



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 3, 2023 – 12:10 AM EDT

PDB ID : 1GUM
Title : HUMAN GLUTATHIONE TRANSFERASE A4-4 WITHOUT LIGANDS
Authors : Bruns, C.M.; Hubatsch, I.; Ridderstrom, M.; Mannervik, B.; Tainer, J.A.
Deposited on : 1998-06-11
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 : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.34
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) : 2.34

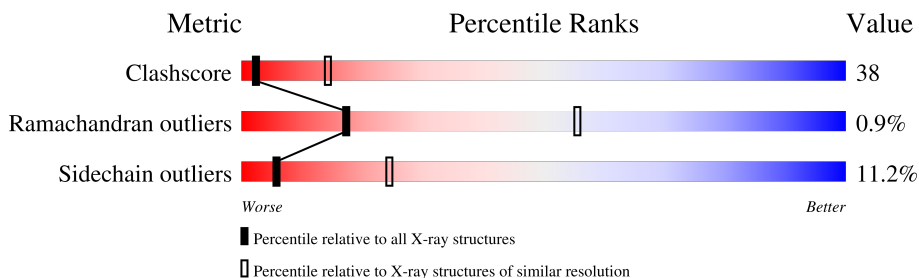
1 Overall quality at a glance

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))
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (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 $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	222	
1	B	222	
1	C	222	
1	D	222	
1	E	222	
1	F	222	
1	G	222	
1	H	222	

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 14400 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 PROTEIN (GLUTATHIONE TRANSFERASE A4-4).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	217	1777	1158	298	315	6	0	0	0
1	B	217	1777	1158	298	315	6	0	0	0
1	C	217	1777	1158	298	315	6	0	0	0
1	D	217	1777	1158	298	315	6	0	0	0
1	E	217	1777	1158	298	315	6	0	0	0
1	F	217	1777	1158	298	315	6	0	0	0
1	G	217	1777	1158	298	315	6	0	0	0
1	H	217	1777	1158	298	315	6	0	0	0

- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	23	Total	O	0	0
			23	23		
2	B	23	Total	O	0	0
			23	23		
2	C	23	Total	O	0	0
			23	23		
2	D	23	Total	O	0	0
			23	23		
2	E	23	Total	O	0	0
			23	23		
2	F	23	Total	O	0	0
			23	23		

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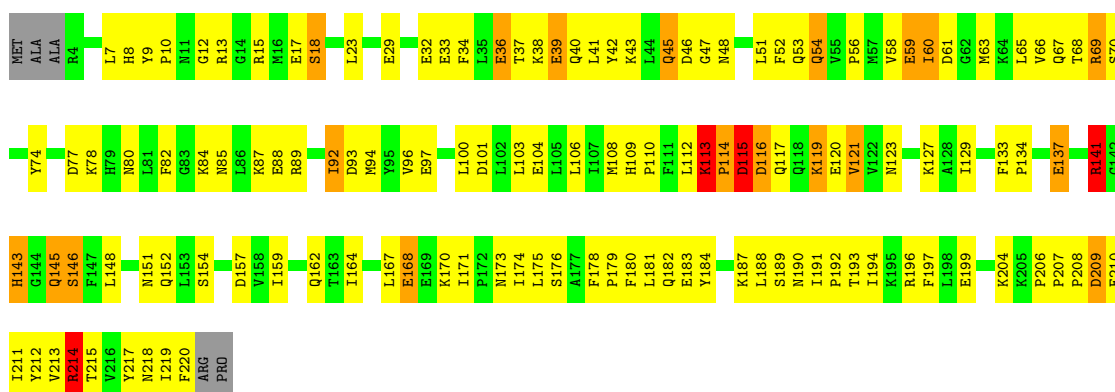
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	G	23	Total 23	O 23	0	0
2	H	23	Total 23	O 23	0	0

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. 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. 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.

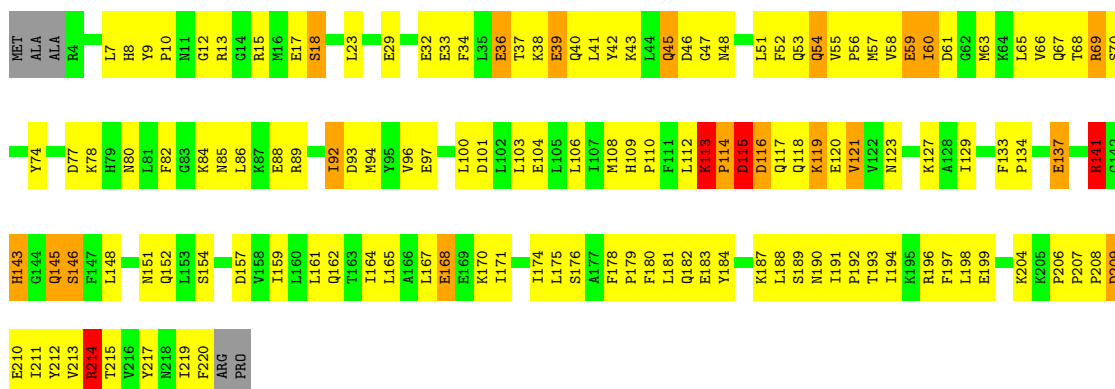
- Molecule 1: PROTEIN (GLUTATHIONE TRANSFERASE A4-4)

Chain A: 

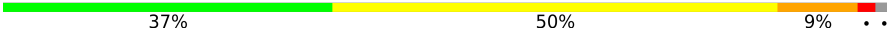


- Molecule 1: PROTEIN (GLUTATHIONE TRANSFERASE A4-4)

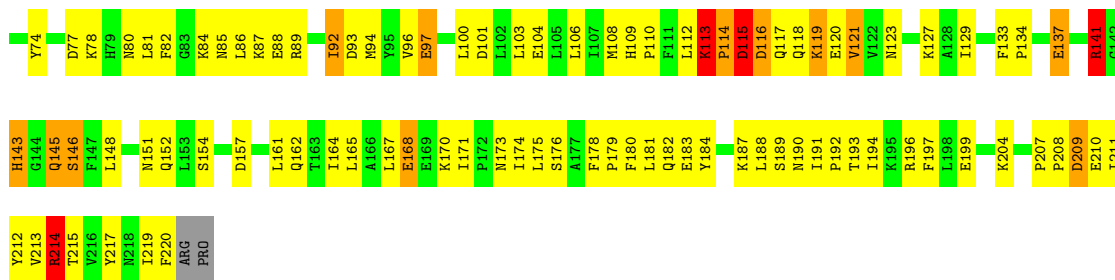
Chain B: 



- Molecule 1: PROTEIN (GLUTATHIONE TRANSFERASE A4-4)

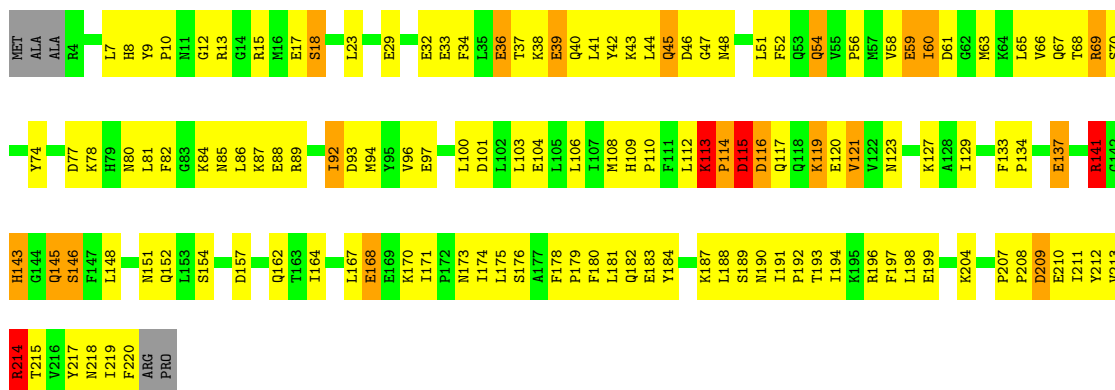
Chain C: 





- Molecule 1: PROTEIN (GLUTATHIONE TRANSFERASE A4-4)

Chain D: ..



- Molecule 1: PROTEIN (GLUTATHIONE TRANSFERASE A4-4)

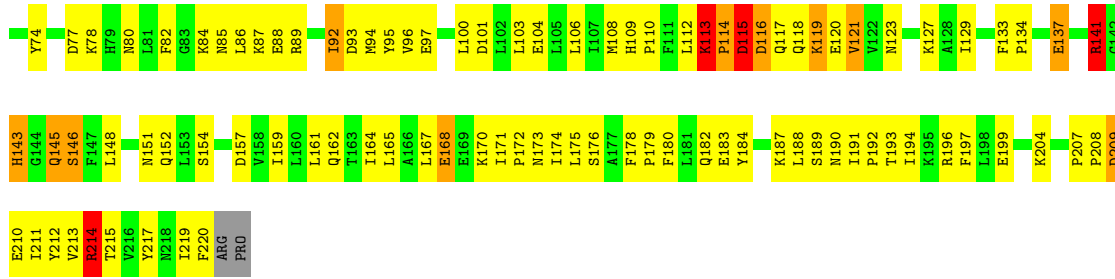
Chain E: ..



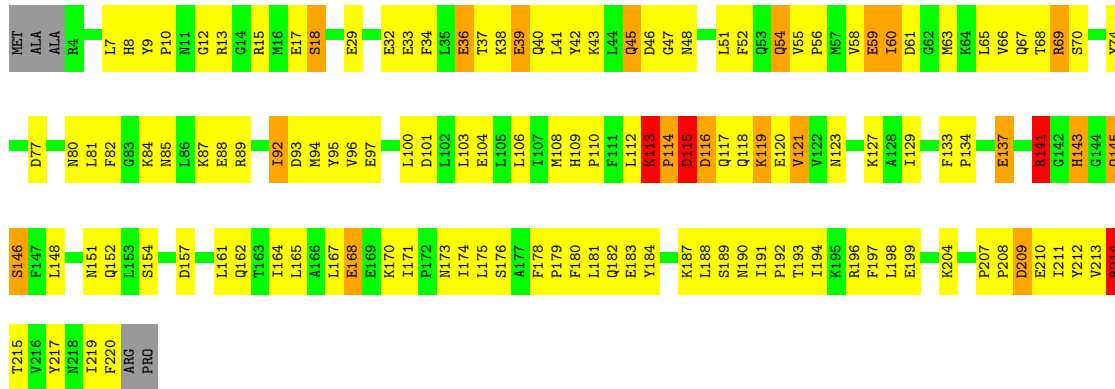
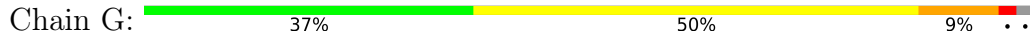
- Molecule 1: PROTEIN (GLUTATHIONE TRANSFERASE A4-4)

Chain F: ..

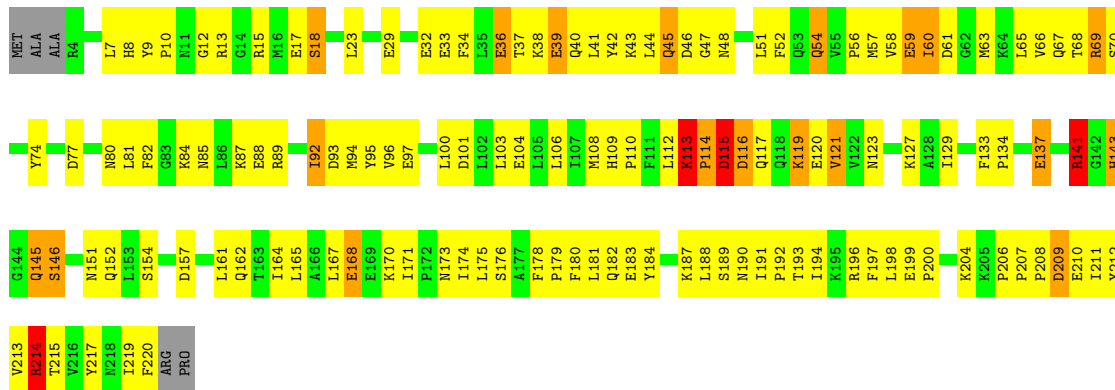




• Molecule 1: PROTEIN (GLUTATHIONE TRANSFERASE A4-4)



• Molecule 1: PROTEIN (GLUTATHIONE TRANSFERASE A4-4)



4 Data and refinement statistics i

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α , β , γ	155.30Å 156.10Å 101.30Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	160.00 – 3.00 30.23 – 2.91	Depositor EDS
% Data completeness (in resolution range)	92.0 (160.00-3.00) 90.7 (30.23-2.91)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.20	Depositor
$\langle I/\sigma(I) \rangle$ ¹	12.91 (at 2.90Å)	Xtrriage
Refinement program	TNT 5E	Depositor
R, R_{free}	0.253 , 0.270 0.289 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å ²)	1.2	Xtrriage
Anisotropy	4.180	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.21 , 91.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.30$, $\langle L^2 \rangle = 0.14$	Xtrriage
Estimated twinning fraction	0.189 for k,h,-l	Xtrriage
F_o, F_c correlation	0.31	EDS
Total number of atoms	14400	wwPDB-VP
Average B, all atoms (Å ²)	23.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.42% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	1.24	14/1817 (0.8%)	1.56	25/2456 (1.0%)
1	B	1.24	14/1817 (0.8%)	1.56	25/2456 (1.0%)
1	C	1.24	14/1817 (0.8%)	1.57	25/2456 (1.0%)
1	D	1.24	14/1817 (0.8%)	1.56	25/2456 (1.0%)
1	E	1.24	14/1817 (0.8%)	1.57	25/2456 (1.0%)
1	F	1.24	14/1817 (0.8%)	1.57	25/2456 (1.0%)
1	G	1.24	14/1817 (0.8%)	1.56	25/2456 (1.0%)
1	H	1.24	14/1817 (0.8%)	1.56	25/2456 (1.0%)
All	All	1.24	112/14536 (0.8%)	1.56	200/19648 (1.0%)

All (112) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	97	GLU	CD-OE2	9.88	1.36	1.25
1	B	97	GLU	CD-OE2	9.86	1.36	1.25
1	H	97	GLU	CD-OE2	9.86	1.36	1.25
1	C	97	GLU	CD-OE2	9.85	1.36	1.25
1	A	97	GLU	CD-OE2	9.84	1.36	1.25
1	F	97	GLU	CD-OE2	9.83	1.36	1.25
1	G	97	GLU	CD-OE2	9.83	1.36	1.25
1	E	97	GLU	CD-OE2	9.81	1.36	1.25
1	C	168	GLU	CD-OE2	7.12	1.33	1.25
1	B	168	GLU	CD-OE2	7.11	1.33	1.25
1	H	168	GLU	CD-OE2	7.09	1.33	1.25
1	G	168	GLU	CD-OE2	7.08	1.33	1.25
1	A	168	GLU	CD-OE2	7.06	1.33	1.25
1	D	168	GLU	CD-OE2	7.04	1.33	1.25
1	E	168	GLU	CD-OE2	7.04	1.33	1.25
1	F	168	GLU	CD-OE2	7.04	1.33	1.25
1	E	32	GLU	CD-OE2	6.98	1.33	1.25
1	B	32	GLU	CD-OE2	6.97	1.33	1.25
1	G	32	GLU	CD-OE2	6.95	1.33	1.25
1	F	17	GLU	CD-OE2	6.94	1.33	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	17	GLU	CD-OE2	6.94	1.33	1.25
1	C	17	GLU	CD-OE2	6.94	1.33	1.25
1	H	17	GLU	CD-OE2	6.93	1.33	1.25
1	F	32	GLU	CD-OE2	6.93	1.33	1.25
1	H	32	GLU	CD-OE2	6.92	1.33	1.25
1	G	17	GLU	CD-OE2	6.92	1.33	1.25
1	B	17	GLU	CD-OE2	6.91	1.33	1.25
1	A	32	GLU	CD-OE2	6.90	1.33	1.25
1	D	32	GLU	CD-OE2	6.89	1.33	1.25
1	E	17	GLU	CD-OE2	6.87	1.33	1.25
1	C	32	GLU	CD-OE2	6.87	1.33	1.25
1	D	17	GLU	CD-OE2	6.85	1.33	1.25
1	F	59	GLU	CD-OE1	6.46	1.32	1.25
1	D	59	GLU	CD-OE1	6.46	1.32	1.25
1	A	59	GLU	CD-OE1	6.39	1.32	1.25
1	H	59	GLU	CD-OE1	6.38	1.32	1.25
1	C	59	GLU	CD-OE1	6.37	1.32	1.25
1	G	59	GLU	CD-OE1	6.37	1.32	1.25
1	B	59	GLU	CD-OE1	6.37	1.32	1.25
1	E	59	GLU	CD-OE1	6.34	1.32	1.25
1	D	36	GLU	CD-OE2	6.32	1.32	1.25
1	F	36	GLU	CD-OE2	6.31	1.32	1.25
1	H	36	GLU	CD-OE2	6.30	1.32	1.25
1	B	36	GLU	CD-OE2	6.29	1.32	1.25
1	A	36	GLU	CD-OE2	6.21	1.32	1.25
1	G	36	GLU	CD-OE2	6.20	1.32	1.25
1	C	36	GLU	CD-OE2	6.20	1.32	1.25
1	E	36	GLU	CD-OE2	6.19	1.32	1.25
1	C	137	GLU	CD-OE2	6.08	1.32	1.25
1	B	137	GLU	CD-OE2	6.05	1.32	1.25
1	F	137	GLU	CD-OE2	6.05	1.32	1.25
1	H	137	GLU	CD-OE2	6.05	1.32	1.25
1	A	120	GLU	CD-OE2	6.04	1.32	1.25
1	C	120	GLU	CD-OE2	6.04	1.32	1.25
1	E	120	GLU	CD-OE2	6.04	1.32	1.25
1	G	120	GLU	CD-OE2	6.04	1.32	1.25
1	F	120	GLU	CD-OE2	6.04	1.32	1.25
1	E	137	GLU	CD-OE2	6.03	1.32	1.25
1	D	137	GLU	CD-OE2	6.01	1.32	1.25
1	A	137	GLU	CD-OE2	6.00	1.32	1.25
1	G	137	GLU	CD-OE2	6.00	1.32	1.25
1	H	120	GLU	CD-OE2	5.98	1.32	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	120	GLU	CD-OE2	5.97	1.32	1.25
1	B	120	GLU	CD-OE2	5.95	1.32	1.25
1	D	88	GLU	CD-OE2	5.85	1.32	1.25
1	H	88	GLU	CD-OE2	5.84	1.32	1.25
1	F	29	GLU	CD-OE2	5.82	1.32	1.25
1	G	88	GLU	CD-OE2	5.82	1.32	1.25
1	B	29	GLU	CD-OE2	5.82	1.32	1.25
1	F	88	GLU	CD-OE2	5.81	1.32	1.25
1	A	29	GLU	CD-OE2	5.81	1.32	1.25
1	E	88	GLU	CD-OE2	5.80	1.32	1.25
1	C	88	GLU	CD-OE2	5.80	1.32	1.25
1	A	88	GLU	CD-OE2	5.79	1.32	1.25
1	B	88	GLU	CD-OE2	5.78	1.32	1.25
1	E	29	GLU	CD-OE2	5.77	1.32	1.25
1	C	29	GLU	CD-OE2	5.77	1.31	1.25
1	G	29	GLU	CD-OE2	5.76	1.31	1.25
1	D	29	GLU	CD-OE2	5.75	1.31	1.25
1	H	29	GLU	CD-OE2	5.71	1.31	1.25
1	B	210	GLU	CD-OE2	5.70	1.31	1.25
1	H	210	GLU	CD-OE2	5.69	1.31	1.25
1	C	210	GLU	CD-OE2	5.67	1.31	1.25
1	A	210	GLU	CD-OE2	5.67	1.31	1.25
1	E	210	GLU	CD-OE2	5.66	1.31	1.25
1	F	210	GLU	CD-OE2	5.64	1.31	1.25
1	D	210	GLU	CD-OE2	5.62	1.31	1.25
1	G	210	GLU	CD-OE2	5.60	1.31	1.25
1	H	199	GLU	CD-OE2	5.54	1.31	1.25
1	B	199	GLU	CD-OE2	5.53	1.31	1.25
1	D	199	GLU	CD-OE2	5.51	1.31	1.25
1	A	199	GLU	CD-OE2	5.49	1.31	1.25
1	E	199	GLU	CD-OE2	5.47	1.31	1.25
1	F	199	GLU	CD-OE2	5.47	1.31	1.25
1	G	199	GLU	CD-OE2	5.43	1.31	1.25
1	C	199	GLU	CD-OE2	5.43	1.31	1.25
1	A	183	GLU	CD-OE2	5.35	1.31	1.25
1	D	183	GLU	CD-OE2	5.33	1.31	1.25
1	E	183	GLU	CD-OE2	5.29	1.31	1.25
1	B	183	GLU	CD-OE2	5.29	1.31	1.25
1	H	183	GLU	CD-OE2	5.27	1.31	1.25
1	G	183	GLU	CD-OE2	5.26	1.31	1.25
1	B	39	GLU	CD-OE2	5.25	1.31	1.25
1	C	183	GLU	CD-OE2	5.24	1.31	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	39	GLU	CD-OE2	5.22	1.31	1.25
1	F	183	GLU	CD-OE2	5.22	1.31	1.25
1	C	39	GLU	CD-OE2	5.21	1.31	1.25
1	A	39	GLU	CD-OE2	5.20	1.31	1.25
1	H	39	GLU	CD-OE2	5.19	1.31	1.25
1	G	39	GLU	CD-OE2	5.17	1.31	1.25
1	E	39	GLU	CD-OE2	5.17	1.31	1.25
1	F	39	GLU	CD-OE2	5.12	1.31	1.25

All (200) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	113	LYS	C-N-CD	-11.27	95.81	120.60
1	G	113	LYS	C-N-CD	-11.27	95.82	120.60
1	D	113	LYS	C-N-CD	-11.26	95.83	120.60
1	F	113	LYS	C-N-CD	-11.25	95.84	120.60
1	B	113	LYS	C-N-CD	-11.25	95.85	120.60
1	H	113	LYS	C-N-CD	-11.25	95.85	120.60
1	E	113	LYS	C-N-CD	-11.25	95.86	120.60
1	A	113	LYS	C-N-CD	-11.25	95.86	120.60
1	F	15	ARG	NE-CZ-NH2	-10.87	114.86	120.30
1	A	15	ARG	NE-CZ-NH2	-10.76	114.92	120.30
1	C	15	ARG	NE-CZ-NH2	-10.74	114.93	120.30
1	D	15	ARG	NE-CZ-NH2	-10.69	114.96	120.30
1	B	15	ARG	NE-CZ-NH2	-10.68	114.96	120.30
1	E	15	ARG	NE-CZ-NH2	-10.67	114.96	120.30
1	H	15	ARG	NE-CZ-NH2	-10.66	114.97	120.30
1	G	15	ARG	NE-CZ-NH2	-10.58	115.01	120.30
1	G	93	ASP	CB-CG-OD2	-7.64	111.43	118.30
1	B	93	ASP	CB-CG-OD2	-7.63	111.43	118.30
1	F	93	ASP	CB-CG-OD2	-7.63	111.44	118.30
1	C	93	ASP	CB-CG-OD2	-7.62	111.44	118.30
1	E	93	ASP	CB-CG-OD2	-7.60	111.46	118.30
1	C	214	ARG	NE-CZ-NH1	7.59	124.10	120.30
1	D	93	ASP	CB-CG-OD2	-7.59	111.47	118.30
1	A	93	ASP	CB-CG-OD2	-7.59	111.47	118.30
1	H	93	ASP	CB-CG-OD2	-7.59	111.47	118.30
1	F	214	ARG	NE-CZ-NH1	7.56	124.08	120.30
1	E	214	ARG	NE-CZ-NH1	7.54	124.07	120.30
1	B	214	ARG	NE-CZ-NH1	7.54	124.07	120.30
1	H	214	ARG	NE-CZ-NH1	7.51	124.06	120.30
1	A	214	ARG	NE-CZ-NH1	7.46	124.03	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	214	ARG	NE-CZ-NH1	7.46	124.03	120.30
1	D	214	ARG	NE-CZ-NH1	7.43	124.02	120.30
1	C	115	ASP	CB-CG-OD2	-7.37	111.67	118.30
1	G	115	ASP	CB-CG-OD1	7.37	124.93	118.30
1	F	115	ASP	CB-CG-OD1	7.36	124.92	118.30
1	D	115	ASP	CB-CG-OD2	-7.36	111.68	118.30
1	C	115	ASP	CB-CG-OD1	7.35	124.91	118.30
1	D	115	ASP	CB-CG-OD1	7.34	124.91	118.30
1	B	115	ASP	CB-CG-OD2	-7.34	111.69	118.30
1	E	115	ASP	CB-CG-OD1	7.34	124.91	118.30
1	F	115	ASP	CB-CG-OD2	-7.34	111.69	118.30
1	A	115	ASP	CB-CG-OD2	-7.34	111.70	118.30
1	E	115	ASP	CB-CG-OD2	-7.33	111.71	118.30
1	H	115	ASP	CB-CG-OD2	-7.32	111.71	118.30
1	A	115	ASP	CB-CG-OD1	7.31	124.88	118.30
1	B	115	ASP	CB-CG-OD1	7.31	124.88	118.30
1	G	115	ASP	CB-CG-OD2	-7.31	111.72	118.30
1	H	115	ASP	CB-CG-OD1	7.29	124.86	118.30
1	H	101	ASP	CB-CG-OD2	-6.99	112.01	118.30
1	E	101	ASP	CB-CG-OD2	-6.97	112.03	118.30
1	B	101	ASP	CB-CG-OD2	-6.95	112.05	118.30
1	D	101	ASP	CB-CG-OD2	-6.94	112.05	118.30
1	C	101	ASP	CB-CG-OD2	-6.92	112.07	118.30
1	G	101	ASP	CB-CG-OD2	-6.92	112.07	118.30
1	A	101	ASP	CB-CG-OD2	-6.92	112.07	118.30
1	F	101	ASP	CB-CG-OD2	-6.91	112.08	118.30
1	A	157	ASP	CB-CG-OD1	6.88	124.49	118.30
1	B	157	ASP	CB-CG-OD1	6.82	124.44	118.30
1	E	209	ASP	CB-CG-OD2	-6.82	112.16	118.30
1	H	209	ASP	CB-CG-OD2	-6.82	112.16	118.30
1	E	157	ASP	CB-CG-OD1	6.82	124.44	118.30
1	F	157	ASP	CB-CG-OD1	6.81	124.43	118.30
1	D	209	ASP	CB-CG-OD2	-6.81	112.17	118.30
1	C	157	ASP	CB-CG-OD1	6.80	124.42	118.30
1	H	157	ASP	CB-CG-OD1	6.79	124.41	118.30
1	C	209	ASP	CB-CG-OD2	-6.79	112.19	118.30
1	A	209	ASP	CB-CG-OD2	-6.79	112.19	118.30
1	B	209	ASP	CB-CG-OD2	-6.78	112.19	118.30
1	G	209	ASP	CB-CG-OD2	-6.76	112.21	118.30
1	D	157	ASP	CB-CG-OD1	6.76	124.39	118.30
1	F	209	ASP	CB-CG-OD2	-6.76	112.22	118.30
1	G	157	ASP	CB-CG-OD1	6.74	124.37	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	157	ASP	CB-CG-OD2	-6.71	112.26	118.30
1	C	157	ASP	CB-CG-OD2	-6.65	112.31	118.30
1	D	157	ASP	CB-CG-OD2	-6.64	112.32	118.30
1	A	157	ASP	CB-CG-OD2	-6.64	112.32	118.30
1	G	157	ASP	CB-CG-OD2	-6.64	112.33	118.30
1	B	157	ASP	CB-CG-OD2	-6.64	112.33	118.30
1	F	157	ASP	CB-CG-OD2	-6.63	112.34	118.30
1	H	157	ASP	CB-CG-OD2	-6.61	112.35	118.30
1	E	13	ARG	NE-CZ-NH2	-6.51	117.05	120.30
1	A	13	ARG	NE-CZ-NH2	-6.47	117.06	120.30
1	D	13	ARG	NE-CZ-NH2	-6.47	117.06	120.30
1	C	13	ARG	NE-CZ-NH2	-6.46	117.07	120.30
1	F	13	ARG	NE-CZ-NH2	-6.46	117.07	120.30
1	B	13	ARG	NE-CZ-NH2	-6.41	117.09	120.30
1	H	13	ARG	NE-CZ-NH2	-6.38	117.11	120.30
1	A	116	ASP	CB-CG-OD2	-6.31	112.62	118.30
1	G	13	ARG	NE-CZ-NH2	-6.30	117.15	120.30
1	G	116	ASP	CB-CG-OD2	-6.30	112.63	118.30
1	H	116	ASP	CB-CG-OD2	-6.29	112.64	118.30
1	C	116	ASP	CB-CG-OD2	-6.28	112.65	118.30
1	B	116	ASP	CB-CG-OD2	-6.27	112.66	118.30
1	F	116	ASP	CB-CG-OD2	-6.27	112.66	118.30
1	E	116	ASP	CB-CG-OD2	-6.25	112.68	118.30
1	D	116	ASP	CB-CG-OD2	-6.22	112.70	118.30
1	H	190	ASN	N-CA-CB	6.15	121.68	110.60
1	C	190	ASN	N-CA-CB	6.14	121.66	110.60
1	F	190	ASN	N-CA-CB	6.14	121.66	110.60
1	E	190	ASN	N-CA-CB	6.14	121.64	110.60
1	G	190	ASN	N-CA-CB	6.13	121.64	110.60
1	A	190	ASN	N-CA-CB	6.13	121.64	110.60
1	D	190	ASN	N-CA-CB	6.12	121.62	110.60
1	B	190	ASN	N-CA-CB	6.12	121.61	110.60
1	E	141	ARG	NE-CZ-NH1	5.93	123.27	120.30
1	H	77	ASP	CB-CG-OD2	-5.91	112.98	118.30
1	G	77	ASP	CB-CG-OD2	-5.90	112.99	118.30
1	A	77	ASP	CB-CG-OD2	-5.87	113.02	118.30
1	E	77	ASP	CB-CG-OD2	-5.87	113.02	118.30
1	F	77	ASP	CB-CG-OD2	-5.87	113.02	118.30
1	C	77	ASP	CB-CG-OD2	-5.87	113.02	118.30
1	B	77	ASP	CB-CG-OD2	-5.86	113.02	118.30
1	D	77	ASP	CB-CG-OD2	-5.86	113.03	118.30
1	F	141	ARG	NE-CZ-NH1	5.85	123.23	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	141	ARG	NE-CZ-NH1	5.84	123.22	120.30
1	C	220	PHE	CB-CG-CD2	5.81	124.87	120.80
1	G	141	ARG	NE-CZ-NH1	5.81	123.20	120.30
1	F	220	PHE	CB-CG-CD2	5.80	124.86	120.80
1	H	220	PHE	CB-CG-CD2	5.79	124.86	120.80
1	E	46	ASP	CB-CG-OD1	5.79	123.51	118.30
1	B	220	PHE	CB-CG-CD2	5.78	124.84	120.80
1	A	220	PHE	CB-CG-CD2	5.78	124.84	120.80
1	E	220	PHE	CB-CG-CD2	5.78	124.84	120.80
1	G	220	PHE	CB-CG-CD2	5.78	124.84	120.80
1	F	46	ASP	CB-CG-OD1	5.76	123.49	118.30
1	D	220	PHE	CB-CG-CD2	5.75	124.83	120.80
1	D	46	ASP	CB-CG-OD1	5.75	123.47	118.30
1	G	46	ASP	CB-CG-OD1	5.74	123.47	118.30
1	A	46	ASP	CB-CG-OD1	5.74	123.46	118.30
1	H	141	ARG	NE-CZ-NH1	5.73	123.17	120.30
1	C	46	ASP	CB-CG-OD1	5.73	123.45	118.30
1	B	46	ASP	CB-CG-OD1	5.72	123.45	118.30
1	D	141	ARG	NE-CZ-NH1	5.71	123.16	120.30
1	H	46	ASP	CB-CG-OD1	5.71	123.44	118.30
1	A	141	ARG	NE-CZ-NH1	5.70	123.15	120.30
1	C	141	ARG	NE-CZ-NH1	5.67	123.14	120.30
1	G	120	GLU	CA-CB-CG	-5.59	101.09	113.40
1	E	120	GLU	CA-CB-CG	-5.59	101.11	113.40
1	A	120	GLU	CA-CB-CG	-5.58	101.13	113.40
1	C	120	GLU	CA-CB-CG	-5.58	101.13	113.40
1	D	120	GLU	CA-CB-CG	-5.58	101.12	113.40
1	H	120	GLU	CA-CB-CG	-5.57	101.14	113.40
1	F	120	GLU	CA-CB-CG	-5.57	101.14	113.40
1	B	120	GLU	CA-CB-CG	-5.57	101.14	113.40
1	B	209	ASP	CB-CG-OD1	5.56	123.31	118.30
1	D	209	ASP	CB-CG-OD1	5.56	123.31	118.30
1	H	209	ASP	CB-CG-OD1	5.54	123.29	118.30
1	C	209	ASP	CB-CG-OD1	5.53	123.28	118.30
1	F	209	ASP	CB-CG-OD1	5.52	123.27	118.30
1	C	93	ASP	CB-CG-OD1	5.49	123.24	118.30
1	D	93	ASP	CB-CG-OD1	5.49	123.24	118.30
1	G	209	ASP	CB-CG-OD1	5.49	123.24	118.30
1	E	209	ASP	CB-CG-OD1	5.48	123.23	118.30
1	F	93	ASP	CB-CG-OD1	5.47	123.22	118.30
1	A	93	ASP	CB-CG-OD1	5.46	123.21	118.30
1	B	93	ASP	CB-CG-OD1	5.46	123.21	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	93	ASP	CB-CG-OD1	5.46	123.21	118.30
1	A	209	ASP	CB-CG-OD1	5.45	123.20	118.30
1	H	93	ASP	CB-CG-OD1	5.43	123.19	118.30
1	G	93	ASP	CB-CG-OD1	5.43	123.19	118.30
1	D	121	VAL	CA-CB-CG2	-5.39	102.81	110.90
1	B	121	VAL	CA-CB-CG2	-5.38	102.82	110.90
1	F	121	VAL	CA-CB-CG2	-5.38	102.83	110.90
1	E	121	VAL	CA-CB-CG2	-5.37	102.84	110.90
1	G	121	VAL	CA-CB-CG2	-5.37	102.85	110.90
1	H	121	VAL	CA-CB-CG2	-5.37	102.85	110.90
1	A	121	VAL	CA-CB-CG2	-5.35	102.87	110.90
1	C	121	VAL	CA-CB-CG2	-5.34	102.88	110.90
1	A	116	ASP	CB-CG-OD1	5.33	123.10	118.30
1	D	116	ASP	CB-CG-OD1	5.33	123.10	118.30
1	F	116	ASP	CB-CG-OD1	5.33	123.09	118.30
1	H	116	ASP	CB-CG-OD1	5.32	123.09	118.30
1	E	116	ASP	CB-CG-OD1	5.31	123.08	118.30
1	C	116	ASP	CB-CG-OD1	5.31	123.08	118.30
1	B	116	ASP	CB-CG-OD1	5.30	123.07	118.30
1	C	61	ASP	CB-CG-OD2	-5.29	113.53	118.30
1	G	116	ASP	CB-CG-OD1	5.29	123.06	118.30
1	A	61	ASP	CB-CG-OD2	-5.28	113.55	118.30
1	G	88	GLU	CG-CD-OE2	-5.26	107.79	118.30
1	F	61	ASP	CB-CG-OD2	-5.25	113.57	118.30
1	D	61	ASP	CB-CG-OD2	-5.25	113.58	118.30
1	B	61	ASP	CB-CG-OD2	-5.25	113.58	118.30
1	C	88	GLU	CG-CD-OE2	-5.25	107.81	118.30
1	B	88	GLU	CG-CD-OE2	-5.24	107.81	118.30
1	A	88	GLU	CG-CD-OE2	-5.24	107.82	118.30
1	D	88	GLU	CG-CD-OE2	-5.24	107.82	118.30
1	E	88	GLU	CG-CD-OE2	-5.24	107.83	118.30
1	H	61	ASP	CB-CG-OD2	-5.24	113.59	118.30
1	F	88	GLU	CG-CD-OE2	-5.23	107.84	118.30
1	H	88	GLU	CG-CD-OE2	-5.23	107.84	118.30
1	E	61	ASP	CB-CG-OD2	-5.22	113.60	118.30
1	G	61	ASP	CB-CG-OD2	-5.22	113.60	118.30
1	A	61	ASP	CB-CG-OD1	5.10	122.89	118.30
1	G	61	ASP	CB-CG-OD1	5.10	122.89	118.30
1	C	61	ASP	CB-CG-OD1	5.08	122.87	118.30
1	B	61	ASP	CB-CG-OD1	5.08	122.87	118.30
1	D	61	ASP	CB-CG-OD1	5.07	122.87	118.30
1	E	61	ASP	CB-CG-OD1	5.07	122.86	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	F	61	ASP	CB-CG-OD1	5.06	122.85	118.30
1	H	61	ASP	CB-CG-OD1	5.01	122.81	118.30

There are no chirality outliers.

There are no planarity outliers.

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	1777	0	1829	140	0
1	B	1777	0	1829	148	1
1	C	1777	0	1829	150	1
1	D	1777	0	1829	149	4
1	E	1777	0	1829	144	0
1	F	1777	0	1829	151	0
1	G	1777	0	1829	151	0
1	H	1777	0	1829	148	4
2	A	23	0	0	0	0
2	B	23	0	0	0	0
2	C	23	0	0	0	0
2	D	23	0	0	0	0
2	E	23	0	0	0	0
2	F	23	0	0	0	0
2	G	23	0	0	0	0
2	H	23	0	0	0	0
All	All	14400	0	14632	1094	5

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 38.

All (1094) 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:94:MET:CE	1:D:66:VAL:H	1.55	1.18
1:C:94:MET:HE2	1:D:66:VAL:N	1.62	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:94:MET:HE2	1:H:66:VAL:H	1.06	1.12
1:E:66:VAL:H	1:F:94:MET:CE	1.61	1.11
1:E:94:MET:HE1	1:F:65:LEU:HA	1.33	1.10
1:C:94:MET:CE	1:D:65:LEU:HA	1.83	1.08
1:E:65:LEU:HA	1:F:94:MET:HE1	1.26	1.08
1:E:94:MET:CE	1:F:66:VAL:H	1.65	1.08
1:G:65:LEU:HA	1:H:94:MET:HE1	1.33	1.08
1:A:66:VAL:H	1:B:94:MET:HE2	1.16	1.07
1:G:66:VAL:H	1:H:94:MET:HE2	0.98	1.07
1:C:66:VAL:H	1:D:94:MET:HE2	1.15	1.07
1:A:94:MET:HE2	1:B:66:VAL:H	1.08	1.07
1:E:94:MET:HE2	1:F:66:VAL:H	0.97	1.04
1:C:94:MET:HE1	1:D:65:LEU:HA	1.09	1.04
1:E:66:VAL:H	1:F:94:MET:HE2	0.90	1.03
1:G:66:VAL:H	1:H:94:MET:CE	1.71	1.03
1:A:94:MET:CE	1:B:66:VAL:H	1.71	1.03
1:C:65:LEU:HA	1:D:94:MET:HE1	1.42	1.01
1:E:66:VAL:N	1:F:94:MET:HE2	1.76	1.00
1:G:94:MET:HE1	1:H:65:LEU:HA	1.42	0.97
1:G:94:MET:CE	1:H:66:VAL:H	1.78	0.97
1:A:65:LEU:HA	1:B:94:MET:HE1	1.46	0.96
1:E:65:LEU:HA	1:F:94:MET:CE	1.96	0.96
1:G:65:LEU:HA	1:H:94:MET:CE	1.97	0.95
1:E:94:MET:HE2	1:F:66:VAL:N	1.82	0.94
1:A:94:MET:HE1	1:B:65:LEU:HA	1.50	0.93
1:G:66:VAL:N	1:H:94:MET:HE2	1.84	0.92
1:F:118:GLN:HG2	1:G:118:GLN:HG2	1.51	0.92
1:C:94:MET:HE2	1:D:66:VAL:H	0.76	0.91
1:C:119:LYS:NZ	1:C:123:ASN:HB2	1.86	0.91
1:E:94:MET:CE	1:F:65:LEU:HA	2.02	0.90
1:E:119:LYS:NZ	1:E:123:ASN:HB2	1.86	0.90
1:C:94:MET:HE1	1:D:65:LEU:CA	1.98	0.90
1:G:119:LYS:NZ	1:G:123:ASN:HB2	1.86	0.90
1:F:119:LYS:NZ	1:F:123:ASN:HB2	1.86	0.89
1:A:119:LYS:NZ	1:A:123:ASN:HB2	1.86	0.89
1:C:65:LEU:HA	1:D:94:MET:CE	2.01	0.89
1:B:119:LYS:NZ	1:B:123:ASN:HB2	1.86	0.89
1:D:119:LYS:NZ	1:D:123:ASN:HB2	1.86	0.89
1:H:119:LYS:NZ	1:H:123:ASN:HB2	1.86	0.88
1:D:141:ARG:HG2	1:D:141:ARG:HH11	1.39	0.88
1:B:141:ARG:HG2	1:B:141:ARG:HH11	1.39	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:141:ARG:HH11	1:A:141:ARG:HG2	1.39	0.87
1:C:94:MET:HE3	1:D:65:LEU:HB3	1.56	0.87
1:G:94:MET:CE	1:H:65:LEU:HA	2.04	0.87
1:E:141:ARG:HG2	1:E:141:ARG:HH11	1.39	0.87
1:H:141:ARG:HH11	1:H:141:ARG:HG2	1.39	0.87
1:C:141:ARG:HG2	1:C:141:ARG:HH11	1.39	0.86
1:F:141:ARG:HH11	1:F:141:ARG:HG2	1.39	0.86
1:G:141:ARG:HG2	1:G:141:ARG:HH11	1.39	0.86
1:F:118:GLN:CG	1:G:118:GLN:HG2	2.05	0.85
1:A:65:LEU:HA	1:B:94:MET:CE	2.08	0.84
1:A:66:VAL:H	1:B:94:MET:CE	1.91	0.83
1:A:94:MET:HE2	1:B:66:VAL:N	1.92	0.83
1:C:94:MET:CE	1:D:65:LEU:CA	2.55	0.83
1:G:60:ILE:HD13	1:G:74:TYR:HE2	1.44	0.83
1:C:60:ILE:HD13	1:C:74:TYR:HE2	1.44	0.82
1:F:60:ILE:HD13	1:F:74:TYR:HE2	1.44	0.81
1:A:94:MET:CE	1:B:65:LEU:HA	2.10	0.81
1:D:60:ILE:HD13	1:D:74:TYR:HE2	1.44	0.81
1:G:94:MET:HE2	1:H:66:VAL:N	1.92	0.80
1:H:60:ILE:HD13	1:H:74:TYR:HE2	1.44	0.80
1:E:60:ILE:HD13	1:E:74:TYR:HE2	1.44	0.80
1:H:214:ARG:HG2	1:H:214:ARG:HH11	1.47	0.80
1:A:60:ILE:HD13	1:A:74:TYR:HE2	1.44	0.79
1:E:214:ARG:HG2	1:E:214:ARG:HH11	1.48	0.79
1:F:214:ARG:HG2	1:F:214:ARG:HH11	1.48	0.79
1:B:60:ILE:HD13	1:B:74:TYR:HE2	1.44	0.79
1:B:214:ARG:HG2	1:B:214:ARG:HH11	1.47	0.79
1:H:112:LEU:HB2	1:H:117:GLN:HG2	1.65	0.78
1:A:112:LEU:HB2	1:A:117:GLN:HG2	1.65	0.78
1:A:214:ARG:HG2	1:A:214:ARG:HH11	1.47	0.78
1:B:112:LEU:HB2	1:B:117:GLN:HG2	1.65	0.78
1:G:112:LEU:HB2	1:G:117:GLN:HG2	1.65	0.78
1:D:214:ARG:HH11	1:D:214:ARG:HG2	1.48	0.78
1:C:66:VAL:H	1:D:94:MET:CE	1.93	0.77
1:C:94:MET:CE	1:D:66:VAL:N	2.32	0.77
1:G:214:ARG:HG2	1:G:214:ARG:HH11	1.47	0.77
1:C:214:ARG:HG2	1:C:214:ARG:HH11	1.47	0.77
1:D:112:LEU:HB2	1:D:117:GLN:HG2	1.65	0.77
1:E:112:LEU:HB2	1:E:117:GLN:HG2	1.65	0.77
1:E:66:VAL:N	1:F:94:MET:CE	2.41	0.77
1:F:118:GLN:NE2	1:G:118:GLN:HG2	2.00	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:37:THR:HB	1:C:40:GLN:HG3	1.67	0.76
1:D:37:THR:HB	1:D:40:GLN:HG3	1.67	0.76
1:F:112:LEU:HB2	1:F:117:GLN:HG2	1.65	0.76
1:B:37:THR:HB	1:B:40:GLN:HG3	1.67	0.76
1:E:94:MET:CE	1:F:66:VAL:N	2.46	0.76
1:E:113:LYS:H	1:E:113:LYS:NZ	1.84	0.76
1:A:37:THR:HB	1:A:40:GLN:HG3	1.67	0.76
1:F:118:GLN:HG2	1:G:118:GLN:CG	2.16	0.76
1:G:112:LEU:HA	1:G:113:LYS:HZ2	1.50	0.76
1:G:37:THR:HB	1:G:40:GLN:HG3	1.67	0.75
1:C:112:LEU:HB2	1:C:117:GLN:HG2	1.65	0.75
1:D:113:LYS:NZ	1:D:113:LYS:H	1.84	0.75
1:E:37:THR:HB	1:E:40:GLN:HG3	1.67	0.75
1:E:65:LEU:HB3	1:F:94:MET:HE3	1.66	0.75
1:F:112:LEU:HA	1:F:113:LYS:HZ2	1.50	0.75
1:A:113:LYS:NZ	1:A:113:LYS:H	1.84	0.75
1:H:113:LYS:CE	1:H:113:LYS:H	2.00	0.75
1:H:113:LYS:H	1:H:113:LYS:NZ	1.84	0.75
1:B:113:LYS:NZ	1:B:113:LYS:H	1.84	0.75
1:G:65:LEU:HB3	1:H:94:MET:HE3	1.68	0.75
1:D:113:LYS:H	1:D:113:LYS:CE	2.00	0.75
1:G:119:LYS:HZ2	1:G:123:ASN:HB2	1.50	0.75
1:F:37:THR:HB	1:F:40:GLN:HG3	1.67	0.75
1:F:113:LYS:NZ	1:F:113:LYS:H	1.84	0.74
1:G:113:LYS:H	1:G:113:LYS:CE	2.00	0.74
1:D:119:LYS:HZ2	1:D:123:ASN:HB2	1.48	0.74
1:E:113:LYS:H	1:E:113:LYS:CE	2.00	0.74
1:H:37:THR:HB	1:H:40:GLN:HG3	1.67	0.74
1:C:119:LYS:HZ2	1:C:123:ASN:HB2	1.50	0.74
1:A:113:LYS:H	1:A:113:LYS:CE	2.00	0.74
1:C:193:THR:HA	1:C:196:ARG:NH1	2.03	0.74
1:H:193:THR:HA	1:H:196:ARG:NH1	2.03	0.74
1:D:193:THR:HA	1:D:196:ARG:NH1	2.03	0.74
1:G:113:LYS:H	1:G:113:LYS:NZ	1.84	0.74
1:F:113:LYS:H	1:F:113:LYS:CE	2.00	0.74
1:C:113:LYS:H	1:C:113:LYS:NZ	1.84	0.74
1:F:193:THR:HA	1:F:196:ARG:NH1	2.03	0.73
1:A:193:THR:HA	1:A:196:ARG:NH1	2.03	0.73
1:C:112:LEU:HD22	1:C:113:LYS:NZ	2.03	0.73
1:B:113:LYS:H	1:B:113:LYS:CE	2.00	0.73
1:E:112:LEU:HD22	1:E:113:LYS:NZ	2.03	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:193:THR:HA	1:G:196:ARG:NH1	2.03	0.73
1:C:113:LYS:H	1:C:113:LYS:CE	2.00	0.73
1:H:112:LEU:HD22	1:H:113:LYS:NZ	2.03	0.73
1:B:112:LEU:HD22	1:B:113:LYS:NZ	2.03	0.73
1:B:193:THR:HA	1:B:196:ARG:NH1	2.03	0.73
1:C:9:TYR:CG	1:C:10:PRO:HD2	2.24	0.73
1:G:9:TYR:CG	1:G:10:PRO:HD2	2.24	0.73
1:A:9:TYR:CG	1:A:10:PRO:HD2	2.24	0.73
1:A:112:LEU:HD22	1:A:113:LYS:NZ	2.03	0.73
1:F:9:TYR:CG	1:F:10:PRO:HD2	2.24	0.73
1:B:9:TYR:CG	1:B:10:PRO:HD2	2.24	0.72
1:D:112:LEU:HD22	1:D:113:LYS:NZ	2.03	0.72
1:E:193:THR:HA	1:E:196:ARG:NH1	2.03	0.72
1:D:9:TYR:CG	1:D:10:PRO:HD2	2.24	0.72
1:A:112:LEU:HA	1:A:113:LYS:HZ2	1.51	0.72
1:E:112:LEU:HA	1:E:113:LYS:HZ2	1.54	0.72
1:B:38:LYS:O	1:B:41:LEU:HB3	1.90	0.72
1:F:112:LEU:HD22	1:F:113:LYS:NZ	2.03	0.72
1:E:38:LYS:O	1:E:41:LEU:HB3	1.90	0.72
1:H:9:TYR:CG	1:H:10:PRO:HD2	2.24	0.72
1:E:9:TYR:CG	1:E:10:PRO:HD2	2.24	0.71
1:H:119:LYS:HZ2	1:H:123:ASN:HB2	1.53	0.71
1:C:65:LEU:HB3	1:D:94:MET:HE3	1.70	0.71
1:D:38:LYS:O	1:D:41:LEU:HB3	1.90	0.71
1:G:112:LEU:HD22	1:G:113:LYS:NZ	2.03	0.71
1:F:118:GLN:CD	1:G:118:GLN:HG2	2.10	0.71
1:H:38:LYS:O	1:H:41:LEU:HB3	1.90	0.71
1:G:38:LYS:O	1:G:41:LEU:HB3	1.90	0.71
1:G:60:ILE:HD13	1:G:74:TYR:CE2	2.26	0.71
1:G:209:ASP:OD1	1:G:211:ILE:HB	1.91	0.71
1:C:209:ASP:OD1	1:C:211:ILE:HB	1.91	0.71
1:D:60:ILE:HD13	1:D:74:TYR:CE2	2.26	0.71
1:F:38:LYS:O	1:F:41:LEU:HB3	1.90	0.71
1:A:119:LYS:HZ3	1:A:123:ASN:HB2	1.55	0.70
1:A:209:ASP:OD1	1:A:211:ILE:HB	1.91	0.70
1:D:209:ASP:OD1	1:D:211:ILE:HB	1.91	0.70
1:F:60:ILE:HD13	1:F:74:TYR:CE2	2.26	0.70
1:E:60:ILE:HD13	1:E:74:TYR:CE2	2.26	0.70
1:A:104:GLU:O	1:A:108:MET:HG3	1.92	0.70
1:G:104:GLU:O	1:G:108:MET:HG3	1.92	0.70
1:H:60:ILE:HD13	1:H:74:TYR:CE2	2.26	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:209:ASP:OD1	1:F:211:ILE:HB	1.91	0.70
1:A:38:LYS:O	1:A:41:LEU:HB3	1.90	0.70
1:C:60:ILE:HD13	1:C:74:TYR:CE2	2.26	0.70
1:B:209:ASP:OD1	1:B:211:ILE:HB	1.91	0.69
1:E:209:ASP:OD1	1:E:211:ILE:HB	1.91	0.69
1:H:104:GLU:O	1:H:108:MET:HG3	1.92	0.69
1:E:104:GLU:O	1:E:108:MET:HG3	1.92	0.69
1:F:104:GLU:O	1:F:108:MET:HG3	1.92	0.69
1:A:60:ILE:HD13	1:A:74:TYR:CE2	2.26	0.69
1:C:38:LYS:O	1:C:41:LEU:HB3	1.90	0.69
1:E:119:LYS:HZ2	1:E:123:ASN:HB2	1.57	0.69
1:B:60:ILE:HD13	1:B:74:TYR:CE2	2.26	0.69
1:A:94:MET:CE	1:B:66:VAL:N	2.53	0.69
1:D:104:GLU:O	1:D:108:MET:HG3	1.92	0.69
1:H:209:ASP:OD1	1:H:211:ILE:HB	1.91	0.69
1:C:104:GLU:O	1:C:108:MET:HG3	1.92	0.69
1:B:104:GLU:O	1:B:108:MET:HG3	1.92	0.68
1:B:119:LYS:HZ2	1:B:123:ASN:HB2	1.54	0.68
1:D:113:LYS:H	1:D:113:LYS:HZ3	1.40	0.68
1:H:112:LEU:HA	1:H:113:LYS:HZ2	1.58	0.68
1:F:119:LYS:HZ3	1:F:123:ASN:HB2	1.60	0.67
1:E:41:LEU:O	1:E:45:GLN:HG2	1.95	0.66
1:H:18:SER:CB	1:H:162:GLN:HE22	2.09	0.66
1:G:41:LEU:O	1:G:45:GLN:HG2	1.95	0.66
1:E:65:LEU:CA	1:F:94:MET:CE	2.71	0.66
1:B:113:LYS:H	1:B:113:LYS:HZ3	1.43	0.66
1:C:41:LEU:O	1:C:45:GLN:HG2	1.95	0.66
1:D:41:LEU:O	1:D:45:GLN:HG2	1.96	0.66
1:F:119:LYS:HZ2	1:F:123:ASN:HB2	1.59	0.66
1:D:18:SER:CB	1:D:162:GLN:HE22	2.09	0.66
1:E:18:SER:CB	1:E:162:GLN:HE22	2.09	0.66
1:C:112:LEU:HA	1:C:113:LYS:HZ2	1.61	0.66
1:E:94:MET:HE3	1:F:65:LEU:HB3	1.77	0.66
1:A:41:LEU:O	1:A:45:GLN:HG2	1.96	0.65
1:G:18:SER:CB	1:G:162:GLN:HE22	2.09	0.65
1:B:41:LEU:O	1:B:45:GLN:HG2	1.96	0.65
1:H:41:LEU:O	1:H:45:GLN:HG2	1.96	0.65
1:A:18:SER:CB	1:A:162:GLN:HE22	2.09	0.65
1:C:18:SER:CB	1:C:162:GLN:HE22	2.09	0.65
1:B:18:SER:CB	1:B:162:GLN:HE22	2.09	0.65
1:A:113:LYS:O	1:A:116:ASP:N	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:69:ARG:HG3	1:B:69:ARG:HH11	1.62	0.65
1:D:69:ARG:HG3	1:D:69:ARG:HH11	1.62	0.65
1:F:18:SER:CB	1:F:162:GLN:HE22	2.09	0.65
1:F:41:LEU:O	1:F:45:GLN:HG2	1.96	0.65
1:G:94:MET:HE3	1:H:65:LEU:HB3	1.78	0.65
1:E:119:LYS:HZ3	1:E:123:ASN:HB2	1.61	0.65
1:C:69:ARG:HG3	1:C:69:ARG:HH11	1.62	0.64
1:G:69:ARG:HG3	1:G:69:ARG:HH11	1.62	0.64
1:A:69:ARG:HG3	1:A:69:ARG:HH11	1.62	0.64
1:F:69:ARG:HG3	1:F:69:ARG:HH11	1.62	0.64
1:G:66:VAL:N	1:H:94:MET:CE	2.50	0.64
1:A:65:LEU:HB3	1:B:94:MET:HE3	1.78	0.64
1:E:113:LYS:O	1:E:116:ASP:N	2.29	0.64
1:F:113:LYS:O	1:F:116:ASP:N	2.29	0.64
1:D:133:PHE:HB2	1:D:134:PRO:HD3	1.80	0.64
1:C:133:PHE:HB2	1:C:134:PRO:HD3	1.80	0.64
1:E:112:LEU:HA	1:E:113:LYS:NZ	2.13	0.64
1:C:112:LEU:HA	1:C:113:LYS:NZ	2.13	0.63
1:C:113:LYS:O	1:C:116:ASP:N	2.29	0.63
1:H:113:LYS:O	1:H:116:ASP:N	2.29	0.63
1:B:112:LEU:HA	1:B:113:LYS:NZ	2.13	0.63
1:A:94:MET:HE3	1:B:65:LEU:HB3	1.81	0.63
1:A:137:GLU:OE1	1:A:178:PHE:HB3	1.98	0.63
1:G:113:LYS:O	1:G:116:ASP:N	2.29	0.63
1:H:69:ARG:HG3	1:H:69:ARG:HH11	1.62	0.63
1:H:112:LEU:HA	1:H:113:LYS:NZ	2.13	0.63
1:A:112:LEU:HA	1:A:113:LYS:NZ	2.13	0.63
1:G:137:GLU:OE1	1:G:178:PHE:HB3	1.98	0.63
1:H:69:ARG:HH11	1:H:69:ARG:CG	2.12	0.63
1:B:137:GLU:OE1	1:B:178:PHE:HB3	1.98	0.63
1:D:137:GLU:OE1	1:D:178:PHE:HB3	1.98	0.63
1:E:69:ARG:HG3	1:E:69:ARG:HH11	1.62	0.63
1:F:39:GLU:O	1:F:43:LYS:HG3	1.99	0.63
1:B:69:ARG:HH11	1:B:69:ARG:CG	2.12	0.63
1:D:67:GLN:HB2	1:D:70:SER:HB2	1.81	0.63
1:E:69:ARG:HH11	1:E:69:ARG:CG	2.12	0.63
1:D:69:ARG:HH11	1:D:69:ARG:CG	2.12	0.63
1:F:69:ARG:HH11	1:F:69:ARG:CG	2.12	0.63
1:G:112:LEU:HA	1:G:113:LYS:NZ	2.13	0.63
1:G:215:THR:O	1:G:219:ILE:HG13	1.99	0.63
1:B:215:THR:O	1:B:219:ILE:HG13	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:112:LEU:HA	1:F:113:LYS:NZ	2.13	0.63
1:C:94:MET:CE	1:D:65:LEU:HB3	2.29	0.62
1:D:112:LEU:HA	1:D:113:LYS:NZ	2.13	0.62
1:E:67:GLN:HB2	1:E:70:SER:HB2	1.81	0.62
1:G:65:LEU:CA	1:H:94:MET:CE	2.74	0.62
1:G:39:GLU:O	1:G:43:LYS:HG3	1.99	0.62
1:E:215:THR:O	1:E:219:ILE:HG13	1.99	0.62
1:H:137:GLU:OE1	1:H:178:PHE:HB3	1.98	0.62
1:F:215:THR:O	1:F:219:ILE:HG13	1.99	0.62
1:B:112:LEU:HA	1:B:113:LYS:HZ2	1.64	0.62
1:C:39:GLU:O	1:C:43:LYS:HG3	1.99	0.62
1:C:141:ARG:HG2	1:C:141:ARG:NH1	2.14	0.62
1:F:137:GLU:OE1	1:F:178:PHE:HB3	1.98	0.62
1:H:133:PHE:HB2	1:H:134:PRO:HD3	1.80	0.62
1:A:67:GLN:HB2	1:A:70:SER:HB2	1.81	0.62
1:A:215:THR:O	1:A:219:ILE:HG13	1.99	0.62
1:B:113:LYS:O	1:B:116:ASP:N	2.29	0.62
1:C:69:ARG:HH11	1:C:69:ARG:CG	2.12	0.62
1:F:133:PHE:HB2	1:F:134:PRO:HD3	1.80	0.62
1:G:133:PHE:HB2	1:G:134:PRO:HD3	1.80	0.62
1:A:69:ARG:HH11	1:A:69:ARG:CG	2.12	0.62
1:C:215:THR:O	1:C:219:ILE:HG13	1.99	0.62
1:D:39:GLU:O	1:D:43:LYS:HG3	1.99	0.62
1:E:39:GLU:O	1:E:43:LYS:HG3	1.99	0.62
1:C:67:GLN:HB2	1:C:70:SER:HB2	1.81	0.62
1:C:137:GLU:OE1	1:C:178:PHE:HB3	1.98	0.62
1:D:215:THR:O	1:D:219:ILE:HG13	1.99	0.62
1:E:137:GLU:OE1	1:E:178:PHE:HB3	1.98	0.62
1:G:67:GLN:HB2	1:G:70:SER:HB2	1.81	0.62
1:A:133:PHE:HB2	1:A:134:PRO:HD3	1.80	0.62
1:B:133:PHE:HB2	1:B:134:PRO:HD3	1.80	0.62
1:E:133:PHE:HB2	1:E:134:PRO:HD3	1.80	0.62
1:G:69:ARG:HH11	1:G:69:ARG:CG	2.12	0.61
1:G:94:MET:CE	1:H:66:VAL:N	2.58	0.61
1:F:141:ARG:HG2	1:F:141:ARG:NH1	2.14	0.61
1:D:113:LYS:O	1:D:116:ASP:N	2.29	0.61
1:H:39:GLU:O	1:H:43:LYS:HG3	1.99	0.61
1:F:67:GLN:HB2	1:F:70:SER:HB2	1.81	0.61
1:A:39:GLU:O	1:A:43:LYS:HG3	1.99	0.61
1:B:67:GLN:HB2	1:B:70:SER:HB2	1.81	0.61
1:H:215:THR:O	1:H:219:ILE:HG13	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:119:LYS:HZ2	1:A:123:ASN:HB2	1.63	0.61
1:B:39:GLU:O	1:B:43:LYS:HG3	1.99	0.61
1:F:37:THR:HG22	1:F:39:GLU:H	1.66	0.61
1:G:37:THR:HG22	1:G:39:GLU:H	1.66	0.61
1:A:37:THR:HG22	1:A:39:GLU:H	1.66	0.60
1:B:119:LYS:HZ3	1:B:123:ASN:HB2	1.65	0.60
1:H:37:THR:HG22	1:H:39:GLU:H	1.66	0.60
1:H:67:GLN:HB2	1:H:70:SER:HB2	1.81	0.60
1:C:37:THR:HG22	1:C:39:GLU:H	1.66	0.60
1:C:113:LYS:H	1:C:113:LYS:HZ3	1.46	0.60
1:E:37:THR:HG22	1:E:39:GLU:H	1.66	0.60
1:G:141:ARG:HG2	1:G:141:ARG:NH1	2.14	0.60
1:E:94:MET:CE	1:F:65:LEU:CA	2.78	0.60
1:F:118:GLN:HG2	1:G:118:GLN:CD	2.22	0.60
1:H:119:LYS:HZ3	1:H:123:ASN:HB2	1.66	0.60
1:C:94:MET:CE	1:D:65:LEU:CB	2.80	0.60
1:B:37:THR:HG22	1:B:39:GLU:H	1.66	0.59
1:H:113:LYS:H	1:H:113:LYS:HZ3	1.49	0.59
1:B:112:LEU:HD22	1:B:113:LYS:HZ1	1.68	0.59
1:E:141:ARG:HG2	1:E:141:ARG:NH1	2.14	0.59
1:D:37:THR:HG22	1:D:39:GLU:H	1.66	0.59
1:C:112:LEU:HD22	1:C:113:LYS:HZ1	1.68	0.58
1:D:112:LEU:HA	1:D:113:LYS:HZ2	1.67	0.58
1:C:109:HIS:HB3	1:C:110:PRO:HD3	1.86	0.58
1:H:109:HIS:HB3	1:H:110:PRO:HD3	1.86	0.57
1:B:197:PHE:CZ	1:B:204:LYS:HB2	2.40	0.57
1:A:119:LYS:HD3	1:A:119:LYS:C	2.25	0.57
1:D:112:LEU:HD22	1:D:113:LYS:HZ1	1.67	0.57
1:D:119:LYS:HD3	1:D:119:LYS:C	2.25	0.57
1:D:197:PHE:CZ	1:D:204:LYS:HB2	2.40	0.57
1:F:80:ASN:HD21	1:F:84:LYS:HE2	1.70	0.57
1:G:80:ASN:HD21	1:G:84:LYS:HE2	1.70	0.57
1:H:112:LEU:HD22	1:H:113:LYS:HZ1	1.68	0.57
1:C:119:LYS:C	1:C:119:LYS:HD3	2.25	0.57
1:F:197:PHE:CZ	1:F:204:LYS:HB2	2.40	0.57
1:A:197:PHE:CZ	1:A:204:LYS:HB2	2.40	0.57
1:F:109:HIS:HB3	1:F:110:PRO:HD3	1.86	0.57
1:H:119:LYS:HD3	1:H:119:LYS:C	2.25	0.57
1:H:197:PHE:CZ	1:H:204:LYS:HB2	2.40	0.57
1:B:109:HIS:HB3	1:B:110:PRO:HD3	1.86	0.57
1:G:119:LYS:HD3	1:G:119:LYS:C	2.25	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:119:LYS:HD3	1:B:119:LYS:C	2.25	0.56
1:D:109:HIS:HB3	1:D:110:PRO:HD3	1.86	0.56
1:E:197:PHE:CZ	1:E:204:LYS:HB2	2.40	0.56
1:F:137:GLU:CD	1:F:180:PHE:HB2	2.26	0.56
1:B:80:ASN:HD21	1:B:84:LYS:HE2	1.70	0.56
1:D:80:ASN:HD21	1:D:84:LYS:HE2	1.70	0.56
1:A:109:HIS:HB3	1:A:110:PRO:HD3	1.86	0.56
1:A:112:LEU:HD22	1:A:113:LYS:HZ1	1.69	0.56
1:C:137:GLU:CD	1:C:180:PHE:HB2	2.26	0.56
1:D:141:ARG:HG2	1:D:141:ARG:NH1	2.14	0.56
1:E:112:LEU:HD22	1:E:113:LYS:HZ1	1.69	0.56
1:G:112:LEU:HD22	1:G:113:LYS:HZ1	1.70	0.56
1:G:137:GLU:CD	1:G:180:PHE:HB2	2.26	0.56
1:G:197:PHE:CZ	1:G:204:LYS:HB2	2.40	0.56
1:B:137:GLU:CD	1:B:180:PHE:HB2	2.26	0.56
1:A:137:GLU:CD	1:A:180:PHE:HB2	2.26	0.56
1:E:119:LYS:C	1:E:119:LYS:HD3	2.25	0.56
1:F:112:LEU:HD22	1:F:113:LYS:HZ1	1.69	0.56
1:F:119:LYS:HD3	1:F:119:LYS:C	2.25	0.56
1:C:80:ASN:HD21	1:C:84:LYS:HE2	1.70	0.56
1:E:80:ASN:HD21	1:E:84:LYS:HE2	1.70	0.56
1:H:211:ILE:HD12	1:H:211:ILE:N	2.21	0.56
1:A:164:ILE:O	1:A:168:GLU:HG3	2.06	0.56
1:F:211:ILE:HD12	1:F:211:ILE:N	2.21	0.56
1:C:66:VAL:N	1:D:94:MET:HE2	2.01	0.56
1:C:197:PHE:CZ	1:C:204:LYS:HB2	2.40	0.56
1:E:109:HIS:HB3	1:E:110:PRO:HD3	1.86	0.56
1:B:164:ILE:O	1:B:168:GLU:HG3	2.06	0.56
1:B:211:ILE:N	1:B:211:ILE:HD12	2.21	0.56
1:G:211:ILE:N	1:G:211:ILE:HD12	2.21	0.56
1:A:211:ILE:HD12	1:A:211:ILE:N	2.21	0.56
1:C:119:LYS:HZ3	1:C:123:ASN:HB2	1.69	0.56
1:E:211:ILE:HD12	1:E:211:ILE:N	2.21	0.56
1:G:94:MET:CE	1:H:65:LEU:CA	2.83	0.56
1:H:137:GLU:CD	1:H:180:PHE:HB2	2.26	0.56
1:A:141:ARG:HG2	1:A:141:ARG:NH1	2.14	0.55
1:B:141:ARG:HG2	1:B:141:ARG:NH1	2.14	0.55
1:D:137:GLU:CD	1:D:180:PHE:HB2	2.26	0.55
1:G:109:HIS:HB3	1:G:110:PRO:HD3	1.86	0.55
1:F:118:GLN:NE2	1:G:118:GLN:CG	2.69	0.55
1:C:65:LEU:CA	1:D:94:MET:CE	2.80	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:137:GLU:CD	1:E:180:PHE:HB2	2.26	0.55
1:E:164:ILE:O	1:E:168:GLU:HG3	2.06	0.55
1:H:80:ASN:HD21	1:H:84:LYS:HE2	1.70	0.55
1:A:80:ASN:HD21	1:A:84:LYS:HE2	1.70	0.55
1:C:164:ILE:O	1:C:168:GLU:HG3	2.06	0.55
1:H:164:ILE:O	1:H:168:GLU:HG3	2.06	0.55
1:C:211:ILE:HD12	1:C:211:ILE:N	2.21	0.55
1:D:211:ILE:N	1:D:211:ILE:HD12	2.21	0.55
1:G:164:ILE:O	1:G:168:GLU:HG3	2.06	0.55
1:G:178:PHE:O	1:G:182:GLN:HG3	2.07	0.55
1:H:178:PHE:O	1:H:182:GLN:HG3	2.07	0.55
1:C:178:PHE:O	1:C:182:GLN:HG3	2.07	0.55
1:D:178:PHE:O	1:D:182:GLN:HG3	2.07	0.55
1:A:178:PHE:O	1:A:182:GLN:HG3	2.07	0.54
1:E:113:LYS:H	1:E:113:LYS:HZ3	1.55	0.54
1:A:51:LEU:HB3	1:A:66:VAL:HG21	1.90	0.54
1:D:164:ILE:O	1:D:168:GLU:HG3	2.06	0.54
1:E:92:ILE:HD13	1:E:154:SER:HB2	1.90	0.54
1:H:92:ILE:HD13	1:H:154:SER:HB2	1.89	0.54
1:E:178:PHE:O	1:E:182:GLN:HG3	2.07	0.54
1:F:164:ILE:O	1:F:168:GLU:HG3	2.06	0.54
1:B:51:LEU:HB3	1:B:66:VAL:HG21	1.90	0.54
1:D:51:LEU:HB3	1:D:66:VAL:HG21	1.90	0.54
1:F:51:LEU:HB3	1:F:66:VAL:HG21	1.90	0.54
1:B:178:PHE:O	1:B:182:GLN:HG3	2.07	0.54
1:D:175:LEU:O	1:D:178:PHE:N	2.38	0.54
1:B:92:ILE:HD13	1:B:154:SER:HB2	1.90	0.53
1:C:113:LYS:O	1:C:115:ASP:N	2.41	0.53
1:F:178:PHE:O	1:F:182:GLN:HG3	2.07	0.53
1:G:113:LYS:O	1:G:115:ASP:N	2.41	0.53
1:F:145:GLN:HB3	1:F:151:ASN:OD1	2.09	0.53
1:A:92:ILE:O	1:A:96:VAL:HG23	2.09	0.53
1:B:145:GLN:HB3	1:B:151:ASN:OD1	2.09	0.53
1:F:92:ILE:O	1:F:96:VAL:HG23	2.09	0.53
1:G:51:LEU:HB3	1:G:66:VAL:HG21	1.90	0.53
1:A:145:GLN:HB3	1:A:151:ASN:OD1	2.09	0.53
1:D:92:ILE:HD13	1:D:154:SER:HB2	1.89	0.53
1:F:92:ILE:HD13	1:F:154:SER:HB2	1.90	0.53
1:A:92:ILE:HD13	1:A:154:SER:HB2	1.89	0.53
1:B:113:LYS:O	1:B:115:ASP:N	2.41	0.53
1:E:113:LYS:O	1:E:115:ASP:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:145:GLN:HB3	1:G:151:ASN:OD1	2.09	0.53
1:H:37:THR:CB	1:H:40:GLN:HG3	2.39	0.53
1:H:145:GLN:HB3	1:H:151:ASN:OD1	2.09	0.53
1:D:113:LYS:O	1:D:115:ASP:N	2.41	0.53
1:F:113:LYS:O	1:F:115:ASP:N	2.41	0.53
1:H:113:LYS:O	1:H:115:ASP:N	2.41	0.53
1:E:51:LEU:HB3	1:E:66:VAL:HG21	1.90	0.53
1:A:113:LYS:O	1:A:115:ASP:N	2.41	0.53
1:C:92:ILE:O	1:C:96:VAL:HG23	2.09	0.53
1:E:92:ILE:O	1:E:96:VAL:HG23	2.09	0.53
1:E:175:LEU:O	1:E:178:PHE:N	2.38	0.53
1:G:92:ILE:HD13	1:G:154:SER:HB2	1.90	0.53
1:E:145:GLN:HB3	1:E:151:ASN:OD1	2.09	0.52
1:C:51:LEU:HB3	1:C:66:VAL:HG21	1.90	0.52
1:G:175:LEU:O	1:G:178:PHE:N	2.38	0.52
1:H:92:ILE:O	1:H:96:VAL:HG23	2.09	0.52
1:C:92:ILE:HD13	1:C:154:SER:HB2	1.89	0.52
1:D:92:ILE:O	1:D:96:VAL:HG23	2.09	0.52
1:G:184:TYR:CZ	1:G:188:LEU:HD11	2.45	0.52
1:A:184:TYR:CZ	1:A:188:LEU:HD11	2.45	0.52
1:D:184:TYR:CZ	1:D:188:LEU:HD11	2.45	0.52
1:F:184:TYR:CZ	1:F:188:LEU:HD11	2.45	0.52
1:H:214:ARG:HH11	1:H:214:ARG:CG	2.21	0.52
1:C:37:THR:CB	1:C:40:GLN:HG3	2.39	0.52
1:E:143:HIS:ND1	1:E:145:GLN:N	2.53	0.52
1:B:92:ILE:O	1:B:96:VAL:HG23	2.09	0.52
1:G:92:ILE:O	1:G:96:VAL:HG23	2.09	0.52
1:F:179:PRO:HB3	1:H:42:TYR:CZ	2.45	0.52
1:G:65:LEU:CB	1:H:94:MET:HE3	2.38	0.52
1:B:184:TYR:CZ	1:B:188:LEU:HD11	2.45	0.52
1:D:143:HIS:ND1	1:D:145:GLN:N	2.53	0.52
1:E:37:THR:CB	1:E:40:GLN:HG3	2.39	0.52
1:H:51:LEU:HB3	1:H:66:VAL:HG21	1.90	0.52
1:C:145:GLN:HB3	1:C:151:ASN:OD1	2.09	0.52
1:F:214:ARG:HG2	1:F:214:ARG:NH1	2.23	0.52
1:H:184:TYR:CZ	1:H:188:LEU:HD11	2.45	0.52
1:A:214:ARG:HH11	1:A:214:ARG:CG	2.21	0.51
1:D:145:GLN:HB3	1:D:151:ASN:OD1	2.09	0.51
1:D:214:ARG:HG2	1:D:214:ARG:NH1	2.23	0.51
1:C:143:HIS:ND1	1:C:145:GLN:N	2.53	0.51
1:C:184:TYR:CZ	1:C:188:LEU:HD11	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:119:LYS:HZ3	1:G:123:ASN:HB2	1.69	0.51
1:D:59:GLU:HA	1:D:63:MET:O	2.11	0.51
1:B:59:GLU:HA	1:B:63:MET:O	2.10	0.51
1:C:85:ASN:O	1:C:89:ARG:HB2	2.11	0.51
1:E:184:TYR:CZ	1:E:188:LEU:HD11	2.45	0.51
1:F:85:ASN:O	1:F:89:ARG:HB2	2.11	0.51
1:G:211:ILE:HD12	1:G:211:ILE:H	1.76	0.51
1:A:59:GLU:HA	1:A:63:MET:O	2.11	0.51
1:D:85:ASN:O	1:D:89:ARG:HB2	2.11	0.51
1:B:175:LEU:O	1:B:178:PHE:N	2.38	0.51
1:B:143:HIS:ND1	1:B:145:GLN:N	2.53	0.51
1:C:59:GLU:HA	1:C:63:MET:O	2.11	0.51
1:D:214:ARG:HH11	1:D:214:ARG:CG	2.21	0.51
1:E:214:ARG:HH11	1:E:214:ARG:CG	2.21	0.51
1:F:37:THR:CB	1:F:40:GLN:HG3	2.39	0.51
1:F:214:ARG:HH11	1:F:214:ARG:CG	2.21	0.51
1:G:59:GLU:HA	1:G:63:MET:O	2.10	0.51
1:H:175:LEU:O	1:H:178:PHE:N	2.38	0.51
1:A:85:ASN:O	1:A:89:ARG:HB2	2.11	0.51
1:A:113:LYS:H	1:A:113:LYS:HZ3	1.59	0.51
1:B:146:SER:HB3	1:B:187:LYS:HZ3	1.76	0.51
1:E:59:GLU:HA	1:E:63:MET:O	2.11	0.51
1:G:214:ARG:HH11	1:G:214:ARG:CG	2.21	0.51
1:A:211:ILE:HD12	1:A:211:ILE:H	1.76	0.50
1:F:59:GLU:HA	1:F:63:MET:O	2.11	0.50
1:H:112:LEU:CB	1:H:117:GLN:HG2	2.40	0.50
1:B:214:ARG:HH11	1:B:214:ARG:CG	2.21	0.50
1:C:192:PRO:O	1:C:196:ARG:HG3	2.12	0.50
1:E:211:ILE:HD12	1:E:211:ILE:H	1.76	0.50
1:F:118:GLN:HE21	1:G:118:GLN:CG	2.25	0.50
1:G:85:ASN:O	1:G:89:ARG:HB2	2.11	0.50
1:C:94:MET:HG2	1:D:66:VAL:O	2.11	0.50
1:C:211:ILE:HD12	1:C:211:ILE:H	1.76	0.50
1:D:60:ILE:CD1	1:D:74:TYR:HE2	2.21	0.50
1:B:85:ASN:O	1:B:89:ARG:HB2	2.11	0.50
1:C:175:LEU:O	1:C:178:PHE:N	2.38	0.50
1:D:211:ILE:HD12	1:D:211:ILE:H	1.76	0.50
1:F:175:LEU:O	1:F:178:PHE:N	2.38	0.50
1:A:65:LEU:CA	1:B:94:MET:CE	2.86	0.50
1:B:192:PRO:O	1:B:196:ARG:HG3	2.12	0.50
1:H:59:GLU:HA	1:H:63:MET:O	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:85:ASN:O	1:E:89:ARG:HB2	2.11	0.50
1:G:60:ILE:CD1	1:G:74:TYR:HE2	2.21	0.50
1:A:192:PRO:O	1:A:196:ARG:HG3	2.12	0.50
1:D:192:PRO:O	1:D:196:ARG:HG3	2.12	0.50
1:F:192:PRO:O	1:F:196:ARG:HG3	2.12	0.50
1:G:192:PRO:O	1:G:196:ARG:HG3	2.12	0.50
1:H:211:ILE:HD12	1:H:211:ILE:H	1.76	0.50
1:B:60:ILE:CD1	1:B:74:TYR:HE2	2.21	0.49
1:C:9:TYR:CE1	1:C:56:PRO:HD3	2.47	0.49
1:G:9:TYR:CE1	1:G:56:PRO:HD3	2.47	0.49
1:H:9:TYR:CE1	1:H:56:PRO:HD3	2.47	0.49
1:H:192:PRO:O	1:H:196:ARG:HG3	2.12	0.49
1:B:18:SER:HB3	1:B:162:GLN:HE22	1.78	0.49
1:D:9:TYR:CE1	1:D:56:PRO:HD3	2.47	0.49
1:C:65:LEU:CB	1:D:94:MET:HE3	2.41	0.49
1:C:214:ARG:HH11	1:C:214:ARG:CG	2.21	0.49
1:F:179:PRO:HB3	1:H:42:TYR:CE2	2.47	0.49
1:G:143:HIS:ND1	1:G:145:GLN:N	2.53	0.49
1:B:211:ILE:HD12	1:B:211:ILE:H	1.76	0.49
1:C:18:SER:HB3	1:C:162:GLN:HE22	1.78	0.49
1:F:47:GLY:O	1:F:48:ASN:HB2	2.13	0.49
1:A:9:TYR:CE1	1:A:56:PRO:HD3	2.47	0.49
1:E:65:LEU:CB	1:F:94:MET:HE3	2.38	0.49
1:H:18:SER:HB3	1:H:162:GLN:HE22	1.78	0.49
1:A:47:GLY:O	1:A:48:ASN:HB2	2.12	0.49
1:A:143:HIS:ND1	1:A:145:GLN:N	2.53	0.49
1:B:47:GLY:O	1:B:48:ASN:HB2	2.13	0.49
1:D:7:LEU:HD12	1:D:7:LEU:N	2.27	0.49
1:G:37:THR:CB	1:G:40:GLN:HG3	2.39	0.49
1:H:85:ASN:O	1:H:89:ARG:HB2	2.11	0.49
1:B:9:TYR:CE1	1:B:56:PRO:HD3	2.47	0.49
1:D:37:THR:CB	1:D:40:GLN:HG3	2.39	0.49
1:D:146:SER:HB3	1:D:187:LYS:HZ3	1.77	0.49
1:E:192:PRO:O	1:E:196:ARG:HG3	2.12	0.49
1:F:211:ILE:HD12	1:F:211:ILE:H	1.76	0.49
1:H:47:GLY:O	1:H:48:ASN:HB2	2.13	0.49
1:F:9:TYR:CE1	1:F:56:PRO:HD3	2.47	0.49
1:E:9:TYR:CE1	1:E:56:PRO:HD3	2.47	0.49
1:H:7:LEU:HD12	1:H:7:LEU:N	2.28	0.49
1:B:37:THR:CB	1:B:40:GLN:HG3	2.39	0.49
1:F:18:SER:HB3	1:F:162:GLN:HE22	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:112:LEU:CB	1:A:117:GLN:HG2	2.40	0.48
1:C:47:GLY:O	1:C:48:ASN:HB2	2.13	0.48
1:F:146:SER:HB3	1:F:187:LYS:HZ3	1.77	0.48
1:H:141:ARG:HG2	1:H:141:ARG:NH1	2.14	0.48
1:A:7:LEU:HD12	1:A:7:LEU:N	2.27	0.48
1:A:94:MET:CE	1:B:65:LEU:CA	2.88	0.48
1:C:7:LEU:N	1:C:7:LEU:HD12	2.27	0.48
1:H:60:ILE:CD1	1:H:74:TYR:HE2	2.21	0.48
1:B:112:LEU:CB	1:B:117:GLN:HG2	2.41	0.48
1:C:60:ILE:CD1	1:C:74:TYR:HE2	2.21	0.48
1:D:78:LYS:HD2	1:D:78:LYS:HA	1.43	0.48
1:G:58:VAL:O	1:G:65:LEU:N	2.44	0.48
1:D:58:VAL:O	1:D:65:LEU:N	2.44	0.48
1:E:58:VAL:O	1:E:65:LEU:N	2.44	0.48
1:C:141:ARG:HD2	1:C:180:PHE:CE2	2.49	0.48
1:F:133:PHE:N	1:F:134:PRO:CD	2.77	0.48
1:E:112:LEU:CB	1:E:117:GLN:HG2	2.41	0.48
1:G:7:LEU:N	1:G:7:LEU:HD12	2.27	0.48
1:H:141:ARG:HD2	1:H:180:PHE:CE2	2.49	0.48
1:B:7:LEU:N	1:B:7:LEU:HD12	2.28	0.48
1:D:47:GLY:O	1:D:48:ASN:HB2	2.13	0.48
1:E:207:PRO:HA	1:E:208:PRO:HD3	1.52	0.48
1:E:87:LYS:HA	1:E:87:LYS:HD3	1.61	0.48
1:G:18:SER:HB3	1:G:162:GLN:HE22	1.78	0.48
1:A:109:HIS:N	1:A:110:PRO:HD2	2.29	0.47
1:D:18:SER:HB3	1:D:162:GLN:HE22	1.78	0.47
1:E:7:LEU:N	1:E:7:LEU:HD12	2.28	0.47
1:E:18:SER:HB3	1:E:162:GLN:HE22	1.78	0.47
1:E:141:ARG:HD2	1:E:180:PHE:CE2	2.49	0.47
1:G:47:GLY:O	1:G:48:ASN:HB2	2.12	0.47
1:H:143:HIS:ND1	1:H:145:GLN:N	2.53	0.47
1:A:37:THR:CB	1:A:40:GLN:HG3	2.39	0.47
1:C:146:SER:HB3	1:C:187:LYS:HZ3	1.79	0.47
1:D:109:HIS:N	1:D:110:PRO:HD2	2.29	0.47
1:D:141:ARG:HD2	1:D:180:PHE:CE2	2.49	0.47
1:E:109:HIS:N	1:E:110:PRO:HD2	2.29	0.47
1:F:112:LEU:CB	1:F:117:GLN:HG2	2.41	0.47
1:A:175:LEU:O	1:A:178:PHE:N	2.38	0.47
1:B:214:ARG:HG2	1:B:214:ARG:NH1	2.23	0.47
1:H:214:ARG:HG2	1:H:214:ARG:NH1	2.23	0.47
1:A:18:SER:HB3	1:A:162:GLN:HE22	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:109:HIS:N	1:B:110:PRO:HD2	2.29	0.47
1:G:214:ARG:CG	1:G:214:ARG:NH1	2.78	0.47
1:B:133:PHE:N	1:B:134:PRO:CD	2.77	0.47
1:B:214:ARG:CG	1:B:214:ARG:NH1	2.78	0.47
1:C:214:ARG:CG	1:C:214:ARG:NH1	2.78	0.47
1:D:133:PHE:N	1:D:134:PRO:CD	2.77	0.47
1:F:7:LEU:HD12	1:F:7:LEU:N	2.27	0.47
1:F:109:HIS:N	1:F:110:PRO:HD2	2.29	0.47
1:G:109:HIS:N	1:G:110:PRO:HD2	2.29	0.47
1:G:141:ARG:HD2	1:G:180:PHE:CE2	2.49	0.47
1:B:141:ARG:HD2	1:B:180:PHE:CE2	2.49	0.47
1:C:109:HIS:N	1:C:110:PRO:HD2	2.30	0.47
1:C:112:LEU:CB	1:C:117:GLN:HG2	2.41	0.47
1:F:60:ILE:CD1	1:F:74:TYR:HE2	2.21	0.47
1:F:193:THR:HA	1:F:196:ARG:HH12	1.79	0.47
1:G:129:ILE:HD12	1:G:129:ILE:HG23	1.66	0.47
1:A:66:VAL:N	1:B:94:MET:HE2	2.02	0.47
1:A:133:PHE:N	1:A:134:PRO:CD	2.77	0.47
1:A:141:ARG:HD2	1:A:180:PHE:CE2	2.49	0.47
1:C:84:LYS:O	1:C:85:ASN:HB3	2.15	0.47
1:C:100:LEU:HD23	1:C:100:LEU:HA	1.64	0.47
1:D:23:LEU:HD23	1:D:23:LEU:HA	1.72	0.47
1:E:47:GLY:O	1:E:48:ASN:HB2	2.13	0.47
1:E:133:PHE:N	1:E:134:PRO:CD	2.77	0.47
1:F:44:LEU:HD12	1:F:44:LEU:HA	1.68	0.47
1:F:84:LYS:O	1:F:85:ASN:HB3	2.15	0.47
1:G:133:PHE:N	1:G:134:PRO:CD	2.77	0.47
1:A:66:VAL:N	1:B:94:MET:CE	2.71	0.47
1:F:141:ARG:HD2	1:F:180:PHE:CE2	2.49	0.47
1:F:207:PRO:HA	1:F:208:PRO:HD3	1.52	0.47
1:H:129:ILE:HG23	1:H:129:ILE:HD12	1.66	0.47
1:H:133:PHE:N	1:H:134:PRO:CD	2.77	0.47
1:H:214:ARG:HA	1:H:214:ARG:HD2	1.60	0.47
1:D:84:LYS:O	1:D:85:ASN:HB3	2.15	0.47
1:D:113:LYS:N	1:D:113:LYS:CD	2.78	0.47
1:D:211:ILE:H	1:D:211:ILE:CD1	2.28	0.47
1:F:100:LEU:HD23	1:F:100:LEU:HA	1.64	0.47
1:C:66:VAL:N	1:D:94:MET:CE	2.72	0.47
1:C:133:PHE:N	1:C:134:PRO:CD	2.77	0.47
1:G:113:LYS:N	1:G:113:LYS:CD	2.78	0.47
1:G:181:LEU:HD23	1:G:181:LEU:HA	1.73	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:58:VAL:O	1:H:65:LEU:N	2.44	0.47
1:H:109:HIS:N	1:H:110:PRO:HD2	2.29	0.47
1:H:211:ILE:H	1:H:211:ILE:CD1	2.28	0.47
1:A:129:ILE:O	1:A:129:ILE:HG22	2.16	0.46
1:A:214:ARG:HD2	1:A:214:ARG:HA	1.60	0.46
1:D:113:LYS:HZ3	1:D:113:LYS:N	2.11	0.46
1:E:100:LEU:HA	1:E:100:LEU:HD23	1.64	0.46
1:G:193:THR:HA	1:G:196:ARG:HH12	1.79	0.46
1:G:211:ILE:H	1:G:211:ILE:CD1	2.28	0.46
1:C:52:PHE:O	1:C:54:GLN:HG3	2.16	0.46
1:F:9:TYR:CD1	1:F:10:PRO:HD2	2.51	0.46
1:G:214:ARG:HG2	1:G:214:ARG:NH1	2.23	0.46
1:H:193:THR:HA	1:H:196:ARG:HH12	1.79	0.46
1:B:214:ARG:HD2	1:B:214:ARG:HA	1.60	0.46
1:C:178:PHE:HA	1:C:179:PRO:HD2	1.38	0.46
1:E:113:LYS:N	1:E:113:LYS:CD	2.78	0.46
1:G:178:PHE:HA	1:G:179:PRO:HD2	1.38	0.46
1:A:52:PHE:O	1:A:54:GLN:HG3	2.16	0.46
1:A:58:VAL:O	1:A:65:LEU:N	2.44	0.46
1:A:207:PRO:HA	1:A:208:PRO:HD3	1.52	0.46
1:A:211:ILE:H	1:A:211:ILE:CD1	2.28	0.46
1:B:175:LEU:HD23	1:B:175:LEU:HA	1.74	0.46
1:D:9:TYR:CD1	1:D:10:PRO:HD2	2.51	0.46
1:H:113:LYS:CD	1:H:113:LYS:N	2.78	0.46
1:H:191:ILE:CG2	1:H:192:PRO:HD2	2.46	0.46
1:A:78:LYS:HD2	1:A:78:LYS:HA	1.43	0.46
1:B:52:PHE:O	1:B:54:GLN:HG3	2.16	0.46
1:B:117:GLN:O	1:B:121:VAL:HG23	2.16	0.46
1:C:9:TYR:CD1	1:C:10:PRO:HD2	2.51	0.46
1:C:193:THR:HA	1:C:196:ARG:HH12	1.79	0.46
1:E:60:ILE:CD1	1:E:74:TYR:HE2	2.21	0.46
1:E:113:LYS:HA	1:E:114:PRO:HD3	1.50	0.46
1:G:9:TYR:CD1	1:G:10:PRO:HD2	2.51	0.46
1:G:191:ILE:CG2	1:G:192:PRO:HD2	2.46	0.46
1:H:52:PHE:O	1:H:54:GLN:HG3	2.16	0.46
1:H:113:LYS:HA	1:H:114:PRO:HD3	1.50	0.46
1:C:113:LYS:CD	1:C:113:LYS:N	2.79	0.46
1:E:117:GLN:O	1:E:121:VAL:HG23	2.16	0.46
1:E:193:THR:HA	1:E:196:ARG:HH12	1.79	0.46
1:F:129:ILE:O	1:F:129:ILE:HG22	2.16	0.46
1:G:84:LYS:O	1:G:85:ASN:HB3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:113:LYS:CD	1:A:113:LYS:N	2.78	0.46
1:B:129:ILE:O	1:B:129:ILE:HG22	2.16	0.46
1:D:191:ILE:HA	1:D:192:PRO:HD3	1.49	0.46
1:E:9:TYR:CD1	1:E:10:PRO:HD2	2.51	0.46
1:G:113:LYS:H	1:G:113:LYS:HZ3	1.61	0.46
1:C:59:GLU:OE1	1:G:211:ILE:HD11	2.16	0.46
1:C:181:LEU:HD23	1:C:181:LEU:HA	1.74	0.46
1:E:191:ILE:CG2	1:E:192:PRO:HD2	2.46	0.46
1:F:113:LYS:CD	1:F:113:LYS:N	2.78	0.46
1:F:191:ILE:CG2	1:F:192:PRO:HD2	2.46	0.46
1:F:214:ARG:NH1	1:F:214:ARG:CG	2.78	0.46
1:H:44:LEU:HD12	1:H:44:LEU:HA	1.68	0.46
1:H:214:ARG:CG	1:H:214:ARG:NH1	2.78	0.46
1:B:193:THR:HA	1:B:196:ARG:HH12	1.79	0.46
1:C:214:ARG:HA	1:C:214:ARG:HD2	1.60	0.46
1:D:44:LEU:HD12	1:D:44:LEU:HA	1.68	0.46
1:D:52:PHE:O	1:D:54:GLN:HG3	2.16	0.46
1:F:214:ARG:HD2	1:F:214:ARG:HA	1.60	0.46
1:H:9:TYR:CD1	1:H:10:PRO:HD2	2.51	0.46
1:H:207:PRO:HA	1:H:208:PRO:HD3	1.52	0.46
1:B:113:LYS:N	1:B:113:LYS:CD	2.78	0.46
1:B:191:ILE:CG2	1:B:192:PRO:HD2	2.46	0.46
1:B:211:ILE:H	1:B:211:ILE:CD1	2.28	0.46
1:C:211:ILE:H	1:C:211:ILE:CD1	2.28	0.46
1:F:148:LEU:HD23	1:F:148:LEU:HA	1.79	0.46
1:G:207:PRO:HA	1:G:208:PRO:HD3	1.52	0.46
1:H:84:LYS:O	1:H:85:ASN:HB3	2.15	0.46
1:H:117:GLN:O	1:H:121:VAL:HG23	2.16	0.46
1:A:84:LYS:O	1:A:85:ASN:HB3	2.15	0.45
1:B:84:LYS:O	1:B:85:ASN:HB3	2.15	0.45
1:E:52:PHE:O	1:E:54:GLN:HG3	2.16	0.45
1:G:129:ILE:O	1:G:129:ILE:HG22	2.16	0.45
1:A:146:SER:HB3	1:A:187:LYS:HZ3	1.81	0.45
1:E:211:ILE:H	1:E:211:ILE:CD1	2.28	0.45
1:F:78:LYS:HA	1:F:78:LYS:HD2	1.43	0.45
1:G:146:SER:HB3	1:G:187:LYS:HZ3	1.81	0.45
1:A:9:TYR:CD1	1:A:10:PRO:HD2	2.50	0.45
1:A:191:ILE:CG2	1:A:192:PRO:HD2	2.46	0.45
1:B:78:LYS:HD2	1:B:78:LYS:HA	1.43	0.45
1:B:213:VAL:CG1	1:B:217:TYR:CE2	3.00	0.45
1:C:106:LEU:HD11	1:C:167:LEU:HG	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:191:ILE:CG2	1:C:192:PRO:HD2	2.46	0.45
1:D:191:ILE:CG2	1:D:192:PRO:HD2	2.46	0.45
1:F:113:LYS:H	1:F:113:LYS:HZ3	1.61	0.45
1:F:117:GLN:O	1:F:121:VAL:HG23	2.16	0.45
1:G:117:GLN:O	1:G:121:VAL:HG23	2.16	0.45
1:G:213:VAL:CG1	1:G:217:TYR:CE2	3.00	0.45
1:D:117:GLN:O	1:D:121:VAL:HG23	2.16	0.45
1:E:84:LYS:O	1:E:85:ASN:HB3	2.15	0.45
1:B:9:TYR:CD1	1:B:10:PRO:HD2	2.51	0.45
1:D:213:VAL:CG1	1:D:217:TYR:CE2	3.00	0.45
1:D:214:ARG:NH1	1:D:214:ARG:CG	2.78	0.45
1:G:103:LEU:O	1:G:106:LEU:HB2	2.17	0.45
1:G:106:LEU:HD11	1:G:167:LEU:HG	1.99	0.45
1:B:23:LEU:HA	1:B:23:LEU:HD23	1.72	0.45
1:C:148:LEU:HD23	1:C:148:LEU:HA	1.79	0.45
1:F:7:LEU:N	1:F:7:LEU:CD1	2.80	0.45
1:F:211:ILE:H	1:F:211:ILE:CD1	2.28	0.45
1:A:7:LEU:N	1:A:7:LEU:CD1	2.80	0.45
1:A:129:ILE:HD12	1:A:129:ILE:HG23	1.66	0.45
1:C:175:LEU:HD23	1:C:175:LEU:HA	1.74	0.45
1:D:9:TYR:HE1	1:D:56:PRO:HD3	1.82	0.45
1:D:119:LYS:HZ3	1:D:123:ASN:HB2	1.71	0.45
1:D:193:THR:HA	1:D:196:ARG:HH12	1.79	0.45
1:E:219:ILE:HG22	1:E:219:ILE:O	2.17	0.45
1:F:52:PHE:O	1:F:54:GLN:HG3	2.16	0.45
1:F:58:VAL:O	1:F:65:LEU:N	2.44	0.45
1:F:103:LEU:O	1:F:106:LEU:HB2	2.17	0.45
1:F:106:LEU:HD11	1:F:167:LEU:HG	1.98	0.45
1:G:113:LYS:HA	1:G:114:PRO:HD3	1.50	0.45
1:H:106:LEU:HD11	1:H:167:LEU:HG	1.99	0.45
1:H:175:LEU:HA	1:H:175:LEU:HD23	1.74	0.45
1:A:117:GLN:O	1:A:121:VAL:HG23	2.16	0.45
1:B:58:VAL:O	1:B:65:LEU:N	2.44	0.45
1:B:114:PRO:HA	1:B:117:GLN:HG3	1.99	0.45
1:C:67:GLN:O	1:C:70:SER:HB2	2.17	0.45
1:C:103:LEU:O	1:C:106:LEU:HB2	2.17	0.45
1:E:103:LEU:O	1:E:106:LEU:HB2	2.17	0.45
1:E:214:ARG:CG	1:E:214:ARG:NH1	2.78	0.45
1:A:106:LEU:HD11	1:A:167:LEU:HG	1.99	0.45
1:C:9:TYR:HE1	1:C:56:PRO:HD3	1.82	0.45
1:C:117:GLN:O	1:C:121:VAL:HG23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:43:LYS:HG3	1:D:43:LYS:H	1.41	0.45
1:E:129:ILE:O	1:E:129:ILE:HG22	2.16	0.45
1:E:191:ILE:HA	1:E:192:PRO:HD3	1.49	0.45
1:A:109:HIS:ND1	1:A:170:LYS:NZ	2.65	0.45
1:A:213:VAL:CG1	1:A:217:TYR:CE2	3.00	0.45
1:C:213:VAL:CG1	1:C:217:TYR:CE2	3.00	0.45
1:H:67:GLN:O	1:H:70:SER:HB2	2.17	0.45
1:H:213:VAL:CG1	1:H:217:TYR:CE2	3.00	0.45
1:A:43:LYS:HG3	1:A:43:LYS:H	1.41	0.44
1:A:214:ARG:CG	1:A:214:ARG:NH1	2.78	0.44
1:B:67:GLN:O	1:B:70:SER:HB2	2.17	0.44
1:B:109:HIS:ND1	1:B:170:LYS:NZ	2.65	0.44
1:B:213:VAL:HG12	1:B:217:TYR:CD2	2.52	0.44
1:B:219:ILE:O	1:B:219:ILE:HG22	2.17	0.44
1:D:67:GLN:O	1:D:70:SER:HB2	2.17	0.44
1:D:175:LEU:HD23	1:D:175:LEU:HA	1.74	0.44
1:D:181:LEU:HD23	1:D:181:LEU:HA	1.74	0.44
1:D:213:VAL:HG12	1:D:217:TYR:CD2	2.53	0.44
1:E:213:VAL:CG1	1:E:217:TYR:CE2	3.00	0.44
1:G:9:TYR:HE1	1:G:56:PRO:HD3	1.82	0.44
1:H:7:LEU:N	1:H:7:LEU:CD1	2.80	0.44
1:A:60:ILE:CD1	1:A:74:TYR:HE2	2.21	0.44
1:A:114:PRO:HA	1:A:117:GLN:HG3	2.00	0.44
1:C:78:LYS:HD2	1:C:78:LYS:HA	1.43	0.44
1:C:86:LEU:HD12	1:C:86:LEU:HA	1.83	0.44
1:C:219:ILE:O	1:C:219:ILE:HG22	2.17	0.44
1:D:106:LEU:HD11	1:D:167:LEU:HG	1.99	0.44
1:H:103:LEU:O	1:H:106:LEU:HB2	2.17	0.44
1:H:114:PRO:HA	1:H:117:GLN:HG3	2.00	0.44
1:C:8:HIS:O	1:C:9:TYR:HB2	2.18	0.44
1:D:7:LEU:N	1:D:7:LEU:CD1	2.80	0.44
1:D:103:LEU:O	1:D:106:LEU:HB2	2.17	0.44
1:D:129:ILE:O	1:D:129:ILE:HG22	2.16	0.44
1:E:173:ASN:OD1	1:E:173:ASN:N	2.49	0.44
1:E:213:VAL:HG12	1:E:217:TYR:CD2	2.52	0.44
1:F:109:HIS:ND1	1:F:170:LYS:NZ	2.65	0.44
1:A:173:ASN:OD1	1:A:173:ASN:N	2.49	0.44
1:E:67:GLN:O	1:E:70:SER:HB2	2.17	0.44
1:E:106:LEU:HD11	1:E:167:LEU:HG	1.99	0.44
1:E:178:PHE:HA	1:E:179:PRO:HD2	1.38	0.44
1:F:67:GLN:O	1:F:70:SER:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:213:VAL:CG1	1:F:217:TYR:CE2	3.00	0.44
1:A:8:HIS:O	1:A:9:TYR:HB2	2.18	0.44
1:A:193:THR:HA	1:A:196:ARG:HH12	1.79	0.44
1:C:214:ARG:HG2	1:C:214:ARG:NH1	2.23	0.44
1:E:181:LEU:HD23	1:E:181:LEU:HA	1.73	0.44
1:E:214:ARG:HG2	1:E:214:ARG:NH1	2.23	0.44
1:F:191:ILE:O	1:F:194:ILE:HB	2.18	0.44
1:F:213:VAL:HG12	1:F:217:TYR:CD2	2.52	0.44
1:F:219:ILE:O	1:F:219:ILE:HG22	2.17	0.44
1:G:100:LEU:HA	1:G:100:LEU:HD23	1.64	0.44
1:G:213:VAL:HG12	1:G:217:TYR:CD2	2.52	0.44
1:A:9:TYR:HE1	1:A:56:PRO:HD3	1.82	0.44
1:B:9:TYR:HE1	1:B:56:PRO:HD3	1.82	0.44
1:C:109:HIS:ND1	1:C:170:LYS:NZ	2.65	0.44
1:D:191:ILE:O	1:D:194:ILE:HB	2.18	0.44
1:E:7:LEU:N	1:E:7:LEU:CD1	2.80	0.44
1:G:191:ILE:O	1:G:194:ILE:HB	2.18	0.44
1:A:23:LEU:HD23	1:A:23:LEU:HA	1.72	0.44
1:A:213:VAL:HG12	1:A:217:TYR:CD2	2.53	0.44
1:C:7:LEU:N	1:C:7:LEU:CD1	2.80	0.44
1:C:213:VAL:HG12	1:C:217:TYR:CD2	2.53	0.44
1:D:207:PRO:HA	1:D:208:PRO:HD3	1.52	0.44
1:E:44:LEU:HD12	1:E:44:LEU:HA	1.68	0.44
1:G:52:PHE:O	1:G:54:GLN:HG3	2.16	0.44
1:H:178:PHE:N	1:H:179:PRO:CD	2.78	0.44
1:A:67:GLN:O	1:A:70:SER:HB2	2.17	0.44
1:A:103:LEU:O	1:A:106:LEU:HB2	2.17	0.44
1:B:7:LEU:N	1:B:7:LEU:CD1	2.80	0.44
1:B:191:ILE:O	1:B:194:ILE:HB	2.18	0.44
1:D:109:HIS:ND1	1:D:170:LYS:NZ	2.65	0.44
1:E:175:LEU:HD23	1:E:175:LEU:HA	1.74	0.44
1:E:191:ILE:O	1:E:194:ILE:HB	2.18	0.44
1:F:143:HIS:ND1	1:F:145:GLN:N	2.53	0.44
1:G:109:HIS:ND1	1:G:170:LYS:NZ	2.65	0.44
1:H:181:LEU:HD23	1:H:181:LEU:HA	1.74	0.44
1:H:213:VAL:HG12	1:H:217:TYR:CD2	2.52	0.44
1:A:191:ILE:O	1:A:194:ILE:HB	2.18	0.44
1:C:188:LEU:O	1:C:191:ILE:HG13	2.18	0.44
1:D:188:LEU:O	1:D:191:ILE:HG13	2.18	0.44
1:G:114:PRO:HA	1:G:117:GLN:HG3	2.00	0.44
1:H:188:LEU:O	1:H:191:ILE:HG13	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:8:HIS:O	1:B:9:TYR:HB2	2.18	0.43
1:B:103:LEU:O	1:B:106:LEU:HB2	2.17	0.43
1:C:191:ILE:HA	1:C:192:PRO:HD3	1.49	0.43
1:D:178:PHE:HA	1:D:179:PRO:HD2	1.38	0.43
1:D:219:ILE:O	1:D:219:ILE:HG22	2.17	0.43
1:E:9:TYR:HE1	1:E:56:PRO:HD3	1.82	0.43
1:F:109:HIS:N	1:F:110:PRO:CD	2.81	0.43
1:F:173:ASN:OD1	1:F:173:ASN:N	2.49	0.43
1:G:67:GLN:O	1:G:70:SER:HB2	2.17	0.43
1:H:113:LYS:NZ	1:H:113:LYS:N	2.62	0.43
1:H:191:ILE:O	1:H:194:ILE:HB	2.18	0.43
1:B:43:LYS:HG3	1:B:43:LYS:H	1.41	0.43
1:B:191:ILE:HA	1:B:192:PRO:HD3	1.49	0.43
1:C:58:VAL:O	1:C:65:LEU:N	2.44	0.43
1:D:106:LEU:HD23	1:D:106:LEU:HA	1.83	0.43
1:G:219:ILE:O	1:G:219:ILE:HG22	2.17	0.43
1:D:112:LEU:CB	1:D:117:GLN:HG2	2.41	0.43
1:D:129:ILE:HD12	1:D:129:ILE:HG23	1.66	0.43
1:E:109:HIS:ND1	1:E:170:LYS:NZ	2.65	0.43
1:F:9:TYR:HE1	1:F:56:PRO:HD3	1.82	0.43
1:F:23:LEU:HD23	1:F:23:LEU:HA	1.72	0.43
1:F:87:LYS:HA	1:F:87:LYS:HD3	1.61	0.43
1:G:7:LEU:N	1:G:7:LEU:CD1	2.80	0.43
1:G:18:SER:HB3	1:G:162:GLN:NE2	2.34	0.43
1:G:188:LEU:O	1:G:191:ILE:HG13	2.18	0.43
1:H:9:TYR:HE1	1:H:56:PRO:HD3	1.82	0.43
1:B:18:SER:HB3	1:B:162:GLN:NE2	2.34	0.43
1:B:42:TYR:HA	1:B:45:GLN:HG3	2.01	0.43
1:D:8:HIS:O	1:D:9:TYR:HB2	2.18	0.43
1:F:18:SER:HB3	1:F:162:GLN:NE2	2.34	0.43
1:G:175:LEU:HD23	1:G:175:LEU:HA	1.74	0.43
1:H:191:ILE:HA	1:H:192:PRO:HD3	1.49	0.43
1:H:219:ILE:O	1:H:219:ILE:HG22	2.17	0.43
1:A:18:SER:HB3	1:A:162:GLN:NE2	2.33	0.43
1:A:148:LEU:HA	1:A:148:LEU:HD23	1.79	0.43
1:A:219:ILE:O	1:A:219:ILE:HG22	2.17	0.43
1:B:100:LEU:HD23	1:B:100:LEU:HA	1.64	0.43
1:B:106:LEU:HD11	1:B:167:LEU:HG	1.98	0.43
1:B:178:PHE:N	1:B:179:PRO:CD	2.78	0.43
1:B:207:PRO:HA	1:B:208:PRO:HD3	1.52	0.43
1:C:109:HIS:N	1:C:110:PRO:CD	2.81	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:148:LEU:HD23	1:E:148:LEU:HA	1.79	0.43
1:G:178:PHE:N	1:G:179:PRO:CD	2.78	0.43
1:A:109:HIS:N	1:A:110:PRO:CD	2.81	0.43
1:C:114:PRO:HA	1:C:117:GLN:HG3	2.00	0.43
1:F:188:LEU:O	1:F:191:ILE:HG13	2.18	0.43
1:C:37:THR:HG22	1:C:38:LYS:N	2.34	0.43
1:C:87:LYS:HD3	1:C:87:LYS:HA	1.61	0.43
1:C:97:GLU:HB3	1:D:67:GLN:OE1	2.19	0.43
1:C:129:ILE:HG23	1:C:129:ILE:HD12	1.66	0.43
1:D:92:ILE:HD13	1:D:154:SER:CB	2.49	0.43
1:E:8:HIS:O	1:E:9:TYR:HB2	2.18	0.43
1:E:37:THR:HG22	1:E:38:LYS:N	2.34	0.43
1:E:42:TYR:HA	1:E:45:GLN:HG3	2.01	0.43
1:E:113:LYS:NZ	1:E:113:LYS:N	2.62	0.43
1:F:8:HIS:O	1:F:9:TYR:HB2	2.18	0.43
1:F:9:TYR:O	1:F:34:PHE:HA	2.19	0.43
1:G:9:TYR:O	1:G:34:PHE:HA	2.19	0.43
1:G:37:THR:HG22	1:G:38:LYS:N	2.34	0.43
1:H:109:HIS:ND1	1:H:170:LYS:NZ	2.65	0.43
1:H:178:PHE:HA	1:H:179:PRO:HD2	1.38	0.43
1:A:92:ILE:HD13	1:A:154:SER:CB	2.49	0.43
1:B:181:LEU:HD23	1:B:181:LEU:HA	1.73	0.43
1:D:9:TYR:O	1:D:34:PHE:HA	2.19	0.43
1:D:114:PRO:HA	1:D:117:GLN:HG3	1.99	0.43
1:E:106:LEU:HD23	1:E:106:LEU:HA	1.82	0.43
1:F:113:LYS:HA	1:F:114:PRO:HD3	1.50	0.43
1:H:9:TYR:O	1:H:34:PHE:HA	2.19	0.43
1:H:42:TYR:HA	1:H:45:GLN:HG3	2.01	0.43
1:H:198:LEU:HA	1:H:198:LEU:HD23	1.85	0.43
1:A:9:TYR:O	1:A:34:PHE:HA	2.19	0.43
1:B:9:TYR:O	1:B:34:PHE:HA	2.19	0.43
1:C:18:SER:HB3	1:C:162:GLN:NE2	2.34	0.43
1:C:44:LEU:HD12	1:C:44:LEU:HA	1.68	0.43
1:D:100:LEU:HD23	1:D:100:LEU:HA	1.64	0.43
1:E:114:PRO:HA	1:E:117:GLN:HG3	2.00	0.43
1:E:198:LEU:HA	1:E:198:LEU:HD23	1.85	0.43
1:F:159:ILE:HD12	1:F:159:ILE:HG23	1.81	0.43
1:G:8:HIS:O	1:G:9:TYR:HB2	2.18	0.43
1:G:173:ASN:OD1	1:G:173:ASN:N	2.49	0.43
1:H:18:SER:HB3	1:H:162:GLN:NE2	2.34	0.43
1:B:92:ILE:HD13	1:B:154:SER:CB	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:129:ILE:HD12	1:B:129:ILE:HG23	1.66	0.42
1:C:65:LEU:HD23	1:D:94:MET:HE1	2.01	0.42
1:G:94:MET:HE3	1:H:65:LEU:CB	2.48	0.42
1:H:100:LEU:HD23	1:H:100:LEU:HA	1.64	0.42
1:A:170:LYS:C	1:A:171:ILE:HG13	2.40	0.42
1:C:191:ILE:O	1:C:194:ILE:HB	2.18	0.42
1:D:109:HIS:N	1:D:110:PRO:CD	2.81	0.42
1:D:143:HIS:ND1	1:D:145:GLN:HG3	2.34	0.42
1:E:214:ARG:HA	1:E:214:ARG:HD2	1.60	0.42
1:F:114:PRO:HA	1:F:117:GLN:HG3	2.00	0.42
1:A:37:THR:HG22	1:A:38:LYS:N	2.34	0.42
1:A:42:TYR:HA	1:A:45:GLN:HG3	2.01	0.42
1:A:92:ILE:CD1	1:A:154:SER:HB2	2.50	0.42
1:A:100:LEU:HD23	1:A:100:LEU:HA	1.64	0.42
1:A:188:LEU:O	1:A:191:ILE:HG13	2.18	0.42
1:B:170:LYS:C	1:B:171:ILE:HG13	2.40	0.42
1:C:9:TYR:O	1:C:34:PHE:HA	2.19	0.42
1:C:143:HIS:ND1	1:C:145:GLN:HG3	2.34	0.42
1:E:78:LYS:HD2	1:E:78:LYS:HA	1.43	0.42
1:E:188:LEU:O	1:E:191:ILE:HG13	2.18	0.42
1:G:109:HIS:N	1:G:110:PRO:CD	2.81	0.42
1:G:191:ILE:HA	1:G:192:PRO:HD3	1.49	0.42
1:H:109:HIS:N	1:H:110:PRO:CD	2.81	0.42
1:H:129:ILE:O	1:H:129:ILE:HG22	2.16	0.42
1:B:92:ILE:CD1	1:B:154:SER:HB2	2.50	0.42
1:B:143:HIS:ND1	1:B:145:GLN:HG3	2.34	0.42
1:B:178:PHE:HA	1:B:179:PRO:HD2	1.38	0.42
1:B:188:LEU:O	1:B:191:ILE:HG13	2.18	0.42
1:D:214:ARG:HA	1:D:214:ARG:HD2	1.60	0.42
1:A:113:LYS:HB2	1:A:113:LYS:HE2	1.91	0.42
1:A:143:HIS:ND1	1:A:145:GLN:HG3	2.34	0.42
1:B:37:THR:HG22	1:B:38:LYS:N	2.34	0.42
1:D:42:TYR:HA	1:D:45:GLN:HG3	2.01	0.42
1:E:43:LYS:HG3	1:E:43:LYS:H	1.41	0.42
1:F:42:TYR:HA	1:F:45:GLN:HG3	2.01	0.42
1:G:198:LEU:HA	1:G:198:LEU:HD23	1.85	0.42
1:B:109:HIS:N	1:B:110:PRO:CD	2.81	0.42
1:D:37:THR:HG22	1:D:38:LYS:N	2.34	0.42
1:G:143:HIS:ND1	1:G:145:GLN:HG3	2.34	0.42
1:D:18:SER:HB3	1:D:162:GLN:NE2	2.34	0.42
1:D:148:LEU:HD23	1:D:148:LEU:HA	1.79	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:143:HIS:ND1	1:E:145:GLN:HG3	2.34	0.42
1:F:86:LEU:HA	1:F:86:LEU:HD12	1.83	0.42
1:F:113:LYS:HB2	1:F:113:LYS:HE2	1.91	0.42
1:F:146:SER:HB3	1:F:187:LYS:NZ	2.35	0.42
1:H:8:HIS:O	1:H:9:TYR:HB2	2.18	0.42
1:H:37:THR:HG22	1:H:38:LYS:N	2.34	0.42
1:A:94:MET:HE3	1:B:65:LEU:CB	2.49	0.42
1:C:92:ILE:CD1	1:C:154:SER:HB2	2.50	0.42
1:E:18:SER:HB3	1:E:162:GLN:NE2	2.34	0.42
1:E:170:LYS:C	1:E:171:ILE:HG13	2.40	0.42
1:F:95:TYR:N	1:F:95:TYR:CD1	2.87	0.42
1:G:148:LEU:HD23	1:G:148:LEU:HA	1.79	0.42
1:H:106:LEU:HD23	1:H:106:LEU:HA	1.83	0.42
1:B:159:ILE:HD12	1:B:159:ILE:HG23	1.81	0.42
1:C:12:GLY:HA3	1:C:212:TYR:CE1	2.55	0.42
1:F:170:LYS:C	1:F:171:ILE:HG13	2.40	0.42
1:A:87:LYS:HD3	1:A:87:LYS:HA	1.61	0.42
1:B:146:SER:HB3	1:B:187:LYS:NZ	2.35	0.42
1:C:81:LEU:HD23	1:C:81:LEU:HA	1.83	0.42
1:C:207:PRO:HA	1:C:208:PRO:HD3	1.52	0.42
1:D:81:LEU:HA	1:D:81:LEU:HD23	1.83	0.42
1:D:170:LYS:C	1:D:171:ILE:HG13	2.40	0.42
1:D:173:ASN:OD1	1:D:173:ASN:N	2.49	0.42
1:G:92:ILE:CD1	1:G:154:SER:HB2	2.50	0.42
1:G:146:SER:HB3	1:G:187:LYS:NZ	2.35	0.42
1:G:214:ARG:HD2	1:G:214:ARG:HA	1.60	0.42
1:H:92:ILE:HD13	1:H:154:SER:CB	2.49	0.42
1:H:146:SER:HB3	1:H:187:LYS:NZ	2.35	0.42
1:H:170:LYS:C	1:H:171:ILE:HG13	2.40	0.42
1:H:173:ASN:OD1	1:H:173:ASN:N	2.49	0.42
1:B:86:LEU:HD12	1:B:86:LEU:HA	1.83	0.41
1:C:42:TYR:HA	1:C:45:GLN:HG3	2.01	0.41
1:E:109:HIS:N	1:E:110:PRO:CD	2.81	0.41
1:F:37:THR:HG22	1:F:38:LYS:N	2.34	0.41
1:F:129:ILE:HG23	1:F:129:ILE:HD12	1.66	0.41
1:F:143:HIS:ND1	1:F:145:GLN:HG3	2.34	0.41
1:H:95:TYR:N	1:H:95:TYR:CD1	2.87	0.41
1:A:106:LEU:HD23	1:A:106:LEU:HA	1.83	0.41
1:B:106:LEU:HA	1:B:106:LEU:HD23	1.83	0.41
1:C:43:LYS:HG3	1:C:43:LYS:H	1.41	0.41
1:D:12:GLY:HA3	1:D:212:TYR:CE1	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:66:VAL:O	1:D:67:GLN:HB2	2.20	0.41
1:E:9:TYR:O	1:E:34:PHE:HA	2.19	0.41
1:E:12:GLY:HA3	1:E:212:TYR:CE1	2.55	0.41
1:E:60:ILE:CD1	1:E:74:TYR:CE2	3.00	0.41
1:E:146:SER:HB3	1:E:187:LYS:NZ	2.35	0.41
1:G:95:TYR:N	1:G:95:TYR:CD1	2.87	0.41
1:H:66:VAL:O	1:H:67:GLN:HB2	2.20	0.41
1:A:146:SER:HB3	1:A:187:LYS:NZ	2.35	0.41
1:F:92:ILE:HD13	1:F:154:SER:CB	2.49	0.41
1:A:218:ASN:HD22	1:A:218:ASN:HA	1.65	0.41
1:C:129:ILE:O	1:C:129:ILE:HG22	2.16	0.41
1:C:133:PHE:N	1:C:133:PHE:CD1	2.88	0.41
1:D:211:ILE:N	1:D:211:ILE:CD1	2.84	0.41
1:D:218:ASN:HD22	1:D:218:ASN:HA	1.65	0.41
1:E:92:ILE:HD13	1:E:154:SER:CB	2.49	0.41
1:F:66:VAL:O	1:F:67:GLN:HB2	2.20	0.41
1:G:112:LEU:CB	1:G:117:GLN:HG2	2.41	0.41
1:B:113:LYS:NZ	1:B:113:LYS:N	2.62	0.41
1:C:92:ILE:HD13	1:C:154:SER:CB	2.49	0.41
1:D:146:SER:HB3	1:D:187:LYS:NZ	2.35	0.41
1:G:42:TYR:HA	1:G:45:GLN:HG3	2.01	0.41
1:G:66:VAL:O	1:G:67:GLN:HB2	2.20	0.41
1:H:87:LYS:HD3	1:H:87:LYS:HA	1.61	0.41
1:A:159:ILE:HG23	1:A:159:ILE:HD12	1.81	0.41
1:A:181:LEU:HD23	1:A:181:LEU:HA	1.73	0.41
1:B:113:LYS:HB2	1:B:113:LYS:HE2	1.91	0.41
1:B:161:LEU:O	1:B:165:LEU:HG	2.21	0.41
1:C:23:LEU:HD23	1:C:23:LEU:HA	1.72	0.41
1:C:106:LEU:HD23	1:C:106:LEU:HA	1.83	0.41
1:C:170:LYS:C	1:C:171:ILE:HG13	2.40	0.41
1:E:206:PRO:CB	1:E:207:PRO:CD	2.99	0.41
1:F:12:GLY:HA3	1:F:212:TYR:CE1	2.55	0.41
1:F:92:ILE:CD1	1:F:154:SER:HB2	2.50	0.41
1:G:87:LYS:HD3	1:G:87:LYS:HA	1.61	0.41
1:G:113:LYS:HB2	1:G:113:LYS:HE2	1.91	0.41
1:H:12:GLY:HA3	1:H:212:TYR:CE1	2.55	0.41
1:B:66:VAL:O	1:B:67:GLN:HB2	2.20	0.41
1:C:146:SER:HB3	1:C:187:LYS:NZ	2.35	0.41
1:D:198:LEU:HD23	1:D:198:LEU:HA	1.85	0.41
1:E:211:ILE:N	1:E:211:ILE:CD1	2.84	0.41
1:G:81:LEU:HD23	1:G:81:LEU:HA	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:170:LYS:C	1:G:171:ILE:HG13	2.40	0.41
1:H:92:ILE:CD1	1:H:154:SER:HB2	2.50	0.41
1:H:143:HIS:ND1	1:H:145:GLN:HG3	2.34	0.41
1:B:113:LYS:HA	1:B:114:PRO:HD3	1.50	0.41
1:C:66:VAL:O	1:C:67:GLN:HB2	2.21	0.41
1:F:45:GLN:HE21	1:F:45:GLN:HB3	1.64	0.41
1:G:92:ILE:HD13	1:G:154:SER:CB	2.49	0.41
1:G:211:ILE:N	1:G:211:ILE:CD1	2.84	0.41
1:H:206:PRO:CB	1:H:207:PRO:CD	2.99	0.41
1:H:211:ILE:N	1:H:211:ILE:CD1	2.84	0.41
1:A:45:GLN:HE21	1:A:45:GLN:HB3	1.64	0.41
1:A:211:ILE:N	1:A:211:ILE:CD1	2.84	0.41
1:B:198:LEU:HD23	1:B:198:LEU:HA	1.85	0.41
1:C:161:LEU:O	1:C:165:LEU:HG	2.21	0.41
1:D:60:ILE:CD1	1:D:74:TYR:CE2	2.99	0.41
1:D:86:LEU:HD12	1:D:86:LEU:HA	1.83	0.41
1:E:66:VAL:O	1:E:67:GLN:HB2	2.20	0.41
1:G:113:LYS:H	1:G:113:LYS:CD	2.34	0.41
1:G:161:LEU:O	1:G:165:LEU:HG	2.21	0.41
1:H:133:PHE:N	1:H:133:PHE:CD1	2.88	0.41
1:A:66:VAL:O	1:A:67:GLN:HB2	2.20	0.41
1:A:113:LYS:NZ	1:A:113:LYS:N	2.62	0.41
1:A:113:LYS:H	1:A:113:LYS:CD	2.34	0.41
1:A:178:PHE:HA	1:A:179:PRO:HD2	1.38	0.41
1:A:206:PRO:CB	1:A:207:PRO:CD	2.99	0.41
1:C:173:ASN:OD1	1:C:173:ASN:N	2.49	0.41
1:E:57:MET:HA	1:E:65:LEU:O	2.21	0.41
1:G:12:GLY:HA3	1:G:212:TYR:CE1	2.55	0.41
1:G:55:VAL:HB	1:G:56:PRO:HA	2.03	0.41
1:H:81:LEU:HD23	1:H:81:LEU:HA	1.83	0.41
1:H:161:LEU:O	1:H:165:LEU:HG	2.21	0.41
1:A:12:GLY:HA3	1:A:212:TYR:CE1	2.55	0.40
1:B:129:ILE:HA	1:B:129:ILE:HD13	1.84	0.40
1:F:57:MET:HA	1:F:65:LEU:O	2.21	0.40
1:F:161:LEU:O	1:F:165:LEU:HG	2.21	0.40
1:B:12:GLY:HA3	1:B:212:TYR:CE1	2.55	0.40
1:B:148:LEU:HD23	1:B:148:LEU:HA	1.79	0.40
1:C:65:LEU:CB	1:D:94:MET:CE	3.00	0.40
1:E:95:TYR:N	1:E:95:TYR:CD1	2.87	0.40
1:F:45:GLN:HG2	1:F:45:GLN:H	1.60	0.40
1:F:171:ILE:N	1:F:172:PRO:HD3	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:23:LEU:HD23	1:H:23:LEU:HA	1.72	0.40
1:H:57:MET:HA	1:H:65:LEU:O	2.21	0.40
1:B:55:VAL:HB	1:B:56:PRO:HA	2.03	0.40
1:B:60:ILE:CD1	1:B:74:TYR:CE2	2.99	0.40
1:B:206:PRO:CB	1:B:207:PRO:CD	2.99	0.40
1:C:113:LYS:HA	1:C:114:PRO:HD3	1.50	0.40
1:C:129:ILE:HD13	1:C:129:ILE:HA	1.84	0.40
1:D:87:LYS:HA	1:D:87:LYS:HD3	1.61	0.40
1:D:92:ILE:CD1	1:D:154:SER:HB2	2.50	0.40
1:E:92:ILE:CD1	1:E:154:SER:HB2	2.50	0.40
1:F:175:LEU:HD23	1:F:175:LEU:HA	1.74	0.40
1:G:60:ILE:CD1	1:G:74:TYR:CE2	2.99	0.40
1:H:43:LYS:HG3	1:H:43:LYS:H	1.41	0.40
1:B:113:LYS:H	1:B:113:LYS:CD	2.34	0.40
1:C:112:LEU:CA	1:C:113:LYS:NZ	2.84	0.40
1:E:81:LEU:HD23	1:E:81:LEU:HA	1.83	0.40
1:E:113:LYS:HB2	1:E:113:LYS:HE2	1.91	0.40
1:E:161:LEU:O	1:E:165:LEU:HG	2.21	0.40
1:H:133:PHE:CB	1:H:134:PRO:HD3	2.51	0.40
1:H:146:SER:HB3	1:H:187:LYS:HZ3	1.85	0.40
1:A:52:PHE:O	1:A:53:GLN:HB2	2.22	0.40
1:B:52:PHE:O	1:B:53:GLN:HB2	2.22	0.40
1:B:57:MET:HA	1:B:65:LEU:O	2.21	0.40
1:B:133:PHE:CB	1:B:134:PRO:HD3	2.51	0.40
1:E:55:VAL:HB	1:E:56:PRO:HA	2.03	0.40
1:F:178:PHE:HA	1:F:179:PRO:HD2	1.38	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:196:ARG:NH2	1:H:200:PRO:CG[4_455]	1.34	0.86
1:D:196:ARG:NH2	1:H:200:PRO:CB[4_455]	1.74	0.46
1:D:196:ARG:CZ	1:H:200:PRO:CB[4_455]	2.12	0.08
1:B:118:GLN:CG	1:C:118:GLN:CG[1_554]	2.16	0.04
1:D:196:ARG:CZ	1:H:200:PRO:CG[4_455]	2.18	0.02

5.3 Torsion angles

5.3.1 Protein backbone

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	215/222 (97%)	200 (93%)	13 (6%)	2 (1%)	17	55
1	B	215/222 (97%)	201 (94%)	12 (6%)	2 (1%)	17	55
1	C	215/222 (97%)	200 (93%)	13 (6%)	2 (1%)	17	55
1	D	215/222 (97%)	201 (94%)	12 (6%)	2 (1%)	17	55
1	E	215/222 (97%)	200 (93%)	13 (6%)	2 (1%)	17	55
1	F	215/222 (97%)	201 (94%)	12 (6%)	2 (1%)	17	55
1	G	215/222 (97%)	200 (93%)	13 (6%)	2 (1%)	17	55
1	H	215/222 (97%)	201 (94%)	12 (6%)	2 (1%)	17	55
All	All	1720/1776 (97%)	1604 (93%)	100 (6%)	16 (1%)	17	55

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	114	PRO
1	B	114	PRO
1	C	114	PRO
1	D	114	PRO
1	E	114	PRO
1	F	114	PRO
1	G	114	PRO
1	H	114	PRO
1	A	176	SER
1	B	176	SER
1	C	176	SER
1	D	176	SER
1	E	176	SER
1	F	176	SER
1	G	176	SER
1	H	176	SER

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	197/200 (98%)	175 (89%)	22 (11%)	6	24
1	B	197/200 (98%)	175 (89%)	22 (11%)	6	24
1	C	197/200 (98%)	175 (89%)	22 (11%)	6	24
1	D	197/200 (98%)	175 (89%)	22 (11%)	6	24
1	E	197/200 (98%)	175 (89%)	22 (11%)	6	24
1	F	197/200 (98%)	175 (89%)	22 (11%)	6	24
1	G	197/200 (98%)	175 (89%)	22 (11%)	6	24
1	H	197/200 (98%)	175 (89%)	22 (11%)	6	24
All	All	1576/1600 (98%)	1400 (89%)	176 (11%)	6	24

All (176) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	18	SER
1	A	33	GLU
1	A	36	GLU
1	A	45	GLN
1	A	54	GLN
1	A	60	ILE
1	A	68	THR
1	A	69	ARG
1	A	82	PHE
1	A	92	ILE
1	A	113	LYS
1	A	115	ASP
1	A	119	LYS
1	A	127	LYS
1	A	141	ARG
1	A	143	HIS
1	A	145	GLN
1	A	146	SER
1	A	152	GLN

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Mol	Chain	Res	Type
1	A	174	ILE
1	A	189	SER
1	A	214	ARG
1	B	18	SER
1	B	33	GLU
1	B	36	GLU
1	B	45	GLN
1	B	54	GLN
1	B	60	ILE
1	B	68	THR
1	B	69	ARG
1	B	82	PHE
1	B	92	ILE
1	B	113	LYS
1	B	115	ASP
1	B	119	LYS
1	B	127	LYS
1	B	141	ARG
1	B	143	HIS
1	B	145	GLN
1	B	146	SER
1	B	152	GLN
1	B	174	ILE
1	B	189	SER
1	B	214	ARG
1	C	18	SER
1	C	33	GLU
1	C	36	GLU
1	C	45	GLN
1	C	54	GLN
1	C	60	ILE
1	C	68	THR
1	C	69	ARG
1	C	82	PHE
1	C	92	ILE
1	C	113	LYS
1	C	115	ASP
1	C	119	LYS
1	C	127	LYS
1	C	141	ARG
1	C	143	HIS
1	C	145	GLN

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Mol	Chain	Res	Type
1	C	146	SER
1	C	152	GLN
1	C	174	ILE
1	C	189	SER
1	C	214	ARG
1	D	18	SER
1	D	33	GLU
1	D	36	GLU
1	D	45	GLN
1	D	54	GLN
1	D	60	ILE
1	D	68	THR
1	D	69	ARG
1	D	82	PHE
1	D	92	ILE
1	D	113	LYS
1	D	115	ASP
1	D	119	LYS
1	D	127	LYS
1	D	141	ARG
1	D	143	HIS
1	D	145	GLN
1	D	146	SER
1	D	152	GLN
1	D	174	ILE
1	D	189	SER
1	D	214	ARG
1	E	18	SER
1	E	33	GLU
1	E	36	GLU
1	E	45	GLN
1	E	54	GLN
1	E	60	ILE
1	E	68	THR
1	E	69	ARG
1	E	82	PHE
1	E	92	ILE
1	E	113	LYS
1	E	115	ASP
1	E	119	LYS
1	E	127	LYS
1	E	141	ARG

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Mol	Chain	Res	Type
1	E	143	HIS
1	E	145	GLN
1	E	146	SER
1	E	152	GLN
1	E	174	ILE
1	E	189	SER
1	E	214	ARG
1	F	18	SER
1	F	33	GLU
1	F	36	GLU
1	F	45	GLN
1	F	54	GLN
1	F	60	ILE
1	F	68	THR
1	F	69	ARG
1	F	82	PHE
1	F	92	ILE
1	F	113	LYS
1	F	115	ASP
1	F	119	LYS
1	F	127	LYS
1	F	141	ARG
1	F	143	HIS
1	F	145	GLN
1	F	146	SER
1	F	152	GLN
1	F	174	ILE
1	F	189	SER
1	F	214	ARG
1	G	18	SER
1	G	33	GLU
1	G	36	GLU
1	G	45	GLN
1	G	54	GLN
1	G	60	ILE
1	G	68	THR
1	G	69	ARG
1	G	82	PHE
1	G	92	ILE
1	G	113	LYS
1	G	115	ASP
1	G	119	LYS

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Mol	Chain	Res	Type
1	G	127	LYS
1	G	141	ARG
1	G	143	HIS
1	G	145	GLN
1	G	146	SER
1	G	152	GLN
1	G	174	ILE
1	G	189	SER
1	G	214	ARG
1	H	18	SER
1	H	33	GLU
1	H	36	GLU
1	H	45	GLN
1	H	54	GLN
1	H	60	ILE
1	H	68	THR
1	H	69	ARG
1	H	82	PHE
1	H	92	ILE
1	H	113	LYS
1	H	115	ASP
1	H	119	LYS
1	H	127	LYS
1	H	141	ARG
1	H	143	HIS
1	H	145	GLN
1	H	146	SER
1	H	152	GLN
1	H	174	ILE
1	H	189	SER
1	H	214	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (41) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	45	GLN
1	A	54	GLN
1	A	80	ASN
1	A	162	GLN
1	A	218	ASN
1	B	45	GLN
1	B	54	GLN

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Mol	Chain	Res	Type
1	B	80	ASN
1	B	162	GLN
1	B	218	ASN
1	C	45	GLN
1	C	54	GLN
1	C	80	ASN
1	C	162	GLN
1	C	218	ASN
1	D	45	GLN
1	D	54	GLN
1	D	80	ASN
1	D	162	GLN
1	D	218	ASN
1	E	45	GLN
1	E	54	GLN
1	E	80	ASN
1	E	162	GLN
1	E	218	ASN
1	F	45	GLN
1	F	54	GLN
1	F	80	ASN
1	F	118	GLN
1	F	162	GLN
1	F	218	ASN
1	G	45	GLN
1	G	54	GLN
1	G	80	ASN
1	G	162	GLN
1	G	218	ASN
1	H	45	GLN
1	H	54	GLN
1	H	80	ASN
1	H	162	GLN
1	H	218	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

6.3 Carbohydrates

Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands

Unable to reproduce the depositors R factor - this section is therefore empty.

6.5 Other polymers

Unable to reproduce the depositors R factor - this section is therefore empty.