Full wwPDB X-ray Structure Validation Report ⓘ

Dec 16, 2024 – 08:15 PM JST

PDB ID	:	8XIS
Title	:	Cellodextrin phosphorylase from Clostridium thermocellum mutant - all cysteine residues were substituted with serines
Authors	:	Kuga, T.; Sunagawa, N.; Igarashi, K.
Deposited on	:	2023-12-19
Resolution	:	1.68 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

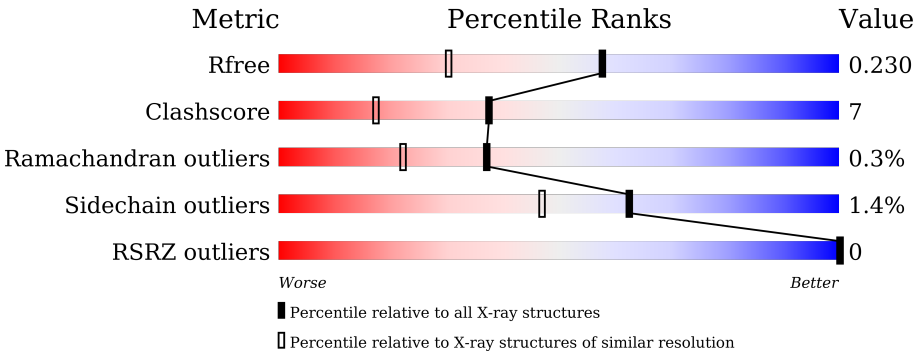
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.21
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.004 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 1.68 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	8422 (1.70-1.66)
Clashscore	180529	1005 (1.68-1.68)
Ramachandran outliers	177936	9065 (1.70-1.66)
Sidechain outliers	177891	9064 (1.70-1.66)
RSRZ outliers	164620	8421 (1.70-1.66)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% 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	992	85% 14%
1	B	992	87% 12%

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
5	ACT	A	1004	-	-	X	-
5	ACT	B	1004	-	-	X	-
5	ACT	B	1006	-	-	X	-
5	ACT	B	1014	-	-	X	-
6	PEG	B	1012	-	-	X	-

2 Entry composition

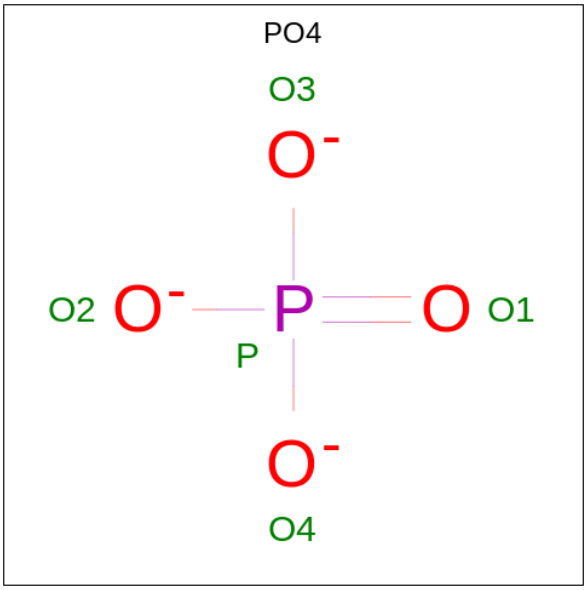
There are 8 unique types of molecules in this entry. The entry contains 32463 atoms, of which 14633 are hydrogens and 0 are deuteriums.

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 cellodextrin phosphorylase variant.

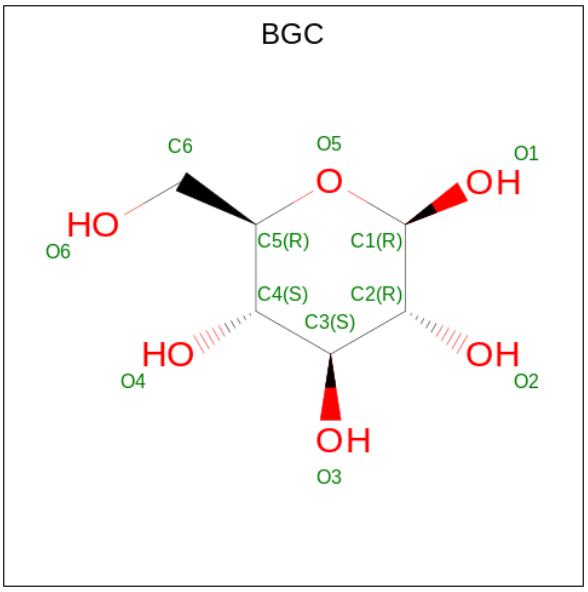
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	984	Total	C	H	N	O	S	190	19	0
			15225	5142	7192	1336	1533	22			
1	B	984	Total	C	H	N	O	S	188	22	0
			15305	5155	7258	1333	1537	22			

- Molecule 2 is PHOSPHATE ION (three-letter code: PO4) (formula: O_4P) (labeled as "Ligand of Interest" by depositor).



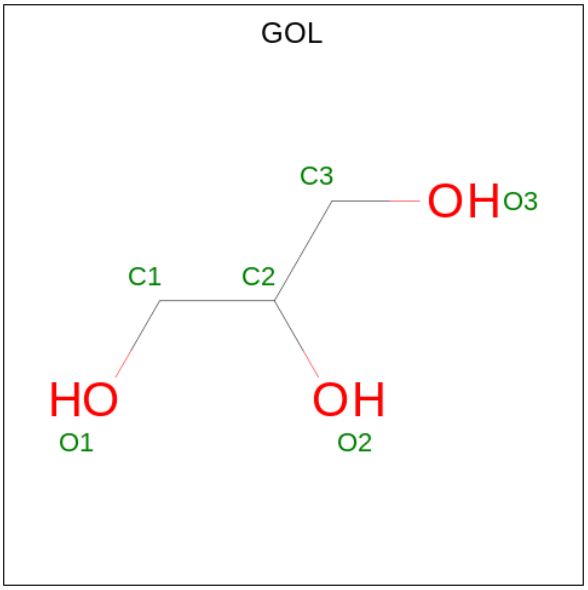
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	O	P	0	0
			5	4	1		
2	B	1	Total	O	P	0	0
			5	4	1		

- Molecule 3 is beta-D-glucopyranose (three-letter code: BGC) (formula: $C_6H_{12}O_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 12 6 6	0	0
3	B	1	Total C O 12 6 6	0	0

- Molecule 4 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C H O 14 3 8 3	0	0
4	A	1	Total C H O 14 3 8 3	0	0

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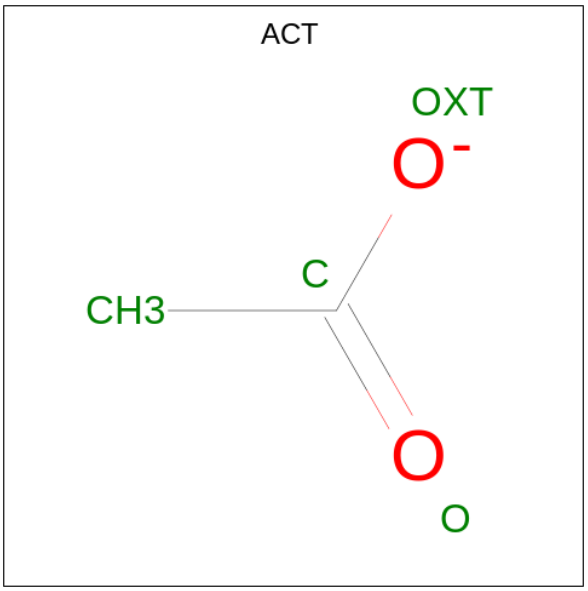
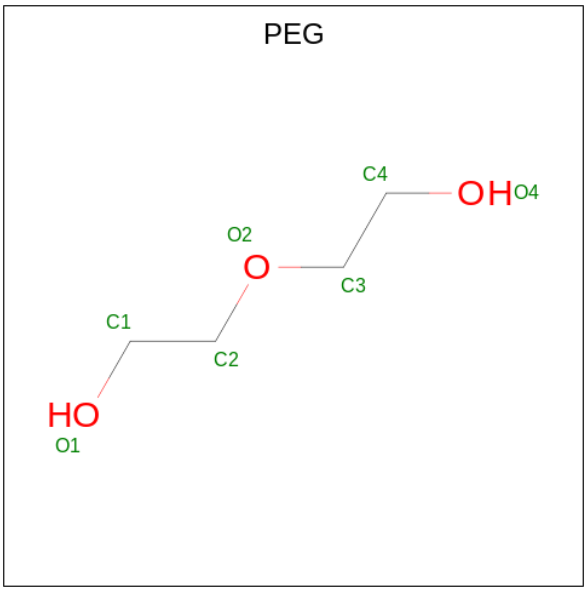
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C H O 14 3 8 3	0	0
4	A	1	Total C H O 14 3 8 3	0	0
4	A	1	Total C H O 14 3 8 3	0	0
4	A	1	Total C H O 14 3 8 3	0	0
4	B	1	Total C H O 14 3 8 3	0	0
4	B	1	Total C H O 14 3 8 3	0	0
4	B	1	Total C H O 14 3 8 3	0	0
4	B	1	Total C H O 14 3 8 3	0	0
4	B	1	Total C H O 14 3 8 3	0	0
4	B	1	Total C H O 14 3 8 3	0	0
4	B	1	Total C H O 14 3 8 3	0	0
4	B	1	Total C H O 14 3 8 3	0	0
4	B	1	Total C H O 14 3 8 3	0	0

- Molecule 5 is ACETATE ION (three-letter code: ACT) (formula: $C_2H_3O_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C H O 7 2 3 2	0	0
5	A	1	Total C H O 7 2 3 2	0	0
5	A	1	Total C H O 7 2 3 2	0	0
5	A	1	Total C H O 7 2 3 2	0	0
5	A	1	Total C H O 7 2 3 2	0	0
5	A	1	Total C H O 7 2 3 2	0	0
5	B	1	Total C H O 7 2 3 2	0	0
5	B	1	Total C H O 7 2 3 2	0	0
5	B	1	Total C H O 7 2 3 2	0	0
5	B	1	Total C H O 7 2 3 2	0	0
5	B	1	Total C H O 7 2 3 2	0	0

- Molecule 6 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: $C_4H_{10}O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total C H O 17 4 10 3	0	0
6	A	1	Total C H O 17 4 10 3	0	0
6	B	1	Total C H O 17 4 10 3	0	0

- Molecule 7 is CHLORIDE ION (three-letter code: CL) (formula: Cl) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	2	Total Cl 2 2	0	0
7	B	2	Total Cl 2 2	0	0

- Molecule 8 is water.

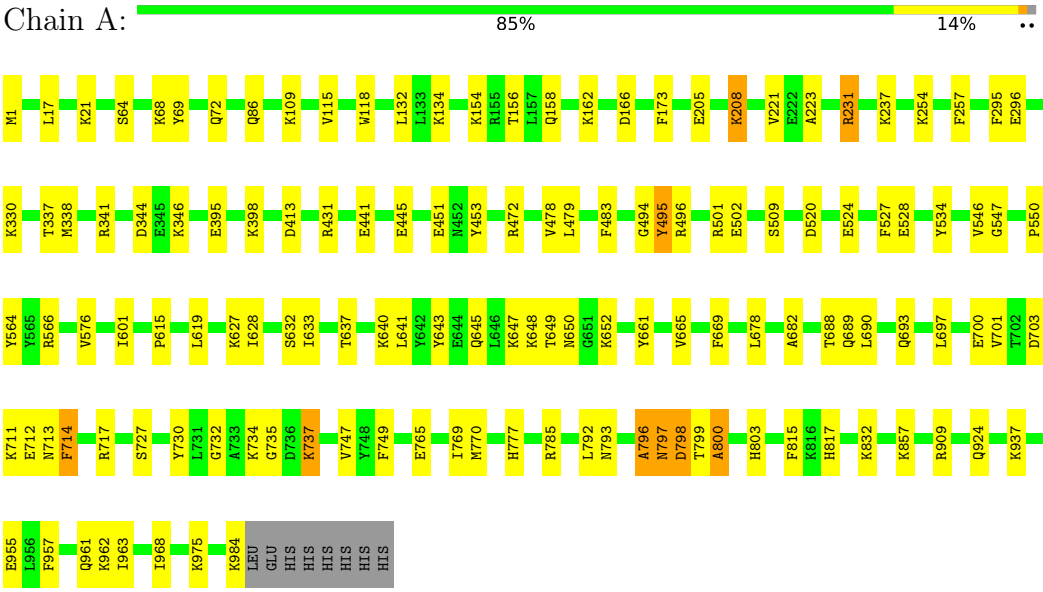
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	A	793	Total O 793 793	0	0
8	B	764	Total O 764 764	0	0

3 Residue-property plots (i)

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

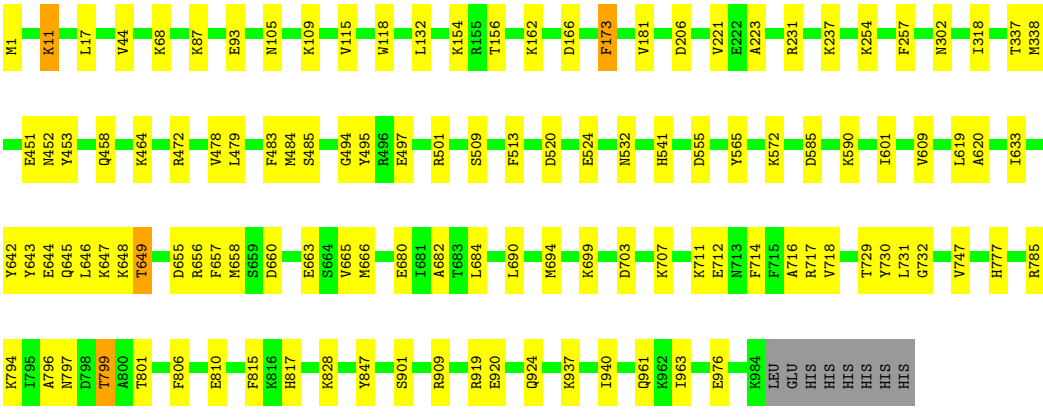
• Molecule 1: cellodextrin phosphorylase variant

Chain A:



• Molecule 1: cellodextrin phosphorylase variant

Chain B:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	82.28Å 88.52Å 88.54Å 98.41° 110.69° 110.65°	Depositor
Resolution (Å)	43.44 – 1.68 43.44 – 1.68	Depositor EDS
% Data completeness (in resolution range)	97.0 (43.44-1.68) 96.9 (43.44-1.68)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.24 (at 1.68Å)	Xtriage
Refinement program	PHENIX 1.21rc1_5127	Depositor
R, R_{free}	0.188 , 0.230 0.188 , 0.230	Depositor DCC
R_{free} test set	11539 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å^2)	23.4	Xtriage
Anisotropy	0.224	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.39 , 40.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.479 for -h,-l,-k	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	32463	wwPDB-VP
Average B, all atoms (Å^2)	34.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.53% of the height of the origin peak. No significant pseudotranslation is detected.*

[1]Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: PEG, CL, ACT, GOL, BGC, PO4

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	0.51	0/8211	0.69	1/11108 (0.0%)
1	B	0.52	0/8225	0.69	3/11132 (0.0%)
All	All	0.51	0/16436	0.69	4/22240 (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	A	0	2
1	B	0	2
All	All	0	4

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	166	ASP	CB-CG-OD1	5.30	123.07	118.30
1	B	484	MET	CG-SD-CE	5.14	108.42	100.20
1	B	166	ASP	CB-CG-OD1	5.10	122.89	118.30
1	B	408	LEU	CA-CB-CG	5.06	126.94	115.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	494	GLY	Peptide
1	A	495[B]	TYR	Peptide

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Mol	Chain	Res	Type	Group
1	B	494	GLY	Peptide
1	B	495[B]	TYR	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	8033	7192	7884	111	0
1	B	8047	7258	7896	106	0
2	A	5	0	0	0	0
2	B	5	0	0	0	0
3	A	12	0	12	0	0
3	B	12	0	12	0	0
4	A	36	48	48	4	0
4	B	54	72	72	7	0
5	A	24	18	18	4	0
5	B	20	15	15	9	0
6	A	14	20	20	2	0
6	B	7	10	10	6	0
7	A	2	0	0	1	0
7	B	2	0	0	1	0
8	A	793	0	0	26	2
8	B	764	0	0	37	2
All	All	17830	14633	15987	223	2

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 7.

All (223) 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:699:LYS:NZ	1:B:703:ASP:OD2	1.68	1.22
1:B:828:LYS:O	8:B:1101:HOH:O	1.77	1.02
1:A:717[B]:ARG:NH1	7:A:1014:CL:CL	2.30	1.01
1:A:64:SER:O	1:A:68:LYS:HD3	1.69	0.90
1:A:633:ILE:HD11	8:A:1856:HOH:O	1.77	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:633:ILE:HD11	8:B:1806:HOH:O	1.77	0.84
1:B:1:MET:N	8:B:1104:HOH:O	2.15	0.80
1:B:920:GLU:H	6:B:1012:PEG:H21	1.46	0.80
1:B:105:ASN:O	1:B:109:LYS:HG3	1.84	0.78
1:B:793:ASN:H	5:B:1014:ACT:H3	1.49	0.78
1:B:154:LYS:HE2	8:B:1766:HOH:O	1.84	0.78
1:A:703:ASP:HB3	1:A:707:LYS:HE2	1.67	0.77
1:B:451:GLU:OE1	1:B:472:ARG:NH1	2.17	0.76
5:A:1009:ACT:H3	8:A:1830:HOH:O	1.86	0.75
1:A:496:ARG:NH1	8:A:1101:HOH:O	2.21	0.74
1:B:660[B]:ASP:OD1	8:B:1102:HOH:O	2.06	0.74
1:B:11:LYS:HE2	1:B:11:LYS:H	1.51	0.74
1:B:637:THR:HA	1:B:640:LYS:HE3	1.71	0.73
1:B:318:ILE:O	1:B:337[A]:THR:HG23	1.90	0.72
1:B:703:ASP:HB3	1:B:707:LYS:HE2	1.69	0.72
1:A:205:GLU:O	1:A:208:LYS:HG3	1.89	0.72
1:B:637:THR:HG23	5:B:1004:ACT:H3	1.72	0.71
1:B:11:LYS:HE2	1:B:11:LYS:N	2.07	0.70
1:A:318:ILE:O	1:A:337[A]:THR:HG23	1.93	0.69
1:B:637:THR:HG23	5:B:1004:ACT:CH3	2.23	0.69
1:A:64:SER:C	1:A:68:LYS:HD3	2.13	0.69
1:B:909:ARG:NH2	8:B:1108:HOH:O	2.26	0.67
1:A:815[B]:PHE:HD2	8:A:1591:HOH:O	1.77	0.66
1:B:643:TYR:O	1:B:647:LYS:HE2	1.96	0.66
1:A:86:GLN:HG2	1:A:109:LYS:HE3	1.79	0.65
1:A:645:GLN:O	1:A:649:THR:HG23	1.97	0.65
1:B:645[B]:GLN:O	1:B:649:THR:HG23	1.96	0.65
1:B:206:ASP:OD1	8:B:1103:HOH:O	2.14	0.63
5:B:1006:ACT:H1	8:B:1754:HOH:O	1.98	0.63
1:A:975:LYS:NZ	8:A:1108:HOH:O	2.28	0.63
1:B:501:ARG:NH1	8:B:1111:HOH:O	2.30	0.63
1:B:520:ASP:O	1:B:524:GLU:HG3	1.98	0.63
1:A:737:LYS:HE2	8:A:1610:HOH:O	1.97	0.63
1:A:799:THR:HG22	1:A:803:HIS:CE1	2.35	0.61
1:B:645[A]:GLN:O	1:B:649:THR:HG23	2.00	0.61
1:A:64:SER:O	1:A:68:LYS:CD	2.45	0.61
1:A:495[B]:TYR:HB3	1:A:496:ARG:HG3	1.82	0.60
1:B:620:ALA:HB3	8:B:1637:HOH:O	2.00	0.60
1:A:712[B]:GLU:OE1	1:A:734:LYS:HD3	2.02	0.60
1:B:793:ASN:ND2	8:B:1119:HOH:O	2.35	0.60
1:B:924:GLN:HB2	8:B:1255:HOH:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:796:ALA:O	1:A:797:ASN:ND2	2.34	0.59
6:B:1012:PEG:H12	8:B:1213:HOH:O	2.01	0.59
1:B:920:GLU:N	6:B:1012:PEG:H21	2.17	0.59
1:A:341:ARG:HH11	1:A:346:LYS:HE3	1.67	0.59
1:B:919:ARG:HA	6:B:1012:PEG:H21	1.85	0.59
1:A:501[B]:ARG:HD2	8:A:1516:HOH:O	2.03	0.58
1:A:688:THR:HG21	8:A:1724:HOH:O	2.02	0.58
1:A:937:LYS:HE2	8:A:1700:HOH:O	2.04	0.58
1:A:817:HIS:HB3	8:A:1591:HOH:O	2.03	0.57
1:A:797:ASN:O	1:A:798:ASP:HB2	2.05	0.57
1:B:791:ASP:OD1	1:B:793:ASN:ND2	2.38	0.57
1:A:955:GLU:HG3	1:A:984:LYS:HE2	1.87	0.56
1:B:601[B]:ILE:CD1	1:B:694:MET:SD	2.93	0.56
1:B:637:THR:CG2	5:B:1004:ACT:H3	2.35	0.56
1:B:729[B]:THR:HG23	1:B:730:TYR:HD1	1.71	0.56
1:A:832:LYS:HG2	8:A:1416:HOH:O	2.05	0.56
1:B:791:ASP:OD2	1:B:794:LYS:HE3	2.05	0.55
1:A:637:THR:HA	1:A:640:LYS:HE3	1.87	0.55
1:A:566:ARG:HH12	4:A:1008:GOL:H2	1.71	0.55
1:A:154:LYS:HD3	1:A:413:ASP:OD1	2.06	0.55
1:B:961:GLN:O	1:B:963:ILE:HG23	2.07	0.55
1:A:441:GLU:O	1:A:445:GLU:HG3	2.08	0.54
1:B:364:THR:HG21	5:B:1006:ACT:H3	1.89	0.54
1:B:703:ASP:O	1:B:707:LYS:HE3	2.06	0.54
1:B:637:THR:CA	1:B:640:LYS:HE3	2.36	0.54
1:A:797:ASN:ND2	1:A:797:ASN:O	2.40	0.54
1:A:341:ARG:NH1	1:A:346:LYS:HE3	2.23	0.54
1:A:697:LEU:O	1:A:701:VAL:HG23	2.08	0.53
1:B:645[B]:GLN:HG3	1:B:646:LEU:N	2.22	0.53
1:B:801:THR:HA	8:B:1488:HOH:O	2.09	0.53
1:A:924:GLN:HB2	8:A:1537:HOH:O	2.08	0.53
1:B:663:GLU:O	1:B:718[B]:VAL:HG23	2.09	0.53
1:A:798:ASP:OD1	1:A:799:THR:HG23	2.08	0.53
1:A:693:GLN:NE2	8:A:1126:HOH:O	2.41	0.53
1:A:346:LYS:HD3	8:A:1114:HOH:O	2.09	0.53
1:B:919:ARG:HA	6:B:1012:PEG:C2	2.39	0.53
1:B:666[B]:MET:HE2	7:B:1016:CL:CL	2.46	0.53
1:A:793:ASN:HD22	1:A:793:ASN:N	2.05	0.53
1:B:682:ALA:HB2	1:B:690:LEU:HD23	1.91	0.52
1:A:961:GLN:O	1:A:963:ILE:HG23	2.09	0.52
1:B:452:ASN:OD1	4:B:1009:GOL:H31	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:643:TYR:O	1:B:647:LYS:HG2	2.09	0.52
1:A:714:PHE:CD1	1:A:770:MET:HG2	2.45	0.52
1:B:254:LYS:HG3	1:B:257:PHE:CE2	2.44	0.52
1:B:619:LEU:HD23	8:B:1637:HOH:O	2.09	0.52
1:A:231:ARG:HH22	4:A:1007:GOL:H2	1.74	0.51
1:A:520:ASP:O	1:A:524:GLU:HG3	2.11	0.51
1:B:453:TYR:CE2	1:B:479[B]:LEU:HD12	2.45	0.51
1:A:564:TYR:HE1	1:A:576:VAL:CG1	2.22	0.51
1:A:857:LYS:HE3	5:A:1003:ACT:H1	1.91	0.51
1:A:949:MET:HG3	8:A:1247:HOH:O	2.11	0.51
1:B:937:LYS:HD2	1:B:976:GLU:OE2	2.11	0.51
1:A:295[A]:PHE:CD1	4:A:1002:GOL:H31	2.46	0.51
1:A:254:LYS:HG3	1:A:257:PHE:CE2	2.47	0.50
1:A:717[B]:ARG:HG3	1:A:749:PHE:CG	2.46	0.50
1:A:799:THR:O	1:A:800:ALA:HB3	2.12	0.50
1:B:847:TYR:HD2	6:B:1012:PEG:H11	1.77	0.50
1:A:296:GLU:HG3	8:A:1763:HOH:O	2.11	0.49
1:B:452:ASN:HB3	4:B:1009:GOL:C3	2.41	0.49
1:B:718[B]:VAL:CG1	1:B:731:LEU:HB3	2.43	0.49
1:A:700:GLU:O	1:A:704:ARG:HG3	2.12	0.49
1:A:325:TYR:O	6:A:1010:PEG:H21	2.13	0.49
1:B:458:GLN:HG3	8:B:1450:HOH:O	2.11	0.49
1:B:828:LYS:C	8:B:1101:HOH:O	2.41	0.49
4:B:1003:GOL:C1	8:B:1185:HOH:O	2.59	0.49
1:B:665:VAL:HG21	8:B:1684:HOH:O	2.12	0.49
1:B:828:LYS:CG	8:B:1101:HOH:O	2.59	0.49
1:A:431:ARG:HD2	8:A:1843:HOH:O	2.13	0.49
1:A:632:SER:O	5:A:1004:ACT:H2	2.12	0.49
1:B:716:ALA:HB3	8:B:1684:HOH:O	2.11	0.49
1:B:793:ASN:N	5:B:1014:ACT:H3	2.23	0.48
1:A:451:GLU:OE1	1:A:472:ARG:NH1	2.46	0.48
1:B:541:HIS:NE2	4:B:1017:GOL:H12	2.28	0.48
1:A:552:LEU:HG	1:A:553:TYR:CD2	2.47	0.48
4:B:1003:GOL:H11	8:B:1185:HOH:O	2.14	0.48
1:A:643:TYR:O	1:A:647:LYS:HE2	2.13	0.48
1:A:478:VAL:HG12	1:A:509:SER:HB3	1.95	0.47
1:A:615:PRO:HD3	8:A:1487:HOH:O	2.13	0.47
1:A:156:THR:HG22	1:A:483:PHE:HE1	1.79	0.47
1:B:711:LYS:O	1:B:712:GLU:HB3	2.14	0.47
1:B:572:LYS:HG3	1:B:684:LEU:HD21	1.97	0.47
1:B:633:ILE:HB	1:B:637:THR:OG1	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:637:THR:O	1:A:640:LYS:HG2	2.15	0.47
1:A:527:PHE:HE1	1:A:576:VAL:HG13	1.79	0.47
1:A:132:LEU:HD12	1:A:223:ALA:HB1	1.96	0.47
1:B:87:LYS:NZ	8:B:1117:HOH:O	2.34	0.47
1:B:17:LEU:HD23	1:B:44:VAL:HG13	1.96	0.46
1:A:64:SER:O	1:A:68:LYS:CG	2.64	0.46
1:B:817:HIS:HB3	8:B:1546:HOH:O	2.16	0.46
5:A:1004:ACT:CH3	8:A:1825:HOH:O	2.64	0.46
1:A:527:PHE:CE1	1:A:576:VAL:HG13	2.51	0.46
1:A:69:TYR:O	1:A:72:GLN:HG3	2.16	0.46
1:A:711:LYS:O	1:A:712[B]:GLU:HG2	2.16	0.46
1:A:717[B]:ARG:HG2	1:A:749:PHE:HB2	1.97	0.46
1:A:564:TYR:HE1	1:A:576:VAL:HG11	1.81	0.45
1:B:732:GLY:HA2	1:B:747:VAL:O	2.16	0.45
1:B:637:THR:CG2	5:B:1004:ACT:CH3	2.94	0.45
1:A:665:VAL:HG12	1:A:669:PHE:CE2	2.51	0.45
1:B:637:THR:O	1:B:640:LYS:HG3	2.16	0.45
1:B:644:GLU:HG3	8:B:1510:HOH:O	2.17	0.45
1:A:732:GLY:HA2	1:A:747:VAL:O	2.17	0.45
1:A:777:HIS:HD2	8:A:1746:HOH:O	2.00	0.45
1:B:620:ALA:CB	8:B:1637:HOH:O	2.62	0.45
1:A:682:ALA:HB2	1:A:690:LEU:HD23	1.98	0.44
1:A:797:ASN:ND2	1:A:797:ASN:C	2.71	0.44
1:B:815[B]:PHE:HD1	8:B:1546:HOH:O	1.99	0.44
1:A:711:LYS:HG3	1:A:730:TYR:CD2	2.53	0.44
1:B:901:SER:OG	4:B:1003:GOL:H31	2.17	0.44
1:A:221:VAL:HG22	1:A:237:LYS:O	2.18	0.44
1:B:797:ASN:OD1	8:B:1105:HOH:O	2.21	0.44
1:A:627[B]:LYS:HG2	8:A:1117:HOH:O	2.18	0.44
1:A:1:MET:N	8:A:1142:HOH:O	2.48	0.43
1:B:666[B]:MET:HB2	1:B:717:ARG:NH1	2.33	0.43
1:A:64:SER:O	1:A:68:LYS:HG3	2.17	0.43
1:A:689:GLN:HG2	1:A:690:LEU:N	2.33	0.43
1:B:793:ASN:HA	1:B:796:ALA:O	2.17	0.43
1:A:601:ILE:HD12	1:A:678:LEU:HD23	2.00	0.43
1:B:478:VAL:HG12	1:B:509:SER:HB3	2.00	0.43
1:B:532:ASN:CG	8:B:1136:HOH:O	2.57	0.43
1:B:156:THR:HG22	1:B:483:PHE:HE1	1.83	0.43
1:A:337[A]:THR:HG22	1:A:338:MET:N	2.34	0.43
1:B:777:HIS:HD2	8:B:1746:HOH:O	2.00	0.43
1:A:735:GLY:HA2	4:A:1016:GOL:H31	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:479[A]:LEU:CD1	1:B:513:PHE:CZ	3.02	0.43
1:B:924:GLN:HA	1:B:940:ILE:O	2.19	0.43
1:A:520:ASP:HB2	8:A:1552:HOH:O	2.18	0.43
1:A:661:TYR:HB3	8:A:1423:HOH:O	2.19	0.43
1:A:765:GLU:O	1:A:769:ILE:HD12	2.19	0.42
1:A:968:ILE:HD13	1:A:968:ILE:N	2.33	0.42
1:B:799:THR:HG22	1:B:799:THR:O	2.19	0.42
1:A:793:ASN:N	1:A:793:ASN:ND2	2.67	0.42
1:B:464:LYS:HD2	4:B:1010:GOL:O3	2.19	0.42
1:A:961:GLN:NE2	1:A:961:GLN:HA	2.34	0.42
1:B:68:LYS:HA	1:B:68:LYS:HD2	1.78	0.42
1:B:828:LYS:CA	8:B:1101:HOH:O	2.68	0.42
1:A:909:ARG:NH1	8:A:1160:HOH:O	2.52	0.42
1:B:132:LEU:HD12	1:B:223:ALA:HB1	2.02	0.42
1:B:657:PHE:CE2	8:B:1806:HOH:O	2.70	0.42
1:B:637:THR:HG21	8:B:1731:HOH:O	2.20	0.42
1:A:330:LYS:NZ	6:A:1010:PEG:H22	2.35	0.42
1:A:628:ILE:HD11	1:A:792:LEU:HD13	2.01	0.42
1:A:957:PHE:CE1	1:A:962:LYS:HB2	2.55	0.42
1:B:619:LEU:CD2	8:B:1637:HOH:O	2.67	0.42
1:A:118:TRP:CD1	1:A:134:LYS:HE2	2.55	0.42
1:B:115:VAL:HA	1:B:118:TRP:CD1	2.54	0.42
1:B:590:LYS:HE2	1:B:590:LYS:HB2	1.90	0.42
1:A:109:LYS:HE2	1:A:109:LYS:HB3	1.83	0.41
1:B:173:PHE:CE2	1:B:181:VAL:HG11	2.54	0.41
1:B:645[B]:GLN:OE1	1:B:658:MET:HG3	2.20	0.41
1:A:395:GLU:HB2	1:A:398:LYS:HG3	2.02	0.41
1:B:93:GLU:HB2	8:B:1216:HOH:O	2.20	0.41
1:B:637:THR:HG23	5:B:1004:ACT:O	2.20	0.41
1:B:565:TYR:OH	1:B:680[A]:GLU:OE1	2.25	0.41
1:A:115:VAL:HA	1:A:118:TRP:CD1	2.55	0.41
1:A:534:TYR:CZ	1:A:550:PRO:HB3	2.55	0.41
1:A:601:ILE:HD12	1:A:678:LEU:CD2	2.50	0.41
1:A:640:LYS:HG3	1:A:641:LEU:N	2.36	0.41
1:A:924:GLN:HA	1:A:940:ILE:O	2.21	0.41
1:B:221:VAL:HG22	1:B:237:LYS:O	2.19	0.41
1:B:644:GLU:O	1:B:648:LYS:HD3	2.20	0.41
1:B:337[A]:THR:HG22	1:B:338:MET:N	2.36	0.41
1:A:158:GLN:NE2	1:A:528:GLU:OE2	2.47	0.41
1:B:793:ASN:HB3	8:B:1119:HOH:O	2.20	0.41
1:A:17:LEU:HD11	1:A:21:LYS:HE2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:650:ASN:CG	1:A:650:ASN:O	2.60	0.41
1:A:793:ASN:HA	1:A:797:ASN:CB	2.51	0.41
1:B:785:ARG:NH2	1:B:806:PHE:CZ	2.88	0.41
1:A:637:THR:O	1:A:640:LYS:CG	2.69	0.41
1:B:642:TYR:OH	1:B:655:ASP:O	2.28	0.41
1:A:546:VAL:CG1	1:A:547:GLY:N	2.84	0.40
1:A:502[B]:GLU:HG3	8:A:1122:HOH:O	2.21	0.40
1:A:552:LEU:HD11	1:A:619:LEU:HD22	2.03	0.40
1:A:453:TYR:CE1	1:A:479:LEU:HD12	2.56	0.40
1:B:810:GLU:HA	8:B:1114:HOH:O	2.20	0.40
1:A:727:SER:O	1:A:737:LYS:HE3	2.22	0.40
1:B:555:ASP:OD1	1:B:555:ASP:N	2.55	0.40
1:B:609:VAL:CG2	1:B:656:ARG:HG3	2.51	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1757:HOH:O	8:B:1781:HOH:O[1_444]	2.12	0.08
8:A:1607:HOH:O	8:B:1831:HOH:O[1_444]	2.18	0.02

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	1001/992 (101%)	958 (96%)	40 (4%)	3 (0%)	37	22
1	B	1004/992 (101%)	963 (96%)	39 (4%)	2 (0%)	44	28
All	All	2005/1984 (101%)	1921 (96%)	79 (4%)	5 (0%)	37	28

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	798	ASP
1	A	800	ALA
1	B	497	GLU
1	A	796	ALA
1	B	799	THR

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	869/859 (101%)	857 (99%)	12 (1%)	62	47
1	B	872/859 (102%)	861 (99%)	11 (1%)	65	50
All	All	1741/1718 (101%)	1718 (99%)	23 (1%)	62	50

All (23) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	162	LYS
1	A	173	PHE
1	A	208	LYS
1	A	231	ARG
1	A	344	ASP
1	A	648	LYS
1	A	652	LYS
1	A	713	ASN
1	A	714	PHE
1	A	737	LYS
1	A	785	ARG
1	A	797	ASN
1	B	11	LYS
1	B	162	LYS
1	B	173	PHE
1	B	231	ARG
1	B	302	ASN
1	B	485	SER
1	B	585	ASP

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Mol	Chain	Res	Type
1	B	640	LYS
1	B	649	THR
1	B	714	PHE
1	B	793	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	43	ASN
1	A	72	GLN
1	A	693	GLN
1	A	777	HIS
1	A	793	ASN
1	A	961	GLN
1	B	19	ASN
1	B	30	ASN
1	B	693	GLN
1	B	777	HIS
1	B	924	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 37 ligands modelled in this entry, 4 are monoatomic - leaving 33 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	GOL	A	1015	-	5,5,5	0.25	0	5,5,5	0.49	0
5	ACT	B	1004	-	3,3,3	1.29	0	3,3,3	1.37	0
4	GOL	A	1007	-	5,5,5	0.42	0	5,5,5	0.93	0
2	PO4	B	1000	-	4,4,4	1.76	1 (25%)	6,6,6	1.56	1 (16%)
3	BGC	A	1001	-	12,12,12	0.48	0	17,17,17	1.16	2 (11%)
4	GOL	A	1002	-	5,5,5	0.31	0	5,5,5	0.57	0
4	GOL	B	1010	-	5,5,5	0.28	0	5,5,5	0.36	0
4	GOL	B	1018	-	5,5,5	0.25	0	5,5,5	0.32	0
5	ACT	A	1005	-	3,3,3	1.37	0	3,3,3	1.24	0
5	ACT	A	1009	-	3,3,3	1.36	0	3,3,3	0.75	0
4	GOL	B	1003	-	5,5,5	0.15	0	5,5,5	0.74	0
5	ACT	B	1002	-	3,3,3	1.30	0	3,3,3	1.56	1 (33%)
3	BGC	B	1001	-	12,12,12	0.45	0	17,17,17	0.98	1 (5%)
6	PEG	B	1012	-	6,6,6	0.51	0	5,5,5	0.37	0
5	ACT	B	1006	-	3,3,3	1.31	0	3,3,3	1.14	0
4	GOL	B	1017	-	5,5,5	0.10	0	5,5,5	0.46	0
4	GOL	B	1013	-	5,5,5	0.34	0	5,5,5	0.78	0
5	ACT	B	1014	-	3,3,3	1.32	0	3,3,3	1.24	0
5	ACT	B	1007	-	3,3,3	1.31	0	3,3,3	1.21	0
5	ACT	A	1004	-	3,3,3	1.21	0	3,3,3	1.64	1 (33%)
4	GOL	B	1011	-	5,5,5	0.29	0	5,5,5	0.37	0
2	PO4	A	1000	-	4,4,4	2.01	1 (25%)	6,6,6	1.45	1 (16%)
6	PEG	A	1012	-	6,6,6	0.26	0	5,5,5	0.28	0
4	GOL	A	1016	-	5,5,5	0.16	0	5,5,5	0.27	0
5	ACT	A	1011	-	3,3,3	1.26	0	3,3,3	1.08	0
5	ACT	A	1006	-	3,3,3	1.39	0	3,3,3	1.07	0
4	GOL	B	1009	-	5,5,5	0.36	0	5,5,5	0.60	0
4	GOL	B	1005	-	5,5,5	0.23	0	5,5,5	0.48	0
6	PEG	A	1010	-	6,6,6	0.33	0	5,5,5	0.23	0
4	GOL	A	1017	-	5,5,5	0.29	0	5,5,5	0.36	0
5	ACT	A	1003	-	3,3,3	1.42	0	3,3,3	1.13	0
4	GOL	A	1008	-	5,5,5	0.30	0	5,5,5	0.41	0
4	GOL	B	1008	-	5,5,5	0.35	0	5,5,5	0.44	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
4	GOL	A	1015	-	-	3/4/4/4	-
4	GOL	A	1007	-	-	2/4/4/4	-
4	GOL	B	1010	-	-	2/4/4/4	-
3	BGC	A	1001	-	-	2/2/22/22	0/1/1/1
4	GOL	A	1002	-	-	4/4/4/4	-
4	GOL	B	1018	-	-	2/4/4/4	-
4	GOL	B	1003	-	-	4/4/4/4	-
3	BGC	B	1001	-	-	2/2/22/22	0/1/1/1
6	PEG	B	1012	-	-	3/4/4/4	-
4	GOL	B	1017	-	-	0/4/4/4	-
4	GOL	B	1013	-	-	2/4/4/4	-
4	GOL	B	1011	-	-	4/4/4/4	-
6	PEG	A	1012	-	-	2/4/4/4	-
4	GOL	A	1016	-	-	4/4/4/4	-
4	GOL	B	1009	-	-	2/4/4/4	-
4	GOL	B	1005	-	-	0/4/4/4	-
6	PEG	A	1010	-	-	2/4/4/4	-
4	GOL	A	1017	-	-	2/4/4/4	-
4	GOL	A	1008	-	-	2/4/4/4	-
4	GOL	B	1008	-	-	0/4/4/4	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	1000	PO4	P-O1	3.82	1.59	1.50
2	B	1000	PO4	P-O1	2.71	1.57	1.50

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	1001	BGC	C1-O5-C5	3.13	119.58	113.66
2	B	1000	PO4	O3-P-O2	3.10	117.93	107.97
2	A	1000	PO4	O4-P-O3	2.75	116.80	107.97
3	B	1001	BGC	C1-O5-C5	2.70	118.75	113.66
3	A	1001	BGC	O5-C1-C2	2.29	114.37	110.28
5	A	1004	ACT	O-C-CH3	-2.23	113.67	122.33
5	B	1002	ACT	O-C-CH3	-2.16	113.91	122.33

There are no chirality outliers.

All (44) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	1002	GOL	O1-C1-C2-C3
4	A	1002	GOL	C1-C2-C3-O3
4	A	1007	GOL	C1-C2-C3-O3
4	A	1007	GOL	O2-C2-C3-O3
4	A	1016	GOL	C1-C2-C3-O3
4	A	1017	GOL	C1-C2-C3-O3
4	A	1017	GOL	O2-C2-C3-O3
4	B	1003	GOL	C1-C2-C3-O3
4	B	1009	GOL	C1-C2-C3-O3
4	B	1010	GOL	O1-C1-C2-C3
4	B	1011	GOL	O1-C1-C2-C3
4	B	1013	GOL	O1-C1-C2-O2
3	A	1001	BGC	C4-C5-C6-O6
3	B	1001	BGC	C4-C5-C6-O6
4	A	1016	GOL	O1-C1-C2-O2
4	A	1008	GOL	C1-C2-C3-O3
4	A	1015	GOL	O1-C1-C2-C3
4	A	1015	GOL	C1-C2-C3-O3
4	A	1016	GOL	O1-C1-C2-C3
4	B	1011	GOL	C1-C2-C3-O3
4	B	1013	GOL	O1-C1-C2-C3
4	B	1018	GOL	C1-C2-C3-O3
4	A	1008	GOL	O2-C2-C3-O3
4	A	1016	GOL	O2-C2-C3-O3
4	B	1003	GOL	O2-C2-C3-O3
4	B	1009	GOL	O2-C2-C3-O3
4	B	1011	GOL	O1-C1-C2-O2
6	A	1012	PEG	O1-C1-C2-O2
3	B	1001	BGC	O5-C5-C6-O6
3	A	1001	BGC	O5-C5-C6-O6
6	B	1012	PEG	O1-C1-C2-O2
6	B	1012	PEG	O2-C3-C4-O4
4	A	1002	GOL	O2-C2-C3-O3
4	B	1011	GOL	O2-C2-C3-O3
4	A	1002	GOL	O1-C1-C2-O2
4	A	1015	GOL	O2-C2-C3-O3
6	A	1010	PEG	C4-C3-O2-C2
4	B	1003	GOL	O1-C1-C2-O2
4	B	1018	GOL	O2-C2-C3-O3
6	B	1012	PEG	C4-C3-O2-C2

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Mol	Chain	Res	Type	Atoms
4	B	1003	GOL	O1-C1-C2-C3
4	B	1010	GOL	O1-C1-C2-O2
6	A	1012	PEG	C1-C2-O2-C3
6	A	1010	PEG	O2-C3-C4-O4

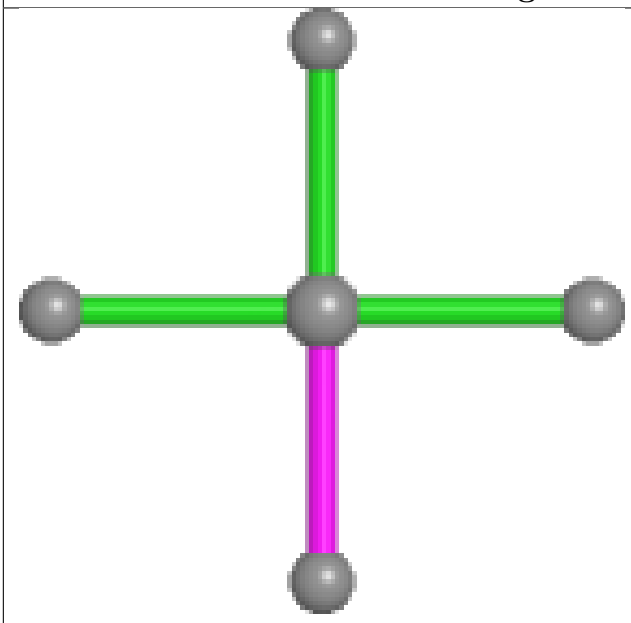
There are no ring outliers.

16 monomers are involved in 32 short contacts:

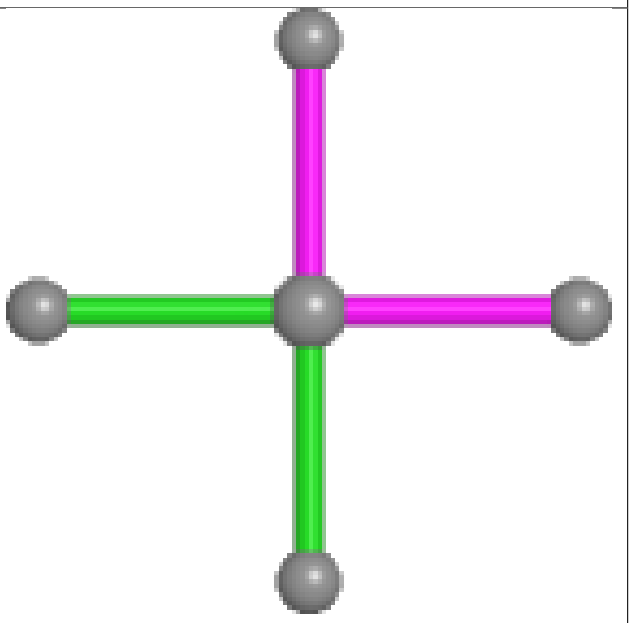
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	B	1004	ACT	5	0
4	A	1007	GOL	1	0
4	A	1002	GOL	1	0
4	B	1010	GOL	1	0
5	A	1009	ACT	1	0
4	B	1003	GOL	3	0
6	B	1012	PEG	6	0
5	B	1006	ACT	2	0
4	B	1017	GOL	1	0
5	B	1014	ACT	2	0
5	A	1004	ACT	2	0
4	A	1016	GOL	1	0
4	B	1009	GOL	2	0
6	A	1010	PEG	2	0
5	A	1003	ACT	1	0
4	A	1008	GOL	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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

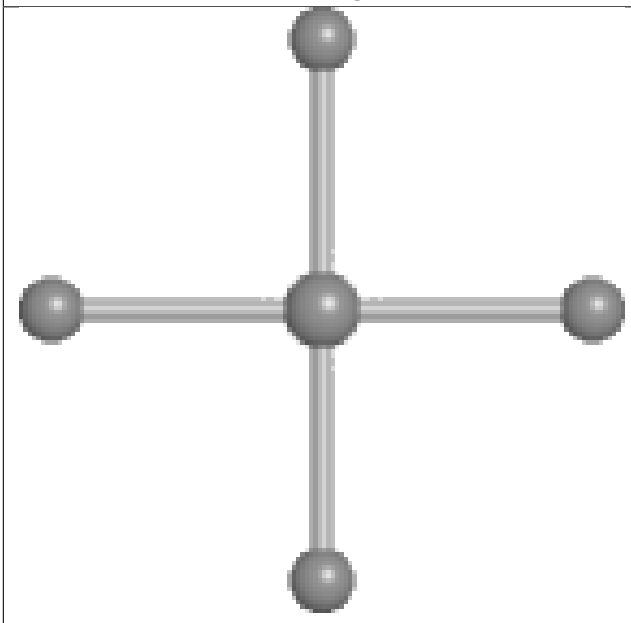
Ligand PO4 B 1000



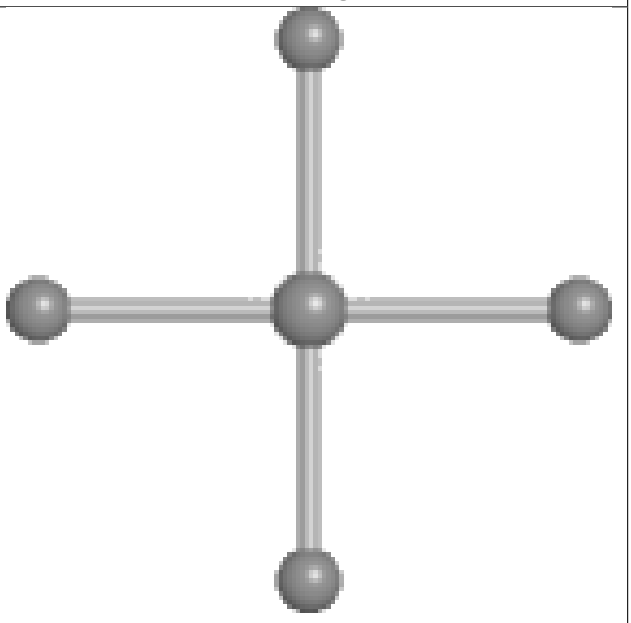
Bond lengths



Bond angles

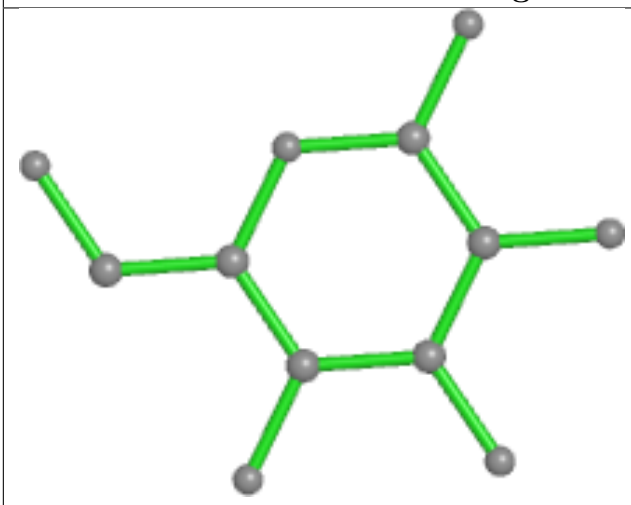


Torsions

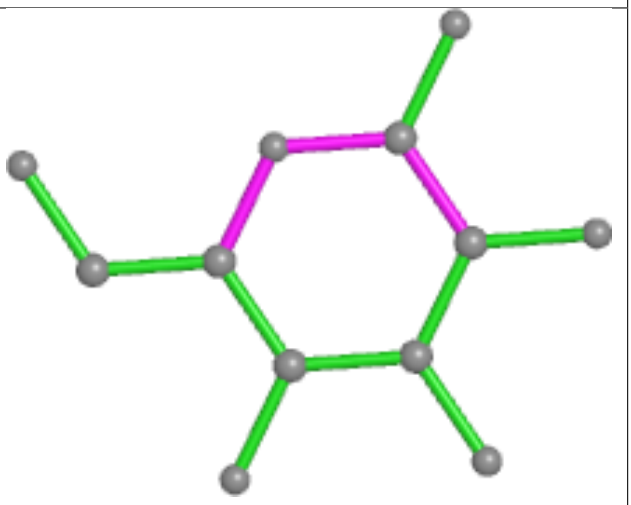


Rings

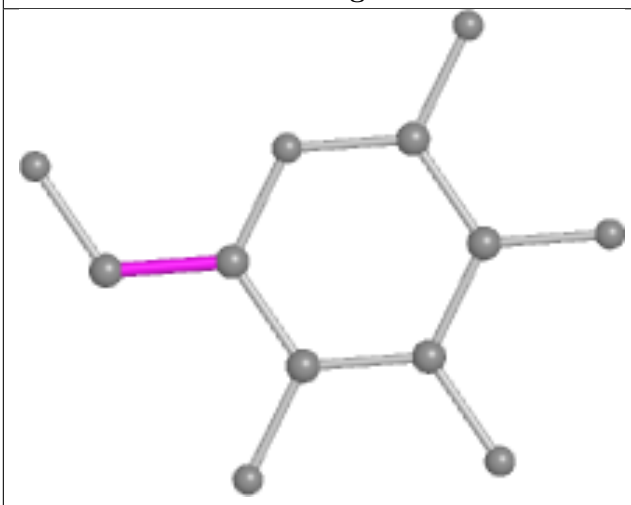
Ligand BGC A 1001



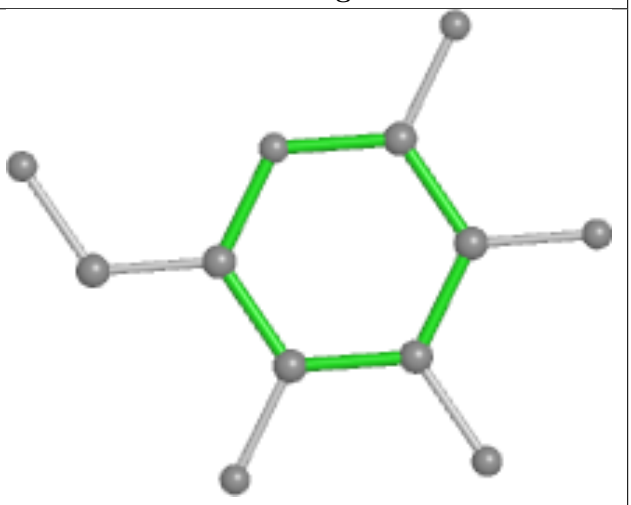
Bond lengths



Bond angles

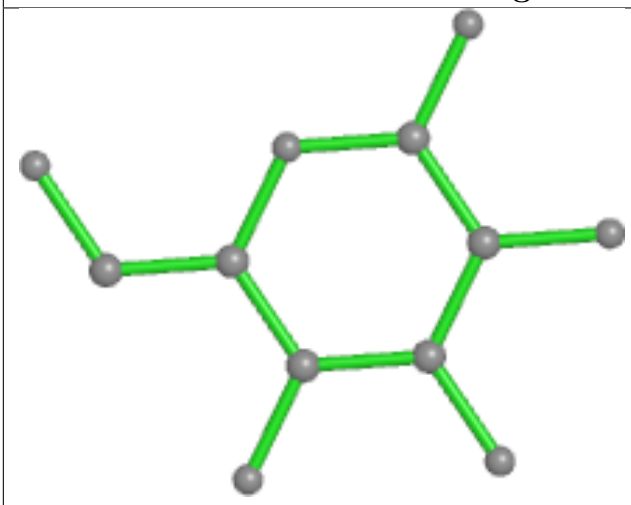


Torsions

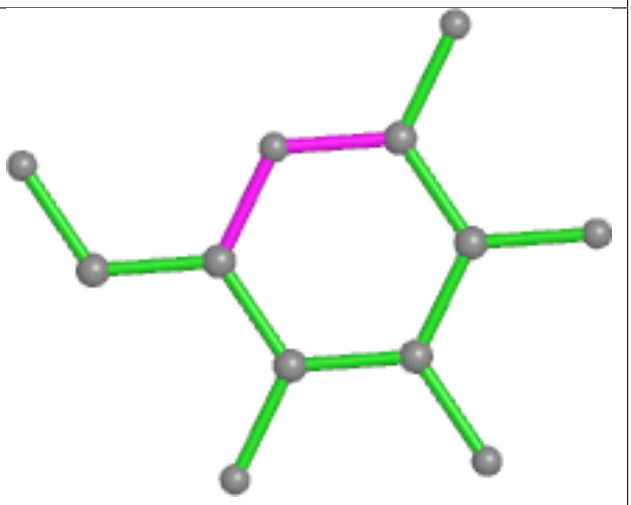


Rings

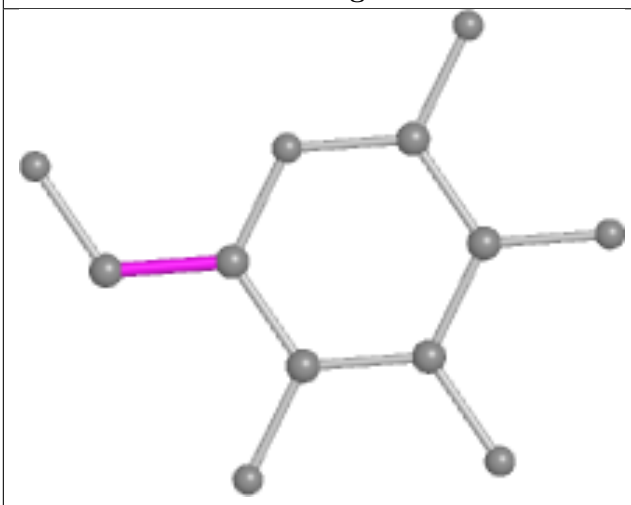
Ligand BGC B 1001



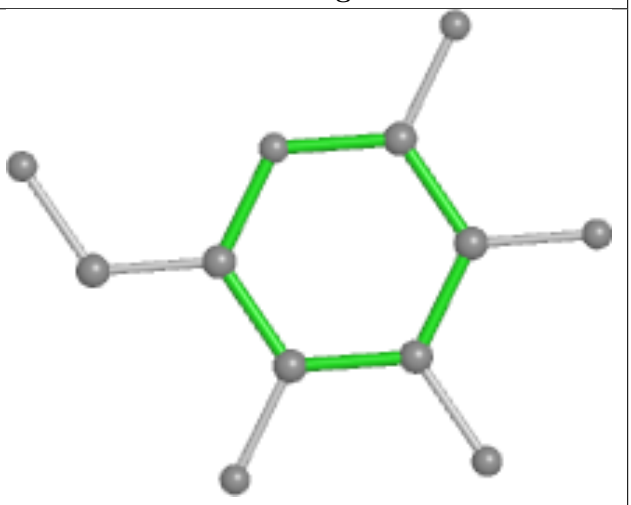
Bond lengths



Bond angles

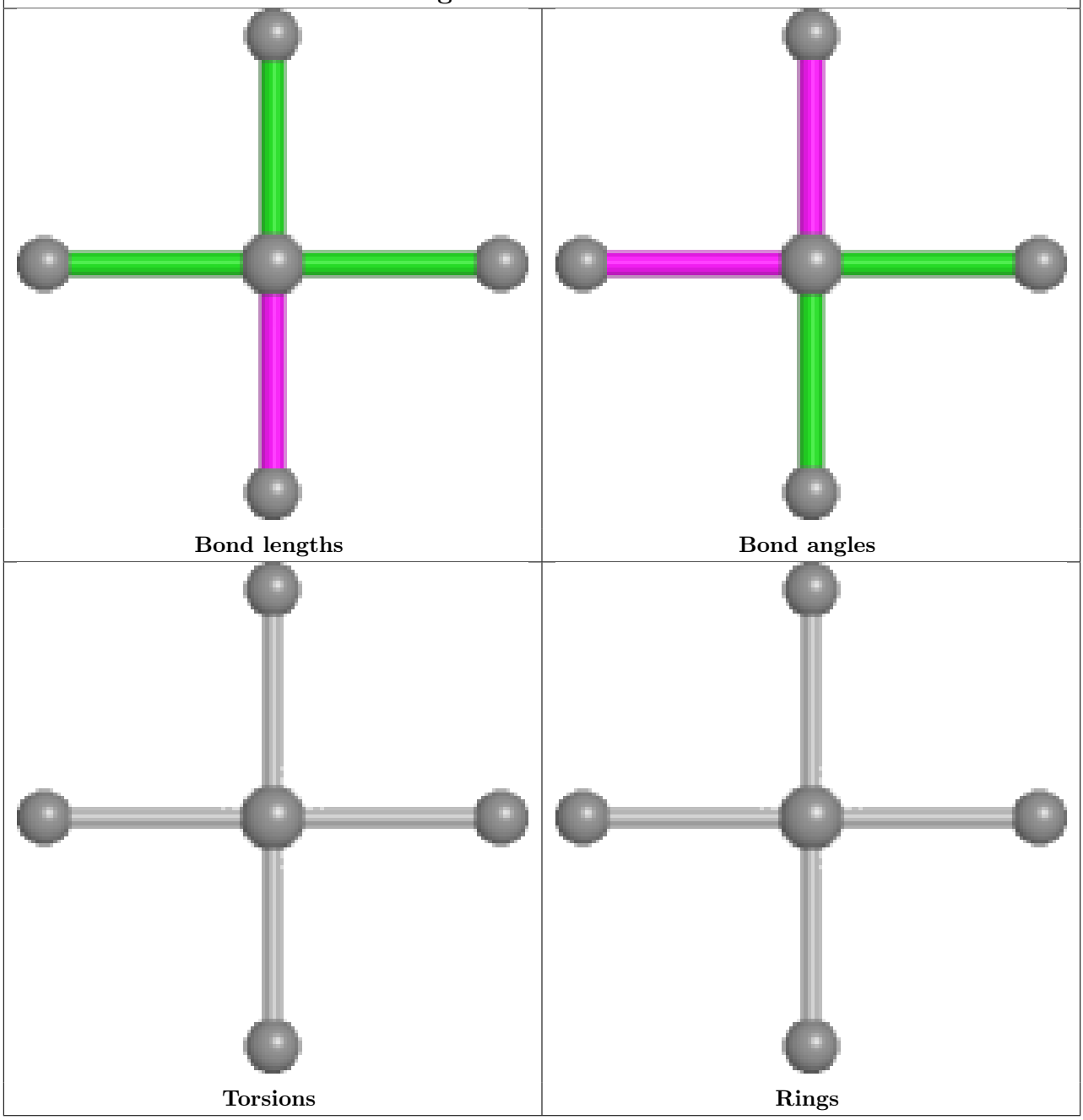


Torsions



Rings

Ligand PO4 A 1000



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, 95^{th} 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	984/992 (99%)	-1.00	0	100	100	10, 31, 58, 104	20 (2%)
1	B	984/992 (99%)	-1.01	0	100	100	9, 32, 57, 84	22 (2%)
All	All	1968/1984 (99%)	-1.01	0	100	100	9, 31, 58, 104	42 (2%)

There are no RSRZ outliers to report.

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

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

6.3 Carbohydrates

There are no monosaccharides in this entry.

6.4 Ligands

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, 95^{th} 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	GOL	B	1017	6/6	0.94	0.07	60,72,84,85	0
5	ACT	B	1004	4/4	0.95	0.06	45,54,56,62	0
3	BGC	B	1001	12/12	0.96	0.08	39,56,70,73	0
4	GOL	A	1016	6/6	0.96	0.07	40,61,81,81	0
5	ACT	B	1014	4/4	0.96	0.06	41,50,51,53	0
6	PEG	A	1010	7/7	0.96	0.07	31,58,78,78	0
4	GOL	B	1010	6/6	0.97	0.06	48,61,75,75	0

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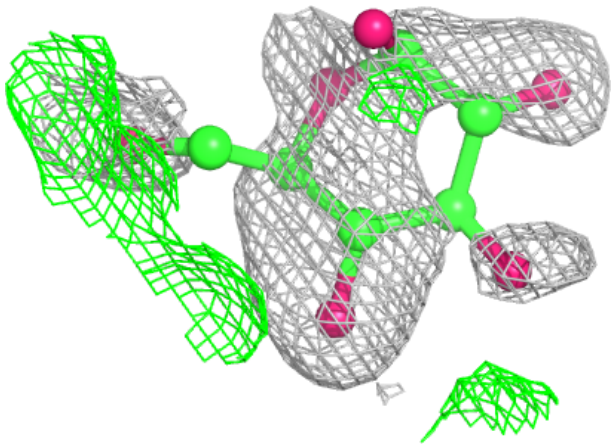
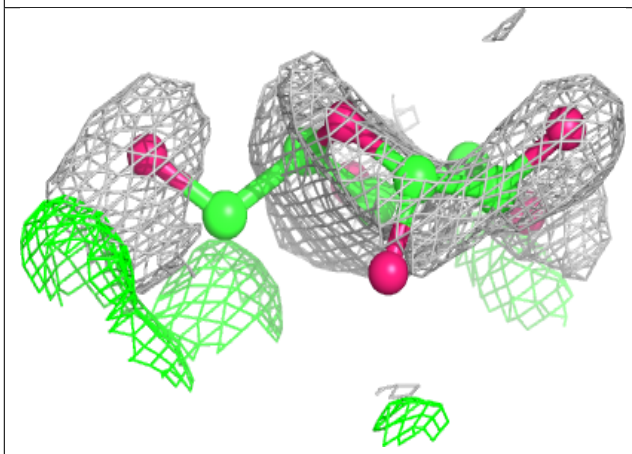
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	GOL	A	1008	6/6	0.97	0.06	34,41,54,54	0
5	ACT	A	1003	4/4	0.97	0.06	43,51,54,57	0
5	ACT	A	1011	4/4	0.97	0.06	59,66,71,71	0
3	BGC	A	1001	12/12	0.97	0.07	39,55,64,66	0
5	ACT	B	1007	4/4	0.97	0.06	45,51,54,54	0
4	GOL	A	1017	6/6	0.97	0.06	49,73,88,101	0
4	GOL	B	1003	6/6	0.97	0.06	27,42,58,64	0
6	PEG	A	1012	7/7	0.97	0.08	58,70,83,83	0
5	ACT	A	1004	4/4	0.98	0.05	35,50,56,56	0
5	ACT	A	1005	4/4	0.98	0.04	41,50,58,59	0
5	ACT	A	1006	4/4	0.98	0.05	46,55,56,57	0
5	ACT	A	1009	4/4	0.98	0.06	43,52,55,55	0
4	GOL	A	1002	6/6	0.98	0.04	41,51,65,74	0
5	ACT	B	1002	4/4	0.98	0.07	26,31,50,54	0
4	GOL	B	1011	6/6	0.98	0.05	43,60,70,72	0
5	ACT	B	1006	4/4	0.98	0.05	42,44,51,51	0
4	GOL	B	1013	6/6	0.98	0.06	36,50,69,72	0
4	GOL	B	1005	6/6	0.98	0.06	50,60,64,69	0
4	GOL	B	1018	6/6	0.98	0.05	56,68,74,77	0
4	GOL	B	1009	6/6	0.98	0.06	35,51,62,62	0
6	PEG	B	1012	7/7	0.98	0.06	27,48,68,68	0
2	PO4	A	1000	5/5	0.99	0.04	27,28,33,39	0
4	GOL	A	1007	6/6	0.99	0.03	25,38,46,55	0
2	PO4	B	1000	5/5	0.99	0.04	25,29,32,34	0
4	GOL	A	1015	6/6	0.99	0.04	29,48,69,69	0
4	GOL	B	1008	6/6	0.99	0.03	23,35,43,43	0
7	CL	A	1014	1/1	0.99	0.04	27,27,27,27	0
7	CL	B	1016	1/1	0.99	0.06	27,27,27,27	0
7	CL	B	1015	1/1	1.00	0.02	17,17,17,17	0
7	CL	A	1013	1/1	1.00	0.02	18,18,18,18	0

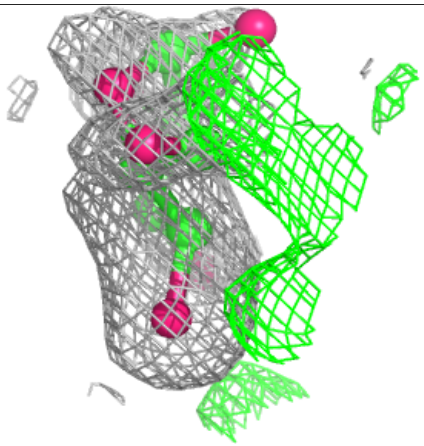
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around BGC B 1001:

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

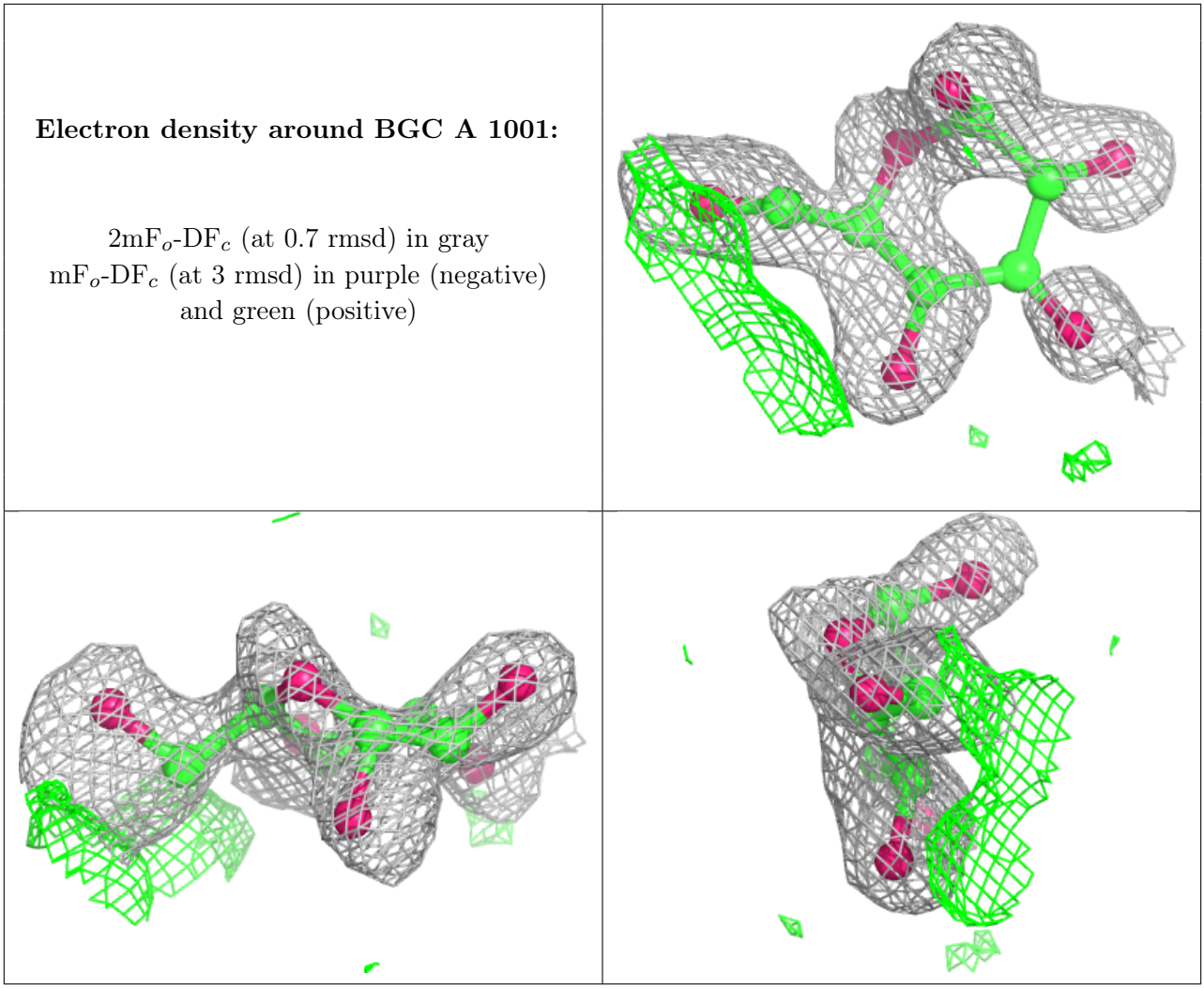






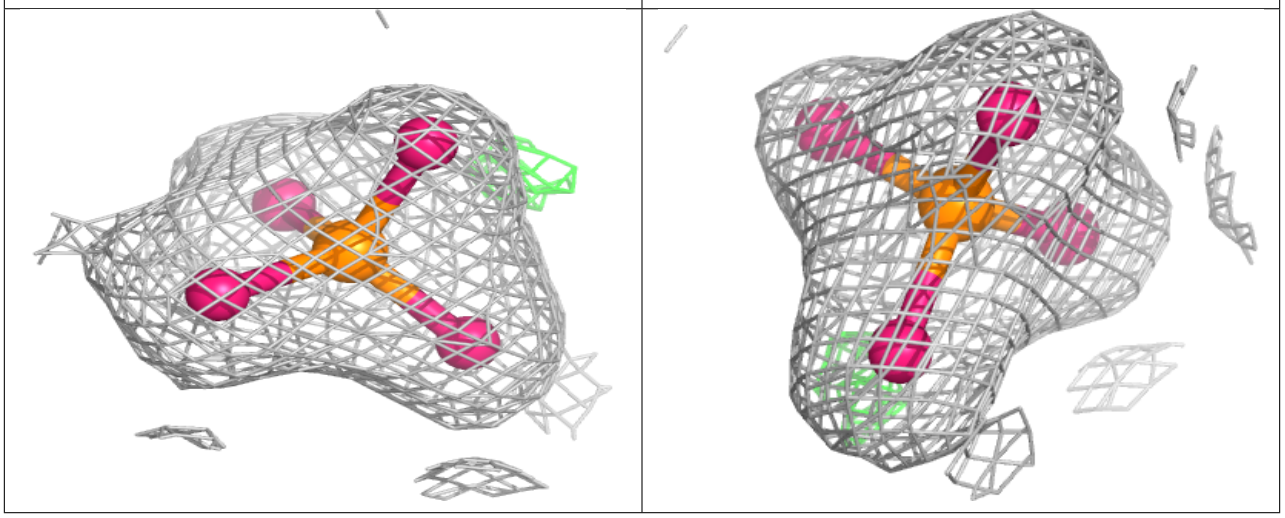
Electron density around BGC A 1001:

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



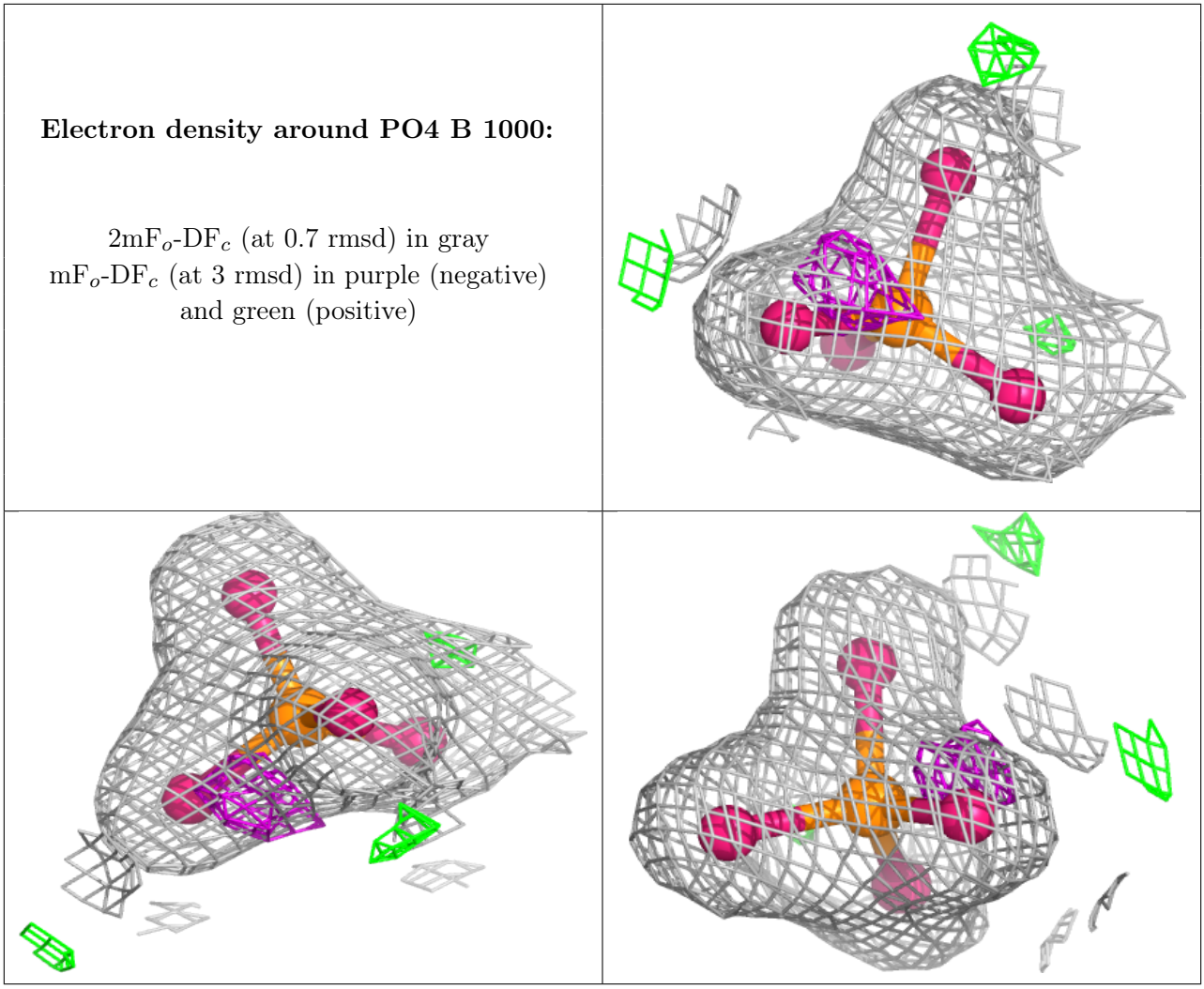
Electron density around PO4 A 1000:

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



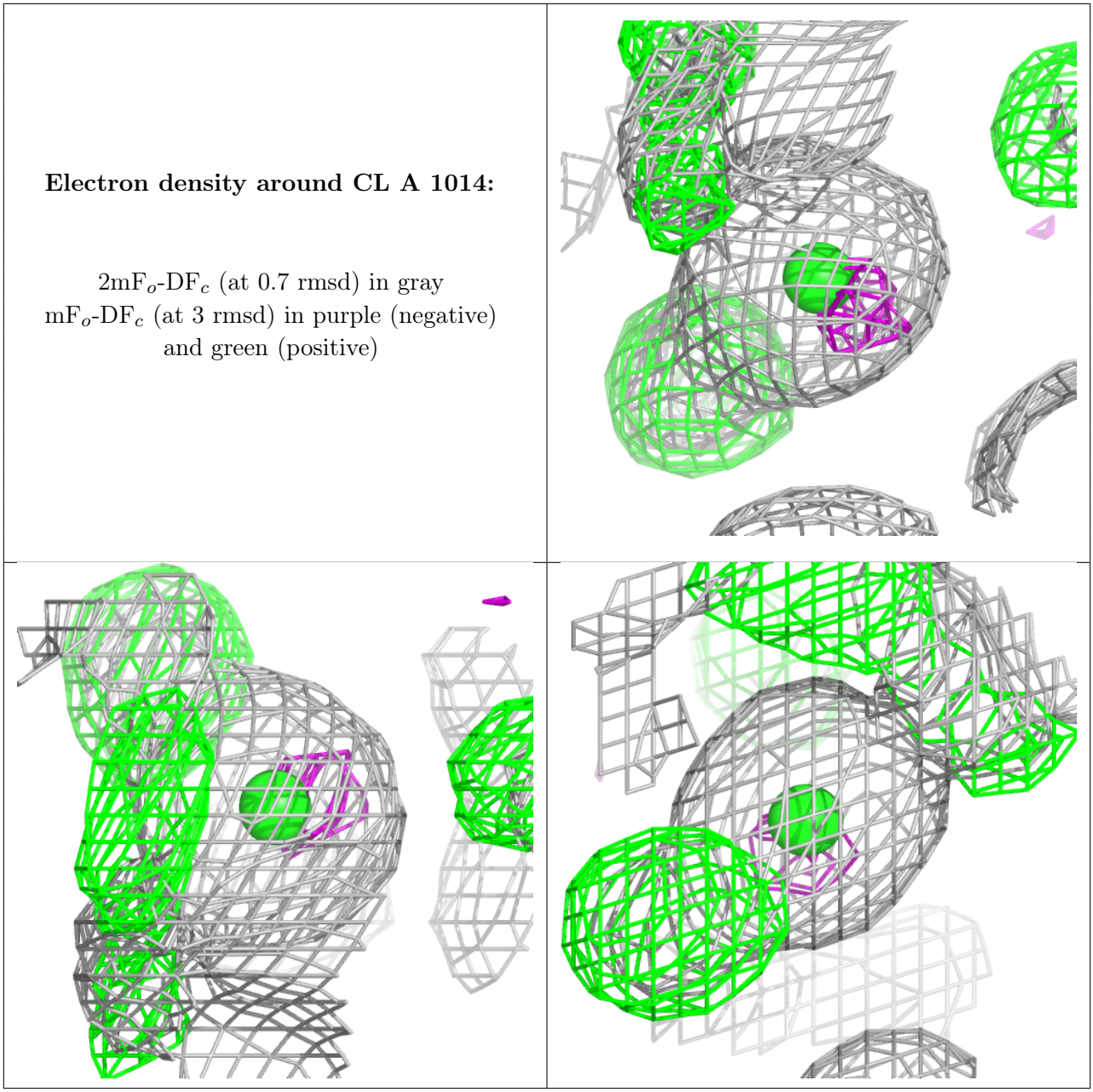
Electron density around PO4 B 1000:

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



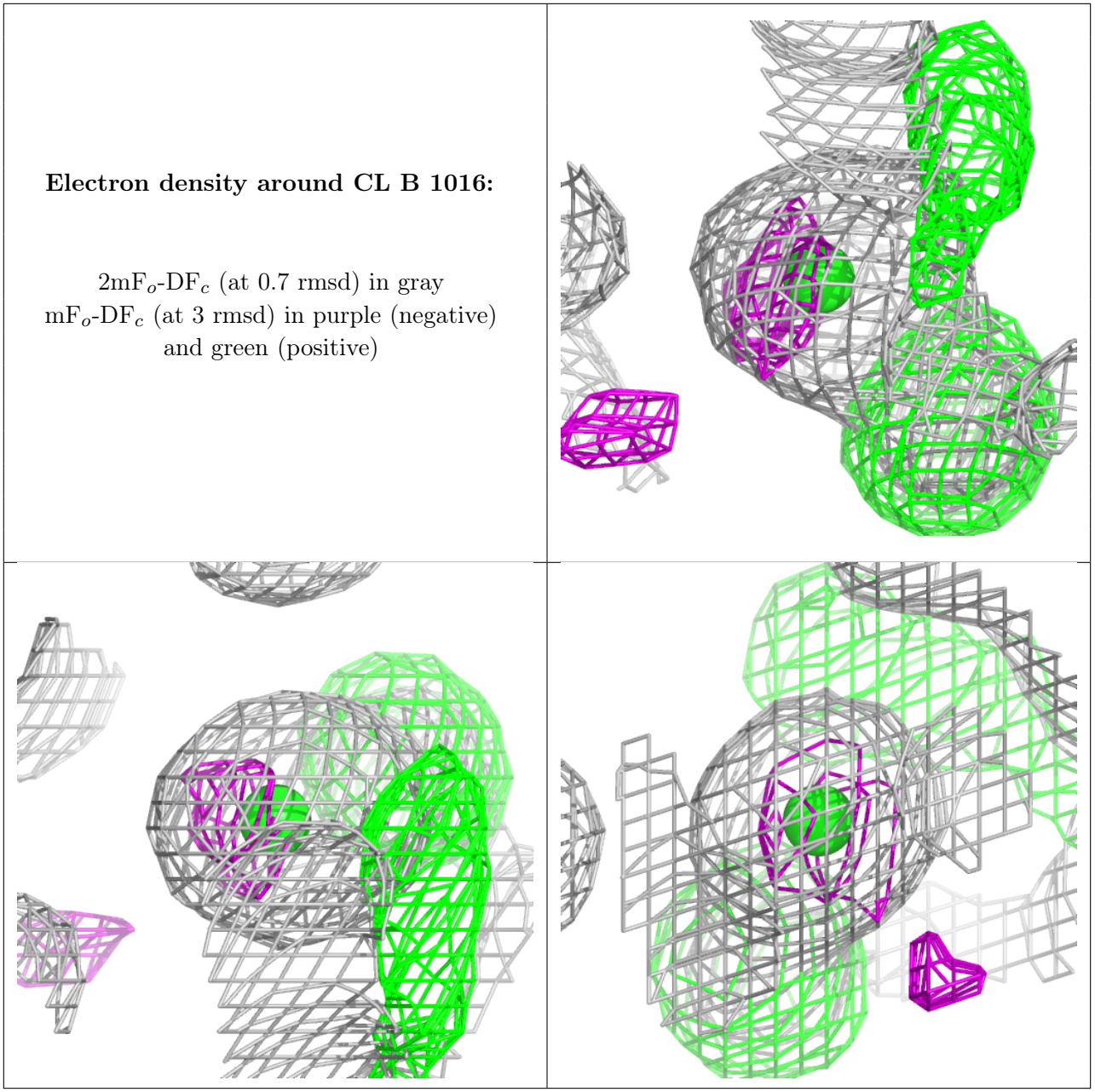
Electron density around CL A 1014:

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



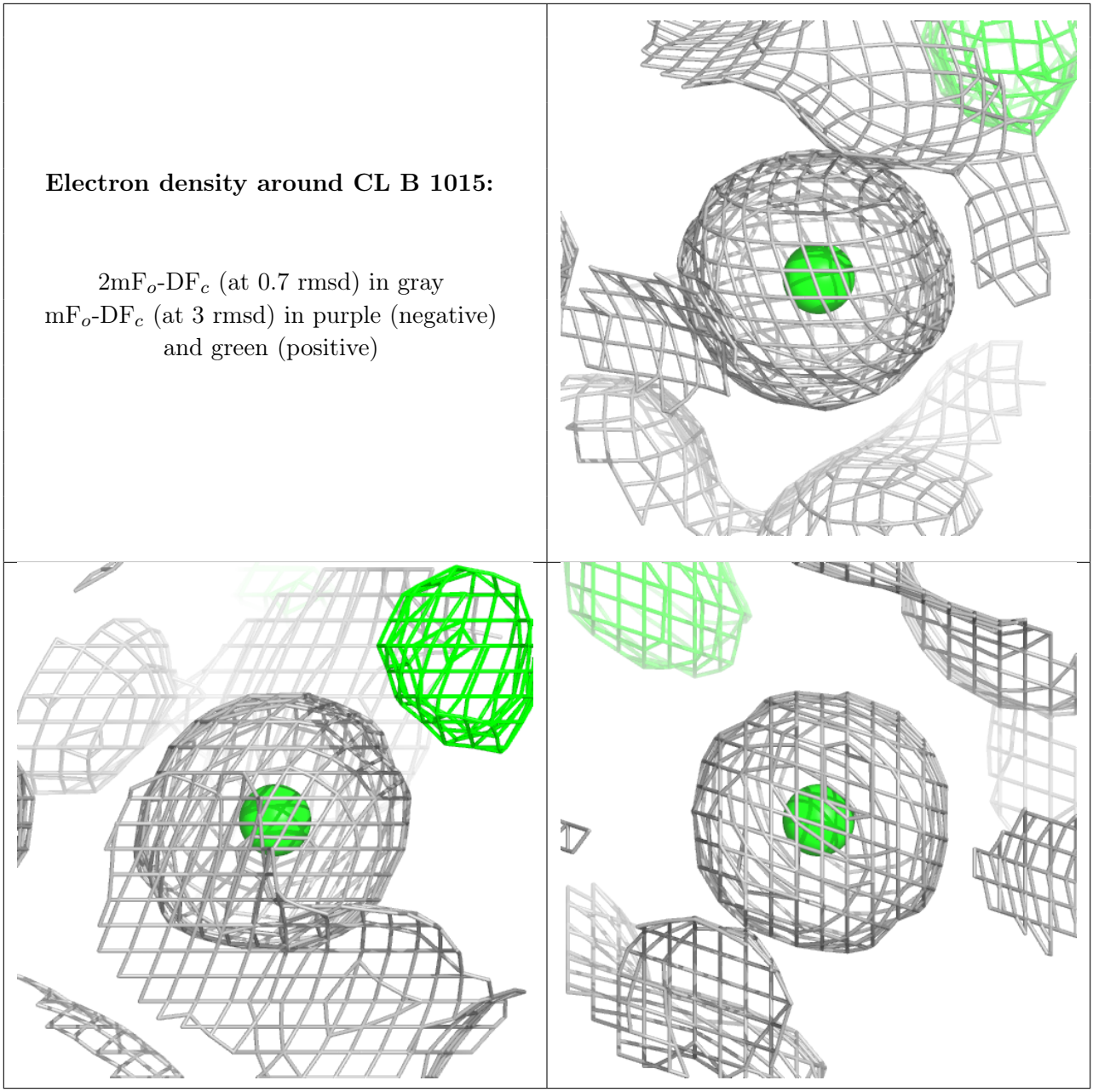
Electron density around CL B 1016:

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



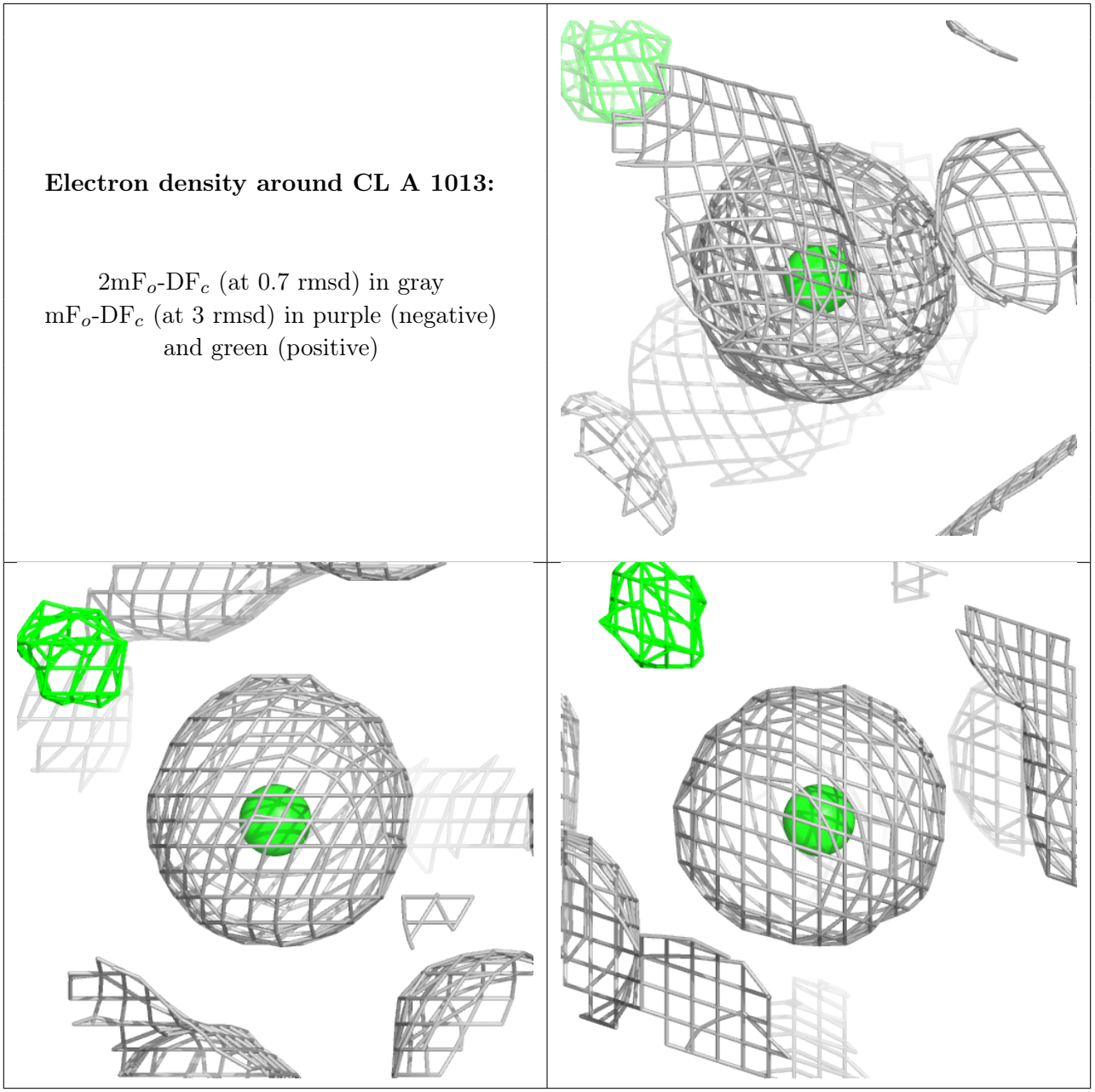
Electron density around CL B 1015:

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



Electron density around CL A 1013:

$2mF_o$-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.