



Full wwPDB X-ray Structure Validation Report ⓘ

Jan 4, 2024 – 09:22 am GMT

PDB ID : 5C18
Title : p97-delta709-728 in complex with ATP-gamma-S
Authors : Haenzelmann, P.; Schindelin, H.
Deposited on : 2015-06-13
Resolution : 3.30 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 : 1.8.4, 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

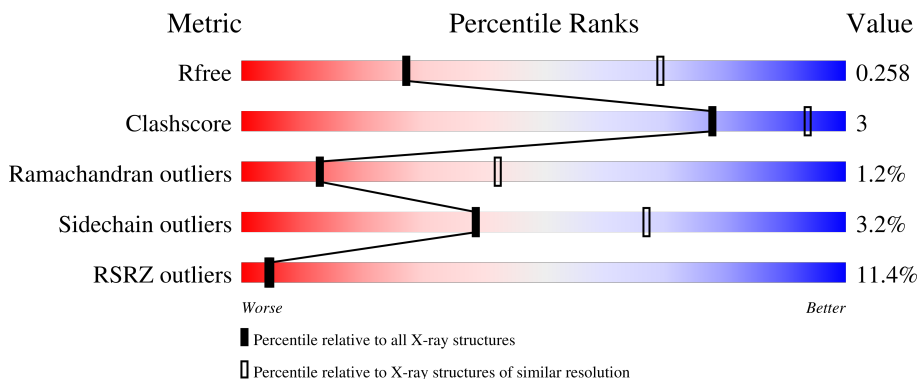
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.30 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.



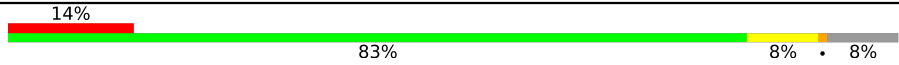
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1149 (3.34-3.26)
Clashscore	141614	1205 (3.34-3.26)
Ramachandran outliers	138981	1183 (3.34-3.26)
Sidechain outliers	138945	1182 (3.34-3.26)
RSRZ outliers	127900	1115 (3.34-3.26)

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

Mol	Chain	Length	Quality of chain
1	A	785	
1	B	785	
1	C	785	
1	D	785	
1	E	785	

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Mol	Chain	Length	Quality of chain
1	F	785	 <p>A horizontal bar chart representing the quality of chain. The bar is divided into four segments: a red segment on the left labeled '14%', a large green segment labeled '83%', a yellow segment labeled '8%', and a grey segment on the far right labeled '8%'.</p>

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 69089 atoms, of which 34628 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 Transitional endoplasmic reticulum ATPase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	H	N	O	S			
1	A	722	11409	3567	5741	1001	1070	30	0	0	0
1	B	723	11420	3570	5746	1002	1072	30	0	0	0
1	C	724	11427	3572	5749	1003	1073	30	0	0	0
1	D	722	11409	3567	5741	1001	1070	30	0	0	0
1	E	723	11418	3570	5745	1002	1071	30	0	0	0
1	F	724	11430	3573	5750	1004	1073	30	0	0	0

There are 120 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	ARG	deletion	UNP P55072
A	?	-	GLU	deletion	UNP P55072
A	?	-	ARG	deletion	UNP P55072
A	?	-	GLU	deletion	UNP P55072
A	?	-	ARG	deletion	UNP P55072
A	?	-	GLN	deletion	UNP P55072
A	?	-	THR	deletion	UNP P55072
A	?	-	ASN	deletion	UNP P55072
A	?	-	PRO	deletion	UNP P55072
A	?	-	SER	deletion	UNP P55072
A	?	-	ALA	deletion	UNP P55072
A	?	-	MET	deletion	UNP P55072
A	?	-	GLU	deletion	UNP P55072
A	?	-	VAL	deletion	UNP P55072
A	?	-	GLU	deletion	UNP P55072
A	?	-	GLU	deletion	UNP P55072
A	?	-	ASP	deletion	UNP P55072

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Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	ASP	deletion	UNP P55072
A	?	-	PRO	deletion	UNP P55072
A	?	-	VAL	deletion	UNP P55072
B	?	-	ARG	deletion	UNP P55072
B	?	-	GLU	deletion	UNP P55072
B	?	-	ARG	deletion	UNP P55072
B	?	-	GLU	deletion	UNP P55072
B	?	-	ARG	deletion	UNP P55072
B	?	-	GLN	deletion	UNP P55072
B	?	-	THR	deletion	UNP P55072
B	?	-	ASN	deletion	UNP P55072
B	?	-	PRO	deletion	UNP P55072
B	?	-	SER	deletion	UNP P55072
B	?	-	ALA	deletion	UNP P55072
B	?	-	MET	deletion	UNP P55072
B	?	-	GLU	deletion	UNP P55072
B	?	-	VAL	deletion	UNP P55072
B	?	-	GLU	deletion	UNP P55072
B	?	-	GLU	deletion	UNP P55072
B	?	-	ASP	deletion	UNP P55072
B	?	-	ASP	deletion	UNP P55072
B	?	-	PRO	deletion	UNP P55072
B	?	-	VAL	deletion	UNP P55072
C	?	-	ARG	deletion	UNP P55072
C	?	-	GLU	deletion	UNP P55072
C	?	-	ARG	deletion	UNP P55072
C	?	-	GLU	deletion	UNP P55072
C	?	-	ARG	deletion	UNP P55072
C	?	-	GLN	deletion	UNP P55072
C	?	-	THR	deletion	UNP P55072
C	?	-	ASN	deletion	UNP P55072
C	?	-	PRO	deletion	UNP P55072
C	?	-	SER	deletion	UNP P55072
C	?	-	ALA	deletion	UNP P55072
C	?	-	MET	deletion	UNP P55072
C	?	-	GLU	deletion	UNP P55072
C	?	-	VAL	deletion	UNP P55072
C	?	-	GLU	deletion	UNP P55072
C	?	-	GLU	deletion	UNP P55072
C	?	-	ASP	deletion	UNP P55072
C	?	-	ASP	deletion	UNP P55072
C	?	-	PRO	deletion	UNP P55072

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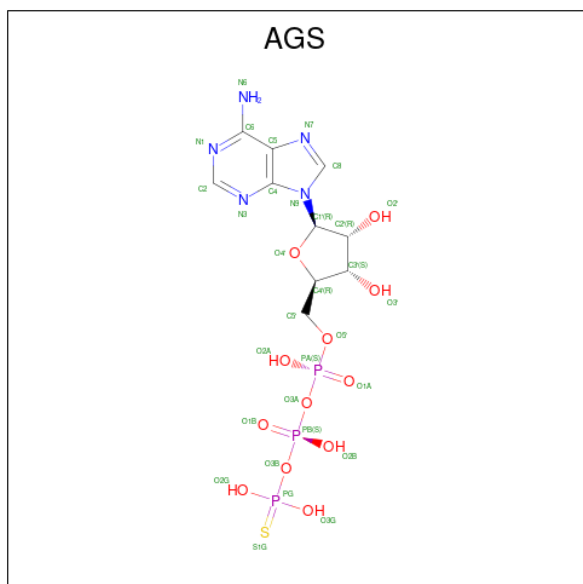
Chain	Residue	Modelled	Actual	Comment	Reference
C	?	-	VAL	deletion	UNP P55072
D	?	-	ARG	deletion	UNP P55072
D	?	-	GLU	deletion	UNP P55072
D	?	-	ARG	deletion	UNP P55072
D	?	-	GLU	deletion	UNP P55072
D	?	-	ARG	deletion	UNP P55072
D	?	-	GLN	deletion	UNP P55072
D	?	-	THR	deletion	UNP P55072
D	?	-	ASN	deletion	UNP P55072
D	?	-	PRO	deletion	UNP P55072
D	?	-	SER	deletion	UNP P55072
D	?	-	ALA	deletion	UNP P55072
D	?	-	MET	deletion	UNP P55072
D	?	-	GLU	deletion	UNP P55072
D	?	-	VAL	deletion	UNP P55072
D	?	-	GLU	deletion	UNP P55072
D	?	-	GLU	deletion	UNP P55072
D	?	-	ASP	deletion	UNP P55072
D	?	-	ASP	deletion	UNP P55072
D	?	-	PRO	deletion	UNP P55072
D	?	-	VAL	deletion	UNP P55072
E	?	-	ARG	deletion	UNP P55072
E	?	-	GLU	deletion	UNP P55072
E	?	-	ARG	deletion	UNP P55072
E	?	-	GLU	deletion	UNP P55072
E	?	-	ARG	deletion	UNP P55072
E	?	-	GLN	deletion	UNP P55072
E	?	-	THR	deletion	UNP P55072
E	?	-	ASN	deletion	UNP P55072
E	?	-	PRO	deletion	UNP P55072
E	?	-	SER	deletion	UNP P55072
E	?	-	ALA	deletion	UNP P55072
E	?	-	MET	deletion	UNP P55072
E	?	-	GLU	deletion	UNP P55072
E	?	-	VAL	deletion	UNP P55072
E	?	-	GLU	deletion	UNP P55072
E	?	-	GLU	deletion	UNP P55072
E	?	-	ASP	deletion	UNP P55072
E	?	-	ASP	deletion	UNP P55072
E	?	-	PRO	deletion	UNP P55072
E	?	-	VAL	deletion	UNP P55072
F	?	-	ARG	deletion	UNP P55072

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Chain	Residue	Modelled	Actual	Comment	Reference
F	?	-	GLU	deletion	UNP P55072
F	?	-	ARG	deletion	UNP P55072
F	?	-	GLU	deletion	UNP P55072
F	?	-	ARG	deletion	UNP P55072
F	?	-	GLN	deletion	UNP P55072
F	?	-	THR	deletion	UNP P55072
F	?	-	ASN	deletion	UNP P55072
F	?	-	PRO	deletion	UNP P55072
F	?	-	SER	deletion	UNP P55072
F	?	-	ALA	deletion	UNP P55072
F	?	-	MET	deletion	UNP P55072
F	?	-	GLU	deletion	UNP P55072
F	?	-	VAL	deletion	UNP P55072
F	?	-	GLU	deletion	UNP P55072
F	?	-	GLU	deletion	UNP P55072
F	?	-	ASP	deletion	UNP P55072
F	?	-	ASP	deletion	UNP P55072
F	?	-	PRO	deletion	UNP P55072
F	?	-	VAL	deletion	UNP P55072

- Molecule 2 is PHOSPHOTHIOPHOSPHORIC ACID-ADENYLATE ESTER (three-letter code: AGS) (formula: C₁₀H₁₆N₅O₁₂P₃S).



Mol	Chain	Residues	Atoms							ZeroOcc	AltConf
			Total	C	H	N	O	P	S		
2	A	1	44	10	13	5	12	3	1	0	0

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Mol	Chain	Residues	Atoms							ZeroOcc	AltConf
2	A	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	B	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	B	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	C	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	C	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	D	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	D	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	E	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	E	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	F	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		
2	F	1	Total	C	H	N	O	P	S	0	0
			44	10	13	5	12	3	1		

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

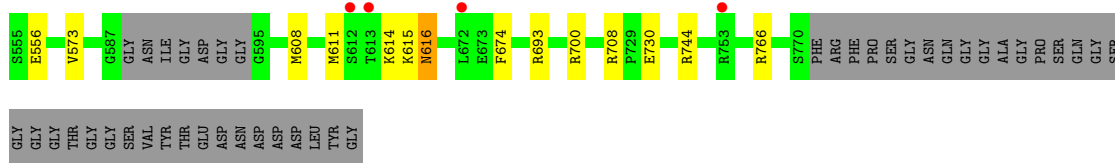
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	2	Total	Mg	0	0
			2	2		
3	B	2	Total	Mg	0	0
			2	2		
3	C	2	Total	Mg	0	0
			2	2		
3	D	2	Total	Mg	0	0
			2	2		
3	E	2	Total	Mg	0	0
			2	2		
3	F	2	Total	Mg	0	0
			2	2		

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

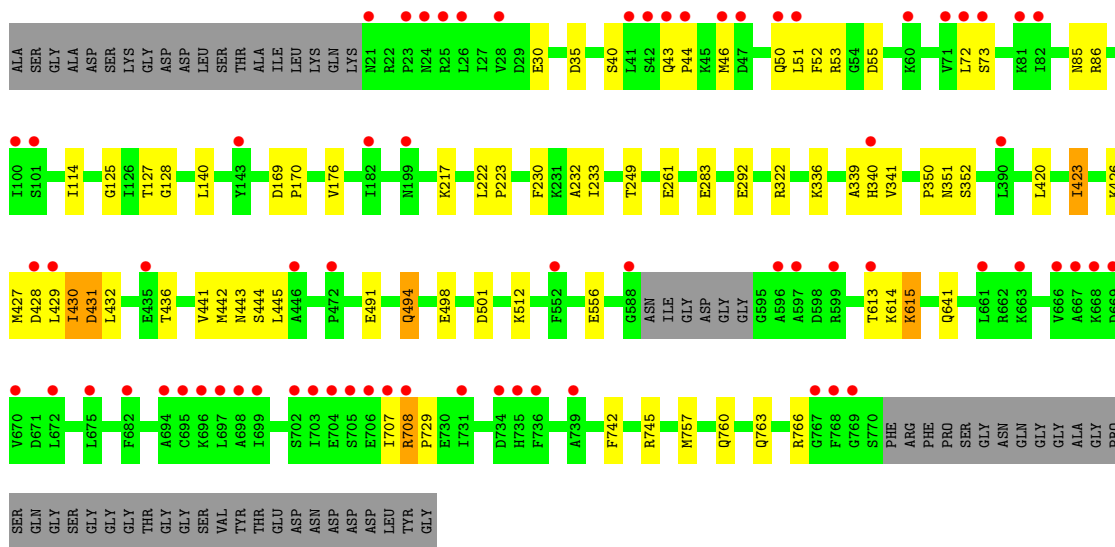
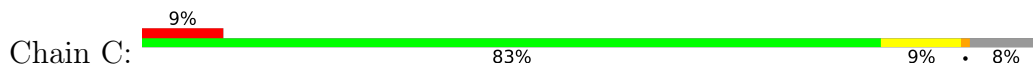
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Cl 1 1	0	0
4	B	1	Total Cl 1 1	0	0
4	C	1	Total Cl 1 1	0	0
4	D	1	Total Cl 1 1	0	0
4	E	1	Total Cl 1 1	0	0
4	F	1	Total Cl 1 1	0	0

- Molecule 5 is water.

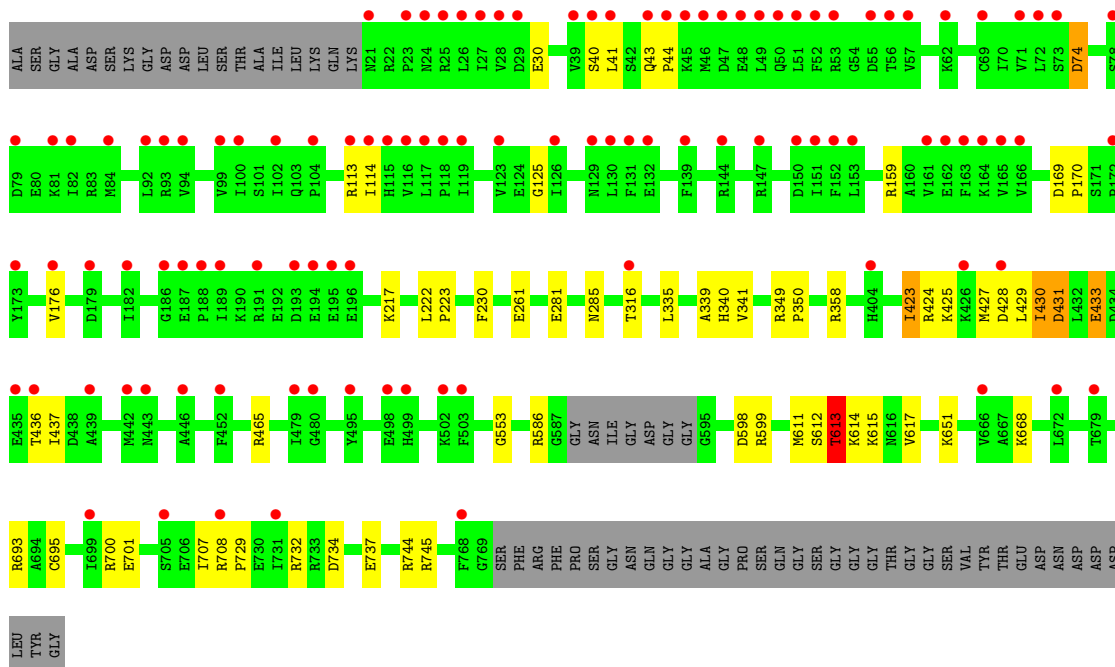
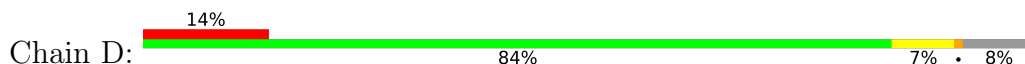
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	5	Total O 5 5	0	0
5	B	5	Total O 5 5	0	0
5	C	5	Total O 5 5	0	0
5	D	5	Total O 5 5	0	0
5	E	5	Total O 5 5	0	0
5	F	5	Total O 5 5	0	0



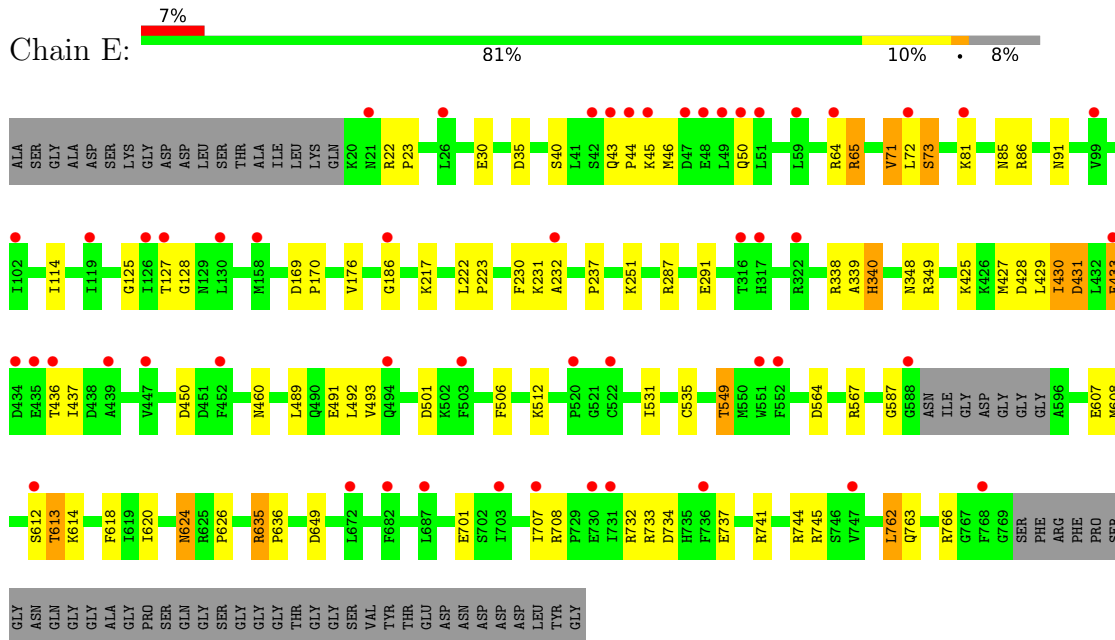
● Molecule 1: Transitional endoplasmic reticulum ATPase



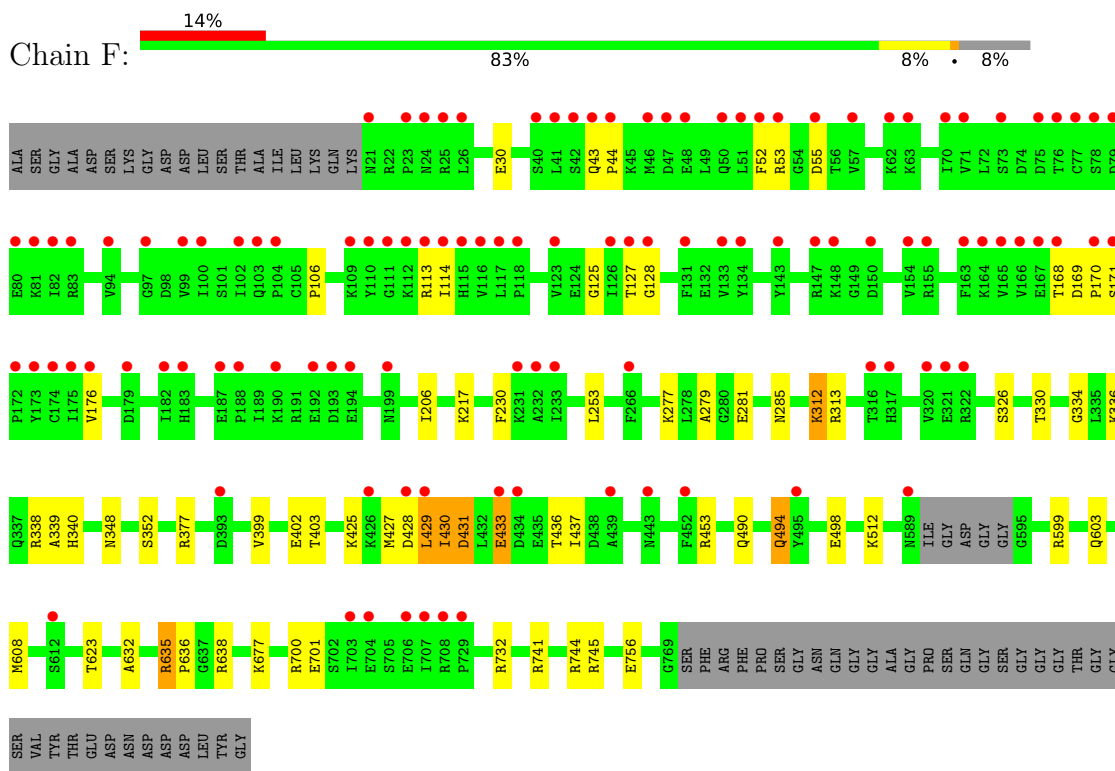
● Molecule 1: Transitional endoplasmic reticulum ATPase



- Molecule 1: Transitional endoplasmic reticulum ATPase



- Molecule 1: Transitional endoplasmic reticulum ATPase



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	140.33Å 180.06Å 255.61Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	19.99 – 3.30 49.18 – 3.30	Depositor EDS
% Data completeness (in resolution range)	100.0 (19.99-3.30) 100.0 (49.18-3.30)	Depositor EDS
R_{merge}	0.18	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.79 (at 3.33Å)	Xtrriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.211 , 0.249 0.222 , 0.258	Depositor DCC
R_{free} test set	4893 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	101.3	Xtrriage
Anisotropy	0.324	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.38 , 77.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.28$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	69089	wwPDB-VP
Average B, all atoms (Å ²)	137.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.14% 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: MG, CL, AGS

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.22	0/5761	0.40	0/7778
1	B	0.22	0/5767	0.41	0/7786
1	C	0.23	0/5771	0.41	0/7791
1	D	0.22	0/5761	0.40	0/7778
1	E	0.22	0/5766	0.41	0/7785
1	F	0.22	0/5773	0.40	0/7794
All	All	0.22	0/34599	0.40	0/46712

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	E	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	E	339	ALA	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	5668	5741	5741	30	0
1	B	5674	5746	5746	39	0
1	C	5678	5749	5749	34	0
1	D	5668	5741	5741	32	0
1	E	5673	5745	5743	45	0
1	F	5680	5750	5750	32	0
2	A	62	26	24	2	0
2	B	62	26	24	3	0
2	C	62	26	24	0	0
2	D	62	26	24	0	0
2	E	62	26	24	2	0
2	F	62	26	24	2	0
3	A	2	0	0	0	0
3	B	2	0	0	0	0
3	C	2	0	0	0	0
3	D	2	0	0	0	0
3	E	2	0	0	0	0
3	F	2	0	0	0	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
5	A	5	0	0	0	0
5	B	5	0	0	2	0
5	C	5	0	0	0	0
5	D	5	0	0	0	0
5	E	5	0	0	1	0
5	F	5	0	0	1	0
All	All	34461	34628	34614	201	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 3.

All (201) 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:512:LYS:NZ	1:B:608:MET:O	2.14	0.81
1:F:313:ARG:NH2	1:F:326:SER:OG	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:512:LYS:NZ	1:F:608:MET:O	2.20	0.75
1:A:65:ARG:NH1	1:A:91:ASN:O	2.19	0.75
1:A:653:ARG:NH2	1:A:676:ALA:O	2.20	0.75
1:F:338:ARG:O	1:F:340:HIS:N	2.22	0.73
1:E:701:GLU:OE2	1:E:732:ARG:NH1	2.22	0.72
1:E:30:GLU:OE2	1:E:217:LYS:NZ	2.24	0.71
1:B:304:ASP:OD2	5:B:1001:HOH:O	2.09	0.70
1:E:45:LYS:NZ	1:E:81:LYS:O	2.25	0.69
1:E:427:MET:O	1:E:429:LEU:N	2.26	0.69
1:A:399:VAL:O	1:A:403:THR:OG1	2.09	0.68
1:B:30:GLU:OE2	1:B:217:LYS:NZ	2.23	0.67
1:B:321:GLU:OE1	1:C:322:ARG:NH1	2.27	0.67
1:D:465:ARG:NH1	1:E:607:GLU:OE2	2.28	0.66
1:B:35:ASP:O	1:B:85:ASN:ND2	2.28	0.66
1:E:512:LYS:NZ	1:E:608:MET:O	2.28	0.66
1:A:90:ASN:O	1:A:93:ARG:NH1	2.30	0.65
1:B:399:VAL:O	1:B:403:THR:OG1	2.09	0.65
1:C:339:ALA:O	1:C:341:VAL:N	2.29	0.65
2:A:901:AGS:S1G	1:B:766:ARG:NH2	2.70	0.63
1:C:46:MET:SD	1:C:73:SER:N	2.72	0.63
1:D:700:ARG:NH1	1:E:491:GLU:OE2	2.31	0.63
1:C:35:ASP:O	1:C:85:ASN:ND2	2.32	0.63
1:D:339:ALA:O	1:D:341:VAL:N	2.32	0.63
1:F:281:GLU:O	1:F:285:ASN:ND2	2.32	0.62
2:B:901:AGS:S1G	1:C:766:ARG:NH1	2.71	0.62
1:D:612:SER:O	1:D:614:LYS:N	2.33	0.61
1:E:46:MET:O	1:E:50:GLN:N	2.34	0.61
1:F:125:GLY:O	1:F:436:THR:OG1	2.17	0.61
1:E:624:ASN:OD1	1:E:624:ASN:N	2.34	0.60
1:D:430:ILE:HG23	1:D:431:ASP:H	1.66	0.59
1:D:701:GLU:OE1	1:D:732:ARG:NH1	2.36	0.59
1:B:427:MET:O	1:B:429:LEU:N	2.36	0.59
1:F:399:VAL:O	1:F:403:THR:OG1	2.10	0.59
1:A:358:ARG:NH1	1:A:366:GLU:OE2	2.36	0.59
1:D:465:ARG:NH2	1:E:564:ASP:OD1	2.36	0.58
1:A:430:ILE:HG23	1:A:431:ASP:H	1.69	0.57
1:C:429:LEU:O	1:C:431:ASP:N	2.37	0.57
1:A:431:ASP:O	1:A:433:GLU:N	2.35	0.57
1:F:430:ILE:HG23	1:F:431:ASP:H	1.70	0.57
1:B:431:ASP:O	1:B:433:GLU:N	2.38	0.57
1:B:430:ILE:HG23	1:B:431:ASP:H	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:423:ILE:O	1:C:427:MET:N	2.36	0.56
1:A:98:ASP:OD2	1:A:225:ARG:NH2	2.38	0.56
1:A:251:LYS:NZ	2:A:902:AGS:O3G	2.39	0.56
1:B:125:GLY:O	1:B:436:THR:OG1	2.10	0.56
1:F:427:MET:O	1:F:429:LEU:N	2.38	0.56
1:E:251:LYS:NZ	2:E:902:AGS:O1B	2.38	0.56
1:F:336:LYS:O	1:F:338:ARG:NE	2.39	0.56
1:E:35:ASP:O	1:E:85:ASN:ND2	2.39	0.55
1:C:127:THR:OG1	1:C:128:GLY:N	2.39	0.55
1:D:159:ARG:NH2	1:E:232:ALA:O	2.36	0.55
1:D:427:MET:O	1:D:429:LEU:N	2.39	0.55
1:A:491:GLU:OE2	1:F:700:ARG:NH2	2.39	0.54
1:A:427:MET:SD	1:A:430:ILE:HG21	2.48	0.54
1:D:427:MET:O	1:D:430:ILE:N	2.41	0.54
1:E:430:ILE:HG23	1:E:431:ASP:H	1.73	0.54
1:F:312:LYS:N	1:F:352:SER:O	2.39	0.54
2:F:902:AGS:O1A	5:F:1001:HOH:O	2.19	0.54
1:A:624:ASN:OD1	1:A:624:ASN:N	2.40	0.54
1:B:614:LYS:O	1:B:616:ASN:N	2.41	0.54
1:A:732:ARG:NE	1:A:734:ASP:OD1	2.41	0.54
1:C:430:ILE:HG23	1:C:432:LEU:HG	1.91	0.53
1:C:613:THR:O	1:C:615:LYS:N	2.41	0.53
1:F:431:ASP:O	1:F:433:GLU:N	2.38	0.52
2:E:902:AGS:O1A	5:E:1001:HOH:O	2.19	0.52
1:D:431:ASP:O	1:D:433:GLU:N	2.38	0.52
1:B:700:ARG:NH2	1:C:491:GLU:OE2	2.43	0.51
1:C:430:ILE:HG23	1:C:431:ASP:H	1.76	0.51
1:F:632:ALA:O	1:F:638:ARG:NH1	2.43	0.51
1:D:125:GLY:O	1:D:436:THR:OG1	2.23	0.51
1:E:732:ARG:NH2	1:E:734:ASP:OD2	2.44	0.50
1:C:30:GLU:OE2	1:C:217:LYS:NZ	2.32	0.50
1:F:30:GLU:OE2	1:F:217:LYS:NZ	2.25	0.50
1:B:220:VAL:HG12	1:B:224:LEU:HD11	1.94	0.50
1:A:312:LYS:NZ	1:A:351:ASN:O	2.30	0.49
1:C:125:GLY:O	1:C:436:THR:OG1	2.18	0.49
1:C:52:PHE:N	1:C:55:ASP:OD2	2.45	0.49
1:C:494:GLN:NE2	1:C:498:GLU:OE2	2.46	0.49
1:E:72:LEU:O	1:E:73:SER:OG	2.28	0.49
1:E:431:ASP:O	1:E:433:GLU:N	2.42	0.49
1:E:125:GLY:O	1:E:436:THR:OG1	2.17	0.49
1:F:169:ASP:HB3	1:F:170:PRO:HD3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:701:GLU:OE1	1:F:732:ARG:NH2	2.45	0.49
1:C:427:MET:HG3	1:C:430:ILE:HG21	1.95	0.49
1:C:283:GLU:OE1	1:C:283:GLU:N	2.42	0.48
1:F:402:GLU:OE1	1:F:453:ARG:NH1	2.47	0.48
1:A:348:ASN:OD1	1:A:348:ASN:N	2.46	0.48
1:B:127:THR:OG1	1:B:128:GLY:N	2.47	0.48
1:C:708:ARG:N	1:C:729:PRO:HD3	2.28	0.48
1:C:140:LEU:HD12	1:C:140:LEU:O	2.13	0.48
1:C:169:ASP:HB3	1:C:170:PRO:HD3	1.96	0.48
1:A:169:ASP:HB3	1:A:170:PRO:HD3	1.96	0.47
1:D:169:ASP:HB3	1:D:170:PRO:HD3	1.94	0.47
1:D:430:ILE:HD11	1:D:437:ILE:HD12	1.96	0.47
1:B:169:ASP:HB3	1:B:170:PRO:HD3	1.96	0.47
1:E:564:ASP:OD1	1:E:567:ARG:NH1	2.48	0.47
1:C:429:LEU:HD12	1:C:430:ILE:N	2.29	0.47
1:A:114:ILE:CD1	1:A:176:VAL:HG22	2.45	0.47
1:C:427:MET:O	1:C:429:LEU:N	2.47	0.47
1:D:423:ILE:O	1:D:425:LYS:N	2.48	0.47
1:B:79:ASP:N	1:B:79:ASP:OD1	2.48	0.47
1:B:159:ARG:NH2	1:C:232:ALA:O	2.41	0.47
1:C:114:ILE:CD1	1:C:176:VAL:HG22	2.44	0.47
1:D:350:PRO:O	1:D:358:ARG:NH2	2.45	0.47
1:E:114:ILE:CD1	1:E:176:VAL:HG22	2.44	0.47
1:B:222:LEU:HB2	1:B:223:PRO:HD3	1.97	0.46
1:A:321:GLU:OE2	1:B:322:ARG:NE	2.48	0.46
1:A:429:LEU:HG	1:A:430:ILE:N	2.30	0.46
1:B:114:ILE:CD1	1:B:176:VAL:HG22	2.46	0.46
1:A:635:ARG:NH1	1:A:636:PRO:O	2.49	0.46
1:D:732:ARG:NE	1:D:734:ASP:OD1	2.41	0.46
1:E:127:THR:OG1	1:E:128:GLY:N	2.48	0.46
1:D:30:GLU:OE2	1:D:217:LYS:NZ	2.34	0.46
1:B:93:ARG:NH2	1:B:195:GLU:OE2	2.46	0.46
1:A:29:ASP:OD2	1:A:83:ARG:NH1	2.49	0.46
1:D:281:GLU:O	1:D:285:ASN:ND2	2.44	0.45
1:D:613:THR:O	1:D:615:LYS:N	2.48	0.45
1:E:493:VAL:HG12	1:E:535:CYS:SG	2.56	0.45
1:B:708:ARG:NH1	1:B:730:GLU:OE1	2.49	0.45
1:D:41:LEU:O	1:D:74:ASP:N	2.47	0.45
1:E:531:ILE:HD11	1:E:620:ILE:CD1	2.47	0.45
1:E:169:ASP:HB3	1:E:170:PRO:HD3	1.97	0.45
1:E:635:ARG:NE	1:E:636:PRO:O	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:277:LYS:NZ	1:F:285:ASN:OD1	2.49	0.45
1:F:490:GLN:O	1:F:494:GLN:N	2.49	0.45
1:F:635:ARG:NE	1:F:636:PRO:O	2.47	0.45
1:C:501:ASP:OD1	1:C:501:ASP:N	2.50	0.44
1:E:46:MET:HE2	1:E:71:VAL:HG12	1.99	0.44
1:B:484:ASP:N	1:B:484:ASP:OD1	2.49	0.44
1:E:493:VAL:HG13	1:E:618:PHE:CD2	2.53	0.44
1:F:377:ARG:NE	1:F:403:THR:O	2.51	0.44
1:A:430:ILE:HD11	1:A:437:ILE:HD12	1.99	0.44
1:E:237:PRO:HG2	1:E:340:HIS:NE2	2.32	0.44
1:E:493:VAL:HG13	1:E:618:PHE:CE2	2.53	0.44
1:E:287:ARG:NH1	1:E:291:GLU:OE2	2.51	0.44
1:A:321:GLU:OE1	1:B:322:ARG:NH1	2.51	0.44
1:B:501:ASP:N	1:B:501:ASP:OD1	2.50	0.44
1:F:52:PHE:N	1:F:55:ASP:OD2	2.47	0.44
1:F:114:ILE:CD1	1:F:176:VAL:HG22	2.48	0.44
1:A:222:LEU:HB2	1:A:223:PRO:HD3	1.98	0.43
1:B:423:ILE:CD1	1:C:233:ILE:HD11	2.48	0.43
1:E:222:LEU:HB3	1:E:223:PRO:HD3	2.00	0.43
1:E:549:THR:CG2	1:F:603:GLN:HA	2.48	0.43
1:C:46:MET:HA	1:C:51:LEU:HD12	1.99	0.43
1:D:114:ILE:CD1	1:D:176:VAL:HG22	2.48	0.43
1:E:489:LEU:HB3	1:E:531:ILE:HG21	2.00	0.43
1:E:707:ILE:HG22	1:E:708:ARG:N	2.33	0.43
1:C:427:MET:CG	1:C:430:ILE:HG21	2.48	0.43
1:B:430:ILE:HD11	1:B:437:ILE:HD12	1.99	0.43
1:C:441:VAL:O	1:C:444:SER:OG	2.26	0.43
1:E:733:ARG:NH2	1:E:737:GLU:OE2	2.52	0.43
1:D:430:ILE:HG13	1:D:431:ASP:N	2.33	0.43
1:E:65:ARG:NH1	1:E:91:ASN:O	2.51	0.43
1:A:427:MET:O	1:A:429:LEU:N	2.52	0.42
1:B:27:ILE:HG22	1:B:28:VAL:N	2.34	0.42
1:C:222:LEU:HB2	1:C:223:PRO:HD3	2.00	0.42
1:D:586:ARG:HD3	1:D:598:ASP:HA	2.01	0.42
1:E:430:ILE:HD11	1:E:437:ILE:HD12	2.00	0.42
1:E:626:PRO:HB2	1:E:762:LEU:HD11	2.01	0.42
1:A:649:ASP:O	1:A:652:SER:OG	2.37	0.42
1:F:127:THR:OG1	1:F:128:GLY:N	2.52	0.42
1:E:501:ASP:OD1	1:E:501:ASP:N	2.52	0.42
1:F:206:ILE:HG12	1:F:253:LEU:HD22	2.01	0.42
1:B:693:ARG:NH2	1:C:641:GLN:OE1	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:494:GLN:NE2	1:F:498:GLU:OE2	2.51	0.42
1:D:695:CYS:HB3	1:E:506:PHE:CE2	2.55	0.42
1:B:708:ARG:O	1:B:730:GLU:N	2.51	0.42
1:F:168:THR:O	1:F:171:SER:OG	2.35	0.42
1:D:222:LEU:HB2	1:D:223:PRO:HD3	2.01	0.42
1:B:108:VAL:HG12	1:B:173:TYR:CD1	2.54	0.41
1:D:429:LEU:HD12	1:D:430:ILE:N	2.35	0.41
1:D:611:MET:HE2	1:D:617:VAL:HG11	2.01	0.41
2:F:902:AGS:H8	2:F:902:AGS:H5'1	2.01	0.41
1:A:430:ILE:HG13	1:A:431:ASP:N	2.35	0.41
1:E:430:ILE:HG13	1:E:431:ASP:N	2.34	0.41
1:A:407:VAL:HG12	1:A:408:GLY:H	1.85	0.41
1:E:22:ARG:HB3	1:E:23:PRO:HD2	2.01	0.41
1:D:707:ILE:HG22	1:D:708:ARG:N	2.36	0.41
1:F:430:ILE:HD11	1:F:437:ILE:HD12	2.02	0.41
1:E:43:GLN:N	1:E:44:PRO:CD	2.84	0.41
1:F:43:GLN:N	1:F:44:PRO:CD	2.83	0.41
1:B:460:ASN:OD1	1:B:460:ASN:N	2.52	0.41
1:C:43:GLN:N	1:C:44:PRO:CD	2.84	0.41
1:F:430:ILE:HG13	1:F:431:ASP:N	2.35	0.41
1:B:225:ARG:C	1:B:227:PRO:HD3	2.41	0.41
1:A:43:GLN:N	1:A:44:PRO:CD	2.84	0.41
1:B:312:LYS:N	1:B:352:SER:O	2.54	0.41
1:B:430:ILE:HG13	1:B:431:ASP:N	2.36	0.41
1:D:553:GLY:HA2	1:D:599:ARG:NH2	2.36	0.41
1:A:403:THR:CG2	1:A:406:HIS:CG	3.05	0.41
1:C:760:GLN:O	1:C:763:GLN:NE2	2.54	0.40
1:D:695:CYS:HB3	1:E:506:PHE:HE2	1.86	0.40
1:F:330:THR:O	1:F:334:GLY:N	2.51	0.40
1:B:269:ILE:HG23	1:B:274:ILE:HD11	2.03	0.40
1:B:526:LEU:HD11	2:B:901:AGS:H2'	2.04	0.40
1:E:734:ASP:OD1	1:E:734:ASP:N	2.49	0.40
1:B:226:HIS:HB3	1:B:229:LEU:HD23	2.03	0.40
2:B:902:AGS:O2A	5:B:1002:HOH:O	2.21	0.40
1:D:43:GLN:N	1:D:44:PRO:CD	2.85	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	718/785 (92%)	682 (95%)	31 (4%)	5 (1%)	22	54
1	B	719/785 (92%)	667 (93%)	44 (6%)	8 (1%)	14	45
1	C	720/785 (92%)	673 (94%)	35 (5%)	12 (2%)	9	35
1	D	718/785 (92%)	673 (94%)	37 (5%)	8 (1%)	14	45
1	E	719/785 (92%)	668 (93%)	41 (6%)	10 (1%)	11	38
1	F	720/785 (92%)	668 (93%)	44 (6%)	8 (1%)	14	45
All	All	4314/4710 (92%)	4031 (93%)	232 (5%)	51 (1%)	13	42

All (51) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	80	GLU
1	B	428	ASP
1	B	615	LYS
1	C	50	GLN
1	C	352	SER
1	C	430	ILE
1	C	431	ASP
1	C	707	ILE
1	D	428	ASP
1	D	430	ILE
1	D	613	THR
1	E	428	ASP
1	F	339	ALA
1	F	428	ASP
1	A	428	ASP
1	A	430	ILE
1	B	430	ILE
1	C	340	HIS
1	C	428	ASP
1	D	340	HIS

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Mol	Chain	Res	Type
1	D	424	ARG
1	D	431	ASP
1	E	430	ILE
1	F	279	ALA
1	F	430	ILE
1	B	425	LYS
1	C	614	LYS
1	E	425	LYS
1	E	431	ASP
1	F	425	LYS
1	A	431	ASP
1	B	78	SER
1	B	431	ASP
1	E	613	THR
1	E	614	LYS
1	F	312	LYS
1	F	431	ASP
1	A	432	LEU
1	C	615	LYS
1	E	73	SER
1	B	143	TYR
1	D	423	ILE
1	E	612	SER
1	F	106	PRO
1	C	708	ARG
1	D	729	PRO
1	C	350	PRO
1	C	423	ILE
1	E	186	GLY
1	E	587	GLY
1	A	186	GLY

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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	616/658 (94%)	600 (97%)	16 (3%)	46	71
1	B	617/658 (94%)	591 (96%)	26 (4%)	30	60
1	C	617/658 (94%)	596 (97%)	21 (3%)	37	65
1	D	616/658 (94%)	600 (97%)	16 (3%)	46	71
1	E	616/658 (94%)	590 (96%)	26 (4%)	30	60
1	F	617/658 (94%)	602 (98%)	15 (2%)	49	73
All	All	3699/3948 (94%)	3579 (97%)	120 (3%)	39	67

All (120) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	53	ARG
1	A	57	VAL
1	A	230	PHE
1	A	313	ARG
1	A	338	ARG
1	A	348	ASN
1	A	349	ARG
1	A	420	LEU
1	A	428	ASP
1	A	431	ASP
1	A	433	GLU
1	A	450	ASP
1	A	556	GLU
1	A	573	VAL
1	A	624	ASN
1	A	672	LEU
1	B	40	SER
1	B	45	LYS
1	B	46	MET
1	B	47	ASP
1	B	52	PHE
1	B	55	ASP
1	B	86	ARG
1	B	90	ASN
1	B	115	HIS
1	B	173	TYR
1	B	185	GLU

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Mol	Chain	Res	Type
1	B	199	ASN
1	B	222	LEU
1	B	224	LEU
1	B	225	ARG
1	B	337	GLN
1	B	429	LEU
1	B	433	GLU
1	B	442	MET
1	B	494	GLN
1	B	556	GLU
1	B	573	VAL
1	B	611	MET
1	B	616	ASN
1	B	674	PHE
1	B	744	ARG
1	C	40	SER
1	C	53	ARG
1	C	72	LEU
1	C	86	ARG
1	C	230	PHE
1	C	249	THR
1	C	261	GLU
1	C	292	GLU
1	C	336	LYS
1	C	351	ASN
1	C	420	LEU
1	C	426	LYS
1	C	442	MET
1	C	443	ASN
1	C	445	LEU
1	C	494	GLN
1	C	512	LYS
1	C	556	GLU
1	C	742	PHE
1	C	745	ARG
1	C	757	MET
1	D	40	SER
1	D	74	ASP
1	D	113	ARG
1	D	230	PHE
1	D	261	GLU
1	D	316	THR

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Mol	Chain	Res	Type
1	D	335	LEU
1	D	349	ARG
1	D	433	GLU
1	D	613	THR
1	D	651	LYS
1	D	668	LYS
1	D	693	ARG
1	D	737	GLU
1	D	744	ARG
1	D	745	ARG
1	E	40	SER
1	E	64	ARG
1	E	65	ARG
1	E	71	VAL
1	E	86	ARG
1	E	230	PHE
1	E	231	LYS
1	E	338	ARG
1	E	340	HIS
1	E	348	ASN
1	E	349	ARG
1	E	433	GLU
1	E	450	ASP
1	E	460	ASN
1	E	492	LEU
1	E	549	THR
1	E	613	THR
1	E	624	ASN
1	E	635	ARG
1	E	649	ASP
1	E	741	ARG
1	E	744	ARG
1	E	745	ARG
1	E	762	LEU
1	E	763	GLN
1	E	766	ARG
1	F	53	ARG
1	F	113	ARG
1	F	230	PHE
1	F	348	ASN
1	F	429	LEU
1	F	433	GLU

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Mol	Chain	Res	Type
1	F	494	GLN
1	F	599	ARG
1	F	623	THR
1	F	635	ARG
1	F	677	LYS
1	F	741	ARG
1	F	744	ARG
1	F	745	ARG
1	F	756	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	348	ASN
1	B	616	ASN
1	D	21	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 30 ligands modelled in this entry, 18 are monoatomic - leaving 12 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
2	AGS	C	902	3	26,33,33	1.58	8 (30%)	26,52,52	1.67	3 (11%)
2	AGS	B	901	3	26,33,33	1.58	8 (30%)	26,52,52	1.64	5 (19%)
2	AGS	F	902	3	26,33,33	1.58	8 (30%)	26,52,52	1.61	4 (15%)
2	AGS	F	901	3	26,33,33	1.55	7 (26%)	26,52,52	1.67	3 (11%)
2	AGS	A	901	3	26,33,33	1.56	8 (30%)	26,52,52	1.84	6 (23%)
2	AGS	C	901	3	26,33,33	1.55	8 (30%)	26,52,52	1.76	5 (19%)
2	AGS	A	902	3	26,33,33	1.59	8 (30%)	26,52,52	1.53	3 (11%)
2	AGS	B	902	3	26,33,33	1.62	8 (30%)	26,52,52	1.54	4 (15%)
2	AGS	D	902	3	26,33,33	1.59	8 (30%)	26,52,52	1.68	5 (19%)
2	AGS	E	902	3	26,33,33	1.58	7 (26%)	26,52,52	1.60	4 (15%)
2	AGS	E	901	3	26,33,33	1.54	8 (30%)	26,52,52	1.82	5 (19%)
2	AGS	D	901	3	26,33,33	1.53	8 (30%)	26,52,52	1.76	6 (23%)

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	AGS	C	902	3	-	3/17/38/38	0/3/3/3
2	AGS	B	901	3	-	5/17/38/38	0/3/3/3
2	AGS	F	902	3	-	4/17/38/38	0/3/3/3
2	AGS	F	901	3	-	2/17/38/38	0/3/3/3
2	AGS	A	901	3	-	3/17/38/38	0/3/3/3
2	AGS	C	901	3	-	10/17/38/38	0/3/3/3
2	AGS	A	902	3	-	3/17/38/38	0/3/3/3
2	AGS	B	902	3	-	7/17/38/38	0/3/3/3
2	AGS	D	902	3	-	2/17/38/38	0/3/3/3
2	AGS	E	902	3	-	2/17/38/38	0/3/3/3
2	AGS	E	901	3	-	7/17/38/38	0/3/3/3
2	AGS	D	901	3	-	10/17/38/38	0/3/3/3

All (94) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	902	AGS	C2'-C1'	-3.71	1.48	1.53
2	B	902	AGS	C2'-C1'	-3.63	1.48	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	902	AGS	C2'-C1'	-3.62	1.48	1.53
2	F	902	AGS	C2'-C1'	-3.51	1.48	1.53
2	E	902	AGS	C2'-C1'	-3.51	1.48	1.53
2	B	901	AGS	C2'-C1'	-3.39	1.48	1.53
2	C	902	AGS	C2'-C1'	-3.30	1.48	1.53
2	A	901	AGS	C2'-C1'	-3.29	1.48	1.53
2	C	901	AGS	C2'-C1'	-3.25	1.48	1.53
2	F	901	AGS	C2'-C1'	-3.24	1.48	1.53
2	E	901	AGS	C2'-C1'	-3.18	1.48	1.53
2	D	901	AGS	C2'-C1'	-3.02	1.49	1.53
2	C	901	AGS	C6-N6	2.62	1.43	1.34
2	A	902	AGS	C6-N6	2.59	1.43	1.34
2	A	901	AGS	C6-N6	2.58	1.43	1.34
2	E	901	AGS	C6-N6	2.58	1.43	1.34
2	F	901	AGS	C6-N6	2.57	1.43	1.34
2	B	901	AGS	C6-N6	2.57	1.43	1.34
2	B	902	AGS	C6-N6	2.57	1.43	1.34
2	D	902	AGS	C6-N6	2.57	1.43	1.34
2	C	902	AGS	C6-N6	2.57	1.43	1.34
2	F	902	AGS	C6-N6	2.56	1.43	1.34
2	D	901	AGS	C6-N6	2.56	1.43	1.34
2	E	902	AGS	C6-N6	2.56	1.43	1.34
2	B	902	AGS	C2'-C3'	-2.55	1.46	1.53
2	C	902	AGS	C2'-C3'	-2.55	1.46	1.53
2	F	901	AGS	C2'-C3'	-2.55	1.46	1.53
2	A	901	AGS	C2'-C3'	-2.51	1.46	1.53
2	A	902	AGS	C2'-C3'	-2.47	1.46	1.53
2	F	902	AGS	C2'-C3'	-2.44	1.46	1.53
2	B	901	AGS	O4'-C4'	-2.44	1.39	1.45
2	B	901	AGS	C2'-C3'	-2.44	1.46	1.53
2	D	902	AGS	C2'-C3'	-2.44	1.46	1.53
2	D	901	AGS	C2'-C3'	-2.40	1.46	1.53
2	C	902	AGS	O4'-C4'	-2.38	1.39	1.45
2	D	901	AGS	O4'-C4'	-2.36	1.39	1.45
2	E	902	AGS	O4'-C4'	-2.35	1.39	1.45
2	E	902	AGS	C2'-C3'	-2.35	1.46	1.53
2	F	902	AGS	O4'-C4'	-2.35	1.39	1.45
2	F	901	AGS	O4'-C4'	-2.34	1.39	1.45
2	E	901	AGS	O4'-C4'	-2.34	1.39	1.45
2	C	901	AGS	O4'-C4'	-2.33	1.39	1.45
2	C	901	AGS	C2'-C3'	-2.32	1.47	1.53
2	D	902	AGS	O4'-C4'	-2.31	1.39	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	901	AGS	O2'-C2'	-2.29	1.37	1.43
2	E	901	AGS	C2'-C3'	-2.28	1.47	1.53
2	A	902	AGS	O4'-C4'	-2.28	1.39	1.45
2	A	901	AGS	O4'-C4'	-2.27	1.39	1.45
2	B	902	AGS	O4'-C4'	-2.22	1.40	1.45
2	B	902	AGS	O2'-C2'	-2.22	1.37	1.43
2	D	902	AGS	O3'-C3'	-2.21	1.37	1.43
2	B	901	AGS	PG-S1G	2.20	1.95	1.90
2	B	902	AGS	PG-S1G	2.17	1.95	1.90
2	F	901	AGS	O2'-C2'	-2.16	1.37	1.43
2	D	902	AGS	PG-S1G	2.16	1.95	1.90
2	D	902	AGS	O2'-C2'	-2.16	1.37	1.43
2	C	901	AGS	O2'-C2'	-2.16	1.37	1.43
2	F	902	AGS	PG-S1G	2.16	1.95	1.90
2	B	902	AGS	O3'-C3'	-2.16	1.37	1.43
2	C	901	AGS	C2-N3	2.16	1.35	1.32
2	B	901	AGS	O2'-C2'	-2.15	1.37	1.43
2	C	902	AGS	PG-S1G	2.15	1.95	1.90
2	B	901	AGS	O3'-C3'	-2.14	1.37	1.43
2	F	901	AGS	O3'-C3'	-2.14	1.37	1.43
2	E	901	AGS	O2'-C2'	-2.14	1.37	1.43
2	A	902	AGS	O3'-C3'	-2.14	1.37	1.43
2	D	901	AGS	PG-S1G	2.13	1.95	1.90
2	A	902	AGS	PG-S1G	2.13	1.95	1.90
2	E	902	AGS	PG-S1G	2.13	1.95	1.90
2	B	902	AGS	C2-N3	2.12	1.35	1.32
2	C	901	AGS	O3'-C3'	-2.12	1.38	1.43
2	A	901	AGS	O3'-C3'	-2.12	1.38	1.43
2	E	902	AGS	O2'-C2'	-2.12	1.38	1.43
2	F	902	AGS	O2'-C2'	-2.12	1.38	1.43
2	C	902	AGS	O2'-C2'	-2.11	1.38	1.43
2	C	901	AGS	PG-S1G	2.11	1.95	1.90
2	E	901	AGS	O3'-C3'	-2.11	1.38	1.43
2	D	901	AGS	O2'-C2'	-2.11	1.38	1.43
2	A	902	AGS	O2'-C2'	-2.10	1.38	1.43
2	E	902	AGS	O3'-C3'	-2.10	1.38	1.43
2	F	901	AGS	PG-S1G	2.09	1.95	1.90
2	C	902	AGS	O3'-C3'	-2.09	1.38	1.43
2	F	902	AGS	O3'-C3'	-2.08	1.38	1.43
2	D	901	AGS	O3'-C3'	-2.07	1.38	1.43
2	B	901	AGS	C2-N3	2.06	1.35	1.32
2	E	901	AGS	PG-S1G	2.06	1.95	1.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	F	902	AGS	C2-N3	2.06	1.35	1.32
2	C	902	AGS	C2-N3	2.06	1.35	1.32
2	A	901	AGS	PG-S1G	2.05	1.95	1.90
2	A	902	AGS	C2-N3	2.04	1.35	1.32
2	A	901	AGS	C2-N3	2.03	1.35	1.32
2	E	901	AGS	C2-N3	2.03	1.35	1.32
2	D	901	AGS	C2-N3	2.01	1.35	1.32
2	D	902	AGS	C2-N3	2.01	1.35	1.32

All (53) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	F	901	AGS	N3-C2-N1	-5.59	119.94	128.68
2	C	902	AGS	N3-C2-N1	-5.56	120.00	128.68
2	E	901	AGS	N3-C2-N1	-5.55	120.00	128.68
2	D	902	AGS	N3-C2-N1	-5.54	120.01	128.68
2	A	901	AGS	N3-C2-N1	-5.52	120.06	128.68
2	B	901	AGS	N3-C2-N1	-5.51	120.07	128.68
2	B	902	AGS	N3-C2-N1	-5.48	120.11	128.68
2	D	901	AGS	N3-C2-N1	-5.48	120.11	128.68
2	F	902	AGS	N3-C2-N1	-5.48	120.11	128.68
2	A	902	AGS	N3-C2-N1	-5.47	120.13	128.68
2	E	902	AGS	N3-C2-N1	-5.45	120.16	128.68
2	C	901	AGS	N3-C2-N1	-5.45	120.16	128.68
2	E	901	AGS	PA-O3A-PB	-4.19	118.43	132.83
2	C	902	AGS	PA-O3A-PB	-4.15	118.58	132.83
2	D	902	AGS	PA-O3A-PB	-4.07	118.84	132.83
2	F	902	AGS	PA-O3A-PB	-3.95	119.26	132.83
2	A	902	AGS	PA-O3A-PB	-3.91	119.41	132.83
2	D	901	AGS	PA-O3A-PB	-3.86	119.59	132.83
2	A	901	AGS	PA-O3A-PB	-3.85	119.63	132.83
2	E	902	AGS	PA-O3A-PB	-3.80	119.78	132.83
2	C	901	AGS	PA-O3A-PB	-3.66	120.27	132.83
2	F	901	AGS	PA-O3A-PB	-3.60	120.46	132.83
2	A	901	AGS	C3'-C2'-C1'	3.38	106.07	100.98
2	B	901	AGS	PA-O3A-PB	-3.30	121.52	132.83
2	C	901	AGS	C3'-C2'-C1'	3.27	105.90	100.98
2	E	901	AGS	C3'-C2'-C1'	3.08	105.61	100.98
2	B	902	AGS	PA-O3A-PB	-2.97	122.65	132.83
2	D	901	AGS	C3'-C2'-C1'	2.74	105.11	100.98
2	F	901	AGS	O2G-PG-O3B	2.54	113.10	104.64
2	D	901	AGS	O2G-PG-O3B	2.41	112.70	104.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	901	AGS	O2G-PG-O3B	2.32	112.38	104.64
2	A	901	AGS	O4'-C4'-C3'	2.30	109.67	105.11
2	E	901	AGS	O2G-PG-O3B	2.30	112.32	104.64
2	C	901	AGS	O4'-C4'-C3'	2.30	109.66	105.11
2	D	902	AGS	C3'-C2'-C1'	2.28	104.41	100.98
2	C	902	AGS	C4-C5-N7	-2.24	107.06	109.40
2	B	902	AGS	C4-C5-N7	-2.21	107.09	109.40
2	B	902	AGS	O2G-PG-O3B	2.19	111.94	104.64
2	A	901	AGS	C4-C5-N7	-2.18	107.13	109.40
2	D	902	AGS	C4-C5-N7	-2.18	107.13	109.40
2	F	902	AGS	C4-C5-N7	-2.16	107.15	109.40
2	E	901	AGS	O4'-C4'-C3'	2.14	109.35	105.11
2	E	902	AGS	O4'-C4'-C3'	2.13	109.34	105.11
2	A	902	AGS	C4-C5-N7	-2.13	107.18	109.40
2	A	901	AGS	O2G-PG-O3B	2.13	111.74	104.64
2	B	901	AGS	C3'-C2'-C1'	2.09	104.13	100.98
2	C	901	AGS	C4-C5-N7	-2.07	107.24	109.40
2	E	902	AGS	C4-C5-N7	-2.07	107.24	109.40
2	D	902	AGS	O4'-C4'-C3'	2.07	109.21	105.11
2	D	901	AGS	O4'-C4'-C3'	2.07	109.20	105.11
2	B	901	AGS	C4-C5-N7	-2.06	107.25	109.40
2	D	901	AGS	C4-C5-N7	-2.06	107.25	109.40
2	F	902	AGS	O4'-C4'-C3'	2.05	109.17	105.11

There are no chirality outliers.

All (58) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	901	AGS	PB-O3B-PG-O2G
2	A	901	AGS	PB-O3B-PG-O3G
2	B	901	AGS	PB-O3B-PG-O2G
2	B	901	AGS	PB-O3B-PG-O3G
2	B	902	AGS	PB-O3B-PG-O2G
2	B	902	AGS	PB-O3B-PG-O3G
2	B	902	AGS	C5'-O5'-PA-O1A
2	B	902	AGS	C5'-O5'-PA-O3A
2	C	901	AGS	PB-O3B-PG-O2G
2	C	901	AGS	C5'-O5'-PA-O2A
2	C	902	AGS	C5'-O5'-PA-O2A
2	C	902	AGS	C5'-O5'-PA-O3A
2	D	901	AGS	PB-O3B-PG-O2G
2	D	901	AGS	PB-O3B-PG-O3G

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Mol	Chain	Res	Type	Atoms
2	D	901	AGS	C5'-O5'-PA-O2A
2	D	901	AGS	C5'-O5'-PA-O3A
2	D	902	AGS	O4'-C4'-C5'-O5'
2	E	901	AGS	PB-O3B-PG-O2G
2	E	901	AGS	PB-O3B-PG-O3G
2	E	901	AGS	C5'-O5'-PA-O2A
2	E	901	AGS	C5'-O5'-PA-O3A
2	E	901	AGS	O4'-C4'-C5'-O5'
2	F	901	AGS	PB-O3B-PG-O2G
2	F	901	AGS	PB-O3B-PG-O3G
2	F	902	AGS	C5'-O5'-PA-O1A
2	F	902	AGS	C5'-O5'-PA-O2A
2	F	902	AGS	C5'-O5'-PA-O3A
2	B	902	AGS	O4'-C4'-C5'-O5'
2	B	902	AGS	C3'-C4'-C5'-O5'
2	C	901	AGS	O4'-C4'-C5'-O5'
2	C	901	AGS	C3'-C4'-C5'-O5'
2	D	901	AGS	O4'-C4'-C5'-O5'
2	D	902	AGS	C3'-C4'-C5'-O5'
2	E	901	AGS	C3'-C4'-C5'-O5'
2	E	902	AGS	O4'-C4'-C5'-O5'
2	A	902	AGS	O4'-C4'-C5'-O5'
2	A	902	AGS	C3'-C4'-C5'-O5'
2	D	901	AGS	C3'-C4'-C5'-O5'
2	F	902	AGS	O4'-C4'-C5'-O5'
2	E	902	AGS	C3'-C4'-C5'-O5'
2	B	901	AGS	O4'-C4'-C5'-O5'
2	A	902	AGS	PA-O3A-PB-O1B
2	B	901	AGS	C3'-C4'-C5'-O5'
2	C	901	AGS	C5'-O5'-PA-O3A
2	C	901	AGS	C5'-O5'-PA-O1A
2	C	902	AGS	C5'-O5'-PA-O1A
2	D	901	AGS	C5'-O5'-PA-O1A
2	C	901	AGS	PG-O3B-PB-O2B
2	D	901	AGS	PG-O3B-PB-O2B
2	E	901	AGS	PG-O3B-PB-O2B
2	B	901	AGS	PA-O3A-PB-O2B
2	C	901	AGS	PB-O3A-PA-O2A
2	D	901	AGS	PB-O3A-PA-O2A
2	B	902	AGS	PG-O3B-PB-O1B
2	C	901	AGS	PB-O3B-PG-O3G
2	C	901	AGS	PB-O3A-PA-O1A

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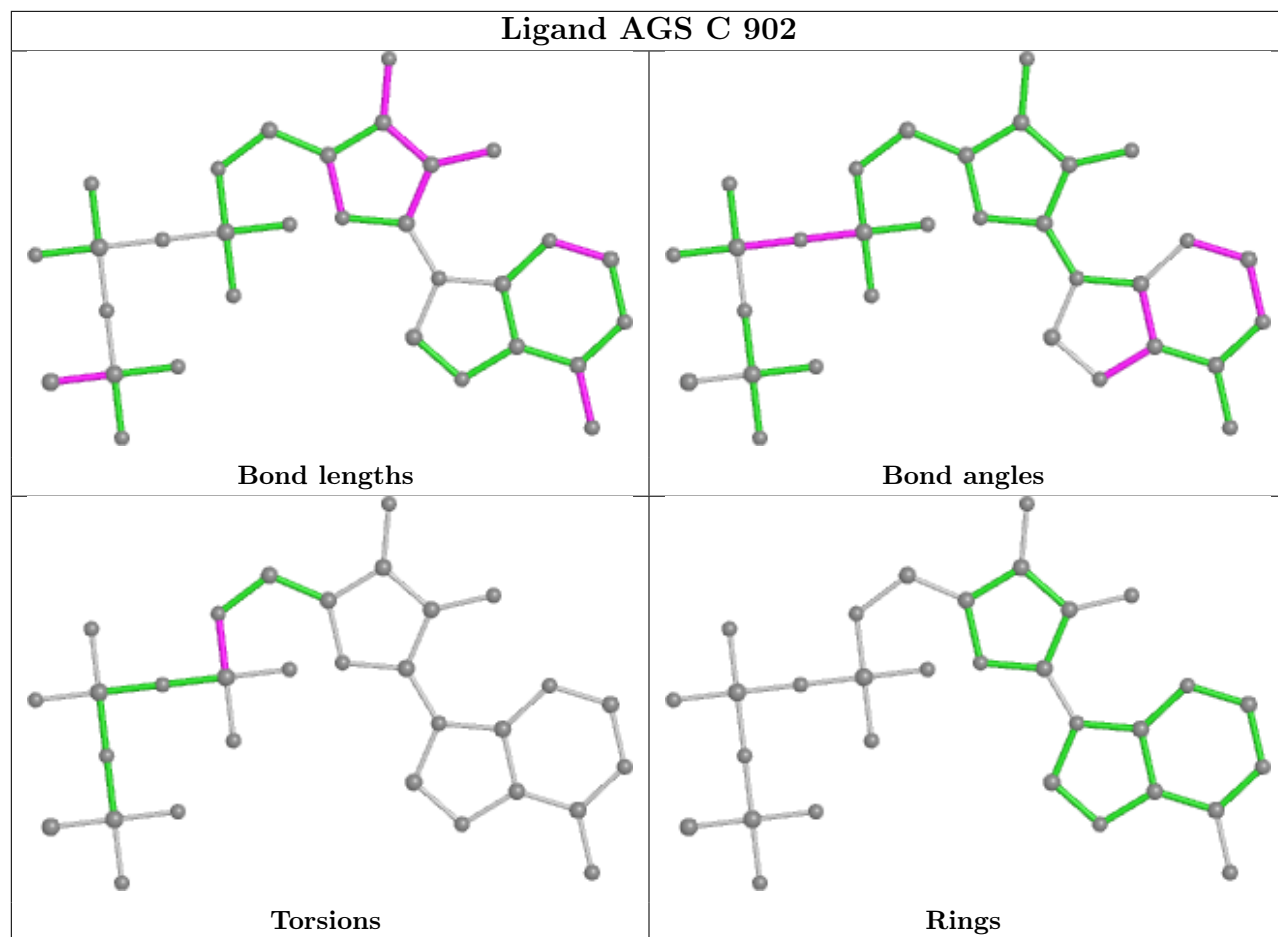
Mol	Chain	Res	Type	Atoms
2	A	901	AGS	PA-O3A-PB-O1B
2	D	901	AGS	PB-O3A-PA-O1A

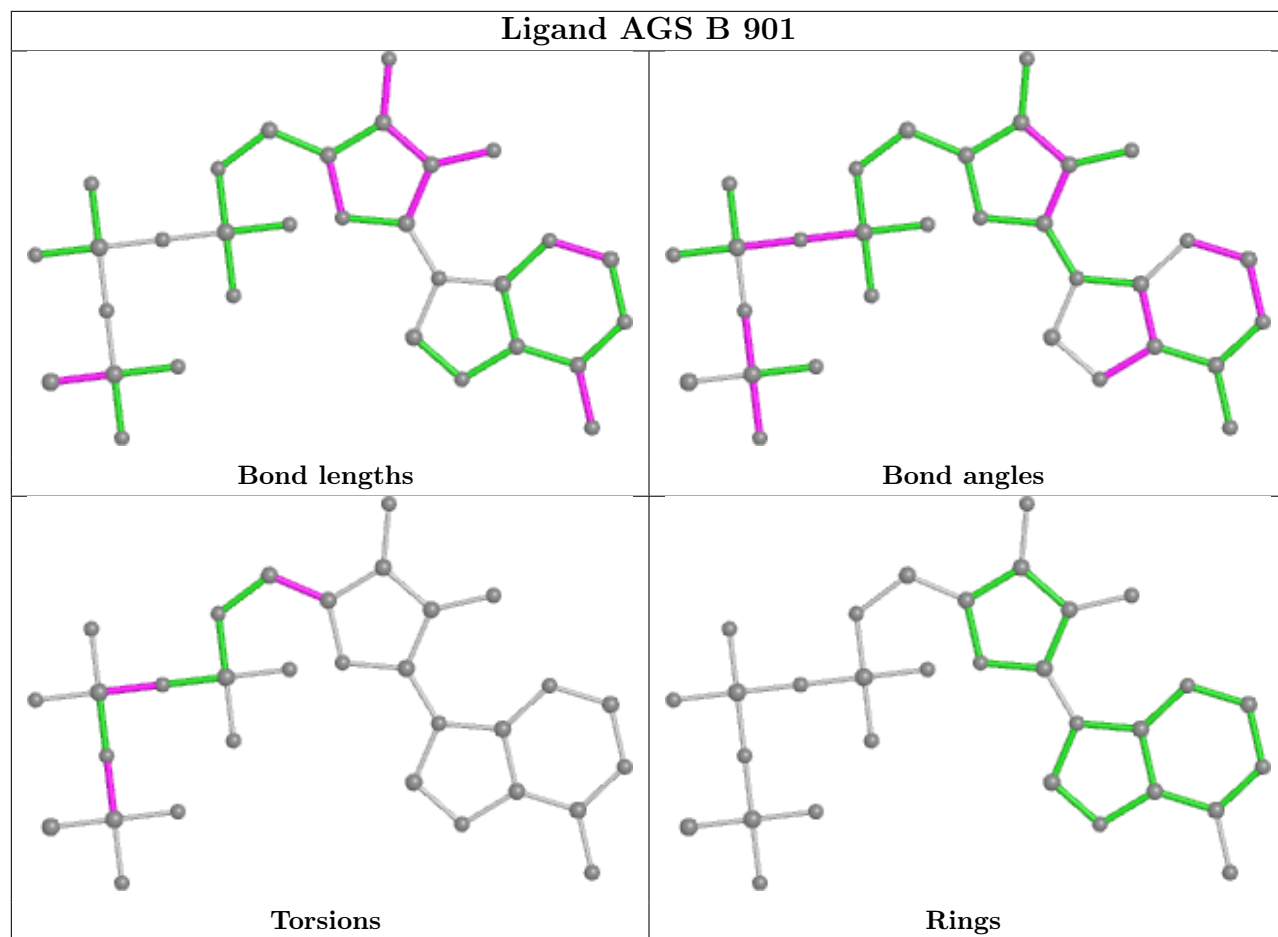
There are no ring outliers.

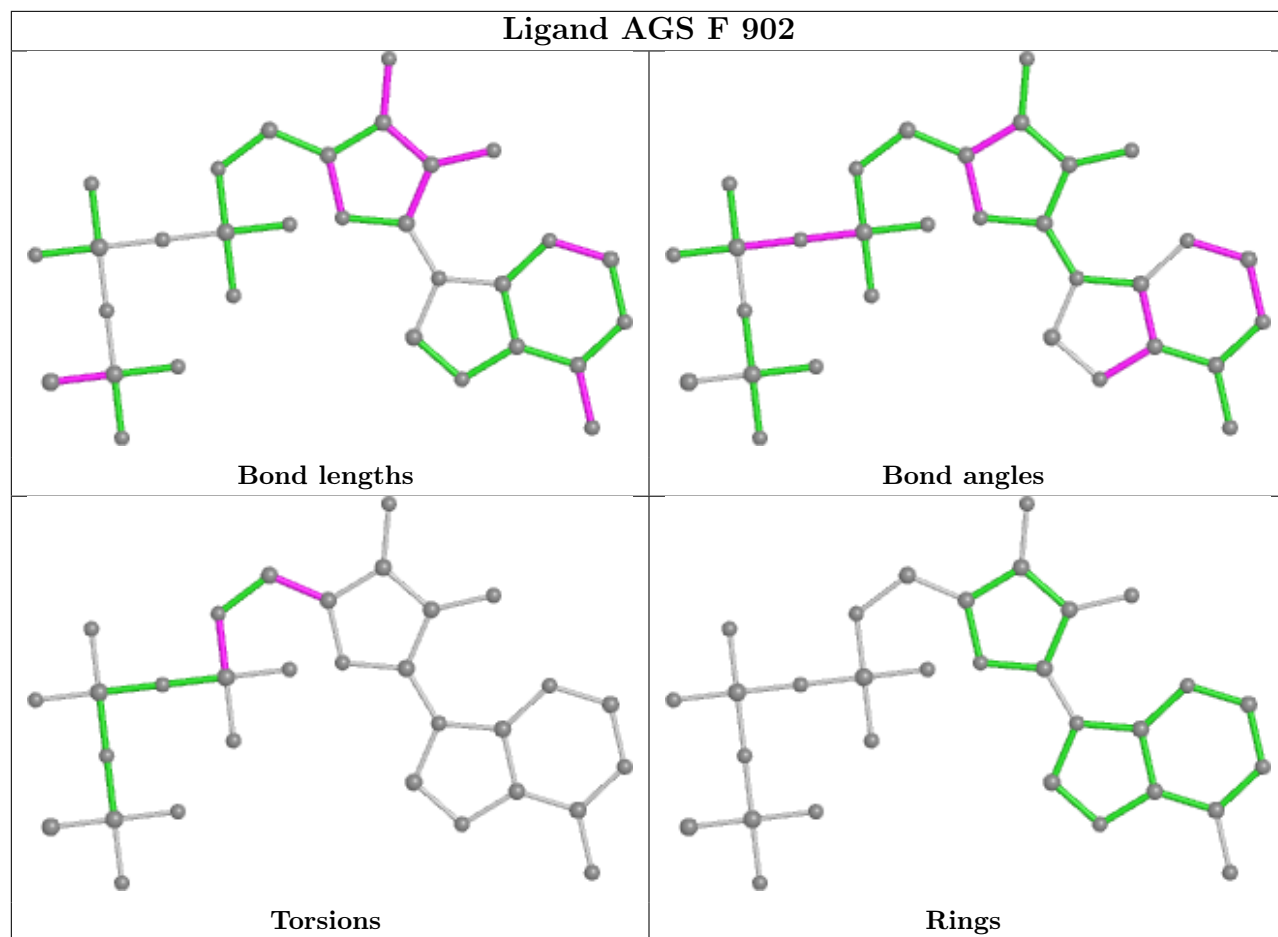
6 monomers are involved in 9 short contacts:

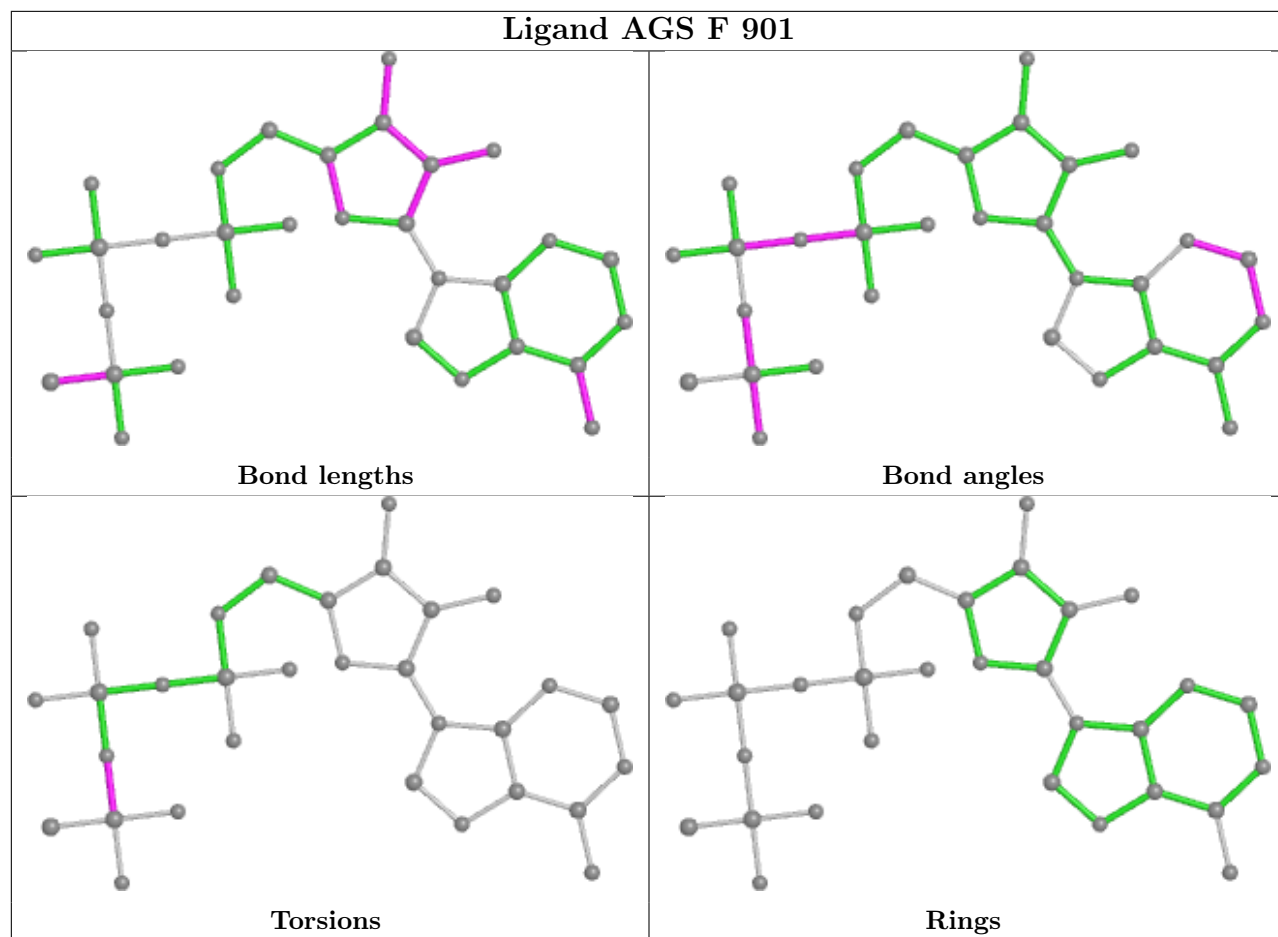
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	901	AGS	2	0
2	F	902	AGS	2	0
2	A	901	AGS	1	0
2	A	902	AGS	1	0
2	B	902	AGS	1	0
2	E	902	AGS	2	0

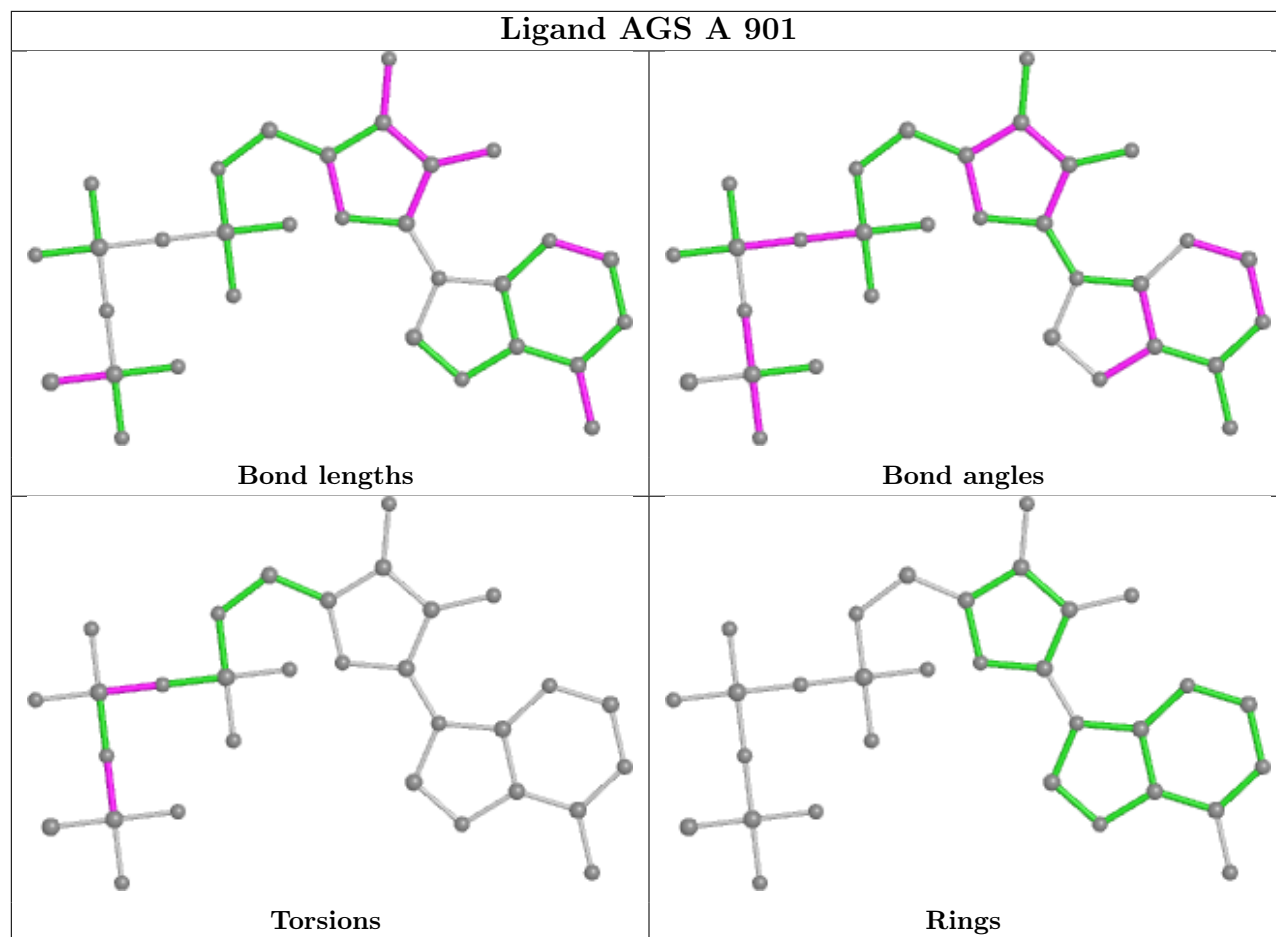
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

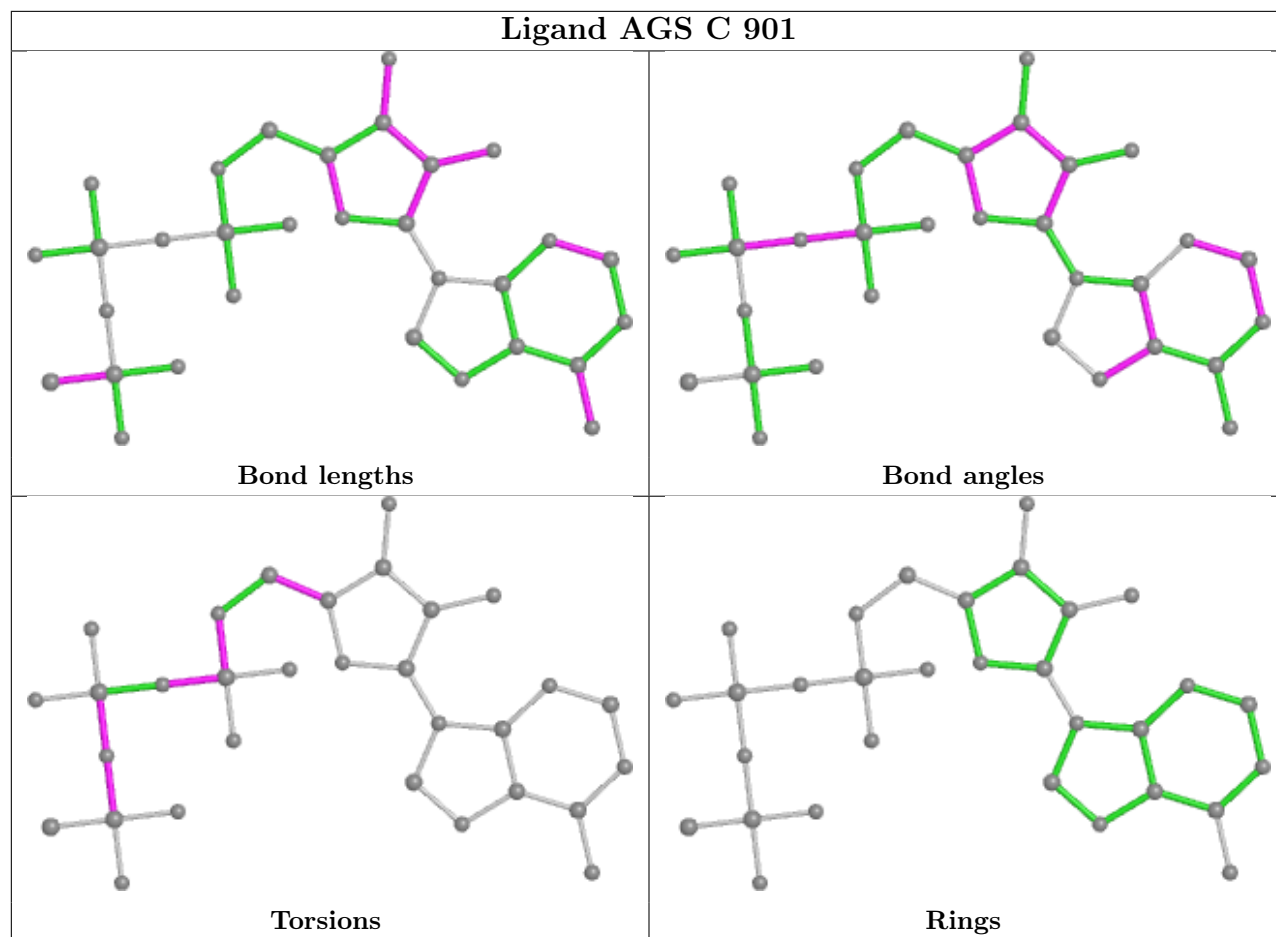


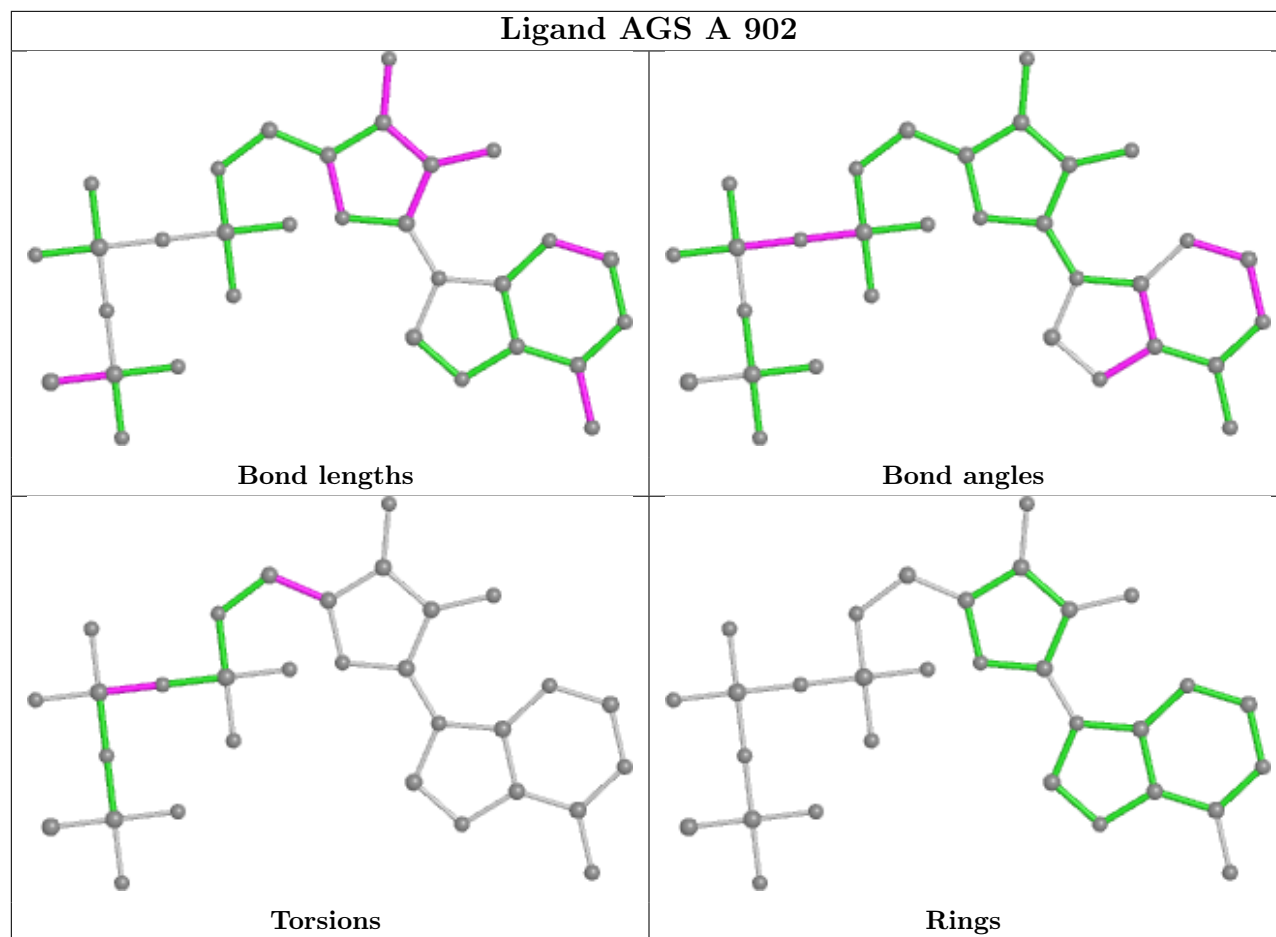


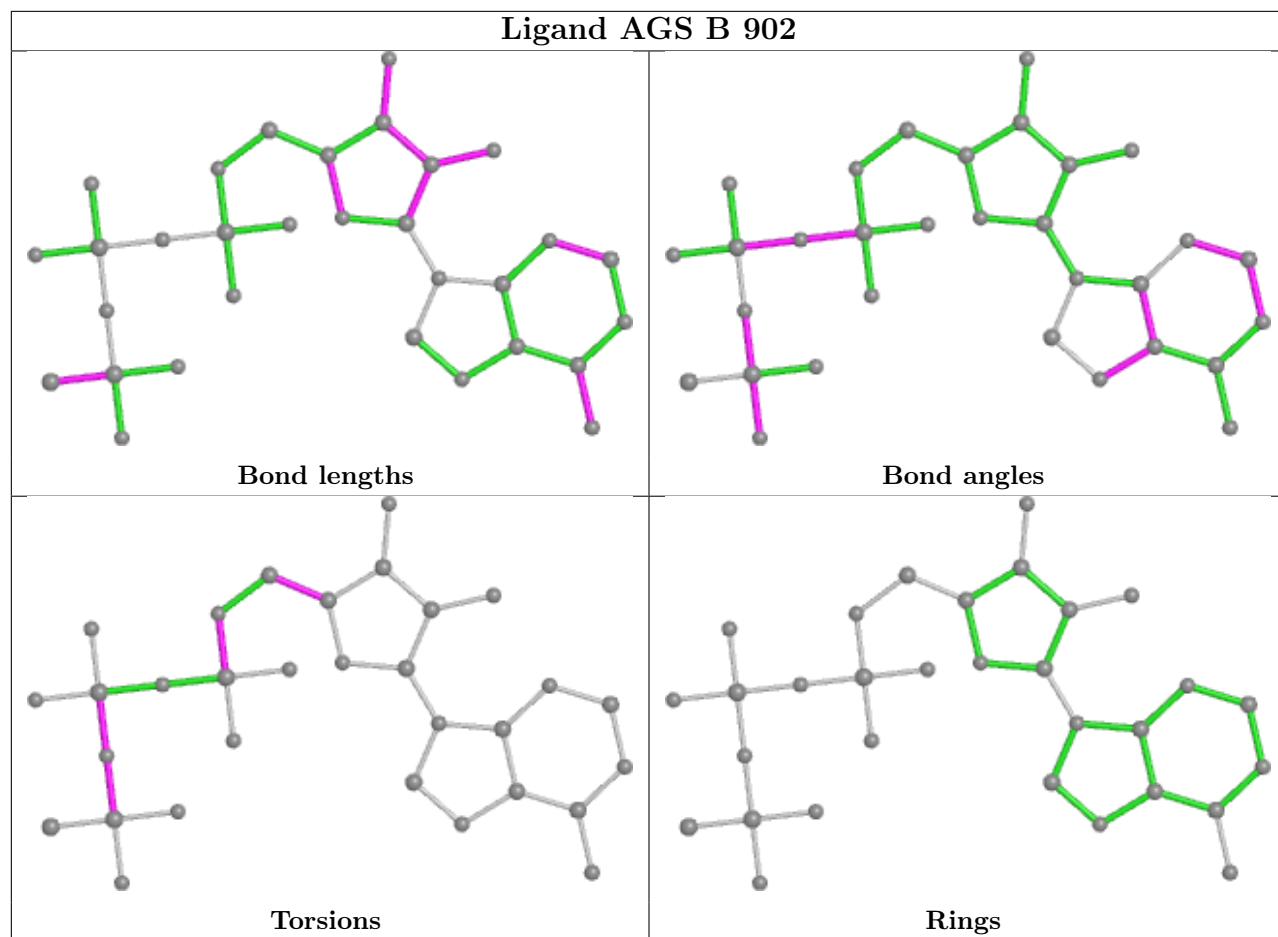


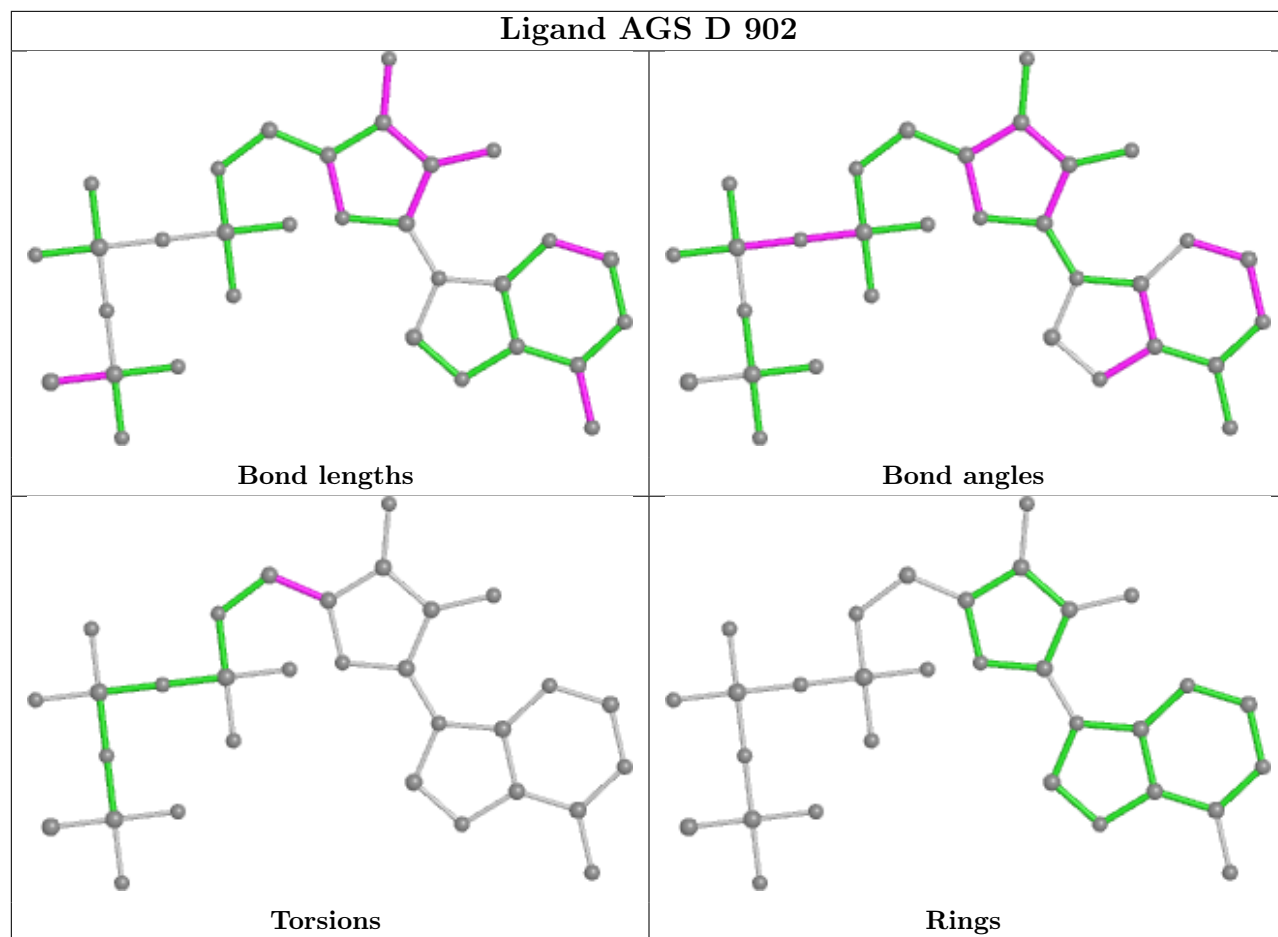


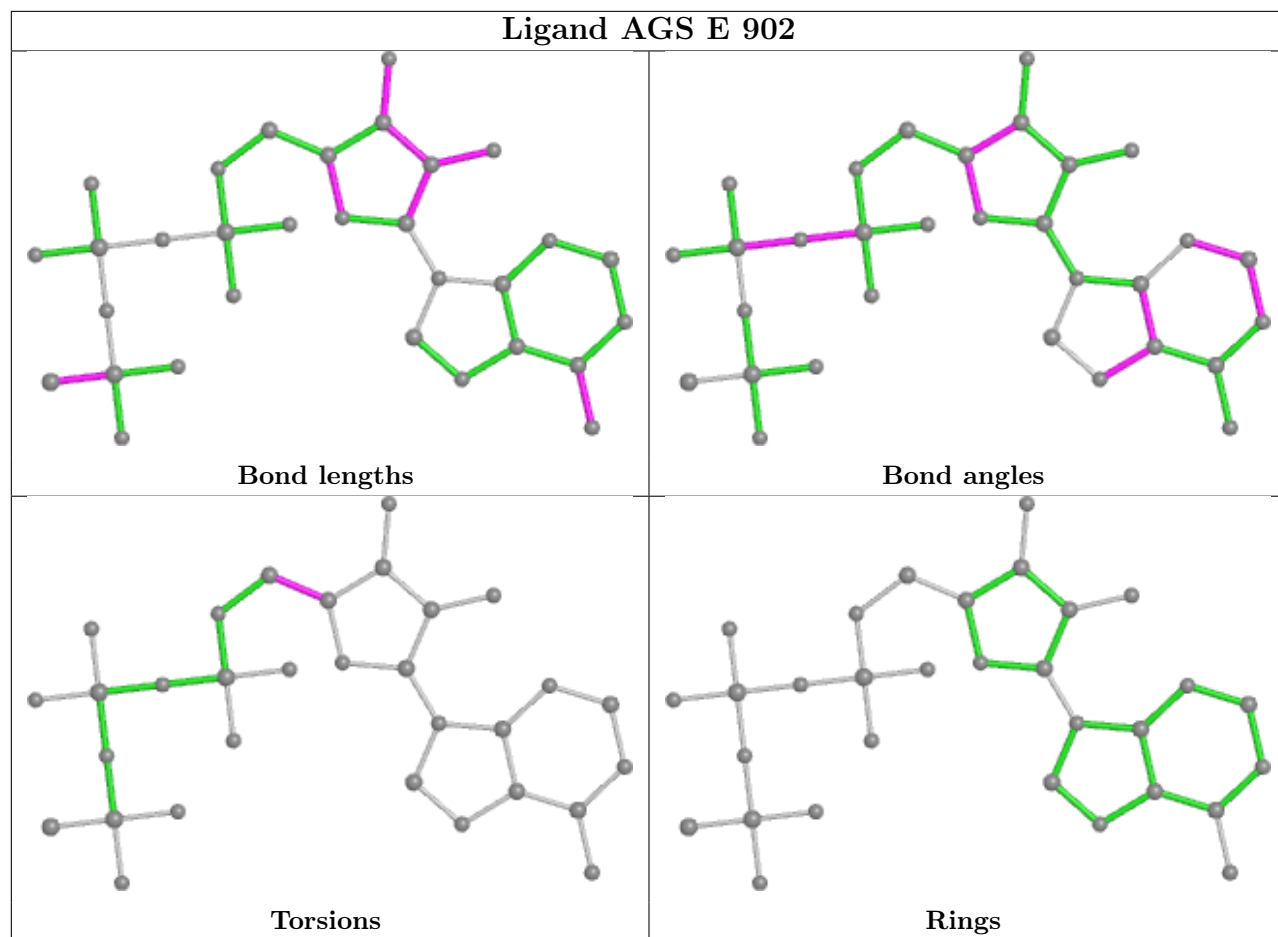


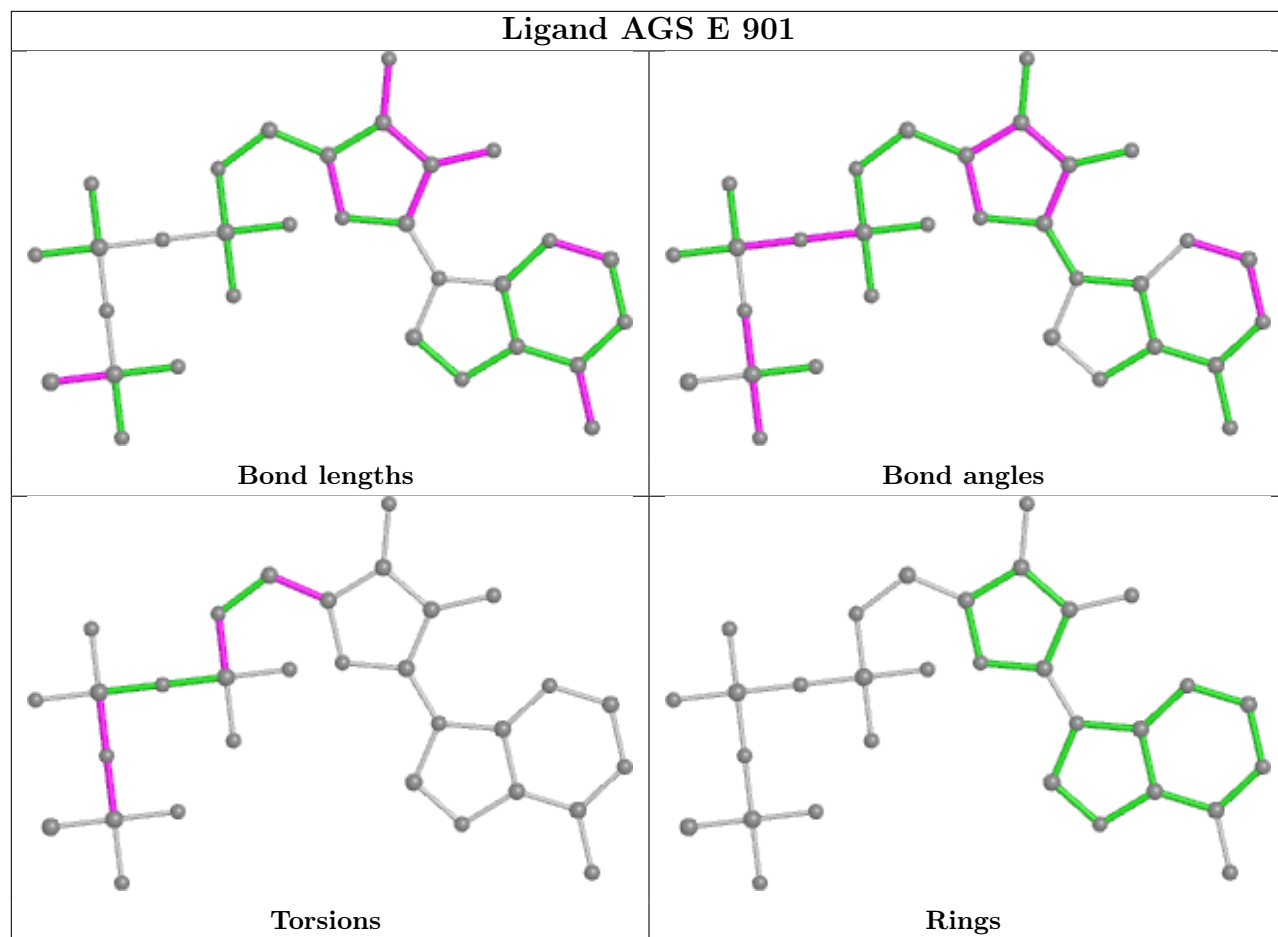


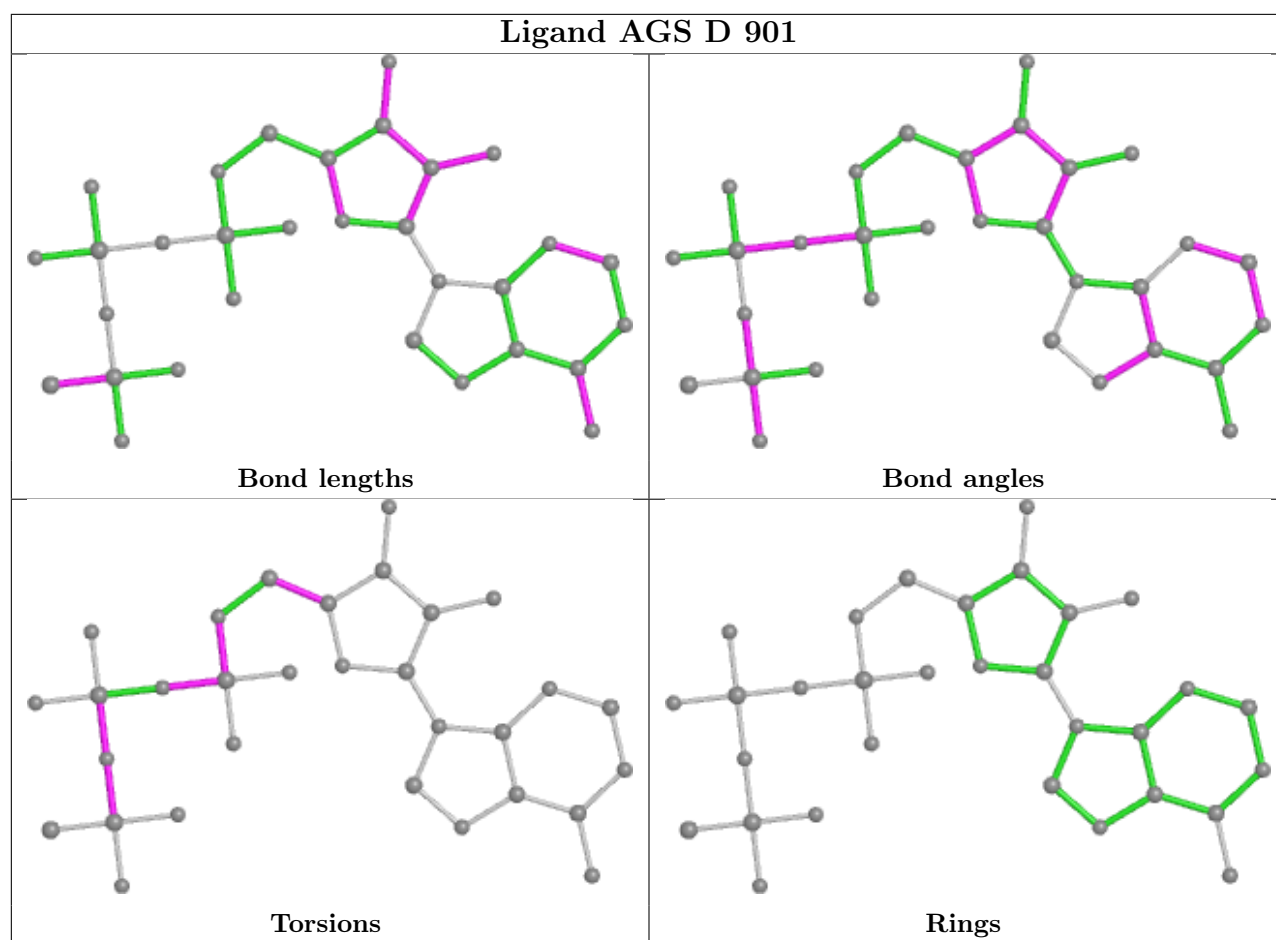












5.7 Other polymers [i](#)

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

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	722/785 (91%)	0.94	112 (15%) 2 2	53, 121, 220, 294	0
1	B	723/785 (92%)	0.55	40 (5%) 25 23	53, 108, 176, 299	0
1	C	724/785 (92%)	0.60	69 (9%) 8 8	42, 113, 191, 278	0
1	D	722/785 (91%)	0.83	108 (14%) 2 2	53, 135, 220, 266	0
1	E	723/785 (92%)	0.59	52 (7%) 15 15	63, 113, 181, 272	0
1	F	724/785 (92%)	0.93	113 (15%) 2 2	47, 122, 233, 304	0
All	All	4338/4710 (92%)	0.74	494 (11%) 5 4	42, 117, 212, 304	0

All (494) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	116	VAL	11.9
1	F	24	ASN	9.8
1	F	114	ILE	8.9
1	F	102	ILE	7.5
1	D	46	MET	7.4
1	A	435	GLU	7.1
1	A	117	LEU	7.0
1	D	26	LEU	7.0
1	A	23	PRO	6.9
1	F	164	LYS	6.9
1	F	174	CYS	6.7
1	A	21	ASN	6.5
1	D	173	TYR	6.3
1	D	41	LEU	6.2
1	D	40	SER	6.1
1	F	117	LEU	6.0
1	F	76	THR	6.0
1	A	134	TYR	5.8
1	D	71	VAL	5.7

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Mol	Chain	Res	Type	RSRZ
1	A	114	ILE	5.7
1	C	23	PRO	5.5
1	D	21	ASN	5.5
1	A	174	CYS	5.4
1	A	26	LEU	5.4
1	E	317	HIS	5.4
1	F	166	VAL	5.4
1	A	53	ARG	5.3
1	D	43	GLN	5.2
1	A	175	ILE	5.2
1	B	552	PHE	5.2
1	F	134	TYR	5.1
1	D	57	VAL	5.1
1	A	390	LEU	5.1
1	F	103	GLN	5.1
1	F	173	TYR	5.0
1	F	41	LEU	5.0
1	D	116	VAL	5.0
1	F	589	ASN	5.0
1	C	21	ASN	5.0
1	D	25	ARG	4.9
1	D	53	ARG	4.9
1	A	47	ASP	4.9
1	B	445	LEU	4.8
1	D	162	GLU	4.8
1	F	111	GLY	4.8
1	D	114	ILE	4.8
1	F	194	GLU	4.8
1	F	94	VAL	4.8
1	F	52	PHE	4.8
1	D	24	ASN	4.7
1	A	116	VAL	4.7
1	F	183	HIS	4.7
1	F	707	ILE	4.7
1	B	21	ASN	4.6
1	D	94	VAL	4.6
1	A	433	GLU	4.6
1	F	115	HIS	4.6
1	F	21	ASN	4.6
1	D	188	PRO	4.5
1	F	43	GLN	4.5
1	D	117	LEU	4.4

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Mol	Chain	Res	Type	RSRZ
1	A	703	ILE	4.4
1	C	26	LEU	4.4
1	E	72	LEU	4.4
1	D	165	VAL	4.3
1	D	672	LEU	4.3
1	F	182	ILE	4.3
1	A	186	GLY	4.3
1	B	102	ILE	4.3
1	F	44	PRO	4.3
1	D	47	ASP	4.3
1	B	44	PRO	4.3
1	D	442	MET	4.3
1	A	44	PRO	4.3
1	D	69	CYS	4.2
1	C	694	ALA	4.2
1	E	433	GLU	4.2
1	F	187	GLU	4.2
1	D	194	GLU	4.2
1	C	73	SER	4.1
1	D	708	ARG	4.1
1	C	699	ILE	4.1
1	D	118	PRO	4.1
1	F	113	ARG	4.1
1	D	23	PRO	4.1
1	A	130	LEU	4.1
1	A	729	PRO	4.1
1	D	52	PHE	4.0
1	A	182	ILE	4.0
1	C	72	LEU	4.0
1	D	56	THR	4.0
1	A	436	THR	4.0
1	D	187	GLU	4.0
1	C	43	GLN	4.0
1	E	50	GLN	4.0
1	F	175	ILE	4.0
1	C	666	VAL	4.0
1	A	702	SER	3.9
1	A	316	THR	3.9
1	F	172	PRO	3.9
1	A	735	HIS	3.9
1	D	480	GLY	3.9
1	B	551	TRP	3.9

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Mol	Chain	Res	Type	RSRZ
1	F	128	GLY	3.8
1	F	452	PHE	3.8
1	A	72	LEU	3.8
1	A	731	ILE	3.8
1	D	163	PHE	3.8
1	A	187	GLU	3.8
1	C	702	SER	3.8
1	C	697	LEU	3.8
1	F	109	LYS	3.8
1	F	179	ASP	3.7
1	D	164	LYS	3.7
1	A	41	LEU	3.7
1	C	672	LEU	3.7
1	B	47	ASP	3.7
1	F	63	LYS	3.7
1	A	57	VAL	3.7
1	A	25	ARG	3.7
1	D	182	ILE	3.7
1	F	77	CYS	3.7
1	D	439	ALA	3.6
1	F	40	SER	3.6
1	D	502	LYS	3.6
1	E	49	LEU	3.6
1	D	150	ASP	3.6
1	A	185	GLU	3.6
1	D	51	LEU	3.6
1	A	102	ILE	3.6
1	D	731	ILE	3.6
1	B	502	LYS	3.6
1	D	104	PRO	3.6
1	E	731	ILE	3.6
1	F	57	VAL	3.6
1	B	506	PHE	3.6
1	F	23	PRO	3.6
1	A	434	ASP	3.6
1	D	82	ILE	3.5
1	F	82	ILE	3.5
1	D	316	THR	3.5
1	A	127	THR	3.5
1	A	188	PRO	3.5
1	E	435	GLU	3.5
1	E	126	ILE	3.5

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Mol	Chain	Res	Type	RSRZ
1	A	50	GLN	3.5
1	D	55	ASP	3.5
1	C	44	PRO	3.5
1	C	731	ILE	3.5
1	F	434	ASP	3.5
1	C	81	LYS	3.5
1	F	165	VAL	3.5
1	C	703	ILE	3.5
1	A	705	SER	3.5
1	E	26	LEU	3.5
1	D	129	ASN	3.4
1	F	48	GLU	3.4
1	D	191	ARG	3.4
1	E	64	ARG	3.4
1	D	73	SER	3.4
1	F	73	SER	3.4
1	A	52	PHE	3.4
1	C	736	PHE	3.4
1	E	434	ASP	3.4
1	E	447	VAL	3.4
1	A	40	SER	3.4
1	F	71	VAL	3.4
1	F	167	GLU	3.4
1	E	44	PRO	3.3
1	A	736	PHE	3.3
1	D	100	ILE	3.3
1	F	612	SER	3.3
1	A	176	VAL	3.3
1	F	26	LEU	3.3
1	F	170	PRO	3.3
1	C	428	ASP	3.3
1	A	446	ALA	3.3
1	D	102	ILE	3.3
1	D	495	TYR	3.3
1	A	389	LYS	3.3
1	C	682	PHE	3.3
1	A	184	CYS	3.3
1	F	50	GLN	3.3
1	C	552	PHE	3.3
1	E	552	PHE	3.3
1	A	43	GLN	3.3
1	F	316	THR	3.3

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Mol	Chain	Res	Type	RSRZ
1	C	705	SER	3.2
1	A	708	ARG	3.2
1	C	42	SER	3.2
1	D	189	ILE	3.2
1	D	99	VAL	3.2
1	F	62	LYS	3.2
1	B	337	GLN	3.2
1	A	501	ASP	3.2
1	A	145	PRO	3.2
1	D	153	LEU	3.2
1	C	708	ARG	3.2
1	F	233	ILE	3.1
1	D	50	GLN	3.1
1	F	75	ASP	3.1
1	A	183	HIS	3.1
1	A	193	ASP	3.1
1	A	699	ILE	3.1
1	E	81	LYS	3.1
1	A	113	ARG	3.1
1	D	131	PHE	3.1
1	E	43	GLN	3.1
1	F	426	LYS	3.1
1	A	82	ILE	3.1
1	A	707	ILE	3.1
1	B	134	TYR	3.0
1	F	100	ILE	3.0
1	A	506	PHE	3.0
1	D	172	PRO	3.0
1	D	193	ASP	3.0
1	A	432	LEU	3.0
1	C	675	LEU	3.0
1	F	78	SER	3.0
1	D	119	ILE	3.0
1	A	100	ILE	3.0
1	C	695	CYS	3.0
1	C	698	ALA	3.0
1	D	426	LYS	3.0
1	E	747	VAL	3.0
1	E	439	ALA	2.9
1	B	230	PHE	2.9
1	A	162	GLU	2.9
1	C	706	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
1	F	231	LYS	2.9
1	D	499	HIS	2.9
1	D	78	SER	2.9
1	F	443	ASN	2.9
1	A	68	VAL	2.9
1	F	47	ASP	2.9
1	C	143	TYR	2.9
1	C	41	LEU	2.9
1	C	71	VAL	2.9
1	C	707	ILE	2.9
1	B	446	ALA	2.9
1	B	41	LEU	2.9
1	F	322	ARG	2.9
1	D	92	LEU	2.9
1	F	46	MET	2.9
1	F	70	ILE	2.8
1	F	148	LYS	2.8
1	F	168	THR	2.8
1	C	735	HIS	2.8
1	D	161	VAL	2.8
1	F	176	VAL	2.8
1	B	105	CYS	2.8
1	A	104	PRO	2.8
1	F	393	ASP	2.8
1	A	439	ALA	2.8
1	C	472	PRO	2.8
1	A	103	GLN	2.8
1	D	503	PHE	2.8
1	A	64	ARG	2.8
1	C	668	LYS	2.8
1	D	147	ARG	2.8
1	C	670	VAL	2.8
1	D	28	VAL	2.8
1	D	166	VAL	2.8
1	D	176	VAL	2.8
1	F	123	VAL	2.7
1	C	100	ILE	2.7
1	A	161	VAL	2.7
1	C	82	ILE	2.7
1	A	22	ARG	2.7
1	D	452	PHE	2.7
1	A	428	ASP	2.7

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Mol	Chain	Res	Type	RSRZ
1	C	25	ARG	2.7
1	A	83	ARG	2.7
1	F	706	GLU	2.7
1	F	131	PHE	2.7
1	A	151	ILE	2.7
1	B	554	GLU	2.7
1	F	104	PRO	2.7
1	F	232	ALA	2.7
1	B	672	LEU	2.7
1	B	126	ILE	2.7
1	E	551	TRP	2.6
1	E	452	PHE	2.6
1	C	182	ILE	2.6
1	C	51	LEU	2.6
1	E	682	PHE	2.6
1	E	99	VAL	2.6
1	F	25	ARG	2.6
1	F	150	ASP	2.6
1	E	232	ALA	2.6
1	B	553	GLY	2.6
1	E	45	LYS	2.6
1	F	439	ALA	2.6
1	A	51	LEU	2.6
1	C	596	ALA	2.6
1	B	503	PHE	2.6
1	A	706	GLU	2.6
1	C	669	ASP	2.6
1	D	123	VAL	2.6
1	E	520	PRO	2.6
1	C	429	LEU	2.6
1	C	50	GLN	2.6
1	D	93	ARG	2.5
1	E	730	GLU	2.5
1	F	729	PRO	2.5
1	C	667	ALA	2.5
1	D	132	GLU	2.5
1	A	315	LYS	2.5
1	C	696	LYS	2.5
1	A	237	PRO	2.5
1	A	502	LYS	2.5
1	E	322	ARG	2.5
1	D	44	PRO	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	504	LEU	2.5
1	B	58	LEU	2.5
1	E	672	LEU	2.5
1	A	694	ALA	2.5
1	C	47	ASP	2.5
1	E	522	CYS	2.5
1	A	388	MET	2.5
1	B	28	VAL	2.5
1	D	79	ASP	2.5
1	D	498	GLU	2.5
1	E	130	LEU	2.5
1	E	687	LEU	2.4
1	E	21	ASN	2.4
1	E	47	ASP	2.4
1	A	234	GLY	2.4
1	A	160	ALA	2.4
1	A	500	PRO	2.4
1	F	112	LYS	2.4
1	A	267	PHE	2.4
1	D	446	ALA	2.4
1	F	147	ARG	2.4
1	D	113	ARG	2.4
1	E	51	LEU	2.4
1	A	131	PHE	2.4
1	F	703	ILE	2.4
1	B	340	HIS	2.4
1	F	193	ASP	2.4
1	A	46	MET	2.4
1	A	157	GLY	2.4
1	A	552	PHE	2.4
1	B	613	THR	2.4
1	A	119	ILE	2.4
1	D	29	ASP	2.4
1	A	92	LEU	2.4
1	B	24	ASN	2.4
1	E	707	ILE	2.4
1	F	99	VAL	2.4
1	A	701	GLU	2.4
1	B	82	ILE	2.4
1	F	83	ARG	2.4
1	D	48	GLU	2.4
1	C	597	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
1	E	436	THR	2.4
1	E	158	MET	2.3
1	B	612	SER	2.3
1	F	433	GLU	2.3
1	E	316	THR	2.3
1	F	428	ASP	2.3
1	B	435	GLU	2.3
1	C	739	ALA	2.3
1	D	39	VAL	2.3
1	E	186	GLY	2.3
1	A	48	GLU	2.3
1	F	495	TYR	2.3
1	F	97	GLY	2.3
1	E	588	GLY	2.3
1	E	48	GLU	2.3
1	F	192	GLU	2.3
1	B	198	LEU	2.3
1	C	390	LEU	2.3
1	F	79	ASP	2.3
1	F	127	THR	2.3
1	C	446	ALA	2.3
1	A	695	CYS	2.3
1	E	42	SER	2.3
1	E	127	THR	2.3
1	A	164	LYS	2.3
1	C	101	SER	2.3
1	F	55	ASP	2.3
1	A	59	LEU	2.3
1	A	396	LEU	2.3
1	B	390	LEU	2.3
1	B	114	ILE	2.3
1	D	404	HIS	2.3
1	F	53	ARG	2.3
1	F	188	PRO	2.3
1	A	101	SER	2.3
1	B	232	ALA	2.3
1	C	340	HIS	2.3
1	F	110	TYR	2.3
1	D	130	LEU	2.3
1	A	394	VAL	2.3
1	F	171	SER	2.3
1	A	84	MET	2.2

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Mol	Chain	Res	Type	RSRZ
1	E	119	ILE	2.2
1	B	434	ASP	2.2
1	D	27	ILE	2.2
1	A	39	VAL	2.2
1	D	196	GLU	2.2
1	D	151	ILE	2.2
1	D	699	ILE	2.2
1	F	429	LEU	2.2
1	A	704	GLU	2.2
1	D	435	GLU	2.2
1	C	46	MET	2.2
1	E	503	PHE	2.2
1	F	154	VAL	2.2
1	F	199	ASN	2.2
1	A	73	SER	2.2
1	F	133	VAL	2.2
1	D	186	GLY	2.2
1	A	135	LEU	2.2
1	D	436	THR	2.2
1	F	126	ILE	2.2
1	B	433	GLU	2.2
1	A	696	LYS	2.2
1	A	336	LYS	2.2
1	C	60	LYS	2.2
1	D	62	LYS	2.2
1	F	155	ARG	2.2
1	A	447	VAL	2.2
1	D	126	ILE	2.2
1	D	144	ARG	2.2
1	F	81	LYS	2.2
1	D	705	SER	2.2
1	A	141	GLU	2.2
1	A	730	GLU	2.2
1	C	767	GLY	2.2
1	A	503	PHE	2.1
1	D	45	LYS	2.1
1	D	84	MET	2.1
1	D	115	HIS	2.1
1	F	321	GLU	2.1
1	D	152	PHE	2.1
1	F	190	LYS	2.1
1	F	266	PHE	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	435	GLU	2.1
1	D	49	LEU	2.1
1	D	768	PHE	2.1
1	E	736	PHE	2.1
1	F	163	PHE	2.1
1	B	499	HIS	2.1
1	D	443	ASN	2.1
1	C	663	LYS	2.1
1	C	768	PHE	2.1
1	F	143	TYR	2.1
1	C	588	GLY	2.1
1	D	72	LEU	2.1
1	D	179	ASP	2.1
1	D	479	ILE	2.1
1	D	666	VAL	2.1
1	A	442	MET	2.1
1	A	443	ASN	2.1
1	B	439	ALA	2.1
1	B	479	ILE	2.1
1	D	428	ASP	2.1
1	D	139	PHE	2.1
1	B	36	ASN	2.1
1	C	613	THR	2.1
1	D	81	LYS	2.1
1	F	320	VAL	2.1
1	E	102	ILE	2.1
1	E	768	PHE	2.0
1	F	317	HIS	2.1
1	A	391	ALA	2.0
1	A	510	PRO	2.0
1	C	199	ASN	2.0
1	C	599	ARG	2.0
1	E	494	GLN	2.0
1	E	612	SER	2.0
1	A	132	GLU	2.0
1	D	195	GLU	2.0
1	F	80	GLU	2.0
1	E	59	LEU	2.0
1	A	431	ASP	2.0
1	C	734	ASP	2.0
1	C	704	GLU	2.0
1	F	42	SER	2.0

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Mol	Chain	Res	Type	RSRZ
1	A	698	ALA	2.0
1	B	96	LEU	2.0
1	B	753	ARG	2.0
1	C	661	LEU	2.0
1	F	51	LEU	2.0
1	F	708	ARG	2.0
1	D	679	THR	2.0
1	F	704	GLU	2.0
1	C	769	GLY	2.0
1	E	703	ILE	2.0
1	F	118	PRO	2.0
1	C	24	ASN	2.0
1	C	28	VAL	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
3	MG	D	903	1/1	0.84	0.13	170,170,170,170	0
4	CL	C	905	1/1	0.86	0.20	117,117,117,117	0
4	CL	F	905	1/1	0.86	0.31	98,98,98,98	0
4	CL	D	905	1/1	0.87	0.24	99,99,99,99	0
4	CL	B	905	1/1	0.88	0.23	92,92,92,92	0
4	CL	E	905	1/1	0.89	0.28	93,93,93,93	0
4	CL	A	905	1/1	0.91	0.28	87,87,87,87	0
2	AGS	E	901	31/31	0.91	0.26	76,88,120,170	0
3	MG	A	903	1/1	0.94	0.12	186,186,186,186	0
2	AGS	C	901	31/31	0.94	0.20	59,100,122,152	0

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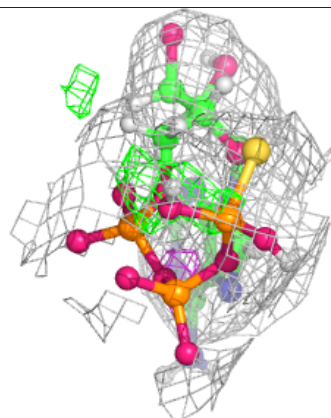
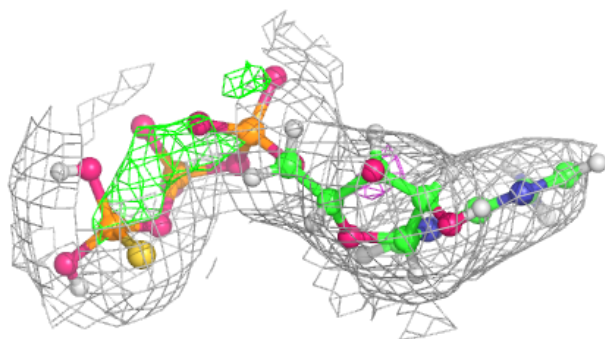
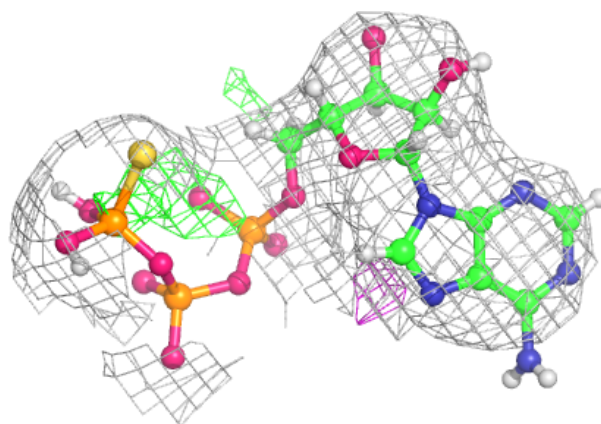
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
2	AGS	D	901	31/31	0.94	0.24	70,99,121,158	0
2	AGS	B	901	31/31	0.94	0.24	57,88,112,122	0
2	AGS	D	902	31/31	0.95	0.21	68,82,106,169	0
2	AGS	A	901	31/31	0.95	0.27	75,86,104,117	0
2	AGS	F	901	31/31	0.95	0.24	47,61,80,93	0
2	AGS	F	902	31/31	0.95	0.24	88,102,133,210	0
2	AGS	E	902	31/31	0.96	0.20	75,89,127,165	0
3	MG	D	904	1/1	0.96	0.31	99,99,99,99	0
3	MG	F	903	1/1	0.96	0.16	152,152,152,152	0
3	MG	F	904	1/1	0.96	0.27	76,76,76,76	0
2	AGS	C	902	31/31	0.96	0.26	59,76,122,189	0
3	MG	A	904	1/1	0.97	0.23	76,76,76,76	0
2	AGS	B	902	31/31	0.97	0.23	55,79,132,182	0
2	AGS	A	902	31/31	0.97	0.26	73,90,154,194	0
3	MG	E	903	1/1	0.97	0.14	81,81,81,81	0
3	MG	C	903	1/1	0.98	0.23	101,101,101,101	0
3	MG	E	904	1/1	0.98	0.26	96,96,96,96	0
3	MG	C	904	1/1	0.98	0.22	107,107,107,107	0
3	MG	B	903	1/1	0.98	0.17	119,119,119,119	0
3	MG	B	904	1/1	0.98	0.22	86,86,86,86	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.

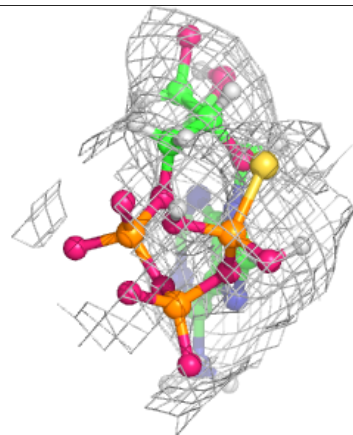
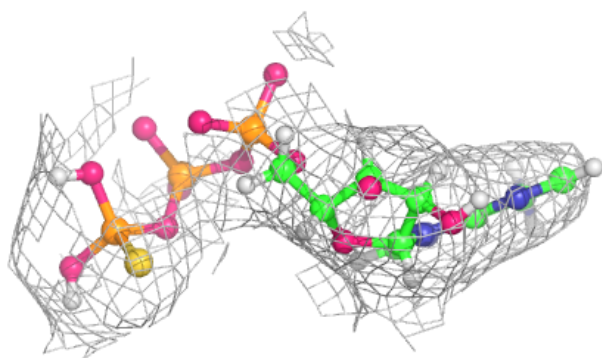
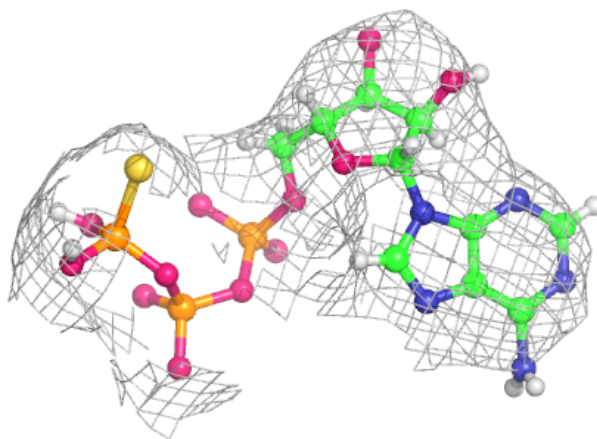
Electron density around AGS E 901:

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



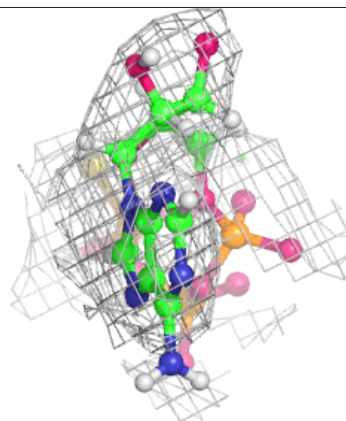
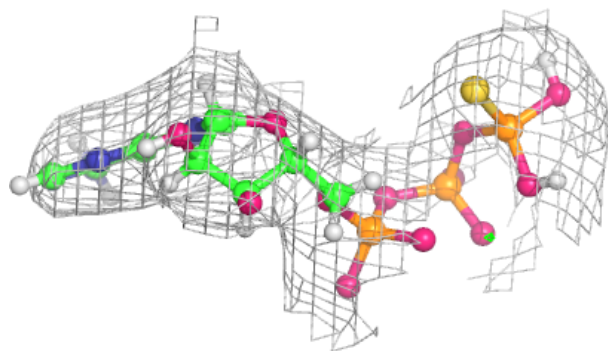
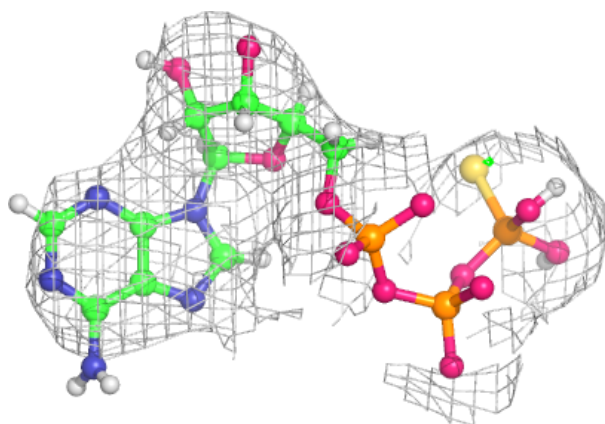
Electron density around AGS C 901:

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

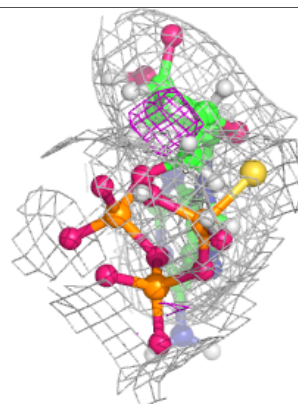
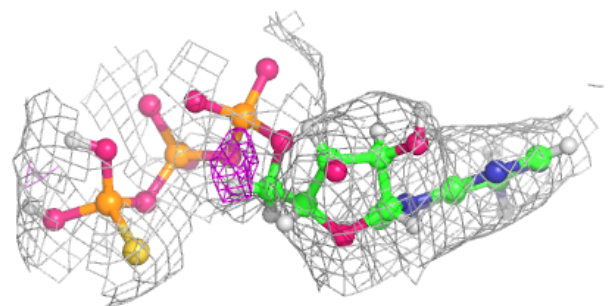
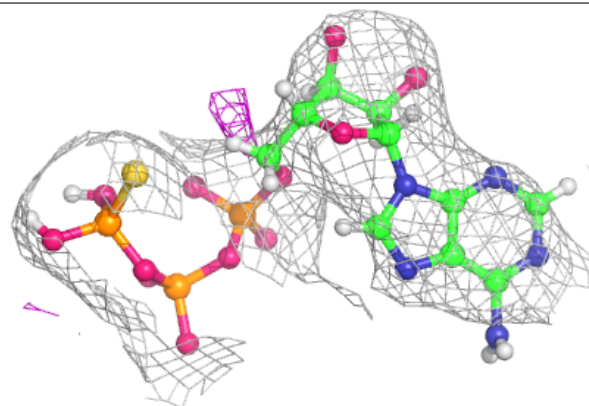


Electron density around AGS D 901:

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

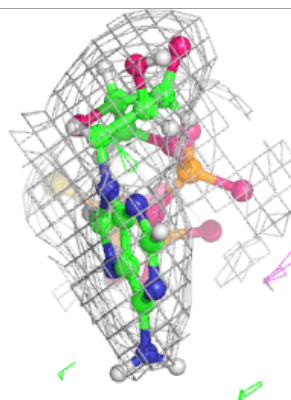
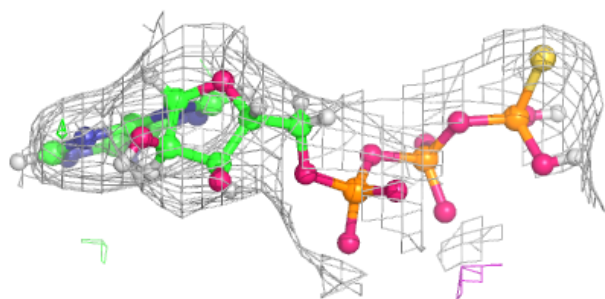
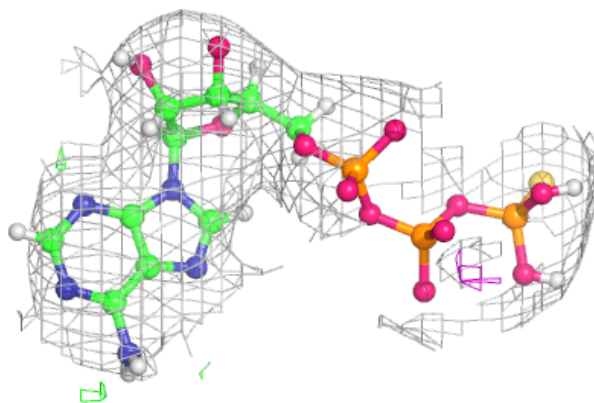
**Electron density around AGS B 901:**

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

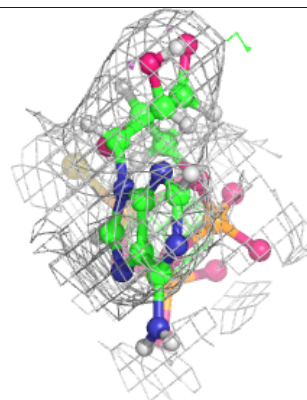
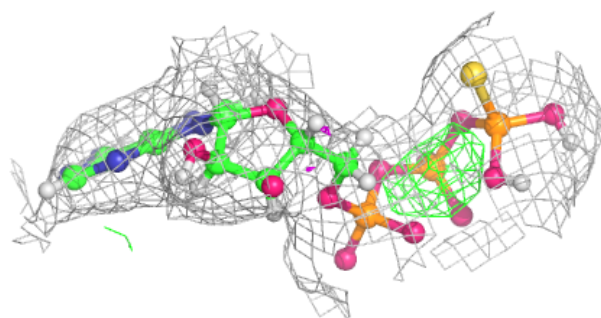
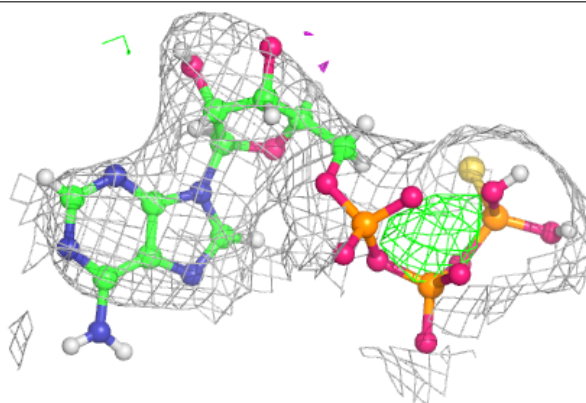


Electron density around AGS D 902:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

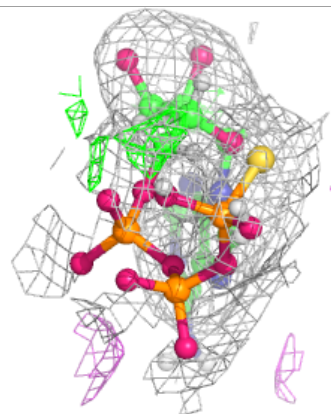
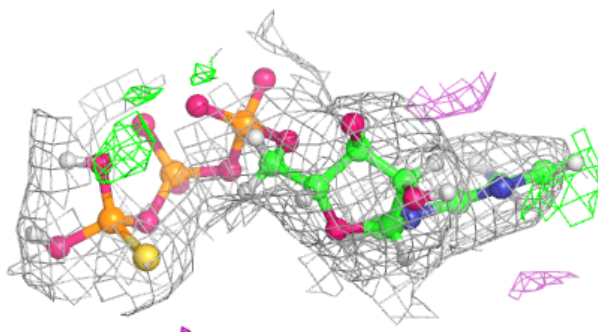
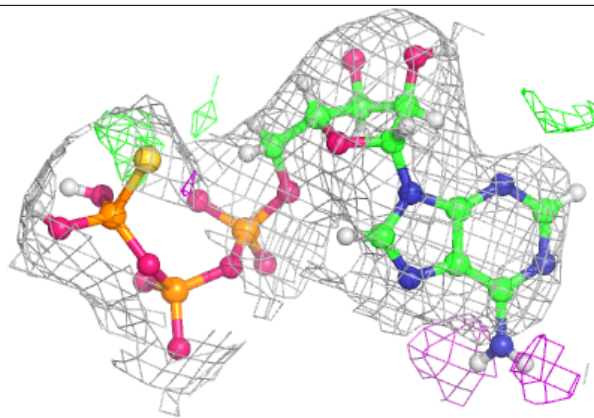
**Electron density around AGS A 901:**

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

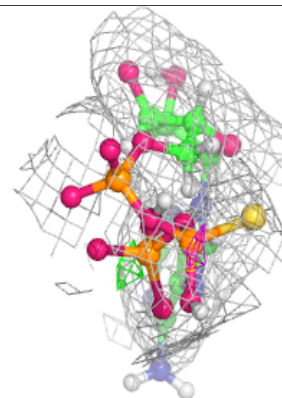
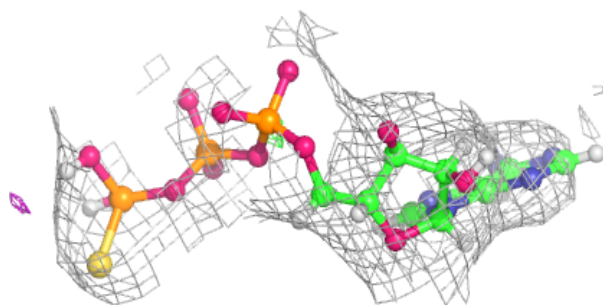
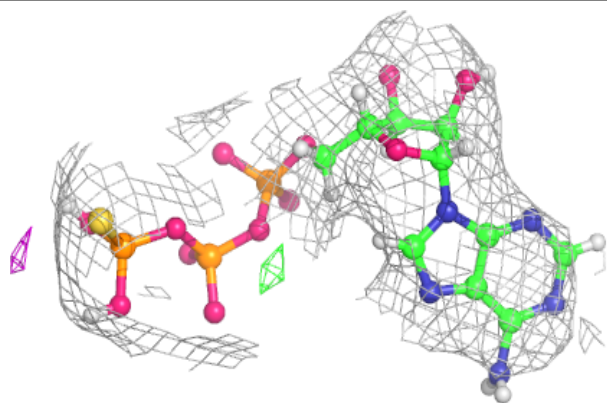


Electron density around AGS F 901:

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

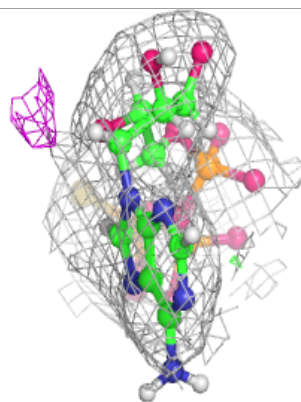
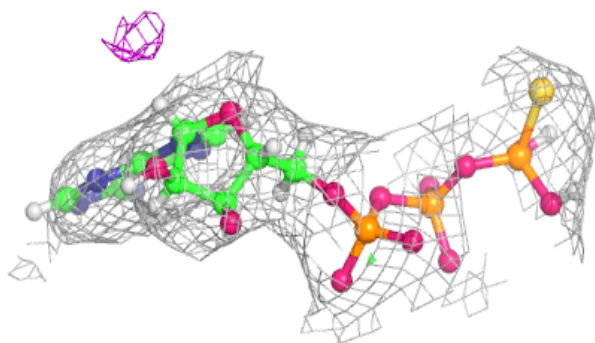
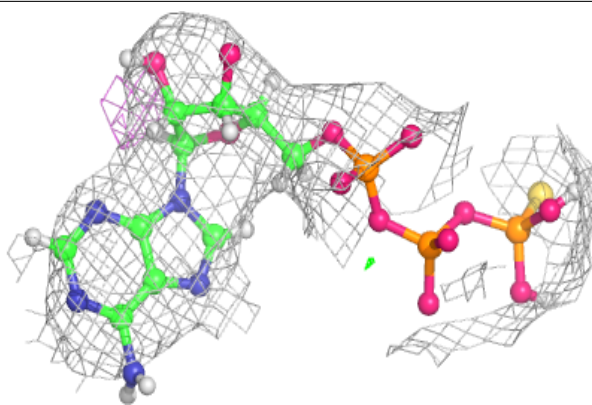
**Electron density around AGS F 902:**

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and green (positive)

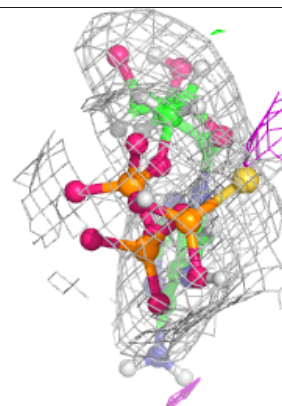
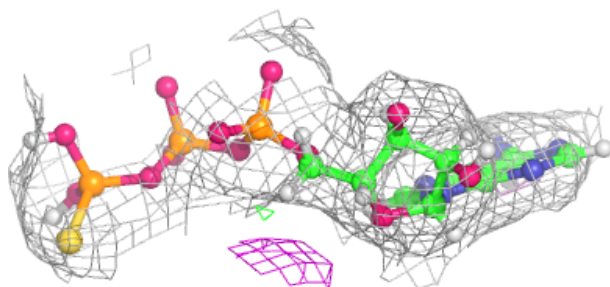
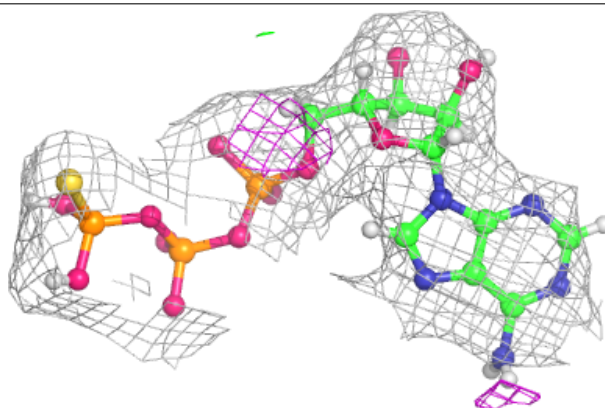


Electron density around AGS E 902:

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

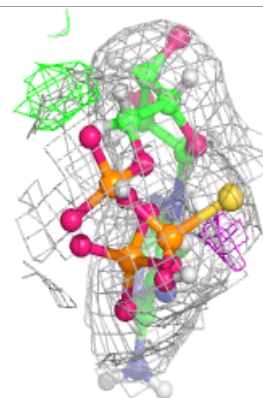
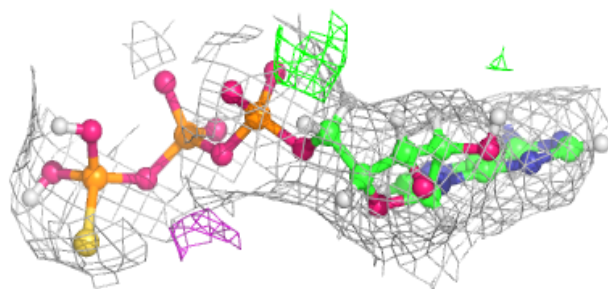
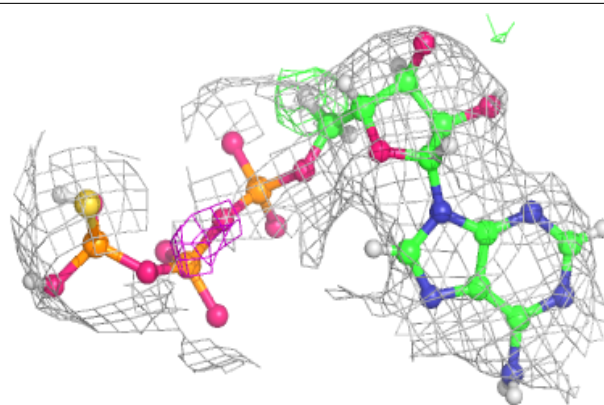
**Electron density around AGS C 902:**

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

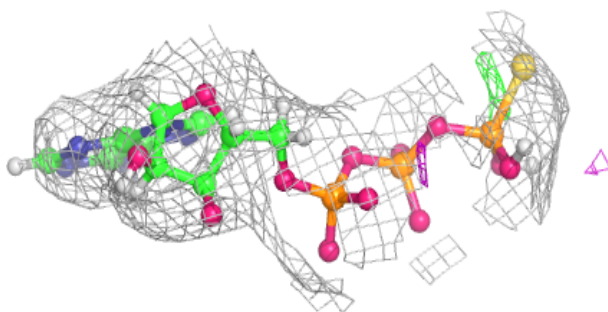
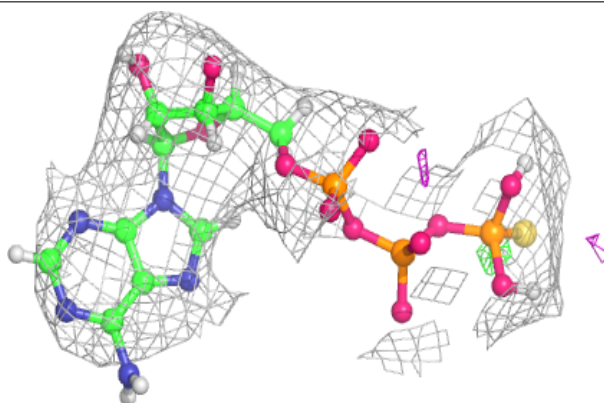


Electron density around AGS B 902:

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

**Electron density around AGS A 902:**

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



6.5 Other polymers [i](#)

There are no such residues in this entry.