



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 08:35 AM GMT

PDB ID : 3F7F
Title : Structure of Nup120
Authors : Seo, H.S.; Ma, Y.; Debler, E.W.; Blobel, G.; Hoelz, A.
Deposited on : 2008-11-08
Resolution : 2.60 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
A user guide is available at
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

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

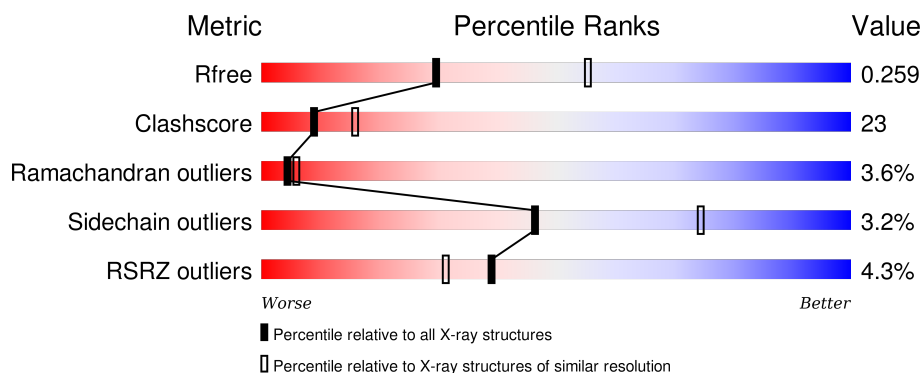
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.60 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	2328 (2.60-2.60)
Clashscore	102246	2679 (2.60-2.60)
Ramachandran outliers	100387	2635 (2.60-2.60)
Sidechain outliers	100360	2635 (2.60-2.60)
RSRZ outliers	91569	2334 (2.60-2.60)

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 ≥ 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	729	<div> <div>4%</div> <div>56% 38% . .</div> </div>
1	B	729	<div> <div>4%</div> <div>56% 38% . .</div> </div>
1	C	729	<div> <div>5%</div> <div>55% 38% . .</div> </div>
1	D	729	<div> <div>5%</div> <div>55% 38% . .</div> </div>

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
2	HG	B	802	-	-	-	X
2	HG	C	802	-	-	-	X

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 22876 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 Nucleoporin NUP120.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	701	Total	C	N	O	S	0	0	0
			5716	3700	908	1089	19			
1	B	701	Total	C	N	O	S	0	0	0
			5716	3700	908	1089	19			
1	C	701	Total	C	N	O	S	0	0	0
			5716	3700	908	1089	19			
1	D	701	Total	C	N	O	S	0	0	0
			5716	3700	908	1089	19			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	207	CYS	SER	ENGINEERED	UNP P35729
B	207	CYS	SER	ENGINEERED	UNP P35729
C	207	CYS	SER	ENGINEERED	UNP P35729
D	207	CYS	SER	ENGINEERED	UNP P35729

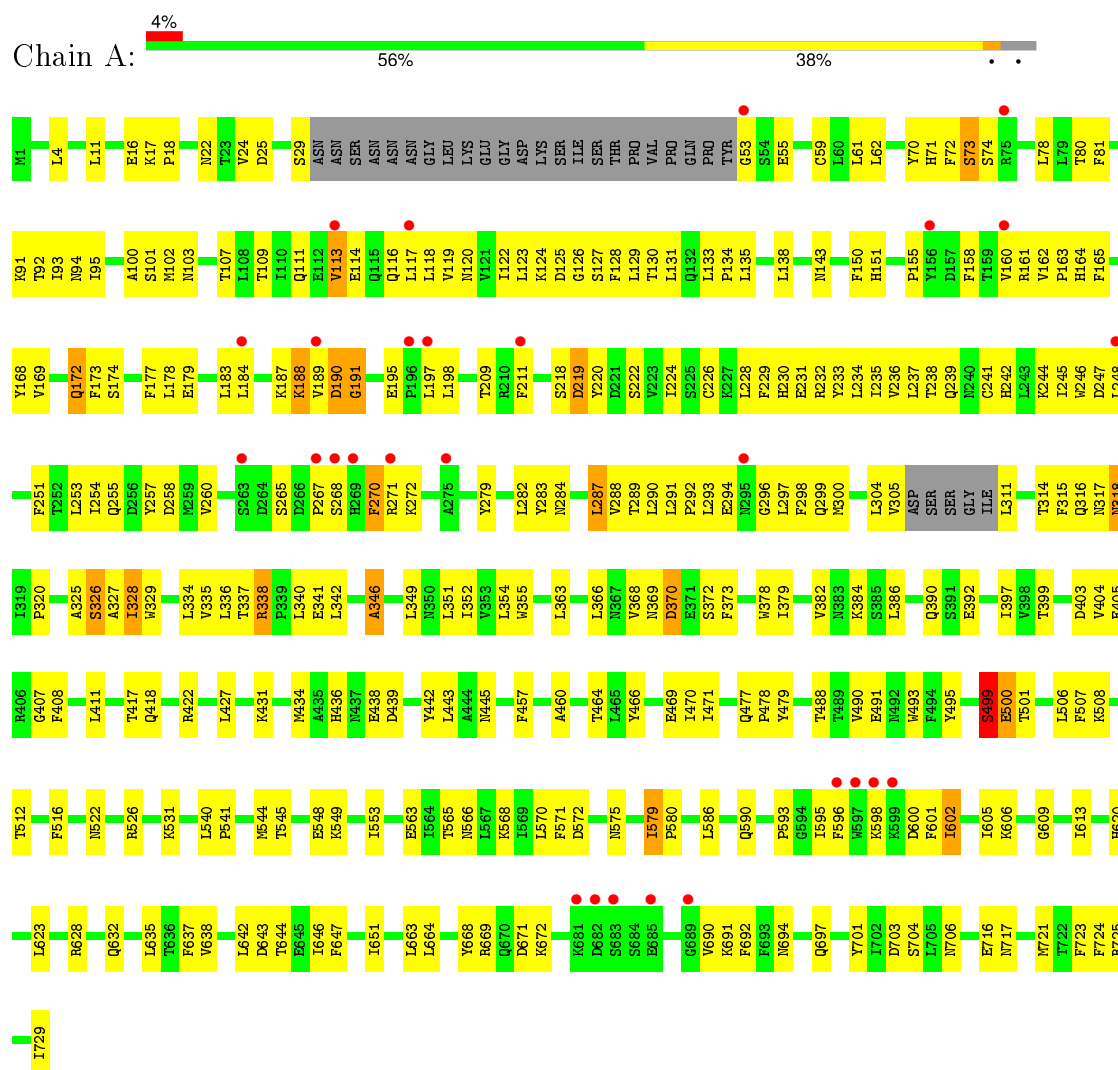
- Molecule 2 is MERCURY (II) ION (three-letter code: HG) (formula: Hg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	B	3	Total	Hg	0	0
			3	3		
2	A	3	Total	Hg	0	0
			3	3		
2	D	3	Total	Hg	0	0
			3	3		
2	C	3	Total	Hg	0	0
			3	3		

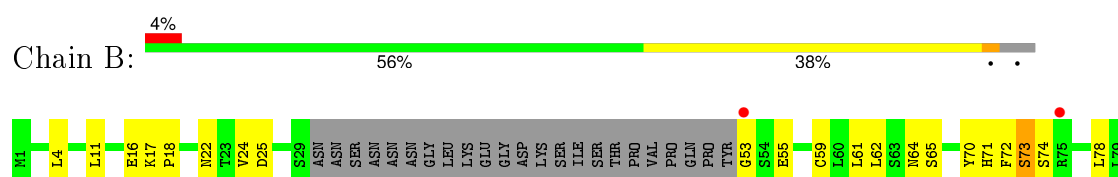
3 Residue-property plots

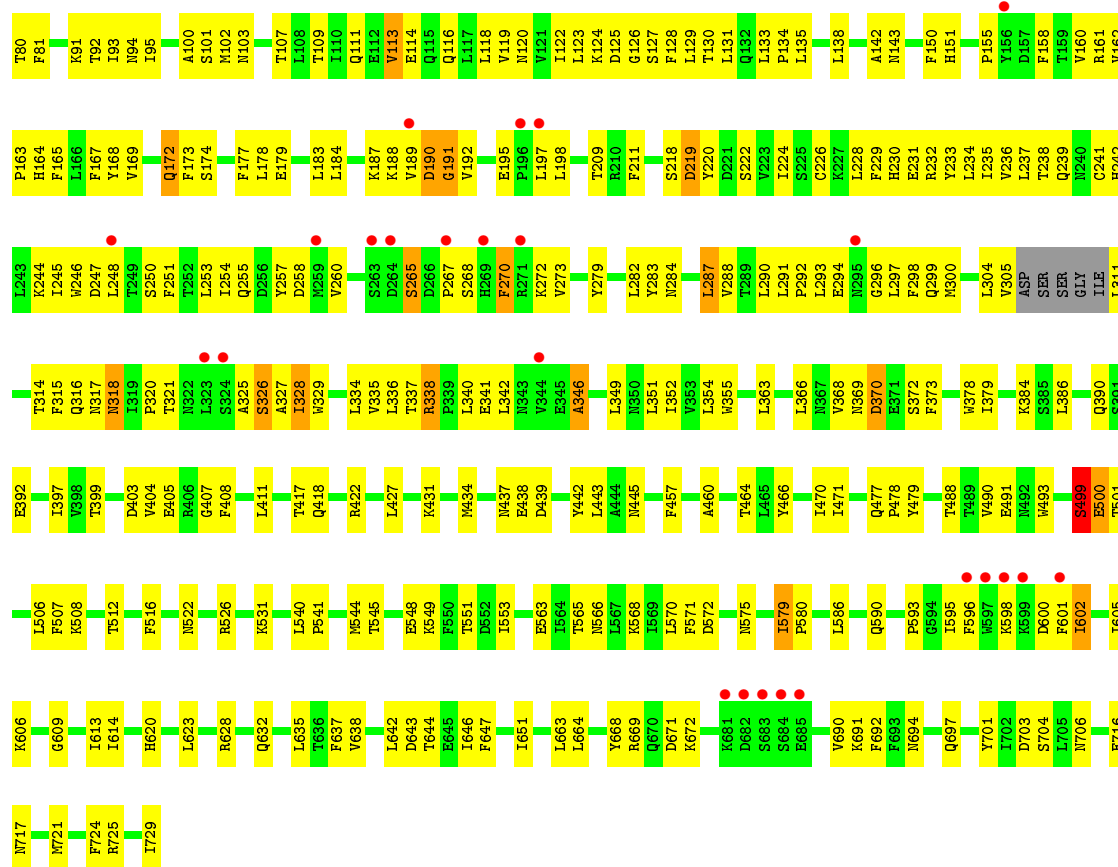
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according 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.

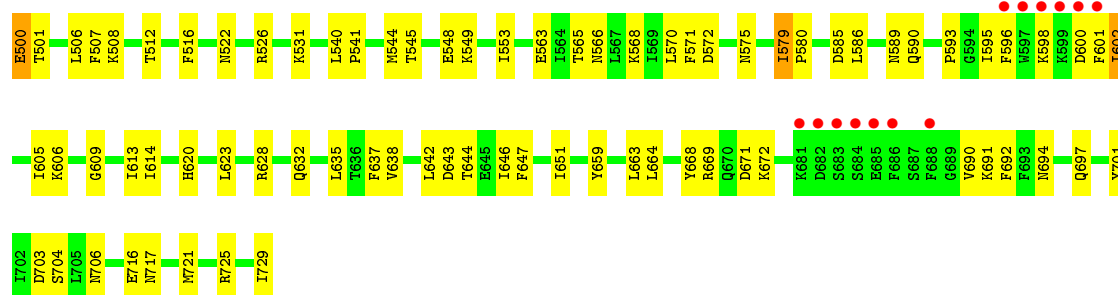
• Molecule 1: Nucleoporin NUP120



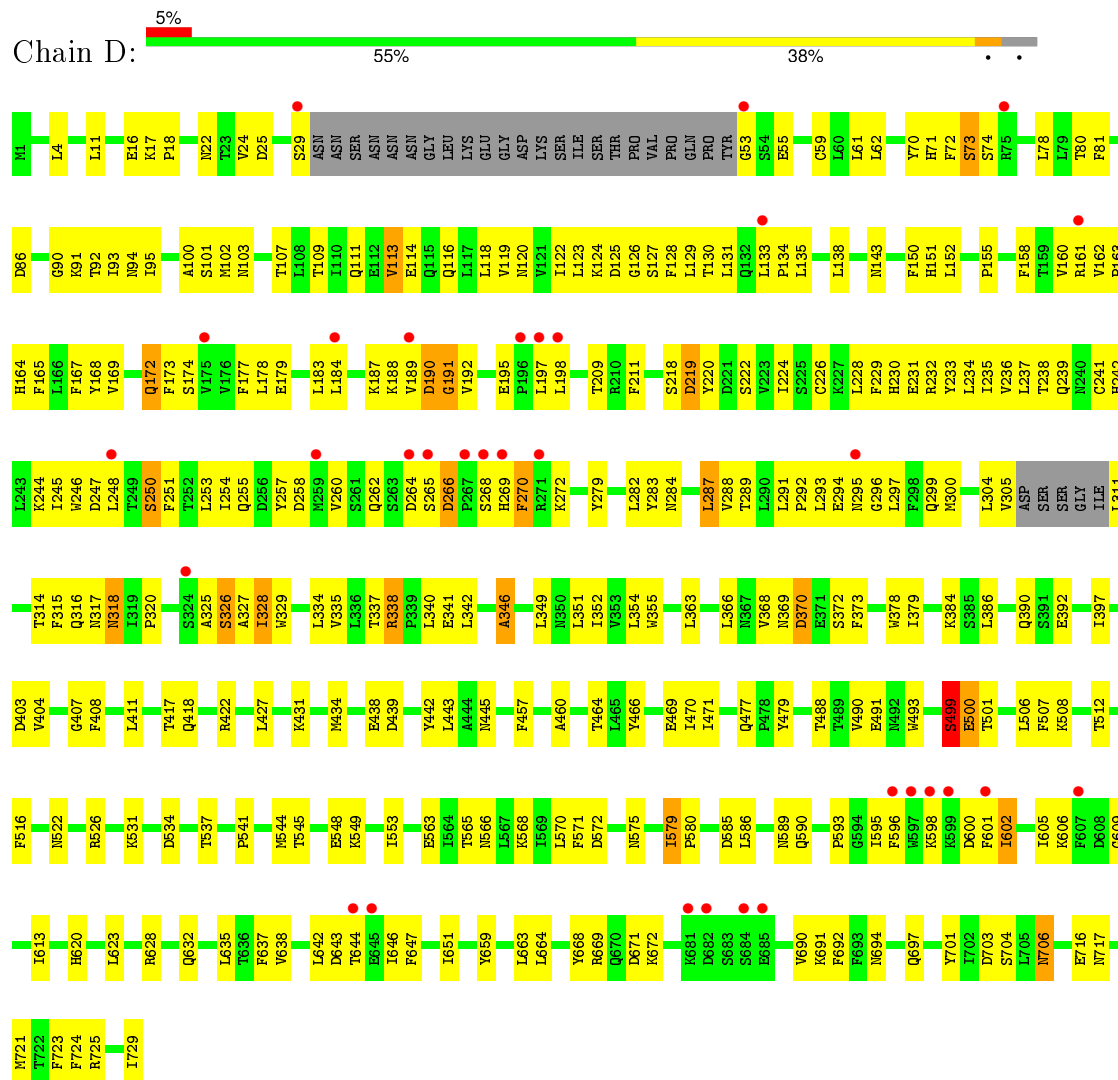
• Molecule 1: Nucleoporin NUP120







• Molecule 1: Nucleoporin NUP120



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	52.68 Å 117.48 Å 146.29 Å 89.94° 89.77° 89.89°	Depositor
Resolution (Å)	20.00 – 2.60 31.46 – 2.59	Depositor EDS
% Data completeness (in resolution range)	(Not available) (20.00-2.60) 93.0 (31.46-2.59)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.04	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.32 (at 2.57 Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.232 , 0.254 0.237 , 0.259	Depositor DCC
R_{free} test set	9753 reflections (9.61%)	DCC
Wilson B-factor (Å ²)	55.9	Xtriage
Anisotropy	0.406	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.28 , 26.9	EDS
Estimated twinning fraction	0.448 for h,-k,-l 0.468 for -h,k,-l 0.440 for -h,-k,l	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Outliers	0 of 208082 reflections	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	22876	wwPDB-VP
Average B, all atoms (Å ²)	75.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.47% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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 [i](#)

5.1 Standard geometry [i](#)

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

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	0.43	0/5845	0.65	1/7935 (0.0%)
1	B	0.43	0/5845	0.65	1/7935 (0.0%)
1	C	0.43	0/5845	0.65	1/7935 (0.0%)
1	D	0.43	0/5845	0.65	0/7935
All	All	0.43	0/23380	0.65	3/31740 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	540	LEU	N-CA-C	-5.15	97.10	111.00
1	A	540	LEU	N-CA-C	-5.04	97.40	111.00
1	B	540	LEU	N-CA-C	-5.03	97.43	111.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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	5716	0	5626	264	0
1	B	5716	0	5626	267	0
1	C	5716	0	5626	272	0
1	D	5716	0	5626	265	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	A	3	0	0	0	0
2	B	3	0	0	0	0
2	C	3	0	0	0	0
2	D	3	0	0	0	0
All	All	22876	0	22504	1058	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 23.

All (1058) 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)
1:A:113:VAL:HG23	1:A:114:GLU:H	1.07	1.18
1:B:113:VAL:HG23	1:B:114:GLU:H	1.08	1.16
1:C:113:VAL:HG23	1:C:114:GLU:H	1.08	1.14
1:D:113:VAL:HG23	1:D:114:GLU:H	1.09	1.12
1:B:160:VAL:HG23	1:B:161:ARG:H	1.23	1.03
1:A:160:VAL:HG23	1:A:161:ARG:H	1.23	1.03
1:B:342:LEU:HD13	1:B:379:ILE:HD12	1.39	1.02
1:C:342:LEU:HD13	1:C:379:ILE:HD12	1.39	1.01
1:A:342:LEU:HD13	1:A:379:ILE:HD12	1.40	1.01
1:D:342:LEU:HD13	1:D:379:ILE:HD12	1.39	1.01
1:C:160:VAL:HG23	1:C:161:ARG:H	1.23	1.00
1:D:160:VAL:HG23	1:D:161:ARG:H	1.23	0.99
1:D:288:VAL:HG12	1:D:300:MET:HB3	1.45	0.99
1:C:288:VAL:HG12	1:C:300:MET:HB3	1.45	0.99
1:A:288:VAL:HG12	1:A:300:MET:HB3	1.46	0.95
1:A:119:VAL:HB	1:A:131:LEU:HB2	1.48	0.95
1:B:18:PRO:HB3	1:B:417:THR:HG22	1.47	0.95
1:B:119:VAL:HB	1:B:131:LEU:HB2	1.49	0.94
1:B:288:VAL:HG12	1:B:300:MET:HB3	1.47	0.94
1:A:18:PRO:HB3	1:A:417:THR:HG22	1.48	0.94
1:D:119:VAL:HB	1:D:131:LEU:HB2	1.48	0.93
1:C:119:VAL:HB	1:C:131:LEU:HB2	1.48	0.93
1:D:18:PRO:HB3	1:D:417:THR:HG22	1.48	0.92
1:C:235:ILE:H	1:C:235:ILE:HD12	1.32	0.92
1:B:235:ILE:H	1:B:235:ILE:HD12	1.33	0.92
1:D:235:ILE:H	1:D:235:ILE:HD12	1.34	0.92
1:C:18:PRO:HB3	1:C:417:THR:HG22	1.49	0.91
1:A:235:ILE:HD12	1:A:235:ILE:H	1.33	0.91
1:A:545:THR:HG23	1:A:548:GLU:OE1	1.72	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:109:THR:CG2	1:C:120:ASN:HB2	2.03	0.87
1:C:623:LEU:HD12	1:C:664:LEU:CD2	2.04	0.87
1:D:109:THR:CG2	1:D:120:ASN:HB2	2.04	0.87
1:B:623:LEU:HD12	1:B:664:LEU:CD2	2.04	0.87
1:A:109:THR:CG2	1:A:120:ASN:HB2	2.03	0.87
1:D:623:LEU:HD12	1:D:664:LEU:CD2	2.05	0.87
1:D:545:THR:HG23	1:D:548:GLU:OE1	1.74	0.87
1:D:643:ASP:OD1	1:D:646:ILE:HG13	1.75	0.86
1:C:62:LEU:HD13	1:C:135:LEU:HD11	1.58	0.86
1:D:62:LEU:HD13	1:D:135:LEU:HD11	1.57	0.86
1:C:545:THR:HG23	1:C:548:GLU:OE1	1.75	0.86
1:B:109:THR:CG2	1:B:120:ASN:HB2	2.05	0.86
1:A:623:LEU:HD12	1:A:664:LEU:CD2	2.04	0.85
1:C:643:ASP:OD1	1:C:646:ILE:HG13	1.76	0.85
1:D:297:LEU:HD13	1:D:318:ASN:ND2	1.91	0.85
1:C:113:VAL:HG23	1:C:114:GLU:N	1.90	0.85
1:B:62:LEU:HD13	1:B:135:LEU:HD11	1.57	0.85
1:A:62:LEU:HD13	1:A:135:LEU:HD11	1.58	0.85
1:A:113:VAL:HG23	1:A:114:GLU:N	1.89	0.85
1:B:545:THR:HG23	1:B:548:GLU:OE1	1.75	0.85
1:D:262:GLN:HG3	1:D:299:GLN:HE22	1.42	0.85
1:D:53:GLY:HA2	1:D:73:SER:HA	1.59	0.85
1:B:188:LYS:HE2	1:B:191:GLY:HA2	1.59	0.85
1:B:643:ASP:OD1	1:B:646:ILE:HG13	1.76	0.85
1:B:53:GLY:HA2	1:B:73:SER:HA	1.59	0.85
1:B:113:VAL:HG23	1:B:114:GLU:N	1.90	0.85
1:C:297:LEU:HD13	1:C:318:ASN:ND2	1.92	0.85
1:A:188:LYS:HE2	1:A:191:GLY:HA2	1.59	0.85
1:D:113:VAL:HG23	1:D:114:GLU:N	1.91	0.85
1:A:53:GLY:HA2	1:A:73:SER:HA	1.59	0.84
1:C:623:LEU:HD12	1:C:664:LEU:HD22	1.59	0.84
1:C:53:GLY:HA2	1:C:73:SER:HA	1.59	0.84
1:B:297:LEU:HD13	1:B:318:ASN:ND2	1.91	0.84
1:A:297:LEU:HD13	1:A:318:ASN:ND2	1.92	0.83
1:A:623:LEU:HD12	1:A:664:LEU:HD22	1.60	0.83
1:D:188:LYS:HE2	1:D:191:GLY:HA2	1.59	0.83
1:A:643:ASP:OD1	1:A:646:ILE:HG13	1.78	0.83
1:C:188:LYS:HE2	1:C:191:GLY:HA2	1.60	0.83
1:C:17:LYS:HE2	1:C:17:LYS:HA	1.61	0.82
1:D:623:LEU:HD12	1:D:664:LEU:HD22	1.61	0.82
1:C:113:VAL:CG2	1:C:114:GLU:H	1.92	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:17:LYS:HE2	1:D:17:LYS:HA	1.61	0.81
1:D:113:VAL:CG2	1:D:114:GLU:H	1.93	0.81
1:C:245:ILE:HG21	1:C:311:LEU:HD23	1.62	0.81
1:B:623:LEU:HD12	1:B:664:LEU:HD22	1.62	0.81
1:A:245:ILE:HG21	1:A:311:LEU:HD23	1.63	0.80
1:A:17:LYS:HA	1:A:17:LYS:HE2	1.61	0.80
1:B:17:LYS:HE2	1:B:17:LYS:HA	1.61	0.80
1:A:55:GLU:HB2	1:A:74:SER:HA	1.64	0.79
1:C:247:ASP:HB2	1:C:254:ILE:HG13	1.63	0.79
1:D:247:ASP:HB2	1:D:254:ILE:HG13	1.63	0.79
1:D:352:ILE:HD13	1:D:471:ILE:HG12	1.66	0.78
1:B:55:GLU:HB2	1:B:74:SER:HA	1.65	0.78
1:C:293:LEU:HD13	1:C:297:LEU:HD12	1.66	0.78
1:A:297:LEU:HD13	1:A:318:ASN:HD22	1.49	0.78
1:A:352:ILE:HD13	1:A:471:ILE:HG12	1.65	0.78
1:A:293:LEU:HD13	1:A:297:LEU:HD12	1.66	0.78
1:B:297:LEU:HD13	1:B:318:ASN:HD22	1.49	0.78
1:D:293:LEU:HD13	1:D:297:LEU:HD12	1.66	0.77
1:B:335:VAL:HG13	1:B:352:ILE:HB	1.66	0.77
1:C:352:ILE:HD13	1:C:471:ILE:HG12	1.66	0.77
1:D:335:VAL:HG13	1:D:352:ILE:HB	1.66	0.77
1:B:293:LEU:HD13	1:B:297:LEU:HD12	1.67	0.77
1:A:335:VAL:HG13	1:A:352:ILE:HB	1.66	0.77
1:C:335:VAL:HG13	1:C:352:ILE:HB	1.66	0.77
1:D:404:VAL:HG11	1:D:438:GLU:HA	1.67	0.77
1:C:55:GLU:HB2	1:C:74:SER:HA	1.65	0.76
1:B:404:VAL:HG11	1:B:438:GLU:HA	1.67	0.76
1:D:297:LEU:HD13	1:D:318:ASN:HD22	1.49	0.76
1:D:102:MET:HB3	1:D:107:THR:HG21	1.67	0.76
1:D:55:GLU:HB2	1:D:74:SER:HA	1.66	0.76
1:A:102:MET:HB3	1:A:107:THR:HG21	1.66	0.75
1:C:160:VAL:HG23	1:C:161:ARG:N	2.01	0.75
1:D:602:ILE:HB	1:D:691:LYS:HB2	1.68	0.75
1:C:102:MET:HB3	1:C:107:THR:HG21	1.67	0.75
1:A:233:TYR:CG	1:A:311:LEU:HD22	2.22	0.75
1:B:245:ILE:HG21	1:B:311:LEU:HD23	1.68	0.75
1:B:102:MET:HB3	1:B:107:THR:HG21	1.67	0.75
1:B:602:ILE:HB	1:B:691:LYS:HB2	1.69	0.75
1:D:160:VAL:HG23	1:D:161:ARG:N	2.01	0.75
1:C:297:LEU:HD13	1:C:318:ASN:HD22	1.49	0.75
1:C:235:ILE:HD12	1:C:235:ILE:N	2.01	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:22:ASN:ND2	1:A:91:LYS:HB2	2.02	0.74
1:B:235:ILE:HD12	1:B:235:ILE:N	2.00	0.74
1:B:397:ILE:HG23	1:B:526:ARG:HG2	1.69	0.74
1:A:602:ILE:HB	1:A:691:LYS:HB2	1.69	0.74
1:C:602:ILE:HB	1:C:691:LYS:HB2	1.69	0.74
1:B:22:ASN:ND2	1:B:91:LYS:HB2	2.03	0.74
1:A:235:ILE:HD12	1:A:235:ILE:N	2.01	0.74
1:D:235:ILE:HD12	1:D:235:ILE:N	2.02	0.74
1:D:236:VAL:HG22	1:D:244:LYS:O	1.88	0.74
1:D:92:THR:HG21	1:D:479:TYR:OH	1.88	0.74
1:C:236:VAL:HG22	1:C:244:LYS:O	1.88	0.74
1:B:92:THR:HG21	1:B:479:TYR:OH	1.87	0.73
1:A:724:PHE:HB3	1:B:724:PHE:HB3	1.69	0.73
1:B:233:TYR:CG	1:B:311:LEU:HD22	2.23	0.73
1:A:16:GLU:O	1:A:417:THR:HG21	1.89	0.73
1:A:236:VAL:HG22	1:A:244:LYS:O	1.88	0.73
1:B:236:VAL:HG22	1:B:244:LYS:O	1.88	0.73
1:C:22:ASN:ND2	1:C:91:LYS:HB2	2.02	0.73
1:C:92:THR:HG21	1:C:479:TYR:OH	1.88	0.73
1:A:160:VAL:HG23	1:A:161:ARG:N	2.02	0.73
1:D:22:ASN:ND2	1:D:91:LYS:HB2	2.03	0.73
1:B:160:VAL:HG23	1:B:161:ARG:N	2.02	0.73
1:B:352:ILE:HD13	1:B:471:ILE:HG12	1.70	0.73
1:D:245:ILE:HG21	1:D:311:LEU:HD23	1.70	0.73
1:A:694:ASN:ND2	1:A:697:GLN:HE21	1.88	0.72
1:D:172:GLN:HB3	1:D:188:LYS:HZ2	1.53	0.72
1:D:397:ILE:HG23	1:D:526:ARG:HG2	1.71	0.72
1:A:92:THR:HG21	1:A:479:TYR:OH	1.88	0.72
1:D:169:VAL:HG13	1:D:228:LEU:HD22	1.72	0.72
1:C:169:VAL:HG13	1:C:228:LEU:HD22	1.71	0.72
1:A:130:THR:O	1:A:150:PHE:HA	1.90	0.71
1:A:397:ILE:HG23	1:A:526:ARG:HG2	1.72	0.71
1:A:169:VAL:HG13	1:A:228:LEU:HD22	1.70	0.71
1:A:113:VAL:CG2	1:A:114:GLU:H	1.91	0.71
1:D:130:THR:O	1:D:150:PHE:HA	1.91	0.71
1:C:404:VAL:HG11	1:C:438:GLU:HA	1.73	0.71
1:A:717:ASN:OD1	1:A:721:MET:HG3	1.90	0.71
1:C:130:THR:O	1:C:150:PHE:HA	1.91	0.71
1:C:717:ASN:OD1	1:C:721:MET:HG3	1.90	0.71
1:B:717:ASN:OD1	1:B:721:MET:HG3	1.91	0.71
1:D:717:ASN:OD1	1:D:721:MET:HG3	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:113:VAL:CG2	1:B:114:GLU:H	1.92	0.70
1:B:130:THR:O	1:B:150:PHE:HA	1.91	0.70
1:C:16:GLU:O	1:C:417:THR:HG21	1.91	0.70
1:D:694:ASN:ND2	1:D:697:GLN:HE21	1.88	0.70
1:A:247:ASP:HB2	1:A:254:ILE:HG13	1.72	0.70
1:B:694:ASN:ND2	1:B:697:GLN:HE21	1.90	0.70
1:C:694:ASN:ND2	1:C:697:GLN:HE21	1.88	0.70
1:B:293:LEU:HD22	1:B:297:LEU:HD11	1.73	0.70
1:D:233:TYR:CG	1:D:311:LEU:HD22	2.26	0.70
1:B:169:VAL:HG13	1:B:228:LEU:HD22	1.72	0.70
1:C:397:ILE:HG23	1:C:526:ARG:HG2	1.74	0.70
1:D:16:GLU:O	1:D:417:THR:HG21	1.92	0.70
1:A:293:LEU:HD22	1:A:297:LEU:HD11	1.73	0.70
1:C:233:TYR:CG	1:C:311:LEU:HD22	2.26	0.70
1:D:596:PHE:CZ	1:D:704:SER:HA	2.27	0.70
1:C:427:LEU:HD13	1:C:442:TYR:CE2	2.27	0.70
1:C:24:VAL:HG11	1:C:143:ASN:HA	1.74	0.69
1:D:24:VAL:HG11	1:D:143:ASN:HA	1.74	0.69
1:B:16:GLU:O	1:B:417:THR:HG21	1.93	0.69
1:D:293:LEU:HD22	1:D:297:LEU:HD11	1.74	0.69
1:B:235:ILE:H	1:B:235:ILE:CD1	2.06	0.69
1:B:596:PHE:CZ	1:B:704:SER:HA	2.28	0.69
1:A:258:ASP:OD2	1:A:260:VAL:HG22	1.93	0.69
1:A:235:ILE:CD1	1:A:235:ILE:H	2.06	0.68
1:A:427:LEU:HD13	1:A:442:TYR:CE2	2.28	0.68
1:C:427:LEU:HD13	1:C:442:TYR:HE2	1.58	0.68
1:A:24:VAL:HG11	1:A:143:ASN:HA	1.74	0.68
1:C:293:LEU:HD22	1:C:297:LEU:HD11	1.74	0.68
1:B:427:LEU:HD13	1:B:442:TYR:CE2	2.29	0.68
1:C:235:ILE:H	1:C:235:ILE:CD1	2.05	0.68
1:B:24:VAL:HG11	1:B:143:ASN:HA	1.74	0.68
1:B:247:ASP:HB2	1:B:254:ILE:HG13	1.75	0.68
1:D:95:ILE:HD11	1:D:133:LEU:HD11	1.76	0.68
1:A:596:PHE:CZ	1:A:704:SER:HA	2.29	0.67
1:C:596:PHE:CZ	1:C:704:SER:HA	2.30	0.67
1:C:95:ILE:HD11	1:C:133:LEU:HD11	1.76	0.67
1:A:95:ILE:HD11	1:A:133:LEU:HD11	1.77	0.67
1:B:95:ILE:HD11	1:B:133:LEU:HD11	1.77	0.67
1:D:235:ILE:H	1:D:235:ILE:CD1	2.06	0.67
1:C:172:GLN:HB3	1:C:188:LYS:HZ2	1.61	0.66
1:C:434:MET:HB2	1:C:442:TYR:CE1	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:404:VAL:HG11	1:A:438:GLU:HA	1.76	0.66
1:D:305:VAL:HG21	1:D:311:LEU:N	2.11	0.66
1:A:623:LEU:CD1	1:A:664:LEU:HD22	2.24	0.66
1:C:160:VAL:CG2	1:C:161:ARG:H	2.05	0.66
1:A:24:VAL:HG23	1:A:93:ILE:HG23	1.78	0.66
1:A:160:VAL:CG2	1:A:161:ARG:H	2.06	0.66
1:D:160:VAL:CG2	1:D:161:ARG:H	2.05	0.65
1:A:109:THR:HG22	1:A:120:ASN:HB2	1.79	0.65
1:D:434:MET:HB2	1:D:442:TYR:CE1	2.31	0.65
1:B:109:THR:HG22	1:B:120:ASN:HB2	1.79	0.65
1:B:427:LEU:HD13	1:B:442:TYR:HE2	1.59	0.65
1:A:427:LEU:HD13	1:A:442:TYR:HE2	1.59	0.65
1:D:427:LEU:HD13	1:D:442:TYR:CE2	2.31	0.65
1:C:296:GLY:O	1:C:320:PRO:HA	1.97	0.65
1:C:300:MET:O	1:C:316:GLN:HB2	1.97	0.65
1:A:434:MET:HB2	1:A:442:TYR:CE1	2.30	0.65
1:D:296:GLY:O	1:D:320:PRO:HA	1.97	0.65
1:D:623:LEU:CD1	1:D:664:LEU:HD22	2.26	0.65
1:B:293:LEU:HD22	1:B:297:LEU:CD1	2.27	0.65
1:D:325:ALA:O	1:D:326:SER:HB3	1.97	0.65
1:C:623:LEU:CD1	1:C:664:LEU:HD22	2.25	0.65
1:B:258:ASP:OD2	1:B:260:VAL:HG22	1.97	0.65
1:A:325:ALA:O	1:A:326:SER:HB3	1.97	0.65
1:C:305:VAL:HG21	1:C:311:LEU:N	2.13	0.65
1:C:325:ALA:O	1:C:326:SER:HB3	1.97	0.65
1:C:270:PHE:CD2	1:C:270:PHE:C	2.71	0.65
1:B:116:GLN:HG2	1:B:134:PRO:HA	1.78	0.65
1:A:293:LEU:HD22	1:A:297:LEU:CD1	2.27	0.64
1:B:434:MET:HB2	1:B:442:TYR:CE1	2.31	0.64
1:A:29:SER:HB2	1:C:501:THR:HG23	1.78	0.64
1:B:325:ALA:O	1:B:326:SER:HB3	1.97	0.64
1:D:427:LEU:HD13	1:D:442:TYR:HE2	1.62	0.64
1:A:116:GLN:HG2	1:A:134:PRO:HA	1.79	0.64
1:D:300:MET:O	1:D:316:GLN:HB2	1.98	0.64
1:C:292:PRO:C	1:C:293:LEU:HD12	2.17	0.64
1:A:300:MET:O	1:A:316:GLN:HB2	1.98	0.64
1:B:305:VAL:HG21	1:B:311:LEU:N	2.12	0.64
1:B:300:MET:O	1:B:316:GLN:HB2	1.98	0.64
1:B:292:PRO:C	1:B:293:LEU:HD12	2.17	0.64
1:A:292:PRO:C	1:A:293:LEU:HD12	2.17	0.64
1:B:623:LEU:CD1	1:B:664:LEU:HD22	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:116:GLN:HG2	1:D:134:PRO:HA	1.78	0.64
1:B:232:ARG:HD3	1:B:233:TYR:CE1	2.33	0.64
1:D:260:VAL:HG11	1:D:270:PHE:CE1	2.33	0.64
1:A:296:GLY:O	1:A:320:PRO:HA	1.97	0.64
1:C:293:LEU:HD22	1:C:297:LEU:CD1	2.28	0.63
1:B:296:GLY:O	1:B:320:PRO:HA	1.97	0.63
1:D:292:PRO:C	1:D:293:LEU:HD12	2.18	0.63
1:C:109:THR:HG22	1:C:120:ASN:HB2	1.78	0.63
1:A:305:VAL:HG21	1:A:311:LEU:N	2.12	0.63
1:B:24:VAL:HG23	1:B:93:ILE:HG23	1.81	0.63
1:D:531:LYS:HB3	1:D:553:ILE:HG12	1.79	0.63
1:D:293:LEU:HD22	1:D:297:LEU:CD1	2.28	0.63
1:A:232:ARG:HD3	1:A:233:TYR:CE1	2.34	0.63
1:C:232:ARG:HD3	1:C:233:TYR:CE1	2.34	0.63
1:D:690:VAL:HG12	1:D:691:LYS:N	2.13	0.63
1:C:24:VAL:HG23	1:C:93:ILE:HG23	1.79	0.63
1:B:187:LYS:HD3	1:B:197:LEU:HD11	1.81	0.63
1:D:232:ARG:HD3	1:D:233:TYR:CE1	2.34	0.63
1:D:24:VAL:HG23	1:D:93:ILE:HG23	1.79	0.63
1:C:116:GLN:HG2	1:C:134:PRO:HA	1.79	0.63
1:B:690:VAL:HG12	1:B:691:LYS:N	2.13	0.63
1:C:690:VAL:HG12	1:C:691:LYS:N	2.13	0.63
1:C:442:TYR:O	1:C:445:ASN:N	2.29	0.63
1:D:109:THR:HG22	1:D:120:ASN:HB2	1.78	0.62
1:A:690:VAL:HG12	1:A:691:LYS:N	2.13	0.62
1:D:442:TYR:O	1:D:445:ASN:N	2.30	0.62
1:C:531:LYS:HB3	1:C:553:ILE:HG12	1.80	0.62
1:A:70:TYR:HA	1:A:80:THR:O	1.99	0.62
1:B:690:VAL:CG1	1:B:691:LYS:N	2.63	0.62
1:A:522:ASN:O	1:A:526:ARG:HG3	1.99	0.62
1:D:172:GLN:CB	1:D:188:LYS:HZ2	2.12	0.62
1:A:690:VAL:CG1	1:A:691:LYS:N	2.63	0.62
1:A:187:LYS:HD3	1:A:197:LEU:HD11	1.82	0.62
1:A:172:GLN:HB3	1:A:188:LYS:HZ2	1.63	0.62
1:C:247:ASP:HB2	1:C:254:ILE:CG1	2.29	0.62
1:A:270:PHE:C	1:A:270:PHE:CD2	2.71	0.62
1:B:70:TYR:HA	1:B:80:THR:O	2.00	0.62
1:B:500:GLU:HB2	1:B:507:PHE:CZ	2.35	0.62
1:B:531:LYS:HB3	1:B:553:ILE:HG12	1.80	0.62
1:B:160:VAL:CG2	1:B:161:ARG:H	2.05	0.62
1:C:70:TYR:HA	1:C:80:THR:O	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:531:LYS:HB3	1:A:553:ILE:HG12	1.80	0.62
1:B:270:PHE:C	1:B:270:PHE:CD2	2.73	0.61
1:B:551:THR:HA	1:C:211:PHE:CE1	2.34	0.61
1:B:522:ASN:O	1:B:526:ARG:HG3	2.00	0.61
1:A:721:MET:HB3	1:B:721:MET:HE2	1.81	0.61
1:D:187:LYS:HD3	1:D:197:LEU:HD11	1.81	0.61
1:B:172:GLN:HB3	1:B:188:LYS:HZ2	1.64	0.61
1:A:282:LEU:HB3	1:A:287:LEU:HD12	1.81	0.61
1:D:522:ASN:O	1:D:526:ARG:HG3	1.99	0.61
1:B:188:LYS:HB3	1:B:188:LYS:HZ2	1.65	0.61
1:A:245:ILE:HG21	1:A:311:LEU:CD2	2.31	0.61
1:A:188:LYS:HZ2	1:A:188:LYS:HB3	1.66	0.61
1:C:172:GLN:CB	1:C:188:LYS:HZ2	2.13	0.61
1:B:501:THR:HG23	1:D:29:SER:HB2	1.83	0.61
1:D:595:ILE:N	1:D:595:ILE:HD12	2.16	0.61
1:A:172:GLN:CB	1:A:188:LYS:HZ2	2.14	0.61
1:C:245:ILE:HG21	1:C:311:LEU:CD2	2.31	0.61
1:B:595:ILE:N	1:B:595:ILE:HD12	2.15	0.61
1:C:595:ILE:N	1:C:595:ILE:HD12	2.16	0.61
1:D:282:LEU:HB3	1:D:287:LEU:HD12	1.82	0.61
1:C:690:VAL:CG1	1:C:691:LYS:N	2.63	0.61
1:B:172:GLN:CB	1:B:188:LYS:HZ2	2.14	0.60
1:D:690:VAL:CG1	1:D:691:LYS:N	2.63	0.60
1:B:282:LEU:HB3	1:B:287:LEU:HD12	1.82	0.60
1:C:500:GLU:HB2	1:C:507:PHE:CZ	2.36	0.60
1:C:187:LYS:HD3	1:C:197:LEU:HD11	1.82	0.60
1:A:500:GLU:HB2	1:A:507:PHE:CZ	2.37	0.60
1:A:595:ILE:N	1:A:595:ILE:HD12	2.16	0.60
1:C:522:ASN:O	1:C:526:ARG:HG3	2.00	0.60
1:C:282:LEU:HB3	1:C:287:LEU:HD12	1.83	0.60
1:A:721:MET:HE2	1:B:721:MET:HB3	1.82	0.60
1:D:70:TYR:HA	1:D:80:THR:O	2.00	0.60
1:B:351:LEU:HB3	1:B:366:LEU:HB3	1.83	0.60
1:D:500:GLU:HB2	1:D:507:PHE:CZ	2.37	0.60
1:A:351:LEU:HB3	1:A:366:LEU:HB3	1.84	0.60
1:D:188:LYS:HB3	1:D:188:LYS:NZ	2.18	0.59
1:C:457:PHE:CD2	1:C:477:GLN:HG2	2.37	0.59
1:A:304:LEU:O	1:A:305:VAL:HG23	2.02	0.59
1:D:173:PHE:HE2	1:D:248:LEU:HD13	1.65	0.59
1:D:342:LEU:HD13	1:D:379:ILE:CD1	2.25	0.59
1:A:457:PHE:CD2	1:A:477:GLN:HG2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:229:PHE:HB2	1:B:235:ILE:HD11	1.85	0.59
1:B:188:LYS:NZ	1:B:188:LYS:HB3	2.17	0.59
1:C:188:LYS:HB3	1:C:188:LYS:NZ	2.18	0.59
1:C:304:LEU:O	1:C:305:VAL:HG23	2.02	0.59
1:D:457:PHE:CD2	1:D:477:GLN:HG2	2.38	0.59
1:C:342:LEU:HD13	1:C:379:ILE:CD1	2.25	0.59
1:A:61:LEU:HD12	1:A:62:LEU:H	1.68	0.59
1:B:457:PHE:CD2	1:B:477:GLN:HG2	2.37	0.59
1:A:229:PHE:HB2	1:A:235:ILE:HD11	1.85	0.59
1:C:101:SER:HA	1:C:123:LEU:HA	1.85	0.59
1:B:304:LEU:O	1:B:305:VAL:HG23	2.03	0.59
1:A:563:GLU:HB3	1:A:565:THR:HG22	1.85	0.58
1:C:563:GLU:HB3	1:C:565:THR:HG22	1.86	0.58
1:B:342:LEU:HD13	1:B:379:ILE:CD1	2.26	0.58
1:A:342:LEU:HD13	1:A:379:ILE:CD1	2.26	0.58
1:D:229:PHE:HB2	1:D:235:ILE:HD11	1.86	0.58
1:A:188:LYS:HB3	1:A:188:LYS:NZ	2.18	0.58
1:D:563:GLU:HB3	1:D:565:THR:HG22	1.86	0.58
1:B:61:LEU:HD12	1:B:62:LEU:H	1.69	0.58
1:D:304:LEU:O	1:D:305:VAL:HG23	2.03	0.58
1:C:351:LEU:HB3	1:C:366:LEU:HB3	1.84	0.58
1:D:258:ASP:OD2	1:D:260:VAL:HG22	2.03	0.58
1:B:563:GLU:HB3	1:B:565:THR:HG22	1.85	0.58
1:A:101:SER:HA	1:A:123:LEU:HA	1.85	0.58
1:B:265:SER:O	1:B:267:PRO:HD3	2.03	0.58
1:C:725:ARG:O	1:C:729:ILE:HG22	2.04	0.58
1:C:229:PHE:HB2	1:C:235:ILE:HD11	1.86	0.58
1:C:61:LEU:HD12	1:C:62:LEU:H	1.67	0.58
1:C:328:ILE:HD12	1:C:328:ILE:H	1.67	0.58
1:B:623:LEU:HD12	1:B:664:LEU:HD23	1.83	0.57
1:D:328:ILE:HD12	1:D:328:ILE:H	1.67	0.57
1:D:351:LEU:HB3	1:D:366:LEU:HB3	1.85	0.57
1:D:541:PRO:HD2	1:D:544:MET:HE1	1.86	0.57
1:C:172:GLN:HB3	1:C:188:LYS:NZ	2.20	0.57
1:D:101:SER:HA	1:D:123:LEU:HA	1.86	0.57
1:A:328:ILE:H	1:A:328:ILE:HD12	1.68	0.57
1:D:172:GLN:HB3	1:D:188:LYS:NZ	2.20	0.57
1:D:163:PRO:HA	1:D:178:LEU:HD23	1.86	0.57
1:D:404:VAL:HG11	1:D:438:GLU:HG2	1.86	0.57
1:B:101:SER:HA	1:B:123:LEU:HA	1.86	0.57
1:C:163:PRO:HA	1:C:178:LEU:HD23	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:541:PRO:HD2	1:C:544:MET:HE1	1.86	0.57
1:A:169:VAL:HB	1:A:173:PHE:O	2.05	0.57
1:B:328:ILE:HD12	1:B:328:ILE:H	1.68	0.57
1:B:169:VAL:HB	1:B:173:PHE:O	2.05	0.57
1:A:163:PRO:HA	1:A:178:LEU:HD23	1.87	0.56
1:C:262:GLN:HE22	1:C:315:PHE:HB2	1.69	0.56
1:A:113:VAL:HG11	1:A:118:LEU:HD22	1.87	0.56
1:C:169:VAL:HB	1:C:173:PHE:O	2.05	0.56
1:D:247:ASP:HB2	1:D:254:ILE:CG1	2.34	0.56
1:D:169:VAL:HB	1:D:173:PHE:O	2.05	0.56
1:D:209:THR:CG2	1:D:211:PHE:CD2	2.89	0.56
1:C:209:THR:CG2	1:C:211:PHE:CD2	2.89	0.56
1:C:113:VAL:HG11	1:C:118:LEU:HD22	1.87	0.56
1:D:61:LEU:HD12	1:D:62:LEU:H	1.69	0.56
1:C:188:LYS:HZ2	1:C:188:LYS:HB3	1.71	0.56
1:D:81:PHE:O	1:D:92:THR:HA	2.05	0.56
1:C:488:THR:OG1	1:C:491:GLU:HG3	2.06	0.56
1:C:177:PHE:CD1	1:C:183:LEU:HD22	2.41	0.56
1:D:177:PHE:CD1	1:D:183:LEU:HD22	2.41	0.56
1:A:442:TYR:O	1:A:445:ASN:N	2.31	0.56
1:B:163:PRO:HA	1:B:178:LEU:HD23	1.88	0.56
1:D:725:ARG:O	1:D:729:ILE:HG22	2.06	0.56
1:B:209:THR:CG2	1:B:211:PHE:CD2	2.88	0.56
1:B:81:PHE:O	1:B:92:THR:HA	2.06	0.56
1:B:113:VAL:HG11	1:B:118:LEU:HD22	1.88	0.56
1:A:623:LEU:HD12	1:A:664:LEU:HD23	1.86	0.56
1:B:442:TYR:O	1:B:445:ASN:N	2.31	0.56
1:B:701:TYR:O	1:B:704:SER:HB3	2.07	0.55
1:A:169:VAL:HG13	1:A:228:LEU:CD2	2.35	0.55
1:B:177:PHE:CD1	1:B:183:LEU:HD22	2.41	0.55
1:D:349:LEU:HB2	1:D:368:VAL:CG2	2.36	0.55
1:C:293:LEU:CD1	1:C:297:LEU:HD12	2.34	0.55
1:D:601:PHE:O	1:D:602:ILE:C	2.44	0.55
1:B:260:VAL:HG11	1:B:270:PHE:CE1	2.40	0.55
1:B:245:ILE:HG21	1:B:311:LEU:CD2	2.36	0.55
1:D:169:VAL:HG13	1:D:228:LEU:CD2	2.37	0.55
1:A:177:PHE:CD1	1:A:183:LEU:HD22	2.41	0.55
1:D:293:LEU:CD1	1:D:297:LEU:HD12	2.34	0.55
1:B:288:VAL:HG12	1:B:300:MET:CB	2.31	0.55
1:A:172:GLN:HB3	1:A:188:LYS:NZ	2.20	0.55
1:C:169:VAL:HG13	1:C:228:LEU:CD2	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:601:PHE:O	1:C:602:ILE:C	2.44	0.55
1:C:81:PHE:O	1:C:92:THR:HA	2.07	0.55
1:D:694:ASN:HD21	1:D:697:GLN:HE21	1.55	0.55
1:B:209:THR:CG2	1:B:211:PHE:HD2	2.20	0.55
1:B:568:LYS:HE3	1:B:572:ASP:OD2	2.06	0.55
1:B:172:GLN:HB3	1:B:188:LYS:NZ	2.20	0.55
1:C:53:GLY:HA3	1:C:71:HIS:HB3	1.88	0.55
1:A:293:LEU:CD1	1:A:297:LEU:HD12	2.35	0.55
1:B:601:PHE:O	1:B:602:ILE:C	2.44	0.55
1:A:601:PHE:O	1:A:602:ILE:C	2.44	0.55
1:A:81:PHE:O	1:A:92:THR:HA	2.06	0.55
1:D:250:SER:O	1:D:251:PHE:HB2	2.07	0.55
1:A:595:ILE:H	1:A:595:ILE:HD12	1.72	0.55
1:C:349:LEU:HB2	1:C:368:VAL:CG2	2.37	0.55
1:B:209:THR:HG21	1:B:211:PHE:HD2	1.72	0.55
1:B:349:LEU:HB2	1:B:368:VAL:CG2	2.37	0.55
1:A:349:LEU:HB2	1:A:368:VAL:CG2	2.37	0.55
1:A:209:THR:CG2	1:A:211:PHE:CD2	2.89	0.55
1:B:293:LEU:CD1	1:B:297:LEU:HD12	2.35	0.54
1:C:701:TYR:O	1:C:704:SER:HB3	2.07	0.54
1:D:568:LYS:HE3	1:D:572:ASP:OD2	2.07	0.54
1:B:190:ASP:CG	1:B:191:GLY:H	2.11	0.54
1:B:209:THR:HG22	1:B:211:PHE:CD2	2.42	0.54
1:D:701:TYR:O	1:D:704:SER:HB3	2.08	0.54
1:D:113:VAL:HG11	1:D:118:LEU:HD22	1.89	0.54
1:D:95:ILE:CD1	1:D:133:LEU:HD11	2.37	0.54
1:A:701:TYR:O	1:A:704:SER:HB3	2.08	0.54
1:A:488:THR:OG1	1:A:491:GLU:HG3	2.07	0.54
1:A:190:ASP:CG	1:A:191:GLY:H	2.11	0.54
1:A:329:TRP:HB3	1:A:355:TRP:HB3	1.90	0.54
1:B:169:VAL:HG13	1:B:228:LEU:CD2	2.37	0.54
1:B:595:ILE:H	1:B:595:ILE:HD12	1.73	0.54
1:D:349:LEU:HB2	1:D:368:VAL:HG21	1.90	0.54
1:A:725:ARG:O	1:A:729:ILE:HG22	2.07	0.54
1:D:53:GLY:HA3	1:D:71:HIS:HB3	1.90	0.54
1:C:209:THR:HG22	1:C:211:PHE:CD2	2.43	0.54
1:D:209:THR:CG2	1:D:211:PHE:HD2	2.21	0.54
1:D:209:THR:HG21	1:D:211:PHE:HD2	1.72	0.54
1:B:541:PRO:HD2	1:B:544:MET:HE1	1.90	0.54
1:C:568:LYS:HE3	1:C:572:ASP:OD2	2.08	0.54
1:A:103:ASN:HB3	1:A:107:THR:HG23	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:209:THR:CG2	1:C:211:PHE:HD2	2.21	0.54
1:A:209:THR:CG2	1:A:211:PHE:HD2	2.21	0.54
1:A:209:THR:HG21	1:A:211:PHE:HD2	1.72	0.54
1:D:488:THR:OG1	1:D:491:GLU:HG3	2.08	0.54
1:B:329:TRP:HB3	1:B:355:TRP:HB3	1.90	0.54
1:C:93:ILE:CD1	1:C:138:LEU:HD23	2.38	0.54
1:C:209:THR:HG21	1:C:211:PHE:HD2	1.72	0.54
1:D:209:THR:HG22	1:D:211:PHE:CD2	2.43	0.54
1:C:490:VAL:HG22	1:C:590:GLN:HG3	1.89	0.54
1:A:541:PRO:HD2	1:A:544:MET:HE1	1.90	0.54
1:A:490:VAL:HG22	1:A:590:GLN:HG3	1.90	0.54
1:A:95:ILE:CD1	1:A:133:LEU:HD11	2.37	0.53
1:C:103:ASN:HB3	1:C:107:THR:HG23	1.90	0.53
1:B:103:ASN:HB3	1:B:107:THR:HG23	1.90	0.53
1:A:93:ILE:CD1	1:A:138:LEU:HD23	2.38	0.53
1:D:457:PHE:HA	1:D:477:GLN:HB2	1.90	0.53
1:C:623:LEU:HD12	1:C:664:LEU:HD23	1.86	0.53
1:C:190:ASP:CG	1:C:191:GLY:H	2.11	0.53
1:C:694:ASN:HD21	1:C:697:GLN:HE21	1.56	0.53
1:A:53:GLY:HA3	1:A:71:HIS:HB3	1.89	0.53
1:D:466:TYR:HB3	1:D:470:ILE:HB	1.89	0.53
1:A:466:TYR:HB3	1:A:470:ILE:HB	1.91	0.53
1:B:493:TRP:CH2	1:B:506:LEU:HD23	2.44	0.53
1:D:623:LEU:HD12	1:D:664:LEU:HD23	1.85	0.53
1:D:397:ILE:O	1:D:397:ILE:HG22	2.08	0.53
1:C:349:LEU:HB2	1:C:368:VAL:HG21	1.91	0.53
1:A:209:THR:HG22	1:A:211:PHE:CD2	2.43	0.53
1:D:103:ASN:HB3	1:D:107:THR:HG23	1.91	0.53
1:A:247:ASP:HB2	1:A:254:ILE:CG1	2.39	0.53
1:A:716:GLU:OE2	1:A:725:ARG:HD3	2.07	0.53
1:D:329:TRP:HB3	1:D:355:TRP:HB3	1.90	0.53
1:C:340:LEU:HG	1:C:341:GLU:H	1.74	0.53
1:C:329:TRP:HB3	1:C:355:TRP:HB3	1.90	0.53
1:C:466:TYR:HB3	1:C:470:ILE:HB	1.90	0.53
1:B:95:ILE:CD1	1:B:133:LEU:HD11	2.37	0.53
1:D:340:LEU:HG	1:D:341:GLU:H	1.74	0.53
1:B:490:VAL:HG22	1:B:590:GLN:HG3	1.90	0.53
1:D:190:ASP:CG	1:D:191:GLY:H	2.11	0.53
1:C:457:PHE:HA	1:C:477:GLN:HB2	1.91	0.53
1:C:493:TRP:CH2	1:C:506:LEU:HD23	2.44	0.53
1:A:568:LYS:HE3	1:A:572:ASP:OD2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:493:TRP:CH2	1:A:506:LEU:HD23	2.44	0.53
1:D:93:ILE:CD1	1:D:138:LEU:HD23	2.40	0.52
1:C:595:ILE:H	1:C:595:ILE:HD12	1.73	0.52
1:A:457:PHE:CG	1:A:477:GLN:HG2	2.44	0.52
1:B:725:ARG:O	1:B:729:ILE:HG22	2.09	0.52
1:B:366:LEU:HD13	1:B:378:TRP:CE2	2.44	0.52
1:A:366:LEU:HD13	1:A:378:TRP:CE2	2.44	0.52
1:D:366:LEU:HD13	1:D:378:TRP:CE2	2.44	0.52
1:B:716:GLU:OE2	1:B:725:ARG:HD3	2.08	0.52
1:B:53:GLY:HA3	1:B:71:HIS:HB3	1.90	0.52
1:C:95:ILE:CD1	1:C:133:LEU:HD11	2.38	0.52
1:A:694:ASN:ND2	1:A:697:GLN:NE2	2.57	0.52
1:A:694:ASN:HD21	1:A:697:GLN:HE21	1.56	0.52
1:C:443:LEU:HD23	1:C:443:LEU:C	2.30	0.52
1:C:716:GLU:OE2	1:C:725:ARG:HD3	2.09	0.52
1:B:340:LEU:HG	1:B:341:GLU:H	1.74	0.52
1:B:466:TYR:HB3	1:B:470:ILE:HB	1.92	0.52
1:B:272:LYS:HG3	1:B:272:LYS:O	2.09	0.52
1:C:272:LYS:O	1:C:272:LYS:HG3	2.08	0.52
1:A:270:PHE:C	1:A:270:PHE:HD2	2.13	0.52
1:B:93:ILE:CD1	1:B:138:LEU:HD23	2.39	0.52
1:B:349:LEU:HB2	1:B:368:VAL:HG21	1.91	0.52
1:D:490:VAL:HG22	1:D:590:GLN:HG3	1.91	0.52
1:D:493:TRP:CH2	1:D:506:LEU:HD23	2.44	0.52
1:A:272:LYS:O	1:A:272:LYS:HG3	2.09	0.52
1:C:397:ILE:HG22	1:C:397:ILE:O	2.09	0.52
1:C:366:LEU:HD13	1:C:378:TRP:CE2	2.44	0.52
1:A:443:LEU:HD23	1:A:443:LEU:C	2.29	0.52
1:C:457:PHE:CG	1:C:477:GLN:HG2	2.45	0.52
1:B:247:ASP:HB2	1:B:254:ILE:CG1	2.40	0.52
1:C:602:ILE:HB	1:C:691:LYS:O	2.10	0.52
1:A:397:ILE:HG22	1:A:397:ILE:O	2.08	0.52
1:D:443:LEU:HD23	1:D:443:LEU:C	2.31	0.52
1:D:270:PHE:C	1:D:270:PHE:CD2	2.83	0.52
1:A:340:LEU:HG	1:A:341:GLU:H	1.75	0.52
1:B:397:ILE:HG22	1:B:397:ILE:O	2.09	0.51
1:D:541:PRO:HD2	1:D:544:MET:CE	2.40	0.51
1:D:595:ILE:H	1:D:595:ILE:HD12	1.73	0.51
1:B:457:PHE:CG	1:B:477:GLN:HG2	2.45	0.51
1:D:694:ASN:ND2	1:D:697:GLN:NE2	2.57	0.51
1:B:229:PHE:CB	1:B:235:ILE:HD11	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:457:PHE:HA	1:B:477:GLN:HB2	1.91	0.51
1:A:163:PRO:CA	1:A:178:LEU:HD23	2.41	0.51
1:C:609:GLY:O	1:C:613:ILE:HG22	2.10	0.51
1:D:272:LYS:O	1:D:272:LYS:HG3	2.09	0.51
1:A:29:SER:CB	1:C:501:THR:HG23	2.40	0.51
1:D:716:GLU:OE2	1:D:725:ARG:HD3	2.10	0.51
1:A:349:LEU:HB2	1:A:368:VAL:HG21	1.91	0.51
1:D:172:GLN:CD	1:D:172:GLN:H	2.13	0.51
1:D:602:ILE:HB	1:D:691:LYS:O	2.10	0.51
1:A:260:VAL:HG11	1:A:270:PHE:CE1	2.46	0.51
1:D:457:PHE:CG	1:D:477:GLN:HG2	2.46	0.51
1:B:163:PRO:CA	1:B:178:LEU:HD23	2.41	0.51
1:A:255:GLN:HB3	1:A:257:TYR:CE2	2.46	0.51
1:B:59:CYS:HB2	1:B:464:THR:OG1	2.10	0.51
1:A:172:GLN:H	1:A:172:GLN:CD	2.13	0.51
1:B:602:ILE:HB	1:B:691:LYS:O	2.10	0.51
1:A:602:ILE:HB	1:A:691:LYS:O	2.10	0.51
1:C:690:VAL:CG1	1:C:691:LYS:H	2.24	0.51
1:C:694:ASN:ND2	1:C:697:GLN:NE2	2.57	0.51
1:D:168:TYR:HA	1:D:174:SER:HB2	1.92	0.51
1:D:668:TYR:CZ	1:D:672:LYS:HE3	2.45	0.51
1:A:229:PHE:CB	1:A:235:ILE:HD11	2.41	0.51
1:C:260:VAL:HG11	1:C:270:PHE:CE1	2.45	0.51
1:A:457:PHE:HA	1:A:477:GLN:HB2	1.92	0.51
1:B:488:THR:OG1	1:B:491:GLU:HG3	2.11	0.51
1:D:163:PRO:CA	1:D:178:LEU:HD23	2.40	0.51
1:C:163:PRO:CA	1:C:178:LEU:HD23	2.40	0.51
1:A:253:LEU:HD11	1:A:255:GLN:O	2.11	0.51
1:C:255:GLN:HB3	1:C:257:TYR:CE2	2.46	0.51
1:C:647:PHE:O	1:C:651:ILE:HG13	2.11	0.51
1:A:173:PHE:HE2	1:A:248:LEU:HD13	1.76	0.50
1:A:288:VAL:HG12	1:A:300:MET:CB	2.31	0.50
1:B:694:ASN:ND2	1:B:697:GLN:NE2	2.59	0.50
1:A:609:GLY:O	1:A:613:ILE:HG22	2.10	0.50
1:C:168:TYR:HA	1:C:174:SER:HB2	1.92	0.50
1:D:229:PHE:HB2	1:D:235:ILE:CD1	2.42	0.50
1:B:690:VAL:CG1	1:B:691:LYS:H	2.24	0.50
1:D:325:ALA:O	1:D:326:SER:CB	2.59	0.50
1:C:125:ASP:OD1	1:C:127:SER:N	2.44	0.50
1:D:255:GLN:HB3	1:D:257:TYR:CE2	2.47	0.50
1:D:690:VAL:CG1	1:D:691:LYS:H	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:325:ALA:O	1:A:326:SER:CB	2.59	0.50
1:B:325:ALA:O	1:B:326:SER:CB	2.59	0.50
1:D:125:ASP:OD1	1:D:127:SER:N	2.44	0.50
1:B:168:TYR:HA	1:B:174:SER:HB2	1.92	0.50
1:B:443:LEU:C	1:B:443:LEU:HD23	2.31	0.50
1:B:229:PHE:HB2	1:B:235:ILE:CD1	2.41	0.50
1:A:103:ASN:H	1:A:107:THR:HG21	1.76	0.50
1:C:253:LEU:HD11	1:C:255:GLN:O	2.11	0.50
1:B:255:GLN:HB3	1:B:257:TYR:CE2	2.46	0.50
1:B:164:HIS:HB3	1:B:179:GLU:HG2	1.93	0.50
1:D:229:PHE:CB	1:D:235:ILE:HD11	2.41	0.50
1:C:172:GLN:H	1:C:172:GLN:CD	2.14	0.50
1:D:602:ILE:CB	1:D:691:LYS:HB2	2.41	0.50
1:A:690:VAL:CG1	1:A:691:LYS:H	2.24	0.50
1:C:164:HIS:HB3	1:C:179:GLU:HG2	1.93	0.50
1:B:694:ASN:HD21	1:B:697:GLN:HE21	1.58	0.50
1:C:541:PRO:HD2	1:C:544:MET:CE	2.42	0.50
1:A:164:HIS:HB3	1:A:179:GLU:HG2	1.93	0.50
1:A:168:TYR:HA	1:A:174:SER:HB2	1.92	0.50
1:C:325:ALA:O	1:C:326:SER:CB	2.59	0.50
1:C:258:ASP:OD2	1:C:260:VAL:HG22	2.12	0.50
1:B:609:GLY:O	1:B:613:ILE:HG22	2.11	0.50
1:C:229:PHE:HB2	1:C:235:ILE:CD1	2.42	0.50
1:A:229:PHE:HB2	1:A:235:ILE:CD1	2.42	0.50
1:B:253:LEU:HD11	1:B:255:GLN:O	2.12	0.50
1:C:229:PHE:CB	1:C:235:ILE:HD11	2.42	0.49
1:C:173:PHE:HE2	1:C:248:LEU:HD13	1.77	0.49
1:D:103:ASN:H	1:D:107:THR:HG21	1.77	0.49
1:C:602:ILE:CB	1:C:691:LYS:HB2	2.41	0.49
1:B:125:ASP:OD1	1:B:127:SER:N	2.45	0.49
1:B:300:MET:SD	1:B:373:PHE:HD2	2.35	0.49
1:B:158:PHE:CD1	1:B:163:PRO:HD3	2.48	0.49
1:C:668:TYR:CZ	1:C:672:LYS:HE3	2.46	0.49
1:B:668:TYR:CZ	1:B:672:LYS:HE3	2.47	0.49
1:D:288:VAL:HG12	1:D:300:MET:CB	2.29	0.49
1:A:162:VAL:O	1:A:179:GLU:HG3	2.12	0.49
1:A:59:CYS:HB2	1:A:464:THR:OG1	2.12	0.49
1:A:300:MET:SD	1:A:373:PHE:HD2	2.36	0.49
1:D:253:LEU:HD11	1:D:255:GLN:O	2.12	0.49
1:A:125:ASP:OD1	1:A:127:SER:N	2.45	0.49
1:C:407:GLY:O	1:C:411:LEU:HG	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:164:HIS:HB3	1:D:179:GLU:HG2	1.93	0.49
1:B:172:GLN:CD	1:B:172:GLN:H	2.15	0.49
1:D:531:LYS:CB	1:D:553:ILE:HG12	2.43	0.49
1:B:544:MET:HE3	1:B:549:LYS:HG2	1.93	0.49
1:C:162:VAL:O	1:C:179:GLU:HG3	2.13	0.49
1:D:609:GLY:O	1:D:613:ILE:HG22	2.12	0.49
1:C:103:ASN:H	1:C:107:THR:HG21	1.77	0.49
1:B:605:ILE:HD12	1:B:606:LYS:HB2	1.94	0.49
1:B:647:PHE:O	1:B:651:ILE:HG13	2.12	0.49
1:B:162:VAL:O	1:B:179:GLU:HG3	2.13	0.49
1:C:288:VAL:HG12	1:C:300:MET:CB	2.30	0.48
1:D:103:ASN:H	1:D:107:THR:CG2	2.26	0.48
1:D:173:PHE:CE2	1:D:248:LEU:HD13	2.45	0.48
1:A:407:GLY:O	1:A:411:LEU:HG	2.12	0.48
1:A:103:ASN:H	1:A:107:THR:CG2	2.25	0.48
1:A:158:PHE:CD1	1:A:163:PRO:HD3	2.49	0.48
1:D:300:MET:SD	1:D:373:PHE:HD2	2.35	0.48
1:B:103:ASN:H	1:B:107:THR:HG21	1.78	0.48
1:C:22:ASN:HD21	1:C:91:LYS:HB2	1.77	0.48
1:C:158:PHE:CD1	1:C:163:PRO:HD3	2.48	0.48
1:A:668:TYR:CZ	1:A:672:LYS:HE3	2.48	0.48
1:B:541:PRO:HD2	1:B:544:MET:CE	2.42	0.48
1:A:293:LEU:O	1:A:294:GLU:HB3	2.14	0.48
1:C:270:PHE:C	1:C:270:PHE:HD2	2.16	0.48
1:D:647:PHE:O	1:D:651:ILE:HG13	2.13	0.48
1:B:407:GLY:O	1:B:411:LEU:HG	2.13	0.48
1:B:293:LEU:O	1:B:294:GLU:HB3	2.14	0.48
1:A:541:PRO:HD2	1:A:544:MET:CE	2.43	0.48
1:D:162:VAL:O	1:D:179:GLU:HG3	2.14	0.48
1:B:508:LYS:O	1:B:512:THR:HG23	2.14	0.48
1:A:647:PHE:O	1:A:651:ILE:HG13	2.13	0.48
1:C:300:MET:SD	1:C:373:PHE:HD2	2.36	0.48
1:B:623:LEU:HD23	1:B:623:LEU:HA	1.67	0.48
1:B:238:THR:OG1	1:B:242:HIS:HB2	2.13	0.48
1:C:103:ASN:H	1:C:107:THR:CG2	2.26	0.48
1:D:218:SER:C	1:D:220:TYR:H	2.18	0.48
1:A:218:SER:C	1:A:220:TYR:H	2.17	0.48
1:D:605:ILE:HD12	1:D:606:LYS:HB2	1.95	0.48
1:C:293:LEU:O	1:C:294:GLU:HB3	2.13	0.47
1:B:103:ASN:H	1:B:107:THR:CG2	2.26	0.47
1:C:93:ILE:HD12	1:C:138:LEU:HD23	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:238:THR:OG1	1:A:242:HIS:HB2	2.13	0.47
1:D:172:GLN:HB2	1:D:188:LYS:HB3	1.96	0.47
1:D:245:ILE:HG21	1:D:311:LEU:CD2	2.39	0.47
1:B:500:GLU:HB2	1:B:507:PHE:CE2	2.49	0.47
1:D:293:LEU:O	1:D:294:GLU:HB3	2.14	0.47
1:A:233:TYR:CD1	1:A:311:LEU:HD22	2.49	0.47
1:D:407:GLY:O	1:D:411:LEU:HG	2.14	0.47
1:B:218:SER:C	1:B:220:TYR:H	2.17	0.47
1:D:397:ILE:O	1:D:397:ILE:CG2	2.62	0.47
1:D:368:VAL:O	1:D:368:VAL:HG23	2.14	0.47
1:C:218:SER:C	1:C:220:TYR:H	2.18	0.47
1:D:508:LYS:O	1:D:512:THR:HG23	2.15	0.47
1:D:335:VAL:CG1	1:D:352:ILE:HB	2.42	0.47
1:D:22:ASN:HD21	1:D:91:LYS:HB2	1.78	0.47
1:C:531:LYS:CB	1:C:553:ILE:HG12	2.45	0.47
1:D:158:PHE:CD1	1:D:163:PRO:HD3	2.50	0.47
1:B:368:VAL:HG23	1:B:368:VAL:O	2.13	0.47
1:A:605:ILE:HD12	1:A:606:LYS:HB2	1.96	0.47
1:D:384:LYS:NZ	1:D:392:GLU:OE2	2.44	0.47
1:C:172:GLN:HB2	1:C:188:LYS:HB3	1.97	0.47
1:D:93:ILE:HD12	1:D:138:LEU:HD23	1.95	0.47
1:A:531:LYS:CB	1:A:553:ILE:HG12	2.45	0.47
1:A:499:SER:O	1:A:500:GLU:C	2.52	0.47
1:C:508:LYS:O	1:C:512:THR:HG23	2.15	0.47
1:C:316:GLN:O	1:C:317:ASN:HB2	2.15	0.47
1:B:316:GLN:O	1:B:317:ASN:HB2	2.15	0.47
1:C:623:LEU:CD1	1:C:664:LEU:CD2	2.86	0.47
1:C:335:VAL:CG1	1:C:352:ILE:HB	2.42	0.47
1:B:531:LYS:CB	1:B:553:ILE:HG12	2.45	0.47
1:C:506:LEU:HD11	1:C:586:LEU:HB2	1.96	0.47
1:C:238:THR:OG1	1:C:242:HIS:HB2	2.14	0.47
1:A:500:GLU:HB2	1:A:507:PHE:CE2	2.50	0.47
1:A:544:MET:HE3	1:A:549:LYS:HG2	1.96	0.47
1:D:238:THR:OG1	1:D:242:HIS:HB2	2.14	0.47
1:C:384:LYS:NZ	1:C:392:GLU:OE2	2.43	0.47
1:A:247:ASP:O	1:A:251:PHE:N	2.47	0.47
1:A:405:GLU:OE2	1:B:405:GLU:OE2	2.32	0.47
1:A:172:GLN:HB2	1:A:188:LYS:HB3	1.96	0.46
1:A:316:GLN:O	1:A:317:ASN:HB2	2.15	0.46
1:B:404:VAL:HG11	1:B:437:ASN:O	2.15	0.46
1:D:690:VAL:HG21	1:D:701:TYR:CE1	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:690:VAL:HG21	1:C:701:TYR:CE1	2.50	0.46
1:B:93:ILE:HD12	1:B:138:LEU:HD23	1.96	0.46
1:B:499:SER:O	1:B:500:GLU:C	2.53	0.46
1:C:368:VAL:O	1:C:368:VAL:HG23	2.14	0.46
1:C:605:ILE:HD12	1:C:606:LYS:HB2	1.96	0.46
1:A:289:THR:N	1:A:299:GLN:O	2.48	0.46
1:C:109:THR:HG21	1:C:120:ASN:HB2	1.94	0.46
1:B:172:GLN:HB2	1:B:188:LYS:HB3	1.96	0.46
1:B:326:SER:O	1:B:327:ALA:HB3	2.16	0.46
1:C:729:ILE:OXT	1:C:729:ILE:HG23	2.15	0.46
1:D:59:CYS:HB2	1:D:464:THR:OG1	2.14	0.46
1:D:342:LEU:CD1	1:D:379:ILE:HD12	2.28	0.46
1:D:316:GLN:O	1:D:317:ASN:HB2	2.16	0.46
1:D:623:LEU:CD1	1:D:664:LEU:CD2	2.86	0.46
1:D:248:LEU:O	1:D:251:PHE:CE1	2.69	0.46
1:A:93:ILE:HD12	1:A:138:LEU:HD23	1.95	0.46
1:C:500:GLU:HB2	1:C:507:PHE:CE2	2.50	0.46
1:A:368:VAL:HG23	1:A:368:VAL:O	2.14	0.46
1:C:499:SER:O	1:C:500:GLU:C	2.52	0.46
1:D:499:SER:O	1:D:500:GLU:C	2.53	0.46
1:C:25:ASP:OD1	1:C:94:ASN:HB2	2.15	0.46
1:B:346:ALA:CB	1:B:369:ASN:HD22	2.28	0.46
1:C:342:LEU:CD1	1:C:379:ILE:HD12	2.28	0.46
1:A:397:ILE:O	1:A:397:ILE:CG2	2.63	0.46
1:D:500:GLU:HB2	1:D:507:PHE:CE2	2.50	0.46
1:B:690:VAL:HG21	1:B:701:TYR:CE1	2.51	0.46
1:C:397:ILE:CG2	1:C:397:ILE:O	2.63	0.46
1:A:326:SER:O	1:A:327:ALA:HB3	2.16	0.46
1:A:508:LYS:O	1:A:512:THR:HG23	2.15	0.46
1:C:346:ALA:CB	1:C:369:ASN:HD22	2.28	0.46
1:C:544:MET:HE3	1:C:549:LYS:HG2	1.98	0.46
1:A:183:LEU:HD11	1:A:246:TRP:NE1	2.31	0.46
1:D:111:GLN:HG3	1:D:168:TYR:CG	2.51	0.46
1:D:125:ASP:OD1	1:D:126:GLY:N	2.49	0.46
1:C:111:GLN:HG3	1:C:168:TYR:CG	2.51	0.46
1:B:283:TYR:OH	1:B:338:ARG:HD2	2.16	0.46
1:A:346:ALA:CB	1:A:369:ASN:HD22	2.28	0.46
1:C:184:LEU:HD12	1:C:198:LEU:HD21	1.98	0.46
1:A:690:VAL:HG21	1:A:701:TYR:CE1	2.51	0.46
1:B:91:LYS:NZ	1:B:142:ALA:O	2.48	0.46
1:D:544:MET:HE3	1:D:549:LYS:HG2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:729:ILE:OXT	1:A:729:ILE:HG23	2.16	0.46
1:B:111:GLN:HG3	1:B:168:TYR:CG	2.50	0.46
1:B:637:PHE:O	1:C:210:ARG:NH1	2.48	0.46
1:A:25:ASP:OD1	1:A:94:ASN:HB2	2.16	0.46
1:D:62:LEU:HD13	1:D:135:LEU:CD1	2.39	0.45
1:A:623:LEU:HD23	1:A:623:LEU:HA	1.66	0.45
1:D:404:VAL:CG1	1:D:438:GLU:HG2	2.45	0.45
1:A:111:GLN:HG3	1:A:168:TYR:CG	2.51	0.45
1:A:125:ASP:OD1	1:A:126:GLY:N	2.49	0.45
1:C:4:LEU:HD12	1:C:4:LEU:N	2.32	0.45
1:D:109:THR:HG21	1:D:120:ASN:HB2	1.95	0.45
1:B:397:ILE:CG2	1:B:397:ILE:O	2.64	0.45
1:A:595:ILE:H	1:A:595:ILE:CD1	2.28	0.45
1:B:183:LEU:HD11	1:B:246:TRP:NE1	2.32	0.45
1:D:25:ASP:OD1	1:D:94:ASN:HB2	2.16	0.45
1:B:384:LYS:NZ	1:B:392:GLU:OE2	2.43	0.45
1:C:326:SER:O	1:C:327:ALA:HB3	2.16	0.45
1:B:620:HIS:NE2	1:B:669:ARG:NH2	2.64	0.45
1:B:18:PRO:HD3	1:B:417:THR:HG21	1.99	0.45
1:D:326:SER:O	1:D:327:ALA:HB3	2.17	0.45
1:A:620:HIS:NE2	1:A:669:ARG:NH2	2.64	0.45
1:C:283:TYR:OH	1:C:338:ARG:HD2	2.16	0.45
1:D:283:TYR:OH	1:D:338:ARG:HD2	2.15	0.45
1:B:335:VAL:CG1	1:B:352:ILE:HB	2.40	0.45
1:A:270:PHE:HD2	1:A:271:ARG:N	2.15	0.45
1:C:499:SER:O	1:C:501:THR:N	2.50	0.45
1:D:163:PRO:HA	1:D:178:LEU:HA	1.98	0.45
1:A:163:PRO:HA	1:A:178:LEU:HA	1.98	0.45
1:A:283:TYR:OH	1:A:338:ARG:HD2	2.17	0.45
1:B:25:ASP:OD1	1:B:94:ASN:HB2	2.16	0.45
1:D:4:LEU:N	1:D:4:LEU:HD12	2.32	0.45
1:D:346:ALA:CB	1:D:369:ASN:HD22	2.29	0.45
1:D:386:LEU:HD12	1:D:390:GLN:HG3	1.99	0.45
1:D:184:LEU:HD12	1:D:198:LEU:HD21	1.99	0.45
1:B:233:TYR:CD1	1:B:311:LEU:HD22	2.52	0.45
1:B:565:THR:HG23	1:B:566:ASN:N	2.32	0.45
1:B:125:ASP:OD1	1:B:126:GLY:N	2.50	0.45
1:A:602:ILE:CB	1:A:691:LYS:HB2	2.41	0.45
1:B:250:SER:O	1:B:251:PHE:HB2	2.17	0.45
1:B:637:PHE:CD2	1:B:642:LEU:HD12	2.52	0.45
1:C:431:LYS:HA	1:C:431:LYS:HD3	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:287:LEU:O	1:D:300:MET:HA	2.17	0.45
1:C:62:LEU:HD13	1:C:135:LEU:CD1	2.39	0.45
1:B:595:ILE:H	1:B:595:ILE:CD1	2.29	0.45
1:C:183:LEU:HD11	1:C:246:TRP:NE1	2.31	0.45
1:B:184:LEU:HD12	1:B:198:LEU:HD21	1.99	0.45
1:D:95:ILE:HD13	1:D:131:LEU:HD13	1.98	0.45
1:B:602:ILE:CB	1:B:691:LYS:HB2	2.41	0.45
1:A:499:SER:O	1:A:501:THR:N	2.50	0.45
1:C:59:CYS:HG	1:C:69:CYS:HG	1.57	0.45
1:A:342:LEU:CD1	1:A:379:ILE:HD12	2.29	0.44
1:A:335:VAL:CG1	1:A:352:ILE:HB	2.41	0.44
1:D:499:SER:O	1:D:501:THR:N	2.51	0.44
1:D:183:LEU:HD11	1:D:246:TRP:NE1	2.31	0.44
1:D:729:ILE:OXT	1:D:729:ILE:HG23	2.17	0.44
1:C:59:CYS:HB2	1:C:464:THR:OG1	2.16	0.44
1:D:585:ASP:OD1	1:D:589:ASN:ND2	2.41	0.44
1:B:404:VAL:HG11	1:B:438:GLU:HG2	1.99	0.44
1:C:595:ILE:H	1:C:595:ILE:CD1	2.29	0.44
1:C:620:HIS:NE2	1:C:669:ARG:NH2	2.64	0.44
1:B:342:LEU:CD1	1:B:379:ILE:HD12	2.28	0.44
1:B:163:PRO:HA	1:B:178:LEU:HA	1.99	0.44
1:A:506:LEU:HD11	1:A:586:LEU:HB2	1.98	0.44
1:D:506:LEU:HD11	1:D:586:LEU:HB2	1.99	0.44
1:C:125:ASP:OD1	1:C:126:GLY:N	2.50	0.44
1:B:354:LEU:HD21	1:B:460:ALA:HB1	2.00	0.44
1:D:620:HIS:NE2	1:D:669:ARG:NH2	2.64	0.44
1:A:226:CYS:SG	1:A:234:LEU:HD11	2.57	0.44
1:C:287:LEU:O	1:C:300:MET:HA	2.18	0.44
1:C:289:THR:N	1:C:299:GLN:O	2.48	0.44
1:B:95:ILE:HD13	1:B:131:LEU:HD13	2.00	0.44
1:A:184:LEU:HD12	1:A:198:LEU:HD21	1.99	0.44
1:C:637:PHE:CD2	1:C:642:LEU:HD12	2.53	0.44
1:D:595:ILE:CD1	1:D:595:ILE:H	2.29	0.44
1:C:226:CYS:SG	1:C:234:LEU:HD11	2.57	0.44
1:A:384:LYS:NZ	1:A:392:GLU:OE2	2.44	0.44
1:C:571:PHE:O	1:C:575:ASN:OD1	2.36	0.44
1:C:163:PRO:HA	1:C:178:LEU:HA	1.99	0.44
1:B:729:ILE:HG23	1:B:729:ILE:OXT	2.18	0.44
1:D:431:LYS:HD3	1:D:431:LYS:HA	1.82	0.44
1:C:386:LEU:HD12	1:C:390:GLN:HG3	2.00	0.44
1:C:250:SER:O	1:C:251:PHE:HB2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:125:ASP:C	1:A:125:ASP:OD1	2.56	0.44
1:D:632:GLN:O	1:D:635:LEU:HB3	2.18	0.44
1:A:291:LEU:HA	1:A:292:PRO:HD3	1.73	0.44
1:A:721:MET:HE3	1:A:721:MET:HA	2.00	0.44
1:C:663:LEU:HD11	1:C:729:ILE:HD12	2.00	0.44
1:B:222:SER:O	1:B:239:GLN:HG3	2.18	0.44
1:C:222:SER:O	1:C:239:GLN:HG3	2.18	0.44
1:A:189:VAL:HG21	1:A:195:GLU:OE2	2.17	0.44
1:B:386:LEU:HD12	1:B:390:GLN:HG3	2.00	0.44
1:B:189:VAL:HG21	1:B:195:GLU:OE2	2.17	0.44
1:B:288:VAL:HG13	1:B:336:LEU:HD22	2.00	0.44
1:D:73:SER:HB3	1:D:78:LEU:HB3	2.00	0.44
1:B:499:SER:O	1:B:501:THR:N	2.51	0.44
1:B:506:LEU:HD11	1:B:586:LEU:HB2	1.99	0.44
1:C:59:CYS:SG	1:C:69:CYS:SG	3.04	0.44
1:D:289:THR:N	1:D:299:GLN:O	2.48	0.43
1:C:95:ILE:HD13	1:C:131:LEU:HD13	1.99	0.43
1:C:439:ASP:O	1:C:442:TYR:HB3	2.18	0.43
1:D:571:PHE:O	1:D:575:ASN:OD1	2.36	0.43
1:A:637:PHE:CD2	1:A:642:LEU:HD12	2.53	0.43
1:B:224:ILE:HD12	1:B:279:TYR:CD2	2.53	0.43
1:D:692:PHE:CD2	1:D:692:PHE:O	2.71	0.43
1:A:436:HIS:CD2	1:A:438:GLU:H	2.36	0.43
1:D:565:THR:HG23	1:D:566:ASN:N	2.33	0.43
1:A:287:LEU:O	1:A:300:MET:HA	2.17	0.43
1:B:18:PRO:HB2	1:B:418:GLN:HA	2.00	0.43
1:C:565:THR:HG23	1:C:566:ASN:N	2.33	0.43
1:B:125:ASP:C	1:B:125:ASP:OD1	2.57	0.43
1:B:287:LEU:O	1:B:300:MET:HA	2.17	0.43
1:D:439:ASP:O	1:D:442:TYR:HB3	2.19	0.43
1:C:493:TRP:HH2	1:C:506:LEU:HD23	1.83	0.43
1:D:493:TRP:HH2	1:D:506:LEU:HD23	1.83	0.43
1:D:337:THR:OG1	1:D:338:ARG:N	2.52	0.43
1:B:571:PHE:O	1:B:575:ASN:OD1	2.36	0.43
1:D:637:PHE:CD2	1:D:642:LEU:HD12	2.54	0.43
1:D:222:SER:O	1:D:239:GLN:HG3	2.19	0.43
1:A:386:LEU:HD12	1:A:390:GLN:HG3	2.01	0.43
1:A:579:ILE:HB	1:A:580:PRO:HD3	2.01	0.43
1:C:579:ILE:HB	1:C:580:PRO:HD3	2.00	0.43
1:A:61:LEU:HD12	1:A:62:LEU:N	2.34	0.43
1:A:22:ASN:HD21	1:A:91:LYS:HB2	1.78	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:222:SER:O	1:A:239:GLN:HG3	2.19	0.43
1:A:354:LEU:HD21	1:A:460:ALA:HB1	2.01	0.43
1:A:18:PRO:HB2	1:A:418:GLN:HA	2.01	0.43
1:A:439:ASP:O	1:A:442:TYR:HB3	2.18	0.43
1:B:439:ASP:O	1:B:442:TYR:HB3	2.18	0.43
1:D:595:ILE:CD1	1:D:595:ILE:N	2.82	0.43
1:C:692:PHE:CD2	1:C:692:PHE:O	2.72	0.43
1:D:189:VAL:HG21	1:D:195:GLU:OE2	2.18	0.43
1:D:18:PRO:HB2	1:D:418:GLN:HA	2.00	0.43
1:B:595:ILE:N	1:B:595:ILE:CD1	2.81	0.43
1:A:218:SER:O	1:A:220:TYR:N	2.50	0.43
1:A:224:ILE:HD12	1:A:279:TYR:CD2	2.54	0.43
1:A:288:VAL:HG13	1:A:336:LEU:HD22	2.01	0.43
1:C:61:LEU:HD12	1:C:62:LEU:N	2.32	0.43
1:B:61:LEU:HD12	1:B:62:LEU:N	2.34	0.43
1:C:595:ILE:N	1:C:595:ILE:CD1	2.82	0.43
1:D:125:ASP:C	1:D:125:ASP:OD1	2.56	0.43
1:B:620:HIS:CD2	1:B:668:TYR:CD2	3.07	0.43
1:C:237:LEU:HD11	1:C:241:CYS:HA	2.01	0.43
1:B:632:GLN:O	1:B:635:LEU:HB3	2.19	0.43
1:C:189:VAL:HG21	1:C:195:GLU:OE2	2.18	0.43
1:B:579:ILE:HB	1:B:580:PRO:HD3	2.01	0.43
1:C:623:LEU:HA	1:C:623:LEU:HD23	1.64	0.43
1:C:247:ASP:O	1:C:251:PHE:N	2.51	0.43
1:A:565:THR:HG23	1:A:566:ASN:N	2.34	0.43
1:D:334:LEU:C	1:D:334:LEU:HD12	2.39	0.43
1:C:337:THR:OG1	1:C:338:ARG:N	2.52	0.42
1:A:265:SER:O	1:A:267:PRO:HD3	2.19	0.42
1:D:237:LEU:HD11	1:D:241:CYS:HA	2.01	0.42
1:A:93:ILE:HD12	1:A:138:LEU:CD2	2.49	0.42
1:A:595:ILE:N	1:A:595:ILE:CD1	2.82	0.42
1:C:346:ALA:HB1	1:C:369:ASN:HD22	1.84	0.42
1:A:101:SER:O	1:A:124:LYS:HG3	2.20	0.42
1:B:22:ASN:HD21	1:B:91:LYS:HB2	1.78	0.42
1:C:93:ILE:HD12	1:C:138:LEU:CD2	2.49	0.42
1:B:248:LEU:O	1:B:251:PHE:CE1	2.72	0.42
1:A:620:HIS:CD2	1:A:668:TYR:CD2	3.07	0.42
1:B:431:LYS:HD3	1:B:431:LYS:HA	1.81	0.42
1:A:4:LEU:N	1:A:4:LEU:HD12	2.33	0.42
1:C:328:ILE:CD1	1:C:328:ILE:H	2.29	0.42
1:D:328:ILE:H	1:D:328:ILE:CD1	2.29	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:209:THR:C	1:B:211:PHE:H	2.23	0.42
1:B:282:LEU:HD23	1:B:282:LEU:H	1.84	0.42
1:A:95:ILE:HD13	1:A:131:LEU:HD13	2.02	0.42
1:C:73:SER:HB3	1:C:78:LEU:HB3	2.01	0.42
1:B:93:ILE:HD12	1:B:138:LEU:CD2	2.50	0.42
1:C:165:PHE:HB3	1:C:177:PHE:HB2	2.01	0.42
1:A:209:THR:C	1:A:211:PHE:H	2.23	0.42
1:C:354:LEU:HD21	1:C:460:ALA:HB1	2.01	0.42
1:D:516:PHE:CG	1:D:570:LEU:HD22	2.54	0.42
1:C:632:GLN:O	1:C:635:LEU:HB3	2.20	0.42
1:D:291:LEU:HA	1:D:292:PRO:HD3	1.73	0.42
1:B:291:LEU:HA	1:B:292:PRO:HD3	1.73	0.42
1:C:18:PRO:HB2	1:C:418:GLN:HA	2.01	0.42
1:B:101:SER:HB2	1:B:107:THR:OG1	2.20	0.42
1:A:663:LEU:HD11	1:A:729:ILE:HD12	2.01	0.42
1:B:346:ALA:HB1	1:B:369:ASN:HD22	1.84	0.42
1:B:337:THR:OG1	1:B:338:ARG:N	2.52	0.42
1:A:237:LEU:HD11	1:A:241:CYS:HA	2.01	0.42
1:B:226:CYS:SG	1:B:234:LEU:HD11	2.59	0.42
1:A:516:PHE:CG	1:A:570:LEU:HD22	2.54	0.42
1:A:109:THR:HG21	1:A:120:ASN:HB2	1.94	0.42
1:B:73:SER:HB3	1:B:78:LEU:HB3	2.01	0.42
1:C:721:MET:HE3	1:C:721:MET:HA	2.01	0.42
1:C:370:ASP:OD1	1:C:372:SER:O	2.38	0.42
1:D:122:ILE:HG12	1:D:128:PHE:HD1	1.85	0.42
1:C:516:PHE:CB	1:C:570:LEU:HD22	2.50	0.42
1:C:516:PHE:CG	1:C:570:LEU:HD22	2.54	0.42
1:C:282:LEU:HD23	1:C:282:LEU:H	1.84	0.42
1:A:73:SER:HB3	1:A:78:LEU:HB3	2.01	0.42
1:C:233:TYR:CD1	1:C:311:LEU:HD22	2.54	0.42
1:D:602:ILE:CG2	1:D:691:LYS:HB2	2.50	0.42
1:C:101:SER:O	1:C:124:LYS:HG3	2.19	0.42
1:A:399:THR:O	1:A:526:ARG:NH2	2.52	0.42
1:B:663:LEU:HD11	1:B:729:ILE:HD12	2.01	0.42
1:A:692:PHE:CD2	1:A:692:PHE:O	2.73	0.42
1:A:334:LEU:C	1:A:334:LEU:HD12	2.39	0.42
1:C:334:LEU:C	1:C:334:LEU:HD12	2.40	0.42
1:D:354:LEU:HD21	1:D:460:ALA:HB1	2.01	0.42
1:C:304:LEU:HD12	1:C:305:VAL:N	2.35	0.42
1:B:399:THR:O	1:B:526:ARG:NH2	2.52	0.42
1:D:469:GLU:OE2	1:D:694:ASN:HB2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:237:LEU:HD11	1:B:241:CYS:HA	2.01	0.42
1:D:226:CYS:SG	1:D:234:LEU:HD11	2.60	0.42
1:A:431:LYS:HD3	1:A:431:LYS:HA	1.82	0.42
1:A:290:LEU:HD13	1:A:298:PHE:CZ	2.55	0.41
1:A:571:PHE:O	1:A:575:ASN:OD1	2.37	0.41
1:D:282:LEU:H	1:D:282:LEU:HD23	1.84	0.41
1:C:291:LEU:HA	1:C:292:PRO:HD3	1.72	0.41
1:C:101:SER:HB2	1:C:107:THR:OG1	2.20	0.41
1:C:602:ILE:CG2	1:C:691:LYS:HB2	2.50	0.41
1:C:585:ASP:OD1	1:C:589:ASN:ND2	2.41	0.41
1:D:723:PHE:O	1:D:724:PHE:C	2.58	0.41
1:D:288:VAL:HA	1:D:299:GLN:O	2.20	0.41
1:D:317:ASN:OD1	1:D:318:ASN:N	2.54	0.41
1:A:62:LEU:HD13	1:A:135:LEU:CD1	2.39	0.41
1:D:101:SER:HB2	1:D:107:THR:OG1	2.20	0.41
1:B:101:SER:O	1:B:124:LYS:HG3	2.21	0.41
1:A:602:ILE:CG2	1:A:691:LYS:HB2	2.50	0.41
1:A:165:PHE:HB3	1:A:177:PHE:HB2	2.01	0.41
1:B:4:LEU:HD12	1:B:4:LEU:N	2.35	0.41
1:B:122:ILE:HG12	1:B:128:PHE:HD1	1.85	0.41
1:D:101:SER:O	1:D:124:LYS:HG3	2.20	0.41
1:D:165:PHE:HB3	1:D:177:PHE:HB2	2.01	0.41
1:A:346:ALA:HB1	1:A:369:ASN:HD22	1.85	0.41
1:A:337:THR:OG1	1:A:338:ARG:N	2.52	0.41
1:D:534:ASP:HA	1:D:537:THR:OG1	2.21	0.41
1:D:579:ILE:HB	1:D:580:PRO:HD3	2.02	0.41
1:C:91:LYS:NZ	1:C:142:ALA:O	2.48	0.41
1:D:304:LEU:HD12	1:D:305:VAL:N	2.36	0.41
1:D:129:LEU:HD12	1:D:130:THR:H	1.86	0.41
1:D:721:MET:HE3	1:D:721:MET:HA	2.02	0.41
1:B:129:LEU:HD12	1:B:130:THR:H	1.85	0.41
1:D:93:ILE:HD12	1:D:138:LEU:CD2	2.50	0.41
1:C:209:THR:C	1:C:211:PHE:H	2.23	0.41
1:C:125:ASP:OD1	1:C:125:ASP:C	2.58	0.41
1:B:605:ILE:HD12	1:B:606:LYS:CB	2.50	0.41
1:D:346:ALA:HB1	1:D:369:ASN:HD22	1.85	0.41
1:D:516:PHE:CB	1:D:570:LEU:HD22	2.50	0.41
1:B:334:LEU:HD12	1:B:334:LEU:C	2.40	0.41
1:D:342:LEU:HD22	1:D:379:ILE:HD13	2.03	0.41
1:B:317:ASN:OD1	1:B:318:ASN:N	2.53	0.41
1:D:18:PRO:HD3	1:D:417:THR:HG21	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:62:LEU:HD13	1:B:135:LEU:CD1	2.40	0.41
1:C:399:THR:O	1:C:526:ARG:NH2	2.50	0.41
1:B:501:THR:HG23	1:D:29:SER:CB	2.50	0.41
1:A:370:ASP:OD1	1:A:372:SER:O	2.38	0.41
1:D:370:ASP:OD1	1:D:372:SER:O	2.39	0.41
1:C:288:VAL:HA	1:C:299:GLN:O	2.20	0.41
1:A:282:LEU:HD23	1:A:282:LEU:H	1.85	0.41
1:B:602:ILE:CG2	1:B:691:LYS:HB2	2.50	0.41
1:D:442:TYR:O	1:D:443:LEU:C	2.58	0.41
1:B:165:PHE:HB3	1:B:177:PHE:HB2	2.01	0.41
1:B:692:PHE:CD2	1:B:692:PHE:O	2.73	0.41
1:C:152:LEU:HD23	1:C:152:LEU:HA	1.93	0.41
1:D:61:LEU:HD12	1:D:62:LEU:N	2.34	0.41
1:A:304:LEU:HD12	1:A:305:VAL:N	2.36	0.41
1:A:101:SER:HB2	1:A:107:THR:OG1	2.21	0.41
1:D:659:TYR:OH	1:D:725:ARG:HD2	2.21	0.41
1:D:663:LEU:HD11	1:D:729:ILE:HD12	2.03	0.41
1:D:218:SER:O	1:D:220:TYR:N	2.51	0.41
1:C:218:SER:OG	1:C:219:ASP:N	2.53	0.41
1:C:221:ASP:OD1	1:C:238:THR:HB	2.21	0.41
1:C:342:LEU:HD22	1:C:379:ILE:HD13	2.03	0.41
1:C:293:LEU:O	1:C:294:GLU:CB	2.68	0.41
1:A:723:PHE:O	1:A:724:PHE:C	2.59	0.41
1:C:129:LEU:HD12	1:C:130:THR:H	1.86	0.41
1:C:469:GLU:OE2	1:C:694:ASN:HB2	2.21	0.41
1:B:270:PHE:C	1:B:270:PHE:HD2	2.22	0.41
1:B:493:TRP:HH2	1:B:506:LEU:HD23	1.83	0.41
1:C:86:ASP:O	1:C:90:GLY:HA3	2.20	0.41
1:D:86:ASP:O	1:D:90:GLY:HA3	2.20	0.41
1:B:290:LEU:HD13	1:B:298:PHE:CZ	2.56	0.41
1:D:264:ASP:O	1:D:266:ASP:N	2.53	0.41
1:D:192:VAL:HG12	1:D:192:VAL:O	2.21	0.41
1:A:18:PRO:HD3	1:A:417:THR:HG21	2.03	0.41
1:B:109:THR:HG21	1:B:120:ASN:HB2	1.96	0.41
1:D:233:TYR:CD1	1:D:311:LEU:HD22	2.55	0.41
1:C:729:ILE:OXT	1:C:729:ILE:CG2	2.69	0.41
1:C:218:SER:O	1:C:220:TYR:N	2.51	0.41
1:A:382:VAL:HG21	1:A:495:TYR:CD1	2.56	0.41
1:C:317:ASN:OD1	1:C:318:ASN:N	2.55	0.40
1:A:442:TYR:O	1:A:443:LEU:C	2.59	0.40
1:D:209:THR:C	1:D:211:PHE:H	2.23	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:295:ASN:ND2	1:D:329:TRP:O	2.54	0.40
1:A:218:SER:OG	1:A:219:ASP:N	2.53	0.40
1:C:122:ILE:HG12	1:C:128:PHE:HD1	1.86	0.40
1:B:516:PHE:CG	1:B:570:LEU:HD22	2.55	0.40
1:A:122:ILE:HG12	1:A:128:PHE:HD1	1.86	0.40
1:C:290:LEU:HD13	1:C:298:PHE:CZ	2.56	0.40
1:B:342:LEU:HD22	1:B:379:ILE:HD13	2.03	0.40
1:A:288:VAL:HA	1:A:299:GLN:O	2.21	0.40
1:A:293:LEU:O	1:A:294:GLU:CB	2.68	0.40
1:A:248:LEU:O	1:A:251:PHE:CE1	2.74	0.40
1:B:516:PHE:CB	1:B:570:LEU:HD22	2.50	0.40
1:A:632:GLN:O	1:A:635:LEU:HB3	2.22	0.40
1:B:64:ASN:O	1:B:65:SER:HB2	2.21	0.40
1:D:706:ASN:HD22	1:D:706:ASN:C	2.23	0.40
1:A:117:LEU:HA	1:A:117:LEU:HD23	1.86	0.40
1:C:545:THR:OG1	1:C:548:GLU:HG3	2.22	0.40
1:B:71:HIS:CE1	1:B:478:PRO:HA	2.57	0.40
1:B:721:MET:HA	1:B:721:MET:HE3	2.04	0.40
1:C:442:TYR:O	1:C:443:LEU:C	2.59	0.40
1:C:167:PHE:O	1:C:174:SER:HB2	2.21	0.40
1:B:167:PHE:O	1:B:174:SER:HB2	2.21	0.40
1:B:614:ILE:HA	1:B:614:ILE:HD13	1.94	0.40
1:D:293:LEU:O	1:D:294:GLU:CB	2.69	0.40
1:A:71:HIS:CE1	1:A:478:PRO:HA	2.57	0.40
1:B:304:LEU:HD12	1:B:305:VAL:N	2.37	0.40
1:A:469:GLU:OE2	1:A:694:ASN:HB2	2.21	0.40
1:B:247:ASP:O	1:B:251:PHE:N	2.50	0.40
1:C:659:TYR:OH	1:C:725:ARG:HD2	2.22	0.40
1:D:167:PHE:O	1:D:174:SER:HB2	2.22	0.40
1:D:218:SER:OG	1:D:219:ASP:N	2.54	0.40
1:B:218:SER:OG	1:B:219:ASP:N	2.53	0.40
1:B:370:ASP:OD1	1:B:372:SER:O	2.39	0.40
1:C:224:ILE:HD12	1:C:279:TYR:CD2	2.55	0.40
1:C:192:VAL:HG12	1:C:192:VAL:O	2.21	0.40
1:D:152:LEU:HD23	1:D:152:LEU:HA	1.93	0.40
1:B:288:VAL:HA	1:B:299:GLN:O	2.21	0.40
1:C:248:LEU:O	1:C:251:PHE:CE1	2.74	0.40
1:A:129:LEU:HD12	1:A:130:THR:H	1.87	0.40
1:B:296:GLY:HA2	1:B:321:THR:CG2	2.51	0.40
1:A:328:ILE:N	1:A:328:ILE:HD12	2.36	0.40
1:A:729:ILE:CG2	1:A:729:ILE:OXT	2.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:64:ASN:O	1:C:65:SER:HB2	2.21	0.40
1:C:614:ILE:HA	1:C:614:ILE:HD13	1.93	0.40
1:B:192:VAL:O	1:B:192:VAL:HG12	2.21	0.40
1:D:224:ILE:HD12	1:D:279:TYR:CD2	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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	695/729 (95%)	599 (86%)	72 (10%)	24 (4%)	4	6
1	B	695/729 (95%)	599 (86%)	70 (10%)	26 (4%)	4	5
1	C	695/729 (95%)	597 (86%)	73 (10%)	25 (4%)	4	6
1	D	695/729 (95%)	596 (86%)	74 (11%)	25 (4%)	4	6
All	All	2780/2916 (95%)	2391 (86%)	289 (10%)	100 (4%)	4	6

All (100) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	268	SER
1	A	403	ASP
1	A	600	ASP
1	A	602	ILE
1	B	403	ASP
1	B	600	ASP
1	B	602	ILE
1	C	403	ASP
1	C	600	ASP
1	C	602	ILE
1	D	268	SER

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Mol	Chain	Res	Type
1	D	403	ASP
1	D	600	ASP
1	D	602	ILE
1	A	113	VAL
1	A	231	GLU
1	A	315	PHE
1	B	113	VAL
1	B	231	GLU
1	B	268	SER
1	B	315	PHE
1	C	113	VAL
1	C	231	GLU
1	C	265	SER
1	C	315	PHE
1	D	113	VAL
1	D	231	GLU
1	D	315	PHE
1	A	11	LEU
1	A	190	ASP
1	A	346	ALA
1	A	500	GLU
1	B	11	LEU
1	B	190	ASP
1	B	346	ALA
1	B	500	GLU
1	C	11	LEU
1	C	190	ASP
1	C	268	SER
1	C	346	ALA
1	C	500	GLU
1	C	593	PRO
1	D	11	LEU
1	D	265	SER
1	D	346	ALA
1	D	500	GLU
1	A	219	ASP
1	A	230	HIS
1	A	326	SER
1	A	499	SER
1	A	593	PRO
1	A	598	LYS
1	A	671	ASP

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Mol	Chain	Res	Type
1	B	100	ALA
1	B	230	HIS
1	B	326	SER
1	B	499	SER
1	B	593	PRO
1	B	598	LYS
1	B	671	ASP
1	C	100	ALA
1	C	219	ASP
1	C	230	HIS
1	C	326	SER
1	C	499	SER
1	C	598	LYS
1	C	671	ASP
1	D	100	ALA
1	D	190	ASP
1	D	230	HIS
1	D	326	SER
1	D	499	SER
1	D	593	PRO
1	D	598	LYS
1	D	671	ASP
1	A	100	ALA
1	B	73	SER
1	B	219	ASP
1	B	265	SER
1	D	73	SER
1	D	219	ASP
1	D	284	ASN
1	A	73	SER
1	A	284	ASN
1	A	579	ILE
1	B	284	ASN
1	B	579	ILE
1	C	73	SER
1	C	284	ASN
1	C	579	ILE
1	D	579	ILE
1	A	155	PRO
1	B	155	PRO
1	C	155	PRO
1	D	155	PRO

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Mol	Chain	Res	Type
1	A	191	GLY
1	B	191	GLY
1	C	191	GLY
1	D	191	GLY
1	B	273	VAL

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	657/682 (96%)	637 (97%)	20 (3%)	48	76
1	B	657/682 (96%)	638 (97%)	19 (3%)	50	77
1	C	657/682 (96%)	635 (97%)	22 (3%)	45	73
1	D	657/682 (96%)	635 (97%)	22 (3%)	45	73
All	All	2628/2728 (96%)	2545 (97%)	83 (3%)	46	74

All (83) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	72	PHE
1	A	151	HIS
1	A	172	GLN
1	A	188	LYS
1	A	270	PHE
1	A	287	LEU
1	A	314	THR
1	A	318	ASN
1	A	328	ILE
1	A	338	ARG
1	A	363	LEU
1	A	370	ASP
1	A	408	PHE
1	A	422	ARG
1	A	499	SER
1	A	628	ARG

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Mol	Chain	Res	Type
1	A	638	VAL
1	A	644	THR
1	A	703	ASP
1	A	706	ASN
1	B	72	PHE
1	B	151	HIS
1	B	172	GLN
1	B	270	PHE
1	B	287	LEU
1	B	314	THR
1	B	318	ASN
1	B	328	ILE
1	B	338	ARG
1	B	363	LEU
1	B	370	ASP
1	B	408	PHE
1	B	422	ARG
1	B	499	SER
1	B	628	ARG
1	B	638	VAL
1	B	644	THR
1	B	703	ASP
1	B	706	ASN
1	C	72	PHE
1	C	151	HIS
1	C	172	GLN
1	C	188	LYS
1	C	250	SER
1	C	266	ASP
1	C	270	PHE
1	C	287	LEU
1	C	314	THR
1	C	318	ASN
1	C	328	ILE
1	C	338	ARG
1	C	363	LEU
1	C	370	ASP
1	C	408	PHE
1	C	422	ARG
1	C	499	SER
1	C	628	ARG
1	C	638	VAL

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Mol	Chain	Res	Type
1	C	644	THR
1	C	703	ASP
1	C	706	ASN
1	D	72	PHE
1	D	151	HIS
1	D	172	GLN
1	D	250	SER
1	D	266	ASP
1	D	269	HIS
1	D	270	PHE
1	D	287	LEU
1	D	314	THR
1	D	318	ASN
1	D	328	ILE
1	D	338	ARG
1	D	363	LEU
1	D	370	ASP
1	D	408	PHE
1	D	422	ARG
1	D	499	SER
1	D	628	ARG
1	D	638	VAL
1	D	644	THR
1	D	703	ASP
1	D	706	ASN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (46) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	22	ASN
1	A	116	GLN
1	A	132	GLN
1	A	240	ASN
1	A	255	GLN
1	A	295	ASN
1	A	350	ASN
1	A	369	ASN
1	A	575	ASN
1	A	588	ASN
1	A	697	GLN
1	B	22	ASN
1	B	116	GLN

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Mol	Chain	Res	Type
1	B	132	GLN
1	B	240	ASN
1	B	255	GLN
1	B	350	ASN
1	B	369	ASN
1	B	575	ASN
1	B	588	ASN
1	B	697	GLN
1	C	22	ASN
1	C	116	GLN
1	C	132	GLN
1	C	240	ASN
1	C	255	GLN
1	C	295	ASN
1	C	318	ASN
1	C	350	ASN
1	C	369	ASN
1	C	575	ASN
1	C	588	ASN
1	C	697	GLN
1	D	22	ASN
1	D	116	GLN
1	D	132	GLN
1	D	240	ASN
1	D	255	GLN
1	D	295	ASN
1	D	299	GLN
1	D	318	ASN
1	D	350	ASN
1	D	369	ASN
1	D	575	ASN
1	D	588	ASN
1	D	697	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 12 ligands modelled in this entry, 12 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

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, 95th 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 ²)	Q<0.9
1	A	701/729 (96%)	0.08	28 (3%) 42 34	35, 73, 116, 143	0
1	B	701/729 (96%)	0.09	27 (3%) 43 35	36, 73, 116, 143	0
1	C	701/729 (96%)	0.09	33 (4%) 35 28	36, 73, 116, 140	0
1	D	701/729 (96%)	0.13	33 (4%) 35 28	35, 73, 116, 140	0
All	All	2804/2916 (96%)	0.10	121 (4%) 39 31	35, 73, 117, 143	0

All (121) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	267	PRO	6.6
1	B	599	LYS	6.4
1	A	271	ARG	6.4
1	D	685	GLU	6.1
1	B	271	ARG	5.9
1	C	685	GLU	5.6
1	D	271	ARG	5.4
1	D	599	LYS	4.9
1	C	271	ARG	4.9
1	B	685	GLU	4.9
1	B	197	LEU	4.7
1	C	599	LYS	4.7
1	D	597	TRP	4.5
1	A	267	PRO	4.5
1	D	197	LEU	4.4
1	B	196	PRO	4.4
1	A	685	GLU	4.3
1	A	295	ASN	4.2
1	D	264	ASP	4.1
1	A	599	LYS	4.1
1	B	267	PRO	4.0

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Mol	Chain	Res	Type	RSRZ
1	D	607	PHE	4.0
1	D	265	SER	4.0
1	B	263	SER	3.9
1	C	600	ASP	3.9
1	B	682	ASP	3.9
1	D	268	SER	3.9
1	D	681	LYS	3.9
1	C	267	PRO	3.9
1	C	197	LEU	3.8
1	C	681	LYS	3.8
1	C	269	HIS	3.7
1	A	197	LEU	3.6
1	D	269	HIS	3.6
1	A	682	ASP	3.6
1	A	597	TRP	3.5
1	D	596	PHE	3.5
1	C	601	PHE	3.5
1	C	596	PHE	3.5
1	C	684	SER	3.4
1	A	269	HIS	3.4
1	B	269	HIS	3.3
1	C	264	ASP	3.3
1	D	196	PRO	3.3
1	D	682	ASP	3.3
1	A	189	VAL	3.3
1	A	196	PRO	3.2
1	B	681	LYS	3.2
1	C	29	SER	3.2
1	C	268	SER	3.2
1	B	597	TRP	3.2
1	C	682	ASP	3.1
1	C	597	TRP	3.1
1	D	189	VAL	3.1
1	B	75	ARG	3.0
1	B	295	ASN	3.0
1	C	295	ASN	3.0
1	C	265	SER	3.0
1	B	683	SER	2.9
1	B	259	MET	2.8
1	C	275	ALA	2.8
1	C	263	SER	2.8
1	B	189	VAL	2.8

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Mol	Chain	Res	Type	RSRZ
1	C	184	LEU	2.8
1	A	263	SER	2.7
1	D	29	SER	2.7
1	A	268	SER	2.7
1	B	248	LEU	2.6
1	A	75	ARG	2.6
1	D	184	LEU	2.6
1	A	53	GLY	2.6
1	D	75	ARG	2.6
1	B	324	SER	2.6
1	B	684	SER	2.6
1	C	683	SER	2.6
1	A	275	ALA	2.5
1	A	683	SER	2.4
1	C	598	LYS	2.4
1	A	113	VAL	2.4
1	B	598	LYS	2.4
1	C	175	VAL	2.4
1	A	117	LEU	2.4
1	A	156	TYR	2.4
1	A	681	LYS	2.4
1	C	53	GLY	2.4
1	D	684	SER	2.4
1	A	184	LEU	2.3
1	A	160	VAL	2.3
1	D	248	LEU	2.3
1	B	344	VAL	2.3
1	D	324	SER	2.3
1	D	198	LEU	2.3
1	C	189	VAL	2.3
1	C	196	PRO	2.3
1	A	598	LYS	2.2
1	B	601	PHE	2.2
1	D	295	ASN	2.2
1	D	645	GLU	2.2
1	A	596	PHE	2.2
1	D	175	VAL	2.2
1	D	53	GLY	2.2
1	A	211	PHE	2.2
1	C	75	ARG	2.1
1	A	248	LEU	2.1
1	D	601	PHE	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	248	LEU	2.1
1	C	324	SER	2.1
1	D	598	LYS	2.1
1	D	161	ARG	2.1
1	A	689	GLY	2.1
1	B	264	ASP	2.0
1	B	53	GLY	2.0
1	B	156	TYR	2.0
1	D	133	LEU	2.0
1	D	259	MET	2.0
1	B	323	LEU	2.0
1	C	404	VAL	2.0
1	D	644	THR	2.0
1	C	688	PHE	2.0
1	B	596	PHE	2.0
1	C	686	PHE	2.0

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

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

6.3 Carbohydrates [i](#)

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, 95th 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 ²)	Q<0.9
2	HG	C	802	1/1	0.51	0.31	4.04	201,201,201,201	0
2	HG	B	802	1/1	0.58	0.38	3.96	201,201,201,201	0
2	HG	A	802	1/1	0.63	0.30	1.86	201,201,201,201	0
2	HG	D	802	1/1	0.78	0.28	1.58	201,201,201,201	0
2	HG	B	801	1/1	0.87	0.11	-2.01	198,198,198,198	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
2	HG	C	801	1/1	0.97	0.11	-2.49	187,187,187,187	0
2	HG	A	801	1/1	0.97	0.09	-2.57	185,185,185,185	0
2	HG	D	801	1/1	0.86	0.10	-3.85	191,191,191,191	0
2	HG	B	803	1/1	0.95	0.13	-	90,90,90,90	0
2	HG	A	803	1/1	0.95	0.13	-	90,90,90,90	0
2	HG	D	803	1/1	0.98	0.14	-	88,88,88,88	0
2	HG	C	803	1/1	0.96	0.10	-	91,91,91,91	0

6.5 Other polymers [i](#)

There are no such residues in this entry.