Full wwPDB X-ray Structure Validation Report (i)

Feb 18, 2025 – 12:12 pm GMT

PDB ID	:	9H4T
Title	:	Crystal Structure of TorA
Authors	:	Panwar, A.; Martins, B.M.; Sommer, F.; Dobbek, H.; Iobbi-Nivol, C.; Jourlin-Castelli, C.; Leimkuehler, S.
Deposited on	:	2024-10-21
Resolution	:	1.86 Å(reported)

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

|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
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)	:	2.41

1   Overall quality at a glance ⓘ

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

The reported resolution of this entry is 1.86 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.
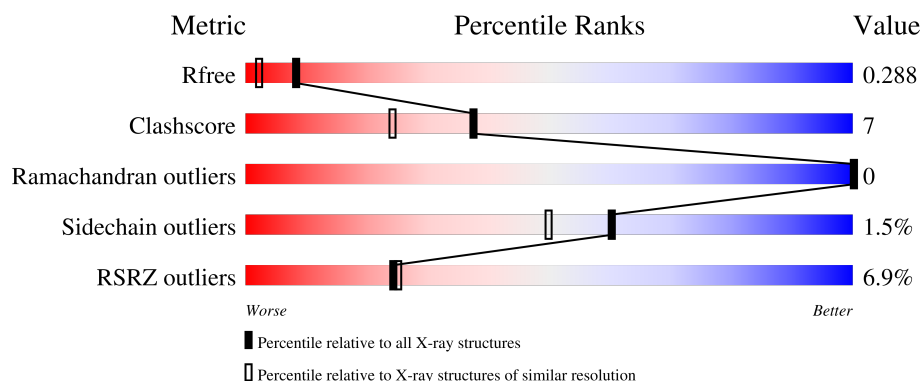
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	3097 (1.86-1.86)
Clashscore	180529	3359 (1.86-1.86)
Ramachandran outliers	177936	3335 (1.86-1.86)
Sidechain outliers	177891	3335 (1.86-1.86)
RSRZ outliers	164620	3097 (1.86-1.86)

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	848	4% 83% 10% · 7%
1	B	848	9% 80% 13% · 6%

2 Entry composition ⓘ

There are 8 unique types of molecules in this entry. The entry contains 14495 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 Trimethylamine-N-oxide reductase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	790	Total	C	N	O	S	0	2	0
			6243	3958	1109	1150	26			
1	B	795	Total	C	N	O	S	0	2	0
			6284	3982	1115	1160	27			

- Molecule 2 is 2-AMINO-5,6-DIMERCAPTO-7-METHYL-3,7,8A,9-TETRAHYDRO-8-OXA-1,3,9,10-TETRAAZA-ANTHRACEN-4-ONE GUANOSINE DINUCLEOTIDE (three-letter code: PGD) (formula: $C_{20}H_{24}N_{10}O_{13}P_2S_2$) (labeled as "Ligand of Interest" by depositor).
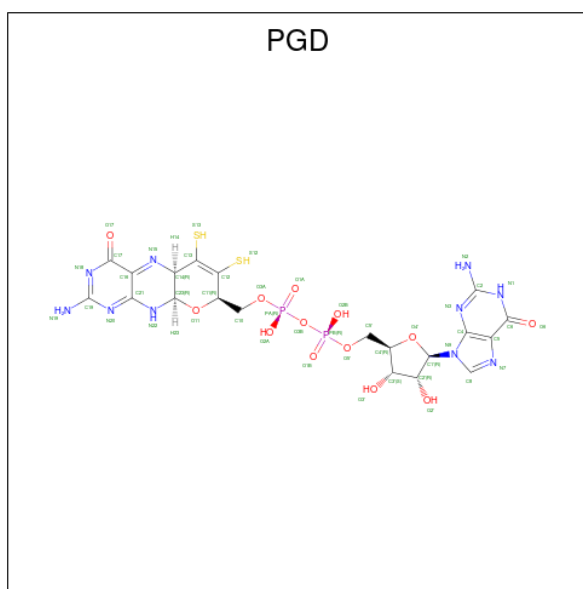
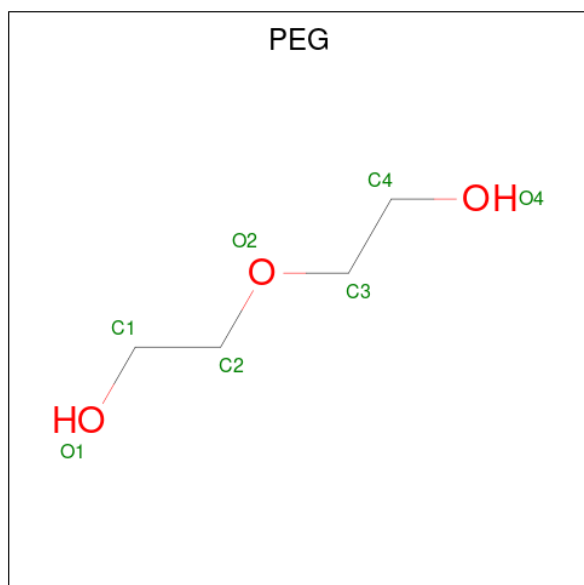| Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	S	0	0
			47	20	10	13	2	2		
2	A	1	Total	C	N	O	P	S	0	0
			47	20	10	13	2	2		
2	B	1	Total	C	N	O	P	S	0	0
			47	20	10	13	2	2		

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Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
			Total	C	N	O	P	S		
2	B	1	47	20	10	13	2	2	0	0

- Molecule 3 is MOLYBDENUM(VI) ION (three-letter code: 6MO) (formula: Mo) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Mo		
3	A	1	1	1	0	0
			Total	Mo		
3	B	1	1	1	0	0

- Molecule 4 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: $C_4H_{10}O_3$).

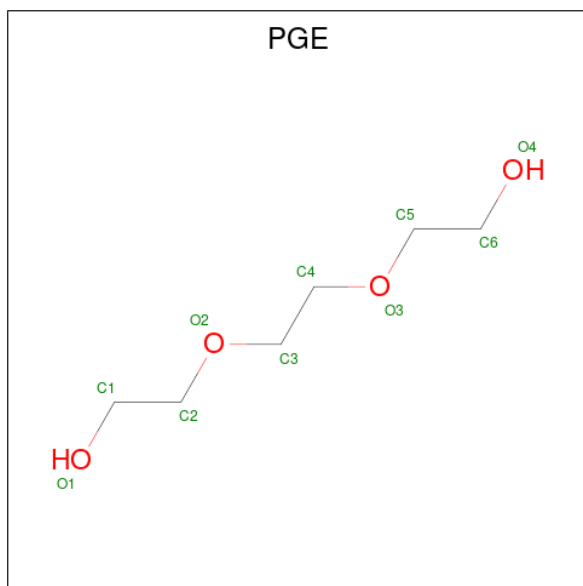| Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
4	A	1	7	4	3	0	0
			Total	C	O		
4	A	1	7	4	3	0	0
			Total	C	O		
4	A	1	7	4	3	0	0
			Total	C	O		
4	A	1	7	4	3	0	0
			Total	C	O		
4	A	1	7	4	3	0	0
			Total	C	O		
4	A	1	7	4	3	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total 7	C 4	O 3	0	0
4	A	1	Total 7	C 4	O 3	0	0
4	A	1	Total 7	C 4	O 3	0	0
4	A	1	Total 7	C 4	O 3	0	0
4	A	1	Total 7	C 4	O 3	0	0
4	A	1	Total 7	C 4	O 3	0	0
4	B	1	Total 7	C 4	O 3	0	0
4	B	1	Total 7	C 4	O 3	0	0
4	B	1	Total 7	C 4	O 3	0	0

- Molecule 5 is TRIETHYLENE GLYCOL (three-letter code: PGE) (formula: $C_6H_{14}O_4$).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total 10	C 6	O 4	0	0
5	A	1	Total 10	C 6	O 4	0	0

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

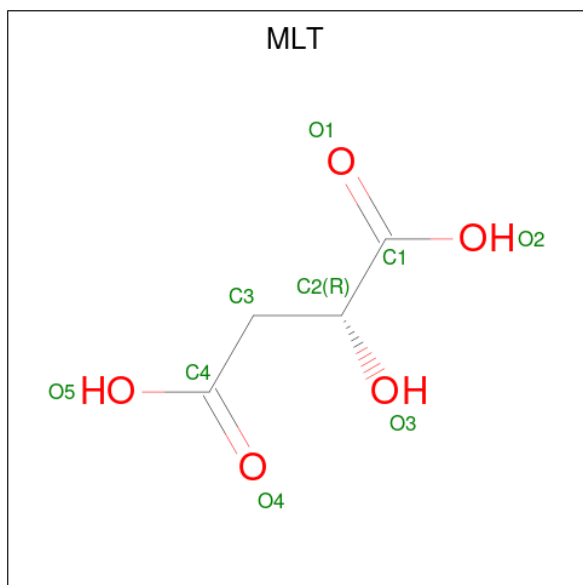- Molecule 6 is D-MALATE (three-letter code: MLT) (formula: $C_4H_6O_5$).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total 9	C 4	O 5	0	0
6	A	1	Total 9	C 4	O 5	0	0
6	A	1	Total 9	C 4	O 5	0	0
6	A	1	Total 9	C 4	O 5	0	0
6	B	1	Total 9	C 4	O 5	0	0
6	B	1	Total 9	C 4	O 5	0	0
6	B	1	Total 9	C 4	O 5	0	0

- Molecule 7 is PENTAETHYLENE GLYCOL (three-letter code: 1PE) (formula: $C_{10}H_{22}O_6$).
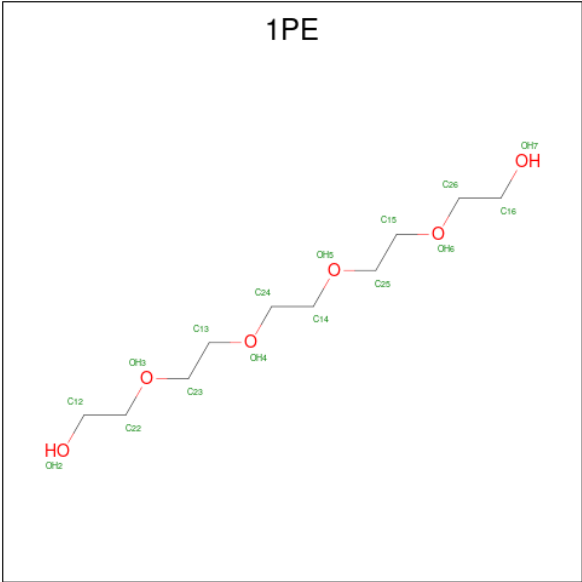
1PE

| Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	B	1	Total 16	C 10	O 6	0	0

- Molecule 8 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	A	849	Total 849	O 849	0	0
8	B	695	Total 695	O 695	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: Trimethylamine-N-oxide reductase 1

Chain A:

● Molecule 1: Trimethylamine-N-oxide reductase 1

Chain B:
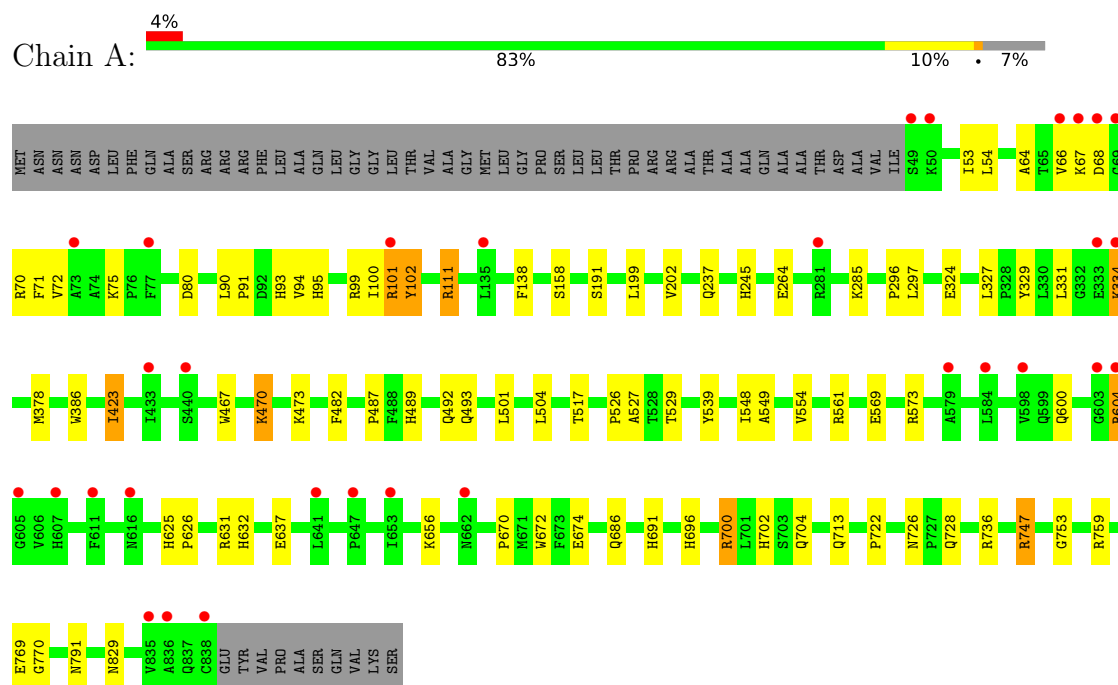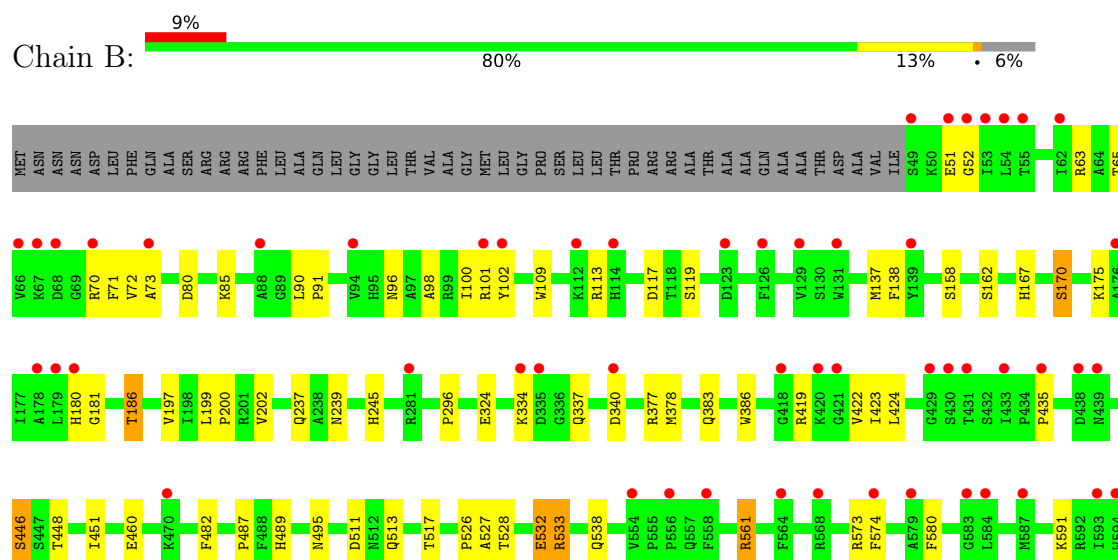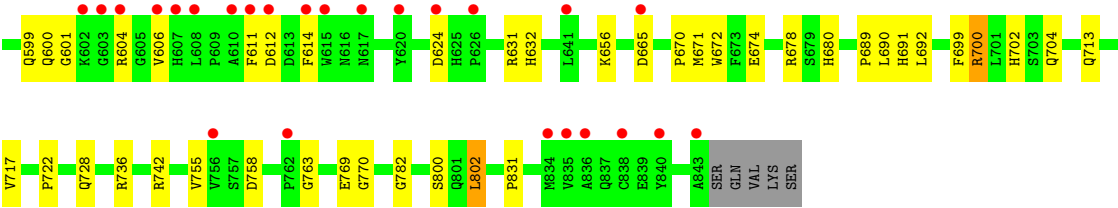
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	93.66Å　117.47Å　100.05Å 90.00°　103.25°　90.00°	Depositor
Resolution (Å)	47.79　–　1.86 47.79　–　1.86	Depositor EDS
% Data completeness (in resolution range)	90.8 (47.79-1.86) 90.9 (47.79-1.86)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.59 (at 1.87Å)	Xtriage
Refinement program	REFMAC v1.0	Depositor
R, R_{free}	0.235　,　0.289 0.239　,　0.288	Depositor DCC
R_{free} test set	2101 reflections (1.32%)	wwPDB-VP
Wilson B-factor (Å^2)	22.1	Xtriage
Anisotropy	0.549	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 60.6	EDS
L-test for twinning[2]	$< |L| > = 0.45, < L^2 > = 0.27$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	14495	wwPDB-VP
Average B, all atoms (Å^2)	28.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 21.64 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 6.7289e-03.*

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[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: 1PE, 6MO, MLT, PGE, PGD, PEG

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	0.33	0/6414	0.58	0/8709
1	B	0.32	0/6457	0.59	0/8771
All	All	0.33	0/12871	0.58	0/17480

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	7
1	B	0	9
All	All	0	16

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	101	ARG	Sidechain
1	A	111	ARG	Sidechain
1	A	573	ARG	Sidechain
1	A	604	ARG	Sidechain
1	A	631	ARG	Sidechain
1	A	700	ARG	Sidechain
1	A	736	ARG	Sidechain
1	B	377	ARG	Sidechain
1	B	419	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	B	533	ARG	Sidechain
1	B	561	ARG	Sidechain
1	B	573	ARG	Sidechain
1	B	631	ARG	Sidechain
1	B	700	ARG	Sidechain
1	B	736	ARG	Sidechain
1	B	742	ARG	Sidechain

5.2   Too-close contacts   ⓘ

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	6243	0	6067	86	0
1	B	6284	0	6096	84	0
2	A	94	0	40	0	0
2	B	94	0	40	2	0
3	A	1	0	0	1	0
3	B	1	0	0	0	0
4	A	84	0	120	4	0
4	B	21	0	30	0	0
5	A	30	0	42	2	0
5	B	20	0	28	1	0
6	A	36	0	16	4	0
6	B	27	0	12	2	0
7	B	16	0	22	0	0
8	A	849	0	0	33	0
8	B	695	0	0	30	0
All	All	14495	0	12513	174	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 7.

All (174) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:99:ARG:HD3	8:A:1016:HOH:O	1.62	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:758:ASP:O	8:B:1001:HOH:O	1.82	0.96
1:B:167:HIS:CD2	1:B:533:ARG:HD3	2.00	0.95
1:B:690:LEU:HD23	8:B:1002:HOH:O	1.70	0.91
1:A:75:LYS:NZ	8:A:1002:HOH:O	2.04	0.90
1:A:95:HIS:NE2	8:A:1001:HOH:O	1.99	0.88
1:A:66:VAL:HG13	8:A:1005:HOH:O	1.78	0.84
1:A:656:LYS:NZ	8:A:1003:HOH:O	2.09	0.84
1:B:186:THR:HG22	8:B:1105:HOH:O	1.78	0.83
1:B:689:PRO:O	8:B:1002:HOH:O	1.97	0.81
1:B:678:ARG:NH2	8:B:1004:HOH:O	2.15	0.80
1:A:53:ILE:HG23	1:A:64:ALA:HB3	1.64	0.79
1:A:327:LEU:HD21	1:A:331:LEU:HD12	1.64	0.79
1:A:91:PRO:HB2	6:A:914:MLT:H32	1.65	0.79
1:B:71:PHE:CD1	8:B:1014:HOH:O	2.37	0.77
1:B:831:PRO:HD2	6:B:908:MLT:H31	1.66	0.75
2:B:901:PGD:O1A	8:B:1003:HOH:O	2.04	0.75
1:A:94:VAL:HA	8:A:1016:HOH:O	1.86	0.75
1:B:763:GLY:HA2	8:B:1002:HOH:O	1.85	0.75
1:A:91:PRO:HB2	6:A:914:MLT:C3	2.16	0.73
1:B:167:HIS:CG	1:B:533:ARG:HD3	2.23	0.73
1:A:329:TYR:HD1	1:A:334:LYS:HE3	1.54	0.72
1:A:71:PHE:N	8:A:1005:HOH:O	2.23	0.71
1:A:632:HIS:HD2	8:A:1425:HOH:O	1.73	0.70
1:B:91:PRO:HG3	8:B:1014:HOH:O	1.93	0.68
1:B:665:ASP:HB3	1:B:800:SER:HB2	1.75	0.68
1:B:755:VAL:HG13	8:B:1571:HOH:O	1.93	0.68
1:B:614:PHE:HB3	8:B:1135:HOH:O	1.95	0.66
1:B:337[B]:GLN:HA	1:B:337[B]:GLN:OE1	1.94	0.66
1:B:181:GLY:H	1:B:435:PRO:HB3	1.61	0.66
1:A:539:TYR:HB2	1:A:548[B]:ILE:HG13	1.77	0.66
1:B:632:HIS:HD2	8:B:1395:HOH:O	1.77	0.66
1:B:691:HIS:HE1	8:B:1373:HOH:O	1.80	0.64
1:A:334:LYS:HG3	8:A:1241:HOH:O	1.97	0.64
1:A:769:GLU:CD	8:A:1035:HOH:O	2.35	0.64
1:B:73:ALA:N	8:B:1014:HOH:O	2.32	0.63
1:A:334:LYS:NZ	8:A:1009:HOH:O	2.29	0.62
1:B:717:VAL:N	8:B:1010:HOH:O	2.32	0.62
1:A:71:PHE:H	1:A:95:HIS:HE2	1.47	0.62
1:A:548[B]:ILE:HG22	1:A:549:ALA:O	2.00	0.61
1:A:334:LYS:HB3	8:A:1590:HOH:O	2.01	0.61
1:A:327:LEU:C	1:A:327:LEU:HD23	2.21	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:327:LEU:CD2	1:A:331:LEU:HD12	2.32	0.60
1:A:93:HIS:CE1	8:A:1077:HOH:O	2.56	0.59
1:B:109:TRP:CH2	1:B:113:ARG:HD3	2.37	0.59
1:A:70:ARG:C	8:A:1005:HOH:O	2.41	0.58
1:B:200:PRO:HB3	5:B:905:PGE:H52	1.86	0.58
1:B:423:ILE:H	1:B:600:GLN:HE22	1.52	0.58
1:B:674:GLU:OE2	8:B:1004:HOH:O	2.17	0.58
1:A:191:SER:HG	3:A:903:6MO:MO	1.39	0.57
1:B:239:ASN:ND2	8:B:1017:HOH:O	2.35	0.57
1:B:180:HIS:O	1:B:180:HIS:ND1	2.37	0.57
1:B:186:THR:CG2	1:B:451:ILE:HB	2.35	0.57
1:A:297:LEU:O	1:A:297:LEU:HD23	2.05	0.57
1:A:80:ASP:OD2	1:A:245:HIS:HD2	1.88	0.56
1:A:489:HIS:CE1	1:A:702:HIS:HB3	2.41	0.56
1:B:511:ASP:OD2	1:B:513:GLN:O	2.23	0.56
1:A:604:ARG:HH11	1:A:604:ARG:HG2	1.71	0.56
1:B:80:ASP:OD2	1:B:245:HIS:HD2	1.89	0.56
1:B:604:ARG:HD2	8:B:1045:HOH:O	2.06	0.56
1:A:700:ARG:HB2	1:A:704:GLN:O	2.06	0.56
1:A:829:ASN:ND2	8:A:1006:HOH:O	2.35	0.56
1:A:158:SER:HB3	8:A:1126:HOH:O	2.05	0.55
1:A:501:LEU:HD22	1:A:504:LEU:HD12	1.88	0.55
1:A:423:ILE:H	1:A:600:GLN:HE22	1.55	0.55
1:A:297:LEU:HD23	1:A:297:LEU:C	2.27	0.55
1:B:71:PHE:CE1	8:B:1014:HOH:O	2.60	0.54
1:B:340:ASP:OD1	8:B:1006:HOH:O	2.18	0.53
1:B:383:GLN:HE21	1:B:671:MET:H	1.56	0.52
1:A:237:GLN:O	1:A:245:HIS:HE1	1.93	0.52
1:A:386:TRP:CG	1:A:670:PRO:HG3	2.45	0.52
1:B:386:TRP:CG	1:B:670:PRO:HG3	2.45	0.52
1:A:529:THR:HG21	8:A:1016:HOH:O	2.10	0.52
1:A:53:ILE:HG22	1:A:64:ALA:O	2.10	0.52
1:B:528:THR:HB	1:B:532:GLU:HG3	1.92	0.52
1:B:237:GLN:O	1:B:245:HIS:HE1	1.93	0.51
1:A:99:ARG:NH1	8:A:1016:HOH:O	2.44	0.51
1:A:54:LEU:HD21	1:A:548[B]:ILE:HG23	1.93	0.51
1:A:691:HIS:HE1	8:A:1284:HOH:O	1.94	0.51
1:A:696:HIS:CD2	1:A:769:GLU:OE2	2.64	0.51
1:B:96:ASN:HD21	1:B:98:ALA:HB3	1.76	0.51
1:A:726:ASN:HD21	1:A:728:GLN:NE2	2.09	0.50
1:B:728:GLN:NE2	8:B:1027:HOH:O	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:70:ARG:HG3	1:B:72:VAL:HG13	1.94	0.50
1:B:611:PHE:HA	8:B:1135:HOH:O	2.10	0.50
1:B:680:HIS:O	8:B:1007:HOH:O	2.20	0.50
1:B:340:ASP:OD2	8:B:1005:HOH:O	2.18	0.50
1:B:482:PHE:CD1	1:B:487:PRO:HG3	2.47	0.49
6:B:908:MLT:H32	8:B:1033:HOH:O	2.11	0.49
1:B:100:ILE:HG22	1:B:526:PRO:HB3	1.95	0.49
1:B:489:HIS:ND1	1:B:770:GLY:HA2	2.27	0.49
1:A:529:THR:CG2	8:A:1016:HOH:O	2.60	0.49
1:B:117:ASP:OD1	1:B:119:SER:OG	2.29	0.49
1:A:554:VAL:CG1	8:A:1005:HOH:O	2.60	0.49
1:A:759:ARG:NH2	8:A:1031:HOH:O	2.45	0.49
1:A:467:TRP:O	1:A:470:LYS:HG2	2.13	0.49
1:A:101:ARG:NH2	1:A:102:TYR:OH	2.47	0.48
1:A:489:HIS:CD2	1:A:770:GLY:HA2	2.49	0.47
1:B:495:ASN:ND2	1:B:782:GLY:H	2.12	0.47
1:A:100:ILE:HG22	1:A:526:PRO:HB3	1.96	0.47
1:B:197:VAL:HG12	1:B:802:LEU:CD1	2.44	0.47
1:A:264:GLU:OE1	1:A:285:LYS:HD2	2.15	0.47
1:B:591:LYS:HG2	1:B:611:PHE:CD2	2.50	0.47
1:A:539:TYR:CD1	1:A:548[B]:ILE:HD11	2.50	0.46
1:A:71:PHE:CB	8:A:1001:HOH:O	2.63	0.46
1:A:713:GLN:HB3	8:A:1015:HOH:O	2.15	0.46
1:A:487:PRO:HD2	1:A:517:THR:OG1	2.16	0.46
1:A:91:PRO:HB2	6:A:914:MLT:C4	2.45	0.46
1:B:186:THR:HG21	1:B:451:ILE:CB	2.46	0.46
1:B:487:PRO:HD2	1:B:517:THR:OG1	2.16	0.46
1:A:696:HIS:NE2	1:A:769:GLU:OE2	2.49	0.45
1:B:137:MET:HE2	1:B:137:MET:HB2	1.65	0.45
1:B:175:LYS:HE2	1:B:580:PHE:HA	1.98	0.45
1:B:692:LEU:C	1:B:692:LEU:HD13	2.37	0.45
1:A:482:PHE:CD1	1:A:487:PRO:HG3	2.50	0.45
1:A:334:LYS:HD3	8:A:1537:HOH:O	2.16	0.45
1:B:158:SER:HB2	1:B:170:SER:HB2	1.97	0.45
1:A:637:GLU:OE2	8:A:1004:HOH:O	2.21	0.45
1:B:52:GLY:HA2	1:B:63:ARG:HB3	1.97	0.45
1:A:702:HIS:O	1:A:770:GLY:HA3	2.16	0.44
1:A:68:ASP:HB2	5:A:912:PGE:H12	2.00	0.44
1:B:180:HIS:HB2	1:B:574:PHE:CZ	2.52	0.44
1:B:324:GLU:H	1:B:324:GLU:CD	2.20	0.44
1:B:386:TRP:CD2	1:B:670:PRO:HG3	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:296:PRO:HD3	1:B:672:TRP:CE3	2.52	0.44
1:A:554:VAL:HG11	8:A:1001:HOH:O	2.18	0.43
1:A:704:GLN:HB3	8:A:1077:HOH:O	2.18	0.43
1:A:686:GLN:NE2	8:A:1050:HOH:O	2.52	0.43
1:A:111:ARG:NH2	8:A:1040:HOH:O	2.49	0.43
1:A:726:ASN:HD21	1:A:728:GLN:HE22	1.65	0.43
1:B:186:THR:HG21	1:B:451:ILE:HG13	2.00	0.43
1:B:702:HIS:O	1:B:770:GLY:HA3	2.17	0.43
1:B:162:SER:OG	2:B:901:PGD:N7	2.43	0.43
1:B:101:ARG:HG3	1:B:101:ARG:HH11	1.84	0.43
1:B:722:PRO:N	8:B:1010:HOH:O	2.51	0.43
1:A:296:PRO:HD3	1:A:672:TRP:CE3	2.53	0.43
1:B:158:SER:HB2	8:B:1046:HOH:O	2.19	0.43
1:B:527:ALA:HA	1:B:561:ARG:O	2.19	0.43
1:A:68:ASP:OD1	4:A:906:PEG:C3	2.67	0.43
1:A:386:TRP:CD2	1:A:670:PRO:HG3	2.54	0.43
1:A:561:ARG:NH1	1:A:569:GLU:OE2	2.47	0.42
1:B:383:GLN:HE22	1:B:670:PRO:HA	1.84	0.42
1:A:527:ALA:HA	1:A:561:ARG:O	2.20	0.42
1:A:625:HIS:N	1:A:626:PRO:HD3	2.35	0.42
5:A:910:PGE:C4	5:A:910:PGE:H1	2.49	0.42
1:B:186:THR:HG21	1:B:451:ILE:HB	2.01	0.42
1:B:482:PHE:CE1	1:B:487:PRO:HG3	2.54	0.42
1:A:324:GLU:H	1:A:324:GLU:CD	2.22	0.42
1:A:493:GLN:HG3	1:A:747:ARG:HG2	2.00	0.42
1:B:96:ASN:ND2	1:B:98:ALA:H	2.17	0.42
1:A:199:LEU:HA	1:A:202:VAL:HG22	2.02	0.42
1:B:424:LEU:H	1:B:538:GLN:NE2	2.17	0.42
1:B:599:GLN:NE2	8:B:1054:HOH:O	2.53	0.42
1:A:68:ASP:OD1	4:A:906:PEG:H31	2.19	0.42
1:A:492:GLN:HE21	1:A:791:ASN:HD21	1.67	0.42
1:A:674:GLU:HB2	4:A:908:PEG:H31	2.01	0.42
1:A:90:LEU:N	1:A:91:PRO:CD	2.83	0.41
1:B:460:GLU:HG2	8:B:1483:HOH:O	2.20	0.41
1:A:67:LYS:HD3	1:A:72:VAL:HG21	2.03	0.41
1:A:71:PHE:HB2	8:A:1001:HOH:O	2.18	0.41
1:B:199:LEU:HA	1:B:202:VAL:HG22	2.02	0.41
1:A:473:LYS:NZ	8:A:1059:HOH:O	2.53	0.41
1:A:728:GLN:HG2	8:A:1156:HOH:O	2.20	0.41
1:B:186:THR:HG21	1:B:451:ILE:CG1	2.51	0.41
1:B:656:LYS:NZ	8:B:1056:HOH:O	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:700:ARG:HB2	1:B:704:GLN:O	2.21	0.41
6:A:915:MLT:H2	4:A:922:PEG:H32	2.03	0.41
1:B:85:LYS:HD2	1:B:699:PHE:CE1	2.56	0.41
1:B:90:LEU:N	1:B:91:PRO:CD	2.84	0.41
1:B:601:GLY:HA2	1:B:606:VAL:HG12	2.03	0.41
1:B:51:GLU:HG2	1:B:65:THR:HG22	2.03	0.40
1:A:722:PRO:HA	1:A:753:GLY:O	2.22	0.40
1:B:446:SER:OG	1:B:448:THR:O	2.39	0.40
1:B:422:VAL:HG23	1:B:606:VAL:HG11	2.03	0.40

There are no symmetry-related clashes.

5.3　Torsion angles　ⓘ

5.3.1　Protein backbone　ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	790/848 (93%)	765 (97%)	25 (3%)	0	100	100
1	B	795/848 (94%)	769 (97%)	26 (3%)	0	100	100
All	All	1585/1696 (94%)	1534 (97%)	51 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2　Protein sidechains　ⓘ

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	655/698 (94%)	648 (99%)	7 (1%)	70	62
1	B	660/698 (95%)	647 (98%)	13 (2%)	50	37
All	All	1315/1396 (94%)	1295 (98%)	20 (2%)	60	50

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	102	TYR
1	A	138	PHE
1	A	334	LYS
1	A	378	MET
1	A	423	ILE
1	A	470	LYS
1	A	747	ARG
1	B	102	TYR
1	B	138	PHE
1	B	170	SER
1	B	186	THR
1	B	334	LYS
1	B	378	MET
1	B	446	SER
1	B	532	GLU
1	B	612	ASP
1	B	624	ASP
1	B	713	GLN
1	B	769	GLU
1	B	802	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	245	HIS
1	A	303	HIS
1	A	466	ASN
1	A	557	GLN
1	A	599	GLN
1	A	600	GLN
1	A	625	HIS
1	A	632	HIS
1	A	691	HIS
1	A	728	GLN

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Mol	Chain	Res	Type
1	A	791	ASN
1	A	801	GLN
1	A	809	HIS
1	A	829	ASN
1	B	96	ASN
1	B	196	GLN
1	B	237	GLN
1	B	245	HIS
1	B	292	GLN
1	B	383	GLN
1	B	437	HIS
1	B	466	ASN
1	B	492	GLN
1	B	495	ASN
1	B	530	GLN
1	B	538	GLN
1	B	557	GLN
1	B	599	GLN
1	B	600	GLN
1	B	632	HIS
1	B	691	HIS
1	B	728	GLN
1	B	801	GLN
1	B	809	HIS
1	B	829	ASN

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 34 ligands modelled in this entry, 2 are monoatomic - leaving 32 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	PEG	B	904	-	6,6,6	0.15	0	5,5,5	0.14	0
6	MLT	A	913	-	8,8,8	1.05	0	10,10,10	1.31	2 (20%)
4	PEG	A	905	-	6,6,6	0.13	0	5,5,5	0.08	0
6	MLT	B	909	-	8,8,8	1.12	0	10,10,10	1.21	1 (10%)
2	PGD	A	902	3	40,52,52	1.04	4 (10%)	38,81,81	1.07	3 (7%)
5	PGE	B	907	-	9,9,9	0.17	0	8,8,8	0.13	0
5	PGE	A	910	-	9,9,9	0.16	0	8,8,8	0.18	0
4	PEG	A	919	-	6,6,6	0.14	0	5,5,5	0.08	0
4	PEG	B	911	-	6,6,6	0.13	0	5,5,5	0.10	0
2	PGD	B	901	3	40,52,52	0.95	1 (2%)	38,81,81	1.16	2 (5%)
6	MLT	A	914	-	8,8,8	1.03	0	10,10,10	1.37	2 (20%)
6	MLT	A	915	-	8,8,8	1.11	0	10,10,10	1.40	2 (20%)
5	PGE	A	912	-	9,9,9	0.19	0	8,8,8	0.17	0
2	PGD	A	901	3	40,52,52	1.00	3 (7%)	38,81,81	1.19	5 (13%)
7	1PE	B	906	-	15,15,15	0.20	0	14,14,14	0.11	0
6	MLT	B	908	-	8,8,8	1.13	0	10,10,10	1.45	2 (20%)
4	PEG	A	920	-	6,6,6	0.14	0	5,5,5	0.11	0
4	PEG	A	907	-	6,6,6	0.14	0	5,5,5	0.06	0
2	PGD	B	902	3	40,52,52	1.03	4 (10%)	38,81,81	1.14	3 (7%)
4	PEG	A	921	-	6,6,6	0.13	0	5,5,5	0.09	0
4	PEG	A	917	-	6,6,6	0.15	0	5,5,5	0.08	0
4	PEG	A	922	-	6,6,6	0.21	0	5,5,5	0.13	0
6	MLT	A	916	-	8,8,8	1.08	0	10,10,10	1.31	2 (20%)
4	PEG	A	909	-	6,6,6	0.13	0	5,5,5	0.08	0
5	PGE	A	911	-	9,9,9	0.17	0	8,8,8	0.15	0
6	MLT	B	910	-	8,8,8	1.08	0	10,10,10	1.32	2 (20%)
4	PEG	A	904	-	6,6,6	0.18	0	5,5,5	0.12	0
4	PEG	A	906	-	6,6,6	0.14	0	5,5,5	0.08	0
5	PGE	B	905	-	9,9,9	0.22	0	8,8,8	0.09	0
4	PEG	B	912	-	6,6,6	0.20	0	5,5,5	0.10	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
4	PEG	A	908	-	6,6,6	0.14	0	5,5,5	0.09	0
4	PEG	A	918	-	6,6,6	0.13	0	5,5,5	0.07	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	PEG	B	904	-	-	1/4/4/4	-
6	MLT	A	913	-	-	1/8/8/8	-
4	PEG	A	905	-	-	2/4/4/4	-
6	MLT	B	909	-	-	6/8/8/8	-
2	PGD	A	902	3	-	3/18/82/82	0/6/6/6
5	PGE	B	907	-	-	4/7/7/7	-
5	PGE	A	910	-	-	2/7/7/7	-
4	PEG	A	919	-	-	2/4/4/4	-
4	PEG	B	911	-	-	2/4/4/4	-
2	PGD	B	901	3	-	11/18/82/82	0/6/6/6
6	MLT	A	914	-	-	5/8/8/8	-
6	MLT	A	915	-	-	4/8/8/8	-
5	PGE	A	912	-	-	3/7/7/7	-
2	PGD	A	901	3	-	6/18/82/82	0/6/6/6
7	1PE	B	906	-	-	9/13/13/13	-
6	MLT	B	908	-	-	1/8/8/8	-
4	PEG	A	920	-	-	2/4/4/4	-
4	PEG	A	907	-	-	2/4/4/4	-
2	PGD	B	902	3	-	3/18/82/82	0/6/6/6
4	PEG	A	921	-	-	1/4/4/4	-
4	PEG	A	917	-	-	2/4/4/4	-
4	PEG	A	922	-	-	4/4/4/4	-
6	MLT	A	916	-	-	4/8/8/8	-
4	PEG	A	909	-	-	1/4/4/4	-
5	PGE	A	911	-	-	4/7/7/7	-
6	MLT	B	910	-	-	4/8/8/8	-
4	PEG	A	904	-	-	2/4/4/4	-
4	PEG	A	906	-	-	2/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	PGE	B	905	-	-	4/7/7/7	-
4	PEG	B	912	-	-	1/4/4/4	-
4	PEG	A	908	-	-	0/4/4/4	-
4	PEG	A	918	-	-	2/4/4/4	-

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	902	PGD	C5-C6	-2.58	1.42	1.47
2	B	901	PGD	C5-C6	-2.52	1.42	1.47
2	A	901	PGD	C5-C6	-2.49	1.42	1.47
2	B	902	PGD	C21-N22	-2.35	1.33	1.35
2	B	902	PGD	C5-C6	-2.34	1.42	1.47
2	A	902	PGD	C17-N18	-2.26	1.34	1.38
2	B	902	PGD	C16-N15	2.19	1.33	1.28
2	B	902	PGD	C8-N7	-2.16	1.31	1.35
2	A	901	PGD	C8-N7	-2.13	1.31	1.35
2	A	902	PGD	C21-N22	-2.12	1.33	1.35
2	A	902	PGD	C8-N7	-2.08	1.31	1.35
2	A	901	PGD	C16-N15	2.02	1.33	1.28

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	902	PGD	O4'-C1'-C2'	-3.75	101.45	106.93
2	B	901	PGD	C23-C14-N15	3.52	116.47	111.33
2	A	901	PGD	C23-C14-N15	3.19	115.98	111.33
6	A	914	MLT	O1-C1-C2	-3.05	116.58	122.54
6	A	913	MLT	O1-C1-C2	-2.81	117.06	122.54
6	A	915	MLT	O1-C1-C2	-2.80	117.07	122.54
2	A	902	PGD	O4'-C1'-C2'	-2.74	102.92	106.93
6	B	910	MLT	O1-C1-C2	-2.72	117.23	122.54
6	B	908	MLT	O1-C1-C2	-2.69	117.29	122.54
6	A	916	MLT	O1-C1-C2	-2.63	117.39	122.54
6	B	908	MLT	O2-C1-C2	2.60	118.44	112.72
2	B	901	PGD	N20-C19-N18	-2.38	122.57	126.43
2	B	902	PGD	N20-C19-N18	-2.33	122.64	126.43
6	A	914	MLT	O2-C1-C2	2.31	117.80	112.72
6	B	909	MLT	O1-C1-C2	-2.31	118.03	122.54
6	A	915	MLT	O2-C1-C2	2.29	117.74	112.72
2	A	901	PGD	O11-C23-N22	2.27	110.90	108.57
2	B	902	PGD	O6-C6-C5	2.25	128.76	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	902	PGD	O6-C6-C5	2.21	128.68	124.37
6	B	910	MLT	O2-C1-C2	2.20	117.55	112.72
2	A	901	PGD	N20-C19-N18	-2.19	122.87	126.43
2	A	902	PGD	N20-C19-N18	-2.11	123.00	126.43
2	A	901	PGD	PA-O3B-PB	2.11	140.06	132.83
6	A	916	MLT	O2-C1-C2	2.11	117.35	112.72
6	A	913	MLT	O2-C1-C2	2.07	117.28	112.72
2	A	901	PGD	O6-C6-C5	2.04	128.36	124.37

There are no chirality outliers.

All (100) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	901	PGD	C5'-O5'-PB-O1B
2	A	901	PGD	C5'-O5'-PB-O2B
2	A	902	PGD	PA-O3B-PB-O5'
2	A	902	PGD	O3A-C10-C11-O11
2	A	902	PGD	O3A-C10-C11-C12
2	B	901	PGD	C5'-O5'-PB-O1B
2	B	901	PGD	C5'-O5'-PB-O2B
2	B	901	PGD	C10-O3A-PA-O3B
2	B	901	PGD	O3A-C10-C11-C12
2	B	902	PGD	PA-O3B-PB-O5'
2	B	902	PGD	O3A-C10-C11-O11
2	B	902	PGD	O3A-C10-C11-C12
6	A	915	MLT	C1-C2-C3-C4
6	A	915	MLT	O3-C2-C3-C4
6	A	916	MLT	O3-C2-C3-C4
6	B	910	MLT	O1-C1-C2-O3
6	B	910	MLT	O2-C1-C2-O3
4	B	911	PEG	O1-C1-C2-O2
5	A	910	PGE	O2-C3-C4-O3
5	B	907	PGE	O2-C3-C4-O3
7	B	906	1PE	OH5-C14-C24-OH4
4	A	918	PEG	O1-C1-C2-O2
4	A	922	PEG	O2-C3-C4-O4
5	A	912	PGE	O1-C1-C2-O2
5	B	907	PGE	O1-C1-C2-O2
7	B	906	1PE	OH7-C16-C26-OH6
7	B	906	1PE	OH6-C15-C25-OH5
4	A	917	PEG	O1-C1-C2-O2
4	A	921	PEG	O2-C3-C4-O4

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Mol	Chain	Res	Type	Atoms
4	B	912	PEG	O1-C1-C2-O2
5	A	910	PGE	O3-C5-C6-O4
6	A	916	MLT	C1-C2-C3-C4
5	B	905	PGE	O2-C3-C4-O3
4	A	904	PEG	O2-C3-C4-O4
4	A	922	PEG	O1-C1-C2-O2
5	B	907	PGE	O3-C5-C6-O4
4	A	907	PEG	O2-C3-C4-O4
7	B	906	1PE	C24-C14-OH5-C25
6	B	909	MLT	C1-C2-C3-C4
6	A	916	MLT	O1-C1-C2-O3
6	B	909	MLT	O1-C1-C2-O3
6	B	909	MLT	O2-C1-C2-O3
2	A	901	PGD	PA-O3B-PB-O1B
4	A	906	PEG	O2-C3-C4-O4
7	B	906	1PE	OH4-C13-C23-OH3
4	A	920	PEG	O2-C3-C4-O4
2	A	901	PGD	PA-O3B-PB-O5'
2	B	901	PGD	PA-O3B-PB-O5'
4	A	905	PEG	O1-C1-C2-O2
5	B	905	PGE	O3-C5-C6-O4
5	B	905	PGE	C4-C3-O2-C2
7	B	906	1PE	C16-C26-OH6-C15
4	A	920	PEG	C4-C3-O2-C2
4	A	922	PEG	C4-C3-O2-C2
7	B	906	1PE	C23-C13-OH4-C24
4	B	911	PEG	C4-C3-O2-C2
2	A	901	PGD	C5'-O5'-PB-O3B
2	B	901	PGD	C5'-O5'-PB-O3B
5	B	905	PGE	O1-C1-C2-O2
4	A	919	PEG	C1-C2-O2-C3
5	B	907	PGE	C6-C5-O3-C4
2	B	901	PGD	C10-O3A-PA-O1A
2	B	901	PGD	C10-O3A-PA-O2A
4	A	922	PEG	C1-C2-O2-C3
5	A	912	PGE	C6-C5-O3-C4
6	A	914	MLT	C2-C3-C4-O5
4	A	909	PEG	C1-C2-O2-C3
4	A	905	PEG	C4-C3-O2-C2
4	A	906	PEG	C1-C2-O2-C3
6	B	908	MLT	C1-C2-C3-C4
6	A	916	MLT	O2-C1-C2-O3

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Mol	Chain	Res	Type	Atoms
7	B	906	1PE	OH2-C12-C22-OH3
5	A	911	PGE	O3-C5-C6-O4
4	A	917	PEG	C1-C2-O2-C3
6	B	909	MLT	O3-C2-C3-C4
2	B	901	PGD	O3A-C10-C11-O11
6	A	914	MLT	C2-C3-C4-O4
4	B	904	PEG	O1-C1-C2-O2
4	A	918	PEG	C1-C2-O2-C3
6	A	913	MLT	O3-C2-C3-C4
6	A	914	MLT	O3-C2-C3-C4
6	B	910	MLT	O3-C2-C3-C4
4	A	904	PEG	C1-C2-O2-C3
6	B	910	MLT	C1-C2-C3-C4
5	A	911	PGE	C6-C5-O3-C4
2	B	901	PGD	PA-O3B-PB-O1B
4	A	907	PEG	C1-C2-O2-C3
2	A	901	PGD	O4'-C4'-C5'-O5'
2	B	901	PGD	O4'-C4'-C5'-O5'
5	A	911	PGE	O1-C1-C2-O2
5	A	911	PGE	O2-C3-C4-O3
7	B	906	1PE	C12-C22-OH3-C23
6	A	914	MLT	O1-C1-C2-C3
6	A	914	MLT	O2-C1-C2-C3
6	A	915	MLT	O1-C1-C2-C3
6	A	915	MLT	O2-C1-C2-C3
6	B	909	MLT	O1-C1-C2-C3
6	B	909	MLT	O2-C1-C2-C3
4	A	919	PEG	O1-C1-C2-O2
5	A	912	PGE	O3-C5-C6-O4

There are no ring outliers.

10 monomers are involved in 14 short contacts:

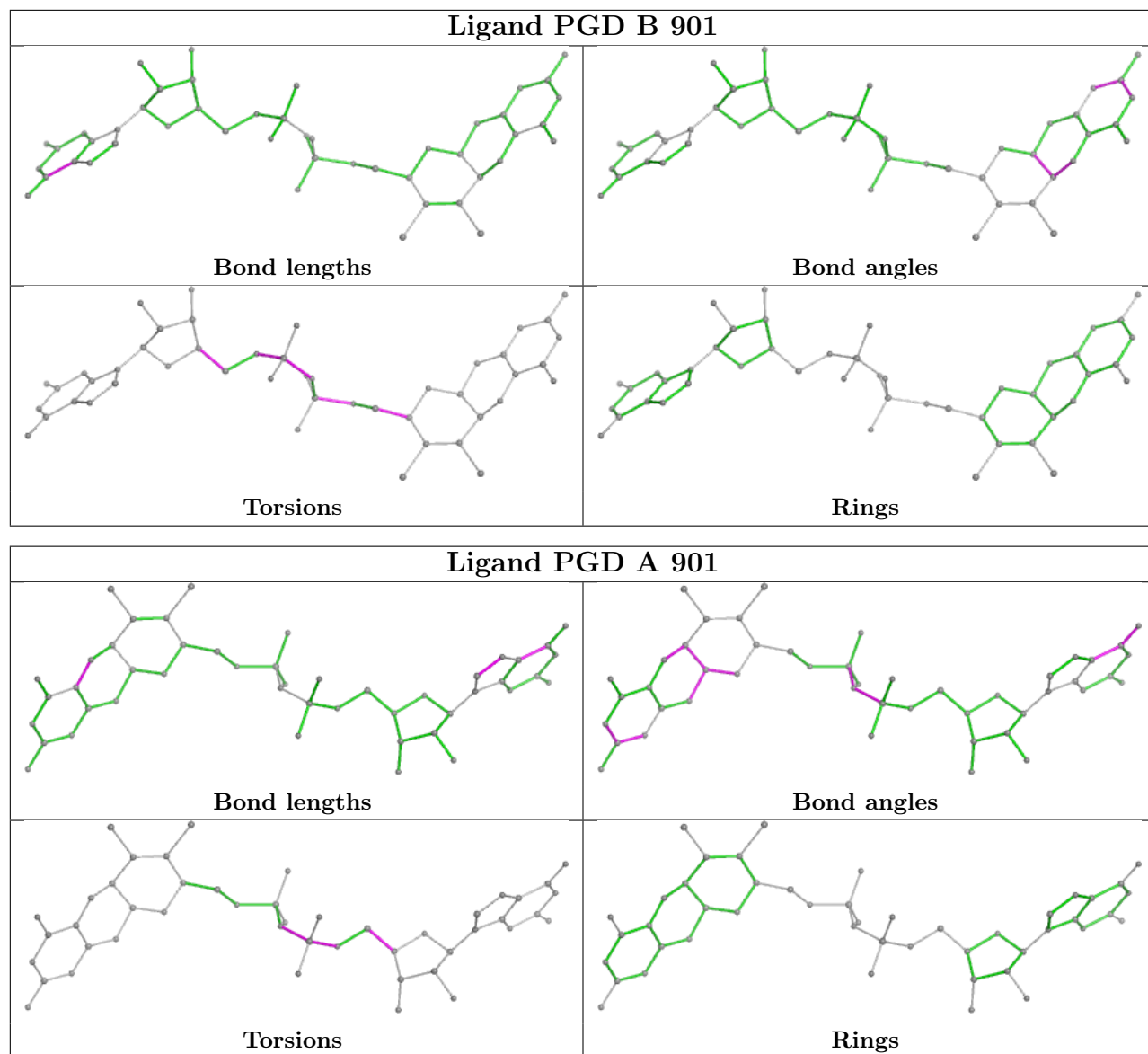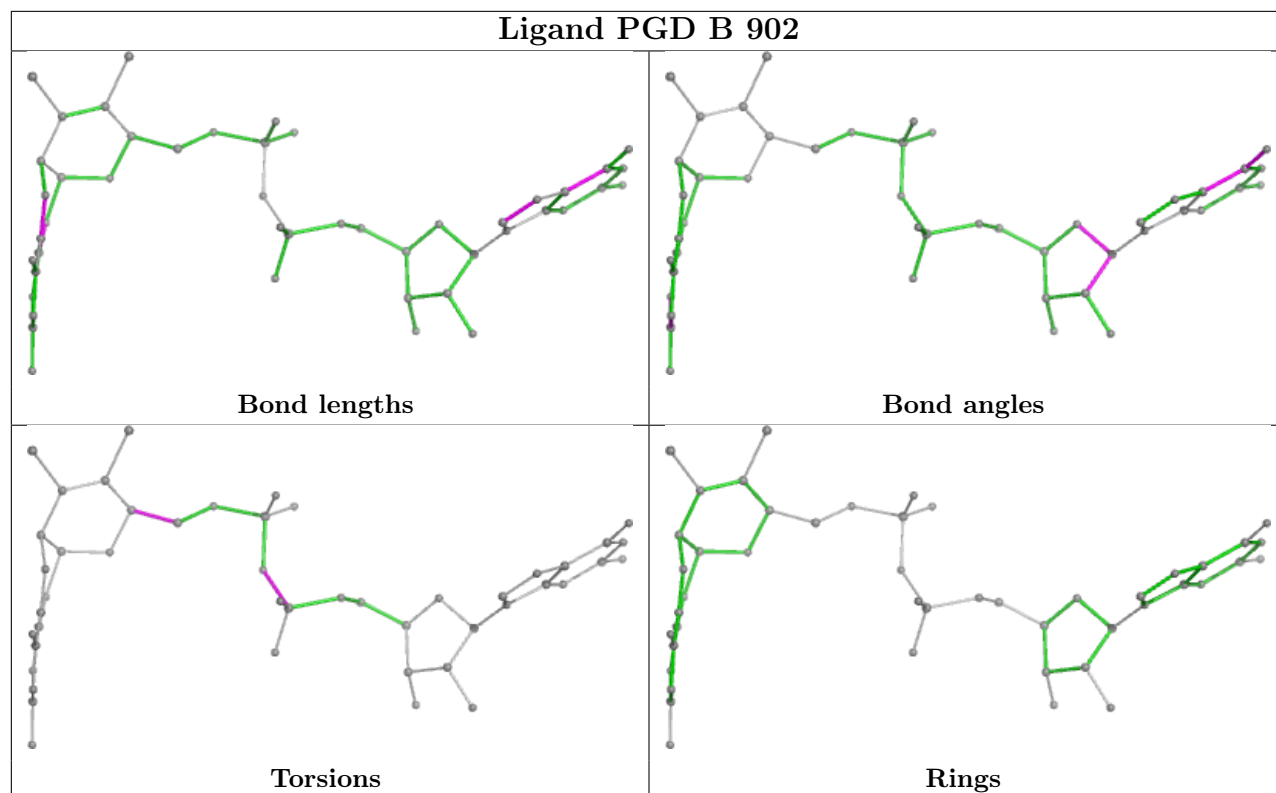| Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	910	PGE	1	0
2	B	901	PGD	2	0
6	A	914	MLT	3	0
6	A	915	MLT	1	0
5	A	912	PGE	1	0
6	B	908	MLT	2	0
4	A	922	PEG	1	0
4	A	906	PEG	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	B	905	PGE	1	0
4	A	908	PEG	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 PGD A 902

Bond lengths　　　　Bond angles

Torsions　　　　Rings

Ligand PGD B 901

Bond lengths

Bond angles

Torsions

Rings

Ligand PGD A 901

Bond lengths

Bond angles

Torsions

Rings

Ligand PGD B 902

Bond lengths

Bond angles

Torsions

Rings
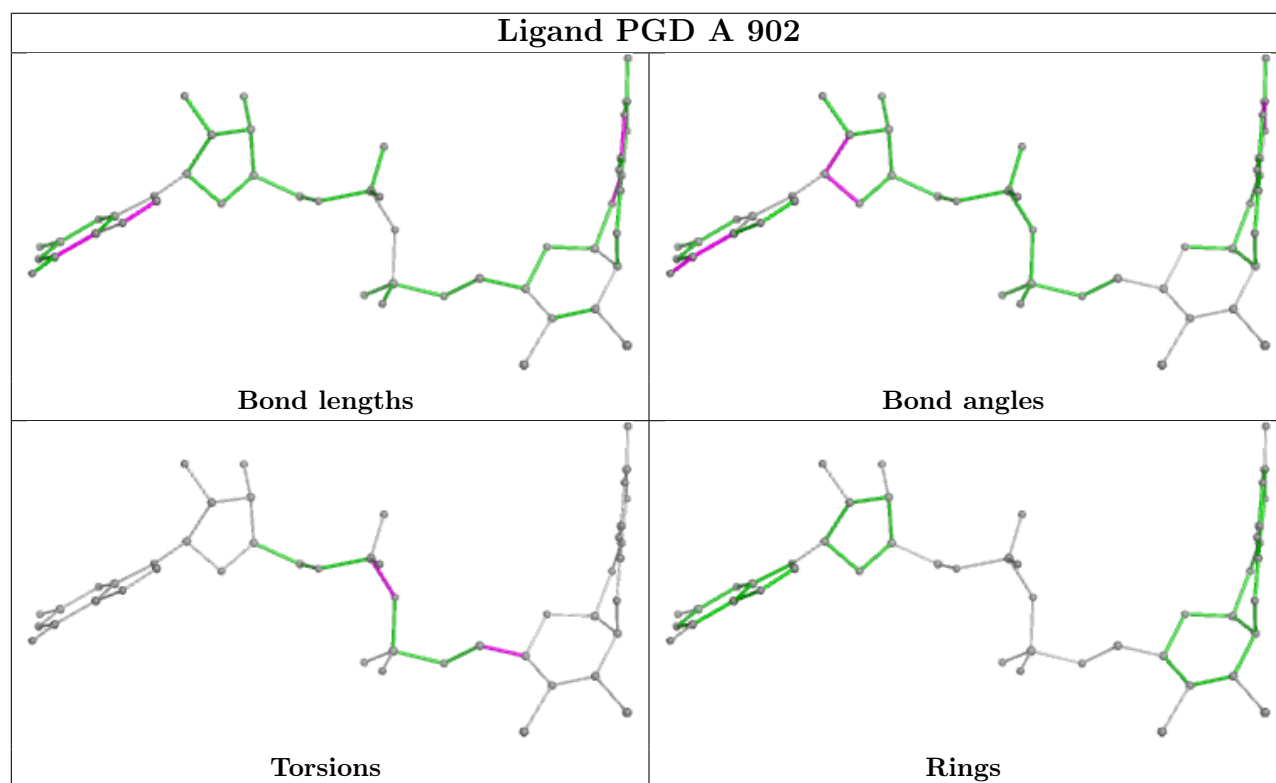
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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	790/848 (93%)	0.53	31 (3%)	44	46	13, 24, 38, 71	2 (0%)
1	B	795/848 (93%)	0.80	79 (9%)	14	14	14, 26, 48, 70	2 (0%)
All	All	1585/1696 (93%)	0.66	110 (6%)	24	25	13, 25, 45, 71	4 (0%)

All (110) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	838	CYS	5.3
1	B	430	SER	4.4
1	B	641	LEU	4.3
1	B	429	GLY	4.0
1	B	836	ALA	4.0
1	B	433	ILE	4.0
1	B	66	VAL	3.8
1	A	334	LYS	3.7
1	A	49	SER	3.6
1	B	438	ASP	3.5
1	B	835	VAL	3.5
1	B	838	CYS	3.5
1	B	617	ASN	3.4
1	B	431	THR	3.4
1	B	418	GLY	3.4
1	B	607	HIS	3.3
1	B	593	ILE	3.3
1	B	334	LYS	3.3
1	A	603	GLY	3.2
1	A	50	LYS	3.2
1	B	602	LYS	3.1
1	B	603	GLY	3.1
1	B	139	TYR	3.1
1	B	420	LYS	3.0

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Mol	Chain	Res	Type	RSRZ
1	A	611	PHE	3.0
1	B	608	LEU	3.0
1	B	843	ALA	3.0
1	B	54	LEU	3.0
1	B	281	ARG	2.9
1	B	610	ALA	2.9
1	B	68	ASP	2.9
1	B	606	VAL	2.8
1	A	836	ALA	2.8
1	A	604	ARG	2.8
1	B	112	LYS	2.8
1	B	840	TYR	2.8
1	B	123	ASP	2.8
1	B	55	THR	2.8
1	B	470	LYS	2.7
1	B	604	ARG	2.7
1	B	51	GLU	2.7
1	A	440	SER	2.7
1	B	584	LEU	2.6
1	B	554	VAL	2.6
1	A	68	ASP	2.6
1	A	647	PRO	2.6
1	B	556	PRO	2.6
1	B	568	ARG	2.6
1	A	662	ASN	2.6
1	B	612	ASP	2.6
1	B	62	ILE	2.5
1	B	834	MET	2.5
1	B	129	VAL	2.5
1	B	558	PHE	2.5
1	B	49	SER	2.5
1	A	605	GLY	2.5
1	A	641	LEU	2.5
1	B	94	VAL	2.5
1	A	69	GLY	2.4
1	B	52	GLY	2.4
1	A	653	ILE	2.4
1	B	624	ASP	2.4
1	A	135	LEU	2.4
1	B	53	ILE	2.4
1	A	333	GLU	2.4
1	B	70	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	126	PHE	2.4
1	B	564	PHE	2.4
1	B	101	ARG	2.4
1	A	73	ALA	2.4
1	B	620	TYR	2.4
1	B	180	HIS	2.3
1	B	179	LEU	2.3
1	A	579	ALA	2.3
1	B	579	ALA	2.3
1	B	762	PRO	2.3
1	B	67	LYS	2.3
1	B	574	PHE	2.3
1	B	178	ALA	2.3
1	B	421	GLY	2.3
1	B	615	TRP	2.3
1	B	614	PHE	2.3
1	B	73	ALA	2.2
1	A	281	ARG	2.2
1	A	598	VAL	2.2
1	B	102	TYR	2.2
1	B	626	PRO	2.2
1	B	340	ASP	2.2
1	B	131	TRP	2.2
1	B	176	ALA	2.2
1	A	77	PHE	2.1
1	B	665	ASP	2.1
1	A	67	LYS	2.1
1	B	594	TRP	2.1
1	B	587	MET	2.1
1	A	616	ASN	2.1
1	B	583	GLY	2.1
1	B	88	ALA	2.1
1	B	335	ASP	2.1
1	B	439	ASN	2.1
1	B	114	HIS	2.0
1	A	835	VAL	2.0
1	B	756	VAL	2.0
1	B	435	PRO	2.0
1	A	584	LEU	2.0
1	B	611	PHE	2.0
1	A	433	ILE	2.0
1	A	101	ARG	2.0

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Mol	Chain	Res	Type	RSRZ
1	A	607	HIS	2.0
1	A	66	VAL	2.0

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, 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
5	PGE	B	907	10/10	0.64	0.28	44,51,69,73	0
4	PEG	B	904	7/7	0.67	0.19	37,44,47,56	0
5	PGE	A	912	10/10	0.68	0.19	37,45,61,67	0
4	PEG	A	904	7/7	0.68	0.23	32,60,71,75	0
4	PEG	A	906	7/7	0.71	0.17	44,52,64,65	0
4	PEG	A	909	7/7	0.74	0.26	30,51,84,84	0
6	MLT	A	915	9/9	0.74	0.18	33,51,74,77	0
4	PEG	B	911	7/7	0.75	0.19	46,50,56,60	0
4	PEG	A	920	7/7	0.76	0.17	37,44,53,54	0
4	PEG	A	905	7/7	0.76	0.19	44,53,66,67	0
5	PGE	A	911	10/10	0.77	0.20	42,55,62,70	0
4	PEG	A	922	7/7	0.77	0.19	32,36,59,74	0
7	1PE	B	906	16/16	0.77	0.21	46,58,71,83	0
4	PEG	A	917	7/7	0.78	0.16	45,49,74,75	0
6	MLT	B	909	9/9	0.80	0.14	37,47,53,56	0
6	MLT	A	916	9/9	0.80	0.18	43,58,69,85	0
4	PEG	A	921	7/7	0.81	0.16	29,37,52,56	0
6	MLT	A	914	9/9	0.81	0.20	22,47,66,83	0
6	MLT	B	910	9/9	0.81	0.15	58,66,78,90	0
4	PEG	B	912	7/7	0.81	0.18	35,44,46,53	0
4	PEG	A	908	7/7	0.82	0.16	35,40,59,62	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($Å^2$)	Q<0.9
5	PGE	B	905	10/10	0.83	0.15	26,42,48,50	0
4	PEG	A	918	7/7	0.83	0.17	37,40,51,66	0
5	PGE	A	910	10/10	0.84	0.18	33,42,61,67	0
4	PEG	A	907	7/7	0.85	0.17	38,46,52,53	0
6	MLT	B	908	9/9	0.87	0.21	41,54,73,77	0
4	PEG	A	919	7/7	0.87	0.15	42,48,56,57	0
6	MLT	A	913	9/9	0.88	0.15	31,45,56,73	0
2	PGD	A	902	47/47	0.95	0.08	11,18,29,31	0
2	PGD	B	901	47/47	0.95	0.08	18,22,29,35	0
2	PGD	A	901	47/47	0.96	0.08	14,21,28,37	0
2	PGD	B	902	47/47	0.96	0.07	10,18,30,38	0
3	6MO	A	903	1/1	1.00	0.05	24,24,24,24	0
3	6MO	B	903	1/1	1.00	0.02	26,26,26,26	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.
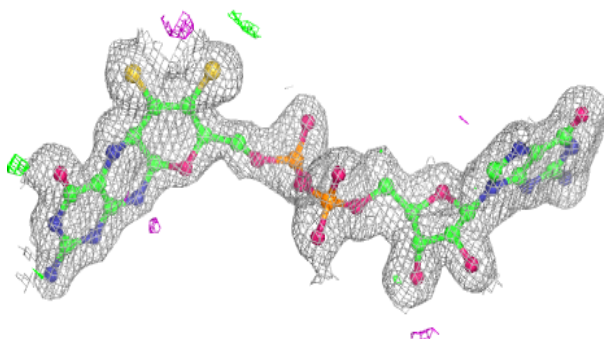
Electron density around PGD A 902:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)
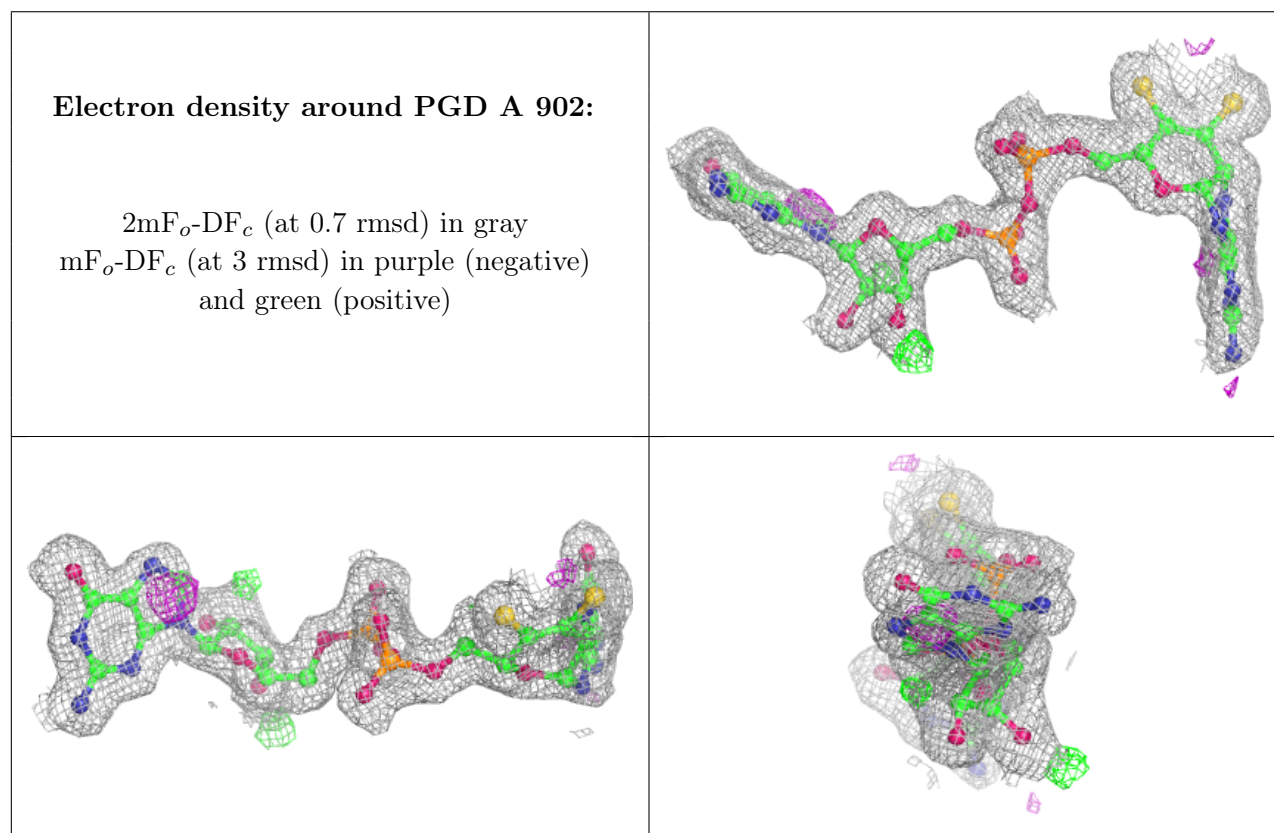
Electron density around PGD B 901:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
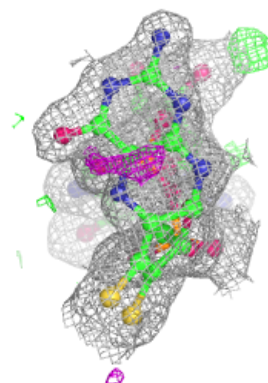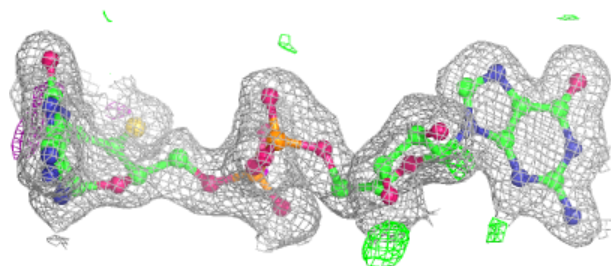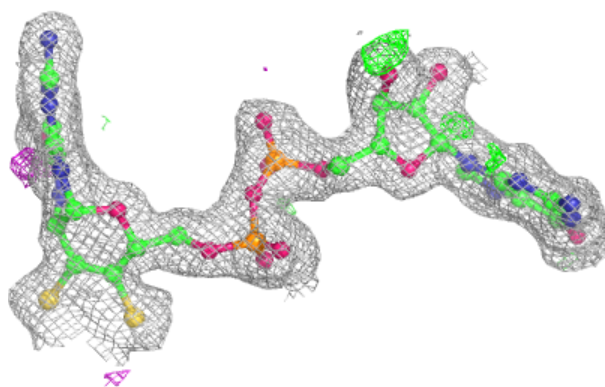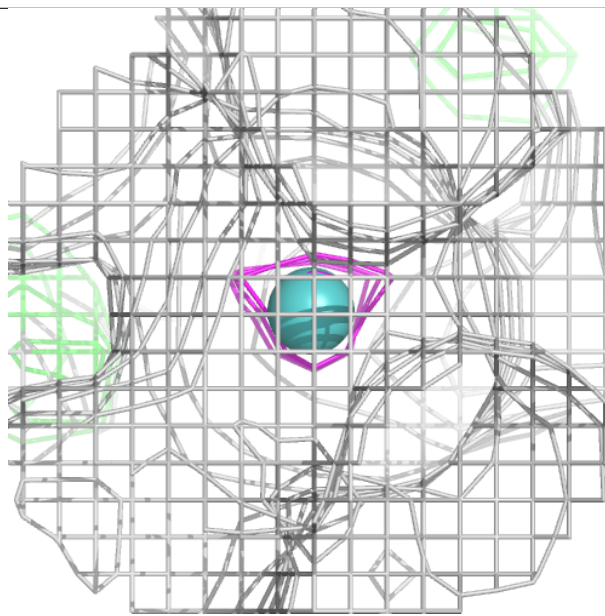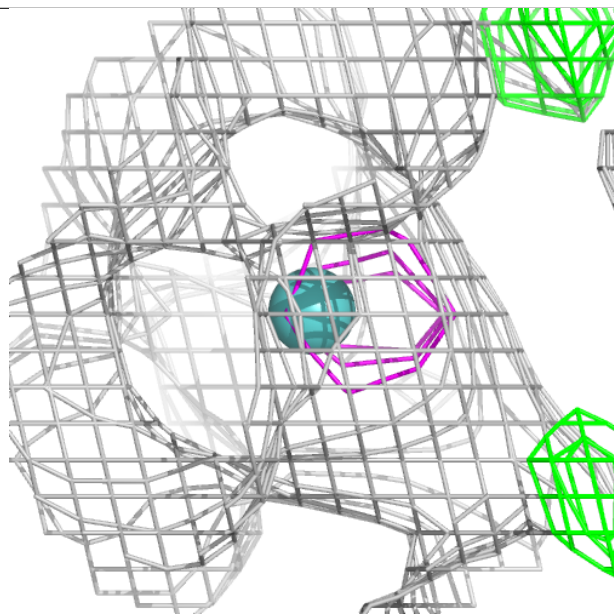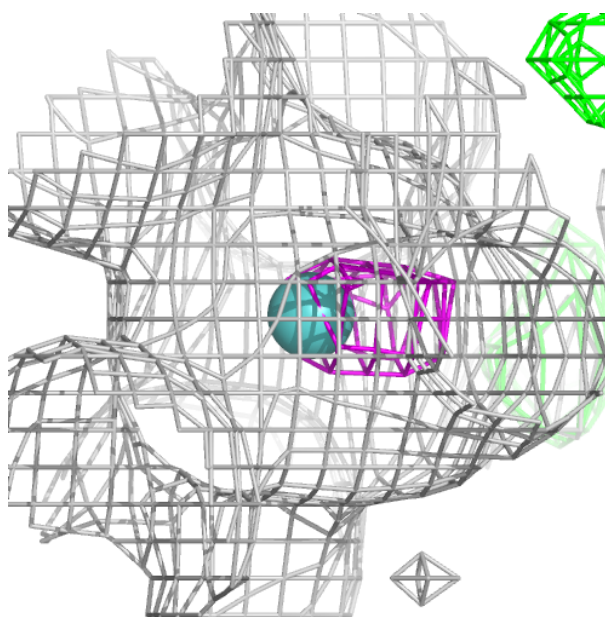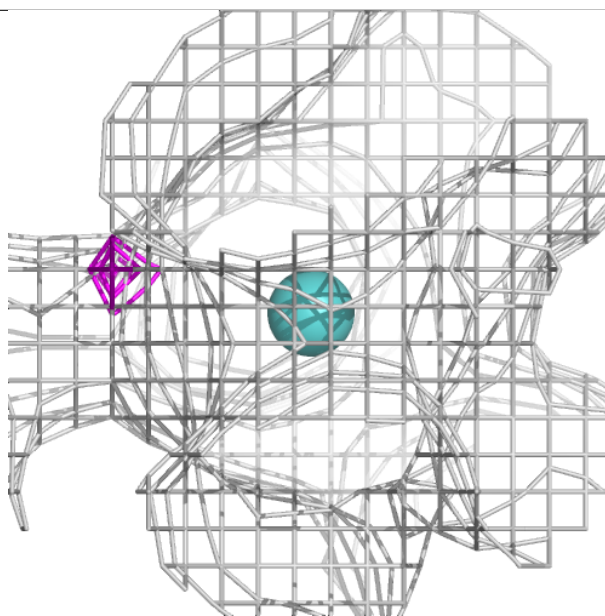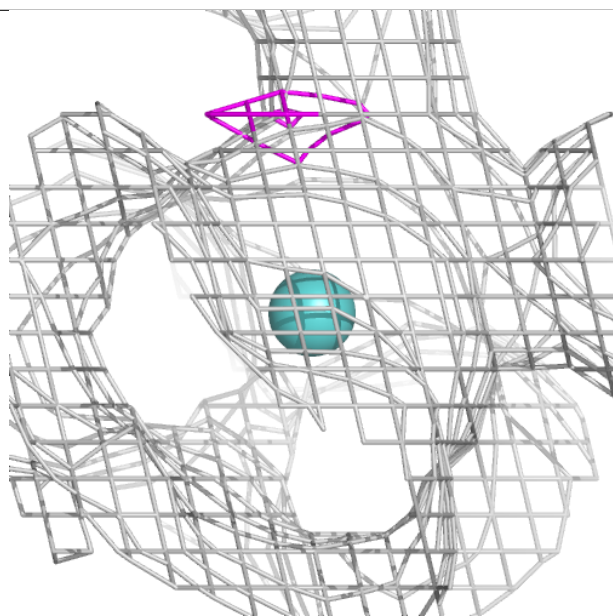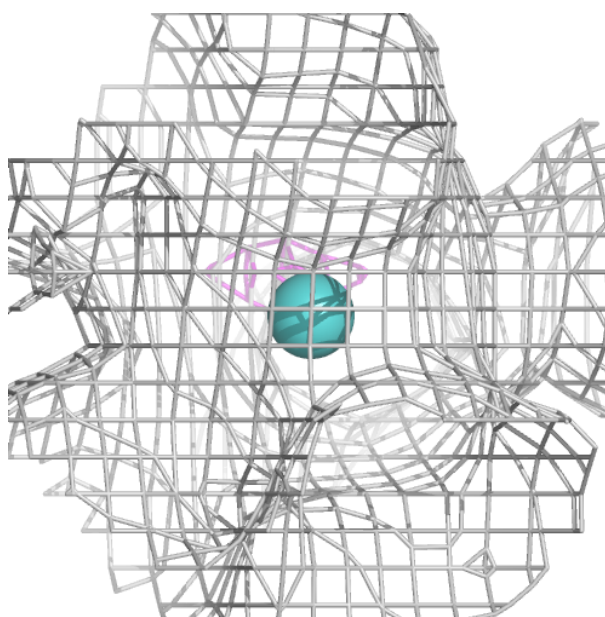and green (positive)
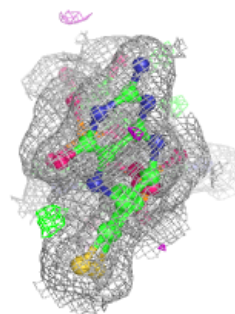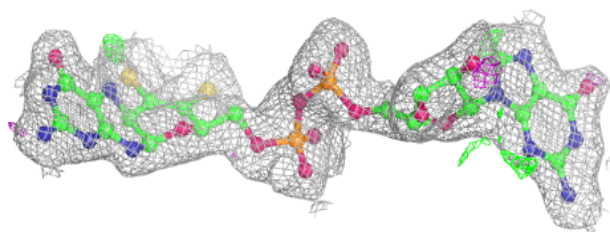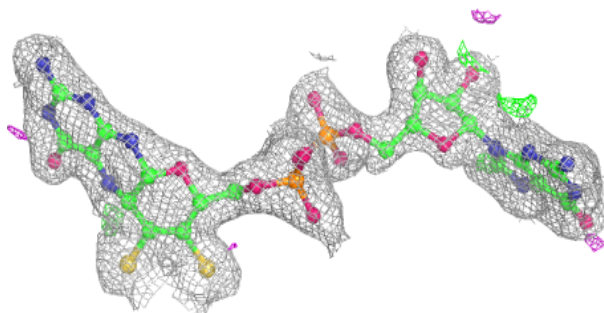
Electron density around PGD A 901:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
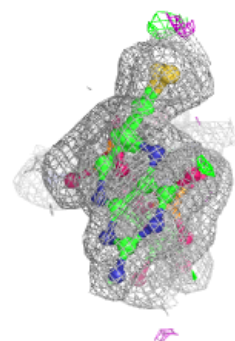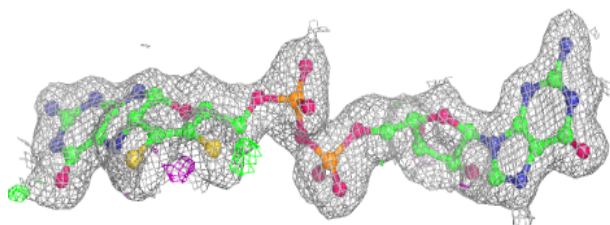
Electron density around PGD B 902:

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

Electron density around 6MO A 903:

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

Electron density around 6MO B 903:

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

6.5 Other polymers ⓘ

There are no such residues in this entry.