



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 06:43 AM GMT

PDB ID : 2XWJ  
Title : Crystal Structure of Complement C3b in Complex with Factor B  
Authors : Forneris, F.; Ricklin, D.; Wu, J.; Tzekou, A.; Wallace, R.S.; Lambris, J.D.; Gros, P.  
Deposited on : 2010-11-04  
Resolution : 4.00 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at  
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

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The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.7 (RC4), CSD as536be (2015)  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20026688  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
Refmac : 5.8.0135  
CCP4 : 6.5.0  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk26865

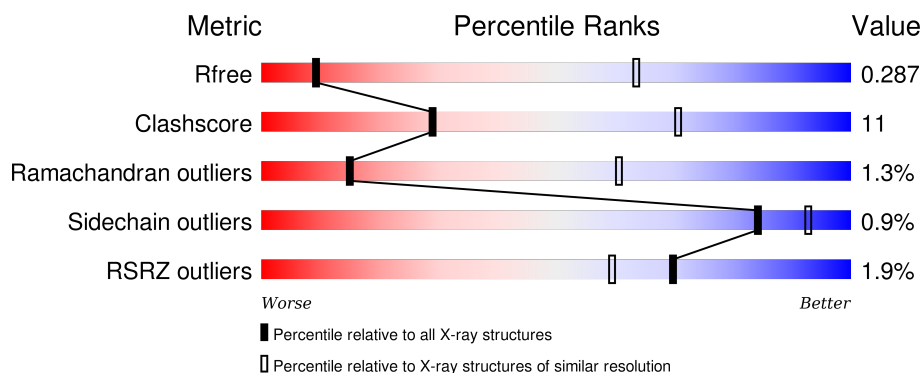
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 4.00 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)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	91344	1010 (4.42-3.56)
Clashscore	102246	1052 (4.40-3.60)
Ramachandran outliers	100387	1005 (4.40-3.60)
Sidechain outliers	100360	1013 (4.42-3.58)
RSRZ outliers	91569	1013 (4.42-3.56)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	645	<div> <div>2%</div> <div> <div></div> <div>73%</div> <div>25%</div> <div>..</div> </div> </div>
1	C	645	<div> <div>2%</div> <div> <div></div> <div>74%</div> <div>25%</div> <div>.</div> </div> </div>
1	E	645	<div> <div>3%</div> <div> <div></div> <div>73%</div> <div>26%</div> <div>.</div> </div> </div>
1	G	645	<div> <div>4%</div> <div> <div></div> <div>73%</div> <div>25%</div> <div>..</div> </div> </div>
2	B	915	<div> <div>%</div> <div> <div></div> <div>72%</div> <div>26%</div> <div>..</div> </div> </div>

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Mol	Chain	Length	Quality of chain	
2	D	915		..
2	F	915		..
2	H	915		..
3	I	741		..
3	J	741		..
3	K	741		..
3	L	741		.

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
4	NAG	D	1917	-	-	-	X

## 2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 71260 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 protein called COMPLEMENT C3 BETA CHAIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	640	Total	C	N	O	S	0	0	0
			4992	3179	846	952	15			
1	C	640	Total	C	N	O	S	0	0	0
			4992	3179	846	952	15			
1	E	640	Total	C	N	O	S	0	0	0
			4992	3179	846	952	15			
1	G	640	Total	C	N	O	S	0	0	0
			4992	3179	846	952	15			

- Molecule 2 is a protein called COMPLEMENT C3 ALPHA CHAIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	901	Total	C	N	O	S	0	0	0
			7197	4563	1210	1386	38			
2	D	901	Total	C	N	O	S	0	0	0
			7197	4563	1210	1386	38			
2	F	901	Total	C	N	O	S	0	0	0
			7197	4563	1210	1386	38			
2	H	901	Total	C	N	O	S	0	0	0
			7197	4563	1210	1386	38			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	991	GLU	GLN	ENGINEERED MUTATION	UNP P01024
D	991	GLU	GLN	ENGINEERED MUTATION	UNP P01024
F	991	GLU	GLN	ENGINEERED MUTATION	UNP P01024
H	991	GLU	GLN	ENGINEERED MUTATION	UNP P01024

- Molecule 3 is a protein called COMPLEMENT FACTOR B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	I	712	Total	C	N	O	S	0	0	0
			5593	3514	970	1076	33			
3	J	713	Total	C	N	O	S	0	0	0
			5596	3514	971	1078	33			
3	K	713	Total	C	N	O	S	0	0	0
			5603	3519	971	1080	33			
3	L	711	Total	C	N	O	S	0	0	0
			5588	3511	969	1075	33			

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	740	ALA	-	EXPRESSION TAG	UNP P00751
I	741	ALA	-	EXPRESSION TAG	UNP P00751
I	254	GLY	ASP	ENGINEERED MUTATION	UNP P00751
I	260	ASP	ASN	ENGINEERED MUTATION	UNP P00751
J	740	ALA	-	EXPRESSION TAG	UNP P00751
J	741	ALA	-	EXPRESSION TAG	UNP P00751
J	254	GLY	ASP	ENGINEERED MUTATION	UNP P00751
J	260	ASP	ASN	ENGINEERED MUTATION	UNP P00751
K	740	ALA	-	EXPRESSION TAG	UNP P00751
K	741	ALA	-	EXPRESSION TAG	UNP P00751
K	254	GLY	ASP	ENGINEERED MUTATION	UNP P00751
K	260	ASP	ASN	ENGINEERED MUTATION	UNP P00751
L	740	ALA	-	EXPRESSION TAG	UNP P00751
L	741	ALA	-	EXPRESSION TAG	UNP P00751
L	254	GLY	ASP	ENGINEERED MUTATION	UNP P00751
L	260	ASP	ASN	ENGINEERED MUTATION	UNP P00751

- Molecule 4 is SUGAR (N-ACETYL-D-GLUCOSAMINE) (three-letter code: NAG) (formula: C<sub>8</sub>H<sub>15</sub>NO<sub>6</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	B	1	Total	C	N	O	0	0
			14	8	1	5		
4	D	1	Total	C	N	O	0	0
			14	8	1	5		
4	F	1	Total	C	N	O	0	0
			14	8	1	5		
4	H	1	Total	C	N	O	0	0
			14	8	1	5		
4	I	1	Total	C	N	O	0	0
			14	8	1	5		
4	J	1	Total	C	N	O	0	0
			14	8	1	5		
4	K	1	Total	C	N	O	0	0
			14	8	1	5		
4	L	1	Total	C	N	O	0	0
			14	8	1	5		

- Molecule 5 is NICKEL (II) ION (three-letter code: NI) (formula: Ni).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	J	1	Total	Ni	0	0
			1	1		
5	I	1	Total	Ni	0	0
			1	1		
5	L	1	Total	Ni	0	0
			1	1		
5	K	1	Total	Ni	0	0
			1	1		

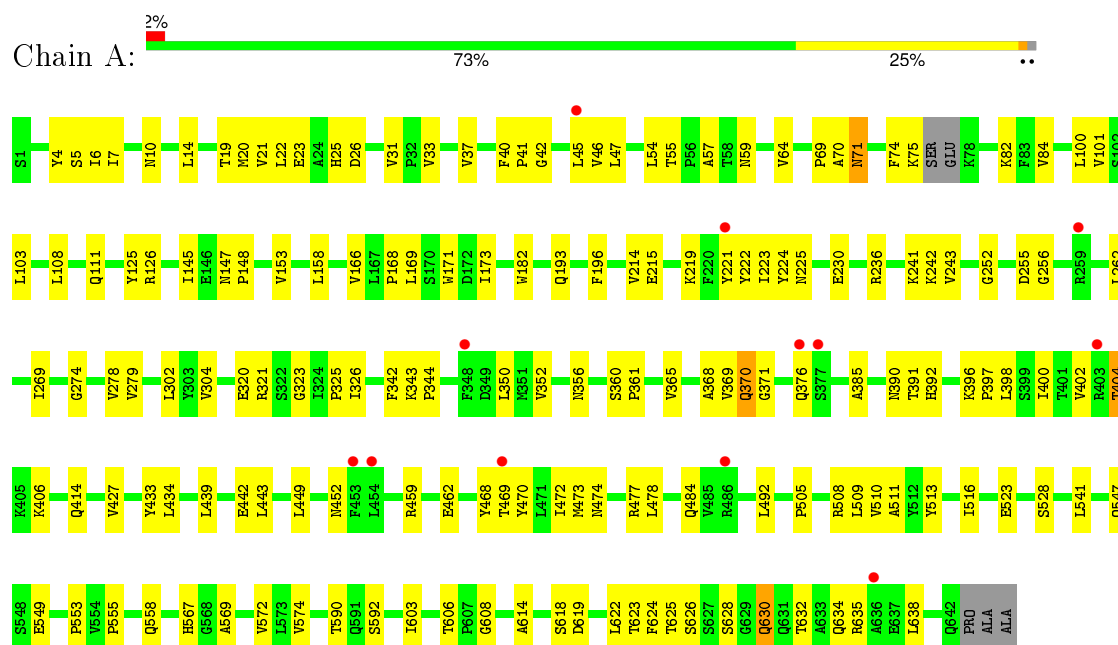
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	K	1	Total 1	O 1	0	0
6	I	2	Total 2	O 2	0	0
6	J	2	Total 2	O 2	0	0
6	K	1	Total 1	O 1	0	0
6	L	2	Total 2	O 2	0	0

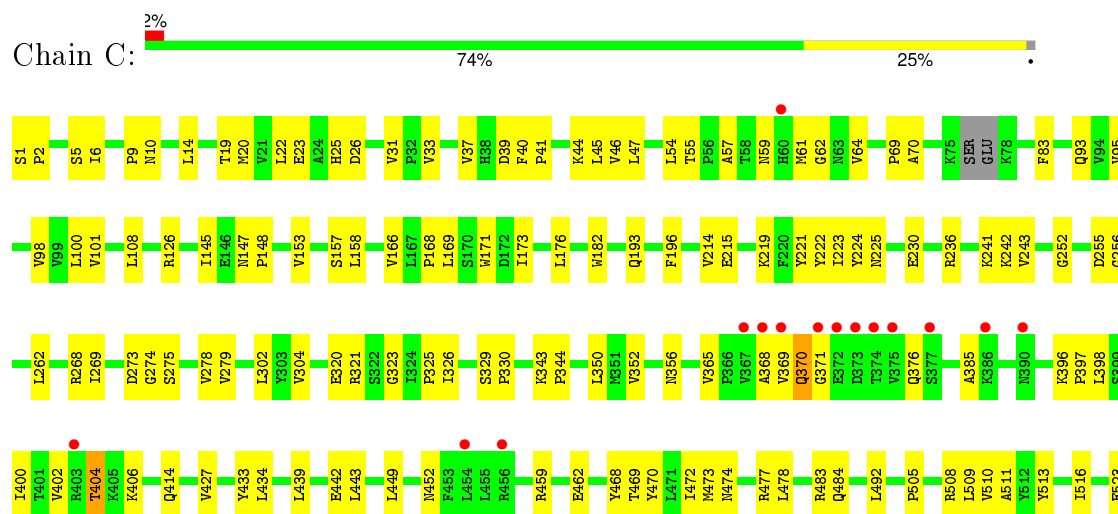
### 3 Residue-property plots

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 and electron density. 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. A red dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). 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.

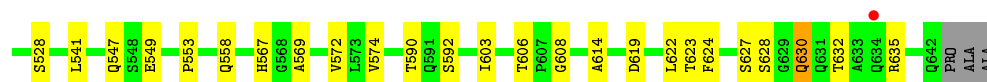
#### • Molecule 1: COMPLEMENT C3 BETA CHAIN



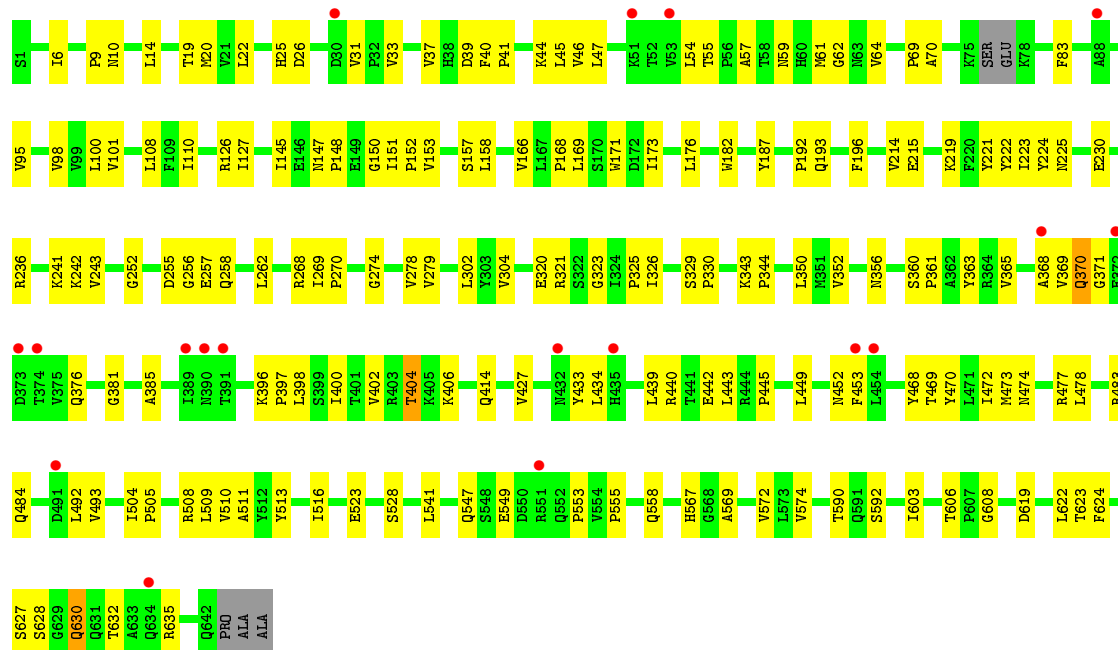
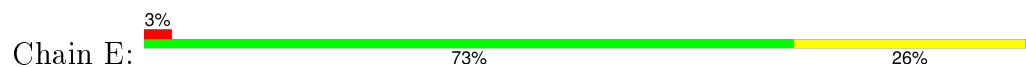
#### • Molecule 1: COMPLEMENT C3 BETA CHAIN



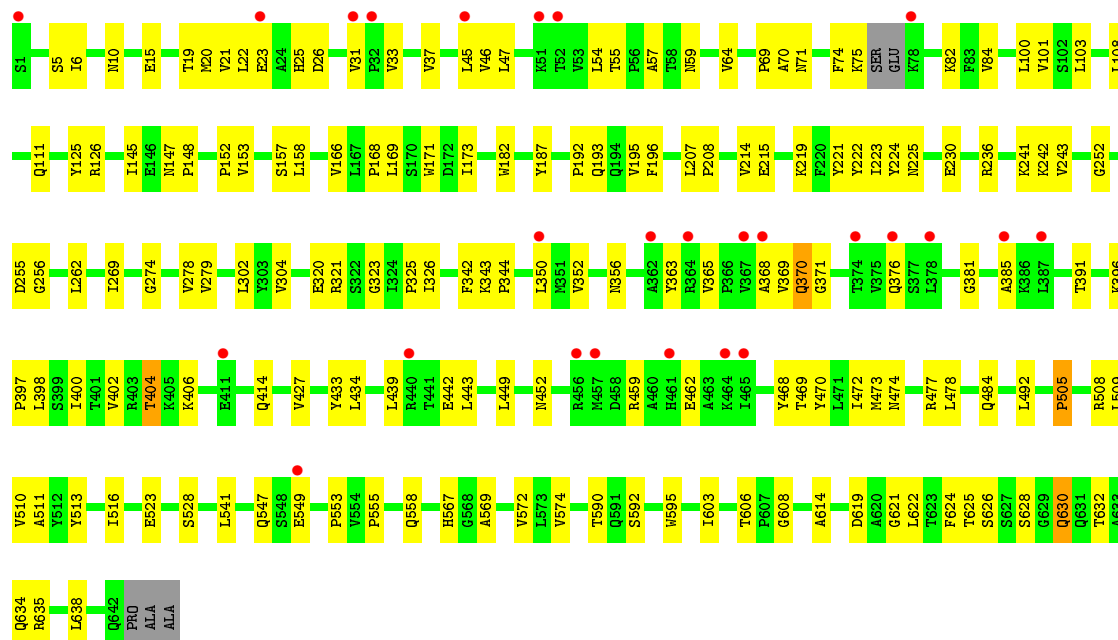
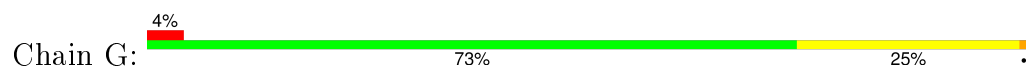




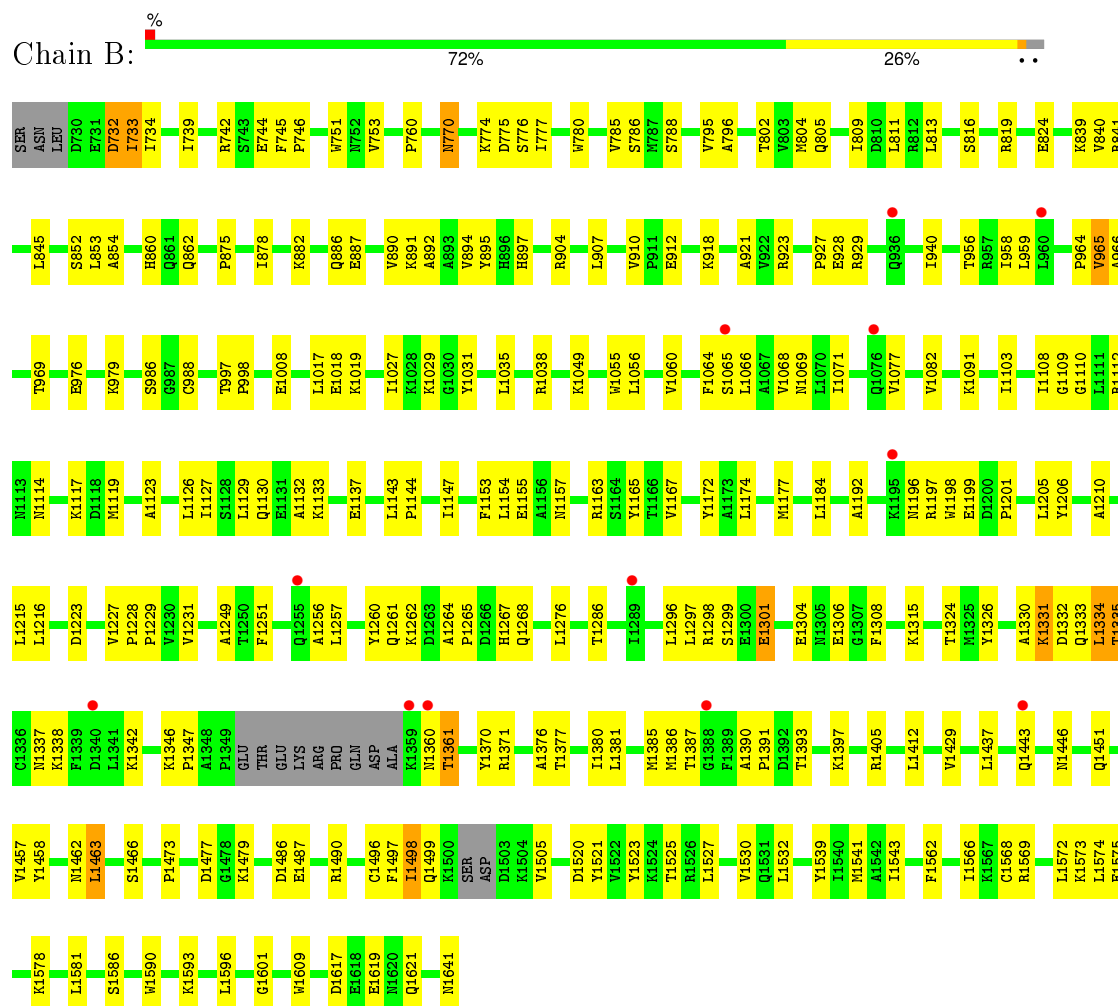
• Molecule 1: COMPLEMENT C3 BETA CHAIN



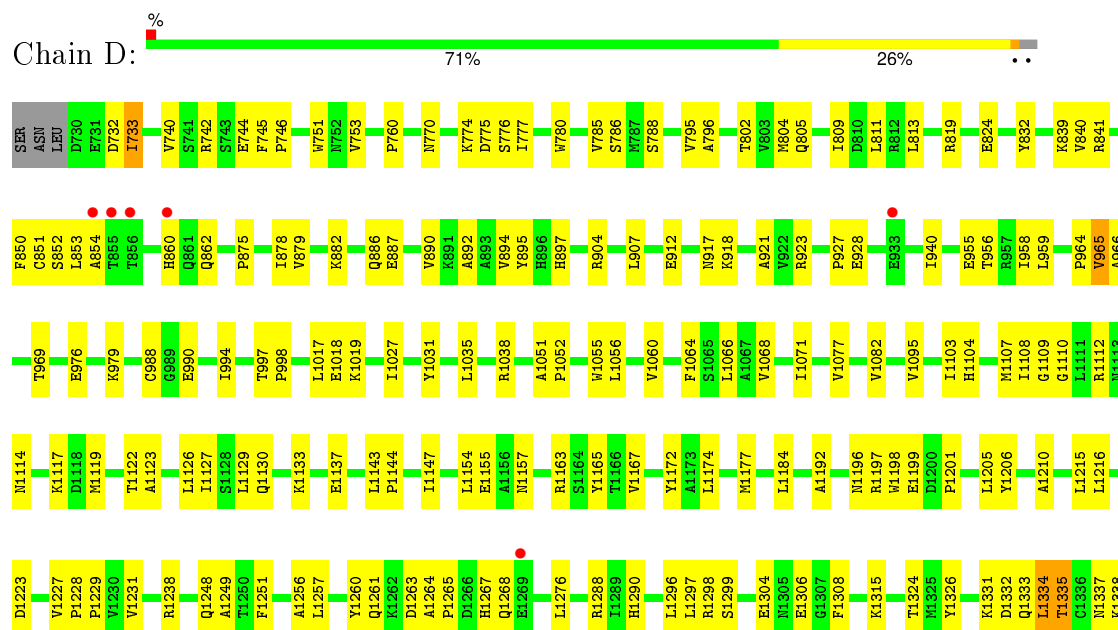
• Molecule 1: COMPLEMENT C3 BETA CHAIN

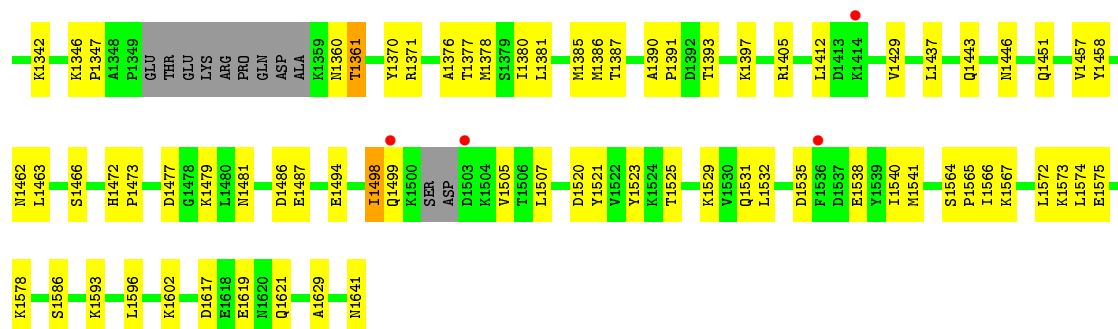


• Molecule 2: COMPLEMENT C3 ALPHA CHAIN

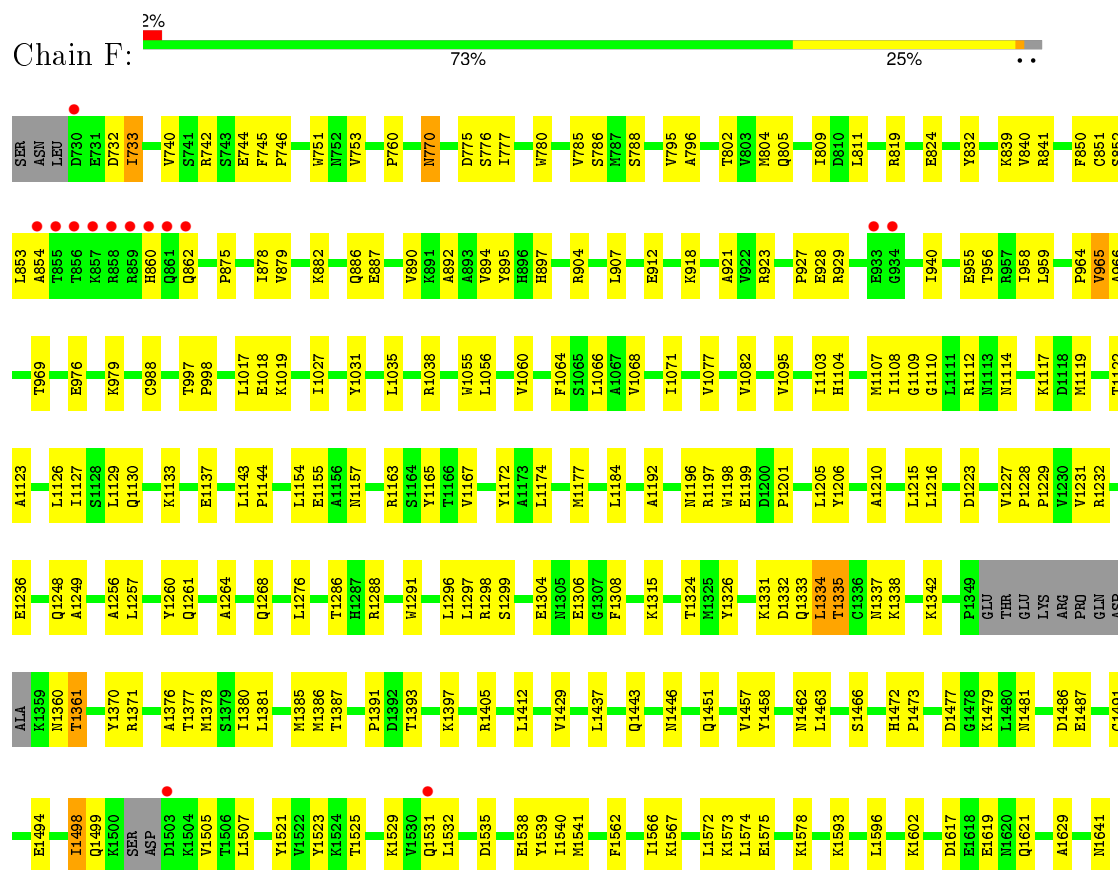


- Molecule 2: COMPLEMENT C3 ALPHA CHAIN

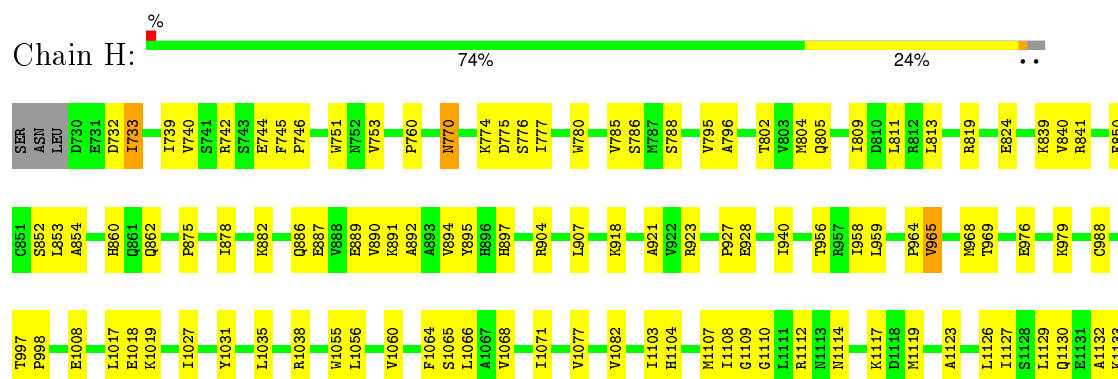


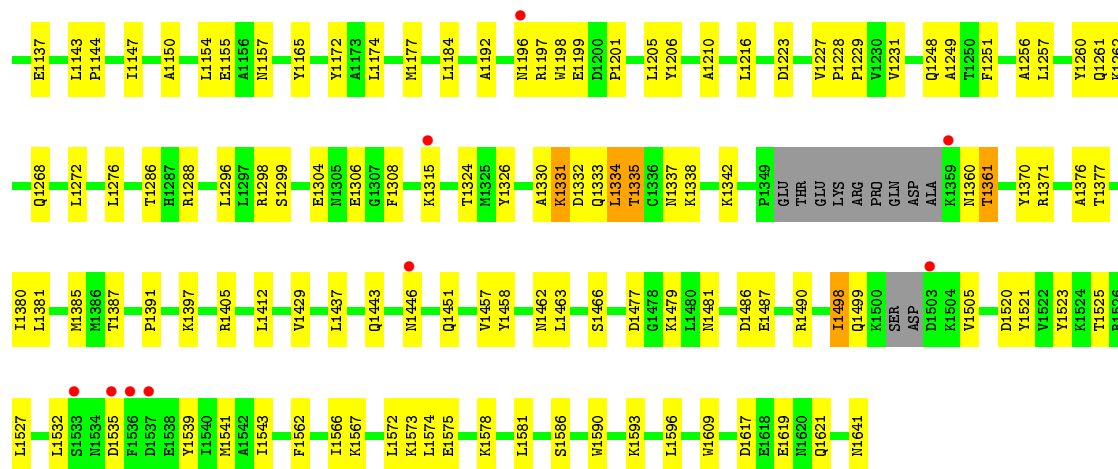


• Molecule 2: COMPLEMENT C3 ALPHA CHAIN

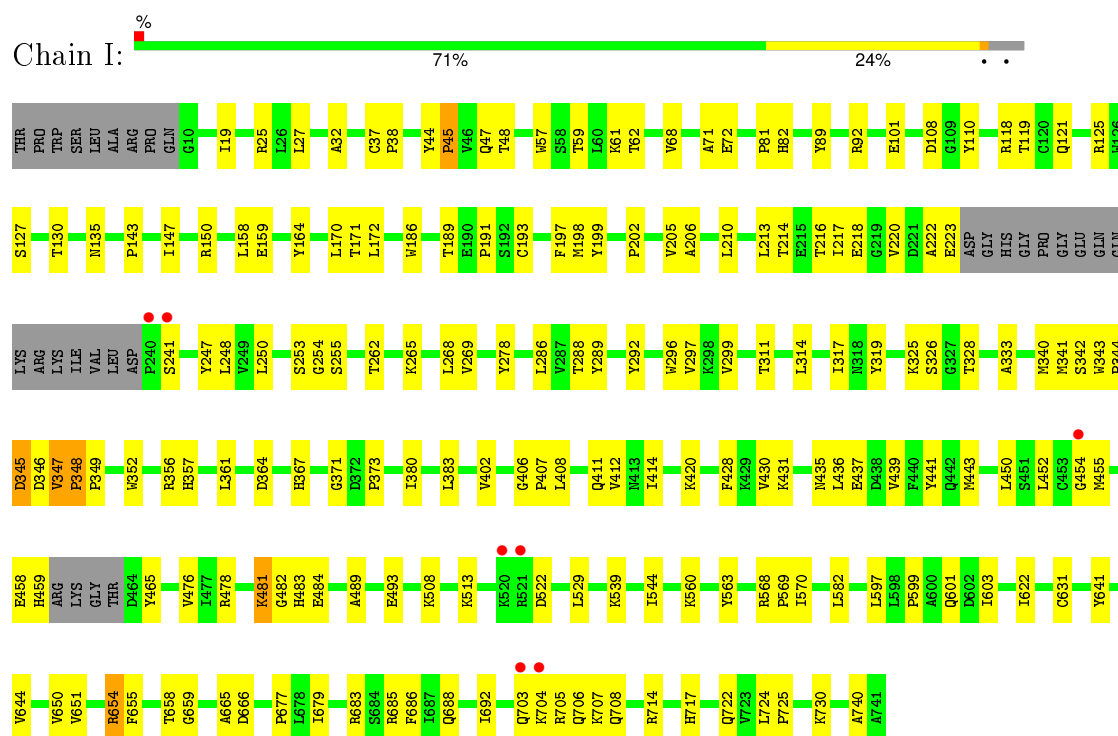


• Molecule 2: COMPLEMENT C3 ALPHA CHAIN

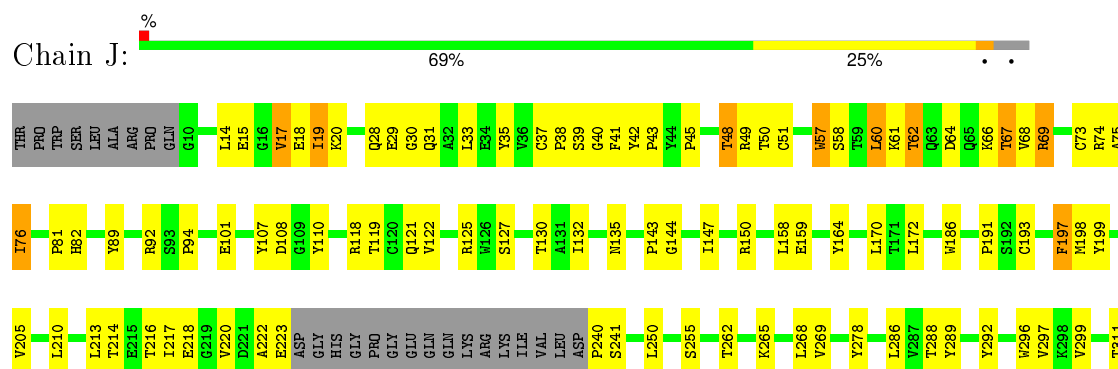


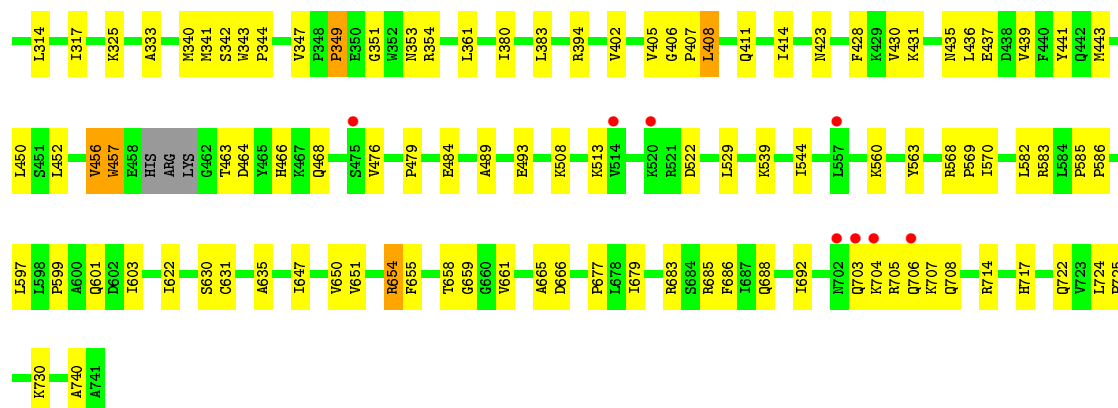


### • Molecule 3: COMPLEMENT FACTOR B



### • Molecule 3: COMPLEMENT FACTOR B

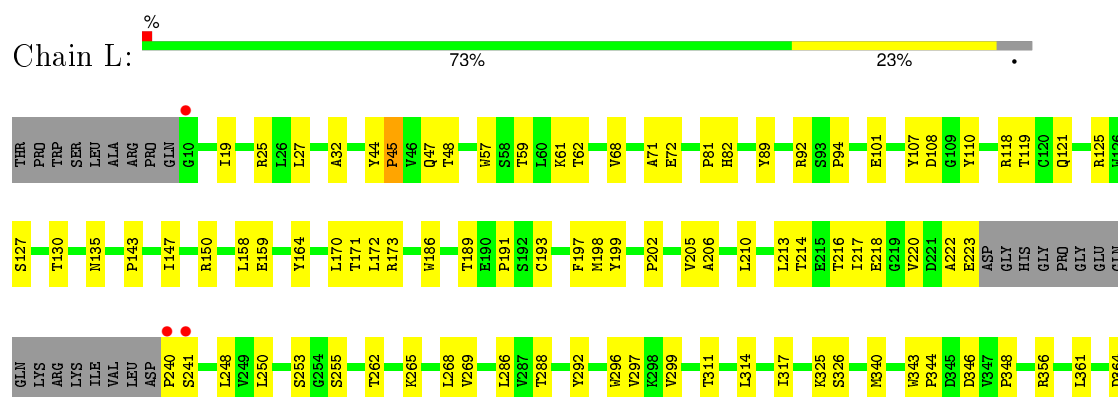


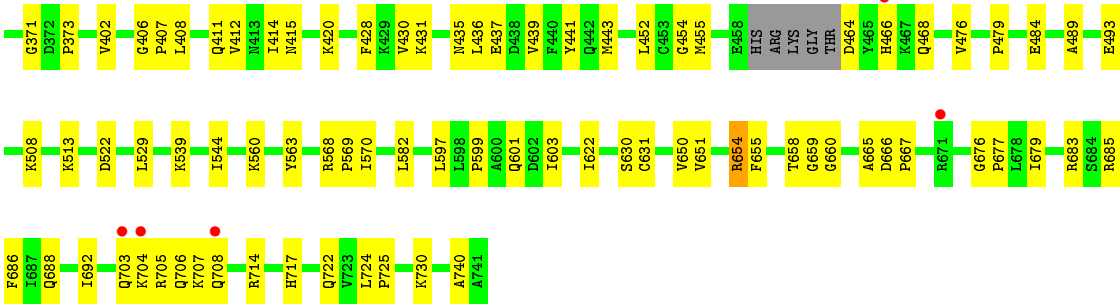


• Molecule 3: COMPLEMENT FACTOR B



• Molecule 3: COMPLEMENT FACTOR B





## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	262.16Å 297.87Å 341.44Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	72.76 – 4.00 74.44 – 4.00	Depositor EDS
% Data completeness (in resolution range)	93.1 (72.76-4.00) 93.2 (74.44-4.00)	Depositor EDS
$R_{merge}$	0.16	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.96 (at 4.01Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, $R_{free}$	0.228 , 0.281 0.240 , 0.287	Depositor DCC
$R_{free}$ test set	5251 reflections (5.28%)	DCC
Wilson B-factor (Å <sup>2</sup> )	78.3	Xtriage
Anisotropy	0.640	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.29 , 99.0	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.42$ , $\langle L^2 \rangle = 0.25$	Xtriage
Outliers	4 of 104768 reflections (0.004%)	Xtriage
$F_o, F_c$ correlation	0.89	EDS
Total number of atoms	71260	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	126.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 41.10 % of the origin peak, indicating pseudo translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo translational symmetry is equal to 2.4810e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 0.2 for perfectly twinned datasets.

## 5 Model quality

### 5.1 Standard geometry

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

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  >5	RMSZ	# Z  >5
1	A	0.20	0/5092	0.37	0/6917
1	C	0.20	0/5092	0.36	0/6917
1	E	0.20	0/5092	0.36	0/6917
1	G	0.20	0/5092	0.36	0/6917
2	B	0.20	0/7340	0.35	0/9936
2	D	0.21	0/7340	0.35	0/9936
2	F	0.20	0/7340	0.35	0/9936
2	H	0.20	0/7340	0.35	0/9936
3	I	0.20	0/5717	0.36	0/7739
3	J	0.21	0/5720	0.36	0/7743
3	K	0.20	0/5727	0.36	0/7752
3	L	0.20	0/5712	0.34	0/7732
All	All	0.20	0/72604	0.35	0/98378

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
3	J	0	1
3	K	0	1
All	All	0	2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) planarity outliers are listed below:



Mol	Chain	Res	Type	Group
3	J	407	PRO	Peptide
3	K	407	PRO	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	A	4992	0	5056	129	0
1	C	4992	0	5056	123	0
1	E	4992	0	5056	129	0
1	G	4992	0	5056	119	0
2	B	7197	0	7124	178	0
2	D	7197	0	7124	178	0
2	F	7197	0	7123	169	0
2	H	7197	0	7123	163	0
3	I	5593	0	5438	122	0
3	J	5596	0	5437	141	0
3	K	5603	0	5450	158	0
3	L	5588	0	5436	110	0
4	B	14	0	13	0	0
4	D	14	0	13	1	0
4	F	14	0	13	0	0
4	H	14	0	13	0	0
4	I	14	0	13	0	0
4	J	14	0	13	1	0
4	K	14	0	13	6	0
4	L	14	0	13	0	0
5	I	1	0	0	0	0
5	J	1	0	0	0	0
5	K	1	0	0	0	0
5	L	1	0	0	0	0
6	I	2	0	0	0	0
6	J	2	0	0	0	0
6	K	2	0	0	0	0
6	L	2	0	0	0	0
All	All	71260	0	70583	1615	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 11.

All (1615) 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)
3:K:352:TRP:HZ2	4:K:1353:NAG:H82	1.05	1.19
2:F:964:PRO:HA	2:F:965:VAL:HB	1.28	1.15
2:H:964:PRO:HA	2:H:965:VAL:HB	1.26	1.13
2:D:964:PRO:HA	2:D:965:VAL:HB	1.27	1.13
1:G:69:PRO:HA	1:G:70:ALA:HB3	1.32	1.11
2:B:964:PRO:HA	2:B:965:VAL:HB	1.30	1.09
1:E:69:PRO:HA	1:E:70:ALA:HB3	1.34	1.09
1:C:69:PRO:HA	1:C:70:ALA:HB3	1.34	1.06
2:B:1029:LYS:HE3	1:E:258:GLN:HB2	1.43	1.00
3:J:29:GLU:H	3:J:30:GLY:HA2	1.24	1.00
3:K:352:TRP:CZ2	4:K:1353:NAG:H82	1.96	0.99
2:H:819:ARG:HH12	2:H:1487:GLU:HB3	1.27	0.97
1:C:628:SER:HB2	1:C:630:GLN:HE22	1.32	0.94
1:A:628:SER:HB2	1:A:630:GLN:HE22	1.34	0.92
1:E:628:SER:HB2	1:E:630:GLN:HE22	1.33	0.91
1:G:628:SER:HB2	1:G:630:GLN:HE22	1.33	0.91
2:H:964:PRO:HA	2:H:965:VAL:CB	2.03	0.88
3:J:60:LEU:HD23	3:J:60:LEU:H	1.35	0.88
3:K:60:LEU:H	3:K:60:LEU:HD23	1.38	0.88
1:E:268:ARG:HH11	2:F:1378:MET:HE3	1.37	0.87
2:F:964:PRO:HA	2:F:965:VAL:CB	2.04	0.87
2:D:964:PRO:HA	2:D:965:VAL:CB	2.03	0.87
3:K:405:VAL:HG21	3:K:436:LEU:HD22	1.53	0.87
1:C:268:ARG:HH11	2:D:1378:MET:HE3	1.39	0.87
2:D:1017:LEU:HD12	2:D:1018:GLU:H	1.40	0.87
1:G:82:LYS:HD2	1:G:103:LEU:HD11	1.55	0.87
2:B:1049:LYS:HD2	1:E:150:GLY:HA3	1.53	0.87
3:J:405:VAL:HG21	3:J:436:LEU:HD22	1.55	0.87
2:B:733:ILE:HD11	2:B:841:ARG:HH21	1.39	0.85
2:B:819:ARG:HH12	2:B:1487:GLU:HB3	1.40	0.84
1:G:100:LEU:HD21	1:G:638:LEU:HD23	1.59	0.84
2:H:733:ILE:HD11	2:H:841:ARG:HH21	1.41	0.84
2:H:964:PRO:CA	2:H:965:VAL:HB	2.08	0.83
2:B:964:PRO:HA	2:B:965:VAL:CB	2.05	0.83
3:K:45:PRO:HG2	3:K:68:VAL:HG21	1.60	0.82
3:K:49:ARG:HH21	3:K:60:LEU:HB3	1.44	0.82
3:J:49:ARG:HH21	3:J:60:LEU:HB3	1.45	0.81
2:D:964:PRO:CA	2:D:965:VAL:HB	2.09	0.81
3:I:345:ASP:HA	3:I:346:ASP:C	2.00	0.81
2:D:733:ILE:HD11	2:D:841:ARG:HH21	1.44	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:733:ILE:HG22	2:F:895:TYR:HA	1.62	0.80
2:F:1017:LEU:HD12	2:F:1018:GLU:H	1.44	0.80
2:D:965:VAL:HG13	2:D:1268:GLN:HG2	1.65	0.78
2:B:964:PRO:CA	2:B:965:VAL:HB	2.11	0.78
2:B:1387:THR:HG22	2:B:1451:GLN:H	1.46	0.78
2:B:965:VAL:HG13	2:B:1268:GLN:HG2	1.65	0.78
3:K:489:ALA:HB2	3:K:677:PRO:HG3	1.66	0.78
2:H:965:VAL:HG13	2:H:1268:GLN:HG2	1.64	0.78
3:L:489:ALA:HB2	3:L:677:PRO:HG3	1.65	0.78
2:F:964:PRO:CA	2:F:965:VAL:HB	2.10	0.78
2:H:1387:THR:HG22	2:H:1451:GLN:H	1.47	0.78
2:F:965:VAL:HG13	2:F:1268:GLN:HG2	1.64	0.77
2:F:1387:THR:HG22	2:F:1451:GLN:H	1.47	0.77
2:D:1387:THR:HG22	2:D:1451:GLN:H	1.47	0.77
3:I:489:ALA:HB2	3:I:677:PRO:HG3	1.65	0.77
1:E:69:PRO:HA	1:E:70:ALA:CB	2.15	0.76
3:J:489:ALA:HB2	3:J:677:PRO:HG3	1.66	0.76
3:K:262:THR:HA	3:K:265:LYS:HE2	1.68	0.75
2:H:733:ILE:HG22	2:H:895:TYR:HA	1.67	0.75
1:A:10:ASN:HB2	1:A:635:ARG:HH11	1.48	0.75
2:B:1091:LYS:NZ	2:F:1232:ARG:HH22	1.86	0.74
3:K:19:ILE:HD11	3:K:73:CYS:HB2	1.68	0.74
2:H:819:ARG:NH1	2:H:1487:GLU:HB3	2.02	0.74
2:F:733:ILE:HD11	2:F:841:ARG:HH21	1.51	0.74
3:I:222:ALA:HA	3:I:223:GLU:C	2.08	0.74
2:B:1532:LEU:HD23	2:B:1532:LEU:H	1.51	0.74
3:I:262:THR:HA	3:I:265:LYS:HE2	1.70	0.74
3:L:262:THR:HA	3:L:265:LYS:HE2	1.69	0.74
2:D:733:ILE:HG22	2:D:895:TYR:HA	1.69	0.74
3:I:343:TRP:HB2	3:I:347:VAL:HG12	1.68	0.74
2:B:1049:LYS:CD	1:E:150:GLY:HA3	2.19	0.73
3:J:539:LYS:HB3	3:J:544:ILE:HB	1.71	0.73
1:C:61:MET:SD	1:C:483:ARG:HG2	2.29	0.73
3:J:262:THR:HA	3:J:265:LYS:HE2	1.69	0.72
3:J:29:GLU:N	3:J:30:GLY:HA2	1.99	0.72
1:A:69:PRO:HA	1:A:70:ALA:HB3	1.70	0.72
3:K:539:LYS:HB3	3:K:544:ILE:HB	1.71	0.72
3:L:539:LYS:HB3	3:L:544:ILE:HB	1.70	0.72
3:I:430:VAL:HG21	3:I:436:LEU:HB2	1.72	0.72
3:I:539:LYS:HB3	3:I:544:ILE:HB	1.71	0.72
1:A:71:ASN:HD22	1:A:74:PHE:HE1	1.38	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:19:THR:HB	1:C:478:LEU:HB2	1.70	0.72
2:D:1641:ASN:HB3	3:J:255:SER:HB3	1.72	0.72
1:G:558:GLN:HB3	2:H:770:ASN:HD21	1.55	0.72
3:J:222:ALA:HA	3:J:223:GLU:C	2.11	0.71
1:C:40:PHE:CD1	1:C:41:PRO:HA	2.24	0.71
3:L:430:VAL:HG21	3:L:436:LEU:HB2	1.72	0.71
1:C:558:GLN:HB3	2:D:770:ASN:HD21	1.55	0.71
3:L:222:ALA:HA	3:L:223:GLU:C	2.11	0.71
1:C:69:PRO:HA	1:C:70:ALA:CB	2.15	0.71
1:E:40:PHE:CD1	1:E:41:PRO:HA	2.25	0.71
2:B:1082:VAL:HG13	2:B:1129:LEU:HD22	1.73	0.71
1:A:558:GLN:HB3	2:B:770:ASN:HD21	1.55	0.70
1:E:558:GLN:HB3	2:F:770:ASN:HD21	1.55	0.70
3:K:40:GLY:HA2	3:K:76:ILE:HD12	1.71	0.70
1:C:153:VAL:HG12	2:D:1297:LEU:HD12	1.74	0.70
1:A:634:GLN:OE1	2:B:1017:LEU:HD11	1.91	0.70
3:K:222:ALA:HA	3:K:223:GLU:C	2.12	0.70
2:B:733:ILE:HG22	2:B:895:TYR:HA	1.73	0.70
2:H:1017:LEU:HD12	2:H:1018:GLU:H	1.55	0.69
1:G:452:ASN:HB3	1:G:492:LEU:HD11	1.74	0.69
1:E:452:ASN:HB3	1:E:492:LEU:HD11	1.74	0.69
3:K:366:LEU:HD11	3:K:408:LEU:HB3	1.75	0.69
3:K:48:THR:HB	3:K:408:LEU:HD21	1.73	0.69
1:C:452:ASN:HB3	1:C:492:LEU:HD11	1.74	0.69
1:A:5:SER:HA	1:A:626:SER:HA	1.74	0.69
3:J:29:GLU:H	3:J:30:GLY:CA	2.01	0.69
2:B:1091:LYS:HZ2	2:F:1232:ARG:HH22	1.41	0.69
3:K:44:TYR:CD2	3:K:72:GLU:HB2	2.28	0.69
1:A:70:ALA:N	1:A:71:ASN:HB2	2.06	0.69
1:A:10:ASN:CB	1:A:635:ARG:HH11	2.05	0.69
1:A:392:HIS:HE1	1:C:275:SER:OG	1.76	0.69
3:K:222:ALA:N	3:K:223:GLU:HB2	2.07	0.68
3:K:61:LYS:HG2	3:K:67:THR:HA	1.75	0.68
1:E:158:LEU:HD21	1:E:169:LEU:HD21	1.74	0.68
2:B:742:ARG:HH12	2:B:777:ILE:HG13	1.58	0.68
1:G:158:LEU:HD21	1:G:169:LEU:HD21	1.74	0.68
1:A:158:LEU:HD21	1:A:169:LEU:HD21	1.75	0.68
1:C:158:LEU:HD21	1:C:169:LEU:HD21	1.74	0.68
2:D:840:VAL:HG22	2:D:894:VAL:HG12	1.74	0.68
3:J:17:VAL:HB	3:J:18:GLU:OE1	1.92	0.68
3:K:50:THR:O	3:K:57:TRP:HB2	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1017:LEU:HD12	2:B:1018:GLU:H	1.58	0.68
1:A:452:ASN:HB3	1:A:492:LEU:HD11	1.75	0.68
1:G:69:PRO:HA	1:G:70:ALA:CB	2.13	0.68
2:F:1331:LYS:HA	2:F:1332:ASP:HB2	1.76	0.68
2:H:1082:VAL:HG13	2:H:1129:LEU:HD22	1.75	0.68
1:E:168:PRO:HB3	3:K:108:ASP:HB3	1.76	0.68
2:F:840:VAL:HG22	2:F:894:VAL:HG12	1.75	0.67
2:B:840:VAL:HG22	2:B:894:VAL:HG12	1.76	0.67
3:J:61:LYS:HG2	3:J:67:THR:HA	1.77	0.67
3:J:430:VAL:HG11	3:J:436:LEU:HD13	1.77	0.67
2:D:785:VAL:HG22	2:D:795:VAL:HG12	1.77	0.67
2:H:840:VAL:HG22	2:H:894:VAL:HG12	1.76	0.67
3:K:67:THR:HB	3:K:69:ARG:CZ	2.24	0.67
3:J:222:ALA:N	3:J:223:GLU:HB2	2.10	0.67
2:B:785:VAL:HG22	2:B:795:VAL:HG12	1.77	0.67
1:A:6:ILE:HD13	1:A:22:LEU:HD23	1.77	0.66
1:C:95:VAL:HG22	1:C:627:SER:HB3	1.77	0.66
3:J:50:THR:O	3:J:57:TRP:HB2	1.96	0.66
2:F:785:VAL:HG22	2:F:795:VAL:HG12	1.76	0.66
3:J:437:GLU:HB3	3:J:441:TYR:HE2	1.61	0.66
3:K:430:VAL:HG11	3:K:436:LEU:HD13	1.77	0.66
1:G:634:GLN:CD	2:H:1017:LEU:HD23	2.17	0.66
1:G:157:SER:HB3	3:L:630:SER:OG	1.95	0.66
3:K:45:PRO:CG	3:K:68:VAL:HG21	2.27	0.65
3:K:61:LYS:HA	3:K:68:VAL:H	1.61	0.65
3:K:66:LYS:HD3	3:K:69:ARG:HH12	1.61	0.65
1:A:606:THR:HB	1:A:619:ASP:HB3	1.79	0.65
3:L:222:ALA:N	3:L:223:GLU:HB2	2.10	0.65
3:I:481:LYS:HD2	3:I:483:HIS:HD2	1.61	0.65
2:B:860:HIS:CE1	2:B:862:GLN:HE22	2.15	0.65
2:H:785:VAL:HG22	2:H:795:VAL:HG12	1.78	0.65
1:C:45:LEU:HB2	1:C:46:VAL:HB	1.78	0.65
2:B:1566:ILE:HD12	2:B:1566:ILE:H	1.61	0.65
2:H:860:HIS:CE1	2:H:862:GLN:HE22	2.15	0.65
1:G:606:THR:HG22	1:G:608:GLY:H	1.62	0.65
1:G:6:ILE:HD13	1:G:22:LEU:HD23	1.78	0.65
3:J:508:LYS:HA	3:J:508:LYS:HE2	1.79	0.65
2:D:1276:LEU:H	2:D:1276:LEU:HD23	1.62	0.64
1:A:606:THR:HG22	1:A:608:GLY:H	1.63	0.64
1:E:55:THR:HG22	1:E:57:ALA:H	1.63	0.64
2:D:860:HIS:CE1	2:D:862:GLN:HE22	2.16	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:14:LEU:HD11	1:A:103:LEU:HD13	1.79	0.64
3:L:508:LYS:HE2	3:L:508:LYS:HA	1.80	0.64
1:E:45:LEU:HB2	1:E:46:VAL:HB	1.78	0.64
3:I:481:LYS:HD2	3:I:483:HIS:CD2	2.31	0.64
1:G:55:THR:HG22	1:G:57:ALA:H	1.62	0.64
2:F:860:HIS:CE1	2:F:862:GLN:HE22	2.16	0.64
1:C:350:LEU:HD21	1:C:400:ILE:HG21	1.80	0.64
1:E:606:THR:HB	1:E:619:ASP:HB3	1.79	0.64
2:B:1049:LYS:HD2	1:E:150:GLY:CA	2.24	0.64
1:A:55:THR:HG22	1:A:57:ALA:H	1.63	0.64
1:G:634:GLN:OE1	2:H:1017:LEU:HB3	1.98	0.64
1:G:606:THR:HB	1:G:619:ASP:HB3	1.79	0.64
1:G:6:ILE:HG22	1:G:625:THR:O	1.98	0.63
1:C:55:THR:HG22	1:C:57:ALA:H	1.62	0.63
3:J:40:GLY:HA2	3:J:76:ILE:HD12	1.79	0.63
3:K:437:GLU:HB3	3:K:441:TYR:HE2	1.62	0.63
1:C:606:THR:HG22	1:C:608:GLY:H	1.63	0.63
1:C:478:LEU:HD21	1:C:622:LEU:HD21	1.80	0.63
1:C:45:LEU:H	1:C:45:LEU:HD23	1.64	0.63
2:F:1288:ARG:NH1	3:K:665:ALA:HB1	2.12	0.63
1:E:350:LEU:HD21	1:E:400:ILE:HG21	1.80	0.63
3:I:508:LYS:HE2	3:I:508:LYS:HA	1.79	0.63
1:E:606:THR:HG22	1:E:608:GLY:H	1.62	0.63
1:E:45:LEU:H	1:E:45:LEU:HD23	1.64	0.63
1:C:606:THR:HB	1:C:619:ASP:HB3	1.79	0.63
2:F:1276:LEU:HD23	2:F:1276:LEU:H	1.62	0.63
2:B:1276:LEU:HD23	2:B:1276:LEU:H	1.63	0.63
3:K:508:LYS:HA	3:K:508:LYS:HE2	1.79	0.63
1:G:350:LEU:HD21	1:G:400:ILE:HG21	1.79	0.63
2:B:1029:LYS:HE3	1:E:258:GLN:CB	2.23	0.63
2:H:1276:LEU:HD23	2:H:1276:LEU:H	1.63	0.63
2:F:1566:ILE:H	2:F:1566:ILE:HD12	1.64	0.63
2:F:1126:LEU:HG	2:F:1130:GLN:HE21	1.64	0.63
2:B:1641:ASN:HB3	3:I:255:SER:HB3	1.81	0.63
3:K:476:VAL:HB	3:K:484:GLU:HB3	1.81	0.63
3:J:347:VAL:O	3:J:349:PRO:HD3	1.99	0.63
2:D:1566:ILE:HD12	2:D:1566:ILE:H	1.64	0.63
1:A:478:LEU:HD21	1:A:622:LEU:HD21	1.79	0.62
1:A:350:LEU:HD21	1:A:400:ILE:HG21	1.80	0.62
2:F:1641:ASN:HB3	3:K:255:SER:HB3	1.81	0.62
2:F:819:ARG:HH12	2:F:1487:GLU:HB3	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:44:TYR:HD2	3:K:72:GLU:HB2	1.62	0.62
2:F:1333:GLN:HA	2:F:1334:LEU:HB3	1.82	0.62
1:C:590:THR:HG22	1:C:592:SER:H	1.64	0.62
2:H:1481:ASN:HD22	2:H:1567:LYS:HE3	1.65	0.62
1:G:45:LEU:HD23	1:G:45:LEU:H	1.65	0.62
2:H:1566:ILE:HD12	2:H:1566:ILE:H	1.65	0.62
1:G:45:LEU:HB2	1:G:46:VAL:HB	1.81	0.62
2:B:1126:LEU:HG	2:B:1130:GLN:HE21	1.64	0.62
2:F:751:TRP:HB3	3:K:107:TYR:CD1	2.35	0.62
2:B:1532:LEU:HD12	2:B:1569:ARG:HH11	1.65	0.62
2:H:1126:LEU:HG	2:H:1130:GLN:HE21	1.65	0.62
1:G:590:THR:HG22	1:G:592:SER:H	1.65	0.62
2:B:1286:THR:HG22	3:I:665:ALA:HB3	1.82	0.62
2:B:1109:GLY:HA2	2:B:1205:LEU:HD21	1.82	0.62
1:E:478:LEU:HD21	1:E:622:LEU:HD21	1.81	0.61
3:L:455:MET:HB2	3:L:568:ARG:HD3	1.81	0.61
2:D:1109:GLY:HA2	2:D:1205:LEU:HD21	1.82	0.61
3:K:48:THR:CB	3:K:408:LEU:HD21	2.29	0.61
2:H:1333:GLN:HA	2:H:1334:LEU:HB3	1.83	0.61
1:A:590:THR:HG22	1:A:592:SER:H	1.65	0.61
1:A:45:LEU:HD23	1:A:45:LEU:H	1.65	0.61
1:A:242:LYS:HB3	1:A:274:GLY:HA3	1.83	0.61
1:G:478:LEU:HD21	1:G:622:LEU:HD21	1.81	0.61
1:A:100:LEU:HD21	1:A:638:LEU:HD23	1.82	0.61
3:K:352:TRP:HZ2	4:K:1353:NAG:C8	1.97	0.61
1:A:45:LEU:HB2	1:A:46:VAL:HB	1.81	0.61
2:D:1126:LEU:HG	2:D:1130:GLN:HE21	1.65	0.61
1:E:590:THR:HG22	1:E:592:SER:H	1.64	0.61
3:J:45:PRO:HG2	3:J:68:VAL:HG21	1.83	0.61
3:K:35:TYR:HB2	3:K:43:PRO:HB3	1.83	0.61
3:K:44:TYR:HB3	3:K:73:CYS:HA	1.83	0.61
1:E:61:MET:SD	1:E:483:ARG:HG2	2.40	0.61
1:G:242:LYS:HB3	1:G:274:GLY:HA3	1.83	0.61
2:D:1333:GLN:HA	2:D:1334:LEU:HB3	1.82	0.61
2:D:742:ARG:HH12	2:D:777:ILE:HG13	1.66	0.61
3:K:27:LEU:O	3:K:28:GLN:HG2	2.01	0.60
1:E:242:LYS:HB3	1:E:274:GLY:HA3	1.83	0.60
2:F:1494:GLU:HB2	2:F:1602:LYS:HD3	1.83	0.60
1:C:242:LYS:HB3	1:C:274:GLY:HA3	1.81	0.60
2:F:1333:GLN:HA	2:F:1334:LEU:CB	2.31	0.60
3:J:48:THR:HG21	3:J:408:LEU:HD11	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:921:ALA:HB1	2:H:923:ARG:HE	1.66	0.60
3:J:14:LEU:HG	3:J:17:VAL:HG12	1.84	0.60
3:I:476:VAL:HB	3:I:484:GLU:HB3	1.84	0.60
2:D:921:ALA:HB1	2:D:923:ARG:HE	1.67	0.60
2:B:1338:LYS:HA	2:B:1371:ARG:HB2	1.83	0.60
2:D:1338:LYS:HA	2:D:1371:ARG:HB2	1.83	0.60
1:G:71:ASN:HD22	1:G:74:PHE:HE1	1.50	0.60
2:H:1641:ASN:HB3	3:L:255:SER:HB3	1.83	0.60
2:H:1109:GLY:HA2	2:H:1205:LEU:HD21	1.83	0.60
2:B:921:ALA:HB1	2:B:923:ARG:HE	1.67	0.60
2:F:1338:LYS:HA	2:F:1371:ARG:HB2	1.84	0.60
3:J:62:THR:HG23	3:J:68:VAL:HG21	1.84	0.60
2:F:921:ALA:HB1	2:F:923:ARG:HE	1.67	0.60
2:F:1109:GLY:HA2	2:F:1205:LEU:HD21	1.83	0.60
2:D:1333:GLN:HA	2:D:1334:LEU:CB	2.31	0.59
1:A:126:ARG:HG2	1:A:168:PRO:HA	1.84	0.59
3:K:17:VAL:HB	3:K:18:GLU:OE1	2.03	0.59
2:H:1338:LYS:HA	2:H:1371:ARG:HB2	1.83	0.59
1:E:473:MET:HB2	1:E:508:ARG:HB2	1.85	0.59
2:B:1333:GLN:HA	2:B:1334:LEU:CB	2.32	0.59
1:A:42:GLY:HA2	2:B:1069:ASN:HB3	1.84	0.59
2:B:1333:GLN:HA	2:B:1334:LEU:HB3	1.83	0.59
1:A:252:GLY:HA2	1:A:262:LEU:HG	1.85	0.59
3:K:48:THR:HG21	3:K:408:LEU:HD11	1.84	0.59
2:B:1027:ILE:HG22	2:B:1071:ILE:HD13	1.84	0.59
3:J:61:LYS:HA	3:J:68:VAL:H	1.67	0.59
3:K:14:LEU:HG	3:K:17:VAL:HG12	1.84	0.59
1:E:269:ILE:HD13	1:E:278:VAL:HB	1.84	0.59
3:I:222:ALA:N	3:I:223:GLU:HB2	2.18	0.59
2:H:1333:GLN:HA	2:H:1334:LEU:CB	2.31	0.59
1:C:473:MET:HB2	1:C:508:ARG:HB2	1.85	0.59
1:E:443:LEU:HD21	1:E:449:LEU:HD13	1.85	0.59
1:G:470:TYR:HB2	1:G:509:LEU:HD21	1.85	0.59
1:A:473:MET:HB2	1:A:508:ARG:HB2	1.85	0.59
2:D:1525:THR:HB	2:D:1541:MET:HB3	1.84	0.59
3:J:476:VAL:HB	3:J:484:GLU:HB3	1.83	0.59
3:J:603:ILE:HB	3:J:622:ILE:HB	1.83	0.59
1:C:252:GLY:HA2	1:C:262:LEU:HG	1.85	0.59
3:J:35:TYR:HB2	3:J:43:PRO:HB3	1.84	0.58
2:B:819:ARG:NH1	2:B:1487:GLU:HB3	2.14	0.58
2:D:1205:LEU:HD12	2:D:1249:ALA:HB2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:572:VAL:HG12	2:F:753:VAL:HG22	1.85	0.58
1:G:473:MET:HB2	1:G:508:ARG:HB2	1.84	0.58
1:C:269:ILE:HD13	1:C:278:VAL:HB	1.84	0.58
1:C:40:PHE:CD2	1:C:83:PHE:HB2	2.38	0.58
1:A:7:ILE:HA	1:A:623:THR:O	2.03	0.58
1:G:269:ILE:HD13	1:G:278:VAL:HB	1.84	0.58
1:C:470:TYR:HB2	1:C:509:LEU:HD21	1.86	0.58
2:D:1143:LEU:HB3	2:D:1144:PRO:HD3	1.85	0.58
1:E:19:THR:HB	1:E:478:LEU:HB2	1.83	0.58
3:L:603:ILE:HB	3:L:622:ILE:HB	1.85	0.58
2:B:1143:LEU:HB3	2:B:1144:PRO:HD3	1.86	0.58
1:C:222:TYR:HE2	1:C:224:TYR:HB2	1.69	0.58
1:A:6:ILE:HD11	1:A:20:MET:HG2	1.86	0.58
2:F:1205:LEU:HD12	2:F:1249:ALA:HB2	1.85	0.58
1:E:470:TYR:HB2	1:E:509:LEU:HD21	1.85	0.58
2:D:1529:LYS:HB3	2:D:1540:ILE:HD12	1.86	0.58
1:G:222:TYR:HE2	1:G:224:TYR:HB2	1.69	0.58
1:G:126:ARG:HG2	1:G:168:PRO:HA	1.86	0.58
1:C:9:PRO:HA	1:C:622:LEU:HD23	1.84	0.58
3:L:346:ASP:O	3:L:348:PRO:HD3	2.04	0.58
1:E:252:GLY:HA2	1:E:262:LEU:HG	1.85	0.58
3:I:603:ILE:HB	3:I:622:ILE:HB	1.86	0.58
1:C:126:ARG:HG2	1:C:168:PRO:HA	1.85	0.58
2:H:1143:LEU:HB3	2:H:1144:PRO:HD3	1.86	0.58
1:G:6:ILE:HD11	1:G:20:MET:HG2	1.86	0.57
2:F:1143:LEU:HB3	2:F:1144:PRO:HD3	1.85	0.57
1:A:269:ILE:HD13	1:A:278:VAL:HB	1.85	0.57
2:F:1521:TYR:HB2	2:F:1523:TYR:CE2	2.40	0.57
1:E:222:TYR:HE2	1:E:224:TYR:HB2	1.69	0.57
1:G:396:LYS:HD2	1:G:397:PRO:HD2	1.86	0.57
2:B:1205:LEU:HD12	2:B:1249:ALA:HB2	1.85	0.57
2:H:1205:LEU:HD12	2:H:1249:ALA:HB2	1.85	0.57
1:E:6:ILE:HD13	1:E:22:LEU:HD23	1.87	0.57
1:E:40:PHE:CD2	1:E:83:PHE:HB2	2.39	0.57
3:K:31:GLN:HA	3:K:51:CYS:HB3	1.87	0.57
1:G:252:GLY:HA2	1:G:262:LEU:HG	1.86	0.57
2:D:742:ARG:NH1	2:D:777:ILE:HG13	2.19	0.57
1:C:222:TYR:CE2	1:C:224:TYR:HB2	2.40	0.57
1:A:443:LEU:HD21	1:A:449:LEU:HD13	1.86	0.57
1:G:572:VAL:HG12	2:H:753:VAL:HG22	1.85	0.57
2:F:851:CYS:HB2	2:F:1491:CYS:HB2	1.79	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:222:TYR:CE2	1:E:224:TYR:HB2	2.40	0.57
1:C:443:LEU:HD21	1:C:449:LEU:HD13	1.85	0.57
3:J:19:ILE:HD11	3:J:73:CYS:HB2	1.85	0.57
3:K:603:ILE:HB	3:K:622:ILE:HB	1.85	0.57
3:I:347:VAL:HG13	3:I:349:PRO:N	2.19	0.57
1:E:541:LEU:HG	2:F:796:ALA:HB2	1.87	0.57
1:A:572:VAL:HG12	2:B:753:VAL:HG22	1.86	0.57
2:D:1575:GLU:HB2	2:D:1578:LYS:HD2	1.86	0.57
2:F:742:ARG:HB3	2:F:775:ASP:HB3	1.85	0.57
2:F:1575:GLU:HB2	2:F:1578:LYS:HD2	1.87	0.57
2:H:1286:THR:HG22	3:L:665:ALA:HB3	1.87	0.57
1:A:222:TYR:CE2	1:A:224:TYR:HB2	2.40	0.56
2:H:1027:ILE:HG22	2:H:1071:ILE:HD13	1.86	0.56
1:A:108:LEU:HB2	1:A:196:PHE:CD1	2.41	0.56
1:C:6:ILE:HD13	1:C:22:LEU:HD23	1.87	0.56
2:B:1463:LEU:O	2:B:1463:LEU:HD12	2.05	0.56
1:C:396:LYS:HD2	1:C:397:PRO:HD2	1.87	0.56
1:G:443:LEU:HD21	1:G:449:LEU:HD13	1.86	0.56
1:A:470:TYR:HB2	1:A:509:LEU:HD21	1.86	0.56
3:I:654:ARG:HG3	3:I:722:GLN:HB3	1.88	0.56
1:G:108:LEU:HB2	1:G:196:PHE:CD1	2.41	0.56
3:K:19:ILE:CD1	3:K:73:CYS:HB2	2.34	0.56
1:C:510:VAL:HG12	1:C:528:SER:HB3	1.87	0.56
1:G:222:TYR:CE2	1:G:224:TYR:HB2	2.40	0.56
2:F:1529:LYS:HB3	2:F:1540:ILE:HD12	1.86	0.56
1:A:396:LYS:HD2	1:A:397:PRO:HD2	1.86	0.56
1:A:222:TYR:HE2	1:A:224:TYR:HB2	1.69	0.56
3:L:202:PRO:HG3	3:L:435:ASN:HB3	1.87	0.56
2:B:1575:GLU:HB2	2:B:1578:LYS:HD2	1.86	0.56
2:F:976:GLU:HA	2:F:979:LYS:HE3	1.88	0.56
2:B:1049:LYS:NZ	1:E:150:GLY:HA3	2.20	0.56
1:A:6:ILE:HD11	1:A:20:MET:CG	2.36	0.56
2:D:1192:ALA:HB2	2:D:1198:TRP:CE2	2.41	0.56
3:J:654:ARG:HG3	3:J:722:GLN:HB3	1.88	0.56
1:A:10:ASN:HB2	1:A:635:ARG:NH1	2.19	0.56
1:A:510:VAL:HG12	1:A:528:SER:HB3	1.88	0.56
1:E:171:TRP:CZ3	1:E:173:ILE:HG12	2.41	0.56
2:B:804:MET:HG2	2:B:805:GLN:N	2.20	0.56
1:E:126:ARG:HG2	1:E:168:PRO:HA	1.87	0.56
2:H:976:GLU:HA	2:H:979:LYS:HE3	1.88	0.56
3:J:411:GLN:HA	3:J:414:ILE:HG12	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:411:GLN:HA	3:K:414:ILE:HG12	1.87	0.56
2:D:1017:LEU:HD12	2:D:1018:GLU:N	2.16	0.56
2:F:1525:THR:HB	2:F:1541:MET:HB3	1.86	0.56
1:C:168:PRO:HB3	3:J:108:ASP:HB3	1.87	0.56
1:E:108:LEU:HB2	1:E:196:PHE:CD1	2.41	0.56
2:B:1521:TYR:HB2	2:B:1523:TYR:CE2	2.41	0.56
3:L:654:ARG:HG3	3:L:722:GLN:HB3	1.88	0.56
2:F:1027:ILE:HG22	2:F:1071:ILE:HD13	1.88	0.56
3:L:218:GLU:HB3	3:L:452:LEU:HD21	1.87	0.56
2:F:1288:ARG:HH11	3:K:665:ALA:HB1	1.70	0.56
2:B:742:ARG:NH1	2:B:777:ILE:HG13	2.20	0.55
1:E:510:VAL:HG12	1:E:528:SER:HB3	1.87	0.55
2:F:1360:ASN:O	2:F:1361:THR:HG22	2.07	0.55
3:K:81:PRO:HG3	3:K:147:ILE:HG23	1.89	0.55
1:E:157:SER:HB3	3:K:630:SER:OG	2.06	0.55
3:K:361:LEU:HD21	3:K:402:VAL:HG22	1.89	0.55
1:C:214:VAL:HG23	1:C:321:ARG:HB2	1.88	0.55
1:C:171:TRP:CZ3	1:C:173:ILE:HG12	2.41	0.55
2:D:1360:ASN:O	2:D:1361:THR:HG22	2.07	0.55
3:J:60:LEU:CD2	3:J:60:LEU:H	2.15	0.55
1:G:6:ILE:HD11	1:G:20:MET:CG	2.37	0.55
1:G:510:VAL:HG12	1:G:528:SER:HB3	1.88	0.55
2:H:1575:GLU:HB2	2:H:1578:LYS:HD2	1.88	0.55
1:A:214:VAL:HG23	1:A:321:ARG:HB2	1.88	0.55
2:F:1192:ALA:HB2	2:F:1198:TRP:CE2	2.41	0.55
2:D:1082:VAL:HG13	2:D:1129:LEU:HD22	1.88	0.55
3:L:205:VAL:HG13	3:L:428:PHE:CD1	2.40	0.55
1:A:10:ASN:HB3	1:A:635:ARG:CD	2.37	0.55
1:E:396:LYS:HD2	1:E:397:PRO:HD2	1.87	0.55
2:B:1110:GLY:HA2	2:B:1206:TYR:CD2	2.41	0.55
1:C:40:PHE:CE1	2:D:1017:LEU:HD13	2.42	0.55
1:C:541:LEU:HG	2:D:796:ALA:HB2	1.88	0.55
1:A:6:ILE:HG22	1:A:625:THR:O	2.07	0.55
2:H:739:ILE:HB	2:H:891:LYS:HD3	1.89	0.55
2:D:976:GLU:HA	2:D:979:LYS:HE3	1.87	0.55
1:A:103:LEU:HD22	1:A:103:LEU:H	1.71	0.55
2:F:1082:VAL:HG13	2:F:1129:LEU:HD22	1.87	0.55
1:A:541:LEU:HG	2:B:796:ALA:HB2	1.89	0.55
3:I:455:MET:HB2	3:I:568:ARG:HD3	1.87	0.55
1:A:84:VAL:HG13	1:A:101:VAL:HG21	1.89	0.55
1:C:108:LEU:HB2	1:C:196:PHE:CD1	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:214:VAL:HG23	1:G:321:ARG:HB2	1.88	0.55
2:B:976:GLU:HA	2:B:979:LYS:HE3	1.87	0.55
1:G:171:TRP:CZ3	1:G:173:ILE:HG12	2.42	0.55
1:A:171:TRP:CZ3	1:A:173:ILE:HG12	2.42	0.55
2:D:1288:ARG:HH11	3:J:665:ALA:HB1	1.71	0.55
2:H:1360:ASN:O	2:H:1361:THR:HG22	2.07	0.55
2:D:1521:TYR:HB2	2:D:1523:TYR:CE2	2.41	0.55
1:E:147:ASN:HB2	1:E:148:PRO:HD2	1.89	0.55
2:H:1641:ASN:OXT	3:L:253:SER:HB2	2.07	0.55
2:F:1110:GLY:HA2	2:F:1206:TYR:CD2	2.42	0.55
2:H:1521:TYR:HB2	2:H:1523:TYR:CE2	2.42	0.55
3:I:631:CYS:SG	3:I:714:ARG:HD2	2.47	0.55
3:K:170:LEU:HD23	3:K:193:CYS:HB3	1.89	0.54
3:J:599:PRO:HB2	3:J:601:GLN:HG2	1.89	0.54
2:F:1381:LEU:HD23	2:F:1457:VAL:HG12	1.89	0.54
1:A:365:VAL:HA	1:A:406:LYS:HE2	1.89	0.54
2:H:1192:ALA:HB2	2:H:1198:TRP:CE2	2.42	0.54
2:D:1027:ILE:HG22	2:D:1071:ILE:HD13	1.89	0.54
3:K:66:LYS:O	3:K:67:THR:C	2.45	0.54
1:A:103:LEU:CD2	1:A:103:LEU:H	2.20	0.54
2:H:1331:LYS:HA	2:H:1332:ASP:C	2.26	0.54
1:C:572:VAL:HG12	2:D:753:VAL:HG22	1.87	0.54
3:K:654:ARG:HG3	3:K:722:GLN:HB3	1.88	0.54
2:D:1331:LYS:HA	2:D:1332:ASP:HB2	1.89	0.54
1:C:147:ASN:HB2	1:C:148:PRO:HD2	1.89	0.54
3:J:62:THR:HB	3:J:64:ASP:H	1.72	0.54
3:L:81:PRO:HG3	3:L:147:ILE:HG23	1.89	0.54
2:H:997:THR:N	2:H:998:PRO:HD2	2.23	0.54
1:C:69:PRO:CA	1:C:70:ALA:HB3	2.24	0.54
2:D:1381:LEU:HD23	2:D:1457:VAL:HG12	1.89	0.54
3:I:81:PRO:HG3	3:I:147:ILE:HG23	1.89	0.54
1:G:365:VAL:HA	1:G:406:LYS:HE2	1.90	0.54
3:I:47:GLN:HG3	3:I:48:THR:HG23	1.89	0.54
2:D:850:PHE:HZ	2:D:907:LEU:HD21	1.73	0.54
1:E:214:VAL:HG23	1:E:321:ARG:HB2	1.89	0.54
2:F:732:ASP:O	2:F:733:ILE:HG12	2.07	0.54
3:K:42:TYR:CZ	3:K:74:ARG:HB2	2.43	0.54
1:C:365:VAL:HA	1:C:406:LYS:HE2	1.90	0.54
1:G:147:ASN:HB2	1:G:148:PRO:HD2	1.89	0.54
2:B:1192:ALA:HB2	2:B:1198:TRP:CE2	2.43	0.54
1:G:541:LEU:HG	2:H:796:ALA:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:423:ASN:HD22	3:J:683:ARG:HH12	1.55	0.54
1:A:147:ASN:HB2	1:A:148:PRO:HD2	1.89	0.54
2:H:1110:GLY:HA2	2:H:1206:TYR:CD2	2.42	0.54
2:B:1381:LEU:HD23	2:B:1457:VAL:HG12	1.89	0.54
3:K:292:TYR:HE2	3:K:325:LYS:HD3	1.73	0.54
3:L:286:LEU:H	3:L:297:VAL:HB	1.73	0.54
3:I:202:PRO:HG3	3:I:435:ASN:HB3	1.89	0.54
2:F:1498:ILE:HG22	2:F:1499:GLN:HG2	1.89	0.54
1:E:603:ILE:HB	1:E:635:ARG:HH12	1.74	0.53
2:D:1110:GLY:HA2	2:D:1206:TYR:CD2	2.43	0.53
1:C:603:ILE:HB	1:C:635:ARG:HH12	1.73	0.53
2:H:1381:LEU:HD23	2:H:1457:VAL:HG12	1.89	0.53
2:D:1617:ASP:O	2:D:1621:GLN:HG3	2.09	0.53
1:G:510:VAL:HG21	1:G:622:LEU:HD12	1.90	0.53
1:C:369:VAL:HG22	1:C:402:VAL:HG22	1.90	0.53
1:A:10:ASN:HB3	1:A:635:ARG:HD3	1.89	0.53
3:J:437:GLU:HB3	3:J:441:TYR:CE2	2.42	0.53
1:C:230:GLU:HG2	1:C:279:VAL:HG22	1.91	0.53
3:I:286:LEU:H	3:I:297:VAL:HB	1.73	0.53
3:K:62:THR:HB	3:K:64:ASP:H	1.73	0.53
3:I:599:PRO:HB2	3:I:601:GLN:HG2	1.89	0.53
2:B:997:THR:N	2:B:998:PRO:HD2	2.23	0.53
3:I:570:ILE:HD13	3:I:688:GLN:HB2	1.90	0.53
2:D:997:THR:N	2:D:998:PRO:HD2	2.23	0.53
3:L:47:GLN:HG3	3:L:48:THR:HG23	1.89	0.53
2:H:1038:ARG:NH1	2:H:1077:VAL:HG22	2.23	0.53
3:J:361:LEU:HD21	3:J:402:VAL:HG22	1.91	0.53
1:G:5:SER:HA	1:G:626:SER:HA	1.90	0.53
3:L:599:PRO:HB2	3:L:601:GLN:HG2	1.89	0.53
3:J:170:LEU:HD23	3:J:193:CYS:HB3	1.91	0.53
2:F:997:THR:N	2:F:998:PRO:HD2	2.23	0.53
2:B:1617:ASP:O	2:B:1621:GLN:HG3	2.08	0.53
2:F:1481:ASN:HD22	2:F:1567:LYS:HE3	1.73	0.53
3:L:407:PRO:HB2	3:L:408:LEU:HD22	1.90	0.53
3:K:437:GLU:HB3	3:K:441:TYR:CE2	2.43	0.53
2:D:1288:ARG:NH1	3:J:665:ALA:HB1	2.24	0.53
2:B:1490:ARG:HD2	2:B:1590:TRP:CZ3	2.43	0.53
2:B:966:ALA:HA	2:B:1267:HIS:HB3	1.90	0.53
2:D:1038:ARG:NH1	2:D:1077:VAL:HG22	2.24	0.53
2:F:1385:MET:HG3	2:F:1391:PRO:HD3	1.91	0.53
1:G:84:VAL:HG13	1:G:101:VAL:HG21	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:472:ILE:HD13	1:G:509:LEU:HD23	1.91	0.53
1:A:472:ILE:HD13	1:A:509:LEU:HD23	1.91	0.53
1:G:230:GLU:HG2	1:G:279:VAL:HG22	1.91	0.53
1:A:230:GLU:HG2	1:A:279:VAL:HG22	1.91	0.53
3:J:81:PRO:HG3	3:J:147:ILE:HG23	1.90	0.53
1:E:510:VAL:HG21	1:E:622:LEU:HD12	1.91	0.53
3:K:15:GLU:C	3:K:17:VAL:H	2.13	0.53
3:L:570:ILE:HD13	3:L:688:GLN:HB2	1.91	0.53
1:E:365:VAL:HA	1:E:406:LYS:HE2	1.90	0.53
3:I:218:GLU:HB3	3:I:452:LEU:HD21	1.91	0.53
3:L:631:CYS:SG	3:L:714:ARG:HD2	2.49	0.52
3:I:407:PRO:HB2	3:I:408:LEU:HD22	1.90	0.52
2:H:804:MET:HG2	2:H:805:GLN:N	2.24	0.52
2:B:1360:ASN:O	2:B:1361:THR:HG22	2.08	0.52
3:K:430:VAL:HG21	3:K:436:LEU:HB2	1.92	0.52
2:D:1338:LYS:N	2:D:1338:LYS:HD2	2.25	0.52
3:K:631:CYS:SG	3:K:714:ARG:HD2	2.49	0.52
2:F:1038:ARG:NH1	2:F:1077:VAL:HG22	2.23	0.52
3:L:170:LEU:HD23	3:L:193:CYS:HB3	1.90	0.52
1:A:69:PRO:HB2	1:A:71:ASN:CG	2.30	0.52
1:E:9:PRO:HA	1:E:622:LEU:HD23	1.92	0.52
1:E:472:ILE:HD13	1:E:509:LEU:HD23	1.92	0.52
1:E:230:GLU:HG2	1:E:279:VAL:HG22	1.91	0.52
2:F:907:LEU:HD23	2:F:907:LEU:H	1.74	0.52
2:H:1385:MET:HG3	2:H:1391:PRO:HD3	1.92	0.52
2:H:1387:THR:CG2	2:H:1451:GLN:H	2.21	0.52
2:F:1172:TYR:CE1	2:F:1216:LEU:HB3	2.44	0.52
2:H:732:ASP:O	2:H:733:ILE:HG12	2.10	0.52
2:D:1385:MET:HG3	2:D:1391:PRO:HD3	1.91	0.52
3:J:631:CYS:SG	3:J:714:ARG:HD2	2.49	0.52
1:A:369:VAL:HG22	1:A:402:VAL:HG22	1.91	0.52
3:I:170:LEU:HD23	3:I:193:CYS:HB3	1.91	0.52
2:F:1123:ALA:O	2:F:1127:ILE:HG13	2.09	0.52
2:B:1338:LYS:N	2:B:1338:LYS:HD2	2.25	0.52
2:B:1038:ARG:NH1	2:B:1077:VAL:HG22	2.25	0.52
3:J:37:CYS:HB3	3:J:41:PHE:HB2	1.92	0.52
3:K:570:ILE:HD13	3:K:688:GLN:HB2	1.91	0.52
2:B:1126:LEU:HD21	2:B:1177:MET:HE3	1.92	0.52
2:H:1338:LYS:HD2	2:H:1338:LYS:N	2.25	0.52
2:F:1617:ASP:O	2:F:1621:GLN:HG3	2.09	0.52
3:L:659:GLY:HA2	3:L:666:ASP:HB2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:369:VAL:HG22	1:G:402:VAL:HG22	1.91	0.52
1:E:223:ILE:HD12	1:E:223:ILE:H	1.75	0.52
3:K:67:THR:HB	3:K:69:ARG:NE	2.25	0.52
3:K:67:THR:O	3:K:69:ARG:HD2	2.09	0.52
2:F:1126:LEU:HD21	2:F:1177:MET:HE3	1.92	0.52
1:A:510:VAL:HG21	1:A:622:LEU:HD12	1.92	0.52
2:H:1126:LEU:HD21	2:H:1177:MET:HE3	1.92	0.52
1:E:22:LEU:HD13	1:E:33:VAL:HG11	1.91	0.52
3:I:205:VAL:HG13	3:I:428:PHE:CD1	2.45	0.52
1:G:603:ILE:HB	1:G:635:ARG:HH12	1.74	0.52
3:K:599:PRO:HB2	3:K:601:GLN:HG2	1.90	0.52
3:I:268:LEU:HB2	3:I:314:LEU:HD21	1.92	0.52
2:B:1385:MET:HG3	2:B:1391:PRO:HD3	1.91	0.52
1:E:434:LEU:HB2	1:E:513:TYR:HE2	1.75	0.52
3:K:268:LEU:HB2	3:K:314:LEU:HD21	1.92	0.51
2:D:1104:HIS:O	2:D:1107:MET:HG2	2.09	0.51
1:A:223:ILE:H	1:A:223:ILE:HD12	1.76	0.51
3:K:220:VAL:HG22	3:K:356:ARG:HD3	1.92	0.51
2:F:1338:LYS:N	2:F:1338:LYS:HD2	2.25	0.51
1:C:22:LEU:HD13	1:C:33:VAL:HG11	1.91	0.51
3:J:570:ILE:HD13	3:J:688:GLN:HB2	1.92	0.51
3:K:60:LEU:N	3:K:60:LEU:HD23	2.16	0.51
1:C:510:VAL:HG21	1:C:622:LEU:HD12	1.91	0.51
1:A:241:LYS:HG2	2:B:804:MET:HE1	1.92	0.51
1:C:472:ILE:HD13	1:C:509:LEU:HD23	1.91	0.51
3:I:454:GLY:H	3:I:570:ILE:HA	1.76	0.51
2:D:751:TRP:HB3	3:J:107:TYR:CD1	2.46	0.51
1:C:370:GLN:HE21	1:C:370:GLN:HA	1.76	0.51
3:J:60:LEU:N	3:J:60:LEU:HD23	2.14	0.51
2:D:1331:LYS:HA	2:D:1332:ASP:C	2.30	0.51
2:H:740:VAL:HG21	3:L:94:PRO:HB3	1.91	0.51
2:D:1172:TYR:CE1	2:D:1216:LEU:HB3	2.45	0.51
3:K:37:CYS:HB3	3:K:41:PHE:HB2	1.92	0.51
2:H:1104:HIS:O	2:H:1107:MET:HG2	2.10	0.51
2:H:889:GLU:HB2	2:H:904:ARG:HG3	1.92	0.51
3:J:15:GLU:C	3:J:17:VAL:H	2.12	0.51
1:A:103:LEU:N	1:A:103:LEU:HD22	2.26	0.51
1:C:541:LEU:HD22	2:D:786:SER:HB3	1.92	0.51
3:L:268:LEU:HB2	3:L:314:LEU:HD21	1.92	0.51
3:L:213:LEU:O	3:L:217:ILE:HG13	2.11	0.51
2:D:804:MET:HG2	2:D:805:GLN:N	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1335:THR:C	2:B:1337:ASN:H	2.15	0.51
2:H:887:GLU:OE2	2:H:904:ARG:HD2	2.11	0.51
1:A:434:LEU:HB2	1:A:513:TYR:HE2	1.75	0.51
3:J:268:LEU:HB2	3:J:314:LEU:HD21	1.92	0.51
1:G:69:PRO:CA	1:G:70:ALA:HB3	2.22	0.51
3:K:62:THR:N	3:K:68:VAL:HG23	2.26	0.51
2:F:1335:THR:C	2:F:1337:ASN:H	2.14	0.51
3:L:206:ALA:HB2	3:L:439:VAL:HG13	1.93	0.51
3:J:292:TYR:HE2	3:J:325:LYS:HD3	1.75	0.51
2:H:968:MET:O	2:H:969:THR:HB	2.10	0.51
3:J:659:GLY:HA2	3:J:666:ASP:HB2	1.93	0.51
2:H:1617:ASP:O	2:H:1621:GLN:HG3	2.09	0.51
1:G:368:ALA:HB2	1:G:376:GLN:HG2	1.93	0.51
3:J:143:PRO:HG3	3:J:186:TRP:CE2	2.45	0.51
1:G:223:ILE:HD12	1:G:223:ILE:H	1.75	0.51
1:C:223:ILE:H	1:C:223:ILE:HD12	1.76	0.51
3:K:650:VAL:HG23	3:K:651:VAL:HG23	1.93	0.51
3:I:650:VAL:HG23	3:I:651:VAL:HG23	1.93	0.51
1:E:404:THR:HG23	1:E:414:GLN:HB3	1.93	0.51
1:C:166:VAL:O	1:C:168:PRO:HD3	2.12	0.50
3:I:659:GLY:HA2	3:I:666:ASP:HB2	1.92	0.50
3:L:143:PRO:HG3	3:L:186:TRP:CE2	2.46	0.50
1:E:368:ALA:HB2	1:E:376:GLN:HG2	1.93	0.50
2:B:1228:PRO:HB2	2:B:1229:PRO:HD3	1.93	0.50
2:B:1525:THR:HG22	2:B:1543:ILE:HA	1.92	0.50
3:K:213:LEU:O	3:K:217:ILE:HG13	2.11	0.50
1:E:370:GLN:HA	1:E:370:GLN:HE21	1.76	0.50
3:I:345:ASP:HA	3:I:346:ASP:O	2.10	0.50
3:J:650:VAL:HG23	3:J:651:VAL:HG23	1.93	0.50
2:B:1397:LYS:HZ2	2:B:1412:LEU:HD23	1.77	0.50
1:C:221:TYR:HD2	1:C:326:ILE:HG23	1.76	0.50
2:B:1566:ILE:N	2:B:1566:ILE:HD12	2.24	0.50
2:D:1123:ALA:O	2:D:1127:ILE:HG13	2.11	0.50
3:I:143:PRO:HG3	3:I:186:TRP:CE2	2.46	0.50
2:B:887:GLU:OE2	2:B:904:ARG:HD2	2.11	0.50
3:K:205:VAL:HG13	3:K:428:PHE:CD1	2.47	0.50
1:C:40:PHE:CE1	2:D:1017:LEU:CD1	2.94	0.50
1:G:166:VAL:O	1:G:168:PRO:HD3	2.12	0.50
3:I:299:VAL:H	3:I:340:MET:HE3	1.76	0.50
1:E:369:VAL:HG22	1:E:402:VAL:HG22	1.92	0.50
3:I:213:LEU:O	3:I:217:ILE:HG13	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:434:LEU:HB2	1:C:513:TYR:HE2	1.75	0.50
1:E:221:TYR:HD2	1:E:326:ILE:HG23	1.76	0.50
3:L:220:VAL:HG22	3:L:356:ARG:HD3	1.93	0.50
3:J:654:ARG:HG3	3:J:722:GLN:CB	2.42	0.50
2:H:1498:ILE:HG22	2:H:1499:GLN:HG2	1.94	0.50
2:B:1172:TYR:CE1	2:B:1216:LEU:HB3	2.47	0.50
3:K:143:PRO:HG3	3:K:186:TRP:CE2	2.46	0.50
1:G:434:LEU:HB2	1:G:513:TYR:HE2	1.77	0.50
2:D:1498:ILE:HG22	2:D:1499:GLN:HG2	1.91	0.50
2:D:1228:PRO:HB2	2:D:1229:PRO:HD3	1.93	0.50
1:A:390:ASN:ND2	1:C:273:ASP:OD2	2.45	0.50
2:D:744:GLU:C	2:D:746:PRO:HD3	2.32	0.50
1:C:404:THR:HG23	1:C:414:GLN:HB3	1.93	0.50
3:J:213:LEU:O	3:J:217:ILE:HG13	2.12	0.50
1:C:368:ALA:HB2	1:C:376:GLN:HG2	1.94	0.50
3:J:430:VAL:HG21	3:J:436:LEU:HB2	1.92	0.50
2:H:1330:ALA:O	2:H:1331:LYS:C	2.50	0.50
1:A:166:VAL:O	1:A:168:PRO:HD3	2.11	0.50
1:A:541:LEU:HD22	2:B:786:SER:HB3	1.93	0.50
2:B:1123:ALA:O	2:B:1127:ILE:HG13	2.11	0.50
2:H:1172:TYR:CE1	2:H:1216:LEU:HB3	2.46	0.50
2:F:1387:THR:CG2	2:F:1451:GLN:H	2.22	0.50
3:L:654:ARG:HG3	3:L:722:GLN:CB	2.42	0.50
2:F:809:ILE:HD11	2:F:892:ALA:HB3	1.94	0.50
3:K:659:GLY:HA2	3:K:666:ASP:HB2	1.93	0.50
2:H:809:ILE:HD11	2:H:892:ALA:HB3	1.94	0.50
3:J:66:LYS:O	3:J:67:THR:C	2.50	0.50
2:H:742:ARG:HB3	2:H:775:ASP:HB3	1.93	0.50
1:E:404:THR:HG23	1:E:414:GLN:HE21	1.77	0.50
3:L:299:VAL:H	3:L:340:MET:HE3	1.77	0.50
3:I:458:GLU:HA	3:I:459:HIS:CB	2.42	0.50
2:B:742:ARG:HB3	2:B:775:ASP:HB3	1.93	0.49
2:F:850:PHE:HZ	2:F:907:LEU:HD21	1.77	0.49
2:H:1123:ALA:O	2:H:1127:ILE:HG13	2.11	0.49
1:C:176:LEU:HD12	2:D:955:GLU:OE2	2.12	0.49
3:K:60:LEU:H	3:K:60:LEU:CD2	2.18	0.49
1:G:404:THR:HG23	1:G:414:GLN:HB3	1.94	0.49
1:E:37:VAL:HG12	1:E:47:LEU:HD12	1.94	0.49
3:L:650:VAL:HG23	3:L:651:VAL:HG23	1.93	0.49
2:F:744:GLU:C	2:F:746:PRO:HD3	2.32	0.49
1:G:20:MET:HB3	1:G:64:VAL:HG23	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1126:LEU:HD21	2:D:1177:MET:HE3	1.93	0.49
3:L:411:GLN:HA	3:L:414:ILE:HG12	1.93	0.49
1:G:221:TYR:HD2	1:G:326:ILE:HG23	1.77	0.49
2:B:744:GLU:C	2:B:746:PRO:HD3	2.33	0.49
3:I:411:GLN:HA	3:I:414:ILE:HG12	1.94	0.49
2:H:751:TRP:CD1	3:L:108:ASP:HB2	2.48	0.49
1:E:176:LEU:HD12	2:F:955:GLU:OE2	2.13	0.49
2:F:804:MET:HG2	2:F:805:GLN:N	2.28	0.49
2:H:1335:THR:C	2:H:1337:ASN:H	2.14	0.49
1:E:541:LEU:HD22	2:F:786:SER:HB3	1.93	0.49
3:I:654:ARG:HG3	3:I:722:GLN:CB	2.42	0.49
2:D:850:PHE:CZ	2:D:907:LEU:HD21	2.47	0.49
3:I:206:ALA:HB2	3:I:439:VAL:HG13	1.94	0.49
2:H:1228:PRO:HB2	2:H:1229:PRO:HD3	1.94	0.49
3:I:220:VAL:HG22	3:I:356:ARG:HD3	1.93	0.49
3:I:164:TYR:CG	3:I:191:PRO:HG2	2.48	0.49
1:A:370:GLN:HE21	1:A:370:GLN:HA	1.77	0.49
1:C:404:THR:HG23	1:C:414:GLN:HE21	1.77	0.49
2:B:1498:ILE:HG22	2:B:1499:GLN:HG2	1.93	0.49
3:K:269:VAL:HG13	3:K:311:THR:HG23	1.94	0.49
2:D:819:ARG:HH12	2:D:1487:GLU:HB3	1.78	0.49
2:H:744:GLU:C	2:H:746:PRO:HD3	2.33	0.49
3:K:158:LEU:HG	3:K:159:GLU:HG3	1.95	0.49
3:J:342:SER:HA	3:J:383:LEU:HD21	1.95	0.49
2:B:809:ILE:HD11	2:B:892:ALA:HB3	1.94	0.49
1:A:368:ALA:HB2	1:A:376:GLN:HG2	1.94	0.49
3:J:158:LEU:HG	3:J:159:GLU:HG3	1.94	0.49
1:C:98:VAL:HG21	2:D:1017:LEU:HD21	1.95	0.49
3:K:67:THR:HG22	3:K:69:ARG:HG3	1.93	0.49
1:C:241:LYS:HG2	2:D:804:MET:HE1	1.95	0.49
2:D:1335:THR:C	2:D:1337:ASN:H	2.15	0.49
3:L:158:LEU:HG	3:L:159:GLU:HG3	1.94	0.49
1:A:37:VAL:HG12	1:A:47:LEU:HD12	1.95	0.49
2:F:1228:PRO:HB2	2:F:1229:PRO:HD3	1.94	0.49
3:J:60:LEU:HD12	3:J:69:ARG:O	2.13	0.49
3:I:250:LEU:HB3	3:I:288:THR:HG22	1.95	0.49
1:A:221:TYR:HD2	1:A:326:ILE:HG23	1.76	0.49
2:H:894:VAL:HG23	2:H:897:HIS:HB2	1.95	0.49
3:J:41:PHE:HD1	3:J:75:ALA:HA	1.78	0.49
1:G:404:THR:HG23	1:G:414:GLN:HE21	1.78	0.49
2:B:1443:GLN:HE21	2:B:1446:ASN:HA	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:809:ILE:HD11	2:D:892:ALA:HB3	1.94	0.49
1:G:15:GLU:HG2	1:G:70:ALA:HB2	1.94	0.48
1:E:166:VAL:O	1:E:168:PRO:HD3	2.12	0.48
3:I:158:LEU:HG	3:I:159:GLU:HG3	1.95	0.48
1:C:37:VAL:HG12	1:C:47:LEU:HD12	1.95	0.48
1:G:370:GLN:HA	1:G:370:GLN:HE21	1.77	0.48
3:J:62:THR:HG23	3:J:68:VAL:CG2	2.43	0.48
1:A:603:ILE:HB	1:A:635:ARG:HH12	1.78	0.48
2:B:1331:LYS:HA	2:B:1332:ASP:C	2.33	0.48
2:H:1133:LYS:O	2:H:1137:GLU:HB2	2.14	0.48
1:A:153:VAL:HG12	2:B:1297:LEU:HD12	1.95	0.48
3:J:724:LEU:HB2	3:J:725:PRO:HD3	1.95	0.48
2:H:1055:TRP:CZ2	2:H:1108:ILE:HA	2.48	0.48
2:F:1103:ILE:HD12	2:F:1103:ILE:H	1.78	0.48
3:K:654:ARG:HG3	3:K:722:GLN:CB	2.42	0.48
3:L:44:TYR:HB3	3:L:72:GLU:O	2.14	0.48
2:B:1103:ILE:H	2:B:1103:ILE:HD12	1.78	0.48
1:A:6:ILE:HD12	1:A:21:VAL:O	2.14	0.48
2:F:1331:LYS:CA	2:F:1332:ASP:HB2	2.41	0.48
2:D:1566:ILE:HD12	2:D:1566:ILE:N	2.27	0.48
1:E:369:VAL:HG12	1:E:371:GLY:H	1.78	0.48
1:A:404:THR:HG23	1:A:414:GLN:HE21	1.78	0.48
2:F:1531:GLN:HB2	2:F:1538:GLU:HB2	1.94	0.48
2:B:1133:LYS:O	2:B:1137:GLU:HB2	2.14	0.48
2:H:1443:GLN:HE21	2:H:1446:ASN:HA	1.79	0.48
1:G:541:LEU:HD22	2:H:786:SER:HB3	1.94	0.48
2:H:742:ARG:HH12	2:H:777:ILE:HG13	1.79	0.48
2:D:1114:ASN:HB2	2:D:1117:LYS:HB2	1.96	0.48
2:B:739:ILE:HB	2:B:891:LYS:HD3	1.94	0.48
1:A:20:MET:HB3	1:A:64:VAL:HG23	1.94	0.48
2:B:777:ILE:HG23	2:B:804:MET:HA	1.95	0.48
2:H:745:PHE:N	2:H:746:PRO:HD3	2.29	0.48
3:I:529:LEU:HD13	3:I:730:LYS:HD2	1.96	0.48
3:K:353:ASN:HB3	4:K:1353:NAG:HN2	1.78	0.48
1:G:6:ILE:HD12	1:G:21:VAL:O	2.14	0.48
2:H:1566:ILE:N	2:H:1566:ILE:HD12	2.28	0.48
1:C:369:VAL:HG12	1:C:371:GLY:H	1.78	0.48
2:H:777:ILE:HG23	2:H:804:MET:HA	1.95	0.48
3:K:164:TYR:CG	3:K:191:PRO:HG2	2.49	0.48
3:I:44:TYR:HB3	3:I:72:GLU:O	2.14	0.48
3:L:724:LEU:HB2	3:L:725:PRO:HD3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:218:GLU:HB3	3:J:452:LEU:HD21	1.94	0.48
1:A:553:PRO:HD2	2:B:802:THR:O	2.14	0.48
1:C:10:ASN:HA	1:C:623:THR:HG23	1.96	0.48
3:J:269:VAL:HG13	3:J:311:THR:HG23	1.94	0.48
3:J:19:ILE:HD12	3:J:20:LYS:N	2.29	0.48
3:L:214:THR:O	3:L:218:GLU:HG3	2.14	0.48
3:I:214:THR:O	3:I:218:GLU:HG3	2.13	0.48
1:A:404:THR:HG23	1:A:414:GLN:HB3	1.94	0.48
1:E:553:PRO:HD2	2:F:802:THR:O	2.14	0.48
3:I:724:LEU:HB2	3:I:725:PRO:HD3	1.95	0.48
1:E:222:TYR:HB3	1:E:225:ASN:HB2	1.96	0.48
1:A:222:TYR:HB3	1:A:225:ASN:HB2	1.96	0.48
2:F:1104:HIS:O	2:F:1107:MET:HG2	2.14	0.48
2:F:1304:GLU:HG2	2:F:1306:GLU:HG2	1.96	0.48
3:J:164:TYR:CG	3:J:191:PRO:HG2	2.49	0.48
2:D:1531:GLN:HB2	2:D:1538:GLU:HB2	1.96	0.48
2:B:1055:TRP:CZ2	2:B:1108:ILE:HA	2.49	0.48
3:J:35:TYR:CE2	3:J:49:ARG:HD2	2.48	0.48
2:F:745:PHE:N	2:F:746:PRO:HD3	2.29	0.48
3:J:214:THR:O	3:J:218:GLU:HG3	2.14	0.48
2:F:1443:GLN:HE21	2:F:1446:ASN:HA	1.79	0.48
3:I:292:TYR:HE2	3:I:325:LYS:HD3	1.78	0.48
1:E:69:PRO:CA	1:E:70:ALA:HB3	2.23	0.47
1:A:4:TYR:O	1:A:626:SER:HA	2.13	0.47
2:B:894:VAL:HG23	2:B:897:HIS:HB2	1.96	0.47
2:F:1566:ILE:HD12	2:F:1566:ILE:N	2.28	0.47
2:B:1216:LEU:HD21	2:B:1256:ALA:HA	1.96	0.47
2:F:777:ILE:HG23	2:F:804:MET:HA	1.96	0.47
2:H:1525:THR:HG22	2:H:1543:ILE:HA	1.95	0.47
3:J:82:HIS:CE1	3:J:150:ARG:HB2	2.49	0.47
1:C:398:LEU:HD22	1:C:400:ILE:HD11	1.97	0.47
1:G:369:VAL:HG12	1:G:371:GLY:H	1.78	0.47
2:B:1114:ASN:HB2	2:B:1117:LYS:HB2	1.95	0.47
2:H:813:LEU:HD23	2:H:907:LEU:HD13	1.96	0.47
3:J:354:ARG:HG2	4:J:1353:NAG:H82	1.96	0.47
1:G:516:ILE:N	1:G:516:ILE:HD12	2.29	0.47
2:D:732:ASP:O	2:D:733:ILE:HG12	2.14	0.47
1:G:222:TYR:HB3	1:G:225:ASN:HB2	1.96	0.47
2:B:1463:LEU:C	2:B:1463:LEU:HD12	2.35	0.47
1:A:236:ARG:HA	1:A:243:VAL:HG23	1.96	0.47
3:L:164:TYR:CG	3:L:191:PRO:HG2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:210:LEU:HD11	3:I:443:MET:HG2	1.97	0.47
3:K:299:VAL:H	3:K:340:MET:HE3	1.78	0.47
2:D:1304:GLU:HG2	2:D:1306:GLU:HG2	1.97	0.47
2:F:1055:TRP:CZ2	2:F:1108:ILE:HA	2.49	0.47
3:L:361:LEU:HD21	3:L:402:VAL:HG22	1.96	0.47
2:F:852:SER:HB3	2:F:878:ILE:HG22	1.96	0.47
1:E:516:ILE:N	1:E:516:ILE:HD12	2.29	0.47
3:K:352:TRP:CZ2	4:K:1353:NAG:C8	2.83	0.47
1:C:100:LEU:HD12	1:C:101:VAL:H	1.80	0.47
2:B:1387:THR:CG2	2:B:1451:GLN:H	2.21	0.47
2:B:1530:VAL:HG12	2:B:1532:LEU:HD22	1.96	0.47
2:B:745:PHE:N	2:B:746:PRO:HD3	2.29	0.47
3:L:513:LYS:HB3	3:L:522:ASP:HB3	1.97	0.47
3:L:250:LEU:HB3	3:L:288:THR:HG22	1.95	0.47
2:D:1443:GLN:HE21	2:D:1446:ASN:HA	1.79	0.47
1:A:516:ILE:HD12	1:A:516:ILE:N	2.29	0.47
3:J:45:PRO:CG	3:J:68:VAL:HG21	2.45	0.47
1:G:398:LEU:HD22	1:G:400:ILE:HD11	1.97	0.47
2:D:813:LEU:HD23	2:D:907:LEU:HB3	1.95	0.47
3:K:214:THR:O	3:K:218:GLU:HG3	2.13	0.47
2:H:1114:ASN:HB2	2:H:1117:LYS:HB2	1.95	0.47
2:D:907:LEU:H	2:D:907:LEU:HD23	1.80	0.47
3:I:248:LEU:HD22	3:I:268:LEU:HD22	1.97	0.47
1:C:569:ALA:HB2	2:D:788:SER:HB2	1.97	0.47
3:L:705:ARG:O	3:L:707:LYS:HG3	2.15	0.47
2:B:1304:GLU:HG2	2:B:1306:GLU:HG2	1.96	0.47
1:G:553:PRO:HD2	2:H:802:THR:O	2.15	0.47
2:D:1494:GLU:HB2	2:D:1602:LYS:HD3	1.97	0.47
3:I:361:LEU:HD21	3:I:402:VAL:HG22	1.95	0.47
3:I:344:PRO:O	3:I:345:ASP:HB3	2.14	0.47
2:F:894:VAL:HG23	2:F:897:HIS:HB2	1.95	0.47
1:C:222:TYR:HB3	1:C:225:ASN:HB2	1.96	0.47
3:K:724:LEU:HB2	3:K:725:PRO:HD3	1.95	0.47
2:F:1507:LEU:HD11	2:F:1629:ALA:HB3	1.96	0.47
3:I:705:ARG:O	3:I:707:LYS:HG3	2.15	0.47
3:I:655:PHE:HA	3:I:717:HIS:O	2.14	0.47
3:J:299:VAL:H	3:J:340:MET:HE3	1.79	0.47
2:D:1154:LEU:HB2	2:D:1174:LEU:HD21	1.97	0.47
1:G:236:ARG:HA	1:G:243:VAL:HG23	1.97	0.47
3:L:292:TYR:HE2	3:L:325:LYS:HD3	1.80	0.47
3:J:240:PRO:HA	3:J:241:SER:HA	1.54	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:1066:LEU:HD23	2:H:1066:LEU:O	2.15	0.47
1:C:516:ILE:N	1:C:516:ILE:HD12	2.29	0.47
2:B:1330:ALA:O	2:B:1331:LYS:C	2.53	0.47
1:E:443:LEU:HD11	1:E:449:LEU:HD22	1.97	0.47
1:E:223:ILE:HD12	1:E:223:ILE:N	2.30	0.47
1:A:223:ILE:N	1:A:223:ILE:HD12	2.30	0.47
2:D:1216:LEU:HD21	2:D:1256:ALA:HA	1.97	0.47
1:C:31:VAL:HG13	1:C:54:LEU:HB2	1.96	0.47
2:D:1290:HIS:CE1	3:J:661:VAL:HG11	2.49	0.47
3:K:423:ASN:HD22	3:K:683:ARG:HH12	1.63	0.47
3:K:35:TYR:CE2	3:K:49:ARG:HD2	2.49	0.47
3:K:19:ILE:HD12	3:K:20:LYS:N	2.30	0.47
2:H:751:TRP:HB3	3:L:107:TYR:CD1	2.50	0.47
3:L:189:THR:HG22	3:L:420:LYS:HB3	1.97	0.47
3:I:513:LYS:HB3	3:I:522:ASP:HB3	1.97	0.47
2:F:1114:ASN:HB2	2:F:1117:LYS:HB2	1.96	0.47
3:L:493:GLU:OE1	3:L:560:LYS:HE3	2.15	0.47
3:K:655:PHE:HA	3:K:717:HIS:O	2.15	0.47
1:E:236:ARG:HA	1:E:243:VAL:HG23	1.97	0.47
3:J:62:THR:N	3:J:68:VAL:HG23	2.30	0.47
2:F:851:CYS:HB3	2:F:879:VAL:HB	1.95	0.47
2:D:1055:TRP:CZ2	2:D:1108:ILE:HA	2.51	0.47
3:K:250:LEU:HB3	3:K:288:THR:HG22	1.97	0.47
3:L:655:PHE:HA	3:L:717:HIS:O	2.15	0.47
3:J:513:LYS:HB3	3:J:522:ASP:HB3	1.97	0.47
2:H:1008:GLU:OE1	2:H:1262:LYS:HD3	2.15	0.47
2:F:1133:LYS:O	2:F:1137:GLU:HB2	2.14	0.47
2:H:751:TRP:NE1	3:L:108:ASP:HB2	2.30	0.46
3:K:705:ARG:O	3:K:707:LYS:HG3	2.15	0.46
3:I:493:GLU:OE1	3:I:560:LYS:HE3	2.15	0.46
3:K:82:HIS:CE1	3:K:150:ARG:HB2	2.50	0.46
1:E:398:LEU:HD22	1:E:400:ILE:HD11	1.96	0.46
1:A:45:LEU:HA	1:A:46:VAL:HA	1.67	0.46
2:D:742:ARG:HB3	2:D:775:ASP:HB3	1.97	0.46
1:A:369:VAL:HG12	1:A:371:GLY:H	1.79	0.46
1:C:553:PRO:HD2	2:D:802:THR:O	2.15	0.46
2:D:1197:ARG:HE	2:D:1199:GLU:CD	2.19	0.46
2:H:882:LYS:HG3	2:H:886:GLN:NE2	2.31	0.46
1:A:25:HIS:HA	1:A:26:ASP:HA	1.52	0.46
1:C:236:ARG:HA	1:C:243:VAL:HG23	1.96	0.46
3:J:703:GLN:HG2	3:J:704:LYS:HG3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:894:VAL:HG23	2:D:897:HIS:HB2	1.96	0.46
2:F:854:ALA:HB2	2:F:860:HIS:HB3	1.98	0.46
1:A:19:THR:HB	1:A:478:LEU:HB2	1.96	0.46
2:D:777:ILE:HG23	2:D:804:MET:HA	1.97	0.46
2:D:1133:LYS:O	2:D:1137:GLU:HB2	2.14	0.46
2:B:904:ARG:NH2	3:I:82:HIS:HB2	2.30	0.46
3:K:342:SER:HA	3:K:383:LEU:HD21	1.97	0.46
3:J:118:ARG:NH1	3:J:130:THR:HA	2.31	0.46
3:J:89:TYR:CE2	3:J:92:ARG:HG2	2.51	0.46
3:J:205:VAL:HG13	3:J:428:PHE:CD1	2.51	0.46
2:D:1532:LEU:HD12	2:D:1532:LEU:N	2.30	0.46
2:F:1331:LYS:HA	2:F:1332:ASP:C	2.36	0.46
2:B:912:GLU:HG3	2:B:1331:LYS:NZ	2.31	0.46
1:G:148:PRO:HD3	1:G:182:TRP:CE2	2.50	0.46
3:I:82:HIS:CE1	3:I:150:ARG:HB2	2.50	0.46
2:D:745:PHE:N	2:D:746:PRO:HD3	2.29	0.46
3:L:240:PRO:HA	3:L:241:SER:HA	1.53	0.46
2:H:852:SER:HB3	2:H:878:ILE:HG22	1.97	0.46
2:F:1154:LEU:HB2	2:F:1174:LEU:HD21	1.97	0.46
2:D:1572:LEU:HB3	2:D:1574:LEU:HG	1.98	0.46
1:E:474:ASN:O	1:E:477:ARG:HG2	2.16	0.46
2:B:1008:GLU:OE1	2:B:1262:LYS:HD3	2.16	0.46
2:D:1103:ILE:H	2:D:1103:ILE:HD12	1.79	0.46
1:E:40:PHE:CE1	2:F:1017:LEU:HD13	2.50	0.46
1:C:45:LEU:HA	1:C:46:VAL:HA	1.67	0.46
2:D:854:ALA:HB2	2:D:860:HIS:HB3	1.97	0.46
1:A:148:PRO:HD3	1:A:182:TRP:CE2	2.50	0.46
2:H:904:ARG:NH2	3:L:82:HIS:HB2	2.30	0.46
2:D:740:VAL:HG21	3:J:94:PRO:HB3	1.95	0.46
3:J:210:LEU:HD11	3:J:443:MET:HG2	1.98	0.46
1:E:20:MET:HB3	1:E:64:VAL:HG23	1.97	0.46
2:D:852:SER:HB3	2:D:878:ILE:HG22	1.97	0.46
2:F:1066:LEU:O	2:F:1066:LEU:HD23	2.14	0.46
2:B:1301:GLU:CD	2:B:1301:GLU:H	2.19	0.46
3:K:67:THR:O	3:K:69:ARG:N	2.48	0.46
1:E:100:LEU:HD12	1:E:101:VAL:H	1.81	0.46
1:A:19:THR:HB	1:A:478:LEU:HD12	1.97	0.46
1:A:398:LEU:HD22	1:A:400:ILE:HD11	1.97	0.46
1:C:148:PRO:HD3	1:C:182:TRP:CE2	2.51	0.46
2:H:1304:GLU:HG2	2:H:1306:GLU:HG2	1.97	0.46
3:J:31:GLN:HA	3:J:51:CYS:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:569:ALA:HB2	2:F:788:SER:HB2	1.97	0.46
3:K:89:TYR:CE2	3:K:92:ARG:HG2	2.50	0.46
2:H:940:ILE:HD12	2:H:1308:PHE:CE2	2.51	0.46
3:I:622:ILE:HA	3:I:658:THR:HG22	1.98	0.46
1:C:443:LEU:HD11	1:C:449:LEU:HD22	1.97	0.46
2:H:1216:LEU:HD21	2:H:1256:ALA:HA	1.97	0.46
2:F:1197:ARG:HE	2:F:1199:GLU:CD	2.19	0.46
3:J:296:TRP:CE2	3:J:317:ILE:HG22	2.51	0.46
1:C:157:SER:HB3	3:J:630:SER:OG	2.16	0.46
1:G:37:VAL:HG12	1:G:47:LEU:HD12	1.97	0.46
3:J:456:VAL:HG12	3:J:457:TRP:N	2.31	0.46
2:F:940:ILE:HD12	2:F:1308:PHE:CE2	2.51	0.46
3:J:705:ARG:O	3:J:707:LYS:HG3	2.16	0.46
1:C:215:GLU:HG2	1:C:321:ARG:HH22	1.81	0.46
2:H:1527:LEU:HD23	2:H:1575:GLU:C	2.36	0.46
1:E:148:PRO:HD3	1:E:182:TRP:CE2	2.51	0.46
3:L:82:HIS:CE1	3:L:150:ARG:HB2	2.50	0.46
1:C:474:ASN:O	1:C:477:ARG:HG2	2.16	0.46
2:H:1572:LEU:HB3	2:H:1574:LEU:HG	1.98	0.46
2:B:1056:LEU:O	2:B:1060:VAL:HG23	2.16	0.46
1:E:31:VAL:HG13	1:E:54:LEU:HB2	1.96	0.46
1:A:352:VAL:HB	1:A:385:ALA:HB3	1.98	0.46
1:C:352:VAL:HB	1:C:385:ALA:HB3	1.98	0.46
3:K:513:LYS:HB3	3:K:522:ASP:HB3	1.97	0.46
2:D:1066:LEU:HD23	2:D:1066:LEU:O	2.14	0.46
1:E:45:LEU:HA	1:E:46:VAL:HA	1.67	0.46
1:C:147:ASN:HA	1:C:182:TRP:CE3	2.51	0.46
1:C:223:ILE:N	1:C:223:ILE:HD12	2.30	0.46
2:H:1525:THR:HB	2:H:1541:MET:HB3	1.98	0.46
3:K:529:LEU:HD13	3:K:730:LYS:HD2	1.97	0.46
1:A:427:VAL:HB	1:A:523:GLU:HG3	1.98	0.46
2:H:1056:LEU:O	2:H:1060:VAL:HG23	2.16	0.46
1:A:624:PHE:H	1:A:632:THR:CG2	2.29	0.46
3:I:437:GLU:HB3	3:I:441:TYR:CE2	2.51	0.46
1:G:474:ASN:O	1:G:477:ARG:HG2	2.15	0.46
3:J:655:PHE:HA	3:J:717:HIS:O	2.15	0.46
2:H:1103:ILE:HD12	2:H:1103:ILE:H	1.81	0.46
2:B:804:MET:HG2	2:B:805:GLN:H	1.80	0.46
2:D:804:MET:HG2	2:D:805:GLN:H	1.81	0.46
1:A:147:ASN:HA	1:A:182:TRP:CE3	2.51	0.46
1:G:223:ILE:HD12	1:G:223:ILE:N	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:20:MET:HB3	1:C:64:VAL:HG23	1.98	0.46
2:D:966:ALA:HA	2:D:1267:HIS:HB3	1.97	0.46
2:F:1572:LEU:HB3	2:F:1574:LEU:HG	1.98	0.46
3:K:296:TRP:CE2	3:K:317:ILE:HG22	2.51	0.46
1:A:31:VAL:HG13	1:A:54:LEU:HB2	1.98	0.46
2:B:1066:LEU:O	2:B:1066:LEU:HD23	2.16	0.46
1:C:83:PHE:CZ	1:C:100:LEU:HD13	2.51	0.45
3:J:82:HIS:HE1	3:J:150:ARG:HB2	1.82	0.45
3:I:118:ARG:NH1	3:I:130:THR:HA	2.31	0.45
1:E:427:VAL:HB	1:E:523:GLU:HG3	1.98	0.45
2:D:882:LYS:HG3	2:D:886:GLN:NE2	2.30	0.45
2:B:940:ILE:HD12	2:B:1308:PHE:CE2	2.51	0.45
1:C:23:GLU:HG2	1:C:483:ARG:HH21	1.81	0.45
2:F:1331:LYS:HA	2:F:1332:ASP:CB	2.39	0.45
3:I:431:LYS:HB3	3:I:435:ASN:HD22	1.81	0.45
2:B:1103:ILE:N	2:B:1103:ILE:HD12	2.31	0.45
3:J:529:LEU:HD13	3:J:730:LYS:HD2	1.97	0.45
2:F:1155:GLU:HG3	2:F:1184:LEU:HD21	1.99	0.45
2:B:1572:LEU:HB3	2:B:1574:LEU:HG	1.97	0.45
1:G:10:ASN:ND2	1:G:621:GLY:HA2	2.30	0.45
2:B:1155:GLU:HG3	2:B:1184:LEU:HD21	1.97	0.45
3:I:89:TYR:CE2	3:I:92:ARG:HG2	2.51	0.45
3:K:679:ILE:HG21	3:K:686:PHE:HB3	1.98	0.45
3:K:62:THR:HG23	3:K:68:VAL:CG2	2.46	0.45
2:H:854:ALA:HB2	2:H:860:HIS:HB3	1.98	0.45
3:K:703:GLN:HG2	3:K:704:LYS:HG3	1.98	0.45
2:B:1153:PHE:HE1	2:F:1236:GLU:OE1	1.99	0.45
2:B:1520:ASP:HB2	2:B:1586:SER:HB3	1.97	0.45
2:H:1380:ILE:HD12	2:H:1380:ILE:N	2.32	0.45
2:H:839:LYS:HB3	2:H:895:TYR:HB2	1.99	0.45
1:G:634:GLN:NE2	2:H:1017:LEU:HD23	2.31	0.45
1:A:400:ILE:HD12	1:A:400:ILE:N	2.32	0.45
1:G:147:ASN:HA	1:G:182:TRP:CE3	2.51	0.45
2:B:1525:THR:HB	2:B:1541:MET:HB3	1.98	0.45
3:L:19:ILE:HG13	3:L:71:ALA:C	2.37	0.45
1:G:427:VAL:HB	1:G:523:GLU:HG3	1.97	0.45
1:G:352:VAL:HB	1:G:385:ALA:HB3	1.99	0.45
2:F:882:LYS:HG3	2:F:886:GLN:NE2	2.31	0.45
2:H:1376:ALA:HB3	2:H:1429:VAL:HG23	1.99	0.45
1:C:25:HIS:HA	1:C:26:ASP:HA	1.55	0.45
3:K:241:SER:HA	3:K:242:GLY:HA3	1.73	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1296:LEU:HD23	2:B:1298:ARG:CZ	2.46	0.45
3:L:89:TYR:CE2	3:L:92:ARG:HG2	2.52	0.45
1:G:241:LYS:HG2	2:H:804:MET:HE1	1.98	0.45
2:F:1103:ILE:HD12	2:F:1103:ILE:N	2.31	0.45
2:D:918:LYS:HE3	2:D:1326:TYR:OH	2.16	0.45
2:F:887:GLU:OE2	2:F:904:ARG:HD2	2.15	0.45
2:B:882:LYS:HG3	2:B:886:GLN:NE2	2.31	0.45
3:J:493:GLU:OE1	3:J:560:LYS:HE3	2.16	0.45
3:L:431:LYS:HB3	3:L:435:ASN:HD22	1.82	0.45
2:F:918:LYS:HE3	2:F:1326:TYR:OH	2.17	0.45
2:D:940:ILE:HD12	2:D:1308:PHE:CE2	2.51	0.45
2:B:1154:LEU:HB2	2:B:1174:LEU:HD21	1.99	0.45
2:H:1197:ARG:HE	2:H:1199:GLU:CD	2.19	0.45
3:J:250:LEU:HB3	3:J:288:THR:HG22	1.99	0.45
2:D:1315:LYS:HD2	2:D:1315:LYS:N	2.32	0.45
2:B:839:LYS:HB3	2:B:895:TYR:HB2	1.99	0.45
1:E:400:ILE:HD12	1:E:400:ILE:N	2.32	0.45
1:G:19:THR:HB	1:G:478:LEU:HB2	1.99	0.45
2:D:1095:VAL:HG13	2:D:1122:THR:OG1	2.16	0.45
3:L:529:LEU:HD13	3:L:730:LYS:HD2	1.97	0.45
1:G:569:ALA:HB2	2:H:788:SER:HB2	1.97	0.45
3:J:679:ILE:HG21	3:J:686:PHE:HB3	1.99	0.45
1:E:151:ILE:HG22	2:F:1297:LEU:HG	1.97	0.45
2:D:1463:LEU:HD23	2:D:1463:LEU:O	2.17	0.45
3:J:35:TYR:OH	3:J:49:ARG:HD2	2.17	0.45
2:H:1337:ASN:HB3	2:H:1338:LYS:HD2	1.99	0.45
3:L:622:ILE:HA	3:L:658:THR:HG22	1.99	0.45
2:H:1223:ASP:O	2:H:1227:VAL:HG23	2.17	0.45
1:G:145:ILE:O	1:G:153:VAL:HG22	2.17	0.45
2:B:1065:SER:OG	2:B:1132:ALA:HB2	2.16	0.45
3:I:703:GLN:HG2	3:I:704:LYS:HG3	1.98	0.45
2:D:1507:LEU:HD11	2:D:1629:ALA:HB3	1.99	0.45
1:E:95:VAL:HG22	1:E:627:SER:HB3	1.98	0.45
3:I:278:TYR:CD1	3:I:450:LEU:HD11	2.52	0.45
2:B:733:ILE:HG13	2:B:734:ILE:N	2.31	0.45
2:F:1017:LEU:HD12	2:F:1018:GLU:N	2.21	0.45
2:D:1387:THR:CG2	2:D:1451:GLN:H	2.22	0.45
3:I:347:VAL:HG13	3:I:349:PRO:CG	2.47	0.45
2:H:1641:ASN:N	3:L:326:SER:O	2.50	0.45
1:E:147:ASN:HA	1:E:182:TRP:CE3	2.52	0.45
2:B:852:SER:HB3	2:B:878:ILE:HG22	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1376:ALA:HB3	2:D:1429:VAL:HG23	1.99	0.45
2:H:1458:TYR:HB3	2:H:1466:SER:HB3	1.99	0.45
1:C:39:ASP:OD2	1:C:44:LYS:HB3	2.17	0.45
1:E:343:LYS:N	1:E:343:LYS:HD2	2.31	0.45
2:F:1532:LEU:HD12	2:F:1532:LEU:N	2.31	0.45
1:G:400:ILE:HD12	1:G:400:ILE:N	2.32	0.45
2:B:1331:LYS:HA	2:B:1332:ASP:HB2	1.98	0.45
1:A:302:LEU:HG	1:A:326:ILE:HD11	1.99	0.45
3:K:218:GLU:HB3	3:K:452:LEU:HD21	1.99	0.45
3:K:240:PRO:HA	3:K:241:SER:HA	1.53	0.45
2:B:1119:MET:SD	2:B:1157:ASN:HB2	2.57	0.45
3:J:110:TYR:CE1	3:J:135:ASN:HB3	2.52	0.45
3:K:286:LEU:H	3:K:297:VAL:HB	1.82	0.45
1:E:352:VAL:HB	1:E:385:ALA:HB3	2.00	0.45
3:K:493:GLU:OE1	3:K:560:LYS:HE3	2.16	0.45
1:C:427:VAL:HB	1:C:523:GLU:HG3	1.99	0.45
1:C:193:GLN:CD	1:C:193:GLN:H	2.20	0.45
2:H:1463:LEU:O	2:H:1463:LEU:HD23	2.17	0.45
3:K:353:ASN:OD1	3:K:354:ARG:HG3	2.17	0.44
1:E:268:ARG:HD3	2:F:1378:MET:CE	2.47	0.44
3:I:349:PRO:HD2	3:I:352:TRP:CD1	2.53	0.44
2:B:1337:ASN:HB3	2:B:1338:LYS:HD2	2.00	0.44
3:K:622:ILE:HA	3:K:658:THR:HG22	1.99	0.44
3:L:248:LEU:HD22	3:L:268:LEU:HD22	1.99	0.44
2:H:1103:ILE:N	2:H:1103:ILE:HD12	2.32	0.44
2:F:1296:LEU:HD23	2:F:1298:ARG:CZ	2.47	0.44
2:D:851:CYS:HB3	2:D:879:VAL:HB	2.00	0.44
2:D:1380:ILE:HD12	2:D:1380:ILE:N	2.32	0.44
1:C:400:ILE:HD12	1:C:400:ILE:N	2.32	0.44
2:D:811:LEU:HD22	2:D:890:VAL:HG22	2.00	0.44
1:A:569:ALA:HB2	2:B:788:SER:HB2	1.97	0.44
1:A:474:ASN:O	1:A:477:ARG:HG2	2.17	0.44
1:A:193:GLN:CD	1:A:193:GLN:H	2.20	0.44
1:E:83:PHE:CZ	1:E:100:LEU:HD13	2.51	0.44
1:E:45:LEU:H	1:E:45:LEU:CD2	2.31	0.44
2:F:1337:ASN:HB3	2:F:1338:LYS:HD2	1.99	0.44
3:L:703:GLN:HG2	3:L:704:LYS:HG3	1.98	0.44
3:L:437:GLU:HB3	3:L:441:TYR:CE2	2.51	0.44
2:F:811:LEU:HD22	2:F:890:VAL:HG22	1.99	0.44
3:K:110:TYR:CE1	3:K:135:ASN:HB3	2.52	0.44
3:L:679:ILE:HG21	3:L:686:PHE:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1197:ARG:HE	2:B:1199:GLU:CD	2.21	0.44
1:E:193:GLN:H	1:E:193:GLN:CD	2.20	0.44
2:F:1380:ILE:HD12	2:F:1380:ILE:N	2.32	0.44
2:F:1315:LYS:N	2:F:1315:LYS:HD2	2.32	0.44
3:K:35:TYR:OH	3:K:49:ARG:HD2	2.18	0.44
1:C:145:ILE:O	1:C:153:VAL:HG22	2.18	0.44
3:K:216:THR:O	3:K:220:VAL:HG23	2.18	0.44
3:K:406:GLY:O	3:K:408:LEU:N	2.49	0.44
1:A:5:SER:HA	1:A:625:THR:O	2.17	0.44
2:F:1216:LEU:HD21	2:F:1256:ALA:HA	1.98	0.44
2:H:751:TRP:HD1	3:L:108:ASP:H	1.66	0.44
1:E:624:PHE:H	1:E:632:THR:CG2	2.31	0.44
2:B:918:LYS:HE3	2:B:1326:TYR:OH	2.16	0.44
3:K:568:ARG:HA	3:K:569:PRO:HD3	1.89	0.44
3:L:118:ARG:NH1	3:L:130:THR:HA	2.33	0.44
2:H:918:LYS:HE3	2:H:1326:TYR:OH	2.17	0.44
2:B:1315:LYS:N	2:B:1315:LYS:HD2	2.33	0.44
1:G:343:LYS:N	1:G:343:LYS:HD2	2.32	0.44
1:A:343:LYS:N	1:A:343:LYS:HD2	2.32	0.44
1:C:343:LYS:HD2	1:C:343:LYS:N	2.32	0.44
3:I:347:VAL:HG13	3:I:349:PRO:CD	2.48	0.44
1:A:5:SER:OG	1:A:23:GLU:HB2	2.18	0.44
3:J:286:LEU:H	3:J:297:VAL:HB	1.82	0.44
3:L:364:ASP:HB3	3:L:406:GLY:HA3	2.00	0.44
1:G:624:PHE:H	1:G:632:THR:CG2	2.30	0.44
2:B:1458:TYR:HB3	2:B:1466:SER:HB3	1.99	0.44
1:G:31:VAL:HG13	1:G:54:LEU:HB2	1.99	0.44
2:F:1463:LEU:O	2:F:1463:LEU:HD23	2.18	0.44
1:C:268:ARG:HD3	2:D:1378:MET:CE	2.48	0.44
1:E:40:PHE:CE1	2:F:1017:LEU:CD1	3.01	0.44
2:F:1017:LEU:C	2:F:1019:LYS:H	2.21	0.44
3:I:349:PRO:HG2	3:I:352:TRP:HB3	1.99	0.44
3:K:76:ILE:HG12	3:K:197:PHE:CE1	2.52	0.44
2:H:1017:LEU:C	2:H:1019:LYS:H	2.20	0.44
1:A:443:LEU:HD11	1:A:449:LEU:HD22	1.99	0.44
3:L:435:ASN:O	3:L:439:VAL:HG23	2.18	0.44
1:A:145:ILE:O	1:A:153:VAL:HG22	2.17	0.44
2:H:907:LEU:HD23	2:H:907:LEU:H	1.83	0.44
3:K:705:ARG:HA	3:K:705:ARG:HD3	1.87	0.44
3:I:45:PRO:HB3	3:I:62:THR:HG22	1.99	0.44
2:B:956:THR:HG23	2:B:1324:THR:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:110:TYR:CE1	3:I:135:ASN:HB3	2.53	0.44
1:E:39:ASP:OD2	1:E:44:LYS:HB3	2.18	0.44
2:H:1405:ARG:HE	2:H:1437:LEU:HD23	1.82	0.44
2:D:1593:LYS:HE2	2:D:1596:LEU:HD11	2.00	0.44
1:C:323:GLY:O	1:C:325:PRO:HD3	2.18	0.44
3:J:216:THR:O	3:J:220:VAL:HG23	2.18	0.44
2:H:1315:LYS:N	2:H:1315:LYS:HD2	2.32	0.44
1:C:93:GLN:HE21	1:C:627:SER:HB2	1.82	0.44
3:J:57:TRP:O	3:J:58:SER:C	2.56	0.44
2:F:1286:THR:HG22	3:K:665:ALA:HB3	2.00	0.44
1:E:147:ASN:HB2	1:E:148:PRO:CD	2.48	0.44
1:G:302:LEU:HG	1:G:326:ILE:HD11	2.00	0.44
2:D:1103:ILE:N	2:D:1103:ILE:HD12	2.32	0.44
3:I:342:SER:HA	3:I:383:LEU:HD21	2.00	0.44
4:K:1353:NAG:O3	4:K:1353:NAG:H83	2.18	0.44
2:H:732:ASP:CG	2:H:733:ILE:H	2.21	0.44
3:L:454:GLY:H	3:L:570:ILE:HA	1.83	0.44
1:E:10:ASN:HA	1:E:623:THR:HG23	1.98	0.44
1:E:469:THR:O	1:E:511:ALA:HA	2.18	0.44
3:I:32:ALA:HA	3:I:57:TRP:HZ3	1.83	0.44
2:D:839:LYS:HB3	2:D:895:TYR:HB2	1.99	0.44
2:D:1331:LYS:CA	2:D:1332:ASP:HB2	2.48	0.44
1:A:147:ASN:HB2	1:A:148:PRO:CD	2.48	0.44
2:F:1481:ASN:ND2	2:F:1567:LYS:HE3	2.32	0.44
2:H:1055:TRP:HZ2	2:H:1248:GLN:HE21	1.66	0.44
3:L:343:TRP:HA	3:L:344:PRO:HD3	1.86	0.44
1:C:469:THR:O	1:C:511:ALA:HA	2.18	0.44
3:K:118:ARG:NH1	3:K:130:THR:HA	2.33	0.44
3:I:371:GLY:O	3:I:373:PRO:HD3	2.18	0.44
2:B:1539:TYR:HB2	2:B:1562:PHE:HB2	2.00	0.44
2:H:853:LEU:HB2	2:H:860:HIS:CD2	2.53	0.43
3:J:622:ILE:HA	3:J:658:THR:HG22	2.00	0.43
1:G:443:LEU:HD11	1:G:449:LEU:HD22	1.98	0.43
1:A:215:GLU:HG2	1:A:321:ARG:HH22	1.83	0.43
1:G:147:ASN:HB2	1:G:148:PRO:CD	2.48	0.43
2:F:850:PHE:CZ	2:F:907:LEU:HD21	2.52	0.43
3:I:216:THR:O	3:I:220:VAL:HG23	2.18	0.43
3:I:478:ARG:HB2	3:I:482:GLY:HA3	2.00	0.43
2:D:1119:MET:SD	2:D:1157:ASN:HB2	2.58	0.43
2:H:1064:PHE:O	2:H:1068:VAL:HG13	2.18	0.43
2:H:811:LEU:HD22	2:H:890:VAL:HG22	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:624:PHE:H	1:C:632:THR:CG2	2.31	0.43
1:E:145:ILE:O	1:E:153:VAL:HG22	2.17	0.43
2:D:1155:GLU:HG3	2:D:1184:LEU:HD21	1.99	0.43
1:G:15:GLU:CG	1:G:70:ALA:HB2	2.48	0.43
2:F:839:LYS:HB3	2:F:895:TYR:HB2	2.00	0.43
1:E:98:VAL:HG21	2:F:1017:LEU:HD21	2.00	0.43
1:A:6:ILE:CG2	1:A:625:THR:HB	2.48	0.43
2:B:853:LEU:HB2	2:B:860:HIS:CD2	2.53	0.43
2:D:1337:ASN:HB3	2:D:1338:LYS:HD2	1.99	0.43
3:I:705:ARG:HA	3:I:705:ARG:HD3	1.87	0.43
3:I:19:ILE:HG13	3:I:71:ALA:C	2.39	0.43
1:C:14:LEU:HD22	1:C:69:PRO:O	2.18	0.43
3:K:27:LEU:O	3:K:28:GLN:O	2.37	0.43
2:H:804:MET:HG2	2:H:805:GLN:H	1.82	0.43
3:J:456:VAL:HG12	3:J:457:TRP:H	1.83	0.43
2:H:1165:TYR:HD1	2:H:1210:ALA:HB2	1.83	0.43
2:H:958:ILE:O	2:H:1299:SER:HA	2.18	0.43
3:I:679:ILE:HG21	3:I:686:PHE:HB3	2.01	0.43
2:D:824:GLU:OE2	2:D:875:PRO:HB3	2.19	0.43
2:F:958:ILE:O	2:F:1299:SER:HA	2.19	0.43
3:J:29:GLU:N	3:J:30:GLY:CA	2.70	0.43
2:B:854:ALA:HB2	2:B:860:HIS:HB3	1.98	0.43
2:B:1641:ASN:N	3:I:326:SER:O	2.51	0.43
3:I:172:LEU:HD11	3:I:191:PRO:HB3	2.00	0.43
2:F:1056:LEU:O	2:F:1060:VAL:HG23	2.18	0.43
1:G:469:THR:O	1:G:511:ALA:HA	2.17	0.43
1:G:255:ASP:CG	1:G:256:GLY:H	2.22	0.43
2:B:1376:ALA:HB3	2:B:1429:VAL:HG23	1.99	0.43
2:F:824:GLU:OE2	2:F:875:PRO:HB3	2.18	0.43
3:I:328:THR:CG2	3:I:367:HIS:HA	2.49	0.43
3:L:110:TYR:CE1	3:L:135:ASN:HB3	2.52	0.43
3:L:121:GLN:HE21	3:L:127:SER:HB3	1.84	0.43
2:B:824:GLU:OE2	2:B:875:PRO:HB3	2.19	0.43
2:B:1380:ILE:N	2:B:1380:ILE:HD12	2.32	0.43
2:D:1378:MET:HE2	2:D:1378:MET:HB3	1.89	0.43
2:D:1017:LEU:C	2:D:1019:LYS:H	2.22	0.43
1:E:40:PHE:HD2	1:E:83:PHE:HB2	1.83	0.43
3:K:220:VAL:O	3:K:222:ALA:N	2.50	0.43
2:B:1496:CYS:HB3	2:B:1568:CYS:HB3	1.80	0.43
2:B:751:TRP:CD1	3:I:108:ASP:HB2	2.54	0.43
2:D:927:PRO:O	2:D:928:GLU:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1458:TYR:HB3	2:F:1466:SER:HB3	1.99	0.43
1:A:344:PRO:HD2	1:A:433:TYR:CE1	2.54	0.43
3:L:45:PRO:HB3	3:L:62:THR:HG22	1.99	0.43
2:B:811:LEU:HD22	2:B:890:VAL:HG22	1.99	0.43
1:C:439:LEU:HD12	1:C:439:LEU:H	1.83	0.43
3:I:344:PRO:HB2	3:I:346:ASP:HB2	2.01	0.43
1:A:100:LEU:HD21	1:A:638:LEU:HA	1.99	0.43
1:C:241:LYS:HG3	2:D:832:TYR:CE1	2.54	0.43
2:B:1332:ASP:HB3	2:B:1333:GLN:H	1.68	0.43
1:E:302:LEU:HG	1:E:326:ILE:HD11	2.01	0.43
2:F:1108:ILE:HD11	2:F:1112:ARG:HA	2.01	0.43
1:A:255:ASP:CG	1:A:256:GLY:H	2.21	0.43
2:B:1064:PHE:O	2:B:1068:VAL:HG13	2.18	0.43
2:H:1520:ASP:HB2	2:H:1586:SER:HB3	1.99	0.43
2:H:1257:LEU:O	2:H:1261:GLN:HG2	2.19	0.43
2:D:1397:LYS:HZ2	2:D:1412:LEU:HD23	1.83	0.43
1:C:344:PRO:HD2	1:C:433:TYR:CE1	2.54	0.43
1:C:255:ASP:CG	1:C:256:GLY:H	2.21	0.43
2:F:1031:TYR:O	2:F:1035:LEU:HG	2.19	0.43
1:G:193:GLN:CD	1:G:193:GLN:H	2.21	0.43
1:C:628:SER:HB2	1:C:630:GLN:NE2	2.16	0.43
1:C:23:GLU:CG	1:C:483:ARG:HH21	2.31	0.43
3:K:407:PRO:O	3:K:408:LEU:HD22	2.19	0.43
3:K:28:GLN:O	3:K:29:GLU:HB2	2.18	0.43
1:E:215:GLU:HG2	1:E:321:ARG:HH22	1.83	0.43
2:H:1593:LYS:HE2	2:H:1596:LEU:HD11	2.01	0.43
1:G:344:PRO:HD2	1:G:433:TYR:CE1	2.54	0.43
2:B:1260:TYR:O	2:B:1264:ALA:HB2	2.19	0.43
2:H:824:GLU:OE2	2:H:875:PRO:HB3	2.18	0.43
1:E:439:LEU:H	1:E:439:LEU:HD12	1.83	0.43
2:F:1223:ASP:O	2:F:1227:VAL:HG23	2.19	0.43
3:K:172:LEU:HD11	3:K:191:PRO:HB3	2.01	0.43
3:K:82:HIS:HE1	3:K:150:ARG:HB2	1.82	0.43
1:E:25:HIS:HA	1:E:26:ASP:HA	1.55	0.43
2:B:1031:TYR:O	2:B:1035:LEU:HG	2.19	0.43
2:D:1520:ASP:HB2	2:D:1586:SER:HB3	2.01	0.43
1:A:469:THR:O	1:A:511:ALA:HA	2.19	0.43
1:C:219:LYS:NZ	1:C:356:ASN:HD22	2.17	0.43
3:I:347:VAL:HA	3:I:348:PRO:O	2.18	0.43
2:B:1017:LEU:C	2:B:1019:LYS:H	2.21	0.43
2:H:904:ARG:HH22	3:L:82:HIS:HB2	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1223:ASP:O	2:B:1227:VAL:HG23	2.19	0.43
2:B:1215:LEU:HD23	2:B:1256:ALA:HB1	2.00	0.43
2:F:1064:PHE:O	2:F:1068:VAL:HG13	2.19	0.43
2:H:956:THR:HG23	2:H:1324:THR:HG22	2.00	0.43
2:B:1497:PHE:HA	2:B:1601:GLY:O	2.18	0.43
1:G:25:HIS:HA	1:G:26:ASP:HA	1.52	0.43
3:J:278:TYR:CD1	3:J:450:LEU:HD11	2.54	0.43
1:E:255:ASP:CG	1:E:256:GLY:H	2.22	0.43
3:L:216:THR:O	3:L:220:VAL:HG23	2.19	0.43
2:B:746:PRO:HG2	2:B:774:LYS:HE3	2.01	0.43
3:K:250:LEU:HD12	3:K:362:MET:HB2	2.00	0.43
2:F:1405:ARG:HE	2:F:1437:LEU:HD23	1.84	0.43
3:L:25:ARG:CZ	3:L:27:LEU:HD21	2.49	0.43
3:L:101:GLU:HG2	3:L:119:THR:OG1	2.19	0.43
2:B:927:PRO:O	2:B:928:GLU:HB2	2.19	0.43
2:F:966:ALA:HB2	2:F:1291:TRP:CH2	2.54	0.43
3:J:69:ARG:H	3:J:69:ARG:HD2	1.84	0.42
1:A:82:LYS:HD2	1:A:103:LEU:HD21	2.01	0.42
2:B:1110:GLY:HA3	2:B:1165:TYR:CZ	2.54	0.42
3:I:458:GLU:HA	3:I:459:HIS:C	2.38	0.42
2:H:1227:VAL:HB	2:H:1228:PRO:HD3	2.01	0.42
3:L:705:ARG:HD3	3:L:705:ARG:HA	1.87	0.42
2:D:1458:TYR:HB3	2:D:1466:SER:HB3	2.00	0.42
3:I:582:LEU:HD21	3:I:597:LEU:HD21	2.01	0.42
3:I:121:GLN:HE21	3:I:127:SER:HB3	1.84	0.42
2:D:1231:VAL:HG21	2:D:1260:TYR:CE1	2.54	0.42
2:D:1264:ALA:HA	2:D:1265:PRO:HD3	1.89	0.42
3:J:76:ILE:HG12	3:J:197:PHE:CE1	2.54	0.42
3:I:435:ASN:O	3:I:439:VAL:HG23	2.18	0.42
3:L:171:THR:HG23	3:L:412:VAL:HG22	2.01	0.42
3:L:371:GLY:O	3:L:373:PRO:HD3	2.18	0.42
2:B:816:SER:HB2	2:B:910:VAL:HG23	2.00	0.42
3:L:210:LEU:HD11	3:L:443:MET:HG2	2.01	0.42
2:F:956:THR:HG23	2:F:1324:THR:HG22	2.00	0.42
3:I:364:ASP:HB3	3:I:406:GLY:HA3	2.01	0.42
3:I:269:VAL:HG13	3:I:311:THR:HG23	2.02	0.42
1:C:147:ASN:HB2	1:C:148:PRO:CD	2.49	0.42
3:J:41:PHE:HB3	3:J:74:ARG:O	2.19	0.42
3:I:706:GLN:C	3:I:708:GLN:H	2.23	0.42
3:I:692:ILE:HG12	3:I:717:HIS:CE1	2.54	0.42
3:K:692:ILE:HG12	3:K:717:HIS:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:437:GLU:HB3	3:L:441:TYR:HE2	1.84	0.42
2:D:958:ILE:O	2:D:1299:SER:HA	2.20	0.42
2:D:1405:ARG:HE	2:D:1437:LEU:HD23	1.84	0.42
1:E:323:GLY:O	1:E:325:PRO:HD3	2.18	0.42
2:D:1257:LEU:O	2:D:1261:GLN:HG2	2.19	0.42
3:I:189:THR:HG22	3:I:420:LYS:HB3	2.01	0.42
1:G:45:LEU:HA	1:G:46:VAL:HA	1.67	0.42
3:K:80:ARG:HA	3:K:81:PRO:HD3	1.92	0.42
2:D:1107:MET:O	2:D:1248:GLN:HG2	2.19	0.42
3:I:82:HIS:HE1	3:I:150:ARG:HB2	1.83	0.42
3:J:172:LEU:HD11	3:J:191:PRO:HB3	2.01	0.42
2:B:1108:ILE:HD11	2:B:1112:ARG:HA	2.01	0.42
3:L:172:LEU:HD11	3:L:191:PRO:HB3	2.01	0.42
2:H:1008:GLU:CD	2:H:1262:LYS:HD3	2.39	0.42
2:D:1397:LYS:NZ	2:D:1412:LEU:HD23	2.34	0.42
2:D:1031:TYR:O	2:D:1035:LEU:HG	2.19	0.42
1:E:344:PRO:HD2	1:E:433:TYR:CE1	2.53	0.42
2:F:1119:MET:SD	2:F:1157:ASN:HB2	2.58	0.42
1:A:567:HIS:ND1	2:B:760:PRO:HG3	2.34	0.42
2:D:1056:LEU:O	2:D:1060:VAL:HG23	2.18	0.42
2:D:1064:PHE:O	2:D:1068:VAL:HG13	2.19	0.42
3:L:683:ARG:O	3:L:685:ARG:HG2	2.20	0.42
3:J:343:TRP:HA	3:J:344:PRO:HD3	1.90	0.42
2:H:1119:MET:SD	2:H:1157:ASN:HB2	2.59	0.42
2:H:1296:LEU:HD23	2:H:1298:ARG:CZ	2.50	0.42
3:K:289:TYR:CG	3:K:333:ALA:HB2	2.54	0.42
3:J:69:ARG:N	3:J:69:ARG:CD	2.82	0.42
1:C:40:PHE:HD2	1:C:83:PHE:HB2	1.82	0.42
2:F:732:ASP:CG	2:F:733:ILE:H	2.22	0.42
3:K:57:TRP:O	3:K:58:SER:C	2.57	0.42
2:B:1390:ALA:HA	2:B:1391:PRO:HD3	1.93	0.42
3:J:299:VAL:HG13	3:J:340:MET:HE2	2.01	0.42
3:J:341:MET:SD	3:J:380:ILE:HG23	2.59	0.42
2:F:1231:VAL:HG21	2:F:1260:TYR:CE1	2.54	0.42
2:F:927:PRO:O	2:F:928:GLU:HB2	2.19	0.42
3:L:476:VAL:HB	3:L:484:GLU:HB3	2.00	0.42
2:H:1154:LEU:HB2	2:H:1174:LEU:HD21	2.00	0.42
2:F:1593:LYS:HE2	2:F:1596:LEU:HD11	2.01	0.42
2:F:853:LEU:HB2	2:F:860:HIS:CD2	2.54	0.42
1:G:5:SER:OG	1:G:23:GLU:HB2	2.19	0.42
1:C:302:LEU:HG	1:C:326:ILE:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1227:VAL:HB	2:F:1228:PRO:HD3	2.02	0.42
3:K:692:ILE:HA	3:K:717:HIS:ND1	2.35	0.42
3:J:353:ASN:HB2	3:J:394:ARG:NH1	2.35	0.42
3:L:32:ALA:HA	3:L:57:TRP:HZ3	1.83	0.42
2:F:1376:ALA:HB3	2:F:1429:VAL:HG23	2.01	0.42
2:D:956:THR:HG23	2:D:1324:THR:HG22	2.00	0.42
3:J:582:LEU:HD21	3:J:597:LEU:HD21	2.01	0.42
2:H:1477:ASP:OD1	2:H:1479:LYS:HD3	2.19	0.42
2:B:1477:ASP:OD1	2:B:1479:LYS:HD3	2.19	0.42
3:L:269:VAL:HG13	3:L:311:THR:HG23	2.01	0.42
2:D:853:LEU:HB2	2:D:860:HIS:CD2	2.54	0.42
2:F:1165:TYR:HD1	2:F:1210:ALA:HB2	1.84	0.42
3:L:82:HIS:HE1	3:L:150:ARG:HB2	1.82	0.42
2:D:1227:VAL:HB	2:D:1228:PRO:HD3	2.01	0.42
1:E:152:PRO:O	2:F:1296:LEU:HD12	2.20	0.42
2:F:966:ALA:HB2	2:F:1291:TRP:CZ3	2.55	0.42
1:G:323:GLY:O	1:G:325:PRO:HD3	2.19	0.42
2:F:1397:LYS:HZ2	2:F:1412:LEU:HD23	1.84	0.42
2:H:776:SER:HB2	2:H:780:TRP:CZ2	2.55	0.42
3:J:101:GLU:HG2	3:J:119:THR:OG1	2.20	0.42
3:L:464:ASP:C	3:L:466:HIS:H	2.22	0.42
3:I:171:THR:HG23	3:I:412:VAL:HG22	2.02	0.42
3:L:296:TRP:CE2	3:L:317:ILE:HG22	2.55	0.42
1:A:10:ASN:ND2	1:A:618:SER:O	2.50	0.42
2:D:1143:LEU:O	2:D:1147:ILE:HG13	2.19	0.42
1:G:215:GLU:HG2	1:G:321:ARG:HH22	1.83	0.42
3:L:692:ILE:HG12	3:L:717:HIS:CE1	2.55	0.42
3:J:692:ILE:HG12	3:J:717:HIS:CE1	2.55	0.42
2:D:1393:THR:O	2:D:1397:LYS:HD3	2.19	0.42
3:I:125:ARG:HE	3:I:198:MET:HB3	1.85	0.42
2:H:1539:TYR:HB2	2:H:1562:PHE:HB2	2.01	0.42
3:J:431:LYS:HB3	3:J:435:ASN:HD22	1.84	0.42
1:E:329:SER:HA	1:E:330:PRO:HD3	1.87	0.42
1:G:439:LEU:H	1:G:439:LEU:HD12	1.84	0.42
2:B:732:ASP:O	2:B:733:ILE:HG12	2.20	0.42
3:K:61:LYS:HG2	3:K:67:THR:HG23	2.02	0.42
3:K:408:LEU:HA	3:K:408:LEU:HD13	1.75	0.42
1:C:45:LEU:CD2	1:C:45:LEU:H	2.30	0.42
2:H:997:THR:CG2	2:H:1251:PHE:HB2	2.50	0.42
3:I:431:LYS:HB3	3:I:435:ASN:ND2	2.35	0.42
2:D:1617:ASP:C	2:D:1619:GLU:H	2.23	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:904:ARG:NH2	3:J:82:HIS:HB2	2.34	0.42
3:K:298:LYS:HZ2	3:K:340:MET:HA	1.85	0.42
3:J:692:ILE:HA	3:J:717:HIS:ND1	2.35	0.42
2:F:1393:THR:O	2:F:1397:LYS:HD3	2.19	0.42
1:A:323:GLY:O	1:A:325:PRO:HD3	2.19	0.42
2:B:1257:LEU:O	2:B:1261:GLN:HG2	2.19	0.42
1:E:110:ILE:HG12	1:E:127:ILE:HG13	2.02	0.42
3:K:68:VAL:C	3:K:70:LYS:N	2.72	0.42
3:K:19:ILE:HD11	3:K:73:CYS:CB	2.44	0.42
2:D:1133:LYS:HA	2:D:1143:LEU:HD21	2.02	0.42
1:C:22:LEU:HB2	1:C:62:GLY:HA3	2.02	0.42
2:B:1527:LEU:HD23	2:B:1575:GLU:C	2.40	0.42
2:D:1165:TYR:HD1	2:D:1210:ALA:HB2	1.84	0.42
2:D:1223:ASP:O	2:D:1227:VAL:HG23	2.19	0.42
3:K:563:TYR:CE1	3:K:569:PRO:HD3	2.55	0.42
3:K:171:THR:HG23	3:K:412:VAL:HG22	2.02	0.42
1:E:360:SER:HA	1:E:361:PRO:HD3	1.95	0.42
3:I:296:TRP:CE2	3:I:317:ILE:HG22	2.54	0.42
3:I:25:ARG:CZ	3:I:27:LEU:HD21	2.49	0.42
1:A:439:LEU:HD12	1:A:439:LEU:H	1.84	0.42
1:G:630:GLN:NE2	1:G:630:GLN:H	2.18	0.41
3:K:62:THR:HG23	3:K:68:VAL:HG21	2.02	0.41
3:K:44:TYR:HB3	3:K:73:CYS:CA	2.49	0.41
2:H:1331:LYS:CA	2:H:1332:ASP:HB2	2.50	0.41
2:D:1333:GLN:HA	2:D:1334:LEU:C	2.40	0.41
2:D:1331:LYS:HA	2:D:1332:ASP:CB	2.50	0.41
2:B:1397:LYS:NZ	2:B:1412:LEU:HD23	2.34	0.41
3:L:706:GLN:C	3:L:708:GLN:H	2.23	0.41
3:K:683:ARG:O	3:K:685:ARG:HG2	2.20	0.41
3:J:705:ARG:HD3	3:J:705:ARG:HA	1.86	0.41
3:L:45:PRO:HG3	3:L:68:VAL:HG21	2.02	0.41
3:L:582:LEU:HD21	3:L:597:LEU:HD21	2.01	0.41
2:B:1386:MET:SD	2:B:1473:PRO:HD3	2.60	0.41
2:H:1331:LYS:HA	2:H:1332:ASP:HB2	2.02	0.41
3:L:218:GLU:HB3	3:L:452:LEU:CD2	2.50	0.41
3:K:42:TYR:CE1	3:K:74:ARG:HB2	2.55	0.41
2:B:1227:VAL:HB	2:B:1228:PRO:HD3	2.02	0.41
3:J:706:GLN:C	3:J:708:GLN:H	2.23	0.41
2:D:1370:TYR:CD1	2:D:1376:ALA:HB2	2.55	0.41
3:I:59:THR:HG23	3:I:61:LYS:HG2	2.02	0.41
1:C:1:SER:HA	1:C:2:PRO:HD3	1.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:304:VAL:O	1:G:320:GLU:HA	2.21	0.41
3:J:568:ARG:HA	3:J:569:PRO:HD3	1.88	0.41
2:B:1405:ARG:HE	2:B:1437:LEU:HD23	1.83	0.41
3:I:683:ARG:O	3:I:685:ARG:HG2	2.20	0.41
1:A:342:PHE:CD2	1:A:391:THR:HG21	2.55	0.41
3:J:69:ARG:H	3:J:69:ARG:CD	2.32	0.41
1:E:83:PHE:CD2	1:E:100:LEU:HA	2.55	0.41
3:J:222:ALA:CA	3:J:223:GLU:C	2.87	0.41
2:B:1165:TYR:HD1	2:B:1210:ALA:HB2	1.85	0.41
2:D:1215:LEU:HD23	2:D:1256:ALA:HB1	2.01	0.41
2:B:1393:THR:O	2:B:1397:LYS:HD3	2.20	0.41
2:D:746:PRO:HG2	2:D:774:LYS:HE3	2.02	0.41
3:K:706:GLN:C	3:K:708:GLN:H	2.23	0.41
2:B:1231:VAL:HG21	2:B:1260:TYR:CE1	2.56	0.41
2:F:1370:TYR:CD1	2:F:1376:ALA:HB2	2.55	0.41
2:B:1581:LEU:HB2	2:B:1609:TRP:HE3	1.85	0.41
1:A:304:VAL:O	1:A:320:GLU:HA	2.20	0.41
3:I:101:GLU:HG2	3:I:119:THR:OG1	2.20	0.41
2:D:1477:ASP:OD1	2:D:1479:LYS:HD3	2.21	0.41
1:G:219:LYS:NZ	1:G:356:ASN:HD22	2.18	0.41
3:J:121:GLN:HE21	3:J:127:SER:HB3	1.85	0.41
2:F:1386:MET:SD	2:F:1473:PRO:HD3	2.60	0.41
2:F:1477:ASP:OD1	2:F:1479:LYS:HD3	2.20	0.41
2:B:813:LEU:HD23	2:B:907:LEU:HD13	2.01	0.41
2:H:1155:GLU:HG3	2:H:1184:LEU:HD21	2.01	0.41
3:J:289:TYR:CG	3:J:333:ALA:HB2	2.55	0.41
1:G:567:HIS:ND1	2:H:760:PRO:HG3	2.34	0.41
3:I:347:VAL:HG13	3:I:349:PRO:HG3	2.02	0.41
3:K:216:THR:HG22	3:K:216:THR:O	2.20	0.41
3:L:431:LYS:HB3	3:L:435:ASN:ND2	2.36	0.41
2:D:813:LEU:HD23	2:D:907:LEU:HD13	2.02	0.41
3:L:666:ASP:HA	3:L:667:PRO:HD3	1.93	0.41
2:D:1263:ASP:O	2:D:1265:PRO:HD3	2.20	0.41
3:K:531:HIS:HA	3:K:532:PRO:HD3	1.93	0.41
2:B:958:ILE:O	2:B:1299:SER:HA	2.19	0.41
2:F:1257:LEU:O	2:F:1261:GLN:HG2	2.20	0.41
3:L:173:ARG:HA	3:L:415:ASN:ND2	2.35	0.41
2:D:1481:ASN:HD22	2:D:1567:LYS:HE3	1.85	0.41
3:K:431:LYS:HB3	3:K:435:ASN:HD22	1.85	0.41
1:E:22:LEU:HB2	1:E:62:GLY:HA3	2.03	0.41
3:J:706:GLN:O	3:J:707:LYS:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:614:ALA:HB1	1:A:632:THR:HA	2.02	0.41
1:E:219:LYS:NZ	1:E:356:ASN:HD22	2.18	0.41
1:C:468:TYR:HB2	1:C:484:GLN:HB3	2.02	0.41
2:F:1163:ARG:O	2:F:1167:VAL:HG23	2.20	0.41
2:H:1231:VAL:HG21	2:H:1260:TYR:CE1	2.55	0.41
2:F:1095:VAL:HG13	2:F:1122:THR:OG1	2.20	0.41
3:J:585:PRO:HA	3:J:586:PRO:HD3	1.95	0.41
1:C:304:VAL:O	1:C:320:GLU:HA	2.21	0.41
3:K:101:GLU:HG2	3:K:119:THR:OG1	2.20	0.41
3:J:635:ALA:HB3	3:J:647:ILE:HD11	2.02	0.41
1:A:459:ARG:HA	1:A:462:GLU:CG	2.51	0.41
3:L:59:THR:HG23	3:L:61:LYS:HG2	2.02	0.41
1:E:440:ARG:HD2	1:E:440:ARG:HA	1.92	0.41
1:G:69:PRO:CA	1:G:70:ALA:CB	2.91	0.41
1:E:14:LEU:HD22	1:E:69:PRO:O	2.20	0.41
2:D:1338:LYS:H	2:D:1338:LYS:HD2	1.86	0.41
2:D:1110:GLY:HA3	2:D:1165:TYR:CZ	2.55	0.41
2:B:1617:ASP:C	2:B:1619:GLU:H	2.24	0.41
2:B:1360:ASN:O	2:B:1361:THR:O	2.38	0.41
2:D:1390:ALA:HA	2:D:1391:PRO:HD3	1.93	0.41
3:J:351:GLY:HA2	3:J:354:ARG:HE	1.85	0.41
2:H:1370:TYR:CD1	2:H:1376:ALA:HB2	2.55	0.41
2:B:1593:LYS:HE2	2:B:1596:LEU:HD11	2.01	0.41
3:K:125:ARG:HE	3:K:198:MET:HB3	1.85	0.41
1:A:360:SER:HA	1:A:361:PRO:HD3	1.95	0.41
1:E:304:VAL:O	1:E:320:GLU:HA	2.21	0.41
2:H:927:PRO:O	2:H:928:GLU:HB2	2.19	0.41
2:F:1378:MET:HE2	2:F:1378:MET:HB3	1.90	0.41
1:E:268:ARG:NH1	2:F:1378:MET:HE3	2.20	0.41
2:D:912:GLU:HG3	2:D:1331:LYS:NZ	2.35	0.41
2:D:997:THR:CG2	2:D:1251:PHE:HB2	2.50	0.41
2:D:1108:ILE:HD11	2:D:1112:ARG:HA	2.01	0.41
3:I:437:GLU:HB3	3:I:441:TYR:HE2	1.84	0.41
3:J:216:THR:O	3:J:216:THR:HG22	2.21	0.41
2:B:1370:TYR:CD1	2:B:1376:ALA:HB2	2.55	0.41
2:F:1539:TYR:HB2	2:F:1562:PHE:HB2	2.02	0.41
2:H:1397:LYS:NZ	2:H:1412:LEU:HD23	2.35	0.41
3:I:247:TYR:OH	3:I:357:HIS:HD2	2.03	0.41
3:K:121:GLN:HE21	3:K:127:SER:HB3	1.85	0.41
2:D:1051:ALA:HA	2:D:1052:PRO:HD3	1.96	0.41
3:J:42:TYR:HA	3:J:43:PRO:HD3	1.97	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69:PRO:HB3	1:A:70:ALA:C	2.41	0.41
1:A:7:ILE:HG22	1:A:622:LEU:HD22	2.03	0.41
2:H:1126:LEU:HD13	2:H:1150:ALA:HB3	2.03	0.41
2:H:1133:LYS:HA	2:H:1143:LEU:HD21	2.03	0.41
2:H:1143:LEU:O	2:H:1147:ILE:HG13	2.20	0.41
3:I:568:ARG:HG3	3:I:569:PRO:HD2	2.03	0.41
2:H:1617:ASP:C	2:H:1619:GLU:H	2.23	0.41
3:L:216:THR:O	3:L:216:THR:HG22	2.21	0.41
2:H:850:PHE:HZ	2:H:907:LEU:HD21	1.85	0.41
3:I:706:GLN:O	3:I:707:LYS:HB2	2.20	0.41
1:C:567:HIS:ND1	2:D:760:PRO:HG3	2.34	0.41
2:D:1564:SER:HA	2:D:1565:PRO:HD3	1.97	0.41
3:K:463:THR:HB	3:K:466:HIS:CE1	2.55	0.41
1:G:342:PHE:CD2	1:G:391:THR:HG21	2.55	0.41
1:E:567:HIS:ND1	2:F:760:PRO:HG3	2.35	0.41
2:B:1163:ARG:O	2:B:1167:VAL:HG23	2.21	0.41
1:G:207:LEU:HA	1:G:208:PRO:HD3	1.96	0.41
2:H:1581:LEU:HB2	2:H:1609:TRP:HE3	1.86	0.41
1:C:630:GLN:H	1:C:630:GLN:NE2	2.19	0.41
1:G:103:LEU:HD22	1:G:103:LEU:H	1.86	0.41
2:B:1641:ASN:OXT	3:I:253:SER:HB2	2.21	0.41
3:K:27:LEU:C	3:K:28:GLN:HG2	2.40	0.41
2:B:1331:LYS:CA	2:B:1332:ASP:HB2	2.51	0.41
2:B:1143:LEU:O	2:B:1147:ILE:HG13	2.20	0.41
1:E:151:ILE:CG2	2:F:1297:LEU:HG	2.50	0.41
1:G:152:PRO:O	2:H:1296:LEU:HD12	2.20	0.41
2:F:1260:TYR:O	2:F:1264:ALA:HB2	2.21	0.41
3:J:563:TYR:CE1	3:J:569:PRO:HD3	2.55	0.41
3:K:463:THR:HB	3:K:466:HIS:ND1	2.36	0.41
2:H:1490:ARG:HD2	2:H:1590:TRP:CZ3	2.56	0.41
3:K:582:LEU:HD21	3:K:597:LEU:HD21	2.02	0.41
1:C:329:SER:HA	1:C:330:PRO:HD3	1.87	0.41
1:G:459:ARG:HA	1:G:462:GLU:CG	2.51	0.41
1:G:187:TYR:CD1	1:G:192:PRO:HA	2.56	0.41
2:F:776:SER:HB2	2:F:780:TRP:CZ2	2.56	0.41
2:H:1532:LEU:N	2:H:1532:LEU:HD12	2.35	0.41
1:E:453:PHE:HB2	1:E:493:VAL:HG22	2.03	0.41
1:E:468:TYR:HB2	1:E:484:GLN:HB3	2.03	0.41
2:D:776:SER:HB2	2:D:780:TRP:CZ2	2.56	0.41
1:G:468:TYR:HB2	1:G:484:GLN:HB3	2.03	0.41
2:F:1641:ASN:OXT	3:K:255:SER:HB3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1110:GLY:HA3	2:F:1165:TYR:CZ	2.56	0.41
2:B:997:THR:CG2	2:B:1251:PHE:HB2	2.51	0.41
2:H:746:PRO:HG2	2:H:774:LYS:HE3	2.02	0.41
1:C:614:ALA:HB1	1:C:632:THR:HA	2.03	0.41
2:D:1260:TYR:O	2:D:1264:ALA:HB2	2.21	0.41
2:F:1397:LYS:NZ	2:F:1412:LEU:HD23	2.35	0.41
2:B:813:LEU:HD23	2:B:907:LEU:HD22	2.03	0.41
3:J:463:THR:HB	3:J:466:HIS:CE1	2.56	0.41
3:I:254:GLY:HA2	3:I:319:TYR:OH	2.21	0.41
1:A:219:LYS:NZ	1:A:356:ASN:HD22	2.18	0.41
2:B:1346:LYS:HA	2:B:1347:PRO:HD3	1.95	0.41
3:I:289:TYR:CG	3:I:333:ALA:HB2	2.56	0.41
2:D:1163:ARG:O	2:D:1167:VAL:HG23	2.21	0.41
1:C:459:ARG:HA	1:C:462:GLU:CG	2.51	0.41
1:A:630:GLN:H	1:A:630:GLN:NE2	2.19	0.40
1:C:5:SER:OG	1:C:23:GLU:HB2	2.21	0.40
3:L:563:TYR:CE1	3:L:569:PRO:HD3	2.55	0.40
2:H:1332:ASP:HB3	2:H:1333:GLN:H	1.69	0.40
3:J:423:ASN:ND2	3:J:583:ARG:HB2	2.36	0.40
3:J:683:ARG:O	3:J:685:ARG:HG2	2.21	0.40
3:L:408:LEU:N	3:L:408:LEU:HD22	2.37	0.40
3:L:706:GLN:O	3:L:707:LYS:HB2	2.21	0.40
3:I:692:ILE:HA	3:I:717:HIS:ND1	2.35	0.40
3:I:45:PRO:HG3	3:I:68:VAL:HG21	2.03	0.40
2:F:927:PRO:C	2:F:929:ARG:H	2.24	0.40
2:F:1472:HIS:HA	2:F:1473:PRO:HD3	1.99	0.40
3:J:464:ASP:C	3:J:466:HIS:H	2.24	0.40
2:H:1272:LEU:O	2:H:1288:ARG:HA	2.21	0.40
1:E:241:LYS:HG3	2:F:832:TYR:CE1	2.57	0.40
3:J:68:VAL:HG12	3:J:69:ARG:N	2.34	0.40
2:H:839:LYS:O	2:H:895:TYR:HD1	2.04	0.40
3:I:265:LYS:O	3:I:269:VAL:HG23	2.21	0.40
3:L:265:LYS:O	3:L:269:VAL:HG23	2.22	0.40
2:F:912:GLU:HG3	2:F:1331:LYS:NZ	2.36	0.40
2:F:1215:LEU:HD23	2:F:1256:ALA:HB1	2.02	0.40
2:H:1108:ILE:HD11	2:H:1112:ARG:HA	2.02	0.40
2:D:887:GLU:OE2	2:D:904:ARG:HD2	2.21	0.40
3:K:299:VAL:HG13	3:K:340:MET:HE2	2.02	0.40
3:K:706:GLN:O	3:K:707:LYS:HB2	2.21	0.40
1:G:614:ALA:HB1	1:G:632:THR:HA	2.03	0.40
2:F:1231:VAL:HG21	2:F:1260:TYR:CD1	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:1031:TYR:O	2:H:1035:LEU:HG	2.20	0.40
2:H:1065:SER:OG	2:H:1132:ALA:HB2	2.21	0.40
2:D:1386:MET:SD	2:D:1473:PRO:HD3	2.61	0.40
2:D:1472:HIS:HA	2:D:1473:PRO:HD3	1.98	0.40
2:D:1296:LEU:HD23	2:D:1298:ARG:CZ	2.51	0.40
3:J:39:SER:OG	3:J:122:VAL:HG21	2.21	0.40
3:J:125:ARG:HE	3:J:198:MET:HB3	1.86	0.40
1:G:363:TYR:HD1	1:G:381:GLY:HA2	1.87	0.40
2:D:990:GLU:O	2:D:994:ILE:HG13	2.22	0.40
1:A:111:GLN:O	1:A:125:TYR:HA	2.22	0.40
1:G:100:LEU:HD12	1:G:101:VAL:H	1.86	0.40
1:G:22:LEU:HD13	1:G:33:VAL:HG11	2.02	0.40
2:F:1617:ASP:C	2:F:1619:GLU:H	2.23	0.40
2:D:1055:TRP:HZ2	2:D:1248:GLN:HE21	1.69	0.40
3:K:452:LEU:HB3	3:K:455:MET:HG3	2.03	0.40
2:D:917:ASN:HD22	4:D:1917:NAG:C7	2.28	0.40
2:B:776:SER:HB2	2:B:780:TRP:CZ2	2.56	0.40
3:I:341:MET:SD	3:I:380:ILE:HG23	2.61	0.40
1:A:40:PHE:CD1	1:A:41:PRO:HA	2.56	0.40
1:E:445:PRO:HG2	1:E:504:ILE:HD11	2.04	0.40
2:D:1346:LYS:HA	2:D:1347:PRO:HD3	1.95	0.40
3:K:405:VAL:HG11	3:K:433:MET:HE1	2.03	0.40
1:C:83:PHE:CD2	1:C:100:LEU:HA	2.56	0.40
1:G:75:LYS:CA	1:G:82:LYS:HZ1	2.34	0.40
3:L:676:GLY:HA2	3:L:677:PRO:HD3	1.84	0.40
3:I:343:TRP:CB	3:I:347:VAL:HG12	2.45	0.40
1:A:22:LEU:HD13	1:A:33:VAL:HG11	2.03	0.40
2:D:1385:MET:HA	2:D:1385:MET:HE2	2.04	0.40
2:F:804:MET:HG2	2:F:805:GLN:H	1.87	0.40
3:I:216:THR:O	3:I:216:THR:HG22	2.21	0.40
2:F:1055:TRP:HZ2	2:F:1248:GLN:HE21	1.70	0.40
3:K:173:ARG:HA	3:K:415:ASN:ND2	2.35	0.40
3:K:635:ALA:HB3	3:K:647:ILE:HD11	2.03	0.40
1:G:111:GLN:O	1:G:125:TYR:HA	2.21	0.40
1:E:187:TYR:CD1	1:E:192:PRO:HA	2.57	0.40
1:G:505:PRO:HG3	1:G:595:TRP:CE3	2.55	0.40
3:L:125:ARG:HE	3:L:198:MET:HB3	1.85	0.40
3:K:57:TRP:CD1	3:K:57:TRP:N	2.89	0.40
1:A:75:LYS:CA	1:A:82:LYS:HZ3	2.35	0.40
3:L:568:ARG:HG3	3:L:569:PRO:HD2	2.04	0.40
1:A:100:LEU:HD12	1:A:101:VAL:H	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:269:ILE:HA	1:E:270:PRO:HD3	1.92	0.40
3:I:563:TYR:CE1	3:I:569:PRO:HD3	2.56	0.40
3:L:660:GLY:HA3	3:L:714:ARG:NH1	2.37	0.40
2:H:742:ARG:NH1	2:H:777:ILE:HG13	2.36	0.40
2:B:1301:GLU:N	2:B:1301:GLU:CD	2.74	0.40
2:B:927:PRO:C	2:B:929:ARG:H	2.24	0.40
3:J:435:ASN:O	3:J:439:VAL:HG23	2.22	0.40
1:G:187:TYR:HB3	1:G:195:VAL:HA	2.04	0.40
1:E:363:TYR:HD1	1:E:381:GLY:HA2	1.87	0.40
2:F:740:VAL:HG21	3:K:94:PRO:HB3	2.03	0.40
3:J:132:ILE:HG12	3:J:144:GLY:HA3	2.03	0.40
3:K:210:LEU:HD11	3:K:443:MET:HG2	2.04	0.40
1:A:468:TYR:HB2	1:A:484:GLN:HB3	2.02	0.40
2:B:986:SER:HB2	1:E:257:GLU:CG	2.52	0.40
3:I:37:CYS:HA	3:I:38:PRO:HD3	1.95	0.40
3:I:641:TYR:HA	3:I:644:VAL:HG23	2.04	0.40
2:B:845:LEU:N	2:B:845:LEU:HD12	2.37	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 X-ray entries followed by that with respect to entries of similar resolution.

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	
1	A	636/645 (99%)	574 (90%)	56 (9%)	6 (1%)	21	66
1	C	636/645 (99%)	575 (90%)	57 (9%)	4 (1%)	30	73
1	E	636/645 (99%)	573 (90%)	58 (9%)	5 (1%)	24	69
1	G	636/645 (99%)	578 (91%)	53 (8%)	5 (1%)	24	69
2	B	895/915 (98%)	785 (88%)	95 (11%)	15 (2%)	11	56
2	D	895/915 (98%)	787 (88%)	95 (11%)	13 (2%)	13	58
2	F	895/915 (98%)	785 (88%)	97 (11%)	13 (2%)	13	58

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	H	895/915 (98%)	790 (88%)	92 (10%)	13 (2%)	13	58
3	I	706/741 (95%)	636 (90%)	62 (9%)	8 (1%)	17	64
3	J	707/741 (95%)	630 (89%)	65 (9%)	12 (2%)	11	56
3	K	707/741 (95%)	627 (89%)	67 (10%)	13 (2%)	11	55
3	L	705/741 (95%)	641 (91%)	59 (8%)	5 (1%)	26	71
All	All	8949/9204 (97%)	7981 (89%)	856 (10%)	112 (1%)	15	60

All (112) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	733	ILE
2	B	965	VAL
2	B	1361	THR
2	D	733	ILE
2	D	965	VAL
2	D	969	THR
2	D	1361	THR
2	D	1498	ILE
2	F	733	ILE
2	F	965	VAL
2	F	1361	THR
2	F	1498	ILE
2	H	733	ILE
2	H	965	VAL
2	H	1361	THR
3	I	348	PRO
3	J	17	VAL
3	J	28	GLN
3	J	38	PRO
3	K	17	VAL
3	K	28	GLN
3	K	38	PRO
3	K	407	PRO
1	A	574	VAL
2	B	1335	THR
2	B	1377	THR
2	B	1498	ILE
2	B	1505	VAL
1	C	574	VAL
2	D	1335	THR

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Mol	Chain	Res	Type
2	D	1377	THR
2	D	1505	VAL
1	E	574	VAL
2	F	1335	THR
2	F	1377	THR
1	G	574	VAL
2	H	1335	THR
2	H	1377	THR
2	H	1498	ILE
2	H	1505	VAL
3	I	197	PHE
3	I	199	TYR
3	J	67	THR
3	J	197	PHE
3	J	199	TYR
3	J	349	PRO
3	J	457	TRP
3	K	67	THR
3	K	197	PHE
3	K	199	TYR
3	L	197	PHE
3	L	199	TYR
1	A	71	ASN
1	A	549	GLU
2	B	732	ASP
2	B	969	THR
1	C	549	GLU
1	E	549	GLU
2	F	1505	VAL
1	G	549	GLU
2	H	1331	LYS
2	H	1535	ASP
3	I	740	ALA
3	J	740	ALA
3	K	740	ALA
3	L	740	ALA
1	A	505	PRO
2	B	1196	ASN
2	B	1331	LYS
1	C	505	PRO
2	D	1196	ASN
1	E	505	PRO

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Mol	Chain	Res	Type
2	F	1196	ASN
2	F	1535	ASP
1	G	505	PRO
2	H	1196	ASN
3	J	456	VAL
3	K	73	CYS
3	K	406	GLY
1	A	442	GLU
2	B	988	CYS
2	B	1265	PRO
2	B	1486	ASP
1	C	442	GLU
2	D	988	CYS
2	D	1535	ASP
1	E	442	GLU
2	F	969	THR
2	F	988	CYS
1	G	442	GLU
2	H	988	CYS
2	H	1486	ASP
3	I	241	SER
3	I	481	LYS
3	K	348	PRO
3	K	479	PRO
2	D	1486	ASP
2	F	1486	ASP
3	I	345	ASP
3	J	406	GLY
3	J	479	PRO
3	K	68	VAL
2	B	1201	PRO
2	D	1201	PRO
2	F	1201	PRO
2	H	1201	PRO
3	L	479	PRO
1	A	555	PRO
1	E	555	PRO
1	G	555	PRO
3	I	45	PRO
3	L	45	PRO

### 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 X-ray entries followed by that with respect to entries of similar resolution.

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	
1	A	564/567 (100%)	559 (99%)	5 (1%)	84	93
1	C	564/567 (100%)	559 (99%)	5 (1%)	84	93
1	E	564/567 (100%)	559 (99%)	5 (1%)	84	93
1	G	564/567 (100%)	559 (99%)	5 (1%)	84	93
2	B	797/810 (98%)	789 (99%)	8 (1%)	82	92
2	D	797/810 (98%)	791 (99%)	6 (1%)	86	93
2	F	797/810 (98%)	791 (99%)	6 (1%)	86	93
2	H	797/810 (98%)	791 (99%)	6 (1%)	86	93
3	I	616/643 (96%)	613 (100%)	3 (0%)	92	96
3	J	616/643 (96%)	605 (98%)	11 (2%)	66	87
3	K	618/643 (96%)	606 (98%)	12 (2%)	65	86
3	L	616/643 (96%)	614 (100%)	2 (0%)	94	97
All	All	7910/8080 (98%)	7836 (99%)	74 (1%)	84	93

All (74) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	59	ASN
1	A	370	GLN
1	A	404	THR
1	A	547	GLN
1	A	630	GLN
2	B	770	ASN
2	B	959	LEU
2	B	1301	GLU
2	B	1334	LEU
2	B	1342	LYS
2	B	1462	ASN
2	B	1463	LEU
2	B	1573	LYS
1	C	59	ASN

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Mol	Chain	Res	Type
1	C	370	GLN
1	C	404	THR
1	C	547	GLN
1	C	630	GLN
2	D	959	LEU
2	D	1238	ARG
2	D	1334	LEU
2	D	1342	LYS
2	D	1462	ASN
2	D	1573	LYS
1	E	59	ASN
1	E	370	GLN
1	E	404	THR
1	E	547	GLN
1	E	630	GLN
2	F	770	ASN
2	F	959	LEU
2	F	1334	LEU
2	F	1342	LYS
2	F	1462	ASN
2	F	1573	LYS
1	G	59	ASN
1	G	370	GLN
1	G	404	THR
1	G	547	GLN
1	G	630	GLN
2	H	770	ASN
2	H	959	LEU
2	H	1334	LEU
2	H	1342	LYS
2	H	1462	ASN
2	H	1573	LYS
3	I	347	VAL
3	I	465	TYR
3	I	654	ARG
3	J	19	ILE
3	J	33	LEU
3	J	48	THR
3	J	57	TRP
3	J	60	LEU
3	J	62	THR
3	J	69	ARG

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Mol	Chain	Res	Type
3	J	76	ILE
3	J	408	LEU
3	J	468	GLN
3	J	654	ARG
3	K	19	ILE
3	K	26	LEU
3	K	27	LEU
3	K	33	LEU
3	K	48	THR
3	K	57	TRP
3	K	60	LEU
3	K	62	THR
3	K	69	ARG
3	K	408	LEU
3	K	468	GLN
3	K	654	ARG
3	L	468	GLN
3	L	654	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (122) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	38	HIS
1	A	59	ASN
1	A	71	ASN
1	A	87	GLN
1	A	104	GLN
1	A	356	ASN
1	A	370	GLN
1	A	392	HIS
1	A	414	GLN
1	A	558	GLN
1	A	587	ASN
1	A	630	GLN
2	B	770	ASN
2	B	835	ASN
2	B	860	HIS
2	B	961	GLN
2	B	1090	GLN
2	B	1130	GLN
2	B	1237	GLN
2	B	1443	GLN

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Mol	Chain	Res	Type
2	B	1462	ASN
2	B	1534	ASN
2	B	1545	GLN
1	C	38	HIS
1	C	59	ASN
1	C	87	GLN
1	C	104	GLN
1	C	132	HIS
1	C	356	ASN
1	C	370	GLN
1	C	414	GLN
1	C	558	GLN
1	C	587	ASN
1	C	630	GLN
2	D	752	ASN
2	D	770	ASN
2	D	835	ASN
2	D	860	HIS
2	D	961	GLN
2	D	1090	GLN
2	D	1130	GLN
2	D	1443	GLN
2	D	1462	ASN
2	D	1545	GLN
1	E	38	HIS
1	E	59	ASN
1	E	87	GLN
1	E	104	GLN
1	E	356	ASN
1	E	370	GLN
1	E	414	GLN
1	E	558	GLN
1	E	587	ASN
1	E	630	GLN
2	F	752	ASN
2	F	770	ASN
2	F	835	ASN
2	F	860	HIS
2	F	961	GLN
2	F	1090	GLN
2	F	1130	GLN
2	F	1237	GLN

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Mol	Chain	Res	Type
2	F	1443	GLN
2	F	1462	ASN
2	F	1545	GLN
1	G	38	HIS
1	G	59	ASN
1	G	71	ASN
1	G	87	GLN
1	G	104	GLN
1	G	356	ASN
1	G	370	GLN
1	G	414	GLN
1	G	558	GLN
1	G	587	ASN
1	G	630	GLN
2	H	770	ASN
2	H	835	ASN
2	H	860	HIS
2	H	961	GLN
2	H	1090	GLN
2	H	1130	GLN
2	H	1237	GLN
2	H	1443	GLN
2	H	1462	ASN
2	H	1481	ASN
2	H	1545	GLN
3	I	121	GLN
3	I	194	GLN
3	I	313	GLN
3	I	357	HIS
3	I	415	ASN
3	I	448	GLN
3	I	483	HIS
3	I	591	GLN
3	J	77	HIS
3	J	121	GLN
3	J	194	GLN
3	J	313	GLN
3	J	357	HIS
3	J	415	ASN
3	J	423	ASN
3	J	448	GLN
3	J	591	GLN

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Mol	Chain	Res	Type
3	J	708	GLN
3	K	194	GLN
3	K	313	GLN
3	K	357	HIS
3	K	415	ASN
3	K	423	ASN
3	K	435	ASN
3	K	448	GLN
3	K	591	GLN
3	K	708	GLN
3	L	121	GLN
3	L	194	GLN
3	L	313	GLN
3	L	357	HIS
3	L	415	ASN
3	L	448	GLN
3	L	591	GLN
3	L	708	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

## 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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 12 ligands modelled in this entry, 4 are monoatomic - leaving 8 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. 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  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
4	NAG	B	1917	2	14,14,15	0.49	0	15,19,21	1.09	1 (6%)
4	NAG	D	1917	2	14,14,15	0.48	0	15,19,21	1.33	2 (13%)
4	NAG	F	1917	2	14,14,15	0.48	0	15,19,21	0.81	0
4	NAG	H	1917	2	14,14,15	0.47	0	15,19,21	1.14	1 (6%)
4	NAG	I	1353	3	14,14,15	0.40	0	15,19,21	1.39	1 (6%)
4	NAG	J	1353	3	14,14,15	0.51	0	15,19,21	0.66	0
4	NAG	K	1353	3	14,14,15	0.55	0	15,19,21	1.86	1 (6%)
4	NAG	L	1353	3	14,14,15	0.51	0	15,19,21	0.64	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	B	1917	2	-	0/6/23/26	0/1/1/1
4	NAG	D	1917	2	-	0/6/23/26	0/1/1/1
4	NAG	F	1917	2	-	0/6/23/26	0/1/1/1
4	NAG	H	1917	2	-	0/6/23/26	0/1/1/1
4	NAG	I	1353	3	-	0/6/23/26	0/1/1/1
4	NAG	J	1353	3	-	0/6/23/26	0/1/1/1
4	NAG	K	1353	3	-	0/6/23/26	0/1/1/1
4	NAG	L	1353	3	-	0/6/23/26	0/1/1/1

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	K	1353	NAG	C2-N2-C7	-6.88	114.20	123.04
4	D	1917	NAG	C2-N2-C7	-4.12	117.75	123.04
4	D	1917	NAG	C1-O5-C5	2.03	114.83	112.25
4	B	1917	NAG	C1-O5-C5	2.64	115.60	112.25
4	H	1917	NAG	C1-O5-C5	2.95	116.00	112.25
4	I	1353	NAG	C1-O5-C5	4.59	118.08	112.25

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

3 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	D	1917	NAG	1	0
4	J	1353	NAG	1	0
4	K	1353	NAG	6	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	640/645 (99%)	0.28	12 (1%) 70 59	68, 145, 225, 312	0
1	C	640/645 (99%)	0.19	16 (2%) 61 49	64, 139, 220, 312	0
1	E	640/645 (99%)	0.15	18 (2%) 56 44	69, 140, 221, 313	0
1	G	640/645 (99%)	0.29	26 (4%) 41 31	69, 146, 224, 313	0
2	B	901/915 (98%)	0.03	12 (1%) 79 70	48, 112, 181, 342	0
2	D	901/915 (98%)	-0.05	10 (1%) 82 75	44, 110, 191, 351	0
2	F	901/915 (98%)	-0.07	14 (1%) 74 64	52, 112, 189, 337	0
2	H	901/915 (98%)	0.02	9 (0%) 84 77	47, 112, 183, 341	0
3	I	712/741 (96%)	-0.11	7 (0%) 84 77	46, 113, 180, 276	0
3	J	713/741 (96%)	-0.05	8 (1%) 82 75	42, 110, 197, 343	0
3	K	713/741 (96%)	0.04	27 (3%) 44 34	43, 112, 201, 357	0
3	L	711/741 (95%)	-0.10	8 (1%) 82 75	45, 112, 181, 276	0
All	All	9013/9204 (97%)	0.04	167 (1%) 70 59	42, 119, 202, 357	0

All (167) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	1065	SER	6.2
1	C	372	GLU	6.0
1	C	368	ALA	5.3
2	H	1536	PHE	5.3
2	F	860	HIS	5.2
2	D	855	THR	4.8
2	H	1535	ASP	4.7
2	F	862	GLN	4.5
3	J	703	GLN	4.3
2	D	860	HIS	4.0
1	G	368	ALA	3.9

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Mol	Chain	Res	Type	RSRZ
1	C	373	ASP	3.9
1	E	390	ASN	3.8
2	B	1340	ASP	3.7
1	C	375	VAL	3.7
2	F	859	ARG	3.7
1	A	377	SER	3.7
3	I	704	LYS	3.7
1	G	385	ALA	3.6
2	B	1359	LYS	3.5
1	G	457	MET	3.5
1	E	373	ASP	3.5
3	L	703	GLN	3.5
3	I	703	GLN	3.5
2	F	730	ASP	3.4
2	D	1503	ASP	3.3
1	G	549	GLU	3.3
2	F	857	LYS	3.3
3	L	704	LYS	3.3
2	F	933	GLU	3.3
3	I	240	PRO	3.2
2	H	1503	ASP	3.2
2	F	855	THR	3.2
3	I	241	SER	3.2
3	L	708	GLN	3.1
1	C	386	LYS	3.1
3	K	525	ILE	3.1
2	B	1388	GLY	3.1
1	E	374	THR	3.1
1	C	374	THR	3.0
3	K	706	GLN	3.0
1	E	389	ILE	3.0
1	C	390	ASN	3.0
1	G	31	VAL	3.0
1	E	453	PHE	2.9
3	K	466	HIS	2.9
2	H	1359	LYS	2.9
1	G	376	GLN	2.9
1	G	51	LYS	2.9
1	E	368	ALA	2.9
2	D	856	THR	2.9
2	F	934	GLY	2.9
1	C	371	GLY	2.9

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Mol	Chain	Res	Type	RSRZ
3	K	565	GLN	2.8
3	K	514	VAL	2.8
1	C	367	VAL	2.8
1	C	60	HIS	2.8
2	F	858	ARG	2.8
1	G	465	ILE	2.8
3	K	15	GLU	2.8
1	E	551	ARG	2.8
2	H	1533	SER	2.8
1	A	454	LEU	2.7
1	G	52	THR	2.7
1	G	32	PRO	2.7
3	K	513	LYS	2.7
1	E	454	LEU	2.7
3	K	555	ILE	2.7
2	D	854	ALA	2.7
1	A	453	PHE	2.7
1	E	88	ALA	2.7
2	F	861	GLN	2.7
1	A	469	THR	2.7
1	E	435	HIS	2.6
3	L	10	GLY	2.6
1	E	372	GLU	2.6
3	J	706	GLN	2.6
1	G	456	ARG	2.6
3	K	558	LYS	2.6
2	F	1503	ASP	2.6
1	G	374	THR	2.6
3	L	241	SER	2.6
1	A	636	ALA	2.6
1	G	23	GLU	2.5
3	K	559	ASN	2.5
1	A	376	GLN	2.5
2	D	1269	GLU	2.5
1	G	464	LYS	2.5
1	A	348	PHE	2.5
3	K	520	LYS	2.5
1	G	387	LEU	2.5
3	K	454	GLY	2.5
1	G	440	ARG	2.5
1	G	78	LYS	2.5
2	F	856	THR	2.5

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Mol	Chain	Res	Type	RSRZ
1	G	350	LEU	2.4
1	G	411	GLU	2.4
1	E	634	GLN	2.4
3	K	456	VAL	2.4
1	A	403	ARG	2.4
3	J	557	LEU	2.4
1	E	432	ASN	2.3
3	I	454	GLY	2.3
3	L	240	PRO	2.3
3	K	561	LEU	2.3
1	C	403	ARG	2.3
1	E	30	ASP	2.3
1	G	367	VAL	2.3
2	B	960	LEU	2.3
1	C	456	ARG	2.3
2	H	1537	ASP	2.3
3	J	514	VAL	2.3
1	G	362	ALA	2.3
3	K	560	LYS	2.3
2	H	1315	LYS	2.3
1	A	486	ARG	2.3
3	I	521	ARG	2.3
2	F	1531	GLN	2.3
1	G	461	HIS	2.3
2	B	1443	GLN	2.2
2	D	1414	LYS	2.2
2	B	1255	GLN	2.2
2	D	1499	GLN	2.2
1	E	391	THR	2.2
2	B	1289	ILE	2.2
3	K	703	GLN	2.2
3	K	704	LYS	2.2
1	G	378	LEU	2.2
3	K	465	TYR	2.2
2	F	854	ALA	2.2
3	K	522	ASP	2.2
1	C	369	VAL	2.2
1	G	364	ARG	2.2
1	C	454	LEU	2.2
1	G	1	SER	2.1
3	K	71	ALA	2.1
2	B	1195	LYS	2.1

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Mol	Chain	Res	Type	RSRZ
2	B	1076	GLN	2.1
1	A	45	LEU	2.1
2	D	933	GLU	2.1
3	I	520	LYS	2.1
3	L	671	ARG	2.1
2	H	1196	ASN	2.1
3	J	704	LYS	2.1
3	J	520	LYS	2.1
3	L	466	HIS	2.1
1	G	45	LEU	2.1
3	K	523	LEU	2.1
1	A	221	TYR	2.1
3	K	474	ILE	2.1
2	B	1360	ASN	2.1
1	E	53	VAL	2.1
3	K	506	ASP	2.1
3	K	516	VAL	2.1
1	C	634	GLN	2.1
3	J	702	ASN	2.1
3	K	481	LYS	2.1
1	E	51	LYS	2.1
2	B	936	GLN	2.1
3	K	503	PHE	2.1
1	A	259	ARG	2.1
3	K	617	ARG	2.1
2	H	1446	ASN	2.0
1	E	491	ASP	2.0
1	C	377	SER	2.0
3	J	475	SER	2.0
2	D	1536	PHE	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

## 6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
4	NAG	D	1917	14/15	0.73	0.37	3.32	103,150,180,210	0
4	NAG	L	1353	14/15	0.77	0.34	1.30	105,162,190,209	0
5	NI	I	1742	1/1	0.95	0.24	0.47	209,209,209,209	0
4	NAG	J	1353	14/15	0.84	0.28	-0.18	107,156,170,179	0
5	NI	K	1742	1/1	1.00	0.17	-1.09	102,102,102,102	0
5	NI	L	1742	1/1	0.99	0.11	-1.20	85,85,85,85	0
5	NI	J	1742	1/1	1.00	0.12	-1.61	62,62,62,62	0
4	NAG	H	1917	14/15	0.72	0.34	-	95,176,221,230	0
4	NAG	I	1353	14/15	0.85	0.23	-	111,169,185,187	0
4	NAG	K	1353	14/15	0.67	0.33	-	124,166,186,214	0
4	NAG	F	1917	14/15	0.71	0.45	-	155,176,239,261	0
4	NAG	B	1917	14/15	0.73	0.43	-	142,178,199,206	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.