



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 04:05 PM UTC

PDB ID : 1WAC / pdb_00001wac
Title : Back-priming mode of Phi6 RNA-dependent RNA polymerase
Authors : Laurila, M.R.L.; Salgado, P.S.; Stuart, D.I.; Grimes, J.M.; Bamford, D.H.
Deposited on : 2004-10-26
Resolution : 3.00 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	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

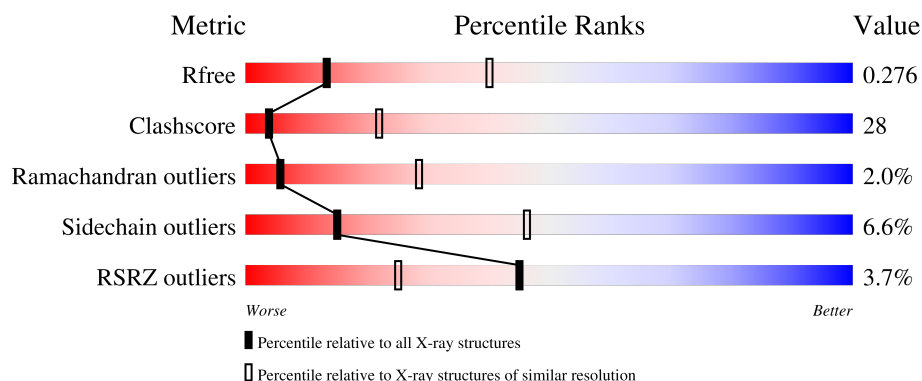
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 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}	180053	2672 (3.00-3.00)
Clashscore	190562	2977 (3.00-3.00)
Ramachandran outliers	187476	2877 (3.00-3.00)
Sidechain outliers	187428	2880 (3.00-3.00)
RSRZ outliers	180081	2671 (3.00-3.00)

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	662	3% 50% 42% 7%
1	B	662	3% 51% 42% 7%
1	C	662	5% 50% 42% 7%

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 15693 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 P2 PROTEIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	662	Total	C	N	O	S	0	0	0
			5231	3316	909	974	32			
1	B	662	Total	C	N	O	S	0	0	0
			5231	3316	909	974	32			
1	C	662	Total	C	N	O	S	0	0	0
			5231	3316	909	974	32			

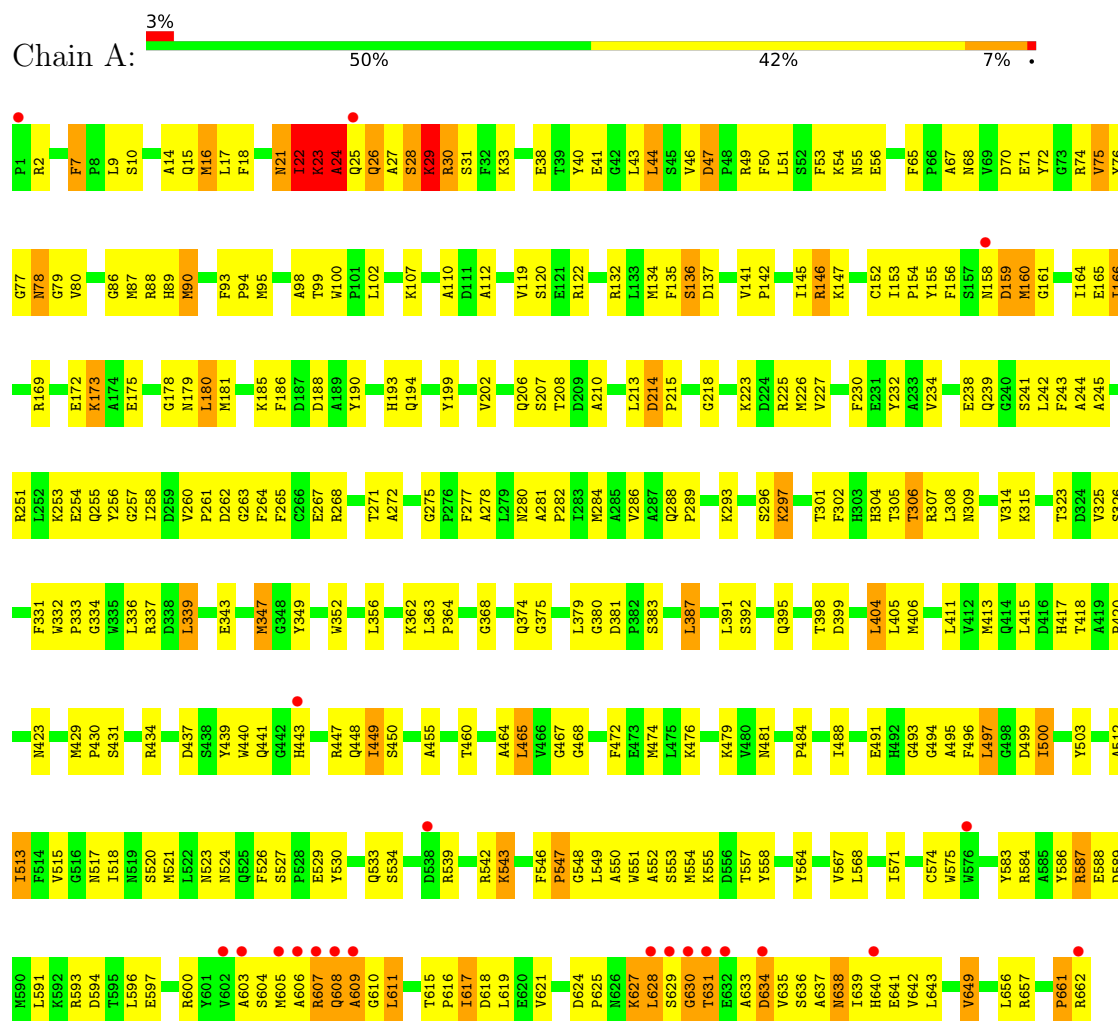
There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	456	MET	ILE	engineered mutation	UNP P11124
B	456	MET	ILE	engineered mutation	UNP P11124
C	456	MET	ILE	engineered mutation	UNP P11124

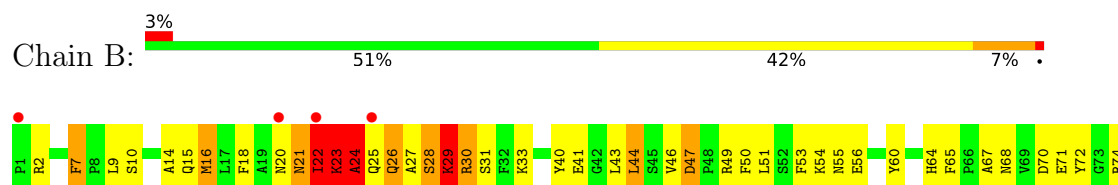
3 Residue-property plots

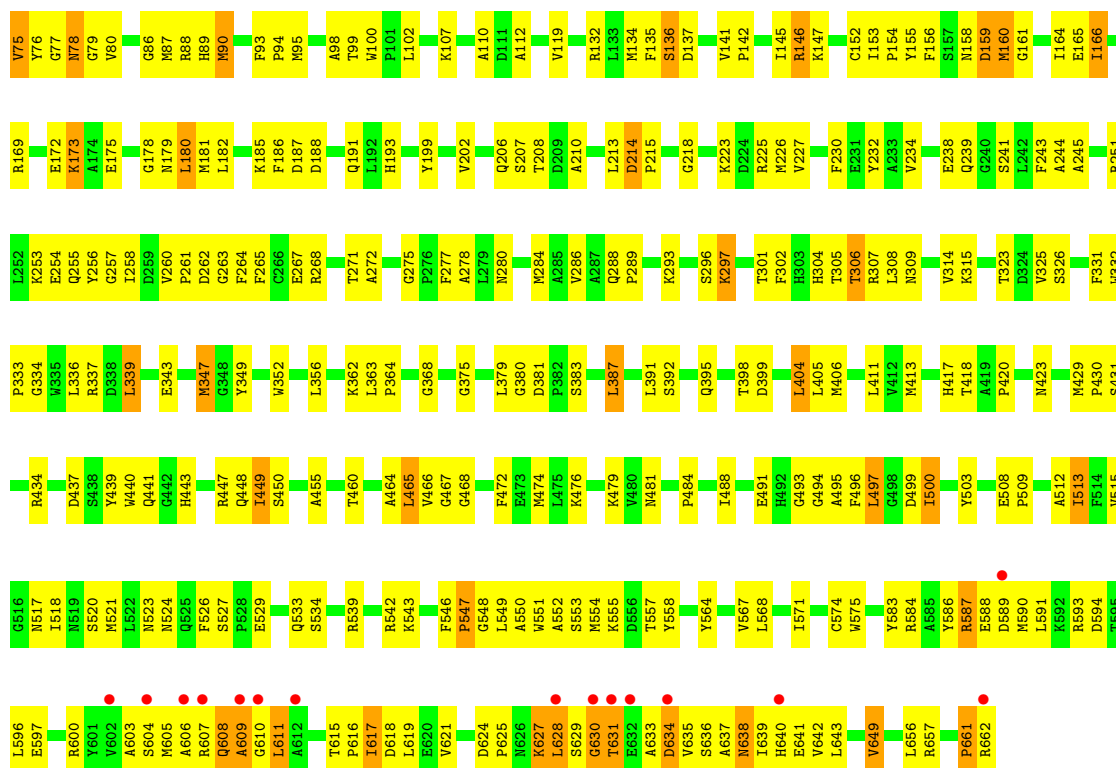
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: P2 PROTEIN

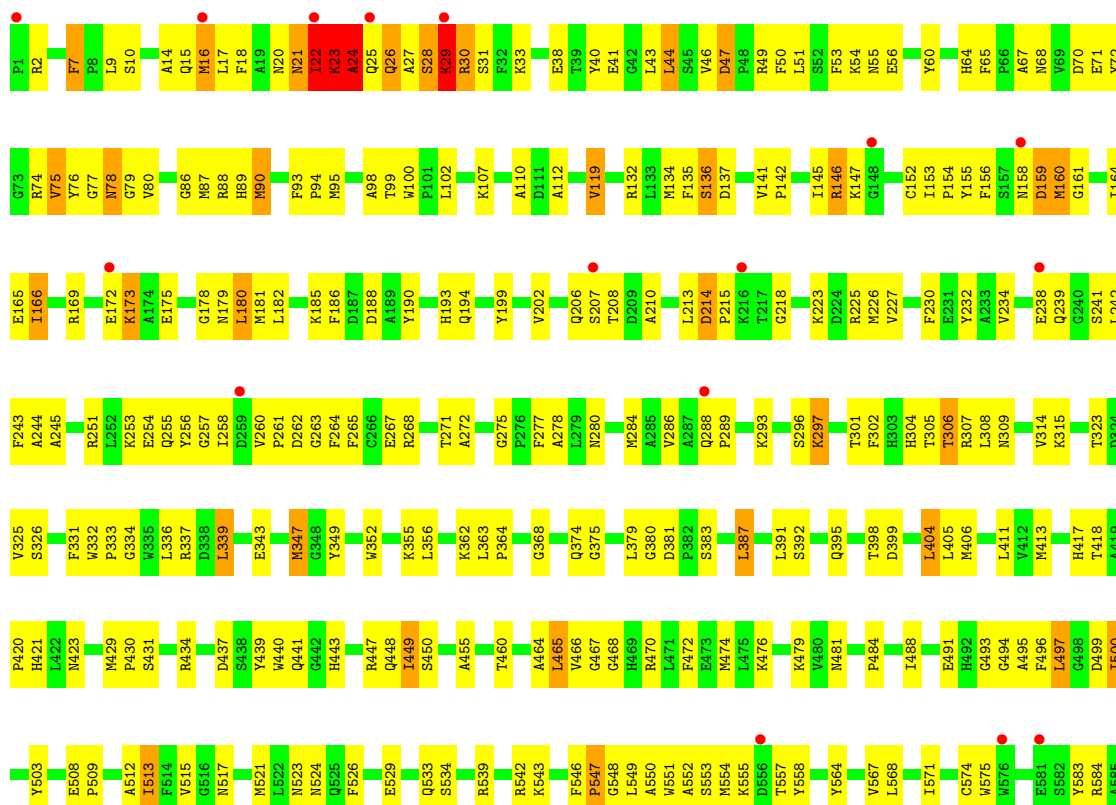


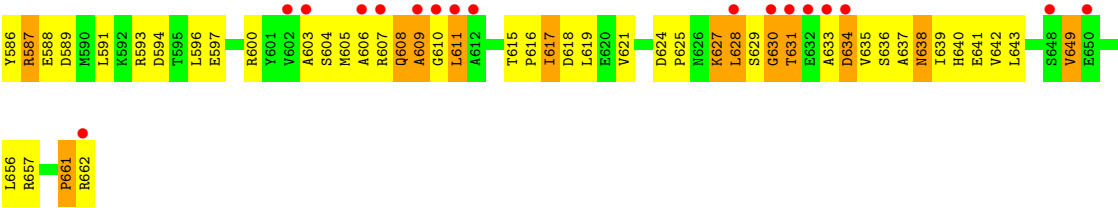
• Molecule 1: P2 PROTEIN





• Molecule 1: P2 PROTEIN





4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	76.58Å 105.85Å 157.71Å 90.00° 98.86° 90.00°	Depositor
Resolution (Å)	20.00 – 3.00 20.00 – 3.00	Depositor EDS
% Data completeness (in resolution range)	99.2 (20.00-3.00) 98.9 (20.00-3.00)	Depositor EDS
R_{merge}	0.02	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.27 (at 2.90Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.241 , 0.280 0.238 , 0.276	Depositor DCC
R_{free} test set	2760 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å ²)	37.7	Xtriage
Anisotropy	0.549	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.37 , 65.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.88	EDS
Total number of atoms	15693	wwPDB-VP
Average B, all atoms (Å ²)	35.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.54% 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

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	0.94	10/5359 (0.2%)	1.23	53/7246 (0.7%)
1	B	0.94	10/5359 (0.2%)	1.23	53/7246 (0.7%)
1	C	0.94	10/5359 (0.2%)	1.23	53/7246 (0.7%)
All	All	0.94	30/16077 (0.2%)	1.23	159/21738 (0.7%)

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	B	0	1
1	C	0	1
All	All	0	3

All (30) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	24	ALA	CA-CB	-13.33	1.30	1.53
1	A	24	ALA	CA-CB	-13.32	1.30	1.53
1	B	24	ALA	CA-CB	-13.32	1.30	1.53
1	B	27	ALA	CA-CB	-10.48	1.36	1.53
1	A	27	ALA	CA-CB	-10.47	1.36	1.53
1	C	27	ALA	CA-CB	-10.45	1.36	1.53
1	B	22	ILE	CA-C	-6.93	1.45	1.52
1	C	22	ILE	CA-C	-6.91	1.45	1.52
1	A	22	ILE	CA-C	-6.90	1.45	1.52
1	B	28	SER	C-O	-6.39	1.16	1.24
1	A	28	SER	C-O	-6.38	1.16	1.24
1	C	28	SER	C-O	-6.36	1.16	1.24
1	C	24	ALA	C-O	-6.17	1.16	1.24
1	A	24	ALA	C-O	-6.16	1.16	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	24	ALA	C-O	-6.14	1.16	1.24
1	C	24	ALA	CA-C	-6.11	1.44	1.52
1	B	24	ALA	CA-C	-6.06	1.44	1.52
1	A	24	ALA	CA-C	-6.05	1.44	1.52
1	A	27	ALA	C-O	-5.82	1.17	1.24
1	C	27	ALA	C-O	-5.82	1.17	1.24
1	B	27	ALA	C-O	-5.80	1.17	1.24
1	A	22	ILE	C-O	-5.76	1.16	1.24
1	C	22	ILE	C-O	-5.75	1.16	1.24
1	B	22	ILE	C-O	-5.71	1.16	1.24
1	A	23	LYS	N-CA	-5.45	1.39	1.46
1	B	26	GLN	CA-C	-5.45	1.45	1.52
1	C	26	GLN	CA-C	-5.45	1.45	1.52
1	C	23	LYS	N-CA	-5.44	1.39	1.46
1	A	26	GLN	CA-C	-5.44	1.45	1.52
1	B	23	LYS	N-CA	-5.41	1.39	1.46

All (159) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	93	PHE	CA-C-N	11.11	131.07	119.85
1	C	93	PHE	C-N-CA	11.11	131.07	119.85
1	C	100	TRP	N-CA-C	-11.11	96.08	110.07
1	A	100	TRP	N-CA-C	-11.09	96.10	110.07
1	B	93	PHE	CA-C-N	11.09	131.05	119.85
1	B	93	PHE	C-N-CA	11.09	131.05	119.85
1	B	100	TRP	N-CA-C	-11.08	96.11	110.07
1	A	93	PHE	CA-C-N	11.08	131.04	119.85
1	A	93	PHE	C-N-CA	11.08	131.04	119.85
1	B	629	SER	N-CA-C	-9.77	99.17	112.94
1	A	629	SER	N-CA-C	-9.76	99.18	112.94
1	C	629	SER	N-CA-C	-9.76	99.19	112.94
1	A	155	TYR	N-CA-C	9.48	121.69	111.36
1	B	155	TYR	N-CA-C	9.47	121.68	111.36
1	C	155	TYR	N-CA-C	9.44	121.65	111.36
1	C	406	MET	N-CA-C	7.62	119.22	111.07
1	A	406	MET	N-CA-C	7.62	119.22	111.07
1	B	406	MET	N-CA-C	7.58	119.18	111.07
1	A	661	PRO	N-CA-C	-7.43	103.61	113.65
1	C	661	PRO	N-CA-C	-7.43	103.61	113.65
1	B	210	ALA	N-CA-C	7.43	121.16	110.24
1	B	661	PRO	N-CA-C	-7.43	103.62	113.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	210	ALA	N-CA-C	7.42	121.14	110.24
1	C	210	ALA	N-CA-C	7.41	121.14	110.24
1	C	98	ALA	N-CA-C	-7.29	101.12	110.53
1	A	98	ALA	N-CA-C	-7.29	101.13	110.53
1	B	98	ALA	N-CA-C	-7.26	101.16	110.53
1	C	481	ASN	CA-C-N	7.16	127.77	120.04
1	C	481	ASN	C-N-CA	7.16	127.77	120.04
1	B	481	ASN	CA-C-N	7.12	127.73	120.04
1	B	481	ASN	C-N-CA	7.12	127.73	120.04
1	A	481	ASN	CA-C-N	7.11	127.72	120.04
1	A	481	ASN	C-N-CA	7.11	127.72	120.04
1	B	630	GLY	N-CA-C	-6.79	104.42	112.64
1	A	630	GLY	N-CA-C	-6.78	104.44	112.64
1	C	630	GLY	N-CA-C	-6.73	104.50	112.64
1	C	65	PHE	CA-C-N	6.65	126.68	119.89
1	C	65	PHE	C-N-CA	6.65	126.68	119.89
1	C	214	ASP	CA-C-N	6.63	127.17	119.47
1	C	214	ASP	C-N-CA	6.63	127.17	119.47
1	B	65	PHE	CA-C-N	6.62	126.64	119.89
1	B	65	PHE	C-N-CA	6.62	126.64	119.89
1	A	65	PHE	CA-C-N	6.62	126.64	119.89
1	A	65	PHE	C-N-CA	6.62	126.64	119.89
1	B	214	ASP	CA-C-N	6.62	127.15	119.47
1	B	214	ASP	C-N-CA	6.62	127.15	119.47
1	A	214	ASP	CA-C-N	6.59	127.12	119.47
1	A	214	ASP	C-N-CA	6.59	127.12	119.47
1	C	618	ASP	N-CA-C	-6.31	104.32	111.07
1	A	618	ASP	N-CA-C	-6.31	104.32	111.07
1	B	618	ASP	N-CA-C	-6.30	104.33	111.07
1	B	333	PRO	N-CA-C	6.25	120.74	110.55
1	A	333	PRO	N-CA-C	6.24	120.72	110.55
1	C	199	TYR	N-CA-C	-6.21	100.17	110.17
1	C	333	PRO	N-CA-C	6.20	120.66	110.55
1	B	199	TYR	N-CA-C	-6.19	100.20	110.17
1	A	199	TYR	N-CA-C	-6.18	100.22	110.17
1	C	158	ASN	N-CA-C	-6.16	105.72	113.72
1	A	158	ASN	N-CA-C	-6.15	105.73	113.72
1	B	158	ASN	N-CA-C	-6.13	105.75	113.72
1	C	314	VAL	N-CA-C	6.03	116.81	110.72
1	A	314	VAL	N-CA-C	6.02	116.80	110.72
1	B	314	VAL	N-CA-C	5.99	116.77	110.72
1	C	347	MET	N-CA-C	-5.97	105.85	113.01

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	347	MET	N-CA-C	-5.94	105.88	113.01
1	B	347	MET	N-CA-C	-5.94	105.88	113.01
1	C	543	LYS	N-CA-C	-5.92	104.90	111.36
1	A	543	LYS	N-CA-C	-5.91	104.92	111.36
1	B	543	LYS	N-CA-C	-5.90	104.93	111.36
1	C	28	SER	N-CA-C	5.88	118.44	111.33
1	A	28	SER	N-CA-C	5.87	118.44	111.33
1	B	28	SER	N-CA-C	5.86	118.42	111.33
1	A	260	VAL	N-CA-C	5.83	113.32	107.55
1	B	260	VAL	N-CA-C	5.81	113.31	107.55
1	C	260	VAL	N-CA-C	5.78	113.27	107.55
1	A	160	MET	N-CA-C	5.65	117.44	111.28
1	B	160	MET	N-CA-C	5.63	117.41	111.28
1	C	160	MET	N-CA-C	5.63	117.41	111.28
1	B	29	LYS	N-CA-C	-5.61	107.08	114.31
1	C	493	GLY	N-CA-C	-5.61	99.89	113.18
1	C	29	LYS	N-CA-C	-5.60	107.08	114.31
1	A	29	LYS	N-CA-C	-5.60	107.09	114.31
1	A	493	GLY	N-CA-C	-5.60	99.91	113.18
1	B	493	GLY	N-CA-C	-5.60	99.92	113.18
1	C	159	ASP	N-CA-C	5.59	117.81	109.25
1	C	24	ALA	N-CA-C	5.59	122.71	110.80
1	A	24	ALA	N-CA-C	5.58	122.69	110.80
1	B	24	ALA	N-CA-C	5.58	122.69	110.80
1	A	159	ASP	N-CA-C	5.58	117.78	109.25
1	B	159	ASP	N-CA-C	5.56	117.76	109.25
1	A	484	PRO	N-CA-C	-5.53	106.94	114.80
1	C	484	PRO	N-CA-C	-5.53	106.95	114.80
1	B	484	PRO	N-CA-C	-5.53	106.95	114.80
1	A	449	ILE	N-CA-C	-5.50	100.21	108.12
1	A	161	GLY	N-CA-C	-5.48	106.15	112.73
1	B	449	ILE	N-CA-C	-5.48	100.22	108.12
1	C	449	ILE	N-CA-C	-5.48	100.23	108.12
1	B	136	SER	N-CA-C	5.47	122.45	110.80
1	B	161	GLY	N-CA-C	-5.47	106.17	112.73
1	C	47	ASP	CA-C-N	5.47	126.68	119.84
1	C	47	ASP	C-N-CA	5.47	126.68	119.84
1	C	161	GLY	N-CA-C	-5.47	106.17	112.73
1	A	136	SER	N-CA-C	5.46	122.42	110.80
1	A	47	ASP	CA-C-N	5.43	126.63	119.84
1	A	47	ASP	C-N-CA	5.43	126.63	119.84
1	C	136	SER	N-CA-C	5.43	122.38	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	47	ASP	CA-C-N	5.43	126.62	119.84
1	B	47	ASP	C-N-CA	5.43	126.62	119.84
1	C	479	LYS	N-CA-C	-5.43	107.02	113.97
1	A	479	LYS	N-CA-C	-5.41	107.04	113.97
1	B	479	LYS	N-CA-C	-5.39	107.08	113.97
1	C	7	PHE	CA-C-N	5.38	125.36	120.03
1	C	7	PHE	C-N-CA	5.38	125.36	120.03
1	A	7	PHE	CA-C-N	5.36	125.33	120.03
1	A	7	PHE	C-N-CA	5.36	125.33	120.03
1	B	7	PHE	CA-C-N	5.35	125.33	120.03
1	B	7	PHE	C-N-CA	5.35	125.33	120.03
1	A	173	LYS	N-CA-C	5.33	119.47	112.92
1	C	173	LYS	N-CA-C	5.33	119.47	112.92
1	B	173	LYS	N-CA-C	5.33	119.47	112.92
1	C	14	ALA	N-CA-C	-5.29	104.42	111.24
1	C	465	LEU	N-CA-C	5.29	117.73	111.33
1	A	14	ALA	N-CA-C	-5.29	104.42	111.24
1	B	14	ALA	N-CA-C	-5.29	104.42	111.24
1	C	275	GLY	CA-C-N	5.28	126.44	119.84
1	C	275	GLY	C-N-CA	5.28	126.44	119.84
1	A	465	LEU	N-CA-C	5.27	117.70	111.33
1	B	465	LEU	N-CA-C	5.27	117.70	111.33
1	C	297	LYS	N-CA-C	5.26	117.69	111.33
1	A	275	GLY	CA-C-N	5.26	126.41	119.84
1	A	275	GLY	C-N-CA	5.26	126.41	119.84
1	A	609	ALA	N-CA-C	-5.25	101.88	109.59
1	B	460	THR	N-CA-C	-5.25	102.40	109.95
1	B	609	ALA	N-CA-C	-5.25	101.88	109.59
1	C	609	ALA	N-CA-C	-5.25	101.88	109.59
1	C	460	THR	N-CA-C	-5.24	102.40	109.95
1	B	275	GLY	CA-C-N	5.24	126.39	119.84
1	B	275	GLY	C-N-CA	5.24	126.39	119.84
1	A	460	THR	N-CA-C	-5.23	102.42	109.95
1	A	297	LYS	N-CA-C	5.22	117.64	111.33
1	C	245	ALA	N-CA-C	-5.22	103.99	110.41
1	A	245	ALA	N-CA-C	-5.22	103.99	110.41
1	B	245	ALA	N-CA-C	-5.21	104.00	110.41
1	B	297	LYS	N-CA-C	5.20	117.62	111.33
1	B	95	MET	CA-C-N	-5.11	117.81	123.43
1	B	95	MET	C-N-CA	-5.11	117.81	123.43
1	C	323	THR	N-CA-C	5.11	118.28	110.36
1	B	443	HIS	N-CA-C	5.10	118.33	112.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	323	THR	N-CA-C	5.08	118.24	110.36
1	C	95	MET	CA-C-N	-5.08	117.84	123.43
1	C	95	MET	C-N-CA	-5.08	117.84	123.43
1	A	95	MET	CA-C-N	-5.08	117.84	123.43
1	A	95	MET	C-N-CA	-5.08	117.84	123.43
1	A	443	HIS	N-CA-C	5.08	118.31	112.57
1	B	323	THR	N-CA-C	5.07	118.22	110.36
1	C	443	HIS	N-CA-C	5.06	118.29	112.57
1	B	302	PHE	N-CA-C	5.04	120.27	113.72
1	C	302	PHE	N-CA-C	5.01	120.24	113.72
1	A	302	PHE	N-CA-C	5.01	120.23	113.72

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	21	ASN	Peptide
1	B	21	ASN	Peptide
1	C	21	ASN	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5231	0	5133	295	19
1	B	5231	0	5133	297	19
1	C	5231	0	5133	310	0
All	All	15693	0	15399	883	19

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 28.

All (883) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:20:ASN:OD1	1:C:119:VAL:CG2	1.73	1.35

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:20:ASN:OD1	1:C:119:VAL:HG21	1.29	1.22
1:B:169:ARG:NH2	1:C:470:ARG:NH1	1.92	1.17
1:A:122:ARG:NH2	1:C:20:ASN:ND2	1.97	1.13
1:C:600:ARG:NH1	1:C:600:ARG:HB2	1.68	1.09
1:B:600:ARG:HB2	1:B:600:ARG:NH1	1.68	1.08
1:A:600:ARG:HB2	1:A:600:ARG:NH1	1.68	1.08
1:A:364:PRO:HA	1:A:387:LEU:HD23	1.43	0.98
1:C:364:PRO:HA	1:C:387:LEU:HD23	1.43	0.98
1:B:364:PRO:HA	1:B:387:LEU:HD23	1.43	0.98
1:B:29:LYS:O	1:B:30:ARG:C	2.04	0.96
1:C:29:LYS:O	1:C:30:ARG:C	2.04	0.94
1:B:226:MET:HE1	1:B:244:ALA:HB2	1.51	0.93
1:C:226:MET:HE1	1:C:244:ALA:HB2	1.51	0.93
1:A:29:LYS:O	1:A:30:ARG:C	2.04	0.92
1:B:169:ARG:HH22	1:C:470:ARG:NH1	1.64	0.91
1:A:226:MET:HE1	1:A:244:ALA:HB2	1.51	0.91
1:A:22:ILE:O	1:A:26:GLN:HG3	1.73	0.88
1:C:22:ILE:O	1:C:26:GLN:HG3	1.73	0.88
1:B:22:ILE:O	1:B:26:GLN:HG3	1.73	0.88
1:A:122:ARG:NH2	1:C:20:ASN:HD22	1.67	0.86
1:A:600:ARG:HB2	1:A:600:ARG:HH11	1.40	0.86
1:B:600:ARG:HB2	1:B:600:ARG:HH11	1.40	0.86
1:C:600:ARG:HB2	1:C:600:ARG:HH11	1.40	0.84
1:A:122:ARG:HH21	1:C:20:ASN:ND2	1.73	0.83
1:B:169:ARG:NH2	1:C:470:ARG:HH11	1.73	0.81
1:A:122:ARG:HH22	1:C:20:ASN:HD22	1.23	0.81
1:B:20:ASN:OD1	1:C:119:VAL:HG22	1.78	0.81
1:B:251:ARG:HH11	1:B:255:GLN:NE2	1.79	0.80
1:C:251:ARG:HH11	1:C:255:GLN:NE2	1.79	0.80
1:A:251:ARG:HH11	1:A:255:GLN:NE2	1.79	0.79
1:B:29:LYS:O	1:B:30:ARG:O	2.01	0.78
1:A:29:LYS:O	1:A:30:ARG:O	2.01	0.78
1:A:615:THR:HG22	1:A:616:PRO:HD2	1.66	0.78
1:B:9:LEU:HD21	1:B:28:SER:HB2	1.66	0.78
1:B:615:THR:HG22	1:B:616:PRO:HD2	1.66	0.77
1:C:206:GLN:HA	1:C:206:GLN:OE1	1.85	0.77
1:C:9:LEU:HD21	1:C:28:SER:HB2	1.66	0.77
1:C:29:LYS:O	1:C:30:ARG:O	2.01	0.77
1:A:9:LEU:HD21	1:A:28:SER:HB2	1.66	0.76
1:B:206:GLN:OE1	1:B:206:GLN:HA	1.85	0.76
1:C:55:ASN:OD1	1:C:88:ARG:NH2	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:55:ASN:OD1	1:A:88:ARG:NH2	2.18	0.76
1:B:78:ASN:HD22	1:B:79:GLY:N	1.84	0.76
1:C:78:ASN:HD22	1:C:79:GLY:N	1.84	0.76
1:C:615:THR:HG22	1:C:616:PRO:HD2	1.66	0.75
1:A:78:ASN:HD22	1:A:79:GLY:N	1.84	0.75
1:B:307:ARG:HH22	1:B:557:THR:HA	1.50	0.75
1:B:169:ARG:HH22	1:C:470:ARG:HH11	1.31	0.75
1:C:307:ARG:HH22	1:C:557:THR:HA	1.50	0.74
1:A:206:GLN:HA	1:A:206:GLN:OE1	1.85	0.74
1:A:551:TRP:CZ3	1:A:587:ARG:HG3	2.23	0.74
1:B:551:TRP:CZ3	1:B:587:ARG:HG3	2.23	0.74
1:A:307:ARG:HH22	1:A:557:THR:HA	1.50	0.74
1:C:551:TRP:CZ3	1:C:587:ARG:HG3	2.23	0.74
1:A:251:ARG:HH11	1:A:255:GLN:HE22	1.35	0.74
1:B:55:ASN:OD1	1:B:88:ARG:NH2	2.18	0.74
1:C:46:VAL:HG12	1:C:90:MET:HE2	1.70	0.74
1:C:251:ARG:HH11	1:C:255:GLN:HE22	1.35	0.74
1:B:286:VAL:C	1:B:289:PRO:HD2	2.13	0.74
1:C:539:ARG:HG2	1:C:542:ARG:NH1	2.03	0.74
1:A:46:VAL:HG12	1:A:90:MET:HE2	1.70	0.73
1:B:539:ARG:HG2	1:B:542:ARG:NH1	2.03	0.73
1:A:539:ARG:HG2	1:A:542:ARG:NH1	2.03	0.73
1:B:169:ARG:HH21	1:C:470:ARG:NH1	1.87	0.72
1:A:286:VAL:C	1:A:289:PRO:HD2	2.13	0.72
1:C:78:ASN:ND2	1:C:80:VAL:H	1.87	0.72
1:C:286:VAL:C	1:C:289:PRO:HD2	2.13	0.72
1:C:539:ARG:HG2	1:C:542:ARG:HH11	1.55	0.72
1:C:392:SER:O	1:C:398:THR:HG21	1.90	0.72
1:B:46:VAL:HG12	1:B:90:MET:HE2	1.70	0.71
1:B:78:ASN:ND2	1:B:80:VAL:H	1.87	0.71
1:B:539:ARG:HG2	1:B:542:ARG:HH11	1.55	0.71
1:A:78:ASN:ND2	1:A:80:VAL:H	1.87	0.71
1:A:392:SER:O	1:A:398:THR:HG21	1.90	0.71
1:B:251:ARG:HH11	1:B:255:GLN:HE22	1.35	0.70
1:A:600:ARG:HB2	1:A:600:ARG:CZ	2.21	0.70
1:B:392:SER:O	1:B:398:THR:HG21	1.90	0.70
1:C:600:ARG:HB2	1:C:600:ARG:CZ	2.21	0.70
1:A:31:SER:O	1:A:33:LYS:HD2	1.92	0.70
1:B:31:SER:O	1:B:33:LYS:HD2	1.92	0.70
1:B:207:SER:HA	1:B:267:GLU:HG2	1.74	0.70
1:C:46:VAL:HG12	1:C:90:MET:CE	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:600:ARG:HB2	1:B:600:ARG:CZ	2.21	0.69
1:A:46:VAL:HG12	1:A:90:MET:CE	2.22	0.69
1:B:46:VAL:HG12	1:B:90:MET:CE	2.22	0.69
1:A:22:ILE:HG22	1:A:23:LYS:N	2.08	0.69
1:B:296:SER:OG	1:B:297:LYS:N	2.26	0.69
1:A:142:PRO:HD3	1:A:649:VAL:HG13	1.75	0.69
1:C:305:THR:H	1:C:309:ASN:HD22	1.40	0.69
1:B:142:PRO:HD3	1:B:649:VAL:HG13	1.75	0.69
1:B:305:THR:H	1:B:309:ASN:HD22	1.40	0.69
1:B:603:ALA:C	1:B:605:MET:H	2.01	0.69
1:C:603:ALA:C	1:C:605:MET:H	2.01	0.69
1:A:539:ARG:HG2	1:A:542:ARG:HH11	1.55	0.68
1:C:22:ILE:HG22	1:C:23:LYS:N	2.08	0.68
1:C:142:PRO:HD3	1:C:649:VAL:HG13	1.75	0.68
1:A:637:ALA:HA	1:A:640:HIS:ND1	2.09	0.68
1:C:31:SER:O	1:C:33:LYS:HD2	1.92	0.68
1:C:207:SER:HA	1:C:267:GLU:HG2	1.74	0.68
1:A:606:ALA:HB3	1:A:609:ALA:HB2	1.76	0.68
1:B:606:ALA:HB3	1:B:609:ALA:HB2	1.76	0.68
1:A:546:PHE:HB2	1:A:549:LEU:HD12	1.76	0.68
1:B:22:ILE:HG22	1:B:23:LYS:N	2.07	0.68
1:C:546:PHE:HB2	1:C:549:LEU:HD12	1.76	0.68
1:C:637:ALA:HA	1:C:640:HIS:ND1	2.09	0.68
1:A:600:ARG:HH11	1:A:600:ARG:CB	2.08	0.67
1:B:600:ARG:HH11	1:B:600:ARG:CB	2.08	0.67
1:A:603:ALA:C	1:A:605:MET:H	2.01	0.67
1:A:207:SER:HA	1:A:267:GLU:HG2	1.74	0.67
1:C:600:ARG:HH11	1:C:600:ARG:CB	2.08	0.67
1:B:661:PRO:O	1:B:662:ARG:HG3	1.95	0.67
1:C:606:ALA:O	1:C:608:GLN:N	2.28	0.67
1:B:637:ALA:HA	1:B:640:HIS:ND1	2.09	0.66
1:C:141:VAL:HB	1:C:142:PRO:HD2	1.77	0.66
1:C:296:SER:OG	1:C:297:LYS:N	2.26	0.66
1:A:141:VAL:HB	1:A:142:PRO:HD2	1.77	0.66
1:A:305:THR:H	1:A:309:ASN:HD22	1.40	0.66
1:B:546:PHE:HB2	1:B:549:LEU:HD12	1.76	0.66
1:B:628:LEU:HD11	1:B:634:ASP:OD2	1.96	0.66
1:C:606:ALA:HB3	1:C:609:ALA:HB2	1.76	0.66
1:C:625:PRO:C	1:C:627:LYS:H	2.03	0.66
1:A:628:LEU:HD11	1:A:634:ASP:OD2	1.96	0.65
1:C:23:LYS:O	1:C:25:GLN:N	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:661:PRO:O	1:A:662:ARG:HG3	1.95	0.65
1:A:23:LYS:O	1:A:25:GLN:N	2.30	0.65
1:B:141:VAL:HB	1:B:142:PRO:HD2	1.77	0.65
1:B:160:MET:O	1:B:164:ILE:HG12	1.97	0.65
1:C:628:LEU:HD11	1:C:634:ASP:OD2	1.96	0.65
1:A:534:SER:HA	1:A:542:ARG:NH2	2.12	0.65
1:A:625:PRO:C	1:A:627:LYS:H	2.03	0.65
1:C:214:ASP:OD1	1:C:215:PRO:HD2	1.97	0.65
1:C:661:PRO:O	1:C:662:ARG:HG3	1.95	0.65
1:A:21:ASN:OD1	1:A:22:ILE:N	2.30	0.65
1:A:437:ASP:O	1:A:441:GLN:HG3	1.97	0.65
1:A:296:SER:OG	1:A:297:LYS:N	2.26	0.65
1:B:21:ASN:OD1	1:B:22:ILE:N	2.30	0.65
1:C:391:LEU:HD22	1:C:398:THR:HG22	1.79	0.65
1:B:534:SER:HA	1:B:542:ARG:NH2	2.12	0.65
1:C:160:MET:O	1:C:164:ILE:HG12	1.97	0.65
1:A:306:THR:HG22	1:A:308:LEU:N	2.12	0.64
1:A:214:ASP:OD1	1:A:215:PRO:HD2	1.97	0.64
1:B:23:LYS:O	1:B:25:GLN:N	2.30	0.64
1:C:21:ASN:OD1	1:C:22:ILE:N	2.30	0.64
1:B:214:ASP:OD1	1:B:215:PRO:HD2	1.97	0.64
1:C:306:THR:HG22	1:C:308:LEU:N	2.12	0.64
1:A:413:MET:HE1	1:A:488:ILE:HG13	1.80	0.64
1:A:160:MET:O	1:A:164:ILE:HG12	1.97	0.64
1:B:413:MET:HE1	1:B:488:ILE:HG13	1.80	0.64
1:C:637:ALA:HA	1:C:640:HIS:CE1	2.33	0.64
1:B:606:ALA:O	1:B:608:GLN:N	2.28	0.64
1:B:625:PRO:C	1:B:627:LYS:H	2.03	0.64
1:B:437:ASP:O	1:B:441:GLN:HG3	1.97	0.64
1:C:413:MET:HE1	1:C:488:ILE:HG13	1.80	0.64
1:A:185:LYS:HB3	1:A:188:ASP:HB2	1.79	0.64
1:B:637:ALA:HA	1:B:640:HIS:CE1	2.33	0.64
1:A:391:LEU:HD22	1:A:398:THR:HG22	1.79	0.64
1:C:437:ASP:O	1:C:441:GLN:HG3	1.97	0.63
1:B:185:LYS:HB3	1:B:188:ASP:HB2	1.79	0.63
1:B:624:ASP:OD2	1:B:624:ASP:C	2.40	0.63
1:B:78:ASN:HD22	1:B:78:ASN:C	2.06	0.63
1:C:534:SER:HA	1:C:542:ARG:NH2	2.12	0.63
1:B:306:THR:HG22	1:B:308:LEU:N	2.12	0.63
1:A:624:ASP:OD2	1:A:624:ASP:C	2.40	0.63
1:A:78:ASN:HD22	1:A:78:ASN:C	2.07	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:286:VAL:O	1:A:289:PRO:HD2	1.99	0.63
1:B:251:ARG:O	1:B:255:GLN:HG3	1.99	0.62
1:C:185:LYS:HB3	1:C:188:ASP:HB2	1.79	0.62
1:A:606:ALA:O	1:A:608:GLN:N	2.28	0.62
1:A:251:ARG:O	1:A:255:GLN:HG3	1.99	0.62
1:B:391:LEU:HD22	1:B:398:THR:HG22	1.79	0.62
1:A:637:ALA:HA	1:A:640:HIS:CE1	2.33	0.62
1:B:606:ALA:C	1:B:608:GLN:H	2.07	0.62
1:A:606:ALA:C	1:A:608:GLN:H	2.07	0.62
1:C:624:ASP:OD2	1:C:624:ASP:C	2.40	0.62
1:A:631:THR:HG22	1:A:634:ASP:CG	2.25	0.62
1:C:306:THR:HB	1:C:309:ASN:CB	2.29	0.62
1:C:380:GLY:HA3	1:C:387:LEU:HD21	1.81	0.62
1:A:54:LYS:HD2	1:A:87:MET:O	2.00	0.62
1:B:306:THR:HB	1:B:309:ASN:CB	2.29	0.62
1:B:631:THR:HG22	1:B:634:ASP:CG	2.25	0.61
1:C:54:LYS:HD2	1:C:87:MET:O	2.00	0.61
1:C:286:VAL:O	1:C:289:PRO:HD2	1.99	0.61
1:C:631:THR:HG22	1:C:634:ASP:CG	2.25	0.61
1:C:606:ALA:C	1:C:608:GLN:H	2.07	0.61
1:A:306:THR:HB	1:A:309:ASN:CB	2.29	0.61
1:B:286:VAL:O	1:B:289:PRO:HD2	1.99	0.61
1:B:54:LYS:HD2	1:B:87:MET:O	2.00	0.61
1:C:251:ARG:O	1:C:255:GLN:HG3	1.99	0.61
1:A:134:MET:HE3	1:A:404:LEU:HD22	1.82	0.61
1:B:134:MET:HE3	1:B:404:LEU:HD22	1.82	0.61
1:A:513:ILE:HD12	1:A:515:VAL:HG13	1.83	0.61
1:C:134:MET:HE3	1:C:404:LEU:HD22	1.82	0.61
1:A:380:GLY:HA3	1:A:387:LEU:HD21	1.81	0.60
1:B:136:SER:OG	1:B:293:LYS:NZ	2.33	0.60
1:B:380:GLY:HA3	1:B:387:LEU:HD21	1.81	0.60
1:B:513:ILE:HD12	1:B:515:VAL:HG13	1.83	0.60
1:C:513:ILE:HD12	1:C:515:VAL:HG13	1.83	0.60
1:C:78:ASN:HD22	1:C:78:ASN:C	2.06	0.60
1:A:132:ARG:HA	1:A:347:MET:CE	2.32	0.60
1:C:132:ARG:HA	1:C:347:MET:CE	2.32	0.60
1:B:395:GLN:HB3	1:B:398:THR:HG23	1.84	0.60
1:B:635:VAL:O	1:B:640:HIS:CE1	2.55	0.59
1:C:621:VAL:HG13	1:C:625:PRO:HA	1.84	0.59
1:A:621:VAL:HG13	1:A:625:PRO:HA	1.84	0.59
1:B:173:LYS:HG2	1:B:193:HIS:CE1	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:615:THR:HG22	1:B:616:PRO:CD	2.32	0.59
1:B:615:THR:CG2	1:B:616:PRO:HD2	2.33	0.59
1:B:621:VAL:HG13	1:B:625:PRO:HA	1.84	0.59
1:A:615:THR:HG22	1:A:616:PRO:CD	2.32	0.59
1:A:631:THR:HG23	1:A:633:ALA:H	1.67	0.59
1:B:132:ARG:HA	1:B:347:MET:CE	2.32	0.59
1:B:306:THR:HG22	1:B:308:LEU:H	1.67	0.59
1:C:173:LYS:HG2	1:C:193:HIS:CE1	2.38	0.59
1:C:381:ASP:OD2	1:C:381:ASP:C	2.45	0.59
1:C:635:VAL:O	1:C:640:HIS:CE1	2.55	0.59
1:A:146:ARG:NH2	1:A:643:LEU:HD22	2.18	0.59
1:A:381:ASP:OD2	1:A:381:ASP:C	2.45	0.59
1:C:146:ARG:HD3	1:C:147:LYS:O	2.03	0.59
1:A:552:ALA:CB	1:A:619:LEU:HD13	2.33	0.59
1:B:301:THR:HG23	1:B:440:TRP:O	2.03	0.59
1:A:306:THR:HG22	1:A:308:LEU:H	1.67	0.59
1:B:305:THR:O	1:B:306:THR:CB	2.50	0.59
1:C:136:SER:OG	1:C:293:LYS:NZ	2.33	0.59
1:B:636:SER:O	1:B:639:ILE:HB	2.02	0.59
1:A:173:LYS:HG2	1:A:193:HIS:CE1	2.37	0.59
1:A:261:PRO:HG2	1:A:264:PHE:CD1	2.38	0.59
1:A:615:THR:CG2	1:A:616:PRO:HD2	2.33	0.59
1:A:635:VAL:O	1:A:640:HIS:CE1	2.55	0.59
1:B:552:ALA:CB	1:B:619:LEU:HD13	2.33	0.59
1:C:137:ASP:H	1:C:293:LYS:HZ2	1.50	0.59
1:C:301:THR:HG23	1:C:440:TRP:O	2.03	0.59
1:A:137:ASP:H	1:A:293:LYS:NZ	2.01	0.59
1:B:146:ARG:NH2	1:B:643:LEU:HD22	2.18	0.59
1:C:552:ALA:CB	1:C:619:LEU:HD13	2.33	0.59
1:A:146:ARG:HD3	1:A:147:LYS:O	2.03	0.58
1:A:636:SER:O	1:A:639:ILE:HB	2.02	0.58
1:C:334:GLY:O	1:C:337:ARG:HB3	2.03	0.58
1:A:305:THR:O	1:A:306:THR:CB	2.50	0.58
1:A:630:GLY:O	1:A:631:THR:HB	2.03	0.58
1:B:631:THR:HG23	1:B:633:ALA:H	1.67	0.58
1:C:305:THR:O	1:C:306:THR:CB	2.50	0.58
1:A:137:ASP:H	1:A:293:LYS:HZ2	1.49	0.58
1:A:395:GLN:HB3	1:A:398:THR:HG23	1.84	0.58
1:B:146:ARG:HD3	1:B:147:LYS:O	2.02	0.58
1:C:261:PRO:HG2	1:C:264:PHE:CD1	2.38	0.58
1:B:261:PRO:HG2	1:B:264:PHE:CD1	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:395:GLN:HB3	1:C:398:THR:HG23	1.84	0.58
1:C:418:THR:HG22	1:C:467:GLY:C	2.29	0.58
1:B:134:MET:CE	1:B:404:LEU:HD22	2.34	0.58
1:B:137:ASP:H	1:B:293:LYS:NZ	2.01	0.58
1:B:631:THR:HG22	1:B:634:ASP:OD1	2.03	0.58
1:C:146:ARG:NH2	1:C:643:LEU:HD22	2.18	0.58
1:A:134:MET:CE	1:A:404:LEU:HD22	2.34	0.58
1:A:136:SER:OG	1:A:293:LYS:NZ	2.33	0.58
1:C:306:THR:HG22	1:C:308:LEU:H	1.67	0.58
1:B:334:GLY:O	1:B:337:ARG:HB3	2.03	0.58
1:B:418:THR:HG22	1:B:467:GLY:C	2.29	0.58
1:C:137:ASP:H	1:C:293:LYS:NZ	2.01	0.58
1:A:334:GLY:O	1:A:337:ARG:HB3	2.03	0.58
1:A:418:THR:HG22	1:A:467:GLY:C	2.29	0.58
1:B:169:ARG:NH2	1:C:470:ARG:HH12	1.98	0.58
1:C:243:PHE:CD1	1:C:243:PHE:N	2.72	0.58
1:C:631:THR:HG22	1:C:634:ASP:OD1	2.03	0.58
1:C:636:SER:O	1:C:639:ILE:HB	2.02	0.58
1:A:132:ARG:NH1	1:A:343:GLU:OE2	2.37	0.57
1:B:137:ASP:H	1:B:293:LYS:HZ2	1.51	0.57
1:B:630:GLY:O	1:B:631:THR:HB	2.03	0.57
1:C:631:THR:HG23	1:C:633:ALA:H	1.67	0.57
1:B:251:ARG:NH1	1:B:255:GLN:HE22	2.02	0.57
1:A:301:THR:HG23	1:A:440:TRP:O	2.03	0.57
1:B:132:ARG:NH1	1:B:343:GLU:OE2	2.37	0.57
1:C:615:THR:HG22	1:C:616:PRO:CD	2.32	0.57
1:C:630:GLY:O	1:C:631:THR:HB	2.03	0.57
1:A:631:THR:HG22	1:A:634:ASP:OD1	2.03	0.57
1:B:146:ARG:HH21	1:B:643:LEU:HD22	1.70	0.57
1:B:450:SER:HB2	1:B:455:ALA:HB2	1.86	0.57
1:C:134:MET:CE	1:C:404:LEU:HD22	2.34	0.57
1:C:146:ARG:HH21	1:C:643:LEU:HD22	1.70	0.57
1:A:251:ARG:NH1	1:A:255:GLN:HE22	2.02	0.57
1:A:307:ARG:NH2	1:A:557:THR:O	2.38	0.57
1:B:381:ASP:C	1:B:381:ASP:OD2	2.45	0.57
1:C:307:ARG:NH2	1:C:557:THR:O	2.38	0.57
1:A:146:ARG:HH21	1:A:643:LEU:HD22	1.70	0.57
1:A:364:PRO:HA	1:A:387:LEU:CD2	2.28	0.57
1:A:450:SER:HB2	1:A:455:ALA:HB2	1.86	0.57
1:C:615:THR:CG2	1:C:616:PRO:HD2	2.33	0.57
1:B:304:HIS:O	1:B:305:THR:HG23	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:450:SER:HB2	1:C:455:ALA:HB2	1.86	0.56
1:A:304:HIS:O	1:A:305:THR:HG23	2.05	0.56
1:B:251:ARG:HH11	1:B:251:ARG:HG3	1.70	0.56
1:C:72:TYR:CE1	1:C:476:LYS:HD3	2.41	0.56
1:A:175:GLU:HA	1:A:352:TRP:CE3	2.41	0.56
1:C:72:TYR:HB3	1:C:472:PHE:CZ	2.41	0.56
1:C:86:GLY:O	1:C:89:HIS:HD2	1.89	0.56
1:A:72:TYR:CE1	1:A:476:LYS:HD3	2.41	0.56
1:A:86:GLY:O	1:A:89:HIS:HD2	1.89	0.56
1:C:304:HIS:O	1:C:305:THR:HG23	2.05	0.56
1:A:243:PHE:CD1	1:A:243:PHE:N	2.72	0.56
1:B:175:GLU:HA	1:B:352:TRP:CE3	2.41	0.56
1:A:449:ILE:HG13	1:A:449:ILE:O	2.05	0.56
1:C:364:PRO:HA	1:C:387:LEU:CD2	2.28	0.56
1:B:86:GLY:O	1:B:89:HIS:HD2	1.89	0.55
1:C:368:GLY:O	1:C:375:GLY:HA3	2.06	0.55
1:A:72:TYR:HB3	1:A:472:PHE:CZ	2.41	0.55
1:B:72:TYR:HB3	1:B:472:PHE:CZ	2.41	0.55
1:B:72:TYR:CE1	1:B:476:LYS:HD3	2.41	0.55
1:B:307:ARG:NH2	1:B:557:THR:O	2.38	0.55
1:B:449:ILE:O	1:B:449:ILE:HG13	2.05	0.55
1:C:584:ARG:O	1:C:588:GLU:HG3	2.07	0.55
1:B:305:THR:O	1:B:306:THR:OG1	2.23	0.55
1:A:251:ARG:HH11	1:A:251:ARG:HG3	1.70	0.55
1:C:305:THR:O	1:C:306:THR:OG1	2.23	0.55
1:C:449:ILE:O	1:C:449:ILE:HG13	2.05	0.55
1:B:280:ASN:O	1:B:284:MET:HG3	2.07	0.55
1:B:368:GLY:O	1:B:375:GLY:HA3	2.06	0.55
1:C:175:GLU:HA	1:C:352:TRP:CE3	2.41	0.55
1:B:584:ARG:O	1:B:588:GLU:HG3	2.07	0.55
1:C:251:ARG:HH11	1:C:251:ARG:HG3	1.70	0.55
1:B:534:SER:HA	1:B:542:ARG:HH21	1.72	0.55
1:A:339:LEU:C	1:A:339:LEU:HD23	2.33	0.54
1:A:368:GLY:O	1:A:375:GLY:HA3	2.06	0.54
1:B:16:MET:HE1	1:C:423:ASN:ND2	2.23	0.54
1:B:243:PHE:CD1	1:B:243:PHE:N	2.72	0.54
1:C:280:ASN:O	1:C:284:MET:HG3	2.07	0.54
1:C:533:GLN:O	1:C:542:ARG:NE	2.35	0.54
1:B:165:GLU:O	1:B:166:ILE:C	2.50	0.54
1:B:339:LEU:HD23	1:B:339:LEU:C	2.33	0.54
1:C:132:ARG:NH1	1:C:343:GLU:OE2	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:165:GLU:O	1:C:166:ILE:C	2.50	0.54
1:B:306:THR:HB	1:B:309:ASN:HB3	1.90	0.54
1:B:29:LYS:C	1:B:30:ARG:O	2.50	0.54
1:B:208:THR:HG21	1:B:523:ASN:CG	2.33	0.54
1:A:301:THR:HG22	1:A:448:GLN:O	2.07	0.54
1:A:534:SER:HA	1:A:542:ARG:HH21	1.72	0.54
1:C:306:THR:HB	1:C:309:ASN:HB3	1.90	0.54
1:A:533:GLN:O	1:A:542:ARG:NE	2.35	0.54
1:A:25:GLN:O	1:A:29:LYS:HG3	2.08	0.54
1:A:146:ARG:HD3	1:A:147:LYS:N	2.23	0.54
1:A:165:GLU:O	1:A:166:ILE:C	2.50	0.54
1:A:305:THR:O	1:A:306:THR:OG1	2.23	0.54
1:A:584:ARG:O	1:A:588:GLU:HG3	2.07	0.54
1:C:146:ARG:HD3	1:C:147:LYS:N	2.23	0.54
1:C:339:LEU:C	1:C:339:LEU:HD23	2.33	0.54
1:A:208:THR:HG21	1:A:523:ASN:CG	2.33	0.53
1:A:280:ASN:O	1:A:284:MET:HG3	2.07	0.53
1:C:552:ALA:HB3	1:C:619:LEU:HD13	1.90	0.53
1:A:29:LYS:C	1:A:30:ARG:O	2.50	0.53
1:A:552:ALA:HB3	1:A:619:LEU:HD13	1.90	0.53
1:C:208:THR:HG21	1:C:523:ASN:CG	2.33	0.53
1:C:301:THR:HG22	1:C:448:GLN:O	2.07	0.53
1:C:25:GLN:O	1:C:29:LYS:HG3	2.08	0.53
1:B:146:ARG:HD3	1:B:147:LYS:N	2.23	0.53
1:B:301:THR:HG22	1:B:448:GLN:O	2.07	0.53
1:C:534:SER:HA	1:C:542:ARG:HH21	1.72	0.53
1:B:178:GLY:O	1:B:181:MET:HB2	2.09	0.53
1:B:447:ARG:HG3	1:B:447:ARG:HH11	1.73	0.53
1:C:29:LYS:C	1:C:30:ARG:O	2.50	0.53
1:C:251:ARG:NH1	1:C:255:GLN:HE22	2.02	0.53
1:C:447:ARG:HG3	1:C:447:ARG:HH11	1.73	0.53
1:A:178:GLY:O	1:A:181:MET:HB2	2.09	0.53
1:A:606:ALA:HB3	1:A:609:ALA:CB	2.39	0.53
1:B:25:GLN:O	1:B:29:LYS:HG3	2.08	0.53
1:A:175:GLU:HA	1:A:352:TRP:CD2	2.44	0.53
1:B:552:ALA:HB3	1:B:619:LEU:HD13	1.90	0.53
1:C:225:ARG:NH1	1:C:268:ARG:CZ	2.72	0.53
1:A:225:ARG:NH1	1:A:268:ARG:CZ	2.72	0.53
1:A:306:THR:HB	1:A:309:ASN:HB3	1.90	0.53
1:C:589:ASP:HB3	1:C:593:ARG:HH12	1.74	0.53
1:C:606:ALA:HB3	1:C:609:ALA:CB	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:429:MET:HB2	1:A:430:PRO:HD3	1.91	0.52
1:B:175:GLU:HA	1:B:352:TRP:CD2	2.44	0.52
1:A:447:ARG:NH1	1:A:447:ARG:HG3	2.24	0.52
1:C:429:MET:HB2	1:C:430:PRO:HD3	1.92	0.52
1:B:225:ARG:NH1	1:B:268:ARG:CZ	2.72	0.52
1:C:175:GLU:HA	1:C:352:TRP:CD2	2.44	0.52
1:C:178:GLY:O	1:C:181:MET:HB2	2.09	0.52
1:A:120:SER:HB3	1:C:20:ASN:OD1	2.10	0.52
1:B:429:MET:HB2	1:B:430:PRO:HD3	1.92	0.52
1:C:575:TRP:CG	1:C:583:TYR:HB2	2.45	0.52
1:B:533:GLN:O	1:B:542:ARG:NE	2.35	0.52
1:C:420:PRO:HA	1:C:423:ASN:ND2	2.25	0.52
1:B:589:ASP:HB3	1:B:593:ARG:HH12	1.74	0.52
1:C:564:TYR:CZ	1:C:568:LEU:HD11	2.45	0.52
1:A:564:TYR:CZ	1:A:568:LEU:HD11	2.45	0.52
1:B:253:LYS:O	1:B:257:GLY:N	2.43	0.52
1:B:447:ARG:HG3	1:B:447:ARG:NH1	2.24	0.52
1:A:447:ARG:HG3	1:A:447:ARG:HH11	1.73	0.52
1:B:606:ALA:HB3	1:B:609:ALA:CB	2.39	0.52
1:A:575:TRP:CG	1:A:583:TYR:HB2	2.45	0.52
1:B:575:TRP:CG	1:B:583:TYR:HB2	2.45	0.52
1:A:88:ARG:HD3	1:A:263:GLY:O	2.10	0.51
1:A:145:ILE:HD12	1:A:164:ILE:HD13	1.92	0.51
1:B:145:ILE:HD12	1:B:164:ILE:HD13	1.92	0.51
1:A:169:ARG:O	1:A:172:GLU:HB2	2.11	0.51
1:A:589:ASP:HB3	1:A:593:ARG:HH12	1.74	0.51
1:B:169:ARG:O	1:B:172:GLU:HB2	2.10	0.51
1:C:88:ARG:HD3	1:C:263:GLY:O	2.10	0.51
1:C:9:LEU:CD2	1:C:28:SER:HB2	2.39	0.51
1:B:51:LEU:HD21	1:B:90:MET:CE	2.41	0.51
1:B:564:TYR:CZ	1:B:568:LEU:HD11	2.45	0.51
1:C:225:ARG:NH1	1:C:268:ARG:NH1	2.59	0.51
1:B:225:ARG:NH1	1:B:268:ARG:NH1	2.59	0.51
1:C:145:ILE:HD12	1:C:164:ILE:HD13	1.92	0.51
1:A:225:ARG:NH1	1:A:268:ARG:NH1	2.59	0.51
1:B:88:ARG:HD3	1:B:263:GLY:O	2.10	0.51
1:C:54:LYS:HD3	1:C:87:MET:HB2	1.92	0.51
1:C:175:GLU:HG3	1:C:352:TRP:CD1	2.46	0.51
1:B:54:LYS:HD3	1:B:87:MET:HB2	1.92	0.51
1:C:447:ARG:HG3	1:C:447:ARG:NH1	2.24	0.51
1:A:51:LEU:HD21	1:A:90:MET:CE	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:625:PRO:C	1:A:627:LYS:N	2.67	0.50
1:B:465:LEU:HD12	1:B:465:LEU:O	2.12	0.50
1:A:175:GLU:HG3	1:A:352:TRP:CD1	2.46	0.50
1:C:169:ARG:O	1:C:172:GLU:HB2	2.11	0.50
1:B:420:PRO:HA	1:B:423:ASN:ND2	2.25	0.50
1:C:51:LEU:HD21	1:C:90:MET:CE	2.41	0.50
1:B:26:GLN:O	1:B:30:ARG:HB2	2.12	0.50
1:B:546:PHE:CB	1:B:549:LEU:HD12	2.42	0.50
1:A:254:GLU:O	1:A:254:GLU:HG2	2.12	0.50
1:B:175:GLU:HG3	1:B:352:TRP:CD1	2.46	0.50
1:C:465:LEU:HD12	1:C:465:LEU:O	2.12	0.50
1:A:30:ARG:NH1	1:A:30:ARG:HG2	2.27	0.50
1:C:603:ALA:C	1:C:605:MET:N	2.70	0.50
1:B:603:ALA:O	1:B:605:MET:N	2.44	0.50
1:C:597:GLU:O	1:C:600:ARG:HB3	2.12	0.50
1:A:76:TYR:CD1	1:A:77:GLY:N	2.80	0.50
1:A:256:TYR:HB2	1:A:258:ILE:HG13	1.93	0.50
1:A:635:VAL:HG12	1:A:639:ILE:HB	1.94	0.50
1:A:306:THR:HB	1:A:309:ASN:HB2	1.94	0.50
1:C:254:GLU:O	1:C:254:GLU:HG2	2.12	0.50
1:C:306:THR:HB	1:C:309:ASN:HB2	1.94	0.50
1:B:30:ARG:NH1	1:B:30:ARG:HG2	2.27	0.49
1:B:635:VAL:HG12	1:B:639:ILE:HB	1.94	0.49
1:C:25:GLN:O	1:C:28:SER:OG	2.29	0.49
1:A:110:ALA:C	1:A:112:ALA:H	2.20	0.49
1:A:331:PHE:O	1:A:332:TRP:C	2.55	0.49
1:A:420:PRO:HA	1:A:423:ASN:ND2	2.25	0.49
1:A:603:ALA:O	1:A:605:MET:N	2.44	0.49
1:B:7:PHE:CD1	1:B:7:PHE:N	2.80	0.49
1:A:25:GLN:O	1:A:28:SER:OG	2.29	0.49
1:A:465:LEU:HD12	1:A:465:LEU:O	2.12	0.49
1:B:256:TYR:HB2	1:B:258:ILE:HG13	1.93	0.49
1:B:364:PRO:HA	1:B:387:LEU:CD2	2.29	0.49
1:A:597:GLU:O	1:A:600:ARG:HB3	2.12	0.49
1:B:76:TYR:CD1	1:B:77:GLY:N	2.80	0.49
1:B:450:SER:CB	1:B:455:ALA:HB2	2.43	0.49
1:C:331:PHE:O	1:C:332:TRP:C	2.55	0.49
1:A:7:PHE:CD1	1:A:7:PHE:N	2.80	0.49
1:A:546:PHE:CB	1:A:549:LEU:HD12	2.42	0.49
1:B:110:ALA:C	1:B:112:ALA:H	2.20	0.49
1:B:254:GLU:O	1:B:254:GLU:HG2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:546:PHE:CB	1:C:549:LEU:HD12	2.42	0.49
1:A:26:GLN:O	1:A:30:ARG:HB2	2.12	0.49
1:A:54:LYS:HD3	1:A:87:MET:HB2	1.92	0.49
1:B:251:ARG:NH1	1:B:251:ARG:HG3	2.28	0.49
1:B:551:TRP:CH2	1:B:554:MET:HE1	2.48	0.49
1:B:631:THR:HG23	1:B:633:ALA:N	2.28	0.49
1:C:230:PHE:CZ	1:C:234:VAL:HG11	2.47	0.49
1:B:230:PHE:CZ	1:B:234:VAL:HG11	2.47	0.49
1:B:597:GLU:O	1:B:600:ARG:HB3	2.12	0.49
1:C:7:PHE:CD1	1:C:7:PHE:N	2.80	0.49
1:C:76:TYR:CD1	1:C:77:GLY:N	2.80	0.49
1:B:306:THR:HB	1:B:309:ASN:HB2	1.94	0.49
1:B:431:SER:HA	1:B:434:ARG:NH1	2.28	0.49
1:C:26:GLN:O	1:C:30:ARG:HB2	2.12	0.49
1:C:30:ARG:NH1	1:C:30:ARG:HG2	2.27	0.49
1:A:230:PHE:CZ	1:A:234:VAL:HG11	2.47	0.49
1:A:251:ARG:NH1	1:A:251:ARG:HG3	2.28	0.49
1:A:423:ASN:HD22	1:C:16:MET:HE1	1.77	0.49
1:A:450:SER:CB	1:A:455:ALA:HB2	2.42	0.49
1:A:551:TRP:CH2	1:A:554:MET:HE1	2.48	0.49
1:C:251:ARG:HG3	1:C:251:ARG:NH1	2.28	0.49
1:C:635:VAL:HG12	1:C:639:ILE:HB	1.94	0.49
1:A:589:ASP:HB3	1:A:593:ARG:NH1	2.28	0.48
1:B:304:HIS:HB2	1:B:497:LEU:HD23	1.96	0.48
1:C:625:PRO:C	1:C:627:LYS:N	2.67	0.48
1:B:331:PHE:O	1:B:332:TRP:C	2.55	0.48
1:C:202:VAL:O	1:C:202:VAL:HG23	2.14	0.48
1:C:256:TYR:HB2	1:C:258:ILE:HG13	1.93	0.48
1:C:450:SER:CB	1:C:455:ALA:HB2	2.42	0.48
1:C:551:TRP:CH2	1:C:554:MET:HE1	2.48	0.48
1:C:589:ASP:HB3	1:C:593:ARG:NH1	2.28	0.48
1:B:380:GLY:HA3	1:B:387:LEU:CD2	2.43	0.48
1:C:380:GLY:HA3	1:C:387:LEU:CD2	2.43	0.48
1:C:431:SER:HA	1:C:434:ARG:NH1	2.28	0.48
1:B:631:THR:HG22	1:B:634:ASP:OD2	2.13	0.48
1:C:381:ASP:OD2	1:C:383:SER:N	2.44	0.48
1:A:202:VAL:O	1:A:202:VAL:HG23	2.14	0.48
1:B:9:LEU:CD2	1:B:28:SER:HB2	2.39	0.48
1:B:589:ASP:HB3	1:B:593:ARG:NH1	2.28	0.48
1:B:624:ASP:O	1:B:627:LYS:HB2	2.14	0.48
1:C:78:ASN:ND2	1:C:78:ASN:C	2.70	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:110:ALA:C	1:C:112:ALA:H	2.20	0.48
1:A:431:SER:HA	1:A:434:ARG:NH1	2.28	0.48
1:A:631:THR:HG23	1:A:633:ALA:N	2.28	0.48
1:C:631:THR:HG23	1:C:633:ALA:N	2.28	0.48
1:A:253:LYS:O	1:A:257:GLY:N	2.43	0.48
1:A:624:ASP:O	1:A:627:LYS:HB2	2.14	0.48
1:A:631:THR:HG22	1:A:634:ASP:OD2	2.13	0.48
1:B:603:ALA:C	1:B:605:MET:N	2.70	0.48
1:C:624:ASP:O	1:C:627:LYS:HB2	2.14	0.48
1:C:631:THR:HG22	1:C:634:ASP:OD2	2.13	0.48
1:A:152:CYS:HA	1:A:156:PHE:CD1	2.49	0.48
1:A:380:GLY:HA3	1:A:387:LEU:CD2	2.43	0.48
1:A:381:ASP:OD2	1:A:383:SER:N	2.44	0.48
1:B:25:GLN:O	1:B:28:SER:OG	2.29	0.48
1:B:145:ILE:CD1	1:B:164:ILE:HD13	2.44	0.48
1:B:202:VAL:HG23	1:B:202:VAL:O	2.14	0.48
1:B:213:LEU:HD11	1:B:218:GLY:O	2.14	0.48
1:A:23:LYS:O	1:A:24:ALA:C	2.54	0.48
1:A:213:LEU:HD11	1:A:218:GLY:O	2.14	0.48
1:C:51:LEU:HD21	1:C:90:MET:HE3	1.96	0.48
1:A:145:ILE:CD1	1:A:164:ILE:HD13	2.44	0.47
1:B:497:LEU:HD12	1:B:497:LEU:HA	1.76	0.47
1:C:491:GLU:HB3	1:C:494:GLY:HA2	1.97	0.47
1:A:638:ASN:HA	1:A:641:GLU:OE2	2.14	0.47
1:B:78:ASN:ND2	1:B:78:ASN:C	2.70	0.47
1:C:145:ILE:CD1	1:C:164:ILE:HD13	2.44	0.47
1:B:23:LYS:O	1:B:24:ALA:C	2.54	0.47
1:B:191:GLN:HE22	1:C:421:HIS:HB3	1.79	0.47
1:B:159:ASP:OD1	1:B:159:ASP:C	2.58	0.47
1:C:202:VAL:HG23	1:C:272:ALA:HB3	1.97	0.47
1:C:304:HIS:HB2	1:C:497:LEU:HD23	1.96	0.47
1:A:202:VAL:HG23	1:A:272:ALA:HB3	1.97	0.47
1:A:603:ALA:C	1:A:605:MET:N	2.70	0.47
1:B:583:TYR:O	1:B:586:TYR:HB3	2.15	0.47
1:C:152:CYS:HA	1:C:156:PHE:CD1	2.49	0.47
1:C:638:ASN:HA	1:C:641:GLU:OE2	2.14	0.47
1:A:491:GLU:HB3	1:A:494:GLY:HA2	1.97	0.47
1:B:23:LYS:H	1:B:23:LYS:HG2	1.29	0.47
1:B:395:GLN:HB3	1:B:398:THR:CG2	2.45	0.47
1:B:491:GLU:HB3	1:B:494:GLY:HA2	1.97	0.47
1:C:213:LEU:HD11	1:C:218:GLY:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:395:GLN:HB3	1:A:398:THR:CG2	2.45	0.47
1:B:638:ASN:HA	1:B:641:GLU:OE2	2.14	0.47
1:C:99:THR:HB	1:C:227:VAL:HG12	1.97	0.47
1:C:253:LYS:O	1:C:257:GLY:N	2.43	0.47
1:B:524:ASN:N	1:B:524:ASN:HD22	2.13	0.47
1:C:173:LYS:CG	1:C:193:HIS:CE1	2.97	0.47
1:C:214:ASP:OD1	1:C:215:PRO:CD	2.63	0.47
1:C:583:TYR:O	1:C:586:TYR:HB3	2.15	0.47
1:C:615:THR:CG2	1:C:616:PRO:CD	2.93	0.47
1:A:524:ASN:N	1:A:524:ASN:HD22	2.13	0.47
1:C:242:LEU:HD12	1:C:242:LEU:HA	1.70	0.47
1:C:251:ARG:HG3	1:C:255:GLN:HE21	1.80	0.47
1:C:603:ALA:O	1:C:605:MET:N	2.43	0.47
1:B:152:CYS:HA	1:B:156:PHE:CD1	2.49	0.46
1:B:173:LYS:CG	1:B:193:HIS:CE1	2.97	0.46
1:B:615:THR:CG2	1:B:616:PRO:CD	2.93	0.46
1:A:173:LYS:CG	1:A:193:HIS:CE1	2.97	0.46
1:B:411:LEU:HD13	1:B:439:TYR:CZ	2.51	0.46
1:A:51:LEU:HD21	1:A:90:MET:HE3	1.96	0.46
1:A:583:TYR:O	1:A:586:TYR:HB3	2.15	0.46
1:B:51:LEU:HD21	1:B:90:MET:HE3	1.96	0.46
1:B:56:GLU:HG2	1:B:574:CYS:SG	2.55	0.46
1:B:72:TYR:CZ	1:B:476:LYS:HD3	2.50	0.46
1:B:552:ALA:HB1	1:B:619:LEU:HD13	1.98	0.46
1:B:625:PRO:C	1:B:627:LYS:N	2.67	0.46
1:C:56:GLU:HG2	1:C:574:CYS:SG	2.55	0.46
1:A:99:THR:HB	1:A:227:VAL:HG12	1.97	0.46
1:A:304:HIS:HA	1:A:309:ASN:ND2	2.31	0.46
1:C:304:HIS:HA	1:C:309:ASN:ND2	2.31	0.46
1:A:304:HIS:HB2	1:A:497:LEU:HD23	1.96	0.46
1:B:214:ASP:OD1	1:B:215:PRO:CD	2.63	0.46
1:A:214:ASP:OD1	1:A:215:PRO:CD	2.63	0.46
1:B:251:ARG:NH1	1:B:255:GLN:NE2	2.58	0.46
1:B:251:ARG:HG3	1:B:255:GLN:HE21	1.80	0.46
1:A:72:TYR:CZ	1:A:476:LYS:HD3	2.51	0.46
1:A:552:ALA:HB1	1:A:619:LEU:HD13	1.98	0.46
1:B:23:LYS:O	1:B:26:GLN:N	2.42	0.46
1:C:159:ASP:C	1:C:159:ASP:OD1	2.57	0.46
1:C:264:PHE:C	1:C:265:PHE:CD1	2.94	0.46
1:C:524:ASN:HD22	1:C:524:ASN:N	2.13	0.46
1:B:304:HIS:HA	1:B:309:ASN:ND2	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:23:LYS:O	1:C:24:ALA:C	2.54	0.46
1:C:617:ILE:O	1:C:621:VAL:HG23	2.15	0.46
1:A:56:GLU:HG2	1:A:574:CYS:SG	2.55	0.46
1:A:159:ASP:C	1:A:159:ASP:OD1	2.57	0.46
1:A:325:VAL:HG12	1:A:326:SER:N	2.31	0.46
1:C:47:ASP:OD2	1:C:47:ASP:C	2.59	0.46
1:C:72:TYR:CZ	1:C:476:LYS:HD3	2.50	0.46
1:C:552:ALA:HB1	1:C:619:LEU:HD13	1.98	0.46
1:A:78:ASN:ND2	1:A:78:ASN:C	2.70	0.45
1:A:251:ARG:HG3	1:A:255:GLN:HE21	1.80	0.45
1:A:411:LEU:HD13	1:A:439:TYR:CZ	2.51	0.45
1:B:99:THR:HB	1:B:227:VAL:HG12	1.97	0.45
1:B:325:VAL:HG12	1:B:326:SER:N	2.31	0.45
1:A:9:LEU:CD2	1:A:28:SER:HB2	2.39	0.45
1:A:132:ARG:HD2	1:A:429:MET:CE	2.47	0.45
1:B:264:PHE:C	1:B:265:PHE:CD1	2.94	0.45
1:C:411:LEU:HD13	1:C:439:TYR:CZ	2.51	0.45
1:A:22:ILE:HD13	1:A:22:ILE:HG23	1.58	0.45
1:B:202:VAL:HG23	1:B:272:ALA:HB3	1.97	0.45
1:B:399:ASP:OD2	1:B:399:ASP:N	2.50	0.45
1:C:132:ARG:HD2	1:C:429:MET:CE	2.47	0.45
1:C:232:TYR:HA	1:C:239:GLN:O	2.17	0.45
1:C:325:VAL:HG12	1:C:326:SER:N	2.31	0.45
1:A:232:TYR:HA	1:A:239:GLN:O	2.17	0.45
1:B:223:LYS:HD3	1:B:225:ARG:NH2	2.32	0.45
1:B:232:TYR:HA	1:B:239:GLN:O	2.17	0.45
1:C:44:LEU:HD12	1:C:44:LEU:HA	1.63	0.45
1:C:223:LYS:HD3	1:C:225:ARG:NH2	2.32	0.45
1:C:255:GLN:HB2	1:C:256:TYR:CD2	2.51	0.45
1:A:47:ASP:OD2	1:A:47:ASP:C	2.59	0.45
1:A:107:LYS:HD2	1:A:238:GLU:HG2	1.98	0.45
1:A:495:ALA:HB1	1:A:499:ASP:O	2.17	0.45
1:C:9:LEU:O	1:C:9:LEU:HD12	2.17	0.45
1:B:9:LEU:HD12	1:B:9:LEU:O	2.17	0.45
1:B:495:ALA:HB1	1:B:499:ASP:O	2.17	0.45
1:A:47:ASP:OD1	1:A:49:ARG:NH1	2.50	0.45
1:A:223:LYS:HD3	1:A:225:ARG:NH2	2.32	0.45
1:A:255:GLN:HB2	1:A:256:TYR:CD2	2.51	0.45
1:B:145:ILE:HD12	1:B:164:ILE:CD1	2.47	0.45
1:B:255:GLN:HB2	1:B:256:TYR:CD2	2.51	0.45
1:C:395:GLN:HB3	1:C:398:THR:CG2	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:16:MET:HE2	1:A:16:MET:HA	1.99	0.45
1:A:264:PHE:C	1:A:265:PHE:CD1	2.94	0.45
1:B:381:ASP:OD2	1:B:383:SER:N	2.44	0.45
1:B:606:ALA:C	1:B:608:GLN:N	2.75	0.45
1:B:617:ILE:O	1:B:621:VAL:HG23	2.16	0.45
1:C:47:ASP:OD1	1:C:49:ARG:NH1	2.50	0.45
1:C:145:ILE:HD12	1:C:164:ILE:CD1	2.47	0.45
1:C:550:ALA:O	1:C:551:TRP:C	2.60	0.45
1:A:44:LEU:HD12	1:A:44:LEU:HA	1.63	0.45
1:A:548:GLY:N	1:A:594:ASP:OD1	2.50	0.45
1:B:47:ASP:OD1	1:B:49:ARG:NH1	2.50	0.45
1:A:23:LYS:H	1:A:23:LYS:HG2	1.29	0.45
1:A:550:ALA:O	1:A:551:TRP:C	2.60	0.45
1:A:617:ILE:O	1:A:621:VAL:HG23	2.16	0.45
1:B:47:ASP:OD2	1:B:47:ASP:C	2.59	0.45
1:B:70:ASP:OD2	1:B:70:ASP:C	2.60	0.45
1:B:534:SER:CA	1:B:542:ARG:HH21	2.30	0.45
1:B:639:ILE:O	1:B:642:VAL:N	2.50	0.45
1:C:587:ARG:HA	1:C:587:ARG:HD2	1.86	0.45
1:B:363:LEU:HA	1:B:364:PRO:HD3	1.89	0.44
1:B:548:GLY:N	1:B:594:ASP:OD1	2.50	0.44
1:C:548:GLY:N	1:C:594:ASP:OD1	2.50	0.44
1:A:9:LEU:O	1:A:9:LEU:HD12	2.17	0.44
1:C:23:LYS:O	1:C:26:GLN:N	2.42	0.44
1:C:534:SER:CA	1:C:542:ARG:HH21	2.31	0.44
1:A:288:GLN:N	1:A:289:PRO:CD	2.80	0.44
1:B:132:ARG:HD2	1:B:429:MET:CE	2.47	0.44
1:C:606:ALA:C	1:C:608:GLN:N	2.75	0.44
1:B:107:LYS:HD2	1:B:238:GLU:HG2	1.98	0.44
1:C:16:MET:HE2	1:C:16:MET:HA	1.99	0.44
1:C:70:ASP:OD2	1:C:70:ASP:C	2.60	0.44
1:C:495:ALA:HB1	1:C:499:ASP:O	2.17	0.44
1:B:420:PRO:HA	1:B:423:ASN:HD21	1.83	0.44
1:B:611:LEU:HD22	1:B:619:LEU:HD21	1.99	0.44
1:C:181:MET:HG2	1:C:186:PHE:CE2	2.53	0.44
1:A:399:ASP:OD2	1:A:399:ASP:N	2.50	0.44
1:A:606:ALA:C	1:A:608:GLN:N	2.75	0.44
1:B:534:SER:C	1:B:542:ARG:HH21	2.26	0.44
1:C:363:LEU:HA	1:C:364:PRO:HD3	1.88	0.44
1:B:251:ARG:HB2	1:B:255:GLN:HE21	1.83	0.44
1:C:208:THR:HG21	1:C:523:ASN:OD1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:145:ILE:HD12	1:A:164:ILE:CD1	2.47	0.44
1:A:208:THR:HG21	1:A:523:ASN:OD1	2.17	0.44
1:B:208:THR:HG21	1:B:523:ASN:OD1	2.17	0.44
1:B:288:GLN:N	1:B:289:PRO:CD	2.80	0.44
1:C:265:PHE:CD1	1:C:265:PHE:N	2.86	0.44
1:A:9:LEU:O	1:A:15:GLN:NE2	2.51	0.43
1:A:70:ASP:C	1:A:70:ASP:OD2	2.60	0.43
1:A:251:ARG:HB2	1:A:255:GLN:HE21	1.83	0.43
1:B:181:MET:HG2	1:B:186:PHE:CE2	2.53	0.43
1:B:315:LYS:HE3	1:B:512:ALA:O	2.18	0.43
1:C:107:LYS:HD2	1:C:238:GLU:HG2	1.98	0.43
1:C:610:GLY:O	1:C:611:LEU:C	2.61	0.43
1:A:181:MET:HG2	1:A:186:PHE:CE2	2.53	0.43
1:A:517:ASN:C	1:A:517:ASN:OD1	2.61	0.43
1:A:611:LEU:HD22	1:A:619:LEU:HD21	1.99	0.43
1:B:46:VAL:HG12	1:B:90:MET:HE1	1.99	0.43
1:C:288:GLN:N	1:C:289:PRO:CD	2.80	0.43
1:C:639:ILE:O	1:C:642:VAL:N	2.50	0.43
1:A:615:THR:CG2	1:A:616:PRO:CD	2.93	0.43
1:B:74:ARG:HG2	1:B:503:TYR:CE2	2.53	0.43
1:B:179:ASN:O	1:B:180:LEU:C	2.61	0.43
1:C:413:MET:HB2	1:C:413:MET:HE3	1.70	0.43
1:C:418:THR:HG21	1:C:468:GLY:HA2	2.01	0.43
1:C:513:ILE:HD12	1:C:515:VAL:CG1	2.47	0.43
1:A:363:LEU:HD12	1:A:363:LEU:HA	1.76	0.43
1:A:420:PRO:HA	1:A:423:ASN:HD21	1.83	0.43
1:B:638:ASN:O	1:B:642:VAL:HG23	2.18	0.43
1:C:23:LYS:H	1:C:23:LYS:HG2	1.29	0.43
1:C:51:LEU:HD13	1:C:261:PRO:CD	2.48	0.43
1:C:179:ASN:O	1:C:180:LEU:C	2.61	0.43
1:C:534:SER:C	1:C:542:ARG:HH21	2.26	0.43
1:A:51:LEU:HD13	1:A:261:PRO:CD	2.48	0.43
1:A:518:ILE:HD12	1:A:518:ILE:HA	1.80	0.43
1:B:16:MET:HE2	1:B:16:MET:HA	1.99	0.43
1:B:51:LEU:HD13	1:B:261:PRO:CD	2.48	0.43
1:B:265:PHE:CD1	1:B:265:PHE:N	2.86	0.43
1:B:496:PHE:CZ	1:B:497:LEU:HD22	2.54	0.43
1:B:610:GLY:O	1:B:611:LEU:C	2.61	0.43
1:C:74:ARG:HG2	1:C:503:TYR:CE2	2.54	0.43
1:A:496:PHE:CZ	1:A:497:LEU:HD22	2.54	0.43
1:B:517:ASN:OD1	1:B:517:ASN:C	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:550:ALA:O	1:B:551:TRP:C	2.60	0.43
1:C:251:ARG:HB2	1:C:255:GLN:HE21	1.83	0.43
1:C:306:THR:O	1:C:307:ARG:C	2.61	0.43
1:A:610:GLY:O	1:A:611:LEU:C	2.61	0.43
1:A:638:ASN:O	1:A:642:VAL:HG23	2.18	0.43
1:B:513:ILE:HD12	1:B:515:VAL:CG1	2.47	0.43
1:A:75:VAL:HG11	1:A:500:ILE:HG23	2.01	0.43
1:A:315:LYS:HE3	1:A:512:ALA:O	2.18	0.43
1:C:496:PHE:CZ	1:C:497:LEU:HD22	2.54	0.43
1:A:265:PHE:CD1	1:A:265:PHE:N	2.86	0.43
1:B:40:TYR:O	1:B:41:GLU:C	2.61	0.43
1:C:9:LEU:O	1:C:15:GLN:NE2	2.51	0.43
1:C:315:LYS:HE3	1:C:512:ALA:O	2.18	0.43
1:A:242:LEU:HD12	1:A:242:LEU:HA	1.70	0.43
1:A:534:SER:CA	1:A:542:ARG:HH21	2.30	0.43
1:B:44:LEU:HA	1:B:44:LEU:HD12	1.63	0.43
1:C:364:PRO:HB3	1:C:379:LEU:O	2.19	0.43
1:C:611:LEU:HD22	1:C:619:LEU:HD21	1.99	0.43
1:A:23:LYS:O	1:A:26:GLN:N	2.42	0.42
1:A:534:SER:C	1:A:542:ARG:HH21	2.26	0.42
1:B:9:LEU:O	1:B:15:GLN:NE2	2.51	0.42
1:B:67:ALA:C	1:B:68:ASN:HD22	2.26	0.42
1:C:40:TYR:O	1:C:41:GLU:C	2.61	0.42
1:C:364:PRO:CA	1:C:387:LEU:HD23	2.32	0.42
1:C:554:MET:HG2	1:C:555:LYS:N	2.34	0.42
1:C:600:ARG:NH1	1:C:600:ARG:CB	2.57	0.42
1:A:190:TYR:O	1:A:194:GLN:N	2.51	0.42
1:A:587:ARG:HA	1:A:587:ARG:HD2	1.86	0.42
1:B:75:VAL:HG11	1:B:500:ILE:HG23	2.01	0.42
1:B:567:VAL:O	1:B:571:ILE:HG13	2.19	0.42
1:A:513:ILE:HD12	1:A:515:VAL:CG1	2.47	0.42
1:B:364:PRO:HB3	1:B:379:LEU:O	2.19	0.42
1:B:553:SER:O	1:B:554:MET:C	2.62	0.42
1:C:142:PRO:CD	1:C:649:VAL:HG13	2.47	0.42
1:A:67:ALA:C	1:A:68:ASN:HD22	2.26	0.42
1:A:418:THR:HG21	1:A:468:GLY:HA2	2.01	0.42
1:B:50:PHE:O	1:B:53:PHE:HB3	2.19	0.42
1:B:153:ILE:HA	1:B:154:PRO:HA	1.77	0.42
1:C:50:PHE:O	1:C:53:PHE:HB3	2.19	0.42
1:C:54:LYS:HE2	1:C:526:PHE:O	2.20	0.42
1:C:214:ASP:OD1	1:C:214:ASP:C	2.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:74:ARG:HG2	1:A:503:TYR:CE2	2.54	0.42
1:C:67:ALA:C	1:C:68:ASN:HD22	2.26	0.42
1:C:182:LEU:HD23	1:C:182:LEU:HA	1.88	0.42
1:C:497:LEU:HD12	1:C:497:LEU:HA	1.76	0.42
1:A:639:ILE:O	1:A:642:VAL:N	2.50	0.42
1:B:306:THR:O	1:B:307:ARG:C	2.61	0.42
1:C:90:MET:CE	1:C:90:MET:HA	2.49	0.42
1:C:420:PRO:HA	1:C:423:ASN:HD21	1.83	0.42
1:A:413:MET:HE3	1:A:413:MET:HB2	1.70	0.42
1:A:554:MET:HG2	1:A:555:LYS:N	2.34	0.42
1:B:413:MET:HB2	1:B:413:MET:HE3	1.70	0.42
1:A:23:LYS:HB2	1:A:24:ALA:H	1.73	0.42
1:B:54:LYS:HE2	1:B:526:PHE:O	2.20	0.42
1:C:75:VAL:HG11	1:C:500:ILE:HG23	2.01	0.42
1:C:638:ASN:O	1:C:642:VAL:HG23	2.18	0.42
1:B:22:ILE:HG21	1:B:22:ILE:HD12	1.66	0.42
1:B:90:MET:CE	1:B:90:MET:HA	2.49	0.42
1:B:336:LEU:HD23	1:B:405:LEU:HB2	2.02	0.42
1:C:567:VAL:O	1:C:571:ILE:HG13	2.19	0.42
1:A:90:MET:CE	1:A:90:MET:HA	2.49	0.42
1:A:132:ARG:HD2	1:A:429:MET:HE3	2.02	0.42
1:A:418:THR:O	1:A:464:ALA:HA	2.20	0.42
1:A:521:MET:HB2	1:A:558:TYR:CE2	2.55	0.42
1:B:418:THR:HG21	1:B:468:GLY:HA2	2.01	0.42
1:C:399:ASP:OD2	1:C:399:ASP:N	2.49	0.42
1:A:50:PHE:O	1:A:53:PHE:HB3	2.19	0.41
1:A:596:LEU:O	1:A:597:GLU:C	2.63	0.41
1:B:418:THR:O	1:B:464:ALA:HA	2.20	0.41
1:B:521:MET:HB2	1:B:558:TYR:CE2	2.55	0.41
1:C:336:LEU:HD23	1:C:405:LEU:HB2	2.02	0.41
1:A:277:PHE:O	1:A:278:ALA:C	2.63	0.41
1:A:415:LEU:HD23	1:A:415:LEU:HA	1.84	0.41
1:A:553:SER:O	1:A:554:MET:C	2.62	0.41
1:B:466:VAL:HG13	1:B:467:GLY:N	2.35	0.41
1:B:496:PHE:CE2	1:B:497:LEU:HD22	2.55	0.41
1:C:153:ILE:HA	1:C:154:PRO:HA	1.77	0.41
1:C:261:PRO:HG2	1:C:264:PHE:CG	2.56	0.41
1:C:619:LEU:HD23	1:C:619:LEU:HA	1.88	0.41
1:A:54:LYS:HE2	1:A:526:PHE:O	2.20	0.41
1:A:306:THR:CG2	1:A:309:ASN:H	2.34	0.41
1:A:336:LEU:HD23	1:A:405:LEU:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:661:PRO:O	1:A:662:ARG:CG	2.67	0.41
1:B:22:ILE:HG23	1:B:22:ILE:HD13	1.58	0.41
1:B:554:MET:HG2	1:B:555:LYS:N	2.34	0.41
1:C:22:ILE:HG23	1:C:22:ILE:HD13	1.58	0.41
1:C:23:LYS:HB2	1:C:24:ALA:H	1.73	0.41
1:C:517:ASN:OD1	1:C:517:ASN:C	2.61	0.41
1:A:46:VAL:HG12	1:A:90:MET:HE1	1.99	0.41
1:A:135:PHE:HB3	1:A:349:TYR:OH	2.20	0.41
1:A:364:PRO:HB3	1:A:379:LEU:O	2.19	0.41
1:A:417:HIS:ND1	1:A:474:MET:HE1	2.36	0.41
1:A:567:VAL:O	1:A:571:ILE:HG13	2.19	0.41
1:A:568:LEU:HD23	1:A:568:LEU:HA	1.94	0.41
1:B:16:MET:CE	1:C:423:ASN:ND2	2.83	0.41
1:B:18:PHE:HB3	1:B:24:ALA:O	2.20	0.41
1:C:417:HIS:ND1	1:C:474:MET:HE1	2.36	0.41
1:C:521:MET:HB2	1:C:558:TYR:CE2	2.55	0.41
1:A:173:LYS:HG2	1:A:193:HIS:ND1	2.36	0.41
1:A:619:LEU:HD23	1:A:619:LEU:HA	1.88	0.41
1:B:251:ARG:HB2	1:B:255:GLN:NE2	2.36	0.41
1:B:261:PRO:HG2	1:B:264:PHE:CG	2.56	0.41
1:B:363:LEU:HA	1:B:363:LEU:HD12	1.77	0.41
1:C:496:PHE:CE2	1:C:497:LEU:HD22	2.55	0.41
1:A:40:TYR:O	1:A:41:GLU:C	2.61	0.41
1:A:639:ILE:O	1:A:640:HIS:C	2.64	0.41
1:B:306:THR:CG2	1:B:309:ASN:H	2.34	0.41
1:B:596:LEU:O	1:B:597:GLU:C	2.63	0.41
1:C:636:SER:HB2	1:C:639:ILE:HG12	2.03	0.41
1:A:18:PHE:HB3	1:A:24:ALA:O	2.20	0.41
1:A:78:ASN:ND2	1:A:80:VAL:N	2.64	0.41
1:A:181:MET:CE	1:A:356:LEU:HD23	2.51	0.41
1:B:182:LEU:HD23	1:B:182:LEU:HA	1.88	0.41
1:C:18:PHE:HB3	1:C:24:ALA:O	2.20	0.41
1:C:135:PHE:HB3	1:C:349:TYR:OH	2.20	0.41
1:C:206:GLN:OE1	1:C:206:GLN:CA	2.64	0.41
1:C:251:ARG:CG	1:C:255:GLN:HE21	2.34	0.41
1:C:277:PHE:O	1:C:278:ALA:C	2.63	0.41
1:C:363:LEU:HA	1:C:363:LEU:HD12	1.76	0.41
1:C:466:VAL:HG13	1:C:467:GLY:N	2.35	0.41
1:A:261:PRO:HG2	1:A:264:PHE:CG	2.56	0.41
1:B:135:PHE:HB3	1:B:349:TYR:OH	2.20	0.41
1:B:173:LYS:HG2	1:B:193:HIS:ND1	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:186:PHE:O	1:B:187:ASP:C	2.63	0.41
1:B:636:SER:HB2	1:B:639:ILE:HG12	2.03	0.41
1:A:86:GLY:O	1:A:89:HIS:CD2	2.73	0.41
1:A:142:PRO:CD	1:A:649:VAL:HG13	2.47	0.41
1:A:496:PHE:CE2	1:A:497:LEU:HD22	2.55	0.41
1:B:181:MET:CE	1:B:356:LEU:HD23	2.51	0.41
1:B:277:PHE:O	1:B:278:ALA:C	2.63	0.41
1:B:518:ILE:HD12	1:B:518:ILE:HA	1.80	0.41
1:C:173:LYS:HG2	1:C:193:HIS:ND1	2.36	0.41
1:C:180:LEU:HD22	1:C:188:ASP:CB	2.51	0.41
1:C:418:THR:O	1:C:464:ALA:HA	2.20	0.41
1:C:553:SER:O	1:C:554:MET:C	2.62	0.41
1:C:596:LEU:O	1:C:597:GLU:C	2.63	0.41
1:C:661:PRO:O	1:C:662:ARG:CG	2.67	0.41
1:A:180:LEU:HD22	1:A:188:ASP:CB	2.51	0.41
1:A:194:GLN:O	1:A:278:ALA:HB3	2.21	0.41
1:A:214:ASP:OD1	1:A:214:ASP:C	2.63	0.41
1:B:60:TYR:CE1	1:B:64:HIS:CE1	3.09	0.41
1:B:110:ALA:C	1:B:112:ALA:N	2.79	0.41
1:B:134:MET:HE1	1:B:404:LEU:HA	2.03	0.41
1:B:508:GLU:O	1:B:509:PRO:C	2.63	0.41
1:A:38:GLU:HA	1:A:44:LEU:HD12	2.03	0.40
1:A:153:ILE:HA	1:A:154:PRO:HA	1.77	0.40
1:A:374:GLN:HE21	1:A:374:GLN:HB2	1.64	0.40
1:B:214:ASP:OD1	1:B:214:ASP:C	2.63	0.40
1:B:251:ARG:CG	1:B:255:GLN:HE21	2.34	0.40
1:B:547:PRO:O	1:B:548:GLY:C	2.64	0.40
1:C:17:LEU:O	1:C:153:ILE:HG23	2.21	0.40
1:C:110:ALA:C	1:C:112:ALA:N	2.79	0.40
1:C:190:TYR:O	1:C:194:GLN:N	2.51	0.40
1:C:508:GLU:O	1:C:509:PRO:C	2.63	0.40
1:A:226:MET:CE	1:A:244:ALA:HB2	2.37	0.40
1:A:251:ARG:HB2	1:A:255:GLN:NE2	2.36	0.40
1:A:530:TYR:CD2	1:A:543:LYS:HG3	2.57	0.40
1:B:132:ARG:HD2	1:B:429:MET:HE3	2.02	0.40
1:B:213:LEU:CD1	1:B:218:GLY:O	2.69	0.40
1:B:417:HIS:ND1	1:B:474:MET:HE1	2.36	0.40
1:B:517:ASN:O	1:B:520:SER:N	2.52	0.40
1:C:251:ARG:NH1	1:C:255:GLN:NE2	2.58	0.40
1:C:251:ARG:HB2	1:C:255:GLN:NE2	2.36	0.40
1:C:374:GLN:HE21	1:C:374:GLN:HB2	1.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:17:LEU:O	1:A:153:ILE:HG23	2.21	0.40
1:A:179:ASN:O	1:A:180:LEU:C	2.61	0.40
1:A:281:ALA:HB3	1:A:282:PRO:CD	2.51	0.40
1:A:517:ASN:O	1:A:520:SER:N	2.52	0.40
1:A:547:PRO:O	1:A:548:GLY:C	2.64	0.40
1:B:16:MET:CE	1:C:423:ASN:HD22	2.34	0.40
1:B:517:ASN:O	1:B:518:ILE:C	2.64	0.40
1:C:38:GLU:HA	1:C:44:LEU:HD12	2.03	0.40
1:C:60:TYR:CE1	1:C:64:HIS:CE1	3.09	0.40
1:C:132:ARG:HD2	1:C:429:MET:HE3	2.02	0.40
1:C:181:MET:CE	1:C:356:LEU:HD23	2.51	0.40
1:C:306:THR:CG2	1:C:309:ASN:H	2.34	0.40
1:A:517:ASN:O	1:A:518:ILE:C	2.64	0.40
1:B:142:PRO:CD	1:B:649:VAL:HG13	2.47	0.40
1:B:587:ARG:HD2	1:B:587:ARG:HA	1.86	0.40
1:C:194:GLN:O	1:C:278:ALA:HB3	2.21	0.40
1:C:547:PRO:O	1:C:548:GLY:C	2.64	0.40
1:A:336:LEU:CD2	1:A:405:LEU:HB2	2.52	0.40
1:A:391:LEU:HA	1:A:391:LEU:HD23	1.83	0.40
1:C:213:LEU:CD1	1:C:218:GLY:O	2.69	0.40
1:C:355:LYS:HA	1:C:355:LYS:HD2	1.92	0.40

All (19) 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:A:607:ARG:NH2	1:B:589:ASP:CA[2_546]	0.55	1.65
1:A:608:GLN:OE1	1:B:41:GLU:OE2[2_546]	0.70	1.50
1:A:607:ARG:CZ	1:B:589:ASP:CB[2_546]	0.75	1.45
1:A:607:ARG:NH2	1:B:589:ASP:C[2_546]	1.04	1.16
1:A:608:GLN:CD	1:B:41:GLU:OE2[2_546]	1.17	1.03
1:A:607:ARG:NH1	1:B:589:ASP:CB[2_546]	1.22	0.98
1:A:607:ARG:CZ	1:B:589:ASP:CA[2_546]	1.53	0.67
1:A:607:ARG:CD	1:B:593:ARG:NH1[2_546]	1.56	0.64
1:A:607:ARG:NH2	1:B:589:ASP:CB[2_546]	1.59	0.61
1:A:608:GLN:OE1	1:B:41:GLU:CD[2_546]	1.66	0.54
1:A:607:ARG:NE	1:B:589:ASP:CB[2_546]	1.73	0.47
1:A:607:ARG:NE	1:B:593:ARG:NH1[2_546]	1.78	0.42
1:A:607:ARG:NH2	1:B:589:ASP:N[2_546]	1.88	0.32
1:A:607:ARG:NH2	1:B:589:ASP:O[2_546]	1.92	0.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:607:ARG:CZ	1:B:589:ASP:C[2_546]	1.96	0.24
1:A:607:ARG:NH2	1:B:590:MET:N[2_546]	2.05	0.15
1:A:608:GLN:CD	1:B:41:GLU:CD[2_546]	2.17	0.03
1:A:608:GLN:NE2	1:B:41:GLU:OE2[2_546]	2.17	0.03
1:A:607:ARG:CB	1:B:593:ARG:NH1[2_546]	2.19	0.01

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	660/662 (100%)	594 (90%)	53 (8%)	13 (2%)	6	28
1	B	660/662 (100%)	594 (90%)	53 (8%)	13 (2%)	6	28
1	C	660/662 (100%)	594 (90%)	53 (8%)	13 (2%)	6	28
All	All	1980/1986 (100%)	1782 (90%)	159 (8%)	39 (2%)	6	28

All (39) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	24	ALA
1	A	30	ARG
1	A	306	THR
1	A	607	ARG
1	A	611	LEU
1	B	24	ALA
1	B	30	ARG
1	B	306	THR
1	B	607	ARG
1	B	611	LEU
1	C	24	ALA
1	C	30	ARG
1	C	306	THR
1	C	607	ARG

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Mol	Chain	Res	Type
1	C	611	LEU
1	A	2	ARG
1	A	23	LYS
1	A	604	SER
1	A	608	GLN
1	B	2	ARG
1	B	23	LYS
1	B	604	SER
1	B	608	GLN
1	C	2	ARG
1	C	23	LYS
1	C	604	SER
1	C	608	GLN
1	A	628	LEU
1	A	631	THR
1	B	628	LEU
1	B	631	THR
1	C	628	LEU
1	C	631	THR
1	A	166	ILE
1	B	166	ILE
1	C	166	ILE
1	A	547	PRO
1	B	547	PRO
1	C	547	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	554/554 (100%)	517 (93%)	37 (7%)	15	46
1	B	554/554 (100%)	517 (93%)	37 (7%)	15	46
1	C	554/554 (100%)	518 (94%)	36 (6%)	15	47
All	All	1662/1662 (100%)	1552 (93%)	110 (7%)	15	46

All (110) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	10	SER
1	A	16	MET
1	A	22	ILE
1	A	23	LYS
1	A	29	LYS
1	A	43	LEU
1	A	44	LEU
1	A	71	GLU
1	A	75	VAL
1	A	78	ASN
1	A	90	MET
1	A	94	PRO
1	A	102	LEU
1	A	119	VAL
1	A	146	ARG
1	A	180	LEU
1	A	241	SER
1	A	262	ASP
1	A	271	THR
1	A	339	LEU
1	A	362	LYS
1	A	387	LEU
1	A	404	LEU
1	A	497	LEU
1	A	500	ILE
1	A	513	ILE
1	A	527	SER
1	A	529	GLU
1	A	587	ARG
1	A	591	LEU
1	A	617	ILE
1	A	627	LYS
1	A	634	ASP
1	A	638	ASN
1	A	649	VAL
1	A	656	LEU
1	A	657	ARG
1	B	10	SER
1	B	16	MET
1	B	22	ILE
1	B	23	LYS
1	B	29	LYS

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Mol	Chain	Res	Type
1	B	43	LEU
1	B	44	LEU
1	B	71	GLU
1	B	75	VAL
1	B	78	ASN
1	B	90	MET
1	B	94	PRO
1	B	102	LEU
1	B	119	VAL
1	B	146	ARG
1	B	180	LEU
1	B	241	SER
1	B	262	ASP
1	B	271	THR
1	B	339	LEU
1	B	362	LYS
1	B	387	LEU
1	B	404	LEU
1	B	497	LEU
1	B	500	ILE
1	B	513	ILE
1	B	527	SER
1	B	529	GLU
1	B	587	ARG
1	B	591	LEU
1	B	617	ILE
1	B	627	LYS
1	B	634	ASP
1	B	638	ASN
1	B	649	VAL
1	B	656	LEU
1	B	657	ARG
1	C	10	SER
1	C	16	MET
1	C	22	ILE
1	C	23	LYS
1	C	29	LYS
1	C	43	LEU
1	C	44	LEU
1	C	71	GLU
1	C	75	VAL
1	C	78	ASN

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Mol	Chain	Res	Type
1	C	90	MET
1	C	94	PRO
1	C	102	LEU
1	C	119	VAL
1	C	146	ARG
1	C	180	LEU
1	C	241	SER
1	C	262	ASP
1	C	271	THR
1	C	339	LEU
1	C	362	LYS
1	C	387	LEU
1	C	404	LEU
1	C	497	LEU
1	C	500	ILE
1	C	513	ILE
1	C	529	GLU
1	C	587	ARG
1	C	591	LEU
1	C	617	ILE
1	C	627	LYS
1	C	634	ASP
1	C	638	ASN
1	C	649	VAL
1	C	656	LEU
1	C	657	ARG

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	15	GLN
1	A	78	ASN
1	A	89	HIS
1	A	91	ASN
1	A	158	ASN
1	A	191	GLN
1	A	255	GLN
1	A	280	ASN
1	A	303	HIS
1	A	309	ASN
1	A	346	ASN
1	A	423	ASN

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Mol	Chain	Res	Type
1	A	448	GLN
1	A	524	ASN
1	B	15	GLN
1	B	78	ASN
1	B	89	HIS
1	B	91	ASN
1	B	158	ASN
1	B	191	GLN
1	B	255	GLN
1	B	280	ASN
1	B	303	HIS
1	B	309	ASN
1	B	448	GLN
1	B	524	ASN
1	C	15	GLN
1	C	78	ASN
1	C	89	HIS
1	C	91	ASN
1	C	158	ASN
1	C	191	GLN
1	C	255	GLN
1	C	280	ASN
1	C	303	HIS
1	C	309	ASN
1	C	346	ASN
1	C	423	ASN
1	C	448	GLN
1	C	524	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides 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, 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	662/662 (100%)	0.14	21 (3%)	50	29	12, 32, 66, 118	0
1	B	662/662 (100%)	0.27	19 (2%)	53	31	12, 32, 66, 118	0
1	C	662/662 (100%)	0.25	33 (4%)	34	18	12, 32, 66, 118	0
All	All	1986/1986 (100%)	0.22	73 (3%)	45	25	12, 32, 68, 118	0

All (73) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	606	ALA	5.8
1	A	608	GLN	5.1
1	A	609	ALA	4.8
1	C	25	GLN	4.4
1	B	628	LEU	4.2
1	C	1	PRO	3.9
1	B	25	GLN	3.9
1	C	630	GLY	3.8
1	C	609	ALA	3.7
1	A	25	GLN	3.7
1	B	632	GLU	3.6
1	C	207	SER	3.6
1	B	631	THR	3.5
1	C	603	ALA	3.4
1	C	628	LEU	3.3
1	C	158	ASN	3.3
1	C	634	ASP	3.2
1	A	630	GLY	3.2
1	C	148	GLY	3.1
1	A	576	TRP	3.1
1	C	606	ALA	3.1
1	C	576	TRP	3.0
1	B	610	GLY	3.0

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Mol	Chain	Res	Type	RSRZ
1	A	632	GLU	3.0
1	C	632	GLU	3.0
1	C	633	ALA	3.0
1	B	630	GLY	3.0
1	B	606	ALA	2.9
1	B	607	ARG	2.9
1	A	628	LEU	2.9
1	A	158	ASN	2.8
1	C	602	VAL	2.7
1	C	662	ARG	2.7
1	B	1	PRO	2.7
1	A	634	ASP	2.7
1	C	288	GLN	2.7
1	A	602	VAL	2.7
1	C	611	LEU	2.7
1	A	640	HIS	2.6
1	A	607	ARG	2.6
1	B	640	HIS	2.6
1	B	634	ASP	2.6
1	A	443	HIS	2.5
1	B	22	ILE	2.5
1	C	650	GLU	2.5
1	B	589	ASP	2.5
1	C	607	ARG	2.4
1	C	631	THR	2.4
1	C	22	ILE	2.4
1	A	662	ARG	2.4
1	A	629	SER	2.4
1	B	612	ALA	2.3
1	C	29	LYS	2.3
1	C	612	ALA	2.3
1	B	662	ARG	2.3
1	B	602	VAL	2.3
1	B	604	SER	2.3
1	B	609	ALA	2.2
1	C	610	GLY	2.2
1	C	648	SER	2.2
1	A	603	ALA	2.2
1	C	16	MET	2.2
1	B	20	ASN	2.1
1	A	605	MET	2.1
1	C	581	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	631	THR	2.1
1	A	1	PRO	2.1
1	C	556	ASP	2.1
1	C	172	GLU	2.1
1	C	238	GLU	2.1
1	C	216	LYS	2.0
1	A	538	ASP	2.0
1	C	259	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 oligosaccharides 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.