



Full wwPDB X-ray Structure Validation Report ⓘ

Nov 25, 2024 – 04:20 PM EST

PDB ID : 2FSG
Title : Complex SecA:ATP from Escherichia coli
Authors : Papanikolaou, Y.; Petratos, K.; Economou, A.
Deposited on : 2006-01-23
Resolution : 2.20 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 : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 1.21
EDS : 3.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4 : 9.0.004 (Gargrove)
Density-Fitness : 1.0.11
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.40

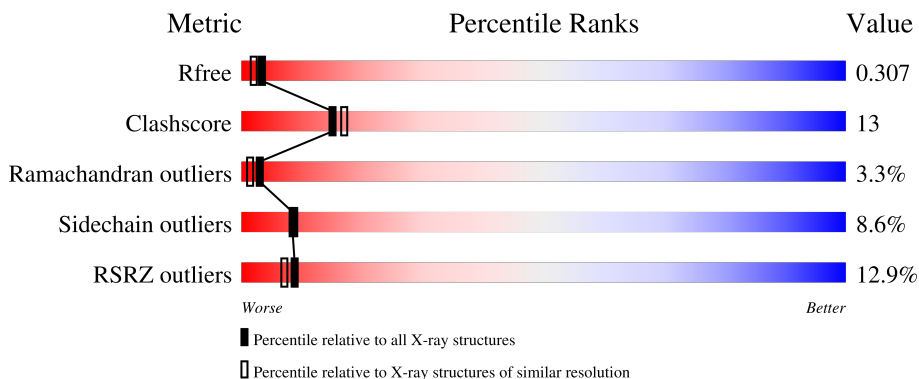
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.20 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}	164625	5791 (2.20-2.20)
Clashscore	180529	6634 (2.20-2.20)
Ramachandran outliers	177936	6560 (2.20-2.20)
Sidechain outliers	177891	6561 (2.20-2.20)
RSRZ outliers	164620	5791 (2.20-2.20)

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	853	
1	B	853	

2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 11809 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 Preprotein translocase secA subunit.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	N	O	S	Se			
1	A	679	5401	3392	953	1030	1	25	0	0	0
1	B	743	5915	3712	1045	1128	1	29	0	0	0

There are 64 discrepancies between the modelled and reference sequences:

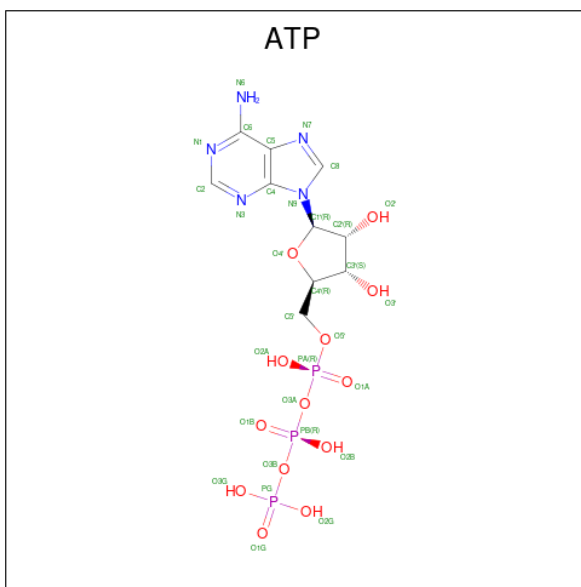
Chain	Residue	Modelled	Actual	Comment	Reference
A	21	MSE	MET	modified residue	UNP P10408
A	31	MSE	MET	modified residue	UNP P10408
A	35	MSE	MET	modified residue	UNP P10408
A	81	MSE	MET	modified residue	UNP P10408
A	92	MSE	MET	modified residue	UNP P10408
A	102	MSE	MET	modified residue	UNP P10408
A	161	MSE	MET	modified residue	UNP P10408
A	191	MSE	MET	modified residue	UNP P10408
A	235	MSE	MET	modified residue	UNP P10408
A	292	MSE	MET	modified residue	UNP P10408
A	305	MSE	MET	modified residue	UNP P10408
A	307	MSE	MET	modified residue	UNP P10408
A	344	MSE	MET	modified residue	UNP P10408
A	390	MSE	MET	modified residue	UNP P10408
A	418	MSE	MET	modified residue	UNP P10408
A	429	MSE	MET	modified residue	UNP P10408
A	506	MSE	MET	modified residue	UNP P10408
A	590	MSE	MET	modified residue	UNP P10408
A	595	MSE	MET	modified residue	UNP P10408
A	606	MSE	MET	modified residue	UNP P10408
A	607	MSE	MET	modified residue	UNP P10408
A	612	MSE	MET	modified residue	UNP P10408
A	700	MSE	MET	modified residue	UNP P10408
A	758	MSE	MET	modified residue	UNP P10408
A	759	MSE	MET	modified residue	UNP P10408

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
A	767	MSE	MET	modified residue	UNP P10408
A	782	MSE	MET	modified residue	UNP P10408
A	810	MSE	MET	modified residue	UNP P10408
A	814	MSE	MET	modified residue	UNP P10408
A	833	MSE	MET	modified residue	UNP P10408
A	846	MSE	MET	modified residue	UNP P10408
A	854	MSE	MET	modified residue	UNP P10408
B	21	MSE	MET	modified residue	UNP P10408
B	31	MSE	MET	modified residue	UNP P10408
B	35	MSE	MET	modified residue	UNP P10408
B	81	MSE	MET	modified residue	UNP P10408
B	92	MSE	MET	modified residue	UNP P10408
B	102	MSE	MET	modified residue	UNP P10408
B	161	MSE	MET	modified residue	UNP P10408
B	191	MSE	MET	modified residue	UNP P10408
B	235	MSE	MET	modified residue	UNP P10408
B	292	MSE	MET	modified residue	UNP P10408
B	305	MSE	MET	modified residue	UNP P10408
B	307	MSE	MET	modified residue	UNP P10408
B	344	MSE	MET	modified residue	UNP P10408
B	390	MSE	MET	modified residue	UNP P10408
B	418	MSE	MET	modified residue	UNP P10408
B	429	MSE	MET	modified residue	UNP P10408
B	506	MSE	MET	modified residue	UNP P10408
B	590	MSE	MET	modified residue	UNP P10408
B	595	MSE	MET	modified residue	UNP P10408
B	606	MSE	MET	modified residue	UNP P10408
B	607	MSE	MET	modified residue	UNP P10408
B	612	MSE	MET	modified residue	UNP P10408
B	700	MSE	MET	modified residue	UNP P10408
B	758	MSE	MET	modified residue	UNP P10408
B	759	MSE	MET	modified residue	UNP P10408
B	767	MSE	MET	modified residue	UNP P10408
B	782	MSE	MET	modified residue	UNP P10408
B	810	MSE	MET	modified residue	UNP P10408
B	814	MSE	MET	modified residue	UNP P10408
B	833	MSE	MET	modified residue	UNP P10408
B	846	MSE	MET	modified residue	UNP P10408
B	854	MSE	MET	modified residue	UNP P10408

- Molecule 2 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



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

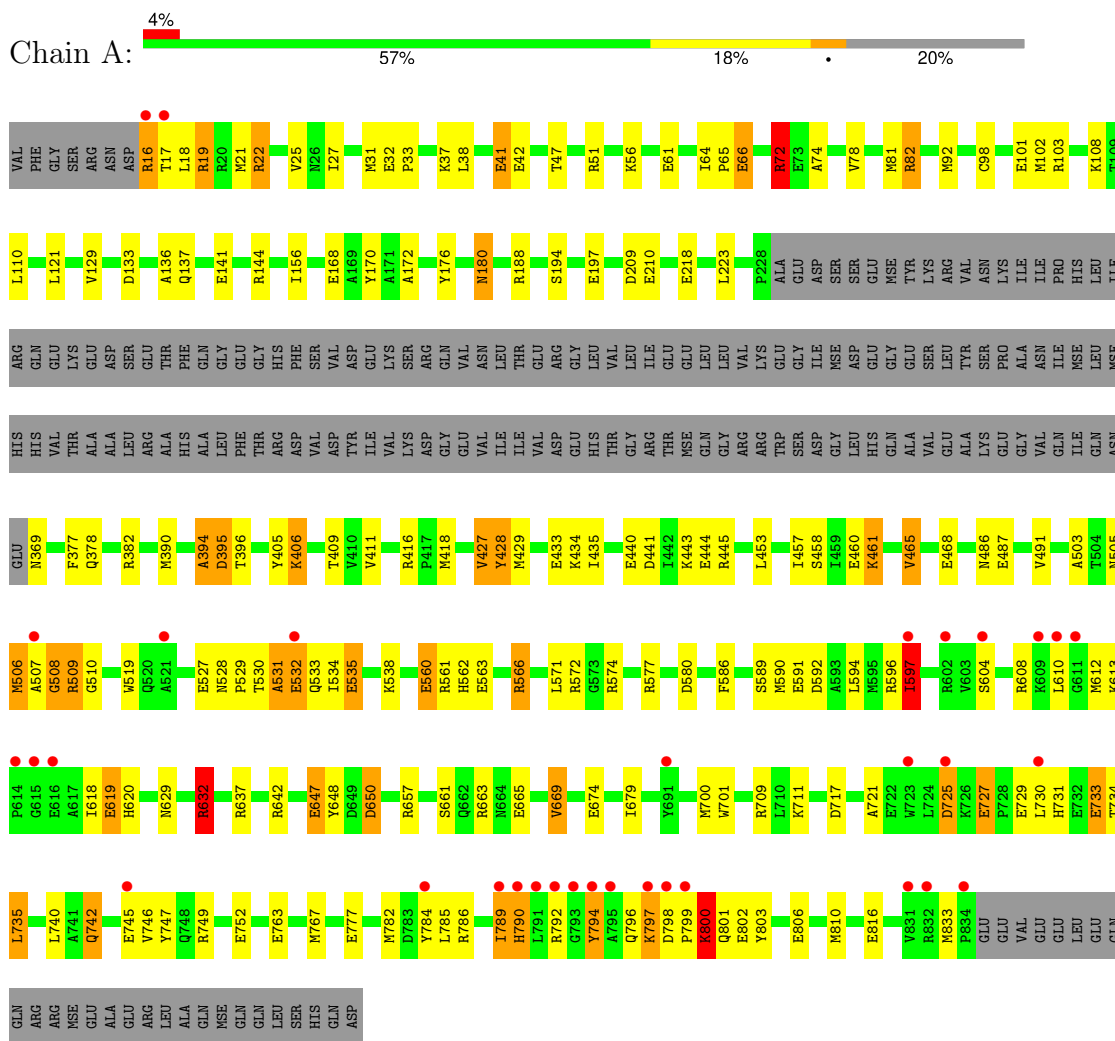
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
3	A	198	198	198	0	0
3	B	233	233	233	0	0

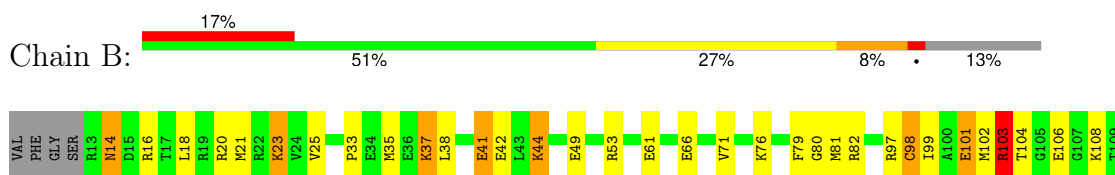
3 Residue-property plots

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: Preprotein translocase secA subunit



- Molecule 1: Preprotein translocase secA subunit



4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	75.38Å 89.48Å 163.35Å 90.00° 100.73° 90.00°	Depositor
Resolution (Å)	19.61 – 2.20 19.61 – 2.20	Depositor EDS
% Data completeness (in resolution range)	96.9 (19.61-2.20) 96.8 (19.61-2.20)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	0.08	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.79 (at 2.19Å)	Xtrriage
Refinement program	REFMAC 5.2.0005	Depositor
R, R_{free}	0.208 , 0.270 0.262 , 0.307	Depositor DCC
R_{free} test set	5245 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	34.3	Xtrriage
Anisotropy	0.042	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 31.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	0.018 for h,-k,-h-l	Xtrriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	11809	wwPDB-VP
Average B, all atoms (Å ²)	22.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.12% 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

Bond lengths and bond angles in the following residue types are not validated in this section: 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	1.52	46/5466 (0.8%)	1.22	27/7334 (0.4%)
1	B	1.59	70/5983 (1.2%)	1.22	36/8023 (0.4%)
All	All	1.55	116/11449 (1.0%)	1.22	63/15357 (0.4%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	3
1	B	0	7
All	All	0	10

All (116) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	210	GLU	CG-CD	11.27	1.68	1.51
1	B	23	LYS	CE-NZ	11.05	1.76	1.49
1	B	385	GLU	CD-OE1	9.99	1.36	1.25
1	B	66	GLU	CD-OE2	9.65	1.36	1.25
1	B	665	GLU	CG-CD	9.55	1.66	1.51
1	B	101	GLU	CB-CG	-9.44	1.34	1.52
1	B	803	TYR	CD2-CE2	9.28	1.53	1.39
1	B	61	GLU	CG-CD	9.23	1.65	1.51
1	A	777	GLU	CD-OE1	9.20	1.35	1.25
1	B	98	CYS	CB-SG	-9.08	1.66	1.82
1	B	405	TYR	CD1-CE1	9.02	1.52	1.39
1	B	61	GLU	CD-OE1	8.31	1.34	1.25
1	B	406	LYS	CE-NZ	8.24	1.69	1.49
1	B	385	GLU	CB-CG	7.74	1.66	1.52

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	647	GLU	CG-CD	7.63	1.63	1.51
1	A	802	GLU	CB-CG	7.46	1.66	1.52
1	B	626	ALA	CA-CB	-7.46	1.36	1.52
1	B	44	LYS	CE-NZ	7.37	1.67	1.49
1	A	141	GLU	CG-CD	7.33	1.62	1.51
1	B	41	GLU	CG-CD	7.30	1.62	1.51
1	B	648	TYR	CD2-CE2	7.29	1.50	1.39
1	B	572	ARG	CZ-NH2	-7.24	1.23	1.33
1	A	41	GLU	CB-CG	7.19	1.65	1.52
1	B	560	GLU	CG-CD	7.14	1.62	1.51
1	B	572	ARG	CB-CG	-7.06	1.33	1.52
1	B	512	ASP	CB-CG	7.05	1.66	1.51
1	B	651	VAL	CB-CG1	6.91	1.67	1.52
1	A	669	VAL	CB-CG2	-6.88	1.38	1.52
1	A	41	GLU	CG-CD	6.86	1.62	1.51
1	B	76	LYS	CE-NZ	6.86	1.66	1.49
1	A	172	ALA	CA-CB	-6.84	1.38	1.52
1	B	208	VAL	CB-CG1	-6.83	1.38	1.52
1	A	98	CYS	CB-SG	-6.76	1.70	1.82
1	A	443	LYS	CD-CE	6.60	1.67	1.51
1	A	647	GLU	CB-CG	6.58	1.64	1.52
1	B	66	GLU	CD-OE1	6.56	1.32	1.25
1	A	632	ARG	CG-CD	6.54	1.68	1.51
1	A	657	ARG	CZ-NH2	6.53	1.41	1.33
1	A	777	GLU	CG-CD	6.43	1.61	1.51
1	A	665	GLU	CD-OE2	6.37	1.32	1.25
1	A	210	GLU	CG-CD	6.33	1.61	1.51
1	B	148	GLU	CD-OE2	6.31	1.32	1.25
1	A	802	GLU	CG-CD	6.25	1.61	1.51
1	A	66	GLU	CB-CG	-6.24	1.40	1.52
1	A	180	ASN	CB-CG	-6.23	1.36	1.51
1	A	572	ARG	CB-CG	-6.23	1.35	1.52
1	B	816	GLU	CD-OE2	6.22	1.32	1.25
1	B	406	LYS	CD-CE	6.18	1.66	1.51
1	A	560	GLU	CD-OE1	6.14	1.32	1.25
1	B	625	LYS	CE-NZ	6.11	1.64	1.49
1	A	136	ALA	CA-CB	5.99	1.65	1.52
1	A	428	TYR	CE1-CZ	5.98	1.46	1.38
1	B	460	GLU	CB-CG	5.98	1.63	1.52
1	A	61	GLU	CD-OE1	5.96	1.32	1.25
1	B	681	GLU	CD-OE2	5.92	1.32	1.25
1	B	757	GLU	CD-OE1	5.89	1.32	1.25

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	129	VAL	CB-CG2	-5.88	1.40	1.52
1	A	740	LEU	C-O	5.88	1.34	1.23
1	B	444	GLU	CG-CD	5.86	1.60	1.51
1	A	586	PHE	CE2-CZ	5.86	1.48	1.37
1	B	141	GLU	CD-OE1	5.85	1.32	1.25
1	A	170	TYR	CE1-CZ	-5.83	1.30	1.38
1	B	444	GLU	CD-OE1	5.80	1.32	1.25
1	A	752	GLU	CB-CG	5.79	1.63	1.52
1	B	202	LYS	CD-CE	5.79	1.65	1.51
1	B	806	GLU	C-O	-5.78	1.12	1.23
1	B	763	GLU	CD-OE2	-5.78	1.19	1.25
1	A	176	TYR	CD1-CE1	5.73	1.48	1.39
1	B	44	LYS	CD-CE	5.71	1.65	1.51
1	B	587	TYR	CE2-CZ	-5.69	1.31	1.38
1	B	42	GLU	CD-OE2	-5.63	1.19	1.25
1	B	14	ASN	CB-CG	5.60	1.64	1.51
1	B	49	GLU	CD-OE1	5.59	1.31	1.25
1	A	784	TYR	CE2-CZ	5.59	1.45	1.38
1	B	25	VAL	CB-CG1	5.58	1.64	1.52
1	B	141	GLU	CG-CD	5.58	1.60	1.51
1	B	427	VAL	CB-CG2	-5.58	1.41	1.52
1	B	492	ALA	CA-CB	5.57	1.64	1.52
1	B	71	VAL	CB-CG1	-5.57	1.41	1.52
1	A	168	GLU	CB-CG	-5.55	1.41	1.52
1	B	436	GLN	CG-CD	5.55	1.63	1.51
1	A	591	GLU	CD-OE1	5.52	1.31	1.25
1	B	648	TYR	CD1-CE1	5.52	1.47	1.39
1	B	660	TYR	C-O	-5.50	1.12	1.23
1	A	752	GLU	CG-CD	5.50	1.60	1.51
1	A	560	GLU	CG-CD	5.49	1.60	1.51
1	B	468	GLU	CD-OE1	5.47	1.31	1.25
1	A	591	GLU	CG-CD	5.47	1.60	1.51
1	B	803	TYR	CZ-OH	5.45	1.47	1.37
1	A	674	GLU	CG-CD	5.43	1.60	1.51
1	B	560	GLU	CD-OE1	5.41	1.31	1.25
1	B	37	LYS	CG-CD	5.39	1.70	1.52
1	A	733	GLU	CG-CD	5.37	1.60	1.51
1	B	405	TYR	CE1-CZ	5.30	1.45	1.38
1	A	527	GLU	CG-CD	5.29	1.59	1.51
1	A	440	GLU	CG-CD	5.29	1.59	1.51
1	A	197	GLU	CD-OE2	5.26	1.31	1.25
1	B	184	PHE	CE2-CZ	5.24	1.47	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	80	GLY	C-O	-5.22	1.15	1.23
1	B	202	LYS	CE-NZ	5.22	1.62	1.49
1	B	393	THR	CA-CB	5.22	1.67	1.53
1	B	454	VAL	CB-CG2	5.22	1.63	1.52
1	A	648	TYR	CD1-CE1	5.21	1.47	1.39
1	B	388	ALA	CA-CB	5.17	1.63	1.52
1	B	106	GLU	CG-CD	5.14	1.59	1.51
1	A	444	GLU	CD-OE1	5.13	1.31	1.25
1	B	129	VAL	CB-CG1	5.12	1.63	1.52
1	B	647	GLU	CD-OE2	5.09	1.31	1.25
1	A	561	ARG	CZ-NH2	-5.09	1.26	1.33
1	B	210	GLU	CD-OE2	5.08	1.31	1.25
1	B	757	GLU	CD-OE2	5.08	1.31	1.25
1	B	218	GLU	CB-CG	5.07	1.61	1.52
1	B	408	ASP	C-O	5.05	1.32	1.23
1	A	406	LYS	CD-CE	5.02	1.63	1.51
1	A	56	LYS	CE-NZ	5.01	1.61	1.49
1	B	404	ILE	C-O	5.01	1.32	1.23

All (63) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	572	ARG	NE-CZ-NH1	12.70	126.65	120.30
1	B	23	LYS	CD-CE-NZ	10.37	135.56	111.70
1	A	72	ARG	NE-CZ-NH2	9.47	125.03	120.30
1	B	97	ARG	NE-CZ-NH1	9.17	124.88	120.30
1	A	572	ARG	NE-CZ-NH1	9.06	124.83	120.30
1	A	72	ARG	NE-CZ-NH1	-8.93	115.83	120.30
1	B	786	ARG	NE-CZ-NH1	-8.67	115.97	120.30
1	A	798	ASP	CB-CG-OD1	8.57	126.01	118.30
1	B	585	ARG	NE-CZ-NH2	-8.34	116.13	120.30
1	A	798	ASP	CB-CG-OD2	-7.78	111.30	118.30
1	B	656	ARG	NE-CZ-NH2	7.66	124.13	120.30
1	B	656	ARG	NE-CZ-NH1	-7.16	116.72	120.30
1	B	66	GLU	OE1-CD-OE2	7.12	131.84	123.30
1	A	663	ARG	NE-CZ-NH2	-7.07	116.77	120.30
1	B	637	ARG	NE-CZ-NH1	6.78	123.69	120.30
1	B	801	GLN	N-CA-CB	6.64	122.55	110.60
1	A	209	ASP	CB-CG-OD1	6.62	124.25	118.30
1	A	144	ARG	NE-CZ-NH2	6.55	123.57	120.30
1	A	784	TYR	CA-CB-CG	6.53	125.81	113.40
1	A	188	ARG	NE-CZ-NH1	6.51	123.56	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	657	ARG	NE-CZ-NH1	-6.46	117.07	120.30
1	A	82	ARG	NE-CZ-NH2	-6.41	117.10	120.30
1	B	572	ARG	NE-CZ-NH2	-6.40	117.10	120.30
1	B	408	ASP	CB-CG-OD1	6.36	124.03	118.30
1	A	657	ARG	NE-CZ-NH2	6.35	123.48	120.30
1	B	53	ARG	NE-CZ-NH2	-6.31	117.14	120.30
1	A	209	ASP	CB-CG-OD2	-6.30	112.63	118.30
1	A	144	ARG	NE-CZ-NH1	-6.20	117.20	120.30
1	B	654	ASP	CB-CG-OD2	6.10	123.79	118.30
1	B	654	ASP	CB-CG-OD1	-6.06	112.84	118.30
1	B	585	ARG	NE-CZ-NH1	6.03	123.32	120.30
1	B	44	LYS	CD-CE-NZ	6.01	125.53	111.70
1	B	37	LYS	CB-CG-CD	6.00	127.20	111.60
1	B	607	MSE	CG-SE-CE	5.99	112.08	98.90
1	B	139	ASP	CB-CG-OD1	5.99	123.69	118.30
1	A	572	ARG	NE-CZ-NH2	-5.98	117.31	120.30
1	A	784	TYR	CB-CG-CD2	5.86	124.52	121.00
1	B	749	ARG	NE-CZ-NH1	5.79	123.19	120.30
1	A	577	ARG	NE-CZ-NH1	5.76	123.18	120.30
1	A	784	TYR	CB-CG-CD1	-5.75	117.55	121.00
1	B	20	ARG	NE-CZ-NH2	-5.67	117.47	120.30
1	A	465	VAL	CG1-CB-CG2	-5.64	101.88	110.90
1	B	540	ASP	CB-CG-OD1	5.62	123.36	118.30
1	B	736	ARG	NE-CZ-NH2	-5.61	117.50	120.30
1	B	749	ARG	NE-CZ-NH2	-5.60	117.50	120.30
1	A	416	ARG	NE-CZ-NH2	-5.57	117.51	120.30
1	A	597	ILE	CB-CA-C	-5.51	100.57	111.60
1	B	786	ARG	NE-CZ-NH2	5.51	123.06	120.30
1	A	218	GLU	OE1-CD-OE2	5.49	129.88	123.30
1	A	121	LEU	CB-CG-CD2	5.47	120.30	111.00
1	B	680	ARG	NE-CZ-NH2	-5.33	117.64	120.30
1	A	709	ARG	NE-CZ-NH2	-5.30	117.65	120.30
1	B	736	ARG	NE-CZ-NH1	5.27	122.93	120.30
1	A	580	ASP	CB-CG-OD1	5.24	123.02	118.30
1	B	82	ARG	NE-CZ-NH2	-5.23	117.68	120.30
1	B	637	ARG	NE-CZ-NH2	-5.20	117.70	120.30
1	B	411	VAL	CG1-CB-CG2	-5.19	102.59	110.90
1	B	286	LEU	CA-CB-CG	5.16	127.16	115.30
1	A	650	ASP	CB-CG-OD2	-5.14	113.67	118.30
1	B	723	TRP	CA-CB-CG	5.11	123.42	113.70
1	B	425	ASP	CB-CG-OD2	-5.05	113.76	118.30
1	B	657	ARG	CG-CD-NE	5.01	122.33	111.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	103	ARG	NE-CZ-NH1	-5.01	117.80	120.30

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	394	ALA	Peptide
1	A	796	GLN	Peptide
1	A	800	LYS	Peptide
1	B	228	PRO	Peptide
1	B	246	LEU	Peptide
1	B	394	ALA	Peptide
1	B	530	THR	Peptide
1	B	719	PRO	Peptide
1	B	730	LEU	Peptide
1	B	789	ILE	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	5401	0	5406	119	0
1	B	5915	0	5921	188	0
2	A	31	0	12	0	0
2	B	31	0	12	2	0
3	A	198	0	0	15	0
3	B	233	0	0	17	0
All	All	11809	0	11351	306	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 13.

All (306) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:44:LYS:CE	1:B:44:LYS:NZ	1.67	1.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:406:LYS:CE	1:B:406:LYS:NZ	1.69	1.52
1:B:759:MSE:SE	1:B:759:MSE:CE	2.14	1.45
1:A:429:MSE:SE	1:A:429:MSE:CE	2.14	1.45
1:B:23:LYS:CE	1:B:23:LYS:NZ	1.76	1.45
1:B:235:MSE:SE	1:B:235:MSE:CE	2.15	1.45
1:B:607:MSE:SE	1:B:607:MSE:CE	2.17	1.43
1:A:21:MSE:CE	1:A:21:MSE:SE	2.16	1.42
1:A:506:MSE:SE	1:A:506:MSE:CE	2.17	1.42
1:B:35:MSE:SE	1:B:35:MSE:CE	2.16	1.42
1:A:590:MSE:CE	1:A:590:MSE:SE	2.18	1.42
1:B:418:MSE:CE	1:B:418:MSE:SE	2.16	1.42
1:B:506:MSE:CE	1:B:506:MSE:SE	2.18	1.41
1:B:612:MSE:SE	1:B:612:MSE:CE	2.18	1.41
1:A:418:MSE:SE	1:A:418:MSE:CE	2.20	1.39
1:B:700:MSE:SE	1:B:700:MSE:CE	2.22	1.38
1:A:833:MSE:CE	1:A:833:MSE:SE	2.23	1.37
1:A:700:MSE:SE	1:A:700:MSE:CE	2.22	1.36
1:A:782:MSE:SE	1:A:782:MSE:CE	2.23	1.35
1:B:305:MSE:HE3	3:B:1070:HOH:O	1.46	1.16
2:B:901:ATP:O3A	2:B:901:ATP:O2G	1.73	1.03
1:B:788:GLY:HA3	3:B:1023:HOH:O	1.66	0.95
1:B:782:MSE:HE1	1:B:810:MSE:SE	2.21	0.90
1:B:101:GLU:OE2	1:B:395:ASP:HB3	1.72	0.90
1:B:629:ASN:HD22	1:B:632:ARG:NH2	1.72	0.88
1:A:612:MSE:HB3	3:A:1047:HOH:O	1.74	0.87
1:A:618:ILE:O	1:A:619:GLU:HB2	1.75	0.86
1:A:731:HIS:NE2	1:A:734:THR:OG1	2.10	0.85
1:B:14:ASN:HD21	1:B:411:VAL:H	1.25	0.84
1:B:782:MSE:HG3	3:B:949:HOH:O	1.79	0.82
1:B:102:MSE:HE3	1:B:108:LYS:HG2	1.60	0.82
1:B:679:ILE:O	1:B:683:VAL:HG23	1.81	0.80
1:B:759:MSE:CE	1:B:759:MSE:HA	2.11	0.80
1:B:610:LEU:O	1:B:612:MSE:N	2.17	0.77
1:B:754:VAL:HG11	1:B:759:MSE:HE3	1.66	0.77
1:B:796:GLN:O	1:B:797:LYS:O	2.02	0.77
1:B:18:LEU:HD23	1:B:21:MSE:CE	2.15	0.76
1:A:789:ILE:O	1:A:790:HIS:CG	2.40	0.75
1:A:531:ALA:HB1	1:A:532:GLU:OE1	1.87	0.74
1:B:707:GLN:NE2	1:B:708:GLU:OE2	2.21	0.74
1:B:807:SER:HA	1:B:810:MSE:HE3	1.70	0.74
1:B:395:ASP:HA	3:B:946:HOH:O	1.88	0.74

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:587:TYR:C	1:B:588:LEU:HG	2.07	0.74
1:B:367:ASN:O	1:B:368:GLU:O	2.06	0.73
1:A:594:LEU:HG	1:A:597:ILE:HD13	1.69	0.73
1:A:786:ARG:O	1:A:789:ILE:HB	1.89	0.72
1:A:612:MSE:CB	3:A:1047:HOH:O	2.36	0.72
1:A:799:PRO:O	1:A:800:LYS:CB	2.37	0.71
1:B:409:THR:HG23	3:B:939:HOH:O	1.90	0.71
1:B:718:LEU:O	1:B:720:ILE:N	2.24	0.70
1:B:104:THR:HG21	1:B:577:ARG:CZ	2.21	0.70
1:B:228:PRO:C	1:B:230:GLU:H	1.95	0.70
1:A:799:PRO:O	1:A:800:LYS:HG3	1.93	0.69
1:B:693:PRO:O	1:B:696:SER:HB3	1.93	0.69
1:B:732:GLU:O	1:B:736:ARG:HG3	1.93	0.69
1:B:595:MSE:HE3	1:B:604:SER:OG	1.93	0.68
1:A:530:THR:O	1:A:532:GLU:N	2.26	0.68
1:A:17:THR:O	1:A:21:MSE:HG3	1.93	0.68
1:A:620:HIS:HD2	3:A:992:HOH:O	1.75	0.68
1:A:458:SER:HB2	1:A:460:GLU:OE1	1.94	0.67
1:A:618:ILE:O	1:A:619:GLU:CB	2.42	0.67
1:A:223:LEU:HD21	1:A:377:PHE:CZ	2.30	0.67
1:A:731:HIS:CE1	1:A:734:THR:HG1	2.12	0.67
1:B:247:ILE:O	1:B:247:ILE:HG23	1.94	0.67
1:B:759:MSE:HA	1:B:759:MSE:HE2	1.76	0.66
1:B:637:ARG:HH11	1:B:641:ILE:HD11	1.59	0.66
1:B:239:VAL:O	1:B:242:ILE:HG22	1.96	0.65
1:B:789:ILE:HG22	1:B:789:ILE:O	1.96	0.65
1:B:703:ILE:HA	1:B:706:LEU:HB3	1.78	0.65
1:B:595:MSE:CE	1:B:604:SER:OG	2.45	0.65
1:B:800:LYS:O	1:B:801:GLN:HB2	1.97	0.64
1:A:102:MSE:HE1	1:A:390:MSE:SE	2.48	0.64
1:A:529:PRO:HA	1:A:533:GLN:HE21	1.63	0.64
1:B:316:ALA:O	1:B:317:HIS:CG	2.51	0.64
1:B:605:GLY:O	1:B:608:ARG:HB2	1.97	0.64
1:A:799:PRO:O	1:A:800:LYS:CG	2.46	0.64
1:B:600:SER:HB3	1:B:603:VAL:HB	1.81	0.63
1:B:519:TRP:CH2	1:B:538:LYS:HE3	2.34	0.63
1:A:435:ILE:HG21	1:A:468:GLU:HG3	1.80	0.62
1:B:629:ASN:HD22	1:B:632:ARG:HH22	1.47	0.62
1:B:102:MSE:HE1	1:B:390:MSE:SE	2.49	0.62
1:A:429:MSE:HB2	1:A:433:GLU:OE2	1.99	0.61
1:A:566:ARG:HD2	3:A:1093:HOH:O	2.00	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:618:ILE:O	1:B:619:GLU:HB2	2.01	0.60
1:B:693:PRO:O	1:B:696:SER:CB	2.48	0.60
1:B:730:LEU:HG	1:B:731:HIS:H	1.67	0.59
1:A:405:TYR:O	1:A:406:LYS:HB2	2.01	0.59
1:B:833:MSE:HG3	1:B:834:PRO:HD2	1.83	0.59
1:A:730:LEU:HD12	1:A:734:THR:HB	1.85	0.59
1:B:16:ARG:HB2	3:B:1094:HOH:O	2.03	0.59
1:A:72:ARG:HD2	1:A:82:ARG:HG2	1.84	0.59
1:A:395:ASP:HA	3:A:1028:HOH:O	2.03	0.58
1:B:14:ASN:ND2	1:B:411:VAL:H	2.00	0.58
1:B:180:ASN:HD22	1:B:180:ASN:H	1.51	0.58
1:B:564:SER:HB3	1:B:567:ILE:HD12	1.85	0.58
1:B:429:MSE:HB2	1:B:433:GLU:OE2	2.02	0.58
1:A:102:MSE:HE3	1:A:108:LYS:HG2	1.86	0.58
1:B:723:TRP:O	1:B:727:GLU:HG2	2.02	0.58
1:A:507:ALA:HB3	3:A:1094:HOH:O	2.02	0.58
1:A:800:LYS:HA	1:A:803:TYR:HB3	1.86	0.57
1:B:216:ILE:HD11	1:B:401:PHE:CE1	2.39	0.57
1:B:523:VAL:HG22	3:B:1121:HOH:O	2.05	0.57
1:A:529:PRO:HA	1:A:533:GLN:NE2	2.20	0.57
1:B:79:PHE:HB3	1:B:81:MSE:HE2	1.85	0.57
1:B:671:ASP:OD1	1:B:673:SER:HB2	2.04	0.57
1:B:238:ARG:NE	1:B:238:ARG:HA	2.19	0.57
1:B:782:MSE:HE1	1:B:810:MSE:CE	2.35	0.57
1:B:18:LEU:HD23	1:B:21:MSE:HE3	1.86	0.56
1:B:826:LEU:O	1:B:829:VAL:HG12	2.05	0.56
1:B:679:ILE:HG13	1:B:823:ILE:HD11	1.87	0.56
1:B:512:ASP:OD1	1:B:577:ARG:HD3	2.06	0.56
1:B:787:GLN:C	1:B:789:ILE:H	2.08	0.55
1:B:785:LEU:O	1:B:789:ILE:HB	2.06	0.55
1:A:441:ASP:O	1:A:445:ARG:HG3	2.06	0.55
1:B:104:THR:HG21	1:B:577:ARG:NH2	2.22	0.55
1:B:294:GLU:O	1:B:294:GLU:HG3	2.06	0.55
1:B:457:ILE:HA	1:B:505:ASN:OD1	2.06	0.55
1:A:461:LYS:O	1:A:465:VAL:HG12	2.07	0.55
1:B:648:TYR:OH	1:B:800:LYS:HB3	2.06	0.54
1:B:789:ILE:O	1:B:789:ILE:CG2	2.55	0.54
1:A:731:HIS:CD2	1:A:734:THR:HG1	2.25	0.54
1:B:607:MSE:HE2	1:B:623:VAL:HG13	1.90	0.54
1:B:247:ILE:O	1:B:247:ILE:CG2	2.56	0.54
1:B:722:GLU:O	1:B:723:TRP:C	2.46	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:519:TRP:CZ3	1:A:538:LYS:HD3	2.43	0.53
1:B:170:TYR:CZ	1:B:200:GLN:HG2	2.43	0.53
1:B:292:MSE:HG2	1:B:296:GLU:HB2	1.90	0.53
1:A:711:LYS:HG2	1:A:717:ASP:HB2	1.90	0.53
1:A:457:ILE:HA	1:A:505:ASN:OD1	2.07	0.53
1:B:507:ALA:HB3	3:B:1043:HOH:O	2.08	0.53
1:B:785:LEU:HD11	1:B:810:MSE:HE1	1.89	0.53
1:B:760:ARG:CB	3:B:1124:HOH:O	2.56	0.53
1:B:637:ARG:NH1	1:B:641:ILE:HD11	2.24	0.52
1:B:228:PRO:O	1:B:230:GLU:N	2.40	0.52
1:B:531:ALA:O	1:B:535:GLU:HB2	2.10	0.52
1:A:531:ALA:CB	1:A:532:GLU:OE1	2.58	0.52
1:B:18:LEU:HA	1:B:21:MSE:HE2	1.92	0.52
1:B:651:VAL:O	1:B:655:GLN:HG3	2.10	0.52
1:A:460:GLU:OE1	1:A:460:GLU:N	2.30	0.51
1:B:228:PRO:C	1:B:230:GLU:N	2.63	0.51
1:B:716:LEU:HG	1:B:718:LEU:CD1	2.40	0.51
1:A:427:VAL:HB	1:A:612:MSE:HE2	1.92	0.51
1:A:590:MSE:HG3	1:A:608:ARG:HG2	1.93	0.51
1:A:763:GLU:O	1:A:767:MSE:HG3	2.10	0.51
1:B:435:ILE:O	1:B:436:GLN:C	2.47	0.50
1:B:438:ILE:HD13	1:B:559:THR:HG22	1.93	0.50
1:B:508:GLY:O	1:B:510:GLY:N	2.43	0.50
1:B:590:MSE:HE1	1:B:604:SER:O	2.11	0.50
1:A:16:ARG:NH1	3:A:1005:HOH:O	2.44	0.50
1:A:742:GLN:O	1:A:746:VAL:HG23	2.11	0.50
1:B:16:ARG:CB	3:B:1094:HOH:O	2.58	0.50
1:A:727:GLU:HB2	1:A:729:GLU:HB2	1.93	0.50
2:B:901:ATP:O2G	2:B:901:ATP:PA	2.70	0.50
1:B:79:PHE:HB3	1:B:81:MSE:CE	2.41	0.50
1:B:587:TYR:O	1:B:588:LEU:HG	2.11	0.50
1:B:539:ALA:O	1:B:543:VAL:HG23	2.12	0.49
1:B:801:GLN:HA	1:B:801:GLN:OE1	2.10	0.49
1:B:782:MSE:CE	1:B:810:MSE:SE	3.05	0.49
1:B:102:MSE:CE	1:B:390:MSE:SE	3.10	0.49
1:A:727:GLU:HG3	1:A:730:LEU:HB3	1.93	0.49
1:B:691:TYR:HD1	1:B:702:ASP:OD2	1.96	0.49
1:B:800:LYS:HD2	1:B:804:LYS:HE3	1.93	0.49
1:B:648:TYR:CZ	1:B:800:LYS:HB3	2.47	0.49
1:B:629:ASN:ND2	1:B:632:ARG:NH2	2.53	0.49
1:B:680:ARG:HD2	1:B:743:SER:OG	2.13	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:742:GLN:HA	1:A:745:GLU:HG2	1.94	0.48
1:A:731:HIS:CE1	1:A:733:GLU:HB3	2.48	0.48
1:A:731:HIS:HE1	1:A:733:GLU:HB3	1.78	0.48
1:A:789:ILE:O	1:A:789:ILE:CG2	2.61	0.48
1:B:246:LEU:HD13	1:B:314:LEU:HD21	1.94	0.48
1:A:503:ALA:HB1	1:A:506:MSE:HG2	1.95	0.48
1:A:538:LYS:NZ	1:B:528:ASN:ND2	2.61	0.48
1:B:99:ILE:HD11	1:B:407:LEU:HD13	1.95	0.48
1:B:179:ASN:OD1	3:B:1055:HOH:O	2.20	0.48
1:B:730:LEU:HG	1:B:731:HIS:N	2.28	0.48
1:B:708:GLU:O	1:B:712:ASN:N	2.37	0.48
1:A:789:ILE:O	1:A:790:HIS:ND1	2.46	0.48
1:A:571:LEU:O	1:A:574:ARG:HB2	2.14	0.48
1:A:747:TYR:OH	1:A:763:GLU:OE2	2.24	0.48
1:A:799:PRO:O	1:A:800:LYS:HB3	2.11	0.48
1:A:32:GLU:HB3	1:A:33:PRO:HD3	1.96	0.47
1:A:642:ARG:NH1	3:A:1000:HOH:O	2.46	0.47
1:B:459:ILE:O	1:B:463:GLU:HG3	2.14	0.47
1:A:594:LEU:O	1:A:597:ILE:HG12	2.15	0.47
1:A:731:HIS:HB3	3:A:1026:HOH:O	2.14	0.47
1:A:487:GLU:O	1:A:491:VAL:HG23	2.14	0.47
1:A:531:ALA:O	1:A:534:ILE:HB	2.14	0.47
1:A:727:GLU:HG3	1:A:730:LEU:CB	2.44	0.47
1:A:64:ILE:N	1:A:65:PRO:CD	2.78	0.47
1:B:367:ASN:O	1:B:368:GLU:HG3	2.15	0.47
1:B:520:GLN:O	1:B:522:GLU:N	2.48	0.47
1:A:66:GLU:HG3	3:A:957:HOH:O	2.13	0.47
1:A:535:GLU:OE1	1:A:535:GLU:HA	2.15	0.47
1:B:651:VAL:HG21	1:B:804:LYS:HG2	1.95	0.47
1:B:446:THR:HG21	1:B:500:VAL:CG2	2.45	0.47
1:B:504:THR:O	1:B:505:ASN:C	2.53	0.47
1:B:144:ARG:HB3	1:B:145:PRO:HD3	1.97	0.47
1:A:785:LEU:HD22	1:A:810:MSE:HE1	1.97	0.47
1:B:239:VAL:O	1:B:242:ILE:CG2	2.61	0.47
1:B:493:GLN:HG2	3:B:1047:HOH:O	2.14	0.47
1:B:520:GLN:C	1:B:522:GLU:N	2.69	0.47
1:B:131:VAL:HG11	1:B:210:GLU:HG2	1.97	0.46
1:B:440:GLU:O	1:B:444:GLU:HG3	2.15	0.46
1:B:131:VAL:CG1	1:B:210:GLU:HG2	2.45	0.46
1:B:404:ILE:HG22	1:B:404:ILE:O	2.16	0.46
1:A:731:HIS:CD2	1:A:734:THR:OG1	2.67	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:394:ALA:HB3	3:B:1054:HOH:O	2.15	0.46
1:B:228:PRO:HG3	1:B:369:ASN:HB3	1.96	0.46
1:B:396:THR:N	3:B:1016:HOH:O	2.48	0.46
1:B:613:LYS:HA	1:B:614:PRO:HD2	1.71	0.46
1:B:749:ARG:HD3	1:B:833:MSE:HE3	1.97	0.46
1:B:760:ARG:HB3	3:B:1124:HOH:O	2.16	0.46
1:A:103:ARG:NE	3:A:1082:HOH:O	2.35	0.46
1:A:563:GLU:HA	1:A:594:LEU:HD11	1.96	0.46
1:A:133:ASP:O	1:A:137:GLN:HG3	2.15	0.46
1:A:395:ASP:OD2	1:A:396:THR:N	2.49	0.46
1:B:520:GLN:C	1:B:522:GLU:H	2.19	0.46
1:A:428:TYR:O	1:A:589:SER:HA	2.15	0.45
1:A:47:THR:O	1:A:51:ARG:HG3	2.15	0.45
1:A:434:LYS:NZ	1:A:560:GLU:HG3	2.31	0.45
1:A:590:MSE:HG3	1:A:608:ARG:CG	2.46	0.45
1:B:99:ILE:HA	1:B:389:GLY:O	2.16	0.45
1:B:588:LEU:HD13	1:B:627:ILE:HD13	1.98	0.45
1:A:650:ASP:OD2	3:A:1068:HOH:O	2.20	0.45
1:B:457:ILE:O	1:B:505:ASN:ND2	2.49	0.45
1:B:144:ARG:N	1:B:145:PRO:HD2	2.32	0.45
1:A:409:THR:HG23	3:A:1007:HOH:O	2.17	0.45
1:B:716:LEU:HG	1:B:718:LEU:HD11	1.99	0.45
1:B:281:LEU:HA	1:B:284:GLU:HG2	1.98	0.45
1:B:727:GLU:O	1:B:730:LEU:HD22	2.16	0.45
1:B:520:GLN:HA	3:B:1121:HOH:O	2.17	0.44
1:B:787:GLN:C	1:B:789:ILE:N	2.71	0.44
1:A:38:LEU:HG	1:A:42:GLU:HB3	1.97	0.44
1:A:74:ALA:O	1:A:78:VAL:HG23	2.17	0.44
1:B:644:GLN:NE2	1:B:800:LYS:HE3	2.31	0.44
1:B:282:ILE:HD11	1:B:286:LEU:HD21	1.99	0.44
1:A:486:ASN:HD21	1:B:132:ASN:HD21	1.65	0.44
1:B:483:PHE:O	1:B:487:GLU:HG3	2.18	0.44
1:A:32:GLU:N	1:A:33:PRO:CD	2.81	0.44
1:B:735:LEU:HA	1:B:738:ARG:HB2	1.99	0.44
1:B:796:GLN:HB3	1:B:797:LYS:H	1.73	0.44
1:A:101:GLU:HB2	1:A:411:VAL:HA	2.00	0.44
1:A:800:LYS:O	1:A:801:GLN:HB2	2.18	0.44
1:B:33:PRO:O	1:B:37:LYS:HD3	2.16	0.44
1:B:742:GLN:O	1:B:745:GLU:HG2	2.18	0.44
1:B:227:GLY:C	1:B:229:ALA:N	2.71	0.44
1:B:243:ILE:HG21	1:B:317:HIS:NE2	2.33	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:25:VAL:HG23	1:A:92:MSE:HE1	2.00	0.44
1:A:457:ILE:HG22	1:A:562:HIS:CE1	2.53	0.44
1:A:507:ALA:O	1:A:508:GLY:O	2.36	0.44
1:B:487:GLU:O	1:B:491:VAL:HG23	2.18	0.44
1:A:27:ILE:O	1:A:31:MSE:HG3	2.19	0.43
1:A:101:GLU:OE1	1:A:411:VAL:HG22	2.18	0.43
1:B:789:ILE:HG13	1:B:792:ARG:HB2	1.99	0.43
1:B:223:LEU:O	1:B:374:SER:HA	2.19	0.43
1:B:711:LYS:HE2	1:B:717:ASP:HA	2.00	0.43
1:B:183:GLY:HA3	1:B:223:LEU:CD1	2.48	0.43
1:B:299:TYR:CD1	1:B:299:TYR:O	2.71	0.43
1:B:304:ILE:HG21	1:B:781:ALA:HB1	2.00	0.43
1:A:18:LEU:O	1:A:22:ARG:HG3	2.18	0.43
1:A:629:ASN:HD22	1:A:632:ARG:HE	1.65	0.43
1:B:103:ARG:NH2	1:B:575:SER:O	2.52	0.43
1:B:298:LEU:HD13	1:B:306:LEU:HD13	2.00	0.43
1:B:669:VAL:HG12	1:B:672:VAL:HG23	2.01	0.43
1:B:306:LEU:O	1:B:309:HIS:HB2	2.19	0.43
1:B:230:GLU:HB3	1:B:367:ASN:ND2	2.33	0.42
1:A:378:GLN:O	1:A:382:ARG:HG3	2.19	0.42
1:A:721:ALA:O	1:A:725:ASP:HB3	2.19	0.42
1:A:792:ARG:O	1:A:794:TYR:CD1	2.73	0.42
1:B:110:LEU:O	1:B:111:THR:C	2.58	0.41
1:B:798:ASP:HA	1:B:799:PRO:HD2	1.52	0.41
1:B:399:PHE:HZ	1:B:635:GLU:HG3	1.84	0.41
1:B:792:ARG:NH2	3:B:1023:HOH:O	2.52	0.41
1:A:453:LEU:HD21	1:A:506:MSE:SE	2.70	0.41
1:A:589:SER:H	1:A:592:ASP:CG	2.24	0.41
1:A:81:MSE:HE3	1:A:110:LEU:HD13	2.03	0.41
1:B:170:TYR:CE2	1:B:200:GLN:HG2	2.55	0.41
1:B:231:ASP:OD1	1:B:232:SER:HB2	2.20	0.41
1:A:486:ASN:ND2	1:B:132:ASN:HD21	2.19	0.41
1:A:566:ARG:CD	3:A:1093:HOH:O	2.65	0.41
1:A:701:TRP:CD1	1:A:701:TRP:N	2.86	0.41
1:A:731:HIS:O	1:A:735:LEU:HB2	2.21	0.41
1:B:406:LYS:NZ	1:B:406:LYS:HG2	2.36	0.41
1:B:427:VAL:O	1:B:612:MSE:HG2	2.20	0.41
1:A:16:ARG:HH21	1:A:19:ARG:HD2	1.86	0.41
1:A:797:LYS:NZ	3:A:1079:HOH:O	2.50	0.41
1:B:316:ALA:O	1:B:317:HIS:CD2	2.74	0.41
1:B:378:GLN:O	1:B:382:ARG:HG3	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:666:LEU:O	1:B:764:LYS:HE3	2.21	0.41
1:A:519:TRP:CE3	1:A:538:LYS:HD3	2.57	0.40
1:A:679:ILE:HD13	1:A:679:ILE:HG21	1.92	0.40
1:A:800:LYS:H	1:A:803:TYR:H	1.68	0.40
1:B:693:PRO:HG2	1:B:696:SER:OG	2.21	0.40
1:A:785:LEU:HD11	1:A:806:GLU:OE2	2.21	0.40
1:B:519:TRP:CZ2	1:B:538:LYS:HE3	2.57	0.40
1:B:698:GLU:HA	1:B:701:TRP:CD2	2.56	0.40
1:A:32:GLU:OE2	1:A:82:ARG:HD2	2.20	0.40
1:B:102:MSE:O	1:B:392:GLY:HA2	2.20	0.40
1:B:644:GLN:HE22	1:B:800:LYS:CE	2.34	0.40
1:A:457:ILE:HD13	1:A:457:ILE:HG21	1.81	0.40
1:A:745:GLU:HG3	1:A:746:VAL:N	2.36	0.40
1:A:632:ARG:HB2	1:A:632:ARG:NH1	2.36	0.40
1:B:247:ILE:O	1:B:248:ARG:HG2	2.22	0.40
1:B:450:GLN:HG3	1:B:553:GLY:O	2.22	0.40
1:B:496:TYR:O	1:B:497:PRO:C	2.60	0.40
1:B:541:TRP:CZ2	1:B:545:HIS:CD2	3.09	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	675/853 (79%)	635 (94%)	31 (5%)	9 (1%)	10	8
1	B	737/853 (86%)	651 (88%)	49 (7%)	37 (5%)	1	0
All	All	1412/1706 (83%)	1286 (91%)	80 (6%)	46 (3%)	3	1

All (46) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	394	ALA
1	A	395	ASP
1	A	508	GLY
1	A	509	ARG
1	A	531	ALA
1	B	229	ALA
1	B	230	GLU
1	B	289	GLU
1	B	368	GLU
1	B	395	ASP
1	B	507	ALA
1	B	509	ARG
1	B	521	ALA
1	B	531	ALA
1	B	611	GLY
1	B	612	MSE
1	B	729	GLU
1	B	730	LEU
1	B	731	HIS
1	B	796	GLN
1	B	797	LYS
1	A	510	GLY
1	A	619	GLU
1	A	790	HIS
1	B	231	ASP
1	B	302	ALA
1	B	394	ALA
1	B	594	LEU
1	B	801	GLN
1	B	234	GLU
1	B	608	ARG
1	B	614	PRO
1	B	617	ALA
1	B	707	GLN
1	B	794	TYR
1	A	613	LYS
1	B	286	LEU
1	B	690	ALA
1	B	691	TYR
1	B	481	ALA
1	B	535	GLU
1	B	619	GLU
1	B	719	PRO

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	703	ILE
1	B	510	GLY
1	B	287	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	575/696 (83%)	538 (94%)	37 (6%)	14	17
1	B	632/696 (91%)	565 (89%)	67 (11%)	5	5
All	All	1207/1392 (87%)	1103 (91%)	104 (9%)	8	9

All (104) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	16	ARG
1	A	19	ARG
1	A	22	ARG
1	A	37	LYS
1	A	41	GLU
1	A	72	ARG
1	A	156	ILE
1	A	180	ASN
1	A	194	SER
1	A	369	ASN
1	A	427	VAL
1	A	461	LYS
1	A	506	MSE
1	A	509	ARG
1	A	528	ASN
1	A	532	GLU
1	A	535	GLU
1	A	566	ARG
1	A	596	ARG
1	A	597	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	604	SER
1	A	610	LEU
1	A	632	ARG
1	A	637	ARG
1	A	647	GLU
1	A	661	SER
1	A	669	VAL
1	A	725	ASP
1	A	727	GLU
1	A	735	LEU
1	A	742	GLN
1	A	749	ARG
1	A	789	ILE
1	A	794	TYR
1	A	797	LYS
1	A	800	LYS
1	A	816	GLU
1	B	38	LEU
1	B	41	GLU
1	B	98	CYS
1	B	103	ARG
1	B	196	GLU
1	B	226	SER
1	B	231	ASP
1	B	232	SER
1	B	234	GLU
1	B	242	ILE
1	B	247	ILE
1	B	248	ARG
1	B	283	GLU
1	B	285	LEU
1	B	288	LYS
1	B	292	MSE
1	B	304	ILE
1	B	306	LEU
1	B	310	VAL
1	B	367	ASN
1	B	395	ASP
1	B	409	THR
1	B	416	ARG
1	B	436	GLN
1	B	440	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	461	LYS
1	B	509	ARG
1	B	512	ASP
1	B	518	SER
1	B	520	GLN
1	B	523	VAL
1	B	529	PRO
1	B	532	GLU
1	B	535	GLU
1	B	536	LYS
1	B	537	ILE
1	B	588	LEU
1	B	596	ARG
1	B	602	ARG
1	B	606	MSE
1	B	608	ARG
1	B	610	LEU
1	B	669	VAL
1	B	672	VAL
1	B	674	GLU
1	B	702	ASP
1	B	718	LEU
1	B	723	TRP
1	B	724	LEU
1	B	726	LYS
1	B	727	GLU
1	B	729	GLU
1	B	734	THR
1	B	735	LEU
1	B	738	ARG
1	B	743	SER
1	B	749	ARG
1	B	750	LYS
1	B	759	MSE
1	B	779	LEU
1	B	787	GLN
1	B	791	LEU
1	B	797	LYS
1	B	800	LYS
1	B	801	GLN
1	B	831	VAL
1	B	832	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (30) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	369	ASN
1	A	370	GLN
1	A	486	ASN
1	A	528	ASN
1	A	533	GLN
1	A	570	GLN
1	A	620	HIS
1	A	629	ASN
1	A	638	ASN
1	A	662	GLN
1	A	742	GLN
1	A	761	HIS
1	B	14	ASN
1	B	180	ASN
1	B	309	HIS
1	B	486	ASN
1	B	520	GLN
1	B	528	ASN
1	B	533	GLN
1	B	542	GLN
1	B	545	HIS
1	B	629	ASN
1	B	638	ASN
1	B	644	GLN
1	B	664	ASN
1	B	707	GLN
1	B	712	ASN
1	B	748	GLN
1	B	787	GLN
1	B	830	GLN

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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

2 ligands are modelled in this entry.

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
2	ATP	B	901	-	28,33,33	2.67	10 (35%)	34,52,52	2.53	16 (47%)
2	ATP	A	900	-	28,33,33	1.39	4 (14%)	34,52,52	1.99	13 (38%)

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
2	ATP	B	901	-	-	7/18/38/38	0/3/3/3
2	ATP	A	900	-	-	3/18/38/38	0/3/3/3

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	901	ATP	PB-O3A	8.78	1.69	1.59
2	B	901	ATP	O4'-C1'	6.04	1.48	1.40
2	B	901	ATP	PA-O5'	3.78	1.74	1.59
2	B	901	ATP	PA-O3A	3.76	1.63	1.59
2	A	900	ATP	PB-O3B	3.62	1.63	1.59
2	B	901	ATP	PA-O1A	3.14	1.61	1.50
2	A	900	ATP	PB-O3A	2.98	1.62	1.59
2	B	901	ATP	C5'-C4'	2.92	1.60	1.51
2	A	900	ATP	C2-N3	2.75	1.36	1.32
2	B	901	ATP	PB-O3B	2.64	1.62	1.59

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	901	ATP	C2-N3	2.23	1.35	1.32
2	A	900	ATP	PB-O2B	-2.17	1.45	1.55
2	B	901	ATP	C4-N3	2.03	1.38	1.35
2	B	901	ATP	C5-N7	-2.03	1.32	1.39

All (29) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	901	ATP	O2B-PB-O3A	6.54	124.94	107.27
2	A	900	ATP	N3-C2-N1	-5.20	121.62	128.67
2	B	901	ATP	C2'-C3'-C4'	4.51	111.32	102.61
2	B	901	ATP	O5'-C5'-C4'	4.18	123.22	108.99
2	B	901	ATP	N3-C2-N1	-3.68	123.68	128.67
2	B	901	ATP	O3'-C3'-C2'	-3.60	100.27	111.82
2	B	901	ATP	O4'-C1'-N9	-3.60	103.97	108.75
2	B	901	ATP	PA-O5'-C5'	3.14	139.32	121.35
2	B	901	ATP	O4'-C4'-C3'	-3.09	99.03	105.15
2	A	900	ATP	O2A-PA-O3A	3.04	115.50	107.27
2	B	901	ATP	O5'-PA-O1A	2.96	120.67	108.94
2	B	901	ATP	C4'-O4'-C1'	2.90	112.58	109.92
2	A	900	ATP	C4'-O4'-C1'	2.87	112.55	109.92
2	A	900	ATP	N6-C6-N1	2.85	124.44	118.33
2	B	901	ATP	O2G-PG-O3B	-2.80	95.25	104.64
2	A	900	ATP	O5'-PA-O1A	2.80	120.02	108.94
2	B	901	ATP	O4'-C4'-C5'	2.66	117.87	109.33
2	B	901	ATP	O3G-PG-O3B	2.57	113.24	104.64
2	B	901	ATP	O3B-PB-O1B	-2.55	103.02	110.70
2	A	900	ATP	C5-C6-N6	-2.52	116.47	120.31
2	A	900	ATP	O2B-PB-O3B	2.42	113.82	107.27
2	B	901	ATP	C5'-C4'-C3'	2.32	123.58	115.21
2	A	900	ATP	PA-O5'-C5'	2.28	134.39	121.35
2	A	900	ATP	O2'-C2'-C3'	2.26	119.07	111.82
2	A	900	ATP	O4'-C1'-N9	-2.26	105.75	108.75
2	A	900	ATP	O3A-PB-O1B	-2.21	104.04	110.70
2	A	900	ATP	O3A-PA-O1A	-2.10	104.39	110.70
2	B	901	ATP	O2A-PA-O3A	-2.09	101.63	107.27
2	A	900	ATP	O3B-PG-O1G	-2.01	100.45	111.04

There are no chirality outliers.

All (10) torsion outliers are listed below:

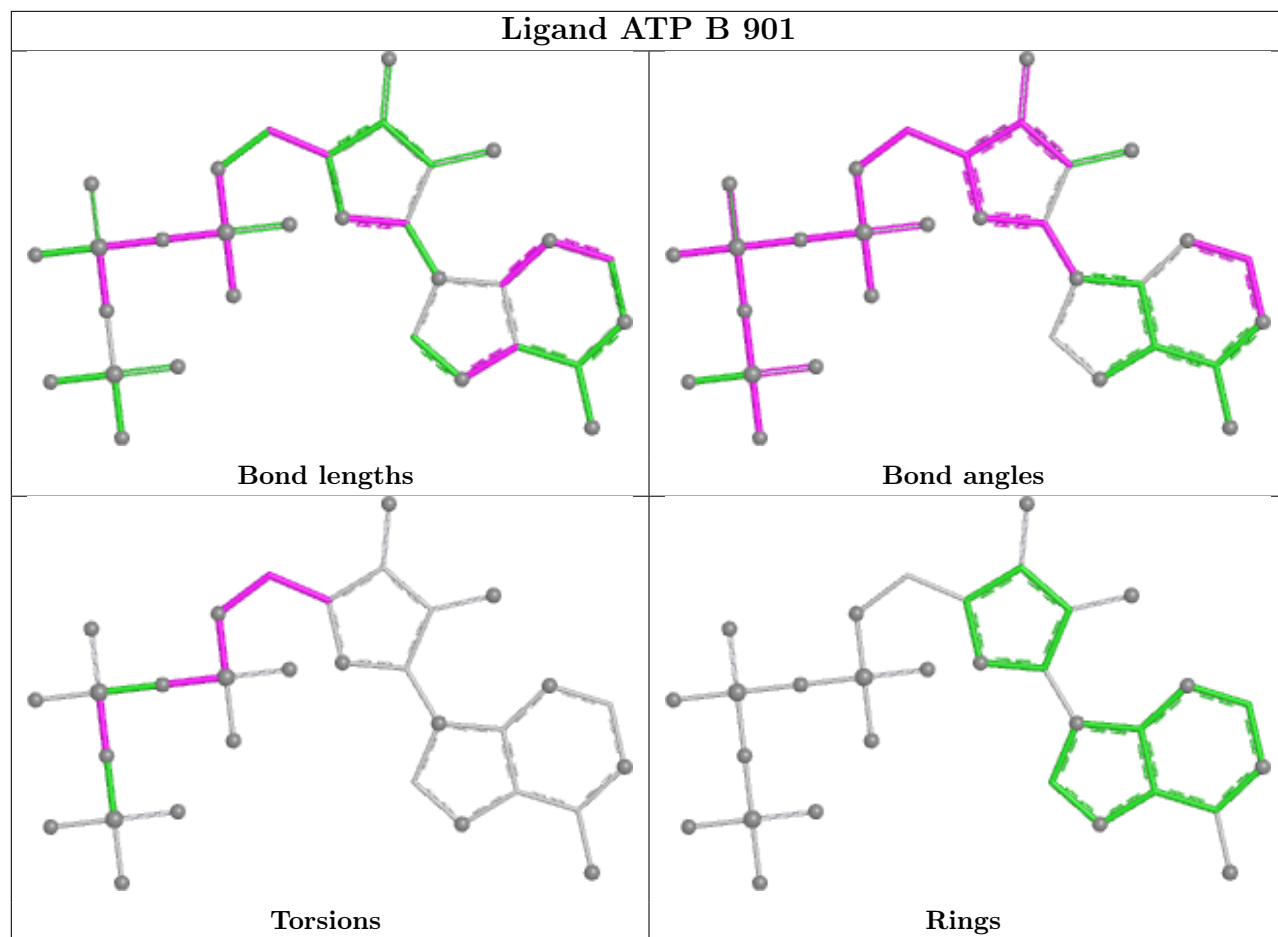
Mol	Chain	Res	Type	Atoms
2	B	901	ATP	C5'-O5'-PA-O3A
2	B	901	ATP	C4'-C5'-O5'-PA
2	B	901	ATP	C3'-C4'-C5'-O5'
2	B	901	ATP	O4'-C4'-C5'-O5'
2	B	901	ATP	PB-O3A-PA-O5'
2	A	900	ATP	PB-O3A-PA-O2A
2	B	901	ATP	C5'-O5'-PA-O1A
2	A	900	ATP	PB-O3A-PA-O1A
2	A	900	ATP	C4'-C5'-O5'-PA
2	B	901	ATP	PG-O3B-PB-O2B

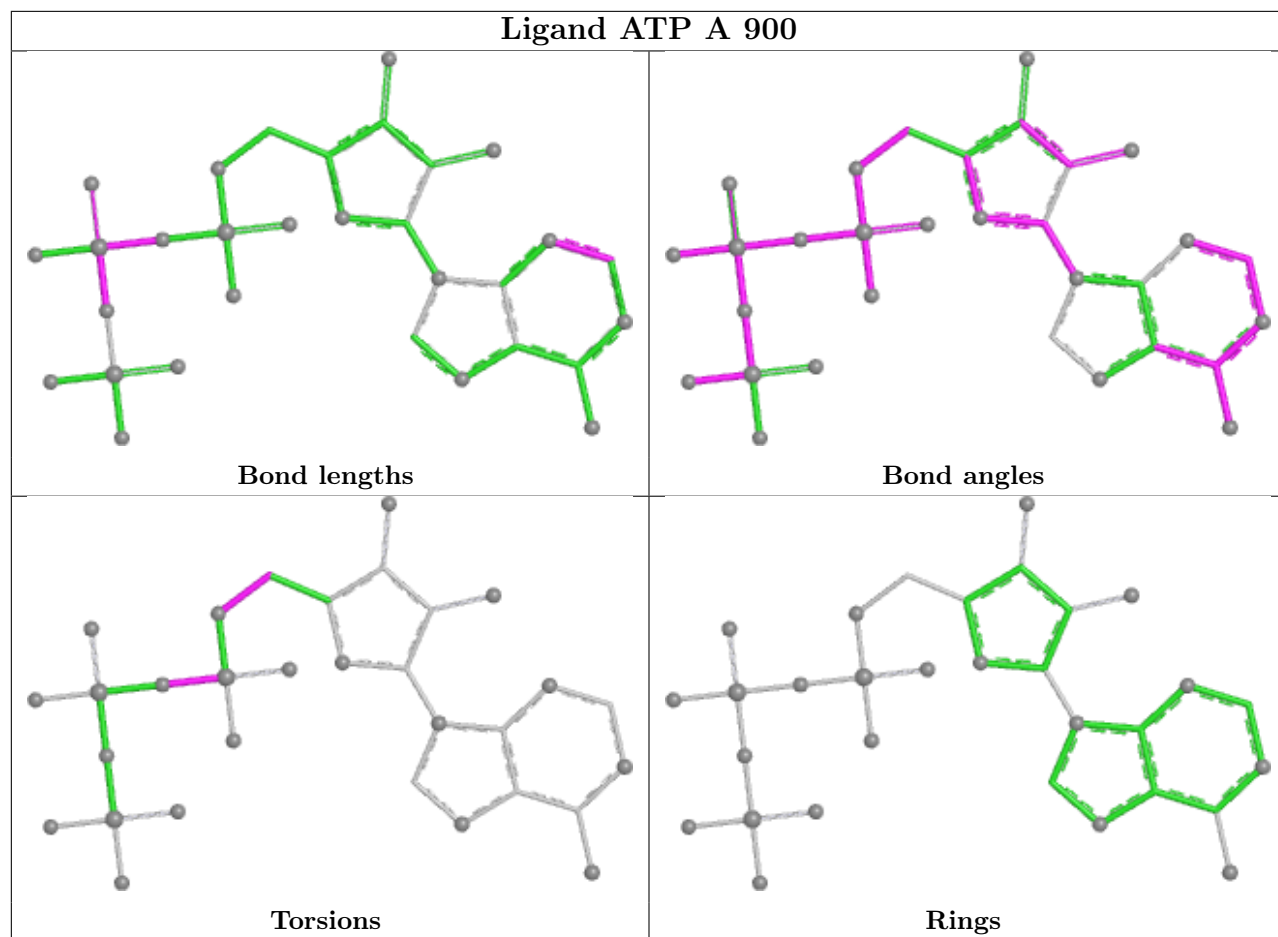
There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	901	ATP	2	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 than 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.





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

Warning: The R factor obtained from EDS is 0.267, which does not match the depositor's R factor of 0.208. Please interpret the results in this section carefully.

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	654/853 (76%)	0.28	33 (5%) 35 32	5, 19, 43, 62	0
1	B	714/853 (83%)	0.96	143 (20%) 3 3	3, 21, 46, 64	0
All	All	1368/1706 (80%)	0.63	176 (12%) 9 7	3, 20, 44, 64	0

All (176) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	314	LEU	8.0
1	B	287	VAL	7.2
1	A	793	GLY	6.6
1	A	791	LEU	6.3
1	B	315	ARG	6.2
1	B	294	GLU	6.2
1	B	299	TYR	6.1
1	B	789	ILE	5.8
1	B	793	GLY	5.8
1	B	707	GLN	5.7
1	B	702	ASP	5.7
1	B	794	TYR	5.4
1	B	706	LEU	5.3
1	B	728	PRO	5.3
1	A	597	ILE	5.3
1	B	791	LEU	5.2
1	B	696	SER	5.2
1	B	301	PRO	5.2
1	A	615	GLY	5.1
1	B	233	SER	5.0
1	B	684	PHE	5.0
1	B	283	GLU	4.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	704	PRO	4.8
1	A	794	TYR	4.8
1	A	604	SER	4.8
1	B	316	ALA	4.7
1	B	317	HIS	4.7
1	B	697	LEU	4.7
1	B	228	PRO	4.7
1	B	290	GLY	4.6
1	B	703	ILE	4.5
1	B	727	GLU	4.5
1	B	244	PRO	4.5
1	B	236	TYR	4.5
1	B	795	ALA	4.4
1	B	792	ARG	4.4
1	B	247	ILE	4.3
1	B	614	PRO	4.2
1	B	705	GLY	4.2
1	A	611	GLY	4.2
1	B	719	PRO	4.1
1	B	753	VAL	4.0
1	B	289	GLU	3.9
1	A	790	HIS	3.8
1	A	792	ARG	3.8
1	B	246	LEU	3.8
1	B	714	PHE	3.7
1	B	366	GLN	3.7
1	B	281	LEU	3.6
1	B	730	LEU	3.6
1	B	743	SER	3.5
1	B	295	GLY	3.5
1	A	610	LEU	3.5
1	B	735	LEU	3.5
1	B	731	HIS	3.5
1	B	239	VAL	3.5
1	B	694	PRO	3.4
1	B	291	ILE	3.4
1	B	691	TYR	3.4
1	B	243	ILE	3.4
1	B	297	SER	3.4
1	B	709	ARG	3.4
1	B	296	GLU	3.4
1	B	312	ALA	3.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	701	TRP	3.4
1	B	280	VAL	3.3
1	B	230	GLU	3.3
1	B	834	PRO	3.3
1	B	603	VAL	3.3
1	A	795	ALA	3.3
1	B	245	HIS	3.3
1	B	724	LEU	3.3
1	B	741	ALA	3.2
1	A	614	PRO	3.2
1	B	242	ILE	3.2
1	B	303	ASN	3.2
1	B	689	ASP	3.2
1	B	721	ALA	3.2
1	B	790	HIS	3.2
1	B	293	ASP	3.1
1	B	725	ASP	3.1
1	B	593	ALA	3.1
1	B	723	TRP	3.1
1	B	729	GLU	3.1
1	B	240	ASN	3.0
1	B	128	VAL	3.0
1	B	248	ARG	3.0
1	B	797	LYS	3.0
1	A	723	TRP	3.0
1	A	745	GLU	3.0
1	A	834	PRO	3.0
1	A	789	ILE	3.0
1	B	203	LEU	3.0
1	B	519	TRP	2.9
1	B	796	GLN	2.9
1	B	830	GLN	2.9
1	B	136	ALA	2.8
1	B	508	GLY	2.8
1	B	718	LEU	2.8
1	B	509	ARG	2.8
1	B	670	SER	2.7
1	B	237	LYS	2.7
1	A	798	ASP	2.7
1	B	693	PRO	2.7
1	B	392	GLY	2.7
1	A	799	PRO	2.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	521	ALA	2.7
1	B	229	ALA	2.7
1	B	302	ALA	2.7
1	B	615	GLY	2.7
1	B	610	LEU	2.7
1	B	284	GLU	2.7
1	B	688	ILE	2.6
1	B	752	GLU	2.6
1	B	695	GLN	2.6
1	B	510	GLY	2.6
1	A	784	TYR	2.6
1	B	282	ILE	2.6
1	B	300	SER	2.6
1	A	725	ASP	2.6
1	A	602	ARG	2.6
1	B	313	ALA	2.6
1	B	832	ARG	2.6
1	A	831	VAL	2.5
1	B	507	ALA	2.5
1	B	526	LEU	2.5
1	B	618	ILE	2.5
1	B	715	ASP	2.5
1	A	616	GLU	2.5
1	B	177	GLY	2.5
1	B	531	ALA	2.5
1	B	734	THR	2.5
1	B	747	TYR	2.5
1	B	532	GLU	2.5
1	B	611	GLY	2.5
1	B	608	ARG	2.5
1	B	605	GLY	2.4
1	A	16	ARG	2.4
1	B	722	GLU	2.4
1	A	797	LYS	2.4
1	B	686	ALA	2.4
1	A	730	LEU	2.4
1	B	123	GLY	2.4
1	B	831	VAL	2.3
1	B	716	LEU	2.3
1	B	717	ASP	2.3
1	B	742	GLN	2.3
1	A	691	TYR	2.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	207	LEU	2.3
1	B	176	TYR	2.3
1	B	669	VAL	2.3
1	B	113	THR	2.2
1	B	749	ARG	2.2
1	A	609	LYS	2.2
1	B	740	LEU	2.2
1	B	524	ALA	2.2
1	B	512	ASP	2.2
1	B	150	LEU	2.2
1	B	394	ALA	2.2
1	B	231	ASP	2.2
1	B	732	GLU	2.2
1	A	507	ALA	2.2
1	B	125	GLY	2.1
1	B	129	VAL	2.1
1	A	832	ARG	2.1
1	B	739	ILE	2.1
1	B	690	ALA	2.1
1	B	825	THR	2.1
1	A	17	THR	2.1
1	B	393	THR	2.1
1	B	368	GLU	2.0
1	B	170	TYR	2.0
1	A	532	GLU	2.0
1	B	737	GLU	2.0
1	B	308	HIS	2.0
1	B	369	ASN	2.0

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

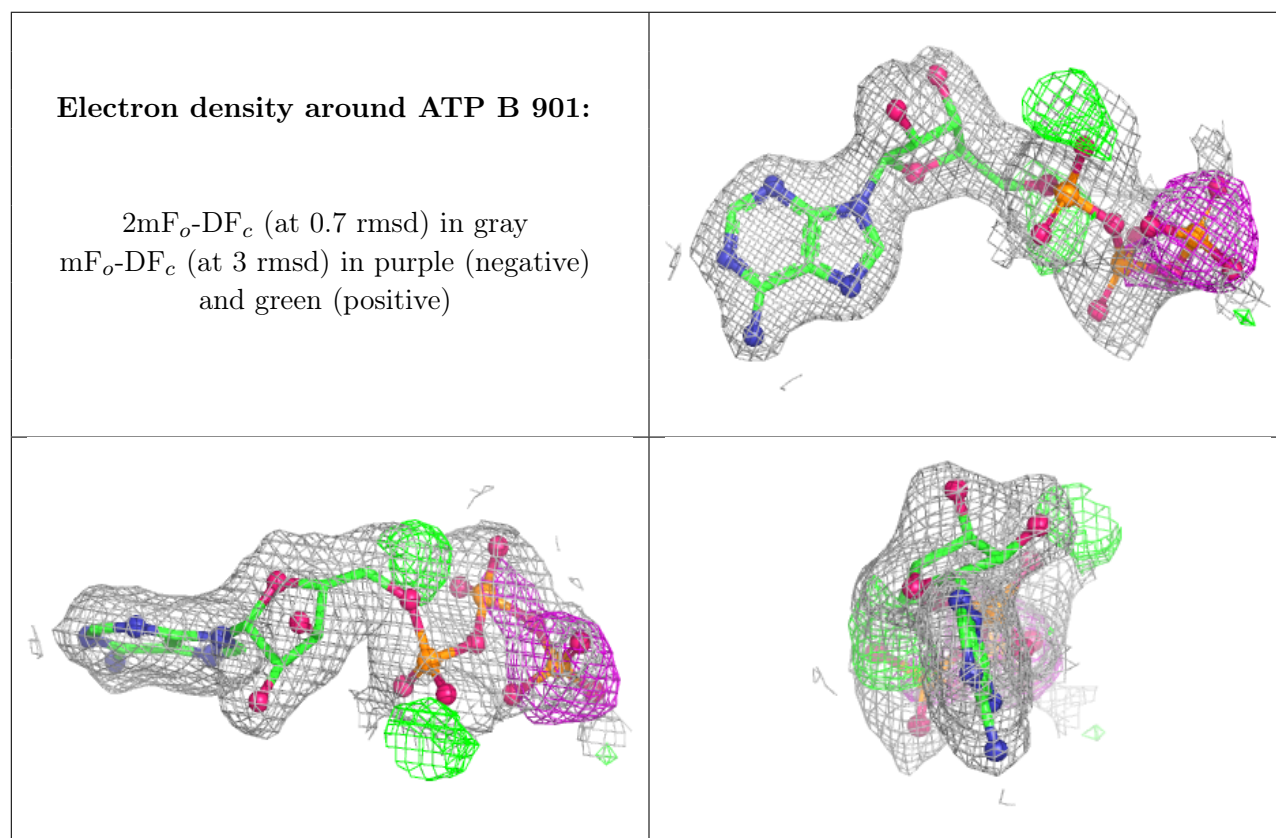
6.4 Ligands [i](#)

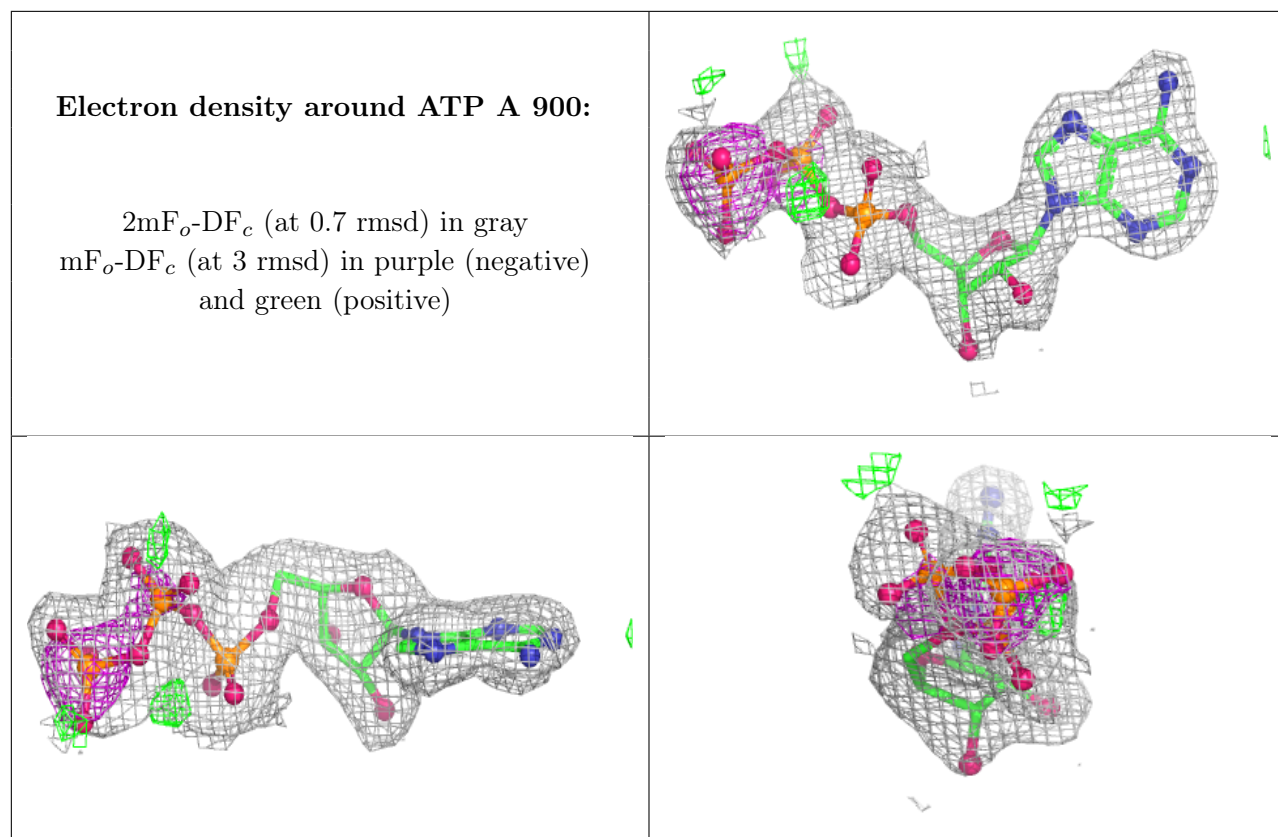
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum,

median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	ATP	B	901	31/31	0.87	0.11	9,19,24,26	0
2	ATP	A	900	31/31	0.90	0.09	11,24,29,30	0

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.





6.5 Other polymers [i](#)

There are no such residues in this entry.