



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 13, 2024 – 08:15 AM EDT

PDB ID : 4H02
Title : Crystal structure of *P. falciparum* Lysyl-tRNA synthetase
Authors : Khan, S.; Garg, A.; Sharma, A.
Deposited on : 2012-09-07
Resolution : 2.90 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) : 1.20.1
EDS : 2.36.2
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) : 2.36.2

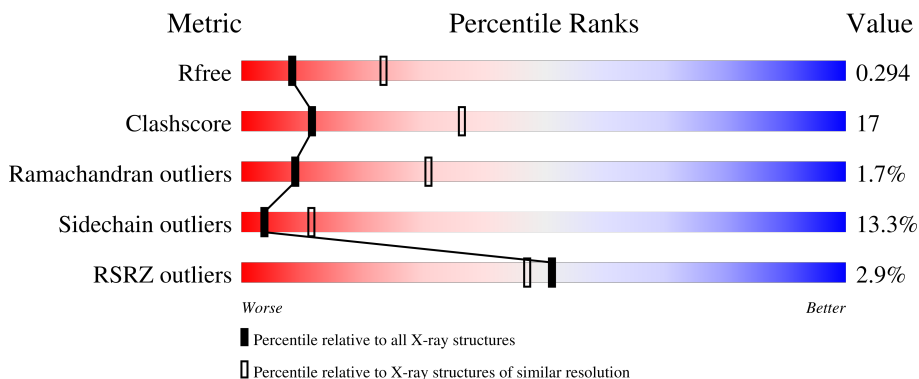
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	507	
1	B	507	
1	C	507	
1	D	507	
1	E	507	

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Mol	Chain	Length	Quality of chain
1	F	507	 4% 51% 34% 8% 7%
1	G	507	 % 54% 32% 6% 7%
1	H	507	 5% 51% 36% 7% 7%

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 30845 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 Lysyl-tRNA synthetase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	469	Total 3848	C 2488	N 639	O 704	S 17	0	3	0
1	B	471	Total 3852	C 2490	N 640	O 705	S 17	0	1	0
1	C	471	Total 3844	C 2484	N 639	O 705	S 16	0	0	0
1	D	471	Total 3849	C 2488	N 640	O 705	S 16	0	0	0
1	E	470	Total 3833	C 2477	N 638	O 702	S 16	0	0	0
1	F	470	Total 3843	C 2485	N 638	O 704	S 16	0	1	0
1	G	470	Total 3840	C 2483	N 638	O 703	S 16	0	0	0
1	H	471	Total 3839	C 2481	N 639	O 703	S 16	0	0	0

- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	10	Total 10	O 10	0	0
2	B	14	Total 14	O 14	0	0
2	C	13	Total 13	O 13	0	0
2	D	16	Total 16	O 16	0	0
2	E	9	Total 9	O 9	0	0
2	F	8	Total 8	O 8	0	0

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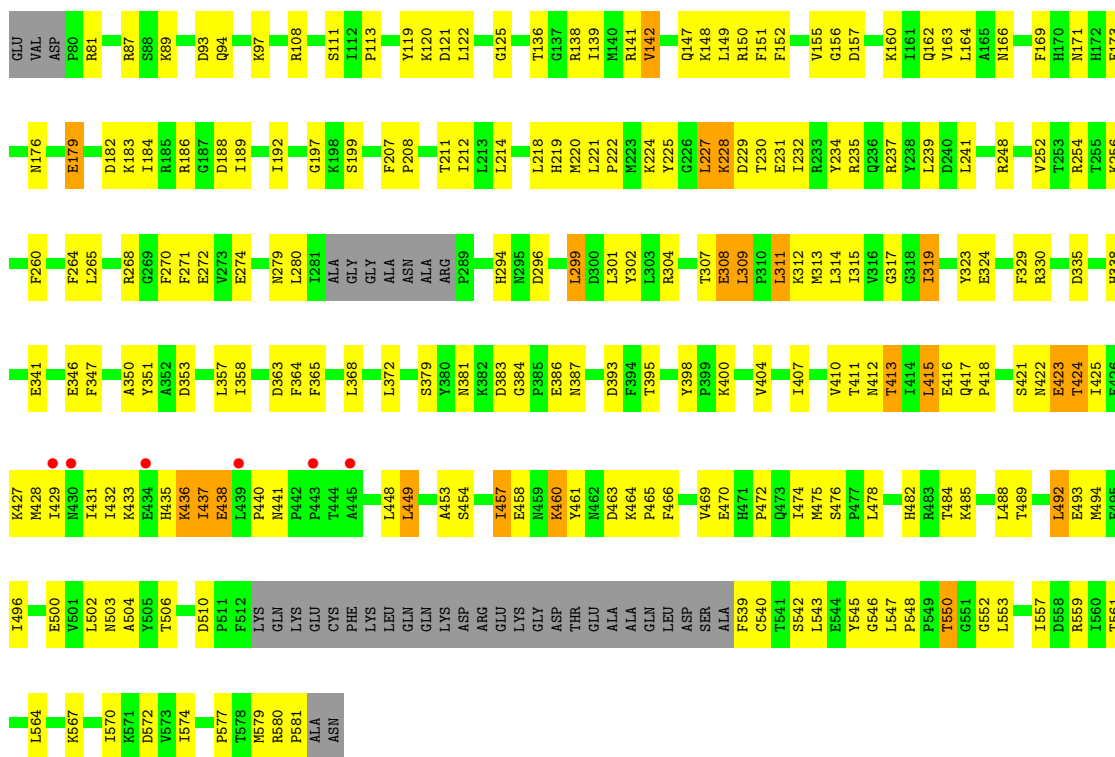
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	G	9	Total O 9 9	0	0
2	H	18	Total O 18 18	0	0

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.

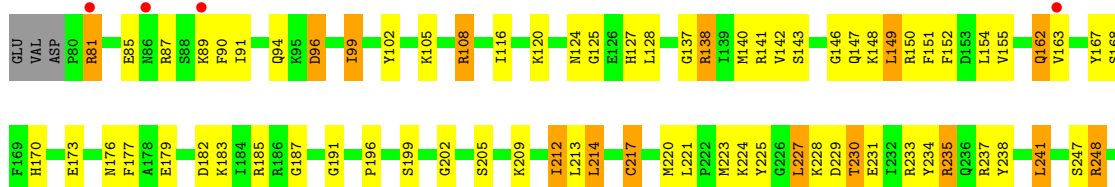
• Molecule 1: Lysyl-tRNA synthetase

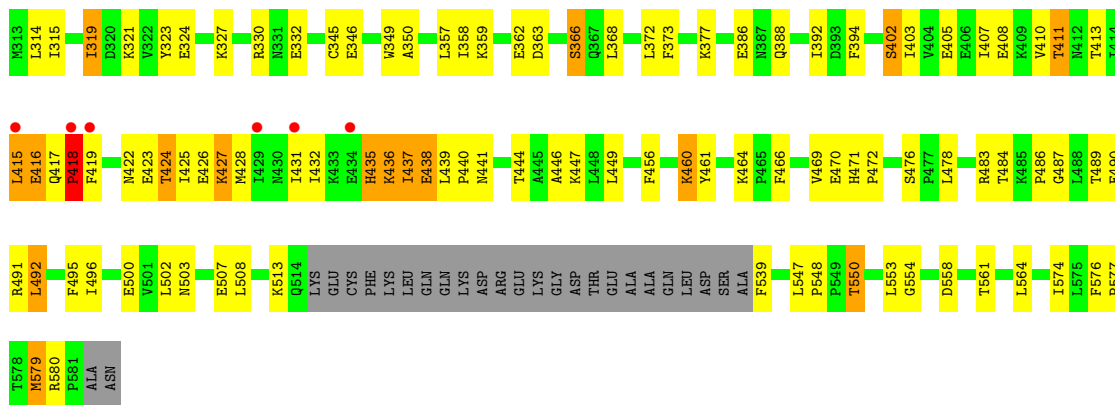
Chain A: 



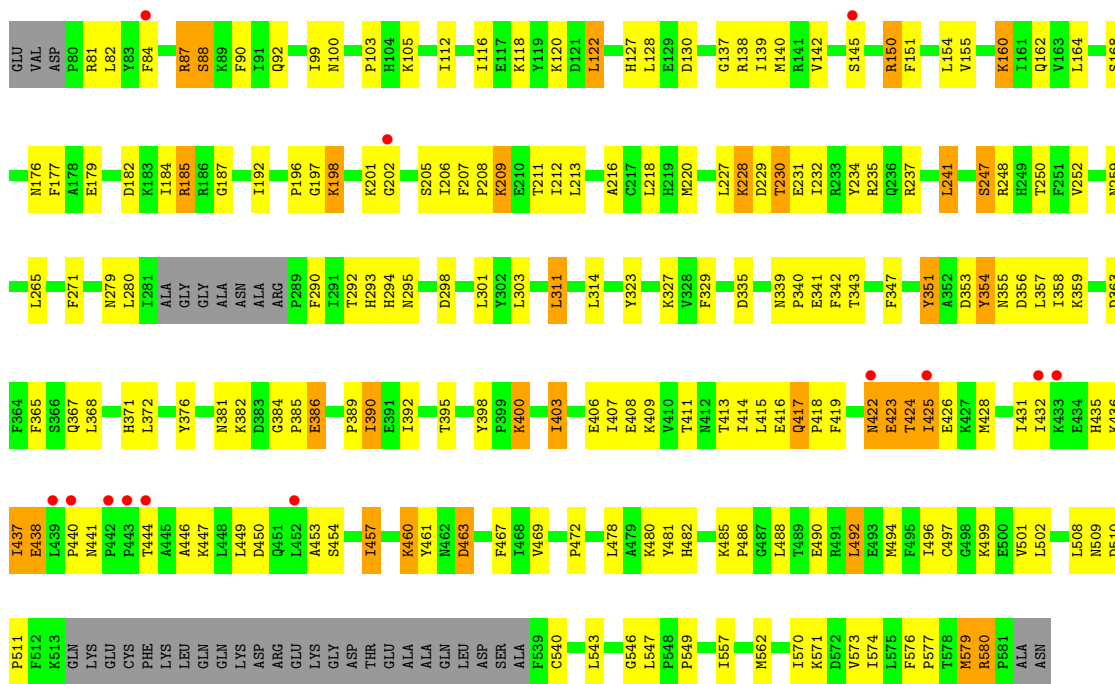
• Molecule 1: Lysyl-tRNA synthetase

Chain B: 

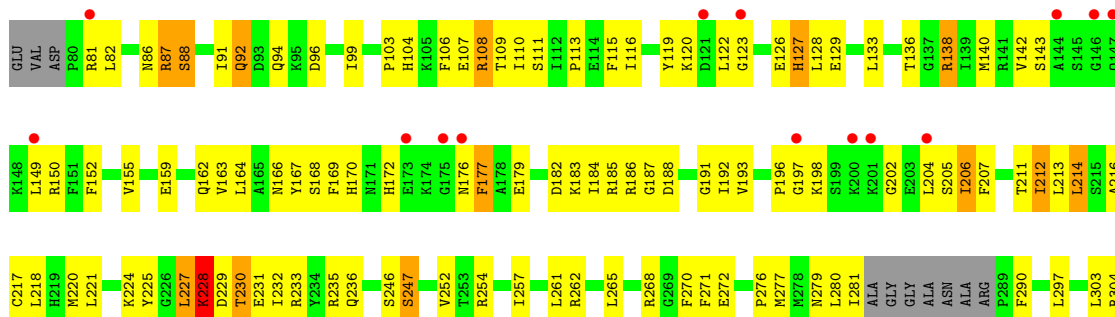


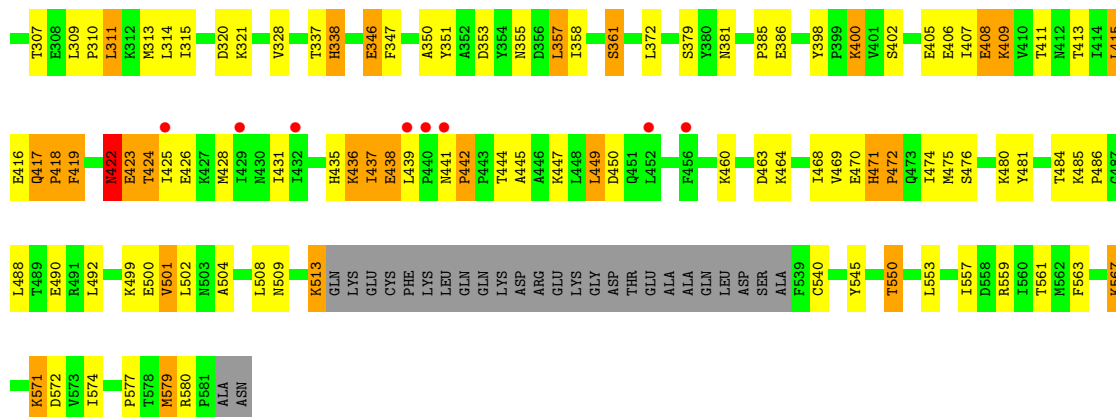


● Molecule 1: Lysyl-tRNA synthetase

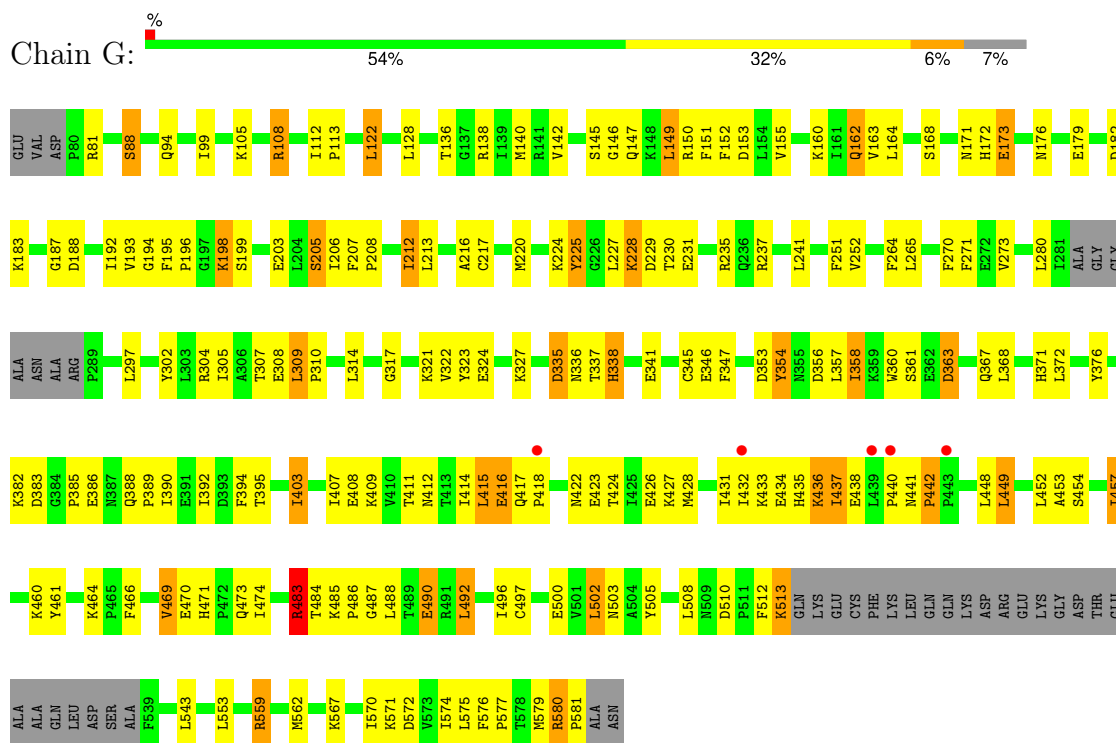


● Molecule 1: Lysyl-tRNA synthetase

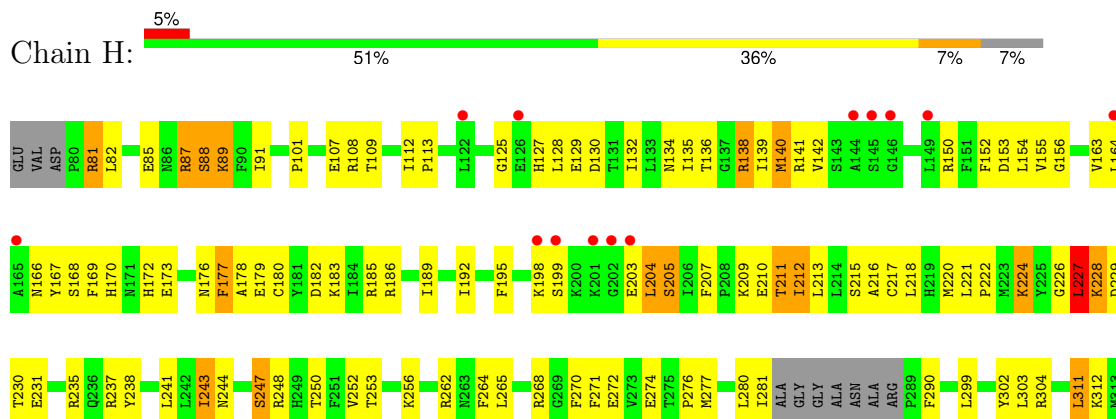


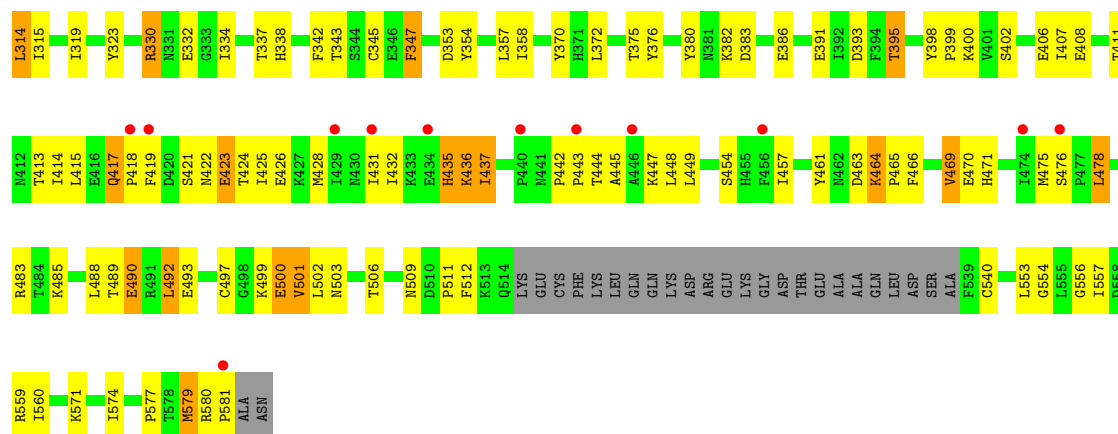


• Molecule 1: Lysyl-tRNA synthetase



• Molecule 1: Lysyl-tRNA synthetase





4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	141.33Å 59.14Å 297.22Å 90.00° 97.47° 90.00°	Depositor
Resolution (Å)	48.70 – 2.90 48.70 – 2.90	Depositor EDS
% Data completeness (in resolution range)	95.1 (48.70-2.90) 93.4 (48.70-2.90)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	4.22 (at 2.91Å)	Xtrriage
Refinement program	PHENIX 1.7.1_743, REFMAC	Depositor
R, R_{free}	0.226 , 0.298 0.221 , 0.294	Depositor DCC
R_{free} test set	3110 reflections (3.00%)	wwPDB-VP
Wilson B-factor (Å ²)	46.4	Xtrriage
Anisotropy	0.632	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 45.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.39$, $\langle L^2 \rangle = 0.22$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	30845	wwPDB-VP
Average B, all atoms (Å ²)	53.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.90% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 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	0.49	0/3954	0.63	0/5342
1	B	0.50	0/3952	0.65	0/5339
1	C	0.53	1/3941 (0.0%)	0.68	1/5326 (0.0%)
1	D	0.52	0/3946	0.64	0/5331
1	E	0.53	0/3929	0.65	0/5308
1	F	0.51	0/3943	0.61	0/5327
1	G	0.51	0/3937	0.65	1/5319 (0.0%)
1	H	0.53	0/3935	0.62	0/5316
All	All	0.51	1/31537 (0.0%)	0.64	2/42608 (0.0%)

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	A	0	2
1	D	0	3
1	F	0	1
1	G	0	2
1	H	0	1
All	All	0	9

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	360	TRP	NE1-CE2	-5.37	1.30	1.37

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	483	ARG	NE-CZ-NH1	-5.41	117.59	120.30
1	C	360	TRP	CE2-CD2-CG	-5.12	103.20	107.30

There are no chirality outliers.

All (9) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	416	GLU	Peptide
1	A	418	PRO	Peptide
1	D	227	LEU	Peptide
1	D	416	GLU	Peptide
1	D	418	PRO	Peptide
1	F	442	PRO	Peptide
1	G	416	GLU	Peptide
1	G	442	PRO	Peptide
1	H	227	LEU	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	3848	0	3817	145	0
1	B	3852	0	3819	145	1
1	C	3844	0	3804	138	0
1	D	3849	0	3814	150	0
1	E	3833	0	3799	132	0
1	F	3843	0	3811	139	0
1	G	3840	0	3806	121	1
1	H	3839	0	3803	153	0
2	A	10	0	0	1	0
2	B	14	0	0	1	0
2	C	13	0	0	0	0
2	D	16	0	0	0	0
2	E	9	0	0	1	0
2	F	8	0	0	1	0
2	G	9	0	0	1	0
2	H	18	0	0	1	0
All	All	30845	0	30473	1071	1

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 17.

All (1071) 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:C:547:LEU:HD12	1:C:548:PRO:HD2	1.33	1.09
1:G:469:VAL:HG13	1:G:470:GLU:HG3	1.35	1.05
1:H:417:GLN:O	1:H:419:PHE:N	1.92	1.01
1:D:308:GLU:HG3	1:D:309:LEU:HD13	1.40	1.01
1:B:235:ARG:NH2	1:B:580:ARG:O	2.00	0.95
1:F:213:LEU:HD21	1:F:216:ALA:HB2	1.49	0.94
1:H:150:ARG:NH2	1:H:182:ASP:OD1	2.01	0.94
1:A:268:ARG:HG3	1:A:268:ARG:HH11	1.31	0.93
1:F:109:THR:HG21	1:F:133:LEU:HD22	1.48	0.93
1:E:122:LEU:O	1:E:198:LYS:NZ	2.01	0.92
1:A:150:ARG:NH2	1:A:182:ASP:OD1	2.03	0.91
1:H:186:ARG:NH1	1:H:221:LEU:O	2.05	0.90
1:G:358:ILE:HD13	1:G:492:LEU:HD13	1.54	0.89
1:C:358:ILE:HG12	1:C:492:LEU:HD13	1.55	0.89
1:B:417:GLN:O	1:B:419:PHE:N	2.06	0.88
1:C:417:GLN:O	1:C:419:PHE:N	2.05	0.88
1:D:164:LEU:HD13	1:D:207:PHE:HE1	1.40	0.86
1:A:469:VAL:HG13	1:A:470:GLU:HG3	1.55	0.85
1:C:407:ILE:O	1:C:411:THR:HG22	1.76	0.85
1:D:164:LEU:HD13	1:D:207:PHE:CE1	2.13	0.84
1:F:231:GLU:O	1:F:235:ARG:HG3	1.76	0.84
1:E:358:ILE:HD13	1:E:492:LEU:HD13	1.59	0.83
1:F:176:ASN:HB3	1:F:179:GLU:HB3	1.58	0.83
1:B:277:MET:HA	1:B:304:ARG:HG2	1.60	0.83
1:E:574:ILE:O	1:E:577:PRO:HD3	1.79	0.83
1:F:192:ILE:HG21	1:F:206:ILE:HG12	1.60	0.83
1:A:111:SER:OG	1:A:113:PRO:HD2	1.79	0.82
1:B:388:GLN:HG2	1:B:389:PRO:HD2	1.61	0.82
1:A:268:ARG:HG3	1:A:268:ARG:NH1	1.91	0.82
1:H:574:ILE:O	1:H:577:PRO:HD3	1.80	0.82
1:C:349:TRP:O	1:C:550:THR:HG23	1.79	0.81
1:B:228:LYS:HG3	1:B:233:ARG:HD3	1.62	0.80
1:B:231:GLU:O	1:B:235:ARG:HG3	1.80	0.80
1:E:259:ASN:HA	2:E:605:HOH:O	1.82	0.80
1:D:186:ARG:NH1	1:D:221:LEU:O	2.14	0.79
1:A:350:ALA:HA	1:A:550:THR:HG23	1.64	0.79
1:H:164:LEU:HD13	1:H:207:PHE:HE1	1.48	0.78
1:F:417:GLN:O	1:F:419:PHE:N	2.16	0.78
1:G:140:MET:HG2	1:G:155:VAL:HG22	1.66	0.78
1:D:227:LEU:O	1:D:228:LYS:HB2	1.81	0.78
1:H:224:LYS:NZ	1:H:244:ASN:OD1	2.17	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:187:GLY:O	1:D:217:CYS:HB2	1.84	0.77
1:C:471:HIS:HB3	1:C:475:MET:HE2	1.67	0.77
1:G:502:LEU:C	1:G:502:LEU:HD23	2.05	0.77
1:D:416:GLU:O	1:D:417:GLN:HG2	1.83	0.77
1:F:406:GLU:OE2	1:F:460:LYS:NZ	2.17	0.77
1:B:407:ILE:O	1:B:411:THR:HG22	1.86	0.76
1:E:571:LYS:HD3	1:E:579:MET:HE1	1.66	0.76
1:B:444:THR:HG22	1:B:447:LYS:H	1.51	0.76
1:F:408:GLU:OE2	1:F:415:LEU:N	2.18	0.75
1:H:235:ARG:NH2	1:H:580:ARG:O	2.15	0.75
1:C:567:LYS:HD2	1:C:572:ASP:HB3	1.66	0.75
1:A:138:ARG:NH2	1:A:189:ILE:HD11	2.02	0.75
1:A:152:PHE:HB2	1:A:163:VAL:HB	1.69	0.75
1:B:237:ARG:HG3	1:B:241:LEU:HD22	1.69	0.74
1:C:440:PRO:O	1:C:441:ASN:HB2	1.87	0.74
1:E:444:THR:HB	1:E:447:LYS:HB2	1.69	0.74
1:C:330:ARG:HG3	1:C:342:PHE:HE2	1.52	0.74
1:B:152:PHE:HB2	1:B:163:VAL:HB	1.69	0.74
1:D:417:GLN:O	1:D:419:PHE:N	2.20	0.74
1:G:453:ALA:HA	1:G:457:ILE:HG13	1.70	0.74
1:H:222:PRO:HG2	1:H:243:ILE:HD13	1.69	0.73
1:A:411:THR:HG23	1:A:413:THR:HG23	1.69	0.73
1:B:422:ASN:O	1:B:424:THR:N	2.21	0.73
1:A:235:ARG:NH2	1:A:580:ARG:O	2.18	0.73
1:D:91:ILE:HG23	1:D:101:PRO:HG3	1.71	0.73
1:G:469:VAL:CG1	1:G:470:GLU:HG3	2.18	0.73
1:B:87:ARG:CZ	1:B:185:ARG:HG3	2.17	0.73
1:D:189:ILE:HD13	1:D:215:SER:HB3	1.69	0.73
1:B:567:LYS:HD2	1:B:572:ASP:HB3	1.71	0.72
1:B:150:ARG:NH2	1:B:182:ASP:OD1	2.22	0.72
1:G:224:LYS:O	1:G:225:TYR:HB3	1.87	0.72
1:B:480:LYS:NZ	1:B:509:ASN:OD1	2.21	0.72
1:E:197:GLY:HA3	1:E:207:PHE:HE2	1.54	0.71
1:F:254:ARG:HA	1:F:257:ILE:HD12	1.72	0.71
1:B:187:GLY:O	1:B:217:CYS:HB2	1.89	0.71
1:D:444:THR:HG22	1:D:447:LYS:H	1.55	0.71
1:D:362:GLU:O	1:D:366:SER:HB3	1.90	0.71
1:C:251:PHE:CE1	1:C:575:LEU:HD23	2.25	0.71
1:F:407:ILE:O	1:F:411:THR:HG22	1.90	0.71
1:C:270:PHE:CD1	1:C:321:LYS:HB3	2.26	0.70
1:B:325:ILE:HG12	1:B:345:CYS:HB2	1.71	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:502:LEU:HD11	1:H:553:LEU:HD11	1.72	0.70
1:D:213:LEU:HD11	1:D:216:ALA:HB2	1.74	0.70
1:E:437:ILE:O	1:E:438:GLU:CB	2.40	0.70
1:B:339:ASN:ND2	1:B:340:PRO:HD2	2.07	0.70
1:B:574:ILE:O	1:B:577:PRO:HD3	1.91	0.69
1:B:440:PRO:O	1:B:441:ASN:HB2	1.90	0.69
1:A:120:LYS:HG3	1:A:121:ASP:N	2.06	0.69
1:C:429:ILE:HG23	1:C:433:LYS:HE3	1.73	0.69
1:D:152:PHE:HB2	1:D:163:VAL:HB	1.74	0.69
1:F:103:PRO:HG3	1:F:212:ILE:HD11	1.75	0.69
1:A:574:ILE:O	1:A:577:PRO:HD3	1.93	0.69
1:D:109:THR:HB	1:D:134:ASN:H	1.56	0.69
1:D:169:PHE:CE2	1:D:195:PHE:HZ	2.09	0.69
1:G:150:ARG:NH2	1:G:182:ASP:OD1	2.25	0.69
1:H:128:LEU:O	1:H:195:PHE:HB2	1.93	0.69
1:B:227:LEU:O	1:B:228:LYS:HB2	1.92	0.69
1:C:329:PHE:C	1:C:330:ARG:HG2	2.13	0.69
1:A:453:ALA:HA	1:A:457:ILE:HG13	1.75	0.68
1:D:152:PHE:CE1	1:D:184:ILE:HG21	2.28	0.68
1:H:382:LYS:HE2	1:H:497:CYS:HB3	1.74	0.68
1:H:112:ILE:HD12	1:H:156:GLY:HA3	1.76	0.68
1:F:123:GLY:N	1:F:126:GLU:OE1	2.27	0.68
1:F:152:PHE:HB2	1:F:163:VAL:HB	1.74	0.67
1:G:358:ILE:CD1	1:G:492:LEU:HD13	2.24	0.67
1:G:484:THR:OG1	1:G:485:LYS:HG3	1.95	0.67
1:G:149:LEU:HD23	1:G:151:PHE:HZ	1.58	0.67
1:B:187:GLY:C	1:B:217:CYS:HB2	2.15	0.67
1:C:315:ILE:HD13	1:C:319:ILE:O	1.95	0.67
1:F:358:ILE:CD1	1:F:492:LEU:HD13	2.25	0.67
1:C:382:LYS:HB2	1:C:390:ILE:HD11	1.77	0.66
1:H:499:LYS:HE3	1:H:559:ARG:HH12	1.60	0.66
1:E:398:TYR:O	1:E:400:LYS:NZ	2.23	0.66
1:B:485:LYS:HB3	1:B:488:LEU:HD22	1.78	0.66
1:C:329:PHE:O	1:C:330:ARG:HG2	1.95	0.66
1:F:230:THR:O	1:F:233:ARG:NE	2.26	0.66
1:A:440:PRO:O	1:A:441:ASN:HB2	1.96	0.66
1:H:152:PHE:HB2	1:H:163:VAL:CG2	2.26	0.65
1:A:559[B]:ARG:HG2	1:A:559[B]:ARG:HH11	1.61	0.65
1:C:231:GLU:OE1	1:C:235:ARG:NH1	2.30	0.65
1:D:150:ARG:NH2	1:D:182:ASP:OD1	2.30	0.65
1:D:321:LYS:HG2	1:D:349:TRP:CD1	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:231:GLU:O	1:G:235:ARG:HG3	1.96	0.65
1:G:361:SER:OG	1:G:502:LEU:HD11	1.97	0.65
1:B:571:LYS:HD3	1:B:579:MET:HE1	1.79	0.65
1:G:149:LEU:HD23	1:G:151:PHE:CZ	2.32	0.65
1:C:446:ALA:HB2	1:C:474:ILE:HG13	1.78	0.64
1:B:212:ILE:HG13	1:B:213:LEU:N	2.13	0.64
1:D:290:PHE:HB3	1:D:303:LEU:HD12	1.80	0.64
1:F:435:HIS:O	1:F:436:LYS:C	2.35	0.64
1:D:418:PRO:HB3	1:D:487:GLY:HA3	1.80	0.64
1:E:381:ASN:OD1	1:E:389:PRO:HB3	1.98	0.64
1:A:313:MET:CE	1:B:576:PHE:HE1	2.10	0.63
1:D:417:GLN:C	1:D:419:PHE:H	2.01	0.63
1:E:192:ILE:HG23	1:E:208:PRO:HB3	1.81	0.63
1:H:421:SER:HA	1:H:425:ILE:HG13	1.79	0.63
1:A:186:ARG:NH1	1:A:221:LEU:O	2.31	0.63
1:A:186:ARG:NH1	1:A:222:PRO:O	2.24	0.63
1:A:265:LEU:HD13	1:A:323:TYR:CG	2.34	0.63
1:D:466:PHE:CE2	1:D:495:PHE:HB2	2.34	0.63
1:E:485:LYS:HB3	1:E:488:LEU:HD22	1.80	0.63
1:F:437:ILE:O	1:F:438:GLU:CB	2.47	0.63
1:A:231:GLU:OE1	1:A:235:ARG:NH1	2.31	0.63
1:E:151:PHE:HD1	1:E:162:GLN:HE21	1.46	0.63
1:D:460:LYS:HB3	1:D:461:TYR:CD2	2.34	0.63
1:C:444:THR:HB	1:C:447:LYS:HB2	1.81	0.63
1:D:257:ILE:HD12	1:D:561:THR:HG23	1.79	0.63
1:C:82:LEU:O	1:C:86:ASN:ND2	2.31	0.63
1:F:381:ASN:HD22	1:F:385:PRO:HA	1.64	0.62
1:A:510:ASP:HB2	1:B:102:TYR:CD2	2.34	0.62
1:G:336:ASN:ND2	2:G:603:HOH:O	2.32	0.62
1:A:547:LEU:HD12	1:A:548:PRO:HD2	1.81	0.62
1:C:570:ILE:HG12	1:C:574:ILE:HD12	1.81	0.62
1:E:509:ASN:HB3	1:E:547:LEU:HD23	1.80	0.62
1:F:279:ASN:O	1:F:280:LEU:HG	1.99	0.62
1:G:435:HIS:O	1:G:436:LYS:C	2.37	0.62
1:H:138:ARG:O	1:H:154:LEU:HD12	2.00	0.62
1:D:112:ILE:HD12	1:D:156:GLY:N	2.15	0.62
1:A:138:ARG:CZ	1:A:189:ILE:HD11	2.30	0.62
1:H:222:PRO:HG2	1:H:243:ILE:CD1	2.29	0.62
1:A:299:LEU:HD11	1:B:581:PRO:HG3	1.82	0.62
1:C:547:LEU:HD12	1:C:548:PRO:CD	2.21	0.62
1:F:468:ILE:HG22	1:F:471:HIS:CE1	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:103:PRO:HG3	1:D:212:ILE:HD11	1.81	0.62
1:D:141:ARG:O	1:D:152:PHE:HA	1.99	0.62
1:H:81:ARG:O	1:H:85:GLU:HG3	1.99	0.62
1:D:129:GLU:HG2	1:D:195:PHE:CE1	2.35	0.62
1:F:198:LYS:HB3	1:F:202:GLY:HA2	1.80	0.62
1:F:224:LYS:O	1:F:225:TYR:HB3	2.00	0.62
1:A:148:LYS:O	1:A:149:LEU:HD12	2.00	0.61
1:B:339:ASN:HD22	1:B:341:GLU:H	1.47	0.61
1:F:402[B]:SER:OG	1:F:405:GLU:HB3	1.99	0.61
1:G:192:ILE:HG23	1:G:208:PRO:HB3	1.82	0.61
1:E:449:LEU:HD21	1:E:472:PRO:HG2	1.81	0.61
1:C:314:LEU:HB3	1:C:319:ILE:HD12	1.81	0.61
1:A:313:MET:HE1	1:B:576:PHE:HE1	1.64	0.61
1:G:265:LEU:HB3	1:G:270:PHE:HB2	1.82	0.61
1:E:417:GLN:NE2	1:E:424:THR:OG1	2.33	0.61
1:A:268:ARG:HH11	1:A:268:ARG:CG	2.10	0.61
1:H:417:GLN:C	1:H:419:PHE:H	2.00	0.61
1:C:227:LEU:O	1:C:228:LYS:HB2	1.99	0.61
1:C:469:VAL:CG1	1:C:470:GLU:HG3	2.31	0.61
1:E:339:ASN:HD22	1:E:341:GLU:H	1.49	0.61
1:C:290:PHE:HB2	1:C:303:LEU:HB2	1.83	0.61
1:C:362:GLU:O	1:C:366:SER:HB3	2.01	0.60
1:B:410:VAL:HG11	1:B:456:PHE:HD1	1.66	0.60
1:F:472:PRO:HB2	1:F:475:MET:HG3	1.82	0.60
1:A:465:PRO:HB3	1:A:496:ILE:HG12	1.83	0.60
1:D:440:PRO:O	1:D:441:ASN:HB2	2.01	0.60
1:F:310:PRO:HA	1:F:313:MET:HG3	1.81	0.60
1:G:252:VAL:HA	1:H:271:PHE:CZ	2.37	0.60
1:B:90:PHE:CZ	1:B:183:LYS:HB3	2.36	0.60
1:C:252:VAL:HA	1:D:271:PHE:CZ	2.36	0.60
1:E:327:LYS:HD3	1:E:342:PHE:O	2.01	0.60
1:F:321:LYS:NZ	2:F:607:HOH:O	2.33	0.60
1:D:87:ARG:NH1	1:D:185:ARG:HG2	2.17	0.60
1:F:230:THR:HB	1:F:232:ILE:HG12	1.83	0.60
1:A:539:PHE:O	1:A:542:SER:OG	2.14	0.60
1:F:485:LYS:HB3	1:F:488:LEU:HD22	1.84	0.60
1:H:192:ILE:HG12	1:H:211:THR:OG1	2.01	0.60
1:D:162:GLN:O	1:D:205:SER:HA	2.02	0.60
1:A:176:ASN:HB3	1:A:179:GLU:HB2	1.84	0.60
1:G:403:ILE:HG22	1:G:469:VAL:O	2.02	0.60
1:G:473:GLN:HG3	1:G:487:GLY:C	2.21	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:418:PRO:CG	1:F:486:PRO:HB2	2.31	0.59
1:G:176:ASN:HB3	1:G:179:GLU:HB3	1.84	0.59
1:H:212:ILE:HD12	1:H:213:LEU:N	2.17	0.59
1:H:315:ILE:HD13	1:H:319:ILE:O	2.02	0.59
1:A:315:ILE:HD13	1:A:319:ILE:O	2.02	0.59
1:A:411:THR:HG23	1:A:413:THR:H	1.67	0.59
1:B:148:LYS:HG3	1:B:167:TYR:HB3	1.84	0.59
1:C:473:GLN:NE2	1:C:481:TYR:CD1	2.70	0.59
1:D:93:ASP:O	1:D:97:LYS:HB2	2.02	0.59
1:F:277:MET:HA	1:F:304:ARG:HD3	1.83	0.59
1:C:463:ASP:OD1	1:C:463:ASP:N	2.33	0.59
1:E:120:LYS:O	1:E:198:LYS:NZ	2.35	0.59
1:G:171:ASN:O	1:G:173:GLU:N	2.35	0.59
1:H:330:ARG:HG3	1:H:342:PHE:CE2	2.37	0.59
1:A:365:PHE:CE2	1:A:494:MET:HE2	2.37	0.59
1:G:140:MET:HG2	1:G:155:VAL:CG2	2.32	0.59
1:G:153:ASP:HB3	1:G:160:LYS:HD3	1.83	0.59
1:H:141:ARG:HB3	1:H:153:ASP:HB2	1.83	0.59
1:B:441:ASN:HD22	1:B:447:LYS:HE2	1.67	0.59
1:A:428:MET:O	1:A:432:ILE:HG12	2.03	0.59
1:C:252:VAL:HA	1:D:271:PHE:HZ	1.67	0.59
1:D:484:THR:O	1:D:486:PRO:HD3	2.03	0.58
1:G:212:ILE:HG13	1:G:213:LEU:N	2.18	0.58
1:E:376:TYR:CD2	1:E:395:THR:HG23	2.38	0.58
1:H:91:ILE:HG23	1:H:101:PRO:HG3	1.85	0.58
1:D:435:HIS:O	1:D:436:LYS:C	2.41	0.58
1:G:407:ILE:O	1:G:411:THR:HG22	2.02	0.58
1:H:108:ARG:HD2	1:H:136:THR:OG1	2.03	0.58
1:D:359:LYS:NZ	1:D:363:ASP:OD2	2.30	0.58
1:E:105:LYS:NZ	1:F:351:TYR:O	2.37	0.58
1:E:363:ASP:O	1:E:367:GLN:HG3	2.04	0.58
1:G:394:PHE:CZ	1:G:496:ILE:HD13	2.39	0.58
1:C:565:THR:O	1:C:567:LYS:HG2	2.04	0.58
1:D:415:LEU:HD22	1:D:428:MET:HG2	1.84	0.58
1:E:546:GLY:O	1:F:138:ARG:NH2	2.36	0.58
1:D:277:MET:HA	1:D:304:ARG:HG2	1.84	0.58
1:D:411:THR:HG23	1:D:413:THR:HG23	1.85	0.58
1:H:347:PHE:CD1	1:H:347:PHE:C	2.77	0.58
1:C:347:PHE:CZ	1:C:553:LEU:HD13	2.38	0.58
1:D:439:LEU:HD12	1:D:439:LEU:H	1.69	0.58
1:G:280:LEU:HA	1:G:302:TYR:HD2	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:147:GLN:HA	1:A:150:ARG:HH11	1.69	0.57
1:D:294:HIS:CE1	1:D:297:LEU:HD13	2.38	0.57
1:H:231:GLU:OE1	1:H:235:ARG:NH1	2.37	0.57
1:C:224:LYS:O	1:C:225:TYR:HB3	2.04	0.57
1:B:182:ASP:O	1:B:185:ARG:NH2	2.37	0.57
1:D:312:LYS:HD2	1:D:507:GLU:OE1	2.04	0.57
1:E:351:TYR:N	1:E:549:PRO:O	2.35	0.57
1:F:559:ARG:HD2	1:F:563:PHE:CE2	2.40	0.57
1:G:385:PRO:HD2	1:G:386:GLU:OE1	2.04	0.57
1:H:469:VAL:HG13	1:H:470:GLU:HG3	1.87	0.57
1:F:358:ILE:HD13	1:F:492:LEU:HD13	1.86	0.57
1:A:502:LEU:C	1:A:502:LEU:HD23	2.25	0.57
1:E:150:ARG:NH2	1:E:182:ASP:OD1	2.38	0.57
1:A:472:PRO:HB2	1:A:474:ILE:HG22	1.87	0.57
1:C:492:LEU:HD23	1:C:492:LEU:H	1.68	0.57
1:D:80:PRO:HA	1:D:220:MET:HE2	1.86	0.57
1:H:501:VAL:HG22	1:H:560:ILE:HG12	1.85	0.57
1:C:562:MET:HE3	1:C:569:SER:C	2.25	0.57
1:E:413:THR:HG21	1:E:431:ILE:HD11	1.87	0.57
1:F:127:HIS:O	1:F:128:LEU:HD23	2.05	0.57
1:H:423:GLU:O	1:H:426:GLU:HB3	2.04	0.57
1:D:90:PHE:CE1	1:D:183:LYS:HB3	2.40	0.57
1:D:416:GLU:O	1:D:417:GLN:CG	2.51	0.57
1:A:429:ILE:HG23	1:A:433:LYS:HE3	1.87	0.57
1:C:334:ILE:HD12	1:D:297:LEU:HD11	1.86	0.57
1:B:128:LEU:HB2	1:B:196:PRO:HG2	1.87	0.56
1:G:88:SER:HB3	1:H:512:PHE:CZ	2.40	0.56
1:H:173:GLU:OE1	1:H:173:GLU:N	2.28	0.56
1:H:330:ARG:HG3	1:H:342:PHE:HE2	1.70	0.56
1:A:410:VAL:O	1:A:412:ASN:ND2	2.38	0.56
1:C:316:VAL:C	1:C:318:GLY:H	2.09	0.56
1:F:192:ILE:CG2	1:F:206:ILE:HG12	2.32	0.56
1:G:473:GLN:HG3	1:G:487:GLY:O	2.05	0.56
1:A:309:LEU:O	1:A:313:MET:HG3	2.06	0.56
1:A:313:MET:CE	1:B:576:PHE:CE1	2.89	0.56
1:A:472:PRO:HD2	1:A:475:MET:SD	2.46	0.56
1:B:359:LYS:NZ	1:B:363:ASP:OD1	2.37	0.56
1:A:280:LEU:HA	1:A:302:TYR:CD2	2.40	0.56
1:B:96:ASP:OD1	1:B:96:ASP:N	2.37	0.56
1:D:230:THR:HB	1:D:232:ILE:HG12	1.87	0.56
1:A:147:GLN:HA	1:A:150:ARG:NH1	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:125:GLY:N	1:B:199:SER:O	2.38	0.56
1:C:265:LEU:HD13	1:C:323:TYR:CG	2.41	0.56
1:E:339:ASN:ND2	1:E:340:PRO:HD2	2.21	0.56
1:G:567:LYS:HD2	1:G:572:ASP:HB3	1.88	0.56
1:G:570:ILE:HG12	1:G:574:ILE:HD12	1.88	0.56
1:B:565:THR:O	1:B:567:LYS:HG2	2.06	0.56
1:F:186:ARG:NH1	1:F:221:LEU:O	2.39	0.56
1:E:290:PHE:HB2	1:E:303:LEU:HB2	1.87	0.56
1:C:471:HIS:O	1:C:489:THR:HG23	2.04	0.55
1:B:469:VAL:HG13	1:B:470:GLU:HG3	1.88	0.55
1:E:480:LYS:HA	1:E:508:LEU:HD13	1.88	0.55
1:C:314:LEU:HG	1:C:319:ILE:HD12	1.87	0.55
1:C:264:PHE:CD2	1:C:364:PHE:HD1	2.24	0.55
1:E:368:LEU:O	1:E:371:HIS:HB3	2.05	0.55
1:H:167:TYR:CZ	1:H:172:HIS:HE1	2.24	0.55
1:H:407:ILE:O	1:H:411:THR:HG22	2.05	0.55
1:B:81:ARG:O	1:B:85:GLU:HG3	2.07	0.55
1:B:308:GLU:HG3	1:B:309:LEU:HD13	1.87	0.55
1:C:429:ILE:O	1:C:433:LYS:HD2	2.07	0.55
1:E:467:PHE:CE1	1:E:494:MET:HB2	2.41	0.55
1:E:562:MET:HG3	1:E:573:VAL:HG21	1.87	0.55
1:G:94:GLN:HE22	1:G:183:LYS:HE2	1.71	0.55
1:H:407:ILE:HG13	1:H:457:ILE:HD11	1.88	0.55
1:C:469:VAL:HG13	1:C:470:GLU:HG3	1.89	0.55
1:E:428:MET:O	1:E:432:ILE:HG13	2.07	0.55
1:D:152:PHE:HE1	1:D:184:ILE:HG21	1.71	0.54
1:C:276:PRO:HD3	1:D:576:PHE:HB2	1.90	0.54
1:F:170:HIS:O	1:F:172:HIS:CD2	2.60	0.54
1:C:578:THR:O	1:C:579:MET:HE3	2.08	0.54
1:D:294:HIS:HB2	1:D:301:LEU:HD12	1.89	0.54
1:E:105:LYS:HE2	1:F:353:ASP:HB3	1.89	0.54
1:E:406:GLU:O	1:E:406:GLU:HG3	2.07	0.54
1:F:402[B]:SER:OG	1:F:405:GLU:OE1	2.19	0.54
1:E:138:ARG:O	1:E:154:LEU:HA	2.07	0.54
1:F:152:PHE:CE1	1:F:184:ILE:HG21	2.42	0.54
1:H:237:ARG:O	1:H:241:LEU:HD13	2.07	0.54
1:A:260:PHE:CD2	1:A:368:LEU:HD13	2.43	0.54
1:A:567:LYS:HD2	1:A:572:ASP:HB3	1.88	0.54
1:B:179:GLU:OE1	1:B:183:LYS:NZ	2.38	0.54
1:C:235:ARG:NH2	1:C:580:ARG:O	2.39	0.54
1:C:570:ILE:HG12	1:C:574:ILE:CD1	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:213:LEU:HD21	1:E:216:ALA:HB2	1.89	0.54
1:C:485:LYS:O	1:C:488:LEU:HB2	2.06	0.54
1:G:224:LYS:O	1:G:225:TYR:CB	2.55	0.54
1:B:430:ASN:O	1:B:434:GLU:HG3	2.07	0.54
1:C:453:ALA:HA	1:C:457:ILE:HG13	1.89	0.54
1:D:417:GLN:C	1:D:419:PHE:N	2.60	0.54
1:E:151:PHE:HD1	1:E:162:GLN:NE2	2.04	0.54
1:H:277:MET:HA	1:H:304:ARG:HD3	1.89	0.54
1:G:194:GLY:HA3	1:G:207:PHE:O	2.08	0.54
1:E:440:PRO:O	1:E:441:ASN:HB2	2.08	0.54
1:F:307:THR:OG1	1:F:346:GLU:HG3	2.07	0.54
1:B:422:ASN:O	1:B:425:ILE:N	2.39	0.53
1:F:152:PHE:HE1	1:F:184:ILE:HG21	1.74	0.53
1:A:407:ILE:O	1:A:411:THR:HG22	2.08	0.53
1:F:315:ILE:HD12	1:F:550:THR:HG21	1.90	0.53
1:A:546:GLY:O	1:B:138:ARG:NH2	2.41	0.53
1:B:435:HIS:O	1:B:436:LYS:C	2.45	0.53
1:H:164:LEU:HB3	1:H:207:PHE:CD1	2.44	0.53
1:B:272:GLU:HB2	1:B:323:TYR:CZ	2.43	0.53
1:C:251:PHE:CD1	1:C:575:LEU:HD23	2.43	0.53
1:H:432:ILE:O	1:H:437:ILE:HA	2.08	0.53
1:B:411:THR:HG23	1:B:413:THR:HG23	1.90	0.53
1:D:80:PRO:HA	1:D:220:MET:CE	2.38	0.53
1:H:167:TYR:CZ	1:H:172:HIS:CE1	2.96	0.53
1:C:399:PRO:HB2	1:C:466:PHE:HB2	1.89	0.53
1:G:145:SER:HB3	1:G:151:PHE:HE2	1.74	0.53
1:H:87:ARG:NH2	1:H:185:ARG:HB2	2.23	0.53
1:A:358:ILE:CD1	1:A:492:LEU:HD13	2.39	0.53
1:D:265:LEU:HD13	1:D:323:TYR:CG	2.44	0.53
1:G:448:LEU:O	1:G:452:LEU:HG	2.09	0.53
1:B:279:ASN:O	1:B:301:LEU:HD23	2.09	0.53
1:B:414:ILE:O	1:B:427:LYS:NZ	2.36	0.53
1:F:176:ASN:HB3	1:F:179:GLU:CB	2.35	0.53
1:B:281:ILE:HG23	1:B:281:ILE:O	2.09	0.53
1:E:145:SER:HA	1:H:391:GLU:OE2	2.09	0.53
1:E:247:SER:O	1:E:250:THR:N	2.42	0.53
1:F:108:ARG:HD2	1:F:136:THR:OG1	2.09	0.53
1:B:308:GLU:HB2	1:B:348:TYR:OH	2.09	0.53
1:C:382:LYS:HD2	1:C:497:CYS:HB3	1.91	0.53
1:F:109:THR:HG21	1:F:133:LEU:CD2	2.30	0.53
1:F:162:GLN:O	1:F:205:SER:HA	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:265:LEU:HB3	1:F:270:PHE:HB2	1.91	0.53
1:F:502:LEU:HD11	1:F:553:LEU:HD11	1.91	0.52
1:B:137:GLY:HA3	1:B:154:LEU:HD11	1.91	0.52
1:B:137:GLY:CA	1:B:154:LEU:HD11	2.39	0.52
1:D:125:GLY:N	1:D:199:SER:O	2.33	0.52
1:D:275:THR:HG23	1:D:324:GLU:OE1	2.09	0.52
1:H:485:LYS:HB3	1:H:488:LEU:HD22	1.91	0.52
1:C:347:PHE:CE2	1:C:553:LEU:HD13	2.44	0.52
1:G:147:GLN:HA	1:G:150:ARG:NH1	2.25	0.52
1:G:460:LYS:HE3	1:G:461:TYR:HE2	1.73	0.52
1:H:471:HIS:HB3	1:H:475:MET:HE2	1.92	0.52
1:A:423:GLU:OE2	1:A:427:LYS:NZ	2.39	0.52
1:A:493:GLU:HG3	1:A:503:ASN:OD1	2.09	0.52
1:C:492:LEU:HD23	1:C:492:LEU:N	2.24	0.52
1:D:408:GLU:OE2	1:D:415:LEU:N	2.40	0.52
1:G:105:LYS:HD3	1:H:353:ASP:HB3	1.92	0.52
1:A:156:GLY:O	1:A:157:ASP:HB2	2.09	0.52
1:A:457:ILE:O	1:A:460:LYS:HB2	2.10	0.52
1:A:506:THR:HA	1:A:550:THR:O	2.09	0.52
1:E:271:PHE:CZ	1:F:252:VAL:HA	2.44	0.52
1:H:204:LEU:HD12	1:H:205:SER:H	1.75	0.52
1:B:410:VAL:HG11	1:B:456:PHE:CD1	2.44	0.52
1:F:109:THR:HG22	1:F:110:ILE:HB	1.92	0.52
1:A:510:ASP:HB2	1:B:102:TYR:CG	2.45	0.52
1:E:265:LEU:HD13	1:E:323:TYR:CG	2.45	0.52
1:E:441:ASN:HB3	1:E:447:LYS:HE2	1.92	0.52
1:C:212:ILE:HG13	1:C:213:LEU:N	2.25	0.52
1:D:170:HIS:NE2	1:D:175:GLY:O	2.41	0.52
1:D:502:LEU:HD23	1:D:503:ASN:N	2.24	0.52
1:G:416:GLU:O	1:G:418:PRO:N	2.43	0.52
1:B:151:PHE:HD1	1:B:162:GLN:HE22	1.57	0.52
1:B:382:LYS:HD2	1:B:497:CYS:HB3	1.91	0.52
1:D:469:VAL:HG13	1:D:470:GLU:HG3	1.92	0.52
1:G:335:ASP:OD1	1:G:338:HIS:N	2.43	0.52
1:G:382:LYS:HD2	1:G:497:CYS:HB3	1.92	0.52
1:C:260:PHE:CD2	1:C:368:LEU:HD13	2.44	0.51
1:B:457:ILE:O	1:B:459:ASN:N	2.44	0.51
1:C:108:ARG:HD2	1:C:136:THR:OG1	2.10	0.51
1:C:578:THR:O	1:C:579:MET:CE	2.58	0.51
1:E:231:GLU:O	1:E:235:ARG:HG3	2.10	0.51
1:E:234:TYR:HB3	1:E:577:PRO:HG2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:468:ILE:HD12	1:B:495:PHE:CE2	2.44	0.51
1:D:184:ILE:HG22	1:D:184:ILE:O	2.08	0.51
1:H:375:THR:OG1	1:H:376:TYR:N	2.42	0.51
1:B:314:LEU:HG	1:B:319:ILE:HD12	1.92	0.51
1:C:314:LEU:HD13	1:D:576:PHE:HZ	1.75	0.51
1:H:139:ILE:HD13	1:H:154:LEU:HD13	1.92	0.51
1:E:279:ASN:O	1:E:280:LEU:HG	2.10	0.51
1:F:361:SER:HB3	1:F:502:LEU:HD13	1.92	0.51
1:D:179:GLU:O	1:D:183:LYS:HE3	2.10	0.51
1:F:418:PRO:HG2	1:F:486:PRO:HB2	1.92	0.51
1:E:279:ASN:O	1:E:301:LEU:HD23	2.10	0.51
1:E:425:ILE:HG22	1:E:426:GLU:N	2.25	0.51
1:A:432:ILE:O	1:A:437:ILE:HA	2.10	0.51
1:B:140:MET:HG2	1:B:155:VAL:HG22	1.93	0.51
1:A:264:PHE:CE1	1:A:268:ARG:NH2	2.79	0.51
1:B:416:GLU:O	1:B:417:GLN:C	2.47	0.51
1:C:316:VAL:O	1:C:318:GLY:N	2.43	0.51
1:D:415:LEU:HB3	1:D:427:LYS:HZ2	1.76	0.51
1:F:106:PHE:CE1	1:F:191:GLY:HA3	2.45	0.51
1:F:501:VAL:HG12	1:F:502:LEU:N	2.26	0.51
1:G:502:LEU:C	1:G:502:LEU:CD2	2.78	0.51
1:A:304:ARG:NH1	1:A:324:GLU:OE2	2.36	0.50
1:A:329:PHE:N	1:A:329:PHE:CD2	2.79	0.50
1:D:124:ASN:ND2	1:D:202:GLY:HA3	2.25	0.50
1:D:235:ARG:NH2	1:D:580:ARG:O	2.34	0.50
1:G:271:PHE:CZ	1:H:252:VAL:HA	2.46	0.50
1:F:439:LEU:HD12	1:F:439:LEU:H	1.76	0.50
1:A:279:ASN:O	1:A:280:LEU:HG	2.12	0.50
1:A:358:ILE:HD13	1:A:492:LEU:HD13	1.92	0.50
1:B:411:THR:HG23	1:B:413:THR:H	1.75	0.50
1:D:312:LYS:HE3	1:D:539:PHE:CE1	2.47	0.50
1:C:171:ASN:OD1	1:C:173:GLU:HG2	2.12	0.50
1:F:87:ARG:HH21	1:F:185:ARG:HB2	1.76	0.50
1:G:435:HIS:O	1:G:437:ILE:N	2.44	0.50
1:F:187:GLY:O	1:F:217:CYS:HB2	2.11	0.50
1:F:254:ARG:HB2	1:F:561:THR:HG21	1.92	0.50
1:G:382:LYS:HB2	1:G:390:ILE:HD13	1.94	0.50
1:H:140:MET:HG2	1:H:155:VAL:CG2	2.42	0.50
1:C:164:LEU:HD22	1:C:207:PHE:CE1	2.47	0.50
1:F:94:GLN:HE22	1:F:183:LYS:NZ	2.09	0.50
1:G:195:PHE:O	1:G:206:ILE:HD12	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:508:LEU:HD21	1:G:513:LYS:HB2	1.92	0.50
1:H:152:PHE:HB2	1:H:163:VAL:HB	1.93	0.50
1:H:406:GLU:O	1:H:406:GLU:HG3	2.11	0.50
1:H:502:LEU:C	1:H:502:LEU:HD23	2.32	0.50
1:A:485:LYS:HB3	1:A:488:LEU:HD22	1.93	0.50
1:B:329:PHE:N	1:B:329:PHE:CD2	2.80	0.50
1:B:418:PRO:CG	1:B:486:PRO:HB2	2.42	0.50
1:F:472:PRO:HB3	1:F:474:ILE:HG22	1.94	0.50
1:A:346:GLU:HA	1:A:553:LEU:O	2.11	0.50
1:E:329:PHE:CE1	1:E:341:GLU:HG2	2.47	0.50
1:E:460:LYS:HB3	1:E:461:TYR:CD2	2.46	0.50
1:A:280:LEU:HA	1:A:302:TYR:HD2	1.76	0.49
1:D:431:ILE:O	1:D:435:HIS:HB2	2.11	0.49
1:D:444:THR:HB	1:D:447:LYS:HD2	1.94	0.49
1:H:248:ARG:O	1:H:252:VAL:HG23	2.12	0.49
1:H:476:SER:O	1:H:478:LEU:N	2.45	0.49
1:C:385:PRO:HD2	1:C:386:GLU:OE1	2.12	0.49
1:E:543:LEU:HD11	1:E:547:LEU:HD22	1.94	0.49
1:F:140:MET:HG2	1:F:155:VAL:HG22	1.94	0.49
1:H:358:ILE:HD13	1:H:492:LEU:HD13	1.94	0.49
1:H:444:THR:HB	1:H:447:LYS:HG3	1.93	0.49
1:A:347:PHE:CD1	1:A:347:PHE:C	2.86	0.49
1:C:435:HIS:O	1:C:436:LYS:C	2.50	0.49
1:D:508:LEU:HD21	1:D:513:LYS:O	2.13	0.49
1:H:262:ARG:HD2	1:H:272:GLU:OE2	2.12	0.49
1:A:545:TYR:O	1:B:138:ARG:NH1	2.43	0.49
1:A:559[B]:ARG:HG2	1:A:559[B]:ARG:NH1	2.25	0.49
1:B:458:GLU:O	1:B:498:GLY:HA2	2.11	0.49
1:C:347:PHE:CD1	1:C:347:PHE:C	2.85	0.49
1:D:402:SER:HB3	1:D:405:GLU:HB3	1.95	0.49
1:G:376:TYR:HB3	1:G:395:THR:N	2.27	0.49
1:G:394:PHE:HZ	1:G:496:ILE:HD13	1.76	0.49
1:H:502:LEU:HD23	1:H:503:ASN:N	2.28	0.49
1:A:224:LYS:O	1:A:225:TYR:HB3	2.12	0.49
1:G:460:LYS:HE3	1:G:461:TYR:CE2	2.47	0.49
1:H:109:THR:CB	1:H:134:ASN:H	2.25	0.49
1:H:571:LYS:HD3	1:H:579:MET:HE1	1.95	0.49
1:A:353:ASP:HB3	1:B:105:LYS:HD3	1.95	0.49
1:A:461:TYR:HB2	1:A:466:PHE:CD2	2.47	0.49
1:A:119:TYR:O	1:A:122:LEU:HB2	2.12	0.49
1:A:564:LEU:N	1:A:564:LEU:HD23	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:473:GLN:HG3	1:C:487:GLY:O	2.12	0.49
1:E:271:PHE:HZ	1:F:252:VAL:HA	1.78	0.49
1:G:304:ARG:O	1:G:304:ARG:HG3	2.13	0.49
1:F:87:ARG:NH2	1:F:188:ASP:OD2	2.46	0.49
1:F:422:ASN:H	1:F:425:ILE:HD12	1.78	0.49
1:G:466:PHE:CD2	1:G:466:PHE:N	2.81	0.49
1:C:261:LEU:HD23	1:C:325:ILE:HD11	1.93	0.49
1:D:439:LEU:H	1:D:439:LEU:CD1	2.26	0.49
1:G:304:ARG:NH1	1:G:307:THR:HG22	2.28	0.49
1:G:162:GLN:O	1:G:205:SER:HB3	2.13	0.48
1:C:294:HIS:HE1	1:D:332:GLU:O	1.95	0.48
1:C:460:LYS:HG2	1:C:461:TYR:CE2	2.47	0.48
1:G:280:LEU:HA	1:G:302:TYR:CD2	2.47	0.48
1:H:125:GLY:N	1:H:199:SER:O	2.46	0.48
1:H:425:ILE:HD11	1:H:445:ALA:HB2	1.96	0.48
1:C:363:ASP:O	1:C:367:GLN:HG3	2.13	0.48
1:C:368:LEU:O	1:C:371:HIS:HB3	2.12	0.48
1:D:403:ILE:O	1:D:407:ILE:HG13	2.13	0.48
1:E:228:LYS:HG3	1:E:229:ASP:OD1	2.14	0.48
1:F:166:ASN:HB3	1:F:169:PHE:CD2	2.48	0.48
1:G:237:ARG:O	1:G:237:ARG:HG3	2.11	0.48
1:G:408:GLU:O	1:G:412:ASN:N	2.45	0.48
1:B:251:PHE:CG	1:B:575:LEU:CD2	2.96	0.48
1:C:81:ARG:O	1:C:85:GLU:HG3	2.13	0.48
1:E:453:ALA:HA	1:E:457:ILE:HG13	1.95	0.48
1:F:150:ARG:NH2	1:F:182:ASP:OD1	2.47	0.48
1:G:251:PHE:CE1	1:G:575:LEU:HD23	2.49	0.48
1:C:574:ILE:O	1:C:577:PRO:HD3	2.13	0.48
1:D:311:LEU:HD12	1:D:311:LEU:HA	1.65	0.48
1:E:230:THR:HG22	1:E:231:GLU:H	1.79	0.48
1:F:261:LEU:HD22	1:F:557:ILE:HD11	1.95	0.48
1:C:496:ILE:HB	1:C:563:PHE:CE2	2.49	0.48
1:D:187:GLY:C	1:D:217:CYS:HB2	2.34	0.48
1:H:112:ILE:HB	1:H:113:PRO:HD3	1.95	0.48
1:H:152:PHE:HB2	1:H:163:VAL:HG21	1.94	0.48
1:A:265:LEU:HB3	1:A:270:PHE:HB2	1.95	0.48
1:A:365:PHE:CE2	1:A:494:MET:CE	2.96	0.48
1:C:251:PHE:CD1	1:C:575:LEU:CD2	2.97	0.48
1:D:227:LEU:HD11	1:D:243:ILE:HD13	1.95	0.48
1:D:435:HIS:O	1:D:437:ILE:N	2.47	0.48
1:E:422:ASN:O	1:E:425:ILE:HB	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:116:ILE:HD12	1:F:159:GLU:OE1	2.13	0.48
1:F:469:VAL:HG13	1:F:470:GLU:HG3	1.94	0.48
1:H:112:ILE:HD12	1:H:156:GLY:CA	2.44	0.48
1:H:130:ASP:O	1:H:132:ILE:HG12	2.14	0.48
1:D:128:LEU:O	1:D:195:PHE:HB2	2.14	0.48
1:E:385:PRO:HD2	1:E:386:GLU:OE1	2.14	0.48
1:G:152:PHE:HB2	1:G:163:VAL:HB	1.96	0.48
1:G:252:VAL:HA	1:H:271:PHE:HZ	1.78	0.48
1:H:370:TYR:HB2	1:H:376:TYR:CE1	2.48	0.48
1:H:435:HIS:O	1:H:436:LYS:C	2.51	0.48
1:E:128:LEU:HD12	1:E:196:PRO:HG2	1.95	0.48
1:E:198:LYS:HG2	1:E:202:GLY:HA2	1.96	0.48
1:E:209:LYS:HE3	1:E:209:LYS:HB3	1.44	0.48
1:E:501:VAL:HG12	1:E:502:LEU:HB2	1.96	0.48
1:F:111:SER:OG	1:F:113:PRO:HD2	2.14	0.48
1:H:213:LEU:HD11	1:H:216:ALA:HB2	1.94	0.48
1:E:457:ILE:O	1:E:460:LYS:HB2	2.13	0.48
1:F:224:LYS:O	1:F:225:TYR:CB	2.62	0.48
1:H:227:LEU:O	1:H:228:LYS:HB2	2.13	0.48
1:C:316:VAL:C	1:C:318:GLY:N	2.67	0.47
1:D:191:GLY:N	1:D:214:LEU:CD1	2.77	0.47
1:H:271:PHE:HA	2:H:601:HOH:O	2.13	0.47
1:C:111:SER:OG	1:C:114:GLU:HG3	2.15	0.47
1:E:138:ARG:NH1	1:F:545:TYR:O	2.35	0.47
1:G:138:ARG:NH1	1:G:187:GLY:O	2.46	0.47
1:A:351:TYR:CD2	1:B:108:ARG:NH1	2.81	0.47
1:A:453:ALA:O	1:A:458:GLU:HG3	2.14	0.47
1:F:119:TYR:CZ	1:F:196:PRO:HG3	2.50	0.47
1:H:290:PHE:HB2	1:H:303:LEU:HB2	1.94	0.47
1:H:501:VAL:HG22	1:H:560:ILE:CG1	2.43	0.47
1:B:251:PHE:CG	1:B:575:LEU:HD23	2.49	0.47
1:C:105:LYS:HB2	1:D:483:ARG:NH2	2.28	0.47
1:B:183:LYS:O	1:B:185:ARG:HG2	2.15	0.47
1:C:494:MET:HB3	1:C:502:LEU:HB3	1.96	0.47
1:D:191:GLY:H	1:D:214:LEU:CD1	2.27	0.47
1:F:499:LYS:HG3	1:F:559:ARG:NH1	2.30	0.47
1:H:135:ILE:HG22	1:H:192:ILE:HB	1.96	0.47
1:H:213:LEU:HD21	1:H:216:ALA:HB2	1.96	0.47
1:A:272:GLU:HB2	1:A:323:TYR:CZ	2.48	0.47
1:B:108:ARG:NH2	2:B:608:HOH:O	2.48	0.47
1:C:264:PHE:CE1	1:C:268:ARG:NH2	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:314:LEU:HD13	1:D:576:PHE:CZ	2.49	0.47
1:E:446:ALA:O	1:E:450:ASP:N	2.44	0.47
1:G:354:TYR:HD1	1:G:490:GLU:O	1.98	0.47
1:A:166:ASN:HB3	1:A:169:PHE:CD2	2.50	0.47
1:C:261:LEU:HD23	1:C:325:ILE:CD1	2.44	0.47
1:D:312:LYS:HE3	1:D:539:PHE:CZ	2.50	0.47
1:H:354:TYR:HD1	1:H:490:GLU:O	1.97	0.47
1:A:502:LEU:HD23	1:A:503:ASN:N	2.30	0.47
1:B:499:LYS:HB3	1:B:559:ARG:HD2	1.97	0.47
1:C:137:GLY:O	1:C:189:ILE:HA	2.14	0.47
1:A:151:PHE:HD1	1:A:162:GLN:NE2	2.13	0.47
1:A:268:ARG:NH1	1:A:268:ARG:CG	2.68	0.47
1:A:279:ASN:N	1:A:302:TYR:O	2.45	0.47
1:A:429:ILE:CG2	1:A:433:LYS:HE3	2.44	0.47
1:C:398:TYR:HB3	1:C:465:PRO:O	2.14	0.47
1:F:92:GLN:NE2	1:F:96:ASP:OD1	2.48	0.47
1:F:128:LEU:HD12	1:F:196:PRO:HG2	1.96	0.47
1:G:146:GLY:O	1:G:147:GLN:HB2	2.14	0.47
1:H:393:ASP:OD1	1:H:395:THR:OG1	2.22	0.47
1:A:484:THR:OG1	1:A:485:LYS:HG3	2.14	0.47
1:C:264:PHE:CE1	1:C:268:ARG:CZ	2.98	0.47
1:C:416:GLU:O	1:C:417:GLN:C	2.53	0.47
1:D:108:ARG:HD2	1:D:136:THR:OG1	2.15	0.47
1:D:138:ARG:HG3	1:D:189:ILE:HG13	1.96	0.47
1:D:151:PHE:O	1:D:152:PHE:CG	2.68	0.47
1:E:292:THR:O	1:E:301:LEU:N	2.48	0.47
1:B:231:GLU:OE1	1:B:235:ARG:NH1	2.48	0.46
1:B:251:PHE:CD2	1:B:575:LEU:HD23	2.50	0.46
1:E:392:ILE:HD11	1:E:497:CYS:SG	2.55	0.46
1:F:447:LYS:HA	1:F:450:ASP:HB2	1.96	0.46
1:G:265:LEU:HD13	1:G:323:TYR:CG	2.50	0.46
1:G:449:LEU:HD13	1:G:449:LEU:HA	1.63	0.46
1:A:197:GLY:HA3	1:A:207:PHE:HE2	1.80	0.46
1:C:228:LYS:HA	1:C:229:ASP:HA	1.65	0.46
1:C:304:ARG:HH12	1:C:324:GLU:CD	2.18	0.46
1:C:331:ASN:HD21	1:D:295:ASN:H	1.61	0.46
1:D:170:HIS:CB	1:D:177:PHE:HD1	2.28	0.46
1:F:228:LYS:HG3	1:F:229:ASP:OD1	2.15	0.46
1:D:90:PHE:CZ	1:D:183:LYS:HB3	2.49	0.46
1:E:294:HIS:HB2	1:E:301:LEU:HD12	1.96	0.46
1:E:577:PRO:HB2	1:E:579:MET:HE3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:88:SER:O	1:F:91:ILE:HB	2.15	0.46
1:H:167:TYR:CE1	1:H:172:HIS:HE1	2.34	0.46
1:A:329:PHE:O	1:A:330:ARG:HD3	2.15	0.46
1:D:235:ARG:NH1	1:D:579:MET:HG2	2.31	0.46
1:D:394:PHE:CZ	1:D:496:ILE:HD13	2.51	0.46
1:E:228:LYS:HA	1:E:229:ASP:HA	1.47	0.46
1:E:235:ARG:NH2	1:E:580:ARG:O	2.41	0.46
1:E:252:VAL:HA	1:F:271:PHE:CZ	2.50	0.46
1:E:407:ILE:HG13	1:E:457:ILE:HD11	1.96	0.46
1:G:427:LYS:O	1:G:431:ILE:HG13	2.15	0.46
1:C:164:LEU:HD22	1:C:207:PHE:HE1	1.79	0.46
1:C:241:LEU:HD12	1:C:241:LEU:HA	1.68	0.46
1:F:417:GLN:C	1:F:419:PHE:H	2.18	0.46
1:G:108:ARG:HD2	1:G:136:THR:OG1	2.15	0.46
1:H:231:GLU:O	1:H:235:ARG:HG3	2.14	0.46
1:A:228:LYS:HA	1:A:229:ASP:HA	1.48	0.46
1:C:166:ASN:HB3	1:C:169:PHE:CD2	2.51	0.46
1:C:417:GLN:C	1:C:419:PHE:H	2.17	0.46
1:F:398:TYR:O	1:F:400:LYS:HE3	2.15	0.46
1:F:423:GLU:O	1:F:426:GLU:HB2	2.15	0.46
1:F:463:ASP:OD1	1:F:463:ASP:N	2.41	0.46
1:G:122:LEU:O	1:G:198:LYS:NZ	2.38	0.46
1:G:193:VAL:O	1:G:208:PRO:HA	2.16	0.46
1:G:317:GLY:CA	1:H:238:TYR:HB2	2.46	0.46
1:G:324:GLU:O	1:G:345:CYS:HA	2.14	0.46
1:A:428:MET:SD	1:A:449:LEU:HD13	2.56	0.46
1:C:274:GLU:OE2	1:D:327:LYS:HE3	2.16	0.46
1:D:92:GLN:O	1:D:92:GLN:NE2	2.49	0.46
1:G:228:LYS:HA	1:G:229:ASP:HA	1.67	0.46
1:G:327:LYS:HE3	1:H:274:GLU:OE2	2.15	0.46
1:C:214:LEU:HD12	1:C:214:LEU:HA	1.73	0.46
1:F:246:SER:OG	1:F:247:SER:N	2.49	0.46
1:G:580:ARG:HG2	1:G:581:PRO:HD2	1.98	0.46
1:H:167:TYR:HA	1:H:177:PHE:CD1	2.51	0.46
1:A:184:ILE:HD11	1:A:211:THR:HG21	1.98	0.46
1:C:155:VAL:HG12	1:C:160:LYS:HG3	1.98	0.46
1:F:186:ARG:NH1	1:F:221:LEU:HB3	2.30	0.46
1:F:337:THR:C	1:F:338:HIS:ND1	2.70	0.46
1:G:264:PHE:HE2	1:G:360:TRP:NE1	2.14	0.46
1:A:219:HIS:ND1	2:A:603:HOH:O	2.24	0.45
1:A:235:ARG:NH2	1:A:581:PRO:HA	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:239:LEU:HD21	1:B:545:TYR:CD1	2.51	0.45
1:B:124:ASN:OD1	1:B:202:GLY:HA3	2.16	0.45
1:D:437:ILE:O	1:D:438:GLU:CB	2.64	0.45
1:E:247:SER:O	1:E:248:ARG:C	2.52	0.45
1:E:422:ASN:HB3	1:E:423:GLU:H	1.60	0.45
1:H:224:LYS:C	1:H:226:GLY:H	2.20	0.45
1:H:228:LYS:HA	1:H:229:ASP:HA	1.62	0.45
1:H:241:LEU:HD12	1:H:247:SER:OG	2.16	0.45
1:H:461:TYR:HB2	1:H:466:PHE:CD2	2.52	0.45
1:C:127:HIS:O	1:C:128:LEU:HD23	2.16	0.45
1:D:234:TYR:HB2	1:D:579:MET:SD	2.56	0.45
1:D:547:LEU:HD12	1:D:548:PRO:HD2	1.97	0.45
1:E:237:ARG:NH2	1:E:571:LYS:O	2.45	0.45
1:F:480:LYS:NZ	1:F:509:ASN:OD1	2.49	0.45
1:A:307:THR:O	1:A:311:LEU:HB2	2.16	0.45
1:D:191:GLY:H	1:D:214:LEU:HD13	1.81	0.45
1:E:382:LYS:HB2	1:E:390:ILE:HD13	1.98	0.45
1:F:228:LYS:HA	1:F:229:ASP:HA	1.48	0.45
1:G:483:ARG:HB2	1:G:484:THR:H	1.55	0.45
1:H:176:ASN:HB3	1:H:179:GLU:CB	2.46	0.45
1:E:84:PHE:O	1:E:88:SER:OG	2.27	0.45
1:A:415:LEU:HB3	1:A:424:THR:HG22	1.97	0.45
1:A:429:ILE:HG13	1:A:448:LEU:HD11	1.99	0.45
1:D:469:VAL:CG1	1:D:470:GLU:HG3	2.46	0.45
1:E:184:ILE:HD11	1:E:211:THR:HG21	1.99	0.45
1:F:235:ARG:O	1:F:236:GLN:HG3	2.16	0.45
1:G:264:PHE:HE2	1:G:360:TRP:CE2	2.35	0.45
1:G:308:GLU:HG3	1:G:309:LEU:HD13	1.99	0.45
1:G:347:PHE:CD1	1:G:347:PHE:C	2.90	0.45
1:G:575:LEU:HD13	1:H:314:LEU:HD21	1.98	0.45
1:H:408:GLU:HG2	1:H:414:ILE:HA	1.98	0.45
1:A:398:TYR:O	1:A:400:LYS:HD2	2.17	0.45
1:C:105:LYS:HB2	1:D:483:ARG:HH22	1.82	0.45
1:C:314:LEU:HD11	1:D:576:PHE:CE2	2.51	0.45
1:C:504:ALA:HB2	1:C:553:LEU:HG	1.98	0.45
1:D:212:ILE:O	1:D:214:LEU:HD13	2.16	0.45
1:A:94:GLN:HE22	1:A:183:LYS:NZ	2.15	0.45
1:D:82:LEU:O	1:D:86:ASN:ND2	2.50	0.45
1:D:190:VAL:C	1:D:214:LEU:HD22	2.37	0.45
1:D:411:THR:OG1	1:D:431:ILE:HD13	2.17	0.45
1:D:553:LEU:HD23	1:D:554:GLY:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:197:GLY:CA	1:E:207:PHE:HE2	2.25	0.45
1:F:115:PHE:HE2	1:F:204:LEU:HG	1.82	0.45
1:H:471:HIS:HD2	1:H:475:MET:HE1	1.81	0.45
1:H:485:LYS:CB	1:H:488:LEU:HD22	2.47	0.45
1:A:120:LYS:HG3	1:A:121:ASP:H	1.78	0.45
1:A:570:ILE:HG12	1:A:574:ILE:HD12	1.98	0.45
1:B:108:ARG:HE	1:B:108:ARG:HB2	1.66	0.45
1:B:294:HIS:HB2	1:B:301:LEU:HD12	1.99	0.45
1:F:197:GLY:HA3	1:F:207:PHE:HE2	1.81	0.45
1:H:347:PHE:C	1:H:347:PHE:HD1	2.20	0.45
1:A:411:THR:OG1	1:A:431:ILE:HD13	2.17	0.45
1:A:423:GLU:HG3	1:A:424:THR:N	2.30	0.45
1:B:327:LYS:HD3	1:B:342:PHE:O	2.17	0.45
1:D:214:LEU:CD1	1:D:214:LEU:N	2.79	0.45
1:D:308:GLU:HG3	1:D:309:LEU:CD1	2.29	0.45
1:E:407:ILE:O	1:E:411:THR:HG22	2.17	0.45
1:F:445:ALA:O	1:F:449:LEU:HB2	2.17	0.45
1:H:311:LEU:HD12	1:H:311:LEU:HA	1.66	0.45
1:H:556:GLY:O	1:H:560:ILE:HG13	2.17	0.45
1:A:248:ARG:O	1:A:252:VAL:HG23	2.17	0.45
1:B:227:LEU:O	1:B:228:LYS:CB	2.64	0.45
1:B:457:ILE:O	1:B:460:LYS:N	2.45	0.45
1:E:428:MET:SD	1:E:449:LEU:HD13	2.56	0.45
1:F:472:PRO:CB	1:F:474:ILE:HG22	2.48	0.45
1:H:164:LEU:HD13	1:H:207:PHE:CE1	2.39	0.45
1:H:176:ASN:HB3	1:H:179:GLU:HB3	1.98	0.45
1:A:260:PHE:CE2	1:A:368:LEU:HA	2.52	0.44
1:A:482:HIS:HD2	1:A:489:THR:O	2.00	0.44
1:B:138:ARG:NH1	1:B:187:GLY:O	2.49	0.44
1:B:460:LYS:HE3	1:B:461:TYR:CE2	2.53	0.44
1:E:87:ARG:CZ	1:E:185:ARG:HG3	2.46	0.44
1:G:392:ILE:HD11	1:G:497:CYS:SG	2.57	0.44
1:H:170:HIS:HB2	1:H:177:PHE:HD1	1.82	0.44
1:H:212:ILE:HD12	1:H:213:LEU:H	1.80	0.44
1:A:381:ASN:HB3	1:A:384:GLY:O	2.17	0.44
1:B:228:LYS:HA	1:B:229:ASP:HA	1.51	0.44
1:B:233:ARG:HE	1:B:233:ARG:HB2	1.55	0.44
1:B:248:ARG:O	1:B:252:VAL:HG23	2.17	0.44
1:E:87:ARG:O	1:E:90:PHE:HB3	2.17	0.44
1:E:311:LEU:HA	1:E:311:LEU:HD12	1.77	0.44
1:F:227:LEU:HA	1:F:230:THR:OG1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:402[A]:SER:HB2	1:F:405:GLU:HB3	1.98	0.44
1:H:501:VAL:CG2	1:H:560:ILE:HG12	2.47	0.44
1:F:350:ALA:HA	1:F:550:THR:HG23	1.98	0.44
1:G:199:SER:OG	1:G:203:GLU:HB3	2.18	0.44
1:G:335:ASP:O	1:G:571:LYS:HE3	2.18	0.44
1:H:299:LEU:HD23	1:H:299:LEU:HA	1.77	0.44
1:B:224:LYS:O	1:B:225:TYR:HB3	2.17	0.44
1:F:82:LEU:HG	1:F:86:ASN:HD21	1.82	0.44
1:A:141:ARG:HG2	1:A:142:VAL:N	2.33	0.44
1:A:335:ASP:OD2	1:A:338:HIS:CD2	2.71	0.44
1:C:444:THR:HG22	1:C:446:ALA:N	2.32	0.44
1:D:192:ILE:HG23	1:D:208:PRO:HB3	2.00	0.44
1:F:358:ILE:HG12	1:F:492:LEU:HD13	2.00	0.44
1:H:402:SER:HA	1:H:469:VAL:HG12	1.99	0.44
1:A:365:PHE:CD2	1:A:494:MET:HE1	2.53	0.44
1:B:510:ASP:O	1:B:512:PHE:N	2.50	0.44
1:D:250:THR:O	1:D:253:THR:HB	2.17	0.44
1:E:87:ARG:HA	1:E:87:ARG:HD2	1.76	0.44
1:D:112:ILE:N	1:D:113:PRO:CD	2.81	0.44
1:F:290:PHE:HB2	1:F:303:LEU:HB2	1.99	0.44
1:G:485:LYS:O	1:G:488:LEU:HB2	2.17	0.44
1:G:574:ILE:O	1:G:577:PRO:HD3	2.17	0.44
1:B:323:TYR:HB3	1:B:347:PHE:HB3	2.00	0.44
1:B:432:ILE:O	1:B:437:ILE:HA	2.18	0.44
1:B:501:VAL:HG13	1:B:560:ILE:HD11	2.00	0.44
1:C:152:PHE:HB2	1:C:163:VAL:HB	2.00	0.44
1:C:491:ARG:HB2	1:C:505:TYR:HB3	2.00	0.44
1:G:228:LYS:HG3	1:G:229:ASP:OD1	2.18	0.44
1:H:88:SER:O	1:H:89:LYS:C	2.56	0.44
1:H:476:SER:C	1:H:478:LEU:H	2.21	0.44
1:B:235:ARG:NH1	1:B:579:MET:HG2	2.33	0.44
1:B:310:PRO:HA	1:B:313:MET:HG3	1.99	0.44
1:D:315:ILE:HD13	1:D:319:ILE:O	2.18	0.44
1:E:481:TYR:O	1:F:104:HIS:HE1	2.01	0.44
1:E:509:ASN:OD1	1:E:509:ASN:N	2.43	0.44
1:G:363:ASP:O	1:G:367:GLN:HG3	2.18	0.44
1:G:559:ARG:HA	1:G:559:ARG:HD3	1.84	0.44
1:H:177:PHE:HD2	1:H:178:ALA:N	2.15	0.44
1:H:343:THR:HG22	1:H:557:ILE:HD12	1.99	0.44
1:A:260:PHE:HD2	1:A:368:LEU:HD13	1.82	0.43
1:B:251:PHE:CD1	1:B:575:LEU:HD23	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:195:PHE:O	1:C:206:ILE:HD12	2.18	0.43
1:E:112:ILE:O	1:E:116:ILE:HG13	2.18	0.43
1:E:365:PHE:CE2	1:E:494:MET:HE2	2.53	0.43
1:E:411:THR:OG1	1:E:431:ILE:HD13	2.17	0.43
1:F:268:ARG:NH1	1:F:268:ARG:HG3	2.33	0.43
1:F:358:ILE:HD13	1:F:492:LEU:CD1	2.47	0.43
1:F:574:ILE:O	1:F:577:PRO:HD3	2.18	0.43
1:A:231:GLU:O	1:A:235:ARG:HG3	2.18	0.43
1:B:191:GLY:H	1:B:214:LEU:HD13	1.84	0.43
1:D:386:GLU:CD	1:D:386:GLU:H	2.21	0.43
1:G:297:LEU:HD21	1:H:334:ILE:HD12	2.00	0.43
1:A:308:GLU:HG3	1:A:309:LEU:HD13	1.99	0.43
1:B:116:ILE:O	1:B:120:LYS:HB3	2.18	0.43
1:B:234:TYR:HB3	1:B:577:PRO:HG2	1.99	0.43
1:C:227:LEU:HD23	1:C:232:ILE:HD11	2.01	0.43
1:D:212:ILE:HD12	1:D:213:LEU:N	2.33	0.43
1:E:329:PHE:CD2	1:E:329:PHE:N	2.86	0.43
1:G:309:LEU:HD13	1:G:309:LEU:N	2.33	0.43
1:H:140:MET:O	1:H:186:ARG:HG3	2.18	0.43
1:H:152:PHE:HB2	1:H:163:VAL:CB	2.49	0.43
1:B:383:ASP:HB2	1:B:387:ASN:HD22	1.82	0.43
1:C:87:ARG:HB3	1:C:218:LEU:HD12	2.01	0.43
1:C:471:HIS:ND1	1:C:471:HIS:N	2.65	0.43
1:D:260:PHE:CD2	1:D:368:LEU:HD13	2.53	0.43
1:E:139:ILE:O	1:E:187:GLY:N	2.33	0.43
1:E:359:LYS:NZ	1:E:363:ASP:OD2	2.48	0.43
1:A:234:TYR:HD1	1:A:237:ARG:NH2	2.17	0.43
1:B:162:GLN:O	1:B:205:SER:HA	2.18	0.43
1:B:170:HIS:CD2	1:B:177:PHE:HB2	2.53	0.43
1:D:407:ILE:O	1:D:411:THR:HG22	2.18	0.43
1:D:471:HIS:O	1:D:489:THR:HG23	2.18	0.43
1:G:309:LEU:HB2	1:G:310:PRO:HD3	2.01	0.43
1:H:303:LEU:HD23	1:H:303:LEU:HA	1.80	0.43
1:H:476:SER:HB2	1:H:489:THR:HG21	2.00	0.43
1:A:437:ILE:O	1:A:438:GLU:CB	2.66	0.43
1:E:128:LEU:C	1:E:130:ASP:H	2.21	0.43
1:E:252:VAL:HA	1:F:271:PHE:HZ	1.83	0.43
1:F:415:LEU:HD22	1:F:424:THR:HG22	1.99	0.43
1:H:264:PHE:O	1:H:268:ARG:HD2	2.18	0.43
1:C:148:LYS:HG3	1:C:167:TYR:HB3	2.00	0.43
1:C:228:LYS:HD2	1:C:233:ARG:HD3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:358:ILE:HD13	1:D:492:LEU:HD13	2.01	0.43
1:E:353:ASP:OD1	1:E:355:ASN:HB2	2.19	0.43
1:F:167:TYR:HA	1:F:177:PHE:CE1	2.53	0.43
1:F:170:HIS:CB	1:F:177:PHE:HD1	2.32	0.43
1:F:413:THR:HG21	1:F:431:ILE:HD11	2.00	0.43
1:F:419:PHE:HD1	1:F:419:PHE:HA	1.77	0.43
1:G:346:GLU:HA	1:G:553:LEU:O	2.19	0.43
1:H:109:THR:HB	1:H:134:ASN:H	1.83	0.43
1:H:312:LYS:O	1:H:315:ILE:N	2.50	0.43
1:B:541:THR:O	1:B:544:GLU:N	2.38	0.43
1:C:354:TYR:HD1	1:C:490:GLU:O	2.01	0.43
1:C:398:TYR:HB3	1:C:399:PRO:HD2	2.00	0.43
1:D:444:THR:HG22	1:D:446:ALA:N	2.34	0.43
1:D:471:HIS:CG	1:D:491:ARG:HD3	2.54	0.43
1:E:160:LYS:HB2	1:E:160:LYS:HE2	1.81	0.43
1:E:435:HIS:O	1:E:436:LYS:C	2.56	0.43
1:E:571:LYS:NZ	1:E:579:MET:HE2	2.33	0.43
1:A:351:TYR:HD2	1:B:108:ARG:NH1	2.16	0.43
1:B:149:LEU:O	1:B:150:ARG:HD2	2.18	0.43
1:C:251:PHE:CZ	1:C:575:LEU:HD23	2.54	0.43
1:D:218:LEU:HD12	1:D:218:LEU:HA	1.80	0.43
1:E:480:LYS:NZ	1:E:509:ASN:OD1	2.44	0.43
1:F:211:THR:O	1:F:211:THR:HG22	2.18	0.43
1:F:262:ARG:NH1	1:F:272:GLU:OE1	2.52	0.43
1:F:357:LEU:HG	1:F:504:ALA:HB1	1.99	0.43
1:G:440:PRO:O	1:G:441:ASN:HB2	2.19	0.43
1:H:108:ARG:CD	1:H:136:THR:OG1	2.66	0.43
1:H:413:THR:HG21	1:H:431:ILE:HD11	2.00	0.43
1:A:155:VAL:HG12	1:A:160:LYS:HG3	2.01	0.43
1:A:271:PHE:CZ	1:B:252:VAL:HA	2.54	0.43
1:C:496:ILE:HG13	1:C:501:VAL:HG21	2.01	0.43
1:E:403:ILE:HG22	1:E:469:VAL:O	2.18	0.43
1:F:405:GLU:O	1:F:409:LYS:HB3	2.19	0.43
1:H:398:TYR:HB3	1:H:465:PRO:O	2.19	0.43
1:H:499:LYS:HE3	1:H:559:ARG:NH1	2.29	0.43
1:A:125:GLY:N	1:A:199:SER:O	2.52	0.42
1:B:227:LEU:HA	1:B:230:THR:OG1	2.19	0.42
1:C:277:MET:HA	1:C:304:ARG:HG2	2.00	0.42
1:A:427:LYS:O	1:A:431:ILE:HG13	2.19	0.42
1:B:502:LEU:HD11	1:B:553:LEU:HD11	2.01	0.42
1:C:557:ILE:HD13	1:C:557:ILE:HA	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:100:ASN:O	1:E:103:PRO:HD3	2.19	0.42
1:F:347:PHE:CD1	1:F:347:PHE:C	2.92	0.42
1:G:358:ILE:HD13	1:G:492:LEU:CD1	2.39	0.42
1:G:403:ILE:HG21	1:G:471:HIS:HA	2.01	0.42
1:H:217:CYS:SG	1:H:221:LEU:HD13	2.58	0.42
1:B:146:GLY:O	1:B:147:GLN:HB2	2.20	0.42
1:C:314:LEU:CD1	1:D:576:PHE:CZ	3.01	0.42
1:D:92:GLN:NE2	1:D:96:ASP:OD1	2.52	0.42
1:H:180:CYS:HA	1:H:183:LYS:HD2	2.01	0.42
1:H:189:ILE:HD12	1:H:215:SER:HB3	2.01	0.42
1:A:171:ASN:OD1	1:A:173:GLU:HB2	2.20	0.42
1:A:224:LYS:O	1:A:225:TYR:CB	2.67	0.42
1:A:351:TYR:CD2	1:B:108:ARG:HD3	2.55	0.42
1:C:402:SER:HB3	1:C:405:GLU:HB3	2.00	0.42
1:D:231:GLU:O	1:D:235:ARG:HG3	2.20	0.42
1:E:353:ASP:O	1:E:356:ASP:N	2.52	0.42
1:E:411:THR:HG23	1:E:413:THR:HG23	2.01	0.42
1:F:191:GLY:H	1:F:214:LEU:HD13	1.84	0.42
1:F:468:ILE:O	1:F:471:HIS:HE1	2.03	0.42
1:G:128:LEU:HD12	1:G:196:PRO:HG2	2.01	0.42
1:G:353:ASP:O	1:G:356:ASP:N	2.40	0.42
1:G:502:LEU:HD23	1:G:503:ASN:N	2.33	0.42
1:H:167:TYR:HA	1:H:177:PHE:CE1	2.54	0.42
1:B:137:GLY:HA3	1:B:154:LEU:CD1	2.50	0.42
1:B:471:HIS:CG	1:B:491:ARG:HD3	2.55	0.42
1:C:222:PRO:HG2	1:C:243:ILE:CD1	2.49	0.42
1:D:169:PHE:CE2	1:D:195:PHE:CZ	3.00	0.42
1:E:496:ILE:HG13	1:E:501:VAL:HG21	2.01	0.42
1:H:345:CYS:O	1:H:554:GLY:HA2	2.20	0.42
1:A:435:HIS:O	1:A:437:ILE:N	2.53	0.42
1:B:278:MET:HA	1:B:302:TYR:O	2.20	0.42
1:B:339:ASN:ND2	1:B:340:PRO:CD	2.80	0.42
1:B:481:TYR:CE2	1:B:513:LYS:HD3	2.54	0.42
1:C:122:LEU:HD12	1:C:122:LEU:HA	1.80	0.42
1:C:484:THR:O	1:C:486:PRO:HD3	2.20	0.42
1:C:509:ASN:OD1	1:C:509:ASN:N	2.52	0.42
1:D:197:GLY:HA3	1:D:207:PHE:HE2	1.83	0.42
1:D:410:VAL:HG11	1:D:456:PHE:HD1	1.85	0.42
1:F:499:LYS:HD2	1:F:559:ARG:NH2	2.35	0.42
1:H:380:TYR:CE2	1:H:382:LYS:HA	2.54	0.42
1:B:237:ARG:O	1:B:241:LEU:HD22	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:138:ARG:NH1	1:F:187:GLY:O	2.51	0.42
1:A:139:ILE:HD12	1:A:152:PHE:HB3	2.01	0.42
1:B:422:ASN:O	1:B:423:GLU:C	2.57	0.42
1:C:224:LYS:C	1:C:226:GLY:H	2.23	0.42
1:B:408:GLU:OE2	1:B:415:LEU:N	2.53	0.42
1:B:410:VAL:O	1:B:412:ASN:ND2	2.53	0.42
1:C:351:TYR:CD2	1:D:108:ARG:HD3	2.55	0.42
1:D:87:ARG:NH2	1:D:188:ASP:OD1	2.52	0.42
1:D:135:ILE:HG23	1:D:192:ILE:HB	2.02	0.42
1:E:128:LEU:O	1:E:130:ASP:N	2.53	0.42
1:E:137:GLY:HA3	1:E:154:LEU:HG	2.01	0.42
1:F:449:LEU:HD13	1:F:449:LEU:HA	1.79	0.42
1:G:432:ILE:HG23	1:G:438:GLU:CB	2.49	0.42
1:G:460:LYS:HG2	1:G:461:TYR:CD2	2.54	0.42
1:A:469:VAL:CG1	1:A:470:GLU:HG3	2.38	0.42
1:B:464:LYS:HB2	1:B:465:PRO:HD2	2.02	0.42
1:B:472:PRO:CB	1:B:474:ILE:HG22	2.50	0.42
1:F:353:ASP:OD1	1:F:355:ASN:ND2	2.37	0.42
1:F:481:TYR:CE2	1:F:513:LYS:HE3	2.55	0.42
1:A:89:LYS:HE3	1:A:89:LYS:HB2	1.87	0.41
1:A:254:ARG:HB2	1:A:561:THR:HG21	2.00	0.41
1:A:463:ASP:OD1	1:A:463:ASP:N	2.53	0.41
1:A:504:ALA:HB1	1:A:552:GLY:O	2.19	0.41
1:B:442:PRO:O	1:B:447:LYS:HD3	2.20	0.41
1:D:417:GLN:NE2	1:D:424:THR:HG23	2.34	0.41
1:E:164:LEU:HD13	1:E:207:PHE:HE1	1.85	0.41
1:F:579:MET:HE3	1:F:579:MET:HB2	1.94	0.41
1:H:493:GLU:OE2	1:H:500:GLU:HG3	2.20	0.41
1:B:217:CYS:SG	1:B:221:LEU:HD13	2.60	0.41
1:B:398:TYR:HB3	1:B:465:PRO:O	2.20	0.41
1:C:270:PHE:CG	1:C:321:LYS:HB3	2.55	0.41
1:D:248:ARG:O	1:D:252:VAL:HG23	2.20	0.41
1:E:354:TYR:HD1	1:E:490:GLU:O	2.03	0.41
1:E:576:PHE:HB2	1:F:276:PRO:HG3	2.02	0.41
1:A:383:ASP:HB2	1:A:387:ASN:HB2	2.02	0.41
1:B:87:ARG:NE	1:B:185:ARG:HG3	2.35	0.41
1:B:403:ILE:HG22	1:B:469:VAL:O	2.19	0.41
1:B:509:ASN:O	1:B:511:PRO:HD3	2.19	0.41
1:C:176:ASN:HB3	1:C:179:GLU:HB3	2.02	0.41
1:C:307:THR:O	1:C:311:LEU:HB2	2.21	0.41
1:E:384:GLY:HA3	1:E:386:GLU:OE2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:415:LEU:HD21	1:G:428:MET:HG2	2.01	0.41
1:G:576:PHE:HB2	1:H:276:PRO:CG	2.50	0.41
1:H:302:TYR:N	1:H:302:TYR:CD2	2.88	0.41
1:A:93:ASP:O	1:A:97:LYS:HB2	2.21	0.41
1:C:105:LYS:HA	1:C:105:LYS:HD2	1.78	0.41
1:C:312:LYS:O	1:C:315:ILE:N	2.51	0.41
1:D:176:ASN:HB3	1:D:179:GLU:HB3	2.01	0.41
1:D:307:THR:OG1	1:D:346:GLU:HG3	2.20	0.41
1:D:415:LEU:CD2	1:D:428:MET:HG2	2.49	0.41
1:E:293:HIS:CE1	1:E:298:ASP:HA	2.55	0.41
1:E:510:ASP:HA	1:E:511:PRO:HD3	1.88	0.41
1:F:571:LYS:HB3	1:F:577:PRO:HG3	2.03	0.41
1:G:187:GLY:O	1:G:217:CYS:HB2	2.20	0.41
1:H:108:ARG:HA	1:H:134:ASN:HB3	2.02	0.41
1:H:166:ASN:HB3	1:H:169:PHE:CD2	2.55	0.41
1:H:483:ARG:H	1:H:483:ARG:HG3	1.57	0.41
1:A:87:ARG:NH2	1:A:188:ASP:OD1	2.54	0.41
1:C:425:ILE:HD11	1:C:445:ALA:HB2	2.01	0.41
1:D:177:PHE:O	1:D:181:TYR:HD2	2.03	0.41
1:D:444:THR:HG22	1:D:446:ALA:H	1.86	0.41
1:E:343:THR:O	1:E:557:ILE:HB	2.20	0.41
1:F:358:ILE:CG1	1:F:492:LEU:HD13	2.50	0.41
1:H:107:GLU:O	1:H:134:ASN:ND2	2.39	0.41
1:A:221:LEU:HD12	1:A:221:LEU:HA	1.93	0.41
1:A:313:MET:HE1	1:B:576:PHE:CE1	2.50	0.41
1:B:251:PHE:CE2	1:B:575:LEU:HD23	2.55	0.41
1:D:191:GLY:N	1:D:214:LEU:HD13	2.35	0.41
1:E:339:ASN:CG	1:E:340:PRO:HD2	2.40	0.41
1:E:416:GLU:O	1:E:418:PRO:N	2.54	0.41
1:A:543:LEU:HD12	1:A:543:LEU:HA	1.83	0.41
1:B:251:PHE:CG	1:B:575:LEU:HD21	2.56	0.41
1:B:311:LEU:HD12	1:B:311:LEU:HA	1.65	0.41
1:B:417:GLN:HE21	1:B:417:GLN:HB3	1.76	0.41
1:B:439:LEU:H	1:B:439:LEU:HD12	1.86	0.41
1:D:373:PHE:HE2	1:D:564:LEU:HD22	1.85	0.41
1:D:502:LEU:HD23	1:D:502:LEU:C	2.41	0.41
1:F:580:ARG:HE	1:F:580:ARG:HB2	1.56	0.41
1:G:138:ARG:HA	1:G:188:ASP:O	2.21	0.41
1:G:368:LEU:O	1:G:371:HIS:HB3	2.20	0.41
1:G:411:THR:HG21	1:G:431:ILE:HD13	2.02	0.41
1:H:140:MET:HG2	1:H:155:VAL:HG21	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:164:LEU:HB3	1:H:207:PHE:HD1	1.85	0.41
1:A:312:LYS:O	1:A:315:ILE:HB	2.21	0.41
1:E:241:LEU:HA	1:E:241:LEU:HD12	1.82	0.41
1:E:416:GLU:O	1:E:417:GLN:C	2.58	0.41
1:A:227:LEU:HA	1:A:230:THR:OG1	2.21	0.41
1:A:436:LYS:O	1:A:437:ILE:CB	2.69	0.41
1:B:409:LYS:O	1:B:409:LYS:HG2	2.19	0.41
1:B:571:LYS:HB3	1:B:577:PRO:HG3	2.03	0.41
1:D:234:TYR:CB	1:D:579:MET:SD	3.09	0.41
1:D:312:LYS:NZ	1:D:507:GLU:OE1	2.47	0.41
1:E:417:GLN:O	1:E:419:PHE:N	2.54	0.41
1:E:482:HIS:HB3	1:E:485:LYS:O	2.21	0.41
1:F:92:GLN:NE2	1:F:92:GLN:O	2.54	0.41
1:F:315:ILE:HD12	1:F:550:THR:CG2	2.51	0.41
1:F:480:LYS:HA	1:F:508:LEU:HD13	2.03	0.41
1:F:567:LYS:HD2	1:F:572:ASP:HB3	2.02	0.41
1:G:388:GLN:HG2	1:G:389:PRO:HD2	2.03	0.41
1:G:460:LYS:CE	1:G:461:TYR:HE2	2.33	0.41
1:H:170:HIS:CB	1:H:177:PHE:HD1	2.34	0.41
1:H:176:ASN:O	1:H:177:PHE:C	2.59	0.41
1:H:204:LEU:HD12	1:H:205:SER:N	2.35	0.41
1:H:265:LEU:HB3	1:H:270:PHE:HB2	2.01	0.41
1:H:265:LEU:HD13	1:H:323:TYR:CG	2.56	0.41
1:H:463:ASP:OD2	1:H:464:LYS:HE2	2.21	0.41
1:H:469:VAL:HG13	1:H:470:GLU:CG	2.50	0.41
1:H:509:ASN:O	1:H:511:PRO:HD3	2.20	0.41
1:A:108:ARG:HG2	1:A:136:THR:HG23	2.02	0.41
1:A:151:PHE:HD1	1:A:162:GLN:HE22	1.69	0.41
1:A:363:ASP:O	1:A:364:PHE:C	2.59	0.41
1:B:381:ASN:ND2	1:B:389:PRO:HB3	2.36	0.41
1:B:393:ASP:OD1	1:B:395:THR:OG1	2.31	0.41
1:C:422:ASN:HB3	1:C:423:GLU:H	1.69	0.41
1:C:428:MET:O	1:C:432:ILE:HG12	2.21	0.41
1:D:350:ALA:HA	1:D:550:THR:HG23	2.03	0.41
1:D:394:PHE:HZ	1:D:496:ILE:HD13	1.85	0.41
1:E:140:MET:HG2	1:E:155:VAL:HG22	2.03	0.41
1:E:411:THR:O	1:E:413:THR:HG23	2.21	0.41
1:E:570:ILE:HA	1:E:573:VAL:HG22	2.02	0.41
1:F:320:ASP:HB3	1:F:350:ALA:HB3	2.03	0.41
1:F:492:LEU:HD23	1:F:492:LEU:N	2.36	0.41
1:G:213:LEU:HD21	1:G:216:ALA:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:332:GLU:OE1	1:H:338:HIS:HD2	2.03	0.41
1:H:442:PRO:O	1:H:444:THR:N	2.45	0.41
1:A:294:HIS:HB2	1:A:301:LEU:HD12	2.03	0.40
1:B:347:PHE:CD1	1:B:347:PHE:C	2.95	0.40
1:C:484:THR:OG1	1:C:485:LYS:N	2.55	0.40
1:E:392:ILE:HA	1:E:463:ASP:O	2.21	0.40
1:G:112:ILE:N	1:G:113:PRO:CD	2.84	0.40
1:G:228:LYS:HA	1:G:229:ASP:OD1	2.21	0.40
1:G:270:PHE:CD1	1:G:321:LYS:HB3	2.56	0.40
1:G:273:VAL:HG13	1:G:322:VAL:HG23	2.04	0.40
1:G:415:LEU:HD12	1:G:415:LEU:O	2.21	0.40
1:G:485:LYS:HA	1:G:486:PRO:HD2	1.98	0.40
1:H:250:THR:O	1:H:253:THR:HB	2.21	0.40
1:A:265:LEU:HD13	1:A:323:TYR:CD1	2.55	0.40
1:B:151:PHE:HD1	1:B:162:GLN:NE2	2.18	0.40
1:C:109:THR:HB	1:C:134:ASN:H	1.86	0.40
1:D:172:HIS:CD2	1:D:172:HIS:H	2.39	0.40
1:E:347:PHE:CD1	1:E:347:PHE:C	2.95	0.40
1:H:198:LYS:HA	1:H:203:GLU:O	2.21	0.40
1:A:386:GLU:OE1	1:A:386:GLU:N	2.40	0.40
1:A:393:ASP:OD1	1:A:395:THR:OG1	2.40	0.40
1:B:428:MET:SD	1:B:449:LEU:HD22	2.61	0.40
1:E:162:GLN:O	1:E:205:SER:HA	2.21	0.40
1:F:428:MET:SD	1:F:449:LEU:HD22	2.62	0.40
1:G:317:GLY:HA2	1:H:238:TYR:HB2	2.04	0.40
1:G:510:ASP:O	1:G:512:PHE:N	2.55	0.40
1:A:192:ILE:HG23	1:A:208:PRO:HB3	2.03	0.40
1:C:341:GLU:HG2	1:D:278:MET:HE2	2.03	0.40
1:C:357:LEU:HA	1:C:357:LEU:HD12	1.81	0.40
1:C:482:HIS:HB2	1:C:488:LEU:O	2.20	0.40
1:D:176:ASN:HB3	1:D:179:GLU:CB	2.51	0.40
1:D:574:ILE:O	1:D:577:PRO:HD3	2.21	0.40
1:E:386:GLU:CD	1:E:386:GLU:H	2.24	0.40
1:E:431:ILE:O	1:E:435:HIS:HB3	2.21	0.40
1:F:311:LEU:HD12	1:F:311:LEU:HA	1.83	0.40
1:F:416:GLU:O	1:F:417:GLN:C	2.59	0.40
1:F:557:ILE:HD13	1:F:557:ILE:HA	1.96	0.40
1:H:428:MET:HE1	1:H:448:LEU:HB2	2.02	0.40
1:B:94:GLN:OE1	1:B:99:ILE:HD12	2.22	0.40
1:C:293:HIS:HD2	1:C:295:ASN:OD1	2.04	0.40
1:D:137:GLY:O	1:D:189:ILE:HG23	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:176:ASN:HB3	1:E:179:GLU:HB3	2.03	0.40
1:E:359:LYS:HD2	1:E:363:ASP:OD1	2.22	0.40
1:E:485:LYS:HA	1:E:486:PRO:HD2	1.95	0.40
1:H:398:TYR:O	1:H:400:LYS:HD2	2.22	0.40
1:H:580:ARG:HA	1:H:581:PRO:HD3	1.85	0.40

All (1) 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:167:TYR:OH	1:G:434:GLU:OE2[1_465]	1.96	0.24

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	466/507 (92%)	425 (91%)	35 (8%)	6 (1%)	12	37
1	B	466/507 (92%)	414 (89%)	44 (9%)	8 (2%)	9	31
1	C	465/507 (92%)	408 (88%)	51 (11%)	6 (1%)	12	37
1	D	465/507 (92%)	410 (88%)	49 (10%)	6 (1%)	12	37
1	E	464/507 (92%)	417 (90%)	40 (9%)	7 (2%)	10	34
1	F	465/507 (92%)	420 (90%)	33 (7%)	12 (3%)	5	20
1	G	464/507 (92%)	419 (90%)	33 (7%)	12 (3%)	5	20
1	H	465/507 (92%)	419 (90%)	38 (8%)	8 (2%)	9	31
All	All	3720/4056 (92%)	3332 (90%)	323 (9%)	65 (2%)	9	31

All (65) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	437	ILE
1	B	416	GLU
1	B	418	PRO
1	B	423	GLU
1	B	458	GLU
1	C	418	PRO
1	D	436	LYS
1	E	414	ILE
1	E	438	GLU
1	F	437	ILE
1	F	438	GLU
1	G	354	TYR
1	G	422	ASN
1	G	483	ARG
1	H	418	PRO
1	A	438	GLU
1	B	437	ILE
1	C	317	GLY
1	D	422	ASN
1	D	437	ILE
1	D	438	GLU
1	E	354	TYR
1	G	172	HIS
1	G	414	ILE
1	G	417	GLN
1	G	436	LYS
1	G	437	ILE
1	H	437	ILE
1	A	436	LYS
1	B	541	THR
1	C	437	ILE
1	C	442	PRO
1	D	418	PRO
1	D	472	PRO
1	E	295	ASN
1	F	177	PHE
1	F	418	PRO
1	F	422	ASN
1	G	225	TYR
1	G	409	LYS
1	A	296	ASP
1	A	417	GLN
1	C	332	GLU

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Mol	Chain	Res	Type
1	F	228	LYS
1	F	436	LYS
1	H	88	SER
1	H	177	PHE
1	H	436	LYS
1	E	177	PHE
1	E	417	GLN
1	F	309	LEU
1	F	408	GLU
1	F	442	PRO
1	G	442	PRO
1	C	354	TYR
1	E	437	ILE
1	F	472	PRO
1	H	89	LYS
1	F	441	ASN
1	H	443	PRO
1	G	358	ILE
1	B	441	ASN
1	B	511	PRO
1	A	317	GLY
1	H	399	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	427/457 (93%)	382 (90%)	45 (10%)	7 21
1	B	427/457 (93%)	365 (86%)	62 (14%)	3 9
1	C	425/457 (93%)	366 (86%)	59 (14%)	3 10
1	D	426/457 (93%)	363 (85%)	63 (15%)	3 9
1	E	424/457 (93%)	370 (87%)	54 (13%)	4 13
1	F	426/457 (93%)	364 (85%)	62 (15%)	3 9
1	G	425/457 (93%)	372 (88%)	53 (12%)	4 14

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	H	424/457 (93%)	370 (87%)	54 (13%)	4 13
All	All	3404/3656 (93%)	2952 (87%)	452 (13%)	4 11

All (452) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	81	ARG
1	A	142	VAL
1	A	164	LEU
1	A	179	GLU
1	A	212	ILE
1	A	214	LEU
1	A	218	LEU
1	A	220	MET
1	A	227	LEU
1	A	228	LYS
1	A	232	ILE
1	A	241	LEU
1	A	256	LYS
1	A	274	GLU
1	A	299	LEU
1	A	308	GLU
1	A	309	LEU
1	A	311	LEU
1	A	314	LEU
1	A	319	ILE
1	A	341	GLU
1	A	357	LEU
1	A	372	LEU
1	A	379	SER
1	A	404	VAL
1	A	413	THR
1	A	415	LEU
1	A	421	SER
1	A	422	ASN
1	A	423	GLU
1	A	424	THR
1	A	425	ILE
1	A	449	LEU
1	A	454	SER
1	A	457	ILE
1	A	460	LYS

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Mol	Chain	Res	Type
1	A	464	LYS
1	A	476	SER
1	A	478	LEU
1	A	492	LEU
1	A	500	GLU
1	A	540	CYS
1	A	550	THR
1	A	557	ILE
1	A	579	MET
1	B	81	ARG
1	B	89	LYS
1	B	91	ILE
1	B	96	ASP
1	B	99	ILE
1	B	108	ARG
1	B	127	HIS
1	B	138	ARG
1	B	141	ARG
1	B	142	VAL
1	B	143	SER
1	B	149	LEU
1	B	162	GLN
1	B	168	SER
1	B	173	GLU
1	B	176	ASN
1	B	209	LYS
1	B	212	ILE
1	B	214	LEU
1	B	217	CYS
1	B	220	MET
1	B	223	MET
1	B	227	LEU
1	B	230	THR
1	B	235	ARG
1	B	238	TYR
1	B	241	LEU
1	B	247	SER
1	B	248	ARG
1	B	277	MET
1	B	292	THR
1	B	304	ARG
1	B	305	ILE

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Mol	Chain	Res	Type
1	B	309	LEU
1	B	311	LEU
1	B	314	LEU
1	B	337	THR
1	B	339	ASN
1	B	345	CYS
1	B	357	LEU
1	B	363	ASP
1	B	372	LEU
1	B	391	GLU
1	B	404	VAL
1	B	415	LEU
1	B	417	GLN
1	B	422	ASN
1	B	423	GLU
1	B	424	THR
1	B	435	HIS
1	B	444	THR
1	B	449	LEU
1	B	469	VAL
1	B	476	SER
1	B	484	THR
1	B	492	LEU
1	B	500	GLU
1	B	540	CYS
1	B	542	SER
1	B	559	ARG
1	B	579	MET
1	B	580	ARG
1	C	81	ARG
1	C	87	ARG
1	C	89	LYS
1	C	107	GLU
1	C	122	LEU
1	C	127	HIS
1	C	142	VAL
1	C	143	SER
1	C	148	LYS
1	C	149	LEU
1	C	162	GLN
1	C	168	SER
1	C	212	ILE

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Mol	Chain	Res	Type
1	C	214	LEU
1	C	218	LEU
1	C	220	MET
1	C	223	MET
1	C	227	LEU
1	C	229	ASP
1	C	230	THR
1	C	241	LEU
1	C	274	GLU
1	C	298	ASP
1	C	305	ILE
1	C	309	LEU
1	C	312	LYS
1	C	314	LEU
1	C	341	GLU
1	C	357	LEU
1	C	358	ILE
1	C	366	SER
1	C	372	LEU
1	C	383	ASP
1	C	390	ILE
1	C	391	GLU
1	C	403	ILE
1	C	415	LEU
1	C	417	GLN
1	C	419	PHE
1	C	420	ASP
1	C	423	GLU
1	C	424	THR
1	C	426	GLU
1	C	429	ILE
1	C	433	LYS
1	C	449	LEU
1	C	454	SER
1	C	457	ILE
1	C	463	ASP
1	C	464	LYS
1	C	471	HIS
1	C	476	SER
1	C	478	LEU
1	C	490	GLU
1	C	492	LEU

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Mol	Chain	Res	Type
1	C	496	ILE
1	C	500	GLU
1	C	543	LEU
1	C	579	MET
1	D	81	ARG
1	D	99	ILE
1	D	108	ARG
1	D	109	THR
1	D	127	HIS
1	D	138	ARG
1	D	143	SER
1	D	150	ARG
1	D	168	SER
1	D	176	ASN
1	D	200	LYS
1	D	209	LYS
1	D	212	ILE
1	D	213	LEU
1	D	214	LEU
1	D	218	LEU
1	D	220	MET
1	D	223	MET
1	D	224	LYS
1	D	227	LEU
1	D	228	LYS
1	D	230	THR
1	D	231	GLU
1	D	241	LEU
1	D	247	SER
1	D	281	ILE
1	D	290	PHE
1	D	296	ASP
1	D	304	ARG
1	D	305	ILE
1	D	309	LEU
1	D	311	LEU
1	D	314	LEU
1	D	319	ILE
1	D	330	ARG
1	D	345	CYS
1	D	357	LEU
1	D	366	SER

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Mol	Chain	Res	Type
1	D	372	LEU
1	D	377	LYS
1	D	388	GLN
1	D	392	ILE
1	D	402	SER
1	D	411	THR
1	D	415	LEU
1	D	423	GLU
1	D	424	THR
1	D	425	ILE
1	D	426	GLU
1	D	427	LYS
1	D	432	ILE
1	D	435	HIS
1	D	449	LEU
1	D	460	LYS
1	D	464	LYS
1	D	476	SER
1	D	478	LEU
1	D	490	GLU
1	D	492	LEU
1	D	500	GLU
1	D	550	THR
1	D	558	ASP
1	D	579	MET
1	E	81	ARG
1	E	82	LEU
1	E	87	ARG
1	E	88	SER
1	E	92	GLN
1	E	99	ILE
1	E	118	LYS
1	E	122	LEU
1	E	127	HIS
1	E	142	VAL
1	E	150	ARG
1	E	160	LYS
1	E	168	SER
1	E	185	ARG
1	E	198	LYS
1	E	201	LYS
1	E	206	ILE

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Mol	Chain	Res	Type
1	E	209	LYS
1	E	212	ILE
1	E	218	LEU
1	E	220	MET
1	E	227	LEU
1	E	228	LYS
1	E	230	THR
1	E	232	ILE
1	E	241	LEU
1	E	247	SER
1	E	311	LEU
1	E	314	LEU
1	E	335	ASP
1	E	351	TYR
1	E	357	LEU
1	E	372	LEU
1	E	386	GLU
1	E	390	ILE
1	E	400	LYS
1	E	403	ILE
1	E	408	GLU
1	E	409	LYS
1	E	415	LEU
1	E	422	ASN
1	E	423	GLU
1	E	424	THR
1	E	425	ILE
1	E	454	SER
1	E	457	ILE
1	E	460	LYS
1	E	463	ASP
1	E	478	LEU
1	E	492	LEU
1	E	499	LYS
1	E	540	CYS
1	E	579	MET
1	E	580	ARG
1	F	81	ARG
1	F	87	ARG
1	F	88	SER
1	F	92	GLN
1	F	99	ILE

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Mol	Chain	Res	Type
1	F	107	GLU
1	F	108	ARG
1	F	120	LYS
1	F	122	LEU
1	F	127	HIS
1	F	129	GLU
1	F	138	ARG
1	F	142	VAL
1	F	143	SER
1	F	149	LEU
1	F	164	LEU
1	F	168	SER
1	F	193	VAL
1	F	206	ILE
1	F	212	ILE
1	F	214	LEU
1	F	218	LEU
1	F	220	MET
1	F	227	LEU
1	F	228	LYS
1	F	230	THR
1	F	247	SER
1	F	281	ILE
1	F	297	LEU
1	F	311	LEU
1	F	314	LEU
1	F	328	VAL
1	F	338	HIS
1	F	346	GLU
1	F	357	LEU
1	F	361	SER
1	F	372	LEU
1	F	379	SER
1	F	386	GLU
1	F	400	LYS
1	F	409	LYS
1	F	415	LEU
1	F	417	GLN
1	F	419	PHE
1	F	422	ASN
1	F	423	GLU
1	F	424	THR

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Mol	Chain	Res	Type
1	F	444	THR
1	F	449	LEU
1	F	464	LYS
1	F	471	HIS
1	F	476	SER
1	F	484	THR
1	F	490	GLU
1	F	500	GLU
1	F	501	VAL
1	F	513	LYS
1	F	540	CYS
1	F	550	THR
1	F	567	LYS
1	F	571	LYS
1	F	579	MET
1	G	81	ARG
1	G	88	SER
1	G	99	ILE
1	G	108	ARG
1	G	122	LEU
1	G	142	VAL
1	G	149	LEU
1	G	162	GLN
1	G	164	LEU
1	G	168	SER
1	G	173	GLU
1	G	198	LYS
1	G	205	SER
1	G	212	ILE
1	G	220	MET
1	G	227	LEU
1	G	228	LYS
1	G	230	THR
1	G	241	LEU
1	G	305	ILE
1	G	309	LEU
1	G	314	LEU
1	G	335	ASP
1	G	337	THR
1	G	338	HIS
1	G	341	GLU
1	G	357	LEU

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Mol	Chain	Res	Type
1	G	363	ASP
1	G	372	LEU
1	G	383	ASP
1	G	403	ILE
1	G	415	LEU
1	G	423	GLU
1	G	424	THR
1	G	426	GLU
1	G	433	LYS
1	G	449	LEU
1	G	454	SER
1	G	457	ILE
1	G	464	LYS
1	G	469	VAL
1	G	474	ILE
1	G	490	GLU
1	G	492	LEU
1	G	500	GLU
1	G	502	LEU
1	G	505	TYR
1	G	513	LYS
1	G	543	LEU
1	G	559	ARG
1	G	562	MET
1	G	579	MET
1	G	580	ARG
1	H	81	ARG
1	H	82	LEU
1	H	87	ARG
1	H	127	HIS
1	H	129	GLU
1	H	138	ARG
1	H	140	MET
1	H	142	VAL
1	H	168	SER
1	H	204	LEU
1	H	205	SER
1	H	209	LYS
1	H	210	GLU
1	H	211	THR
1	H	212	ILE
1	H	218	LEU

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Mol	Chain	Res	Type
1	H	220	MET
1	H	224	LYS
1	H	227	LEU
1	H	228	LYS
1	H	230	THR
1	H	243	ILE
1	H	247	SER
1	H	256	LYS
1	H	280	LEU
1	H	281	ILE
1	H	311	LEU
1	H	314	LEU
1	H	330	ARG
1	H	337	THR
1	H	347	PHE
1	H	357	LEU
1	H	372	LEU
1	H	383	ASP
1	H	386	GLU
1	H	395	THR
1	H	415	LEU
1	H	417	GLN
1	H	422	ASN
1	H	423	GLU
1	H	424	THR
1	H	435	HIS
1	H	449	LEU
1	H	454	SER
1	H	464	LYS
1	H	469	VAL
1	H	478	LEU
1	H	490	GLU
1	H	492	LEU
1	H	500	GLU
1	H	501	VAL
1	H	506	THR
1	H	540	CYS
1	H	579	MET

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

Mol	Chain	Res	Type
1	A	94	GLN
1	A	412	ASN
1	B	92	GLN
1	B	162	GLN
1	B	166	ASN
1	B	172	HIS
1	B	336	ASN
1	B	339	ASN
1	B	387	ASN
1	B	412	ASN
1	B	417	GLN
1	B	441	ASN
1	C	86	ASN
1	C	293	HIS
1	D	219	HIS
1	D	279	ASN
1	D	417	GLN
1	E	94	GLN
1	E	172	HIS
1	E	295	ASN
1	E	339	ASN
1	E	388	GLN
1	E	417	GLN
1	F	86	ASN
1	F	92	GLN
1	F	94	GLN
1	F	104	HIS
1	F	170	HIS
1	F	417	GLN
1	F	441	ASN
1	F	471	HIS
1	G	86	ASN
1	G	94	GLN
1	G	170	HIS
1	G	387	ASN
1	H	94	GLN
1	H	162	GLN
1	H	170	HIS
1	H	172	HIS
1	H	422	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

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, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	469/507 (92%)	-0.09	6 (1%) 77 77	22, 46, 91, 122	0
1	B	471/507 (92%)	-0.05	9 (1%) 66 65	22, 47, 88, 118	0
1	C	471/507 (92%)	-0.01	10 (2%) 63 61	22, 48, 93, 129	0
1	D	471/507 (92%)	0.12	18 (3%) 40 36	22, 49, 91, 121	0
1	E	470/507 (92%)	-0.04	13 (2%) 53 49	26, 49, 92, 126	0
1	F	470/507 (92%)	0.09	22 (4%) 31 28	26, 51, 92, 118	0
1	G	470/507 (92%)	-0.07	5 (1%) 80 80	27, 49, 90, 123	0
1	H	471/507 (92%)	0.08	25 (5%) 26 22	26, 50, 91, 125	0
All	All	3763/4056 (92%)	0.00	108 (2%) 51 47	22, 49, 92, 129	0

All (108) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	H	145	SER	5.6
1	H	164	LEU	5.1
1	C	448	LEU	4.6
1	D	125	GLY	4.4
1	B	432	ILE	4.4
1	D	164	LEU	4.4
1	E	439	LEU	4.2
1	E	443	PRO	3.8
1	E	425	ILE	3.8
1	D	201	LYS	3.8
1	D	204	LEU	3.5
1	G	432	ILE	3.5
1	F	456	PHE	3.5
1	F	201	LYS	3.5
1	H	474	ILE	3.4
1	C	434	GLU	3.3

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Mol	Chain	Res	Type	RSRZ
1	D	124	ASN	3.3
1	F	440	PRO	3.3
1	D	418	PRO	3.3
1	F	429	ILE	3.3
1	E	444	THR	3.2
1	F	425	ILE	3.2
1	D	434	GLU	3.2
1	H	144	ALA	3.2
1	D	415	LEU	3.2
1	H	418	PRO	3.1
1	D	123	GLY	3.1
1	F	147	GLN	3.1
1	E	452	LEU	3.1
1	F	144	ALA	3.1
1	F	439	LEU	3.1
1	H	201	LYS	3.1
1	E	432	ILE	3.0
1	D	122	LEU	3.0
1	E	202	GLY	3.0
1	E	433	LYS	3.0
1	C	415	LEU	2.9
1	G	439	LEU	2.9
1	A	430	ASN	2.9
1	E	440	PRO	2.8
1	F	452	LEU	2.8
1	F	432	ILE	2.7
1	A	434	GLU	2.7
1	D	419	PHE	2.7
1	H	429	ILE	2.7
1	F	121	ASP	2.7
1	F	204	LEU	2.7
1	A	443	PRO	2.6
1	C	444	THR	2.6
1	D	431	ILE	2.6
1	B	163	VAL	2.6
1	C	416	GLU	2.5
1	H	456	PHE	2.5
1	H	122	LEU	2.5
1	D	145	SER	2.5
1	A	445	ALA	2.5
1	D	429	ILE	2.5
1	F	123	GLY	2.4

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Mol	Chain	Res	Type	RSRZ
1	D	196	PRO	2.4
1	F	173	GLU	2.4
1	H	434	GLU	2.4
1	B	89	LYS	2.4
1	E	422	ASN	2.4
1	B	449	LEU	2.4
1	H	203	GLU	2.4
1	C	447	LYS	2.4
1	H	202	GLY	2.4
1	H	581	PRO	2.3
1	E	145	SER	2.3
1	H	149	LEU	2.3
1	E	84	PHE	2.3
1	F	146	GLY	2.3
1	H	199	SER	2.3
1	E	442	PRO	2.3
1	F	175	GLY	2.3
1	F	176	ASN	2.3
1	G	440	PRO	2.3
1	H	440	PRO	2.3
1	H	198	LYS	2.2
1	C	445	ALA	2.2
1	G	418	PRO	2.2
1	H	431	ILE	2.2
1	G	443	PRO	2.2
1	H	443	PRO	2.2
1	D	144	ALA	2.1
1	D	198	LYS	2.1
1	F	81	ARG	2.1
1	H	476	SER	2.1
1	F	149	LEU	2.1
1	F	197	GLY	2.1
1	H	146	GLY	2.1
1	B	448	LEU	2.1
1	C	446	ALA	2.1
1	A	429	ILE	2.1
1	B	443	PRO	2.1
1	A	439	LEU	2.1
1	B	81	ARG	2.1
1	F	200	LYS	2.1
1	F	441	ASN	2.1
1	H	419	PHE	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	165	ALA	2.0
1	H	165	ALA	2.0
1	C	435	HIS	2.0
1	B	429	ILE	2.0
1	H	126	GLU	2.0
1	H	446	ALA	2.0
1	C	449	LEU	2.0
1	B	86	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](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.