	0/2191
18	AP	0.42	0/1268	0.70	0/1701
19	AQ	0.47	2/1537 (0.1%)	0.63	3/2052 (0.1%)
2	A4	1.10	32/2839 (1.1%)	1.13	40/4425 (0.9%)
20	AR	0.38	0/1533	0.63	1/2025 (0.0%)
21	AS	0.38	1/1488 (0.1%)	0.60	1/1997 (0.1%)
22	AT	0.38	0/1312	0.60	0/1753
23	AU	0.35	0/822	0.58	0/1103
24	AV	0.37	0/983	0.55	0/1319
25	AW	0.42	1/1004 (0.1%)	0.74	3/1332 (0.2%)
26	AX	0.34	0/975	0.51	0/1312
27	AY	0.35	0/1081	0.56	0/1439
28	AZ	0.42	0/1126	0.69	2/1502 (0.1%)
29	Aa	0.50	0/1191	0.70	1/1591 (0.1%)
3	AA	0.44	0/1968	0.65	1/2639 (0.0%)
30	Ab	0.36	0/569	0.58	0/750
31	Ac	0.38	0/812	0.60	0/1089
32	Ad	0.38	0/894	0.58	0/1204
33	Ae	0.42	0/1082	0.58	1/1443 (0.1%)
34	Af	0.47	0/895	0.73	2/1198 (0.2%)
35	Ag	0.39	0/916	0.58	0/1220
36	Ah	0.37	0/1023	0.63	1/1351 (0.1%)
37	Ai	0.35	0/805	0.58	0/1065
38	Aj	0.47	1/703 (0.1%)	0.92	3/929 (0.3%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >2	RMSZ	# Z >2
39	Ak	0.51	0/575	0.74	0/761
4	AB	0.39	0/3246	0.64	0/4345
40	Al	0.37	0/454	0.54	0/599
41	Am	0.42	0/417	0.59	0/553
42	An	0.36	0/241	0.60	0/305
43	Ao	0.39	0/877	0.66	0/1156
44	Ap	0.39	0/718	0.60	0/953
45	Aq	0.89	3/1058 (0.3%)	1.93	34/1424 (2.4%)
46	At	0.41	0/995	0.69	0/1334
47	Au	0.73	1/1772 (0.1%)	1.28	17/2375 (0.7%)
48	A2	0.98	666/86613 (0.8%)	1.13	1094/135108 (0.8%)
49	B1	0.96	275/40767 (0.7%)	1.13	515/63536 (0.8%)
5	AC	0.41	1/2942 (0.0%)	0.62	3/3951 (0.1%)
50	BA	0.52	1/1741 (0.1%)	0.72	5/2366 (0.2%)
51	BB	0.42	0/1749	0.62	0/2340
52	BC	0.37	0/1761	0.58	0/2379
53	BD	0.44	1/1736 (0.1%)	0.63	1/2338 (0.0%)
54	BE	0.41	1/2072 (0.0%)	0.59	1/2793 (0.0%)
55	BF	0.40	1/1524 (0.1%)	0.62	1/2048 (0.0%)
56	BG	0.41	0/1907	0.62	1/2538 (0.0%)
57	BH	0.43	0/1501	0.64	1/2009 (0.0%)
58	BI	0.41	0/1725	0.59	0/2298
59	BJ	0.36	0/1520	0.55	1/2030 (0.0%)
6	AD	0.42	0/2437	0.65	2/3262 (0.1%)
60	BK	0.43	0/851	0.68	0/1147
61	BL	0.44	1/1281 (0.1%)	0.65	2/1710 (0.1%)
62	BM	0.39	0/941	0.63	0/1264
63	BN	0.40	1/1226 (0.1%)	0.57	1/1649 (0.1%)
64	BO	0.43	0/1029	0.64	0/1380
65	BP	0.50	1/1019 (0.1%)	0.74	3/1361 (0.2%)
66	BQ	0.38	0/1126	0.58	2/1506 (0.1%)
67	BR	0.49	3/1023 (0.3%)	0.68	3/1373 (0.2%)
68	BS	0.42	1/1172 (0.1%)	0.63	1/1570 (0.1%)
69	BT	0.36	0/1131	0.60	0/1515
7	AE	0.50	0/1603	0.80	4/2153 (0.2%)
70	BU	0.45	0/778	0.65	1/1045 (0.1%)
71	BV	0.41	0/623	0.60	1/833 (0.1%)
72	BW	0.37	0/1051	0.55	0/1406
73	BX	0.44	1/1097 (0.1%)	0.61	1/1464 (0.1%)
74	BY	0.40	0/1032	0.64	0/1371
75	BZ	0.43	0/696	0.62	0/929
76	Ba	0.49	0/786	0.75	2/1053 (0.2%)
77	Bb	0.42	0/637	0.59	0/854

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >2	RMSZ	# Z >2
78	Bc	0.40	0/490	0.66	0/656
79	Bd	0.54	0/437	0.89	3/580 (0.5%)
8	AF	0.37	0/1986	0.57	0/2644
80	Be	0.37	0/443	0.60	0/583
81	Bf	0.44	0/613	0.62	0/811
82	Bg	0.40	0/2497	0.60	0/3399
83	Bv	0.58	4/1813 (0.2%)	0.84	5/2823 (0.2%)
83	Bw	0.43	2/1813 (0.1%)	0.90	4/2823 (0.1%)
84	Bx	0.60	2/616 (0.3%)	1.20	11/948 (1.2%)
9	AG	0.38	0/1913	0.57	0/2576
All	All	0.80	1049/234393 (0.4%)	0.98	1861/344230 (0.5%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
10	AH	0	3
13	AK	0	3
14	AL	0	6
39	AK	0	1
4	AB	0	3
48	A2	2	3
49	B1	1	0
5	AC	0	2
54	BE	0	6
63	BN	0	2
64	BO	0	2
65	BP	0	11
66	BQ	0	6
7	AE	0	1
72	BW	0	3
76	Ba	0	1
79	Bd	0	1
8	AF	0	2
All	All	3	56

All (1049) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	3612	U	O3'-P	-21.32	1.35	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	842	C	O3'-P	20.18	1.85	1.61
48	A2	2689	C	O3'-P	-19.59	1.37	1.61
49	B1	558	G	O3'-P	19.39	1.84	1.61
49	B1	497	C	O3'-P	18.59	1.83	1.61
49	B1	72	C	O3'-P	17.80	1.82	1.61
49	B1	1253	A	O3'-P	17.54	1.82	1.61
49	B1	1439	A	O3'-P	-17.24	1.40	1.61
48	A2	925	C	O3'-P	-17.23	1.40	1.61
49	B1	2	A	O3'-P	-17.22	1.40	1.61
48	A2	1274	G	O3'-P	-17.14	1.40	1.61
48	A2	673	C	O3'-P	-17.07	1.40	1.61
49	B1	38	A	O3'-P	-17.07	1.40	1.61
49	B1	1792	G	O3'-P	-17.07	1.40	1.61
48	A2	1288	C	O3'-P	-17.03	1.40	1.61
48	A2	2335	U	O3'-P	-17.02	1.40	1.61
48	A2	3852	G	O3'-P	-17.01	1.40	1.61
48	A2	4906	C	O3'-P	-17.00	1.40	1.61
48	A2	210	G	O3'-P	-16.98	1.40	1.61
48	A2	4903	G	O3'-P	-16.92	1.40	1.61
49	B1	1389	C	O3'-P	-16.86	1.41	1.61
48	A2	2457	C	O3'-P	-16.84	1.41	1.61
1	A3	124	U	O3'-P	-16.74	1.41	1.61
48	A2	4907	G	O3'-P	-16.74	1.41	1.61
49	B1	619	A	O3'-P	-16.74	1.41	1.61
48	A2	4519	U	O3'-P	-16.69	1.41	1.61
48	A2	238	G	O3'-P	-16.68	1.41	1.61
48	A2	1433	C	O3'-P	-16.65	1.41	1.61
48	A2	3649	G	O3'-P	-16.62	1.41	1.61
48	A2	4117	C	O3'-P	-16.61	1.41	1.61
49	B1	1725	U	O3'-P	-16.59	1.41	1.61
48	A2	4664	G	O3'-P	-16.57	1.41	1.61
48	A2	4538	U	O3'-P	-16.55	1.41	1.61
48	A2	3697	A	O3'-P	-16.55	1.41	1.61
49	B1	348	A	O3'-P	-16.54	1.41	1.61
49	B1	1648	G	O3'-P	-16.37	1.41	1.61
48	A2	1716	G	O3'-P	16.25	1.80	1.61
48	A2	4316	U	O3'-P	-16.23	1.41	1.61
48	A2	3604	C	O3'-P	-16.05	1.41	1.61
2	A4	4	U	O3'-P	-16.04	1.42	1.61
49	B1	426	A	O3'-P	-16.01	1.42	1.61
48	A2	99	A	O3'-P	-15.96	1.42	1.61
49	B1	292	A	O3'-P	-15.91	1.42	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	2602	A	O3'-P	-15.86	1.42	1.61
2	A4	71	G	O3'-P	-15.80	1.42	1.61
49	B1	1420	G	O3'-P	15.78	1.80	1.61
48	A2	4537	G	O3'-P	-15.70	1.42	1.61
49	B1	1475	G	O3'-P	-15.70	1.42	1.61
48	A2	100	C	O3'-P	-15.69	1.42	1.61
49	B1	421	G	O3'-P	-15.68	1.42	1.61
48	A2	3665	U	O3'-P	-15.66	1.42	1.61
48	A2	4457	G	O3'-P	-15.60	1.42	1.61
49	B1	999	G	O3'-P	-15.56	1.42	1.61
48	A2	4488	U	O3'-P	-15.43	1.42	1.61
49	B1	56	G	O3'-P	-15.37	1.42	1.61
2	A4	114	U	O3'-P	-15.37	1.42	1.61
48	A2	2832	C	O3'-P	-15.33	1.42	1.61
49	B1	1122	A	O3'-P	-15.29	1.42	1.61
48	A2	4045	U	O3'-P	-15.29	1.42	1.61
49	B1	368	U	O3'-P	-15.26	1.42	1.61
49	B1	1331	C	O3'-P	-15.24	1.42	1.61
48	A2	4020	A	O3'-P	-15.24	1.42	1.61
49	B1	1291	A	O3'-P	-15.24	1.42	1.61
48	A2	1712	U	O3'-P	-15.21	1.43	1.61
49	B1	1408	U	O3'-P	-15.17	1.43	1.61
48	A2	2330	C	O3'-P	-15.17	1.43	1.61
49	B1	114	G	O3'-P	-15.12	1.43	1.61
48	A2	4135	G	O3'-P	-15.04	1.43	1.61
48	A2	1711	A	O3'-P	-15.01	1.43	1.61
48	A2	111	C	O3'-P	-14.92	1.43	1.61
48	A2	1312	G	O3'-P	-14.91	1.43	1.61
48	A2	4486	G	O3'-P	-14.91	1.43	1.61
48	A2	963	G	O3'-P	-14.89	1.43	1.61
48	A2	4520	U	O3'-P	-14.84	1.43	1.61
49	B1	1683	C	O3'-P	-14.83	1.43	1.61
48	A2	4925	A	O3'-P	-14.79	1.43	1.61
48	A2	2734	A	O3'-P	-14.78	1.43	1.61
48	A2	1760	C	O3'-P	-14.77	1.43	1.61
48	A2	1771	C	O3'-P	-14.71	1.43	1.61
49	B1	1181	A	O3'-P	-14.69	1.43	1.61
49	B1	808	A	O3'-P	-14.68	1.43	1.61
49	B1	677	G	O3'-P	-14.59	1.43	1.61
48	A2	4834	U	O3'-P	-14.58	1.43	1.61
48	A2	295	G	O3'-P	-14.57	1.43	1.61
48	A2	2679	G	O3'-P	-14.56	1.43	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	960	G	O3'-P	-14.54	1.43	1.61
48	A2	503	A	O3'-P	-14.50	1.43	1.61
49	B1	4	C	O3'-P	-14.34	1.44	1.61
49	B1	436	G	O3'-P	-14.32	1.44	1.61
48	A2	3860	G	O3'-P	-14.32	1.44	1.61
48	A2	2502	G	O3'-P	-14.29	1.44	1.61
48	A2	3876	A	O3'-P	-14.28	1.44	1.61
48	A2	4633	C	O3'-P	-14.28	1.44	1.61
48	A2	1376	G	O3'-P	-14.27	1.44	1.61
49	B1	1407	U	O3'-P	-14.27	1.44	1.61
49	B1	684	G	O3'-P	-14.26	1.44	1.61
48	A2	2525	G	O3'-P	-14.13	1.44	1.61
48	A2	4712	G	O3'-P	-14.10	1.44	1.61
48	A2	3593	C	O3'-P	-14.07	1.44	1.61
49	B1	495	U	O3'-P	-14.00	1.44	1.61
48	A2	927	C	O3'-P	-13.95	1.44	1.61
1	A3	139	G	O3'-P	-13.91	1.44	1.61
48	A2	4606	G	O3'-P	-13.91	1.44	1.61
48	A2	9	C	O3'-P	-13.87	1.44	1.61
48	A2	1593	C	O3'-P	-13.82	1.44	1.61
48	A2	2781	C	O3'-P	-13.74	1.44	1.61
48	A2	1854	A	O3'-P	-13.69	1.44	1.61
48	A2	2798	U	O3'-P	-13.67	1.44	1.61
49	B1	291	G	O3'-P	-13.65	1.44	1.61
49	B1	1316	C	O3'-P	-13.65	1.44	1.61
48	A2	2830	G	O3'-P	-13.62	1.44	1.61
48	A2	4461	G	O3'-P	-13.62	1.44	1.61
49	B1	632	C	O3'-P	-13.62	1.44	1.61
48	A2	958	U	C3'-O3'	-13.59	1.23	1.42
48	A2	1346	C	O3'-P	-13.59	1.44	1.61
48	A2	2601	G	O3'-P	-13.55	1.44	1.61
48	A2	1228	C	O3'-P	-13.54	1.45	1.61
49	B1	418	A	O3'-P	-13.54	1.45	1.61
48	A2	3707	A	O3'-P	-13.49	1.45	1.61
48	A2	154	U	O3'-P	-13.47	1.45	1.61
48	A2	5006	A	O3'-P	-13.37	1.45	1.61
48	A2	303	C	O3'-P	-13.33	1.45	1.61
49	B1	297	A	O3'-P	-13.32	1.45	1.61
48	A2	4989	G	O3'-P	-13.29	1.45	1.61
1	A3	15	G	O3'-P	-13.24	1.45	1.61
48	A2	4462	U	O3'-P	-13.23	1.45	1.61
49	B1	1484	A	O3'-P	-13.23	1.45	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	3910	G	O3'-P	-13.22	1.45	1.61
48	A2	2826	G	O3'-P	-13.20	1.45	1.61
48	A2	2751	C	O3'-P	-13.18	1.45	1.61
48	A2	15	A	O3'-P	-13.15	1.45	1.61
48	A2	25	A	O3'-P	-13.14	1.45	1.61
48	A2	2053	C	O3'-P	-13.13	1.45	1.61
49	B1	404	G	O3'-P	-13.13	1.45	1.61
49	B1	1682	C	O3'-P	-13.13	1.45	1.61
48	A2	4990	C	O3'-P	-13.12	1.45	1.61
1	A3	14	U	O3'-P	-13.09	1.45	1.61
48	A2	4521	A	O3'-P	-13.07	1.45	1.61
48	A2	1259	C	O3'-P	-13.05	1.45	1.61
48	A2	2750	G	O3'-P	-13.04	1.45	1.61
49	B1	626	G	O3'-P	-13.02	1.45	1.61
1	A3	126	C	O3'-P	-13.01	1.45	1.61
49	B1	215	G	O3'-P	-13.01	1.45	1.61
48	A2	350	G	O3'-P	-13.01	1.45	1.61
49	B1	188	C	O3'-P	-12.98	1.45	1.61
49	B1	412	G	O3'-P	-12.96	1.45	1.61
48	A2	4823	C	O3'-P	-12.95	1.45	1.61
49	B1	1526	G	O3'-P	-12.91	1.45	1.61
48	A2	1057	G	O3'-P	12.90	1.76	1.61
49	B1	459	C	O3'-P	-12.90	1.45	1.61
48	A2	4976	C	O3'-P	-12.89	1.45	1.61
48	A2	974	C	O3'-P	-12.86	1.45	1.61
48	A2	3792	A	O3'-P	-12.85	1.45	1.61
48	A2	298	C	O3'-P	-12.83	1.45	1.61
49	B1	32	U	O3'-P	-12.81	1.45	1.61
49	B1	1080	A	O3'-P	-12.81	1.45	1.61
49	B1	681	U	O3'-P	-12.79	1.45	1.61
48	A2	958	U	O3'-P	-12.79	1.45	1.61
48	A2	79	C	O3'-P	-12.72	1.45	1.61
49	B1	501	C	O3'-P	-12.72	1.45	1.61
48	A2	4830	G	O3'-P	-12.71	1.45	1.61
49	B1	370	G	O3'-P	-12.71	1.46	1.61
48	A2	1759	C	O3'-P	-12.69	1.46	1.61
48	A2	4682	C	O3'-P	-12.66	1.46	1.61
49	B1	1022	U	O3'-P	-12.65	1.46	1.61
48	A2	1353	G	O3'-P	-12.62	1.46	1.61
48	A2	4677	C	O3'-P	-12.61	1.46	1.61
49	B1	1031	A	O3'-P	-12.60	1.46	1.61
48	A2	1227	G	O3'-P	-12.58	1.46	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	1249	G	O3'-P	12.57	1.76	1.61
48	A2	451	G	O3'-P	-12.54	1.46	1.61
48	A2	4992	A	O3'-P	-12.52	1.46	1.61
1	A3	150	C	O3'-P	-12.52	1.46	1.61
48	A2	1973	U	O3'-P	-12.50	1.46	1.61
1	A3	89	U	O3'-P	-12.48	1.46	1.61
48	A2	452	C	O3'-P	-12.46	1.46	1.61
2	A4	104	C	O3'-P	-12.46	1.46	1.61
49	B1	683	G	O3'-P	12.45	1.76	1.61
48	A2	3624	A	O3'-P	-12.38	1.46	1.61
48	A2	2445	G	O3'-P	-12.36	1.46	1.61
48	A2	2290	C	O3'-P	-12.36	1.46	1.61
48	A2	1295	A	O3'-P	-12.35	1.46	1.61
48	A2	4059	G	O3'-P	-12.33	1.46	1.61
48	A2	3850	G	O3'-P	-12.30	1.46	1.61
48	A2	1061	A	O3'-P	-12.29	1.46	1.61
48	A2	3651	U	O3'-P	-12.29	1.46	1.61
49	B1	351	G	O3'-P	12.28	1.75	1.61
48	A2	2505	C	O3'-P	-12.28	1.46	1.61
48	A2	3839	G	O3'-P	-12.28	1.46	1.61
48	A2	2268	C	O3'-P	-12.22	1.46	1.61
48	A2	1763	U	O3'-P	-12.22	1.46	1.61
49	B1	1220	A	O3'-P	-12.20	1.46	1.61
49	B1	615	C	O3'-P	-12.18	1.46	1.61
48	A2	319	U	O3'-P	-12.15	1.46	1.61
48	A2	3629	C	O3'-P	-12.12	1.46	1.61
1	A3	115	G	O3'-P	-12.07	1.46	1.61
48	A2	1292	C	O3'-P	-12.07	1.46	1.61
1	A3	4	C	O3'-P	-12.06	1.46	1.61
48	A2	1053	G	O3'-P	-12.04	1.46	1.61
2	A4	41	G	O3'-P	-12.04	1.46	1.61
48	A2	4040	U	O3'-P	-12.01	1.46	1.61
48	A2	260	C	O3'-P	-12.00	1.46	1.61
48	A2	959	C	O3'-P	-12.00	1.46	1.61
48	A2	2782	U	O3'-P	-12.00	1.46	1.61
48	A2	4980	U	O3'-P	-11.97	1.46	1.61
48	A2	1981	G	O3'-P	-11.92	1.46	1.61
48	A2	4974	A	O3'-P	-11.91	1.46	1.61
49	B1	105	U	O3'-P	-11.88	1.46	1.61
49	B1	1746	U	O3'-P	-11.88	1.46	1.61
48	A2	200	U	O3'-P	-11.86	1.47	1.61
48	A2	160	A	O3'-P	-11.86	1.47	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	35	C	O3'-P	-11.86	1.47	1.61
48	A2	3859	G	O3'-P	-11.85	1.47	1.61
49	B1	502	C	O3'-P	-11.84	1.47	1.61
48	A2	1357	G	O3'-P	-11.84	1.47	1.61
48	A2	1530	G	O3'-P	-11.83	1.47	1.61
48	A2	2869	C	O3'-P	-11.83	1.47	1.61
49	B1	454	U	O3'-P	-11.82	1.47	1.61
48	A2	1872	A	O3'-P	-11.81	1.47	1.61
48	A2	2292	A	O3'-P	-11.81	1.47	1.61
49	B1	930	C	O3'-P	-11.79	1.47	1.61
48	A2	1271	G	O3'-P	-11.78	1.47	1.61
48	A2	2570	A	O3'-P	-11.72	1.47	1.61
49	B1	405	G	O3'-P	-11.71	1.47	1.61
49	B1	933	G	O3'-P	-11.71	1.47	1.61
49	B1	976	G	O3'-P	-11.64	1.47	1.61
48	A2	2280	G	O3'-P	-11.62	1.47	1.61
49	B1	21	U	O3'-P	-11.61	1.47	1.61
48	A2	19	G	O3'-P	-11.61	1.47	1.61
48	A2	2876	G	O3'-P	-11.58	1.47	1.61
48	A2	703	C	O3'-P	-11.58	1.47	1.61
48	A2	4704	G	O3'-P	-11.55	1.47	1.61
49	B1	1194	A	O3'-P	-11.54	1.47	1.61
49	B1	1806	A	O3'-P	-11.54	1.47	1.61
48	A2	2501	G	O3'-P	-11.51	1.47	1.61
48	A2	716	G	O3'-P	-11.51	1.47	1.61
49	B1	112	U	O3'-P	11.49	1.75	1.61
49	B1	298	G	O3'-P	-11.48	1.47	1.61
48	A2	718	C	O3'-P	-11.47	1.47	1.61
48	A2	2503	U	O3'-P	-11.47	1.47	1.61
1	A3	118	C	O3'-P	-11.46	1.47	1.61
48	A2	421	A	O3'-P	-11.45	1.47	1.61
49	B1	1460	C	O3'-P	-11.44	1.47	1.61
2	A4	106	G	O3'-P	-11.41	1.47	1.61
48	A2	190	G	O3'-P	11.37	1.74	1.61
48	A2	68	U	O3'-P	-11.36	1.47	1.61
49	B1	1395	C	O3'-P	-11.35	1.47	1.61
49	B1	33	G	O3'-P	-11.35	1.47	1.61
48	A2	961	C	O3'-P	-11.32	1.47	1.61
48	A2	2818	U	O3'-P	-11.31	1.47	1.61
48	A2	1488	G	O3'-P	-11.30	1.47	1.61
48	A2	2603	G	O3'-P	-11.28	1.47	1.61
48	A2	226	G	O3'-P	-11.24	1.47	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1676	U	O3'-P	-11.23	1.47	1.61
49	B1	1855	G	O3'-P	-11.23	1.47	1.61
48	A2	4160	G	O3'-P	-11.22	1.47	1.61
49	B1	361	U	O3'-P	11.22	1.74	1.61
48	A2	2521	G	O3'-P	-11.21	1.47	1.61
1	A3	141	C	O3'-P	-11.18	1.47	1.61
48	A2	2327	G	O3'-P	-11.18	1.47	1.61
48	A2	2458	G	O3'-P	-11.18	1.47	1.61
48	A2	4913	A	O3'-P	-11.16	1.47	1.61
48	A2	3667	C	O3'-P	-11.15	1.47	1.61
48	A2	4602	C	O3'-P	-11.13	1.47	1.61
48	A2	92	C	O3'-P	-11.12	1.47	1.61
48	A2	3617	A	O3'-P	-11.11	1.47	1.61
49	B1	1744	G	O3'-P	-11.10	1.47	1.61
49	B1	660	C	O3'-P	-11.09	1.47	1.61
48	A2	1359	C	O3'-P	-11.06	1.47	1.61
48	A2	204	G	O3'-P	-11.06	1.47	1.61
48	A2	1218	G	O3'-P	-11.05	1.47	1.61
48	A2	1193	C	O3'-P	-11.03	1.48	1.61
49	B1	350	C	O3'-P	-11.03	1.48	1.61
48	A2	49	U	O3'-P	-11.01	1.48	1.61
48	A2	4605	G	O3'-P	-11.01	1.48	1.61
48	A2	296	C	O3'-P	-11.00	1.48	1.61
48	A2	4012	G	O3'-P	-10.99	1.48	1.61
48	A2	1070	A	O3'-P	-10.98	1.48	1.61
49	B1	416	U	O3'-P	-10.98	1.48	1.61
48	A2	2704	A	O3'-P	-10.89	1.48	1.61
48	A2	207	C	O3'-P	-10.88	1.48	1.61
48	A2	4483	U	O3'-P	-10.82	1.48	1.61
48	A2	431	G	O3'-P	-10.78	1.48	1.61
1	A3	67	U	O3'-P	-10.77	1.48	1.61
48	A2	308	G	O3'-P	-10.76	1.48	1.61
48	A2	2786	A	O3'-P	-10.76	1.48	1.61
48	A2	4617	A	O3'-P	-10.76	1.48	1.61
49	B1	1453	C	O3'-P	-10.75	1.48	1.61
48	A2	2753	C	O3'-P	-10.72	1.48	1.61
48	A2	1851	C	O3'-P	-10.71	1.48	1.61
48	A2	90	G	O3'-P	-10.71	1.48	1.61
2	A4	40	U	O3'-P	-10.70	1.48	1.61
48	A2	2569	G	O3'-P	-10.66	1.48	1.61
45	Aq	46	ILE	CB-CG2	-10.65	1.19	1.52
48	A2	3740	C	O3'-P	-10.65	1.48	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	286	G	O3'-P	-10.63	1.48	1.61
48	A2	916	A	O3'-P	10.63	1.74	1.61
49	B1	1123	C	O3'-P	-10.63	1.48	1.61
49	B1	450	C	O3'-P	-10.63	1.48	1.61
48	A2	1616	A	O3'-P	-10.61	1.48	1.61
48	A2	3836	A	O3'-P	-10.58	1.48	1.61
48	A2	4306	U	O3'-P	-10.55	1.48	1.61
48	A2	2269	C	O3'-P	-10.54	1.48	1.61
2	A4	33	U	O3'-P	-10.51	1.48	1.61
48	A2	2694	G	O3'-P	-10.51	1.48	1.61
48	A2	2422	G	O3'-P	-10.50	1.48	1.61
48	A2	1245	G	O3'-P	-10.49	1.48	1.61
48	A2	3818	C	O3'-P	-10.49	1.48	1.61
49	B1	20	G	O3'-P	-10.48	1.48	1.61
49	B1	1276	A	O3'-P	-10.48	1.48	1.61
1	A3	136	U	O3'-P	-10.46	1.48	1.61
48	A2	22	G	O3'-P	-10.45	1.48	1.61
1	A3	25	G	O3'-P	-10.45	1.48	1.61
49	B1	84	A	O3'-P	-10.44	1.48	1.61
48	A2	2841	G	O3'-P	-10.42	1.48	1.61
48	A2	405	G	O3'-P	-10.40	1.48	1.61
48	A2	3623	A	O3'-P	-10.36	1.48	1.61
48	A2	3662	G	O3'-P	-10.35	1.48	1.61
48	A2	2599	G	O3'-P	-10.34	1.48	1.61
49	B1	604	A	O3'-P	-10.34	1.48	1.61
48	A2	1846	G	O3'-P	-10.32	1.48	1.61
2	A4	5	A	O3'-P	-10.28	1.48	1.61
49	B1	106	C	O3'-P	-10.28	1.48	1.61
49	B1	597	G	O3'-P	-10.25	1.48	1.61
49	B1	147	A	O3'-P	-10.24	1.48	1.61
48	A2	2435	G	O3'-P	-10.22	1.48	1.61
48	A2	3687	C	O3'-P	-10.22	1.48	1.61
83	Bw	1	G	OP3-P	-10.21	1.49	1.61
48	A2	1631	U	O3'-P	-10.20	1.49	1.61
49	B1	1742	C	O3'-P	-10.20	1.49	1.61
48	A2	2328	A	O3'-P	-10.18	1.49	1.61
83	Bv	1	G	OP3-P	-10.18	1.49	1.61
1	A3	113	C	O3'-P	-10.17	1.49	1.61
84	Bx	34	U	OP3-P	-10.17	1.49	1.61
49	B1	1561	A	O3'-P	-10.16	1.49	1.61
48	A2	2472	G	O3'-P	-10.15	1.49	1.61
48	A2	356	A	O3'-P	-10.13	1.49	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	219	U	O3'-P	-10.11	1.49	1.61
48	A2	4587	C	O3'-P	-10.10	1.49	1.61
48	A2	3834	C	O3'-P	-10.10	1.49	1.61
48	A2	2783	C	O3'-P	-10.07	1.49	1.61
48	A2	4618	A	O3'-P	-10.01	1.49	1.61
1	A3	3	A	O3'-P	-9.98	1.49	1.61
49	B1	1789	G	O3'-P	-9.98	1.49	1.61
48	A2	4125	U	O3'-P	-9.98	1.49	1.61
48	A2	1572	C	O3'-P	-9.97	1.49	1.61
48	A2	3808	C	O3'-P	-9.96	1.49	1.61
48	A2	1198	C	O3'-P	-9.96	1.49	1.61
48	A2	2758	C	O3'-P	-9.96	1.49	1.61
48	A2	153	G	O3'-P	-9.96	1.49	1.61
2	A4	34	C	O3'-P	9.92	1.73	1.61
48	A2	4924	A	O3'-P	-9.91	1.49	1.61
49	B1	425	G	O3'-P	-9.90	1.49	1.61
49	B1	864	A	O3'-P	-9.86	1.49	1.61
48	A2	432	G	O3'-P	-9.84	1.49	1.61
48	A2	1313	A	O3'-P	-9.84	1.49	1.61
48	A2	656	C	O3'-P	-9.84	1.49	1.61
2	A4	90	A	O3'-P	-9.81	1.49	1.61
49	B1	1643	U	O3'-P	-9.80	1.49	1.61
48	A2	2527	C	O3'-P	-9.80	1.49	1.61
48	A2	4835	G	O3'-P	-9.80	1.49	1.61
48	A2	4041	U	O3'-P	-9.79	1.49	1.61
49	B1	1491	G	O3'-P	-9.79	1.49	1.61
49	B1	1219	C	O3'-P	-9.73	1.49	1.61
48	A2	3738	C	O3'-P	-9.71	1.49	1.61
49	B1	448	A	O3'-P	9.71	1.72	1.61
49	B1	1024	A	O3'-P	-9.70	1.49	1.61
48	A2	3663	A	O3'-P	-9.68	1.49	1.61
48	A2	1612	A	O3'-P	-9.66	1.49	1.61
48	A2	378	A	O3'-P	-9.62	1.49	1.61
48	A2	4590	U	O3'-P	-9.61	1.49	1.61
49	B1	1727	G	O3'-P	-9.60	1.49	1.61
49	B1	1107	G	O3'-P	-9.59	1.49	1.61
48	A2	4060	G	O3'-P	-9.59	1.49	1.61
48	A2	2611	U	O3'-P	-9.58	1.49	1.61
49	B1	689	U	O3'-P	-9.57	1.49	1.61
48	A2	4720	U	O3'-P	-9.56	1.49	1.61
48	A2	4723	G	O3'-P	-9.54	1.49	1.61
49	B1	1306	U	O3'-P	-9.52	1.49	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	4308	U	O3'-P	-9.49	1.49	1.61
48	A2	2302	C	O3'-P	-9.48	1.49	1.61
48	A2	440	C	O3'-P	-9.47	1.49	1.61
2	A4	63	C	O3'-P	-9.46	1.49	1.61
48	A2	1071	C	O3'-P	-9.43	1.49	1.61
48	A2	2746	U	O3'-P	-9.40	1.49	1.61
48	A2	4413	G	O3'-P	-9.38	1.49	1.61
48	A2	1803	G	O3'-P	-9.38	1.49	1.61
1	A3	129	C	O3'-P	-9.37	1.50	1.61
1	A3	23	C	O3'-P	-9.37	1.50	1.61
48	A2	2747	C	O3'-P	-9.37	1.50	1.61
48	A2	2454	G	O3'-P	-9.36	1.50	1.61
49	B1	680	G	O3'-P	-9.35	1.50	1.61
48	A2	1588	U	O3'-P	-9.33	1.50	1.61
49	B1	1856	C	O3'-P	-9.32	1.50	1.61
48	A2	2245	C	O3'-P	-9.31	1.50	1.61
48	A2	4985	C	O3'-P	-9.29	1.50	1.61
48	A2	504	U	O3'-P	-9.27	1.50	1.61
48	A2	466	C	O3'-P	-9.25	1.50	1.61
49	B1	94	G	O3'-P	-9.23	1.50	1.61
48	A2	4828	G	O3'-P	-9.22	1.50	1.61
48	A2	4318	G	O3'-P	-9.21	1.50	1.61
49	B1	817	G	O3'-P	-9.20	1.50	1.61
48	A2	4124	C	O3'-P	-9.20	1.50	1.61
48	A2	2877	G	O3'-P	-9.19	1.50	1.61
48	A2	433	G	O3'-P	-9.18	1.50	1.61
48	A2	929	G	O3'-P	-9.18	1.50	1.61
48	A2	3660	G	O3'-P	-9.18	1.50	1.61
49	B1	1015	U	O3'-P	-9.16	1.50	1.61
48	A2	2872	U	O3'-P	-9.16	1.50	1.61
49	B1	1476	A	O3'-P	-9.14	1.50	1.61
48	A2	4601	G	O3'-P	-9.14	1.50	1.61
48	A2	3718	A	O3'-P	-9.13	1.50	1.61
49	B1	369	C	O3'-P	-9.09	1.50	1.61
48	A2	2523	G	O3'-P	-9.07	1.50	1.61
48	A2	278	G	O3'-P	-9.07	1.50	1.61
1	A3	119	C	O3'-P	-9.07	1.50	1.61
48	A2	2701	G	O3'-P	-9.06	1.50	1.61
48	A2	959	C	P-O5'	-9.05	1.50	1.59
48	A2	3816	A	O3'-P	-9.04	1.50	1.61
48	A2	1736	U	O3'-P	-9.03	1.50	1.61
48	A2	4523	C	O3'-P	-9.02	1.50	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1047	C	O3'-P	-9.02	1.50	1.61
48	A2	4056	G	O3'-P	-9.02	1.50	1.61
48	A2	892	C	O3'-P	-9.00	1.50	1.61
48	A2	650	C	O3'-P	-8.99	1.50	1.61
48	A2	20	U	O3'-P	-8.99	1.50	1.61
48	A2	4360	C	O3'-P	-8.99	1.50	1.61
48	A2	4162	G	O3'-P	8.98	1.72	1.61
48	A2	4728	C	O3'-P	-8.96	1.50	1.61
48	A2	1368	G	O3'-P	-8.96	1.50	1.61
2	A4	67	C	O3'-P	-8.95	1.50	1.61
48	A2	4406	C	O3'-P	8.94	1.71	1.61
48	A2	4459	U	O3'-P	-8.93	1.50	1.61
49	B1	953	C	O3'-P	-8.91	1.50	1.61
48	A2	4993	U	O3'-P	-8.90	1.50	1.61
48	A2	1314	C	O3'-P	-8.90	1.50	1.61
48	A2	2059	C	O3'-P	-8.90	1.50	1.61
48	A2	3570	A	O3'-P	-8.89	1.50	1.61
48	A2	1987	U	O3'-P	-8.89	1.50	1.61
48	A2	4840	U	O3'-P	-8.88	1.50	1.61
48	A2	1586	G	O3'-P	-8.87	1.50	1.61
49	B1	946	U	O3'-P	-8.87	1.50	1.61
49	B1	1334	G	O3'-P	-8.87	1.50	1.61
48	A2	483	C	O3'-P	-8.84	1.50	1.61
48	A2	216	G	O3'-P	-8.84	1.50	1.61
48	A2	3728	G	O3'-P	-8.84	1.50	1.61
48	A2	4959	U	O3'-P	-8.82	1.50	1.61
49	B1	307	G	O3'-P	-8.82	1.50	1.61
49	B1	1388	A	O3'-P	-8.80	1.50	1.61
49	B1	1645	C	O3'-P	-8.80	1.50	1.61
48	A2	4010	C	O3'-P	-8.79	1.50	1.61
49	B1	1667	U	O3'-P	-8.78	1.50	1.61
48	A2	1788	G	O3'-P	-8.78	1.50	1.61
48	A2	1983	A	O3'-P	-8.74	1.50	1.61
48	A2	2671	U	O3'-P	-8.74	1.50	1.61
49	B1	847	A	O3'-P	-8.73	1.50	1.61
48	A2	3670	C	O3'-P	-8.73	1.50	1.61
48	A2	4456	G	O3'-P	-8.71	1.50	1.61
49	B1	979	C	O3'-P	-8.70	1.50	1.61
48	A2	60	A	O3'-P	-8.70	1.50	1.61
49	B1	295	C	O3'-P	-8.69	1.50	1.61
49	B1	663	C	O3'-P	-8.68	1.50	1.61
49	B1	1644	C	O3'-P	-8.68	1.50	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	1569	G	O3'-P	-8.66	1.50	1.61
49	B1	410	G	O3'-P	-8.63	1.50	1.61
49	B1	844	U	O3'-P	-8.63	1.50	1.61
49	B1	639	C	O3'-P	-8.63	1.50	1.61
49	B1	174	C	O3'-P	-8.62	1.50	1.61
49	B1	1340	U	O3'-P	-8.62	1.50	1.61
49	B1	1729	U	O3'-P	-8.61	1.50	1.61
48	A2	910	C	O3'-P	-8.60	1.50	1.61
49	B1	1224	G	O3'-P	-8.60	1.50	1.61
48	A2	220	G	O3'-P	-8.58	1.50	1.61
49	B1	1868	U	O3'-P	8.57	1.71	1.61
48	A2	1199	C	O3'-P	8.56	1.71	1.61
48	A2	4052	G	O3'-P	-8.55	1.50	1.61
2	A4	55	A	O3'-P	-8.55	1.50	1.61
48	A2	4039	U	O3'-P	-8.54	1.50	1.61
48	A2	4994	C	O3'-P	-8.54	1.50	1.61
49	B1	803	C	O3'-P	-8.52	1.50	1.61
49	B1	940	U	O3'-P	-8.51	1.50	1.61
48	A2	4663	A	O3'-P	8.50	1.71	1.61
49	B1	1445	U	O3'-P	-8.50	1.50	1.61
48	A2	1296	C	O3'-P	-8.50	1.50	1.61
48	A2	3685	G	O3'-P	8.49	1.71	1.61
48	A2	4594	U	O3'-P	-8.48	1.50	1.61
48	A2	1731	A	O3'-P	-8.47	1.50	1.61
48	A2	2433	U	O3'-P	-8.47	1.50	1.61
48	A2	1879	C	O3'-P	-8.46	1.51	1.61
49	B1	918	U	O3'-P	8.45	1.71	1.61
48	A2	1191	G	O3'-P	-8.45	1.51	1.61
48	A2	1340	C	O3'-P	-8.44	1.51	1.61
48	A2	1725	A	O3'-P	-8.44	1.51	1.61
48	A2	4327	C	O3'-P	-8.42	1.51	1.61
48	A2	125	C	O3'-P	8.42	1.71	1.61
48	A2	1319	G	O3'-P	8.39	1.71	1.61
49	B1	804	U	O3'-P	-8.38	1.51	1.61
48	A2	2733	G	O3'-P	-8.37	1.51	1.61
48	A2	1464	G	O3'-P	-8.37	1.51	1.61
48	A2	1727	G	O3'-P	-8.37	1.51	1.61
48	A2	1714	C	O3'-P	-8.36	1.51	1.61
48	A2	2728	C	O3'-P	-8.35	1.51	1.61
49	B1	148	U	O3'-P	-8.34	1.51	1.61
48	A2	3587	U	O3'-P	-8.34	1.51	1.61
48	A2	4890	U	O3'-P	-8.30	1.51	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1310	U	O3'-P	-8.30	1.51	1.61
48	A2	1613	A	O3'-P	-8.29	1.51	1.61
49	B1	974	C	O3'-P	-8.29	1.51	1.61
48	A2	1957	G	O3'-P	-8.28	1.51	1.61
48	A2	4660	C	O3'-P	-8.27	1.51	1.61
48	A2	1348	C	O3'-P	-8.27	1.51	1.61
1	A3	24	G	O3'-P	-8.26	1.51	1.61
48	A2	917	G	O3'-P	8.24	1.71	1.61
48	A2	1490	A	O3'-P	-8.24	1.51	1.61
1	A3	127	U	O3'-P	8.21	1.71	1.61
48	A2	1972	A	O3'-P	-8.19	1.51	1.61
48	A2	4603	U	O3'-P	-8.18	1.51	1.61
48	A2	3917	G	O3'-P	-8.18	1.51	1.61
49	B1	1248	U	O3'-P	-8.17	1.51	1.61
48	A2	14	C	O3'-P	-8.16	1.51	1.61
48	A2	2061	U	O3'-P	-8.14	1.51	1.61
49	B1	984	C	O3'-P	-8.14	1.51	1.61
49	B1	1304	U	O3'-P	-8.14	1.51	1.61
48	A2	4524	C	O3'-P	-8.13	1.51	1.61
48	A2	4319	G	O3'-P	-8.12	1.51	1.61
48	A2	2270	G	O3'-P	-8.11	1.51	1.61
49	B1	69	C	O3'-P	-8.10	1.51	1.61
48	A2	634	C	O3'-P	8.04	1.70	1.61
48	A2	643	A	O3'-P	-8.03	1.51	1.61
48	A2	2697	U	O3'-P	-8.03	1.51	1.61
48	A2	288	G	O3'-P	-8.03	1.51	1.61
48	A2	1974	C	O3'-P	8.02	1.70	1.61
49	B1	1254	C	O3'-P	-8.02	1.51	1.61
49	B1	1421	A	O3'-P	-8.01	1.51	1.61
2	A4	70	G	O3'-P	-8.00	1.51	1.61
49	B1	1462	U	O3'-P	-7.99	1.51	1.61
45	Aq	75	PRO	N-CD	7.99	1.59	1.47
1	A3	135	C	O3'-P	-7.99	1.51	1.61
48	A2	147	U	O3'-P	7.98	1.70	1.61
45	Aq	75	PRO	CG-CD	7.96	1.76	1.50
2	A4	105	C	O3'-P	-7.96	1.51	1.61
48	A2	348	U	O3'-P	-7.94	1.51	1.61
48	A2	726	G	O3'-P	-7.93	1.51	1.61
1	A3	2	G	O3'-P	-7.90	1.51	1.61
1	A3	93	C	O3'-P	-7.88	1.51	1.61
48	A2	930	A	O3'-P	-7.86	1.51	1.61
48	A2	1954	G	O3'-P	7.85	1.70	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	1845	G	O3'-P	-7.85	1.51	1.61
48	A2	4827	U	C5'-C4'	-7.84	1.42	1.51
48	A2	205	A	O3'-P	-7.83	1.51	1.61
48	A2	110	C	O3'-P	-7.83	1.51	1.61
48	A2	3702	C	O3'-P	7.80	1.70	1.61
48	A2	2672	G	O3'-P	-7.79	1.51	1.61
48	A2	3611	U	O3'-P	-7.76	1.51	1.61
48	A2	3736	G	O3'-P	-7.76	1.51	1.61
48	A2	7	C	O3'-P	-7.75	1.51	1.61
48	A2	2702	U	O3'-P	-7.75	1.51	1.61
48	A2	3719	A	O3'-P	-7.75	1.51	1.61
49	B1	289	G	O3'-P	-7.75	1.51	1.61
48	A2	4094	C	O3'-P	-7.74	1.51	1.61
1	A3	72	A	O3'-P	-7.74	1.51	1.61
48	A2	1560	U	O3'-P	7.73	1.70	1.61
48	A2	2698	C	O3'-P	-7.73	1.51	1.61
48	A2	2759	C	O3'-P	-7.70	1.51	1.61
49	B1	119	U	O3'-P	-7.69	1.51	1.61
48	A2	2736	A	O3'-P	-7.68	1.51	1.61
48	A2	724	A	O3'-P	-7.68	1.51	1.61
49	B1	1642	U	O3'-P	-7.66	1.51	1.61
48	A2	1059	C	O3'-P	7.65	1.70	1.61
49	B1	86	C	O3'-P	-7.65	1.51	1.61
48	A2	5007	G	O3'-P	-7.64	1.51	1.61
48	A2	299	A	O3'-P	-7.63	1.51	1.61
48	A2	4825	G	O3'-P	-7.63	1.51	1.61
48	A2	1804	U	O3'-P	-7.63	1.51	1.61
49	B1	123	G	O3'-P	-7.63	1.51	1.61
48	A2	4173	C	O3'-P	-7.63	1.51	1.61
48	A2	4123	G	O3'-P	-7.62	1.52	1.61
48	A2	919	A	O3'-P	7.61	1.70	1.61
48	A2	2699	C	O3'-P	-7.61	1.52	1.61
49	B1	1726	G	O3'-P	-7.60	1.52	1.61
48	A2	4685	A	O3'-P	-7.59	1.52	1.61
48	A2	1574	G	O3'-P	-7.58	1.52	1.61
48	A2	4707	G	O3'-P	-7.58	1.52	1.61
48	A2	702	A	O3'-P	-7.58	1.52	1.61
48	A2	4837	C	O3'-P	-7.58	1.52	1.61
2	A4	112	U	O3'-P	7.58	1.70	1.61
48	A2	3669	G	O3'-P	-7.54	1.52	1.61
49	B1	849	A	O3'-P	-7.54	1.52	1.61
2	A4	48	G	O3'-P	-7.53	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	367	U	O3'-P	-7.53	1.52	1.61
48	A2	1282	G	O3'-P	-7.53	1.52	1.61
49	B1	1044	G	O3'-P	-7.52	1.52	1.61
48	A2	1679	G	O3'-P	7.51	1.70	1.61
48	A2	2246	U	O3'-P	-7.50	1.52	1.61
48	A2	4311	C	O3'-P	-7.50	1.52	1.61
48	A2	4009	G	O3'-P	-7.50	1.52	1.61
48	A2	1333	C	O3'-P	-7.49	1.52	1.61
49	B1	447	A	O3'-P	-7.49	1.52	1.61
2	A4	44	C	O3'-P	-7.49	1.52	1.61
49	B1	1554	C	O3'-P	-7.48	1.52	1.61
2	A4	62	U	O3'-P	-7.47	1.52	1.61
48	A2	2489	G	O3'-P	-7.47	1.52	1.61
48	A2	406	G	O3'-P	-7.46	1.52	1.61
48	A2	2677	G	O3'-P	-7.44	1.52	1.61
48	A2	2329	U	O3'-P	-7.44	1.52	1.61
49	B1	346	C	O3'-P	-7.44	1.52	1.61
48	A2	50	C	O3'-P	-7.43	1.52	1.61
49	B1	1278	A	O3'-P	7.43	1.70	1.61
48	A2	182	C	O3'-P	-7.41	1.52	1.61
48	A2	2285	G	O3'-P	-7.41	1.52	1.61
49	B1	338	G	O3'-P	7.41	1.70	1.61
48	A2	2722	A	O3'-P	-7.40	1.52	1.61
48	A2	2824	A	O3'-P	-7.40	1.52	1.61
48	A2	921	C	O3'-P	7.38	1.70	1.61
48	A2	3615	U	O3'-P	-7.37	1.52	1.61
49	B1	977	C	O3'-P	-7.36	1.52	1.61
49	B1	176	U	O3'-P	-7.36	1.52	1.61
48	A2	2673	G	O3'-P	-7.36	1.52	1.61
49	B1	917	U	O3'-P	-7.36	1.52	1.61
48	A2	1467	C	O3'-P	-7.35	1.52	1.61
49	B1	1702	G	O3'-P	-7.35	1.52	1.61
48	A2	3613	A	C5'-C4'	-7.33	1.42	1.51
48	A2	4599	G	O3'-P	7.33	1.70	1.61
49	B1	446	G	O3'-P	-7.33	1.52	1.61
48	A2	2490	A	O3'-P	-7.33	1.52	1.61
48	A2	908	C	O3'-P	-7.31	1.52	1.61
48	A2	3934	A	O3'-P	-7.31	1.52	1.61
48	A2	4686	A	O3'-P	-7.31	1.52	1.61
13	AK	27	CYS	CB-SG	-7.30	1.69	1.82
49	B1	85	A	O3'-P	-7.29	1.52	1.61
48	A2	3688	A	O3'-P	-7.29	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	1287	C	O3'-P	-7.29	1.52	1.61
1	A3	142	U	O3'-P	-7.28	1.52	1.61
48	A2	326	C	O3'-P	-7.26	1.52	1.61
48	A2	2526	G	O3'-P	-7.26	1.52	1.61
48	A2	3612	U	C3'-O3'	-7.26	1.31	1.42
49	B1	124	U	O3'-P	-7.25	1.52	1.61
48	A2	950	G	O3'-P	7.24	1.69	1.61
1	A3	12	G	O3'-P	-7.22	1.52	1.61
48	A2	3791	G	O3'-P	-7.22	1.52	1.61
48	A2	1299	G	O3'-P	-7.21	1.52	1.61
48	A2	4915	C	O3'-P	7.19	1.69	1.61
49	B1	1335	G	O3'-P	-7.19	1.52	1.61
49	B1	1681	U	O3'-P	-7.19	1.52	1.61
48	A2	3672	C	O3'-P	7.18	1.69	1.61
48	A2	21	G	O3'-P	7.17	1.69	1.61
48	A2	1331	U	O3'-P	-7.17	1.52	1.61
49	B1	407	G	O3'-P	-7.14	1.52	1.61
49	B1	1452	A	O3'-P	-7.14	1.52	1.61
49	B1	1584	G	O3'-P	-7.14	1.52	1.61
49	B1	1575	G	O3'-P	7.12	1.69	1.61
1	A3	116	C	O3'-P	-7.12	1.52	1.61
48	A2	1434	G	O3'-P	-7.11	1.52	1.61
48	A2	180	C	O3'-P	7.09	1.69	1.61
48	A2	1571	C	O3'-P	-7.09	1.52	1.61
48	A2	4713	G	O3'-P	-7.07	1.52	1.61
48	A2	497	C	O3'-P	-7.07	1.52	1.61
49	B1	749	U	C3'-O3'	-7.05	1.32	1.42
49	B1	369	C	P-O5'	-7.04	1.52	1.59
49	B1	1700	C	O3'-P	-7.02	1.52	1.61
83	Bv	33	U	O3'-P	-7.01	1.52	1.61
49	B1	1732	G	O3'-P	-7.00	1.52	1.61
48	A2	478	U	O3'-P	-7.00	1.52	1.61
49	B1	120	U	O3'-P	-6.99	1.52	1.61
48	A2	1416	A	O3'-P	6.98	1.69	1.61
48	A2	3801	A	O3'-P	6.97	1.69	1.61
49	B1	343	A	O3'-P	-6.97	1.52	1.61
48	A2	172	C	O3'-P	-6.96	1.52	1.61
48	A2	1764	U	O3'-P	-6.95	1.52	1.61
49	B1	1647	A	O3'-P	-6.95	1.52	1.61
49	B1	1417	C	O3'-P	6.94	1.69	1.61
48	A2	2313	C	O3'-P	-6.94	1.52	1.61
48	A2	4136	U	O3'-P	-6.94	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	122	G	O3'-P	-6.93	1.52	1.61
48	A2	4984	U	O3'-P	-6.92	1.52	1.61
49	B1	1442	U	O3'-P	-6.91	1.52	1.61
1	A3	79	G	O3'-P	-6.91	1.52	1.61
1	A3	11	C	O3'-P	-6.90	1.52	1.61
48	A2	713	G	O3'-P	-6.90	1.52	1.61
48	A2	2690	G	P-O5'	-6.89	1.52	1.59
48	A2	1850	G	O3'-P	-6.89	1.52	1.61
49	B1	924	G	O3'-P	-6.88	1.52	1.61
48	A2	66	A	O3'-P	-6.88	1.52	1.61
2	A4	6	C	O3'-P	-6.88	1.52	1.61
48	A2	10	A	O3'-P	-6.88	1.52	1.61
48	A2	4407	U	O3'-P	-6.87	1.52	1.61
48	A2	680	C	O3'-P	-6.86	1.52	1.61
48	A2	2057	G	O3'-P	-6.84	1.52	1.61
48	A2	4648	G	O3'-P	-6.84	1.52	1.61
48	A2	307	U	O3'-P	-6.84	1.52	1.61
1	A3	110	U	O3'-P	-6.83	1.52	1.61
48	A2	150	G	O4'-C1'	6.83	1.50	1.41
49	B1	1581	C	O3'-P	-6.80	1.52	1.61
48	A2	2676	A	O3'-P	-6.80	1.52	1.61
48	A2	4097	A	O3'-P	-6.78	1.53	1.61
49	B1	1158	G	O3'-P	-6.78	1.53	1.61
48	A2	946	G	O3'-P	-6.75	1.53	1.61
48	A2	1944	C	O3'-P	-6.74	1.53	1.61
48	A2	1273	G	O3'-P	-6.74	1.53	1.61
48	A2	355	C	O3'-P	-6.73	1.53	1.61
48	A2	1765	C	O3'-P	-6.73	1.53	1.61
48	A2	2478	C	O3'-P	-6.70	1.53	1.61
48	A2	926	G	O3'-P	6.70	1.69	1.61
2	A4	61	G	O3'-P	-6.69	1.53	1.61
48	A2	1290	A	O3'-P	-6.69	1.53	1.61
49	B1	498	C	O3'-P	-6.69	1.53	1.61
48	A2	1270	G	O3'-P	-6.69	1.53	1.61
48	A2	1225	G	O3'-P	6.67	1.69	1.61
49	B1	1801	A	O3'-P	-6.65	1.53	1.61
48	A2	127	G	C1'-N9	-6.63	1.37	1.46
48	A2	1260	G	P-O5'	-6.62	1.53	1.59
48	A2	328	A	O3'-P	-6.61	1.53	1.61
49	B1	929	G	O3'-P	-6.59	1.53	1.61
48	A2	1365	G	O3'-P	-6.59	1.53	1.61
49	B1	1685	U	O3'-P	-6.59	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	267	U	O3'-P	-6.57	1.53	1.61
48	A2	2427	G	O3'-P	-6.56	1.53	1.61
49	B1	674	C	O3'-P	-6.56	1.53	1.61
48	A2	2312	G	O3'-P	6.55	1.69	1.61
48	A2	3589	C	O3'-P	-6.55	1.53	1.61
48	A2	457	A	O3'-P	-6.55	1.53	1.61
48	A2	4033	U	O4'-C1'	6.54	1.50	1.41
48	A2	690	C	O3'-P	6.53	1.69	1.61
48	A2	1281	C	O3'-P	-6.52	1.53	1.61
48	A2	1800	G	O3'-P	6.52	1.69	1.61
48	A2	4463	U	O3'-P	-6.51	1.53	1.61
49	B1	985	G	O3'-P	-6.51	1.53	1.61
49	B1	863	U	O3'-P	-6.50	1.53	1.61
48	A2	1797	G	O3'-P	-6.50	1.53	1.61
48	A2	3838	A	O3'-P	6.50	1.69	1.61
48	A2	501	G	O4'-C1'	6.50	1.50	1.41
48	A2	4086	U	O3'-P	-6.50	1.53	1.61
48	A2	3731	A	O3'-P	-6.48	1.53	1.61
49	B1	363	A	O3'-P	6.48	1.69	1.61
1	A3	38	U	O3'-P	-6.46	1.53	1.61
48	A2	2700	G	O3'-P	-6.46	1.53	1.61
48	A2	3678	U	O3'-P	-6.46	1.53	1.61
49	B1	1222	G	O3'-P	-6.46	1.53	1.61
48	A2	4036	U	O3'-P	-6.45	1.53	1.61
48	A2	927	C	O4'-C1'	-6.45	1.33	1.41
48	A2	4156	U	O3'-P	-6.44	1.53	1.61
48	A2	509	C	O3'-P	6.43	1.68	1.61
48	A2	5005	C	O3'-P	-6.42	1.53	1.61
49	B1	218	U	O3'-P	-6.42	1.53	1.61
48	A2	309	G	O3'-P	-6.41	1.53	1.61
48	A2	4091	G	O3'-P	-6.41	1.53	1.61
48	A2	329	A	O3'-P	-6.41	1.53	1.61
48	A2	4175	A	O3'-P	-6.41	1.53	1.61
49	B1	837	A	O3'-P	6.40	1.68	1.61
48	A2	1732	G	O3'-P	-6.40	1.53	1.61
49	B1	345	U	O3'-P	-6.40	1.53	1.61
48	A2	2735	G	O3'-P	-6.40	1.53	1.61
48	A2	1796	C	O3'-P	-6.39	1.53	1.61
83	Bv	1	G	P-OP2	6.39	1.59	1.49
48	A2	1758	A	O3'-P	-6.38	1.53	1.61
84	Bx	34	U	P-OP2	6.38	1.59	1.49
49	B1	1807	C	O3'-P	-6.37	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	403	G	O3'-P	-6.36	1.53	1.61
83	Bw	1	G	P-OP2	6.36	1.59	1.49
48	A2	1058	G	O3'-P	6.35	1.68	1.61
48	A2	4055	A	O3'-P	6.34	1.68	1.61
48	A2	922	A	O3'-P	-6.33	1.53	1.61
48	A2	4694	G	O3'-P	-6.33	1.53	1.61
49	B1	422	U	O3'-P	-6.33	1.53	1.61
48	A2	86	U	O3'-P	-6.33	1.53	1.61
49	B1	1396	A	O3'-P	-6.32	1.53	1.61
48	A2	4836	C	O3'-P	-6.31	1.53	1.61
48	A2	211	G	O3'-P	6.30	1.68	1.61
48	A2	5025	U	O3'-P	-6.30	1.53	1.61
2	A4	116	G	O3'-P	-6.29	1.53	1.61
48	A2	112	C	O3'-P	-6.29	1.53	1.61
48	A2	3840	C	O3'-P	-6.27	1.53	1.61
48	A2	1955	U	O3'-P	6.27	1.68	1.61
49	B1	451	G	O3'-P	-6.26	1.53	1.61
48	A2	721	G	O3'-P	-6.25	1.53	1.61
48	A2	2480	C	O3'-P	-6.22	1.53	1.61
48	A2	166	G	O3'-P	-6.21	1.53	1.61
48	A2	1065	C	O3'-P	-6.21	1.53	1.61
48	A2	3683	A	O3'-P	-6.21	1.53	1.61
48	A2	4722	G	O3'-P	-6.20	1.53	1.61
49	B1	5	U	O3'-P	6.20	1.68	1.61
49	B1	107	A	O3'-P	-6.19	1.53	1.61
48	A2	657	C	O3'-P	-6.19	1.53	1.61
49	B1	843	C	O3'-P	6.19	1.68	1.61
48	A2	438	G	O3'-P	-6.18	1.53	1.61
49	B1	30	C	O3'-P	-6.18	1.53	1.61
48	A2	4922	C	O3'-P	-6.17	1.53	1.61
48	A2	1260	G	O3'-P	6.17	1.68	1.61
48	A2	893	C	O3'-P	-6.17	1.53	1.61
49	B1	653	A	O3'-P	-6.16	1.53	1.61
48	A2	1248	G	O3'-P	6.16	1.68	1.61
2	A4	42	A	O3'-P	-6.15	1.53	1.61
48	A2	399	U	O3'-P	-6.14	1.53	1.61
48	A2	2322	G	O3'-P	-6.14	1.53	1.61
48	A2	1855	A	O3'-P	-6.14	1.53	1.61
48	A2	48	G	O3'-P	-6.13	1.53	1.61
48	A2	324	G	O3'-P	-6.13	1.53	1.61
48	A2	1433	C	O4'-C1'	6.13	1.49	1.41
49	B1	417	C	O3'-P	-6.13	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1103	C	O3'-P	-6.12	1.53	1.61
48	A2	2251	C	O3'-P	-6.11	1.53	1.61
48	A2	671	C	O3'-P	-6.11	1.53	1.61
49	B1	657	U	O3'-P	-6.11	1.53	1.61
48	A2	465	A	O3'-P	-6.10	1.53	1.61
48	A2	3627	A	O3'-P	-6.09	1.53	1.61
48	A2	1614	A	O3'-P	6.08	1.68	1.61
48	A2	300	A	O4'-C1'	-6.08	1.33	1.41
48	A2	320	C	O3'-P	-6.08	1.53	1.61
48	A2	4326	G	O3'-P	-6.08	1.53	1.61
48	A2	4140	A	O3'-P	-6.07	1.53	1.61
48	A2	4623	G	O3'-P	-6.07	1.53	1.61
49	B1	601	G	O3'-P	-6.06	1.53	1.61
48	A2	2836	A	O3'-P	-6.06	1.53	1.61
49	B1	947	G	O3'-P	-6.06	1.53	1.61
48	A2	219	C	O4'-C1'	6.06	1.49	1.41
48	A2	4095	C	O3'-P	-6.04	1.53	1.61
48	A2	104	G	O3'-P	-6.04	1.53	1.61
48	A2	4715	U	O3'-P	-6.04	1.53	1.61
48	A2	2682	G	O4'-C1'	6.04	1.49	1.41
48	A2	43	U	O3'-P	-6.03	1.53	1.61
48	A2	1219	C	O3'-P	-6.03	1.53	1.61
49	B1	1275	G	O3'-P	6.02	1.68	1.61
49	B1	1443	C	O3'-P	-6.01	1.53	1.61
48	A2	1194	G	O3'-P	6.01	1.68	1.61
48	A2	56	A	O3'-P	-6.00	1.53	1.61
48	A2	1916	C	O3'-P	-6.00	1.53	1.61
49	B1	24	C	O3'-P	6.00	1.68	1.61
48	A2	1498	G	O3'-P	-5.99	1.53	1.61
1	A3	33	G	O3'-P	-5.98	1.53	1.61
48	A2	894	C	O3'-P	-5.98	1.53	1.61
49	B1	1223	A	O4'-C1'	5.98	1.49	1.41
48	A2	1294	G	O3'-P	-5.97	1.53	1.61
48	A2	4841	C	O3'-P	-5.97	1.53	1.61
48	A2	1306	A	O3'-P	-5.97	1.53	1.61
49	B1	1049	A	O3'-P	-5.96	1.53	1.61
48	A2	2873	A	O3'-P	-5.95	1.54	1.61
48	A2	57	G	O3'-P	-5.94	1.54	1.61
48	A2	689	G	O3'-P	5.94	1.68	1.61
48	A2	4414	U	O3'-P	-5.93	1.54	1.61
48	A2	3787	A	O3'-P	-5.93	1.54	1.61
49	B1	430	C	O3'-P	-5.92	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1007	C	O3'-P	-5.92	1.54	1.61
1	A3	152	U	O3'-P	-5.92	1.54	1.61
48	A2	1950	G	O3'-P	5.92	1.68	1.61
48	A2	310	U	O3'-P	-5.90	1.54	1.61
49	B1	29	G	O3'-P	-5.89	1.54	1.61
49	B1	848	U	O3'-P	-5.86	1.54	1.61
48	A2	909	C	O3'-P	-5.84	1.54	1.61
48	A2	475	G	O3'-P	-5.83	1.54	1.61
48	A2	5004	U	O3'-P	-5.83	1.54	1.61
48	A2	287	G	C3'-O3'	-5.83	1.33	1.42
48	A2	4157	G	O3'-P	-5.83	1.54	1.61
48	A2	3837	C	O3'-P	-5.83	1.54	1.61
49	B1	209	A	O3'-P	5.83	1.68	1.61
1	A3	117	C	O3'-P	-5.82	1.54	1.61
49	B1	178	C	O3'-P	-5.82	1.54	1.61
48	A2	62	A	O3'-P	-5.81	1.54	1.61
48	A2	2600	A	O3'-P	-5.80	1.54	1.61
13	AK	25	PRO	N-CD	5.80	1.55	1.47
48	A2	3628	U	O3'-P	-5.80	1.54	1.61
48	A2	256	C	O3'-P	5.79	1.68	1.61
48	A2	1187	C	O3'-P	-5.79	1.54	1.61
48	A2	131	C	O3'-P	5.79	1.68	1.61
48	A2	4827	U	O3'-P	5.79	1.68	1.61
48	A2	1798	C	O3'-P	-5.77	1.54	1.61
48	A2	895	G	O3'-P	-5.77	1.54	1.61
49	B1	395	G	O3'-P	5.76	1.68	1.61
48	A2	1968	C	O3'-P	5.76	1.68	1.61
49	B1	1176	G	O3'-P	-5.76	1.54	1.61
48	A2	155	A	O3'-P	-5.75	1.54	1.61
1	A3	34	U	O3'-P	5.74	1.68	1.61
48	A2	1202	G	O4'-C1'	5.74	1.49	1.41
48	A2	4134	A	O3'-P	-5.74	1.54	1.61
48	A2	1497	A	O3'-P	-5.74	1.54	1.61
48	A2	658	G	O3'-P	-5.72	1.54	1.61
48	A2	437	G	O3'-P	-5.71	1.54	1.61
48	A2	3723	C	O3'-P	5.70	1.68	1.61
48	A2	2871	C	O3'-P	-5.70	1.54	1.61
49	B1	620	G	O3'-P	-5.70	1.54	1.61
48	A2	2332	U	O3'-P	-5.70	1.54	1.61
49	B1	1419	C	O3'-P	-5.69	1.54	1.61
48	A2	215	A	O3'-P	-5.69	1.54	1.61
48	A2	2424	C	O3'-P	-5.69	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	303	C	O3'-P	-5.68	1.54	1.61
83	Bv	34	G	O3'-P	-5.68	1.54	1.61
49	B1	460	A	O3'-P	-5.68	1.54	1.61
48	A2	1428	U	O3'-P	-5.66	1.54	1.61
48	A2	2311	A	O3'-P	-5.65	1.54	1.61
1	A3	106	G	O3'-P	-5.65	1.54	1.61
48	A2	918	C	O3'-P	5.64	1.68	1.61
48	A2	4995	U	O3'-P	-5.63	1.54	1.61
48	A2	4409	C	O3'-P	-5.63	1.54	1.61
48	A2	1778	U	O3'-P	-5.63	1.54	1.61
48	A2	4172	U	O3'-P	-5.63	1.54	1.61
49	B1	1422	G	O3'-P	-5.62	1.54	1.61
25	AW	98	PRO	N-CD	5.61	1.55	1.47
49	B1	1740	C	O3'-P	-5.61	1.54	1.61
49	B1	1804	U	O3'-P	5.60	1.67	1.61
48	A2	4708	C	O3'-P	5.60	1.67	1.61
49	B1	872	A	O3'-P	-5.59	1.54	1.61
48	A2	357	A	O3'-P	-5.57	1.54	1.61
48	A2	332	A	O3'-P	-5.56	1.54	1.61
48	A2	949	C	O3'-P	5.56	1.67	1.61
48	A2	131	C	C3'-O3'	-5.55	1.34	1.42
48	A2	4727	G	O3'-P	-5.54	1.54	1.61
48	A2	142	G	O3'-P	5.54	1.67	1.61
48	A2	2325	C	O3'-P	-5.54	1.54	1.61
49	B1	954	U	O3'-P	-5.54	1.54	1.61
48	A2	41	C	O3'-P	-5.53	1.54	1.61
48	A2	257	G	O3'-P	-5.53	1.54	1.61
49	B1	449	A	O3'-P	-5.52	1.54	1.61
2	A4	95	C	O3'-P	-5.51	1.54	1.61
48	A2	6	C	O3'-P	-5.51	1.54	1.61
48	A2	4021	C	O3'-P	-5.51	1.54	1.61
48	A2	2058	C	O3'-P	5.49	1.67	1.61
48	A2	2785	A	O3'-P	-5.48	1.54	1.61
48	A2	1863	U	O3'-P	-5.47	1.54	1.61
48	A2	1437	G	O3'-P	-5.47	1.54	1.61
49	B1	1803	U	O3'-P	-5.47	1.54	1.61
48	A2	2695	C	O3'-P	-5.46	1.54	1.61
49	B1	690	G	O5'-C5'	5.46	1.53	1.44
49	B1	1446	A	O3'-P	-5.43	1.54	1.61
49	B1	1285	G	C5'-C4'	-5.43	1.44	1.51
48	A2	2875	G	O3'-P	-5.42	1.54	1.61
49	B1	344	U	O3'-P	-5.41	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	BS	74	PRO	N-CD	5.41	1.55	1.47
48	A2	4158	G	O3'-P	-5.41	1.54	1.61
49	B1	745	C	O3'-P	-5.41	1.54	1.61
49	B1	628	A	O3'-P	5.40	1.67	1.61
49	B1	1485	U	O3'-P	-5.39	1.54	1.61
48	A2	302	G	O3'-P	-5.39	1.54	1.61
48	A2	734	G	O3'-P	-5.38	1.54	1.61
48	A2	640	G	O4'-C1'	5.38	1.48	1.41
49	B1	1560	U	O3'-P	-5.38	1.54	1.61
38	Aj	84	PRO	N-CD	5.38	1.55	1.47
48	A2	4410	G	O3'-P	-5.37	1.54	1.61
49	B1	620	G	O4'-C1'	5.37	1.48	1.41
54	BE	83	PRO	N-CD	5.37	1.55	1.47
2	A4	54	A	O3'-P	-5.37	1.54	1.61
48	A2	4684	G	O4'-C1'	5.36	1.48	1.41
2	A4	25	G	O3'-P	-5.35	1.54	1.61
48	A2	4663	A	O4'-C1'	5.35	1.48	1.41
48	A2	951	A	O3'-P	-5.35	1.54	1.61
48	A2	1291	C	O3'-P	-5.34	1.54	1.61
49	B1	1415	C	O3'-P	-5.34	1.54	1.61
48	A2	1201	G	O4'-C1'	5.34	1.48	1.41
53	BD	80	PRO	N-CD	5.33	1.55	1.47
48	A2	681	A	O3'-P	-5.33	1.54	1.61
48	A2	4586	A	O4'-C1'	5.33	1.48	1.41
48	A2	297	C	O3'-P	-5.33	1.54	1.61
2	A4	117	G	O4'-C1'	5.33	1.48	1.41
48	A2	1774	U	O3'-P	-5.33	1.54	1.61
49	B1	1441	U	O3'-P	-5.32	1.54	1.61
49	B1	145	G	O3'-P	-5.32	1.54	1.61
49	B1	1223	A	O3'-P	5.32	1.67	1.61
50	BA	105	PRO	N-CD	5.31	1.55	1.47
48	A2	1226	C	C5'-C4'	5.31	1.57	1.51
48	A2	1644	C	O4'-C1'	5.31	1.48	1.41
48	A2	3835	C	O3'-P	-5.31	1.54	1.61
14	AL	131	PRO	N-CD	5.30	1.55	1.47
48	A2	4910	G	O3'-P	-5.29	1.54	1.61
48	A2	212	C	O4'-C1'	5.29	1.48	1.41
48	A2	3597	G	O3'-P	-5.29	1.54	1.61
49	B1	87	U	O4'-C1'	5.28	1.48	1.41
48	A2	64	A	O3'-P	-5.28	1.54	1.61
48	A2	379	A	O3'-P	5.27	1.67	1.61
48	A2	2756	G	O3'-P	-5.27	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	4310	A	O3'-P	5.26	1.67	1.61
48	A2	1336	G	O3'-P	5.26	1.67	1.61
48	A2	376	G	O4'-C1'	5.25	1.48	1.41
48	A2	476	G	O3'-P	-5.25	1.54	1.61
48	A2	1590	G	O3'-P	-5.25	1.54	1.61
49	B1	1155	U	O3'-P	-5.24	1.54	1.61
49	B1	1317	C	O3'-P	-5.24	1.54	1.61
61	BL	14	PRO	N-CD	5.24	1.55	1.47
14	AL	134	PRO	N-CD	5.23	1.55	1.47
49	B1	144	U	O3'-P	-5.23	1.54	1.61
48	A2	219	C	O3'-P	-5.23	1.54	1.61
48	A2	2754	C	O3'-P	5.22	1.67	1.61
49	B1	299	A	O3'-P	-5.22	1.54	1.61
19	AQ	73	PRO	N-CD	5.22	1.55	1.47
48	A2	21	G	O4'-C1'	5.22	1.48	1.41
48	A2	4977	A	O4'-C1'	5.22	1.48	1.41
49	B1	631	U	O3'-P	-5.21	1.54	1.61
48	A2	252	C	O3'-P	5.21	1.67	1.61
2	A4	36	C	O3'-P	-5.21	1.54	1.61
48	A2	2513	C	O3'-P	-5.20	1.54	1.61
63	BN	82	PRO	N-CD	5.20	1.55	1.47
48	A2	1848	A	O3'-P	-5.20	1.54	1.61
49	B1	1753	C	O3'-P	-5.20	1.54	1.61
21	AS	140	PRO	N-CD	5.19	1.55	1.47
48	A2	2689	C	C3'-O3'	-5.19	1.34	1.42
48	A2	4526	A	O3'-P	-5.19	1.54	1.61
48	A2	4600	U	O3'-P	-5.19	1.54	1.61
49	B1	915	G	C5'-C4'	5.18	1.57	1.51
2	A4	115	A	O3'-P	5.18	1.67	1.61
48	A2	2504	U	O3'-P	5.18	1.67	1.61
49	B1	627	U	O3'-P	-5.18	1.54	1.61
49	B1	690	G	C5'-C4'	5.18	1.57	1.51
48	A2	4467	C	O3'-P	-5.18	1.54	1.61
48	A2	1919	C	O3'-P	-5.18	1.54	1.61
49	B1	356	C	O3'-P	-5.17	1.54	1.61
49	B1	688	U	O3'-P	-5.17	1.54	1.61
49	B1	975	G	O3'-P	-5.17	1.54	1.61
48	A2	660	C	O3'-P	-5.17	1.54	1.61
73	BX	62	PRO	N-CD	5.17	1.55	1.47
2	A4	91	C	O3'-P	-5.17	1.54	1.61
48	A2	2553	G	O3'-P	-5.17	1.54	1.61
49	B1	1733	U	O3'-P	-5.17	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	227	G	O3'-P	-5.16	1.54	1.61
48	A2	4516	G	O3'-P	5.16	1.67	1.61
48	A2	1960	A	O3'-P	5.16	1.67	1.61
48	A2	961	C	O5'-C5'	-5.15	1.34	1.42
48	A2	3684	U	O3'-P	-5.15	1.54	1.61
48	A2	2283	U	O3'-P	5.14	1.67	1.61
48	A2	3817	C	O4'-C1'	5.12	1.48	1.41
1	A3	144	U	O4'-C1'	5.11	1.48	1.41
48	A2	1761	U	O3'-P	-5.11	1.55	1.61
48	A2	3696	G	O3'-P	-5.11	1.55	1.61
2	A4	53	U	O3'-P	-5.11	1.55	1.61
48	A2	1958	C	O3'-P	-5.10	1.55	1.61
1	A3	153	C	O4'-C1'	5.10	1.48	1.41
48	A2	3613	A	O3'-P	-5.10	1.55	1.61
47	Au	121	PRO	N-CD	5.10	1.54	1.47
48	A2	2568	C	O4'-C1'	5.10	1.48	1.41
19	AQ	156	PRO	N-CD	5.09	1.54	1.47
67	BR	42	PRO	N-CD	5.09	1.54	1.47
67	BR	100	PRO	N-CD	5.09	1.54	1.47
48	A2	3697	A	O4'-C1'	-5.08	1.35	1.41
65	BP	68	PRO	N-CD	5.08	1.54	1.47
48	A2	3595	A	O3'-P	-5.08	1.55	1.61
49	B1	370	G	C3'-C2'	-5.08	1.47	1.52
5	AC	225	PRO	N-CD	5.07	1.54	1.47
48	A2	126	C	C1'-N1	5.07	1.56	1.48
48	A2	4726	A	O3'-P	-5.06	1.55	1.61
13	AK	80	PRO	N-CD	5.06	1.54	1.47
49	B1	458	A	O3'-P	-5.05	1.55	1.61
48	A2	712	G	O4'-C1'	5.05	1.48	1.41
48	A2	1954	G	O4'-C1'	5.05	1.48	1.41
48	A2	1468	C	O3'-P	-5.04	1.55	1.61
49	B1	92	A	O3'-P	5.04	1.67	1.61
48	A2	4842	G	O4'-C1'	5.04	1.48	1.41
49	B1	1675	A	O3'-P	-5.03	1.55	1.61
67	BR	122	PRO	N-CD	5.03	1.54	1.47
14	AL	54	PRO	N-CD	5.03	1.54	1.47
48	A2	1969	G	O3'-P	-5.02	1.55	1.61
1	A3	134	G	O3'-P	-5.01	1.55	1.61
55	BF	108	PRO	N-CD	5.01	1.54	1.47
48	A2	159	A	O4'-C1'	5.01	1.48	1.41

All (1861) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	Aq	75	PRO	CA-N-CD	-36.28	60.70	111.50
48	A2	1225	G	O5'-P-OP1	-28.99	75.91	110.70
48	A2	131	C	C4'-C3'-O3'	28.78	170.56	113.00
49	B1	558	G	P-O3'-C3'	-28.42	85.60	119.70
48	A2	137	G	C4'-C3'-O3'	26.49	165.98	113.00
48	A2	132	G	O5'-P-OP1	-26.34	79.09	110.70
49	B1	842	C	O3'-P-O5'	-25.65	55.26	104.00
48	A2	1225	G	O5'-P-OP2	25.02	140.72	110.70
48	A2	1341	G	C4'-C3'-O3'	25.00	162.99	113.00
47	Au	121	PRO	CA-N-CD	-24.11	77.74	111.50
49	B1	837	A	C4'-C3'-O3'	23.94	160.87	113.00
49	B1	111	A	P-O3'-C3'	-23.44	91.57	119.70
49	B1	688	U	C4'-C3'-O3'	-22.29	62.59	109.40
13	AK	52	VAL	CG1-CB-CG2	20.77	144.12	110.90
48	A2	1283	G	P-O3'-C3'	-20.73	94.82	119.70
48	A2	494	G	C4'-C3'-O3'	20.66	154.32	113.00
49	B1	743	U	C4'-C3'-O3'	-20.49	66.37	109.40
48	A2	1300	U	P-O3'-C3'	-20.34	95.29	119.70
45	Aq	75	PRO	CA-CB-CG	-19.95	66.09	104.00
48	A2	958	U	C4'-C3'-O3'	19.67	152.34	113.00
2	A4	34	C	P-O3'-C3'	19.18	142.71	119.70
48	A2	50	C	P-O5'-C5'	18.69	150.81	120.90
48	A2	494	G	P-O3'-C3'	-18.51	97.49	119.70
49	B1	1285	G	O5'-C5'-C4'	18.18	146.23	111.70
48	A2	132	G	O5'-P-OP2	17.88	132.16	110.70
48	A2	203	U	P-O3'-C3'	17.68	140.92	119.70
48	A2	462	U	C4'-C3'-O3'	17.49	147.98	113.00
48	A2	3736	G	P-O3'-C3'	17.00	140.10	119.70
49	B1	1554	C	C4'-C3'-O3'	-16.87	73.97	109.40
48	A2	4619	U	P-O3'-C3'	16.74	139.79	119.70
49	B1	112	U	P-O3'-C3'	16.29	139.25	119.70
49	B1	748	C	C4'-C3'-O3'	-16.13	75.52	109.40
45	Aq	74	VAL	C-N-CD	-15.76	85.94	120.60
49	B1	1778	C	C2'-C3'-O3'	15.71	144.07	109.50
48	A2	191	C	P-O5'-C5'	15.58	145.83	120.90
48	A2	4907	G	P-O3'-C3'	15.55	138.36	119.70
48	A2	5007	G	P-O5'-C5'	-15.20	96.57	120.90
48	A2	309	G	O5'-P-OP2	-15.16	92.06	105.70
48	A2	49	U	O3'-P-O5'	14.96	132.41	104.00
48	A2	309	G	O5'-P-OP1	14.93	128.61	110.70
48	A2	916	A	P-O3'-C3'	14.86	137.53	119.70
48	A2	1716	G	P-O3'-C3'	-14.85	101.88	119.70
48	A2	3682	A	C4'-C3'-O3'	-14.79	78.35	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	1259	C	C4'-C3'-O3'	-14.56	78.81	109.40
48	A2	958	U	C2'-C3'-O3'	-14.55	77.48	109.50
48	A2	2482	G	P-O3'-C3'	-14.51	102.29	119.70
48	A2	1715	G	P-O3'-C3'	-14.47	102.34	119.70
49	B1	368	U	P-O3'-C3'	14.31	136.87	119.70
1	A3	112	G	O5'-P-OP2	-14.20	92.92	105.70
48	A2	2246	U	C2'-C3'-O3'	-14.19	78.29	109.50
48	A2	2689	C	P-O5'-C5'	-14.16	98.25	120.90
48	A2	3727	A	P-O5'-C5'	14.12	143.50	120.90
49	B1	688	U	P-O3'-C3'	14.09	136.61	119.70
48	A2	1226	C	P-O5'-C5'	14.04	143.36	120.90
84	Bx	45	U	C4'-C3'-O3'	14.04	141.08	113.00
48	A2	495	C	P-O3'-C3'	-14.03	102.86	119.70
48	A2	4686	A	P-O5'-C5'	14.00	143.30	120.90
25	AW	97	LYS	C-N-CD	-13.80	90.23	120.60
48	A2	1433	C	P-O3'-C3'	-13.78	103.16	119.70
48	A2	131	C	P-O3'-C3'	-13.72	103.24	119.70
49	B1	803	C	C4'-C3'-O3'	-13.71	80.60	109.40
48	A2	1217	G	P-O3'-C3'	-13.66	103.30	119.70
48	A2	939	G	P-O5'-C5'	13.66	142.75	120.90
48	A2	463	C	P-O5'-C5'	13.62	142.69	120.90
48	A2	5	A	P-O3'-C3'	13.58	136.00	119.70
48	A2	1631	U	C1'-C2'-O2'	-13.54	69.99	110.60
49	B1	836	G	C4'-C3'-O3'	-13.45	81.15	109.40
48	A2	2686	U	P-O5'-C5'	-13.43	99.41	120.90
49	B1	306	C	O5'-P-OP2	-13.33	93.70	105.70
49	B1	1284	A	C2'-C3'-O3'	13.20	138.54	109.50
48	A2	464	A	P-O5'-C5'	13.12	141.90	120.90
48	A2	1350	C	C4'-C3'-O3'	-13.12	81.84	109.40
48	A2	85	G	C4'-C3'-O3'	-13.10	81.88	109.40
48	A2	1342	G	P-O5'-C5'	-13.09	99.96	120.90
48	A2	4306	U	P-O3'-C3'	-12.99	104.11	119.70
49	B1	182	C	P-O5'-C5'	-12.91	100.25	120.90
48	A2	3684	U	C2'-C3'-O3'	12.89	137.87	109.50
48	A2	2748	U	C4'-C3'-O3'	-12.89	82.33	109.40
48	A2	58	G	C3'-C2'-O2'	-12.87	75.98	113.30
49	B1	747	U	C4'-C3'-O3'	12.87	138.73	113.00
49	B1	178	C	P-O3'-C3'	12.86	135.13	119.70
13	AK	24	TYR	C-N-CD	-12.82	92.39	120.60
49	B1	1620	A	C4'-C3'-O3'	12.82	138.64	113.00
49	B1	748	C	O4'-C1'-N1	12.80	118.44	108.20
49	B1	225	G	C4'-C3'-O3'	-12.77	82.59	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	3933	A	P-O3'-C3'	12.74	134.99	119.70
45	Aq	39	PRO	CA-N-CD	-12.74	93.67	111.50
48	A2	2325	C	C3'-C2'-O2'	-12.69	76.49	113.30
48	A2	4617	A	P-O3'-C3'	12.67	134.91	119.70
49	B1	867	G	C4'-C3'-O3'	-12.60	82.95	109.40
49	B1	38	A	P-O3'-C3'	-12.57	104.61	119.70
1	A3	34	U	C3'-C2'-O2'	-12.54	76.92	113.30
48	A2	1341	G	C2'-C3'-O3'	-12.54	81.91	109.50
49	B1	848	U	P-O5'-C5'	-12.50	100.89	120.90
48	A2	3697	A	P-O3'-C3'	12.49	134.69	119.70
48	A2	2859	U	C4'-C3'-O3'	12.47	137.94	113.00
1	A3	110	U	C2'-C3'-O3'	-12.47	82.08	109.50
48	A2	2686	U	O5'-P-OP1	-12.45	94.50	105.70
49	B1	114	G	P-O3'-C3'	-12.43	104.78	119.70
48	A2	3946	C	P-O3'-C3'	-12.40	104.83	119.70
48	A2	1057	G	P-O3'-C3'	-12.37	104.85	119.70
48	A2	2511	C	P-O3'-C3'	12.35	134.52	119.70
48	A2	961	C	C2'-C3'-O3'	12.33	136.63	109.50
48	A2	3851	G	P-O3'-C3'	-12.33	104.90	119.70
48	A2	1429	C	P-O5'-C5'	12.21	140.44	120.90
48	A2	65	A	C3'-C2'-O2'	-12.20	77.94	113.30
48	A2	3682	A	N9-C1'-C2'	-12.17	98.18	114.00
48	A2	2690	G	C5'-C4'-C3'	-12.16	96.54	116.00
1	A3	126	C	P-O3'-C3'	12.08	134.20	119.70
48	A2	3917	G	P-O3'-C3'	-12.08	105.20	119.70
48	A2	4162	G	P-O3'-C3'	12.07	134.19	119.70
48	A2	4666	C	P-O3'-C3'	-12.05	105.24	119.70
48	A2	3611	U	C4'-C3'-O3'	-12.03	84.14	109.40
48	A2	961	C	C5'-C4'-C3'	-12.00	96.79	116.00
48	A2	1244	G	P-O3'-C3'	-11.99	105.32	119.70
48	A2	221	U	C3'-C2'-O2'	-11.94	78.67	113.30
49	B1	740	C	C4'-C3'-O3'	-11.92	84.36	109.40
48	A2	4537	G	P-O3'-C3'	11.91	133.99	119.70
48	A2	2689	C	O5'-P-OP1	-11.90	94.99	105.70
49	B1	306	C	P-O5'-C5'	-11.87	101.91	120.90
48	A2	966	C	P-O3'-C3'	11.86	133.94	119.70
48	A2	3649	G	P-O3'-C3'	11.86	133.93	119.70
48	A2	1341	G	C3'-C2'-O2'	-11.86	78.92	113.30
49	B1	1022	U	P-O3'-C3'	11.82	133.88	119.70
45	Aq	42	VAL	CG1-CB-CG2	11.81	129.79	110.90
48	A2	2523	G	P-O3'-C3'	11.80	133.86	119.70
48	A2	4037	U	P-O3'-C3'	-11.80	105.54	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	212	C	P-O3'-C3'	-11.74	105.61	119.70
1	A3	94	G	C4'-C3'-O3'	-11.72	84.80	109.40
49	B1	804	U	C2'-C3'-O3'	11.71	135.27	109.50
83	Bw	34	G	C4'-C3'-O3'	-11.70	84.82	109.40
48	A2	931	A	C3'-C2'-O2'	-11.66	79.50	113.30
49	B1	533	A	C4'-C3'-O3'	11.63	136.26	113.00
48	A2	2793	C	C4'-C3'-O3'	-11.62	84.99	109.40
49	B1	873	G	P-O3'-C3'	-11.62	105.75	119.70
48	A2	500	C	P-O3'-C3'	11.60	133.62	119.70
49	B1	744	G	O4'-C4'-C3'	-11.59	92.41	104.00
48	A2	1799	U	P-O3'-C3'	11.57	133.59	119.70
48	A2	3613	A	C3'-C2'-O2'	-11.57	79.75	113.30
48	A2	925	C	OP1-P-O3'	11.55	130.61	105.20
49	B1	1786	U	P-O5'-C5'	-11.55	102.42	120.90
1	A3	109	C	O5'-P-OP1	11.54	124.55	110.70
49	B1	437	G	P-O3'-C3'	11.54	133.55	119.70
48	A2	1316	A	P-O3'-C3'	11.53	133.54	119.70
48	A2	507	U	P-O3'-C3'	-11.53	105.87	119.70
48	A2	131	C	C2'-C3'-O3'	-11.52	84.16	109.50
49	B1	744	G	C4'-C3'-O3'	-11.52	85.21	109.40
48	A2	357	A	C3'-C2'-O2'	-11.50	79.95	113.30
48	A2	2751	C	P-O3'-C3'	-11.47	105.94	119.70
49	B1	238	C	C4'-C3'-O3'	11.47	135.93	113.00
48	A2	1260	G	C5'-C4'-C3'	-11.43	97.71	116.00
48	A2	1307	A	C3'-C2'-O2'	-11.42	80.17	113.30
48	A2	3685	G	P-O3'-C3'	11.40	133.38	119.70
49	B1	306	C	O4'-C1'-N1	-11.39	99.09	108.20
48	A2	211	G	P-O3'-C3'	11.38	133.36	119.70
48	A2	4827	U	C4'-C3'-O3'	-11.35	85.56	109.40
49	B1	890	U	C4'-C3'-O3'	-11.35	85.57	109.40
48	A2	1256	G	C4'-C3'-O3'	11.34	135.69	113.00
48	A2	2460	G	P-O3'-C3'	-11.34	106.10	119.70
48	A2	229	G	C4'-C3'-O3'	-11.32	85.62	109.40
38	Aj	34	CYS	CA-CB-SG	11.32	134.38	114.00
48	A2	3590	G	C1'-C2'-O2'	-11.31	76.66	110.60
49	B1	397	G	P-O3'-C3'	-11.31	106.13	119.70
48	A2	3731	A	C4'-C3'-O3'	-11.30	85.68	109.40
48	A2	2690	G	O4'-C1'-N9	11.29	117.23	108.20
1	A3	109	C	O5'-P-OP2	-11.25	95.57	105.70
45	Aq	30	PRO	CA-N-CD	-11.20	95.83	111.50
49	B1	805	U	C2'-C3'-O3'	11.19	134.12	109.50
49	B1	1805	G	P-O3'-C3'	11.16	133.09	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	718	C	C3'-C2'-O2'	-11.15	80.97	113.30
48	A2	185	G	P-O3'-C3'	11.13	133.06	119.70
48	A2	1975	C	P-O3'-C3'	-11.13	106.34	119.70
48	A2	137	G	C2'-C3'-O3'	-11.13	85.01	109.50
49	B1	836	G	C2'-C3'-O3'	11.10	133.91	109.50
1	A3	129	C	P-O3'-C3'	-11.09	106.39	119.70
48	A2	506	U	C4'-C3'-O3'	11.09	135.19	113.00
48	A2	1253	A	P-O3'-C3'	11.08	133.00	119.70
48	A2	2689	C	C4'-C3'-O3'	-11.08	86.14	109.40
48	A2	4980	U	P-O3'-C3'	-11.06	106.43	119.70
2	A4	72	U	P-O3'-C3'	11.04	132.94	119.70
48	A2	1260	G	C4'-C3'-O3'	11.03	135.07	113.00
48	A2	4707	G	P-O3'-C3'	-11.02	106.48	119.70
48	A2	2462	G	P-O3'-C3'	-10.97	106.54	119.70
48	A2	1261	C	P-O5'-C5'	-10.96	103.36	120.90
13	AK	25	PRO	CA-N-CD	-10.94	96.18	111.50
49	B1	1556	A	C4'-C3'-O3'	-10.93	86.44	109.40
48	A2	2688	C	O5'-P-OP1	-10.90	95.89	105.70
13	AK	52	VAL	CA-CB-CG1	-10.89	94.56	110.90
48	A2	2618	U	P-O5'-C5'	-10.89	103.48	120.90
83	Bw	35	A	C4'-C3'-O3'	10.88	134.77	113.00
48	A2	1632	A	C3'-C2'-O2'	-10.84	81.86	113.30
48	A2	2691	G	O5'-P-OP1	-10.83	95.95	105.70
48	A2	2684	G	C4'-C3'-O3'	10.82	134.65	113.00
1	A3	153	C	P-O3'-C3'	-10.82	106.72	119.70
48	A2	1764	U	P-O3'-C3'	-10.80	106.74	119.70
49	B1	1453	C	P-O3'-C3'	-10.80	106.74	119.70
48	A2	25	A	P-O3'-C3'	10.76	132.61	119.70
48	A2	966	C	C4'-C3'-O3'	10.76	134.52	113.00
48	A2	4015	G	C4'-C3'-O3'	10.76	134.52	113.00
49	B1	1289	U	C4'-C3'-O3'	10.74	134.48	113.00
48	A2	5007	G	C3'-C2'-O2'	-10.72	82.20	113.30
48	A2	309	G	C1'-C2'-O2'	-10.71	78.46	110.60
48	A2	2512	C	P-O3'-C3'	-10.71	106.85	119.70
49	B1	738	C	C2'-C3'-O3'	10.71	133.06	109.50
48	A2	4718	C	P-O5'-C5'	10.70	138.02	120.90
48	A2	960	G	N9-C1'-C2'	-10.69	100.11	114.00
49	B1	293	C	P-O3'-C3'	-10.69	106.88	119.70
48	A2	3737	A	C4'-C3'-O3'	10.67	134.34	113.00
49	B1	24	C	P-O3'-C3'	10.65	132.48	119.70
49	B1	744	G	N9-C1'-C2'	-10.62	100.19	114.00
2	A4	75	G	C4'-C3'-O3'	10.62	134.24	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	Au	191	VAL	CA-CB-CG2	10.61	126.81	110.90
48	A2	2691	G	O5'-C5'-C4'	10.60	131.84	111.70
49	B1	1105	G	O5'-P-OP1	-10.58	96.18	105.70
45	Aq	88	PRO	CA-N-CD	-10.57	96.70	111.50
48	A2	2689	C	O5'-P-OP2	10.57	123.38	110.70
48	A2	4715	U	N1-C1'-C2'	-10.54	100.29	114.00
1	A3	34	U	C4'-C3'-O3'	-10.53	87.28	109.40
49	B1	1285	G	C5'-C4'-C3'	10.51	132.82	116.00
48	A2	1353	G	P-O3'-C3'	10.49	132.29	119.70
48	A2	3611	U	C3'-C2'-O2'	-10.48	82.90	113.30
49	B1	106	C	P-O3'-C3'	-10.47	107.14	119.70
48	A2	381	G	C4'-C3'-O3'	10.45	133.90	113.00
48	A2	2328	A	P-O3'-C3'	10.45	132.24	119.70
48	A2	671	C	P-O3'-C3'	-10.44	107.17	119.70
48	A2	4828	G	O5'-P-OP2	-10.41	96.33	105.70
48	A2	958	U	P-O3'-C3'	-10.40	107.22	119.70
48	A2	191	C	C4'-C3'-O3'	-10.38	87.61	109.40
49	B1	795	A	C4'-C3'-O3'	-10.38	87.61	109.40
48	A2	85	G	P-O5'-C5'	-10.37	104.31	120.90
48	A2	186	G	P-O3'-C3'	-10.36	107.27	119.70
49	B1	1286	G	C4'-C3'-O3'	10.35	133.70	113.00
45	Aq	22	VAL	CG1-CB-CG2	-10.35	94.35	110.90
48	A2	2825	G	C2'-C3'-O3'	10.34	132.26	109.50
47	Au	121	PRO	CA-CB-CG	-10.34	84.36	104.00
49	B1	1625	U	P-O5'-C5'	-10.31	104.40	120.90
49	B1	460	A	P-O3'-C3'	-10.31	107.33	119.70
49	B1	793	G	P-O5'-C5'	10.29	137.37	120.90
48	A2	2689	C	C2'-C3'-O3'	10.29	132.14	109.50
48	A2	4596	U	N1-C1'-C2'	10.27	127.35	114.00
13	AK	108	PRO	CA-N-CD	-10.26	97.14	111.50
48	A2	1260	G	P-O3'-C3'	-10.26	107.39	119.70
48	A2	3789	U	P-O3'-C3'	-10.24	107.41	119.70
48	A2	2010	A	P-O3'-C3'	10.24	131.99	119.70
48	A2	2617	G	O5'-P-OP2	-10.23	96.49	105.70
48	A2	221	U	N1-C1'-C2'	10.20	127.26	114.00
49	B1	690	G	O5'-C5'-C4'	10.20	131.07	111.70
48	A2	3928	U	P-O3'-C3'	10.19	131.93	119.70
49	B1	915	G	C5'-C4'-C3'	10.17	132.28	116.00
1	A3	124	U	P-O3'-C3'	-10.17	107.50	119.70
48	A2	4136	U	P-O3'-C3'	-10.17	107.50	119.70
48	A2	727	C	C5'-C4'-C3'	-10.17	99.73	116.00
48	A2	1741	G	O4'-C1'-N9	10.16	116.33	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A3	94	G	C3'-C2'-O2'	-10.15	83.87	113.30
49	B1	791	C	C2'-C3'-O3'	10.15	131.82	109.50
48	A2	2690	G	C5'-C4'-O4'	-10.13	96.94	109.10
49	B1	1854	U	P-O3'-C3'	-10.12	107.55	119.70
49	B1	356	C	O5'-P-OP2	-10.12	96.59	105.70
48	A2	4896	A	P-O5'-C5'	10.11	137.07	120.90
49	B1	639	C	P-O5'-C5'	10.10	137.06	120.90
48	A2	961	C	P-O5'-C5'	-10.07	104.78	120.90
49	B1	369	C	C4'-C3'-O3'	-10.07	88.25	109.40
48	A2	2683	C	C2'-C3'-O3'	10.07	131.65	109.50
48	A2	154	U	C2'-C3'-O3'	10.06	131.63	109.50
48	A2	650	C	P-O3'-C3'	-10.06	107.63	119.70
49	B1	615	C	P-O3'-C3'	10.06	131.77	119.70
45	Aq	59	THR	OG1-CB-CG2	-10.06	86.87	110.00
49	B1	227	U	C4'-C3'-O3'	-10.03	88.34	109.40
49	B1	1289	U	C5'-C4'-C3'	10.03	132.04	116.00
48	A2	651	C	P-O3'-C3'	9.99	131.68	119.70
48	A2	931	A	P-O3'-C3'	9.96	131.66	119.70
48	A2	1225	G	C4'-C3'-O3'	9.95	132.90	113.00
49	B1	690	G	C2'-C3'-O3'	-9.95	87.62	109.50
48	A2	3929	G	P-O5'-C5'	-9.94	104.99	120.90
49	B1	237	C	C4'-C3'-O3'	9.94	132.87	113.00
48	A2	2691	G	P-O5'-C5'	9.91	136.75	120.90
48	A2	2690	G	C4-N9-C1'	-9.90	113.62	126.50
48	A2	111	C	C3'-C2'-O2'	-9.90	84.59	113.30
48	A2	154	U	C5'-C4'-C3'	-9.90	100.16	116.00
48	A2	2792	A	P-O3'-C3'	9.90	131.57	119.70
25	AW	98	PRO	CA-N-CD	-9.88	97.67	111.50
49	B1	746	C	P-O5'-C5'	-9.88	105.09	120.90
49	B1	842	C	OP2-P-O3'	9.88	126.94	105.20
49	B1	1826	G	P-O5'-C5'	-9.87	105.11	120.90
48	A2	206	U	P-O3'-C3'	-9.85	107.88	119.70
48	A2	2601	G	P-O3'-C3'	-9.85	107.88	119.70
48	A2	1258	G	O4'-C1'-N9	9.84	116.07	108.20
48	A2	497	C	P-O3'-C3'	-9.83	107.91	119.70
48	A2	4827	U	C2'-C3'-O3'	9.82	131.11	109.50
48	A2	3613	A	C5'-C4'-C3'	-9.82	100.29	116.00
45	Aq	46	ILE	CG1-CB-CG2	9.80	132.96	111.40
48	A2	287	G	C3'-C2'-O2'	-9.79	84.91	113.30
48	A2	220	G	P-O3'-C3'	-9.78	107.96	119.70
49	B1	1557	C	C4'-C3'-O3'	9.78	132.56	113.00
49	B1	744	G	O4'-C1'-N9	9.77	116.02	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	1454	A	P-O5'-C5'	-9.77	105.27	120.90
48	A2	192	C	O5'-P-OP1	-9.76	96.92	105.70
49	B1	690	G	C5'-C4'-O4'	9.76	120.81	109.10
49	B1	215	G	P-O3'-C3'	9.75	131.40	119.70
48	A2	2793	C	C2'-C3'-O3'	-9.75	88.05	109.50
48	A2	7	C	C4'-C3'-O3'	-9.73	88.97	109.40
48	A2	2825	G	C5'-C4'-C3'	-9.71	100.46	116.00
48	A2	2692	C	P-O5'-C5'	9.71	136.44	120.90
48	A2	4717	G	C4'-C3'-O3'	-9.71	89.00	109.40
48	A2	641	G	P-O3'-C3'	9.70	131.34	119.70
48	A2	1259	C	P-O3'-C3'	-9.69	108.07	119.70
48	A2	4828	G	C2'-C3'-O3'	-9.68	88.21	109.50
49	B1	25	A	O4'-C1'-N9	9.68	115.94	108.20
48	A2	4458	A	P-O3'-C3'	9.64	131.27	119.70
48	A2	3578	U	P-O5'-C5'	9.64	136.32	120.90
48	A2	2682	G	O4'-C1'-N9	9.62	115.90	108.20
48	A2	5006	A	C3'-C2'-O2'	-9.62	85.40	113.30
49	B1	502	C	P-O3'-C3'	-9.62	108.15	119.70
49	B1	1647	A	P-O3'-C3'	9.60	131.22	119.70
48	A2	728	C	P-O3'-C3'	-9.60	108.18	119.70
48	A2	1296	C	P-O5'-C5'	-9.58	105.58	120.90
48	A2	290	A	C2'-C3'-O3'	9.57	130.55	109.50
48	A2	968	C	C5'-C4'-O4'	9.57	120.58	109.10
49	B1	33	G	OP2-P-O3'	9.57	126.25	105.20
48	A2	2299	G	P-O5'-C5'	-9.56	105.60	120.90
49	B1	1802	C	P-O3'-C3'	-9.55	108.24	119.70
48	A2	330	A	P-O3'-C3'	9.53	131.13	119.70
48	A2	4906	C	P-O3'-C3'	-9.52	108.28	119.70
48	A2	4030	U	P-O3'-C3'	-9.51	108.29	119.70
45	Aq	46	ILE	CA-CB-CG1	-9.47	93.00	111.00
49	B1	438	G	P-O3'-C3'	-9.47	108.33	119.70
48	A2	1258	G	P-O5'-C5'	-9.46	105.76	120.90
48	A2	959	C	C5'-C4'-C3'	-9.45	100.88	116.00
49	B1	306	C	O5'-P-OP1	9.44	122.03	110.70
48	A2	4685	A	O5'-P-OP2	-9.43	97.21	105.70
48	A2	4620	G	P-O3'-C3'	9.42	131.01	119.70
48	A2	3737	A	C2'-C3'-O3'	-9.40	88.82	109.50
48	A2	1559	G	P-O3'-C3'	9.39	130.97	119.70
49	B1	1723	G	P-O3'-C3'	-9.35	108.48	119.70
48	A2	49	U	O5'-P-OP1	9.33	121.90	110.70
48	A2	4409	C	P-O3'-C3'	-9.32	108.52	119.70
48	A2	1741	G	P-O5'-C5'	9.31	135.80	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	837	A	C2'-C3'-O3'	-9.31	89.03	109.50
49	B1	804	U	P-O5'-C5'	-9.30	106.02	120.90
1	A3	103	A	P-O5'-C5'	-9.29	106.04	120.90
48	A2	1296	C	C4'-C3'-O3'	-9.29	89.90	109.40
48	A2	3590	G	C2'-C3'-O3'	-9.26	89.12	109.50
48	A2	19	G	P-O3'-C3'	9.25	130.80	119.70
49	B1	1448	A	P-O5'-C5'	9.23	135.67	120.90
48	A2	4827	U	N1-C1'-C2'	9.22	125.98	114.00
48	A2	953	A	P-O3'-C3'	9.21	130.75	119.70
48	A2	967	U	C4'-C3'-O3'	9.20	131.40	113.00
48	A2	295	G	P-O3'-C3'	-9.20	108.67	119.70
49	B1	1481	G	P-O3'-C3'	9.19	130.73	119.70
48	A2	968	C	C4'-C3'-O3'	9.13	131.27	113.00
48	A2	229	G	N9-C1'-C2'	9.12	125.86	114.00
38	Aj	19	CYS	CA-CB-SG	9.12	130.41	114.00
49	B1	1554	C	P-O5'-C5'	-9.11	106.33	120.90
49	B1	792	C	C2'-C3'-O3'	9.10	129.53	109.50
48	A2	4526	A	P-O3'-C3'	9.09	130.61	119.70
48	A2	228	U	C1'-C2'-O2'	-9.09	83.34	110.60
48	A2	917	G	P-O3'-C3'	9.08	130.60	119.70
49	B1	450	C	O5'-P-OP1	-9.08	97.53	105.70
48	A2	968	C	C5'-C4'-C3'	-9.07	101.48	116.00
49	B1	1491	G	P-O3'-C3'	-9.07	108.82	119.70
48	A2	7	C	C3'-C2'-O2'	-9.05	87.07	113.30
48	A2	463	C	C4'-C3'-O3'	9.02	131.04	113.00
2	A4	105	C	O3'-P-O5'	9.02	121.14	104.00
48	A2	229	G	P-O5'-C5'	-9.02	106.47	120.90
48	A2	930	A	C3'-C2'-O2'	-9.02	87.15	113.30
48	A2	4827	U	P-O3'-C3'	-9.02	108.88	119.70
48	A2	3930	U	P-O5'-C5'	9.01	135.32	120.90
48	A2	2054	C	P-O3'-C3'	-9.00	108.90	119.70
48	A2	4586	A	O4'-C1'-N9	9.00	115.40	108.20
48	A2	1357	G	P-O3'-C3'	8.99	130.49	119.70
48	A2	1981	G	P-O3'-C3'	8.98	130.47	119.70
49	B1	308	G	O4'-C1'-N9	8.97	115.38	108.20
49	B1	239	C	O5'-C5'-C4'	8.96	128.73	111.70
48	A2	192	C	O5'-P-OP2	8.96	121.45	110.70
48	A2	3612	U	C3'-C2'-O2'	-8.95	87.35	113.30
49	B1	882	U	P-O5'-C5'	8.95	135.21	120.90
48	A2	1297	C	N1-C1'-C2'	8.94	125.62	114.00
48	A2	2526	G	P-O3'-C3'	8.93	130.42	119.70
48	A2	2284	U	P-O3'-C3'	8.93	130.41	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	903	A	O4'-C1'-N9	8.93	115.34	108.20
48	A2	2485	G	O4'-C1'-N9	8.92	115.34	108.20
13	AK	107	VAL	CA-CB-CG1	8.92	124.27	110.90
49	B1	369	C	C2'-C3'-O3'	8.92	129.12	109.50
49	B1	1285	G	P-O5'-C5'	-8.90	106.67	120.90
49	B1	230	A	C4'-C3'-O3'	8.87	130.75	113.00
48	A2	229	G	P-O3'-C3'	8.87	130.34	119.70
48	A2	2056	G	O4'-C1'-N9	8.87	115.29	108.20
48	A2	1226	C	O5'-C5'-C4'	-8.86	94.87	111.70
48	A2	960	G	C4'-C3'-O3'	-8.86	90.81	109.40
83	Bv	72	C	N1-C1'-C2'	-8.85	102.27	112.00
48	A2	112	C	C5'-C4'-O4'	8.85	119.72	109.10
49	B1	744	G	O5'-C5'-C4'	8.83	128.48	111.70
48	A2	159	A	P-O3'-C3'	-8.83	109.10	119.70
48	A2	279	G	P-O3'-C3'	8.82	130.28	119.70
48	A2	737	A	C4'-C3'-O3'	-8.81	90.90	109.40
49	B1	1301	A	O4'-C1'-N9	8.81	115.25	108.20
13	AK	90	PHE	CA-CB-CG	8.80	135.03	113.90
48	A2	2793	C	P-O3'-C3'	8.80	130.26	119.70
48	A2	319	U	P-O3'-C3'	8.80	130.26	119.70
48	A2	4532	G	P-O3'-C3'	8.80	130.26	119.70
48	A2	2685	G	P-O3'-C3'	-8.79	109.15	119.70
48	A2	326	C	P-O3'-C3'	-8.78	109.17	119.70
48	A2	918	C	P-O3'-C3'	8.76	130.21	119.70
48	A2	3597	G	P-O5'-C5'	-8.75	106.89	120.90
48	A2	3683	A	C4'-C3'-O3'	-8.75	91.02	109.40
48	A2	139	G	C4'-C3'-O3'	8.74	130.48	113.00
48	A2	4119	A	P-O3'-C3'	-8.74	109.21	119.70
48	A2	2329	U	P-O3'-C3'	8.73	130.18	119.70
49	B1	1782	G	C4'-C3'-O3'	8.73	130.46	113.00
48	A2	652	C	P-O3'-C3'	-8.72	109.23	119.70
48	A2	713	G	C1'-C2'-O2'	-8.72	84.43	110.60
48	A2	1227	G	P-O3'-C3'	-8.72	109.23	119.70
48	A2	286	G	C3'-C2'-O2'	-8.72	88.02	113.30
48	A2	328	A	P-O3'-C3'	8.71	130.15	119.70
49	B1	689	U	C5'-C4'-O4'	8.71	119.55	109.10
48	A2	3627	A	P-O3'-C3'	8.71	130.15	119.70
48	A2	228	U	C4'-C3'-O3'	-8.70	91.12	109.40
49	B1	874	G	C4'-C3'-O3'	8.70	130.40	113.00
48	A2	91	G	OP1-P-O3'	-8.70	86.07	105.20
48	A2	1219	C	P-O3'-C3'	-8.69	109.27	119.70
49	B1	21	U	P-O3'-C3'	-8.69	109.27	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2748	U	C1'-C2'-O2'	-8.69	84.54	110.60
48	A2	4086	U	C4'-C3'-O3'	-8.69	91.16	109.40
49	B1	873	G	C4'-C3'-O3'	-8.68	91.17	109.40
13	AK	73	PRO	CA-N-CD	-8.67	99.36	111.50
48	A2	1467	C	P-O3'-C3'	8.67	130.11	119.70
48	A2	967	U	P-O3'-C3'	-8.67	109.30	119.70
48	A2	741	U	P-O3'-C3'	8.66	130.09	119.70
49	B1	1702	G	C4'-C3'-O3'	-8.65	91.23	109.40
48	A2	1282	G	P-O3'-C3'	-8.65	109.33	119.70
48	A2	713	G	C4'-C3'-O3'	-8.64	91.24	109.40
49	B1	1554	C	O3'-P-O5'	-8.64	87.58	104.00
48	A2	4135	G	P-O3'-C3'	-8.63	109.34	119.70
49	B1	748	C	O5'-C5'-C4'	-8.63	95.30	111.70
48	A2	1742	G	O5'-P-OP1	-8.61	97.95	105.70
48	A2	1201	G	O4'-C1'-N9	8.60	115.08	108.20
50	BA	116	PHE	N-CA-C	-8.59	87.80	111.00
45	Aq	22	VAL	CA-CB-CG2	8.59	123.78	110.90
48	A2	210	G	O3'-P-O5'	-8.59	87.68	104.00
48	A2	1319	G	P-O3'-C3'	8.59	130.01	119.70
48	A2	1269	C	P-O3'-C3'	-8.59	109.40	119.70
49	B1	1339	U	P-O3'-C3'	8.59	130.00	119.70
48	A2	62	A	OP2-P-O3'	8.57	124.05	105.20
48	A2	480	C	P-O3'-C3'	8.57	129.98	119.70
48	A2	3793	U	OP2-P-O3'	8.57	124.05	105.20
48	A2	925	C	O3'-P-O5'	-8.55	87.75	104.00
49	B1	183	G	O5'-C5'-C4'	-8.53	95.49	111.70
48	A2	4119	A	OP2-P-O3'	8.53	123.96	105.20
48	A2	460	A	C4'-C3'-O3'	-8.51	91.53	109.40
48	A2	3911	U	P-O3'-C3'	-8.51	109.49	119.70
49	B1	371	A	O5'-C5'-C4'	8.50	127.86	111.70
48	A2	958	U	O3'-P-O5'	-8.50	87.85	104.00
48	A2	2690	G	C3'-C2'-O2'	-8.50	88.65	113.30
48	A2	1225	G	C5'-C4'-O4'	-8.49	98.91	109.10
49	B1	1683	C	P-O3'-C3'	8.49	129.89	119.70
48	A2	4130	G	P-O3'-C3'	-8.49	109.52	119.70
2	A4	3	C	P-O5'-C5'	8.48	134.47	120.90
48	A2	91	G	OP2-P-O3'	8.47	123.83	105.20
48	A2	1849	A	C4'-C3'-O3'	-8.47	91.62	109.40
49	B1	417	C	P-O3'-C3'	-8.47	109.54	119.70
48	A2	4600	U	P-O3'-C3'	8.46	129.85	119.70
48	A2	5006	A	P-O5'-C5'	-8.46	107.36	120.90
49	B1	909	G	C4'-C3'-O3'	8.45	129.91	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	806	U	P-O5'-C5'	-8.45	107.38	120.90
49	B1	447	A	P-O3'-C3'	-8.45	109.57	119.70
49	B1	1283	C	C4'-C3'-O3'	8.44	129.88	113.00
48	A2	1741	G	C4-N9-C1'	-8.44	115.53	126.50
49	B1	345	U	P-O3'-C3'	-8.43	109.58	119.70
48	A2	150	G	O4'-C1'-N9	8.42	114.93	108.20
48	A2	2617	G	C3'-C2'-O2'	-8.41	88.91	113.30
49	B1	298	G	P-O3'-C3'	-8.40	109.62	119.70
49	B1	533	A	P-O3'-C3'	8.40	129.78	119.70
49	B1	798	G	C4'-C3'-O3'	-8.40	91.76	109.40
49	B1	1556	A	N9-C1'-C2'	8.39	124.91	114.00
48	A2	1066	U	OP2-P-O3'	8.38	123.64	105.20
48	A2	1572	C	P-O3'-C3'	8.38	129.75	119.70
48	A2	959	C	O4'-C1'-N1	8.37	114.89	108.20
48	A2	356	A	C3'-C2'-O2'	-8.36	89.05	113.30
49	B1	320	G	C5'-C4'-C3'	8.35	129.36	116.00
2	A4	56	G	P-O3'-C3'	8.34	129.71	119.70
49	B1	689	U	O4'-C1'-N1	8.34	114.87	108.20
48	A2	2876	G	P-O3'-C3'	-8.34	109.70	119.70
47	Au	180	VAL	CA-CB-CG1	8.33	123.40	110.90
48	A2	85	G	C1'-C2'-O2'	-8.33	85.60	110.60
48	A2	444	G	O4'-C1'-N9	8.32	114.85	108.20
48	A2	4033	U	O4'-C1'-N1	8.31	114.85	108.20
49	B1	180	G	C4'-C3'-O3'	8.31	129.63	113.00
48	A2	938	G	O3'-P-O5'	8.31	119.79	104.00
48	A2	1877	A	P-O5'-C5'	8.31	134.20	120.90
48	A2	732	C	P-O3'-C3'	-8.29	109.75	119.70
48	A2	4319	G	P-O3'-C3'	-8.29	109.75	119.70
48	A2	111	C	P-O3'-C3'	8.28	129.64	119.70
49	B1	748	C	C2'-C3'-O3'	8.28	127.72	109.50
48	A2	85	G	O5'-C5'-C4'	8.28	127.43	111.70
48	A2	4597	A	P-O3'-C3'	8.26	129.61	119.70
49	B1	1753	C	C4'-C3'-O3'	8.25	129.50	113.00
48	A2	228	U	N1-C1'-C2'	8.25	124.72	114.00
49	B1	1525	C	P-O3'-C3'	-8.25	109.80	119.70
48	A2	2508	A	O4'-C1'-N9	8.24	114.79	108.20
49	B1	1015	U	P-O3'-C3'	8.24	129.59	119.70
49	B1	451	G	P-O5'-C5'	-8.24	107.72	120.90
13	AK	89	VAL	CA-CB-CG1	8.23	123.25	110.90
48	A2	3921	U	P-O3'-C3'	-8.23	109.82	119.70
49	B1	110	U	P-O3'-C3'	-8.23	109.82	119.70
49	B1	1223	A	O4'-C1'-N9	8.23	114.78	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	1445	U	C4'-C3'-O3'	-8.22	92.14	109.40
49	B1	604	A	P-O3'-C3'	-8.21	109.84	119.70
49	B1	1554	C	P-O3'-C3'	8.21	129.56	119.70
48	A2	1196	G	P-O3'-C3'	-8.21	109.85	119.70
45	Aq	25	THR	CA-CB-CG2	8.20	123.89	112.40
48	A2	4597	A	N9-C1'-C2'	8.20	124.67	114.00
48	A2	4631	A	P-O3'-C3'	8.19	129.53	119.70
48	A2	1258	G	P-O3'-C3'	-8.19	109.87	119.70
48	A2	1255	C	P-O3'-C3'	-8.18	109.88	119.70
48	A2	2245	C	C3'-C2'-O2'	-8.18	89.58	113.30
48	A2	494	G	C2'-C3'-O3'	-8.17	91.52	109.50
48	A2	4407	U	P-O3'-C3'	-8.17	109.89	119.70
48	A2	2330	C	P-O3'-C3'	8.17	129.50	119.70
48	A2	4318	G	OP2-P-O3'	8.17	123.17	105.20
36	Ah	38	GLY	N-CA-C	8.15	133.48	113.10
48	A2	1579	G	P-O5'-C5'	-8.15	107.86	120.90
49	B1	1749	G	C4'-C3'-O3'	-8.15	92.28	109.40
48	A2	2683	C	C4'-C3'-O3'	-8.15	92.29	109.40
49	B1	742	U	C4'-C3'-O3'	-8.15	92.29	109.40
48	A2	2684	G	N9-C1'-C2'	-8.14	103.04	112.00
48	A2	3877	A	P-O5'-C5'	-8.14	107.88	120.90
48	A2	181	U	P-O3'-C3'	-8.13	109.94	119.70
47	Au	17	VAL	CA-CB-CG1	8.11	123.06	110.90
48	A2	3732	C	C5'-C4'-C3'	-8.11	103.03	116.00
48	A2	4593	G	P-O3'-C3'	8.11	129.43	119.70
49	B1	890	U	C2'-C3'-O3'	8.11	127.34	109.50
48	A2	736	G	C4'-C3'-O3'	-8.10	92.39	109.40
48	A2	3736	G	C4'-C3'-O3'	8.10	129.19	113.00
49	B1	866	U	C4'-C3'-O3'	8.08	129.17	113.00
49	B1	741	C	C5'-C4'-O4'	-8.07	99.41	109.10
48	A2	4017	A	P-O5'-C5'	-8.06	108.00	120.90
48	A2	4827	U	O4'-C1'-N1	-8.05	101.76	108.20
49	B1	1624	U	C5'-C4'-O4'	8.05	118.76	109.10
48	A2	4984	U	P-O3'-C3'	-8.03	110.06	119.70
49	B1	741	C	C2'-C3'-O3'	8.02	127.14	109.50
48	A2	4684	G	O4'-C1'-N9	8.01	114.61	108.20
48	A2	1256	G	O5'-C5'-C4'	-8.01	96.48	111.70
49	B1	368	U	C4'-C3'-O3'	-8.01	92.58	109.40
83	Bw	34	G	C2'-C3'-O3'	7.98	127.06	109.50
2	A4	112	U	OP2-P-O3'	7.98	122.76	105.20
45	Aq	112	ILE	CA-CB-CG1	7.97	126.14	111.00
1	A3	130	C	P-O3'-C3'	-7.96	110.15	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	1066	U	P-O3'-C3'	-7.96	110.15	119.70
48	A2	1741	G	C8-N9-C1'	7.96	137.34	127.00
48	A2	2793	C	O5'-C5'-C4'	7.95	126.81	111.70
48	A2	1251	G	P-O3'-C3'	7.95	129.24	119.70
49	B1	748	C	P-O5'-C5'	7.95	133.62	120.90
49	B1	1496	U	P-O3'-C3'	-7.95	110.16	119.70
49	B1	985	G	C3'-C2'-O2'	-7.95	90.25	113.30
1	A3	94	G	C5'-C4'-O4'	-7.94	99.57	109.10
13	AK	27	CYS	CA-CB-SG	7.94	128.29	114.00
48	A2	296	C	P-O3'-C3'	-7.93	110.18	119.70
49	B1	497	C	O3'-P-O5'	-7.93	88.93	104.00
48	A2	496	C	C4'-C3'-O3'	7.93	128.86	113.00
49	B1	1181	A	P-O3'-C3'	7.93	129.21	119.70
48	A2	1218	G	P-O3'-C3'	-7.92	110.20	119.70
48	A2	1741	G	C2'-C3'-O3'	7.92	126.92	109.50
49	B1	801	U	C4'-C3'-O3'	7.92	128.84	113.00
48	A2	4016	A	O3'-P-O5'	-7.92	88.96	104.00
49	B1	33	G	P-O3'-C3'	-7.91	110.21	119.70
49	B1	859	G	C4'-C3'-O3'	7.91	128.81	113.00
49	B1	1867	U	P-O3'-C3'	-7.90	110.22	119.70
49	B1	1825	A	P-O5'-C5'	-7.89	108.27	120.90
1	A3	129	C	OP2-P-O3'	7.89	122.56	105.20
1	A3	111	U	P-O3'-C3'	7.89	129.17	119.70
48	A2	3597	G	C2'-C3'-O3'	-7.89	92.14	109.50
49	B1	693	A	C2'-C3'-O3'	7.89	126.85	109.50
48	A2	4586	A	P-O3'-C3'	7.88	129.16	119.70
49	B1	1702	G	C1'-C2'-O2'	-7.87	86.98	110.60
48	A2	409	G	P-O3'-C3'	7.86	129.13	119.70
2	A4	9	C	P-O3'-C3'	7.86	129.13	119.70
48	A2	3736	G	O3'-P-O5'	-7.85	89.08	104.00
49	B1	745	C	C4'-C3'-O3'	-7.85	92.92	109.40
48	A2	228	U	C5'-C4'-C3'	-7.85	103.45	116.00
48	A2	1742	G	C4-N9-C1'	-7.82	116.33	126.50
48	A2	718	C	C1'-C2'-O2'	-7.81	87.17	110.60
49	B1	422	U	P-O3'-C3'	7.81	129.07	119.70
84	Bx	44	U	O3'-P-O5'	-7.79	89.19	104.00
47	Au	120	ILE	C-N-CD	-7.78	103.49	120.60
48	A2	1950	G	O4'-C1'-N9	7.78	114.42	108.20
49	B1	369	C	P-O5'-C5'	-7.77	108.47	120.90
49	B1	1783	C	O4'-C1'-N1	7.75	114.40	108.20
48	A2	3928	U	C4'-C3'-O3'	7.75	128.50	113.00
48	A2	1253	A	C4'-C3'-O3'	7.74	128.49	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2324	G	C4'-C3'-O3'	-7.74	93.14	109.40
49	B1	802	A	C4'-C3'-O3'	-7.74	93.14	109.40
48	A2	4705	G	P-O3'-C3'	7.74	128.99	119.70
48	A2	1274	G	OP2-P-O3'	7.73	122.22	105.20
49	B1	1555	U	C5'-C4'-C3'	7.73	128.37	116.00
48	A2	2612	U	P-O3'-C3'	-7.73	110.42	119.70
49	B1	1224	G	P-O3'-C3'	7.72	128.96	119.70
48	A2	1752	A	O5'-P-OP1	-7.71	98.76	105.70
48	A2	2673	G	C1'-C2'-O2'	-7.71	87.48	110.60
48	A2	3743	U	C4'-C3'-O3'	-7.70	93.23	109.40
48	A2	3667	C	P-O3'-C3'	7.69	128.92	119.70
49	B1	627	U	P-O3'-C3'	-7.68	110.48	119.70
49	B1	886	A	C2'-C3'-O3'	7.68	126.41	109.50
48	A2	241	G	P-O3'-C3'	7.68	128.92	119.70
49	B1	740	C	O4'-C1'-N1	7.67	114.33	108.20
48	A2	138	C	P-O5'-C5'	7.67	133.16	120.90
49	B1	1620	A	P-O3'-C3'	7.66	128.90	119.70
48	A2	1761	U	P-O3'-C3'	-7.66	110.51	119.70
48	A2	509	C	P-O3'-C3'	-7.66	110.51	119.70
48	A2	1992	C	O4'-C1'-N1	7.66	114.32	108.20
49	B1	320	G	P-O5'-C5'	-7.65	108.66	120.90
49	B1	742	U	N1-C1'-C2'	7.65	123.95	114.00
49	B1	239	C	C5'-C4'-C3'	7.65	128.24	116.00
48	A2	661	G	P-O5'-C5'	7.65	133.13	120.90
48	A2	3850	G	P-O3'-C3'	7.64	128.87	119.70
49	B1	231	A	C5'-C4'-O4'	7.64	118.27	109.10
49	B1	1014	G	P-O3'-C3'	7.64	128.86	119.70
48	A2	3682	A	O4'-C4'-C3'	-7.63	96.37	104.00
49	B1	1453	C	C3'-C2'-O2'	-7.63	91.17	113.30
48	A2	9	C	O5'-P-OP1	-7.63	98.83	105.70
48	A2	1755	U	O5'-P-OP1	-7.62	98.84	105.70
48	A2	3731	A	O5'-P-OP2	-7.62	98.84	105.70
49	B1	306	C	N1-C1'-C2'	7.62	123.91	114.00
48	A2	204	G	P-O3'-C3'	7.62	128.84	119.70
49	B1	1785	C	O4'-C1'-N1	7.62	114.29	108.20
48	A2	322	A	C4'-C3'-O3'	-7.62	93.41	109.40
48	A2	737	A	P-O5'-C5'	7.62	133.09	120.90
49	B1	1287	A	O4'-C1'-N9	7.62	114.29	108.20
49	B1	1338	G	P-O3'-C3'	7.62	128.84	119.70
49	B1	14	C	O4'-C1'-N1	7.61	114.29	108.20
49	B1	869	A	O4'-C1'-N9	7.61	114.29	108.20
84	Bx	45	U	C5'-C4'-C3'	7.61	128.18	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	4606	G	P-O3'-C3'	7.60	128.82	119.70
48	A2	2600	A	P-O3'-C3'	-7.59	110.59	119.70
48	A2	3916	A	P-O3'-C3'	-7.58	110.61	119.70
48	A2	968	C	P-O5'-C5'	-7.58	108.78	120.90
49	B1	903	A	C5'-C4'-O4'	7.58	118.19	109.10
49	B1	689	U	C2'-C3'-O3'	-7.57	92.84	109.50
48	A2	482	G	P-O3'-C3'	-7.57	110.61	119.70
83	Bv	1	G	OP1-P-OP2	-7.57	108.25	119.60
49	B1	293	C	O4'-C1'-N1	-7.56	102.15	108.20
49	B1	688	U	O4'-C1'-N1	7.56	114.25	108.20
48	A2	1763	U	P-O3'-C3'	-7.56	110.63	119.70
49	B1	318	A	C4'-C3'-O3'	-7.55	93.53	109.40
48	A2	675	G	P-O3'-C3'	7.55	128.76	119.70
49	B1	1553	C	P-O5'-C5'	7.55	132.97	120.90
83	Bw	1	G	OP1-P-OP2	-7.54	108.29	119.60
48	A2	2872	U	P-O3'-C3'	-7.54	110.66	119.70
84	Bx	34	U	OP1-P-OP2	-7.53	108.30	119.60
47	Au	58	THR	CA-CB-OG1	7.53	124.82	109.00
48	A2	258	C	C2'-C3'-O3'	7.53	126.07	109.50
48	A2	289	A	C1'-C2'-O2'	-7.53	88.01	110.60
48	A2	912	C	O3'-P-O5'	-7.51	89.72	104.00
48	A2	965	G	O3'-P-O5'	-7.51	89.73	104.00
49	B1	238	C	C2'-C3'-O3'	-7.51	92.98	109.50
49	B1	741	C	P-O5'-C5'	-7.51	108.89	120.90
49	B1	1557	C	C2'-C3'-O3'	-7.51	92.99	109.50
1	A3	93	C	C4'-C3'-O3'	-7.50	93.65	109.40
2	A4	81	G	P-O3'-C3'	-7.50	110.70	119.70
48	A2	681	A	C2'-C3'-O3'	-7.49	93.01	109.50
48	A2	968	C	P-O3'-C3'	-7.49	110.71	119.70
48	A2	2457	C	P-O3'-C3'	-7.49	110.71	119.70
48	A2	1742	G	C8-N9-C1'	7.49	136.74	127.00
48	A2	4916	C	P-O3'-C3'	-7.48	110.72	119.70
48	A2	1743	G	O4'-C1'-N9	7.48	114.18	108.20
48	A2	49	U	C3'-C2'-O2'	-7.48	91.62	113.30
48	A2	2689	C	C5'-C4'-O4'	-7.48	100.13	109.10
48	A2	229	G	C5'-C4'-C3'	7.46	127.94	116.00
1	A3	123	U	O4'-C1'-N1	7.45	114.16	108.20
48	A2	4828	G	C1'-C2'-O2'	-7.45	88.24	110.60
48	A2	49	U	P-O3'-C3'	-7.45	110.76	119.70
49	B1	1620	A	C2'-C3'-O3'	-7.45	93.12	109.50
48	A2	4720	U	P-O3'-C3'	7.44	128.62	119.70
49	B1	1487	A	C4'-C3'-O3'	-7.44	93.78	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	494	G	O3'-P-O5'	7.43	118.12	104.00
2	A4	6	C	P-O3'-C3'	7.41	128.60	119.70
48	A2	191	C	C2'-C3'-O3'	7.40	125.78	109.50
48	A2	3877	A	C3'-C2'-O2'	-7.39	91.86	113.30
1	A3	13	G	O4'-C1'-N9	7.39	114.11	108.20
48	A2	2688	C	C2'-C3'-O3'	7.39	125.75	109.50
48	A2	3877	A	C5'-C4'-C3'	7.39	127.82	116.00
48	A2	4686	A	O5'-C5'-C4'	-7.38	97.67	111.70
48	A2	1615	G	P-O3'-C3'	7.38	128.55	119.70
49	B1	416	U	O3'-P-O5'	-7.38	89.98	104.00
49	B1	881	G	C2'-C3'-O3'	7.38	125.73	109.50
48	A2	3613	A	C5'-C4'-O4'	-7.37	100.25	109.10
49	B1	1623	A	O3'-P-O5'	-7.37	90.00	104.00
48	A2	2492	A	P-O3'-C3'	-7.37	110.86	119.70
48	A2	1433	C	OP2-P-O3'	7.36	121.39	105.20
49	B1	1389	C	P-O3'-C3'	7.36	128.53	119.70
49	B1	407	G	P-O3'-C3'	-7.36	110.87	119.70
48	A2	2425	C	P-O3'-C3'	7.36	128.53	119.70
49	B1	880	G	O4'-C1'-N9	7.35	114.08	108.20
49	B1	15	U	P-O3'-C3'	7.34	128.51	119.70
49	B1	289	G	P-O3'-C3'	-7.34	110.89	119.70
1	A3	94	G	P-O5'-C5'	-7.34	109.16	120.90
49	B1	876	C	C2'-C3'-O3'	7.34	125.65	109.50
48	A2	3590	G	O5'-P-OP2	-7.33	99.10	105.70
48	A2	959	C	C4'-C3'-O3'	7.31	127.63	113.00
45	Aq	109	ILE	CA-CB-CG1	7.31	124.89	111.00
1	A3	118	C	P-O3'-C3'	-7.31	110.93	119.70
48	A2	5007	G	N9-C1'-C2'	7.30	123.49	114.00
49	B1	745	C	C2'-C3'-O3'	7.30	125.55	109.50
49	B1	356	C	P-O3'-C3'	7.29	128.45	119.70
48	A2	2335	U	OP2-P-O3'	7.28	121.21	105.20
49	B1	1600	G	O4'-C1'-N9	7.27	114.02	108.20
48	A2	2673	G	C4'-C3'-O3'	-7.27	94.14	109.40
48	A2	4597	A	O4'-C1'-N9	7.26	114.01	108.20
48	A2	2700	G	P-O3'-C3'	-7.26	110.99	119.70
49	B1	892	U	C2'-C3'-O3'	7.26	125.47	109.50
48	A2	959	C	C5'-C4'-O4'	7.26	117.81	109.10
48	A2	736	G	P-O3'-C3'	-7.25	111.00	119.70
48	A2	676	G	O5'-P-OP2	7.25	119.40	110.70
49	B1	1621	U	P-O5'-C5'	-7.24	109.31	120.90
48	A2	4827	U	C4'-C3'-C2'	-7.24	95.36	102.60
45	Aq	37	LEU	CB-CG-CD1	7.23	123.29	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2569	G	P-O3'-C3'	-7.23	111.03	119.70
49	B1	688	U	O5'-C5'-C4'	7.22	125.42	111.70
48	A2	4826	G	C3'-C2'-O2'	-7.22	92.37	113.30
49	B1	690	G	C5'-C4'-C3'	7.22	127.55	116.00
49	B1	915	G	O5'-C5'-C4'	7.20	125.39	111.70
48	A2	4715	U	C2'-C3'-O3'	-7.20	93.66	109.50
49	B1	361	U	O3'-P-O5'	7.20	117.68	104.00
49	B1	1526	G	P-O3'-C3'	-7.20	111.06	119.70
49	B1	1624	U	P-O5'-C5'	-7.20	109.38	120.90
48	A2	4841	C	P-O3'-C3'	7.20	128.34	119.70
48	A2	4717	G	O3'-P-O5'	-7.19	90.33	104.00
49	B1	396	U	P-O3'-C3'	-7.19	111.07	119.70
49	B1	1396	A	O4'-C1'-N9	7.19	113.95	108.20
48	A2	1202	G	O4'-C1'-N9	7.19	113.95	108.20
49	B1	790	C	O5'-P-OP1	-7.18	99.23	105.70
48	A2	1274	G	P-O3'-C3'	-7.18	111.09	119.70
48	A2	4980	U	OP2-P-O3'	7.17	120.98	105.20
49	B1	426	A	P-O3'-C3'	7.17	128.31	119.70
49	B1	799	U	N1-C1'-C2'	7.15	123.30	114.00
48	A2	4828	G	C3'-C2'-O2'	-7.15	92.56	113.30
48	A2	498	G	O4'-C1'-N9	7.14	113.92	108.20
48	A2	736	G	C1'-C2'-O2'	-7.14	89.17	110.60
49	B1	838	G	C5'-C4'-O4'	7.14	117.67	109.10
49	B1	368	U	O4'-C1'-N1	-7.14	102.49	108.20
48	A2	2245	C	O5'-P-OP2	-7.14	99.28	105.70
49	B1	809	A	P-O3'-C3'	-7.14	111.14	119.70
49	B1	737	G	O5'-P-OP2	-7.13	99.28	105.70
49	B1	183	G	O5'-P-OP2	7.13	119.26	110.70
49	B1	1105	G	C3'-C2'-O2'	-7.13	92.62	113.30
48	A2	286	G	C5'-C4'-O4'	7.13	117.65	109.10
48	A2	2245	C	O5'-P-OP1	-7.12	99.29	105.70
48	A2	4665	U	OP2-P-O3'	7.12	120.87	105.20
49	B1	1621	U	C4'-C3'-O3'	7.12	127.24	113.00
49	B1	358	C	P-O3'-C3'	-7.12	111.16	119.70
48	A2	3787	A	OP2-P-O3'	7.11	120.85	105.20
49	B1	841	G	O4'-C1'-N9	7.11	113.89	108.20
48	A2	3681	G	P-O3'-C3'	7.11	128.23	119.70
48	A2	1965	A	P-O3'-C3'	-7.11	111.17	119.70
49	B1	790	C	O5'-P-OP2	-7.11	99.30	105.70
48	A2	138	C	O4'-C4'-C3'	-7.10	96.90	104.00
48	A2	4685	A	O3'-P-O5'	7.09	117.47	104.00
84	Bx	46	U	C5'-C4'-C3'	-7.08	104.67	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
84	Bx	46	U	P-O5'-C5'	-7.08	109.58	120.90
2	A4	67	C	P-O3'-C3'	-7.08	111.21	119.70
83	Bv	34	G	O5'-P-OP2	-7.08	99.33	105.70
49	B1	737	G	O5'-P-OP1	-7.07	99.34	105.70
48	A2	3835	C	P-O3'-C3'	7.07	128.18	119.70
48	A2	2859	U	C2'-C3'-O3'	-7.07	93.95	109.50
49	B1	226	A	O4'-C1'-N9	-7.06	102.55	108.20
48	A2	3592	A	P-O3'-C3'	7.05	128.16	119.70
48	A2	1342	G	O4'-C4'-C3'	7.04	111.73	106.10
49	B1	1484	A	P-O3'-C3'	-7.04	111.25	119.70
48	A2	2245	C	P-O3'-C3'	-7.04	111.25	119.70
48	A2	3684	U	C5'-C4'-C3'	-7.04	104.74	116.00
48	A2	4722	G	P-O3'-C3'	-7.04	111.26	119.70
48	A2	4706	A	P-O3'-C3'	7.04	128.14	119.70
48	A2	2860	A	C2'-C3'-O3'	-7.03	94.05	109.50
48	A2	4596	U	O4'-C1'-N1	7.02	113.82	108.20
1	A3	150	C	OP2-P-O3'	7.02	120.65	105.20
49	B1	1557	C	O5'-C5'-C4'	-7.02	98.36	111.70
48	A2	3612	U	C5'-C4'-O4'	7.02	117.52	109.10
49	B1	852	G	P-O5'-C5'	-7.02	109.67	120.90
49	B1	871	U	O4'-C1'-N1	7.02	113.81	108.20
48	A2	4140	A	P-O3'-C3'	7.01	128.11	119.70
48	A2	43	U	C5'-C4'-C3'	7.01	127.22	116.00
48	A2	2617	G	C5'-C4'-C3'	7.01	127.21	116.00
49	B1	902	G	C4'-C3'-O3'	7.00	127.01	113.00
48	A2	2608	C	C4'-C3'-O3'	7.00	127.01	113.00
48	A2	1225	G	P-O5'-C5'	-7.00	109.70	120.90
48	A2	682	U	C5'-C4'-O4'	7.00	117.50	109.10
48	A2	699	G	O4'-C1'-N9	7.00	113.80	108.20
49	B1	1290	G	C5'-C4'-O4'	7.00	117.50	109.10
48	A2	1260	G	C5'-C4'-O4'	-6.99	100.71	109.10
49	B1	1454	A	O5'-C5'-C4'	6.99	124.98	111.70
48	A2	2325	C	C1'-C2'-O2'	-6.99	89.64	110.60
48	A2	50	C	C3'-C2'-O2'	-6.98	93.05	113.30
48	A2	961	C	C1'-C2'-O2'	6.98	131.55	110.60
49	B1	915	G	O4'-C1'-N9	6.98	113.78	108.20
48	A2	4459	U	OP2-P-O3'	6.98	120.55	105.20
48	A2	1071	C	P-O3'-C3'	-6.97	111.33	119.70
48	A2	2273	G	O4'-C1'-N9	6.97	113.78	108.20
48	A2	2480	C	OP2-P-O3'	6.97	120.54	105.20
48	A2	257	G	O5'-P-OP1	-6.97	99.43	105.70
1	A3	124	U	OP2-P-O3'	6.97	120.53	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	370	G	O4'-C1'-N9	-6.97	102.62	108.20
48	A2	3612	U	O4'-C4'-C3'	6.96	111.67	106.10
48	A2	1271	G	P-O3'-C3'	6.96	128.05	119.70
48	A2	68	U	OP2-P-O3'	6.96	120.50	105.20
1	A3	80	A	O4'-C1'-N9	6.94	113.75	108.20
2	A4	15	C	C4'-C3'-O3'	6.94	126.88	113.00
48	A2	727	C	C2'-C3'-O3'	6.92	124.78	113.70
48	A2	1973	U	P-O3'-C3'	-6.92	111.39	119.70
48	A2	2325	C	P-O3'-C3'	6.92	128.01	119.70
49	B1	144	U	P-O3'-C3'	6.92	128.00	119.70
49	B1	738	C	P-O5'-C5'	-6.92	109.83	120.90
1	A3	150	C	OP1-P-O3'	-6.91	90.00	105.20
48	A2	131	C	O5'-P-OP2	-6.91	99.48	105.70
48	A2	2690	G	C4'-C3'-O3'	6.91	126.81	113.00
48	A2	2269	C	P-O3'-C3'	6.91	127.99	119.70
48	A2	4682	C	O3'-P-O5'	-6.90	90.89	104.00
49	B1	368	U	O5'-P-OP1	-6.90	99.49	105.70
48	A2	2458	G	P-O3'-C3'	-6.89	111.43	119.70
48	A2	356	A	P-O3'-C3'	-6.89	111.43	119.70
45	Aq	112	ILE	CG1-CB-CG2	-6.89	96.25	111.40
48	A2	1296	C	C1'-C2'-O2'	-6.88	89.95	110.60
48	A2	680	C	O4'-C4'-C3'	-6.88	97.12	104.00
49	B1	1284	A	C4'-C3'-O3'	-6.87	94.97	109.40
49	B1	692	G	P-O5'-C5'	6.87	131.88	120.90
48	A2	1589	C	P-O3'-C3'	6.85	127.92	119.70
48	A2	3605	G	O4'-C1'-N9	6.85	113.68	108.20
49	B1	1395	C	OP2-P-O3'	6.85	120.27	105.20
45	Aq	75	PRO	N-CA-CB	6.85	111.52	103.30
49	B1	891	G	P-O5'-C5'	-6.84	109.96	120.90
48	A2	257	G	N9-C1'-C2'	-6.84	104.48	112.00
49	B1	1555	U	C5'-C4'-O4'	6.84	117.30	109.10
48	A2	1880	G	P-O3'-C3'	6.83	127.90	119.70
48	A2	210	G	OP2-P-O3'	6.83	120.23	105.20
49	B1	656	G	C3'-C2'-O2'	-6.83	93.50	113.30
49	B1	1624	U	O5'-C5'-C4'	6.83	124.67	111.70
48	A2	3922	G	P-O3'-C3'	-6.82	111.51	119.70
48	A2	4045	U	P-O3'-C3'	-6.82	111.52	119.70
48	A2	463	C	C5'-C4'-O4'	-6.82	100.92	109.10
48	A2	2282	C	P-O3'-C3'	-6.81	111.52	119.70
48	A2	731	G	O3'-P-O5'	-6.81	91.06	104.00
48	A2	1061	A	P-O3'-C3'	-6.81	111.53	119.70
50	BA	113	GLN	N-CA-C	6.80	129.37	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	847	A	C3'-C2'-O2'	-6.80	93.59	113.30
47	Au	48	ARG	NE-CZ-NH2	-6.79	116.91	120.30
49	B1	1447	G	O3'-P-O5'	6.78	116.88	104.00
2	A4	9	C	O4'-C1'-N1	6.78	113.62	108.20
49	B1	177	G	P-O3'-C3'	-6.78	111.56	119.70
49	B1	804	U	C5'-C4'-C3'	-6.78	105.15	116.00
48	A2	1741	G	C5'-C4'-O4'	-6.78	100.97	109.10
49	B1	738	C	C4'-C3'-O3'	-6.78	95.17	109.40
48	A2	3617	A	O4'-C1'-N9	-6.77	102.78	108.20
48	A2	1225	G	OP1-P-OP2	-6.77	109.44	119.60
48	A2	201	U	P-O3'-C3'	-6.77	111.58	119.70
49	B1	657	U	C3'-C2'-O2'	-6.77	93.67	113.30
48	A2	191	C	O5'-C5'-C4'	-6.77	98.84	111.70
48	A2	400	C	O3'-P-O5'	-6.77	91.14	104.00
48	A2	3669	G	P-O3'-C3'	-6.77	111.58	119.70
48	A2	1752	A	N9-C1'-C2'	-6.76	104.56	112.00
49	B1	638	C	O3'-P-O5'	6.76	116.85	104.00
48	A2	2820	G	O4'-C1'-N9	6.76	113.61	108.20
2	A4	35	U	P-O3'-C3'	-6.75	111.60	119.70
48	A2	4040	U	P-O3'-C3'	-6.75	111.60	119.70
45	Aq	87	GLU	C-N-CD	-6.75	105.75	120.60
48	A2	2747	C	C3'-C2'-O2'	-6.75	93.72	113.30
49	B1	1	U	O4'-C1'-N1	6.75	113.60	108.20
49	B1	1284	A	P-O5'-C5'	-6.75	110.10	120.90
49	B1	1785	C	P-O3'-C3'	-6.75	111.60	119.70
49	B1	689	U	O3'-P-O5'	-6.75	91.18	104.00
48	A2	320	C	P-O3'-C3'	6.74	127.79	119.70
48	A2	1849	A	P-O3'-C3'	-6.74	111.61	119.70
48	A2	4048	C	P-O3'-C3'	-6.74	111.61	119.70
48	A2	737	A	O5'-P-OP2	6.73	118.78	110.70
65	BP	68	PRO	C-N-CD	6.73	142.53	128.40
49	B1	308	G	C4'-C3'-O3'	-6.73	95.28	109.40
49	B1	1289	U	N1-C1'-C2'	6.72	122.74	114.00
48	A2	4714	U	C3'-C2'-O2'	-6.72	93.82	113.30
48	A2	712	G	O4'-C1'-N9	6.72	113.57	108.20
48	A2	2292	A	O4'-C1'-N9	6.72	113.57	108.20
49	B1	1745	A	P-O3'-C3'	6.71	127.76	119.70
49	B1	1777	G	N9-C1'-C2'	-6.71	104.62	112.00
1	A3	111	U	O3'-P-O5'	6.70	116.74	104.00
48	A2	912	C	OP2-P-O3'	6.70	119.95	105.20
48	A2	1974	C	O4'-C1'-N1	6.70	113.56	108.20
48	A2	3597	G	O5'-C5'-C4'	6.70	124.44	111.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	1421	A	P-O3'-C3'	-6.70	111.66	119.70
48	A2	2860	A	C5'-C4'-O4'	6.69	117.13	109.10
49	B1	1785	C	C5'-C4'-C3'	-6.69	105.29	116.00
48	A2	506	U	P-O3'-C3'	-6.69	111.67	119.70
48	A2	3788	A	O4'-C1'-N9	-6.69	102.85	108.20
48	A2	4053	U	P-O3'-C3'	6.69	127.72	119.70
48	A2	5026	G	P-O3'-C3'	-6.69	111.67	119.70
48	A2	1053	G	O4'-C1'-N9	6.68	113.54	108.20
1	A3	124	U	OP1-P-O3'	-6.67	90.52	105.20
48	A2	464	A	O4'-C4'-C3'	-6.67	97.33	104.00
48	A2	3867	C	C4'-C3'-O3'	-6.67	95.39	109.40
48	A2	2534	G	O4'-C1'-N9	6.67	113.53	108.20
48	A2	1756	C	P-O5'-C5'	-6.67	110.23	120.90
48	A2	1970	G	P-O5'-C5'	6.66	131.56	120.90
49	B1	447	A	O3'-P-O5'	-6.66	91.34	104.00
48	A2	2745	A	C2'-C3'-O3'	6.65	124.34	113.70
48	A2	461	U	O5'-C5'-C4'	-6.65	99.07	111.70
48	A2	640	G	O4'-C1'-N9	6.64	113.51	108.20
48	A2	2688	C	C4'-C3'-O3'	-6.64	95.45	109.40
48	A2	1742	G	O4'-C1'-N9	6.64	113.51	108.20
48	A2	970	C	C4'-C3'-O3'	6.64	126.27	113.00
65	BP	72	LYS	C-N-CD	6.64	142.34	128.40
48	A2	1741	G	O5'-C5'-C4'	-6.63	99.10	111.70
49	B1	225	G	C2'-C3'-O3'	6.63	124.31	113.70
48	A2	111	C	C5'-C4'-C3'	6.63	126.60	116.00
48	A2	4660	C	P-O3'-C3'	6.63	127.65	119.70
48	A2	4891	C	P-O3'-C3'	-6.63	111.75	119.70
49	B1	1194	A	P-O3'-C3'	6.63	127.65	119.70
2	A4	63	C	P-O3'-C3'	-6.62	111.75	119.70
48	A2	1261	C	O5'-P-OP2	-6.62	99.74	105.70
48	A2	3916	A	O3'-P-O5'	-6.62	91.41	104.00
48	A2	1845	G	O4'-C1'-N9	6.61	113.49	108.20
48	A2	4839	U	P-O3'-C3'	6.61	127.63	119.70
49	B1	903	A	C2'-C3'-O3'	-6.60	94.97	109.50
48	A2	3588	G	C4'-C3'-O3'	6.60	126.20	113.00
48	A2	1420	C	P-O3'-C3'	-6.59	111.79	119.70
48	A2	4418	C	P-O3'-C3'	6.59	127.61	119.70
48	A2	4842	G	O4'-C1'-N9	6.59	113.47	108.20
49	B1	744	G	C5'-C4'-O4'	6.59	117.01	109.10
48	A2	2826	G	O4'-C1'-N9	6.59	113.47	108.20
48	A2	733	G	O4'-C1'-N9	6.58	113.47	108.20
48	A2	4158	G	P-O3'-C3'	6.58	127.60	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A3	102	G	P-O3'-C3'	-6.58	111.81	119.70
48	A2	682	U	O5'-C5'-C4'	6.58	124.19	111.70
49	B1	86	C	O4'-C1'-N1	6.57	113.46	108.20
48	A2	227	G	O4'-C1'-N9	-6.57	102.94	108.20
48	A2	2820	G	P-O3'-C3'	-6.57	111.82	119.70
48	A2	724	A	O3'-P-O5'	6.57	116.47	104.00
48	A2	1614	A	O4'-C1'-N9	6.57	113.45	108.20
48	A2	2246	U	C1'-C2'-O2'	-6.57	90.90	110.60
49	B1	446	G	P-O3'-C3'	6.57	127.58	119.70
49	B1	691	G	C4'-C3'-O3'	6.56	126.13	113.00
48	A2	502	G	O4'-C1'-N9	6.56	113.45	108.20
48	A2	4059	G	OP2-P-O3'	6.56	119.63	105.20
1	A3	108	A	O5'-P-OP2	-6.55	99.80	105.70
84	Bx	45	U	O4'-C4'-C3'	6.55	111.34	106.10
49	B1	237	C	P-O3'-C3'	6.55	127.56	119.70
49	B1	1867	U	O4'-C1'-N1	-6.55	102.96	108.20
49	B1	113	G	O4'-C1'-N9	-6.54	102.97	108.20
49	B1	848	U	C1'-C2'-O2'	-6.54	90.97	110.60
48	A2	3596	G	N9-C1'-C2'	-6.54	104.81	112.00
49	B1	533	A	C2'-C3'-O3'	-6.53	95.13	109.50
49	B1	1559	C	C4'-C3'-O3'	-6.53	95.69	109.40
48	A2	1260	G	O4'-C1'-N9	6.53	113.42	108.20
48	A2	3791	G	P-O5'-C5'	-6.53	110.45	120.90
49	B1	1701	C	P-O3'-C3'	6.53	127.53	119.70
49	B1	1337	C	O4'-C1'-N1	6.53	113.42	108.20
49	B1	32	U	OP2-P-O3'	6.52	119.55	105.20
49	B1	887	U	O4'-C1'-N1	6.52	113.42	108.20
49	B1	397	G	OP2-P-O3'	6.52	119.54	105.20
49	B1	976	G	C5'-C4'-O4'	6.52	116.92	109.10
48	A2	2750	G	OP2-P-O3'	6.52	119.54	105.20
49	B1	1080	A	OP2-P-O3'	6.52	119.54	105.20
76	Ba	97	PRO	C-N-CD	6.52	142.09	128.40
48	A2	724	A	P-O3'-C3'	6.52	127.52	119.70
48	A2	1732	G	P-O3'-C3'	-6.51	111.89	119.70
48	A2	4602	C	P-O3'-C3'	-6.51	111.89	119.70
49	B1	677	G	OP2-P-O3'	6.51	119.52	105.20
48	A2	214	C	P-O3'-C3'	-6.50	111.89	119.70
49	B1	351	G	P-O3'-C3'	-6.50	111.90	119.70
48	A2	153	G	C3'-C2'-O2'	-6.50	94.46	113.30
48	A2	963	G	P-O3'-C3'	-6.50	111.90	119.70
1	A3	126	C	O4'-C1'-N1	6.49	113.39	108.20
48	A2	2278	G	P-O3'-C3'	6.49	127.49	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	231	A	O4'-C1'-N9	6.49	113.39	108.20
49	B1	690	G	O4'-C1'-N9	6.49	113.39	108.20
49	B1	209	A	P-O3'-C3'	-6.48	111.93	119.70
49	B1	418	A	P-O3'-C3'	6.48	127.47	119.70
49	B1	1285	G	C4'-C3'-O3'	-6.48	95.80	109.40
48	A2	462	U	O3'-P-O5'	6.47	116.30	104.00
49	B1	749	U	C4'-C3'-O3'	-6.47	95.81	109.40
1	A3	34	U	N1-C1'-C2'	6.47	122.41	114.00
48	A2	1707	U	O4'-C1'-N1	6.46	113.37	108.20
49	B1	609	U	P-O3'-C3'	-6.46	111.95	119.70
48	A2	1350	C	C2'-C3'-O3'	6.46	124.03	113.70
48	A2	1280	U	P-O3'-C3'	-6.46	111.95	119.70
48	A2	1058	G	OP2-P-O3'	6.45	119.40	105.20
48	A2	2492	A	OP2-P-O3'	6.45	119.40	105.20
48	A2	2685	G	O5'-P-OP2	-6.45	99.89	105.70
48	A2	3737	A	O4'-C1'-N9	6.45	113.36	108.20
48	A2	2285	G	O4'-C1'-N9	6.45	113.36	108.20
49	B1	977	C	O5'-P-OP2	6.45	118.44	110.70
48	A2	1995	C	P-O3'-C3'	-6.45	111.96	119.70
49	B1	1031	A	OP2-P-O3'	6.44	119.38	105.20
48	A2	702	A	P-O3'-C3'	6.44	127.43	119.70
48	A2	1269	C	O4'-C1'-N1	6.44	113.35	108.20
48	A2	1954	G	O4'-C1'-N9	6.44	113.35	108.20
48	A2	1225	G	P-O3'-C3'	6.44	127.42	119.70
49	B1	680	G	P-O3'-C3'	6.43	127.42	119.70
49	B1	843	C	P-O3'-C3'	6.43	127.41	119.70
49	B1	409	C	O3'-P-O5'	-6.43	91.79	104.00
45	Aq	59	THR	CA-CB-CG2	6.42	121.39	112.40
48	A2	224	A	C4'-C3'-O3'	6.42	125.85	113.00
48	A2	3613	A	P-O5'-C5'	-6.42	110.63	120.90
48	A2	42	A	C5'-C4'-C3'	-6.41	105.74	116.00
48	A2	4959	U	P-O3'-C3'	-6.41	112.01	119.70
49	B1	1254	C	P-O3'-C3'	-6.41	112.01	119.70
48	A2	153	G	O5'-P-OP1	-6.41	99.93	105.70
49	B1	503	C	P-O3'-C3'	-6.41	112.01	119.70
48	A2	657	C	O4'-C1'-N1	6.40	113.32	108.20
84	Bx	45	U	C2'-C3'-O3'	-6.40	95.42	109.50
48	A2	1952	C	O5'-P-OP2	6.39	118.37	110.70
48	A2	1525	G	OP2-P-O3'	6.39	119.26	105.20
48	A2	2823	A	O4'-C1'-N9	6.39	113.31	108.20
49	B1	803	C	C2'-C3'-O3'	6.38	123.91	113.70
48	A2	221	U	C1'-C2'-O2'	-6.38	91.47	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	4486	G	P-O3'-C3'	-6.38	112.05	119.70
49	B1	231	A	O4'-C4'-C3'	-6.38	97.62	104.00
48	A2	3737	A	P-O5'-C5'	6.37	131.10	120.90
48	A2	116	G	P-O3'-C3'	6.36	127.33	119.70
49	B1	534	G	P-O5'-C5'	6.36	131.07	120.90
49	B1	1750	C	O4'-C4'-C3'	6.36	111.19	106.10
13	AK	2	PRO	CA-N-CD	-6.36	102.60	111.50
48	A2	4682	C	P-O3'-C3'	-6.36	112.07	119.70
48	A2	4695	C	P-O3'-C3'	6.36	127.33	119.70
48	A2	5007	G	O4'-C1'-N9	-6.36	103.12	108.20
49	B1	1312	G	P-O3'-C3'	6.36	127.33	119.70
48	A2	1974	C	P-O3'-C3'	-6.35	112.08	119.70
13	AK	25	PRO	N-CA-CB	6.35	110.92	103.30
49	B1	1415	C	P-O3'-C3'	-6.35	112.08	119.70
48	A2	3596	G	C4-N9-C1'	6.34	134.75	126.50
48	A2	191	C	C1'-C2'-O2'	-6.34	91.57	110.60
2	A4	79	U	O3'-P-O5'	6.34	116.04	104.00
48	A2	230	U	P-O3'-C3'	6.34	127.30	119.70
48	A2	1952	C	C2'-C3'-O3'	6.34	123.84	113.70
48	A2	400	C	OP2-P-O3'	6.33	119.13	105.20
49	B1	187	G	O4'-C1'-N9	6.33	113.27	108.20
48	A2	2690	G	O3'-P-O5'	6.33	116.03	104.00
48	A2	49	U	O5'-P-OP2	-6.33	100.00	105.70
49	B1	687	C	C4'-C3'-O3'	6.33	125.66	113.00
48	A2	1498	G	P-O5'-C5'	-6.33	110.78	120.90
48	A2	221	U	C2'-C3'-O3'	-6.32	95.59	109.50
48	A2	1308	C	C4'-C3'-O3'	-6.32	96.13	109.40
48	A2	2684	G	C4-N9-C1'	-6.32	118.29	126.50
49	B1	802	A	C2'-C3'-O3'	6.32	123.80	113.70
48	A2	225	C	O4'-C4'-C3'	-6.31	97.69	104.00
49	B1	742	U	P-O5'-C5'	-6.31	110.81	120.90
45	Aq	7	PRO	CA-N-CD	-6.30	102.67	111.50
48	A2	967	U	O3'-P-O5'	6.30	115.98	104.00
49	B1	791	C	C4'-C3'-O3'	-6.30	96.17	109.40
49	B1	370	G	C3'-C2'-O2'	-6.30	95.03	113.30
45	Aq	88	PRO	N-CA-CB	6.30	110.86	103.30
49	B1	861	A	C4'-C3'-O3'	-6.30	96.18	109.40
48	A2	893	C	P-O3'-C3'	-6.29	112.15	119.70
49	B1	1069	U	P-O3'-C3'	6.29	127.25	119.70
48	A2	496	C	O5'-C5'-C4'	-6.29	99.75	111.70
48	A2	405	G	O4'-C1'-N9	6.29	113.23	108.20
49	B1	356	C	O5'-P-OP1	6.29	118.24	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2059	C	P-O3'-C3'	-6.28	112.16	119.70
48	A2	323	A	P-O5'-C5'	-6.28	110.85	120.90
48	A2	1226	C	O4'-C4'-C3'	-6.28	97.72	104.00
48	A2	2751	C	OP2-P-O3'	6.28	119.02	105.20
48	A2	50	C	O5'-C5'-C4'	-6.28	99.77	111.70
49	B1	1777	G	P-O5'-C5'	-6.28	110.86	120.90
49	B1	1290	G	P-O5'-C5'	6.28	130.94	120.90
66	BQ	43	GLU	C-N-CD	6.28	141.58	128.40
1	A3	36	G	C4'-C3'-O3'	-6.27	96.23	109.40
48	A2	300	A	P-O3'-C3'	6.26	127.22	119.70
49	B1	114	G	OP1-P-O3'	-6.26	91.42	105.20
48	A2	718	C	P-O3'-C3'	-6.26	112.19	119.70
49	B1	1825	A	C4'-C3'-O3'	6.26	125.52	113.00
49	B1	887	U	P-O5'-C5'	6.26	130.91	120.90
48	A2	640	G	P-O3'-C3'	-6.25	112.20	119.70
49	B1	1126	G	P-O3'-C3'	-6.25	112.20	119.70
48	A2	4895	C	C4'-C3'-O3'	-6.25	96.28	109.40
48	A2	4977	A	O4'-C1'-N9	6.25	113.20	108.20
49	B1	907	G	C5'-C4'-O4'	6.25	116.60	109.10
48	A2	4467	C	P-O3'-C3'	-6.25	112.20	119.70
48	A2	4317	G	O4'-C1'-N9	6.24	113.19	108.20
49	B1	985	G	O5'-P-OP1	-6.24	100.09	105.70
48	A2	1249	G	O4'-C1'-N9	6.23	113.19	108.20
48	A2	681	A	O4'-C4'-C3'	-6.23	97.77	104.00
48	A2	968	C	C2'-C3'-O3'	-6.23	95.79	109.50
48	A2	2680	U	P-O3'-C3'	-6.23	112.22	119.70
48	A2	4171	G	P-O3'-C3'	-6.23	112.22	119.70
48	A2	212	C	OP2-P-O3'	6.23	118.90	105.20
48	A2	16	G	O4'-C1'-N9	6.23	113.18	108.20
48	A2	183	G	O4'-C1'-N9	6.22	113.18	108.20
49	B1	900	C	C4'-C3'-O3'	-6.22	96.33	109.40
48	A2	2245	C	C4'-C3'-O3'	-6.22	96.34	109.40
48	A2	2285	G	P-O3'-C3'	6.21	127.16	119.70
1	A3	144	U	P-O3'-C3'	-6.21	112.25	119.70
2	A4	43	U	P-O3'-C3'	6.21	127.15	119.70
48	A2	681	A	C5'-C4'-O4'	6.21	116.55	109.10
48	A2	746	C	P-O3'-C3'	-6.21	112.25	119.70
48	A2	2324	G	P-O3'-C3'	6.21	127.15	119.70
49	B1	1784	G	C5'-C4'-C3'	-6.21	106.07	116.00
49	B1	874	G	C5'-C4'-O4'	6.20	116.54	109.10
48	A2	1197	C	P-O5'-C5'	6.20	130.82	120.90
48	A2	3619	A	O4'-C1'-N9	6.20	113.16	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	4410	G	P-O3'-C3'	6.20	127.14	119.70
49	B1	1289	U	C2'-C3'-O3'	-6.20	95.86	109.50
48	A2	1850	G	C1'-C2'-O2'	-6.19	92.02	110.60
48	A2	4717	G	C2'-C3'-O3'	6.19	123.61	113.70
48	A2	2794	A	C4'-C3'-O3'	-6.19	96.40	109.40
48	A2	62	A	O3'-P-O5'	-6.19	92.24	104.00
48	A2	104	G	P-O3'-C3'	-6.19	112.28	119.70
49	B1	1106	C	C5'-C4'-C3'	6.19	125.90	116.00
48	A2	242	C	P-O5'-C5'	-6.19	111.00	120.90
48	A2	3817	C	O4'-C1'-N1	6.19	113.15	108.20
48	A2	2689	C	N1-C1'-C2'	-6.18	105.20	112.00
65	BP	67	ALA	C-N-CD	6.18	141.39	128.40
48	A2	2618	U	C4'-C3'-O3'	-6.18	96.42	109.40
48	A2	5006	A	P-O3'-C3'	-6.18	112.29	119.70
48	A2	1252	G	P-O5'-C5'	-6.17	111.03	120.90
48	A2	2747	C	C4'-C3'-O3'	-6.17	96.45	109.40
48	A2	2673	G	C2'-C3'-O3'	-6.16	95.94	109.50
34	Af	59	THR	C-N-CD	6.16	141.34	128.40
48	A2	477	G	P-O3'-C3'	-6.16	112.31	119.70
48	A2	1194	G	O3'-P-O5'	6.16	115.71	104.00
48	A2	1265	G	C4'-C3'-O3'	-6.16	96.46	109.40
49	B1	370	G	C4'-C3'-O3'	6.15	125.30	113.00
5	AC	304	ALA	C-N-CD	6.15	141.31	128.40
49	B1	306	C	O4'-C4'-C3'	6.15	111.02	106.10
49	B1	1254	C	O4'-C1'-N1	6.15	113.12	108.20
49	B1	1288	U	P-O3'-C3'	-6.15	112.32	119.70
48	A2	212	C	OP1-P-O3'	-6.15	91.68	105.20
48	A2	4617	A	OP2-P-O3'	6.15	118.72	105.20
48	A2	5004	U	C1'-C2'-O2'	-6.14	92.17	110.60
48	A2	909	C	P-O3'-C3'	-6.14	112.33	119.70
48	A2	3771	A	C4'-C3'-O3'	6.14	125.27	113.00
48	A2	681	A	C4'-C3'-O3'	6.13	125.27	113.00
48	A2	57	G	C4'-C3'-O3'	-6.13	96.53	109.40
49	B1	1287	A	P-O5'-C5'	-6.13	111.09	120.90
49	B1	231	A	C2'-C3'-O3'	-6.13	96.02	109.50
48	A2	3596	G	C8-N9-C1'	-6.12	119.05	127.00
49	B1	1176	G	O4'-C1'-N9	6.12	113.09	108.20
48	A2	4725	U	C4'-C3'-O3'	-6.11	96.56	109.40
48	A2	2304	C	P-O3'-C3'	-6.11	112.36	119.70
49	B1	895	G	C5'-C4'-O4'	6.11	116.43	109.10
48	A2	1296	C	C2'-C3'-O3'	6.11	123.47	113.70
48	A2	4015	G	P-O3'-C3'	-6.11	112.38	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	960	G	O5'-P-OP1	6.10	118.02	110.70
33	Ae	5	ARG	C-N-CD	6.10	141.21	128.40
48	A2	4907	G	O3'-P-O5'	6.10	115.59	104.00
49	B1	91	A	O4'-C1'-N9	6.10	113.08	108.20
45	Aq	7	PRO	N-CA-CB	6.10	110.62	103.30
49	B1	110	U	OP2-P-O3'	6.09	118.61	105.20
48	A2	308	G	C3'-C2'-O2'	-6.09	95.64	113.30
49	B1	898	U	O5'-C5'-C4'	6.09	123.28	111.70
2	A4	114	U	OP2-P-O3'	6.09	118.60	105.20
48	A2	4017	A	C5'-C4'-C3'	6.09	125.74	116.00
49	B1	639	C	O5'-C5'-C4'	-6.08	100.14	111.70
48	A2	4925	A	O4'-C1'-N9	6.08	113.06	108.20
49	B1	1675	A	O4'-C1'-N9	6.08	113.06	108.20
49	B1	1481	G	O3'-P-O5'	6.07	115.54	104.00
48	A2	403	G	P-O3'-C3'	-6.07	112.41	119.70
48	A2	683	U	C5'-C4'-O4'	6.07	116.39	109.10
61	BL	33	LEU	C-N-CD	6.07	141.15	128.40
49	B1	1105	G	P-O5'-C5'	6.07	130.61	120.90
48	A2	1433	C	O3'-P-O5'	-6.07	92.47	104.00
48	A2	3597	G	O4'-C1'-N9	6.07	113.05	108.20
49	B1	1285	G	N9-C1'-C2'	-6.06	105.33	112.00
13	AK	73	PRO	N-CA-CB	6.06	110.58	103.30
1	A3	117	C	P-O3'-C3'	-6.06	112.43	119.70
48	A2	744	C	O4'-C1'-N1	6.06	113.05	108.20
70	BU	52	GLY	C-N-CD	6.06	141.12	128.40
48	A2	5025	U	OP1-P-O3'	6.05	118.52	105.20
13	AK	2	PRO	N-CA-CB	6.05	110.56	103.30
48	A2	508	U	C2'-C3'-O3'	6.05	123.38	113.70
48	A2	680	C	N1-C1'-C2'	-6.05	105.34	112.00
49	B1	322	C	C4'-C3'-O3'	-6.05	96.69	109.40
56	BG	173	ALA	C-N-CD	6.05	141.10	128.40
48	A2	2328	A	OP2-P-O3'	6.05	118.50	105.20
57	BH	101	LEU	C-N-CD	6.05	141.10	128.40
84	Bx	45	U	P-O5'-C5'	-6.04	111.23	120.90
49	B1	1285	G	C2'-C3'-O3'	-6.04	96.20	109.50
49	B1	918	U	P-O3'-C3'	-6.04	112.45	119.70
48	A2	967	U	C5'-C4'-O4'	6.04	116.34	109.10
49	B1	1777	G	C4'-C3'-O3'	-6.03	96.74	109.40
19	AQ	17	GLU	C-N-CD	6.03	141.05	128.40
49	B1	1700	C	C1'-C2'-O2'	-6.03	92.53	110.60
48	A2	3727	A	O5'-C5'-C4'	-6.02	100.25	111.70
48	A2	290	A	O4'-C1'-N9	-6.02	103.38	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	AK	108	PRO	N-CA-CB	6.02	110.52	103.30
28	AZ	36	ARG	C-N-CD	6.02	141.04	128.40
48	A2	1741	G	O5'-P-OP1	-6.02	100.28	105.70
49	B1	1826	G	C2'-C3'-O3'	6.02	123.33	113.70
48	A2	2690	G	P-O5'-C5'	-6.01	111.28	120.90
49	B1	370	G	C3'-C2'-C1'	-6.01	96.69	101.50
59	BJ	169	ARG	C-N-CD	6.01	141.03	128.40
49	B1	306	C	C3'-C2'-O2'	-6.01	95.86	113.30
48	A2	1586	G	OP2-P-O3'	6.01	118.43	105.20
49	B1	1278	A	OP2-P-O3'	6.00	118.41	105.20
13	AK	25	PRO	N-CD-CG	6.00	112.21	103.20
48	A2	968	C	O4'-C1'-N1	6.00	113.00	108.20
49	B1	1288	U	N1-C1'-C2'	6.00	121.80	114.00
48	A2	2794	A	C2'-C3'-O3'	5.99	123.29	113.70
14	AL	133	ALA	C-N-CD	5.99	140.98	128.40
48	A2	85	G	O4'-C1'-N9	5.99	112.99	108.20
48	A2	1845	G	P-O3'-C3'	-5.99	112.51	119.70
48	A2	2798	U	OP2-P-O3'	5.99	118.37	105.20
1	A3	34	U	P-O3'-C3'	5.98	126.88	119.70
48	A2	234	G	P-O3'-C3'	-5.98	112.52	119.70
2	A4	15	C	P-O5'-C5'	5.98	130.47	120.90
48	A2	1265	G	C2'-C3'-O3'	5.98	123.27	113.70
48	A2	4085	C	C4'-C3'-O3'	5.98	124.96	113.00
1	A3	111	U	C1'-C2'-O2'	-5.98	92.66	110.60
49	B1	793	G	O5'-C5'-C4'	-5.98	100.35	111.70
49	B1	976	G	P-O5'-C5'	5.97	130.46	120.90
48	A2	940	C	P-O5'-C5'	-5.97	111.35	120.90
48	A2	1992	C	P-O5'-C5'	5.97	130.44	120.90
48	A2	131	C	O5'-P-OP1	5.96	117.86	110.70
1	A3	153	C	O4'-C1'-N1	5.96	112.97	108.20
48	A2	279	G	O4'-C1'-N9	5.96	112.97	108.20
48	A2	959	C	C4'-C3'-C2'	-5.96	96.64	102.60
49	B1	1497	G	P-O5'-C5'	-5.96	111.37	120.90
49	B1	113	G	OP2-P-O3'	5.95	118.30	105.20
48	A2	4056	G	P-O3'-C3'	-5.94	112.57	119.70
49	B1	1287	A	C5'-C4'-O4'	5.94	116.23	109.10
48	A2	3731	A	N9-C1'-C2'	5.93	121.71	114.00
48	A2	1847	U	P-O3'-C3'	5.93	126.82	119.70
48	A2	4622	G	P-O3'-C3'	-5.93	112.58	119.70
48	A2	3790	G	C5'-C4'-O4'	5.93	116.22	109.10
48	A2	2690	G	C8-N9-C1'	5.92	134.70	127.00
48	A2	180	C	O3'-P-O5'	5.92	115.25	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	481	G	OP2-P-O3'	5.92	118.23	105.20
48	A2	4058	C	P-O3'-C3'	5.92	126.81	119.70
48	A2	680	C	C5'-C4'-C3'	-5.92	106.53	116.00
49	B1	319	C	O3'-P-O5'	-5.92	92.75	104.00
48	A2	663	C	O4'-C1'-N1	5.92	112.93	108.20
48	A2	933	C	O4'-C1'-N1	5.92	112.94	108.20
2	A4	75	G	C2'-C3'-O3'	-5.92	96.48	109.50
45	Aq	31	LYS	CB-CG-CD	5.91	126.97	111.60
48	A2	1352	C	P-O5'-C5'	5.91	130.36	120.90
48	A2	2673	G	C3'-C2'-O2'	-5.91	96.15	113.30
48	A2	3589	C	C4'-C3'-O3'	-5.91	96.99	109.40
48	A2	48	G	C4'-C3'-O3'	5.91	124.81	113.00
48	A2	229	G	C3'-C2'-O2'	-5.90	96.18	113.30
48	A2	965	G	C4'-C3'-O3'	-5.90	97.01	109.40
48	A2	1973	U	O4'-C1'-N1	-5.89	103.49	108.20
48	A2	221	U	P-O3'-C3'	-5.89	112.63	119.70
48	A2	1764	U	OP2-P-O3'	5.89	118.16	105.20
2	A4	115	A	P-O3'-C3'	-5.88	112.64	119.70
48	A2	1198	C	P-O5'-C5'	-5.88	111.50	120.90
48	A2	2685	G	O3'-P-O5'	5.88	115.16	104.00
45	Aq	89	PRO	N-CA-CB	5.87	110.35	103.30
49	B1	1286	G	P-O5'-C5'	5.87	130.29	120.90
48	A2	238	G	O3'-P-O5'	5.87	115.14	104.00
49	B1	887	U	N1-C1'-C2'	5.86	121.62	114.00
29	Aa	28	HIS	C-N-CD	5.86	140.71	128.40
49	B1	1125	C	P-O3'-C3'	-5.86	112.67	119.70
10	AH	99	PHE	C-N-CD	5.85	140.69	128.40
48	A2	1295	A	C1'-C2'-O2'	-5.85	93.04	110.60
48	A2	3683	A	O3'-P-O5'	-5.85	92.88	104.00
48	A2	50	C	O4'-C4'-C3'	-5.85	98.15	104.00
48	A2	1751	G	C4'-C3'-O3'	5.85	124.69	113.00
49	B1	803	C	O5'-C5'-C4'	-5.84	100.60	111.70
48	A2	1273	G	O4'-C1'-N9	5.84	112.87	108.20
48	A2	2246	U	C3'-C2'-O2'	-5.84	96.37	113.30
49	B1	1557	C	P-O5'-C5'	5.84	130.24	120.90
45	Aq	39	PRO	N-CA-CB	5.83	110.30	103.30
48	A2	485	G	O4'-C1'-N9	5.83	112.86	108.20
49	B1	202	G	P-O3'-C3'	-5.83	112.71	119.70
49	B1	975	G	C4'-C3'-O3'	-5.83	97.16	109.40
48	A2	248	C	P-O3'-C3'	-5.83	112.71	119.70
49	B1	398	A	P-O3'-C3'	-5.82	112.72	119.70
48	A2	138	C	N1-C1'-C2'	-5.82	105.60	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	AC	50	GLN	C-N-CD	5.81	140.61	128.40
48	A2	4708	C	O4'-C1'-N1	5.81	112.85	108.20
48	A2	3576	C	O4'-C1'-N1	5.81	112.85	108.20
49	B1	841	G	O4'-C4'-C3'	-5.81	98.19	104.00
48	A2	928	C	P-O3'-C3'	-5.81	112.73	119.70
48	A2	1742	G	P-O5'-C5'	-5.81	111.61	120.90
2	A4	70	G	O4'-C1'-N9	5.80	112.84	108.20
48	A2	5005	C	C2'-C3'-O3'	-5.80	96.73	109.50
48	A2	1200	G	P-O3'-C3'	5.80	126.66	119.70
48	A2	1918	C	O4'-C1'-N1	5.80	112.84	108.20
45	Aq	59	THR	CA-CB-OG1	-5.80	96.82	109.00
48	A2	193	C	P-O5'-C5'	-5.80	111.62	120.90
48	A2	3666	U	O4'-C1'-N1	5.80	112.84	108.20
1	A3	37	A	O4'-C1'-N9	-5.80	103.56	108.20
48	A2	3737	A	C5'-C4'-O4'	5.79	116.05	109.10
55	BF	107	ASN	C-N-CD	5.79	140.57	128.40
48	A2	718	C	O5'-P-OP1	5.79	117.65	110.70
48	A2	4924	A	O3'-P-O5'	-5.79	93.00	104.00
71	BV	13	VAL	C-N-CD	5.79	140.56	128.40
48	A2	2282	C	OP2-P-O3'	5.79	117.93	105.20
48	A2	2302	C	P-O3'-C3'	-5.79	112.75	119.70
49	B1	1105	G	O5'-P-OP2	5.79	117.64	110.70
1	A3	10	G	C5'-C4'-C3'	5.78	125.25	116.00
2	A4	3	C	O5'-C5'-C4'	-5.78	100.71	111.70
48	A2	222	G	O4'-C1'-N9	5.78	112.83	108.20
48	A2	2449	C	O4'-C1'-N1	-5.78	103.58	108.20
49	B1	306	C	P-O3'-C3'	-5.78	112.76	119.70
45	Aq	34	PRO	N-CA-CB	5.78	110.23	103.30
14	AL	11	LYS	C-N-CD	5.77	140.52	128.40
48	A2	4633	C	OP2-P-O3'	5.77	117.90	105.20
49	B1	306	C	C4'-C3'-O3'	5.77	124.54	113.00
14	AL	53	GLY	C-N-CD	5.77	140.52	128.40
48	A2	737	A	C2'-C3'-O3'	5.77	122.93	113.70
83	Bv	73	A	C3'-C2'-O2'	-5.77	96.57	113.30
48	A2	1191	G	P-O3'-C3'	5.77	126.62	119.70
5	AC	224	ILE	C-N-CD	5.77	140.51	128.40
48	A2	66	A	C3'-C2'-O2'	-5.77	96.58	113.30
48	A2	4533	A	P-O5'-C5'	-5.77	111.67	120.90
2	A4	47	G	P-O5'-C5'	-5.76	111.68	120.90
48	A2	1283	G	OP2-P-O3'	5.76	117.87	105.20
49	B1	239	C	C2'-C3'-O3'	-5.76	96.83	109.50
49	B1	460	A	OP2-P-O3'	5.76	117.87	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	3590	G	C3'-C2'-O2'	-5.76	96.60	113.30
48	A2	3795	A	P-O3'-C3'	5.76	126.61	119.70
48	A2	710	C	P-O3'-C3'	5.75	126.61	119.70
49	B1	1558	C	P-O3'-C3'	5.75	126.60	119.70
48	A2	3596	G	C4'-C3'-O3'	5.75	124.50	113.00
48	A2	1297	C	P-O5'-C5'	-5.75	111.70	120.90
48	A2	66	A	C2'-C3'-O3'	-5.75	96.86	109.50
49	B1	871	U	N1-C1'-C2'	5.75	121.47	114.00
2	A4	83	A	P-O3'-C3'	5.74	126.59	119.70
48	A2	43	U	P-O5'-C5'	-5.74	111.71	120.90
67	BR	121	GLN	C-N-CD	5.74	140.45	128.40
2	A4	113	G	P-O3'-C3'	-5.74	112.81	119.70
48	A2	717	G	C2'-C3'-O3'	5.74	122.88	113.70
48	A2	1193	C	OP2-P-O3'	5.74	117.82	105.20
48	A2	1308	C	P-O5'-C5'	-5.74	111.72	120.90
49	B1	746	C	C5'-C4'-C3'	-5.74	106.82	116.00
48	A2	931	A	N9-C1'-C2'	5.73	121.45	114.00
48	A2	18	C	P-O3'-C3'	5.73	126.57	119.70
49	B1	802	A	O5'-C5'-C4'	-5.73	100.82	111.70
67	BR	99	ASP	C-N-CD	5.73	140.43	128.40
48	A2	1351	A	P-O3'-C3'	-5.73	112.83	119.70
13	AK	79	LEU	C-N-CD	5.72	140.42	128.40
48	A2	4139	C	O4'-C1'-N1	5.72	112.78	108.20
49	B1	1475	G	OP2-P-O3'	5.72	117.79	105.20
48	A2	4010	C	P-O3'-C3'	5.72	126.56	119.70
48	A2	4989	G	P-O3'-C3'	5.72	126.57	119.70
1	A3	34	U	O5'-C5'-C4'	-5.72	100.84	111.70
48	A2	1317	A	O4'-C1'-N9	5.72	112.77	108.20
49	B1	1444	U	O5'-C5'-C4'	-5.72	100.84	111.70
49	B1	986	G	N9-C1'-C2'	-5.71	105.72	112.00
1	A3	127	U	O4'-C1'-N1	5.71	112.77	108.20
48	A2	464	A	O5'-C5'-C4'	-5.71	100.85	111.70
48	A2	1739	U	N1-C1'-C2'	-5.71	105.72	112.00
48	A2	221	U	P-O5'-C5'	-5.71	111.77	120.90
48	A2	932	U	N1-C1'-C2'	5.71	121.42	114.00
48	A2	1644	C	O3'-P-O5'	5.71	114.85	104.00
49	B1	39	A	P-O3'-C3'	5.71	126.55	119.70
48	A2	959	C	C1'-C2'-O2'	-5.71	93.48	110.60
48	A2	1771	C	O3'-P-O5'	5.71	114.84	104.00
48	A2	4597	A	C4'-C3'-O3'	-5.71	97.42	109.40
48	A2	1287	C	P-O3'-C3'	-5.71	112.85	119.70
19	AQ	155	ALA	C-N-CD	5.70	140.38	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	14	C	P-O3'-C3'	5.70	126.54	119.70
48	A2	908	C	P-O5'-C5'	5.70	130.02	120.90
48	A2	2269	C	OP2-P-O3'	5.70	117.74	105.20
48	A2	4704	G	O4'-C1'-N9	5.70	112.76	108.20
49	B1	56	G	P-O3'-C3'	5.70	126.54	119.70
48	A2	656	C	O4'-C1'-N1	5.70	112.76	108.20
48	A2	4599	G	O4'-C1'-N9	5.70	112.76	108.20
49	B1	112	U	O3'-P-O5'	5.70	114.82	104.00
49	B1	558	G	OP2-P-O3'	5.70	117.73	105.20
48	A2	3877	A	C4'-C3'-O3'	-5.69	97.44	109.40
67	BR	41	ILE	C-N-CD	5.69	140.35	128.40
48	A2	4462	U	P-O3'-C3'	-5.69	112.87	119.70
48	A2	507	U	O3'-P-O5'	5.69	114.80	104.00
21	AS	139	ARG	C-N-CD	5.68	140.34	128.40
48	A2	4606	G	O4'-C1'-N9	5.68	112.74	108.20
1	A3	34	U	C1'-C2'-O2'	5.67	127.62	110.60
73	BX	61	GLN	C-N-CD	5.67	140.31	128.40
48	A2	3597	G	C5'-C4'-C3'	5.67	125.06	116.00
19	AQ	72	LEU	C-N-CD	5.66	140.29	128.40
48	A2	1756	C	P-O3'-C3'	-5.66	112.90	119.70
50	BA	104	THR	C-N-CD	5.66	140.29	128.40
48	A2	3731	A	C2'-C3'-O3'	5.66	122.75	113.70
14	AL	130	LYS	C-N-CD	5.66	140.28	128.40
49	B1	416	U	OP2-P-O3'	5.66	117.64	105.20
48	A2	1712	U	OP2-P-O3'	5.66	117.64	105.20
2	A4	28	C	P-O3'-C3'	5.65	126.48	119.70
49	B1	29	G	OP2-P-O3'	5.65	117.62	105.20
49	B1	1289	U	P-O3'-C3'	-5.65	112.92	119.70
48	A2	1632	A	P-O5'-C5'	-5.64	111.87	120.90
48	A2	1244	G	O4'-C1'-N9	5.64	112.71	108.20
48	A2	58	G	O5'-C5'-C4'	-5.64	100.99	111.70
48	A2	4319	G	OP2-P-O3'	5.64	117.60	105.20
48	A2	150	G	C1'-O4'-C4'	-5.63	105.39	109.90
48	A2	2686	U	O5'-C5'-C4'	5.63	122.41	111.70
49	B1	601	G	P-O3'-C3'	5.63	126.46	119.70
48	A2	225	C	O4'-C1'-N1	5.63	112.71	108.20
48	A2	4997	U	P-O3'-C3'	5.63	126.46	119.70
49	B1	338	G	P-O3'-C3'	-5.63	112.95	119.70
49	B1	793	G	O4'-C1'-N9	5.63	112.70	108.20
1	A3	126	C	O3'-P-O5'	5.63	114.69	104.00
48	A2	673	C	O3'-P-O5'	5.63	114.69	104.00
48	A2	697	C	P-O3'-C3'	-5.62	112.95	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	354	U	P-O3'-C3'	-5.62	112.96	119.70
49	B1	746	C	C2'-C3'-O3'	5.62	122.69	113.70
48	A2	1773	U	O4'-C1'-N1	5.62	112.69	108.20
48	A2	2680	U	O4'-C1'-N1	5.62	112.69	108.20
48	A2	2299	G	C2'-C3'-O3'	5.62	122.68	113.70
49	B1	792	C	C4'-C3'-O3'	5.61	124.23	113.00
61	BL	13	GLN	C-N-CD	5.61	140.19	128.40
48	A2	112	C	C3'-C2'-O2'	-5.61	97.03	113.30
49	B1	1553	C	O4'-C1'-N1	5.61	112.69	108.20
48	A2	309	G	C2'-C3'-O3'	5.61	122.67	113.70
48	A2	112	C	O5'-C5'-C4'	5.61	122.36	111.70
13	AK	73	PRO	N-CD-CG	5.61	111.61	103.20
49	B1	450	C	O5'-P-OP2	5.61	117.43	110.70
48	A2	1744	C	P-O5'-C5'	-5.60	111.93	120.90
48	A2	2270	G	P-O3'-C3'	-5.60	112.98	119.70
6	AD	20	PHE	CB-CG-CD2	-5.60	116.88	120.80
47	Au	41	TYR	CB-CG-CD2	-5.60	117.64	121.00
48	A2	4718	C	C4'-C3'-O3'	5.60	124.19	113.00
1	A3	85	U	C4'-C3'-O3'	-5.60	97.65	109.40
48	A2	168	U	O4'-C1'-N1	5.59	112.68	108.20
48	A2	654	G	O4'-C1'-N9	5.59	112.67	108.20
49	B1	898	U	P-O5'-C5'	-5.59	111.95	120.90
48	A2	1777	A	O4'-C1'-N9	5.59	112.67	108.20
49	B1	114	G	O3'-P-O5'	5.59	114.62	104.00
48	A2	1415	G	P-O3'-C3'	-5.59	112.99	119.70
48	A2	66	A	C5'-C4'-O4'	5.59	115.80	109.10
48	A2	1059	C	O4'-C1'-N1	5.59	112.67	108.20
47	Au	59	PRO	CA-N-CD	-5.58	103.68	111.50
48	A2	3925	A	P-O3'-C3'	5.58	126.39	119.70
49	B1	744	G	C4'-C3'-C2'	-5.58	97.03	102.60
49	B1	1337	C	P-O3'-C3'	5.58	126.39	119.70
48	A2	1727	G	O4'-C1'-N9	5.57	112.66	108.20
53	BD	79	PHE	C-N-CD	5.57	140.10	128.40
38	Aj	83	THR	C-N-CD	5.57	140.10	128.40
48	A2	3877	A	P-O3'-C3'	5.57	126.39	119.70
48	A2	4041	U	OP2-P-O3'	5.57	117.46	105.20
48	A2	4896	A	O5'-C5'-C4'	-5.57	101.12	111.70
48	A2	660	C	C4'-C3'-O3'	-5.57	97.70	109.40
48	A2	1878	A	O3'-P-O5'	-5.57	93.42	104.00
48	A2	4326	G	O4'-C1'-N9	5.57	112.66	108.20
49	B1	836	G	C5'-C4'-O4'	-5.57	102.42	109.10
7	AE	121	VAL	C-N-CD	5.57	140.09	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
63	BN	81	ALA	C-N-CD	5.57	140.09	128.40
48	A2	4514	U	C2'-C3'-O3'	5.56	122.60	113.70
48	A2	5	A	O3'-P-O5'	5.56	114.56	104.00
48	A2	701	G	P-O3'-C3'	5.56	126.37	119.70
48	A2	732	C	OP2-P-O3'	5.56	117.43	105.20
49	B1	306	C	C4'-C3'-C2'	-5.56	97.04	102.60
48	A2	219	C	O4'-C1'-N1	5.55	112.64	108.20
48	A2	4617	A	OP1-P-O3'	-5.55	92.98	105.20
49	B1	1154	U	C4'-C3'-O3'	-5.55	97.73	109.40
49	B1	1444	U	C4'-C3'-O3'	5.55	124.10	113.00
48	A2	2688	C	O5'-C5'-C4'	-5.54	101.17	111.70
49	B1	239	C	O4'-C1'-N1	5.54	112.63	108.20
48	A2	1711	A	O3'-P-O5'	-5.54	93.47	104.00
68	BS	73	ASN	C-N-CD	5.54	140.03	128.40
48	A2	727	C	P-O5'-C5'	-5.54	112.04	120.90
48	A2	1937	A	O4'-C1'-N9	5.54	112.63	108.20
48	A2	939	G	O5'-C5'-C4'	-5.53	101.19	111.70
48	A2	3818	C	P-O3'-C3'	-5.53	113.06	119.70
48	A2	251	G	P-O3'-C3'	5.53	126.34	119.70
49	B1	691	G	P-O5'-C5'	5.53	129.75	120.90
48	A2	447	G	C4'-C3'-O3'	5.53	124.05	113.00
49	B1	1447	G	O5'-C5'-C4'	-5.53	101.20	111.70
49	B1	1575	G	O4'-C1'-N9	5.53	112.62	108.20
48	A2	43	U	N1-C1'-C2'	-5.52	105.92	112.00
48	A2	1299	G	P-O3'-C3'	-5.52	113.08	119.70
2	A4	2	U	O3'-P-O5'	5.52	114.48	104.00
48	A2	934	C	OP2-P-O3'	5.52	117.34	105.20
48	A2	1743	G	P-O3'-C3'	-5.52	113.08	119.70
48	A2	4599	G	P-O3'-C3'	-5.52	113.08	119.70
48	A2	966	C	C2'-C3'-O3'	-5.52	97.36	109.50
48	A2	2687	U	C4'-C3'-O3'	-5.52	97.82	109.40
48	A2	3597	G	C4'-C3'-O3'	-5.51	97.82	109.40
1	A3	129	C	OP1-P-O3'	-5.51	93.08	105.20
1	A3	103	A	C4'-C3'-O3'	5.51	124.02	113.00
49	B1	1486	A	O4'-C1'-N9	5.51	112.61	108.20
49	B1	182	C	O4'-C1'-N1	5.50	112.60	108.20
48	A2	728	C	O4'-C1'-N1	5.50	112.60	108.20
45	Aq	30	PRO	N-CA-CB	5.50	109.90	103.30
48	A2	50	C	N1-C1'-C2'	-5.50	105.95	112.00
49	B1	238	C	O4'-C1'-N1	5.50	112.60	108.20
49	B1	1551	U	O4'-C1'-N1	5.50	112.60	108.20
49	B1	1645	C	O3'-P-O5'	5.50	114.45	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	1857	U	P-O3'-C3'	-5.50	113.10	119.70
48	A2	1919	C	O3'-P-O5'	-5.50	93.56	104.00
48	A2	3629	C	P-O3'-C3'	-5.50	113.11	119.70
48	A2	3739	U	N1-C1'-C2'	-5.50	105.95	112.00
48	A2	286	G	O4'-C1'-N9	-5.49	103.81	108.20
48	A2	1890	G	O4'-C1'-N9	5.49	112.59	108.20
48	A2	4987	C	O4'-C1'-N1	5.49	112.59	108.20
48	A2	919	A	OP2-P-O3'	5.49	117.27	105.20
49	B1	903	A	O5'-C5'-C4'	5.49	122.12	111.70
54	BE	82	TYR	C-N-CD	5.49	139.92	128.40
48	A2	5019	A	OP2-P-O3'	5.48	117.26	105.20
48	A2	3687	C	OP2-P-O3'	5.48	117.26	105.20
1	A3	33	G	C2'-C3'-O3'	-5.48	97.44	109.50
48	A2	2684	G	C1'-C2'-O2'	-5.48	94.17	110.60
48	A2	671	C	OP2-P-O3'	5.47	117.24	105.20
48	A2	301	A	O4'-C1'-N9	5.47	112.58	108.20
48	A2	1428	U	P-O3'-C3'	-5.47	113.13	119.70
48	A2	230	U	C5'-C4'-O4'	-5.47	102.53	109.10
48	A2	5005	C	C4'-C3'-O3'	5.47	123.94	113.00
49	B1	882	U	O4'-C1'-N1	5.47	112.58	108.20
48	A2	1743	G	O5'-P-OP1	5.47	117.26	110.70
49	B1	875	A	C4'-C3'-O3'	-5.47	97.92	109.40
48	A2	910	C	OP2-P-O3'	5.47	117.22	105.20
49	B1	743	U	O4'-C1'-N1	5.47	112.57	108.20
49	B1	1623	A	N9-C1'-C2'	5.47	121.11	114.00
48	A2	2256	C	C4'-C3'-O3'	-5.46	97.92	109.40
49	B1	887	U	O5'-C5'-C4'	-5.46	101.32	111.70
48	A2	149	U	O4'-C1'-N1	5.46	112.57	108.20
48	A2	1255	C	O5'-P-OP1	-5.46	100.79	105.70
7	AE	127	SER	N-CA-C	5.46	125.73	111.00
48	A2	1741	G	C1'-C2'-O2'	-5.46	94.23	110.60
49	B1	34	U	P-O3'-C3'	5.46	126.25	119.70
48	A2	1757	A	C5'-C4'-C3'	5.45	124.72	116.00
48	A2	1255	C	O5'-P-OP2	5.45	117.24	110.70
49	B1	881	G	O4'-C4'-C3'	5.45	110.46	106.10
48	A2	1799	U	O3'-P-O5'	5.45	114.36	104.00
49	B1	839	C	O5'-C5'-C4'	-5.45	101.34	111.70
49	B1	1599	U	O4'-C1'-N1	-5.45	103.84	108.20
49	B1	189	U	OP2-P-O3'	5.45	117.19	105.20
49	B1	321	C	P-O3'-C3'	5.45	126.24	119.70
48	A2	480	C	OP1-P-O3'	5.45	117.18	105.20
48	A2	4685	A	C3'-C2'-O2'	-5.45	97.51	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	3744	U	C4'-C3'-O3'	5.44	123.88	113.00
48	A2	4600	U	O3'-P-O5'	5.44	114.34	104.00
48	A2	5005	C	C5'-C4'-O4'	5.44	115.63	109.10
49	B1	1555	U	N1-C1'-C2'	5.44	121.07	114.00
48	A2	1753	U	P-O5'-C5'	-5.44	112.20	120.90
48	A2	1851	C	OP2-P-O3'	5.44	117.16	105.20
48	A2	3738	C	O5'-C5'-C4'	-5.44	101.37	111.70
48	A2	4726	A	C4'-C3'-O3'	5.44	123.87	113.00
49	B1	871	U	C4'-C3'-O3'	5.44	123.87	113.00
49	B1	1702	G	N9-C1'-C2'	-5.43	106.03	112.00
48	A2	2525	G	P-O3'-C3'	-5.43	113.19	119.70
48	A2	4726	A	C1'-C2'-O2'	-5.43	94.32	110.60
47	Au	48	ARG	NE-CZ-NH1	5.43	123.01	120.30
49	B1	1485	U	OP2-P-O3'	5.43	117.14	105.20
48	A2	746	C	O4'-C1'-N1	5.42	112.54	108.20
48	A2	656	C	OP2-P-O3'	5.42	117.13	105.20
48	A2	1337	A	O4'-C1'-N9	-5.42	103.86	108.20
48	A2	1990	A	O4'-C4'-C3'	-5.42	98.58	104.00
48	A2	1970	G	O4'-C1'-N9	5.42	112.53	108.20
48	A2	2282	C	O3'-P-O5'	-5.42	93.71	104.00
49	B1	1175	G	P-O3'-C3'	-5.41	113.20	119.70
48	A2	1425	C	P-O3'-C3'	-5.41	113.20	119.70
50	BA	110	ASN	C-N-CA	5.41	135.23	121.70
79	Bd	40	ARG	C-N-CA	-5.41	108.17	121.70
48	A2	2284	U	OP2-P-O3'	5.41	117.10	105.20
48	A2	3790	G	C2'-C3'-O3'	-5.41	97.60	109.50
49	B1	1580	A	O4'-C1'-N9	5.41	112.53	108.20
48	A2	137	G	N9-C1'-C2'	-5.41	106.05	112.00
49	B1	1475	G	P-O3'-C3'	-5.41	113.21	119.70
48	A2	4120	C	P-O3'-C3'	5.41	126.19	119.70
48	A2	892	C	P-O3'-C3'	-5.41	113.21	119.70
48	A2	1754	C	N1-C1'-C2'	-5.41	106.05	112.00
48	A2	1756	C	C4'-C3'-O3'	-5.41	98.05	109.40
48	A2	4039	U	O4'-C1'-N1	5.41	112.53	108.20
48	A2	4095	C	OP2-P-O3'	5.40	117.09	105.20
48	A2	2420	C	O4'-C1'-N1	5.40	112.52	108.20
49	B1	1287	A	O5'-C5'-C4'	5.40	121.96	111.70
1	A3	33	G	N9-C1'-C2'	-5.40	106.06	112.00
48	A2	192	C	C4'-C3'-O3'	-5.40	98.06	109.40
3	AA	247	ARG	N-CA-CB	-5.40	100.88	110.60
45	Aq	39	PRO	N-CD-CG	5.40	111.30	103.20
49	B1	1445	U	C5'-C4'-C3'	5.40	124.64	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	1711	A	OP2-P-O3'	5.39	117.07	105.20
48	A2	5005	C	O4'-C1'-N1	-5.39	103.88	108.20
48	A2	3930	U	O4'-C4'-C3'	-5.39	98.61	104.00
48	A2	4974	A	P-O3'-C3'	5.39	126.17	119.70
48	A2	290	A	O4'-C4'-C3'	5.39	110.41	106.10
49	B1	742	U	P-O3'-C3'	5.39	126.17	119.70
48	A2	4014	U	O4'-C1'-N1	5.38	112.51	108.20
48	A2	85	G	O5'-P-OP2	-5.38	100.86	105.70
48	A2	919	A	P-O3'-C3'	5.38	126.15	119.70
2	A4	22	A	P-O3'-C3'	5.37	126.15	119.70
48	A2	3668	U	P-O3'-C3'	-5.37	113.25	119.70
48	A2	3877	A	C1'-C2'-O2'	-5.37	94.48	110.60
48	A2	1333	C	P-O3'-C3'	-5.37	113.26	119.70
45	Aq	71	ILE	CA-CB-CG2	-5.37	100.17	110.90
48	A2	2251	C	O5'-C5'-C4'	-5.37	101.50	111.70
1	A3	110	U	C3'-C2'-O2'	-5.36	97.75	113.30
48	A2	931	A	C2'-C3'-O3'	-5.36	97.70	109.50
48	A2	138	C	C4'-C3'-O3'	-5.36	98.16	109.40
48	A2	1763	U	OP2-P-O3'	5.36	116.98	105.20
48	A2	2692	C	C5'-C4'-C3'	-5.35	107.43	116.00
47	Au	60	ARG	C-N-CD	5.35	139.64	128.40
49	B1	356	C	C3'-C2'-O2'	-5.35	97.78	113.30
48	A2	1254	G	O4'-C4'-C3'	-5.35	98.65	104.00
49	B1	1806	A	O4'-C1'-N9	5.35	112.48	108.20
48	A2	1920	A	P-O5'-C5'	5.35	129.46	120.90
48	A2	189	G	O4'-C1'-N9	5.35	112.48	108.20
13	AK	24	TYR	CB-CG-CD1	5.34	124.21	121.00
49	B1	428	U	C4'-C3'-O3'	-5.34	98.18	109.40
2	A4	60	G	P-O3'-C3'	-5.34	113.29	119.70
48	A2	24	G	P-O3'-C3'	5.34	126.11	119.70
48	A2	350	G	P-O3'-C3'	-5.34	113.29	119.70
48	A2	2457	C	OP2-P-O3'	5.34	116.95	105.20
48	A2	4461	G	OP2-P-O3'	5.34	116.94	105.20
49	B1	534	G	C5'-C4'-C3'	-5.34	107.46	116.00
49	B1	6	G	P-O3'-C3'	5.33	126.10	119.70
49	B1	320	G	O5'-C5'-C4'	5.33	121.84	111.70
49	B1	796	G	O4'-C4'-C3'	5.33	110.37	106.10
48	A2	4840	U	O4'-C1'-N1	5.33	112.47	108.20
49	B1	1278	A	P-O3'-C3'	5.33	126.10	119.70
48	A2	502	G	P-O3'-C3'	5.33	126.10	119.70
2	A4	117	G	O4'-C1'-N9	5.33	112.46	108.20
48	A2	1284	C	OP2-P-O3'	5.33	116.92	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	620	G	C1'-O4'-C4'	-5.33	105.64	109.90
48	A2	1615	G	OP2-P-O3'	5.33	116.92	105.20
48	A2	1877	A	O5'-C5'-C4'	-5.33	101.58	111.70
48	A2	437	G	P-O3'-C3'	5.33	126.09	119.70
48	A2	699	G	P-O3'-C3'	-5.33	113.31	119.70
48	A2	2701	G	O3'-P-O5'	-5.33	93.88	104.00
48	A2	5020	G	C3'-C2'-C1'	-5.33	97.24	101.50
49	B1	321	C	C2'-C3'-O3'	-5.33	97.78	109.50
49	B1	802	A	N9-C1'-C2'	-5.32	106.14	112.00
2	A4	112	U	O3'-P-O5'	-5.32	93.89	104.00
48	A2	2690	G	C2'-C3'-O3'	5.32	122.21	113.70
48	A2	3732	C	P-O5'-C5'	-5.32	112.39	120.90
48	A2	3930	U	O4'-C1'-N1	5.32	112.45	108.20
49	B1	915	G	C2'-C3'-O3'	-5.32	97.80	109.50
49	B1	1129	G	O4'-C1'-N9	5.32	112.45	108.20
45	Aq	81	ILE	CA-CB-CG2	5.32	121.53	110.90
48	A2	1966	G	P-O3'-C3'	5.32	126.08	119.70
49	B1	301	A	P-O3'-C3'	-5.32	113.32	119.70
48	A2	1714	C	P-O3'-C3'	-5.31	113.33	119.70
48	A2	76	A	P-O3'-C3'	5.31	126.07	119.70
48	A2	4647	U	P-O3'-C3'	-5.31	113.33	119.70
79	Bd	21	CYS	CA-CB-SG	5.31	123.56	114.00
7	AE	108	LYS	C-N-CA	-5.31	108.43	121.70
2	A4	43	U	OP2-P-O3'	-5.30	93.53	105.20
48	A2	1992	C	O4'-C4'-C3'	-5.30	98.69	104.00
48	A2	4727	G	N9-C1'-C2'	-5.30	106.17	112.00
49	B1	848	U	C2'-C3'-O3'	5.30	122.19	113.70
47	Au	191	VAL	CA-CB-CG1	5.30	118.85	110.90
48	A2	672	G	OP2-P-O3'	5.30	116.86	105.20
48	A2	4599	G	O3'-P-O5'	-5.30	93.93	104.00
45	Aq	28	LEU	CB-CG-CD1	5.30	120.01	111.00
48	A2	194	A	O5'-P-OP1	-5.30	100.93	105.70
48	A2	4586	A	C1'-O4'-C4'	-5.30	105.66	109.90
49	B1	737	G	N9-C1'-C2'	-5.30	106.17	112.00
48	A2	289	A	C3'-C2'-O2'	-5.29	97.95	113.30
48	A2	2304	C	O4'-C1'-N1	5.29	112.43	108.20
48	A2	2377	U	OP2-P-O3'	5.29	116.84	105.20
48	A2	4726	A	C5'-C4'-C3'	5.29	124.47	116.00
48	A2	382	A	P-O5'-C5'	5.29	129.36	120.90
48	A2	3930	U	O5'-C5'-C4'	-5.29	101.66	111.70
48	A2	112	C	C1'-C2'-O2'	5.29	126.46	110.60
48	A2	2784	C	P-O3'-C3'	5.29	126.04	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	185	G	O3'-P-O5'	5.28	114.04	104.00
48	A2	4993	U	P-O3'-C3'	-5.28	113.36	119.70
48	A2	357	A	O5'-C5'-C4'	-5.28	101.66	111.70
48	A2	3618	A	O4'-C1'-N9	5.28	112.42	108.20
49	B1	663	C	OP2-P-O3'	5.27	116.80	105.20
14	AL	177	LYS	N-CA-C	5.27	125.24	111.00
48	A2	220	G	C4'-C3'-O3'	-5.27	98.33	109.40
48	A2	464	A	O4'-C1'-N9	5.27	112.42	108.20
48	A2	2693	G	P-O5'-C5'	-5.27	112.46	120.90
48	A2	1420	C	C4'-C3'-O3'	5.27	123.54	113.00
48	A2	4038	U	O4'-C1'-N1	5.27	112.42	108.20
48	A2	957	G	C5'-C4'-C3'	5.27	124.43	116.00
48	A2	638	G	O4'-C1'-N9	5.27	112.41	108.20
48	A2	1755	U	N1-C1'-C2'	-5.26	106.21	112.00
48	A2	3590	G	C4'-C3'-O3'	5.26	123.52	113.00
48	A2	676	G	O5'-P-OP1	-5.26	100.97	105.70
49	B1	744	G	C2'-C3'-O3'	-5.26	97.93	109.50
2	A4	48	G	P-O3'-C3'	-5.26	113.39	119.70
48	A2	2860	A	P-O5'-C5'	-5.26	112.49	120.90
48	A2	4666	C	OP2-P-O3'	5.26	116.76	105.20
49	B1	72	C	O3'-P-O5'	-5.26	94.01	104.00
49	B1	335	G	P-O3'-C3'	-5.25	113.39	119.70
48	A2	3789	U	O3'-P-O5'	-5.25	94.02	104.00
49	B1	920	A	P-O3'-C3'	5.25	126.00	119.70
48	A2	735	G	C2'-C3'-O3'	5.25	122.10	113.70
48	A2	2733	G	P-O3'-C3'	-5.25	113.40	119.70
49	B1	238	C	C5'-C4'-O4'	5.25	115.40	109.10
48	A2	1273	G	OP2-P-O3'	5.25	116.75	105.20
48	A2	4085	C	C3'-C2'-O2'	-5.25	98.07	113.30
48	A2	120	A	P-O5'-C5'	-5.25	112.50	120.90
48	A2	348	U	P-O3'-C3'	5.25	126.00	119.70
48	A2	200	U	OP2-P-O3'	5.25	116.74	105.20
48	A2	895	G	O4'-C1'-N9	5.24	112.39	108.20
48	A2	1421	U	O4'-C4'-C3'	-5.24	98.76	104.00
48	A2	5025	U	P-O3'-C3'	-5.24	113.41	119.70
2	A4	70	G	OP2-P-O3'	5.24	116.73	105.20
47	Au	187	VAL	CA-CB-CG2	5.24	118.76	110.90
48	A2	938	G	P-O3'-C3'	-5.24	113.41	119.70
48	A2	3588	G	P-O3'-C3'	-5.24	113.41	119.70
48	A2	65	A	O3'-P-O5'	-5.24	94.05	104.00
49	B1	880	G	O4'-C4'-C3'	-5.24	98.76	104.00
48	A2	1743	G	C4-N9-C1'	-5.23	119.70	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	948	G	O4'-C1'-N9	5.23	112.39	108.20
48	A2	1300	U	OP2-P-O3'	5.23	116.71	105.20
49	B1	45	A	P-O3'-C3'	-5.23	113.43	119.70
48	A2	650	C	OP2-P-O3'	5.22	116.69	105.20
48	A2	2750	G	O5'-C5'-C4'	-5.22	101.78	111.70
49	B1	1598	G	P-O5'-C5'	5.22	129.25	120.90
48	A2	905	G	C2'-C3'-O3'	5.22	122.05	113.70
48	A2	651	C	O3'-P-O5'	-5.22	94.08	104.00
48	A2	3683	A	P-O5'-C5'	5.22	129.25	120.90
48	A2	3877	A	O5'-C5'-C4'	5.22	121.61	111.70
48	A2	1799	U	O4'-C1'-N1	5.21	112.37	108.20
48	A2	1805	G	O4'-C1'-N9	5.21	112.37	108.20
48	A2	4123	G	O3'-P-O5'	5.21	113.90	104.00
2	A4	60	G	O4'-C1'-N9	5.21	112.37	108.20
48	A2	2608	C	P-O3'-C3'	-5.21	113.45	119.70
49	B1	111	A	OP2-P-O3'	5.21	116.66	105.20
49	B1	836	G	O3'-P-O5'	5.21	113.89	104.00
25	AW	89	ASP	CB-CG-OD2	5.20	122.98	118.30
28	AZ	91	LEU	N-CA-C	-5.20	96.96	111.00
48	A2	227	G	C2'-C3'-O3'	-5.20	98.06	109.50
48	A2	2830	G	O3'-P-O5'	5.20	113.88	104.00
47	Au	43	PRO	N-CA-CB	5.20	109.54	103.30
48	A2	2325	C	C2'-C3'-O3'	-5.20	98.07	109.50
49	B1	882	U	O5'-C5'-C4'	-5.19	101.83	111.70
50	BA	110	ASN	O-C-N	5.19	131.01	122.70
2	A4	4	U	P-O3'-C3'	-5.19	113.47	119.70
48	A2	503	A	OP2-P-O3'	5.19	116.62	105.20
49	B1	1124	C	P-O3'-C3'	-5.19	113.47	119.70
48	A2	1757	A	C4'-C3'-O3'	5.19	123.38	113.00
48	A2	3623	A	OP2-P-O3'	5.19	116.61	105.20
48	A2	959	C	O4'-C4'-C3'	-5.19	98.81	104.00
49	B1	1702	G	O4'-C4'-C3'	-5.18	98.82	104.00
1	A3	93	C	O5'-P-OP1	-5.18	101.04	105.70
48	A2	308	G	O5'-P-OP1	5.18	116.92	110.70
48	A2	1850	G	O4'-C1'-N9	-5.18	104.06	108.20
49	B1	1624	U	O5'-P-OP1	5.18	116.91	110.70
48	A2	2728	C	P-O3'-C3'	5.17	125.91	119.70
2	A4	60	G	O3'-P-O5'	-5.17	94.17	104.00
49	B1	907	G	O5'-C5'-C4'	5.17	121.53	111.70
48	A2	1284	C	O4'-C1'-N1	5.17	112.34	108.20
49	B1	1388	A	OP2-P-O3'	5.17	116.58	105.20
48	A2	2747	C	O3'-P-O5'	-5.17	94.18	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A4	39	C	OP2-P-O3'	5.17	116.57	105.20
48	A2	165	C	O4'-C1'-N1	5.17	112.33	108.20
48	A2	287	G	C1'-C2'-O2'	5.17	126.11	110.60
48	A2	1968	C	O4'-C1'-N1	5.17	112.33	108.20
48	A2	4694	G	OP2-P-O3'	5.17	116.57	105.20
49	B1	70	G	O4'-C1'-N9	5.17	112.33	108.20
49	B1	191	A	P-O3'-C3'	5.17	125.90	119.70
84	Bx	45	U	P-O3'-C3'	-5.17	113.50	119.70
48	A2	1755	U	O4'-C1'-N1	5.17	112.33	108.20
48	A2	1743	G	C8-N9-C1'	5.16	133.71	127.00
48	A2	1805	G	C1'-O4'-C4'	-5.16	105.77	109.90
49	B1	83	A	O4'-C1'-N9	5.16	112.33	108.20
49	B1	369	C	C5'-C4'-C3'	-5.16	107.74	116.00
48	A2	1944	C	P-O3'-C3'	-5.16	113.51	119.70
49	B1	38	A	OP2-P-O3'	5.15	116.54	105.20
48	A2	191	C	C5'-C4'-O4'	5.15	115.28	109.10
48	A2	2750	G	O3'-P-O5'	-5.15	94.21	104.00
48	A2	3604	C	OP2-P-O3'	5.15	116.52	105.20
7	AE	208	ILE	C-N-CD	5.14	139.20	128.40
47	Au	121	PRO	N-CA-CB	5.14	109.47	103.30
48	A2	1259	C	O3'-P-O5'	-5.14	94.23	104.00
48	A2	486	U	P-O3'-C3'	5.14	125.87	119.70
48	A2	1359	C	P-O3'-C3'	-5.14	113.53	119.70
48	A2	1957	G	OP2-P-O3'	5.14	116.51	105.20
48	A2	4826	G	C4'-C3'-O3'	-5.14	98.61	109.40
49	B1	357	C	C5'-C4'-C3'	5.14	124.22	116.00
20	AR	72	LYS	C-N-CA	5.14	133.09	122.30
84	Bx	43	U	N1-C1'-C2'	5.14	120.68	114.00
48	A2	3590	G	N9-C1'-C2'	5.14	120.68	114.00
45	Aq	129	ILE	CB-CG1-CD1	5.13	128.28	113.90
48	A2	726	G	P-O3'-C3'	-5.13	113.54	119.70
48	A2	2702	U	P-O3'-C3'	5.13	125.86	119.70
49	B1	871	U	C2'-C3'-O3'	-5.13	98.20	109.50
48	A2	2793	C	C4'-C3'-C2'	5.13	107.73	102.60
13	AK	11	SER	CA-CB-OG	5.13	125.05	111.20
48	A2	3629	C	O4'-C1'-N1	5.13	112.30	108.20
48	A2	3697	A	O3'-P-O5'	5.13	113.75	104.00
83	Bv	34	G	O5'-P-OP1	5.13	116.86	110.70
48	A2	15	A	OP2-P-O3'	5.12	116.47	105.20
48	A2	1841	U	O3'-P-O5'	5.12	113.73	104.00
76	Ba	97	PRO	CA-N-CD	-5.12	104.34	111.50
49	B1	688	U	N1-C1'-C2'	-5.12	106.37	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	68	U	O5'-P-OP2	-5.11	101.10	105.70
48	A2	1944	C	OP2-P-O3'	5.11	116.45	105.20
48	A2	4061	G	O4'-C1'-N9	5.11	112.29	108.20
48	A2	3876	A	C5'-C4'-O4'	5.11	115.23	109.10
49	B1	1104	G	P-O3'-C3'	-5.11	113.57	119.70
49	B1	801	U	O5'-C5'-C4'	-5.11	101.99	111.70
48	A2	919	A	O3'-P-O5'	-5.11	94.30	104.00
49	B1	930	C	P-O3'-C3'	-5.11	113.57	119.70
48	A2	1971	A	OP2-P-O3'	5.10	116.43	105.20
48	A2	2736	A	O3'-P-O5'	-5.10	94.30	104.00
48	A2	2781	C	OP2-P-O3'	5.10	116.43	105.20
49	B1	1279	C	P-O3'-C3'	5.10	125.82	119.70
48	A2	481	G	P-O3'-C3'	-5.10	113.58	119.70
49	B1	1701	C	C1'-C2'-O2'	-5.10	95.30	110.60
34	Af	107	PRO	CA-N-CD	-5.10	104.36	111.50
49	B1	897	U	O3'-P-O5'	-5.10	94.31	104.00
49	B1	1558	C	C4'-C3'-O3'	5.10	123.19	113.00
48	A2	703	C	P-O3'-C3'	-5.09	113.59	119.70
47	Au	94	ASN	CA-CB-CG	5.09	124.60	113.40
49	B1	915	G	O4'-C4'-C3'	-5.09	98.91	104.00
48	A2	71	C	C1'-C2'-O2'	-5.08	95.34	110.60
48	A2	949	C	P-O3'-C3'	5.08	125.80	119.70
49	B1	231	A	O5'-C5'-C4'	5.08	121.36	111.70
48	A2	3789	U	C4'-C3'-O3'	-5.08	98.73	109.40
48	A2	3597	G	C5'-C4'-O4'	5.08	115.20	109.10
49	B1	93	U	P-O3'-C3'	5.08	125.80	119.70
48	A2	4827	U	O3'-P-O5'	5.07	113.64	104.00
48	A2	7	C	C1'-C2'-O2'	5.07	125.81	110.60
48	A2	1709	U	P-O3'-C3'	5.07	125.79	119.70
48	A2	2860	A	O5'-C5'-C4'	5.07	121.33	111.70
48	A2	3588	G	C2'-C3'-O3'	-5.07	98.35	109.50
48	A2	4924	A	OP2-P-O3'	5.07	116.35	105.20
48	A2	3578	U	O5'-C5'-C4'	-5.06	102.08	111.70
49	B1	889	U	O4'-C1'-N1	5.06	112.25	108.20
49	B1	890	U	P-O3'-C3'	5.06	125.78	119.70
48	A2	2325	C	C5'-C4'-C3'	5.06	124.10	116.00
11	AI	39	LYS	N-CA-CB	-5.06	101.49	110.60
48	A2	2428	A	O4'-C1'-N9	5.06	112.25	108.20
48	A2	639	G	P-O3'-C3'	-5.06	113.63	119.70
49	B1	1284	A	P-O3'-C3'	5.06	125.77	119.70
49	B1	893	U	O5'-C5'-C4'	-5.06	102.09	111.70
48	A2	1277	A	O4'-C1'-N9	5.05	112.24	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2539	C	P-O5'-C5'	-5.05	112.81	120.90
48	A2	3612	U	O3'-P-O5'	-5.05	94.40	104.00
49	B1	1153	C	C4'-C3'-O3'	5.05	123.11	113.00
49	B1	1389	C	O3'-P-O5'	5.05	113.60	104.00
66	BQ	44	PRO	CA-N-CD	-5.05	104.43	111.50
49	B1	691	G	O3'-P-O5'	5.05	113.60	104.00
49	B1	744	G	O4'-C1'-C2'	-5.05	100.75	105.80
48	A2	2422	G	OP2-P-O3'	5.05	116.31	105.20
49	B1	1679	A	O5'-C5'-C4'	-5.05	102.11	111.70
1	A3	135	C	OP2-P-O3'	5.05	116.30	105.20
48	A2	1752	A	P-O5'-C5'	5.05	128.97	120.90
48	A2	3586	G	O4'-C1'-N9	-5.05	104.16	108.20
49	B1	181	A	O3'-P-O5'	-5.05	94.41	104.00
49	B1	1080	A	O3'-P-O5'	-5.05	94.41	104.00
6	AD	20	PHE	CB-CG-CD1	5.04	124.33	120.80
48	A2	58	G	C2'-C3'-O3'	-5.04	98.40	109.50
49	B1	74	G	O4'-C1'-N9	5.04	112.23	108.20
13	AK	30	VAL	CA-CB-CG1	5.04	118.46	110.90
49	B1	898	U	C5'-C4'-O4'	5.04	115.15	109.10
48	A2	4406	C	O3'-P-O5'	-5.04	94.43	104.00
48	A2	309	G	N9-C1'-C2'	5.04	120.55	114.00
13	AK	108	PRO	N-CD-CG	5.03	110.75	103.20
48	A2	4685	A	O5'-P-OP1	5.03	116.74	110.70
49	B1	1555	U	O4'-C4'-C3'	5.03	110.13	106.10
49	B1	293	C	OP2-P-O3'	5.03	116.27	105.20
79	Bd	8	TRP	N-CA-CB	-5.03	101.55	110.60
48	A2	415	C	P-O3'-C3'	-5.03	113.67	119.70
48	A2	1297	C	C5'-C4'-O4'	5.03	115.14	109.10
48	A2	2064	C	C4'-C3'-O3'	5.03	123.06	113.00
2	A4	105	C	O4'-C1'-N1	5.03	112.22	108.20
48	A2	2674	A	C5'-C4'-O4'	5.03	115.13	109.10
49	B1	750	C	N1-C1'-C2'	5.03	120.53	114.00
49	B1	1754	G	C2'-C3'-O3'	5.03	121.74	113.70
48	A2	2697	U	P-O3'-C3'	5.02	125.72	119.70
49	B1	306	C	C5'-C4'-C3'	-5.02	107.97	116.00
49	B1	367	U	C2'-C3'-O3'	-5.02	98.45	109.50
49	B1	370	G	P-O3'-C3'	5.02	125.72	119.70
49	B1	1484	A	OP2-P-O3'	5.02	116.25	105.20
48	A2	349	A	O4'-C1'-N9	5.02	112.21	108.20
48	A2	967	U	N1-C1'-C2'	5.02	120.52	114.00
48	A2	2422	G	O3'-P-O5'	-5.02	94.47	104.00
48	A2	408	C	O4'-C1'-N1	5.01	112.21	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	736	G	C3'-C2'-O2'	5.01	127.84	113.30
49	B1	307	G	C1'-C2'-O2'	-5.01	95.56	110.60
49	B1	308	G	N9-C1'-C2'	5.01	120.52	114.00
49	B1	1105	G	C5'-C4'-C3'	5.01	124.02	116.00
48	A2	4904	U	P-O3'-C3'	5.01	125.72	119.70
49	B1	321	C	C4'-C3'-O3'	5.01	123.02	113.00
48	A2	381	G	C2'-C3'-O3'	-5.01	98.48	109.50
13	AK	2	PRO	N-CD-CG	5.00	110.70	103.20
48	A2	230	U	C3'-C2'-C1'	-5.00	97.50	101.50
49	B1	1553	C	O4'-C4'-C3'	-5.00	99.00	104.00
48	A2	1429	C	O5'-C5'-C4'	-5.00	102.20	111.70
48	A2	4716	G	O5'-P-OP1	5.00	116.70	110.70

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
48	A2	131	C	C3'
48	A2	137	G	C3'
49	B1	1289	U	C4'

All (56) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
48	A2	1741	G	Sidechain
48	A2	2690	G	Sidechain
48	A2	3596	G	Sidechain
4	AB	295	ASP	Peptide
4	AB	296	GLY	Peptide
4	AB	297	LYS	Peptide
5	AC	98	GLY	Peptide
5	AC	99	GLY	Peptide
7	AE	108	LYS	Mainchain
8	AF	161	LYS	Peptide
8	AF	163	ASN	Peptide
10	AH	4	ILE	Peptide
10	AH	5	LEU	Peptide
10	AH	8	GLN	Peptide
13	AK	32	ALA	Peptide
13	AK	34	ASN	Peptide
13	AK	35	VAL	Peptide
14	AL	132	SER	Peptide
14	AL	133	ALA	Peptide

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Mol	Chain	Res	Type	Group
14	AL	134	PRO	Peptide
14	AL	135	LYS	Peptide
14	AL	136	LYS	Peptide
14	AL	138	ASP	Peptide
39	Ak	14	THR	Mainchain
54	BE	91	SER	Peptide
54	BE	92	ILE	Peptide
54	BE	93	GLU	Peptide
54	BE	94	LYS	Peptide
54	BE	95	THR	Peptide
54	BE	97	GLU	Peptide
63	BN	28	LEU	Peptide
63	BN	29	THR	Peptide
64	BO	138	ASP	Peptide
64	BO	139	SER	Peptide
65	BP	46	ASN	Peptide
65	BP	47	ARG	Peptide
65	BP	48	GLY	Peptide
65	BP	49	LEU	Peptide
65	BP	50	ARG	Peptide
65	BP	66	GLU	Peptide
65	BP	67	ALA	Peptide
65	BP	68	PRO	Peptide
65	BP	71	GLU	Peptide
65	BP	72	LYS	Peptide
65	BP	73	PRO	Peptide
66	BQ	13	PHE	Peptide
66	BQ	14	GLY	Peptide
66	BQ	15	ARG	Peptide
66	BQ	48	GLN	Peptide
66	BQ	51	LEU	Peptide
66	BQ	74	GLY	Peptide
72	BW	100	GLY	Peptide
72	BW	101	PHE	Peptide
72	BW	99	PHE	Peptide
76	Ba	97	PRO	Peptide
79	Bd	39	CYS	Peptide

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A3	3337	0	1691	157	0
2	A4	2541	0	1284	156	0
3	AA	1930	0	2030	181	0
4	AB	3178	0	3314	339	0
5	AC	2888	0	3064	417	0
6	AD	2392	0	2424	334	0
7	AE	1571	0	1698	425	0
8	AF	1950	0	2093	284	0
9	AG	1880	0	2018	144	0
10	AH	1526	0	1605	143	0
11	AI	1692	0	1744	81	0
12	AJ	1353	0	1386	93	0
13	AK	872	0	916	335	0
14	AL	1657	0	1764	228	0
15	AM	1138	0	1204	155	0
16	AN	1701	0	1748	129	0
17	AO	1606	0	1745	137	0
18	AP	1242	0	1269	94	0
19	AQ	1513	0	1628	198	0
20	AR	1517	0	1665	229	0
21	AS	1449	0	1493	160	0
22	AT	1284	0	1352	163	0
23	AU	808	0	831	79	0
24	AV	969	0	1031	88	0
25	AW	989	0	1041	154	0
26	AX	958	0	1029	87	0
27	AY	1064	0	1145	97	0
28	AZ	1103	0	1179	144	0
29	Aa	1162	0	1213	0	0
30	Ab	559	0	590	0	0
31	Ac	801	0	845	0	0
32	Ad	879	0	924	0	0
33	Ae	1064	0	1160	0	0
34	Af	876	0	912	0	0
35	Ag	906	0	1002	0	0
36	Ah	1015	0	1147	0	0
37	Ai	794	0	870	0	0
38	Aj	689	0	717	0	0
39	Ak	569	0	637	0	0
40	Al	444	0	483	0	0
41	Am	411	0	443	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	An	240	0	289	0	0
43	Ao	863	0	929	0	0
44	Ap	708	0	756	0	0
45	Aq	1046	0	1116	0	0
46	At	980	0	1041	0	0
47	Au	1744	0	1859	0	0
48	A2	77427	0	39103	3881	0
49	B1	36456	0	18412	2354	0
50	BA	1704	0	1703	312	0
51	BB	1722	0	1794	286	0
52	BC	1724	0	1808	188	0
53	BD	1709	0	1801	206	0
54	BE	2031	0	2138	314	0
55	BF	1502	0	1557	161	0
56	BG	1884	0	2044	369	0
57	BH	1479	0	1563	129	0
58	BI	1696	0	1785	187	0
59	BJ	1495	0	1615	387	0
60	BK	827	0	854	142	0
61	BL	1258	0	1334	137	0
62	BM	931	0	961	107	0
63	BN	1202	0	1289	165	0
64	BO	1016	0	1039	143	0
65	BP	999	0	1046	250	0
66	BQ	1109	0	1174	257	0
67	BR	1011	0	1063	313	0
68	BS	1154	0	1210	231	0
69	BT	1112	0	1146	159	0
70	BU	769	0	837	119	0
71	BV	617	0	622	77	0
72	BW	1034	0	1080	130	0
73	BX	1080	0	1147	120	0
74	BY	1015	0	1085	160	0
75	BZ	688	0	766	176	0
76	Ba	774	0	821	0	0
77	Bb	625	0	646	0	0
78	Bc	488	0	514	0	0
79	Bd	427	0	426	0	0
80	Be	437	0	483	0	0
81	Bf	601	0	625	0	0
82	Bg	2440	0	2396	0	0
83	Bv	1623	0	820	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
83	Bw	1623	0	821	0	0
84	Bx	561	0	281	0	0
85	By	120	0	32	0	0
86	A2	220	0	0	4	0
86	A3	8	0	0	0	0
86	A4	9	0	0	0	0
86	AA	1	0	0	0	0
86	AB	2	0	0	0	0
86	AN	2	0	0	0	0
86	AY	1	0	0	0	0
86	Aa	3	0	0	0	0
86	Ae	2	0	0	0	0
86	An	1	0	0	0	0
86	B1	72	0	0	2	0
86	BD	1	0	0	0	0
86	BX	1	0	0	0	0
86	Bv	2	0	0	0	0
86	Bx	1	0	0	0	0
87	Aj	1	0	0	0	0
87	Ao	1	0	0	0	0
87	Ap	1	0	0	0	0
87	Ba	1	0	0	0	0
87	Bd	1	0	0	0	0
All	All	218559	0	162165	13081	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 42.

All (13081) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AD:286:SER:HB3	48:A2:1163:C:C5'	1.21	1.68
64:BO:54:CYS:SG	64:BO:81:VAL:HG22	1.31	1.67
10:AH:5:LEU:HD13	10:AH:60:TRP:CH2	1.32	1.65
75:BZ:79:ILE:HG21	75:BZ:83:LEU:CD1	1.18	1.64
10:AH:5:LEU:HB3	10:AH:60:TRP:CZ3	1.14	1.63
49:B1:560:A:H3'	59:BJ:171:GLY:CA	1.28	1.62
59:BJ:117:LEU:HD12	59:BJ:157:ILE:CD1	1.31	1.61
62:BM:35:ILE:HD11	62:BM:61:TYR:CE1	1.19	1.60
49:B1:581:U:H5'	74:BY:62:THR:CG2	1.28	1.59
59:BJ:117:LEU:CD1	59:BJ:157:ILE:HD11	1.24	1.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BM:35:ILE:CD1	62:BM:61:TYR:HE1	1.02	1.58
50:BA:38:ILE:HD11	50:BA:47:TYR:CB	1.15	1.57
6:AD:17:GLN:CG	22:AT:20:ARG:HG2	1.18	1.57
75:BZ:88:LEU:CD2	75:BZ:109:TYR:CE2	1.78	1.56
51:BB:182:LYS:CE	51:BB:231:LEU:HD12	1.29	1.54
54:BE:69:PHE:CE1	54:BE:94:LYS:HE2	1.40	1.53
49:B1:1314:U:C2	60:BK:2:LEU:HB2	1.05	1.53
49:B1:560:A:C3'	59:BJ:171:GLY:HA3	1.33	1.53
68:BS:44:VAL:HG21	68:BS:71:MET:SD	1.47	1.52
49:B1:1314:U:C2	60:BK:2:LEU:CB	1.93	1.52
67:BR:98:VAL:N	67:BR:117:LEU:HD21	1.24	1.52
50:BA:38:ILE:CD1	50:BA:47:TYR:HB3	1.05	1.52
8:AF:51:TYR:CZ	48:A2:1220:C:C5	1.99	1.51
66:BQ:62:ARG:NH2	66:BQ:108:ILE:HD13	1.26	1.50
53:BD:210:ILE:HG22	67:BR:39:ALA:CB	1.06	1.50
20:AR:165:LYS:HZ3	49:B1:907:G:C5'	1.24	1.49
6:AD:12:TYR:HE1	6:AD:13:PHE:CE1	1.27	1.49
12:AJ:111:GLU:HG3	68:BS:14:ARG:NH2	1.23	1.49
53:BD:210:ILE:CG2	67:BR:39:ALA:CB	1.91	1.48
49:B1:1287:A:H5''	49:B1:1312:G:N1	1.26	1.48
75:BZ:99:LEU:HB3	75:BZ:109:TYR:CE1	1.47	1.47
75:BZ:88:LEU:HD23	75:BZ:109:TYR:CE2	0.96	1.46
52:BC:253:PRO:HD2	72:BW:99:PHE:CE1	1.51	1.46
25:AW:101:ARG:HB3	25:AW:105:ARG:NH1	1.33	1.44
49:B1:1522:A:C2	65:BP:128:HIS:CB	1.99	1.44
75:BZ:79:ILE:CG2	75:BZ:83:LEU:HD12	1.00	1.44
5:AC:77:PRO:C	5:AC:91:ALA:HB2	1.32	1.43
49:B1:168:C:H5''	56:BG:131:ARG:CD	1.44	1.43
69:BT:41:LYS:NZ	69:BT:81:GLY:HA2	1.25	1.43
52:BC:178:HIS:CD2	52:BC:200:ARG:CD	2.02	1.43
7:AE:233:PHE:HE1	48:A2:447:G:C6	1.36	1.42
10:AH:5:LEU:CB	10:AH:60:TRP:CZ3	2.03	1.42
55:BF:23:TRP:NE1	55:BF:108:PRO:HG3	1.34	1.42
75:BZ:99:LEU:HB3	75:BZ:109:TYR:CD1	1.52	1.41
49:B1:581:U:C5'	74:BY:62:THR:HG21	1.48	1.41
49:B1:1417:C:H4'	69:BT:2:PRO:N	1.22	1.41
7:AE:219:LYS:HG2	48:A2:4898:C:C5	1.52	1.41
21:AS:90:THR:HG21	22:AT:156:TYR:CE2	1.54	1.40
20:AR:126:LYS:CG	20:AR:131:VAL:HG21	1.48	1.40
25:AW:93:LYS:NZ	56:BG:145:PHE:HE2	1.16	1.40
6:AD:12:TYR:CE1	6:AD:13:PHE:CE1	2.10	1.39

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:BZ:88:LEU:CD2	75:BZ:109:TYR:CD2	2.04	1.39
13:AK:81:HIS:NE2	13:AK:88:PHE:CE1	1.90	1.39
6:AD:205:ALA:CB	6:AD:233:PRO:HB3	1.49	1.38
15:AM:5:ARG:NH1	21:AS:175:PHE:CE1	1.91	1.38
23:AU:47:ILE:CD1	23:AU:63:ILE:HD11	1.52	1.38
52:BC:133:TYR:CE1	52:BC:216:MET:HA	1.59	1.38
49:B1:168:C:C5'	56:BG:131:ARG:HD2	1.51	1.38
70:BU:24:LEU:CD2	70:BU:112:VAL:HG22	1.51	1.38
20:AR:39:GLN:NE2	48:A2:2689:C:OP2	1.57	1.37
18:AP:18:ARG:HG2	18:AP:147:GLU:CG	1.51	1.37
52:BC:178:HIS:CG	52:BC:200:ARG:HD2	1.57	1.37
8:AF:51:TYR:CZ	48:A2:1220:C:H5	1.37	1.37
49:B1:386:C:OP2	58:BI:10:LYS:HE3	1.21	1.37
53:BD:34:TYR:CD2	70:BU:61:LEU:HD11	27.82	1.37
10:AH:5:LEU:HB3	10:AH:60:TRP:CE3	1.58	1.37
14:AL:195:ARG:HG2	14:AL:198:ARG:NH2	1.35	1.36
49:B1:1274:G:H22	60:BK:29:MET:CG	1.34	1.36
48:A2:900:U:O2'	48:A2:901:U:H5'	1.23	1.36
68:BS:70:ILE:HD13	68:BS:77:TYR:CE2	1.60	1.36
50:BA:38:ILE:CD1	50:BA:47:TYR:CB	1.76	1.36
67:BR:21:TYR:CD2	67:BR:71:ILE:HG21	1.59	1.35
6:AD:286:SER:CB	48:A2:1163:C:C5'	2.03	1.35
67:BR:21:TYR:CE2	67:BR:71:ILE:HD13	1.61	1.35
75:BZ:88:LEU:HD21	75:BZ:109:TYR:CD2	1.57	1.35
50:BA:198:MET:SD	67:BR:87:GLU:HG2	1.67	1.35
21:AS:173:ASN:HA	48:A2:4724:A:C2	1.60	1.34
6:AD:286:SER:CB	48:A2:1163:C:H4'	1.58	1.34
51:BB:79:VAL:CG2	51:BB:82:ARG:HD3	1.57	1.34
49:B1:1522:A:C2	65:BP:128:HIS:CG	2.12	1.34
20:AR:126:LYS:HE2	20:AR:131:VAL:CG1	1.57	1.34
20:AR:165:LYS:NZ	49:B1:907:G:C5'	1.79	1.34
22:AT:105:PHE:CE1	48:A2:1784:A:H4'	1.61	1.34
13:AK:57:LYS:CG	48:A2:2001:U:OP1	1.74	1.34
50:BA:206:ASP:HB3	50:BA:210:ILE:CD1	1.54	1.34
66:BQ:41:MET:CE	69:BT:10:ASN:HB2	1.56	1.34
48:A2:4982:C:O2'	58:BI:168:GLN:C	1.65	1.33
8:AF:51:TYR:CE1	48:A2:1220:C:C4	2.16	1.33
67:BR:21:TYR:CE2	67:BR:71:ILE:HG21	1.63	1.33
49:B1:222:U:H5''	61:BL:17:PHE:CD2	1.64	1.32
49:B1:747:U:O2'	49:B1:749:U:C5	1.80	1.32
1:A3:11:C:O2'	18:AP:5:SER:HA	1.29	1.32

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:63:U:O2'	10:AH:52:LYS:NZ	172.98	1.32
14:AL:59:VAL:CG1	48:A2:74:G:H5'	1.58	1.32
21:AS:90:THR:HG21	22:AT:156:TYR:CD2	1.63	1.32
5:AC:100:ARG:NH2	48:A2:1632:A:C2	1.97	1.32
5:AC:77:PRO:O	5:AC:91:ALA:HB2	1.26	1.32
5:AC:190:ARG:CD	5:AC:202:ILE:HD11	1.59	1.31
65:BP:84:ILE:HA	65:BP:115:TYR:CA	1.60	1.31
6:AD:12:TYR:CE1	6:AD:13:PHE:CD1	2.16	1.31
6:AD:286:SER:HB3	48:A2:1163:C:C4'	1.58	1.31
28:AZ:68:ILE:CG2	28:AZ:119:GLU:HG3	1.59	1.31
51:BB:70:SER:CB	51:BB:83:LYS:HA	1.58	1.31
49:B1:744:G:N2	57:BH:109:ARG:HD2	1.41	1.31
59:BJ:117:LEU:CD1	59:BJ:157:ILE:CD1	1.89	1.31
14:AL:59:VAL:CG1	48:A2:74:G:C5'	2.08	1.31
50:BA:111:GLN:NE2	52:BC:64:THR:HB	1.43	1.31
10:AH:5:LEU:CD1	10:AH:60:TRP:CH2	2.12	1.30
49:B1:873:G:O6	61:BL:153:LYS:HA	1.28	1.30
48:A2:1341:G:C2	48:A2:1343:G:C6	2.19	1.30
6:AD:12:TYR:HE1	6:AD:13:PHE:CD1	1.49	1.30
51:BB:38:MET:SD	51:BB:185:VAL:HG11	1.69	1.30
65:BP:84:ILE:CA	65:BP:115:TYR:HA	1.60	1.30
25:AW:102:LYS:CG	25:AW:105:ARG:NH2	1.94	1.30
15:AM:5:ARG:NH1	21:AS:175:PHE:HE1	1.25	1.30
56:BG:183:ARG:O	56:BG:186:GLN:HG2	1.24	1.30
61:BL:11:GLN:O	61:BL:12:LYS:HG3	1.16	1.30
20:AR:38:ARG:HG3	48:A2:2505:C:OP2	1.24	1.29
66:BQ:12:VAL:HG11	66:BQ:90:LYS:CB	1.62	1.29
67:BR:36:GLU:OE2	67:BR:47:ARG:HD3	1.23	1.29
49:B1:1274:G:N2	60:BK:29:MET:HG2	1.43	1.29
13:AK:37:SER:HA	48:A2:1952:C:O2'	1.15	1.29
49:B1:1287:A:H1'	62:BM:36:ARG:NH1	1.44	1.29
28:AZ:97:ASN:O	28:AZ:100:VAL:HG12	1.16	1.29
67:BR:21:TYR:HE2	67:BR:71:ILE:CD1	1.46	1.28
7:AE:146:PRO:O	7:AE:200:LYS:HE3	1.33	1.28
49:B1:1417:C:C4'	69:BT:2:PRO:N	1.95	1.28
49:B1:846:G:H2'	54:BE:19:MET:SD	1.72	1.28
67:BR:97:GLU:HB3	67:BR:116:ASN:O	1.32	1.28
10:AH:134:CYS:SG	10:AH:144:LEU:HD11	1.72	1.28
23:AU:56:LEU:CD2	23:AU:61:VAL:HG23	1.64	1.28
66:BQ:25:CYS:SG	66:BQ:95:TYR:HB2	1.73	1.28
20:AR:165:LYS:CE	49:B1:907:G:H5''	1.64	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AL:165:LYS:HD2	48:A2:505:C:OP2	1.31	1.27
25:AW:102:LYS:HG3	25:AW:105:ARG:NH2	1.47	1.27
5:AC:217:ILE:HD11	5:AC:221:PHE:CE1	1.69	1.27
8:AF:69:ILE:HG22	8:AF:73:ARG:NE	1.47	1.27
25:AW:101:ARG:CB	25:AW:105:ARG:NH1	1.97	1.27
54:BE:36:HIS:NE2	54:BE:85:GLY:HA3	1.49	1.27
14:AL:59:VAL:HG11	48:A2:74:G:C5'	1.61	1.27
13:AK:34:ASN:CB	48:A2:1950:G:H5'	1.66	1.26
17:AO:179:LYS:HE2	48:A2:4830:G:C8	1.70	1.26
49:B1:1121:G:OP1	86:B1:1941:MG:MG	0.70	1.26
49:B1:873:G:C6	61:BL:153:LYS:HA	1.68	1.26
6:AD:17:GLN:CG	22:AT:20:ARG:CG	2.12	1.26
50:BA:206:ASP:CB	50:BA:210:ILE:HD11	1.66	1.26
7:AE:219:LYS:HG2	48:A2:4898:C:C6	1.70	1.26
54:BE:86:PHE:CE2	54:BE:184:ILE:HG22	1.69	1.26
20:AR:39:GLN:NE2	48:A2:2689:C:P	2.07	1.26
7:AE:136:HIS:ND1	48:A2:701:G:O2'	1.67	1.26
24:AV:47:GLY:HA3	48:A2:4455:U:O2'	1.36	1.25
52:BC:253:PRO:O	52:BC:256:TRP:HD1	1.18	1.25
28:AZ:88:ASP:OD1	28:AZ:90:PRO:HD3	1.11	1.25
67:BR:95:ILE:CG2	67:BR:114:LEU:HB3	1.66	1.25
48:A2:4983:C:OP1	58:BI:169:GLY:CA	1.82	1.25
10:AH:8:GLN:HG3	10:AH:74:CYS:CB	1.66	1.25
12:AJ:111:GLU:CG	68:BS:14:ARG:HH21	1.48	1.25
49:B1:1522:A:H2	65:BP:128:HIS:CD2	1.54	1.25
7:AE:175:VAL:CG2	7:AE:189:THR:OG1	1.84	1.25
49:B1:688:U:O2'	57:BH:103:LYS:HD3	1.35	1.25
49:B1:1046:U:O2'	64:BO:140:THR:HB	1.21	1.25
49:B1:1603:G:H5'	68:BS:38:ARG:NH1	1.51	1.24
49:B1:407:G:N3	73:BX:36:LEU:HD22	1.51	1.24
5:AC:77:PRO:O	5:AC:91:ALA:CB	1.84	1.24
7:AE:233:PHE:CE1	48:A2:447:G:C6	2.25	1.24
17:AO:167:HIS:CE1	48:A2:4719:C:C5	2.24	1.24
5:AC:190:ARG:HE	5:AC:202:ILE:CD1	1.49	1.24
65:BP:62:LYS:O	65:BP:66:GLU:HG2	1.37	1.24
7:AE:240:TYR:HE1	48:A2:4897:C:C4'	1.49	1.24
64:BO:54:CYS:SG	64:BO:81:VAL:CG2	2.24	1.24
20:AR:165:LYS:NZ	49:B1:907:G:H5''	0.91	1.24
49:B1:827:A:C4'	59:BJ:8:VAL:HG11	1.67	1.24
49:B1:1314:U:C6	60:BK:2:LEU:HD22	1.71	1.24
17:AO:49:ARG:NH2	48:A2:1910:A:H2'	1.53	1.23

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:81:HIS:CE1	13:AK:88:PHE:CE1	2.25	1.23
49:B1:1454:A:H2'	67:BR:3:ARG:CD	1.66	1.23
50:BA:37:TYR:CD2	50:BA:162:PRO:HG3	1.73	1.23
49:B1:1578:U:C5	53:BD:4:GLN:NE2	2.05	1.23
67:BR:95:ILE:HG23	67:BR:114:LEU:CB	1.68	1.23
54:BE:137:PRO:HG3	56:BG:209:TYR:OH	1.35	1.23
66:BQ:33:LYS:CE	66:BQ:36:GLY:HA2	1.67	1.23
62:BM:35:ILE:CD1	62:BM:61:TYR:CE1	1.92	1.23
8:AF:51:TYR:CE1	48:A2:1220:C:C5	2.25	1.23
48:A2:4983:C:OP1	58:BI:169:GLY:HA3	1.33	1.23
59:BJ:120:ALA:O	59:BJ:125:HIS:HD2	1.20	1.23
6:AD:205:ALA:HB1	6:AD:233:PRO:CB	1.68	1.22
28:AZ:33:THR:OG1	28:AZ:40:HIS:CE1	1.92	1.22
48:A2:204:G:H1'	48:A2:228:U:O2	1.31	1.22
49:B1:747:U:O2'	49:B1:749:U:C4	1.82	1.22
20:AR:165:LYS:HE2	49:B1:907:G:O5'	1.35	1.22
66:BQ:97:GLN:OE1	66:BQ:105:LYS:HE2	1.36	1.22
7:AE:273:SER:HB2	48:A2:4839:U:O2'	1.38	1.22
68:BS:70:ILE:CD1	68:BS:77:TYR:CE2	2.21	1.22
49:B1:1417:C:O4'	69:BT:2:PRO:CA	1.88	1.22
62:BM:14:VAL:CG1	62:BM:127:TYR:CE1	2.22	1.22
52:BC:97:PHE:C	52:BC:98:LEU:HD23	1.58	1.22
4:AB:393:LYS:CE	48:A2:4998:U:H5'	1.68	1.22
21:AS:90:THR:CG2	22:AT:156:TYR:CE2	2.23	1.21
48:A2:1341:G:N2	48:A2:1343:G:C5	2.08	1.21
6:AD:29:ASP:HB3	48:A2:4242:A:C8	1.74	1.21
26:AX:111:GLN:O	26:AX:115:LYS:HG2	1.40	1.21
54:BE:87:MET:CE	54:BE:123:LEU:H	1.53	1.21
6:AD:17:GLN:HG3	22:AT:20:ARG:CG	1.68	1.21
7:AE:127:SER:O	7:AE:128:HIS:CB	1.88	1.21
25:AW:113:LYS:HG2	49:B1:328:U:O4	1.41	1.21
49:B1:688:U:C2'	57:BH:103:LYS:CD	2.18	1.21
66:BQ:105:LYS:O	66:BQ:108:ILE:HG22	1.40	1.21
48:A2:4731:G:N2	48:A2:4821:G:C6	2.07	1.21
7:AE:111:LYS:HE3	48:A2:682:U:OP1	1.32	1.21
49:B1:875:A:N1	49:B1:912:C:N3	1.89	1.21
16:AN:86:HIS:ND1	48:A2:33:A:OP2	1.73	1.21
59:BJ:120:ALA:O	59:BJ:125:HIS:CD2	1.94	1.20
8:AF:166:ARG:NH1	8:AF:209:TRP:CG	2.08	1.20
15:AM:41:PRO:HB3	15:AM:70:GLN:NE2	1.55	1.20
52:BC:178:HIS:CD2	52:BC:200:ARG:HD2	1.71	1.20

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BD:34:TYR:CE2	70:BU:61:LEU:HD11	26.57	1.20
22:AT:109:VAL:HG13	48:A2:1785:G:O6	1.34	1.20
49:B1:1285:G:O6	62:BM:56:CYS:HA	1.36	1.20
49:B1:737:G:C8	49:B1:737:G:OP2	1.93	1.20
50:BA:111:GLN:NE2	52:BC:64:THR:CB	2.05	1.20
7:AE:240:TYR:OH	48:A2:4897:C:H5'	1.35	1.20
53:BD:210:ILE:CB	67:BR:39:ALA:HB2	1.70	1.20
68:BS:4:VAL:HG11	75:BZ:90:GLU:OE1	1.39	1.20
63:BN:124:ARG:HG2	63:BN:127:ARG:NH2	1.56	1.20
20:AR:126:LYS:CE	20:AR:131:VAL:HG11	1.71	1.20
49:B1:1552:G:H5'	49:B1:1557:C:H5	1.05	1.20
51:BB:182:LYS:CE	51:BB:231:LEU:CD1	2.19	1.20
48:A2:900:U:C2'	48:A2:901:U:H5'	1.72	1.19
7:AE:105:ARG:NH2	48:A2:678:C:O2	1.74	1.19
49:B1:1287:A:C5'	49:B1:1312:G:N1	2.04	1.19
50:BA:176:TRP:HA	50:BA:202:TYR:CE2	1.76	1.19
49:B1:1314:U:N1	60:BK:2:LEU:HB2	1.57	1.19
67:BR:21:TYR:CD2	67:BR:71:ILE:CG2	2.24	1.19
49:B1:1522:A:H2	65:BP:128:HIS:CG	1.54	1.19
49:B1:168:C:C5'	56:BG:131:ARG:CD	2.11	1.19
48:A2:904:A:N1	48:A2:906:C:H5	1.38	1.19
66:BQ:51:LEU:HD12	66:BQ:81:ILE:CG2	1.73	1.19
48:A2:4982:C:C2'	58:BI:168:GLN:O	1.91	1.19
49:B1:1313:A:OP2	62:BM:33:ARG:NH2	1.75	1.19
54:BE:36:HIS:CD2	54:BE:85:GLY:HA3	1.76	1.19
2:A4:14:C:OP1	6:AD:24:ARG:NH1	1.73	1.18
5:AC:100:ARG:CZ	48:A2:1632:A:N1	2.06	1.18
14:AL:13:HIS:O	14:AL:14:PHE:CD1	1.96	1.18
49:B1:1314:U:N3	60:BK:2:LEU:CB	2.04	1.18
49:B1:227:U:H1'	49:B1:228:C:OP2	1.43	1.18
55:BF:23:TRP:NE1	55:BF:108:PRO:CG	2.06	1.18
10:AH:7:ASN:HB2	10:AH:57:VAL:O	1.43	1.18
5:AC:311:ARG:HH12	48:A2:946:G:C5'	1.57	1.18
67:BR:97:GLU:C	67:BR:117:LEU:HD21	1.62	1.18
49:B1:1287:A:H5''	49:B1:1312:G:C2	1.78	1.18
66:BQ:12:VAL:CG1	66:BQ:90:LYS:HB3	1.72	1.18
22:AT:119:ALA:HB2	22:AT:126:VAL:CG1	1.74	1.18
9:AG:163:PRO:CD	48:A2:148:G:H22	1.57	1.18
20:AR:39:GLN:HE22	48:A2:2689:C:P	1.64	1.18
48:A2:32:G:N2	48:A2:50:C:H41	1.39	1.18
59:BJ:96:TYR:CE2	59:BJ:100:LEU:HD21	1.78	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:81:HIS:CE1	13:AK:88:PHE:HE1	1.57	1.18
49:B1:689:U:C6	49:B1:742:U:N3	2.12	1.18
5:AC:86:ARG:O	5:AC:89:GLN:HB2	1.40	1.17
48:A2:3731:A:N6	49:B1:1825:A:C5	2.12	1.17
5:AC:212:ASN:HB3	5:AC:232:VAL:CG2	1.72	1.17
20:AR:126:LYS:HG2	20:AR:131:VAL:HG21	1.18	1.17
22:AT:112:ASN:OD1	22:AT:128:LEU:HB2	1.44	1.17
54:BE:87:MET:HE2	54:BE:123:LEU:N	1.57	1.17
49:B1:434:G:OP1	58:BI:23:LYS:HG3	1.41	1.17
23:AU:56:LEU:HD23	23:AU:61:VAL:CG2	1.73	1.17
49:B1:1752:C:O2	49:B1:1780:G:N2	1.75	1.17
68:BS:44:VAL:CG2	68:BS:71:MET:SD	2.32	1.17
14:AL:44:ARG:NE	48:A2:182:C:C6	2.12	1.17
14:AL:70:VAL:CG1	14:AL:159:ASN:OD1	1.93	1.17
7:AE:175:VAL:O	7:AE:186:LEU:O	1.62	1.17
12:AJ:111:GLU:CG	68:BS:14:ARG:NH2	2.03	1.17
49:B1:407:G:C2	73:BX:36:LEU:HD22	1.78	1.17
50:BA:107:THR:O	50:BA:116:PHE:CA	1.92	1.17
1:A3:72:A:OP2	27:AY:51:LYS:HB2	1.43	1.17
13:AK:81:HIS:NE2	13:AK:88:PHE:HE1	1.25	1.17
13:AK:59:THR:HB	48:A2:1942:G:H5'	1.19	1.17
3:AA:196:TRP:HZ2	48:A2:3624:A:OP1	1.27	1.17
49:B1:688:U:H2'	57:BH:103:LYS:CG	1.73	1.17
65:BP:85:ILE:HD11	65:BP:116:LEU:HD23	1.24	1.17
13:AK:37:SER:CA	48:A2:1952:C:O2'	1.92	1.16
7:AE:175:VAL:HG21	7:AE:189:THR:OG1	1.03	1.16
68:BS:74:PRO:HG3	68:BS:84:LEU:HD21	1.28	1.16
1:A3:153:C:H5''	9:AG:185:LYS:HE2	1.28	1.16
49:B1:157:U:C4'	56:BG:58:LYS:O	1.92	1.16
51:BB:173:THR:O	51:BB:177:GLN:HB2	1.45	1.16
49:B1:157:U:C5'	56:BG:58:LYS:O	1.92	1.16
70:BU:20:ILE:HG22	70:BU:116:ILE:CA	1.75	1.16
7:AE:126:LEU:HD12	48:A2:958:U:C4	1.80	1.16
10:AH:5:LEU:HD13	10:AH:60:TRP:CZ3	1.81	1.16
49:B1:227:U:H1'	49:B1:228:C:P	1.85	1.16
50:BA:111:GLN:HE21	52:BC:64:THR:CB	1.58	1.16
65:BP:85:ILE:HD11	65:BP:116:LEU:CD2	1.74	1.16
68:BS:70:ILE:HD11	68:BS:77:TYR:CZ	1.78	1.16
49:B1:1442:U:O2'	66:BQ:13:PHE:CD1	1.99	1.16
67:BR:100:PRO:CD	67:BR:119:VAL:HG22	1.74	1.16
6:AD:22:ARG:HH21	6:AD:27:LYS:CD	1.57	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BM:14:VAL:HG11	62:BM:127:TYR:CE1	1.81	1.16
5:AC:77:PRO:HB2	5:AC:91:ALA:HB1	1.25	1.15
65:BP:65:LYS:CB	65:BP:66:GLU:OE1	1.94	1.15
52:BC:178:HIS:CD2	52:BC:200:ARG:HD3	1.74	1.15
61:BL:30:LYS:HD2	61:BL:33:LEU:HD21	1.24	1.15
24:AV:45:ILE:CD1	24:AV:53:PRO:HB3	1.76	1.15
62:BM:14:VAL:HG13	62:BM:127:TYR:CD1	1.81	1.15
21:AS:173:ASN:CA	48:A2:4724:A:H2	1.60	1.15
14:AL:36:ARG:HH11	48:A2:407:G:N2	61.26	1.15
49:B1:294:U:C4	61:BL:65:ASN:HB3	1.80	1.15
66:BQ:51:LEU:CD1	66:BQ:81:ILE:HG23	1.76	1.15
25:AW:101:ARG:CB	25:AW:105:ARG:HH12	1.55	1.15
48:A2:1226:C:OP2	48:A2:1226:C:C6	1.99	1.15
54:BE:98:HIS:HB3	54:BE:114:ILE:CG2	1.76	1.15
8:AF:51:TYR:CE1	48:A2:1220:C:N4	2.13	1.15
49:B1:560:A:H5'	59:BJ:172:ARG:N	1.61	1.15
20:AR:165:LYS:CE	49:B1:907:G:C5'	2.23	1.15
9:AG:163:PRO:HD2	48:A2:148:G:H22	0.98	1.15
15:AM:20:HIS:CE1	15:AM:48:GLN:HE22	1.63	1.15
51:BB:182:LYS:HE2	51:BB:231:LEU:HD12	1.24	1.14
21:AS:90:THR:CG2	22:AT:156:TYR:CD2	2.30	1.14
8:AF:166:ARG:HB3	8:AF:209:TRP:CE3	1.81	1.14
14:AL:128:PRO:HD2	14:AL:136:LYS:CE	1.77	1.14
49:B1:1113:A:O2'	51:BB:202:GLN:HB3	1.42	1.14
51:BB:79:VAL:HG21	51:BB:82:ARG:HD3	1.27	1.14
16:AN:108:ARG:NH2	48:A2:2440:G:H5''	1.62	1.14
23:AU:48:LYS:HG2	23:AU:53:ALA:HB2	1.28	1.14
54:BE:95:THR:CG2	54:BE:97:GLU:HG3	1.78	1.14
66:BQ:16:LYS:CG	66:BQ:17:LYS:H	1.52	1.14
65:BP:49:LEU:H	65:BP:50:ARG:HG2	1.06	1.14
51:BB:127:VAL:HG13	51:BB:176:VAL:CG1	1.77	1.14
7:AE:173:LEU:HD12	7:AE:189:THR:O	1.48	1.14
17:AO:179:LYS:HD2	48:A2:4830:G:N7	1.63	1.14
49:B1:918:U:H4'	63:BN:20:ARG:NH2	1.63	1.14
51:BB:127:VAL:HG13	51:BB:176:VAL:HG11	1.25	1.14
5:AC:311:ARG:NH1	48:A2:946:G:H5'	1.62	1.13
13:AK:45:MET:HG2	19:AQ:121:LEU:CD2	167.54	1.13
49:B1:872:A:C8	49:B1:874:G:C2	2.35	1.13
5:AC:77:PRO:HB2	5:AC:91:ALA:CB	1.78	1.13
7:AE:274:VAL:O	48:A2:4839:U:H1'	1.44	1.13
23:AU:47:ILE:HD12	23:AU:63:ILE:HD11	1.30	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:961:C:H5''	48:A2:961:C:H6	1.05	1.13
6:AD:290:ALA:HB2	48:A2:1163:C:OP1	1.46	1.13
68:BS:92:ASP:OD2	68:BS:94:LYS:HB2	1.45	1.13
28:AZ:97:ASN:O	28:AZ:100:VAL:CG1	1.95	1.13
49:B1:1522:A:C2	65:BP:128:HIS:HB3	1.74	1.13
68:BS:40:TYR:HE1	68:BS:71:MET:HE3	1.11	1.13
14:AL:36:ARG:NH1	48:A2:407:G:H21	61.59	1.13
17:AO:118:MET:HE1	48:A2:4832:A:H62	0.97	1.13
4:AB:62:ARG:HH12	48:A2:4578:A:H5'	0.99	1.13
53:BD:71:ALA:HB3	60:BK:20:VAL:HG21	1.27	1.13
58:BI:173:ALA:HB1	58:BI:188:TYR:O	1.48	1.13
70:BU:20:ILE:CG2	70:BU:116:ILE:HA	1.79	1.13
25:AW:102:LYS:HG2	25:AW:105:ARG:HH21	1.03	1.13
50:BA:107:THR:O	50:BA:116:PHE:HA	0.96	1.13
50:BA:176:TRP:N	50:BA:202:TYR:CD2	2.16	1.13
53:BD:76:ARG:HE	60:BK:66:HIS:CG	1.66	1.13
55:BF:167:LYS:NZ	75:BZ:75:GLU:OE1	1.82	1.13
75:BZ:99:LEU:CB	75:BZ:109:TYR:CE1	2.31	1.13
20:AR:97:ARG:NH2	48:A2:2704:A:H8	1.47	1.13
48:A2:4544:C:H2'	48:A2:4545:C:H5'	1.13	1.13
48:A2:4731:G:N2	48:A2:4821:G:O6	1.80	1.12
7:AE:219:LYS:CG	48:A2:4898:C:C5	2.30	1.12
12:AJ:111:GLU:OE1	12:AJ:125:ILE:HG21	1.47	1.12
12:AJ:111:GLU:CD	12:AJ:125:ILE:HG21	1.67	1.12
49:B1:827:A:C5'	59:BJ:8:VAL:HG11	1.79	1.12
49:B1:799:U:OP1	57:BH:110:THR:HB	1.48	1.12
5:AC:73:VAL:HG23	5:AC:74:ALA:H	1.03	1.12
15:AM:47:ARG:HG2	21:AS:73:LEU:HD22	1.15	1.12
50:BA:176:TRP:CA	50:BA:202:TYR:CE2	2.31	1.12
49:B1:386:C:OP2	58:BI:10:LYS:CE	1.97	1.12
49:B1:688:U:H3'	57:BH:103:LYS:HD2	1.30	1.12
52:BC:253:PRO:CD	72:BW:99:PHE:CE1	2.31	1.12
59:BJ:169:ARG:HB3	59:BJ:173:VAL:HB	1.19	1.12
9:AG:113:ARG:NH2	48:A2:119:G:C4	2.17	1.12
27:AY:59:ARG:HH12	48:A2:196:G:H2'	1.04	1.12
5:AC:190:ARG:NE	5:AC:202:ILE:HD11	1.64	1.12
28:AZ:68:ILE:HG22	28:AZ:119:GLU:HG3	1.14	1.12
49:B1:681:U:H4'	73:BX:9:THR:HG23	1.23	1.12
67:BR:95:ILE:HA	67:BR:114:LEU:HD13	1.14	1.12
49:B1:798:G:O3'	57:BH:110:THR:HG21	1.50	1.12
49:B1:823:U:O2	59:BJ:142:VAL:HA	1.49	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:4983:C:OP2	58:BI:169:GLY:O	1.68	1.12
10:AH:8:GLN:HG3	10:AH:74:CYS:HB2	1.14	1.12
19:AQ:68:ARG:NH2	48:A2:1483:C:H2'	1.65	1.12
11:AI:193:ASP:OD1	48:A2:1733:A:H1'	1.49	1.12
48:A2:130:C:H3'	48:A2:131:C:H5''	1.22	1.11
2:A4:33:U:C6	6:AD:207:TYR:CE1	2.37	1.11
49:B1:407:G:C4	73:BX:36:LEU:HD22	1.84	1.11
49:B1:747:U:O2'	49:B1:749:U:O4	1.63	1.11
66:BQ:44:PRO:HG2	66:BQ:47:LEU:HB2	1.23	1.11
13:AK:57:LYS:HB2	13:AK:60:MET:HB2	1.20	1.11
15:AM:25:VAL:HG12	15:AM:45:VAL:HG11	1.16	1.11
13:AK:41:GLN:CB	19:AQ:121:LEU:HD13	163.32	1.11
75:BZ:68:ILE:HB	75:BZ:109:TYR:HB2	1.32	1.11
48:A2:1720:A:H2'	48:A2:1721:G:H5'	1.31	1.11
48:A2:1741:G:C6	48:A2:1742:G:N7	2.19	1.11
6:AD:232:THR:H	6:AD:235:MET:HG2	1.00	1.11
49:B1:1274:G:N2	60:BK:29:MET:CG	2.06	1.11
52:BC:256:TRP:CH2	72:BW:68:ARG:CB	2.33	1.11
49:B1:407:G:C4	73:BX:36:LEU:CD2	2.33	1.11
49:B1:561:A:H5''	59:BJ:170:PRO:HG2	1.22	1.11
49:B1:693:A:C2	49:B1:737:G:O6	2.03	1.11
59:BJ:136:ARG:HB3	59:BJ:158:ASP:O	1.46	1.11
49:B1:875:A:N1	49:B1:912:C:C4	2.19	1.11
66:BQ:39:LEU:HD11	66:BQ:51:LEU:HD22	1.17	1.11
75:BZ:99:LEU:CB	75:BZ:109:TYR:CD1	2.33	1.11
7:AE:105:ARG:HG2	48:A2:464:A:N1	1.64	1.11
24:AV:45:ILE:HD12	24:AV:53:PRO:HB3	1.12	1.11
75:BZ:79:ILE:HG22	75:BZ:83:LEU:HD12	1.28	1.11
55:BF:39:ILE:HG23	55:BF:68:ILE:CG2	1.80	1.11
59:BJ:87:LEU:HD21	59:BJ:100:LEU:HD11	1.28	1.11
69:BT:41:LYS:NZ	69:BT:81:GLY:CA	2.14	1.11
48:A2:1341:G:N2	48:A2:1343:G:C4	2.18	1.11
3:AA:87:PHE:CE1	48:A2:4089:U:H5''	1.86	1.11
15:AM:25:VAL:CG1	15:AM:45:VAL:HG11	1.81	1.11
52:BC:253:PRO:O	52:BC:256:TRP:CD1	2.03	1.11
14:AL:44:ARG:NE	48:A2:182:C:C5	2.19	1.10
6:AD:235:MET:N	6:AD:235:MET:SD	2.11	1.10
50:BA:206:ASP:CB	50:BA:210:ILE:CD1	2.23	1.10
13:AK:17:ILE:HD13	13:AK:61:MET:HE1	1.26	1.10
53:BD:210:ILE:HG22	67:BR:39:ALA:HB1	1.14	1.10
48:A2:1752:A:C2	48:A2:1753:U:C2	2.39	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BB:71:LEU:HD22	51:BB:75:GLN:HB2	1.17	1.10
66:BQ:62:ARG:HD3	66:BQ:92:LEU:CG	1.80	1.10
67:BR:97:GLU:CB	67:BR:116:ASN:O	2.00	1.10
48:A2:133:C:N3	48:A2:134:G:C5	2.19	1.10
14:AL:59:VAL:HG11	48:A2:74:G:H5''	1.17	1.10
20:AR:169:ALA:O	20:AR:172:ARG:HG3	1.51	1.10
8:AF:69:ILE:CG2	8:AF:73:ARG:HE	1.65	1.10
17:AO:179:LYS:CE	48:A2:4830:G:C8	2.35	1.10
66:BQ:21:ALA:HB2	66:BQ:83:ALA:HB1	1.32	1.10
6:AD:286:SER:CB	48:A2:1163:C:C4'	2.18	1.10
6:AD:17:GLN:HG2	22:AT:20:ARG:HG2	1.16	1.10
7:AE:219:LYS:NZ	48:A2:1274:G:H5'	1.66	1.10
48:A2:1745:C:C4	48:A2:1746:G:N7	2.20	1.10
22:AT:78:LYS:HD3	22:AT:87:LYS:HZ1	1.04	1.10
17:AO:114:LYS:O	48:A2:4718:C:H5'	1.52	1.09
49:B1:688:U:H2'	57:BH:103:LYS:HG2	1.25	1.09
65:BP:34:MET:SD	65:BP:45:LEU:HD13	1.91	1.09
67:BR:100:PRO:HD3	67:BR:119:VAL:HG22	1.12	1.09
48:A2:1720:A:C2'	48:A2:1721:G:H5'	1.81	1.09
5:AC:190:ARG:NE	5:AC:202:ILE:CD1	2.13	1.09
52:BC:253:PRO:HA	52:BC:256:TRP:NE1	1.67	1.09
66:BQ:16:LYS:HG3	66:BQ:17:LYS:N	1.57	1.09
70:BU:20:ILE:HG13	70:BU:98:VAL:HG21	1.26	1.09
72:BW:102:ILE:H	72:BW:113:HIS:HB2	1.17	1.09
49:B1:1407:U:H5''	66:BQ:71:ARG:HH12	0.99	1.09
53:BD:142:LEU:HD13	53:BD:150:MET:SD	1.91	1.09
56:BG:211:LYS:HG3	56:BG:215:LYS:HE3	1.35	1.09
69:BT:41:LYS:HZ2	69:BT:81:GLY:CA	1.65	1.09
66:BQ:62:ARG:NH2	66:BQ:108:ILE:CD1	2.15	1.09
8:AF:70:ARG:HD2	48:A2:1191:G:HO2'	1.01	1.09
13:AK:81:HIS:CD2	13:AK:88:PHE:HE1	1.70	1.09
25:AW:102:LYS:CG	25:AW:105:ARG:HH21	1.58	1.09
28:AZ:33:THR:HB	28:AZ:36:ARG:HG2	1.34	1.09
54:BE:69:PHE:CE1	54:BE:94:LYS:CE	2.34	1.09
66:BQ:41:MET:HE2	69:BT:10:ASN:HB2	1.25	1.09
5:AC:77:PRO:CA	5:AC:91:ALA:HB2	1.81	1.09
49:B1:1665:G:N1	69:BT:87:VAL:HG11	1.66	1.09
48:A2:4544:C:C2'	48:A2:4545:C:H5'	1.82	1.09
49:B1:689:U:C6	49:B1:742:U:C4	2.41	1.09
51:BB:173:THR:O	51:BB:177:GLN:CB	2.01	1.09
6:AD:283:LYS:HA	48:A2:1162:U:OP2	1.53	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BB:70:SER:HB3	51:BB:83:LYS:HA	1.26	1.08
49:B1:168:C:C4'	56:BG:131:ARG:HD2	1.82	1.08
14:AL:70:VAL:HG12	14:AL:159:ASN:OD1	1.50	1.08
15:AM:100:ARG:HB3	17:AO:198:THR:OG1	1.52	1.08
49:B1:402:C:H5'	58:BI:14:THR:CG2	1.81	1.08
50:BA:206:ASP:HB3	50:BA:210:ILE:HD11	1.15	1.08
51:BB:38:MET:SD	51:BB:185:VAL:CG1	2.41	1.08
14:AL:60:ARG:NH1	48:A2:72:C:N3	2.01	1.08
20:AR:126:LYS:HG3	20:AR:131:VAL:HG21	1.31	1.08
48:A2:3731:A:N6	49:B1:1825:A:C6	2.21	1.08
53:BD:69:LEU:O	53:BD:73:VAL:HG23	1.53	1.08
59:BJ:141:VAL:HG21	59:BJ:162:ARG:HH21	1.08	1.08
49:B1:1417:C:C1'	69:BT:2:PRO:HA	1.81	1.08
48:A2:1739:U:C2	48:A2:1740:G:C8	2.41	1.08
25:AW:60:LYS:O	25:AW:61:LYS:HG2	1.52	1.08
25:AW:97:LYS:HB3	25:AW:98:PRO:HD3	1.33	1.08
49:B1:827:A:H4'	59:BJ:8:VAL:CG1	1.84	1.08
49:B1:872:A:O2'	49:B1:874:G:N2	1.87	1.08
48:A2:1989:U:C5	48:A2:1991:A:H5''	1.88	1.08
7:AE:203:ILE:O	7:AE:206:VAL:HG23	1.52	1.08
15:AM:46:ARG:HD2	15:AM:47:ARG:H	1.16	1.08
65:BP:119:PHE:CE2	68:BS:117:ILE:HG23	1.89	1.08
49:B1:581:U:C5'	74:BY:62:THR:CG2	2.15	1.08
10:AH:5:LEU:CD1	10:AH:60:TRP:CZ3	2.34	1.08
23:AU:47:ILE:HG22	23:AU:49:VAL:CG2	1.83	1.08
52:BC:256:TRP:CH2	72:BW:68:ARG:HB2	1.88	1.08
20:AR:61:ALA:HB2	48:A2:2612:U:C5'	1.82	1.08
5:AC:217:ILE:HD12	5:AC:220:ALA:HB3	1.34	1.08
13:AK:14:PHE:CZ	48:A2:1941:A:N7	2.21	1.08
28:AZ:68:ILE:HG22	28:AZ:119:GLU:CG	1.84	1.08
55:BF:103:LEU:HD22	55:BF:104:THR:HG23	1.32	1.08
66:BQ:41:MET:HE1	69:BT:10:ASN:HB2	1.34	1.08
48:A2:2685:G:H8	48:A2:2685:G:H5''	1.15	1.08
55:BF:39:ILE:HG23	55:BF:68:ILE:HG21	1.13	1.08
49:B1:386:C:P	58:BI:10:LYS:HE3	1.94	1.08
67:BR:42:PRO:HD2	67:BR:46:LEU:HD23	1.25	1.08
70:BU:24:LEU:HD21	70:BU:112:VAL:HG22	1.10	1.08
71:BV:37:ALA:CB	71:BV:46:PHE:CE1	2.37	1.08
48:A2:900:U:O2'	48:A2:901:U:C5'	2.00	1.08
54:BE:98:HIS:HB3	54:BE:114:ILE:HG23	1.14	1.08
8:AF:70:ARG:HD2	48:A2:1191:G:O2'	1.51	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:58:ASN:HB3	13:AK:82:ILE:HG23	1.36	1.07
49:B1:1519:U:C2	49:B1:1623:A:N7	2.22	1.07
50:BA:216:ALA:HA	50:BA:219:GLU:HG2	1.31	1.07
53:BD:74:GLN:HE21	53:BD:84:VAL:HB	0.94	1.07
14:AL:45:ARG:HH21	48:A2:2775:G:H5'	78.30	1.07
49:B1:168:C:H5''	56:BG:131:ARG:HD3	1.36	1.07
59:BJ:169:ARG:HD3	59:BJ:173:VAL:HG23	1.25	1.07
61:BL:11:GLN:O	61:BL:12:LYS:CG	2.01	1.07
68:BS:74:PRO:HG3	68:BS:84:LEU:CD2	1.82	1.07
6:AD:29:ASP:HB3	48:A2:4242:A:N7	1.70	1.07
7:AE:111:LYS:NZ	48:A2:682:U:OP2	1.87	1.07
49:B1:1236:G:O2'	65:BP:130:ARG:HD2	1.54	1.07
4:AB:389:MET:HG2	48:A2:4999:G:H22	1.18	1.07
16:AN:71:ARG:HD2	16:AN:94:PHE:HB2	1.37	1.07
28:AZ:59:LYS:HD2	28:AZ:60:LYS:H	1.11	1.07
7:AE:95:PRO:HD2	7:AE:107:VAL:HB	1.09	1.07
13:AK:45:MET:CG	19:AQ:121:LEU:HD22	166.49	1.07
25:AW:81:ALA:O	25:AW:82:ILE:HG13	1.54	1.07
5:AC:190:ARG:HE	5:AC:202:ILE:HD12	1.17	1.07
6:AD:225:GLN:O	6:AD:229:ASN:ND2	1.88	1.07
55:BF:23:TRP:CE2	55:BF:108:PRO:HG3	1.90	1.07
13:AK:57:LYS:HB2	13:AK:60:MET:CB	1.85	1.07
50:BA:176:TRP:N	50:BA:202:TYR:CE2	2.22	1.07
50:BA:38:ILE:HD12	50:BA:47:TYR:CB	1.81	1.07
5:AC:219:LYS:HE3	48:A2:220:G:C8	1.89	1.07
5:AC:212:ASN:HB3	5:AC:232:VAL:HG23	1.12	1.07
13:AK:41:GLN:HB3	19:AQ:121:LEU:HD13	164.13	1.07
67:BR:5:ARG:HE	67:BR:53:TYR:HB2	1.19	1.07
67:BR:97:GLU:HB2	67:BR:117:LEU:HD23	1.32	1.07
22:AT:23:GLY:HA2	48:A2:4241:A:OP1	1.54	1.07
21:AS:7:LEU:HD23	21:AS:107:THR:OG1	1.55	1.07
6:AD:17:GLN:HG2	22:AT:20:ARG:CG	1.79	1.06
49:B1:582:U:H4'	74:BY:32:LYS:HA	1.37	1.06
22:AT:127:GLN:NE2	48:A2:1816:G:N2	2.02	1.06
4:AB:393:LYS:HE2	48:A2:4998:U:H5'	1.27	1.06
24:AV:42:VAL:HB	24:AV:45:ILE:HD11	1.37	1.06
49:B1:681:U:C4'	73:BX:9:THR:HG23	1.85	1.06
14:AL:44:ARG:NH2	48:A2:182:C:C6	2.23	1.06
7:AE:240:TYR:CE1	48:A2:4897:C:C4'	2.38	1.06
4:AB:19:ARG:O	48:A2:4529:G:H5''	1.53	1.06
13:AK:58:ASN:HA	13:AK:61:MET:HB2	1.32	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BA:85:ARG:HG2	50:BA:204:TYR:CA	1.84	1.06
51:BB:182:LYS:HE3	51:BB:231:LEU:HD12	1.16	1.06
54:BE:79:ASP:HB3	54:BE:82:TYR:HB2	1.35	1.06
65:BP:82:ASP:O	65:BP:115:TYR:HD2	1.36	1.06
49:B1:1672:U:OP1	66:BQ:18:THR:HB	1.55	1.06
67:BR:35:CYS:HA	67:BR:38:ILE:HD11	1.32	1.06
16:AN:73:ARG:NH2	48:A2:32:G:H5'	1.68	1.06
49:B1:617:G:H4'	73:BX:88:ASP:OD1	1.53	1.06
49:B1:688:U:H2'	57:BH:103:LYS:CD	1.83	1.06
23:AU:43:LEU:O	23:AU:47:ILE:HG13	1.52	1.06
27:AY:36:LYS:HD3	27:AY:36:LYS:H	1.17	1.06
49:B1:1552:G:H5'	49:B1:1557:C:C5	1.89	1.06
7:AE:240:TYR:CZ	48:A2:4897:C:H5'	1.90	1.06
8:AF:166:ARG:NH1	8:AF:209:TRP:CD1	2.22	1.06
8:AF:69:ILE:CG2	8:AF:73:ARG:NE	2.18	1.06
20:AR:126:LYS:HG2	20:AR:131:VAL:CG2	1.86	1.06
28:AZ:96:VAL:HG22	28:AZ:110:ALA:HB1	1.38	1.06
51:BB:182:LYS:HE2	51:BB:231:LEU:CD1	1.85	1.06
54:BE:86:PHE:CE2	54:BE:184:ILE:CG2	2.39	1.06
49:B1:305:U:O4	58:BI:55:TYR:CE2	2.09	1.06
7:AE:173:LEU:HD11	7:AE:191:GLN:HA	1.32	1.06
15:AM:43:THR:O	15:AM:44:GLN:HB2	1.30	1.06
49:B1:402:C:H5'	58:BI:14:THR:HG21	1.31	1.06
48:A2:4982:C:H3'	58:BI:169:GLY:HA3	1.38	1.06
14:AL:195:ARG:CG	14:AL:198:ARG:HH22	1.68	1.06
59:BJ:50:LEU:CD1	59:BJ:105:PHE:HE2	1.69	1.06
62:BM:14:VAL:CG1	62:BM:127:TYR:CZ	2.39	1.06
48:A2:1942:G:O2'	48:A2:2005:G:N2	1.89	1.05
3:AA:65:ASP:OD2	3:AA:72:ARG:NE	1.88	1.05
12:AJ:111:GLU:OE1	12:AJ:125:ILE:CG2	2.03	1.05
27:AY:51:LYS:O	27:AY:70:VAL:HG23	1.56	1.05
54:BE:36:HIS:CD2	54:BE:85:GLY:CA	2.39	1.05
28:AZ:88:ASP:OD1	28:AZ:90:PRO:CD	2.03	1.05
49:B1:1417:C:O4'	69:BT:2:PRO:HA	1.49	1.05
49:B1:1603:G:C5'	68:BS:38:ARG:NH1	2.18	1.05
68:BS:52:LEU:HD12	68:BS:52:LEU:H	1.20	1.05
50:BA:28:THR:HG22	50:BA:46:ILE:HD13	1.39	1.05
54:BE:149:TYR:CE2	56:BG:205:GLU:HB3	1.91	1.05
49:B1:161:U:O4	74:BY:115:LYS:HE2	1.56	1.05
8:AF:70:ARG:CD	48:A2:1191:G:O2'	2.04	1.05
14:AL:136:LYS:HG3	14:AL:137:GLY:HA2	1.35	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BA:38:ILE:CD1	50:BA:47:TYR:HB2	1.84	1.05
48:A2:1741:G:C2	48:A2:1742:G:C8	2.44	1.05
48:A2:3796:A:H2'	48:A2:3797:C:H5'	1.30	1.05
5:AC:217:ILE:HD11	5:AC:221:PHE:HE1	0.89	1.05
19:AQ:68:ARG:HH22	48:A2:1483:C:C2'	1.68	1.05
55:BF:41:VAL:HG21	55:BF:109:LEU:HD21	1.27	1.05
49:B1:744:G:H21	57:BH:109:ARG:CD	1.68	1.05
49:B1:407:G:C6	73:BX:36:LEU:HD23	1.89	1.05
20:AR:38:ARG:CG	48:A2:2505:C:OP2	2.04	1.05
49:B1:1314:U:C4	60:BK:2:LEU:HB3	1.92	1.05
49:B1:750:C:O2	49:B1:793:G:N2	1.88	1.05
67:BR:99:ASP:O	67:BR:102:THR:HG22	1.55	1.05
5:AC:72:ALA:HA	48:A2:3877:A:OP1	1.57	1.05
19:AQ:164:LYS:HD2	48:A2:1479:A:H1'	1.30	1.05
49:B1:1552:G:OP2	49:B1:1578:U:N3	1.89	1.05
22:AT:56:CYS:HB3	22:AT:78:LYS:NZ	1.72	1.05
49:B1:345:U:O2'	54:BE:33:THR:HA	1.55	1.05
49:B1:875:A:C2	49:B1:912:C:C2	2.45	1.05
54:BE:114:ILE:HD11	54:BE:118:GLU:HG2	1.37	1.05
8:AF:184:ILE:HG22	8:AF:189:ASP:HB3	1.33	1.05
50:BA:206:ASP:HB3	50:BA:210:ILE:HD13	1.39	1.05
63:BN:124:ARG:HG2	63:BN:127:ARG:HH22	0.94	1.05
63:BN:16:LEU:HD11	63:BN:62:GLN:OE1	1.54	1.05
75:BZ:82:SER:HA	75:BZ:85:ARG:HH21	1.20	1.05
7:AE:207:LYS:NZ	7:AE:208:ILE:O	1.88	1.05
70:BU:26:SER:CB	70:BU:32:LEU:HB2	1.86	1.05
16:AN:73:ARG:HH21	48:A2:32:G:H5'	0.91	1.04
21:AS:80:ILE:HG22	21:AS:82:LEU:HD21	1.38	1.04
51:BB:79:VAL:HG21	51:BB:82:ARG:CD	1.85	1.04
5:AC:218:ILE:HD12	5:AC:229:LEU:HG	1.38	1.04
9:AG:163:PRO:HD2	48:A2:148:G:N2	1.70	1.04
22:AT:78:LYS:HD3	22:AT:87:LYS:NZ	1.72	1.04
50:BA:41:ARG:HB3	50:BA:41:ARG:HH11	1.17	1.04
64:BO:86:LYS:O	64:BO:89:GLY:N	1.90	1.04
65:BP:85:ILE:N	65:BP:114:HIS:O	1.90	1.04
66:BQ:42:ILE:HG22	66:BQ:44:PRO:HD2	1.36	1.04
20:AR:60:ARG:O	20:AR:62:ARG:N	1.89	1.04
56:BG:157:VAL:HG21	56:BG:176:ILE:HD11	1.39	1.04
65:BP:53:GLN:HB2	65:BP:83:MET:HE3	1.35	1.04
67:BR:98:VAL:HG23	67:BR:102:THR:HG21	1.39	1.04
13:AK:34:ASN:HB2	48:A2:1950:G:C5'	1.88	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1665:G:C2	69:BT:87:VAL:HG11	1.91	1.04
53:BD:71:ALA:CB	60:BK:20:VAL:HG21	1.87	1.04
48:A2:463:C:N4	48:A2:680:C:O2	1.90	1.04
5:AC:77:PRO:CB	5:AC:91:ALA:CB	2.35	1.04
18:AP:18:ARG:CG	18:AP:147:GLU:HG3	1.88	1.04
49:B1:157:U:H1'	56:BG:59:GLN:O	1.57	1.04
21:AS:7:LEU:H	21:AS:7:LEU:HD22	1.17	1.04
53:BD:76:ARG:HH21	60:BK:66:HIS:CE1	1.73	1.04
67:BR:21:TYR:HE2	67:BR:71:ILE:HD13	0.90	1.04
70:BU:20:ILE:HG21	70:BU:116:ILE:HG12	1.33	1.04
67:BR:95:ILE:HG13	67:BR:114:LEU:HD22	1.38	1.04
7:AE:240:TYR:CE1	48:A2:4897:C:H4'	1.93	1.04
48:A2:959:C:O2'	48:A2:960:G:OP1	1.76	1.04
13:AK:45:MET:HG2	19:AQ:121:LEU:HD22	166.75	1.04
25:AW:102:LYS:HG3	25:AW:105:ARG:HH22	1.07	1.04
49:B1:1020:A:OP2	63:BN:70:LYS:NZ	1.91	1.04
48:A2:945:G:N3	48:A2:1267:G:N2	2.04	1.04
7:AE:146:PRO:O	7:AE:200:LYS:CE	2.05	1.04
48:A2:3671:C:OP1	49:B1:1052:A:H4'	1.56	1.04
48:A2:4983:C:P	58:BI:169:GLY:HA3	1.97	1.04
75:BZ:79:ILE:CG2	75:BZ:83:LEU:CD1	1.96	1.04
48:A2:132:G:O6	48:A2:136:G:N2	1.91	1.03
20:AR:62:ARG:NH2	48:A2:4607:C:H5	1.54	1.03
49:B1:1314:U:N3	60:BK:2:LEU:HB3	1.69	1.03
51:BB:71:LEU:CD2	51:BB:84:PHE:CE2	2.41	1.03
49:B1:827:A:H4'	59:BJ:8:VAL:HG11	1.04	1.03
72:BW:102:ILE:HG21	72:BW:125:ILE:HG23	1.37	1.03
48:A2:2067:G:N1	48:A2:2247:A:C2	2.26	1.03
68:BS:70:ILE:CD1	68:BS:77:TYR:CD2	2.40	1.03
48:A2:191:C:O2	48:A2:243:G:N1	1.89	1.03
7:AE:188:ARG:O	48:A2:4899:G:H4'	1.57	1.03
25:AW:101:ARG:HB2	25:AW:105:ARG:HH12	1.18	1.03
49:B1:157:U:H5'	56:BG:58:LYS:O	1.52	1.03
62:BM:14:VAL:HG13	62:BM:127:TYR:CE1	1.87	1.03
67:BR:98:VAL:N	67:BR:117:LEU:CD2	2.21	1.03
75:BZ:62:VAL:HG11	75:BZ:91:LEU:CD2	1.87	1.03
48:A2:1164:C:N4	48:A2:1167:A:O2'	1.91	1.03
48:A2:1745:C:H2'	48:A2:1746:G:H5'	1.40	1.03
48:A2:205:A:C6	48:A2:229:G:O6	2.12	1.03
5:AC:211:TYR:CD2	5:AC:217:ILE:HG21	1.94	1.03
5:AC:218:ILE:HA	5:AC:229:LEU:HD23	1.39	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:112:MET:HE3	7:AE:113:PRO:HD2	1.38	1.03
49:B1:1286:G:OP2	62:BM:104:VAL:HB	1.56	1.03
49:B1:1590:C:OP1	69:BT:82:ARG:HD2	1.59	1.03
49:B1:227:U:O2'	49:B1:228:C:OP2	1.74	1.03
53:BD:76:ARG:HD3	60:BK:68:TYR:OH	1.56	1.03
66:BQ:97:GLN:HG3	66:BQ:105:LYS:HG3	1.40	1.03
48:A2:3727:A:C8	48:A2:3727:A:OP2	2.12	1.03
51:BB:79:VAL:HG23	51:BB:82:ARG:HD3	1.37	1.03
19:AQ:16:LYS:O	19:AQ:52:PHE:CD1	2.10	1.03
20:AR:97:ARG:NH2	48:A2:2704:A:C8	2.25	1.03
66:BQ:39:LEU:HD21	66:BQ:51:LEU:CD2	1.89	1.03
48:A2:4110:C:H2'	48:A2:4111:C:C5	1.94	1.03
8:AF:51:TYR:HE1	48:A2:1220:C:N4	1.51	1.03
49:B1:582:U:C4'	74:BY:32:LYS:HA	1.88	1.03
20:AR:126:LYS:HE2	20:AR:131:VAL:HG11	1.03	1.03
51:BB:180:ASP:N	51:BB:183:GLU:OE1	1.91	1.03
59:BJ:169:ARG:HD3	59:BJ:173:VAL:CG2	1.88	1.03
65:BP:34:MET:CG	65:BP:45:LEU:HD13	1.88	1.03
48:A2:4726:A:C6	48:A2:4826:G:N2	2.26	1.03
28:AZ:97:ASN:OD1	28:AZ:99:ASP:N	1.92	1.03
49:B1:1287:A:C1'	62:BM:36:ARG:HH12	1.72	1.03
70:BU:24:LEU:HD22	70:BU:112:VAL:HG22	1.41	1.03
49:B1:1287:A:C1'	62:BM:36:ARG:NH1	2.21	1.02
20:AR:126:LYS:O	20:AR:131:VAL:HG23	1.59	1.02
67:BR:36:GLU:HA	67:BR:41:ILE:HD11	1.37	1.02
75:BZ:48:VAL:HA	75:BZ:80:ARG:HD2	1.40	1.02
8:AF:184:ILE:HA	8:AF:189:ASP:CB	1.88	1.02
19:AQ:68:ARG:HH22	48:A2:1483:C:H2'	1.17	1.02
20:AR:23:TRP:HH2	20:AR:32:ILE:HG13	1.25	1.02
51:BB:127:VAL:CG1	51:BB:176:VAL:HG11	1.87	1.02
66:BQ:51:LEU:HD12	66:BQ:81:ILE:HG23	1.10	1.02
67:BR:36:GLU:CD	67:BR:47:ARG:HD3	1.79	1.02
3:AA:247:ARG:HG3	49:B1:1069:U:H4'	1.39	1.02
49:B1:1314:U:O2	49:B1:1314:U:H2'	1.54	1.02
49:B1:802:A:H3'	49:B1:803:C:H6	1.24	1.02
55:BF:40:ALA:HB1	55:BF:45:TYR:HB3	1.40	1.02
66:BQ:62:ARG:CD	66:BQ:92:LEU:HG	1.89	1.02
68:BS:44:VAL:HG11	68:BS:71:MET:SD	1.99	1.02
75:BZ:88:LEU:HD23	75:BZ:109:TYR:CD2	1.82	1.02
20:AR:98:ARG:HH21	20:AR:133:LYS:HA	1.20	1.02
49:B1:14:C:H5''	52:BC:190:SER:CB	1.89	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1665:G:C2	69:BT:87:VAL:CG1	2.43	1.02
25:AW:72:THR:OG1	49:B1:1783:C:N4	1.92	1.02
49:B1:617:G:OP1	73:BX:68:LYS:HE2	1.59	1.02
49:B1:693:A:N1	49:B1:737:G:O6	1.92	1.02
67:BR:20:TYR:HD2	67:BR:23:ARG:HD2	1.24	1.02
48:A2:1258:G:N3	48:A2:1259:C:C4	2.27	1.02
21:AS:169:THR:HG23	48:A2:4832:A:N7	1.73	1.02
5:AC:73:VAL:HG23	5:AC:74:ALA:N	1.71	1.02
49:B1:580:U:C2'	74:BY:62:THR:HB	1.90	1.02
48:A2:1739:U:C4	48:A2:1740:G:N7	2.28	1.02
48:A2:4726:A:N1	48:A2:4826:G:N2	2.07	1.02
15:AM:101:LYS:CA	17:AO:198:THR:HG21	1.88	1.02
20:AR:169:ALA:HA	20:AR:172:ARG:HD2	1.40	1.02
50:BA:38:ILE:HD12	50:BA:47:TYR:HB2	1.36	1.02
22:AT:4:THR:HG21	48:A2:4169:C:C6	1.94	1.02
59:BJ:109:ARG:HH12	59:BJ:111:GLN:NE2	1.57	1.02
53:BD:211:VAL:HG23	67:BR:20:TYR:OH	1.60	1.02
13:AK:37:SER:CA	48:A2:1952:C:HO2'	1.70	1.02
48:A2:945:G:H1'	48:A2:1267:G:H22	1.24	1.02
49:B1:502:C:H5'	54:BE:66:MET:SD	2.00	1.02
22:AT:87:LYS:HE2	48:A2:4267:G:O6	1.60	1.02
13:AK:63:LYS:HA	13:AK:66:ARG:HB2	1.39	1.02
14:AL:47:ALA:HB1	14:AL:48:PRO:HD2	1.41	1.02
23:AU:47:ILE:HD11	23:AU:63:ILE:HD11	1.40	1.02
8:AF:148:LYS:HG2	48:A2:931:A:OP2	1.58	1.01
49:B1:1402:A:OP1	70:BU:52:GLY:N	1.93	1.01
49:B1:688:U:C3'	57:BH:103:LYS:HD2	1.90	1.01
66:BQ:33:LYS:HB3	66:BQ:69:ARG:HB2	1.39	1.01
48:A2:1341:G:N2	48:A2:1343:G:C6	2.25	1.01
49:B1:799:U:OP1	57:BH:110:THR:CB	2.08	1.01
49:B1:744:G:N2	57:BH:109:ARG:CD	2.23	1.01
6:AD:233:PRO:HA	6:AD:236:MET:SD	2.00	1.01
67:BR:36:GLU:HA	67:BR:41:ILE:CD1	1.90	1.01
13:AK:81:HIS:NE2	13:AK:88:PHE:CD1	2.28	1.01
15:AM:101:LYS:N	17:AO:198:THR:HG21	1.73	1.01
20:AR:19:LYS:O	20:AR:22:VAL:CG2	2.08	1.01
65:BP:64:LYS:O	65:BP:67:ALA:CB	2.08	1.01
6:AD:195:HIS:CE1	6:AD:199:ILE:HD11	1.96	1.01
20:AR:62:ARG:NH2	48:A2:4607:C:C5	2.25	1.01
56:BG:58:LYS:N	56:BG:107:SER:HB2	1.76	1.01
68:BS:10:GLN:OE1	68:BS:13:LEU:HD11	1.59	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:10:LYS:HE3	48:A2:1941:A:N3	1.75	1.01
48:A2:32:G:N2	48:A2:50:C:N4	2.07	1.01
17:AO:118:MET:HE1	48:A2:4832:A:N6	1.74	1.01
49:B1:448:A:N6	58:BI:29:LEU:HD23	1.75	1.01
49:B1:103:A:H5'	58:BI:12:ARG:NH1	1.75	1.01
66:BQ:44:PRO:HG2	66:BQ:47:LEU:CB	1.89	1.01
7:AE:105:ARG:HG2	48:A2:464:A:C2	1.94	1.01
7:AE:95:PRO:CD	7:AE:107:VAL:HB	1.90	1.01
1:A3:154:G:OP1	9:AG:89:ARG:NE	1.91	1.01
59:BJ:50:LEU:HD11	59:BJ:105:PHE:HE2	1.22	1.01
73:BX:135:LYS:O	73:BX:137:LYS:N	1.94	1.01
48:A2:204:G:H1'	48:A2:228:U:C2	1.95	1.01
5:AC:211:TYR:CZ	5:AC:229:LEU:HD22	1.95	1.01
5:AC:219:LYS:HD2	5:AC:222:ARG:HH21	1.25	1.01
23:AU:47:ILE:CG2	23:AU:49:VAL:HG23	1.90	1.01
49:B1:1417:C:O4'	69:BT:2:PRO:C	1.97	1.01
49:B1:282:G:H3'	49:B1:283:G:H8	1.21	1.01
66:BQ:41:MET:CE	69:BT:10:ASN:CB	2.38	1.01
14:AL:128:PRO:HD2	14:AL:136:LYS:HE2	1.39	1.01
49:B1:1552:G:C4'	49:B1:1557:C:H41	1.73	1.01
49:B1:222:U:H5''	61:BL:17:PHE:HD2	0.86	1.01
75:BZ:62:VAL:HG22	75:BZ:97:ILE:HD11	1.41	1.01
14:AL:165:LYS:CD	48:A2:505:C:OP2	2.09	1.00
7:AE:140:LEU:HA	7:AE:191:GLN:HE22	1.26	1.00
7:AE:210:LYS:HD3	7:AE:210:LYS:H	1.20	1.00
19:AQ:15:ARG:HD3	19:AQ:52:PHE:O	1.60	1.00
50:BA:7:VAL:HG21	71:BV:42:VAL:CA	1.91	1.00
65:BP:52:LYS:HG2	65:BP:83:MET:HE2	1.43	1.00
75:BZ:68:ILE:HG13	75:BZ:97:ILE:HD13	1.01	1.00
48:A2:1888:A:N7	48:A2:1889:A:N6	2.09	1.00
48:A2:904:A:N1	48:A2:906:C:C5	2.29	1.00
15:AM:101:LYS:HB2	17:AO:198:THR:HG21	1.43	1.00
48:A2:121:A:N1	48:A2:150:G:N7	2.08	1.00
48:A2:1741:G:N1	48:A2:1742:G:N7	2.09	1.00
20:AR:23:TRP:CZ2	20:AR:32:ILE:HG21	1.96	1.00
49:B1:1274:G:H22	60:BK:29:MET:HG2	0.85	1.00
49:B1:797:C:C4'	49:B1:798:G:H5'	1.92	1.00
59:BJ:54:ARG:HD3	59:BJ:98:LEU:CD2	1.91	1.00
49:B1:1046:U:H4'	64:BO:140:THR:HG21	1.42	1.00
68:BS:45:LEU:O	68:BS:49:ASP:N	1.95	1.00
7:AE:203:ILE:HG13	7:AE:206:VAL:HG21	1.42	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A4:95:C:H4'	8:AF:229:GLU:OE2	1.61	1.00
53:BD:210:ILE:HG22	67:BR:39:ALA:HB3	1.04	1.00
75:BZ:63:PRO:CG	75:BZ:96:LEU:HD21	1.90	1.00
17:AO:118:MET:CE	48:A2:4832:A:H62	1.73	1.00
5:AC:190:ARG:HD3	5:AC:202:ILE:HD11	1.41	1.00
15:AM:5:ARG:NH1	21:AS:175:PHE:CZ	2.30	1.00
49:B1:1286:G:H1'	62:BM:34:GLY:HA2	1.41	1.00
48:A2:133:C:C2	48:A2:134:G:C5	2.48	1.00
48:A2:3731:A:N6	49:B1:1825:A:C4	2.26	1.00
14:AL:128:PRO:CD	14:AL:136:LYS:HE2	1.91	1.00
23:AU:49:VAL:HG21	23:AU:61:VAL:HG21	1.43	1.00
50:BA:85:ARG:HG2	50:BA:204:TYR:HA	1.04	1.00
54:BE:93:GLU:HB2	54:BE:94:LYS:HB2	1.39	1.00
66:BQ:11:GLN:NE2	66:BQ:24:HIS:CD2	2.28	1.00
13:AK:34:ASN:HB2	48:A2:1950:G:H5'	1.38	1.00
48:A2:2246:U:H6	48:A2:2246:U:OP1	1.42	1.00
20:AR:126:LYS:CG	20:AR:131:VAL:CG2	2.37	1.00
49:B1:112:U:OP1	61:BL:69:ARG:HD2	1.61	1.00
66:BQ:58:LEU:HD22	66:BQ:62:ARG:NH1	1.76	1.00
6:AD:279:ARG:HE	48:A2:1160:U:H4'	1.26	1.00
48:A2:309:G:C5'	48:A2:310:U:OP1	2.10	1.00
48:A2:4726:A:N6	48:A2:4826:G:H22	1.59	1.00
48:A2:680:C:H2'	48:A2:681:A:H5'	1.44	1.00
14:AL:59:VAL:HG13	48:A2:74:G:C5'	1.89	1.00
5:AC:77:PRO:C	5:AC:91:ALA:CB	2.27	1.00
10:AH:8:GLN:CG	10:AH:74:CYS:HB2	1.91	1.00
24:AV:47:GLY:CA	48:A2:4455:U:O2'	2.10	1.00
56:BG:183:ARG:O	56:BG:186:GLN:CG	2.10	1.00
66:BQ:25:CYS:SG	66:BQ:95:TYR:CD2	2.54	1.00
8:AF:131:ASN:HD22	48:A2:1709:U:H5'	1.27	1.00
7:AE:123:ARG:NE	48:A2:956:C:H5	1.60	1.00
1:A3:70:G:H2'	27:AY:114:ASP:OD2	1.62	1.00
49:B1:1603:G:C4'	68:BS:38:ARG:HH12	1.74	1.00
49:B1:1373:C:OP1	67:BR:7:LYS:N	1.95	1.00
72:BW:102:ILE:HG23	72:BW:127:GLY:O	1.62	1.00
13:AK:34:ASN:HB3	48:A2:1950:G:H5'	1.43	1.00
4:AB:389:MET:HG2	48:A2:4999:G:N2	1.75	1.00
7:AE:200:LYS:NZ	7:AE:202:ASP:HA	1.77	1.00
53:BD:213:PRO:HD3	67:BR:19:LYS:HD2	1.44	1.00
58:BI:48:VAL:HG21	58:BI:54:LYS:HE3	1.42	1.00
62:BM:77:ILE:HD12	62:BM:128:PHE:HA	1.44	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:BZ:88:LEU:HD23	75:BZ:109:TYR:CZ	1.97	1.00
48:A2:1817:G:N3	48:A2:1817:G:H5''	1.77	0.99
22:AT:119:ALA:HB2	22:AT:126:VAL:HG11	1.42	0.99
24:AV:42:VAL:HB	24:AV:45:ILE:CD1	1.92	0.99
74:BY:41:ARG:NH2	74:BY:94:HIS:HE1	1.58	0.99
6:AD:16:TYR:CE1	48:A2:4227:U:C5	2.50	0.99
6:AD:211:LEU:O	6:AD:215:ASP:O	1.79	0.99
22:AT:128:LEU:HD12	22:AT:128:LEU:H	1.26	0.99
6:AD:286:SER:CB	48:A2:1163:C:H5''	1.74	0.99
48:A2:1745:C:N4	48:A2:1746:G:N7	2.09	0.99
5:AC:274:LYS:HE2	48:A2:1358:C:OP1	1.61	0.99
59:BJ:162:ARG:O	59:BJ:166:GLY:N	1.93	0.99
48:A2:1741:G:N1	48:A2:1742:G:C5	2.30	0.99
3:AA:196:TRP:CZ2	48:A2:3624:A:OP1	2.14	0.99
9:AG:113:ARG:NH2	48:A2:119:G:C2	2.30	0.99
13:AK:107:VAL:HG12	13:AK:108:PRO:HD3	1.42	0.99
14:AL:129:ARG:H	14:AL:129:ARG:HD2	1.27	0.99
49:B1:308:G:OP1	58:BI:53:LYS:NZ	1.96	0.99
49:B1:64:A:H3'	56:BG:175:LYS:HE3	1.38	0.99
49:B1:1603:G:C5'	68:BS:38:ARG:HH12	1.75	0.99
68:BS:70:ILE:HD13	68:BS:77:TYR:CD2	1.94	0.99
49:B1:1401:A:H4'	70:BU:52:GLY:HA3	1.01	0.99
74:BY:86:GLU:HB2	74:BY:91:LEU:HD11	1.45	0.99
17:AO:179:LYS:CD	48:A2:4830:G:C8	2.44	0.99
21:AS:74:ARG:HH12	48:A2:909:C:H5'	1.26	0.99
49:B1:747:U:O2'	49:B1:749:U:H5	1.45	0.99
75:BZ:63:PRO:HG3	75:BZ:96:LEU:HD21	1.01	0.99
13:AK:14:PHE:CE1	48:A2:1941:A:C4	2.51	0.99
53:BD:79:PHE:HB3	53:BD:84:VAL:HG23	1.40	0.99
48:A2:4982:C:C2'	58:BI:168:GLN:C	2.30	0.99
48:A2:1226:C:OP2	48:A2:1226:C:C5	2.16	0.99
7:AE:111:LYS:CE	48:A2:682:U:OP1	2.11	0.99
54:BE:137:PRO:CG	56:BG:209:TYR:OH	2.11	0.99
19:AQ:17:GLU:OE2	48:A2:2248:C:H5'	1.61	0.99
59:BJ:117:LEU:HD12	59:BJ:157:ILE:HD12	1.45	0.99
48:A2:462:U:H6	48:A2:462:U:H5''	1.25	0.99
25:AW:56:ARG:CZ	48:A2:4999:G:N7	2.26	0.99
4:AB:174:ARG:O	4:AB:176:LYS:HG3	1.62	0.99
8:AF:184:ILE:HG22	8:AF:189:ASP:CB	1.93	0.99
49:B1:864:A:N6	57:BH:106:ARG:NH2	2.11	0.99
49:B1:1314:U:N3	60:BK:2:LEU:HB2	1.73	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:961:C:H5''	48:A2:961:C:C6	1.97	0.99
59:BJ:50:LEU:CD1	59:BJ:105:PHE:CE2	2.45	0.99
75:BZ:63:PRO:HG3	75:BZ:96:LEU:CD2	1.92	0.99
67:BR:95:ILE:CA	67:BR:114:LEU:HD13	1.93	0.98
67:BR:35:CYS:HA	67:BR:38:ILE:CD1	1.91	0.98
68:BS:40:TYR:HE1	68:BS:71:MET:CE	1.75	0.98
48:A2:3682:A:H5''	48:A2:3683:A:OP1	1.62	0.98
48:A2:902:A:H8	48:A2:902:A:H5''	1.23	0.98
6:AD:176:SER:HB3	48:A2:4285:A:H4'	1.42	0.98
49:B1:386:C:OP2	58:BI:10:LYS:HG3	1.62	0.98
50:BA:7:VAL:HG11	71:BV:42:VAL:HA	1.44	0.98
4:AB:317:LEU:HD21	48:A2:4959:U:H5''	1.41	0.98
4:AB:62:ARG:NH1	48:A2:4578:A:H5'	1.77	0.98
53:BD:116:ARG:HD3	53:BD:152:PHE:HZ	1.28	0.98
65:BP:65:LYS:C	65:BP:66:GLU:OE1	2.01	0.98
13:AK:81:HIS:CD2	13:AK:88:PHE:CE1	2.49	0.98
54:BE:118:GLU:OE1	54:BE:118:GLU:N	1.94	0.98
55:BF:39:ILE:CG2	55:BF:68:ILE:HG21	1.92	0.98
63:BN:22:VAL:HB	63:BN:23:PRO:CD	1.93	0.98
48:A2:133:C:C4	48:A2:134:G:C4	2.51	0.98
5:AC:219:LYS:NZ	48:A2:220:G:H8	1.60	0.98
48:A2:227:G:N2	48:A2:234:G:N1	2.11	0.98
14:AL:59:VAL:CG1	48:A2:74:G:H5''	1.83	0.98
13:AK:52:VAL:HG11	13:AK:90:PHE:N	1.78	0.98
15:AM:101:LYS:CB	17:AO:198:THR:HG21	1.93	0.98
18:AP:18:ARG:HG2	18:AP:147:GLU:HG3	0.99	0.98
22:AT:119:ALA:HB2	22:AT:126:VAL:HG13	1.43	0.98
49:B1:1287:A:H1'	62:BM:36:ARG:HH12	0.93	0.98
54:BE:93:GLU:CB	54:BE:94:LYS:HB2	1.92	0.98
66:BQ:97:GLN:HG2	66:BQ:102:GLU:OE2	1.64	0.98
20:AR:74:ARG:NH1	48:A2:2870:U:OP2	1.96	0.98
7:AE:188:ARG:O	48:A2:4899:G:C4'	2.10	0.98
13:AK:59:THR:HB	48:A2:1942:G:C5'	1.94	0.98
49:B1:864:A:N6	57:BH:106:ARG:HH21	1.60	0.98
75:BZ:99:LEU:HD12	75:BZ:99:LEU:O	1.63	0.98
48:A2:2006:A:H4'	48:A2:2007:A:OP1	1.60	0.98
3:AA:244:GLY:O	48:A2:3628:U:H5''	1.61	0.98
7:AE:125:LEU:H	48:A2:946:G:N2	1.61	0.98
49:B1:580:U:O2'	74:BY:62:THR:HB	1.61	0.98
49:B1:797:C:H4'	49:B1:798:G:C5'	1.93	0.98
51:BB:182:LYS:CD	51:BB:231:LEU:HD12	1.93	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:BS:70:ILE:CD1	68:BS:77:TYR:CZ	2.41	0.98
6:AD:4:VAL:HG21	48:A2:1737:C:H1'	1.45	0.98
49:B1:1046:U:O2'	64:BO:140:THR:CB	2.11	0.98
50:BA:216:ALA:HA	50:BA:219:GLU:CG	1.94	0.98
57:BH:115:LYS:O	57:BH:116:ARG:HB2	1.61	0.98
64:BO:103:ASN:HB3	64:BO:142:ARG:NH1	1.78	0.98
68:BS:70:ILE:HD11	68:BS:77:TYR:CE1	1.99	0.98
5:AC:77:PRO:CB	5:AC:91:ALA:HB1	1.93	0.98
10:AH:4:ILE:HG22	10:AH:5:LEU:H	1.28	0.98
62:BM:14:VAL:HG13	62:BM:127:TYR:CG	1.98	0.98
67:BR:97:GLU:HB2	67:BR:117:LEU:HA	1.43	0.98
7:AE:203:ILE:HA	7:AE:206:VAL:CG2	1.94	0.98
24:AV:45:ILE:HD12	24:AV:53:PRO:CB	1.92	0.98
49:B1:1467:C:OP2	67:BR:3:ARG:NH1	1.96	0.98
51:BB:77:ASP:O	51:BB:78:GLU:HG2	1.62	0.98
52:BC:133:TYR:CD1	52:BC:216:MET:HA	1.97	0.98
53:BD:71:ALA:O	53:BD:75:LYS:HG2	1.64	0.98
54:BE:69:PHE:CD1	54:BE:94:LYS:HE2	1.98	0.98
65:BP:65:LYS:HB3	65:BP:66:GLU:OE1	1.60	0.98
66:BQ:23:ALA:HB2	66:BQ:87:SER:HB2	1.46	0.98
1:A3:112:G:OP1	48:A2:2758:C:H1'	1.64	0.97
48:A2:3796:A:C2'	48:A2:3797:C:H5'	1.92	0.97
17:AO:179:LYS:HE2	48:A2:4830:G:H8	1.08	0.97
14:AL:165:LYS:CE	48:A2:505:C:O5'	2.11	0.97
5:AC:57:LEU:HD22	5:AC:58:ALA:H	1.25	0.97
6:AD:290:ALA:O	6:AD:292:GLU:N	1.97	0.97
15:AM:47:ARG:CG	21:AS:73:LEU:HD22	1.94	0.97
49:B1:686:U:O2	57:BH:118:ARG:NH1	1.97	0.97
55:BF:93:VAL:CG1	55:BF:97:PHE:CZ	2.45	0.97
75:BZ:68:ILE:CG1	75:BZ:97:ILE:HD13	1.93	0.97
48:A2:1752:A:C6	48:A2:1753:U:C4	2.52	0.97
10:AH:5:LEU:CB	10:AH:60:TRP:HZ3	1.58	0.97
20:AR:19:LYS:O	20:AR:22:VAL:HG23	1.61	0.97
49:B1:227:U:C1'	49:B1:228:C:OP2	2.13	0.97
49:B1:1603:G:C4'	68:BS:38:ARG:NH1	2.27	0.97
49:B1:1401:A:C4'	70:BU:52:GLY:HA3	1.93	0.97
9:AG:113:ARG:CZ	48:A2:119:G:C6	2.46	0.97
17:AO:114:LYS:O	48:A2:4718:C:C5'	2.11	0.97
6:AD:12:TYR:CE1	6:AD:13:PHE:HD1	1.81	0.97
49:B1:582:U:H4'	74:BY:32:LYS:CA	1.92	0.97
49:B1:574:A:H4'	74:BY:89:HIS:CB	1.94	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AS:93:MET:HG3	48:A2:1933:G:H4'	1.43	0.97
25:AW:119:LYS:O	25:AW:122:SER:OG	1.82	0.97
50:BA:103:PHE:CE2	50:BA:136:GLU:OE1	2.17	0.97
7:AE:126:LEU:HD12	48:A2:958:U:C5	1.99	0.97
10:AH:7:ASN:CB	10:AH:57:VAL:O	2.12	0.97
22:AT:4:THR:HG22	48:A2:4169:C:H5''	1.45	0.97
66:BQ:33:LYS:HE3	66:BQ:36:GLY:HA2	1.42	0.97
68:BS:74:PRO:CG	68:BS:84:LEU:HD21	1.94	0.97
52:BC:252:THR:CB	72:BW:99:PHE:HZ	1.77	0.97
5:AC:100:ARG:CZ	48:A2:1632:A:C2	2.46	0.97
14:AL:44:ARG:CZ	48:A2:182:C:C6	2.47	0.97
19:AQ:164:LYS:HB2	48:A2:1479:A:O4'	1.63	0.97
49:B1:407:G:C5	73:BX:36:LEU:HD23	1.99	0.97
64:BO:85:CYS:SG	64:BO:90:ILE:HD11	2.04	0.97
49:B1:1454:A:C2'	67:BR:3:ARG:HD3	1.93	0.97
48:A2:130:C:H5''	48:A2:131:C:OP2	1.63	0.97
48:A2:307:U:H2'	48:A2:308:G:H5'	1.41	0.97
49:B1:229:A:O2'	49:B1:230:A:O5'	1.83	0.97
75:BZ:68:ILE:HB	75:BZ:109:TYR:CB	1.94	0.97
1:A3:36:G:O2'	1:A3:103:A:N1	1.96	0.97
48:A2:1161:G:N2	48:A2:1164:C:OP1	1.98	0.97
5:AC:212:ASN:HD22	5:AC:232:VAL:HG21	1.29	0.97
7:AE:187:ARG:NH2	48:A2:4900:C:OP1	1.97	0.97
14:AL:177:LYS:HA	14:AL:177:LYS:NZ	1.78	0.97
49:B1:1407:U:H5''	66:BQ:71:ARG:NH1	1.79	0.97
48:A2:4896:A:C8	48:A2:4896:A:OP1	2.18	0.97
5:AC:94:ASN:ND2	5:AC:102:PHE:HB2	1.78	0.97
7:AE:240:TYR:HD2	7:AE:242:ILE:HG22	1.30	0.97
49:B1:1454:A:H2'	67:BR:3:ARG:HD3	0.97	0.97
49:B1:1679:A:N6	55:BF:60:ARG:HA	1.78	0.97
75:BZ:68:ILE:HG13	75:BZ:97:ILE:CD1	1.93	0.97
23:AU:54:GLY:O	23:AU:56:LEU:N	1.98	0.96
28:AZ:95:VAL:HG13	28:AZ:109:LYS:CG	1.95	0.96
48:A2:204:G:C1'	48:A2:228:U:O2	2.12	0.96
23:AU:47:ILE:HG22	23:AU:49:VAL:HG23	0.99	0.96
25:AW:44:ARG:HA	48:A2:3587:U:OP1	1.64	0.96
49:B1:802:A:N6	57:BH:106:ARG:HH12	1.63	0.96
59:BJ:158:ASP:OD1	59:BJ:159:PHE:N	1.98	0.96
48:A2:1342:G:O2'	48:A2:1343:G:OP1	1.83	0.96
13:AK:84:GLY:HA2	48:A2:2002:G:H4'	1.46	0.96
49:B1:1286:G:H2'	49:B1:1287:A:OP1	1.64	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:3875:G:H5''	48:A2:3876:A:OP2	1.65	0.96
3:AA:240:ALA:O	48:A2:3677:C:O2'	1.81	0.96
49:B1:1417:C:C4'	69:BT:2:PRO:CA	2.40	0.96
49:B1:1562:C:H5''	69:BT:71:GLY:HA3	1.47	0.96
6:AD:286:SER:OG	48:A2:1164:C:OP2	1.83	0.96
7:AE:219:LYS:HZ3	48:A2:1274:G:H5'	1.29	0.96
17:AO:49:ARG:NH2	48:A2:1910:A:C2'	2.27	0.96
49:B1:1289:U:O2'	49:B1:1290:G:O5'	1.82	0.96
20:AR:165:LYS:HE2	49:B1:907:G:C5'	1.90	0.96
52:BC:253:PRO:HD2	72:BW:99:PHE:HE1	1.17	0.96
68:BS:15:VAL:HG12	68:BS:16:LEU:CD2	1.95	0.96
48:A2:2606:C:H2'	48:A2:2607:U:C6	2.01	0.96
48:A2:2840:C:O2	48:A2:3596:G:N7	1.98	0.96
5:AC:289:LEU:HG	5:AC:293:LEU:HD11	1.47	0.96
14:AL:44:ARG:NE	48:A2:182:C:H6	1.59	0.96
15:AM:2:VAL:HG12	15:AM:3:PHE:CD2	2.01	0.96
49:B1:633:C:H1'	54:BE:12:VAL:HG12	62.32	0.96
61:BL:18:GLN:O	61:BL:19:ASN:ND2	1.99	0.96
7:AE:100:LYS:HD2	48:A2:678:C:H3'	1.43	0.96
5:AC:311:ARG:HH12	48:A2:946:G:H5'	1.21	0.96
7:AE:173:LEU:HD11	7:AE:191:GLN:CA	1.93	0.96
49:B1:1314:U:H1'	60:BK:2:LEU:HD13	1.47	0.96
49:B1:1522:A:C2	65:BP:128:HIS:CD2	2.43	0.96
67:BR:61:ILE:HG12	67:BR:66:VAL:HG21	1.47	0.96
13:AK:83:ARG:HG3	13:AK:84:GLY:H	1.29	0.96
49:B1:1397:U:H4'	49:B1:1398:G:N2	1.79	0.96
55:BF:40:ALA:HB1	55:BF:45:TYR:CB	1.94	0.96
70:BU:20:ILE:HG22	70:BU:116:ILE:HA	0.97	0.96
48:A2:3929:G:H1	48:A2:4016:A:N6	1.63	0.96
15:AM:101:LYS:HE2	48:A2:4834:U:OP1	1.66	0.96
13:AK:14:PHE:CE1	48:A2:1941:A:C5	2.54	0.96
13:AK:53:VAL:CG1	48:A2:1978:U:H5'	1.96	0.96
59:BJ:117:LEU:HD12	59:BJ:157:ILE:HD13	1.41	0.96
67:BR:42:PRO:HD2	67:BR:46:LEU:CD2	1.94	0.96
5:AC:97:ARG:NH1	48:A2:348:U:O4'	1.99	0.96
48:A2:307:U:C2'	48:A2:308:G:H5'	1.95	0.95
14:AL:59:VAL:HG13	48:A2:74:G:OP1	1.65	0.95
22:AT:105:PHE:CE1	48:A2:1784:A:C4'	2.49	0.95
49:B1:1016:U:O2	63:BN:61:ALA:CB	2.14	0.95
49:B1:1545:A:H4'	66:BQ:75:GLY:HA2	1.48	0.95
64:BO:78:ALA:CB	64:BO:118:ALA:HB3	1.97	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BB:182:LYS:CD	51:BB:231:LEU:CD1	2.44	0.95
51:BB:70:SER:CA	51:BB:83:LYS:HA	1.97	0.95
65:BP:84:ILE:HG23	65:BP:115:TYR:CD2	2.00	0.95
70:BU:24:LEU:HD21	70:BU:112:VAL:CG2	1.94	0.95
14:AL:134:PRO:HB3	14:AL:135:LYS:HD3	1.45	0.95
65:BP:49:LEU:N	65:BP:50:ARG:HG2	1.80	0.95
4:AB:317:LEU:CD2	48:A2:4959:U:H5''	1.96	0.95
6:AD:12:TYR:CD1	6:AD:13:PHE:CD1	2.53	0.95
6:AD:232:THR:N	6:AD:235:MET:HG2	1.80	0.95
22:AT:78:LYS:CD	22:AT:87:LYS:NZ	2.29	0.95
25:AW:42:SER:HB2	25:AW:44:ARG:NH1	1.80	0.95
56:BG:217:MET:HB3	56:BG:221:LYS:NZ	1.80	0.95
49:B1:1522:A:C2	65:BP:128:HIS:HB2	1.98	0.95
65:BP:65:LYS:CG	65:BP:66:GLU:OE1	2.13	0.95
66:BQ:41:MET:HE2	69:BT:10:ASN:CB	1.95	0.95
67:BR:100:PRO:CD	67:BR:119:VAL:CG2	2.43	0.95
48:A2:4982:C:C3'	58:BI:169:GLY:HA3	1.95	0.95
4:AB:393:LYS:HE3	48:A2:4998:U:H5'	1.47	0.95
13:AK:14:PHE:CD2	48:A2:1941:A:C6	2.55	0.95
15:AM:25:VAL:HG12	15:AM:45:VAL:CG1	1.95	0.95
49:B1:1256:G:N1	53:BD:40:ARG:HG3	32.89	0.95
51:BB:41:ILE:HD11	51:BB:73:ASP:HB2	1.47	0.95
54:BE:69:PHE:HE1	54:BE:94:LYS:HE2	1.14	0.95
55:BF:103:LEU:CD2	55:BF:104:THR:HG23	1.94	0.95
49:B1:1314:U:C6	60:BK:2:LEU:CD2	2.50	0.95
70:BU:24:LEU:CD2	70:BU:112:VAL:CG2	2.43	0.95
48:A2:4241:A:H5'	48:A2:4243:A:H1'	1.46	0.95
28:AZ:95:VAL:O	28:AZ:110:ALA:HB2	1.65	0.95
49:B1:282:G:H3'	49:B1:283:G:C8	2.01	0.95
53:BD:74:GLN:NE2	53:BD:84:VAL:HB	1.79	0.95
49:B1:1522:A:N1	65:BP:128:HIS:HB3	1.79	0.95
49:B1:1593:C:H5	75:BZ:104:ARG:HH21	1.12	0.95
48:A2:2853:U:N3	48:A2:3663:A:N1	2.13	0.95
3:AA:87:PHE:HE1	48:A2:4089:U:H5''	1.28	0.95
13:AK:52:VAL:HG11	13:AK:90:PHE:H	1.26	0.95
21:AS:77:ASN:ND2	21:AS:146:HIS:NE2	2.15	0.95
52:BC:133:TYR:HE1	52:BC:216:MET:CA	1.80	0.95
64:BO:78:ALA:HB3	64:BO:118:ALA:CB	1.96	0.95
22:AT:78:LYS:CD	22:AT:87:LYS:HZ1	1.79	0.95
49:B1:823:U:C5	74:BY:64:PHE:CE1	2.55	0.95
49:B1:918:U:H4'	63:BN:20:ARG:HH22	1.19	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BB:70:SER:HB3	51:BB:83:LYS:CA	1.96	0.95
49:B1:407:G:C2	73:BX:36:LEU:CD2	2.49	0.95
48:A2:1258:G:C2	48:A2:1259:C:C4	2.55	0.95
7:AE:109:LEU:O	7:AE:111:LYS:N	2.00	0.95
18:AP:18:ARG:HG2	18:AP:147:GLU:HG2	1.45	0.95
49:B1:1401:A:H4'	70:BU:52:GLY:CA	1.96	0.95
63:BN:22:VAL:HB	63:BN:23:PRO:HD2	1.44	0.95
3:AA:54:ARG:NH2	48:A2:3651:U:OP1	1.99	0.95
4:AB:393:LYS:CE	48:A2:5000:A:H4'	1.96	0.95
7:AE:140:LEU:HA	7:AE:191:GLN:NE2	1.81	0.95
7:AE:203:ILE:C	7:AE:206:VAL:HG23	1.85	0.95
27:AY:41:LYS:HD2	27:AY:42:TYR:CE1	2.01	0.95
51:BB:70:SER:CB	51:BB:83:LYS:CA	2.44	0.95
48:A2:4983:C:P	58:BI:169:GLY:O	2.23	0.95
13:AK:57:LYS:HG2	48:A2:2001:U:OP1	0.77	0.94
23:AU:47:ILE:O	23:AU:49:VAL:N	1.99	0.94
49:B1:827:A:H5'	59:BJ:8:VAL:HG21	1.49	0.94
68:BS:40:TYR:CE1	68:BS:71:MET:HE3	2.01	0.94
13:AK:58:ASN:HA	13:AK:61:MET:CB	1.97	0.94
49:B1:802:A:H3'	49:B1:803:C:C6	2.01	0.94
70:BU:48:LEU:HD11	70:BU:97:ILE:HG21	1.46	0.94
48:A2:1741:G:N1	48:A2:1742:G:C8	2.36	0.94
22:AT:109:VAL:HG13	48:A2:1785:G:C6	2.01	0.94
2:A4:11:A:O2'	2:A4:13:A:OP2	1.85	0.94
21:AS:90:THR:HG21	22:AT:156:TYR:CZ	2.02	0.94
55:BF:23:TRP:HE1	55:BF:108:PRO:HG3	1.18	0.94
66:BQ:33:LYS:CE	66:BQ:36:GLY:CA	2.45	0.94
73:BX:54:LYS:NZ	73:BX:94:ILE:O	1.99	0.94
48:A2:133:C:C5	48:A2:134:G:H2'	2.01	0.94
48:A2:71:C:O2'	48:A2:72:C:O5'	1.85	0.94
6:AD:205:ALA:HB2	6:AD:236:MET:HE1	1.47	0.94
27:AY:65:GLN:N	27:AY:65:GLN:OE1	1.99	0.94
54:BE:95:THR:CB	54:BE:97:GLU:HG3	1.97	0.94
53:BD:34:TYR:CE2	70:BU:61:LEU:CD1	26.66	0.94
50:BA:103:PHE:CZ	50:BA:136:GLU:OE1	2.21	0.94
50:BA:37:TYR:HD2	50:BA:162:PRO:HG3	1.05	0.94
54:BE:34:GLY:HA3	54:BE:83:PRO:HG3	1.48	0.94
51:BB:105:LEU:HD13	51:BB:213:ARG:HA	1.50	0.94
67:BR:95:ILE:HA	67:BR:114:LEU:CD1	1.97	0.94
48:A2:1162:U:O3'	48:A2:1163:C:O2	1.85	0.94
5:AC:219:LYS:CE	48:A2:220:G:C8	2.50	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:140:LEU:HD13	7:AE:167:GLN:HE21	1.31	0.94
26:AX:106:LYS:HG3	48:A2:2758:C:OP1	1.67	0.94
49:B1:1534:C:O2	49:B1:1598:G:N2	2.00	0.94
51:BB:127:VAL:CG1	51:BB:176:VAL:CG1	2.44	0.94
52:BC:253:PRO:HA	52:BC:256:TRP:HE1	1.31	0.94
49:B1:688:U:C2'	57:BH:103:LYS:HD3	1.85	0.94
53:BD:34:TYR:HD2	70:BU:61:LEU:HD11	27.95	0.94
48:A2:1258:G:HO2'	48:A2:1259:C:H5	0.98	0.94
6:AD:29:ASP:CB	48:A2:4242:A:C8	2.49	0.94
5:AC:93:GLY:O	5:AC:100:ARG:O	1.86	0.94
18:AP:18:ARG:CG	18:AP:147:GLU:CG	2.44	0.94
25:AW:113:LYS:CG	49:B1:328:U:O4	2.16	0.94
49:B1:14:C:H5''	52:BC:190:SER:HB3	1.49	0.94
63:BN:54:LEU:HG	63:BN:58:HIS:CD2	2.03	0.94
75:BZ:98:LYS:O	75:BZ:110:THR:N	2.00	0.94
48:A2:2685:G:C8	48:A2:2685:G:H5''	2.03	0.94
3:AA:247:ARG:CG	49:B1:1069:U:H4'	1.97	0.94
49:B1:872:A:C8	49:B1:874:G:N3	2.36	0.94
70:BU:50:VAL:HG22	70:BU:91:LEU:HD22	1.48	0.94
48:A2:944:G:O2'	48:A2:945:G:O4'	1.85	0.94
48:A2:1739:U:N3	48:A2:1740:G:N7	2.16	0.94
48:A2:31:U:O2'	48:A2:32:G:OP1	1.85	0.94
16:AN:85:VAL:HG21	48:A2:44:A:OP2	1.67	0.94
1:A3:81:C:H4'	1:A3:82:A:H5''	1.50	0.94
5:AC:58:ALA:HB1	5:AC:60:HIS:CD2	2.03	0.94
13:AK:78:LEU:HB3	13:AK:80:PRO:HD2	1.47	0.94
20:AR:169:ALA:HA	20:AR:172:ARG:CD	1.97	0.94
49:B1:976:G:O2'	49:B1:977:C:O4'	1.85	0.94
52:BC:97:PHE:O	52:BC:98:LEU:HD23	1.67	0.94
17:AO:91:LYS:HA	48:A2:426:U:O4	1.67	0.93
6:AD:229:ASN:HD22	6:AD:229:ASN:H	1.15	0.93
49:B1:802:A:H61	57:BH:106:ARG:HH12	0.95	0.93
51:BB:71:LEU:HG	51:BB:84:PHE:HE2	1.30	0.93
8:AF:51:TYR:CE2	48:A2:1220:C:H5	1.85	0.93
25:AW:42:SER:CB	25:AW:44:ARG:NH1	2.31	0.93
49:B1:1679:A:H62	55:BF:60:ARG:HA	1.33	0.93
65:BP:52:LYS:HB2	65:BP:80:LEU:CD1	1.97	0.93
53:BD:210:ILE:HB	67:BR:39:ALA:HB2	1.49	0.93
12:AJ:111:GLU:OE2	12:AJ:125:ILE:HG21	1.68	0.93
16:AN:108:ARG:HH22	48:A2:2440:G:H5''	1.21	0.93
17:AO:179:LYS:CD	48:A2:4830:G:N7	2.31	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BE:47:PHE:HE1	54:BE:111:VAL:HG12	1.33	0.93
52:BC:256:TRP:CH2	72:BW:68:ARG:HB3	2.01	0.93
27:AY:59:ARG:NH1	48:A2:196:G:H2'	1.82	0.93
6:AD:12:TYR:CE1	6:AD:13:PHE:HE1	1.69	0.93
8:AF:69:ILE:O	8:AF:73:ARG:HG3	1.67	0.93
27:AY:66:GLN:O	27:AY:68:GLY:N	2.00	0.93
28:AZ:87:VAL:HG22	28:AZ:127:ASN:ND2	1.83	0.93
49:B1:633:C:H1'	54:BE:12:VAL:CG1	61.60	0.93
54:BE:149:TYR:CB	56:BG:209:TYR:HD2	1.81	0.93
59:BJ:89:GLU:OE1	59:BJ:89:GLU:N	2.00	0.93
67:BR:3:ARG:HG3	67:BR:4:VAL:H	1.32	0.93
70:BU:20:ILE:CG2	70:BU:116:ILE:HG12	1.97	0.93
49:B1:582:U:C4'	74:BY:32:LYS:CA	2.46	0.93
7:AE:114:ARG:HG2	48:A2:453:C:OP1	1.68	0.93
23:AU:48:LYS:CG	23:AU:53:ALA:HB2	1.97	0.93
49:B1:286:U:O2'	49:B1:287:U:OP1	1.85	0.93
50:BA:39:TYR:CD2	67:BR:105:MET:SD	2.62	0.93
67:BR:97:GLU:C	67:BR:117:LEU:CD2	2.35	0.93
7:AE:237:LYS:HA	7:AE:237:LYS:NZ	1.83	0.93
20:AR:168:GLU:O	20:AR:172:ARG:HG2	1.69	0.93
60:BK:27:VAL:HG12	60:BK:46:MET:SD	2.09	0.93
61:BL:30:LYS:CD	61:BL:33:LEU:HD21	1.99	0.93
66:BQ:25:CYS:SG	66:BQ:95:TYR:CB	2.56	0.93
67:BR:97:GLU:HB2	67:BR:117:LEU:CD2	1.97	0.93
22:AT:129:LYS:CE	48:A2:1816:G:O2'	2.17	0.93
20:AR:61:ALA:HB2	48:A2:2612:U:H5'	1.45	0.93
13:AK:14:PHE:CZ	48:A2:1941:A:C5	2.57	0.93
28:AZ:33:THR:HG1	28:AZ:40:HIS:CE1	1.81	0.93
51:BB:173:THR:O	51:BB:177:GLN:N	2.00	0.93
53:BD:210:ILE:CG2	67:BR:39:ALA:HB1	1.77	0.93
48:A2:285:U:H5''	48:A2:286:G:OP2	1.68	0.93
49:B1:561:A:OP1	59:BJ:171:GLY:CA	2.16	0.93
49:B1:1286:G:H1'	62:BM:34:GLY:CA	1.98	0.93
62:BM:35:ILE:HD13	62:BM:61:TYR:CE1	2.01	0.93
53:BD:210:ILE:CG2	67:BR:39:ALA:HB2	1.76	0.93
13:AK:41:GLN:HB3	19:AQ:121:LEU:CD1	164.90	0.93
67:BR:42:PRO:CD	67:BR:46:LEU:HD23	1.99	0.93
17:AO:167:HIS:NE2	48:A2:4719:C:C5	2.37	0.93
51:BB:36:PRO:HG2	51:BB:39:PHE:HE2	1.32	0.93
59:BJ:54:ARG:HD3	59:BJ:98:LEU:HD23	1.49	0.93
66:BQ:12:VAL:HG21	66:BQ:91:ALA:HA	1.51	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AF:165:LYS:HA	48:A2:2254:G:O2'	1.69	0.92
13:AK:34:ASN:CB	48:A2:1950:G:C5'	2.47	0.92
14:AL:60:ARG:HD3	48:A2:72:C:O2	1.69	0.92
21:AS:172:PRO:O	48:A2:4724:A:N1	2.01	0.92
28:AZ:33:THR:CB	28:AZ:36:ARG:HG2	2.00	0.92
49:B1:14:C:H5''	52:BC:190:SER:OG	1.68	0.92
49:B1:294:U:O4	61:BL:65:ASN:HB3	1.68	0.92
49:B1:1544:C:H4'	66:BQ:80:GLN:NE2	1.83	0.92
48:A2:163:C:H42	48:A2:264:U:H3	1.13	0.92
7:AE:240:TYR:CE1	48:A2:4897:C:C5'	2.51	0.92
51:BB:171:ILE:HD12	51:BB:197:ILE:HG12	1.49	0.92
54:BE:100:ARG:NH1	54:BE:236:ILE:HG21	1.84	0.92
19:AQ:42:THR:HB	48:A2:1411:U:H5''	1.50	0.92
48:A2:309:G:H5''	48:A2:310:U:OP1	1.66	0.92
7:AE:228:GLN:HB2	48:A2:1277:A:H61	1.32	0.92
49:B1:292:A:H2	61:BL:67:SER:HB2	1.34	0.92
49:B1:872:A:C2	49:B1:915:G:C6	2.58	0.92
60:BK:28:HIS:HE1	60:BK:32:HIS:CE1	1.86	0.92
7:AE:240:TYR:CE1	48:A2:4897:C:H5'	2.03	0.92
48:A2:682:U:H2'	48:A2:683:U:H6	1.31	0.92
20:AR:98:ARG:NH2	20:AR:133:LYS:HA	1.83	0.92
28:AZ:30:ASP:C	28:AZ:31:ASP:OD1	2.07	0.92
49:B1:368:U:H3'	49:B1:369:C:C6	2.05	0.92
48:A2:1943:A:OP2	48:A2:1943:A:H8	1.50	0.92
48:A2:4105:C:O2	48:A2:4111:C:N4	2.01	0.92
2:A4:7:G:N7	6:AD:22:ARG:NH1	2.16	0.92
4:AB:393:LYS:HE2	48:A2:4998:U:C5'	1.99	0.92
6:AD:286:SER:HB3	48:A2:1163:C:H5''	0.93	0.92
7:AE:233:PHE:CE2	48:A2:447:G:OP1	2.23	0.92
13:AK:14:PHE:CD1	48:A2:1941:A:C4	2.57	0.92
22:AT:4:THR:CG2	48:A2:4169:C:C6	2.52	0.92
49:B1:502:C:P	54:BE:66:MET:CE	2.57	0.92
59:BJ:117:LEU:HD13	59:BJ:157:ILE:HD11	0.94	0.92
48:A2:1755:U:H2'	48:A2:1756:C:C6	2.03	0.92
48:A2:2004:C:N3	48:A2:2005:G:C2	2.37	0.92
3:AA:227:ARG:O	3:AA:234:LYS:CE	2.18	0.92
22:AT:56:CYS:CB	22:AT:78:LYS:NZ	2.32	0.92
49:B1:737:G:H8	49:B1:737:G:OP2	1.33	0.92
59:BJ:136:ARG:CB	59:BJ:158:ASP:O	2.18	0.92
49:B1:560:A:H5'	59:BJ:172:ARG:H	1.33	0.92
6:AD:22:ARG:NH2	6:AD:27:LYS:NZ	2.16	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AR:60:ARG:O	20:AR:63:CYS:N	2.03	0.92
66:BQ:62:ARG:HH22	66:BQ:108:ILE:HD13	1.27	0.92
75:BZ:65:TYR:CE2	75:BZ:76:ARG:HG2	2.05	0.92
2:A4:14:C:P	6:AD:24:ARG:HH12	1.91	0.92
5:AC:183:VAL:HG11	5:AC:225:PRO:C	1.90	0.92
15:AM:6:PHE:HE1	21:AS:151:LYS:HD2	1.31	0.92
49:B1:833:C:H2'	49:B1:834:C:C6	2.05	0.92
53:BD:34:TYR:CD2	70:BU:61:LEU:CD1	27.92	0.92
49:B1:502:C:P	54:BE:66:MET:HE3	2.10	0.92
8:AF:66:ARG:NH2	48:A2:1192:U:O2'	2.02	0.92
4:AB:119:TYR:HE1	48:A2:4925:A:OP1	1.51	0.92
19:AQ:10:ASP:OD1	19:AQ:11:ARG:N	2.03	0.92
54:BE:100:ARG:NH1	54:BE:236:ILE:CG2	2.33	0.92
17:AO:167:HIS:CE1	48:A2:4719:C:H5	1.80	0.92
5:AC:57:LEU:HD22	5:AC:58:ALA:N	1.84	0.92
2:A4:47:G:O2'	6:AD:223:PHE:CE1	2.21	0.92
21:AS:139:ARG:HA	21:AS:139:ARG:HE	1.33	0.92
49:B1:864:A:H61	57:BH:106:ARG:NH2	1.67	0.92
49:B1:890:U:H5'	49:B1:891:G:H5''	1.52	0.92
51:BB:171:ILE:CD1	51:BB:197:ILE:HG12	2.00	0.92
72:BW:94:LEU:HD21	72:BW:101:PHE:H	1.35	0.92
48:A2:1949:G:N2	48:A2:2000:C:O2	2.03	0.91
2:A4:13:A:H2	6:AD:21:ARG:HB2	1.35	0.91
14:AL:195:ARG:CG	14:AL:198:ARG:NH2	2.30	0.91
49:B1:1454:A:C2'	67:BR:3:ARG:CD	2.49	0.91
49:B1:168:C:H5''	56:BG:131:ARG:HD2	0.98	0.91
50:BA:28:THR:HG22	50:BA:46:ILE:CD1	2.00	0.91
65:BP:65:LYS:HG2	65:BP:66:GLU:OE1	1.70	0.91
7:AE:100:LYS:HB3	48:A2:678:C:H5'	1.51	0.91
51:BB:71:LEU:HD21	51:BB:84:PHE:CE2	2.04	0.91
49:B1:509:G:H5'	59:BJ:3:VAL:HA	1.52	0.91
66:BQ:42:ILE:HG22	66:BQ:44:PRO:CD	2.00	0.91
8:AF:179:LEU:HG	8:AF:184:ILE:HD11	1.52	0.91
18:AP:13:LYS:O	18:AP:107:LEU:CD2	2.18	0.91
22:AT:56:CYS:CB	22:AT:78:LYS:HZ1	1.84	0.91
49:B1:581:U:H5'	74:BY:62:THR:HG22	1.52	0.91
50:BA:37:TYR:HD2	50:BA:162:PRO:CG	1.83	0.91
52:BC:200:ARG:HG2	52:BC:200:ARG:HH11	1.35	0.91
15:AM:101:LYS:HA	15:AM:104:MET:HE3	1.52	0.91
28:AZ:50:PRO:CG	28:AZ:122:TYR:HE2	1.84	0.91
49:B1:407:G:C5	73:BX:36:LEU:CD2	2.52	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AS:173:ASN:HA	48:A2:4724:A:H2	0.75	0.91
8:AF:179:LEU:CD2	8:AF:184:ILE:HD11	2.00	0.91
15:AM:47:ARG:HG2	21:AS:73:LEU:CD2	1.99	0.91
28:AZ:68:ILE:HG21	28:AZ:119:GLU:HG3	1.49	0.91
51:BB:182:LYS:CG	51:BB:231:LEU:CD1	2.49	0.91
51:BB:71:LEU:CD2	51:BB:75:GLN:HB2	2.00	0.91
59:BJ:112:THR:O	59:BJ:116:LYS:HG2	1.70	0.91
49:B1:1021:U:H5'	63:BN:128:TYR:HE1	1.31	0.91
65:BP:85:ILE:HG22	65:BP:112:ILE:HA	1.51	0.91
70:BU:48:LEU:CD1	70:BU:97:ILE:HG21	1.99	0.91
5:AC:323:ARG:HB3	48:A2:1264:G:O2'	1.71	0.91
48:A2:2879:U:H2'	48:A2:2880:G:H5'	1.53	0.91
14:AL:60:ARG:HH12	48:A2:72:C:H42	1.18	0.91
49:B1:1552:G:H4'	49:B1:1557:C:H41	1.36	0.91
18:AP:69:ARG:HH22	48:A2:4530:A:H2	1.18	0.91
3:AA:227:ARG:O	3:AA:234:LYS:NZ	2.03	0.91
8:AF:184:ILE:HA	8:AF:189:ASP:HB2	1.53	0.91
56:BG:57:ASP:C	56:BG:107:SER:CB	2.39	0.91
9:AG:113:ARG:NH2	48:A2:119:G:N3	2.19	0.91
16:AN:71:ARG:CD	16:AN:94:PHE:HB2	2.01	0.91
28:AZ:95:VAL:HG13	28:AZ:109:LYS:HG2	1.50	0.91
49:B1:1483:A:H4'	53:BD:160:SER:HB3	1.50	0.91
71:BV:14:PRO:HB2	71:BV:23:ILE:HG23	1.52	0.91
8:AF:51:TYR:CE2	48:A2:1220:C:C5	2.58	0.91
48:A2:130:C:C3'	48:A2:131:C:H5''	2.01	0.91
5:AC:311:ARG:NH1	48:A2:946:G:C5'	2.27	0.91
54:BE:115:THR:HB	54:BE:118:GLU:CD	1.91	0.91
60:BK:28:HIS:HE1	60:BK:32:HIS:NE2	1.67	0.91
48:A2:1977:C:H2'	48:A2:1978:U:O2	1.70	0.91
1:A3:11:C:O2'	18:AP:5:SER:CA	2.19	0.91
5:AC:77:PRO:CA	5:AC:91:ALA:CB	2.48	0.91
6:AD:90:VAL:HG23	6:AD:226:TYR:CE1	2.06	0.91
14:AL:136:LYS:HG3	14:AL:137:GLY:CA	2.00	0.91
5:AC:51:PRO:HB3	14:AL:26:PHE:HE1	1.34	0.91
49:B1:797:C:H4'	49:B1:798:G:H5'	0.97	0.91
55:BF:41:VAL:CG2	55:BF:109:LEU:HD21	2.00	0.91
65:BP:68:PRO:HD2	65:BP:71:GLU:HB2	1.53	0.91
1:A3:33:G:N2	48:A2:335:G:O6	2.04	0.90
48:A2:4264:U:C4	48:A2:4265:C:O2	2.25	0.90
7:AE:102:GLY:HA3	48:A2:677:G:O2'	1.71	0.90
5:AC:190:ARG:HA	5:AC:202:ILE:CD1	2.01	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BE:98:HIS:C	54:BE:114:ILE:HG22	1.89	0.90
54:BE:149:TYR:CD1	56:BG:209:TYR:CD2	2.57	0.90
70:BU:20:ILE:HG13	70:BU:98:VAL:CG2	2.00	0.90
48:A2:4597:A:H3'	48:A2:4598:U:H4'	1.54	0.90
7:AE:105:ARG:CG	48:A2:464:A:N1	2.34	0.90
58:BI:43:ILE:HG23	58:BI:56:ARG:O	1.72	0.90
66:BQ:25:CYS:SG	66:BQ:95:TYR:HD2	1.90	0.90
25:AW:98:PRO:HD2	25:AW:99:GLU:H	1.37	0.90
49:B1:227:U:C1'	49:B1:228:C:P	2.56	0.90
49:B1:1741:U:OP1	58:BI:58:LEU:HD12	1.71	0.90
75:BZ:82:SER:HA	75:BZ:85:ARG:NH2	1.85	0.90
8:AF:165:LYS:HB3	48:A2:2254:G:C1'	2.01	0.90
8:AF:223:LYS:HA	8:AF:232:ASP:HB3	1.50	0.90
22:AT:119:ALA:HB1	22:AT:124:THR:O	1.70	0.90
23:AU:47:ILE:CD1	23:AU:63:ILE:CD1	2.47	0.90
63:BN:34:LYS:O	63:BN:37:ILE:HG22	1.70	0.90
67:BR:21:TYR:CE2	67:BR:71:ILE:CD1	2.33	0.90
19:AQ:30:LYS:HE3	48:A2:2247:A:O2'	1.72	0.90
2:A4:9:C:OP1	22:AT:28:ALA:HB2	1.71	0.90
7:AE:139:LYS:C	7:AE:140:LEU:HD23	1.92	0.90
13:AK:17:ILE:HD13	13:AK:61:MET:CE	2.00	0.90
49:B1:1287:A:H5''	49:B1:1312:G:H1	1.24	0.90
49:B1:1488:C:H3'	49:B1:1489:A:H4'	1.53	0.90
65:BP:53:GLN:HB2	65:BP:83:MET:CE	2.00	0.90
48:A2:1989:U:C5	48:A2:1992:C:H5	1.90	0.90
48:A2:2858:A:H4'	48:A2:2859:U:OP1	1.69	0.90
18:AP:69:ARG:NH2	48:A2:4530:A:H2	1.69	0.90
49:B1:182:C:H2'	49:B1:183:G:H1'	1.51	0.90
49:B1:801:U:H2'	49:B1:802:A:C8	2.07	0.90
51:BB:128:LYS:O	51:BB:177:GLN:OE1	1.89	0.90
53:BD:116:ARG:CZ	53:BD:150:MET:HE2	2.02	0.90
54:BE:16:LYS:O	54:BE:19:MET:HE3	1.72	0.90
66:BQ:16:LYS:HG3	66:BQ:17:LYS:H	0.73	0.90
48:A2:3732:C:OP1	48:A2:3733:U:OP2	1.88	0.90
5:AC:212:ASN:CB	5:AC:232:VAL:HG23	2.00	0.90
7:AE:203:ILE:CA	7:AE:206:VAL:HG23	2.02	0.90
49:B1:495:U:OP1	54:BE:58:GLY:N	2.03	0.90
53:BD:68:GLU:HG3	60:BK:20:VAL:HG22	1.51	0.90
54:BE:96:GLY:O	54:BE:97:GLU:HG2	1.72	0.90
68:BS:92:ASP:OD2	68:BS:94:LYS:CB	2.20	0.90
70:BU:26:SER:HB2	70:BU:32:LEU:HB2	1.51	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:3813:C:H3'	48:A2:3814:C:H2'	1.50	0.90
28:AZ:33:THR:OG1	28:AZ:40:HIS:HE1	1.53	0.90
49:B1:829:C:H3'	54:BE:21:ASP:OD1	1.71	0.90
49:B1:168:C:H4'	56:BG:131:ARG:HD2	1.51	0.90
49:B1:688:U:C2'	57:BH:103:LYS:HD2	2.02	0.90
65:BP:30:TYR:HA	65:BP:33:LEU:HD11	1.53	0.90
25:AW:109:ILE:O	25:AW:113:LYS:HG3	1.71	0.90
49:B1:368:U:H3'	49:B1:369:C:C5	2.07	0.90
51:BB:183:GLU:HA	51:BB:186:ASN:HD22	1.36	0.90
65:BP:34:MET:CE	65:BP:42:ARG:HA	2.02	0.90
65:BP:35:GLN:O	65:BP:35:GLN:NE2	2.05	0.90
48:A2:131:C:H6	48:A2:131:C:H5'	1.37	0.90
48:A2:221:U:H5'	48:A2:239:U:H1'	1.51	0.90
48:A2:3737:A:OP2	48:A2:3738:C:N4	2.03	0.90
1:A3:108:A:O2'	1:A3:109:C:OP1	1.90	0.90
6:AD:22:ARG:HE	6:AD:27:LYS:HD2	1.37	0.90
49:B1:142:C:O2	56:BG:180:VAL:HG11	1.71	0.90
49:B1:1552:G:C5'	49:B1:1557:C:H5	1.84	0.90
56:BG:160:LYS:C	56:BG:171:THR:HG23	1.92	0.89
48:A2:121:A:N6	48:A2:150:G:O6	2.06	0.89
48:A2:1943:A:OP2	48:A2:1943:A:C8	2.23	0.89
49:B1:222:U:C5'	61:BL:17:PHE:CD2	2.54	0.89
62:BM:14:VAL:HG13	62:BM:127:TYR:CZ	2.05	0.89
64:BO:142:ARG:HH11	64:BO:142:ARG:HA	1.37	0.89
8:AF:166:ARG:HB3	8:AF:209:TRP:CD2	2.06	0.89
25:AW:56:ARG:NH1	48:A2:4999:G:N7	2.19	0.89
49:B1:574:A:H4'	74:BY:89:HIS:HB2	1.52	0.89
49:B1:797:C:H1'	49:B1:798:G:OP2	1.73	0.89
5:AC:44:LEU:HD22	48:A2:1356:A:H5''	1.51	0.89
2:A4:73:U:H3'	2:A4:74:A:H5''	1.54	0.89
13:AK:32:ALA:N	13:AK:85:ASN:HB2	1.88	0.89
22:AT:17:ARG:HH22	22:AT:45:MET:HE1	1.37	0.89
50:BA:201:LEU:CD2	67:BR:85:VAL:CG2	2.51	0.89
51:BB:41:ILE:CD1	51:BB:73:ASP:HB2	2.02	0.89
53:BD:116:ARG:NH1	53:BD:152:PHE:CZ	2.40	0.89
66:BQ:42:ILE:HD12	66:BQ:48:GLN:CB	2.02	0.89
48:A2:2003:C:H2'	48:A2:2004:C:H5'	1.54	0.89
7:AE:187:ARG:HH11	7:AE:187:ARG:HG2	1.38	0.89
19:AQ:164:LYS:CD	48:A2:1479:A:H1'	2.01	0.89
20:AR:25:ASP:OD2	20:AR:48:GLY:O	1.89	0.89
26:AX:55:ARG:HH11	26:AX:55:ARG:HA	1.37	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:AZ:68:ILE:CG2	28:AZ:119:GLU:CG	2.47	0.89
50:BA:85:ARG:CG	50:BA:204:TYR:HA	1.98	0.89
64:BO:140:THR:O	64:BO:141:ARG:O	1.90	0.89
75:BZ:69:THR:OG1	75:BZ:72:VAL:CB	2.20	0.89
48:A2:2066:G:H2'	48:A2:2067:G:C8	2.08	0.89
14:AL:165:LYS:HE2	48:A2:505:C:O5'	1.72	0.89
48:A2:903:C:O2'	48:A2:904:A:OP2	1.88	0.89
21:AS:80:ILE:HG22	21:AS:82:LEU:CD2	2.03	0.89
49:B1:875:A:C2	49:B1:912:C:N3	2.40	0.89
51:BB:171:ILE:HD12	51:BB:197:ILE:CG1	2.03	0.89
54:BE:149:TYR:HE2	56:BG:205:GLU:HB3	1.29	0.89
67:BR:5:ARG:NE	67:BR:53:TYR:HB2	1.88	0.89
75:BZ:79:ILE:HG21	75:BZ:83:LEU:HD11	1.48	0.89
2:A4:85:G:OP1	8:AF:222:LYS:NZ	2.06	0.89
5:AC:58:ALA:HB1	5:AC:60:HIS:HD2	1.37	0.89
14:AL:134:PRO:CB	14:AL:135:LYS:HD3	2.03	0.89
49:B1:1286:G:C1'	62:BM:34:GLY:HA2	2.01	0.89
67:BR:98:VAL:H	67:BR:117:LEU:HD21	1.33	0.89
68:BS:74:PRO:HG3	68:BS:84:LEU:CD1	2.01	0.89
49:B1:227:U:C2'	49:B1:228:C:OP2	2.21	0.89
54:BE:95:THR:HB	54:BE:97:GLU:HG3	1.53	0.89
49:B1:527:C:OP1	59:BJ:124:HIS:HB3	1.72	0.89
62:BM:11:VAL:HG12	62:BM:13:ASP:OD1	1.73	0.89
67:BR:97:GLU:CB	67:BR:117:LEU:HD23	2.02	0.89
5:AC:62:THR:HB	48:A2:369:G:OP1	1.72	0.89
15:AM:46:ARG:HD2	15:AM:47:ARG:N	1.86	0.89
54:BE:19:MET:CE	54:BE:108:ARG:HD3	2.03	0.89
63:BN:21:SER:O	63:BN:65:PHE:HB3	1.72	0.89
63:BN:78:LYS:O	63:BN:80:LEU:CD1	2.21	0.89
68:BS:74:PRO:HG3	68:BS:84:LEU:HD11	1.54	0.89
48:A2:154:U:H6	48:A2:154:U:H5''	1.37	0.89
4:AB:393:LYS:CE	48:A2:4998:U:C5'	2.51	0.89
16:AN:176:LYS:NZ	48:A2:64:A:H5'	1.86	0.89
8:AF:73:ARG:NH2	48:A2:717:G:H5''	1.88	0.89
5:AC:54:VAL:HG13	5:AC:105:THR:O	1.72	0.89
49:B1:873:G:O6	61:BL:153:LYS:CA	2.19	0.89
50:BA:203:PHE:O	50:BA:204:TYR:HB3	1.73	0.89
54:BE:87:MET:HE2	54:BE:123:LEU:H	0.74	0.89
66:BQ:58:LEU:HD22	66:BQ:62:ARG:HH12	1.34	0.89
67:BR:35:CYS:HA	67:BR:38:ILE:CG1	2.03	0.89
68:BS:45:LEU:HA	68:BS:48:ALA:HB3	1.54	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:BZ:69:THR:OG1	75:BZ:72:VAL:HB	1.71	0.89
48:A2:2066:G:H2'	48:A2:2067:G:H8	1.38	0.88
48:A2:2880:G:C2'	48:A2:2881:G:H5'	2.03	0.88
6:AD:286:SER:OG	48:A2:1164:C:P	2.30	0.88
7:AE:111:LYS:HZ1	48:A2:682:U:P	1.95	0.88
64:BO:87:GLU:O	64:BO:88:LEU:HD23	1.74	0.88
75:BZ:69:THR:HG1	75:BZ:72:VAL:HB	1.36	0.88
7:AE:228:GLN:HB2	48:A2:1277:A:N6	1.88	0.88
6:AD:36:LEU:HD23	48:A2:4287:A:H1'	1.55	0.88
48:A2:966:C:H42	48:A2:1258:G:H1	0.89	0.88
5:AC:219:LYS:CD	5:AC:222:ARG:HH21	1.87	0.88
49:B1:688:U:H3'	57:BH:103:LYS:CD	2.02	0.88
61:BL:30:LYS:HB3	61:BL:33:LEU:HD13	1.52	0.88
65:BP:34:MET:O	65:BP:42:ARG:HD3	1.72	0.88
66:BQ:33:LYS:HE2	66:BQ:36:GLY:HA2	1.54	0.88
68:BS:10:GLN:OE1	68:BS:13:LEU:CD1	2.22	0.88
48:A2:1258:G:H1'	48:A2:1259:C:C5	2.08	0.88
7:AE:220:LYS:H	48:A2:4898:C:H42	1.15	0.88
48:A2:49:U:O2	48:A2:49:U:H2'	1.73	0.88
2:A4:33:U:C1'	6:AD:207:TYR:CD1	2.56	0.88
6:AD:224:SER:HA	6:AD:227:ILE:HD11	1.53	0.88
14:AL:13:HIS:O	14:AL:14:PHE:HD1	1.51	0.88
19:AQ:153:GLY:HA3	19:AQ:163:THR:HG21	1.54	0.88
66:BQ:97:GLN:OE1	66:BQ:105:LYS:CE	2.20	0.88
48:A2:1888:A:C5	48:A2:1889:A:N6	2.42	0.88
5:AC:219:LYS:NZ	48:A2:220:G:C8	2.41	0.88
49:B1:1455:A:OP1	67:BR:5:ARG:NH2	2.07	0.88
49:B1:1784:G:C2	49:B1:1785:C:C2	2.60	0.88
49:B1:331:C:H6	49:B1:331:C:OP2	1.56	0.88
65:BP:64:LYS:O	65:BP:67:ALA:HB1	1.73	0.88
67:BR:95:ILE:CG1	67:BR:114:LEU:HD22	2.04	0.88
68:BS:40:TYR:CE1	68:BS:71:MET:CE	2.56	0.88
48:A2:3683:A:H2'	48:A2:3684:U:C6	2.09	0.88
5:AC:97:ARG:HH12	48:A2:348:U:C4'	1.86	0.88
49:B1:78:C:C4'	56:BG:175:LYS:HG2	2.03	0.88
49:B1:1522:A:N1	65:BP:128:HIS:CG	2.40	0.88
5:AC:217:ILE:CD1	5:AC:221:PHE:CE1	2.56	0.88
66:BQ:33:LYS:CG	66:BQ:36:GLY:HA2	2.03	0.88
71:BV:41:LYS:HD2	71:BV:41:LYS:H	1.37	0.88
48:A2:2246:U:OP1	48:A2:2246:U:C6	2.26	0.88
48:A2:2852:U:H2'	48:A2:2854:C:C5	2.09	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:3661:U:H5''	48:A2:3790:G:OP2	1.74	0.88
5:AC:214:ASP:OD1	5:AC:216:GLY:N	2.06	0.88
6:AD:235:MET:O	6:AD:239:MET:CB	2.22	0.88
7:AE:123:ARG:NH1	7:AE:124:LYS:HB2	1.88	0.88
25:AW:101:ARG:HB3	25:AW:105:ARG:HH11	1.06	0.88
49:B1:1125:C:O4'	67:BR:123:THR:CG2	2.22	0.88
58:BI:56:ARG:HH11	58:BI:56:ARG:HG3	1.38	0.88
72:BW:94:LEU:CD2	72:BW:101:PHE:H	1.87	0.88
75:BZ:69:THR:OG1	75:BZ:72:VAL:CG2	2.22	0.88
75:BZ:77:LEU:O	75:BZ:78:LYS:HB3	1.71	0.88
22:AT:105:PHE:CZ	48:A2:1784:A:H4'	2.09	0.88
13:AK:14:PHE:CG	48:A2:1941:A:C6	2.62	0.88
2:A4:33:U:N1	6:AD:207:TYR:CD1	2.42	0.88
5:AC:218:ILE:CD1	5:AC:229:LEU:HG	2.03	0.88
7:AE:240:TYR:CD2	7:AE:242:ILE:HG22	2.07	0.88
15:AM:90:ARG:O	15:AM:94:LYS:HG3	1.71	0.88
24:AV:45:ILE:CD1	24:AV:53:PRO:CB	2.51	0.88
49:B1:1046:U:C4'	64:BO:140:THR:HG21	2.02	0.88
49:B1:797:C:H5'	57:BH:109:ARG:HH21	1.39	0.88
56:BG:216:ARG:HH21	56:BG:219:GLU:HG3	1.38	0.88
49:B1:1125:C:O4'	67:BR:123:THR:HG21	1.72	0.88
75:BZ:63:PRO:HB3	75:BZ:111:ARG:NE	1.89	0.88
4:AB:224:LYS:HE3	48:A2:4588:A:OP2	1.74	0.88
14:AL:165:LYS:HE3	48:A2:505:C:O5'	1.74	0.88
5:AC:52:TYR:CE2	48:A2:344:C:H4'	2.09	0.88
5:AC:97:ARG:HG3	5:AC:97:ARG:HH11	1.35	0.88
6:AD:22:ARG:NH2	6:AD:27:LYS:CD	2.36	0.88
20:AR:126:LYS:CE	20:AR:131:VAL:CG1	2.40	0.88
27:AY:86:GLN:NE2	27:AY:96:HIS:HA	1.88	0.88
66:BQ:62:ARG:CZ	66:BQ:108:ILE:HD13	2.02	0.88
48:A2:71:C:HO2'	48:A2:72:C:P	1.97	0.88
13:AK:2:PRO:HB2	48:A2:2671:U:O2	188.03	0.88
18:AP:13:LYS:O	18:AP:107:LEU:HD21	1.71	0.88
20:AR:165:LYS:NZ	49:B1:907:G:C4'	2.37	0.88
20:AR:24:LEU:HD22	20:AR:25:ASP:H	1.39	0.88
27:AY:42:TYR:HB2	27:AY:44:VAL:HG12	1.54	0.88
53:BD:76:ARG:HE	60:BK:66:HIS:CE1	1.92	0.88
54:BE:100:ARG:HH12	54:BE:236:ILE:CG2	1.87	0.88
55:BF:103:LEU:O	55:BF:104:THR:OG1	1.91	0.88
59:BJ:122:SER:HB2	59:BJ:125:HIS:CB	2.04	0.88
67:BR:71:ILE:HG13	67:BR:74:GLN:H	1.39	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:203:ILE:CG1	7:AE:206:VAL:HG21	2.04	0.87
13:AK:41:GLN:CB	19:AQ:121:LEU:CD1	164.09	0.87
49:B1:493:A:H4'	74:BY:89:HIS:HD2	1.39	0.87
65:BP:48:GLY:C	65:BP:49:LEU:HD23	1.95	0.87
48:A2:2044:G:H2'	48:A2:2045:G:C8	2.08	0.87
48:A2:2853:U:H6	48:A2:2853:U:H5'	1.39	0.87
7:AE:101:ASN:OD1	7:AE:102:GLY:N	2.06	0.87
49:B1:428:U:H4'	59:BJ:2:PRO:HG2	1.54	0.87
51:BB:181:LEU:O	51:BB:184:VAL:HG23	1.74	0.87
65:BP:30:TYR:HA	65:BP:33:LEU:CG	2.04	0.87
67:BR:12:ALA:O	67:BR:16:ILE:HG12	1.73	0.87
75:BZ:78:LYS:C	75:BZ:79:ILE:HD13	1.95	0.87
48:A2:130:C:N4	48:A2:137:G:O6	2.06	0.87
3:AA:207:VAL:CG1	48:A2:3890:C:H5'	2.03	0.87
13:AK:14:PHE:CZ	48:A2:1941:A:C8	2.63	0.87
13:AK:53:VAL:CB	48:A2:1978:U:H5'	2.03	0.87
49:B1:1256:G:C2	53:BD:40:ARG:HD2	36.45	0.87
49:B1:1284:A:H5'	49:B1:1285:G:C5'	2.03	0.87
51:BB:39:PHE:HB3	51:BB:74:LEU:O	1.74	0.87
59:BJ:81:LEU:HD12	59:BJ:87:LEU:HD11	1.56	0.87
65:BP:82:ASP:O	65:BP:115:TYR:CD2	2.27	0.87
48:A2:1258:G:N3	48:A2:1259:C:C5	2.43	0.87
7:AE:273:SER:CB	48:A2:4839:U:O2'	2.22	0.87
4:AB:294:LYS:O	4:AB:297:LYS:HA	1.74	0.87
7:AE:219:LYS:HA	48:A2:4898:C:C4	2.08	0.87
9:AG:244:PRO:HD2	48:A2:4124:C:O2'	1.74	0.87
25:AW:76:VAL:HG22	25:AW:77:LYS:H	1.37	0.87
50:BA:198:MET:SD	67:BR:87:GLU:CG	2.60	0.87
66:BQ:62:ARG:HD3	66:BQ:92:LEU:HG	1.46	0.87
68:BS:15:VAL:HG12	68:BS:16:LEU:HD23	1.54	0.87
71:BV:35:ASN:ND2	71:BV:50:PHE:CD2	2.41	0.87
48:A2:89:C:O4'	48:A2:286:G:O2'	1.91	0.87
7:AE:127:SER:O	7:AE:128:HIS:HB2	1.06	0.87
49:B1:1286:G:H4'	49:B1:1313:A:H62	1.38	0.87
49:B1:581:U:O2	74:BY:33:ALA:CA	2.22	0.87
54:BE:16:LYS:O	54:BE:19:MET:CE	2.22	0.87
63:BN:29:THR:HB	63:BN:31:ASP:N	1.90	0.87
66:BQ:41:MET:HE1	69:BT:10:ASN:CB	2.02	0.87
67:BR:20:TYR:CE2	67:BR:38:ILE:HG22	2.09	0.87
49:B1:1665:G:OP1	69:BT:88:MET:HG3	1.74	0.87
75:BZ:69:THR:OG1	75:BZ:72:VAL:HG23	1.75	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AS:1:MET:CE	21:AS:7:LEU:HD12	2.04	0.87
25:AW:61:LYS:O	25:AW:65:GLU:HG3	1.75	0.87
49:B1:527:C:C5'	59:BJ:125:HIS:HA	2.04	0.87
53:BD:76:ARG:NH2	60:BK:66:HIS:CE1	2.43	0.87
70:BU:23:THR:HG23	70:BU:87:ARG:O	1.73	0.87
2:A4:108:G:OP1	6:AD:273:LEU:HB2	1.73	0.87
8:AF:166:ARG:HH11	8:AF:166:ARG:CB	1.88	0.87
10:AH:5:LEU:CG	10:AH:60:TRP:CZ3	2.57	0.87
10:AH:64:ARG:HG2	10:AH:64:ARG:HH11	1.38	0.87
16:AN:108:ARG:HH22	48:A2:2440:G:C5'	1.87	0.87
49:B1:5:U:P	52:BC:230:THR:HG22	2.14	0.87
49:B1:5:U:OP2	52:BC:230:THR:CG2	2.23	0.87
53:BD:76:ARG:NE	60:BK:66:HIS:CG	2.43	0.87
52:BC:256:TRP:HH2	72:BW:68:ARG:HB3	1.37	0.87
49:B1:581:U:O2	74:BY:33:ALA:HA	1.75	0.87
75:BZ:91:LEU:O	75:BZ:94:LYS:HB2	1.75	0.87
48:A2:959:C:H2'	48:A2:960:G:C8	2.10	0.87
6:AD:229:ASN:O	6:AD:230:SER:OG	1.93	0.87
7:AE:220:LYS:H	48:A2:4898:C:N4	1.73	0.87
49:B1:1749:G:H2'	49:B1:1750:C:C6	2.10	0.87
49:B1:744:G:H21	57:BH:109:ARG:HD2	1.10	0.87
51:BB:81:PHE:CE2	51:BB:109:LYS:HE2	2.09	0.87
54:BE:149:TYR:HD1	56:BG:209:TYR:CD2	1.92	0.87
5:AC:218:ILE:HD12	5:AC:229:LEU:CG	2.04	0.87
6:AD:205:ALA:HB2	6:AD:236:MET:CE	2.05	0.87
2:A4:33:U:N1	6:AD:207:TYR:CE1	2.43	0.87
6:AD:35:ARG:HD2	48:A2:4288:G:O2'	1.75	0.87
49:B1:448:A:H61	58:BI:29:LEU:HD23	1.36	0.87
65:BP:48:GLY:N	65:BP:49:LEU:CD2	2.38	0.87
3:AA:67:TYR:CE2	48:A2:4056:G:O2'	2.27	0.86
48:A2:735:G:O2'	48:A2:736:G:H5'	1.74	0.86
21:AS:74:ARG:HH22	48:A2:909:C:C5'	1.87	0.86
3:AA:61:VAL:HG12	3:AA:63:PHE:CE1	2.09	0.86
19:AQ:65:ARG:NH1	48:A2:1484:G:OP1	2.08	0.86
49:B1:428:U:C4'	59:BJ:2:PRO:HG2	2.05	0.86
25:AW:80:ARG:HH22	56:BG:128:THR:HG22	1.39	0.86
49:B1:581:U:O2'	74:BY:32:LYS:O	1.92	0.86
48:A2:131:C:C5'	48:A2:131:C:H6	1.87	0.86
20:AR:61:ALA:HB2	48:A2:2612:U:H5''	1.52	0.86
4:AB:225:GLY:O	48:A2:4936:G:OP2	1.93	0.86
15:AM:101:LYS:HB2	17:AO:198:THR:CG2	2.05	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:AZ:33:THR:O	28:AZ:34:SER:OG	1.93	0.86
58:BI:34:ALA:HB2	58:BI:56:ARG:HD3	1.57	0.86
59:BJ:122:SER:HB2	59:BJ:125:HIS:HB3	1.56	0.86
49:B1:1314:U:O2	60:BK:2:LEU:HB2	1.74	0.86
62:BM:14:VAL:CG1	62:BM:127:TYR:CD1	2.50	0.86
9:AG:113:ARG:NH2	48:A2:119:G:C5	2.42	0.86
48:A2:1322:U:O4	48:A2:1500:A:H1'	1.75	0.86
48:A2:1739:U:N3	48:A2:1740:G:C8	2.43	0.86
48:A2:2006:A:C4'	48:A2:2007:A:OP1	2.24	0.86
48:A2:2067:G:N2	48:A2:2247:A:C6	2.43	0.86
16:AN:93:LYS:HE3	48:A2:281:U:O2	1.75	0.86
17:AO:118:MET:CE	48:A2:4832:A:N6	2.35	0.86
19:AQ:170:LYS:NZ	19:AQ:170:LYS:HB2	1.91	0.86
21:AS:74:ARG:NH1	48:A2:909:C:H5'	1.90	0.86
21:AS:81:TRP:C	21:AS:82:LEU:HD22	1.95	0.86
49:B1:1754:G:N2	49:B1:1778:C:O2	2.07	0.86
49:B1:1750:C:N4	49:B1:1784:G:O6	2.08	0.86
49:B1:582:U:O4'	74:BY:32:LYS:C	2.13	0.86
52:BC:133:TYR:HE1	52:BC:216:MET:HA	1.07	0.86
49:B1:1651:A:H1'	55:BF:83:ASN:ND2	1.89	0.86
49:B1:744:G:N2	57:BH:109:ARG:HB2	1.89	0.86
6:AD:22:ARG:HH21	6:AD:27:LYS:NZ	1.71	0.86
48:A2:4983:C:OP1	58:BI:169:GLY:HA2	1.76	0.86
66:BQ:62:ARG:CZ	66:BQ:108:ILE:CD1	2.54	0.86
14:AL:36:ARG:HH22	48:A2:407:G:H5'	59.64	0.86
1:A3:108:A:C2'	1:A3:109:C:OP1	2.21	0.86
4:AB:391:PRO:HD2	25:AW:63:GLN:OE1	1.75	0.86
6:AD:205:ALA:CB	6:AD:233:PRO:CB	2.39	0.86
7:AE:140:LEU:CB	7:AE:144:ILE:HD11	2.05	0.86
13:AK:1:MET:HB3	13:AK:2:PRO:CD	2.04	0.86
18:AP:10:ASN:ND2	18:AP:13:LYS:HG3	1.89	0.86
49:B1:428:U:C5'	59:BJ:2:PRO:HG2	2.06	0.86
53:BD:76:ARG:CD	60:BK:68:TYR:OH	2.23	0.86
58:BI:104:ILE:HD11	58:BI:173:ALA:HB2	1.58	0.86
75:BZ:50:PHE:CD2	75:BZ:83:LEU:HD21	2.10	0.86
18:AP:3:ARG:HD3	48:A2:403:G:C5	2.10	0.86
1:A3:85:U:O2'	1:A3:86:U:H5'	1.75	0.86
10:AH:5:LEU:CB	10:AH:60:TRP:CE3	2.42	0.86
50:BA:41:ARG:HB2	50:BA:47:TYR:CE1	2.10	0.86
66:BQ:24:HIS:O	66:BQ:68:ILE:HA	1.76	0.86
67:BR:100:PRO:HD2	67:BR:119:VAL:CG2	2.06	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BA:201:LEU:CD2	67:BR:85:VAL:HG22	2.04	0.86
7:AE:136:HIS:CE1	48:A2:701:G:O2'	2.27	0.86
5:AC:169:LEU:CD1	48:A2:215:A:H61	1.89	0.86
24:AV:97:TYR:CE1	25:AW:21:TYR:CE1	2.63	0.86
49:B1:77:A:O2'	49:B1:78:C:H5'	1.76	0.86
56:BG:63:MET:CE	56:BG:106:LEU:HD11	2.05	0.86
59:BJ:103:GLU:OE1	59:BJ:103:GLU:N	2.08	0.86
62:BM:77:ILE:HD11	62:BM:127:TYR:CE2	2.10	0.86
48:A2:1581:A:OP1	48:A2:2774:A:N6	2.07	0.86
48:A2:1783:A:C2'	48:A2:1784:A:H5'	2.06	0.86
8:AF:51:TYR:CZ	48:A2:1220:C:C4	2.52	0.86
64:BO:34:PHE:HZ	64:BO:100:THR:HG23	1.41	0.86
48:A2:127:G:O2'	48:A2:128:C:H5'	1.75	0.86
66:BQ:96:TYR:O	66:BQ:100:VAL:N	2.08	0.86
2:A4:56:G:OP1	12:AJ:152:GLY:HA2	1.76	0.86
7:AE:200:LYS:HZ3	7:AE:202:ASP:HA	1.37	0.86
20:AR:173:ARG:CD	49:B1:910:G:OP2	2.24	0.86
49:B1:168:C:O2	56:BG:133:LEU:HD12	1.75	0.86
66:BQ:47:LEU:HD12	66:BQ:81:ILE:HG13	1.58	0.86
52:BC:252:THR:CB	72:BW:99:PHE:CZ	2.59	0.86
48:A2:133:C:C2	48:A2:134:G:N7	2.44	0.85
10:AH:5:LEU:O	10:AH:5:LEU:HD23	1.76	0.85
20:AR:81:ARG:NH2	48:A2:3578:U:OP1	2.09	0.85
49:B1:561:A:H5''	59:BJ:170:PRO:CG	2.06	0.85
49:B1:689:U:C5	49:B1:742:U:N3	2.44	0.85
49:B1:802:A:H61	57:BH:106:ARG:NH1	1.74	0.85
49:B1:1021:U:C5'	63:BN:128:TYR:HE1	1.89	0.85
66:BQ:33:LYS:HE3	66:BQ:36:GLY:CA	2.05	0.85
1:A3:81:C:H4'	1:A3:82:A:C5'	2.06	0.85
7:AE:120:ASP:OD1	7:AE:121:VAL:N	2.09	0.85
22:AT:101:SER:HB3	48:A2:1712:U:H1'	1.58	0.85
5:AC:289:LEU:HG	5:AC:293:LEU:CD1	2.06	0.85
6:AD:286:SER:CB	48:A2:1163:C:H5'	2.04	0.85
6:AD:290:ALA:O	6:AD:291:GLN:C	2.12	0.85
7:AE:203:ILE:CA	7:AE:206:VAL:CG2	2.53	0.85
10:AH:134:CYS:SG	10:AH:144:LEU:CD1	2.61	0.85
53:BD:116:ARG:HD3	53:BD:152:PHE:CZ	2.10	0.85
56:BG:57:ASP:C	56:BG:107:SER:HB2	1.97	0.85
66:BQ:12:VAL:HG11	66:BQ:90:LYS:HB3	0.87	0.85
8:AF:131:ASN:HD22	48:A2:1709:U:C5'	1.89	0.85
7:AE:201:ILE:HD11	7:AE:260:LYS:HB3	1.59	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AF:182:TYR:HE2	8:AF:203:GLU:CB	1.89	0.85
10:AH:7:ASN:HB3	10:AH:58:ASP:HA	1.58	0.85
14:AL:128:PRO:CG	14:AL:136:LYS:HE2	2.06	0.85
15:AM:46:ARG:NH2	48:A2:924:U:H5''	1.91	0.85
49:B1:1286:G:H4'	49:B1:1313:A:N6	1.90	0.85
49:B1:67:C:OP2	56:BG:172:LYS:NZ	2.08	0.85
48:A2:2880:G:O2'	48:A2:2881:G:H5'	1.75	0.85
17:AO:179:LYS:HD2	48:A2:4830:G:C8	2.08	0.85
14:AL:59:VAL:HG13	48:A2:74:G:H5'	1.47	0.85
7:AE:126:LEU:CD1	48:A2:958:U:C5	2.58	0.85
7:AE:233:PHE:HE1	48:A2:447:G:O6	1.59	0.85
13:AK:81:HIS:CE1	13:AK:86:VAL:HG11	2.11	0.85
49:B1:1856:C:OP2	64:BO:146:ARG:HB2	1.77	0.85
49:B1:560:A:H3'	59:BJ:171:GLY:C	1.95	0.85
49:B1:864:A:H61	57:BH:106:ARG:HH21	1.14	0.85
51:BB:181:LEU:HA	51:BB:184:VAL:CG2	2.06	0.85
48:A2:32:G:H21	48:A2:50:C:N4	1.71	0.85
4:AB:244:THR:HG22	48:A2:4487:C:O2'	1.76	0.85
5:AC:94:ASN:HD21	5:AC:102:PHE:HB2	1.40	0.85
5:AC:77:PRO:O	5:AC:91:ALA:N	2.09	0.85
6:AD:235:MET:O	6:AD:239:MET:N	2.09	0.85
10:AH:105:ILE:HD12	10:AH:109:GLY:HA2	1.58	0.85
28:AZ:98:LYS:O	28:AZ:101:PHE:HD2	1.59	0.85
17:AO:49:ARG:HH21	48:A2:1910:A:H2'	1.37	0.85
48:A2:220:G:N2	48:A2:220:G:OP1	2.09	0.85
14:AL:36:ARG:NH1	48:A2:407:G:N2	61.41	0.85
8:AF:179:LEU:CG	8:AF:184:ILE:HD11	2.06	0.85
14:AL:10:LEU:HB3	14:AL:12:PRO:HD3	1.57	0.85
28:AZ:33:THR:HG21	28:AZ:36:ARG:HD3	1.57	0.85
49:B1:1856:C:OP2	64:BO:146:ARG:CB	2.24	0.85
50:BA:199:PRO:O	50:BA:203:PHE:CD1	2.30	0.85
51:BB:71:LEU:CG	51:BB:84:PHE:HE2	1.89	0.85
52:BC:178:HIS:CG	52:BC:200:ARG:CD	2.39	0.85
66:BQ:39:LEU:CD1	66:BQ:51:LEU:HD22	2.04	0.85
53:BD:210:ILE:CB	67:BR:39:ALA:CB	2.40	0.85
1:A3:135:C:OP2	26:AX:63:LYS:HE3	1.77	0.85
6:AD:233:PRO:HA	6:AD:236:MET:CE	2.07	0.85
8:AF:225:THR:OG1	8:AF:231:GLY:HA3	1.76	0.85
9:AG:82:GLN:HG2	9:AG:233:ILE:CG2	2.07	0.85
14:AL:70:VAL:HG13	14:AL:159:ASN:OD1	1.73	0.85
49:B1:873:G:C6	61:BL:153:LYS:CA	2.57	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BC:133:TYR:CE1	52:BC:216:MET:CA	2.51	0.85
49:B1:502:C:OP2	54:BE:66:MET:HE3	1.76	0.85
67:BR:17:ILE:HD12	67:BR:17:ILE:O	1.76	0.85
67:BR:5:ARG:HG3	67:BR:5:ARG:HH11	1.41	0.85
75:BZ:50:PHE:CE2	75:BZ:83:LEU:HD21	2.12	0.85
13:AK:53:VAL:HB	48:A2:1978:U:H5'	1.57	0.85
48:A2:2003:C:C2'	48:A2:2004:C:H5'	2.07	0.85
48:A2:2466:G:C6	48:A2:2468:C:O4'	2.30	0.85
48:A2:4110:C:H2'	48:A2:4111:C:C6	2.11	0.85
5:AC:215:ASN:ND2	5:AC:215:ASN:O	2.10	0.85
8:AF:184:ILE:CG2	8:AF:189:ASP:HB3	2.07	0.85
21:AS:7:LEU:CD2	21:AS:107:THR:OG1	2.25	0.85
65:BP:66:GLU:OE1	65:BP:66:GLU:N	2.08	0.85
66:BQ:62:ARG:HD3	66:BQ:92:LEU:CD1	2.07	0.85
67:BR:4:VAL:O	67:BR:5:ARG:O	1.94	0.85
50:BA:66:VAL:HG12	71:BV:46:PHE:CE1	2.12	0.85
75:BZ:92:LEU:HD12	75:BZ:92:LEU:O	1.77	0.85
13:AK:84:GLY:CA	48:A2:2002:G:H4'	2.06	0.85
48:A2:2853:U:C6	48:A2:2853:U:H5'	2.12	0.85
15:AM:91:TRP:HZ2	48:A2:4827:U:HO2'	0.89	0.85
27:AY:41:LYS:HD2	27:AY:42:TYR:HE1	1.41	0.85
51:BB:118:GLN:O	51:BB:119:THR:OG1	1.94	0.85
48:A2:1197:C:C2'	48:A2:1198:C:H5'	2.07	0.84
8:AF:217:ARG:HG3	8:AF:217:ARG:HH11	1.42	0.84
23:AU:56:LEU:HD23	23:AU:61:VAL:HG23	0.86	0.84
49:B1:1284:A:H5'	49:B1:1285:G:H5''	1.59	0.84
49:B1:151:C:OP1	74:BY:120:THR:OG1	1.94	0.84
50:BA:111:GLN:HE21	52:BC:64:THR:HB	1.11	0.84
61:BL:30:LYS:HB3	61:BL:33:LEU:CD1	2.07	0.84
49:B1:491:C:OP2	74:BY:104:ARG:HB2	1.76	0.84
48:A2:163:C:C4	48:A2:164:C:C5	2.64	0.84
48:A2:2067:G:C6	48:A2:2247:A:C2	2.65	0.84
4:AB:132:LYS:HB2	48:A2:4689:A:OP1	1.77	0.84
5:AC:211:TYR:CE1	5:AC:229:LEU:HD13	2.11	0.84
10:AH:23:ARG:NH1	48:A2:4725:U:O2'	2.09	0.84
6:AD:17:GLN:HG2	22:AT:20:ARG:HA	1.58	0.84
25:AW:116:LYS:HD3	49:B1:328:U:OP1	1.75	0.84
49:B1:744:G:H21	57:BH:109:ARG:HB2	1.42	0.84
49:B1:744:G:H2'	49:B1:745:C:C6	2.11	0.84
50:BA:40:LYS:HD2	67:BR:101:ASP:OD2	1.77	0.84
54:BE:36:HIS:NE2	54:BE:85:GLY:CA	2.38	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BP:52:LYS:HB2	65:BP:80:LEU:HD11	1.58	0.84
48:A2:1745:C:H2'	48:A2:1746:G:C5'	2.06	0.84
4:AB:231:VAL:HG11	4:AB:251:VAL:HG23	1.59	0.84
7:AE:96:VAL:N	7:AE:107:VAL:HG12	1.92	0.84
8:AF:161:LYS:C	8:AF:162:ILE:HD12	1.98	0.84
25:AW:42:SER:CB	25:AW:44:ARG:HH12	1.90	0.84
49:B1:229:A:N6	49:B1:900:C:O2	2.10	0.84
53:BD:210:ILE:HA	67:BR:39:ALA:CB	2.08	0.84
49:B1:64:A:H3'	56:BG:175:LYS:CE	2.07	0.84
49:B1:744:G:H21	57:BH:109:ARG:CB	1.88	0.84
65:BP:30:TYR:HA	65:BP:33:LEU:CD1	2.08	0.84
15:AM:6:PHE:CE1	21:AS:151:LYS:HD2	2.11	0.84
25:AW:60:LYS:O	25:AW:61:LYS:CG	2.24	0.84
25:AW:65:GLU:HA	25:AW:68:GLN:HG2	1.59	0.84
49:B1:1676:U:H5'	55:BF:74:ASN:HB3	1.59	0.84
49:B1:24:C:OP1	59:BJ:11:LYS:NZ	2.11	0.84
50:BA:216:ALA:CA	50:BA:219:GLU:HG2	2.07	0.84
48:A2:133:C:N3	48:A2:134:G:C4	2.44	0.84
4:AB:130:PHE:H	48:A2:4689:A:H5'	1.41	0.84
12:AJ:119:TYR:CE1	68:BS:12:ILE:HD12	2.12	0.84
13:AK:37:SER:O	13:AK:40:MET:HG2	1.77	0.84
54:BE:152:PRO:HG2	56:BG:216:ARG:HD3	1.59	0.84
65:BP:34:MET:HE3	65:BP:42:ARG:HA	1.59	0.84
49:B1:1450:G:H3'	67:BR:44:LYS:NZ	1.92	0.84
67:BR:99:ASP:HB2	67:BR:102:THR:HB	1.58	0.84
48:A2:4596:U:H4'	48:A2:4598:U:H1'	1.59	0.84
7:AE:137:VAL:C	7:AE:138:ARG:HD2	1.98	0.84
8:AF:223:LYS:HA	8:AF:232:ASP:CB	2.07	0.84
15:AM:41:PRO:HB3	15:AM:70:GLN:HE22	1.38	0.84
19:AQ:3:VAL:CG1	48:A2:2256:C:H5'	2.06	0.84
49:B1:560:A:H4'	49:B1:561:A:N7	1.92	0.84
49:B1:582:U:H4'	74:BY:32:LYS:N	1.91	0.84
49:B1:231:A:OP2	49:B1:889:U:O2'	1.96	0.84
72:BW:100:GLY:HA3	72:BW:101:PHE:CD2	2.13	0.84
4:AB:174:ARG:NH2	48:A2:4932:C:O2'	2.10	0.84
4:AB:294:LYS:C	4:AB:297:LYS:HA	1.98	0.84
2:A4:7:G:H4'	6:AD:33:ARG:NH2	1.93	0.84
1:A3:150:C:C5	9:AG:65:ARG:NH2	2.46	0.84
10:AH:60:TRP:CE3	10:AH:60:TRP:HA	2.13	0.84
14:AL:128:PRO:HD2	14:AL:136:LYS:CD	2.08	0.84
24:AV:41:SER:CB	48:A2:4469:A:O2'	2.26	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AY:55:VAL:HG13	27:AY:104:VAL:HG13	1.59	0.84
54:BE:149:TYR:HB3	56:BG:209:TYR:HD2	1.43	0.84
71:BV:37:ALA:CB	71:BV:46:PHE:HE1	1.91	0.84
16:AN:93:LYS:HD2	48:A2:294:A:H2	1.40	0.84
48:A2:901:U:H2'	48:A2:902:A:C8	2.12	0.84
1:A3:150:C:C4	9:AG:65:ARG:NH1	2.45	0.84
5:AC:190:ARG:CB	5:AC:202:ILE:HD11	2.07	0.84
51:BB:79:VAL:HB	51:BB:81:PHE:CE1	2.12	0.84
59:BJ:117:LEU:CD1	59:BJ:157:ILE:HD13	1.98	0.84
49:B1:23:G:P	59:BJ:15:THR:HG21	2.18	0.84
49:B1:1452:A:H5''	67:BR:48:ASN:ND2	1.93	0.84
69:BT:41:LYS:HZ1	69:BT:81:GLY:HA2	1.33	0.84
70:BU:50:VAL:HG22	70:BU:91:LEU:CD2	2.06	0.84
52:BC:252:THR:HB	72:BW:99:PHE:HZ	1.40	0.84
2:A4:75:G:N2	2:A4:100:A:OP2	2.09	0.84
2:A4:95:C:H4'	8:AF:229:GLU:CD	1.96	0.84
8:AF:161:LYS:CA	8:AF:162:ILE:HD12	2.08	0.84
49:B1:1283:C:H3'	62:BM:102:LYS:NZ	1.92	0.84
68:BS:74:PRO:CG	68:BS:84:LEU:HD11	2.06	0.84
49:B1:1587:G:O2'	69:BT:78:ILE:HA	1.77	0.84
75:BZ:68:ILE:CB	75:BZ:109:TYR:HB2	2.08	0.84
48:A2:3681:G:H2'	48:A2:3683:A:C8	2.12	0.84
22:AT:3:ASN:HD22	48:A2:4180:U:P	2.00	0.84
49:B1:560:A:H4'	49:B1:561:A:C8	2.13	0.84
49:B1:874:G:H2'	49:B1:875:A:H8	1.42	0.84
20:AR:173:ARG:NE	49:B1:910:G:P	2.51	0.84
51:BB:44:ILE:CD1	51:BB:74:LEU:HD11	2.08	0.84
20:AR:97:ARG:HH22	48:A2:2704:A:H8	1.15	0.83
48:A2:2740:U:O3'	48:A2:2741:G:H4'	1.77	0.83
48:A2:2741:G:H2'	48:A2:2742:U:H5''	1.57	0.83
48:A2:3693:G:O2'	48:A2:3694:A:H5'	1.77	0.83
12:AJ:111:GLU:CD	12:AJ:125:ILE:CG2	2.45	0.83
49:B1:1446:A:O2'	49:B1:1447:G:H5''	1.77	0.83
49:B1:580:U:O2'	74:BY:62:THR:CB	2.26	0.83
20:AR:173:ARG:NE	49:B1:910:G:OP2	2.11	0.83
59:BJ:14:VAL:CG2	59:BJ:48:PHE:HB2	2.08	0.83
49:B1:1237:C:O5'	65:BP:130:ARG:HG3	1.78	0.83
66:BQ:50:LYS:HD3	66:BQ:50:LYS:C	1.98	0.83
48:A2:1752:A:N1	48:A2:1753:U:N3	2.24	0.83
48:A2:1888:A:C6	48:A2:1889:A:C6	2.65	0.83
15:AM:17:PHE:HB2	48:A2:1902:C:C4	2.13	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:14:LEU:HA	4:AB:17:LEU:HD12	1.59	0.83
49:B1:1396:A:O2'	49:B1:1397:U:H5'	1.78	0.83
59:BJ:109:ARG:O	59:BJ:113:GLN:N	2.09	0.83
59:BJ:141:VAL:HG21	59:BJ:162:ARG:NH2	1.90	0.83
70:BU:48:LEU:HD22	70:BU:93:SER:OG	1.76	0.83
48:A2:4062:G:H3'	48:A2:4063:G:N2	1.93	0.83
20:AR:126:LYS:O	20:AR:131:VAL:CG2	2.26	0.83
25:AW:109:ILE:HG22	25:AW:113:LYS:HE3	1.60	0.83
24:AV:96:LEU:HA	25:AW:20:ARG:O	1.77	0.83
49:B1:494:C:H5''	54:BE:57:THR:OG1	1.77	0.83
51:BB:70:SER:O	51:BB:71:LEU:O	1.96	0.83
65:BP:51:ARG:HA	65:BP:54:HIS:HB3	1.59	0.83
66:BQ:33:LYS:HE2	66:BQ:36:GLY:CA	2.09	0.83
70:BU:22:ILE:HG23	70:BU:114:VAL:HG12	1.60	0.83
52:BC:252:THR:OG1	72:BW:99:PHE:CZ	2.31	0.83
48:A2:966:C:N4	48:A2:1258:G:H1	1.73	0.83
16:AN:176:LYS:HZ2	48:A2:64:A:H5'	1.38	0.83
8:AF:148:LYS:CG	48:A2:930:A:H3'	2.09	0.83
5:AC:211:TYR:CE1	5:AC:229:LEU:HD22	2.13	0.83
7:AE:123:ARG:HH21	7:AE:126:LEU:HD23	1.44	0.83
15:AM:43:THR:O	15:AM:44:GLN:CB	2.20	0.83
22:AT:95:HIS:HE1	48:A2:952:G:H5''	105.26	0.83
49:B1:1286:G:P	62:BM:104:VAL:HB	2.18	0.83
54:BE:86:PHE:HE2	54:BE:184:ILE:CG2	1.90	0.83
49:B1:103:A:C5'	58:BI:12:ARG:NH1	2.41	0.83
49:B1:527:C:H4'	59:BJ:125:HIS:CB	2.09	0.83
16:AN:138:PHE:CG	48:A2:18:C:H4'	2.13	0.83
20:AR:23:TRP:CH2	20:AR:32:ILE:HG13	2.12	0.83
49:B1:1398:G:N3	49:B1:1398:G:H2'	1.92	0.83
49:B1:157:U:O4'	56:BG:58:LYS:O	1.96	0.83
72:BW:9:ASP:OD2	72:BW:29:PRO:HG2	1.78	0.83
48:A2:1224:C:H5'	48:A2:1225:G:N2	1.93	0.83
48:A2:1259:C:H2'	48:A2:1260:G:C8	2.12	0.83
48:A2:121:A:N6	48:A2:150:G:C6	2.45	0.83
48:A2:2043:C:O2'	48:A2:2044:G:H5'	1.78	0.83
20:AR:60:ARG:N	48:A2:2613:C:OP1	2.10	0.83
48:A2:2689:C:H5''	48:A2:2689:C:H6	1.42	0.83
2:A4:22:A:C6	2:A4:23:A:C6	2.66	0.83
6:AD:17:GLN:HG3	22:AT:20:ARG:HG2	0.84	0.83
27:AY:8:THR:HG22	48:A2:341:A:OP2	1.79	0.83
3:AA:249:THR:OG1	49:B1:1044:G:C8	2.32	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:384:U:O2'	61:BL:135:SER:HA	1.77	0.83
49:B1:560:A:H2'	59:BJ:171:GLY:O	1.79	0.83
49:B1:918:U:C4'	63:BN:20:ARG:NH2	2.41	0.83
54:BE:91:SER:CA	54:BE:92:ILE:HD12	2.08	0.83
56:BG:56:ASN:HB2	56:BG:108:VAL:HB	1.61	0.83
59:BJ:131:ARG:HD3	59:BJ:143:ASN:HD21	1.43	0.83
66:BQ:39:LEU:HD12	66:BQ:39:LEU:O	1.78	0.83
5:AC:234:LYS:HE2	48:A2:1347:U:O2	1.77	0.83
48:A2:86:U:C4	48:A2:97:G:C2	2.66	0.83
6:AD:232:THR:HG23	6:AD:235:MET:CG	2.08	0.83
6:AD:279:ARG:HE	48:A2:1160:U:C4'	1.91	0.83
7:AE:175:VAL:CG2	7:AE:189:THR:HG1	1.75	0.83
8:AF:163:ASN:O	8:AF:164:LYS:HD3	1.77	0.83
13:AK:14:PHE:CE1	48:A2:1941:A:C8	2.66	0.83
51:BB:77:ASP:O	51:BB:78:GLU:CG	2.26	0.83
71:BV:38:GLU:CG	71:BV:49:GLN:O	2.25	0.83
75:BZ:62:VAL:HG22	75:BZ:97:ILE:CD1	2.08	0.83
48:A2:682:U:H2'	48:A2:683:U:C6	2.13	0.83
15:AM:91:TRP:O	15:AM:95:ILE:HD12	1.79	0.83
49:B1:1625:U:O4	49:B1:1626:C:N4	2.12	0.83
49:B1:182:C:H2'	49:B1:183:G:C1'	2.08	0.83
49:B1:448:A:N6	58:BI:29:LEU:CD2	2.41	0.83
49:B1:681:U:H4'	73:BX:9:THR:CG2	2.06	0.83
56:BG:57:ASP:C	56:BG:107:SER:HB3	1.99	0.83
65:BP:85:ILE:CD1	65:BP:116:LEU:CD2	2.57	0.83
65:BP:85:ILE:HG21	65:BP:111:MET:O	1.78	0.83
7:AE:219:LYS:HZ1	48:A2:1274:G:H5'	1.42	0.83
19:AQ:164:LYS:CB	48:A2:1479:A:O4'	2.26	0.83
48:A2:1500:A:H4'	48:A2:1501:C:O5'	1.77	0.83
48:A2:3682:A:H5''	48:A2:3683:A:P	2.19	0.83
5:AC:100:ARG:NH2	48:A2:1632:A:H2	1.73	0.83
49:B1:78:C:H4'	56:BG:175:LYS:HG2	1.60	0.83
58:BI:173:ALA:CB	58:BI:188:TYR:O	2.27	0.83
48:A2:2640:U:N3	61:BL:158:PHE:CE2	2.45	0.83
69:BT:41:LYS:HD3	69:BT:43:LYS:HG2	1.57	0.83
75:BZ:63:PRO:HB3	75:BZ:111:ARG:HE	1.43	0.83
48:A2:2879:U:C2'	48:A2:2880:G:H5'	2.09	0.83
48:A2:463:C:N4	48:A2:680:C:C2	2.47	0.83
2:A4:7:G:H4'	6:AD:33:ARG:CZ	2.09	0.83
7:AE:207:LYS:NZ	7:AE:208:ILE:H	1.77	0.83
16:AN:178:HIS:ND1	48:A2:68:U:OP1	2.12	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AR:126:LYS:CD	20:AR:131:VAL:HG11	2.09	0.83
28:AZ:50:PRO:HG3	28:AZ:122:TYR:HE2	1.42	0.83
49:B1:1278:A:OP1	60:BK:55:ARG:NH2	2.12	0.83
49:B1:346:C:OP1	54:BE:37:LYS:HA	1.77	0.83
65:BP:126:VAL:HG13	65:BP:127:LYS:H	1.44	0.83
48:A2:227:G:H3'	48:A2:228:U:C5'	2.09	0.82
15:AM:19:PRO:HB3	48:A2:923:C:N3	1.93	0.82
5:AC:51:PRO:HB3	14:AL:26:PHE:CE1	2.14	0.82
6:AD:232:THR:O	6:AD:236:MET:HG3	1.76	0.82
8:AF:70:ARG:NE	48:A2:1191:G:O2'	2.11	0.82
20:AR:60:ARG:HG3	20:AR:63:CYS:HB3	1.60	0.82
21:AS:172:PRO:O	48:A2:4724:A:C2	2.32	0.82
49:B1:827:A:C5'	59:BJ:8:VAL:HG21	2.08	0.82
50:BA:41:ARG:HH11	50:BA:41:ARG:CB	1.92	0.82
54:BE:99:PHE:N	54:BE:114:ILE:HG22	1.94	0.82
48:A2:2044:G:H2'	48:A2:2045:G:H8	1.44	0.82
48:A2:3727:A:OP2	48:A2:3727:A:N7	2.11	0.82
1:A3:36:G:C6	10:AH:89:ARG:NH1	165.16	0.82
10:AH:128:MET:SD	10:AH:134:CYS:HB3	2.19	0.82
19:AQ:75:ARG:HH11	19:AQ:75:ARG:HG3	1.42	0.82
49:B1:1121:G:P	86:B1:1941:MG:MG	1.61	0.82
49:B1:571:U:OP1	74:BY:37:LYS:HB2	1.79	0.82
49:B1:636:C:O2'	49:B1:637:U:H5'	1.79	0.82
50:BA:206:ASP:OD1	50:BA:207:PRO:HD3	1.79	0.82
69:BT:40:ALA:O	69:BT:41:LYS:HG3	1.80	0.82
22:AT:127:GLN:HE22	48:A2:1816:G:N2	1.72	0.82
48:A2:2064:C:H5''	48:A2:2064:C:H6	1.44	0.82
1:A3:27:U:OP1	5:AC:56:GLU:HG3	1.79	0.82
4:AB:391:PRO:HD3	25:AW:63:GLN:HE22	1.44	0.82
49:B1:802:A:N6	57:BH:106:ARG:NH1	2.27	0.82
20:AR:165:LYS:HZ1	49:B1:907:G:C3'	1.92	0.82
56:BG:217:MET:HB3	56:BG:221:LYS:HZ1	1.43	0.82
59:BJ:101:LYS:HE3	59:BJ:103:GLU:HB2	1.59	0.82
62:BM:33:ARG:HD2	62:BM:91:LEU:HD21	1.60	0.82
63:BN:20:ARG:HA	63:BN:65:PHE:CE1	2.13	0.82
7:AE:138:ARG:N	7:AE:138:ARG:HD2	1.95	0.82
7:AE:207:LYS:HA	7:AE:207:LYS:HE2	1.61	0.82
20:AR:169:ALA:HA	20:AR:172:ARG:CG	2.10	0.82
20:AR:27:ASN:HB3	20:AR:28:GLU:OE1	1.78	0.82
49:B1:1488:C:C3'	49:B1:1489:A:H4'	2.09	0.82
49:B1:740:C:O2'	49:B1:741:C:H2'	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BG:211:LYS:HG3	56:BG:215:LYS:CE	2.08	0.82
56:BG:224:ARG:O	56:BG:228:ILE:HG13	1.79	0.82
74:BY:86:GLU:OE2	74:BY:90:ARG:NH1	2.10	0.82
19:AQ:3:VAL:HG11	48:A2:2256:C:H5'	1.59	0.82
5:AC:183:VAL:CG1	5:AC:225:PRO:HB2	2.09	0.82
9:AG:192:ARG:HH21	48:A2:6:C:P	2.01	0.82
15:AM:136:LEU:O	15:AM:140:PRO:HD3	1.79	0.82
20:AR:161:ALA:O	20:AR:165:LYS:HG2	1.79	0.82
21:AS:1:MET:N	21:AS:43:ARG:HH21	1.76	0.82
49:B1:1552:G:OP2	49:B1:1578:U:C4	2.31	0.82
60:BK:28:HIS:CE1	60:BK:32:HIS:CE1	2.67	0.82
72:BW:46:TYR:O	72:BW:66:THR:HB	1.80	0.82
9:AG:163:PRO:CD	48:A2:148:G:N2	2.35	0.82
6:AD:22:ARG:HH21	6:AD:27:LYS:CE	1.91	0.82
6:AD:22:ARG:HH21	6:AD:27:LYS:HD2	1.40	0.82
12:AJ:98:ASN:HA	48:A2:4212:G:OP1	1.80	0.82
16:AN:73:ARG:HH21	48:A2:32:G:C5'	1.86	0.82
10:AH:60:TRP:CD1	21:AS:153:PRO:CG	2.63	0.82
53:BD:75:LYS:O	60:BK:22:VAL:HG21	1.80	0.82
55:BF:18:LYS:HD3	55:BF:46:ALA:O	1.79	0.82
59:BJ:32:ILE:O	59:BJ:36:GLY:N	2.12	0.82
49:B1:1287:A:H1'	62:BM:36:ARG:CZ	2.09	0.82
64:BO:78:ALA:CB	64:BO:118:ALA:CB	2.57	0.82
67:BR:97:GLU:HB3	67:BR:116:ASN:C	1.99	0.82
49:B1:1590:C:OP1	69:BT:82:ARG:CD	2.28	0.82
72:BW:94:LEU:HD21	72:BW:101:PHE:N	1.93	0.82
6:AD:286:SER:OG	48:A2:1163:C:H4'	1.79	0.82
48:A2:1258:G:H1'	48:A2:1259:C:C6	2.15	0.82
19:AQ:68:ARG:CZ	48:A2:1483:C:H2'	2.08	0.82
48:A2:1743:G:C6	48:A2:1744:C:C4	2.67	0.82
7:AE:123:ARG:HE	48:A2:956:C:H5	0.85	0.82
8:AF:184:ILE:HG22	8:AF:189:ASP:C	2.00	0.82
63:BN:75:LEU:O	63:BN:75:LEU:HD13	1.79	0.82
66:BQ:58:LEU:HD22	66:BQ:108:ILE:HD11	1.60	0.82
48:A2:130:C:O2	48:A2:138:C:N4	2.11	0.82
7:AE:219:LYS:CG	48:A2:4898:C:C6	2.57	0.82
22:AT:56:CYS:HB3	22:AT:78:LYS:HZ1	1.38	0.82
53:BD:76:ARG:NE	60:BK:66:HIS:ND1	2.28	0.82
49:B1:1539:U:O2'	69:BT:47:PRO:HA	1.77	0.82
5:AC:323:ARG:CB	48:A2:1264:G:O2'	2.27	0.82
2:A4:22:A:H2'	2:A4:22:A:N3	1.93	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AF:34:ARG:NH1	48:A2:1421:U:H1'	1.95	0.82
49:B1:386:C:OP2	58:BI:10:LYS:CG	2.28	0.82
50:BA:111:GLN:HA	50:BA:116:PHE:CD2	2.14	0.82
50:BA:7:VAL:CG1	71:BV:42:VAL:HA	2.10	0.82
51:BB:127:VAL:HG11	51:BB:176:VAL:HB	1.59	0.82
59:BJ:155:LYS:O	59:BJ:157:ILE:N	2.12	0.82
59:BJ:138:ARG:HA	59:BJ:156:HIS:HB3	1.62	0.82
49:B1:619:A:H61	73:BX:114:ASP:HB3	1.44	0.82
48:A2:130:C:H3'	48:A2:131:C:C5'	2.07	0.82
7:AE:173:LEU:HD11	7:AE:191:GLN:N	1.93	0.82
49:B1:659:G:H5''	73:BX:17:ARG:HH21	1.45	0.82
49:B1:688:U:C2'	57:BH:103:LYS:CG	2.55	0.82
49:B1:829:C:H5''	54:BE:21:ASP:CG	1.99	0.82
50:BA:7:VAL:HG21	71:BV:42:VAL:HA	1.59	0.82
66:BQ:42:ILE:CG2	66:BQ:44:PRO:HD2	2.09	0.82
48:A2:1888:A:C5	48:A2:1889:A:C6	2.67	0.81
48:A2:2690:G:P	48:A2:2690:G:H3'	2.18	0.81
48:A2:4546:A:O2'	48:A2:4547:U:H5'	1.80	0.81
48:A2:462:U:H5''	48:A2:462:U:C6	2.14	0.81
48:A2:735:G:N7	48:A2:903:C:N4	2.28	0.81
7:AE:126:LEU:HD21	48:A2:956:C:C4	2.14	0.81
20:AR:165:LYS:HZ1	49:B1:907:G:C4'	1.93	0.81
22:AT:4:THR:CG2	48:A2:4169:C:H5''	2.09	0.81
49:B1:168:C:C5'	56:BG:131:ARG:HD3	1.98	0.81
49:B1:157:U:H1'	56:BG:59:GLN:C	1.99	0.81
65:BP:84:ILE:CG2	65:BP:115:TYR:CD2	2.62	0.81
74:BY:86:GLU:CD	74:BY:90:ARG:NH1	2.33	0.81
1:A3:153:C:H5''	9:AG:185:LYS:CE	2.07	0.81
61:BL:17:PHE:HD1	61:BL:19:ASN:H	1.28	0.81
65:BP:51:ARG:CZ	65:BP:51:ARG:HB3	2.09	0.81
66:BQ:105:LYS:O	66:BQ:108:ILE:CG2	2.27	0.81
66:BQ:62:ARG:CD	66:BQ:92:LEU:CG	2.54	0.81
68:BS:17:ASN:ND2	68:BS:18:THR:OG1	2.13	0.81
48:A2:1268:U:O2'	48:A2:1269:C:O5'	1.97	0.81
48:A2:2067:G:C2	48:A2:2247:A:N1	2.48	0.81
48:A2:3936:A:H2'	48:A2:3936:A:OP1	1.79	0.81
12:AJ:127:GLY:HA3	48:A2:4213:A:C2	2.15	0.81
49:B1:157:U:C1'	56:BG:59:GLN:C	2.49	0.81
49:B1:369:C:O2'	49:B1:370:G:OP1	1.97	0.81
54:BE:95:THR:HG21	54:BE:97:GLU:HG3	1.62	0.81
54:BE:149:TYR:HA	56:BG:209:TYR:CE2	2.15	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BH:115:LYS:O	57:BH:116:ARG:CB	2.27	0.81
59:BJ:151:LEU:HD23	59:BJ:151:LEU:O	1.81	0.81
63:BN:23:PRO:O	63:BN:24:THR:OG1	1.98	0.81
67:BR:21:TYR:CE2	67:BR:71:ILE:CG2	2.54	0.81
67:BR:98:VAL:CG2	67:BR:102:THR:HG21	2.11	0.81
68:BS:44:VAL:CG1	68:BS:71:MET:SD	2.68	0.81
48:A2:1197:C:H2'	48:A2:1198:C:H5'	1.60	0.81
3:AA:67:TYR:OH	48:A2:4056:G:O2'	1.98	0.81
7:AE:161:ARG:NH2	48:A2:4839:U:O2	2.12	0.81
15:AM:19:PRO:CB	48:A2:923:C:N3	2.44	0.81
48:A2:959:C:C2'	48:A2:960:G:OP1	2.27	0.81
7:AE:128:HIS:CE1	48:A2:1265:G:OP2	2.33	0.81
56:BG:106:LEU:HD22	56:BG:106:LEU:H	1.46	0.81
74:BY:83:LYS:HA	74:BY:91:LEU:HD21	1.63	0.81
75:BZ:78:LYS:O	75:BZ:79:ILE:HD13	1.80	0.81
6:AD:287:PHE:HA	48:A2:1162:U:O2'	1.79	0.81
48:A2:4726:A:N6	48:A2:4826:G:N2	2.27	0.81
48:A2:713:G:N2	48:A2:934:C:C2	2.49	0.81
5:AC:211:TYR:O	5:AC:231:ASN:HA	1.80	0.81
2:A4:33:U:H1'	6:AD:207:TYR:CD1	2.15	0.81
7:AE:141:ARG:O	7:AE:144:ILE:HG12	1.81	0.81
21:AS:7:LEU:HD23	21:AS:107:THR:CA	2.10	0.81
52:BC:253:PRO:HA	52:BC:256:TRP:CD1	2.16	0.81
62:BM:14:VAL:HG13	62:BM:127:TYR:CD2	2.14	0.81
49:B1:581:U:H5'	74:BY:62:THR:HG21	0.82	0.81
48:A2:2618:U:HO2'	48:A2:2673:G:H1	1.24	0.81
6:AD:176:SER:HB2	48:A2:4285:A:O3'	1.79	0.81
13:AK:55:MET:SD	13:AK:61:MET:HG3	2.20	0.81
15:AM:97:ALA:O	17:AO:198:THR:HG23	1.80	0.81
21:AS:7:LEU:HD23	21:AS:107:THR:CB	2.09	0.81
49:B1:1497:G:C8	60:BK:62:PHE:CE1	2.69	0.81
49:B1:799:U:O2'	49:B1:800:U:H5'	1.81	0.81
59:BJ:50:LEU:HD12	59:BJ:105:PHE:CE2	2.14	0.81
64:BO:88:LEU:O	64:BO:90:ILE:HG23	1.79	0.81
48:A2:1722:C:O2'	48:A2:1723:G:OP2	1.98	0.81
22:AT:87:LYS:HE2	48:A2:4267:G:C6	2.16	0.81
48:A2:4596:U:O2'	48:A2:4598:U:OP2	1.98	0.81
8:AF:221:LYS:O	8:AF:223:LYS:N	2.13	0.81
15:AM:42:CYS:HG	15:AM:77:TRP:HD1	1.29	0.81
50:BA:85:ARG:HG3	50:BA:201:LEU:O	1.81	0.81
65:BP:62:LYS:O	65:BP:66:GLU:CG	2.27	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:BQ:62:ARG:HD2	66:BQ:92:LEU:HG	1.62	0.81
48:A2:1056:G:H5''	48:A2:1056:G:H8	1.44	0.81
3:AA:245:ARG:HA	48:A2:3628:U:OP1	1.80	0.81
14:AL:130:LYS:N	14:AL:130:LYS:HD2	1.94	0.81
20:AR:126:LYS:HG2	20:AR:131:VAL:CB	2.10	0.81
25:AW:78:PHE:CE2	25:AW:79:GLN:O	2.34	0.81
49:B1:1543:U:O2	66:BQ:77:HIS:CE1	2.33	0.81
49:B1:984:C:H1'	64:BO:138:ASP:O	1.80	0.81
49:B1:157:U:C1'	56:BG:59:GLN:O	2.29	0.81
63:BN:78:LYS:O	63:BN:80:LEU:HD12	1.78	0.81
66:BQ:97:GLN:CD	66:BQ:105:LYS:HE2	2.00	0.81
71:BV:38:GLU:HG3	71:BV:49:GLN:O	1.79	0.81
48:A2:2859:U:OP1	48:A2:2859:U:H2'	1.81	0.81
49:B1:1286:G:C6	62:BM:35:ILE:HB	2.16	0.81
49:B1:1622:U:H4'	49:B1:1623:A:H5'	1.63	0.81
54:BE:17:HIS:HA	54:BE:108:ARG:HG2	1.62	0.81
57:BH:118:ARG:O	57:BH:121:THR:HG22	1.81	0.81
65:BP:48:GLY:N	65:BP:49:LEU:HD21	1.96	0.81
68:BS:25:LYS:O	68:BS:29:ALA:HB2	1.81	0.81
68:BS:66:ARG:HD2	68:BS:66:ARG:O	1.80	0.81
48:A2:133:C:C5	48:A2:135:G:C6	2.68	0.81
48:A2:1740:G:C2	48:A2:1756:C:O2	2.34	0.81
9:AG:59:ARG:NH2	48:A2:2449:C:H1'	1.95	0.81
7:AE:105:ARG:CD	48:A2:680:C:H1'	2.11	0.81
7:AE:112:MET:CE	7:AE:113:PRO:HD2	2.10	0.81
19:AQ:170:LYS:HB2	19:AQ:170:LYS:HZ2	1.45	0.81
19:AQ:15:ARG:CD	19:AQ:52:PHE:O	2.28	0.81
49:B1:1314:U:C2'	49:B1:1314:U:O2	2.28	0.81
49:B1:1668:U:OP2	66:BQ:141:TYR:OH	1.98	0.81
49:B1:689:U:C5	49:B1:742:U:C2	2.69	0.81
49:B1:869:A:C6	57:BH:114:GLN:NE2	2.49	0.81
51:BB:180:ASP:OD1	51:BB:183:GLU:N	2.13	0.81
49:B1:1113:A:O2'	51:BB:202:GLN:CB	2.26	0.81
48:A2:2067:G:C2	48:A2:2247:A:C6	2.69	0.81
48:A2:680:C:C2'	48:A2:681:A:H5'	2.09	0.81
4:AB:293:ILE:HD12	4:AB:296:GLY:O	1.81	0.81
4:AB:391:PRO:CD	25:AW:63:GLN:HE22	1.94	0.81
13:AK:57:LYS:HB3	13:AK:59:THR:OG1	1.79	0.81
49:B1:1672:U:OP1	66:BQ:18:THR:CB	2.29	0.81
54:BE:115:THR:HB	54:BE:118:GLU:OE2	1.79	0.81
49:B1:528:A:OP1	59:BJ:122:SER:HB3	1.81	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:509:G:H5''	59:BJ:3:VAL:HG12	1.63	0.81
49:B1:1404:U:C5	70:BU:88:LEU:HD21	2.16	0.81
48:A2:2065:C:O2'	48:A2:2066:G:H5'	1.80	0.80
48:A2:221:U:O2'	48:A2:238:G:N2	2.14	0.80
1:A3:11:C:O2	18:AP:5:SER:OG	1.98	0.80
4:AB:278:THR:HG23	48:A2:4678:C:OP1	1.82	0.80
5:AC:77:PRO:CB	5:AC:91:ALA:HB2	2.05	0.80
10:AH:124:ARG:HD3	10:AH:164:ALA:HB1	1.63	0.80
49:B1:1622:U:H4'	49:B1:1623:A:C5'	2.10	0.80
49:B1:689:U:C4	49:B1:742:U:C2	2.69	0.80
49:B1:1017:U:H5'	63:BN:55:ARG:HH21	1.46	0.80
10:AH:5:LEU:HD13	10:AH:60:TRP:HH2	1.00	0.80
49:B1:142:C:C2	56:BG:180:VAL:HG11	2.15	0.80
49:B1:1555:U:H4'	49:B1:1556:A:C2	2.16	0.80
49:B1:823:U:H5	74:BY:64:PHE:CZ	1.98	0.80
56:BG:213:LEU:HD22	56:BG:217:MET:SD	2.21	0.80
65:BP:34:MET:HG3	65:BP:45:LEU:HD13	1.63	0.80
16:AN:2:GLY:HA2	48:A2:116:G:OP1	1.80	0.80
4:AB:56:ILE:HD12	4:AB:76:VAL:HG21	1.64	0.80
13:AK:107:VAL:CG1	13:AK:108:PRO:HD3	2.11	0.80
21:AS:146:HIS:O	21:AS:147:ASP:OD1	1.99	0.80
27:AY:45:ARG:NH2	48:A2:234:G:H5''	1.94	0.80
49:B1:190:G:OP2	58:BI:143:LYS:CD	2.28	0.80
49:B1:795:A:H2'	49:B1:796:G:C8	2.16	0.80
50:BA:206:ASP:HB2	50:BA:210:ILE:HD11	1.61	0.80
51:BB:36:PRO:HG2	51:BB:39:PHE:CE2	2.16	0.80
49:B1:1203:G:H1'	52:BC:115:GLN:CG	2.11	0.80
49:B1:688:U:C2'	57:BH:103:LYS:HG2	2.09	0.80
23:AU:48:LYS:N	23:AU:82:TYR:OH	2.15	0.80
49:B1:561:A:C5'	59:BJ:170:PRO:HG2	2.09	0.80
67:BR:100:PRO:HD3	67:BR:119:VAL:CG2	2.02	0.80
68:BS:7:GLU:HA	75:BZ:49:LEU:HD21	1.63	0.80
25:AW:16:GLY:O	48:A2:4590:U:H4'	1.81	0.80
48:A2:4981:C:H5''	58:BI:124:LYS:NZ	1.97	0.80
2:A4:117:G:OP2	6:AD:258:LYS:HE3	1.80	0.80
5:AC:6:PRO:HB3	48:A2:661:G:H4'	1.63	0.80
6:AD:286:SER:CB	48:A2:1164:C:OP2	2.30	0.80
8:AF:165:LYS:HB3	48:A2:2254:G:H1'	1.64	0.80
13:AK:27:CYS:SG	13:AK:90:PHE:HB3	2.21	0.80
50:BA:38:ILE:CD1	50:BA:47:TYR:CG	2.64	0.80
51:BB:183:GLU:HA	51:BB:186:ASN:ND2	1.96	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BE:87:MET:O	54:BE:122:LYS:HE3	1.82	0.80
54:BE:149:TYR:HA	56:BG:209:TYR:CD2	2.17	0.80
49:B1:1286:G:H22	62:BM:36:ARG:HB2	1.42	0.80
64:BO:83:GLN:NE2	64:BO:87:GLU:HG2	1.96	0.80
65:BP:85:ILE:CD1	65:BP:116:LEU:HG	2.12	0.80
48:A2:1162:U:H4'	48:A2:1163:C:C2	2.16	0.80
5:AC:321:ASN:HB2	48:A2:1264:G:H8	1.46	0.80
19:AQ:150:ARG:HD2	48:A2:1480:G:OP1	1.82	0.80
22:AT:127:GLN:NE2	48:A2:1816:G:H22	1.76	0.80
48:A2:196:G:N2	48:A2:231:G:N1	2.29	0.80
7:AE:136:HIS:CE1	48:A2:701:G:HO2'	2.00	0.80
2:A4:49:A:OP1	6:AD:223:PHE:HA	1.81	0.80
2:A4:14:C:N4	2:A4:65:G:O6	2.13	0.80
3:AA:9:ARG:NH2	48:A2:1611:G:N7	2.28	0.80
6:AD:233:PRO:HA	6:AD:236:MET:HE2	1.61	0.80
7:AE:207:LYS:CE	7:AE:208:ILE:H	1.94	0.80
9:AG:244:PRO:CD	48:A2:4124:C:O2'	2.30	0.80
49:B1:1016:U:H1'	63:BN:61:ALA:HB1	1.63	0.80
48:A2:3599:G:N2	49:B1:1721:U:O4	2.13	0.80
56:BG:32:MET:HB2	56:BG:100:CYS:SG	2.21	0.80
59:BJ:107:GLU:HA	59:BJ:112:THR:HG21	1.62	0.80
20:AR:93:VAL:HG11	48:A2:2704:A:H1'	1.63	0.80
4:AB:129:ALA:HA	48:A2:4689:A:H4'	1.63	0.80
7:AE:125:LEU:N	48:A2:946:G:H21	1.79	0.80
4:AB:158:GLN:HG2	4:AB:159:VAL:HG23	1.64	0.80
5:AC:222:ARG:NH1	27:AY:3:PHE:CE2	2.50	0.80
7:AE:125:LEU:H	48:A2:946:G:H21	1.27	0.80
49:B1:1256:G:C2	53:BD:40:ARG:CD	36.01	0.80
49:B1:1274:G:N2	60:BK:29:MET:HG3	1.96	0.80
49:B1:1452:A:H5''	67:BR:48:ASN:CG	2.01	0.80
49:B1:1630:A:OP1	68:BS:37:GLY:CA	2.29	0.80
48:A2:1740:G:N1	48:A2:1756:C:O2	2.15	0.80
48:A2:205:A:N1	48:A2:229:G:O6	2.13	0.80
48:A2:4714:U:C6	48:A2:4714:U:H5''	2.16	0.80
2:A4:15:C:H1'	2:A4:65:G:N2	1.95	0.80
7:AE:212:LEU:HD23	7:AE:212:LEU:O	1.81	0.80
49:B1:1679:A:C6	55:BF:60:ARG:HA	2.17	0.80
49:B1:1784:G:C5	49:B1:1785:C:C4	2.70	0.80
49:B1:561:A:C8	49:B1:561:A:H5'	2.16	0.80
49:B1:1333:U:C5'	53:BD:147:ALA:HB2	2.11	0.80
64:BO:34:PHE:CZ	64:BO:100:THR:HG23	2.17	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AO:87:MET:HE3	48:A2:1894:C:H1'	1.63	0.80
48:A2:2606:C:C2	48:A2:2607:U:C5	2.69	0.80
6:AD:205:ALA:HB1	6:AD:233:PRO:HB3	0.81	0.80
13:AK:57:LYS:CB	13:AK:60:MET:HB2	2.09	0.80
28:AZ:33:THR:N	28:AZ:36:ARG:O	2.15	0.80
48:A2:133:C:N3	48:A2:134:G:C6	2.50	0.80
8:AF:165:LYS:HB3	48:A2:2254:G:O2'	1.82	0.80
48:A2:2502:G:C1'	48:A2:2690:G:H21	1.95	0.80
48:A2:4597:A:H8	48:A2:5006:A:H61	1.26	0.80
7:AE:136:HIS:CE1	48:A2:702:A:O4'	2.35	0.80
13:AK:58:ASN:HB3	13:AK:82:ILE:CG2	2.11	0.80
22:AT:9:ARG:O	48:A2:4171:G:OP2	2.00	0.80
49:B1:1404:U:C4	70:BU:88:LEU:HD21	2.17	0.80
49:B1:182:C:H5''	49:B1:183:G:OP2	1.81	0.80
49:B1:688:U:O2'	57:BH:103:LYS:CD	2.18	0.80
51:BB:115:LYS:HG2	51:BB:116:LYS:H	1.46	0.80
54:BE:95:THR:HB	54:BE:97:GLU:CG	2.11	0.80
49:B1:156:G:H4'	56:BG:108:VAL:HG21	1.62	0.80
49:B1:1277:C:H5'	60:BK:54:SER:OG	1.82	0.80
67:BR:97:GLU:HB2	67:BR:117:LEU:CA	2.11	0.80
48:A2:1341:G:N3	48:A2:1343:G:C6	2.50	0.79
17:AO:49:ARG:HH21	48:A2:1910:A:C2'	1.93	0.79
13:AK:53:VAL:HG11	48:A2:1978:U:H5'	1.63	0.79
48:A2:3693:G:C2'	48:A2:3694:A:H5'	2.10	0.79
48:A2:494:G:OP2	48:A2:495:C:OP2	2.00	0.79
2:A4:33:U:H1'	6:AD:207:TYR:HD1	1.46	0.79
5:AC:224:ILE:O	5:AC:227:ILE:HG22	1.81	0.79
7:AE:137:VAL:O	7:AE:138:ARG:NH1	2.15	0.79
7:AE:240:TYR:HE1	48:A2:4897:C:C5'	1.91	0.79
12:AJ:166:PHE:CE2	12:AJ:172:GLY:HA3	2.16	0.79
22:AT:119:ALA:CB	22:AT:126:VAL:HG13	2.11	0.79
50:BA:37:TYR:CD2	50:BA:162:PRO:CG	2.60	0.79
50:BA:176:TRP:N	50:BA:202:TYR:HD2	1.76	0.79
50:BA:41:ARG:HB3	50:BA:41:ARG:NH1	1.95	0.79
58:BI:162:LEU:HD11	58:BI:191:GLU:OE1	1.81	0.79
8:AF:51:TYR:CZ	48:A2:1220:C:N4	2.49	0.79
48:A2:1977:C:C2	48:A2:1978:U:O2	2.34	0.79
48:A2:3699:A:H5''	48:A2:3700:U:OP2	1.82	0.79
48:A2:4063:G:N2	48:A2:4063:G:OP2	2.13	0.79
48:A2:943:A:H5''	48:A2:944:G:OP1	1.81	0.79
7:AE:136:HIS:NE2	48:A2:702:A:H1'	1.96	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:737:G:H8	49:B1:737:G:P	2.05	0.79
66:BQ:51:LEU:O	66:BQ:53:GLU:N	2.15	0.79
48:A2:230:U:O2	48:A2:230:U:O2'	1.98	0.79
48:A2:3731:A:N6	49:B1:1825:A:C2	2.50	0.79
48:A2:3915:G:H4'	51:BB:54:GLY:HA2	1.64	0.79
7:AE:203:ILE:O	7:AE:206:VAL:CG2	2.29	0.79
49:B1:1292:C:H2'	49:B1:1293:A:C8	2.17	0.79
49:B1:1287:A:C5'	49:B1:1312:G:H1	1.81	0.79
49:B1:874:G:C8	49:B1:875:A:C8	2.70	0.79
54:BE:137:PRO:HG2	56:BG:209:TYR:CE2	2.16	0.79
56:BG:56:ASN:O	56:BG:107:SER:N	2.15	0.79
49:B1:1276:A:O2'	60:BK:54:SER:HB3	1.82	0.79
13:AK:40:MET:CE	48:A2:1978:U:H1'	2.13	0.79
18:AP:3:ARG:HD3	48:A2:403:G:C6	2.18	0.79
25:AW:82:ILE:O	25:AW:83:THR:OG1	2.00	0.79
49:B1:1287:A:C5'	49:B1:1312:G:C6	2.64	0.79
49:B1:1333:U:H5'	53:BD:147:ALA:HB2	1.61	0.79
49:B1:823:U:C5	74:BY:64:PHE:CZ	2.71	0.79
50:BA:42:LYS:N	50:BA:46:ILE:O	2.14	0.79
63:BN:21:SER:C	63:BN:65:PHE:HB3	2.03	0.79
63:BN:32:ASP:O	63:BN:36:GLN:N	2.13	0.79
65:BP:53:GLN:CB	65:BP:83:MET:HE3	2.13	0.79
48:A2:1977:C:C2'	48:A2:1978:U:O2	2.30	0.79
13:AK:40:MET:CE	48:A2:1981:G:O6	2.31	0.79
7:AE:105:ARG:HD3	48:A2:680:C:O4'	1.82	0.79
8:AF:73:ARG:HH21	48:A2:717:G:H5''	1.47	0.79
3:AA:204:MET:HE2	3:AA:208:GLU:HB3	1.62	0.79
5:AC:221:PHE:HD2	5:AC:227:ILE:CD1	1.96	0.79
13:AK:81:HIS:CG	13:AK:82:ILE:H	2.00	0.79
21:AS:7:LEU:H	21:AS:7:LEU:CD2	1.96	0.79
55:BF:40:ALA:O	55:BF:42:LYS:HG3	1.83	0.79
49:B1:190:G:OP2	58:BI:143:LYS:HD2	1.82	0.79
49:B1:3:C:O2	59:BJ:18:ARG:NH2	2.15	0.79
48:A2:3798:G:C8	48:A2:3798:G:H5''	2.18	0.79
48:A2:69:A:H2'	48:A2:71:C:N4	1.97	0.79
5:AC:103:ALA:CB	48:A2:1322:U:H1'	2.12	0.79
15:AM:91:TRP:HA	15:AM:94:LYS:CD	2.13	0.79
24:AV:97:TYR:CE1	25:AW:21:TYR:HE1	2.00	0.79
49:B1:1519:U:O4'	49:B1:1623:A:N6	2.16	0.79
49:B1:320:G:H2'	49:B1:321:C:H6	1.48	0.79
53:BD:116:ARG:CZ	53:BD:150:MET:CE	2.61	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AC:53:ALA:CB	48:A2:344:C:H1'	2.12	0.79
5:AC:190:ARG:CA	5:AC:202:ILE:CD1	2.60	0.79
5:AC:77:PRO:O	5:AC:91:ALA:CA	2.31	0.79
8:AF:222:LYS:HG3	8:AF:225:THR:CG2	2.13	0.79
23:AU:48:LYS:HG2	23:AU:53:ALA:CB	2.10	0.79
49:B1:1287:A:H4'	49:B1:1312:G:H1	1.46	0.79
50:BA:199:PRO:O	50:BA:203:PHE:HD1	1.64	0.79
51:BB:71:LEU:HD22	51:BB:75:GLN:CB	2.06	0.79
68:BS:15:VAL:HG13	68:BS:68:ILE:CD1	2.13	0.79
48:A2:4702:G:H5''	48:A2:4703:C:OP2	1.83	0.79
4:AB:189:THR:HB	4:AB:192:GLU:OE2	1.83	0.79
6:AD:223:PHE:O	6:AD:226:TYR:HB2	1.83	0.79
9:AG:50:ASP:O	26:AX:41:ARG:O	2.01	0.79
28:AZ:51:ARG:HB3	28:AZ:65:ARG:HD2	1.62	0.79
54:BE:94:LYS:N	54:BE:95:THR:O	2.15	0.79
49:B1:745:C:O2	57:BH:109:ARG:HD3	1.82	0.79
66:BQ:12:VAL:CG1	66:BQ:90:LYS:CB	2.44	0.79
48:A2:1224:C:C3'	48:A2:1225:G:H21	1.95	0.79
48:A2:121:A:C6	48:A2:150:G:N7	2.49	0.79
14:AL:45:ARG:NH2	48:A2:2775:G:H5'	78.65	0.79
7:AE:240:TYR:OH	48:A2:4897:C:C5'	2.25	0.79
12:AJ:111:GLU:HG3	68:BS:14:ARG:HH22	1.42	0.79
15:AM:100:ARG:CB	17:AO:198:THR:OG1	2.30	0.79
25:AW:113:LYS:HG2	49:B1:328:U:C4	2.18	0.79
53:BD:79:PHE:CB	53:BD:84:VAL:HG23	2.13	0.79
59:BJ:30:LYS:HD2	59:BJ:31:LEU:N	1.98	0.79
48:A2:69:A:C2'	48:A2:71:C:H42	1.95	0.79
9:AG:55:VAL:HG21	26:AX:41:ARG:CD	2.13	0.79
18:AP:47:TYR:O	18:AP:51:VAL:HG23	1.83	0.79
53:BD:76:ARG:HE	60:BK:66:HIS:CD2	2.00	0.79
60:BK:80:ARG:HA	60:BK:83:LEU:HD12	1.64	0.79
66:BQ:44:PRO:CG	66:BQ:47:LEU:HB2	2.10	0.79
67:BR:99:ASP:HB2	67:BR:102:THR:CG2	2.11	0.79
5:AC:190:ARG:CB	5:AC:202:ILE:CD1	2.62	0.78
5:AC:234:LYS:CE	48:A2:1347:U:O2	2.31	0.78
25:AW:64:SER:O	25:AW:67:ILE:HG13	1.82	0.78
26:AX:111:GLN:O	26:AX:115:LYS:CG	2.28	0.78
28:AZ:57:MET:HG3	28:AZ:61:LYS:HB3	1.64	0.78
49:B1:294:U:C4	61:BL:65:ASN:CB	2.65	0.78
49:B1:805:U:H5''	49:B1:805:U:H6	1.47	0.78
50:BA:175:TRP:C	50:BA:202:TYR:CE2	2.55	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BA:175:TRP:C	50:BA:202:TYR:HE2	1.86	0.78
65:BP:83:MET:O	65:BP:115:TYR:O	2.00	0.78
65:BP:52:LYS:CG	65:BP:83:MET:HE2	2.13	0.78
66:BQ:10:VAL:HG21	66:BQ:98:LYS:HG3	1.64	0.78
70:BU:26:SER:OG	70:BU:32:LEU:HB2	1.82	0.78
49:B1:581:U:C4'	74:BY:62:THR:HG21	2.13	0.78
75:BZ:82:SER:CA	75:BZ:85:ARG:HH21	1.97	0.78
48:A2:1783:A:H2'	48:A2:1784:A:H5'	1.64	0.78
8:AF:76:ARG:NE	48:A2:719:U:H5''	1.98	0.78
48:A2:902:A:C8	48:A2:902:A:H5''	2.14	0.78
48:A2:966:C:H2'	48:A2:969:U:O4	1.83	0.78
6:AD:195:HIS:O	6:AD:199:ILE:HG13	1.83	0.78
21:AS:90:THR:HG21	22:AT:156:TYR:CG	2.18	0.78
49:B1:1097:G:H4'	50:BA:32:PHE:CD1	2.17	0.78
48:A2:4981:C:H5''	58:BI:124:LYS:HZ3	1.47	0.78
59:BJ:96:TYR:CZ	59:BJ:100:LEU:HD21	2.17	0.78
65:BP:84:ILE:O	65:BP:86:LEU:HD22	1.83	0.78
68:BS:48:ALA:CB	68:BS:50:ILE:HD12	2.12	0.78
48:A2:163:C:C5	48:A2:164:C:C5	2.71	0.78
10:AH:173:ARG:HD3	48:A2:4438:C:N4	1.98	0.78
5:AC:183:VAL:HG12	5:AC:225:PRO:HB2	1.65	0.78
7:AE:100:LYS:HB2	48:A2:679:G:OP1	1.84	0.78
7:AE:173:LEU:HD21	7:AE:191:GLN:HB2	1.64	0.78
7:AE:208:ILE:HD12	7:AE:209:PRO:HD3	1.63	0.78
22:AT:112:ASN:OD1	22:AT:128:LEU:CB	2.29	0.78
28:AZ:53:VAL:HB	28:AZ:62:ILE:HD11	1.65	0.78
28:AZ:95:VAL:CG1	28:AZ:109:LYS:HG3	2.13	0.78
48:A2:4983:C:P	58:BI:169:GLY:CA	2.65	0.78
59:BJ:87:LEU:HD22	59:BJ:96:TYR:CD2	2.18	0.78
62:BM:127:TYR:O	62:BM:128:PHE:C	2.18	0.78
48:A2:4686:A:OP2	48:A2:4686:A:C8	2.36	0.78
3:AA:226:ARG:HH21	48:A2:4144:G:C5'	1.96	0.78
4:AB:299:ILE:HD12	4:AB:299:ILE:H	1.48	0.78
5:AC:217:ILE:CD1	5:AC:220:ALA:HB3	2.11	0.78
65:BP:44:ARG:HH21	65:BP:52:LYS:NZ	1.81	0.78
67:BR:99:ASP:HB2	67:BR:102:THR:CB	2.11	0.78
48:A2:287:G:N2	48:A2:309:G:H21	1.81	0.78
7:AE:247:LYS:HD3	48:A2:4896:A:H61	1.47	0.78
6:AD:290:ALA:HB2	48:A2:1163:C:P	2.22	0.78
6:AD:287:PHE:O	6:AD:290:ALA:HB3	1.82	0.78
49:B1:744:G:H21	57:BH:109:ARG:CG	1.95	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:803:C:H3'	49:B1:804:U:H6	1.48	0.78
49:B1:872:A:HO2'	49:B1:874:G:H21	1.31	0.78
65:BP:84:ILE:HG22	65:BP:115:TYR:CG	2.19	0.78
66:BQ:62:ARG:HD3	66:BQ:92:LEU:CB	2.14	0.78
53:BD:210:ILE:CA	67:BR:39:ALA:CB	2.62	0.78
12:AJ:129:ASP:OD1	48:A2:4212:G:O2'	2.01	0.78
4:AB:8:ALA:HB2	24:AV:49:LEU:HD22	1.65	0.78
25:AW:81:ALA:O	25:AW:82:ILE:CG1	2.31	0.78
49:B1:689:U:O2'	49:B1:690:G:O4'	2.01	0.78
49:B1:560:A:C5'	59:BJ:172:ARG:N	2.46	0.78
69:BT:41:LYS:HZ1	69:BT:82:ARG:N	1.81	0.78
6:AD:290:ALA:CB	48:A2:1163:C:OP1	2.29	0.78
6:AD:286:SER:HG	48:A2:1164:C:P	2.05	0.78
48:A2:133:C:N4	48:A2:134:G:N3	2.32	0.78
48:A2:1989:U:C6	48:A2:1992:C:C5	2.70	0.78
48:A2:3710:C:H2'	48:A2:3711:G:H5'	1.64	0.78
4:AB:76:VAL:HG11	4:AB:332:MET:HG2	1.65	0.78
6:AD:90:VAL:HG21	6:AD:226:TYR:CD1	2.19	0.78
16:AN:201:HIS:CD2	48:A2:1343:G:P	2.72	0.78
20:AR:61:ALA:CB	48:A2:2612:U:H5'	2.13	0.78
50:BA:42:LYS:HE3	50:BA:48:ILE:CD1	2.13	0.78
69:BT:39:LEU:HD12	69:BT:43:LYS:O	1.84	0.78
19:AQ:164:LYS:CA	48:A2:1479:A:O4'	2.31	0.78
1:A3:151:G:C8	1:A3:151:G:OP1	2.37	0.78
14:AL:129:ARG:C	14:AL:130:LYS:HD2	2.03	0.78
1:A3:11:C:HO2'	18:AP:5:SER:HA	1.47	0.78
50:BA:59:LEU:HD21	50:BA:63:ARG:HH21	1.48	0.78
52:BC:135:GLY:O	52:BC:136:HIS:ND1	2.16	0.78
49:B1:1491:G:H1'	70:BU:72:GLU:OE1	1.84	0.78
50:BA:66:VAL:HG11	71:BV:46:PHE:CD1	2.16	0.78
14:AL:36:ARG:HH11	48:A2:407:G:H21	61.43	0.78
48:A2:460:A:H61	48:A2:681:A:N6	1.80	0.78
48:A2:4896:A:H8	48:A2:4896:A:OP1	1.63	0.78
25:AW:93:LYS:NZ	56:BG:145:PHE:CE2	2.07	0.78
49:B1:642:U:OP1	59:BJ:41:ARG:HB3	1.84	0.78
49:B1:1593:C:OP2	55:BF:91:ARG:NH2	2.17	0.78
66:BQ:25:CYS:HB2	66:BQ:68:ILE:HG12	1.66	0.78
1:A3:123:U:H3'	1:A3:124:U:H5''	1.64	0.78
2:A4:1:G:C8	6:AD:264:LYS:HD3	2.19	0.78
6:AD:235:MET:O	6:AD:239:MET:HB2	1.83	0.78
8:AF:222:LYS:HG3	8:AF:225:THR:HG23	1.66	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:84:GLY:HA2	48:A2:2002:G:C4'	2.13	0.78
19:AQ:16:LYS:O	19:AQ:52:PHE:CE1	2.36	0.78
20:AR:139:MET:HA	20:AR:142:ILE:HD12	1.65	0.78
53:BD:68:GLU:OE2	60:BK:70:TYR:HA	1.84	0.78
57:BH:64:VAL:HG13	57:BH:72:PHE:CE2	2.19	0.78
65:BP:70:MET:O	65:BP:72:LYS:HA	1.84	0.78
74:BY:86:GLU:OE1	74:BY:90:ARG:NH1	2.17	0.78
48:A2:133:C:H6	48:A2:133:C:C5'	1.96	0.77
28:AZ:136:PHE:O	48:A2:4092:C:H5'	1.84	0.77
48:A2:4731:G:C2	48:A2:4821:G:O6	2.37	0.77
2:A4:9:C:OP1	22:AT:28:ALA:CB	2.32	0.77
22:AT:95:HIS:ND1	48:A2:952:G:OP1	101.77	0.77
49:B1:1124:C:O2'	67:BR:123:THR:CG2	2.32	0.77
49:B1:676:C:H5''	63:BN:5:HIS:CD2	2.19	0.77
50:BA:38:ILE:HD11	50:BA:47:TYR:CG	2.17	0.77
51:BB:131:ASP:OD1	51:BB:181:LEU:HD11	1.84	0.77
51:BB:71:LEU:CD2	51:BB:84:PHE:HE2	1.97	0.77
49:B1:502:C:C5'	54:BE:66:MET:SD	2.71	0.77
71:BV:37:ALA:HB3	71:BV:46:PHE:CE1	2.18	0.77
19:AQ:184:ARG:NH1	48:A2:4303:C:OP2	2.18	0.77
8:AF:217:ARG:HG3	8:AF:217:ARG:NH1	1.99	0.77
14:AL:57:PRO:HG3	14:AL:75:GLY:O	1.85	0.77
16:AN:86:HIS:CE1	48:A2:33:A:OP2	2.37	0.77
9:AG:55:VAL:HG21	26:AX:41:ARG:HD2	1.66	0.77
65:BP:68:PRO:HD2	65:BP:71:GLU:CB	2.15	0.77
75:BZ:99:LEU:CB	75:BZ:109:TYR:HE1	1.98	0.77
13:AK:62:ARG:HB3	48:A2:1941:A:OP2	1.84	0.77
7:AE:111:LYS:CE	48:A2:682:U:P	2.72	0.77
4:AB:214:ASP:OD1	4:AB:363:ILE:HG12	1.85	0.77
4:AB:247:GLY:CA	48:A2:2817:G:H5''	2.14	0.77
7:AE:123:ARG:HG2	48:A2:948:G:OP1	1.85	0.77
7:AE:272:ARG:HG2	48:A2:4841:C:OP1	1.84	0.77
25:AW:102:LYS:N	25:AW:105:ARG:CZ	2.48	0.77
49:B1:319:C:H2'	49:B1:320:G:C8	2.18	0.77
56:BG:141:ILE:CG2	56:BG:153:VAL:HG21	2.13	0.77
49:B1:688:U:C3'	57:BH:103:LYS:CD	2.56	0.77
59:BJ:163:SER:N	59:BJ:164:PRO:HD2	1.98	0.77
59:BJ:70:ARG:HE	59:BJ:94:LEU:HD12	1.50	0.77
62:BM:14:VAL:HG13	62:BM:127:TYR:CE2	2.18	0.77
64:BO:85:CYS:SG	64:BO:93:LEU:HD11	2.23	0.77
65:BP:68:PRO:HB2	65:BP:69:PRO:CD	2.15	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1755:U:N3	48:A2:1756:C:C4	2.52	0.77
16:AN:108:ARG:HH12	48:A2:2440:G:H4'	1.48	0.77
48:A2:3929:G:H1	48:A2:4016:A:H61	1.23	0.77
12:AJ:98:ASN:ND2	48:A2:4212:G:OP1	2.18	0.77
4:AB:357:ARG:NE	48:A2:4577:C:H5''	1.99	0.77
17:AO:167:HIS:CE1	48:A2:4719:C:C4	2.71	0.77
15:AM:44:GLN:OE1	48:A2:922:A:H1'	1.85	0.77
6:AD:224:SER:HA	6:AD:227:ILE:CD1	2.13	0.77
49:B1:1286:G:N3	49:B1:1287:A:OP1	2.16	0.77
49:B1:742:U:C6	49:B1:743:U:C5	2.72	0.77
49:B1:874:G:H2'	49:B1:875:A:C8	2.19	0.77
52:BC:60:TRP:CZ3	52:BC:62:PRO:HA	2.20	0.77
59:BJ:14:VAL:HG23	59:BJ:48:PHE:HB2	1.64	0.77
59:BJ:87:LEU:HD22	59:BJ:96:TYR:CE2	2.19	0.77
49:B1:677:G:OP1	63:BN:120:SER:OG	2.03	0.77
48:A2:4896:A:P	48:A2:4896:A:H8	2.08	0.77
48:A2:900:U:C2'	48:A2:901:U:C5'	2.57	0.77
6:AD:286:SER:O	6:AD:289:ARG:N	2.17	0.77
13:AK:1:MET:HB3	13:AK:2:PRO:HD3	1.67	0.77
13:AK:57:LYS:HG2	48:A2:2001:U:P	2.20	0.77
49:B1:984:C:O2'	64:BO:138:ASP:HB3	1.85	0.77
50:BA:176:TRP:CA	50:BA:202:TYR:CD2	2.66	0.77
51:BB:171:ILE:CD1	51:BB:197:ILE:CG1	2.63	0.77
59:BJ:169:ARG:HB3	59:BJ:173:VAL:CB	2.07	0.77
64:BO:78:ALA:HB3	64:BO:118:ALA:HB1	1.66	0.77
49:B1:581:U:C4'	74:BY:62:THR:CG2	2.62	0.77
48:A2:1258:G:N2	48:A2:1259:C:N3	2.33	0.77
17:AO:25:LYS:HD3	48:A2:1895:C:OP1	1.85	0.77
2:A4:22:A:N1	2:A4:23:A:C5	2.52	0.77
20:AR:126:LYS:HG3	20:AR:131:VAL:CG2	2.08	0.77
20:AR:173:ARG:HD2	49:B1:910:G:OP2	1.85	0.77
28:AZ:59:LYS:O	28:AZ:62:ILE:HG22	1.85	0.77
49:B1:1287:A:H5'	49:B1:1312:G:C6	2.20	0.77
50:BA:206:ASP:CG	50:BA:207:PRO:HD3	2.05	0.77
63:BN:75:LEU:HD11	63:BN:81:ALA:N	1.99	0.77
12:AJ:111:GLU:CB	68:BS:14:ARG:HH21	1.97	0.77
48:A2:1740:G:H21	48:A2:1741:G:H1'	1.49	0.77
5:AC:303:ARG:O	5:AC:304:ALA:CB	2.32	0.77
6:AD:205:ALA:HB2	6:AD:233:PRO:HB3	1.62	0.77
7:AE:108:LYS:HE2	7:AE:109:LEU:H	1.49	0.77
19:AQ:43:PHE:HD1	48:A2:1411:U:O2'	1.68	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AQ:75:ARG:HG3	19:AQ:75:ARG:NH1	1.99	0.77
23:AU:52:LYS:HB3	23:AU:52:LYS:NZ	1.98	0.77
49:B1:379:C:H5'	58:BI:33:ALA:HB2	1.66	0.77
49:B1:872:A:N1	49:B1:915:G:C5	2.52	0.77
59:BJ:168:GLY:H	59:BJ:172:ARG:NH2	1.83	0.77
66:BQ:50:LYS:O	66:BQ:50:LYS:HD3	1.84	0.77
68:BS:92:ASP:O	68:BS:94:LYS:N	2.16	0.77
49:B1:617:G:OP1	73:BX:68:LYS:CE	2.31	0.77
48:A2:1749:A:H2'	48:A2:1751:G:H8	1.48	0.77
2:A4:33:U:C2	6:AD:207:TYR:CD1	2.73	0.77
20:AR:99:MET:CE	20:AR:103:ARG:HH11	1.97	0.77
49:B1:582:U:H4'	74:BY:32:LYS:H	1.50	0.77
49:B1:142:C:O2	56:BG:180:VAL:CG1	2.33	0.77
58:BI:171:LEU:HD21	58:BI:189:VAL:HG11	1.67	0.77
48:A2:50:C:O2'	48:A2:51:A:H5'	1.83	0.77
21:AS:74:ARG:HH22	48:A2:909:C:H5''	1.50	0.77
25:AW:116:LYS:O	25:AW:120:GLN:HG2	1.84	0.77
49:B1:1021:U:H5'	63:BN:128:TYR:CE1	2.18	0.77
49:B1:1124:C:O2'	67:BR:123:THR:HB	1.83	0.77
49:B1:1314:U:H3	60:BK:2:LEU:H	1.31	0.77
49:B1:1350:U:H1'	50:BA:112:ILE:HD13	1.67	0.77
68:BS:14:ARG:HH11	68:BS:14:ARG:HG2	1.47	0.77
49:B1:1603:G:O4'	68:BS:38:ARG:NH1	2.17	0.77
5:AC:100:ARG:NH1	48:A2:1632:A:N1	2.33	0.77
5:AC:219:LYS:HZ1	48:A2:220:G:H8	1.31	0.77
48:A2:4014:U:C2'	48:A2:4015:G:H5'	2.15	0.77
48:A2:4088:C:H3'	48:A2:4089:U:C6	2.20	0.77
7:AE:105:ARG:NE	48:A2:680:C:H1'	2.00	0.77
48:A2:943:A:O2'	48:A2:944:G:N7	2.18	0.77
7:AE:237:LYS:HA	7:AE:237:LYS:HZ3	1.48	0.77
21:AS:77:ASN:ND2	21:AS:146:HIS:CE1	2.54	0.77
49:B1:658:U:H1'	73:BX:17:ARG:CZ	2.15	0.77
50:BA:7:VAL:HG21	71:BV:42:VAL:N	2.00	0.77
53:BD:142:LEU:CD1	53:BD:150:MET:SD	2.72	0.77
54:BE:114:ILE:CD1	54:BE:118:GLU:HG2	2.15	0.77
49:B1:527:C:H4'	59:BJ:125:HIS:HB2	1.67	0.77
68:BS:59:LEU:HD23	68:BS:60:THR:H	1.48	0.77
48:A2:965:G:N2	48:A2:1259:C:N3	2.33	0.76
5:AC:274:LYS:CE	48:A2:1358:C:OP1	2.33	0.76
48:A2:2685:G:H8	48:A2:2685:G:C5'	1.97	0.76
48:A2:2741:G:C2'	48:A2:2742:U:H5''	2.14	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:4597:A:H8	48:A2:5006:A:N6	1.83	0.76
5:AC:190:ARG:CA	5:AC:202:ILE:HD13	2.15	0.76
6:AD:90:VAL:CG2	6:AD:226:TYR:CE1	2.67	0.76
51:BB:174:ARG:HH11	51:BB:174:ARG:HG2	1.49	0.76
59:BJ:27:GLN:O	59:BJ:30:LYS:HG3	1.85	0.76
49:B1:1286:G:N2	62:BM:36:ARG:HB2	1.99	0.76
49:B1:1236:G:HO2'	65:BP:130:ARG:HD2	1.49	0.76
66:BQ:39:LEU:HD21	66:BQ:51:LEU:HD21	1.65	0.76
71:BV:38:GLU:CB	71:BV:49:GLN:O	2.34	0.76
74:BY:117:VAL:O	74:BY:122:LYS:HE3	1.85	0.76
3:AA:24:LYS:HG3	3:AA:49:ILE:HD12	1.66	0.76
3:AA:9:ARG:CD	48:A2:1610:C:OP2	2.33	0.76
14:AL:44:ARG:CZ	48:A2:182:C:H6	1.94	0.76
20:AR:59:SER:HA	48:A2:2613:C:C5'	2.15	0.76
28:AZ:50:PRO:HG3	28:AZ:122:TYR:CE2	2.19	0.76
51:BB:182:LYS:CG	51:BB:231:LEU:HD11	2.15	0.76
54:BE:114:ILE:HG13	54:BE:115:THR:H	1.50	0.76
70:BU:67:LYS:HE2	70:BU:78:ASP:OD1	1.85	0.76
48:A2:900:U:H2'	48:A2:901:U:O4'	1.85	0.76
9:AG:162:ASP:HB3	9:AG:163:PRO:CD	2.16	0.76
49:B1:693:A:C2	49:B1:737:G:C6	2.72	0.76
53:BD:11:PHE:HZ	70:BU:25:THR:HG22	1.49	0.76
58:BI:76:THR:HG21	58:BI:104:ILE:HG23	1.68	0.76
49:B1:1454:A:O2'	67:BR:3:ARG:CZ	2.33	0.76
49:B1:483:C:OP1	73:BX:47:ALA:HA	1.84	0.76
6:AD:286:SER:HB2	48:A2:1163:C:H4'	1.67	0.76
48:A2:1741:G:C2	48:A2:1742:G:N9	2.53	0.76
14:AL:44:ARG:NE	48:A2:182:C:H5	1.77	0.76
15:AM:56:GLN:OE1	48:A2:4827:U:C5	2.38	0.76
48:A2:945:G:O6	48:A2:946:G:O6	2.04	0.76
3:AA:247:ARG:CD	49:B1:1069:U:H4'	2.15	0.76
9:AG:82:GLN:HG2	9:AG:233:ILE:HG21	1.65	0.76
13:AK:81:HIS:CE1	13:AK:86:VAL:CG1	2.69	0.76
21:AS:90:THR:HG23	22:AT:156:TYR:CD2	2.21	0.76
27:AY:2:LYS:HD2	27:AY:7:VAL:HG13	1.65	0.76
49:B1:226:A:H5'	49:B1:226:A:C8	2.20	0.76
49:B1:64:A:C3'	56:BG:175:LYS:HE3	2.15	0.76
49:B1:795:A:H2'	49:B1:796:G:H8	1.50	0.76
49:B1:384:U:H4'	61:BL:134:LEU:O	1.86	0.76
74:BY:83:LYS:HE2	74:BY:96:LEU:HD21	1.65	0.76
75:BZ:99:LEU:CD2	75:BZ:109:TYR:CE1	2.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1341:G:N2	48:A2:1343:G:C2	2.53	0.76
21:AS:118:ARG:NH2	48:A2:2040:C:O2	2.19	0.76
7:AE:147:GLY:HA3	7:AE:203:ILE:HG22	1.67	0.76
8:AF:70:ARG:CZ	48:A2:1191:G:O2'	2.34	0.76
14:AL:127:PHE:HA	14:AL:136:LYS:HD3	1.67	0.76
5:AC:112:HIS:HB2	16:AN:202:ARG:O	1.86	0.76
49:B1:229:A:N1	49:B1:900:C:H1'	1.99	0.76
53:BD:72:VAL:HG22	60:BK:20:VAL:HG13	1.67	0.76
49:B1:163:U:H4'	56:BG:83:CYS:HA	1.68	0.76
59:BJ:70:ARG:HE	59:BJ:94:LEU:CD1	1.99	0.76
66:BQ:11:GLN:HE21	66:BQ:24:HIS:CD2	2.03	0.76
66:BQ:34:VAL:HG11	66:BQ:84:ILE:HD13	1.67	0.76
5:AC:190:ARG:HB2	5:AC:202:ILE:CD1	2.15	0.76
6:AD:230:SER:O	6:AD:231:VAL:HG23	1.84	0.76
2:A4:61:G:OP1	6:AD:271:MET:HG2	1.85	0.76
13:AK:55:MET:HG2	13:AK:88:PHE:HB2	1.68	0.76
49:B1:441:C:H4'	49:B1:1737:G:O2'	1.86	0.76
49:B1:560:A:C3'	59:BJ:171:GLY:CA	2.16	0.76
49:B1:659:G:N2	73:BX:17:ARG:HH12	1.84	0.76
49:B1:823:U:O2	59:BJ:142:VAL:CA	2.32	0.76
54:BE:47:PHE:CE1	54:BE:111:VAL:HG12	2.19	0.76
2:A4:90:A:O2'	11:AI:11:TYR:CD1	2.38	0.76
13:AK:14:PHE:CD2	48:A2:1941:A:N6	2.54	0.76
14:AL:177:LYS:HA	14:AL:177:LYS:HZ2	1.47	0.76
21:AS:80:ILE:CG2	21:AS:82:LEU:HD21	2.15	0.76
49:B1:317:C:C2'	49:B1:318:A:H5'	2.16	0.76
59:BJ:35:TYR:CD1	59:BJ:106:LEU:HB3	2.20	0.76
65:BP:47:ARG:O	65:BP:49:LEU:HD23	1.85	0.76
67:BR:36:GLU:OE1	67:BR:47:ARG:CD	2.34	0.76
22:AT:87:LYS:CE	48:A2:4267:G:O6	2.33	0.76
48:A2:227:G:O6	86:A2:5226:MG:MG	1.26	0.76
48:A2:903:C:H6	48:A2:903:C:H5''	1.48	0.76
3:AA:208:GLU:OE1	48:A2:1613:A:C2	2.39	0.76
7:AE:173:LEU:HD21	7:AE:191:GLN:CB	2.16	0.76
17:AO:87:MET:CE	48:A2:1894:C:H1'	2.15	0.76
22:AT:3:ASN:ND2	48:A2:4180:U:P	2.59	0.76
23:AU:47:ILE:HG22	23:AU:47:ILE:O	1.85	0.76
27:AY:36:LYS:CD	27:AY:36:LYS:H	1.96	0.76
49:B1:1333:U:H4'	53:BD:147:ALA:HB2	1.68	0.76
49:B1:168:C:C4'	56:BG:131:ARG:HB2	2.16	0.76
49:B1:749:U:H3'	49:B1:750:C:H6	1.49	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:872:A:N7	49:B1:874:G:C2	2.53	0.76
50:BA:207:PRO:O	50:BA:210:ILE:HG12	1.86	0.76
53:BD:74:GLN:HE21	53:BD:84:VAL:CB	1.89	0.76
55:BF:127:ARG:HG2	55:BF:134:VAL:HG13	1.67	0.76
59:BJ:114:VAL:HG12	59:BJ:120:ALA:HB2	1.68	0.76
65:BP:49:LEU:HB2	65:BP:50:ARG:HB3	1.67	0.76
48:A2:2858:A:O4'	48:A2:2860:A:H5'	1.86	0.76
48:A2:4014:U:O2'	48:A2:4015:G:H5'	1.85	0.76
48:A2:4865:G:OP2	48:A2:4865:G:H3'	1.86	0.76
48:A2:4865:G:H4'	48:A2:4866:G:OP1	1.86	0.76
8:AF:179:LEU:CD2	8:AF:184:ILE:CD1	2.64	0.76
10:AH:60:TRP:HE3	10:AH:60:TRP:HA	1.48	0.76
13:AK:14:PHE:CD1	48:A2:1941:A:C5	2.73	0.76
27:AY:1:MET:HG2	48:A2:1351:A:H1'	1.66	0.76
67:BR:15:VAL:O	67:BR:19:LYS:HG2	1.85	0.76
69:BT:41:LYS:HD3	69:BT:43:LYS:CE	2.16	0.76
48:A2:3710:C:C2'	48:A2:3711:G:H5'	2.16	0.76
15:AM:70:GLN:HB3	48:A2:725:G:H5''	1.66	0.76
14:AL:59:VAL:HG13	48:A2:74:G:P	2.25	0.76
14:AL:134:PRO:HB3	14:AL:135:LYS:CD	2.15	0.76
20:AR:26:PRO:CB	48:A2:2365:U:O2'	2.33	0.76
20:AR:24:LEU:HD12	20:AR:51:ILE:HD11	1.67	0.76
25:AW:109:ILE:O	25:AW:113:LYS:HE3	1.85	0.76
49:B1:1778:C:C6	49:B1:1778:C:H5''	2.21	0.76
49:B1:316:G:OP2	56:BG:183:ARG:HD2	1.85	0.76
56:BG:101:ILE:HG22	56:BG:102:VAL:N	1.99	0.76
62:BM:14:VAL:HG22	62:BM:127:TYR:CD1	2.20	0.76
67:BR:99:ASP:O	67:BR:117:LEU:HD13	1.86	0.76
48:A2:1989:U:C5	48:A2:1992:C:C5	2.73	0.75
5:AC:289:LEU:CG	5:AC:293:LEU:HD11	2.15	0.75
8:AF:69:ILE:HG22	8:AF:73:ARG:HE	1.23	0.75
49:B1:1603:G:H5'	68:BS:38:ARG:HH11	1.51	0.75
49:B1:1123:C:O3'	51:BB:149:GLN:HG3	1.86	0.75
52:BC:135:GLY:O	52:BC:136:HIS:CG	2.39	0.75
59:BJ:141:VAL:CG2	59:BJ:162:ARG:HH21	1.96	0.75
67:BR:21:TYR:HE2	67:BR:71:ILE:HD12	1.50	0.75
67:BR:20:TYR:CD2	67:BR:23:ARG:HD2	2.16	0.75
49:B1:1587:G:O6	69:BT:67:ARG:HG3	1.87	0.75
48:A2:1740:G:N3	48:A2:1740:G:H2'	2.01	0.75
48:A2:205:A:C5	48:A2:229:G:C6	2.74	0.75
48:A2:447:G:O2'	48:A2:448:U:O2	2.03	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:150:C:C5	9:AG:65:ARG:CZ	2.70	0.75
7:AE:210:LYS:N	7:AE:210:LYS:HD3	2.00	0.75
49:B1:990:A:O5'	51:BB:116:LYS:HE3	1.86	0.75
49:B1:561:A:OP1	59:BJ:171:GLY:HA2	1.87	0.75
66:BQ:62:ARG:CG	66:BQ:92:LEU:HD12	2.16	0.75
49:B1:151:C:P	74:BY:120:THR:HG1	2.09	0.75
1:A3:103:A:OP2	1:A3:104:A:H2'	1.85	0.75
15:AM:20:HIS:CE1	15:AM:48:GLN:NE2	2.48	0.75
28:AZ:70:SER:OG	28:AZ:115:LYS:HB2	1.86	0.75
56:BG:194:LEU:HB3	56:BG:198:ARG:HH12	1.51	0.75
59:BJ:136:ARG:CA	59:BJ:158:ASP:O	2.34	0.75
63:BN:36:GLN:O	63:BN:40:LEU:HD23	1.86	0.75
53:BD:11:PHE:CZ	70:BU:25:THR:HG22	2.20	0.75
48:A2:70:A:H5'	48:A2:71:C:N4	2.01	0.75
6:AD:17:GLN:HG2	22:AT:20:ARG:CA	2.17	0.75
6:AD:22:ARG:NE	6:AD:27:LYS:HD2	2.01	0.75
13:AK:84:GLY:O	13:AK:86:VAL:N	2.19	0.75
16:AN:50:ARG:HA	48:A2:113:A:H1'	1.69	0.75
20:AR:119:MET:CE	20:AR:149:LYS:HD2	2.16	0.75
25:AW:56:ARG:NH1	48:A2:4999:G:C8	2.54	0.75
27:AY:55:VAL:HG21	27:AY:70:VAL:CG1	2.16	0.75
49:B1:1284:A:O2'	49:B1:1287:A:C2	2.39	0.75
49:B1:1590:C:P	69:BT:82:ARG:HD2	2.27	0.75
49:B1:885:U:OP1	61:BL:30:LYS:NZ	2.18	0.75
48:A2:70:A:H5'	48:A2:71:C:C4	2.22	0.75
2:A4:95:C:C4'	8:AF:229:GLU:CD	2.55	0.75
13:AK:77:LYS:O	13:AK:80:PRO:HG2	1.86	0.75
23:AU:47:ILE:HD11	23:AU:63:ILE:CD1	2.14	0.75
54:BE:86:PHE:CD2	54:BE:184:ILE:HG22	2.19	0.75
56:BG:212:LEU:HA	56:BG:215:LYS:HD2	1.68	0.75
65:BP:34:MET:O	65:BP:42:ARG:CD	2.35	0.75
67:BR:97:GLU:CA	67:BR:117:LEU:CD2	2.65	0.75
71:BV:35:ASN:OD1	71:BV:52:THR:HG22	1.86	0.75
49:B1:1593:C:H5	75:BZ:104:ARG:NH2	1.82	0.75
48:A2:1740:G:N1	48:A2:1756:C:C2	2.54	0.75
48:A2:227:G:C5'	48:A2:227:G:H8	2.00	0.75
48:A2:4853:C:H2'	48:A2:4854:G:H4'	1.66	0.75
48:A2:961:C:H6	48:A2:961:C:C5'	1.94	0.75
7:AE:140:LEU:HB2	7:AE:144:ILE:HD11	1.67	0.75
21:AS:115:ALA:HB2	48:A2:2041:G:H21	1.52	0.75
22:AT:89:ILE:HG22	22:AT:91:VAL:HG23	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BC:98:LEU:N	52:BC:98:LEU:HD23	2.01	0.75
56:BG:227:GLN:O	56:BG:231:ARG:HG2	1.86	0.75
49:B1:510:G:OP2	59:BJ:3:VAL:HG12	1.86	0.75
49:B1:291:G:N2	61:BL:68:ILE:O	2.20	0.75
63:BN:75:LEU:HD12	63:BN:81:ALA:HB2	1.68	0.75
64:BO:86:LYS:C	64:BO:89:GLY:H	1.90	0.75
66:BQ:11:GLN:HE21	66:BQ:24:HIS:CG	2.05	0.75
68:BS:16:LEU:N	68:BS:16:LEU:HD23	2.02	0.75
68:BS:92:ASP:C	68:BS:94:LYS:H	1.86	0.75
49:B1:1654:G:OP1	69:BT:90:SER:HB3	1.87	0.75
70:BU:22:ILE:HA	70:BU:113:GLU:O	1.86	0.75
48:A2:1258:G:C2	48:A2:1259:C:N3	2.55	0.75
22:AT:129:LYS:HE2	48:A2:1816:G:O2'	1.84	0.75
48:A2:4026:A:H5''	48:A2:4026:A:H8	1.51	0.75
48:A2:679:G:O2'	48:A2:680:C:H5'	1.87	0.75
14:AL:8:MET:CE	48:A2:1327:C:H4'	2.16	0.75
25:AW:97:LYS:CB	25:AW:98:PRO:HD3	2.12	0.75
28:AZ:33:THR:CG2	28:AZ:36:ARG:HD3	2.16	0.75
49:B1:1284:A:C5'	49:B1:1285:G:H5''	2.16	0.75
49:B1:805:U:H5''	49:B1:805:U:C6	2.20	0.75
56:BG:141:ILE:HD13	56:BG:157:VAL:HG22	1.67	0.75
59:BJ:159:PHE:CD2	59:BJ:164:PRO:HG2	2.22	0.75
62:BM:52:LEU:HD23	62:BM:76:LEU:HD21	1.68	0.75
65:BP:51:ARG:CA	65:BP:54:HIS:HB3	2.16	0.75
13:AK:10:LYS:HE3	48:A2:1941:A:C4	2.22	0.75
7:AE:193:PHE:HE2	48:A2:4899:G:H21	1.32	0.75
15:AM:44:GLN:O	48:A2:922:A:C2	2.39	0.75
7:AE:203:ILE:HA	7:AE:206:VAL:HG23	1.66	0.75
13:AK:25:PRO:HD2	13:AK:92:LYS:HB3	1.69	0.75
13:AK:63:LYS:HA	13:AK:66:ARG:CB	2.14	0.75
23:AU:48:LYS:HA	23:AU:53:ALA:HA	1.67	0.75
49:B1:162:C:O2'	56:BG:95:LYS:NZ	2.17	0.75
66:BQ:25:CYS:CB	66:BQ:68:ILE:HG12	2.16	0.75
48:A2:227:G:N2	48:A2:234:G:C6	2.55	0.75
48:A2:4106:C:H42	48:A2:4110:C:N4	1.84	0.75
48:A2:727:C:H2'	48:A2:728:C:O4'	1.87	0.75
7:AE:125:LEU:CB	48:A2:946:G:H21	2.00	0.75
13:AK:40:MET:SD	48:A2:1980:A:N6	2.59	0.75
14:AL:56:ARG:N	14:AL:56:ARG:HD2	2.00	0.75
15:AM:114:LYS:HD3	15:AM:115:ALA:N	2.02	0.75
20:AR:61:ALA:HA	20:AR:64:ARG:NH1	2.00	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AR:165:LYS:HZ1	49:B1:907:G:C5'	1.99	0.75
56:BG:194:LEU:HB3	56:BG:198:ARG:NH1	2.02	0.75
49:B1:448:A:H61	58:BI:29:LEU:CD2	1.98	0.75
59:BJ:163:SER:N	59:BJ:164:PRO:CD	2.50	0.75
49:B1:560:A:C2'	59:BJ:171:GLY:HA3	2.16	0.75
49:B1:561:A:P	59:BJ:171:GLY:HA3	2.27	0.75
71:BV:35:ASN:ND2	71:BV:50:PHE:HD2	1.85	0.75
49:B1:659:G:N2	73:BX:17:ARG:NH1	2.34	0.75
48:A2:3608:U:C2'	48:A2:3609:G:H5'	2.17	0.74
48:A2:5019:A:H4'	48:A2:5020:G:OP1	1.86	0.74
4:AB:285:TYR:HA	4:AB:363:ILE:CD1	2.17	0.74
51:BB:157:GLN:HB2	51:BB:160:GLN:OE1	1.87	0.74
53:BD:141:LYS:HD3	53:BD:179:GLN:O	1.87	0.74
54:BE:69:PHE:HE1	54:BE:94:LYS:CE	1.88	0.74
68:BS:59:LEU:HD23	68:BS:60:THR:N	2.02	0.74
48:A2:132:G:H5''	48:A2:132:G:N3	2.02	0.74
13:AK:40:MET:HE3	48:A2:1978:U:H1'	1.67	0.74
5:AC:50:GLN:HG3	48:A2:342:G:H4'	1.69	0.74
1:A3:70:G:H2'	27:AY:114:ASP:CG	2.08	0.74
15:AM:101:LYS:N	17:AO:198:THR:CG2	2.49	0.74
27:AY:59:ARG:HH12	48:A2:196:G:C2'	1.94	0.74
49:B1:502:C:OP1	54:BE:66:MET:CE	2.35	0.74
49:B1:744:G:H22	57:BH:109:ARG:HD2	1.46	0.74
64:BO:83:GLN:HE22	64:BO:87:GLU:HG2	1.52	0.74
48:A2:1981:G:N2	48:A2:1981:G:OP2	2.20	0.74
48:A2:4472:A:H2'	48:A2:4473:A:C8	2.22	0.74
2:A4:43:U:H5'	12:AJ:143:ASP:HB3	1.69	0.74
6:AD:9:ASN:HB3	6:AD:12:TYR:CD1	2.22	0.74
13:AK:19:GLN:C	13:AK:21:LEU:H	1.91	0.74
49:B1:1622:U:O2	49:B1:1622:U:H2'	1.87	0.74
51:BB:41:ILE:HD11	51:BB:73:ASP:CB	2.17	0.74
49:B1:5:U:OP2	52:BC:230:THR:HB	1.87	0.74
49:B1:3:C:O2	59:BJ:18:ARG:CZ	2.36	0.74
64:BO:54:CYS:HG	64:BO:81:VAL:HG22	1.48	0.74
65:BP:51:ARG:O	65:BP:55:SER:N	2.20	0.74
68:BS:16:LEU:HG	68:BS:19:ASN:ND2	2.03	0.74
48:A2:460:A:N6	48:A2:681:A:H61	1.86	0.74
6:AD:232:THR:HG23	6:AD:235:MET:SD	2.27	0.74
13:AK:37:SER:C	48:A2:1952:C:O2'	2.25	0.74
19:AQ:33:ARG:O	19:AQ:37:ARG:HD3	1.86	0.74
25:AW:79:GLN:HG3	56:BG:131:ARG:HH22	1.52	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:70:G:C2'	27:AY:114:ASP:OD2	2.33	0.74
49:B1:910:G:O2'	49:B1:911:C:H5'	1.88	0.74
56:BG:216:ARG:NE	56:BG:216:ARG:HA	2.01	0.74
63:BN:124:ARG:CG	63:BN:127:ARG:HH22	1.88	0.74
68:BS:30:ILE:HA	68:BS:33:ILE:HD13	1.69	0.74
75:BZ:99:LEU:CB	75:BZ:109:TYR:HD1	2.01	0.74
8:AF:51:TYR:OH	48:A2:1220:C:C5	2.40	0.74
48:A2:4331:A:C2'	48:A2:4332:G:H5'	2.17	0.74
48:A2:4620:G:OP1	48:A2:4620:G:H3'	1.87	0.74
5:AC:76:ILE:HD11	5:AC:95:MET:HE2	1.69	0.74
10:AH:5:LEU:HB3	10:AH:60:TRP:HZ3	0.91	0.74
12:AJ:111:GLU:HG3	68:BS:14:ARG:HH21	0.76	0.74
13:AK:107:VAL:HG12	13:AK:108:PRO:CD	2.15	0.74
28:AZ:46:ILE:HD11	28:AZ:48:ARG:O	1.87	0.74
49:B1:283:G:OP2	49:B1:891:G:OP2	2.05	0.74
52:BC:178:HIS:NE2	52:BC:200:ARG:HD3	2.02	0.74
59:BJ:47:LYS:NZ	59:BJ:47:LYS:HB2	2.02	0.74
49:B1:1283:C:C3'	62:BM:102:LYS:HZ1	2.00	0.74
66:BQ:9:SER:HB2	66:BQ:25:CYS:O	1.87	0.74
3:AA:87:PHE:CE1	48:A2:4089:U:C5'	2.69	0.74
7:AE:123:ARG:CG	7:AE:124:LYS:H	1.99	0.74
10:AH:1:MET:HG3	10:AH:3:THR:OG1	1.88	0.74
26:AX:53:ARG:NH2	48:A2:2454:G:N7	2.35	0.74
49:B1:1472:C:O2	49:B1:1472:C:H3'	1.87	0.74
49:B1:1630:A:H5''	68:BS:37:GLY:N	2.02	0.74
49:B1:284:C:H3'	49:B1:284:C:H6	1.52	0.74
50:BA:212:LYS:HG2	50:BA:215:GLN:OE1	1.87	0.74
50:BA:215:GLN:HG2	50:BA:219:GLU:OE2	1.88	0.74
48:A2:4982:C:H3'	58:BI:169:GLY:CA	2.16	0.74
66:BQ:12:VAL:CG2	66:BQ:91:ALA:HA	2.18	0.74
48:A2:1740:G:C6	48:A2:1756:C:N3	2.55	0.74
4:AB:91:GLY:HA3	4:AB:153:MET:SD	2.28	0.74
5:AC:289:LEU:O	5:AC:293:LEU:HG	1.87	0.74
5:AC:74:ALA:HB3	48:A2:2331:U:OP1	1.88	0.74
12:AJ:159:LYS:O	12:AJ:159:LYS:HE3	1.88	0.74
13:AK:52:VAL:HG21	13:AK:89:VAL:O	1.88	0.74
16:AN:84:PRO:HD2	48:A2:43:U:OP1	1.87	0.74
20:AR:24:LEU:CD2	20:AR:25:ASP:H	1.99	0.74
22:AT:17:ARG:NH2	22:AT:45:MET:HE1	2.03	0.74
28:AZ:95:VAL:HG11	28:AZ:113:GLU:HG3	1.69	0.74
49:B1:1105:G:N2	49:B1:1106:C:H1'	2.03	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:580:U:H2'	74:BY:62:THR:HB	1.68	0.74
49:B1:76:U:H5''	56:BG:159:ARG:NH2	2.02	0.74
51:BB:174:ARG:NH1	51:BB:174:ARG:HG2	2.01	0.74
56:BG:106:LEU:HG	56:BG:109:LEU:HD21	1.70	0.74
67:BR:97:GLU:CB	67:BR:117:LEU:CD2	2.64	0.74
48:A2:121:A:N6	48:A2:150:G:C5	2.56	0.74
48:A2:1341:G:C2	48:A2:1343:G:C5	2.64	0.74
48:A2:1989:U:H6	48:A2:1991:A:C8	2.05	0.74
27:AY:61:HIS:HB2	48:A2:228:U:O4	1.87	0.74
48:A2:309:G:H5'	48:A2:310:U:OP1	1.88	0.74
48:A2:965:G:O2'	48:A2:966:C:H5'	1.87	0.74
6:AD:224:SER:HA	6:AD:227:ILE:CG1	2.17	0.74
14:AL:44:ARG:NH2	48:A2:182:C:C5	2.55	0.74
21:AS:74:ARG:HH12	48:A2:909:C:C5'	2.00	0.74
24:AV:42:VAL:HG22	24:AV:55:ALA:HB2	1.69	0.74
49:B1:1603:G:C4'	68:BS:38:ARG:CZ	2.66	0.74
49:B1:380:G:H1'	58:BI:5:ARG:HE	1.51	0.74
62:BM:14:VAL:HG11	62:BM:127:TYR:CZ	2.12	0.74
62:BM:26:LEU:HG	62:BM:89:VAL:O	1.88	0.74
65:BP:44:ARG:NH2	65:BP:52:LYS:NZ	2.36	0.74
66:BQ:62:ARG:HD3	66:BQ:92:LEU:HD12	1.68	0.74
70:BU:94:PRO:HD2	70:BU:97:ILE:HD12	1.68	0.74
48:A2:1267:G:N3	48:A2:1267:G:H2'	2.01	0.74
48:A2:1741:G:C6	48:A2:1742:G:C8	2.75	0.74
48:A2:2704:A:OP1	48:A2:2704:A:C8	2.41	0.74
48:A2:3682:A:C5'	48:A2:3683:A:OP1	2.36	0.74
25:AW:50:ASN:HB2	48:A2:4964:U:C5	2.23	0.74
7:AE:207:LYS:HE2	7:AE:207:LYS:CA	2.14	0.74
22:AT:95:HIS:CE1	48:A2:952:G:OP1	102.87	0.74
27:AY:51:LYS:O	27:AY:70:VAL:CG2	2.34	0.74
49:B1:659:G:H5''	73:BX:17:ARG:NH2	2.03	0.74
52:BC:132:ASP:CG	52:BC:133:TYR:H	1.91	0.74
52:BC:256:TRP:HZ3	72:BW:66:THR:CG2	2.00	0.74
59:BJ:110:LEU:CD1	59:BJ:114:VAL:HG23	2.18	0.74
48:A2:2690:G:OP1	48:A2:2690:G:H3'	1.88	0.74
4:AB:119:TYR:CE1	48:A2:4925:A:OP1	2.39	0.74
48:A2:84:A:H4'	48:A2:85:G:OP1	1.86	0.74
48:A2:964:C:H2'	48:A2:965:G:C8	2.23	0.74
7:AE:140:LEU:HD22	7:AE:167:GLN:NE2	2.03	0.74
13:AK:34:ASN:HB2	48:A2:1950:G:H5''	1.68	0.74
14:AL:84:ALA:HA	14:AL:118:LYS:HZ1	1.53	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:5:U:P	52:BC:230:THR:CG2	2.75	0.74
50:BA:66:VAL:CG1	71:BV:46:PHE:CD1	2.69	0.74
72:BW:14:ILE:HD13	72:BW:25:VAL:HG11	1.70	0.74
75:BZ:48:VAL:HA	75:BZ:80:ARG:CD	2.16	0.74
48:A2:112:C:H3'	48:A2:155:A:N6	2.02	0.73
6:AD:176:SER:CB	48:A2:4285:A:O3'	2.36	0.73
7:AE:220:LYS:N	48:A2:4898:C:N4	2.36	0.73
2:A4:49:A:OP1	6:AD:223:PHE:CA	2.36	0.73
8:AF:230:GLY:HA3	21:AS:2:LYS:HB3	1.70	0.73
18:AP:129:THR:HG23	18:AP:139:TYR:HB2	1.71	0.73
2:A4:75:G:H5'	21:AS:50:GLN:O	1.88	0.73
49:B1:929:G:N2	49:B1:1104:G:O2'	2.21	0.73
49:B1:1630:A:OP1	68:BS:37:GLY:HA3	1.88	0.73
50:BA:206:ASP:HB2	50:BA:210:ILE:CD1	2.13	0.73
51:BB:71:LEU:HD13	51:BB:75:GLN:CB	2.18	0.73
54:BE:103:TYR:CD2	54:BE:189:LEU:HD12	2.23	0.73
54:BE:114:ILE:HG13	54:BE:118:GLU:HB2	1.70	0.73
56:BG:110:ASN:O	56:BG:111:LEU:HD23	1.88	0.73
59:BJ:35:TYR:OH	59:BJ:103:GLU:HB3	1.87	0.73
64:BO:44:VAL:CG2	64:BO:81:VAL:CG1	2.66	0.73
67:BR:41:ILE:N	67:BR:41:ILE:HD12	2.03	0.73
48:A2:1341:G:C2	48:A2:1343:G:N1	2.54	0.73
26:AX:44:PRO:HB2	48:A2:4055:A:H5'	1.70	0.73
7:AE:250:GLN:NE2	48:A2:4896:A:C2	2.56	0.73
7:AE:123:ARG:NE	48:A2:956:C:C5	2.46	0.73
2:A4:46:C:OP1	6:AD:158:LYS:HG2	1.88	0.73
4:AB:62:ARG:O	4:AB:68:ASN:HB2	1.88	0.73
5:AC:221:PHE:HB3	5:AC:227:ILE:HD13	1.69	0.73
7:AE:114:ARG:CB	7:AE:114:ARG:HH11	2.01	0.73
16:AN:85:VAL:CG2	48:A2:44:A:OP2	2.35	0.73
28:AZ:30:ASP:O	28:AZ:31:ASP:OD1	2.07	0.73
49:B1:1856:C:P	64:BO:146:ARG:HB2	2.28	0.73
49:B1:77:A:O3'	56:BG:173:ALA:HB3	1.88	0.73
49:B1:837:A:O3'	74:BY:9:THR:HG22	1.89	0.73
49:B1:839:C:C1'	49:B1:841:G:H1'	2.18	0.73
49:B1:860:G:O2'	72:BW:107:SER:HB3	1.89	0.73
50:BA:201:LEU:CD2	67:BR:85:VAL:HG21	2.17	0.73
54:BE:123:LEU:HD11	54:BE:235:TRP:HB2	1.69	0.73
49:B1:169:U:H4'	56:BG:134:GLY:O	1.87	0.73
56:BG:64:LYS:HB2	56:BG:97:VAL:HG11	1.68	0.73
49:B1:292:A:C2	61:BL:67:SER:HB2	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:BR:36:GLU:OE1	67:BR:47:ARG:NE	2.21	0.73
68:BS:88:LYS:O	68:BS:93:GLY:HA2	1.88	0.73
48:A2:121:A:N1	48:A2:150:G:C8	2.56	0.73
7:AE:134:SER:CB	48:A2:1272:C:OP1	2.36	0.73
18:AP:83:TRP:O	48:A2:3827:A:H5''	1.87	0.73
48:A2:69:A:C2'	48:A2:71:C:N4	2.50	0.73
13:AK:84:GLY:C	48:A2:2002:G:H4'	2.08	0.73
25:AW:76:VAL:HG22	25:AW:77:LYS:N	2.03	0.73
49:B1:799:U:C2'	49:B1:800:U:H5'	2.17	0.73
51:BB:79:VAL:CG2	51:BB:82:ARG:CD	2.45	0.73
51:BB:70:SER:HA	51:BB:83:LYS:HA	1.70	0.73
54:BE:152:PRO:CG	56:BG:216:ARG:HD3	2.17	0.73
59:BJ:160:SER:O	59:BJ:162:ARG:NH1	2.21	0.73
49:B1:984:C:O2'	64:BO:138:ASP:CB	2.36	0.73
65:BP:47:ARG:O	65:BP:49:LEU:CD2	2.36	0.73
65:BP:65:LYS:C	65:BP:67:ALA:HB3	2.08	0.73
68:BS:59:LEU:HD21	68:BS:63:GLU:HB3	1.71	0.73
14:AL:78:LEU:HD11	48:A2:157:G:H4'	1.70	0.73
3:AA:208:GLU:OE1	48:A2:1613:A:H2	1.69	0.73
19:AQ:14:ARG:HH21	48:A2:1676:C:H41	1.36	0.73
5:AC:212:ASN:ND2	5:AC:255:SER:OG	2.21	0.73
25:AW:64:SER:O	25:AW:67:ILE:CG1	2.36	0.73
49:B1:1314:U:C2	60:BK:2:LEU:CA	2.71	0.73
49:B1:1415:C:O3'	69:BT:129:ARG:HA	1.87	0.73
49:B1:1791:A:H1'	56:BG:66:GLY:O	1.88	0.73
51:BB:182:LYS:HE3	51:BB:231:LEU:HA	1.71	0.73
49:B1:1535:U:O2'	55:BF:82:ASN:ND2	2.21	0.73
70:BU:22:ILE:HG23	70:BU:114:VAL:CG1	2.17	0.73
75:BZ:77:LEU:HD23	75:BZ:77:LEU:N	2.02	0.73
13:AK:58:ASN:HA	13:AK:61:MET:CG	2.17	0.73
13:AK:55:MET:HE1	13:AK:61:MET:HE2	1.70	0.73
14:AL:16:LYS:HG2	14:AL:21:ARG:HH22	1.53	0.73
24:AV:15:ARG:CZ	48:A2:4632:C:O2	2.36	0.73
26:AX:56:ARG:NH1	26:AX:62:ARG:HH21	1.86	0.73
28:AZ:59:LYS:CD	28:AZ:60:LYS:H	1.98	0.73
28:AZ:95:VAL:CG1	28:AZ:109:LYS:CG	2.67	0.73
49:B1:1399:C:P	49:B1:1399:C:H6	2.12	0.73
49:B1:227:U:H1'	49:B1:228:C:O5'	1.87	0.73
51:BB:70:SER:HB2	51:BB:83:LYS:HA	1.69	0.73
59:BJ:84:ILE:O	59:BJ:108:ARG:CZ	2.37	0.73
59:BJ:136:ARG:O	59:BJ:158:ASP:O	2.07	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BJ:12:THR:O	59:BJ:45:ARG:HG2	1.87	0.73
19:AQ:104:ARG:HD2	48:A2:1335:C:OP2	1.89	0.73
3:AA:224:THR:HB	48:A2:3677:C:H4'	1.71	0.73
7:AE:105:ARG:NE	48:A2:464:A:N1	2.36	0.73
7:AE:203:ILE:HG13	7:AE:206:VAL:CG2	2.18	0.73
16:AN:84:PRO:HA	16:AN:87:HIS:CD2	2.24	0.73
17:AO:34:VAL:HG11	17:AO:112:TYR:CE2	2.24	0.73
51:BB:127:VAL:HG13	51:BB:176:VAL:HG12	1.71	0.73
53:BD:75:LYS:O	60:BK:22:VAL:HG11	1.88	0.73
49:B1:1679:A:N7	55:BF:60:ARG:CB	2.50	0.73
58:BI:150:ASP:OD1	58:BI:154:LYS:CE	2.36	0.73
48:A2:1308:C:H4'	48:A2:1309:A:O5'	1.87	0.73
48:A2:1989:U:C6	48:A2:1992:C:H5	2.07	0.73
48:A2:379:A:H4'	48:A2:380:A:H5'	1.70	0.73
48:A2:69:A:O2'	48:A2:71:C:N4	2.21	0.73
4:AB:393:LYS:HE3	48:A2:4998:U:C5'	2.18	0.73
7:AE:130:LYS:HG2	48:A2:1268:U:H1'	1.71	0.73
7:AE:134:SER:HB2	48:A2:1272:C:OP1	1.89	0.73
12:AJ:99:PHE:HB3	12:AJ:159:LYS:CE	2.17	0.73
19:AQ:11:ARG:HG3	19:AQ:11:ARG:HH11	1.52	0.73
28:AZ:25:ILE:HG12	28:AZ:43:VAL:HG12	1.71	0.73
49:B1:742:U:C5	49:B1:743:U:C4	2.77	0.73
51:BB:131:ASP:OD1	51:BB:181:LEU:CD1	2.37	0.73
52:BC:167:ARG:HD3	52:BC:219:ILE:CD1	2.18	0.73
49:B1:1143:A:OP2	52:BC:187:ARG:NH2	2.21	0.73
54:BE:86:PHE:CD2	54:BE:184:ILE:CG2	2.72	0.73
61:BL:30:LYS:HD3	61:BL:33:LEU:HD11	1.70	0.73
66:BQ:37:ARG:HG3	69:BT:7:LYS:HG2	1.71	0.73
67:BR:36:GLU:OE2	67:BR:47:ARG:CD	2.19	0.73
67:BR:3:ARG:HG3	67:BR:4:VAL:N	2.02	0.73
70:BU:22:ILE:HD12	70:BU:22:ILE:N	2.03	0.73
70:BU:50:VAL:HG13	70:BU:91:LEU:CD2	2.17	0.73
22:AT:127:GLN:CD	48:A2:1816:G:H22	1.91	0.73
13:AK:60:MET:HE3	48:A2:1941:A:O3'	1.88	0.73
48:A2:3596:G:C8	48:A2:3596:G:C3'	2.72	0.73
3:AA:224:THR:HB	48:A2:3677:C:C4'	2.18	0.73
7:AE:125:LEU:CA	48:A2:946:G:H21	2.01	0.73
4:AB:261:ARG:HB2	17:AO:64:THR:HG21	1.71	0.73
19:AQ:72:LEU:HD13	48:A2:1439:G:C5'	2.18	0.73
26:AX:51:THR:O	48:A2:2454:G:N2	2.18	0.73
49:B1:1781:A:O2'	49:B1:1782:G:H5'	1.89	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:748:C:H5'	49:B1:749:U:C6	2.23	0.73
49:B1:872:A:C2	49:B1:915:G:C5	2.76	0.73
50:BA:110:ASN:O	50:BA:116:PHE:HD2	1.72	0.73
63:BN:80:LEU:HD12	63:BN:80:LEU:N	2.04	0.73
69:BT:41:LYS:HE2	69:BT:43:LYS:NZ	2.04	0.73
70:BU:24:LEU:HD23	70:BU:112:VAL:HA	1.71	0.73
70:BU:56:MET:CE	70:BU:88:LEU:HD22	2.19	0.73
6:AD:279:ARG:HH21	48:A2:1160:U:H5''	1.51	0.73
48:A2:139:G:H5''	48:A2:139:G:C8	2.24	0.73
48:A2:1740:G:N2	48:A2:1741:G:C4	2.57	0.73
5:AC:217:ILE:O	5:AC:220:ALA:N	2.22	0.73
10:AH:99:PHE:HE2	48:A2:4564:A:HO2'	1.33	0.73
19:AQ:164:LYS:HD2	48:A2:1479:A:C1'	2.14	0.73
20:AR:126:LYS:CG	20:AR:131:VAL:HG11	2.18	0.73
23:AU:47:ILE:CG2	23:AU:49:VAL:CG2	2.57	0.73
23:AU:47:ILE:HD12	23:AU:63:ILE:CD1	2.15	0.73
26:AX:116:LEU:HB3	26:AX:117:TYR:CD1	2.24	0.73
50:BA:205:ARG:NH2	67:BR:86:PRO:HG2	2.03	0.73
62:BM:94:ILE:HG22	62:BM:100:PRO:HA	1.70	0.73
66:BQ:42:ILE:HD12	66:BQ:48:GLN:HB2	1.71	0.73
48:A2:191:C:C6	48:A2:191:C:H5''	2.24	0.73
48:A2:191:C:H6	48:A2:191:C:C5'	2.02	0.73
48:A2:677:G:C5'	48:A2:677:G:H8	2.01	0.73
48:A2:905:G:C4	48:A2:905:G:H3'	2.22	0.73
5:AC:211:TYR:CD2	5:AC:217:ILE:CG2	2.71	0.73
7:AE:140:LEU:HD23	7:AE:140:LEU:N	2.03	0.73
7:AE:157:HIS:CE1	7:AE:184:VAL:HG22	2.24	0.73
14:AL:129:ARG:CD	14:AL:129:ARG:H	1.96	0.73
20:AR:144:LYS:NZ	20:AR:144:LYS:HB2	2.03	0.73
20:AR:26:PRO:HB2	48:A2:2365:U:O2'	1.89	0.73
25:AW:116:LYS:CD	49:B1:328:U:OP1	2.37	0.73
25:AW:116:LYS:CE	49:B1:328:U:OP1	2.36	0.73
52:BC:200:ARG:HG2	52:BC:200:ARG:NH1	1.99	0.73
49:B1:1483:A:C4'	53:BD:160:SER:HB3	2.17	0.73
49:B1:1020:A:H4'	63:BN:128:TYR:OH	1.89	0.73
69:BT:42:HIS:O	69:BT:43:LYS:HD3	1.87	0.73
75:BZ:99:LEU:HD23	75:BZ:109:TYR:CE1	2.23	0.73
48:A2:1224:C:H3'	48:A2:1225:G:N3	2.04	0.72
48:A2:132:G:N3	48:A2:132:G:H3'	2.04	0.72
48:A2:2606:C:H2'	48:A2:2607:U:H6	1.50	0.72
4:AB:252:ALA:HB3	48:A2:4419:U:O2	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:462:U:C5'	48:A2:462:U:H6	2.00	0.72
5:AC:54:VAL:CG1	5:AC:105:THR:O	2.36	0.72
14:AL:140:SER:O	14:AL:143:GLU:N	2.22	0.72
49:B1:1283:C:C6	62:BM:102:LYS:NZ	2.54	0.72
49:B1:741:C:O2	49:B1:741:C:H5'	1.88	0.72
51:BB:81:PHE:HD1	51:BB:81:PHE:H	1.37	0.72
49:B1:1333:U:C4'	53:BD:147:ALA:HB2	2.18	0.72
59:BJ:161:LEU:O	59:BJ:162:ARG:NH1	2.21	0.72
66:BQ:42:ILE:HD12	66:BQ:48:GLN:CG	2.19	0.72
69:BT:41:LYS:HZ1	69:BT:81:GLY:CA	1.95	0.72
48:A2:1226:C:OP2	48:A2:1226:C:H6	1.64	0.72
3:AA:227:ARG:O	3:AA:234:LYS:HE2	1.89	0.72
13:AK:55:MET:SD	13:AK:61:MET:SD	2.87	0.72
15:AM:4:ARG:HH12	48:A2:4726:A:H62	1.36	0.72
59:BJ:109:ARG:NH1	59:BJ:111:GLN:NE2	2.35	0.72
59:BJ:149:VAL:HG11	59:BJ:154:GLN:HG3	1.69	0.72
61:BL:13:GLN:HG2	61:BL:18:GLN:HE21	1.54	0.72
67:BR:88:VAL:HG13	67:BR:89:SER:H	1.52	0.72
75:BZ:99:LEU:CD2	75:BZ:109:TYR:HE1	2.03	0.72
48:A2:3888:A:H2'	48:A2:3889:G:H5''	1.72	0.72
48:A2:4026:A:OP1	48:A2:4026:A:H4'	1.88	0.72
4:AB:252:ALA:HB3	48:A2:4419:U:H1'	1.71	0.72
48:A2:4661:U:H4'	48:A2:4662:A:OP1	1.88	0.72
8:AF:148:LYS:HG2	48:A2:930:A:H3'	1.71	0.72
13:AK:58:ASN:HA	13:AK:61:MET:HG2	1.71	0.72
13:AK:30:VAL:HG12	13:AK:87:GLY:H	1.53	0.72
15:AM:96:GLU:O	15:AM:100:ARG:HD3	1.89	0.72
28:AZ:51:ARG:CB	28:AZ:65:ARG:HD2	2.18	0.72
49:B1:1286:G:C1'	62:BM:34:GLY:CA	2.64	0.72
49:B1:320:G:H2'	49:B1:321:C:C6	2.23	0.72
49:B1:870:A:N6	49:B1:916:A:OP2	2.22	0.72
54:BE:100:ARG:NH1	54:BE:236:ILE:HG23	2.04	0.72
68:BS:48:ALA:HB1	68:BS:50:ILE:CD1	2.18	0.72
71:BV:37:ALA:HB3	71:BV:46:PHE:HE1	1.50	0.72
49:B1:659:G:N3	73:BX:17:ARG:NH2	2.37	0.72
48:A2:1268:U:C2'	48:A2:1269:C:O5'	2.38	0.72
19:AQ:42:THR:CB	48:A2:1411:U:H5''	2.19	0.72
2:A4:108:G:H5'	2:A4:109:U:OP2	1.89	0.72
6:AD:205:ALA:CB	6:AD:236:MET:HE1	2.18	0.72
7:AE:219:LYS:HG2	48:A2:4898:C:C4	2.22	0.72
28:AZ:26:VAL:CG1	28:AZ:91:LEU:HD23	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1314:U:C1'	60:BK:2:LEU:HD13	2.18	0.72
49:B1:1423:C:OP1	66:BQ:33:LYS:HD2	1.90	0.72
49:B1:1519:U:O2	49:B1:1623:A:N7	2.23	0.72
49:B1:330:G:H2'	49:B1:331:C:H5'	1.70	0.72
50:BA:201:LEU:N	50:BA:201:LEU:HD23	2.04	0.72
53:BD:76:ARG:NE	60:BK:66:HIS:CE1	2.58	0.72
54:BE:47:PHE:CE1	54:BE:111:VAL:CG1	2.72	0.72
56:BG:216:ARG:HH21	56:BG:219:GLU:CG	2.02	0.72
59:BJ:90:GLY:O	59:BJ:92:MET:N	2.22	0.72
49:B1:1417:C:H1'	69:BT:2:PRO:HA	1.70	0.72
71:BV:38:GLU:HB2	71:BV:49:GLN:O	1.88	0.72
20:AR:59:SER:HB2	48:A2:2612:U:O3'	1.90	0.72
48:A2:904:A:H4'	48:A2:905:G:OP1	1.90	0.72
14:AL:60:ARG:NH1	48:A2:72:C:H42	1.88	0.72
27:AY:36:LYS:N	27:AY:36:LYS:HD3	2.00	0.72
50:BA:28:THR:CG2	50:BA:46:ILE:CD1	2.67	0.72
49:B1:1237:C:C5'	65:BP:130:ARG:HG3	2.18	0.72
65:BP:119:PHE:CZ	68:BS:117:ILE:HG23	2.25	0.72
73:BX:132:ALA:HA	73:BX:137:LYS:HB2	1.71	0.72
48:A2:4106:C:H42	48:A2:4110:C:H42	1.35	0.72
4:AB:393:LYS:HE3	48:A2:5000:A:H4'	1.69	0.72
22:AT:95:HIS:CE1	48:A2:952:G:H5''	104.68	0.72
3:AA:95:GLN:HB3	48:A2:4087:U:O4	1.89	0.72
11:AI:113:THR:HG22	11:AI:114:GLY:H	1.54	0.72
18:AP:2:VAL:HG12	48:A2:403:G:OP2	1.89	0.72
49:B1:1286:G:N9	62:BM:34:GLY:HA2	2.05	0.72
49:B1:307:G:H1'	58:BI:45:THR:HG21	1.71	0.72
52:BC:104:ASP:HB2	52:BC:129:ALA:O	1.88	0.72
60:BK:28:HIS:CE1	60:BK:32:HIS:NE2	2.56	0.72
65:BP:50:ARG:O	65:BP:52:LYS:N	2.21	0.72
52:BC:252:THR:OG1	72:BW:99:PHE:HZ	1.67	0.72
75:BZ:62:VAL:CG2	75:BZ:97:ILE:HD11	2.19	0.72
2:A4:90:A:HO2'	11:AI:11:TYR:HD1	1.36	0.72
4:AB:390:GLY:HA3	25:AW:63:GLN:NE2	2.05	0.72
5:AC:48:ASN:ND2	48:A2:1353:G:OP1	2.22	0.72
10:AH:8:GLN:NE2	10:AH:8:GLN:HA	2.02	0.72
13:AK:25:PRO:CD	13:AK:92:LYS:HB3	2.20	0.72
14:AL:139:SER:O	14:AL:141:ALA:N	2.23	0.72
21:AS:74:ARG:HH22	48:A2:909:C:H5'	1.53	0.72
24:AV:97:TYR:CE1	25:AW:21:TYR:CD1	2.77	0.72
58:BI:132:GLU:O	58:BI:133:GLU:HB3	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2532:A:C2	48:A2:2532:A:OP1	2.43	0.72
27:AY:8:THR:HG23	48:A2:340:G:H5''	1.71	0.72
48:A2:707:C:H2'	48:A2:708:U:C6	2.24	0.72
5:AC:190:ARG:NE	5:AC:202:ILE:HD12	1.95	0.72
13:AK:61:MET:CE	13:AK:61:MET:HA	2.19	0.72
17:AO:140:ARG:NH2	48:A2:4643:A:H4'	2.04	0.72
24:AV:97:TYR:CZ	25:AW:21:TYR:CD1	2.77	0.72
52:BC:256:TRP:CZ2	72:BW:68:ARG:HG2	2.24	0.72
53:BD:116:ARG:NE	53:BD:150:MET:CE	2.53	0.72
55:BF:93:VAL:HG12	55:BF:97:PHE:CZ	2.23	0.72
49:B1:65:C:OP2	56:BG:175:LYS:HG3	1.90	0.72
75:BZ:59:CYS:O	75:BZ:63:PRO:HD3	1.90	0.72
5:AC:190:ARG:CG	5:AC:202:ILE:HD11	2.19	0.72
5:AC:211:TYR:CE1	5:AC:229:LEU:HA	2.24	0.72
6:AD:17:GLN:HG2	22:AT:20:ARG:CB	2.19	0.72
8:AF:159:TYR:CD1	8:AF:166:ARG:HD3	2.25	0.72
21:AS:7:LEU:HD23	21:AS:107:THR:HA	1.70	0.72
21:AS:83:ARG:HD3	21:AS:125:GLN:OE1	1.90	0.72
25:AW:80:ARG:HH21	56:BG:128:THR:HB	1.55	0.72
49:B1:747:U:C2'	49:B1:749:U:O4	2.37	0.72
51:BB:171:ILE:O	51:BB:175:GLU:HG2	1.89	0.72
52:BC:256:TRP:HZ3	72:BW:66:THR:HG22	1.54	0.72
54:BE:98:HIS:CB	54:BE:114:ILE:HG23	2.08	0.72
54:BE:36:HIS:HE2	54:BE:85:GLY:HA3	1.52	0.72
65:BP:65:LYS:CA	65:BP:66:GLU:OE1	2.37	0.72
68:BS:74:PRO:CB	68:BS:84:LEU:HD21	2.18	0.72
49:B1:840:C:H2'	74:BY:14:THR:HG23	1.71	0.72
48:A2:1888:A:H2'	48:A2:1889:A:C8	2.25	0.72
48:A2:4026:A:H5''	48:A2:4026:A:C8	2.24	0.72
48:A2:945:G:H1'	48:A2:1267:G:N2	2.00	0.72
4:AB:57:VAL:HG22	4:AB:73:VAL:HG22	1.71	0.72
6:AD:233:PRO:CA	6:AD:236:MET:HE2	2.19	0.72
6:AD:4:VAL:CG2	48:A2:1737:C:H1'	2.18	0.72
13:AK:35:VAL:HB	13:AK:39:GLN:CB	2.20	0.72
22:AT:128:LEU:HD12	22:AT:128:LEU:N	2.03	0.72
25:AW:72:THR:CB	49:B1:1783:C:N4	2.53	0.72
49:B1:695:C:O2'	49:B1:696:G:H5'	1.89	0.72
49:B1:72:C:C6	49:B1:72:C:OP2	2.43	0.72
50:BA:201:LEU:HD22	67:BR:85:VAL:CG2	2.20	0.72
54:BE:149:TYR:CD2	56:BG:205:GLU:HB3	2.24	0.72
55:BF:23:TRP:CD1	55:BF:108:PRO:CG	2.73	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BJ:117:LEU:HD13	59:BJ:157:ILE:CD1	1.89	0.72
59:BJ:35:TYR:CZ	59:BJ:106:LEU:HB2	2.25	0.72
66:BQ:44:PRO:HG2	66:BQ:47:LEU:CG	2.20	0.72
50:BA:39:TYR:CE2	67:BR:105:MET:SD	2.83	0.72
74:BY:41:ARG:NH2	74:BY:94:HIS:CE1	2.51	0.72
48:A2:1989:U:H6	48:A2:1991:A:N7	1.87	0.71
48:A2:4858:C:H3'	48:A2:4859:G:H5''	1.72	0.71
1:A3:126:C:H3'	1:A3:126:C:O2	1.90	0.71
5:AC:322:LEU:N	48:A2:1264:G:C8	2.58	0.71
7:AE:96:VAL:CA	7:AE:107:VAL:HG12	2.19	0.71
8:AF:131:ASN:ND2	48:A2:1709:U:C5'	2.52	0.71
17:AO:74:ARG:HD2	17:AO:145:VAL:HG12	1.71	0.71
21:AS:7:LEU:CD2	21:AS:107:THR:HA	2.19	0.71
49:B1:465:A:H4'	49:B1:466:G:H5'	1.71	0.71
49:B1:1286:G:OP2	62:BM:104:VAL:CB	2.36	0.71
67:BR:13:ALA:O	67:BR:17:ILE:HG22	1.88	0.71
48:A2:3608:U:H2'	48:A2:3609:G:H5'	1.72	0.71
48:A2:3730:A:C8	48:A2:3736:G:N2	2.58	0.71
8:AF:73:ARG:HH21	48:A2:717:G:C5'	2.02	0.71
13:AK:102:LEU:O	13:AK:104:ALA:N	2.23	0.71
13:AK:16:LYS:O	13:AK:19:GLN:N	2.22	0.71
20:AR:126:LYS:HG2	20:AR:131:VAL:HG11	1.73	0.71
49:B1:1020:A:OP2	63:BN:70:LYS:CE	2.39	0.71
49:B1:1283:C:C3'	62:BM:102:LYS:NZ	2.53	0.71
49:B1:1488:C:H3'	49:B1:1489:A:C4'	2.20	0.71
49:B1:1552:G:O4'	49:B1:1557:C:N4	2.23	0.71
54:BE:87:MET:HG2	54:BE:123:LEU:O	1.89	0.71
49:B1:1648:G:H5''	66:BQ:126:ARG:O	1.90	0.71
66:BQ:42:ILE:CD1	66:BQ:48:GLN:HG3	2.19	0.71
53:BD:210:ILE:CA	67:BR:39:ALA:HB2	2.20	0.71
9:AG:141:ASN:HB2	48:A2:149:U:C4	2.25	0.71
7:AE:140:LEU:HD13	7:AE:167:GLN:NE2	2.03	0.71
7:AE:203:ILE:HA	7:AE:206:VAL:HG21	1.73	0.71
9:AG:113:ARG:CZ	48:A2:119:G:C5	2.73	0.71
13:AK:107:VAL:HB	13:AK:108:PRO:HD3	1.72	0.71
10:AH:60:TRP:CD1	21:AS:153:PRO:HG3	2.24	0.71
49:B1:580:U:C2'	74:BY:62:THR:CB	2.67	0.71
50:BA:38:ILE:HG13	50:BA:48:ILE:O	1.90	0.71
54:BE:137:PRO:CG	56:BG:209:TYR:CZ	2.73	0.71
65:BP:52:LYS:HZ2	65:BP:83:MET:HE2	1.54	0.71
72:BW:3:ARG:NH1	72:BW:3:ARG:HG2	2.05	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:55:HIS:CE1	48:A2:4589:U:O2'	2.43	0.71
7:AE:123:ARG:HH21	7:AE:126:LEU:CD2	2.03	0.71
7:AE:237:LYS:O	7:AE:237:LYS:HD3	1.90	0.71
22:AT:17:ARG:NH2	22:AT:45:MET:CE	2.53	0.71
49:B1:291:G:O2'	61:BL:42:LEU:N	2.23	0.71
49:B1:574:A:H4'	74:BY:89:HIS:CG	2.24	0.71
50:BA:7:VAL:CG2	71:BV:42:VAL:HA	2.20	0.71
68:BS:48:ALA:HB1	68:BS:50:ILE:HD12	1.72	0.71
72:BW:40:VAL:HG12	72:BW:44:HIS:CE1	2.25	0.71
75:BZ:48:VAL:HG22	75:BZ:80:ARG:NE	2.05	0.71
17:AO:63:ASN:ND2	48:A2:2026:G:OP1	2.24	0.71
27:AY:15:ARG:NH1	48:A2:226:G:OP1	2.23	0.71
48:A2:229:G:O2'	48:A2:230:U:H5'	1.89	0.71
26:AX:83:THR:HG21	48:A2:2413:G:H5'	1.70	0.71
48:A2:2825:G:C8	48:A2:2825:G:H5''	2.25	0.71
5:AC:53:ALA:HB3	48:A2:344:C:H1'	1.71	0.71
48:A2:3596:G:C8	48:A2:3596:G:H3'	2.25	0.71
4:AB:268:ARG:NH1	48:A2:3867:C:O2'	2.24	0.71
5:AC:73:VAL:CG2	5:AC:74:ALA:N	2.44	0.71
5:AC:95:MET:N	5:AC:95:MET:SD	2.63	0.71
6:AD:224:SER:CA	6:AD:227:ILE:HD11	2.20	0.71
7:AE:203:ILE:CG1	7:AE:206:VAL:CG2	2.68	0.71
20:AR:23:TRP:CH2	20:AR:32:ILE:HG21	2.25	0.71
22:AT:54:HIS:NE2	48:A2:4263:U:H4'	2.06	0.71
49:B1:407:G:C6	73:BX:36:LEU:CD2	2.71	0.71
49:B1:798:G:O3'	57:BH:110:THR:CG2	2.35	0.71
50:BA:206:ASP:CB	50:BA:210:ILE:HD13	2.08	0.71
50:BA:63:ARG:HH12	71:BV:78:ILE:HG12	1.55	0.71
52:BC:104:ASP:HB3	52:BC:130:ILE:HA	1.72	0.71
54:BE:100:ARG:O	54:BE:102:VAL:HG13	1.90	0.71
65:BP:34:MET:HE2	65:BP:45:LEU:HB3	1.72	0.71
66:BQ:33:LYS:CD	66:BQ:36:GLY:HA2	2.20	0.71
71:BV:36:VAL:HG22	71:BV:51:LYS:O	1.91	0.71
20:AR:23:TRP:HB3	48:A2:2366:G:OP1	1.90	0.71
48:A2:309:G:H5''	48:A2:310:U:P	2.30	0.71
5:AC:72:ALA:O	5:AC:73:VAL:HG22	1.90	0.71
20:AR:119:MET:HE3	20:AR:149:LYS:HD2	1.71	0.71
24:AV:42:VAL:CB	24:AV:45:ILE:HD11	2.17	0.71
24:AV:90:ARG:CZ	24:AV:96:LEU:HD21	2.21	0.71
49:B1:161:U:O4	74:BY:115:LYS:CE	2.37	0.71
49:B1:294:U:N3	61:BL:65:ASN:HB3	2.04	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:870:A:O2'	49:B1:916:A:C2	2.43	0.71
51:BB:44:ILE:HD13	51:BB:74:LEU:HD11	1.72	0.71
54:BE:123:LEU:HD12	54:BE:236:ILE:HG12	1.70	0.71
55:BF:103:LEU:HD23	55:BF:104:THR:N	2.06	0.71
49:B1:522:A:OP1	59:BJ:146:SER:HB2	1.91	0.71
62:BM:32:ALA:HB3	62:BM:110:VAL:HB	1.71	0.71
67:BR:36:GLU:CD	67:BR:47:ARG:CD	2.58	0.71
71:BV:37:ALA:HB1	71:BV:46:PHE:CE1	2.26	0.71
48:A2:132:G:C6	48:A2:135:G:N1	2.59	0.71
16:AN:138:PHE:CD1	48:A2:18:C:H4'	2.25	0.71
48:A2:2498:U:OP1	48:A2:2498:U:H4'	1.89	0.71
48:A2:4084:G:H4'	48:A2:4085:C:H4'	1.73	0.71
1:A3:149:G:C1'	9:AG:61:ILE:HD12	2.20	0.71
4:AB:298:LEU:O	4:AB:298:LEU:HD23	1.90	0.71
5:AC:8:ILE:HG23	5:AC:149:GLU:OE2	1.91	0.71
16:AN:62:TYR:CD1	16:AN:134:LEU:HD12	2.26	0.71
49:B1:1444:U:O2'	49:B1:1445:U:O4'	2.06	0.71
49:B1:823:U:C6	74:BY:64:PHE:CD1	2.79	0.71
49:B1:823:U:H5	74:BY:64:PHE:CE1	2.06	0.71
49:B1:861:A:H4'	72:BW:107:SER:O	1.89	0.71
49:B1:862:A:N3	72:BW:105:THR:HG22	2.06	0.71
51:BB:139:CYS:HB2	51:BB:172:MET:CE	2.20	0.71
53:BD:76:ARG:O	53:BD:77:PHE:CD2	2.44	0.71
49:B1:402:C:C5'	58:BI:14:THR:HG21	2.18	0.71
66:BQ:39:LEU:HD11	66:BQ:51:LEU:CD2	2.10	0.71
70:BU:49:LYS:HB2	70:BU:92:HIS:CE1	2.25	0.71
49:B1:580:U:O2'	74:BY:62:THR:CG2	2.39	0.71
48:A2:1258:G:C4	48:A2:1259:C:C5	2.79	0.71
48:A2:132:G:O6	48:A2:135:G:N2	2.23	0.71
13:AK:59:THR:CB	48:A2:1942:G:H5'	2.11	0.71
48:A2:2880:G:H2'	48:A2:2881:G:H5'	1.71	0.71
2:A4:95:C:C4'	8:AF:229:GLU:OE2	2.36	0.71
2:A4:95:C:H4'	8:AF:229:GLU:CG	2.20	0.71
10:AH:4:ILE:HG22	10:AH:5:LEU:N	2.02	0.71
49:B1:1415:C:H4'	69:BT:128:GLN:HG3	1.73	0.71
49:B1:1451:G:OP2	67:BR:44:LYS:NZ	2.20	0.71
49:B1:181:A:H1'	49:B1:182:C:N1	2.05	0.71
50:BA:37:TYR:HE2	50:BA:162:PRO:HD3	1.55	0.71
51:BB:41:ILE:HD11	51:BB:73:ASP:C	2.11	0.71
54:BE:102:VAL:O	54:BE:109:PHE:CD1	2.44	0.71
55:BF:23:TRP:HE1	55:BF:97:PHE:HB3	1.56	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BG:226:GLU:OE1	56:BG:226:GLU:HA	1.90	0.71
59:BJ:138:ARG:N	59:BJ:156:HIS:O	2.19	0.71
64:BO:83:GLN:HE21	64:BO:83:GLN:C	1.94	0.71
48:A2:1977:C:N1	48:A2:1978:U:O2	2.23	0.71
48:A2:4692:C:O2'	48:A2:4693:G:H5''	1.89	0.71
2:A4:1:G:O6	2:A4:119:U:O4	2.08	0.71
4:AB:160:ILE:HD13	4:AB:194:LEU:HB2	1.72	0.71
7:AE:201:ILE:HD12	7:AE:202:ASP:N	2.06	0.71
13:AK:63:LYS:O	13:AK:63:LYS:HG2	1.90	0.71
20:AR:23:TRP:HZ2	20:AR:32:ILE:HG21	1.50	0.71
49:B1:53:C:H4'	74:BY:108:LYS:HB3	1.72	0.71
49:B1:846:G:C2'	54:BE:19:MET:SD	2.67	0.71
65:BP:69:PRO:O	65:BP:71:GLU:N	2.22	0.71
66:BQ:62:ARG:HD3	66:BQ:92:LEU:HB3	1.72	0.71
72:BW:3:ARG:HH11	72:BW:3:ARG:HG2	1.56	0.71
49:B1:823:U:C5	74:BY:64:PHE:CD1	2.78	0.71
48:A2:1259:C:H3'	48:A2:1260:G:H8	1.55	0.71
5:AC:223:ASN:ND2	48:A2:221:U:OP2	2.24	0.71
48:A2:3798:G:H5''	48:A2:3798:G:H8	1.55	0.71
5:AC:217:ILE:HD12	5:AC:220:ALA:CB	2.16	0.71
5:AC:335:MET:SD	48:A2:934:C:OP1	2.49	0.71
13:AK:55:MET:CE	13:AK:61:MET:CE	2.69	0.71
14:AL:155:MET:HG2	14:AL:158:ARG:NH2	2.05	0.71
19:AQ:174:PHE:C	19:AQ:175:GLU:HG2	2.09	0.71
20:AR:19:LYS:O	20:AR:22:VAL:HG22	1.88	0.71
49:B1:1300:U:O2'	65:BP:51:ARG:HD2	1.90	0.71
49:B1:1287:A:C4'	49:B1:1312:G:H1	2.03	0.71
49:B1:282:G:P	49:B1:282:G:H8	2.13	0.71
49:B1:952:G:C4	49:B1:975:G:N2	2.58	0.71
50:BA:44:ASP:HA	67:BR:125:GLY:HA2	1.72	0.71
49:B1:1333:U:H5'	53:BD:147:ALA:CB	2.20	0.71
49:B1:168:C:H4'	56:BG:131:ARG:CD	2.20	0.71
49:B1:157:U:O4'	56:BG:59:GLN:HA	1.91	0.71
57:BH:141:GLY:HA2	63:BN:18:TYR:CE2	2.26	0.71
59:BJ:110:LEU:HD12	59:BJ:114:VAL:HG23	1.73	0.71
49:B1:560:A:C3'	59:BJ:171:GLY:C	2.57	0.71
70:BU:50:VAL:HG13	70:BU:91:LEU:HD23	1.72	0.71
71:BV:40:ASP:HB2	71:BV:45:ARG:O	1.91	0.71
71:BV:51:LYS:HD3	71:BV:76:ASP:OD2	1.91	0.71
72:BW:94:LEU:CD2	72:BW:101:PHE:N	2.51	0.71
7:AE:100:LYS:NZ	48:A2:679:G:OP2	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AL:177:LYS:HZ3	14:AL:177:LYS:HA	1.55	0.70
49:B1:1300:U:O4	65:BP:54:HIS:CE1	2.44	0.70
51:BB:71:LEU:CD1	51:BB:75:GLN:HG2	2.21	0.70
53:BD:72:VAL:HG22	60:BK:20:VAL:CG1	2.20	0.70
63:BN:54:LEU:HG	63:BN:58:HIS:NE2	2.06	0.70
64:BO:83:GLN:CA	64:BO:83:GLN:HE21	2.04	0.70
48:A2:3684:U:H5''	48:A2:3684:U:C6	2.26	0.70
4:AB:393:LYS:HE2	48:A2:4998:U:P	2.31	0.70
5:AC:67:TRP:HA	5:AC:67:TRP:CE3	2.24	0.70
6:AD:176:SER:HB3	48:A2:4285:A:C4'	2.21	0.70
6:AD:22:ARG:NH2	6:AD:27:LYS:HD2	2.01	0.70
13:AK:40:MET:HE2	48:A2:1977:C:O2	1.91	0.70
16:AN:189:ARG:HH22	48:A2:29:G:H8	1.36	0.70
53:BD:116:ARG:NH1	53:BD:152:PHE:CE1	2.55	0.70
70:BU:56:MET:HE1	70:BU:88:LEU:HD22	1.73	0.70
71:BV:14:PRO:HB2	71:BV:23:ILE:CG2	2.21	0.70
75:BZ:77:LEU:O	75:BZ:78:LYS:CB	2.34	0.70
48:A2:133:C:C4	48:A2:134:G:H2'	2.26	0.70
48:A2:1888:A:N6	48:A2:1889:A:N6	2.39	0.70
48:A2:3798:G:O2'	48:A2:3800:G:OP2	2.06	0.70
1:A3:123:U:H2'	48:A2:2523:G:O6	1.91	0.70
6:AD:22:ARG:NH2	6:AD:27:LYS:HZ2	1.86	0.70
1:A3:149:G:H1'	9:AG:61:ILE:CD1	2.20	0.70
20:AR:23:TRP:O	20:AR:24:LEU:HB2	1.90	0.70
49:B1:1674:G:H5''	55:BF:86:LYS:HE3	1.74	0.70
49:B1:546:G:C4'	49:B1:547:G:OP2	2.38	0.70
51:BB:71:LEU:HD23	51:BB:84:PHE:CD2	2.26	0.70
54:BE:87:MET:HE1	54:BE:236:ILE:HG13	1.72	0.70
63:BN:30:SER:O	63:BN:33:VAL:N	2.23	0.70
49:B1:1415:C:H5''	69:BT:129:ARG:CG	2.21	0.70
48:A2:113:A:C2'	48:A2:114:G:H5'	2.21	0.70
48:A2:1817:G:O2'	48:A2:1818:A:OP1	2.06	0.70
48:A2:2043:C:C2'	48:A2:2044:G:H5'	2.19	0.70
19:AQ:3:VAL:HG21	48:A2:2256:C:O3'	1.90	0.70
48:A2:2388:U:H3'	48:A2:2388:U:O2	1.91	0.70
3:AA:9:ARG:HD3	48:A2:2323:U:O4	65.89	0.70
3:AA:9:ARG:NH2	48:A2:1610:C:C4	2.58	0.70
21:AS:142:VAL:HG12	21:AS:146:HIS:CE1	2.25	0.70
24:AV:95:PHE:O	25:AW:20:ARG:N	2.21	0.70
27:AY:55:VAL:HG23	27:AY:70:VAL:HG13	1.73	0.70
49:B1:792:C:C6	49:B1:792:C:H5''	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BA:169:HIS:CD2	50:BA:203:PHE:CE2	2.80	0.70
53:BD:79:PHE:HB3	53:BD:84:VAL:CG2	2.20	0.70
49:B1:1679:A:C5	55:BF:60:ARG:HA	2.26	0.70
49:B1:142:C:O2	56:BG:180:VAL:CB	2.40	0.70
56:BG:186:GLN:HG3	56:BG:187:HIS:N	2.06	0.70
5:AC:103:ALA:HB1	48:A2:1322:U:H1'	1.73	0.70
48:A2:4981:C:C5'	58:BI:124:LYS:NZ	2.55	0.70
8:AF:147:LEU:HG	48:A2:931:A:H2	1.57	0.70
7:AE:173:LEU:CD1	7:AE:191:GLN:HA	2.16	0.70
8:AF:164:LYS:HD3	8:AF:164:LYS:N	2.06	0.70
8:AF:69:ILE:HG22	8:AF:73:ARG:CD	2.21	0.70
13:AK:14:PHE:CE2	48:A2:1941:A:C5	2.80	0.70
49:B1:582:U:O4'	74:BY:33:ALA:N	2.24	0.70
49:B1:890:U:H5'	49:B1:891:G:C5'	2.21	0.70
50:BA:169:HIS:HA	50:BA:203:PHE:CD2	2.26	0.70
55:BF:93:VAL:HG12	55:BF:97:PHE:CE2	2.26	0.70
63:BN:26:LEU:HD11	63:BN:28:LEU:CB	2.22	0.70
64:BO:45:THR:HG21	64:BO:49:GLY:O	1.92	0.70
66:BQ:12:VAL:HG21	66:BQ:91:ALA:CA	2.21	0.70
69:BT:75:MET:HA	69:BT:78:ILE:HD12	1.72	0.70
70:BU:20:ILE:CG2	70:BU:116:ILE:CG1	2.69	0.70
74:BY:104:ARG:NH2	74:BY:108:LYS:HE3	2.07	0.70
4:AB:99:LEU:HB2	48:A2:4544:C:H4'	1.71	0.70
8:AF:165:LYS:CA	48:A2:2254:G:O2'	2.40	0.70
8:AF:219:GLY:HA2	48:A2:1887:U:H4'	1.71	0.70
13:AK:14:PHE:CE1	48:A2:1941:A:N9	2.59	0.70
26:AX:114:LYS:HB2	26:AX:114:LYS:NZ	2.07	0.70
55:BF:23:TRP:CD1	55:BF:108:PRO:HG2	2.27	0.70
49:B1:165:G:H4'	56:BG:53:SER:HB3	1.72	0.70
67:BR:97:GLU:HB2	67:BR:117:LEU:CG	2.20	0.70
68:BS:70:ILE:HD12	68:BS:77:TYR:CG	2.27	0.70
48:A2:190:G:C2	48:A2:244:G:C2	2.79	0.70
48:A2:2859:U:O2'	48:A2:2860:A:H5''	1.92	0.70
3:AA:179:ILE:N	48:A2:3625:G:OP1	2.22	0.70
10:AH:5:LEU:HD12	10:AH:60:TRP:CH2	2.24	0.70
13:AK:81:HIS:HE2	13:AK:88:PHE:HD1	1.37	0.70
49:B1:305:U:C4	58:BI:55:TYR:CE2	2.79	0.70
65:BP:85:ILE:HB	65:BP:114:HIS:O	1.92	0.70
48:A2:1166:C:H6	48:A2:1166:C:H3'	1.57	0.70
48:A2:1560:U:H2'	48:A2:1561:C:C6	2.26	0.70
26:AX:139:ARG:HD2	48:A2:2512:C:OP1	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:27:ALA:HB2	3:AA:58:LEU:HD21	1.74	0.70
7:AE:238:GLU:OE1	7:AE:238:GLU:N	2.24	0.70
8:AF:93:ILE:HD12	8:AF:119:ASN:O	1.92	0.70
20:AR:173:ARG:HE	49:B1:910:G:P	2.13	0.70
20:AR:60:ARG:O	20:AR:61:ALA:C	2.30	0.70
49:B1:386:C:OP2	58:BI:10:LYS:CD	2.39	0.70
49:B1:561:A:OP1	59:BJ:171:GLY:HA3	1.87	0.70
49:B1:803:C:H3'	49:B1:804:U:C6	2.27	0.70
49:B1:976:G:H2'	49:B1:977:C:C6	2.26	0.70
50:BA:30:LEU:HD21	50:BA:38:ILE:HG21	1.74	0.70
54:BE:114:ILE:HD11	54:BE:118:GLU:CG	2.20	0.70
56:BG:63:MET:HE3	56:BG:106:LEU:CD1	2.22	0.70
56:BG:219:GLU:O	56:BG:223:LYS:HD3	1.92	0.70
59:BJ:29:LEU:HD23	59:BJ:40:LYS:HE3	1.74	0.70
60:BK:2:LEU:HG	60:BK:3:MET:O	1.92	0.70
64:BO:100:THR:O	64:BO:104:ARG:HB2	1.92	0.70
49:B1:1603:G:C4'	68:BS:38:ARG:NH2	2.54	0.70
69:BT:41:LYS:HE2	69:BT:43:LYS:CE	2.22	0.70
75:BZ:76:ARG:C	75:BZ:77:LEU:HD23	2.11	0.70
48:A2:1499:G:H2'	48:A2:1499:G:N3	2.06	0.70
8:AF:131:ASN:ND2	48:A2:1709:U:H5'	2.04	0.70
17:AO:49:ARG:HH22	48:A2:1910:A:H2'	1.53	0.70
18:AP:23:ARG:NH2	48:A2:2854:C:OP1	82.74	0.70
7:AE:233:PHE:CZ	48:A2:446:A:C2	2.79	0.70
8:AF:76:ARG:CZ	48:A2:719:U:H5''	2.22	0.70
5:AC:44:LEU:HD22	48:A2:1356:A:C5'	2.22	0.70
6:AD:19:LYS:HE3	48:A2:4241:A:O2'	1.92	0.70
6:AD:232:THR:OG1	6:AD:235:MET:SD	2.45	0.70
9:AG:69:ILE:HG23	9:AG:73:ARG:HH11	1.57	0.70
13:AK:29:ILE:HG23	13:AK:81:HIS:CE1	2.25	0.70
24:AV:41:SER:HB2	48:A2:4469:A:O2'	1.92	0.70
24:AV:89:ARG:HB2	24:AV:95:PHE:CE1	2.27	0.70
25:AW:68:GLN:HG3	25:AW:68:GLN:O	1.90	0.70
49:B1:1314:U:C4	60:BK:2:LEU:CB	2.67	0.70
49:B1:692:G:N2	49:B1:739:C:H1'	2.06	0.70
50:BA:172:GLY:HA2	50:BA:202:TYR:HB3	1.72	0.70
50:BA:44:ASP:C	67:BR:125:GLY:HA2	2.12	0.70
54:BE:137:PRO:HG2	56:BG:209:TYR:HE2	1.57	0.70
62:BM:35:ILE:HD11	62:BM:61:TYR:CZ	2.13	0.70
65:BP:34:MET:HE1	65:BP:41:GLN:O	1.92	0.70
49:B1:580:U:H2'	74:BY:62:THR:CB	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1224:C:C4	48:A2:1225:G:H1'	2.27	0.70
9:AG:141:ASN:HB2	48:A2:149:U:O4	1.91	0.70
48:A2:1940:U:H4'	48:A2:1941:A:H5''	1.74	0.70
48:A2:285:U:C2	48:A2:287:G:OP2	2.44	0.70
6:AD:29:ASP:CB	48:A2:4242:A:H8	2.04	0.70
14:AL:160:VAL:CG2	48:A2:638:G:OP1	2.40	0.70
7:AE:152:ILE:HD12	7:AE:189:THR:HG21	1.74	0.70
13:AK:35:VAL:HB	13:AK:39:GLN:HG3	1.74	0.70
14:AL:172:GLU:CD	14:AL:172:GLU:H	1.93	0.70
49:B1:1593:C:P	55:BF:91:ARG:HH21	2.15	0.70
49:B1:282:G:C3'	49:B1:283:G:H8	2.00	0.70
52:BC:97:PHE:O	52:BC:98:LEU:CD2	2.40	0.70
54:BE:116:VAL:HG23	54:BE:117:GLU:N	2.07	0.70
56:BG:18:VAL:HG13	56:BG:23:LYS:HD3	1.73	0.70
49:B1:421:G:OP1	61:BL:97:ARG:HG2	1.92	0.70
62:BM:77:ILE:HD11	62:BM:127:TYR:HE2	1.51	0.70
67:BR:99:ASP:HB2	67:BR:102:THR:HG22	1.73	0.70
19:AQ:68:ARG:NH1	48:A2:1483:C:C6	2.60	0.69
48:A2:191:C:O2	48:A2:243:G:C2	2.45	0.69
13:AK:26:LYS:HE3	48:A2:2674:A:H5''	212.86	0.69
48:A2:4264:U:C5	48:A2:4265:C:C2	2.80	0.69
15:AM:56:GLN:NE2	48:A2:4827:U:C2	2.59	0.69
48:A2:32:G:H22	48:A2:50:C:H41	1.35	0.69
48:A2:71:C:H4'	48:A2:72:C:OP1	1.91	0.69
12:AJ:111:GLU:OE1	12:AJ:125:ILE:HG23	1.91	0.69
25:AW:82:ILE:HG22	25:AW:82:ILE:O	1.92	0.69
49:B1:1047:C:H4'	64:BO:142:ARG:O	1.92	0.69
49:B1:183:G:H4'	49:B1:183:G:OP1	1.91	0.69
49:B1:874:G:O6	49:B1:914:U:O2	2.10	0.69
53:BD:217:ILE:O	53:BD:218:LEU:HB2	1.90	0.69
69:BT:41:LYS:HE2	69:BT:43:LYS:HZ1	1.56	0.69
73:BX:137:LYS:N	73:BX:137:LYS:HE2	2.06	0.69
48:A2:1257:A:O2'	48:A2:1258:G:H5'	1.92	0.69
48:A2:131:C:C6	48:A2:131:C:H5'	2.26	0.69
16:AN:67:ARG:NH2	48:A2:2437:C:OP1	2.24	0.69
5:AC:52:TYR:HE2	48:A2:344:C:H4'	1.57	0.69
48:A2:900:U:C3'	48:A2:901:U:H5'	2.21	0.69
7:AE:105:ARG:HD3	48:A2:680:C:C1'	2.22	0.69
15:AM:71:LYS:HB2	48:A2:726:G:OP2	1.92	0.69
26:AX:114:LYS:HB2	26:AX:114:LYS:HZ3	1.57	0.69
28:AZ:33:THR:HB	28:AZ:36:ARG:CG	2.18	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1331:C:P	49:B1:1490:G:OP2	2.49	0.69
50:BA:112:ILE:HG23	50:BA:113:GLN:N	2.06	0.69
51:BB:81:PHE:CD2	51:BB:109:LYS:HG2	2.27	0.69
53:BD:76:ARG:NH2	60:BK:66:HIS:ND1	2.40	0.69
54:BE:114:ILE:HG13	54:BE:115:THR:N	2.06	0.69
55:BF:30:ILE:HG23	55:BF:117:ILE:HD11	1.74	0.69
65:BP:34:MET:SD	65:BP:45:LEU:CD1	2.77	0.69
65:BP:119:PHE:CD2	68:BS:117:ILE:HG23	2.26	0.69
69:BT:40:ALA:C	69:BT:41:LYS:HG3	2.13	0.69
48:A2:1740:G:H2'	48:A2:1741:G:C8	2.26	0.69
48:A2:251:G:N2	48:A2:252:C:H1'	2.07	0.69
48:A2:901:U:H4'	48:A2:902:A:OP1	1.91	0.69
4:AB:247:GLY:CA	48:A2:2817:G:OP1	2.40	0.69
4:AB:2:SER:HB3	48:A2:4479:A:OP2	1.93	0.69
7:AE:187:ARG:NH1	7:AE:187:ARG:HG2	2.07	0.69
7:AE:233:PHE:CE2	48:A2:446:A:N3	2.60	0.69
2:A4:95:C:H4'	8:AF:229:GLU:HG2	1.74	0.69
23:AU:47:ILE:O	23:AU:49:VAL:HG23	1.92	0.69
24:AV:97:TYR:HE1	25:AW:21:TYR:HE1	1.37	0.69
25:AW:81:ALA:C	25:AW:82:ILE:HG13	2.11	0.69
49:B1:1678:A:H2'	49:B1:1679:A:H5'	1.74	0.69
50:BA:115:ALA:HB1	50:BA:117:ARG:NH2	2.08	0.69
50:BA:172:GLY:O	50:BA:202:TYR:HB3	1.92	0.69
51:BB:75:GLN:HG3	51:BB:189:ILE:HG23	1.74	0.69
52:BC:167:ARG:HD3	52:BC:219:ILE:HD13	1.73	0.69
54:BE:100:ARG:HH12	54:BE:236:ILE:HG23	1.55	0.69
49:B1:502:C:OP2	54:BE:66:MET:CE	2.39	0.69
49:B1:22:A:O3'	59:BJ:15:THR:HG21	1.92	0.69
49:B1:222:U:C5'	61:BL:17:PHE:HD2	1.83	0.69
48:A2:135:G:O2'	48:A2:136:G:O4'	2.09	0.69
48:A2:1991:A:C2	48:A2:1992:C:H1'	2.27	0.69
48:A2:2793:C:H2'	48:A2:2793:C:O2	1.92	0.69
6:AD:90:VAL:HG23	6:AD:226:TYR:HE1	1.58	0.69
7:AE:100:LYS:HD2	48:A2:678:C:C3'	2.20	0.69
15:AM:100:ARG:C	17:AO:198:THR:OG1	2.31	0.69
27:AY:55:VAL:CG2	27:AY:70:VAL:HG13	2.23	0.69
49:B1:1603:G:H4'	68:BS:38:ARG:CZ	2.23	0.69
49:B1:64:A:H2'	56:BG:175:LYS:NZ	2.08	0.69
49:B1:911:C:O2'	49:B1:912:C:H5'	1.92	0.69
49:B1:957:A:OP1	64:BO:57:THR:OG1	2.07	0.69
65:BP:115:TYR:O	65:BP:116:LEU:HG	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:BQ:33:LYS:HD3	66:BQ:69:ARG:HD3	1.73	0.69
68:BS:15:VAL:HG13	68:BS:68:ILE:HD11	1.72	0.69
8:AF:70:ARG:CD	48:A2:1191:G:HO2'	1.83	0.69
27:AY:59:ARG:NH2	48:A2:196:G:O2'	2.25	0.69
48:A2:190:G:N2	48:A2:244:G:C2	2.61	0.69
7:AE:136:HIS:CE1	48:A2:702:A:C1'	2.75	0.69
4:AB:105:VAL:HG11	4:AB:150:PHE:CZ	2.27	0.69
5:AC:97:ARG:NH1	48:A2:348:U:C1'	2.55	0.69
7:AE:200:LYS:HZ2	7:AE:202:ASP:HA	1.55	0.69
13:AK:55:MET:H	48:A2:1979:A:H5'	1.57	0.69
20:AR:60:ARG:CZ	20:AR:63:CYS:SG	2.80	0.69
28:AZ:60:LYS:HB2	28:AZ:60:LYS:HZ2	1.57	0.69
49:B1:827:A:C5'	59:BJ:8:VAL:CG1	2.64	0.69
49:B1:840:C:O3'	74:BY:14:THR:OG1	2.10	0.69
56:BG:23:LYS:CG	56:BG:41:LEU:HD12	2.22	0.69
59:BJ:88:ASP:OD1	59:BJ:91:LYS:N	2.26	0.69
65:BP:48:GLY:N	65:BP:49:LEU:HD23	2.07	0.69
72:BW:101:PHE:CD1	72:BW:112:ASP:OD2	2.45	0.69
13:AK:55:MET:H	48:A2:1979:A:C5'	2.05	0.69
48:A2:2067:G:N2	48:A2:2247:A:C5	2.60	0.69
20:AR:23:TRP:CB	48:A2:2366:G:OP1	2.41	0.69
5:AC:52:TYR:HD2	48:A2:344:C:H5'	1.58	0.69
48:A2:2608:C:N3	48:A2:4610:A:C2	2.60	0.69
14:AL:20:ARG:NH1	48:A2:50:C:H5'	2.05	0.69
16:AN:194:ARG:NH2	48:A2:79:C:P	2.66	0.69
9:AG:192:ARG:NH2	48:A2:6:C:P	2.64	0.69
13:AK:48:ARG:HA	13:AK:51:ALA:HB2	1.74	0.69
14:AL:57:PRO:HD2	14:AL:73:GLY:O	1.93	0.69
24:AV:80:VAL:HG23	24:AV:106:VAL:HG11	1.74	0.69
25:AW:113:LYS:HE2	49:B1:328:U:H3	1.56	0.69
51:BB:127:VAL:HG11	51:BB:176:VAL:CB	2.22	0.69
53:BD:210:ILE:HG21	67:BR:16:ILE:CD1	2.22	0.69
59:BJ:87:LEU:CD2	59:BJ:100:LEU:HD11	2.16	0.69
72:BW:40:VAL:CG1	72:BW:44:HIS:CE1	2.75	0.69
75:BZ:97:ILE:CG2	75:BZ:109:TYR:HB3	2.22	0.69
11:AI:210:ARG:NH1	48:A2:1162:U:C5	2.61	0.69
48:A2:1785:G:H4'	48:A2:1786:A:OP1	1.92	0.69
2:A4:22:A:N6	2:A4:23:A:N6	2.40	0.69
6:AD:286:SER:HB2	48:A2:1163:C:C4'	2.17	0.69
7:AE:153:LEU:HD21	7:AE:195:ILE:HD11	1.75	0.69
10:AH:100:PRO:O	10:AH:116:ASN:ND2	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AQ:176:ARG:HH11	19:AQ:176:ARG:HG2	1.55	0.69
20:AR:132:PHE:CE2	20:AR:138:LEU:HD23	2.27	0.69
20:AR:169:ALA:C	20:AR:172:ARG:HG3	2.12	0.69
49:B1:62:G:H2'	49:B1:63:U:H5'	1.74	0.69
50:BA:172:GLY:O	50:BA:202:TYR:CB	2.41	0.69
51:BB:173:THR:C	51:BB:177:GLN:HB2	2.13	0.69
56:BG:101:ILE:HG22	56:BG:102:VAL:H	1.57	0.69
66:BQ:21:ALA:HB2	66:BQ:83:ALA:CB	2.15	0.69
67:BR:95:ILE:HG22	67:BR:96:ILE:N	2.07	0.69
48:A2:1752:A:O2'	48:A2:1753:U:H5'	1.92	0.69
48:A2:493:G:H2'	48:A2:493:G:N3	2.06	0.69
48:A2:70:A:H4'	48:A2:71:C:C4	2.27	0.69
2:A4:10:C:C4	6:AD:20:PHE:CE2	2.81	0.69
13:AK:55:MET:CG	13:AK:88:PHE:HB2	2.23	0.69
14:AL:8:MET:HE2	48:A2:1327:C:H4'	1.73	0.69
49:B1:1561:A:OP1	69:BT:77:LYS:NZ	2.22	0.69
51:BB:70:SER:HB3	51:BB:83:LYS:CG	2.22	0.69
49:B1:1483:A:H4'	53:BD:160:SER:CB	2.21	0.69
53:BD:34:TYR:HE2	70:BU:61:LEU:CD1	25.93	0.69
56:BG:106:LEU:H	56:BG:106:LEU:CD2	2.06	0.69
49:B1:1741:U:OP1	58:BI:58:LEU:CD1	2.41	0.69
75:BZ:69:THR:O	75:BZ:73:VAL:HG23	1.92	0.69
48:A2:133:C:C4	48:A2:135:G:C6	2.80	0.69
48:A2:182:C:OP2	48:A2:182:C:O4'	2.11	0.69
48:A2:2689:C:H5'	48:A2:2690:G:H5'	1.73	0.69
48:A2:3596:G:H8	48:A2:3596:G:H3'	1.58	0.69
48:A2:718:C:N3	48:A2:920:G:O6	2.25	0.69
48:A2:735:G:C2'	48:A2:736:G:H5'	2.23	0.69
48:A2:738:A:H4'	48:A2:739:G:OP1	1.92	0.69
8:AF:163:ASN:C	8:AF:164:LYS:HD3	2.13	0.69
13:AK:58:ASN:N	48:A2:2002:G:OP1	2.26	0.69
15:AM:91:TRP:HZ2	48:A2:4827:U:O2'	1.69	0.69
21:AS:115:ALA:HB2	48:A2:2041:G:N2	2.08	0.69
49:B1:1672:U:OP2	66:BQ:17:LYS:HE3	1.93	0.69
49:B1:634:A:H2'	49:B1:635:G:C8	2.28	0.69
50:BA:205:ARG:HH21	67:BR:86:PRO:HD2	1.56	0.69
52:BC:177:PRO:CG	71:BV:9:VAL:HG11	2.21	0.69
49:B1:14:C:C5'	52:BC:190:SER:HB3	2.23	0.69
49:B1:1578:U:H5	53:BD:4:GLN:NE2	1.87	0.69
54:BE:139:LEU:HB2	54:BE:150:PRO:HB3	1.74	0.69
49:B1:428:U:H5'	59:BJ:2:PRO:HG2	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BP:34:MET:O	65:BP:42:ARG:CG	2.41	0.69
68:BS:92:ASP:OD2	68:BS:94:LYS:CG	2.41	0.69
68:BS:78:LYS:HE2	69:BT:36:THR:OG1	1.93	0.69
69:BT:42:HIS:H	69:BT:43:LYS:NZ	1.91	0.69
75:BZ:62:VAL:HG11	75:BZ:91:LEU:HD23	1.71	0.69
48:A2:1888:A:C6	48:A2:1889:A:N6	2.61	0.69
48:A2:3682:A:H5'	48:A2:3683:A:C8	2.28	0.69
48:A2:680:C:H2'	48:A2:681:A:C5'	2.23	0.69
5:AC:321:ASN:HB2	48:A2:1264:G:C8	2.26	0.69
2:A4:33:U:C1'	6:AD:207:TYR:HD1	2.01	0.69
10:AH:167:VAL:HG12	10:AH:170:LYS:HB2	1.74	0.69
14:AL:60:ARG:HH12	48:A2:72:C:N4	1.90	0.69
16:AN:2:GLY:N	48:A2:115:C:OP1	2.26	0.69
21:AS:1:MET:H1	21:AS:43:ARG:HH21	1.41	0.69
25:AW:42:SER:HB2	25:AW:44:ARG:HH11	1.55	0.69
49:B1:495:U:P	54:BE:58:GLY:H	2.14	0.69
49:B1:502:C:OP1	54:BE:66:MET:HE1	1.93	0.69
49:B1:77:A:O2'	56:BG:174:PRO:O	2.09	0.69
66:BQ:85:ARG:CZ	66:BQ:119:LEU:HD21	2.23	0.69
75:BZ:48:VAL:HG22	75:BZ:80:ARG:CZ	2.23	0.69
48:A2:1943:A:H2	48:A2:2007:A:C2	2.11	0.69
48:A2:2044:G:O2'	48:A2:2045:G:H5'	1.92	0.69
48:A2:287:G:H4'	48:A2:288:G:C8	2.27	0.69
5:AC:62:THR:CB	48:A2:369:G:OP1	2.41	0.69
13:AK:34:ASN:O	13:AK:35:VAL:HG13	1.93	0.69
13:AK:35:VAL:HB	13:AK:39:GLN:CG	2.23	0.69
15:AM:2:VAL:HG21	48:A2:4726:A:OP2	1.93	0.69
49:B1:1022:U:H3'	49:B1:1022:U:O2	1.91	0.69
51:BB:35:ALA:HB3	51:BB:42:ARG:HA	1.75	0.69
49:B1:316:G:OP1	56:BG:183:ARG:NH1	2.26	0.69
49:B1:157:U:C1'	56:BG:59:GLN:HA	2.23	0.69
65:BP:44:ARG:NH2	65:BP:52:LYS:HZ3	1.90	0.69
67:BR:31:ASN:HD22	67:BR:55:THR:HG22	1.56	0.69
71:BV:37:ALA:HB2	71:BV:46:PHE:CE1	2.28	0.69
48:A2:1976:G:H2'	48:A2:1977:C:C6	2.28	0.68
48:A2:4062:G:H3'	48:A2:4063:G:H21	1.55	0.68
48:A2:4946:U:C4'	48:A2:4947:U:OP1	2.41	0.68
48:A2:4982:C:O2'	58:BI:168:GLN:O	0.69	0.68
2:A4:22:A:N6	2:A4:23:A:C6	2.61	0.68
7:AE:114:ARG:HH11	7:AE:114:ARG:HB2	1.55	0.68
14:AL:60:ARG:NH1	48:A2:72:C:C4	2.61	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AR:99:MET:O	20:AR:103:ARG:HG3	1.93	0.68
24:AV:42:VAL:CG2	24:AV:55:ALA:HB2	2.24	0.68
52:BC:178:HIS:CD2	52:BC:200:ARG:NE	2.60	0.68
61:BL:28:THR:O	61:BL:29:GLY:O	2.11	0.68
69:BT:41:LYS:HD3	69:BT:43:LYS:HZ3	1.58	0.68
49:B1:1402:A:H1'	70:BU:54:VAL:HG22	1.74	0.68
48:A2:1256:G:N2	48:A2:1257:A:OP2	2.26	0.68
48:A2:1341:G:N2	48:A2:1343:G:N1	2.40	0.68
48:A2:1755:U:O2'	48:A2:1756:C:O4'	2.11	0.68
48:A2:1943:A:C2	48:A2:2007:A:C2	2.81	0.68
48:A2:1945:A:C2	48:A2:1946:G:C8	2.81	0.68
48:A2:4034:C:H2'	48:A2:4035:G:O4'	1.93	0.68
48:A2:4981:C:C5'	58:BI:124:LYS:HZ1	2.05	0.68
14:AL:128:PRO:HD2	14:AL:136:LYS:HD3	1.75	0.68
14:AL:44:ARG:CZ	48:A2:182:C:C5	2.70	0.68
49:B1:1552:G:OP2	49:B1:1578:U:O4	2.11	0.68
49:B1:571:U:P	74:BY:37:LYS:HB2	2.33	0.68
49:B1:872:A:N1	49:B1:915:G:C6	2.61	0.68
49:B1:876:C:H5''	49:B1:876:C:H6	1.58	0.68
49:B1:875:A:H61	49:B1:912:C:H42	1.37	0.68
58:BI:158:ILE:O	58:BI:162:LEU:HB2	1.91	0.68
65:BP:30:TYR:CA	65:BP:33:LEU:HD11	2.22	0.68
66:BQ:62:ARG:HG2	66:BQ:92:LEU:CD1	2.23	0.68
48:A2:3731:A:N6	49:B1:1825:A:N1	2.41	0.68
4:AB:41:VAL:HG22	4:AB:187:GLY:HA3	1.75	0.68
5:AC:303:ARG:O	5:AC:304:ALA:HB3	1.93	0.68
1:A3:150:C:N4	9:AG:65:ARG:NH1	2.41	0.68
17:AO:176:ARG:HG2	48:A2:4830:G:H1	1.58	0.68
49:B1:1387:G:N2	67:BR:8:THR:HG21	2.07	0.68
49:B1:502:C:OP2	54:BE:66:MET:SD	2.51	0.68
49:B1:77:A:C2'	49:B1:78:C:H5'	2.22	0.68
49:B1:874:G:C8	49:B1:875:A:N7	2.61	0.68
52:BC:167:ARG:CD	52:BC:219:ILE:HD13	2.23	0.68
52:BC:60:TRP:CD1	52:BC:92:GLU:HB3	2.28	0.68
54:BE:91:SER:C	54:BE:92:ILE:HD12	2.14	0.68
49:B1:640:A:H4'	59:BJ:20:PHE:HE2	1.57	0.68
66:BQ:58:LEU:HB3	66:BQ:62:ARG:NH1	2.08	0.68
67:BR:114:LEU:O	67:BR:115:SER:CB	2.40	0.68
49:B1:1254:C:O2'	70:BU:71:GLY:HA3	1.93	0.68
74:BY:119:GLY:H	74:BY:122:LYS:HZ1	1.40	0.68
22:AT:109:VAL:CG1	48:A2:1785:G:C6	2.77	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2852:U:H2'	48:A2:2854:C:H5	1.58	0.68
5:AC:231:ASN:OD1	5:AC:233:SER:N	2.26	0.68
6:AD:22:ARG:NH2	6:AD:27:LYS:HZ3	1.91	0.68
8:AF:219:GLY:C	8:AF:220:MET:HG3	2.13	0.68
20:AR:61:ALA:CB	48:A2:2612:U:C5'	2.66	0.68
49:B1:581:U:H5'	74:BY:62:THR:HG23	1.64	0.68
49:B1:872:A:C2'	49:B1:874:G:N2	2.55	0.68
53:BD:79:PHE:CB	53:BD:84:VAL:CG2	2.71	0.68
56:BG:57:ASP:O	56:BG:107:SER:HB3	1.92	0.68
62:BM:127:TYR:O	62:BM:129:LYS:N	2.26	0.68
67:BR:119:VAL:O	67:BR:120:THR:HG22	1.93	0.68
72:BW:102:ILE:HG22	72:BW:103:VAL:N	2.08	0.68
48:A2:1744:C:O2'	48:A2:1745:C:H5'	1.94	0.68
1:A3:33:G:H2'	48:A2:58:G:H2'	1.75	0.68
7:AE:123:ARG:CD	7:AE:124:LYS:H	2.07	0.68
11:AI:102:MET:SD	48:A2:4403:A:H5'	2.34	0.68
14:AL:170:THR:O	14:AL:173:GLU:OE1	2.11	0.68
18:AP:15:CYS:SG	18:AP:150:LEU:HB2	2.34	0.68
20:AR:32:ILE:HD11	20:AR:49:LEU:HD13	1.76	0.68
27:AY:64:GLY:O	27:AY:66:GLN:HG3	1.93	0.68
49:B1:1594:A:OP2	75:BZ:104:ARG:HG2	1.94	0.68
49:B1:5:U:OP1	52:BC:230:THR:HG22	1.93	0.68
49:B1:5:U:OP2	52:BC:230:THR:HG22	1.89	0.68
56:BG:50:VAL:HG22	56:BG:113:ILE:HG22	1.76	0.68
57:BH:64:VAL:HB	57:BH:95:ILE:O	1.94	0.68
65:BP:18:ARG:HH12	65:BP:38:SER:H	1.39	0.68
49:B1:1603:G:H4'	68:BS:38:ARG:NH2	2.08	0.68
48:A2:2064:C:H5''	48:A2:2064:C:C6	2.28	0.68
48:A2:681:A:N7	48:A2:682:U:C5	2.62	0.68
48:A2:681:A:C5	48:A2:682:U:C5	2.82	0.68
5:AC:91:ALA:O	5:AC:96:CYS:SG	2.50	0.68
16:AN:73:ARG:HB3	16:AN:89:VAL:HG13	1.75	0.68
26:AX:56:ARG:NH2	26:AX:62:ARG:NH2	2.42	0.68
49:B1:659:G:C2	73:BX:17:ARG:NH2	2.60	0.68
50:BA:44:ASP:CA	67:BR:125:GLY:HA2	2.24	0.68
25:AW:80:ARG:HH22	56:BG:128:THR:CG2	2.07	0.68
56:BG:153:VAL:HG23	56:BG:156:TYR:HB2	1.75	0.68
59:BJ:160:SER:O	59:BJ:162:ARG:HG2	1.93	0.68
59:BJ:47:LYS:HZ3	59:BJ:47:LYS:HB2	1.58	0.68
75:BZ:48:VAL:CA	75:BZ:80:ARG:HD2	2.22	0.68
48:A2:2482:G:H3'	48:A2:2482:G:N3	2.08	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:3681:G:H2'	48:A2:3682:A:H5'	1.75	0.68
11:AI:185:VAL:HG12	11:AI:190:LEU:HB2	1.74	0.68
13:AK:16:LYS:HA	13:AK:19:GLN:HB2	1.75	0.68
13:AK:83:ARG:CG	13:AK:84:GLY:H	2.03	0.68
20:AR:105:LEU:HD22	20:AR:135:LYS:HG3	1.76	0.68
50:BA:37:TYR:CE2	50:BA:162:PRO:HD3	2.28	0.68
50:BA:42:LYS:NZ	50:BA:46:ILE:HG21	2.08	0.68
55:BF:40:ALA:HB1	55:BF:45:TYR:CG	2.27	0.68
60:BK:76:ILE:HD13	60:BK:94:LEU:HD22	1.74	0.68
49:B1:1046:U:C2'	64:BO:140:THR:HB	2.24	0.68
75:BZ:63:PRO:HA	75:BZ:111:ARG:HD2	1.76	0.68
13:AK:84:GLY:HA2	48:A2:2002:G:O3'	1.93	0.68
48:A2:4702:G:H3'	48:A2:4703:C:H5''	1.75	0.68
48:A2:48:G:H2'	48:A2:49:U:OP2	1.93	0.68
21:AS:68:PHE:CE1	48:A2:721:G:N2	2.62	0.68
3:AA:58:LEU:HD11	3:AA:75:LEU:HB3	1.75	0.68
6:AD:215:ASP:OD1	6:AD:216:GLU:N	2.26	0.68
49:B1:292:A:O2'	61:BL:39:ASN:O	2.11	0.68
49:B1:331:C:OP2	49:B1:331:C:C6	2.45	0.68
49:B1:1203:G:H1'	52:BC:115:GLN:HG3	1.74	0.68
49:B1:5:U:OP2	52:BC:230:THR:CB	2.42	0.68
66:BQ:14:GLY:HA2	66:BQ:21:ALA:H	1.58	0.68
48:A2:251:G:H21	48:A2:252:C:H1'	1.59	0.68
48:A2:676:G:O5'	48:A2:676:G:H8	1.77	0.68
3:AA:88:VAL:HG13	3:AA:99:GLY:O	1.93	0.68
5:AC:97:ARG:HG3	5:AC:97:ARG:NH1	2.06	0.68
7:AE:222:LEU:HG	7:AE:235:THR:OG1	1.94	0.68
8:AF:229:GLU:O	21:AS:2:LYS:HD3	1.94	0.68
13:AK:81:HIS:CD2	13:AK:82:ILE:H	2.11	0.68
49:B1:118:C:H3'	49:B1:118:C:O2	1.94	0.68
59:BJ:84:ILE:O	59:BJ:108:ARG:NE	2.26	0.68
59:BJ:119:LEU:HD11	59:BJ:159:PHE:CE1	2.29	0.68
61:BL:61:PRO:HD3	61:BL:141:ASN:ND2	2.09	0.68
61:BL:35:ARG:CG	61:BL:36:TYR:N	2.57	0.68
66:BQ:62:ARG:CD	66:BQ:92:LEU:CD1	2.72	0.68
66:BQ:34:VAL:HG11	66:BQ:84:ILE:CD1	2.23	0.68
66:BQ:25:CYS:SG	66:BQ:95:TYR:CG	2.87	0.68
71:BV:37:ALA:CB	71:BV:46:PHE:CZ	2.76	0.68
49:B1:619:A:N6	73:BX:114:ASP:HB3	2.07	0.68
74:BY:96:LEU:N	74:BY:96:LEU:HD12	2.09	0.68
48:A2:1059:C:OP2	48:A2:1059:C:C6	2.47	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1166:C:C5	48:A2:1167:A:N7	2.62	0.68
22:AT:129:LYS:HE3	48:A2:1816:G:O2'	1.92	0.68
21:AS:3:ALA:HB3	48:A2:2043:C:OP1	1.94	0.68
16:AN:93:LYS:CD	48:A2:294:A:H2	2.06	0.68
5:AC:72:ALA:CA	48:A2:3877:A:OP1	2.39	0.68
48:A2:514:C:C2'	48:A2:515:C:H5'	2.23	0.68
48:A2:70:A:H4'	48:A2:71:C:C5	2.28	0.68
8:AF:73:ARG:NH2	48:A2:717:G:C5'	2.57	0.68
10:AH:7:ASN:CA	10:AH:57:VAL:O	2.41	0.68
14:AL:171:GLU:HB3	14:AL:172:GLU:OE1	1.94	0.68
15:AM:91:TRP:HA	15:AM:94:LYS:HD3	1.75	0.68
49:B1:1752:C:N3	49:B1:1780:G:N1	2.40	0.68
49:B1:407:G:N2	73:BX:36:LEU:HB2	2.08	0.68
49:B1:524:U:H5''	49:B1:525:A:H1'	1.76	0.68
50:BA:63:ARG:NH1	71:BV:78:ILE:HG12	2.08	0.68
51:BB:70:SER:HA	51:BB:84:PHE:H	1.58	0.68
52:BC:104:ASP:CB	52:BC:130:ILE:HG22	2.24	0.68
59:BJ:88:ASP:OD2	59:BJ:91:LYS:HG3	1.93	0.68
65:BP:33:LEU:HD22	65:BP:87:PRO:HG2	1.75	0.68
49:B1:1424:G:OP1	66:BQ:36:GLY:HA3	1.93	0.68
66:BQ:34:VAL:CG1	66:BQ:84:ILE:HD13	2.24	0.68
68:BS:86:ARG:HG3	68:BS:90:VAL:HG22	1.76	0.68
48:A2:2502:G:O4'	48:A2:2690:G:N2	2.27	0.67
48:A2:2617:G:O2'	48:A2:2618:U:H5'	1.93	0.67
6:AD:19:LYS:NZ	48:A2:4228:G:O6	2.21	0.67
48:A2:508:U:C6	48:A2:508:U:OP2	2.47	0.67
4:AB:300:LYS:CE	4:AB:313:SER:HB2	2.23	0.67
6:AD:230:SER:O	6:AD:231:VAL:CB	2.42	0.67
7:AE:206:VAL:O	7:AE:207:LYS:HB3	1.94	0.67
1:A3:149:G:H1'	9:AG:61:ILE:HD12	1.76	0.67
26:AX:55:ARG:NH1	26:AX:55:ARG:HG3	2.10	0.67
49:B1:345:U:O2'	54:BE:33:THR:CA	2.37	0.67
51:BB:127:VAL:HG23	51:BB:177:GLN:NE2	2.09	0.67
51:BB:71:LEU:HD23	51:BB:84:PHE:CE2	2.28	0.67
49:B1:112:U:P	61:BL:69:ARG:HD2	2.33	0.67
65:BP:51:ARG:NH1	65:BP:51:ARG:HB3	2.08	0.67
74:BY:89:HIS:O	74:BY:92:ALA:HB3	1.93	0.67
75:BZ:99:LEU:HA	75:BZ:109:TYR:HA	1.74	0.67
48:A2:286:G:O5'	48:A2:286:G:H8	1.76	0.67
21:AS:74:ARG:NH2	48:A2:909:C:H5'	2.09	0.67
6:AD:17:GLN:O	48:A2:4227:U:N3	2.21	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:107:VAL:O	7:AE:108:LYS:HB2	1.93	0.67
8:AF:184:ILE:CA	8:AF:189:ASP:HB2	2.23	0.67
13:AK:72:ASN:CB	13:AK:73:PRO:CD	2.72	0.67
21:AS:2:LYS:O	21:AS:2:LYS:HG3	1.94	0.67
28:AZ:59:LYS:HD2	28:AZ:60:LYS:N	1.97	0.67
28:AZ:95:VAL:HG13	28:AZ:109:LYS:HG3	1.73	0.67
49:B1:157:U:O4'	56:BG:59:GLN:CA	2.42	0.67
59:BJ:161:LEU:HB3	59:BJ:162:ARG:HH12	1.58	0.67
49:B1:1603:G:O4'	68:BS:38:ARG:NH2	2.27	0.67
48:A2:196:G:N2	48:A2:231:G:H1	1.89	0.67
13:AK:84:GLY:HA2	48:A2:2002:G:C3'	2.24	0.67
48:A2:4721:C:H2'	48:A2:4722:G:O4'	1.94	0.67
5:AC:242:PRO:HB2	48:A2:2276:G:H4'	1.76	0.67
7:AE:109:LEU:O	7:AE:110:ARG:C	2.33	0.67
10:AH:61:TRP:CH2	15:AM:33:GLN:HG3	2.28	0.67
22:AT:125:TRP:O	22:AT:126:VAL:HG22	1.93	0.67
25:AW:68:GLN:O	25:AW:69:LYS:HB2	1.92	0.67
49:B1:1519:U:C1'	49:B1:1623:A:H62	2.07	0.67
20:AR:165:LYS:CE	49:B1:907:G:O5'	2.21	0.67
50:BA:112:ILE:O	50:BA:113:GLN:HG2	1.93	0.67
59:BJ:87:LEU:CD2	59:BJ:96:TYR:CE2	2.77	0.67
65:BP:85:ILE:CD1	65:BP:116:LEU:CG	2.72	0.67
68:BS:40:TYR:CE1	68:BS:71:MET:HE1	2.30	0.67
68:BS:70:ILE:CD1	68:BS:77:TYR:CG	2.76	0.67
49:B1:582:U:O4'	74:BY:32:LYS:CA	2.42	0.67
49:B1:580:U:HO2'	74:BY:62:THR:HB	1.55	0.67
48:A2:1161:G:H4'	48:A2:1162:U:OP2	1.93	0.67
48:A2:959:C:C2	48:A2:1266:G:N2	2.62	0.67
48:A2:2466:G:C5	48:A2:2468:C:O4'	2.47	0.67
2:A4:15:C:H1'	2:A4:65:G:H21	1.60	0.67
6:AD:22:ARG:HH21	6:AD:27:LYS:HD3	1.55	0.67
27:AY:41:LYS:CD	27:AY:42:TYR:HE1	2.07	0.67
49:B1:104:A:H4'	58:BI:18:ARG:HH21	1.58	0.67
49:B1:380:G:H1'	58:BI:5:ARG:NE	2.08	0.67
54:BE:123:LEU:CD1	54:BE:236:ILE:HG12	2.25	0.67
55:BF:23:TRP:NE1	55:BF:108:PRO:HG2	2.07	0.67
55:BF:93:VAL:HG13	55:BF:97:PHE:CZ	2.28	0.67
68:BS:14:ARG:HD3	68:BS:17:ASN:O	1.95	0.67
19:AQ:14:ARG:HH21	48:A2:1676:C:N4	1.92	0.67
22:AT:105:PHE:HE1	48:A2:1784:A:H4'	1.53	0.67
48:A2:1989:U:C6	48:A2:1991:A:C8	2.82	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A4:10:C:O2	6:AD:21:ARG:N	2.27	0.67
8:AF:164:LYS:C	8:AF:165:LYS:HG3	2.13	0.67
9:AG:70:LEU:HD11	16:AN:25:VAL:HG22	1.75	0.67
16:AN:84:PRO:HD2	48:A2:43:U:P	2.35	0.67
20:AR:38:ARG:O	20:AR:41:ILE:HG22	1.94	0.67
28:AZ:46:ILE:HD13	28:AZ:68:ILE:CG1	2.25	0.67
49:B1:1782:G:C2	49:B1:1784:G:N7	2.61	0.67
49:B1:238:C:H42	49:B1:283:G:H1	1.42	0.67
49:B1:873:G:OP1	61:BL:153:LYS:CE	2.42	0.67
51:BB:181:LEU:HA	51:BB:184:VAL:HG23	1.76	0.67
54:BE:229:GLY:HA2	54:BE:235:TRP:CD1	2.29	0.67
54:BE:87:MET:O	54:BE:87:MET:HG3	1.93	0.67
56:BG:12:CYS:SG	56:BG:124:LEU:HD13	2.33	0.67
63:BN:82:PRO:O	63:BN:83:ASP:HB3	1.94	0.67
49:B1:1466:G:OP1	67:BR:4:VAL:HA	1.93	0.67
49:B1:1415:C:C4'	69:BT:128:GLN:HG3	2.24	0.67
75:BZ:62:VAL:HG11	75:BZ:91:LEU:HD22	1.75	0.67
19:AQ:140:SER:O	48:A2:1441:A:H5'	1.94	0.67
3:AA:9:ARG:HD2	48:A2:1610:C:OP2	1.94	0.67
15:AM:19:PRO:HB3	48:A2:923:C:C4	2.29	0.67
3:AA:207:VAL:HG12	48:A2:3890:C:H5'	1.76	0.67
5:AC:94:ASN:HD21	5:AC:102:PHE:CB	2.08	0.67
2:A4:13:A:C2	6:AD:21:ARG:HB2	2.26	0.67
2:A4:105:C:OP2	11:AI:203:ARG:NH1	2.27	0.67
26:AX:56:ARG:HH22	26:AX:62:ARG:NH2	1.91	0.67
49:B1:1756:C:H2'	49:B1:1757:G:H8	1.58	0.67
51:BB:139:CYS:HB2	51:BB:172:MET:HE1	1.75	0.67
51:BB:179:ASN:HB3	51:BB:183:GLU:CB	2.24	0.67
49:B1:498:C:H5''	54:BE:7:LYS:HE2	1.75	0.67
67:BR:123:THR:O	67:BR:123:THR:HG22	1.94	0.67
67:BR:35:CYS:SG	67:BR:38:ILE:HD11	2.33	0.67
69:BT:38:LYS:HE2	69:BT:98:SER:OG	1.95	0.67
72:BW:68:ARG:NH1	72:BW:70:ASN:ND2	2.42	0.67
74:BY:44:LEU:HA	74:BY:47:MET:HE3	1.77	0.67
49:B1:1600:G:H5''	75:BZ:43:LYS:HE2	1.75	0.67
75:BZ:63:PRO:CA	75:BZ:111:ARG:HD2	2.25	0.67
48:A2:446:A:OP1	48:A2:1277:A:C8	2.48	0.67
5:AC:4:ALA:HA	48:A2:659:G:N2	2.09	0.67
48:A2:465:A:H62	48:A2:677:G:H21	1.40	0.67
48:A2:693:U:H3'	48:A2:694:G:H21	1.59	0.67
48:A2:905:G:N3	48:A2:905:G:H3'	2.09	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:918:C:O2	48:A2:918:C:H3'	1.93	0.67
6:AD:229:ASN:HD22	6:AD:229:ASN:N	1.92	0.67
16:AN:80:THR:OG1	16:AN:87:HIS:HA	1.95	0.67
49:B1:1784:G:H2'	49:B1:1785:C:C6	2.30	0.67
49:B1:1824:A:N3	49:B1:1824:A:H3'	2.09	0.67
49:B1:85:A:OP1	74:BY:122:LYS:NZ	2.25	0.67
49:B1:1017:U:H5'	63:BN:55:ARG:NH2	2.10	0.67
68:BS:52:LEU:N	68:BS:52:LEU:HD12	2.03	0.67
52:BC:252:THR:HB	72:BW:99:PHE:CZ	2.24	0.67
75:BZ:46:ASN:OD1	75:BZ:78:LYS:C	2.33	0.67
48:A2:4714:U:H6	48:A2:4714:U:H5''	1.60	0.67
16:AN:194:ARG:NH2	48:A2:79:C:OP2	2.28	0.67
5:AC:169:LEU:HD12	48:A2:215:A:H61	1.58	0.67
7:AE:233:PHE:HD2	7:AE:236:GLU:CD	1.98	0.67
49:B1:910:G:C2'	49:B1:911:C:H5'	2.25	0.67
50:BA:42:LYS:HE3	50:BA:48:ILE:HD13	1.75	0.67
51:BB:153:THR:HB	51:BB:155:TYR:CE2	2.30	0.67
51:BB:173:THR:O	51:BB:177:GLN:CA	2.42	0.67
54:BE:93:GLU:HB3	54:BE:94:LYS:HB2	1.75	0.67
65:BP:59:ARG:HE	65:BP:76:VAL:HG13	1.60	0.67
68:BS:74:PRO:HG3	68:BS:84:LEU:CG	2.24	0.67
48:A2:1755:U:C4	48:A2:1756:C:C4	2.83	0.67
16:AN:181:HIS:CE1	48:A2:99:A:H4'	2.30	0.67
4:AB:225:GLY:C	48:A2:4936:G:OP2	2.34	0.67
5:AC:57:LEU:HD13	5:AC:57:LEU:C	2.14	0.67
8:AF:230:GLY:HA3	21:AS:2:LYS:CB	2.24	0.67
8:AF:51:TYR:OH	48:A2:1220:C:N4	2.27	0.67
10:AH:1:MET:CG	10:AH:3:THR:OG1	2.43	0.67
22:AT:39:ILE:HD12	22:AT:102:ARG:CD	2.25	0.67
49:B1:368:U:H3'	49:B1:369:C:H6	1.59	0.67
49:B1:837:A:H2'	49:B1:838:G:C5'	2.24	0.67
48:A2:3683:A:H1'	49:B1:970:G:N7	2.10	0.67
49:B1:190:G:OP2	58:BI:143:LYS:HD3	1.93	0.67
49:B1:1124:C:O2'	67:BR:123:THR:CB	2.43	0.67
67:BR:3:ARG:C	67:BR:4:VAL:HG13	2.15	0.67
50:BA:201:LEU:HD21	67:BR:85:VAL:HG21	1.76	0.67
69:BT:41:LYS:CE	69:BT:43:LYS:HE2	2.23	0.67
69:BT:42:HIS:H	69:BT:43:LYS:HZ3	1.39	0.67
49:B1:860:G:O2'	72:BW:107:SER:CB	2.43	0.67
49:B1:618:C:OP1	73:BX:86:PRO:O	2.13	0.67
48:A2:1752:A:N1	48:A2:1753:U:C4	2.63	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2055:C:H2'	48:A2:2056:G:O4'	1.95	0.67
48:A2:2469:U:O5'	48:A2:2469:U:H6	1.77	0.67
48:A2:4686:A:H8	48:A2:4686:A:OP2	1.77	0.67
6:AD:287:PHE:CD2	11:AI:209:TRP:CZ3	2.82	0.67
13:AK:34:ASN:O	13:AK:35:VAL:HG22	1.93	0.67
14:AL:16:LYS:HG3	48:A2:47:A:OP2	1.94	0.67
18:AP:85:LYS:HG2	48:A2:3827:A:H4'	1.76	0.67
26:AX:44:PRO:HB2	48:A2:4055:A:C5'	2.25	0.67
3:AA:249:THR:OG1	49:B1:1044:G:H8	1.76	0.67
49:B1:1204:A:O2'	49:B1:1700:C:OP2	2.12	0.67
49:B1:1622:U:OP2	49:B1:1623:A:H5''	1.95	0.67
49:B1:307:G:H1'	58:BI:45:THR:CG2	2.25	0.67
49:B1:509:G:H5''	59:BJ:3:VAL:CG1	2.25	0.67
51:BB:97:LEU:HG	51:BB:232:HIS:CE1	2.29	0.67
67:BR:35:CYS:CA	67:BR:38:ILE:HD11	2.19	0.67
75:BZ:88:LEU:HD23	75:BZ:109:TYR:HE2	0.86	0.67
48:A2:3796:A:H2'	48:A2:3797:C:C5'	2.17	0.66
7:AE:233:PHE:CE1	48:A2:447:G:O6	2.42	0.66
48:A2:4870:G:H4'	48:A2:4871:G:OP1	1.95	0.66
48:A2:4983:C:P	58:BI:169:GLY:C	2.73	0.66
3:AA:208:GLU:CD	48:A2:1613:A:H2	1.99	0.66
5:AC:190:ARG:HA	5:AC:202:ILE:HD13	1.76	0.66
10:AH:67:LEU:O	10:AH:70:VAL:HG12	1.94	0.66
13:AK:57:LYS:O	13:AK:60:MET:CA	2.43	0.66
1:A3:3:A:H4'	18:AP:61:ARG:NE	2.09	0.66
49:B1:1159:G:O4'	72:BW:4:MET:SD	2.53	0.66
49:B1:1284:A:H8	49:B1:1284:A:H5''	1.59	0.66
49:B1:1287:A:H2'	49:B1:1287:A:N3	2.10	0.66
49:B1:581:U:O2	74:BY:33:ALA:CB	2.44	0.66
69:BT:41:LYS:HD3	69:BT:43:LYS:NZ	2.10	0.66
48:A2:1354:A:H4'	48:A2:1355:A:OP2	1.95	0.66
5:AC:204:ARG:HA	48:A2:2277:U:OP2	1.95	0.66
48:A2:227:G:H3'	48:A2:228:U:H5'	1.76	0.66
7:AE:100:LYS:HB2	48:A2:679:G:P	2.35	0.66
4:AB:8:ALA:HB2	24:AV:49:LEU:CD2	2.26	0.66
4:AB:95:THR:HG22	48:A2:4868:A:H5''	1.76	0.66
7:AE:96:VAL:HG22	7:AE:107:VAL:CG1	2.25	0.66
10:AH:7:ASN:CB	10:AH:58:ASP:HA	2.26	0.66
13:AK:15:LEU:O	13:AK:19:GLN:HB2	1.94	0.66
20:AR:126:LYS:HG2	20:AR:131:VAL:CG1	2.25	0.66
25:AW:98:PRO:HD2	25:AW:99:GLU:N	2.05	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1612:G:H1'	68:BS:87:GLN:HG3	1.77	0.66
49:B1:168:C:O2'	56:BG:133:LEU:HB2	1.93	0.66
49:B1:305:U:N3	58:BI:55:TYR:CD2	2.61	0.66
49:B1:637:U:H6	49:B1:637:U:O5'	1.78	0.66
54:BE:137:PRO:HG3	56:BG:209:TYR:HH	1.55	0.66
63:BN:20:ARG:HA	63:BN:65:PHE:CZ	2.30	0.66
65:BP:85:ILE:CG2	65:BP:111:MET:O	2.43	0.66
65:BP:86:LEU:H	65:BP:86:LEU:HD23	1.61	0.66
67:BR:99:ASP:C	67:BR:102:THR:HG22	2.16	0.66
49:B1:571:U:OP1	74:BY:37:LYS:HD3	1.95	0.66
48:A2:1389:G:C2'	48:A2:1390:C:OP1	2.43	0.66
48:A2:154:U:C6	48:A2:154:U:H5''	2.27	0.66
48:A2:4907:G:C8	48:A2:4907:G:OP1	2.48	0.66
4:AB:244:THR:HA	48:A2:4487:C:O2'	1.95	0.66
7:AE:133:PHE:CD2	48:A2:1270:G:N2	2.62	0.66
11:AI:18:PRO:HA	11:AI:94:PHE:O	1.96	0.66
14:AL:60:ARG:HD3	48:A2:72:C:C2	2.29	0.66
49:B1:1497:G:O6	60:BK:67:PHE:CE1	2.49	0.66
49:B1:1544:C:H4'	66:BQ:80:GLN:HE21	1.57	0.66
49:B1:1603:G:H5'	68:BS:38:ARG:HH12	1.37	0.66
49:B1:990:A:P	51:BB:116:LYS:HE3	2.35	0.66
54:BE:95:THR:HB	54:BE:96:GLY:C	2.16	0.66
53:BD:218:LEU:HD23	56:BG:172:LYS:HD2	180.44	0.66
49:B1:440:G:H5''	58:BI:2:GLY:N	2.09	0.66
65:BP:50:ARG:HA	65:BP:54:HIS:HB2	1.77	0.66
68:BS:36:VAL:HG13	68:BS:40:TYR:HD1	1.59	0.66
49:B1:1603:G:C4'	68:BS:38:ARG:HH22	2.09	0.66
48:A2:1297:C:O2'	48:A2:1298:C:OP2	2.14	0.66
11:AI:39:LYS:HZ1	48:A2:1731:A:H5''	1.61	0.66
48:A2:1740:G:C2	48:A2:1741:G:C5	2.83	0.66
16:AN:98:LEU:HD21	48:A2:295:G:H5''	1.76	0.66
7:AE:233:PHE:CZ	48:A2:447:G:OP1	2.48	0.66
48:A2:4982:C:H2'	58:BI:168:GLN:C	2.15	0.66
48:A2:656:C:H2'	48:A2:657:C:O4'	1.95	0.66
1:A3:35:C:O2	48:A2:21:G:N2	2.20	0.66
2:A4:75:G:H5''	21:AS:49:SER:O	1.95	0.66
4:AB:337:VAL:HG11	4:AB:345:LEU:HD13	1.76	0.66
4:AB:393:LYS:CD	48:A2:5000:A:H4'	2.25	0.66
6:AD:12:TYR:HE1	6:AD:13:PHE:HE1	1.02	0.66
6:AD:146:LEU:HD11	6:AD:163:LEU:HG	1.77	0.66
13:AK:28:PHE:HB2	13:AK:89:VAL:HG13	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:53:VAL:O	13:AK:54:LEU:HD22	1.96	0.66
18:AP:37:LYS:HB2	18:AP:117:ILE:HG22	1.78	0.66
20:AR:126:LYS:HE2	20:AR:131:VAL:HG13	1.68	0.66
26:AX:117:TYR:HB2	26:AX:119:ILE:HG12	1.77	0.66
49:B1:1672:U:OP2	66:BQ:17:LYS:CE	2.43	0.66
49:B1:1784:G:C6	49:B1:1785:C:C4	2.82	0.66
53:BD:72:VAL:CG2	60:BK:20:VAL:HG13	2.25	0.66
53:BD:73:VAL:O	53:BD:77:PHE:CD2	2.48	0.66
49:B1:454:U:H5''	56:BG:94:ARG:HB2	1.77	0.66
59:BJ:113:GLN:HG3	59:BJ:149:VAL:HG21	1.77	0.66
65:BP:86:LEU:N	65:BP:86:LEU:HD23	2.11	0.66
68:BS:70:ILE:HD12	68:BS:77:TYR:CD2	2.28	0.66
49:B1:407:G:N1	73:BX:36:LEU:HD23	2.11	0.66
48:A2:1256:G:H2'	48:A2:1256:G:N3	2.08	0.66
48:A2:127:G:C2'	48:A2:128:C:H5'	2.26	0.66
48:A2:2068:C:OP1	48:A2:2068:C:H3'	1.95	0.66
20:AR:74:ARG:HG2	48:A2:2869:C:OP2	1.94	0.66
48:A2:3712:C:H6	48:A2:3712:C:O5'	1.77	0.66
48:A2:3728:G:N2	48:A2:3739:U:O2	2.29	0.66
48:A2:4725:U:H4'	48:A2:4726:A:OP2	1.94	0.66
14:AL:165:LYS:HE2	48:A2:505:C:C5'	2.26	0.66
14:AL:126:LEU:HD11	14:AL:135:LYS:HB3	1.76	0.66
19:AQ:12:LYS:C	19:AQ:13:VAL:HG13	2.15	0.66
23:AU:47:ILE:HD12	23:AU:56:LEU:HD11	1.76	0.66
50:BA:110:ASN:O	50:BA:116:PHE:CD2	2.48	0.66
54:BE:213:ALA:HB2	54:BE:242:LYS:HD2	1.78	0.66
49:B1:1679:A:N6	55:BF:60:ARG:CA	2.54	0.66
58:BI:40:PRO:O	58:BI:59:ARG:HG3	1.96	0.66
59:BJ:30:LYS:HD2	59:BJ:30:LYS:C	2.16	0.66
49:B1:617:G:O5'	73:BX:88:ASP:HA	1.95	0.66
13:AK:10:LYS:CE	48:A2:1941:A:N3	2.54	0.66
20:AR:26:PRO:HB3	48:A2:2365:U:O2'	1.95	0.66
48:A2:3606:A:H2'	48:A2:3607:C:O4'	1.95	0.66
48:A2:4132:A:H4'	48:A2:4133:C:O5'	1.94	0.66
6:AD:12:TYR:CD1	6:AD:13:PHE:N	2.63	0.66
8:AF:111:LEU:HD23	48:A2:1821:G:H1'	1.76	0.66
15:AM:16:SER:HB2	48:A2:1902:C:H42	1.61	0.66
16:AN:94:PHE:CE2	16:AN:96:ARG:HB2	2.30	0.66
19:AQ:68:ARG:NH1	48:A2:1483:C:H2'	2.10	0.66
26:AX:55:ARG:NH1	26:AX:55:ARG:HA	2.09	0.66
49:B1:687:C:OP1	72:BW:32:LYS:HE3	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AR:173:ARG:NE	49:B1:910:G:OP1	2.23	0.66
50:BA:103:PHE:CE2	50:BA:133:PRO:HA	2.30	0.66
50:BA:180:ARG:HG2	50:BA:184:ARG:HH12	1.60	0.66
50:BA:74:VAL:HG13	50:BA:121:LEU:HD22	1.77	0.66
54:BE:48:LEU:HA	54:BE:52:LEU:HD12	1.76	0.66
63:BN:26:LEU:C	63:BN:26:LEU:HD12	2.15	0.66
73:BX:139:GLU:O	73:BX:140:ARG:HG3	1.95	0.66
75:BZ:65:TYR:HE2	75:BZ:76:ARG:HG2	1.57	0.66
7:AE:162:VAL:HG11	7:AE:175:VAL:HG12	1.76	0.66
15:AM:91:TRP:CZ2	48:A2:4827:U:H2'	2.30	0.66
22:AT:119:ALA:CB	22:AT:124:THR:O	2.44	0.66
51:BB:182:LYS:O	51:BB:186:ASN:ND2	2.28	0.66
55:BF:23:TRP:CE2	55:BF:108:PRO:CG	2.71	0.66
56:BG:63:MET:CE	56:BG:106:LEU:CD1	2.73	0.66
58:BI:48:VAL:CG2	58:BI:54:LYS:HE3	2.22	0.66
68:BS:25:LYS:O	68:BS:29:ALA:CB	2.44	0.66
72:BW:83:LEU:HD23	72:BW:86:LEU:HD12	1.78	0.66
48:A2:1149:G:O3'	48:A2:1150:C:H4'	1.96	0.66
48:A2:1614:A:H2'	48:A2:1615:G:H5''	1.76	0.66
48:A2:1745:C:C5	48:A2:1746:G:C5	2.84	0.66
48:A2:1888:A:H62	48:A2:1889:A:N6	1.93	0.66
48:A2:4063:G:H21	48:A2:4063:G:P	2.19	0.66
1:A3:85:U:O2'	1:A3:86:U:C5'	2.44	0.66
5:AC:183:VAL:HG11	5:AC:225:PRO:O	1.95	0.66
5:AC:311:ARG:HH12	48:A2:946:G:C4'	2.06	0.66
6:AD:23:ARG:NH2	48:A2:4242:A:OP2	2.28	0.66
6:AD:29:ASP:HB3	48:A2:4242:A:H8	1.51	0.66
10:AH:60:TRP:CD1	21:AS:153:PRO:HG2	2.30	0.66
18:AP:18:ARG:CG	18:AP:147:GLU:HG2	2.17	0.66
20:AR:25:ASP:N	20:AR:25:ASP:OD1	2.27	0.66
22:AT:4:THR:HG21	48:A2:4169:C:C5	2.31	0.66
49:B1:1679:A:N7	55:BF:60:ARG:HB2	2.10	0.66
49:B1:553:U:H3'	49:B1:554:A:H5''	1.78	0.66
54:BE:115:THR:HG22	54:BE:116:VAL:N	2.11	0.66
66:BQ:62:ARG:CZ	66:BQ:108:ILE:HD11	2.25	0.66
67:BR:34:VAL:HG12	67:BR:38:ILE:HG12	1.78	0.66
75:BZ:99:LEU:HA	75:BZ:108:ILE:O	1.95	0.66
6:AD:279:ARG:NE	48:A2:1160:U:H4'	2.06	0.66
5:AC:322:LEU:HB3	48:A2:1264:G:C5	2.31	0.66
48:A2:2609:U:HO2'	48:A2:2611:U:C4'	2.09	0.66
22:AT:4:THR:HG23	48:A2:4169:C:C6	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:105:ARG:HE	48:A2:464:A:N6	1.94	0.66
48:A2:506:U:H2'	48:A2:507:U:H5''	1.78	0.66
48:A2:514:C:H2'	48:A2:515:C:H5'	1.77	0.66
48:A2:633:U:H4'	48:A2:634:C:H5'	1.78	0.66
7:AE:123:ARG:O	7:AE:124:LYS:HG2	1.95	0.66
9:AG:113:ARG:CZ	48:A2:119:G:N1	2.59	0.66
17:AO:114:LYS:O	48:A2:4718:C:H5''	1.93	0.66
17:AO:22:ILE:HG23	21:AS:166:ARG:NH2	2.11	0.66
5:AC:301:ALA:HB1	19:AQ:132:LYS:NZ	2.11	0.66
24:AV:121:VAL:HG21	24:AV:136:ALA:HB2	1.78	0.66
24:AV:97:TYR:CZ	25:AW:21:TYR:HD1	2.13	0.66
24:AV:120:PRO:HG3	25:AW:23:ARG:O	1.95	0.66
49:B1:740:C:O2'	49:B1:741:C:O2	2.12	0.66
50:BA:110:ASN:C	50:BA:116:PHE:CD2	2.69	0.66
51:BB:79:VAL:HB	51:BB:81:PHE:CD1	2.31	0.66
67:BR:95:ILE:HG23	67:BR:114:LEU:HB3	0.77	0.66
48:A2:947:A:N6	48:A2:1266:G:O6	2.29	0.66
48:A2:1363:G:H4'	48:A2:1364:U:H6	1.61	0.66
3:AA:208:GLU:CD	48:A2:1613:A:C2	2.70	0.66
48:A2:205:A:C2	48:A2:229:G:O6	2.48	0.66
19:AQ:3:VAL:HG21	48:A2:2257:G:P	2.36	0.66
9:AG:59:ARG:HH21	48:A2:2449:C:H1'	1.58	0.66
48:A2:3931:A:H1'	48:A2:4015:G:H5''	1.77	0.66
48:A2:463:C:N4	48:A2:680:C:N3	2.44	0.66
6:AD:226:TYR:CE1	6:AD:231:VAL:HG11	2.31	0.66
13:AK:31:GLY:HA2	13:AK:85:ASN:O	1.96	0.66
19:AQ:157:GLY:HA2	19:AQ:161:SER:CB	2.26	0.66
49:B1:1158:G:H5''	72:BW:76:SER:OG	1.96	0.66
49:B1:167:G:H5''	56:BG:8:PRO:O	1.96	0.66
49:B1:181:A:H1'	49:B1:182:C:C6	2.30	0.66
49:B1:222:U:H5''	61:BL:17:PHE:CE2	2.27	0.66
49:B1:749:U:O2	49:B1:749:U:H2'	1.95	0.66
49:B1:827:A:H5'	59:BJ:8:VAL:CG2	2.24	0.66
49:B1:873:G:OP1	61:BL:153:LYS:HE3	1.96	0.66
50:BA:8:LEU:HD11	71:BV:39:VAL:HG11	1.78	0.66
51:BB:82:ARG:NH2	51:BB:188:LEU:O	2.28	0.66
55:BF:107:ASN:N	55:BF:107:ASN:HD22	1.92	0.66
56:BG:63:MET:HE3	56:BG:106:LEU:HD11	1.78	0.66
49:B1:168:C:H4'	56:BG:131:ARG:HB2	1.76	0.66
58:BI:8:TRP:CZ3	58:BI:20:PRO:HB3	2.31	0.66
66:BQ:42:ILE:O	66:BQ:45:ARG:NH1	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:BT:11:GLN:OE1	69:BT:62:ARG:HG3	1.96	0.66
48:A2:113:A:H2'	48:A2:114:G:H5'	1.79	0.65
48:A2:1943:A:N6	48:A2:2006:A:C5	2.64	0.65
48:A2:214:C:H4'	48:A2:215:A:OP1	1.96	0.65
48:A2:3929:G:N1	48:A2:4016:A:N6	2.31	0.65
48:A2:4985:C:H3'	48:A2:4985:C:OP1	1.96	0.65
5:AC:69:THR:CG2	48:A2:4352:A:OP1	2.43	0.65
7:AE:113:PRO:HG2	7:AE:116:TYR:CZ	2.31	0.65
10:AH:41:ILE:HD13	10:AH:73:ILE:HD11	1.77	0.65
13:AK:45:MET:SD	13:AK:48:ARG:NH1	2.69	0.65
13:AK:55:MET:CE	13:AK:61:MET:HE1	2.26	0.65
15:AM:91:TRP:HA	15:AM:94:LYS:HD2	1.78	0.65
49:B1:1648:G:H3'	66:BQ:127:CYS:HA	1.76	0.65
49:B1:1757:G:H1	49:B1:1775:U:H3	1.42	0.65
49:B1:346:C:OP1	54:BE:37:LYS:CA	2.44	0.65
49:B1:833:C:H2'	49:B1:834:C:H6	1.60	0.65
52:BC:63:VAL:O	52:BC:64:THR:HG22	1.96	0.65
56:BG:106:LEU:N	56:BG:106:LEU:HD22	2.10	0.65
49:B1:824:C:C2	59:BJ:144:ILE:HG12	2.30	0.65
66:BQ:62:ARG:CD	66:BQ:92:LEU:HD12	2.25	0.65
48:A2:1060:C:OP1	48:A2:1197:C:H5'	1.96	0.65
48:A2:140:C:H2'	48:A2:141:G:C8	2.32	0.65
48:A2:112:C:H3'	48:A2:155:A:H61	1.61	0.65
48:A2:680:C:N4	48:A2:681:A:C5	2.65	0.65
3:AA:54:ARG:HH22	48:A2:3651:U:P	2.20	0.65
6:AD:178:LYS:HE2	48:A2:4285:A:H5''	1.76	0.65
6:AD:232:THR:HG23	6:AD:235:MET:CE	2.25	0.65
6:AD:286:SER:O	6:AD:289:ARG:HB3	1.96	0.65
8:AF:165:LYS:HB3	48:A2:2254:G:C2'	2.26	0.65
8:AF:222:LYS:O	8:AF:223:LYS:HB2	1.96	0.65
9:AG:166:LEU:HA	16:AN:7:ILE:HD11	1.78	0.65
27:AY:55:VAL:HG13	27:AY:104:VAL:CG1	2.26	0.65
49:B1:606:G:H3'	49:B1:606:G:OP2	1.96	0.65
51:BB:182:LYS:HG3	51:BB:231:LEU:CD1	2.24	0.65
51:BB:39:PHE:O	51:BB:40:ASN:HB2	1.95	0.65
52:BC:132:ASP:OD1	52:BC:133:TYR:N	2.28	0.65
54:BE:36:HIS:CD2	54:BE:85:GLY:HA2	2.29	0.65
56:BG:161:PRO:HA	56:BG:171:THR:OG1	1.96	0.65
59:BJ:109:ARG:HH12	59:BJ:111:GLN:CD	1.98	0.65
62:BM:14:VAL:CG2	62:BM:127:TYR:CD1	2.79	0.65
69:BT:41:LYS:CD	69:BT:43:LYS:HE2	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AG:113:ARG:NH2	48:A2:119:G:C6	2.63	0.65
22:AT:132:PRO:HD3	48:A2:1818:A:O2'	1.97	0.65
48:A2:2036:G:H3'	48:A2:2037:G:H5'	1.79	0.65
48:A2:3678:U:H2'	48:A2:3679:C:C6	2.32	0.65
7:AE:265:PRO:O	48:A2:4889:G:OP1	2.15	0.65
4:AB:37:PRO:HA	4:AB:188:GLY:HA2	1.79	0.65
51:BB:41:ILE:O	51:BB:41:ILE:HG13	1.97	0.65
52:BC:65:LYS:HA	52:BC:68:ARG:NH2	2.10	0.65
54:BE:95:THR:HB	54:BE:97:GLU:N	2.12	0.65
61:BL:35:ARG:CG	61:BL:36:TYR:H	2.08	0.65
62:BM:56:CYS:HG	62:BM:61:TYR:HD2	1.37	0.65
49:B1:1237:C:H4'	65:BP:130:ARG:HB2	1.76	0.65
70:BU:87:ARG:C	70:BU:88:LEU:HD12	2.17	0.65
49:B1:581:U:O2	74:BY:33:ALA:HB1	1.96	0.65
74:BY:86:GLU:HB2	74:BY:91:LEU:CD1	2.22	0.65
48:A2:121:A:H2	48:A2:122:U:O4'	1.79	0.65
5:AC:234:LYS:HD3	48:A2:1356:A:H2	1.62	0.65
48:A2:2607:U:C2	48:A2:2608:C:C5	2.85	0.65
48:A2:4880:C:O5'	48:A2:4880:C:O2	2.13	0.65
48:A2:73:A:H2'	48:A2:74:G:O4'	1.96	0.65
48:A2:901:U:C5	48:A2:902:A:N6	2.65	0.65
5:AC:4:ALA:CB	48:A2:659:G:N2	2.59	0.65
2:A4:35:U:O2'	6:AD:156:GLY:HA3	1.97	0.65
9:AG:162:ASP:HB3	9:AG:163:PRO:HD3	1.78	0.65
13:AK:83:ARG:HG3	13:AK:84:GLY:N	2.07	0.65
14:AL:128:PRO:CD	14:AL:136:LYS:CD	2.74	0.65
18:AP:4:TYR:HE2	18:AP:16:LYS:HD3	1.61	0.65
1:A3:3:A:H4'	18:AP:61:ARG:HE	1.61	0.65
22:AT:118:GLU:O	22:AT:122:LYS:HG3	1.96	0.65
49:B1:1782:G:C2	49:B1:1784:G:C5	2.84	0.65
50:BA:66:VAL:HG21	50:BA:185:MET:SD	2.36	0.65
49:B1:977:C:H5'	51:BB:66:VAL:CG2	2.27	0.65
61:BL:13:GLN:HE22	61:BL:15:THR:CA	2.09	0.65
63:BN:55:ARG:HA	63:BN:60:VAL:O	1.95	0.65
49:B1:1231:C:OP2	68:BS:139:THR:OG1	2.14	0.65
73:BX:54:LYS:HD2	73:BX:91:LEU:HD11	1.78	0.65
48:A2:1735:G:H2'	48:A2:1736:U:O4'	1.96	0.65
48:A2:3645:G:OP2	48:A2:3645:G:H3'	1.97	0.65
6:AD:145:TYR:CD1	48:A2:4287:A:H4'	2.32	0.65
48:A2:495:C:H5''	48:A2:496:C:OP2	1.97	0.65
48:A2:678:C:H4'	48:A2:679:G:OP1	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:87:PHE:HE1	48:A2:4089:U:C5'	2.03	0.65
5:AC:326:LEU:CD2	5:AC:333:LYS:HB2	2.26	0.65
10:AH:41:ILE:HG22	10:AH:43:VAL:HG23	1.78	0.65
49:B1:1720:U:H3'	49:B1:1721:U:H5''	1.78	0.65
49:B1:582:U:O4'	74:BY:32:LYS:HA	1.96	0.65
59:BJ:162:ARG:CB	59:BJ:164:PRO:HD2	2.26	0.65
59:BJ:35:TYR:HB2	59:BJ:37:LEU:HD11	1.77	0.65
53:BD:211:VAL:HG22	67:BR:38:ILE:O	1.95	0.65
72:BW:80:ASP:OD1	72:BW:124:LYS:HG2	1.97	0.65
48:A2:125:C:H2'	48:A2:126:C:C6	2.32	0.65
9:AG:111:LYS:NZ	48:A2:141:G:H5'	2.11	0.65
22:AT:127:GLN:NE2	48:A2:1816:G:H21	1.90	0.65
20:AR:75:HIS:ND1	48:A2:2868:G:OP1	2.30	0.65
14:AL:36:ARG:HH12	48:A2:407:G:P	63.15	0.65
7:AE:233:PHE:CE1	48:A2:447:G:N1	2.64	0.65
8:AF:69:ILE:HD13	48:A2:717:G:H4'	1.77	0.65
48:A2:901:U:C2'	48:A2:902:A:C8	2.79	0.65
10:AH:5:LEU:C	10:AH:5:LEU:HD23	2.14	0.65
10:AH:60:TRP:NE1	21:AS:153:PRO:HG3	2.11	0.65
25:AW:79:GLN:HG3	56:BG:131:ARG:NH2	2.12	0.65
28:AZ:88:ASP:HB3	28:AZ:121:ARG:HH22	1.62	0.65
49:B1:168:C:H5'	56:BG:131:ARG:HB3	1.79	0.65
49:B1:284:C:H2'	49:B1:285:U:C5	2.32	0.65
56:BG:226:GLU:O	56:BG:230:LYS:HG2	1.97	0.65
58:BI:150:ASP:OD1	58:BI:154:LYS:HD2	1.96	0.65
65:BP:33:LEU:HB2	65:BP:37:TYR:CE1	2.32	0.65
68:BS:44:VAL:HG21	68:BS:71:MET:CE	2.25	0.65
48:A2:1225:G:C6	48:A2:1252:G:H1'	2.31	0.65
48:A2:205:A:C5	48:A2:229:G:O6	2.48	0.65
21:AS:169:THR:CG2	48:A2:4832:A:N7	2.56	0.65
2:A4:43:U:C4'	12:AJ:143:ASP:HB3	2.27	0.65
4:AB:173:LEU:HD21	4:AB:342:LYS:HG2	1.77	0.65
5:AC:102:PHE:HB3	48:A2:1320:A:OP1	1.96	0.65
5:AC:211:TYR:HD2	5:AC:217:ILE:HG21	1.53	0.65
7:AE:110:ARG:HG3	7:AE:110:ARG:NH1	2.12	0.65
7:AE:175:VAL:HG21	7:AE:189:THR:HG1	0.82	0.65
7:AE:270:TYR:CE1	15:AM:107:PHE:HA	2.32	0.65
14:AL:94:ILE:HG23	14:AL:124:LEU:CD2	2.27	0.65
8:AF:229:GLU:O	21:AS:2:LYS:HB2	1.96	0.65
49:B1:1283:C:H3'	62:BM:102:LYS:HZ1	1.58	0.65
49:B1:749:U:H3'	49:B1:750:C:C6	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BA:176:TRP:H	50:BA:202:TYR:HD2	1.41	0.65
50:BA:77:ILE:HG12	50:BA:99:ILE:CG2	2.26	0.65
61:BL:80:MET:HE1	61:BL:121:GLN:HA	1.78	0.65
63:BN:75:LEU:HD11	63:BN:81:ALA:CA	2.26	0.65
53:BD:211:VAL:CG2	67:BR:20:TYR:OH	2.40	0.65
71:BV:41:LYS:H	71:BV:41:LYS:CD	2.07	0.65
48:A2:4514:U:H5''	48:A2:4514:U:H6	1.61	0.65
6:AD:236:MET:O	6:AD:240:TYR:HD2	1.79	0.65
9:AG:164:ILE:HG22	9:AG:168:VAL:HG13	1.79	0.65
13:AK:107:VAL:HB	13:AK:108:PRO:CD	2.26	0.65
19:AQ:12:LYS:O	19:AQ:13:VAL:HG22	1.96	0.65
19:AQ:12:LYS:HG3	19:AQ:14:ARG:H	1.62	0.65
22:AT:101:SER:HB3	48:A2:1712:U:C1'	2.26	0.65
49:B1:1745:A:C8	56:BG:66:GLY:CA	2.80	0.65
49:B1:644:G:H5'	59:BJ:41:ARG:HH22	1.62	0.65
49:B1:805:U:OP1	72:BW:121:THR:O	2.14	0.65
49:B1:898:U:H2'	49:B1:899:U:C6	2.32	0.65
51:BB:76:ASN:O	51:BB:77:ASP:HB3	1.97	0.65
54:BE:148:ARG:NH2	56:BG:202:ASN:HA	2.11	0.65
65:BP:34:MET:HE1	65:BP:45:LEU:HB2	1.79	0.65
49:B1:1407:U:C5'	66:BQ:71:ARG:HH12	1.92	0.65
68:BS:10:GLN:CG	68:BS:13:LEU:HD21	2.26	0.65
68:BS:92:ASP:C	68:BS:94:LYS:N	2.48	0.65
9:AG:111:LYS:HZ3	48:A2:141:G:H5'	1.61	0.65
48:A2:1977:C:C5	48:A2:1978:U:N3	2.58	0.65
1:A3:157:U:C2	48:A2:1:C:N4	2.64	0.65
48:A2:2000:C:O2'	48:A2:2001:U:H5'	1.96	0.65
48:A2:1903:G:C2	48:A2:2044:G:C5	2.85	0.65
48:A2:3931:A:C2	48:A2:4015:G:O4'	2.50	0.65
48:A2:4027:C:C6	48:A2:4027:C:OP2	2.50	0.65
48:A2:4111:C:H6	48:A2:4111:C:O5'	1.80	0.65
2:A4:95:C:O2'	8:AF:229:GLU:HG2	1.96	0.65
4:AB:55:HIS:CE1	48:A2:4589:U:HO2'	2.15	0.65
5:AC:334:THR:O	5:AC:337:ARG:HG2	1.96	0.65
7:AE:233:PHE:CE1	48:A2:447:G:C5	2.84	0.65
11:AI:152:LEU:HB2	11:AI:165:ILE:HD12	1.78	0.65
14:AL:172:GLU:O	14:AL:175:ASN:N	2.30	0.65
13:AK:41:GLN:HG2	19:AQ:121:LEU:HD12	164.14	0.65
25:AW:50:ASN:HB2	48:A2:4964:U:H5	1.61	0.65
49:B1:1017:U:C5'	63:BN:55:ARG:HH21	2.08	0.65
49:B1:402:C:H5'	58:BI:14:THR:HG22	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:562:U:C6	49:B1:562:U:H3'	2.31	0.65
49:B1:581:U:O2	74:BY:34:THR:N	2.29	0.65
59:BJ:161:LEU:HB3	59:BJ:162:ARG:NH1	2.12	0.65
63:BN:78:LYS:O	63:BN:80:LEU:HD11	1.97	0.65
67:BR:3:ARG:O	67:BR:4:VAL:HG13	1.97	0.65
55:BF:102:LEU:HD11	75:BZ:100:VAL:HG21	1.79	0.65
48:A2:132:G:O3'	48:A2:133:C:O4'	2.14	0.65
48:A2:1752:A:C2	48:A2:1753:U:N1	2.64	0.65
48:A2:1860:C:OP1	86:A2:5317:MG:MG	1.39	0.65
48:A2:1943:A:C2	48:A2:2007:A:N3	2.65	0.65
48:A2:227:G:C3'	48:A2:228:U:C5'	2.75	0.65
48:A2:266:U:H2'	48:A2:267:U:C6	2.32	0.65
48:A2:4009:G:H2'	48:A2:4010:C:O4'	1.97	0.65
7:AE:123:ARG:CG	48:A2:948:G:OP1	2.45	0.65
3:AA:61:VAL:CG1	3:AA:63:PHE:CE1	2.79	0.65
6:AD:230:SER:O	6:AD:231:VAL:CG2	2.44	0.65
14:AL:126:LEU:HD11	14:AL:135:LYS:CB	2.26	0.65
15:AM:101:LYS:H	17:AO:198:THR:HG21	1.61	0.65
49:B1:744:G:C2	57:BH:109:ARG:HB2	2.30	0.65
20:AR:165:LYS:HE3	49:B1:908:A:OP2	1.97	0.65
50:BA:208:GLU:O	50:BA:211:GLU:HB3	1.96	0.65
53:BD:17:PHE:CE2	53:BD:77:PHE:CE1	2.85	0.65
56:BG:194:LEU:CB	56:BG:198:ARG:HH12	2.08	0.65
49:B1:801:U:O4	57:BH:106:ARG:CZ	2.45	0.65
59:BJ:29:LEU:HD21	59:BJ:40:LYS:CE	2.27	0.65
49:B1:1286:G:O6	62:BM:35:ILE:HB	1.95	0.65
48:A2:3660:G:O2'	48:A2:3789:U:OP2	2.15	0.64
48:A2:4471:U:C2	48:A2:4473:A:OP2	2.50	0.64
5:AC:190:ARG:CD	5:AC:202:ILE:CD1	2.51	0.64
5:AC:330:PRO:HB2	8:AF:51:TYR:CE1	2.32	0.64
7:AE:237:LYS:HZ2	7:AE:237:LYS:HA	1.62	0.64
8:AF:166:ARG:CB	8:AF:209:TRP:CE3	2.72	0.64
13:AK:77:LYS:O	13:AK:81:HIS:N	2.30	0.64
19:AQ:18:PRO:O	19:AQ:20:SER:N	2.30	0.64
22:AT:56:CYS:CB	22:AT:78:LYS:HZ2	2.08	0.64
50:BA:33:GLN:HB3	50:BA:154:LEU:HD12	1.78	0.64
51:BB:177:GLN:OE1	51:BB:177:GLN:HA	1.96	0.64
54:BE:98:HIS:CB	54:BE:114:ILE:CG2	2.67	0.64
56:BG:141:ILE:HG22	56:BG:153:VAL:HG21	1.77	0.64
59:BJ:155:LYS:O	59:BJ:157:ILE:HG12	1.97	0.64
59:BJ:162:ARG:HB3	59:BJ:164:PRO:HD2	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:BO:44:VAL:HG21	64:BO:81:VAL:CG1	2.26	0.64
65:BP:34:MET:HG3	65:BP:45:LEU:HD22	1.79	0.64
67:BR:71:ILE:HG12	67:BR:74:GLN:CG	2.27	0.64
48:A2:1258:G:O3'	48:A2:1259:C:H6	1.79	0.64
9:AG:141:ASN:ND2	48:A2:149:U:C5	2.65	0.64
48:A2:1756:C:H2'	48:A2:1757:A:C8	2.31	0.64
3:AA:46:LYS:O	48:A2:4090:G:N2	2.30	0.64
5:AC:156:ASP:O	5:AC:159:GLU:HG2	1.97	0.64
5:AC:196:MET:SD	48:A2:346:G:C6	2.90	0.64
5:AC:211:TYR:HE1	5:AC:229:LEU:CA	2.10	0.64
8:AF:161:LYS:O	8:AF:161:LYS:HD3	1.97	0.64
10:AH:64:ARG:HG2	10:AH:64:ARG:NH1	2.12	0.64
12:AJ:66:GLU:O	12:AJ:68:ILE:HG13	1.97	0.64
19:AQ:164:LYS:HB2	48:A2:1479:A:C1'	2.26	0.64
25:AW:50:ASN:CB	48:A2:4964:U:C5	2.81	0.64
26:AX:127:LEU:HB3	48:A2:2416:C:H5'	1.79	0.64
49:B1:839:C:H1'	49:B1:841:G:H1'	1.79	0.64
51:BB:71:LEU:HG	51:BB:84:PHE:CE2	2.22	0.64
59:BJ:103:GLU:CD	59:BJ:103:GLU:H	2.01	0.64
59:BJ:29:LEU:CD2	59:BJ:40:LYS:CE	2.76	0.64
64:BO:56:VAL:HG11	64:BO:77:ALA:HA	1.78	0.64
71:BV:41:LYS:HD2	71:BV:41:LYS:N	2.03	0.64
75:BZ:62:VAL:HG12	75:BZ:63:PRO:HD3	1.80	0.64
6:AD:286:SER:CA	48:A2:1163:C:H5''	2.27	0.64
48:A2:1252:G:H3'	48:A2:1253:A:H8	1.63	0.64
48:A2:4714:U:C5'	48:A2:4714:U:H6	2.10	0.64
7:AE:165:LEU:HD12	7:AE:174:LEU:HD22	1.78	0.64
7:AE:274:VAL:O	48:A2:4839:U:C1'	2.34	0.64
8:AF:184:ILE:CA	8:AF:189:ASP:CB	2.72	0.64
13:AK:32:ALA:O	13:AK:85:ASN:HB3	1.97	0.64
16:AN:93:LYS:HD2	48:A2:294:A:C2	2.28	0.64
19:AQ:164:LYS:HB2	48:A2:1479:A:C4'	2.26	0.64
49:B1:1751:C:O2	49:B1:1782:G:N2	2.31	0.64
49:B1:872:A:H8	49:B1:874:G:N3	1.94	0.64
51:BB:33:VAL:HG22	51:BB:96:CYS:SG	2.37	0.64
58:BI:139:LYS:HB3	58:BI:144:LYS:HB2	1.79	0.64
59:BJ:172:ARG:O	59:BJ:175:ARG:N	2.31	0.64
49:B1:918:U:OP1	63:BN:64:ARG:NH2	2.29	0.64
68:BS:77:TYR:O	68:BS:78:LYS:HB2	1.96	0.64
70:BU:22:ILE:HD12	70:BU:22:ILE:H	1.62	0.64
48:A2:1224:C:H3'	48:A2:1225:G:H21	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1337:A:C8	48:A2:1485:A:C6	2.85	0.64
22:AT:109:VAL:CG1	48:A2:1785:G:O6	2.28	0.64
48:A2:2590:A:H5'	48:A2:2667:G:H4'	1.80	0.64
48:A2:701:G:H2'	48:A2:702:A:C8	2.33	0.64
4:AB:258:HIS:HB2	48:A2:4479:A:O2'	1.98	0.64
8:AF:148:LYS:HG3	48:A2:930:A:H3'	1.78	0.64
8:AF:166:ARG:HH11	8:AF:166:ARG:CG	2.11	0.64
1:A3:150:C:N4	9:AG:65:ARG:HH12	1.96	0.64
28:AZ:32:GLY:HA2	28:AZ:37:PRO:HA	1.78	0.64
49:B1:1567:G:C2	68:BS:82:TRP:CZ3	2.86	0.64
49:B1:330:G:H5''	56:BG:189:ARG:HH11	1.62	0.64
49:B1:826:A:H4'	59:BJ:10:ARG:HB3	1.79	0.64
52:BC:74:LYS:HD2	52:BC:269:PHE:CE1	2.31	0.64
49:B1:1483:A:C5'	53:BD:159:HIS:O	2.45	0.64
49:B1:157:U:H4'	56:BG:58:LYS:O	1.93	0.64
59:BJ:87:LEU:CD2	59:BJ:96:TYR:HE2	2.11	0.64
60:BK:57:TYR:CD2	60:BK:78:TYR:HB3	2.33	0.64
63:BN:34:LYS:O	63:BN:37:ILE:CG2	2.44	0.64
64:BO:34:PHE:HZ	64:BO:100:THR:CG2	2.10	0.64
49:B1:1665:G:OP1	69:BT:89:PRO:HD2	1.97	0.64
48:A2:137:G:H5''	48:A2:137:G:H8	1.61	0.64
48:A2:1739:U:H2'	48:A2:1740:G:O4'	1.98	0.64
23:AU:81:ARG:NH2	48:A2:2600:A:C8	2.66	0.64
48:A2:460:A:H2'	48:A2:461:U:O4'	1.97	0.64
15:AM:91:TRP:CZ2	48:A2:4827:U:C2'	2.81	0.64
15:AM:44:GLN:O	48:A2:922:A:H2	1.79	0.64
4:AB:50:LYS:HB2	4:AB:345:LEU:HD11	1.80	0.64
6:AD:10:LYS:O	6:AD:10:LYS:HE3	1.97	0.64
22:AT:39:ILE:HD12	22:AT:102:ARG:HD2	1.78	0.64
51:BB:70:SER:HA	51:BB:84:PHE:N	2.13	0.64
54:BE:91:SER:HA	54:BE:92:ILE:HD12	1.79	0.64
54:BE:95:THR:HG22	54:BE:97:GLU:HG3	1.78	0.64
58:BI:52:ASN:N	58:BI:52:ASN:OD1	2.31	0.64
59:BJ:136:ARG:HH11	59:BJ:160:SER:HB2	1.61	0.64
65:BP:47:ARG:C	65:BP:49:LEU:CD2	2.66	0.64
65:BP:84:ILE:HA	65:BP:115:TYR:HA	0.75	0.64
50:BA:201:LEU:HD23	67:BR:85:VAL:HG22	1.78	0.64
68:BS:44:VAL:CB	68:BS:71:MET:SD	2.86	0.64
48:A2:1740:G:O6	48:A2:1756:C:N3	2.31	0.64
48:A2:2853:U:H4'	48:A2:2854:C:OP2	1.97	0.64
8:AF:209:TRP:CD1	8:AF:210:PRO:HD2	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:58:ASN:HD21	13:AK:86:VAL:HB	1.62	0.64
49:B1:797:C:H5'	57:BH:109:ARG:NH2	2.11	0.64
54:BE:98:HIS:HB3	54:BE:114:ILE:HG22	1.74	0.64
58:BI:64:ASN:HB3	58:BI:186:ASP:OD1	1.97	0.64
49:B1:527:C:H5''	59:BJ:125:HIS:HA	1.77	0.64
64:BO:42:VAL:HG13	64:BO:81:VAL:HG21	1.78	0.64
67:BR:3:ARG:O	67:BR:4:VAL:HG22	1.97	0.64
49:B1:1450:G:H3'	67:BR:44:LYS:HZ1	1.62	0.64
52:BC:256:TRP:CZ2	72:BW:68:ARG:CB	2.81	0.64
7:AE:128:HIS:NE2	48:A2:1265:G:P	2.71	0.64
48:A2:1807:A:H2'	48:A2:1808:G:H8	1.62	0.64
48:A2:2825:G:H8	48:A2:2825:G:H5''	1.62	0.64
4:AB:20:LYS:HG3	48:A2:4530:A:P	2.38	0.64
48:A2:681:A:C6	48:A2:682:U:C4	2.85	0.64
48:A2:682:U:O2'	48:A2:683:U:H5'	1.97	0.64
7:AE:110:ARG:HG3	7:AE:110:ARG:HH11	1.63	0.64
7:AE:261:ILE:HA	7:AE:267:LEU:HD23	1.78	0.64
2:A4:95:C:C4'	8:AF:229:GLU:CG	2.76	0.64
13:AK:57:LYS:O	13:AK:61:MET:N	2.30	0.64
13:AK:58:ASN:CA	13:AK:61:MET:HB2	2.18	0.64
14:AL:165:LYS:HE2	48:A2:505:C:P	2.36	0.64
14:AL:94:ILE:HG23	14:AL:124:LEU:HD22	1.80	0.64
20:AR:146:LYS:HB3	20:AR:146:LYS:NZ	2.13	0.64
20:AR:99:MET:HG2	20:AR:103:ARG:HD2	1.80	0.64
26:AX:55:ARG:HH11	26:AX:55:ARG:CA	2.09	0.64
28:AZ:26:VAL:CG1	28:AZ:91:LEU:CD2	2.76	0.64
49:B1:38:A:OP1	59:BJ:5:ARG:HB3	1.98	0.64
58:BI:34:ALA:CB	58:BI:56:ARG:HD3	2.26	0.64
48:A2:1192:U:OP2	48:A2:1192:U:H2'	1.97	0.64
48:A2:132:G:C6	48:A2:135:G:C2	2.86	0.64
17:AO:63:ASN:HD21	48:A2:2026:G:P	2.21	0.64
48:A2:2745:A:H5''	48:A2:2745:A:H8	1.62	0.64
6:AD:160:PHE:HE1	48:A2:4285:A:H1'	1.62	0.64
48:A2:4331:A:O2'	48:A2:4332:G:H5'	1.96	0.64
48:A2:4882:C:C6	48:A2:4882:C:OP2	2.51	0.64
48:A2:677:G:H8	48:A2:677:G:H5''	1.60	0.64
14:AL:59:VAL:HG12	48:A2:74:G:H5'	1.73	0.64
2:A4:43:U:C5'	12:AJ:143:ASP:HB3	2.28	0.64
5:AC:94:ASN:O	5:AC:96:CYS:N	2.31	0.64
6:AD:232:THR:HG23	6:AD:235:MET:HG3	1.79	0.64
15:AM:79:LYS:HD2	15:AM:79:LYS:C	2.17	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1278:A:OP1	60:BK:55:ARG:CZ	2.46	0.64
56:BG:215:LYS:O	56:BG:219:GLU:HG2	1.97	0.64
49:B1:744:G:N2	57:BH:109:ARG:CG	2.56	0.64
48:A2:4981:C:H5'	58:BI:124:LYS:HZ1	1.63	0.64
59:BJ:35:TYR:CE1	59:BJ:106:LEU:CB	2.81	0.64
62:BM:56:CYS:SG	62:BM:61:TYR:CD2	2.88	0.64
66:BQ:58:LEU:CD2	66:BQ:108:ILE:HD11	2.27	0.64
3:AA:182:ALA:HB2	48:A2:3623:A:O2'	1.97	0.64
16:AN:194:ARG:CZ	48:A2:79:C:OP2	2.46	0.64
48:A2:900:U:O2'	48:A2:901:U:C4'	2.46	0.64
8:AF:73:ARG:HG2	48:A2:718:C:OP1	1.98	0.64
11:AI:185:VAL:HG12	11:AI:190:LEU:HD12	1.79	0.64
13:AK:104:ALA:C	13:AK:106:LYS:H	2.00	0.64
17:AO:42:ASN:ND2	17:AO:125:LYS:HD2	2.12	0.64
24:AV:45:ILE:O	24:AV:46:LYS:HD3	1.98	0.64
49:B1:168:C:H5'	56:BG:131:ARG:CB	2.28	0.64
49:B1:837:A:O5'	49:B1:837:A:H8	1.81	0.64
61:BL:153:LYS:O	61:BL:155:PHE:CE2	2.51	0.64
62:BM:91:LEU:O	62:BM:104:VAL:HG22	1.97	0.64
63:BN:63:VAL:HG21	63:BN:71:ILE:HG23	1.79	0.64
67:BR:17:ILE:HD12	67:BR:17:ILE:C	2.18	0.64
52:BC:256:TRP:CZ3	72:BW:66:THR:HG21	2.32	0.64
48:A2:1226:C:H6	48:A2:1226:C:P	2.21	0.64
48:A2:191:C:H5''	48:A2:191:C:H6	1.60	0.64
48:A2:1945:A:P	48:A2:1945:A:H8	2.21	0.64
48:A2:1948:A:N6	48:A2:1949:G:O6	2.31	0.64
18:AP:139:TYR:CE1	48:A2:3830:G:H4'	2.32	0.64
1:A3:81:C:OP1	1:A3:82:A:O4'	2.16	0.64
4:AB:224:LYS:HG2	4:AB:340:THR:CG2	2.28	0.64
4:AB:393:LYS:HD2	48:A2:5000:A:H4'	1.80	0.64
8:AF:184:ILE:HA	8:AF:189:ASP:HB3	1.78	0.64
9:AG:163:PRO:CG	48:A2:148:G:N2	2.61	0.64
9:AG:244:PRO:CG	48:A2:4124:C:O2'	2.45	0.64
15:AM:19:PRO:HG3	48:A2:923:C:O2	1.98	0.64
19:AQ:12:LYS:O	19:AQ:13:VAL:HG13	1.97	0.64
23:AU:56:LEU:CD2	23:AU:61:VAL:CG2	2.52	0.64
27:AY:45:ARG:HH21	48:A2:234:G:H5''	1.59	0.64
49:B1:103:A:H5'	58:BI:12:ARG:HH11	1.58	0.64
49:B1:1110:G:O2'	67:BR:122:PRO:HB3	1.98	0.64
49:B1:625:G:O6	73:BX:63:ASN:HB3	1.99	0.64
54:BE:149:TYR:CB	56:BG:209:TYR:CD2	2.73	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:330:G:H5''	56:BG:189:ARG:NH1	2.13	0.64
56:BG:69:THR:HG22	56:BG:71:GLY:H	1.61	0.64
49:B1:560:A:C2'	59:BJ:171:GLY:CA	2.75	0.64
63:BN:26:LEU:HD11	63:BN:28:LEU:HB2	1.80	0.64
68:BS:67:VAL:O	68:BS:71:MET:HG2	1.98	0.64
49:B1:617:G:C4'	73:BX:88:ASP:OD1	2.39	0.64
48:A2:141:G:C6	48:A2:142:G:N7	2.66	0.63
48:A2:1973:U:OP2	48:A2:1973:U:H2'	1.98	0.63
16:AN:86:HIS:CG	48:A2:33:A:OP2	2.50	0.63
48:A2:425:G:H4'	48:A2:425:G:OP2	1.97	0.63
48:A2:4452:C:OP2	86:A2:5240:MG:MG	1.40	0.63
48:A2:4547:U:H6	48:A2:4547:U:O5'	1.80	0.63
1:A3:82:A:H2'	1:A3:83:C:H5'	1.78	0.63
2:A4:107:G:H5''	6:AD:273:LEU:CD2	2.27	0.63
3:AA:9:ARG:HD3	48:A2:1610:C:OP2	1.97	0.63
5:AC:212:ASN:HD21	5:AC:255:SER:C	2.01	0.63
9:AG:166:LEU:HA	16:AN:7:ILE:CD1	2.28	0.63
14:AL:51:ALA:O	14:AL:52:SER:OG	2.12	0.63
16:AN:14:LYS:HD2	48:A2:274:G:C5	2.33	0.63
23:AU:34:MET:HE2	23:AU:35:ASP:H	1.62	0.63
28:AZ:30:ASP:CG	28:AZ:31:ASP:OD1	2.37	0.63
49:B1:1159:G:OP1	72:BW:76:SER:HB3	1.99	0.63
49:B1:331:C:H3'	49:B1:332:G:H5''	1.80	0.63
49:B1:745:C:O2	57:BH:109:ARG:CD	2.46	0.63
50:BA:205:ARG:NH2	67:BR:86:PRO:CG	2.61	0.63
51:BB:182:LYS:HE3	51:BB:231:LEU:CD1	2.11	0.63
56:BG:142:ARG:HA	56:BG:147:LEU:HD11	1.80	0.63
58:BI:190:LEU:HD22	58:BI:194:GLU:HB3	1.79	0.63
64:BO:141:ARG:HG3	64:BO:142:ARG:H	1.61	0.63
13:AK:44:ARG:HD2	48:A2:1978:U:O5'	1.98	0.63
8:AF:165:LYS:CB	48:A2:2254:G:O2'	2.46	0.63
48:A2:64:A:H4'	48:A2:65:A:O5'	1.99	0.63
3:AA:68:ARG:NH2	48:A2:4054:G:C5	2.65	0.63
7:AE:113:PRO:HA	48:A2:453:C:OP1	1.98	0.63
14:AL:78:LEU:CD1	48:A2:157:G:H4'	2.28	0.63
26:AX:116:LEU:HB3	26:AX:117:TYR:CE1	2.33	0.63
27:AY:55:VAL:N	27:AY:68:GLY:O	2.20	0.63
49:B1:1402:A:O5'	70:BU:51:LYS:HD3	1.99	0.63
49:B1:620:G:N3	49:B1:620:G:H2'	2.11	0.63
49:B1:689:U:N1	49:B1:742:U:N3	2.33	0.63
49:B1:75:G:N2	49:B1:77:A:OP1	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BE:11:ARG:HD3	54:BE:28:ALA:HB2	1.80	0.63
58:BI:104:ILE:HD11	58:BI:173:ALA:CB	2.28	0.63
59:BJ:130:ILE:HG13	59:BJ:131:ARG:H	1.63	0.63
49:B1:1315:U:H4'	60:BK:1:MET:HB3	1.79	0.63
62:BM:35:ILE:CG1	62:BM:61:TYR:HE1	2.01	0.63
63:BN:20:ARG:O	63:BN:21:SER:OG	2.14	0.63
66:BQ:58:LEU:HD22	66:BQ:108:ILE:CD1	2.27	0.63
66:BQ:40:GLU:O	66:BQ:48:GLN:NE2	2.31	0.63
67:BR:5:ARG:HB2	67:BR:10:LYS:HE2	1.80	0.63
68:BS:23:ARG:HD3	68:BS:23:ARG:H	1.63	0.63
48:A2:1166:C:H2'	48:A2:1167:A:C8	2.33	0.63
13:AK:53:VAL:HB	48:A2:1978:U:C5'	2.28	0.63
16:AN:108:ARG:NH1	48:A2:2440:G:H4'	2.13	0.63
48:A2:508:U:C6	48:A2:508:U:P	2.91	0.63
4:AB:108:GLU:HB2	4:AB:137:TRP:CE3	2.32	0.63
11:AI:34:PHE:CD2	48:A2:1730:U:H4'	2.33	0.63
13:AK:55:MET:HE1	13:AK:61:MET:CE	2.27	0.63
14:AL:129:ARG:HH11	14:AL:129:ARG:N	1.95	0.63
20:AR:22:VAL:O	20:AR:23:TRP:HB2	1.98	0.63
49:B1:1223:A:H2'	49:B1:1224:G:O4'	1.99	0.63
49:B1:75:G:O6	56:BG:171:THR:HB	1.98	0.63
53:BD:76:ARG:HD3	60:BK:68:TYR:HH	1.64	0.63
49:B1:560:A:H2'	59:BJ:171:GLY:C	2.18	0.63
61:BL:80:MET:CE	61:BL:121:GLN:HA	2.28	0.63
49:B1:1387:G:H22	67:BR:8:THR:HG21	1.64	0.63
67:BR:94:GLU:C	67:BR:95:ILE:HD12	2.18	0.63
55:BF:167:LYS:NZ	75:BZ:75:GLU:CD	2.50	0.63
48:A2:1162:U:O2'	48:A2:1163:C:OP1	2.15	0.63
48:A2:1943:A:H2	48:A2:2007:A:N3	1.96	0.63
48:A2:3711:G:O2'	48:A2:3712:C:H5'	1.98	0.63
21:AS:74:ARG:CZ	48:A2:909:C:H5'	2.28	0.63
1:A3:145:C:H2'	1:A3:146:U:C6	2.33	0.63
3:AA:13:GLY:O	3:AA:17:ARG:HG3	1.98	0.63
4:AB:393:LYS:NZ	48:A2:5000:A:H4'	2.13	0.63
5:AC:83:GLY:HA3	48:A2:362:C:O4'	1.98	0.63
6:AD:290:ALA:O	6:AD:293:ARG:N	2.32	0.63
7:AE:147:GLY:CA	7:AE:203:ILE:CG2	2.76	0.63
10:AH:44:GLU:CD	15:AM:2:VAL:HB	2.18	0.63
14:AL:126:LEU:HG	14:AL:135:LYS:O	1.98	0.63
51:BB:48:LEU:HB2	64:BO:51:GLU:HG3	1.80	0.63
49:B1:616:A:OP1	73:BX:66:ILE:HB	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:823:U:C6	74:BY:64:PHE:CE1	2.86	0.63
48:A2:1755:U:O4	48:A2:1756:C:N4	2.31	0.63
48:A2:2067:G:C2	48:A2:2247:A:C2	2.86	0.63
48:A2:901:U:H3'	48:A2:902:A:N7	2.12	0.63
1:A3:124:U:H3'	1:A3:124:U:OP1	1.97	0.63
5:AC:211:TYR:OH	5:AC:229:LEU:HA	1.97	0.63
5:AC:239:LYS:NZ	48:A2:1353:G:H22	1.96	0.63
6:AD:264:LYS:O	6:AD:265:ARG:HG3	1.99	0.63
7:AE:147:GLY:N	7:AE:203:ILE:HG21	2.12	0.63
15:AM:128:LYS:O	15:AM:131:GLN:HG2	1.99	0.63
16:AN:71:ARG:HD2	16:AN:94:PHE:CB	2.20	0.63
49:B1:1287:A:OP2	49:B1:1312:G:C2	2.51	0.63
49:B1:552:G:H3'	49:B1:553:U:H5''	1.81	0.63
49:B1:560:A:OP2	59:BJ:172:ARG:HB3	1.98	0.63
49:B1:695:C:H2'	49:B1:696:G:C8	2.34	0.63
49:B1:792:C:C5'	49:B1:792:C:C6	2.82	0.63
50:BA:42:LYS:HE3	50:BA:48:ILE:HD11	1.79	0.63
54:BE:52:LEU:HB3	54:BE:54:TYR:CD1	2.33	0.63
55:BF:19:LEU:HB2	55:BF:23:TRP:O	1.97	0.63
59:BJ:105:PHE:O	59:BJ:108:ARG:N	2.26	0.63
67:BR:21:TYR:CD2	67:BR:71:ILE:CB	2.82	0.63
49:B1:407:G:N1	73:BX:36:LEU:CD2	2.61	0.63
48:A2:2064:C:C5'	48:A2:2064:C:H6	2.11	0.63
48:A2:2287:A:H4'	48:A2:2313:C:H4'	1.80	0.63
48:A2:85:G:H4'	48:A2:86:U:O5'	1.98	0.63
3:AA:226:ARG:HH11	3:AA:226:ARG:HG2	1.64	0.63
6:AD:201:GLY:O	6:AD:204:VAL:HG22	1.98	0.63
6:AD:214:GLU:OE1	6:AD:214:GLU:HA	1.98	0.63
7:AE:240:TYR:HE1	48:A2:4897:C:O4'	1.82	0.63
7:AE:96:VAL:HA	7:AE:107:VAL:HG12	1.81	0.63
8:AF:162:ILE:HD12	8:AF:162:ILE:N	2.13	0.63
8:AF:179:LEU:HD21	8:AF:184:ILE:HD11	1.77	0.63
13:AK:52:VAL:CG1	13:AK:90:PHE:N	2.59	0.63
14:AL:128:PRO:HB2	14:AL:130:LYS:O	1.98	0.63
15:AM:96:GLU:OE1	15:AM:96:GLU:HA	1.98	0.63
27:AY:42:TYR:CB	27:AY:44:VAL:HG12	2.26	0.63
51:BB:39:PHE:HE1	51:BB:75:GLN:HE22	1.44	0.63
52:BC:256:TRP:CZ3	72:BW:66:THR:CG2	2.82	0.63
54:BE:98:HIS:HD1	54:BE:119:ALA:HB2	1.64	0.63
55:BF:109:LEU:O	55:BF:112:LEU:N	2.31	0.63
58:BI:193:LYS:NZ	61:BL:12:LYS:O	2.26	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BM:35:ILE:CD1	62:BM:61:TYR:CD1	2.75	0.63
67:BR:125:GLY:O	67:BR:126:MET:HB3	1.97	0.63
67:BR:84:TYR:CD2	67:BR:86:PRO:HD3	2.33	0.63
68:BS:86:ARG:HG3	68:BS:90:VAL:CG2	2.29	0.63
48:A2:1165:C:H4'	48:A2:1166:C:O5'	1.97	0.63
48:A2:191:C:C6	48:A2:191:C:C5'	2.80	0.63
48:A2:1945:A:C8	48:A2:1945:A:P	2.92	0.63
11:AI:6:ALA:HB3	48:A2:4394:C:OP2	1.99	0.63
48:A2:4854:G:H3'	48:A2:4855:G:C8	2.33	0.63
3:AA:9:ARG:CD	48:A2:2323:U:H3	67.77	0.63
7:AE:100:LYS:HB2	48:A2:678:C:H4'	1.81	0.63
8:AF:182:TYR:HE2	8:AF:203:GLU:HB2	1.62	0.63
14:AL:177:LYS:O	14:AL:178:ALA:C	2.37	0.63
22:AT:4:THR:HG23	48:A2:4169:C:H6	1.62	0.63
26:AX:55:ARG:HH11	26:AX:55:ARG:HG3	1.63	0.63
49:B1:1284:A:H5'	49:B1:1285:G:H4'	1.80	0.63
49:B1:76:U:H6	49:B1:76:U:O5'	1.82	0.63
49:B1:875:A:C6	49:B1:912:C:N3	2.65	0.63
49:B1:913:A:N3	57:BH:66:VAL:HG11	2.14	0.63
49:B1:918:U:O2	49:B1:918:U:O5'	2.16	0.63
50:BA:130:ASP:O	50:BA:133:PRO:HD2	1.97	0.63
50:BA:38:ILE:HD11	50:BA:47:TYR:CA	2.19	0.63
51:BB:181:LEU:C	51:BB:184:VAL:HG23	2.19	0.63
51:BB:79:VAL:HG21	51:BB:82:ARG:HD2	1.75	0.63
53:BD:17:PHE:HE2	53:BD:77:PHE:CD1	2.16	0.63
54:BE:124:CYS:HB2	54:BE:141:THR:CG2	2.29	0.63
57:BH:105:THR:OG1	57:BH:108:SER:HB3	1.98	0.63
48:A2:1166:C:H2'	48:A2:1167:A:H8	1.64	0.63
19:AQ:72:LEU:HD13	48:A2:1439:G:OP1	1.99	0.63
48:A2:1943:A:OP2	48:A2:1943:A:H3'	1.99	0.63
16:AN:108:ARG:CZ	48:A2:2440:G:H5''	2.28	0.63
48:A2:345:C:O2'	48:A2:346:G:H5'	1.98	0.63
48:A2:4946:U:H4'	48:A2:4947:U:OP1	1.98	0.63
4:AB:99:LEU:HD22	4:AB:158:GLN:HE22	1.62	0.63
7:AE:105:ARG:CZ	48:A2:680:C:C1'	2.76	0.63
7:AE:233:PHE:CD2	7:AE:236:GLU:CD	2.72	0.63
14:AL:160:VAL:HG21	48:A2:638:G:OP1	1.99	0.63
14:AL:47:ALA:HB1	14:AL:48:PRO:CD	2.24	0.63
27:AY:55:VAL:CG2	27:AY:70:VAL:CG1	2.76	0.63
49:B1:1203:G:H1'	52:BC:115:GLN:HG2	1.80	0.63
49:B1:1648:G:O2'	49:B1:1649:U:OP2	2.15	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BA:172:GLY:CA	50:BA:202:TYR:HB3	2.28	0.63
50:BA:59:LEU:HD21	50:BA:63:ARG:NH2	2.14	0.63
51:BB:131:ASP:OD2	51:BB:181:LEU:HD13	1.99	0.63
51:BB:182:LYS:HG2	51:BB:231:LEU:HD11	1.80	0.63
58:BI:56:ARG:HH11	58:BI:56:ARG:CG	2.11	0.63
53:BD:72:VAL:CG1	60:BK:68:TYR:HD1	2.11	0.63
67:BR:114:LEU:O	67:BR:115:SER:HB2	1.99	0.63
70:BU:48:LEU:HD22	70:BU:93:SER:HG	1.64	0.63
48:A2:1258:G:C4	48:A2:1259:C:C4	2.87	0.63
48:A2:3681:G:C2'	48:A2:3683:A:C8	2.82	0.63
48:A2:4544:C:C2'	48:A2:4545:C:C5'	2.70	0.63
2:A4:33:U:C6	6:AD:207:TYR:HE1	2.08	0.63
8:AF:161:LYS:CB	8:AF:209:TRP:HE3	2.12	0.63
8:AF:70:ARG:HA	8:AF:73:ARG:HD2	1.81	0.63
9:AG:105:GLU:OE1	9:AG:113:ARG:CZ	2.47	0.63
12:AJ:80:GLU:HA	12:AJ:80:GLU:OE1	4.60	0.63
19:AQ:98:LEU:HD11	19:AQ:100:VAL:CG2	2.29	0.63
19:AQ:167:VAL:HG23	19:AQ:175:GLU:OE2	1.99	0.63
20:AR:60:ARG:CG	20:AR:63:CYS:HB3	2.28	0.63
49:B1:1285:G:O6	62:BM:56:CYS:CA	2.31	0.63
49:B1:546:G:H4'	49:B1:547:G:OP2	1.97	0.63
50:BA:201:LEU:HD23	50:BA:201:LEU:H	1.63	0.63
51:BB:71:LEU:HD21	51:BB:75:GLN:CD	2.19	0.63
54:BE:102:VAL:O	54:BE:109:PHE:HD1	1.82	0.63
54:BE:98:HIS:HB2	54:BE:114:ILE:O	1.99	0.63
48:A2:4982:C:O3'	58:BI:169:GLY:HA3	1.97	0.63
63:BN:75:LEU:C	63:BN:75:LEU:HD13	2.19	0.63
64:BO:44:VAL:HG23	64:BO:81:VAL:CG1	2.28	0.63
65:BP:30:TYR:HA	65:BP:33:LEU:HD21	1.80	0.63
65:BP:85:ILE:HD12	65:BP:116:LEU:HG	1.79	0.63
67:BR:95:ILE:C	67:BR:96:ILE:HD12	2.18	0.63
17:AO:63:ASN:OD1	48:A2:2025:U:O3'	2.17	0.62
12:AJ:134:LEU:HD11	12:AJ:162:ALA:HA	1.81	0.62
13:AK:57:LYS:HD2	13:AK:60:MET:SD	2.39	0.62
19:AQ:12:LYS:HD3	19:AQ:14:ARG:CD	2.30	0.62
49:B1:331:C:OP2	49:B1:331:C:H3'	1.99	0.62
49:B1:491:C:OP2	74:BY:104:ARG:HD3	2.00	0.62
50:BA:169:HIS:HD2	50:BA:203:PHE:CE2	2.16	0.62
55:BF:23:TRP:HE1	55:BF:108:PRO:CG	1.89	0.62
49:B1:78:C:H4'	56:BG:175:LYS:CG	2.28	0.62
57:BH:117:PRO:HB2	57:BH:120:ARG:HG2	1.79	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BI:155:ASN:HB3	61:BL:23:VAL:O	1.98	0.62
60:BK:76:ILE:HA	60:BK:79:LEU:HD12	1.80	0.62
61:BL:96:ILE:HD12	73:BX:10:ALA:HB1	1.80	0.62
48:A2:4252:U:H4'	48:A2:4253:G:OP1	1.99	0.62
4:AB:375:GLY:HA2	48:A2:4626:A:H5''	1.79	0.62
6:AD:110:LEU:HB3	6:AD:115:MET:O	1.98	0.62
9:AG:150:LYS:HE3	9:AG:177:MET:HE3	1.80	0.62
13:AK:52:VAL:HB	13:AK:89:VAL:C	2.20	0.62
20:AR:172:ARG:HB2	49:B1:909:G:OP1	1.99	0.62
22:AT:56:CYS:HB3	22:AT:78:LYS:CE	2.29	0.62
25:AW:72:THR:HB	49:B1:1783:C:C4	2.35	0.62
49:B1:1125:C:H5'	67:BR:123:THR:HG22	1.80	0.62
49:B1:1630:A:P	68:BS:37:GLY:HA3	2.38	0.62
49:B1:496:C:H5'	54:BE:29:PRO:CA	2.28	0.62
49:B1:582:U:C4'	74:BY:32:LYS:N	2.62	0.62
49:B1:991:G:H3'	49:B1:991:G:N3	2.14	0.62
50:BA:41:ARG:HB2	50:BA:47:TYR:CD1	2.33	0.62
51:BB:183:GLU:O	51:BB:187:LYS:HE3	2.00	0.62
51:BB:25:PHE:CG	64:BO:88:LEU:HD11	2.34	0.62
55:BF:41:VAL:HG22	55:BF:41:VAL:O	1.99	0.62
49:B1:64:A:H2'	56:BG:175:LYS:HZ2	1.62	0.62
59:BJ:162:ARG:C	59:BJ:164:PRO:HD2	2.18	0.62
59:BJ:50:LEU:HD11	59:BJ:105:PHE:CE2	2.14	0.62
62:BM:32:ALA:HB1	62:BM:37:GLU:HG3	1.81	0.62
73:BX:112:VAL:HB	73:BX:115:ILE:HD13	1.81	0.62
75:BZ:69:THR:HG1	75:BZ:72:VAL:CB	2.07	0.62
48:A2:1263:C:O2'	48:A2:1265:G:N7	2.31	0.62
48:A2:287:G:N2	48:A2:309:G:N2	2.47	0.62
48:A2:508:U:H6	48:A2:508:U:OP2	1.82	0.62
7:AE:100:LYS:CE	48:A2:679:G:OP2	2.47	0.62
48:A2:901:U:H2'	48:A2:902:A:N9	2.15	0.62
5:AC:76:ILE:HG22	5:AC:91:ALA:HB3	1.79	0.62
13:AK:14:PHE:CG	48:A2:1941:A:N1	2.67	0.62
8:AF:116:GLN:HB3	19:AQ:3:VAL:O	1.98	0.62
19:AQ:97:LYS:O	19:AQ:98:LEU:O	2.16	0.62
27:AY:67:ILE:HG13	27:AY:67:ILE:O	2.00	0.62
49:B1:1544:C:H4'	66:BQ:80:GLN:HE22	1.64	0.62
49:B1:1783:C:H4'	49:B1:1784:G:O5'	1.99	0.62
49:B1:952:G:H1'	64:BO:50:LYS:O	1.99	0.62
50:BA:42:LYS:HZ2	50:BA:46:ILE:HG21	1.64	0.62
56:BG:137:ARG:HG3	56:BG:178:ARG:HG3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BJ:130:ILE:HD12	59:BJ:145:PRO:HA	1.81	0.62
65:BP:30:TYR:HA	65:BP:33:LEU:CD2	2.29	0.62
65:BP:34:MET:HE2	65:BP:42:ARG:HA	1.79	0.62
69:BT:114:GLU:O	69:BT:122:LYS:HG2	2.00	0.62
49:B1:1415:C:H5''	69:BT:129:ARG:HG3	1.81	0.62
69:BT:41:LYS:HD3	69:BT:43:LYS:HE2	1.82	0.62
48:A2:1224:C:H5'	48:A2:1225:G:H21	1.64	0.62
48:A2:1741:G:N2	48:A2:1742:G:H1'	2.14	0.62
48:A2:1743:G:H1	48:A2:1753:U:H3	1.46	0.62
48:A2:2738:G:N3	48:A2:2738:G:H3'	2.14	0.62
48:A2:4546:A:C6	48:A2:4681:G:N7	2.67	0.62
48:A2:732:C:H2'	48:A2:733:G:C8	2.33	0.62
5:AC:201:ARG:O	5:AC:202:ILE:HD12	2.00	0.62
10:AH:31:ARG:HB3	10:AH:84:VAL:O	1.99	0.62
14:AL:125:ILE:HG13	14:AL:144:LEU:HD13	1.80	0.62
14:AL:144:LEU:HG	14:AL:144:LEU:O	1.99	0.62
25:AW:76:VAL:CG2	25:AW:77:LYS:H	2.12	0.62
49:B1:1295:A:H2'	49:B1:1296:U:H5'	1.82	0.62
49:B1:1584:G:O4'	49:B1:1586:U:H5'	1.99	0.62
49:B1:1651:A:H1'	55:BF:83:ASN:HD21	1.65	0.62
49:B1:805:U:C5'	49:B1:805:U:H6	2.11	0.62
49:B1:874:G:O6	49:B1:914:U:C2	2.51	0.62
49:B1:986:G:C2'	49:B1:987:A:H5'	2.29	0.62
50:BA:39:TYR:CG	67:BR:105:MET:SD	2.91	0.62
50:BA:91:ALA:HB1	50:BA:98:PRO:HD3	1.78	0.62
51:BB:89:GLU:HB3	51:BB:228:LEU:HD22	1.82	0.62
54:BE:212:ASP:OD1	54:BE:216:ASN:HB2	1.99	0.62
54:BE:92:ILE:HG22	54:BE:95:THR:OG1	1.98	0.62
25:AW:80:ARG:NH2	56:BG:128:THR:HB	2.14	0.62
60:BK:3:MET:HB3	60:BK:44:HIS:CE1	2.34	0.62
48:A2:1256:G:H2'	48:A2:1257:A:C4	2.34	0.62
48:A2:1307:A:O2'	48:A2:1308:C:H3'	1.98	0.62
20:AR:59:SER:HA	48:A2:2613:C:H5''	1.81	0.62
48:A2:2854:C:H5'	48:A2:2855:G:C5	2.35	0.62
17:AO:140:ARG:HH22	48:A2:4643:A:H4'	1.63	0.62
48:A2:949:C:OP1	48:A2:949:C:H4'	1.99	0.62
3:AA:247:ARG:CG	49:B1:1069:U:C5'	2.78	0.62
2:A4:107:G:H5''	6:AD:273:LEU:HD22	1.81	0.62
10:AH:99:PHE:CE1	10:AH:119:GLY:HA3	2.35	0.62
13:AK:72:ASN:HB3	13:AK:73:PRO:HD3	1.82	0.62
13:AK:81:HIS:CG	13:AK:88:PHE:HE1	2.15	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AP:69:ARG:NH2	48:A2:4530:A:C2	2.59	0.62
21:AS:139:ARG:HA	21:AS:139:ARG:NE	2.07	0.62
49:B1:1104:G:C5	49:B1:1105:G:N7	2.67	0.62
49:B1:1292:C:H2'	49:B1:1293:A:H8	1.64	0.62
49:B1:1778:C:C6	49:B1:1778:C:C5'	2.83	0.62
49:B1:319:C:O2'	49:B1:320:G:O4'	2.15	0.62
49:B1:370:G:H2'	49:B1:370:G:OP2	1.99	0.62
49:B1:434:G:OP1	58:BI:23:LYS:CG	2.34	0.62
50:BA:205:ARG:HH22	67:BR:86:PRO:HG2	1.64	0.62
59:BJ:151:LEU:C	59:BJ:151:LEU:HD23	2.19	0.62
48:A2:1379:G:C2'	48:A2:1380:A:OP2	2.48	0.62
3:AA:123:ARG:NH1	48:A2:4053:U:OP1	2.33	0.62
4:AB:76:VAL:CG1	4:AB:332:MET:HG2	2.28	0.62
5:AC:302:LEU:HD22	19:AQ:38:ARG:HB3	1.80	0.62
8:AF:179:LEU:HD21	8:AF:184:ILE:CD1	2.29	0.62
14:AL:60:ARG:NH1	48:A2:72:C:N4	2.46	0.62
15:AM:17:PHE:HB2	48:A2:1902:C:C5	2.34	0.62
25:AW:101:ARG:O	25:AW:105:ARG:HG3	2.00	0.62
54:BE:247:THR:HG22	54:BE:248:VAL:H	1.64	0.62
63:BN:32:ASP:HA	63:BN:35:GLU:HB2	1.82	0.62
66:BQ:51:LEU:HD12	66:BQ:81:ILE:HG22	1.79	0.62
68:BS:69:THR:O	68:BS:72:GLN:HG2	2.00	0.62
48:A2:1224:C:OP2	48:A2:1252:G:N2	2.24	0.62
3:AA:21:LYS:HE3	48:A2:2722:A:H1'	1.80	0.62
48:A2:495:C:C5'	48:A2:496:C:OP2	2.47	0.62
2:A4:22:A:C2	2:A4:23:A:C5	2.88	0.62
3:AA:247:ARG:HG3	49:B1:1069:U:C4'	2.21	0.62
4:AB:352:LEU:HD13	48:A2:4640:G:H4'	1.80	0.62
5:AC:201:ARG:C	5:AC:202:ILE:HD12	2.20	0.62
5:AC:212:ASN:HD21	5:AC:256:ALA:N	1.97	0.62
13:AK:40:MET:HE1	48:A2:1981:G:O6	2.00	0.62
15:AM:20:HIS:HE1	15:AM:48:GLN:HE22	1.35	0.62
17:AO:25:LYS:HG2	48:A2:1894:C:H5''	1.81	0.62
19:AQ:12:LYS:CD	19:AQ:14:ARG:HD2	2.30	0.62
51:BB:71:LEU:HD11	51:BB:75:GLN:HG2	1.80	0.62
58:BI:101:ILE:HD11	58:BI:198:TYR:CD1	2.34	0.62
59:BJ:41:ARG:HA	59:BJ:44:TRP:CE3	2.35	0.62
64:BO:142:ARG:HH11	64:BO:142:ARG:CA	2.09	0.62
65:BP:49:LEU:O	65:BP:53:GLN:HB3	2.00	0.62
66:BQ:10:VAL:HG12	66:BQ:11:GLN:N	2.14	0.62
49:B1:1612:G:C1'	68:BS:87:GLN:HG3	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1415:C:H5''	69:BT:129:ARG:HG2	1.82	0.62
48:A2:1227:G:H4'	48:A2:1251:G:C1'	2.29	0.62
8:AF:132:MET:CE	48:A2:1819:A:H2	2.12	0.62
4:AB:2:SER:OG	48:A2:4478:G:O5'	2.13	0.62
5:AC:190:ARG:HD3	5:AC:202:ILE:CD1	2.25	0.62
5:AC:190:ARG:CA	5:AC:202:ILE:HD11	2.28	0.62
6:AD:215:ASP:OD1	6:AD:217:ASP:N	2.30	0.62
8:AF:184:ILE:CG2	8:AF:189:ASP:CB	2.73	0.62
19:AQ:145:GLY:O	48:A2:1485:A:OP1	2.17	0.62
49:B1:1733:U:H2'	49:B1:1734:G:O4'	1.99	0.62
49:B1:332:G:H4'	49:B1:332:G:OP1	2.00	0.62
49:B1:65:C:N3	56:BG:133:LEU:HD23	2.13	0.62
49:B1:837:A:H2'	49:B1:838:G:H5'	1.80	0.62
51:BB:97:LEU:HD12	51:BB:228:LEU:HD11	1.81	0.62
51:BB:70:SER:HB3	51:BB:83:LYS:HG2	1.82	0.62
55:BF:95:HIS:HB3	75:BZ:106:GLN:HG2	1.81	0.62
56:BG:230:LYS:N	56:BG:230:LYS:HE2	2.14	0.62
59:BJ:115:PHE:CB	59:BJ:123:ILE:HD13	2.30	0.62
64:BO:90:ILE:O	64:BO:90:ILE:HD12	2.00	0.62
65:BP:126:VAL:HG23	65:BP:128:HIS:CD2	2.35	0.62
67:BR:97:GLU:HA	67:BR:117:LEU:HG	1.82	0.62
68:BS:70:ILE:CD1	68:BS:77:TYR:CE1	2.77	0.62
6:AD:91:GLY:O	6:AD:97:ALA:HB2	2.00	0.62
7:AE:240:TYR:CZ	48:A2:4897:C:C5'	2.72	0.62
14:AL:154:VAL:O	14:AL:155:MET:HB2	2.00	0.62
20:AR:131:VAL:HB	20:AR:132:PHE:CD1	2.35	0.62
25:AW:93:LYS:HD3	56:BG:145:PHE:CD2	2.34	0.62
49:B1:1287:A:OP2	49:B1:1312:G:N3	2.33	0.62
49:B1:1423:C:O2'	69:BT:7:LYS:CE	2.48	0.62
49:B1:1784:G:C4	49:B1:1785:C:C5	2.88	0.62
49:B1:547:G:OP1	49:B1:547:G:H3'	2.00	0.62
49:B1:562:U:H6	49:B1:562:U:H3'	1.64	0.62
49:B1:96:C:O2	49:B1:96:C:O5'	2.18	0.62
51:BB:97:LEU:HD13	51:BB:98:THR:N	2.13	0.62
52:BC:253:PRO:C	52:BC:256:TRP:CD1	2.73	0.62
56:BG:141:ILE:HG21	56:BG:153:VAL:HG21	1.81	0.62
56:BG:176:ILE:O	56:BG:179:LEU:HD23	1.99	0.62
56:BG:23:LYS:HG3	56:BG:41:LEU:HD12	1.81	0.62
57:BH:20:GLU:HG2	57:BH:48:ALA:HB3	1.81	0.62
65:BP:34:MET:HE3	65:BP:42:ARG:CA	2.29	0.62
65:BP:84:ILE:CG2	65:BP:115:TYR:CG	2.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:BT:41:LYS:HE2	69:BT:43:LYS:HE2	1.81	0.62
69:BT:4:VAL:O	69:BT:132:ASP:OD1	2.17	0.62
9:AG:161:VAL:HG13	48:A2:148:G:C6	2.35	0.62
48:A2:1740:G:N3	48:A2:1741:G:C8	2.68	0.62
48:A2:1755:U:H2'	48:A2:1756:C:H6	1.63	0.62
48:A2:310:U:OP1	48:A2:310:U:H3'	1.98	0.62
48:A2:4009:G:C4'	48:A2:4020:A:O4'	2.48	0.62
48:A2:943:A:H1'	48:A2:944:G:O6	2.00	0.62
4:AB:300:LYS:HE2	4:AB:313:SER:HB2	1.82	0.62
6:AD:229:ASN:C	6:AD:230:SER:HG	1.99	0.62
13:AK:10:LYS:CE	48:A2:1941:A:C2	2.82	0.62
1:A3:141:C:H4'	16:AN:60:VAL:HG21	1.82	0.62
17:AO:21:ALA:HA	17:AO:87:MET:HE1	1.81	0.62
9:AG:31:LEU:HD13	28:AZ:122:TYR:HE1	1.63	0.62
49:B1:1286:G:C2'	49:B1:1287:A:OP1	2.41	0.62
49:B1:1550:G:O2'	49:B1:1558:C:O2	2.16	0.62
49:B1:574:A:H5'	74:BY:89:HIS:CD2	2.35	0.62
49:B1:837:A:H2'	49:B1:838:G:O5'	2.00	0.62
54:BE:137:PRO:CG	56:BG:209:TYR:CE2	2.83	0.62
59:BJ:134:HIS:O	59:BJ:159:PHE:CB	2.48	0.62
59:BJ:138:ARG:HG2	59:BJ:139:LYS:H	1.65	0.62
59:BJ:162:ARG:O	59:BJ:166:GLY:CA	2.48	0.62
65:BP:52:LYS:HZ2	65:BP:83:MET:CE	2.13	0.62
66:BQ:23:ALA:HB2	66:BQ:87:SER:CB	2.25	0.62
70:BU:26:SER:OG	70:BU:32:LEU:CB	2.47	0.62
48:A2:1161:G:H21	48:A2:1164:C:P	2.19	0.61
48:A2:140:C:H2'	48:A2:141:G:H8	1.64	0.61
48:A2:1463:C:H4'	48:A2:1464:G:C2	2.35	0.61
3:AA:118:GLU:OE2	48:A2:3652:G:N2	2.32	0.61
48:A2:460:A:N6	48:A2:681:A:N6	2.46	0.61
5:AC:186:SER:CB	5:AC:204:ARG:HH21	2.12	0.61
6:AD:232:THR:OG1	6:AD:234:ASP:OD1	2.18	0.61
7:AE:109:LEU:HD22	7:AE:109:LEU:N	2.15	0.61
7:AE:123:ARG:CZ	7:AE:124:LYS:HB2	2.29	0.61
7:AE:147:GLY:CA	7:AE:203:ILE:HG22	2.29	0.61
8:AF:166:ARG:HH11	8:AF:166:ARG:HB2	1.65	0.61
10:AH:99:PHE:CD1	10:AH:119:GLY:CA	2.83	0.61
13:AK:82:ILE:O	13:AK:82:ILE:HG22	2.00	0.61
14:AL:36:ARG:HH22	48:A2:1347:U:H5	1.48	0.61
15:AM:47:ARG:HH11	21:AS:73:LEU:HB3	1.65	0.61
15:AM:47:ARG:NH1	21:AS:73:LEU:HB3	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:12:G:OP1	18:AP:3:ARG:NH1	2.33	0.61
28:AZ:10:VAL:O	28:AZ:83:THR:HG22	2.00	0.61
56:BG:32:MET:CB	56:BG:100:CYS:SG	2.88	0.61
56:BG:58:LYS:CA	56:BG:107:SER:HB2	2.30	0.61
59:BJ:121:LYS:O	59:BJ:125:HIS:HB3	2.00	0.61
65:BP:65:LYS:C	65:BP:67:ALA:CB	2.68	0.61
67:BR:94:GLU:HB2	67:BR:95:ILE:HD12	1.81	0.61
71:BV:37:ALA:HB2	71:BV:46:PHE:CZ	2.35	0.61
48:A2:1888:A:C5	48:A2:1889:A:C5	2.87	0.61
48:A2:3727:A:H8	48:A2:3727:A:P	2.23	0.61
48:A2:3731:A:C6	49:B1:1825:A:C2	2.88	0.61
48:A2:400:C:H6	48:A2:400:C:O5'	1.83	0.61
3:AA:30:ARG:HH22	3:AA:41:ILE:HD13	1.65	0.61
3:AA:9:ARG:HD3	48:A2:2323:U:C4	65.59	0.61
4:AB:241:PRO:HG2	4:AB:244:THR:HG23	1.81	0.61
5:AC:134:PRO:HG3	5:AC:150:LEU:HD21	1.82	0.61
5:AC:190:ARG:HA	5:AC:202:ILE:HD11	1.78	0.61
5:AC:252:TRP:CZ3	5:AC:260:LEU:HD11	2.34	0.61
7:AE:165:LEU:HD12	7:AE:174:LEU:CD2	2.30	0.61
7:AE:203:ILE:CA	7:AE:206:VAL:HG21	2.27	0.61
9:AG:188:ALA:HB2	48:A2:6:C:O2'	1.99	0.61
15:AM:79:LYS:O	15:AM:79:LYS:HD2	2.01	0.61
4:AB:96:PRO:O	17:AO:149:TYR:HB3	1.99	0.61
15:AM:123:ILE:HA	17:AO:187:LYS:HE2	1.82	0.61
10:AH:4:ILE:HG13	21:AS:144:GLN:OE1	2.00	0.61
21:AS:1:MET:HE3	21:AS:7:LEU:HD12	1.81	0.61
21:AS:74:ARG:NH2	48:A2:909:C:C5'	2.62	0.61
50:BA:110:ASN:C	50:BA:116:PHE:HD2	2.03	0.61
50:BA:215:GLN:O	50:BA:219:GLU:HG2	2.01	0.61
52:BC:104:ASP:CB	52:BC:130:ILE:HA	2.29	0.61
49:B1:522:A:H5'	59:BJ:145:PRO:HD2	1.81	0.61
59:BJ:37:LEU:N	59:BJ:37:LEU:HD12	2.14	0.61
49:B1:1017:U:OP2	63:BN:62:GLN:OE1	2.17	0.61
65:BP:34:MET:CE	65:BP:45:LEU:CB	2.78	0.61
65:BP:34:MET:CE	65:BP:45:LEU:HB3	2.30	0.61
75:BZ:32:LYS:HE2	75:BZ:34:LYS:O	1.99	0.61
19:AQ:72:LEU:CD1	48:A2:1439:G:H5''	2.29	0.61
48:A2:204:G:C1'	48:A2:228:U:C2	2.77	0.61
48:A2:3727:A:OP2	48:A2:3727:A:H8	1.78	0.61
3:AA:207:VAL:HG13	48:A2:3890:C:H5'	1.82	0.61
48:A2:676:G:C8	48:A2:676:G:C5'	2.84	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:958:U:O2'	48:A2:959:C:O4'	2.18	0.61
4:AB:174:ARG:O	4:AB:176:LYS:N	2.33	0.61
11:AI:116:ARG:HA	48:A2:4157:G:N2	2.15	0.61
2:A4:43:U:H4'	12:AJ:143:ASP:HB3	1.81	0.61
14:AL:165:LYS:CE	48:A2:505:C:P	2.87	0.61
18:AP:109:VAL:HA	18:AP:112:LEU:HD13	1.82	0.61
20:AR:86:ASN:HB3	48:A2:1532:G:OP1	2.00	0.61
23:AU:103:VAL:HG21	23:AU:113:ARG:HH11	1.65	0.61
49:B1:1137:U:O2'	50:BA:155:ARG:NH2	2.33	0.61
49:B1:1286:G:H2'	49:B1:1286:G:N3	2.15	0.61
55:BF:103:LEU:HD13	55:BF:178:ILE:CD1	2.29	0.61
59:BJ:154:GLN:O	59:BJ:157:ILE:HG23	2.00	0.61
59:BJ:81:LEU:HD12	59:BJ:87:LEU:CD1	2.28	0.61
49:B1:827:A:H5'	59:BJ:8:VAL:HG11	1.78	0.61
49:B1:925:G:H5'	63:BN:91:LEU:HD21	1.81	0.61
65:BP:65:LYS:O	65:BP:67:ALA:HB3	2.00	0.61
67:BR:35:CYS:HA	67:BR:38:ILE:HG13	1.81	0.61
72:BW:28:ARG:HB3	72:BW:29:PRO:HD3	1.82	0.61
73:BX:87:ASN:HB3	73:BX:134:TYR:CE1	2.35	0.61
48:A2:1341:G:C2	48:A2:1343:G:O6	2.53	0.61
48:A2:1743:G:C6	48:A2:1744:C:N4	2.69	0.61
13:AK:40:MET:HE3	48:A2:1977:C:H2'	1.83	0.61
20:AR:107:ARG:HH21	48:A2:2644:U:H5'	1.65	0.61
8:AF:69:ILE:HG21	8:AF:73:ARG:HE	1.58	0.61
18:AP:10:ASN:N	18:AP:10:ASN:OD1	2.32	0.61
20:AR:72:LYS:HB3	20:AR:74:ARG:NH2	2.14	0.61
28:AZ:125:GLY:O	28:AZ:128:LYS:NZ	2.33	0.61
54:BE:71:LYS:CG	54:BE:91:SER:O	2.48	0.61
49:B1:1314:U:C5	60:BK:2:LEU:CD2	2.83	0.61
53:BD:64:ARG:NH2	60:BK:72:THR:HA	2.16	0.61
61:BL:10:TYR:O	61:BL:11:GLN:HB2	1.99	0.61
65:BP:30:TYR:HA	65:BP:33:LEU:HG	1.81	0.61
66:BQ:34:VAL:CG1	66:BQ:84:ILE:CD1	2.78	0.61
66:BQ:39:LEU:HD21	66:BQ:51:LEU:HD23	1.80	0.61
65:BP:118:GLU:HA	68:BS:120:HIS:CE1	2.36	0.61
70:BU:24:LEU:HD22	70:BU:112:VAL:CG2	2.23	0.61
72:BW:102:ILE:HG21	72:BW:125:ILE:CG2	2.20	0.61
73:BX:100:VAL:HG13	73:BX:122:VAL:HG13	1.83	0.61
75:BZ:55:TYR:CE1	75:BZ:59:CYS:SG	2.94	0.61
75:BZ:68:ILE:CG2	75:BZ:88:LEU:HD11	2.30	0.61
75:BZ:65:TYR:OH	75:BZ:76:ARG:HD2	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1467:C:OP1	48:A2:1467:C:H3'	1.99	0.61
48:A2:191:C:C6	48:A2:191:C:C4'	2.84	0.61
8:AF:166:ARG:HG3	48:A2:2255:A:OP1	2.00	0.61
48:A2:163:C:N4	48:A2:264:U:H3	1.91	0.61
48:A2:4264:U:C4	48:A2:4265:C:C2	2.87	0.61
48:A2:900:U:HO2'	48:A2:901:U:C4'	2.14	0.61
4:AB:53:MET:HG2	4:AB:77:THR:HG22	1.81	0.61
5:AC:115:VAL:O	5:AC:120:LYS:HE3	2.00	0.61
1:A3:27:U:OP1	5:AC:56:GLU:CG	2.49	0.61
7:AE:137:VAL:C	7:AE:138:ARG:HH11	2.01	0.61
8:AF:184:ILE:C	8:AF:186:CYS:H	2.03	0.61
10:AH:59:LYS:HE2	10:AH:66:GLU:HB3	1.82	0.61
10:AH:89:ARG:NH1	10:AH:93:ARG:HH12	14.02	0.61
23:AU:59:GLY:O	23:AU:60:VAL:HG22	2.00	0.61
52:BC:251:LEU:O	72:BW:68:ARG:CZ	2.48	0.61
53:BD:22:ASN:O	53:BD:26:THR:HG22	1.99	0.61
49:B1:157:U:O4'	56:BG:59:GLN:C	2.38	0.61
66:BQ:39:LEU:CD2	66:BQ:51:LEU:CD2	2.72	0.61
69:BT:23:LYS:HG2	69:BT:54:TYR:CZ	2.35	0.61
71:BV:38:GLU:O	71:BV:47:ASN:HB2	2.01	0.61
49:B1:919:A:OP1	72:BW:56:HIS:HD2	1.84	0.61
48:A2:901:U:C3'	48:A2:902:A:C8	2.84	0.61
4:AB:390:GLY:HA3	25:AW:63:GLN:CD	2.20	0.61
6:AD:22:ARG:CZ	6:AD:27:LYS:HD2	2.31	0.61
7:AE:100:LYS:HB3	48:A2:678:C:C5'	2.26	0.61
8:AF:166:ARG:NH1	8:AF:209:TRP:CD2	2.67	0.61
13:AK:61:MET:HE3	13:AK:61:MET:HA	1.82	0.61
22:AT:78:LYS:HD2	22:AT:87:LYS:NZ	2.14	0.61
25:AW:109:ILE:O	25:AW:113:LYS:CG	2.46	0.61
25:AW:60:LYS:O	25:AW:61:LYS:CB	2.47	0.61
49:B1:1016:U:O2	63:BN:61:ALA:HB3	2.00	0.61
49:B1:1552:G:H5''	49:B1:1553:C:O2	2.00	0.61
49:B1:1578:U:C6	53:BD:4:GLN:NE2	2.41	0.61
49:B1:1679:A:C5	55:BF:60:ARG:CA	2.83	0.61
49:B1:510:G:OP2	59:BJ:3:VAL:CG1	2.49	0.61
49:B1:581:U:C4'	74:BY:62:THR:HG23	2.30	0.61
50:BA:212:LYS:HA	50:BA:215:GLN:CB	2.31	0.61
51:BB:79:VAL:CG1	51:BB:81:PHE:HE1	2.14	0.61
53:BD:210:ILE:CA	67:BR:39:ALA:HB1	2.27	0.61
55:BF:41:VAL:HG21	55:BF:109:LEU:CD2	2.18	0.61
49:B1:1679:A:C6	55:BF:60:ARG:CA	2.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1679:A:N7	55:BF:60:ARG:HG3	2.15	0.61
54:BE:149:TYR:CA	56:BG:209:TYR:CD2	2.84	0.61
56:BG:218:LYS:HA	56:BG:221:LYS:HD2	1.83	0.61
49:B1:381:C:H5'	58:BI:48:VAL:CG1	2.30	0.61
59:BJ:133:ARG:O	59:BJ:162:ARG:HD2	2.00	0.61
63:BN:22:VAL:CB	63:BN:23:PRO:CD	2.70	0.61
67:BR:116:ASN:O	67:BR:117:LEU:HG	2.00	0.61
69:BT:49:ASP:O	69:BT:52:TRP:HE3	1.84	0.61
48:A2:1259:C:H2'	48:A2:1260:G:H8	1.61	0.61
48:A2:1783:A:O2'	48:A2:1784:A:H5'	2.00	0.61
17:AO:60:LYS:NZ	48:A2:2027:G:OP1	2.28	0.61
4:AB:47:LEU:HD21	4:AB:181:MET:HG3	1.82	0.61
6:AD:15:ARG:O	6:AD:17:GLN:CD	2.39	0.61
7:AE:240:TYR:HE2	7:AE:243:THR:HG22	1.66	0.61
9:AG:242:LEU:HB3	9:AG:246:SER:OG	2.01	0.61
13:AK:55:MET:SD	13:AK:61:MET:CG	2.88	0.61
49:B1:77:A:H4'	56:BG:173:ALA:HB1	1.83	0.61
49:B1:64:A:H5'	56:BG:175:LYS:HZ2	1.65	0.61
62:BM:33:ARG:HD2	62:BM:91:LEU:CD2	2.31	0.61
64:BO:78:ALA:HB1	64:BO:119:LEU:HD12	1.83	0.61
66:BQ:33:LYS:HD3	66:BQ:69:ARG:CD	2.29	0.61
50:BA:200:ASP:HB2	67:BR:85:VAL:HG13	1.83	0.61
72:BW:3:ARG:CG	72:BW:3:ARG:HH11	2.14	0.61
48:A2:1815:U:O2'	48:A2:1816:G:H5''	2.00	0.61
48:A2:3681:G:H3'	48:A2:3681:G:N3	2.16	0.61
3:AA:227:ARG:CG	3:AA:227:ARG:HH11	2.14	0.61
7:AE:208:ILE:HG13	7:AE:209:PRO:CD	2.30	0.61
7:AE:232:ILE:HG22	7:AE:236:GLU:HB2	1.83	0.61
8:AF:161:LYS:HB2	8:AF:209:TRP:HE3	1.65	0.61
9:AG:140:VAL:HG12	16:AN:3:ALA:CB	2.31	0.61
13:AK:81:HIS:CG	13:AK:82:ILE:N	2.68	0.61
16:AN:14:LYS:HB2	16:AN:19:MET:SD	2.41	0.61
24:AV:48:ARG:HD2	48:A2:4583:C:OP1	2.01	0.61
49:B1:222:U:C5'	61:BL:17:PHE:CE2	2.82	0.61
49:B1:62:G:C2'	49:B1:63:U:H5'	2.30	0.61
51:BB:78:GLU:HG3	51:BB:189:ILE:HG23	1.83	0.61
49:B1:1142:G:P	52:BC:187:ARG:NH1	2.74	0.61
59:BJ:114:VAL:O	59:BJ:118:GLY:O	2.18	0.61
62:BM:75:ASN:HB3	62:BM:128:PHE:CE1	2.36	0.61
66:BQ:58:LEU:CD2	66:BQ:62:ARG:NH1	2.61	0.61
67:BR:97:GLU:CA	67:BR:117:LEU:HD21	2.27	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1567:G:C2	68:BS:82:TRP:CE3	2.89	0.61
48:A2:119:G:H3'	48:A2:119:G:P	2.40	0.61
48:A2:1226:C:O2'	48:A2:1227:G:H5'	2.01	0.61
3:AA:9:ARG:NE	48:A2:1610:C:C5	2.69	0.61
4:AB:126:LYS:NZ	48:A2:4924:A:OP2	2.33	0.61
6:AD:234:ASP:OD1	6:AD:234:ASP:N	2.21	0.61
7:AE:113:PRO:HG2	7:AE:116:TYR:OH	2.00	0.61
7:AE:131:LYS:HB3	7:AE:132:PRO:CD	2.31	0.61
49:B1:282:G:C8	49:B1:282:G:P	2.94	0.61
50:BA:111:GLN:HA	50:BA:116:PHE:CE2	2.35	0.61
50:BA:111:GLN:CA	50:BA:116:PHE:CD2	2.84	0.61
51:BB:70:SER:HB2	51:BB:82:ARG:C	2.20	0.61
55:BF:93:VAL:HG13	55:BF:97:PHE:CE1	2.36	0.61
65:BP:66:GLU:N	65:BP:67:ALA:HB2	2.16	0.61
67:BR:99:ASP:CB	67:BR:102:THR:CG2	2.79	0.61
68:BS:74:PRO:HG2	68:BS:84:LEU:HD11	1.83	0.61
73:BX:21:LYS:HE2	73:BX:27:TYR:CD1	2.36	0.61
49:B1:151:C:P	74:BY:120:THR:OG1	2.59	0.61
75:BZ:48:VAL:CG2	75:BZ:80:ARG:NE	2.63	0.61
8:AF:34:ARG:HH12	48:A2:1421:U:H1'	1.64	0.61
48:A2:1877:A:H4'	48:A2:2050:A:N1	2.16	0.61
20:AR:97:ARG:HH21	48:A2:2704:A:H8	1.44	0.61
48:A2:2747:C:O2'	48:A2:2748:U:O5'	2.16	0.61
18:AP:78:TRP:CZ2	48:A2:3862:A:O2'	2.54	0.61
5:AC:343:GLN:HG2	48:A2:714:A:O2'	2.00	0.61
15:AM:42:CYS:SG	15:AM:77:TRP:CD1	2.90	0.61
21:AS:29:ARG:HB2	22:AT:148:PRO:HB2	1.82	0.61
49:B1:1451:G:H8	67:BR:44:LYS:HZ3	1.46	0.61
49:B1:1745:A:H8	56:BG:66:GLY:CA	2.13	0.61
49:B1:332:G:N7	56:BG:186:GLN:HB2	2.16	0.61
49:B1:619:A:N1	73:BX:114:ASP:CB	2.63	0.61
58:BI:78:ILE:HG23	58:BI:102:VAL:CG1	2.31	0.61
58:BI:36:THR:O	58:BI:95:THR:HA	2.01	0.61
59:BJ:110:LEU:HA	59:BJ:113:GLN:HB2	1.83	0.61
59:BJ:120:ALA:HA	59:BJ:129:LEU:CD1	2.31	0.61
59:BJ:161:LEU:C	59:BJ:162:ARG:HH11	2.04	0.61
60:BK:8:ARG:O	60:BK:12:TYR:HD1	1.84	0.61
61:BL:13:GLN:HE22	61:BL:16:ILE:N	1.99	0.61
65:BP:44:ARG:HH21	65:BP:52:LYS:HZ1	1.47	0.61
65:BP:51:ARG:HG2	65:BP:51:ARG:HH11	1.65	0.61
66:BQ:23:ALA:CB	66:BQ:87:SER:HB2	2.24	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:BR:18:GLU:CD	67:BR:69:ILE:HG12	2.21	0.61
74:BY:83:LYS:HE2	74:BY:96:LEU:CD2	2.31	0.61
48:A2:131:C:C3'	48:A2:131:C:C6	2.84	0.60
48:A2:1888:A:N6	48:A2:1889:A:C6	2.69	0.60
48:A2:4331:A:H2'	48:A2:4332:G:H5'	1.84	0.60
4:AB:168:MET:HG3	4:AB:177:LYS:O	2.01	0.60
4:AB:94:GLU:CG	4:AB:158:GLN:HE21	2.14	0.60
6:AD:225:GLN:HA	6:AD:225:GLN:OE1	2.01	0.60
7:AE:118:THR:O	7:AE:119:GLU:HB3	2.00	0.60
8:AF:95:ILE:CG2	8:AF:223:LYS:HE3	2.31	0.60
1:A3:153:C:OP1	9:AG:185:LYS:HE3	2.01	0.60
10:AH:8:GLN:HG3	10:AH:74:CYS:SG	2.40	0.60
12:AJ:174:ILE:O	12:AJ:175:LEU:HB2	2.00	0.60
13:AK:55:MET:N	48:A2:1979:A:H5'	2.15	0.60
20:AR:131:VAL:HB	20:AR:132:PHE:CE1	2.36	0.60
20:AR:99:MET:CE	20:AR:103:ARG:NH1	2.64	0.60
26:AX:55:ARG:CG	26:AX:55:ARG:HH11	2.14	0.60
49:B1:1587:G:H4'	49:B1:1588:A:OP2	1.99	0.60
49:B1:1838:U:H1'	64:BO:150:ARG:HG2	1.82	0.60
50:BA:205:ARG:NH2	67:BR:86:PRO:HD2	2.16	0.60
53:BD:11:PHE:CZ	70:BU:25:THR:CG2	2.83	0.60
54:BE:80:VAL:HG13	54:BE:81:THR:HG23	1.83	0.60
59:BJ:118:GLY:O	59:BJ:119:LEU:HB3	2.01	0.60
65:BP:84:ILE:CB	65:BP:115:TYR:HA	2.29	0.60
65:BP:34:MET:O	65:BP:42:ARG:HG2	2.01	0.60
67:BR:21:TYR:CD2	67:BR:71:ILE:HG22	2.31	0.60
67:BR:36:GLU:HA	67:BR:41:ILE:HD13	1.80	0.60
73:BX:87:ASN:HB2	73:BX:90:CYS:SG	2.41	0.60
49:B1:571:U:OP1	74:BY:37:LYS:CB	2.47	0.60
48:A2:1943:A:C2'	48:A2:1944:C:H5'	2.31	0.60
48:A2:3682:A:OP1	48:A2:3683:A:OP1	2.19	0.60
48:A2:3735:U:H2'	48:A2:3736:G:O4'	2.02	0.60
4:AB:220:ILE:HB	4:AB:346:THR:OG1	2.02	0.60
7:AE:273:SER:HB2	48:A2:4839:U:HO2'	1.64	0.60
9:AG:55:VAL:HG21	26:AX:41:ARG:HD3	1.83	0.60
24:AV:16:ILE:HD11	24:AV:57:VAL:H	1.65	0.60
49:B1:309:G:H21	49:B1:310:C:H1'	1.65	0.60
49:B1:872:A:C8	49:B1:874:G:N2	2.67	0.60
50:BA:111:GLN:NE2	52:BC:64:THR:CG2	2.64	0.60
51:BB:174:ARG:CG	51:BB:174:ARG:HH11	2.14	0.60
54:BE:92:ILE:O	54:BE:92:ILE:HG22	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BF:18:LYS:CD	55:BF:46:ALA:O	2.49	0.60
49:B1:168:C:H5'	56:BG:131:ARG:CD	2.21	0.60
58:BI:8:TRP:HB2	58:BI:18:ARG:NH1	2.15	0.60
60:BK:31:LYS:C	60:BK:33:PRO:HD3	2.21	0.60
61:BL:15:THR:HG22	61:BL:15:THR:O	2.01	0.60
61:BL:35:ARG:HD2	61:BL:51:ILE:O	2.00	0.60
68:BS:59:LEU:CD2	68:BS:63:GLU:HB3	2.30	0.60
49:B1:1423:C:O2'	69:BT:7:LYS:HE3	2.01	0.60
73:BX:93:PHE:O	73:BX:140:ARG:NH1	2.33	0.60
49:B1:161:U:C4	74:BY:115:LYS:HE2	2.34	0.60
48:A2:1306:A:N1	48:A2:1307:A:N3	2.49	0.60
5:AC:100:ARG:CZ	48:A2:1632:A:C6	2.82	0.60
48:A2:3682:A:H5'	48:A2:3683:A:N7	2.16	0.60
48:A2:2342:A:OP2	86:A2:5186:MG:MG	1.43	0.60
7:AE:125:LEU:O	7:AE:126:LEU:HG	2.00	0.60
14:AL:70:VAL:HG13	14:AL:157:VAL:HG11	1.83	0.60
4:AB:261:ARG:CB	17:AO:64:THR:HG21	2.30	0.60
19:AQ:11:ARG:CG	19:AQ:11:ARG:HH11	2.14	0.60
19:AQ:72:LEU:HD13	48:A2:1439:G:H5'	1.81	0.60
22:AT:60:LYS:HB3	22:AT:76:VAL:HG11	1.82	0.60
49:B1:1125:C:O4'	67:BR:123:THR:HG23	2.01	0.60
49:B1:830:A:N3	49:B1:830:A:H3'	2.16	0.60
52:BC:62:PRO:HB2	52:BC:68:ARG:HG2	1.82	0.60
54:BE:116:VAL:HG23	54:BE:117:GLU:H	1.65	0.60
56:BG:183:ARG:C	56:BG:186:GLN:HG2	2.16	0.60
61:BL:35:ARG:HG3	61:BL:36:TYR:H	1.64	0.60
65:BP:84:ILE:HA	65:BP:115:TYR:C	2.22	0.60
66:BQ:18:THR:HG22	66:BQ:18:THR:O	2.01	0.60
66:BQ:62:ARG:CG	66:BQ:92:LEU:CD1	2.78	0.60
67:BR:20:TYR:HD2	67:BR:23:ARG:CD	2.06	0.60
50:BA:66:VAL:CG1	71:BV:46:PHE:CE1	2.83	0.60
5:AC:322:LEU:HB3	48:A2:1264:G:N7	2.17	0.60
5:AC:322:LEU:N	48:A2:1264:G:N7	2.44	0.60
20:AR:107:ARG:HH21	48:A2:2644:U:C5'	2.14	0.60
48:A2:3814:C:O5'	48:A2:3814:C:H6	1.83	0.60
48:A2:3931:A:N3	48:A2:4015:G:O4'	2.34	0.60
48:A2:4484:G:H3'	48:A2:4484:G:N3	2.16	0.60
17:AO:149:TYR:OH	48:A2:4546:A:OP1	2.19	0.60
48:A2:4872:C:H3'	48:A2:4872:C:C6	2.37	0.60
7:AE:219:LYS:CB	48:A2:4898:C:C5	2.84	0.60
7:AE:111:LYS:NZ	48:A2:682:U:P	2.64	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:118:THR:O	7:AE:119:GLU:CB	2.49	0.60
19:AQ:68:ARG:HH12	48:A2:1483:C:C2'	2.14	0.60
20:AR:97:ARG:O	20:AR:101:ILE:HG12	2.01	0.60
28:AZ:97:ASN:OD1	28:AZ:99:ASP:HB3	2.02	0.60
49:B1:1020:A:OP2	63:BN:70:LYS:HE3	2.02	0.60
49:B1:1121:G:N2	51:BB:146:ARG:NH2	2.50	0.60
49:B1:21:U:O3'	59:BJ:19:PRO:HD3	2.01	0.60
49:B1:689:U:C4	49:B1:742:U:O2	2.55	0.60
49:B1:744:G:N2	57:BH:109:ARG:CB	2.56	0.60
50:BA:210:ILE:O	50:BA:213:GLU:HB3	2.02	0.60
54:BE:92:ILE:CG2	54:BE:95:THR:OG1	2.49	0.60
50:BA:39:TYR:CE2	67:BR:108:LEU:CD1	2.84	0.60
69:BT:34:VAL:HB	69:BT:53:PHE:CE1	2.35	0.60
74:BY:112:ASN:O	74:BY:116:LYS:HD3	2.00	0.60
48:A2:127:G:H1	48:A2:140:C:H42	1.50	0.60
48:A2:1752:A:N1	48:A2:1753:U:C2	2.68	0.60
48:A2:2467:C:O5'	48:A2:2468:C:OP2	2.20	0.60
11:AI:116:ARG:HA	48:A2:4157:G:H21	1.66	0.60
1:A3:112:G:OP1	48:A2:2758:C:C1'	2.47	0.60
2:A4:13:A:HO2'	2:A4:14:C:P	2.23	0.60
4:AB:293:ILE:HD13	4:AB:296:GLY:N	2.16	0.60
5:AC:286:ASN:ND2	5:AC:291:ARG:HH21	1.99	0.60
6:AD:90:VAL:CG2	6:AD:226:TYR:CD1	2.83	0.60
15:AM:71:LYS:HE2	48:A2:726:G:OP2	2.01	0.60
19:AQ:147:GLU:HG2	19:AQ:150:ARG:HH21	1.66	0.60
21:AS:6:THR:O	21:AS:6:THR:HG23	2.01	0.60
22:AT:56:CYS:SG	22:AT:78:LYS:NZ	2.70	0.60
23:AU:34:MET:CE	23:AU:35:ASP:H	2.13	0.60
23:AU:43:LEU:O	23:AU:47:ILE:CG1	2.38	0.60
49:B1:1417:C:C4'	69:BT:2:PRO:HA	2.19	0.60
49:B1:157:U:C1'	56:BG:59:GLN:CA	2.79	0.60
49:B1:586:G:OP2	59:BJ:174:LYS:HE2	2.01	0.60
50:BA:111:GLN:CA	50:BA:116:PHE:CE2	2.84	0.60
59:BJ:161:LEU:O	59:BJ:162:ARG:HD3	2.00	0.60
66:BQ:25:CYS:HA	66:BQ:67:ASP:O	2.01	0.60
67:BR:44:LYS:HA	67:BR:47:ARG:HD2	1.84	0.60
69:BT:41:LYS:HZ1	69:BT:82:ARG:H	1.48	0.60
74:BY:96:LEU:H	74:BY:96:LEU:HD12	1.67	0.60
48:A2:1402:G:O2'	48:A2:1403:A:O5'	2.19	0.60
48:A2:3619:A:H1'	48:A2:3756:A:N6	2.17	0.60
22:AT:4:THR:CG2	48:A2:4169:C:H6	2.08	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:126:LEU:HD13	48:A2:958:U:C5	2.37	0.60
2:A4:73:U:C3'	2:A4:74:A:H5''	2.30	0.60
3:AA:9:ARG:HD2	48:A2:2323:U:H3	68.41	0.60
4:AB:102:PHE:O	48:A2:4686:A:H4'	2.00	0.60
4:AB:391:PRO:HD2	25:AW:63:GLN:CD	2.21	0.60
5:AC:212:ASN:ND2	5:AC:232:VAL:HG21	2.09	0.60
13:AK:24:TYR:CD2	13:AK:27:CYS:SG	2.94	0.60
13:AK:60:MET:HA	48:A2:1941:A:H4'	1.82	0.60
14:AL:154:VAL:O	14:AL:155:MET:CB	2.49	0.60
14:AL:177:LYS:O	14:AL:178:ALA:O	2.19	0.60
18:AP:71:ALA:HB1	48:A2:4928:C:OP1	2.00	0.60
23:AU:21:PHE:CD1	23:AU:80:LYS:HB3	2.36	0.60
28:AZ:50:PRO:CG	28:AZ:122:TYR:CE2	2.75	0.60
49:B1:368:U:H4'	49:B1:369:C:OP2	2.01	0.60
49:B1:696:G:O5'	49:B1:696:G:H8	1.85	0.60
49:B1:750:C:C2	49:B1:751:G:C8	2.90	0.60
49:B1:917:U:C1'	57:BH:118:ARG:HD2	2.32	0.60
54:BE:123:LEU:HD11	54:BE:235:TRP:CB	2.30	0.60
54:BE:151:ASP:OD1	56:BG:212:LEU:HD21	2.02	0.60
58:BI:114:GLU:HG3	58:BI:134:GLU:OE2	2.01	0.60
66:BQ:41:MET:CE	69:BT:10:ASN:CG	2.70	0.60
53:BD:210:ILE:HG21	67:BR:16:ILE:HD11	1.82	0.60
48:A2:139:G:C5'	48:A2:139:G:C8	2.85	0.60
48:A2:2246:U:H2'	48:A2:2249:G:O4'	2.02	0.60
48:A2:3684:U:C5'	48:A2:3684:U:C6	2.84	0.60
48:A2:482:G:H2'	48:A2:483:C:O4'	2.02	0.60
48:A2:5006:A:H5'	48:A2:5007:G:OP2	2.02	0.60
48:A2:65:A:O2'	48:A2:66:A:H5'	2.00	0.60
15:AM:19:PRO:HG3	48:A2:923:C:C2	2.36	0.60
2:A4:22:A:C6	2:A4:23:A:C5	2.89	0.60
3:AA:226:ARG:HG3	3:AA:229:ALA:HB2	1.82	0.60
4:AB:14:LEU:O	4:AB:17:LEU:HB2	2.01	0.60
5:AC:53:ALA:HB2	48:A2:344:C:H1'	1.83	0.60
6:AD:229:ASN:H	6:AD:229:ASN:ND2	1.93	0.60
8:AF:220:MET:O	8:AF:221:LYS:HG2	2.02	0.60
15:AM:3:PHE:CZ	21:AS:155:PRO:HB3	2.37	0.60
22:AT:25:VAL:HG23	22:AT:30:TYR:HE2	1.66	0.60
26:AX:56:ARG:CZ	26:AX:62:ARG:HH21	2.13	0.60
49:B1:1023:A:OP2	63:BN:124:ARG:HD3	2.01	0.60
51:BB:153:THR:HB	51:BB:155:TYR:CD2	2.37	0.60
54:BE:149:TYR:HB3	56:BG:209:TYR:CD2	2.30	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1745:A:H1'	56:BG:66:GLY:HA2	1.83	0.60
58:BI:170:LYS:O	58:BI:171:LEU:HB2	2.02	0.60
69:BT:38:LYS:CE	69:BT:99:VAL:HG13	2.32	0.60
48:A2:1379:G:H2'	48:A2:1380:A:OP2	2.02	0.60
48:A2:2618:U:O2'	48:A2:2673:G:N1	2.22	0.60
4:AB:393:LYS:HZ2	48:A2:5000:A:H4'	1.66	0.60
48:A2:672:G:H2'	48:A2:673:C:O4'	2.01	0.60
7:AE:105:ARG:CD	48:A2:680:C:C1'	2.79	0.60
48:A2:90:G:C8	48:A2:92:C:C6	2.90	0.60
1:A3:33:G:O5'	1:A3:33:G:H8	1.83	0.60
1:A3:80:A:N3	1:A3:80:A:H3'	2.16	0.60
4:AB:17:LEU:N	4:AB:18:PRO:HD3	2.15	0.60
5:AC:67:TRP:HA	5:AC:67:TRP:HE3	1.66	0.60
2:A4:14:C:P	6:AD:24:ARG:NH1	2.64	0.60
1:A3:53:G:H5''	14:AL:19:GLN:NE2	44.02	0.60
20:AR:4:LEU:HD11	20:AR:29:THR:HG23	1.82	0.60
20:AR:99:MET:HE1	20:AR:103:ARG:NH1	2.17	0.60
49:B1:658:U:H1'	73:BX:17:ARG:NH1	2.15	0.60
49:B1:977:C:H5'	51:BB:66:VAL:HG22	1.84	0.60
52:BC:178:HIS:NE2	52:BC:200:ARG:CD	2.61	0.60
61:BL:20:LYS:O	61:BL:21:LYS:HG2	2.01	0.60
49:B1:1451:G:P	67:BR:44:LYS:HZ1	2.23	0.60
68:BS:60:THR:O	68:BS:64:VAL:HG23	2.01	0.60
48:A2:1263:C:C2	48:A2:1265:G:C6	2.90	0.60
48:A2:135:G:O2'	48:A2:136:G:O5'	2.19	0.60
20:AR:59:SER:HA	48:A2:2613:C:H5'	1.80	0.60
48:A2:2685:G:C2	48:A2:2687:U:OP2	2.55	0.60
48:A2:3727:A:C8	48:A2:3727:A:P	2.95	0.60
48:A2:4291:G:H3'	48:A2:4291:G:N3	2.16	0.60
4:AB:173:LEU:HD21	4:AB:342:LYS:CG	2.32	0.60
5:AC:93:GLY:O	5:AC:100:ARG:N	2.34	0.60
2:A4:95:C:C4'	8:AF:229:GLU:HG2	2.30	0.60
9:AG:113:ARG:NH2	48:A2:119:G:N1	2.49	0.60
49:B1:1102:G:C2	49:B1:1130:G:N2	2.70	0.60
49:B1:1351:G:OP1	52:BC:89:LYS:HE3	2.02	0.60
49:B1:1388:A:H2'	53:BD:205:PRO:HB2	1.84	0.60
49:B1:1752:C:C2	49:B1:1780:G:N2	2.53	0.60
49:B1:693:A:C2	49:B1:694:G:C2	2.89	0.60
50:BA:212:LYS:O	50:BA:215:GLN:HB3	2.01	0.60
56:BG:102:VAL:O	56:BG:102:VAL:HG12	2.02	0.60
56:BG:113:ILE:HG13	56:BG:113:ILE:O	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AW:80:ARG:NH2	56:BG:128:THR:HG22	2.15	0.60
49:B1:76:U:H5''	56:BG:159:ARG:HH22	1.65	0.60
56:BG:213:LEU:HD23	56:BG:213:LEU:O	2.00	0.60
58:BI:150:ASP:OD1	58:BI:154:LYS:NZ	2.35	0.60
59:BJ:107:GLU:HG3	59:BJ:116:LYS:HE3	1.84	0.60
59:BJ:119:LEU:HD11	59:BJ:159:PHE:HE1	1.64	0.60
62:BM:21:VAL:HG13	62:BM:22:LEU:HD12	1.83	0.60
64:BO:83:GLN:O	64:BO:87:GLU:HG2	2.00	0.60
67:BR:5:ARG:HG3	67:BR:5:ARG:NH1	2.16	0.60
67:BR:71:ILE:HG12	67:BR:74:GLN:HG2	1.83	0.60
71:BV:40:ASP:HA	71:BV:47:ASN:ND2	2.16	0.60
48:A2:1745:C:C4	48:A2:1746:G:C8	2.88	0.60
21:AS:118:ARG:HD3	48:A2:2015:G:O2'	2.02	0.60
48:A2:2606:C:O2	48:A2:2606:C:H2'	2.01	0.60
6:AD:23:ARG:NE	48:A2:4242:A:OP2	2.34	0.60
3:AA:226:ARG:HH11	3:AA:226:ARG:CG	2.15	0.60
8:AF:161:LYS:N	8:AF:162:ILE:HD12	2.15	0.60
8:AF:159:TYR:CD1	8:AF:166:ARG:CD	2.85	0.60
11:AI:96:VAL:CG1	11:AI:122:PRO:HB3	2.31	0.60
13:AK:41:GLN:HG2	19:AQ:121:LEU:CD1	163.89	0.60
14:AL:55:ILE:HG23	14:AL:76:PHE:HE1	1.65	0.60
18:AP:4:TYR:CE2	18:AP:16:LYS:HD3	2.36	0.60
18:AP:99:GLU:OE2	18:AP:109:VAL:HB	2.01	0.60
28:AZ:92:ASP:OD1	28:AZ:92:ASP:N	2.33	0.60
49:B1:1624:U:C4	49:B1:1625:U:C2	2.90	0.60
49:B1:284:C:C6	49:B1:284:C:C3'	2.85	0.60
49:B1:794:A:H2'	49:B1:795:A:O4'	2.02	0.60
51:BB:97:LEU:CD1	51:BB:228:LEU:HD11	2.32	0.60
52:BC:253:PRO:CD	72:BW:99:PHE:CD1	2.84	0.60
53:BD:210:ILE:HA	67:BR:39:ALA:HB1	1.82	0.60
54:BE:19:MET:HE1	54:BE:108:ARG:HD3	1.84	0.60
54:BE:111:VAL:O	54:BE:111:VAL:HG23	2.00	0.60
54:BE:114:ILE:CG1	54:BE:118:GLU:HB2	2.31	0.60
54:BE:100:ARG:HH11	54:BE:236:ILE:HG21	1.65	0.60
59:BJ:135:ILE:HA	59:BJ:159:PHE:HB3	1.84	0.60
49:B1:560:A:O3'	59:BJ:171:GLY:HA3	1.97	0.60
61:BL:11:GLN:OE1	61:BL:11:GLN:HA	2.02	0.60
65:BP:47:ARG:C	65:BP:49:LEU:HD23	2.21	0.60
67:BR:101:ASP:O	67:BR:104:GLU:HB2	2.02	0.60
70:BU:20:ILE:N	70:BU:20:ILE:HD13	2.17	0.60
74:BY:7:ILE:HG12	74:BY:27:VAL:HG22	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:BZ:83:LEU:HD22	75:BZ:83:LEU:O	2.01	0.60
3:AA:9:ARG:NH2	48:A2:1610:C:C5	2.71	0.59
48:A2:1755:U:C4	48:A2:1756:C:N4	2.70	0.59
48:A2:2583:C:H2'	48:A2:2584:G:H5''	1.84	0.59
14:AL:15:HIS:CD2	48:A2:95:G:O3'	2.54	0.59
2:A4:22:A:C2	2:A4:23:A:C8	2.90	0.59
4:AB:231:VAL:HG11	4:AB:251:VAL:CG2	2.30	0.59
5:AC:77:PRO:CD	5:AC:91:ALA:CB	2.80	0.59
6:AD:178:LYS:HE2	48:A2:4285:A:C5'	2.32	0.59
7:AE:208:ILE:HG13	7:AE:209:PRO:HD2	1.84	0.59
14:AL:35:ARG:HD2	48:A2:1345:G:OP1	2.02	0.59
24:AV:120:PRO:HD3	25:AW:24:THR:O	2.02	0.59
50:BA:176:TRP:HA	50:BA:202:TYR:CZ	2.33	0.59
56:BG:211:LYS:O	56:BG:215:LYS:HD2	2.02	0.59
49:B1:167:G:C5'	56:BG:8:PRO:O	2.49	0.59
49:B1:528:A:OP1	59:BJ:122:SER:CB	2.50	0.59
66:BQ:50:LYS:NZ	66:BQ:53:GLU:OE2	2.35	0.59
67:BR:71:ILE:CG1	67:BR:74:GLN:HG2	2.32	0.59
68:BS:92:ASP:OD2	68:BS:94:LYS:CD	2.50	0.59
48:A2:133:C:C6	48:A2:133:C:C3'	2.85	0.59
16:AN:138:PHE:CD2	48:A2:18:C:H4'	2.36	0.59
48:A2:4088:C:H3'	48:A2:4089:U:C5	2.37	0.59
7:AE:105:ARG:NH1	48:A2:680:C:C1'	2.65	0.59
48:A2:70:A:C4'	48:A2:71:C:C4	2.85	0.59
3:AA:225:ILE:HD12	3:AA:235:VAL:O	2.01	0.59
3:AA:5:ILE:CD1	3:AA:232:GLY:HA2	2.32	0.59
2:A4:36:C:O2'	6:AD:154:THR:HG21	2.02	0.59
8:AF:222:LYS:HE2	8:AF:225:THR:HG23	1.83	0.59
17:AO:182:GLU:HA	17:AO:187:LYS:HD2	1.83	0.59
8:AF:115:ARG:HB3	19:AQ:4:ASP:HB3	1.85	0.59
21:AS:1:MET:HE1	21:AS:7:LEU:HD12	1.83	0.59
49:B1:1521:C:C6	49:B1:1521:C:OP2	2.55	0.59
51:BB:182:LYS:HE2	51:BB:231:LEU:HD11	1.81	0.59
54:BE:98:HIS:CE1	54:BE:116:VAL:HA	2.37	0.59
59:BJ:170:PRO:HD2	59:BJ:172:ARG:HG2	1.83	0.59
49:B1:1404:U:H5	70:BU:21:ARG:HH12	1.50	0.59
18:AP:131:ARG:HH21	48:A2:1578:U:H2'	1.67	0.59
17:AO:49:ARG:NH2	48:A2:1910:A:N3	2.50	0.59
48:A2:2502:G:C1'	48:A2:2690:G:N2	2.63	0.59
48:A2:2566:A:H5'	48:A2:2749:C:O4'	2.02	0.59
48:A2:3935:U:P	48:A2:3935:U:H3'	2.42	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:154:G:H5''	9:AG:89:ARG:HD2	1.83	0.59
2:A4:33:U:C5	6:AD:207:TYR:CZ	2.90	0.59
5:AC:183:VAL:HG21	5:AC:226:GLY:HA3	1.83	0.59
5:AC:211:TYR:CE1	5:AC:229:LEU:CD1	2.85	0.59
5:AC:218:ILE:CA	5:AC:229:LEU:HD23	2.24	0.59
9:AG:83:PHE:O	9:AG:84:THR:HG22	2.02	0.59
10:AH:93:ARG:NH2	48:A2:19:G:OP2	163.68	0.59
13:AK:44:ARG:O	13:AK:47:LEU:N	2.34	0.59
14:AL:8:MET:HE1	48:A2:1327:C:H4'	1.85	0.59
49:B1:1105:G:N2	49:B1:1106:C:C2	2.70	0.59
49:B1:1520:G:O2'	65:BP:123:TYR:CE1	2.54	0.59
50:BA:77:ILE:CD1	50:BA:122:LEU:HD11	2.32	0.59
55:BF:166:ILE:HG22	75:BZ:71:ALA:CB	2.32	0.59
54:BE:151:ASP:OD1	56:BG:212:LEU:CD2	2.50	0.59
56:BG:216:ARG:HG3	56:BG:216:ARG:HH11	1.68	0.59
58:BI:124:LYS:O	58:BI:124:LYS:HG3	2.02	0.59
63:BN:29:THR:HB	63:BN:30:SER:C	2.23	0.59
75:BZ:99:LEU:HD23	75:BZ:109:TYR:CZ	2.37	0.59
48:A2:2398:C:O2	48:A2:2398:C:H3'	2.01	0.59
48:A2:2643:G:H4'	48:A2:2656:G:H4'	1.84	0.59
48:A2:3683:A:H2'	48:A2:3684:U:H6	1.62	0.59
48:A2:4597:A:H5''	48:A2:4598:U:OP2	2.02	0.59
7:AE:219:LYS:HA	48:A2:4898:C:N4	2.16	0.59
1:A3:103:A:C8	1:A3:104:A:C8	2.91	0.59
2:A4:10:C:C4	6:AD:20:PHE:CZ	2.91	0.59
4:AB:258:HIS:CB	48:A2:4479:A:O2'	2.50	0.59
13:AK:69:LEU:HG	13:AK:70:GLU:H	1.66	0.59
17:AO:33:VAL:HG13	17:AO:102:LEU:HD13	1.85	0.59
19:AQ:176:ARG:HH11	19:AQ:176:ARG:CG	2.14	0.59
22:AT:14:MET:HE3	22:AT:55:LYS:HA	1.85	0.59
28:AZ:95:VAL:O	28:AZ:110:ALA:CB	2.47	0.59
49:B1:1622:U:C6	68:BS:124:ARG:HD2	2.37	0.59
49:B1:1775:U:H6	49:B1:1775:U:O5'	1.84	0.59
50:BA:111:GLN:HE22	52:BC:64:THR:HG21	1.67	0.59
50:BA:90:PHE:CZ	50:BA:178:LEU:HD22	2.37	0.59
50:BA:44:ASP:O	67:BR:125:GLY:HA2	2.02	0.59
54:BE:87:MET:CE	54:BE:236:ILE:HG13	2.32	0.59
59:BJ:115:PHE:CG	59:BJ:123:ILE:CD1	2.85	0.59
62:BM:61:TYR:OH	62:BM:107:SER:HB2	2.02	0.59
65:BP:51:ARG:HH11	65:BP:51:ARG:CG	2.14	0.59
65:BP:97:TYR:HB2	65:BP:102:PHE:CE1	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:BR:16:ILE:CG2	67:BR:38:ILE:HD13	2.32	0.59
48:A2:1425:C:H2'	48:A2:1426:A:O4'	2.02	0.59
4:AB:13:SER:HA	48:A2:4551:A:N1	2.18	0.59
48:A2:4880:C:O2	48:A2:4880:C:O4'	2.18	0.59
7:AE:105:ARG:HE	48:A2:464:A:H61	1.51	0.59
9:AG:106:THR:HB	9:AG:195:HIS:CD2	2.37	0.59
13:AK:38:LYS:C	13:AK:40:MET:N	2.56	0.59
13:AK:93:GLU:HB2	13:AK:98:ILE:HG12	1.84	0.59
15:AM:137:LYS:O	15:AM:140:PRO:HD2	2.02	0.59
49:B1:1204:A:OP1	52:BC:117:ARG:HB2	2.02	0.59
49:B1:1284:A:H5'	49:B1:1285:G:H5'	1.82	0.59
49:B1:491:C:OP2	74:BY:104:ARG:CB	2.47	0.59
51:BB:181:LEU:CA	51:BB:184:VAL:HG23	2.32	0.59
56:BG:147:LEU:H	56:BG:147:LEU:HD13	1.68	0.59
56:BG:221:LYS:O	56:BG:225:GLN:NE2	2.35	0.59
59:BJ:122:SER:O	59:BJ:125:HIS:N	2.35	0.59
66:BQ:42:ILE:HD12	66:BQ:48:GLN:HG3	1.82	0.59
68:BS:66:ARG:HE	68:BS:70:ILE:CG1	2.15	0.59
49:B1:1600:G:H5''	75:BZ:43:LYS:CD	2.33	0.59
48:A2:1594:G:N3	48:A2:1594:G:H3'	2.17	0.59
48:A2:1745:C:C5	48:A2:1746:G:N7	2.70	0.59
48:A2:1888:A:H62	48:A2:1889:A:H61	1.48	0.59
48:A2:190:G:C2	48:A2:244:G:N2	2.70	0.59
48:A2:4714:U:O2	48:A2:4905:U:H1'	2.02	0.59
48:A2:488:U:O5'	48:A2:488:U:H6	1.85	0.59
7:AE:173:LEU:HD11	7:AE:190:HIS:C	2.22	0.59
8:AF:167:ILE:HG21	8:AF:174:LEU:CD2	2.33	0.59
8:AF:182:TYR:HE2	8:AF:203:GLU:HB3	1.66	0.59
13:AK:19:GLN:C	13:AK:21:LEU:N	2.56	0.59
13:AK:81:HIS:CE1	13:AK:88:PHE:CD1	2.81	0.59
17:AO:10:ASP:OD1	17:AO:37:ARG:HD2	2.02	0.59
4:AB:8:ALA:CB	24:AV:49:LEU:HD22	2.32	0.59
49:B1:1016:U:O2	63:BN:61:ALA:HB1	2.02	0.59
49:B1:527:C:H4'	59:BJ:125:HIS:HA	1.84	0.59
52:BC:252:THR:HG1	72:BW:99:PHE:HZ	1.17	0.59
54:BE:149:TYR:CA	56:BG:209:TYR:HD2	2.14	0.59
57:BH:62:ILE:HD11	57:BH:94:PHE:CE2	2.38	0.59
61:BL:14:PRO:O	61:BL:15:THR:OG1	2.16	0.59
64:BO:38:ASN:OD1	64:BO:39:ASP:N	2.35	0.59
67:BR:5:ARG:HH11	67:BR:5:ARG:CG	2.14	0.59
72:BW:98:GLN:O	72:BW:99:PHE:O	2.20	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1389:G:C5	48:A2:1391:G:H5''	2.37	0.59
48:A2:192:C:O5'	48:A2:192:C:H6	1.84	0.59
48:A2:1943:A:H2'	48:A2:1944:C:H5'	1.84	0.59
48:A2:2532:A:H2	48:A2:2532:A:OP1	1.84	0.59
2:A4:22:A:C6	2:A4:23:A:N6	2.71	0.59
4:AB:90:VAL:HG13	4:AB:104:THR:HG22	1.84	0.59
5:AC:211:TYR:CE1	5:AC:229:LEU:CA	2.85	0.59
7:AE:105:ARG:NH2	48:A2:678:C:C2	2.68	0.59
19:AQ:153:GLY:HA3	19:AQ:163:THR:CG2	2.30	0.59
19:AQ:78:LYS:CE	48:A2:1413:C:H4'	2.33	0.59
20:AR:3:MET:SD	48:A2:2364:U:H4'	2.42	0.59
49:B1:1274:G:H22	60:BK:29:MET:CB	2.13	0.59
49:B1:317:C:O2'	49:B1:318:A:H5'	2.01	0.59
49:B1:800:U:H2'	49:B1:801:U:O4'	2.02	0.59
51:BB:137:LEU:HD11	51:BB:172:MET:HB3	1.84	0.59
54:BE:246:LEU:HB3	54:BE:250:GLU:HB2	1.84	0.59
54:BE:85:GLY:CA	54:BE:88:ASP:OD2	2.51	0.59
49:B1:168:C:H4'	56:BG:131:ARG:CG	2.32	0.59
56:BG:226:GLU:O	56:BG:230:LYS:HE2	2.02	0.59
25:AW:80:ARG:CD	56:BG:9:ALA:O	2.50	0.59
59:BJ:168:GLY:C	59:BJ:172:ARG:HH21	2.06	0.59
68:BS:66:ARG:HE	68:BS:70:ILE:HG13	1.68	0.59
75:BZ:102:LYS:O	75:BZ:102:LYS:HG3	2.02	0.59
48:A2:900:U:C2'	48:A2:901:U:O4'	2.50	0.59
6:AD:23:ARG:HH21	48:A2:4242:A:P	2.26	0.59
8:AF:166:ARG:NH1	8:AF:209:TRP:CB	2.66	0.59
9:AG:36:PRO:HA	48:A2:4097:A:C2	2.37	0.59
10:AH:7:ASN:HB3	10:AH:58:ASP:CA	2.31	0.59
18:AP:19:GLY:HA2	48:A2:2853:U:O2	92.68	0.59
20:AR:131:VAL:CG1	20:AR:132:PHE:CE1	2.86	0.59
28:AZ:36:ARG:CG	28:AZ:36:ARG:HH11	2.16	0.59
49:B1:1535:U:O4	55:BF:159:ARG:HG3	2.02	0.59
65:BP:130:ARG:H	65:BP:131:PRO:CD	2.16	0.59
65:BP:65:LYS:HB3	65:BP:66:GLU:CD	2.22	0.59
49:B1:1543:U:H4'	66:BQ:43:GLU:HG2	1.83	0.59
68:BS:18:THR:O	68:BS:18:THR:HG22	2.02	0.59
68:BS:72:GLN:HG3	68:BS:73:ASN:N	2.18	0.59
69:BT:39:LEU:HD23	69:BT:39:LEU:O	2.03	0.59
48:A2:1741:G:N2	48:A2:1742:G:C4	2.70	0.59
48:A2:1743:G:C2	48:A2:1744:C:C2	2.91	0.59
48:A2:212:C:OP2	48:A2:212:C:C6	2.56	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:217:C:C2	48:A2:233:G:N2	2.71	0.59
48:A2:681:A:N6	48:A2:682:U:C4	2.71	0.59
1:A3:26:C:O2'	5:AC:54:VAL:O	2.21	0.59
3:AA:31:ALA:HB2	48:A2:4053:U:H5'	1.85	0.59
4:AB:280:ILE:O	4:AB:281:ASN:HB2	2.02	0.59
4:AB:294:LYS:HA	4:AB:297:LYS:O	2.03	0.59
5:AC:132:ALA:HA	5:AC:151:PRO:HG2	1.84	0.59
9:AG:87:LEU:HD21	9:AG:91:THR:HG22	1.84	0.59
13:AK:25:PRO:HD2	13:AK:92:LYS:CB	2.33	0.59
15:AM:101:LYS:HG3	15:AM:104:MET:CE	2.33	0.59
49:B1:1377:U:C4	50:BA:102:ARG:NE	2.71	0.59
49:B1:502:C:OP1	54:BE:66:MET:HE3	2.01	0.59
50:BA:176:TRP:HB2	50:BA:202:TYR:CD2	2.37	0.59
49:B1:1389:C:O2	53:BD:162:ASP:HB2	2.03	0.59
54:BE:16:LYS:O	54:BE:19:MET:HE2	2.03	0.59
54:BE:252:ARG:HD3	59:BJ:72:PHE:CE2	2.38	0.59
56:BG:64:LYS:CB	56:BG:97:VAL:HG11	2.33	0.59
64:BO:78:ALA:HB1	64:BO:118:ALA:HB3	1.80	0.59
49:B1:984:C:H1'	64:BO:138:ASP:HB2	1.85	0.59
75:BZ:76:ARG:O	75:BZ:76:ARG:NE	2.36	0.59
48:A2:1192:U:H3'	48:A2:1193:C:H5''	1.85	0.59
48:A2:48:G:C2'	48:A2:49:U:OP2	2.51	0.59
48:A2:968:C:OP1	48:A2:969:U:OP1	2.21	0.59
4:AB:226:LYS:HB3	4:AB:229:LYS:HE3	1.84	0.59
4:AB:254:ILE:O	4:AB:266:VAL:HG11	2.03	0.59
7:AE:95:PRO:O	7:AE:96:VAL:HG23	2.03	0.59
13:AK:32:ALA:H	13:AK:85:ASN:HB2	1.65	0.59
49:B1:797:C:C1'	49:B1:798:G:OP2	2.46	0.59
53:BD:142:LEU:HD12	53:BD:150:MET:HG3	1.84	0.59
59:BJ:54:ARG:CD	59:BJ:98:LEU:CD2	2.77	0.59
65:BP:18:ARG:HH12	65:BP:38:SER:N	2.01	0.59
48:A2:1949:G:C2	48:A2:2001:U:N3	2.71	0.58
48:A2:214:C:C4'	48:A2:215:A:OP1	2.47	0.58
2:A4:3:C:O5'	2:A4:3:C:H6	1.86	0.58
5:AC:94:ASN:OD1	5:AC:100:ARG:O	2.20	0.58
5:AC:137:VAL:CG1	5:AC:144:ILE:HD11	2.32	0.58
5:AC:218:ILE:HA	5:AC:229:LEU:CD2	2.23	0.58
6:AD:230:SER:O	6:AD:231:VAL:HB	2.02	0.58
6:AD:22:ARG:NH2	6:AD:27:LYS:HD3	2.16	0.58
14:AL:128:PRO:CD	14:AL:136:LYS:HD3	2.33	0.58
19:AQ:164:LYS:CG	48:A2:1479:A:H1'	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AS:96:GLU:HB2	21:AS:139:ARG:HG2	1.85	0.58
49:B1:1018:U:OP2	63:BN:62:GLN:NE2	2.36	0.58
49:B1:1738:C:H6	49:B1:1738:C:O5'	1.86	0.58
49:B1:368:U:H3'	49:B1:369:C:H5	1.67	0.58
53:BD:72:VAL:CG2	60:BK:20:VAL:CG1	2.81	0.58
66:BQ:13:PHE:HA	66:BQ:21:ALA:O	2.02	0.58
66:BQ:33:LYS:HB3	66:BQ:69:ARG:CB	2.25	0.58
68:BS:47:LYS:HZ2	68:BS:47:LYS:N	2.00	0.58
49:B1:1567:G:O2'	69:BT:38:LYS:HG3	2.03	0.58
49:B1:1665:G:N2	69:BT:87:VAL:CG1	2.66	0.58
75:BZ:66:LYS:O	75:BZ:67:LEU:HD12	2.03	0.58
48:A2:1283:G:H2'	48:A2:1284:C:C5	2.38	0.58
48:A2:31:U:C3'	48:A2:32:G:C8	2.85	0.58
11:AI:116:ARG:CA	48:A2:4157:G:N2	2.66	0.58
17:AO:176:ARG:HD3	48:A2:4730:G:H5'	1.86	0.58
8:AF:76:ARG:NH2	48:A2:719:U:OP2	2.36	0.58
3:AA:30:ARG:HH21	3:AA:63:PHE:HB3	1.68	0.58
5:AC:4:ALA:HB2	48:A2:659:G:N2	2.18	0.58
7:AE:95:PRO:C	7:AE:96:VAL:HG23	2.23	0.58
18:AP:60:PHE:CE1	18:AP:82:ARG:HB3	2.37	0.58
19:AQ:164:LYS:HA	48:A2:1479:A:O4'	2.02	0.58
19:AQ:75:ARG:HH11	19:AQ:75:ARG:CG	2.14	0.58
21:AS:142:VAL:CG1	21:AS:146:HIS:CE1	2.86	0.58
49:B1:1756:C:H2'	49:B1:1757:G:C8	2.37	0.58
49:B1:227:U:H1'	49:B1:228:C:C5'	2.33	0.58
49:B1:802:A:H8	49:B1:802:A:P	2.25	0.58
49:B1:823:U:H1'	59:BJ:140:GLN:OE1	2.03	0.58
50:BA:204:TYR:CG	50:BA:205:ARG:N	2.71	0.58
51:BB:75:GLN:HA	51:BB:75:GLN:HE21	1.68	0.58
56:BG:101:ILE:CG2	56:BG:102:VAL:N	2.65	0.58
61:BL:11:GLN:C	61:BL:12:LYS:HG3	2.14	0.58
61:BL:13:GLN:HE22	61:BL:15:THR:C	2.07	0.58
65:BP:85:ILE:CG2	65:BP:112:ILE:HA	2.29	0.58
65:BP:52:LYS:HD3	65:BP:53:GLN:H	1.68	0.58
68:BS:63:GLU:HA	68:BS:63:GLU:OE1	2.01	0.58
48:A2:1224:C:H3'	48:A2:1225:G:N2	2.18	0.58
48:A2:168:U:H2'	48:A2:169:C:O4'	2.04	0.58
14:AL:16:LYS:CD	48:A2:47:A:H5''	2.33	0.58
7:AE:136:HIS:CE1	48:A2:701:G:C2'	2.86	0.58
2:A4:3:C:OP2	2:A4:3:C:C6	2.56	0.58
8:AF:104:LYS:HE2	48:A2:1708:U:OP1	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AF:24:ASN:HA	8:AF:27:GLU:HG2	1.85	0.58
13:AK:38:LYS:C	13:AK:40:MET:H	2.07	0.58
14:AL:16:LYS:HD2	48:A2:47:A:H5''	1.84	0.58
20:AR:28:GLU:OE1	20:AR:28:GLU:N	2.36	0.58
28:AZ:33:THR:O	28:AZ:33:THR:HG22	2.03	0.58
49:B1:1737:G:H2'	49:B1:1738:C:C6	2.38	0.58
49:B1:181:A:C8	49:B1:182:C:C4	2.91	0.58
49:B1:525:A:H2'	49:B1:526:A:C1'	2.34	0.58
49:B1:839:C:H2'	49:B1:840:C:H5''	1.85	0.58
50:BA:41:ARG:CB	50:BA:47:TYR:CE1	2.86	0.58
51:BB:180:ASP:OD1	51:BB:182:LYS:HB2	2.02	0.58
49:B1:222:U:H1'	58:BI:71:CYS:SG	2.42	0.58
61:BL:30:LYS:HD2	61:BL:33:LEU:CD2	2.16	0.58
61:BL:35:ARG:HG2	61:BL:36:TYR:N	2.18	0.58
65:BP:52:LYS:HG2	65:BP:83:MET:CE	2.27	0.58
68:BS:45:LEU:CA	68:BS:48:ALA:HB3	2.31	0.58
49:B1:1417:C:C5'	69:BT:2:PRO:N	2.63	0.58
75:BZ:46:ASN:HD21	75:BZ:79:ILE:C	2.07	0.58
48:A2:1258:G:C1'	48:A2:1259:C:C5	2.84	0.58
48:A2:131:C:C6	48:A2:131:C:C4'	2.86	0.58
48:A2:1341:G:N3	48:A2:1343:G:O6	2.36	0.58
5:AC:44:LEU:CD2	48:A2:1356:A:H5''	2.28	0.58
21:AS:111:ARG:HD2	48:A2:2042:U:O2	2.02	0.58
48:A2:206:U:O2	48:A2:230:U:H3'	2.02	0.58
48:A2:1320:A:H62	48:A2:2325:C:H5	1.51	0.58
48:A2:3738:C:H2'	48:A2:3739:U:O4'	2.03	0.58
16:AN:176:LYS:HZ1	48:A2:64:A:H5'	1.68	0.58
3:AA:196:TRP:N	3:AA:197:PRO:HD3	2.18	0.58
8:AF:70:ARG:NH1	48:A2:1191:G:H4'	2.18	0.58
10:AH:96:TYR:HA	10:AH:177:ASP:OD1	2.03	0.58
10:AH:41:ILE:HG21	10:AH:73:ILE:HD11	1.85	0.58
13:AK:52:VAL:C	13:AK:53:VAL:HG23	2.24	0.58
17:AO:48:TYR:CD2	17:AO:51:LYS:HE2	2.38	0.58
20:AR:132:PHE:CD2	20:AR:138:LEU:HA	2.38	0.58
20:AR:24:LEU:HD12	20:AR:51:ILE:CD1	2.34	0.58
22:AT:118:GLU:OE2	22:AT:122:LYS:HD3	2.03	0.58
24:AV:43:LYS:HE3	24:AV:60:MET:CE	2.33	0.58
25:AW:102:LYS:HG2	25:AW:105:ARG:NH2	1.77	0.58
49:B1:1649:U:OP1	66:BQ:128:GLU:N	2.30	0.58
49:B1:1678:A:H2'	49:B1:1679:A:C5'	2.33	0.58
49:B1:285:U:O2'	49:B1:286:U:OP2	2.22	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:898:U:H2'	49:B1:899:U:H6	1.68	0.58
50:BA:111:GLN:N	50:BA:116:PHE:CE2	2.71	0.58
51:BB:75:GLN:CA	51:BB:75:GLN:HE21	2.16	0.58
53:BD:76:ARG:CZ	60:BK:66:HIS:CE1	2.86	0.58
56:BG:101:ILE:CG2	56:BG:102:VAL:H	2.16	0.58
56:BG:23:LYS:HG2	56:BG:41:LEU:HD12	1.84	0.58
49:B1:799:U:OP1	57:BH:110:THR:OG1	2.21	0.58
65:BP:49:LEU:H	65:BP:50:ARG:CG	1.98	0.58
68:BS:55:ARG:HB2	68:BS:58:GLU:HG3	1.85	0.58
49:B1:1404:U:C5	70:BU:88:LEU:CD2	2.86	0.58
72:BW:94:LEU:HD21	72:BW:101:PHE:O	2.03	0.58
48:A2:1266:G:H3'	48:A2:1266:G:C8	2.38	0.58
48:A2:1500:A:H4'	48:A2:1501:C:C5'	2.34	0.58
48:A2:227:G:N2	48:A2:234:G:C2	2.71	0.58
48:A2:2570:A:H2'	48:A2:2571:U:C6	2.38	0.58
20:AR:70:ARG:HH12	48:A2:2790:G:P	2.27	0.58
3:AA:67:TYR:CZ	48:A2:4056:G:O2'	2.33	0.58
1:A3:126:C:C3'	1:A3:126:C:O2	2.52	0.58
3:AA:30:ARG:HG2	3:AA:74:GLU:OE2	2.03	0.58
5:AC:210:ILE:HG22	5:AC:232:VAL:HG22	1.85	0.58
6:AD:51:MET:HB2	6:AD:144:CYS:SG	2.43	0.58
7:AE:100:LYS:CB	48:A2:678:C:H4'	2.33	0.58
7:AE:147:GLY:N	7:AE:203:ILE:CG2	2.66	0.58
7:AE:240:TYR:CE2	7:AE:243:THR:HG22	2.38	0.58
16:AN:179:LYS:HD3	48:A2:292:G:OP1	2.03	0.58
16:AN:95:ALA:O	48:A2:294:A:H5'	2.04	0.58
49:B1:1444:U:O2'	49:B1:1445:U:C5'	2.50	0.58
49:B1:1603:G:O6	68:BS:25:LYS:HG3	2.02	0.58
49:B1:547:G:H4'	49:B1:548:C:OP2	2.02	0.58
49:B1:591:U:O4'	49:B1:591:U:O2	2.19	0.58
49:B1:689:U:C6	49:B1:742:U:O4	2.55	0.58
49:B1:737:G:H8	49:B1:737:G:O5'	1.86	0.58
49:B1:931:C:OP1	51:BB:159:GLN:HB2	2.04	0.58
51:BB:115:LYS:HG2	51:BB:116:LYS:N	2.17	0.58
51:BB:171:ILE:O	51:BB:174:ARG:HG3	2.02	0.58
51:BB:35:ALA:N	51:BB:42:ARG:O	2.25	0.58
54:BE:112:HIS:O	54:BE:114:ILE:N	2.36	0.58
58:BI:158:ILE:HD12	58:BI:162:LEU:HB3	1.85	0.58
60:BK:57:TYR:HA	60:BK:78:TYR:CD2	2.38	0.58
64:BO:42:VAL:CG1	64:BO:81:VAL:HG21	2.33	0.58
66:BQ:44:PRO:HG2	66:BQ:47:LEU:HG	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BA:39:TYR:HE2	67:BR:108:LEU:CD1	2.15	0.58
67:BR:14:ARG:O	67:BR:17:ILE:HG23	2.04	0.58
6:AD:286:SER:HB2	48:A2:1163:C:C5'	2.20	0.58
48:A2:1225:G:N2	48:A2:1225:G:OP2	2.37	0.58
48:A2:1259:C:C2'	48:A2:1260:G:H8	2.16	0.58
5:AC:116:ASN:HA	48:A2:1341:G:OP1	2.03	0.58
4:AB:247:GLY:HA2	48:A2:2817:G:H5''	1.86	0.58
48:A2:4731:G:O5'	48:A2:4731:G:H8	1.85	0.58
48:A2:677:G:C5'	48:A2:677:G:C8	2.85	0.58
48:A2:695:C:H3'	48:A2:696:G:H8	1.68	0.58
3:AA:227:ARG:NH1	3:AA:227:ARG:HG3	2.19	0.58
4:AB:49:TYR:CE1	4:AB:344:VAL:HG22	2.38	0.58
5:AC:211:TYR:CD1	5:AC:229:LEU:HD13	2.37	0.58
7:AE:111:LYS:HE3	48:A2:682:U:P	2.32	0.58
7:AE:203:ILE:HG12	7:AE:203:ILE:O	2.03	0.58
10:AH:5:LEU:CG	10:AH:60:TRP:HZ3	2.06	0.58
14:AL:16:LYS:HG2	14:AL:21:ARG:NH2	2.18	0.58
18:AP:19:GLY:HA3	18:AP:22:LEU:HD21	1.84	0.58
19:AQ:101:CYS:HA	19:AQ:121:LEU:O	2.04	0.58
19:AQ:18:PRO:C	19:AQ:20:SER:H	2.06	0.58
49:B1:1499:U:H4'	53:BD:176:LEU:HD13	1.85	0.58
49:B1:1751:C:C2	49:B1:1782:G:N2	2.72	0.58
49:B1:294:U:O4	61:BL:65:ASN:CB	2.48	0.58
49:B1:434:G:H5''	58:BI:23:LYS:HD3	1.83	0.58
51:BB:79:VAL:CB	51:BB:81:PHE:CE1	2.86	0.58
54:BE:71:LYS:HG2	54:BE:91:SER:O	2.04	0.58
55:BF:171:GLU:OE2	75:BZ:72:VAL:HG23	2.03	0.58
49:B1:103:A:C5'	58:BI:12:ARG:HH12	2.17	0.58
49:B1:401:A:O2'	58:BI:14:THR:HG23	2.04	0.58
49:B1:102:A:OP1	58:BI:19:LYS:HD3	2.04	0.58
59:BJ:29:LEU:CD2	59:BJ:40:LYS:HE3	2.32	0.58
61:BL:151:THR:O	61:BL:154:GLN:HG3	2.04	0.58
49:B1:1539:U:OP1	69:BT:43:LYS:HB3	2.03	0.58
72:BW:14:ILE:HD11	72:BW:27:ILE:HD11	1.84	0.58
48:A2:1341:G:N2	48:A2:1343:G:N3	2.51	0.58
48:A2:1976:G:H2'	48:A2:1977:C:O4'	2.04	0.58
48:A2:3731:A:C2	49:B1:1709:G:N2	2.72	0.58
48:A2:3935:U:H2'	48:A2:3935:U:OP2	2.04	0.58
2:A4:47:G:C2'	6:AD:223:PHE:CE1	2.86	0.58
5:AC:222:ARG:O	5:AC:222:ARG:HG3	2.03	0.58
19:AQ:12:LYS:HD2	19:AQ:14:ARG:HD2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AR:23:TRP:HE3	20:AR:24:LEU:H	1.52	0.58
20:AR:60:ARG:NH2	20:AR:63:CYS:SG	2.76	0.58
22:AT:57:TYR:OH	22:AT:87:LYS:HD3	2.04	0.58
23:AU:99:TRP:HA	23:AU:99:TRP:CE3	2.39	0.58
28:AZ:36:ARG:NH1	28:AZ:38:TYR:OH	2.36	0.58
49:B1:1315:U:H4'	60:BK:1:MET:CB	2.34	0.58
49:B1:168:C:O2'	56:BG:133:LEU:CB	2.52	0.58
49:B1:496:C:H5'	54:BE:29:PRO:HA	1.84	0.58
49:B1:839:C:N1	49:B1:841:G:H1'	2.18	0.58
50:BA:208:GLU:HB2	50:BA:211:GLU:OE1	2.03	0.58
56:BG:62:PRO:HG2	56:BG:83:CYS:SG	2.44	0.58
56:BG:7:PHE:CD1	56:BG:124:LEU:HD12	2.39	0.58
58:BI:42:ARG:HE	58:BI:44:HIS:CE1	2.21	0.58
63:BN:26:LEU:HD11	63:BN:28:LEU:HB3	1.85	0.58
65:BP:30:TYR:O	65:BP:33:LEU:HG	2.03	0.58
68:BS:15:VAL:O	68:BS:19:ASN:HB2	2.04	0.58
72:BW:101:PHE:CE1	72:BW:112:ASP:OD2	2.56	0.58
48:A2:1166:C:C6	48:A2:1166:C:H3'	2.36	0.58
48:A2:1319:G:C5	48:A2:2325:C:C4	2.91	0.58
48:A2:1945:A:O5'	48:A2:1945:A:H8	1.87	0.58
48:A2:1989:U:C4	48:A2:1991:A:OP2	2.57	0.58
48:A2:243:G:H2'	48:A2:244:G:C8	2.39	0.58
24:AV:50:ASN:O	48:A2:3813:C:H4'	2.04	0.58
14:AL:36:ARG:NH1	48:A2:407:G:O5'	61.04	0.58
48:A2:4266:A:H3'	48:A2:4267:G:H5''	1.85	0.58
15:AM:4:ARG:NH1	48:A2:4726:A:H62	2.02	0.58
48:A2:905:G:C4	48:A2:905:G:C3'	2.86	0.58
5:AC:211:TYR:CE1	5:AC:229:LEU:CD2	2.85	0.58
5:AC:77:PRO:N	5:AC:91:ALA:CB	2.67	0.58
2:A4:36:C:H4'	6:AD:154:THR:HG22	1.84	0.58
6:AD:219:TYR:CE2	6:AD:227:ILE:HG21	2.39	0.58
7:AE:165:LEU:CD2	7:AE:203:ILE:HD12	2.34	0.58
15:AM:41:PRO:HB3	15:AM:70:GLN:HE21	1.58	0.58
18:AP:122:ALA:HB1	18:AP:123:PRO:HD2	1.85	0.58
20:AR:26:PRO:O	20:AR:29:THR:OG1	2.18	0.58
26:AX:90:ILE:HG22	26:AX:147:LEU:HD13	1.85	0.58
49:B1:502:C:P	54:BE:66:MET:SD	3.01	0.58
50:BA:103:PHE:CE2	50:BA:136:GLU:CD	2.76	0.58
51:BB:32:ASP:OD2	51:BB:34:LYS:HE2	2.02	0.58
57:BH:61:ILE:HG22	57:BH:93:VAL:HB	1.86	0.58
58:BI:193:LYS:HE2	61:BL:11:GLN:NE2	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2640:U:C4	61:BL:158:PHE:CE2	2.91	0.58
63:BN:124:ARG:CG	63:BN:127:ARG:NH2	2.50	0.58
49:B1:924:G:H21	63:BN:87:ASP:HB2	1.68	0.58
68:BS:66:ARG:HH11	68:BS:66:ARG:HG2	1.67	0.58
72:BW:100:GLY:CA	72:BW:101:PHE:CD2	2.85	0.58
48:A2:1294:G:C6	48:A2:1295:A:C4	2.91	0.58
48:A2:1895:C:H5''	48:A2:1896:C:H2'	1.86	0.58
48:A2:1963:G:C8	48:A2:1963:G:OP2	2.57	0.58
48:A2:1991:A:C2	48:A2:1992:C:C1'	2.86	0.58
48:A2:307:U:C3'	48:A2:308:G:H5'	2.33	0.58
48:A2:2853:U:C2	48:A2:3663:A:N1	2.71	0.58
48:A2:3875:G:C5'	48:A2:3876:A:OP2	2.45	0.58
48:A2:3880:C:H6	48:A2:3880:C:O5'	1.86	0.58
48:A2:4873:G:C6	48:A2:4874:G:N7	2.72	0.58
5:AC:318:PRO:HB3	5:AC:325:MET:SD	2.44	0.58
6:AD:4:VAL:HG21	48:A2:1737:C:C1'	2.30	0.58
7:AE:207:LYS:HE2	7:AE:208:ILE:H	1.69	0.58
13:AK:39:GLN:HA	13:AK:42:GLN:HB3	1.86	0.58
13:AK:39:GLN:HA	13:AK:42:GLN:CB	2.34	0.58
22:AT:125:TRP:O	22:AT:127:GLN:N	2.31	0.58
49:B1:1139:C:O2'	49:B1:1140:G:C8	2.57	0.58
49:B1:1778:C:H3'	49:B1:1779:G:H8	1.68	0.58
49:B1:331:C:C3'	49:B1:332:G:H5''	2.33	0.58
50:BA:176:TRP:HA	50:BA:202:TYR:HE2	1.62	0.58
53:BD:17:PHE:CE2	53:BD:77:PHE:CD1	2.91	0.58
54:BE:95:THR:HG21	54:BE:97:GLU:CG	2.32	0.58
56:BG:212:LEU:O	56:BG:215:LYS:HB2	2.03	0.58
57:BH:43:LEU:HD11	57:BH:72:PHE:CZ	2.39	0.58
59:BJ:87:LEU:HD21	59:BJ:100:LEU:CD1	2.18	0.58
73:BX:40:PRO:O	73:BX:41:PHE:HB2	2.02	0.58
73:BX:74:LEU:HD11	73:BX:81:ILE:HD11	1.85	0.58
48:A2:133:C:N4	48:A2:135:G:C4	2.72	0.58
5:AC:100:ARG:HH22	48:A2:1632:A:H2	1.50	0.58
17:AO:49:ARG:NH2	48:A2:1910:A:O2'	2.37	0.58
48:A2:2590:A:C5'	48:A2:2667:G:H4'	2.34	0.58
1:A3:108:A:H2'	1:A3:109:C:OP1	2.01	0.58
4:AB:105:VAL:HG11	4:AB:150:PHE:CE2	2.38	0.58
4:AB:391:PRO:CD	25:AW:63:GLN:NE2	2.66	0.58
5:AC:221:PHE:N	5:AC:221:PHE:CD1	2.72	0.58
5:AC:318:PRO:HB2	8:AF:155:TYR:HB3	1.84	0.58
20:AR:169:ALA:CA	20:AR:172:ARG:CG	2.81	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AS:7:LEU:N	21:AS:7:LEU:HD22	2.02	0.58
49:B1:1331:C:OP1	49:B1:1490:G:OP2	2.22	0.58
49:B1:496:C:H5''	49:B1:496:C:O2	2.04	0.58
49:B1:65:C:C6	56:BG:174:PRO:HB3	2.39	0.58
58:BI:171:LEU:HD21	58:BI:189:VAL:CG1	2.34	0.58
49:B1:1530:U:H4'	69:BT:86:GLY:O	2.04	0.58
49:B1:1404:U:H5	70:BU:21:ARG:NH1	2.01	0.58
73:BX:135:LYS:O	73:BX:137:LYS:HE2	2.04	0.58
48:A2:133:C:C6	48:A2:133:C:H3'	2.39	0.57
13:AK:59:THR:O	48:A2:1942:G:H5''	2.04	0.57
48:A2:257:G:N2	48:A2:258:C:H1'	2.19	0.57
48:A2:2858:A:C1'	48:A2:2860:A:H5'	2.34	0.57
7:AE:219:LYS:CD	48:A2:4898:C:C5	2.87	0.57
48:A2:676:G:H8	48:A2:676:G:P	2.27	0.57
3:AA:247:ARG:CG	49:B1:1069:U:C4'	2.77	0.57
5:AC:193:LYS:HD3	48:A2:346:G:C8	2.39	0.57
5:AC:212:ASN:ND2	5:AC:256:ALA:N	2.52	0.57
6:AD:60:ILE:HG12	6:AD:80:ALA:HB2	1.86	0.57
7:AE:209:PRO:HD3	7:AE:253:VAL:HG22	1.86	0.57
9:AG:105:GLU:OE2	9:AG:113:ARG:HD3	2.04	0.57
13:AK:1:MET:CB	13:AK:2:PRO:CD	2.79	0.57
13:AK:54:LEU:HA	48:A2:1979:A:OP2	2.04	0.57
8:AF:229:GLU:C	21:AS:2:LYS:HB2	2.24	0.57
23:AU:52:LYS:HZ3	23:AU:52:LYS:HB3	1.68	0.57
24:AV:45:ILE:HD13	24:AV:53:PRO:HB3	1.77	0.57
4:AB:391:PRO:HD2	25:AW:63:GLN:NE2	2.18	0.57
28:AZ:94:THR:O	28:AZ:95:VAL:HG23	2.04	0.57
49:B1:1679:A:N6	55:BF:59:LYS:C	2.57	0.57
49:B1:581:U:C5'	74:BY:62:THR:HG23	2.25	0.57
49:B1:659:G:H3'	49:B1:659:G:N3	2.19	0.57
49:B1:740:C:O2'	49:B1:741:C:H5'	2.04	0.57
49:B1:898:U:O2'	49:B1:899:U:H5'	2.04	0.57
49:B1:903:A:O2'	49:B1:904:A:H5'	2.04	0.57
54:BE:79:ASP:CB	54:BE:82:TYR:HB2	2.24	0.57
49:B1:154:U:H4'	56:BG:13:GLN:HB3	1.85	0.57
53:BD:76:ARG:HB2	60:BK:22:VAL:HG21	1.86	0.57
48:A2:133:C:H6	48:A2:133:C:H5''	1.67	0.57
48:A2:133:C:C2	48:A2:134:G:C6	2.91	0.57
48:A2:133:C:N4	48:A2:135:G:C2	2.72	0.57
48:A2:205:A:C4	48:A2:229:G:C6	2.92	0.57
48:A2:204:G:N3	48:A2:228:U:O2'	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:3737:A:OP2	48:A2:3738:C:C4	2.56	0.57
4:AB:257:TRP:NE1	48:A2:4480:A:N7	2.53	0.57
4:AB:268:ARG:CD	48:A2:4527:C:O2	2.52	0.57
48:A2:4678:C:N4	48:A2:4679:A:N6	2.52	0.57
15:AM:56:GLN:NE2	48:A2:4827:U:N1	2.52	0.57
5:AC:211:TYR:HE1	5:AC:229:LEU:HD13	1.68	0.57
1:A3:27:U:OP1	5:AC:56:GLU:CB	2.52	0.57
7:AE:126:LEU:HB2	48:A2:958:U:O4	2.04	0.57
12:AJ:100:SER:O	12:AJ:159:LYS:HD2	2.05	0.57
24:AV:121:VAL:HG21	24:AV:136:ALA:CB	2.33	0.57
49:B1:1286:G:C4	62:BM:35:ILE:N	2.71	0.57
49:B1:1497:G:O6	60:BK:67:PHE:CZ	2.57	0.57
49:B1:1661:A:OP2	49:B1:1661:A:H3'	2.04	0.57
49:B1:1745:A:O2'	56:BG:65:GLN:NE2	2.37	0.57
49:B1:741:C:H4'	49:B1:742:U:OP2	2.03	0.57
56:BG:1:MET:CE	56:BG:24:LEU:HD13	2.34	0.57
59:BJ:136:ARG:CB	59:BJ:159:PHE:HA	2.34	0.57
65:BP:52:LYS:HB2	65:BP:80:LEU:HD13	1.84	0.57
71:BV:41:LYS:C	71:BV:42:VAL:HG23	2.23	0.57
72:BW:100:GLY:HA3	72:BW:101:PHE:CE2	2.38	0.57
48:A2:1753:U:H6	48:A2:1753:U:O5'	1.87	0.57
48:A2:4152:U:H3'	48:A2:4153:G:C5'	2.35	0.57
3:AA:63:PHE:N	3:AA:63:PHE:CD1	2.73	0.57
6:AD:286:SER:HB3	48:A2:1164:C:OP2	2.03	0.57
7:AE:273:SER:HB2	48:A2:4839:U:C2'	2.33	0.57
20:AR:146:LYS:HB3	20:AR:146:LYS:HZ3	1.69	0.57
22:AT:78:LYS:CD	22:AT:87:LYS:HZ2	2.17	0.57
25:AW:59:HIS:O	25:AW:60:LYS:HB2	2.03	0.57
49:B1:161:U:C2	56:BG:87:ARG:NH1	2.72	0.57
49:B1:1749:G:C6	49:B1:1750:C:N4	2.73	0.57
49:B1:331:C:H3'	49:B1:332:G:C5'	2.34	0.57
49:B1:562:U:O3'	49:B1:563:G:O4'	2.21	0.57
51:BB:134:LEU:HD22	51:BB:218:LEU:HD21	1.87	0.57
49:B1:1679:A:C8	55:BF:60:ARG:HB2	2.39	0.57
56:BG:56:ASN:O	56:BG:108:VAL:N	2.37	0.57
59:BJ:101:LYS:HD2	59:BJ:103:GLU:OE1	2.04	0.57
49:B1:960:U:OP1	64:BO:149:ARG:NH2	2.37	0.57
66:BQ:97:GLN:CG	66:BQ:102:GLU:OE2	2.48	0.57
66:BQ:12:VAL:HG11	66:BQ:90:LYS:HB2	1.77	0.57
48:A2:163:C:N4	48:A2:164:C:C4	2.72	0.57
8:AF:131:ASN:ND2	48:A2:1709:U:H5''	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2573:C:H2'	48:A2:2574:C:C6	2.39	0.57
48:A2:285:U:O2	48:A2:291:U:C2	2.57	0.57
48:A2:3724:G:H2'	48:A2:3725:G:C8	2.39	0.57
48:A2:5020:G:C8	48:A2:5020:G:H3'	2.39	0.57
48:A2:903:C:H5''	48:A2:903:C:C6	2.36	0.57
5:AC:309:ILE:HG22	5:AC:311:ARG:HG3	1.85	0.57
7:AE:167:GLN:OE1	7:AE:171:GLY:HA2	2.05	0.57
7:AE:232:ILE:O	7:AE:236:GLU:HB2	2.04	0.57
10:AH:93:ARG:CZ	48:A2:19:G:OP2	164.22	0.57
10:AH:44:GLU:OE2	15:AM:2:VAL:HB	2.05	0.57
19:AQ:72:LEU:CD1	48:A2:1439:G:C5'	2.81	0.57
19:AQ:72:LEU:HD13	48:A2:1439:G:H5''	1.86	0.57
22:AT:116:LYS:HB2	22:AT:128:LEU:HD21	1.84	0.57
25:AW:102:LYS:CA	25:AW:105:ARG:NH2	2.67	0.57
28:AZ:39:SER:HB3	28:AZ:77:TYR:CE2	2.40	0.57
49:B1:180:G:C2	49:B1:181:A:N6	2.72	0.57
49:B1:449:A:H4'	49:B1:450:C:OP2	2.05	0.57
49:B1:634:A:C6	49:B1:635:G:C6	2.92	0.57
49:B1:742:U:HO2'	49:B1:743:U:H6	1.49	0.57
49:B1:834:C:H2'	49:B1:835:C:O4'	2.04	0.57
49:B1:897:U:H2'	49:B1:898:U:O4'	2.05	0.57
50:BA:41:ARG:CB	50:BA:47:TYR:CD1	2.88	0.57
53:BD:34:TYR:HD2	70:BU:61:LEU:CD1	28.05	0.57
55:BF:73:THR:HB	55:BF:89:THR:CG2	2.34	0.57
56:BG:69:THR:O	56:BG:101:ILE:CG1	2.52	0.57
58:BI:37:LYS:HB2	58:BI:59:ARG:HB3	1.86	0.57
59:BJ:35:TYR:CE1	59:BJ:106:LEU:HB2	2.38	0.57
65:BP:125:PRO:O	65:BP:126:VAL:HB	2.03	0.57
68:BS:12:ILE:C	68:BS:13:LEU:HD23	2.23	0.57
69:BT:116:ASP:OD2	69:BT:122:LYS:HD3	2.04	0.57
5:AC:114:ARG:NH2	48:A2:1342:G:C2	2.73	0.57
48:A2:1740:G:C2	48:A2:1741:G:C8	2.93	0.57
48:A2:2480:C:H2'	48:A2:2481:G:O4'	2.04	0.57
3:AA:67:TYR:HE2	48:A2:4056:G:O2'	1.87	0.57
48:A2:4661:U:C4'	48:A2:4662:A:OP1	2.50	0.57
7:AE:105:ARG:CZ	48:A2:680:C:H1'	2.33	0.57
5:AC:77:PRO:CG	5:AC:91:ALA:HB1	2.34	0.57
2:A4:47:G:O2'	6:AD:223:PHE:CZ	2.47	0.57
8:AF:225:THR:HG1	8:AF:231:GLY:HA3	1.67	0.57
9:AG:93:THR:HG22	9:AG:97:LYS:HE3	1.85	0.57
10:AH:121:LYS:HB3	48:A2:4574:C:N3	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:14:PHE:CE2	48:A2:1941:A:C6	2.92	0.57
13:AK:40:MET:CE	48:A2:1977:C:H2'	2.34	0.57
6:AD:41:LYS:HZ2	22:AT:93:ILE:HD13	1.68	0.57
23:AU:82:TYR:CE1	23:AU:86:LEU:HD11	2.40	0.57
27:AY:41:LYS:HZ2	27:AY:42:TYR:HE1	1.53	0.57
27:AY:42:TYR:N	27:AY:42:TYR:HD1	2.01	0.57
49:B1:1216:C:H5''	49:B1:1217:A:H5''	1.86	0.57
49:B1:157:U:H1'	56:BG:59:GLN:CA	2.34	0.57
49:B1:1679:A:C6	55:BF:60:ARG:N	2.73	0.57
49:B1:331:C:H2'	49:B1:332:G:H5''	1.85	0.57
49:B1:53:C:O2'	74:BY:108:LYS:HD3	2.04	0.57
50:BA:202:TYR:HD1	50:BA:202:TYR:N	2.02	0.57
51:BB:115:LYS:CG	51:BB:116:LYS:H	2.16	0.57
51:BB:79:VAL:CG1	51:BB:81:PHE:CE1	2.88	0.57
52:BC:167:ARG:CD	52:BC:219:ILE:CD1	2.82	0.57
58:BI:82:VAL:O	58:BI:101:ILE:HB	2.04	0.57
59:BJ:122:SER:HB2	59:BJ:125:HIS:HB2	1.83	0.57
59:BJ:113:GLN:HG3	59:BJ:149:VAL:CG2	2.34	0.57
66:BQ:42:ILE:CA	66:BQ:45:ARG:HH12	2.17	0.57
49:B1:1543:U:O2	66:BQ:77:HIS:HE1	1.84	0.57
66:BQ:8:GLN:O	66:BQ:8:GLN:HG2	2.05	0.57
67:BR:95:ILE:HG22	67:BR:96:ILE:H	1.68	0.57
68:BS:16:LEU:HG	68:BS:19:ASN:HD22	1.69	0.57
49:B1:658:U:C4'	73:BX:17:ARG:NH2	2.68	0.57
48:A2:1740:G:N2	48:A2:1741:G:H1'	2.17	0.57
48:A2:1752:A:C5	48:A2:1753:U:C5	2.92	0.57
48:A2:1807:A:H2'	48:A2:1808:G:C8	2.38	0.57
48:A2:2853:U:O2	48:A2:3663:A:C2	2.57	0.57
48:A2:3608:U:H2'	48:A2:3609:G:C5'	2.33	0.57
7:AE:219:LYS:CA	48:A2:4898:C:C4	2.86	0.57
48:A2:902:A:C5'	48:A2:902:A:H8	2.07	0.57
4:AB:103:LYS:HA	48:A2:4686:A:H4'	1.86	0.57
11:AI:113:THR:HG22	11:AI:114:GLY:N	2.19	0.57
22:AT:17:ARG:CZ	22:AT:45:MET:HE3	2.34	0.57
49:B1:1046:U:C4'	64:BO:140:THR:CG2	2.82	0.57
49:B1:305:U:H1'	58:BI:43:ILE:CD1	2.34	0.57
49:B1:744:G:H2'	49:B1:745:C:C5	2.40	0.57
50:BA:111:GLN:NE2	52:BC:64:THR:OG1	2.28	0.57
51:BB:97:LEU:HG	51:BB:232:HIS:NE2	2.19	0.57
51:BB:75:GLN:HG3	51:BB:189:ILE:HD13	1.86	0.57
54:BE:34:GLY:HA3	54:BE:83:PRO:CG	2.31	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BE:87:MET:CE	54:BE:123:LEU:N	2.37	0.57
49:B1:142:C:O2	56:BG:180:VAL:HB	2.05	0.57
59:BJ:136:ARG:C	59:BJ:158:ASP:O	2.43	0.57
53:BD:71:ALA:HB1	60:BK:20:VAL:HG21	1.84	0.57
65:BP:34:MET:HA	65:BP:37:TYR:HB2	1.86	0.57
67:BR:28:PHE:HA	67:BR:55:THR:HG21	1.86	0.57
49:B1:1402:A:H1'	70:BU:54:VAL:CG2	2.34	0.57
52:BC:183:LYS:HE2	72:BW:95:PRO:HA	1.87	0.57
75:BZ:46:ASN:OD1	75:BZ:78:LYS:O	2.22	0.57
48:A2:132:G:N1	48:A2:135:G:N1	2.52	0.57
48:A2:1615:G:H2'	48:A2:1623:G:C8	2.39	0.57
48:A2:1741:G:C4	48:A2:1742:G:C8	2.93	0.57
13:AK:63:LYS:HB3	48:A2:1941:A:OP1	2.04	0.57
48:A2:2860:A:H2'	48:A2:2861:A:H5'	1.86	0.57
7:AE:233:PHE:CZ	48:A2:446:A:N3	2.72	0.57
48:A2:4597:A:C8	48:A2:5006:A:N6	2.67	0.57
48:A2:4603:U:H2'	48:A2:4604:U:C6	2.40	0.57
2:A4:14:C:O2	2:A4:14:C:H2'	2.02	0.57
4:AB:262:VAL:HG21	4:AB:268:ARG:HH21	1.69	0.57
6:AD:19:LYS:O	6:AD:20:PHE:HB2	2.03	0.57
6:AD:275:GLN:O	6:AD:279:ARG:HG3	2.04	0.57
7:AE:114:ARG:CZ	48:A2:683:U:OP1	2.51	0.57
7:AE:115:TYR:CD1	7:AE:116:TYR:N	2.73	0.57
7:AE:126:LEU:HD23	7:AE:126:LEU:N	2.20	0.57
13:AK:52:VAL:CB	13:AK:90:PHE:O	2.53	0.57
16:AN:71:ARG:HD2	16:AN:94:PHE:CD1	2.39	0.57
21:AS:1:MET:H3	21:AS:43:ARG:HH21	1.50	0.57
23:AU:56:LEU:HD11	23:AU:63:ILE:CD1	2.34	0.57
26:AX:118:ASP:N	26:AX:118:ASP:OD1	2.37	0.57
28:AZ:46:ILE:HD13	28:AZ:68:ILE:HG13	1.86	0.57
49:B1:1284:A:H5'	49:B1:1285:G:C4'	2.35	0.57
49:B1:298:G:OP1	54:BE:134:LYS:HA	2.05	0.57
49:B1:332:G:C8	56:BG:186:GLN:HB2	2.40	0.57
49:B1:617:G:N7	73:BX:67:ARG:NH2	2.53	0.57
49:B1:1121:G:N2	51:BB:146:ARG:HH22	2.03	0.57
51:BB:36:PRO:O	51:BB:39:PHE:HD2	1.88	0.57
51:BB:39:PHE:CE1	51:BB:75:GLN:NE2	2.73	0.57
54:BE:153:VAL:HB	54:BE:172:PHE:CE2	2.39	0.57
49:B1:522:A:O2'	59:BJ:131:ARG:NH1	2.37	0.57
68:BS:19:ASN:CG	68:BS:33:ILE:HG13	2.24	0.57
68:BS:80:PRO:HB2	68:BS:82:TRP:CE2	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AF:51:TYR:OH	48:A2:1220:C:H5	1.74	0.57
19:AQ:42:THR:CG2	48:A2:1411:U:H5''	2.35	0.57
48:A2:1431:G:OP2	48:A2:1431:G:C8	2.58	0.57
8:AF:219:GLY:HA2	48:A2:1887:U:C4'	2.35	0.57
48:A2:227:G:C5'	48:A2:227:G:C8	2.85	0.57
48:A2:2860:A:H2'	48:A2:2861:A:C5'	2.35	0.57
48:A2:2867:G:C1'	48:A2:3589:C:H1'	2.35	0.57
48:A2:4546:A:C2'	48:A2:4547:U:H5'	2.35	0.57
48:A2:680:C:N4	48:A2:681:A:C4	2.73	0.57
48:A2:90:G:N7	48:A2:92:C:C6	2.73	0.57
48:A2:924:U:H2'	48:A2:924:U:OP2	2.05	0.57
1:A3:129:C:O2	1:A3:129:C:O5'	2.23	0.57
2:A4:75:G:C5'	21:AS:50:GLN:O	2.53	0.57
5:AC:215:ASN:HD22	5:AC:215:ASN:C	2.01	0.57
7:AE:105:ARG:NH1	48:A2:680:C:C6	2.73	0.57
7:AE:164:PHE:CE1	7:AE:173:LEU:HB3	2.39	0.57
7:AE:200:LYS:HZ3	7:AE:203:ILE:H	1.53	0.57
12:AJ:151:ILE:HG22	12:AJ:151:ILE:O	2.05	0.57
10:AH:2:LYS:HB3	15:AM:33:GLN:HE22	1.70	0.57
16:AN:113:LEU:HB3	16:AN:134:LEU:HB3	1.86	0.57
19:AQ:167:VAL:CG2	19:AQ:175:GLU:OE2	2.52	0.57
49:B1:1021:U:C5'	63:BN:128:TYR:CE1	2.80	0.57
49:B1:1552:G:H4'	49:B1:1557:C:N4	2.16	0.57
49:B1:688:U:H4'	49:B1:689:U:H5'	1.87	0.57
49:B1:952:G:C4	49:B1:975:G:C2	2.92	0.57
53:BD:75:LYS:O	60:BK:22:VAL:CG2	2.51	0.57
49:B1:448:A:N7	58:BI:26:LYS:HA	2.20	0.57
60:BK:71:LEU:HD21	60:BK:79:LEU:HD11	1.87	0.57
64:BO:61:LYS:HE2	64:BO:76:LEU:HB3	1.87	0.57
66:BQ:42:ILE:HG13	66:BQ:48:GLN:HG3	1.87	0.57
49:B1:1466:G:H5''	67:BR:4:VAL:HG12	1.87	0.57
68:BS:10:GLN:HG2	68:BS:13:LEU:HD21	1.86	0.57
72:BW:68:ARG:HH12	72:BW:70:ASN:ND2	2.03	0.57
48:A2:1402:G:HO2'	48:A2:1403:A:P	2.27	0.57
13:AK:33:ASP:O	48:A2:1949:G:H4'	2.04	0.57
48:A2:3935:U:OP1	48:A2:3935:U:H3'	2.05	0.57
10:AH:120:GLU:HG3	48:A2:4573:A:C2	2.39	0.57
48:A2:904:A:C2	48:A2:906:C:C5	2.92	0.57
48:A2:970:C:H2'	48:A2:971:C:C6	2.40	0.57
1:A3:27:U:H5'	5:AC:56:GLU:HB2	1.87	0.57
5:AC:67:TRP:CE2	5:AC:71:ARG:NH1	2.73	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AD:287:PHE:HA	48:A2:1162:U:C2'	2.33	0.57
8:AF:184:ILE:CG2	8:AF:189:ASP:C	2.72	0.57
8:AF:80:ASN:OD1	48:A2:2046:G:O2'	47.56	0.57
14:AL:80:GLU:HG2	14:AL:110:LEU:HD12	1.86	0.57
49:B1:1521:C:O4'	49:B1:1521:C:OP2	2.22	0.57
49:B1:1651:A:H1'	55:BF:83:ASN:HD22	1.68	0.57
49:B1:304:C:O2'	58:BI:184:ARG:NH2	2.38	0.57
49:B1:990:A:OP1	51:BB:116:LYS:HE3	2.04	0.57
50:BA:169:HIS:CD2	50:BA:203:PHE:CD2	2.93	0.57
50:BA:77:ILE:HB	50:BA:124:VAL:HG12	1.87	0.57
51:BB:39:PHE:CD1	51:BB:75:GLN:NE2	2.73	0.57
51:BB:81:PHE:O	51:BB:82:ARG:HB2	2.04	0.57
52:BC:103:LYS:HD3	52:BC:133:TYR:CE2	2.39	0.57
53:BD:76:ARG:CZ	60:BK:66:HIS:ND1	2.68	0.57
73:BX:54:LYS:NZ	73:BX:95:GLU:HA	2.20	0.57
48:A2:163:C:C4	48:A2:164:C:C4	2.93	0.57
48:A2:1741:G:C2	48:A2:1742:G:C4	2.93	0.57
48:A2:1971:A:H2'	48:A2:1972:A:O4'	2.04	0.57
48:A2:2067:G:N2	48:A2:2249:G:H22	2.03	0.57
4:AB:20:LYS:HG3	48:A2:4530:A:OP1	2.04	0.57
17:AO:179:LYS:CE	48:A2:4830:G:H8	1.89	0.57
1:A3:126:C:C2'	1:A3:126:C:O2	2.52	0.57
4:AB:285:TYR:HA	4:AB:363:ILE:HD11	1.87	0.57
7:AE:233:PHE:HE2	48:A2:446:A:H2'	1.68	0.57
9:AG:106:THR:HG22	9:AG:109:GLU:HG2	1.86	0.57
11:AI:195:CYS:SG	48:A2:1732:G:H1'	2.44	0.57
13:AK:10:LYS:HE3	48:A2:1941:A:C2	2.40	0.57
14:AL:176:PHE:CD2	14:AL:177:LYS:NZ	2.73	0.57
27:AY:41:LYS:NZ	27:AY:42:TYR:HE1	2.03	0.57
49:B1:1491:G:C1'	70:BU:72:GLU:OE1	2.53	0.57
49:B1:891:G:H3'	49:B1:892:U:C6	2.40	0.57
50:BA:111:GLN:CG	50:BA:116:PHE:CE2	2.88	0.57
51:BB:71:LEU:HD13	51:BB:75:GLN:HG2	1.87	0.57
55:BF:103:LEU:HD13	55:BF:178:ILE:HD13	1.86	0.57
55:BF:20:PHE:CE2	55:BF:97:PHE:HD2	2.23	0.57
59:BJ:136:ARG:HB3	59:BJ:159:PHE:HA	1.87	0.57
49:B1:924:G:H5''	63:BN:4:MET:SD	2.45	0.57
68:BS:92:ASP:OD2	68:BS:94:LYS:HD2	2.05	0.57
48:A2:1263:C:N3	48:A2:1265:G:C6	2.72	0.56
20:AR:107:ARG:NH2	48:A2:2644:U:H5'	2.20	0.56
48:A2:1580:C:O4'	48:A2:2777:A:C2	2.58	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:3617:A:H4'	48:A2:3618:A:O5'	2.04	0.56
48:A2:4071:C:H2'	48:A2:4072:C:C6	2.40	0.56
22:AT:12:ARG:HG3	48:A2:4237:G:O2'	2.05	0.56
48:A2:4873:G:C4	48:A2:4874:G:C8	2.92	0.56
48:A2:90:G:C8	48:A2:92:C:C5	2.93	0.56
2:A4:119:U:H4'	2:A4:119:U:OP1	2.05	0.56
5:AC:137:VAL:HG12	5:AC:144:ILE:HD11	1.87	0.56
5:AC:211:TYR:HE1	5:AC:230:LEU:N	2.03	0.56
6:AD:12:TYR:HD1	6:AD:13:PHE:N	2.02	0.56
14:AL:128:PRO:CD	14:AL:136:LYS:CE	2.56	0.56
19:AQ:167:VAL:HB	19:AQ:175:GLU:OE2	2.05	0.56
20:AR:146:LYS:CB	20:AR:146:LYS:NZ	2.68	0.56
25:AW:102:LYS:N	25:AW:105:ARG:NH2	2.53	0.56
9:AG:57:TRP:CH2	26:AX:41:ARG:NH1	2.72	0.56
49:B1:1124:C:O2'	67:BR:123:THR:HG22	2.04	0.56
49:B1:1342:U:H4'	49:B1:1343:U:O5'	2.04	0.56
49:B1:1445:U:O2'	49:B1:1446:A:H5'	2.05	0.56
49:B1:309:G:N2	49:B1:310:C:C2	2.72	0.56
49:B1:463:C:H4'	49:B1:463:C:OP1	2.05	0.56
49:B1:530:U:H2'	49:B1:531:A:C8	2.40	0.56
53:BD:162:ASP:N	53:BD:163:PRO:HD2	2.19	0.56
53:BD:69:LEU:O	53:BD:73:VAL:CG2	2.41	0.56
56:BG:186:GLN:CG	56:BG:187:HIS:N	2.67	0.56
49:B1:527:C:H5'	59:BJ:125:HIS:HA	1.87	0.56
59:BJ:88:ASP:OD1	59:BJ:91:LYS:HB2	2.03	0.56
66:BQ:14:GLY:O	66:BQ:86:GLN:NE2	2.37	0.56
67:BR:99:ASP:CB	67:BR:102:THR:HB	2.34	0.56
49:B1:1454:A:C2'	67:BR:3:ARG:NE	2.67	0.56
6:AD:290:ALA:HB2	48:A2:1162:U:O2'	2.05	0.56
48:A2:1166:C:C6	48:A2:1166:C:C3'	2.87	0.56
48:A2:1268:U:HO2'	48:A2:1269:C:C5'	2.18	0.56
48:A2:1306:A:N6	48:A2:1307:A:C2	2.72	0.56
48:A2:131:C:H6	48:A2:131:C:C4'	2.17	0.56
48:A2:133:C:N4	48:A2:134:G:C4	2.72	0.56
48:A2:1415:G:N2	48:A2:1434:G:N7	2.54	0.56
48:A2:1740:G:H2'	48:A2:1741:G:H8	1.68	0.56
5:AC:74:ALA:CB	48:A2:2331:U:OP1	2.53	0.56
48:A2:2823:A:C4'	48:A2:4594:U:OP1	2.52	0.56
2:A4:13:A:H5'	2:A4:109:U:O2'	2.05	0.56
2:A4:65:G:C5'	2:A4:65:G:H8	2.18	0.56
13:AK:69:LEU:HD13	48:A2:2675:A:C5	204.18	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:96:THR:O	13:AK:97:GLU:C	2.43	0.56
14:AL:19:GLN:NE2	48:A2:1499:G:OP1	2.37	0.56
14:AL:84:ALA:HA	14:AL:118:LYS:NZ	2.19	0.56
15:AM:99:GLU:HA	15:AM:99:GLU:OE1	2.04	0.56
20:AR:24:LEU:HB3	20:AR:25:ASP:OD1	2.06	0.56
28:AZ:94:THR:C	28:AZ:95:VAL:HG23	2.24	0.56
49:B1:1120:U:O4'	49:B1:1120:U:O2	2.22	0.56
49:B1:1286:G:H1	62:BM:36:ARG:HG3	1.70	0.56
49:B1:367:U:H2'	49:B1:368:U:OP1	2.04	0.56
49:B1:229:A:H2'	49:B1:888:U:H1'	1.86	0.56
50:BA:78:SER:OG	50:BA:83:GLY:HA3	2.04	0.56
49:B1:1256:G:N3	53:BD:40:ARG:HD2	37.49	0.56
55:BF:73:THR:HB	55:BF:89:THR:HG21	1.88	0.56
56:BG:228:ILE:O	56:BG:232:ARG:HD2	2.05	0.56
49:B1:1745:A:C8	56:BG:66:GLY:HA2	2.40	0.56
49:B1:527:C:H4'	59:BJ:125:HIS:CA	2.35	0.56
65:BP:34:MET:CE	65:BP:41:GLN:O	2.52	0.56
71:BV:40:ASP:HB3	71:BV:43:THR:OG1	2.05	0.56
48:A2:1255:C:H3'	48:A2:1256:G:C5	2.41	0.56
16:AN:55:ALA:HB3	48:A2:150:G:OP1	2.04	0.56
48:A2:1576:C:O5'	48:A2:1576:C:O2	2.23	0.56
48:A2:2068:C:C5	48:A2:2247:A:C6	2.93	0.56
3:AA:237:LEU:HD22	48:A2:3629:C:O4'	2.04	0.56
48:A2:4828:G:C5'	48:A2:4828:G:H8	2.18	0.56
21:AS:68:PHE:CZ	48:A2:721:G:N2	2.73	0.56
8:AF:147:LEU:HG	48:A2:931:A:C2	2.39	0.56
4:AB:160:ILE:CD1	4:AB:194:LEU:HB2	2.35	0.56
6:AD:224:SER:O	6:AD:227:ILE:HG13	2.04	0.56
8:AF:161:LYS:HB2	8:AF:209:TRP:CE3	2.41	0.56
8:AF:182:TYR:CE2	8:AF:203:GLU:CB	2.80	0.56
8:AF:226:HIS:HA	8:AF:233:ALA:O	2.05	0.56
21:AS:84:TYR:CD1	21:AS:85:ASP:N	2.73	0.56
25:AW:78:PHE:CD2	25:AW:79:GLN:O	2.57	0.56
49:B1:112:U:O2'	49:B1:114:G:H2'	2.05	0.56
49:B1:1679:A:N6	55:BF:59:LYS:O	2.38	0.56
49:B1:551:U:H2'	49:B1:552:G:C8	2.39	0.56
49:B1:691:G:C8	49:B1:691:G:H5''	2.40	0.56
49:B1:748:C:H5'	49:B1:749:U:C5	2.39	0.56
51:BB:115:LYS:H	51:BB:118:GLN:HE21	1.53	0.56
54:BE:91:SER:OG	54:BE:92:ILE:N	2.36	0.56
25:AW:80:ARG:NH2	56:BG:128:THR:CG2	2.68	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BI:85:ALA:HB1	61:BL:10:TYR:CD1	2.40	0.56
61:BL:55:TYR:CD1	61:BL:115:PRO:HG2	2.41	0.56
61:BL:96:ILE:HD11	61:BL:103:GLU:OE1	2.05	0.56
63:BN:91:LEU:HD12	63:BN:125:LEU:HD12	1.86	0.56
63:BN:23:PRO:HG2	63:BN:24:THR:H	1.70	0.56
66:BQ:9:SER:OG	66:BQ:24:HIS:HE1	1.89	0.56
66:BQ:97:GLN:CG	66:BQ:105:LYS:HE2	2.35	0.56
11:AI:210:ARG:NH1	48:A2:1162:U:C6	2.74	0.56
48:A2:132:G:C6	48:A2:135:G:N2	2.73	0.56
48:A2:1462:C:N3	48:A2:1466:G:O6	2.38	0.56
48:A2:171:C:H2'	48:A2:172:C:C6	2.41	0.56
48:A2:1834:G:C8	48:A2:1834:G:OP2	2.58	0.56
48:A2:2743:A:O2'	48:A2:2744:A:O5'	2.22	0.56
48:A2:4106:C:N4	48:A2:4110:C:H42	2.02	0.56
48:A2:676:G:C6	48:A2:677:G:C6	2.93	0.56
7:AE:105:ARG:NH1	48:A2:680:C:O4'	2.38	0.56
48:A2:945:G:C6	48:A2:946:G:C6	2.92	0.56
1:A3:110:U:C3'	1:A3:110:U:C6	2.88	0.56
5:AC:92:PHE:CD1	5:AC:92:PHE:N	2.73	0.56
5:AC:76:ILE:CD1	5:AC:95:MET:CE	2.83	0.56
13:AK:55:MET:HE2	13:AK:61:MET:HE1	1.87	0.56
20:AR:132:PHE:CD1	20:AR:132:PHE:N	2.73	0.56
22:AT:57:TYR:CE1	22:AT:89:ILE:HD11	2.41	0.56
24:AV:88:TYR:OH	24:AV:96:LEU:HD11	2.04	0.56
26:AX:117:TYR:CE2	26:AX:153:ILE:CG2	2.88	0.56
49:B1:1507:G:H3'	49:B1:1508:A:C5'	2.35	0.56
49:B1:2:A:OP1	52:BC:223:TYR:HE1	1.87	0.56
52:BC:94:ILE:HD13	52:BC:159:LYS:O	2.05	0.56
54:BE:86:PHE:CD1	54:BE:87:MET:N	2.73	0.56
56:BG:219:GLU:OE1	56:BG:219:GLU:HA	2.06	0.56
58:BI:23:LYS:O	58:BI:24:LYS:HB2	2.05	0.56
49:B1:1274:G:OP2	60:BK:1:MET:SD	2.64	0.56
66:BQ:39:LEU:CD2	66:BQ:51:LEU:HD21	2.35	0.56
13:AK:59:THR:C	48:A2:1942:G:H5''	2.26	0.56
13:AK:55:MET:O	48:A2:1979:A:H5'	2.06	0.56
48:A2:2470:C:O5'	48:A2:2470:C:H6	1.89	0.56
48:A2:252:C:H2'	48:A2:252:C:O2	2.04	0.56
48:A2:4110:C:O5'	48:A2:4110:C:H6	1.89	0.56
48:A2:4833:G:HO2'	48:A2:4834:U:P	2.27	0.56
14:AL:165:LYS:HB3	48:A2:505:C:OP2	2.06	0.56
48:A2:517:C:H6	48:A2:517:C:O5'	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:125:LEU:N	48:A2:946:G:N2	2.36	0.56
2:A4:114:U:H4'	6:AD:73:MET:CE	2.36	0.56
4:AB:244:THR:HG22	48:A2:4487:C:HO2'	1.70	0.56
10:AH:99:PHE:CD1	10:AH:119:GLY:HA3	2.41	0.56
11:AI:67:ALA:HB1	11:AI:158:LYS:HD3	1.88	0.56
12:AJ:56:THR:HG23	12:AJ:62:ILE:O	2.06	0.56
13:AK:10:LYS:HE2	48:A2:1941:A:C2	2.40	0.56
15:AM:113:MET:HE1	48:A2:4839:U:C6	2.40	0.56
21:AS:116:ARG:O	48:A2:2015:G:H1'	2.05	0.56
27:AY:15:ARG:NH1	48:A2:226:G:H5'	2.21	0.56
28:AZ:22:LYS:HZ2	28:AZ:130:PHE:HA	1.71	0.56
49:B1:1114:U:OP2	51:BB:199:LYS:HE3	2.05	0.56
49:B1:1273:C:H1'	49:B1:1275:G:OP1	2.05	0.56
49:B1:1320:G:C2	49:B1:1321:G:H1'	2.40	0.56
49:B1:1555:U:C4'	49:B1:1556:A:C2	2.88	0.56
49:B1:1756:C:O2'	49:B1:1757:G:O5'	2.21	0.56
49:B1:1785:C:H2'	49:B1:1786:U:H6	1.69	0.56
49:B1:1824:A:N3	49:B1:1824:A:H5''	2.21	0.56
49:B1:331:C:C2'	49:B1:332:G:H5''	2.34	0.56
49:B1:509:G:H5'	59:BJ:3:VAL:CA	2.32	0.56
49:B1:590:A:H2'	49:B1:590:A:N3	2.19	0.56
49:B1:635:G:C6	49:B1:636:C:N4	2.73	0.56
50:BA:65:ILE:HG23	50:BA:74:VAL:HG21	1.88	0.56
52:BC:88:ILE:HG22	52:BC:160:LEU:HD12	1.88	0.56
54:BE:85:GLY:HA3	54:BE:88:ASP:OD2	2.04	0.56
56:BG:103:ASP:O	56:BG:104:ALA:HB3	2.05	0.56
57:BH:100:ILE:HD13	57:BH:122:LEU:CD1	2.36	0.56
58:BI:193:LYS:HE2	61:BL:11:GLN:HE22	1.70	0.56
65:BP:30:TYR:CD1	65:BP:31:GLU:N	2.73	0.56
65:BP:48:GLY:CA	65:BP:49:LEU:HD23	2.35	0.56
48:A2:1409:G:H1'	48:A2:1441:A:H61	1.71	0.56
48:A2:1957:G:C6	48:A2:1958:C:H1'	2.41	0.56
6:AD:179:ARG:NH2	48:A2:4285:A:OP1	2.29	0.56
17:AO:118:MET:HE3	48:A2:4832:A:N6	2.21	0.56
48:A2:4833:G:O2'	48:A2:4834:U:OP1	2.22	0.56
48:A2:4915:C:H2'	48:A2:4916:C:C6	2.39	0.56
3:AA:30:ARG:NH2	3:AA:63:PHE:HB3	2.21	0.56
4:AB:216:MET:HG2	4:AB:281:ASN:HA	1.87	0.56
4:AB:234:ARG:HD3	4:AB:272:LYS:HB2	1.87	0.56
5:AC:211:TYR:CZ	5:AC:229:LEU:HA	2.39	0.56
5:AC:219:LYS:CD	5:AC:222:ARG:NH2	2.66	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A4:33:U:C5	6:AD:207:TYR:CE1	2.92	0.56
7:AE:136:HIS:NE2	48:A2:702:A:C1'	2.66	0.56
9:AG:80:ILE:HG22	9:AG:164:ILE:HG21	1.86	0.56
2:A4:90:A:O2'	11:AI:11:TYR:HD1	1.83	0.56
13:AK:72:ASN:HB2	13:AK:73:PRO:CD	2.35	0.56
19:AQ:62:SER:HB2	19:AQ:89:ASP:OD2	2.05	0.56
20:AR:144:LYS:HZ2	20:AR:144:LYS:HB2	1.70	0.56
21:AS:82:LEU:HD22	21:AS:82:LEU:N	2.20	0.56
22:AT:126:VAL:HG23	22:AT:127:GLN:N	2.21	0.56
22:AT:79:GLN:HA	22:AT:84:ILE:HG22	1.88	0.56
25:AW:80:ARG:HD3	56:BG:9:ALA:O	2.04	0.56
27:AY:41:LYS:NZ	27:AY:42:TYR:CE1	2.73	0.56
28:AZ:36:ARG:HB2	28:AZ:38:TYR:CE2	2.41	0.56
49:B1:1256:G:H5'	49:B1:1256:G:N3	2.21	0.56
49:B1:156:G:H4'	56:BG:108:VAL:CG2	2.35	0.56
51:BB:182:LYS:HG3	51:BB:231:LEU:HD13	1.87	0.56
52:BC:133:TYR:CE1	52:BC:216:MET:HG2	2.40	0.56
52:BC:78:LEU:HG	52:BC:82:TYR:CE2	2.41	0.56
54:BE:64:ILE:HD12	54:BE:70:ILE:HD11	1.88	0.56
56:BG:211:LYS:O	56:BG:215:LYS:HE3	2.05	0.56
49:B1:509:G:C5'	59:BJ:3:VAL:HA	2.32	0.56
68:BS:16:LEU:O	68:BS:17:ASN:HB3	2.06	0.56
72:BW:102:ILE:CG2	72:BW:103:VAL:N	2.68	0.56
72:BW:102:ILE:N	72:BW:113:HIS:HB2	2.03	0.56
48:A2:1720:A:C3'	48:A2:1721:G:H5'	2.34	0.56
26:AX:48:ARG:HG2	48:A2:2451:A:H1'	1.86	0.56
48:A2:3737:A:OP2	48:A2:3738:C:C5	2.59	0.56
48:A2:3813:C:OP2	48:A2:3814:C:O2'	2.23	0.56
48:A2:71:C:O2'	48:A2:72:C:H2'	2.05	0.56
2:A4:15:C:C2	2:A4:65:G:N2	2.73	0.56
7:AE:99:ASP:HB2	7:AE:104:THR:HA	1.86	0.56
7:AE:152:ILE:HD13	7:AE:194:VAL:HG12	1.88	0.56
7:AE:186:LEU:O	7:AE:187:ARG:O	2.24	0.56
12:AJ:111:GLU:CG	68:BS:14:ARG:HH22	2.08	0.56
13:AK:108:PRO:HD2	13:AK:109:ALA:H	1.71	0.56
13:AK:34:ASN:HB3	48:A2:1950:G:C5'	2.27	0.56
16:AN:98:LEU:CD2	48:A2:295:G:H5''	2.35	0.56
17:AO:176:ARG:HG2	48:A2:4830:G:N1	2.21	0.56
26:AX:117:TYR:CD1	26:AX:117:TYR:N	2.73	0.56
27:AY:117:LYS:HE2	27:AY:117:LYS:HA	1.88	0.56
49:B1:1454:A:H4'	49:B1:1455:A:O5'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:353:C:H4'	61:BL:73:LEU:HD11	1.87	0.56
50:BA:120:ARG:O	50:BA:143:PRO:HD2	2.05	0.56
50:BA:219:GLU:OE1	50:BA:219:GLU:HA	2.05	0.56
52:BC:103:LYS:HB2	52:BC:131:GLY:O	2.06	0.56
53:BD:213:PRO:HD3	67:BR:19:LYS:CD	2.25	0.56
54:BE:19:MET:HE3	54:BE:108:ARG:HD3	1.87	0.56
54:BE:191:ARG:NH2	54:BE:244:ILE:HG13	2.20	0.56
49:B1:377:G:H5''	58:BI:98:LYS:HB3	1.88	0.56
59:BJ:35:TYR:CG	59:BJ:106:LEU:HB3	2.40	0.56
49:B1:1568:C:H5'	69:BT:38:LYS:NZ	2.20	0.56
53:BD:11:PHE:HZ	70:BU:25:THR:CG2	2.17	0.56
73:BX:68:LYS:HD3	73:BX:91:LEU:CB	2.35	0.56
19:AQ:42:THR:CG2	48:A2:1411:U:C5'	2.83	0.56
3:AA:9:ARG:CZ	48:A2:1610:C:C5	2.89	0.56
48:A2:1972:A:H2'	48:A2:1973:U:C5	2.41	0.56
13:AK:44:ARG:HD3	48:A2:1978:U:OP1	2.06	0.56
48:A2:2386:G:OP2	48:A2:2386:G:N2	2.37	0.56
48:A2:291:U:H2'	48:A2:292:G:C8	2.40	0.56
48:A2:3798:G:C5'	48:A2:3798:G:H8	2.18	0.56
48:A2:4727:G:C2	48:A2:4826:G:C2	2.94	0.56
4:AB:177:LYS:HE3	48:A2:4944:G:OP2	2.05	0.56
48:A2:728:C:H2'	48:A2:729:C:C6	2.41	0.56
1:A3:28:C:H4'	5:AC:51:PRO:HG3	1.87	0.56
3:AA:35:ALA:HB2	48:A2:38:A:H5''	86.96	0.56
13:AK:81:HIS:NE2	13:AK:86:VAL:HG11	2.21	0.56
15:AM:15:VAL:HG13	15:AM:54:CYS:SG	2.46	0.56
19:AQ:10:ASP:OD1	19:AQ:11:ARG:HD2	2.05	0.56
26:AX:117:TYR:CD2	26:AX:153:ILE:HG22	2.41	0.56
49:B1:1333:U:OP1	53:BD:146:ARG:HA	2.06	0.56
49:B1:524:U:H5''	49:B1:525:A:C1'	2.35	0.56
49:B1:561:A:N3	49:B1:561:A:H2'	2.21	0.56
54:BE:88:ASP:OD1	54:BE:122:LYS:NZ	2.33	0.56
49:B1:1591:C:H5'	55:BF:85:LYS:HE2	1.87	0.56
49:B1:1474:A:O2'	66:BQ:124:PRO:HG3	2.05	0.56
48:A2:1225:G:P	48:A2:1225:G:N2	2.79	0.56
48:A2:1226:C:C6	48:A2:1226:C:P	2.97	0.56
48:A2:133:C:N4	48:A2:134:G:H2'	2.20	0.56
48:A2:309:G:C5'	48:A2:310:U:P	2.91	0.56
6:AD:16:TYR:HE1	48:A2:4227:U:C5	2.22	0.56
48:A2:516:C:O5'	48:A2:516:C:H6	1.89	0.56
48:A2:681:A:H2'	48:A2:682:U:O4'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:905:G:N3	48:A2:905:G:C2'	2.69	0.56
3:AA:67:TYR:CD1	3:AA:67:TYR:N	2.73	0.56
6:AD:232:THR:CG2	6:AD:235:MET:SD	2.94	0.56
7:AE:208:ILE:CD1	7:AE:209:PRO:HD3	2.32	0.56
8:AF:176:ALA:O	8:AF:180:GLY:HA3	2.05	0.56
16:AN:93:LYS:CD	48:A2:294:A:C2	2.89	0.56
19:AQ:34:PHE:HA	19:AQ:37:ARG:NH1	2.21	0.56
20:AR:95:TRP:CZ3	20:AR:130:ASN:OD1	2.59	0.56
20:AR:173:ARG:HG2	49:B1:910:G:P	2.46	0.56
21:AS:82:LEU:HD11	21:AS:109:CYS:SG	2.45	0.56
21:AS:82:LEU:CD1	21:AS:126:ILE:HD13	2.36	0.56
28:AZ:60:LYS:HZ1	28:AZ:60:LYS:HA	1.70	0.56
49:B1:1349:G:H21	50:BA:112:ILE:HD11	1.71	0.56
49:B1:216:C:O2'	49:B1:217:A:H8	1.88	0.56
49:B1:496:C:H5'	54:BE:29:PRO:HB3	1.87	0.56
49:B1:581:U:H5''	74:BY:65:GLY:N	2.21	0.56
50:BA:85:ARG:HG2	50:BA:204:TYR:CB	2.35	0.56
49:B1:1679:A:N7	55:BF:60:ARG:HA	2.20	0.56
57:BH:87:PHE:CE2	57:BH:90:LYS:HD2	2.41	0.56
59:BJ:13:TYR:HH	59:BJ:44:TRP:HZ3	1.54	0.56
61:BL:30:LYS:CB	61:BL:33:LEU:HD13	2.32	0.56
64:BO:44:VAL:HG23	64:BO:81:VAL:HG11	1.87	0.56
67:BR:98:VAL:C	67:BR:99:ASP:OD1	2.43	0.56
69:BT:41:LYS:HZ1	69:BT:81:GLY:C	2.09	0.56
74:BY:44:LEU:HA	74:BY:47:MET:CE	2.36	0.56
48:A2:1392:C:H3'	48:A2:1393:U:C5'	2.36	0.56
48:A2:1731:A:H2'	48:A2:1732:G:C8	2.41	0.56
4:AB:244:THR:CG2	48:A2:4487:C:O2'	2.51	0.56
17:AO:126:VAL:HG21	48:A2:4724:A:N7	2.21	0.56
4:AB:317:LEU:CD2	48:A2:4959:U:C5'	2.80	0.56
6:AD:232:THR:CB	6:AD:235:MET:SD	2.94	0.56
7:AE:123:ARG:HG3	7:AE:124:LYS:O	2.05	0.56
7:AE:178:PRO:HG2	7:AE:181:LEU:HB2	1.88	0.56
8:AF:20:LYS:O	8:AF:23:ARG:HB3	2.06	0.56
17:AO:9:LEU:HD23	17:AO:118:MET:HB2	1.88	0.56
18:AP:10:ASN:HD21	18:AP:13:LYS:HE2	1.71	0.56
20:AR:59:SER:OG	48:A2:4609:G:H4'	2.06	0.56
23:AU:66:SER:HB2	23:AU:69:LYS:O	2.06	0.56
23:AU:48:LYS:HB2	23:AU:82:TYR:OH	2.05	0.56
49:B1:692:G:C2	49:B1:739:C:C2	2.93	0.56
50:BA:105:PRO:HA	50:BA:136:GLU:OE2	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BB:25:PHE:CZ	64:BO:53:ILE:HA	2.41	0.56
51:BB:70:SER:HB2	51:BB:82:ARG:O	2.06	0.56
63:BN:75:LEU:HD11	63:BN:81:ALA:HA	1.87	0.56
65:BP:118:GLU:O	68:BS:119:ALA:HA	2.06	0.56
66:BQ:108:ILE:HG23	66:BQ:109:LYS:N	2.19	0.56
68:BS:52:LEU:CD1	68:BS:52:LEU:H	1.95	0.56
72:BW:90:GLN:HG2	72:BW:113:HIS:CE1	2.41	0.56
55:BF:98:GLU:OE2	75:BZ:100:VAL:HB	2.05	0.56
8:AF:74:MET:HE1	48:A2:1071:C:O2'	2.06	0.56
5:AC:103:ALA:HB2	48:A2:1322:U:H1'	1.85	0.56
19:AQ:2:GLY:N	48:A2:1878:A:H5'	2.20	0.56
48:A2:1989:U:C6	48:A2:1991:A:N7	2.74	0.56
48:A2:2858:A:O4'	48:A2:2860:A:C5'	2.54	0.56
48:A2:3576:C:O2'	48:A2:3577:U:H5''	2.06	0.56
48:A2:86:U:O4	48:A2:97:G:N3	2.38	0.56
7:AE:99:ASP:OD2	7:AE:104:THR:HA	2.06	0.56
8:AF:69:ILE:CG2	8:AF:73:ARG:CZ	2.84	0.56
13:AK:57:LYS:O	13:AK:60:MET:N	2.39	0.56
14:AL:47:ALA:CB	14:AL:48:PRO:HD2	2.28	0.56
15:AM:91:TRP:CZ2	48:A2:4827:U:O2'	2.52	0.56
20:AR:62:ARG:NH1	20:AR:62:ARG:HG3	2.20	0.56
23:AU:115:PHE:N	23:AU:115:PHE:CD1	2.72	0.56
27:AY:5:PRO:O	48:A2:340:G:H4'	2.06	0.56
49:B1:1351:G:H4'	50:BA:110:ASN:HB3	1.88	0.56
49:B1:1519:U:C2	49:B1:1623:A:C8	2.92	0.56
49:B1:227:U:O2	49:B1:228:C:H5'	2.05	0.56
49:B1:309:G:O2'	49:B1:310:C:H5'	2.05	0.56
54:BE:100:ARG:HH12	54:BE:236:ILE:HD12	1.71	0.56
59:BJ:114:VAL:CG1	59:BJ:120:ALA:HB2	2.35	0.56
59:BJ:31:LEU:HD23	59:BJ:43:VAL:HG13	1.88	0.56
60:BK:47:LYS:O	60:BK:50:GLN:HG2	2.06	0.56
48:A2:1260:G:C2'	48:A2:1261:C:H5'	2.36	0.55
48:A2:445:C:N4	48:A2:1278:C:N3	2.55	0.55
48:A2:132:G:C2	48:A2:135:G:C6	2.94	0.55
48:A2:2000:C:HO2'	48:A2:2001:U:H5'	1.71	0.55
48:A2:2533:U:H5'	48:A2:2534:G:OP1	2.06	0.55
48:A2:31:U:H3'	48:A2:32:G:C8	2.41	0.55
48:A2:3711:G:H2'	48:A2:3712:C:C6	2.41	0.55
48:A2:4080:U:H2'	48:A2:4081:C:O4'	2.06	0.55
4:AB:223:THR:HG21	48:A2:4586:A:H5''	1.88	0.55
48:A2:4714:U:C5'	48:A2:4714:U:C6	2.86	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:156:ARG:NH2	48:A2:4897:C:OP2	2.39	0.55
48:A2:713:G:N2	48:A2:934:C:O2	2.39	0.55
5:AC:217:ILE:O	5:AC:219:LYS:N	2.39	0.55
1:A3:149:G:C1'	9:AG:61:ILE:CD1	2.81	0.55
10:AH:128:MET:SD	10:AH:134:CYS:CB	2.94	0.55
14:AL:155:MET:CG	14:AL:158:ARG:NH2	2.69	0.55
15:AM:23:LYS:HE2	15:AM:45:VAL:HB	1.89	0.55
16:AN:148:THR:O	16:AN:151:ILE:HG22	2.06	0.55
16:AN:171:SER:O	48:A2:293:C:H4'	2.06	0.55
19:AQ:169:SER:HB2	19:AQ:174:PHE:CE2	2.41	0.55
20:AR:81:ARG:HG2	20:AR:88:ARG:NH1	2.22	0.55
23:AU:31:ASP:HB3	23:AU:33:ILE:HG12	1.88	0.55
23:AU:62:THR:O	23:AU:72:VAL:HA	2.05	0.55
27:AY:42:TYR:N	27:AY:42:TYR:CD1	2.73	0.55
49:B1:168:C:H4'	56:BG:131:ARG:CB	2.36	0.55
49:B1:562:U:C6	49:B1:562:U:C3'	2.89	0.55
49:B1:655:A:H4'	49:B1:656:G:H3'	1.88	0.55
51:BB:44:ILE:HD12	51:BB:74:LEU:HD21	1.88	0.55
49:B1:22:A:O3'	59:BJ:15:THR:CG2	2.54	0.55
59:BJ:172:ARG:HG3	59:BJ:173:VAL:N	2.21	0.55
65:BP:85:ILE:HG21	65:BP:111:MET:C	2.25	0.55
68:BS:26:ILE:HD13	68:BS:59:LEU:HD12	1.87	0.55
69:BT:41:LYS:HD3	69:BT:43:LYS:CG	2.33	0.55
48:A2:1741:G:N2	48:A2:1742:G:N9	2.54	0.55
48:A2:1940:U:OP1	48:A2:1941:A:H3'	2.06	0.55
48:A2:2064:C:H2'	48:A2:2065:C:O4'	2.07	0.55
5:AC:169:LEU:HD13	48:A2:215:A:H61	1.71	0.55
48:A2:3671:C:OP1	49:B1:1052:A:C4'	2.44	0.55
7:AE:274:VAL:N	48:A2:4839:U:O2'	2.39	0.55
48:A2:949:C:H5'	48:A2:950:G:H5''	1.86	0.55
7:AE:232:ILE:HG22	7:AE:236:GLU:CB	2.37	0.55
9:AG:164:ILE:HG22	9:AG:168:VAL:CG1	2.36	0.55
19:AQ:17:GLU:OE2	48:A2:2248:C:OP2	2.24	0.55
19:AQ:36:ALA:HB1	19:AQ:45:GLN:NE2	2.20	0.55
24:AV:13:LYS:O	48:A2:4579:G:O2'	2.22	0.55
49:B1:1016:U:O2'	63:BN:61:ALA:CB	2.54	0.55
49:B1:1417:C:O4'	69:BT:3:GLY:N	2.39	0.55
51:BB:71:LEU:O	51:BB:72:ALA:HB3	2.05	0.55
52:BC:65:LYS:HA	52:BC:68:ARG:CZ	2.37	0.55
54:BE:180:LEU:HD12	54:BE:193:GLY:O	2.07	0.55
54:BE:19:MET:SD	54:BE:108:ARG:HD3	2.46	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BP:14:LYS:HE3	65:BP:22:LEU:HB3	1.88	0.55
66:BQ:12:VAL:CG1	66:BQ:90:LYS:HB2	2.35	0.55
68:BS:66:ARG:HD2	68:BS:66:ARG:C	2.26	0.55
69:BT:12:GLN:O	69:BT:15:VAL:HG12	2.05	0.55
52:BC:256:TRP:CZ2	72:BW:68:ARG:CG	2.89	0.55
48:A2:1224:C:H3'	48:A2:1225:G:C2	2.41	0.55
21:AS:94:TYR:HB3	48:A2:1934:U:OP1	2.06	0.55
48:A2:2867:G:O4'	48:A2:3589:C:H1'	2.06	0.55
48:A2:287:G:H22	48:A2:309:G:N2	2.04	0.55
48:A2:449:C:H2'	48:A2:450:C:O4'	2.06	0.55
48:A2:70:A:C5'	48:A2:71:C:C4	2.89	0.55
4:AB:392:LEU:HD22	4:AB:394:LYS:HE2	1.89	0.55
5:AC:217:ILE:O	5:AC:218:ILE:C	2.43	0.55
10:AH:8:GLN:HG3	10:AH:74:CYS:HB3	1.78	0.55
13:AK:37:SER:HA	48:A2:1952:C:HO2'	0.73	0.55
14:AL:178:ALA:O	14:AL:180:ALA:N	2.39	0.55
15:AM:2:VAL:HG12	15:AM:3:PHE:CE2	2.41	0.55
17:AO:147:TRP:CE3	17:AO:150:GLN:HB2	2.42	0.55
19:AQ:158:THR:CB	19:AQ:159:PRO:HD3	2.37	0.55
19:AQ:18:PRO:C	19:AQ:20:SER:N	2.58	0.55
20:AR:18:GLY:HA3	48:A2:2801:G:OP1	2.06	0.55
20:AR:62:ARG:HH11	20:AR:62:ARG:CG	2.18	0.55
22:AT:118:GLU:OE1	22:AT:122:LYS:HG3	2.06	0.55
28:AZ:31:ASP:OD1	28:AZ:31:ASP:N	2.36	0.55
49:B1:1399:C:C6	49:B1:1399:C:P	2.98	0.55
49:B1:1467:C:OP2	67:BR:3:ARG:CZ	2.55	0.55
49:B1:1487:A:OP1	52:BC:121:ARG:NH2	2.37	0.55
49:B1:387:C:OP2	58:BI:10:LYS:NZ	2.38	0.55
50:BA:114:ALA:O	50:BA:116:PHE:N	2.28	0.55
50:BA:204:TYR:CE1	50:BA:205:ARG:O	2.60	0.55
53:BD:210:ILE:HD12	53:BD:211:VAL:C	2.26	0.55
54:BE:114:ILE:CG1	54:BE:115:THR:H	2.18	0.55
57:BH:100:ILE:HD13	57:BH:122:LEU:HD12	1.89	0.55
58:BI:150:ASP:OD1	58:BI:154:LYS:CD	2.54	0.55
58:BI:65:PHE:O	58:BI:73:THR:HG23	2.07	0.55
61:BL:30:LYS:HB2	61:BL:33:LEU:HD22	1.88	0.55
67:BR:42:PRO:CD	67:BR:46:LEU:CD2	2.73	0.55
68:BS:46:ARG:CZ	69:BT:37:VAL:HG21	2.36	0.55
70:BU:24:LEU:HD13	70:BU:106:ILE:HD11	1.88	0.55
73:BX:135:LYS:O	73:BX:137:LYS:HD2	2.06	0.55
74:BY:87:PRO:HD2	74:BY:90:ARG:NE	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1600:G:C5'	75:BZ:43:LYS:HG3	2.36	0.55
75:BZ:92:LEU:HD12	75:BZ:92:LEU:C	2.26	0.55
48:A2:2003:C:C3'	48:A2:2004:C:H5'	2.37	0.55
48:A2:1599:G:H1'	48:A2:2492:A:N6	2.21	0.55
48:A2:31:U:H2'	48:A2:32:G:C1'	2.37	0.55
48:A2:4946:U:H1'	48:A2:4947:U:O5'	2.05	0.55
48:A2:949:C:H3'	48:A2:950:G:H5''	1.89	0.55
2:A4:3:C:C5	2:A4:3:C:OP2	2.60	0.55
4:AB:81:THR:OG1	4:AB:207:VAL:HG21	2.05	0.55
5:AC:228:THR:HG21	5:AC:239:LYS:HG2	1.88	0.55
6:AD:235:MET:O	6:AD:239:MET:HB3	2.04	0.55
2:A4:62:U:OP1	6:AD:279:ARG:NH1	2.39	0.55
7:AE:140:LEU:HB3	7:AE:144:ILE:HD11	1.84	0.55
8:AF:183:GLY:O	8:AF:184:ILE:CG1	2.54	0.55
11:AI:52:MET:O	11:AI:134:VAL:HA	2.06	0.55
12:AJ:15:LEU:HB2	12:AJ:165:TRP:CD1	2.42	0.55
22:AT:3:ASN:ND2	48:A2:4180:U:OP2	2.39	0.55
23:AU:34:MET:HE3	23:AU:35:ASP:N	2.21	0.55
49:B1:164:A:H2'	49:B1:165:G:O4'	2.06	0.55
49:B1:1665:G:OP1	69:BT:88:MET:CG	2.52	0.55
49:B1:441:C:H2'	49:B1:442:C:C6	2.41	0.55
49:B1:872:A:C2	49:B1:915:G:O6	2.58	0.55
56:BG:145:PHE:CG	56:BG:156:TYR:HB3	2.41	0.55
56:BG:211:LYS:CG	56:BG:215:LYS:HE3	2.24	0.55
64:BO:61:LYS:CE	64:BO:76:LEU:HB3	2.36	0.55
68:BS:134:GLN:HG3	68:BS:135:HIS:H	1.72	0.55
49:B1:1587:G:O6	69:BT:67:ARG:CG	2.53	0.55
48:A2:1260:G:C2'	48:A2:1261:C:C5'	2.83	0.55
14:AL:40:GLN:HB3	48:A2:182:C:N4	2.21	0.55
48:A2:1966:G:N2	48:A2:1985:U:C5	2.74	0.55
48:A2:3731:A:N6	49:B1:1825:A:N3	2.54	0.55
48:A2:4031:G:C2	48:A2:4032:A:C6	2.94	0.55
48:A2:651:C:H2'	48:A2:652:C:O4'	2.06	0.55
7:AE:136:HIS:HE1	48:A2:701:G:N3	2.04	0.55
1:A3:16:G:OP2	1:A3:16:G:C8	2.59	0.55
2:A4:7:G:O5'	6:AD:33:ARG:NH1	2.40	0.55
19:AQ:16:LYS:O	19:AQ:52:PHE:CG	2.57	0.55
24:AV:65:VAL:O	24:AV:73:ARG:HG2	2.07	0.55
49:B1:1256:G:C2	53:BD:40:ARG:CG	34.55	0.55
49:B1:1356:G:H2'	49:B1:1357:A:C8	2.42	0.55
49:B1:59:U:C4'	49:B1:501:C:H4'	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BC:62:PRO:HD3	52:BC:71:LYS:NZ	2.21	0.55
50:BA:111:GLN:HE22	52:BC:64:THR:CG2	2.20	0.55
52:BC:87:PRO:HB3	71:BV:29:HIS:CE1	2.41	0.55
49:B1:1334:G:H5'	53:BD:140:GLY:HA2	1.88	0.55
53:BD:209:SER:O	67:BR:39:ALA:HB1	2.07	0.55
55:BF:171:GLU:OE2	75:BZ:72:VAL:CG2	2.54	0.55
57:BH:157:HIS:HD1	57:BH:190:PRO:HG3	1.72	0.55
49:B1:23:G:O5'	59:BJ:15:THR:HG21	2.07	0.55
67:BR:34:VAL:O	67:BR:38:ILE:CG1	2.55	0.55
69:BT:42:HIS:N	69:BT:42:HIS:CD2	2.73	0.55
49:B1:1159:G:C1'	72:BW:4:MET:SD	2.94	0.55
73:BX:87:ASN:HB3	73:BX:134:TYR:CZ	2.42	0.55
48:A2:1749:A:H8	48:A2:1749:A:O5'	1.90	0.55
48:A2:2498:U:O2'	48:A2:2509:U:O2	2.19	0.55
48:A2:2732:G:C6	48:A2:2733:G:C2	2.94	0.55
48:A2:3744:U:N3	48:A2:3747:G:N2	2.55	0.55
2:A4:23:A:N3	2:A4:118:C:O2'	2.40	0.55
3:AA:35:ALA:CB	48:A2:38:A:H5"	86.54	0.55
8:AF:115:ARG:HB3	19:AQ:4:ASP:CB	2.37	0.55
10:AH:23:ARG:HD3	48:A2:4725:U:O2'	2.06	0.55
12:AJ:99:PHE:HB3	12:AJ:159:LYS:HE2	1.86	0.55
13:AK:38:LYS:O	13:AK:42:GLN:HB2	2.07	0.55
14:AL:50:PRO:HB3	14:AL:149:GLN:HB2	1.88	0.55
17:AO:77:SER:HB2	17:AO:104:VAL:HG22	1.87	0.55
20:AR:119:MET:HE1	20:AR:149:LYS:HD2	1.87	0.55
49:B1:1619:A:H4'	65:BP:44:ARG:HH12	1.71	0.55
25:AW:72:THR:CB	49:B1:1783:C:C4	2.90	0.55
49:B1:688:U:OP2	57:BH:123:THR:OG1	2.15	0.55
51:BB:75:GLN:CG	51:BB:189:ILE:HG23	2.36	0.55
49:B1:1679:A:N7	55:BF:60:ARG:CA	2.70	0.55
55:BF:20:PHE:CE2	55:BF:97:PHE:CD2	2.95	0.55
58:BI:26:LYS:O	58:BI:29:LEU:HG	2.07	0.55
59:BJ:129:LEU:HB3	59:BJ:135:ILE:HD11	1.87	0.55
49:B1:1274:G:H5'	60:BK:47:LYS:HE3	1.89	0.55
53:BD:72:VAL:CG1	60:BK:68:TYR:CD1	2.90	0.55
62:BM:87:GLU:HG3	62:BM:88:TRP:CE3	2.42	0.55
65:BP:41:GLN:HE21	65:BP:84:ILE:HD12	1.72	0.55
73:BX:14:ARG:HG3	73:BX:15:SER:N	2.22	0.55
48:A2:1363:G:H4'	48:A2:1364:U:C6	2.42	0.55
48:A2:2536:G:O2'	48:A2:2537:C:H5'	2.06	0.55
48:A2:2609:U:O2'	48:A2:2611:U:C4'	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2685:G:C8	48:A2:2685:G:C4'	2.89	0.55
48:A2:2727:C:O5'	48:A2:2727:C:O2	2.24	0.55
48:A2:4194:U:H4'	48:A2:4195:A:O4'	2.06	0.55
48:A2:4663:A:H2'	48:A2:4664:G:H5'	1.88	0.55
48:A2:4896:A:H8	48:A2:4896:A:O5'	1.90	0.55
48:A2:5024:U:H2'	48:A2:5025:U:C6	2.42	0.55
5:AC:211:TYR:CD1	5:AC:211:TYR:N	2.75	0.55
6:AD:41:LYS:HZ1	22:AT:93:ILE:HG21	1.72	0.55
7:AE:153:LEU:HD21	7:AE:195:ILE:CD1	2.35	0.55
7:AE:224:LYS:HD2	7:AE:224:LYS:N	2.21	0.55
9:AG:73:ARG:HA	9:AG:73:ARG:NE	2.21	0.55
10:AH:129:ARG:NH2	48:A2:4666:C:H4'	2.21	0.55
13:AK:55:MET:HB3	13:AK:87:GLY:HA2	1.88	0.55
17:AO:22:ILE:HG23	21:AS:166:ARG:HH21	1.72	0.55
20:AR:132:PHE:CD2	20:AR:138:LEU:HD23	2.41	0.55
24:AV:96:LEU:CA	25:AW:20:ARG:O	2.52	0.55
26:AX:114:LYS:O	26:AX:118:ASP:HA	2.06	0.55
49:B1:1104:G:C2	49:B1:1129:G:C2	2.95	0.55
49:B1:193:C:O5'	49:B1:193:C:H6	1.89	0.55
51:BB:40:ASN:O	51:BB:42:ARG:HG3	2.07	0.55
52:BC:253:PRO:CA	52:BC:256:TRP:CD1	2.87	0.55
58:BI:57:ALA:O	58:BI:58:LEU:C	2.44	0.55
63:BN:63:VAL:HG21	63:BN:71:ILE:CG2	2.37	0.55
64:BO:28:PHE:HA	64:BO:92:ALA:O	2.07	0.55
65:BP:30:TYR:CA	65:BP:33:LEU:HG	2.37	0.55
67:BR:112:GLY:O	67:BR:113:SER:CB	2.55	0.55
67:BR:99:ASP:CB	67:BR:102:THR:HG22	2.36	0.55
67:BR:8:THR:HG23	67:BR:9:VAL:N	2.22	0.55
70:BU:21:ARG:HB3	70:BU:90:ASP:OD1	2.07	0.55
16:AN:201:HIS:CG	48:A2:1343:G:P	3.00	0.55
48:A2:1739:U:N3	48:A2:1740:G:C5	2.75	0.55
48:A2:2331:U:H2'	48:A2:2332:U:C6	2.42	0.55
48:A2:2854:C:H4'	48:A2:2855:G:C4	2.41	0.55
4:AB:150:PHE:O	4:AB:153:MET:HB3	2.07	0.55
4:AB:302:ASN:HB3	4:AB:314:ILE:HG13	1.89	0.55
4:AB:305:THR:HB	4:AB:365:LEU:O	2.06	0.55
11:AI:49:CYS:HA	11:AI:138:ILE:O	2.07	0.55
12:AJ:63:ARG:HD2	12:AJ:66:GLU:OE2	2.07	0.55
13:AK:52:VAL:CG2	13:AK:90:PHE:O	2.54	0.55
19:AQ:17:GLU:OE2	48:A2:2248:C:C5'	2.47	0.55
24:AV:123:LYS:HB2	24:AV:140:ALA:HB2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AX:56:ARG:HH22	26:AX:62:ARG:HH22	1.53	0.55
49:B1:104:A:H4'	58:BI:18:ARG:NH2	2.21	0.55
49:B1:1416:C:O4'	69:BT:132:ASP:OD2	2.25	0.55
49:B1:1719:A:H2'	49:B1:1720:U:H5'	1.89	0.55
49:B1:171:A:H4'	56:BG:177:GLN:OE1	2.06	0.55
49:B1:238:C:N4	49:B1:283:G:H1	2.05	0.55
49:B1:560:A:C2'	59:BJ:171:GLY:C	2.74	0.55
54:BE:149:TYR:N	54:BE:150:PRO:HD3	2.22	0.55
54:BE:86:PHE:CE2	54:BE:184:ILE:HG21	2.37	0.55
56:BG:216:ARG:NH1	56:BG:216:ARG:HG3	2.22	0.55
58:BI:117:TYR:HB3	58:BI:151:GLU:OE1	2.07	0.55
59:BJ:101:LYS:CE	59:BJ:103:GLU:HB2	2.35	0.55
59:BJ:138:ARG:NH2	59:BJ:153:SER:HB3	2.22	0.55
68:BS:106:LYS:HE2	68:BS:106:LYS:HA	1.89	0.55
72:BW:68:ARG:O	72:BW:68:ARG:HG3	2.06	0.55
6:AD:268:ARG:HD2	48:A2:1159:C:OP1	2.07	0.55
48:A2:1258:G:N2	48:A2:1259:C:C2	2.73	0.55
48:A2:1389:G:H2'	48:A2:1390:C:OP1	2.07	0.55
48:A2:205:A:C5	48:A2:229:G:C5	2.94	0.55
48:A2:1585:C:H5'	48:A2:2777:A:O2'	2.06	0.55
48:A2:2805:U:O2	48:A2:2805:U:H5'	2.07	0.55
48:A2:3877:A:O4'	48:A2:4410:G:H1'	2.06	0.55
48:A2:452:C:H2'	48:A2:453:C:O4'	2.07	0.55
4:AB:182:GLU:OE1	48:A2:4543:G:H4'	2.07	0.55
15:AM:56:GLN:CD	48:A2:4827:U:C6	2.81	0.55
48:A2:669:G:N2	48:A2:670:C:C2	2.75	0.55
48:A2:674:C:H2'	48:A2:675:G:O4'	2.07	0.55
48:A2:959:C:N3	48:A2:1266:G:C2	2.75	0.55
3:AA:103:PRO:HA	3:AA:162:ASN:O	2.07	0.55
8:AF:21:LYS:HA	8:AF:24:ASN:HB2	1.87	0.55
9:AG:43:GLN:HB2	48:A2:4093:G:N2	2.22	0.55
13:AK:14:PHE:CE2	48:A2:1941:A:N7	2.72	0.55
14:AL:172:GLU:O	14:AL:175:ASN:HB3	2.07	0.55
15:AM:2:VAL:O	15:AM:3:PHE:HB2	2.07	0.55
15:AM:97:ALA:O	17:AO:198:THR:CG2	2.50	0.55
49:B1:1594:A:P	75:BZ:104:ARG:H	2.30	0.55
49:B1:587:A:N3	49:B1:592:C:N4	2.55	0.55
50:BA:204:TYR:CD1	50:BA:205:ARG:N	2.73	0.55
50:BA:206:ASP:HB3	50:BA:207:PRO:CD	2.37	0.55
52:BC:90:GLU:C	52:BC:160:LEU:HD11	2.27	0.55
49:B1:78:C:O2'	56:BG:175:LYS:HG2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:BN:30:SER:O	63:BN:31:ASP:C	2.45	0.55
74:BY:99:LYS:HE3	74:BY:102:THR:HB	1.87	0.55
49:B1:1600:G:H5''	75:BZ:43:LYS:CE	2.37	0.55
48:A2:227:G:O5'	48:A2:227:G:H8	1.88	0.55
48:A2:2546:G:H2'	48:A2:2547:C:C6	2.42	0.55
3:AA:22:HIS:CE1	48:A2:2721:G:H4'	2.42	0.55
48:A2:290:A:O5'	48:A2:290:A:H8	1.89	0.55
48:A2:3710:C:O2'	48:A2:3711:G:H5'	2.06	0.55
48:A2:465:A:H62	48:A2:677:G:N2	2.04	0.55
17:AO:167:HIS:CE1	48:A2:4719:C:N4	2.75	0.55
48:A2:927:C:C6	48:A2:927:C:O5'	2.60	0.55
2:A4:95:C:C5'	8:AF:229:GLU:OE2	2.54	0.55
5:AC:52:TYR:CE2	48:A2:344:C:C4'	2.88	0.55
16:AN:84:PRO:HA	16:AN:87:HIS:HD2	1.69	0.55
24:AV:45:ILE:HD13	24:AV:53:PRO:CA	2.37	0.55
49:B1:113:G:H4'	49:B1:114:G:OP2	2.07	0.55
49:B1:1278:A:OP1	60:BK:55:ARG:NE	2.39	0.55
49:B1:1625:U:C4	49:B1:1626:C:C5	2.94	0.55
49:B1:907:G:C6	49:B1:908:A:C6	2.95	0.55
50:BA:202:TYR:CD1	50:BA:202:TYR:N	2.73	0.55
56:BG:7:PHE:CE2	56:BG:124:LEU:HB3	2.42	0.55
64:BO:83:GLN:HE22	64:BO:87:GLU:CG	2.20	0.55
66:BQ:13:PHE:HE2	66:BQ:15:ARG:HH12	1.53	0.55
12:AJ:111:GLU:CB	68:BS:14:ARG:NH2	2.64	0.55
49:B1:580:U:O2'	74:BY:62:THR:HG22	2.06	0.55
48:A2:121:A:C2'	48:A2:121:A:N3	2.68	0.54
48:A2:1257:A:O2'	48:A2:1258:G:O4'	2.22	0.54
48:A2:1479:A:H3'	48:A2:1480:G:H5''	1.89	0.54
48:A2:2004:C:C4	48:A2:2005:G:C2	2.95	0.54
48:A2:2640:U:C2	61:BL:158:PHE:CE2	2.95	0.54
48:A2:352:C:O2	48:A2:352:C:H2'	2.07	0.54
48:A2:3585:G:C6	48:A2:3588:G:N1	2.75	0.54
6:AD:36:LEU:CD2	48:A2:4287:A:H1'	2.34	0.54
2:A4:32:A:H8	2:A4:32:A:OP2	1.90	0.54
7:AE:219:LYS:HZ3	48:A2:1274:G:C5'	2.12	0.54
15:AM:4:ARG:NH1	48:A2:4726:A:N6	2.55	0.54
25:AW:64:SER:O	25:AW:67:ILE:HG12	2.08	0.54
26:AX:91:GLU:HG3	26:AX:147:LEU:HD11	1.88	0.54
28:AZ:10:VAL:HG21	28:AZ:87:VAL:HG23	1.89	0.54
49:B1:1390:U:H1'	53:BD:162:ASP:OD1	2.07	0.54
49:B1:171:A:H4'	56:BG:177:GLN:HE22	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AW:117:LYS:HA	49:B1:327:G:OP1	2.07	0.54
49:B1:618:C:P	73:BX:86:PRO:O	2.65	0.54
49:B1:628:A:H3'	49:B1:629:A:C5'	2.37	0.54
49:B1:1142:G:OP2	52:BC:187:ARG:NH1	2.40	0.54
49:B1:296:U:O2'	54:BE:131:VAL:HG23	2.05	0.54
54:BE:85:GLY:O	54:BE:88:ASP:HB2	2.07	0.54
55:BF:153:LEU:HD22	55:BF:192:LYS:HG3	1.89	0.54
58:BI:188:TYR:OH	58:BI:194:GLU:OE2	2.24	0.54
48:A2:126:C:H6	48:A2:126:C:O5'	1.90	0.54
48:A2:1878:A:N3	48:A2:1878:A:H3'	2.21	0.54
48:A2:196:G:N2	48:A2:231:G:C6	2.74	0.54
48:A2:1988:G:O2'	48:A2:1989:U:O2	2.23	0.54
5:AC:196:MET:CB	48:A2:346:G:O6	2.55	0.54
48:A2:4089:U:H6	48:A2:4089:U:P	2.30	0.54
17:AO:167:HIS:ND1	48:A2:4719:C:N4	2.56	0.54
4:AB:45:ALA:O	4:AB:46:PHE:HD1	1.89	0.54
8:AF:184:ILE:HG22	8:AF:189:ASP:CA	2.37	0.54
12:AJ:24:ILE:HD12	12:AJ:40:LEU:HG	1.89	0.54
14:AL:63:THR:CA	48:A2:71:C:O2	2.55	0.54
20:AR:24:LEU:HD22	20:AR:25:ASP:N	2.17	0.54
4:AB:391:PRO:HD2	25:AW:63:GLN:HE22	1.72	0.54
25:AW:82:ILE:CG2	25:AW:82:ILE:O	2.55	0.54
49:B1:1105:G:N2	49:B1:1106:C:C1'	2.70	0.54
49:B1:1397:U:O3'	49:B1:1398:G:N3	2.40	0.54
49:B1:1692:U:H2'	49:B1:1693:G:C8	2.42	0.54
50:BA:204:TYR:O	50:BA:205:ARG:HG2	2.06	0.54
50:BA:206:ASP:CB	50:BA:207:PRO:CD	2.85	0.54
50:BA:40:LYS:CD	67:BR:101:ASP:OD2	2.54	0.54
49:B1:14:C:OP2	52:BC:232:THR:HG21	2.07	0.54
54:BE:115:THR:HB	54:BE:118:GLU:OE1	2.08	0.54
49:B1:612:U:H1'	54:BE:12:VAL:HG22	65.21	0.54
54:BE:139:LEU:CB	54:BE:150:PRO:HB3	2.37	0.54
56:BG:7:PHE:CE1	56:BG:124:LEU:HD12	2.43	0.54
49:B1:168:C:C4'	56:BG:131:ARG:CB	2.85	0.54
61:BL:55:TYR:CZ	61:BL:116:CYS:HB3	2.42	0.54
49:B1:1644:C:O2'	66:BQ:139:ALA:HA	2.07	0.54
75:BZ:79:ILE:HG22	75:BZ:83:LEU:HB3	1.88	0.54
48:A2:1943:A:P	48:A2:1943:A:H8	2.30	0.54
48:A2:2249:G:H8	48:A2:2249:G:O5'	1.90	0.54
48:A2:3872:A:H3'	48:A2:3872:A:N3	2.22	0.54
48:A2:4109:G:O2'	48:A2:4110:C:C5	2.54	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:4185:C:O5'	48:A2:4185:C:H6	1.90	0.54
4:AB:2:SER:OG	48:A2:4478:G:C8	2.61	0.54
2:A4:43:U:H4'	12:AJ:143:ASP:O	2.08	0.54
5:AC:77:PRO:CD	5:AC:91:ALA:HB3	2.37	0.54
9:AG:46:GLN:HB3	9:AG:49:ARG:HH12	1.72	0.54
15:AM:65:PRO:HB2	48:A2:907:C:O2'	2.08	0.54
19:AQ:79:THR:HG22	19:AQ:99:LYS:CD	2.37	0.54
21:AS:127:MET:SD	22:AT:155:PRO:HA	2.47	0.54
49:B1:115:U:H4'	49:B1:115:U:OP1	2.08	0.54
49:B1:1454:A:H2'	67:BR:3:ARG:NE	2.20	0.54
49:B1:1600:G:P	75:BZ:43:LYS:HG3	2.47	0.54
49:B1:227:U:C1'	49:B1:228:C:O5'	2.54	0.54
49:B1:491:C:OP2	74:BY:104:ARG:CG	2.55	0.54
51:BB:119:THR:HB	51:BB:143:THR:CG2	2.37	0.54
53:BD:33:GLY:HA2	53:BD:103:GLU:OE1	2.07	0.54
56:BG:70:HIS:HB3	56:BG:103:ASP:OD2	2.07	0.54
49:B1:826:A:H5''	59:BJ:10:ARG:HG2	1.89	0.54
60:BK:77:GLN:O	60:BK:80:ARG:HB3	2.08	0.54
65:BP:37:TYR:OH	65:BP:87:PRO:HD3	2.07	0.54
69:BT:41:LYS:HB3	69:BT:95:GLY:HA2	1.89	0.54
49:B1:1594:A:OP1	75:BZ:103:HIS:HA	2.07	0.54
48:A2:1162:U:H3'	48:A2:1163:C:H5'	1.89	0.54
48:A2:1306:A:C6	48:A2:1307:A:C2	2.96	0.54
48:A2:1352:C:H2'	48:A2:1353:G:N2	2.22	0.54
48:A2:1743:G:N1	48:A2:1744:C:C4	2.76	0.54
17:AO:49:ARG:NH1	48:A2:1910:A:C2	2.76	0.54
1:A3:157:U:N3	48:A2:1:C:N4	2.56	0.54
14:AL:36:ARG:NH2	48:A2:407:G:H5'	59.09	0.54
48:A2:658:G:H1'	48:A2:661:G:O6	2.08	0.54
4:AB:46:PHE:CE1	4:AB:210:VAL:HG21	2.43	0.54
4:AB:217:ILE:HD12	4:AB:284:ILE:CD1	2.37	0.54
5:AC:221:PHE:CD2	5:AC:227:ILE:CD1	2.85	0.54
13:AK:58:ASN:CA	13:AK:61:MET:HG2	2.37	0.54
20:AR:95:TRP:HZ3	20:AR:130:ASN:OD1	1.90	0.54
21:AS:1:MET:HE1	21:AS:7:LEU:CD1	2.37	0.54
24:AV:28:CYS:HB3	24:AV:34:ALA:O	2.07	0.54
26:AX:73:HIS:CE1	26:AX:115:LYS:HG3	2.43	0.54
26:AX:53:ARG:NH2	48:A2:2454:G:C8	2.76	0.54
27:AY:81:TYR:CD1	27:AY:96:HIS:HB3	2.42	0.54
49:B1:1013:U:H4'	49:B1:1104:G:H21	1.72	0.54
49:B1:1472:C:C3'	49:B1:1472:C:O2	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1856:C:OP2	64:BO:146:ARG:HB3	2.04	0.54
49:B1:369:C:HO2'	49:B1:370:G:P	2.25	0.54
49:B1:562:U:OP2	59:BJ:170:PRO:HB2	2.08	0.54
49:B1:800:U:H3'	49:B1:800:U:H6	1.72	0.54
50:BA:175:TRP:HB2	50:BA:202:TYR:CD2	2.42	0.54
49:B1:1113:A:HO2'	51:BB:202:GLN:HB3	1.64	0.54
54:BE:192:VAL:HB	54:BE:242:LYS:O	2.07	0.54
56:BG:63:MET:HE3	56:BG:106:LEU:HD12	1.90	0.54
49:B1:869:A:N1	57:BH:114:GLN:NE2	2.53	0.54
57:BH:27:LEU:CD1	57:BH:45:ILE:HD11	2.38	0.54
59:BJ:109:ARG:HA	59:BJ:147:PHE:O	2.07	0.54
59:BJ:109:ARG:O	59:BJ:112:THR:HB	2.08	0.54
59:BJ:110:LEU:CD1	59:BJ:114:VAL:CG2	2.85	0.54
59:BJ:35:TYR:OH	59:BJ:103:GLU:CB	2.54	0.54
59:BJ:70:ARG:NE	59:BJ:94:LEU:HD12	2.20	0.54
61:BL:11:GLN:HG3	61:BL:12:LYS:N	2.23	0.54
70:BU:48:LEU:CD2	70:BU:93:SER:OG	2.52	0.54
72:BW:30:CYS:SG	72:BW:61:ILE:HG13	2.48	0.54
48:A2:4067:G:H3'	48:A2:4068:A:H5''	1.90	0.54
48:A2:4925:A:H2'	48:A2:4926:A:C8	2.43	0.54
1:A3:111:U:H4'	1:A3:112:G:H8	1.72	0.54
2:A4:43:U:H5'	12:AJ:143:ASP:CB	2.37	0.54
3:AA:117:GLU:HG2	3:AA:124:GLY:H	1.73	0.54
5:AC:77:PRO:HD2	5:AC:91:ALA:HB3	1.89	0.54
5:AC:94:ASN:C	5:AC:96:CYS:H	2.10	0.54
7:AE:112:MET:HE3	7:AE:113:PRO:CD	2.25	0.54
7:AE:162:VAL:HG11	7:AE:175:VAL:CG1	2.36	0.54
16:AN:201:HIS:CD2	16:AN:203:TYR:H	2.25	0.54
22:AT:78:LYS:HD2	22:AT:87:LYS:HZ2	1.71	0.54
24:AV:45:ILE:HD13	24:AV:53:PRO:CB	2.35	0.54
28:AZ:57:MET:SD	28:AZ:61:LYS:HG3	2.48	0.54
49:B1:1314:U:C6	60:BK:2:LEU:CB	2.89	0.54
49:B1:1444:U:O2'	49:B1:1445:U:H5'	2.08	0.54
49:B1:1679:A:N7	55:BF:60:ARG:CG	2.70	0.54
49:B1:303:C:H2'	49:B1:304:C:O4'	2.07	0.54
49:B1:78:C:O2'	56:BG:175:LYS:HD3	2.07	0.54
50:BA:212:LYS:HA	50:BA:215:GLN:HB3	1.88	0.54
51:BB:161:VAL:HA	51:BB:164:ILE:HG22	1.88	0.54
55:BF:41:VAL:CG2	55:BF:109:LEU:CD2	2.82	0.54
49:B1:454:U:H5''	56:BG:94:ARG:CB	2.38	0.54
49:B1:381:C:P	58:BI:48:VAL:HG13	2.48	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BM:35:ILE:HD13	62:BM:61:TYR:CD1	2.40	0.54
49:B1:984:C:O2'	64:BO:138:ASP:HB2	2.08	0.54
49:B1:1522:A:N3	65:BP:128:HIS:HB2	2.21	0.54
48:A2:1466:G:N3	48:A2:1466:G:H2'	2.22	0.54
48:A2:2043:C:H2'	48:A2:2044:G:H5'	1.89	0.54
48:A2:2398:C:O2	48:A2:2398:C:O5'	2.26	0.54
48:A2:681:A:N6	48:A2:682:U:O4	2.41	0.54
48:A2:715:C:C2	48:A2:930:A:C2	2.96	0.54
2:A4:7:G:C8	6:AD:22:ARG:NH1	2.74	0.54
4:AB:2:SER:N	48:A2:4478:G:OP2	2.40	0.54
5:AC:298:ILE:O	5:AC:302:LEU:HG	2.08	0.54
7:AE:208:ILE:CD1	7:AE:209:PRO:CD	2.86	0.54
13:AK:52:VAL:HG22	13:AK:91:THR:HB	1.89	0.54
13:AK:93:GLU:CB	13:AK:98:ILE:HG12	2.38	0.54
17:AO:108:ILE:HD12	17:AO:160:ARG:CZ	2.38	0.54
17:AO:38:CYS:SG	17:AO:77:SER:HA	2.47	0.54
18:AP:13:LYS:NZ	18:AP:154:GLU:OE1	2.40	0.54
25:AW:68:GLN:O	25:AW:69:LYS:CB	2.55	0.54
49:B1:198:U:C2	49:B1:200:G:OP2	2.60	0.54
49:B1:64:A:H5'	56:BG:175:LYS:NZ	2.23	0.54
49:B1:829:C:H5''	54:BE:21:ASP:OD1	2.06	0.54
54:BE:114:ILE:CG1	54:BE:118:GLU:CB	2.86	0.54
49:B1:168:C:O2	56:BG:133:LEU:CD1	2.50	0.54
64:BO:82:ALA:O	64:BO:124:MET:HE3	2.07	0.54
67:BR:101:ASP:O	67:BR:104:GLU:N	2.41	0.54
72:BW:37:PHE:CD2	72:BW:103:VAL:HG21	2.42	0.54
75:BZ:99:LEU:HD12	75:BZ:99:LEU:C	2.25	0.54
48:A2:1306:A:N6	48:A2:1307:A:N1	2.56	0.54
3:AA:221:LYS:O	48:A2:3720:C:H4'	2.07	0.54
48:A2:3875:G:H8	48:A2:3875:G:O5'	1.91	0.54
48:A2:4027:C:H6	48:A2:4027:C:OP2	1.89	0.54
48:A2:682:U:C2	48:A2:683:U:C6	2.95	0.54
5:AC:106:LYS:HD2	5:AC:108:TRP:CZ2	2.43	0.54
5:AC:150:LEU:HB3	5:AC:151:PRO:HD2	1.90	0.54
8:AF:18:LEU:HA	8:AF:21:LYS:HB3	1.90	0.54
12:AJ:131:TYR:CE2	48:A2:4222:U:H1'	2.43	0.54
18:AP:30:ARG:HA	18:AP:119:VAL:HG11	1.90	0.54
13:AK:41:GLN:CG	19:AQ:121:LEU:CD1	163.27	0.54
20:AR:10:LEU:HD11	20:AR:38:ARG:HG2	1.88	0.54
22:AT:17:ARG:NH2	22:AT:45:MET:HE3	2.23	0.54
27:AY:8:THR:HG21	27:AY:13:LYS:HD2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1603:G:O4'	68:BS:38:ARG:CZ	2.55	0.54
49:B1:1784:G:C6	49:B1:1785:C:N3	2.76	0.54
49:B1:633:C:H1'	54:BE:12:VAL:HG11	60.83	0.54
49:B1:876:C:H6	49:B1:876:C:C5'	2.19	0.54
50:BA:141:ASN:O	71:BV:32:ILE:HD13	2.08	0.54
54:BE:103:TYR:CE2	54:BE:189:LEU:HD12	2.42	0.54
55:BF:90:VAL:HG12	66:BQ:46:THR:HG22	1.90	0.54
56:BG:48:TYR:HA	56:BG:116:LYS:O	2.07	0.54
56:BG:160:LYS:O	56:BG:171:THR:HG23	2.07	0.54
49:B1:305:U:N3	58:BI:55:TYR:CG	2.75	0.54
61:BL:11:GLN:HG3	61:BL:12:LYS:H	1.72	0.54
64:BO:44:VAL:CG2	64:BO:81:VAL:HG11	2.38	0.54
65:BP:49:LEU:CB	65:BP:50:ARG:HB3	2.35	0.54
49:B1:420:G:H4'	72:BW:88:LYS:NZ	2.22	0.54
75:BZ:50:PHE:N	75:BZ:50:PHE:CD1	2.73	0.54
19:AQ:164:LYS:CB	48:A2:1479:A:C1'	2.85	0.54
48:A2:1749:A:H2'	48:A2:1751:G:C8	2.37	0.54
48:A2:2739:G:HO2'	48:A2:2740:U:P	2.31	0.54
48:A2:2745:A:H5''	48:A2:2745:A:C8	2.42	0.54
48:A2:4033:U:H6	48:A2:4033:U:OP2	1.91	0.54
48:A2:4650:C:H2'	48:A2:4651:U:C6	2.43	0.54
48:A2:33:A:C8	48:A2:49:U:O4	2.61	0.54
5:AC:4:ALA:HA	48:A2:659:G:H22	1.72	0.54
1:A3:108:A:C2	1:A3:109:C:C2	2.96	0.54
4:AB:226:LYS:CB	4:AB:229:LYS:HE3	2.38	0.54
4:AB:316:PRO:HB3	4:AB:373:LYS:HD3	1.89	0.54
5:AC:193:LYS:HD3	48:A2:346:G:N7	2.22	0.54
14:AL:128:PRO:HG2	14:AL:136:LYS:HE2	1.88	0.54
15:AM:3:PHE:CE1	21:AS:155:PRO:HB3	2.43	0.54
20:AR:81:ARG:CZ	48:A2:3578:U:OP1	2.55	0.54
22:AT:56:CYS:HB3	22:AT:78:LYS:HZ2	1.65	0.54
4:AB:67:VAL:HG23	24:AV:14:PHE:CZ	2.43	0.54
27:AY:33:PRO:HD2	27:AY:104:VAL:O	2.08	0.54
28:AZ:122:TYR:O	28:AZ:122:TYR:HD1	1.90	0.54
49:B1:1538:C:H2'	49:B1:1539:U:C6	2.42	0.54
49:B1:163:U:OP1	56:BG:85:ARG:N	2.40	0.54
49:B1:1547:C:N3	49:B1:1656:G:H1'	2.23	0.54
49:B1:180:G:N1	49:B1:181:A:N6	2.55	0.54
49:B1:932:G:OP1	51:BB:157:GLN:O	2.25	0.54
51:BB:174:ARG:HD2	51:BB:175:GLU:OE1	2.07	0.54
49:B1:1499:U:H4'	53:BD:176:LEU:CD1	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BD:73:VAL:O	53:BD:73:VAL:HG12	2.08	0.54
55:BF:18:LYS:HB3	55:BF:46:ALA:O	2.08	0.54
54:BE:149:TYR:CG	56:BG:209:TYR:HD2	2.25	0.54
57:BH:121:THR:O	57:BH:125:VAL:HG23	2.07	0.54
49:B1:401:A:O3'	58:BI:14:THR:HG21	2.07	0.54
61:BL:30:LYS:HB3	61:BL:33:LEU:HD11	1.90	0.54
49:B1:1643:U:O2'	66:BQ:142:GLN:HA	2.08	0.54
66:BQ:52:LEU:O	66:BQ:54:PRO:HD2	2.07	0.54
49:B1:841:G:O6	74:BY:11:LYS:HA	2.07	0.54
48:A2:1225:G:C2	48:A2:1225:G:OP2	2.60	0.54
48:A2:1260:G:H2'	48:A2:1261:C:C5'	2.38	0.54
17:AO:49:ARG:HH22	48:A2:1910:A:C2'	2.12	0.54
48:A2:2246:U:H3'	48:A2:2247:A:C5'	2.37	0.54
48:A2:2247:A:OP1	48:A2:2248:C:H2'	2.08	0.54
3:AA:87:PHE:CZ	48:A2:4089:U:H5''	2.40	0.54
48:A2:4156:U:H4'	48:A2:4183:C:C5	2.43	0.54
10:AH:163:GLN:NE2	48:A2:4648:G:H21	2.05	0.54
48:A2:4670:A:H3'	48:A2:4670:A:N3	2.23	0.54
48:A2:4992:A:N3	48:A2:4992:A:H3'	2.23	0.54
48:A2:710:C:H2'	48:A2:711:G:C8	2.43	0.54
48:A2:86:U:O4	48:A2:97:G:C2	2.60	0.54
2:A4:65:G:H5''	2:A4:65:G:C8	2.43	0.54
3:AA:129:ALA:HB3	3:AA:132:ASN:HD22	1.72	0.54
4:AB:153:MET:SD	4:AB:157:CYS:SG	3.05	0.54
4:AB:393:LYS:HE3	48:A2:4998:U:C4'	2.38	0.54
7:AE:128:HIS:NE2	48:A2:1265:G:OP2	2.41	0.54
1:A3:153:C:C5'	9:AG:185:LYS:HE2	2.20	0.54
10:AH:96:TYR:HA	10:AH:177:ASP:CG	2.28	0.54
13:AK:18:ILE:HA	13:AK:21:LEU:HB3	1.90	0.54
15:AM:86:TRP:O	15:AM:89:THR:HG22	2.08	0.54
49:B1:154:U:H5'	56:BG:13:GLN:HG3	1.89	0.54
49:B1:1661:A:HO2'	49:B1:1662:U:H6	1.52	0.54
49:B1:861:A:C5'	72:BW:107:SER:O	2.56	0.54
49:B1:988:C:OP2	49:B1:989:C:O2'	2.19	0.54
50:BA:55:TRP:CZ3	50:BA:58:LEU:HD23	2.43	0.54
51:BB:115:LYS:N	51:BB:118:GLN:HE21	2.05	0.54
51:BB:38:MET:SD	51:BB:185:VAL:CB	2.95	0.54
52:BC:200:ARG:HA	52:BC:221:ASP:OD2	2.08	0.54
52:BC:74:LYS:HE3	52:BC:272:HIS:CD2	2.43	0.54
54:BE:141:THR:HG22	54:BE:143:ASP:H	1.73	0.54
49:B1:121:U:H5''	54:BE:77:ARG:HH12	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BG:45:TRP:HZ3	56:BG:50:VAL:HG21	1.73	0.54
68:BS:70:ILE:CD1	68:BS:77:TYR:CD1	2.91	0.54
48:A2:1581:A:O2'	48:A2:1582:A:H5''	2.08	0.54
48:A2:1808:G:O2'	48:A2:1809:C:H5'	2.08	0.54
48:A2:2458:G:H2'	48:A2:2459:G:C8	2.43	0.54
48:A2:2493:G:O5'	48:A2:2493:G:C8	2.61	0.54
48:A2:2498:U:O2	48:A2:2499:C:C5	2.61	0.54
48:A2:2766:A:H3'	48:A2:2766:A:N3	2.23	0.54
48:A2:1529:A:O2'	48:A2:2793:C:O2	2.22	0.54
48:A2:3704:A:H2'	48:A2:3705:U:O4'	2.07	0.54
48:A2:3931:A:H1'	48:A2:4015:G:C5'	2.38	0.54
48:A2:4600:U:H2'	48:A2:4601:G:C8	2.43	0.54
7:AE:247:LYS:CD	48:A2:4896:A:H61	2.19	0.54
48:A2:4983:C:H2'	48:A2:4984:U:OP1	2.08	0.54
5:AC:4:ALA:CA	48:A2:659:G:N2	2.70	0.54
1:A3:72:A:OP2	27:AY:51:LYS:CB	2.35	0.54
4:AB:89:ILE:HG13	4:AB:201:LEU:HD21	1.90	0.54
4:AB:293:ILE:CD1	4:AB:296:GLY:CA	2.86	0.54
4:AB:56:ILE:HD12	4:AB:76:VAL:CG2	2.36	0.54
2:A4:117:G:OP1	6:AD:256:LYS:HB2	2.08	0.54
7:AE:158:ARG:HD2	48:A2:4903:G:N2	2.23	0.54
13:AK:52:VAL:HG12	13:AK:53:VAL:N	2.21	0.54
19:AQ:29:VAL:HG22	19:AQ:51:LEU:HB3	1.89	0.54
24:AV:42:VAL:O	24:AV:45:ILE:HG13	2.08	0.54
27:AY:41:LYS:CE	27:AY:42:TYR:HE1	2.20	0.54
49:B1:1558:C:H6	49:B1:1558:C:H5''	1.72	0.54
49:B1:330:G:C2'	49:B1:331:C:H5'	2.36	0.54
49:B1:59:U:H2'	49:B1:61:A:OP2	2.07	0.54
49:B1:630:U:H6	49:B1:630:U:H3'	1.73	0.54
49:B1:847:A:OP1	54:BE:108:ARG:NH1	2.41	0.54
51:BB:81:PHE:CZ	51:BB:109:LYS:HE2	2.42	0.54
51:BB:189:ILE:HB	51:BB:190:PRO:HD3	1.90	0.54
52:BC:60:TRP:HZ3	52:BC:62:PRO:HA	1.72	0.54
55:BF:128:ILE:CG1	55:BF:137:GLN:HB3	2.38	0.54
55:BF:141:VAL:HG23	55:BF:145:ARG:HD3	1.90	0.54
60:BK:38:LYS:HE2	60:BK:38:LYS:HA	1.90	0.54
62:BM:16:THR:O	62:BM:19:GLN:HG2	2.07	0.54
64:BO:83:GLN:NE2	64:BO:87:GLU:CG	2.70	0.54
65:BP:68:PRO:HB2	65:BP:69:PRO:HD2	1.89	0.54
49:B1:581:U:H5''	74:BY:65:GLY:H	1.72	0.54
75:BZ:68:ILE:HG21	75:BZ:97:ILE:HG21	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:BZ:99:LEU:HD22	75:BZ:109:TYR:HE1	1.73	0.54
48:A2:133:C:C6	48:A2:133:C:C4'	2.90	0.53
48:A2:212:C:H6	48:A2:212:C:OP2	1.91	0.53
48:A2:4907:G:H1'	48:A2:4909:G:O4'	2.09	0.53
48:A2:4982:C:C3'	58:BI:169:GLY:CA	2.78	0.53
8:AF:148:LYS:HB2	48:A2:930:A:H5''	1.88	0.53
48:A2:966:C:H2'	48:A2:969:U:C4	2.43	0.53
1:A3:110:U:C5	1:A3:112:G:H1'	2.42	0.53
3:AA:46:LYS:HE2	3:AA:62:VAL:HG11	1.90	0.53
4:AB:379:PHE:CD1	4:AB:385:LYS:HA	2.42	0.53
5:AC:301:ALA:HB1	19:AQ:132:LYS:HZ1	1.73	0.53
7:AE:240:TYR:CE2	7:AE:243:THR:CG2	2.92	0.53
8:AF:184:ILE:C	8:AF:186:CYS:N	2.60	0.53
10:AH:6:SER:O	10:AH:7:ASN:HB3	2.08	0.53
12:AJ:19:LYS:HD3	12:AJ:75:ARG:NH2	2.23	0.53
14:AL:11:LYS:H	19:AQ:168:ARG:HH22	1.56	0.53
15:AM:99:GLU:O	15:AM:103:LYS:HG3	2.08	0.53
19:AQ:172:ARG:O	19:AQ:173:LYS:HB3	2.08	0.53
23:AU:76:VAL:HG13	23:AU:77:PRO:HD2	1.90	0.53
25:AW:110:ARG:HA	25:AW:113:LYS:HD2	1.89	0.53
25:AW:70:LYS:O	25:AW:71:ARG:HB2	2.06	0.53
27:AY:50:ARG:HB3	27:AY:115:ARG:NH2	2.23	0.53
27:AY:41:LYS:HD2	27:AY:42:TYR:CD1	2.43	0.53
49:B1:1022:U:C6	63:BN:128:TYR:CE1	2.96	0.53
49:B1:494:C:H5''	54:BE:57:THR:HG1	1.72	0.53
52:BC:63:VAL:HG22	52:BC:64:THR:H	1.72	0.53
54:BE:87:MET:HE1	54:BE:123:LEU:HB2	1.89	0.53
55:BF:201:LYS:HD2	55:BF:204:ARG:HH21	1.73	0.53
59:BJ:84:ILE:O	59:BJ:108:ARG:NH2	2.41	0.53
61:BL:21:LYS:HG3	61:BL:21:LYS:O	2.07	0.53
67:BR:119:VAL:C	67:BR:120:THR:CG2	2.76	0.53
69:BT:41:LYS:HZ2	69:BT:81:GLY:HA2	0.73	0.53
70:BU:50:VAL:HG13	70:BU:91:LEU:HD21	1.89	0.53
49:B1:658:U:O3'	73:BX:17:ARG:NE	2.41	0.53
75:BZ:65:TYR:HE2	75:BZ:76:ARG:CG	2.20	0.53
49:B1:1598:G:N7	75:BZ:81:GLY:HA3	2.22	0.53
48:A2:1192:U:P	48:A2:1192:U:H3'	2.49	0.53
48:A2:1402:G:O2'	48:A2:1403:A:P	2.66	0.53
48:A2:1499:G:H5''	48:A2:1500:A:OP2	2.07	0.53
48:A2:1582:A:H8	48:A2:1582:A:O5'	1.91	0.53
48:A2:2065:C:C2'	48:A2:2066:G:H5'	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:125:C:H2'	48:A2:2523:G:C2	2.43	0.53
13:AK:2:PRO:HG2	48:A2:2672:G:O4'	187.57	0.53
4:AB:247:GLY:HA3	48:A2:2817:G:H5''	1.87	0.53
48:A2:446:A:H3'	48:A2:446:A:N3	2.23	0.53
48:A2:4872:C:O5'	48:A2:4872:C:H6	1.91	0.53
48:A2:6:C:O2	48:A2:6:C:H2'	2.08	0.53
3:AA:247:ARG:HG2	49:B1:1069:U:C5'	2.39	0.53
4:AB:229:LYS:HD2	4:AB:272:LYS:HD3	1.90	0.53
4:AB:245:HIS:CD2	4:AB:246:ARG:HG3	2.43	0.53
5:AC:211:TYR:HE1	5:AC:229:LEU:HA	1.68	0.53
5:AC:33:ARG:HG3	5:AC:122:TYR:OH	2.08	0.53
6:AD:259:LYS:O	6:AD:260:GLU:HB3	2.07	0.53
8:AF:222:LYS:CG	8:AF:225:THR:CG2	2.86	0.53
9:AG:82:GLN:HE21	9:AG:233:ILE:HG22	1.73	0.53
11:AI:48:LEU:CD2	11:AI:142:LEU:HA	2.39	0.53
12:AJ:99:PHE:HD1	12:AJ:159:LYS:HZ3	1.56	0.53
16:AN:187:SER:CB	48:A2:29:G:OP1	2.57	0.53
13:AK:41:GLN:CG	19:AQ:121:LEU:HD13	162.50	0.53
25:AW:19:ARG:HD2	48:A2:4591:U:O3'	2.08	0.53
49:B1:1022:U:O2	49:B1:1022:U:C3'	2.56	0.53
49:B1:1103:C:H2'	49:B1:1104:G:O4'	2.09	0.53
49:B1:1616:U:OP2	65:BP:43:ARG:NH2	2.41	0.53
49:B1:1619:A:OP1	65:BP:47:ARG:HG3	2.09	0.53
49:B1:527:C:H4'	59:BJ:125:HIS:ND1	2.23	0.53
20:AR:172:ARG:CB	49:B1:909:G:OP1	2.56	0.53
50:BA:216:ALA:HA	50:BA:219:GLU:HG3	1.84	0.53
50:BA:28:THR:CG2	50:BA:46:ILE:HD11	2.37	0.53
52:BC:113:GLN:OE1	52:BC:122:THR:HB	2.07	0.53
52:BC:82:TYR:CZ	52:BC:164:PRO:HD3	2.43	0.53
53:BD:62:LYS:HB2	60:BK:94:LEU:HD12	1.90	0.53
53:BD:73:VAL:HG21	53:BD:86:LEU:HD21	1.89	0.53
54:BE:104:ASP:HB2	54:BE:108:ARG:O	2.08	0.53
54:BE:90:ILE:HG22	54:BE:91:SER:N	2.23	0.53
54:BE:90:ILE:HG22	54:BE:92:ILE:CD1	2.39	0.53
54:BE:92:ILE:CG2	54:BE:95:THR:H	2.21	0.53
56:BG:217:MET:O	56:BG:221:LYS:HE3	2.08	0.53
58:BI:174:CYS:HB3	58:BI:188:TYR:CZ	2.43	0.53
59:BJ:24:ARG:HG2	59:BJ:28:GLU:OE2	2.08	0.53
63:BN:26:LEU:CD1	63:BN:28:LEU:HB2	2.38	0.53
63:BN:75:LEU:CD1	63:BN:81:ALA:CA	2.86	0.53
65:BP:30:TYR:C	65:BP:33:LEU:HG	2.28	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:BQ:16:LYS:CG	66:BQ:17:LYS:N	2.27	0.53
69:BT:47:PRO:HG2	69:BT:52:TRP:CD2	2.43	0.53
72:BW:9:ASP:OD2	72:BW:29:PRO:CG	2.54	0.53
49:B1:840:C:H1'	74:BY:21:LYS:HD2	1.90	0.53
48:A2:1067:C:N3	48:A2:1197:C:N4	2.53	0.53
48:A2:117:C:C4	48:A2:118:C:N4	2.77	0.53
48:A2:1255:C:C6	48:A2:1256:G:N7	2.76	0.53
7:AE:128:HIS:CE1	48:A2:1265:G:C8	2.96	0.53
48:A2:1499:G:N3	48:A2:1499:G:C2'	2.71	0.53
48:A2:1977:C:C6	48:A2:1978:U:N3	2.74	0.53
48:A2:2067:G:N2	48:A2:2249:G:H1	2.06	0.53
48:A2:2525:G:OP2	48:A2:2525:G:O4'	2.26	0.53
48:A2:2502:G:H1'	48:A2:2690:G:N2	2.22	0.53
48:A2:2741:G:O2'	48:A2:2742:U:H5''	2.07	0.53
48:A2:4884:C:H3'	48:A2:4885:G:H5''	1.90	0.53
14:AL:165:LYS:CE	48:A2:505:C:C5'	2.86	0.53
3:AA:30:ARG:HA	3:AA:74:GLU:OE1	2.08	0.53
8:AF:220:MET:HE3	8:AF:223:LYS:HG2	1.89	0.53
14:AL:80:GLU:CG	14:AL:110:LEU:HD12	2.38	0.53
49:B1:1050:A:H2'	49:B1:1051:G:O4'	2.08	0.53
49:B1:1125:C:OP1	51:BB:150:ILE:HD12	2.09	0.53
49:B1:283:G:N3	49:B1:283:G:H2'	2.23	0.53
49:B1:284:C:H3'	49:B1:284:C:C6	2.37	0.53
49:B1:635:G:O5'	49:B1:635:G:H8	1.91	0.53
49:B1:744:G:H2'	49:B1:745:C:H6	1.69	0.53
50:BA:111:GLN:N	50:BA:116:PHE:CD2	2.77	0.53
51:BB:71:LEU:CD1	51:BB:75:GLN:CG	2.85	0.53
51:BB:77:ASP:C	51:BB:78:GLU:HG2	2.29	0.53
52:BC:167:ARG:HD3	52:BC:219:ILE:HD11	1.88	0.53
56:BG:57:ASP:O	56:BG:107:SER:CB	2.53	0.53
56:BG:176:ILE:HB	56:BG:179:LEU:HD22	1.91	0.53
56:BG:211:LYS:CG	56:BG:215:LYS:CE	2.85	0.53
63:BN:26:LEU:HD12	63:BN:27:LYS:N	2.22	0.53
66:BQ:145:TYR:O	66:BQ:146:ARG:HB2	2.08	0.53
49:B1:1629:C:H5''	68:BS:39:ARG:HD3	1.90	0.53
69:BT:41:LYS:CD	69:BT:43:LYS:CE	2.86	0.53
70:BU:24:LEU:HA	70:BU:111:GLU:O	2.08	0.53
48:A2:1249:G:O2'	48:A2:1250:C:P	2.66	0.53
48:A2:1743:G:C5	48:A2:1744:C:C5	2.97	0.53
48:A2:1948:A:N6	48:A2:1949:G:C6	2.77	0.53
20:AR:4:LEU:HD12	48:A2:2365:U:H4'	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1612:A:C2	48:A2:3610:U:O4'	2.61	0.53
48:A2:3731:A:H2	49:B1:1709:G:H21	1.56	0.53
48:A2:379:A:O4'	48:A2:380:A:C8	2.60	0.53
16:AN:84:PRO:CD	48:A2:43:U:OP1	2.55	0.53
4:AB:335:GLY:HA3	48:A2:4636:C:H4'	1.89	0.53
48:A2:4872:C:C3'	48:A2:4872:C:C6	2.92	0.53
7:AE:188:ARG:O	48:A2:4899:G:C5'	2.56	0.53
5:AC:199:ARG:HH12	48:A2:2274:C:H5''	1.73	0.53
5:AC:311:ARG:HH12	48:A2:946:G:H5''	1.63	0.53
8:AF:182:TYR:N	8:AF:182:TYR:CD1	2.73	0.53
9:AG:141:ASN:N	48:A2:149:U:O4	2.41	0.53
13:AK:72:ASN:HB2	13:AK:73:PRO:HD2	1.90	0.53
21:AS:72:PRO:O	21:AS:100:LEU:HD22	2.08	0.53
49:B1:1105:G:H21	49:B1:1106:C:H1'	1.72	0.53
49:B1:1372:U:O2'	67:BR:4:VAL:HG23	2.09	0.53
49:B1:859:G:H5''	49:B1:859:G:C8	2.43	0.53
49:B1:873:G:OP1	61:BL:153:LYS:NZ	2.41	0.53
51:BB:137:LEU:HD12	51:BB:172:MET:SD	2.48	0.53
52:BC:166:ARG:NE	71:BV:10:ASP:OD2	2.42	0.53
54:BE:201:HIS:HB2	54:BE:205:PHE:O	2.08	0.53
56:BG:119:LYS:HG2	56:BG:125:THR:HG21	1.89	0.53
59:BJ:41:ARG:HG3	59:BJ:42:GLU:N	2.22	0.53
65:BP:69:PRO:C	65:BP:71:GLU:H	2.09	0.53
65:BP:90:VAL:HA	65:BP:107:ILE:CG2	2.37	0.53
66:BQ:42:ILE:HD12	66:BQ:48:GLN:CA	2.38	0.53
75:BZ:78:LYS:HG2	75:BZ:78:LYS:O	2.08	0.53
48:A2:1260:G:H2'	48:A2:1261:C:O5'	2.09	0.53
48:A2:1306:A:C6	48:A2:1307:A:C4	2.96	0.53
48:A2:1815:U:C2'	48:A2:1816:G:H5''	2.39	0.53
48:A2:1888:A:C8	48:A2:1889:A:N7	2.76	0.53
20:AR:61:ALA:CB	48:A2:2612:U:H5''	2.33	0.53
48:A2:2794:A:C2	48:A2:2795:G:C4	2.96	0.53
48:A2:4009:G:H4'	48:A2:4020:A:O4'	2.08	0.53
28:AZ:59:LYS:HE3	48:A2:4111:C:C5'	2.38	0.53
5:AC:327:LYS:HZ3	48:A2:960:G:H21	1.56	0.53
4:AB:174:ARG:HH12	48:A2:4932:C:H4'	1.73	0.53
4:AB:224:LYS:HG2	4:AB:340:THR:HG23	1.90	0.53
4:AB:56:ILE:HG21	4:AB:365:LEU:HD22	1.91	0.53
4:AB:92:TYR:CE2	4:AB:161:ARG:HD2	2.43	0.53
9:AG:191:GLY:O	9:AG:194:VAL:HG12	2.09	0.53
14:AL:78:LEU:HD11	48:A2:157:G:C4'	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AN:114:ARG:NH2	16:AN:157:LYS:HG2	2.24	0.53
49:B1:1130:G:C5'	63:BN:10:GLY:HA2	2.39	0.53
49:B1:1256:G:H3'	49:B1:1256:G:N3	2.24	0.53
49:B1:1629:C:H2'	49:B1:1630:A:O4'	2.09	0.53
49:B1:297:A:H5''	54:BE:132:GLY:O	2.08	0.53
50:BA:7:VAL:HG21	71:BV:42:VAL:H	1.70	0.53
51:BB:71:LEU:HD13	51:BB:75:GLN:CG	2.38	0.53
49:B1:4:C:H5'	52:BC:230:THR:HG21	1.90	0.53
55:BF:36:GLN:O	55:BF:37:ASP:HB2	2.08	0.53
49:B1:168:C:C5'	56:BG:131:ARG:CB	2.87	0.53
49:B1:823:U:O2	59:BJ:142:VAL:HG13	2.09	0.53
60:BK:26:ASP:OD2	60:BK:31:LYS:HB3	2.08	0.53
61:BL:104:LYS:NZ	73:BX:8:ARG:HD3	2.24	0.53
70:BU:21:ARG:O	70:BU:114:VAL:HA	2.07	0.53
71:BV:51:LYS:CD	71:BV:76:ASP:OD2	2.57	0.53
48:A2:121:A:H2'	48:A2:121:A:N3	2.22	0.53
48:A2:1976:G:O6	48:A2:1981:G:N2	2.42	0.53
48:A2:2001:U:O2'	48:A2:2002:G:H5'	2.09	0.53
48:A2:2005:G:H2'	48:A2:2006:A:OP2	2.09	0.53
48:A2:2498:U:O2	48:A2:2499:C:C6	2.62	0.53
11:AI:32:ARG:HD2	48:A2:303:C:H5'	122.82	0.53
48:A2:4083:C:O3'	48:A2:4084:G:H2'	2.07	0.53
48:A2:4190:G:H4'	48:A2:4191:U:OP2	2.09	0.53
12:AJ:51:SER:OG	48:A2:4221:C:OP1	2.23	0.53
48:A2:4191:U:C4	48:A2:4298:A:C2	2.96	0.53
17:AO:164:ALA:HB1	48:A2:4720:U:H4'	1.90	0.53
48:A2:4915:C:H2'	48:A2:4916:C:C5	2.43	0.53
48:A2:492:C:H4'	48:A2:493:G:OP1	2.07	0.53
1:A3:35:C:H6	1:A3:35:C:O5'	1.90	0.53
2:A4:22:A:C2'	2:A4:22:A:N3	2.69	0.53
3:AA:104:VAL:O	3:AA:107:MET:HG2	2.08	0.53
3:AA:114:CYS:O	3:AA:165:VAL:HG12	2.08	0.53
3:AA:226:ARG:HH21	48:A2:4144:G:H5''	1.74	0.53
6:AD:267:ASN:OD1	6:AD:268:ARG:N	2.42	0.53
9:AG:134:PRO:HB3	9:AG:206:GLN:HB3	1.91	0.53
27:AY:8:THR:HG23	48:A2:340:G:C5'	2.37	0.53
49:B1:1745:A:C2'	56:BG:65:GLN:HE21	2.22	0.53
49:B1:309:G:N2	49:B1:310:C:H1'	2.24	0.53
49:B1:493:A:H4'	74:BY:89:HIS:CD2	2.30	0.53
49:B1:877:C:O5'	49:B1:877:C:H6	1.92	0.53
51:BB:131:ASP:OD2	51:BB:181:LEU:CD1	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BE:161:GLN:HB3	54:BE:170:ILE:O	2.08	0.53
58:BI:166:PHE:C	58:BI:168:GLN:H	2.11	0.53
61:BL:148:ALA:CB	61:BL:152:LYS:HE3	2.38	0.53
61:BL:42:LEU:HG	61:BL:42:LEU:O	2.09	0.53
65:BP:64:LYS:O	65:BP:67:ALA:HB2	2.04	0.53
75:BZ:99:LEU:CA	75:BZ:108:ILE:O	2.56	0.53
48:A2:131:C:C5'	48:A2:131:C:C6	2.79	0.53
48:A2:1749:A:O2'	48:A2:1751:G:OP1	2.23	0.53
48:A2:2483:C:H2'	48:A2:2485:G:C8	2.44	0.53
16:AN:189:ARG:NH2	48:A2:29:G:OP2	2.42	0.53
18:AP:86:LYS:HB2	48:A2:3828:G:H5''	1.91	0.53
48:A2:4885:G:N3	48:A2:4885:G:H5'	2.24	0.53
48:A2:4978:G:H2'	48:A2:4979:C:C6	2.44	0.53
48:A2:712:G:H2'	48:A2:713:G:C8	2.44	0.53
8:AF:147:LEU:HD21	48:A2:931:A:N3	2.23	0.53
5:AC:134:PRO:HG3	5:AC:150:LEU:CD2	2.39	0.53
6:AD:232:THR:CG2	6:AD:235:MET:CE	2.86	0.53
12:AJ:111:GLU:OE2	12:AJ:125:ILE:CG2	2.51	0.53
13:AK:16:LYS:O	13:AK:20:LEU:N	2.41	0.53
14:AL:176:PHE:CE2	14:AL:177:LYS:NZ	2.77	0.53
15:AM:19:PRO:CB	48:A2:923:C:C4	2.91	0.53
16:AN:96:ARG:NH2	16:AN:100:SER:HB3	2.23	0.53
17:AO:15:LEU:HA	17:AO:42:ASN:O	2.09	0.53
18:AP:10:ASN:HD21	18:AP:13:LYS:CE	2.21	0.53
20:AR:98:ARG:NH1	20:AR:130:ASN:HD21	2.07	0.53
25:AW:77:LYS:HD2	25:AW:78:PHE:H	1.73	0.53
49:B1:1314:U:N1	60:BK:2:LEU:CB	2.40	0.53
49:B1:1466:G:OP1	67:BR:5:ARG:NH1	2.42	0.53
49:B1:1674:G:H5''	55:BF:86:LYS:CE	2.38	0.53
49:B1:1778:C:H6	49:B1:1778:C:C5'	2.22	0.53
50:BA:40:LYS:HG2	50:BA:41:ARG:H	1.74	0.53
51:BB:179:ASN:HD22	51:BB:187:LYS:NZ	2.07	0.53
54:BE:47:PHE:CE1	54:BE:111:VAL:HG11	2.43	0.53
54:BE:149:TYR:CG	56:BG:209:TYR:CD2	2.97	0.53
64:BO:44:VAL:CG2	64:BO:81:VAL:HG13	2.38	0.53
66:BQ:143:LYS:O	66:BQ:144:SER:HB3	2.09	0.53
69:BT:38:LYS:HD3	69:BT:99:VAL:CG1	2.39	0.53
72:BW:102:ILE:CG2	72:BW:125:ILE:HG23	2.25	0.53
49:B1:571:U:H4'	74:BY:34:THR:HG21	1.90	0.53
48:A2:1466:G:N3	48:A2:1466:G:C2'	2.72	0.53
48:A2:1581:A:C2'	48:A2:1582:A:H5''	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1997:C:H2'	48:A2:1998:A:H8	1.74	0.53
48:A2:3591:G:C2	48:A2:4604:U:H5'	2.43	0.53
48:A2:3934:A:H2'	48:A2:3935:U:OP1	2.08	0.53
48:A2:4546:A:H2'	48:A2:4547:U:C5'	2.39	0.53
48:A2:4831:G:C2'	48:A2:4832:A:OP1	2.56	0.53
48:A2:634:C:H2'	48:A2:635:G:C8	2.44	0.53
2:A4:77:A:H1'	2:A4:100:A:N6	2.23	0.53
3:AA:179:ILE:HD12	48:A2:3624:A:H5''	1.90	0.53
4:AB:92:TYR:CE1	4:AB:101:THR:HG22	2.43	0.53
4:AB:99:LEU:CD2	4:AB:158:GLN:HE22	2.22	0.53
7:AE:157:HIS:ND1	7:AE:184:VAL:HG22	2.23	0.53
7:AE:203:ILE:CB	7:AE:206:VAL:HG21	2.38	0.53
7:AE:224:LYS:HB2	7:AE:225:PRO:HD3	1.89	0.53
8:AF:69:ILE:O	8:AF:73:ARG:CG	2.50	0.53
25:AW:73:ARG:O	25:AW:74:ARG:HB2	2.07	0.53
27:AY:41:LYS:HB3	27:AY:42:TYR:CD1	2.43	0.53
49:B1:1019:C:H5''	63:BN:72:LEU:HD13	1.91	0.53
49:B1:284:C:H2'	49:B1:285:U:C4	2.44	0.53
49:B1:466:G:N3	49:B1:466:G:H3'	2.24	0.53
49:B1:499:G:C2	49:B1:501:C:O2	2.62	0.53
53:BD:106:ARG:HH21	53:BD:173:ARG:HB3	1.73	0.53
56:BG:161:PRO:HA	56:BG:171:THR:HG1	1.73	0.53
54:BE:149:TYR:CD1	56:BG:209:TYR:CG	2.97	0.53
49:B1:527:C:C4'	59:BJ:125:HIS:HA	2.39	0.53
60:BK:83:LEU:HD22	60:BK:88:GLU:HA	1.91	0.53
62:BM:35:ILE:HG12	62:BM:108:CYS:SG	2.48	0.53
63:BN:31:ASP:O	63:BN:35:GLU:N	2.35	0.53
64:BO:144:GLY:O	64:BO:148:GLY:HA2	2.09	0.53
64:BO:43:HIS:HA	64:BO:54:CYS:O	2.08	0.53
68:BS:107:LEU:O	68:BS:111:LEU:HG	2.09	0.53
50:BA:7:VAL:CG2	71:BV:42:VAL:H	2.22	0.53
72:BW:83:LEU:HD23	72:BW:86:LEU:CD1	2.38	0.53
48:A2:1279:G:H1'	48:A2:1280:U:C6	2.43	0.53
48:A2:1284:C:C2	48:A2:1285:U:H1'	2.43	0.53
48:A2:1948:A:C6	48:A2:1949:G:C6	2.97	0.53
48:A2:205:A:C6	48:A2:229:G:C6	2.93	0.53
48:A2:204:G:H21	48:A2:229:G:P	2.31	0.53
48:A2:237:G:H2'	48:A2:238:G:C8	2.43	0.53
48:A2:2608:C:C6	48:A2:2608:C:H5''	2.43	0.53
18:AP:23:ARG:HH22	48:A2:2854:C:P	82.18	0.53
2:A4:22:A:N1	2:A4:23:A:C6	2.76	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:226:ARG:HH21	48:A2:4144:G:H5'	1.73	0.53
3:AA:225:ILE:HD13	3:AA:233:ARG:O	2.09	0.53
4:AB:257:TRP:CE3	48:A2:3870:G:OP1	2.61	0.53
4:AB:354:GLN:HB2	4:AB:356:LYS:HG3	1.90	0.53
7:AE:161:ARG:HD3	7:AE:270:TYR:CE2	2.43	0.53
10:AH:43:VAL:HG11	10:AH:70:VAL:HG23	1.89	0.53
13:AK:40:MET:HB3	48:A2:1977:C:O2'	2.08	0.53
13:AK:40:MET:SD	48:A2:1981:G:O6	2.66	0.53
13:AK:61:MET:O	13:AK:64:ALA:HB3	2.09	0.53
13:AK:78:LEU:CB	13:AK:80:PRO:HD2	2.29	0.53
18:AP:127:ARG:NH2	48:A2:3830:G:OP1	2.42	0.53
23:AU:61:VAL:HG12	23:AU:74:SER:HB3	1.90	0.53
26:AX:56:ARG:NH1	26:AX:62:ARG:NH2	2.56	0.53
28:AZ:99:ASP:O	28:AZ:101:PHE:N	2.41	0.53
49:B1:1286:G:H22	62:BM:36:ARG:CB	2.16	0.53
49:B1:1448:A:H2'	49:B1:1449:G:O4'	2.09	0.53
49:B1:180:G:C2	49:B1:181:A:C6	2.96	0.53
49:B1:217:A:N1	49:B1:218:U:C2	2.77	0.53
49:B1:217:A:C6	49:B1:218:U:N3	2.77	0.53
49:B1:455:A:OP1	56:BG:94:ARG:HG2	2.09	0.53
49:B1:663:C:P	73:BX:3:LYS:HZ2	2.32	0.53
49:B1:833:C:C2'	49:B1:834:C:C6	2.85	0.53
50:BA:111:GLN:HG3	50:BA:116:PHE:HE2	1.74	0.53
51:BB:181:LEU:CA	51:BB:184:VAL:CG2	2.86	0.53
51:BB:37:ALA:O	51:BB:38:MET:HG2	2.09	0.53
53:BD:75:LYS:O	60:BK:22:VAL:CG1	2.57	0.53
55:BF:107:ASN:H	55:BF:107:ASN:HD22	1.57	0.53
57:BH:158:LEU:HD11	57:BH:187:PHE:CD1	2.44	0.53
65:BP:85:ILE:HD11	65:BP:116:LEU:HD21	1.83	0.53
66:BQ:42:ILE:CG1	66:BQ:48:GLN:HG3	2.38	0.53
67:BR:5:ARG:HG2	67:BR:49:LYS:NZ	2.24	0.53
68:BS:73:ASN:HD21	68:BS:75:ARG:HG3	1.74	0.53
49:B1:572:U:OP1	74:BY:59:GLY:N	2.41	0.53
48:A2:1164:C:N4	48:A2:1167:A:C1'	2.72	0.53
48:A2:1197:C:H2'	48:A2:1198:C:C5'	2.33	0.53
5:AC:182:LYS:NZ	48:A2:2279:A:N7	2.57	0.53
5:AC:50:GLN:HG3	48:A2:342:G:C4'	2.37	0.53
48:A2:4086:U:C2'	48:A2:4087:U:H5''	2.38	0.53
10:AH:99:PHE:HE2	48:A2:4564:A:O2'	1.91	0.53
17:AO:176:ARG:CG	48:A2:4830:G:H1	2.22	0.53
8:AF:147:LEU:HD11	48:A2:931:A:C2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AC:211:TYR:CE1	5:AC:229:LEU:CG	2.92	0.53
6:AD:226:TYR:CD1	6:AD:231:VAL:HG11	2.43	0.53
6:AD:81:HIS:O	6:AD:84:PRO:HD2	2.09	0.53
7:AE:207:LYS:HG3	7:AE:208:ILE:N	2.23	0.53
9:AG:207:VAL:HB	9:AG:215:LEU:HD13	1.91	0.53
10:AH:173:ARG:CD	48:A2:4438:C:N4	2.71	0.53
13:AK:48:ARG:CA	13:AK:51:ALA:HB2	2.39	0.53
17:AO:147:TRP:NE1	17:AO:149:TYR:HB2	2.24	0.53
25:AW:116:LYS:HE2	49:B1:328:U:OP1	2.08	0.53
49:B1:1003:U:H2'	49:B1:1004:U:C6	2.44	0.53
49:B1:1664:A:O2'	49:B1:1665:G:P	2.67	0.53
49:B1:44:U:H3'	49:B1:44:U:O2	2.08	0.53
49:B1:498:C:H5''	54:BE:7:LYS:CE	2.38	0.53
50:BA:115:ALA:CB	50:BA:117:ARG:NH2	2.71	0.53
50:BA:41:ARG:HA	50:BA:47:TYR:CD1	2.44	0.53
54:BE:191:ARG:HH22	54:BE:244:ILE:HG13	1.74	0.53
49:B1:302:A:N3	58:BI:64:ASN:ND2	2.56	0.53
59:BJ:54:ARG:NH1	59:BJ:54:ARG:HB2	2.24	0.53
62:BM:77:ILE:HD11	62:BM:127:TYR:CD2	2.43	0.53
63:BN:79:GLY:C	63:BN:80:LEU:HD12	2.29	0.53
63:BN:98:VAL:HG12	63:BN:115:LEU:HD12	1.90	0.53
67:BR:100:PRO:O	67:BR:103:LYS:HB3	2.09	0.53
67:BR:112:GLY:O	67:BR:113:SER:OG	2.26	0.53
68:BS:78:LYS:HG2	68:BS:79:ILE:H	1.74	0.53
49:B1:1567:G:N2	68:BS:82:TRP:CZ3	2.77	0.53
70:BU:39:LEU:HD13	70:BU:39:LEU:C	2.29	0.53
52:BC:252:THR:OG1	72:BW:99:PHE:CE1	2.55	0.53
48:A2:1185:C:H2'	48:A2:1186:G:C8	2.44	0.52
48:A2:1296:C:N4	48:A2:1306:A:N7	2.57	0.52
48:A2:352:C:C2	48:A2:353:A:C8	2.97	0.52
6:AD:26:GLY:HA2	48:A2:4242:A:H61	1.74	0.52
5:AC:286:ASN:HD22	5:AC:291:ARG:HH21	1.57	0.52
6:AD:265:ARG:HG2	6:AD:265:ARG:NH1	2.24	0.52
6:AD:265:ARG:HH11	6:AD:265:ARG:CG	2.22	0.52
13:AK:52:VAL:O	13:AK:53:VAL:HG23	2.08	0.52
13:AK:55:MET:C	48:A2:1979:A:H5'	2.28	0.52
16:AN:168:GLY:O	16:AN:172:ARG:HG3	2.09	0.52
26:AX:106:LYS:HE3	26:AX:124:VAL:O	2.10	0.52
28:AZ:101:PHE:O	28:AZ:102:ARG:HB2	2.09	0.52
49:B1:1407:U:H4'	66:BQ:71:ARG:HH22	1.73	0.52
48:A2:3731:A:H2	49:B1:1709:G:N2	2.07	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1785:C:O2'	49:B1:1786:U:H5'	2.09	0.52
49:B1:1848:U:H2'	49:B1:1850:A:OP2	2.10	0.52
50:BA:7:VAL:HG11	71:BV:42:VAL:HG13	1.90	0.52
54:BE:139:LEU:HB2	54:BE:150:PRO:CB	2.39	0.52
58:BI:123:ARG:HD2	58:BI:130:THR:HG21	1.89	0.52
58:BI:84:ASN:OD1	58:BI:97:VAL:HG21	2.09	0.52
62:BM:102:LYS:HE3	62:BM:104:VAL:CG1	2.37	0.52
67:BR:97:GLU:OE1	67:BR:117:LEU:N	2.42	0.52
68:BS:26:ILE:HG23	68:BS:27:ALA:N	2.24	0.52
52:BC:256:TRP:CZ3	72:BW:68:ARG:HB2	2.41	0.52
48:A2:1152:G:H2'	48:A2:1153:G:O4'	2.10	0.52
48:A2:1610:C:H6	48:A2:1610:C:O5'	1.92	0.52
13:AK:14:PHE:CD2	48:A2:1941:A:C5	2.98	0.52
48:A2:1966:G:O2'	48:A2:1984:G:H5''	2.08	0.52
48:A2:1972:A:H2'	48:A2:1973:U:C4	2.44	0.52
13:AK:40:MET:HE1	48:A2:1978:U:H1'	1.87	0.52
48:A2:1985:U:H2'	48:A2:1986:G:O4'	2.08	0.52
48:A2:2274:C:H6	48:A2:2274:C:O5'	1.91	0.52
48:A2:273:A:N1	48:A2:300:A:H5'	2.24	0.52
5:AC:196:MET:HB3	48:A2:346:G:O6	2.08	0.52
48:A2:3922:G:C2	48:A2:4031:G:C2	2.97	0.52
6:AD:16:TYR:CE1	48:A2:4227:U:C4	2.97	0.52
15:AM:113:MET:CE	48:A2:4839:U:C6	2.92	0.52
48:A2:464:A:C2	48:A2:680:C:O2	2.62	0.52
7:AE:137:VAL:HG13	48:A2:702:A:H5''	1.92	0.52
48:A2:926:G:H3'	48:A2:927:C:H5'	1.89	0.52
8:AF:76:ARG:NE	48:A2:719:U:C5'	2.70	0.52
13:AK:2:PRO:HA	48:A2:2516:A:OP1	186.60	0.52
15:AM:101:LYS:HE2	48:A2:4834:U:P	2.48	0.52
19:AQ:104:ARG:CD	48:A2:1335:C:OP2	2.55	0.52
20:AR:15:LEU:HD21	20:AR:45:ILE:HD13	1.91	0.52
22:AT:68:THR:HG21	48:A2:4275:A:O3'	2.09	0.52
5:AC:198:ASN:ND2	27:AY:10:ASP:HA	2.24	0.52
49:B1:1442:U:C4	49:B1:1443:C:C4	2.97	0.52
49:B1:802:A:C8	49:B1:802:A:P	3.02	0.52
49:B1:913:A:N6	57:BH:98:ARG:HD2	2.23	0.52
50:BA:208:GLU:HA	50:BA:211:GLU:HB3	1.91	0.52
58:BI:122:GLY:HA2	58:BI:167:GLN:HG2	1.91	0.52
59:BJ:35:TYR:OH	59:BJ:103:GLU:CA	2.57	0.52
59:BJ:35:TYR:CE1	59:BJ:106:LEU:C	2.83	0.52
49:B1:1622:U:H6	65:BP:123:TYR:HH	1.48	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:BT:72:VAL:HG22	69:BT:104:LEU:HD12	1.92	0.52
71:BV:50:PHE:N	71:BV:50:PHE:CD1	2.73	0.52
75:BZ:76:ARG:HA	75:BZ:76:ARG:NE	2.24	0.52
48:A2:1259:C:C3'	48:A2:1260:G:H8	2.20	0.52
48:A2:1878:A:O2'	48:A2:1879:C:H5''	2.09	0.52
48:A2:2572:C:H2'	48:A2:2573:C:C6	2.44	0.52
15:AM:46:ARG:NH2	48:A2:925:C:OP1	2.41	0.52
4:AB:219:VAL:CG2	4:AB:282:LYS:HD2	2.40	0.52
5:AC:134:PRO:HA	5:AC:150:LEU:HD11	1.91	0.52
5:AC:212:ASN:CB	5:AC:232:VAL:CG2	2.66	0.52
5:AC:76:ILE:CD1	5:AC:95:MET:HE2	2.39	0.52
7:AE:108:LYS:O	7:AE:109:LEU:HB3	2.10	0.52
7:AE:114:ARG:HG2	48:A2:453:C:P	2.49	0.52
13:AK:41:GLN:O	13:AK:45:MET:HB3	2.09	0.52
17:AO:24:ALA:O	17:AO:27:VAL:HG12	2.09	0.52
21:AS:161:ARG:HD2	21:AS:162:GLN:HG3	1.91	0.52
25:AW:80:ARG:NH2	56:BG:128:THR:CB	2.72	0.52
28:AZ:26:VAL:HG13	28:AZ:91:LEU:CD2	2.39	0.52
49:B1:107:A:H2'	49:B1:108:G:C8	2.44	0.52
49:B1:1144:A:H2'	49:B1:1145:A:C8	2.44	0.52
49:B1:1523:C:C6	68:BS:141:ARG:NH1	2.77	0.52
49:B1:173:A:O2'	49:B1:174:C:O4'	2.27	0.52
49:B1:547:G:H3'	49:B1:548:C:H5''	1.91	0.52
49:B1:635:G:H2'	49:B1:636:C:C6	2.45	0.52
49:B1:636:C:HO2'	49:B1:637:U:H5'	1.72	0.52
49:B1:986:G:C6	49:B1:987:A:C5	2.97	0.52
50:BA:116:PHE:C	50:BA:116:PHE:CD1	2.82	0.52
53:BD:48:ILE:O	53:BD:86:LEU:HA	2.08	0.52
54:BE:98:HIS:NE2	54:BE:116:VAL:HG12	2.25	0.52
54:BE:96:GLY:C	54:BE:97:GLU:HG2	2.30	0.52
56:BG:121:ILE:CG2	56:BG:124:LEU:HD23	2.39	0.52
49:B1:168:C:H5'	56:BG:131:ARG:HD3	1.86	0.52
49:B1:382:C:H41	58:BI:5:ARG:HH22	1.58	0.52
61:BL:30:LYS:CB	61:BL:33:LEU:CD1	2.86	0.52
64:BO:145:GLY:O	64:BO:146:ARG:C	2.47	0.52
65:BP:75:VAL:HG21	65:BP:104:GLN:HG2	1.92	0.52
66:BQ:21:ALA:CB	66:BQ:83:ALA:HB1	2.23	0.52
67:BR:7:LYS:O	67:BR:11:LYS:HB2	2.09	0.52
68:BS:16:LEU:H	68:BS:16:LEU:HD23	1.70	0.52
49:B1:1665:G:N2	69:BT:87:VAL:HG13	2.24	0.52
70:BU:20:ILE:HG22	70:BU:116:ILE:CB	2.37	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:BZ:68:ILE:HB	75:BZ:109:TYR:HB3	1.85	0.52
8:AF:70:ARG:NH1	48:A2:1191:G:O2'	2.42	0.52
21:AS:173:ASN:CA	48:A2:4724:A:C2	2.51	0.52
1:A3:150:C:C4	9:AG:65:ARG:CZ	2.92	0.52
4:AB:300:LYS:HE3	4:AB:313:SER:HB2	1.89	0.52
4:AB:4:ARG:NH1	4:AB:7:SER:HA	2.25	0.52
4:AB:85:VAL:HB	4:AB:165:HIS:CE1	2.45	0.52
6:AD:41:LYS:NZ	22:AT:93:ILE:HG21	2.25	0.52
7:AE:165:LEU:HD22	7:AE:203:ILE:HD12	1.90	0.52
8:AF:167:ILE:HG22	8:AF:168:ALA:O	2.09	0.52
11:AI:67:ALA:CB	11:AI:158:LYS:HD3	2.40	0.52
14:AL:128:PRO:HD2	14:AL:136:LYS:NZ	2.23	0.52
17:AO:163:LYS:O	17:AO:166:ILE:HG22	2.09	0.52
18:AP:113:VAL:HG22	18:AP:151:THR:O	2.10	0.52
19:AQ:154:LYS:NZ	19:AQ:154:LYS:HB2	2.24	0.52
22:AT:129:LYS:HE2	48:A2:1816:G:HO2'	1.73	0.52
24:AV:135:ASN:N	24:AV:135:ASN:HD22	2.07	0.52
49:B1:1016:U:O2'	63:BN:61:ALA:HA	2.08	0.52
49:B1:1567:G:C6	68:BS:82:TRP:CD2	2.98	0.52
49:B1:1528:G:O2'	49:B1:1666:C:OP1	2.28	0.52
49:B1:228:C:O2'	49:B1:229:A:O5'	2.28	0.52
49:B1:563:G:OP2	49:B1:563:G:H8	1.91	0.52
49:B1:639:C:O2'	49:B1:640:A:H5'	2.09	0.52
49:B1:739:C:C2	49:B1:740:C:C6	2.98	0.52
49:B1:873:G:H4'	49:B1:874:G:OP2	2.09	0.52
52:BC:132:ASP:CG	52:BC:133:TYR:N	2.61	0.52
53:BD:116:ARG:NH2	53:BD:150:MET:CE	2.72	0.52
53:BD:74:GLN:C	53:BD:76:ARG:H	2.12	0.52
54:BE:92:ILE:HG22	54:BE:95:THR:HG1	1.72	0.52
49:B1:77:A:H4'	56:BG:173:ALA:CB	2.39	0.52
49:B1:307:G:O2'	58:BI:45:THR:HB	2.09	0.52
60:BK:85:LEU:HB2	60:BK:86:PRO:HD3	1.91	0.52
63:BN:54:LEU:CG	63:BN:58:HIS:CD2	2.86	0.52
72:BW:102:ILE:H	72:BW:113:HIS:CB	2.05	0.52
49:B1:580:U:C2'	74:BY:62:THR:CG2	2.88	0.52
48:A2:1257:A:O2'	48:A2:1258:G:C5'	2.57	0.52
48:A2:133:C:C4	48:A2:135:G:N1	2.78	0.52
48:A2:121:A:N6	48:A2:151:G:C6	2.78	0.52
48:A2:2004:C:N3	48:A2:2005:G:N3	2.57	0.52
48:A2:4686:A:H8	48:A2:4686:A:P	2.33	0.52
48:A2:69:A:H2'	48:A2:71:C:H41	1.71	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:154:LYS:HG2	4:AB:194:LEU:HD22	1.92	0.52
4:AB:59:GLU:OE2	4:AB:69:LYS:HA	2.08	0.52
5:AC:58:ALA:C	5:AC:60:HIS:H	2.13	0.52
6:AD:15:ARG:O	6:AD:17:GLN:NE2	2.43	0.52
7:AE:109:LEU:CD2	7:AE:109:LEU:N	2.73	0.52
8:AF:162:ILE:CD1	8:AF:162:ILE:N	2.73	0.52
1:A3:36:G:O6	10:AH:89:ARG:NH1	165.62	0.52
13:AK:25:PRO:N	13:AK:92:LYS:HB3	2.25	0.52
14:AL:44:ARG:NH2	48:A2:182:C:H3'	2.24	0.52
15:AM:114:LYS:HA	15:AM:117:LYS:NZ	2.25	0.52
18:AP:10:ASN:HD22	18:AP:13:LYS:HG3	1.69	0.52
21:AS:144:GLN:O	21:AS:146:HIS:N	2.43	0.52
23:AU:32:GLY:O	23:AU:34:MET:N	2.43	0.52
23:AU:39:PHE:CE1	23:AU:43:LEU:HD11	2.44	0.52
49:B1:1035:A:H1'	49:B1:1857:G:H1'	1.91	0.52
49:B1:113:G:O4'	49:B1:113:G:N3	2.43	0.52
49:B1:1552:G:C5'	49:B1:1557:C:C5	2.72	0.52
50:BA:42:LYS:HG2	50:BA:43:SER:H	1.74	0.52
51:BB:171:ILE:HD11	51:BB:197:ILE:HG12	1.90	0.52
52:BC:74:LYS:HE3	52:BC:272:HIS:NE2	2.25	0.52
65:BP:51:ARG:NH1	65:BP:51:ARG:CG	2.73	0.52
65:BP:52:LYS:NZ	65:BP:83:MET:CE	2.71	0.52
66:BQ:107:GLU:O	66:BQ:111:ILE:HG12	2.10	0.52
68:BS:123:LEU:O	68:BS:127:TRP:HD1	1.92	0.52
68:BS:59:LEU:CD2	68:BS:60:THR:N	2.73	0.52
73:BX:133:LEU:HD23	73:BX:133:LEU:N	2.25	0.52
20:AR:70:ARG:NH1	48:A2:2790:G:OP1	2.37	0.52
48:A2:3780:G:O5'	48:A2:3780:G:C8	2.63	0.52
2:A4:10:C:C2	6:AD:20:PHE:CD1	2.97	0.52
4:AB:26:ARG:HH11	4:AB:26:ARG:HG2	1.75	0.52
5:AC:252:TRP:CH2	5:AC:260:LEU:HD11	2.45	0.52
6:AD:265:ARG:N	6:AD:265:ARG:CD	2.73	0.52
8:AF:222:LYS:HE2	8:AF:225:THR:CG2	2.38	0.52
21:AS:142:VAL:HG12	21:AS:146:HIS:ND1	2.25	0.52
25:AW:97:LYS:HB3	25:AW:98:PRO:CD	2.24	0.52
49:B1:1477:U:O2'	49:B1:1478:U:OP2	2.22	0.52
49:B1:163:U:O4	74:BY:118:ARG:NH2	2.42	0.52
49:B1:558:G:H2'	49:B1:559:G:H8	1.74	0.52
49:B1:745:C:O5'	49:B1:745:C:H6	1.92	0.52
49:B1:861:A:H62	57:BH:107:LYS:HG3	1.75	0.52
50:BA:175:TRP:O	50:BA:202:TYR:HE2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BA:37:TYR:OH	50:BA:57:LYS:HE3	2.10	0.52
50:BA:42:LYS:CE	50:BA:48:ILE:CD1	2.85	0.52
56:BG:160:LYS:C	56:BG:160:LYS:HD3	2.29	0.52
56:BG:159:ARG:O	56:BG:161:PRO:HD3	2.09	0.52
56:BG:217:MET:HB3	56:BG:221:LYS:HZ2	1.70	0.52
56:BG:216:ARG:NH2	56:BG:219:GLU:CB	2.73	0.52
58:BI:76:THR:HG21	58:BI:104:ILE:CG2	2.39	0.52
63:BN:25:TRP:O	63:BN:26:LEU:HB3	2.08	0.52
49:B1:1644:C:H4'	66:BQ:140:ARG:HB2	1.92	0.52
67:BR:57:LEU:O	67:BR:61:ILE:HG13	2.10	0.52
49:B1:407:G:C2	73:BX:36:LEU:HB2	2.44	0.52
6:AD:286:SER:OG	48:A2:1164:C:OP1	2.27	0.52
48:A2:1389:G:C6	48:A2:1391:G:H5''	2.45	0.52
48:A2:195:A:C2	48:A2:197:U:C5	2.97	0.52
48:A2:1989:U:H5	48:A2:1991:A:H5''	1.62	0.52
20:AR:39:GLN:NE2	48:A2:2688:C:O3'	2.21	0.52
48:A2:287:G:H4'	48:A2:288:G:H8	1.75	0.52
3:AA:95:GLN:HB3	48:A2:4087:U:C4	2.45	0.52
4:AB:229:LYS:HB3	4:AB:233:SER:OG	2.09	0.52
5:AC:121:ARG:HD3	5:AC:277:TYR:CD1	2.44	0.52
5:AC:132:ALA:HA	5:AC:151:PRO:CG	2.40	0.52
5:AC:190:ARG:HB2	5:AC:202:ILE:HD13	1.92	0.52
6:AD:252:VAL:O	6:AD:253:TYR:HB3	2.09	0.52
8:AF:115:ARG:O	19:AQ:4:ASP:HA	2.09	0.52
13:AK:104:ALA:C	13:AK:106:LYS:N	2.61	0.52
17:AO:21:ALA:HA	17:AO:87:MET:CE	2.39	0.52
20:AR:99:MET:HE3	20:AR:103:ARG:HH11	1.75	0.52
1:A3:136:U:OP1	26:AX:62:ARG:NH1	2.42	0.52
49:B1:64:A:C2'	56:BG:175:LYS:HZ2	2.21	0.52
50:BA:176:TRP:CA	50:BA:202:TYR:HE2	2.11	0.52
50:BA:85:ARG:HB3	50:BA:204:TYR:HB2	1.91	0.52
51:BB:31:TYR:CE2	51:BB:94:LYS:HD2	2.45	0.52
52:BC:260:VAL:O	52:BC:261:PHE:HB2	2.10	0.52
55:BF:92:ILE:HD13	55:BF:169:ILE:HG21	1.91	0.52
56:BG:123:GLY:C	56:BG:124:LEU:HD22	2.30	0.52
56:BG:211:LYS:CG	56:BG:215:LYS:NZ	2.73	0.52
61:BL:33:LEU:CD1	61:BL:33:LEU:N	2.73	0.52
63:BN:25:TRP:CD1	63:BN:26:LEU:HB3	2.45	0.52
65:BP:29:SER:HB2	65:BP:31:GLU:HG2	1.92	0.52
65:BP:97:TYR:HB2	65:BP:102:PHE:CD1	2.45	0.52
67:BR:35:CYS:CA	67:BR:38:ILE:HG13	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:BT:113:VAL:C	69:BT:124:THR:HG23	2.30	0.52
49:B1:1567:G:O3'	69:BT:38:LYS:NZ	2.42	0.52
70:BU:20:ILE:HA	70:BU:115:THR:O	2.10	0.52
19:AQ:68:ARG:HH12	48:A2:1483:C:H2'	1.75	0.52
48:A2:1740:G:N3	48:A2:1740:G:C2'	2.73	0.52
48:A2:1875:C:O5'	48:A2:1875:C:H6	1.93	0.52
48:A2:2373:G:N3	48:A2:2373:G:C2'	2.73	0.52
48:A2:2388:U:C3'	48:A2:2388:U:O2	2.56	0.52
16:AN:96:ARG:HG3	48:A2:30:C:H5'	1.92	0.52
5:AC:52:TYR:CD2	48:A2:344:C:C4'	2.93	0.52
48:A2:4045:U:H4'	48:A2:4046:G:OP1	2.10	0.52
6:AD:176:SER:HB3	48:A2:4285:A:O3'	2.10	0.52
4:AB:317:LEU:HD23	48:A2:4959:U:H5''	1.86	0.52
7:AE:123:ARG:CB	48:A2:948:G:OP1	2.58	0.52
3:AA:130:SER:HA	3:AA:169:VAL:CG1	2.39	0.52
3:AA:226:ARG:CG	3:AA:226:ARG:NH1	2.73	0.52
3:AA:70:LYS:NZ	3:AA:72:ARG:CZ	2.73	0.52
4:AB:103:LYS:O	4:AB:153:MET:HE1	2.10	0.52
6:AD:44:TYR:CD2	48:A2:1806:G:H4'	2.44	0.52
7:AE:123:ARG:HD2	7:AE:124:LYS:N	2.25	0.52
8:AF:166:ARG:HH12	8:AF:209:TRP:CB	2.18	0.52
8:AF:69:ILE:HG21	8:AF:73:ARG:NE	2.18	0.52
10:AH:111:LEU:CD1	10:AH:112:VAL:N	2.73	0.52
12:AJ:94:LEU:HD22	12:AJ:107:PHE:HB3	1.91	0.52
12:AJ:153:ALA:O	12:AJ:156:ARG:HG2	2.09	0.52
14:AL:195:ARG:HA	14:AL:198:ARG:CZ	2.39	0.52
7:AE:270:TYR:HA	15:AM:110:PHE:CE2	2.45	0.52
17:AO:48:TYR:O	17:AO:51:LYS:HG2	2.10	0.52
23:AU:34:MET:CE	23:AU:35:ASP:N	2.73	0.52
28:AZ:33:THR:HG23	28:AZ:98:LYS:NZ	2.25	0.52
49:B1:1606:G:N2	49:B1:1632:G:H1'	2.25	0.52
49:B1:1728:U:H2'	49:B1:1729:U:O4'	2.10	0.52
49:B1:307:G:H4'	49:B1:308:G:OP2	2.10	0.52
49:B1:332:G:H1'	49:B1:333:G:N7	2.24	0.52
49:B1:803:C:H4'	72:BW:80:ASP:OD2	2.10	0.52
53:BD:15:GLY:C	53:BD:50:ILE:HG22	17.59	0.52
54:BE:114:ILE:CG1	54:BE:115:THR:N	2.73	0.52
49:B1:633:C:C1'	54:BE:12:VAL:CG1	60.72	0.52
55:BF:90:VAL:CG1	66:BQ:46:THR:HG22	2.40	0.52
57:BH:119:SER:HA	57:BH:124:ALA:CB	2.40	0.52
64:BO:145:GLY:O	64:BO:148:GLY:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:BO:85:CYS:O	64:BO:89:GLY:N	2.43	0.52
65:BP:47:ARG:C	65:BP:49:LEU:HD21	2.30	0.52
66:BQ:33:LYS:CG	66:BQ:36:GLY:CA	2.85	0.52
69:BT:134:ILE:O	69:BT:137:GLN:HG2	2.09	0.52
48:A2:121:A:N3	48:A2:121:A:H3'	2.25	0.52
48:A2:1750:C:H2'	48:A2:1750:C:O2	2.08	0.52
48:A2:1989:U:H3'	48:A2:1989:U:O2	2.10	0.52
48:A2:2617:G:H2'	48:A2:2618:U:C6	2.45	0.52
48:A2:3629:C:H2'	48:A2:3630:G:C8	2.44	0.52
4:AB:261:ARG:HD2	48:A2:3841:C:H4'	1.92	0.52
48:A2:4062:G:C6	48:A2:4063:G:C6	2.98	0.52
48:A2:4621:G:H8	48:A2:4621:G:H5''	1.75	0.52
15:AM:19:PRO:CG	48:A2:923:C:C2	2.93	0.52
4:AB:316:PRO:HG2	4:AB:319:GLY:O	2.10	0.52
5:AC:318:PRO:O	5:AC:319:LEU:HB2	2.10	0.52
7:AE:187:ARG:NH2	48:A2:4900:C:P	2.83	0.52
7:AE:235:THR:O	7:AE:238:GLU:O	2.27	0.52
11:AI:35:ASP:HB2	11:AI:39:LYS:NZ	2.25	0.52
16:AN:62:TYR:CE1	16:AN:134:LEU:HD12	2.44	0.52
18:AP:10:ASN:ND2	18:AP:13:LYS:CE	2.73	0.52
22:AT:62:GLY:HA3	22:AT:76:VAL:HG22	1.90	0.52
25:AW:98:PRO:CD	25:AW:99:GLU:N	2.73	0.52
49:B1:1148:A:H4'	49:B1:1149:A:O4'	2.10	0.52
50:BA:112:ILE:CG2	50:BA:113:GLN:N	2.72	0.52
51:BB:183:GLU:HB3	51:BB:187:LYS:HZ1	1.75	0.52
51:BB:70:SER:HB3	51:BB:83:LYS:CB	2.40	0.52
51:BB:71:LEU:CD2	51:BB:84:PHE:CD2	2.88	0.52
52:BC:130:ILE:CD1	52:BC:159:LYS:HD3	2.40	0.52
52:BC:97:PHE:C	52:BC:98:LEU:CD2	2.53	0.52
49:B1:1256:G:C2	53:BD:40:ARG:HG3	34.10	0.52
54:BE:86:PHE:CD2	54:BE:184:ILE:HG21	2.45	0.52
59:BJ:87:LEU:HD22	59:BJ:96:TYR:HD2	1.71	0.52
59:BJ:88:ASP:OD1	59:BJ:91:LYS:CB	2.58	0.52
61:BL:40:ILE:HD12	61:BL:143:LEU:HD11	1.91	0.52
63:BN:28:LEU:HG	63:BN:33:VAL:HG23	1.91	0.52
63:BN:40:LEU:N	63:BN:40:LEU:CD2	2.73	0.52
65:BP:66:GLU:N	65:BP:67:ALA:CB	2.73	0.52
66:BQ:58:LEU:CD2	66:BQ:62:ARG:HH12	2.13	0.52
68:BS:15:VAL:HB	68:BS:19:ASN:HB2	1.92	0.52
68:BS:74:PRO:CG	68:BS:84:LEU:CD2	2.68	0.52
73:BX:90:CYS:O	73:BX:94:ILE:HG13	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:681:U:O4'	73:BX:9:THR:HG23	2.10	0.52
49:B1:840:C:O2'	74:BY:14:THR:HA	2.10	0.52
48:A2:1258:G:C2	48:A2:1259:C:N4	2.78	0.52
48:A2:1559:G:N3	48:A2:1559:G:H2'	2.23	0.52
5:AC:182:LYS:NZ	48:A2:2279:A:C8	2.77	0.52
48:A2:2484:C:H4'	48:A2:2485:G:C2	2.45	0.52
48:A2:2685:G:C8	48:A2:2685:G:C5'	2.80	0.52
48:A2:4264:U:O4	48:A2:4265:C:O2	2.28	0.52
48:A2:4550:U:O2'	48:A2:4551:A:H5''	2.11	0.52
48:A2:4964:U:H4'	48:A2:4965:A:H5'	1.91	0.52
48:A2:683:U:N3	48:A2:684:U:C4	2.78	0.52
2:A4:9:C:H2'	2:A4:10:C:H5'	1.90	0.52
4:AB:352:LEU:CD1	48:A2:4640:G:H4'	2.40	0.52
6:AD:200:MET:HE2	6:AD:237:GLU:OE1	2.10	0.52
5:AC:330:PRO:CB	8:AF:51:TYR:CE1	2.93	0.52
10:AH:111:LEU:HD13	10:AH:112:VAL:H	1.75	0.52
13:AK:14:PHE:CD1	48:A2:1941:A:C2	2.98	0.52
14:AL:90:VAL:O	14:AL:94:ILE:HG12	2.09	0.52
17:AO:188:LYS:HA	17:AO:191:LYS:HD2	1.91	0.52
19:AQ:11:ARG:CG	19:AQ:11:ARG:NH1	2.73	0.52
19:AQ:157:GLY:HA2	19:AQ:161:SER:HB3	1.90	0.52
22:AT:87:LYS:HE2	48:A2:4267:G:N1	2.25	0.52
26:AX:117:TYR:CD2	26:AX:153:ILE:CG2	2.93	0.52
49:B1:161:U:O2	56:BG:87:ARG:NH1	2.42	0.52
49:B1:216:C:O2'	49:B1:217:A:H5''	2.10	0.52
49:B1:527:C:H2'	49:B1:528:A:O4'	2.09	0.52
50:BA:204:TYR:O	50:BA:205:ARG:CG	2.57	0.52
50:BA:208:GLU:HA	50:BA:211:GLU:CB	2.40	0.52
56:BG:229:ALA:HB3	56:BG:230:LYS:HE2	1.90	0.52
62:BM:122:ASP:O	62:BM:125:GLU:HG2	2.10	0.52
67:BR:20:TYR:CD1	67:BR:20:TYR:N	2.78	0.52
49:B1:1610:G:N2	68:BS:85:ASN:OD1	2.42	0.52
57:BH:147:LYS:O	72:BW:42:MET:SD	2.68	0.52
74:BY:90:ARG:O	74:BY:93:ARG:HG2	2.08	0.52
48:A2:1266:G:C3'	48:A2:1266:G:C8	2.92	0.51
48:A2:130:C:C5'	48:A2:131:C:OP2	2.47	0.51
48:A2:1957:G:C5	48:A2:1958:C:H1'	2.45	0.51
48:A2:2021:A:H4'	48:A2:2022:A:H5''	1.93	0.51
48:A2:2502:G:C4'	48:A2:2690:G:H21	2.23	0.51
48:A2:2606:C:C2'	48:A2:2607:U:H6	2.21	0.51
48:A2:2689:C:C3'	48:A2:2689:C:C6	2.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AI:7:ARG:NH2	48:A2:4367:G:OP2	2.43	0.51
4:AB:252:ALA:CB	48:A2:4419:U:H1'	2.39	0.51
48:A2:441:C:H2'	48:A2:442:G:C8	2.44	0.51
48:A2:4831:G:O2'	48:A2:4832:A:OP1	2.25	0.51
48:A2:513:C:O2'	48:A2:514:C:H5'	2.09	0.51
2:A4:65:G:C5'	2:A4:65:G:C8	2.94	0.51
3:AA:21:LYS:HD3	48:A2:1523:C:H5''	1.93	0.51
4:AB:282:LYS:HZ1	4:AB:337:VAL:HA	1.74	0.51
6:AD:39:GLN:OE1	6:AD:48:LYS:HB2	2.11	0.51
7:AE:123:ARG:HG3	7:AE:124:LYS:H	1.73	0.51
11:AI:119:PHE:CE1	48:A2:4185:C:H4'	2.45	0.51
11:AI:48:LEU:HD23	11:AI:142:LEU:HA	1.92	0.51
12:AJ:110:GLN:O	12:AJ:111:GLU:HB2	2.10	0.51
13:AK:32:ALA:CA	13:AK:85:ASN:HB2	2.40	0.51
15:AM:101:LYS:CA	15:AM:104:MET:HE3	2.33	0.51
16:AN:67:ARG:NE	48:A2:2437:C:H5''	2.25	0.51
22:AT:112:ASN:O	22:AT:128:LEU:HD23	2.10	0.51
28:AZ:60:LYS:HG3	28:AZ:60:LYS:O	2.08	0.51
49:B1:1265:A:H2'	49:B1:1265:A:N3	2.23	0.51
49:B1:1611:G:O2'	68:BS:87:GLN:HB2	2.10	0.51
49:B1:216:C:HO2'	49:B1:217:A:H8	1.59	0.51
51:BB:171:ILE:CD1	51:BB:197:ILE:HG13	2.40	0.51
53:BD:75:LYS:O	60:BK:22:VAL:CB	2.58	0.51
56:BG:69:THR:O	56:BG:101:ILE:HG12	2.10	0.51
56:BG:74:ARG:HG2	56:BG:94:ARG:HE	1.74	0.51
57:BH:148:LEU:HD21	72:BW:48:GLY:HA2	1.92	0.51
59:BJ:168:GLY:O	59:BJ:172:ARG:NH2	2.43	0.51
49:B1:918:U:C3'	63:BN:20:ARG:NH2	2.73	0.51
63:BN:67:THR:HG21	63:BN:74:ILE:HD11	1.91	0.51
65:BP:77:LYS:HD3	65:BP:102:PHE:CD2	2.45	0.51
68:BS:48:ALA:HB3	68:BS:50:ILE:HD12	1.89	0.51
69:BT:17:ALA:O	69:BT:21:PHE:HD2	1.93	0.51
69:BT:41:LYS:CE	69:BT:43:LYS:NZ	2.73	0.51
70:BU:64:THR:HG22	70:BU:77:TRP:CE3	2.44	0.51
48:A2:133:C:C5	48:A2:134:G:C2'	2.85	0.51
48:A2:2727:C:O2	48:A2:2727:C:O4'	2.24	0.51
5:AC:86:ARG:HD2	48:A2:370:A:H4'	1.92	0.51
48:A2:4421:U:H2'	48:A2:4422:U:O4'	2.09	0.51
48:A2:4708:C:H2'	48:A2:4709:C:O4'	2.09	0.51
17:AO:114:LYS:C	48:A2:4718:C:H5'	2.25	0.51
48:A2:676:G:H8	48:A2:676:G:C5'	2.23	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:715:C:H1'	48:A2:932:U:O2'	2.11	0.51
48:A2:918:C:O2	48:A2:918:C:C3'	2.57	0.51
3:AA:70:LYS:CE	3:AA:72:ARG:NH2	2.73	0.51
7:AE:165:LEU:HD22	7:AE:203:ILE:CD1	2.41	0.51
7:AE:187:ARG:CG	7:AE:187:ARG:NH1	2.73	0.51
8:AF:223:LYS:CA	8:AF:232:ASP:HB3	2.33	0.51
8:AF:94:ARG:HH22	8:AF:98:ILE:HG12	1.75	0.51
13:AK:21:LEU:O	13:AK:24:TYR:CD2	2.63	0.51
20:AR:21:LYS:NZ	48:A2:2801:G:OP2	2.43	0.51
49:B1:12:U:H1'	49:B1:1357:A:H1'	1.92	0.51
49:B1:1625:U:C4	49:B1:1626:C:C4	2.97	0.51
49:B1:527:C:H4'	59:BJ:125:HIS:CG	2.44	0.51
49:B1:590:A:C2'	49:B1:590:A:N3	2.73	0.51
52:BC:155:ILE:O	52:BC:159:LYS:HG2	2.09	0.51
60:BK:27:VAL:O	60:BK:29:MET:N	2.42	0.51
64:BO:141:ARG:HG3	64:BO:142:ARG:N	2.25	0.51
65:BP:86:LEU:N	65:BP:86:LEU:CD2	2.73	0.51
66:BQ:97:GLN:HG2	66:BQ:102:GLU:CD	2.30	0.51
74:BY:105:LYS:HD3	74:BY:108:LYS:HD2	1.91	0.51
74:BY:87:PRO:CD	74:BY:90:ARG:NH2	2.73	0.51
74:BY:99:LYS:CE	74:BY:102:THR:HB	2.40	0.51
75:BZ:65:TYR:CE2	75:BZ:76:ARG:CG	2.86	0.51
48:A2:1256:G:C2'	48:A2:1256:G:N3	2.71	0.51
48:A2:130:C:C3'	48:A2:131:C:C5'	2.79	0.51
48:A2:2067:G:N2	48:A2:2249:G:N2	2.59	0.51
23:AU:92:LYS:HE2	48:A2:2605:U:O5'	2.11	0.51
48:A2:2737:G:H1'	48:A2:2745:A:H1'	1.92	0.51
48:A2:2880:G:H2'	48:A2:2881:G:C5'	2.40	0.51
48:A2:4252:U:H6	48:A2:4252:U:OP2	1.92	0.51
48:A2:4828:G:H5'	48:A2:4828:G:H8	1.76	0.51
48:A2:661:G:H8	48:A2:661:G:O5'	1.93	0.51
3:AA:201:GLY:O	3:AA:204:MET:HG2	2.10	0.51
7:AE:219:LYS:CA	48:A2:4898:C:N4	2.73	0.51
8:AF:169:LEU:O	8:AF:171:ASP:N	2.43	0.51
8:AF:217:ARG:HH11	8:AF:217:ARG:CG	2.14	0.51
8:AF:29:LYS:O	8:AF:33:LEU:HG	2.10	0.51
10:AH:174:LYS:O	10:AH:175:PHE:HB2	2.09	0.51
10:AH:8:GLN:HB2	10:AH:57:VAL:HB	1.92	0.51
14:AL:137:GLY:O	14:AL:140:SER:HA	2.11	0.51
19:AQ:5:ILE:O	19:AQ:5:ILE:HG13	2.10	0.51
10:AH:60:TRP:NE1	21:AS:153:PRO:CG	2.70	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AT:128:LEU:CD1	22:AT:128:LEU:H	2.07	0.51
49:B1:581:U:O4'	74:BY:62:THR:CG2	2.58	0.51
49:B1:5:U:H2'	49:B1:6:G:C8	2.45	0.51
49:B1:739:C:H2'	49:B1:739:C:O2	2.09	0.51
49:B1:803:C:H2'	49:B1:803:C:O2	2.10	0.51
49:B1:827:A:O5'	59:BJ:8:VAL:HG21	2.10	0.51
49:B1:861:A:C2	57:BH:106:ARG:HD2	2.45	0.51
50:BA:176:TRP:CG	50:BA:199:PRO:HB3	2.46	0.51
55:BF:179:ASN:HB2	55:BF:187:SER:HB3	1.92	0.51
59:BJ:136:ARG:N	59:BJ:158:ASP:O	2.43	0.51
62:BM:14:VAL:CG1	62:BM:127:TYR:CE2	2.82	0.51
49:B1:1046:U:O4'	64:BO:140:THR:CG2	2.58	0.51
66:BQ:25:CYS:HB2	66:BQ:68:ILE:CG1	2.38	0.51
72:BW:46:TYR:O	72:BW:66:THR:CB	2.57	0.51
75:BZ:74:SER:HB2	75:BZ:79:ILE:O	2.10	0.51
48:A2:1338:G:O2'	48:A2:1339:U:H5'	2.11	0.51
48:A2:1943:A:C6	48:A2:2006:A:C6	2.99	0.51
48:A2:3922:G:N1	48:A2:4031:G:C2	2.78	0.51
48:A2:4084:G:H4'	48:A2:4085:C:C4'	2.39	0.51
48:A2:410:U:C2'	48:A2:411:G:H5'	2.40	0.51
48:A2:452:C:H2'	48:A2:453:C:C6	2.45	0.51
48:A2:905:G:N3	48:A2:905:G:C3'	2.72	0.51
4:AB:298:LEU:C	4:AB:298:LEU:HD23	2.30	0.51
4:AB:94:GLU:HG2	4:AB:158:GLN:NE2	2.26	0.51
7:AE:115:TYR:C	7:AE:116:TYR:HD1	2.13	0.51
11:AI:181:PHE:CE2	11:AI:185:VAL:HG11	2.46	0.51
11:AI:41:ALA:HB1	11:AI:45:GLU:OE1	2.11	0.51
13:AK:31:GLY:O	13:AK:32:ALA:HB2	2.09	0.51
21:AS:139:ARG:CA	21:AS:139:ARG:NE	2.73	0.51
24:AV:43:LYS:HE3	24:AV:60:MET:HE3	1.92	0.51
28:AZ:36:ARG:CB	28:AZ:36:ARG:HH11	2.23	0.51
49:B1:226:A:H5'	49:B1:226:A:H8	1.72	0.51
49:B1:687:C:N4	57:BH:118:ARG:NH2	2.58	0.51
51:BB:182:LYS:CG	51:BB:231:LEU:HD13	2.40	0.51
49:B1:611:G:H21	54:BE:12:VAL:CG1	63.92	0.51
60:BK:29:MET:SD	60:BK:30:PRO:HD3	2.50	0.51
60:BK:53:LYS:HD3	60:BK:60:GLU:OE1	2.10	0.51
62:BM:17:ALA:HB1	62:BM:124:ILE:CD1	2.40	0.51
67:BR:41:ILE:H	67:BR:41:ILE:HD12	1.76	0.51
49:B1:1622:U:C2	68:BS:120:HIS:HB2	2.46	0.51
72:BW:11:LEU:HD12	72:BW:74:VAL:CG2	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1669:U:H2'	48:A2:1670:G:C8	2.46	0.51
8:AF:165:LYS:HB2	48:A2:2254:G:H4'	1.93	0.51
48:A2:2670:U:C2	48:A2:2671:U:C5	2.99	0.51
48:A2:2689:C:H5'	48:A2:2690:G:C5'	2.38	0.51
48:A2:285:U:C2	48:A2:291:U:N3	2.79	0.51
48:A2:3876:A:H8	48:A2:3876:A:H3'	1.76	0.51
48:A2:4834:U:N3	48:A2:4835:G:C6	2.79	0.51
15:AM:20:HIS:CE1	48:A2:923:C:O2'	2.63	0.51
48:A2:959:C:O3'	48:A2:960:G:C8	2.63	0.51
3:AA:70:LYS:HZ2	3:AA:72:ARG:NH1	2.08	0.51
5:AC:209:ILE:CD1	5:AC:209:ILE:N	2.73	0.51
7:AE:233:PHE:CD2	7:AE:236:GLU:OE1	2.64	0.51
11:AI:210:ARG:HD3	48:A2:1162:U:C4	2.46	0.51
14:AL:42:LYS:O	14:AL:46:ILE:HG12	2.10	0.51
18:AP:47:TYR:OH	18:AP:58:VAL:HG22	2.10	0.51
19:AQ:103:LEU:HG	19:AQ:123:PHE:CE1	2.45	0.51
20:AR:126:LYS:CG	20:AR:131:VAL:CG1	2.86	0.51
22:AT:19:PHE:HE2	22:AT:20:ARG:CZ	2.24	0.51
25:AW:109:ILE:O	25:AW:113:LYS:CE	2.57	0.51
28:AZ:123:LYS:O	28:AZ:124:THR:OG1	2.22	0.51
49:B1:1287:A:C8	62:BM:36:ARG:NH2	2.79	0.51
49:B1:1442:U:O4	49:B1:1443:C:N4	2.44	0.51
49:B1:428:U:H4'	59:BJ:2:PRO:CG	2.33	0.51
49:B1:833:C:C4	49:B1:834:C:N4	2.79	0.51
50:BA:116:PHE:HD1	50:BA:116:PHE:C	2.14	0.51
51:BB:175:GLU:HG3	51:BB:193:ILE:HG12	1.93	0.51
51:BB:86:LEU:HB3	51:BB:98:THR:OG1	2.09	0.51
54:BE:116:VAL:CG2	54:BE:117:GLU:N	2.74	0.51
54:BE:115:THR:CG2	54:BE:116:VAL:N	2.73	0.51
49:B1:917:U:C6	57:BH:118:ARG:NH1	2.79	0.51
63:BN:30:SER:O	63:BN:33:VAL:HB	2.09	0.51
65:BP:34:MET:HG3	65:BP:45:LEU:CD1	2.37	0.51
65:BP:53:GLN:CA	65:BP:83:MET:HE3	2.40	0.51
65:BP:84:ILE:HG22	65:BP:115:TYR:CA	2.40	0.51
68:BS:30:ILE:O	68:BS:31:THR:C	2.49	0.51
69:BT:38:LYS:HE3	69:BT:99:VAL:HG13	1.92	0.51
70:BU:20:ILE:HG22	70:BU:116:ILE:CG1	2.39	0.51
48:A2:1260:G:O2'	48:A2:1261:C:O4'	2.27	0.51
5:AC:102:PHE:CB	48:A2:1320:A:OP1	2.59	0.51
3:AA:205:ASN:OD1	48:A2:1615:G:C8	2.64	0.51
13:AK:14:PHE:CD1	48:A2:1941:A:N3	2.78	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1966:G:H1'	48:A2:1984:G:C8	2.46	0.51
48:A2:3679:C:O5'	48:A2:3679:C:H6	1.93	0.51
4:AB:356:LYS:C	4:AB:358:ARG:H	2.14	0.51
5:AC:231:ASN:OD1	5:AC:232:VAL:N	2.43	0.51
5:AC:69:THR:HG21	48:A2:4352:A:OP1	2.10	0.51
2:A4:33:U:C2	6:AD:207:TYR:CG	2.99	0.51
7:AE:123:ARG:CD	7:AE:124:LYS:N	2.73	0.51
7:AE:273:SER:CB	48:A2:4839:U:HO2'	2.20	0.51
9:AG:106:THR:H	9:AG:109:GLU:CG	2.22	0.51
9:AG:75:LYS:HG2	9:AG:240:ASN:HB2	1.92	0.51
10:AH:12:ILE:HB	10:AH:53:LYS:HB3	1.93	0.51
13:AK:108:PRO:CD	13:AK:109:ALA:H	2.22	0.51
24:AV:105:ILE:HG23	24:AV:113:LYS:HB3	1.93	0.51
49:B1:1280:G:H2'	49:B1:1281:G:H8	1.75	0.51
49:B1:1520:G:H2'	49:B1:1520:G:N3	2.26	0.51
49:B1:1554:C:H4'	49:B1:1555:U:H5'	1.92	0.51
48:A2:3732:C:N4	49:B1:1710:C:O2'	2.24	0.51
49:B1:171:A:C4'	56:BG:177:GLN:HE22	2.24	0.51
49:B1:1784:G:N1	49:B1:1785:C:N3	2.58	0.51
49:B1:805:U:P	72:BW:121:THR:O	2.68	0.51
52:BC:103:LYS:HZ2	52:BC:133:TYR:HD2	1.58	0.51
52:BC:164:PRO:HB2	52:BC:248:TYR:CE2	2.46	0.51
56:BG:56:ASN:O	56:BG:107:SER:HB3	2.10	0.51
56:BG:50:VAL:HG11	56:BG:111:LEU:HB3	1.91	0.51
49:B1:821:G:O6	59:BJ:150:ARG:HG3	2.11	0.51
64:BO:119:LEU:O	64:BO:124:MET:HB2	2.10	0.51
64:BO:76:LEU:N	64:BO:76:LEU:CD2	2.73	0.51
65:BP:85:ILE:HG13	65:BP:107:ILE:HD12	1.93	0.51
65:BP:87:PRO:O	65:BP:88:GLU:HB2	2.11	0.51
67:BR:119:VAL:O	67:BR:120:THR:CG2	2.56	0.51
68:BS:14:ARG:CG	68:BS:14:ARG:NH1	2.73	0.51
68:BS:17:ASN:HD22	68:BS:18:THR:N	2.07	0.51
49:B1:1567:G:N1	68:BS:82:TRP:CE3	2.78	0.51
52:BC:250:TYR:HE1	72:BW:99:PHE:HE2	1.57	0.51
55:BF:103:LEU:HB2	75:BZ:67:LEU:HD21	1.92	0.51
55:BF:166:ILE:HG22	75:BZ:71:ALA:HB2	1.92	0.51
5:AC:323:ARG:HB2	48:A2:1264:G:O2'	2.10	0.51
48:A2:132:G:C3'	48:A2:132:G:N3	2.73	0.51
48:A2:1817:G:OP2	48:A2:1817:G:N2	2.44	0.51
48:A2:1979:A:H2	48:A2:2000:C:HO2'	1.53	0.51
48:A2:3727:A:O5'	48:A2:3727:A:H8	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:3757:U:O2	48:A2:3757:U:O5'	2.28	0.51
48:A2:4832:A:HO2'	48:A2:4833:G:P	2.33	0.51
48:A2:740:G:H3'	48:A2:741:U:C6	2.46	0.51
3:AA:228:ASP:O	3:AA:229:ALA:O	2.29	0.51
4:AB:224:LYS:HE3	48:A2:4588:A:P	2.51	0.51
5:AC:107:THR:O	14:AL:26:PHE:HZ	1.94	0.51
5:AC:20:LYS:HD3	5:AC:258:ARG:NH2	2.26	0.51
6:AD:286:SER:HB2	48:A2:1162:U:OP1	2.11	0.51
7:AE:123:ARG:CG	7:AE:124:LYS:N	2.73	0.51
8:AF:184:ILE:O	8:AF:186:CYS:N	2.44	0.51
13:AK:72:ASN:HB3	13:AK:73:PRO:CD	2.40	0.51
20:AR:74:ARG:O	20:AR:75:HIS:HB2	2.11	0.51
49:B1:1284:A:O2'	49:B1:1287:A:N1	2.44	0.51
49:B1:1331:C:OP2	49:B1:1490:G:OP2	2.28	0.51
49:B1:1539:U:H5''	69:BT:45:LEU:O	2.11	0.51
49:B1:157:U:H4'	56:BG:58:LYS:HD3	1.93	0.51
49:B1:1519:U:O2	49:B1:1623:A:C8	2.64	0.51
49:B1:1749:G:H2'	49:B1:1750:C:H6	1.69	0.51
50:BA:107:THR:HG23	50:BA:115:ALA:CB	2.40	0.51
50:BA:103:PHE:HE2	50:BA:136:GLU:CD	2.13	0.51
50:BA:169:HIS:CD2	50:BA:203:PHE:HE2	2.26	0.51
49:B1:628:A:H61	53:BD:141:LYS:NZ	2.07	0.51
55:BF:92:ILE:HD13	55:BF:169:ILE:CG2	2.40	0.51
57:BH:28:LEU:O	57:BH:31:GLU:HG2	2.10	0.51
61:BL:13:GLN:HG2	61:BL:18:GLN:NE2	2.24	0.51
49:B1:1125:C:H5'	67:BR:123:THR:CG2	2.41	0.51
67:BR:95:ILE:HG23	67:BR:114:LEU:CG	2.38	0.51
68:BS:14:ARG:NH1	68:BS:14:ARG:HG2	2.23	0.51
70:BU:24:LEU:CD2	70:BU:112:VAL:HA	2.40	0.51
49:B1:161:U:C4'	74:BY:116:LYS:O	2.59	0.51
48:A2:1746:G:C2'	48:A2:1746:G:N3	2.73	0.51
48:A2:2549:U:H2'	48:A2:2550:C:C6	2.45	0.51
48:A2:287:G:N1	48:A2:309:G:N2	2.59	0.51
14:AL:25:TRP:HH2	48:A2:332:A:OP1	1.94	0.51
15:AM:2:VAL:CG2	48:A2:4726:A:OP2	2.59	0.51
48:A2:4828:G:C5'	48:A2:4828:G:C8	2.94	0.51
4:AB:293:ILE:CD1	4:AB:296:GLY:N	2.73	0.51
2:A4:6:C:H4'	6:AD:52:ILE:HD13	1.91	0.51
7:AE:132:PRO:HD2	7:AE:135:GLN:HB2	1.91	0.51
19:AQ:69:LYS:O	19:AQ:75:ARG:NH1	2.44	0.51
20:AR:39:GLN:CD	48:A2:2688:C:H5''	2.32	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AT:68:THR:HG22	22:AT:71:ALA:O	2.11	0.51
23:AU:100:LEU:O	23:AU:101:ARG:HB3	2.10	0.51
49:B1:321:C:H2'	49:B1:322:C:H6	1.76	0.51
49:B1:742:U:O2'	49:B1:743:U:H6	1.94	0.51
49:B1:81:U:H6	49:B1:81:U:O5'	1.94	0.51
49:B1:852:G:C2'	49:B1:853:C:H5'	2.40	0.51
50:BA:176:TRP:CB	50:BA:202:TYR:CD2	2.94	0.51
51:BB:77:ASP:O	51:BB:78:GLU:CD	2.48	0.51
52:BC:94:ILE:HD11	52:BC:159:LYS:CD	2.41	0.51
54:BE:70:ILE:HG23	54:BE:92:ILE:HD11	1.92	0.51
59:BJ:41:ARG:O	59:BJ:44:TRP:HB2	2.11	0.51
59:BJ:50:LEU:HD22	59:BJ:102:ILE:HG12	1.92	0.51
61:BL:33:LEU:N	61:BL:33:LEU:HD12	2.26	0.51
65:BP:51:ARG:CB	65:BP:51:ARG:NH1	2.73	0.51
66:BQ:33:LYS:HG3	66:BQ:36:GLY:HA2	1.89	0.51
74:BY:87:PRO:HG2	74:BY:90:ARG:HH21	1.76	0.51
49:B1:1598:G:C8	75:BZ:81:GLY:HA3	2.46	0.51
48:A2:1267:G:C2'	48:A2:1267:G:N3	2.73	0.51
48:A2:2593:C:C2'	48:A2:2594:C:H5'	2.41	0.51
48:A2:3796:A:C2'	48:A2:3797:C:C5'	2.80	0.51
6:AD:16:TYR:CZ	48:A2:4227:U:C4	2.99	0.51
48:A2:481:G:N2	48:A2:664:C:C1'	2.74	0.51
48:A2:70:A:C5'	48:A2:71:C:N4	2.73	0.51
8:AF:76:ARG:HD2	48:A2:720:G:OP2	2.11	0.51
5:AC:311:ARG:HH12	48:A2:946:G:H4'	1.74	0.51
4:AB:173:LEU:CD2	4:AB:342:LYS:HD2	2.40	0.51
4:AB:35:ASP:HB3	4:AB:186:ASN:OD1	2.11	0.51
4:AB:282:LYS:NZ	4:AB:337:VAL:HA	2.26	0.51
5:AC:57:LEU:HD13	5:AC:58:ALA:O	2.11	0.51
10:AH:99:PHE:CG	10:AH:119:GLY:N	2.79	0.51
10:AH:173:ARG:NH1	48:A2:4438:C:C5	2.79	0.51
10:AH:4:ILE:CG2	10:AH:5:LEU:N	2.73	0.51
13:AK:104:ALA:HB1	13:AK:107:VAL:HB	1.93	0.51
14:AL:155:MET:HG2	14:AL:158:ARG:CZ	2.41	0.51
14:AL:63:THR:N	48:A2:71:C:O2	2.43	0.51
19:AQ:157:GLY:HA2	19:AQ:161:SER:OG	2.11	0.51
21:AS:7:LEU:CD2	21:AS:107:THR:CB	2.82	0.51
25:AW:70:LYS:O	25:AW:70:LYS:HG3	2.11	0.51
26:AX:91:GLU:HA	26:AX:147:LEU:HD21	1.93	0.51
27:AY:55:VAL:CG1	27:AY:104:VAL:HG13	2.37	0.51
49:B1:1253:A:C4	49:B1:1666:C:H4'	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1338:G:OP1	70:BU:76:THR:CB	2.59	0.51
49:B1:96:C:H1'	49:B1:474:G:C5'	2.41	0.51
49:B1:750:C:H2'	49:B1:751:G:O4'	2.11	0.51
50:BA:192:GLU:O	50:BA:193:HIS:HB2	2.10	0.51
51:BB:116:LYS:HB3	51:BB:117:TRP:NE1	2.26	0.51
51:BB:131:ASP:CG	51:BB:181:LEU:CD1	2.78	0.51
51:BB:81:PHE:N	51:BB:81:PHE:CD1	2.77	0.51
52:BC:167:ARG:HD2	52:BC:219:ILE:HD13	1.93	0.51
49:B1:1679:A:C6	55:BF:59:LYS:C	2.85	0.51
56:BG:119:LYS:HG2	56:BG:125:THR:CG2	2.41	0.51
60:BK:29:MET:HG3	60:BK:30:PRO:HD3	1.92	0.51
52:BC:253:PRO:HD3	72:BW:99:PHE:CE1	2.39	0.51
48:A2:132:G:N3	48:A2:132:G:C5'	2.72	0.51
48:A2:133:C:H6	48:A2:133:C:C4'	2.24	0.51
48:A2:1431:G:P	48:A2:1431:G:C8	3.04	0.51
48:A2:1740:G:C2	48:A2:1741:G:C4	2.98	0.51
48:A2:2855:G:N3	48:A2:2855:G:H3'	2.26	0.51
48:A2:3816:A:H4'	48:A2:4630:U:O2'	2.11	0.51
9:AG:192:ARG:NH2	48:A2:6:C:OP1	2.44	0.51
15:AM:44:GLN:O	48:A2:922:A:N3	2.44	0.51
2:A4:10:C:N4	6:AD:20:PHE:CE2	2.79	0.51
5:AC:120:LYS:HD3	48:A2:1357:G:OP2	2.10	0.51
7:AE:140:LEU:CD1	7:AE:167:GLN:NE2	2.73	0.51
7:AE:147:GLY:CA	7:AE:203:ILE:HG21	2.41	0.51
10:AH:96:TYR:H	10:AH:96:TYR:HD1	1.58	0.51
13:AK:52:VAL:HG21	13:AK:89:VAL:C	2.31	0.51
14:AL:25:TRP:CH2	48:A2:332:A:OP1	2.64	0.51
15:AM:42:CYS:SG	15:AM:78:GLN:NE2	2.83	0.51
16:AN:146:PRO:HA	16:AN:149:GLN:CD	2.32	0.51
18:AP:86:LYS:CB	48:A2:3828:G:H5''	2.41	0.51
20:AR:133:LYS:H	20:AR:137:ILE:HD11	1.76	0.51
17:AO:122:ALA:HB2	21:AS:161:ARG:HD3	1.93	0.51
28:AZ:60:LYS:HB2	28:AZ:60:LYS:NZ	2.26	0.51
49:B1:1122:A:O2'	51:BB:146:ARG:NE	2.43	0.51
49:B1:320:G:H2'	49:B1:321:C:O4'	2.11	0.51
49:B1:496:C:H5'	54:BE:29:PRO:CB	2.40	0.51
50:BA:12:GLU:O	50:BA:15:VAL:HG22	2.10	0.51
50:BA:7:VAL:HG21	71:BV:42:VAL:C	2.31	0.51
52:BC:104:ASP:OD2	52:BC:130:ILE:HG22	2.11	0.51
57:BH:109:ARG:HG2	57:BH:110:THR:N	2.26	0.51
57:BH:117:PRO:HD2	57:BH:120:ARG:HG3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BI:168:GLN:OE1	58:BI:168:GLN:HA	2.10	0.51
60:BK:79:LEU:O	60:BK:83:LEU:HG	2.11	0.51
51:BB:65:ARG:HG2	64:BO:50:LYS:HD2	1.91	0.51
65:BP:16:THR:HB	65:BP:20:VAL:O	2.11	0.51
49:B1:1602:U:H4'	68:BS:24:ARG:HH12	1.76	0.51
68:BS:36:VAL:HG13	68:BS:40:TYR:CD1	2.44	0.51
70:BU:50:VAL:CG2	70:BU:91:LEU:CD2	2.86	0.51
48:A2:1164:C:N4	48:A2:1167:A:H1'	2.26	0.50
48:A2:1427:G:H2'	48:A2:1428:U:C6	2.46	0.50
48:A2:1739:U:N3	48:A2:1757:A:C2	2.79	0.50
18:AP:25:HIS:ND1	48:A2:2340:G:O6	2.41	0.50
48:A2:289:A:C2'	48:A2:289:A:N3	2.74	0.50
48:A2:3663:A:H2'	48:A2:3664:U:O4'	2.11	0.50
48:A2:4220:C:H2'	48:A2:4221:C:C6	2.46	0.50
10:AH:120:GLU:HG3	48:A2:4573:A:H2	1.74	0.50
48:A2:722:G:H22	48:A2:925:C:H2'	1.76	0.50
4:AB:21:ARG:HE	4:AB:271:GLN:HE22	1.59	0.50
5:AC:221:PHE:C	5:AC:223:ASN:H	2.14	0.50
5:AC:97:ARG:CG	5:AC:97:ARG:NH1	2.73	0.50
8:AF:183:GLY:O	8:AF:184:ILE:HG12	2.10	0.50
11:AI:149:ILE:HA	11:AI:165:ILE:HD11	1.93	0.50
11:AI:68:ALA:HA	11:AI:158:LYS:HD2	1.92	0.50
13:AK:21:LEU:HA	13:AK:24:TYR:HD2	1.76	0.50
17:AO:14:HIS:O	17:AO:41:ILE:HG23	2.10	0.50
25:AW:2:LYS:HB3	25:AW:2:LYS:NZ	2.25	0.50
49:B1:1389:C:OP1	67:BR:43:SER:HB2	2.11	0.50
49:B1:1456:G:H2'	49:B1:1457:U:C6	2.46	0.50
49:B1:1543:U:O2'	66:BQ:77:HIS:CE1	2.64	0.50
49:B1:1738:C:H2'	49:B1:1739:C:C6	2.45	0.50
49:B1:619:A:N1	73:BX:114:ASP:HB2	2.25	0.50
49:B1:67:C:O2	49:B1:67:C:H3'	2.11	0.50
51:BB:89:GLU:CG	51:BB:228:LEU:HD22	2.41	0.50
53:BD:116:ARG:NH2	53:BD:150:MET:HE2	2.26	0.50
49:B1:917:U:H1'	57:BH:118:ARG:HD2	1.91	0.50
62:BM:85:LEU:HD22	62:BM:109:VAL:HG21	1.93	0.50
63:BN:21:SER:O	63:BN:65:PHE:CB	2.52	0.50
63:BN:57:SER:HG	63:BN:58:HIS:CE1	2.29	0.50
68:BS:41:ALA:O	68:BS:45:LEU:HD22	2.11	0.50
69:BT:114:GLU:HB2	69:BT:124:THR:HG22	1.92	0.50
72:BW:83:LEU:O	72:BW:84:LYS:HB2	2.10	0.50
48:A2:1059:C:OP2	48:A2:1059:C:H6	1.91	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AD:286:SER:HB2	48:A2:1163:C:H5'	1.88	0.50
48:A2:1341:G:N7	48:A2:1363:G:C6	2.79	0.50
48:A2:1427:G:H5''	48:A2:1428:U:OP2	2.12	0.50
48:A2:1614:A:C2'	48:A2:1615:G:H5''	2.39	0.50
13:AK:14:PHE:CG	48:A2:1941:A:C5	2.95	0.50
5:AC:59:GLY:HA2	48:A2:352:C:OP1	2.11	0.50
48:A2:3876:A:C8	48:A2:3876:A:C3'	2.94	0.50
48:A2:4532:G:H2'	48:A2:4533:A:O4'	2.11	0.50
48:A2:4651:U:H2'	48:A2:4652:G:H5'	1.93	0.50
48:A2:676:G:C8	48:A2:676:G:P	3.04	0.50
4:AB:41:VAL:HA	4:AB:187:GLY:CA	2.41	0.50
6:AD:84:PRO:HA	6:AD:88:VAL:O	2.11	0.50
10:AH:7:ASN:HB2	10:AH:57:VAL:C	2.24	0.50
18:AP:139:TYR:CZ	48:A2:3830:G:H4'	2.46	0.50
20:AR:60:ARG:HH22	48:A2:2788:G:C5'	2.24	0.50
22:AT:126:VAL:CG2	22:AT:127:GLN:N	2.74	0.50
28:AZ:126:LYS:HB3	28:AZ:126:LYS:HZ2	1.76	0.50
28:AZ:126:LYS:HB3	28:AZ:126:LYS:NZ	2.27	0.50
49:B1:1097:G:H4'	50:BA:32:PHE:CE1	2.47	0.50
49:B1:1120:U:H3'	49:B1:1121:G:H5''	1.93	0.50
49:B1:1552:G:C4'	49:B1:1557:C:N4	2.57	0.50
49:B1:1756:C:HO2'	49:B1:1757:G:C5'	2.23	0.50
50:BA:111:GLN:CG	50:BA:116:PHE:HE2	2.24	0.50
50:BA:41:ARG:O	50:BA:41:ARG:HG3	2.11	0.50
50:BA:77:ILE:HD12	50:BA:122:LEU:HD11	1.93	0.50
54:BE:92:ILE:O	54:BE:94:LYS:N	2.43	0.50
55:BF:72:LEU:HD12	55:BF:93:VAL:HG21	1.92	0.50
57:BH:17:ASP:OD1	57:BH:20:GLU:HG3	2.11	0.50
49:B1:826:A:O3'	59:BJ:10:ARG:CB	2.59	0.50
59:BJ:110:LEU:HB2	59:BJ:147:PHE:CD2	2.46	0.50
58:BI:154:LYS:O	61:BL:24:LEU:HA	2.11	0.50
63:BN:70:LYS:HB3	63:BN:73:ARG:HD2	1.93	0.50
65:BP:17:TYR:OH	65:BP:18:ARG:CZ	2.60	0.50
67:BR:5:ARG:NE	67:BR:53:TYR:CD1	2.80	0.50
67:BR:96:ILE:HG22	67:BR:97:GLU:N	2.27	0.50
49:B1:619:A:N1	73:BX:114:ASP:HB3	2.26	0.50
74:BY:83:LYS:CA	74:BY:91:LEU:HD21	2.39	0.50
48:A2:1321:G:N2	48:A2:1501:C:OP2	2.44	0.50
48:A2:1736:U:H2'	48:A2:1737:C:C6	2.46	0.50
8:AF:80:ASN:HD21	48:A2:2046:G:H2'	49.58	0.50
19:AQ:11:ARG:HB3	48:A2:2062:C:O3'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:227:G:C3'	48:A2:228:U:H5''	2.42	0.50
48:A2:2339:A:H5'	48:A2:2341:U:H1'	1.94	0.50
48:A2:3927:G:OP2	48:A2:3927:G:C8	2.65	0.50
48:A2:4877:G:C6	48:A2:4878:C:C5	3.00	0.50
1:A3:110:U:C3'	1:A3:110:U:H6	2.25	0.50
1:A3:81:C:H4'	1:A3:82:A:O5'	2.10	0.50
2:A4:87:G:N2	2:A4:89:G:H3'	2.27	0.50
3:AA:92:LYS:O	3:AA:92:LYS:HG3	3.31	0.50
4:AB:220:ILE:HG23	4:AB:278:THR:HG22	1.92	0.50
4:AB:284:ILE:HA	4:AB:332:MET:O	2.12	0.50
6:AD:148:ALA:HB2	48:A2:4285:A:N1	2.26	0.50
6:AD:224:SER:HA	6:AD:227:ILE:HG13	1.92	0.50
6:AD:278:ASP:OD2	48:A2:1169:U:H4'	2.10	0.50
7:AE:131:LYS:HB3	7:AE:132:PRO:HD3	1.93	0.50
8:AF:164:LYS:CD	8:AF:164:LYS:N	2.73	0.50
9:AG:106:THR:O	9:AG:110:LYS:HB2	2.11	0.50
9:AG:70:LEU:C	9:AG:70:LEU:HD13	2.31	0.50
16:AN:3:ALA:HB3	49:B1:1842:C:OP1	119.12	0.50
19:AQ:56:THR:HG21	19:AQ:146:ARG:NH1	2.26	0.50
20:AR:23:TRP:HE3	20:AR:24:LEU:O	1.95	0.50
28:AZ:26:VAL:HG13	28:AZ:91:LEU:HD23	1.93	0.50
49:B1:1286:G:N9	62:BM:34:GLY:CA	2.75	0.50
49:B1:1399:C:OP2	49:B1:1399:C:H6	1.94	0.50
49:B1:1520:G:N3	49:B1:1520:G:C2'	2.74	0.50
49:B1:524:U:OP1	49:B1:525:A:O2'	2.27	0.50
51:BB:70:SER:HB2	51:BB:83:LYS:N	2.27	0.50
55:BF:28:VAL:HA	55:BF:110:GLN:OE1	2.11	0.50
57:BH:66:VAL:HG23	57:BH:97:GLN:O	2.11	0.50
59:BJ:162:ARG:N	59:BJ:166:GLY:HA3	2.26	0.50
60:BK:7:ASN:HD21	60:BK:44:HIS:HB3	1.77	0.50
62:BM:56:CYS:SG	62:BM:61:TYR:HD2	2.30	0.50
67:BR:34:VAL:O	67:BR:38:ILE:HG13	2.11	0.50
67:BR:35:CYS:CA	67:BR:38:ILE:CG1	2.86	0.50
70:BU:48:LEU:HD11	70:BU:97:ILE:CG2	2.32	0.50
74:BY:97:TYR:CD1	74:BY:97:TYR:C	2.85	0.50
48:A2:101:A:H5'	48:A2:102:G:OP2	2.10	0.50
48:A2:1576:C:H6	48:A2:1581:A:H61	1.60	0.50
48:A2:1752:A:C4	48:A2:1753:U:C6	2.99	0.50
48:A2:1806:G:O5'	48:A2:1806:G:H8	1.94	0.50
48:A2:2499:C:O2	48:A2:2499:C:H3'	2.11	0.50
48:A2:3597:G:O2'	48:A2:3598:G:H5'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AT:4:THR:CG2	48:A2:4169:C:C5	2.90	0.50
48:A2:4310:A:H3'	48:A2:4311:C:C5'	2.42	0.50
4:AB:224:LYS:HG2	4:AB:340:THR:HG22	1.93	0.50
4:AB:41:VAL:HA	4:AB:187:GLY:HA3	1.94	0.50
1:A3:27:U:OP1	5:AC:56:GLU:HB3	2.11	0.50
6:AD:287:PHE:CE2	11:AI:209:TRP:CZ3	2.99	0.50
7:AE:115:TYR:CD1	7:AE:115:TYR:C	2.85	0.50
7:AE:135:GLN:O	7:AE:136:HIS:HB2	2.10	0.50
7:AE:173:LEU:CD2	7:AE:191:GLN:HB2	2.37	0.50
8:AF:113:ARG:HB3	8:AF:210:PRO:HG3	1.93	0.50
16:AN:115:VAL:HG22	16:AN:134:LEU:HD21	1.92	0.50
16:AN:14:LYS:CB	16:AN:19:MET:SD	2.99	0.50
23:AU:92:LYS:HE3	48:A2:2606:C:OP1	2.11	0.50
26:AX:129:ARG:HB3	26:AX:131:ASP:OD1	2.11	0.50
26:AX:56:ARG:HH12	26:AX:62:ARG:NH2	2.09	0.50
50:BA:66:VAL:HG12	71:BV:46:PHE:CD1	2.39	0.50
51:BB:139:CYS:HB2	51:BB:172:MET:HE3	1.91	0.50
52:BC:65:LYS:HE3	52:BC:266:TYR:CD1	2.46	0.50
49:B1:1287:A:O4'	62:BM:36:ARG:NH1	2.45	0.50
66:BQ:10:VAL:CG1	66:BQ:11:GLN:N	2.74	0.50
67:BR:95:ILE:CG2	67:BR:96:ILE:N	2.73	0.50
71:BV:15:ARG:NH1	71:BV:33:GLN:HB2	2.26	0.50
73:BX:51:VAL:HG13	73:BX:70:VAL:HG13	1.92	0.50
75:BZ:46:ASN:ND2	75:BZ:80:ARG:HA	2.25	0.50
9:AG:113:ARG:NH1	48:A2:119:G:C6	2.80	0.50
48:A2:1227:G:H4'	48:A2:1251:G:H1'	1.92	0.50
48:A2:1256:G:N3	48:A2:1257:A:OP2	2.45	0.50
18:AP:131:ARG:NH2	48:A2:1578:U:H2'	2.26	0.50
48:A2:1945:A:C8	48:A2:1945:A:O5'	2.65	0.50
48:A2:2004:C:N4	48:A2:2005:G:N1	2.60	0.50
48:A2:2469:U:H3'	48:A2:2470:C:C6	2.46	0.50
48:A2:2640:U:C4	61:BL:158:PHE:HE2	2.29	0.50
18:AP:85:LYS:CG	48:A2:3827:A:H4'	2.41	0.50
48:A2:4065:G:C8	48:A2:4065:G:OP2	2.65	0.50
48:A2:4612:G:H2'	48:A2:4613:A:O4'	2.11	0.50
48:A2:89:C:C4'	48:A2:286:G:O2'	2.59	0.50
4:AB:167:GLN:HE22	4:AB:204:GLN:HE21	1.59	0.50
5:AC:54:VAL:HA	5:AC:105:THR:OG1	2.12	0.50
5:AC:71:ARG:O	5:AC:73:VAL:HG13	2.11	0.50
6:AD:35:ARG:HD2	48:A2:4288:G:HO2'	1.73	0.50
8:AF:148:LYS:HB3	8:AF:245:ARG:NH2	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AG:98:LEU:O	9:AG:102:TYR:HD2	1.94	0.50
9:AG:156:VAL:HB	9:AG:202:VAL:HB	1.93	0.50
11:AI:181:PHE:O	11:AI:185:VAL:HG22	2.11	0.50
12:AJ:99:PHE:HB3	12:AJ:159:LYS:NZ	2.27	0.50
19:AQ:147:GLU:HG2	19:AQ:150:ARG:NH2	2.26	0.50
20:AR:41:ILE:HD12	20:AR:44:LEU:HD12	1.92	0.50
21:AS:1:MET:HE2	21:AS:34:ALA:HA	1.93	0.50
24:AV:106:VAL:HG23	24:AV:111:GLU:O	2.11	0.50
25:AW:102:LYS:N	25:AW:105:ARG:NH1	2.60	0.50
27:AY:18:HIS:CE1	48:A2:226:G:O2'	2.64	0.50
28:AZ:126:LYS:NZ	28:AZ:126:LYS:CB	2.73	0.50
49:B1:1105:G:C2	49:B1:1106:C:C2	3.00	0.50
49:B1:1159:G:H1'	72:BW:4:MET:SD	2.51	0.50
49:B1:1452:A:H4'	49:B1:1453:C:O5'	2.11	0.50
49:B1:1473:G:N2	49:B1:1473:G:OP2	2.45	0.50
49:B1:320:G:O2'	49:B1:321:C:O4'	2.28	0.50
49:B1:682:U:P	73:BX:8:ARG:HB2	2.51	0.50
51:BB:30:TRP:CH2	51:BB:48:LEU:HD11	2.46	0.50
54:BE:98:HIS:ND1	54:BE:119:ALA:HB2	2.26	0.50
54:BE:11:ARG:HG3	54:BE:25:GLY:O	2.11	0.50
54:BE:92:ILE:HG22	54:BE:95:THR:H	1.77	0.50
49:B1:799:U:P	57:BH:110:THR:HG21	2.51	0.50
58:BI:194:GLU:HG2	61:BL:11:GLN:NE2	2.26	0.50
49:B1:117:C:OP1	58:BI:50:GLY:O	2.30	0.50
49:B1:823:U:O4'	59:BJ:140:GLN:NE2	2.45	0.50
62:BM:61:TYR:CE2	62:BM:107:SER:HB2	2.47	0.50
64:BO:144:GLY:C	64:BO:148:GLY:HA2	2.31	0.50
65:BP:52:LYS:O	65:BP:56:LEU:HB3	2.11	0.50
66:BQ:33:LYS:HD3	66:BQ:69:ARG:NE	2.26	0.50
67:BR:99:ASP:CA	67:BR:102:THR:HG22	2.41	0.50
67:BR:97:GLU:CB	67:BR:117:LEU:HA	2.28	0.50
73:BX:21:LYS:HE2	73:BX:27:TYR:CE1	2.45	0.50
73:BX:51:VAL:HG22	73:BX:70:VAL:HG11	1.94	0.50
49:B1:574:A:C5'	74:BY:89:HIS:CG	2.94	0.50
48:A2:1166:C:N4	48:A2:1167:A:N6	2.60	0.50
48:A2:1746:G:H2'	48:A2:1746:G:N3	2.27	0.50
48:A2:2283:U:H4'	48:A2:2284:U:H5''	1.93	0.50
26:AX:83:THR:CG2	48:A2:2413:G:H5'	2.38	0.50
48:A2:2794:A:C6	48:A2:2795:G:C6	3.00	0.50
48:A2:289:A:H2'	48:A2:289:A:N3	2.26	0.50
48:A2:3798:G:C5'	48:A2:3798:G:C8	2.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AP:82:ARG:HG2	48:A2:3827:A:OP1	2.12	0.50
48:A2:4717:G:O2'	48:A2:4718:C:H3'	2.12	0.50
48:A2:4846:U:C2'	48:A2:4847:G:H5''	2.42	0.50
48:A2:695:C:H2'	48:A2:695:C:O2	2.12	0.50
14:AL:59:VAL:CG1	48:A2:74:G:OP1	2.50	0.50
5:AC:327:LYS:NZ	48:A2:960:G:H21	2.10	0.50
2:A4:31:G:H2'	2:A4:32:A:C8	2.47	0.50
3:AA:158:ILE:HD12	3:AA:162:ASN:ND2	2.27	0.50
6:AD:5:LYS:O	6:AD:6:VAL:HG22	2.10	0.50
7:AE:115:TYR:C	7:AE:116:TYR:CD1	2.85	0.50
8:AF:147:LEU:CG	48:A2:931:A:C2	2.94	0.50
8:AF:69:ILE:HG21	8:AF:73:ARG:HH21	1.76	0.50
19:AQ:42:THR:CG2	48:A2:1411:U:H5'	2.42	0.50
21:AS:84:TYR:CE1	21:AS:86:SER:N	2.80	0.50
22:AT:143:THR:HG23	22:AT:143:THR:O	2.11	0.50
24:AV:69:LYS:HB2	24:AV:72:LEU:HD13	1.93	0.50
28:AZ:96:VAL:CG2	28:AZ:110:ALA:HB1	2.25	0.50
28:AZ:22:LYS:HE2	28:AZ:129:TRP:CH2	2.47	0.50
49:B1:1139:C:O2'	49:B1:1140:G:O5'	2.30	0.50
49:B1:1573:G:H2'	49:B1:1574:C:C6	2.46	0.50
49:B1:635:G:O2'	49:B1:636:C:H5'	2.12	0.50
49:B1:872:A:H2	49:B1:915:G:C6	2.26	0.50
50:BA:147:LEU:HB3	50:BA:163:CYS:SG	2.52	0.50
50:BA:212:LYS:HA	50:BA:215:GLN:HB2	1.93	0.50
52:BC:135:GLY:O	52:BC:136:HIS:CE1	2.65	0.50
54:BE:191:ARG:NH1	54:BE:244:ILE:HA	2.27	0.50
49:B1:937:C:OP1	63:BN:107:LYS:HD3	2.12	0.50
49:B1:1522:A:C6	65:BP:128:HIS:HB3	2.45	0.50
68:BS:14:ARG:HA	68:BS:19:ASN:O	2.12	0.50
69:BT:36:THR:O	69:BT:37:VAL:HB	2.12	0.50
69:BT:41:LYS:CD	69:BT:43:LYS:NZ	2.75	0.50
71:BV:35:ASN:ND2	71:BV:50:PHE:CE2	2.71	0.50
52:BC:251:LEU:O	72:BW:68:ARG:NH2	2.45	0.50
75:BZ:79:ILE:HG21	75:BZ:83:LEU:HD12	0.50	0.50
48:A2:1741:G:N2	48:A2:1742:G:C1'	2.73	0.50
48:A2:1838:C:O2'	48:A2:1839:A:H5'	2.12	0.50
48:A2:1981:G:H5'	48:A2:1999:C:O2'	2.12	0.50
19:AQ:3:VAL:CG2	48:A2:2257:G:P	3.00	0.50
48:A2:2531:G:H1'	48:A2:2745:A:N6	2.26	0.50
20:AR:84:THR:HA	48:A2:2844:U:OP1	2.12	0.50
48:A2:2:G:C2'	48:A2:3:C:H5'	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2436:G:H1'	48:A2:3643:G:H21	1.77	0.50
48:A2:2345:A:H1'	48:A2:3822:U:H5'	1.94	0.50
48:A2:4194:U:H4'	48:A2:4195:A:C5'	2.42	0.50
48:A2:4514:U:H5''	48:A2:4514:U:C6	2.43	0.50
4:AB:357:ARG:CZ	48:A2:4577:C:H5''	2.41	0.50
7:AE:102:GLY:CA	48:A2:677:G:O2'	2.54	0.50
7:AE:130:LYS:HE3	48:A2:703:C:O2	2.11	0.50
21:AS:67:VAL:HA	48:A2:719:U:O4	2.12	0.50
14:AL:15:HIS:HD2	48:A2:96:U:OP1	1.94	0.50
2:A4:100:A:O2'	2:A4:101:A:H5'	2.12	0.50
3:AA:132:ASN:ND2	48:A2:3653:A:H5''	2.27	0.50
3:AA:101:VAL:HA	3:AA:164:ALA:O	2.12	0.50
5:AC:221:PHE:N	5:AC:221:PHE:HD1	2.09	0.50
5:AC:221:PHE:O	5:AC:223:ASN:N	2.42	0.50
7:AE:136:HIS:ND1	48:A2:702:A:O4'	2.44	0.50
8:AF:62:ARG:HG2	48:A2:932:U:OP2	2.11	0.50
8:AF:80:ASN:ND2	22:AT:142:ARG:HA	2.26	0.50
9:AG:83:PHE:HE2	9:AG:164:ILE:HG23	1.77	0.50
12:AJ:165:TRP:NE1	12:AJ:169:LYS:HD2	2.26	0.50
16:AN:137:PRO:HG2	16:AN:138:PHE:CE2	2.46	0.50
27:AY:59:ARG:HH22	48:A2:196:G:C2'	2.23	0.50
28:AZ:122:TYR:C	28:AZ:122:TYR:CD1	2.85	0.50
49:B1:1130:G:N2	49:B1:1131:G:C5	2.80	0.50
49:B1:1351:G:C4'	50:BA:110:ASN:HB3	2.41	0.50
49:B1:14:C:H2'	49:B1:15:U:C6	2.46	0.50
49:B1:1625:U:C4	49:B1:1626:C:N4	2.80	0.50
49:B1:1782:G:N2	49:B1:1784:G:C5	2.80	0.50
49:B1:202:G:H2'	49:B1:203:G:O4'	2.11	0.50
50:BA:42:LYS:NZ	50:BA:46:ILE:CG2	2.73	0.50
54:BE:186:GLY:O	54:BE:189:LEU:HD22	2.12	0.50
55:BF:128:ILE:HG13	55:BF:137:GLN:HB3	1.94	0.50
58:BI:110:ARG:HH11	58:BI:123:ARG:HH11	1.60	0.50
58:BI:188:TYR:HE2	58:BI:194:GLU:OE1	1.95	0.50
59:BJ:96:TYR:CZ	59:BJ:100:LEU:CD2	2.92	0.50
63:BN:80:LEU:CD1	63:BN:80:LEU:N	2.73	0.50
64:BO:83:GLN:O	64:BO:83:GLN:NE2	2.43	0.50
67:BR:19:LYS:C	67:BR:20:TYR:CD1	2.85	0.50
49:B1:1466:G:P	67:BR:5:ARG:HH12	2.35	0.50
69:BT:74:SER:O	69:BT:78:ILE:HG13	2.12	0.50
74:BY:89:HIS:ND1	74:BY:90:ARG:N	2.60	0.50
48:A2:1225:G:C8	48:A2:1226:C:O4'	2.65	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1341:G:O2'	48:A2:1342:G:H5''	2.10	0.50
48:A2:137:G:C3'	48:A2:137:G:C8	2.94	0.50
48:A2:169:C:H4'	48:A2:170:C:OP1	2.11	0.50
48:A2:1847:U:H2'	48:A2:1848:A:O4'	2.11	0.50
48:A2:204:G:N2	48:A2:229:G:P	2.85	0.50
48:A2:290:A:O5'	48:A2:290:A:C8	2.65	0.50
48:A2:4651:U:C2'	48:A2:4652:G:H5'	2.42	0.50
7:AE:105:ARG:CZ	48:A2:678:C:O2	2.55	0.50
48:A2:86:U:H2'	48:A2:86:U:O2	2.10	0.50
7:AE:126:LEU:CD1	48:A2:958:U:C4	2.71	0.50
48:A2:965:G:H1	48:A2:1259:C:N4	2.09	0.50
3:AA:205:ASN:OD1	48:A2:1615:G:H8	1.94	0.50
5:AC:218:ILE:HD12	5:AC:229:LEU:CD2	2.42	0.50
6:AD:14:LYS:NZ	48:A2:1724:A:H4'	2.26	0.50
6:AD:99:TYR:CE2	6:AD:165:GLY:HA2	2.47	0.50
7:AE:110:ARG:CG	7:AE:110:ARG:HH11	2.22	0.50
7:AE:222:LEU:HD23	7:AE:235:THR:HG21	1.94	0.50
8:AF:71:MET:O	8:AF:74:MET:HG2	2.12	0.50
11:AI:74:LYS:HZ2	11:AI:74:LYS:HB2	2.89	0.50
13:AK:27:CYS:SG	13:AK:90:PHE:CB	2.97	0.50
13:AK:81:HIS:CE1	13:AK:86:VAL:HG13	2.46	0.50
18:AP:10:ASN:ND2	18:AP:13:LYS:NZ	2.60	0.50
19:AQ:10:ASP:OD1	19:AQ:11:ARG:HG3	2.11	0.50
19:AQ:176:ARG:NH1	19:AQ:176:ARG:CG	2.73	0.50
21:AS:159:LEU:HG	21:AS:160:ARG:HG3	1.94	0.50
25:AW:61:LYS:O	25:AW:65:GLU:CG	2.55	0.50
27:AY:81:TYR:CE1	27:AY:96:HIS:HB3	2.47	0.50
49:B1:1078:C:O2'	49:B1:1079:C:H5'	2.10	0.50
49:B1:190:G:O2'	49:B1:209:A:N6	2.44	0.50
49:B1:382:C:N4	58:BI:5:ARG:HH22	2.10	0.50
49:B1:444:G:N2	49:B1:446:G:H3'	2.26	0.50
50:BA:40:LYS:HG2	50:BA:41:ARG:N	2.27	0.50
49:B1:1483:A:C4'	53:BD:160:SER:CB	2.85	0.50
54:BE:86:PHE:HD1	54:BE:101:LEU:O	1.95	0.50
56:BG:106:LEU:CG	56:BG:109:LEU:HD21	2.41	0.50
59:BJ:115:PHE:CG	59:BJ:123:ILE:HD13	2.47	0.50
60:BK:7:ASN:OD1	60:BK:40:VAL:HG21	2.12	0.50
62:BM:35:ILE:CG1	62:BM:61:TYR:CE1	2.86	0.50
67:BR:14:ARG:HA	67:BR:17:ILE:CG2	2.42	0.50
67:BR:99:ASP:OD2	67:BR:102:THR:HB	2.11	0.50
49:B1:1602:U:H4'	68:BS:24:ARG:NH1	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:BS:73:ASN:HD21	68:BS:75:ARG:CG	2.24	0.50
71:BV:12:TYR:C	71:BV:12:TYR:CD1	2.85	0.50
73:BX:132:ALA:CA	73:BX:137:LYS:HB2	2.42	0.50
48:A2:1252:G:C5	48:A2:1253:A:H1'	2.47	0.50
48:A2:1297:C:O2	48:A2:1298:C:C6	2.64	0.50
13:AK:55:MET:H	48:A2:1979:A:H5''	1.76	0.50
48:A2:2004:C:N3	48:A2:2005:G:N2	2.58	0.50
4:AB:257:TRP:CD2	48:A2:3870:G:OP1	2.65	0.50
48:A2:4451:G:N3	48:A2:4670:A:H2'	2.26	0.50
15:AM:56:GLN:OE1	48:A2:4827:U:C4	2.65	0.50
48:A2:682:U:C2	48:A2:683:U:C5	2.99	0.50
6:AD:226:TYR:HA	6:AD:229:ASN:HD21	1.76	0.50
15:AM:46:ARG:HB3	48:A2:924:U:OP1	2.12	0.50
17:AO:73:PHE:HB3	17:AO:78:ARG:HB3	1.94	0.50
20:AR:8:LYS:HE3	20:AR:19:LYS:HG2	1.94	0.50
24:AV:88:TYR:CZ	24:AV:96:LEU:HD11	2.47	0.50
25:AW:102:LYS:CA	25:AW:105:ARG:CZ	2.89	0.50
26:AX:100:VAL:O	26:AX:134:LYS:HB3	2.12	0.50
28:AZ:11:VAL:HG12	28:AZ:82:PRO:HA	1.94	0.50
49:B1:1488:C:C2'	49:B1:1489:A:H4'	2.42	0.50
49:B1:154:U:H1'	49:B1:165:G:N2	2.26	0.50
49:B1:1784:G:OP2	49:B1:1785:C:OP2	2.29	0.50
49:B1:307:G:N3	58:BI:45:THR:HG22	2.27	0.50
49:B1:620:G:N3	49:B1:620:G:C2'	2.75	0.50
49:B1:791:C:H2'	49:B1:792:C:C6	2.46	0.50
49:B1:801:U:H2'	49:B1:802:A:H8	1.69	0.50
49:B1:1256:G:H1	53:BD:40:ARG:HG3	32.28	0.50
55:BF:39:ILE:CG2	55:BF:68:ILE:CG2	2.68	0.50
49:B1:78:C:O4'	56:BG:175:LYS:HG2	2.12	0.50
49:B1:171:A:H4'	56:BG:177:GLN:NE2	2.27	0.50
57:BH:147:LYS:O	57:BH:149:ASP:N	2.39	0.50
49:B1:826:A:O3'	59:BJ:10:ARG:HB2	2.12	0.50
59:BJ:144:ILE:HD12	59:BJ:144:ILE:H	1.77	0.50
59:BJ:19:PRO:HB2	59:BJ:20:PHE:CE1	2.47	0.50
63:BN:25:TRP:C	63:BN:25:TRP:CD1	2.86	0.50
65:BP:34:MET:HE1	65:BP:45:LEU:CB	2.39	0.50
49:B1:1543:U:O2	66:BQ:77:HIS:NE2	2.45	0.50
68:BS:47:LYS:N	68:BS:47:LYS:NZ	2.60	0.50
72:BW:11:LEU:HD12	72:BW:74:VAL:HG22	1.94	0.50
75:BZ:68:ILE:HG22	75:BZ:88:LEU:HD11	1.94	0.50
48:A2:1148:G:N2	48:A2:1149:G:O6	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1288:C:O5'	48:A2:1288:C:H6	1.94	0.49
48:A2:135:G:N2	48:A2:136:G:N2	2.60	0.49
48:A2:206:U:O2'	48:A2:229:G:N2	2.43	0.49
48:A2:184:U:C4	48:A2:241:G:H1'	2.46	0.49
48:A2:307:U:C3'	48:A2:308:G:C5'	2.90	0.49
48:A2:3684:U:H6	48:A2:3684:U:C5'	2.24	0.49
48:A2:281:U:H5''	48:A2:4140:A:OP1	2.12	0.49
48:A2:4310:A:C3'	48:A2:4311:C:H5''	2.41	0.49
48:A2:4836:C:C2	48:A2:4837:C:C5	3.00	0.49
48:A2:949:C:C3'	48:A2:950:G:H5''	2.42	0.49
1:A3:140:C:H2'	1:A3:141:C:C6	2.47	0.49
2:A4:65:G:H5''	2:A4:65:G:H8	1.76	0.49
5:AC:52:TYR:C	5:AC:52:TYR:CD1	2.85	0.49
6:AD:157:ASN:OD1	6:AD:159:VAL:HG12	2.12	0.49
6:AD:25:GLU:O	12:AJ:147:ARG:HG2	2.12	0.49
10:AH:111:LEU:HD12	10:AH:112:VAL:N	2.27	0.49
14:AL:15:HIS:NE2	48:A2:95:G:H5'	2.27	0.49
14:AL:57:PRO:HG3	14:AL:75:GLY:C	2.32	0.49
10:AH:173:ARG:HH21	15:AM:127:VAL:N	89.97	0.49
18:AP:25:HIS:O	18:AP:29:THR:HG23	2.12	0.49
19:AQ:170:LYS:HZ2	19:AQ:170:LYS:CB	2.22	0.49
20:AR:24:LEU:CD2	20:AR:25:ASP:N	2.73	0.49
22:AT:8:ARG:HD3	22:AT:52:MET:SD	2.52	0.49
23:AU:59:GLY:O	23:AU:61:VAL:N	2.43	0.49
28:AZ:122:TYR:C	28:AZ:122:TYR:HD1	2.15	0.49
49:B1:59:U:H5'	49:B1:501:C:H4'	1.92	0.49
49:B1:689:U:C5	49:B1:742:U:C4	2.92	0.49
49:B1:926:A:H5''	63:BN:90:HIS:ND1	2.27	0.49
49:B1:929:G:H2'	49:B1:930:C:O4'	2.12	0.49
56:BG:31:ARG:HB2	56:BG:34:THR:CG2	2.42	0.49
58:BI:56:ARG:HG3	58:BI:56:ARG:NH1	2.17	0.49
59:BJ:48:PHE:CD1	59:BJ:48:PHE:C	2.86	0.49
49:B1:1130:G:H5'	63:BN:10:GLY:HA2	1.93	0.49
64:BO:103:ASN:HB3	64:BO:142:ARG:CZ	2.39	0.49
72:BW:11:LEU:HD21	72:BW:37:PHE:CE1	2.46	0.49
48:A2:1060:C:H2'	48:A2:1061:A:O4'	2.11	0.49
7:AE:128:HIS:HE1	48:A2:1265:G:C8	2.30	0.49
48:A2:1268:U:H2'	48:A2:1269:C:O5'	2.11	0.49
48:A2:1743:G:O6	48:A2:1744:C:N4	2.45	0.49
48:A2:1788:G:C6	48:A2:1789:C:C4	2.99	0.49
48:A2:1944:C:H3'	48:A2:1945:A:N7	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:366:A:H5''	48:A2:367:G:OP2	2.12	0.49
48:A2:3942:G:H1'	48:A2:4020:A:H61	1.77	0.49
6:AD:23:ARG:CZ	48:A2:4242:A:OP2	2.59	0.49
24:AV:46:LYS:HE2	48:A2:4471:U:O2'	2.12	0.49
48:A2:4974:A:H3'	48:A2:4974:A:N3	2.27	0.49
4:AB:94:GLU:CA	4:AB:158:GLN:HE21	2.25	0.49
5:AC:234:LYS:HD3	48:A2:1356:A:C2	2.46	0.49
9:AG:164:ILE:O	9:AG:168:VAL:HG13	2.12	0.49
10:AH:132:VAL:CG2	10:AH:154:VAL:HG22	2.42	0.49
13:AK:2:PRO:HG2	48:A2:2672:G:C1'	186.18	0.49
17:AO:110:PRO:HB2	17:AO:111:PRO:HD3	1.93	0.49
22:AT:17:ARG:CZ	22:AT:45:MET:CE	2.90	0.49
26:AX:97:VAL:HG22	26:AX:137:TYR:CD1	2.47	0.49
28:AZ:36:ARG:NH1	28:AZ:36:ARG:HG3	2.27	0.49
49:B1:1644:C:H2'	49:B1:1645:C:O4'	2.12	0.49
49:B1:560:A:H3'	59:BJ:171:GLY:N	2.12	0.49
49:B1:580:U:H2'	74:BY:62:THR:CG2	2.43	0.49
49:B1:65:C:N3	56:BG:133:LEU:CD2	2.75	0.49
49:B1:744:G:C2'	49:B1:745:C:C6	2.90	0.49
49:B1:866:U:H2'	49:B1:867:G:O5'	2.13	0.49
50:BA:39:TYR:CD1	50:BA:39:TYR:C	2.86	0.49
53:BD:34:TYR:HE2	70:BU:61:LEU:HD12	26.67	0.49
54:BE:80:VAL:HG13	54:BE:81:THR:CG2	2.42	0.49
56:BG:106:LEU:HG	56:BG:109:LEU:CD2	2.40	0.49
56:BG:45:TRP:HE1	56:BG:121:ILE:HG12	1.76	0.49
59:BJ:37:LEU:CD1	59:BJ:37:LEU:N	2.75	0.49
60:BK:25:LYS:O	60:BK:27:VAL:HG13	2.12	0.49
60:BK:29:MET:CG	60:BK:30:PRO:HD3	2.41	0.49
49:B1:953:C:H4'	64:BO:52:THR:O	2.12	0.49
66:BQ:105:LYS:C	66:BQ:108:ILE:HG22	2.22	0.49
66:BQ:33:LYS:HG2	66:BQ:36:GLY:HA2	1.89	0.49
67:BR:36:GLU:CA	67:BR:41:ILE:HD11	2.25	0.49
67:BR:97:GLU:CB	67:BR:116:ASN:C	2.69	0.49
67:BR:98:VAL:O	67:BR:99:ASP:OD1	2.30	0.49
74:BY:87:PRO:CD	74:BY:90:ARG:CZ	2.90	0.49
48:A2:138:C:C6	48:A2:138:C:H3'	2.47	0.49
48:A2:127:G:N2	48:A2:141:G:C6	2.79	0.49
48:A2:3707:A:H1'	48:A2:3904:G:H5'	1.95	0.49
6:AD:35:ARG:CD	48:A2:4288:G:O2'	2.52	0.49
7:AE:219:LYS:CD	48:A2:4898:C:C6	2.95	0.49
48:A2:717:G:O2'	48:A2:718:C:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:958:U:O2'	48:A2:959:C:H6	1.96	0.49
1:A3:151:G:H5'	9:AG:64:GLN:HG3	1.94	0.49
1:A3:34:U:O2'	1:A3:35:C:O5'	2.28	0.49
2:A4:43:U:H4'	12:AJ:143:ASP:C	2.32	0.49
3:AA:61:VAL:CG1	3:AA:63:PHE:CZ	2.94	0.49
4:AB:137:TRP:O	4:AB:143:LYS:HG3	2.12	0.49
8:AF:94:ARG:HG3	8:AF:139:TYR:O	2.11	0.49
1:A3:149:G:O4'	9:AG:61:ILE:HD12	2.12	0.49
13:AK:35:VAL:HB	13:AK:39:GLN:HB2	1.93	0.49
13:AK:66:ARG:O	13:AK:69:LEU:HB2	2.11	0.49
13:AK:79:LEU:N	13:AK:80:PRO:HD2	2.28	0.49
14:AL:10:LEU:HB3	14:AL:12:PRO:CD	2.36	0.49
26:AX:117:TYR:HB2	26:AX:119:ILE:CG1	2.42	0.49
27:AY:73:VAL:HG13	27:AY:80:ILE:HG22	1.93	0.49
49:B1:1201:U:O4'	49:B1:1357:A:N1	2.46	0.49
49:B1:1464:C:O2	49:B1:1464:C:O4'	2.30	0.49
49:B1:173:A:O2'	49:B1:174:C:O5'	2.30	0.49
49:B1:696:G:H8	49:B1:696:G:P	2.35	0.49
49:B1:891:G:H3'	49:B1:892:U:C5	2.46	0.49
51:BB:31:TYR:CD1	51:BB:49:VAL:HG21	2.47	0.49
53:BD:46:THR:HB	53:BD:84:VAL:HG22	1.93	0.49
56:BG:56:ASN:O	56:BG:107:SER:CA	2.60	0.49
59:BJ:101:LYS:HD2	59:BJ:103:GLU:CD	2.32	0.49
59:BJ:113:GLN:OE1	59:BJ:154:GLN:NE2	2.45	0.49
59:BJ:30:LYS:CD	59:BJ:31:LEU:N	2.74	0.49
61:BL:13:GLN:NE2	61:BL:15:THR:N	2.60	0.49
66:BQ:85:ARG:NE	66:BQ:119:LEU:HD21	2.26	0.49
71:BV:22:ARG:NH2	71:BV:58:ALA:H	2.10	0.49
49:B1:837:A:C2	74:BY:47:MET:O	2.65	0.49
74:BY:87:PRO:HD2	74:BY:90:ARG:CZ	2.43	0.49
74:BY:94:HIS:HB3	74:BY:96:LEU:CD1	2.42	0.49
75:BZ:62:VAL:CG2	75:BZ:97:ILE:CD1	2.85	0.49
48:A2:1259:C:C2'	48:A2:1260:G:C8	2.88	0.49
48:A2:1266:G:H3'	48:A2:1266:G:H8	1.78	0.49
48:A2:163:C:C4	48:A2:164:C:C6	3.00	0.49
48:A2:2068:C:C5	48:A2:2247:A:N1	2.81	0.49
48:A2:2609:U:O2'	48:A2:2611:U:O4'	2.31	0.49
48:A2:3755:A:O2'	48:A2:3756:A:H3'	2.12	0.49
48:A2:3752:C:H5'	48:A2:3792:A:H4'	1.93	0.49
48:A2:4264:U:C5	48:A2:4265:C:N3	2.81	0.49
1:A3:110:U:H6	1:A3:110:U:H3'	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A4:83:A:H4'	8:AF:224:THR:OG1	2.12	0.49
3:AA:70:LYS:NZ	3:AA:72:ARG:NH1	2.60	0.49
4:AB:316:PRO:CB	4:AB:373:LYS:HD3	2.42	0.49
5:AC:171:LEU:HD13	5:AC:180:ILE:HG13	1.94	0.49
5:AC:309:ILE:CG2	5:AC:311:ARG:HG3	2.42	0.49
7:AE:201:ILE:C	7:AE:201:ILE:HD12	2.33	0.49
9:AG:106:THR:H	9:AG:109:GLU:HG2	1.77	0.49
13:AK:57:LYS:O	13:AK:60:MET:C	2.51	0.49
14:AL:195:ARG:HG2	14:AL:198:ARG:HH22	0.73	0.49
19:AQ:101:CYS:SG	19:AQ:121:LEU:HB2	2.51	0.49
26:AX:56:ARG:HH12	26:AX:62:ARG:HH21	1.60	0.49
49:B1:1289:U:O2'	49:B1:1290:G:P	2.71	0.49
49:B1:286:U:H6	49:B1:286:U:H3'	1.77	0.49
49:B1:397:G:OP2	61:BL:108:ASN:ND2	2.45	0.49
49:B1:637:U:H2'	49:B1:638:C:O4'	2.12	0.49
49:B1:283:G:H3'	49:B1:891:G:H1'	1.93	0.49
51:BB:187:LYS:HG2	51:BB:192:SER:OG	2.11	0.49
52:BC:134:ASN:O	52:BC:134:ASN:ND2	2.45	0.49
54:BE:100:ARG:O	54:BE:102:VAL:N	2.45	0.49
58:BI:188:TYR:HH	58:BI:194:GLU:CD	2.14	0.49
59:BJ:88:ASP:C	59:BJ:90:GLY:H	2.16	0.49
63:BN:40:LEU:HD23	63:BN:40:LEU:N	2.27	0.49
65:BP:41:GLN:HE22	65:BP:113:GLY:HA2	1.76	0.49
66:BQ:13:PHE:HE2	66:BQ:15:ARG:NH1	2.10	0.49
67:BR:19:LYS:C	67:BR:20:TYR:HD1	2.16	0.49
67:BR:53:TYR:CE2	67:BR:57:LEU:HD11	2.47	0.49
67:BR:98:VAL:HG23	67:BR:99:ASP:N	2.28	0.49
69:BT:41:LYS:C	69:BT:42:HIS:CD2	2.86	0.49
49:B1:1627:C:H5''	69:BT:42:HIS:CE1	2.47	0.49
75:BZ:69:THR:OG1	75:BZ:72:VAL:N	2.41	0.49
48:A2:1073:G:C2	48:A2:1074:C:C2	3.00	0.49
48:A2:1252:G:H3'	48:A2:1253:A:C8	2.44	0.49
48:A2:1260:G:O2'	48:A2:1261:C:H5'	2.13	0.49
48:A2:1814:G:H2'	48:A2:1815:U:H5''	1.94	0.49
48:A2:2246:U:C3'	48:A2:2247:A:C5'	2.90	0.49
20:AR:70:ARG:NH1	48:A2:2790:G:P	2.85	0.49
22:AT:49:GLN:HB3	48:A2:4295:C:H5'	1.93	0.49
4:AB:224:LYS:CE	48:A2:4588:A:OP2	2.54	0.49
48:A2:4595:G:O2'	48:A2:4597:A:OP2	2.30	0.49
2:A4:117:G:OP1	6:AD:256:LYS:HG3	2.12	0.49
5:AC:327:LYS:HD3	8:AF:171:ASP:OD2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AH:8:GLN:NE2	10:AH:8:GLN:CA	2.73	0.49
6:AD:287:PHE:CD2	11:AI:209:TRP:CH2	3.00	0.49
13:AK:40:MET:HE3	48:A2:1978:U:C1'	2.38	0.49
16:AN:64:ILE:CG2	16:AN:102:ALA:HB1	2.43	0.49
19:AQ:98:LEU:HD11	19:AQ:100:VAL:HG23	1.93	0.49
19:AQ:150:ARG:NH1	19:AQ:164:LYS:HD3	2.27	0.49
23:AU:80:LYS:HE2	23:AU:110:TYR:CZ	2.48	0.49
24:AV:37:LEU:HD23	24:AV:65:VAL:HG22	1.93	0.49
25:AW:73:ARG:HD2	56:BG:35:GLU:HG2	1.93	0.49
26:AX:89:LYS:NZ	48:A2:2416:C:H42	2.10	0.49
28:AZ:90:PRO:O	28:AZ:92:ASP:N	2.46	0.49
49:B1:1444:U:O5'	49:B1:1444:U:H6	1.93	0.49
49:B1:746:C:H2'	49:B1:747:U:C6	2.47	0.49
49:B1:802:A:N3	49:B1:802:A:H2'	2.27	0.49
49:B1:830:A:OP1	54:BE:21:ASP:OD2	2.30	0.49
58:BI:164:GLU:O	58:BI:168:GLN:HG2	2.13	0.49
62:BM:61:TYR:CZ	62:BM:107:SER:HB2	2.47	0.49
63:BN:25:TRP:HD1	63:BN:26:LEU:CB	2.25	0.49
65:BP:84:ILE:CG2	65:BP:115:TYR:HA	2.41	0.49
49:B1:1614:A:OP2	65:BP:39:ALA:CB	2.61	0.49
67:BR:5:ARG:HG2	67:BR:49:LYS:HZ1	1.78	0.49
72:BW:100:GLY:C	72:BW:101:PHE:CD2	2.85	0.49
49:B1:407:G:C2	73:BX:36:LEU:CB	2.96	0.49
75:BZ:74:SER:CB	75:BZ:79:ILE:O	2.61	0.49
48:A2:133:C:N4	48:A2:134:G:C2	2.78	0.49
48:A2:1890:G:H2'	48:A2:1891:G:O4'	2.12	0.49
3:AA:9:ARG:HD3	48:A2:2323:U:N3	66.44	0.49
48:A2:2473:U:H2'	48:A2:2474:U:C6	2.48	0.49
48:A2:2489:G:H8	48:A2:2489:G:O5'	1.96	0.49
48:A2:2497:G:H1'	48:A2:2518:C:H1'	1.93	0.49
48:A2:2684:G:O2'	48:A2:2685:G:C8	2.63	0.49
26:AX:106:LYS:N	48:A2:2758:C:OP1	2.43	0.49
48:A2:3611:U:O2'	48:A2:3612:U:O5'	2.27	0.49
3:AA:20:VAL:HG21	48:A2:3650:U:C6	2.48	0.49
48:A2:3844:G:H8	48:A2:3844:G:O5'	1.94	0.49
48:A2:459:G:O2'	48:A2:460:A:H5'	2.12	0.49
48:A2:4980:U:H2'	48:A2:4982:C:C4	2.48	0.49
48:A2:901:U:C6	48:A2:902:A:C6	3.00	0.49
4:AB:4:ARG:O	4:AB:5:LYS:CB	2.61	0.49
10:AH:12:ILE:HB	10:AH:53:LYS:O	2.12	0.49
10:AH:5:LEU:HB2	10:AH:59:LYS:O	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AO:6:VAL:HG12	17:AO:32:LYS:HB2	1.94	0.49
18:AP:129:THR:HG23	18:AP:139:TYR:CB	2.41	0.49
18:AP:31:GLU:HG3	18:AP:60:PHE:CD2	2.47	0.49
23:AU:52:LYS:CB	23:AU:52:LYS:NZ	2.73	0.49
24:AV:23:GLY:HA2	24:AV:38:TYR:CZ	2.47	0.49
25:AW:109:ILE:CG2	25:AW:113:LYS:HE3	2.36	0.49
27:AY:41:LYS:HB3	27:AY:42:TYR:HD1	1.77	0.49
27:AY:54:GLU:O	27:AY:106:ILE:HG23	2.12	0.49
49:B1:1088:U:H4'	49:B1:1089:G:OP2	2.13	0.49
49:B1:1395:C:H1'	49:B1:1474:A:C4	2.48	0.49
49:B1:440:G:O2'	49:B1:1737:G:H1'	2.13	0.49
49:B1:1825:A:H8	49:B1:1825:A:H5''	1.77	0.49
49:B1:182:C:H2'	49:B1:183:G:O4'	2.12	0.49
49:B1:309:G:C2	49:B1:310:C:C2	3.00	0.49
49:B1:662:G:H4'	49:B1:663:C:OP1	2.11	0.49
49:B1:852:G:H2'	49:B1:853:C:H5'	1.94	0.49
49:B1:869:A:C5	57:BH:114:GLN:NE2	2.81	0.49
50:BA:205:ARG:NH2	67:BR:86:PRO:CD	2.75	0.49
51:BB:119:THR:HB	51:BB:143:THR:HG21	1.94	0.49
51:BB:182:LYS:CD	51:BB:231:LEU:HD13	2.40	0.49
51:BB:46:LYS:HD3	64:BO:19:PRO:HB2	1.94	0.49
51:BB:44:ILE:HD12	51:BB:74:LEU:HD11	1.91	0.49
55:BF:107:ASN:N	55:BF:107:ASN:ND2	2.60	0.49
49:B1:1593:C:P	55:BF:91:ARG:NH2	2.81	0.49
49:B1:799:U:P	57:BH:110:THR:CB	3.00	0.49
58:BI:192:GLY:HA3	61:BL:19:ASN:OD1	2.13	0.49
59:BJ:35:TYR:CE1	59:BJ:106:LEU:HB3	2.47	0.49
68:BS:14:ARG:CG	68:BS:14:ARG:HH11	2.14	0.49
70:BU:21:ARG:CB	70:BU:90:ASP:OD1	2.60	0.49
48:A2:2484:C:H4'	48:A2:2485:G:C4	2.48	0.49
48:A2:3934:A:C2'	48:A2:3935:U:OP1	2.61	0.49
48:A2:4107:C:H4'	48:A2:4108:G:OP1	2.10	0.49
48:A2:4125:U:H3'	48:A2:4126:C:C5'	2.42	0.49
21:AS:74:ARG:HH12	48:A2:909:C:H4'	1.78	0.49
48:A2:960:G:O5'	48:A2:960:G:H8	1.96	0.49
4:AB:254:ILE:HD12	4:AB:254:ILE:N	2.27	0.49
5:AC:169:LEU:HD12	48:A2:215:A:N6	2.25	0.49
5:AC:217:ILE:HG23	5:AC:218:ILE:N	2.27	0.49
5:AC:289:LEU:HD11	5:AC:293:LEU:HD21	1.94	0.49
2:A4:10:C:C5	6:AD:20:PHE:CZ	3.00	0.49
7:AE:216:TYR:C	7:AE:216:TYR:CD1	2.85	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:96:VAL:CG2	7:AE:107:VAL:CG1	2.91	0.49
8:AF:26:ALA:O	8:AF:30:ILE:HG13	2.12	0.49
1:A3:150:C:C5	9:AG:65:ARG:NH1	2.80	0.49
13:AK:11:SER:HA	13:AK:14:PHE:CB	2.43	0.49
14:AL:36:ARG:HH12	48:A2:407:G:C5'	60.69	0.49
20:AR:21:LYS:HB3	20:AR:52:ARG:O	2.13	0.49
28:AZ:89:ILE:HG13	28:AZ:89:ILE:O	2.13	0.49
3:AA:247:ARG:CD	49:B1:1069:U:C4'	2.88	0.49
49:B1:116:U:N3	49:B1:117:C:N3	2.61	0.49
49:B1:118:C:C3'	49:B1:118:C:O2	2.59	0.49
49:B1:322:C:O2'	49:B1:323:C:H5'	2.13	0.49
49:B1:384:U:O2'	61:BL:135:SER:CA	2.56	0.49
49:B1:65:C:C2	56:BG:133:LEU:HD23	2.48	0.49
49:B1:71:G:C2'	49:B1:79:A:H61	2.26	0.49
49:B1:827:A:C5'	59:BJ:8:VAL:CG2	2.85	0.49
51:BB:103:MET:HB3	51:BB:215:VAL:HG12	1.94	0.49
54:BE:124:CYS:O	54:BE:159:THR:HA	2.12	0.49
61:BL:17:PHE:HD1	61:BL:19:ASN:N	2.05	0.49
65:BP:33:LEU:O	65:BP:37:TYR:HD1	1.96	0.49
49:B1:1648:G:C3'	66:BQ:127:CYS:HA	2.43	0.49
49:B1:1668:U:OP1	66:BQ:132:PHE:O	2.30	0.49
66:BQ:58:LEU:HB3	66:BQ:62:ARG:HH11	1.76	0.49
66:BQ:28:GLY:HA3	66:BQ:67:ASP:OD2	2.13	0.49
67:BR:5:ARG:CG	67:BR:5:ARG:NH1	2.73	0.49
70:BU:48:LEU:HD13	70:BU:97:ILE:HG21	1.91	0.49
49:B1:491:C:P	74:BY:104:ARG:HB2	2.52	0.49
48:A2:1614:A:H3'	48:A2:1614:A:N3	2.28	0.49
48:A2:1744:C:C2'	48:A2:1745:C:H5'	2.42	0.49
48:A2:1768:A:H2'	48:A2:1771:C:C5	2.47	0.49
26:AX:44:PRO:CB	48:A2:4055:A:H5'	2.42	0.49
48:A2:4826:G:O2'	48:A2:4827:U:H5'	2.13	0.49
48:A2:903:C:H6	48:A2:903:C:C5'	2.23	0.49
48:A2:905:G:N3	48:A2:905:G:H2'	2.27	0.49
5:AC:152:LEU:O	5:AC:252:TRP:HB2	2.13	0.49
5:AC:323:ARG:HB3	48:A2:1264:G:HO2'	1.74	0.49
6:AD:33:ARG:NH1	6:AD:37:VAL:HG21	2.28	0.49
8:AF:29:LYS:O	8:AF:33:LEU:N	2.42	0.49
5:AC:331:TYR:CE1	8:AF:55:LYS:HG2	2.48	0.49
9:AG:87:LEU:HD11	9:AG:91:THR:HG21	1.94	0.49
10:AH:108:ASN:ND2	10:AH:108:ASN:N	2.60	0.49
14:AL:55:ILE:HG22	14:AL:96:ILE:HA	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AP:47:TYR:C	18:AP:47:TYR:CD1	2.86	0.49
19:AQ:8:ASN:H	19:AQ:8:ASN:HD22	1.59	0.49
49:B1:1295:A:C2'	49:B1:1296:U:H5'	2.42	0.49
49:B1:362:C:O2	49:B1:402:C:N3	2.46	0.49
50:BA:131:HIS:HA	50:BA:134:LEU:HD12	1.95	0.49
50:BA:39:TYR:CD1	50:BA:40:LYS:HB2	2.47	0.49
50:BA:41:ARG:HB2	50:BA:47:TYR:HE1	1.68	0.49
53:BD:32:ASP:OD2	53:BD:58:VAL:HG23	2.13	0.49
53:BD:76:ARG:O	53:BD:77:PHE:CG	2.65	0.49
49:B1:847:A:OP2	54:BE:16:LYS:HD3	2.13	0.49
57:BH:157:HIS:ND1	57:BH:190:PRO:HG3	2.27	0.49
64:BO:56:VAL:HG12	64:BO:77:ALA:CB	2.43	0.49
69:BT:30:VAL:HA	69:BT:102:ARG:HH11	1.78	0.49
49:B1:1416:C:C2'	69:BT:3:GLY:HA2	2.43	0.49
72:BW:52:ILE:HG12	72:BW:61:ILE:HG12	1.95	0.49
48:A2:1741:G:N1	48:A2:1742:G:C4	2.79	0.49
48:A2:2398:C:O2	48:A2:2398:C:C3'	2.61	0.49
48:A2:2683:C:N3	48:A2:2691:G:O6	2.46	0.49
48:A2:4826:G:HO2'	48:A2:4827:U:P	2.36	0.49
6:AD:178:LYS:HA	6:AD:183:TYR:CD1	2.48	0.49
13:AK:108:PRO:CD	13:AK:109:ALA:N	2.76	0.49
14:AL:61:CYS:HB2	14:AL:66:TYR:O	2.12	0.49
20:AR:32:ILE:CD1	20:AR:49:LEU:HD13	2.43	0.49
21:AS:3:ALA:HB2	21:AS:121:ALA:CB	2.43	0.49
28:AZ:61:LYS:HD3	28:AZ:61:LYS:HA	1.57	0.49
28:AZ:91:LEU:O	28:AZ:91:LEU:HG	2.13	0.49
49:B1:1016:U:O2	63:BN:61:ALA:HB2	2.08	0.49
49:B1:1300:U:O4	65:BP:54:HIS:ND1	2.45	0.49
49:B1:154:U:H2'	49:B1:155:G:O4'	2.12	0.49
49:B1:181:A:H1'	49:B1:182:C:C2	2.48	0.49
49:B1:217:A:C2	49:B1:218:U:C2	3.01	0.49
49:B1:598:G:H2'	49:B1:599:A:C8	2.48	0.49
50:BA:77:ILE:HG12	50:BA:99:ILE:HG23	1.95	0.49
53:BD:76:ARG:HD3	60:BK:68:TYR:CZ	2.43	0.49
54:BE:103:TYR:HD2	54:BE:189:LEU:HD12	1.78	0.49
56:BG:181:THR:HB	56:BG:182:PRO:HD2	1.95	0.49
49:B1:22:A:H4'	59:BJ:16:PRO:O	2.12	0.49
62:BM:14:VAL:HG22	62:BM:127:TYR:HD1	1.75	0.49
62:BM:81:ASP:OD1	62:BM:84:LYS:HE2	2.13	0.49
65:BP:118:GLU:HB3	68:BS:119:ALA:HB1	1.93	0.49
68:BS:59:LEU:HD21	68:BS:63:GLU:CB	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:BU:22:ILE:CG2	70:BU:114:VAL:HG12	2.39	0.49
70:BU:36:CYS:O	70:BU:40:ILE:HG12	2.13	0.49
73:BX:68:LYS:HD3	73:BX:91:LEU:HB3	1.95	0.49
75:BZ:88:LEU:CD2	75:BZ:109:TYR:CZ	2.74	0.49
48:A2:1390:C:O5'	48:A2:1390:C:H6	1.96	0.49
48:A2:1755:U:N3	48:A2:1756:C:C5	2.80	0.49
48:A2:2653:A:H4'	48:A2:2654:G:OP2	2.12	0.49
48:A2:375:U:H6	48:A2:375:U:O5'	1.96	0.49
48:A2:41:C:H2'	48:A2:42:A:H5''	1.94	0.49
4:AB:393:LYS:HZ2	48:A2:5000:A:C4'	2.26	0.49
48:A2:960:G:H8	48:A2:960:G:P	2.36	0.49
1:A3:13:G:O2'	18:AP:121:LYS:O	2.30	0.49
1:A3:142:U:H2'	1:A3:143:G:C8	2.47	0.49
1:A3:26:C:H2'	1:A3:27:U:C6	2.48	0.49
2:A4:15:C:C1'	2:A4:65:G:N2	2.73	0.49
3:AA:211:PHE:CZ	3:AA:235:VAL:HG23	2.47	0.49
4:AB:168:MET:SD	4:AB:171:LEU:HD12	2.53	0.49
4:AB:217:ILE:HD12	4:AB:284:ILE:HD11	1.94	0.49
4:AB:357:ARG:CD	48:A2:4577:C:H5''	2.42	0.49
4:AB:4:ARG:O	4:AB:5:LYS:HB3	2.13	0.49
7:AE:134:SER:N	48:A2:1272:C:OP1	2.46	0.49
7:AE:164:PHE:HE1	7:AE:173:LEU:HB3	1.76	0.49
7:AE:140:LEU:CD2	7:AE:167:GLN:NE2	2.73	0.49
12:AJ:17:ILE:CD1	12:AJ:83:LEU:HD13	2.42	0.49
19:AQ:154:LYS:CB	19:AQ:154:LYS:NZ	2.73	0.49
23:AU:60:VAL:O	23:AU:74:SER:HB2	2.13	0.49
49:B1:1104:G:C5	49:B1:1105:G:C8	3.00	0.49
49:B1:1156:U:O5'	49:B1:1156:U:O2	2.31	0.49
49:B1:150:A:H2'	49:B1:151:C:H5'	1.95	0.49
49:B1:1539:U:C5'	69:BT:45:LEU:O	2.60	0.49
49:B1:1785:C:H2'	49:B1:1786:U:C6	2.48	0.49
49:B1:594:A:O3'	49:B1:595:U:O4'	2.30	0.49
49:B1:691:G:O6	49:B1:739:C:N4	2.40	0.49
49:B1:872:A:H2	49:B1:915:G:O6	1.94	0.49
50:BA:42:LYS:HZ2	50:BA:46:ILE:CG2	2.26	0.49
52:BC:209:VAL:HG11	52:BC:233:LEU:HD22	1.94	0.49
52:BC:63:VAL:O	52:BC:64:THR:CG2	2.61	0.49
53:BD:210:ILE:HD12	53:BD:211:VAL:O	2.13	0.49
49:B1:1578:U:H5	53:BD:4:GLN:HE22	1.52	0.49
54:BE:42:LEU:HD22	54:BE:43:PRO:HD2	1.95	0.49
54:BE:49:ARG:HG3	54:BE:55:ALA:O	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BJ:55:LYS:HE3	59:BJ:58:ARG:HH22	1.78	0.49
62:BM:122:ASP:O	62:BM:126:GLU:HG2	2.13	0.49
49:B1:1286:G:C4	62:BM:34:GLY:CA	2.96	0.49
63:BN:91:LEU:HD12	63:BN:125:LEU:CD1	2.43	0.49
49:B1:1387:G:N2	67:BR:8:THR:CG2	2.73	0.49
68:BS:30:ILE:CA	68:BS:33:ILE:HD13	2.40	0.49
69:BT:42:HIS:C	69:BT:43:LYS:HZ2	2.16	0.49
48:A2:1166:C:H2'	48:A2:1167:A:O5'	2.13	0.48
48:A2:1255:C:H2'	48:A2:1256:G:C8	2.48	0.48
17:AO:49:ARG:NH1	48:A2:1910:A:H2	2.11	0.48
48:A2:1670:G:H4'	48:A2:2262:G:N2	2.28	0.48
48:A2:2339:A:H4'	48:A2:2340:G:H4'	1.95	0.48
48:A2:2530:A:N1	48:A2:2747:C:C4	2.81	0.48
48:A2:3656:C:H2'	48:A2:3657:G:H8	1.78	0.48
48:A2:4031:G:N2	48:A2:4032:A:N1	2.61	0.48
26:AX:44:PRO:CB	48:A2:4055:A:C5'	2.89	0.48
1:A3:70:G:N2	1:A3:87:G:H1'	2.28	0.48
3:AA:63:PHE:HZ	3:AA:76:PHE:CE2	2.31	0.48
4:AB:248:LEU:N	48:A2:2817:G:OP1	2.45	0.48
4:AB:56:ILE:HD11	4:AB:332:MET:SD	2.53	0.48
5:AC:41:HIS:CD2	5:AC:238:LEU:HD23	2.48	0.48
7:AE:222:LEU:N	7:AE:222:LEU:HD23	2.27	0.48
8:AF:228:VAL:HG11	21:AS:42:SER:CB	2.43	0.48
9:AG:61:ILE:O	9:AG:64:GLN:HG2	2.12	0.48
11:AI:210:ARG:HD3	48:A2:1162:U:O4	2.13	0.48
13:AK:36:GLY:O	13:AK:37:SER:C	2.52	0.48
18:AP:46:LYS:HD3	48:A2:2650:C:OP1	110.17	0.48
19:AQ:167:VAL:CB	19:AQ:175:GLU:OE2	2.61	0.48
24:AV:139:ILE:O	24:AV:140:ALA:OXT	2.30	0.48
49:B1:1049:A:H2'	49:B1:1050:A:H5'	1.93	0.48
49:B1:1410:C:H2'	49:B1:1411:G:N9	2.28	0.48
49:B1:1567:G:N1	68:BS:82:TRP:CD2	2.80	0.48
49:B1:1547:C:H1'	49:B1:1670:C:C4'	2.43	0.48
49:B1:216:C:O2'	49:B1:217:A:O4'	2.31	0.48
49:B1:284:C:C2'	49:B1:285:U:C4	2.96	0.48
49:B1:317:C:H2'	49:B1:318:A:H5'	1.92	0.48
49:B1:499:G:N1	49:B1:501:C:O2	2.45	0.48
52:BC:65:LYS:NZ	52:BC:273:LEU:HD13	2.28	0.48
53:BD:212:GLU:O	53:BD:213:PRO:O	2.30	0.48
49:B1:64:A:C3'	56:BG:175:LYS:CE	2.86	0.48
59:BJ:107:GLU:HG2	59:BJ:107:GLU:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BJ:170:PRO:CG	59:BJ:171:GLY:H	2.25	0.48
63:BN:58:HIS:ND1	63:BN:58:HIS:N	2.60	0.48
64:BO:98:ARG:HB3	64:BO:132:VAL:O	2.12	0.48
67:BR:97:GLU:CB	67:BR:117:LEU:CG	2.91	0.48
69:BT:98:SER:HA	69:BT:101:ARG:NE	2.28	0.48
71:BV:41:LYS:HD2	71:BV:41:LYS:O	2.13	0.48
74:BY:7:ILE:HD12	74:BY:47:MET:HE2	1.95	0.48
48:A2:1755:U:C2	48:A2:1756:C:C6	3.01	0.48
48:A2:1836:G:H2'	48:A2:1837:C:C6	2.48	0.48
48:A2:1970:G:C2	48:A2:1971:A:C8	3.01	0.48
3:AA:21:LYS:CE	48:A2:2722:A:H1'	2.42	0.48
48:A2:2805:U:OP2	48:A2:2805:U:H3'	2.12	0.48
14:AL:36:ARG:NH1	48:A2:407:G:P	62.60	0.48
48:A2:4613:A:H2'	48:A2:4614:G:O4'	2.13	0.48
1:A3:81:C:C4'	1:A3:82:A:H5''	2.34	0.48
3:AA:79:ALA:O	3:AA:82:ILE:HG12	2.13	0.48
4:AB:175:GLN:HG3	48:A2:4943:U:H4'	1.94	0.48
4:AB:341:LYS:O	4:AB:342:LYS:HB2	2.13	0.48
5:AC:52:TYR:CG	5:AC:53:ALA:N	2.81	0.48
6:AD:12:TYR:CD1	6:AD:12:TYR:C	2.85	0.48
13:AK:24:TYR:CE2	13:AK:27:CYS:SG	3.07	0.48
49:B1:1756:C:H4'	49:B1:1757:G:OP1	2.12	0.48
49:B1:182:C:C3'	49:B1:183:G:O4'	2.60	0.48
49:B1:689:U:N3	49:B1:742:U:O2	2.46	0.48
50:BA:90:PHE:HZ	50:BA:178:LEU:HD22	1.77	0.48
51:BB:44:ILE:CD1	51:BB:74:LEU:CD1	2.86	0.48
52:BC:253:PRO:CA	52:BC:256:TRP:HE1	2.15	0.48
53:BD:116:ARG:O	53:BD:120:TYR:CD2	2.66	0.48
54:BE:149:TYR:HA	56:BG:209:TYR:HE2	1.70	0.48
55:BF:185:SER:HA	55:BF:190:ILE:HG21	1.95	0.48
56:BG:142:ARG:NH1	56:BG:152:ASP:HA	2.28	0.48
56:BG:31:ARG:HB2	56:BG:34:THR:HG21	1.94	0.48
56:BG:44:GLU:HB3	56:BG:120:ASP:HB2	1.95	0.48
59:BJ:24:ARG:O	59:BJ:28:GLU:HG3	2.12	0.48
66:BQ:135:PRO:HD3	66:BQ:141:TYR:CD2	2.48	0.48
72:BW:94:LEU:HD22	72:BW:101:PHE:H	1.75	0.48
49:B1:581:U:O4'	74:BY:62:THR:HG21	2.13	0.48
48:A2:1196:G:OP2	48:A2:1196:G:N2	2.43	0.48
48:A2:2373:G:N3	48:A2:2373:G:H2'	2.29	0.48
48:A2:243:G:H8	48:A2:243:G:O5'	1.95	0.48
48:A2:287:G:O2'	48:A2:288:G:C8	2.65	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:32:G:N7	48:A2:48:G:N2	2.61	0.48
48:A2:3688:A:H1'	48:A2:4141:G:H5'	1.93	0.48
22:AT:8:ARG:NH2	48:A2:4295:C:O2'	2.47	0.48
48:A2:4546:A:H2'	48:A2:4547:U:C6	2.48	0.48
10:AH:122:TYR:CD1	48:A2:4575:C:H4'	2.49	0.48
4:AB:156:TYR:CE1	48:A2:4867:A:C8	3.01	0.48
7:AE:105:ARG:CZ	48:A2:680:C:N1	2.76	0.48
48:A2:902:A:C5'	48:A2:902:A:C8	2.91	0.48
1:A3:154:G:OP1	9:AG:89:ARG:CZ	2.60	0.48
4:AB:81:THR:CB	4:AB:207:VAL:HG21	2.44	0.48
4:AB:295:ASP:N	4:AB:296:GLY:O	2.46	0.48
6:AD:180:PHE:HB3	6:AD:195:HIS:CD2	2.48	0.48
9:AG:69:ILE:O	9:AG:73:ARG:HG2	2.13	0.48
12:AJ:17:ILE:HD13	12:AJ:83:LEU:HD13	1.94	0.48
13:AK:32:ALA:H	13:AK:85:ASN:CB	2.25	0.48
15:AM:7:VAL:HG22	21:AS:152:PHE:O	2.13	0.48
16:AN:68:ARG:HH21	16:AN:123:GLU:HB2	1.78	0.48
18:AP:18:ARG:HB2	48:A2:393:G:H5''	1.95	0.48
19:AQ:30:LYS:HE3	48:A2:2247:A:C2'	2.43	0.48
19:AQ:8:ASN:N	19:AQ:8:ASN:ND2	2.60	0.48
21:AS:44:PHE:CE2	21:AS:48:VAL:HG21	2.47	0.48
23:AU:26:THR:OG1	23:AU:68:SER:HB2	2.13	0.48
27:AY:55:VAL:HG21	27:AY:70:VAL:HG12	1.94	0.48
28:AZ:46:ILE:CD1	28:AZ:68:ILE:HG13	2.43	0.48
49:B1:1287:A:C2'	49:B1:1287:A:N3	2.76	0.48
49:B1:1453:C:C2'	49:B1:1454:A:H5'	2.43	0.48
49:B1:619:A:C6	73:BX:114:ASP:HB3	2.48	0.48
52:BC:130:ILE:HG12	52:BC:158:ALA:HB1	1.96	0.48
49:B1:78:C:O4'	56:BG:175:LYS:HA	2.11	0.48
56:BG:205:GLU:HA	56:BG:205:GLU:OE1	2.12	0.48
59:BJ:13:TYR:OH	59:BJ:44:TRP:HZ3	1.94	0.48
49:B1:21:U:O2'	59:BJ:17:ARG:O	2.19	0.48
59:BJ:81:LEU:CD1	59:BJ:87:LEU:HD11	2.38	0.48
49:B1:827:A:O5'	59:BJ:8:VAL:HG11	2.11	0.48
63:BN:100:LYS:HG2	63:BN:104:ARG:NH1	2.28	0.48
63:BN:26:LEU:CD2	63:BN:60:VAL:HG22	2.42	0.48
64:BO:89:GLY:C	64:BO:90:ILE:HG23	2.34	0.48
65:BP:56:LEU:HD13	65:BP:56:LEU:C	2.34	0.48
49:B1:1631:U:OP1	68:BS:34:LYS:HA	2.14	0.48
48:A2:1082:C:H2'	48:A2:1083:U:O4'	2.13	0.48
48:A2:1166:C:C6	48:A2:1167:A:N7	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1742:G:N2	48:A2:1743:G:H1'	2.28	0.48
21:AS:4:SER:HA	48:A2:2043:C:H4'	1.94	0.48
48:A2:2261:A:H2'	48:A2:2262:G:H5'	1.95	0.48
48:A2:2449:C:H4'	48:A2:2450:G:OP1	2.14	0.48
48:A2:2867:G:O4'	48:A2:3589:C:O2'	2.27	0.48
48:A2:3798:G:O2'	48:A2:3799:A:OP1	2.31	0.48
48:A2:380:A:H2'	48:A2:381:G:OP1	2.14	0.48
24:AV:50:ASN:N	48:A2:4456:G:OP1	2.47	0.48
48:A2:961:C:C6	48:A2:961:C:C5'	2.81	0.48
3:AA:2:GLY:HA2	48:A2:1624:A:H61	1.77	0.48
4:AB:232:THR:HG21	4:AB:239:LYS:HG2	1.94	0.48
4:AB:262:VAL:HG21	4:AB:268:ARG:NH2	2.28	0.48
6:AD:68:ARG:HB2	6:AD:71:GLY:O	2.13	0.48
7:AE:213:THR:OG1	7:AE:214:ASP:N	2.46	0.48
9:AG:147:VAL:HG11	9:AG:173:LEU:HD23	1.96	0.48
18:AP:13:LYS:C	18:AP:107:LEU:HD21	2.33	0.48
22:AT:78:LYS:HB3	22:AT:87:LYS:HE3	1.95	0.48
49:B1:1299:A:H8	49:B1:1299:A:O5'	1.97	0.48
49:B1:1673:U:H2'	49:B1:1674:G:O4'	2.12	0.48
49:B1:1719:A:C2'	49:B1:1720:U:H5'	2.44	0.48
49:B1:1785:C:H2'	49:B1:1786:U:O5'	2.13	0.48
49:B1:229:A:O2'	49:B1:230:A:P	2.72	0.48
49:B1:67:C:P	56:BG:172:LYS:NZ	2.86	0.48
51:BB:116:LYS:C	51:BB:117:TRP:CG	2.85	0.48
57:BH:70:LYS:HB2	57:BH:70:LYS:NZ	2.29	0.48
58:BI:193:LYS:HG2	58:BI:194:GLU:N	2.27	0.48
59:BJ:110:LEU:O	59:BJ:114:VAL:HG23	2.13	0.48
49:B1:560:A:H3'	59:BJ:171:GLY:HA3	0.64	0.48
60:BK:38:LYS:HA	60:BK:38:LYS:CE	2.44	0.48
66:BQ:42:ILE:HD12	66:BQ:48:GLN:HA	1.95	0.48
55:BF:48:TYR:CD2	66:BQ:53:GLU:HG2	2.49	0.48
53:BD:40:ARG:NH2	70:BU:68:THR:O	37.67	0.48
48:A2:1077:G:H2'	48:A2:1078:A:C8	2.47	0.48
48:A2:1225:G:P	48:A2:1225:G:C2	3.06	0.48
48:A2:1226:C:O5'	48:A2:1226:C:H6	1.96	0.48
48:A2:1500:A:H5'	48:A2:1502:C:OP2	2.12	0.48
48:A2:1752:A:N6	48:A2:1753:U:O4	2.46	0.48
48:A2:1752:A:H2'	48:A2:1753:U:C6	2.49	0.48
48:A2:2525:G:OP2	48:A2:2525:G:C8	2.66	0.48
4:AB:247:GLY:HA3	48:A2:2817:G:OP1	2.11	0.48
48:A2:352:C:N3	48:A2:353:A:N7	2.62	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:460:A:H61	48:A2:681:A:H61	1.44	0.48
48:A2:4858:C:H3'	48:A2:4859:G:C5'	2.40	0.48
48:A2:693:U:C3'	48:A2:694:G:H21	2.25	0.48
4:AB:279:GLU:HB2	4:AB:282:LYS:HE3	1.95	0.48
5:AC:184:TYR:CZ	5:AC:225:PRO:HD2	2.49	0.48
5:AC:287:THR:O	5:AC:287:THR:HG23	2.12	0.48
10:AH:90:TYR:CE2	10:AH:184:LYS:HG2	2.48	0.48
14:AL:15:HIS:HD2	48:A2:95:G:O3'	1.96	0.48
14:AL:40:GLN:HB3	48:A2:182:C:H41	1.78	0.48
22:AT:70:HIS:CD2	48:A2:4276:C:OP1	2.65	0.48
22:AT:7:LYS:O	48:A2:4296:U:O2'	2.27	0.48
23:AU:28:PRO:HB2	23:AU:34:MET:HB2	1.96	0.48
23:AU:60:VAL:HB	23:AU:76:VAL:CG2	2.43	0.48
24:AV:135:ASN:N	24:AV:135:ASN:ND2	2.60	0.48
49:B1:1700:C:N4	49:B1:1702:G:N2	2.62	0.48
49:B1:439:A:H4'	49:B1:1799:G:H4'	1.95	0.48
49:B1:298:G:OP1	54:BE:134:LYS:CA	2.61	0.48
49:B1:318:A:N1	49:B1:332:G:N2	2.62	0.48
49:B1:487:U:C5	49:B1:512:A:N1	2.82	0.48
49:B1:611:G:H21	54:BE:12:VAL:HG13	63.68	0.48
49:B1:873:G:C4'	49:B1:874:G:OP2	2.59	0.48
50:BA:155:ARG:O	50:BA:157:VAL:HG23	2.13	0.48
51:BB:112:SER:O	51:BB:113:MET:HB2	2.13	0.48
57:BH:43:LEU:HD11	57:BH:72:PHE:CE1	2.48	0.48
59:BJ:159:PHE:CE2	59:BJ:164:PRO:HG2	2.47	0.48
59:BJ:19:PRO:HB2	59:BJ:20:PHE:CD1	2.49	0.48
59:BJ:54:ARG:HD3	59:BJ:98:LEU:HD22	1.88	0.48
61:BL:13:GLN:NE2	61:BL:16:ILE:N	2.61	0.48
61:BL:36:TYR:CE2	61:BL:38:LYS:HB2	2.48	0.48
66:BQ:9:SER:OG	66:BQ:24:HIS:CE1	2.66	0.48
67:BR:99:ASP:O	67:BR:102:THR:CG2	2.44	0.48
68:BS:124:ARG:HB2	68:BS:131:VAL:HG22	1.94	0.48
69:BT:61:ALA:O	69:BT:64:LEU:HG	2.13	0.48
69:BT:9:VAL:HG11	69:BT:138:VAL:CG1	2.43	0.48
72:BW:15:ASN:HB2	72:BW:72:CYS:SG	2.53	0.48
48:A2:1057:G:H2'	48:A2:1058:G:O4'	2.12	0.48
48:A2:1224:C:P	48:A2:1252:G:H21	2.34	0.48
48:A2:133:C:H5	48:A2:134:G:H2'	1.69	0.48
48:A2:136:G:C8	48:A2:136:G:H3'	2.49	0.48
48:A2:136:G:H8	48:A2:136:G:H3'	1.78	0.48
48:A2:1388:C:H2'	48:A2:1389:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1432:C:H2'	48:A2:1433:C:C6	2.48	0.48
9:AG:196:ARG:CD	48:A2:147:U:H2'	2.44	0.48
48:A2:2447:U:H2'	48:A2:2485:G:H22	1.79	0.48
48:A2:2531:G:H2'	48:A2:2532:A:H2	1.79	0.48
48:A2:31:U:H2'	48:A2:32:G:N9	2.27	0.48
48:A2:3654:C:H4'	48:A2:3655:G:OP2	2.12	0.48
16:AN:176:LYS:O	48:A2:67:C:C5'	2.61	0.48
5:AC:190:ARG:CB	5:AC:202:ILE:HD13	2.40	0.48
6:AD:150:LEU:HD11	48:A2:4242:A:N6	2.29	0.48
7:AE:190:HIS:NE2	48:A2:700:C:H4'	2.29	0.48
9:AG:110:LYS:HZ1	9:AG:113:ARG:NH2	2.11	0.48
20:AR:98:ARG:HH12	20:AR:130:ASN:HD21	1.61	0.48
49:B1:1624:U:O4	49:B1:1625:U:C2	2.67	0.48
49:B1:1648:G:O2'	49:B1:1649:U:P	2.71	0.48
49:B1:305:U:C2'	49:B1:306:C:OP1	2.61	0.48
49:B1:539:C:H2'	49:B1:540:U:C6	2.48	0.48
50:BA:91:ALA:CB	50:BA:98:PRO:HD3	2.44	0.48
51:BB:218:LEU:HD22	51:BB:219:LYS:H	1.79	0.48
52:BC:58:LYS:NZ	52:BC:58:LYS:HB2	2.28	0.48
56:BG:160:LYS:O	56:BG:171:THR:HA	2.14	0.48
56:BG:69:THR:C	56:BG:101:ILE:HG13	2.34	0.48
49:B1:387:C:OP2	58:BI:10:LYS:CE	2.61	0.48
59:BJ:112:THR:HG22	59:BJ:116:LYS:HE2	1.95	0.48
49:B1:1274:G:H5'	60:BK:47:LYS:CD	2.44	0.48
61:BL:13:GLN:HE22	61:BL:15:THR:N	2.10	0.48
66:BQ:12:VAL:HG21	66:BQ:91:ALA:N	2.28	0.48
70:BU:40:ILE:HG23	70:BU:44:LYS:HE3	1.94	0.48
74:BY:83:LYS:O	74:BY:91:LEU:HD21	2.14	0.48
48:A2:1745:C:C2'	48:A2:1746:G:C5'	2.86	0.48
48:A2:1870:U:O4	48:A2:1920:A:N6	2.47	0.48
48:A2:1951:A:H4'	48:A2:1981:G:H8	1.79	0.48
48:A2:1981:G:N3	48:A2:1981:G:H3'	2.29	0.48
48:A2:227:G:H5''	48:A2:227:G:H8	1.76	0.48
48:A2:228:U:O2'	48:A2:228:U:O2	2.31	0.48
48:A2:205:A:N7	48:A2:229:G:N7	2.61	0.48
1:A3:123:U:C2'	48:A2:2523:G:O6	2.61	0.48
48:A2:2672:G:H5''	48:A2:2673:G:OP2	2.14	0.48
48:A2:2793:C:O2	48:A2:2793:C:C2'	2.62	0.48
48:A2:4034:C:H2'	48:A2:4035:G:O5'	2.13	0.48
48:A2:4152:U:H3'	48:A2:4153:G:H5'	1.96	0.48
4:AB:252:ALA:HB1	48:A2:4486:G:C2	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:4544:C:C3'	48:A2:4545:C:H5'	2.42	0.48
48:A2:4826:G:O2'	48:A2:4827:U:P	2.69	0.48
48:A2:4896:A:C8	48:A2:4896:A:O5'	2.66	0.48
48:A2:55:G:H8	48:A2:55:G:H5''	1.79	0.48
48:A2:717:G:C6	48:A2:718:C:C4	3.01	0.48
4:AB:19:ARG:O	48:A2:4529:G:C5'	2.44	0.48
5:AC:199:ARG:NH1	48:A2:2274:C:H5''	2.28	0.48
5:AC:317:ASN:OD1	8:AF:156:LYS:HG3	2.14	0.48
8:AF:95:ILE:HG22	8:AF:223:LYS:HE3	1.95	0.48
9:AG:110:LYS:C	9:AG:110:LYS:HD3	2.33	0.48
13:AK:28:PHE:CE2	13:AK:99:ARG:HB2	2.48	0.48
13:AK:55:MET:CB	13:AK:87:GLY:HA2	2.43	0.48
23:AU:56:LEU:HD11	23:AU:63:ILE:HD12	1.95	0.48
25:AW:50:ASN:N	25:AW:50:ASN:OD1	2.46	0.48
49:B1:1122:A:H1'	51:BB:146:ARG:NH2	2.29	0.48
49:B1:1745:A:C1'	56:BG:66:GLY:HA2	2.43	0.48
49:B1:46:A:H4'	49:B1:47:G:H5''	1.96	0.48
49:B1:554:A:H4'	49:B1:555:A:OP2	2.13	0.48
49:B1:749:U:O2	49:B1:750:C:C6	2.67	0.48
49:B1:799:U:H2'	49:B1:800:U:H5'	1.93	0.48
50:BA:42:LYS:CE	50:BA:48:ILE:HD11	2.42	0.48
51:BB:186:ASN:O	51:BB:190:PRO:HD2	2.14	0.48
52:BC:134:ASN:C	52:BC:134:ASN:HD22	2.16	0.48
54:BE:116:VAL:CG2	54:BE:117:GLU:H	2.26	0.48
55:BF:72:LEU:HD12	55:BF:93:VAL:CG2	2.44	0.48
25:AW:74:ARG:NH1	56:BG:51:ARG:NH1	2.61	0.48
57:BH:146:VAL:HG22	57:BH:152:ARG:HG3	1.94	0.48
64:BO:17:LEU:O	64:BO:19:PRO:HD2	2.13	0.48
66:BQ:45:ARG:HA	66:BQ:45:ARG:HD3	1.54	0.48
68:BS:10:GLN:OE1	68:BS:13:LEU:HD13	2.10	0.48
68:BS:30:ILE:HG22	68:BS:36:VAL:HG11	1.95	0.48
70:BU:20:ILE:CG2	70:BU:116:ILE:CB	2.92	0.48
71:BV:14:PRO:CB	71:BV:23:ILE:CG2	2.90	0.48
48:A2:1560:U:H2'	48:A2:1561:C:C5	2.48	0.48
48:A2:1861:G:H3'	48:A2:1862:C:H5'	1.96	0.48
48:A2:1990:A:C2	48:A2:1991:A:H1'	2.48	0.48
48:A2:2640:U:N3	61:BL:158:PHE:HE2	2.10	0.48
48:A2:3918:A:O2'	48:A2:3919:C:H5'	2.14	0.48
48:A2:4009:G:H5'	48:A2:4020:A:C4'	2.43	0.48
48:A2:4832:A:O2'	48:A2:4833:G:O5'	2.29	0.48
7:AE:133:PHE:CD2	48:A2:701:G:H1'	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AS:74:ARG:NH1	48:A2:909:C:H4'	2.28	0.48
3:AA:222:PRO:HA	48:A2:3720:C:O4'	2.13	0.48
3:AA:30:ARG:NH2	3:AA:41:ILE:HD13	2.29	0.48
4:AB:262:VAL:O	48:A2:4527:C:H4'	2.14	0.48
6:AD:163:LEU:O	6:AD:163:LEU:HD22	2.14	0.48
7:AE:168:LEU:HB2	7:AE:172:LEU:O	2.13	0.48
7:AE:233:PHE:CE2	48:A2:446:A:H2'	2.47	0.48
8:AF:182:TYR:CE2	8:AF:203:GLU:HB2	2.45	0.48
13:AK:52:VAL:HG11	13:AK:90:PHE:CA	2.42	0.48
14:AL:59:VAL:HG22	48:A2:74:G:OP1	2.13	0.48
20:AR:105:LEU:HD22	20:AR:135:LYS:CG	2.44	0.48
49:B1:156:G:O2'	56:BG:60:GLY:HA2	2.13	0.48
49:B1:1600:G:H5''	75:BZ:43:LYS:HG3	1.94	0.48
49:B1:642:U:H4'	49:B1:644:G:H4'	1.96	0.48
50:BA:41:ARG:HA	50:BA:47:TYR:HD1	1.79	0.48
49:B1:1124:C:OP1	51:BB:150:ILE:N	2.46	0.48
52:BC:105:GLU:OE1	52:BC:212:LYS:HE3	2.14	0.48
53:BD:30:ALA:HA	53:BD:103:GLU:OE2	2.13	0.48
54:BE:95:THR:CB	54:BE:97:GLU:N	2.76	0.48
57:BH:110:THR:O	57:BH:110:THR:OG1	2.31	0.48
49:B1:381:C:H5'	58:BI:48:VAL:HG13	1.95	0.48
61:BL:82:MET:HG2	61:BL:85:THR:CG2	2.44	0.48
49:B1:1022:U:H1'	63:BN:128:TYR:CG	2.49	0.48
65:BP:44:ARG:NH2	65:BP:52:LYS:HZ1	2.07	0.48
68:BS:90:VAL:O	68:BS:91:LYS:HB2	2.14	0.48
49:B1:1590:C:OP1	69:BT:82:ARG:NH1	2.47	0.48
71:BV:51:LYS:NZ	71:BV:76:ASP:OD1	2.46	0.48
48:A2:1322:U:H2'	48:A2:1323:C:C6	2.49	0.48
48:A2:3876:A:C8	48:A2:3876:A:H3'	2.49	0.48
48:A2:4037:U:H2'	48:A2:4038:U:C6	2.49	0.48
48:A2:4546:A:N1	48:A2:4681:G:C8	2.82	0.48
48:A2:4828:G:H5'	48:A2:4828:G:C8	2.49	0.48
4:AB:96:PRO:HD2	48:A2:4868:A:C4'	2.44	0.48
48:A2:4870:G:H8	48:A2:4870:G:H5''	1.79	0.48
48:A2:4872:C:H2'	48:A2:4873:G:O4'	2.14	0.48
3:AA:5:ILE:HD13	3:AA:232:GLY:HA2	1.94	0.48
6:AD:232:THR:HG23	6:AD:235:MET:HE2	1.96	0.48
25:AW:90:ILE:O	25:AW:94:ARG:HG3	2.14	0.48
26:AX:114:LYS:NZ	26:AX:114:LYS:CB	2.73	0.48
28:AZ:33:THR:C	28:AZ:34:SER:HG	1.99	0.48
28:AZ:39:SER:HB3	28:AZ:77:TYR:CD2	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1301:A:H2'	49:B1:1301:A:N3	2.29	0.48
49:B1:1751:C:H1'	49:B1:1782:G:N2	2.29	0.48
49:B1:286:U:C6	49:B1:286:U:C3'	2.97	0.48
49:B1:293:C:O5'	49:B1:293:C:H6	1.96	0.48
49:B1:524:U:O3'	49:B1:525:A:O4'	2.31	0.48
49:B1:744:G:N3	57:BH:109:ARG:HB2	2.28	0.48
50:BA:143:PRO:HB3	50:BA:158:ASP:OD2	2.14	0.48
50:BA:175:TRP:C	50:BA:202:TYR:CD2	2.80	0.48
51:BB:49:VAL:HG11	51:BB:58:ALA:HB1	1.96	0.48
49:B1:1483:A:H5''	53:BD:159:HIS:O	2.14	0.48
54:BE:148:ARG:HH22	56:BG:202:ASN:HA	1.76	0.48
54:BE:211:LYS:HA	54:BE:216:ASN:O	2.14	0.48
59:BJ:129:LEU:CB	59:BJ:135:ILE:HD11	2.43	0.48
49:B1:522:A:H5'	59:BJ:145:PRO:HG2	1.94	0.48
59:BJ:3:VAL:O	59:BJ:4:ALA:HB2	2.14	0.48
53:BD:210:ILE:CG2	67:BR:39:ALA:HB3	1.95	0.48
66:BQ:37:ARG:HG3	69:BT:7:LYS:CG	2.41	0.48
74:BY:117:VAL:HG23	74:BY:122:LYS:HG3	1.95	0.48
49:B1:1593:C:C5	75:BZ:104:ARG:NH2	2.70	0.48
75:BZ:79:ILE:CG2	75:BZ:83:LEU:CG	2.85	0.48
48:A2:1164:C:H2'	48:A2:1164:C:O2	2.12	0.48
3:AA:204:MET:HB2	48:A2:1613:A:C2	2.48	0.48
48:A2:1973:U:C4	48:A2:1983:A:H2'	2.49	0.48
48:A2:2444:C:H1'	48:A2:3643:G:H1	1.78	0.48
48:A2:3656:C:H2'	48:A2:3657:G:C8	2.48	0.48
48:A2:3661:U:O2'	48:A2:3662:G:H5'	2.14	0.48
48:A2:3929:G:C6	48:A2:4016:A:N6	2.70	0.48
48:A2:425:G:O2'	48:A2:426:U:O5'	2.28	0.48
4:AB:96:PRO:HD2	48:A2:4868:A:H4'	1.96	0.48
7:AE:100:LYS:CD	48:A2:679:G:OP2	2.62	0.48
7:AE:114:ARG:HD2	48:A2:683:U:OP1	2.14	0.48
8:AF:202:LYS:HD2	48:A2:1820:U:OP2	2.14	0.48
15:AM:41:PRO:CB	15:AM:70:GLN:HE22	2.18	0.48
19:AQ:67:ILE:HG23	19:AQ:96:PRO:HG3	1.95	0.48
19:AQ:8:ASN:ND2	19:AQ:8:ASN:H	2.12	0.48
49:B1:1259:A:N3	49:B1:1259:A:O5'	2.47	0.48
49:B1:1444:U:O2	49:B1:1445:U:C2	2.66	0.48
49:B1:1670:C:H2'	49:B1:1671:G:O4'	2.14	0.48
49:B1:1700:C:C4	49:B1:1702:G:C2	3.01	0.48
49:B1:1862:G:O2'	49:B1:1863:A:H2'	2.14	0.48
49:B1:1867:U:C6	49:B1:1867:U:OP2	2.67	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:792:C:H6	49:B1:792:C:O5'	1.97	0.48
49:B1:79:A:H2'	49:B1:80:G:H5'	1.95	0.48
49:B1:839:C:O2'	49:B1:841:G:H4'	2.14	0.48
51:BB:72:ALA:O	51:BB:73:ASP:HB3	2.13	0.48
52:BC:64:THR:O	52:BC:66:LEU:N	2.45	0.48
54:BE:133:VAL:O	54:BE:136:ILE:HG12	2.14	0.48
54:BE:162:ILE:HD13	54:BE:169:ILE:HG22	1.95	0.48
55:BF:43:GLU:HA	55:BF:43:GLU:OE1	2.13	0.48
56:BG:164:LYS:HD3	56:BG:164:LYS:HA	1.69	0.48
59:BJ:115:PHE:CG	59:BJ:123:ILE:HD11	2.49	0.48
61:BL:33:LEU:N	61:BL:34:PRO:CD	2.76	0.48
63:BN:75:LEU:HD12	63:BN:81:ALA:CB	2.40	0.48
68:BS:5:ILE:HG21	68:BS:8:LYS:HE3	1.95	0.48
70:BU:26:SER:OG	70:BU:32:LEU:CA	2.62	0.48
72:BW:94:LEU:HD22	72:BW:101:PHE:N	2.29	0.48
72:BW:93:LEU:HD22	72:BW:128:PHE:CD2	2.49	0.48
48:A2:1171:C:H2'	48:A2:1172:G:C8	2.49	0.47
48:A2:1197:C:O2'	48:A2:1198:C:H5'	2.13	0.47
5:AC:274:LYS:NZ	48:A2:1358:C:OP1	2.46	0.47
48:A2:1580:C:H2'	48:A2:1581:A:H8	1.79	0.47
48:A2:1740:G:N2	48:A2:1741:G:N9	2.62	0.47
6:AD:45:ASN:HB2	48:A2:1805:G:H4'	1.96	0.47
48:A2:3683:A:H2'	48:A2:3684:U:C5	2.48	0.47
48:A2:4033:U:OP2	48:A2:4033:U:C6	2.67	0.47
48:A2:410:U:H2'	48:A2:411:G:H5'	1.95	0.47
48:A2:4125:U:H3'	48:A2:4126:C:H5''	1.95	0.47
48:A2:4946:U:O2'	48:A2:4947:U:H4'	2.13	0.47
48:A2:4983:C:OP1	58:BI:169:GLY:C	2.51	0.47
48:A2:507:U:C5'	48:A2:508:U:OP2	2.62	0.47
14:AL:15:HIS:HD2	48:A2:96:U:P	2.37	0.47
2:A4:90:A:H2	11:AI:56:GLU:HG2	1.78	0.47
3:AA:209:HIS:CD2	3:AA:210:PRO:HD2	2.49	0.47
4:AB:238:LYS:HD2	48:A2:4419:U:H5''	1.96	0.47
4:AB:317:LEU:HD23	48:A2:4959:U:C5'	2.43	0.47
5:AC:221:PHE:HD2	5:AC:227:ILE:HD11	1.76	0.47
6:AD:220:LYS:O	6:AD:224:SER:HB3	2.14	0.47
6:AD:224:SER:CA	6:AD:227:ILE:CD1	2.87	0.47
6:AD:279:ARG:HE	48:A2:1160:U:C5'	2.25	0.47
8:AF:182:TYR:CE2	8:AF:203:GLU:HG3	2.49	0.47
12:AJ:57:VAL:O	12:AJ:58:ARG:HB3	2.14	0.47
13:AK:1:MET:O	13:AK:3:ARG:N	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:27:CYS:CB	13:AK:90:PHE:HB3	2.44	0.47
18:AP:30:ARG:C	18:AP:30:ARG:HD3	2.34	0.47
19:AQ:159:PRO:O	19:AQ:161:SER:N	2.46	0.47
21:AS:13:VAL:HG22	21:AS:63:TYR:HB3	1.96	0.47
15:AM:33:GLN:HB2	21:AS:145:PHE:CZ	2.49	0.47
15:AM:33:GLN:HB2	21:AS:145:PHE:HZ	1.78	0.47
28:AZ:62:ILE:HG23	28:AZ:63:ALA:N	2.28	0.47
49:B1:1104:G:C6	49:B1:1105:G:N7	2.82	0.47
49:B1:1276:A:O2'	60:BK:54:SER:CB	2.59	0.47
49:B1:1314:U:N3	60:BK:2:LEU:N	2.61	0.47
49:B1:1507:G:H3'	49:B1:1508:A:H5'	1.96	0.47
49:B1:30:C:O2'	49:B1:596:U:OP1	2.32	0.47
49:B1:448:A:C8	58:BI:26:LYS:N	2.82	0.47
49:B1:866:U:H2'	49:B1:867:G:H5'	1.95	0.47
50:BA:200:ASP:HA	50:BA:203:PHE:HB2	1.96	0.47
50:BA:50:ASN:HD21	50:BA:53:ARG:HB2	1.79	0.47
51:BB:161:VAL:O	51:BB:164:ILE:HG22	2.14	0.47
53:BD:25:LEU:O	53:BD:29:LEU:HB2	2.14	0.47
53:BD:71:ALA:CB	60:BK:20:VAL:CG2	2.78	0.47
54:BE:220:THR:HG23	54:BE:225:ILE:HD11	1.96	0.47
55:BF:56:TYR:O	55:BF:62:ARG:HG3	2.14	0.47
58:BI:145:ILE:HG22	58:BI:149:TYR:CE2	2.49	0.47
49:B1:101:U:H5''	58:BI:19:LYS:HB3	1.96	0.47
53:BD:72:VAL:HG13	60:BK:68:TYR:HD1	1.77	0.47
49:B1:294:U:O4	61:BL:65:ASN:N	2.47	0.47
62:BM:13:ASP:O	62:BM:17:ALA:HB3	2.13	0.47
64:BO:97:LEU:HB3	64:BO:131:ASP:OD1	2.14	0.47
65:BP:85:ILE:HD11	65:BP:116:LEU:CG	2.33	0.47
50:BA:39:TYR:OH	67:BR:108:LEU:HD11	2.14	0.47
70:BU:78:ASP:HB3	70:BU:80:PHE:CE2	2.49	0.47
73:BX:106:GLY:O	73:BX:107:ARG:HB3	2.14	0.47
48:A2:1059:C:H2'	48:A2:1060:C:O4'	2.14	0.47
48:A2:1255:C:C6	48:A2:1256:G:O6	2.66	0.47
48:A2:133:C:C6	48:A2:133:C:C5'	2.87	0.47
48:A2:2548:G:H2'	48:A2:2549:U:O4'	2.13	0.47
48:A2:3612:U:H5'	48:A2:3613:A:H5''	1.95	0.47
48:A2:4009:G:H5'	48:A2:4020:A:H5'	1.96	0.47
14:AL:165:LYS:CB	48:A2:505:C:OP2	2.62	0.47
48:A2:722:G:O5'	48:A2:722:G:H8	1.98	0.47
48:A2:86:U:O4	48:A2:97:G:C4	2.67	0.47
48:A2:7:C:O2'	48:A2:8:U:O5'	2.25	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:949:C:H3'	48:A2:950:G:C5'	2.43	0.47
2:A4:73:U:H2'	2:A4:74:A:OP1	2.15	0.47
4:AB:363:ILE:HG13	4:AB:363:ILE:O	2.13	0.47
7:AE:109:LEU:C	7:AE:111:LYS:N	2.68	0.47
7:AE:114:ARG:CG	7:AE:114:ARG:HH11	2.27	0.47
7:AE:140:LEU:HB3	7:AE:144:ILE:CD1	2.43	0.47
9:AG:45:ILE:HD12	9:AG:45:ILE:O	2.14	0.47
10:AH:99:PHE:CD2	10:AH:118:LEU:C	2.88	0.47
5:AC:51:PRO:CB	14:AL:26:PHE:CE1	2.94	0.47
14:AL:46:ILE:O	14:AL:47:ALA:CB	2.62	0.47
14:AL:55:ILE:HG23	14:AL:76:PHE:CE1	2.48	0.47
17:AO:54:TYR:HE2	17:AO:145:VAL:HG11	1.79	0.47
17:AO:185:VAL:O	17:AO:186:GLU:HB2	2.13	0.47
18:AP:139:TYR:CZ	48:A2:3830:G:C4'	2.97	0.47
21:AS:8:ARG:HD3	21:AS:66:GLN:HE22	1.79	0.47
27:AY:57:VAL:O	27:AY:64:GLY:HA2	2.14	0.47
49:B1:1105:G:C2	49:B1:1106:C:N1	2.82	0.47
49:B1:1130:G:H4'	63:BN:10:GLY:CA	2.43	0.47
49:B1:1307:U:O5'	49:B1:1307:U:H6	1.96	0.47
49:B1:13:C:H4'	49:B1:1355:C:O2	2.14	0.47
49:B1:1622:U:O2	49:B1:1622:U:C2'	2.59	0.47
49:B1:1675:A:H4'	49:B1:1675:A:OP1	2.13	0.47
49:B1:535:G:O2'	49:B1:536:A:OP2	2.32	0.47
49:B1:640:A:H4'	59:BJ:20:PHE:CE2	2.44	0.47
49:B1:660:C:C4	49:B1:661:U:C4	3.02	0.47
49:B1:920:A:OP1	72:BW:57:ARG:HD3	2.14	0.47
50:BA:210:ILE:HA	50:BA:213:GLU:OE1	2.14	0.47
51:BB:97:LEU:HD12	51:BB:228:LEU:HD21	1.96	0.47
55:BF:98:GLU:HG3	75:BZ:100:VAL:HG11	1.96	0.47
64:BO:142:ARG:CA	64:BO:142:ARG:NH1	2.75	0.47
65:BP:118:GLU:HB3	68:BS:119:ALA:CB	2.43	0.47
66:BQ:105:LYS:HD2	66:BQ:105:LYS:C	2.35	0.47
68:BS:45:LEU:HD12	68:BS:50:ILE:CD1	2.44	0.47
48:A2:1337:A:H2'	48:A2:1484:G:H1	1.79	0.47
48:A2:1996:U:O5'	48:A2:1996:U:H6	1.98	0.47
3:AA:9:ARG:HD3	48:A2:2323:U:H3	67.15	0.47
48:A2:3608:U:O2'	48:A2:3609:G:H5'	2.13	0.47
7:AE:233:PHE:CE2	48:A2:446:A:C2	3.02	0.47
10:AH:42:ASN:O	48:A2:4725:U:C2	2.67	0.47
48:A2:945:G:O6	48:A2:946:G:C6	2.67	0.47
48:A2:959:C:O3'	48:A2:960:G:H8	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:118:C:O2'	1:A3:119:C:H5'	2.15	0.47
3:AA:117:GLU:HB2	3:AA:162:ASN:HB2	1.96	0.47
4:AB:84:MET:SD	4:AB:166:THR:HG22	2.55	0.47
5:AC:211:TYR:CE1	5:AC:230:LEU:N	2.83	0.47
5:AC:318:PRO:CB	8:AF:155:TYR:HB3	2.43	0.47
7:AE:103:GLY:O	7:AE:104:THR:HG22	2.14	0.47
8:AF:161:LYS:CA	8:AF:162:ILE:CD1	2.86	0.47
12:AJ:15:LEU:CD1	12:AJ:165:TRP:HB2	2.44	0.47
13:AK:69:LEU:CG	13:AK:70:GLU:H	2.25	0.47
15:AM:56:GLN:HG2	15:AM:91:TRP:HH2	1.79	0.47
16:AN:176:LYS:HZ2	48:A2:64:A:C5'	2.16	0.47
16:AN:195:ARG:HD2	48:A2:98:A:H5'	1.96	0.47
17:AO:157:GLU:O	17:AO:160:ARG:HG2	2.14	0.47
19:AQ:79:THR:OG1	19:AQ:136:THR:HG22	2.15	0.47
21:AS:83:ARG:HG2	21:AS:83:ARG:O	2.13	0.47
21:AS:90:THR:HG21	22:AT:156:TYR:CE1	2.47	0.47
22:AT:5:LYS:HG2	22:AT:9:ARG:HD3	1.96	0.47
49:B1:1228:A:H2'	49:B1:1229:G:C8	2.49	0.47
49:B1:1451:G:OP2	67:BR:44:LYS:CE	2.62	0.47
49:B1:1751:C:H2'	49:B1:1751:C:O2	2.14	0.47
49:B1:182:C:C2'	49:B1:183:G:H1'	2.35	0.47
49:B1:187:G:H2'	49:B1:188:C:C6	2.50	0.47
49:B1:749:U:C2'	49:B1:749:U:O2	2.62	0.47
50:BA:37:TYR:HD1	50:BA:37:TYR:N	2.12	0.47
58:BI:62:VAL:HB	58:BI:75:LYS:HE2	1.95	0.47
59:BJ:111:GLN:HG3	59:BJ:112:THR:N	2.29	0.47
59:BJ:129:LEU:HB3	59:BJ:135:ILE:CD1	2.44	0.47
59:BJ:135:ILE:O	59:BJ:141:VAL:HG13	2.14	0.47
49:B1:821:G:O6	59:BJ:150:ARG:CG	2.61	0.47
73:BX:47:ALA:O	73:BX:101:LEU:HD12	2.13	0.47
48:A2:132:G:OP2	48:A2:132:G:C2	2.68	0.47
48:A2:1743:G:N1	48:A2:1744:C:N3	2.63	0.47
48:A2:1850:G:H4'	48:A2:1851:C:OP2	2.15	0.47
5:AC:219:LYS:HZ2	48:A2:220:G:H8	1.56	0.47
48:A2:2445:G:H8	48:A2:2445:G:O5'	1.97	0.47
48:A2:3796:A:O2'	48:A2:3797:C:H5'	2.12	0.47
48:A2:4839:U:OP1	48:A2:4840:U:O5'	2.32	0.47
48:A2:4859:G:O2'	48:A2:4860:C:H5'	2.14	0.47
48:A2:4873:G:C5	48:A2:4874:G:N7	2.82	0.47
48:A2:4982:C:H4'	48:A2:4983:C:O4'	2.14	0.47
4:AB:335:GLY:CA	48:A2:4636:C:H4'	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:56:ILE:HG21	4:AB:365:LEU:CD2	2.44	0.47
4:AB:385:LYS:HE3	4:AB:389:MET:SD	2.54	0.47
5:AC:76:ILE:CG2	5:AC:91:ALA:HB3	2.44	0.47
7:AE:108:LYS:C	7:AE:109:LEU:HD22	2.34	0.47
7:AE:129:GLY:O	7:AE:131:LYS:HG3	2.14	0.47
9:AG:69:ILE:HG23	9:AG:73:ARG:NH1	2.28	0.47
13:AK:25:PRO:CD	13:AK:92:LYS:CB	2.92	0.47
13:AK:32:ALA:N	13:AK:85:ASN:CB	2.72	0.47
14:AL:126:LEU:HD11	14:AL:135:LYS:HB2	1.96	0.47
20:AR:136:ARG:HH12	48:A2:2874:A:H5''	1.80	0.47
27:AY:4:ASN:HD22	27:AY:4:ASN:N	2.12	0.47
49:B1:1278:A:C2	49:B1:1320:G:C2	3.02	0.47
49:B1:1336:C:H2'	49:B1:1337:C:O4'	2.14	0.47
49:B1:389:A:H1'	58:BI:86:SER:O	2.14	0.47
49:B1:872:A:N7	49:B1:874:G:N1	2.62	0.47
51:BB:66:VAL:HB	51:BB:85:LYS:HE2	1.97	0.47
59:BJ:115:PHE:HB2	59:BJ:123:ILE:HD13	1.97	0.47
49:B1:1315:U:H5'	60:BK:1:MET:CE	2.44	0.47
60:BK:32:HIS:N	60:BK:33:PRO:HD3	2.30	0.47
66:BQ:11:GLN:NE2	66:BQ:24:HIS:CG	2.71	0.47
68:BS:74:PRO:HB3	68:BS:84:LEU:HD21	1.93	0.47
69:BT:130:ASP:O	69:BT:132:ASP:N	2.48	0.47
70:BU:66:ARG:HH12	70:BU:75:LYS:HG2	1.80	0.47
48:A2:2067:G:N2	48:A2:2249:G:N1	2.62	0.47
17:AO:91:LYS:CA	48:A2:426:U:O4	2.52	0.47
48:A2:4591:U:C2'	48:A2:4592:G:H5'	2.44	0.47
48:A2:4546:A:C6	48:A2:4681:G:C8	3.02	0.47
48:A2:4727:G:N2	48:A2:4826:G:C2	2.82	0.47
48:A2:4842:G:H2'	48:A2:4843:U:C6	2.49	0.47
4:AB:94:GLU:HA	4:AB:158:GLN:NE2	2.30	0.47
4:AB:17:LEU:HD13	4:AB:264:PHE:CD2	2.48	0.47
4:AB:76:VAL:HG13	4:AB:333:LEU:O	2.14	0.47
5:AC:77:PRO:N	5:AC:91:ALA:HB3	2.29	0.47
7:AE:140:LEU:CB	7:AE:144:ILE:CD1	2.86	0.47
1:A3:154:G:H5''	9:AG:89:ARG:CD	2.45	0.47
10:AH:7:ASN:HA	10:AH:57:VAL:O	2.15	0.47
13:AK:97:GLU:O	13:AK:98:ILE:C	2.53	0.47
16:AN:146:PRO:HA	16:AN:149:GLN:HG3	1.96	0.47
17:AO:74:ARG:CD	17:AO:145:VAL:HG12	2.42	0.47
19:AQ:147:GLU:CG	19:AQ:150:ARG:HH21	2.28	0.47
20:AR:149:LYS:O	20:AR:152:LYS:N	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AS:48:VAL:HG12	21:AS:54:MET:HB2	1.97	0.47
22:AT:4:THR:O	22:AT:4:THR:HG22	2.14	0.47
24:AV:121:VAL:O	24:AV:139:ILE:HA	2.15	0.47
28:AZ:59:LYS:O	28:AZ:62:ILE:N	2.45	0.47
28:AZ:88:ASP:OD1	28:AZ:89:ILE:N	2.47	0.47
49:B1:1239:U:H5''	65:BP:124:LYS:HD2	1.96	0.47
49:B1:1347:U:H2'	49:B1:1348:G:C8	2.49	0.47
49:B1:1567:G:C6	68:BS:82:TRP:CG	3.03	0.47
49:B1:1824:A:C3'	49:B1:1824:A:N3	2.77	0.47
49:B1:316:G:OP2	56:BG:183:ARG:CD	2.59	0.47
49:B1:508:A:C5	49:B1:509:G:H1'	2.49	0.47
49:B1:658:U:C4	73:BX:24:ASP:HB2	2.50	0.47
49:B1:688:U:H2'	57:BH:103:LYS:HD2	1.75	0.47
49:B1:976:G:H2'	49:B1:977:C:H6	1.77	0.47
55:BF:143:PRO:HA	55:BF:146:ARG:HE	1.79	0.47
56:BG:7:PHE:CD1	56:BG:113:ILE:HG12	2.49	0.47
58:BI:78:ILE:HG23	58:BI:102:VAL:HG11	1.96	0.47
49:B1:827:A:H5'	59:BJ:8:VAL:CB	2.44	0.47
57:BH:141:GLY:HA2	63:BN:18:TYR:CZ	2.49	0.47
64:BO:142:ARG:NH1	64:BO:142:ARG:HA	2.18	0.47
65:BP:30:TYR:CA	65:BP:33:LEU:CD1	2.86	0.47
66:BQ:11:GLN:HE22	66:BQ:24:HIS:CD2	2.28	0.47
66:BQ:42:ILE:N	66:BQ:45:ARG:HH12	2.13	0.47
67:BR:95:ILE:O	67:BR:96:ILE:HG13	2.14	0.47
68:BS:67:VAL:HG12	68:BS:71:MET:CG	2.45	0.47
72:BW:106:THR:HG22	72:BW:122:GLY:O	2.15	0.47
72:BW:17:ALA:CB	72:BW:25:VAL:HG22	2.44	0.47
75:BZ:91:LEU:HD23	75:BZ:96:LEU:HD22	1.96	0.47
48:A2:1060:C:H2'	48:A2:1061:A:C8	2.49	0.47
48:A2:1072:G:C2	48:A2:1190:C:C2	3.02	0.47
48:A2:1192:U:H3'	48:A2:1192:U:OP1	2.14	0.47
48:A2:1409:G:H1'	48:A2:1441:A:N6	2.30	0.47
48:A2:2419:U:C4'	48:A2:2497:G:C2	2.98	0.47
48:A2:2684:G:H8	48:A2:2684:G:OP2	1.98	0.47
6:AD:29:ASP:HB2	48:A2:4242:A:C8	2.44	0.47
48:A2:4641:G:H2'	48:A2:4642:G:C8	2.48	0.47
48:A2:4720:U:H2'	48:A2:4721:C:C6	2.49	0.47
48:A2:4726:A:H61	48:A2:4826:G:N2	2.06	0.47
48:A2:661:G:H8	48:A2:661:G:P	2.37	0.47
48:A2:70:A:H5'	48:A2:71:C:N3	2.29	0.47
48:A2:901:U:C5	48:A2:902:A:C6	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:926:G:C2'	48:A2:927:C:OP1	2.63	0.47
5:AC:208:CYS:C	5:AC:209:ILE:HD12	2.35	0.47
5:AC:54:VAL:HG12	5:AC:56:GLU:H	1.79	0.47
6:AD:219:TYR:CE2	6:AD:227:ILE:CG2	2.98	0.47
6:AD:264:LYS:C	6:AD:265:ARG:HG3	2.35	0.47
7:AE:156:ARG:O	7:AE:158:ARG:HG2	2.15	0.47
8:AF:184:ILE:CB	8:AF:189:ASP:HB2	2.44	0.47
14:AL:77:SER:HB2	14:AL:102:ARG:HB3	1.95	0.47
16:AN:128:LYS:HE2	16:AN:130:PHE:CZ	2.50	0.47
17:AO:36:VAL:CG1	17:AO:108:ILE:HG12	2.44	0.47
20:AR:123:LEU:O	20:AR:127:VAL:HG23	2.15	0.47
21:AS:159:LEU:HD12	48:A2:1902:C:O2	2.15	0.47
24:AV:95:PHE:O	25:AW:19:ARG:HA	2.15	0.47
49:B1:452:G:H2'	49:B1:453:C:C6	2.49	0.47
49:B1:570:C:O2	74:BY:33:ALA:HB1	2.15	0.47
49:B1:693:A:C8	49:B1:693:A:O5'	2.67	0.47
49:B1:866:U:H2'	49:B1:867:G:C5'	2.44	0.47
49:B1:875:A:N6	49:B1:912:C:H42	2.09	0.47
49:B1:988:C:O5'	49:B1:988:C:H6	1.98	0.47
50:BA:22:GLY:HA2	50:BA:24:HIS:CE1	2.49	0.47
55:BF:127:ARG:HG2	55:BF:134:VAL:CG1	2.41	0.47
56:BG:217:MET:HB3	56:BG:221:LYS:CE	2.44	0.47
59:BJ:111:GLN:OE1	59:BJ:127:ARG:HD3	2.14	0.47
59:BJ:169:ARG:HD3	59:BJ:173:VAL:HG21	1.87	0.47
61:BL:11:GLN:CG	61:BL:12:LYS:H	2.27	0.47
64:BO:92:ALA:HA	64:BO:125:LYS:O	2.14	0.47
67:BR:21:TYR:CZ	67:BR:71:ILE:HD13	2.36	0.47
67:BR:97:GLU:CB	67:BR:117:LEU:HG	2.45	0.47
48:A2:149:U:O2'	48:A2:150:G:N2	2.47	0.47
48:A2:2061:U:H2'	48:A2:2062:C:C6	2.49	0.47
48:A2:2609:U:O2'	48:A2:2611:U:H4'	2.13	0.47
48:A2:311:A:O5'	48:A2:311:A:H8	1.97	0.47
48:A2:2841:G:H2'	48:A2:3590:G:O6	2.14	0.47
18:AP:62:ARG:NH1	48:A2:417:G:OP1	2.48	0.47
48:A2:4602:C:C2	48:A2:4622:G:N2	2.83	0.47
4:AB:103:LYS:HA	48:A2:4686:A:O2'	2.14	0.47
48:A2:733:G:OP2	48:A2:733:G:H8	1.96	0.47
48:A2:743:G:C6	48:A2:744:C:C4	3.03	0.47
48:A2:89:C:H1'	48:A2:286:G:H4'	1.97	0.47
48:A2:927:C:O5'	48:A2:927:C:H6	1.98	0.47
48:A2:962:C:C2'	48:A2:963:G:H5'	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:146:U:O5'	1:A3:146:U:H6	1.97	0.47
1:A3:41:A:O5'	1:A3:41:A:H8	1.97	0.47
2:A4:3:C:H6	2:A4:3:C:P	2.37	0.47
3:AA:122:ASP:HB2	3:AA:125:LYS:CE	2.45	0.47
5:AC:94:ASN:OD1	5:AC:102:PHE:N	2.48	0.47
6:AD:17:GLN:HG3	22:AT:20:ARG:CD	2.39	0.47
8:AF:167:ILE:HG21	8:AF:174:LEU:HD21	1.97	0.47
2:A4:90:A:C1'	11:AI:11:TYR:CE1	2.97	0.47
12:AJ:43:LEU:HD21	12:AJ:115:LEU:HD13	1.97	0.47
12:AJ:33:LEU:HD22	12:AJ:33:LEU:O	2.14	0.47
13:AK:24:TYR:CD1	13:AK:27:CYS:SG	3.07	0.47
14:AL:20:ARG:HH12	48:A2:50:C:H5'	1.76	0.47
15:AM:117:LYS:HG2	48:A2:4838:C:OP2	2.14	0.47
15:AM:46:ARG:NH2	48:A2:924:U:C5'	2.71	0.47
16:AN:115:VAL:HG22	16:AN:134:LEU:CD2	2.45	0.47
16:AN:71:ARG:NH1	16:AN:92:LEU:HD22	2.30	0.47
17:AO:127:VAL:HG22	21:AS:158:VAL:HG21	1.96	0.47
24:AV:90:ARG:NH2	24:AV:96:LEU:HD21	2.29	0.47
49:B1:1117:C:O4'	49:B1:1117:C:O2	2.32	0.47
49:B1:1287:A:OP2	49:B1:1312:G:C4	2.68	0.47
49:B1:1624:U:C5	49:B1:1625:U:C5	3.03	0.47
49:B1:1865:C:H5'	49:B1:1866:A:C2	2.50	0.47
49:B1:527:C:H5''	59:BJ:125:HIS:CA	2.45	0.47
49:B1:546:G:O4'	49:B1:547:G:OP2	2.32	0.47
50:BA:42:LYS:CE	50:BA:48:ILE:HD13	2.44	0.47
51:BB:103:MET:SD	51:BB:188:LEU:HD13	2.54	0.47
49:B1:633:C:C1'	54:BE:12:VAL:HG12	61.44	0.47
54:BE:152:PRO:CG	56:BG:216:ARG:CD	2.91	0.47
60:BK:27:VAL:O	60:BK:27:VAL:HG23	2.14	0.47
61:BL:86:ILE:HG13	61:BL:111:VAL:HG13	1.95	0.47
64:BO:146:ARG:HG3	64:BO:147:ARG:N	2.30	0.47
65:BP:48:GLY:CA	65:BP:49:LEU:CD2	2.90	0.47
66:BQ:37:ARG:HG2	69:BT:7:LYS:HB3	1.95	0.47
68:BS:75:ARG:NH2	68:BS:81:ASP:HB3	2.30	0.47
48:A2:1276:G:O2'	48:A2:1277:A:P	2.72	0.47
48:A2:1355:A:H2'	48:A2:1356:A:O4'	2.14	0.47
26:AX:53:ARG:CZ	48:A2:2454:G:N7	2.77	0.47
48:A2:2518:C:O2'	48:A2:2519:C:H5'	2.15	0.47
48:A2:2565:G:O2'	48:A2:2566:A:C8	2.66	0.47
48:A2:257:G:H2'	48:A2:257:G:N3	2.29	0.47
48:A2:2606:C:C2'	48:A2:2607:U:C6	2.88	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:3780:G:H8	48:A2:3780:G:O5'	1.97	0.47
26:AX:45:THR:OG1	48:A2:4055:A:OP1	2.27	0.47
4:AB:24:ARG:HD2	4:AB:24:ARG:O	2.15	0.47
4:AB:378:ARG:HG3	25:AW:32:LEU:HD21	1.96	0.47
4:AB:98:GLY:HA2	17:AO:149:TYR:CE1	2.50	0.47
5:AC:122:TYR:CE2	5:AC:280:PRO:HB3	2.50	0.47
6:AD:12:TYR:CD1	6:AD:13:PHE:CE1	2.86	0.47
8:AF:179:LEU:HD23	8:AF:184:ILE:CD1	2.43	0.47
8:AF:223:LYS:HA	8:AF:232:ASP:HB2	1.94	0.47
11:AI:35:ASP:HB2	11:AI:39:LYS:HZ3	1.78	0.47
12:AJ:15:LEU:HD13	12:AJ:165:TRP:HB2	1.96	0.47
15:AM:56:GLN:CG	15:AM:91:TRP:HH2	2.28	0.47
19:AQ:12:LYS:HD3	19:AQ:14:ARG:HG3	1.96	0.47
21:AS:85:ASP:OD1	21:AS:90:THR:HA	2.15	0.47
26:AX:117:TYR:CE2	26:AX:153:ILE:HG21	2.50	0.47
49:B1:1585:U:H3'	49:B1:1586:U:C5'	2.45	0.47
49:B1:286:U:HO2'	49:B1:287:U:P	2.28	0.47
49:B1:688:U:HO2'	49:B1:688:U:H6	1.62	0.47
49:B1:875:A:C2	49:B1:912:C:C4	2.93	0.47
50:BA:106:GLY:O	50:BA:110:ASN:OD1	2.32	0.47
50:BA:169:HIS:HA	50:BA:203:PHE:CE2	2.49	0.47
55:BF:95:HIS:O	55:BF:99:ILE:CD1	2.62	0.47
57:BH:162:GLN:O	57:BH:166:VAL:HB	2.13	0.47
62:BM:128:PHE:O	62:BM:129:LYS:HB2	2.14	0.47
49:B1:1017:U:OP1	63:BN:62:GLN:HA	2.15	0.47
49:B1:918:U:P	63:BN:64:ARG:HH22	2.38	0.47
64:BO:20:GLN:HG3	64:BO:21:VAL:N	2.30	0.47
65:BP:48:GLY:C	65:BP:49:LEU:CD2	2.76	0.47
66:BQ:41:MET:HE1	69:BT:10:ASN:CG	2.35	0.47
67:BR:5:ARG:NE	67:BR:53:TYR:CB	2.70	0.47
67:BR:92:ASP:HB2	67:BR:96:ILE:HD11	1.97	0.47
68:BS:15:VAL:HG12	68:BS:16:LEU:CG	2.44	0.47
71:BV:67:ASP:O	71:BV:70:LEU:HG	2.15	0.47
73:BX:137:LYS:H	73:BX:137:LYS:HE2	1.75	0.47
48:A2:105:A:C2'	48:A2:106:A:H5'	2.45	0.47
48:A2:111:C:O2'	48:A2:112:C:H5'	2.15	0.47
48:A2:1559:G:N3	48:A2:1559:G:C2'	2.77	0.47
48:A2:1741:G:C8	48:A2:1741:G:OP2	2.67	0.47
13:AK:14:PHE:CG	48:A2:1941:A:C2	3.03	0.47
5:AC:72:ALA:HA	48:A2:2329:U:H3	1.80	0.47
48:A2:273:A:C2	48:A2:300:A:H5'	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AC:52:TYR:CD2	48:A2:344:C:H5'	2.44	0.47
48:A2:4421:U:H2'	48:A2:4422:U:C6	2.49	0.47
48:A2:4931:U:H1'	48:A2:4944:G:C2	2.50	0.47
48:A2:917:G:O2'	48:A2:918:C:OP2	2.29	0.47
6:AD:275:GLN:HE22	48:A2:1159:C:H1'	1.79	0.47
7:AE:99:ASP:CB	7:AE:104:THR:HA	2.45	0.47
14:AL:144:LEU:O	14:AL:146:LEU:N	2.46	0.47
14:AL:28:GLN:HB3	14:AL:29:PRO:HD3	1.96	0.47
14:AL:54:PRO:HB2	14:AL:56:ARG:CZ	2.45	0.47
14:AL:81:LEU:HD21	14:AL:91:ALA:HB2	1.97	0.47
14:AL:21:ARG:HG2	16:AN:193:ARG:NH1	2.30	0.47
19:AQ:50:ARG:NE	19:AQ:138:LEU:HD21	2.30	0.47
19:AQ:37:ARG:O	19:AQ:38:ARG:HG2	2.15	0.47
23:AU:49:VAL:HG12	23:AU:50:ASN:N	2.30	0.47
25:AW:101:ARG:C	25:AW:105:ARG:NH1	2.68	0.47
1:A3:133:G:H5''	26:AX:67:ARG:O	2.15	0.47
49:B1:110:U:N3	49:B1:111:A:N7	2.63	0.47
49:B1:1323:U:H2'	49:B1:1324:G:C8	2.50	0.47
49:B1:1745:A:C2'	56:BG:65:GLN:NE2	2.78	0.47
49:B1:379:C:H5'	58:BI:33:ALA:CB	2.39	0.47
49:B1:561:A:N9	49:B1:561:A:H5'	2.30	0.47
49:B1:641:A:O2'	49:B1:645:C:OP1	2.33	0.47
49:B1:668:A:H5'	49:B1:1198:G:H4'	1.97	0.47
49:B1:73:C:O3'	49:B1:74:G:O4'	2.32	0.47
51:BB:89:GLU:HB3	51:BB:228:LEU:CD2	2.45	0.47
51:BB:70:SER:C	51:BB:71:LEU:O	2.53	0.47
54:BE:84:ALA:HB1	54:BE:101:LEU:CD1	2.45	0.47
54:BE:98:HIS:C	54:BE:99:PHE:CG	2.88	0.47
49:B1:1674:G:H5''	55:BF:86:LYS:CD	2.44	0.47
56:BG:161:PRO:N	56:BG:171:THR:HG23	2.28	0.47
56:BG:194:LEU:CB	56:BG:198:ARG:NH1	2.74	0.47
59:BJ:149:VAL:HG13	59:BJ:154:GLN:HA	1.97	0.47
51:BB:25:PHE:CB	64:BO:88:LEU:HD11	2.45	0.47
49:B1:1237:C:C4'	65:BP:130:ARG:HG3	2.45	0.47
67:BR:21:TYR:CD2	67:BR:71:ILE:HB	2.49	0.47
68:BS:30:ILE:O	68:BS:33:ILE:HD13	2.14	0.47
75:BZ:79:ILE:N	75:BZ:79:ILE:HD13	2.27	0.47
75:BZ:87:ALA:O	75:BZ:91:LEU:HD13	2.14	0.47
48:A2:1166:C:H6	48:A2:1166:C:C3'	2.24	0.47
48:A2:1341:G:C4	48:A2:1343:G:O6	2.68	0.47
48:A2:1761:U:H2'	48:A2:1762:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1798:C:N4	48:A2:1799:U:C4	2.82	0.47
13:AK:59:THR:C	48:A2:1942:G:C5'	2.83	0.47
48:A2:2340:G:O2'	48:A2:2341:U:P	2.73	0.47
48:A2:2619:G:C2'	48:A2:2620:A:H5'	2.44	0.47
48:A2:306:G:H2'	48:A2:307:U:O4'	2.15	0.47
48:A2:3695:A:C6	48:A2:3696:G:C6	3.03	0.47
48:A2:4222:U:H2'	48:A2:4223:C:C6	2.50	0.47
48:A2:4603:U:H2'	48:A2:4604:U:C5	2.50	0.47
48:A2:492:C:C2	48:A2:493:G:N7	2.82	0.47
14:AL:160:VAL:HG23	48:A2:638:G:OP1	2.14	0.47
7:AE:114:ARG:NE	48:A2:683:U:OP1	2.47	0.47
48:A2:693:U:H3'	48:A2:694:G:N2	2.26	0.47
48:A2:696:G:H4'	48:A2:1282:G:C4'	2.45	0.47
16:AN:195:ARG:HD2	48:A2:98:A:OP1	2.15	0.47
3:AA:90:CYS:CB	3:AA:101:VAL:HG13	2.44	0.47
4:AB:10:ARG:HG3	48:A2:4421:U:OP1	2.15	0.47
4:AB:286:LYS:H	4:AB:332:MET:HB3	1.80	0.47
4:AB:312:LYS:NZ	4:AB:380:GLN:OE1	2.36	0.47
5:AC:212:ASN:HB3	5:AC:232:VAL:CB	2.43	0.47
5:AC:41:HIS:CE1	5:AC:45:ARG:HD2	2.50	0.47
9:AG:242:LEU:HD22	9:AG:250:ILE:HD11	1.95	0.47
10:AH:105:ILE:HG13	10:AH:105:ILE:O	2.15	0.47
13:AK:29:ILE:CG2	13:AK:81:HIS:CE1	2.97	0.47
13:AK:83:ARG:HB3	13:AK:86:VAL:CG2	2.45	0.47
22:AT:39:ILE:HD12	22:AT:102:ARG:HD3	1.94	0.47
28:AZ:59:LYS:HE3	48:A2:4111:C:H5'	1.97	0.47
49:B1:14:C:OP1	52:BC:190:SER:OG	2.25	0.47
49:B1:1784:G:H2'	49:B1:1785:C:O4'	2.14	0.47
49:B1:26:U:H2'	49:B1:27:A:O4'	2.15	0.47
49:B1:296:U:O2'	54:BE:131:VAL:CG2	2.63	0.47
49:B1:454:U:H2'	49:B1:455:A:C8	2.50	0.47
49:B1:621:C:O2	49:B1:621:C:O4'	2.31	0.47
49:B1:691:G:H8	49:B1:691:G:H5''	1.79	0.47
49:B1:802:A:OP2	49:B1:802:A:C8	2.68	0.47
49:B1:836:G:OP1	49:B1:836:G:C6	2.68	0.47
51:BB:70:SER:HB2	51:BB:83:LYS:CA	2.33	0.47
52:BC:210:PRO:HD3	52:BC:236:PHE:CE2	2.49	0.47
53:BD:15:GLY:HA3	53:BD:50:ILE:HA	16.49	0.47
53:BD:37:VAL:HG12	53:BD:50:ILE:HG12	1.96	0.47
58:BI:150:ASP:OD1	58:BI:154:LYS:HE3	2.14	0.47
58:BI:84:ASN:H	58:BI:91:VAL:CG2	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BJ:152:ASP:OD1	59:BJ:153:SER:N	2.47	0.47
59:BJ:170:PRO:HG2	59:BJ:171:GLY:H	1.80	0.47
59:BJ:70:ARG:HE	59:BJ:94:LEU:HD11	1.79	0.47
58:BI:85:ALA:HB1	61:BL:10:TYR:CG	2.49	0.47
61:BL:55:TYR:OH	61:BL:116:CYS:HB3	2.15	0.47
61:BL:35:ARG:HD3	61:BL:50:ALA:O	2.15	0.47
63:BN:78:LYS:C	63:BN:80:LEU:HD12	2.35	0.47
65:BP:126:VAL:HG22	65:BP:127:LYS:N	2.30	0.47
65:BP:50:ARG:CA	65:BP:54:HIS:HB2	2.44	0.47
66:BQ:42:ILE:HB	66:BQ:45:ARG:NH1	2.29	0.47
67:BR:4:VAL:C	67:BR:5:ARG:O	2.53	0.47
49:B1:1630:A:OP1	68:BS:37:GLY:C	2.53	0.47
68:BS:67:VAL:HG12	68:BS:71:MET:HG2	1.96	0.47
52:BC:256:TRP:HZ2	72:BW:68:ARG:HG2	1.77	0.47
75:BZ:61:GLU:O	75:BZ:61:GLU:HG2	2.14	0.47
48:A2:1056:G:H5''	48:A2:1056:G:C8	2.35	0.47
48:A2:226:G:H22	48:A2:235:C:H1'	1.80	0.47
48:A2:2531:G:H2'	48:A2:2532:A:C2	2.49	0.47
48:A2:338:A:H2'	48:A2:339:C:O4'	2.15	0.47
48:A2:2853:U:O2	48:A2:3663:A:H2	1.98	0.47
48:A2:3901:U:H2'	48:A2:3902:C:C6	2.50	0.47
48:A2:4253:G:H5'	48:A2:4255:U:C6	2.50	0.47
10:AH:121:LYS:N	48:A2:4574:C:N3	2.57	0.47
48:A2:462:U:C5'	48:A2:462:U:C6	2.88	0.47
48:A2:661:G:C8	48:A2:661:G:O5'	2.68	0.47
48:A2:892:C:H2'	48:A2:893:C:C6	2.49	0.47
4:AB:285:TYR:CE2	4:AB:334:LYS:HB2	2.50	0.47
5:AC:331:TYR:CE2	5:AC:335:MET:HB2	2.50	0.47
6:AD:9:ASN:CB	6:AD:12:TYR:CD1	2.96	0.47
6:AD:287:PHE:CD2	11:AI:209:TRP:HZ3	2.29	0.47
7:AE:208:ILE:CG1	7:AE:209:PRO:CD	2.93	0.47
12:AJ:11:PRO:O	12:AJ:13:ARG:N	2.48	0.47
13:AK:24:TYR:CD1	13:AK:24:TYR:C	2.89	0.47
14:AL:174:LYS:HG2	14:AL:175:ASN:N	2.29	0.47
16:AN:194:ARG:NH2	48:A2:79:C:OP1	2.47	0.47
17:AO:143:HIS:HB2	17:AO:150:GLN:OE1	2.14	0.47
17:AO:25:LYS:CG	48:A2:1894:C:H5''	2.45	0.47
17:AO:81:TRP:HB2	17:AO:104:VAL:HG11	1.97	0.47
28:AZ:33:THR:OG1	28:AZ:36:ARG:HG2	2.15	0.47
49:B1:1315:U:H5'	60:BK:1:MET:HE1	1.97	0.47
49:B1:1621:U:HO2'	68:BS:120:HIS:CE1	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:182:C:O3'	49:B1:183:G:H4'	2.11	0.47
49:B1:1862:G:O2'	49:B1:1863:A:H3'	2.14	0.47
49:B1:402:C:O5'	49:B1:402:C:H6	1.98	0.47
49:B1:687:C:C4	57:BH:118:ARG:NH2	2.83	0.47
49:B1:918:U:O2'	49:B1:919:A:P	2.73	0.47
50:BA:57:LYS:HB3	50:BA:161:ILE:HG12	1.97	0.47
50:BA:201:LEU:CD2	50:BA:201:LEU:H	2.24	0.47
51:BB:39:PHE:HD1	51:BB:75:GLN:HE21	1.63	0.47
53:BD:218:LEU:H	53:BD:219:PRO:HD3	1.80	0.47
49:B1:1256:G:C6	53:BD:40:ARG:HG3	32.62	0.47
54:BE:95:THR:CB	54:BE:97:GLU:CG	2.76	0.47
56:BG:139:SER:HA	56:BG:142:ARG:HD3	1.97	0.47
63:BN:75:LEU:CD1	63:BN:81:ALA:HB2	2.43	0.47
66:BQ:33:LYS:CE	66:BQ:36:GLY:HA3	2.43	0.47
66:BQ:42:ILE:H	66:BQ:45:ARG:HH12	1.63	0.47
67:BR:20:TYR:HD1	67:BR:20:TYR:N	2.12	0.47
67:BR:84:TYR:CE2	67:BR:86:PRO:HD3	2.50	0.47
67:BR:8:THR:CG2	67:BR:9:VAL:N	2.78	0.47
70:BU:66:ARG:HG3	70:BU:68:THR:HG22	1.95	0.47
72:BW:76:SER:HB2	72:BW:77:PRO:HD3	1.97	0.47
74:BY:83:LYS:O	74:BY:91:LEU:CD2	2.63	0.47
74:BY:86:GLU:CB	74:BY:91:LEU:HD11	2.29	0.47
75:BZ:55:TYR:HE1	75:BZ:59:CYS:SG	2.38	0.47
48:A2:1255:C:H6	48:A2:1256:G:O6	1.97	0.46
19:AQ:14:ARG:NH2	48:A2:1676:C:N4	2.62	0.46
4:AB:13:SER:HG	48:A2:1706:G:H1	75.83	0.46
48:A2:1739:U:H3'	48:A2:1740:G:H8	1.81	0.46
48:A2:1848:A:C6	48:A2:1849:A:C6	3.03	0.46
48:A2:1909:C:H4'	48:A2:1910:A:C8	2.50	0.46
48:A2:2456:A:O5'	48:A2:2456:A:H8	1.98	0.46
48:A2:2609:U:O5'	48:A2:2609:U:H6	1.98	0.46
48:A2:301:A:O5'	48:A2:301:A:H8	1.97	0.46
48:A2:4485:A:H5'	48:A2:4486:G:H5'	1.96	0.46
1:A3:122:G:H2'	1:A3:123:U:C5'	2.45	0.46
3:AA:205:ASN:O	3:AA:208:GLU:HB2	2.15	0.46
7:AE:207:LYS:CE	7:AE:208:ILE:N	2.73	0.46
8:AF:93:ILE:HD12	8:AF:119:ASN:C	2.36	0.46
13:AK:77:LYS:C	13:AK:80:PRO:HG2	2.35	0.46
17:AO:167:HIS:NE2	48:A2:4719:C:C6	2.81	0.46
18:AP:139:TYR:CD1	48:A2:3830:G:H4'	2.49	0.46
24:AV:36:ASN:O	24:AV:65:VAL:HG13	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AY:42:TYR:CD2	27:AY:119:LEU:HD21	2.50	0.46
49:B1:1531:A:H2'	49:B1:1532:C:C6	2.50	0.46
49:B1:861:A:H62	57:BH:107:LYS:CG	2.28	0.46
50:BA:122:LEU:O	50:BA:144:THR:HA	2.15	0.46
50:BA:8:LEU:HD11	71:BV:39:VAL:CG1	2.44	0.46
53:BD:46:THR:HB	53:BD:84:VAL:HA	1.96	0.46
56:BG:217:MET:O	56:BG:221:LYS:HD2	2.15	0.46
58:BI:25:ARG:O	58:BI:28:GLU:HG2	2.15	0.46
58:BI:84:ASN:O	58:BI:85:ALA:HB3	2.14	0.46
59:BJ:161:LEU:O	59:BJ:161:LEU:HG	2.15	0.46
64:BO:34:PHE:HB3	64:BO:41:PHE:HB2	1.96	0.46
65:BP:85:ILE:CD1	65:BP:116:LEU:HD23	2.16	0.46
67:BR:21:TYR:HD2	67:BR:71:ILE:HB	1.80	0.46
49:B1:571:U:O3'	74:BY:60:PHE:HD2	1.98	0.46
48:A2:1255:C:OP2	48:A2:1256:G:N1	2.48	0.46
48:A2:696:G:H4'	48:A2:1282:G:H4'	1.97	0.46
13:AK:59:THR:CB	48:A2:1942:G:C5'	2.80	0.46
16:AN:187:SER:OG	48:A2:29:G:OP1	2.32	0.46
48:A2:3793:U:H2'	48:A2:3794:G:O4'	2.15	0.46
48:A2:3927:G:H2'	48:A2:3935:U:O2	2.14	0.46
48:A2:3935:U:C3'	48:A2:3935:U:P	3.04	0.46
15:AM:121:ARG:HD3	48:A2:4886:C:N3	2.31	0.46
48:A2:500:C:C2'	48:A2:501:G:H5'	2.45	0.46
48:A2:5024:U:H2'	48:A2:5025:U:H6	1.79	0.46
2:A4:28:C:H2'	2:A4:29:C:H5'	1.97	0.46
4:AB:95:THR:HA	48:A2:4868:A:H5''	1.97	0.46
5:AC:212:ASN:HD21	5:AC:255:SER:CB	2.28	0.46
7:AE:105:ARG:NH1	48:A2:680:C:N1	2.63	0.46
8:AF:219:GLY:O	8:AF:220:MET:HG3	2.14	0.46
8:AF:222:LYS:CG	8:AF:225:THR:HG21	2.45	0.46
8:AF:51:TYR:HH	48:A2:1220:C:N4	2.12	0.46
11:AI:116:ARG:O	48:A2:4157:G:N2	2.44	0.46
12:AJ:53:ALA:O	48:A2:4220:C:OP1	2.32	0.46
13:AK:57:LYS:HB2	13:AK:60:MET:H	1.80	0.46
14:AL:48:PRO:HA	14:AL:147:ALA:O	2.15	0.46
15:AM:113:MET:HG2	15:AM:117:LYS:NZ	2.31	0.46
19:AQ:158:THR:HB	19:AQ:159:PRO:HD3	1.97	0.46
23:AU:115:PHE:N	23:AU:115:PHE:HD1	2.14	0.46
23:AU:35:ASP:OD2	23:AU:38:ASN:HB2	2.15	0.46
24:AV:121:VAL:CG2	24:AV:136:ALA:CB	2.93	0.46
24:AV:121:VAL:O	24:AV:140:ALA:N	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AY:79:VAL:CG1	27:AY:98:GLY:HA2	2.45	0.46
49:B1:1060:A:C8	49:B1:1062:A:C5	3.02	0.46
49:B1:1190:A:H2'	49:B1:1191:C:O4'	2.15	0.46
49:B1:1453:C:OP1	67:BR:45:LYS:HA	2.15	0.46
49:B1:1547:C:C1'	49:B1:1670:C:H4'	2.45	0.46
24:AV:70:PRO:HG3	49:B1:1723:G:O3'	2.15	0.46
49:B1:491:C:H4'	49:B1:574:A:C2	2.50	0.46
49:B1:495:U:OP1	54:BE:58:GLY:CA	2.64	0.46
49:B1:641:A:OP1	59:BJ:40:LYS:HD2	2.15	0.46
49:B1:799:U:P	57:BH:110:THR:OG1	2.74	0.46
49:B1:910:G:H2'	49:B1:911:C:H5'	1.96	0.46
49:B1:944:A:H5''	64:BO:134:PRO:HB2	1.97	0.46
50:BA:111:GLN:N	50:BA:116:PHE:HE2	2.11	0.46
49:B1:931:C:OP1	51:BB:159:GLN:CB	2.62	0.46
55:BF:154:LEU:O	55:BF:176:GLU:HG2	2.14	0.46
55:BF:40:ALA:O	55:BF:41:VAL:HG12	2.15	0.46
49:B1:143:U:O4	56:BG:188:LYS:HD2	2.15	0.46
25:AW:73:ARG:HD2	56:BG:35:GLU:CG	2.45	0.46
56:BG:64:LYS:HZ3	56:BG:81:HIS:HA	1.81	0.46
49:B1:522:A:H5'	59:BJ:145:PRO:CD	2.45	0.46
60:BK:31:LYS:HG3	60:BK:33:PRO:HD3	1.98	0.46
60:BK:34:GLU:HG2	60:BK:41:PRO:HB3	1.96	0.46
65:BP:51:ARG:CZ	65:BP:51:ARG:CB	2.86	0.46
65:BP:49:LEU:O	65:BP:52:LYS:HD3	2.15	0.46
68:BS:30:ILE:CG2	68:BS:36:VAL:HG11	2.46	0.46
69:BT:27:LYS:HG2	69:BT:110:LEU:HG	1.96	0.46
69:BT:61:ALA:HA	69:BT:64:LEU:CD2	2.45	0.46
48:A2:117:C:H2'	48:A2:118:C:C6	2.50	0.46
27:AY:125:SER:OG	48:A2:191:C:H2'	2.15	0.46
48:A2:227:G:H4'	48:A2:228:U:OP2	2.15	0.46
48:A2:2550:C:H2'	48:A2:2551:C:O4'	2.15	0.46
20:AR:60:ARG:NH1	48:A2:2787:G:O2'	2.42	0.46
48:A2:3922:G:N2	48:A2:3923:A:C2	2.83	0.46
48:A2:3944:G:O6	48:A2:4008:C:N3	2.49	0.46
48:A2:4876:C:H2'	48:A2:4877:G:C8	2.50	0.46
48:A2:4983:C:C2'	48:A2:4984:U:OP1	2.62	0.46
48:A2:962:C:H2'	48:A2:963:G:H5'	1.96	0.46
2:A4:22:A:C2	2:A4:23:A:N7	2.83	0.46
4:AB:293:ILE:HD13	4:AB:296:GLY:H	1.80	0.46
4:AB:47:LEU:CD2	4:AB:346:THR:HG22	2.45	0.46
5:AC:76:ILE:HG23	5:AC:77:PRO:HD2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AD:226:TYR:CD1	6:AD:231:VAL:CG1	2.99	0.46
7:AE:126:LEU:HD21	48:A2:956:C:N4	2.31	0.46
7:AE:233:PHE:CD1	48:A2:447:G:N1	2.83	0.46
8:AF:17:THR:O	8:AF:21:LYS:N	2.45	0.46
10:AH:141:LYS:HG2	10:AH:142:ASP:OD1	2.16	0.46
12:AJ:175:LEU:HD12	12:AJ:175:LEU:HA	1.78	0.46
13:AK:10:LYS:HG2	48:A2:1941:A:N3	2.30	0.46
13:AK:33:ASP:O	13:AK:34:ASN:HB3	2.16	0.46
14:AL:179:PHE:CE2	14:AL:183:ARG:HG2	2.51	0.46
8:AF:98:ILE:HG23	19:AQ:5:ILE:HB	1.95	0.46
22:AT:130:ARG:O	48:A2:1818:A:H4'	2.15	0.46
28:AZ:36:ARG:NH1	28:AZ:36:ARG:CG	2.74	0.46
49:B1:1046:U:H4'	64:BO:140:THR:CG2	2.31	0.46
49:B1:1522:A:N1	65:BP:128:HIS:CB	2.41	0.46
49:B1:1784:G:C4	49:B1:1785:C:C6	3.04	0.46
49:B1:305:U:C4	58:BI:55:TYR:CD2	3.02	0.46
49:B1:334:C:H2'	49:B1:335:G:C8	2.50	0.46
49:B1:742:U:C5	49:B1:743:U:C5	3.02	0.46
49:B1:839:C:C5	49:B1:839:C:OP1	2.69	0.46
50:BA:103:PHE:HZ	50:BA:136:GLU:OE1	1.93	0.46
50:BA:124:VAL:O	50:BA:146:ALA:HA	2.16	0.46
51:BB:175:GLU:N	51:BB:175:GLU:OE1	2.48	0.46
52:BC:104:ASP:CB	52:BC:129:ALA:O	2.62	0.46
52:BC:130:ILE:HD11	52:BC:159:LYS:HA	1.97	0.46
58:BI:84:ASN:ND2	58:BI:90:LEU:HD12	2.30	0.46
59:BJ:136:ARG:HB3	59:BJ:158:ASP:C	2.27	0.46
49:B1:824:C:O2	59:BJ:144:ILE:HG21	2.14	0.46
62:BM:91:LEU:O	62:BM:104:VAL:CG2	2.63	0.46
63:BN:40:LEU:HD23	63:BN:40:LEU:H	1.80	0.46
63:BN:75:LEU:CD1	63:BN:81:ALA:HA	2.45	0.46
64:BO:103:ASN:O	64:BO:142:ARG:NH2	2.48	0.46
65:BP:85:ILE:CB	65:BP:114:HIS:O	2.62	0.46
66:BQ:84:ILE:O	66:BQ:88:ILE:HG12	2.15	0.46
67:BR:20:TYR:CD2	67:BR:38:ILE:CG2	2.99	0.46
71:BV:37:ALA:HB1	71:BV:46:PHE:CZ	2.49	0.46
19:AQ:69:LYS:NZ	48:A2:1440:C:H4'	2.30	0.46
19:AQ:14:ARG:NH2	48:A2:1676:C:H41	2.09	0.46
48:A2:1979:A:N3	48:A2:2000:C:O2'	2.47	0.46
48:A2:514:C:O2'	48:A2:515:C:H5'	2.16	0.46
48:A2:630:G:H2'	48:A2:631:G:C8	2.50	0.46
3:AA:68:ARG:NH2	48:A2:4054:G:C6	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:232:THR:O	4:AB:236:HIS:HA	2.15	0.46
4:AB:173:LEU:HD21	4:AB:342:LYS:CD	2.45	0.46
6:AD:41:LYS:HD3	22:AT:93:ILE:CD1	2.45	0.46
8:AF:92:VAL:HG11	8:AF:114:LEU:HD11	1.97	0.46
13:AK:48:ARG:HG2	13:AK:49:GLY:H	1.80	0.46
14:AL:129:ARG:NH1	14:AL:129:ARG:N	2.60	0.46
15:AM:101:LYS:O	15:AM:104:MET:HG3	2.16	0.46
16:AN:68:ARG:NH2	16:AN:123:GLU:HB2	2.31	0.46
16:AN:71:ARG:O	16:AN:92:LEU:HB2	2.15	0.46
17:AO:33:VAL:O	17:AO:102:LEU:HD12	2.16	0.46
17:AO:73:PHE:HB3	17:AO:78:ARG:CB	2.45	0.46
19:AQ:148:VAL:HG12	19:AQ:152:PHE:CE2	2.50	0.46
19:AQ:68:ARG:NH2	48:A2:1483:C:C2'	2.42	0.46
26:AX:117:TYR:HE2	26:AX:153:ILE:CG2	2.29	0.46
49:B1:1256:G:N2	53:BD:40:ARG:CD	36.19	0.46
49:B1:1438:A:H5''	49:B1:1439:A:OP2	2.15	0.46
49:B1:3:C:O5'	49:B1:3:C:H6	1.98	0.46
49:B1:659:G:HO2'	49:B1:662:G:HO2'	1.64	0.46
49:B1:873:G:N7	61:BL:153:LYS:HG3	2.31	0.46
50:BA:74:VAL:HG22	50:BA:121:LEU:HB3	1.98	0.46
50:BA:201:LEU:HD22	67:BR:85:VAL:HG22	1.86	0.46
50:BA:202:TYR:H	50:BA:202:TYR:HD1	1.62	0.46
52:BC:251:LEU:HB3	72:BW:68:ARG:HD2	1.98	0.46
55:BF:103:LEU:HB2	75:BZ:67:LEU:CD2	2.45	0.46
55:BF:107:ASN:H	55:BF:107:ASN:ND2	2.13	0.46
57:BH:117:PRO:HB2	57:BH:120:ARG:CG	2.45	0.46
59:BJ:149:VAL:CG1	59:BJ:154:GLN:HA	2.46	0.46
63:BN:30:SER:OG	63:BN:31:ASP:N	2.48	0.46
49:B1:1047:C:C5'	64:BO:142:ARG:O	2.63	0.46
66:BQ:39:LEU:HD12	66:BQ:39:LEU:C	2.35	0.46
67:BR:34:VAL:O	67:BR:38:ILE:HG12	2.16	0.46
67:BR:98:VAL:HG23	67:BR:99:ASP:CG	2.36	0.46
69:BT:38:LYS:HD3	69:BT:99:VAL:HG13	1.97	0.46
52:BC:177:PRO:HG2	71:BV:9:VAL:HG11	1.97	0.46
75:BZ:63:PRO:HB3	75:BZ:111:ARG:CD	2.44	0.46
75:BZ:70:PRO:HD3	75:BZ:107:VAL:HB	1.97	0.46
48:A2:1227:G:C4'	48:A2:1251:G:H1'	2.46	0.46
48:A2:1389:G:O2'	48:A2:1390:C:OP1	2.29	0.46
48:A2:3888:A:C2'	48:A2:3889:G:H5''	2.44	0.46
1:A3:15:G:H1'	48:A2:414:A:H61	1.81	0.46
48:A2:444:G:OP2	48:A2:444:G:C8	2.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:737:A:H2'	48:A2:737:A:O5'	2.16	0.46
2:A4:22:A:C2	2:A4:23:A:C4	3.04	0.46
4:AB:216:MET:SD	4:AB:281:ASN:HB3	2.56	0.46
4:AB:244:THR:CA	48:A2:4487:C:O2'	2.62	0.46
7:AE:233:PHE:O	7:AE:235:THR:N	2.47	0.46
10:AH:111:LEU:CD1	10:AH:112:VAL:H	2.28	0.46
11:AI:36:LEU:HD13	11:AI:73:ASN:HB2	1.97	0.46
13:AK:54:LEU:HA	13:AK:54:LEU:HD13	1.80	0.46
25:AW:109:ILE:O	25:AW:113:LYS:CD	2.63	0.46
49:B1:1265:A:C2'	49:B1:1265:A:N3	2.78	0.46
49:B1:1377:U:C4	50:BA:102:ARG:CZ	2.98	0.46
49:B1:1442:U:C4	49:B1:1443:C:N4	2.83	0.46
49:B1:538:U:H2'	49:B1:539:C:C6	2.50	0.46
49:B1:582:U:C5'	74:BY:32:LYS:N	2.79	0.46
49:B1:874:G:N7	49:B1:875:A:C5	2.83	0.46
49:B1:96:C:O4'	49:B1:96:C:O2	2.34	0.46
50:BA:37:TYR:N	50:BA:37:TYR:CD1	2.82	0.46
50:BA:7:VAL:HG11	71:BV:42:VAL:CA	2.32	0.46
51:BB:145:LYS:HE2	51:BB:152:LYS:O	2.15	0.46
51:BB:180:ASP:OD1	51:BB:182:LYS:N	2.48	0.46
51:BB:28:LYS:HG2	51:BB:50:THR:HA	1.98	0.46
52:BC:250:TYR:HE1	72:BW:99:PHE:CE2	2.34	0.46
53:BD:96:LEU:HD11	53:BD:190:LEU:HD22	1.97	0.46
54:BE:246:LEU:O	54:BE:250:GLU:HB2	2.15	0.46
56:BG:164:LYS:O	56:BG:165:GLU:CB	2.64	0.46
56:BG:179:LEU:O	56:BG:179:LEU:HG	2.15	0.46
56:BG:216:ARG:HH21	56:BG:219:GLU:CB	2.28	0.46
56:BG:58:LYS:N	56:BG:107:SER:CB	2.58	0.46
59:BJ:172:ARG:O	59:BJ:173:VAL:C	2.54	0.46
49:B1:1314:U:C2	60:BK:2:LEU:N	2.83	0.46
65:BP:130:ARG:H	65:BP:131:PRO:HD3	1.81	0.46
65:BP:48:GLY:O	65:BP:49:LEU:HD23	2.14	0.46
65:BP:60:LEU:HG	65:BP:89:MET:HG2	1.97	0.46
66:BQ:108:ILE:CG2	66:BQ:109:LYS:N	2.79	0.46
66:BQ:42:ILE:HB	66:BQ:45:ARG:HH12	1.81	0.46
66:BQ:42:ILE:HB	66:BQ:48:GLN:HB2	1.97	0.46
66:BQ:62:ARG:NH1	66:BQ:108:ILE:HD11	2.30	0.46
67:BR:61:ILE:HG12	67:BR:66:VAL:CG2	2.33	0.46
68:BS:74:PRO:HG2	68:BS:75:ARG:HG2	1.97	0.46
49:B1:1415:C:O4'	69:BT:128:GLN:HG3	2.16	0.46
73:BX:139:GLU:O	73:BX:140:ARG:CG	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:BY:96:LEU:CD1	74:BY:96:LEU:H	2.28	0.46
75:BZ:65:TYR:HE2	75:BZ:76:ARG:CB	2.29	0.46
75:BZ:76:ARG:CB	75:BZ:77:LEU:HD23	2.46	0.46
48:A2:1164:C:H42	48:A2:1167:A:C2'	2.26	0.46
48:A2:1224:C:C5'	48:A2:1225:G:N2	2.71	0.46
48:A2:1620:A:OP1	48:A2:1620:A:H2'	2.15	0.46
48:A2:171:C:H2'	48:A2:172:C:H6	1.79	0.46
1:A3:157:U:C2	48:A2:1:C:C4	3.03	0.46
5:AC:165:LYS:HD2	48:A2:219:C:OP2	2.16	0.46
48:A2:2505:C:O5'	48:A2:2505:C:H6	1.98	0.46
48:A2:4033:U:O2'	48:A2:4034:C:C5	2.66	0.46
3:AA:226:ARG:NH2	48:A2:4144:G:C5'	2.74	0.46
48:A2:4213:A:N7	48:A2:4214:C:N4	2.63	0.46
7:AE:223:ARG:CD	48:A2:447:G:H5'	2.45	0.46
48:A2:4926:A:C6	48:A2:4927:C:C4	3.04	0.46
18:AP:74:LYS:HE3	48:A2:4940:A:OP1	2.16	0.46
7:AE:98:GLY:O	48:A2:679:G:C8	2.68	0.46
1:A3:154:G:H4'	9:AG:189:ARG:NH1	2.30	0.46
1:A3:53:G:H5''	14:AL:19:GLN:HE22	43.73	0.46
6:AD:15:ARG:O	6:AD:17:GLN:OE1	2.33	0.46
6:AD:232:THR:C	6:AD:235:MET:SD	2.94	0.46
6:AD:33:ARG:CZ	6:AD:37:VAL:HG21	2.45	0.46
9:AG:77:PRO:HA	9:AG:237:TRP:CZ3	2.51	0.46
10:AH:105:ILE:HB	10:AH:111:LEU:O	2.15	0.46
12:AJ:82:ILE:HG22	12:AJ:130:PHE:HE2	1.81	0.46
12:AJ:99:PHE:HB3	12:AJ:159:LYS:CD	2.46	0.46
13:AK:84:GLY:HA2	48:A2:2002:G:O2'	2.16	0.46
17:AO:173:GLN:CD	17:AO:176:ARG:HH21	2.19	0.46
19:AQ:63:LEU:O	19:AQ:63:LEU:HD22	2.16	0.46
21:AS:43:ARG:HD2	21:AS:47:PHE:CE2	2.50	0.46
26:AX:56:ARG:CZ	26:AX:62:ARG:NH2	2.75	0.46
49:B1:1450:G:H3'	67:BR:44:LYS:HZ3	1.78	0.46
49:B1:1750:C:O2	49:B1:1750:C:H2'	2.16	0.46
49:B1:298:G:OP1	54:BE:134:LYS:N	2.49	0.46
49:B1:570:C:O2'	74:BY:35:VAL:O	2.33	0.46
49:B1:750:C:O2'	49:B1:751:G:H1'	2.15	0.46
49:B1:881:G:C8	49:B1:881:G:H5''	2.51	0.46
49:B1:931:C:H2'	49:B1:932:G:C8	2.50	0.46
50:BA:111:GLN:HG2	50:BA:116:PHE:CE2	2.51	0.46
51:BB:71:LEU:CD2	51:BB:75:GLN:CD	2.84	0.46
52:BC:68:ARG:HD2	52:BC:276:THR:HB	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BD:212:GLU:HB3	53:BD:213:PRO:HD2	1.96	0.46
54:BE:124:CYS:HB2	54:BE:141:THR:HG21	1.96	0.46
54:BE:181:CYS:HA	54:BE:228:ILE:H	1.81	0.46
55:BF:87:LEU:HD22	66:BQ:46:THR:OG1	2.16	0.46
49:B1:861:A:N3	57:BH:106:ARG:HD2	2.31	0.46
59:BJ:87:LEU:CD2	59:BJ:96:TYR:CD2	2.94	0.46
49:B1:1614:A:OP2	65:BP:39:ALA:HB2	2.15	0.46
66:BQ:86:GLN:HE22	66:BQ:122:ALA:HB2	1.81	0.46
66:BQ:52:LEU:C	66:BQ:54:PRO:HD2	2.36	0.46
66:BQ:62:ARG:HG2	66:BQ:92:LEU:HD11	1.93	0.46
49:B1:1453:C:O2	67:BR:28:PHE:CE1	2.68	0.46
69:BT:70:ALA:O	69:BT:121:ARG:HG2	2.16	0.46
70:BU:32:LEU:O	70:BU:35:VAL:HG12	2.16	0.46
70:BU:66:ARG:O	70:BU:67:LYS:HB2	2.16	0.46
49:B1:1158:G:H21	72:BW:4:MET:HE3	1.79	0.46
8:AF:51:TYR:CD1	48:A2:1220:C:C5	2.97	0.46
48:A2:1755:U:C2	48:A2:1756:C:C5	3.04	0.46
48:A2:2457:C:N4	48:A2:2458:G:O6	2.48	0.46
48:A2:2532:A:N3	48:A2:2532:A:OP1	2.48	0.46
48:A2:4546:A:C2'	48:A2:4547:U:C5'	2.93	0.46
48:A2:512:G:O6	48:A2:513:C:N4	2.49	0.46
1:A3:32:C:N4	1:A3:33:G:C6	2.84	0.46
5:AC:36:ILE:HD12	5:AC:122:TYR:CE1	2.50	0.46
6:AD:283:LYS:HD3	11:AI:206:LEU:HD22	1.97	0.46
6:AD:41:LYS:N	6:AD:41:LYS:HD2	2.31	0.46
7:AE:123:ARG:NH2	7:AE:126:LEU:HD23	2.21	0.46
7:AE:207:LYS:HE2	7:AE:208:ILE:N	2.30	0.46
7:AE:210:LYS:CD	7:AE:210:LYS:H	2.05	0.46
7:AE:237:LYS:CA	7:AE:237:LYS:HZ3	2.25	0.46
8:AF:241:ASN:HA	8:AF:244:ILE:HG22	1.98	0.46
8:AF:69:ILE:HG21	8:AF:73:ARG:NH2	2.31	0.46
11:AI:31:ILE:HG22	11:AI:66:GLU:OE1	2.15	0.46
13:AK:87:GLY:O	13:AK:88:PHE:O	2.33	0.46
14:AL:163:LYS:HD2	14:AL:165:LYS:NZ	2.31	0.46
14:AL:61:CYS:HA	14:AL:62:PRO:HD3	1.83	0.46
16:AN:8:GLN:O	16:AN:12:ARG:HG3	2.16	0.46
16:AN:48:ALA:O	16:AN:53:TYR:HB3	2.15	0.46
20:AR:57:VAL:HG22	20:AR:59:SER:H	1.81	0.46
21:AS:7:LEU:HD21	21:AS:107:THR:HA	1.95	0.46
28:AZ:60:LYS:CB	28:AZ:60:LYS:NZ	2.79	0.46
28:AZ:70:SER:OG	28:AZ:115:LYS:CB	2.59	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1266:C:H6	49:B1:1266:C:O5'	1.98	0.46
49:B1:12:U:H2'	49:B1:13:C:C6	2.51	0.46
49:B1:1380:C:N4	49:B1:1381:G:O6	2.49	0.46
49:B1:1444:U:C6	49:B1:1444:U:O5'	2.68	0.46
49:B1:1547:C:O2'	49:B1:1670:C:H5'	2.15	0.46
49:B1:72:C:O2'	49:B1:73:C:H5''	2.15	0.46
49:B1:77:A:H1'	56:BG:176:ILE:HG13	1.98	0.46
49:B1:836:G:OP1	49:B1:836:G:N1	2.49	0.46
49:B1:926:A:H5''	63:BN:90:HIS:CG	2.51	0.46
51:BB:132:GLY:O	51:BB:221:PRO:HD3	2.16	0.46
51:BB:49:VAL:HG22	51:BB:62:LEU:HD21	1.98	0.46
52:BC:187:ARG:HE	52:BC:192:LEU:HD11	1.80	0.46
53:BD:106:ARG:NH2	53:BD:173:ARG:HD2	2.31	0.46
55:BF:109:LEU:HD12	55:BF:112:LEU:HB3	1.98	0.46
57:BH:170:VAL:HA	57:BH:173:PHE:CD2	2.51	0.46
65:BP:84:ILE:HG22	65:BP:115:TYR:HA	1.98	0.46
67:BR:51:ALA:O	67:BR:55:THR:HG23	2.16	0.46
68:BS:141:ARG:O	68:BS:142:ARG:HB2	2.15	0.46
69:BT:140:ALA:O	69:BT:143:LYS:HG2	2.16	0.46
70:BU:49:LYS:HB2	70:BU:92:HIS:ND1	2.30	0.46
71:BV:14:PRO:CB	71:BV:23:ILE:HG23	2.37	0.46
57:BH:146:VAL:O	72:BW:49:GLU:HG3	2.15	0.46
72:BW:5:ASN:OD1	72:BW:8:ALA:HB2	2.16	0.46
49:B1:658:U:H4'	73:BX:17:ARG:NH2	2.30	0.46
54:BE:64:ILE:CG2	74:BY:18:LEU:HD21	2.46	0.46
48:A2:1306:A:N1	48:A2:1307:A:C4	2.84	0.46
48:A2:1500:A:C8	48:A2:1500:A:O5'	2.69	0.46
48:A2:1707:U:H2'	48:A2:1708:U:C6	2.50	0.46
48:A2:1773:U:H2'	48:A2:1774:U:H5'	1.97	0.46
48:A2:1785:G:N2	48:A2:1788:G:H21	2.13	0.46
48:A2:2037:G:H8	48:A2:2037:G:OP2	1.98	0.46
20:AR:78:ILE:CG2	48:A2:2843:A:H2	2.29	0.46
48:A2:3700:U:O2'	48:A2:3701:U:H5'	2.16	0.46
17:AO:71:TYR:CE2	48:A2:3858:C:H5'	2.51	0.46
3:AA:67:TYR:CE2	48:A2:4056:G:C2'	2.98	0.46
48:A2:4310:A:H3'	48:A2:4311:C:H5''	1.96	0.46
48:A2:4505:G:H2'	48:A2:4506:A:C8	2.50	0.46
48:A2:4693:G:H1'	48:A2:4694:G:H2'	1.98	0.46
48:A2:55:G:H5''	48:A2:55:G:C8	2.51	0.46
48:A2:658:G:H4'	48:A2:659:G:O5'	2.15	0.46
4:AB:24:ARG:HE	4:AB:28:LYS:HE3	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:294:LYS:HA	4:AB:297:LYS:C	2.36	0.46
4:AB:323:TYR:CD1	4:AB:324:GLY:N	2.84	0.46
6:AD:234:ASP:CG	6:AD:235:MET:SD	2.94	0.46
7:AE:161:ARG:HD3	7:AE:270:TYR:CZ	2.50	0.46
9:AG:168:VAL:O	9:AG:171:PRO:HD2	2.16	0.46
10:AH:6:SER:O	10:AH:58:ASP:OD1	2.34	0.46
13:AK:24:TYR:CG	13:AK:27:CYS:SG	3.08	0.46
20:AR:165:LYS:NZ	49:B1:907:G:H4'	2.30	0.46
20:AR:43:LYS:O	20:AR:46:LYS:HG2	2.16	0.46
25:AW:60:LYS:CD	25:AW:60:LYS:N	2.79	0.46
27:AY:21:ALA:HA	27:AY:22:PRO:HD3	1.84	0.46
27:AY:86:GLN:HG3	27:AY:95:VAL:O	2.15	0.46
49:B1:215:G:C8	49:B1:216:C:H5	2.34	0.46
49:B1:692:G:H22	49:B1:739:C:H1'	1.77	0.46
50:BA:85:ARG:CB	50:BA:204:TYR:HB2	2.45	0.46
51:BB:46:LYS:NZ	64:BO:20:GLN:HB3	2.31	0.46
52:BC:104:ASP:HB3	52:BC:130:ILE:HG22	1.98	0.46
52:BC:61:MET:N	52:BC:71:LYS:HZ1	2.14	0.46
53:BD:21:LEU:CD2	53:BD:37:VAL:HG21	2.46	0.46
49:B1:305:U:H1'	58:BI:43:ILE:HD12	1.96	0.46
62:BM:111:VAL:HG12	62:BM:113:ASP:O	2.16	0.46
63:BN:55:ARG:HD2	63:BN:56:ASP:OD1	2.16	0.46
49:B1:1563:G:P	69:BT:72:VAL:H	2.38	0.46
69:BT:38:LYS:CE	69:BT:96:SER:HB3	2.46	0.46
71:BV:12:TYR:HE1	71:BV:14:PRO:CA	2.29	0.46
74:BY:104:ARG:HD2	74:BY:105:LYS:H	1.81	0.46
49:B1:574:A:C5'	74:BY:89:HIS:CD2	2.98	0.46
75:BZ:98:LYS:O	75:BZ:109:TYR:HA	2.16	0.46
48:A2:1069:C:H42	48:A2:1193:C:H42	1.63	0.46
48:A2:1260:G:H2'	48:A2:1261:C:O4'	2.16	0.46
48:A2:138:C:C6	48:A2:138:C:C3'	2.98	0.46
48:A2:1339:U:O2'	48:A2:1487:C:H1'	2.16	0.46
48:A2:190:G:O5'	48:A2:190:G:H8	1.99	0.46
48:A2:2043:C:HO2'	48:A2:2044:G:H5'	1.81	0.46
48:A2:4713:G:N3	48:A2:4906:C:N4	2.64	0.46
7:AE:136:HIS:CE1	48:A2:701:G:N3	2.84	0.46
8:AF:147:LEU:CG	48:A2:931:A:H2	2.24	0.46
48:A2:959:C:H2'	48:A2:960:G:N9	2.31	0.46
1:A3:108:A:C2	1:A3:109:C:O2	2.68	0.46
5:AC:97:ARG:NH1	48:A2:348:U:H1'	2.30	0.46
6:AD:122:GLN:HG3	6:AD:124:GLU:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:158:ARG:HD2	48:A2:4903:G:H21	1.80	0.46
7:AE:140:LEU:CD1	7:AE:167:GLN:HE21	2.14	0.46
8:AF:166:ARG:CG	8:AF:166:ARG:NH1	2.73	0.46
9:AG:135:VAL:HG13	9:AG:137:ARG:NH1	2.31	0.46
10:AH:41:ILE:HD13	10:AH:73:ILE:CD1	2.44	0.46
11:AI:31:ILE:O	11:AI:31:ILE:HG13	2.15	0.46
13:AK:99:ARG:HA	13:AK:102:LEU:HB3	1.96	0.46
15:AM:20:HIS:ND1	15:AM:45:VAL:HG23	2.30	0.46
16:AN:187:SER:HB3	48:A2:29:G:OP1	2.15	0.46
18:AP:18:ARG:H	48:A2:393:G:H4'	1.81	0.46
19:AQ:179:GLY:HA2	19:AQ:186:TYR:O	2.16	0.46
20:AR:126:LYS:CB	20:AR:131:VAL:HG21	2.33	0.46
20:AR:60:ARG:C	20:AR:62:ARG:N	2.62	0.46
23:AU:92:LYS:HG2	48:A2:2605:U:C6	2.50	0.46
25:AW:102:LYS:HA	25:AW:105:ARG:CZ	2.46	0.46
49:B1:1125:C:C4'	67:BR:123:THR:CG2	2.94	0.46
49:B1:1834:A:C2'	49:B1:1834:A:N3	2.79	0.46
49:B1:417:C:H2'	49:B1:418:A:H5''	1.98	0.46
49:B1:635:G:C6	49:B1:636:C:C4	3.04	0.46
49:B1:875:A:H61	49:B1:912:C:N4	2.09	0.46
49:B1:92:A:H4'	49:B1:93:U:OP2	2.15	0.46
53:BD:68:GLU:O	53:BD:71:ALA:HB3	2.16	0.46
49:B1:345:U:H1'	54:BE:33:THR:HB	1.98	0.46
49:B1:168:C:O2'	56:BG:133:LEU:O	2.31	0.46
59:BJ:162:ARG:H	59:BJ:166:GLY:HA3	1.81	0.46
49:B1:827:A:O5'	59:BJ:8:VAL:CG1	2.64	0.46
49:B1:1277:C:C5'	60:BK:54:SER:OG	2.61	0.46
63:BN:66:VAL:HG13	63:BN:67:THR:H	1.80	0.46
49:B1:1298:G:O4'	65:BP:79:HIS:CD2	2.68	0.46
67:BR:69:ILE:HG13	67:BR:70:SER:N	2.31	0.46
67:BR:97:GLU:CA	67:BR:117:LEU:HG	2.45	0.46
73:BX:139:GLU:CG	73:BX:140:ARG:N	2.75	0.46
16:AN:2:GLY:CA	48:A2:115:C:OP1	2.64	0.46
48:A2:1741:G:N3	48:A2:1742:G:C8	2.84	0.46
48:A2:1919:C:H4'	48:A2:1920:A:O5'	2.15	0.46
48:A2:2265:G:O5'	48:A2:2265:G:H8	1.99	0.46
48:A2:2533:U:HO2'	48:A2:2534:G:H8	1.64	0.46
48:A2:2825:G:C5'	48:A2:2825:G:H8	2.28	0.46
48:A2:66:A:C5	48:A2:322:A:H1'	2.51	0.46
48:A2:3596:G:C3'	48:A2:3597:G:H5''	2.46	0.46
48:A2:4345:U:O4'	48:A2:4506:A:C2	2.69	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:4614:G:H2'	48:A2:4615:C:C6	2.51	0.46
48:A2:463:C:H6	48:A2:463:C:H5''	1.80	0.46
48:A2:471:C:O2'	48:A2:472:G:H5'	2.16	0.46
17:AO:126:VAL:HG21	48:A2:4724:A:C5	2.50	0.46
48:A2:642:G:O2'	48:A2:643:A:P	2.74	0.46
7:AE:136:HIS:CE1	48:A2:702:A:H1'	2.45	0.46
16:AN:194:ARG:CZ	48:A2:79:C:P	3.03	0.46
4:AB:175:GLN:O	48:A2:4944:G:OP1	2.34	0.46
4:AB:58:ARG:HG3	4:AB:364:ASP:O	2.15	0.46
7:AE:223:ARG:HD3	48:A2:447:G:H5'	1.97	0.46
11:AI:102:MET:O	11:AI:103:LEU:HB2	2.16	0.46
12:AJ:55:TYR:HE2	12:AJ:57:VAL:HG22	1.80	0.46
13:AK:57:LYS:CB	13:AK:60:MET:H	2.29	0.46
19:AQ:12:LYS:HD3	19:AQ:14:ARG:HD2	1.96	0.46
21:AS:74:ARG:HH12	48:A2:909:C:C4'	2.28	0.46
22:AT:124:THR:O	22:AT:126:VAL:HG13	2.16	0.46
24:AV:45:ILE:HD13	24:AV:53:PRO:HA	1.98	0.46
24:AV:96:LEU:C	24:AV:96:LEU:HD12	2.37	0.46
9:AG:57:TRP:HH2	26:AX:41:ARG:HH12	1.63	0.46
49:B1:1539:U:O2'	69:BT:47:PRO:CA	2.56	0.46
49:B1:309:G:N2	49:B1:310:C:O2	2.48	0.46
49:B1:648:A:H4'	73:BX:104:GLY:O	2.16	0.46
49:B1:740:C:O2'	49:B1:741:C:C2	2.69	0.46
49:B1:807:G:H2'	49:B1:808:A:O4'	2.15	0.46
50:BA:130:ASP:C	50:BA:133:PRO:HD2	2.37	0.46
51:BB:179:ASN:HD22	51:BB:187:LYS:HZ1	1.63	0.46
54:BE:160:VAL:CG1	54:BE:169:ILE:HB	2.45	0.46
56:BG:138:ALA:O	56:BG:142:ARG:HG3	2.16	0.46
58:BI:57:ALA:O	58:BI:59:ARG:N	2.49	0.46
62:BM:77:ILE:HB	62:BM:128:PHE:CD2	2.51	0.46
49:B1:1022:U:H1'	63:BN:128:TYR:HB2	1.98	0.46
63:BN:58:HIS:O	63:BN:60:VAL:HG23	2.16	0.46
67:BR:97:GLU:OE1	67:BR:117:LEU:HA	2.16	0.46
49:B1:1124:C:HO2'	67:BR:123:THR:HG22	1.80	0.46
49:B1:1454:A:O2'	67:BR:3:ARG:NE	2.48	0.46
50:BA:7:VAL:CB	71:BV:42:VAL:HA	2.45	0.46
50:BA:154:LEU:HB3	71:BV:66:ASP:OD2	2.16	0.46
73:BX:54:LYS:HZ3	73:BX:95:GLU:HA	1.81	0.46
6:AD:290:ALA:CB	48:A2:1162:U:O2'	2.64	0.45
19:AQ:72:LEU:CD1	48:A2:1439:G:H5'	2.45	0.45
19:AQ:143:ARG:N	48:A2:1442:C:OP1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1555:G:C6	48:A2:1556:G:N1	2.84	0.45
26:AX:127:LEU:CB	48:A2:2416:C:H5'	2.44	0.45
4:AB:247:GLY:HA2	48:A2:2817:G:OP1	2.16	0.45
48:A2:3681:G:H2'	48:A2:3683:A:N7	2.28	0.45
48:A2:3727:A:O5'	48:A2:3727:A:C8	2.68	0.45
48:A2:3851:G:O2'	48:A2:3852:G:P	2.74	0.45
48:A2:4545:C:O2	48:A2:4545:C:H2'	2.16	0.45
7:AE:219:LYS:CB	48:A2:4898:C:C4	2.99	0.45
48:A2:662:A:H2'	48:A2:663:C:C6	2.50	0.45
48:A2:959:C:C2'	48:A2:960:G:C8	2.93	0.45
1:A3:36:G:C5	10:AH:89:ARG:HD3	162.05	0.45
5:AC:164:THR:HG21	48:A2:219:C:C6	2.51	0.45
14:AL:155:MET:SD	14:AL:158:ARG:NH2	2.89	0.45
15:AM:104:MET:CE	17:AO:198:THR:HB	2.46	0.45
16:AN:67:ARG:NE	48:A2:2437:C:OP1	2.49	0.45
18:AP:95:LEU:HD23	18:AP:148:MET:SD	2.56	0.45
24:AV:64:THR:HG21	48:A2:3770:A:O4'	2.17	0.45
25:AW:90:ILE:CG2	25:AW:94:ARG:CZ	2.94	0.45
27:AY:41:LYS:NZ	27:AY:42:TYR:OH	2.47	0.45
49:B1:1541:G:H2'	49:B1:1542:C:C6	2.51	0.45
49:B1:171:A:H5''	56:BG:177:GLN:NE2	2.29	0.45
49:B1:872:A:C8	49:B1:874:G:C4	3.03	0.45
51:BB:116:LYS:C	51:BB:117:TRP:CD1	2.89	0.45
51:BB:117:TRP:CD1	51:BB:117:TRP:N	2.84	0.45
51:BB:179:ASN:HB3	51:BB:183:GLU:CG	2.45	0.45
52:BC:178:HIS:ND1	52:BC:200:ARG:HD2	2.17	0.45
54:BE:45:ILE:O	54:BE:49:ARG:HB3	2.16	0.45
55:BF:197:GLU:O	55:BF:201:LYS:HG2	2.16	0.45
57:BH:158:LEU:HD11	57:BH:187:PHE:HD1	1.81	0.45
68:BS:74:PRO:HB2	68:BS:79:ILE:HB	1.97	0.45
48:A2:1252:G:C8	48:A2:1253:A:C8	3.04	0.45
48:A2:1297:C:O2'	48:A2:1298:C:P	2.74	0.45
8:AF:79:GLY:HA2	48:A2:2047:C:O2'	51.88	0.45
48:A2:2606:C:C2'	48:A2:2606:C:O2	2.63	0.45
48:A2:2830:G:O5'	48:A2:2830:G:H8	1.99	0.45
48:A2:285:U:N3	48:A2:287:G:OP2	2.48	0.45
48:A2:3711:G:H2'	48:A2:3712:C:O4'	2.16	0.45
22:AT:70:HIS:CE1	48:A2:4276:C:OP1	2.70	0.45
48:A2:4485:A:H1'	48:A2:4520:U:C4	2.52	0.45
48:A2:480:C:OP2	48:A2:481:G:OP2	2.35	0.45
48:A2:4873:G:C2	48:A2:4874:G:C8	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AF:46:ARG:HH22	48:A2:699:G:H5''	52.27	0.45
2:A4:48:G:O2'	2:A4:49:A:O5'	2.34	0.45
2:A4:12:U:H5'	2:A4:68:C:H1'	1.98	0.45
3:AA:122:ASP:OD2	3:AA:125:LYS:HG3	2.16	0.45
5:AC:102:PHE:CE1	48:A2:1502:C:H5'	2.50	0.45
5:AC:201:ARG:C	5:AC:202:ILE:CD1	2.84	0.45
5:AC:76:ILE:HD11	5:AC:95:MET:CE	2.38	0.45
5:AC:60:HIS:ND1	5:AC:92:PHE:CD2	2.80	0.45
12:AJ:109:ILE:HG12	12:AJ:130:PHE:HE1	1.81	0.45
13:AK:52:VAL:CG1	13:AK:90:PHE:O	2.64	0.45
15:AM:56:GLN:CD	48:A2:4827:U:C5	2.89	0.45
19:AQ:154:LYS:HZ2	19:AQ:154:LYS:HB2	1.81	0.45
25:AW:102:LYS:CB	25:AW:105:ARG:NH2	2.74	0.45
26:AX:117:TYR:HD2	26:AX:153:ILE:HG22	1.81	0.45
49:B1:1007:C:O2'	63:BN:104:ARG:NE	2.48	0.45
49:B1:1263:U:H4'	53:BD:27:ARG:HD3	24.32	0.45
49:B1:659:G:H5''	73:BX:17:ARG:CZ	2.46	0.45
50:BA:59:LEU:CD2	50:BA:63:ARG:NH2	2.78	0.45
49:B1:1124:C:P	51:BB:149:GLN:HG3	2.57	0.45
53:BD:11:PHE:CE1	70:BU:25:THR:HG21	2.50	0.45
49:B1:1592:C:H5''	55:BF:91:ARG:NH2	2.31	0.45
57:BH:177:TYR:CD2	57:BH:185:VAL:HG13	2.51	0.45
59:BJ:168:GLY:O	59:BJ:172:ARG:NE	2.49	0.45
59:BJ:168:GLY:N	59:BJ:172:ARG:NH2	2.60	0.45
61:BL:118:ARG:O	61:BL:119:ASP:HB2	2.16	0.45
63:BN:25:TRP:CD1	63:BN:26:LEU:CB	2.99	0.45
64:BO:17:LEU:HD22	64:BO:21:VAL:HG22	1.98	0.45
65:BP:84:ILE:HG23	65:BP:115:TYR:CE2	2.48	0.45
55:BF:49:LEU:HD12	66:BQ:50:LYS:N	2.32	0.45
67:BR:28:PHE:HA	67:BR:55:THR:CG2	2.46	0.45
68:BS:80:PRO:HG2	68:BS:82:TRP:CZ2	2.51	0.45
75:BZ:97:ILE:HG23	75:BZ:109:TYR:HB3	1.96	0.45
48:A2:1166:C:C6	48:A2:1167:A:C8	3.04	0.45
48:A2:1249:G:HO2'	48:A2:1250:C:P	2.39	0.45
5:AC:234:LYS:NZ	48:A2:1347:U:O2	2.50	0.45
48:A2:132:G:C2	48:A2:135:G:O6	2.70	0.45
11:AI:39:LYS:NZ	48:A2:1731:A:H5''	2.31	0.45
48:A2:2606:C:O2	48:A2:2607:U:C5	2.68	0.45
48:A2:472:G:H2'	48:A2:473:G:O4'	2.16	0.45
48:A2:4538:U:H4'	48:A2:5025:U:O2'	2.17	0.45
1:A3:109:C:O2'	1:A3:110:U:O5'	2.24	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:67:U:H2'	1:A3:68:G:C8	2.52	0.45
1:A3:67:U:H5''	12:AJ:85:LYS:O	180.24	0.45
2:A4:8:G:H8	2:A4:8:G:O5'	2.00	0.45
8:AF:236:ARG:HD2	8:AF:240:ILE:HA	1.98	0.45
13:AK:93:GLU:HB3	13:AK:94:ASP:H	1.65	0.45
15:AM:2:VAL:CG1	15:AM:3:PHE:CD2	2.87	0.45
17:AO:149:TYR:HH	48:A2:4546:A:P	2.37	0.45
20:AR:60:ARG:HH22	48:A2:2788:G:P	2.38	0.45
23:AU:50:ASN:O	23:AU:52:LYS:N	2.49	0.45
24:AV:97:TYR:CE1	25:AW:21:TYR:HD1	2.29	0.45
4:AB:390:GLY:CA	25:AW:63:GLN:NE2	2.78	0.45
49:B1:1815:A:O5'	49:B1:1815:A:H8	2.00	0.45
49:B1:349:A:H2'	49:B1:350:C:C6	2.51	0.45
49:B1:365:C:H2'	49:B1:366:U:C6	2.51	0.45
49:B1:608:C:H5''	49:B1:608:C:H6	1.82	0.45
49:B1:977:C:C5'	51:BB:66:VAL:CG2	2.95	0.45
50:BA:12:GLU:HA	50:BA:15:VAL:HG22	1.98	0.45
51:BB:181:LEU:O	51:BB:185:VAL:HG23	2.17	0.45
51:BB:71:LEU:HD13	51:BB:75:GLN:HB2	1.97	0.45
52:BC:74:LYS:HD2	52:BC:269:PHE:CD1	2.51	0.45
55:BF:51:HIS:O	66:BQ:50:LYS:HE2	2.17	0.45
55:BF:95:HIS:O	55:BF:99:ILE:HD12	2.16	0.45
56:BG:164:LYS:O	56:BG:165:GLU:HB3	2.15	0.45
49:B1:171:A:H5''	56:BG:177:GLN:CD	2.37	0.45
58:BI:110:ARG:HD3	58:BI:123:ARG:NH1	2.31	0.45
59:BJ:3:VAL:O	59:BJ:4:ALA:CB	2.64	0.45
49:B1:1314:U:O2	60:BK:2:LEU:CA	2.64	0.45
66:BQ:51:LEU:HD13	66:BQ:81:ILE:HG23	1.87	0.45
68:BS:28:PHE:O	68:BS:31:THR:N	2.48	0.45
69:BT:43:LYS:HE3	69:BT:82:ARG:O	2.16	0.45
70:BU:67:LYS:NZ	70:BU:76:THR:HG22	2.31	0.45
73:BX:41:PHE:HE1	73:BX:120:PHE:CE1	2.34	0.45
48:A2:1225:G:H21	48:A2:1225:G:P	2.39	0.45
48:A2:1268:U:HO2'	48:A2:1269:C:C4'	2.28	0.45
48:A2:1360:G:H4'	48:A2:1361:C:H3'	1.99	0.45
48:A2:1754:C:H2'	48:A2:1754:C:O2	2.14	0.45
48:A2:1941:A:H4'	48:A2:1942:G:O5'	2.17	0.45
48:A2:1964:A:OP1	48:A2:1992:C:H5'	2.16	0.45
48:A2:195:A:C4	48:A2:216:G:N2	2.84	0.45
20:AR:26:PRO:HG3	48:A2:2366:G:O4'	2.17	0.45
48:A2:35:U:H2'	48:A2:36:U:H5'	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:381:G:H2'	48:A2:406:G:O6	2.15	0.45
48:A2:473:G:C2	48:A2:669:G:N2	2.84	0.45
48:A2:508:U:C5	48:A2:508:U:P	3.10	0.45
48:A2:50:C:C6	48:A2:50:C:OP2	2.70	0.45
48:A2:704:C:H2'	48:A2:705:G:C8	2.52	0.45
15:AM:44:GLN:NE2	48:A2:922:A:C4	2.84	0.45
1:A3:121:G:H5''	1:A3:121:G:H8	1.81	0.45
1:A3:125:C:H2'	48:A2:2523:G:N2	2.31	0.45
4:AB:224:LYS:HE2	4:AB:339:GLY:O	2.15	0.45
5:AC:202:ILE:CD1	5:AC:202:ILE:N	2.80	0.45
10:AH:92:MET:HG2	10:AH:181:VAL:HA	1.98	0.45
2:A4:39:C:O2'	12:AJ:46:GLN:NE2	2.50	0.45
13:AK:16:LYS:CA	13:AK:19:GLN:HB2	2.46	0.45
15:AM:101:LYS:HG3	15:AM:104:MET:HE3	1.97	0.45
15:AM:27:ILE:HD11	15:AM:55:MET:SD	2.57	0.45
23:AU:63:ILE:HG12	23:AU:72:VAL:HG12	1.98	0.45
24:AV:78:PRO:HB2	24:AV:106:VAL:O	2.16	0.45
49:B1:1059:G:C5	49:B1:1060:A:N1	2.84	0.45
49:B1:1297:U:H2'	49:B1:1299:A:N7	2.31	0.45
49:B1:1310:U:H6	49:B1:1310:U:O5'	1.99	0.45
49:B1:1373:C:OP1	67:BR:6:THR:HA	2.17	0.45
49:B1:1757:G:H8	49:B1:1757:G:H5''	1.81	0.45
49:B1:285:U:HO2'	49:B1:286:U:P	2.39	0.45
49:B1:367:U:C2'	49:B1:368:U:OP1	2.64	0.45
49:B1:582:U:C1'	74:BY:33:ALA:N	2.79	0.45
49:B1:860:G:O2'	72:BW:107:SER:HB2	2.15	0.45
55:BF:93:VAL:HG11	55:BF:97:PHE:CZ	2.44	0.45
57:BH:96:ALA:HB3	57:BH:98:ARG:NH1	2.31	0.45
64:BO:61:LYS:HE3	64:BO:76:LEU:HD12	1.99	0.45
65:BP:50:ARG:O	65:BP:51:ARG:C	2.55	0.45
65:BP:90:VAL:HG13	65:BP:107:ILE:HG22	1.99	0.45
66:BQ:53:GLU:HB2	66:BQ:54:PRO:HD3	1.98	0.45
66:BQ:33:LYS:CD	66:BQ:69:ARG:NE	2.80	0.45
68:BS:63:GLU:HA	68:BS:66:ARG:HB3	1.98	0.45
69:BT:41:LYS:CE	69:BT:43:LYS:CE	2.87	0.45
49:B1:840:C:O2'	74:BY:14:THR:CA	2.64	0.45
74:BY:79:LEU:HD11	74:BY:83:LYS:HE3	1.98	0.45
75:BZ:99:LEU:CA	75:BZ:109:TYR:CD1	2.98	0.45
75:BZ:76:ARG:CA	75:BZ:76:ARG:NE	2.80	0.45
48:A2:1352:C:H2'	48:A2:1353:G:H21	1.80	0.45
48:A2:1402:G:C2'	48:A2:1403:A:OP2	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AG:163:PRO:N	48:A2:148:G:H22	2.12	0.45
48:A2:1595:A:H3'	48:A2:1596:C:H5'	1.99	0.45
48:A2:1804:U:O2'	48:A2:1805:G:H5'	2.16	0.45
13:AK:60:MET:HE3	48:A2:1941:A:O2'	2.16	0.45
48:A2:2011:A:H5'	48:A2:2012:C:OP2	2.17	0.45
48:A2:2361:A:C2	48:A2:2809:G:H4'	2.51	0.45
48:A2:2498:U:C2	48:A2:2499:C:C5	3.05	0.45
48:A2:2689:C:C5'	48:A2:2689:C:H6	2.21	0.45
48:A2:2704:A:OP1	48:A2:2704:A:H3'	2.17	0.45
48:A2:2706:C:H6	48:A2:2706:C:OP2	1.99	0.45
48:A2:33:A:H2'	48:A2:34:A:C8	2.52	0.45
48:A2:3595:A:O2'	48:A2:3596:G:P	2.75	0.45
48:A2:4522:C:O2'	48:A2:4523:C:H5'	2.16	0.45
4:AB:20:LYS:HG3	48:A2:4530:A:OP2	2.17	0.45
48:A2:4670:A:H5'	48:A2:4671:U:OP2	2.17	0.45
48:A2:4974:A:O5'	48:A2:4975:G:OP2	2.35	0.45
48:A2:632:G:C2'	48:A2:633:U:H5''	2.47	0.45
48:A2:923:C:H6	48:A2:923:C:OP1	2.00	0.45
3:AA:207:VAL:HG23	3:AA:208:GLU:HG3	1.99	0.45
4:AB:126:LYS:O	4:AB:127:LYS:HB3	2.16	0.45
4:AB:138:GLN:OE1	4:AB:138:GLN:HA	2.16	0.45
4:AB:47:LEU:HD11	4:AB:181:MET:CG	2.46	0.45
5:AC:217:ILE:CG2	5:AC:218:ILE:N	2.80	0.45
5:AC:219:LYS:NZ	5:AC:222:ARG:NH2	2.64	0.45
9:AG:87:LEU:HD11	9:AG:91:THR:CG2	2.46	0.45
10:AH:107:GLU:H	10:AH:111:LEU:HB3	1.81	0.45
13:AK:39:GLN:O	13:AK:43:ILE:HB	2.16	0.45
15:AM:6:PHE:HB3	21:AS:153:PRO:CA	2.46	0.45
27:AY:15:ARG:O	27:AY:19:PHE:HD2	2.00	0.45
49:B1:1079:C:H5'	49:B1:1179:G:H4'	1.97	0.45
49:B1:1483:A:H4'	53:BD:160:SER:CA	2.46	0.45
49:B1:1546:G:H21	49:B1:1670:C:H1'	1.82	0.45
49:B1:1595:U:H2'	49:B1:1596:U:C6	2.52	0.45
49:B1:181:A:H8	49:B1:182:C:C4	2.34	0.45
50:BA:172:GLY:C	50:BA:202:TYR:HB3	2.36	0.45
52:BC:133:TYR:CZ	52:BC:216:MET:HG2	2.51	0.45
52:BC:166:ARG:HG3	52:BC:181:PRO:HG3	1.98	0.45
49:B1:346:C:OP1	54:BE:37:LYS:CB	2.65	0.45
49:B1:346:C:H5''	54:BE:38:LEU:CD1	2.47	0.45
54:BE:90:ILE:CG2	54:BE:91:SER:N	2.80	0.45
54:BE:91:SER:C	54:BE:92:ILE:CG1	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BI:57:ALA:C	58:BI:59:ARG:N	2.67	0.45
59:BJ:179:LYS:HA	59:BJ:179:LYS:HD2	1.76	0.45
66:BQ:14:GLY:O	66:BQ:86:GLN:CD	2.55	0.45
67:BR:95:ILE:CG2	67:BR:96:ILE:H	2.27	0.45
70:BU:33:GLU:OE1	70:BU:33:GLU:HA	2.16	0.45
49:B1:658:U:H4'	73:BX:17:ARG:HH21	1.82	0.45
48:A2:113:A:O2'	48:A2:114:G:H5'	2.16	0.45
9:AG:113:ARG:NH1	48:A2:119:G:C5	2.84	0.45
48:A2:1269:C:H2'	48:A2:1270:G:O5'	2.16	0.45
48:A2:1390:C:N4	48:A2:1392:C:C2	2.85	0.45
48:A2:1745:C:C2'	48:A2:1746:G:H5'	2.29	0.45
48:A2:2297:G:N2	48:A2:2300:G:OP2	2.35	0.45
48:A2:2340:G:HO2'	48:A2:2341:U:P	2.40	0.45
48:A2:2419:U:O4'	48:A2:2497:G:C2	2.69	0.45
48:A2:2685:G:C8	48:A2:2685:G:C3'	2.99	0.45
20:AR:74:ARG:CG	48:A2:2869:C:OP2	2.64	0.45
48:A2:3588:G:C8	48:A2:3588:G:C3'	2.99	0.45
48:A2:3881:C:H2'	48:A2:3882:C:C6	2.52	0.45
48:A2:404:A:O2'	48:A2:408:C:O2'	2.35	0.45
9:AG:36:PRO:CA	48:A2:4097:A:C2	2.99	0.45
4:AB:62:ARG:NH2	48:A2:4579:G:OP2	2.50	0.45
48:A2:4663:A:H2'	48:A2:4664:G:C5'	2.46	0.45
48:A2:4700:C:C6	48:A2:4700:C:OP2	2.70	0.45
48:A2:512:G:C6	48:A2:513:C:C4	3.05	0.45
3:AA:63:PHE:HZ	3:AA:76:PHE:HE2	1.63	0.45
4:AB:291:TYR:CE2	4:AB:327:THR:HG22	2.51	0.45
4:AB:303:ALA:O	4:AB:312:LYS:HD2	2.16	0.45
6:AD:210:TYR:CE2	6:AD:214:GLU:HG3	2.51	0.45
6:AD:264:LYS:C	6:AD:265:ARG:CG	2.85	0.45
7:AE:239:LYS:HD2	48:A2:4895:C:H42	1.82	0.45
8:AF:167:ILE:HG22	8:AF:168:ALA:N	2.31	0.45
8:AF:219:GLY:CA	48:A2:1887:U:H5''	2.46	0.45
11:AI:203:ARG:HG3	11:AI:203:ARG:O	2.17	0.45
13:AK:1:MET:HB3	13:AK:2:PRO:HD2	1.93	0.45
15:AM:14:TYR:O	15:AM:56:GLN:N	2.48	0.45
28:AZ:33:THR:HB	28:AZ:36:ARG:O	2.16	0.45
49:B1:1287:A:H5''	49:B1:1312:G:N2	2.24	0.45
49:B1:1290:G:O2'	49:B1:1291:A:H5'	2.16	0.45
49:B1:1497:G:N7	60:BK:62:PHE:CZ	2.85	0.45
49:B1:282:G:C6	49:B1:283:G:C6	3.04	0.45
49:B1:96:C:H1'	49:B1:474:G:H5'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:605:A:C8	49:B1:605:A:OP2	2.70	0.45
49:B1:745:C:C6	49:B1:745:C:O5'	2.70	0.45
49:B1:792:C:C5'	49:B1:792:C:H6	2.28	0.45
49:B1:836:G:OP1	49:B1:836:G:C2	2.70	0.45
49:B1:872:A:HO2'	49:B1:874:G:N2	2.01	0.45
55:BF:103:LEU:HD23	55:BF:103:LEU:C	2.36	0.45
63:BN:37:ILE:HG23	63:BN:38:TYR:N	2.31	0.45
64:BO:141:ARG:CG	64:BO:142:ARG:H	2.28	0.45
68:BS:86:ARG:HA	68:BS:86:ARG:HD2	1.83	0.45
69:BT:61:ALA:HA	69:BT:64:LEU:HD21	1.99	0.45
48:A2:1294:G:O6	48:A2:1295:A:C2	2.70	0.45
13:AK:60:MET:HE2	48:A2:1941:A:H1'	1.99	0.45
17:AO:128:ARG:HH11	48:A2:2037:G:H5''	1.82	0.45
48:A2:2432:A:H2'	48:A2:2433:U:C6	2.52	0.45
48:A2:2836:A:H2'	48:A2:2837:A:O4'	2.16	0.45
48:A2:4076:G:H2'	48:A2:4077:G:C8	2.51	0.45
48:A2:442:G:H2'	48:A2:443:C:O4'	2.16	0.45
48:A2:4546:A:H62	48:A2:4680:G:H21	1.65	0.45
48:A2:4597:A:C4	48:A2:4626:A:C6	3.05	0.45
48:A2:4882:C:O5'	48:A2:4883:U:OP2	2.34	0.45
48:A2:943:A:H8	48:A2:943:A:O5'	1.99	0.45
4:AB:385:LYS:HG2	4:AB:389:MET:SD	2.56	0.45
5:AC:102:PHE:CG	48:A2:1320:A:H5'	2.51	0.45
5:AC:211:TYR:HE1	5:AC:229:LEU:C	2.20	0.45
5:AC:306:ARG:O	5:AC:307:LYS:HG3	2.17	0.45
6:AD:121:GLY:HA3	6:AD:168:ASP:O	2.16	0.45
6:AD:16:TYR:CE1	48:A2:4227:U:C6	3.01	0.45
6:AD:224:SER:C	6:AD:227:ILE:HG13	2.38	0.45
7:AE:133:PHE:CD1	7:AE:133:PHE:O	2.70	0.45
7:AE:283:PRO:O	7:AE:285:LYS:N	2.50	0.45
7:AE:96:VAL:N	7:AE:107:VAL:CG1	2.72	0.45
8:AF:224:THR:C	8:AF:225:THR:HG23	2.37	0.45
12:AJ:22:LEU:HD11	12:AJ:82:ILE:HG21	1.97	0.45
14:AL:137:GLY:O	14:AL:140:SER:N	2.50	0.45
17:AO:121:PRO:HA	17:AO:124:LEU:CD1	2.47	0.45
26:AX:117:TYR:N	26:AX:117:TYR:HD1	2.14	0.45
27:AY:38:LEU:HD11	27:AY:109:LEU:HG	1.98	0.45
27:AY:59:ARG:NH1	48:A2:196:G:C2'	2.67	0.45
49:B1:12:U:C1'	49:B1:1357:A:H1'	2.46	0.45
49:B1:1420:G:H2'	49:B1:1420:G:N3	2.32	0.45
49:B1:1568:C:O5'	49:B1:1568:C:H6	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1620:A:C6	49:B1:1624:U:C2	3.04	0.45
49:B1:1781:A:O5'	49:B1:1781:A:H8	2.00	0.45
49:B1:429:C:H2'	49:B1:430:C:C6	2.52	0.45
49:B1:742:U:C5	49:B1:743:U:O4	2.69	0.45
49:B1:827:A:O5'	59:BJ:8:VAL:CG2	2.65	0.45
49:B1:836:G:O5'	49:B1:836:G:C4	2.70	0.45
50:BA:103:PHE:HE2	50:BA:136:GLU:OE1	1.87	0.45
50:BA:172:GLY:HA3	50:BA:202:TYR:C	2.36	0.45
50:BA:208:GLU:C	50:BA:211:GLU:HB3	2.36	0.45
54:BE:206:ASP:HB2	54:BE:222:LEU:CD1	2.47	0.45
55:BF:68:ILE:HD11	55:BF:109:LEU:HD11	1.98	0.45
59:BJ:122:SER:O	59:BJ:123:ILE:C	2.55	0.45
61:BL:46:THR:HG23	61:BL:62:PHE:CD1	2.52	0.45
49:B1:676:C:OP1	63:BN:5:HIS:HD2	1.99	0.45
73:BX:51:VAL:HG13	73:BX:70:VAL:CG1	2.47	0.45
74:BY:96:LEU:CD1	74:BY:96:LEU:N	2.78	0.45
48:A2:1056:G:C6	48:A2:1057:G:C5	3.04	0.45
48:A2:1069:C:C2	48:A2:1070:A:C8	3.04	0.45
48:A2:1165:C:C6	48:A2:1165:C:P	3.10	0.45
48:A2:1342:G:HO2'	48:A2:1343:G:P	2.22	0.45
19:AQ:43:PHE:CD1	48:A2:1411:U:O2'	2.59	0.45
19:AQ:13:VAL:O	48:A2:1673:G:H5''	2.17	0.45
48:A2:1720:A:O2'	48:A2:1721:G:H5'	2.14	0.45
13:AK:60:MET:CE	48:A2:1941:A:O2'	2.65	0.45
1:A3:125:C:OP2	48:A2:2523:G:N1	2.50	0.45
48:A2:2608:C:C6	48:A2:2608:C:C5'	2.99	0.45
48:A2:31:U:O3'	48:A2:32:G:H8	2.00	0.45
48:A2:4111:C:O2'	48:A2:4112:G:H5'	2.17	0.45
48:A2:462:U:H2'	48:A2:463:C:O5'	2.16	0.45
48:A2:4715:U:O2'	48:A2:4716:G:H5'	2.17	0.45
48:A2:4855:G:C6	48:A2:4856:G:N7	2.84	0.45
48:A2:492:C:C4'	48:A2:493:G:OP1	2.65	0.45
48:A2:495:C:H4'	48:A2:498:G:H8	1.82	0.45
48:A2:510:C:H6	48:A2:510:C:O5'	1.98	0.45
48:A2:935:C:H2'	48:A2:936:G:C8	2.52	0.45
48:A2:934:C:O2'	48:A2:935:C:H5'	2.17	0.45
48:A2:972:C:O2'	48:A2:973:C:H5'	2.17	0.45
1:A3:153:C:H2'	1:A3:154:G:H8	1.82	0.45
3:AA:226:ARG:NH2	48:A2:4144:G:H5''	2.32	0.45
3:AA:228:ASP:O	3:AA:229:ALA:C	2.55	0.45
5:AC:229:LEU:C	5:AC:229:LEU:CD1	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AF:21:LYS:O	8:AF:25:PHE:N	2.43	0.45
9:AG:82:GLN:HE21	9:AG:233:ILE:CG2	2.29	0.45
10:AH:96:TYR:N	10:AH:96:TYR:CD1	2.85	0.45
12:AJ:169:LYS:O	12:AJ:170:TYR:HB2	2.17	0.45
13:AK:107:VAL:CB	13:AK:108:PRO:HD3	2.44	0.45
13:AK:11:SER:HA	13:AK:14:PHE:HB2	1.99	0.45
13:AK:55:MET:SD	13:AK:61:MET:CE	3.05	0.45
13:AK:81:HIS:ND1	13:AK:88:PHE:HE1	2.06	0.45
14:AL:129:ARG:O	14:AL:130:LYS:HE3	2.17	0.45
16:AN:84:PRO:HG2	48:A2:42:A:O3'	2.17	0.45
18:AP:25:HIS:CD2	48:A2:3829:C:OP2	2.70	0.45
19:AQ:12:LYS:CD	19:AQ:14:ARG:CD	2.90	0.45
6:AD:17:GLN:CB	22:AT:20:ARG:HG2	2.25	0.45
49:B1:1290:G:N2	49:B1:1310:U:H1'	2.32	0.45
49:B1:1547:C:O4'	49:B1:1670:C:H4'	2.17	0.45
49:B1:1822:A:C2	49:B1:1823:A:N6	2.85	0.45
49:B1:636:C:H2'	49:B1:637:U:C6	2.52	0.45
49:B1:690:G:C2'	49:B1:691:G:O5'	2.64	0.45
49:B1:744:G:HO2'	49:B1:745:C:H6	1.64	0.45
49:B1:750:C:H3'	49:B1:750:C:P	2.57	0.45
49:B1:869:A:H1'	49:B1:870:A:OP1	2.16	0.45
49:B1:984:C:C2'	64:BO:138:ASP:HB2	2.47	0.45
50:BA:208:GLU:HB3	67:BR:81:ARG:HD3	1.98	0.45
50:BA:38:ILE:HD13	50:BA:47:TYR:CG	2.52	0.45
51:BB:89:GLU:CB	51:BB:228:LEU:HD22	2.46	0.45
52:BC:252:THR:HG23	52:BC:255:LEU:HD13	1.98	0.45
53:BD:35:SER:HB2	53:BD:51:LEU:O	2.17	0.45
55:BF:194:ASP:O	55:BF:198:ARG:HG2	2.16	0.45
55:BF:62:ARG:HA	55:BF:65:GLN:NE2	2.32	0.45
56:BG:44:GLU:CB	56:BG:120:ASP:HB2	2.46	0.45
59:BJ:35:TYR:OH	59:BJ:103:GLU:O	2.29	0.45
59:BJ:52:LYS:HE2	59:BJ:52:LYS:HB3	1.73	0.45
60:BK:80:ARG:HA	60:BK:83:LEU:HB2	1.99	0.45
49:B1:1022:U:H1'	63:BN:128:TYR:CD1	2.52	0.45
63:BN:58:HIS:HB2	63:BN:60:VAL:HG23	1.99	0.45
64:BO:103:ASN:CB	64:BO:142:ARG:NH1	2.65	0.45
65:BP:30:TYR:N	65:BP:30:TYR:CD1	2.85	0.45
49:B1:1373:C:OP1	67:BR:6:THR:HG22	2.17	0.45
49:B1:1589:A:O3'	69:BT:82:ARG:HD2	2.17	0.45
48:A2:1750:C:H4'	48:A2:1752:A:OP2	2.17	0.45
13:AK:14:PHE:CB	48:A2:1941:A:N1	2.79	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2446:U:H4'	48:A2:2447:U:H5'	1.98	0.45
48:A2:2419:U:H4'	48:A2:2497:G:N1	2.32	0.45
28:AZ:67:LYS:HE3	48:A2:2552:A:H5''	1.99	0.45
48:A2:287:G:O2'	48:A2:288:G:H8	2.00	0.45
48:A2:4492:U:H2'	48:A2:4493:U:H2'	1.98	0.45
4:AB:262:VAL:O	48:A2:4527:C:C4'	2.65	0.45
14:AL:165:LYS:CE	48:A2:505:C:OP2	2.61	0.45
48:A2:734:G:O3'	48:A2:735:G:O4'	2.35	0.45
2:A4:73:U:C2'	2:A4:74:A:OP1	2.64	0.45
2:A4:90:A:H4'	11:AI:11:TYR:CD1	2.52	0.45
3:AA:10:LYS:NZ	48:A2:3658:A:OP1	2.49	0.45
3:AA:122:ASP:O	3:AA:125:LYS:HE2	2.17	0.45
5:AC:211:TYR:N	5:AC:230:LEU:O	2.46	0.45
5:AC:350:ARG:O	5:AC:354:ALA:HB3	2.17	0.45
6:AD:265:ARG:O	6:AD:266:TRP:CG	2.70	0.45
8:AF:220:MET:C	8:AF:221:LYS:CG	2.86	0.45
8:AF:88:LYS:NZ	8:AF:88:LYS:HB3	2.31	0.45
13:AK:81:HIS:HE1	13:AK:86:VAL:HG13	1.81	0.45
14:AL:94:ILE:HG23	14:AL:124:LEU:HD21	1.99	0.45
17:AO:116:LYS:HG3	17:AO:118:MET:HE1	1.99	0.45
19:AQ:88:ASP:HB2	19:AQ:109:ALA:N	2.32	0.45
20:AR:62:ARG:HH11	20:AR:62:ARG:HG3	1.80	0.45
21:AS:82:LEU:CD2	21:AS:82:LEU:N	2.80	0.45
21:AS:90:THR:O	21:AS:91:HIS:CG	2.70	0.45
27:AY:9:SER:HA	48:A2:223:G:H21	1.81	0.45
28:AZ:9:LYS:HE2	28:AZ:82:PRO:HB2	1.98	0.45
49:B1:1017:U:O4'	63:BN:55:ARG:NH2	2.49	0.45
49:B1:1398:G:C4	49:B1:1398:G:O5'	2.70	0.45
49:B1:283:G:OP2	49:B1:283:G:C8	2.70	0.45
49:B1:847:A:OP2	54:BE:16:LYS:CD	2.65	0.45
54:BE:82:TYR:CD1	54:BE:83:PRO:O	2.70	0.45
49:B1:154:U:H5'	56:BG:13:GLN:CB	2.47	0.45
49:B1:522:A:C4'	59:BJ:131:ARG:HH22	2.30	0.45
59:BJ:38:ARG:HB3	59:BJ:42:GLU:OE1	2.17	0.45
59:BJ:46:VAL:HG21	59:BJ:106:LEU:HD21	1.99	0.45
61:BL:27:GLU:OE1	61:BL:29:GLY:HA3	2.17	0.45
49:B1:944:A:H5''	64:BO:134:PRO:CB	2.46	0.45
64:BO:38:ASN:O	64:BO:68:GLU:HG3	2.17	0.45
49:B1:1407:U:O3'	66:BQ:71:ARG:NH2	2.50	0.45
67:BR:5:ARG:CZ	67:BR:53:TYR:HD1	2.30	0.45
67:BR:97:GLU:OE1	67:BR:117:LEU:CA	2.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:BV:38:GLU:OE1	71:BV:49:GLN:HB2	2.17	0.45
75:BZ:31:LYS:HB3	75:BZ:31:LYS:NZ	2.32	0.45
48:A2:1160:U:O2	48:A2:1168:G:C2	2.70	0.45
48:A2:2597:G:O2'	48:A2:2598:G:H5'	2.17	0.45
26:AX:106:LYS:HD3	48:A2:2758:C:OP2	2.17	0.45
48:A2:31:U:O3'	48:A2:32:G:C8	2.70	0.45
48:A2:3585:G:C2	48:A2:3588:G:C2	3.05	0.45
48:A2:5019:A:C4'	48:A2:5020:G:OP1	2.56	0.45
48:A2:673:C:H2'	48:A2:674:C:H5''	1.99	0.45
48:A2:735:G:C3'	48:A2:736:G:H5'	2.46	0.45
1:A3:109:C:O2	1:A3:109:C:H2'	2.17	0.45
6:AD:224:SER:CB	6:AD:227:ILE:HD11	2.46	0.45
7:AE:182:ASN:OD1	7:AE:272:ARG:HA	2.17	0.45
9:AG:113:ARG:NE	48:A2:119:G:N1	2.65	0.45
10:AH:96:TYR:N	10:AH:96:TYR:HD1	2.15	0.45
1:A3:58:G:O6	12:AJ:63:ARG:NH2	128.24	0.45
13:AK:38:LYS:O	13:AK:40:MET:N	2.50	0.45
14:AL:79:GLU:HB3	14:AL:104:ASN:OD1	2.17	0.45
14:AL:140:SER:O	14:AL:141:ALA:C	2.55	0.45
16:AN:71:ARG:CG	16:AN:94:PHE:HB2	2.46	0.45
18:AP:47:TYR:OH	18:AP:58:VAL:HA	2.15	0.45
20:AR:126:LYS:CA	20:AR:131:VAL:HG21	2.46	0.45
20:AR:19:LYS:C	20:AR:22:VAL:HG22	2.37	0.45
22:AT:125:TRP:CE3	22:AT:127:GLN:OE1	2.70	0.45
27:AY:50:ARG:HB3	27:AY:115:ARG:HH21	1.81	0.45
27:AY:86:GLN:HG2	27:AY:94:THR:OG1	2.17	0.45
49:B1:1078:C:H2'	49:B1:1079:C:O4'	2.17	0.45
49:B1:1397:U:O3'	49:B1:1398:G:C2	2.70	0.45
49:B1:1668:U:OP2	66:BQ:141:TYR:CZ	2.70	0.45
49:B1:1868:U:O2'	49:B1:1869:A:H4'	2.17	0.45
49:B1:53:C:H4'	74:BY:108:LYS:HD3	1.99	0.45
49:B1:562:U:OP2	59:BJ:170:PRO:CB	2.65	0.45
49:B1:563:G:N7	49:B1:586:G:N2	2.65	0.45
49:B1:792:C:C2	49:B1:793:G:C8	3.05	0.45
48:A2:3683:A:H1'	49:B1:970:G:C5	2.52	0.45
54:BE:98:HIS:O	54:BE:99:PHE:CG	2.70	0.45
55:BF:23:TRP:CZ2	55:BF:108:PRO:HG3	2.49	0.45
49:B1:78:C:C2'	56:BG:175:LYS:HG2	2.47	0.45
57:BH:77:VAL:O	57:BH:80:VAL:HG12	2.16	0.45
59:BJ:54:ARG:CZ	59:BJ:54:ARG:HB2	2.46	0.45
63:BN:34:LYS:O	63:BN:38:TYR:CD2	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:BO:83:GLN:CA	64:BO:83:GLN:NE2	2.73	0.45
65:BP:125:PRO:O	65:BP:126:VAL:CB	2.65	0.45
67:BR:21:TYR:O	67:BR:21:TYR:CD1	2.70	0.45
48:A2:1165:C:O2	48:A2:1166:C:C4	2.70	0.44
9:AG:161:VAL:HG13	48:A2:148:G:N1	2.33	0.44
3:AA:21:LYS:CD	48:A2:1523:C:H5''	2.47	0.44
48:A2:1573:U:H5'	48:A2:1574:G:H5'	1.99	0.44
48:A2:1576:C:O4'	48:A2:1576:C:O2	2.35	0.44
48:A2:1953:G:H1'	48:A2:1976:G:N2	2.32	0.44
21:AS:118:ARG:HH21	48:A2:2040:C:H1'	1.82	0.44
48:A2:2684:G:C8	48:A2:2684:G:OP2	2.70	0.44
16:AN:189:ARG:HH21	48:A2:28:C:H3'	1.81	0.44
48:A2:2841:G:O2'	48:A2:3595:A:H1'	2.17	0.44
48:A2:3681:G:H2'	48:A2:3682:A:C5'	2.44	0.44
48:A2:4985:C:H3'	48:A2:4986:G:H5''	2.00	0.44
48:A2:4986:G:H2'	48:A2:4987:C:O4'	2.18	0.44
48:A2:5020:G:C3'	48:A2:5020:G:C8	2.99	0.44
1:A3:34:U:O2'	1:A3:35:C:C5'	2.65	0.44
4:AB:106:PHE:HB2	4:AB:133:TYR:CE1	2.52	0.44
4:AB:244:THR:CB	48:A2:4487:C:O2'	2.64	0.44
4:AB:247:GLY:HA3	48:A2:2817:G:C5'	2.46	0.44
4:AB:76:VAL:HG13	4:AB:333:LEU:C	2.38	0.44
5:AC:233:SER:HB2	5:AC:259:LYS:NZ	2.32	0.44
7:AE:188:ARG:HB2	48:A2:4899:G:H5'	1.99	0.44
10:AH:42:ASN:O	48:A2:4725:U:O2	2.33	0.44
13:AK:18:ILE:CA	13:AK:21:LEU:HB3	2.47	0.44
14:AL:28:GLN:HA	14:AL:31:ARG:HE	1.81	0.44
15:AM:89:THR:O	15:AM:93:LYS:HG3	2.17	0.44
16:AN:53:TYR:CE1	16:AN:59:TYR:HB3	2.52	0.44
17:AO:96:GLN:HE22	48:A2:425:G:H22	1.64	0.44
19:AQ:50:ARG:HE	19:AQ:138:LEU:HD21	1.81	0.44
20:AR:126:LYS:CE	20:AR:131:VAL:HG13	2.34	0.44
20:AR:39:GLN:HG3	20:AR:42:ARG:NH2	2.33	0.44
21:AS:30:MET:HG2	22:AT:151:LEU:O	2.16	0.44
22:AT:31:MET:O	22:AT:32:ARG:CB	2.65	0.44
26:AX:44:PRO:CB	48:A2:4055:A:H5''	2.47	0.44
27:AY:2:LYS:NZ	27:AY:2:LYS:HB3	2.32	0.44
28:AZ:50:PRO:HG2	28:AZ:122:TYR:HE2	1.77	0.44
49:B1:1022:U:C1'	63:BN:128:TYR:CD1	3.00	0.44
49:B1:1062:A:H4'	49:B1:1853:C:O2'	2.17	0.44
49:B1:1399:C:C6	49:B1:1399:C:OP2	2.70	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1821:U:O2'	49:B1:1822:A:H5'	2.17	0.44
49:B1:364:A:N6	49:B1:397:G:C6	2.85	0.44
49:B1:448:A:H4'	49:B1:449:A:H5'	1.98	0.44
49:B1:498:C:H6	49:B1:498:C:O5'	2.00	0.44
49:B1:857:U:H2'	49:B1:858:A:C8	2.51	0.44
49:B1:883:U:O2'	49:B1:884:C:H5'	2.17	0.44
49:B1:928:G:O2'	49:B1:929:G:C8	2.67	0.44
49:B1:952:G:N9	49:B1:975:G:N2	2.65	0.44
53:BD:79:PHE:CB	53:BD:84:VAL:HG21	2.47	0.44
54:BE:97:GLU:O	54:BE:98:HIS:CG	2.71	0.44
58:BI:175:ILE:HG22	58:BI:177:SER:H	1.81	0.44
59:BJ:112:THR:CG2	59:BJ:116:LYS:HE2	2.48	0.44
59:BJ:130:ILE:HG13	59:BJ:131:ARG:N	2.30	0.44
59:BJ:169:ARG:CD	59:BJ:173:VAL:CG2	2.78	0.44
63:BN:18:TYR:O	63:BN:18:TYR:CD2	2.70	0.44
65:BP:30:TYR:N	65:BP:30:TYR:HD1	2.15	0.44
67:BR:5:ARG:CZ	67:BR:53:TYR:CD1	3.01	0.44
69:BT:30:VAL:HG23	69:BT:34:VAL:CG2	2.47	0.44
70:BU:67:LYS:HG2	70:BU:78:ASP:OD2	2.17	0.44
48:A2:160:A:H2'	48:A2:161:G:C8	2.51	0.44
48:A2:366:A:C2	48:A2:1627:C:O4'	2.70	0.44
48:A2:1657:C:H5''	48:A2:4339:G:OP2	2.18	0.44
48:A2:1701:A:O2'	48:A2:1702:C:H5'	2.17	0.44
48:A2:1817:G:OP2	48:A2:1817:G:C2	2.70	0.44
48:A2:1943:A:C2	48:A2:2007:A:H2	2.33	0.44
48:A2:2067:G:N1	48:A2:2247:A:N3	2.64	0.44
48:A2:2357:G:H1'	48:A2:2404:U:O2	2.17	0.44
48:A2:2689:C:H5''	48:A2:2689:C:C6	2.35	0.44
48:A2:2738:G:C8	48:A2:2744:A:C2	3.05	0.44
48:A2:2530:A:C2	48:A2:2747:C:N3	2.85	0.44
48:A2:3682:A:P	48:A2:3683:A:OP1	2.75	0.44
48:A2:4328:A:N6	48:A2:4329:G:O6	2.49	0.44
48:A2:4531:U:H2'	48:A2:4532:G:H5'	1.98	0.44
48:A2:4727:G:N2	48:A2:4826:G:C4	2.86	0.44
48:A2:4832:A:H1'	48:A2:4834:U:N3	2.31	0.44
48:A2:494:G:O6	48:A2:498:G:C6	2.71	0.44
48:A2:905:G:C2	48:A2:906:C:OP2	2.70	0.44
1:A3:34:U:O2'	1:A3:35:C:P	2.69	0.44
4:AB:174:ARG:HH22	48:A2:4932:C:C2'	2.29	0.44
4:AB:22:SER:HB2	4:AB:24:ARG:NH1	2.31	0.44
6:AD:68:ARG:HG3	6:AD:73:MET:CG	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:233:PHE:HE2	48:A2:446:A:C2'	2.31	0.44
8:AF:132:MET:CE	48:A2:1819:A:C2	2.98	0.44
10:AH:29:GLY:HA3	10:AH:84:VAL:CG2	2.47	0.44
10:AH:94:SER:HB3	10:AH:142:ASP:OD2	2.17	0.44
13:AK:58:ASN:N	13:AK:61:MET:HG2	2.32	0.44
14:AL:129:ARG:HH11	14:AL:129:ARG:H	1.64	0.44
15:AM:2:VAL:CG1	15:AM:3:PHE:CE2	3.00	0.44
16:AN:138:PHE:CE2	48:A2:18:C:O2'	2.67	0.44
17:AO:72:HIS:O	48:A2:4547:U:H5''	2.16	0.44
18:AP:18:ARG:NE	18:AP:147:GLU:HG2	2.32	0.44
20:AR:21:LYS:HD2	20:AR:52:ARG:HH12	1.81	0.44
20:AR:23:TRP:CE3	20:AR:24:LEU:O	2.70	0.44
24:AV:48:ARG:CG	24:AV:48:ARG:HH11	2.30	0.44
27:AY:74:TYR:CD2	27:AY:81:TYR:HE2	2.35	0.44
49:B1:1375:G:H2'	49:B1:1376:A:O4'	2.18	0.44
49:B1:158:A:H2'	49:B1:159:A:O4'	2.17	0.44
49:B1:1750:C:N3	49:B1:1784:G:N1	2.61	0.44
49:B1:1780:G:H2'	49:B1:1781:A:C8	2.52	0.44
49:B1:223:C:C2	49:B1:299:A:C2	3.04	0.44
49:B1:532:C:H5''	49:B1:533:A:OP2	2.17	0.44
49:B1:561:A:H4'	59:BJ:170:PRO:CG	2.48	0.44
49:B1:617:G:C8	73:BX:67:ARG:NH1	2.86	0.44
49:B1:907:G:H2'	49:B1:908:A:C8	2.53	0.44
49:B1:92:A:H2'	49:B1:446:G:N2	2.32	0.44
49:B1:946:U:H4'	49:B1:1046:U:OP1	2.17	0.44
50:BA:103:PHE:O	50:BA:103:PHE:CD1	2.70	0.44
50:BA:45:GLY:O	50:BA:47:TYR:CE1	2.70	0.44
52:BC:60:TRP:HZ2	52:BC:93:ILE:CG1	2.30	0.44
54:BE:124:CYS:HB2	54:BE:141:THR:HG23	2.00	0.44
54:BE:216:ASN:HD22	54:BE:244:ILE:HD11	1.81	0.44
59:BJ:134:HIS:O	59:BJ:159:PHE:CG	2.70	0.44
49:B1:1021:U:H5''	63:BN:128:TYR:HE1	1.77	0.44
65:BP:34:MET:CE	65:BP:45:LEU:HB2	2.41	0.44
68:BS:75:ARG:HG2	68:BS:75:ARG:H	1.56	0.44
73:BX:36:LEU:HD12	73:BX:42:GLY:O	2.18	0.44
61:BL:101:ARG:HD2	73:BX:7:LEU:HA	1.98	0.44
49:B1:841:G:P	74:BY:14:THR:OG1	2.75	0.44
74:BY:87:PRO:CG	74:BY:90:ARG:HH21	2.30	0.44
48:A2:1164:C:N4	48:A2:1167:A:C2'	2.79	0.44
48:A2:1225:G:P	48:A2:1225:G:N3	2.90	0.44
48:A2:148:G:H3'	48:A2:149:U:H5'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1520:U:C4'	48:A2:1611:G:H5'	2.47	0.44
48:A2:1944:C:H5''	48:A2:1945:A:OP1	2.17	0.44
48:A2:414:A:C2	48:A2:2335:U:O4'	2.70	0.44
48:A2:382:A:H1'	48:A2:397:G:N2	2.32	0.44
48:A2:4016:A:C8	48:A2:4016:A:OP1	2.70	0.44
48:A2:4031:G:N2	48:A2:4032:A:C2	2.85	0.44
48:A2:2026:G:OP2	48:A2:4423:C:H4'	2.16	0.44
48:A2:445:C:H5'	48:A2:446:A:O5'	2.18	0.44
15:AM:56:GLN:NE2	48:A2:4827:U:C6	2.85	0.44
48:A2:61:A:O5'	48:A2:61:A:H8	2.00	0.44
48:A2:632:G:H2'	48:A2:633:U:H5''	1.99	0.44
2:A4:39:C:O2'	12:AJ:46:GLN:CD	2.56	0.44
4:AB:163:ILE:HG12	4:AB:182:GLU:HG2	1.99	0.44
5:AC:47:ASN:HA	5:AC:112:HIS:ND1	2.32	0.44
5:AC:228:THR:HG21	5:AC:239:LYS:CG	2.46	0.44
6:AD:235:MET:O	6:AD:239:MET:CA	2.65	0.44
7:AE:190:HIS:CD2	48:A2:700:C:H4'	2.52	0.44
12:AJ:159:LYS:CA	12:AJ:159:LYS:HE3	2.46	0.44
16:AN:194:ARG:NE	48:A2:79:C:OP1	2.51	0.44
5:AC:112:HIS:CE1	16:AN:202:ARG:HH21	2.36	0.44
17:AO:17:GLY:HA3	48:A2:2033:G:O3'	2.18	0.44
49:B1:1417:C:H2'	49:B1:1418:C:O4'	2.17	0.44
49:B1:1605:G:C6	49:B1:1606:G:N1	2.86	0.44
49:B1:329:G:N2	49:B1:330:G:H1'	2.33	0.44
49:B1:491:C:OP2	74:BY:104:ARG:CD	2.65	0.44
49:B1:643:A:H4'	49:B1:644:G:O5'	2.17	0.44
49:B1:644:G:O2'	49:B1:645:C:C6	2.66	0.44
49:B1:74:G:H2'	49:B1:75:G:O4'	2.18	0.44
49:B1:802:A:O5'	49:B1:802:A:C8	2.70	0.44
50:BA:126:ASP:OD1	50:BA:128:ARG:HB2	2.18	0.44
49:B1:977:C:C5'	51:BB:66:VAL:HG21	2.47	0.44
53:BD:142:LEU:CD1	53:BD:150:MET:CG	2.95	0.44
54:BE:98:HIS:CB	54:BE:114:ILE:O	2.64	0.44
54:BE:82:TYR:CE1	54:BE:83:PRO:O	2.70	0.44
54:BE:99:PHE:HA	54:BE:112:HIS:O	2.18	0.44
55:BF:44:LYS:O	55:BF:45:TYR:CG	2.70	0.44
57:BH:107:LYS:C	57:BH:109:ARG:N	2.65	0.44
59:BJ:29:LEU:HD23	59:BJ:40:LYS:CE	2.40	0.44
60:BK:90:VAL:HB	60:BK:95:ARG:HB2	1.99	0.44
61:BL:17:PHE:CE1	61:BL:19:ASN:O	2.70	0.44
49:B1:942:G:H21	64:BO:137:SER:HB2	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1645:C:H5'	66:BQ:138:ARG:O	2.16	0.44
67:BR:24:LEU:HD13	67:BR:54:VAL:CG1	2.47	0.44
67:BR:21:TYR:CG	67:BR:71:ILE:CG2	2.91	0.44
49:B1:1608:U:C5'	68:BS:130:ARG:NH1	2.80	0.44
74:BY:7:ILE:HB	74:BY:47:MET:HE1	1.99	0.44
49:B1:1598:G:C8	75:BZ:81:GLY:CA	3.01	0.44
48:A2:1165:C:C6	48:A2:1165:C:OP1	2.70	0.44
48:A2:1337:A:H4'	48:A2:1338:G:O5'	2.17	0.44
48:A2:135:G:O5'	48:A2:135:G:C8	2.70	0.44
48:A2:149:U:H1'	48:A2:150:G:N2	2.33	0.44
48:A2:1798:C:H2'	48:A2:1798:C:O2	2.17	0.44
21:AS:93:MET:CG	48:A2:1933:G:H4'	2.30	0.44
13:AK:34:ASN:CA	48:A2:1950:G:H5'	2.40	0.44
48:A2:219:C:O4'	48:A2:219:C:O2	2.35	0.44
48:A2:2249:G:C8	48:A2:2249:G:O5'	2.70	0.44
1:A3:112:G:O3'	48:A2:2423:U:O2'	2.34	0.44
48:A2:2504:U:H2'	48:A2:2506:A:OP2	2.17	0.44
48:A2:2593:C:O2'	48:A2:2594:C:H5'	2.17	0.44
48:A2:3668:U:H3'	48:A2:3669:G:H5'	1.99	0.44
48:A2:4007:C:H2'	48:A2:4008:C:C6	2.53	0.44
48:A2:456:G:C2'	48:A2:457:A:O5'	2.66	0.44
48:A2:4615:C:O5'	48:A2:4615:C:H6	2.01	0.44
48:A2:86:U:C4	48:A2:97:G:N2	2.84	0.44
1:A3:80:A:H2'	1:A3:82:A:C2	2.52	0.44
2:A4:65:G:O6	2:A4:66:G:C2	2.70	0.44
5:AC:217:ILE:C	5:AC:219:LYS:N	2.69	0.44
5:AC:289:LEU:CD1	5:AC:293:LEU:HD11	2.47	0.44
6:AD:224:SER:HB2	6:AD:227:ILE:HD11	1.98	0.44
6:AD:46:THR:HG21	48:A2:1800:G:H4'	1.99	0.44
7:AE:203:ILE:O	7:AE:206:VAL:CB	2.65	0.44
7:AE:266:GLN:HE22	48:A2:4888:C:H5'	1.82	0.44
9:AG:58:PRO:HB2	9:AG:60:TYR:CE1	2.52	0.44
11:AI:19:LYS:HG3	11:AI:26:VAL:HG11	1.99	0.44
14:AL:160:VAL:O	14:AL:161:TYR:CD1	2.70	0.44
14:AL:56:ARG:HG3	14:AL:73:GLY:O	2.18	0.44
16:AN:176:LYS:O	48:A2:67:C:H5'	2.17	0.44
18:AP:18:ARG:CD	18:AP:147:GLU:HG2	2.47	0.44
19:AQ:48:LEU:HD22	19:AQ:48:LEU:O	2.18	0.44
19:AQ:79:THR:HG22	19:AQ:99:LYS:HD3	1.99	0.44
25:AW:77:LYS:HG3	25:AW:78:PHE:N	2.33	0.44
49:B1:1016:U:H4'	49:B1:1017:U:OP2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1105:G:N3	49:B1:1105:G:H2'	2.32	0.44
49:B1:1298:G:N2	49:B1:1298:G:OP1	2.50	0.44
49:B1:1395:C:H2'	49:B1:1396:A:O4'	2.17	0.44
49:B1:1497:G:C8	60:BK:62:PHE:CD1	3.06	0.44
49:B1:1547:C:H1'	49:B1:1670:C:H4'	1.99	0.44
49:B1:1642:U:H2'	49:B1:1643:U:C6	2.53	0.44
49:B1:1784:G:C4	49:B1:1785:C:C4	3.04	0.44
49:B1:1784:G:C5	49:B1:1785:C:C5	3.05	0.44
49:B1:59:U:C5'	49:B1:501:C:H4'	2.48	0.44
50:BA:208:GLU:CA	50:BA:211:GLU:HB3	2.47	0.44
52:BC:178:HIS:HB3	52:BC:200:ARG:HE	1.82	0.44
59:BJ:29:LEU:CD2	59:BJ:40:LYS:NZ	2.80	0.44
60:BK:3:MET:CB	60:BK:4:PRO:HD2	2.47	0.44
61:BL:153:LYS:O	61:BL:155:PHE:CD2	2.70	0.44
62:BM:114:TYR:OH	62:BM:124:ILE:HG21	2.17	0.44
64:BO:143:LYS:C	64:BO:145:GLY:H	2.20	0.44
49:B1:861:A:C4'	72:BW:107:SER:O	2.60	0.44
5:AC:114:ARG:O	48:A2:1489:C:H4'	2.17	0.44
48:A2:1741:G:C5	48:A2:1742:G:C8	3.05	0.44
48:A2:1930:U:O4'	48:A2:1930:U:O2	2.36	0.44
48:A2:205:A:N3	48:A2:205:A:C2'	2.80	0.44
48:A2:2288:G:H2'	48:A2:2289:C:C6	2.52	0.44
48:A2:190:G:N1	48:A2:244:G:N1	2.66	0.44
48:A2:2607:U:O2	48:A2:2607:U:H2'	2.17	0.44
48:A2:4700:C:OP2	48:A2:4700:C:H6	2.00	0.44
1:A3:79:G:H8	1:A3:79:G:O5'	2.01	0.44
2:A4:95:C:O4'	8:AF:229:GLU:CG	2.66	0.44
5:AC:52:TYR:CE1	5:AC:53:ALA:O	2.70	0.44
6:AD:10:LYS:C	6:AD:10:LYS:CD	2.85	0.44
6:AD:150:LEU:HD11	48:A2:4242:A:H62	1.82	0.44
6:AD:260:GLU:HG2	6:AD:261:VAL:N	2.33	0.44
8:AF:111:LEU:HD22	48:A2:1820:U:O2	2.17	0.44
8:AF:184:ILE:HA	8:AF:189:ASP:OD2	2.18	0.44
10:AH:64:ARG:CG	10:AH:64:ARG:NH1	2.73	0.44
13:AK:17:ILE:O	13:AK:21:LEU:HB2	2.17	0.44
13:AK:49:GLY:C	13:AK:51:ALA:H	2.21	0.44
13:AK:55:MET:HB2	13:AK:87:GLY:C	2.38	0.44
16:AN:200:LEU:HB3	16:AN:204:ARG:NH2	2.33	0.44
18:AP:23:ARG:O	18:AP:86:LYS:HE2	2.17	0.44
23:AU:40:GLU:CD	23:AU:65:ARG:HB2	2.37	0.44
23:AU:52:LYS:HB3	23:AU:52:LYS:HZ2	1.79	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AU:56:LEU:HD11	23:AU:63:ILE:HD11	1.99	0.44
24:AV:107:ASN:HD21	24:AV:111:GLU:HB2	1.82	0.44
25:AW:98:PRO:CD	25:AW:99:GLU:H	2.16	0.44
28:AZ:95:VAL:CG1	28:AZ:113:GLU:HG3	2.43	0.44
28:AZ:24:VAL:HG22	28:AZ:44:ALA:O	2.17	0.44
28:AZ:73:LYS:HB2	28:AZ:75:TYR:CE2	2.53	0.44
49:B1:1201:U:O4'	49:B1:1357:A:C2	2.71	0.44
49:B1:1519:U:C6	49:B1:1623:A:N6	2.86	0.44
50:BA:175:TRP:HB2	50:BA:202:TYR:HD2	1.82	0.44
51:BB:183:GLU:CA	51:BB:186:ASN:ND2	2.75	0.44
51:BB:70:SER:HA	51:BB:83:LYS:CA	2.46	0.44
53:BD:32:ASP:HB3	53:BD:57:ASN:HB3	1.98	0.44
54:BE:71:LYS:HG3	54:BE:91:SER:O	2.17	0.44
56:BG:142:ARG:CB	56:BG:147:LEU:HD21	2.47	0.44
49:B1:869:A:C2	57:BH:114:GLN:NE2	2.85	0.44
57:BH:146:VAL:HG12	72:BW:42:MET:SD	2.58	0.44
49:B1:305:U:O2'	58:BI:43:ILE:HD12	2.18	0.44
58:BI:56:ARG:CG	58:BI:56:ARG:NH1	2.73	0.44
61:BL:111:VAL:HG23	61:BL:140:PHE:C	2.38	0.44
64:BO:35:ALA:CB	64:BO:112:ALA:HB2	2.48	0.44
65:BP:30:TYR:HE1	65:BP:31:GLU:OE1	2.01	0.44
65:BP:65:LYS:HD2	65:BP:66:GLU:OE2	2.18	0.44
67:BR:95:ILE:O	67:BR:96:ILE:HD12	2.17	0.44
68:BS:74:PRO:CG	68:BS:84:LEU:CD1	2.77	0.44
69:BT:9:VAL:HG11	69:BT:138:VAL:HG11	1.99	0.44
70:BU:48:LEU:HD13	70:BU:93:SER:OG	2.17	0.44
75:BZ:66:LYS:C	75:BZ:67:LEU:CD1	2.85	0.44
75:BZ:99:LEU:O	75:BZ:99:LEU:CD1	2.51	0.44
48:A2:132:G:C4	48:A2:132:G:OP2	2.70	0.44
13:AK:14:PHE:HB2	48:A2:1941:A:C2	2.53	0.44
48:A2:215:A:H4'	48:A2:216:G:H5''	1.98	0.44
18:AP:27:LYS:HD3	48:A2:2340:G:OP2	2.18	0.44
48:A2:2344:C:H5'	48:A2:2345:A:H5''	1.99	0.44
48:A2:2568:C:H2'	48:A2:2569:G:H5'	1.99	0.44
5:AC:97:ARG:NH1	48:A2:348:U:C4'	2.68	0.44
3:AA:241:ARG:HA	48:A2:3678:U:C1'	2.48	0.44
48:A2:3694:A:H2'	48:A2:3695:A:O5'	2.18	0.44
48:A2:3927:G:N9	48:A2:3927:G:OP2	2.51	0.44
48:A2:4031:G:H2'	48:A2:4032:A:C8	2.53	0.44
48:A2:375:U:C4'	48:A2:408:C:H2'	2.47	0.44
48:A2:48:G:O2'	48:A2:49:U:H6	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:648:C:O2'	48:A2:649:C:O5'	2.32	0.44
1:A3:135:C:OP2	26:AX:63:LYS:CE	2.57	0.44
1:A3:21:C:H5'	48:A2:2312:G:O5'	2.18	0.44
4:AB:217:ILE:HG23	4:AB:348:ARG:O	2.17	0.44
10:AH:92:MET:CE	10:AH:179:ILE:HG22	2.48	0.44
14:AL:165:LYS:HD3	48:A2:503:A:O2'	2.18	0.44
14:AL:174:LYS:HG2	14:AL:175:ASN:H	1.82	0.44
16:AN:146:PRO:HA	16:AN:149:GLN:CG	2.48	0.44
18:AP:73:ALA:HB1	18:AP:78:TRP:O	2.18	0.44
19:AQ:78:LYS:HE3	48:A2:1413:C:C5'	2.47	0.44
20:AR:149:LYS:HA	20:AR:152:LYS:HG3	1.98	0.44
21:AS:89:GLY:O	21:AS:91:HIS:CD2	2.70	0.44
22:AT:54:HIS:HB3	22:AT:57:TYR:HD2	1.83	0.44
24:AV:15:ARG:HB2	48:A2:4580:G:H5''	1.98	0.44
49:B1:103:A:C5	49:B1:356:C:C4	3.06	0.44
49:B1:563:G:OP2	49:B1:563:G:C8	2.70	0.44
49:B1:598:G:H2'	49:B1:599:A:H8	1.82	0.44
49:B1:659:G:N2	73:BX:17:ARG:CZ	2.81	0.44
50:BA:112:ILE:HG23	50:BA:113:GLN:H	1.81	0.44
51:BB:73:ASP:O	51:BB:76:ASN:N	2.51	0.44
51:BB:77:ASP:O	51:BB:78:GLU:OE2	2.35	0.44
54:BE:97:GLU:O	54:BE:98:HIS:CD2	2.70	0.44
56:BG:137:ARG:HD2	56:BG:140:ARG:NH1	2.32	0.44
65:BP:20:VAL:HG23	65:BP:25:LEU:HD21	2.00	0.44
66:BQ:100:VAL:O	66:BQ:101:ASP:C	2.55	0.44
67:BR:3:ARG:CG	67:BR:4:VAL:N	2.70	0.44
70:BU:93:SER:HB3	70:BU:97:ILE:HB	2.00	0.44
72:BW:98:GLN:C	72:BW:99:PHE:O	2.56	0.44
8:AF:34:ARG:HH11	48:A2:1421:U:H1'	1.79	0.44
48:A2:1745:C:HO2'	48:A2:1746:G:P	2.41	0.44
48:A2:1753:U:H2'	48:A2:1754:C:O4'	2.16	0.44
5:AC:45:ARG:HH12	48:A2:2275:G:H4'	1.83	0.44
48:A2:227:G:H3'	48:A2:228:U:H5''	1.94	0.44
48:A2:2525:G:OP2	48:A2:2525:G:H8	2.01	0.44
48:A2:2684:G:N2	48:A2:2691:G:C2	2.86	0.44
48:A2:30:C:H2'	48:A2:31:U:C6	2.52	0.44
48:A2:3929:G:O6	48:A2:4016:A:N1	2.51	0.44
11:AI:102:MET:SD	48:A2:4403:A:C5'	3.04	0.44
48:A2:4663:A:C2'	48:A2:4664:G:H5'	2.47	0.44
48:A2:467:C:H2'	48:A2:468:C:C6	2.52	0.44
48:A2:4705:G:H8	48:A2:4705:G:OP2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AM:120:ASN:ND2	48:A2:4837:C:OP2	2.50	0.44
48:A2:4852:A:H4'	48:A2:4853:C:O4'	2.18	0.44
48:A2:923:C:C6	48:A2:923:C:OP1	2.71	0.44
48:A2:925:C:H1'	48:A2:926:G:C8	2.52	0.44
4:AB:120:LYS:HG3	48:A2:4926:A:H5'	1.99	0.44
4:AB:292:LEU:HD22	4:AB:292:LEU:HA	1.74	0.44
4:AB:48:GLY:CA	4:AB:81:THR:HG22	2.48	0.44
5:AC:94:ASN:HD21	5:AC:102:PHE:CA	2.31	0.44
5:AC:206:GLY:N	5:AC:226:GLY:CA	2.81	0.44
6:AD:200:MET:CE	6:AD:237:GLU:OE1	2.65	0.44
6:AD:60:ILE:CG1	6:AD:80:ALA:HB2	2.47	0.44
8:AF:224:THR:C	8:AF:225:THR:CG2	2.86	0.44
11:AI:38:ARG:HD2	11:AI:41:ALA:HB2	2.00	0.44
13:AK:80:PRO:O	13:AK:83:ARG:NH2	2.51	0.44
14:AL:16:LYS:CG	14:AL:17:ASP:H	2.31	0.44
17:AO:37:ARG:NE	17:AO:108:ILE:HD11	2.33	0.44
19:AQ:12:LYS:HD3	19:AQ:14:ARG:CG	2.48	0.44
20:AR:144:LYS:NZ	20:AR:144:LYS:CB	2.77	0.44
27:AY:54:GLU:HB2	27:AY:108:ARG:HB2	2.00	0.44
49:B1:1011:A:H2'	49:B1:1012:A:O4'	2.17	0.44
49:B1:1017:U:P	63:BN:62:GLN:OE1	2.76	0.44
49:B1:1397:U:H4'	49:B1:1398:G:H21	1.75	0.44
49:B1:1557:C:H3'	49:B1:1557:C:O2	2.18	0.44
49:B1:1602:U:C4	49:B1:1604:G:C8	3.06	0.44
49:B1:185:G:C2	49:B1:186:C:C2	3.06	0.44
49:B1:316:G:C6	49:B1:335:G:N1	2.86	0.44
49:B1:59:U:H4'	49:B1:501:C:H4'	1.99	0.44
49:B1:560:A:C4'	49:B1:561:A:N7	2.72	0.44
49:B1:643:A:OP1	59:BJ:38:ARG:NH1	2.51	0.44
49:B1:696:G:OP2	49:B1:696:G:C8	2.70	0.44
49:B1:693:A:H2	49:B1:737:G:C6	2.31	0.44
49:B1:92:A:C6	49:B1:446:G:C6	3.06	0.44
51:BB:44:ILE:CD1	51:BB:74:LEU:HD21	2.47	0.44
53:BD:116:ARG:CD	53:BD:152:PHE:CZ	2.93	0.44
54:BE:213:ALA:HB2	54:BE:242:LYS:CD	2.47	0.44
25:AW:83:THR:HG21	56:BG:132:ARG:HG3	1.99	0.44
56:BG:7:PHE:HB2	56:BG:10:THR:HB	1.99	0.44
59:BJ:138:ARG:HA	59:BJ:156:HIS:CB	2.42	0.44
59:BJ:35:TYR:CD1	59:BJ:106:LEU:O	2.71	0.44
61:BL:11:GLN:CG	61:BL:12:LYS:N	2.80	0.44
61:BL:32:LYS:C	61:BL:34:PRO:CD	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:BL:40:ILE:HD12	61:BL:143:LEU:CD1	2.48	0.44
64:BO:84:ARG:HA	64:BO:84:ARG:HD2	1.78	0.44
66:BQ:15:ARG:HA	66:BQ:19:ALA:O	2.17	0.44
66:BQ:58:LEU:CD2	66:BQ:108:ILE:CD1	2.93	0.44
66:BQ:62:ARG:HG2	66:BQ:92:LEU:HD12	1.85	0.44
72:BW:105:THR:HB	72:BW:124:LYS:HB2	2.00	0.44
49:B1:658:U:C1'	73:BX:17:ARG:NH2	2.80	0.44
73:BX:41:PHE:HZ	73:BX:102:VAL:HG23	1.82	0.44
74:BY:107:ARG:O	74:BY:111:LYS:HG3	2.18	0.44
74:BY:8:ARG:HH22	74:BY:68:LYS:HE2	1.82	0.44
48:A2:1165:C:C6	48:A2:1165:C:OP2	2.70	0.44
48:A2:133:C:C5	48:A2:135:G:C5	3.06	0.44
48:A2:1534:G:H1'	48:A2:1556:G:N2	2.33	0.44
8:AF:111:LEU:O	48:A2:1821:G:H5'	2.18	0.44
48:A2:2037:G:H2'	48:A2:2037:G:OP2	2.18	0.44
48:A2:412:A:C5'	48:A2:2289:C:O2'	2.66	0.44
3:AA:9:ARG:CD	48:A2:2323:U:N3	67.06	0.44
48:A2:2610:U:O5'	48:A2:2610:U:H6	2.00	0.44
48:A2:2747:C:O2'	48:A2:2748:U:H2'	2.18	0.44
48:A2:3618:A:OP2	48:A2:3800:G:H5'	2.18	0.44
48:A2:3931:A:H2'	48:A2:3932:G:O4'	2.18	0.44
48:A2:4110:C:C6	48:A2:4110:C:O5'	2.70	0.44
48:A2:412:A:H5'	48:A2:2289:C:O2'	2.17	0.44
10:AH:174:LYS:HG2	48:A2:4439:A:O2'	2.18	0.44
4:AB:15:GLY:CA	48:A2:4550:U:O4'	2.66	0.44
21:AS:171:ARG:HG2	48:A2:4724:A:H61	1.82	0.44
2:A4:26:C:H2'	2:A4:27:G:O4'	2.18	0.44
3:AA:70:LYS:NZ	3:AA:72:ARG:NH2	2.66	0.44
4:AB:293:ILE:CD1	4:AB:296:GLY:HA3	2.48	0.44
6:AD:150:LEU:CD1	48:A2:4242:A:N6	2.80	0.44
7:AE:116:TYR:N	7:AE:116:TYR:CD1	2.85	0.44
7:AE:123:ARG:NH1	7:AE:124:LYS:CB	2.73	0.44
7:AE:125:LEU:C	7:AE:126:LEU:HG	2.38	0.44
7:AE:137:VAL:CG2	7:AE:138:ARG:N	2.81	0.44
8:AF:115:ARG:HH22	48:A2:1822:C:H5'	1.81	0.44
12:AJ:119:TYR:OH	12:AJ:124:GLY:HA2	2.18	0.44
13:AK:52:VAL:HG22	13:AK:90:PHE:O	2.18	0.44
27:AY:44:VAL:HG11	27:AY:119:LEU:HD11	1.98	0.44
28:AZ:133:LYS:NZ	28:AZ:133:LYS:HB3	2.33	0.44
49:B1:1223:A:OP1	55:BF:79:HIS:N	2.37	0.44
49:B1:1543:U:C2'	66:BQ:77:HIS:HE1	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1585:U:H3'	49:B1:1586:U:H5'	1.99	0.44
49:B1:1752:C:C2	49:B1:1781:A:C2	3.06	0.44
49:B1:190:G:H1'	49:B1:210:U:O4	2.18	0.44
49:B1:75:G:O2'	49:B1:76:U:C5	2.70	0.44
49:B1:887:U:C6	49:B1:888:U:C5	3.06	0.44
49:B1:96:C:OP2	59:BJ:2:PRO:HG3	2.18	0.44
49:B1:980:A:H2'	49:B1:981:A:C8	2.53	0.44
49:B1:986:G:O6	49:B1:987:A:C6	2.70	0.44
51:BB:189:ILE:N	51:BB:190:PRO:HD2	2.33	0.44
53:BD:106:ARG:HH22	53:BD:173:ARG:HD2	1.82	0.44
54:BE:92:ILE:HG22	54:BE:95:THR:N	2.33	0.44
54:BE:98:HIS:O	54:BE:99:PHE:CD1	2.70	0.44
49:B1:163:U:OP1	56:BG:85:ARG:HB3	2.17	0.44
58:BI:188:TYR:CE2	58:BI:194:GLU:OE1	2.71	0.44
49:B1:1274:G:H5'	60:BK:47:LYS:CE	2.47	0.44
63:BN:54:LEU:HA	63:BN:58:HIS:CD2	2.52	0.44
67:BR:119:VAL:C	67:BR:120:THR:HG23	2.38	0.44
67:BR:96:ILE:CG2	67:BR:97:GLU:N	2.81	0.44
70:BU:50:VAL:CG1	70:BU:91:LEU:CD2	2.93	0.44
73:BX:137:LYS:CE	73:BX:137:LYS:N	2.80	0.44
75:BZ:48:VAL:CG2	75:BZ:80:ARG:CZ	2.93	0.44
48:A2:117:C:N3	48:A2:118:C:C4	2.86	0.44
48:A2:1247:C:H2'	48:A2:1248:G:H8	1.83	0.44
48:A2:1256:G:C2	48:A2:1257:A:OP2	2.70	0.44
48:A2:1337:A:N7	48:A2:1485:A:C6	2.85	0.44
48:A2:1721:G:N3	48:A2:1724:A:N6	2.66	0.44
48:A2:1786:A:N6	48:A2:1815:U:H1'	2.33	0.44
48:A2:2067:G:C6	48:A2:2247:A:H2	2.32	0.44
48:A2:2427:G:C6	48:A2:2428:A:C6	3.05	0.44
48:A2:2823:A:H5''	48:A2:2824:A:OP1	2.18	0.44
48:A2:4110:C:C2'	48:A2:4111:C:C6	2.93	0.44
48:A2:438:G:H2'	48:A2:439:U:C6	2.53	0.44
48:A2:4640:G:O2'	48:A2:4641:G:H5''	2.18	0.44
48:A2:677:G:C8	48:A2:677:G:C4'	3.00	0.44
3:AA:61:VAL:HG11	3:AA:63:PHE:CZ	2.53	0.44
4:AB:84:MET:O	4:AB:205:VAL:N	2.50	0.44
5:AC:317:ASN:HA	5:AC:318:PRO:HD3	1.88	0.44
7:AE:173:LEU:HD21	7:AE:191:GLN:CA	2.48	0.44
8:AF:93:ILE:HD13	8:AF:213:LEU:HD12	2.00	0.44
9:AG:86:ALA:CB	9:AG:185:LYS:HG3	2.48	0.44
12:AJ:159:LYS:HA	12:AJ:159:LYS:HE3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:104:ALA:O	13:AK:106:LYS:N	2.51	0.44
18:AP:124:LYS:HB2	18:AP:141:SER:O	2.18	0.44
25:AW:60:LYS:HD2	25:AW:60:LYS:N	2.31	0.44
25:AW:89:ASP:O	25:AW:93:LYS:HG3	2.18	0.44
49:B1:1201:U:H2'	49:B1:1202:U:C6	2.53	0.44
49:B1:1314:U:C5	60:BK:2:LEU:HD23	2.51	0.44
49:B1:1314:U:N3	60:BK:2:LEU:CA	2.78	0.44
49:B1:1416:C:H2'	69:BT:3:GLY:HA2	2.00	0.44
49:B1:1620:A:N1	49:B1:1624:U:O2	2.51	0.44
49:B1:289:G:H2'	49:B1:290:U:C6	2.53	0.44
50:BA:108:PHE:HB3	50:BA:140:VAL:HG21	1.99	0.44
50:BA:178:LEU:C	50:BA:178:LEU:HD23	2.38	0.44
50:BA:203:PHE:O	50:BA:204:TYR:CB	2.50	0.44
51:BB:71:LEU:CG	51:BB:84:PHE:CE2	2.75	0.44
53:BD:167:TYR:O	53:BD:189:MET:HA	2.18	0.44
56:BG:1:MET:HE1	56:BG:24:LEU:HD13	1.99	0.44
57:BH:17:ASP:H	57:BH:20:GLU:HB2	1.82	0.44
62:BM:18:LEU:O	62:BM:22:LEU:HD13	2.17	0.44
49:B1:953:C:H1'	64:BO:52:THR:HB	1.99	0.44
55:BF:49:LEU:HD12	66:BQ:50:LYS:HB2	1.99	0.44
66:BQ:86:GLN:HE21	66:BQ:90:LYS:NZ	2.15	0.44
67:BR:117:LEU:HD23	67:BR:117:LEU:HA	1.76	0.44
70:BU:88:LEU:N	70:BU:88:LEU:CD1	2.80	0.44
74:BY:104:ARG:O	74:BY:105:LYS:HB2	2.17	0.44
74:BY:104:ARG:HH21	74:BY:108:LYS:HE3	1.82	0.44
48:A2:1056:G:H2'	48:A2:1057:G:O4'	2.17	0.43
48:A2:117:C:N4	48:A2:118:C:N4	2.65	0.43
48:A2:1223:G:H3'	48:A2:1252:G:N2	2.33	0.43
14:AL:35:ARG:CD	48:A2:1345:G:OP1	2.66	0.43
48:A2:141:G:C6	48:A2:142:G:C8	3.07	0.43
48:A2:1739:U:H2'	48:A2:1740:G:C1'	2.48	0.43
48:A2:1742:G:N3	48:A2:1742:G:C2'	2.81	0.43
48:A2:182:C:O2'	48:A2:183:G:C4	2.63	0.43
48:A2:1901:C:OP1	48:A2:1901:C:H3'	2.17	0.43
48:A2:194:A:H2'	48:A2:195:A:O5'	2.18	0.43
13:AK:84:GLY:O	48:A2:2002:G:H4'	2.17	0.43
48:A2:2550:C:O5'	48:A2:2550:C:H6	2.01	0.43
48:A2:2740:U:HO2'	48:A2:2741:G:C4'	2.30	0.43
48:A2:32:G:N2	48:A2:51:A:N6	2.66	0.43
48:A2:349:A:OP2	48:A2:349:A:C8	2.71	0.43
48:A2:3656:C:H2'	48:A2:3657:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1570:U:H1'	48:A2:3799:A:H1'	2.00	0.43
48:A2:4170:U:H4'	48:A2:4236:A:C2	2.53	0.43
48:A2:308:G:O2'	48:A2:4317:G:OP1	2.34	0.43
48:A2:4424:C:N4	48:A2:4425:U:O4	2.51	0.43
4:AB:262:VAL:O	48:A2:4527:C:H5'	2.17	0.43
48:A2:4650:C:H41	48:A2:4660:C:C4'	2.30	0.43
48:A2:692:G:C5	48:A2:693:U:C4	3.06	0.43
48:A2:715:C:O2'	48:A2:716:G:H5'	2.18	0.43
1:A3:127:U:O4	1:A3:129:C:N4	2.51	0.43
1:A3:7:U:O2'	48:A2:1288:C:H5''	2.18	0.43
4:AB:94:GLU:HA	4:AB:158:GLN:HE21	1.83	0.43
5:AC:49:ARG:HB2	48:A2:343:A:OP1	2.17	0.43
5:AC:77:PRO:CG	5:AC:91:ALA:CB	2.93	0.43
6:AD:26:GLY:O	6:AD:150:LEU:HD12	2.18	0.43
11:AI:17:TYR:HE1	48:A2:1769:A:H62	1.65	0.43
12:AJ:62:ILE:O	12:AJ:62:ILE:HG13	2.18	0.43
15:AM:19:PRO:CB	48:A2:923:C:C2	2.99	0.43
15:AM:56:GLN:HG2	15:AM:91:TRP:CH2	2.52	0.43
22:AT:131:GLN:HG3	22:AT:132:PRO:HD2	2.00	0.43
49:B1:430:C:H6	49:B1:430:C:O5'	2.01	0.43
49:B1:56:G:O5'	74:BY:111:LYS:HD3	2.18	0.43
50:BA:114:ALA:C	50:BA:116:PHE:H	2.18	0.43
53:BD:9:ARG:O	53:BD:12:VAL:HG12	2.17	0.43
54:BE:41:CYS:HB2	54:BE:84:ALA:O	2.19	0.43
55:BF:40:ALA:O	55:BF:42:LYS:N	2.50	0.43
56:BG:7:PHE:CZ	56:BG:113:ILE:HD13	2.52	0.43
57:BH:43:LEU:HD11	57:BH:72:PHE:CE2	2.53	0.43
58:BI:104:ILE:HB	58:BI:171:LEU:HB3	2.00	0.43
59:BJ:165:TYR:O	59:BJ:165:TYR:CD1	2.70	0.43
61:BL:77:VAL:HG22	61:BL:86:ILE:HD12	1.99	0.43
64:BO:45:THR:HG21	64:BO:49:GLY:C	2.37	0.43
49:B1:1298:G:H4'	65:BP:78:THR:HA	1.99	0.43
67:BR:20:TYR:CE2	67:BR:38:ILE:CG2	2.91	0.43
68:BS:66:ARG:HG2	68:BS:66:ARG:NH1	2.30	0.43
72:BW:90:GLN:HG2	72:BW:113:HIS:NE2	2.33	0.43
73:BX:68:LYS:HD3	73:BX:91:LEU:HB2	1.98	0.43
48:A2:1164:C:H42	48:A2:1167:A:C1'	2.32	0.43
48:A2:1188:G:C2	48:A2:1189:C:C2	3.06	0.43
48:A2:1533:C:H2'	48:A2:1534:G:H5'	1.99	0.43
48:A2:1755:U:C4	48:A2:1756:C:C5	3.07	0.43
48:A2:1919:C:C2	48:A2:1920:A:N6	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2068:C:C6	48:A2:2247:A:C6	3.06	0.43
48:A2:33:A:OP1	48:A2:33:A:H4'	2.19	0.43
48:A2:4229:G:H3'	48:A2:4229:G:N3	2.33	0.43
48:A2:1614:A:H5''	48:A2:4496:G:O3'	2.18	0.43
48:A2:4605:G:H2'	48:A2:4606:G:O4'	2.19	0.43
48:A2:4657:C:H2'	48:A2:4658:C:O4'	2.18	0.43
4:AB:25:HIS:ND1	48:A2:4942:C:H5''	2.33	0.43
48:A2:505:C:C4	48:A2:506:U:C4	3.06	0.43
1:A3:149:G:C2	1:A3:151:G:N7	2.86	0.43
1:A3:59:A:OP2	1:A3:98:C:H5'	2.19	0.43
4:AB:94:GLU:CG	4:AB:158:GLN:NE2	2.81	0.43
5:AC:214:ASP:OD1	5:AC:215:ASN:N	2.51	0.43
6:AD:220:LYS:O	6:AD:224:SER:CB	2.66	0.43
8:AF:184:ILE:HA	8:AF:189:ASP:CG	2.35	0.43
13:AK:2:PRO:HG2	48:A2:2672:G:H1'	185.70	0.43
14:AL:44:ARG:CZ	48:A2:182:C:H5''	2.48	0.43
17:AO:147:TRP:CZ3	17:AO:150:GLN:HB2	2.53	0.43
20:AR:15:LEU:CD2	20:AR:45:ILE:HD13	2.48	0.43
20:AR:6:LEU:HD13	48:A2:2391:A:OP1	2.17	0.43
26:AX:129:ARG:HG2	26:AX:130:PRO:HD2	1.99	0.43
27:AY:39:ARG:O	27:AY:43:ASN:N	2.51	0.43
49:B1:13:C:H5''	52:BC:235:ASN:ND2	2.32	0.43
49:B1:25:A:HO2'	49:B1:26:U:H6	1.63	0.43
49:B1:282:G:C8	49:B1:282:G:OP2	2.70	0.43
49:B1:286:U:O5'	49:B1:286:U:C6	2.70	0.43
49:B1:321:C:H2'	49:B1:322:C:C6	2.53	0.43
49:B1:65:C:OP2	56:BG:175:LYS:N	2.32	0.43
49:B1:743:U:H4'	49:B1:744:G:H5'	1.99	0.43
50:BA:111:GLN:HG3	50:BA:116:PHE:CE2	2.53	0.43
50:BA:77:ILE:HG12	50:BA:99:ILE:HG21	1.98	0.43
53:BD:211:VAL:HG23	67:BR:20:TYR:HH	1.75	0.43
56:BG:101:ILE:HG21	56:BG:103:ASP:OD1	2.18	0.43
56:BG:69:THR:C	56:BG:101:ILE:CG1	2.86	0.43
57:BH:188:GLU:HG2	57:BH:190:PRO:HD3	2.00	0.43
59:BJ:149:VAL:HG11	59:BJ:154:GLN:CG	2.45	0.43
59:BJ:151:LEU:C	59:BJ:151:LEU:CD2	2.86	0.43
59:BJ:153:SER:O	59:BJ:154:GLN:HB3	2.18	0.43
61:BL:77:VAL:CG2	61:BL:86:ILE:HD12	2.48	0.43
63:BN:29:THR:CB	63:BN:30:SER:C	2.85	0.43
63:BN:43:LYS:HD3	63:BN:43:LYS:HA	1.62	0.43
64:BO:44:VAL:HG21	64:BO:81:VAL:HG13	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BP:54:HIS:HD1	65:BP:54:HIS:C	2.22	0.43
65:BP:60:LEU:HD13	65:BP:60:LEU:C	2.38	0.43
66:BQ:14:GLY:CA	66:BQ:21:ALA:H	2.29	0.43
68:BS:63:GLU:O	68:BS:66:ARG:HB3	2.18	0.43
66:BQ:37:ARG:CG	69:BT:7:LYS:HG2	2.46	0.43
72:BW:108:ALA:HB3	72:BW:111:MET:HE1	2.00	0.43
48:A2:1296:C:C4	48:A2:1306:A:C8	3.06	0.43
19:AQ:65:ARG:NH2	48:A2:1441:A:OP1	2.50	0.43
48:A2:1591:U:O5'	48:A2:1591:U:H6	2.02	0.43
8:AF:111:LEU:O	48:A2:1821:G:C4'	2.67	0.43
48:A2:1981:G:O5'	48:A2:1981:G:N3	2.52	0.43
48:A2:229:G:C2'	48:A2:230:U:H5'	2.47	0.43
27:AY:33:PRO:HG3	48:A2:234:G:O2'	2.18	0.43
26:AX:53:ARG:NE	48:A2:2454:G:C5	2.86	0.43
48:A2:4131:G:O5'	48:A2:4131:G:H8	2.00	0.43
24:AV:47:GLY:HA2	48:A2:4455:U:O2'	2.10	0.43
7:AE:105:ARG:CD	48:A2:464:A:N1	2.80	0.43
48:A2:4826:G:O2'	48:A2:4827:U:C5'	2.65	0.43
7:AE:266:GLN:HE22	48:A2:4888:C:H4'	1.82	0.43
48:A2:4974:A:C2	48:A2:4975:G:C8	3.06	0.43
48:A2:972:C:H2'	48:A2:973:C:H6	1.83	0.43
5:AC:190:ARG:HH12	5:AC:199:ARG:NH1	2.17	0.43
5:AC:322:LEU:O	5:AC:323:ARG:HB3	2.18	0.43
5:AC:51:PRO:O	5:AC:52:TYR:CD1	2.70	0.43
8:AF:164:LYS:O	8:AF:165:LYS:HD2	2.18	0.43
9:AG:120:LYS:HD2	9:AG:120:LYS:HA	1.75	0.43
9:AG:224:THR:HA	9:AG:228:ASP:OD2	2.18	0.43
9:AG:53:ARG:HG3	9:AG:54:PHE:CD2	2.52	0.43
11:AI:74:LYS:HB2	11:AI:74:LYS:NZ	3.27	0.43
13:AK:69:LEU:O	13:AK:70:GLU:C	2.57	0.43
18:AP:10:ASN:ND2	18:AP:13:LYS:CG	2.73	0.43
20:AR:81:ARG:NH2	48:A2:3579:A:OP2	2.52	0.43
21:AS:84:TYR:HB2	21:AS:124:ILE:HG12	2.00	0.43
23:AU:50:ASN:C	23:AU:50:ASN:HD22	2.21	0.43
24:AV:139:ILE:C	24:AV:140:ALA:OXT	2.57	0.43
25:AW:109:ILE:HG22	25:AW:113:LYS:CE	2.42	0.43
25:AW:78:PHE:CG	25:AW:79:GLN:N	2.87	0.43
26:AX:117:TYR:CB	26:AX:119:ILE:HG12	2.47	0.43
28:AZ:89:ILE:C	28:AZ:91:LEU:H	2.20	0.43
49:B1:1130:G:H4'	63:BN:10:GLY:HA3	2.00	0.43
49:B1:1442:U:O2'	66:BQ:13:PHE:CE1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1597:C:H4'	49:B1:1603:G:N1	2.32	0.43
49:B1:1779:G:N3	49:B1:1779:G:H2'	2.33	0.43
49:B1:182:C:C2'	49:B1:183:G:O4'	2.67	0.43
49:B1:1849:G:H2'	49:B1:1850:A:O4'	2.18	0.43
49:B1:1853:C:H2'	49:B1:1854:U:C6	2.53	0.43
49:B1:64:A:C3'	56:BG:175:LYS:HZ2	2.32	0.43
50:BA:90:PHE:CE1	50:BA:178:LEU:HD22	2.54	0.43
51:BB:41:ILE:HD11	51:BB:73:ASP:CA	2.49	0.43
51:BB:69:VAL:O	51:BB:69:VAL:HG22	2.18	0.43
52:BC:102:LEU:O	52:BC:104:ASP:N	2.52	0.43
55:BF:98:GLU:OE2	75:BZ:100:VAL:CG1	2.66	0.43
49:B1:77:A:C2	56:BG:179:LEU:HD21	2.52	0.43
57:BH:103:LYS:O	57:BH:103:LYS:HG3	2.18	0.43
57:BH:115:LYS:HG2	57:BH:116:ARG:N	2.33	0.43
59:BJ:81:LEU:CD1	59:BJ:97:ILE:HG12	2.48	0.43
62:BM:94:ILE:HG22	62:BM:100:PRO:CA	2.45	0.43
64:BO:30:VAL:HG23	64:BO:47:LEU:HA	2.00	0.43
65:BP:130:ARG:N	65:BP:131:PRO:CD	2.82	0.43
67:BR:98:VAL:CA	67:BR:117:LEU:HD21	2.31	0.43
67:BR:20:TYR:CD2	67:BR:38:ILE:HG22	2.52	0.43
67:BR:71:ILE:HD11	67:BR:74:GLN:HG2	2.00	0.43
68:BS:82:TRP:CZ3	68:BS:83:PHE:HB2	2.53	0.43
48:A2:1156:G:H2'	48:A2:1157:G:O4'	2.18	0.43
48:A2:1159:C:C4	48:A2:1160:U:C4	3.05	0.43
8:AF:70:ARG:CZ	48:A2:1191:G:O3'	2.66	0.43
48:A2:133:C:C2	48:A2:134:G:C8	3.05	0.43
48:A2:1393:U:H6	48:A2:1393:U:O5'	2.01	0.43
48:A2:1337:A:N7	48:A2:1485:A:C5	2.86	0.43
48:A2:1752:A:C5	48:A2:1753:U:C4	3.05	0.43
19:AQ:2:GLY:CA	48:A2:1878:A:H5'	2.48	0.43
17:AO:48:TYR:CE1	48:A2:1911:U:C1'	3.01	0.43
48:A2:1953:G:C2	48:A2:1954:G:C5	3.06	0.43
48:A2:2057:G:H5''	48:A2:2058:C:OP2	2.18	0.43
19:AQ:3:VAL:CG2	48:A2:2256:C:H5'	2.47	0.43
24:AV:64:THR:HG21	48:A2:3770:A:H5'	2.00	0.43
48:A2:4089:U:C6	48:A2:4089:U:OP2	2.71	0.43
48:A2:454:C:H2'	48:A2:455:G:C8	2.53	0.43
48:A2:476:G:H1	48:A2:666:G:H22	1.66	0.43
48:A2:4833:G:H3'	48:A2:4834:U:C5'	2.48	0.43
3:AA:90:CYS:HB3	3:AA:101:VAL:HG13	2.00	0.43
4:AB:13:SER:OG	48:A2:1706:G:N2	76.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:393:LYS:HE3	48:A2:5000:A:C4'	2.44	0.43
5:AC:29:LYS:HG3	5:AC:29:LYS:O	2.19	0.43
7:AE:138:ARG:N	7:AE:138:ARG:CD	2.73	0.43
7:AE:218:LYS:HG3	7:AE:220:LYS:HE2	2.00	0.43
10:AH:13:PRO:HG2	10:AH:16:VAL:HG22	1.99	0.43
11:AI:193:ASP:OD2	11:AI:198:LYS:HD2	2.19	0.43
14:AL:77:SER:HA	14:AL:99:ASP:O	2.17	0.43
17:AO:61:ARG:HD3	17:AO:66:PRO:HB3	2.00	0.43
19:AQ:175:GLU:O	19:AQ:180:ARG:HG3	2.19	0.43
15:AM:6:PHE:HB2	21:AS:152:PHE:O	2.17	0.43
21:AS:29:ARG:HB3	22:AT:149:GLU:O	2.18	0.43
22:AT:25:VAL:HG23	22:AT:30:TYR:CE2	2.49	0.43
23:AU:55:ASN:N	23:AU:55:ASN:OD1	2.33	0.43
26:AX:127:LEU:HB3	48:A2:2416:C:C5'	2.47	0.43
49:B1:1114:U:O2'	49:B1:1115:U:H2'	2.18	0.43
49:B1:305:U:O2'	49:B1:306:C:P	2.76	0.43
49:B1:420:G:H4'	72:BW:88:LYS:HZ2	1.82	0.43
49:B1:688:U:O4	57:BH:102:PRO:CB	2.67	0.43
49:B1:872:A:N7	49:B1:874:G:C4	2.86	0.43
50:BA:180:ARG:HG2	50:BA:184:ARG:NH1	2.32	0.43
54:BE:19:MET:SD	54:BE:108:ARG:CD	3.07	0.43
49:B1:846:G:C8	54:BE:108:ARG:NH2	2.86	0.43
56:BG:121:ILE:HG22	56:BG:122:PRO:HD2	1.99	0.43
57:BH:100:ILE:HD11	57:BH:125:VAL:HG11	2.00	0.43
59:BJ:153:SER:C	59:BJ:155:LYS:H	2.22	0.43
59:BJ:159:PHE:O	59:BJ:159:PHE:CD2	2.70	0.43
63:BN:18:TYR:CG	63:BN:18:TYR:O	2.70	0.43
49:B1:984:C:C1'	64:BO:138:ASP:HB2	2.47	0.43
65:BP:30:TYR:CE1	65:BP:31:GLU:OE1	2.71	0.43
66:BQ:42:ILE:C	66:BQ:45:ARG:HH12	2.21	0.43
69:BT:62:ARG:C	69:BT:62:ARG:HD3	2.38	0.43
49:B1:580:U:H2'	74:BY:62:THR:HG21	1.99	0.43
48:A2:1053:G:C6	48:A2:1054:C:C4	3.05	0.43
48:A2:1412:C:O2'	48:A2:1413:C:H5'	2.19	0.43
5:AC:102:PHE:CD1	48:A2:1502:C:H5'	2.53	0.43
11:AI:34:PHE:HD2	48:A2:1730:U:H4'	1.81	0.43
48:A2:1864:G:N2	48:A2:1879:C:O4'	2.51	0.43
13:AK:14:PHE:CE2	48:A2:1941:A:N6	2.87	0.43
48:A2:1977:C:H3'	48:A2:1978:U:C2	2.53	0.43
48:A2:219:C:O2'	48:A2:220:G:H3'	2.19	0.43
20:AR:4:LEU:HD12	48:A2:2365:U:C4'	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2452:A:N1	48:A2:2485:G:N7	2.66	0.43
48:A2:3635:G:O6	48:A2:3649:G:C6	2.71	0.43
48:A2:3734:A:C5	48:A2:3735:U:C5	3.06	0.43
48:A2:3938:G:H2'	48:A2:3939:U:C6	2.53	0.43
48:A2:4086:U:C3'	48:A2:4087:U:H5''	2.48	0.43
6:AD:16:TYR:CZ	48:A2:4227:U:C5	3.04	0.43
48:A2:4691:A:OP2	48:A2:5026:G:O6	2.36	0.43
48:A2:4729:C:H2'	48:A2:4730:G:C8	2.52	0.43
48:A2:4935:A:H2'	48:A2:4936:G:O4'	2.19	0.43
48:A2:695:C:H3'	48:A2:696:G:C8	2.51	0.43
8:AF:46:ARG:NH2	48:A2:699:G:H5''	52.10	0.43
14:AL:102:ARG:HA	48:A2:75:G:C6	2.53	0.43
1:A3:108:A:N1	1:A3:109:C:C2	2.87	0.43
3:AA:185:ALA:O	3:AA:189:TYR:HD1	2.01	0.43
4:AB:126:LYS:CB	4:AB:128:LYS:HG2	2.48	0.43
4:AB:262:VAL:O	48:A2:4527:C:C5'	2.67	0.43
4:AB:2:SER:CB	48:A2:4478:G:H3'	2.49	0.43
5:AC:109:ARG:HD2	5:AC:111:TRP:CZ2	2.53	0.43
5:AC:144:ILE:O	5:AC:144:ILE:HG22	2.19	0.43
5:AC:211:TYR:CZ	5:AC:229:LEU:CD2	2.86	0.43
6:AD:265:ARG:NH1	6:AD:265:ARG:CG	2.78	0.43
7:AE:250:GLN:NE2	48:A2:4896:A:H2	2.13	0.43
2:A4:90:A:C2	11:AI:56:GLU:HG2	2.54	0.43
13:AK:17:ILE:CD1	13:AK:61:MET:CE	2.86	0.43
14:AL:80:GLU:CD	14:AL:102:ARG:HH12	2.22	0.43
14:AL:139:SER:OG	14:AL:139:SER:O	2.29	0.43
16:AN:160:GLU:HG2	16:AN:161:MET:N	2.34	0.43
20:AR:23:TRP:HH2	20:AR:32:ILE:CG1	2.12	0.43
21:AS:36:ASN:ND2	21:AS:38:VAL:HB	2.33	0.43
25:AW:67:ILE:HG13	25:AW:68:GLN:N	2.34	0.43
28:AZ:60:LYS:HA	28:AZ:60:LYS:NZ	2.33	0.43
49:B1:1745:A:N3	49:B1:1745:A:H3'	2.33	0.43
49:B1:320:G:C2'	49:B1:321:C:O4'	2.67	0.43
49:B1:331:C:P	49:B1:331:C:H3'	2.59	0.43
49:B1:805:U:C5'	49:B1:805:U:C6	2.92	0.43
51:BB:50:THR:O	51:BB:51:ARG:HB2	2.19	0.43
53:BD:48:ILE:HB	53:BD:86:LEU:HG	2.00	0.43
54:BE:114:ILE:HG13	54:BE:118:GLU:CB	2.44	0.43
54:BE:115:THR:HG22	54:BE:116:VAL:H	1.83	0.43
54:BE:70:ILE:HA	54:BE:92:ILE:HG13	2.00	0.43
49:B1:1675:A:O2'	55:BF:74:ASN:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BG:50:VAL:CG1	56:BG:111:LEU:HB3	2.48	0.43
56:BG:200:LYS:CD	56:BG:204:GLU:OE1	2.67	0.43
49:B1:454:U:C5'	56:BG:94:ARG:HB2	2.48	0.43
59:BJ:172:ARG:HG3	59:BJ:173:VAL:H	1.82	0.43
59:BJ:30:LYS:CD	59:BJ:30:LYS:C	2.86	0.43
53:BD:64:ARG:HH21	60:BK:72:THR:HA	1.82	0.43
62:BM:92:CYS:SG	62:BM:100:PRO:HB3	2.59	0.43
68:BS:27:ALA:O	68:BS:41:ALA:CB	2.67	0.43
68:BS:33:ILE:HD12	68:BS:33:ILE:N	2.33	0.43
68:BS:86:ARG:HE	68:BS:90:VAL:HG22	1.82	0.43
72:BW:86:LEU:O	72:BW:90:GLN:HG3	2.18	0.43
48:A2:1259:C:H3'	48:A2:1260:G:C8	2.45	0.43
48:A2:1506:A:N3	48:A2:1506:A:H3'	2.34	0.43
48:A2:227:G:C8	48:A2:227:G:C4'	3.02	0.43
48:A2:221:U:O3'	48:A2:238:G:N2	2.52	0.43
48:A2:3597:G:N2	48:A2:3598:G:C4	2.86	0.43
48:A2:3682:A:C5'	48:A2:3683:A:C8	3.00	0.43
48:A2:4083:C:H4'	48:A2:4084:G:OP1	2.19	0.43
48:A2:4212:G:H8	48:A2:4212:G:O5'	2.02	0.43
48:A2:4427:U:C6	48:A2:4450:A:N6	2.87	0.43
48:A2:4909:G:H5''	48:A2:4909:G:H8	1.83	0.43
48:A2:491:G:H3'	48:A2:492:C:H5''	1.99	0.43
5:AC:212:ASN:CG	5:AC:255:SER:HG	2.21	0.43
5:AC:84:THR:HG22	5:AC:86:ARG:H	1.82	0.43
6:AD:64:ILE:HD13	6:AD:109:LEU:HD22	2.01	0.43
7:AE:176:THR:HA	7:AE:185:PRO:O	2.19	0.43
8:AF:220:MET:C	8:AF:221:LYS:HG2	2.39	0.43
1:A3:150:C:C6	9:AG:65:ARG:NH2	2.84	0.43
12:AJ:106:GLY:C	48:A2:4212:G:H4'	2.38	0.43
15:AM:46:ARG:O	15:AM:47:ARG:C	2.56	0.43
22:AT:78:LYS:CB	22:AT:87:LYS:NZ	2.82	0.43
49:B1:101:U:H2'	49:B1:104:A:C2	2.53	0.43
49:B1:1256:G:N1	53:BD:40:ARG:CG	33.33	0.43
49:B1:1859:A:O2'	49:B1:1860:A:H5'	2.19	0.43
49:B1:285:U:O3'	49:B1:286:U:C4	2.70	0.43
49:B1:351:G:H2'	49:B1:352:U:H5'	2.00	0.43
49:B1:560:A:H5'	59:BJ:172:ARG:CA	2.45	0.43
49:B1:9:U:H2'	49:B1:11:A:OP2	2.19	0.43
50:BA:42:LYS:HG2	50:BA:43:SER:N	2.33	0.43
49:B1:1202:U:O2	52:BC:115:GLN:HB3	2.19	0.43
49:B1:168:C:C4'	56:BG:131:ARG:CD	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BH:87:PHE:CD2	57:BH:90:LYS:HD2	2.54	0.43
59:BJ:35:TYR:CD2	59:BJ:106:LEU:HD13	2.53	0.43
59:BJ:131:ARG:NE	59:BJ:143:ASN:OD1	2.48	0.43
60:BK:50:GLN:HA	60:BK:53:LYS:HG2	2.01	0.43
61:BL:40:ILE:HD13	61:BL:62:PHE:CZ	2.53	0.43
62:BM:51:VAL:HB	62:BM:109:VAL:HB	2.00	0.43
62:BM:44:LYS:O	62:BM:45:ARG:HB2	2.19	0.43
64:BO:75:MET:SD	64:BO:114:SER:OG	2.76	0.43
66:BQ:13:PHE:O	66:BQ:13:PHE:CG	2.70	0.43
68:BS:78:LYS:O	68:BS:79:ILE:HB	2.18	0.43
69:BT:114:GLU:N	69:BT:124:THR:HG23	2.33	0.43
49:B1:1152:U:H1'	72:BW:16:ASN:HD21	1.84	0.43
49:B1:581:U:C2	74:BY:33:ALA:HA	2.50	0.43
6:AD:286:SER:CA	48:A2:1163:C:C5'	2.86	0.43
48:A2:1484:G:H5''	48:A2:1485:A:OP2	2.18	0.43
48:A2:1948:A:C6	48:A2:1949:G:C5	3.06	0.43
48:A2:2045:G:H8	48:A2:2045:G:O5'	2.02	0.43
48:A2:2249:G:C6	48:A2:2250:C:N3	2.86	0.43
3:AA:25:GLY:HA2	48:A2:3650:U:O2	2.19	0.43
48:A2:4108:G:H4'	48:A2:4109:G:C5	2.54	0.43
48:A2:4543:G:C2	48:A2:4685:A:C6	3.06	0.43
48:A2:5003:G:H2'	48:A2:5004:U:O4'	2.18	0.43
48:A2:661:G:C8	48:A2:661:G:H3'	2.54	0.43
1:A3:17:A:H2'	1:A3:18:U:C6	2.54	0.43
1:A3:3:A:H2'	1:A3:4:C:O4'	2.19	0.43
2:A4:114:U:H4'	6:AD:73:MET:HE3	2.00	0.43
2:A4:47:G:H2'	2:A4:48:G:C5'	2.48	0.43
3:AA:70:LYS:HZ2	3:AA:72:ARG:CZ	2.31	0.43
4:AB:119:TYR:OH	4:AB:129:ALA:HB3	2.19	0.43
5:AC:195:LYS:HB3	5:AC:200:ARG:HG2	1.99	0.43
6:AD:118:ILE:O	6:AD:119:TYR:HB2	2.19	0.43
2:A4:33:U:C2	6:AD:207:TYR:CE1	3.02	0.43
6:AD:224:SER:CA	6:AD:227:ILE:HG13	2.48	0.43
8:AF:159:TYR:CG	8:AF:166:ARG:NE	2.86	0.43
8:AF:179:LEU:HD23	8:AF:184:ILE:HD12	2.00	0.43
11:AI:30:LYS:HE3	11:AI:66:GLU:HG2	2.00	0.43
11:AI:33:ILE:HG13	11:AI:33:ILE:O	2.19	0.43
2:A4:56:G:P	12:AJ:152:GLY:HA2	2.56	0.43
15:AM:10:GLY:HA2	15:AM:64:PHE:CD2	2.54	0.43
16:AN:38:ARG:C	16:AN:38:ARG:HD3	2.39	0.43
18:AP:90:PHE:O	18:AP:94:MET:SD	2.77	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AQ:18:PRO:HG2	19:AQ:25:LEU:CD2	2.49	0.43
19:AQ:53:MET:HG2	19:AQ:57:ASN:HB2	2.01	0.43
21:AS:141:ALA:O	21:AS:144:GLN:HB3	2.19	0.43
27:AY:55:VAL:O	27:AY:66:GLN:O	2.37	0.43
28:AZ:33:THR:HG21	28:AZ:36:ARG:CD	2.38	0.43
49:B1:1154:U:O4	52:BC:227:ARG:HD2	2.19	0.43
49:B1:1276:A:C6	49:B1:1277:C:C2	3.06	0.43
49:B1:1521:C:N1	49:B1:1521:C:OP2	2.51	0.43
49:B1:1535:U:O4	55:BF:159:ARG:NE	2.49	0.43
49:B1:1602:U:OP2	49:B1:1602:U:H3'	2.18	0.43
49:B1:381:C:C5'	58:BI:48:VAL:CG1	2.96	0.43
49:B1:443:U:H6	49:B1:443:U:O5'	2.01	0.43
49:B1:746:C:O2'	49:B1:747:U:H5'	2.18	0.43
49:B1:860:G:C2'	72:BW:107:SER:HB3	2.48	0.43
53:BD:4:GLN:OE1	53:BD:4:GLN:N	2.51	0.43
54:BE:91:SER:N	54:BE:92:ILE:HD12	2.32	0.43
55:BF:170:ALA:HB3	75:BZ:106:GLN:HE21	1.84	0.43
55:BF:38:TYR:C	55:BF:39:ILE:HG13	2.38	0.43
59:BJ:176:LYS:O	59:BJ:180:LYS:HG3	2.18	0.43
59:BJ:46:VAL:HG12	59:BJ:102:ILE:HG23	2.00	0.43
60:BK:16:PHE:HE1	60:BK:83:LEU:HD23	1.82	0.43
65:BP:52:LYS:HG2	65:BP:53:GLN:N	2.33	0.43
66:BQ:99:TYR:CD1	66:BQ:99:TYR:O	2.70	0.43
49:B1:1464:C:H4'	67:BR:60:ARG:CZ	2.49	0.43
72:BW:55:ASP:OD1	72:BW:56:HIS:N	2.51	0.43
48:A2:1084:C:H5	48:A2:1150:C:H1'	1.83	0.43
48:A2:1736:U:O5'	48:A2:1736:U:H6	2.01	0.43
48:A2:1786:A:N6	48:A2:1815:U:C1'	2.82	0.43
48:A2:1877:A:H2'	48:A2:1878:A:O5'	2.19	0.43
21:AS:139:ARG:NH1	48:A2:1933:G:OP1	2.52	0.43
48:A2:1945:A:C2	48:A2:1946:G:N9	2.87	0.43
48:A2:1952:C:H6	48:A2:1952:C:H5''	1.84	0.43
48:A2:2052:A:H8	48:A2:2052:A:O5'	2.02	0.43
48:A2:2606:C:O2	48:A2:2607:U:C6	2.71	0.43
48:A2:3593:C:H2'	48:A2:3594:C:O4'	2.19	0.43
48:A2:3611:U:C5	48:A2:3617:A:C2	3.07	0.43
48:A2:3693:G:H2'	48:A2:3694:A:H5'	1.99	0.43
48:A2:3744:U:H6	48:A2:3744:U:O5'	2.00	0.43
48:A2:3812:C:C2'	48:A2:3813:C:H5'	2.48	0.43
48:A2:3875:G:O6	48:A2:3876:A:N6	2.51	0.43
48:A2:4338:A:O5'	48:A2:4339:G:OP1	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:4473:A:H8	48:A2:4473:A:O5'	2.01	0.43
4:AB:55:HIS:HE1	48:A2:4589:U:O2'	1.98	0.43
25:AW:50:ASN:HB2	48:A2:4964:U:C4	2.54	0.43
48:A2:508:U:C5	48:A2:508:U:OP2	2.71	0.43
48:A2:670:C:C2'	48:A2:671:C:H5'	2.48	0.43
4:AB:234:ARG:HD3	4:AB:272:LYS:CB	2.49	0.43
7:AE:146:PRO:O	7:AE:200:LYS:HE2	2.07	0.43
11:AI:113:THR:CG2	11:AI:114:GLY:H	2.28	0.43
16:AN:200:LEU:HB3	16:AN:204:ARG:HH21	1.83	0.43
19:AQ:34:PHE:HA	19:AQ:37:ARG:HH11	1.82	0.43
20:AR:169:ALA:CA	20:AR:172:ARG:HG3	2.47	0.43
24:AV:90:ARG:NE	24:AV:96:LEU:HD21	2.34	0.43
28:AZ:87:VAL:HG22	28:AZ:127:ASN:HD21	1.79	0.43
49:B1:1286:G:C1'	62:BM:34:GLY:HA3	2.46	0.43
49:B1:1338:G:OP1	70:BU:76:THR:HB	2.18	0.43
49:B1:30:C:H1'	49:B1:596:U:H5''	2.01	0.43
49:B1:644:G:H5'	59:BJ:41:ARG:NH2	2.30	0.43
49:B1:744:G:C2'	49:B1:745:C:H6	2.30	0.43
49:B1:792:C:H2'	49:B1:793:G:C8	2.54	0.43
49:B1:800:U:C6	49:B1:800:U:C3'	3.02	0.43
50:BA:103:PHE:O	50:BA:103:PHE:CG	2.71	0.43
49:B1:1388:A:H61	53:BD:161:GLY:HA3	1.83	0.43
57:BH:117:PRO:O	57:BH:120:ARG:HB2	2.18	0.43
59:BJ:95:ASP:O	59:BJ:98:LEU:HB2	2.19	0.43
61:BL:111:VAL:HG23	61:BL:140:PHE:O	2.18	0.43
63:BN:124:ARG:HA	63:BN:127:ARG:CZ	2.49	0.43
63:BN:53:ILE:O	63:BN:57:SER:HB3	2.18	0.43
64:BO:86:LYS:O	64:BO:88:LEU:N	2.52	0.43
49:B1:1648:G:C5'	66:BQ:126:ARG:O	2.63	0.43
69:BT:130:ASP:C	69:BT:132:ASP:H	2.21	0.43
70:BU:107:GLU:HG3	70:BU:108:PRO:HD2	2.00	0.43
71:BV:12:TYR:HE1	71:BV:14:PRO:HA	1.83	0.43
48:A2:135:G:OP2	48:A2:135:G:C8	2.72	0.43
48:A2:1752:A:C4	48:A2:1753:U:C5	3.06	0.43
48:A2:2617:G:H2'	48:A2:2618:U:C5	2.54	0.43
26:AX:45:THR:CA	48:A2:4055:A:OP1	2.67	0.43
48:A2:4982:C:O2'	58:BI:168:GLN:CA	2.58	0.43
48:A2:50:C:H6	48:A2:50:C:OP2	2.01	0.43
8:AF:46:ARG:HH12	48:A2:699:G:H5''	50.49	0.43
1:A3:121:G:H2'	1:A3:122:G:C5'	2.49	0.43
2:A4:27:G:H2'	2:A4:28:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:26:ARG:HD2	4:AB:181:MET:SD	2.59	0.43
4:AB:93:VAL:HG23	4:AB:102:PHE:HB2	2.01	0.43
5:AC:52:TYR:CD2	48:A2:344:C:C5'	3.02	0.43
8:AF:222:LYS:HD2	8:AF:222:LYS:HA	1.59	0.43
8:AF:25:PHE:O	8:AF:29:LYS:HG2	2.19	0.43
13:AK:63:LYS:CA	13:AK:66:ARG:CB	2.91	0.43
14:AL:55:ILE:HD13	14:AL:56:ARG:N	2.33	0.43
16:AN:68:ARG:HH21	16:AN:123:GLU:CB	2.31	0.43
16:AN:201:HIS:CD2	48:A2:1343:G:OP1	2.71	0.43
19:AQ:16:LYS:HG2	19:AQ:16:LYS:H	1.56	0.43
19:AQ:71:LYS:HB3	19:AQ:71:LYS:NZ	2.34	0.43
49:B1:1420:G:O2'	49:B1:1421:A:H5'	2.19	0.43
49:B1:1534:C:H5'	49:B1:1536:G:H1'	1.99	0.43
49:B1:1622:U:P	49:B1:1623:A:H5''	2.59	0.43
49:B1:5:U:P	52:BC:230:THR:HG21	2.57	0.43
51:BB:187:LYS:HE3	51:BB:187:LYS:HB2	1.66	0.43
51:BB:30:TRP:CE3	64:BO:19:PRO:HG3	2.53	0.43
51:BB:44:ILE:HD11	51:BB:74:LEU:HG	2.01	0.43
52:BC:68:ARG:NH1	52:BC:68:ARG:HB2	2.34	0.43
53:BD:161:GLY:O	53:BD:164:VAL:HG23	2.19	0.43
49:B1:812:A:H2	54:BE:12:VAL:CG1	2.32	0.43
56:BG:1:MET:HG2	56:BG:2:LYS:N	2.33	0.43
49:B1:1745:A:H8	56:BG:66:GLY:N	2.17	0.43
49:B1:162:C:HO2'	56:BG:95:LYS:HZ1	1.57	0.43
57:BH:58:LYS:HG3	57:BH:90:LYS:HE2	2.00	0.43
49:B1:1314:U:O2	60:BK:2:LEU:N	2.52	0.43
49:B1:1016:U:C2	63:BN:61:ALA:CB	2.97	0.43
63:BN:75:LEU:C	63:BN:75:LEU:CD1	2.86	0.43
49:B1:952:G:H4'	64:BO:51:GLU:OE1	2.18	0.43
65:BP:126:VAL:HG13	65:BP:127:LYS:N	2.24	0.43
65:BP:15:PHE:CZ	65:BP:110:GLU:HA	2.53	0.43
73:BX:108:LYS:HD3	73:BX:108:LYS:O	2.18	0.43
73:BX:36:LEU:CD1	73:BX:42:GLY:O	2.67	0.43
75:BZ:68:ILE:O	75:BZ:109:TYR:HB2	2.19	0.43
48:A2:1284:C:N3	48:A2:1285:U:H1'	2.33	0.43
48:A2:1310:C:O5'	48:A2:1310:C:H6	2.01	0.43
48:A2:1319:G:C6	48:A2:2325:C:C4	3.06	0.43
48:A2:133:C:C4	48:A2:134:G:N9	2.86	0.43
48:A2:1577:G:O2'	48:A2:1579:G:N2	2.52	0.43
48:A2:2511:C:C4	48:A2:2512:C:N4	2.87	0.43
48:A2:2732:G:C6	48:A2:2733:G:N1	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:2789:U:O5'	48:A2:2789:U:H6	2.02	0.43
48:A2:357:A:H5'	48:A2:359:U:H1'	2.01	0.43
48:A2:3738:C:H6	48:A2:3738:C:O5'	2.01	0.43
48:A2:3669:G:H1'	48:A2:3749:U:O2	2.18	0.43
48:A2:4107:C:C4'	48:A2:4108:G:O5'	2.67	0.43
48:A2:4201:A:H2'	48:A2:4202:G:C8	2.54	0.43
48:A2:4202:G:H2'	48:A2:4203:C:O4'	2.19	0.43
48:A2:4265:C:O2'	48:A2:4266:A:H2'	2.19	0.43
48:A2:4286:A:H2'	48:A2:4287:A:C8	2.54	0.43
48:A2:4871:G:HO2'	48:A2:4872:C:P	2.42	0.43
48:A2:4946:U:O4'	48:A2:4947:U:OP1	2.36	0.43
48:A2:4986:G:H2'	48:A2:4987:C:C6	2.54	0.43
48:A2:482:G:C2	48:A2:662:A:N1	2.87	0.43
48:A2:735:G:O6	48:A2:903:C:N3	2.52	0.43
2:A4:16:A:H2'	2:A4:17:C:C6	2.54	0.43
4:AB:354:GLN:O	4:AB:360:LEU:HD11	2.18	0.43
4:AB:312:LYS:HD3	4:AB:370:THR:CG2	2.49	0.43
6:AD:9:ASN:ND2	6:AD:12:TYR:CE2	2.87	0.43
7:AE:96:VAL:H	7:AE:107:VAL:HG12	1.81	0.43
13:AK:103:LEU:O	13:AK:104:ALA:HB2	2.19	0.43
19:AQ:154:LYS:HG3	19:AQ:154:LYS:H	1.52	0.43
20:AR:138:LEU:O	20:AR:138:LEU:HD22	2.19	0.43
27:AY:18:HIS:CE1	48:A2:226:G:HO2'	2.36	0.43
27:AY:44:VAL:HG11	27:AY:119:LEU:CD1	2.48	0.43
27:AY:51:LYS:HG3	27:AY:71:VAL:O	2.19	0.43
49:B1:1413:G:H21	49:B1:1424:G:H1	1.66	0.43
49:B1:1491:G:H2'	49:B1:1492:U:C6	2.54	0.43
49:B1:1681:U:H2'	49:B1:1682:C:C6	2.54	0.43
49:B1:419:G:O2'	72:BW:88:LYS:HG3	2.19	0.43
49:B1:587:A:H5'	49:B1:592:C:N3	2.34	0.43
49:B1:687:C:N4	57:BH:118:ARG:HH21	2.17	0.43
49:B1:823:U:C5	74:BY:64:PHE:CE2	3.06	0.43
49:B1:866:U:O2'	49:B1:867:G:H5'	2.19	0.43
52:BC:60:TRP:HE3	52:BC:61:MET:C	2.23	0.43
52:BC:60:TRP:HB3	52:BC:71:LYS:NZ	2.34	0.43
49:B1:1483:A:H5'	53:BD:159:HIS:O	2.18	0.43
53:BD:76:ARG:CD	60:BK:68:TYR:CZ	3.00	0.43
54:BE:91:SER:C	54:BE:92:ILE:CD1	2.86	0.43
55:BF:42:LYS:H	55:BF:45:TYR:HB2	1.84	0.43
49:B1:861:A:H2	57:BH:106:ARG:HH11	1.66	0.43
60:BK:15:LEU:HD12	60:BK:21:MET:HG3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BK:2:LEU:HG	60:BK:3:MET:N	2.33	0.43
61:BL:148:ALA:HB1	61:BL:152:LYS:HE3	2.00	0.43
61:BL:76:VAL:HG12	61:BL:89:ARG:O	2.19	0.43
66:BQ:47:LEU:O	66:BQ:50:LYS:N	2.52	0.43
49:B1:1630:A:OP1	68:BS:37:GLY:N	2.51	0.43
48:A2:1084:C:OP2	48:A2:1150:C:H5''	2.19	0.42
48:A2:1296:C:N4	48:A2:1306:A:C8	2.87	0.42
48:A2:1743:G:N2	48:A2:1744:C:C2	2.87	0.42
48:A2:194:A:H2'	48:A2:195:A:C5'	2.49	0.42
48:A2:309:G:P	48:A2:309:G:O4'	2.76	0.42
48:A2:3:C:H2'	48:A2:4:G:O5'	2.19	0.42
10:AH:23:ARG:NH2	48:A2:4724:A:OP1	2.52	0.42
48:A2:500:C:O2'	48:A2:501:G:H5'	2.19	0.42
1:A3:39:G:N3	1:A3:104:A:C2	2.87	0.42
4:AB:285:TYR:CD1	4:AB:363:ILE:HD12	2.54	0.42
4:AB:46:PHE:CE2	4:AB:207:VAL:HA	2.54	0.42
5:AC:212:ASN:HB3	5:AC:232:VAL:HG21	1.84	0.42
6:AD:106:ALA:O	6:AD:110:LEU:HD13	2.18	0.42
2:A4:60:G:H5''	6:AD:270:LYS:HA	2.01	0.42
7:AE:165:LEU:HD23	7:AE:203:ILE:HD12	2.00	0.42
7:AE:268:GLN:NE2	48:A2:4889:G:OP2	2.52	0.42
10:AH:5:LEU:CD1	10:AH:60:TRP:HH2	1.91	0.42
10:AH:6:SER:OG	10:AH:70:VAL:HG11	2.19	0.42
14:AL:171:GLU:HB3	14:AL:172:GLU:CD	2.39	0.42
15:AM:64:PHE:CZ	15:AM:73:VAL:HG13	2.54	0.42
22:AT:5:LYS:HD2	48:A2:4180:U:OP1	2.19	0.42
24:AV:45:ILE:HG22	24:AV:46:LYS:N	2.34	0.42
28:AZ:37:PRO:HD2	28:AZ:38:TYR:HD2	1.84	0.42
49:B1:1256:G:N2	53:BD:40:ARG:HD3	36.67	0.42
49:B1:1258:A:C6	49:B1:1663:A:N3	2.87	0.42
49:B1:1288:U:O2	49:B1:1288:U:C2'	2.66	0.42
49:B1:1295:A:H2'	49:B1:1296:U:C5'	2.48	0.42
49:B1:1299:A:O2'	49:B1:1301:A:OP1	2.33	0.42
49:B1:1622:U:H5'	68:BS:120:HIS:CG	2.54	0.42
20:AR:165:LYS:NZ	49:B1:907:G:C3'	2.70	0.42
51:BB:118:GLN:HB2	51:BB:119:THR:H	1.64	0.42
55:BF:103:LEU:C	55:BF:103:LEU:CD2	2.87	0.42
59:BJ:121:LYS:O	59:BJ:125:HIS:CB	2.65	0.42
62:BM:123:VAL:O	62:BM:126:GLU:HB2	2.18	0.42
63:BN:107:LYS:HG2	63:BN:107:LYS:O	2.19	0.42
64:BO:89:GLY:O	64:BO:90:ILE:HG23	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BP:33:LEU:HB2	65:BP:37:TYR:CD1	2.54	0.42
67:BR:97:GLU:HB2	67:BR:116:ASN:O	2.07	0.42
53:BD:10:LYS:HE2	70:BU:111:GLU:CD	2.39	0.42
72:BW:55:ASP:OD1	72:BW:57:ARG:N	2.44	0.42
48:A2:1192:U:P	48:A2:1192:U:C3'	3.07	0.42
48:A2:1485:A:H4'	48:A2:1486:G:H5'	2.01	0.42
48:A2:1919:C:N3	48:A2:1920:A:N6	2.67	0.42
48:A2:238:G:O5'	48:A2:238:G:H8	2.01	0.42
48:A2:2590:A:H2'	48:A2:2591:G:C8	2.54	0.42
48:A2:2595:C:C2	48:A2:2701:G:C2	3.07	0.42
48:A2:2843:A:H2'	48:A2:2844:U:C6	2.54	0.42
48:A2:3754:A:C6	48:A2:3758:G:C2	3.07	0.42
48:A2:3814:C:O5'	48:A2:3814:C:H2'	2.19	0.42
48:A2:3901:U:H6	48:A2:3901:U:O5'	2.01	0.42
48:A2:4018:A:O2'	48:A2:4019:U:C5	2.70	0.42
48:A2:40:G:C8	48:A2:41:C:C6	3.07	0.42
48:A2:4175:A:N3	48:A2:4175:A:H3'	2.34	0.42
48:A2:4191:U:C4	48:A2:4192:C:C4	3.07	0.42
48:A2:4695:C:H2'	48:A2:4696:A:H4'	2.01	0.42
7:AE:110:ARG:NH2	48:A2:955:C:OP1	2.52	0.42
1:A3:121:G:H2'	1:A3:122:G:O5'	2.19	0.42
1:A3:143:G:O2'	1:A3:144:U:H5'	2.18	0.42
3:AA:144:LYS:HB3	3:AA:160:SER:HB3	2.01	0.42
3:AA:229:ALA:O	3:AA:234:LYS:HE3	2.19	0.42
4:AB:94:GLU:HG2	4:AB:158:GLN:HE21	1.82	0.42
5:AC:94:ASN:OD1	5:AC:101:MET:C	2.57	0.42
5:AC:209:ILE:HD12	5:AC:209:ILE:N	2.34	0.42
7:AE:103:GLY:C	7:AE:104:THR:CG2	2.88	0.42
12:AJ:160:GLU:O	12:AJ:163:MET:HG2	2.19	0.42
14:AL:70:VAL:HG13	14:AL:157:VAL:CG1	2.49	0.42
15:AM:119:ARG:O	15:AM:123:ILE:HG13	2.20	0.42
16:AN:154:PRO:O	16:AN:157:LYS:HG3	2.19	0.42
16:AN:26:ARG:HB3	16:AN:30:TYR:CE2	2.54	0.42
17:AO:15:LEU:HD21	17:AO:129:LEU:HD11	2.00	0.42
22:AT:87:LYS:HE2	48:A2:4267:G:H1	1.84	0.42
25:AW:106:GLU:HA	25:AW:109:ILE:HB	2.01	0.42
49:B1:1102:G:N2	49:B1:1103:C:C2	2.86	0.42
49:B1:1140:G:O2'	49:B1:1141:G:H5'	2.19	0.42
49:B1:11:A:C2'	49:B1:12:U:H5'	2.49	0.42
49:B1:168:C:O2'	56:BG:133:LEU:C	2.58	0.42
49:B1:1869:A:C8	49:B1:1869:A:H5'	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:285:U:H1'	49:B1:286:U:O4	2.18	0.42
49:B1:345:U:O2	54:BE:33:THR:HB	2.18	0.42
49:B1:747:U:O2	49:B1:795:A:C2	2.73	0.42
49:B1:747:U:H2'	49:B1:749:U:O4	2.17	0.42
49:B1:78:C:C4'	56:BG:175:LYS:CG	2.86	0.42
49:B1:866:U:C2'	49:B1:867:G:H5'	2.48	0.42
49:B1:232:A:OP2	49:B1:890:U:H1'	2.20	0.42
49:B1:988:C:H2'	49:B1:989:C:OP1	2.18	0.42
50:BA:206:ASP:CB	50:BA:207:PRO:HD3	2.49	0.42
51:BB:105:LEU:HD13	51:BB:213:ARG:CA	2.36	0.42
51:BB:134:LEU:CD2	51:BB:218:LEU:HD21	2.48	0.42
49:B1:1333:U:O3'	53:BD:147:ALA:HB1	2.19	0.42
49:B1:1498:A:OP2	53:BD:27:ARG:NH1	2.53	0.42
54:BE:11:ARG:HH11	54:BE:20:LEU:HB3	1.83	0.42
56:BG:157:VAL:HG21	56:BG:176:ILE:CD1	2.30	0.42
58:BI:162:LEU:O	58:BI:166:PHE:HD1	2.02	0.42
59:BJ:86:VAL:HG22	59:BJ:104:ASP:HB3	2.01	0.42
58:BI:13:LYS:NZ	61:BL:137:THR:HB	2.35	0.42
63:BN:23:PRO:CG	63:BN:24:THR:H	2.32	0.42
65:BP:34:MET:HE3	65:BP:42:ARG:N	2.34	0.42
49:B1:1543:U:H1'	66:BQ:77:HIS:CE1	2.54	0.42
68:BS:43:VAL:O	68:BS:47:LYS:HG2	2.19	0.42
69:BT:104:LEU:HD21	69:BT:121:ARG:HD3	1.99	0.42
49:B1:659:G:C5'	73:BX:17:ARG:HH21	2.21	0.42
75:BZ:58:LEU:HD11	75:BZ:79:ILE:HG13	2.01	0.42
48:A2:1286:A:O2'	48:A2:1287:C:H5'	2.18	0.42
5:AC:102:PHE:CD2	48:A2:1320:A:H5'	2.54	0.42
19:AQ:91:ARG:HH22	48:A2:1484:G:H1'	1.83	0.42
48:A2:2632:C:OP1	48:A2:2632:C:H6	2.01	0.42
48:A2:3597:G:H2'	48:A2:3598:G:H8	1.83	0.42
48:A2:3684:U:O2	48:A2:3711:G:N2	2.53	0.42
48:A2:3627:A:H1'	48:A2:3718:A:C2	2.55	0.42
48:A2:401:A:C2	48:A2:404:A:C8	3.07	0.42
48:A2:4562:G:H1'	48:A2:4563:U:H5	1.84	0.42
48:A2:464:A:OP2	48:A2:466:C:N4	2.52	0.42
48:A2:4546:A:C4	48:A2:4681:G:C5	3.07	0.42
48:A2:717:G:C2'	48:A2:718:C:H5'	2.50	0.42
48:A2:717:G:C6	48:A2:718:C:N4	2.87	0.42
48:A2:740:G:H3'	48:A2:741:U:H6	1.82	0.42
48:A2:901:U:O2'	48:A2:902:A:OP1	2.25	0.42
1:A3:154:G:H5''	9:AG:89:ARG:NE	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A3:34:U:O2'	1:A3:35:C:H5'	2.19	0.42
3:AA:224:THR:HB	48:A2:3677:C:O4'	2.19	0.42
4:AB:41:VAL:HG13	4:AB:185:VAL:CG1	2.49	0.42
8:AF:165:LYS:O	8:AF:167:ILE:N	2.51	0.42
13:AK:65:ILE:HD12	13:AK:75:LEU:HD12	2.01	0.42
19:AQ:11:ARG:HG3	19:AQ:11:ARG:H	1.54	0.42
19:AQ:173:LYS:O	19:AQ:173:LYS:HG2	2.19	0.42
28:AZ:125:GLY:C	28:AZ:128:LYS:NZ	2.73	0.42
28:AZ:53:VAL:HB	28:AZ:62:ILE:CD1	2.40	0.42
49:B1:1287:A:H4'	49:B1:1311:C:H42	1.83	0.42
49:B1:1775:U:O5'	49:B1:1775:U:C6	2.70	0.42
50:BA:77:ILE:HD13	50:BA:133:PRO:HB3	2.00	0.42
51:BB:62:LEU:O	51:BB:88:THR:HB	2.19	0.42
54:BE:86:PHE:CD1	54:BE:102:VAL:HA	2.54	0.42
56:BG:44:GLU:OE1	56:BG:120:ASP:HB2	2.19	0.42
59:BJ:164:PRO:O	59:BJ:165:TYR:HB2	2.19	0.42
61:BL:35:ARG:NH2	61:BL:53:GLY:O	2.52	0.42
49:B1:1621:U:OP1	65:BP:40:ARG:CD	2.67	0.42
49:B1:1373:C:O2'	67:BR:10:LYS:HE3	2.20	0.42
69:BT:42:HIS:N	69:BT:43:LYS:NZ	2.65	0.42
72:BW:77:PRO:HG2	72:BW:79:PHE:CE2	2.54	0.42
49:B1:1601:A:OP1	75:BZ:43:LYS:HE2	2.20	0.42
48:A2:1227:G:H5'	48:A2:1251:G:H1'	2.00	0.42
48:A2:1252:G:C4	48:A2:1253:A:H1'	2.54	0.42
48:A2:1589:C:O2	48:A2:3799:A:H2	2.02	0.42
48:A2:1658:C:H5''	48:A2:1659:U:O5'	2.20	0.42
6:AD:14:LYS:HZ1	48:A2:1724:A:C4'	2.31	0.42
48:A2:1975:C:O2'	48:A2:1976:G:H5'	2.19	0.42
48:A2:252:C:C2'	48:A2:253:G:OP1	2.68	0.42
48:A2:2850:A:H2'	48:A2:2851:C:O4'	2.19	0.42
48:A2:3635:G:O6	48:A2:3649:G:O6	2.37	0.42
48:A2:3669:G:H1'	48:A2:3749:U:C2	2.54	0.42
48:A2:3817:C:OP1	48:A2:4629:C:O2'	2.33	0.42
48:A2:683:U:C4	48:A2:684:U:C4	3.07	0.42
48:A2:699:G:O2'	48:A2:700:C:H5'	2.19	0.42
4:AB:380:GLN:HG2	4:AB:381:THR:HG23	2.01	0.42
4:AB:99:LEU:HD22	4:AB:158:GLN:NE2	2.33	0.42
5:AC:137:VAL:HG22	5:AC:247:GLY:C	2.39	0.42
5:AC:289:LEU:O	5:AC:293:LEU:CG	2.64	0.42
8:AF:164:LYS:C	8:AF:165:LYS:CG	2.86	0.42
9:AG:83:PHE:CE2	9:AG:164:ILE:HG23	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AG:197:LYS:HG2	48:A2:6:C:OP1	2.19	0.42
13:AK:96:THR:O	13:AK:100:ASP:N	2.52	0.42
14:AL:129:ARG:CD	14:AL:129:ARG:N	2.73	0.42
19:AQ:78:LYS:HE3	48:A2:1413:C:H5'	2.00	0.42
20:AR:104:ARG:NH2	48:A2:2877:G:H5''	2.35	0.42
20:AR:173:ARG:CD	49:B1:910:G:P	3.04	0.42
49:B1:109:U:H2'	49:B1:110:U:O4'	2.19	0.42
49:B1:1439:A:H5'	49:B1:1440:C:OP2	2.19	0.42
49:B1:19:A:H4'	49:B1:621:C:H5'	2.00	0.42
49:B1:833:C:C2'	49:B1:834:C:H6	2.30	0.42
49:B1:986:G:C6	49:B1:987:A:C4	3.07	0.42
49:B1:996:A:H5''	63:BN:7:PRO:HD3	2.01	0.42
50:BA:116:PHE:HD1	50:BA:117:ARG:N	2.17	0.42
51:BB:71:LEU:CD1	51:BB:75:GLN:CB	2.93	0.42
52:BC:104:ASP:CG	52:BC:130:ILE:HG22	2.39	0.42
52:BC:134:ASN:ND2	52:BC:134:ASN:C	2.73	0.42
53:BD:116:ARG:NH2	53:BD:150:MET:HE3	2.34	0.42
53:BD:70:THR:O	53:BD:70:THR:HG22	2.19	0.42
54:BE:248:VAL:HG12	59:BJ:72:PHE:CD2	2.54	0.42
49:B1:952:G:H4'	64:BO:51:GLU:OE2	2.19	0.42
66:BQ:100:VAL:HG12	66:BQ:104:SER:OG	2.19	0.42
69:BT:114:GLU:HB2	69:BT:124:THR:CG2	2.50	0.42
69:BT:42:HIS:C	69:BT:43:LYS:NZ	2.73	0.42
69:BT:43:LYS:HD3	69:BT:43:LYS:HA	1.81	0.42
69:BT:85:ASN:CB	69:BT:88:MET:HB3	2.50	0.42
52:BC:177:PRO:HG3	71:BV:9:VAL:HG11	1.98	0.42
74:BY:7:ILE:HB	74:BY:47:MET:CE	2.50	0.42
48:A2:353:A:H4'	48:A2:372:A:H62	1.84	0.42
27:AY:95:VAL:HG11	48:A2:380:A:H5''	2.02	0.42
48:A2:3880:C:C6	48:A2:3880:C:O5'	2.70	0.42
48:A2:3920:A:O2'	48:A2:3921:U:H5'	2.19	0.42
48:A2:4379:C:H2'	48:A2:4380:G:O4'	2.19	0.42
48:A2:482:G:C2	48:A2:662:A:C2	3.08	0.42
48:A2:483:C:H2'	48:A2:484:C:C6	2.54	0.42
48:A2:4858:C:H2'	48:A2:4859:G:H4'	2.00	0.42
48:A2:4940:A:H2'	48:A2:4941:C:O4'	2.19	0.42
8:AF:46:ARG:NH1	48:A2:699:G:H5''	50.32	0.42
1:A3:121:G:H2'	1:A3:122:G:H5''	2.01	0.42
1:A3:79:G:H3'	1:A3:80:A:H5''	2.02	0.42
3:AA:195:CYS:C	3:AA:197:PRO:HD3	2.39	0.42
4:AB:312:LYS:HD3	4:AB:370:THR:HG21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AC:164:THR:HG21	48:A2:219:C:N1	2.35	0.42
5:AC:211:TYR:CE2	5:AC:229:LEU:HD22	2.50	0.42
5:AC:351:VAL:O	5:AC:355:ALA:HB3	2.20	0.42
6:AD:9:ASN:ND2	6:AD:12:TYR:CZ	2.87	0.42
7:AE:175:VAL:O	7:AE:186:LEU:C	2.49	0.42
8:AF:161:LYS:N	8:AF:162:ILE:CD1	2.81	0.42
10:AH:58:ASP:OD1	10:AH:59:LYS:N	2.53	0.42
1:A3:36:G:N7	10:AH:89:ARG:HD3	162.05	0.42
12:AJ:134:LEU:HD11	12:AJ:162:ALA:CA	2.48	0.42
13:AK:52:VAL:HB	13:AK:90:PHE:N	2.35	0.42
13:AK:52:VAL:CG1	13:AK:53:VAL:N	2.80	0.42
14:AL:103:ARG:NH1	14:AL:105:LYS:HE2	2.34	0.42
14:AL:14:PHE:C	14:AL:16:LYS:N	2.73	0.42
17:AO:71:TYR:CD2	48:A2:3858:C:H5'	2.54	0.42
13:AK:41:GLN:HB2	19:AQ:121:LEU:CD1	164.37	0.42
19:AQ:76:GLU:HG2	19:AQ:76:GLU:H	1.56	0.42
24:AV:48:ARG:HB3	24:AV:51:ARG:HE	1.85	0.42
25:AW:50:ASN:HA	25:AW:55:TYR:CG	2.55	0.42
49:B1:1280:G:H2'	49:B1:1281:G:C8	2.54	0.42
49:B1:1287:A:HO2'	49:B1:1288:U:P	2.43	0.42
49:B1:1778:C:H2'	49:B1:1779:G:C8	2.54	0.42
49:B1:606:G:N2	49:B1:608:C:C2	2.87	0.42
49:B1:661:U:H5''	49:B1:662:G:H2'	2.01	0.42
51:BB:182:LYS:HE3	51:BB:231:LEU:CA	2.45	0.42
53:BD:15:GLY:CA	53:BD:50:ILE:HA	15.74	0.42
54:BE:104:ASP:CB	54:BE:108:ARG:O	2.67	0.42
56:BG:211:LYS:HD2	56:BG:215:LYS:HZ1	1.83	0.42
56:BG:231:ARG:HD3	56:BG:231:ARG:HA	1.87	0.42
59:BJ:138:ARG:HH22	59:BJ:153:SER:HB3	1.83	0.42
60:BK:74:GLU:O	60:BK:77:GLN:HB2	2.20	0.42
65:BP:52:LYS:CG	65:BP:80:LEU:HD13	2.49	0.42
66:BQ:52:LEU:O	66:BQ:54:PRO:CD	2.68	0.42
68:BS:46:ARG:NH1	69:BT:37:VAL:HG21	2.34	0.42
69:BT:130:ASP:C	69:BT:132:ASP:N	2.73	0.42
70:BU:22:ILE:HG13	70:BU:114:VAL:HG12	2.02	0.42
72:BW:83:LEU:O	72:BW:84:LYS:CB	2.67	0.42
55:BF:167:LYS:HZ2	75:BZ:75:GLU:CD	2.22	0.42
48:A2:132:G:O6	48:A2:135:G:C2	2.72	0.42
19:AQ:78:LYS:HE3	48:A2:1413:C:H4'	1.99	0.42
48:A2:1430:C:H2'	48:A2:1431:G:C4	2.54	0.42
48:A2:1576:C:O2'	48:A2:1579:G:H1'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AC:100:ARG:NE	48:A2:1632:A:C6	2.88	0.42
48:A2:1754:C:C2'	48:A2:1754:C:O2	2.67	0.42
48:A2:1771:C:H2'	48:A2:1772:U:H6	1.84	0.42
48:A2:1778:U:H2'	48:A2:1779:G:O4'	2.20	0.42
48:A2:1857:U:O2'	48:A2:1858:G:H5'	2.20	0.42
48:A2:1966:G:OP2	48:A2:1967:U:H5	2.01	0.42
21:AS:3:ALA:O	48:A2:2043:C:OP1	2.38	0.42
20:AR:92:LYS:NZ	48:A2:2585:G:H4'	2.34	0.42
48:A2:3812:C:O2'	48:A2:3813:C:H5'	2.19	0.42
48:A2:3877:A:O2'	48:A2:3878:G:P	2.77	0.42
48:A2:3884:G:H4'	48:A2:3885:U:OP2	2.20	0.42
48:A2:3929:G:C6	48:A2:3930:U:C2	3.07	0.42
48:A2:4077:G:C6	48:A2:4078:G:N1	2.86	0.42
48:A2:4107:C:H4'	48:A2:4108:G:O5'	2.17	0.42
14:AL:197:LYS:HD3	48:A2:4320:U:H4'	2.02	0.42
48:A2:4333:G:H2'	48:A2:4334:U:C6	2.55	0.42
48:A2:4521:A:O2'	48:A2:4522:C:H2'	2.19	0.42
48:A2:4547:U:H2'	48:A2:4548:G:C8	2.55	0.42
48:A2:2823:A:O4'	48:A2:4594:U:OP1	2.36	0.42
48:A2:466:C:H2'	48:A2:467:C:C6	2.55	0.42
48:A2:4712:G:H2'	48:A2:4713:G:O4'	2.19	0.42
48:A2:661:G:H2'	48:A2:662:A:O5'	2.19	0.42
7:AE:137:VAL:CG1	48:A2:702:A:H5''	2.50	0.42
48:A2:715:C:N3	48:A2:930:A:N1	2.67	0.42
2:A4:22:A:N1	2:A4:23:A:C4	2.87	0.42
3:AA:242:ARG:NH1	3:AA:246:LEU:HD23	2.33	0.42
4:AB:194:LEU:HD21	4:AB:198:ARG:HD2	2.02	0.42
4:AB:19:ARG:HD3	4:AB:234:ARG:NE	2.34	0.42
5:AC:219:LYS:HZ2	5:AC:222:ARG:NH2	2.17	0.42
6:AD:15:ARG:CZ	48:A2:1725:A:H1'	2.49	0.42
7:AE:166:LYS:HE3	7:AE:166:LYS:HB2	1.71	0.42
12:AJ:166:PHE:CD2	12:AJ:172:GLY:HA3	2.54	0.42
13:AK:83:ARG:CG	13:AK:84:GLY:N	2.73	0.42
14:AL:76:PHE:O	14:AL:77:SER:HB3	2.20	0.42
14:AL:78:LEU:HD13	48:A2:158:G:OP2	2.19	0.42
17:AO:67:SER:HA	48:A2:4548:G:H4'	2.00	0.42
19:AQ:38:ARG:HA	19:AQ:38:ARG:HD2	1.78	0.42
21:AS:90:THR:HG21	22:AT:156:TYR:CD1	2.53	0.42
22:AT:105:PHE:O	22:AT:109:VAL:HG23	2.19	0.42
22:AT:125:TRP:CE3	22:AT:127:GLN:CD	2.93	0.42
49:B1:670:A:H1'	49:B1:1164:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1416:C:H6	49:B1:1416:C:O5'	2.03	0.42
49:B1:141:A:H4'	49:B1:142:C:H5'	2.01	0.42
49:B1:171:A:C4'	56:BG:177:GLN:NE2	2.82	0.42
49:B1:581:U:O2	74:BY:33:ALA:C	2.57	0.42
49:B1:663:C:OP2	73:BX:3:LYS:NZ	2.48	0.42
49:B1:689:U:H6	49:B1:742:U:C4	2.25	0.42
51:BB:73:ASP:CG	51:BB:74:LEU:H	2.22	0.42
53:BD:74:GLN:C	53:BD:76:ARG:N	2.73	0.42
54:BE:103:TYR:CZ	54:BE:184:ILE:O	2.73	0.42
55:BF:100:ILE:HG21	55:BF:111:VAL:HG21	2.02	0.42
59:BJ:138:ARG:CA	59:BJ:156:HIS:HB3	2.42	0.42
49:B1:558:G:H5'	59:BJ:175:ARG:CD	2.50	0.42
59:BJ:14:VAL:HG22	59:BJ:48:PHE:HB2	1.99	0.42
60:BK:43:LEU:C	60:BK:43:LEU:HD23	2.40	0.42
61:BL:101:ARG:HH21	73:BX:13:LEU:CD1	2.33	0.42
49:B1:372:U:O2'	61:BL:82:MET:SD	2.73	0.42
63:BN:57:SER:OG	63:BN:58:HIS:CE1	2.72	0.42
64:BO:86:LYS:C	64:BO:88:LEU:N	2.73	0.42
55:BF:55:ARG:HG3	66:BQ:125:ARG:HH11	1.85	0.42
68:BS:15:VAL:HG13	68:BS:68:ILE:HD13	1.99	0.42
70:BU:65:THR:HB	70:BU:78:ASP:HB2	2.02	0.42
49:B1:1824:A:H1'	73:BX:61:GLN:OE1	2.19	0.42
75:BZ:76:ARG:HG3	75:BZ:77:LEU:CD2	2.49	0.42
48:A2:133:C:C5	48:A2:135:G:O6	2.70	0.42
48:A2:1341:G:N3	48:A2:1343:G:C5	2.84	0.42
48:A2:1356:A:H2'	48:A2:1357:G:O4'	2.20	0.42
48:A2:1393:U:H2'	48:A2:1394:C:OP1	2.20	0.42
48:A2:1942:G:H21	48:A2:2006:A:N6	2.17	0.42
48:A2:2249:G:C6	48:A2:2250:C:C4	3.07	0.42
48:A2:2254:G:H2'	48:A2:2255:A:C8	2.55	0.42
8:AF:166:ARG:CG	48:A2:2255:A:OP1	2.65	0.42
48:A2:2418:G:H2'	48:A2:2419:U:O5'	2.20	0.42
48:A2:2690:G:C2'	48:A2:2691:G:OP1	2.68	0.42
48:A2:3634:A:H4'	48:A2:3635:G:OP2	2.19	0.42
48:A2:4062:G:C5	48:A2:4063:G:C6	3.08	0.42
48:A2:4045:U:C2	48:A2:4131:G:C2	3.08	0.42
3:AA:226:ARG:NH2	48:A2:4144:G:H4'	2.34	0.42
4:AB:223:THR:CG2	48:A2:4586:A:H5''	2.50	0.42
17:AO:167:HIS:HE1	48:A2:4719:C:H5	1.49	0.42
14:AL:16:LYS:HD3	48:A2:47:A:H5''	2.01	0.42
48:A2:4902:C:H3'	48:A2:4903:G:H5'	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:639:G:C6	48:A2:640:G:N7	2.87	0.42
48:A2:91:G:C2'	48:A2:92:C:OP1	2.68	0.42
4:AB:137:TRP:O	4:AB:143:LYS:HE2	2.19	0.42
4:AB:4:ARG:HH11	4:AB:7:SER:HA	1.85	0.42
4:AB:94:GLU:HG3	4:AB:158:GLN:HG3	2.02	0.42
6:AD:285:ALA:O	6:AD:286:SER:C	2.57	0.42
7:AE:228:GLN:HG3	7:AE:228:GLN:H	1.62	0.42
8:AF:160:GLY:H	8:AF:169:LEU:HG	1.84	0.42
10:AH:10:VAL:HG22	10:AH:74:CYS:SG	2.60	0.42
13:AK:41:GLN:O	13:AK:45:MET:CB	2.67	0.42
14:AL:10:LEU:HA	19:AQ:168:ARG:NH2	2.34	0.42
14:AL:135:LYS:HD2	14:AL:135:LYS:N	2.34	0.42
14:AL:175:ASN:ND2	14:AL:175:ASN:C	2.73	0.42
15:AM:4:ARG:C	15:AM:5:ARG:HG2	2.40	0.42
17:AO:34:VAL:HG11	17:AO:112:TYR:CZ	2.54	0.42
20:AR:131:VAL:CB	20:AR:132:PHE:CE1	3.03	0.42
21:AS:159:LEU:O	21:AS:160:ARG:HB2	2.19	0.42
22:AT:119:ALA:CB	22:AT:126:VAL:CG1	2.65	0.42
24:AV:43:LYS:HE3	24:AV:60:MET:HE2	2.01	0.42
3:AA:247:ARG:NE	49:B1:1069:U:H4'	2.35	0.42
49:B1:347:G:O2'	49:B1:348:A:H5'	2.19	0.42
49:B1:876:C:C6	49:B1:876:C:C4'	3.03	0.42
49:B1:283:G:H3'	49:B1:891:G:C1'	2.49	0.42
49:B1:911:C:H2'	49:B1:912:C:O5'	2.20	0.42
49:B1:943:U:O2	64:BO:137:SER:N	2.51	0.42
49:B1:952:G:O2'	64:BO:51:GLU:HA	2.19	0.42
49:B1:957:A:OP1	64:BO:57:THR:CB	2.66	0.42
49:B1:999:G:OP1	49:B1:1034:A:H1'	2.20	0.42
50:BA:75:SER:HA	50:BA:97:THR:O	2.20	0.42
51:BB:179:ASN:HB3	51:BB:183:GLU:HB3	1.99	0.42
51:BB:30:TRP:HA	51:BB:47:THR:O	2.20	0.42
54:BE:30:ARG:HG3	54:BE:30:ARG:O	2.19	0.42
49:B1:142:C:O2	56:BG:180:VAL:HG21	2.20	0.42
56:BG:211:LYS:HG3	56:BG:215:LYS:NZ	2.31	0.42
59:BJ:136:ARG:NH1	59:BJ:160:SER:HB2	2.32	0.42
59:BJ:29:LEU:HD21	59:BJ:40:LYS:HZ1	1.84	0.42
63:BN:54:LEU:CD2	63:BN:58:HIS:HD2	2.33	0.42
49:B1:1522:A:N3	65:BP:128:HIS:CB	2.68	0.42
66:BQ:34:VAL:CG1	66:BQ:84:ILE:HD11	2.49	0.42
68:BS:133:GLY:C	68:BS:134:GLN:HG2	2.39	0.42
70:BU:87:ARG:O	70:BU:88:LEU:HD12	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:BL:101:ARG:HH21	73:BX:13:LEU:HD11	1.84	0.42
73:BX:68:LYS:HZ3	73:BX:91:LEU:HD23	1.84	0.42
75:BZ:66:LYS:C	75:BZ:67:LEU:HD12	2.39	0.42
48:A2:1389:G:H3'	48:A2:1391:G:OP2	2.18	0.42
48:A2:139:G:OP2	48:A2:139:G:C8	2.73	0.42
9:AG:163:PRO:HG2	48:A2:148:G:N2	2.34	0.42
48:A2:1615:G:C5'	48:A2:1616:A:OP1	2.67	0.42
48:A2:1707:U:H2'	48:A2:1708:U:H6	1.84	0.42
48:A2:242:C:H2'	48:A2:243:G:C8	2.54	0.42
48:A2:268:C:H2'	48:A2:269:C:C6	2.54	0.42
48:A2:3651:U:O5'	48:A2:3651:U:H6	2.03	0.42
48:A2:3682:A:C5'	48:A2:3683:A:P	2.93	0.42
48:A2:2342:A:C2	48:A2:3831:A:C4	3.08	0.42
48:A2:3918:A:H2'	48:A2:3919:C:C5'	2.50	0.42
4:AB:5:LYS:NZ	48:A2:4418:C:OP2	2.48	0.42
7:AE:114:ARG:N	48:A2:453:C:OP1	2.47	0.42
48:A2:4855:G:H2'	48:A2:4856:G:H5''	2.01	0.42
3:AA:201:GLY:N	48:A2:3660:G:OP1	2.53	0.42
4:AB:113:GLU:OE2	4:AB:169:ARG:HG3	2.20	0.42
4:AB:126:LYS:HB3	4:AB:128:LYS:HG2	2.02	0.42
4:AB:119:TYR:OH	4:AB:129:ALA:CB	2.67	0.42
4:AB:238:LYS:NZ	4:AB:238:LYS:HB2	2.35	0.42
5:AC:46:LYS:O	5:AC:49:ARG:HG2	2.20	0.42
6:AD:41:LYS:HD3	22:AT:93:ILE:HD13	2.01	0.42
7:AE:137:VAL:HG22	7:AE:138:ARG:N	2.34	0.42
7:AE:268:GLN:NE2	7:AE:269:GLY:H	2.18	0.42
8:AF:184:ILE:CA	8:AF:189:ASP:HB3	2.45	0.42
8:AF:182:TYR:CD2	8:AF:200:ARG:HG2	2.55	0.42
8:AF:72:ALA:HA	8:AF:82:TYR:HB3	2.01	0.42
11:AI:212:LEU:O	11:AI:213:HIS:HB2	2.20	0.42
12:AJ:55:TYR:CE2	12:AJ:57:VAL:HG22	2.54	0.42
13:AK:52:VAL:C	13:AK:53:VAL:CG2	2.88	0.42
13:AK:93:GLU:CB	13:AK:98:ILE:CG1	2.98	0.42
14:AL:36:ARG:NH1	48:A2:407:G:C2	60.71	0.42
16:AN:14:LYS:HD2	48:A2:274:G:N7	2.35	0.42
20:AR:10:LEU:HG	20:AR:41:ILE:HG21	2.02	0.42
8:AF:228:VAL:HG22	21:AS:38:VAL:HG12	2.01	0.42
22:AT:17:ARG:NH1	22:AT:45:MET:CE	2.83	0.42
25:AW:90:ILE:HG23	25:AW:94:ARG:NE	2.35	0.42
26:AX:116:LEU:HD23	26:AX:116:LEU:HA	1.78	0.42
28:AZ:26:VAL:HG12	28:AZ:91:LEU:HD23	1.97	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1483:A:O2'	53:BD:160:SER:HB3	2.20	0.42
49:B1:1520:G:N3	49:B1:1520:G:H3'	2.35	0.42
49:B1:1206:G:N3	49:B1:1834:A:H1'	2.35	0.42
49:B1:282:G:C6	49:B1:283:G:C5	3.08	0.42
49:B1:284:C:O2'	49:B1:285:U:C4	2.70	0.42
49:B1:160:U:N3	49:B1:468:A:O2'	2.53	0.42
49:B1:488:U:H3'	49:B1:489:A:C5'	2.50	0.42
49:B1:554:A:C2	49:B1:589:G:H2'	2.54	0.42
49:B1:605:A:H8	49:B1:605:A:OP2	2.03	0.42
49:B1:696:G:O5'	49:B1:696:G:C8	2.71	0.42
49:B1:744:G:O2'	49:B1:745:C:O4'	2.29	0.42
50:BA:13:GLU:O	50:BA:16:LEU:HB3	2.20	0.42
50:BA:49:ILE:HD11	50:BA:150:THR:HG23	2.00	0.42
52:BC:102:LEU:HG	52:BC:102:LEU:H	1.51	0.42
49:B1:846:G:C4	54:BE:19:MET:SD	3.12	0.42
55:BF:20:PHE:CZ	55:BF:97:PHE:CE2	3.07	0.42
55:BF:63:LYS:HB2	55:BF:63:LYS:NZ	2.35	0.42
56:BG:132:ARG:H	56:BG:132:ARG:HD2	1.85	0.42
56:BG:58:LYS:HA	56:BG:107:SER:OG	2.19	0.42
59:BJ:105:PHE:C	59:BJ:107:GLU:N	2.73	0.42
61:BL:42:LEU:HD21	61:BL:72:ILE:CD1	2.50	0.42
62:BM:61:TYR:HH	62:BM:107:SER:HB2	1.83	0.42
49:B1:926:A:C5'	63:BN:90:HIS:CG	3.03	0.42
64:BO:150:ARG:O	64:BO:151:LEU:HB3	2.19	0.42
65:BP:68:PRO:HD3	65:BP:71:GLU:O	2.19	0.42
67:BR:41:ILE:N	67:BR:41:ILE:CD1	2.73	0.42
50:BA:201:LEU:HD21	67:BR:85:VAL:CG2	2.37	0.42
67:BR:97:GLU:HA	67:BR:117:LEU:CG	2.49	0.42
49:B1:1612:G:H4'	68:BS:87:GLN:HB3	2.02	0.42
70:BU:49:LYS:HG3	70:BU:92:HIS:HE1	1.83	0.42
73:BX:82:THR:O	73:BX:118:VAL:HG13	2.20	0.42
74:BY:56:PHE:HB2	74:BY:74:MET:HB2	2.02	0.42
75:BZ:108:ILE:O	75:BZ:109:TYR:HD1	2.03	0.42
75:BZ:63:PRO:O	75:BZ:111:ARG:HD3	2.20	0.42
48:A2:1051:G:O2'	48:A2:1052:G:H5'	2.19	0.42
6:AD:286:SER:C	48:A2:1163:C:C5'	2.88	0.42
48:A2:1263:C:C4	48:A2:1265:G:O6	2.73	0.42
48:A2:135:G:HO2'	48:A2:136:G:P	2.42	0.42
14:AL:2:ALA:O	48:A2:1496:U:H5'	2.20	0.42
48:A2:1615:G:O5'	48:A2:1616:A:OP1	2.38	0.42
48:A2:1745:C:C5	48:A2:1746:G:C6	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AK:59:THR:CA	48:A2:1942:G:H5''	2.50	0.42
48:A2:2474:U:H6	48:A2:2474:U:O5'	2.02	0.42
48:A2:3635:G:C6	48:A2:3649:G:O6	2.73	0.42
48:A2:4828:G:H5''	48:A2:4828:G:H8	1.84	0.42
48:A2:4846:U:H2'	48:A2:4847:G:H5''	2.01	0.42
48:A2:4698:C:H4'	48:A2:5026:G:C4	2.54	0.42
48:A2:470:G:C2	48:A2:672:G:C6	3.08	0.42
48:A2:676:G:C8	48:A2:676:G:C4'	3.02	0.42
2:A4:14:C:C4	2:A4:66:G:N2	2.88	0.42
3:AA:202:VAL:HG11	3:AA:217:GLN:HB3	2.01	0.42
3:AA:227:ARG:HH11	3:AA:227:ARG:CB	2.32	0.42
4:AB:55:HIS:HE1	48:A2:4590:U:H5'	1.85	0.42
5:AC:329:ASN:ND2	5:AC:332:ALA:HB2	2.34	0.42
7:AE:187:ARG:HH22	48:A2:4900:C:P	2.40	0.42
8:AF:116:GLN:CG	8:AF:119:ASN:HB3	2.50	0.42
8:AF:224:THR:O	8:AF:225:THR:HG22	2.20	0.42
10:AH:8:GLN:CB	10:AH:74:CYS:HB2	2.48	0.42
11:AI:76:MET:HB3	11:AI:85:PHE:CE1	2.54	0.42
13:AK:57:LYS:O	13:AK:60:MET:CB	2.68	0.42
18:AP:37:LYS:HE3	18:AP:115:GLU:O	2.19	0.42
19:AQ:16:LYS:HB2	19:AQ:17:GLU:H	1.64	0.42
28:AZ:59:LYS:C	28:AZ:61:LYS:N	2.73	0.42
49:B1:1455:A:N6	49:B1:1456:G:C6	2.88	0.42
49:B1:1600:G:H5''	75:BZ:43:LYS:CG	2.50	0.42
49:B1:393:U:H4'	49:B1:394:G:O5'	2.20	0.42
49:B1:66:G:C3'	49:B1:67:C:H5''	2.49	0.42
49:B1:681:U:H4'	73:BX:9:THR:CB	2.49	0.42
51:BB:119:THR:HB	51:BB:143:THR:HG23	2.02	0.42
49:B1:977:C:H5''	51:BB:66:VAL:HG21	2.02	0.42
52:BC:166:ARG:CZ	71:BV:10:ASP:OD2	2.68	0.42
52:BC:94:ILE:HD11	52:BC:159:LYS:HD3	2.01	0.42
54:BE:116:VAL:C	54:BE:118:GLU:N	2.73	0.42
56:BG:59:GLN:HB2	56:BG:72:ARG:HH22	1.84	0.42
59:BJ:111:GLN:CG	59:BJ:112:THR:N	2.82	0.42
59:BJ:131:ARG:HD3	59:BJ:143:ASN:ND2	2.23	0.42
64:BO:56:VAL:CG1	64:BO:77:ALA:HA	2.48	0.42
65:BP:54:HIS:C	65:BP:54:HIS:ND1	2.73	0.42
49:B1:1622:U:H5'	68:BS:120:HIS:CD2	2.54	0.42
12:AJ:111:GLU:CD	68:BS:14:ARG:NH2	2.68	0.42
69:BT:41:LYS:CD	69:BT:43:LYS:HG2	2.40	0.42
70:BU:26:SER:OG	70:BU:32:LEU:HA	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:BU:32:LEU:HD22	70:BU:85:HIS:HB2	2.01	0.42
71:BV:40:ASP:HA	71:BV:47:ASN:HD21	1.85	0.42
75:BZ:62:VAL:N	75:BZ:63:PRO:CD	2.83	0.42
48:A2:1225:G:O6	48:A2:1252:G:H1'	2.20	0.42
48:A2:1745:C:H2'	48:A2:1746:G:O5'	2.18	0.42
48:A2:178:C:H2'	48:A2:179:G:C8	2.55	0.42
48:A2:3839:G:C8	48:A2:4524:C:O2'	2.72	0.42
48:A2:4088:C:C3'	48:A2:4089:U:C6	3.00	0.42
48:A2:425:G:C8	48:A2:3860:G:O4'	2.73	0.42
48:A2:4859:G:H2'	48:A2:4860:C:C6	2.55	0.42
48:A2:5006:A:C5'	48:A2:5007:G:OP2	2.67	0.42
48:A2:943:A:H4'	48:A2:944:G:H5'	2.01	0.42
1:A3:117:C:O2'	1:A3:118:C:H5'	2.19	0.42
1:A3:45:C:C2	1:A3:46:G:C8	3.08	0.42
3:AA:130:SER:HA	3:AA:169:VAL:HG12	2.02	0.42
3:AA:2:GLY:HA2	48:A2:1624:A:N6	2.34	0.42
4:AB:90:VAL:HG21	4:AB:163:ILE:HD11	2.02	0.42
4:AB:336:CYS:SG	48:A2:4587:C:O2'	2.72	0.42
5:AC:154:VAL:HG22	5:AC:252:TRP:O	2.19	0.42
5:AC:232:VAL:HG11	5:AC:256:ALA:HA	2.02	0.42
5:AC:306:ARG:HG2	5:AC:307:LYS:N	2.35	0.42
5:AC:331:TYR:HA	8:AF:51:TYR:CE2	2.55	0.42
5:AC:56:GLU:CD	5:AC:57:LEU:N	2.73	0.42
6:AD:233:PRO:O	6:AD:236:MET:HE2	2.19	0.42
10:AH:29:GLY:HA3	10:AH:84:VAL:HG22	2.00	0.42
13:AK:32:ALA:C	13:AK:34:ASN:N	2.73	0.42
15:AM:4:ARG:HH12	48:A2:4726:A:N6	2.05	0.42
17:AO:51:LYS:HD2	17:AO:144:GLU:OE2	2.20	0.42
18:AP:135:ARG:HH22	48:A2:1578:U:H1'	1.85	0.42
18:AP:23:ARG:NH2	18:AP:125:MET:SD	2.93	0.42
20:AR:107:ARG:HH21	48:A2:2644:U:H5''	1.85	0.42
20:AR:10:LEU:CD1	20:AR:38:ARG:HG2	2.50	0.42
20:AR:58:HIS:O	20:AR:58:HIS:ND1	2.53	0.42
21:AS:164:LYS:HB3	21:AS:165:PRO:CD	2.50	0.42
23:AU:48:LYS:H	23:AU:82:TYR:HH	1.67	0.42
28:AZ:102:ARG:O	28:AZ:103:ASP:HB2	2.20	0.42
49:B1:11:A:O2'	49:B1:12:U:H5'	2.20	0.42
49:B1:1415:C:O4'	69:BT:128:GLN:CG	2.67	0.42
49:B1:1552:G:C5'	49:B1:1553:C:O2	2.68	0.42
49:B1:1683:C:H2'	49:B1:1684:C:C6	2.54	0.42
49:B1:181:A:O3'	49:B1:182:C:O4'	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:381:C:OP1	58:BI:48:VAL:HG13	2.20	0.42
49:B1:522:A:H5'	59:BJ:145:PRO:CG	2.49	0.42
49:B1:891:G:H3'	49:B1:892:U:H6	1.84	0.42
49:B1:1389:C:H5'	53:BD:205:PRO:HB3	2.01	0.42
53:BD:70:THR:HG23	53:BD:86:LEU:HD13	2.01	0.42
49:B1:346:C:C5'	54:BE:38:LEU:HG	2.50	0.42
49:B1:145:G:OP2	56:BG:139:SER:CB	2.67	0.42
58:BI:132:GLU:O	58:BI:133:GLU:CB	2.64	0.42
58:BI:139:LYS:HB3	58:BI:144:LYS:HD2	2.02	0.42
58:BI:27:TYR:HA	58:BI:49:ARG:HD2	2.02	0.42
59:BJ:35:TYR:CZ	59:BJ:106:LEU:CB	2.98	0.42
63:BN:26:LEU:HD21	63:BN:60:VAL:HG22	2.02	0.42
64:BO:143:LYS:C	64:BO:145:GLY:N	2.73	0.42
66:BQ:37:ARG:CG	69:BT:7:LYS:CG	2.98	0.42
66:BQ:66:VAL:HG12	66:BQ:68:ILE:HG13	2.02	0.42
74:BY:21:LYS:HE2	74:BY:77:ASP:OD1	2.19	0.42
48:A2:1341:G:N1	48:A2:1343:G:N1	2.68	0.41
48:A2:1395:G:C6	48:A2:1396:C:C4	3.08	0.41
48:A2:1702:C:OP2	48:A2:1702:C:C6	2.73	0.41
8:AF:132:MET:HE1	48:A2:1819:A:H2	1.85	0.41
48:A2:1852:A:O2'	48:A2:1853:G:H5'	2.20	0.41
48:A2:199:C:H2'	48:A2:200:U:O4'	2.20	0.41
27:AY:11:ARG:NH1	48:A2:225:C:OP1	2.53	0.41
48:A2:229:G:H2'	48:A2:229:G:N3	2.34	0.41
48:A2:2560:A:H8	48:A2:2560:A:OP2	2.01	0.41
48:A2:2765:C:H5''	48:A2:2766:A:O4'	2.20	0.41
48:A2:3727:A:C2	48:A2:3740:C:C2	3.07	0.41
48:A2:3918:A:C2'	48:A2:3919:C:H5'	2.50	0.41
18:AP:93:HIS:CE1	48:A2:391:G:O6	2.73	0.41
48:A2:4008:C:O5'	48:A2:4008:C:H6	2.01	0.41
48:A2:4234:G:OP2	48:A2:4234:G:H8	2.03	0.41
48:A2:4282:G:H2'	48:A2:4283:U:C6	2.55	0.41
48:A2:4471:U:H2'	48:A2:4473:A:OP2	2.20	0.41
48:A2:71:C:O2'	48:A2:72:C:C3'	2.68	0.41
1:A3:127:U:C2	48:A2:2522:A:OP1	2.73	0.41
2:A4:1:G:C2	2:A4:2:U:H1'	2.55	0.41
3:AA:107:MET:SD	3:AA:113:VAL:HG11	2.60	0.41
4:AB:223:THR:HG22	4:AB:338:VAL:HG13	2.02	0.41
7:AE:187:ARG:HG3	7:AE:188:ARG:H	1.85	0.41
20:AR:21:LYS:CD	20:AR:52:ARG:HH12	2.33	0.41
20:AR:93:VAL:HA	20:AR:96:MET:CE	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AT:124:THR:HG22	22:AT:126:VAL:H	1.83	0.41
22:AT:54:HIS:HB3	22:AT:57:TYR:CD2	2.55	0.41
49:B1:1070:A:H2'	49:B1:1071:G:O4'	2.19	0.41
49:B1:1110:G:P	49:B1:1110:G:H3'	2.60	0.41
49:B1:1533:A:OP1	55:BF:164:ARG:NH2	2.35	0.41
49:B1:1664:A:O2'	49:B1:1665:G:OP2	2.36	0.41
49:B1:1751:C:H1'	49:B1:1782:G:H22	1.85	0.41
49:B1:1823:A:H1'	49:B1:1824:A:C2	2.55	0.41
49:B1:193:C:H2'	49:B1:194:C:C6	2.55	0.41
49:B1:488:U:H3'	49:B1:489:A:H5'	2.02	0.41
49:B1:495:U:C4	49:B1:496:C:C5	3.08	0.41
49:B1:500:A:H3'	49:B1:501:C:C6	2.55	0.41
49:B1:560:A:C5'	59:BJ:172:ARG:HB3	2.50	0.41
49:B1:790:C:H2'	49:B1:791:C:O4'	2.20	0.41
49:B1:864:A:N6	57:BH:106:ARG:HH22	2.11	0.41
49:B1:957:A:OP2	64:BO:59:GLY:HA3	2.20	0.41
51:BB:61:GLY:O	51:BB:65:ARG:HG3	2.20	0.41
54:BE:150:PRO:O	54:BE:151:ASP:CB	2.68	0.41
55:BF:95:HIS:O	55:BF:99:ILE:HG13	2.20	0.41
56:BG:186:GLN:CG	56:BG:187:HIS:H	2.32	0.41
49:B1:688:U:O4	57:BH:102:PRO:HB2	2.20	0.41
49:B1:377:G:H5''	58:BI:99:ASN:H	1.84	0.41
49:B1:560:A:P	59:BJ:172:ARG:HB3	2.60	0.41
63:BN:46:THR:HG23	63:BN:47:PRO:HD2	2.01	0.41
64:BO:21:VAL:O	64:BO:22:ALA:HB3	2.20	0.41
68:BS:82:TRP:CE3	68:BS:83:PHE:N	2.88	0.41
70:BU:26:SER:O	70:BU:27:ARG:C	2.56	0.41
71:BV:50:PHE:HD1	71:BV:50:PHE:N	2.18	0.41
49:B1:1824:A:C8	73:BX:61:GLN:NE2	2.88	0.41
74:BY:35:VAL:HB	74:BY:40:ILE:HG13	2.02	0.41
75:BZ:110:THR:HG22	75:BZ:111:ARG:H	1.84	0.41
48:A2:138:C:H2'	48:A2:139:G:O4'	2.19	0.41
48:A2:1499:G:H5''	48:A2:1500:A:N7	2.35	0.41
48:A2:1989:U:C5	48:A2:1991:A:OP2	2.72	0.41
48:A2:2009:C:O2'	48:A2:2010:A:H5'	2.20	0.41
48:A2:2361:A:N6	48:A2:2401:C:O2	2.53	0.41
48:A2:2438:G:H2'	48:A2:2440:G:OP2	2.20	0.41
48:A2:2455:G:H2'	48:A2:2456:A:C8	2.55	0.41
48:A2:253:G:C2'	48:A2:254:C:O5'	2.68	0.41
28:AZ:133:LYS:HE3	48:A2:2733:G:OP2	2.20	0.41
48:A2:344:C:O2'	48:A2:345:C:H5'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:3597:G:O2'	48:A2:3598:G:C5'	2.68	0.41
48:A2:4068:A:H2'	48:A2:4069:G:O4'	2.20	0.41
1:A3:15:G:H1'	48:A2:414:A:N6	2.35	0.41
4:AB:14:LEU:O	48:A2:4549:G:O2'	2.37	0.41
48:A2:4714:U:O2'	48:A2:4715:U:P	2.78	0.41
3:AA:211:PHE:CD1	3:AA:219:ILE:HG23	2.55	0.41
4:AB:295:ASP:N	4:AB:296:GLY:C	2.73	0.41
5:AC:41:HIS:O	5:AC:45:ARG:HG3	2.21	0.41
5:AC:54:VAL:HG13	5:AC:105:THR:C	2.38	0.41
5:AC:56:GLU:OE1	5:AC:56:GLU:HA	2.20	0.41
6:AD:64:ILE:CD1	6:AD:109:LEU:HD22	2.50	0.41
7:AE:134:SER:HB2	48:A2:1272:C:P	2.59	0.41
11:AI:71:CYS:SG	11:AI:154:ARG:HB3	2.60	0.41
17:AO:149:TYR:CZ	48:A2:4546:A:OP1	2.74	0.41
19:AQ:150:ARG:HH12	19:AQ:164:LYS:HD3	1.83	0.41
21:AS:84:TYR:HE1	21:AS:86:SER:HB3	1.85	0.41
49:B1:1120:U:C3'	49:B1:1121:G:H5''	2.49	0.41
49:B1:1348:G:N1	49:B1:1382:A:C2	2.88	0.41
49:B1:1349:G:H21	50:BA:112:ILE:CD1	2.32	0.41
49:B1:1668:U:OP2	66:BQ:141:TYR:CE2	2.73	0.41
49:B1:1784:G:C5	49:B1:1785:C:N4	2.88	0.41
49:B1:228:C:O2'	49:B1:229:A:P	2.79	0.41
49:B1:748:C:O5'	49:B1:748:C:C2'	2.68	0.41
51:BB:69:VAL:HG13	51:BB:69:VAL:O	2.20	0.41
52:BC:61:MET:H	52:BC:71:LYS:HZ1	1.68	0.41
53:BD:99:ILE:HG23	53:BD:173:ARG:HH21	1.85	0.41
53:BD:216:GLU:O	53:BD:217:ILE:HG12	2.20	0.41
49:B1:1599:U:O4	55:BF:165:ASN:C	2.58	0.41
55:BF:92:ILE:C	55:BF:94:LYS:N	2.73	0.41
55:BF:98:GLU:OE2	75:BZ:100:VAL:HG12	2.20	0.41
56:BG:175:LYS:H	56:BG:175:LYS:HG3	1.74	0.41
56:BG:64:LYS:NZ	56:BG:82:SER:H	2.18	0.41
59:BJ:29:LEU:CD2	59:BJ:40:LYS:HZ1	2.33	0.41
59:BJ:31:LEU:O	59:BJ:34:GLU:HB3	2.20	0.41
62:BM:52:LEU:HB3	62:BM:65:VAL:HG11	2.02	0.41
50:BA:7:VAL:CG2	71:BV:42:VAL:CA	2.77	0.41
49:B1:659:G:H5''	73:BX:17:ARG:HE	1.85	0.41
74:BY:35:VAL:HB	74:BY:40:ILE:CG1	2.50	0.41
48:A2:1071:C:H2'	48:A2:1072:G:C8	2.56	0.41
48:A2:1294:G:C6	48:A2:1295:A:C2	3.09	0.41
48:A2:1319:G:C6	48:A2:2325:C:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1716:G:H5'	48:A2:4176:A:O2'	2.20	0.41
48:A2:1804:U:H2'	48:A2:1805:G:O4'	2.19	0.41
48:A2:1842:U:H2'	48:A2:1843:U:O4'	2.20	0.41
48:A2:1944:C:O3'	48:A2:1945:A:C8	2.74	0.41
48:A2:1987:U:C5	48:A2:1988:G:C5	3.08	0.41
48:A2:2482:G:N3	48:A2:2482:G:C3'	2.81	0.41
48:A2:2706:C:OP2	48:A2:2706:C:C6	2.74	0.41
48:A2:2740:U:O2'	48:A2:2741:G:O4'	2.36	0.41
48:A2:2:G:O2'	48:A2:3:C:H5'	2.20	0.41
48:A2:3665:U:C4	48:A2:3666:U:C4	3.09	0.41
48:A2:4181:A:H2'	48:A2:4182:A:C8	2.55	0.41
48:A2:4461:G:H1'	48:A2:4490:G:H21	1.85	0.41
48:A2:4514:U:H6	48:A2:4514:U:C5'	2.30	0.41
48:A2:4840:U:O4'	48:A2:4840:U:O2	2.38	0.41
48:A2:516:C:C6	48:A2:516:C:O5'	2.70	0.41
48:A2:926:G:H2'	48:A2:927:C:OP1	2.20	0.41
1:A3:20:A:H2'	1:A3:21:C:O4'	2.21	0.41
1:A3:34:U:HO2'	1:A3:35:C:P	2.43	0.41
1:A3:78:G:H2'	1:A3:79:G:O4'	2.21	0.41
2:A4:14:C:C2'	2:A4:14:C:O2	2.67	0.41
2:A4:30:C:N3	2:A4:48:G:N7	2.68	0.41
4:AB:174:ARG:O	4:AB:175:GLN:C	2.59	0.41
4:AB:220:ILE:HG12	4:AB:278:THR:CG2	2.50	0.41
4:AB:293:ILE:H	4:AB:293:ILE:HG13	1.66	0.41
5:AC:322:LEU:O	5:AC:323:ARG:CB	2.69	0.41
7:AE:211:HIS:ND1	7:AE:211:HIS:C	2.73	0.41
8:AF:184:ILE:CB	8:AF:189:ASP:CB	2.98	0.41
8:AF:19:LYS:HD2	8:AF:19:LYS:C	2.40	0.41
9:AG:131:LYS:HG2	9:AG:132:ARG:N	2.35	0.41
11:AI:23:CYS:SG	11:AI:26:VAL:HB	2.61	0.41
11:AI:66:GLU:O	11:AI:69:ARG:HG2	2.20	0.41
13:AK:58:ASN:CB	13:AK:82:ILE:HG23	2.26	0.41
14:AL:104:ASN:HB3	14:AL:110:LEU:HD13	2.02	0.41
15:AM:121:ARG:CD	48:A2:4886:C:C2	3.03	0.41
15:AM:123:ILE:HG12	17:AO:187:LYS:CE	2.51	0.41
16:AN:73:ARG:HA	16:AN:74:PRO:HD3	1.85	0.41
23:AU:39:PHE:HD1	23:AU:70:ILE:HD13	1.85	0.41
1:A3:135:C:P	26:AX:63:LYS:HE3	2.59	0.41
28:AZ:91:LEU:CD1	28:AZ:114:ALA:HA	2.49	0.41
49:B1:1136:U:H2'	49:B1:1137:U:C6	2.56	0.41
49:B1:11:A:O5'	49:B1:11:A:H8	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1621:U:O2'	68:BS:120:HIS:CE1	2.74	0.41
49:B1:1743:G:O5'	49:B1:1743:G:H8	2.03	0.41
49:B1:599:A:O5'	49:B1:599:A:H8	2.03	0.41
49:B1:229:A:H2'	49:B1:888:U:O2	2.20	0.41
53:BD:4:GLN:HG2	53:BD:4:GLN:O	2.19	0.41
54:BE:141:THR:HB	54:BE:145:ARG:H	1.85	0.41
55:BF:128:ILE:HG12	55:BF:137:GLN:HB3	2.01	0.41
60:BK:3:MET:HB3	60:BK:44:HIS:ND1	2.35	0.41
61:BL:120:VAL:HG13	61:BL:121:GLN:N	2.35	0.41
49:B1:1020:A:C4'	63:BN:128:TYR:OH	2.65	0.41
63:BN:66:VAL:HG13	63:BN:67:THR:N	2.35	0.41
63:BN:75:LEU:HD11	63:BN:80:LEU:C	2.40	0.41
49:B1:973:C:O2	64:BO:55:ARG:NH2	2.54	0.41
65:BP:36:LEU:N	65:BP:36:LEU:CD2	2.83	0.41
66:BQ:132:PHE:CD1	70:BU:77:TRP:HD1	2.37	0.41
67:BR:5:ARG:HE	67:BR:53:TYR:CB	2.08	0.41
67:BR:71:ILE:CD1	67:BR:74:GLN:HG2	2.51	0.41
68:BS:15:VAL:HG12	68:BS:16:LEU:HD21	1.92	0.41
70:BU:20:ILE:HG23	70:BU:116:ILE:HG23	2.01	0.41
48:A2:1306:A:C2	48:A2:1307:A:C4	3.08	0.41
48:A2:132:G:N3	48:A2:132:G:OP2	2.54	0.41
48:A2:148:G:H3'	48:A2:149:U:C5'	2.50	0.41
48:A2:156:C:H5''	48:A2:157:G:H2'	2.02	0.41
48:A2:2278:G:C2	48:A2:2280:G:H1'	2.55	0.41
48:A2:195:A:H2'	48:A2:234:G:OP1	2.19	0.41
48:A2:2527:C:H2'	48:A2:2528:G:O4'	2.20	0.41
48:A2:256:C:C6	48:A2:256:C:OP2	2.73	0.41
48:A2:2722:A:C2	48:A2:2723:A:C4	3.09	0.41
48:A2:2796:C:H2'	48:A2:2797:C:C6	2.56	0.41
48:A2:2840:C:H6	48:A2:2840:C:O5'	2.03	0.41
48:A2:353:A:H4'	48:A2:372:A:N6	2.34	0.41
48:A2:3891:U:H2'	48:A2:3892:U:C6	2.55	0.41
48:A2:4029:C:H2'	48:A2:4030:U:O4'	2.20	0.41
48:A2:4262:U:H2'	48:A2:4263:U:C6	2.56	0.41
48:A2:4470:C:O2'	48:A2:4471:U:H5'	2.20	0.41
48:A2:4686:A:H8	48:A2:4686:A:O5'	2.03	0.41
48:A2:4733:C:O2	48:A2:4820:G:N2	2.54	0.41
48:A2:4836:C:O2	48:A2:4837:C:C5	2.73	0.41
48:A2:4872:C:H3'	48:A2:4872:C:H6	1.79	0.41
48:A2:683:U:C4	48:A2:684:U:O4	2.73	0.41
48:A2:6:C:O2	48:A2:6:C:C2'	2.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:750:G:N2	48:A2:892:C:C2	2.89	0.41
2:A4:36:C:H4'	6:AD:154:THR:CG2	2.48	0.41
4:AB:200:ARG:HA	4:AB:203:GLN:OE1	2.20	0.41
5:AC:206:GLY:H	5:AC:226:GLY:CA	2.34	0.41
5:AC:221:PHE:CD2	5:AC:227:ILE:HD11	2.54	0.41
5:AC:212:ASN:CG	5:AC:255:SER:OG	2.58	0.41
6:AD:205:ALA:HB2	6:AD:236:MET:SD	2.60	0.41
7:AE:99:ASP:CG	7:AE:104:THR:HA	2.40	0.41
8:AF:166:ARG:NH1	8:AF:209:TRP:HB3	2.35	0.41
11:AI:112:GLN:O	11:AI:113:THR:CB	2.68	0.41
12:AJ:134:LEU:HD11	12:AJ:162:ALA:CB	2.51	0.41
2:A4:39:C:O4'	12:AJ:47:THR:O	2.39	0.41
13:AK:39:GLN:HA	13:AK:42:GLN:HB2	2.01	0.41
13:AK:3:ARG:O	13:AK:10:LYS:HB3	2.20	0.41
15:AM:10:GLY:HA3	15:AM:62:LEU:O	2.19	0.41
17:AO:160:ARG:O	17:AO:163:LYS:HB3	2.20	0.41
23:AU:39:PHE:HE1	23:AU:43:LEU:HD11	1.86	0.41
24:AV:85:ARG:H	24:AV:101:ASN:ND2	2.18	0.41
27:AY:66:GLN:C	27:AY:68:GLY:N	2.73	0.41
49:B1:1140:G:H2'	49:B1:1141:G:O4'	2.20	0.41
49:B1:1314:U:C5	60:BK:2:LEU:CB	3.03	0.41
49:B1:1748:G:H2'	49:B1:1749:G:O5'	2.20	0.41
49:B1:1751:C:O2	49:B1:1782:G:C2	2.72	0.41
49:B1:1853:C:H2'	49:B1:1854:U:O4'	2.20	0.41
49:B1:745:C:C2	57:BH:109:ARG:CD	3.03	0.41
49:B1:750:C:OP2	49:B1:750:C:C3'	2.68	0.41
49:B1:821:G:N2	59:BJ:147:PHE:CE1	2.88	0.41
49:B1:887:U:C5	49:B1:888:U:C5	3.08	0.41
49:B1:1377:U:C5	50:BA:102:ARG:NE	2.89	0.41
56:BG:102:VAL:C	56:BG:104:ALA:H	2.23	0.41
56:BG:70:HIS:HD2	56:BG:103:ASP:OD1	2.03	0.41
56:BG:227:GLN:O	56:BG:231:ARG:NE	2.42	0.41
59:BJ:13:TYR:OH	59:BJ:44:TRP:CZ3	2.71	0.41
49:B1:1016:U:C1'	63:BN:61:ALA:HB1	2.40	0.41
48:A2:1353:G:H5'	48:A2:1355:A:O4'	2.19	0.41
48:A2:1431:G:O3'	48:A2:1432:C:O4'	2.38	0.41
48:A2:1533:C:C2'	48:A2:1534:G:H5'	2.51	0.41
48:A2:1960:A:O2'	48:A2:1961:U:O5'	2.36	0.41
48:A2:944:G:N2	48:A2:2056:G:O2'	2.51	0.41
48:A2:2468:C:HO2'	48:A2:2469:U:P	2.44	0.41
28:AZ:67:LYS:HE2	48:A2:2553:G:P	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:267:U:H2'	48:A2:268:C:C6	2.55	0.41
48:A2:2739:G:O2'	48:A2:2740:U:P	2.78	0.41
48:A2:287:G:H1	48:A2:309:G:N2	2.17	0.41
48:A2:3597:G:C2	48:A2:3598:G:C4	3.08	0.41
48:A2:4187:G:H2'	48:A2:4188:G:O5'	2.20	0.41
48:A2:4616:C:O5'	48:A2:4616:C:H6	2.03	0.41
48:A2:4546:A:C5	48:A2:4681:G:N7	2.88	0.41
1:A3:103:A:H8	1:A3:104:A:C8	2.39	0.41
4:AB:127:LYS:HG2	4:AB:127:LYS:O	2.21	0.41
7:AE:96:VAL:HG12	7:AE:97:GLY:N	2.35	0.41
9:AG:83:PHE:HB3	9:AG:159:HIS:HD2	1.85	0.41
10:AH:137:SER:HB3	10:AH:143:GLU:HB3	2.03	0.41
10:AH:23:ARG:NH1	48:A2:4725:U:C2'	2.84	0.41
11:AI:138:ILE:HG22	11:AI:140:THR:HG23	2.02	0.41
11:AI:74:LYS:HA	11:AI:74:LYS:HD3	1.92	0.41
15:AM:34:ASN:O	15:AM:52:PHE:HD2	2.03	0.41
16:AN:40:PRO:HG3	48:A2:8:U:H5'	2.01	0.41
17:AO:119:VAL:CG1	17:AO:124:LEU:HD21	2.51	0.41
19:AQ:12:LYS:C	19:AQ:13:VAL:CG1	2.86	0.41
19:AQ:156:PRO:O	19:AQ:163:THR:OG1	2.39	0.41
20:AR:99:MET:HG2	20:AR:103:ARG:CD	2.49	0.41
22:AT:2:THR:HG23	22:AT:3:ASN:H	1.86	0.41
25:AW:101:ARG:HB2	25:AW:105:ARG:NH1	1.93	0.41
24:AV:97:TYR:CE2	25:AW:37:GLU:OE2	2.74	0.41
26:AX:48:ARG:HA	26:AX:49:PRO:HD3	1.92	0.41
27:AY:89:LYS:HE3	27:AY:95:VAL:HB	2.02	0.41
28:AZ:74:VAL:O	48:A2:2559:U:H4'	2.20	0.41
49:B1:1737:G:H2'	49:B1:1738:C:O4'	2.20	0.41
49:B1:1756:C:O2'	49:B1:1757:G:P	2.78	0.41
49:B1:346:C:H2'	49:B1:347:G:O4'	2.19	0.41
49:B1:382:C:H41	58:BI:5:ARG:NH2	2.17	0.41
49:B1:693:A:O5'	49:B1:693:A:H8	2.02	0.41
50:BA:30:LEU:CD2	50:BA:38:ILE:HG21	2.47	0.41
52:BC:209:VAL:HB	52:BC:210:PRO:CD	2.51	0.41
52:BC:60:TRP:HB3	52:BC:71:LYS:HE2	2.03	0.41
54:BE:150:PRO:O	54:BE:151:ASP:HB2	2.20	0.41
54:BE:11:ARG:NH1	54:BE:20:LEU:HB3	2.36	0.41
54:BE:98:HIS:O	54:BE:113:ARG:HA	2.19	0.41
55:BF:100:ILE:O	55:BF:103:LEU:O	2.39	0.41
55:BF:109:LEU:O	55:BF:110:GLN:C	2.59	0.41
55:BF:58:ALA:HB3	55:BF:62:ARG:HD3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BF:62:ARG:HA	55:BF:65:GLN:HE22	1.86	0.41
56:BG:101:ILE:CG2	56:BG:103:ASP:OD1	2.69	0.41
49:B1:154:U:C5'	56:BG:13:GLN:CB	2.99	0.41
56:BG:45:TRP:NE1	56:BG:121:ILE:HG12	2.34	0.41
59:BJ:110:LEU:CB	59:BJ:147:PHE:HB3	2.51	0.41
65:BP:34:MET:HE3	65:BP:41:GLN:C	2.41	0.41
65:BP:34:MET:HG3	65:BP:45:LEU:CD2	2.48	0.41
49:B1:1669:G:OP2	66:BQ:130:LYS:HD2	2.20	0.41
66:BQ:16:LYS:CD	66:BQ:17:LYS:N	2.84	0.41
69:BT:41:LYS:CD	69:BT:43:LYS:HZ3	2.27	0.41
72:BW:28:ARG:CB	72:BW:29:PRO:HD3	2.49	0.41
75:BZ:46:ASN:OD1	75:BZ:79:ILE:N	2.53	0.41
48:A2:1225:G:C5	48:A2:1226:C:H1'	2.56	0.41
48:A2:1297:C:C2	48:A2:1298:C:C6	3.09	0.41
5:AC:239:LYS:HZ3	48:A2:1353:G:H22	1.66	0.41
5:AC:113:ARG:HD2	48:A2:1490:A:OP1	2.21	0.41
20:AR:37:SER:HA	48:A2:2505:C:OP1	2.21	0.41
48:A2:2414:G:N2	48:A2:2762:A:N3	2.68	0.41
48:A2:2859:U:C2'	48:A2:2860:A:H5''	2.51	0.41
5:AC:97:ARG:HH11	48:A2:348:U:H1'	1.85	0.41
48:A2:2866:U:O2'	48:A2:3589:C:H2'	2.21	0.41
48:A2:1583:A:OP2	48:A2:3614:A:N6	2.53	0.41
48:A2:3681:G:C8	48:A2:3683:A:C5	3.08	0.41
48:A2:380:A:C2'	48:A2:381:G:OP1	2.69	0.41
48:A2:4016:A:O2'	48:A2:4017:A:O4'	2.38	0.41
48:A2:2608:C:C4	48:A2:4610:A:N1	2.89	0.41
48:A2:493:G:N3	48:A2:493:G:C2'	2.82	0.41
48:A2:702:A:OP2	48:A2:702:A:H8	2.02	0.41
48:A2:80:C:H2'	48:A2:81:C:C6	2.55	0.41
48:A2:947:A:H5'	48:A2:948:G:OP1	2.21	0.41
3:AA:149:LYS:HB2	3:AA:149:LYS:NZ	2.35	0.41
7:AE:108:LYS:CE	7:AE:109:LEU:H	2.26	0.41
9:AG:114:LEU:HD23	9:AG:117:ARG:HH22	1.85	0.41
9:AG:137:ARG:HB3	9:AG:142:THR:HG21	2.02	0.41
9:AG:166:LEU:HA	16:AN:7:ILE:HD12	2.02	0.41
9:AG:76:VAL:HG23	9:AG:81:ASN:HB3	2.02	0.41
11:AI:51:HIS:HB2	11:AI:134:VAL:CG1	2.50	0.41
12:AJ:53:ALA:O	12:AJ:54:ARG:CB	2.69	0.41
16:AN:144:ARG:O	16:AN:145:ASN:HB3	2.19	0.41
3:AA:80:GLU:OE2	18:AP:66:GLY:HA2	95.87	0.41
18:AP:87:SER:O	18:AP:91:LEU:HD13	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AQ:15:ARG:HD2	19:AQ:52:PHE:O	2.18	0.41
20:AR:131:VAL:HG11	20:AR:132:PHE:CE1	2.56	0.41
26:AX:77:ILE:HG21	26:AX:116:LEU:HD12	2.02	0.41
28:AZ:33:THR:CB	28:AZ:36:ARG:CG	2.86	0.41
49:B1:1116:C:H4'	49:B1:1117:C:OP1	2.20	0.41
49:B1:1261:C:H6	49:B1:1261:C:OP2	2.04	0.41
49:B1:1388:A:N6	53:BD:161:GLY:HA3	2.36	0.41
49:B1:154:U:H1'	49:B1:165:G:H21	1.86	0.41
49:B1:171:A:C5'	56:BG:177:GLN:CD	2.89	0.41
49:B1:1781:A:C2'	49:B1:1782:G:H5'	2.50	0.41
49:B1:1035:A:C1'	49:B1:1857:G:H1'	2.50	0.41
49:B1:409:C:O2'	49:B1:410:G:H5'	2.20	0.41
49:B1:621:C:O5'	49:B1:621:C:O2	2.39	0.41
49:B1:630:U:C6	49:B1:630:U:C3'	3.03	0.41
49:B1:658:U:O4'	73:BX:17:ARG:NH2	2.54	0.41
49:B1:750:C:O2'	49:B1:751:G:C1'	2.69	0.41
49:B1:969:U:H5''	49:B1:970:G:H3'	2.02	0.41
50:BA:169:HIS:CB	50:BA:203:PHE:HE2	2.34	0.41
51:BB:181:LEU:H	51:BB:181:LEU:HD12	1.86	0.41
49:B1:1578:U:C5	53:BD:4:GLN:HE21	1.73	0.41
53:BD:79:PHE:CG	53:BD:84:VAL:CG2	3.03	0.41
54:BE:103:TYR:HB2	54:BE:182:MET:HE1	2.03	0.41
55:BF:104:THR:OG1	55:BF:105:GLY:N	2.53	0.41
55:BF:184:SER:C	55:BF:186:ASN:H	2.24	0.41
56:BG:118:GLU:O	56:BG:119:LYS:HB2	2.21	0.41
49:B1:381:C:C5'	58:BI:48:VAL:HG13	2.50	0.41
58:BI:65:PHE:HA	58:BI:187:GLY:O	2.20	0.41
58:BI:83:TYR:CD2	58:BI:83:TYR:O	2.74	0.41
49:B1:561:A:H5''	59:BJ:171:GLY:H	1.86	0.41
49:B1:641:A:P	59:BJ:40:LYS:HD2	2.61	0.41
59:BJ:88:ASP:C	59:BJ:90:GLY:N	2.73	0.41
49:B1:1497:G:N7	60:BK:62:PHE:CE1	2.88	0.41
49:B1:918:U:P	63:BN:64:ARG:NH2	2.94	0.41
49:B1:1669:G:OP2	66:BQ:130:LYS:CD	2.69	0.41
67:BR:99:ASP:C	67:BR:117:LEU:HD13	2.40	0.41
67:BR:35:CYS:C	67:BR:38:ILE:HG13	2.41	0.41
68:BS:28:PHE:O	68:BS:31:THR:HB	2.21	0.41
68:BS:47:LYS:HG2	68:BS:47:LYS:H	1.56	0.41
74:BY:100:LYS:HG3	74:BY:101:LYS:N	2.36	0.41
75:BZ:73:VAL:O	75:BZ:77:LEU:HG	2.20	0.41
48:A2:1188:G:C6	48:A2:1189:C:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:1252:G:N7	48:A2:1253:A:C4	2.89	0.41
48:A2:1278:C:O2	48:A2:1279:G:C6	2.74	0.41
48:A2:1739:U:C4	48:A2:1740:G:C8	2.97	0.41
48:A2:1866:G:N2	48:A2:1889:A:H1'	2.35	0.41
17:AO:128:ARG:NH1	48:A2:2037:G:H5''	2.35	0.41
48:A2:2468:C:O2'	48:A2:2469:U:P	2.79	0.41
48:A2:32:G:O4'	48:A2:32:G:P	2.79	0.41
48:A2:406:G:H4'	48:A2:407:G:H5''	2.03	0.41
48:A2:468:C:H42	48:A2:674:C:N4	2.17	0.41
48:A2:4819:G:H2'	48:A2:4820:G:C8	2.54	0.41
48:A2:4860:C:H3'	48:A2:4861:G:H8	1.85	0.41
48:A2:651:C:H6	48:A2:651:C:O5'	2.03	0.41
48:A2:676:G:C6	48:A2:677:G:N1	2.89	0.41
7:AE:125:LEU:HB2	48:A2:946:G:H21	1.79	0.41
48:A2:958:U:O2	48:A2:959:C:C6	2.73	0.41
1:A3:71:A:N6	1:A3:87:G:O4'	2.54	0.41
2:A4:10:C:O2	6:AD:20:PHE:HA	2.21	0.41
4:AB:17:LEU:N	4:AB:18:PRO:CD	2.81	0.41
6:AD:290:ALA:C	6:AD:292:GLU:N	2.66	0.41
7:AE:200:LYS:HZ3	7:AE:203:ILE:N	2.18	0.41
5:AC:329:ASN:HB2	8:AF:188:GLU:OE2	2.21	0.41
8:AF:94:ARG:HB2	8:AF:140:ILE:HG22	2.02	0.41
9:AG:157:ILE:HG23	9:AG:167:VAL:CG1	2.50	0.41
9:AG:102:TYR:OH	9:AG:207:VAL:HG23	2.20	0.41
9:AG:52:THR:O	9:AG:55:VAL:HG12	2.21	0.41
11:AI:86:HIS:HB3	11:AI:139:ARG:HG2	2.03	0.41
13:AK:72:ASN:CB	13:AK:73:PRO:HD3	2.43	0.41
16:AN:156:HIS:O	16:AN:159:ARG:HG3	2.20	0.41
20:AR:144:LYS:HB2	20:AR:144:LYS:HZ3	1.82	0.41
20:AR:172:ARG:CZ	49:B1:908:A:H5''	2.50	0.41
20:AR:76:MET:HG3	20:AR:76:MET:O	2.21	0.41
21:AS:144:GLN:C	21:AS:146:HIS:H	2.24	0.41
21:AS:144:GLN:C	21:AS:146:HIS:N	2.73	0.41
49:B1:1115:U:H1'	49:B1:1116:C:C5	2.55	0.41
49:B1:1418:C:O3'	49:B1:1419:C:H2'	2.21	0.41
49:B1:1678:A:C2'	49:B1:1679:A:H5'	2.46	0.41
49:B1:285:U:O2'	49:B1:286:U:P	2.79	0.41
49:B1:344:U:H2'	49:B1:345:U:C6	2.54	0.41
49:B1:659:G:H5''	73:BX:17:ARG:NE	2.35	0.41
50:BA:172:GLY:CA	50:BA:202:TYR:CB	2.98	0.41
56:BG:49:VAL:HB	56:BG:114:VAL:HB	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BG:121:ILE:CG2	56:BG:122:PRO:HD2	2.51	0.41
49:B1:913:A:C2	57:BH:66:VAL:HG11	2.55	0.41
59:BJ:25:LEU:O	59:BJ:29:LEU:HG	2.21	0.41
60:BK:76:ILE:O	60:BK:79:LEU:HB2	2.21	0.41
61:BL:19:ASN:C	61:BL:21:LYS:N	2.73	0.41
55:BF:103:LEU:HD13	62:BM:36:ARG:HH21	117.05	0.41
66:BQ:42:ILE:CD1	66:BQ:48:GLN:HB2	2.48	0.41
66:BQ:9:SER:C	66:BQ:10:VAL:HG23	2.41	0.41
67:BR:126:MET:SD	67:BR:126:MET:O	2.79	0.41
67:BR:44:LYS:O	67:BR:47:ARG:HB2	2.21	0.41
68:BS:45:LEU:HD12	68:BS:50:ILE:HD12	2.02	0.41
70:BU:88:LEU:N	70:BU:88:LEU:HD12	2.35	0.41
73:BX:106:GLY:O	73:BX:107:ARG:CB	2.68	0.41
73:BX:122:VAL:O	73:BX:130:LEU:HD12	2.21	0.41
74:BY:83:LYS:HD3	74:BY:96:LEU:HD23	2.02	0.41
48:A2:1224:C:N3	48:A2:1225:G:H1'	2.36	0.41
48:A2:1319:G:H2'	48:A2:1320:A:N7	2.36	0.41
48:A2:1752:A:HO2'	48:A2:1753:U:H5'	1.86	0.41
48:A2:176:G:N1	48:A2:253:G:C2	2.89	0.41
48:A2:1973:U:O5'	48:A2:1973:U:C6	2.74	0.41
48:A2:1942:G:C2'	48:A2:2005:G:H22	2.30	0.41
48:A2:2499:C:H2'	48:A2:2500:G:C8	2.55	0.41
28:AZ:112:ARG:NH2	48:A2:2551:C:O2'	2.54	0.41
48:A2:330:A:H5''	48:A2:331:U:OP2	2.21	0.41
48:A2:3596:G:H8	48:A2:3596:G:C3'	2.20	0.41
48:A2:3661:U:H2'	48:A2:3662:G:O4'	2.20	0.41
9:AG:43:GLN:HB2	48:A2:4093:G:H22	1.83	0.41
4:AB:268:ARG:HD3	48:A2:4527:C:O2	2.21	0.41
48:A2:4855:G:HO2'	48:A2:4885:G:H8	1.68	0.41
48:A2:4909:G:H2'	48:A2:4910:G:O5'	2.21	0.41
48:A2:4985:C:H3'	48:A2:4986:G:C5'	2.51	0.41
48:A2:57:G:H8	48:A2:57:G:O5'	2.03	0.41
48:A2:681:A:C5	48:A2:682:U:C4	3.08	0.41
48:A2:70:A:C4'	48:A2:71:C:N4	2.84	0.41
48:A2:903:C:O2'	48:A2:904:A:P	2.78	0.41
48:A2:911:C:H2'	48:A2:912:C:O4'	2.21	0.41
4:AB:60:VAL:HG21	4:AB:72:VAL:HG21	2.02	0.41
5:AC:183:VAL:HG11	5:AC:226:GLY:N	2.33	0.41
7:AE:222:LEU:HG	7:AE:235:THR:HG1	1.86	0.41
7:AE:237:LYS:C	7:AE:237:LYS:HD3	2.41	0.41
8:AF:179:LEU:O	8:AF:179:LEU:HG	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AJ:86:GLY:HA3	12:AJ:107:PHE:CZ	2.55	0.41
23:AU:80:LYS:HB2	23:AU:110:TYR:CE2	2.55	0.41
23:AU:32:GLY:C	23:AU:34:MET:N	2.73	0.41
24:AV:42:VAL:HB	24:AV:45:ILE:HD12	1.94	0.41
28:AZ:59:LYS:O	28:AZ:61:LYS:N	2.53	0.41
49:B1:1003:U:H2'	49:B1:1004:U:O4'	2.20	0.41
49:B1:1055:A:N6	49:B1:1061:U:OP2	2.54	0.41
49:B1:1674:G:C5'	55:BF:86:LYS:HG3	2.51	0.41
48:A2:3731:A:C6	49:B1:1825:A:N1	2.89	0.41
49:B1:305:U:O4	58:BI:55:TYR:CD2	2.68	0.41
49:B1:351:G:C2'	49:B1:352:U:H5'	2.51	0.41
49:B1:548:C:H4'	49:B1:548:C:OP1	2.20	0.41
49:B1:807:G:N2	49:B1:808:A:N3	2.69	0.41
50:BA:39:TYR:HE2	67:BR:108:LEU:HD13	1.83	0.41
53:BD:96:LEU:CD1	53:BD:190:LEU:HD22	2.50	0.41
55:BF:33:ILE:O	55:BF:34:SER:CB	2.69	0.41
57:BH:62:ILE:HD11	57:BH:94:PHE:HE2	1.83	0.41
59:BJ:74:GLY:O	59:BJ:78:LEU:HG	2.20	0.41
61:BL:157:LYS:HB2	61:BL:157:LYS:NZ	2.35	0.41
63:BN:53:ILE:O	63:BN:57:SER:N	2.32	0.41
65:BP:126:VAL:CG2	65:BP:128:HIS:CD2	3.04	0.41
66:BQ:11:GLN:HA	66:BQ:23:ALA:O	2.21	0.41
67:BR:21:TYR:CG	67:BR:71:ILE:HG21	2.37	0.41
68:BS:106:LYS:HA	68:BS:106:LYS:CE	2.50	0.41
69:BT:23:LYS:HG2	69:BT:54:TYR:CE1	2.55	0.41
72:BW:98:GLN:O	72:BW:99:PHE:C	2.58	0.41
75:BZ:62:VAL:CG1	75:BZ:91:LEU:HD23	2.46	0.41
48:A2:1262:A:C2'	48:A2:1263:C:H5'	2.51	0.41
5:AC:322:LEU:CB	48:A2:1264:G:N7	2.84	0.41
9:AG:196:ARG:NE	48:A2:147:U:H2'	2.36	0.41
48:A2:1561:C:H6	48:A2:1561:C:O5'	2.04	0.41
48:A2:1746:G:O2'	48:A2:1747:A:P	2.79	0.41
48:A2:1752:A:C2	48:A2:1753:U:N3	2.66	0.41
22:AT:127:GLN:HA	48:A2:1816:G:H22	1.86	0.41
48:A2:2295:G:O2'	48:A2:2296:C:H5'	2.21	0.41
48:A2:2468:C:O2'	48:A2:2469:U:OP2	2.38	0.41
48:A2:2512:C:O5'	48:A2:2512:C:H6	2.04	0.41
48:A2:2581:G:H2'	48:A2:2582:C:C6	2.56	0.41
48:A2:2732:G:O6	48:A2:2733:G:N1	2.53	0.41
48:A2:2854:C:H5'	48:A2:2855:G:N7	2.35	0.41
48:A2:4167:A:O2'	48:A2:4168:C:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A2:4375:C:N3	48:A2:4391:C:N4	2.68	0.41
10:AH:120:GLU:HA	48:A2:4573:A:H2	1.86	0.41
48:A2:481:G:N2	48:A2:664:C:H1'	2.36	0.41
48:A2:904:A:N3	48:A2:905:G:C6	2.89	0.41
1:A3:81:C:H5'	1:A3:82:A:OP1	2.21	0.41
2:A4:23:A:C2	2:A4:118:C:O2'	2.71	0.41
4:AB:26:ARG:NH1	4:AB:181:MET:SD	2.94	0.41
5:AC:48:ASN:HD21	48:A2:1353:G:C5'	2.33	0.41
6:AD:78:ALA:HA	6:AD:108:ARG:HH12	1.86	0.41
6:AD:12:TYR:HD1	6:AD:13:PHE:CD1	2.25	0.41
6:AD:227:ILE:H	6:AD:227:ILE:HG13	1.48	0.41
6:AD:232:THR:CA	6:AD:235:MET:HG2	2.48	0.41
7:AE:105:ARG:HG2	48:A2:464:A:H2	1.72	0.41
8:AF:16:GLU:HG2	8:AF:17:THR:N	2.35	0.41
9:AG:101:LYS:HE3	9:AG:211:ASP:OD1	2.20	0.41
10:AH:118:LEU:HD11	10:AH:167:VAL:HG22	2.03	0.41
13:AK:85:ASN:C	13:AK:85:ASN:HD22	2.24	0.41
17:AO:48:TYR:CE1	48:A2:1911:U:C2	3.09	0.41
21:AS:74:ARG:NH1	48:A2:909:C:C5'	2.71	0.41
22:AT:31:MET:O	22:AT:32:ARG:HB2	2.21	0.41
24:AV:97:TYR:HE2	25:AW:37:GLU:OE2	2.04	0.41
49:B1:1287:A:H1'	62:BM:36:ARG:NH2	2.33	0.41
49:B1:658:U:H1'	73:BX:17:ARG:NH2	2.35	0.41
49:B1:745:C:N4	49:B1:746:C:N4	2.69	0.41
49:B1:750:C:C2'	49:B1:751:G:O4'	2.68	0.41
49:B1:79:A:C2'	49:B1:80:G:H5'	2.51	0.41
49:B1:837:A:O3'	74:BY:9:THR:CG2	2.65	0.41
49:B1:942:G:C2	49:B1:985:G:C2	3.09	0.41
49:B1:633:C:C1'	54:BE:12:VAL:HG11	59.95	0.41
49:B1:812:A:H2	54:BE:12:VAL:HG12	1.86	0.41
54:BE:99:PHE:N	54:BE:114:ILE:CG2	2.76	0.41
56:BG:29:GLU:HG3	56:BG:29:GLU:O	2.21	0.41
59:BJ:110:LEU:O	59:BJ:111:GLN:C	2.56	0.41
59:BJ:115:PHE:CD2	59:BJ:123:ILE:HG12	2.56	0.41
59:BJ:35:TYR:HB2	59:BJ:37:LEU:CD1	2.48	0.41
59:BJ:96:TYR:O	59:BJ:99:GLY:N	2.54	0.41
61:BL:132:ARG:O	61:BL:134:LEU:HD12	2.21	0.41
64:BO:56:VAL:HG21	64:BO:80:ASP:OD2	2.21	0.41
64:BO:54:CYS:SG	64:BO:81:VAL:HG13	2.61	0.41
66:BQ:86:GLN:NE2	66:BQ:122:ALA:HB2	2.36	0.41
66:BQ:25:CYS:O	66:BQ:25:CYS:SG	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1092:G:H4'	72:BW:2:VAL:HG13	2.02	0.41
48:A2:1289:C:O2'	48:A2:1290:A:H5'	2.21	0.41
48:A2:1752:A:N3	48:A2:1753:U:C6	2.88	0.41
48:A2:1755:U:C2'	48:A2:1756:C:O4'	2.68	0.41
48:A2:1874:C:H2'	48:A2:1874:C:O2	2.20	0.41
48:A2:2738:G:C3'	48:A2:2738:G:N3	2.83	0.41
48:A2:2860:A:H2'	48:A2:2861:A:O4'	2.20	0.41
48:A2:3814:C:C6	48:A2:3814:C:O5'	2.70	0.41
48:A2:4045:U:C4'	48:A2:4046:G:OP1	2.63	0.41
48:A2:436:G:O2'	48:A2:437:G:H5'	2.21	0.41
7:AE:233:PHE:CZ	48:A2:446:A:H3'	2.56	0.41
20:AR:58:HIS:CE1	48:A2:4607:C:OP1	2.74	0.41
48:A2:4693:G:O3'	48:A2:4694:G:H2'	2.21	0.41
48:A2:676:G:OP2	48:A2:676:G:N7	2.54	0.41
48:A2:712:G:C2	48:A2:713:G:C4	3.09	0.41
48:A2:735:G:C5	48:A2:903:C:N4	2.87	0.41
2:A4:3:C:H4'	2:A4:24:C:H42	1.86	0.41
3:AA:156:LYS:HE2	3:AA:158:ILE:CG2	2.51	0.41
3:AA:24:LYS:CG	3:AA:49:ILE:HD12	2.43	0.41
3:AA:97:ASN:HB2	3:AA:100:ASN:ND2	2.36	0.41
7:AE:173:LEU:CD1	7:AE:191:GLN:N	2.77	0.41
7:AE:201:ILE:HG23	7:AE:201:ILE:O	2.21	0.41
8:AF:116:GLN:HG3	8:AF:119:ASN:HB3	2.03	0.41
10:AH:95:VAL:O	10:AH:177:ASP:OD1	2.39	0.41
11:AI:207:ASP:HA	11:AI:210:ARG:HD2	2.03	0.41
13:AK:28:PHE:CD2	13:AK:99:ARG:HB2	2.55	0.41
14:AL:16:LYS:N	14:AL:16:LYS:HD2	5.68	0.41
14:AL:170:THR:O	14:AL:173:GLU:HB2	2.21	0.41
16:AN:185:GLY:HA3	48:A2:78:U:OP1	2.21	0.41
18:AP:3:ARG:HG3	18:AP:3:ARG:HH11	1.86	0.41
23:AU:34:MET:HB3	23:AU:35:ASP:H	1.68	0.41
23:AU:60:VAL:O	23:AU:74:SER:HA	2.20	0.41
25:AW:79:GLN:OE1	25:AW:79:GLN:N	2.53	0.41
27:AY:124:LYS:HB3	27:AY:124:LYS:NZ	2.35	0.41
28:AZ:68:ILE:HG22	28:AZ:119:GLU:CD	2.38	0.41
28:AZ:46:ILE:HD12	28:AZ:69:LYS:O	2.20	0.41
49:B1:677:G:N2	49:B1:1027:A:OP2	2.53	0.41
49:B1:1104:G:C6	49:B1:1105:G:C5	3.09	0.41
49:B1:1350:U:H1'	50:BA:112:ILE:CD1	2.46	0.41
49:B1:1597:C:H4'	49:B1:1603:G:C6	2.56	0.41
49:B1:1532:C:C4'	49:B1:1604:G:H21	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1749:G:C4	49:B1:1750:C:C5	3.08	0.41
49:B1:406:U:H2'	49:B1:408:A:C8	2.56	0.41
49:B1:463:C:C4'	49:B1:463:C:OP1	2.68	0.41
49:B1:840:C:H1'	74:BY:21:LYS:CD	2.49	0.41
49:B1:847:A:C8	49:B1:848:U:C5	3.09	0.41
49:B1:976:G:O2'	49:B1:977:C:C5'	2.69	0.41
51:BB:36:PRO:O	51:BB:39:PHE:CD2	2.72	0.41
51:BB:32:ASP:HA	51:BB:46:LYS:HG2	2.03	0.41
55:BF:182:LYS:O	55:BF:184:SER:N	2.54	0.41
56:BG:58:LYS:HA	56:BG:107:SER:CB	2.51	0.41
56:BG:119:LYS:HG2	56:BG:125:THR:HB	2.03	0.41
49:B1:466:G:C8	56:BG:59:GLN:NE2	2.89	0.41
60:BK:50:GLN:HA	60:BK:53:LYS:HE3	2.02	0.41
65:BP:22:LEU:HD13	65:BP:22:LEU:C	2.40	0.41
65:BP:33:LEU:O	65:BP:37:TYR:CD1	2.73	0.41
65:BP:84:ILE:H	65:BP:84:ILE:HG12	1.59	0.41
67:BR:24:LEU:HD13	67:BR:54:VAL:HG11	2.02	0.41
68:BS:110:ASP:HA	68:BS:113:ARG:NH1	2.36	0.41
73:BX:115:ILE:HA	73:BX:116:PRO:HD3	1.86	0.41
73:BX:39:ASN:HB2	73:BX:108:LYS:HE3	2.02	0.41
48:A2:1248:G:C2'	48:A2:1249:G:O5'	2.69	0.41
48:A2:1337:A:N6	48:A2:1485:A:O4'	2.53	0.41
48:A2:1743:G:C2	48:A2:1754:C:C2	3.09	0.41
48:A2:1837:C:H6	48:A2:1837:C:O5'	2.04	0.41
48:A2:2049:C:O2'	48:A2:2050:A:H5'	2.21	0.41
48:A2:2259:G:HO2'	48:A2:2260:U:H6	1.68	0.41
48:A2:2325:C:O2	48:A2:2325:C:O5'	2.38	0.41
48:A2:2339:A:H5'	48:A2:2341:U:C1'	2.51	0.41
48:A2:258:C:H5''	48:A2:258:C:H6	1.86	0.41
48:A2:304:G:H2'	48:A2:305:G:O4'	2.21	0.41
48:A2:3732:C:OP1	48:A2:3732:C:H3'	2.21	0.41
48:A2:3746:A:H3'	48:A2:3747:G:H5''	2.02	0.41
48:A2:4045:U:O3'	48:A2:4046:G:H2'	2.21	0.41
48:A2:4300:G:N1	48:A2:4334:U:H3'	2.36	0.41
48:A2:474:C:H6	48:A2:474:C:O5'	2.04	0.41
48:A2:4822:U:H2'	48:A2:4823:C:C6	2.56	0.41
48:A2:494:G:C6	48:A2:498:G:C5	3.09	0.41
8:AF:76:ARG:HE	48:A2:719:U:C5'	2.34	0.41
48:A2:901:U:C6	48:A2:902:A:N6	2.89	0.41
15:AM:19:PRO:CG	48:A2:923:C:N3	2.83	0.41
1:A3:18:U:O5'	1:A3:18:U:H6	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:91:GLY:HA3	4:AB:157:CYS:SG	2.61	0.41
4:AB:48:GLY:HA3	4:AB:81:THR:HG22	2.03	0.41
5:AC:120:LYS:HD3	48:A2:1357:G:P	2.60	0.41
5:AC:218:ILE:HD12	5:AC:229:LEU:CD1	2.51	0.41
5:AC:57:LEU:CD1	5:AC:57:LEU:C	2.86	0.41
7:AE:233:PHE:CE2	48:A2:446:A:H3'	2.56	0.41
7:AE:253:VAL:O	7:AE:257:ILE:HG12	2.21	0.41
8:AF:24:ASN:O	8:AF:27:GLU:HG2	2.21	0.41
9:AG:86:ALA:HB2	9:AG:185:LYS:HG3	2.02	0.41
10:AH:132:VAL:HG21	10:AH:154:VAL:HG22	2.03	0.41
10:AH:1:MET:HE3	10:AH:3:THR:CG2	2.51	0.41
11:AI:185:VAL:CG1	11:AI:190:LEU:HD12	2.49	0.41
12:AJ:21:CYS:HG	48:A2:4221:C:HO2'	1.67	0.41
14:AL:71:ARG:HG3	48:A2:103:G:OP1	2.21	0.41
20:AR:57:VAL:HG13	48:A2:4608:U:H5''	2.03	0.41
21:AS:164:LYS:HB3	21:AS:165:PRO:HD2	2.03	0.41
21:AS:85:ASP:HB3	21:AS:123:SER:HB3	2.02	0.41
24:AV:47:GLY:CA	48:A2:4455:U:HO2'	2.24	0.41
26:AX:45:THR:HA	48:A2:4055:A:OP1	2.21	0.41
28:AZ:18:TYR:HA	28:AZ:21:ARG:HD2	2.03	0.41
28:AZ:36:ARG:HB3	28:AZ:36:ARG:HH11	1.86	0.41
49:B1:1146:C:H2'	49:B1:1147:C:C6	2.56	0.41
49:B1:1079:C:O2'	49:B1:1182:A:N1	2.54	0.41
49:B1:1418:C:O2'	49:B1:1419:C:H2'	2.21	0.41
49:B1:195:C:H2'	49:B1:196:C:C6	2.55	0.41
49:B1:482:G:N2	49:B1:484:A:H3'	2.36	0.41
49:B1:635:G:C5	49:B1:636:C:C4	3.09	0.41
49:B1:658:U:O3'	73:BX:17:ARG:CZ	2.69	0.41
49:B1:738:C:H2'	49:B1:738:C:O2	2.20	0.41
49:B1:739:C:C2'	49:B1:739:C:O2	2.69	0.41
50:BA:36:GLN:HG3	50:BA:36:GLN:H	1.55	0.41
52:BC:125:LYS:HE3	52:BC:127:PHE:CZ	2.55	0.41
52:BC:62:PRO:HD3	52:BC:71:LYS:HZ1	1.84	0.41
55:BF:40:ALA:C	55:BF:42:LYS:N	2.73	0.41
58:BI:191:GLU:HA	58:BI:191:GLU:OE1	2.21	0.41
59:BJ:153:SER:O	59:BJ:155:LYS:N	2.49	0.41
49:B1:643:A:OP1	59:BJ:38:ARG:CZ	2.69	0.41
60:BK:9:ILE:HG13	60:BK:10:ALA:N	2.36	0.41
12:AJ:111:GLU:CD	68:BS:14:ARG:HH22	2.24	0.41
70:BU:20:ILE:CG2	70:BU:116:ILE:CA	2.61	0.41
49:B1:1402:A:C1'	70:BU:54:VAL:HG22	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:570:C:O2'	74:BY:35:VAL:C	2.60	0.41
75:BZ:63:PRO:CB	75:BZ:111:ARG:NE	2.73	0.41
75:BZ:66:LYS:HB3	75:BZ:67:LEU:HD13	2.03	0.41
48:A2:1161:G:C2	48:A2:1164:C:OP1	2.70	0.40
48:A2:1217:G:H2'	48:A2:1218:G:C8	2.57	0.40
48:A2:135:G:O2'	48:A2:136:G:P	2.78	0.40
9:AG:111:LYS:CE	48:A2:141:G:H5'	2.51	0.40
48:A2:1434:G:H2'	48:A2:1435:A:H5'	2.03	0.40
48:A2:1581:A:H5'	48:A2:2776:C:O2	2.22	0.40
48:A2:1507:A:C2	48:A2:1633:G:N2	2.89	0.40
48:A2:163:C:N3	48:A2:164:C:C6	2.88	0.40
48:A2:1658:C:H5''	48:A2:1659:U:P	2.61	0.40
48:A2:1743:G:C4	48:A2:1744:C:C5	3.08	0.40
48:A2:1856:C:H2'	48:A2:1857:U:C6	2.56	0.40
17:AO:49:ARG:CZ	48:A2:1910:A:N3	2.84	0.40
48:A2:1963:G:H1	48:A2:1968:C:N4	2.19	0.40
27:AY:14:ASN:ND2	48:A2:224:A:O2'	2.54	0.40
48:A2:227:G:C2	48:A2:234:G:N1	2.86	0.40
20:AR:93:VAL:CG1	48:A2:2704:A:H1'	2.42	0.40
48:A2:2482:G:O4'	48:A2:4054:G:N2	2.54	0.40
48:A2:4693:G:H4'	48:A2:4694:G:N2	2.36	0.40
48:A2:4698:C:H2'	48:A2:4699:G:O4'	2.20	0.40
1:A3:124:U:OP1	1:A3:124:U:C3'	2.68	0.40
2:A4:12:U:OP2	2:A4:67:C:O2'	2.34	0.40
3:AA:196:TRP:CE3	3:AA:196:TRP:O	2.73	0.40
3:AA:49:ILE:HG13	3:AA:58:LEU:HB3	2.03	0.40
3:AA:54:ARG:NH2	48:A2:3651:U:H5''	2.36	0.40
5:AC:137:VAL:HG11	5:AC:144:ILE:HD11	2.00	0.40
7:AE:188:ARG:O	48:A2:4899:G:O4'	2.38	0.40
10:AH:92:MET:HG2	10:AH:181:VAL:HG22	2.02	0.40
10:AH:40:HIS:ND1	10:AH:41:ILE:HG13	2.36	0.40
11:AI:199:TYR:O	11:AI:201:PRO:HD3	2.21	0.40
2:A4:55:A:O3'	12:AJ:152:GLY:CA	2.69	0.40
13:AK:94:ASP:O	13:AK:97:GLU:HB3	2.20	0.40
14:AL:140:SER:O	14:AL:144:LEU:N	2.47	0.40
16:AN:204:ARG:HD3	48:A2:1325:A:OP1	2.21	0.40
17:AO:108:ILE:HD12	17:AO:160:ARG:NH1	2.35	0.40
20:AR:132:PHE:CZ	20:AR:138:LEU:HD23	2.56	0.40
23:AU:22:THR:HG21	23:AU:69:LYS:HE3	2.03	0.40
26:AX:115:LYS:H	26:AX:115:LYS:HG2	1.63	0.40
3:AA:247:ARG:HD3	49:B1:1069:U:C4'	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:665:G:C2	49:B1:1163:C:O2	2.74	0.40
49:B1:1620:A:C2	49:B1:1624:U:H1'	2.57	0.40
49:B1:655:A:H5'	49:B1:657:U:OP1	2.21	0.40
49:B1:679:A:H2'	49:B1:680:G:H5'	2.02	0.40
49:B1:689:U:O2'	49:B1:690:G:C4'	2.69	0.40
49:B1:827:A:H5'	59:BJ:8:VAL:CG1	2.44	0.40
49:B1:913:A:O2'	49:B1:914:U:P	2.79	0.40
49:B1:963:A:H2'	49:B1:964:A:C8	2.56	0.40
50:BA:38:ILE:HD13	50:BA:47:TYR:CD2	2.56	0.40
50:BA:7:VAL:HG11	71:BV:42:VAL:CG1	2.50	0.40
52:BC:73:MET:HG2	52:BC:73:MET:O	2.21	0.40
54:BE:149:TYR:CG	56:BG:209:TYR:HB2	2.56	0.40
54:BE:90:ILE:O	54:BE:91:SER:CB	2.69	0.40
56:BG:196:LYS:HA	56:BG:199:THR:OG1	2.21	0.40
56:BG:74:ARG:HG2	56:BG:94:ARG:NE	2.36	0.40
49:B1:167:G:H5'	56:BG:8:PRO:O	2.21	0.40
58:BI:104:ILE:CD1	58:BI:173:ALA:HB2	2.42	0.40
59:BJ:29:LEU:HD21	59:BJ:40:LYS:HE2	2.03	0.40
53:BD:76:ARG:NE	60:BK:66:HIS:CD2	2.78	0.40
53:BD:65:ARG:HA	60:BK:70:TYR:OH	2.20	0.40
63:BN:28:LEU:HD23	63:BN:33:VAL:HG22	2.03	0.40
63:BN:29:THR:HB	63:BN:31:ASP:H	1.78	0.40
67:BR:16:ILE:HG21	67:BR:38:ILE:HD13	2.03	0.40
67:BR:97:GLU:CA	67:BR:117:LEU:CG	2.98	0.40
48:A2:1944:C:O3'	48:A2:1945:A:H8	2.04	0.40
48:A2:1979:A:O2'	48:A2:1980:A:C8	2.71	0.40
48:A2:2340:G:O2'	48:A2:2341:U:OP2	2.35	0.40
48:A2:2613:C:H2'	48:A2:2614:U:C6	2.57	0.40
48:A2:2794:A:N6	48:A2:2795:G:C6	2.89	0.40
48:A2:2860:A:C2'	48:A2:2861:A:H5'	2.50	0.40
48:A2:3644:C:H4'	48:A2:3645:G:O5'	2.20	0.40
48:A2:4031:G:N2	48:A2:4032:A:C6	2.88	0.40
28:AZ:59:LYS:HB2	48:A2:4111:C:OP1	2.21	0.40
48:A2:4303:C:H2'	48:A2:4304:C:O4'	2.22	0.40
48:A2:43:U:H2'	48:A2:43:U:O2	2.20	0.40
48:A2:944:G:HO2'	48:A2:945:G:C1'	2.32	0.40
3:AA:122:ASP:HB2	3:AA:125:LYS:HE3	2.02	0.40
4:AB:266:VAL:HG22	48:A2:4421:U:O4'	2.21	0.40
5:AC:44:LEU:HD11	5:AC:237:ILE:HD12	2.03	0.40
5:AC:352:ASP:O	5:AC:356:ALA:HB3	2.21	0.40
7:AE:108:LYS:HA	7:AE:108:LYS:HD2	1.80	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AE:113:PRO:HG2	7:AE:116:TYR:CE1	2.55	0.40
8:AF:161:LYS:CB	8:AF:209:TRP:CE3	2.98	0.40
11:AI:139:ARG:HD2	11:AI:173:PHE:CE2	2.56	0.40
13:AK:60:MET:HB2	48:A2:1942:G:OP2	2.21	0.40
14:AL:76:PHE:O	14:AL:80:GLU:HB2	2.21	0.40
15:AM:60:PHE:CE1	15:AM:85:LYS:HG2	2.56	0.40
16:AN:178:HIS:HA	16:AN:181:HIS:NE2	2.36	0.40
19:AQ:85:THR:HG21	19:AQ:104:ARG:NH2	2.36	0.40
19:AQ:62:SER:HB3	48:A2:1484:G:OP2	2.21	0.40
19:AQ:67:ILE:HG23	19:AQ:96:PRO:CG	2.51	0.40
21:AS:3:ALA:HB2	21:AS:121:ALA:HB2	2.01	0.40
22:AT:70:HIS:CE1	48:A2:4276:C:P	3.14	0.40
26:AX:149:VAL:O	26:AX:153:ILE:HG23	2.21	0.40
28:AZ:68:ILE:HG21	28:AZ:119:GLU:CG	2.31	0.40
28:AZ:97:ASN:OD1	28:AZ:98:LYS:N	2.53	0.40
3:AA:249:THR:OG1	49:B1:1044:G:H2'	2.21	0.40
49:B1:668:A:C5'	49:B1:1198:G:H4'	2.50	0.40
49:B1:1276:A:H2'	49:B1:1277:C:H5'	2.03	0.40
49:B1:1484:A:H5'	53:BD:159:HIS:HB2	2.03	0.40
49:B1:508:A:C6	49:B1:509:G:H1'	2.56	0.40
49:B1:563:G:O2'	49:B1:564:A:H5'	2.21	0.40
49:B1:941:C:O2'	49:B1:942:G:H5'	2.21	0.40
49:B1:96:C:H1'	49:B1:474:G:H5''	2.02	0.40
49:B1:99:A:H8	49:B1:99:A:O5'	2.04	0.40
50:BA:212:LYS:CA	50:BA:215:GLN:HB3	2.49	0.40
50:BA:38:ILE:CD1	50:BA:47:TYR:CD2	3.05	0.40
51:BB:178:THR:O	51:BB:179:ASN:CB	2.70	0.40
51:BB:71:LEU:HD13	51:BB:75:GLN:HB3	1.98	0.40
51:BB:34:LYS:O	51:BB:97:LEU:HD22	2.20	0.40
53:BD:68:GLU:HG3	60:BK:20:VAL:CG2	2.37	0.40
54:BE:115:THR:CG2	54:BE:116:VAL:H	2.34	0.40
56:BG:142:ARG:HG2	56:BG:147:LEU:HD21	2.03	0.40
56:BG:142:ARG:HH22	56:BG:149:LYS:HA	1.87	0.40
49:B1:64:A:C2'	56:BG:175:LYS:NZ	2.82	0.40
49:B1:1745:A:H2'	56:BG:65:GLN:NE2	2.35	0.40
57:BH:149:ASP:OD2	57:BH:151:SER:HB2	2.21	0.40
48:A2:4981:C:H5'	58:BI:124:LYS:NZ	2.29	0.40
51:BB:46:LYS:CD	64:BO:19:PRO:HB2	2.51	0.40
65:BP:52:LYS:HG3	65:BP:80:LEU:HD13	2.04	0.40
69:BT:38:LYS:HE3	69:BT:96:SER:HB3	2.03	0.40
49:B1:1423:C:O2'	69:BT:7:LYS:HD3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:BY:87:PRO:HD3	74:BY:90:ARG:NH2	2.36	0.40
75:BZ:99:LEU:HD23	75:BZ:109:TYR:OH	2.21	0.40
48:A2:1163:C:P	48:A2:1163:C:O2	2.79	0.40
48:A2:1498:G:H3'	48:A2:1499:G:C5'	2.51	0.40
48:A2:1740:G:C2'	48:A2:1741:G:H8	2.32	0.40
48:A2:1805:G:O2'	48:A2:1806:G:H5'	2.22	0.40
48:A2:1817:G:O2'	48:A2:1818:A:P	2.78	0.40
13:AK:44:ARG:CD	48:A2:1978:U:OP1	2.69	0.40
1:A3:157:U:O2	48:A2:1:C:C4	2.74	0.40
48:A2:2542:C:H2'	48:A2:2543:G:O4'	2.21	0.40
48:A2:2573:C:H2'	48:A2:2574:C:H6	1.83	0.40
20:AR:75:HIS:CE1	48:A2:2868:G:OP1	2.74	0.40
48:A2:294:A:H2'	48:A2:295:G:H8	1.87	0.40
48:A2:352:C:O2	48:A2:352:C:C2'	2.68	0.40
48:A2:2827:G:O2'	48:A2:3809:U:O4	2.32	0.40
48:A2:4027:C:H2'	48:A2:4028:U:O4'	2.21	0.40
18:AP:2:VAL:CG1	48:A2:403:G:OP2	2.65	0.40
48:A2:4382:U:O4	48:A2:4437:G:N2	2.54	0.40
48:A2:4706:A:H2'	48:A2:4707:G:C8	2.56	0.40
48:A2:4716:G:C2	48:A2:4836:C:O2	2.74	0.40
48:A2:4905:U:C2	48:A2:4906:C:H5	2.38	0.40
48:A2:940:C:H2'	48:A2:941:C:C6	2.56	0.40
1:A3:149:G:O4'	9:AG:61:ILE:CD1	2.68	0.40
3:AA:90:CYS:HA	3:AA:101:VAL:O	2.21	0.40
4:AB:22:SER:HB2	4:AB:24:ARG:HH12	1.85	0.40
4:AB:352:LEU:HD12	48:A2:4639:U:O2'	2.21	0.40
4:AB:393:LYS:HE2	48:A2:4998:U:O5'	2.21	0.40
5:AC:188:ARG:HD2	48:A2:2280:G:O6	2.21	0.40
5:AC:311:ARG:NH1	48:A2:946:G:H5''	2.28	0.40
5:AC:52:TYR:HD2	48:A2:344:C:C5'	2.30	0.40
6:AD:10:LYS:HE3	6:AD:10:LYS:C	2.41	0.40
7:AE:130:LYS:C	7:AE:131:LYS:HG3	2.41	0.40
1:A3:44:A:N6	12:AJ:63:ARG:NH2	126.19	0.40
13:AK:44:ARG:O	13:AK:45:MET:C	2.60	0.40
13:AK:48:ARG:C	13:AK:51:ALA:HB2	2.42	0.40
13:AK:45:MET:CB	19:AQ:121:LEU:HD22	165.20	0.40
19:AQ:63:LEU:HD12	19:AQ:112:ARG:NH2	2.36	0.40
20:AR:4:LEU:HA	20:AR:7:GLN:OE1	2.21	0.40
21:AS:84:TYR:CD2	21:AS:113:MET:CE	3.05	0.40
22:AT:78:LYS:HB3	22:AT:87:LYS:CE	2.52	0.40
27:AY:80:ILE:HD11	27:AY:104:VAL:HG21	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B1:1679:A:C8	49:B1:1679:A:O5'	2.75	0.40
49:B1:1753:C:H1'	49:B1:1780:G:N2	2.36	0.40
49:B1:354:U:H2'	49:B1:355:G:C8	2.56	0.40
49:B1:533:A:O2'	49:B1:534:G:N7	2.54	0.40
49:B1:895:G:O2'	49:B1:896:U:H5'	2.20	0.40
49:B1:984:C:C2'	49:B1:985:G:O5'	2.70	0.40
50:BA:175:TRP:CB	50:BA:202:TYR:CD2	3.04	0.40
51:BB:107:ARG:HG3	64:BO:131:ASP:O	2.21	0.40
52:BC:252:THR:CG2	52:BC:255:LEU:HD13	2.51	0.40
53:BD:137:VAL:HB	53:BD:185:LYS:HB2	2.03	0.40
53:BD:210:ILE:HA	67:BR:39:ALA:CA	2.52	0.40
53:BD:76:ARG:HE	60:BK:66:HIS:ND1	1.58	0.40
54:BE:127:ARG:N	54:BE:140:VAL:O	2.53	0.40
54:BE:64:ILE:CD1	54:BE:70:ILE:HD11	2.51	0.40
59:BJ:134:HIS:O	59:BJ:159:PHE:HB3	2.20	0.40
59:BJ:30:LYS:HD2	59:BJ:31:LEU:CA	2.51	0.40
61:BL:117:PHE:CD1	61:BL:145:VAL:HG23	2.56	0.40
62:BM:127:TYR:C	62:BM:129:LYS:N	2.74	0.40
49:B1:1022:U:H1'	63:BN:128:TYR:CB	2.51	0.40
63:BN:20:ARG:NE	72:BW:56:HIS:NE2	2.70	0.40
64:BO:133:THR:O	64:BO:135:ILE:HG12	2.22	0.40
49:B1:1048:G:OP1	64:BO:143:LYS:O	2.38	0.40
73:BX:33:GLY:O	73:BX:37:LYS:HG2	2.22	0.40
75:BZ:110:THR:HG22	75:BZ:111:ARG:N	2.36	0.40
48:A2:1260:G:O2'	48:A2:1261:C:C4'	2.69	0.40
48:A2:136:G:C8	48:A2:136:G:C3'	3.04	0.40
48:A2:141:G:O6	48:A2:142:G:C5	2.74	0.40
48:A2:1755:U:H2'	48:A2:1756:C:O4'	2.21	0.40
48:A2:1903:G:C2	48:A2:2044:G:C6	3.09	0.40
48:A2:1919:C:C2	48:A2:1920:A:C6	3.09	0.40
48:A2:2329:U:H3'	48:A2:2330:C:H5''	2.04	0.40
48:A2:2573:C:O5'	48:A2:2573:C:H6	2.05	0.40
48:A2:376:G:N1	48:A2:379:A:OP2	2.54	0.40
48:A2:4028:U:H6	48:A2:4028:U:O5'	2.05	0.40
48:A2:1467:C:O2'	48:A2:4311:C:N4	2.55	0.40
48:A2:459:G:H2'	48:A2:460:A:C8	2.55	0.40
48:A2:4715:U:C2'	48:A2:4716:G:O5'	2.70	0.40
48:A2:4845:C:H2'	48:A2:4846:U:C1'	2.52	0.40
8:AF:76:ARG:CD	48:A2:720:G:OP2	2.68	0.40
1:A3:88:A:C2	1:A3:89:U:H1'	2.56	0.40
3:AA:23:ARG:HA	3:AA:52:PRO:HD2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:172:PRO:CB	4:AB:324:GLY:HA3	2.52	0.40
4:AB:389:MET:CE	4:AB:392:LEU:HD21	2.51	0.40
4:AB:9:PRO:HG2	48:A2:4583:C:H5''	2.03	0.40
8:AF:126:ASN:OD1	22:AT:132:PRO:HB2	2.21	0.40
8:AF:134:ARG:HA	8:AF:137:GLU:HG3	2.03	0.40
9:AG:214:ALA:O	9:AG:218:LEU:HD23	2.22	0.40
12:AJ:136:ARG:HB2	12:AJ:139:PHE:CZ	2.57	0.40
12:AJ:99:PHE:HB3	12:AJ:159:LYS:HD3	2.02	0.40
13:AK:57:LYS:O	13:AK:60:MET:HB3	2.21	0.40
15:AM:12:VAL:HA	15:AM:26:ALA:HA	2.03	0.40
16:AN:21:PHE:O	16:AN:25:VAL:HG23	2.22	0.40
19:AQ:156:PRO:HG2	19:AQ:157:GLY:H	1.86	0.40
19:AQ:43:PHE:HD1	48:A2:1411:U:HO2'	1.64	0.40
20:AR:169:ALA:C	20:AR:172:ARG:CG	2.86	0.40
25:AW:50:ASN:CB	48:A2:4964:U:H5	2.24	0.40
26:AX:78:LYS:HB3	26:AX:79:PHE:CD1	2.56	0.40
28:AZ:30:ASP:OD2	28:AZ:31:ASP:OD1	2.40	0.40
28:AZ:89:ILE:N	28:AZ:90:PRO:CD	2.85	0.40
28:AZ:95:VAL:HG11	28:AZ:113:GLU:CG	2.46	0.40
49:B1:1049:A:H2'	49:B1:1050:A:C5'	2.50	0.40
49:B1:1412:C:H2'	49:B1:1413:G:O4'	2.20	0.40
49:B1:1415:C:C4'	69:BT:128:GLN:CG	2.98	0.40
49:B1:1453:C:C3'	49:B1:1454:A:H5'	2.51	0.40
49:B1:1521:C:C6	49:B1:1521:C:P	3.14	0.40
49:B1:320:G:N2	49:B1:331:C:O2	2.48	0.40
49:B1:399:C:H4'	49:B1:400:C:OP2	2.22	0.40
49:B1:533:A:O2'	49:B1:534:G:C8	2.67	0.40
49:B1:72:C:O2	49:B1:73:C:H2'	2.22	0.40
49:B1:800:U:C6	49:B1:800:U:H3'	2.55	0.40
49:B1:866:U:O5'	49:B1:866:U:H6	2.05	0.40
49:B1:89:C:H2'	49:B1:90:G:C8	2.56	0.40
49:B1:946:U:O2'	49:B1:947:G:H5'	2.22	0.40
51:BB:115:LYS:CG	51:BB:116:LYS:N	2.81	0.40
51:BB:79:VAL:HG11	51:BB:81:PHE:CE1	2.57	0.40
52:BC:104:ASP:HB3	52:BC:130:ILE:CA	2.48	0.40
52:BC:205:VAL:O	52:BC:205:VAL:HG23	2.22	0.40
54:BE:90:ILE:HG22	54:BE:92:ILE:HD12	2.02	0.40
59:BJ:121:LYS:O	59:BJ:122:SER:CB	2.69	0.40
61:BL:59:LYS:HD3	61:BL:134:LEU:HD23	2.02	0.40
62:BM:31:LEU:CD1	62:BM:33:ARG:HG3	2.52	0.40
63:BN:75:LEU:CD1	63:BN:81:ALA:N	2.76	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:BO:143:LYS:O	64:BO:145:GLY:N	2.54	0.40
49:B1:1838:U:O2	64:BO:150:ARG:NH1	2.55	0.40
65:BP:87:PRO:O	65:BP:88:GLU:CB	2.69	0.40
49:B1:1454:A:H3'	67:BR:3:ARG:HD2	2.02	0.40
67:BR:88:VAL:HG22	67:BR:89:SER:N	2.35	0.40
68:BS:55:ARG:HB2	68:BS:58:GLU:CG	2.52	0.40
71:BV:56:CYS:SG	71:BV:59:ILE:HG12	2.62	0.40
73:BX:108:LYS:HD3	73:BX:108:LYS:C	2.41	0.40
75:BZ:76:ARG:HB3	75:BZ:77:LEU:HD23	2.02	0.40
16:AN:2:GLY:CA	48:A2:116:G:OP1	2.60	0.40
48:A2:1260:G:C2'	48:A2:1261:C:O4'	2.69	0.40
48:A2:1614:A:C3'	48:A2:1615:G:H5''	2.52	0.40
48:A2:1645:C:H2'	48:A2:1646:U:C6	2.57	0.40
48:A2:1805:G:H2'	48:A2:1806:G:C8	2.56	0.40
48:A2:1869:A:P	48:A2:1869:A:H8	2.45	0.40
48:A2:1914:G:H2'	48:A2:1915:A:C8	2.55	0.40
48:A2:2024:A:H61	48:A2:4399:U:H5''	1.87	0.40
48:A2:2245:C:O2'	48:A2:2246:U:P	2.78	0.40
48:A2:223:G:H2'	48:A2:224:A:O4'	2.22	0.40
48:A2:2269:C:H1'	48:A2:2300:G:H2'	2.04	0.40
48:A2:2553:G:H1	48:A2:2743:A:N6	2.20	0.40
48:A2:2740:U:O2'	48:A2:2741:G:C4'	2.70	0.40
48:A2:2823:A:O2'	48:A2:4593:G:H4'	2.22	0.40
48:A2:3623:A:H2'	48:A2:3624:A:C4	2.56	0.40
48:A2:3711:G:H2'	48:A2:3712:C:O5'	2.21	0.40
48:A2:3814:C:O5'	48:A2:3814:C:C2'	2.70	0.40
18:AP:18:ARG:O	48:A2:393:G:H4'	2.22	0.40
48:A2:3920:A:H61	48:A2:4033:U:H3	1.69	0.40
48:A2:410:U:C3'	48:A2:411:G:H5'	2.52	0.40
48:A2:4288:G:H2'	48:A2:4289:C:O4'	2.21	0.40
48:A2:4683:G:H3'	48:A2:4684:G:H21	1.87	0.40
4:AB:174:ARG:HH22	48:A2:4932:C:C1'	2.34	0.40
48:A2:510:C:O5'	48:A2:510:C:C6	2.74	0.40
48:A2:727:C:H5''	48:A2:727:C:H6	1.87	0.40
48:A2:83:C:H5''	48:A2:84:A:OP2	2.22	0.40
48:A2:965:G:H1	48:A2:1259:C:H42	1.70	0.40
2:A4:78:C:H2'	2:A4:79:U:O4'	2.21	0.40
3:AA:193:ARG:HG3	3:AA:195:CYS:SG	2.61	0.40
3:AA:239:ALA:C	48:A2:3678:U:H5'	2.42	0.40
4:AB:123:HIS:NE2	48:A2:5019:A:OP1	2.54	0.40
7:AE:116:TYR:HD1	7:AE:116:TYR:N	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AF:111:LEU:O	48:A2:1821:G:H4'	2.22	0.40
8:AF:223:LYS:O	8:AF:225:THR:N	2.48	0.40
2:A4:95:C:H5'	8:AF:229:GLU:OE2	2.20	0.40
10:AH:40:HIS:CE1	10:AH:41:ILE:HG13	2.56	0.40
13:AK:13:TYR:O	13:AK:15:LEU:N	2.45	0.40
13:AK:57:LYS:C	13:AK:61:MET:HG2	2.41	0.40
15:AM:6:PHE:HB2	21:AS:152:PHE:C	2.42	0.40
21:AS:1:MET:SD	21:AS:33:PHE:O	2.80	0.40
24:AV:124:GLU:O	24:AV:128:LEU:HD13	2.21	0.40
25:AW:50:ASN:CG	48:A2:4964:U:C5	2.95	0.40
26:AX:44:PRO:HB2	48:A2:4055:A:H5''	2.02	0.40
26:AX:45:THR:HG1	48:A2:4055:A:P	2.42	0.40
27:AY:42:TYR:O	27:AY:43:ASN:C	2.58	0.40
49:B1:1022:U:C6	63:BN:128:TYR:CD1	3.10	0.40
49:B1:1102:G:C2	49:B1:1103:C:C4	3.09	0.40
49:B1:1156:U:O2	49:B1:1156:U:H2'	2.21	0.40
49:B1:1248:U:H2'	49:B1:1249:C:C6	2.57	0.40
49:B1:283:G:H2'	49:B1:284:C:OP1	2.22	0.40
54:BE:82:TYR:CD2	54:BE:83:PRO:HD2	2.57	0.40
49:B1:65:C:C4	56:BG:133:LEU:HD22	2.56	0.40
56:BG:8:PRO:HD3	56:BG:112:VAL:HG13	2.02	0.40
57:BH:166:VAL:O	57:BH:169:LYS:HB2	2.21	0.40
59:BJ:87:LEU:HD23	59:BJ:96:TYR:HE2	1.85	0.40
61:BL:38:LYS:HD3	61:BL:61:PRO:O	2.22	0.40
63:BN:78:LYS:C	63:BN:80:LEU:CD1	2.88	0.40
65:BP:60:LEU:HD11	65:BP:89:MET:HA	2.04	0.40
68:BS:111:LEU:HD22	68:BS:125:HIS:CD2	2.57	0.40
68:BS:24:ARG:O	68:BS:25:LYS:HG2	2.22	0.40
69:BT:36:THR:O	69:BT:37:VAL:CB	2.70	0.40
71:BV:36:VAL:O	71:BV:51:LYS:N	2.46	0.40
72:BW:104:LEU:HD13	72:BW:125:ILE:HG12	2.02	0.40
72:BW:93:LEU:HD22	72:BW:128:PHE:CE2	2.56	0.40
73:BX:95:GLU:HB2	73:BX:98:ASP:OD2	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	AA	250/257 (97%)	237 (95%)	7 (3%)	6 (2%)	7	47
4	AB	392/403 (97%)	370 (94%)	10 (3%)	12 (3%)	5	41
5	AC	361/427 (84%)	333 (92%)	13 (4%)	15 (4%)	3	32
6	AD	292/297 (98%)	270 (92%)	14 (5%)	8 (3%)	6	44
7	AE	192/288 (67%)	161 (84%)	12 (6%)	19 (10%)	1	10
8	AF	232/248 (94%)	213 (92%)	10 (4%)	9 (4%)	4	34
9	AG	232/266 (87%)	217 (94%)	10 (4%)	5 (2%)	8	49
10	AH	189/192 (98%)	175 (93%)	8 (4%)	6 (3%)	5	40
11	AI	204/214 (95%)	192 (94%)	7 (3%)	5 (2%)	7	46
12	AJ	167/178 (94%)	154 (92%)	7 (4%)	6 (4%)	4	37
13	AK	107/317 (34%)	34 (32%)	37 (35%)	36 (34%)	0	0
14	AL	203/211 (96%)	175 (86%)	14 (7%)	14 (7%)	1	18
15	AM	137/215 (64%)	127 (93%)	5 (4%)	5 (4%)	4	37
16	AN	201/204 (98%)	193 (96%)	6 (3%)	2 (1%)	19	66
17	AO	193/203 (95%)	187 (97%)	3 (2%)	3 (2%)	12	55
18	AP	151/184 (82%)	147 (97%)	4 (3%)	0	100	100
19	AQ	185/188 (98%)	163 (88%)	10 (5%)	12 (6%)	1	20
20	AR	179/196 (91%)	171 (96%)	4 (2%)	4 (2%)	8	49
21	AS	173/176 (98%)	156 (90%)	11 (6%)	6 (4%)	4	38
22	AT	155/160 (97%)	144 (93%)	6 (4%)	5 (3%)	5	40
23	AU	97/128 (76%)	81 (84%)	7 (7%)	9 (9%)	1	11
24	AV	127/140 (91%)	125 (98%)	2 (2%)	0	100	100
25	AW	119/157 (76%)	96 (81%)	18 (15%)	5 (4%)	3	32
26	AX	115/156 (74%)	113 (98%)	2 (2%)	0	100	100
27	AY	125/145 (86%)	119 (95%)	2 (2%)	4 (3%)	5	40

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	AZ	132/136 (97%)	118 (89%)	6 (4%)	8 (6%)	2	21
29	Aa	145/148 (98%)	135 (93%)	6 (4%)	4 (3%)	6	43
30	Ab	66/159 (42%)	57 (86%)	5 (8%)	4 (6%)	2	21
31	Ac	101/115 (88%)	97 (96%)	2 (2%)	2 (2%)	9	51
32	Ad	104/125 (83%)	99 (95%)	3 (3%)	2 (2%)	10	51
33	Ae	127/135 (94%)	116 (91%)	6 (5%)	5 (4%)	4	34
34	Af	107/110 (97%)	93 (87%)	5 (5%)	9 (8%)	1	13
35	Ag	112/117 (96%)	107 (96%)	3 (3%)	2 (2%)	11	53
36	Ah	120/123 (98%)	112 (93%)	2 (2%)	6 (5%)	3	27
37	Ai	95/105 (90%)	83 (87%)	7 (7%)	5 (5%)	2	25
38	Aj	82/97 (84%)	69 (84%)	7 (8%)	6 (7%)	1	16
39	Ak	67/70 (96%)	50 (75%)	7 (10%)	10 (15%)	0	3
40	Al	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
41	Am	48/128 (38%)	44 (92%)	3 (6%)	1 (2%)	9	50
42	An	23/25 (92%)	23 (100%)	0	0	100	100
43	Ao	103/106 (97%)	94 (91%)	5 (5%)	4 (4%)	4	34
44	Ap	89/92 (97%)	84 (94%)	3 (3%)	2 (2%)	8	49
45	Aq	136/165 (82%)	40 (29%)	47 (35%)	49 (36%)	0	0
46	At	120/137 (88%)	107 (89%)	10 (8%)	3 (2%)	7	46
47	Au	215/217 (99%)	185 (86%)	20 (9%)	10 (5%)	3	29
50	BA	213/295 (72%)	197 (92%)	12 (6%)	4 (2%)	10	51
51	BB	210/264 (80%)	180 (86%)	12 (6%)	18 (9%)	1	12
52	BC	220/293 (75%)	204 (93%)	7 (3%)	9 (4%)	3	33
53	BD	218/243 (90%)	201 (92%)	10 (5%)	7 (3%)	5	40
54	BE	255/263 (97%)	230 (90%)	14 (6%)	11 (4%)	3	31
55	BF	188/204 (92%)	163 (87%)	15 (8%)	10 (5%)	2	25
56	BG	230/249 (92%)	211 (92%)	11 (5%)	8 (4%)	4	38
57	BH	181/194 (93%)	169 (93%)	8 (4%)	4 (2%)	8	49
58	BI	205/208 (99%)	175 (85%)	20 (10%)	10 (5%)	3	27
59	BJ	177/194 (91%)	137 (77%)	28 (16%)	12 (7%)	1	19
60	BK	96/165 (58%)	84 (88%)	7 (7%)	5 (5%)	2	25

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
61	BL	151/158 (96%)	133 (88%)	11 (7%)	7 (5%)	3	29
62	BM	118/132 (89%)	113 (96%)	1 (1%)	4 (3%)	5	39
63	BN	147/151 (97%)	126 (86%)	13 (9%)	8 (5%)	2	25
64	BO	134/151 (89%)	113 (84%)	11 (8%)	10 (8%)	1	15
65	BP	118/145 (81%)	100 (85%)	9 (8%)	9 (8%)	1	15
66	BQ	137/146 (94%)	120 (88%)	10 (7%)	7 (5%)	2	26
67	BR	123/135 (91%)	106 (86%)	9 (7%)	8 (6%)	1	20
68	BS	137/152 (90%)	125 (91%)	7 (5%)	5 (4%)	4	37
69	BT	141/145 (97%)	131 (93%)	6 (4%)	4 (3%)	6	43
70	BU	95/119 (80%)	91 (96%)	2 (2%)	2 (2%)	9	50
71	BV	79/83 (95%)	77 (98%)	2 (2%)	0	100	100
72	BW	127/130 (98%)	120 (94%)	3 (2%)	4 (3%)	5	41
73	BX	137/143 (96%)	124 (90%)	8 (6%)	5 (4%)	4	37
74	BY	123/133 (92%)	116 (94%)	6 (5%)	1 (1%)	24	70
75	BZ	84/125 (67%)	80 (95%)	1 (1%)	3 (4%)	4	37
76	Ba	95/115 (83%)	87 (92%)	7 (7%)	1 (1%)	17	63
77	Bb	78/84 (93%)	72 (92%)	4 (5%)	2 (3%)	7	45
78	Bc	60/69 (87%)	57 (95%)	1 (2%)	2 (3%)	5	39
79	Bd	49/56 (88%)	42 (86%)	4 (8%)	3 (6%)	2	21
80	Be	53/59 (90%)	49 (92%)	2 (4%)	2 (4%)	4	35
81	Bf	71/156 (46%)	63 (89%)	7 (10%)	1 (1%)	14	58
82	Bg	312/317 (98%)	292 (94%)	12 (4%)	8 (3%)	7	45
All	All	11580/13387 (86%)	10401 (90%)	657 (6%)	522 (4%)	6	30

All (522) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	AA	138	SER
3	AA	144	LYS
3	AA	197	PRO
4	AB	189	THR
4	AB	356	LYS
5	AC	149	GLU
5	AC	151	PRO

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Mol	Chain	Res	Type
5	AC	304	ALA
6	AD	6	VAL
6	AD	231	VAL
6	AD	290	ALA
6	AD	291	GLN
7	AE	96	VAL
7	AE	107	VAL
7	AE	110	ARG
7	AE	111	LYS
7	AE	128	HIS
7	AE	158	ARG
7	AE	185	PRO
7	AE	187	ARG
7	AE	230	GLY
7	AE	284	HIS
8	AF	166	ARG
8	AF	170	THR
8	AF	222	LYS
9	AG	162	ASP
11	AI	24	ARG
11	AI	113	THR
12	AJ	12	MET
12	AJ	54	ARG
13	AK	30	VAL
13	AK	32	ALA
13	AK	35	VAL
13	AK	48	ARG
13	AK	64	ALA
13	AK	72	ASN
13	AK	78	LEU
13	AK	85	ASN
13	AK	88	PHE
13	AK	102	LEU
13	AK	104	ALA
14	AL	47	ALA
14	AL	139	SER
14	AL	140	SER
14	AL	145	LYS
14	AL	156	PRO
14	AL	173	GLU
14	AL	178	ALA
14	AL	179	PHE

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Mol	Chain	Res	Type
15	AM	21	ALA
15	AM	44	GLN
17	AO	184	ASN
19	AQ	4	ASP
19	AQ	13	VAL
19	AQ	16	LYS
19	AQ	98	LEU
19	AQ	161	SER
20	AR	24	LEU
20	AR	61	ALA
20	AR	113	LYS
22	AT	32	ARG
22	AT	53	PRO
23	AU	48	LYS
23	AU	55	ASN
25	AW	61	LYS
25	AW	82	ILE
27	AY	67	ILE
28	AZ	93	LYS
28	AZ	95	VAL
28	AZ	100	VAL
29	Aa	24	LYS
29	Aa	82	VAL
29	Aa	93	ASN
29	Aa	95	THR
31	Ac	104	ILE
31	Ac	107	SER
32	Ad	20	VAL
34	Af	59	THR
34	Af	61	GLY
34	Af	62	GLY
34	Af	63	LYS
34	Af	106	TYR
34	Af	107	PRO
35	Ag	44	SER
36	Ah	10	ARG
37	Ai	18	THR
37	Ai	65	LYS
38	Aj	32	SER
38	Aj	79	ARG
38	Aj	82	THR
39	Ak	17	ARG

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Mol	Chain	Res	Type
39	Ak	19	ASP
39	Ak	38	CYS
43	Ao	76	ASN
45	Aq	10	ILE
45	Aq	17	CYS
45	Aq	25	THR
45	Aq	31	LYS
45	Aq	35	LEU
45	Aq	38	SER
45	Aq	39	PRO
45	Aq	49	ALA
45	Aq	58	ILE
45	Aq	75	PRO
45	Aq	77	ALA
45	Aq	78	SER
45	Aq	88	PRO
45	Aq	90	ARG
45	Aq	104	ILE
45	Aq	106	PHE
45	Aq	112	ILE
45	Aq	113	ALA
45	Aq	124	GLU
45	Aq	141	CYS
47	Au	5	VAL
47	Au	59	PRO
47	Au	60	ARG
50	BA	206	ASP
51	BB	39	PHE
51	BB	40	ASN
51	BB	51	ARG
51	BB	71	LEU
51	BB	73	ASP
52	BC	65	LYS
53	BD	213	PRO
53	BD	217	ILE
53	BD	218	LEU
54	BE	92	ILE
54	BE	93	GLU
54	BE	101	LEU
54	BE	113	ARG
54	BE	151	ASP
55	BF	40	ALA

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Mol	Chain	Res	Type
55	BF	121	PRO
55	BF	129	GLY
56	BG	43	GLU
57	BH	115	LYS
57	BH	116	ARG
58	BI	133	GLU
58	BI	155	ASN
58	BI	193	LYS
59	BJ	4	ALA
59	BJ	91	LYS
59	BJ	156	HIS
59	BJ	165	TYR
59	BJ	170	PRO
60	BK	28	HIS
61	BL	29	GLY
62	BM	129	LYS
63	BN	23	PRO
63	BN	25	TRP
63	BN	62	GLN
64	BO	90	ILE
64	BO	139	SER
64	BO	141	ARG
64	BO	146	ARG
65	BP	48	GLY
65	BP	68	PRO
65	BP	101	THR
65	BP	126	VAL
66	BQ	51	LEU
66	BQ	52	LEU
67	BR	3	ARG
67	BR	4	VAL
67	BR	5	ARG
67	BR	95	ILE
67	BR	115	SER
68	BS	78	LYS
68	BS	134	GLN
69	BT	37	VAL
72	BW	98	GLN
72	BW	99	PHE
72	BW	101	PHE
73	BX	136	GLY
73	BX	139	GLU

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Mol	Chain	Res	Type
76	Ba	97	PRO
77	Bb	41	TYR
78	Bc	38	THR
79	Bd	11	PRO
79	Bd	12	ARG
79	Bd	25	SER
81	Bf	87	THR
82	Bg	49	GLU
4	AB	5	LYS
4	AB	18	PRO
4	AB	175	GLN
5	AC	91	ALA
5	AC	218	ILE
5	AC	223	ASN
5	AC	323	ARG
6	AD	20	PHE
6	AD	266	TRP
7	AE	283	PRO
8	AF	165	LYS
8	AF	185	ILE
8	AF	224	THR
9	AG	41	ILE
9	AG	131	LYS
10	AH	4	ILE
10	AH	116	ASN
10	AH	117	PHE
11	AI	111	LEU
11	AI	116	ARG
12	AJ	151	ILE
13	AK	15	LEU
13	AK	37	SER
13	AK	39	GLN
13	AK	40	MET
13	AK	52	VAL
13	AK	55	MET
13	AK	68	HIS
13	AK	84	GLY
14	AL	138	ASP
14	AL	155	MET
15	AM	104	MET
17	AO	198	THR
19	AQ	19	LYS

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Mol	Chain	Res	Type
19	AQ	104	ARG
21	AS	5	GLY
21	AS	86	SER
21	AS	145	PHE
22	AT	81	LYS
23	AU	53	ALA
25	AW	81	ALA
27	AY	43	ASN
27	AY	65	GLN
28	AZ	32	GLY
28	AZ	102	ARG
30	Ab	26	SER
30	Ab	51	LYS
33	Ae	4	LEU
35	Ag	46	CYS
36	Ah	9	LEU
36	Ah	96	ASN
36	Ah	122	LYS
38	Aj	81	GLY
39	Ak	14	THR
39	Ak	20	ALA
43	Ao	29	GLY
45	Aq	14	TYR
45	Aq	21	GLU
45	Aq	41	LYS
45	Aq	55	GLY
45	Aq	60	VAL
45	Aq	66	ASN
45	Aq	69	ALA
45	Aq	71	ILE
45	Aq	91	ASP
45	Aq	117	ARG
45	Aq	140	GLY
47	Au	197	ASN
51	BB	37	ALA
52	BC	63	VAL
52	BC	103	LYS
52	BC	174	ILE
54	BE	98	HIS
55	BF	34	SER
55	BF	183	GLY
56	BG	88	ARG

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Mol	Chain	Res	Type
56	BG	165	GLU
57	BH	109	ARG
57	BH	148	LEU
58	BI	159	SER
59	BJ	3	VAL
59	BJ	131	ARG
60	BK	41	PRO
61	BL	14	PRO
61	BL	15	THR
63	BN	20	ARG
63	BN	24	THR
63	BN	31	ASP
63	BN	107	LYS
64	BO	19	PRO
64	BO	21	VAL
64	BO	91	THR
65	BP	51	ARG
65	BP	116	LEU
65	BP	130	ARG
66	BQ	15	ARG
66	BQ	53	GLU
66	BQ	144	SER
67	BR	113	SER
68	BS	93	GLY
70	BU	67	LYS
72	BW	84	LYS
73	BX	107	ARG
73	BX	116	PRO
75	BZ	104	ARG
78	Bc	33	GLU
80	Be	32	ALA
82	Bg	126	ASP
3	AA	229	ALA
4	AB	281	ASN
4	AB	292	LEU
5	AC	95	MET
5	AC	194	GLY
5	AC	222	ARG
7	AE	108	LYS
7	AE	109	LEU
7	AE	122	PRO
7	AE	126	LEU

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Mol	Chain	Res	Type
7	AE	131	LYS
7	AE	132	PRO
9	AG	32	PHE
9	AG	133	PRO
10	AH	175	PHE
12	AJ	58	ARG
13	AK	14	PHE
13	AK	25	PRO
13	AK	33	ASP
13	AK	34	ASN
13	AK	62	ARG
13	AK	70	GLU
13	AK	83	ARG
13	AK	103	LEU
13	AK	105	ASN
13	AK	107	VAL
14	AL	158	ARG
15	AM	5	ARG
16	AN	94	PHE
16	AN	145	ASN
19	AQ	160	HIS
21	AS	88	SER
22	AT	127	GLN
23	AU	33	ILE
23	AU	51	GLY
28	AZ	22	LYS
28	AZ	103	ASP
32	Ad	95	ASP
33	Ae	19	LYS
37	Ai	17	VAL
39	Ak	11	PHE
39	Ak	18	LYS
41	Am	79	GLU
43	Ao	31	ASP
44	Ap	12	GLY
45	Aq	15	LEU
45	Aq	54	LYS
45	Aq	70	GLN
45	Aq	86	LYS
45	Aq	95	GLN
45	Aq	131	GLU
47	Au	22	GLN

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Mol	Chain	Res	Type
47	Au	126	PRO
51	BB	70	SER
51	BB	76	ASN
51	BB	82	ARG
51	BB	119	THR
51	BB	207	LEU
51	BB	213	ARG
52	BC	171	GLY
52	BC	261	PHE
53	BD	75	LYS
55	BF	37	ASP
55	BF	80	GLY
58	BI	85	ALA
58	BI	171	LEU
59	BJ	101	LYS
59	BJ	121	LYS
59	BJ	122	SER
61	BL	11	GLN
61	BL	12	LYS
64	BO	89	GLY
67	BR	122	PRO
69	BT	28	LEU
69	BT	32	GLU
73	BX	41	PHE
75	BZ	40	VAL
75	BZ	78	LYS
82	Bg	146	SER
82	Bg	171	ASP
82	Bg	255	SER
82	Bg	284	PRO
3	AA	180	LEU
3	AA	250	LYS
4	AB	17	LEU
5	AC	52	TYR
5	AC	73	VAL
6	AD	44	TYR
7	AE	119	GLU
10	AH	7	ASN
10	AH	8	GLN
11	AI	103	LEU
12	AJ	111	GLU
13	AK	66	ARG

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Mol	Chain	Res	Type
14	AL	133	ALA
15	AM	33	GLN
20	AR	53	LYS
21	AS	3	ALA
21	AS	7	LEU
23	AU	101	ARG
28	AZ	60	LYS
33	Ae	3	ALA
34	Af	41	PHE
39	Ak	6	GLU
43	Ao	49	GLY
44	Ap	19	GLY
45	Aq	89	PRO
45	Aq	92	ARG
45	Aq	120	SER
45	Aq	122	ALA
46	At	21	ASN
47	Au	40	ASN
47	Au	58	THR
47	Au	70	ASP
50	BA	6	ASP
51	BB	23	ASP
51	BB	179	ASN
51	BB	209	ASP
52	BC	135	GLY
52	BC	176	LYS
53	BD	83	SER
54	BE	171	ASN
56	BG	47	GLY
56	BG	106	LEU
58	BI	127	ALA
58	BI	158	ILE
59	BJ	36	GLY
59	BJ	104	ASP
60	BK	32	HIS
61	BL	21	LYS
62	BM	102	LYS
65	BP	67	ALA
66	BQ	44	PRO
68	BS	79	ILE
5	AC	305	PRO
7	AE	234	ASP

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Mol	Chain	Res	Type
8	AF	160	GLY
13	AK	71	ASN
13	AK	98	ILE
13	AK	108	PRO
19	AQ	38	ARG
23	AU	35	ASP
23	AU	59	GLY
25	AW	69	LYS
30	Ab	25	ARG
30	Ab	46	ALA
33	Ae	5	ARG
34	Af	58	VAL
34	Af	60	PRO
36	Ah	7	ARG
36	Ah	87	LYS
37	Ai	19	LYS
38	Aj	80	GLU
45	Aq	98	ILE
45	Aq	121	LEU
45	Aq	136	ALA
53	BD	76	ARG
53	BD	113	LEU
54	BE	203	GLY
55	BF	92	ILE
56	BG	115	LYS
56	BG	135	PRO
58	BI	24	LYS
61	BL	34	PRO
63	BN	22	VAL
65	BP	49	LEU
66	BQ	143	LYS
68	BS	133	GLY
70	BU	53	PRO
74	BY	59	GLY
80	Be	9	ALA
4	AB	3	HIS
4	AB	293	ILE
4	AB	298	LEU
4	AB	326	VAL
6	AD	260	GLU
8	AF	163	ASN
13	AK	49	GLY

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Mol	Chain	Res	Type
13	AK	53	VAL
13	AK	99	ARG
14	AL	135	LYS
17	AO	186	GLU
19	AQ	157	GLY
25	AW	103	ALA
37	Ai	21	VAL
39	Ak	15	ALA
39	Ak	60	LEU
45	Aq	85	LEU
47	Au	172	VAL
50	BA	95	GLY
50	BA	193	HIS
51	BB	69	VAL
51	BB	132	GLY
51	BB	210	VAL
54	BE	91	SER
55	BF	185	SER
58	BI	192	GLY
64	BO	140	THR
69	BT	51	ASN
77	Bb	62	VAL
19	AQ	5	ILE
19	AQ	159	PRO
45	Aq	23	GLY
45	Aq	64	ILE
55	BF	41	VAL
60	BK	86	PRO
82	Bg	61	GLY
5	AC	70	GLY
5	AC	98	GLY
8	AF	197	VAL
23	AU	47	ILE
27	AY	70	VAL
45	Aq	102	GLY
45	Aq	132	ILE
52	BC	61	MET
60	BK	3	MET
62	BM	30	GLY
82	Bg	190	GLY
12	AJ	175	LEU
33	Ae	8	VAL

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Mol	Chain	Res	Type
46	At	28	GLU
54	BE	153	VAL
56	BG	108	VAL
14	AL	48	PRO
22	AT	126	VAL
46	At	122	LYS
54	BE	102	VAL
38	Aj	84	PRO
62	BM	115	GLY
64	BO	145	GLY
67	BR	88	VAL

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	AA	194/199 (98%)	185 (95%)	9 (5%)	33	72
4	AB	343/349 (98%)	323 (94%)	20 (6%)	25	65
5	AC	302/348 (87%)	278 (92%)	24 (8%)	15	53
6	AD	248/250 (99%)	229 (92%)	19 (8%)	16	54
7	AE	174/252 (69%)	127 (73%)	47 (27%)	0	4
8	AF	203/215 (94%)	193 (95%)	10 (5%)	31	70
9	AG	199/223 (89%)	192 (96%)	7 (4%)	43	78
10	AH	170/171 (99%)	160 (94%)	10 (6%)	24	65
11	AI	178/181 (98%)	174 (98%)	4 (2%)	60	85
12	AJ	142/149 (95%)	138 (97%)	4 (3%)	51	82
13	AK	95/258 (37%)	70 (74%)	25 (26%)	0	4
14	AL	171/177 (97%)	156 (91%)	15 (9%)	12	48
15	AM	118/161 (73%)	104 (88%)	14 (12%)	6	31
16	AN	171/172 (99%)	163 (95%)	8 (5%)	32	72
17	AO	168/174 (97%)	164 (98%)	4 (2%)	57	85

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	AP	134/163 (82%)	123 (92%)	11 (8%)	14	51
19	AQ	164/165 (99%)	144 (88%)	20 (12%)	6	29
20	AR	160/175 (91%)	145 (91%)	15 (9%)	11	44
21	AS	156/157 (99%)	149 (96%)	7 (4%)	34	73
22	AT	138/140 (99%)	126 (91%)	12 (9%)	13	48
23	AU	89/115 (77%)	78 (88%)	11 (12%)	6	29
24	AV	100/107 (94%)	98 (98%)	2 (2%)	63	87
25	AW	100/126 (79%)	94 (94%)	6 (6%)	24	64
26	AX	105/133 (79%)	95 (90%)	10 (10%)	11	43
27	AY	119/135 (88%)	109 (92%)	10 (8%)	14	50
28	AZ	117/118 (99%)	100 (86%)	17 (14%)	4	23
29	Aa	120/121 (99%)	110 (92%)	10 (8%)	14	50
30	Ab	58/126 (46%)	54 (93%)	4 (7%)	19	59
31	Ac	88/97 (91%)	85 (97%)	3 (3%)	44	79
32	Ad	97/110 (88%)	96 (99%)	1 (1%)	82	93
33	Ae	115/121 (95%)	114 (99%)	1 (1%)	84	94
34	Af	88/89 (99%)	85 (97%)	3 (3%)	44	79
35	Ag	98/100 (98%)	93 (95%)	5 (5%)	29	69
36	Ah	109/110 (99%)	96 (88%)	13 (12%)	6	31
37	Ai	83/89 (93%)	80 (96%)	3 (4%)	42	77
38	Aj	71/80 (89%)	65 (92%)	6 (8%)	13	49
39	Ak	64/65 (98%)	46 (72%)	18 (28%)	0	3
40	Al	47/48 (98%)	44 (94%)	3 (6%)	22	62
41	Am	46/116 (40%)	45 (98%)	1 (2%)	60	85
42	An	24/24 (100%)	23 (96%)	1 (4%)	36	74
43	Ao	93/94 (99%)	85 (91%)	8 (9%)	13	49
44	Ap	74/75 (99%)	71 (96%)	3 (4%)	37	74
45	Aq	114/137 (83%)	90 (79%)	24 (21%)	1	8
46	At	106/121 (88%)	88 (83%)	18 (17%)	2	15
47	Au	196/196 (100%)	180 (92%)	16 (8%)	14	51
50	BA	180/243 (74%)	165 (92%)	15 (8%)	14	50

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
51	BB	193/231 (84%)	177 (92%)	16 (8%)	14	50
52	BC	188/225 (84%)	177 (94%)	11 (6%)	24	65
53	BD	183/202 (91%)	175 (96%)	8 (4%)	35	73
54	BE	220/225 (98%)	213 (97%)	7 (3%)	46	80
55	BF	160/170 (94%)	155 (97%)	5 (3%)	47	81
56	BG	202/218 (93%)	177 (88%)	25 (12%)	6	29
57	BH	164/174 (94%)	160 (98%)	4 (2%)	57	85
58	BI	179/180 (99%)	175 (98%)	4 (2%)	60	85
59	BJ	160/168 (95%)	151 (94%)	9 (6%)	26	66
60	BK	89/136 (65%)	83 (93%)	6 (7%)	20	61
61	BL	138/142 (97%)	134 (97%)	4 (3%)	50	81
62	BM	102/108 (94%)	101 (99%)	1 (1%)	82	93
63	BN	130/131 (99%)	122 (94%)	8 (6%)	23	63
64	BO	106/119 (89%)	99 (93%)	7 (7%)	21	61
65	BP	109/130 (84%)	93 (85%)	16 (15%)	4	22
66	BQ	115/121 (95%)	102 (89%)	13 (11%)	7	34
67	BR	113/122 (93%)	97 (86%)	16 (14%)	4	24
68	BS	121/132 (92%)	106 (88%)	15 (12%)	6	29
69	BT	113/115 (98%)	102 (90%)	11 (10%)	10	42
70	BU	90/107 (84%)	85 (94%)	5 (6%)	26	66
71	BV	65/67 (97%)	59 (91%)	6 (9%)	11	45
72	BW	112/113 (99%)	108 (96%)	4 (4%)	42	77
73	BX	111/115 (96%)	101 (91%)	10 (9%)	12	46
74	BY	107/115 (93%)	103 (96%)	4 (4%)	41	76
75	BZ	75/103 (73%)	57 (76%)	18 (24%)	1	5
76	Ba	84/98 (86%)	75 (89%)	9 (11%)	8	37
77	Bb	72/76 (95%)	72 (100%)	0	100	100
78	Bc	55/62 (89%)	52 (94%)	3 (6%)	27	67
79	Bd	45/49 (92%)	40 (89%)	5 (11%)	8	35
80	Be	44/48 (92%)	38 (86%)	6 (14%)	5	26
81	Bf	66/140 (47%)	65 (98%)	1 (2%)	72	90

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
82	Bg	272/275 (99%)	268 (98%)	4 (2%)	72	90
All	All	10112/11392 (89%)	9354 (92%)	758 (8%)	21	55

All (758) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	AA	10	LYS
3	AA	20	VAL
3	AA	58	LEU
3	AA	63	PHE
3	AA	72	ARG
3	AA	93	LYS
3	AA	226	ARG
3	AA	227	ARG
3	AA	228	ASP
4	AB	17	LEU
4	AB	24	ARG
4	AB	42	HIS
4	AB	46	PHE
4	AB	103	LYS
4	AB	109	HIS
4	AB	130	PHE
4	AB	189	THR
4	AB	192	GLU
4	AB	226	LYS
4	AB	258	HIS
4	AB	274	TYR
4	AB	292	LEU
4	AB	294	LYS
4	AB	297	LYS
4	AB	299	ILE
4	AB	325	GLU
4	AB	351	LEU
4	AB	354	GLN
4	AB	394	LYS
5	AC	52	TYR
5	AC	56	GLU
5	AC	57	LEU
5	AC	67	TRP
5	AC	89	GLN
5	AC	92	PHE
5	AC	95	MET

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Mol	Chain	Res	Type
5	AC	97	ARG
5	AC	107	THR
5	AC	162	LYS
5	AC	202	ILE
5	AC	204	ARG
5	AC	205	ARG
5	AC	208	CYS
5	AC	209	ILE
5	AC	211	TYR
5	AC	213	GLU
5	AC	215	ASN
5	AC	218	ILE
5	AC	221	PHE
5	AC	222	ARG
5	AC	229	LEU
5	AC	230	LEU
5	AC	287	THR
6	AD	4	VAL
6	AD	6	VAL
6	AD	10	LYS
6	AD	12	TYR
6	AD	20	PHE
6	AD	25	GLU
6	AD	69	ILE
6	AD	197	LYS
6	AD	198	HIS
6	AD	216	GLU
6	AD	225	GLN
6	AD	227	ILE
6	AD	229	ASN
6	AD	232	THR
6	AD	234	ASP
6	AD	235	MET
6	AD	236	MET
6	AD	265	ARG
6	AD	268	ARG
7	AE	100	LYS
7	AE	105	ARG
7	AE	106	VAL
7	AE	108	LYS
7	AE	109	LEU
7	AE	110	ARG

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Mol	Chain	Res	Type
7	AE	111	LYS
7	AE	114	ARG
7	AE	115	TYR
7	AE	116	TYR
7	AE	118	THR
7	AE	121	VAL
7	AE	123	ARG
7	AE	124	LYS
7	AE	125	LEU
7	AE	126	LEU
7	AE	131	LYS
7	AE	138	ARG
7	AE	140	LEU
7	AE	141	ARG
7	AE	167	GLN
7	AE	173	LEU
7	AE	186	LEU
7	AE	187	ARG
7	AE	188	ARG
7	AE	189	THR
7	AE	201	ILE
7	AE	203	ILE
7	AE	207	LYS
7	AE	210	LYS
7	AE	211	HIS
7	AE	212	LEU
7	AE	213	THR
7	AE	216	TYR
7	AE	218	LYS
7	AE	220	LYS
7	AE	222	LEU
7	AE	223	ARG
7	AE	224	LYS
7	AE	228	GLN
7	AE	237	LYS
7	AE	239	LYS
7	AE	241	GLU
7	AE	278	THR
7	AE	279	ASN
7	AE	282	TYR
7	AE	285	LYS
8	AF	19	LYS

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Mol	Chain	Res	Type
8	AF	86	GLU
8	AF	88	LYS
8	AF	161	LYS
8	AF	165	LYS
8	AF	166	ARG
8	AF	182	TYR
8	AF	220	MET
8	AF	221	LYS
8	AF	222	LYS
9	AG	84	THR
9	AG	97	LYS
9	AG	110	LYS
9	AG	121	LYS
9	AG	136	LEU
9	AG	159	HIS
9	AG	162	ASP
10	AH	5	LEU
10	AH	8	GLN
10	AH	20	LEU
10	AH	60	TRP
10	AH	63	ASN
10	AH	96	TYR
10	AH	107	GLU
10	AH	108	ASN
10	AH	111	LEU
10	AH	134	CYS
11	AI	3	ARG
11	AI	48	LEU
11	AI	51	HIS
11	AI	74	LYS
12	AJ	33	LEU
12	AJ	64	ARG
12	AJ	159	LYS
12	AJ	175	LEU
13	AK	4	GLU
13	AK	13	TYR
13	AK	14	PHE
13	AK	20	LEU
13	AK	21	LEU
13	AK	24	TYR
13	AK	25	PRO
13	AK	28	PHE

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Mol	Chain	Res	Type
13	AK	30	VAL
13	AK	35	VAL
13	AK	42	GLN
13	AK	53	VAL
13	AK	54	LEU
13	AK	55	MET
13	AK	60	MET
13	AK	69	LEU
13	AK	73	PRO
13	AK	76	GLU
13	AK	78	LEU
13	AK	85	ASN
13	AK	90	PHE
13	AK	99	ARG
13	AK	102	LEU
13	AK	105	ASN
13	AK	108	PRO
14	AL	55	ILE
14	AL	56	ARG
14	AL	81	LEU
14	AL	126	LEU
14	AL	129	ARG
14	AL	130	LYS
14	AL	135	LYS
14	AL	151	THR
14	AL	155	MET
14	AL	159	ASN
14	AL	167	ARG
14	AL	173	GLU
14	AL	174	LYS
14	AL	175	ASN
14	AL	177	LYS
15	AM	6	PHE
15	AM	43	THR
15	AM	44	GLN
15	AM	46	ARG
15	AM	47	ARG
15	AM	50	MET
15	AM	79	LYS
15	AM	93	LYS
15	AM	94	LYS
15	AM	99	GLU

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Mol	Chain	Res	Type
15	AM	100	ARG
15	AM	103	LYS
15	AM	114	LYS
15	AM	132	LYS
16	AN	19	MET
16	AN	38	ARG
16	AN	108	ARG
16	AN	113	LEU
16	AN	124	ASP
16	AN	148	THR
16	AN	151	ILE
16	AN	183	THR
17	AO	25	LYS
17	AO	61	ARG
17	AO	92	THR
17	AO	148	LYS
18	AP	4	TYR
18	AP	10	ASN
18	AP	13	LYS
18	AP	22	LEU
18	AP	41	ILE
18	AP	47	TYR
18	AP	48	LEU
18	AP	49	LYS
18	AP	69	ARG
18	AP	75	GLN
18	AP	94	MET
19	AQ	6	ARG
19	AQ	8	ASN
19	AQ	9	LYS
19	AQ	11	ARG
19	AQ	13	VAL
19	AQ	15	ARG
19	AQ	16	LYS
19	AQ	37	ARG
19	AQ	48	LEU
19	AQ	63	LEU
19	AQ	75	ARG
19	AQ	76	GLU
19	AQ	92	VAL
19	AQ	98	LEU
19	AQ	99	LYS

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Mol	Chain	Res	Type
19	AQ	154	LYS
19	AQ	158	THR
19	AQ	170	LYS
19	AQ	175	GLU
19	AQ	176	ARG
20	AR	22	VAL
20	AR	24	LEU
20	AR	25	ASP
20	AR	27	ASN
20	AR	28	GLU
20	AR	62	ARG
20	AR	70	ARG
20	AR	71	ARG
20	AR	72	LYS
20	AR	74	ARG
20	AR	114	LYS
20	AR	132	PHE
20	AR	138	LEU
20	AR	170	ARG
20	AR	172	ARG
21	AS	1	MET
21	AS	7	LEU
21	AS	27	LEU
21	AS	52	LYS
21	AS	84	TYR
21	AS	136	LYS
21	AS	139	ARG
22	AT	2	THR
22	AT	17	ARG
22	AT	102	ARG
22	AT	106	LEU
22	AT	110	LYS
22	AT	113	ASP
22	AT	118	GLU
22	AT	121	GLU
22	AT	125	TRP
22	AT	128	LEU
22	AT	143	THR
22	AT	158	PHE
23	AU	50	ASN
23	AU	52	LYS
23	AU	55	ASN

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Mol	Chain	Res	Type
23	AU	56	LEU
23	AU	60	VAL
23	AU	65	ARG
23	AU	97	ARG
23	AU	99	TRP
23	AU	113	ARG
23	AU	115	PHE
23	AU	116	GLN
24	AV	48	ARG
24	AV	49	LEU
25	AW	50	ASN
25	AW	60	LYS
25	AW	63	GLN
25	AW	66	GLU
25	AW	68	GLN
25	AW	79	GLN
26	AX	54	LEU
26	AX	55	ARG
26	AX	77	ILE
26	AX	114	LYS
26	AX	115	LYS
26	AX	117	TYR
26	AX	118	ASP
26	AX	119	ILE
26	AX	120	ASP
26	AX	129	ARG
27	AY	1	MET
27	AY	4	ASN
27	AY	8	THR
27	AY	36	LYS
27	AY	40	GLN
27	AY	41	LYS
27	AY	42	TYR
27	AY	45	ARG
27	AY	49	ILE
27	AY	122	LYS
28	AZ	5	MET
28	AZ	31	ASP
28	AZ	36	ARG
28	AZ	51	ARG
28	AZ	59	LYS
28	AZ	60	LYS

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Mol	Chain	Res	Type
28	AZ	61	LYS
28	AZ	91	LEU
28	AZ	93	LYS
28	AZ	98	LYS
28	AZ	99	ASP
28	AZ	109	LYS
28	AZ	112	ARG
28	AZ	122	TYR
28	AZ	123	LYS
28	AZ	126	LYS
28	AZ	128	LYS
29	Aa	25	HIS
29	Aa	27	LYS
29	Aa	28	HIS
29	Aa	47	LYS
29	Aa	61	TYR
29	Aa	87	ARG
29	Aa	92	LYS
29	Aa	94	LYS
29	Aa	116	LYS
29	Aa	132	ARG
30	Ab	32	LEU
30	Ab	33	LYS
30	Ab	54	LEU
30	Ab	55	LYS
31	Ac	17	ARG
31	Ac	42	LYS
31	Ac	44	LYS
32	Ad	77	ILE
33	Ae	50	LYS
34	Af	106	TYR
34	Af	107	PRO
34	Af	110	ILE
35	Ag	5	LEU
35	Ag	21	ARG
35	Ag	22	LEU
35	Ag	32	TYR
35	Ag	60	ARG
36	Ah	14	LYS
36	Ah	31	LEU
36	Ah	35	LYS
36	Ah	37	THR

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Mol	Chain	Res	Type
36	Ah	48	ARG
36	Ah	49	VAL
36	Ah	51	ARG
36	Ah	66	LYS
36	Ah	79	LYS
36	Ah	91	MET
36	Ah	92	ARG
36	Ah	107	GLN
36	Ah	111	GLU
37	Ai	25	ARG
37	Ai	28	ARG
37	Ai	76	ARG
38	Aj	11	ARG
38	Aj	17	THR
38	Aj	19	CYS
38	Aj	20	ARG
38	Aj	36	LYS
38	Aj	37	CYS
39	Ak	12	LEU
39	Ak	13	LEU
39	Ak	17	ARG
39	Ak	18	LYS
39	Ak	19	ASP
39	Ak	21	LYS
39	Ak	22	SER
39	Ak	27	LYS
39	Ak	38	CYS
39	Ak	39	SER
39	Ak	40	ARG
39	Ak	41	TYR
39	Ak	54	GLU
39	Ak	55	LYS
39	Ak	56	LEU
39	Ak	57	LYS
39	Ak	59	SER
39	Ak	60	LEU
40	Al	13	LEU
40	Al	21	ARG
40	Al	28	ARG
41	Am	127	VAL
42	An	16	LYS
43	Ao	40	ARG

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Mol	Chain	Res	Type
43	Ao	42	ASP
43	Ao	43	ARG
43	Ao	97	LYS
43	Ao	98	LYS
43	Ao	102	GLN
43	Ao	103	VAL
43	Ao	105	GLN
44	Ap	28	LYS
44	Ap	62	LYS
44	Ap	84	ARG
45	Aq	9	GLU
45	Aq	21	GLU
45	Aq	22	VAL
45	Aq	28	LEU
45	Aq	30	PRO
45	Aq	31	LYS
45	Aq	35	LEU
45	Aq	37	LEU
45	Aq	39	PRO
45	Aq	46	ILE
45	Aq	50	THR
45	Aq	57	ARG
45	Aq	58	ILE
45	Aq	59	THR
45	Aq	75	PRO
45	Aq	81	ILE
45	Aq	85	LEU
45	Aq	97	ASN
45	Aq	104	ILE
45	Aq	109	ILE
45	Aq	111	ASN
45	Aq	125	LEU
45	Aq	128	THR
45	Aq	143	VAL
46	At	13	CYS
46	At	16	PHE
46	At	18	ILE
46	At	38	PHE
46	At	41	ASN
46	At	56	ASP
46	At	65	LYS
46	At	67	ARG

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Mol	Chain	Res	Type
46	At	68	SER
46	At	70	GLN
46	At	71	ARG
46	At	79	ARG
46	At	80	THR
46	At	83	ASN
46	At	87	ARG
46	At	89	THR
46	At	106	LEU
46	At	117	ILE
47	Au	17	VAL
47	Au	28	PHE
47	Au	29	LEU
47	Au	41	TYR
47	Au	58	THR
47	Au	59	PRO
47	Au	71	GLN
47	Au	94	ASN
47	Au	121	PRO
47	Au	180	VAL
47	Au	185	LEU
47	Au	188	ASN
47	Au	194	LEU
47	Au	198	TRP
47	Au	210	MET
47	Au	214	GLN
50	BA	12	GLU
50	BA	25	LEU
50	BA	34	MET
50	BA	36	GLN
50	BA	40	LYS
50	BA	41	ARG
50	BA	94	THR
50	BA	104	THR
50	BA	112	ILE
50	BA	116	PHE
50	BA	132	GLN
50	BA	142	LEU
50	BA	201	LEU
50	BA	202	TYR
50	BA	206	ASP
51	BB	75	GLN

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Mol	Chain	Res	Type
51	BB	79	VAL
51	BB	81	PHE
51	BB	116	LYS
51	BB	117	TRP
51	BB	135	LEU
51	BB	137	LEU
51	BB	174	ARG
51	BB	175	GLU
51	BB	177	GLN
51	BB	179	ASN
51	BB	182	LYS
51	BB	183	GLU
51	BB	184	VAL
51	BB	187	LYS
51	BB	218	LEU
52	BC	98	LEU
52	BC	102	LEU
52	BC	116	THR
52	BC	121	ARG
52	BC	123	ARG
52	BC	134	ASN
52	BC	160	LEU
52	BC	166	ARG
52	BC	167	ARG
52	BC	200	ARG
52	BC	209	VAL
53	BD	12	VAL
53	BD	18	LYS
53	BD	26	THR
53	BD	55	THR
53	BD	66	ILE
53	BD	113	LEU
53	BD	162	ASP
53	BD	216	GLU
54	BE	37	LYS
54	BE	75	LYS
54	BE	94	LYS
54	BE	129	ILE
54	BE	153	VAL
54	BE	212	ASP
54	BE	238	LEU
55	BF	23	TRP

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Mol	Chain	Res	Type
55	BF	89	THR
55	BF	107	ASN
55	BF	130	ARG
55	BF	133	THR
56	BG	53	SER
56	BG	147	LEU
56	BG	164	LYS
56	BG	172	LYS
56	BG	179	LEU
56	BG	195	LYS
56	BG	197	GLN
56	BG	199	THR
56	BG	200	LYS
56	BG	201	LYS
56	BG	202	ASN
56	BG	204	GLU
56	BG	205	GLU
56	BG	212	LEU
56	BG	215	LYS
56	BG	216	ARG
56	BG	217	MET
56	BG	218	LYS
56	BG	222	GLU
56	BG	224	ARG
56	BG	226	GLU
56	BG	227	GLN
56	BG	230	LYS
56	BG	231	ARG
56	BG	232	ARG
57	BH	15	LYS
57	BH	76	GLN
57	BH	135	PHE
57	BH	152	ARG
58	BI	19	LYS
58	BI	52	ASN
58	BI	58	LEU
58	BI	139	LYS
59	BJ	30	LYS
59	BJ	47	LYS
59	BJ	49	THR
59	BJ	50	LEU
59	BJ	54	ARG

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Mol	Chain	Res	Type
59	BJ	55	LYS
59	BJ	131	ARG
59	BJ	139	LYS
59	BJ	140	GLN
60	BK	3	MET
60	BK	29	MET
60	BK	32	HIS
60	BK	70	TYR
60	BK	72	THR
60	BK	96	ARG
61	BL	24	LEU
61	BL	27	GLU
61	BL	54	THR
61	BL	151	THR
62	BM	88	TRP
63	BN	25	TRP
63	BN	26	LEU
63	BN	40	LEU
63	BN	42	LYS
63	BN	54	LEU
63	BN	58	HIS
63	BN	76	LYS
63	BN	78	LYS
64	BO	45	THR
64	BO	75	MET
64	BO	76	LEU
64	BO	79	GLN
64	BO	83	GLN
64	BO	105	THR
64	BO	138	ASP
65	BP	12	PHE
65	BP	29	SER
65	BP	30	TYR
65	BP	33	LEU
65	BP	36	LEU
65	BP	49	LEU
65	BP	51	ARG
65	BP	52	LYS
65	BP	66	GLU
65	BP	71	GLU
65	BP	72	LYS
65	BP	83	MET

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Mol	Chain	Res	Type
65	BP	85	ILE
65	BP	86	LEU
65	BP	90	VAL
65	BP	130	ARG
66	BQ	11	GLN
66	BQ	17	LYS
66	BQ	25	CYS
66	BQ	37	ARG
66	BQ	39	LEU
66	BQ	45	ARG
66	BQ	46	THR
66	BQ	47	LEU
66	BQ	50	LYS
66	BQ	51	LEU
66	BQ	69	ARG
66	BQ	105	LYS
66	BQ	146	ARG
67	BR	4	VAL
67	BR	5	ARG
67	BR	6	THR
67	BR	10	LYS
67	BR	11	LYS
67	BR	17	ILE
67	BR	20	TYR
67	BR	35	CYS
67	BR	36	GLU
67	BR	38	ILE
67	BR	41	ILE
67	BR	91	LEU
67	BR	94	GLU
67	BR	99	ASP
67	BR	118	GLN
67	BR	126	MET
68	BS	13	LEU
68	BS	14	ARG
68	BS	16	LEU
68	BS	17	ASN
68	BS	23	ARG
68	BS	45	LEU
68	BS	47	LYS
68	BS	49	ASP
68	BS	52	LEU

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Mol	Chain	Res	Type
68	BS	53	THR
68	BS	59	LEU
68	BS	60	THR
68	BS	63	GLU
68	BS	75	ARG
68	BS	116	LYS
69	BT	5	THR
69	BT	7	LYS
69	BT	34	VAL
69	BT	39	LEU
69	BT	41	LYS
69	BT	42	HIS
69	BT	44	GLU
69	BT	62	ARG
69	BT	94	ARG
69	BT	116	ASP
69	BT	123	LEU
70	BU	20	ILE
70	BU	22	ILE
70	BU	47	ASN
70	BU	55	ARG
70	BU	56	MET
71	BV	12	TYR
71	BV	34	MET
71	BV	41	LYS
71	BV	45	ARG
71	BV	50	PHE
71	BV	81	LYS
72	BW	3	ARG
72	BW	4	MET
72	BW	56	HIS
72	BW	97	ARG
73	BX	9	THR
73	BX	17	ARG
73	BX	54	LYS
73	BX	60	LYS
73	BX	63	ASN
73	BX	134	TYR
73	BX	135	LYS
73	BX	137	LYS
73	BX	138	LYS
73	BX	139	GLU

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Mol	Chain	Res	Type
74	BY	29	HIS
74	BY	93	ARG
74	BY	102	THR
74	BY	122	LYS
75	BZ	34	LYS
75	BZ	44	LEU
75	BZ	50	PHE
75	BZ	55	TYR
75	BZ	60	LYS
75	BZ	61	GLU
75	BZ	65	TYR
75	BZ	66	LYS
75	BZ	67	LEU
75	BZ	75	GLU
75	BZ	77	LEU
75	BZ	83	LEU
75	BZ	85	ARG
75	BZ	88	LEU
75	BZ	92	LEU
75	BZ	96	LEU
75	BZ	98	LYS
75	BZ	102	LYS
76	Ba	15	ARG
76	Ba	38	LYS
76	Ba	39	PHE
76	Ba	40	VAL
76	Ba	42	ARG
76	Ba	80	HIS
76	Ba	82	LYS
76	Ba	93	LYS
76	Ba	95	ARG
78	Bc	9	ILE
78	Bc	21	THR
78	Bc	33	GLU
79	Bd	24	CYS
79	Bd	30	LEU
79	Bd	31	ILE
79	Bd	40	ARG
79	Bd	41	GLN
80	Be	6	LEU
80	Be	18	LYS
80	Be	28	LYS

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Mol	Chain	Res	Type
80	Be	35	ARG
80	Be	46	VAL
80	Be	52	LYS
81	Bf	89	LYS
82	Bg	24	THR
82	Bg	94	THR
82	Bg	195	LEU
82	Bg	255	SER

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (196) such sidechains are listed below:

Mol	Chain	Res	Type
3	AA	95	GLN
3	AA	132	ASN
3	AA	187	HIS
3	AA	209	HIS
3	AA	216	HIS
4	AB	55	HIS
4	AB	158	GLN
4	AB	167	GLN
4	AB	179	HIS
4	AB	186	ASN
4	AB	245	HIS
4	AB	322	HIS
5	AC	48	ASN
5	AC	50	GLN
5	AC	187	GLN
5	AC	198	ASN
5	AC	212	ASN
5	AC	223	ASN
5	AC	286	ASN
5	AC	362	GLN
6	AD	9	ASN
6	AD	63	GLN
6	AD	191	ASN
6	AD	229	ASN
6	AD	244	HIS
7	AE	167	GLN
7	AE	191	GLN
7	AE	268	GLN
7	AE	279	ASN
8	AF	80	ASN

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Mol	Chain	Res	Type
8	AF	131	ASN
8	AF	226	HIS
9	AG	82	GLN
9	AG	195	HIS
10	AH	8	GLN
10	AH	102	ASN
10	AH	108	ASN
10	AH	163	GLN
11	AI	14	ASN
11	AI	59	GLN
11	AI	147	HIS
11	AI	213	HIS
12	AJ	42	GLN
12	AJ	46	GLN
12	AJ	112	HIS
12	AJ	168	GLN
13	AK	85	ASN
14	AL	15	HIS
14	AL	175	ASN
15	AM	20	HIS
15	AM	70	GLN
15	AM	83	ASN
15	AM	125	ASN
16	AN	37	HIS
16	AN	87	HIS
16	AN	145	ASN
16	AN	201	HIS
17	AO	42	ASN
17	AO	63	ASN
17	AO	96	GLN
18	AP	10	ASN
18	AP	93	HIS
18	AP	120	ASN
19	AQ	8	ASN
19	AQ	40	ASN
19	AQ	45	GLN
19	AQ	162	HIS
20	AR	118	HIS
21	AS	77	ASN
21	AS	156	HIS
21	AS	162	GLN
22	AT	3	ASN

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Mol	Chain	Res	Type
23	AU	50	ASN
23	AU	116	GLN
24	AV	101	ASN
24	AV	135	ASN
25	AW	63	GLN
26	AX	93	ASN
27	AY	4	ASN
27	AY	86	GLN
28	AZ	40	HIS
29	Aa	25	HIS
29	Aa	39	HIS
29	Aa	49	HIS
29	Aa	60	HIS
29	Aa	85	GLN
29	Aa	89	ASN
30	Ab	6	ASN
30	Ab	12	GLN
30	Ab	60	ASN
31	Ac	15	ASN
32	Ad	79	ASN
33	Ae	24	GLN
33	Ae	34	ASN
34	Af	65	ASN
34	Af	99	HIS
35	Ag	110	GLN
36	Ah	63	GLN
38	Aj	66	HIS
40	Al	19	GLN
40	Al	20	ASN
40	Al	33	ASN
41	Am	87	GLN
43	Ao	3	ASN
43	Ao	18	HIS
43	Ao	36	GLN
43	Ao	45	GLN
43	Ao	51	GLN
43	Ao	102	GLN
45	Aq	70	GLN
45	Aq	103	ASN
46	At	4	HIS
46	At	6	GLN
46	At	21	ASN

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Mol	Chain	Res	Type
46	At	41	ASN
46	At	70	GLN
46	At	95	HIS
46	At	100	ASN
46	At	121	GLN
47	Au	143	ASN
50	BA	111	GLN
50	BA	169	HIS
51	BB	75	GLN
51	BB	118	GLN
51	BB	177	GLN
51	BB	179	ASN
51	BB	186	ASN
52	BC	115	GLN
52	BC	134	ASN
52	BC	178	HIS
52	BC	235	ASN
53	BD	74	GLN
54	BE	216	ASN
55	BF	65	GLN
55	BF	82	ASN
55	BF	83	ASN
55	BF	95	HIS
55	BF	107	ASN
55	BF	203	ASN
56	BG	65	GLN
56	BG	70	HIS
56	BG	146	ASN
56	BG	225	GLN
57	BH	114	GLN
58	BI	44	HIS
58	BI	88	ASN
59	BJ	75	ASN
59	BJ	111	GLN
59	BJ	125	HIS
60	BK	28	HIS
61	BL	13	GLN
63	BN	5	HIS
64	BO	20	GLN
64	BO	79	GLN
64	BO	83	GLN
64	BO	113	GLN

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Mol	Chain	Res	Type
65	BP	35	GLN
65	BP	41	GLN
65	BP	79	HIS
65	BP	104	GLN
66	BQ	11	GLN
66	BQ	24	HIS
66	BQ	77	HIS
66	BQ	80	GLN
66	BQ	86	GLN
66	BQ	142	GLN
68	BS	17	ASN
68	BS	19	ASN
68	BS	42	HIS
68	BS	73	ASN
68	BS	125	HIS
69	BT	42	HIS
70	BU	81	GLN
70	BU	92	HIS
70	BU	100	GLN
71	BV	29	HIS
72	BW	15	ASN
72	BW	16	ASN
72	BW	24	GLN
72	BW	44	HIS
72	BW	56	HIS
72	BW	70	ASN
73	BX	16	HIS
73	BX	127	ASN
74	BY	89	HIS
74	BY	94	HIS
75	BZ	106	GLN
76	Ba	19	GLN
76	Ba	25	ASN
78	Bc	7	GLN
78	Bc	29	GLN
79	Bd	41	GLN
80	Be	39	ASN
82	Bg	26	GLN
82	Bg	56	GLN
82	Bg	226	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A3	156/194 (80%)	28 (17%)	4 (2%)
2	A4	118/121 (97%)	23 (19%)	1 (0%)
48	A2	3600/5029 (71%)	695 (19%)	48 (1%)
49	B1	1701/1869 (91%)	290 (17%)	19 (1%)
83	Bv	75/76 (98%)	38 (50%)	0
83	Bw	75/76 (98%)	34 (45%)	0
84	Bx	27/28 (96%)	18 (66%)	0
All	All	5752/7393 (77%)	1126 (19%)	72 (1%)

All (1126) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A3	2	G
1	A3	12	G
1	A3	16	G
1	A3	35	C
1	A3	59	A
1	A3	63	U
1	A3	72	A
1	A3	80	A
1	A3	81	C
1	A3	82	A
1	A3	87	G
1	A3	105	C
1	A3	108	A
1	A3	109	C
1	A3	110	U
1	A3	111	U
1	A3	112	G
1	A3	121	G
1	A3	122	G
1	A3	123	U
1	A3	124	U
1	A3	126	C
1	A3	128	C
1	A3	129	C
1	A3	130	C
1	A3	135	C
1	A3	148	A
1	A3	151	G
2	A4	12	U
2	A4	13	A
2	A4	14	C

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Mol	Chain	Res	Type
2	A4	16	A
2	A4	22	A
2	A4	23	A
2	A4	25	G
2	A4	27	G
2	A4	33	U
2	A4	34	C
2	A4	49	A
2	A4	53	U
2	A4	54	A
2	A4	57	C
2	A4	64	G
2	A4	66	G
2	A4	74	A
2	A4	103	A
2	A4	104	C
2	A4	107	G
2	A4	110	G
2	A4	118	C
2	A4	119	U
48	A2	4	G
48	A2	6	C
48	A2	10	A
48	A2	25	A
48	A2	28	C
48	A2	30	C
48	A2	32	G
48	A2	33	A
48	A2	39	A
48	A2	42	A
48	A2	48	G
48	A2	49	U
48	A2	59	A
48	A2	64	A
48	A2	65	A
48	A2	68	U
48	A2	71	C
48	A2	72	C
48	A2	73	A
48	A2	74	G
48	A2	84	A
48	A2	85	G

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Mol	Chain	Res	Type
48	A2	91	G
48	A2	96	U
48	A2	101	A
48	A2	116	G
48	A2	119	G
48	A2	128	C
48	A2	131	C
48	A2	132	G
48	A2	133	C
48	A2	134	G
48	A2	135	G
48	A2	136	G
48	A2	141	G
48	A2	143	G
48	A2	149	U
48	A2	157	G
48	A2	169	C
48	A2	174	G
48	A2	175	C
48	A2	181	U
48	A2	182	C
48	A2	183	G
48	A2	184	U
48	A2	185	G
48	A2	195	A
48	A2	196	G
48	A2	197	U
48	A2	201	U
48	A2	206	U
48	A2	212	C
48	A2	213	C
48	A2	214	C
48	A2	215	A
48	A2	222	G
48	A2	227	G
48	A2	228	U
48	A2	234	G
48	A2	253	G
48	A2	256	C
48	A2	260	C
48	A2	285	U
48	A2	286	G

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Mol	Chain	Res	Type
48	A2	289	A
48	A2	291	U
48	A2	300	A
48	A2	304	G
48	A2	308	G
48	A2	309	G
48	A2	310	U
48	A2	311	A
48	A2	320	C
48	A2	334	C
48	A2	341	A
48	A2	349	A
48	A2	351	U
48	A2	364	U
48	A2	367	G
48	A2	370	A
48	A2	375	U
48	A2	380	A
48	A2	381	G
48	A2	397	G
48	A2	407	G
48	A2	411	G
48	A2	425	G
48	A2	426	U
48	A2	444	G
48	A2	446	A
48	A2	448	U
48	A2	449	C
48	A2	457	A
48	A2	459	G
48	A2	460	A
48	A2	476	G
48	A2	479	C
48	A2	482	G
48	A2	492	C
48	A2	493	G
48	A2	494	G
48	A2	497	C
48	A2	498	G
48	A2	504	U
48	A2	505	C
48	A2	509	C

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Mol	Chain	Res	Type
48	A2	513	C
48	A2	515	C
48	A2	633	U
48	A2	634	C
48	A2	635	G
48	A2	638	G
48	A2	639	G
48	A2	641	G
48	A2	643	A
48	A2	649	C
48	A2	674	C
48	A2	676	G
48	A2	677	G
48	A2	678	C
48	A2	679	G
48	A2	689	G
48	A2	692	G
48	A2	693	U
48	A2	694	G
48	A2	695	C
48	A2	702	A
48	A2	720	G
48	A2	721	G
48	A2	724	A
48	A2	731	G
48	A2	733	G
48	A2	735	G
48	A2	736	G
48	A2	738	A
48	A2	739	G
48	A2	741	U
48	A2	901	U
48	A2	902	A
48	A2	903	C
48	A2	904	A
48	A2	905	G
48	A2	906	C
48	A2	909	C
48	A2	913	G
48	A2	914	G
48	A2	917	G
48	A2	918	C

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Mol	Chain	Res	Type
48	A2	919	A
48	A2	920	G
48	A2	921	C
48	A2	923	C
48	A2	924	U
48	A2	925	C
48	A2	926	G
48	A2	927	C
48	A2	929	G
48	A2	932	U
48	A2	933	C
48	A2	942	G
48	A2	943	A
48	A2	944	G
48	A2	947	A
48	A2	949	C
48	A2	950	G
48	A2	951	A
48	A2	953	A
48	A2	955	C
48	A2	956	C
48	A2	960	G
48	A2	965	G
48	A2	967	U
48	A2	969	U
48	A2	1055	C
48	A2	1058	G
48	A2	1059	C
48	A2	1065	C
48	A2	1067	C
48	A2	1084	C
48	A2	1085	U
48	A2	1087	C
48	A2	1147	G
48	A2	1149	G
48	A2	1150	C
48	A2	1152	G
48	A2	1156	G
48	A2	1159	C
48	A2	1161	G
48	A2	1162	U
48	A2	1163	C

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Mol	Chain	Res	Type
48	A2	1164	C
48	A2	1165	C
48	A2	1167	A
48	A2	1192	U
48	A2	1193	C
48	A2	1196	G
48	A2	1201	G
48	A2	1220	C
48	A2	1221	A
48	A2	1222	C
48	A2	1223	G
48	A2	1249	G
48	A2	1250	C
48	A2	1257	A
48	A2	1267	G
48	A2	1268	U
48	A2	1269	C
48	A2	1270	G
48	A2	1271	G
48	A2	1277	A
48	A2	1278	C
48	A2	1309	A
48	A2	1320	A
48	A2	1337	A
48	A2	1341	G
48	A2	1343	G
48	A2	1348	C
48	A2	1349	G
48	A2	1351	A
48	A2	1362	C
48	A2	1370	A
48	A2	1374	A
48	A2	1380	A
48	A2	1381	A
48	A2	1391	G
48	A2	1392	C
48	A2	1393	U
48	A2	1394	C
48	A2	1395	G
48	A2	1403	A
48	A2	1408	G
48	A2	1426	A

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Mol	Chain	Res	Type
48	A2	1428	U
48	A2	1430	C
48	A2	1431	G
48	A2	1432	C
48	A2	1460	C
48	A2	1463	C
48	A2	1464	G
48	A2	1465	C
48	A2	1466	G
48	A2	1467	C
48	A2	1480	G
48	A2	1483	C
48	A2	1485	A
48	A2	1499	G
48	A2	1500	A
48	A2	1501	C
48	A2	1507	A
48	A2	1516	A
48	A2	1548	C
48	A2	1560	U
48	A2	1573	U
48	A2	1578	U
48	A2	1581	A
48	A2	1589	C
48	A2	1595	A
48	A2	1606	G
48	A2	1607	G
48	A2	1613	A
48	A2	1620	A
48	A2	1623	G
48	A2	1636	G
48	A2	1643	C
48	A2	1659	U
48	A2	1678	C
48	A2	1679	G
48	A2	1702	C
48	A2	1713	C
48	A2	1721	G
48	A2	1723	G
48	A2	1737	C
48	A2	1739	U
48	A2	1745	C

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Mol	Chain	Res	Type
48	A2	1746	G
48	A2	1747	A
48	A2	1748	A
48	A2	1751	G
48	A2	1769	A
48	A2	1776	A
48	A2	1784	A
48	A2	1785	G
48	A2	1786	A
48	A2	1803	G
48	A2	1814	G
48	A2	1815	U
48	A2	1816	G
48	A2	1817	G
48	A2	1818	A
48	A2	1823	G
48	A2	1833	U
48	A2	1834	G
48	A2	1835	G
48	A2	1836	G
48	A2	1844	U
48	A2	1860	C
48	A2	1862	C
48	A2	1873	A
48	A2	1876	G
48	A2	1889	A
48	A2	1893	G
48	A2	1896	C
48	A2	1902	C
48	A2	1903	G
48	A2	1921	G
48	A2	1928	U
48	A2	1929	G
48	A2	1932	G
48	A2	1939	A
48	A2	1940	U
48	A2	1941	A
48	A2	1942	G
48	A2	1943	A
48	A2	1945	A
48	A2	1956	G
48	A2	1961	U

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Mol	Chain	Res	Type
48	A2	1963	G
48	A2	1964	A
48	A2	1965	A
48	A2	1968	C
48	A2	1972	A
48	A2	1973	U
48	A2	1978	U
48	A2	1980	A
48	A2	1983	A
48	A2	1984	G
48	A2	2004	C
48	A2	2005	G
48	A2	2006	A
48	A2	2007	A
48	A2	2008	U
48	A2	2011	A
48	A2	2025	U
48	A2	2029	U
48	A2	2037	G
48	A2	2044	G
48	A2	2050	A
48	A2	2057	G
48	A2	2246	U
48	A2	2247	A
48	A2	2279	A
48	A2	2280	G
48	A2	2285	G
48	A2	2301	G
48	A2	2312	G
48	A2	2324	G
48	A2	2327	G
48	A2	2330	C
48	A2	2331	U
48	A2	2339	A
48	A2	2340	G
48	A2	2356	C
48	A2	2357	G
48	A2	2358	A
48	A2	2373	G
48	A2	2374	A
48	A2	2377	U
48	A2	2385	G

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Mol	Chain	Res	Type
48	A2	2389	C
48	A2	2400	G
48	A2	2401	C
48	A2	2419	U
48	A2	2423	U
48	A2	2426	U
48	A2	2429	G
48	A2	2449	C
48	A2	2450	G
48	A2	2467	C
48	A2	2468	C
48	A2	2469	U
48	A2	2482	G
48	A2	2485	G
48	A2	2486	A
48	A2	2490	A
48	A2	2492	A
48	A2	2498	U
48	A2	2515	A
48	A2	2516	A
48	A2	2522	A
48	A2	2523	G
48	A2	2524	U
48	A2	2525	G
48	A2	2528	G
48	A2	2531	G
48	A2	2534	G
48	A2	2565	G
48	A2	2580	A
48	A2	2584	G
48	A2	2595	C
48	A2	2606	C
48	A2	2619	G
48	A2	2620	A
48	A2	2632	C
48	A2	2637	G
48	A2	2638	A
48	A2	2639	A
48	A2	2648	C
48	A2	2651	C
48	A2	2665	G
48	A2	2666	U

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Mol	Chain	Res	Type
48	A2	2667	G
48	A2	2673	G
48	A2	2675	A
48	A2	2676	A
48	A2	2683	C
48	A2	2684	G
48	A2	2690	G
48	A2	2691	G
48	A2	2700	G
48	A2	2704	A
48	A2	2705	G
48	A2	2706	C
48	A2	2713	U
48	A2	2719	U
48	A2	2720	U
48	A2	2723	A
48	A2	2739	G
48	A2	2741	G
48	A2	2742	U
48	A2	2744	A
48	A2	2751	C
48	A2	2755	G
48	A2	2766	A
48	A2	2767	U
48	A2	2769	U
48	A2	2773	C
48	A2	2776	C
48	A2	2785	A
48	A2	2786	A
48	A2	2805	U
48	A2	2806	G
48	A2	2834	G
48	A2	2852	U
48	A2	2853	U
48	A2	2854	C
48	A2	2859	U
48	A2	2870	U
48	A2	2871	C
48	A2	2880	G
48	A2	3572	C
48	A2	3577	U
48	A2	3586	G

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Mol	Chain	Res	Type
48	A2	3587	U
48	A2	3591	G
48	A2	3595	A
48	A2	3596	G
48	A2	3606	A
48	A2	3624	A
48	A2	3633	A
48	A2	3645	G
48	A2	3657	G
48	A2	3663	A
48	A2	3681	G
48	A2	3683	A
48	A2	3688	A
48	A2	3694	A
48	A2	3699	A
48	A2	3707	A
48	A2	3711	G
48	A2	3719	A
48	A2	3724	G
48	A2	3731	A
48	A2	3733	U
48	A2	3741	U
48	A2	3748	G
48	A2	3751	G
48	A2	3754	A
48	A2	3781	C
48	A2	3782	G
48	A2	3785	U
48	A2	3788	A
48	A2	3789	U
48	A2	3795	A
48	A2	3797	C
48	A2	3798	G
48	A2	3799	A
48	A2	3811	U
48	A2	3813	C
48	A2	3814	C
48	A2	3825	C
48	A2	3838	A
48	A2	3847	A
48	A2	3848	A
48	A2	3850	G

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Mol	Chain	Res	Type
48	A2	3852	G
48	A2	3860	G
48	A2	3866	G
48	A2	3872	A
48	A2	3875	G
48	A2	3876	A
48	A2	3878	G
48	A2	3879	A
48	A2	3886	U
48	A2	3889	G
48	A2	3890	C
48	A2	3909	G
48	A2	3926	G
48	A2	3927	G
48	A2	3928	U
48	A2	3935	U
48	A2	3936	A
48	A2	3943	A
48	A2	3944	G
48	A2	4015	G
48	A2	4019	U
48	A2	4020	A
48	A2	4025	U
48	A2	4026	A
48	A2	4027	C
48	A2	4029	C
48	A2	4033	U
48	A2	4035	G
48	A2	4046	G
48	A2	4065	G
48	A2	4066	C
48	A2	4067	G
48	A2	4068	A
48	A2	4073	G
48	A2	4074	A
48	A2	4076	G
48	A2	4078	G
48	A2	4079	C
48	A2	4081	C
48	A2	4087	U
48	A2	4088	C
48	A2	4089	U

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Mol	Chain	Res	Type
48	A2	4105	C
48	A2	4106	C
48	A2	4108	G
48	A2	4109	G
48	A2	4110	C
48	A2	4118	G
48	A2	4120	C
48	A2	4126	C
48	A2	4132	A
48	A2	4133	C
48	A2	4145	G
48	A2	4146	G
48	A2	4153	G
48	A2	4157	G
48	A2	4159	G
48	A2	4165	A
48	A2	4176	A
48	A2	4191	U
48	A2	4195	A
48	A2	4213	A
48	A2	4216	G
48	A2	4228	G
48	A2	4230	A
48	A2	4234	G
48	A2	4235	A
48	A2	4242	A
48	A2	4243	A
48	A2	4252	U
48	A2	4253	G
48	A2	4266	A
48	A2	4267	G
48	A2	4276	C
48	A2	4291	G
48	A2	4292	G
48	A2	4294	C
48	A2	4301	A
48	A2	4307	C
48	A2	4316	U
48	A2	4332	G
48	A2	4333	G
48	A2	4334	U
48	A2	4338	A

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Mol	Chain	Res	Type
48	A2	4339	G
48	A2	4340	A
48	A2	4341	A
48	A2	4342	A
48	A2	4349	C
48	A2	4356	A
48	A2	4360	C
48	A2	4361	U
48	A2	4382	U
48	A2	4384	A
48	A2	4386	A
48	A2	4399	U
48	A2	4426	A
48	A2	4428	C
48	A2	4436	A
48	A2	4437	G
48	A2	4438	C
48	A2	4439	A
48	A2	4448	C
48	A2	4459	U
48	A2	4462	U
48	A2	4474	U
48	A2	4475	A
48	A2	4477	G
48	A2	4481	C
48	A2	4482	G
48	A2	4485	A
48	A2	4486	G
48	A2	4502	C
48	A2	4510	A
48	A2	4545	C
48	A2	4546	A
48	A2	4551	A
48	A2	4552	A
48	A2	4570	G
48	A2	4579	G
48	A2	4589	U
48	A2	4596	U
48	A2	4598	U
48	A2	4599	G
48	A2	4614	G
48	A2	4618	A

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Mol	Chain	Res	Type
48	A2	4620	G
48	A2	4621	G
48	A2	4632	C
48	A2	4633	C
48	A2	4640	G
48	A2	4641	G
48	A2	4662	A
48	A2	4679	A
48	A2	4693	G
48	A2	4694	G
48	A2	4695	C
48	A2	4696	A
48	A2	4697	G
48	A2	4700	C
48	A2	4702	G
48	A2	4703	C
48	A2	4704	G
48	A2	4705	G
48	A2	4714	U
48	A2	4715	U
48	A2	4726	A
48	A2	4730	G
48	A2	4731	G
48	A2	4732	U
48	A2	4826	G
48	A2	4827	U
48	A2	4828	G
48	A2	4829	C
48	A2	4831	G
48	A2	4832	A
48	A2	4833	G
48	A2	4834	U
48	A2	4840	U
48	A2	4841	C
48	A2	4847	G
48	A2	4852	A
48	A2	4853	C
48	A2	4854	G
48	A2	4855	G
48	A2	4856	G
48	A2	4858	C
48	A2	4859	G

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Mol	Chain	Res	Type
48	A2	4861	G
48	A2	4865	G
48	A2	4866	G
48	A2	4867	A
48	A2	4868	A
48	A2	4869	A
48	A2	4870	G
48	A2	4871	G
48	A2	4880	C
48	A2	4882	C
48	A2	4885	G
48	A2	4886	C
48	A2	4887	C
48	A2	4888	C
48	A2	4895	C
48	A2	4899	G
48	A2	4902	C
48	A2	4907	G
48	A2	4908	U
48	A2	4909	G
48	A2	4910	G
48	A2	4934	U
48	A2	4937	A
48	A2	4947	U
48	A2	4950	G
48	A2	4971	C
48	A2	4975	G
48	A2	4977	A
48	A2	4982	C
48	A2	4984	U
48	A2	4985	C
48	A2	4986	G
48	A2	4989	G
48	A2	4999	G
48	A2	5008	C
48	A2	5011	U
48	A2	5012	C
48	A2	5016	A
48	A2	5019	A
48	A2	5020	G
48	A2	5023	U
48	A2	5026	G

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Mol	Chain	Res	Type
48	A2	5028	C
49	B1	4	C
49	B1	17	C
49	B1	33	G
49	B1	41	G
49	B1	44	U
49	B1	46	A
49	B1	67	C
49	B1	71	G
49	B1	72	C
49	B1	73	C
49	B1	75	G
49	B1	76	U
49	B1	77	A
49	B1	78	C
49	B1	103	A
49	B1	113	G
49	B1	114	G
49	B1	115	U
49	B1	142	C
49	B1	143	U
49	B1	146	G
49	B1	155	G
49	B1	157	U
49	B1	158	A
49	B1	161	U
49	B1	162	C
49	B1	170	A
49	B1	172	U
49	B1	174	C
49	B1	175	A
49	B1	181	A
49	B1	183	G
49	B1	209	A
49	B1	211	G
49	B1	228	C
49	B1	229	A
49	B1	230	A
49	B1	283	G
49	B1	284	C
49	B1	285	U
49	B1	286	U

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Mol	Chain	Res	Type
49	B1	287	U
49	B1	292	A
49	B1	296	U
49	B1	306	C
49	B1	313	A
49	B1	314	U
49	B1	315	C
49	B1	318	A
49	B1	325	C
49	B1	327	G
49	B1	328	U
49	B1	329	G
49	B1	331	C
49	B1	332	G
49	B1	333	G
49	B1	363	A
49	B1	364	A
49	B1	370	G
49	B1	385	G
49	B1	386	C
49	B1	391	C
49	B1	407	G
49	B1	408	A
49	B1	409	C
49	B1	417	C
49	B1	426	A
49	B1	427	U
49	B1	439	A
49	B1	448	A
49	B1	450	C
49	B1	463	C
49	B1	464	A
49	B1	465	A
49	B1	466	G
49	B1	469	A
49	B1	472	C
49	B1	476	A
49	B1	482	G
49	B1	485	A
49	B1	486	A
49	B1	487	U
49	B1	489	A

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Mol	Chain	Res	Type
49	B1	492	C
49	B1	493	A
49	B1	509	G
49	B1	522	A
49	B1	525	A
49	B1	526	A
49	B1	529	A
49	B1	533	A
49	B1	536	A
49	B1	541	U
49	B1	542	U
49	B1	544	G
49	B1	545	A
49	B1	546	G
49	B1	547	G
49	B1	548	C
49	B1	554	A
49	B1	559	G
49	B1	560	A
49	B1	561	A
49	B1	562	U
49	B1	563	G
49	B1	588	G
49	B1	590	A
49	B1	591	U
49	B1	592	C
49	B1	605	A
49	B1	606	G
49	B1	607	U
49	B1	608	C
49	B1	614	C
49	B1	629	A
49	B1	630	U
49	B1	635	G
49	B1	636	C
49	B1	643	A
49	B1	644	G
49	B1	645	C
49	B1	651	U
49	B1	660	C
49	B1	668	A
49	B1	669	A

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Mol	Chain	Res	Type
49	B1	671	A
49	B1	672	A
49	B1	673	G
49	B1	675	U
49	B1	681	U
49	B1	684	G
49	B1	696	G
49	B1	748	C
49	B1	750	C
49	B1	797	C
49	B1	798	G
49	B1	800	U
49	B1	808	A
49	B1	834	C
49	B1	847	A
49	B1	858	A
49	B1	869	A
49	B1	870	A
49	B1	911	C
49	B1	913	A
49	B1	914	U
49	B1	916	A
49	B1	917	U
49	B1	919	A
49	B1	920	A
49	B1	925	G
49	B1	929	G
49	B1	933	G
49	B1	943	U
49	B1	956	G
49	B1	960	U
49	B1	969	U
49	B1	987	A
49	B1	989	C
49	B1	990	A
49	B1	1001	A
49	B1	1008	A
49	B1	1025	U
49	B1	1044	G
49	B1	1045	U
49	B1	1048	G
49	B1	1055	A

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Mol	Chain	Res	Type
49	B1	1061	U
49	B1	1066	U
49	B1	1083	A
49	B1	1085	C
49	B1	1109	C
49	B1	1110	G
49	B1	1114	U
49	B1	1115	U
49	B1	1116	C
49	B1	1117	C
49	B1	1119	A
49	B1	1120	U
49	B1	1121	G
49	B1	1123	C
49	B1	1139	C
49	B1	1140	G
49	B1	1148	A
49	B1	1149	A
49	B1	1150	A
49	B1	1199	A
49	B1	1207	G
49	B1	1215	C
49	B1	1224	G
49	B1	1242	U
49	B1	1243	U
49	B1	1251	A
49	B1	1256	G
49	B1	1257	G
49	B1	1258	A
49	B1	1259	A
49	B1	1261	C
49	B1	1274	G
49	B1	1275	G
49	B1	1286	G
49	B1	1288	U
49	B1	1301	A
49	B1	1302	G
49	B1	1303	C
49	B1	1311	C
49	B1	1330	G
49	B1	1332	A
49	B1	1344	A

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Mol	Chain	Res	Type
49	B1	1345	G
49	B1	1348	G
49	B1	1354	G
49	B1	1371	U
49	B1	1372	U
49	B1	1378	A
49	B1	1380	C
49	B1	1381	G
49	B1	1396	A
49	B1	1399	C
49	B1	1409	A
49	B1	1411	G
49	B1	1416	C
49	B1	1418	C
49	B1	1419	C
49	B1	1420	G
49	B1	1439	A
49	B1	1442	U
49	B1	1462	U
49	B1	1463	U
49	B1	1476	A
49	B1	1477	U
49	B1	1478	U
49	B1	1489	A
49	B1	1495	G
49	B1	1498	A
49	B1	1519	U
49	B1	1520	G
49	B1	1521	C
49	B1	1522	A
49	B1	1525	C
49	B1	1531	A
49	B1	1533	A
49	B1	1543	U
49	B1	1548	G
49	B1	1551	U
49	B1	1580	A
49	B1	1586	U
49	B1	1601	A
49	B1	1602	U
49	B1	1604	G
49	B1	1606	G

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Mol	Chain	Res	Type
49	B1	1620	A
49	B1	1622	U
49	B1	1623	A
49	B1	1638	G
49	B1	1654	G
49	B1	1660	C
49	B1	1661	A
49	B1	1662	U
49	B1	1663	A
49	B1	1665	G
49	B1	1668	U
49	B1	1671	G
49	B1	1673	U
49	B1	1683	C
49	B1	1721	U
49	B1	1742	C
49	B1	1751	C
49	B1	1757	G
49	B1	1776	G
49	B1	1780	G
49	B1	1782	G
49	B1	1793	A
49	B1	1829	G
49	B1	1831	A
49	B1	1834	A
49	B1	1835	A
49	B1	1838	U
49	B1	1839	U
49	B1	1841	C
49	B1	1849	G
49	B1	1851	A
49	B1	1852	C
49	B1	1861	G
49	B1	1862	G
49	B1	1864	U
49	B1	1865	C
49	B1	1866	A
49	B1	1867	U
49	B1	1869	A
83	Bv	2	C
83	Bv	7	A
83	Bv	8	U

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Mol	Chain	Res	Type
83	Bv	9	A
83	Bv	11	C
83	Bv	13	C
83	Bv	17	C
83	Bv	18	G
83	Bv	19	G
83	Bv	20	U
83	Bv	24	G
83	Bv	25	C
83	Bv	26	A
83	Bv	31	A
83	Bv	33	U
83	Bv	37	A
83	Bv	38	A
83	Bv	39	U
83	Bv	41	C
83	Bv	42	C
83	Bv	43	C
83	Bv	44	G
83	Bv	45	U
83	Bv	46	G
83	Bv	48	C
83	Bv	51	U
83	Bv	53	G
83	Bv	54	U
83	Bv	58	A
83	Bv	60	U
83	Bv	61	C
83	Bv	63	G
83	Bv	66	U
83	Bv	69	G
83	Bv	71	G
83	Bv	72	C
83	Bv	75	C
83	Bv	76	A
83	Bw	2	C
83	Bw	3	C
83	Bw	5	G
83	Bw	6	G
83	Bw	7	A
83	Bw	9	A
83	Bw	10	G

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Mol	Chain	Res	Type
83	Bw	16	U
83	Bw	17	C
83	Bw	18	G
83	Bw	19	G
83	Bw	20	U
83	Bw	21	A
83	Bw	26	A
83	Bw	32	U
83	Bw	36	A
83	Bw	40	C
83	Bw	41	C
83	Bw	46	G
83	Bw	47	U
83	Bw	48	C
83	Bw	50	U
83	Bw	52	G
83	Bw	53	G
83	Bw	54	U
83	Bw	55	U
83	Bw	58	A
83	Bw	59	U
83	Bw	65	G
83	Bw	66	U
83	Bw	68	C
83	Bw	71	G
83	Bw	75	C
83	Bw	76	A
84	Bx	35	U
84	Bx	36	U
84	Bx	37	U
84	Bx	38	U
84	Bx	39	U
84	Bx	40	U
84	Bx	41	U
84	Bx	42	U
84	Bx	49	U
84	Bx	51	U
84	Bx	52	U
84	Bx	53	U
84	Bx	54	U
84	Bx	55	U
84	Bx	56	U

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Mol	Chain	Res	Type
84	Bx	57	U
84	Bx	58	U
84	Bx	61	U

All (72) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A3	34	U
1	A3	81	C
1	A3	108	A
1	A3	110	U
2	A4	13	A
48	A2	31	U
48	A2	70	A
48	A2	71	C
48	A2	84	A
48	A2	135	G
48	A2	227	G
48	A2	229	G
48	A2	230	U
48	A2	309	G
48	A2	738	A
48	A2	740	G
48	A2	901	U
48	A2	902	A
48	A2	958	U
48	A2	959	C
48	A2	1161	G
48	A2	1162	U
48	A2	1342	G
48	A2	1379	G
48	A2	1402	G
48	A2	1500	A
48	A2	1559	G
48	A2	1785	G
48	A2	1816	G
48	A2	1943	A
48	A2	2005	G
48	A2	2006	A
48	A2	2485	G
48	A2	2508	A
48	A2	2684	G

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Mol	Chain	Res	Type
48	A2	2743	A
48	A2	3595	A
48	A2	3798	G
48	A2	3799	A
48	A2	3814	C
48	A2	4026	A
48	A2	4107	C
48	A2	4242	A
48	A2	4596	U
48	A2	4597	A
48	A2	4661	U
48	A2	4714	U
48	A2	4828	G
48	A2	4832	A
48	A2	4865	G
48	A2	4870	G
48	A2	4907	G
48	A2	4946	U
49	B1	180	G
49	B1	226	A
49	B1	227	U
49	B1	229	A
49	B1	283	G
49	B1	286	U
49	B1	369	C
49	B1	546	G
49	B1	547	G
49	B1	560	A
49	B1	561	A
49	B1	683	G
49	B1	797	C
49	B1	869	A
49	B1	1287	A
49	B1	1289	U
49	B1	1398	G
49	B1	1555	U
49	B1	1756	C

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 331 ligands modelled in this entry, 331 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
49	B1	8
48	A2	5

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B1	842:C	O3'	843:C	P	1.85
1	B1	558:G	O3'	559:G	P	1.84
1	B1	497:C	O3'	498:C	P	1.83
1	B1	72:C	O3'	73:C	P	1.82
1	B1	1253:A	O3'	1254:C	P	1.82
1	A2	1716:G	O3'	1717:U	P	1.80
1	B1	1420:G	O3'	1421:A	P	1.80
1	A2	1057:G	O3'	1058:G	P	1.76
1	A2	1249:G	O3'	1250:C	P	1.76
1	B1	683:G	O3'	684:G	P	1.76
1	B1	351:G	O3'	352:U	P	1.75

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A2	2689:C	O3'	2690:G	P	1.37
1	A2	3612:U	O3'	3613:A	P	1.35