



Full wwPDB X-ray Structure Validation Report ⓘ

Nov 12, 2024 – 05:20 PM EST

PDB ID : 3V83
Title : The 2.1 angstrom crystal structure of diferric human transferrin
Authors : Noinaj, N.; Steere, A.; Mason, A.B.; Buchanan, S.K.
Deposited on : 2011-12-22
Resolution : 2.10 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) : 1.20.1
EDS : 3.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4 : 9.0.003 (Gargrove)
Density-Fitness : 1.0.11
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

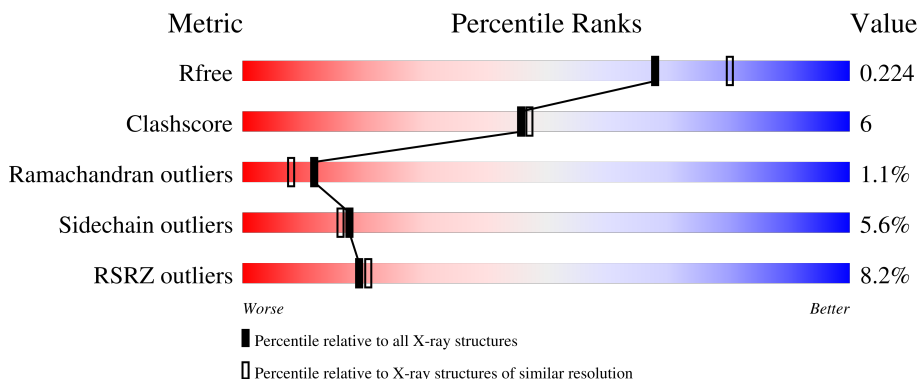
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.10 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	6234 (2.10-2.10)
Clashscore	180529	6893 (2.10-2.10)
Ramachandran outliers	177936	6839 (2.10-2.10)
Sidechain outliers	177891	6840 (2.10-2.10)
RSRZ outliers	164620	6234 (2.10-2.10)

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	698	<div style="display: flex; align-items: center;"> <div style="width: 4%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 82%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 12%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 4%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 40px;">4% 82% 12% . .</p>
1	B	698	<div style="display: flex; align-items: center;"> <div style="width: 4%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 83%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 12%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 4%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 40px;">4% 83% 12% . .</p>
1	C	698	<div style="display: flex; align-items: center;"> <div style="width: 26%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 78%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 16%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 4%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 40px;">26% 78% 16% . .</p>
1	D	698	<div style="display: flex; align-items: center;"> <div style="width: 4%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 82%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 13%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 4%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 40px;">4% 82% 13% . .</p>
1	E	698	<div style="display: flex; align-items: center;"> <div style="width: 4%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 83%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 11%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 4%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 40px;">4% 83% 11% . .</p>

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Mol	Chain	Length	Quality of chain
1	F	698	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	BCT	C	702	-	-	X	-

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 33928 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.

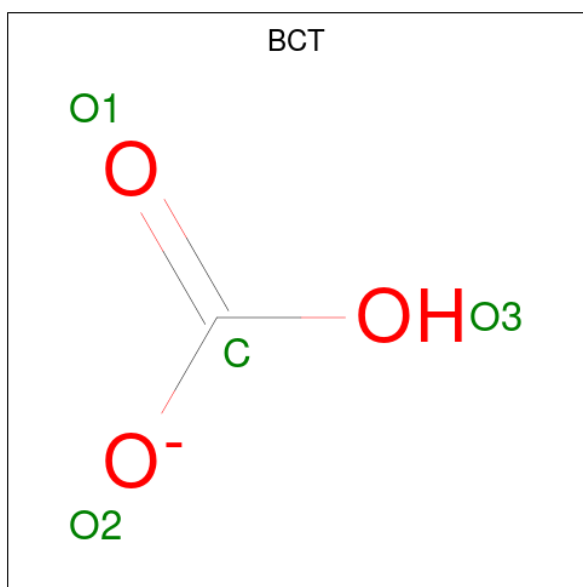
- Molecule 1 is a protein called Serotransferrin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	674	5160	3247	892	974	47	0	0	0
1	B	677	5179	3260	898	974	47	0	0	0
1	C	674	5124	3221	888	968	47	0	0	0
1	D	675	5193	3263	897	986	47	0	0	0
1	E	674	5202	3267	898	990	47	0	0	0
1	F	676	5191	3263	900	981	47	0	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	429	VAL	ILE	variant	UNP P02787
B	429	VAL	ILE	variant	UNP P02787
C	429	VAL	ILE	variant	UNP P02787
D	429	VAL	ILE	variant	UNP P02787
E	429	VAL	ILE	variant	UNP P02787
F	429	VAL	ILE	variant	UNP P02787

- Molecule 2 is BICARBONATE ION (three-letter code: BCT) (formula: CHO_3).

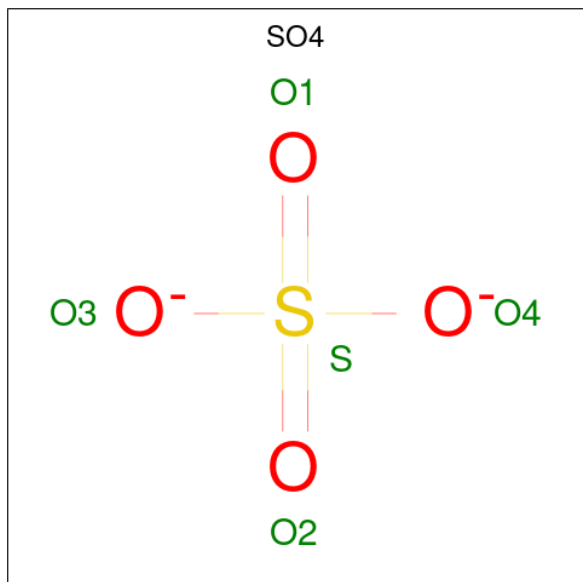


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C O 4 1 3	0	0
2	A	1	Total C O 4 1 3	0	0
2	B	1	Total C O 4 1 3	0	0
2	B	1	Total C O 4 1 3	0	0
2	C	1	Total C O 4 1 3	0	0
2	C	1	Total C O 4 1 3	0	0
2	D	1	Total C O 4 1 3	0	0
2	D	1	Total C O 4 1 3	0	0
2	E	1	Total C O 4 1 3	0	0
2	E	1	Total C O 4 1 3	0	0
2	F	1	Total C O 4 1 3	0	0
2	F	1	Total C O 4 1 3	0	0

- Molecule 3 is FE (III) ION (three-letter code: FE) (formula: Fe).

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

- Molecule 4 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total O S 5 4 1	0	0
4	A	1	Total O S 5 4 1	0	0
4	A	1	Total O S 5 4 1	0	0
4	A	1	Total O S 5 4 1	0	0
4	A	1	Total O S 5 4 1	0	0
4	B	1	Total O S 5 4 1	0	0

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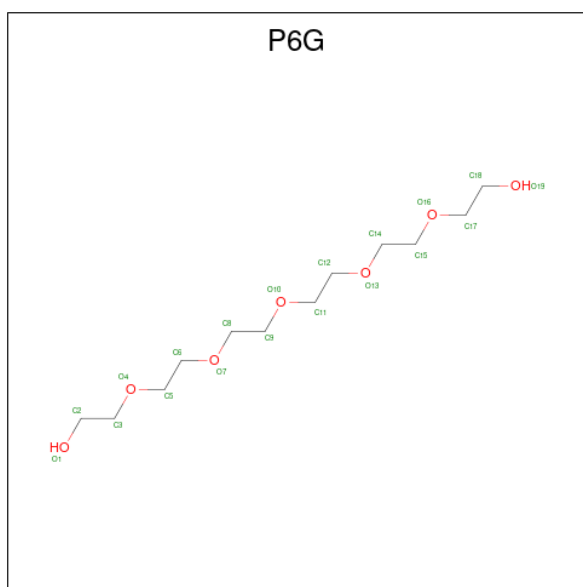
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	O	S		
4	B	1	5	4	1	0	0
4	B	1	5	4	1	0	0
4	B	1	5	4	1	0	0
4	B	1	5	4	1	0	0
4	B	1	5	4	1	0	0
4	B	1	5	4	1	0	0
4	B	1	5	4	1	0	0
4	B	1	5	4	1	0	0
4	B	1	5	4	1	0	0
4	C	1	5	4	1	0	0
4	C	1	5	4	1	0	0
4	C	1	5	4	1	0	0
4	C	1	5	4	1	0	0
4	C	1	5	4	1	0	0
4	C	1	5	4	1	0	0
4	C	1	5	4	1	0	0
4	C	1	5	4	1	0	0
4	C	1	5	4	1	0	0
4	D	1	5	4	1	0	0
4	D	1	5	4	1	0	0
4	D	1	5	4	1	0	0
4	D	1	5	4	1	0	0
4	D	1	5	4	1	0	0
4	D	1	5	4	1	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	D	1	Total 5	O 4	S 1	0	0
4	D	1	Total 5	O 4	S 1	0	0
4	D	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	E	1	Total 5	O 4	S 1	0	0
4	F	1	Total 5	O 4	S 1	0	0
4	F	1	Total 5	O 4	S 1	0	0
4	F	1	Total 5	O 4	S 1	0	0
4	F	1	Total 5	O 4	S 1	0	0
4	F	1	Total 5	O 4	S 1	0	0

- Molecule 5 is HEXAETHYLENE GLYCOL (three-letter code: P6G) (formula: C₁₂H₂₆O₇).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	C	O	0	0
			19	12	7		
5	A	1	Total	C	O	0	0
			19	12	7		
5	A	1	Total	C	O	0	0
			19	12	7		
5	B	1	Total	C	O	0	0
			19	12	7		
5	B	1	Total	C	O	0	0
			19	12	7		
5	C	1	Total	C	O	0	0
			19	12	7		
5	C	1	Total	C	O	0	0
			19	12	7		
5	C	1	Total	C	O	0	0
			19	12	7		
5	D	1	Total	C	O	0	0
			19	12	7		
5	D	1	Total	C	O	0	0
			19	12	7		
5	E	1	Total	C	O	0	0
			19	12	7		
5	E	1	Total	C	O	0	0
			19	12	7		
5	F	1	Total	C	O	0	0
			19	12	7		
5	F	1	Total	C	O	0	0
			19	12	7		

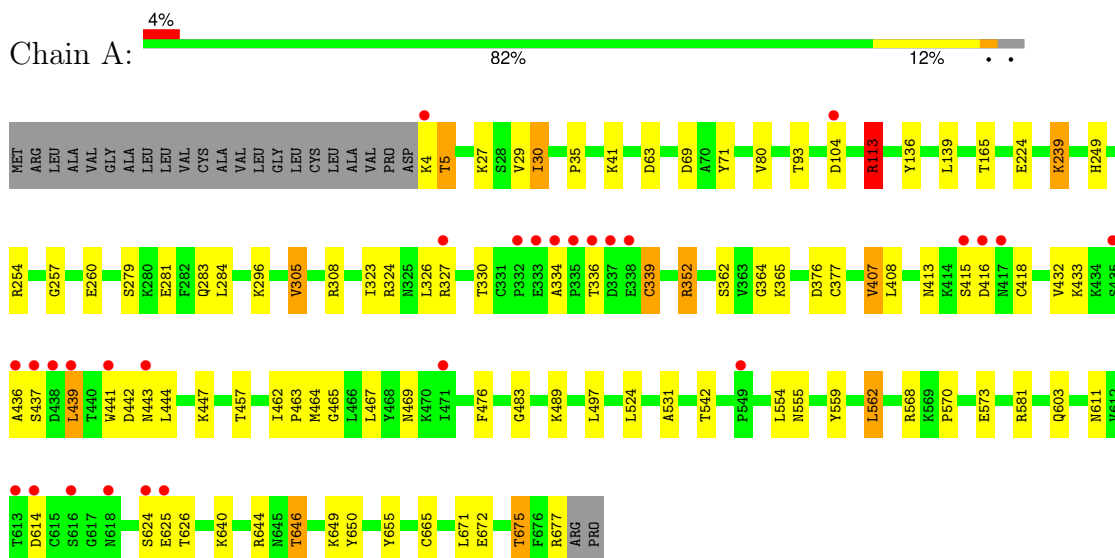
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	352	Total 352	O 352	0	0
6	B	454	Total 454	O 454	0	0
6	C	305	Total 305	O 305	0	0
6	D	398	Total 398	O 398	0	0
6	E	431	Total 431	O 431	0	0
6	F	393	Total 393	O 393	0	0

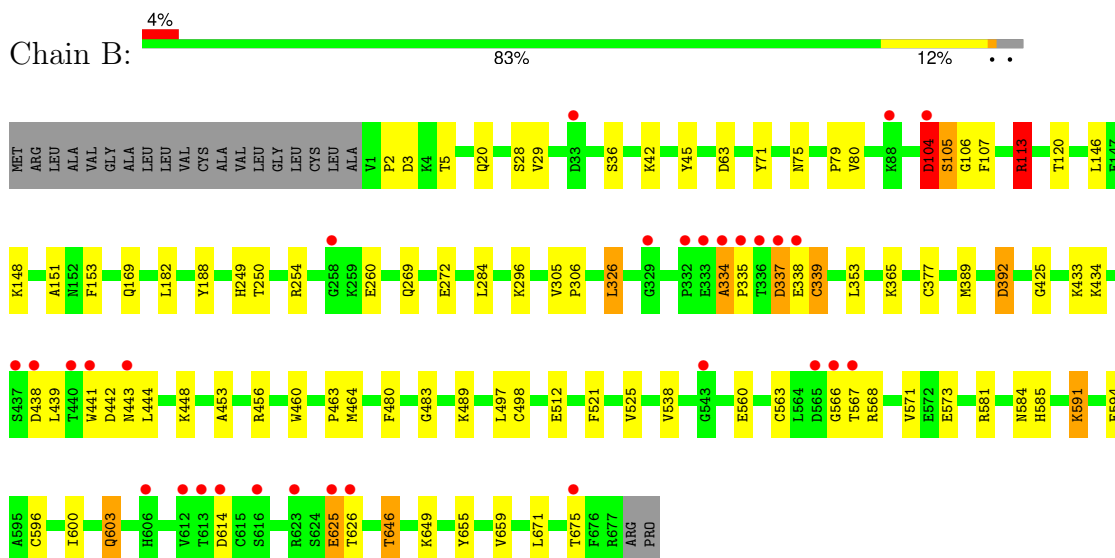
3 Residue-property plots

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 and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

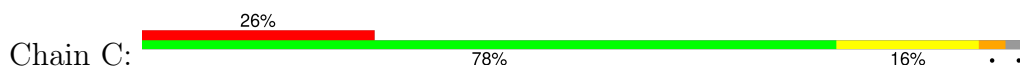
- Molecule 1: Serotransferrin

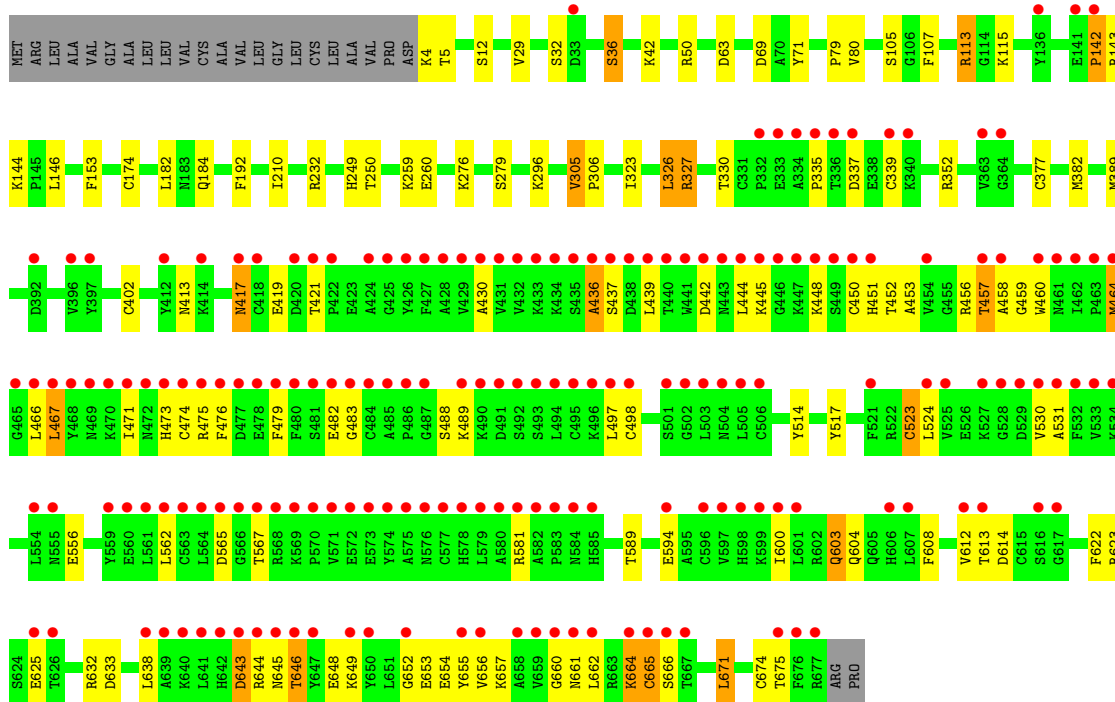


- Molecule 1: Serotransferrin

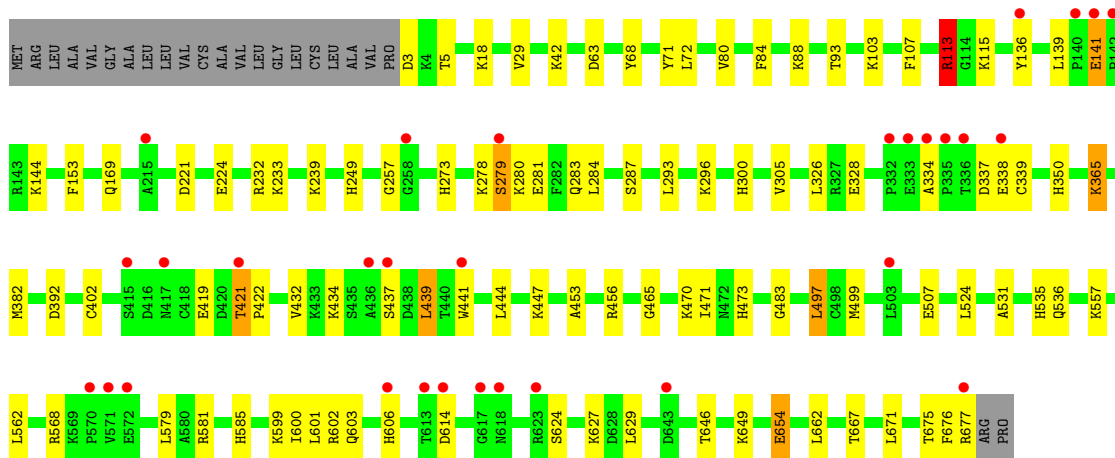
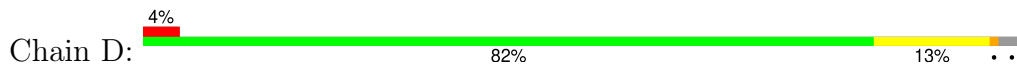


- Molecule 1: Serotransferrin

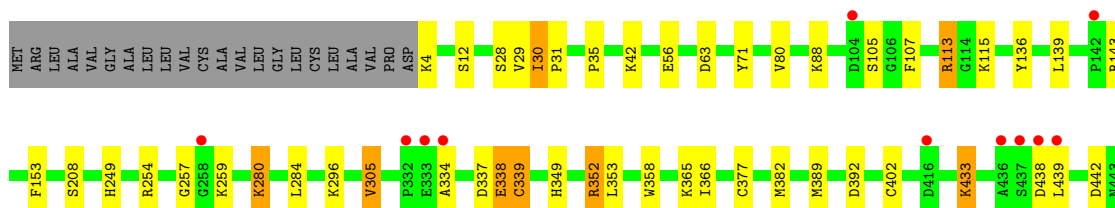
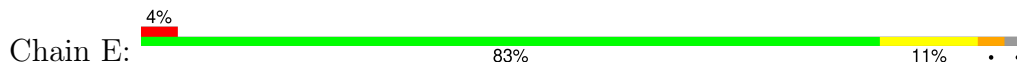


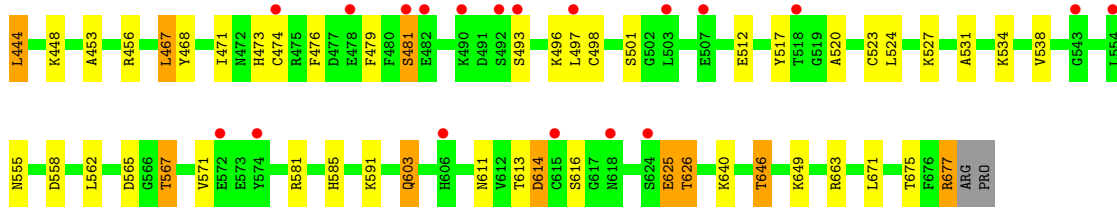


• Molecule 1: Serotransferrin

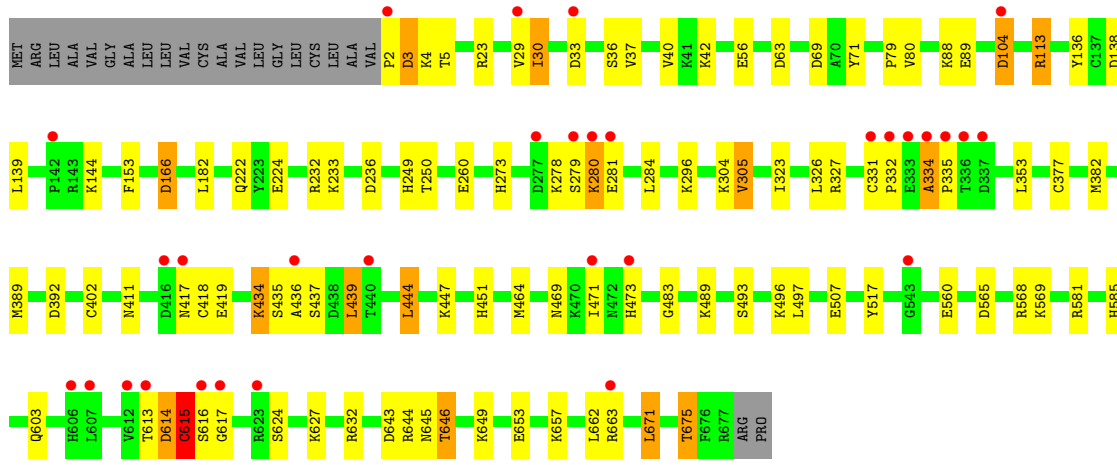
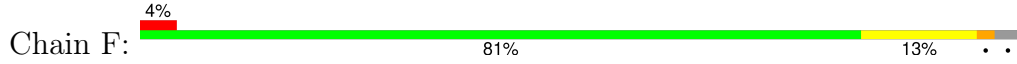


• Molecule 1: Serotransferrin





• Molecule 1: Serotransferrin



4 Data and refinement statistics i

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	254.53Å 173.00Å 150.15Å 90.00° 123.26° 90.00°	Depositor
Resolution (Å)	29.95 – 2.10 29.95 – 2.10	Depositor EDS
% Data completeness (in resolution range)	94.4 (29.95-2.10) 94.4 (29.95-2.10)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.08	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.83 (at 2.10Å)	Xtrriage
Refinement program	PHENIX (phenix.refine: 1.7.3_928)	Depositor
R, R_{free}	0.180 , 0.230 0.182 , 0.224	Depositor DCC
R_{free} test set	15028 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å ²)	27.0	Xtrriage
Anisotropy	0.250	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.37 , 61.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	0.014 for -h-2*1,-k,l	Xtrriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	33928	wwPDB-VP
Average B, all atoms (Å ²)	41.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.33% 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: FE, SO4, BCT, P6G

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	0.38	0/5278	0.54	1/7144 (0.0%)
1	B	0.42	0/5298	0.57	2/7169 (0.0%)
1	C	0.39	0/5240	0.54	0/7097
1	D	0.41	0/5311	0.57	2/7184 (0.0%)
1	E	0.42	0/5320	0.57	2/7196 (0.0%)
1	F	0.40	0/5309	0.58	2/7183 (0.0%)
All	All	0.40	0/31756	0.56	9/42973 (0.0%)

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	D	0	2
1	E	0	2
All	All	0	4

There are no bond length outliers.

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	F	113	ARG	NE-CZ-NH1	6.35	123.47	120.30
1	E	113	ARG	NE-CZ-NH1	6.23	123.41	120.30
1	D	113	ARG	NE-CZ-NH1	6.04	123.32	120.30
1	B	113	ARG	NE-CZ-NH2	-5.60	117.50	120.30
1	F	113	ARG	NE-CZ-NH2	-5.23	117.69	120.30
1	B	113	ARG	NE-CZ-NH1	5.12	122.86	120.30
1	A	113	ARG	NE-CZ-NH1	5.08	122.84	120.30
1	E	113	ARG	NE-CZ-NH2	-5.04	117.78	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	113	ARG	NE-CZ-NH2	-5.01	117.79	120.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	D	278	LYS	Peptide
1	D	279	SER	Peptide
1	E	613	THR	Peptide
1	E	614	ASP	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	5160	0	4928	50	0
1	B	5179	0	4949	54	0
1	C	5124	0	4868	84	0
1	D	5193	0	4970	57	0
1	E	5202	0	4992	51	0
1	F	5191	0	4969	62	0
2	A	8	0	1	0	0
2	B	8	0	0	0	0
2	C	8	0	1	3	0
2	D	8	0	1	0	0
2	E	8	0	1	0	0
2	F	8	0	1	0	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	25	0	0	1	0
4	B	45	0	0	1	0
4	C	35	0	0	0	0
4	D	45	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	E	45	0	0	0	0
4	F	25	0	0	0	0
5	A	57	0	78	4	0
5	B	38	0	52	6	0
5	C	57	0	78	4	0
5	D	38	0	52	7	0
5	E	38	0	52	4	0
5	F	38	0	52	6	0
6	A	352	0	0	6	0
6	B	454	0	0	9	0
6	C	305	0	0	10	0
6	D	398	0	0	10	0
6	E	431	0	0	9	0
6	F	393	0	0	5	0
All	All	33928	0	30045	353	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 6.

All (353) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:436:ALA:H	1:C:437:SER:HA	1.23	1.00
1:B:566:GLY:H	1:B:567:THR:HA	1.39	0.85
1:A:113:ARG:HD2	1:E:254:ARG:HD2	1.59	0.82
1:A:646:THR:HG22	1:A:649:LYS:H	1.48	0.79
1:E:646:THR:HG22	1:E:649:LYS:H	1.48	0.78
1:D:169:GLN:NE2	6:D:936:HOH:O	2.16	0.78
1:C:436:ALA:N	1:C:437:SER:HA	2.00	0.76
1:C:524:LEU:HB2	1:C:531:ALA:HB2	1.67	0.76
1:C:657:LYS:O	1:C:661:ASN:N	2.19	0.76
1:A:327:ARG:NH2	6:A:825:HOH:O	2.19	0.75
1:F:435:SER:H	1:F:436:ALA:HA	1.50	0.75
1:C:664:LYS:O	6:C:942:HOH:O	2.04	0.74
1:D:507:GLU:OE2	6:D:979:HOH:O	2.06	0.74
1:F:42:LYS:HZ2	5:F:711:P6G:H91	1.52	0.74
1:C:327:ARG:NH2	6:C:858:HOH:O	2.22	0.72
1:A:439:LEU:O	1:A:568:ARG:NH1	2.23	0.72
1:C:665:CYS:SG	6:C:1067:HOH:O	2.49	0.71
1:C:662:LEU:O	6:C:942:HOH:O	2.09	0.70
1:E:565:ASP:OD1	1:E:567:THR:OG1	2.10	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:483:GLY:HA2	1:F:497:LEU:HD22	1.74	0.69
1:E:208:SER:HB2	5:E:714:P6G:H112	1.74	0.69
1:B:20:GLN:NE2	6:B:1222:HOH:O	2.26	0.69
1:E:493:SER:HA	1:E:496:LYS:HD3	1.74	0.69
1:C:646:THR:HG22	1:C:649:LYS:H	1.57	0.68
1:C:603:GLN:OE1	1:C:604:GLN:NE2	2.24	0.68
1:C:69:ASP:OD1	1:C:327:ARG:NH1	2.26	0.67
1:C:483:GLY:HA2	1:C:497:LEU:HD22	1.76	0.66
1:A:439:LEU:HD21	1:A:447:LYS:HG2	1.76	0.66
1:A:465:GLY:O	1:A:469:ASN:ND2	2.28	0.66
1:B:339:CYS:SG	6:B:1202:HOH:O	2.53	0.65
1:F:4:LYS:NZ	1:F:33:ASP:O	2.26	0.65
1:F:616:SER:HB2	1:F:617:GLY:HA2	1.77	0.65
1:F:671:LEU:O	1:F:675:THR:HB	1.95	0.65
1:B:254:ARG:HD2	1:F:113:ARG:HD2	1.78	0.65
1:D:350:HIS:ND1	6:D:991:HOH:O	2.29	0.65
1:F:493:SER:HA	1:F:496:LYS:HD2	1.79	0.64
1:B:646:THR:HG22	1:B:649:LYS:H	1.63	0.64
1:A:324:ARG:NH2	6:A:1126:HOH:O	2.30	0.63
1:F:646:THR:HG22	1:F:649:LYS:H	1.63	0.63
1:B:104:ASP:O	1:B:106:GLY:N	2.31	0.63
1:F:323:ILE:O	1:F:327:ARG:HG2	1.98	0.63
1:B:591:LYS:NZ	6:B:949:HOH:O	2.32	0.63
1:C:115:LYS:NZ	6:C:954:HOH:O	2.28	0.63
1:B:2:PRO:HD2	1:B:5:THR:OG1	1.99	0.63
1:F:434:LYS:HD2	1:F:560:GLU:HG3	1.79	0.63
1:E:56:GLU:OE1	5:E:715:P6G:O19	2.14	0.62
1:A:254:ARG:HD2	1:C:113:ARG:HD2	1.82	0.62
1:C:452:THR:OG1	2:C:702:BCT:O3	2.08	0.61
1:D:239:LYS:NZ	6:D:1053:HOH:O	2.27	0.61
1:C:5:THR:HG22	1:C:36:SER:HB2	1.83	0.61
1:C:79:PRO:HB3	1:C:250:THR:HG21	1.82	0.61
1:E:113:ARG:HD3	6:E:1031:HOH:O	1.99	0.61
1:F:42:LYS:NZ	5:F:711:P6G:H91	2.16	0.60
1:D:600:ILE:HD11	5:D:715:P6G:H122	1.83	0.60
1:F:5:THR:HG22	1:F:36:SER:HB2	1.82	0.60
1:C:63:ASP:HA	1:C:249:HIS:CD2	2.37	0.60
1:C:413:ASN:ND2	6:C:1006:HOH:O	2.34	0.60
1:A:323:ILE:O	1:A:327:ARG:HG2	2.02	0.60
1:C:664:LYS:O	1:C:666:SER:N	2.34	0.60
1:F:304:LYS:NZ	6:F:1103:HOH:O	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:249:HIS:CE1	1:D:296:LYS:HD2	2.37	0.59
1:F:643:ASP:O	1:F:645:ASN:ND2	2.36	0.59
1:E:105:SER:O	6:E:827:HOH:O	2.16	0.59
1:A:352:ARG:NH2	6:A:1076:HOH:O	2.34	0.59
1:B:566:GLY:N	1:B:567:THR:HA	2.06	0.58
1:C:646:THR:HB	1:C:649:LYS:HD2	1.84	0.58
1:A:524:LEU:HB2	1:A:531:ALA:HB2	1.85	0.58
1:D:654:GLU:CD	1:D:654:GLU:H	2.07	0.58
1:F:40:VAL:HG13	5:F:711:P6G:H141	1.85	0.58
1:C:517:TYR:OH	1:C:632:ARG:NH1	2.36	0.58
1:F:278:LYS:O	1:F:280:LYS:HG2	2.03	0.58
1:F:507:GLU:OE2	6:F:865:HOH:O	2.17	0.57
1:A:483:GLY:HA2	1:A:497:LEU:HD22	1.85	0.57
1:B:42:LYS:HZ3	5:B:715:P6G:C14	2.17	0.57
1:E:42:LYS:HD2	5:E:715:P6G:H61	1.87	0.57
1:A:432:VAL:HG11	1:A:439:LEU:HD12	1.87	0.57
1:D:441:TRP:HZ2	1:D:579:LEU:HD21	1.70	0.57
1:B:596:CYS:HB2	6:B:1202:HOH:O	2.05	0.56
1:C:456:ARG:NE	2:C:702:BCT:O1	2.37	0.56
1:C:514:TYR:CD2	1:C:523:CYS:HB2	2.40	0.56
1:F:417:ASN:O	1:F:419:GLU:N	2.37	0.56
1:A:441:TRP:HE3	1:A:562:LEU:HD13	1.69	0.56
1:D:654:GLU:HG2	6:D:849:HOH:O	2.05	0.56
1:C:671:LEU:O	1:C:675:THR:HG22	2.06	0.56
5:D:714:P6G:O19	6:D:897:HOH:O	2.18	0.55
5:A:712:P6G:O1	6:A:1097:HOH:O	2.16	0.54
1:F:79:PRO:HB3	1:F:250:THR:HG21	1.88	0.54
1:C:50:ARG:HD3	5:C:713:P6G:H182	1.90	0.54
1:F:392:ASP:HA	1:F:585:HIS:CD2	2.43	0.54
1:C:464:MET:HG3	1:C:476:PHE:CG	2.43	0.54
1:E:677:ARG:NH2	6:E:1197:HOH:O	2.40	0.54
1:B:453:ALA:HB3	1:B:456:ARG:HD3	1.91	0.53
1:C:107:PHE:CD1	1:C:115:LYS:HE2	2.43	0.53
1:B:483:GLY:HA2	1:B:497:LEU:HD22	1.90	0.53
1:C:323:ILE:O	1:C:327:ARG:HG2	2.09	0.53
1:D:453:ALA:HB3	1:D:456:ARG:HD3	1.90	0.53
1:F:436:ALA:HB3	1:F:437:SER:HA	1.90	0.53
1:A:41:LYS:O	5:A:710:P6G:H32	2.08	0.53
1:A:570:PRO:HG2	1:A:573:GLU:HG3	1.90	0.53
1:D:646:THR:HG23	1:D:649:LYS:H	1.73	0.53
1:F:23:ARG:HA	1:F:37:VAL:HG13	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:42:LYS:NZ	5:B:715:P6G:H172	2.23	0.52
1:D:93:THR:H	1:D:677:ARG:HH21	1.55	0.52
1:B:42:LYS:HZ3	5:B:715:P6G:H142	1.74	0.52
1:B:392:ASP:HA	1:B:585:HIS:CD2	2.44	0.52
1:D:80:VAL:C	1:D:305:VAL:HG13	2.29	0.52
1:E:280:LYS:NZ	6:E:1037:HOH:O	2.42	0.52
1:C:565:ASP:HB3	1:F:273:HIS:CD2	2.44	0.52
1:F:138:ASP:OD1	6:F:897:HOH:O	2.19	0.52
1:C:467:LEU:HD11	1:C:479:PHE:CE1	2.44	0.52
1:A:136:TYR:HA	1:A:139:LEU:HG	1.91	0.51
1:C:142:PRO:O	1:C:143:ARG:HB2	2.10	0.51
1:C:451:HIS:ND1	1:C:459:GLY:O	2.33	0.51
1:D:42:LYS:HD2	5:D:714:P6G:H92	1.91	0.51
1:D:136:TYR:HA	1:D:139:LEU:HG	1.90	0.51
1:F:113:ARG:HG3	1:F:153:PHE:CD1	2.45	0.51
1:D:535:HIS:CD2	1:D:536:GLN:HG2	2.46	0.51
1:D:483:GLY:HA2	1:D:497:LEU:HD22	1.92	0.51
1:A:407:VAL:HG22	1:A:408:LEU:HG	1.91	0.51
1:C:608:PHE:HA	1:C:612:VAL:HG21	1.93	0.51
1:D:42:LYS:HZ3	5:D:714:P6G:H122	1.74	0.51
1:E:433:LYS:HG2	6:E:1039:HOH:O	2.11	0.51
1:F:613:THR:O	1:F:614:ASP:HB2	2.10	0.51
1:C:279:SER:HB2	1:F:565:ASP:HB3	1.92	0.50
1:C:623:ARG:NH2	1:C:633:ASP:O	2.43	0.50
1:F:42:LYS:HD2	5:F:711:P6G:H52	1.93	0.50
1:E:136:TYR:HA	1:E:139:LEU:HG	1.93	0.50
1:F:63:ASP:HA	1:F:249:HIS:CD2	2.46	0.50
1:E:30:ILE:HD13	1:E:35:PRO:HD2	1.94	0.50
1:B:655:TYR:O	1:B:659:VAL:HG23	2.12	0.50
1:C:417:ASN:O	1:C:419:GLU:N	2.43	0.50
1:D:337:ASP:OD1	6:D:1068:HOH:O	2.19	0.50
1:C:565:ASP:HB2	1:F:29:VAL:HG22	1.93	0.50
1:E:453:ALA:HB3	1:E:456:ARG:HD3	1.94	0.49
1:F:517:TYR:HE2	1:F:632:ARG:HD2	1.77	0.49
1:E:442:ASP:OD1	1:E:442:ASP:N	2.44	0.49
1:C:498:CYS:HA	1:C:514:TYR:HD2	1.77	0.49
1:F:653:GLU:N	1:F:653:GLU:OE1	2.44	0.49
1:C:467:LEU:HD21	1:C:479:PHE:CG	2.47	0.49
1:A:365:LYS:HZ3	5:A:712:P6G:H182	1.76	0.49
1:E:80:VAL:C	1:E:305:VAL:HG13	2.33	0.49
1:C:660:GLY:C	1:C:662:LEU:H	2.15	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:436:ALA:H	1:C:437:SER:CA	2.10	0.49
1:A:93:THR:OG1	1:A:677:ARG:HG2	2.13	0.49
1:A:464:MET:HE3	1:A:476:PHE:HB3	1.95	0.49
1:B:249:HIS:CE1	1:B:296:LYS:HD2	2.47	0.49
1:A:63:ASP:HA	1:A:249:HIS:CD2	2.48	0.49
1:D:103:LYS:HE2	1:D:221:ASP:O	2.13	0.49
1:D:113:ARG:HG3	1:D:153:PHE:CD1	2.48	0.49
1:A:69:ASP:OD1	1:A:327:ARG:NH1	2.46	0.48
1:A:364:GLY:N	6:A:887:HOH:O	2.44	0.48
1:B:80:VAL:C	1:B:305:VAL:HG13	2.33	0.48
1:B:377:CYS:HB3	1:B:389:MET:SD	2.53	0.48
1:C:29:VAL:HG21	1:F:565:ASP:O	2.13	0.48
1:C:42:LYS:HZ2	5:C:713:P6G:H91	1.79	0.48
1:A:362:SER:HB2	1:A:365:LYS:HB2	1.95	0.48
5:C:712:P6G:O19	5:C:712:P6G:O1	2.23	0.48
1:D:667:THR:HG22	6:D:1044:HOH:O	2.14	0.48
1:E:113:ARG:HG3	1:E:153:PHE:CD1	2.48	0.48
1:F:435:SER:N	1:F:436:ALA:HA	2.23	0.48
1:A:441:TRP:O	1:A:443:ASN:N	2.47	0.48
1:B:151:ALA:HB1	1:B:169:GLN:HB2	1.96	0.48
1:B:594:GLU:OE2	6:B:1174:HOH:O	2.20	0.47
1:D:432:VAL:HG11	1:D:439:LEU:HD12	1.96	0.47
1:D:382:MET:SD	1:D:402:CYS:HB3	2.54	0.47
1:D:562:LEU:HD23	1:D:568:ARG:HG2	1.96	0.47
1:D:627:LYS:HB3	1:D:629:LEU:HG	1.96	0.47
1:F:166:ASP:OD1	1:F:166:ASP:N	2.47	0.47
1:E:392:ASP:HA	1:E:585:HIS:CD2	2.49	0.47
1:C:474:CYS:HA	6:C:1067:HOH:O	2.14	0.47
1:C:652:GLY:O	1:C:656:VAL:HG23	2.13	0.47
1:F:411:ASN:ND2	1:F:418:CYS:O	2.48	0.47
1:B:538:VAL:HG11	1:B:571:VAL:HG21	1.95	0.47
1:B:563:CYS:HB2	1:B:566:GLY:HA3	1.95	0.47
1:E:444:LEU:HD12	1:E:444:LEU:HA	1.78	0.47
1:E:517:TYR:CZ	1:E:534:LYS:HD3	2.49	0.47
1:A:672:GLU:HA	1:A:675:THR:HG22	1.97	0.47
1:A:436:ALA:N	1:A:437:SER:HA	2.30	0.47
1:A:27:LYS:NZ	6:A:942:HOH:O	2.47	0.47
1:B:42:LYS:NZ	5:B:715:P6G:H112	2.30	0.47
1:D:107:PHE:CD1	1:D:115:LYS:HE3	2.49	0.47
1:D:444:LEU:O	1:D:447:LYS:HB2	2.15	0.47
1:D:599:LYS:HE3	5:D:715:P6G:H181	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:334:ALA:HA	1:B:335:PRO:HD3	1.81	0.47
1:C:645:ASN:ND2	6:C:1052:HOH:O	2.44	0.46
1:D:18:LYS:HD3	1:D:293:LEU:HB2	1.97	0.46
1:D:646:THR:HG22	1:D:649:LYS:HD3	1.97	0.46
1:F:56:GLU:OE1	5:F:711:P6G:O19	2.22	0.46
1:F:435:SER:H	1:F:436:ALA:CA	2.23	0.46
1:A:80:VAL:C	1:A:305:VAL:HG13	2.36	0.46
1:B:433:LYS:NZ	6:B:1150:HOH:O	2.47	0.46
1:C:613:THR:HA	1:C:614:ASP:HA	1.58	0.46
1:E:377:CYS:HB3	1:E:389:MET:SD	2.55	0.46
1:C:450:CYS:HB2	1:C:531:ALA:HA	1.97	0.46
1:C:603:GLN:NE2	6:C:1100:HOH:O	2.49	0.46
1:E:249:HIS:CE1	1:E:296:LYS:HD2	2.51	0.46
1:B:120:THR:HG22	1:B:188:TYR:HA	1.98	0.46
1:D:392:ASP:HA	1:D:585:HIS:CD2	2.51	0.46
1:A:365:LYS:HZ1	5:A:712:P6G:H92	1.81	0.46
1:B:3:ASP:OD1	1:B:3:ASP:N	2.49	0.46
1:D:42:LYS:NZ	5:D:714:P6G:H122	2.30	0.46
1:D:419:GLU:OE1	1:D:602:ARG:NH2	2.48	0.46
1:E:498:CYS:HB3	1:E:512:GLU:OE1	2.15	0.46
1:E:524:LEU:HB2	1:E:531:ALA:HB2	1.98	0.46
5:E:715:P6G:H91	5:E:715:P6G:H121	1.40	0.46
1:A:542:THR:HB	1:A:555:ASN:HA	1.98	0.46
1:C:377:CYS:HB3	1:C:389:MET:SD	2.55	0.46
1:D:524:LEU:HB2	1:D:531:ALA:HB2	1.96	0.46
1:A:644:ARG:HB3	1:A:650:TYR:HA	1.98	0.46
1:B:105:SER:HB2	1:B:107:PHE:CE1	2.50	0.46
1:D:63:ASP:HA	1:D:249:HIS:CD2	2.51	0.46
1:F:80:VAL:C	1:F:305:VAL:HG13	2.36	0.46
1:A:433:LYS:HE3	1:A:524:LEU:O	2.16	0.46
1:C:600:ILE:O	1:C:603:GLN:HG3	2.16	0.46
1:B:63:ASP:HA	1:B:249:HIS:CD2	2.51	0.45
1:C:664:LYS:C	1:C:666:SER:H	2.20	0.45
1:F:382:MET:SD	1:F:402:CYS:HB3	2.55	0.45
1:B:448:LYS:HD2	1:B:497:LEU:HD21	1.98	0.45
1:F:2:PRO:O	1:F:3:ASP:HB2	2.16	0.45
1:F:224:GLU:OE2	1:F:232:ARG:HD3	2.17	0.45
1:A:308:ARG:HH11	1:A:376:ASP:HA	1.80	0.45
1:B:600:ILE:O	1:B:603:GLN:HG3	2.17	0.45
1:C:453:ALA:HB3	1:C:456:ARG:HD3	1.98	0.45
1:C:483:GLY:C	1:C:497:LEU:HB2	2.37	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:623:ARG:NH1	1:C:633:ASP:HB3	2.32	0.45
1:C:458:ALA:N	2:C:702:BCT:O2	2.50	0.45
1:F:249:HIS:CE1	1:F:296:LYS:HD2	2.52	0.45
1:D:671:LEU:O	1:D:675:THR:HG22	2.17	0.45
1:A:462:ILE:HB	1:A:463:PRO:HD3	1.99	0.45
1:F:280:LYS:HB3	1:F:281:GLU:H	1.56	0.45
1:B:438:ASP:O	1:B:443:ASN:ND2	2.48	0.45
1:F:136:TYR:HA	1:F:139:LEU:HG	1.99	0.45
1:B:42:LYS:HZ3	5:B:715:P6G:H141	1.82	0.44
1:A:437:SER:HB3	1:F:104:ASP:OD1	2.18	0.44
1:B:464:MET:HE1	1:B:480:PHE:HE2	1.82	0.44
1:C:113:ARG:HG3	1:C:153:PHE:CD1	2.52	0.44
1:E:603:GLN:HE21	1:E:603:GLN:HB2	1.59	0.44
1:E:677:ARG:HD2	1:E:677:ARG:N	2.31	0.44
1:B:269:GLN:NE2	6:B:983:HOH:O	2.20	0.44
1:F:353:LEU:HA	1:F:353:LEU:HD23	1.74	0.44
1:E:107:PHE:CD1	1:E:115:LYS:HE2	2.52	0.44
1:F:69:ASP:OD1	1:F:327:ARG:NH1	2.47	0.44
1:D:84:PHE:HZ	1:D:88:LYS:HE3	1.82	0.44
1:D:224:GLU:HB2	1:D:233:LYS:O	2.18	0.44
1:A:640:LYS:HB3	4:A:705:SO4:O3	2.18	0.44
1:B:521:PHE:O	1:B:525:VAL:HG23	2.18	0.44
1:B:42:LYS:HZ1	5:B:715:P6G:H172	1.83	0.44
1:B:337:ASP:HA	1:B:338:GLU:HA	1.65	0.44
1:C:457:THR:HG23	1:C:655:TYR:CE1	2.52	0.44
1:F:334:ALA:HA	1:F:335:PRO:HD2	1.87	0.44
1:A:336:THR:HB	1:E:349:HIS:HB2	2.00	0.44
1:C:305:VAL:HA	1:C:306:PRO:HD3	1.90	0.44
1:A:4:LYS:HG3	1:A:5:THR:H	1.83	0.43
1:C:80:VAL:C	1:C:305:VAL:HG13	2.38	0.43
1:C:382:MET:SD	1:C:402:CYS:HB3	2.58	0.43
1:E:468:TYR:HB2	1:E:476:PHE:HZ	1.83	0.43
1:C:105:SER:HG	1:C:232:ARG:HH22	1.66	0.43
1:C:644:ARG:HA	1:C:649:LYS:HB3	2.00	0.43
1:F:233:LYS:NZ	6:F:957:HOH:O	2.34	0.43
1:A:441:TRP:H	1:A:562:LEU:HD11	1.83	0.43
1:B:434:LYS:HG3	1:B:560:GLU:HG3	2.00	0.43
1:E:334:ALA:HB3	1:E:337:ASP:OD1	2.18	0.43
1:E:353:LEU:HD23	1:E:353:LEU:HA	1.81	0.43
1:D:471:ILE:HD12	1:D:473:HIS:CE1	2.53	0.43
1:E:143:ARG:HB3	6:E:1200:HOH:O	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:460:TRP:O	1:C:464:MET:HB2	2.19	0.43
1:E:448:LYS:HD2	1:E:497:LEU:HD21	2.00	0.43
1:E:280:LYS:H	1:E:280:LYS:CD	2.31	0.43
1:C:249:HIS:CE1	1:C:296:LYS:HD2	2.54	0.43
1:E:527:LYS:HE2	6:E:1170:HOH:O	2.19	0.43
1:A:444:LEU:O	1:A:447:LYS:HB2	2.19	0.42
1:C:498:CYS:HA	1:C:514:TYR:CD2	2.54	0.42
1:F:278:LYS:O	1:F:280:LYS:N	2.52	0.42
1:F:444:LEU:HD12	1:F:444:LEU:HA	1.86	0.42
1:A:439:LEU:HD22	1:A:439:LEU:HA	1.82	0.42
1:B:105:SER:HB2	1:B:107:PHE:HE1	1.84	0.42
1:C:430:ALA:HB3	1:C:562:LEU:HB2	2.00	0.42
1:D:601:LEU:HD23	1:D:601:LEU:HA	1.90	0.42
1:C:471:ILE:HD12	1:C:473:HIS:CE1	2.54	0.42
1:E:467:LEU:HD21	1:E:479:PHE:CE1	2.55	0.42
1:A:249:HIS:CE1	1:A:296:LYS:HD2	2.55	0.42
1:D:419:GLU:OE2	1:D:606:HIS:NE2	2.53	0.42
1:A:554:LEU:HD22	1:A:559:TYR:OH	2.19	0.42
1:D:224:GLU:OE2	1:D:232:ARG:HD3	2.20	0.42
1:D:434:LYS:HD3	1:D:557:LYS:O	2.20	0.42
1:E:382:MET:SD	1:E:402:CYS:HB3	2.60	0.42
1:A:625:GLU:HB2	1:A:626:THR:H	1.65	0.42
1:C:643:ASP:O	1:C:649:LYS:HD3	2.20	0.42
1:E:63:ASP:HA	1:E:249:HIS:CD2	2.54	0.42
1:E:538:VAL:HB	1:E:571:VAL:HG11	2.02	0.42
1:A:457:THR:HG23	1:A:655:TYR:CE1	2.54	0.42
1:E:349:HIS:HA	1:E:352:ARG:HB3	2.02	0.42
1:F:377:CYS:HB3	1:F:389:MET:SD	2.59	0.42
1:B:75:ASN:ND2	6:B:1047:HOH:O	2.43	0.41
1:B:460:TRP:O	1:B:463:PRO:HD2	2.20	0.41
1:D:279:SER:CB	1:D:283:GLN:HG3	2.50	0.41
1:B:625:GLU:HA	1:B:626:THR:HA	1.67	0.41
1:D:141:GLU:HA	6:D:1079:HOH:O	2.19	0.41
1:E:625:GLU:HA	1:E:626:THR:HA	1.70	0.41
1:D:18:LYS:HD2	1:D:287:SER:HB2	2.01	0.41
1:D:279:SER:CB	1:D:280:LYS:HA	2.50	0.41
1:D:421:THR:HA	1:D:422:PRO:HD2	1.89	0.41
1:D:465:GLY:HA2	1:D:662:LEU:HD13	2.02	0.41
1:E:471:ILE:HD12	1:E:473:HIS:CE1	2.55	0.41
1:E:520:ALA:O	1:E:523:CYS:HB3	2.21	0.41
1:C:662:LEU:HG	6:C:942:HOH:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:365:LYS:HZ3	5:D:715:P6G:H151	1.85	0.41
1:B:260:GLU:HB2	4:B:707:SO4:O3	2.21	0.41
1:D:300:HIS:ND1	4:D:710:SO4:O2	2.42	0.41
1:E:517:TYR:CE2	1:E:534:LYS:HD3	2.56	0.41
1:B:305:VAL:HA	1:B:306:PRO:HD3	1.92	0.41
1:C:622:PHE:HZ	1:C:638:LEU:HG	1.84	0.41
1:E:29:VAL:HG12	1:E:30:ILE:HG23	2.03	0.41
1:E:358:TRP:CE2	1:E:366:ILE:HG13	2.55	0.41
1:F:331:CYS:HA	1:F:332:PRO:HD2	1.85	0.41
1:F:614:ASP:HB3	1:F:615:CYS:H	1.67	0.41
1:B:425:GLY:HA2	1:B:584:ASN:OD1	2.21	0.41
1:E:555:ASN:HB2	1:E:558:ASP:OD2	2.21	0.41
1:F:113:ARG:HG2	1:F:153:PHE:O	2.21	0.41
1:F:439:LEU:HD21	1:F:447:LYS:HG2	2.03	0.41
1:B:79:PRO:HB3	1:B:250:THR:HG21	2.02	0.41
1:D:273:HIS:HD2	6:D:1160:HOH:O	2.04	0.41
1:A:30:ILE:HD13	1:A:35:PRO:HD2	2.02	0.41
1:B:45:TYR:OH	6:B:910:HOH:O	2.22	0.41
1:B:460:TRP:C	1:B:463:PRO:HD2	2.41	0.41
1:C:4:LYS:HA	1:C:4:LYS:HD2	1.85	0.41
1:C:402:CYS:HA	1:C:674:CYS:HB3	2.03	0.41
1:C:654:GLU:OE1	1:F:88:LYS:NZ	2.54	0.41
1:E:675:THR:HG21	6:E:1132:HOH:O	2.21	0.41
1:F:444:LEU:O	1:F:447:LYS:HB2	2.21	0.41
1:A:239:LYS:HE2	1:A:239:LYS:HB2	1.92	0.41
1:B:113:ARG:HG3	1:B:153:PHE:CE1	2.56	0.41
1:C:42:LYS:NZ	5:C:713:P6G:H91	2.35	0.41
1:C:192:PHE:CE1	1:C:210:ILE:HG13	2.55	0.41
1:C:326:LEU:HD23	1:C:326:LEU:HA	1.88	0.41
1:E:12:SER:HA	6:E:938:HOH:O	2.21	0.41
1:B:146:LEU:HD22	1:B:326:LEU:HD22	2.02	0.40
1:D:471:ILE:HD12	1:D:473:HIS:NE2	2.36	0.40
1:E:30:ILE:HD12	1:E:31:PRO:O	2.20	0.40
1:A:441:TRP:N	1:A:562:LEU:HD21	2.37	0.40
1:D:676:PHE:O	1:D:677:ARG:HB2	2.21	0.40
1:C:174:CYS:O	1:C:174:CYS:SG	2.79	0.40
1:C:448:LYS:O	1:C:530:VAL:HG12	2.21	0.40
1:D:68:TYR:CE2	1:D:72:LEU:HD11	2.56	0.40
1:B:498:CYS:HB3	1:B:512:GLU:OE1	2.21	0.40
1:C:146:LEU:HD22	1:C:326:LEU:HD22	2.03	0.40
1:C:466:LEU:HD23	1:C:466:LEU:HA	1.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:470:LYS:HE2	1:D:470:LYS:HB3	1.88	0.40
1:F:451:HIS:CE1	1:F:464:MET:HE2	2.57	0.40
5:F:711:P6G:H81	6:F:890:HOH:O	2.22	0.40
1:C:335:PRO:C	1:C:337:ASP:H	2.25	0.40
1:C:589:THR:HG21	1:C:594:GLU:HA	2.03	0.40
1:F:29:VAL:HG12	1:F:30:ILE:HG22	2.03	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	672/698 (96%)	621 (92%)	42 (6%)	9 (1%)	10	6
1	B	675/698 (97%)	630 (93%)	39 (6%)	6 (1%)	14	11
1	C	672/698 (96%)	617 (92%)	46 (7%)	9 (1%)	10	6
1	D	673/698 (96%)	630 (94%)	37 (6%)	6 (1%)	14	11
1	E	672/698 (96%)	632 (94%)	35 (5%)	5 (1%)	19	16
1	F	674/698 (97%)	623 (92%)	43 (6%)	8 (1%)	11	7
All	All	4038/4188 (96%)	3753 (93%)	242 (6%)	43 (1%)	12	8

All (43) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	416	ASP
1	A	442	ASP
1	A	614	ASP
1	B	104	ASP
1	B	105	SER
1	E	614	ASP

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Mol	Chain	Res	Type
1	F	279	SER
1	F	614	ASP
1	B	442	ASP
1	C	439	LEU
1	C	445	LYS
1	C	625	GLU
1	D	339	CYS
1	D	437	SER
1	E	338	GLU
1	E	481	SER
1	F	3	ASP
1	A	334	ALA
1	A	415	SER
1	A	665	CYS
1	C	457	THR
1	C	665	CYS
1	F	439	LEU
1	F	615	CYS
1	F	624	SER
1	A	624	SER
1	B	334	ALA
1	C	436	ALA
1	D	334	ALA
1	D	624	SER
1	F	280	LYS
1	A	257	GLY
1	A	339	CYS
1	B	625	GLU
1	C	417	ASN
1	D	614	ASP
1	E	339	CYS
1	B	614	ASP
1	C	664	LYS
1	D	257	GLY
1	F	334	ALA
1	E	257	GLY
1	C	142	PRO

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	547/585 (94%)	514 (94%)	33 (6%)	16	14
1	B	547/585 (94%)	519 (95%)	28 (5%)	20	19
1	C	539/585 (92%)	503 (93%)	36 (7%)	13	11
1	D	555/585 (95%)	535 (96%)	20 (4%)	30	32
1	E	560/585 (96%)	525 (94%)	35 (6%)	15	13
1	F	553/585 (94%)	521 (94%)	32 (6%)	17	15
All	All	3301/3510 (94%)	3117 (94%)	184 (6%)	17	16

All (184) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	5	THR
1	A	29	VAL
1	A	30	ILE
1	A	71	TYR
1	A	104	ASP
1	A	113	ARG
1	A	165	THR
1	A	224	GLU
1	A	239	LYS
1	A	260	GLU
1	A	279	SER
1	A	281	GLU
1	A	283	GLN
1	A	284	LEU
1	A	305	VAL
1	A	326	LEU
1	A	330	THR
1	A	339	CYS
1	A	352	ARG
1	A	377	CYS
1	A	407	VAL
1	A	413	ASN
1	A	418	CYS
1	A	439	LEU
1	A	467	LEU
1	A	489	LYS

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Mol	Chain	Res	Type
1	A	562	LEU
1	A	581	ARG
1	A	603	GLN
1	A	611	ASN
1	A	646	THR
1	A	671	LEU
1	A	675	THR
1	B	28	SER
1	B	29	VAL
1	B	36	SER
1	B	71	TYR
1	B	104	ASP
1	B	113	ARG
1	B	148	LYS
1	B	182	LEU
1	B	272	GLU
1	B	284	LEU
1	B	326	LEU
1	B	337	ASP
1	B	339	CYS
1	B	353	LEU
1	B	365	LYS
1	B	392	ASP
1	B	439	LEU
1	B	441	TRP
1	B	444	LEU
1	B	489	LYS
1	B	568	ARG
1	B	573	GLU
1	B	581	ARG
1	B	591	LYS
1	B	603	GLN
1	B	646	THR
1	B	671	LEU
1	B	675	THR
1	C	12	SER
1	C	32	SER
1	C	36	SER
1	C	71	TYR
1	C	113	ARG
1	C	144	LYS
1	C	182	LEU

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Mol	Chain	Res	Type
1	C	184	GLN
1	C	259	LYS
1	C	260	GLU
1	C	276	LYS
1	C	305	VAL
1	C	326	LEU
1	C	327	ARG
1	C	330	THR
1	C	339	CYS
1	C	352	ARG
1	C	421	THR
1	C	442	ASP
1	C	444	LEU
1	C	464	MET
1	C	467	LEU
1	C	475	ARG
1	C	482	GLU
1	C	488	SER
1	C	489	LYS
1	C	523	CYS
1	C	556	GLU
1	C	567	THR
1	C	581	ARG
1	C	603	GLN
1	C	643	ASP
1	C	646	THR
1	C	648	GLU
1	C	653	GLU
1	C	671	LEU
1	D	3	ASP
1	D	5	THR
1	D	29	VAL
1	D	71	TYR
1	D	113	ARG
1	D	141	GLU
1	D	144	LYS
1	D	281	GLU
1	D	284	LEU
1	D	326	LEU
1	D	328	GLU
1	D	338	GLU
1	D	365	LYS

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Mol	Chain	Res	Type
1	D	421	THR
1	D	439	LEU
1	D	497	LEU
1	D	499	MET
1	D	581	ARG
1	D	603	GLN
1	D	654	GLU
1	E	4	LYS
1	E	28	SER
1	E	30	ILE
1	E	71	TYR
1	E	88	LYS
1	E	259	LYS
1	E	280	LYS
1	E	284	LEU
1	E	305	VAL
1	E	338	GLU
1	E	339	CYS
1	E	352	ARG
1	E	365	LYS
1	E	433	LYS
1	E	438	ASP
1	E	439	LEU
1	E	444	LEU
1	E	467	LEU
1	E	474	CYS
1	E	481	SER
1	E	501	SER
1	E	562	LEU
1	E	567	THR
1	E	581	ARG
1	E	591	LYS
1	E	603	GLN
1	E	611	ASN
1	E	616	SER
1	E	625	GLU
1	E	626	THR
1	E	640	LYS
1	E	646	THR
1	E	663	ARG
1	E	671	LEU
1	E	677	ARG

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Mol	Chain	Res	Type
1	F	30	ILE
1	F	71	TYR
1	F	89	GLU
1	F	104	ASP
1	F	144	LYS
1	F	166	ASP
1	F	182	LEU
1	F	222	GLN
1	F	236	ASP
1	F	260	GLU
1	F	284	LEU
1	F	305	VAL
1	F	326	LEU
1	F	434	LYS
1	F	444	LEU
1	F	469	ASN
1	F	471	ILE
1	F	473	HIS
1	F	489	LYS
1	F	568	ARG
1	F	569	LYS
1	F	581	ARG
1	F	603	GLN
1	F	615	CYS
1	F	627	LYS
1	F	644	ARG
1	F	646	THR
1	F	657	LYS
1	F	662	LEU
1	F	663	ARG
1	F	671	LEU
1	F	675	THR

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

Mol	Chain	Res	Type
1	A	469	ASN
1	A	603	GLN
1	F	222	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](#)

Of 82 ligands modelled in this entry, 12 are monoatomic - leaving 70 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	$\# Z > 2$
4	SO4	E	705	-	4,4,4	0.25	0	6,6,6	0.07	0
4	SO4	A	709	-	4,4,4	0.25	0	6,6,6	0.11	0
2	BCT	E	701	3	3,3,3	0.68	0	2,3,3	0.62	0
4	SO4	C	706	-	4,4,4	0.26	0	6,6,6	0.12	0
2	BCT	A	701	3	3,3,3	0.44	0	2,3,3	0.68	0
4	SO4	E	709	-	4,4,4	0.24	0	6,6,6	0.18	0
2	BCT	D	701	3	3,3,3	0.44	0	2,3,3	0.43	0
2	BCT	A	702	3	3,3,3	0.67	0	2,3,3	0.41	0
2	BCT	C	701	3	3,3,3	0.43	0	2,3,3	0.35	0
4	SO4	E	706	-	4,4,4	0.72	0	6,6,6	0.89	0
4	SO4	E	710	-	4,4,4	0.24	0	6,6,6	0.12	0
4	SO4	B	708	-	4,4,4	0.25	0	6,6,6	0.24	0
5	P6G	C	714	-	18,18,18	0.67	0	17,17,17	1.56	0
4	SO4	C	705	-	4,4,4	0.23	0	6,6,6	0.11	0
4	SO4	E	711	-	4,4,4	0.23	0	6,6,6	0.13	0
4	SO4	F	708	-	4,4,4	0.26	0	6,6,6	0.11	0
4	SO4	C	710	-	4,4,4	0.26	0	6,6,6	0.09	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	P6G	C	713	-	18,18,18	0.68	0	17,17,17	1.56	1 (5%)
5	P6G	F	710	-	18,18,18	0.72	0	17,17,17	1.54	1 (5%)
4	SO4	B	712	-	4,4,4	0.26	0	6,6,6	0.07	0
4	SO4	B	707	-	4,4,4	0.26	0	6,6,6	0.13	0
4	SO4	B	710	-	4,4,4	0.26	0	6,6,6	0.21	0
4	SO4	B	706	-	4,4,4	0.28	0	6,6,6	0.16	0
4	SO4	D	705	-	4,4,4	0.24	0	6,6,6	0.11	0
4	SO4	F	705	-	4,4,4	0.24	0	6,6,6	0.12	0
4	SO4	C	711	-	4,4,4	0.24	0	6,6,6	0.09	0
4	SO4	F	706	-	4,4,4	0.29	0	6,6,6	0.12	0
2	BCT	F	702	3	3,3,3	0.78	0	2,3,3	0.63	0
5	P6G	A	711	-	18,18,18	0.66	0	17,17,17	1.56	2 (11%)
4	SO4	D	713	-	4,4,4	0.26	0	6,6,6	0.05	0
4	SO4	B	711	-	4,4,4	0.27	0	6,6,6	0.13	0
4	SO4	E	708	-	4,4,4	0.25	0	6,6,6	0.06	0
2	BCT	C	702	3	3,3,3	0.74	0	2,3,3	0.60	0
5	P6G	A	712	-	18,18,18	0.71	0	17,17,17	1.49	0
5	P6G	B	714	-	18,18,18	0.75	0	17,17,17	1.32	2 (11%)
5	P6G	F	711	-	18,18,18	0.71	0	17,17,17	1.66	2 (11%)
4	SO4	A	706	-	4,4,4	0.27	0	6,6,6	0.22	0
4	SO4	A	705	-	4,4,4	0.27	0	6,6,6	0.16	0
4	SO4	D	712	-	4,4,4	0.22	0	6,6,6	0.13	0
4	SO4	D	706	-	4,4,4	0.25	0	6,6,6	0.13	0
5	P6G	E	715	-	18,18,18	0.74	0	17,17,17	1.42	0
2	BCT	B	702	3	3,3,3	0.48	0	2,3,3	0.92	0
2	BCT	B	701	3	3,3,3	0.33	0	2,3,3	0.86	0
4	SO4	D	711	-	4,4,4	0.25	0	6,6,6	0.13	0
2	BCT	D	702	3	3,3,3	0.60	0	2,3,3	0.44	0
4	SO4	D	707	-	4,4,4	0.23	0	6,6,6	0.13	0
4	SO4	E	707	-	4,4,4	0.25	0	6,6,6	0.17	0
4	SO4	B	713	-	4,4,4	0.25	0	6,6,6	0.15	0
4	SO4	A	708	-	4,4,4	0.28	0	6,6,6	0.09	0
4	SO4	C	707	-	4,4,4	0.24	0	6,6,6	0.23	0
4	SO4	B	705	-	4,4,4	0.24	0	6,6,6	0.22	0
4	SO4	B	709	-	4,4,4	0.24	0	6,6,6	0.19	0
5	P6G	A	710	-	18,18,18	0.71	0	17,17,17	1.51	0
5	P6G	D	714	-	18,18,18	0.70	0	17,17,17	1.58	0
4	SO4	F	707	-	4,4,4	0.24	0	6,6,6	0.15	0
4	SO4	C	709	-	4,4,4	0.27	0	6,6,6	0.16	0
2	BCT	E	702	3	3,3,3	0.42	0	2,3,3	0.90	0
5	P6G	C	712	-	18,18,18	0.73	0	17,17,17	1.45	0
4	SO4	D	709	-	4,4,4	0.28	0	6,6,6	0.17	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	SO4	D	708	-	4,4,4	0.21	0	6,6,6	0.15	0
2	BCT	F	701	3	3,3,3	0.38	0	2,3,3	0.19	0
5	P6G	B	715	-	18,18,18	0.72	0	17,17,17	1.51	1 (5%)
4	SO4	F	709	-	4,4,4	0.25	0	6,6,6	0.12	0
4	SO4	A	707	-	4,4,4	0.21	0	6,6,6	0.15	0
5	P6G	E	714	-	18,18,18	0.69	0	17,17,17	1.58	2 (11%)
4	SO4	E	712	-	4,4,4	0.25	0	6,6,6	0.14	0
5	P6G	D	715	-	18,18,18	0.62	0	17,17,17	1.77	3 (17%)
4	SO4	C	708	-	4,4,4	0.23	0	6,6,6	0.15	0
4	SO4	E	713	-	4,4,4	0.24	0	6,6,6	0.05	0
4	SO4	D	710	-	4,4,4	0.22	0	6,6,6	0.20	0

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
5	P6G	D	714	-	-	14/16/16/16	-
5	P6G	C	712	-	-	11/16/16/16	-
5	P6G	A	711	-	-	10/16/16/16	-
5	P6G	B	714	-	-	4/16/16/16	-
5	P6G	A	712	-	-	11/16/16/16	-
5	P6G	C	714	-	-	11/16/16/16	-
5	P6G	B	715	-	-	10/16/16/16	-
5	P6G	E	714	-	-	9/16/16/16	-
5	P6G	F	711	-	-	13/16/16/16	-
5	P6G	D	715	-	-	9/16/16/16	-
5	P6G	F	710	-	-	8/16/16/16	-
5	P6G	C	713	-	-	7/16/16/16	-
5	P6G	E	715	-	-	12/16/16/16	-
5	P6G	A	710	-	-	10/16/16/16	-

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	714	P6G	C14-O13-C12	2.46	124.04	113.26

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	F	711	P6G	O4-C5-C6	2.34	121.00	110.35
5	F	711	P6G	C8-O7-C6	2.23	123.00	113.26
5	D	715	P6G	O7-C6-C5	2.22	120.46	110.35
5	C	713	P6G	O10-C9-C8	2.19	120.33	110.35
5	D	715	P6G	O13-C12-C11	2.15	120.13	110.35
5	B	714	P6G	O13-C14-C15	2.12	120.01	110.35
5	A	711	P6G	O16-C17-C18	2.06	119.17	110.11
5	D	715	P6G	O4-C5-C6	2.05	119.69	110.35
5	B	715	P6G	O16-C17-C18	2.04	119.11	110.11
5	F	710	P6G	O16-C17-C18	2.04	119.11	110.11
5	E	714	P6G	C17-O16-C15	2.03	122.16	113.26
5	B	714	P6G	O4-C3-C2	2.01	118.96	110.11
5	A	711	P6G	O13-C12-C11	2.00	119.48	110.35

There are no chirality outliers.

All (139) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	D	714	P6G	C12-C11-O10-C9
5	E	715	P6G	C12-C11-O10-C9
5	C	712	P6G	C14-C15-O16-C17
5	E	714	P6G	C2-C3-O4-C5
5	F	710	P6G	C6-C5-O4-C3
5	B	715	P6G	C11-C12-O13-C14
5	B	715	P6G	C8-C9-O10-C11
5	E	714	P6G	O10-C11-C12-O13
5	F	711	P6G	O13-C14-C15-O16
5	C	714	P6G	C11-C12-O13-C14
5	A	711	P6G	O4-C5-C6-O7
5	F	711	P6G	O4-C5-C6-O7
5	D	715	P6G	O13-C14-C15-O16
5	F	711	P6G	C12-C11-O10-C9
5	E	715	P6G	O4-C5-C6-O7
5	C	714	P6G	O4-C5-C6-O7
5	A	710	P6G	C14-C15-O16-C17
5	E	715	P6G	O10-C11-C12-O13
5	F	710	P6G	O4-C5-C6-O7
5	A	710	P6G	O1-C2-C3-O4
5	C	712	P6G	O16-C17-C18-O19
5	D	714	P6G	O1-C2-C3-O4
5	E	714	P6G	O1-C2-C3-O4
5	A	712	P6G	C5-C6-O7-C8

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Mol	Chain	Res	Type	Atoms
5	C	712	P6G	C9-C8-O7-C6
5	A	711	P6G	O13-C14-C15-O16
5	D	714	P6G	O13-C14-C15-O16
5	F	711	P6G	O10-C11-C12-O13
5	C	712	P6G	O13-C14-C15-O16
5	A	710	P6G	O16-C17-C18-O19
5	A	712	P6G	O16-C17-C18-O19
5	C	714	P6G	O1-C2-C3-O4
5	C	712	P6G	O7-C8-C9-O10
5	B	715	P6G	O10-C11-C12-O13
5	C	714	P6G	O13-C14-C15-O16
5	C	713	P6G	O1-C2-C3-O4
5	E	715	P6G	O16-C17-C18-O19
5	F	711	P6G	O1-C2-C3-O4
5	F	711	P6G	O16-C17-C18-O19
5	F	711	P6G	O7-C8-C9-O10
5	A	710	P6G	O13-C14-C15-O16
5	D	714	P6G	O7-C8-C9-O10
5	D	715	P6G	O4-C5-C6-O7
5	C	712	P6G	O4-C5-C6-O7
5	C	713	P6G	O16-C17-C18-O19
5	D	715	P6G	O1-C2-C3-O4
5	F	710	P6G	O16-C17-C18-O19
5	A	711	P6G	O7-C8-C9-O10
5	A	712	P6G	C12-C11-O10-C9
5	B	715	P6G	O4-C5-C6-O7
5	C	714	P6G	O7-C8-C9-O10
5	A	712	P6G	O1-C2-C3-O4
5	F	710	P6G	O1-C2-C3-O4
5	A	710	P6G	C11-C12-O13-C14
5	B	715	P6G	C14-C15-O16-C17
5	E	715	P6G	O13-C14-C15-O16
5	E	714	P6G	O13-C14-C15-O16
5	E	714	P6G	C8-C9-O10-C11
5	A	710	P6G	O4-C5-C6-O7
5	B	715	P6G	O7-C8-C9-O10
5	A	711	P6G	C14-C15-O16-C17
5	C	714	P6G	C6-C5-O4-C3
5	D	715	P6G	O7-C8-C9-O10
5	A	710	P6G	O7-C8-C9-O10
5	F	710	P6G	O10-C11-C12-O13
5	F	710	P6G	O7-C8-C9-O10

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Mol	Chain	Res	Type	Atoms
5	E	714	P6G	O7-C8-C9-O10
5	D	714	P6G	O10-C11-C12-O13
5	F	711	P6G	C15-C14-O13-C12
5	D	715	P6G	O10-C11-C12-O13
5	D	714	P6G	C9-C8-O7-C6
5	F	710	P6G	O13-C14-C15-O16
5	C	712	P6G	O1-C2-C3-O4
5	C	712	P6G	C8-C9-O10-C11
5	A	712	P6G	C15-C14-O13-C12
5	B	715	P6G	O1-C2-C3-O4
5	D	714	P6G	C18-C17-O16-C15
5	A	712	P6G	C2-C3-O4-C5
5	B	715	P6G	C5-C6-O7-C8
5	E	715	P6G	C11-C12-O13-C14
5	E	715	P6G	C18-C17-O16-C15
5	F	711	P6G	C2-C3-O4-C5
5	C	714	P6G	C15-C14-O13-C12
5	C	713	P6G	C9-C8-O7-C6
5	D	715	P6G	C6-C5-O4-C3
5	E	714	P6G	C6-C5-O4-C3
5	D	715	P6G	C11-C12-O13-C14
5	E	714	P6G	C5-C6-O7-C8
5	C	714	P6G	C12-C11-O10-C9
5	A	711	P6G	C8-C9-O10-C11
5	B	714	P6G	C5-C6-O7-C8
5	B	714	P6G	C9-C8-O7-C6
5	C	712	P6G	C5-C6-O7-C8
5	B	714	P6G	C6-C5-O4-C3
5	B	714	P6G	O4-C5-C6-O7
5	D	714	P6G	O16-C17-C18-O19
5	D	715	P6G	O16-C17-C18-O19
5	C	713	P6G	O13-C14-C15-O16
5	E	715	P6G	O7-C8-C9-O10
5	E	715	P6G	C8-C9-O10-C11
5	C	712	P6G	C11-C12-O13-C14
5	C	714	P6G	O16-C17-C18-O19
5	A	711	P6G	C5-C6-O7-C8
5	E	715	P6G	O1-C2-C3-O4
5	A	711	P6G	C15-C14-O13-C12
5	F	711	P6G	C5-C6-O7-C8
5	C	714	P6G	C14-C15-O16-C17
5	C	713	P6G	C12-C11-O10-C9

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Mol	Chain	Res	Type	Atoms
5	A	711	P6G	O1-C2-C3-O4
5	A	712	P6G	C9-C8-O7-C6
5	A	710	P6G	C15-C14-O13-C12
5	D	714	P6G	C15-C14-O13-C12
5	A	712	P6G	O10-C11-C12-O13
5	B	715	P6G	C6-C5-O4-C3
5	F	710	P6G	C9-C8-O7-C6
5	B	715	P6G	C9-C8-O7-C6
5	A	712	P6G	C6-C5-O4-C3
5	A	710	P6G	C2-C3-O4-C5
5	A	711	P6G	C11-C12-O13-C14
5	A	712	P6G	O13-C14-C15-O16
5	D	715	P6G	C18-C17-O16-C15
5	F	711	P6G	C14-C15-O16-C17
5	C	714	P6G	O10-C11-C12-O13
5	E	715	P6G	C5-C6-O7-C8
5	F	711	P6G	C9-C8-O7-C6
5	E	714	P6G	C15-C14-O13-C12
5	F	711	P6G	C18-C17-O16-C15
5	D	714	P6G	C14-C15-O16-C17
5	D	714	P6G	C2-C3-O4-C5
5	A	711	P6G	C6-C5-O4-C3
5	D	714	P6G	C11-C12-O13-C14
5	A	710	P6G	C18-C17-O16-C15
5	A	712	P6G	C11-C12-O13-C14
5	C	712	P6G	O10-C11-C12-O13
5	E	715	P6G	C2-C3-O4-C5
5	C	713	P6G	C5-C6-O7-C8
5	D	714	P6G	C5-C6-O7-C8
5	D	714	P6G	O4-C5-C6-O7
5	C	713	P6G	O7-C8-C9-O10

There are no ring outliers.

14 monomers are involved in 37 short contacts:

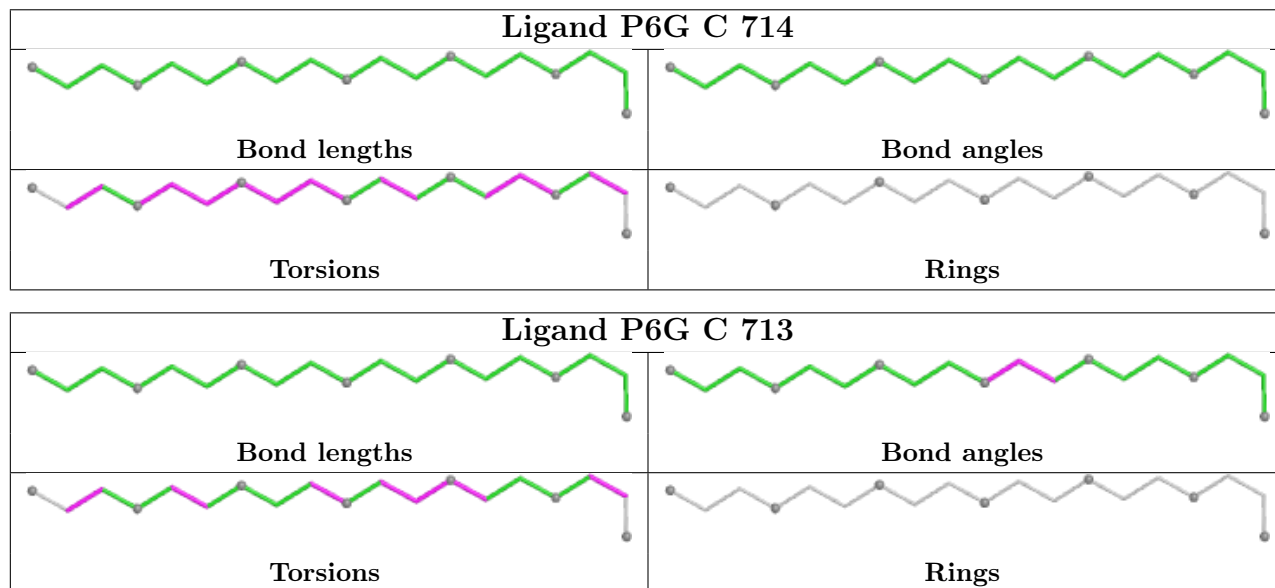
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	C	713	P6G	3	0
4	B	707	SO4	1	0
2	C	702	BCT	3	0
5	A	712	P6G	3	0
5	F	711	P6G	6	0
4	A	705	SO4	1	0

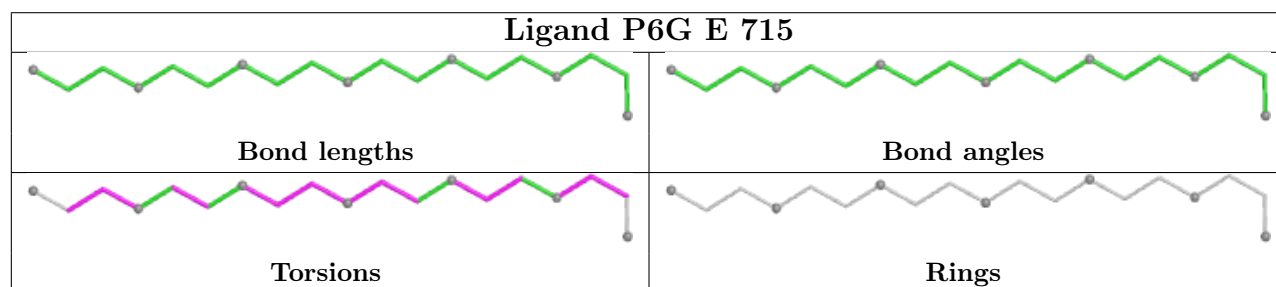
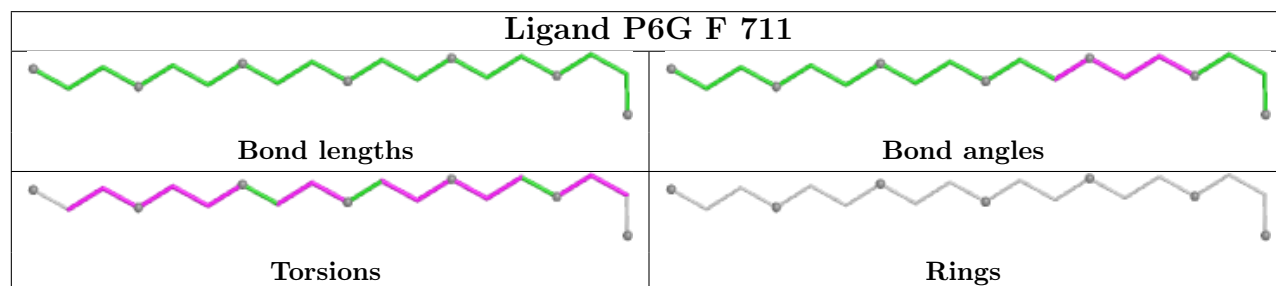
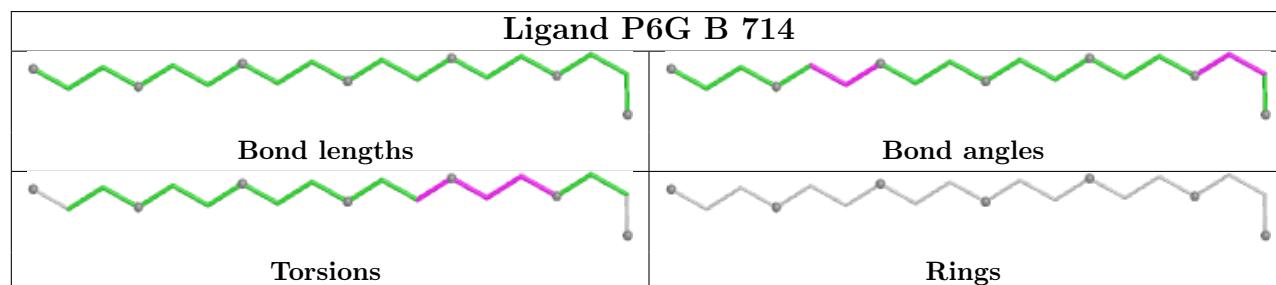
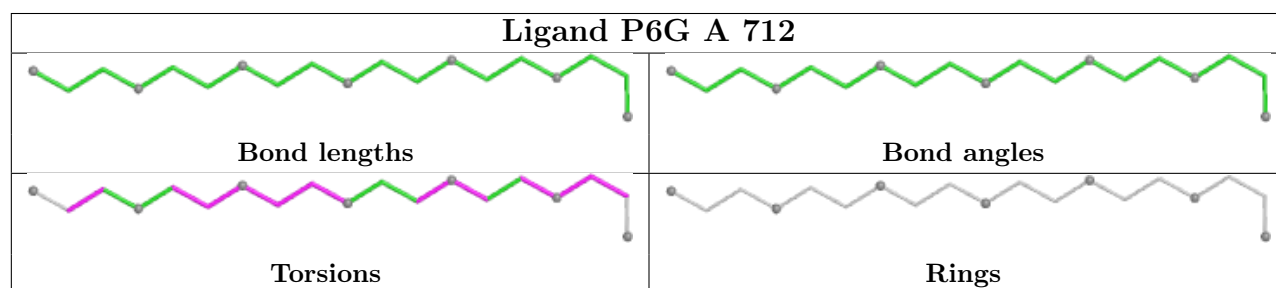
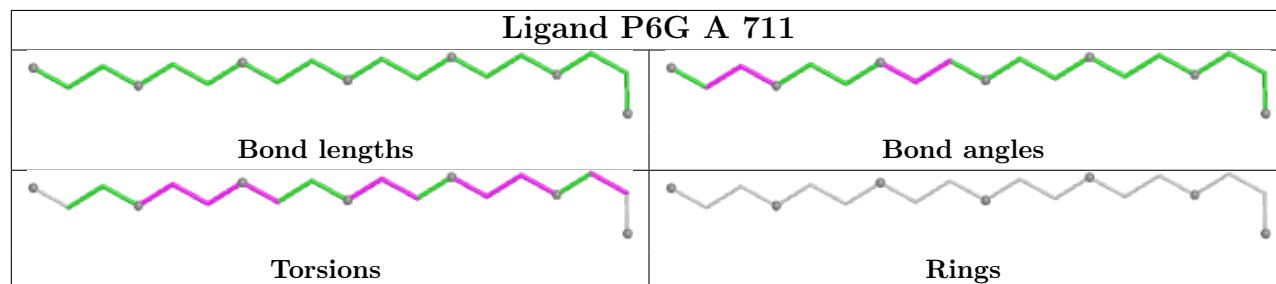
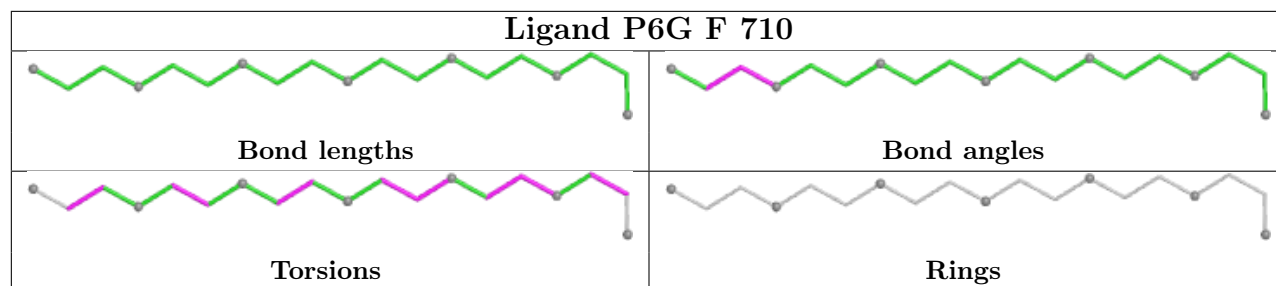
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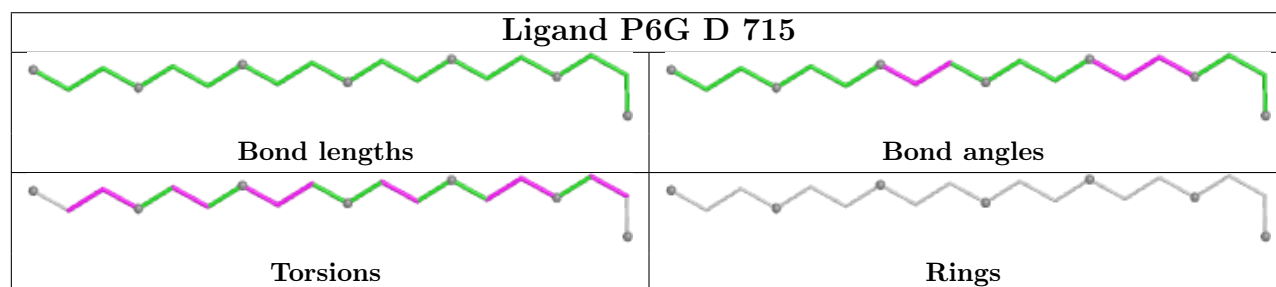
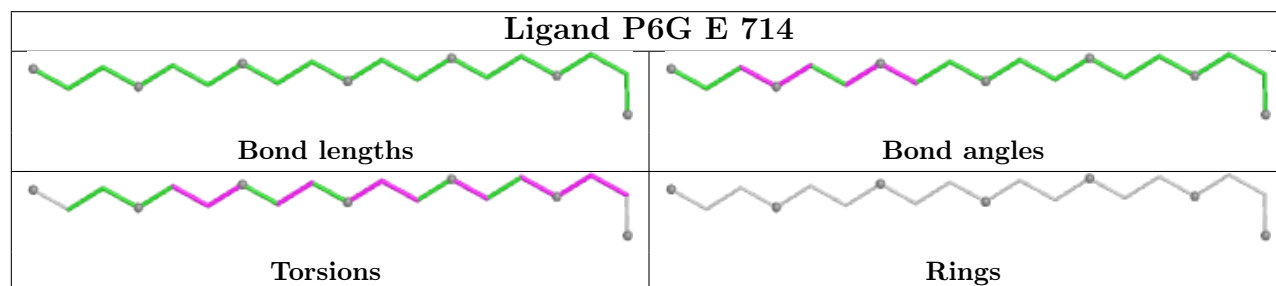
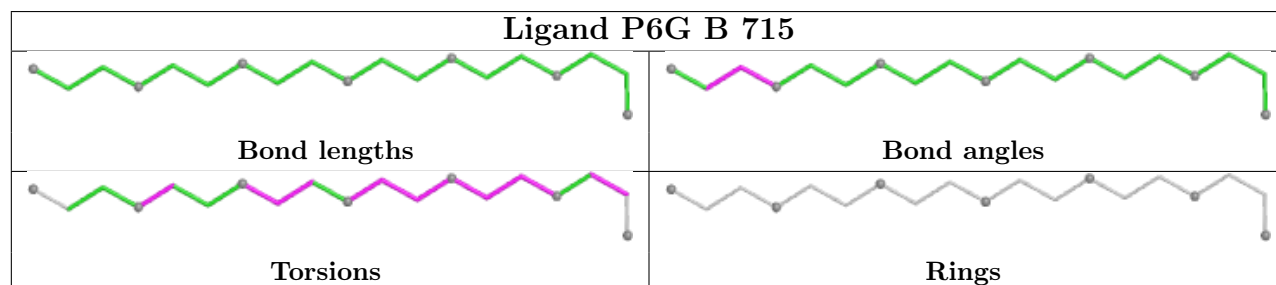
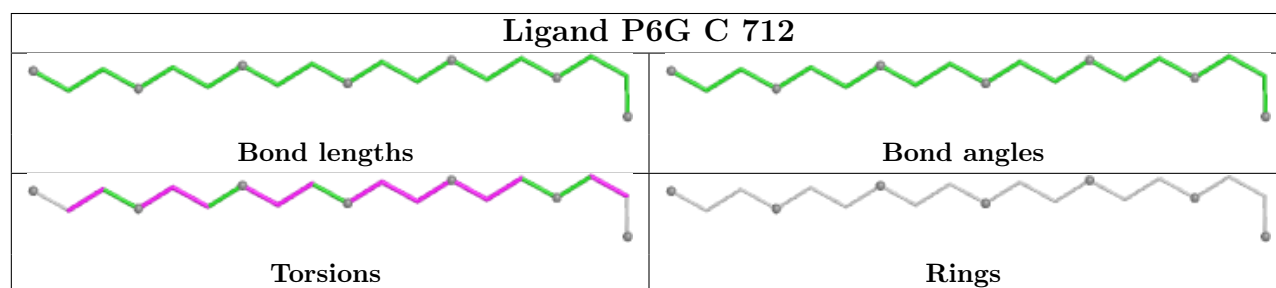
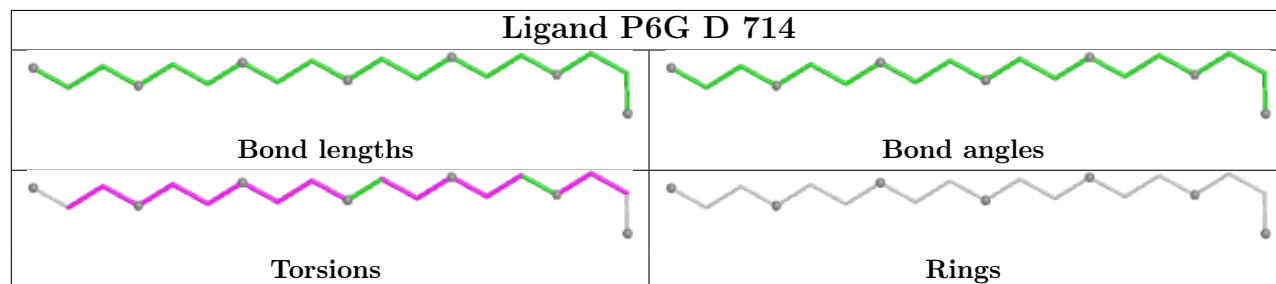
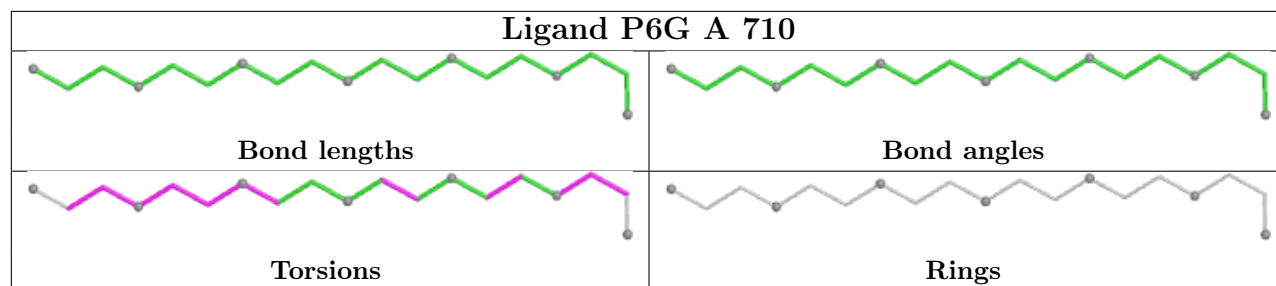
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Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	E	715	P6G	3	0
5	A	710	P6G	1	0
5	D	714	P6G	4	0
5	C	712	P6G	1	0
5	B	715	P6G	6	0
5	E	714	P6G	1	0
5	D	715	P6G	3	0
4	D	710	SO4	1	0

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	674/698 (96%)	-0.05	28 (4%) 41 43	15, 39, 77, 97	0
1	B	677/698 (96%)	-0.13	30 (4%) 39 42	13, 33, 72, 97	0
1	C	674/698 (96%)	0.91	181 (26%) 2 2	13, 46, 117, 151	0
1	D	675/698 (96%)	-0.15	31 (4%) 38 40	16, 34, 66, 94	0
1	E	674/698 (96%)	0.02	30 (4%) 39 41	13, 35, 73, 93	0
1	F	676/698 (96%)	-0.08	31 (4%) 38 40	13, 36, 70, 98	0
All	All	4050/4188 (96%)	0.08	331 (8%) 19 21	13, 36, 83, 151	0

All (331) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	564	LEU	9.5
1	C	479	PHE	7.8
1	C	573	GLU	7.0
1	C	567	THR	6.8
1	C	566	GLY	6.6
1	C	468	TYR	6.3
1	C	561	LEU	6.2
1	C	417	ASN	5.9
1	F	334	ALA	5.9
1	C	480	PHE	5.8
1	C	425	GLY	5.7
1	C	444	LEU	5.7
1	C	441	TRP	5.7
1	C	474	CYS	5.7
1	C	578	HIS	5.6
1	C	466	LEU	5.6
1	C	639	ALA	5.5
1	C	483	GLY	5.5
1	C	476	PHE	5.4

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Mol	Chain	Res	Type	RSRZ
1	C	470	LYS	5.4
1	C	448	LYS	5.3
1	C	467	LEU	5.3
1	C	471	ILE	5.2
1	C	569	LYS	5.2
1	C	462	ILE	5.2
1	C	562	LEU	5.1
1	A	436	ALA	5.1
1	C	431	VAL	5.0
1	C	336	THR	5.0
1	C	446	GLY	5.0
1	C	440	THR	4.9
1	F	335	PRO	4.9
1	C	612	VAL	4.9
1	C	665	CYS	4.9
1	C	449	SER	4.8
1	F	337	ASP	4.7
1	C	447	LYS	4.7
1	C	575	ALA	4.6
1	C	579	LEU	4.6
1	B	334	ALA	4.6
1	C	531	ALA	4.6
1	C	662	LEU	4.6
1	C	582	ALA	4.6
1	C	493	SER	4.6
1	C	478	GLU	4.5
1	C	495	CYS	4.5
1	B	332	PRO	4.5
1	C	494	LEU	4.5
1	C	485	ALA	4.5
1	C	661	ASN	4.4
1	B	336	THR	4.4
1	C	571	VAL	4.4
1	C	481	SER	4.4
1	C	565	ASP	4.4
1	C	577	CYS	4.3
1	F	333	GLU	4.3
1	C	576	ASN	4.3
1	C	430	ALA	4.3
1	C	496	LYS	4.3
1	C	570	PRO	4.2
1	C	563	CYS	4.2

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Mol	Chain	Res	Type	RSRZ
1	C	659	VAL	4.2
1	C	443	ASN	4.2
1	B	441	TRP	4.2
1	C	532	PHE	4.2
1	A	336	THR	4.2
1	C	424	ALA	4.1
1	C	432	VAL	4.1
1	C	580	ALA	4.1
1	C	497	LEU	4.1
1	C	421	THR	4.0
1	C	463	PRO	4.0
1	A	333	GLU	4.0
1	C	426	TYR	4.0
1	C	574	TYR	4.0
1	B	335	PRO	4.0
1	C	473	HIS	4.0
1	C	439	LEU	4.0
1	A	435	SER	3.9
1	C	428	ALA	3.9
1	E	543	GLY	3.9
1	C	560	GLU	3.9
1	C	429	VAL	3.9
1	F	104	ASP	3.9
1	C	436	ALA	3.9
1	C	484	CYS	3.8
1	C	469	ASN	3.8
1	B	438	ASP	3.8
1	C	333	GLU	3.8
1	C	655	TYR	3.8
1	E	258	GLY	3.7
1	C	445	LYS	3.7
1	C	335	PRO	3.7
1	D	441	TRP	3.7
1	B	625	GLU	3.7
1	E	334	ALA	3.7
1	A	618	ASN	3.6
1	A	443	ASN	3.6
1	C	492	SER	3.6
1	D	617	GLY	3.6
1	A	335	PRO	3.6
1	C	607	LEU	3.6
1	C	465	GLY	3.5

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Mol	Chain	Res	Type	RSRZ
1	C	528	GLY	3.5
1	A	334	ALA	3.5
1	C	427	PHE	3.5
1	C	450	CYS	3.5
1	A	439	LEU	3.5
1	C	658	ALA	3.5
1	E	436	ALA	3.5
1	F	279	SER	3.5
1	C	460	TRP	3.5
1	B	567	THR	3.5
1	B	566	GLY	3.4
1	C	572	GLU	3.4
1	D	421	THR	3.4
1	D	335	PRO	3.4
1	C	650	TYR	3.4
1	C	396	VAL	3.4
1	C	435	SER	3.4
1	C	647	TYR	3.4
1	C	568	ARG	3.3
1	E	438	ASP	3.3
1	C	559	TYR	3.3
1	C	505	LEU	3.3
1	C	491	ASP	3.2
1	E	503	LEU	3.2
1	F	471	ILE	3.2
1	C	334	ALA	3.2
1	C	613	THR	3.2
1	D	613	THR	3.2
1	B	437	SER	3.1
1	D	140	PRO	3.1
1	C	656	VAL	3.1
1	C	581	ARG	3.1
1	D	258	GLY	3.1
1	B	33	ASP	3.1
1	C	477	ASP	3.1
1	D	417	ASN	3.1
1	C	363	VAL	3.1
1	C	638	LEU	3.0
1	C	397	TYR	3.0
1	F	436	ALA	3.0
1	B	623	ARG	3.0
1	B	613	THR	3.0

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Mol	Chain	Res	Type	RSRZ
1	C	457	THR	3.0
1	C	422	PRO	3.0
1	C	525	VAL	3.0
1	C	642	HIS	3.0
1	C	472	ASN	3.0
1	C	502	GLY	3.0
1	C	660	GLY	3.0
1	F	417	ASN	3.0
1	F	332	PRO	3.0
1	D	215	ALA	3.0
1	D	334	ALA	3.0
1	E	478	GLU	3.0
1	D	142	PRO	2.9
1	C	524	LEU	2.9
1	C	433	LYS	2.9
1	E	482	GLU	2.9
1	C	464	MET	2.9
1	A	104	ASP	2.9
1	C	420	ASP	2.9
1	C	437	SER	2.9
1	C	606	HIS	2.9
1	D	437	SER	2.9
1	F	440	THR	2.9
1	F	2	PRO	2.9
1	E	624	SER	2.9
1	C	418	CYS	2.9
1	A	441	TRP	2.9
1	B	333	GLU	2.9
1	E	333	GLU	2.9
1	C	554	LEU	2.9
1	C	458	ALA	2.9
1	B	612	VAL	2.8
1	E	104	ASP	2.8
1	F	416	ASP	2.8
1	C	585	HIS	2.8
1	C	461	ASN	2.8
1	A	613	THR	2.8
1	B	626	THR	2.8
1	C	640	LYS	2.8
1	B	337	ASP	2.8
1	C	337	ASP	2.8
1	C	600	ILE	2.8

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Mol	Chain	Res	Type	RSRZ
1	F	142	PRO	2.8
1	C	503	LEU	2.8
1	E	554	LEU	2.8
1	E	437	SER	2.8
1	C	555	ASN	2.8
1	C	490	LYS	2.8
1	F	336	THR	2.8
1	E	615	CYS	2.8
1	C	529	ASP	2.8
1	C	625	GLU	2.8
1	D	333	GLU	2.8
1	F	606	HIS	2.7
1	C	454	VAL	2.7
1	C	652	GLY	2.7
1	D	623	ARG	2.7
1	C	666	SER	2.7
1	D	606	HIS	2.7
1	A	332	PRO	2.7
1	C	332	PRO	2.7
1	F	29	VAL	2.7
1	C	451	HIS	2.7
1	C	438	ASP	2.7
1	C	644	ARG	2.6
1	D	436	ALA	2.6
1	C	141	GLU	2.6
1	A	337	ASP	2.6
1	B	440	THR	2.6
1	C	33	ASP	2.6
1	C	414	LYS	2.6
1	C	442	ASP	2.6
1	C	475	ARG	2.6
1	D	279	SER	2.6
1	B	614	ASP	2.6
1	C	584	ASN	2.6
1	F	277	ASP	2.5
1	A	437	SER	2.5
1	C	594	GLU	2.5
1	E	606	HIS	2.5
1	C	339	CYS	2.5
1	C	596	CYS	2.5
1	C	599	LYS	2.5
1	C	530	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	327	ARG	2.5
1	C	486	PRO	2.5
1	E	332	PRO	2.5
1	A	624	SER	2.5
1	D	141	GLU	2.5
1	E	481	SER	2.5
1	C	142	PRO	2.5
1	F	280	LYS	2.5
1	B	258	GLY	2.5
1	C	506	CYS	2.5
1	C	487	GLY	2.4
1	D	614	ASP	2.4
1	D	643	ASP	2.4
1	E	572	GLU	2.4
1	A	625	GLU	2.4
1	C	646	THR	2.4
1	C	617	GLY	2.4
1	F	617	GLY	2.4
1	C	482	GLU	2.4
1	E	474	CYS	2.4
1	F	331	CYS	2.4
1	A	4	LYS	2.4
1	C	598	HIS	2.4
1	C	626	THR	2.4
1	E	518	THR	2.4
1	F	612	VAL	2.4
1	A	415	SER	2.4
1	B	616	SER	2.4
1	D	136	TYR	2.4
1	F	607	LEU	2.3
1	E	618	ASN	2.3
1	F	473	HIS	2.3
1	C	583	PRO	2.3
1	F	663	ARG	2.3
1	C	412	TYR	2.3
1	F	281	GLU	2.3
1	C	489	LYS	2.3
1	C	527	LYS	2.3
1	C	677	ARG	2.3
1	D	570	PRO	2.3
1	C	364	GLY	2.3
1	D	618	ASN	2.3

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Mol	Chain	Res	Type	RSRZ
1	C	675	THR	2.3
1	C	616	SER	2.3
1	D	503	LEU	2.3
1	D	332	PRO	2.2
1	A	416	ASP	2.2
1	E	416	ASP	2.2
1	C	645	ASN	2.2
1	E	439	LEU	2.2
1	F	616	SER	2.2
1	B	104	ASP	2.2
1	B	329	GLY	2.2
1	C	340	LYS	2.2
1	C	664	LYS	2.2
1	D	338	GLU	2.2
1	A	616	SER	2.2
1	C	501	SER	2.2
1	E	492	SER	2.2
1	A	438	ASP	2.2
1	C	649	LYS	2.2
1	A	417	ASN	2.2
1	E	497	LEU	2.2
1	A	614	ASP	2.2
1	A	338	GLU	2.1
1	C	601	LEU	2.1
1	C	641	LEU	2.1
1	B	88	LYS	2.1
1	B	675	THR	2.1
1	C	434	LYS	2.1
1	E	493	SER	2.1
1	B	606	HIS	2.1
1	C	504	ASN	2.1
1	C	498	CYS	2.1
1	E	490	LYS	2.1
1	B	565	ASP	2.1
1	C	667	THR	2.1
1	C	136	TYR	2.1
1	E	574	TYR	2.1
1	B	443	ASN	2.1
1	B	338	GLU	2.1
1	A	471	ILE	2.1
1	C	521	PHE	2.1
1	C	676	PHE	2.1

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Mol	Chain	Res	Type	RSRZ
1	E	142	PRO	2.1
1	D	572	GLU	2.1
1	E	507	GLU	2.1
1	C	597	VAL	2.1
1	D	571	VAL	2.1
1	C	643	ASP	2.1
1	D	336	THR	2.1
1	F	613	THR	2.1
1	B	543	GLY	2.0
1	F	543	GLY	2.0
1	A	549	PRO	2.0
1	C	534	LYS	2.0
1	C	533	VAL	2.0
1	F	33	ASP	2.0
1	D	415	SER	2.0
1	D	677	ARG	2.0
1	F	623	ARG	2.0
1	C	392	ASP	2.0

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

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

6.3 Carbohydrates [i](#)

There are no 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
4	SO4	A	705	5/5	0.70	0.18	93,94,95,97	0
4	SO4	F	705	5/5	0.71	0.15	97,97,98,100	0
4	SO4	B	713	5/5	0.74	0.17	105,107,108,109	0
4	SO4	E	713	5/5	0.75	0.12	93,95,95,96	0
4	SO4	B	708	5/5	0.77	0.16	86,88,92,96	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
4	SO4	C	711	5/5	0.78	0.14	106,109,109,110	0
4	SO4	D	706	5/5	0.80	0.11	101,103,106,109	0
4	SO4	F	706	5/5	0.80	0.14	89,92,95,98	0
4	SO4	E	705	5/5	0.81	0.13	107,108,109,110	0
4	SO4	C	706	5/5	0.81	0.10	94,95,97,98	0
4	SO4	F	709	5/5	0.81	0.08	89,89,92,93	0
4	SO4	A	709	5/5	0.82	0.11	97,97,99,99	0
4	SO4	B	707	5/5	0.82	0.17	85,87,90,92	0
5	P6G	C	714	19/19	0.82	0.16	56,79,99,100	0
5	P6G	D	715	19/19	0.82	0.19	56,74,84,86	0
5	P6G	A	711	19/19	0.83	0.16	46,66,84,85	0
4	SO4	B	706	5/5	0.83	0.13	72,79,81,82	0
4	SO4	A	707	5/5	0.83	0.14	77,87,88,92	0
4	SO4	E	708	5/5	0.84	0.11	94,95,96,96	0
5	P6G	F	711	19/19	0.84	0.19	28,48,98,100	0
5	P6G	A	712	19/19	0.85	0.15	74,81,91,92	0
5	P6G	C	713	19/19	0.85	0.15	43,57,83,83	0
4	SO4	C	709	5/5	0.85	0.10	76,77,80,80	0
4	SO4	A	708	5/5	0.85	0.15	95,98,99,100	0
4	SO4	E	706	5/5	0.85	0.54	111,112,113,113	5
4	SO4	F	708	5/5	0.86	0.11	80,85,87,90	0
4	SO4	D	712	5/5	0.86	0.12	95,95,99,100	0
5	P6G	D	714	19/19	0.87	0.15	41,54,79,79	0
4	SO4	E	710	5/5	0.87	0.10	73,73,75,79	0
5	P6G	E	715	19/19	0.87	0.15	44,56,71,71	0
4	SO4	E	709	5/5	0.87	0.10	76,77,79,81	0
4	SO4	B	712	5/5	0.88	0.08	77,80,83,84	0
4	SO4	A	706	5/5	0.88	0.10	51,66,69,77	0
4	SO4	C	710	5/5	0.88	0.11	73,77,79,83	0
4	SO4	D	713	5/5	0.88	0.11	72,73,74,78	0
4	SO4	F	707	5/5	0.88	0.13	85,87,87,90	0
5	P6G	E	714	19/19	0.89	0.14	28,45,83,84	0
5	P6G	B	715	19/19	0.90	0.13	32,46,94,95	0
5	P6G	A	710	19/19	0.90	0.12	37,48,77,77	0
4	SO4	C	708	5/5	0.90	0.09	70,75,76,79	0
4	SO4	B	709	5/5	0.90	0.09	66,67,68,73	0
4	SO4	E	711	5/5	0.91	0.10	73,77,84,87	0
4	SO4	D	709	5/5	0.91	0.07	70,72,75,76	0
4	SO4	C	705	5/5	0.91	0.12	77,78,83,83	0
5	P6G	C	712	19/19	0.92	0.12	28,48,79,81	0
5	P6G	F	710	19/19	0.92	0.12	37,48,68,71	0
4	SO4	D	707	5/5	0.92	0.10	57,58,59,65	0

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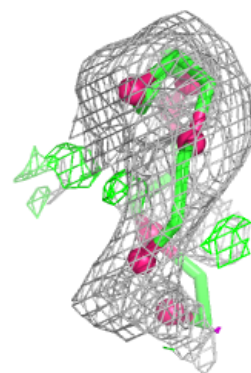
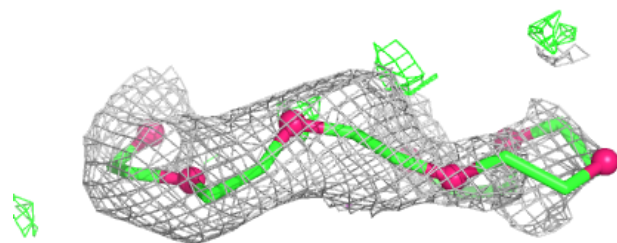
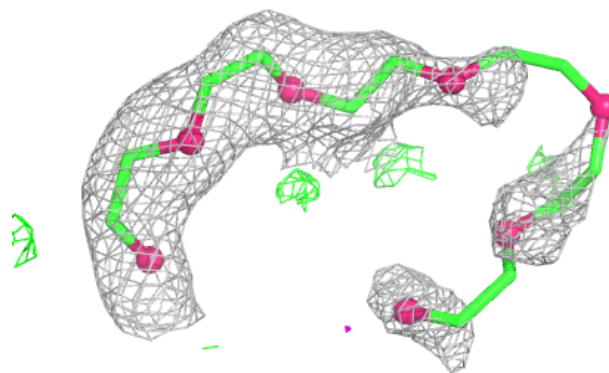
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
4	SO4	B	710	5/5	0.93	0.17	44,61,65,72	0
4	SO4	D	710	5/5	0.93	0.16	55,55,65,66	0
4	SO4	D	711	5/5	0.93	0.07	62,67,73,74	0
4	SO4	B	711	5/5	0.93	0.09	63,68,74,77	0
5	P6G	B	714	19/19	0.93	0.12	22,32,87,87	0
2	BCT	E	702	4/4	0.94	0.09	26,28,29,30	0
2	BCT	C	702	4/4	0.94	0.11	32,36,38,44	0
4	SO4	D	705	5/5	0.94	0.09	68,71,72,78	0
4	SO4	C	707	5/5	0.95	0.13	38,55,63,63	0
2	BCT	B	702	4/4	0.95	0.07	27,27,28,31	0
2	BCT	A	702	4/4	0.95	0.06	28,31,34,38	0
4	SO4	E	707	5/5	0.95	0.12	41,55,61,63	0
4	SO4	D	708	5/5	0.96	0.13	46,49,58,58	0
2	BCT	D	702	4/4	0.96	0.09	23,26,29,32	0
4	SO4	B	705	5/5	0.96	0.08	44,45,49,50	0
4	SO4	E	712	5/5	0.96	0.11	44,48,49,50	0
2	BCT	B	701	4/4	0.96	0.06	13,14,15,16	0
2	BCT	D	701	4/4	0.96	0.06	15,17,21,24	0
2	BCT	A	701	4/4	0.97	0.05	14,14,16,19	0
2	BCT	C	701	4/4	0.97	0.05	14,15,15,17	0
3	FE	C	703	1/1	0.98	0.04	38,38,38,38	0
3	FE	E	704	1/1	0.98	0.06	32,32,32,32	0
2	BCT	E	701	4/4	0.98	0.04	14,17,17,18	0
2	BCT	F	701	4/4	0.98	0.04	8,9,10,11	0
2	BCT	F	702	4/4	0.98	0.05	19,20,21,24	0
3	FE	A	704	1/1	0.99	0.04	34,34,34,34	0
3	FE	F	704	1/1	0.99	0.05	31,31,31,31	0
3	FE	D	703	1/1	0.99	0.05	26,26,26,26	0
3	FE	D	704	1/1	1.00	0.04	20,20,20,20	0
3	FE	E	703	1/1	1.00	0.04	19,19,19,19	0
3	FE	B	704	1/1	1.00	0.04	15,15,15,15	0
3	FE	F	703	1/1	1.00	0.04	16,16,16,16	0
3	FE	A	703	1/1	1.00	0.04	19,19,19,19	0
3	FE	C	704	1/1	1.00	0.02	16,16,16,16	0
3	FE	B	703	1/1	1.00	0.02	29,29,29,29	0

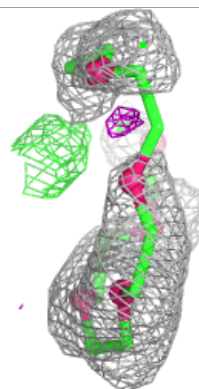
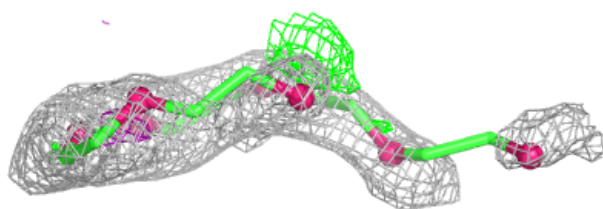
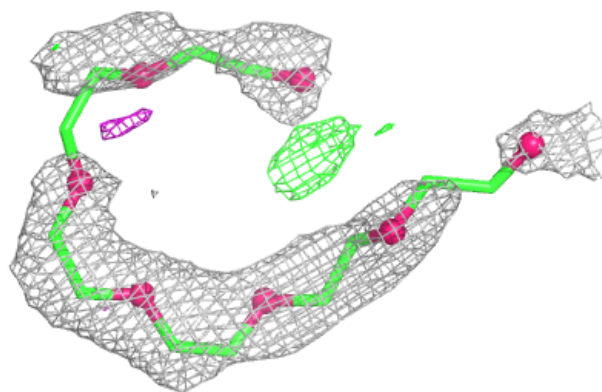
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around P6G C 714:

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

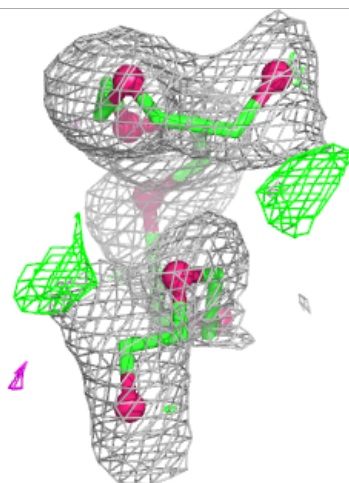
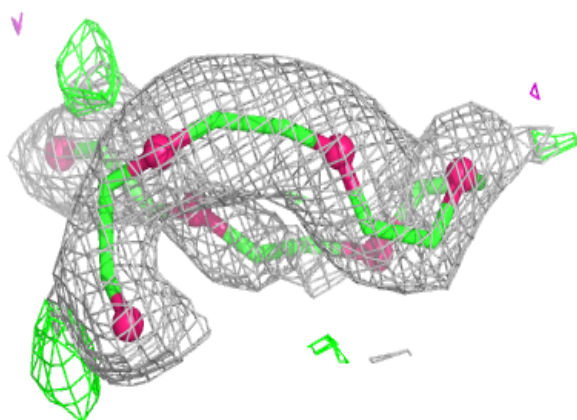
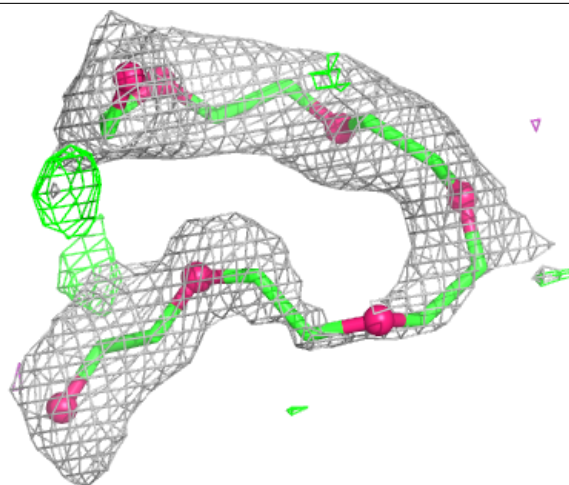
**Electron density around P6G D 715:**

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



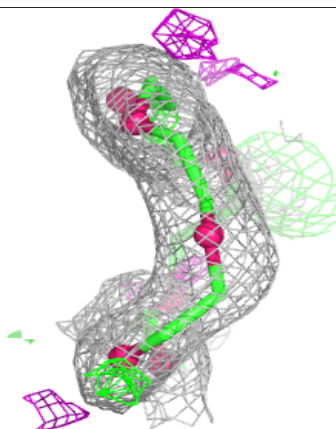
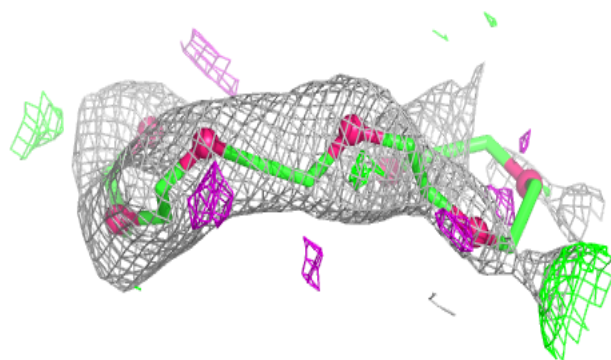
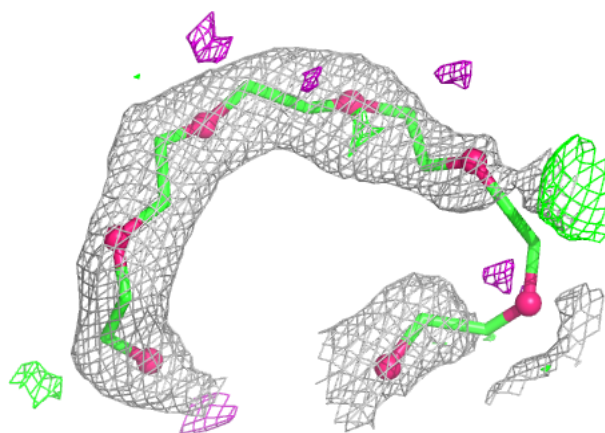
Electron density around P6G A 711:

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



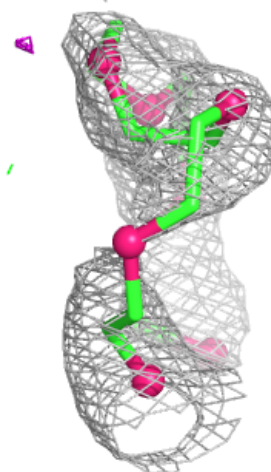
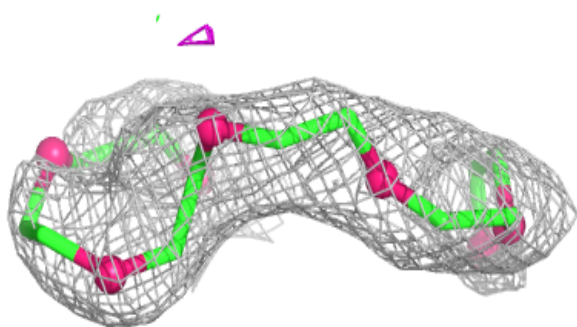
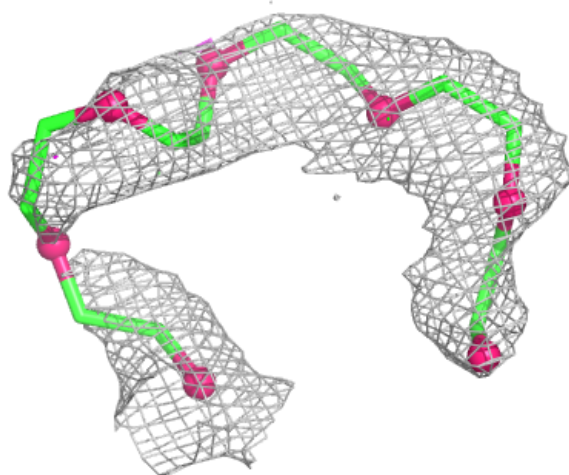
Electron density around P6G F 711:

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



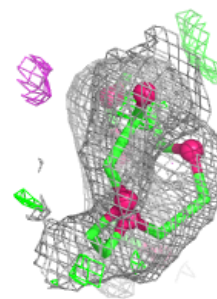
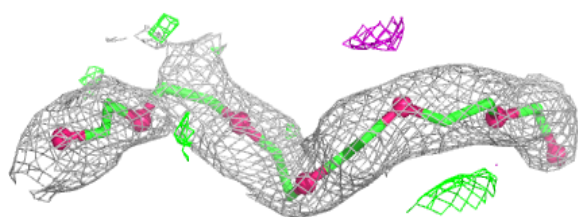
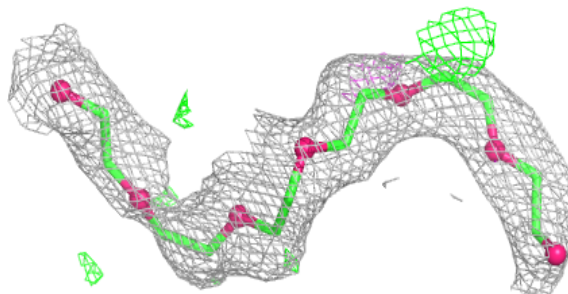
Electron density around P6G A 712:

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

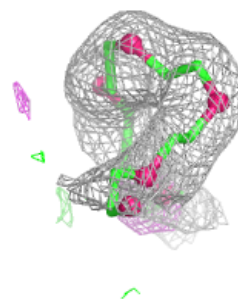
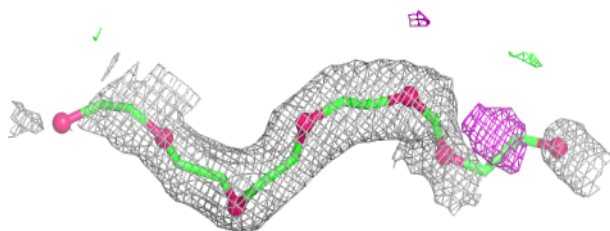
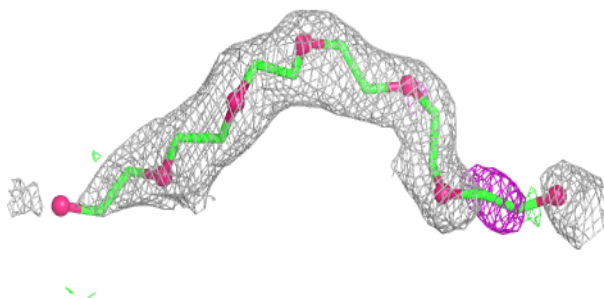


Electron density around P6G C 713:

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

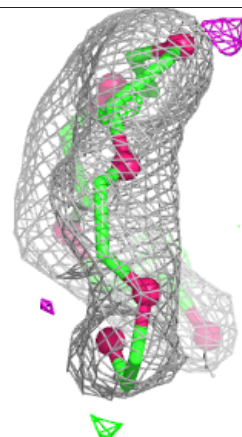
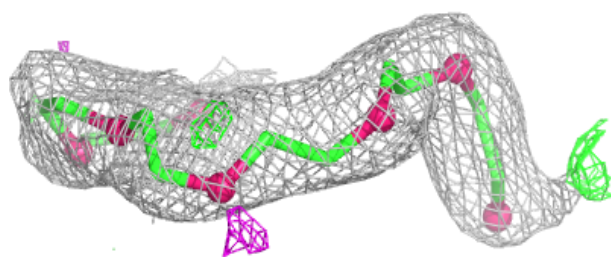
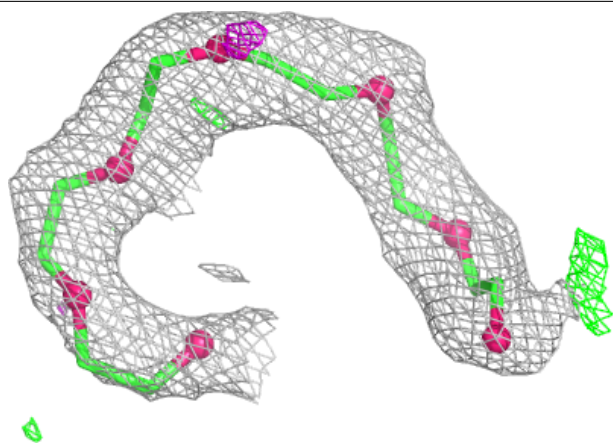
**Electron density around P6G D 714:**

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



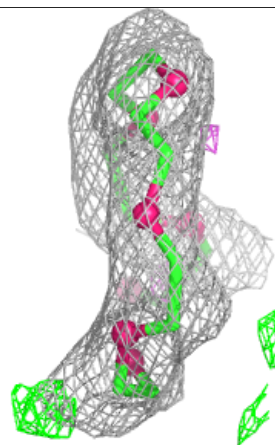
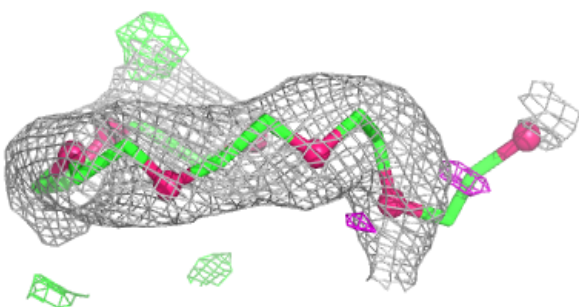
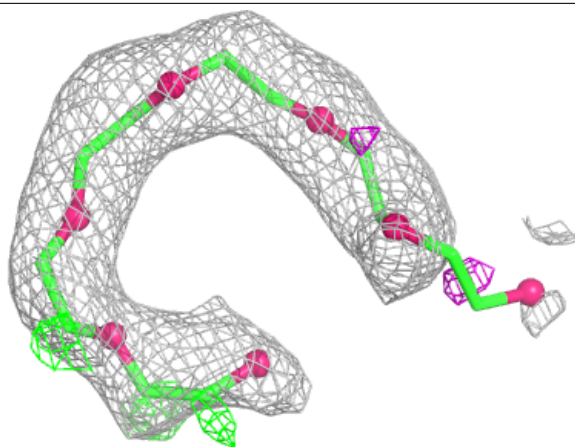
Electron density around P6G E 715:

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

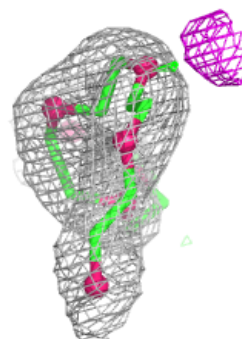
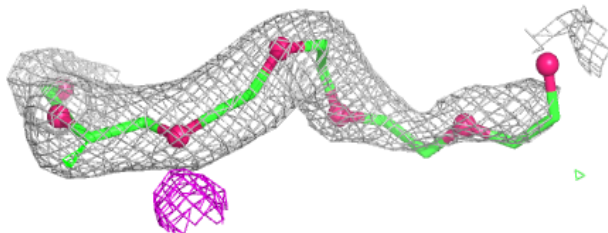
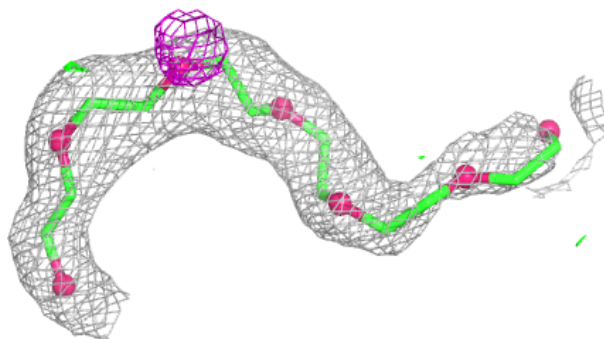


Electron density around P6G E 714:

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

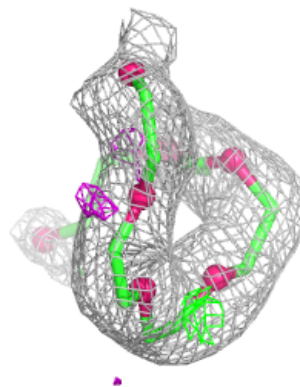
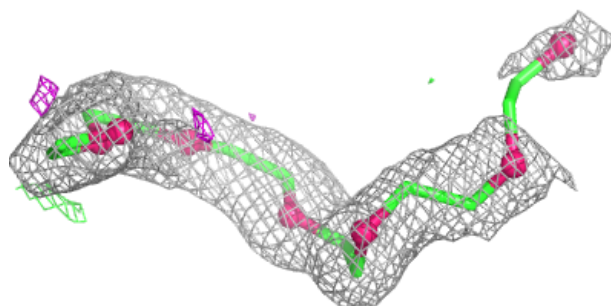
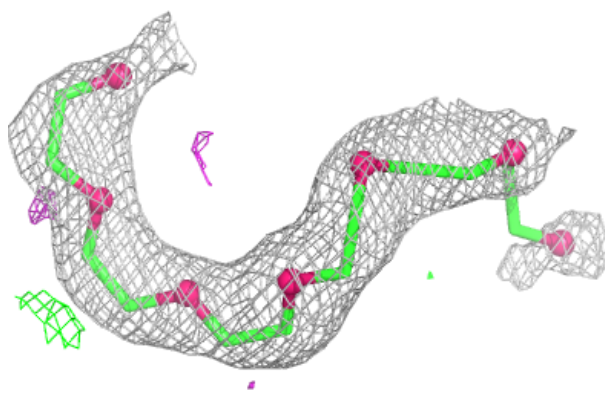
**Electron density around P6G B 715:**

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



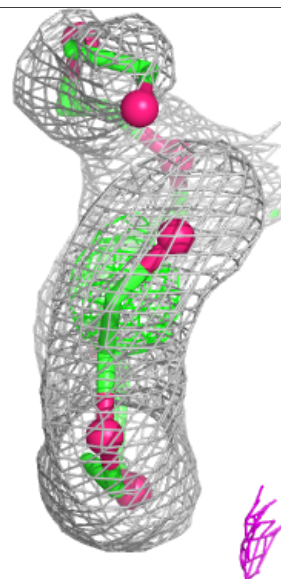
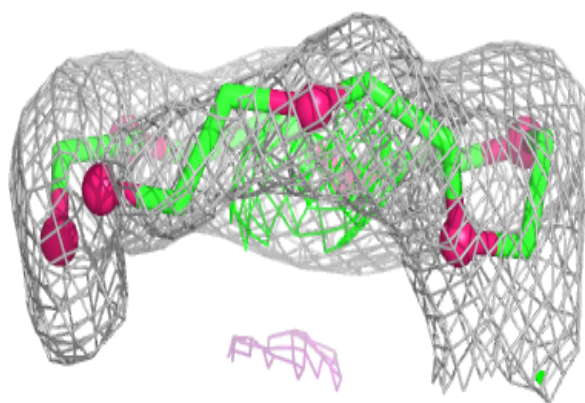
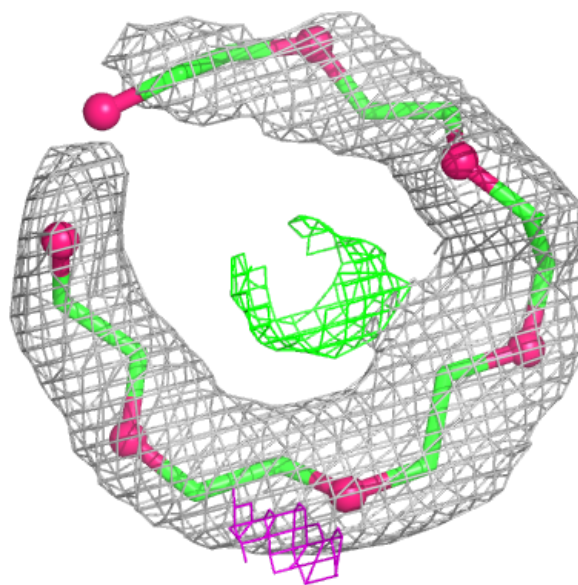
Electron density around P6G A 710:

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



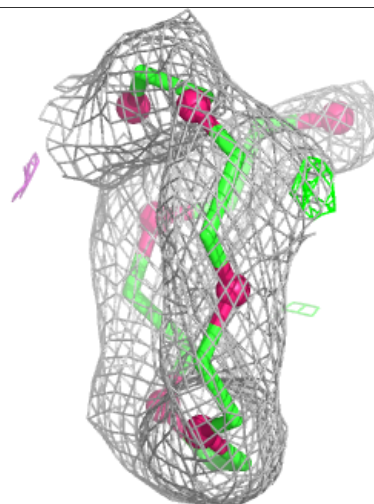
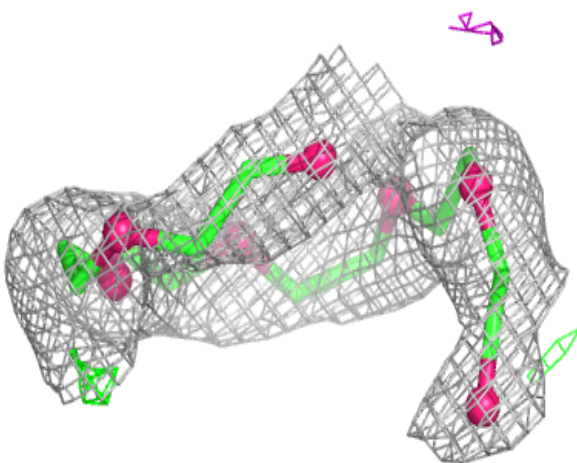
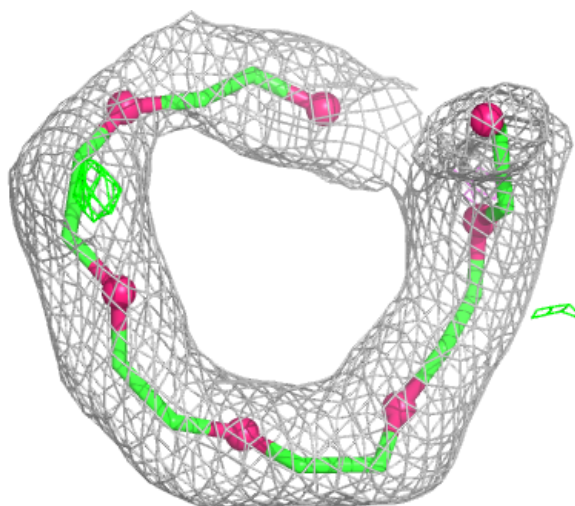
Electron density around P6G C 712:

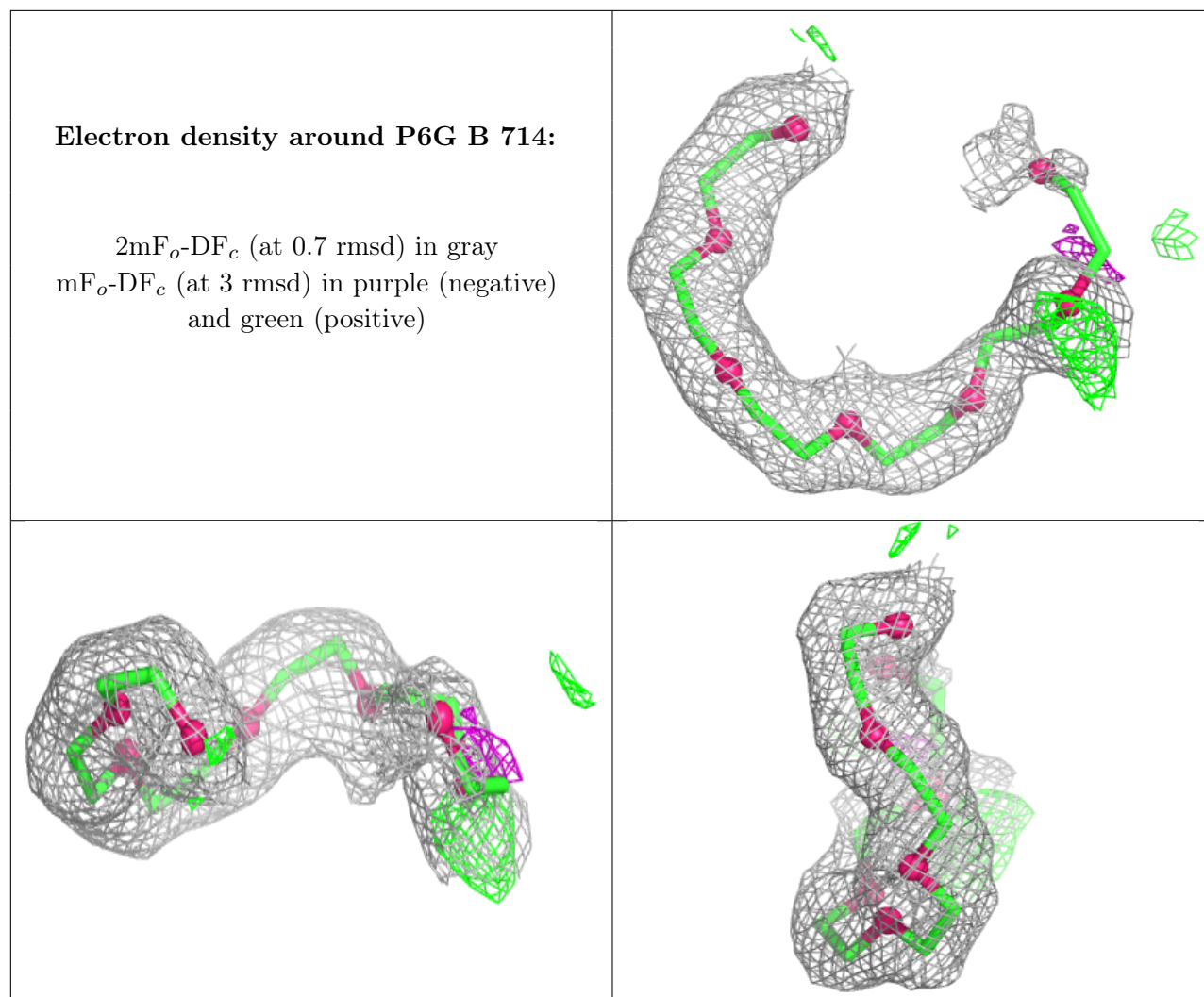
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around P6G F 710:

$2mF_o-DF_c$ (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.