Full wwPDB X-ray Structure Validation Report ⓘ

Aug 22, 2023 – 05:26 AM EDT

PDB ID	:	2P6A
Title	:	The structure of the Activin:Follistatin 315 complex
Authors	:	Lerch, T.F.; Shimasaki, S.; Woodruff, T.K.; Jardetzky, T.S.
Deposited on	:	2007-03-16
Resolution	:	3.40 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
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

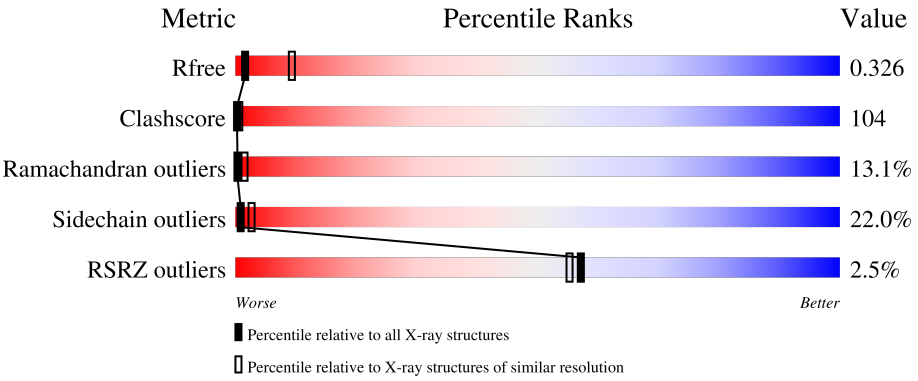
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.40 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}	130704	1026 (3.48-3.32)
Clashscore	141614	1055 (3.48-3.32)
Ramachandran outliers	138981	1038 (3.48-3.32)
Sidechain outliers	138945	1038 (3.48-3.32)
RSRZ outliers	127900	2173 (3.50-3.30)

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 of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% 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	116	21% 56% 22%
1	B	116	2% 20% 55% 22%
2	C	315	2% 16% 50% 21% 10%
2	D	315	3% 24% 45% 21% 7%
3	E	10	30% 40% 30% 30%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 5952 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 Inhibin beta A chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	116	Total	C	N	O	S	0	0	0
			882	553	150	166	13			
1	B	116	Total	C	N	O	S	0	0	0
			882	553	150	166	13			

- Molecule 2 is a protein called Follistatin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	D	292	Total	C	N	O	S	0	0	0
			2104	1275	367	423	39			
2	C	282	Total	C	N	O	S	0	0	0
			2034	1234	356	405	39			

- Molecule 3 is a protein called probable fragment of follistatin.

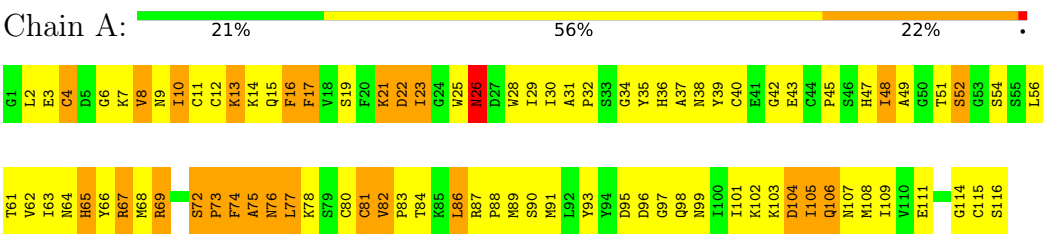
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
3	E	10	Total	C	N	O	0	0	0
			50	30	10	10			

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes 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.

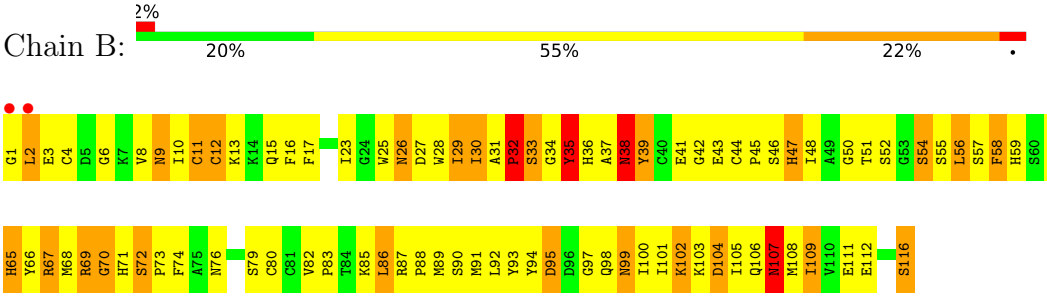
• Molecule 1: Inhibin beta A chain

Chain A:



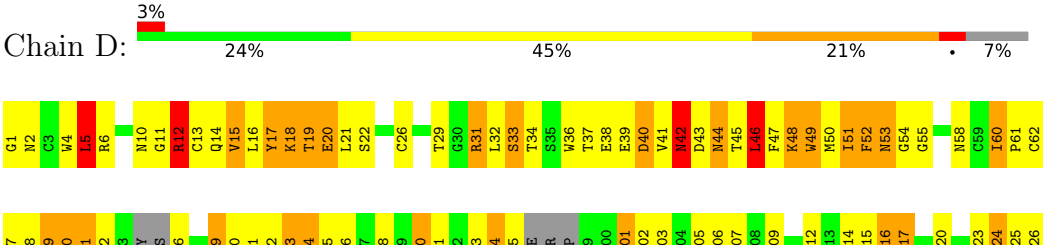
• Molecule 1: Inhibin beta A chain

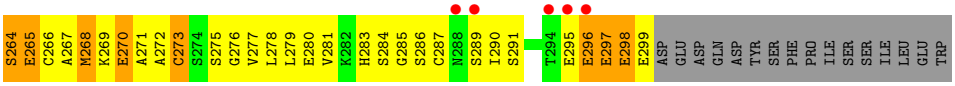
Chain B:



• Molecule 2: Follistatin

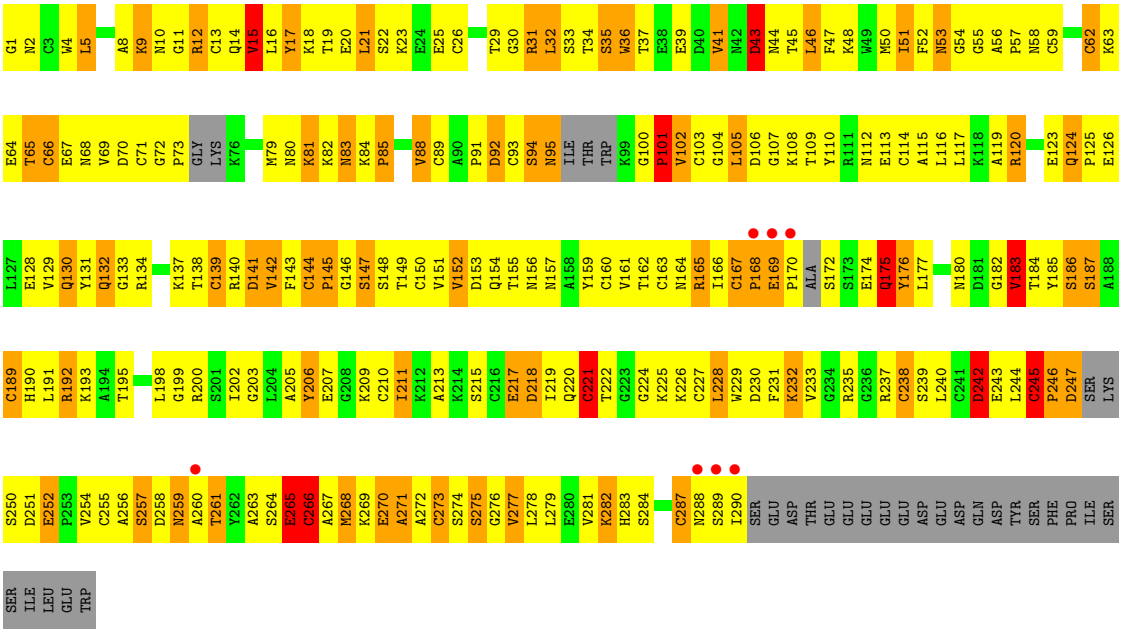
Chain D:





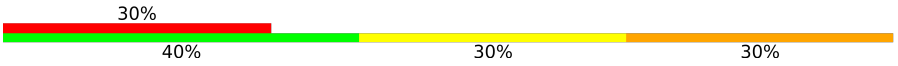
• Molecule 2: Follistatin

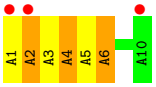
Chain C:



• Molecule 3: probable fragment of follistatin

Chain E:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	104.64Å 106.58Å 87.57Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	31.01 – 3.40 31.00 – 3.40	Depositor EDS
% Data completeness (in resolution range)	99.7 (31.01-3.40) 99.7 (31.00-3.40)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	0.16	Depositor
$< I/\sigma(I) >$ [1]	3.08 (at 3.39Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.223 , 0.324 0.241 , 0.326	Depositor DCC
R_{free} test set	283 reflections (2.03%)	wwPDB-VP
Wilson B-factor (Å^2)	93.3	Xtriage
Anisotropy	0.208	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.27 , 129.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.45$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	0.036 for k,h,-l	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	5952	wwPDB-VP
Average B, all atoms (Å^2)	57.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.80% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality (i)

5.1 Standard geometry (i)

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	0.68	0/904	0.97	0/1222
1	B	0.73	0/904	0.95	0/1222
2	C	0.65	0/2063	0.95	4/2790 (0.1%)
2	D	0.75	0/2134	1.02	8/2887 (0.3%)
3	E	0.44	0/49	0.45	0/67
All	All	0.70	0/6054	0.97	12/8188 (0.1%)

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
1	B	0	1
2	C	0	3
All	All	0	4

There are no bond length outliers.

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	D	12	ARG	NE-CZ-NH1	-7.68	116.46	120.30
2	C	46	LEU	CA-CB-CG	-7.02	99.14	115.30
2	D	197	LEU	CB-CG-CD2	-6.60	99.78	111.00
2	D	211	ILE	CG1-CB-CG2	-6.03	98.14	111.40
2	D	117	LEU	CB-CG-CD2	-6.02	100.76	111.00
2	D	5	LEU	CA-CB-CG	-5.97	101.58	115.30
2	D	46	LEU	CA-CB-CG	-5.74	102.09	115.30
2	C	183	VAL	CB-CA-C	-5.58	100.81	111.40
2	C	102	VAL	CB-CA-C	-5.45	101.05	111.40
2	D	46	LEU	CB-CG-CD2	-5.31	101.97	111.00
2	D	237	ARG	NE-CZ-NH2	-5.25	117.68	120.30
2	C	238	CYS	CA-CB-SG	-5.16	104.72	114.00

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	32	PRO	Peptide
2	C	101	PRO	Peptide
2	C	175	GLN	Peptide
2	C	245	CYS	Peptide

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	882	0	819	208	1
1	B	882	0	819	204	2
2	C	2034	0	1854	455	3
2	D	2104	0	1909	397	2
3	E	50	0	52	6	0
All	All	5952	0	5453	1190	5

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 104.

All (1190) 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)
2:C:283:HIS:NE2	2:C:287:CYS:HB3	1.25	1.45
2:D:94:SER:O	2:D:95:ASN:ND2	1.57	1.35
1:A:64:ASN:HA	1:A:67:ARG:NH1	1.41	1.34
1:B:72:SER:HB3	1:B:73:PRO:CD	1.61	1.30
2:D:256:ALA:HB3	2:D:260:ALA:O	1.26	1.30
2:D:48:LYS:HG3	2:D:52:PHE:CZ	1.67	1.29
1:A:89:MET:HB3	1:A:108:MET:CE	1.61	1.28
2:C:105:LEU:HD12	2:C:105:LEU:O	1.08	1.26
2:D:31:ARG:HH11	2:D:31:ARG:CG	1.49	1.26
1:B:2:LEU:CD1	1:B:3:GLU:H	1.48	1.26
2:C:141:ASP:O	2:C:142:VAL:CG2	1.83	1.25
2:C:141:ASP:O	2:C:142:VAL:HG23	1.15	1.24

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:283:HIS:NE2	2:C:287:CYS:CB	2.01	1.23
2:C:112:ASN:O	2:C:115:ALA:HB3	1.37	1.23
2:D:256:ALA:CB	2:D:260:ALA:O	1.86	1.21
2:C:245:CYS:O	2:C:247:ASP:N	1.74	1.20
1:B:85:LYS:C	1:B:86:LEU:HD12	1.62	1.19
2:D:11:GLY:HA3	2:C:244:LEU:HD21	1.26	1.18
1:B:72:SER:HB3	1:B:73:PRO:HD2	1.22	1.17
1:B:67:ARG:HH11	1:B:67:ARG:CG	1.60	1.15
2:C:12:ARG:NH1	2:C:53:ASN:HB3	1.62	1.14
2:D:90:ALA:H	2:D:91:PRO:HD3	1.07	1.13
2:D:69:VAL:CG2	2:D:70:ASP:N	2.09	1.13
1:B:2:LEU:HD13	1:B:3:GLU:H	1.00	1.12
2:D:213:ALA:HB1	2:D:218:ASP:HB2	1.27	1.12
1:A:22:ASP:C	1:A:23:ILE:HD13	1.68	1.11
1:A:106:GLN:HA	1:A:106:GLN:HE21	1.04	1.11
2:D:31:ARG:NH1	2:D:31:ARG:HG3	1.43	1.11
1:B:67:ARG:HH11	1:B:67:ARG:HG3	1.03	1.11
1:B:86:LEU:HD12	1:B:86:LEU:N	1.65	1.10
2:D:195:THR:HA	2:D:202:ILE:HD11	1.19	1.10
2:D:295:GLU:O	2:D:296:GLU:HG3	1.50	1.10
2:C:67:GLU:HG3	2:C:68:ASN:ND2	1.66	1.10
2:C:141:ASP:C	2:C:142:VAL:HG23	1.69	1.09
1:B:30:ILE:HG22	1:B:31:ALA:H	1.07	1.08
2:C:105:LEU:O	2:C:105:LEU:CD1	2.01	1.08
1:A:51:THR:CG2	2:D:16:LEU:HB2	1.84	1.08
1:B:34:GLY:O	1:B:35:TYR:HB3	1.53	1.07
1:A:91:MET:HG3	1:A:105:ILE:HG12	1.34	1.07
1:B:72:SER:CB	1:B:73:PRO:HD2	1.84	1.07
2:D:69:VAL:HG23	2:D:70:ASP:H	1.13	1.07
2:C:4:TRP:NE1	2:C:37:THR:OG1	1.88	1.07
2:D:253:PRO:O	2:D:254:VAL:HG13	1.54	1.06
2:D:161:VAL:HG22	2:D:162:THR:H	1.20	1.06
1:B:27:ASP:HB3	2:C:192:ARG:HH12	1.19	1.06
1:B:109:ILE:HD13	1:B:109:ILE:N	1.68	1.06
1:A:23:ILE:HD13	1:A:23:ILE:N	1.66	1.05
2:D:253:PRO:C	2:D:254:VAL:HG13	1.71	1.05
2:C:93:CYS:O	2:C:94:SER:OG	1.73	1.05
1:A:65:HIS:HB2	1:B:23:ILE:HD11	1.38	1.04
2:D:173:SER:O	2:D:176:TYR:CE1	2.11	1.04
2:D:241:CYS:SG	2:D:242:ASP:N	2.24	1.04
1:A:51:THR:HG21	2:D:16:LEU:CB	1.86	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:64:ASN:CA	1:A:67:ARG:NH1	2.19	1.03
1:A:89:MET:HB3	1:A:108:MET:HE1	1.09	1.03
2:D:69:VAL:CG2	2:D:70:ASP:H	1.65	1.03
2:D:237:ARG:HG2	2:D:238:CYS:N	1.73	1.03
1:B:10:ILE:HD12	1:B:12:CYS:H	1.22	1.03
2:C:270:GLU:HA	2:C:273:CYS:HB2	1.40	1.02
2:D:69:VAL:HG22	2:D:70:ASP:N	1.70	1.02
1:B:59:HIS:O	1:B:62:VAL:HG12	1.59	1.01
2:D:155:THR:O	2:D:156:ASN:HB2	1.56	1.01
2:C:266:CYS:HA	2:C:269:LYS:HE3	1.39	1.01
2:C:283:HIS:CE1	2:C:287:CYS:CB	2.44	1.00
2:C:48:LYS:HB3	2:C:52:PHE:CE1	1.97	1.00
2:C:120:ARG:HD2	2:C:125:PRO:HA	1.44	1.00
1:B:88:PRO:HB3	1:B:106:GLN:HA	1.44	0.99
1:A:72:SER:HB2	1:A:73:PRO:HD3	1.39	0.99
2:D:65:THR:O	2:D:67:GLU:N	1.96	0.99
2:D:268:MET:HE1	2:D:280:GLU:O	1.63	0.98
1:B:2:LEU:CD1	1:B:3:GLU:N	2.26	0.98
2:C:275:SER:OG	2:C:276:GLY:N	1.93	0.98
2:D:48:LYS:CG	2:D:52:PHE:CZ	2.47	0.98
2:D:12:ARG:NH2	2:C:243:GLU:HB2	1.78	0.97
1:A:64:ASN:HA	1:A:67:ARG:HH11	1.17	0.97
1:A:86:LEU:N	1:A:86:LEU:HD12	1.78	0.97
1:B:94:TYR:CE1	2:C:192:ARG:HG2	2.00	0.97
1:B:9:ASN:O	1:B:9:ASN:ND2	1.97	0.97
2:C:268:MET:O	2:C:271:ALA:HB3	1.65	0.97
1:B:72:SER:CB	1:B:73:PRO:CD	2.41	0.97
1:A:51:THR:HG21	2:D:16:LEU:HB3	1.47	0.96
2:C:12:ARG:HH11	2:C:53:ASN:HB3	1.19	0.96
2:C:176:TYR:CE2	2:C:186:SER:HA	1.99	0.96
2:D:90:ALA:H	2:D:91:PRO:CD	1.79	0.95
1:B:31:ALA:HB1	1:B:32:PRO:HA	1.45	0.95
2:C:174:GLU:C	2:C:176:TYR:H	1.68	0.95
2:D:211:ILE:HD13	2:D:211:ILE:O	1.67	0.95
1:A:6:GLY:O	1:A:8:VAL:HG12	1.66	0.95
1:B:2:LEU:HD13	1:B:3:GLU:N	1.81	0.95
1:B:30:ILE:HG22	1:B:31:ALA:N	1.81	0.94
2:D:173:SER:C	2:D:176:TYR:HE1	1.69	0.94
2:D:155:THR:HB	2:D:157:ASN:HD21	1.31	0.94
2:C:268:MET:HB2	2:C:271:ALA:CB	1.98	0.94
1:A:107:ASN:HD21	1:B:55:SER:HB2	1.32	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:106:GLN:HA	1:A:106:GLN:NE2	1.83	0.92
2:C:176:TYR:C	2:C:177:LEU:HD23	1.88	0.92
2:D:213:ALA:CB	2:D:218:ASP:HB2	2.00	0.92
2:D:48:LYS:HG3	2:D:52:PHE:CE1	2.05	0.92
1:A:2:LEU:O	1:A:2:LEU:CD2	2.18	0.91
2:D:130:GLN:HG3	2:D:131:TYR:CD2	2.06	0.91
2:C:217:GLU:O	2:C:218:ASP:HB2	1.67	0.91
2:D:53:ASN:HD22	2:D:53:ASN:H	1.12	0.91
1:B:26:ASN:ND2	2:C:164:ASN:HD22	1.68	0.90
1:B:67:ARG:HG3	1:B:67:ARG:NH1	1.81	0.90
2:D:213:ALA:HB1	2:D:218:ASP:CB	2.02	0.90
2:D:52:PHE:HD1	2:D:53:ASN:HD21	1.13	0.90
2:C:176:TYR:O	2:C:177:LEU:HD23	1.69	0.90
2:C:180:ASN:HB2	2:C:203:GLY:O	1.71	0.90
1:B:10:ILE:HD12	1:B:10:ILE:C	1.92	0.90
1:A:101:ILE:HG23	2:D:154:GLN:OE1	1.71	0.90
2:D:116:LEU:HD12	2:D:116:LEU:C	1.90	0.89
1:A:87:ARG:HG2	1:A:109:ILE:HG23	1.55	0.89
1:B:10:ILE:HD12	1:B:12:CYS:N	1.87	0.89
1:B:27:ASP:HB3	2:C:192:ARG:NH1	1.88	0.89
2:D:90:ALA:N	2:D:91:PRO:HD3	1.87	0.89
2:C:228:LEU:HD13	2:C:278:LEU:HB2	1.55	0.89
1:B:99:ASN:OD1	1:B:99:ASN:N	2.04	0.88
2:C:141:ASP:O	2:C:142:VAL:CB	2.21	0.88
1:A:88:PRO:HB3	1:A:107:ASN:H	1.38	0.88
1:B:26:ASN:HD21	2:C:164:ASN:HD22	0.90	0.88
1:B:67:ARG:CG	1:B:67:ARG:NH1	2.32	0.88
1:B:26:ASN:HD21	2:C:164:ASN:ND2	1.72	0.88
1:A:2:LEU:C	1:A:2:LEU:HD23	1.95	0.88
1:A:51:THR:HG23	2:D:16:LEU:HB2	1.52	0.87
1:B:35:TYR:HA	2:C:126:GLU:OE1	1.73	0.87
2:D:103:CYS:O	2:D:130:GLN:HG2	1.74	0.87
2:C:161:VAL:HG12	2:C:162:THR:N	1.88	0.87
2:D:48:LYS:HG3	2:D:52:PHE:HZ	1.31	0.87
2:C:152:VAL:HA	2:C:157:ASN:O	1.74	0.87
2:D:16:LEU:HG	2:D:17:TYR:H	1.40	0.86
2:D:217:GLU:OE1	2:D:217:GLU:N	2.08	0.86
1:A:89:MET:CB	1:A:108:MET:CE	2.51	0.86
2:D:253:PRO:C	2:D:254:VAL:CG1	2.42	0.86
1:B:39:TYR:N	1:B:39:TYR:HD2	1.71	0.86
2:D:19:THR:O	2:D:21:LEU:CD1	2.23	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:109:ILE:HD13	1:B:109:ILE:H	1.38	0.86
2:D:93:CYS:O	2:D:94:SER:CB	2.24	0.85
2:D:283:HIS:NE2	2:D:287:CYS:HB3	1.90	0.85
1:B:72:SER:HB3	1:B:73:PRO:HD3	1.57	0.85
1:A:2:LEU:O	1:A:2:LEU:HD23	1.77	0.85
2:D:157:ASN:HD22	2:D:157:ASN:H	1.19	0.85
2:D:262:TYR:CZ	2:D:268:MET:HA	2.11	0.85
2:D:130:GLN:HG3	2:D:131:TYR:HD2	1.40	0.85
1:B:39:TYR:N	1:B:39:TYR:CD2	2.40	0.85
1:A:51:THR:CG2	2:D:16:LEU:CB	2.49	0.84
2:C:65:THR:O	2:C:67:GLU:N	2.10	0.84
2:D:41:VAL:O	2:D:42:ASN:HB3	1.75	0.84
2:C:67:GLU:HG3	2:C:68:ASN:HD22	1.40	0.84
2:D:46:LEU:N	2:D:46:LEU:CD2	2.39	0.84
2:C:166:ILE:O	2:C:167:CYS:HB3	1.77	0.84
2:C:189:CYS:HA	2:C:192:ARG:HD3	1.59	0.84
2:D:31:ARG:HD3	2:D:33:SER:H	1.43	0.83
1:A:64:ASN:O	1:A:66:TYR:N	2.11	0.83
1:B:68:MET:HA	1:B:68:MET:CE	2.07	0.83
2:C:48:LYS:HB3	2:C:52:PHE:HE1	1.43	0.83
1:B:63:ILE:HG22	1:B:64:ASN:N	1.93	0.83
1:B:86:LEU:N	1:B:86:LEU:CD1	2.37	0.83
1:A:35:TYR:HA	2:D:126:GLU:OE2	1.79	0.83
2:D:31:ARG:HD2	2:D:34:THR:OG1	1.78	0.83
2:D:52:PHE:CD2	1:B:95:ASP:HA	2.13	0.83
2:C:180:ASN:HA	2:C:205:ALA:HB2	1.61	0.83
2:C:129:VAL:O	2:C:130:GLN:CB	2.27	0.83
2:C:245:CYS:H	2:C:246:PRO:CD	1.92	0.82
2:D:49:TRP:HA	2:D:53:ASN:ND2	1.95	0.82
2:D:155:THR:O	2:D:156:ASN:CB	2.25	0.82
2:C:105:LEU:HD12	2:C:105:LEU:C	1.98	0.82
2:C:8:ALA:HB2	2:C:14:GLN:NE2	1.94	0.82
2:D:53:ASN:ND2	2:D:53:ASN:N	2.28	0.82
1:B:16:PHE:HB3	1:B:38:ASN:HA	1.61	0.82
1:B:46:SER:O	1:B:48:ILE:N	2.12	0.82
2:C:46:LEU:C	2:C:46:LEU:HD23	2.00	0.82
2:C:174:GLU:C	2:C:176:TYR:N	2.28	0.82
1:B:2:LEU:HD12	1:B:3:GLU:H	1.44	0.82
2:D:183:VAL:HB	2:D:185:TYR:HE1	1.45	0.81
2:C:152:VAL:HG12	2:C:157:ASN:N	1.94	0.81
2:D:48:LYS:CG	2:D:52:PHE:HZ	1.87	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:244:LEU:O	2:D:246:PRO:HD3	1.80	0.81
1:B:13:LYS:HG3	1:B:13:LYS:O	1.79	0.81
2:C:174:GLU:O	2:C:176:TYR:N	2.13	0.81
2:D:18:LYS:HG3	2:D:19:THR:H	1.46	0.81
2:D:173:SER:O	2:D:176:TYR:HE1	1.57	0.81
2:D:90:ALA:N	2:D:91:PRO:CD	2.40	0.81
1:B:90:SER:HA	1:B:104:ASP:HA	1.63	0.81
1:B:30:ILE:HD13	1:B:93:TYR:HA	1.61	0.81
2:C:144:CYS:SG	2:C:148:SER:O	2.39	0.81
1:A:23:ILE:N	1:A:23:ILE:CD1	2.38	0.80
1:A:65:HIS:HB3	1:A:69:ARG:CZ	2.11	0.80
1:B:67:ARG:HH11	1:B:67:ARG:CB	1.94	0.80
2:C:281:VAL:HG13	2:C:281:VAL:O	1.81	0.80
1:A:51:THR:HG21	2:D:16:LEU:HB2	1.54	0.80
2:D:151:VAL:HG12	2:D:152:VAL:H	1.42	0.80
2:C:183:VAL:HG11	2:C:185:TYR:CZ	2.16	0.80
2:D:11:GLY:CA	2:C:244:LEU:HD21	2.10	0.80
2:C:29:THR:HG22	2:C:30:GLY:H	1.46	0.80
2:D:19:THR:O	2:D:21:LEU:HD12	1.82	0.80
2:D:183:VAL:HG12	2:D:184:THR:N	1.97	0.80
2:D:197:LEU:N	2:D:197:LEU:CD2	2.43	0.80
2:C:23:LYS:HB2	2:C:36:TRP:CZ3	2.17	0.80
2:D:202:ILE:HD13	2:D:202:ILE:H	1.45	0.79
2:D:187:SER:OG	2:D:188:ALA:N	2.14	0.79
2:D:202:ILE:HD13	2:D:202:ILE:N	1.97	0.79
2:C:4:TRP:HE1	2:C:37:THR:HG1	1.15	0.79
2:D:50:MET:SD	2:D:50:MET:N	2.56	0.79
2:D:217:GLU:N	2:D:217:GLU:CD	2.33	0.79
2:C:129:VAL:O	2:C:130:GLN:HB3	1.81	0.79
2:C:264:SER:O	2:C:267:ALA:HB3	1.82	0.79
2:C:29:THR:HG22	2:C:30:GLY:N	1.98	0.79
2:D:53:ASN:H	2:D:53:ASN:ND2	1.81	0.78
2:C:2:ASN:HB2	2:C:37:THR:HB	1.64	0.78
2:D:11:GLY:HA3	2:C:244:LEU:CD2	2.11	0.78
2:D:211:ILE:HD13	2:D:211:ILE:C	2.02	0.78
2:C:16:LEU:C	2:C:16:LEU:HD23	2.03	0.78
1:A:64:ASN:CA	1:A:67:ARG:HH12	1.97	0.78
1:B:86:LEU:HB2	1:B:107:ASN:HB3	1.64	0.78
1:B:105:ILE:HD12	1:B:105:ILE:N	1.97	0.78
1:A:19:SER:HA	1:A:34:GLY:HA3	1.66	0.78
2:D:44:ASN:O	2:D:48:LYS:N	2.15	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:46:LEU:HD23	2:D:46:LEU:H	1.48	0.78
2:C:245:CYS:C	2:C:247:ASP:H	1.88	0.78
1:A:13:LYS:CG	1:A:13:LYS:O	2.30	0.78
1:A:72:SER:HB2	1:A:73:PRO:CD	2.13	0.78
2:D:266:CYS:HA	2:D:269:LYS:HZ1	1.49	0.78
2:C:142:VAL:HG11	2:C:160:CYS:SG	2.23	0.78
2:D:31:ARG:HH11	2:D:31:ARG:HG3	0.66	0.78
2:D:145:PRO:O	2:D:148:SER:HB3	1.84	0.78
2:C:176:TYR:CD2	2:C:186:SER:HA	2.18	0.78
2:D:53:ASN:HD22	2:D:53:ASN:N	1.81	0.77
2:D:161:VAL:HG22	2:D:162:THR:N	1.93	0.77
2:C:106:ASP:OD1	2:C:108:LYS:N	2.16	0.77
1:B:46:SER:C	1:B:48:ILE:H	1.87	0.77
1:A:77:LEU:HD13	1:A:77:LEU:O	1.84	0.77
1:B:67:ARG:NH1	1:B:67:ARG:CB	2.47	0.77
1:B:82:VAL:HB	1:B:83:PRO:CD	2.14	0.77
2:C:176:TYR:HE2	2:C:186:SER:HA	1.45	0.77
2:D:16:LEU:HG	2:D:17:TYR:N	1.96	0.77
2:C:46:LEU:HD23	2:C:46:LEU:O	1.84	0.77
1:B:58:PHE:C	1:B:58:PHE:CD2	2.58	0.76
1:B:102:LYS:HD2	1:B:102:LYS:C	2.05	0.76
1:B:71:HIS:O	1:B:72:SER:O	2.03	0.76
1:A:65:HIS:HB2	1:B:23:ILE:CD1	2.16	0.76
2:D:241:CYS:HB2	2:D:273:CYS:SG	2.24	0.76
1:A:77:LEU:HD13	1:A:77:LEU:C	2.05	0.76
2:D:157:ASN:H	2:D:157:ASN:ND2	1.83	0.76
2:C:167:CYS:O	2:C:167:CYS:SG	2.44	0.76
1:A:2:LEU:HD22	1:A:12:CYS:CB	2.16	0.76
1:A:6:GLY:C	1:A:8:VAL:HG12	2.06	0.76
2:C:29:THR:HG21	2:C:31:ARG:HG2	1.67	0.76
2:C:138:THR:O	2:C:140:ARG:N	2.19	0.76
2:D:93:CYS:O	2:D:94:SER:HB3	1.83	0.76
2:C:267:ALA:HB3	2:C:268:MET:HE3	1.66	0.75
2:C:21:LEU:HD22	2:C:25:GLU:OE1	1.86	0.75
1:A:10:ILE:HD13	1:A:10:ILE:O	1.85	0.75
2:D:272:ALA:HB2	2:D:279:LEU:HD12	1.69	0.75
2:D:283:HIS:CD2	2:D:287:CYS:HB3	2.21	0.75
2:D:94:SER:O	2:D:95:ASN:CG	2.25	0.75
1:A:15:GLN:HB3	1:A:38:ASN:CG	2.07	0.75
2:C:189:CYS:HA	2:C:192:ARG:CD	2.17	0.74
1:A:106:GLN:HE21	1:A:106:GLN:CA	1.94	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:258:ASP:O	2:C:259:ASN:CB	2.34	0.74
1:A:29:ILE:HD13	1:A:91:MET:CE	2.17	0.74
1:A:89:MET:HB3	1:A:108:MET:HE2	1.67	0.74
2:D:154:GLN:HG3	2:D:155:THR:H	1.52	0.74
2:D:206:TYR:CD2	2:D:219:ILE:HD11	2.23	0.74
1:A:2:LEU:CD2	1:A:12:CYS:HB3	2.18	0.74
2:D:1:GLY:HA2	2:D:21:LEU:O	1.87	0.74
2:D:258:ASP:O	2:D:260:ALA:N	2.20	0.74
2:C:44:ASN:O	2:C:48:LYS:HG2	1.88	0.74
2:D:20:GLU:C	2:D:21:LEU:HD12	2.08	0.73
2:C:217:GLU:O	2:C:218:ASP:CB	2.36	0.73
2:C:117:LEU:N	2:C:117:LEU:HD23	2.03	0.73
1:A:64:ASN:N	1:A:67:ARG:NH1	2.36	0.73
2:D:183:VAL:CG1	2:D:184:THR:N	2.51	0.73
1:B:68:MET:HA	1:B:68:MET:HE3	1.69	0.73
2:C:283:HIS:CE1	2:C:287:CYS:HB2	2.22	0.73
2:C:266:CYS:HA	2:C:269:LYS:CE	2.19	0.73
2:D:195:THR:CA	2:D:202:ILE:HD11	2.10	0.73
1:B:34:GLY:O	1:B:35:TYR:CB	2.34	0.73
2:D:58:ASN:HA	2:C:242:ASP:OD1	1.89	0.73
2:C:12:ARG:HH11	2:C:53:ASN:CB	1.98	0.73
2:C:129:VAL:HG12	2:C:130:GLN:N	2.04	0.73
2:D:265:GLU:HG3	2:D:266:CYS:N	2.04	0.72
1:B:109:ILE:N	1:B:109:ILE:CD1	2.46	0.72
2:C:230:ASP:HB2	2:C:232:LYS:HG3	1.71	0.72
2:D:173:SER:C	2:D:176:TYR:CE1	2.56	0.72
2:D:211:ILE:HG12	2:D:212:LYS:N	2.04	0.72
2:C:221:CYS:HB3	2:C:238:CYS:SG	2.29	0.72
1:A:8:VAL:HG21	1:A:12:CYS:SG	2.29	0.72
2:C:88:VAL:HG23	2:C:89:CYS:H	1.53	0.72
2:C:283:HIS:CE1	2:C:287:CYS:HB3	2.09	0.72
3:E:1:ALA:O	3:E:2:ALA:HB3	1.89	0.72
2:D:58:ASN:H	2:C:242:ASP:CG	1.93	0.72
1:B:29:ILE:N	1:B:29:ILE:CD1	2.52	0.72
1:B:10:ILE:HD12	1:B:11:CYS:N	2.05	0.71
2:C:206:TYR:HB3	2:C:238:CYS:HB2	1.71	0.71
2:D:39:GLU:O	2:D:40:ASP:OD2	2.08	0.71
1:A:65:HIS:HB3	1:A:69:ARG:NH1	2.05	0.71
1:B:88:PRO:CB	1:B:106:GLN:HA	2.20	0.71
2:C:23:LYS:N	2:C:36:TRP:CZ2	2.59	0.71
2:C:120:ARG:HD2	2:C:125:PRO:CA	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:266:CYS:HA	2:D:269:LYS:NZ	2.06	0.71
1:B:29:ILE:N	1:B:29:ILE:HD12	2.06	0.71
2:D:237:ARG:CG	2:D:238:CYS:N	2.53	0.71
1:B:13:LYS:O	1:B:13:LYS:CG	2.38	0.71
1:A:88:PRO:HB3	1:A:107:ASN:N	2.05	0.70
2:D:46:LEU:O	2:D:49:TRP:HB2	1.90	0.70
2:D:184:THR:OG1	2:D:210:CYS:HB2	1.91	0.70
1:A:89:MET:CE	1:A:108:MET:CE	2.69	0.70
2:D:197:LEU:N	2:D:197:LEU:HD22	2.01	0.70
2:D:269:LYS:O	2:D:270:GLU:C	2.29	0.70
2:C:141:ASP:C	2:C:142:VAL:CG2	2.41	0.70
2:C:266:CYS:CA	2:C:269:LYS:HE3	2.18	0.70
1:A:29:ILE:HD13	1:A:91:MET:HE1	1.72	0.70
1:A:89:MET:HE1	1:A:108:MET:HE3	1.71	0.70
2:D:187:SER:HB3	2:D:190:HIS:HD2	1.56	0.70
2:C:168:PRO:O	2:C:190:HIS:CD2	2.44	0.70
2:D:241:CYS:HG	2:D:242:ASP:H	1.40	0.70
2:C:254:VAL:HG12	2:C:284:SER:HA	1.74	0.70
2:D:70:ASP:C	2:D:70:ASP:OD2	2.29	0.70
2:C:105:LEU:HA	2:C:130:GLN:HE21	1.55	0.70
2:C:268:MET:HB2	2:C:271:ALA:HB2	1.72	0.70
1:A:87:ARG:NH2	1:A:111:GLU:HG2	2.07	0.70
1:A:64:ASN:C	1:A:66:TYR:H	1.95	0.70
2:D:157:ASN:ND2	2:D:157:ASN:N	2.39	0.70
2:D:220:GLN:O	2:D:221:CYS:CB	2.39	0.70
2:D:254:VAL:O	2:D:285:GLY:O	2.09	0.69
1:B:37:ALA:C	1:B:38:ASN:OD1	2.31	0.69
2:D:48:LYS:CG	2:D:52:PHE:CE1	2.73	0.69
2:D:244:LEU:HD13	2:D:245:CYS:N	2.07	0.69
2:C:265:GLU:CG	2:C:266:CYS:H	2.05	0.69
1:A:107:ASN:HD21	1:B:55:SER:CB	2.04	0.69
2:D:268:MET:CE	2:D:280:GLU:O	2.41	0.69
2:D:19:THR:O	2:D:20:GLU:HG2	1.93	0.69
2:D:256:ALA:HB3	2:D:260:ALA:C	2.10	0.69
2:C:88:VAL:HG23	2:C:89:CYS:N	2.08	0.69
1:A:30:ILE:HD12	1:A:93:TYR:HA	1.74	0.69
2:D:39:GLU:C	2:D:40:ASP:OD2	2.31	0.69
1:B:2:LEU:HD12	1:B:3:GLU:N	2.01	0.69
1:A:72:SER:CB	1:A:73:PRO:HD3	2.14	0.69
1:A:86:LEU:HD12	1:A:86:LEU:H	1.54	0.69
2:C:41:VAL:HG22	2:C:41:VAL:O	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:180:ASN:HD22	2:C:203:GLY:HA3	1.57	0.69
1:B:35:TYR:CA	2:C:126:GLU:OE1	2.40	0.69
2:C:215:SER:CB	2:C:217:GLU:OE1	2.41	0.69
2:C:267:ALA:HB3	2:C:268:MET:CE	2.21	0.69
2:D:222:THR:C	2:D:224:GLY:H	1.94	0.69
2:D:245:CYS:HB2	2:D:266:CYS:SG	2.32	0.69
2:C:29:THR:CG2	2:C:31:ARG:HG2	2.23	0.69
2:D:252:GLU:H	2:D:253:PRO:CD	2.06	0.68
1:B:36:HIS:ND1	2:C:126:GLU:OE2	2.27	0.68
2:C:245:CYS:C	2:C:247:ASP:N	2.45	0.68
1:A:104:ASP:OD2	1:A:104:ASP:N	2.25	0.68
2:D:243:GLU:HB2	2:C:12:ARG:NH2	2.08	0.68
2:C:268:MET:HE3	2:C:268:MET:N	2.08	0.68
1:A:15:GLN:CB	1:A:38:ASN:CG	2.62	0.68
1:B:97:GLY:O	1:B:98:GLN:HB2	1.91	0.68
2:C:264:SER:O	2:C:268:MET:HE1	1.92	0.68
2:D:151:VAL:HG12	2:D:152:VAL:N	2.09	0.68
2:D:187:SER:HB3	2:D:190:HIS:CD2	2.28	0.68
1:B:17:PHE:CZ	1:B:35:TYR:N	2.62	0.68
2:D:153:ASP:O	2:D:154:GLN:C	2.31	0.68
2:C:166:ILE:HD12	2:C:166:ILE:H	1.57	0.68
1:A:16:PHE:O	1:A:37:ALA:O	2.11	0.68
1:B:37:ALA:HA	1:B:109:ILE:HG22	1.76	0.68
1:A:2:LEU:O	1:A:2:LEU:HD22	1.94	0.68
1:A:74:PHE:O	1:A:75:ALA:C	2.31	0.68
2:C:112:ASN:O	2:C:115:ALA:CB	2.28	0.68
2:D:155:THR:CB	2:D:157:ASN:HD21	2.04	0.67
2:D:191:LEU:C	2:D:191:LEU:HD23	2.14	0.67
2:D:254:VAL:H	2:D:285:GLY:H	1.40	0.67
2:D:283:HIS:NE2	2:D:287:CYS:CB	2.56	0.67
2:D:161:VAL:CG2	2:D:162:THR:H	2.04	0.67
2:D:46:LEU:N	2:D:46:LEU:HD23	2.08	0.67
2:C:278:LEU:HG	2:C:279:LEU:N	2.09	0.67
1:A:77:LEU:HD22	1:A:78:LYS:N	2.08	0.67
1:A:91:MET:CG	1:A:105:ILE:HG12	2.20	0.67
2:D:20:GLU:O	2:D:21:LEU:HD12	1.94	0.67
2:C:265:GLU:O	2:C:267:ALA:N	2.27	0.67
2:D:124:GLN:OE1	2:D:127:LEU:HD22	1.94	0.67
2:C:255:CYS:SG	2:C:260:ALA:O	2.53	0.67
2:C:265:GLU:O	2:C:266:CYS:C	2.33	0.67
2:D:46:LEU:N	2:D:46:LEU:HD22	2.02	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:138:THR:C	2:C:140:ARG:H	1.98	0.67
2:D:31:ARG:HD3	2:D:33:SER:N	2.10	0.66
2:C:228:LEU:CD1	2:C:278:LEU:HB2	2.25	0.66
1:A:89:MET:HE2	1:A:108:MET:HE1	1.78	0.66
2:D:52:PHE:HD2	1:B:93:TYR:CE1	2.13	0.66
2:C:271:ALA:O	2:C:275:SER:HB3	1.95	0.66
2:D:253:PRO:O	2:D:254:VAL:CG1	2.38	0.66
2:D:295:GLU:O	2:D:296:GLU:CG	2.38	0.66
2:D:126:GLU:OE1	2:D:126:GLU:HA	1.93	0.66
2:C:225:LYS:HB3	2:C:239:SER:O	1.96	0.66
1:B:69:ARG:O	1:B:70:GLY:C	2.34	0.66
2:C:124:GLN:CD	2:C:124:GLN:H	1.99	0.66
2:C:168:PRO:HB2	2:C:169:GLU:HG2	1.77	0.66
2:D:52:PHE:HD2	1:B:93:TYR:HE1	1.43	0.66
2:D:116:LEU:HD12	2:D:117:LEU:N	2.10	0.66
2:D:154:GLN:CG	2:D:155:THR:H	2.08	0.66
2:D:216:CYS:O	2:D:219:ILE:HG22	1.96	0.66
2:C:219:ILE:HD12	2:C:227:CYS:SG	2.35	0.66
2:C:164:ASN:OD1	2:C:166:ILE:N	2.27	0.65
1:A:14:LYS:O	1:A:39:TYR:CD2	2.49	0.65
1:A:64:ASN:N	1:A:67:ARG:HH12	1.92	0.65
1:A:91:MET:N	1:A:103:LYS:O	2.21	0.65
2:D:2:ASN:H	2:D:36:TRP:HE1	1.42	0.65
2:C:142:VAL:HG12	2:C:144:CYS:H	1.61	0.65
1:A:2:LEU:CD2	1:A:2:LEU:C	2.60	0.65
2:C:79:MET:HG2	2:C:85:PRO:HG3	1.78	0.65
1:A:64:ASN:O	1:A:68:MET:HB2	1.95	0.65
2:D:4:TRP:HE3	2:D:15:VAL:O	1.79	0.65
1:B:105:ILE:N	1:B:105:ILE:CD1	2.59	0.65
1:A:13:LYS:O	1:A:13:LYS:HG3	1.96	0.65
2:D:154:GLN:HG3	2:D:155:THR:N	2.11	0.65
1:B:38:ASN:OD1	1:B:38:ASN:N	2.29	0.65
2:C:51:ILE:N	2:C:51:ILE:HD12	2.11	0.65
2:C:255:CYS:O	2:C:282:LYS:HB3	1.97	0.65
2:C:51:ILE:N	2:C:51:ILE:CD1	2.59	0.65
2:C:170:PRO:HB2	2:C:172:SER:OG	1.96	0.65
1:A:89:MET:CE	1:A:108:MET:HE1	2.27	0.65
2:D:211:ILE:C	2:D:211:ILE:CD1	2.63	0.65
1:B:35:TYR:CB	2:C:126:GLU:OE1	2.45	0.65
1:A:19:SER:O	1:A:23:ILE:HG12	1.97	0.64
1:A:57:SER:O	1:A:61:THR:N	2.24	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:89:MET:HE1	1:A:108:MET:CE	2.27	0.64
2:D:251:ASP:OD1	2:D:251:ASP:N	2.29	0.64
2:C:80:ASN:O	2:C:81:LYS:HB2	1.97	0.64
2:D:271:ALA:O	2:D:275:SER:N	2.27	0.64
2:C:89:CYS:C	2:C:91:PRO:HD3	2.17	0.64
2:D:262:TYR:CE2	2:D:268:MET:HA	2.32	0.64
1:B:10:ILE:C	1:B:10:ILE:CD1	2.64	0.64
2:C:258:ASP:O	2:C:259:ASN:HB2	1.96	0.64
2:C:116:LEU:HD11	2:C:128:GLU:O	1.97	0.64
2:D:58:ASN:N	2:C:242:ASP:OD1	2.29	0.64
2:C:11:GLY:O	2:C:12:ARG:O	2.16	0.64
2:C:268:MET:HA	2:C:271:ALA:HB2	1.77	0.64
2:C:258:ASP:O	2:C:259:ASN:CG	2.36	0.64
2:C:263:ALA:HB3	2:C:267:ALA:HB2	1.79	0.64
2:D:130:GLN:HE22	2:D:159:TYR:HD1	1.45	0.64
2:C:138:THR:HG22	2:C:140:ARG:H	1.63	0.64
1:A:3:GLU:OE1	1:A:3:GLU:N	2.31	0.64
1:A:56:LEU:O	1:A:60:SER:CB	2.46	0.64
1:B:10:ILE:CD1	1:B:11:CYS:N	2.60	0.64
2:D:18:LYS:HE3	2:D:18:LYS:HA	1.80	0.63
1:B:51:THR:HG21	2:C:16:LEU:HB3	1.80	0.63
1:A:2:LEU:HD22	1:A:12:CYS:HB3	1.79	0.63
1:B:85:LYS:CA	1:B:86:LEU:HD12	2.27	0.63
2:C:23:LYS:HA	2:C:36:TRP:CE2	2.34	0.63
1:A:28:TRP:CE2	2:C:48:LYS:HE2	2.33	0.63
1:A:35:TYR:CE2	1:A:37:ALA:HB2	2.33	0.63
2:D:12:ARG:HH21	2:C:243:GLU:CA	2.11	0.63
2:C:268:MET:CA	2:C:271:ALA:HB2	2.28	0.63
1:A:65:HIS:HA	1:A:68:MET:CB	2.28	0.63
2:D:195:THR:HG23	2:D:202:ILE:CD1	2.29	0.63
2:D:58:ASN:CA	2:C:242:ASP:OD1	2.47	0.63
2:C:63:LYS:HD2	2:C:67:GLU:HB3	1.80	0.63
2:C:124:GLN:OE1	2:C:124:GLN:O	2.16	0.63
2:D:156:ASN:O	2:D:157:ASN:C	2.36	0.63
1:B:104:ASP:OD2	1:B:104:ASP:N	2.30	0.63
1:A:74:PHE:O	1:A:77:LEU:N	2.31	0.63
2:D:186:SER:HB3	2:D:190:HIS:CG	2.34	0.63
2:C:141:ASP:O	2:C:142:VAL:HB	1.97	0.63
1:B:106:GLN:O	1:B:107:ASN:C	2.36	0.63
2:D:19:THR:OG1	2:D:20:GLU:N	2.29	0.63
2:D:70:ASP:OD2	2:D:71:CYS:N	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4:CYS:SG	1:B:4:CYS:O	2.57	0.63
1:B:67:ARG:O	1:B:67:ARG:HG2	1.98	0.63
2:C:22:SER:O	2:C:25:GLU:HB2	1.97	0.63
1:A:17:PHE:C	1:A:17:PHE:CD2	2.72	0.62
1:A:89:MET:CE	1:A:108:MET:HE3	2.29	0.62
1:B:61:THR:HG21	2:C:47:PHE:CD1	2.34	0.62
1:B:72:SER:HB2	1:B:73:PRO:HD2	1.79	0.62
2:C:79:MET:SD	2:C:85:PRO:HG3	2.38	0.62
2:D:164:ASN:HD22	2:D:166:ILE:HD12	1.63	0.62
2:D:240:LEU:CD2	2:D:240:LEU:H	2.12	0.62
2:C:251:ASP:O	2:C:252:GLU:CB	2.46	0.62
2:D:241:CYS:O	2:D:242:ASP:CB	2.47	0.62
2:D:265:GLU:O	2:D:268:MET:N	2.32	0.62
1:B:105:ILE:CD1	1:B:105:ILE:H	2.13	0.62
2:C:23:LYS:HB2	2:C:36:TRP:CE3	2.34	0.62
2:D:153:ASP:HB2	2:D:154:GLN:HG2	1.80	0.62
1:B:30:ILE:CG2	1:B:31:ALA:N	2.56	0.62
2:C:152:VAL:HG12	2:C:157:ASN:H	1.63	0.62
1:B:35:TYR:HB2	2:C:126:GLU:OE1	1.98	0.62
2:C:149:THR:N	2:C:161:VAL:O	2.33	0.62
2:C:268:MET:CB	2:C:271:ALA:CB	2.76	0.62
2:C:270:GLU:OE1	2:C:271:ALA:N	2.33	0.62
2:C:4:TRP:HE1	2:C:37:THR:CB	2.12	0.62
2:C:5:LEU:HD22	2:C:17:TYR:CE1	2.35	0.62
2:C:283:HIS:CE1	2:C:287:CYS:SG	2.93	0.62
2:C:272:ALA:HB1	2:C:277:VAL:O	2.00	0.62
2:D:19:THR:C	2:D:20:GLU:HG2	2.18	0.62
2:D:69:VAL:HG23	2:D:70:ASP:N	1.88	0.62
2:C:244:LEU:HD12	2:C:246:PRO:HD2	1.81	0.62
2:C:268:MET:CB	2:C:271:ALA:HB2	2.30	0.62
2:D:12:ARG:NH2	2:C:242:ASP:OD2	2.32	0.61
2:D:155:THR:HB	2:D:157:ASN:ND2	2.11	0.61
2:D:192:ARG:HH11	2:D:192:ARG:HG3	1.65	0.61
2:D:278:LEU:O	2:D:279:LEU:HG	2.00	0.61
1:B:10:ILE:CD1	1:B:12:CYS:N	2.63	0.61
1:B:26:ASN:ND2	2:C:164:ASN:ND2	2.39	0.61
1:B:35:TYR:CZ	1:B:37:ALA:HB2	2.35	0.61
1:A:91:MET:HG3	1:A:105:ILE:CG1	2.20	0.61
2:D:124:GLN:O	2:D:126:GLU:N	2.33	0.61
1:B:86:LEU:HB2	1:B:107:ASN:CB	2.29	0.61
2:C:120:ARG:CD	2:C:125:PRO:HA	2.25	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:124:GLN:C	2:D:126:GLU:H	2.01	0.61
2:C:5:LEU:CD2	2:C:17:TYR:CE1	2.83	0.61
2:C:82:LYS:O	2:C:83:ASN:C	2.38	0.61
2:C:244:LEU:HD23	2:C:244:LEU:H	1.65	0.61
1:A:64:ASN:CA	1:A:67:ARG:HH11	1.97	0.61
1:B:38:ASN:C	1:B:39:TYR:HD2	2.03	0.61
1:A:4:CYS:HB3	1:A:12:CYS:HG	1.63	0.61
2:D:173:SER:HA	2:D:176:TYR:OH	2.00	0.61
2:C:153:ASP:HB3	2:C:159:TYR:CE2	2.35	0.61
2:C:142:VAL:HG12	2:C:144:CYS:N	2.16	0.61
2:C:195:THR:O	2:C:199:GLY:N	2.34	0.61
2:D:241:CYS:O	2:D:242:ASP:HB3	2.00	0.60
2:C:270:GLU:HB2	2:C:274:SER:OG	2.00	0.60
1:A:95:ASP:OD2	1:A:99:ASN:N	2.28	0.60
2:D:220:GLN:O	2:D:221:CYS:HB2	1.99	0.60
1:B:44:CYS:HB3	1:B:79:SER:OG	1.99	0.60
2:C:228:LEU:HD12	2:C:237:ARG:HB3	1.83	0.60
2:D:79:MET:HA	2:D:79:MET:CE	2.31	0.60
2:D:79:MET:HE3	2:D:85:PRO:HA	1.84	0.60
2:D:176:TYR:N	2:D:176:TYR:CD1	2.68	0.60
2:D:218:ASP:OD1	2:D:218:ASP:N	2.31	0.60
2:D:222:THR:O	2:D:224:GLY:N	2.35	0.60
3:E:5:ALA:O	3:E:6:ALA:O	2.20	0.60
1:A:65:HIS:HA	1:A:68:MET:HB3	1.83	0.60
2:D:267:ALA:HA	2:D:270:GLU:HG2	1.81	0.60
2:C:50:MET:SD	2:C:50:MET:N	2.72	0.60
1:A:28:TRP:O	1:A:93:TYR:HB2	2.01	0.60
1:B:46:SER:C	1:B:48:ILE:N	2.51	0.60
2:C:4:TRP:CE3	2:C:16:LEU:HB2	2.37	0.60
1:A:16:PHE:CG	1:A:17:PHE:N	2.70	0.60
2:D:19:THR:O	2:D:21:LEU:HD13	2.02	0.60
2:C:151:VAL:N	2:C:159:TYR:O	2.35	0.60
1:B:35:TYR:HA	2:C:126:GLU:CD	2.23	0.60
2:C:46:LEU:C	2:C:46:LEU:CD2	2.71	0.60
1:A:107:ASN:ND2	1:B:55:SER:HB2	2.10	0.59
2:D:52:PHE:HD1	2:D:53:ASN:ND2	1.92	0.59
2:C:191:LEU:HD23	2:C:195:THR:OG1	2.01	0.59
1:A:89:MET:CB	1:A:108:MET:HE1	2.05	0.59
2:D:134:ARG:O	2:D:135:CYS:C	2.40	0.59
2:C:65:THR:HA	2:C:79:MET:SD	2.42	0.59
2:C:213:ALA:CB	2:C:218:ASP:OD2	2.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2:LEU:HD21	1:A:12:CYS:HB3	1.83	0.59
1:B:94:TYR:CD1	2:C:192:ARG:HG2	2.36	0.59
2:C:67:GLU:CG	2:C:68:ASN:ND2	2.55	0.59
2:C:164:ASN:OD1	2:C:164:ASN:C	2.41	0.59
2:D:123:GLU:O	2:D:125:PRO:HD3	2.02	0.59
2:D:151:VAL:C	2:D:152:VAL:HG13	2.23	0.59
2:D:255:CYS:HB2	2:D:286:SER:HA	1.85	0.59
2:C:8:ALA:CB	2:C:14:GLN:NE2	2.65	0.59
2:C:29:THR:CG2	2:C:30:GLY:H	2.13	0.59
2:D:200:ARG:HG2	2:D:201:SER:N	2.17	0.59
2:D:256:ALA:HB2	2:D:260:ALA:O	1.93	0.59
2:C:64:GLU:OE2	2:C:64:GLU:N	2.35	0.59
2:C:225:LYS:HG2	2:C:240:LEU:HB2	1.85	0.59
2:C:264:SER:O	2:C:267:ALA:CB	2.48	0.59
1:A:89:MET:CB	1:A:108:MET:HE2	2.29	0.59
2:C:113:GLU:O	2:C:116:LEU:N	2.35	0.59
2:D:254:VAL:HG11	2:D:265:GLU:N	2.18	0.59
2:C:52:PHE:C	2:C:53:ASN:OD1	2.41	0.59
3:E:1:ALA:O	3:E:2:ALA:CB	2.50	0.59
2:D:4:TRP:CE3	2:D:16:LEU:HA	2.38	0.59
2:D:183:VAL:CB	2:D:185:TYR:HE1	2.13	0.59
1:B:16:PHE:CD1	1:B:17:PHE:N	2.70	0.59
2:C:4:TRP:CG	2:C:13:CYS:HB3	2.37	0.59
2:D:93:CYS:O	2:D:94:SER:OG	2.21	0.59
2:D:197:LEU:N	2:D:197:LEU:HD23	2.18	0.59
2:D:116:LEU:C	2:D:116:LEU:CD1	2.66	0.58
2:D:252:GLU:H	2:D:253:PRO:HD2	1.68	0.58
2:C:161:VAL:CG1	2:C:162:THR:N	2.58	0.58
2:D:12:ARG:NH2	2:C:243:GLU:CB	2.59	0.58
2:D:228:LEU:N	2:D:228:LEU:HD12	2.17	0.58
2:D:255:CYS:HB2	2:D:286:SER:CA	2.34	0.58
2:C:29:THR:CG2	2:C:30:GLY:N	2.67	0.58
2:D:79:MET:HA	2:D:79:MET:HE3	1.85	0.58
2:C:79:MET:CG	2:C:85:PRO:HG3	2.33	0.58
2:D:79:MET:SD	2:D:83:ASN:ND2	2.76	0.58
2:D:101:PRO:O	2:D:133:GLY:N	2.35	0.58
2:C:12:ARG:NH1	2:C:53:ASN:CB	2.51	0.58
2:C:166:ILE:HD12	2:C:166:ILE:N	2.17	0.58
2:C:174:GLU:HG3	2:C:176:TYR:O	2.03	0.58
2:D:222:THR:C	2:D:224:GLY:N	2.57	0.58
2:C:153:ASP:HB3	2:C:159:TYR:HE2	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:191:LEU:O	2:C:192:ARG:C	2.42	0.58
1:A:45:PRO:HG2	1:A:48:ILE:HD11	1.86	0.58
2:D:196:CYS:C	2:D:197:LEU:HD22	2.23	0.57
1:B:64:ASN:C	1:B:66:TYR:H	2.07	0.57
1:A:2:LEU:HD22	1:A:12:CYS:HA	1.86	0.57
2:D:265:GLU:O	2:D:266:CYS:C	2.40	0.57
1:B:10:ILE:CD1	1:B:12:CYS:H	2.09	0.57
2:C:149:THR:HG22	2:C:150:CYS:O	2.04	0.57
2:C:251:ASP:CG	2:C:252:GLU:H	2.07	0.57
2:C:270:GLU:HA	2:C:274:SER:H	1.68	0.57
1:A:4:CYS:HB3	1:A:12:CYS:SG	2.44	0.57
1:B:31:ALA:HA	1:B:33:SER:H	1.68	0.57
1:B:61:THR:HG21	2:C:47:PHE:CE1	2.39	0.57
1:B:64:ASN:O	1:B:66:TYR:N	2.37	0.57
2:C:222:THR:C	2:C:224:GLY:H	2.06	0.57
1:B:25:TRP:O	1:B:26:ASN:C	2.43	0.57
2:C:170:PRO:CB	2:C:172:SER:OG	2.53	0.57
2:C:156:ASN:C	2:C:157:ASN:OD1	2.42	0.57
1:B:58:PHE:C	1:B:58:PHE:HD2	2.03	0.57
2:D:4:TRP:CD1	2:D:13:CYS:HB3	2.40	0.57
2:D:253:PRO:HG2	2:D:254:VAL:HG12	1.86	0.57
2:C:13:CYS:HB2	2:C:56:ALA:HB3	1.86	0.57
2:C:93:CYS:C	2:C:94:SER:HG	1.95	0.57
2:D:49:TRP:HB3	2:D:55:GLY:O	2.04	0.57
1:B:64:ASN:C	1:B:66:TYR:N	2.56	0.57
2:D:117:LEU:O	2:D:120:ARG:HB3	2.04	0.56
2:D:255:CYS:O	2:D:255:CYS:SG	2.63	0.56
1:A:82:VAL:HB	1:A:83:PRO:CD	2.35	0.56
2:C:213:ALA:HB1	2:C:218:ASP:OD2	2.04	0.56
2:D:31:ARG:CG	2:D:31:ARG:NH1	2.22	0.56
2:D:76:LYS:O	2:D:88:VAL:HG22	2.05	0.56
2:C:64:GLU:O	2:C:65:THR:HG23	2.06	0.56
2:C:189:CYS:O	2:C:192:ARG:HB2	2.05	0.56
2:D:94:SER:C	2:D:95:ASN:CG	2.64	0.56
1:B:90:SER:HB2	1:B:104:ASP:CG	2.26	0.56
1:A:2:LEU:CD2	1:A:12:CYS:CB	2.79	0.56
1:B:32:PRO:O	1:B:34:GLY:N	2.38	0.56
2:D:202:ILE:H	2:D:202:ILE:CD1	2.08	0.56
2:C:80:ASN:O	2:C:81:LYS:CB	2.54	0.56
1:A:107:ASN:ND2	1:B:55:SER:CA	2.68	0.56
2:D:50:MET:CE	2:D:50:MET:HA	2.30	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:83:ASN:C	2:C:85:PRO:HD3	2.25	0.56
2:C:18:LYS:CG	2:C:21:LEU:HG	2.35	0.56
1:A:87:ARG:CG	1:A:109:ILE:HG23	2.33	0.56
1:A:15:GLN:HB2	1:A:38:ASN:OD1	2.06	0.56
1:B:94:TYR:HB3	1:B:98:GLN:HA	1.88	0.56
2:C:245:CYS:H	2:C:246:PRO:HD3	1.71	0.56
2:D:32:LEU:HD21	2:D:86:ARG:HA	1.88	0.55
2:D:296:GLU:O	2:D:297:GLU:HB2	2.05	0.55
1:B:55:SER:O	1:B:57:SER:N	2.38	0.55
2:C:19:THR:O	2:C:20:GLU:HB2	2.06	0.55
2:D:169:GLU:C	2:D:169:GLU:OE2	2.45	0.55
2:D:268:MET:HG3	2:D:269:LYS:N	2.22	0.55
2:C:8:ALA:O	2:C:9:LYS:C	2.43	0.55
2:C:93:CYS:O	2:C:94:SER:CB	2.54	0.55
2:D:44:ASN:O	2:D:45:THR:C	2.45	0.55
2:D:183:VAL:HB	2:D:185:TYR:CE1	2.34	0.55
1:B:82:VAL:HB	1:B:83:PRO:HD2	1.87	0.55
2:C:270:GLU:O	2:C:274:SER:HB2	2.06	0.55
2:D:12:ARG:HH21	2:C:243:GLU:HB2	1.69	0.55
2:D:16:LEU:CG	2:D:17:TYR:H	2.11	0.55
1:A:16:PHE:CD1	1:A:17:PHE:N	2.74	0.55
2:D:277:VAL:CG1	2:D:278:LEU:N	2.69	0.55
1:B:44:CYS:HB2	1:B:79:SER:O	2.07	0.55
1:B:93:TYR:N	1:B:93:TYR:CD2	2.75	0.55
2:C:4:TRP:CZ3	2:C:16:LEU:HB2	2.41	0.55
2:C:16:LEU:HD23	2:C:17:TYR:N	2.21	0.55
2:C:258:ASP:O	2:C:259:ASN:ND2	2.40	0.55
2:D:52:PHE:CD2	1:B:93:TYR:CE1	2.95	0.55
1:A:57:SER:OG	1:A:58:PHE:N	2.38	0.55
2:D:263:ALA:O	2:D:264:SER:HB3	2.06	0.55
2:D:297:GLU:O	2:D:298:GLU:CB	2.55	0.55
2:C:21:LEU:HD12	2:C:26:CYS:HB2	1.88	0.55
2:C:211:ILE:HD13	2:C:211:ILE:H	1.72	0.55
2:C:227:CYS:HA	2:C:238:CYS:HA	1.88	0.55
1:A:69:ARG:O	1:A:69:ARG:HG2	2.05	0.55
2:D:50:MET:HA	2:D:50:MET:HE3	1.88	0.55
2:D:124:GLN:C	2:D:126:GLU:N	2.61	0.55
1:B:26:ASN:HD22	1:B:27:ASP:N	2.05	0.55
1:B:35:TYR:OH	1:B:37:ALA:HB2	2.07	0.55
2:C:163:CYS:HB2	2:C:165:ARG:HH11	1.71	0.55
1:A:73:PRO:O	1:A:74:PHE:C	2.45	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:246:PRO:HB3	2:C:9:LYS:O	2.06	0.54
1:B:52:SER:OG	1:B:54:SER:HB3	2.07	0.54
2:D:258:ASP:C	2:D:260:ALA:H	2.10	0.54
2:C:219:ILE:HG22	2:C:220:GLN:O	2.07	0.54
1:A:15:GLN:HA	1:A:38:ASN:HB3	1.90	0.54
2:D:36:TRP:O	2:D:60:ILE:HG12	2.07	0.54
2:D:51:ILE:HD13	2:D:51:ILE:N	2.23	0.54
1:B:102:LYS:HD2	1:B:102:LYS:O	2.08	0.54
2:D:154:GLN:CG	2:D:155:THR:N	2.67	0.54
2:D:202:ILE:N	2:D:202:ILE:CD1	2.66	0.54
2:D:211:ILE:HD11	2:D:213:ALA:N	2.22	0.54
1:A:51:THR:O	1:A:52:SER:C	2.46	0.54
2:C:12:ARG:HD3	2:C:57:PRO:HA	1.90	0.54
1:B:26:ASN:ND2	1:B:26:ASN:C	2.60	0.54
2:C:5:LEU:CD2	2:C:17:TYR:CD1	2.91	0.54
2:C:268:MET:N	2:C:268:MET:SD	2.77	0.54
1:A:13:LYS:O	1:A:13:LYS:HG2	2.07	0.54
1:A:82:VAL:CB	1:A:83:PRO:CD	2.86	0.54
1:B:94:TYR:HA	1:B:99:ASN:O	2.07	0.54
2:C:35:SER:HB2	2:C:59:CYS:SG	2.48	0.54
2:C:264:SER:N	2:C:267:ALA:HB2	2.22	0.54
1:A:4:CYS:CB	1:A:12:CYS:HG	2.20	0.54
2:D:243:GLU:HB2	2:C:12:ARG:HH22	1.72	0.54
2:D:269:LYS:O	2:D:272:ALA:N	2.41	0.54
1:B:68:MET:HA	1:B:68:MET:HE2	1.86	0.54
2:C:229:TRP:O	2:C:278:LEU:N	2.36	0.54
2:C:245:CYS:H	2:C:246:PRO:HD2	1.72	0.54
2:D:252:GLU:N	2:D:253:PRO:CD	2.71	0.53
2:D:252:GLU:O	2:D:253:PRO:O	2.26	0.53
2:C:79:MET:HB3	2:C:83:ASN:OD1	2.08	0.53
2:C:116:LEU:O	2:C:119:ALA:N	2.41	0.53
1:A:64:ASN:C	1:A:66:TYR:N	2.60	0.53
2:D:272:ALA:CB	2:D:279:LEU:HD12	2.39	0.53
2:C:92:ASP:C	2:C:92:ASP:OD1	2.47	0.53
2:C:242:ASP:CG	2:C:242:ASP:O	2.47	0.53
2:D:184:THR:C	2:D:185:TYR:HD1	2.12	0.53
1:B:88:PRO:HB3	1:B:106:GLN:OE1	2.09	0.53
2:C:48:LYS:O	2:C:51:ILE:HB	2.08	0.53
2:D:228:LEU:HA	2:D:276:GLY:O	2.09	0.53
1:A:58:PHE:O	1:A:62:VAL:HG23	2.09	0.53
2:D:12:ARG:CZ	2:C:243:GLU:HB2	2.35	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:184:THR:HG21	2:C:209:LYS:HG3	1.90	0.53
2:D:192:ARG:HG3	2:D:192:ARG:NH1	2.24	0.53
2:D:213:ALA:CB	2:D:218:ASP:CB	2.76	0.53
1:B:1:GLY:HA2	1:B:112:GLU:CB	2.39	0.53
2:C:138:THR:C	2:C:140:ARG:N	2.61	0.53
3:E:3:ALA:O	3:E:4:ALA:HB2	2.07	0.53
1:A:2:LEU:HD22	1:A:12:CYS:CA	2.39	0.53
2:D:2:ASN:N	2:D:36:TRP:HE1	2.06	0.53
2:D:43:ASP:OD1	2:D:44:ASN:N	2.36	0.53
2:C:102:VAL:HA	2:C:133:GLY:H	1.73	0.53
1:A:25:TRP:HA	1:A:28:TRP:NE1	2.23	0.52
2:D:34:THR:O	2:D:62:CYS:HB2	2.10	0.52
2:D:65:THR:C	2:D:67:GLU:H	2.04	0.52
2:C:180:ASN:HB3	2:C:202:ILE:O	2.09	0.52
2:C:47:PHE:O	2:C:51:ILE:HD13	2.09	0.52
2:D:176:TYR:HD1	2:D:176:TYR:H	1.55	0.52
1:B:82:VAL:CB	1:B:83:PRO:CD	2.83	0.52
1:A:102:LYS:HD3	1:A:102:LYS:C	2.29	0.52
1:B:67:ARG:NH1	1:B:67:ARG:HB3	2.24	0.52
2:C:265:GLU:HG3	2:C:266:CYS:H	1.72	0.52
1:A:26:ASN:HD22	1:A:26:ASN:C	2.08	0.52
1:A:90:SER:HA	1:A:104:ASP:HA	1.92	0.52
2:D:65:THR:C	2:D:67:GLU:N	2.61	0.52
2:D:211:ILE:CG1	2:D:212:LYS:N	2.71	0.52
2:C:152:VAL:HG13	2:C:157:ASN:O	2.10	0.52
2:C:281:VAL:O	2:C:281:VAL:CG1	2.53	0.52
2:C:66:CYS:SG	2:C:79:MET:HG3	2.49	0.52
2:C:180:ASN:HD21	2:C:237:ARG:CZ	2.23	0.52
1:B:10:ILE:O	1:B:12:CYS:N	2.42	0.52
1:B:58:PHE:HD2	1:B:59:HIS:N	2.08	0.52
2:C:41:VAL:O	2:C:41:VAL:CG2	2.58	0.52
2:C:139:CYS:O	2:C:140:ARG:C	2.49	0.52
1:A:4:CYS:SG	1:A:12:CYS:SG	3.08	0.51
1:A:82:VAL:HB	1:A:83:PRO:HD2	1.92	0.51
2:D:240:LEU:HD23	2:D:240:LEU:N	2.25	0.51
2:C:12:ARG:HH12	2:C:53:ASN:HB3	1.65	0.51
2:C:53:ASN:C	2:C:55:GLY:N	2.62	0.51
2:C:250:SER:OG	2:C:251:ASP:N	2.42	0.51
1:A:82:VAL:O	1:A:114:GLY:N	2.43	0.51
2:C:160:CYS:O	2:C:161:VAL:HG22	2.09	0.51
2:D:80:ASN:O	2:D:81:LYS:C	2.48	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:112:ASN:OD1	2:D:115:ALA:N	2.43	0.51
1:B:30:ILE:HB	1:B:92:LEU:HB3	1.93	0.51
2:C:267:ALA:CB	2:C:268:MET:HE3	2.38	0.51
1:A:6:GLY:O	1:A:8:VAL:N	2.43	0.51
1:A:87:ARG:NH2	1:A:111:GLU:CG	2.72	0.51
2:C:22:SER:C	2:C:36:TRP:CZ2	2.84	0.51
2:C:283:HIS:NE2	2:C:287:CYS:HB2	2.09	0.51
1:A:11:CYS:HA	1:A:42:GLY:HA3	1.92	0.51
1:A:45:PRO:O	1:A:48:ILE:HG13	2.09	0.51
2:D:183:VAL:O	2:D:210:CYS:SG	2.69	0.51
2:D:183:VAL:CG1	2:D:185:TYR:CE1	2.94	0.51
2:C:268:MET:CE	2:C:268:MET:H	2.24	0.51
1:A:58:PHE:CE2	1:A:62:VAL:HG21	2.46	0.51
1:A:107:ASN:ND2	1:B:55:SER:HA	2.25	0.51
1:B:28:TRP:CD2	1:B:29:ILE:CD1	2.94	0.51
2:C:283:HIS:HE1	2:C:287:CYS:SG	2.34	0.51
1:A:15:GLN:HA	1:A:38:ASN:CB	2.41	0.51
2:C:137:LYS:HA	2:C:157:ASN:HA	1.93	0.51
2:C:244:LEU:HD23	2:C:244:LEU:N	2.25	0.50
2:C:268:MET:CE	2:C:268:MET:N	2.75	0.50
1:B:72:SER:O	1:B:74:PHE:N	2.41	0.50
2:C:160:CYS:C	2:C:161:VAL:CG2	2.79	0.50
2:C:168:PRO:O	2:C:190:HIS:HD2	1.91	0.50
2:D:31:ARG:HD2	2:D:34:THR:H	1.77	0.50
2:D:81:LYS:O	2:D:83:ASN:N	2.41	0.50
2:C:79:MET:HG2	2:C:85:PRO:HB3	1.93	0.50
2:C:120:ARG:HG3	2:C:120:ARG:O	2.10	0.50
2:C:265:GLU:CD	2:C:266:CYS:H	2.15	0.50
2:C:268:MET:CA	2:C:271:ALA:CB	2.89	0.50
2:C:270:GLU:CB	2:C:274:SER:OG	2.60	0.50
1:A:73:PRO:O	1:A:75:ALA:N	2.45	0.50
2:D:10:ASN:O	2:C:244:LEU:CD2	2.60	0.50
2:C:5:LEU:HD21	2:C:17:TYR:CE1	2.46	0.50
2:C:23:LYS:HB2	2:C:36:TRP:CH2	2.47	0.50
2:C:228:LEU:N	2:C:237:ARG:O	2.43	0.50
2:D:240:LEU:H	2:D:240:LEU:HD23	1.76	0.50
1:B:62:VAL:HG13	1:B:63:ILE:HD12	1.94	0.50
2:C:153:ASP:OD1	2:C:156:ASN:N	2.43	0.50
2:C:144:CYS:HB3	2:C:148:SER:OG	2.12	0.50
2:C:255:CYS:HB2	2:C:261:THR:HG23	1.93	0.50
2:D:105:LEU:C	2:D:107:GLY:H	2.14	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:270:GLU:O	2:D:271:ALA:C	2.50	0.50
1:B:98:GLN:HA	1:B:98:GLN:NE2	2.26	0.50
2:C:57:PRO:O	2:C:58:ASN:HB2	2.12	0.50
1:A:58:PHE:CE2	1:B:108:MET:HG3	2.47	0.50
1:A:63:ILE:C	1:A:67:ARG:NH1	2.65	0.50
2:C:2:ASN:O	2:C:36:TRP:CD1	2.64	0.50
2:C:265:GLU:C	2:C:267:ALA:N	2.66	0.50
2:D:180:ASN:O	2:D:235:ARG:NH2	2.35	0.49
2:C:29:THR:HG22	2:C:31:ARG:H	1.76	0.49
2:C:89:CYS:O	2:C:91:PRO:HD3	2.11	0.49
2:C:176:TYR:C	2:C:177:LEU:CD2	2.74	0.49
2:D:65:THR:HB	2:D:67:GLU:HG2	1.94	0.49
2:D:188:ALA:O	2:D:191:LEU:N	2.45	0.49
1:B:28:TRP:HB3	2:C:192:ARG:NH2	2.27	0.49
1:B:35:TYR:HB2	2:C:126:GLU:HG3	1.93	0.49
2:C:109:THR:HG23	2:C:134:ARG:HA	1.95	0.49
1:B:31:ALA:HB1	1:B:32:PRO:CA	2.30	0.49
2:C:264:SER:O	2:C:267:ALA:N	2.45	0.49
2:D:191:LEU:C	2:D:191:LEU:CD2	2.81	0.49
1:B:87:ARG:O	1:B:109:ILE:CD1	2.60	0.49
1:B:102:LYS:H	2:C:154:GLN:CD	2.15	0.49
2:C:44:ASN:C	2:C:46:LEU:N	2.64	0.49
2:C:116:LEU:C	2:C:116:LEU:HD23	2.32	0.49
2:C:14:GLN:C	2:C:15:VAL:HG23	2.33	0.49
2:C:268:MET:C	2:C:271:ALA:HB3	2.32	0.49
2:D:151:VAL:C	2:D:152:VAL:CG1	2.81	0.49
2:D:12:ARG:HH21	2:C:243:GLU:CB	2.24	0.49
2:C:152:VAL:CG1	2:C:157:ASN:N	2.69	0.49
2:C:175:GLN:O	2:C:187:SER:HA	2.12	0.49
1:A:96:ASP:O	1:A:98:GLN:HG2	2.12	0.49
2:D:241:CYS:O	2:D:242:ASP:OD2	2.31	0.49
1:A:10:ILE:HG12	1:A:11:CYS:N	2.25	0.49
2:C:12:ARG:CD	2:C:57:PRO:HA	2.42	0.49
2:C:145:PRO:O	2:C:147:SER:N	2.46	0.49
1:A:56:LEU:O	1:A:60:SER:HB3	2.13	0.48
1:A:88:PRO:HB3	1:A:106:GLN:HA	1.95	0.48
2:D:39:GLU:O	2:D:40:ASP:CG	2.50	0.48
2:C:106:ASP:OD1	2:C:107:GLY:N	2.46	0.48
2:C:131:TYR:HD1	2:C:132:GLN:O	1.95	0.48
2:C:183:VAL:HG12	2:C:183:VAL:O	2.13	0.48
2:C:231:PHE:CZ	2:C:277:VAL:HG22	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:12:ARG:HH21	2:C:243:GLU:HA	1.77	0.48
2:D:256:ALA:HB2	2:D:262:TYR:HB2	1.94	0.48
1:B:17:PHE:HD1	1:B:36:HIS:NE2	2.11	0.48
2:C:12:ARG:HA	2:C:56:ALA:O	2.12	0.48
1:A:30:ILE:HG22	1:A:31:ALA:N	2.27	0.48
1:A:65:HIS:CB	1:A:69:ARG:NH1	2.76	0.48
1:A:72:SER:CB	1:A:73:PRO:CD	2.83	0.48
2:D:240:LEU:CD2	2:D:240:LEU:N	2.75	0.48
1:B:35:TYR:HB2	2:C:126:GLU:CD	2.34	0.48
2:C:152:VAL:CG1	2:C:157:ASN:O	2.62	0.48
2:C:289:SER:O	2:C:290:ILE:CB	2.61	0.48
1:A:98:GLN:HA	1:A:98:GLN:NE2	2.26	0.48
2:C:123:GLU:O	2:C:125:PRO:HD3	2.14	0.48
2:D:101:PRO:O	2:D:133:GLY:CA	2.61	0.48
1:B:94:TYR:CG	1:B:98:GLN:NE2	2.77	0.48
2:C:31:ARG:HB2	2:C:31:ARG:CZ	2.43	0.48
2:C:32:LEU:C	2:C:34:THR:H	2.16	0.48
2:C:182:GLY:O	2:C:210:CYS:SG	2.71	0.48
1:A:30:ILE:HD12	1:A:93:TYR:CA	2.42	0.48
2:D:155:THR:CG2	2:D:157:ASN:HD21	2.27	0.48
2:C:8:ALA:HB2	2:C:14:GLN:CD	2.33	0.48
2:C:79:MET:SD	2:C:83:ASN:ND2	2.84	0.48
2:C:206:TYR:CD1	2:C:206:TYR:C	2.87	0.48
2:D:116:LEU:O	2:D:120:ARG:N	2.46	0.48
2:C:264:SER:O	2:C:268:MET:CE	2.60	0.48
1:A:25:TRP:N	1:A:25:TRP:CD1	2.80	0.48
2:D:164:ASN:ND2	2:D:166:ILE:HD12	2.27	0.48
2:D:196:CYS:HB3	2:D:197:LEU:HD23	1.96	0.48
2:C:230:ASP:OD2	2:C:235:ARG:O	2.32	0.48
2:D:41:VAL:O	2:D:42:ASN:CB	2.55	0.48
2:D:253:PRO:O	2:D:254:VAL:HG22	2.14	0.48
2:C:79:MET:HG2	2:C:85:PRO:CG	2.44	0.48
2:C:222:THR:C	2:C:224:GLY:N	2.68	0.48
1:A:17:PHE:HE2	1:A:19:SER:HB2	1.79	0.47
1:A:99:ASN:HA	2:D:201:SER:HB3	1.96	0.47
1:B:30:ILE:N	1:B:30:ILE:CD1	2.77	0.47
2:C:183:VAL:CG1	2:C:185:TYR:CE1	2.97	0.47
2:C:255:CYS:O	2:C:282:LYS:CB	2.61	0.47
2:D:155:THR:CG2	2:D:157:ASN:ND2	2.77	0.47
2:C:21:LEU:HD22	2:C:21:LEU:HA	1.53	0.47
2:D:196:CYS:HB3	2:D:197:LEU:CD2	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:258:ASP:C	2:D:260:ALA:N	2.65	0.47
2:C:152:VAL:HG13	2:C:157:ASN:C	2.34	0.47
2:C:277:VAL:HG12	2:C:278:LEU:N	2.29	0.47
1:A:36:HIS:N	2:D:126:GLU:OE2	2.47	0.47
2:C:165:ARG:N	2:C:166:ILE:HD12	2.29	0.47
2:C:198:LEU:HD21	2:C:200:ARG:NH2	2.30	0.47
1:A:8:VAL:CG2	1:A:12:CYS:SG	3.00	0.47
1:A:22:ASP:C	1:A:23:ILE:CD1	2.60	0.47
1:A:25:TRP:HA	1:A:28:TRP:HE1	1.78	0.47
2:C:270:GLU:O	2:C:271:ALA:C	2.53	0.47
1:A:66:TYR:C	1:A:68:MET:N	2.68	0.47
2:D:5:LEU:HA	2:D:5:LEU:HD12	1.16	0.47
2:D:127:LEU:HD12	2:D:128:GLU:N	2.29	0.47
2:D:137:LYS:HD2	2:D:137:LYS:HA	1.60	0.47
2:D:213:ALA:O	2:D:229:TRP:HH2	1.97	0.47
2:C:18:LYS:HG3	2:C:21:LEU:HG	1.97	0.47
2:C:88:VAL:CG2	2:C:89:CYS:H	2.17	0.47
2:C:144:CYS:O	2:C:145:PRO:C	2.52	0.47
2:C:256:ALA:HA	2:C:282:LYS:H	1.79	0.47
2:D:272:ALA:CA	2:D:279:LEU:HD12	2.45	0.47
2:C:41:VAL:HG22	2:C:45:THR:HB	1.97	0.47
2:C:160:CYS:C	2:C:161:VAL:HG23	2.34	0.47
2:C:79:MET:HG2	2:C:85:PRO:CB	2.45	0.47
2:C:150:CYS:C	2:C:151:VAL:HG13	2.36	0.47
1:A:35:TYR:CA	2:D:126:GLU:OE2	2.58	0.47
1:A:86:LEU:N	1:A:86:LEU:CD1	2.55	0.47
2:D:191:LEU:HD23	2:D:195:THR:OG1	2.15	0.47
1:B:47:HIS:C	1:B:48:ILE:HG13	2.34	0.47
2:C:18:LYS:HG2	2:C:21:LEU:HG	1.95	0.47
2:C:130:GLN:HG2	2:C:131:TYR:CD2	2.50	0.47
2:C:265:GLU:CG	2:C:266:CYS:N	2.76	0.47
2:C:278:LEU:HD11	3:E:6:ALA:HB2	1.96	0.47
1:A:4:CYS:SG	1:A:14:LYS:HA	2.55	0.46
1:B:56:LEU:HD13	1:B:116:SER:OG	2.14	0.46
2:C:180:ASN:HB2	2:C:203:GLY:C	2.32	0.46
1:A:4:CYS:SG	1:A:14:LYS:N	2.89	0.46
1:A:80:CYS:HB2	1:B:80:CYS:SG	2.56	0.46
1:A:84:THR:HG21	1:A:114:GLY:HA3	1.97	0.46
2:D:4:TRP:CH2	2:D:16:LEU:HD13	2.49	0.46
2:D:6:ARG:HE	2:D:14:GLN:HE21	1.64	0.46
2:C:156:ASN:CG	2:C:156:ASN:O	2.54	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:153:ASP:O	2:D:156:ASN:N	2.49	0.46
2:D:195:THR:HA	2:D:202:ILE:CD1	2.14	0.46
2:D:225:LYS:HB3	2:D:240:LEU:N	2.30	0.46
2:C:45:THR:O	2:C:48:LYS:HB2	2.15	0.46
2:C:103:CYS:SG	2:C:104:GLY:N	2.89	0.46
2:C:109:THR:CG2	2:C:134:ARG:HA	2.46	0.46
2:C:276:GLY:O	2:C:277:VAL:HB	2.15	0.46
1:A:65:HIS:HB3	1:A:69:ARG:NH2	2.31	0.46
2:D:51:ILE:HB	2:D:52:PHE:H	1.58	0.46
2:D:138:THR:OG1	2:D:139:CYS:N	2.48	0.46
2:D:187:SER:H	2:D:190:HIS:HB2	1.79	0.46
2:D:211:ILE:CD1	2:D:213:ALA:N	2.78	0.46
1:B:86:LEU:HA	1:B:109:ILE:O	2.15	0.46
2:C:47:PHE:O	2:C:48:LYS:C	2.54	0.46
2:C:273:CYS:O	2:C:275:SER:O	2.34	0.46
2:D:14:GLN:O	2:D:15:VAL:HB	2.16	0.46
2:D:105:LEU:C	2:D:107:GLY:N	2.68	0.46
2:D:252:GLU:N	2:D:253:PRO:HD2	2.29	0.46
1:B:95:ASP:N	1:B:95:ASP:OD1	2.48	0.46
2:C:8:ALA:O	2:C:10:ASN:N	2.49	0.46
2:C:239:SER:OG	2:C:240:LEU:N	2.49	0.46
1:A:97:GLY:O	1:A:98:GLN:HB2	2.14	0.46
1:B:38:ASN:C	1:B:39:TYR:CD2	2.84	0.46
1:B:90:SER:HA	1:B:103:LYS:O	2.15	0.46
2:C:228:LEU:HD12	2:C:228:LEU:O	2.16	0.46
1:A:47:HIS:O	1:A:51:THR:OG1	2.32	0.46
1:A:81:CYS:HA	1:A:115:CYS:HA	1.98	0.46
2:D:42:ASN:O	2:D:43:ASP:HB2	2.14	0.46
2:D:195:THR:HG23	2:D:202:ILE:HD11	1.98	0.46
1:B:10:ILE:C	1:B:42:GLY:HA3	2.36	0.46
1:B:36:HIS:CE1	2:C:126:GLU:OE2	2.69	0.46
1:B:51:THR:CG2	2:C:16:LEU:H	2.28	0.46
1:A:57:SER:O	1:A:58:PHE:C	2.53	0.46
1:A:107:ASN:HD21	1:B:55:SER:CA	2.29	0.46
2:D:90:ALA:O	2:D:91:PRO:C	2.54	0.46
1:B:58:PHE:O	1:B:61:THR:HB	2.16	0.46
1:B:89:MET:HB3	1:B:108:MET:SD	2.56	0.46
1:A:15:GLN:HB3	1:A:38:ASN:ND2	2.30	0.46
1:A:103:LYS:HG3	1:A:104:ASP:N	2.31	0.46
2:D:67:GLU:C	2:D:69:VAL:H	2.18	0.46
2:D:2:ASN:HB3	2:D:37:THR:HB	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:38:GLU:O	2:D:40:ASP:OD2	2.33	0.45
2:D:52:PHE:CD1	2:D:53:ASN:ND2	2.76	0.45
1:B:63:ILE:O	1:B:64:ASN:C	2.52	0.45
2:C:1:GLY:H3	2:C:21:LEU:C	2.18	0.45
2:C:23:LYS:CA	2:C:36:TRP:CZ2	2.99	0.45
2:C:161:VAL:HG12	2:C:162:THR:H	1.75	0.45
2:C:213:ALA:HB2	2:C:218:ASP:OD2	2.16	0.45
2:C:276:GLY:C	2:C:277:VAL:HG23	2.36	0.45
1:B:27:ASP:OD1	2:C:164:ASN:ND2	2.50	0.45
1:B:28:TRP:C	1:B:29:ILE:HD12	2.36	0.45
2:C:37:THR:HG22	2:C:39:GLU:H	1.81	0.45
1:A:2:LEU:HD11	1:A:10:ILE:HD11	1.97	0.45
2:D:52:PHE:CD2	1:B:93:TYR:HE1	2.28	0.45
2:D:188:ALA:O	2:D:189:CYS:C	2.54	0.45
1:B:9:ASN:ND2	1:B:9:ASN:C	2.65	0.45
1:B:16:PHE:CD1	1:B:16:PHE:C	2.87	0.45
2:C:160:CYS:O	2:C:161:VAL:CG2	2.64	0.45
1:A:10:ILE:O	1:A:10:ILE:CD1	2.62	0.45
1:A:56:LEU:O	1:A:60:SER:HB2	2.17	0.45
2:D:43:ASP:O	2:D:45:THR:N	2.50	0.45
2:D:186:SER:HB3	2:D:190:HIS:ND1	2.30	0.45
1:B:82:VAL:HB	1:B:83:PRO:HD3	1.96	0.45
2:C:268:MET:HE3	2:C:268:MET:H	1.80	0.45
2:C:163:CYS:HB2	2:C:165:ARG:NH1	2.31	0.45
2:C:226:LYS:N	2:C:239:SER:O	2.43	0.45
2:D:18:LYS:HG3	2:D:19:THR:N	2.21	0.45
2:D:183:VAL:CB	2:D:185:TYR:CE1	2.98	0.45
2:D:255:CYS:HB2	2:D:286:SER:C	2.37	0.45
2:D:255:CYS:HB2	2:D:287:CYS:N	2.32	0.45
1:B:105:ILE:HD12	1:B:105:ILE:H	1.71	0.45
2:C:19:THR:OG1	2:C:20:GLU:HG3	2.16	0.45
1:A:45:PRO:HD2	1:A:48:ILE:HD12	1.99	0.45
2:D:84:LYS:HE3	2:D:84:LYS:HA	1.97	0.45
2:D:237:ARG:NH1	2:D:299:GLU:HB2	2.32	0.45
1:B:54:SER:OG	1:B:56:LEU:N	2.50	0.45
1:B:85:LYS:O	1:B:111:GLU:N	2.33	0.45
2:C:102:VAL:HG12	2:C:132:GLN:HG2	1.98	0.45
2:D:260:ALA:O	2:D:261:THR:C	2.54	0.45
1:A:49:ALA:C	1:A:51:THR:N	2.66	0.44
2:D:191:LEU:O	2:D:192:ARG:C	2.55	0.44
2:C:53:ASN:O	2:C:54:GLY:C	2.54	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:36:TRP:CZ2	2:D:38:GLU:HA	2.53	0.44
2:D:151:VAL:O	2:D:152:VAL:CG1	2.65	0.44
2:C:91:PRO:O	2:C:92:ASP:HB3	2.17	0.44
2:C:150:CYS:O	2:C:151:VAL:CG1	2.66	0.44
2:C:278:LEU:HD11	3:E:6:ALA:CB	2.48	0.44
2:D:241:CYS:HG	2:D:242:ASP:N	2.05	0.44
1:B:26:ASN:C	1:B:26:ASN:HD22	2.20	0.44
2:C:106:ASP:OD1	2:C:106:ASP:C	2.55	0.44
1:A:4:CYS:SG	1:A:14:LYS:CA	3.05	0.44
1:A:58:PHE:CE2	1:B:108:MET:CG	3.01	0.44
2:D:48:LYS:HG2	2:D:52:PHE:HZ	1.77	0.44
2:D:148:SER:OG	2:D:160:CYS:HB3	2.17	0.44
2:D:178:CYS:SG	2:D:206:TYR:CZ	3.11	0.44
2:D:285:GLY:O	2:D:286:SER:OG	2.32	0.44
2:C:88:VAL:CG2	2:C:89:CYS:N	2.73	0.44
2:C:183:VAL:HG11	2:C:185:TYR:CE1	2.52	0.44
2:C:281:VAL:O	2:C:282:LYS:C	2.54	0.44
2:D:268:MET:HE2	2:D:268:MET:HB2	1.83	0.44
2:C:177:LEU:HD23	2:C:177:LEU:N	2.24	0.44
1:A:4:CYS:SG	1:A:12:CYS:HB2	2.58	0.44
1:A:29:ILE:CD1	1:A:91:MET:HE1	2.46	0.44
2:D:46:LEU:CD2	2:D:46:LEU:H	2.09	0.44
2:D:47:PHE:O	2:D:48:LYS:C	2.54	0.44
2:D:184:THR:C	2:D:185:TYR:CD1	2.91	0.44
2:D:191:LEU:HD23	2:D:191:LEU:O	2.16	0.44
1:B:2:LEU:HD12	1:B:3:GLU:C	2.38	0.44
2:C:114:CYS:O	2:C:115:ALA:C	2.55	0.44
2:C:205:ALA:O	2:C:206:TYR:HB3	2.17	0.44
1:A:77:LEU:C	1:A:77:LEU:HD22	2.37	0.44
2:D:44:ASN:O	2:D:47:PHE:N	2.51	0.44
2:D:142:VAL:O	2:D:142:VAL:HG23	2.18	0.44
2:D:253:PRO:HG2	2:D:254:VAL:CG1	2.47	0.44
2:C:153:ASP:OD1	2:C:153:ASP:C	2.55	0.44
2:C:270:GLU:HA	2:C:273:CYS:CB	2.29	0.44
2:D:4:TRP:HE3	2:D:15:VAL:C	2.21	0.44
2:D:67:GLU:O	2:D:67:GLU:HG3	2.16	0.44
2:D:188:ALA:O	2:D:192:ARG:N	2.50	0.44
2:C:41:VAL:CG2	2:C:45:THR:HB	2.47	0.44
2:C:84:LYS:HD2	2:C:84:LYS:HA	1.73	0.44
1:A:96:ASP:C	1:A:98:GLN:N	2.72	0.44
2:D:16:LEU:O	2:D:17:TYR:HB2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:165:ARG:H	2:C:165:ARG:HG2	1.67	0.44
1:A:105:ILE:N	1:A:105:ILE:HD13	2.33	0.43
2:D:280:GLU:OE2	2:D:298:GLU:O	2.35	0.43
2:C:228:LEU:O	2:C:237:ARG:N	2.51	0.43
1:A:39:TYR:H	1:A:39:TYR:HD2	1.63	0.43
2:D:29:THR:O	2:D:63:LYS:CE	2.66	0.43
2:D:267:ALA:HA	2:D:270:GLU:CG	2.48	0.43
2:C:104:GLY:O	2:C:130:GLN:NE2	2.51	0.43
2:D:183:VAL:HG12	2:D:185:TYR:CE1	2.53	0.43
2:D:211:ILE:HD11	2:D:213:ALA:HB2	2.00	0.43
1:B:97:GLY:C	1:B:99:ASN:OD1	2.57	0.43
1:A:15:GLN:CB	1:A:38:ASN:OD1	2.66	0.43
1:A:107:ASN:ND2	1:B:55:SER:CB	2.76	0.43
1:B:15:GLN:HA	1:B:38:ASN:HB3	2.00	0.43
2:C:41:VAL:O	2:C:43:ASP:N	2.50	0.43
1:A:30:ILE:H	1:A:93:TYR:HA	1.83	0.43
2:D:229:TRP:HA	2:D:236:GLY:HA2	1.99	0.43
2:C:32:LEU:O	2:C:33:SER:HB2	2.17	0.43
2:C:72:GLY:O	2:C:73:PRO:O	2.36	0.43
2:D:267:ALA:O	2:D:268:MET:C	2.57	0.43
2:C:264:SER:C	2:C:267:ALA:H	2.22	0.43
1:A:19:SER:C	1:A:21:LYS:N	2.70	0.43
2:D:197:LEU:HD22	2:D:197:LEU:HA	1.56	0.43
2:D:232:LYS:NZ	2:D:232:LYS:CB	2.82	0.43
1:B:87:ARG:HB2	1:B:88:PRO:HD2	2.00	0.43
2:C:35:SER:CB	2:C:59:CYS:SG	3.07	0.43
2:C:144:CYS:CB	2:C:148:SER:O	2.67	0.43
1:B:92:LEU:HD12	1:B:101:ILE:O	2.19	0.43
2:C:12:ARG:HD3	2:C:12:ARG:HA	1.93	0.43
2:C:245:CYS:N	2:C:246:PRO:CD	2.68	0.43
1:A:6:GLY:C	1:A:8:VAL:N	2.73	0.42
1:A:56:LEU:HD23	1:A:56:LEU:HA	1.71	0.42
2:D:183:VAL:C	2:D:210:CYS:SG	2.97	0.42
2:D:281:VAL:O	2:D:281:VAL:HG23	2.19	0.42
1:B:87:ARG:O	1:B:109:ILE:HD13	2.18	0.42
1:B:91:MET:HE2	1:B:91:MET:HB2	1.84	0.42
1:A:86:LEU:HD21	1:B:56:LEU:HD23	2.00	0.42
2:D:206:TYR:CE2	2:D:219:ILE:HD11	2.53	0.42
2:C:165:ARG:H	2:C:166:ILE:HD12	1.84	0.42
2:C:187:SER:O	2:C:190:HIS:HB2	2.19	0.42
2:C:263:ALA:HB3	2:C:267:ALA:CB	2.47	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:9:ASN:O	1:A:43:GLU:OE1	2.38	0.42
1:A:63:ILE:C	1:A:67:ARG:HH11	2.23	0.42
1:B:6:GLY:O	1:B:8:VAL:HG12	2.19	0.42
2:C:5:LEU:HD22	2:C:17:TYR:CD1	2.53	0.42
2:C:66:CYS:HA	2:C:69:VAL:HG11	2.01	0.42
2:C:72:GLY:O	2:C:73:PRO:C	2.57	0.42
1:A:9:ASN:O	1:A:42:GLY:HA2	2.19	0.42
2:D:116:LEU:HD12	2:D:116:LEU:O	2.17	0.42
1:B:28:TRP:CE2	1:B:29:ILE:HD11	2.55	0.42
1:B:67:ARG:HB3	1:B:67:ARG:CZ	2.48	0.42
2:D:178:CYS:HB3	2:D:205:ALA:HB3	2.01	0.42
2:C:227:CYS:HA	2:C:237:ARG:O	2.19	0.42
1:A:98:GLN:NE2	1:A:98:GLN:CA	2.81	0.42
1:A:104:ASP:O	1:A:106:GLN:N	2.53	0.42
1:B:109:ILE:HG23	1:B:109:ILE:HD12	1.81	0.42
2:C:5:LEU:HD13	2:C:5:LEU:HA	1.74	0.42
2:C:155:THR:O	2:C:156:ASN:HB3	2.19	0.42
1:A:65:HIS:HA	1:A:68:MET:HB2	1.99	0.42
2:D:94:SER:O	2:D:94:SER:OG	2.36	0.42
2:D:109:THR:OG1	2:D:135:CYS:HB2	2.20	0.42
2:C:150:CYS:O	2:C:151:VAL:HG13	2.19	0.42
2:C:155:THR:O	2:C:155:THR:HG22	2.20	0.42
2:D:4:TRP:CE3	2:D:15:VAL:C	2.93	0.42
2:D:117:LEU:HD23	2:D:117:LEU:HA	1.49	0.42
1:B:10:ILE:C	1:B:12:CYS:H	2.23	0.42
1:B:92:LEU:HD12	1:B:92:LEU:HA	1.36	0.42
2:C:70:ASP:OD1	2:C:71:CYS:N	2.53	0.42
1:A:56:LEU:O	1:A:60:SER:N	2.45	0.42
2:D:10:ASN:HD21	2:D:54:GLY:HA3	1.85	0.42
2:C:64:GLU:O	2:C:83:ASN:ND2	2.53	0.42
2:C:94:SER:O	2:C:95:ASN:ND2	2.53	0.42
2:D:102:VAL:HG12	2:D:132:GLN:HA	2.02	0.42
2:D:272:ALA:HB2	2:D:279:LEU:HB2	2.02	0.42
1:B:100:ILE:O	1:B:100:ILE:HG22	2.19	0.42
2:C:14:GLN:O	2:C:15:VAL:HG23	2.19	0.42
2:C:67:GLU:OE1	2:C:67:GLU:HA	2.20	0.42
2:C:166:ILE:H	2:C:166:ILE:CD1	2.30	0.42
1:A:22:ASP:CA	1:A:23:ILE:HD13	2.43	0.41
2:D:65:THR:N	2:D:85:PRO:HG2	2.34	0.41
2:D:211:ILE:HD13	2:D:211:ILE:HG23	1.76	0.41
1:B:30:ILE:HB	1:B:92:LEU:O	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:4:TRP:CD2	2:C:13:CYS:HB3	2.54	0.41
2:C:34:THR:O	2:C:62:CYS:HB2	2.20	0.41
2:C:112:ASN:OD1	2:C:115:ALA:HB2	2.19	0.41
2:C:273:CYS:O	2:C:274:SER:C	2.58	0.41
1:A:63:ILE:HG22	1:A:67:ARG:NH1	2.35	0.41
2:D:127:LEU:HD12	2:D:127:LEU:HA	1.75	0.41
2:C:66:CYS:HA	2:C:69:VAL:CG1	2.50	0.41
2:C:142:VAL:CG1	2:C:160:CYS:SG	3.02	0.41
1:A:88:PRO:HB3	1:A:106:GLN:HE21	1.85	0.41
1:A:90:SER:HB3	1:A:102:LYS:HE3	2.02	0.41
2:D:46:LEU:HD22	2:D:46:LEU:HA	1.49	0.41
2:D:219:ILE:O	2:D:219:ILE:CG2	2.68	0.41
2:D:226:LYS:O	2:D:238:CYS:HA	2.20	0.41
1:B:66:TYR:O	1:B:69:ARG:N	2.50	0.41
2:C:100:GLY:HA2	2:C:101:PRO:HD3	1.74	0.41
2:C:247:ASP:N	2:C:247:ASP:OD1	2.54	0.41
2:C:255:CYS:HA	2:C:261:THR:HA	2.01	0.41
1:B:50:GLY:HA3	1:B:61:THR:OG1	2.20	0.41
2:C:1:GLY:C	2:C:2:ASN:OD1	2.58	0.41
2:C:93:CYS:C	2:C:94:SER:OG	2.52	0.41
1:A:88:PRO:HB3	1:A:106:GLN:NE2	2.36	0.41
1:B:51:THR:O	1:B:52:SER:C	2.58	0.41
2:C:257:SER:HA	2:C:282:LYS:HD3	2.03	0.41
2:C:270:GLU:CA	2:C:274:SER:H	2.32	0.41
1:A:30:ILE:CG2	2:D:161:VAL:HG21	2.51	0.41
2:D:275:SER:O	2:D:277:VAL:N	2.54	0.41
1:B:94:TYR:C	1:B:95:ASP:O	2.58	0.41
2:C:65:THR:C	2:C:67:GLU:N	2.74	0.41
2:C:172:SER:HB2	2:C:175:GLN:CB	2.51	0.41
2:C:211:ILE:HD13	2:C:211:ILE:N	2.35	0.41
2:C:225:LYS:HD2	2:C:238:CYS:O	2.19	0.41
2:D:153:ASP:O	2:D:155:THR:N	2.53	0.41
2:D:254:VAL:H	2:D:285:GLY:N	2.14	0.41
1:A:4:CYS:SG	1:A:13:LYS:C	2.99	0.41
2:D:79:MET:HE1	2:D:85:PRO:HG3	2.02	0.41
2:D:150:CYS:SG	2:D:151:VAL:N	2.94	0.41
1:B:17:PHE:HA	1:B:36:HIS:HA	2.02	0.41
1:B:35:TYR:HB2	2:C:126:GLU:CG	2.50	0.41
2:C:109:THR:HG22	2:C:110:TYR:N	2.35	0.41
2:C:148:SER:HA	2:C:161:VAL:O	2.21	0.41
2:C:288:ASN:CG	2:C:289:SER:N	2.74	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:17:PHE:HD2	1:A:17:PHE:O	2.04	0.41
1:A:22:ASP:HB2	1:A:23:ILE:CD1	2.51	0.41
1:A:52:SER:C	1:A:54:SER:H	2.24	0.41
2:D:1:GLY:CA	2:D:21:LEU:O	2.64	0.41
2:D:103:CYS:HB2	2:D:135:CYS:HA	2.02	0.41
2:D:200:ARG:HH11	2:D:297:GLU:HB2	1.86	0.41
1:B:51:THR:HG21	2:C:16:LEU:H	1.86	0.41
1:B:55:SER:C	1:B:57:SER:H	2.23	0.41
1:B:100:ILE:O	1:B:101:ILE:HD13	2.20	0.41
2:C:23:LYS:CA	2:C:36:TRP:CE2	3.04	0.41
1:A:62:VAL:HG22	1:B:25:TRP:CH2	2.56	0.41
2:D:228:LEU:HD12	2:D:237:ARG:O	2.20	0.41
2:C:237:ARG:NH2	2:C:278:LEU:HD22	2.36	0.41
1:A:29:ILE:HD13	1:A:91:MET:HE3	1.96	0.40
2:D:67:GLU:C	2:D:69:VAL:N	2.74	0.40
1:B:48:ILE:HG23	2:C:16:LEU:O	2.21	0.40
2:C:156:ASN:C	2:C:156:ASN:OD1	2.60	0.40
2:C:230:ASP:C	2:C:232:LYS:H	2.24	0.40
1:A:64:ASN:ND2	1:A:68:MET:SD	2.94	0.40
2:C:189:CYS:HA	2:C:192:ARG:HD2	1.98	0.40
2:C:264:SER:O	2:C:265:GLU:C	2.60	0.40
1:A:87:ARG:CZ	1:A:111:GLU:HG2	2.51	0.40
2:D:138:THR:O	2:D:140:ARG:N	2.54	0.40
1:A:22:ASP:HB2	1:A:23:ILE:HD13	2.03	0.40
2:D:61:PRO:HG2	2:D:64:GLU:HG2	2.04	0.40
2:D:242:ASP:O	2:D:243:GLU:C	2.59	0.40
2:C:103:CYS:HB2	2:C:131:TYR:CE1	2.56	0.40
2:C:141:ASP:OD1	2:C:141:ASP:N	2.54	0.40
2:C:182:GLY:O	2:C:183:VAL:C	2.60	0.40
2:C:193:LYS:HE3	2:C:193:LYS:HB3	1.71	0.40

All (5) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:72:SER:OG	1:B:72:SER:OG[3_555]	1.91	0.29
2:D:193:LYS:O	2:C:169:GLU:OE1[1_554]	2.01	0.19
2:C:100:GLY:N	2:C:143:PHE:CE1[3_656]	2.12	0.08
2:D:194:ALA:CA	2:C:169:GLU:OE1[1_554]	2.14	0.06
1:A:72:SER:OG	1:B:43:GLU:OE1[4_566]	2.17	0.03

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	114/116 (98%)	80 (70%)	23 (20%)	11 (10%)	0	4
1	B	114/116 (98%)	75 (66%)	24 (21%)	15 (13%)	0	1
2	C	272/315 (86%)	180 (66%)	54 (20%)	38 (14%)	0	1
2	D	284/315 (90%)	196 (69%)	51 (18%)	37 (13%)	0	1
3	E	8/10 (80%)	2 (25%)	3 (38%)	3 (38%)	0	0
All	All	792/872 (91%)	533 (67%)	155 (20%)	104 (13%)	0	1

All (104) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	72	SER
1	A	73	PRO
1	A	74	PHE
1	A	75	ALA
2	D	17	TYR
2	D	42	ASN
2	D	51	ILE
2	D	66	CYS
2	D	82	LYS
2	D	90	ALA
2	D	94	SER
2	D	127	LEU
2	D	154	GLN
2	D	221	CYS
2	D	246	PRO
2	D	259	ASN
2	D	270	GLU
2	D	284	SER
2	D	289	SER
2	D	296	GLU
2	D	297	GLU

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Mol	Chain	Res	Type
2	D	298	GLU
1	B	11	CYS
1	B	30	ILE
1	B	33	SER
1	B	35	TYR
1	B	47	HIS
1	B	72	SER
2	C	9	LYS
2	C	12	ARG
2	C	66	CYS
2	C	83	ASN
2	C	101	PRO
2	C	130	GLN
2	C	142	VAL
2	C	167	CYS
2	C	168	PRO
2	C	175	GLN
2	C	183	VAL
2	C	218	ASP
2	C	245	CYS
2	C	246	PRO
2	C	252	GLU
2	C	259	ASN
2	C	266	CYS
2	C	273	CYS
2	C	277	VAL
3	E	2	ALA
3	E	4	ALA
3	E	6	ALA
1	A	7	LYS
1	A	26	ASN
1	A	52	SER
1	A	65	HIS
1	A	76	ASN
1	A	105	ILE
2	D	44	ASN
2	D	46	LEU
2	D	49	TRP
2	D	72	GLY
2	D	156	ASN
2	D	223	GLY
2	D	254	VAL

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Mol	Chain	Res	Type
2	D	261	THR
2	D	291	SER
1	B	38	ASN
1	B	70	GLY
1	B	95	ASP
2	C	43	ASP
2	C	81	LYS
2	C	139	CYS
2	C	146	GLY
2	C	242	ASP
1	A	21	LYS
2	D	252	GLU
1	B	45	PRO
1	B	56	LEU
2	C	15	VAL
2	C	145	PRO
2	C	221	CYS
2	C	232	LYS
2	D	101	PRO
2	D	139	CYS
2	D	253	PRO
1	B	12	CYS
2	C	17	TYR
2	C	41	VAL
2	C	144	CYS
2	C	265	GLU
2	D	15	VAL
2	D	106	ASP
2	D	157	ASN
2	D	220	GLN
1	B	65	HIS
1	B	107	ASN
2	C	88	VAL
2	C	92	ASP
2	C	206	TYR
2	C	271	ALA
2	D	264	SER
1	B	32	PRO
2	C	94	SER
2	D	290	ILE
2	C	85	PRO

5.3.2 Protein sidechains (i)

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	97/102 (95%)	75 (77%)	22 (23%)	1 2
1	B	97/102 (95%)	76 (78%)	21 (22%)	1 3
2	C	221/275 (80%)	177 (80%)	44 (20%)	1 4
2	D	226/275 (82%)	172 (76%)	54 (24%)	0 2
All	All	641/754 (85%)	500 (78%)	141 (22%)	1 3

All (141) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	CYS
1	A	8	VAL
1	A	10	ILE
1	A	13	LYS
1	A	16	PHE
1	A	17	PHE
1	A	22	ASP
1	A	23	ILE
1	A	26	ASN
1	A	32	PRO
1	A	40	CYS
1	A	48	ILE
1	A	67	ARG
1	A	69	ARG
1	A	76	ASN
1	A	77	LEU
1	A	81	CYS
1	A	82	VAL
1	A	86	LEU
1	A	104	ASP
1	A	106	GLN
1	A	116	SER
2	D	5	LEU
2	D	12	ARG

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Mol	Chain	Res	Type
2	D	18	LYS
2	D	19	THR
2	D	20	GLU
2	D	22	SER
2	D	26	CYS
2	D	31	ARG
2	D	33	SER
2	D	40	ASP
2	D	42	ASN
2	D	48	LYS
2	D	52	PHE
2	D	53	ASN
2	D	60	ILE
2	D	65	THR
2	D	68	ASN
2	D	69	VAL
2	D	70	ASP
2	D	71	CYS
2	D	79	MET
2	D	83	ASN
2	D	84	LYS
2	D	114	CYS
2	D	116	LEU
2	D	124	GLN
2	D	138	THR
2	D	149	THR
2	D	157	ASN
2	D	162	THR
2	D	164	ASN
2	D	166	ILE
2	D	174	GLU
2	D	176	TYR
2	D	187	SER
2	D	189	CYS
2	D	200	ARG
2	D	201	SER
2	D	202	ILE
2	D	211	ILE
2	D	217	GLU
2	D	218	ASP
2	D	228	LEU
2	D	237	ARG

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Mol	Chain	Res	Type
2	D	240	LEU
2	D	242	ASP
2	D	244	LEU
2	D	251	ASP
2	D	254	VAL
2	D	255	CYS
2	D	262	TYR
2	D	265	GLU
2	D	268	MET
2	D	273	CYS
1	B	2	LEU
1	B	9	ASN
1	B	26	ASN
1	B	29	ILE
1	B	35	TYR
1	B	38	ASN
1	B	39	TYR
1	B	41	GLU
1	B	54	SER
1	B	58	PHE
1	B	65	HIS
1	B	67	ARG
1	B	69	ARG
1	B	76	ASN
1	B	86	LEU
1	B	99	ASN
1	B	102	LYS
1	B	104	ASP
1	B	107	ASN
1	B	109	ILE
1	B	116	SER
2	C	5	LEU
2	C	15	VAL
2	C	21	LEU
2	C	31	ARG
2	C	32	LEU
2	C	35	SER
2	C	36	TRP
2	C	43	ASP
2	C	51	ILE
2	C	53	ASN
2	C	62	CYS

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Mol	Chain	Res	Type
2	C	65	THR
2	C	95	ASN
2	C	105	LEU
2	C	120	ARG
2	C	124	GLN
2	C	132	GLN
2	C	141	ASP
2	C	147	SER
2	C	152	VAL
2	C	165	ARG
2	C	169	GLU
2	C	176	TYR
2	C	186	SER
2	C	187	SER
2	C	189	CYS
2	C	192	ARG
2	C	207	GLU
2	C	211	ILE
2	C	217	GLU
2	C	221	CYS
2	C	228	LEU
2	C	233	VAL
2	C	242	ASP
2	C	247	ASP
2	C	257	SER
2	C	261	THR
2	C	265	GLU
2	C	266	CYS
2	C	268	MET
2	C	270	GLU
2	C	275	SER
2	C	282	LYS
2	C	287	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (27) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	98	GLN
1	A	106	GLN
1	A	107	ASN
2	D	14	GLN
2	D	53	ASN

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Mol	Chain	Res	Type
2	D	68	ASN
2	D	83	ASN
2	D	95	ASN
2	D	130	GLN
2	D	132	GLN
2	D	157	ASN
2	D	164	ASN
2	D	190	HIS
2	D	288	ASN
1	B	15	GLN
1	B	26	ASN
1	B	65	HIS
1	B	76	ASN
1	B	98	GLN
1	B	107	ASN
2	C	14	GLN
2	C	68	ASN
2	C	95	ASN
2	C	130	GLN
2	C	180	ASN
2	C	190	HIS
2	C	283	HIS

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

There are no monosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

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^{th} 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	116/116 (100%)	-0.67	0 100 100	4, 35, 108, 132	0
1	B	116/116 (100%)	-0.55	2 (1%) 70 68	7, 37, 109, 148	0
2	C	282/315 (89%)	-0.47	7 (2%) 57 55	4, 57, 135, 241	0
2	D	292/315 (92%)	-0.46	8 (2%) 54 53	2, 40, 156, 218	0
3	E	10/10 (100%)	1.59	3 (30%) 0 0	130, 203, 217, 222	0
All	All	816/872 (93%)	-0.48	20 (2%) 57 55	2, 47, 143, 241	0

All (20) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	E	2	ALA	5.4
1	B	1	GLY	5.1
2	C	290	ILE	4.3
2	C	168	PRO	4.1
2	C	288	ASN	3.2
2	D	251	ASP	3.2
3	E	1	ALA	3.1
2	C	170	PRO	3.0
2	D	296	GLU	2.9
2	D	289	SER	2.9
3	E	10	ALA	2.7
1	B	2	LEU	2.7
2	D	247	ASP	2.6
2	C	169	GLU	2.4
2	C	289	SER	2.3
2	D	295	GLU	2.2
2	D	288	ASN	2.2
2	D	294	THR	2.1
2	D	252	GLU	2.0
2	C	260	ALA	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 monosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.