Full wwPDB X-ray Structure Validation Report ⓘ

Aug 21, 2023 – 04:27 PM EDT

PDB ID	:	2Q4T
Title	:	Ensemble refinement of the protein crystal structure of a cytosolic 5'-nucleotidase III from Mus musculus Mm.158936
Authors	:	Levin, E.J.; Kondrashov, D.A.; Wesenberg, G.E.; Phillips Jr., G.N.; Center for Eukaryotic Structural Genomics (CESG)
Deposited on	:	2007-05-31
Resolution	:	2.35 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:

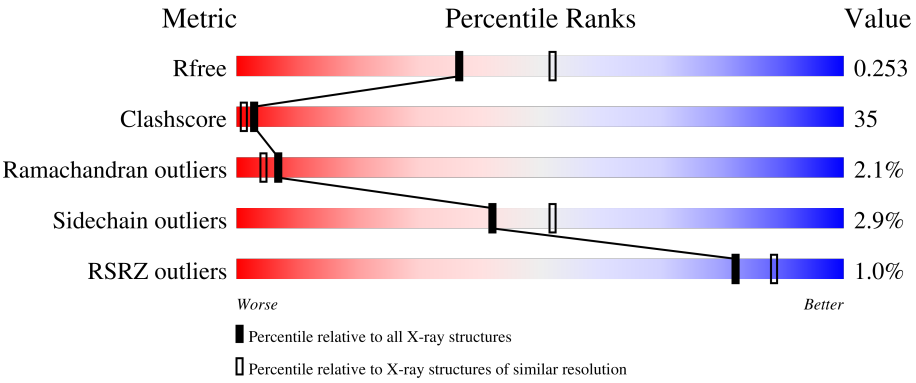
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, 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 2.35 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	1164 (2.36-2.36)
Clashscore	141614	1232 (2.36-2.36)
Ramachandran outliers	138981	1211 (2.36-2.36)
Sidechain outliers	138945	1212 (2.36-2.36)
RSRZ outliers	127900	1150 (2.36-2.36)

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	1-A	297	2% 46% 49%
1	1-B	297	% 48% 48%
1	2-A	297	2% 47% 48%
1	2-B	297	% 49% 46%
1	3-A	297	2% 40% 54%

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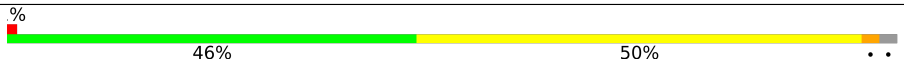
Mol	Chain	Length	Quality of chain
1	3-B	297	
1	4-A	297	
1	4-B	297	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 20164 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 Cytosolic 5'-nucleotidase III.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	1-A	291	Total	C	N	O	S	Se	0	0	0
			2326	1487	387	439	5	8			
1	2-A	291	Total	C	N	O	S	Se	0	0	0
			2326	1487	387	439	5	8			
1	3-A	291	Total	C	N	O	S	Se	0	0	0
			2326	1487	387	439	5	8			
1	4-A	291	Total	C	N	O	S	Se	0	0	0
			2326	1487	387	439	5	8			
1	1-B	291	Total	C	N	O	S	Se	0	0	0
			2326	1487	387	439	5	8			
1	2-B	291	Total	C	N	O	S	Se	0	0	0
			2326	1487	387	439	5	8			
1	3-B	291	Total	C	N	O	S	Se	0	0	0
			2326	1487	387	439	5	8			
1	4-B	291	Total	C	N	O	S	Se	0	0	0
			2326	1487	387	439	5	8			

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	SER	-	expression tag	UNP Q9D020
A	12	MSE	MET	modified residue	UNP Q9D020
A	13	MSE	MET	modified residue	UNP Q9D020
A	52	MSE	MET	modified residue	UNP Q9D020
A	110	MSE	MET	modified residue	UNP Q9D020
A	141	MSE	MET	modified residue	UNP Q9D020
A	192	MSE	MET	modified residue	UNP Q9D020
A	245	MSE	MET	modified residue	UNP Q9D020
A	273	MSE	MET	modified residue	UNP Q9D020
B	1	SER	-	expression tag	UNP Q9D020
B	12	MSE	MET	modified residue	UNP Q9D020
B	13	MSE	MET	modified residue	UNP Q9D020
B	52	MSE	MET	modified residue	UNP Q9D020

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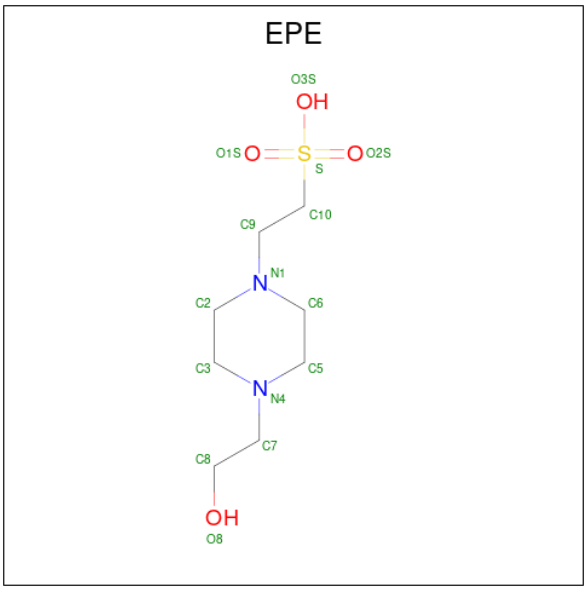
Chain	Residue	Modelled	Actual	Comment	Reference
B	110	MSE	MET	modified residue	UNP Q9D020
B	141	MSE	MET	modified residue	UNP Q9D020
B	192	MSE	MET	modified residue	UNP Q9D020
B	245	MSE	MET	modified residue	UNP Q9D020
B	273	MSE	MET	modified residue	UNP Q9D020

- Molecule 2 is 4-(2-HYDROXYETHYL)-1-PIPERAZINE ETHANESULFONIC ACID (three-letter code: EPE) (formula: $C_8H_{18}N_2O_4S$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	1-A	1	Total	C	N	O	S	0	0
			15	8	2	4	1		
2	2-A	1	Total	C	N	O	S	0	0
			15	8	2	4	1		
2	3-A	1	Total	C	N	O	S	0	0
			15	8	2	4	1		
2	4-A	1	Total	C	N	O	S	0	0
			15	8	2	4	1		
2	1-B	1	Total	C	N	O	S	0	0
			15	8	2	4	1		
2	2-B	1	Total	C	N	O	S	0	0
			15	8	2	4	1		
2	3-B	1	Total	C	N	O	S	0	0
			15	8	2	4	1		
2	4-B	1	Total	C	N	O	S	0	0
			15	8	2	4	1		

- Molecule 3 is water.

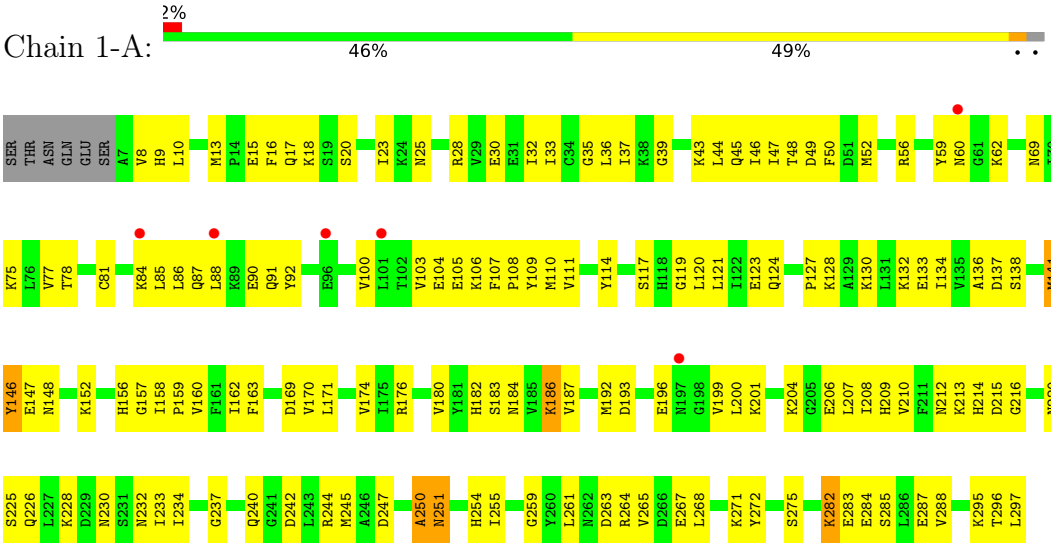
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	1-A	180	Total O 180 180	0	0
3	2-A	180	Total O 180 180	0	0
3	3-A	180	Total O 180 180	0	0
3	4-A	180	Total O 180 180	0	0
3	1-B	179	Total O 179 179	0	0
3	2-B	179	Total O 179 179	0	0
3	3-B	179	Total O 179 179	0	0
3	4-B	179	Total O 179 179	0	0

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.

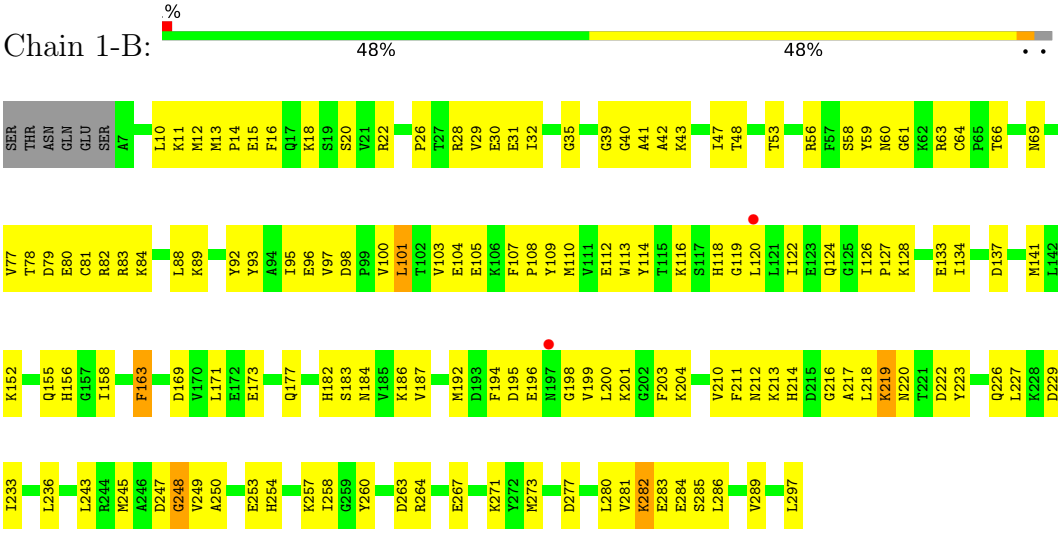
• Molecule 1: Cytosolic 5'-nucleotidase III

Chain 1-A:



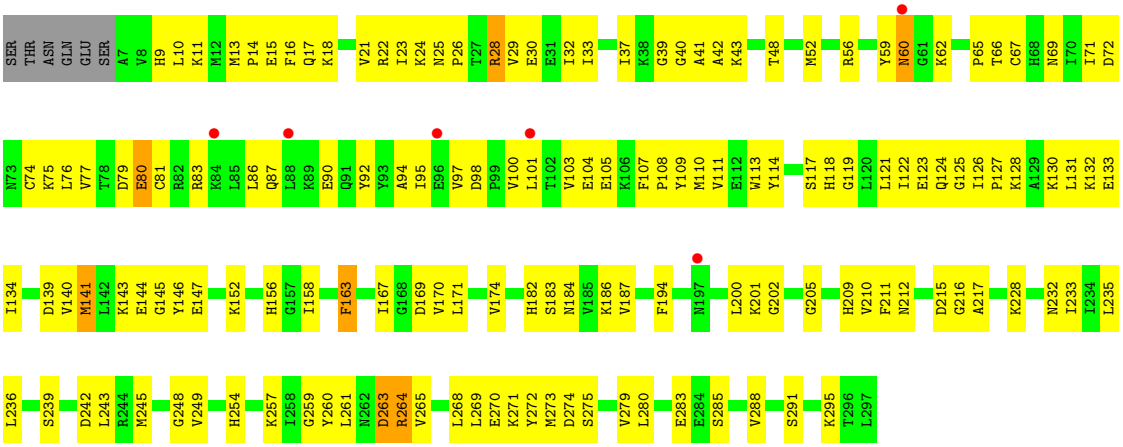
• Molecule 1: Cytosolic 5'-nucleotidase III

Chain 1-B:



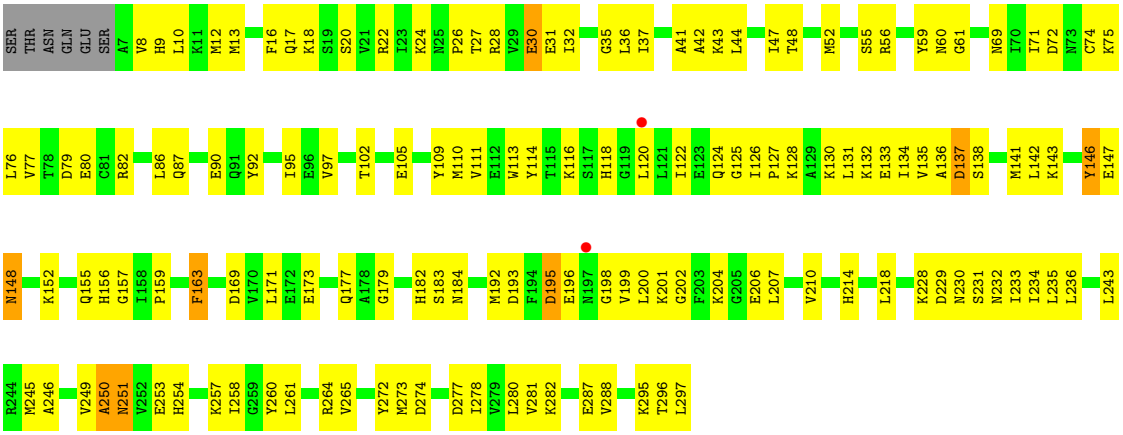
• Molecule 1: Cytosolic 5'-nucleotidase III

Chain 2-A:



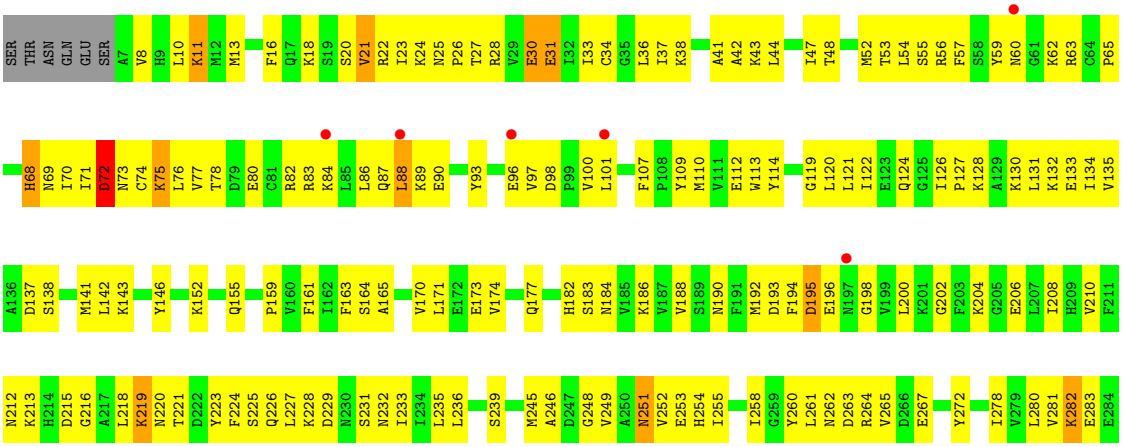
• Molecule 1: Cytosolic 5'-nucleotidase III

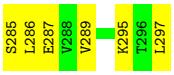
Chain 2-B:



• Molecule 1: Cytosolic 5'-nucleotidase III

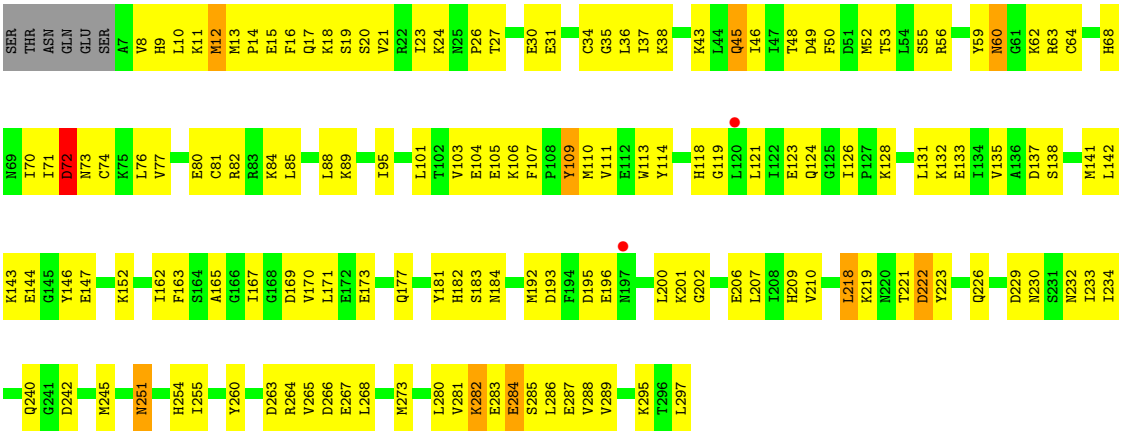
Chain 3-A:





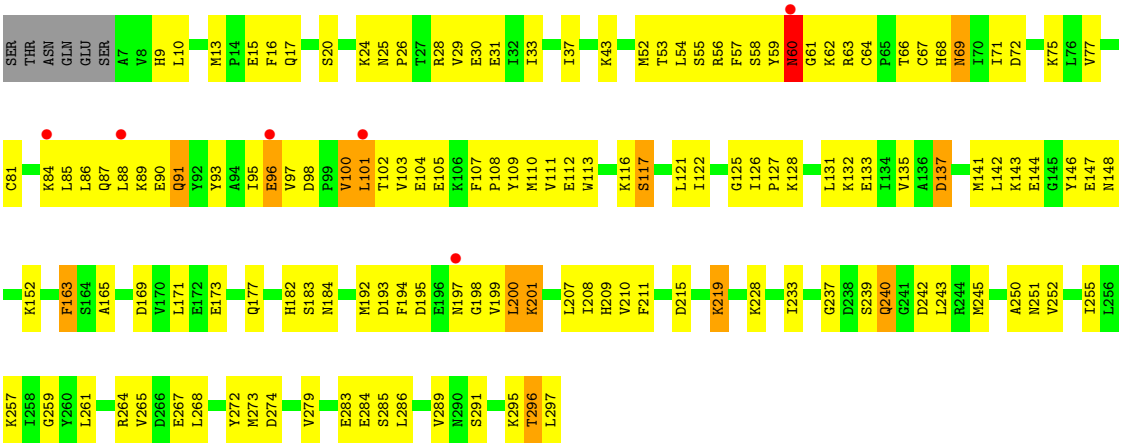
• Molecule 1: Cytosolic 5'-nucleotidase III

Chain 3-B:



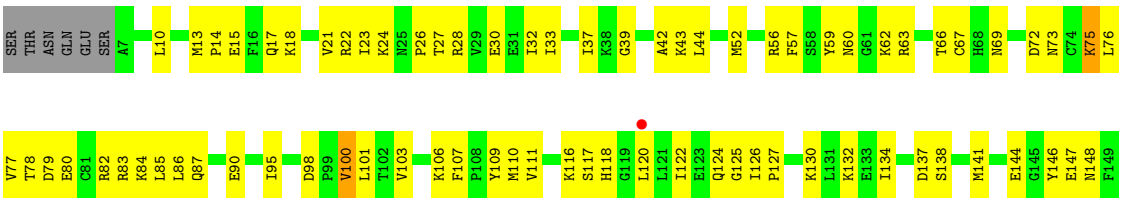
• Molecule 1: Cytosolic 5'-nucleotidase III

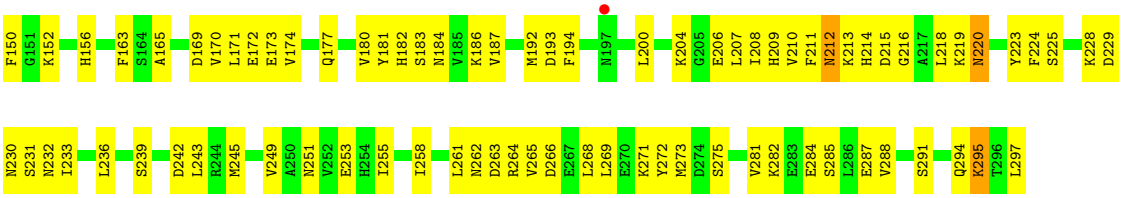
Chain 4-A:



• Molecule 1: Cytosolic 5'-nucleotidase III

Chain 4-B:




F150 G151 K152 H156 F163 S164 A165 D169 V170 L171 E172 E173 V174 Q177 V180 Y181 H182 S183 N184 V185 K186 V187 M192 D193 F194 N197 L200 K204 G205 E206 L207 I208 H209 V210 F211 N212 K213 H214 D215 G216 A217 L218 K219 N220 Y223 F224 S225 K228 D229
N230 S231 N232 I233 L236 S239 D242 L243 R244 M245 V249 A250 N251 V252 E253 H254 I255 I258 L261 N262 D263 R264 V265 D266 E267 L268 L269 E270 K271 Y272 M273 D274 S275 V281 K282 E283 E284 S285 L286 E287 V288 S291 Q294 K295 T296 L297

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 32	Depositor
Cell constants a, b, c, α, β, γ	133.67Å 133.67Å 38.89Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	43.76 – 2.35 43.76 – 2.35	Depositor EDS
% Data completeness (in resolution range)	98.4 (43.76-2.35) 98.5 (43.76-2.35)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.92 (at 2.34Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.173 , 0.243 0.185 , 0.253	Depositor DCC
R_{free} test set	1619 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å^2)	42.1	Xtriage
Anisotropy	0.145	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 56.7	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.480 for -h,-k,l 0.036 for h,-h-k,-l 0.035 for -k,-h,-l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	20164	wwPDB-VP
Average B, all atoms (Å^2)	42.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.27% 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

5.1 Standard geometry

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

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	1-A	0.39	0/2358	0.60	0/3161
1	1-B	0.38	0/2358	0.59	0/3161
1	2-A	0.39	0/2358	0.60	0/3161
1	2-B	0.38	0/2358	0.60	0/3161
1	3-A	0.39	0/2358	0.58	0/3161
1	3-B	0.38	0/2358	0.58	0/3161
1	4-A	0.37	0/2358	0.59	0/3161
1	4-B	0.38	0/2358	0.59	0/3161
All	All	0.38	0/18864	0.59	0/25288

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1-A	2326	0	2348	174	0
1	1-B	2326	0	2348	162	0
1	2-A	2326	0	2348	157	0
1	2-B	2326	0	2348	157	0
1	3-A	2326	0	2348	184	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	3-B	2326	0	2348	147	0
1	4-A	2326	0	2348	167	0
1	4-B	2326	0	2348	167	0
2	1-A	15	0	18	1	0
2	1-B	15	0	18	2	0
2	2-A	15	0	18	0	0
2	2-B	15	0	18	1	0
2	3-A	15	0	18	2	0
2	3-B	15	0	18	0	0
2	4-A	15	0	18	2	0
2	4-B	15	0	18	3	0
3	1-A	180	0	0	30	0
3	1-B	179	0	0	30	0
3	2-A	180	0	0	29	0
3	2-B	179	0	0	26	0
3	3-A	180	0	0	23	0
3	3-B	179	0	0	25	0
3	4-A	180	0	0	20	0
3	4-B	179	0	0	33	0
All	All	20164	0	18928	1316	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 35.

All (1316) 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:B:242:ASP:HB3	1:B:245:MSE:HE2	1.38	1.04
1:B:132:LYS:HA	1:B:177:GLN:HE22	1.21	1.00
1:A:56:ARG:NH2	1:A:144:GLU:HB2	1.79	0.96
1:B:45:GLN:HB3	1:B:233:ILE:HG13	1.45	0.94
1:B:9:HIS:HB2	1:B:12:MSE:HG3	1.46	0.94
1:A:118:HIS:HA	1:A:121:LEU:HD12	1.51	0.92
1:A:127:PRO:HB3	1:A:199:VAL:HG22	1.53	0.90
1:A:10:LEU:HA	1:A:13:MSE:HE3	1.53	0.90
1:A:71:ILE:HG21	1:A:121:LEU:HD13	1.53	0.89
1:A:98:ASP:OD1	1:A:100:VAL:HG12	1.72	0.89
1:A:56:ARG:HD3	1:A:284:GLU:HB3	1.55	0.89
1:A:251:ASN:N	1:A:251:ASN:HD22	1.72	0.87
1:B:48:THR:OG1	1:B:236:LEU:HB2	1.72	0.87
1:A:84:LYS:O	1:A:88:LEU:HG	1.74	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:39:GLY:HA3	1:A:232:ASN:ND2	1.90	0.86
1:A:79:ASP:HB2	3:A:513:HOH:O	1.76	0.85
1:A:267:GLU:HB2	3:A:435:HOH:O	1.76	0.85
1:A:35:GLY:HA3	1:A:254:HIS:CD2	2.12	0.85
1:A:25:ASN:ND2	1:A:28:ARG:HB3	1.93	0.84
1:A:122:ILE:HG23	1:A:201:LYS:HA	1.57	0.84
1:A:85:LEU:HA	1:A:88:LEU:HD12	1.59	0.83
1:A:56:ARG:HH21	1:A:144:GLU:HB2	1.42	0.83
1:A:100:VAL:HG13	1:A:101:LEU:H	1.42	0.83
1:B:9:HIS:HB2	1:B:12:MSE:HE2	1.62	0.82
1:A:206:GLU:OE1	1:A:219:LYS:HD3	1.80	0.82
1:A:39:GLY:HA3	1:A:232:ASN:HD21	1.42	0.82
1:B:110:MSE:HE2	1:B:210:VAL:HG11	1.59	0.82
1:B:110:MSE:HE3	1:B:114:TYR:HE1	1.44	0.82
1:A:141:MSE:SE	3:A:561:HOH:O	2.48	0.81
1:A:132:LYS:HG3	1:A:177:GLN:NE2	1.95	0.81
1:A:135:VAL:HG21	1:A:173:GLU:HB3	1.61	0.81
1:B:39:GLY:HA3	1:B:232:ASN:ND2	1.95	0.81
1:A:110:MSE:HE2	1:A:210:VAL:HG12	1.62	0.81
1:A:100:VAL:HG13	1:A:101:LEU:HD12	1.62	0.81
1:B:47:ILE:HG22	1:B:245:MSE:HE3	1.63	0.81
1:B:95:ILE:HG13	1:B:109:TYR:HE2	1.45	0.81
1:B:66:THR:H	1:B:69:ASN:HB2	1.45	0.80
1:B:85:LEU:HA	1:B:88:LEU:HD12	1.63	0.79
1:A:44:LEU:HB3	1:A:158:ILE:HD12	1.61	0.79
1:A:243:LEU:HD22	1:A:257:LYS:HD3	1.63	0.79
1:B:173:GLU:HG3	1:B:177:GLN:NE2	1.97	0.79
1:A:206:GLU:HB3	3:A:557:HOH:O	1.83	0.79
1:A:93:TYR:O	1:A:96:GLU:HG2	1.84	0.78
1:A:108:PRO:O	1:A:112:GLU:HB2	1.83	0.78
1:B:192:MSE:HE2	1:B:200:LEU:HD13	1.65	0.78
1:A:45:GLN:HB3	1:A:233:ILE:HG13	1.64	0.78
1:B:72:ASP:OD1	1:B:121:LEU:HD21	1.84	0.78
1:B:127:PRO:HA	1:B:199:VAL:HA	1.66	0.78
1:B:21:VAL:O	1:B:22:ARG:HD2	1.83	0.78
1:A:251:ASN:HD22	1:A:251:ASN:H	1.30	0.77
1:B:95:ILE:HG13	1:B:109:TYR:CE2	2.20	0.77
1:A:195:ASP:HB3	1:A:201:LYS:HG2	1.66	0.77
1:B:231:SER:HB2	1:B:253:GLU:HG3	1.67	0.77
1:A:152:LYS:HG3	3:A:443:HOH:O	1.85	0.77
1:A:53:THR:O	1:A:143:LYS:HE2	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:133:GLU:HG3	3:B:464:HOH:O	1.84	0.77
1:B:240:GLN:HG2	3:B:549:HOH:O	1.84	0.77
1:A:127:PRO:HA	1:A:199:VAL:HA	1.67	0.77
1:B:56:ARG:HD3	1:B:284:GLU:HB3	1.65	0.76
1:A:240:GLN:HA	1:A:240:GLN:HE21	1.49	0.76
1:A:75:LYS:HE3	3:A:526:HOH:O	1.85	0.76
1:A:74:CYS:SG	1:A:77:VAL:HG23	2.26	0.76
1:B:110:MSE:HE2	1:B:210:VAL:HG12	1.68	0.75
1:B:213:LYS:HD3	1:B:245:MSE:HG2	1.68	0.75
1:A:228:LYS:O	1:A:228:LYS:HD3	1.86	0.75
1:A:196:GLU:HG2	3:A:538:HOH:O	1.86	0.75
1:B:74:CYS:HB2	3:B:556:HOH:O	1.86	0.75
1:A:141:MSE:SE	3:A:561:HOH:O	2.54	0.75
1:B:37:ILE:O	3:B:479:HOH:O	2.05	0.75
1:B:137:ASP:HB3	3:B:473:HOH:O	1.86	0.75
1:A:173:GLU:OE2	1:A:177:GLN:HG3	1.86	0.75
1:B:193:ASP:HB2	1:B:204:LYS:HG3	1.67	0.75
1:B:31:GLU:HG2	3:B:495:HOH:O	1.87	0.74
1:B:264:ARG:HD2	1:B:267:GLU:OE2	1.87	0.74
1:B:137:ASP:HB3	3:B:571:HOH:O	1.85	0.74
1:B:80:GLU:O	1:B:84:LYS:HG3	1.86	0.74
1:A:186:LYS:HD3	1:A:187:VAL:N	2.02	0.74
1:B:77:VAL:HG13	1:B:81:CYS:HB3	1.67	0.74
1:B:77:VAL:HG22	1:B:126:ILE:HD11	1.69	0.73
1:B:79:ASP:O	1:B:83:ARG:HG3	1.86	0.73
1:B:77:VAL:HG13	1:B:124:GLN:HG3	1.70	0.73
1:A:147:GLU:HB2	3:A:404:HOH:O	1.87	0.73
1:B:231:SER:HB2	1:B:253:GLU:HB2	1.70	0.73
1:A:287:GLU:HG3	3:A:426:HOH:O	1.88	0.73
1:A:48:THR:C	1:A:245:MSE:HE1	2.09	0.73
1:A:251:ASN:N	1:A:251:ASN:HD22	1.85	0.73
1:B:89:LYS:HG2	1:B:113:TRP:HZ2	1.54	0.73
1:A:243:LEU:HD22	1:A:257:LYS:HD3	1.69	0.73
1:A:163:PHE:HB3	1:A:245:MSE:HE3	1.70	0.72
1:A:128:LYS:HG3	1:A:131:LEU:HD12	1.70	0.72
1:A:89:LYS:HG2	1:A:113:TRP:HZ2	1.54	0.72
1:B:56:ARG:HG2	1:B:143:LYS:HA	1.72	0.72
1:A:265:VAL:O	1:A:269:LEU:HB2	1.89	0.72
1:B:74:CYS:HB3	1:B:134:ILE:HG23	1.70	0.72
1:B:27:THR:O	1:B:31:GLU:HG3	1.89	0.72
1:B:110:MSE:HE2	1:B:210:VAL:HG12	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:76:LEU:HD11	1:B:130:LYS:HB2	1.71	0.72
1:A:53:THR:O	1:A:143:LYS:HE2	1.90	0.72
1:A:117:SER:O	1:A:121:LEU:HG	1.89	0.72
1:B:56:ARG:NE	1:B:141:MSE:HE3	2.06	0.71
1:B:281:VAL:HG12	1:B:282:LYS:HG2	1.72	0.71
1:A:13:MSE:HG2	3:A:496:HOH:O	1.89	0.71
1:B:195:ASP:OD2	1:B:199:VAL:HB	1.90	0.71
1:B:89:LYS:HG2	1:B:113:TRP:CZ2	2.25	0.71
1:A:79:ASP:O	1:A:83:ARG:HG3	1.90	0.71
1:B:53:THR:O	1:B:143:LYS:HE2	1.90	0.71
1:A:264:ARG:HD2	1:A:267:GLU:OE2	1.89	0.71
1:B:59:TYR:C	1:B:61:GLY:H	1.94	0.71
1:B:263:ASP:OD1	1:B:264:ARG:HG3	1.91	0.71
1:B:58:SER:HA	1:B:64:CYS:H	1.56	0.70
1:B:135:VAL:HG21	1:B:173:GLU:HB3	1.73	0.70
1:B:53:THR:O	1:B:143:LYS:HE2	1.91	0.70
1:B:214:HIS:O	1:B:218:LEU:HD23	1.90	0.70
1:B:80:GLU:O	1:B:84:LYS:HG3	1.92	0.70
1:B:10:LEU:HG	1:B:30:GLU:HG2	1.74	0.70
1:B:119:GLY:HA2	1:B:122:ILE:HD12	1.72	0.70
1:A:64:CYS:HB3	3:A:407:HOH:O	1.90	0.70
1:A:47:ILE:HD13	1:A:233:ILE:HG21	1.74	0.70
1:A:228:LYS:HD2	3:A:478:HOH:O	1.90	0.70
1:A:264:ARG:NE	1:A:268:LEU:HD11	2.07	0.69
1:B:271:LYS:HD3	3:B:573:HOH:O	1.91	0.69
1:B:26:PRO:O	1:B:30:GLU:HG3	1.93	0.69
1:A:236:LEU:CD2	1:A:258:ILE:HB	2.22	0.69
1:A:216:GLY:HA3	3:A:423:HOH:O	1.93	0.69
1:B:23:ILE:HG22	1:B:24:LYS:N	2.06	0.69
1:A:246:ALA:HB3	3:A:422:HOH:O	1.92	0.69
1:B:57:PHE:CD2	1:B:262:ASN:HB3	2.27	0.69
1:A:9:HIS:HA	1:A:30:GLU:OE1	1.92	0.69
1:A:228:LYS:HD2	3:A:478:HOH:O	1.90	0.69
1:B:251:ASN:N	1:B:251:ASN:HD22	1.91	0.69
1:B:144:GLU:HB3	1:B:285:SER:CB	2.22	0.69
1:B:39:GLY:HA3	1:B:232:ASN:HD21	1.54	0.69
1:A:242:ASP:HB3	1:A:245:MSE:HE2	1.73	0.68
1:A:25:ASN:O	1:A:28:ARG:HB3	1.93	0.68
1:A:110:MSE:HE2	1:A:210:VAL:HG11	1.76	0.68
1:B:192:MSE:HB3	1:B:200:LEU:HD13	1.76	0.68
1:B:76:LEU:O	1:B:124:GLN:HB3	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:152:LYS:HG3	3:B:437:HOH:O	1.93	0.68
1:A:201:LYS:HG3	1:A:202:GLY:N	2.07	0.68
1:A:75:LYS:HG2	3:A:563:HOH:O	1.93	0.68
1:A:216:GLY:HA2	1:A:219:LYS:HD2	1.74	0.68
1:A:251:ASN:HD22	1:A:251:ASN:H	1.41	0.68
1:B:236:LEU:HD22	1:B:258:ILE:HB	1.76	0.68
1:B:126:ILE:O	1:B:200:LEU:HB3	1.94	0.68
1:B:13:MSE:HG2	3:B:515:HOH:O	1.93	0.68
1:B:18:LYS:HD3	3:B:426:HOH:O	1.93	0.68
1:B:195:ASP:HA	1:B:201:LYS:HD3	1.76	0.68
1:A:260:TYR:OH	1:A:286:LEU:HD23	1.94	0.68
1:A:25:ASN:HD22	1:A:28:ARG:HB3	1.59	0.67
1:B:264:ARG:HB2	1:B:268:LEU:HG	1.77	0.67
1:A:36:LEU:HD23	1:A:232:ASN:HB3	1.75	0.67
1:A:295:LYS:HE2	3:A:515:HOH:O	1.94	0.67
1:B:267:GLU:HB2	3:B:441:HOH:O	1.93	0.67
1:B:18:LYS:HD3	3:B:426:HOH:O	1.93	0.67
1:B:62:LYS:HD2	1:B:63:ARG:H	1.60	0.67
1:B:269:LEU:O	1:B:273:MSE:HG3	1.94	0.67
1:B:45:GLN:O	1:B:233:ILE:HA	1.94	0.67
1:B:210:VAL:HG13	1:B:211:PHE:N	2.10	0.66
1:A:233:ILE:O	1:A:255:ILE:HA	1.96	0.66
1:B:89:LYS:HD3	1:B:89:LYS:C	2.15	0.66
1:A:126:ILE:HD12	1:A:200:LEU:HD23	1.78	0.66
1:A:144:GLU:HA	3:A:495:HOH:O	1.95	0.66
1:B:152:LYS:HG3	3:B:437:HOH:O	1.95	0.66
1:B:118:HIS:O	1:B:122:ILE:HG13	1.95	0.66
1:B:147:GLU:HB2	3:B:435:HOH:O	1.94	0.66
1:B:110:MSE:HE2	1:B:210:VAL:HG12	1.76	0.66
1:A:75:LYS:HE2	3:A:570:HOH:O	1.96	0.66
1:A:45:GLN:O	1:A:233:ILE:HA	1.96	0.66
1:A:31:GLU:O	1:A:34:CYS:HB3	1.96	0.65
1:A:77:VAL:HG13	1:A:124:GLN:HG3	1.79	0.65
1:A:62:LYS:HD2	3:A:568:HOH:O	1.95	0.65
1:B:111:VAL:HA	1:B:207:LEU:CD2	2.26	0.65
1:B:228:LYS:HD2	3:B:488:HOH:O	1.97	0.65
1:A:176:ARG:HD3	1:B:155:GLN:HA	1.79	0.65
1:A:21:VAL:HG12	1:A:23:ILE:HG13	1.77	0.65
1:A:118:HIS:O	1:A:122:ILE:HG13	1.95	0.65
1:B:144:GLU:HG2	3:B:433:HOH:O	1.96	0.65
1:B:82:ARG:O	1:B:86:LEU:HD13	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:195:ASP:HB2	3:A:538:HOH:O	1.96	0.65
1:A:24:LYS:O	1:A:26:PRO:HD3	1.97	0.65
1:A:47:ILE:HD13	1:A:233:ILE:CG2	2.27	0.65
1:B:156:HIS:CD2	1:B:297:LEU:HB3	2.32	0.64
1:A:98:ASP:OD1	1:A:100:VAL:HG12	1.96	0.64
1:A:173:GLU:O	1:A:177:GLN:HG3	1.97	0.64
1:A:100:VAL:HG13	1:A:101:LEU:N	2.11	0.64
1:B:127:PRO:HB3	1:B:199:VAL:HG22	1.80	0.64
1:A:85:LEU:O	1:A:89:LYS:HG3	1.98	0.64
1:A:86:LEU:O	1:A:90:GLU:HG2	1.96	0.64
1:A:261:LEU:HD21	1:A:265:VAL:HA	1.79	0.64
1:A:125:GLY:HA2	1:A:199:VAL:HG11	1.79	0.64
1:A:84:LYS:O	1:A:88:LEU:HG	1.98	0.64
1:B:24:LYS:O	1:B:26:PRO:HD3	1.98	0.64
1:B:9:HIS:HB2	1:B:12:MSE:CG	2.26	0.64
1:A:111:VAL:HA	1:A:207:LEU:CD2	2.27	0.64
1:A:56:ARG:HG2	1:A:143:LYS:HA	1.79	0.64
1:B:218:LEU:O	1:B:221:THR:HG23	1.97	0.64
1:A:110:MSE:HE2	1:A:210:VAL:CG1	2.28	0.64
1:A:77:VAL:HG22	1:A:124:GLN:HG3	1.80	0.64
1:A:231:SER:HB2	1:A:253:GLU:HB2	1.79	0.64
1:B:261:LEU:HD21	1:B:265:VAL:HA	1.80	0.64
1:B:232:ASN:HA	1:B:254:HIS:O	1.98	0.64
1:A:26:PRO:O	1:A:30:GLU:HG3	1.97	0.64
1:A:32:ILE:HD11	3:A:474:HOH:O	1.97	0.64
1:A:127:PRO:HD2	1:A:130:LYS:HG3	1.80	0.64
1:B:76:LEU:HD13	1:B:127:PRO:HD2	1.80	0.63
1:A:98:ASP:OD1	1:A:100:VAL:HG12	1.98	0.63
1:A:28:ARG:HG2	1:A:28:ARG:HH11	1.63	0.63
1:A:39:GLY:CA	1:A:43:LYS:HD3	2.29	0.63
1:B:233:ILE:HD11	1:B:249:VAL:HG21	1.81	0.63
1:B:45:GLN:NE2	1:B:230:ASN:HB2	2.13	0.63
1:B:35:GLY:HA3	1:B:254:HIS:CD2	2.34	0.63
1:B:133:GLU:HG3	3:B:464:HOH:O	1.98	0.63
1:A:77:VAL:HG13	1:A:124:GLN:HG3	1.81	0.63
1:B:135:VAL:HB	1:B:177:GLN:HE22	1.63	0.63
1:A:128:LYS:HA	1:A:131:LEU:HG	1.80	0.63
1:A:251:ASN:N	1:A:251:ASN:ND2	2.42	0.63
1:A:68:HIS:CD2	3:A:445:HOH:O	2.51	0.63
1:A:44:LEU:HD23	1:A:158:ILE:HG13	1.79	0.63
1:B:9:HIS:CB	1:B:12:MSE:HG3	2.25	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:56:ARG:HG2	1:A:143:LYS:HG2	1.81	0.63
1:B:76:LEU:HD12	1:B:134:ILE:HD11	1.80	0.63
1:B:59:TYR:O	1:B:61:GLY:N	2.31	0.62
1:A:55:SER:HA	1:A:142:LEU:HA	1.81	0.62
1:B:152:LYS:HB3	1:B:297:LEU:HD12	1.81	0.62
1:B:26:PRO:O	1:B:30:GLU:HG3	1.99	0.62
1:B:97:VAL:HB	1:B:264:ARG:HH12	1.62	0.62
1:B:282:LYS:HD3	3:B:528:HOH:O	1.99	0.62
1:B:133:GLU:HG3	3:B:464:HOH:O	2.00	0.62
1:A:197:ASN:O	1:A:199:VAL:HG23	2.00	0.62
1:A:110:MSE:HE3	1:A:114:TYR:HE1	1.64	0.62
1:A:10:LEU:HD22	1:A:16:PHE:CE2	2.35	0.62
1:B:144:GLU:HA	3:B:504:HOH:O	1.99	0.62
1:A:20:SER:HB2	1:A:283:GLU:HB2	1.80	0.62
1:A:62:LYS:HD2	1:A:63:ARG:H	1.65	0.62
1:B:236:LEU:CD2	1:B:258:ILE:HB	2.29	0.62
1:A:264:ARG:HD2	1:A:267:GLU:OE2	2.00	0.62
1:A:82:ARG:O	1:A:86:LEU:HD13	2.00	0.62
1:A:95:ILE:HG21	1:A:109:TYR:CD2	2.34	0.62
1:A:128:LYS:HD3	3:A:472:HOH:O	1.99	0.62
1:A:209:HIS:CE1	1:A:212:ASN:HB3	2.35	0.61
1:A:10:LEU:HD23	1:A:13:MSE:HE3	1.83	0.61
1:A:52:MSE:HE2	1:A:52:MSE:H	1.64	0.61
1:A:66:THR:N	1:A:69:ASN:HB2	2.15	0.61
1:B:209:HIS:CE1	1:B:212:ASN:HB3	2.36	0.61
1:B:216:GLY:HA3	3:B:424:HOH:O	1.98	0.61
1:A:28:ARG:HA	1:A:31:GLU:HG2	1.83	0.61
1:B:28:ARG:HG2	3:B:511:HOH:O	2.01	0.61
1:B:75:LYS:NZ	1:B:130:LYS:HD2	2.15	0.61
1:B:118:HIS:O	1:B:122:ILE:HG13	2.01	0.61
1:B:22:ARG:HB3	1:B:273:MSE:HE3	1.82	0.61
1:B:23:ILE:HG22	1:B:24:LYS:H	1.66	0.61
1:A:251:ASN:H	1:A:251:ASN:ND2	1.97	0.61
1:A:193:ASP:O	1:A:201:LYS:HG2	2.01	0.61
1:B:242:ASP:CB	1:B:245:MSE:HE2	2.23	0.61
1:B:10:LEU:HD23	1:B:13:MSE:HE3	1.83	0.61
1:B:213:LYS:HD3	1:B:245:MSE:CG	2.30	0.61
1:A:75:LYS:HE3	3:A:526:HOH:O	2.01	0.61
1:B:102:THR:OG1	1:B:105:GLU:HB2	2.00	0.61
1:B:55:SER:HA	1:B:142:LEU:HA	1.83	0.61
1:A:102:THR:N	1:A:105:GLU:OE1	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:132:LYS:HA	1:B:177:GLN:NE2	2.05	0.61
1:A:22:ARG:NH1	3:A:490:HOH:O	2.32	0.60
1:A:128:LYS:HB2	1:A:194:PHE:CD1	2.36	0.60
1:A:261:LEU:HD23	1:A:269:LEU:HD12	1.82	0.60
1:A:111:VAL:HA	1:A:207:LEU:HD23	1.81	0.60
1:B:103:VAL:HG13	1:B:104:GLU:OE2	2.01	0.60
1:A:93:TYR:O	1:A:97:VAL:HG22	2.01	0.60
1:A:264:ARG:CZ	1:A:268:LEU:HD11	2.32	0.60
2:A:401:EPE:H101	3:A:449:HOH:O	2.01	0.60
1:A:37:ILE:HD11	1:A:295:LYS:HB3	1.84	0.60
1:B:73:ASN:HA	1:B:82:ARG:HD3	1.82	0.60
1:A:10:LEU:HD22	1:A:16:PHE:CD2	2.35	0.60
1:A:48:THR:OG1	1:A:236:LEU:HB2	2.01	0.60
1:B:195:ASP:CA	1:B:201:LYS:HD3	2.30	0.60
1:B:152:LYS:HG3	3:B:437:HOH:O	2.01	0.60
2:B:402:EPE:H82	3:B:479:HOH:O	2.00	0.60
1:B:24:LYS:HB2	1:B:273:MSE:HE2	1.82	0.60
1:A:92:TYR:CE1	1:A:109:TYR:HB3	2.37	0.60
1:A:130:LYS:HD2	1:A:133:GLU:OE2	2.01	0.60
1:A:10:LEU:HD23	1:A:13:MSE:CE	2.31	0.60
1:B:146:TYR:CE1	1:B:147:GLU:HG3	2.37	0.60
1:B:58:SER:HA	1:B:63:ARG:HA	1.83	0.60
1:B:107:PHE:HB3	1:B:108:PRO:CD	2.32	0.60
1:B:217:ALA:HB1	1:B:248:GLY:H	1.65	0.60
1:A:39:GLY:HA2	1:A:43:LYS:HD3	1.83	0.60
1:A:242:ASP:HB3	1:A:245:MSE:HE2	1.83	0.60
1:A:164:SER:OG	3:A:406:HOH:O	2.07	0.60
1:A:232:ASN:HA	1:A:254:HIS:O	2.01	0.60
1:B:36:LEU:O	1:B:296:THR:HG23	2.01	0.60
1:B:87:GLN:HA	1:B:90:GLU:OE1	2.01	0.60
1:A:34:CYS:SG	1:A:38:LYS:HE2	2.42	0.60
1:A:57:PHE:CD2	1:A:262:ASN:HB3	2.37	0.60
1:B:125:GLY:O	1:B:127:PRO:HD3	2.02	0.59
1:A:18:LYS:HB2	1:A:21:VAL:HG23	1.83	0.59
1:A:89:LYS:HG2	3:A:420:HOH:O	2.02	0.59
1:B:261:LEU:CD1	1:B:269:LEU:HA	2.32	0.59
1:B:200:LEU:HB3	3:B:440:HOH:O	2.01	0.59
1:B:247:ASP:C	1:B:249:VAL:H	2.05	0.59
1:A:243:LEU:CD2	1:A:257:LYS:HD3	2.32	0.59
1:B:285:SER:OG	1:B:287:GLU:HG2	2.02	0.59
1:A:88:LEU:CD2	1:A:116:LYS:HD3	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:88:LEU:HD22	1:A:116:LYS:HD3	1.84	0.59
1:A:48:THR:OG1	1:A:236:LEU:HB2	2.02	0.59
1:A:264:ARG:HE	1:A:268:LEU:HD11	1.67	0.59
1:B:13:MSE:HE2	1:B:295:LYS:HE3	1.82	0.59
1:B:239:SER:HA	1:B:272:TYR:OH	2.02	0.59
1:A:92:TYR:HE1	1:A:109:TYR:HB3	1.66	0.59
1:B:126:ILE:HD12	1:B:126:ILE:N	2.18	0.59
1:A:59:TYR:C	1:A:61:GLY:H	2.06	0.59
1:B:214:HIS:N	3:B:455:HOH:O	2.21	0.59
1:A:59:TYR:O	1:A:62:LYS:N	2.36	0.59
1:A:147:GLU:HB2	3:A:564:HOH:O	2.02	0.59
1:A:215:ASP:O	1:A:219:LYS:HG3	2.03	0.59
1:A:281:VAL:O	1:A:282:LYS:C	2.40	0.59
1:B:134:ILE:HG23	3:B:484:HOH:O	2.03	0.59
1:B:66:THR:H	1:B:69:ASN:HB2	1.68	0.59
1:B:179:GLY:HA2	3:B:518:HOH:O	2.03	0.59
1:B:45:GLN:HE21	1:B:230:ASN:HB2	1.68	0.59
1:B:135:VAL:HG21	1:B:173:GLU:HB3	1.84	0.59
1:A:25:ASN:O	1:A:29:VAL:HG23	2.01	0.59
1:B:125:GLY:HA2	3:B:440:HOH:O	2.03	0.59
1:B:243:LEU:HD11	1:B:275:SER:HB2	1.85	0.59
1:A:22:ARG:HD3	3:A:490:HOH:O	2.02	0.59
1:B:77:VAL:HG12	1:B:82:ARG:NH1	2.18	0.59
1:B:222:ASP:O	1:B:226:GLN:HG3	2.03	0.59
1:B:287:GLU:HA	3:B:439:HOH:O	2.02	0.58
1:A:73:ASN:OD1	1:A:82:ARG:HD3	2.03	0.58
1:A:15:GLU:HG2	1:A:291:SER:HB3	1.85	0.58
1:A:271:LYS:NZ	1:A:275:SER:HB3	2.18	0.58
1:A:228:LYS:HD3	1:A:228:LYS:C	2.24	0.58
1:A:128:LYS:NZ	3:A:472:HOH:O	2.35	0.58
1:A:71:ILE:O	1:A:73:ASN:N	2.36	0.58
1:B:56:ARG:NH2	1:B:144:GLU:HB2	2.18	0.58
1:B:231:SER:CB	1:B:253:GLU:HB2	2.34	0.58
1:A:279:VAL:O	1:A:280:LEU:HD23	2.04	0.58
1:B:150:PHE:CG	1:B:180:VAL:HB	2.38	0.58
1:A:251:ASN:HB2	3:A:566:HOH:O	2.04	0.58
1:A:135:VAL:HG21	1:A:173:GLU:CB	2.32	0.58
1:B:261:LEU:HD21	1:B:265:VAL:HA	1.86	0.58
1:B:62:LYS:HD2	1:B:63:ARG:N	2.18	0.58
1:B:77:VAL:HG13	1:B:81:CYS:SG	2.44	0.58
1:A:145:GLY:HA2	3:A:404:HOH:O	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:201:LYS:HG3	1:A:202:GLY:H	1.68	0.58
1:A:235:LEU:O	1:A:236:LEU:HD23	2.04	0.58
1:A:62:LYS:HA	3:A:568:HOH:O	2.02	0.58
1:A:273:MSE:HA	1:A:279:VAL:HG21	1.86	0.58
1:A:45:GLN:HB3	1:A:233:ILE:CG1	2.34	0.58
1:A:110:MSE:HE3	1:A:114:TYR:CE1	2.39	0.58
1:B:264:ARG:HA	3:B:471:HOH:O	2.03	0.58
1:B:79:ASP:HB2	3:B:532:HOH:O	2.03	0.58
1:A:249:VAL:HG13	3:A:414:HOH:O	2.03	0.58
1:B:200:LEU:HB3	3:B:440:HOH:O	2.04	0.58
1:A:76:LEU:HD11	1:A:130:LYS:HB2	1.85	0.57
1:B:36:LEU:HD23	1:B:232:ASN:HB3	1.85	0.57
1:A:131:LEU:HD23	3:A:554:HOH:O	2.03	0.57
1:B:16:PHE:CE2	1:B:288:VAL:HG13	2.39	0.57
1:B:35:GLY:HA3	1:B:254:HIS:CD2	2.39	0.57
1:A:122:ILE:CG2	1:A:201:LYS:HA	2.32	0.57
1:B:144:GLU:HB3	1:B:285:SER:HB3	1.86	0.57
1:B:48:THR:HA	1:B:245:MSE:HE1	1.86	0.57
1:B:219:LYS:NZ	3:B:567:HOH:O	2.37	0.57
1:B:44:LEU:HA	1:B:232:ASN:O	2.05	0.57
1:A:32:ILE:O	1:A:36:LEU:HG	2.03	0.57
1:A:46:ILE:CD1	1:A:234:ILE:HB	2.35	0.57
1:B:128:LYS:HD2	1:B:194:PHE:CE2	2.40	0.57
1:B:76:LEU:HD11	1:B:130:LYS:CB	2.35	0.57
1:B:12:MSE:O	1:B:14:PRO:HD3	2.04	0.57
1:B:206:GLU:HB3	3:B:564:HOH:O	2.05	0.57
1:B:60:ASN:N	3:B:550:HOH:O	2.37	0.57
1:B:261:LEU:HD13	1:B:272:TYR:CZ	2.40	0.57
1:A:163:PHE:CE2	1:A:213:LYS:HB3	2.39	0.57
1:A:103:VAL:HG13	1:A:104:GLU:OE2	2.05	0.57
1:B:43:LYS:NZ	3:B:459:HOH:O	2.37	0.57
1:A:39:GLY:O	1:A:43:LYS:HD3	2.03	0.57
1:B:195:ASP:HB3	1:B:201:LYS:HD3	1.87	0.57
1:A:163:PHE:HB3	1:A:245:MSE:SE	2.54	0.57
1:A:120:LEU:O	1:A:124:GLN:HG2	2.04	0.56
1:B:122:ILE:CD1	1:B:202:GLY:HA2	2.35	0.56
1:A:9:HIS:O	1:A:13:MSE:HG3	2.06	0.56
1:A:96:GLU:OE1	1:A:110:MSE:HE1	2.05	0.56
1:A:192:MSE:HB2	1:A:200:LEU:HD13	1.87	0.56
1:B:10:LEU:HA	1:B:13:MSE:SE	2.54	0.56
1:B:110:MSE:HE3	1:B:114:TYR:HE1	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69:ASN:O	1:A:73:ASN:HB2	2.05	0.56
1:A:87:GLN:O	1:A:91:GLN:HG3	2.06	0.56
1:B:127:PRO:HB2	1:B:130:LYS:CG	2.35	0.56
1:B:124:GLN:HB2	1:B:126:ILE:HD11	1.86	0.56
1:A:15:GLU:OE1	1:A:15:GLU:N	2.33	0.56
1:B:273:MSE:HA	3:B:436:HOH:O	2.06	0.56
1:A:97:VAL:HB	1:A:264:ARG:NH1	2.20	0.56
1:A:130:LYS:O	1:A:134:ILE:HG13	2.05	0.56
1:A:152:LYS:HG3	3:A:443:HOH:O	2.04	0.56
1:B:261:LEU:HD12	1:B:272:TYR:HB2	1.86	0.56
1:B:27:THR:HA	1:B:30:GLU:OE1	2.05	0.56
1:B:242:ASP:HB3	1:B:245:MSE:CE	2.26	0.56
1:A:45:GLN:CB	1:A:233:ILE:HG13	2.35	0.56
1:B:68:HIS:HD2	3:B:474:HOH:O	1.89	0.56
1:B:103:VAL:HG22	1:B:107:PHE:HE1	1.70	0.56
1:B:22:ARG:NH1	3:B:492:HOH:O	2.21	0.56
1:B:110:MSE:HE2	1:B:210:VAL:CG1	2.33	0.56
1:B:136:ALA:C	1:B:138:SER:H	2.09	0.56
1:B:260:TYR:OH	1:B:286:LEU:HD23	2.05	0.56
1:B:88:LEU:HD11	1:B:116:LYS:HB3	1.87	0.56
1:A:221:THR:O	1:A:225:SER:HB3	2.06	0.56
1:B:98:ASP:OD1	1:B:100:VAL:HG23	2.06	0.56
1:A:81:CYS:SG	1:A:120:LEU:HB3	2.45	0.56
1:A:263:ASP:OD2	1:A:264:ARG:HG3	2.06	0.56
1:B:20:SER:O	1:B:280:LEU:HA	2.06	0.56
1:B:229:ASP:HB2	3:B:477:HOH:O	2.06	0.56
1:A:71:ILE:C	1:A:73:ASN:H	2.09	0.56
1:B:263:ASP:OD1	1:B:264:ARG:N	2.36	0.56
1:A:163:PHE:HB3	1:A:245:MSE:SE	2.56	0.56
1:A:163:PHE:HE1	1:A:208:ILE:HD13	1.70	0.56
1:A:95:ILE:HG21	1:A:109:TYR:CG	2.41	0.56
1:A:54:LEU:O	1:A:143:LYS:HG3	2.06	0.56
1:B:48:THR:O	1:B:162:ILE:HA	2.06	0.56
1:A:127:PRO:HA	1:A:198:GLY:O	2.06	0.56
1:A:243:LEU:CD2	1:A:257:LYS:HD3	2.36	0.56
1:A:86:LEU:O	1:A:90:GLU:HG2	2.06	0.55
1:A:148:ASN:N	1:A:148:ASN:HD22	2.03	0.55
1:A:261:LEU:HD13	1:A:272:TYR:CE2	2.41	0.55
1:A:264:ARG:NH2	1:A:268:LEU:HD11	2.21	0.55
1:A:213:LYS:HE3	3:A:567:HOH:O	2.07	0.55
1:B:77:VAL:HG13	1:B:81:CYS:CB	2.33	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:13:MSE:HE3	1:A:295:LYS:HE2	1.87	0.55
1:A:152:LYS:HD2	3:A:504:HOH:O	2.05	0.55
1:A:225:SER:HA	1:A:250:ALA:HB2	1.88	0.55
1:B:247:ASP:O	1:B:249:VAL:N	2.40	0.55
1:B:36:LEU:CD2	1:B:232:ASN:HB3	2.36	0.55
1:A:56:ARG:NH1	3:A:484:HOH:O	2.32	0.55
1:B:86:LEU:O	1:B:90:GLU:HG3	2.06	0.55
1:B:210:VAL:HG13	1:B:211:PHE:H	1.72	0.55
2:B:402:EPE:H102	3:B:449:HOH:O	2.05	0.55
1:A:85:LEU:HD23	1:A:88:LEU:HD12	1.88	0.55
1:A:141:MSE:HE1	3:A:471:HOH:O	2.05	0.55
1:B:112:GLU:HB3	1:B:116:LYS:NZ	2.21	0.55
1:A:8:VAL:O	1:A:30:GLU:HG2	2.06	0.55
1:A:264:ARG:NH2	1:A:268:LEU:HD11	2.21	0.55
1:B:249:VAL:HG13	3:B:418:HOH:O	2.06	0.55
1:B:163:PHE:HE1	1:B:208:ILE:HD13	1.70	0.55
1:B:235:LEU:O	1:B:236:LEU:HD23	2.06	0.55
1:A:78:THR:HG23	1:A:124:GLN:OE1	2.06	0.55
1:A:132:LYS:HB2	3:A:501:HOH:O	2.06	0.55
1:B:186:LYS:HD3	1:B:187:VAL:N	2.22	0.55
1:A:233:ILE:HD11	1:A:249:VAL:HG11	1.87	0.55
1:B:233:ILE:CD1	1:B:249:VAL:HG21	2.37	0.55
1:B:250:ALA:HB3	3:B:496:HOH:O	2.06	0.55
1:A:133:GLU:N	3:A:465:HOH:O	2.37	0.55
1:A:217:ALA:HB1	1:A:248:GLY:H	1.71	0.55
1:B:10:LEU:HD22	1:B:16:PHE:CE2	2.42	0.55
1:A:72:ASP:CG	1:A:121:LEU:HD21	2.27	0.55
1:A:265:VAL:HG21	1:A:282:LYS:HE3	1.89	0.54
1:B:58:SER:CB	1:B:63:ARG:HA	2.37	0.54
1:A:75:LYS:HE2	3:A:570:HOH:O	2.06	0.54
1:B:127:PRO:HB2	1:B:130:LYS:HG2	1.89	0.54
1:B:173:GLU:HG3	1:B:177:GLN:HE21	1.70	0.54
1:A:59:TYR:O	1:A:62:LYS:N	2.39	0.54
1:B:111:VAL:HA	1:B:207:LEU:HD23	1.88	0.54
1:B:251:ASN:O	1:B:251:ASN:ND2	2.41	0.54
1:A:126:ILE:N	1:A:126:ILE:HD12	2.22	0.54
1:B:101:LEU:HD12	1:B:101:LEU:H	1.71	0.54
1:B:264:ARG:HD3	3:B:448:HOH:O	2.05	0.54
1:A:100:VAL:CG1	1:A:101:LEU:HD12	2.37	0.54
1:B:46:ILE:CD1	1:B:234:ILE:HB	2.37	0.54
1:A:39:GLY:HA2	1:A:43:LYS:HD3	1.87	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:171:LEU:C	1:B:171:LEU:HD23	2.28	0.54
1:A:280:LEU:HD13	1:A:283:GLU:HG2	1.89	0.54
1:B:28:ARG:O	1:B:31:GLU:HG3	2.08	0.54
1:A:63:ARG:HH11	1:A:63:ARG:HB2	1.71	0.54
1:A:66:THR:H	1:A:69:ASN:HB2	1.72	0.54
1:A:77:VAL:HG13	1:A:81:CYS:SG	2.48	0.54
1:A:283:GLU:OE2	1:A:285:SER:HB3	2.08	0.54
1:B:132:LYS:N	3:B:508:HOH:O	2.40	0.54
1:B:79:ASP:OD1	3:B:532:HOH:O	2.18	0.54
1:A:131:LEU:HA	1:A:134:ILE:HD12	1.89	0.54
1:A:59:TYR:O	1:A:61:GLY:N	2.41	0.54
1:B:170:VAL:O	1:B:174:VAL:HG23	2.07	0.54
1:A:89:LYS:HA	1:A:113:TRP:CZ2	2.43	0.54
1:A:233:ILE:N	1:A:233:ILE:HD12	2.22	0.54
1:A:39:GLY:HA3	1:A:43:LYS:HD3	1.89	0.54
1:A:156:HIS:CE1	1:A:297:LEU:HB3	2.42	0.54
1:B:47:ILE:O	1:B:235:LEU:HA	2.07	0.54
1:A:229:ASP:O	1:A:231:SER:N	2.40	0.54
1:A:105:GLU:O	1:A:108:PRO:HD2	2.08	0.54
1:A:63:ARG:HH11	1:A:63:ARG:CB	2.19	0.54
1:B:144:GLU:HG2	3:B:433:HOH:O	2.08	0.54
1:A:71:ILE:HG21	1:A:126:ILE:HD13	1.90	0.54
1:B:138:SER:HB2	3:B:408:HOH:O	2.07	0.54
1:A:33:ILE:HA	1:A:36:LEU:HD12	1.90	0.53
1:A:71:ILE:HG22	1:A:121:LEU:HD22	1.89	0.53
1:B:89:LYS:HD3	1:B:89:LYS:O	2.07	0.53
1:B:23:ILE:CG2	1:B:24:LYS:N	2.70	0.53
1:B:44:LEU:HD12	1:B:232:ASN:O	2.07	0.53
1:A:35:GLY:HA3	1:A:254:HIS:NE2	2.23	0.53
1:A:100:VAL:HG22	1:A:100:VAL:O	2.07	0.53
1:A:95:ILE:HG21	1:A:109:TYR:CG	2.43	0.53
1:A:126:ILE:N	1:A:199:VAL:HG13	2.22	0.53
1:B:72:ASP:CG	1:B:121:LEU:HD21	2.28	0.53
1:A:171:LEU:C	1:A:171:LEU:HD23	2.29	0.53
1:B:263:ASP:O	1:B:268:LEU:HD12	2.08	0.53
1:A:263:ASP:HB2	3:A:499:HOH:O	2.09	0.53
1:B:77:VAL:CG2	1:B:126:ILE:HD11	2.39	0.53
1:B:122:ILE:HD13	1:B:202:GLY:HA2	1.89	0.53
1:A:70:ILE:HG23	1:A:138:SER:HB3	1.90	0.53
1:A:119:GLY:HA2	1:A:122:ILE:HD12	1.90	0.53
1:A:237:GLY:O	1:A:259:GLY:HA2	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:29:VAL:HG22	1:B:277:ASP:HB3	1.90	0.53
1:A:81:CYS:C	1:A:83:ARG:H	2.12	0.53
1:B:20:SER:O	1:B:22:ARG:HG2	2.09	0.53
1:B:84:LYS:HB3	3:B:521:HOH:O	2.09	0.53
1:A:65:PRO:HD2	1:A:139:ASP:O	2.08	0.53
1:A:143:LYS:HB3	1:A:285:SER:HA	1.90	0.53
1:A:133:GLU:HG3	3:A:465:HOH:O	2.09	0.53
1:B:118:HIS:O	1:B:122:ILE:HG13	2.09	0.53
1:A:261:LEU:CD2	1:A:269:LEU:HA	2.39	0.53
1:B:74:CYS:SG	1:B:77:VAL:HG23	2.49	0.53
1:B:192:MSE:CB	1:B:200:LEU:HD13	2.38	0.53
1:A:186:LYS:HD3	1:A:186:LYS:C	2.28	0.53
1:B:59:TYR:C	1:B:61:GLY:N	2.61	0.53
1:B:59:TYR:CE2	1:B:141:MSE:HE2	2.43	0.53
1:A:170:VAL:O	1:A:174:VAL:HG23	2.08	0.53
1:A:111:VAL:HG13	1:A:207:LEU:HD23	1.91	0.53
1:B:264:ARG:CB	1:B:268:LEU:HG	2.38	0.53
1:A:192:MSE:HE2	1:A:200:LEU:HD22	1.91	0.52
1:B:271:LYS:N	3:B:513:HOH:O	2.41	0.52
1:B:233:ILE:HD11	1:B:249:VAL:HG11	1.91	0.52
1:A:70:ILE:O	1:A:74:CYS:HB3	2.09	0.52
1:A:87:GLN:HA	1:A:90:GLU:OE1	2.09	0.52
1:B:233:ILE:O	1:B:255:ILE:HA	2.09	0.52
1:A:152:LYS:HB3	1:A:297:LEU:CD1	2.40	0.52
1:A:66:THR:H	1:A:69:ASN:HB2	1.73	0.52
1:B:11:LYS:HD3	1:B:17:GLN:NE2	2.24	0.52
1:B:167:ILE:HD13	1:B:192:MSE:HE3	1.92	0.52
1:B:223:TYR:C	1:B:225:SER:H	2.11	0.52
1:A:28:ARG:HG2	3:A:441:HOH:O	2.09	0.52
1:B:112:GLU:O	1:B:116:LYS:HG3	2.09	0.52
1:A:94:ALA:O	1:A:98:ASP:HB2	2.10	0.52
1:A:10:LEU:HA	1:A:13:MSE:CE	2.39	0.52
1:A:58:SER:HA	1:A:63:ARG:HA	1.92	0.52
1:B:193:ASP:CB	1:B:204:LYS:HG3	2.39	0.52
1:B:261:LEU:HD11	1:B:269:LEU:HA	1.92	0.52
1:A:35:GLY:HA3	1:A:254:HIS:HD2	1.69	0.52
1:A:40:GLY:O	3:A:409:HOH:O	2.19	0.52
1:B:61:GLY:N	3:B:522:HOH:O	2.43	0.52
1:B:56:ARG:HG2	1:B:143:LYS:HG2	1.90	0.52
1:A:233:ILE:CD1	1:A:249:VAL:HG21	2.39	0.52
1:B:192:MSE:HB2	1:B:200:LEU:CD1	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:74:CYS:C	1:A:76:LEU:H	2.13	0.52
1:A:152:LYS:HD2	3:A:504:HOH:O	2.09	0.52
1:A:88:LEU:HD13	1:A:116:LYS:HB3	1.91	0.52
1:B:77:VAL:HG13	1:B:124:GLN:HG3	1.92	0.52
1:B:195:ASP:HB2	3:B:566:HOH:O	2.08	0.52
1:A:10:LEU:HD23	1:A:13:MSE:SE	2.60	0.52
1:B:107:PHE:O	1:B:111:VAL:HG23	2.10	0.52
1:B:10:LEU:HD23	1:B:13:MSE:CE	2.39	0.52
1:B:126:ILE:HD12	1:B:126:ILE:N	2.24	0.52
1:B:20:SER:HB2	1:B:281:VAL:O	2.09	0.52
1:A:122:ILE:HD11	1:A:202:GLY:HA2	1.90	0.52
1:A:10:LEU:HG	1:A:30:GLU:HG3	1.90	0.52
1:A:128:LYS:HB2	1:A:194:PHE:CE1	2.45	0.52
1:A:78:THR:HG23	1:A:124:GLN:OE1	2.10	0.52
1:A:196:GLU:HG3	3:A:442:HOH:O	2.09	0.52
1:A:132:LYS:N	3:A:501:HOH:O	2.41	0.52
1:A:47:ILE:HG22	1:A:245:MSE:HE2	1.92	0.52
1:B:23:ILE:CG2	1:B:24:LYS:H	2.22	0.52
1:A:16:PHE:CE2	1:A:23:ILE:HD11	2.45	0.51
1:A:33:ILE:O	1:A:37:ILE:HG13	2.10	0.51
1:B:45:GLN:CB	1:B:233:ILE:HG13	2.30	0.51
1:B:264:ARG:NE	1:B:268:LEU:HD11	2.25	0.51
1:B:23:ILE:O	1:B:26:PRO:HD3	2.09	0.51
1:A:107:PHE:HB3	1:A:108:PRO:CD	2.39	0.51
1:B:88:LEU:CD1	1:B:116:LYS:HB3	2.39	0.51
1:A:9:HIS:HA	1:A:30:GLU:OE2	2.11	0.51
1:B:49:ASP:CG	1:B:50:PHE:N	2.63	0.51
1:A:271:LYS:HZ2	1:A:275:SER:HB3	1.72	0.51
1:A:63:ARG:HB2	3:A:568:HOH:O	2.10	0.51
1:A:258:ILE:HG12	1:A:278:ILE:HB	1.92	0.51
1:A:28:ARG:O	1:A:31:GLU:HG2	2.11	0.51
1:A:105:GLU:O	1:A:108:PRO:HD2	2.10	0.51
1:B:10:LEU:HG	1:B:30:GLU:CG	2.40	0.51
1:B:231:SER:HB2	1:B:253:GLU:H	1.76	0.51
1:B:260:TYR:OH	1:B:286:LEU:HD23	2.11	0.51
1:A:271:LYS:N	3:A:514:HOH:O	2.26	0.51
1:A:110:MSE:HE1	1:A:113:TRP:CE3	2.46	0.51
1:B:60:ASN:HD22	1:B:60:ASN:N	2.07	0.51
1:B:134:ILE:O	1:B:138:SER:HB2	2.10	0.51
1:A:236:LEU:HD22	1:A:258:ILE:HB	1.92	0.51
1:B:66:THR:N	1:B:69:ASN:HB2	2.20	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:228:LYS:HA	1:A:251:ASN:HD21	1.75	0.51
1:B:11:LYS:HG2	3:B:494:HOH:O	2.11	0.51
1:A:265:VAL:HG13	1:A:269:LEU:HD13	1.90	0.51
1:B:10:LEU:HG	1:B:30:GLU:OE1	2.11	0.51
1:B:11:LYS:HD2	3:B:529:HOH:O	2.09	0.51
1:B:68:HIS:O	1:B:72:ASP:OD1	2.29	0.51
1:B:281:VAL:O	1:B:282:LYS:C	2.48	0.51
1:A:193:ASP:O	1:A:200:LEU:HA	2.11	0.51
1:B:101:LEU:HD12	1:B:101:LEU:H	1.75	0.51
1:A:157:GLY:O	1:A:159:PRO:HD3	2.10	0.51
1:B:76:LEU:HD12	1:B:134:ILE:HD11	1.93	0.51
1:B:236:LEU:CD2	1:B:258:ILE:HB	2.41	0.51
1:B:243:LEU:HD22	1:B:257:LYS:HD3	1.92	0.51
1:A:74:CYS:HB2	1:A:134:ILE:CD1	2.41	0.51
1:B:75:LYS:HZ3	1:B:130:LYS:HD2	1.76	0.51
1:B:120:LEU:O	1:B:124:GLN:HG2	2.11	0.51
1:A:73:ASN:HA	1:A:82:ARG:HH11	1.75	0.51
1:A:261:LEU:HG	1:A:265:VAL:HG22	1.93	0.51
1:A:28:ARG:HG2	3:A:532:HOH:O	2.11	0.51
1:A:243:LEU:HD11	1:A:275:SER:HB2	1.92	0.51
1:A:36:LEU:CD2	1:A:232:ASN:HB3	2.41	0.51
1:A:223:TYR:C	1:A:225:SER:H	2.13	0.51
1:B:22:ARG:C	1:B:273:MSE:HE3	2.32	0.51
1:A:103:VAL:CG1	1:A:104:GLU:OE2	2.59	0.51
1:A:103:VAL:HG23	1:A:211:PHE:CD1	2.46	0.51
1:B:165:ALA:HB1	1:B:209:HIS:HA	1.93	0.51
1:B:59:TYR:CZ	1:B:141:MSE:HE2	2.47	0.50
1:B:10:LEU:HG	1:B:30:GLU:CG	2.42	0.50
1:B:45:GLN:HB3	1:B:233:ILE:CG1	2.30	0.50
1:B:104:GLU:C	1:B:106:LYS:H	2.14	0.50
1:B:186:LYS:HD3	1:B:187:VAL:N	2.26	0.50
1:B:64:CYS:HB3	3:B:406:HOH:O	2.10	0.50
1:B:74:CYS:CB	1:B:134:ILE:HG23	2.41	0.50
1:A:163:PHE:CE1	1:A:208:ILE:HD13	2.45	0.50
1:A:264:ARG:O	1:A:268:LEU:N	2.42	0.50
1:B:236:LEU:HD23	1:B:258:ILE:HB	1.94	0.50
1:B:110:MSE:HE3	1:B:114:TYR:HE1	1.76	0.50
1:A:25:ASN:O	1:A:29:VAL:HG23	2.11	0.50
1:B:59:TYR:CE1	1:B:141:MSE:HE2	2.47	0.50
1:A:84:LYS:O	1:A:88:LEU:HB2	2.11	0.50
1:A:59:TYR:C	1:A:61:GLY:N	2.65	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:286:LEU:O	1:B:289:VAL:HG12	2.11	0.50
1:B:76:LEU:CD1	1:B:127:PRO:HD2	2.40	0.50
1:B:233:ILE:HD11	1:B:249:VAL:HG11	1.93	0.50
1:B:295:LYS:HB3	2:B:402:EPE:O2S	2.12	0.50
1:A:163:PHE:HE1	1:A:208:ILE:HD13	1.77	0.50
1:A:216:GLY:CA	3:A:423:HOH:O	2.56	0.50
1:A:200:LEU:HB3	3:A:437:HOH:O	2.10	0.50
1:B:148:ASN:O	1:B:152:LYS:HG2	2.12	0.50
1:B:155:GLN:HG2	1:B:156:HIS:ND1	2.26	0.50
1:B:77:VAL:HA	1:B:124:GLN:OE1	2.12	0.50
1:A:74:CYS:O	1:A:76:LEU:N	2.44	0.50
1:A:131:LEU:O	1:A:135:VAL:HG23	2.10	0.50
1:B:9:HIS:HA	1:B:30:GLU:OE2	2.12	0.50
1:A:163:PHE:O	1:A:245:MSE:HE3	2.12	0.50
1:A:127:PRO:CA	1:A:199:VAL:HA	2.40	0.49
1:A:288:VAL:O	1:A:291:SER:HB3	2.12	0.49
1:B:232:ASN:OD1	1:B:253:GLU:HB3	2.11	0.49
1:B:68:HIS:NE2	1:B:118:HIS:CD2	2.80	0.49
1:B:116:LYS:O	1:B:120:LEU:HG	2.12	0.49
1:B:163:PHE:CE2	1:B:213:LYS:HB3	2.46	0.49
1:B:283:GLU:HG3	1:B:285:SER:H	1.77	0.49
1:A:146:TYR:CD1	1:A:147:GLU:N	2.80	0.49
1:A:46:ILE:HD11	1:A:234:ILE:HD12	1.92	0.49
1:A:137:ASP:HB3	3:A:453:HOH:O	2.12	0.49
1:A:233:ILE:HD11	1:A:249:VAL:HG21	1.95	0.49
1:A:264:ARG:NH1	1:A:268:LEU:HD11	2.26	0.49
1:A:20:SER:O	1:A:22:ARG:HG2	2.12	0.49
1:A:23:ILE:HG22	1:A:24:LYS:N	2.26	0.49
1:A:48:THR:O	1:A:245:MSE:HE1	2.12	0.49
1:A:142:LEU:HB2	1:A:146:TYR:CE2	2.47	0.49
1:A:63:ARG:CB	1:A:63:ARG:NH1	2.76	0.49
1:B:105:GLU:O	1:B:108:PRO:HD2	2.11	0.49
1:B:201:LYS:O	1:B:201:LYS:HG3	2.12	0.49
1:A:263:ASP:CG	1:A:264:ARG:N	2.66	0.49
1:A:43:LYS:NZ	3:A:425:HOH:O	2.45	0.49
1:B:95:ILE:HG21	1:B:109:TYR:CG	2.47	0.49
1:B:195:ASP:CG	1:B:199:VAL:HB	2.31	0.49
1:B:163:PHE:HB3	1:B:245:MSE:SE	2.63	0.49
1:B:295:LYS:HB3	1:B:295:LYS:NZ	2.28	0.49
1:B:32:ILE:HD11	3:B:537:HOH:O	2.12	0.49
1:A:260:TYR:CE1	1:A:280:LEU:HD12	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:41:ALA:O	1:A:43:LYS:N	2.46	0.49
1:A:261:LEU:HD13	1:A:272:TYR:CD2	2.47	0.49
1:B:215:ASP:O	1:B:219:LYS:HE2	2.13	0.49
1:B:124:GLN:HB2	1:B:126:ILE:CD1	2.42	0.49
1:B:247:ASP:C	1:B:249:VAL:N	2.66	0.49
1:A:141:MSE:HE3	1:A:141:MSE:HA	1.93	0.49
1:A:73:ASN:HA	1:A:82:ARG:NH1	2.27	0.49
1:B:131:LEU:O	1:B:135:VAL:HG23	2.12	0.49
1:A:59:TYR:CD1	1:A:60:ASN:N	2.80	0.49
1:B:14:PRO:HA	1:B:17:GLN:HG2	1.93	0.49
1:B:28:ARG:HB3	3:B:458:HOH:O	2.12	0.49
1:B:97:VAL:HB	1:B:264:ARG:NH1	2.27	0.49
1:A:233:ILE:N	1:A:233:ILE:HD12	2.27	0.49
1:B:165:ALA:HB1	1:B:209:HIS:HA	1.95	0.49
1:A:89:LYS:HA	1:A:113:TRP:CZ2	2.48	0.49
1:B:26:PRO:HG2	3:B:548:HOH:O	2.12	0.49
1:A:45:GLN:HB3	1:A:233:ILE:CD1	2.43	0.49
1:B:207:LEU:O	1:B:207:LEU:HG	2.13	0.49
1:B:246:ALA:N	3:B:412:HOH:O	2.37	0.49
1:A:265:VAL:C	1:A:267:GLU:H	2.17	0.49
1:B:219:LYS:NZ	3:B:507:HOH:O	2.46	0.49
1:A:10:LEU:HD23	1:A:13:MSE:CE	2.42	0.49
1:A:89:LYS:O	1:A:93:TYR:HB3	2.12	0.49
1:B:14:PRO:HD2	1:B:15:GLU:OE1	2.13	0.49
1:A:207:LEU:O	1:A:207:LEU:HG	2.13	0.48
1:A:22:ARG:O	1:A:273:MSE:HE3	2.13	0.48
1:A:88:LEU:HD12	1:A:120:LEU:HD11	1.94	0.48
1:B:251:ASN:N	1:B:251:ASN:ND2	2.60	0.48
1:A:215:ASP:C	1:A:219:LYS:HE2	2.33	0.48
1:B:82:ARG:HG3	1:B:82:ARG:HH11	1.78	0.48
1:B:182:HIS:HB2	1:B:184:ASN:OD1	2.13	0.48
1:B:93:TYR:HA	1:B:96:GLU:HB3	1.94	0.48
1:B:216:GLY:HA2	1:B:219:LYS:HE3	1.95	0.48
1:B:232:ASN:OD1	1:B:254:HIS:HB2	2.14	0.48
1:B:59:TYR:O	1:B:60:ASN:HB2	2.13	0.48
1:B:60:ASN:C	1:B:62:LYS:H	2.16	0.48
1:B:232:ASN:ND2	3:B:425:HOH:O	2.41	0.48
1:A:232:ASN:C	1:A:233:ILE:HD12	2.34	0.48
1:A:171:LEU:C	1:A:171:LEU:HD23	2.33	0.48
1:B:64:CYS:HB3	3:B:406:HOH:O	2.13	0.48
1:B:71:ILE:O	1:B:73:ASN:N	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:135:VAL:HG21	1:B:173:GLU:CG	2.43	0.48
1:B:216:GLY:CA	3:B:424:HOH:O	2.58	0.48
1:B:44:LEU:HD11	1:B:234:ILE:HG13	1.95	0.48
1:B:287:GLU:CB	3:B:439:HOH:O	2.61	0.48
1:B:43:LYS:HG3	1:B:229:ASP:O	2.13	0.48
1:B:101:LEU:HD12	1:B:101:LEU:N	2.27	0.48
1:A:28:ARG:NH1	3:A:474:HOH:O	2.46	0.48
1:A:135:VAL:HG21	1:A:173:GLU:CG	2.43	0.48
1:A:239:SER:HA	1:A:272:TYR:OH	2.13	0.48
1:B:59:TYR:HA	3:B:550:HOH:O	2.12	0.48
1:A:163:PHE:HZ	1:A:216:GLY:HA3	1.78	0.48
1:A:209:HIS:CE1	1:A:212:ASN:HB3	2.49	0.48
1:B:10:LEU:HA	1:B:13:MSE:HE2	1.96	0.48
1:A:33:ILE:O	1:A:37:ILE:HG13	2.14	0.48
1:A:56:ARG:HG3	1:A:143:LYS:HA	1.95	0.48
1:B:78:THR:HG23	1:B:124:GLN:OE1	2.14	0.48
1:A:36:LEU:HD22	1:A:44:LEU:HD13	1.96	0.48
1:B:59:TYR:O	1:B:60:ASN:CB	2.62	0.48
1:A:52:MSE:SE	1:A:57:PHE:HA	2.64	0.48
1:B:73:ASN:ND2	3:B:569:HOH:O	2.45	0.48
1:A:133:GLU:CB	3:A:465:HOH:O	2.61	0.48
1:B:63:ARG:NH1	1:B:63:ARG:CB	2.76	0.48
1:A:125:GLY:O	1:A:127:PRO:HD3	2.14	0.48
1:B:260:TYR:CZ	1:B:280:LEU:HD12	2.49	0.48
1:A:155:GLN:HA	3:B:523:HOH:O	2.14	0.48
1:A:77:VAL:HA	1:A:124:GLN:OE1	2.14	0.48
1:A:107:PHE:O	1:A:111:VAL:HG23	2.13	0.48
1:A:107:PHE:CE2	1:A:212:ASN:HB3	2.49	0.48
1:A:173:GLU:OE2	1:A:177:GLN:NE2	2.44	0.48
1:A:85:LEU:O	1:A:88:LEU:HB2	2.14	0.48
1:A:52:MSE:HE2	1:A:52:MSE:H	1.78	0.48
1:A:271:LYS:HB2	3:A:514:HOH:O	2.12	0.48
1:A:210:VAL:HG22	1:A:210:VAL:O	2.14	0.48
1:A:56:ARG:HD2	3:A:561:HOH:O	2.13	0.48
1:B:32:ILE:O	1:B:35:GLY:N	2.47	0.48
1:A:171:LEU:C	1:A:171:LEU:HD23	2.34	0.48
1:B:246:ALA:HB3	3:B:412:HOH:O	2.14	0.48
1:A:131:LEU:HD23	1:A:134:ILE:HD12	1.95	0.48
1:B:172:GLU:OE2	1:B:181:TYR:OH	2.30	0.48
1:A:10:LEU:N	1:A:30:GLU:OE1	2.44	0.47
1:A:71:ILE:CG2	1:A:121:LEU:HD22	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:86:LEU:O	1:A:90:GLU:HG2	2.14	0.47
1:A:183:SER:HA	1:B:183:SER:HA	1.95	0.47
1:A:9:HIS:HA	1:A:30:GLU:CD	2.35	0.47
1:B:58:SER:CA	1:B:63:ARG:HA	2.43	0.47
1:B:222:ASP:O	1:B:226:GLN:HG3	2.14	0.47
1:B:282:LYS:HG2	3:B:462:HOH:O	2.14	0.47
1:A:100:VAL:HG12	1:A:101:LEU:HD12	1.96	0.47
1:B:17:GLN:HA	1:B:17:GLN:HE21	1.79	0.47
1:A:210:VAL:HG22	1:A:210:VAL:O	2.14	0.47
1:B:143:LYS:HE3	1:B:260:TYR:CE1	2.50	0.47
1:A:110:MSE:O	1:A:114:TYR:HD1	1.97	0.47
1:B:111:VAL:HA	1:B:207:LEU:HD21	1.95	0.47
1:B:171:LEU:HD23	1:B:171:LEU:O	2.15	0.47
1:A:10:LEU:HD22	1:A:16:PHE:CE2	2.49	0.47
1:A:194:PHE:C	1:A:201:LYS:HE3	2.34	0.47
1:B:56:ARG:HA	1:B:284:GLU:OE1	2.14	0.47
1:B:13:MSE:O	1:B:17:GLN:HG2	2.14	0.47
1:B:55:SER:HA	1:B:142:LEU:HA	1.96	0.47
1:A:72:ASP:OD1	1:A:121:LEU:HD21	2.14	0.47
1:B:83:ARG:O	1:B:87:GLN:HG3	2.15	0.47
1:B:163:PHE:CE1	1:B:208:ILE:HD13	2.49	0.47
1:A:85:LEU:HA	1:A:88:LEU:CD1	2.38	0.47
1:A:147:GLU:HB3	3:A:404:HOH:O	2.14	0.47
1:B:95:ILE:HA	1:B:98:ASP:HB2	1.95	0.47
1:B:228:LYS:HD2	3:B:488:HOH:O	2.15	0.47
1:A:47:ILE:O	1:A:235:LEU:HA	2.14	0.47
1:B:132:LYS:HG3	1:B:177:GLN:CD	2.35	0.47
1:B:261:LEU:C	1:B:261:LEU:HD23	2.35	0.47
1:A:36:LEU:HD23	1:A:232:ASN:HB3	1.96	0.47
1:A:244:ARG:NE	1:A:247:ASP:OD2	2.48	0.47
1:A:152:LYS:HG3	3:A:443:HOH:O	2.14	0.47
1:B:28:ARG:O	1:B:32:ILE:HG13	2.15	0.47
1:A:104:GLU:CD	1:A:104:GLU:H	2.17	0.47
1:A:264:ARG:HD2	1:A:267:GLU:CD	2.35	0.47
1:B:132:LYS:HE3	3:B:538:HOH:O	2.14	0.47
1:A:220:ASN:C	1:A:222:ASP:N	2.67	0.47
1:A:242:ASP:HA	1:A:245:MSE:HG3	1.97	0.47
1:B:40:GLY:O	3:B:425:HOH:O	2.20	0.47
1:B:56:ARG:O	1:B:64:CYS:HB2	2.15	0.47
1:B:210:VAL:O	1:B:210:VAL:HG22	2.12	0.47
1:A:59:TYR:CE2	1:A:141:MSE:HE2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:239:SER:HA	1:A:272:TYR:OH	2.15	0.47
1:A:261:LEU:CD1	1:A:263:ASP:O	2.62	0.47
2:A:401:EPE:H102	3:A:449:HOH:O	2.14	0.47
1:B:76:LEU:HD13	1:B:126:ILE:HA	1.97	0.47
1:B:111:VAL:HA	1:B:207:LEU:CD2	2.45	0.47
1:B:242:ASP:HB3	1:B:245:MSE:HE2	1.97	0.47
1:A:173:GLU:CD	1:A:177:GLN:HE21	2.18	0.47
1:B:98:ASP:CG	1:B:101:LEU:HD13	2.35	0.47
1:B:210:VAL:O	1:B:213:LYS:HG2	2.14	0.47
1:B:214:HIS:CB	3:B:455:HOH:O	2.63	0.47
1:B:31:GLU:O	1:B:35:GLY:N	2.48	0.47
1:B:169:ASP:OD1	1:B:192:MSE:HG2	2.15	0.47
1:B:267:GLU:N	3:B:441:HOH:O	2.21	0.47
1:A:163:PHE:HB3	1:A:245:MSE:CE	2.45	0.47
1:A:119:GLY:O	1:A:123:GLU:HG3	2.14	0.47
1:B:192:MSE:O	1:B:204:LYS:HE2	2.15	0.47
1:A:183:SER:HA	1:B:183:SER:HA	1.96	0.47
1:A:218:LEU:C	1:A:220:ASN:H	2.19	0.47
1:B:21:VAL:HG12	1:B:23:ILE:HG13	1.97	0.47
1:A:264:ARG:HA	3:A:487:HOH:O	2.14	0.47
1:B:110:MSE:HE2	1:B:210:VAL:CG1	2.43	0.47
1:A:156:HIS:CG	1:A:297:LEU:HD22	2.50	0.46
1:B:194:PHE:HB3	1:B:198:GLY:HA2	1.95	0.46
1:A:8:VAL:HG22	1:A:37:ILE:HD12	1.97	0.46
1:A:24:LYS:NZ	1:A:274:ASP:OD1	2.41	0.46
1:B:56:ARG:NH1	3:B:481:HOH:O	2.39	0.46
1:B:95:ILE:HG21	1:B:109:TYR:CB	2.45	0.46
1:A:103:VAL:HG12	1:A:104:GLU:OE2	2.15	0.46
1:B:182:HIS:HB2	1:B:184:ASN:OD1	2.15	0.46
1:B:258:ILE:HG12	1:B:278:ILE:HB	1.96	0.46
1:B:34:CYS:O	1:B:38:LYS:HG3	2.16	0.46
1:B:263:ASP:CG	1:B:264:ARG:N	2.69	0.46
1:B:215:ASP:C	1:B:219:LYS:HE2	2.36	0.46
1:A:120:LEU:HD23	1:A:123:GLU:OE2	2.16	0.46
1:B:112:GLU:HB3	1:B:116:LYS:HZ1	1.80	0.46
1:A:14:PRO:HB2	1:A:15:GLU:OE1	2.15	0.46
1:A:261:LEU:HD11	1:A:268:LEU:HB2	1.97	0.46
1:B:8:VAL:O	1:B:30:GLU:HG2	2.15	0.46
1:A:206:GLU:CD	1:A:219:LYS:HD3	2.35	0.46
1:B:37:ILE:HG23	1:B:295:LYS:O	2.16	0.46
1:A:132:LYS:HB3	3:A:465:HOH:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:10:LEU:HD22	1:B:16:PHE:CE2	2.50	0.46
1:A:233:ILE:O	1:A:255:ILE:HG13	2.16	0.46
1:B:171:LEU:HD23	1:B:171:LEU:O	2.16	0.46
1:B:76:LEU:CD1	1:B:134:ILE:HD11	2.44	0.46
1:B:10:LEU:HD13	1:B:16:PHE:CD2	2.50	0.46
1:A:95:ILE:HG21	1:A:109:TYR:CD2	2.51	0.46
1:A:171:LEU:HD23	1:A:171:LEU:O	2.16	0.46
1:B:27:THR:O	1:B:31:GLU:HG2	2.15	0.46
1:A:74:CYS:C	1:A:76:LEU:H	2.18	0.46
1:B:56:ARG:CZ	1:B:141:MSE:HE2	2.46	0.46
1:B:63:ARG:HB3	1:B:63:ARG:CZ	2.45	0.46
2:B:402:EPE:C8	3:B:479:HOH:O	2.61	0.46
1:B:192:MSE:CG	1:B:200:LEU:HD13	2.46	0.46
1:A:251:ASN:N	1:A:251:ASN:ND2	2.58	0.46
1:A:74:CYS:HB2	1:A:134:ILE:HD13	1.96	0.46
1:A:132:LYS:NZ	1:B:155:GLN:HG3	2.30	0.46
1:A:263:ASP:O	1:A:264:ARG:C	2.52	0.46
1:B:56:ARG:HE	1:B:141:MSE:HE3	1.75	0.46
1:B:171:LEU:HD23	1:B:171:LEU:C	2.36	0.46
1:A:34:CYS:O	1:A:38:LYS:HG3	2.15	0.46
1:A:163:PHE:HE2	1:A:213:LYS:HB3	1.81	0.46
1:B:182:HIS:HB2	1:B:184:ASN:OD1	2.15	0.46
1:B:212:ASN:HA	3:B:455:HOH:O	2.15	0.46
1:A:74:CYS:C	1:A:76:LEU:N	2.69	0.46
1:B:233:ILE:O	1:B:255:ILE:HA	2.15	0.46
1:B:264:ARG:CZ	1:B:268:LEU:HD21	2.46	0.46
1:A:10:LEU:HA	1:A:13:MSE:CE	2.34	0.46
1:A:110:MSE:HG3	1:A:211:PHE:CD2	2.51	0.46
1:B:43:LYS:HG2	1:B:43:LYS:O	2.16	0.46
1:B:46:ILE:HD11	1:B:234:ILE:HD12	1.97	0.46
1:B:72:ASP:HA	1:B:77:VAL:HG21	1.97	0.46
1:A:288:VAL:HG23	3:A:410:HOH:O	2.16	0.46
1:B:171:LEU:HD23	1:B:171:LEU:C	2.37	0.46
1:B:193:ASP:HB3	1:B:202:GLY:C	2.37	0.46
1:B:196:GLU:HG3	3:B:566:HOH:O	2.14	0.46
1:B:286:LEU:O	1:B:289:VAL:HG12	2.15	0.46
1:A:296:THR:O	1:A:297:LEU:C	2.54	0.46
1:B:171:LEU:HD23	1:B:171:LEU:O	2.16	0.46
1:A:10:LEU:HG	1:A:30:GLU:CG	2.46	0.45
1:B:26:PRO:HD2	3:B:548:HOH:O	2.15	0.45
1:B:52:MSE:HE2	1:B:52:MSE:H	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:130:LYS:HD3	1:B:133:GLU:OE2	2.15	0.45
1:B:133:GLU:N	3:B:464:HOH:O	2.47	0.45
1:B:214:HIS:O	1:B:218:LEU:HD23	2.15	0.45
1:A:263:ASP:CG	1:A:264:ARG:H	2.18	0.45
1:B:110:MSE:HE2	1:B:210:VAL:CG1	2.43	0.45
1:A:96:GLU:HG3	1:A:110:MSE:SE	2.66	0.45
1:B:223:TYR:O	1:B:225:SER:N	2.49	0.45
1:B:95:ILE:HG21	1:B:109:TYR:CD2	2.52	0.45
1:B:128:LYS:HB2	1:B:194:PHE:CZ	2.52	0.45
1:B:231:SER:HA	1:B:251:ASN:O	2.16	0.45
1:B:297:LEU:OXT	2:B:402:EPE:H81	2.17	0.45
1:B:59:TYR:CZ	1:B:141:MSE:HE1	2.50	0.45
1:B:213:LYS:HE2	1:B:245:MSE:HG2	1.99	0.45
1:B:261:LEU:HD12	1:B:272:TYR:CB	2.46	0.45
1:A:48:THR:O	1:A:162:ILE:HA	2.16	0.45
1:A:132:LYS:HE3	3:B:562:HOH:O	2.16	0.45
1:A:222:ASP:O	1:A:226:GLN:HG3	2.16	0.45
1:B:66:THR:N	1:B:69:ASN:HB2	2.31	0.45
1:B:195:ASP:H	1:B:199:VAL:H	1.65	0.45
1:B:217:ALA:O	1:B:248:GLY:HA3	2.15	0.45
1:B:135:VAL:HB	1:B:177:GLN:NE2	2.29	0.45
1:B:210:VAL:CG1	1:B:211:PHE:N	2.78	0.45
1:B:288:VAL:O	1:B:291:SER:HB3	2.17	0.45
1:A:127:PRO:HG2	1:A:130:LYS:HG2	1.98	0.45
1:A:133:GLU:CG	3:A:465:HOH:O	2.64	0.45
1:B:196:GLU:HG3	3:B:566:HOH:O	2.16	0.45
1:B:128:LYS:HA	1:B:131:LEU:CD1	2.47	0.45
1:A:100:VAL:HG13	1:A:101:LEU:HD12	1.98	0.45
1:A:236:LEU:HD23	1:A:258:ILE:HB	1.99	0.45
1:B:60:ASN:CG	3:B:457:HOH:O	2.55	0.45
1:B:283:GLU:C	1:B:285:SER:H	2.19	0.45
1:A:49:ASP:CG	1:A:50:PHE:N	2.70	0.45
1:A:56:ARG:HA	1:A:284:GLU:OE1	2.17	0.45
1:B:10:LEU:HD22	1:B:16:PHE:CD2	2.51	0.45
1:A:193:ASP:HB2	1:A:204:LYS:HG3	1.99	0.45
1:A:195:ASP:OD1	1:A:196:GLU:N	2.49	0.45
1:B:182:HIS:HB2	1:B:184:ASN:OD1	2.17	0.45
1:A:147:GLU:HB2	3:A:564:HOH:O	2.16	0.45
1:A:92:TYR:HE1	1:A:109:TYR:HD2	1.65	0.45
1:B:41:ALA:O	1:B:43:LYS:N	2.50	0.45
1:A:10:LEU:HA	1:A:13:MSE:HE3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:59:TYR:O	1:A:62:LYS:N	2.46	0.45
1:B:37:ILE:CD1	1:B:295:LYS:HB3	2.47	0.45
1:A:103:VAL:HG13	1:A:104:GLU:N	2.32	0.45
1:B:169:ASP:OD1	1:B:192:MSE:HG3	2.17	0.45
1:A:45:GLN:NE2	1:A:230:ASN:HB2	2.31	0.45
1:A:171:LEU:HD23	1:A:171:LEU:O	2.16	0.45
1:B:281:VAL:O	1:B:282:LYS:C	2.54	0.45
1:A:169:ASP:OD1	1:A:192:MSE:HG2	2.17	0.45
1:B:295:LYS:NZ	3:B:469:HOH:O	2.46	0.45
1:A:114:TYR:O	1:A:117:SER:N	2.49	0.45
1:A:92:TYR:CG	1:A:113:TRP:HB2	2.52	0.45
1:A:156:HIS:HB2	1:A:158:ILE:HG12	1.99	0.45
1:B:72:ASP:HB3	1:B:85:LEU:HD13	1.99	0.45
1:A:209:HIS:HE1	1:A:211:PHE:HB2	1.82	0.45
1:B:229:ASP:O	1:B:231:SER:N	2.49	0.45
1:A:13:MSE:HB3	1:A:15:GLU:OE1	2.17	0.45
1:A:106:LYS:HA	1:A:109:TYR:CD1	2.52	0.45
1:A:68:HIS:CE1	1:A:117:SER:HB3	2.52	0.45
1:A:18:LYS:HZ1	1:A:283:GLU:CD	2.19	0.45
1:A:22:ARG:HD3	3:A:490:HOH:O	2.16	0.45
1:A:96:GLU:HG3	1:A:97:VAL:HG13	1.99	0.45
1:A:88:LEU:HD22	1:A:116:LYS:CD	2.47	0.45
1:B:127:PRO:HB2	1:B:130:LYS:HG3	1.99	0.45
1:A:141:MSE:CE	3:A:471:HOH:O	2.63	0.44
1:B:93:TYR:O	1:B:97:VAL:HG22	2.17	0.44
1:B:173:GLU:HG3	1:B:177:GLN:NE2	2.32	0.44
1:B:233:ILE:HD12	1:B:233:ILE:N	2.32	0.44
1:A:67:CYS:CB	1:A:167:ILE:H	2.30	0.44
1:A:128:LYS:HD2	1:A:194:PHE:CD2	2.52	0.44
1:B:74:CYS:HB2	1:B:134:ILE:HG12	1.98	0.44
1:A:171:LEU:HD23	1:A:171:LEU:O	2.17	0.44
1:A:56:ARG:HH21	1:A:144:GLU:CB	2.21	0.44
1:B:28:ARG:HG3	1:B:32:ILE:HD11	1.98	0.44
1:B:11:LYS:NZ	3:B:545:HOH:O	2.49	0.44
1:B:89:LYS:HA	1:B:113:TRP:CZ2	2.52	0.44
1:B:118:HIS:HB3	1:B:203:PHE:CE1	2.52	0.44
1:A:11:LYS:NZ	1:A:17:GLN:NE2	2.65	0.44
1:A:212:ASN:HB2	1:A:215:ASP:OD2	2.17	0.44
1:B:48:THR:HA	1:B:245:MSE:HE1	1.99	0.44
1:A:70:ILE:HG22	1:A:134:ILE:HG22	1.98	0.44
1:A:20:SER:CB	1:A:283:GLU:HB2	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:43:LYS:HA	1:B:230:ASN:HA	1.98	0.44
1:A:44:LEU:HG	1:A:158:ILE:CG2	2.47	0.44
1:A:41:ALA:O	1:A:43:LYS:N	2.50	0.44
1:A:270:GLU:CB	3:A:485:HOH:O	2.66	0.44
1:B:157:GLY:O	1:B:159:PRO:HD3	2.18	0.44
1:B:288:VAL:HG23	3:B:410:HOH:O	2.16	0.44
1:B:71:ILE:C	1:B:73:ASN:H	2.21	0.44
1:A:13:MSE:O	1:A:17:GLN:HG2	2.17	0.44
1:B:57:PHE:HD2	3:B:462:HOH:O	2.00	0.44
1:B:67:CYS:HA	1:B:170:VAL:HG11	1.99	0.44
1:B:72:ASP:O	1:B:82:ARG:HD3	2.17	0.44
1:B:89:LYS:HB2	3:B:428:HOH:O	2.17	0.44
1:A:56:ARG:HD2	3:A:561:HOH:O	2.17	0.44
1:A:80:GLU:O	1:A:83:ARG:HB3	2.18	0.44
1:A:262:ASN:O	1:A:263:ASP:HB2	2.17	0.44
1:A:17:GLN:HA	1:A:17:GLN:NE2	2.33	0.44
1:A:77:VAL:HG13	1:A:124:GLN:CG	2.47	0.44
1:A:231:SER:CB	1:A:253:GLU:HB2	2.46	0.44
1:A:15:GLU:H	1:A:15:GLU:CD	2.21	0.44
1:A:260:TYR:CZ	1:A:280:LEU:HD12	2.53	0.44
1:A:283:GLU:HG3	1:A:285:SER:H	1.82	0.44
1:B:77:VAL:HA	1:B:124:GLN:OE1	2.18	0.44
1:B:143:LYS:O	1:B:146:TYR:HD2	2.01	0.44
1:B:23:ILE:O	1:B:273:MSE:HE2	2.18	0.44
1:B:57:PHE:HZ	1:B:263:ASP:OD1	2.01	0.44
1:B:218:LEU:C	1:B:220:ASN:H	2.20	0.44
1:A:92:TYR:CE1	1:A:109:TYR:HD2	2.34	0.44
1:A:119:GLY:O	1:A:123:GLU:HG3	2.18	0.44
1:A:183:SER:HA	1:B:183:SER:HA	1.98	0.44
1:B:10:LEU:HA	1:B:13:MSE:CE	2.48	0.44
1:B:251:ASN:HD22	1:B:251:ASN:H	1.65	0.44
1:B:156:HIS:HB2	1:B:158:ILE:HG12	2.00	0.44
1:A:56:ARG:HD2	3:A:561:HOH:O	2.18	0.44
1:A:70:ILE:HD12	1:A:170:VAL:CG1	2.47	0.44
1:A:100:VAL:C	1:A:101:LEU:HD12	2.37	0.44
1:A:131:LEU:O	1:A:134:ILE:HB	2.18	0.44
1:B:134:ILE:HA	1:B:137:ASP:OD1	2.18	0.44
1:A:192:MSE:O	1:A:204:LYS:HE2	2.17	0.44
1:B:195:ASP:CG	1:B:196:GLU:N	2.71	0.44
1:A:65:PRO:HB2	1:A:69:ASN:HB2	2.00	0.44
1:A:261:LEU:HD11	1:A:263:ASP:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:95:ILE:HG12	3:A:543:HOH:O	2.17	0.44
1:A:263:ASP:O	1:A:264:ARG:C	2.56	0.43
1:A:24:LYS:HE3	1:A:274:ASP:OD1	2.17	0.43
1:B:76:LEU:HD11	1:B:130:LYS:HG3	2.00	0.43
1:B:127:PRO:CB	1:B:199:VAL:HG22	2.48	0.43
1:A:59:TYR:O	1:A:60:ASN:C	2.57	0.43
1:A:170:VAL:O	1:A:174:VAL:HG23	2.17	0.43
1:A:53:THR:C	1:A:143:LYS:HE2	2.37	0.43
1:B:249:VAL:HG13	3:B:418:HOH:O	2.17	0.43
1:A:171:LEU:HD23	1:A:171:LEU:C	2.38	0.43
1:B:22:ARG:HB3	1:B:273:MSE:SE	2.68	0.43
1:B:173:GLU:O	1:B:177:GLN:HG3	2.17	0.43
1:A:110:MSE:O	1:A:114:TYR:HD1	2.00	0.43
1:A:295:LYS:O	1:A:295:LYS:HG2	2.17	0.43
1:A:207:LEU:HD12	1:A:208:ILE:N	2.33	0.43
1:A:233:ILE:O	1:A:255:ILE:HA	2.18	0.43
1:B:264:ARG:HB2	1:B:268:LEU:CD1	2.48	0.43
1:B:56:ARG:HA	1:B:284:GLU:OE1	2.18	0.43
1:B:173:GLU:HG3	1:B:177:GLN:HE21	1.84	0.43
1:A:24:LYS:HB2	1:A:273:MSE:HE2	2.00	0.43
1:A:79:ASP:O	1:A:79:ASP:OD2	2.37	0.43
1:A:11:LYS:C	1:A:13:MSE:H	2.22	0.43
1:B:39:GLY:HA3	1:B:43:LYS:HZ2	1.84	0.43
1:B:75:LYS:HG2	3:B:556:HOH:O	2.17	0.43
1:A:261:LEU:HD13	1:A:272:TYR:CZ	2.52	0.43
1:A:33:ILE:O	1:A:37:ILE:HG13	2.19	0.43
1:A:97:VAL:HG12	1:A:264:ARG:NH1	2.33	0.43
1:B:35:GLY:HA3	1:B:254:HIS:NE2	2.33	0.43
1:A:89:LYS:CG	3:A:420:HOH:O	2.67	0.43
1:A:253:GLU:HG2	1:A:254:HIS:CD2	2.54	0.43
1:A:289:VAL:HG12	3:A:419:HOH:O	2.18	0.43
1:B:59:TYR:CD2	1:B:141:MSE:HE2	2.54	0.43
1:A:182:HIS:HB2	1:A:184:ASN:OD1	2.19	0.43
1:A:183:SER:HA	1:B:183:SER:HA	2.00	0.43
1:A:15:GLU:H	1:A:15:GLU:CD	2.18	0.43
1:A:59:TYR:O	1:A:60:ASN:C	2.57	0.43
1:A:133:GLU:HG3	3:A:465:HOH:O	2.19	0.43
1:B:101:LEU:HD12	1:B:101:LEU:N	2.34	0.43
1:B:134:ILE:O	1:B:137:ASP:OD1	2.36	0.43
1:B:37:ILE:HG12	1:B:296:THR:HA	2.00	0.43
1:B:132:LYS:HB3	3:B:464:HOH:O	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:59:TYR:CD1	3:A:561:HOH:O	2.69	0.43
1:A:89:LYS:HG2	1:A:113:TRP:CZ2	2.42	0.43
1:B:72:ASP:OD1	1:B:72:ASP:N	2.50	0.43
1:B:132:LYS:N	3:B:508:HOH:O	2.49	0.43
1:B:264:ARG:O	1:B:267:GLU:HB3	2.18	0.43
1:A:132:LYS:HA	1:A:177:GLN:HE22	1.84	0.43
1:A:286:LEU:O	1:A:289:VAL:HG12	2.19	0.43
1:B:85:LEU:HD21	1:B:117:SER:HA	2.00	0.43
1:B:71:ILE:HD13	1:B:134:ILE:HG21	2.01	0.43
1:A:89:LYS:O	1:A:93:TYR:CB	2.66	0.43
1:A:13:MSE:HE3	1:A:295:LYS:CE	2.47	0.43
1:A:63:ARG:NH1	1:A:63:ARG:HB3	2.34	0.43
1:A:237:GLY:O	1:A:259:GLY:HA2	2.19	0.43
1:B:33:ILE:O	1:B:37:ILE:HG13	2.18	0.43
1:B:264:ARG:HB2	1:B:268:LEU:CG	2.45	0.43
1:A:77:VAL:HG22	1:A:124:GLN:HG3	2.00	0.43
1:A:152:LYS:HD2	3:A:527:HOH:O	2.19	0.43
1:B:77:VAL:CG1	1:B:81:CYS:HB3	2.43	0.43
1:B:88:LEU:HD12	1:B:120:LEU:CD1	2.48	0.43
1:B:101:LEU:H	1:B:101:LEU:CD1	2.32	0.43
1:A:86:LEU:N	1:A:86:LEU:CD1	2.81	0.43
1:B:114:TYR:CG	1:B:207:LEU:HD11	2.54	0.43
1:B:193:ASP:HA	1:B:204:LYS:HE3	1.99	0.43
1:A:182:HIS:HB2	1:A:184:ASN:OD1	2.19	0.43
1:B:267:GLU:O	1:B:268:LEU:HD23	2.19	0.43
1:B:283:GLU:HG2	3:B:461:HOH:O	2.19	0.43
1:A:54:LEU:O	1:A:143:LYS:HG3	2.19	0.43
1:B:15:GLU:HG2	1:B:291:SER:HB2	2.00	0.43
1:B:103:VAL:HG12	3:B:565:HOH:O	2.19	0.43
1:B:126:ILE:HA	1:B:127:PRO:HD3	1.80	0.43
1:B:144:GLU:HB3	1:B:285:SER:HB2	1.99	0.43
1:A:212:ASN:O	1:A:215:ASP:N	2.52	0.43
1:B:218:LEU:C	1:B:220:ASN:H	2.22	0.43
1:A:56:ARG:CZ	3:A:561:HOH:O	2.67	0.43
1:A:259:GLY:O	1:A:279:VAL:HA	2.18	0.43
1:B:8:VAL:HG22	1:B:37:ILE:HD12	2.01	0.43
1:A:148:ASN:N	1:A:148:ASN:ND2	2.66	0.43
1:B:156:HIS:CD2	1:B:297:LEU:HB3	2.54	0.43
2:B:402:EPE:H62	3:B:449:HOH:O	2.19	0.43
1:A:17:GLN:HA	1:A:17:GLN:NE2	2.33	0.43
1:A:52:MSE:HE2	1:A:52:MSE:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:77:VAL:HG13	1:A:124:GLN:HG3	1.99	0.43
1:A:133:GLU:O	1:A:136:ALA:HB3	2.19	0.43
1:A:228:LYS:N	3:A:481:HOH:O	2.50	0.43
1:B:63:ARG:NH1	1:B:63:ARG:HB3	2.34	0.43
1:A:92:TYR:CD1	1:A:113:TRP:HB2	2.54	0.43
1:A:264:ARG:HD3	3:A:475:HOH:O	2.19	0.43
1:B:257:LYS:N	1:B:277:ASP:OD2	2.43	0.43
1:A:235:LEU:C	1:A:235:LEU:HD23	2.39	0.43
1:B:232:ASN:OD1	1:B:254:HIS:HB2	2.19	0.43
1:B:122:ILE:HD13	1:B:201:LYS:O	2.19	0.43
1:A:71:ILE:O	1:A:72:ASP:C	2.57	0.43
1:A:81:CYS:C	1:A:83:ARG:N	2.72	0.43
1:A:83:ARG:O	1:A:86:LEU:HB2	2.19	0.43
1:A:71:ILE:C	1:A:73:ASN:N	2.72	0.43
1:A:297:LEU:O	2:A:401:EPE:N4	2.52	0.43
1:A:16:PHE:HE2	1:A:23:ILE:HD11	1.84	0.42
1:A:130:LYS:O	1:A:134:ILE:HG13	2.19	0.42
1:A:148:ASN:O	1:A:152:LYS:HG2	2.18	0.42
1:B:10:LEU:N	3:B:494:HOH:O	2.52	0.42
1:B:88:LEU:HG	3:B:521:HOH:O	2.18	0.42
1:A:143:LYS:HB3	1:A:285:SER:CA	2.49	0.42
1:B:128:LYS:HD2	3:B:568:HOH:O	2.18	0.42
1:B:133:GLU:N	3:B:464:HOH:O	2.32	0.42
1:A:141:MSE:CE	3:A:561:HOH:O	2.67	0.42
1:A:143:LYS:O	1:A:146:TYR:HD2	2.01	0.42
1:A:36:LEU:CD2	1:A:232:ASN:HB3	2.49	0.42
1:A:114:TYR:CG	1:A:207:LEU:HD11	2.55	0.42
1:B:77:VAL:HG22	1:B:124:GLN:HG3	2.00	0.42
1:B:116:LYS:O	1:B:120:LEU:HG	2.19	0.42
1:B:143:LYS:HE3	1:B:260:TYR:CD1	2.55	0.42
1:A:10:LEU:HD23	1:A:13:MSE:HE3	2.01	0.42
1:B:41:ALA:O	1:B:43:LYS:N	2.52	0.42
1:B:60:ASN:N	1:B:60:ASN:ND2	2.66	0.42
1:A:72:ASP:OD1	1:A:121:LEU:HD11	2.19	0.42
1:B:60:ASN:HD22	1:B:60:ASN:N	2.16	0.42
1:B:260:TYR:CZ	1:B:280:LEU:HD12	2.54	0.42
1:B:264:ARG:CZ	1:B:268:LEU:HD11	2.49	0.42
1:A:171:LEU:HD23	1:A:171:LEU:O	2.19	0.42
1:A:207:LEU:HD12	1:A:208:ILE:H	1.85	0.42
1:A:252:VAL:HG11	1:A:255:ILE:HB	2.00	0.42
1:A:25:ASN:CG	1:A:28:ARG:HB2	2.40	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69:ASN:HA	1:A:72:ASP:OD2	2.19	0.42
1:A:103:VAL:HG13	1:A:104:GLU:N	2.34	0.42
1:B:15:GLU:CD	1:B:15:GLU:H	2.21	0.42
1:A:11:LYS:HD3	1:A:11:LYS:HA	1.88	0.42
1:B:85:LEU:O	1:B:88:LEU:HB2	2.18	0.42
1:A:273:MSE:HA	1:A:279:VAL:CG2	2.49	0.42
2:A:401:EPE:H82	3:A:480:HOH:O	2.18	0.42
1:B:48:THR:CA	1:B:245:MSE:HE1	2.49	0.42
1:A:75:LYS:HG3	1:A:76:LEU:HD23	2.01	0.42
1:A:232:ASN:OD1	1:A:254:HIS:HB2	2.19	0.42
1:B:10:LEU:O	1:B:17:GLN:OE1	2.38	0.42
1:A:100:VAL:HG13	1:A:101:LEU:CD1	2.41	0.42
1:A:128:LYS:HA	1:A:131:LEU:CG	2.49	0.42
1:B:206:GLU:OE2	1:B:219:LYS:HD2	2.19	0.42
1:A:87:GLN:O	1:A:91:GLN:HG3	2.19	0.42
1:A:39:GLY:CA	1:A:43:LYS:HD3	2.47	0.42
1:A:140:VAL:HG21	1:A:174:VAL:HG13	2.01	0.42
1:A:186:LYS:HD3	1:A:187:VAL:N	2.34	0.42
1:B:110:MSE:O	1:B:113:TRP:HB3	2.20	0.42
1:A:52:MSE:HE2	1:A:52:MSE:N	2.30	0.42
1:A:233:ILE:HD13	1:A:252:VAL:HG13	2.01	0.42
1:B:70:ILE:HD12	1:B:170:VAL:CG1	2.50	0.42
1:A:87:GLN:HA	1:A:90:GLU:HG2	2.02	0.42
1:A:46:ILE:HD13	1:A:234:ILE:HB	2.02	0.42
1:B:63:ARG:HB2	1:B:63:ARG:HH11	1.83	0.42
1:B:84:LYS:O	1:B:88:LEU:HB2	2.19	0.42
1:B:126:ILE:HA	1:B:127:PRO:HD3	1.79	0.42
1:B:204:LYS:HE3	3:B:551:HOH:O	2.19	0.42
1:A:261:LEU:HD23	1:A:269:LEU:CD1	2.50	0.42
1:B:92:TYR:HB3	1:B:113:TRP:CE3	2.55	0.42
1:A:72:ASP:OD1	1:A:72:ASP:N	2.50	0.42
1:A:186:LYS:HD2	1:A:223:TYR:CD1	2.55	0.42
1:A:194:PHE:HB3	1:A:198:GLY:HA2	2.01	0.42
1:A:229:ASP:HB3	3:A:425:HOH:O	2.18	0.42
1:B:18:LYS:HE2	3:B:487:HOH:O	2.18	0.42
1:B:281:VAL:O	1:B:283:GLU:N	2.53	0.42
1:B:98:ASP:HB3	1:B:106:LYS:HE2	2.02	0.42
1:A:87:GLN:HB3	1:A:91:GLN:HE21	1.83	0.42
1:A:107:PHE:N	1:A:108:PRO:HD2	2.34	0.42
1:A:220:ASN:O	1:A:221:THR:C	2.58	0.42
1:B:163:PHE:HB3	1:B:245:MSE:SE	2.70	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:131:LEU:HB3	3:A:501:HOH:O	2.19	0.42
1:B:36:LEU:CD2	1:B:232:ASN:HB3	2.50	0.42
1:A:163:PHE:HA	1:A:188:VAL:O	2.20	0.42
1:A:297:LEU:OXT	2:A:401:EPE:H81	2.19	0.42
1:B:251:ASN:HB3	3:B:580:HOH:O	2.19	0.42
1:A:170:VAL:O	1:A:174:VAL:HG23	2.19	0.42
1:A:182:HIS:HB2	1:A:184:ASN:OD1	2.20	0.42
1:B:26:PRO:HA	1:B:29:VAL:HB	2.02	0.42
1:B:230:ASN:ND2	3:B:444:HOH:O	2.49	0.42
1:A:128:LYS:HD2	1:A:194:PHE:CE2	2.54	0.42
1:A:132:LYS:HG3	1:A:177:GLN:HE21	1.85	0.42
1:B:19:SER:HA	3:B:574:HOH:O	2.19	0.42
1:B:81:CYS:HA	1:B:84:LYS:HD3	2.02	0.42
1:A:43:LYS:HG2	3:A:425:HOH:O	2.20	0.42
1:A:228:LYS:CE	1:A:251:ASN:HD21	2.33	0.42
1:B:52:MSE:HE2	1:B:52:MSE:H	1.85	0.42
1:B:82:ARG:HG3	1:B:82:ARG:NH1	2.34	0.42
1:B:239:SER:HA	1:B:272:TYR:HH	1.83	0.42
1:A:192:MSE:SE	1:A:200:LEU:HD13	2.70	0.42
1:A:89:LYS:HG3	3:A:420:HOH:O	2.19	0.42
1:A:133:GLU:O	1:A:137:ASP:OD1	2.37	0.42
1:A:152:LYS:HG3	3:A:443:HOH:O	2.18	0.42
1:A:240:GLN:HA	1:A:240:GLN:NE2	2.28	0.42
1:B:126:ILE:HD12	1:B:200:LEU:HD22	2.02	0.42
1:A:92:TYR:HE1	1:A:109:TYR:CD2	2.37	0.42
1:B:194:PHE:HA	1:B:199:VAL:O	2.19	0.42
1:A:18:LYS:HB3	1:A:18:LYS:HE2	1.84	0.42
1:B:146:TYR:CD1	1:B:147:GLU:N	2.88	0.42
1:B:263:ASP:O	1:B:264:ARG:C	2.58	0.42
1:A:74:CYS:HB2	3:A:563:HOH:O	2.20	0.41
1:A:126:ILE:O	1:A:199:VAL:HA	2.19	0.41
1:A:128:LYS:HA	1:A:131:LEU:CD1	2.50	0.41
1:B:82:ARG:O	1:B:86:LEU:N	2.50	0.41
1:A:158:ILE:O	1:A:160:VAL:HG23	2.21	0.41
1:A:16:PHE:HA	1:A:21:VAL:HG21	2.01	0.41
1:B:24:LYS:NZ	1:B:274:ASP:OD1	2.42	0.41
1:B:210:VAL:O	1:B:210:VAL:HG22	2.21	0.41
1:A:60:ASN:N	3:A:520:HOH:O	2.53	0.41
1:A:159:PRO:HG2	1:A:227:LEU:HD22	2.02	0.41
1:A:165:ALA:O	1:A:190:ASN:ND2	2.51	0.41
1:A:231:SER:HB3	1:A:253:GLU:N	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:231:SER:HB3	1:A:253:GLU:H	1.85	0.41
1:A:88:LEU:CD1	1:A:116:LYS:HB3	2.49	0.41
1:A:8:VAL:HG13	1:A:13:MSE:HE2	2.01	0.41
1:A:109:TYR:O	1:A:112:GLU:HB2	2.21	0.41
1:B:23:ILE:HG22	1:B:26:PRO:N	2.35	0.41
1:B:49:ASP:CG	1:B:50:PHE:H	2.23	0.41
1:B:89:LYS:HA	1:B:113:TRP:CZ2	2.55	0.41
1:A:125:GLY:HA2	1:A:199:VAL:CG1	2.49	0.41
1:B:101:LEU:HD12	1:B:101:LEU:N	2.35	0.41
1:A:146:TYR:CD1	1:A:146:TYR:C	2.94	0.41
1:A:163:PHE:CZ	1:A:216:GLY:HA3	2.55	0.41
1:B:243:LEU:HD22	1:B:257:LYS:HD3	2.02	0.41
1:A:110:MSE:HE2	1:A:210:VAL:HG12	2.03	0.41
1:A:165:ALA:HB1	1:A:209:HIS:HA	2.02	0.41
1:B:78:THR:C	1:B:80:GLU:N	2.73	0.41
1:A:18:LYS:HE2	1:A:18:LYS:HB3	1.84	0.41
1:B:56:ARG:HB3	1:B:284:GLU:OE1	2.20	0.41
1:A:106:LYS:HA	1:A:109:TYR:HD1	1.85	0.41
1:A:23:ILE:CG2	1:A:24:LYS:N	2.84	0.41
1:A:132:LYS:HG3	1:A:177:GLN:NE2	2.36	0.41
1:A:103:VAL:HG23	1:A:211:PHE:CG	2.55	0.41
1:B:63:ARG:HG3	3:B:450:HOH:O	2.21	0.41
1:B:95:ILE:HG21	1:B:109:TYR:CD2	2.56	0.41
1:B:291:SER:O	1:B:294:GLN:HB3	2.20	0.41
1:A:156:HIS:NE2	1:A:297:LEU:HB3	2.35	0.41
1:B:92:TYR:OH	1:B:112:GLU:OE1	2.38	0.41
1:B:116:LYS:O	1:B:120:LEU:HG	2.21	0.41
1:B:146:TYR:CD1	1:B:146:TYR:C	2.94	0.41
1:B:229:ASP:O	1:B:231:SER:N	2.51	0.41
1:A:135:VAL:HG21	1:A:173:GLU:HB3	2.03	0.41
1:A:161:PHE:CE2	1:A:163:PHE:HB2	2.55	0.41
1:A:37:ILE:O	3:A:480:HOH:O	2.22	0.41
1:B:28:ARG:O	1:B:32:ILE:HG13	2.21	0.41
1:A:62:LYS:HD2	3:A:568:HOH:O	2.19	0.41
1:A:10:LEU:HD12	1:A:26:PRO:HB2	2.03	0.41
1:A:101:LEU:HD12	1:A:101:LEU:N	2.36	0.41
1:A:192:MSE:HB3	1:A:200:LEU:CD1	2.51	0.41
1:A:215:ASP:HB3	1:A:219:LYS:HE3	2.03	0.41
1:A:261:LEU:HD21	1:A:265:VAL:HG13	2.01	0.41
1:A:147:GLU:CG	3:A:564:HOH:O	2.67	0.41
1:A:36:LEU:O	1:A:296:THR:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:239:SER:HA	1:A:272:TYR:OH	2.21	0.41
1:A:260:TYR:CZ	1:A:280:LEU:HD12	2.55	0.41
1:B:37:ILE:HD11	1:B:295:LYS:HB3	2.02	0.41
1:B:274:ASP:HB3	3:B:544:HOH:O	2.21	0.41
1:A:48:THR:C	1:A:245:MSE:HE1	2.41	0.41
1:B:43:LYS:HE2	3:B:459:HOH:O	2.21	0.41
1:B:111:VAL:HA	1:B:207:LEU:HD23	2.02	0.41
1:B:223:TYR:HA	1:B:226:GLN:OE1	2.20	0.41
1:A:52:MSE:HE2	1:A:52:MSE:H	1.85	0.41
1:A:71:ILE:O	1:A:72:ASP:C	2.59	0.41
1:B:18:LYS:HD2	1:B:287:GLU:OE1	2.21	0.41
1:A:59:TYR:CG	3:A:561:HOH:O	2.71	0.41
1:B:226:GLN:O	1:B:227:LEU:HD23	2.21	0.41
1:A:59:TYR:O	1:A:60:ASN:C	2.60	0.41
1:A:126:ILE:N	3:A:437:HOH:O	2.54	0.41
1:A:201:LYS:CG	1:A:202:GLY:N	2.82	0.41
1:B:95:ILE:HG21	1:B:109:TYR:CD2	2.56	0.41
1:B:135:VAL:HG21	1:B:173:GLU:CB	2.49	0.41
1:B:196:GLU:HB2	3:B:566:HOH:O	2.21	0.41
1:B:210:VAL:HG13	1:B:211:PHE:CD1	2.56	0.40
1:B:223:TYR:O	1:B:227:LEU:HG	2.21	0.40
1:B:231:SER:HB2	1:B:253:GLU:N	2.36	0.40
1:B:76:LEU:HD13	1:B:127:PRO:CD	2.46	0.40
1:B:236:LEU:HA	1:B:258:ILE:O	2.22	0.40
1:B:56:ARG:CG	1:B:143:LYS:HA	2.51	0.40
1:B:271:LYS:HB2	3:B:573:HOH:O	2.21	0.40
1:A:24:LYS:HD2	3:A:535:HOH:O	2.20	0.40
1:A:80:GLU:OE2	1:A:83:ARG:HD3	2.21	0.40
1:B:28:ARG:HD3	3:B:511:HOH:O	2.20	0.40
1:B:251:ASN:HD22	1:B:251:ASN:N	2.18	0.40
1:A:25:ASN:OD1	1:A:27:THR:HB	2.20	0.40
1:B:18:LYS:C	1:B:20:SER:H	2.24	0.40
1:A:85:LEU:O	1:A:88:LEU:HB2	2.21	0.40
1:A:125:GLY:O	1:A:127:PRO:HD3	2.21	0.40
1:B:17:GLN:HA	1:B:17:GLN:NE2	2.35	0.40
1:B:37:ILE:HG12	1:B:295:LYS:O	2.21	0.40
1:B:266:ASP:HB2	3:B:441:HOH:O	2.21	0.40
1:A:15:GLU:OE1	1:A:15:GLU:N	2.38	0.40
1:A:240:GLN:OE1	1:A:271:LYS:HE3	2.21	0.40
1:A:287:GLU:HA	3:A:429:HOH:O	2.20	0.40
1:B:26:PRO:O	1:B:30:GLU:N	2.48	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:56:ARG:NH1	3:B:481:HOH:O	2.53	0.40
1:A:101:LEU:HB3	1:A:105:GLU:HB2	2.03	0.40
1:A:235:LEU:C	1:A:235:LEU:HD23	2.42	0.40
1:B:74:CYS:HB3	1:B:134:ILE:CG2	2.46	0.40
1:B:95:ILE:HG21	1:B:109:TYR:CD1	2.56	0.40
1:A:20:SER:HB2	1:A:281:VAL:O	2.21	0.40
1:A:55:SER:HA	1:A:142:LEU:HA	2.03	0.40
1:B:39:GLY:HA3	1:B:43:LYS:NZ	2.36	0.40
1:B:43:LYS:O	1:B:232:ASN:N	2.36	0.40
1:A:144:GLU:HB3	1:A:285:SER:HA	2.03	0.40
1:B:122:ILE:HG23	1:B:200:LEU:O	2.21	0.40
1:A:107:PHE:HB3	1:A:108:PRO:CD	2.52	0.40
1:A:146:TYR:CG	1:A:147:GLU:N	2.89	0.40
1:B:24:LYS:CA	1:B:273:MSE:HE2	2.52	0.40
1:B:52:MSE:HE2	1:B:52:MSE:H	1.87	0.40
1:B:70:ILE:HG23	1:B:138:SER:HB3	2.04	0.40
1:B:119:GLY:O	1:B:123:GLU:HG3	2.22	0.40
1:B:124:GLN:HB2	1:B:126:ILE:HD11	2.03	0.40
1:A:127:PRO:HG3	1:A:199:VAL:HG22	2.04	0.40
1:B:18:LYS:HE2	1:B:18:LYS:HB3	1.98	0.40
1:A:180:VAL:O	1:A:182:HIS:N	2.54	0.40
1:A:214:HIS:ND1	1:A:244:ARG:NH2	2.69	0.40
1:A:182:HIS:HB2	1:A:184:ASN:OD1	2.22	0.40
1:B:24:LYS:HA	1:B:273:MSE:HE2	2.03	0.40
1:B:69:ASN:HA	1:B:72:ASP:OD2	2.22	0.40
1:B:136:ALA:C	1:B:138:SER:N	2.74	0.40
1:A:28:ARG:HH21	1:A:31:GLU:HB2	1.86	0.40
1:A:83:ARG:O	1:A:87:GLN:HB2	2.22	0.40
1:B:22:ARG:HG3	1:B:281:VAL:HG21	2.03	0.40
1:B:192:MSE:SE	1:B:194:PHE:CZ	3.25	0.40
1:B:261:LEU:HD11	1:B:269:LEU:N	2.37	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	1-A	289/297 (97%)	255 (88%)	30 (10%)	4 (1%)	11 9
1	1-B	289/297 (97%)	255 (88%)	26 (9%)	8 (3%)	5 2
1	2-A	289/297 (97%)	261 (90%)	25 (9%)	3 (1%)	15 15
1	2-B	289/297 (97%)	264 (91%)	20 (7%)	5 (2%)	9 7
1	3-A	289/297 (97%)	254 (88%)	26 (9%)	9 (3%)	4 2
1	3-B	289/297 (97%)	266 (92%)	17 (6%)	6 (2%)	7 4
1	4-A	289/297 (97%)	244 (84%)	35 (12%)	10 (4%)	3 1
1	4-B	289/297 (97%)	248 (86%)	37 (13%)	4 (1%)	11 9
All	All	2312/2376 (97%)	2047 (88%)	216 (9%)	49 (2%)	7 4

All (49) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	2-B	195	ASP
1	2-B	250	ALA
1	3-A	42	ALA
1	3-A	72	ASP
1	3-A	75	LYS
1	3-B	265	VAL
1	4-A	101	LEU
1	4-A	250	ALA
1	4-A	296	THR
1	4-B	42	ALA
1	1-A	138	SER
1	1-B	42	ALA
1	1-B	60	ASN
1	1-B	101	LEU
1	1-B	248	GLY
1	2-A	42	ALA
1	2-B	42	ALA
1	3-A	219	LYS
1	3-A	282	LYS
1	3-B	72	ASP
1	4-A	60	ASN
1	4-B	224	PHE
1	1-B	219	LYS
1	1-B	282	LYS

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Mol	Chain	Res	Type
1	3-A	195	ASP
1	3-B	60	ASN
1	3-B	105	GLU
1	3-B	282	LYS
1	3-B	284	GLU
1	4-A	91	GLN
1	1-B	250	ALA
1	2-A	60	ASN
1	2-B	137	ASP
1	3-A	224	PHE
1	4-A	96	GLU
1	4-A	265	VAL
1	1-A	250	ALA
1	1-A	282	LYS
1	4-B	75	LYS
1	1-A	105	GLU
1	4-A	117	SER
1	4-A	219	LYS
1	4-B	207	LEU
1	3-A	21	VAL
1	1-B	100	VAL
1	2-B	198	GLY
1	3-A	248	GLY
1	2-A	205	GLY
1	4-A	100	VAL

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	1-A	260/258 (101%)	253 (97%)	7 (3%)	44 55
1	1-B	260/258 (101%)	259 (100%)	1 (0%)	91 95
1	2-A	260/258 (101%)	252 (97%)	8 (3%)	40 48
1	2-B	260/258 (101%)	253 (97%)	7 (3%)	44 55
1	3-A	260/258 (101%)	250 (96%)	10 (4%)	33 41

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	3-B	260/258 (101%)	247 (95%)	13 (5%)	24 28
1	4-A	260/258 (101%)	251 (96%)	9 (4%)	36 44
1	4-B	260/258 (101%)	255 (98%)	5 (2%)	57 68
All	All	2080/2064 (101%)	2020 (97%)	60 (3%)	42 52

All (60) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1-A	20	SER
1	1-A	100	VAL
1	1-A	141	MSE
1	1-A	146	TYR
1	1-A	169	ASP
1	1-A	186	LYS
1	1-A	251	ASN
1	1-B	163	PHE
1	2-A	28	ARG
1	2-A	80	GLU
1	2-A	87	GLN
1	2-A	141	MSE
1	2-A	163	PHE
1	2-A	169	ASP
1	2-A	263	ASP
1	2-A	264	ARG
1	2-B	30	GLU
1	2-B	80	GLU
1	2-B	146	TYR
1	2-B	148	ASN
1	2-B	163	PHE
1	2-B	169	ASP
1	2-B	251	ASN
1	3-A	11	LYS
1	3-A	30	GLU
1	3-A	31	GLU
1	3-A	68	HIS
1	3-A	72	ASP
1	3-A	88	LEU
1	3-A	137	ASP
1	3-A	226	GLN
1	3-A	251	ASN
1	3-A	267	GLU

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Mol	Chain	Res	Type
1	3-B	12	MSE
1	3-B	45	GLN
1	3-B	72	ASP
1	3-B	109	TYR
1	3-B	128	LYS
1	3-B	163	PHE
1	3-B	169	ASP
1	3-B	181	TYR
1	3-B	206	GLU
1	3-B	218	LEU
1	3-B	222	ASP
1	3-B	251	ASN
1	3-B	266	ASP
1	4-A	30	GLU
1	4-A	60	ASN
1	4-A	67	CYS
1	4-A	69	ASN
1	4-A	137	ASP
1	4-A	163	PHE
1	4-A	200	LEU
1	4-A	201	LYS
1	4-A	240	GLN
1	4-B	100	VAL
1	4-B	148	ASN
1	4-B	212	ASN
1	4-B	220	ASN
1	4-B	295	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

Mol	Chain	Res	Type
1	1-A	91	GLN
1	1-A	118	HIS
1	1-A	155	GLN
1	1-A	251	ASN
1	1-A	254	HIS
1	1-B	17	GLN
1	1-B	60	ASN
1	1-B	91	GLN
1	1-B	155	GLN
1	2-A	17	GLN
1	2-A	25	ASN

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Mol	Chain	Res	Type
1	2-A	91	GLN
1	2-A	155	GLN
1	2-B	60	ASN
1	2-B	226	GLN
1	2-B	251	ASN
1	2-B	294	GLN
1	3-A	91	GLN
1	3-A	177	GLN
1	3-A	251	ASN
1	3-A	254	HIS
1	3-B	60	ASN
1	3-B	69	ASN
1	3-B	91	GLN
1	3-B	118	HIS
1	3-B	177	GLN
1	3-B	251	ASN
1	4-A	17	GLN
1	4-A	60	ASN
1	4-A	69	ASN
1	4-A	91	GLN
1	4-A	148	ASN
1	4-A	177	GLN
1	4-B	17	GLN
1	4-B	60	ASN
1	4-B	91	GLN
1	4-B	148	ASN
1	4-B	177	GLN
1	4-B	226	GLN
1	4-B	251	ASN

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 (i)

8 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	EPE	4-B	402	-	15,15,15	1.13	1 (6%)	18,20,20	1.48	3 (16%)
2	EPE	4-A	401	-	15,15,15	1.01	1 (6%)	18,20,20	1.50	2 (11%)
2	EPE	2-A	401	-	15,15,15	1.02	1 (6%)	18,20,20	1.50	2 (11%)
2	EPE	1-B	402	-	15,15,15	0.92	1 (6%)	18,20,20	1.44	2 (11%)
2	EPE	2-B	402	-	15,15,15	0.93	0	18,20,20	1.46	3 (16%)
2	EPE	1-A	401	-	15,15,15	0.99	1 (6%)	18,20,20	1.44	3 (16%)
2	EPE	3-A	401	-	15,15,15	1.01	1 (6%)	18,20,20	1.48	3 (16%)
2	EPE	3-B	402	-	15,15,15	1.04	1 (6%)	18,20,20	1.48	3 (16%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	EPE	4-B	402	-	-	0/9/19/19	0/1/1/1
2	EPE	4-A	401	-	-	0/9/19/19	0/1/1/1
2	EPE	2-A	401	-	-	1/9/19/19	0/1/1/1
2	EPE	1-B	402	-	-	0/9/19/19	0/1/1/1
2	EPE	2-B	402	-	-	1/9/19/19	0/1/1/1
2	EPE	1-A	401	-	-	1/9/19/19	0/1/1/1
2	EPE	3-A	401	-	-	0/9/19/19	0/1/1/1
2	EPE	3-B	402	-	-	1/9/19/19	0/1/1/1

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	4-B	402	EPE	C10-S	3.02	1.81	1.77
2	4-A	401	EPE	C10-S	2.55	1.81	1.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	3-B	402	EPE	C10-S	2.52	1.81	1.77
2	2-A	401	EPE	C10-S	2.46	1.81	1.77
2	1-A	401	EPE	C10-S	2.44	1.81	1.77
2	3-A	401	EPE	C10-S	2.43	1.81	1.77
2	1-B	402	EPE	C10-S	2.13	1.80	1.77

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	2-A	401	EPE	O1S-S-C10	4.49	112.32	106.92
2	3-A	401	EPE	O1S-S-C10	4.30	112.09	106.92
2	4-A	401	EPE	O1S-S-C10	4.25	112.03	106.92
2	1-A	401	EPE	O1S-S-C10	4.20	111.98	106.92
2	1-B	402	EPE	O1S-S-C10	4.10	111.85	106.92
2	2-B	402	EPE	O1S-S-C10	4.03	111.76	106.92
2	4-B	402	EPE	O1S-S-C10	3.92	111.64	106.92
2	3-B	402	EPE	O1S-S-C10	3.85	111.55	106.92
2	4-A	401	EPE	O3S-S-O2S	-2.45	105.29	111.27
2	1-B	402	EPE	O3S-S-O2S	-2.34	105.56	111.27
2	3-B	402	EPE	O3S-S-O2S	-2.32	105.61	111.27
2	2-A	401	EPE	O3S-S-O2S	-2.31	105.63	111.27
2	3-A	401	EPE	O3S-S-O1S	-2.26	105.74	111.27
2	4-B	402	EPE	O3S-S-O2S	-2.25	105.78	111.27
2	1-A	401	EPE	O3S-S-O2S	-2.24	105.81	111.27
2	4-B	402	EPE	O3S-S-O1S	-2.21	105.87	111.27
2	3-A	401	EPE	O3S-S-O2S	-2.20	105.90	111.27
2	1-A	401	EPE	O3S-S-O1S	-2.13	106.06	111.27
2	2-B	402	EPE	O3S-S-O2S	-2.12	106.08	111.27
2	3-B	402	EPE	O3S-S-O1S	-2.04	106.28	111.27
2	2-B	402	EPE	O3S-S-O1S	-2.03	106.31	111.27

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	2-B	402	EPE	N4-C7-C8-O8
2	1-A	401	EPE	N4-C7-C8-O8
2	3-B	402	EPE	N4-C7-C8-O8
2	2-A	401	EPE	N4-C7-C8-O8

There are no ring outliers.

6 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	4-B	402	EPE	3	0
2	4-A	401	EPE	2	0
2	1-B	402	EPE	2	0
2	2-B	402	EPE	1	0
2	1-A	401	EPE	1	0
2	3-A	401	EPE	2	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{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	1-A	283/297 (95%)	-0.39	6 (2%)	63	74	25, 41, 53, 62	283 (100%)
1	1-B	283/297 (95%)	-0.47	2 (0%)	87	92	25, 41, 53, 63	283 (100%)
1	2-A	283/297 (95%)	-0.39	6 (2%)	63	74	25, 41, 53, 62	283 (100%)
1	2-B	283/297 (95%)	-0.47	2 (0%)	87	92	25, 41, 53, 63	283 (100%)
1	3-A	283/297 (95%)	-0.39	6 (2%)	63	74	25, 41, 53, 62	283 (100%)
1	3-B	283/297 (95%)	-0.47	2 (0%)	87	92	25, 41, 53, 63	283 (100%)
1	4-A	283/297 (95%)	-0.39	6 (2%)	63	74	25, 41, 53, 62	283 (100%)
1	4-B	283/297 (95%)	-0.47	2 (0%)	87	92	25, 41, 53, 63	283 (100%)
All	All	2264/2376 (95%)	-0.43	32 (1%)	82	83	25, 41, 53, 63	2264 (100%)

All (32) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	1-A	84	LYS	5.1
1	2-A	84	LYS	5.1
1	3-A	84	LYS	5.1
1	4-A	84	LYS	5.1
1	1-B	120	LEU	3.9
1	2-B	120	LEU	3.9
1	3-B	120	LEU	3.9
1	4-B	120	LEU	3.9
1	1-A	197	ASN	3.5
1	2-A	197	ASN	3.5
1	3-A	197	ASN	3.5
1	4-A	197	ASN	3.5
1	1-A	88	LEU	3.4
1	2-A	88	LEU	3.4
1	3-A	88	LEU	3.4
1	4-A	88	LEU	3.4

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Mol	Chain	Res	Type	RSRZ
1	1-A	101	LEU	2.5
1	2-A	101	LEU	2.5
1	3-A	101	LEU	2.5
1	4-A	101	LEU	2.5
1	1-B	197	ASN	2.5
1	2-B	197	ASN	2.5
1	3-B	197	ASN	2.5
1	4-B	197	ASN	2.5
1	1-A	96	GLU	2.5
1	2-A	96	GLU	2.5
1	3-A	96	GLU	2.5
1	4-A	96	GLU	2.5
1	1-A	60	ASN	2.0
1	2-A	60	ASN	2.0
1	3-A	60	ASN	2.0
1	4-A	60	ASN	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)

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. The B-factors column lists the minimum, median, 95^{th} 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	B-factors(Å^2)	Q<0.9
2	EPE	1-B	402	15/15	0.96	0.14	50,55,57,57	15
2	EPE	2-B	402	15/15	0.96	0.14	51,62,65,65	15
2	EPE	3-B	402	15/15	0.96	0.14	60,62,64,64	15
2	EPE	4-B	402	15/15	0.96	0.14	57,60,65,66	15
2	EPE	1-A	401	15/15	0.97	0.18	55,57,68,69	15
2	EPE	2-A	401	15/15	0.97	0.18	59,64,65,65	15
2	EPE	3-A	401	15/15	0.97	0.18	51,56,64,65	15

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	EPE	4-A	401	15/15	0.97	0.18	42,60,67,68	15

6.5 Other polymers (i)

There are no such residues in this entry.