Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2024 – 05:59 PM EST

PDB ID	:	3CRC
Title	:	Crystal Structure of Escherichia coli MazG, the Regulator of Nutritional Stress Response
Authors	:	Lee, S.; Kim, M.H.; Kang, B.S.; Kim, J.S.; Kim, Y.G.; Kim, K.J.
Deposited on	:	2008-04-05
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:

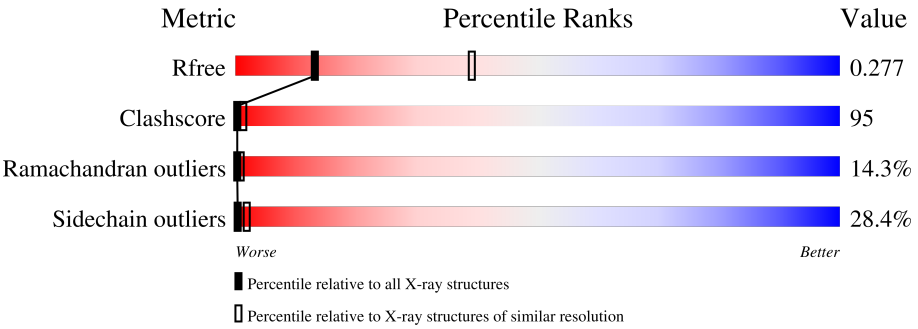
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.00 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}	130704	2092 (3.00-3.00)
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 <=5%

Mol	Chain	Length	Quality of chain
1	A	265	12% 38% 25% 9% 15%
1	B	265	11% 35% 27% 10% 17%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	ATP	B	265	X	-	X	-

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 3658 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 mazG.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	225	Total	C	N	O	S	0	0	0
			1829	1145	318	356	10			
1	B	220	Total	C	N	O	S	0	0	0
			1784	1121	307	347	9			

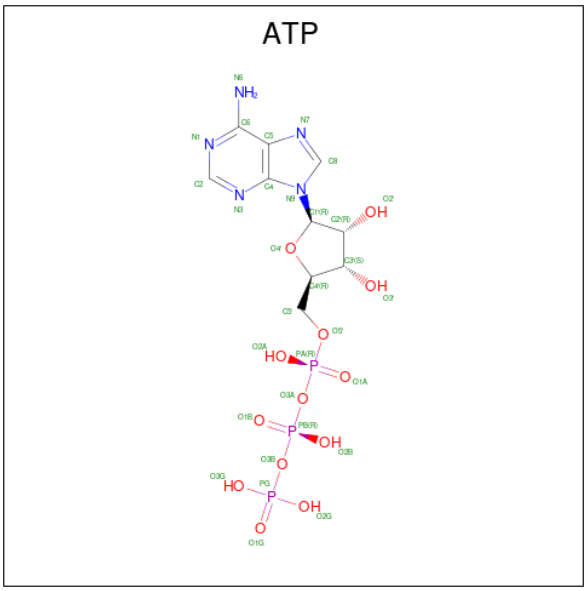
There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP P0AEY3
A	0	HIS	-	expression tag	UNP P0AEY3
A	257	ALA	LYS	conflict	UNP P0AEY3
B	-1	GLY	-	expression tag	UNP P0AEY3
B	0	HIS	-	expression tag	UNP P0AEY3
B	257	ALA	LYS	conflict	UNP P0AEY3

- Molecule 2 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	B	1	Total	Mg	0	0
			1	1		

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	B	1	Total	C	N	O	P	0	0
			31	10	5	13	3		

- Molecule 4 is water.

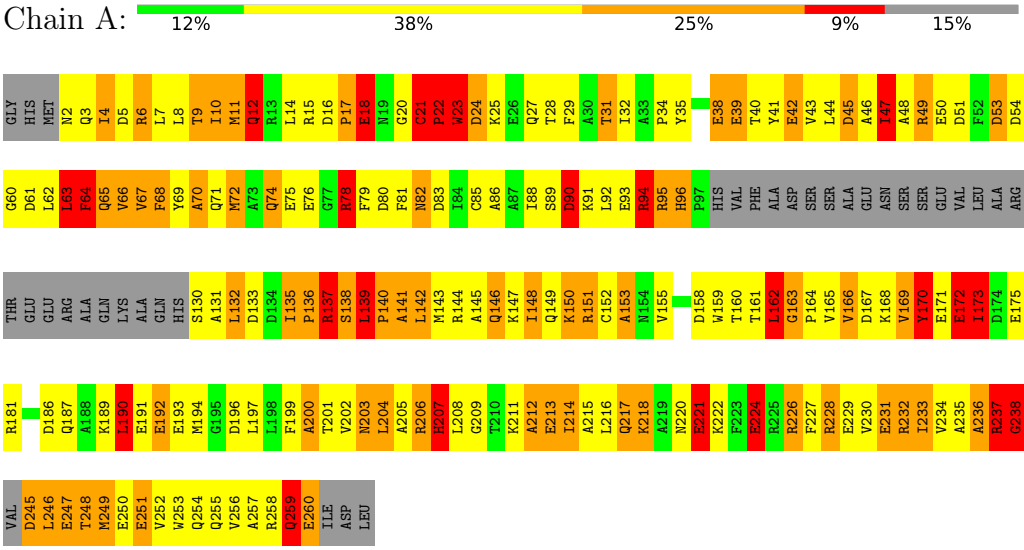
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	5	Total	O	0	0
			5	5		
4	B	8	Total	O	0	0
			8	8		

3 Residue-property plots (i)

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

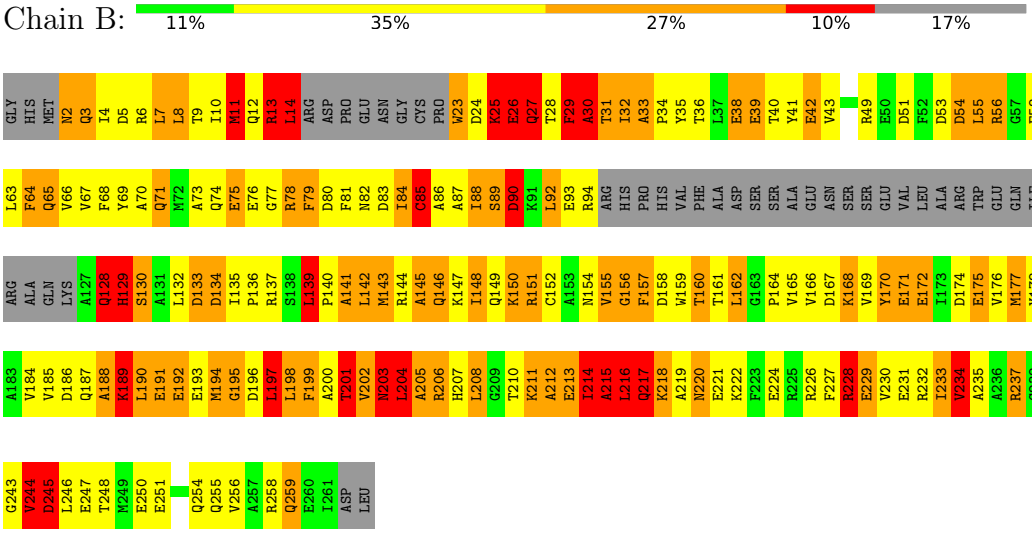
• Molecule 1: Protein mazG

Chain A:



• Molecule 1: Protein mazG

Chain B:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	63.23Å 66.91Å 140.70Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	33.79 – 3.00 38.47 – 3.00	Depositor EDS
% Data completeness (in resolution range)	93.9 (33.79-3.00) 95.6 (38.47-3.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.08	Depositor
$< I/\sigma(I) >$ [1]	4.10 (at 3.01Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.216 , 0.345 0.272 , 0.277	Depositor DCC
R_{free} test set	579 reflections (4.83%)	wwPDB-VP
Wilson B-factor (Å^2)	53.5	Xtriage
Anisotropy	0.330	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 60.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.87	EDS
Total number of atoms	3658	wwPDB-VP
Average B, all atoms (Å^2)	44.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.73% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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

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	1.79	25/1856 (1.3%)	1.67	31/2503 (1.2%)
1	B	1.98	48/1808 (2.7%)	1.88	48/2437 (2.0%)
All	All	1.89	73/3664 (2.0%)	1.78	79/4940 (1.6%)

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	2	6
1	B	1	11
All	All	3	17

All (73) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	203	ASN	C-O	10.38	1.43	1.23
1	A	152	CYS	CB-SG	-9.27	1.66	1.82
1	A	38	GLU	CG-CD	9.23	1.65	1.51
1	B	212	ALA	CA-CB	-9.21	1.33	1.52
1	B	219	ALA	CA-CB	-9.03	1.33	1.52
1	B	215	ALA	CA-CB	-8.15	1.35	1.52
1	B	203	ASN	N-CA	-8.14	1.30	1.46
1	A	21	CYS	CB-SG	-8.05	1.68	1.82
1	B	213	GLU	CG-CD	-7.88	1.40	1.51
1	B	157	PHE	CE2-CZ	7.85	1.52	1.37
1	A	18	GLU	CG-CD	7.67	1.63	1.51
1	B	172	GLU	CG-CD	-7.51	1.40	1.51
1	B	145	ALA	CA-CB	-7.30	1.37	1.52
1	A	153	ALA	CA-CB	-7.11	1.37	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	26	GLU	CB-CG	7.10	1.65	1.52
1	B	218	LYS	C-O	6.87	1.36	1.23
1	B	191	GLU	CB-CG	-6.82	1.39	1.52
1	B	157	PHE	CD2-CE2	6.78	1.52	1.39
1	B	204	LEU	CA-C	6.75	1.70	1.52
1	A	141	ALA	CA-CB	-6.73	1.38	1.52
1	A	64	PHE	CB-CG	-6.73	1.40	1.51
1	B	214	ILE	C-O	6.56	1.35	1.23
1	A	18	GLU	CB-CG	6.56	1.64	1.52
1	A	240	GLU	CG-CD	6.45	1.61	1.51
1	A	231	GLU	CD-OE2	6.37	1.32	1.25
1	B	216	LEU	N-CA	-6.29	1.33	1.46
1	A	23	TRP	CB-CG	6.28	1.61	1.50
1	A	209	GLY	C-O	-6.21	1.13	1.23
1	A	240	GLU	CB-CG	6.10	1.63	1.52
1	B	191	GLU	CD-OE1	6.10	1.32	1.25
1	B	169	VAL	CB-CG1	-6.09	1.40	1.52
1	B	199	PHE	CD1-CE1	-6.02	1.27	1.39
1	B	234	VAL	CB-CG2	-5.95	1.40	1.52
1	A	140	PRO	CB-CG	5.93	1.79	1.50
1	B	36	THR	CA-CB	-5.88	1.38	1.53
1	B	234	VAL	CB-CG1	5.80	1.65	1.52
1	A	173	ILE	CA-CB	-5.72	1.41	1.54
1	B	142	LEU	N-CA	-5.63	1.35	1.46
1	B	150	LYS	CB-CG	-5.63	1.37	1.52
1	A	172	GLU	CD-OE1	-5.58	1.19	1.25
1	B	217	GLN	CA-C	-5.58	1.38	1.52
1	B	213	GLU	C-O	5.54	1.33	1.23
1	B	29	PHE	CD2-CE2	5.54	1.50	1.39
1	A	224	GLU	CB-CG	5.50	1.62	1.52
1	A	221	GLU	CD-OE2	5.46	1.31	1.25
1	B	170	TYR	CD1-CE1	5.43	1.47	1.39
1	B	171	GLU	CD-OE1	5.42	1.31	1.25
1	B	171	GLU	CB-CG	-5.41	1.41	1.52
1	B	171	GLU	CD-OE2	5.41	1.31	1.25
1	B	205	ALA	N-CA	-5.38	1.35	1.46
1	B	216	LEU	CB-CG	5.37	1.68	1.52
1	B	41	TYR	CB-CG	-5.36	1.43	1.51
1	B	156	GLY	C-O	-5.33	1.15	1.23
1	A	66	VAL	CB-CG1	-5.32	1.41	1.52
1	A	38	GLU	CB-CG	5.31	1.62	1.52
1	A	213	GLU	CD-OE1	5.30	1.31	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	199	PHE	CA-CB	-5.30	1.42	1.53
1	B	26	GLU	CG-CD	5.29	1.59	1.51
1	A	192	GLU	CG-CD	5.29	1.59	1.51
1	B	192	GLU	CG-CD	5.28	1.59	1.51
1	B	216	LEU	CG-CD1	-5.26	1.32	1.51
1	B	213	GLU	CB-CG	-5.22	1.42	1.52
1	B	137	ARG	CG-CD	5.20	1.65	1.51
1	B	211	LYS	C-O	5.17	1.33	1.23
1	A	212	ALA	CA-CB	-5.17	1.41	1.52
1	B	188	ALA	CA-CB	-5.16	1.41	1.52
1	B	141	ALA	CA-CB	-5.12	1.41	1.52
1	B	172	GLU	CB-CG	-5.09	1.42	1.52
1	A	170	TYR	CE1-CZ	-5.09	1.31	1.38
1	B	189	LYS	CD-CE	5.09	1.64	1.51
1	A	202	VAL	C-O	5.09	1.33	1.23
1	B	175	GLU	CB-CG	5.06	1.61	1.52
1	B	229	GLU	CG-CD	5.04	1.59	1.51

All (79) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	174	ASP	CB-CG-OD2	-10.84	108.55	118.30
1	B	204	LEU	CB-CG-CD2	-10.76	92.71	111.00
1	B	174	ASP	CB-CG-OD1	9.46	126.82	118.30
1	A	78	ARG	NE-CZ-NH2	-8.44	116.08	120.30
1	A	148	ILE	CB-CA-C	-8.41	94.78	111.60
1	B	194	MET	CG-SD-CE	8.23	113.36	100.20
1	B	197	LEU	CB-CG-CD2	7.97	124.54	111.00
1	B	232	ARG	NE-CZ-NH2	-7.94	116.33	120.30
1	B	133	ASP	CB-CG-OD2	7.80	125.32	118.30
1	B	198	LEU	CB-CG-CD2	7.80	124.25	111.00
1	A	160	THR	CB-CA-C	7.69	132.35	111.60
1	B	246	LEU	CA-CB-CG	7.59	132.75	115.30
1	B	92	LEU	CB-CG-CD2	7.56	123.86	111.00
1	A	72	MET	CG-SD-CE	-7.50	88.20	100.20
1	B	151	ARG	NE-CZ-NH1	7.46	124.03	120.30
1	B	151	ARG	NE-CZ-NH2	-7.31	116.65	120.30
1	B	216	LEU	CB-CG-CD1	-7.03	99.05	111.00
1	A	186	ASP	CB-CG-OD1	-7.00	112.00	118.30
1	B	137	ARG	NE-CZ-NH1	-6.89	116.85	120.30
1	B	139	LEU	C-N-CD	6.89	142.87	128.40
1	B	199	PHE	CB-CG-CD1	-6.82	116.02	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	17	PRO	C-N-CA	6.80	138.69	121.70
1	B	172	GLU	OE1-CD-OE2	6.76	131.41	123.30
1	B	59	LEU	CB-CG-CD1	-6.74	99.54	111.00
1	B	228	ARG	NE-CZ-NH1	-6.73	116.93	120.30
1	B	59	LEU	CA-CB-CG	6.61	130.50	115.30
1	B	181	ARG	NE-CZ-NH1	6.44	123.52	120.30
1	A	163	GLY	C-N-CD	6.43	141.91	128.40
1	B	133	ASP	CB-CG-OD1	-6.29	112.64	118.30
1	A	186	ASP	CB-CG-OD2	6.28	123.95	118.30
1	B	181	ARG	NE-CZ-NH2	-6.20	117.20	120.30
1	B	162	LEU	CA-CB-CG	-6.14	101.19	115.30
1	B	30	ALA	N-CA-C	-6.13	94.44	111.00
1	A	151	ARG	NE-CZ-NH2	-6.12	117.24	120.30
1	B	215	ALA	N-CA-CB	-6.04	101.64	110.10
1	B	171	GLU	OE1-CD-OE2	6.03	130.53	123.30
1	B	237	ARG	NE-CZ-NH1	-6.02	117.29	120.30
1	B	206	ARG	N-CA-CB	6.01	121.41	110.60
1	B	142	LEU	CB-CG-CD2	5.99	121.18	111.00
1	B	198	LEU	CB-CG-CD1	5.97	121.15	111.00
1	B	201	THR	CA-CB-CG2	-5.97	104.04	112.40
1	A	166	VAL	CB-CA-C	-5.89	100.20	111.40
1	A	215	ALA	CA-C-O	-5.87	107.77	120.10
1	A	45	ASP	CB-CG-OD1	5.80	123.52	118.30
1	A	90	ASP	CB-CG-OD2	-5.78	113.10	118.30
1	B	134	ASP	CB-CG-OD2	-5.71	113.16	118.30
1	A	190	LEU	CB-CG-CD1	-5.66	101.37	111.00
1	B	204	LEU	CB-CG-CD1	5.64	120.58	111.00
1	B	177	MET	CG-SD-CE	5.62	109.19	100.20
1	A	94	ARG	NE-CZ-NH1	5.59	123.09	120.30
1	A	18	GLU	OE1-CD-OE2	-5.53	116.67	123.30
1	A	165	VAL	CB-CA-C	-5.46	101.03	111.40
1	B	139	LEU	CA-CB-CG	-5.43	102.82	115.30
1	B	12	GLN	N-CA-C	-5.42	96.36	111.00
1	A	155	VAL	CG1-CB-CG2	-5.42	102.23	110.90
1	A	200	ALA	C-N-CA	-5.37	108.27	121.70
1	B	25	LYS	N-CA-C	5.33	125.39	111.00
1	A	132	LEU	N-CA-C	-5.32	96.65	111.00
1	B	202	VAL	C-N-CA	-5.31	108.41	121.70
1	A	63	LEU	CB-CG-CD1	5.30	120.01	111.00
1	A	18	GLU	N-CA-C	5.28	125.26	111.00
1	A	59	LEU	CA-CB-CG	-5.25	103.22	115.30
1	A	17	PRO	N-CA-C	5.25	125.75	112.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	245	ASP	CB-CG-OD2	5.24	123.01	118.30
1	B	203	ASN	C-N-CA	-5.21	108.67	121.70
1	A	90	ASP	CB-CA-C	-5.20	100.00	110.40
1	B	14	LEU	CA-CB-CG	5.20	127.26	115.30
1	B	55	LEU	CB-CG-CD2	-5.20	102.16	111.00
1	B	228	ARG	NE-CZ-NH2	5.18	122.89	120.30
1	B	54	ASP	C-N-CA	-5.18	108.76	121.70
1	B	49	ARG	NE-CZ-NH1	-5.15	117.72	120.30
1	A	214	ILE	CG1-CB-CG2	-5.11	100.17	111.40
1	B	92	LEU	CA-CB-CG	5.10	127.03	115.30
1	A	142	LEU	CB-CG-CD1	-5.10	102.34	111.00
1	A	135	ILE	N-CA-C	-5.07	97.31	111.00
1	B	239	LEU	CA-CB-CG	5.07	126.96	115.30
1	B	11	MET	CG-SD-CE	5.05	108.28	100.20
1	A	18	GLU	CB-CA-C	5.04	120.48	110.40
1	A	139	LEU	CB-CG-CD2	-5.02	102.46	111.00

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	18	GLU	CA
1	A	241	MET	CA
1	B	129	HIS	CA

All (17) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	137	ARG	Peptide
1	A	172	GLU	Peptide
1	A	21	CYS	Peptide
1	A	238	GLY	Peptide
1	A	91	LYS	Peptide
1	A	94	ARG	Peptide
1	B	128	GLN	Peptide
1	B	129	HIS	Peptide
1	B	2	ASN	Peptide
1	B	204	LEU	Mainchain
1	B	216	LEU	Mainchain
1	B	244	VAL	Peptide
1	B	25	LYS	Peptide
1	B	27	GLN	Peptide
1	B	29	PHE	Peptide

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Mol	Chain	Res	Type	Group
1	B	3	GLN	Peptide
1	B	78	ARG	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1829	0	1785	356	6
1	B	1784	0	1750	373	6
2	B	1	0	0	0	0
3	B	31	0	12	12	0
4	A	5	0	0	5	0
4	B	8	0	0	1	0
All	All	3658	0	3547	682	6

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 95.

All (682) 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:A:140:PRO:CG	1:A:140:PRO:CB	1.79	1.43
1:A:9:THR:O	1:A:12:GLN:N	1.66	1.26
1:A:240:GLU:HB3	1:A:242:THR:N	1.55	1.21
1:A:10:ILE:O	1:A:14:LEU:HB2	1.40	1.20
1:A:161:THR:O	1:A:164:PRO:HD2	1.39	1.18
1:A:95:ARG:HA	1:A:95:ARG:CZ	1.71	1.18
1:A:240:GLU:HB3	1:A:242:THR:CA	1.73	1.18
1:A:190:LEU:HD12	1:A:190:LEU:C	1.59	1.16
1:B:214:ILE:HG22	1:B:215:ALA:N	1.63	1.14
1:B:11:MET:HE2	1:B:14:LEU:HD23	1.24	1.12
1:A:246:LEU:O	1:A:249:MET:HB2	1.52	1.10
1:A:240:GLU:HB3	1:A:242:THR:C	1.70	1.10
1:B:39:GLU:HA	1:B:39:GLU:OE2	1.33	1.10
1:B:6:ARG:CG	1:B:10:ILE:HD11	1.81	1.09
1:B:6:ARG:HG2	1:B:10:ILE:HD11	1.20	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:139:LEU:HD23	1:B:140:PRO:HD2	1.35	1.08
1:B:29:PHE:H	1:B:32:ILE:HD13	1.15	1.07
1:A:206:ARG:O	1:A:207:HIS:CB	2.00	1.06
1:A:240:GLU:HA	1:A:242:THR:N	1.70	1.06
1:B:11:MET:CE	1:B:14:LEU:HD23	1.84	1.06
1:A:245:ASP:HB3	1:A:246:LEU:HA	1.34	1.06
1:B:197:LEU:O	1:B:201:THR:HG22	1.55	1.04
1:A:39:GLU:OE1	1:A:61:ASP:HB2	1.55	1.04
1:B:28:THR:N	1:B:32:ILE:HD11	1.71	1.04
1:B:157:PHE:CD2	1:B:157:PHE:O	2.10	1.03
1:A:132:LEU:HA	1:A:135:ILE:CD1	1.89	1.02
1:A:240:GLU:CB	1:A:242:THR:N	2.21	1.02
1:B:28:THR:H	1:B:32:ILE:HD11	1.21	1.01
1:A:161:THR:O	1:A:164:PRO:CD	2.08	1.01
1:A:3:GLN:H	1:B:82:ASN:ND2	1.58	1.01
1:B:28:THR:HB	1:B:30:ALA:O	1.61	1.00
1:B:217:GLN:OE1	1:B:217:GLN:HA	1.59	1.00
1:A:68:PHE:O	1:A:72:MET:HE2	1.62	1.00
1:A:214:ILE:HD12	1:B:34:PRO:HB3	1.44	1.00
1:A:206:ARG:O	1:A:207:HIS:HB2	1.12	0.99
1:A:23:TRP:CZ2	1:A:27:GLN:NE2	2.31	0.99
1:A:146:GLN:HE22	1:A:212:ALA:H	1.10	0.97
1:B:32:ILE:HD12	1:B:32:ILE:N	1.80	0.97
1:A:245:ASP:HA	1:A:248:THR:OG1	1.63	0.96
1:A:214:ILE:CD1	1:B:34:PRO:HB3	1.96	0.95
1:A:240:GLU:CA	1:A:242:THR:N	2.28	0.95
1:B:28:THR:H	1:B:32:ILE:CD1	1.79	0.95
1:B:6:ARG:HG2	1:B:10:ILE:CD1	1.95	0.94
1:A:146:GLN:NE2	1:A:212:ALA:H	1.64	0.94
1:A:237:ARG:HG2	1:A:237:ARG:HH11	1.32	0.94
1:A:240:GLU:CA	1:A:242:THR:H	1.80	0.94
1:A:3:GLN:N	1:B:82:ASN:HD21	1.65	0.94
1:A:233:ILE:HG21	1:A:252:VAL:HG11	1.49	0.94
1:A:253:TRP:HZ2	3:B:265:ATP:O3'	1.51	0.94
1:B:32:ILE:N	1:B:32:ILE:CD1	2.31	0.94
1:B:146:GLN:HE22	1:B:212:ALA:H	1.00	0.93
1:A:10:ILE:O	1:A:14:LEU:CB	2.17	0.92
1:B:172:GLU:O	1:B:176:VAL:HG23	1.69	0.92
1:A:20:GLY:HA3	1:A:21:CYS:CB	1.98	0.92
1:A:204:LEU:CD2	1:A:208:LEU:HD13	1.98	0.92
1:A:49:ARG:NH2	1:A:51:ASP:OD1	2.02	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:146:GLN:HE22	1:A:212:ALA:N	1.66	0.92
1:A:179:GLU:OE1	1:A:179:GLU:HA	1.67	0.92
1:A:240:GLU:HA	1:A:242:THR:H	1.24	0.92
1:B:157:PHE:O	1:B:157:PHE:HD2	1.49	0.91
1:B:6:ARG:C	1:B:10:ILE:HD12	1.91	0.91
1:B:10:ILE:HG23	1:B:14:LEU:HD11	1.51	0.91
1:A:245:ASP:HA	1:A:248:THR:HG1	1.36	0.90
1:B:32:ILE:HG21	1:B:69:TYR:HE2	1.36	0.90
1:B:187:GLN:OE1	1:B:187:GLN:HA	1.69	0.90
1:A:78:ARG:HG2	1:A:78:ARG:HH11	1.38	0.89
1:B:11:MET:HE2	1:B:14:LEU:CD2	2.02	0.89
1:B:214:ILE:HG22	1:B:215:ALA:H	1.27	0.89
1:B:23:TRP:HE3	1:B:23:TRP:O	1.55	0.89
1:B:220:ASN:OD1	1:B:220:ASN:N	2.03	0.89
1:B:80:ASP:O	1:B:83:ASP:HB2	1.72	0.89
1:B:29:PHE:N	1:B:32:ILE:HD13	1.88	0.88
1:A:93:GLU:O	1:A:96:HIS:HB3	1.73	0.88
1:B:23:TRP:CZ3	1:B:27:GLN:NE2	2.42	0.87
1:B:39:GLU:OE2	1:B:39:GLU:CA	2.18	0.87
1:B:139:LEU:HD23	1:B:140:PRO:CD	2.05	0.86
1:A:190:LEU:C	1:A:190:LEU:CD1	2.44	0.86
1:A:3:GLN:H	1:B:82:ASN:HD21	0.90	0.86
1:A:14:LEU:CD2	1:A:24:ASP:HB2	2.06	0.86
1:A:43:VAL:HA	4:A:266:HOH:O	1.76	0.86
1:A:144:ARG:O	1:A:148:ILE:HG13	1.76	0.85
1:A:149:GLN:OE1	1:A:203:ASN:ND2	2.09	0.85
1:A:240:GLU:OE1	1:A:242:THR:HB	1.75	0.85
1:B:244:VAL:HG11	1:B:248:THR:HB	1.59	0.84
1:A:95:ARG:HA	1:A:95:ARG:NH1	1.92	0.84
1:A:162:LEU:O	1:A:162:LEU:HD12	1.76	0.84
1:A:245:ASP:CB	1:A:246:LEU:HA	1.97	0.84
1:A:14:LEU:HD21	1:A:24:ASP:HB2	1.59	0.84
1:A:11:MET:CE	1:A:11:MET:HA	2.07	0.83
1:B:13:ARG:HH21	1:B:14:LEU:CD1	1.91	0.83
1:A:148:ILE:O	1:A:151:ARG:HB2	1.78	0.83
1:A:11:MET:O	1:A:12:GLN:O	1.96	0.83
1:B:5:ASP:O	1:B:6:ARG:C	2.17	0.83
1:B:32:ILE:HG21	1:B:69:TYR:CE2	2.12	0.83
1:B:83:ASP:O	1:B:86:ALA:HB3	1.79	0.83
1:A:132:LEU:HA	1:A:135:ILE:HD11	1.61	0.83
1:B:136:PRO:HG2	1:B:139:LEU:HD12	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:204:LEU:HD21	1:A:208:LEU:HD13	1.60	0.82
1:B:139:LEU:HD22	1:B:143:MET:HG2	1.61	0.82
1:B:139:LEU:HD21	1:B:143:MET:SD	2.19	0.82
1:A:240:GLU:CB	1:A:242:THR:H	1.90	0.82
1:A:190:LEU:HD12	1:A:190:LEU:O	1.80	0.82
1:B:32:ILE:CD1	1:B:32:ILE:H	1.90	0.82
1:B:245:ASP:OD2	1:B:248:THR:N	2.12	0.82
1:B:23:TRP:N	1:B:24:ASP:C	2.33	0.82
1:B:11:MET:CE	1:B:14:LEU:CD2	2.58	0.81
1:B:140:PRO:HG2	1:B:213:GLU:OE2	1.80	0.81
1:A:82:ASN:HD22	1:A:82:ASN:C	1.83	0.81
1:A:240:GLU:CB	1:A:242:THR:C	2.48	0.81
1:A:141:ALA:HB1	1:B:216:LEU:HD23	1.62	0.81
1:A:28:THR:HB	4:A:265:HOH:O	1.79	0.81
1:B:10:ILE:O	1:B:14:LEU:HD13	1.80	0.81
3:B:265:ATP:C8	3:B:265:ATP:O2'	2.33	0.81
1:A:246:LEU:O	1:A:249:MET:CB	2.28	0.80
1:A:78:ARG:HH11	1:A:78:ARG:CG	1.95	0.80
1:A:11:MET:HA	1:A:11:MET:HE3	1.61	0.80
1:B:231:GLU:HA	1:B:241:MET:CE	2.12	0.80
1:A:246:LEU:HB2	1:A:249:MET:HB2	1.62	0.80
1:B:214:ILE:CG2	1:B:215:ALA:N	2.44	0.79
1:A:146:GLN:OE1	1:A:211:LYS:HA	1.83	0.79
1:A:171:GLU:CG	1:A:171:GLU:O	2.30	0.79
1:A:82:ASN:HD22	1:A:83:ASP:N	1.78	0.79
1:A:78:ARG:HG2	1:A:78:ARG:NH1	1.96	0.79
1:B:244:VAL:HG11	1:B:248:THR:CB	2.13	0.78
1:A:20:GLY:HA3	1:A:21:CYS:HB2	1.65	0.78
1:A:20:GLY:HA3	1:A:21:CYS:HB3	1.64	0.78
1:B:129:HIS:O	1:B:130:SER:CB	2.30	0.78
1:A:234:VAL:O	1:A:234:VAL:CG1	2.31	0.78
1:B:23:TRP:CE3	1:B:27:GLN:NE2	2.52	0.78
1:A:63:LEU:HD11	1:B:81:PHE:CZ	2.18	0.78
1:B:81:PHE:HA	1:B:84:ILE:CD1	2.14	0.78
1:A:11:MET:O	1:A:12:GLN:C	2.23	0.77
1:B:25:LYS:HB3	1:B:27:GLN:HG2	1.66	0.77
1:B:31:THR:O	1:B:34:PRO:HD2	1.84	0.77
1:B:129:HIS:O	1:B:130:SER:HB2	1.82	0.77
1:A:6:ARG:O	1:A:10:ILE:HD12	1.86	0.76
1:A:137:ARG:HH11	1:A:137:ARG:HG2	1.49	0.76
1:A:246:LEU:CD1	1:A:246:LEU:H	1.97	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:132:LEU:HA	1:A:135:ILE:HD13	1.67	0.76
1:B:245:ASP:OD2	1:B:245:ASP:C	2.23	0.76
1:B:255:GLN:HA	1:B:258:ARG:NH2	2.00	0.76
1:A:246:LEU:C	1:A:247:GLU:HG3	2.04	0.76
1:B:70:ALA:HA	1:B:84:ILE:HD11	1.67	0.76
1:A:80:ASP:N	1:A:83:ASP:OD2	2.18	0.75
1:A:240:GLU:OE1	1:A:242:THR:CB	2.34	0.75
1:B:88:ILE:C	1:B:88:ILE:HD12	2.08	0.74
1:A:247:GLU:HA	1:A:248:THR:C	2.07	0.74
1:B:139:LEU:CD2	1:B:143:MET:SD	2.76	0.74
1:A:149:GLN:CD	1:A:203:ASN:ND2	2.41	0.74
1:B:81:PHE:HA	1:B:84:ILE:HG13	1.67	0.74
1:B:23:TRP:O	1:B:23:TRP:CE3	2.41	0.73
1:B:85:CYS:O	1:B:89:SER:OG	2.04	0.73
1:B:33:ALA:O	1:B:35:TYR:N	2.21	0.73
1:B:195:GLY:O	1:B:198:LEU:N	2.21	0.72
1:B:231:GLU:HA	1:B:241:MET:HE2	1.70	0.72
1:A:130:SER:HB2	1:B:231:GLU:OE1	1.89	0.72
1:A:204:LEU:HD23	1:A:208:LEU:HD13	1.71	0.72
1:B:28:THR:CB	1:B:30:ALA:O	2.35	0.72
1:A:208:LEU:HD23	1:B:190:LEU:CD1	2.20	0.72
1:B:6:ARG:HG3	1:B:10:ILE:HD11	1.72	0.71
1:A:217:GLN:O	1:A:220:ASN:HB2	1.89	0.71
1:B:203:ASN:HD21	1:B:206:ARG:HH21	1.34	0.71
1:B:10:ILE:CG2	1:B:14:LEU:HD11	2.20	0.71
1:A:253:TRP:CZ2	3:B:265:ATP:O3'	2.33	0.71
1:B:214:ILE:O	1:B:217:GLN:N	2.24	0.71
1:A:240:GLU:CB	1:A:242:THR:O	2.39	0.71
1:A:204:LEU:O	1:A:205:ALA:C	2.27	0.71
1:B:245:ASP:OD2	1:B:247:GLU:N	2.22	0.71
1:B:61:ASP:O	1:B:62:LEU:C	2.25	0.71
1:B:147:LYS:O	1:B:150:LYS:HB2	1.90	0.70
1:A:245:ASP:HB3	1:A:246:LEU:CA	2.15	0.70
1:B:203:ASN:HD21	1:B:206:ARG:NH2	1.89	0.70
1:B:89:SER:O	1:B:93:GLU:OE1	2.09	0.70
1:B:65:GLN:O	1:B:68:PHE:N	2.25	0.70
1:A:169:VAL:O	1:A:170:TYR:C	2.30	0.70
1:A:246:LEU:C	1:A:249:MET:HB2	2.11	0.70
1:B:81:PHE:HA	1:B:84:ILE:CG1	2.22	0.70
1:B:214:ILE:O	1:B:217:GLN:HB2	1.90	0.70
1:B:64:PHE:CD1	1:B:64:PHE:C	2.63	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:86:ALA:O	1:B:90:ASP:OD2	2.10	0.70
1:A:177:MET:O	1:A:181:ARG:HG3	1.91	0.69
1:B:146:GLN:NE2	1:B:212:ALA:H	1.84	0.69
3:B:265:ATP:H5'2	3:B:265:ATP:O1B	1.91	0.69
1:A:47:ILE:HG12	1:A:47:ILE:O	1.90	0.69
1:A:8:LEU:O	1:A:11:MET:HB2	1.92	0.69
1:A:158:ASP:OD1	1:A:159:TRP:N	2.26	0.69
1:B:216:LEU:O	1:B:220:ASN:OD1	2.11	0.69
1:A:82:ASN:C	1:A:82:ASN:ND2	2.46	0.68
1:B:6:ARG:O	1:B:10:ILE:HD12	1.92	0.68
1:A:9:THR:O	1:A:11:MET:C	2.31	0.68
1:A:15:ARG:NE	1:A:75:GLU:OE2	2.25	0.68
1:A:82:ASN:OD1	1:B:2:ASN:N	2.27	0.68
1:B:39:GLU:OE2	1:B:42:GLU:HG3	1.93	0.68
1:A:14:LEU:O	1:A:14:LEU:HD23	1.94	0.68
1:A:39:GLU:O	1:A:40:THR:C	2.25	0.68
1:A:88:ILE:O	1:A:89:SER:C	2.32	0.68
1:A:208:LEU:HD23	1:B:190:LEU:HD11	1.76	0.68
1:B:146:GLN:HE22	1:B:212:ALA:N	1.83	0.68
1:B:149:GLN:OE1	1:B:203:ASN:HA	1.93	0.68
1:B:245:ASP:OD1	1:B:247:GLU:HB2	1.93	0.68
1:B:32:ILE:HD13	1:B:32:ILE:H	1.56	0.68
1:B:177:MET:HA	1:B:177:MET:CE	2.23	0.67
1:B:64:PHE:O	1:B:67:VAL:HG22	1.93	0.67
1:A:47:ILE:HG13	1:B:29:PHE:O	1.94	0.67
1:A:21:CYS:N	1:A:25:LYS:HD3	2.10	0.67
1:A:253:TRP:HZ2	3:B:265:ATP:HO3'	0.71	0.67
1:B:234:VAL:HG12	1:B:235:ALA:N	2.08	0.67
1:A:140:PRO:HD2	1:A:143:MET:HG3	1.77	0.67
1:B:24:ASP:N	1:B:25:LYS:O	2.27	0.67
1:A:234:VAL:O	1:A:234:VAL:HG12	1.93	0.66
1:B:233:ILE:O	1:B:237:ARG:HD2	1.93	0.66
1:B:258:ARG:HB2	1:B:258:ARG:CZ	2.24	0.66
1:A:14:LEU:HD21	1:A:24:ASP:CB	2.24	0.66
1:B:23:TRP:HZ3	1:B:27:GLN:HE22	1.41	0.66
1:A:232:ARG:NH1	1:A:233:ILE:HG13	2.10	0.66
1:A:236:ALA:O	1:A:238:GLY:N	2.29	0.66
1:A:94:ARG:HH12	1:A:95:ARG:NH2	1.92	0.66
1:B:189:LYS:O	1:B:193:GLU:HG2	1.95	0.66
1:A:10:ILE:CG2	1:A:14:LEU:HD12	2.25	0.66
1:A:14:LEU:O	1:A:25:LYS:HG3	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:47:ILE:O	1:A:47:ILE:CG1	2.44	0.66
1:B:58:GLU:OE2	1:B:58:GLU:HA	1.94	0.66
1:A:240:GLU:HB3	1:A:242:THR:O	1.92	0.65
1:B:69:TYR:O	1:B:73:ALA:HB3	1.96	0.65
1:A:76:GLU:HB2	1:A:78:ARG:HD2	1.79	0.65
1:B:54:ASP:O	1:B:55:LEU:C	2.28	0.65
1:B:88:ILE:HD12	1:B:88:ILE:O	1.96	0.65
1:A:85:CYS:O	1:A:89:SER:N	2.24	0.65
1:B:226:ARG:HA	1:B:229:GLU:HG3	1.78	0.65
1:A:10:ILE:HG22	1:A:14:LEU:HD12	1.78	0.65
1:A:146:GLN:O	1:A:150:LYS:N	2.28	0.65
1:A:237:ARG:HG2	1:A:237:ARG:NH1	2.01	0.65
1:A:167:ASP:O	1:A:170:TYR:HB2	1.96	0.65
1:B:81:PHE:CE2	1:B:85:CYS:SG	2.88	0.65
1:A:131:ALA:O	1:A:151:ARG:HD2	1.97	0.65
1:A:169:VAL:O	1:A:171:GLU:N	2.30	0.65
1:B:51:ASP:OD2	1:B:51:ASP:C	2.32	0.65
1:B:168:LYS:HG3	1:B:168:LYS:O	1.97	0.64
1:A:145:ALA:O	1:A:146:GLN:C	2.35	0.64
1:A:148:ILE:CD1	1:B:220:ASN:HB3	2.27	0.64
1:B:243:GLY:O	1:B:244:VAL:HG22	1.96	0.64
1:A:76:GLU:HB2	1:A:78:ARG:CD	2.27	0.64
1:A:76:GLU:OE1	1:A:78:ARG:NE	2.25	0.64
1:A:171:GLU:O	1:A:171:GLU:HG3	1.97	0.64
1:B:234:VAL:HG21	1:B:241:MET:HG2	1.80	0.64
1:A:246:LEU:HB2	1:A:249:MET:CB	2.27	0.64
1:A:92:LEU:HD13	1:B:10:ILE:HG21	1.78	0.64
1:B:74:GLN:HG3	1:B:80:ASP:HB2	1.79	0.64
1:A:228:ARG:NH2	1:B:133:ASP:OD1	2.31	0.64
1:B:135:ILE:O	1:B:136:PRO:C	2.35	0.64
1:A:14:LEU:CD2	1:A:24:ASP:CB	2.74	0.63
1:A:246:LEU:O	1:A:246:LEU:HD22	1.98	0.63
1:A:88:ILE:CG2	1:A:89:SER:N	2.61	0.63
1:A:214:ILE:HD11	1:B:34:PRO:HB3	1.78	0.63
1:A:246:LEU:CB	1:A:249:MET:HB2	2.28	0.63
1:B:7:LEU:HA	1:B:10:ILE:HD12	1.79	0.63
1:A:27:GLN:OE1	1:A:27:GLN:HA	1.98	0.63
1:B:13:ARG:HH21	1:B:14:LEU:HD12	1.62	0.63
1:B:70:ALA:HB1	1:B:81:PHE:HB2	1.80	0.63
1:B:234:VAL:HG13	1:B:239:LEU:O	1.99	0.63
1:A:246:LEU:H	1:A:246:LEU:HD13	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:10:ILE:O	1:B:14:LEU:CD1	2.45	0.63
1:B:27:GLN:C	1:B:32:ILE:HD11	2.19	0.63
1:A:169:VAL:HG12	1:A:170:TYR:N	2.14	0.62
1:B:25:LYS:HB3	1:B:27:GLN:CG	2.29	0.62
1:A:203:ASN:O	1:A:206:ARG:O	2.17	0.62
1:A:85:CYS:HB2	1:B:3:GLN:HB3	1.81	0.62
1:A:9:THR:O	1:A:11:MET:N	2.32	0.62
1:A:148:ILE:HD11	1:B:220:ASN:HB3	1.81	0.62
1:B:74:GLN:CG	1:B:80:ASP:HB2	2.29	0.62
1:B:67:VAL:O	1:B:70:ALA:HB3	1.99	0.62
1:A:218:LYS:HE3	1:B:191:GLU:OE1	1.98	0.62
1:B:142:LEU:HD12	1:B:213:GLU:HA	1.81	0.62
1:A:88:ILE:HG23	1:A:89:SER:N	2.15	0.62
1:B:69:TYR:O	1:B:73:ALA:CB	2.48	0.62
1:B:55:LEU:O	1:B:59:LEU:HG	1.99	0.61
1:B:81:PHE:HA	1:B:84:ILE:HD12	1.82	0.61
1:A:3:GLN:O	1:A:6:ARG:N	2.33	0.61
1:A:169:VAL:O	1:A:172:GLU:N	2.30	0.61
1:B:6:ARG:CG	1:B:10:ILE:CD1	2.66	0.61
1:A:85:CYS:O	1:A:88:ILE:HG22	2.00	0.61
1:B:234:VAL:HG12	1:B:235:ALA:CA	2.31	0.61
1:A:67:VAL:HG12	1:A:68:PHE:N	2.15	0.61
1:B:142:LEU:O	1:B:145:ALA:HB3	2.00	0.61
1:A:92:LEU:CD1	1:B:10:ILE:HG21	2.30	0.61
1:A:4:ILE:O	1:A:8:LEU:HG	2.00	0.61
1:B:145:ALA:O	1:B:149:GLN:HG3	2.00	0.61
1:A:21:CYS:H	1:A:25:LYS:HD3	1.64	0.60
1:A:23:TRP:CE2	1:A:27:GLN:NE2	2.69	0.60
1:B:197:LEU:O	1:B:201:THR:CG2	2.42	0.60
1:A:39:GLU:HA	1:A:42:GLU:HG3	1.83	0.60
1:B:23:TRP:C	1:B:25:LYS:HB2	2.22	0.60
1:B:227:PHE:O	1:B:230:VAL:HB	2.01	0.60
1:A:15:ARG:HA	1:A:25:LYS:HG2	1.84	0.60
1:A:132:LEU:CA	1:A:135:ILE:CD1	2.75	0.60
1:A:171:GLU:O	1:A:171:GLU:HG2	2.02	0.60
1:B:32:ILE:CG2	1:B:69:TYR:HE2	2.13	0.60
1:B:164:PRO:HA	1:B:167:ASP:HB2	1.83	0.60
1:A:94:ARG:HH12	1:A:95:ARG:HH21	1.48	0.59
1:A:208:LEU:CD2	1:B:190:LEU:HD11	2.32	0.59
1:A:203:ASN:ND2	1:A:206:ARG:NH1	2.49	0.59
1:B:142:LEU:HB2	1:B:213:GLU:HB2	1.82	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:245:ASP:OD2	1:B:245:ASP:O	2.20	0.59
1:B:28:THR:N	1:B:32:ILE:CD1	2.47	0.59
1:B:29:PHE:N	1:B:32:ILE:CD1	2.64	0.59
1:A:62:LEU:O	1:A:63:LEU:C	2.40	0.59
1:A:196:ASP:O	1:A:197:LEU:C	2.40	0.59
1:A:233:ILE:CG2	1:A:252:VAL:HG11	2.30	0.59
1:A:95:ARG:CZ	1:A:95:ARG:CA	2.66	0.59
1:A:229:GLU:O	1:A:230:VAL:C	2.41	0.59
1:B:5:ASP:C	1:B:7:LEU:N	2.50	0.59
1:B:13:ARG:NH2	1:B:14:LEU:CD1	2.64	0.59
1:A:49:ARG:HG2	1:A:49:ARG:HH21	1.68	0.59
1:A:240:GLU:HB2	1:A:242:THR:O	2.03	0.59
1:B:31:THR:HG23	1:B:32:ILE:HD12	1.83	0.59
1:B:32:ILE:CG2	1:B:69:TYR:CE2	2.84	0.59
1:B:230:VAL:HG12	1:B:241:MET:HE3	1.83	0.59
1:A:47:ILE:HD11	1:B:29:PHE:C	2.23	0.59
1:A:229:GLU:HG3	1:A:233:ILE:HD12	1.85	0.58
1:B:30:ALA:H	1:B:32:ILE:H	1.51	0.58
1:B:83:ASP:O	1:B:86:ALA:CB	2.50	0.58
1:B:234:VAL:HG12	1:B:235:ALA:HA	1.85	0.58
1:B:255:GLN:HE21	1:B:259:GLN:HE21	1.51	0.58
1:B:203:ASN:ND2	1:B:206:ARG:HH21	2.01	0.58
1:B:171:GLU:O	1:B:175:GLU:HG3	2.03	0.58
1:A:216:LEU:O	1:A:217:GLN:C	2.40	0.58
1:B:25:LYS:CB	1:B:27:GLN:HG2	2.34	0.58
1:B:136:PRO:CG	1:B:139:LEU:HD12	2.33	0.58
1:B:3:GLN:C	1:B:5:ASP:N	2.56	0.58
1:A:226:ARG:NH1	1:A:253:TRP:CZ2	2.71	0.58
1:A:162:LEU:HD12	1:A:162:LEU:C	2.23	0.57
1:A:246:LEU:CA	1:A:249:MET:HB2	2.34	0.57
1:A:143:MET:HE1	1:B:38:GLU:HB2	1.86	0.57
1:A:233:ILE:HG21	1:A:252:VAL:CG1	2.29	0.57
1:B:30:ALA:H	1:B:32:ILE:N	2.02	0.57
1:B:11:MET:HA	1:B:14:LEU:HD22	1.86	0.57
1:B:74:GLN:CB	1:B:80:ASP:HB2	2.35	0.57
1:A:42:GLU:C	4:A:266:HOH:O	2.43	0.57
1:A:142:LEU:HD21	1:B:142:LEU:HD21	1.85	0.57
1:B:88:ILE:C	1:B:88:ILE:CD1	2.73	0.57
1:B:228:ARG:HA	1:B:231:GLU:HG3	1.86	0.57
1:A:12:GLN:C	1:A:14:LEU:H	2.07	0.57
1:B:10:ILE:O	1:B:14:LEU:HD22	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:94:ARG:NH1	1:A:95:ARG:HH21	2.03	0.57
1:B:13:ARG:HH21	1:B:14:LEU:HD13	1.69	0.56
1:B:63:LEU:HG	1:B:63:LEU:O	2.05	0.56
1:B:11:MET:HE3	1:B:14:LEU:CD2	2.35	0.56
1:A:240:GLU:OE1	1:A:242:THR:OG1	2.23	0.56
1:A:253:TRP:HE1	3:B:265:ATP:H4'	1.71	0.56
1:B:11:MET:HA	1:B:14:LEU:CD2	2.35	0.56
1:B:68:PHE:HA	1:B:71:GLN:HB2	1.87	0.56
1:B:186:ASP:OD1	1:B:186:ASP:C	2.43	0.56
1:B:157:PHE:CD2	1:B:157:PHE:C	2.78	0.56
1:A:221:GLU:OE1	1:A:221:GLU:HA	2.06	0.56
1:A:247:GLU:O	1:A:251:GLU:HB2	2.06	0.56
1:B:81:PHE:C	1:B:81:PHE:CD2	2.79	0.56
1:B:139:LEU:HD22	1:B:143:MET:CG	2.33	0.56
1:B:226:ARG:O	1:B:230:VAL:HG23	2.05	0.56
1:A:74:GLN:HG3	1:A:74:GLN:O	2.05	0.56
1:A:234:VAL:O	1:A:234:VAL:HG13	2.06	0.56
1:A:2:ASN:N	1:A:4:ILE:HG22	2.21	0.55
1:B:255:GLN:HA	1:B:258:ARG:HH22	1.69	0.55
1:A:59:LEU:HD21	1:B:69:TYR:HD1	1.71	0.55
1:B:244:VAL:HG12	1:B:245:ASP:N	2.22	0.55
1:B:8:LEU:O	1:B:10:ILE:N	2.39	0.55
1:B:172:GLU:OE2	3:B:265:ATP:O2A	2.25	0.55
1:B:231:GLU:HA	1:B:241:MET:HE3	1.87	0.55
1:B:68:PHE:O	1:B:71:GLN:CB	2.55	0.55
1:B:151:ARG:HA	1:B:154:ASN:ND2	2.22	0.54
1:A:247:GLU:C	1:A:251:GLU:HB2	2.26	0.54
1:A:254:GLN:O	1:A:257:ALA:HB3	2.07	0.54
1:A:32:ILE:O	1:A:35:TYR:HD2	1.90	0.54
1:A:255:GLN:HA	1:A:258:ARG:CZ	2.38	0.54
1:A:248:THR:O	1:A:249:MET:C	2.46	0.54
1:A:46:ALA:O	1:A:48:ALA:N	2.40	0.54
1:B:80:ASP:CG	1:B:81:PHE:N	2.60	0.54
1:A:233:ILE:O	1:A:237:ARG:NH1	2.41	0.54
1:A:31:THR:O	1:A:34:PRO:HD2	2.07	0.54
1:A:132:LEU:HD11	1:B:227:PHE:CD2	2.42	0.54
1:A:239:LEU:HD23	1:A:239:LEU:O	2.08	0.54
1:B:83:ASP:O	1:B:84:ILE:C	2.46	0.54
1:B:195:GLY:O	1:B:197:LEU:N	2.41	0.54
1:A:168:LYS:O	1:A:168:LYS:HG3	2.07	0.54
1:B:30:ALA:N	1:B:32:ILE:H	2.05	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:81:PHE:CA	1:B:84:ILE:HG13	2.38	0.53
1:A:64:PHE:CE1	1:B:92:LEU:HD11	2.44	0.53
1:A:81:PHE:CE2	1:A:85:CYS:SG	3.01	0.53
1:A:216:LEU:HD23	1:B:142:LEU:HD23	1.91	0.53
1:A:12:GLN:O	1:A:14:LEU:N	2.41	0.53
1:A:208:LEU:HD23	1:B:190:LEU:HD12	1.89	0.53
1:A:235:ALA:O	1:A:236:ALA:C	2.47	0.53
1:A:4:ILE:O	1:A:7:LEU:HB3	2.09	0.53
1:B:162:LEU:HD12	1:B:162:LEU:O	2.09	0.53
1:A:211:LYS:O	1:A:212:ALA:C	2.43	0.53
1:B:136:PRO:HD2	1:B:139:LEU:HD12	1.91	0.53
1:B:179:GLU:OE1	1:B:179:GLU:HA	2.09	0.52
1:A:47:ILE:CG1	1:B:29:PHE:O	2.58	0.52
1:A:55:LEU:O	1:A:59:LEU:HD12	2.09	0.52
1:A:74:GLN:HB2	1:A:79:PHE:O	2.10	0.52
1:A:168:LYS:O	1:A:168:LYS:CG	2.56	0.52
1:A:240:GLU:CA	1:A:241:MET:C	2.65	0.52
1:B:61:ASP:O	1:B:64:PHE:N	2.43	0.52
1:B:231:GLU:O	1:B:234:VAL:HB	2.09	0.52
1:A:3:GLN:CG	1:B:82:ASN:OD1	2.58	0.52
1:A:39:GLU:C	1:A:41:TYR:N	2.63	0.52
1:B:11:MET:HG2	1:B:71:GLN:CG	2.40	0.52
1:B:70:ALA:CA	1:B:84:ILE:HD11	2.37	0.52
1:B:81:PHE:O	1:B:85:CYS:SG	2.68	0.52
1:B:84:ILE:C	1:B:86:ALA:H	2.11	0.52
1:B:3:GLN:O	1:B:7:LEU:HB2	2.10	0.52
1:B:166:VAL:C	1:B:168:LYS:N	2.61	0.52
1:A:143:MET:CE	1:B:38:GLU:HB2	2.39	0.52
1:B:55:LEU:HD11	1:B:59:LEU:HD21	1.92	0.52
1:A:133:ASP:OD1	1:B:228:ARG:NH2	2.42	0.52
1:B:74:GLN:HB2	1:B:80:ASP:HB2	1.92	0.52
1:B:202:VAL:C	1:B:204:LEU:N	2.58	0.52
1:A:95:ARG:HA	1:A:95:ARG:NE	2.21	0.51
1:B:244:VAL:HG12	1:B:245:ASP:CB	2.39	0.51
1:A:53:ASP:O	1:A:56:ARG:HG3	2.10	0.51
1:A:137:ARG:HG2	1:A:137:ARG:NH1	2.23	0.51
1:A:193:GLU:OE2	1:A:193:GLU:HA	2.09	0.51
1:B:255:GLN:HE21	1:B:259:GLN:NE2	2.09	0.51
1:B:33:ALA:C	1:B:35:TYR:H	2.11	0.51
1:A:74:GLN:O	1:A:74:GLN:CG	2.56	0.51
1:A:9:THR:C	1:A:11:MET:N	2.62	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:92:LEU:HD13	1:B:10:ILE:CG2	2.40	0.51
1:A:255:GLN:HG3	1:A:258:ARG:HH22	1.75	0.51
1:A:28:THR:OG1	1:A:31:THR:HG23	2.11	0.51
1:A:246:LEU:H	1:A:246:LEU:HD12	1.75	0.51
1:A:79:PHE:CE1	1:B:56:ARG:HB2	2.46	0.51
1:A:256:VAL:HG13	4:A:268:HOH:O	2.11	0.51
1:B:58:GLU:OE2	1:B:58:GLU:CA	2.59	0.51
1:B:204:LEU:CD2	1:B:208:LEU:HD22	2.40	0.51
1:A:173:ILE:O	1:A:177:MET:HG2	2.10	0.51
1:A:74:GLN:HE21	1:A:80:ASP:HA	1.76	0.51
1:B:244:VAL:CG1	1:B:248:THR:HB	2.38	0.50
1:A:204:LEU:O	1:A:206:ARG:N	2.43	0.50
1:B:166:VAL:O	1:B:167:ASP:C	2.49	0.50
1:B:198:LEU:O	1:B:199:PHE:C	2.48	0.50
1:A:29:PHE:C	1:A:31:THR:N	2.62	0.50
1:A:74:GLN:HE22	1:A:80:ASP:HB2	1.76	0.50
1:A:142:LEU:HB2	1:A:213:GLU:HB2	1.92	0.50
1:A:258:ARG:O	1:A:260:GLU:N	2.45	0.50
1:B:7:LEU:N	1:B:10:ILE:HD12	2.26	0.50
1:B:11:MET:HG2	1:B:71:GLN:HG2	1.93	0.50
1:B:32:ILE:HG22	1:B:69:TYR:OH	2.12	0.50
1:B:8:LEU:C	1:B:10:ILE:H	2.15	0.50
1:B:128:GLN:O	1:B:129:HIS:O	2.29	0.50
1:B:230:VAL:HG12	1:B:241:MET:CE	2.41	0.50
1:A:71:GLN:O	1:A:74:GLN:N	2.43	0.50
1:B:64:PHE:O	1:B:64:PHE:HD1	1.94	0.50
1:B:234:VAL:CG1	1:B:239:LEU:O	2.59	0.50
1:A:63:LEU:O	1:A:66:VAL:N	2.44	0.50
1:A:141:ALA:CB	1:B:216:LEU:HD23	2.38	0.49
1:A:203:ASN:ND2	1:A:206:ARG:HH12	2.10	0.49
1:B:13:ARG:NH2	1:B:14:LEU:HD13	2.26	0.49
1:A:166:VAL:O	1:A:167:ASP:C	2.45	0.49
1:A:142:LEU:HD12	1:A:213:GLU:HA	1.94	0.49
1:A:230:VAL:O	1:A:234:VAL:N	2.41	0.49
1:B:23:TRP:N	1:B:25:LYS:N	2.61	0.49
1:B:73:ALA:O	1:B:74:GLN:C	2.51	0.49
1:A:237:ARG:NH1	1:A:237:ARG:CG	2.74	0.49
1:A:92:LEU:O	1:A:95:ARG:N	2.45	0.49
1:A:204:LEU:HD21	1:A:208:LEU:CD1	2.37	0.49
1:B:220:ASN:O	1:B:224:GLU:HB2	2.12	0.49
1:A:67:VAL:O	1:A:68:PHE:C	2.51	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:145:ALA:HB1	1:A:199:PHE:CE1	2.47	0.49
1:A:233:ILE:HG23	1:A:237:ARG:NH1	2.28	0.49
1:A:239:LEU:HD23	1:A:239:LEU:C	2.33	0.49
1:A:82:ASN:O	1:A:83:ASP:C	2.51	0.49
1:B:162:LEU:O	1:B:165:VAL:HB	2.13	0.49
1:A:2:ASN:N	1:B:82:ASN:ND2	2.61	0.48
1:A:147:LYS:O	1:A:148:ILE:C	2.47	0.48
1:A:95:ARG:NH1	1:A:95:ARG:CA	2.72	0.48
1:B:62:LEU:HD23	1:B:62:LEU:HA	1.66	0.48
1:B:7:LEU:O	1:B:7:LEU:HD22	2.13	0.48
1:B:54:ASP:O	1:B:56:ARG:N	2.46	0.48
1:A:161:THR:O	1:A:163:GLY:N	2.47	0.48
1:A:27:GLN:OE1	1:A:27:GLN:CA	2.60	0.48
1:B:64:PHE:CD1	1:B:64:PHE:O	2.66	0.48
1:B:259:GLN:HG3	4:B:269:HOH:O	2.13	0.48
1:A:245:ASP:CA	1:A:248:THR:HG1	2.15	0.48
1:B:170:TYR:O	1:B:172:GLU:N	2.47	0.48
1:A:227:PHE:O	1:A:228:ARG:C	2.51	0.48
3:B:265:ATP:PA	3:B:265:ATP:O1G	2.71	0.48
1:B:25:LYS:HB3	1:B:26:GLU:O	2.14	0.48
1:B:140:PRO:CG	1:B:213:GLU:OE2	2.58	0.48
1:A:162:LEU:HD21	1:A:208:LEU:HD12	1.95	0.47
1:A:194:MET:O	1:A:194:MET:HG3	2.10	0.47
1:B:71:GLN:NE2	1:B:75:GLU:OE2	2.47	0.47
1:A:88:ILE:O	1:A:90:ASP:N	2.47	0.47
1:A:68:PHE:HD2	1:A:72:MET:HE1	1.79	0.47
1:B:136:PRO:CD	1:B:139:LEU:HD12	2.44	0.47
1:B:226:ARG:O	1:B:227:PHE:C	2.50	0.47
1:A:94:ARG:HH22	1:A:95:ARG:HH21	1.60	0.47
1:B:204:LEU:C	1:B:204:LEU:HD22	2.35	0.47
1:A:12:GLN:O	1:A:16:ASP:N	2.46	0.47
1:B:180:ALA:HA	1:B:190:LEU:HD21	1.97	0.47
1:A:3:GLN:O	1:A:5:ASP:N	2.47	0.47
1:B:28:THR:O	1:B:29:PHE:CD2	2.67	0.47
1:B:81:PHE:CD2	1:B:85:CYS:SG	3.08	0.47
1:B:82:ASN:HA	1:B:85:CYS:SG	2.54	0.47
1:B:204:LEU:HD23	1:B:204:LEU:HA	1.38	0.47
1:A:21:CYS:O	1:A:25:LYS:HB2	2.14	0.47
1:A:94:ARG:NH2	1:A:95:ARG:HH21	2.12	0.47
1:B:144:ARG:O	1:B:148:ILE:HG13	2.14	0.47
1:A:47:ILE:CD1	1:B:29:PHE:C	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:246:LEU:O	1:A:249:MET:CA	2.63	0.47
1:B:10:ILE:O	1:B:14:LEU:CD2	2.63	0.46
1:B:154:ASN:C	1:B:156:GLY:H	2.19	0.46
1:A:130:SER:CB	1:B:231:GLU:OE1	2.59	0.46
1:B:6:ARG:C	1:B:10:ILE:CD1	2.76	0.46
1:B:177:MET:HA	1:B:177:MET:HE3	1.97	0.46
1:B:157:PHE:CE2	3:B:265:ATP:N6	2.84	0.46
1:B:217:GLN:OE1	1:B:217:GLN:CA	2.45	0.46
1:A:16:ASP:HA	1:A:17:PRO:HD3	1.63	0.46
1:B:134:ASP:CG	1:B:134:ASP:O	2.54	0.46
1:B:139:LEU:CD2	1:B:143:MET:HG2	2.41	0.46
1:A:150:LYS:O	1:A:153:ALA:HB3	2.15	0.46
1:B:28:THR:O	1:B:29:PHE:CB	2.62	0.46
1:B:139:LEU:CD2	1:B:143:MET:CG	2.93	0.46
1:A:9:THR:O	1:A:10:ILE:C	2.54	0.46
1:A:21:CYS:O	1:A:21:CYS:SG	2.74	0.46
1:B:11:MET:SD	1:B:64:PHE:HE1	2.39	0.46
1:B:81:PHE:O	1:B:82:ASN:C	2.51	0.46
1:A:74:GLN:NE2	1:A:80:ASP:CB	2.79	0.46
1:A:228:ARG:O	1:A:231:GLU:HB2	2.16	0.46
1:B:146:GLN:OE1	1:B:211:LYS:HA	2.15	0.46
1:B:204:LEU:O	1:B:205:ALA:C	2.54	0.46
1:B:214:ILE:O	1:B:218:LYS:N	2.44	0.46
1:A:7:LEU:O	1:A:8:LEU:C	2.54	0.46
1:A:46:ALA:C	1:A:48:ALA:H	2.19	0.45
1:A:255:GLN:HA	1:A:258:ARG:NH1	2.31	0.45
1:B:203:ASN:C	1:B:203:ASN:HD22	2.18	0.45
1:B:14:LEU:C	1:B:24:ASP:OD1	2.54	0.45
1:A:38:GLU:O	1:A:42:GLU:HG2	2.16	0.45
1:A:63:LEU:HD21	1:B:63:LEU:CD1	2.46	0.45
1:A:161:THR:O	1:A:164:PRO:HD3	2.06	0.45
1:A:55:LEU:O	1:A:55:LEU:HG	2.16	0.45
1:A:256:VAL:O	1:A:260:GLU:HG3	2.17	0.45
1:B:6:ARG:O	1:B:10:ILE:CD1	2.61	0.45
1:A:29:PHE:C	1:A:31:THR:H	2.20	0.45
1:A:88:ILE:CG2	1:A:89:SER:H	2.29	0.45
1:A:92:LEU:HD11	1:B:7:LEU:HD21	1.99	0.45
1:B:191:GLU:O	1:B:192:GLU:C	2.55	0.45
1:B:203:ASN:HD21	1:B:207:HIS:HE1	1.65	0.45
1:B:79:PHE:O	1:B:80:ASP:HB3	2.17	0.45
1:A:226:ARG:NH2	3:B:265:ATP:O2B	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:64:PHE:O	1:B:65:GLN:C	2.55	0.45
1:A:40:THR:OG1	1:B:40:THR:OG1	2.15	0.44
1:A:142:LEU:CB	1:A:213:GLU:HB2	2.47	0.44
1:B:3:GLN:N	1:B:5:ASP:H	2.15	0.44
1:B:11:MET:CG	1:B:71:GLN:CG	2.94	0.44
1:B:86:ALA:O	1:B:89:SER:HB2	2.17	0.44
1:A:35:TYR:CD2	1:A:35:TYR:N	2.85	0.44
1:A:80:ASP:O	1:A:81:PHE:C	2.54	0.44
1:A:234:VAL:O	1:A:237:ARG:HB2	2.17	0.44
1:B:195:GLY:O	1:B:196:ASP:C	2.55	0.44
1:A:216:LEU:O	1:A:216:LEU:HD12	2.17	0.44
1:B:88:ILE:O	1:B:88:ILE:CD1	2.62	0.44
1:A:15:ARG:HA	1:A:25:LYS:CG	2.46	0.44
1:B:31:THR:HG23	1:B:32:ILE:CD1	2.46	0.44
1:B:83:ASP:HA	1:B:86:ALA:HB2	1.99	0.44
1:A:14:LEU:HD22	1:A:24:ASP:CB	2.48	0.44
1:A:20:GLY:CA	1:A:21:CYS:HB3	2.39	0.44
1:B:42:GLU:O	1:B:43:VAL:C	2.56	0.44
1:A:9:THR:O	1:A:11:MET:CA	2.65	0.44
1:A:139:LEU:HA	1:A:139:LEU:HD23	1.59	0.44
1:A:203:ASN:HD22	1:A:203:ASN:HA	1.52	0.44
1:B:60:GLY:O	1:B:64:PHE:N	2.49	0.44
1:A:199:PHE:O	1:A:200:ALA:C	2.55	0.44
1:A:61:ASP:O	1:A:64:PHE:HB3	2.19	0.43
1:B:158:ASP:OD1	1:B:159:TRP:N	2.51	0.43
1:B:206:ARG:O	1:B:207:HIS:C	2.56	0.43
1:A:204:LEU:C	1:A:206:ARG:N	2.68	0.43
1:A:226:ARG:NH1	3:B:265:ATP:O3'	2.51	0.43
1:A:246:LEU:HB2	1:A:249:MET:HG3	2.01	0.43
1:B:128:GLN:C	1:B:129:HIS:O	2.57	0.43
1:B:167:ASP:O	1:B:170:TYR:HB2	2.18	0.43
1:B:178:TYR:CD2	1:B:178:TYR:C	2.92	0.43
1:A:44:LEU:O	1:A:45:ASP:C	2.52	0.43
1:A:66:VAL:O	1:A:66:VAL:HG13	2.19	0.43
1:A:216:LEU:HD12	1:A:216:LEU:C	2.36	0.43
1:B:194:MET:O	1:B:195:GLY:O	2.36	0.43
1:B:233:ILE:HD13	1:B:233:ILE:HG21	1.39	0.43
1:A:3:GLN:C	1:A:5:ASP:N	2.71	0.43
1:B:170:TYR:C	1:B:172:GLU:H	2.21	0.43
1:B:222:LYS:HD2	1:B:226:ARG:NH2	2.33	0.43
1:A:28:THR:HG22	4:A:267:HOH:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:32:ILE:HG13	1:A:68:PHE:CD2	2.53	0.43
1:A:216:LEU:CD2	1:B:142:LEU:HD23	2.48	0.43
1:A:148:ILE:HD12	1:B:220:ASN:HB3	1.99	0.43
1:A:213:GLU:CD	1:B:141:ALA:HB2	2.39	0.43
1:A:246:LEU:O	1:A:250:GLU:N	2.49	0.43
1:A:208:LEU:HD21	1:B:176:VAL:HG12	2.00	0.43
1:B:179:GLU:HB3	1:B:190:LEU:HD22	2.00	0.43
1:B:193:GLU:OE2	1:B:193:GLU:HA	2.19	0.43
1:B:214:ILE:O	1:B:217:GLN:CB	2.62	0.43
1:B:228:ARG:HH11	1:B:228:ARG:HD2	1.67	0.43
1:B:244:VAL:HG12	1:B:245:ASP:HB3	2.01	0.43
1:A:14:LEU:HD23	1:A:14:LEU:C	2.38	0.43
1:B:160:THR:O	1:B:160:THR:OG1	2.30	0.43
1:A:21:CYS:SG	1:A:22:PRO:O	2.70	0.42
1:B:197:LEU:O	1:B:200:ALA:HB3	2.19	0.42
1:B:3:GLN:O	1:B:7:LEU:N	2.37	0.42
1:B:84:ILE:O	1:B:86:ALA:N	2.52	0.42
1:B:90:ASP:N	1:B:93:GLU:OE2	2.52	0.42
1:A:3:GLN:HG3	1:B:82:ASN:OD1	2.19	0.42
1:B:216:LEU:HA	1:B:216:LEU:HD12	1.88	0.42
1:B:204:LEU:HD22	1:B:204:LEU:O	2.20	0.42
1:B:26:GLU:OE1	1:B:26:GLU:HA	2.19	0.42
1:B:30:ALA:N	1:B:32:ILE:N	2.66	0.42
1:B:83:ASP:O	1:B:84:ILE:O	2.38	0.42
1:B:237:ARG:HB2	1:B:239:LEU:HD12	2.01	0.42
1:B:166:VAL:O	1:B:168:LYS:N	2.53	0.42
1:B:64:PHE:O	1:B:67:VAL:CG2	2.63	0.42
1:B:152:CYS:O	1:B:155:VAL:HG12	2.19	0.42
1:B:64:PHE:CZ	1:B:68:PHE:HE1	2.38	0.42
1:B:186:ASP:O	1:B:187:GLN:C	2.57	0.42
1:A:149:GLN:O	1:A:150:LYS:C	2.56	0.42
1:A:23:TRP:CH2	1:A:27:GLN:NE2	2.76	0.41
1:A:62:LEU:O	1:A:65:GLN:N	2.53	0.41
1:A:68:PHE:O	1:A:72:MET:CE	2.50	0.41
1:A:88:ILE:HG13	1:A:92:LEU:HG	2.01	0.41
1:A:189:LYS:HD2	1:A:189:LYS:HA	1.83	0.41
1:A:227:PHE:O	1:A:230:VAL:N	2.52	0.41
1:B:42:GLU:H	1:B:42:GLU:HG2	1.58	0.41
1:B:202:VAL:O	1:B:203:ASN:C	2.53	0.41
1:A:240:GLU:CD	1:A:242:THR:OG1	2.58	0.41
1:A:246:LEU:HD13	1:A:247:GLU:HG3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:11:MET:CG	1:B:71:GLN:HG2	2.49	0.41
1:B:64:PHE:CZ	1:B:68:PHE:CE1	3.08	0.41
1:A:146:GLN:NE2	1:A:212:ALA:N	2.39	0.41
1:A:191:GLU:O	1:A:192:GLU:C	2.58	0.41
1:A:246:LEU:HD13	1:A:246:LEU:N	2.30	0.41
1:A:3:GLN:O	1:A:4:ILE:C	2.59	0.41
1:A:162:LEU:O	1:A:166:VAL:HG23	2.20	0.41
1:A:247:GLU:HA	1:A:248:THR:O	2.21	0.41
1:B:7:LEU:HA	1:B:7:LEU:HD23	1.77	0.41
1:B:194:MET:O	1:B:195:GLY:C	2.58	0.41
1:B:206:ARG:O	1:B:208:LEU:N	2.54	0.41
3:B:265:ATP:O2'	3:B:265:ATP:H8	1.98	0.41
1:A:69:TYR:O	1:A:70:ALA:C	2.59	0.41
1:A:224:GLU:OE2	1:B:132:LEU:HB3	2.20	0.41
1:B:71:GLN:O	1:B:75:GLU:HG3	2.21	0.41
1:B:214:ILE:HA	1:B:217:GLN:HB2	2.03	0.41
1:A:230:VAL:O	1:A:233:ILE:HB	2.21	0.41
1:B:68:PHE:O	1:B:71:GLN:HB3	2.21	0.41
1:B:76:GLU:C	1:B:78:ARG:H	2.23	0.41
1:A:9:THR:HB	1:A:10:ILE:H	1.57	0.41
1:A:139:LEU:HA	1:A:140:PRO:HD3	1.79	0.41
1:B:7:LEU:CA	1:B:10:ILE:HD12	2.48	0.41
1:A:20:GLY:CA	1:A:21:CYS:CB	2.78	0.41
1:A:39:GLU:O	1:A:41:TYR:N	2.52	0.41
1:A:86:ALA:O	1:A:90:ASP:HB2	2.21	0.41
1:A:159:TRP:N	1:A:159:TRP:CD1	2.88	0.41
1:A:173:ILE:HD12	1:A:173:ILE:HG21	1.83	0.41
1:A:187:GLN:HA	1:A:187:GLN:NE2	2.34	0.41
1:B:7:LEU:HA	1:B:10:ILE:CD1	2.50	0.41
1:B:166:VAL:C	1:B:168:LYS:H	2.23	0.41
1:B:234:VAL:O	1:B:235:ALA:C	2.58	0.41
1:B:8:LEU:O	1:B:11:MET:N	2.49	0.41
1:B:136:PRO:HD2	1:B:139:LEU:CD1	2.51	0.41
1:B:154:ASN:O	1:B:156:GLY:N	2.54	0.41
1:B:201:THR:O	1:B:204:LEU:CB	2.69	0.41
1:B:255:GLN:CA	1:B:258:ARG:NH2	2.80	0.41
1:A:59:LEU:HD21	1:B:69:TYR:CD1	2.53	0.40
1:A:232:ARG:HH11	1:A:233:ILE:HG13	1.82	0.40
1:B:146:GLN:HE21	1:B:146:GLN:HB2	1.72	0.40
1:B:185:VAL:HG12	1:B:186:ASP:N	2.36	0.40
1:A:216:LEU:HB3	1:B:141:ALA:HB1	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:150:LYS:O	1:B:151:ARG:C	2.59	0.40
1:B:170:TYR:C	1:B:172:GLU:N	2.72	0.40
1:B:203:ASN:ND2	1:B:206:ARG:NH2	2.63	0.40
1:B:204:LEU:HD21	1:B:208:LEU:HD22	2.03	0.40
1:B:201:THR:O	1:B:204:LEU:N	2.54	0.40
1:B:234:VAL:O	1:B:237:ARG:N	2.35	0.40
1:A:88:ILE:C	1:A:90:ASP:N	2.74	0.40
1:A:60:GLY:HA3	1:B:88:ILE:CG2	2.51	0.40
1:A:74:GLN:NE2	1:A:80:ASP:HA	2.36	0.40
1:A:258:ARG:O	1:A:259:GLN:C	2.60	0.40
1:B:240:GLU:OE1	1:B:240:GLU:HA	2.22	0.40

All (6) 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:239:LEU:CD2	1:B:250:GLU:OE2[4_456]	1.26	0.94
1:A:241:MET:CA	1:B:250:GLU:OE1[4_456]	1.61	0.59
1:A:239:LEU:CG	1:B:254:GLN:NE2[4_456]	2.06	0.14
1:A:241:MET:C	1:B:250:GLU:OE1[4_456]	2.11	0.09
1:A:239:LEU:CD1	1:B:254:GLN:NE2[4_456]	2.13	0.07
1:A:241:MET:CB	1:B:250:GLU:OE1[4_456]	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	219/265 (83%)	133 (61%)	57 (26%)	29 (13%)	0	1
1	B	214/265 (81%)	148 (69%)	33 (15%)	33 (15%)	0	1
All	All	433/530 (82%)	281 (65%)	90 (21%)	62 (14%)	0	1

All (62) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	9	THR
1	A	21	CYS
1	A	22	PRO
1	A	47	ILE
1	A	96	HIS
1	A	136	PRO
1	A	138	SER
1	A	170	TYR
1	A	207	HIS
1	A	236	ALA
1	A	237	ARG
1	A	259	GLN
1	B	4	ILE
1	B	9	THR
1	B	25	LYS
1	B	27	GLN
1	B	29	PHE
1	B	33	ALA
1	B	65	GLN
1	B	66	VAL
1	B	77	GLY
1	B	84	ILE
1	B	89	SER
1	B	90	ASP
1	B	129	HIS
1	B	130	SER
1	B	245	ASP
1	A	4	ILE
1	A	10	ILE
1	A	12	GLN
1	A	18	GLU
1	A	64	PHE
1	A	169	VAL
1	A	238	GLY
1	A	249	MET
1	B	13	ARG
1	B	75	GLU
1	B	195	GLY
1	B	215	ALA
1	A	24	ASP
1	A	162	LEU
1	A	228	ARG

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Mol	Chain	Res	Type
1	A	239	LEU
1	A	248	THR
1	B	79	PHE
1	B	85	CYS
1	B	155	VAL
1	B	182	GLN
1	B	188	ALA
1	B	239	LEU
1	B	256	VAL
1	A	57	GLY
1	A	70	ALA
1	A	240	GLU
1	B	61	ASP
1	B	8	LEU
1	B	30	ALA
1	A	173	ILE
1	B	87	ALA
1	B	214	ILE
1	B	148	ILE
1	B	234	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	193/226 (85%)	136 (70%)	57 (30%)	0 1
1	B	187/226 (83%)	136 (73%)	51 (27%)	0 2
All	All	380/452 (84%)	272 (72%)	108 (28%)	0 2

All (108) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	6	ARG
1	A	11	MET
1	A	12	GLN

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Mol	Chain	Res	Type
1	A	18	GLU
1	A	21	CYS
1	A	22	PRO
1	A	23	TRP
1	A	31	THR
1	A	39	GLU
1	A	42	GLU
1	A	47	ILE
1	A	49	ARG
1	A	50	GLU
1	A	53	ASP
1	A	54	ASP
1	A	56	ARG
1	A	63	LEU
1	A	65	GLN
1	A	67	VAL
1	A	68	PHE
1	A	74	GLN
1	A	78	ARG
1	A	82	ASN
1	A	90	ASP
1	A	94	ARG
1	A	95	ARG
1	A	136	PRO
1	A	137	ARG
1	A	138	SER
1	A	139	LEU
1	A	146	GLN
1	A	150	LYS
1	A	162	LEU
1	A	173	ILE
1	A	175	GLU
1	A	190	LEU
1	A	201	THR
1	A	203	ASN
1	A	204	LEU
1	A	206	ARG
1	A	207	HIS
1	A	217	GLN
1	A	218	LYS
1	A	221	GLU
1	A	222	LYS

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Mol	Chain	Res	Type
1	A	224	GLU
1	A	226	ARG
1	A	232	ARG
1	A	233	ILE
1	A	237	ARG
1	A	240	GLU
1	A	242	THR
1	A	246	LEU
1	A	247	GLU
1	A	251	GLU
1	A	259	GLN
1	A	260	GLU
1	B	7	LEU
1	B	11	MET
1	B	13	ARG
1	B	14	LEU
1	B	23	TRP
1	B	26	GLU
1	B	27	GLN
1	B	29	PHE
1	B	31	THR
1	B	32	ILE
1	B	38	GLU
1	B	39	GLU
1	B	42	GLU
1	B	53	ASP
1	B	56	ARG
1	B	62	LEU
1	B	64	PHE
1	B	71	GLN
1	B	85	CYS
1	B	88	ILE
1	B	90	ASP
1	B	94	ARG
1	B	128	GLN
1	B	129	HIS
1	B	139	LEU
1	B	143	MET
1	B	146	GLN
1	B	160	THR
1	B	161	THR
1	B	168	LYS

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Mol	Chain	Res	Type
1	B	184	VAL
1	B	189	LYS
1	B	190	LEU
1	B	197	LEU
1	B	201	THR
1	B	203	ASN
1	B	204	LEU
1	B	208	LEU
1	B	210	THR
1	B	214	ILE
1	B	217	GLN
1	B	220	ASN
1	B	221	GLU
1	B	228	ARG
1	B	233	ILE
1	B	241	MET
1	B	242	THR
1	B	244	VAL
1	B	245	ASP
1	B	251	GLU
1	B	259	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	65	GLN
1	A	74	GLN
1	A	82	ASN
1	A	96	HIS
1	A	146	GLN
1	A	182	GLN
1	A	187	GLN
1	A	203	ASN
1	B	65	GLN
1	B	71	GLN
1	B	82	ASN
1	B	128	GLN
1	B	146	GLN
1	B	154	ASN
1	B	203	ASN
1	B	259	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 2 ligands modelled in this entry, 1 is monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	ATP	B	265	2	26,33,33	0.93	1 (3%)	31,52,52	1.63	5 (16%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	ATP	B	265	2	1/1/7/7	0/18/38/38	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	265	ATP	C5-C4	2.47	1.47	1.40

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	265	ATP	PA-O3A-PB	-3.60	120.49	132.83
3	B	265	ATP	PB-O3B-PG	-3.58	120.53	132.83
3	B	265	ATP	C3'-C2'-C1'	3.52	106.28	100.98
3	B	265	ATP	N3-C2-N1	-3.21	123.66	128.68
3	B	265	ATP	C4-C5-N7	-2.68	106.61	109.40

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
3	B	265	ATP	C1'

There are no torsion outliers.

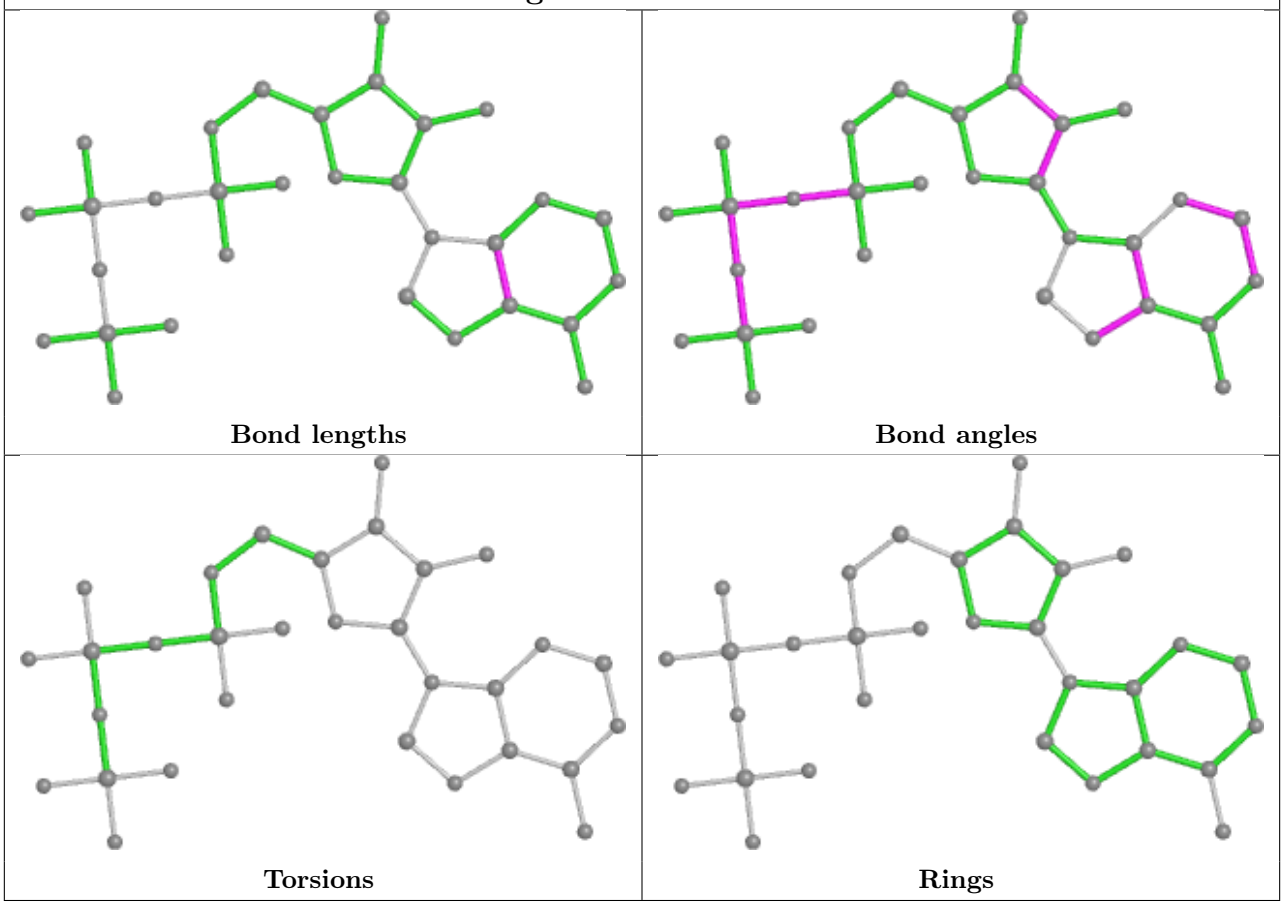
There are no ring outliers.

1 monomer is involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	265	ATP	12	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand ATP B 265



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.

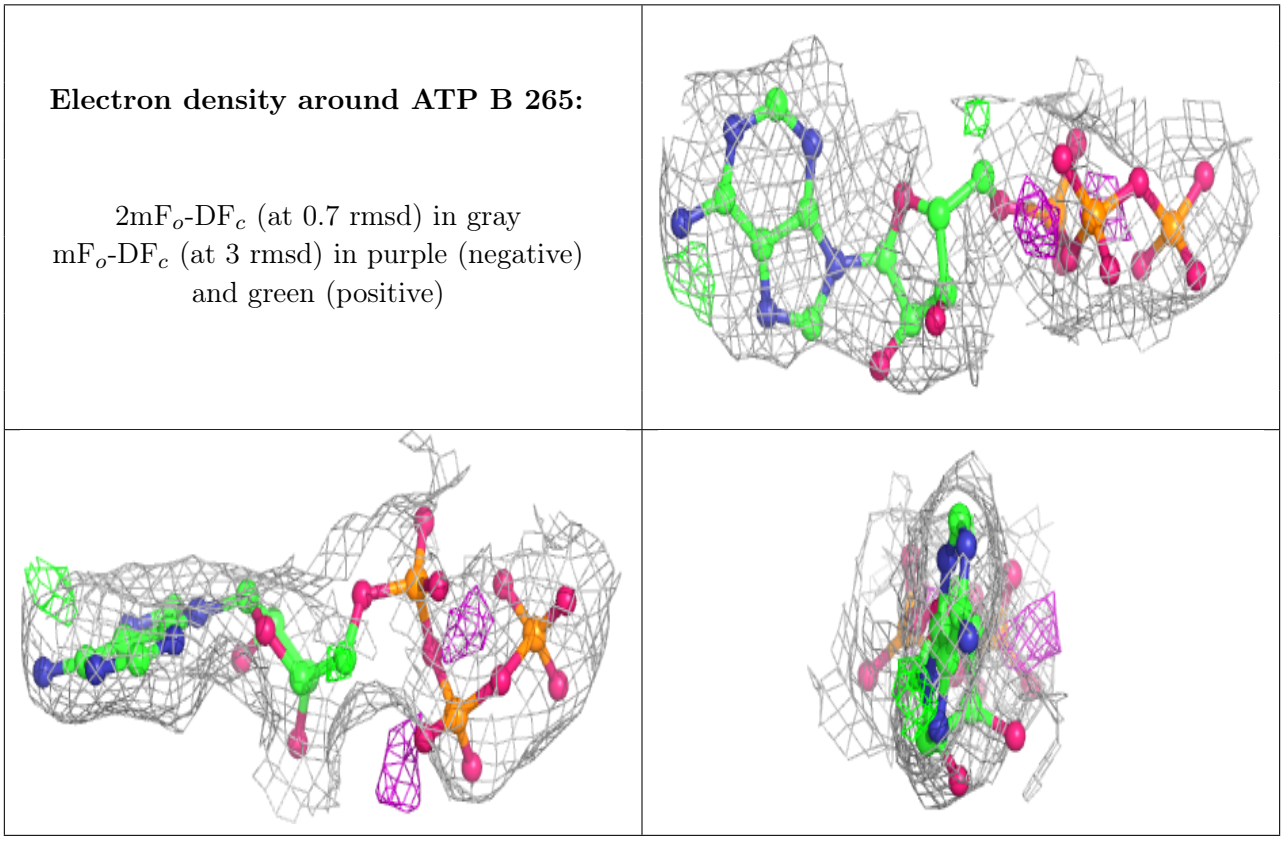
6.4 Ligands

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

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around ATP B 265:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



6.5 Other polymers (i)

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