Full wwPDB X-ray Structure Validation Report (i)

Jun 25, 2024 – 06:57 AM EDT

PDB ID	:	6JIV
Title	:	SspE crystal structure
Authors	:	Bing, Y.Z.; Yang, H.G.
Deposited on	:	2019-02-23
Resolution	:	3.31 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 (i) 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 (i)) were used in the production of this report:

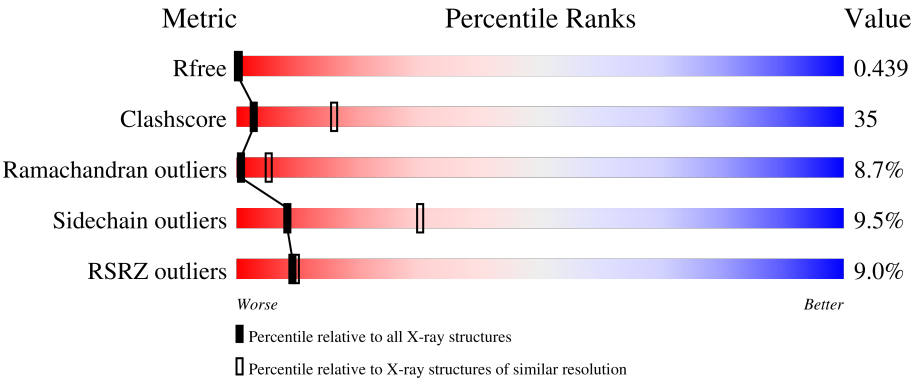
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.31 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	1089 (3.36-3.28)
Clashscore	141614	1137 (3.36-3.28)
Ramachandran outliers	138981	1115 (3.36-3.28)
Sidechain outliers	138945	1114 (3.36-3.28)
RSRZ outliers	127900	1059 (3.36-3.28)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	771	5% 44% 23% 5% 27%
1	B	771	12% 46% 23% · 27%
1	C	771	4% 39% 27% 6% 28%
1	D	771	5% 43% 25% 5% 27%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 15028 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 SspE protein.

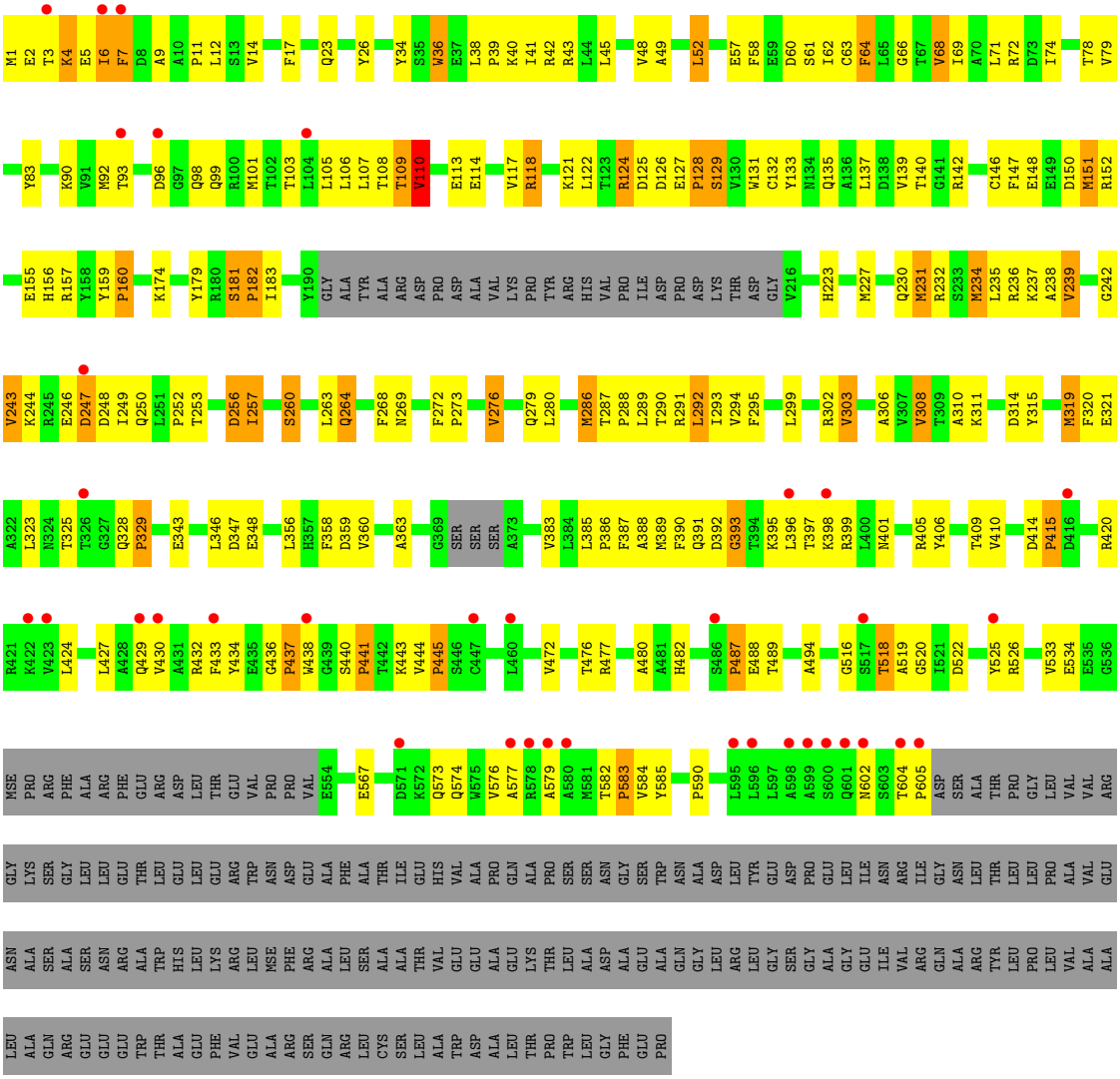
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	D	560	Total	C	N	O	S	Se	0	0	0
			3711	2310	674	713	3	11			
1	A	560	Total	C	N	O	S	Se	0	0	0
			3711	2310	674	713	3	11			
1	B	560	Total	C	N	O	S	Se	0	0	0
			3711	2310	674	713	3	11			
1	C	557	Total	C	N	O	S	Se	0	0	0
			3895	2439	697	743	4	12			

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.

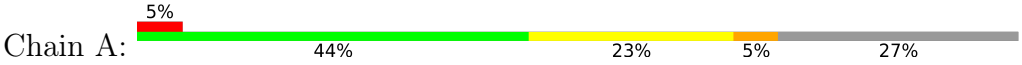
• Molecule 1: SspE protein

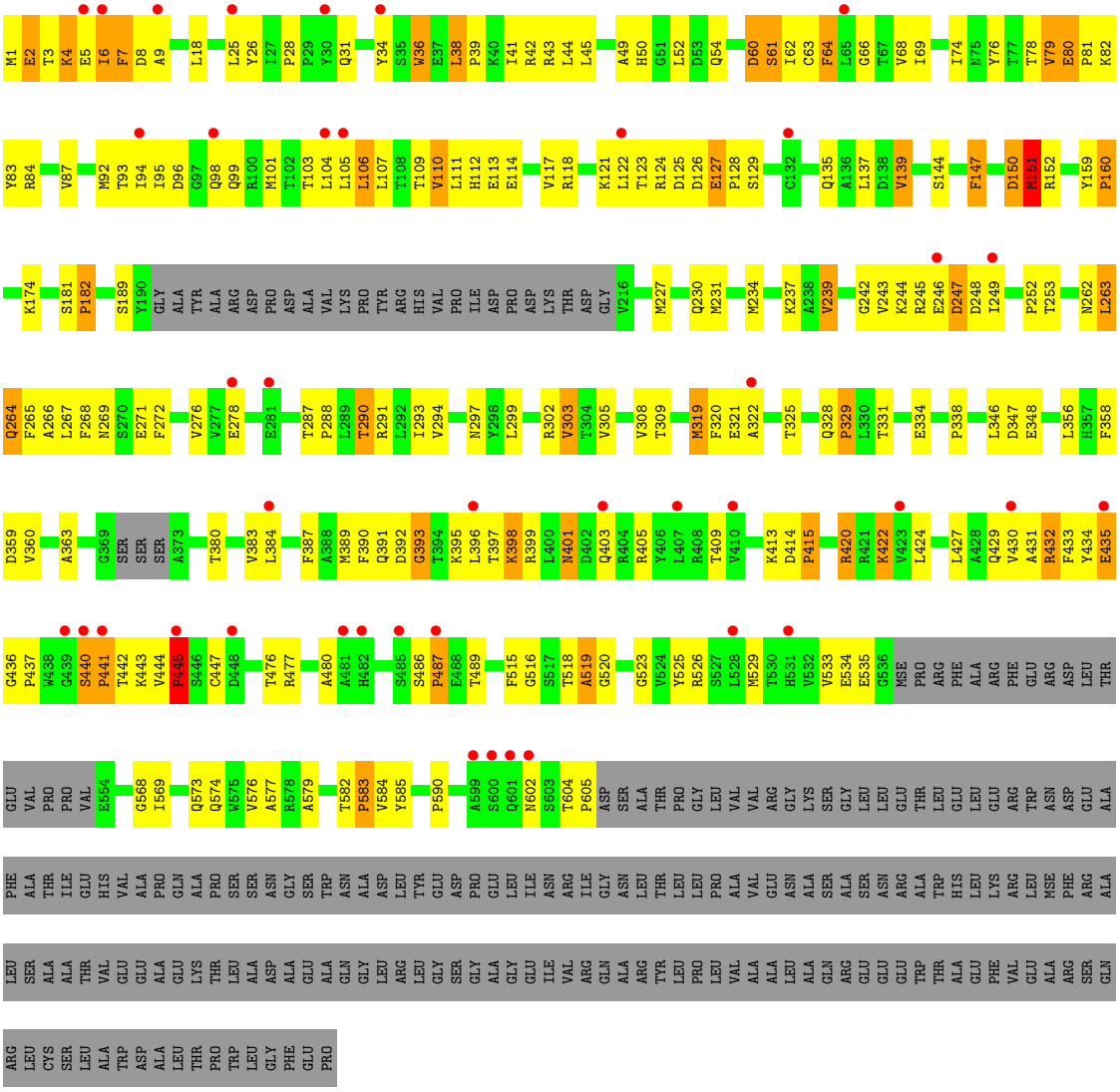
Chain D:



• Molecule 1: SspE protein

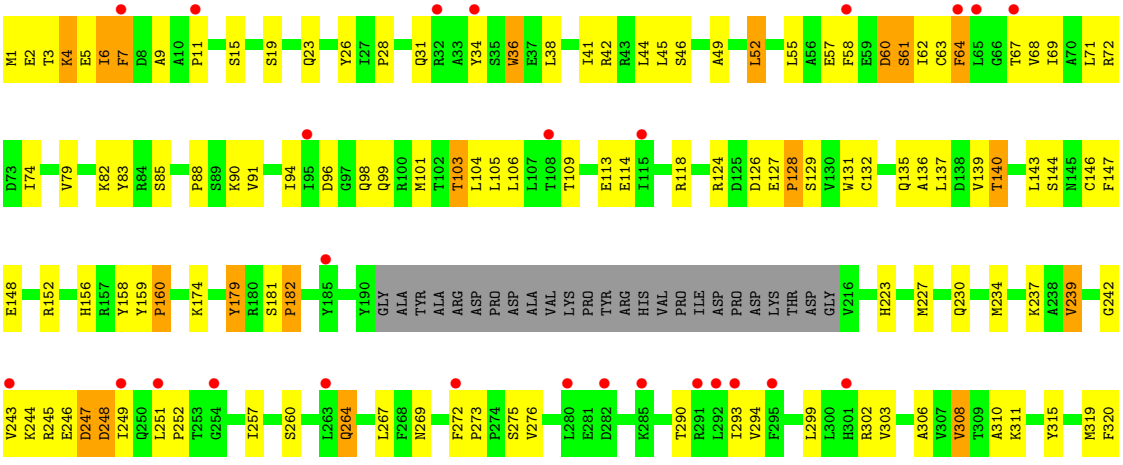
Chain A:

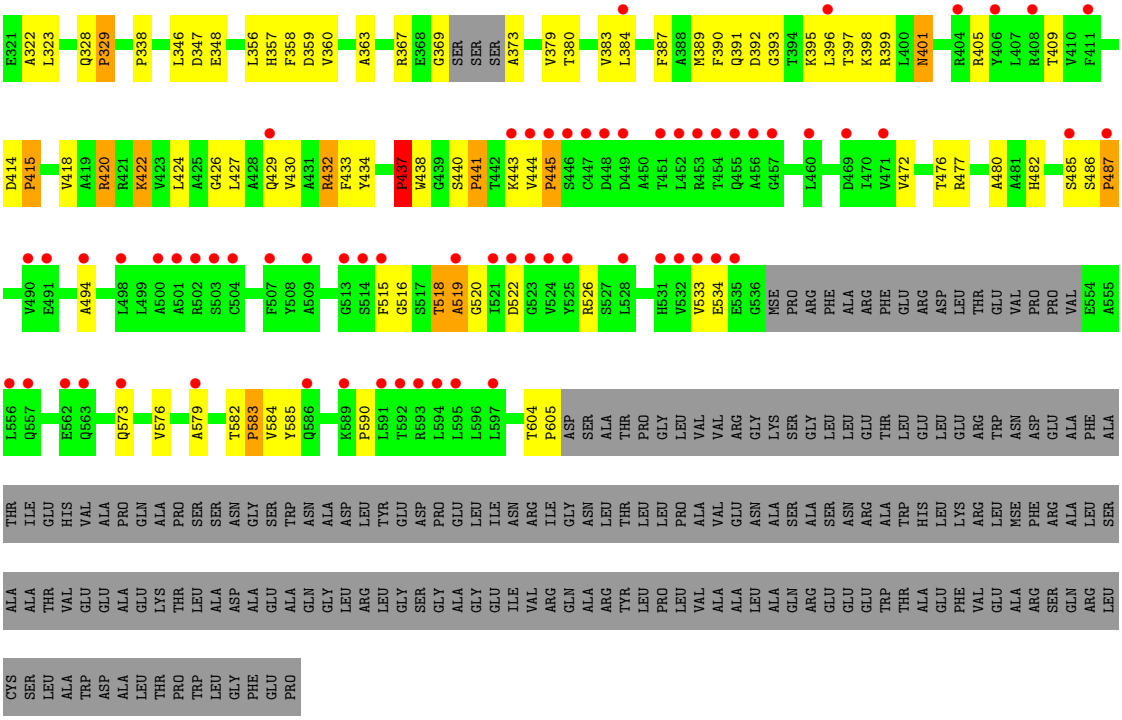




• Molecule 1: SspE protein

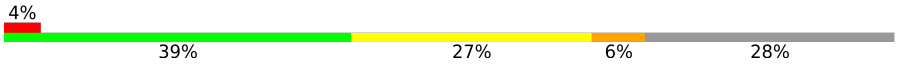
Chain B:

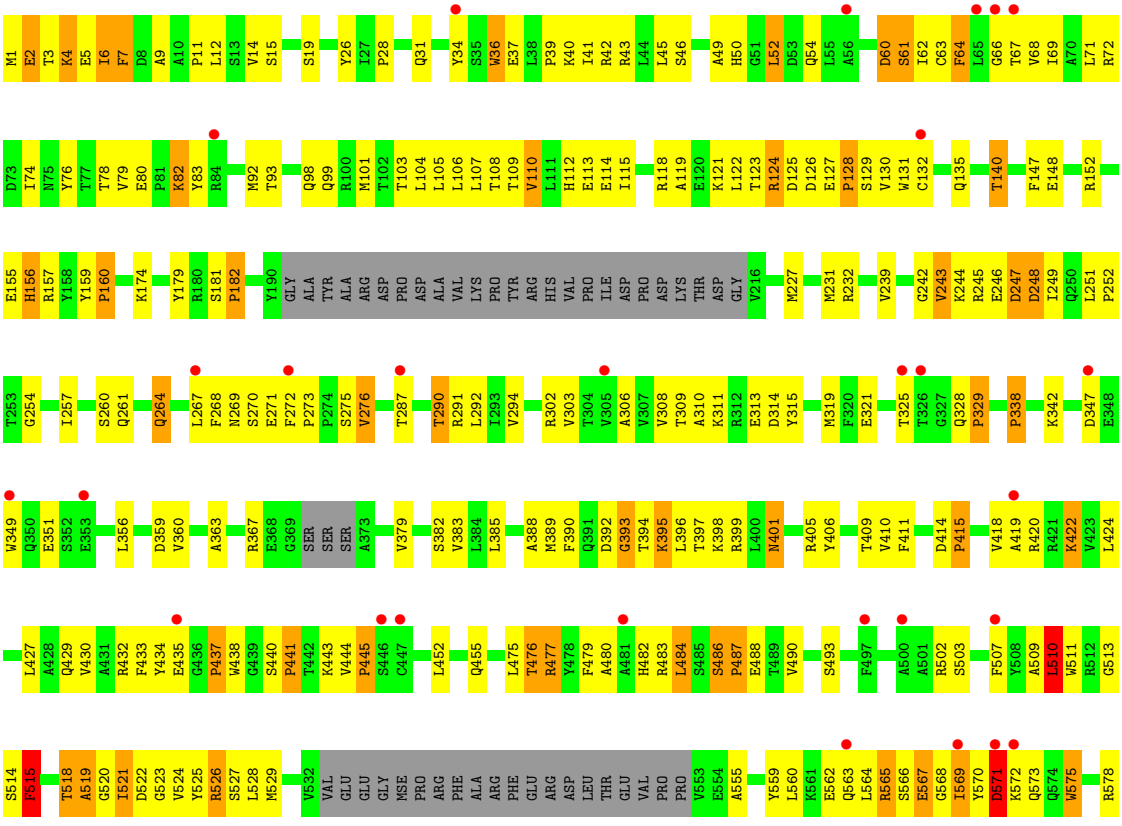


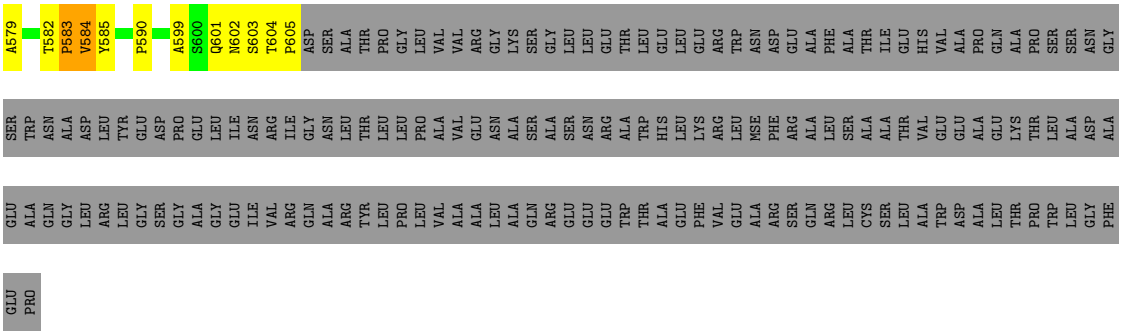


• Molecule 1: SspE protein

Chain C:






A579 T582 P583 V584 Y585 P590 A599 S600 Q601 N602 S603 T604 P605
ASP SER ALA THR PRO GLY LEU VAL VAL ARG GLY LYS SER GLY LEU LEU GLU THR LEU GLU LEU GLU ARG TRP ASN ASP GLU ALA PHE ALA THR ILE GLU HIS VAL ALA PRO GLN ALA PRO SER SER ASN GLY
SER TRP ASN ALA ASP LEU TYR GLU ASP PRO GLU LEU ILE ASN ARG ILE GLY ASN LEU THR LEU LEU PRO ALA VAL GLU ASN ALA SER ALA SER ASN ARG ALA TRP HIS LEU LYS ARG LEU MSE PHE ARG ALA LEU SER ALA ALA THR VAL GLU GLU ALA GLU LYS THR LEU ALA ASP ALA
GLU ALA GLN GLY LEU LEU ARG LEU GLY SER GLY ALA GLY GLU ILE VAL ARG GLN ALA ARG TYR LEU PRO LEU VAL ALA ALA LEU ALA GLN ARG GLU GLU GLU TRP THR ALA GLU PHE VAL GLU ALA ARG SER GLN ARG LEU CYS SER LEU ALA TRP ASP ALA LEU THR PRO TRP LEU GLY PHE
GLU PRO

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	111.07Å 138.16Å 293.68Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	125.33 – 3.31 125.02 – 3.31	Depositor EDS
% Data completeness (in resolution range)	99.5 (125.33-3.31) 99.5 (125.02-3.31)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.77 (at 3.33Å)	Xtriage
Refinement program	REFMAC 5.8.0258	Depositor
R, R_{free}	0.406 , 0.435 0.407 , 0.439	Depositor DCC
R_{free} test set	3357 reflections (4.96%)	wwPDB-VP
Wilson B-factor (Å^2)	122.6	Xtriage
Anisotropy	0.299	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 110.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.80	EDS
Total number of atoms	15028	wwPDB-VP
Average B, all atoms (Å^2)	109.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.39% 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

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	0.60	0/3747	0.84	17/5100 (0.3%)
1	B	0.52	0/3747	0.75	16/5100 (0.3%)
1	C	0.57	0/3943	0.82	15/5351 (0.3%)
1	D	0.73	5/3747 (0.1%)	0.90	16/5100 (0.3%)
All	All	0.61	5/15184 (0.0%)	0.83	64/20651 (0.3%)

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	1
1	C	0	2
All	All	0	3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	146	CYS	CB-SG	-10.19	1.65	1.82
1	D	110	VAL	CB-CG1	-5.86	1.40	1.52
1	D	133	TYR	CE1-CZ	-5.46	1.31	1.38
1	D	260	SER	CA-CB	-5.23	1.45	1.52
1	D	68	VAL	CB-CG1	-5.01	1.42	1.52

All (64) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	484	LEU	CB-CG-CD1	-9.98	94.03	111.00
1	D	160	PRO	N-CA-CB	9.37	114.54	103.30
1	A	160	PRO	N-CA-CB	8.07	112.98	103.30
1	A	329	PRO	N-CA-CB	7.82	112.69	103.30
1	B	329	PRO	N-CA-CB	7.54	112.35	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	329	PRO	N-CA-CB	7.43	112.22	103.30
1	D	329	PRO	N-CA-CB	7.36	112.13	103.30
1	B	160	PRO	N-CA-CB	7.28	112.03	103.30
1	C	160	PRO	N-CA-CB	7.26	112.01	103.30
1	A	441	PRO	N-CA-CB	7.19	111.93	103.30
1	D	415	PRO	N-CA-CB	7.12	111.85	103.30
1	C	583	PRO	N-CA-CB	7.09	111.80	103.30
1	B	441	PRO	N-CA-CB	7.07	111.78	103.30
1	C	590	PRO	N-CA-CB	7.04	111.75	103.30
1	C	605	PRO	N-CA-CB	6.97	111.67	103.30
1	B	415	PRO	N-CA-CB	6.93	111.62	103.30
1	A	605	PRO	N-CA-CB	6.80	111.46	103.30
1	D	445	PRO	N-CA-CB	6.73	111.38	103.30
1	B	445	PRO	N-CA-CB	6.69	111.33	103.30
1	C	445	PRO	N-CA-CB	6.60	111.22	103.30
1	A	590	PRO	N-CA-CB	6.58	111.19	103.30
1	D	319	MSE	CB-CG-SE	-6.55	93.05	112.70
1	A	445	PRO	N-CA-CB	6.43	111.02	103.30
1	A	415	PRO	N-CA-CB	6.38	110.96	103.30
1	D	441	PRO	N-CA-CB	6.37	110.95	103.30
1	C	441	PRO	N-CA-CB	6.26	110.81	103.30
1	A	182	PRO	N-CA-CB	6.25	110.80	103.30
1	A	319	MSE	CB-CG-SE	-6.20	94.09	112.70
1	A	583	PRO	N-CA-CB	6.20	110.73	103.30
1	B	605	PRO	N-CA-CB	6.19	110.73	103.30
1	B	182	PRO	N-CA-CB	6.16	110.69	103.30
1	C	510	LEU	CA-CB-CG	-6.15	101.16	115.30
1	D	590	PRO	N-CA-CB	6.09	110.61	103.30
1	B	437	PRO	CA-N-CD	-6.04	103.05	111.50
1	B	590	PRO	N-CA-CB	5.98	110.48	103.30
1	B	319	MSE	CB-CG-SE	-5.97	94.80	112.70
1	D	583	PRO	N-CA-CB	5.95	110.44	103.30
1	B	179	TYR	CA-CB-CG	5.93	124.68	113.40
1	C	182	PRO	N-CA-CB	5.92	110.41	103.30
1	B	487	PRO	N-CA-CB	5.85	110.32	103.30
1	C	104	LEU	CA-CB-CG	5.83	128.70	115.30
1	D	118	ARG	NE-CZ-NH1	5.77	123.19	120.30
1	C	338	PRO	N-CA-CB	5.75	110.20	103.30
1	D	182	PRO	N-CA-CB	5.68	110.12	103.30
1	B	583	PRO	N-CA-CB	5.66	110.09	103.30
1	D	487	PRO	N-CA-CB	5.62	110.04	103.30
1	D	605	PRO	N-CA-CB	5.59	110.01	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	487	PRO	N-CA-CB	5.56	109.97	103.30
1	D	323	LEU	CA-CB-CG	5.54	128.05	115.30
1	A	104	LEU	CB-CG-CD2	-5.49	101.67	111.00
1	C	415	PRO	N-CA-CB	5.49	109.88	103.30
1	A	422	LYS	CB-CA-C	5.34	121.08	110.40
1	A	38	LEU	CA-CB-CG	5.30	127.49	115.30
1	D	256	ASP	CB-CG-OD1	5.26	123.03	118.30
1	A	338	PRO	N-CA-CB	5.24	109.59	103.30
1	B	437	PRO	N-CA-CB	-5.24	96.84	102.60
1	D	247	ASP	CB-CG-OD2	5.23	123.01	118.30
1	A	247	ASP	CB-CG-OD2	5.20	122.98	118.30
1	C	247	ASP	CB-CG-OD2	5.18	122.96	118.30
1	C	571	ASP	CB-CG-OD2	5.18	122.96	118.30
1	A	104	LEU	CA-CB-CG	5.17	127.20	115.30
1	B	247	ASP	CB-CG-OD2	5.16	122.94	118.30
1	B	338	PRO	N-CA-CB	5.10	109.42	103.30
1	D	280	LEU	CB-CG-CD1	-5.10	102.33	111.00

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	127	GLU	Peptide
1	C	477	ARG	Peptide
1	C	584	VAL	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	3711	0	3036	217	0
1	B	3711	0	3038	219	0
1	C	3895	0	3376	323	0
1	D	3711	0	3038	246	0
All	All	15028	0	12488	970	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 (970) 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:515:PHE:CZ	1:C:578:ARG:HD3	1.32	1.63
1:D:356:LEU:CA	1:D:427:LEU:HD11	1.17	1.59
1:A:356:LEU:CA	1:A:427:LEU:HD11	1.16	1.59
1:D:356:LEU:HA	1:D:427:LEU:CD1	1.30	1.55
1:D:395:LYS:CE	1:D:526:ARG:HD3	1.37	1.55
1:A:356:LEU:CA	1:A:427:LEU:CD1	1.76	1.55
1:A:356:LEU:HA	1:A:427:LEU:CD1	1.35	1.51
1:D:387:PHE:CA	1:D:429:GLN:NE2	1.71	1.51
1:B:387:PHE:CA	1:B:429:GLN:HE22	1.26	1.48
1:D:356:LEU:CA	1:D:427:LEU:CD1	1.86	1.47
1:D:395:LYS:NZ	1:D:526:ARG:CD	1.75	1.45
1:B:391:GLN:NE2	1:B:422:LYS:HE3	1.14	1.44
1:B:387:PHE:HA	1:B:429:GLN:NE2	1.18	1.41
1:D:359:ASP:CB	1:D:427:LEU:HD22	1.53	1.38
1:B:387:PHE:HB2	1:B:429:GLN:OE1	1.21	1.37
1:A:356:LEU:C	1:A:427:LEU:HD11	1.09	1.37
1:C:245:ARG:HH12	1:C:523:GLY:N	1.07	1.37
1:C:418:VAL:O	1:C:422:LYS:CE	1.72	1.37
1:D:395:LYS:NZ	1:D:526:ARG:HD2	1.04	1.36
1:C:245:ARG:HH22	1:C:523:GLY:CA	1.38	1.33
1:D:356:LEU:C	1:D:427:LEU:HD11	1.09	1.32
1:C:511:TRP:CZ3	1:C:567:GLU:HG3	1.66	1.30
1:B:395:LYS:NZ	1:B:526:ARG:HD2	1.45	1.30
1:C:418:VAL:O	1:C:422:LYS:HE3	1.26	1.30
1:B:395:LYS:CD	1:B:526:ARG:HD3	1.63	1.29
1:D:395:LYS:CE	1:D:526:ARG:CD	2.06	1.28
1:C:432:ARG:HH21	1:C:479:PHE:CB	1.45	1.28
1:D:387:PHE:HA	1:D:429:GLN:NE2	0.96	1.27
1:A:42:ARG:NH2	1:A:247:ASP:OD2	1.68	1.25
1:C:515:PHE:CZ	1:C:578:ARG:CD	2.18	1.25
1:B:391:GLN:NE2	1:B:422:LYS:CE	2.00	1.25
1:A:387:PHE:CB	1:A:429:GLN:OE1	1.80	1.25
1:D:363:ALA:HA	1:D:434:TYR:OH	1.37	1.24
1:D:387:PHE:HB2	1:D:429:GLN:OE1	1.13	1.24
1:D:395:LYS:HD3	1:D:526:ARG:CZ	1.68	1.23
1:B:395:LYS:CE	1:B:526:ARG:HD3	1.69	1.22
1:B:42:ARG:NH2	1:B:247:ASP:OD2	1.74	1.21
1:D:395:LYS:CD	1:D:526:ARG:NH1	2.06	1.19

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:432:ARG:HE	1:D:476:THR:CB	1.54	1.19
1:A:433:PHE:CA	1:A:437:PRO:HG2	1.70	1.19
1:C:245:ARG:NH1	1:C:523:GLY:N	1.92	1.18
1:C:356:LEU:CB	1:C:424:LEU:HD23	1.72	1.18
1:C:515:PHE:CE2	1:C:578:ARG:HD3	1.78	1.17
1:C:524:VAL:HG13	1:C:563:GLN:NE2	1.59	1.17
1:B:391:GLN:HE22	1:B:422:LYS:CE	1.55	1.16
1:C:524:VAL:CG1	1:C:563:GLN:OE1	1.93	1.16
1:C:432:ARG:HD3	1:C:476:THR:HA	1.18	1.15
1:C:245:ARG:HH22	1:C:523:GLY:HA3	0.98	1.15
1:D:387:PHE:CB	1:D:429:GLN:OE1	1.94	1.14
1:D:429:GLN:O	1:D:433:PHE:CD2	2.01	1.13
1:C:430:VAL:CG1	1:C:434:TYR:HE2	1.61	1.13
1:A:356:LEU:HA	1:A:427:LEU:HD13	1.18	1.12
1:B:356:LEU:CB	1:B:424:LEU:HD23	1.78	1.11
1:B:395:LYS:HZ3	1:B:526:ARG:CD	1.63	1.10
1:C:524:VAL:CG1	1:C:563:GLN:CD	2.19	1.10
1:D:42:ARG:NH2	1:D:247:ASP:OD2	1.85	1.10
1:B:395:LYS:HD3	1:B:526:ARG:CD	1.82	1.10
1:A:74:ILE:HD11	1:B:1:MSE:SE	2.03	1.09
1:C:528:LEU:CD1	1:C:560:LEU:HD23	1.81	1.09
1:D:395:LYS:HE2	1:D:526:ARG:HD3	1.11	1.09
1:C:568:GLY:O	1:C:578:ARG:NH1	1.86	1.09
1:B:387:PHE:CB	1:B:429:GLN:OE1	2.00	1.08
1:C:555:ALA:O	1:C:559:TYR:HD2	1.35	1.08
1:A:356:LEU:CB	1:A:427:LEU:CD1	2.31	1.08
1:A:433:PHE:HA	1:A:437:PRO:HG2	1.15	1.08
1:A:430:VAL:CG1	1:A:434:TYR:HE2	1.67	1.07
1:C:432:ARG:NH2	1:C:479:PHE:CB	2.17	1.07
1:D:363:ALA:HB2	1:D:430:VAL:HG11	1.37	1.06
1:A:429:GLN:O	1:A:433:PHE:CD2	2.07	1.06
1:C:245:ARG:NH2	1:C:523:GLY:CA	2.18	1.06
1:D:432:ARG:HD3	1:D:476:THR:HA	1.36	1.05
1:C:575:TRP:CZ3	1:C:579:ALA:HB2	1.91	1.05
1:D:356:LEU:HA	1:D:427:LEU:HD13	1.38	1.05
1:A:49:ALA:CB	1:A:249:ILE:CG2	2.34	1.04
1:B:395:LYS:CE	1:B:526:ARG:CD	2.35	1.04
1:C:432:ARG:CD	1:C:476:THR:HA	1.77	1.04
1:D:114:GLU:OE1	1:D:118:ARG:NH1	1.91	1.04
1:A:430:VAL:HG12	1:A:434:TYR:HE2	1.18	1.03
1:B:395:LYS:HD3	1:B:526:ARG:HD3	1.27	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:432:ARG:NE	1:D:476:THR:CB	2.21	1.03
1:C:359:ASP:CB	1:C:427:LEU:HD22	1.88	1.03
1:C:430:VAL:HG12	1:C:434:TYR:HE2	1.18	1.03
1:C:49:ALA:CB	1:C:249:ILE:CG2	2.37	1.02
1:D:363:ALA:HB2	1:D:430:VAL:CG1	1.90	1.02
1:C:422:LYS:H	1:C:422:LYS:HE2	1.22	1.02
1:A:106:LEU:O	1:A:109:THR:HB	1.58	1.01
1:C:432:ARG:NH2	1:C:477:ARG:HA	1.72	1.01
1:D:74:ILE:HD11	1:C:1:MSE:SE	2.11	1.01
1:A:433:PHE:HA	1:A:437:PRO:CG	1.90	1.01
1:B:395:LYS:NZ	1:B:526:ARG:CD	2.19	1.01
1:D:395:LYS:HD3	1:D:526:ARG:NH1	1.71	1.00
1:D:74:ILE:CD1	1:C:1:MSE:SE	2.59	1.00
1:D:395:LYS:CD	1:D:526:ARG:HD3	1.90	1.00
1:A:49:ALA:HB2	1:A:249:ILE:HG21	1.37	1.00
1:C:570:TYR:O	1:C:571:ASP:CG	2.00	0.99
1:D:387:PHE:N	1:D:429:GLN:NE2	2.09	0.99
1:C:555:ALA:O	1:C:559:TYR:CD2	2.14	0.99
1:C:515:PHE:CE1	1:C:578:ARG:HD3	1.96	0.99
1:C:524:VAL:HG13	1:C:563:GLN:CD	1.80	0.99
1:B:395:LYS:HZ3	1:B:526:ARG:HD2	0.83	0.98
1:C:245:ARG:NH2	1:C:523:GLY:HA3	1.75	0.97
1:C:432:ARG:CD	1:C:476:THR:CA	2.41	0.97
1:C:418:VAL:O	1:C:422:LYS:HE2	1.62	0.96
1:C:245:ARG:HH22	1:C:523:GLY:HA2	1.30	0.96
1:C:430:VAL:HG12	1:C:434:TYR:CE2	2.01	0.96
1:A:356:LEU:CB	1:A:427:LEU:HD12	1.93	0.96
1:C:245:ARG:HH12	1:C:523:GLY:H	0.98	0.96
1:D:356:LEU:HA	1:D:427:LEU:HD12	1.48	0.96
1:B:387:PHE:CA	1:B:429:GLN:NE2	2.01	0.95
1:C:422:LYS:HE2	1:C:422:LYS:N	1.80	0.95
1:A:356:LEU:CB	1:A:427:LEU:HD11	1.92	0.95
1:A:430:VAL:HG12	1:A:434:TYR:CE2	2.01	0.94
1:C:432:ARG:CD	1:C:476:THR:CB	2.46	0.94
1:D:42:ARG:CZ	1:D:247:ASP:CG	2.36	0.94
1:D:387:PHE:HA	1:D:429:GLN:CD	1.88	0.93
1:B:49:ALA:CB	1:B:249:ILE:CG2	2.45	0.93
1:C:429:GLN:O	1:C:433:PHE:CD2	2.22	0.93
1:D:395:LYS:HD2	1:D:526:ARG:NH1	1.81	0.93
1:C:511:TRP:HZ3	1:C:567:GLU:HG3	1.28	0.93
1:C:49:ALA:HB2	1:C:249:ILE:HG21	1.48	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:432:ARG:HD2	1:C:476:THR:CB	1.98	0.93
1:C:515:PHE:HE1	1:C:569:ILE:CD1	1.81	0.93
1:B:49:ALA:HB2	1:B:249:ILE:HG21	1.49	0.93
1:B:432:ARG:NE	1:B:437:PRO:HD2	1.83	0.93
1:A:114:GLU:OE1	1:A:118:ARG:NH1	2.02	0.92
1:C:432:ARG:HD3	1:C:476:THR:CA	2.00	0.92
1:D:395:LYS:NZ	1:D:526:ARG:HH11	1.67	0.92
1:D:41:ILE:HD12	1:D:227:MSE:HE3	1.51	0.92
1:B:429:GLN:O	1:B:433:PHE:CD2	2.23	0.92
1:B:156:HIS:CE1	1:B:179:TYR:OH	2.23	0.92
1:C:49:ALA:HB2	1:C:249:ILE:CG2	2.00	0.92
1:B:359:ASP:CB	1:B:427:LEU:HD22	2.00	0.91
1:D:395:LYS:CD	1:D:526:ARG:HH11	1.75	0.91
1:C:515:PHE:HE1	1:C:569:ILE:HD11	1.36	0.91
1:D:387:PHE:CA	1:D:429:GLN:CD	2.39	0.91
1:B:1:MSE:HB2	1:B:4:LYS:HG3	1.53	0.90
1:B:522:ASP:O	1:B:526:ARG:HG3	1.70	0.90
1:A:356:LEU:CA	1:A:427:LEU:HD12	2.00	0.89
1:D:395:LYS:HD3	1:D:526:ARG:NE	1.87	0.89
1:A:49:ALA:CB	1:A:249:ILE:HG21	2.02	0.89
1:C:528:LEU:CD1	1:C:560:LEU:CD2	2.50	0.89
1:C:418:VAL:C	1:C:422:LYS:HE3	1.92	0.88
1:C:524:VAL:HG11	1:C:563:GLN:OE1	1.73	0.88
1:B:49:ALA:CB	1:B:249:ILE:HG21	2.03	0.88
1:A:387:PHE:HB2	1:A:429:GLN:OE1	1.06	0.87
1:A:433:PHE:C	1:A:437:PRO:HG2	1.94	0.87
1:C:524:VAL:HG12	1:C:563:GLN:OE1	1.73	0.86
1:C:430:VAL:CG1	1:C:434:TYR:CE2	2.54	0.86
1:D:430:VAL:HA	1:D:433:PHE:HD2	1.40	0.86
1:B:432:ARG:HD2	1:B:437:PRO:HG2	1.55	0.86
1:D:60:ASP:OD1	1:B:315:TYR:OH	1.92	0.86
1:D:363:ALA:CA	1:D:434:TYR:OH	2.21	0.86
1:D:74:ILE:HD13	1:C:1:MSE:SE	2.26	0.86
1:B:395:LYS:HD3	1:B:526:ARG:CZ	2.06	0.85
1:D:356:LEU:CA	1:D:427:LEU:HD12	2.04	0.85
1:D:389:MSE:HE1	1:D:526:ARG:HA	1.57	0.85
1:C:511:TRP:CH2	1:C:567:GLU:HG3	2.11	0.85
1:D:363:ALA:CB	1:D:430:VAL:CG1	2.54	0.85
1:D:395:LYS:HZ3	1:D:526:ARG:CD	1.57	0.85
1:D:432:ARG:HD3	1:D:476:THR:CA	2.06	0.85
1:A:429:GLN:O	1:A:433:PHE:HD2	1.55	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:430:VAL:CG1	1:B:434:TYR:HE2	1.90	0.85
1:D:430:VAL:CG1	1:D:434:TYR:HE2	1.89	0.84
1:C:515:PHE:HZ	1:C:578:ARG:NH1	1.75	0.84
1:D:387:PHE:HB2	1:D:429:GLN:CD	1.97	0.84
1:A:363:ALA:CB	1:A:430:VAL:HG13	2.08	0.84
1:C:45:LEU:HD11	1:C:231:MSE:HE3	1.60	0.84
1:A:359:ASP:CB	1:A:427:LEU:HD22	2.08	0.83
1:A:356:LEU:HA	1:A:427:LEU:HD12	1.60	0.83
1:B:395:LYS:HD3	1:B:526:ARG:NE	1.92	0.83
1:C:432:ARG:NH2	1:C:477:ARG:CA	2.36	0.83
1:A:9:ALA:HB3	1:C:9:ALA:HB3	1.61	0.83
1:C:565:ARG:HB3	1:C:565:ARG:CZ	2.06	0.83
1:B:395:LYS:CD	1:B:526:ARG:NH1	2.42	0.82
1:C:568:GLY:O	1:C:578:ARG:CZ	2.26	0.82
1:B:430:VAL:HG12	1:B:434:TYR:HE2	1.42	0.82
1:B:432:ARG:CZ	1:B:437:PRO:CD	2.58	0.82
1:D:264:GLN:HG2	1:D:272:PHE:H	1.43	0.82
1:D:395:LYS:HZ3	1:D:526:ARG:HD2	1.02	0.82
1:A:1:MSE:SE	1:B:74:ILE:HD13	2.30	0.82
1:C:54:GLN:OE1	1:C:405:ARG:NH1	2.13	0.81
1:C:515:PHE:HZ	1:C:578:ARG:HH11	1.27	0.81
1:C:528:LEU:HD11	1:C:560:LEU:HD23	1.61	0.81
1:D:429:GLN:O	1:D:433:PHE:HD2	1.64	0.81
1:D:363:ALA:CB	1:D:430:VAL:HG13	2.10	0.81
1:D:395:LYS:CE	1:D:526:ARG:HH11	1.94	0.81
1:D:395:LYS:HZ1	1:D:526:ARG:CD	1.65	0.81
1:C:565:ARG:HG3	1:C:570:TYR:CD2	2.14	0.81
1:B:391:GLN:HE21	1:B:422:LYS:HE3	1.40	0.81
1:D:522:ASP:O	1:D:526:ARG:HG3	1.79	0.81
1:A:42:ARG:CZ	1:A:247:ASP:OD1	2.29	0.81
1:C:528:LEU:HD12	1:C:560:LEU:CD2	2.09	0.81
1:D:9:ALA:HB3	1:B:9:ALA:HB3	1.63	0.81
1:D:72:ARG:NH2	1:C:1:MSE:HE1	1.96	0.81
1:D:395:LYS:HZ3	1:D:526:ARG:NH1	1.78	0.81
1:B:387:PHE:HA	1:B:429:GLN:CD	2.02	0.80
1:D:430:VAL:HA	1:D:433:PHE:CD2	2.17	0.80
1:A:74:ILE:CD1	1:B:1:MSE:SE	2.80	0.80
1:A:363:ALA:CB	1:A:430:VAL:CG1	2.59	0.80
1:A:389:MSE:HE1	1:A:526:ARG:HA	1.64	0.80
1:A:42:ARG:NH2	1:A:247:ASP:CG	2.36	0.79
1:B:156:HIS:HE1	1:B:179:TYR:OH	1.63	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:49:ALA:HB2	1:A:249:ILE:CG2	2.05	0.79
1:A:405:ARG:O	1:A:409:THR:HG23	1.81	0.79
1:C:356:LEU:CB	1:C:424:LEU:CD2	2.59	0.79
1:B:395:LYS:CD	1:B:526:ARG:HH11	1.95	0.79
1:C:42:ARG:CZ	1:C:247:ASP:OD1	2.29	0.79
1:A:363:ALA:HB2	1:A:430:VAL:CG1	2.12	0.79
1:B:422:LYS:HD2	1:B:422:LYS:N	1.96	0.79
1:C:245:ARG:NH1	1:C:523:GLY:H	1.62	0.79
1:A:432:ARG:CB	1:A:432:ARG:HH21	1.95	0.78
1:B:395:LYS:HE2	1:B:526:ARG:HD3	1.64	0.78
1:B:405:ARG:O	1:B:409:THR:HG23	1.82	0.78
1:B:391:GLN:HE22	1:B:422:LYS:HE3	0.96	0.78
1:B:106:LEU:O	1:B:109:THR:HB	1.83	0.78
1:B:346:LEU:O	1:B:348:GLU:N	2.16	0.78
1:D:363:ALA:HA	1:D:434:TYR:HH	1.46	0.78
1:B:387:PHE:N	1:B:429:GLN:HE22	1.82	0.78
1:C:156:HIS:HE1	1:C:179:TYR:OH	1.66	0.77
1:A:45:LEU:HB3	1:A:249:ILE:CD1	2.14	0.77
1:A:1:MSE:SE	1:B:74:ILE:CD1	2.82	0.77
1:C:524:VAL:CG1	1:C:563:GLN:NE2	2.40	0.77
1:D:346:LEU:O	1:D:348:GLU:N	2.17	0.77
1:A:413:LYS:CB	1:A:422:LYS:NZ	2.47	0.77
1:D:260:SER:O	1:D:264:GLN:NE2	2.18	0.77
1:A:431:ALA:O	1:A:435:GLU:HG2	1.83	0.77
1:A:49:ALA:HB1	1:A:249:ILE:CG2	2.15	0.77
1:C:389:MSE:HE1	1:C:526:ARG:HA	1.67	0.76
1:C:405:ARG:O	1:C:409:THR:HG23	1.84	0.76
1:D:356:LEU:CB	1:D:427:LEU:CD1	2.62	0.76
1:A:245:ARG:NH1	1:A:519:ALA:HB1	2.01	0.76
1:B:356:LEU:CB	1:B:424:LEU:CD2	2.63	0.76
1:C:5:GLU:O	1:C:7:PHE:N	2.19	0.76
1:A:346:LEU:O	1:A:348:GLU:N	2.19	0.76
1:C:565:ARG:HA	1:C:570:TYR:HB3	1.68	0.76
1:D:49:ALA:CB	1:D:249:ILE:CG2	2.63	0.75
1:C:45:LEU:C	1:C:249:ILE:HD13	2.07	0.75
1:C:484:LEU:HD13	1:C:490:VAL:HA	1.68	0.75
1:D:42:ARG:CZ	1:D:247:ASP:OD2	2.34	0.75
1:A:432:ARG:HA	1:A:432:ARG:NH2	2.02	0.75
1:A:430:VAL:CG1	1:A:434:TYR:CE2	2.60	0.75
1:B:360:VAL:H	1:B:427:LEU:CD2	1.99	0.74
1:B:395:LYS:CD	1:B:526:ARG:CD	2.43	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:432:ARG:CZ	1:D:472:VAL:O	2.35	0.74
1:D:1:MSE:HB2	1:D:4:LYS:HG3	1.70	0.74
1:C:245:ARG:NH2	1:C:523:GLY:HA2	1.94	0.74
1:D:395:LYS:CD	1:D:526:ARG:CD	2.57	0.74
1:A:432:ARG:O	1:A:437:PRO:HD3	1.87	0.74
1:C:1:MSE:HB2	1:C:4:LYS:HG3	1.70	0.74
1:A:42:ARG:CZ	1:A:247:ASP:CG	2.56	0.74
1:D:99:GLN:O	1:D:103:THR:HG23	1.88	0.74
1:D:232:ARG:O	1:D:236:ARG:CB	2.36	0.73
1:B:387:PHE:CA	1:B:429:GLN:CD	2.56	0.73
1:C:245:ARG:HH12	1:C:522:ASP:C	1.88	0.73
1:B:15:SER:O	1:B:19:SER:OG	2.07	0.73
1:B:395:LYS:HD3	1:B:526:ARG:NH1	2.02	0.73
1:C:251:LEU:HD23	1:C:291:ARG:HB3	1.71	0.73
1:D:363:ALA:CB	1:D:430:VAL:HG11	2.16	0.73
1:B:432:ARG:CZ	1:B:437:PRO:CG	2.66	0.73
1:C:511:TRP:CD1	1:C:521:ILE:HG13	2.24	0.73
1:B:430:VAL:HG12	1:B:434:TYR:CE2	2.23	0.73
1:B:390:PHE:HB2	1:B:429:GLN:NE2	2.03	0.73
1:B:387:PHE:HB2	1:B:429:GLN:CD	2.09	0.72
1:B:432:ARG:CD	1:B:437:PRO:HG2	2.18	0.72
1:C:46:SER:N	1:C:249:ILE:HD13	2.04	0.72
1:C:452:LEU:HA	1:C:502:ARG:NH2	2.04	0.72
1:D:430:VAL:HG12	1:D:434:TYR:HE2	1.53	0.72
1:B:5:GLU:O	1:B:7:PHE:N	2.23	0.72
1:B:244:LYS:HD2	1:B:248:ASP:CB	2.20	0.72
1:D:237:LYS:O	1:D:239:VAL:N	2.21	0.72
1:B:1:MSE:O	1:B:3:THR:N	2.22	0.72
1:C:510:LEU:O	1:C:514:SER:N	2.23	0.72
1:A:64:PHE:HZ	1:C:7:PHE:HE1	1.37	0.71
1:A:68:VAL:HG11	1:A:101:MSE:HE3	1.72	0.71
1:C:430:VAL:HG13	1:C:434:TYR:HE2	1.53	0.71
1:D:395:LYS:HD3	1:D:526:ARG:CD	2.20	0.71
1:A:433:PHE:CA	1:A:437:PRO:CG	2.58	0.71
1:B:430:VAL:HA	1:B:433:PHE:HD2	1.56	0.71
1:C:156:HIS:CE1	1:C:179:TYR:OH	2.43	0.71
1:B:389:MSE:HE1	1:B:526:ARG:HA	1.72	0.71
1:D:41:ILE:HG23	1:D:231:MSE:HE3	1.71	0.71
1:C:114:GLU:OE1	1:C:118:ARG:NH1	2.20	0.71
1:C:484:LEU:HD11	1:C:493:SER:OG	1.91	0.71
1:B:260:SER:O	1:B:264:GLN:NE2	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:49:ALA:HB2	1:D:249:ILE:HG21	1.73	0.70
1:A:63:CYS:HB3	1:A:303:VAL:HB	1.72	0.70
1:D:1:MSE:O	1:D:3:THR:N	2.25	0.70
1:D:106:LEU:O	1:D:109:THR:HB	1.91	0.70
1:B:391:GLN:HE22	1:B:422:LYS:NZ	1.88	0.70
1:B:49:ALA:HB2	1:B:249:ILE:CG2	2.17	0.70
1:B:432:ARG:CZ	1:B:437:PRO:HD2	2.20	0.70
1:D:405:ARG:O	1:D:409:THR:HG23	1.92	0.70
1:D:430:VAL:CA	1:D:433:PHE:HD2	2.05	0.70
1:D:518:THR:O	1:D:520:GLY:N	2.25	0.70
1:A:432:ARG:HH21	1:A:432:ARG:CG	2.05	0.70
1:C:49:ALA:CB	1:C:249:ILE:HG23	2.22	0.70
1:C:260:SER:O	1:C:264:GLN:NE2	2.25	0.70
1:B:432:ARG:NE	1:B:437:PRO:CD	2.55	0.70
1:A:391:GLN:NE2	1:A:422:LYS:HG2	2.07	0.69
1:B:390:PHE:HB2	1:B:429:GLN:HE21	1.57	0.69
1:C:49:ALA:CB	1:C:249:ILE:HG21	2.14	0.69
1:C:524:VAL:HG13	1:C:563:GLN:HE22	1.57	0.69
1:A:264:GLN:HG2	1:A:272:PHE:H	1.57	0.69
1:C:42:ARG:NE	1:C:247:ASP:CG	2.41	0.69
1:C:515:PHE:CE1	1:C:569:ILE:HD11	2.25	0.69
1:D:74:ILE:HD13	1:C:1:MSE:CE	2.23	0.69
1:D:26:TYR:CE2	1:D:79:VAL:HA	2.27	0.69
1:A:49:ALA:CB	1:A:249:ILE:HG23	2.20	0.69
1:C:429:GLN:O	1:C:433:PHE:HD2	1.75	0.69
1:C:528:LEU:HD12	1:C:560:LEU:HD23	1.62	0.69
1:D:356:LEU:CB	1:D:427:LEU:HD12	2.22	0.69
1:D:359:ASP:CB	1:D:427:LEU:CD2	2.50	0.69
1:D:356:LEU:CB	1:D:424:LEU:HD23	2.23	0.68
1:A:1:MSE:HB2	1:A:4:LYS:HG3	1.76	0.68
1:A:265:PHE:CE1	1:A:271:GLU:HB2	2.27	0.68
1:D:34:TYR:OH	1:D:103:THR:HG22	1.92	0.68
1:A:389:MSE:SE	1:A:526:ARG:HG2	2.43	0.68
1:C:515:PHE:CE2	1:C:578:ARG:CD	2.65	0.68
1:C:563:GLN:O	1:C:566:SER:OG	2.07	0.68
1:D:395:LYS:HZ3	1:D:526:ARG:CZ	2.07	0.67
1:D:430:VAL:HG12	1:D:434:TYR:CE2	2.29	0.67
1:C:26:TYR:CE2	1:C:79:VAL:HA	2.28	0.67
1:A:391:GLN:NE2	1:A:422:LYS:CG	2.57	0.67
1:C:69:ILE:HA	1:C:308:VAL:HG23	1.75	0.67
1:D:429:GLN:O	1:D:433:PHE:CE2	2.47	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:360:VAL:H	1:C:427:LEU:CD2	2.08	0.67
1:D:5:GLU:O	1:D:7:PHE:N	2.27	0.67
1:D:135:GLN:O	1:D:139:VAL:HG23	1.95	0.67
1:B:429:GLN:O	1:B:433:PHE:HD2	1.77	0.67
1:C:515:PHE:CE1	1:C:578:ARG:CD	2.69	0.67
1:C:390:PHE:HB2	1:C:429:GLN:HE21	1.60	0.67
1:B:395:LYS:HD2	1:B:526:ARG:NH1	2.10	0.67
1:A:432:ARG:N	1:A:432:ARG:HD2	2.09	0.67
1:D:395:LYS:HE2	1:D:526:ARG:CD	1.95	0.67
1:B:45:LEU:HB3	1:B:249:ILE:CD1	2.25	0.67
1:B:45:LEU:C	1:B:249:ILE:HD13	2.15	0.66
1:C:245:ARG:HH12	1:C:523:GLY:CA	2.06	0.66
1:D:52:LEU:HD13	1:D:252:PRO:HD2	1.77	0.66
1:D:105:LEU:O	1:D:108:THR:OG1	2.13	0.66
1:D:395:LYS:HZ3	1:D:526:ARG:HH11	1.31	0.66
1:D:264:GLN:HG3	1:D:272:PHE:CD1	2.30	0.66
1:D:397:THR:O	1:D:399:ARG:N	2.28	0.66
1:B:418:VAL:O	1:B:422:LYS:HD3	1.96	0.66
1:D:395:LYS:HZ3	1:D:526:ARG:NE	1.94	0.66
1:A:432:ARG:O	1:A:437:PRO:CD	2.44	0.66
1:D:360:VAL:H	1:D:427:LEU:CD2	2.09	0.66
1:D:395:LYS:HZ1	1:D:526:ARG:HD2	0.84	0.66
1:D:66:GLY:HA2	1:B:322:ALA:HB1	1.77	0.65
1:D:476:THR:O	1:D:480:ALA:HB2	1.95	0.65
1:A:69:ILE:HA	1:A:308:VAL:HG23	1.78	0.65
1:B:156:HIS:CE1	1:B:179:TYR:CZ	2.84	0.65
1:C:46:SER:N	1:C:249:ILE:CD1	2.59	0.65
1:A:9:ALA:HB2	1:A:308:VAL:HG12	1.76	0.65
1:B:387:PHE:HA	1:B:429:GLN:HE22	0.52	0.65
1:A:245:ARG:HH11	1:A:519:ALA:HB1	1.61	0.65
1:C:515:PHE:CE1	1:C:569:ILE:CD1	2.72	0.65
1:C:15:SER:O	1:C:19:SER:OG	2.09	0.65
1:C:486:SER:O	1:C:488:GLU:N	2.28	0.65
1:C:564:LEU:O	1:C:569:ILE:HG22	1.96	0.65
1:C:61:SER:HB2	1:C:405:ARG:HH12	1.62	0.65
1:A:45:LEU:HD11	1:A:231:MSE:HE3	1.77	0.65
1:B:357:HIS:HA	1:B:427:LEU:HD21	1.79	0.65
1:B:387:PHE:N	1:B:429:GLN:NE2	2.42	0.65
1:B:41:ILE:HD12	1:B:227:MSE:HE3	1.79	0.64
1:B:26:TYR:CE2	1:B:79:VAL:HA	2.32	0.64
1:D:286:MSE:O	1:D:290:THR:OG1	2.15	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1:MSE:O	1:A:3:THR:N	2.30	0.64
1:C:26:TYR:OH	1:C:80:GLU:HB2	1.97	0.64
1:D:139:VAL:HG21	1:D:293:ILE:HG23	1.78	0.64
1:A:69:ILE:HD13	1:A:319:MSE:HE3	1.80	0.64
1:C:397:THR:O	1:C:399:ARG:N	2.30	0.64
1:C:515:PHE:CZ	1:C:578:ARG:NH1	2.64	0.64
1:C:507:PHE:CD1	1:C:564:LEU:HD21	2.33	0.64
1:C:524:VAL:HG11	1:C:563:GLN:CD	2.10	0.63
1:B:114:GLU:OE1	1:B:118:ARG:NH1	2.31	0.63
1:C:34:TYR:OH	1:C:103:THR:HG22	1.99	0.63
1:C:432:ARG:O	1:C:437:PRO:HD2	1.98	0.63
1:D:49:ALA:CB	1:D:249:ILE:HG21	2.29	0.63
1:C:257:ILE:HD13	1:C:294:VAL:HG21	1.81	0.63
1:C:147:PHE:HB2	1:C:148:GLU:HG2	1.81	0.62
1:A:253:THR:HA	1:A:291:ARG:HD2	1.81	0.62
1:A:227:MSE:O	1:A:231:MSE:HG3	1.99	0.62
1:D:356:LEU:C	1:D:427:LEU:CD1	2.01	0.62
1:A:476:THR:O	1:A:480:ALA:HB2	1.98	0.62
1:C:486:SER:HA	1:C:490:VAL:HG23	1.81	0.62
1:D:68:VAL:HG11	1:D:101:MSE:HE2	1.80	0.62
1:D:387:PHE:CA	1:D:429:GLN:OE1	2.46	0.62
1:D:273:PRO:HB2	1:D:276:VAL:HB	1.82	0.62
1:D:363:ALA:HB1	1:D:430:VAL:HG13	1.80	0.62
1:A:356:LEU:CB	1:A:424:LEU:HD23	2.30	0.62
1:B:387:PHE:CA	1:B:429:GLN:OE1	2.47	0.62
1:C:395:LYS:HD3	1:C:526:ARG:NH2	2.15	0.61
1:C:486:SER:HB3	1:C:487:PRO:HD2	1.81	0.61
1:D:90:LYS:HE2	1:D:92:MSE:HE2	1.80	0.61
1:A:41:ILE:HD12	1:A:227:MSE:HE3	1.82	0.61
1:A:433:PHE:O	1:A:437:PRO:HG2	2.01	0.61
1:C:570:TYR:O	1:C:571:ASP:OD1	2.18	0.61
1:A:432:ARG:O	1:A:437:PRO:CG	2.48	0.61
1:D:42:ARG:CZ	1:D:247:ASP:OD1	2.49	0.61
1:A:237:LYS:O	1:A:239:VAL:N	2.34	0.61
1:A:436:GLY:N	1:A:437:PRO:HD3	2.15	0.61
1:B:36:TRP:CE3	1:B:103:THR:HG21	2.36	0.61
1:C:45:LEU:HB3	1:C:249:ILE:CD1	2.31	0.61
1:C:76:TYR:HB2	1:C:82:LYS:HE3	1.83	0.61
1:D:387:PHE:CB	1:D:429:GLN:CD	2.56	0.61
1:D:430:VAL:CG1	1:D:434:TYR:CE2	2.79	0.61
1:B:383:VAL:HA	1:B:433:PHE:CZ	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:42:ARG:NH1	1:C:247:ASP:OD1	2.33	0.61
1:C:112:HIS:CE1	1:C:140:THR:HG22	2.36	0.61
1:B:42:ARG:CZ	1:B:247:ASP:OD2	2.48	0.60
1:C:36:TRP:CE3	1:C:103:THR:HG21	2.36	0.60
1:C:435:GLU:OE1	1:C:482:HIS:CE1	2.54	0.60
1:A:34:TYR:OH	1:A:103:THR:HG22	2.01	0.60
1:D:429:GLN:C	1:D:433:PHE:CD2	2.75	0.60
1:C:107:LEU:HD13	1:C:231:MSE:HE2	1.83	0.60
1:B:363:ALA:CB	1:B:430:VAL:CG1	2.80	0.60
1:A:36:TRP:O	1:A:227:MSE:HE2	2.01	0.60
1:C:565:ARG:HA	1:C:570:TYR:CB	2.30	0.60
1:C:569:ILE:O	1:C:569:ILE:HG23	2.01	0.60
1:D:386:PRO:C	1:D:429:GLN:NE2	2.54	0.60
1:D:17:PHE:CE2	1:D:101:MSE:HE3	2.37	0.60
1:D:287:THR:N	1:D:288:PRO:HD2	2.17	0.60
1:A:356:LEU:C	1:A:427:LEU:CD1	1.97	0.60
1:B:69:ILE:HA	1:B:308:VAL:HG23	1.83	0.60
1:D:360:VAL:N	1:D:427:LEU:CD2	2.65	0.59
1:A:123:THR:O	1:A:125:ASP:N	2.34	0.59
1:B:245:ARG:NH1	1:B:519:ALA:O	2.32	0.59
1:D:389:MSE:HA	1:D:393:GLY:HA2	1.83	0.59
1:A:118:ARG:O	1:A:121:LYS:HG2	2.02	0.59
1:B:34:TYR:OH	1:B:103:THR:HG22	2.02	0.59
1:C:28:PRO:HG2	1:C:31:GLN:HG2	1.84	0.59
1:A:39:PRO:O	1:A:43:ARG:HG3	2.02	0.59
1:B:267:LEU:HD12	1:B:294:VAL:HG13	1.84	0.59
1:C:1:MSE:O	1:C:3:THR:N	2.34	0.59
1:A:5:GLU:O	1:A:7:PHE:N	2.36	0.59
1:D:249:ILE:HG22	1:D:250:GLN:N	2.18	0.59
1:C:514:SER:HB3	1:C:575:TRP:CE3	2.36	0.59
1:D:128:PRO:O	1:D:276:VAL:HG23	2.02	0.59
1:D:432:ARG:CD	1:D:476:THR:CA	2.78	0.59
1:C:245:ARG:CZ	1:C:523:GLY:CA	2.79	0.59
1:A:440:SER:O	1:A:442:THR:N	2.34	0.59
1:D:359:ASP:CA	1:D:427:LEU:HD22	2.30	0.59
1:B:395:LYS:NZ	1:B:526:ARG:HH11	2.01	0.59
1:A:60:ASP:OD1	1:A:61:SER:N	2.34	0.59
1:A:397:THR:O	1:A:399:ARG:N	2.36	0.59
1:B:430:VAL:HA	1:B:433:PHE:CD2	2.37	0.59
1:A:126:ASP:OD1	1:A:127:GLU:N	2.36	0.58
1:C:106:LEU:O	1:C:109:THR:HB	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:26:TYR:CE2	1:A:79:VAL:HA	2.37	0.58
1:A:99:GLN:O	1:A:103:THR:HG23	2.02	0.58
1:B:367:ARG:O	1:B:379:VAL:HG21	2.03	0.58
1:B:432:ARG:NH2	1:B:437:PRO:HG3	2.18	0.58
1:A:38:LEU:N	1:A:227:MSE:HE1	2.17	0.58
1:A:413:LYS:CB	1:A:422:LYS:HZ1	2.16	0.58
1:B:363:ALA:CB	1:B:430:VAL:HG13	2.34	0.58
1:C:570:TYR:O	1:C:571:ASP:CB	2.51	0.58
1:A:1:MSE:SE	1:B:74:ILE:HD11	2.52	0.58
1:C:528:LEU:HD12	1:C:560:LEU:HD21	1.84	0.58
1:C:52:LEU:HD13	1:C:252:PRO:HD2	1.85	0.58
1:D:1:MSE:SE	1:C:74:ILE:HD13	2.54	0.58
1:A:267:LEU:HD12	1:A:294:VAL:HG13	1.86	0.58
1:C:50:HIS:HB2	1:C:399:ARG:NH1	2.19	0.58
1:D:5:GLU:OE2	1:D:311:LYS:HE2	2.04	0.58
1:A:383:VAL:HA	1:A:433:PHE:CZ	2.38	0.58
1:B:42:ARG:CZ	1:B:247:ASP:CG	2.72	0.58
1:A:42:ARG:HG3	1:A:234:MSE:SE	2.54	0.57
1:C:92:MSE:HE1	1:C:309:THR:OG1	2.04	0.57
1:B:357:HIS:CA	1:B:427:LEU:HD21	2.35	0.57
1:C:575:TRP:CE3	1:C:579:ALA:HB2	2.38	0.57
1:D:42:ARG:NH2	1:D:247:ASP:CG	2.47	0.57
1:B:237:LYS:O	1:B:239:VAL:N	2.37	0.57
1:C:41:ILE:HD12	1:C:227:MSE:HE3	1.86	0.57
1:C:430:VAL:HG13	1:C:434:TYR:CE2	2.34	0.57
1:B:34:TYR:CE1	1:B:36:TRP:HB2	2.38	0.57
1:C:418:VAL:O	1:C:422:LYS:CD	2.52	0.57
1:C:430:VAL:HA	1:C:433:PHE:HD2	1.69	0.57
1:D:126:ASP:OD1	1:D:127:GLU:N	2.38	0.57
1:A:41:ILE:CD1	1:A:227:MSE:HE3	2.34	0.57
1:A:390:PHE:HB2	1:A:429:GLN:HE21	1.68	0.57
1:C:395:LYS:HB2	1:C:526:ARG:HH21	1.70	0.57
1:C:518:THR:O	1:C:520:GLY:N	2.37	0.57
1:B:397:THR:O	1:B:399:ARG:N	2.37	0.57
1:D:36:TRP:CE3	1:D:103:THR:HG21	2.40	0.57
1:B:42:ARG:CZ	1:B:247:ASP:OD1	2.53	0.57
1:C:245:ARG:NH1	1:C:523:GLY:CA	2.66	0.56
1:D:96:ASP:HB2	1:D:320:PHE:CD2	2.40	0.56
1:C:11:PRO:O	1:C:12:LEU:HD23	2.05	0.56
1:C:118:ARG:O	1:C:121:LYS:HG2	2.05	0.56
1:B:38:LEU:HA	1:B:227:MSE:HE1	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:62:ILE:HG23	1:B:302:ARG:O	2.05	0.56
1:C:435:GLU:OE1	1:C:482:HIS:HE1	1.88	0.56
1:C:565:ARG:HB3	1:C:565:ARG:NH2	2.20	0.56
1:A:244:LYS:O	1:A:246:GLU:N	2.37	0.56
1:B:42:ARG:NH2	1:B:247:ASP:CG	2.56	0.56
1:D:321:GLU:O	1:D:325:THR:HG22	2.05	0.56
1:A:391:GLN:CD	1:A:422:LYS:HG2	2.25	0.56
1:B:264:GLN:HG2	1:B:272:PHE:H	1.70	0.56
1:D:38:LEU:N	1:D:227:MSE:HE1	2.20	0.56
1:B:391:GLN:NE2	1:B:422:LYS:NZ	2.49	0.56
1:D:432:ARG:NH2	1:D:472:VAL:O	2.39	0.56
1:B:223:HIS:O	1:B:227:MSE:HG2	2.05	0.56
1:C:568:GLY:O	1:C:578:ARG:NH2	2.39	0.56
1:C:132:CYS:SG	1:C:290:THR:HG23	2.46	0.56
1:D:249:ILE:CG2	1:D:250:GLN:N	2.69	0.56
1:A:109:THR:O	1:A:174:LYS:NZ	2.34	0.56
1:D:49:ALA:HB2	1:D:249:ILE:CG2	2.33	0.55
1:A:42:ARG:NE	1:A:247:ASP:OD1	2.39	0.55
1:B:113:GLU:HG3	1:B:114:GLU:N	2.21	0.55
1:C:511:TRP:CH2	1:C:567:GLU:CG	2.86	0.55
1:B:136:ALA:O	1:B:140:THR:OG1	2.23	0.55
1:C:411:PHE:CE1	1:C:419:ALA:HB1	2.41	0.55
1:C:515:PHE:CD1	1:C:578:ARG:HB3	2.41	0.55
1:B:360:VAL:N	1:B:427:LEU:CD2	2.67	0.55
1:A:45:LEU:HB3	1:A:249:ILE:HD11	1.88	0.55
1:C:515:PHE:HE1	1:C:569:ILE:HD12	1.70	0.55
1:B:46:SER:N	1:B:249:ILE:HD13	2.21	0.55
1:C:490:VAL:O	1:C:493:SER:OG	2.22	0.55
1:D:287:THR:H	1:D:288:PRO:HD2	1.71	0.55
1:A:389:MSE:HA	1:A:393:GLY:HA2	1.89	0.55
1:B:363:ALA:HB2	1:B:430:VAL:CG1	2.36	0.55
1:C:511:TRP:CZ3	1:C:567:GLU:CG	2.62	0.55
1:B:128:PRO:HG2	1:B:275:SER:CB	2.37	0.54
1:B:432:ARG:HE	1:B:437:PRO:HD2	1.70	0.54
1:A:331:THR:O	1:A:334:GLU:N	2.39	0.54
1:B:126:ASP:OD1	1:B:127:GLU:N	2.39	0.54
1:C:123:THR:O	1:C:125:ASP:N	2.41	0.54
1:C:243:VAL:O	1:C:244:LYS:HG3	2.06	0.54
1:A:64:PHE:CZ	1:C:7:PHE:HE1	2.21	0.54
1:A:518:THR:O	1:A:520:GLY:N	2.40	0.54
1:C:155:GLU:O	1:C:157:ARG:N	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:127:GLU:O	1:A:129:SER:N	2.41	0.54
1:A:432:ARG:HH21	1:A:432:ARG:CA	2.20	0.54
1:B:246:GLU:O	1:B:247:ASP:OD1	2.26	0.54
1:D:42:ARG:NH1	1:D:247:ASP:OD1	2.41	0.54
1:A:430:VAL:HG13	1:A:434:TYR:HE2	1.63	0.54
1:A:42:ARG:NE	1:A:247:ASP:CG	2.61	0.54
1:B:432:ARG:NH2	1:B:437:PRO:CG	2.71	0.54
1:C:71:LEU:HD22	1:C:313:GLU:HB3	1.90	0.54
1:C:410:VAL:HG12	1:C:422:LYS:HG2	1.89	0.54
1:C:515:PHE:CD1	1:C:515:PHE:N	2.76	0.53
1:D:72:ARG:HH21	1:C:1:MSE:HE1	1.71	0.53
1:D:432:ARG:CD	1:D:476:THR:CB	2.86	0.53
1:A:436:GLY:N	1:A:437:PRO:CD	2.72	0.53
1:C:49:ALA:HB3	1:C:249:ILE:CG2	2.36	0.53
1:C:156:HIS:HE1	1:C:179:TYR:CZ	2.27	0.53
1:C:385:LEU:HD22	1:C:396:LEU:HB3	1.89	0.53
1:D:132:CYS:SG	1:D:289:LEU:HD23	2.48	0.53
1:B:45:LEU:HB3	1:B:249:ILE:HD12	1.90	0.53
1:B:518:THR:O	1:B:520:GLY:N	2.40	0.53
1:C:515:PHE:CE1	1:C:569:ILE:HD12	2.42	0.53
1:A:299:LEU:HA	1:A:303:VAL:CG1	2.38	0.53
1:B:264:GLN:HG3	1:B:272:PHE:CD1	2.44	0.53
1:B:299:LEU:HA	1:B:303:VAL:HG13	1.89	0.53
1:D:148:GLU:OE2	1:D:179:TYR:CE1	2.62	0.53
1:A:432:ARG:HA	1:A:432:ARG:CZ	2.38	0.53
1:B:244:LYS:O	1:B:246:GLU:N	2.42	0.52
1:D:14:VAL:HG23	1:D:303:VAL:HG22	1.92	0.52
1:C:124:ARG:O	1:C:124:ARG:NH1	2.43	0.52
1:D:5:GLU:OE1	1:D:311:LYS:HB2	2.08	0.52
1:B:63:CYS:HB3	1:B:303:VAL:HB	1.90	0.52
1:C:5:GLU:OE2	1:C:311:LYS:HE2	2.09	0.52
1:C:113:GLU:HG3	1:C:114:GLU:N	2.25	0.52
1:B:44:LEU:HD23	1:B:45:LEU:HD12	1.92	0.52
1:D:52:LEU:HD12	1:D:295:PHE:HD1	1.74	0.52
1:B:420:ARG:O	1:B:424:LEU:HG	2.10	0.52
1:C:127:GLU:O	1:C:129:SER:N	2.42	0.52
1:D:57:GLU:HG3	1:D:58:PHE:HD1	1.72	0.52
1:A:430:VAL:O	1:A:434:TYR:CD2	2.62	0.52
1:C:565:ARG:NH2	1:C:565:ARG:CB	2.73	0.52
1:B:131:TRP:O	1:B:135:GLN:HG2	2.10	0.52
1:C:515:PHE:N	1:C:515:PHE:HD1	2.07	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:7:PHE:HE1	1:B:64:PHE:HZ	1.57	0.52
1:A:69:ILE:HG12	1:A:308:VAL:CG2	2.39	0.52
1:C:452:LEU:HA	1:C:502:ARG:HH22	1.74	0.52
1:B:430:VAL:CG1	1:B:434:TYR:CE2	2.81	0.51
1:C:314:ASP:OD1	1:C:315:TYR:N	2.43	0.51
1:A:28:PRO:HG2	1:A:31:GLN:HG2	1.92	0.51
1:A:49:ALA:HB1	1:A:249:ILE:HG22	1.90	0.51
1:B:476:THR:O	1:B:480:ALA:HB2	2.10	0.51
1:C:5:GLU:OE1	1:C:311:LYS:HB2	2.10	0.51
1:C:360:VAL:N	1:C:427:LEU:CD2	2.73	0.51
1:D:52:LEU:HD22	1:D:252:PRO:HG3	1.93	0.51
1:B:147:PHE:HB2	1:B:148:GLU:HG2	1.93	0.51
1:C:49:ALA:HB3	1:C:249:ILE:HG23	1.89	0.51
1:C:565:ARG:CZ	1:C:565:ARG:CB	2.85	0.51
1:C:54:GLN:NE2	1:C:405:ARG:HD2	2.25	0.51
1:D:181:SER:O	1:D:183:ILE:N	2.44	0.51
1:A:432:ARG:HG3	1:A:476:THR:HA	1.91	0.51
1:C:52:LEU:HD21	1:C:294:VAL:HG12	1.91	0.51
1:D:429:GLN:C	1:D:433:PHE:CE2	2.85	0.51
1:D:432:ARG:HH22	1:D:472:VAL:CB	2.24	0.51
1:A:64:PHE:HZ	1:C:7:PHE:CE1	2.23	0.51
1:B:9:ALA:HB2	1:B:308:VAL:HG12	1.92	0.51
1:C:68:VAL:HG11	1:C:101:MSE:HE2	1.92	0.51
1:C:528:LEU:HG	1:C:563:GLN:NE2	2.25	0.51
1:C:49:ALA:CB	1:C:249:ILE:HG22	2.37	0.51
1:B:156:HIS:HE1	1:B:179:TYR:CZ	2.27	0.50
1:C:45:LEU:HD11	1:C:231:MSE:CE	2.39	0.50
1:A:7:PHE:CZ	1:C:306:ALA:HB2	2.46	0.50
1:C:430:VAL:O	1:C:434:TYR:CD2	2.64	0.50
1:D:107:LEU:HA	1:D:110:VAL:CG1	2.41	0.50
1:B:576:VAL:O	1:B:579:ALA:HB3	2.10	0.50
1:D:124:ARG:HG3	1:D:125:ASP:OD1	2.11	0.50
1:B:23:GLN:HG3	1:B:90:LYS:HD3	1.93	0.50
1:C:46:SER:CA	1:C:249:ILE:HD13	2.41	0.50
1:C:267:LEU:HD12	1:C:294:VAL:HG13	1.92	0.50
1:D:244:LYS:O	1:D:246:GLU:N	2.45	0.50
1:D:1:MSE:SE	1:C:74:ILE:CD1	3.09	0.50
1:D:63:CYS:SG	1:D:64:PHE:N	2.84	0.50
1:D:576:VAL:O	1:D:579:ALA:HB3	2.11	0.50
1:B:49:ALA:CB	1:B:249:ILE:HG22	2.40	0.50
1:B:432:ARG:O	1:B:432:ARG:HD3	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:510:LEU:O	1:C:514:SER:OG	2.27	0.50
1:D:42:ARG:HG3	1:D:234:MSE:SE	2.62	0.50
1:D:78:THR:HG21	1:D:93:THR:HG21	1.93	0.50
1:A:429:GLN:O	1:A:433:PHE:CE2	2.64	0.50
1:B:49:ALA:HB3	1:B:249:ILE:CG2	2.38	0.50
1:A:395:LYS:NZ	1:A:523:GLY:HA2	2.26	0.49
1:C:45:LEU:HB3	1:C:249:ILE:HD12	1.94	0.49
1:C:46:SER:CB	1:C:249:ILE:HG12	2.42	0.49
1:C:507:PHE:HD1	1:C:564:LEU:HD21	1.75	0.49
1:A:321:GLU:O	1:A:325:THR:HG22	2.12	0.49
1:A:363:ALA:HB3	1:A:430:VAL:CG1	2.41	0.49
1:C:389:MSE:HA	1:C:393:GLY:HA2	1.93	0.49
1:D:118:ARG:O	1:D:121:LYS:HG2	2.12	0.49
1:A:391:GLN:NE2	1:A:422:LYS:HG3	2.28	0.49
1:B:38:LEU:N	1:B:227:MSE:HE1	2.26	0.49
1:B:99:GLN:O	1:B:103:THR:HG23	2.13	0.49
1:C:424:LEU:HB3	1:C:483:ARG:NH2	2.28	0.49
1:A:126:ASP:OD1	1:A:129:SER:OG	2.19	0.49
1:B:109:THR:HG23	1:B:174:LYS:HG3	1.95	0.49
1:C:424:LEU:C	1:C:483:ARG:HH22	2.16	0.49
1:B:128:PRO:HG2	1:B:275:SER:HB3	1.95	0.49
1:B:430:VAL:CA	1:B:433:PHE:HD2	2.24	0.49
1:D:17:PHE:O	1:D:23:GLN:NE2	2.45	0.49
1:C:245:ARG:NH1	1:C:519:ALA:O	2.46	0.49
1:B:46:SER:N	1:B:249:ILE:CD1	2.76	0.49
1:C:128:PRO:HG2	1:C:275:SER:CB	2.42	0.49
1:C:562:GLU:HG3	1:C:565:ARG:HH22	1.78	0.49
1:A:390:PHE:HB2	1:A:429:GLN:NE2	2.28	0.49
1:A:432:ARG:HH21	1:A:432:ARG:HA	1.75	0.49
1:C:62:ILE:HG23	1:C:302:ARG:O	2.13	0.49
1:C:379:VAL:O	1:C:382:SER:OG	2.08	0.49
1:C:455:GLN:CB	1:C:502:ARG:HH21	2.24	0.49
1:C:315:TYR:O	1:C:319:MSE:HB2	2.12	0.49
1:D:249:ILE:CG2	1:D:250:GLN:H	2.26	0.48
1:A:44:LEU:HD23	1:A:45:LEU:HD12	1.95	0.48
1:A:363:ALA:CB	1:A:430:VAL:HG11	2.40	0.48
1:C:243:VAL:O	1:C:244:LYS:CG	2.61	0.48
1:C:396:LEU:HD21	1:C:406:TYR:CB	2.42	0.48
1:C:475:LEU:C	1:C:477:ARG:H	2.16	0.48
1:C:511:TRP:CG	1:C:521:ILE:HG13	2.48	0.48
1:B:245:ARG:NH1	1:B:519:ALA:HA	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:559:TYR:O	1:C:562:GLU:HB3	2.13	0.48
1:D:109:THR:HG22	1:D:110:VAL:N	2.27	0.48
1:D:230:GLN:O	1:D:234:MSE:HG3	2.13	0.48
1:D:257:ILE:HD13	1:D:294:VAL:HG21	1.95	0.48
1:D:306:ALA:HB2	1:B:7:PHE:CE1	2.48	0.48
1:A:62:ILE:HG22	1:A:63:CYS:O	2.13	0.48
1:A:230:GLN:O	1:A:234:MSE:HG3	2.12	0.48
1:C:72:ARG:HB2	1:C:309:THR:CG2	2.43	0.48
1:C:515:PHE:CG	1:C:578:ARG:HB3	2.48	0.48
1:D:360:VAL:HA	1:D:430:VAL:HG21	1.94	0.48
1:B:5:GLU:O	1:B:6:ILE:C	2.52	0.48
1:B:401:ASN:N	1:B:401:ASN:OD1	2.46	0.48
1:C:131:TRP:O	1:C:135:GLN:HG2	2.13	0.48
1:B:432:ARG:HH22	1:B:472:VAL:HA	1.79	0.48
1:C:46:SER:HB3	1:C:249:ILE:HG12	1.96	0.48
1:C:418:VAL:CA	1:C:422:LYS:HE3	2.43	0.48
1:B:104:LEU:HD11	1:B:299:LEU:HD11	1.96	0.48
1:C:430:VAL:O	1:C:434:TYR:HD2	1.97	0.48
1:D:7:PHE:HB2	1:B:11:PRO:HG3	1.96	0.48
1:D:279:GLN:HB3	1:D:286:MSE:HE2	1.95	0.48
1:A:63:CYS:SG	1:A:64:PHE:N	2.87	0.48
1:B:69:ILE:HG12	1:B:308:VAL:CG2	2.44	0.48
1:C:264:GLN:HG3	1:C:272:PHE:CG	2.49	0.48
1:C:480:ALA:O	1:C:484:LEU:HG	2.14	0.48
1:A:432:ARG:HH21	1:A:432:ARG:HG3	1.79	0.47
1:C:37:GLU:N	1:C:37:GLU:OE1	2.46	0.47
1:D:430:VAL:O	1:D:433:PHE:HB2	2.12	0.47
1:A:576:VAL:O	1:A:579:ALA:HB3	2.15	0.47
1:D:268:PHE:HD2	1:D:272:PHE:HE1	1.61	0.47
1:A:109:THR:HG23	1:A:174:LYS:HG3	1.97	0.47
1:A:363:ALA:HB2	1:A:430:VAL:HG11	1.93	0.47
1:B:46:SER:HA	1:B:249:ILE:HD13	1.95	0.47
1:C:395:LYS:HD3	1:C:526:ARG:HH22	1.79	0.47
1:D:430:VAL:HG13	1:D:434:TYR:HE2	1.73	0.47
1:A:45:LEU:HB3	1:A:249:ILE:HD13	1.94	0.47
1:A:322:ALA:HB1	1:C:66:GLY:HA2	1.97	0.47
1:C:388:ALA:HB1	1:C:394:THR:O	2.14	0.47
1:D:69:ILE:HA	1:D:308:VAL:HG23	1.96	0.47
1:C:60:ASP:OD1	1:C:61:SER:N	2.48	0.47
1:D:45:LEU:HB3	1:D:249:ILE:CD1	2.45	0.47
1:D:48:VAL:HG23	1:D:303:VAL:HG11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:62:ILE:HG23	1:D:302:ARG:O	2.14	0.47
1:D:68:VAL:CG1	1:D:101:MSE:HE2	2.44	0.47
1:D:253:THR:HG22	1:D:256:ASP:OD1	2.14	0.47
1:A:430:VAL:HG13	1:A:434:TYR:CE2	2.44	0.47
1:B:273:PRO:O	1:B:276:VAL:HG12	2.15	0.47
1:D:129:SER:O	1:D:132:CYS:HB3	2.15	0.47
1:A:78:THR:HG21	1:A:93:THR:OG1	2.14	0.47
1:A:430:VAL:HA	1:A:433:PHE:HD2	1.79	0.47
1:B:127:GLU:O	1:B:129:SER:N	2.47	0.47
1:B:380:THR:O	1:B:384:LEU:HG	2.14	0.47
1:B:432:ARG:NE	1:B:437:PRO:CG	2.77	0.47
1:C:41:ILE:CD1	1:C:227:MSE:HE3	2.45	0.47
1:C:429:GLN:O	1:C:433:PHE:CE2	2.68	0.47
1:C:486:SER:HA	1:C:490:VAL:CG2	2.45	0.47
1:D:129:SER:H	1:D:131:TRP:H	1.62	0.46
1:D:234:MSE:HE2	1:D:234:MSE:HB3	1.88	0.46
1:D:360:VAL:N	1:D:427:LEU:HD23	2.30	0.46
1:A:80:GLU:HB3	1:A:81:PRO:HD3	1.97	0.46
1:C:128:PRO:HG2	1:C:275:SER:HB2	1.97	0.46
1:C:528:LEU:HG	1:C:563:GLN:HE22	1.80	0.46
1:D:299:LEU:HA	1:D:303:VAL:HG13	1.96	0.46
1:B:129:SER:O	1:B:132:CYS:HB3	2.14	0.46
1:D:243:VAL:O	1:D:244:LYS:HG3	2.15	0.46
1:D:476:THR:O	1:D:480:ALA:CB	2.62	0.46
1:A:76:TYR:CB	1:A:82:LYS:HE3	2.46	0.46
1:A:389:MSE:HE3	1:A:529:MSE:HG3	1.98	0.46
1:C:105:LEU:O	1:C:108:THR:OG1	2.24	0.46
1:D:390:PHE:HB2	1:D:429:GLN:HE21	1.81	0.46
1:A:25:LEU:HD13	1:A:94:ILE:HD11	1.97	0.46
1:A:401:ASN:OD1	1:A:401:ASN:N	2.49	0.46
1:C:34:TYR:OH	1:C:41:ILE:HD11	2.15	0.46
1:C:514:SER:HB2	1:C:515:PHE:HD1	1.80	0.46
1:D:7:PHE:CE1	1:B:306:ALA:HB2	2.51	0.46
1:A:5:GLU:O	1:A:6:ILE:C	2.54	0.46
1:A:113:GLU:HG3	1:A:114:GLU:N	2.30	0.46
1:C:156:HIS:CE1	1:C:179:TYR:CZ	3.02	0.46
1:D:109:THR:HG23	1:D:174:LYS:HG3	1.97	0.46
1:D:150:ASP:O	1:D:151:MSE:HG2	2.16	0.46
1:A:1:MSE:HB2	1:A:4:LYS:CG	2.44	0.46
1:A:389:MSE:HE3	1:A:389:MSE:HB3	1.91	0.46
1:C:273:PRO:HB2	1:C:276:VAL:HB	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:432:ARG:HH21	1:C:477:ARG:HA	1.74	0.46
1:A:18:LEU:HD13	1:A:105:LEU:HD13	1.98	0.46
1:B:390:PHE:CE2	1:B:477:ARG:HA	2.51	0.46
1:A:262:ASN:O	1:A:266:ALA:CB	2.64	0.46
1:A:430:VAL:O	1:A:434:TYR:HD2	1.99	0.46
1:C:71:LEU:HD12	1:C:310:ALA:O	2.16	0.46
1:C:110:VAL:HB	1:C:232:ARG:HA	1.97	0.46
1:D:96:ASP:HB2	1:D:320:PHE:HD2	1.79	0.46
1:D:385:LEU:HD22	1:D:396:LEU:HB3	1.97	0.46
1:B:38:LEU:CA	1:B:227:MSE:HE1	2.46	0.46
1:B:57:GLU:HG3	1:B:58:PHE:N	2.31	0.46
1:D:155:GLU:O	1:D:157:ARG:N	2.49	0.46
1:A:363:ALA:HB3	1:A:430:VAL:HG13	1.93	0.46
1:C:349:TRP:O	1:C:351:GLU:N	2.49	0.46
1:C:430:VAL:HA	1:C:433:PHE:CD2	2.50	0.46
1:C:367:ARG:O	1:C:379:VAL:HG21	2.16	0.45
1:C:599:ALA:O	1:C:601:GLN:N	2.50	0.45
1:A:74:ILE:HD13	1:B:1:MSE:CE	2.46	0.45
1:A:398:LYS:O	1:A:403:GLN:NE2	2.49	0.45
1:A:476:THR:O	1:A:480:ALA:CB	2.63	0.45
1:A:574:GLN:O	1:A:577:ALA:HB3	2.17	0.45
1:B:7:PHE:HZ	1:B:323:LEU:HD11	1.80	0.45
1:C:49:ALA:HB1	1:C:249:ILE:CG2	2.38	0.45
1:C:245:ARG:HH11	1:C:522:ASP:HB2	1.81	0.45
1:B:85:SER:HA	1:C:270:SER:CB	2.46	0.45
1:B:88:PRO:HG2	1:B:91:VAL:CG2	2.45	0.45
1:B:395:LYS:HD2	1:B:526:ARG:HH11	1.72	0.45
1:C:363:ALA:HB2	1:C:430:VAL:CG1	2.47	0.45
1:D:260:SER:C	1:D:264:GLN:NE2	2.69	0.45
1:D:264:GLN:HG3	1:D:272:PHE:CE1	2.52	0.45
1:A:265:PHE:HE1	1:A:271:GLU:HB2	1.77	0.45
1:B:485:SER:O	1:B:487:PRO:N	2.50	0.45
1:D:5:GLU:O	1:D:6:ILE:C	2.55	0.45
1:D:388:ALA:O	1:D:393:GLY:HA2	2.17	0.45
1:A:112:HIS:HB3	1:A:174:LYS:NZ	2.31	0.45
1:B:391:GLN:HE21	1:B:422:LYS:CE	2.07	0.45
1:C:36:TRP:O	1:C:227:MSE:HE2	2.17	0.45
1:C:264:GLN:H	1:C:264:GLN:HE21	1.64	0.45
1:D:7:PHE:HB2	1:B:11:PRO:CG	2.47	0.45
1:D:268:PHE:HD2	1:D:272:PHE:CE1	2.35	0.45
1:A:135:GLN:O	1:A:139:VAL:HG23	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:68:VAL:HG11	1:B:101:MSE:HE3	1.98	0.45
1:C:63:CYS:SG	1:C:64:PHE:N	2.89	0.45
1:A:84:ARG:HD2	1:A:87:VAL:CG1	2.47	0.45
1:A:420:ARG:O	1:A:424:LEU:HG	2.15	0.45
1:D:148:GLU:OE2	1:D:179:TYR:HE1	1.99	0.45
1:A:50:HIS:HB2	1:A:399:ARG:CZ	2.47	0.45
1:A:139:VAL:HG21	1:A:293:ILE:HG23	1.98	0.45
1:C:46:SER:CA	1:C:249:ILE:CD1	2.95	0.45
1:C:383:VAL:HG22	1:C:433:PHE:CE2	2.51	0.45
1:D:9:ALA:HB2	1:D:308:VAL:HG12	1.98	0.45
1:D:26:TYR:CZ	1:D:79:VAL:HA	2.51	0.45
1:D:390:PHE:CE2	1:D:477:ARG:HA	2.52	0.45
1:A:432:ARG:HH21	1:A:432:ARG:HB3	1.80	0.45
1:B:68:VAL:HG11	1:B:101:MSE:CE	2.46	0.45
1:B:257:ILE:HD13	1:B:294:VAL:HG21	1.99	0.45
1:C:321:GLU:O	1:C:325:THR:HG22	2.17	0.45
1:C:486:SER:CB	1:C:487:PRO:HD2	2.47	0.45
1:D:292:LEU:HD12	1:D:292:LEU:HA	1.76	0.44
1:A:92:MSE:HE1	1:A:309:THR:OG1	2.16	0.44
1:D:38:LEU:HA	1:D:227:MSE:HE1	1.99	0.44
1:A:396:LEU:HD23	1:A:396:LEU:HA	1.67	0.44
1:B:422:LYS:N	1:B:422:LYS:CD	2.73	0.44
1:C:389:MSE:HE3	1:C:389:MSE:HB3	1.83	0.44
1:D:150:ASP:C	1:D:151:MSE:HG2	2.38	0.44
1:A:113:GLU:O	1:A:117:VAL:HG22	2.16	0.44
1:B:245:ARG:HH11	1:B:519:ALA:HA	1.82	0.44
1:C:432:ARG:CZ	1:C:479:PHE:CB	2.90	0.44
1:C:515:PHE:CZ	1:C:578:ARG:NE	2.82	0.44
1:D:574:GLN:O	1:D:577:ALA:HB3	2.18	0.44
1:C:514:SER:HB2	1:C:515:PHE:CD1	2.52	0.44
1:D:1:MSE:HB2	1:D:4:LYS:CG	2.43	0.44
1:D:57:GLU:HG3	1:D:58:PHE:N	2.32	0.44
1:A:62:ILE:HG12	1:C:315:TYR:OH	2.17	0.44
1:A:487:PRO:O	1:A:489:THR:N	2.50	0.44
1:D:7:PHE:HB2	1:B:11:PRO:HD3	1.98	0.44
1:B:72:ARG:CZ	1:B:90:LYS:HG3	2.48	0.44
1:A:436:GLY:H	1:A:437:PRO:HD3	1.79	0.44
1:B:49:ALA:HB1	1:B:249:ILE:CG2	2.40	0.44
1:C:36:TRP:CD1	1:C:99:GLN:HB3	2.52	0.44
1:C:69:ILE:HG23	1:C:319:MSE:CE	2.46	0.44
1:C:126:ASP:OD1	1:C:129:SER:OG	2.21	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:406:TYR:CE2	1:D:410:VAL:HG21	2.52	0.44
1:A:2:GLU:HG2	1:A:3:THR:H	1.82	0.44
1:A:62:ILE:HD13	1:A:62:ILE:HA	1.75	0.44
1:A:109:THR:HG22	1:A:110:VAL:N	2.33	0.44
1:A:360:VAL:H	1:A:427:LEU:CD2	2.31	0.44
1:B:395:LYS:HZ3	1:B:526:ARG:HH11	1.66	0.44
1:C:76:TYR:O	1:C:79:VAL:HG12	2.17	0.44
1:C:244:LYS:HB2	1:C:248:ASP:CB	2.48	0.44
1:C:528:LEU:CD1	1:C:560:LEU:HD21	2.43	0.44
1:C:575:TRP:CZ3	1:C:579:ALA:CB	2.81	0.44
1:D:38:LEU:N	1:D:39:PRO:HD2	2.33	0.44
1:A:1:MSE:HB2	1:A:4:LYS:CD	2.48	0.44
1:A:445:PRO:O	1:A:447:CYS:N	2.44	0.44
1:A:49:ALA:HB3	1:A:249:ILE:HG23	1.97	0.43
1:A:319:MSE:HB3	1:A:319:MSE:HE2	1.43	0.43
1:B:128:PRO:HG2	1:B:275:SER:HB2	1.99	0.43
1:B:432:ARG:HD3	1:B:432:ARG:C	2.39	0.43
1:C:475:LEU:O	1:C:477:ARG:N	2.49	0.43
1:D:11:PRO:O	1:D:12:LEU:HD23	2.17	0.43
1:D:90:LYS:CE	1:D:92:MSE:HE2	2.48	0.43
1:D:487:PRO:O	1:D:489:THR:N	2.44	0.43
1:A:391:GLN:HE22	1:A:422:LYS:HG3	1.82	0.43
1:B:46:SER:CA	1:B:249:ILE:HD13	2.48	0.43
1:C:63:CYS:HB3	1:C:303:VAL:HB	1.99	0.43
1:C:125:ASP:HA	1:C:130:VAL:CG1	2.49	0.43
1:D:113:GLU:O	1:D:117:VAL:HG22	2.18	0.43
1:B:60:ASP:OD1	1:B:61:SER:N	2.51	0.43
1:C:2:GLU:O	1:C:6:ILE:HD13	2.18	0.43
1:C:383:VAL:HA	1:C:433:PHE:CZ	2.53	0.43
1:C:477:ARG:C	1:C:479:PHE:N	2.72	0.43
1:D:36:TRP:CE2	1:D:40:LYS:HD3	2.53	0.43
1:D:62:ILE:HD13	1:D:62:ILE:HA	1.83	0.43
1:D:72:ARG:HB3	1:D:311:LYS:HG2	2.00	0.43
1:A:96:ASP:HB2	1:A:320:PHE:CD2	2.53	0.43
1:B:28:PRO:HG2	1:B:31:GLN:HG2	1.99	0.43
1:C:395:LYS:HG3	1:C:395:LYS:O	2.18	0.43
1:C:527:SER:C	1:C:529:MSE:H	2.21	0.43
1:D:482:HIS:HA	1:D:494:ALA:HB1	2.00	0.43
1:B:369:GLY:O	1:B:373:ALA:N	2.51	0.43
1:C:112:HIS:NE2	1:C:140:THR:HG22	2.33	0.43
1:A:234:MSE:HB3	1:A:234:MSE:HE2	1.68	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:252:PRO:O	1:A:291:ARG:HG2	2.17	0.43
1:B:96:ASP:HB2	1:B:320:PHE:CD1	2.53	0.43
1:C:427:LEU:O	1:C:430:VAL:HB	2.18	0.43
1:D:234:MSE:O	1:D:235:LEU:C	2.57	0.43
1:A:38:LEU:N	1:A:39:PRO:HD2	2.34	0.43
1:C:115:ILE:HG12	1:C:292:LEU:HB3	2.01	0.43
1:C:122:LEU:HD23	1:C:122:LEU:HA	1.80	0.43
1:D:64:PHE:CE1	1:B:7:PHE:HE1	2.37	0.43
1:D:363:ALA:CB	1:D:434:TYR:OH	2.66	0.43
1:A:54:GLN:OE1	1:A:405:ARG:NH1	2.51	0.43
1:C:401:ASN:OD1	1:C:401:ASN:N	2.47	0.43
1:C:515:PHE:CZ	1:C:578:ARG:CZ	3.02	0.43
1:D:383:VAL:HA	1:D:433:PHE:CZ	2.54	0.43
1:A:62:ILE:HG23	1:A:302:ARG:O	2.19	0.43
1:A:262:ASN:O	1:A:266:ALA:HB2	2.19	0.43
1:D:223:HIS:O	1:D:227:MSE:HG2	2.19	0.42
1:D:252:PRO:O	1:D:291:ARG:HG2	2.19	0.42
1:A:107:LEU:HD13	1:A:231:MSE:HE2	2.00	0.42
1:A:380:THR:O	1:A:384:LEU:HG	2.19	0.42
1:A:432:ARG:NH2	1:A:432:ARG:CG	2.72	0.42
1:B:395:LYS:CE	1:B:526:ARG:HH11	2.31	0.42
1:D:71:LEU:HA	1:D:310:ALA:O	2.19	0.42
1:B:267:LEU:CD1	1:B:294:VAL:HG13	2.46	0.42
1:C:46:SER:HA	1:C:249:ILE:HD13	2.01	0.42
1:C:113:GLU:HB3	1:C:174:LYS:NZ	2.34	0.42
1:D:290:THR:O	1:D:294:VAL:HG23	2.19	0.42
1:A:76:TYR:HB2	1:A:82:LYS:HE3	2.00	0.42
1:A:139:VAL:HG21	1:A:297:ASN:HD21	1.85	0.42
1:B:71:LEU:HA	1:B:310:ALA:O	2.20	0.42
1:B:94:ILE:CD1	1:B:101:MSE:HG3	2.49	0.42
1:D:156:HIS:CE1	1:D:179:TYR:CE2	3.08	0.42
1:B:128:PRO:O	1:B:276:VAL:HG23	2.19	0.42
1:B:482:HIS:HA	1:B:494:ALA:HB1	2.02	0.42
1:C:14:VAL:HG23	1:C:303:VAL:HG22	2.01	0.42
1:C:46:SER:N	1:C:249:ILE:HD11	2.33	0.42
1:C:61:SER:O	1:C:62:ILE:HD13	2.20	0.42
1:C:396:LEU:HD23	1:C:396:LEU:HA	1.75	0.42
1:B:251:LEU:HA	1:B:252:PRO:HD2	1.87	0.42
1:C:363:ALA:CB	1:C:430:VAL:HG13	2.50	0.42
1:D:7:PHE:CE1	1:D:319:MSE:SE	3.23	0.42
1:D:246:GLU:O	1:D:247:ASP:OD1	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:268:PHE:HD2	1:C:272:PHE:HE1	1.67	0.42
1:D:396:LEU:HD21	1:D:406:TYR:HB2	2.01	0.42
1:B:396:LEU:HD23	1:B:396:LEU:HA	1.61	0.42
1:C:1:MSE:HB2	1:C:4:LYS:CG	2.45	0.42
1:C:42:ARG:NE	1:C:247:ASP:OD1	2.51	0.42
1:C:418:VAL:CB	1:C:422:LYS:HE3	2.50	0.42
1:A:84:ARG:HD2	1:A:87:VAL:HG11	2.01	0.42
1:B:139:VAL:HG21	1:B:293:ILE:HG23	2.02	0.42
1:B:143:LEU:O	1:B:146:CYS:HB2	2.20	0.42
1:C:261:GLN:HG3	1:C:271:GLU:OE2	2.20	0.42
1:A:263:LEU:HD21	1:A:294:VAL:HG11	2.01	0.41
1:A:290:THR:O	1:A:294:VAL:HG23	2.19	0.41
1:C:108:THR:O	1:C:112:HIS:N	2.46	0.41
1:C:245:ARG:NH1	1:C:522:ASP:CB	2.83	0.41
1:C:338:PRO:O	1:C:342:LYS:N	2.53	0.41
1:D:64:PHE:CZ	1:B:7:PHE:HE1	2.38	0.41
1:A:432:ARG:NH2	1:A:432:ARG:HG3	2.35	0.41
1:B:42:ARG:NE	1:B:247:ASP:OD1	2.52	0.41
1:C:109:THR:HG23	1:C:174:LYS:HG3	2.02	0.41
1:C:254:GLY:HA3	1:C:287:THR:HG23	2.02	0.41
1:D:387:PHE:N	1:D:429:GLN:CD	2.68	0.41
1:A:66:GLY:O	1:A:305:VAL:HG23	2.20	0.41
1:A:432:ARG:NH2	1:A:432:ARG:CA	2.73	0.41
1:C:119:ALA:O	1:C:122:LEU:HB2	2.20	0.41
1:C:432:ARG:HD3	1:C:476:THR:CB	2.39	0.41
1:A:268:PHE:CD2	1:A:272:PHE:HE1	2.38	0.41
1:B:88:PRO:HG2	1:B:91:VAL:HG22	2.01	0.41
1:B:103:THR:HG23	1:B:103:THR:H	1.57	0.41
1:B:430:VAL:O	1:B:434:TYR:HD2	2.03	0.41
1:B:432:ARG:NH1	1:B:437:PRO:CD	2.82	0.41
1:C:105:LEU:HA	1:C:105:LEU:HD13	1.76	0.41
1:C:78:THR:HG21	1:C:93:THR:OG1	2.20	0.41
1:C:396:LEU:HD21	1:C:406:TYR:HB2	2.02	0.41
1:C:509:ALA:O	1:C:513:GLY:HA3	2.20	0.41
1:D:3:THR:O	1:D:4:LYS:O	2.38	0.41
1:A:111:LEU:HD23	1:A:111:LEU:HA	1.80	0.41
1:C:39:PRO:O	1:C:43:ARG:HG3	2.20	0.41
1:C:264:GLN:HG3	1:C:272:PHE:CD1	2.55	0.41
1:D:319:MSE:HB3	1:D:319:MSE:HE2	1.65	0.41
1:A:122:LEU:HD23	1:A:122:LEU:HA	1.82	0.41
1:A:390:PHE:CE2	1:A:477:ARG:HA	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:230:GLN:O	1:B:234:MSE:HG3	2.20	0.41
1:B:430:VAL:O	1:B:434:TYR:CD2	2.73	0.41
1:D:113:GLU:HB3	1:D:174:LYS:NZ	2.35	0.41
1:D:253:THR:O	1:D:257:ILE:N	2.52	0.41
1:A:429:GLN:HB3	1:A:433:PHE:HE2	1.86	0.41
1:B:5:GLU:HB3	1:B:311:LYS:HD3	2.02	0.41
1:B:49:ALA:HB1	1:B:249:ILE:HG22	2.01	0.41
1:B:52:LEU:O	1:B:55:LEU:HB3	2.21	0.41
1:B:426:GLY:O	1:B:430:VAL:HG23	2.21	0.41
1:D:39:PRO:O	1:D:43:ARG:HG3	2.21	0.41
1:D:122:LEU:HD23	1:D:122:LEU:HA	1.86	0.41
1:C:601:GLN:C	1:C:603:SER:H	2.24	0.41
1:A:1:MSE:HE1	1:B:72:ARG:NH2	2.36	0.40
1:A:144:SER:HA	1:A:147:PHE:CE2	2.57	0.40
1:B:432:ARG:NE	1:B:437:PRO:HG2	2.35	0.40
1:C:244:LYS:O	1:C:246:GLU:N	2.53	0.40
1:D:314:ASP:OD1	1:D:315:TYR:N	2.54	0.40
1:A:36:TRP:CE3	1:A:103:THR:HG21	2.57	0.40
1:A:287:THR:N	1:A:288:PRO:HD2	2.36	0.40
1:A:389:MSE:CE	1:A:529:MSE:HG3	2.51	0.40
1:C:518:THR:OG1	1:C:519:ALA:N	2.54	0.40
1:D:60:ASP:OD1	1:B:315:TYR:CZ	2.71	0.40
1:D:287:THR:N	1:D:288:PRO:CD	2.83	0.40
1:A:150:ASP:HB3	1:A:151:MSE:H	1.71	0.40
1:C:107:LEU:HB2	1:C:231:MSE:HE1	2.03	0.40
1:D:276:VAL:HG22	1:D:286:MSE:HE1	2.04	0.40
1:A:109:THR:HG23	1:A:174:LYS:HE3	2.03	0.40
1:B:360:VAL:HA	1:B:430:VAL:HG21	2.02	0.40
1:C:37:GLU:O	1:C:40:LYS:N	2.51	0.40
1:C:103:THR:H	1:C:103:THR:HG23	1.59	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	552/771 (72%)	429 (78%)	73 (13%)	50 (9%)	1	5
1	B	552/771 (72%)	437 (79%)	70 (13%)	45 (8%)	1	6
1	C	549/771 (71%)	423 (77%)	80 (15%)	46 (8%)	1	6
1	D	552/771 (72%)	427 (77%)	75 (14%)	50 (9%)	1	5
All	All	2205/3084 (72%)	1716 (78%)	298 (14%)	191 (9%)	1	5

All (191) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	2	GLU
1	D	4	LYS
1	D	6	ILE
1	D	61	SER
1	D	129	SER
1	D	159	TYR
1	D	160	PRO
1	D	182	PRO
1	D	238	ALA
1	D	243	VAL
1	D	248	ASP
1	D	328	GLN
1	D	329	PRO
1	D	398	LYS
1	D	414	ASP
1	D	415	PRO
1	D	437	PRO
1	D	441	PRO
1	D	443	LYS
1	D	444	VAL
1	D	445	PRO
1	D	518	THR
1	D	519	ALA
1	D	582	THR
1	D	583	PRO
1	D	585	TYR
1	A	2	GLU
1	A	4	LYS
1	A	6	ILE
1	A	159	TYR

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Mol	Chain	Res	Type
1	A	160	PRO
1	A	181	SER
1	A	182	PRO
1	A	243	VAL
1	A	328	GLN
1	A	329	PRO
1	A	347	ASP
1	A	398	LYS
1	A	414	ASP
1	A	415	PRO
1	A	441	PRO
1	A	443	LYS
1	A	444	VAL
1	A	445	PRO
1	A	573	GLN
1	A	582	THR
1	A	583	PRO
1	A	585	TYR
1	B	2	GLU
1	B	4	LYS
1	B	6	ILE
1	B	61	SER
1	B	152	ARG
1	B	159	TYR
1	B	160	PRO
1	B	181	SER
1	B	182	PRO
1	B	243	VAL
1	B	328	GLN
1	B	329	PRO
1	B	347	ASP
1	B	393	GLY
1	B	398	LYS
1	B	414	ASP
1	B	415	PRO
1	B	437	PRO
1	B	441	PRO
1	B	443	LYS
1	B	444	VAL
1	B	445	PRO
1	B	486	SER
1	B	573	GLN

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Mol	Chain	Res	Type
1	B	582	THR
1	B	583	PRO
1	B	585	TYR
1	C	2	GLU
1	C	4	LYS
1	C	6	ILE
1	C	152	ARG
1	C	159	TYR
1	C	160	PRO
1	C	181	SER
1	C	182	PRO
1	C	243	VAL
1	C	328	GLN
1	C	329	PRO
1	C	393	GLY
1	C	398	LYS
1	C	414	ASP
1	C	415	PRO
1	C	441	PRO
1	C	443	LYS
1	C	444	VAL
1	C	445	PRO
1	C	487	PRO
1	C	515	PHE
1	C	571	ASP
1	C	582	THR
1	C	583	PRO
1	C	585	TYR
1	D	234	MSE
1	D	239	VAL
1	D	347	ASP
1	D	534	GLU
1	D	567	GLU
1	D	573	GLN
1	A	124	ARG
1	A	128	PRO
1	A	152	ARG
1	A	189	SER
1	A	393	GLY
1	A	515	PHE
1	A	534	GLU
1	A	535	GLU

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Mol	Chain	Res	Type
1	B	128	PRO
1	B	518	THR
1	C	60	ASP
1	C	61	SER
1	C	128	PRO
1	C	437	PRO
1	C	573	GLN
1	D	516	GLY
1	D	533	VAL
1	A	60	ASP
1	A	61	SER
1	A	80	GLU
1	A	239	VAL
1	A	248	ASP
1	A	486	SER
1	A	516	GLY
1	A	568	GLY
1	B	60	ASP
1	B	248	ASP
1	B	515	PHE
1	B	516	GLY
1	C	242	GLY
1	C	248	ASP
1	C	476	THR
1	C	510	LEU
1	C	519	ALA
1	D	124	ARG
1	D	128	PRO
1	D	152	ARG
1	D	438	TRP
1	D	488	GLU
1	A	151	MSE
1	A	435	GLU
1	A	519	ALA
1	A	602	ASN
1	B	158	TYR
1	B	239	VAL
1	B	519	ALA
1	B	533	VAL
1	C	124	ARG
1	C	347	ASP
1	C	602	ASN

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Mol	Chain	Res	Type
1	D	151	MSE
1	D	181	SER
1	D	393	GLY
1	D	602	ASN
1	D	604	THR
1	A	8	ASP
1	A	242	GLY
1	A	440	SER
1	A	604	THR
1	B	124	ARG
1	B	438	TRP
1	B	440	SER
1	B	534	GLU
1	C	239	VAL
1	C	438	TRP
1	C	440	SER
1	C	584	VAL
1	D	343	GLU
1	D	391	GLN
1	A	95	ILE
1	A	584	VAL
1	B	82	LYS
1	B	584	VAL
1	B	604	THR
1	C	82	LYS
1	C	156	HIS
1	C	572	LYS
1	C	604	THR
1	D	584	VAL
1	B	242	GLY
1	D	436	GLY
1	D	440	SER
1	A	533	VAL
1	D	242	GLY
1	A	569	ILE

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	268/637 (42%)	241 (90%)	27 (10%)	7 28
1	B	268/637 (42%)	245 (91%)	23 (9%)	10 36
1	C	322/637 (50%)	293 (91%)	29 (9%)	9 33
1	D	268/637 (42%)	240 (90%)	28 (10%)	7 26
All	All	1126/2548 (44%)	1019 (90%)	107 (10%)	8 30

All (107) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	7	PHE
1	D	36	TRP
1	D	52	LEU
1	D	64	PHE
1	D	83	TYR
1	D	98	GLN
1	D	109	THR
1	D	110	VAL
1	D	137	LEU
1	D	140	THR
1	D	142	ARG
1	D	147	PHE
1	D	231	MSE
1	D	257	ILE
1	D	263	LEU
1	D	264	GLN
1	D	269	ASN
1	D	276	VAL
1	D	286	MSE
1	D	292	LEU
1	D	303	VAL
1	D	308	VAL
1	D	358	PHE
1	D	392	ASP
1	D	401	ASN
1	D	420	ARG
1	D	437	PRO
1	D	525	TYR
1	A	7	PHE
1	A	36	TRP
1	A	52	LEU

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Mol	Chain	Res	Type
1	A	64	PHE
1	A	79	VAL
1	A	83	TYR
1	A	98	GLN
1	A	106	LEU
1	A	110	VAL
1	A	137	LEU
1	A	139	VAL
1	A	147	PHE
1	A	150	ASP
1	A	151	MSE
1	A	263	LEU
1	A	264	GLN
1	A	269	ASN
1	A	276	VAL
1	A	278	GLU
1	A	290	THR
1	A	303	VAL
1	A	358	PHE
1	A	392	ASP
1	A	401	ASN
1	A	420	ARG
1	A	432	ARG
1	A	525	TYR
1	B	7	PHE
1	B	36	TRP
1	B	52	LEU
1	B	64	PHE
1	B	67	THR
1	B	83	TYR
1	B	98	GLN
1	B	103	THR
1	B	105	LEU
1	B	137	LEU
1	B	140	THR
1	B	144	SER
1	B	264	GLN
1	B	269	ASN
1	B	290	THR
1	B	308	VAL
1	B	358	PHE
1	B	392	ASP

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Mol	Chain	Res	Type
1	B	401	ASN
1	B	420	ARG
1	B	422	LYS
1	B	432	ARG
1	B	437	PRO
1	C	7	PHE
1	C	36	TRP
1	C	52	LEU
1	C	64	PHE
1	C	67	THR
1	C	83	TYR
1	C	98	GLN
1	C	110	VAL
1	C	140	THR
1	C	264	GLN
1	C	269	ASN
1	C	276	VAL
1	C	290	THR
1	C	392	ASP
1	C	395	LYS
1	C	401	ASN
1	C	420	ARG
1	C	422	LYS
1	C	486	SER
1	C	503	SER
1	C	515	PHE
1	C	518	THR
1	C	521	ILE
1	C	525	TYR
1	C	526	ARG
1	C	565	ARG
1	C	567	GLU
1	C	569	ILE
1	C	575	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	D	31	GLN
1	D	264	GLN
1	A	112	HIS
1	A	156	HIS

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Mol	Chain	Res	Type
1	A	391	GLN
1	B	156	HIS
1	B	264	GLN
1	B	391	GLN
1	B	429	GLN
1	C	156	HIS
1	C	482	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	548/771 (71%)	0.30	41 (7%) 14 14	53, 109, 176, 219	0
1	B	548/771 (71%)	0.87	92 (16%) 1 1	62, 120, 274, 329	0
1	C	545/771 (70%)	0.37	28 (5%) 28 27	30, 104, 136, 171	0
1	D	548/771 (71%)	0.36	36 (6%) 18 19	37, 91, 169, 223	0
All	All	2189/3084 (70%)	0.47	197 (8%) 9 10	30, 106, 216, 329	0

All (197) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	446	SER	14.8
1	B	448	ASP	12.9
1	B	533	VAL	10.3
1	B	522	ASP	9.0
1	B	532	VAL	8.3
1	D	605	PRO	8.3
1	B	557	GLN	8.1
1	B	447	CYS	7.9
1	B	471	VAL	7.5
1	D	600	SER	7.3
1	B	503	SER	7.3
1	C	325	THR	6.6
1	B	513	GLY	6.4
1	B	502	ARG	6.3
1	B	591	LEU	6.1
1	B	525	TYR	5.9
1	B	501	ALA	5.9
1	D	599	ALA	5.7
1	B	514	SER	5.7
1	B	453	ARG	5.6
1	D	579	ALA	5.4

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Mol	Chain	Res	Type	RSRZ
1	A	448	ASP	5.4
1	B	443	LYS	5.3
1	D	598	ALA	5.3
1	B	456	ALA	5.3
1	B	449	ASP	5.1
1	B	460	LEU	5.1
1	A	600	SER	5.1
1	B	65	LEU	4.9
1	A	439	GLY	4.6
1	A	440	SER	4.6
1	C	353	GLU	4.6
1	B	523	GLY	4.5
1	D	602	ASN	4.3
1	B	562	GLU	4.2
1	B	406	TYR	4.2
1	B	500	ALA	4.1
1	B	515	PHE	4.1
1	B	524	VAL	4.1
1	B	58	PHE	4.0
1	C	571	ASP	4.0
1	B	487	PRO	4.0
1	A	25	LEU	3.9
1	B	251	LEU	3.9
1	B	490	VAL	3.9
1	A	485	SER	3.9
1	C	67	THR	3.8
1	C	419	ALA	3.8
1	C	56	ALA	3.8
1	D	596	LEU	3.8
1	B	491	GLU	3.7
1	A	6	ILE	3.7
1	B	579	ALA	3.7
1	C	65	LEU	3.7
1	A	249	ILE	3.7
1	B	263	LEU	3.7
1	C	497	PHE	3.7
1	B	531	HIS	3.7
1	B	452	LEU	3.7
1	A	396	LEU	3.6
1	D	601	GLN	3.6
1	B	411	PHE	3.6
1	A	407	LEU	3.6

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Mol	Chain	Res	Type	RSRZ
1	C	347	ASP	3.6
1	B	254	GLY	3.6
1	A	403	GLN	3.5
1	D	571	ASP	3.5
1	B	451	THR	3.5
1	D	416	ASP	3.4
1	B	507	PHE	3.4
1	B	469	ASP	3.4
1	B	521	ILE	3.4
1	B	563	GLN	3.3
1	C	447	CYS	3.3
1	A	122	LEU	3.3
1	B	292	LEU	3.2
1	D	423	VAL	3.2
1	A	481	ALA	3.2
1	A	384	LEU	3.1
1	B	519	ALA	3.1
1	D	460	LEU	3.1
1	B	455	GLN	3.1
1	B	384	LEU	3.1
1	A	430	VAL	3.1
1	A	528	LEU	3.1
1	A	105	LEU	3.0
1	B	528	LEU	3.0
1	D	595	LEU	3.0
1	A	601	GLN	2.9
1	B	594	LEU	2.9
1	C	267	LEU	2.9
1	D	422	LYS	2.9
1	B	597	LEU	2.9
1	B	295	PHE	2.9
1	A	602	ASN	2.8
1	D	578	ARG	2.8
1	B	282	ASP	2.8
1	D	486	SER	2.8
1	B	408	ARG	2.8
1	A	30	TYR	2.8
1	B	498	LEU	2.8
1	B	586	GLN	2.7
1	A	435	GLU	2.7
1	B	108	THR	2.7
1	D	580	ALA	2.7

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Mol	Chain	Res	Type	RSRZ
1	D	438	TRP	2.7
1	B	185	TYR	2.7
1	B	64	PHE	2.7
1	B	485	SER	2.7
1	D	430	VAL	2.7
1	C	326	THR	2.6
1	A	441	PRO	2.6
1	A	65	LEU	2.6
1	B	593	ARG	2.6
1	D	577	ALA	2.6
1	B	67	THR	2.6
1	C	569	ILE	2.6
1	B	445	PRO	2.5
1	D	396	LEU	2.5
1	C	507	PHE	2.5
1	A	9	ALA	2.5
1	B	592	THR	2.5
1	C	500	ALA	2.5
1	C	132	CYS	2.5
1	A	246	GLU	2.5
1	D	93	THR	2.5
1	A	281	GLU	2.5
1	B	556	LEU	2.4
1	D	604	THR	2.4
1	D	7	PHE	2.4
1	A	94	ILE	2.4
1	B	589	LYS	2.4
1	B	7	PHE	2.4
1	B	11	PRO	2.4
1	A	322	ALA	2.4
1	B	293	ILE	2.4
1	B	32	ARG	2.4
1	A	278	GLU	2.4
1	B	396	LEU	2.4
1	C	84	ARG	2.4
1	D	326	THR	2.4
1	B	115	ILE	2.4
1	D	104	LEU	2.4
1	D	6	ILE	2.3
1	A	132	CYS	2.3
1	B	494	ALA	2.3
1	D	433	PHE	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	285	LYS	2.3
1	B	595	LEU	2.3
1	A	445	PRO	2.3
1	A	104	LEU	2.3
1	A	599	ALA	2.3
1	C	481	ALA	2.3
1	D	525	TYR	2.3
1	C	349	TRP	2.3
1	B	301	HIS	2.3
1	C	435	GLU	2.3
1	A	98	GLN	2.2
1	B	573	GLN	2.2
1	C	34	TYR	2.2
1	B	509	ALA	2.2
1	B	34	TYR	2.2
1	B	291	ARG	2.2
1	D	398	LYS	2.2
1	A	487	PRO	2.2
1	B	504	CYS	2.2
1	A	482	HIS	2.2
1	B	404	ARG	2.2
1	D	3	THR	2.2
1	B	429	GLN	2.2
1	A	5	GLU	2.2
1	C	287	THR	2.2
1	C	446	SER	2.2
1	C	272	PHE	2.2
1	A	423	VAL	2.2
1	A	34	TYR	2.1
1	D	247	ASP	2.1
1	A	531	HIS	2.1
1	B	535	GLU	2.1
1	D	447	CYS	2.1
1	B	243	VAL	2.1
1	D	517	SER	2.1
1	B	444	VAL	2.1
1	B	249	ILE	2.1
1	B	280	LEU	2.1
1	B	534	GLU	2.1
1	B	95	ILE	2.1
1	C	305	VAL	2.1
1	B	454	THR	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	66	GLY	2.1
1	A	410	VAL	2.0
1	C	563	GLN	2.0
1	C	572	LYS	2.0
1	B	272	PHE	2.0
1	D	429	GLN	2.0
1	B	457	GLY	2.0
1	D	96	ASP	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.