Full wwPDB X-ray Structure Validation Report (i)

May 3, 2025 – 02:09 PM EDT

PDB ID	:	3GBA / pdb_00003gba
Title	:	X-ray structure of iGluR5 ligand-binding core (S1S2) in complex with dysi-herbaine at 1.35A resolution
Authors	:	Frydenvang, K.; Naur, P.; Gajhede, M.; Kastrup, J.S.
Deposited on	:	2009-02-19
Resolution	:	1.35 Å(reported)

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

|		
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

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 1.35 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.
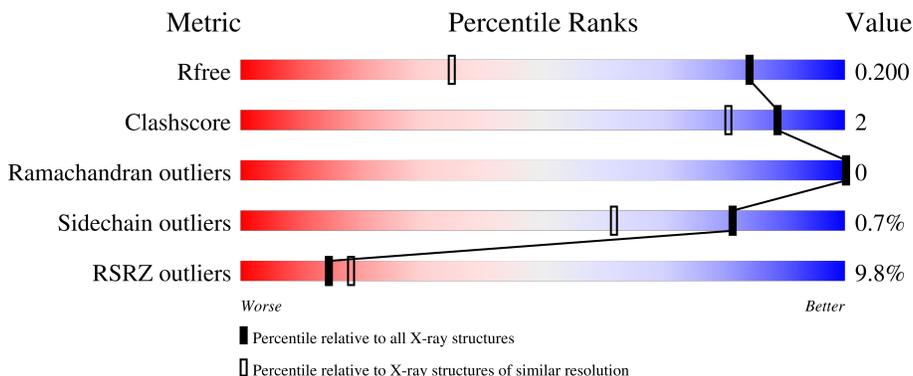
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1089 (1.36-1.36)
Clashscore	180529	1157 (1.36-1.36)
Ramachandran outliers	177936	1146 (1.36-1.36)
Sidechain outliers	177891	1146 (1.36-1.36)
RSRZ outliers	164620	1088 (1.36-1.36)

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	257	
1	B	257	
1	C	257	
1	D	257	
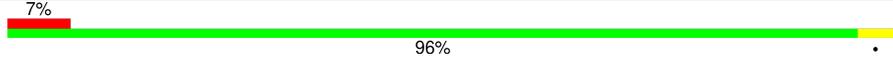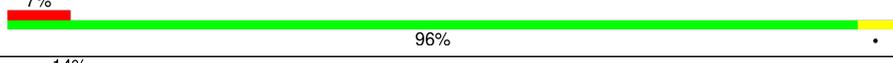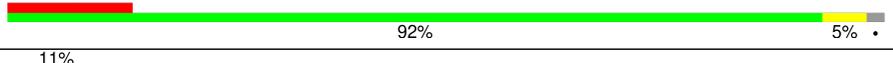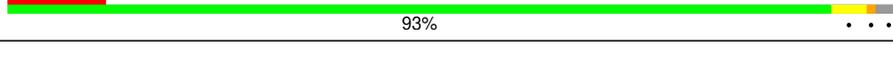
2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 9881 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 Glutamate receptor, ionotropic kainate 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	257	Total	C	N	O	S	0	11	0
			2103	1345	349	393	16			
1	B	257	Total	C	N	O	S	0	9	0
			2088	1335	344	393	16			
1	C	251	Total	C	N	O	S	0	14	0
			2076	1334	337	390	15			
1	D	250	Total	C	N	O	S	0	12	0
			2059	1321	335	389	14			

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	GLY	-	expression tag	UNP P22756
A	34	GLY	ALA	SEE REMARK 999	UNP P22756
A	117	GLY	-	linker	UNP P22756
A	118	THR	-	linker	UNP P22756
B	1	GLY	-	expression tag	UNP P22756
B	34	GLY	ALA	SEE REMARK 999	UNP P22756
B	117	GLY	-	linker	UNP P22756
B	118	THR	-	linker	UNP P22756
C	1	GLY	-	expression tag	UNP P22756
C	34	GLY	ALA	SEE REMARK 999	UNP P22756
C	117	GLY	-	linker	UNP P22756
C	118	THR	-	linker	UNP P22756
D	1	GLY	-	expression tag	UNP P22756
D	34	GLY	ALA	SEE REMARK 999	UNP P22756
D	117	GLY	-	linker	UNP P22756
D	118	THR	-	linker	UNP P22756

- Molecule 2 is (2R,3aR,6S,7R,7aR)-2-[(2S)-2-amino-2-carboxyethyl]-6-hydroxy-7-(methylamino)hexahydro-2H-furo[3,2-b]pyran-2-carboxylic acid (CCD ID: DYH) (formula: $C_{12}H_{20}N_2O_7$).

DYH
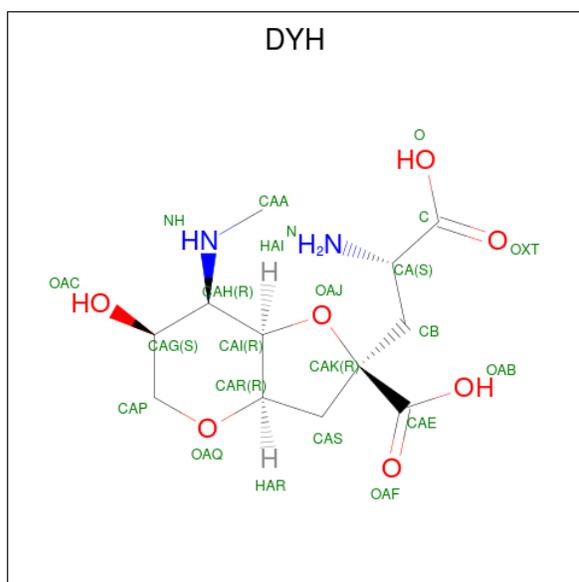
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			21	12	2	7		
2	B	1	Total	C	N	O	0	0
			21	12	2	7		
2	C	1	Total	C	N	O	0	0
			21	12	2	7		
2	D	1	Total	C	N	O	0	0
			21	12	2	7		

- Molecule 3 is SULFATE ION (CCD ID: SO4) (formula: O_4S).

SO4
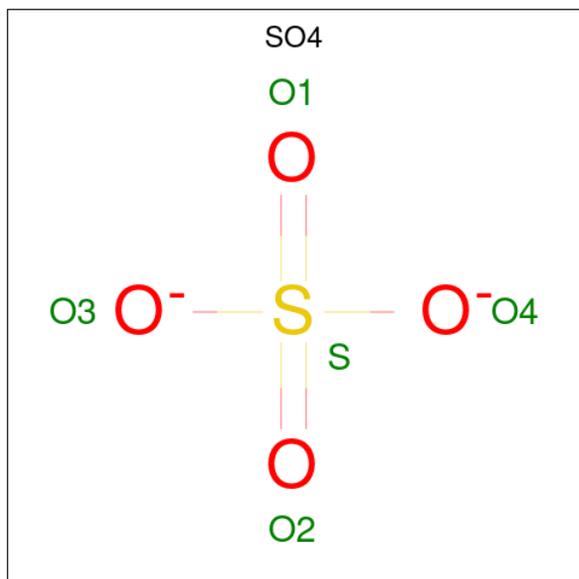
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0

- Molecule 4 is GLYCEROL (CCD ID: GOL) (formula: $C_3H_8O_3$).
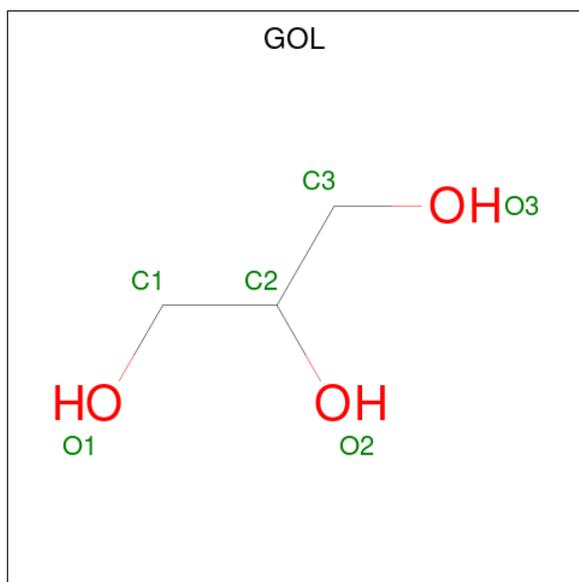
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total 6	C 3	O 3	0	0
4	B	1	Total 6	C 3	O 3	0	0
4	C	1	Total 6	C 3	O 3	0	0

- Molecule 5 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	1	Total 1	Cl 1	0	0
5	B	1	Total 1	Cl 1	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	385	Total 385	O 385	0	0
6	B	380	Total 380	O 380	0	0
6	C	335	Total 335	O 335	0	0
6	D	341	Total 341	O 341	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: Glutamate receptor, ionotropic kainate 1
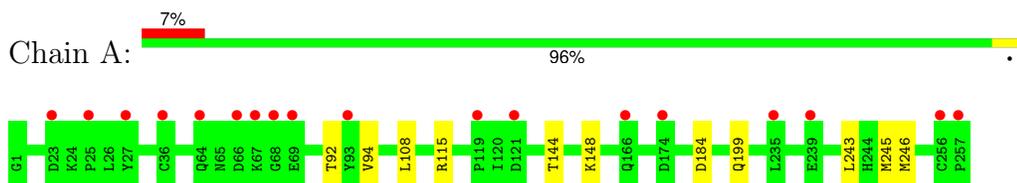
• Molecule 1: Glutamate receptor, ionotropic kainate 1
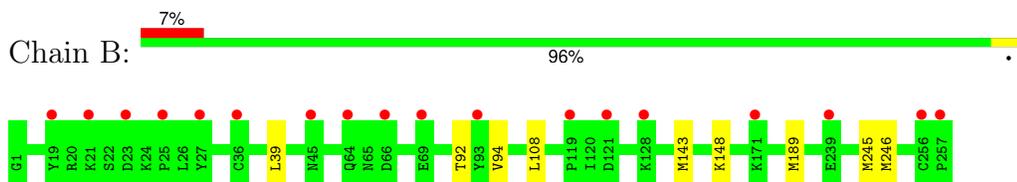
• Molecule 1: Glutamate receptor, ionotropic kainate 1
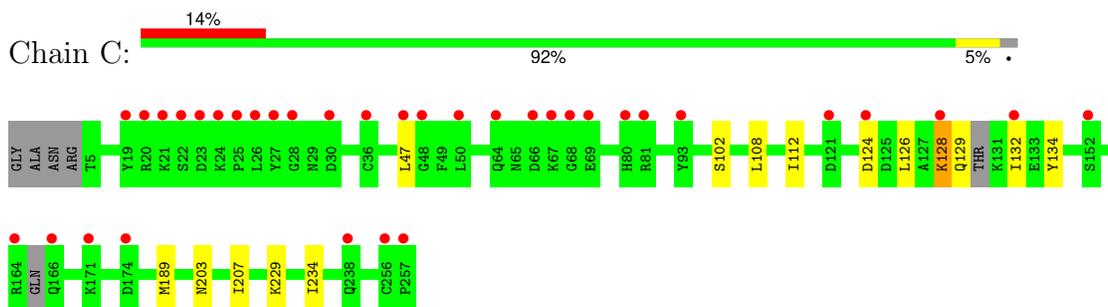
• Molecule 1: Glutamate receptor, ionotropic kainate 1
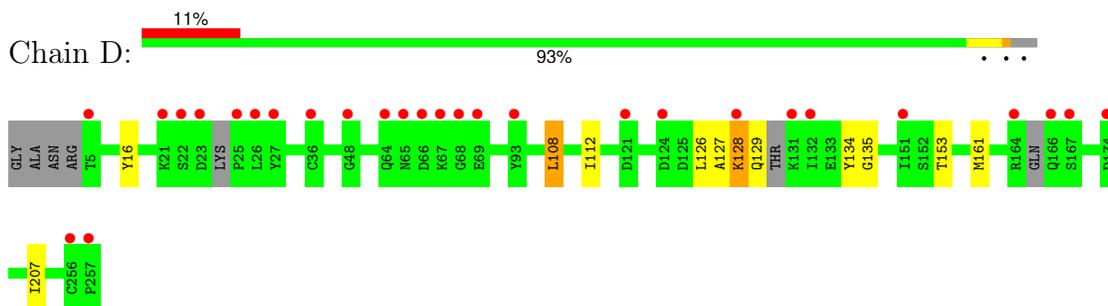
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	44.87Å　66.90Å　90.34Å 92.69°　94.66°　100.82°	Depositor
Resolution (Å)	89.80 – 1.35 89.80 – 1.35	Depositor EDS
% Data completeness (in resolution range)	94.8 (89.80-1.35) 94.8 (89.80-1.35)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	0.08	Depositor
$< I/\sigma(I) >$ [1]	2.98 (at 1.35Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.165 , 0.193 0.173 , 0.200	Depositor DCC
R_{free} test set	4297 reflections (2.01%)	wwPDB-VP
Wilson B-factor (Å^2)	10.4	Xtriage
Anisotropy	0.283	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 43.1	EDS
L-test for twinning[2]	$< \lvert L \rvert > = 0.49$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	9881	wwPDB-VP
Average B, all atoms (Å^2)	14.0	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 79.94 % 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 4.9985e-07. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< \lvert L \rvert >$, $< L^2 >$ 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: GOL, DYH, SO4, CL

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	0.48	0/2172	0.65	0/2924
1	B	0.47	0/2151	0.64	0/2896
1	C	0.46	0/2139	0.63	0/2876
1	D	0.47	0/2116	0.61	0/2844
All	All	0.47	0/8578	0.63	0/11540

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

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	2103	0	2157	9	0
1	B	2088	0	2133	7	0
1	C	2076	0	2129	8	0
1	D	2059	0	2095	7	0
2	A	21	0	18	0	0
2	B	21	0	18	0	0
2	C	21	0	18	0	0
2	D	21	0	18	0	0
3	A	5	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	5	0	0	0	0
4	A	6	0	8	1	0
4	B	6	0	8	1	0
4	C	6	0	8	1	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
6	A	385	0	0	2	0
6	B	380	0	0	4	0
6	C	335	0	0	1	0
6	D	341	0	0	1	0
All	All	9881	0	8610	31	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 2.

All (31) 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:92:THR:HB	4:A:260:GOL:H31	1.58	0.85
1:B:92:THR:HB	4:B:260:GOL:H31	1.65	0.79
1:D:16[B]:TYR:HE2	6:D:356:HOH:O	1.74	0.71
1:A:245[B]:MET:SD	6:A:1030:HOH:O	2.48	0.70
1:B:245[A]:MET:SD	6:B:1303:HOH:O	2.51	0.68
1:B:143[A]:MET:SD	6:B:1334:HOH:O	2.55	0.64
1:A:94:VAL:HG11	1:A:148:LYS:NZ	2.19	0.57
1:D:128[B]:LYS:HG3	1:D:129[B]:GLN:N	2.19	0.57
1:D:126[B]:LEU:HD22	1:D:134:TYR:CD2	2.45	0.51
1:B:148:LYS:NZ	6:B:638:HOH:O	2.41	0.49
1:D:127[A]:ALA:CB	1:D:153:THR:HG23	2.42	0.48
1:A:115:ARG:NH1	1:A:184:ASP:HA	2.29	0.47
1:C:124:ASP:O	1:C:128[A]:LYS:HG3	2.15	0.47
1:B:39:LEU:HB2	1:B:246[A]:MET:HE1	1.97	0.46
1:A:94:VAL:HG11	1:A:148:LYS:HZ3	1.79	0.46
1:C:126[B]:LEU:HD22	1:C:134:TYR:CD2	2.51	0.45
1:C:203:ASN:HD22	4:C:259:GOL:C3	2.30	0.44
1:A:115:ARG:HH12	1:A:184:ASP:HA	1.83	0.44
1:B:94:VAL:HG11	1:B:148:LYS:HZ3	1.82	0.44
1:A:243:LEU:HD23	1:A:246[B]:MET:HE2	2.00	0.43
1:C:47:LEU:HD22	1:C:229:LYS:HB3	2.00	0.43
1:C:129[B]:GLN:NE2	1:C:132:ILE:HB	2.35	0.42
1:C:112:ILE:HB	1:C:207:ILE:HB	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:189[B]:MET:HE2	6:B:427:HOH:O	2.20	0.42
1:D:108:LEU:HD22	1:D:108:LEU:C	2.45	0.41
1:C:102:SER:HB2	1:C:234[A]:ILE:HD12	2.03	0.41
1:D:112:ILE:HB	1:D:207:ILE:HB	2.02	0.40
1:D:135:GLY:HA2	1:D:161[A]:MET:HG2	2.03	0.40
1:A:199:GLN:NE2	6:A:843:HOH:O	2.54	0.40
1:C:189[A]:MET:HE2	6:C:654:HOH:O	2.22	0.40
1:A:144:THR:HG23	1:A:148:LYS:HE3	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	266/257 (104%)	262 (98%)	4 (2%)	0	100	100
1	B	264/257 (103%)	260 (98%)	4 (2%)	0	100	100
1	C	258/257 (100%)	254 (98%)	4 (2%)	0	100	100
1	D	253/257 (98%)	249 (98%)	4 (2%)	0	100	100
All	All	1041/1028 (101%)	1025 (98%)	16 (2%)	0	100	100

There are no Ramachandran outliers to report.

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.

Full wwPDB X-ray Structure Validation Report

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	234/223 (105%)	233 (100%)	1 (0%)	89	78
1	B	232/223 (104%)	231 (100%)	1 (0%)	89	78
1	C	232/223 (104%)	229 (99%)	3 (1%)	65	35
1	D	229/223 (103%)	226 (99%)	3 (1%)	65	35
All	All	927/892 (104%)	919 (99%)	8 (1%)	81	51

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	108	LEU
1	B	108	LEU
1	C	108	LEU
1	C	128[A]	LYS
1	C	128[B]	LYS
1	D	108	LEU
1	D	128[A]	LYS
1	D	128[B]	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	165	GLN
1	A	178	GLN
1	A	199	GLN
1	C	166	GLN
1	D	166	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 11 ligands modelled in this entry, 2 are monoatomic - leaving 9 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
2	DYH	D	258	-	21,22,22	0.76	0	18,33,33	1.23	2 (11%)
3	SO4	B	259	-	4,4,4	0.24	0	6,6,6	0.13	0
4	GOL	B	260	-	5,5,5	0.16	0	5,5,5	0.50	0
2	DYH	B	258	-	21,22,22	0.82	0	18,33,33	1.13	1 (5%)
4	GOL	C	259	-	5,5,5	0.44	0	5,5,5	0.26	0
2	DYH	C	258	-	21,22,22	0.75	0	18,33,33	1.15	1 (5%)
2	DYH	A	258	-	21,22,22	0.85	0	18,33,33	1.22	2 (11%)
3	SO4	A	259	-	4,4,4	0.27	0	6,6,6	0.16	0
4	GOL	A	260	-	5,5,5	0.24	0	5,5,5	0.42	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
2	DYH	D	258	-	-	2/17/44/44	0/2/2/2
4	GOL	B	260	-	-	4/4/4/4	-
2	DYH	B	258	-	-	2/17/44/44	0/2/2/2
4	GOL	C	259	-	-	0/4/4/4	-
2	DYH	C	258	-	-	1/17/44/44	0/2/2/2
2	DYH	A	258	-	-	2/17/44/44	0/2/2/2
4	GOL	A	260	-	-	4/4/4/4	-

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	258	DYH	OAJ-CAI-CAH	-2.46	105.89	110.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	258	DYH	CAA-NH-CAH	-2.42	111.11	114.23
2	A	258	DYH	CAS-CAK-CB	-2.37	108.34	114.85
2	D	258	DYH	CAS-CAK-CB	-2.18	108.85	114.85
2	B	258	DYH	CAS-CAK-CB	-2.06	109.18	114.85
2	C	258	DYH	CAS-CAK-CB	-2.05	109.21	114.85

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	260	GOL	C1-C2-C3-O3
4	A	260	GOL	O1-C1-C2-O2
4	B	260	GOL	O2-C2-C3-O3
4	A	260	GOL	O1-C1-C2-C3
4	B	260	GOL	O1-C1-C2-C3
4	B	260	GOL	C1-C2-C3-O3
4	A	260	GOL	O2-C2-C3-O3
4	B	260	GOL	O1-C1-C2-O2
2	D	258	DYH	OAB-CAE-CAK-CB
2	B	258	DYH	O-C-CA-CB
2	A	258	DYH	OXT-C-CA-CB
2	A	258	DYH	O-C-CA-CB
2	C	258	DYH	OXT-C-CA-CB
2	D	258	DYH	OXT-C-CA-CB
2	B	258	DYH	OXT-C-CA-CB

There are no ring outliers.

3 monomers are involved in 3 short contacts:

| Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	260	GOL	1	0
4	C	259	GOL	1	0
4	A	260	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 DYH D 258

| Bond lengths | Bond angles |

| Torsions | Rings |

Ligand DYH B 258

Bond lengths

Bond angles

Torsions

Rings

Ligand DYH C 258

Bond lengths

Bond angles

Torsions

Rings

Ligand DYH A 258

Bond lengths

Bond angles

Torsions

Rings
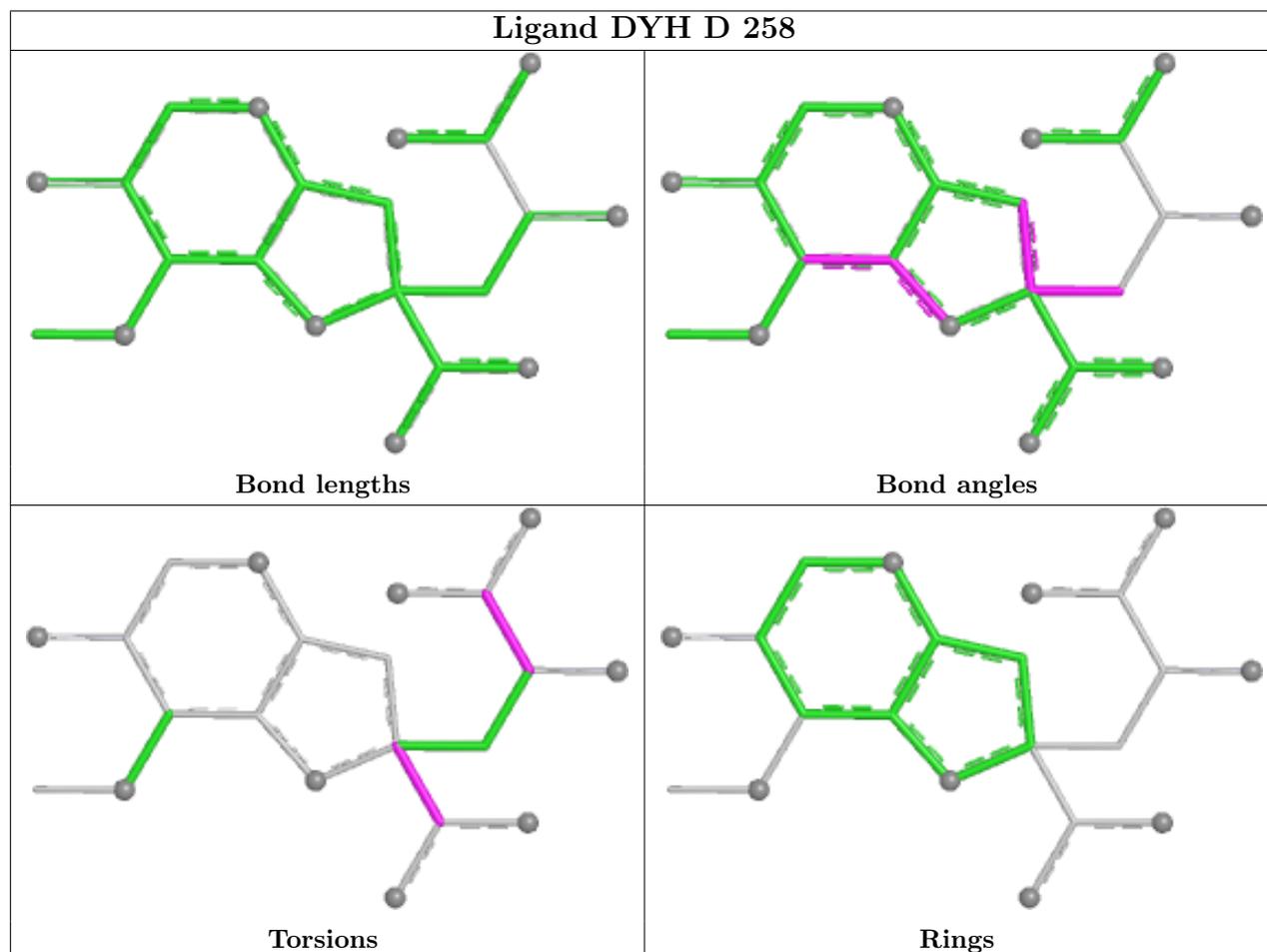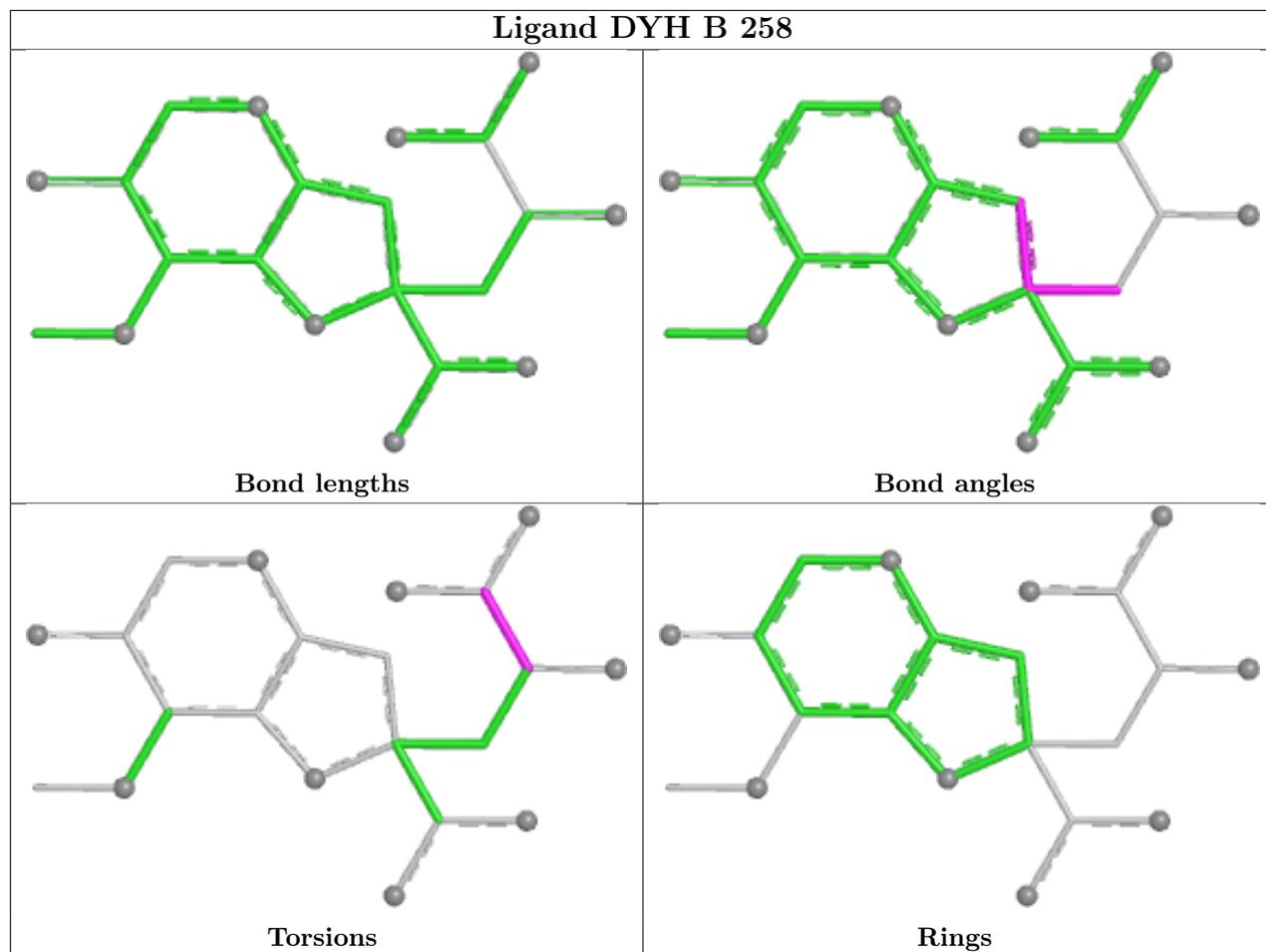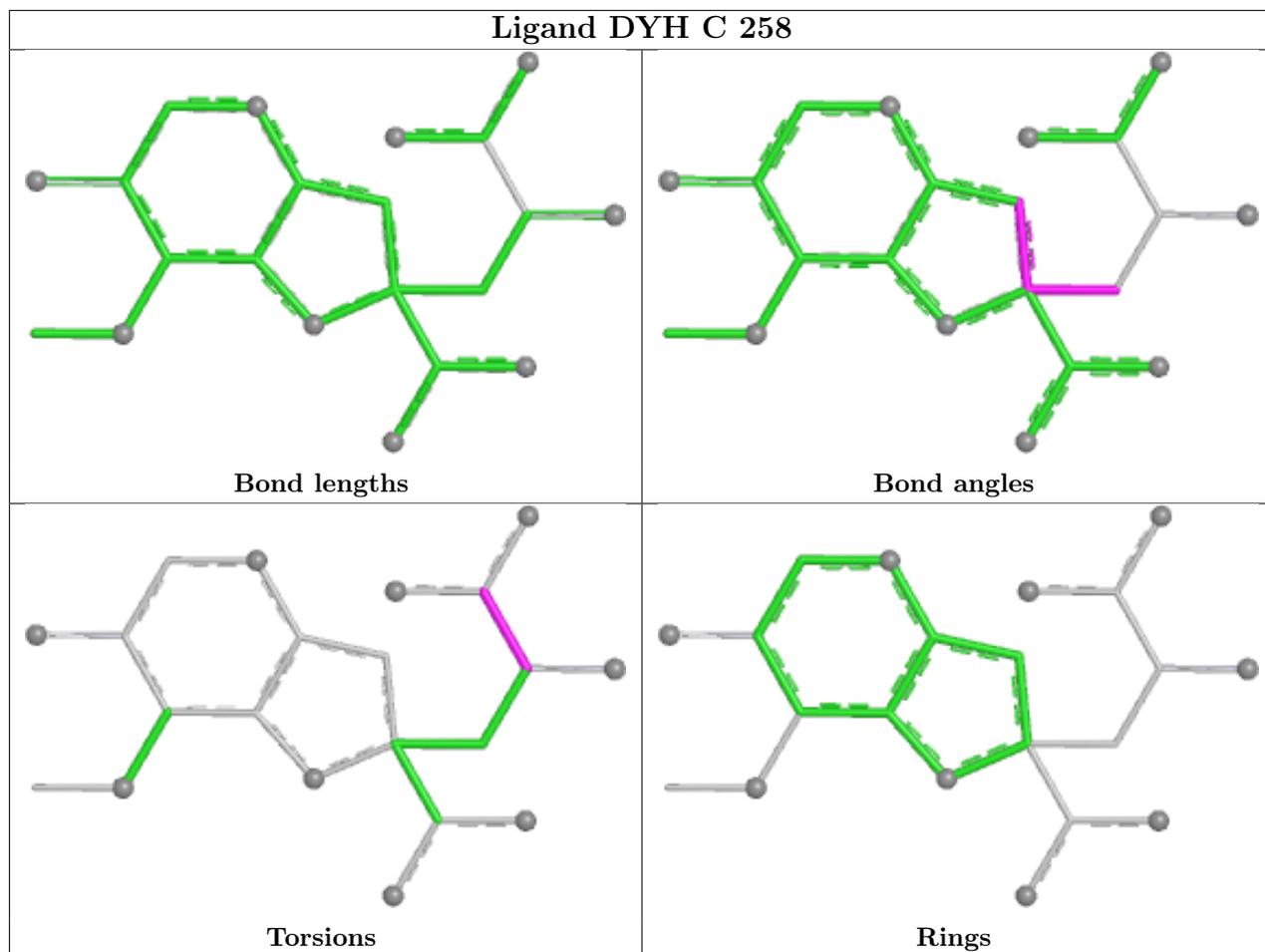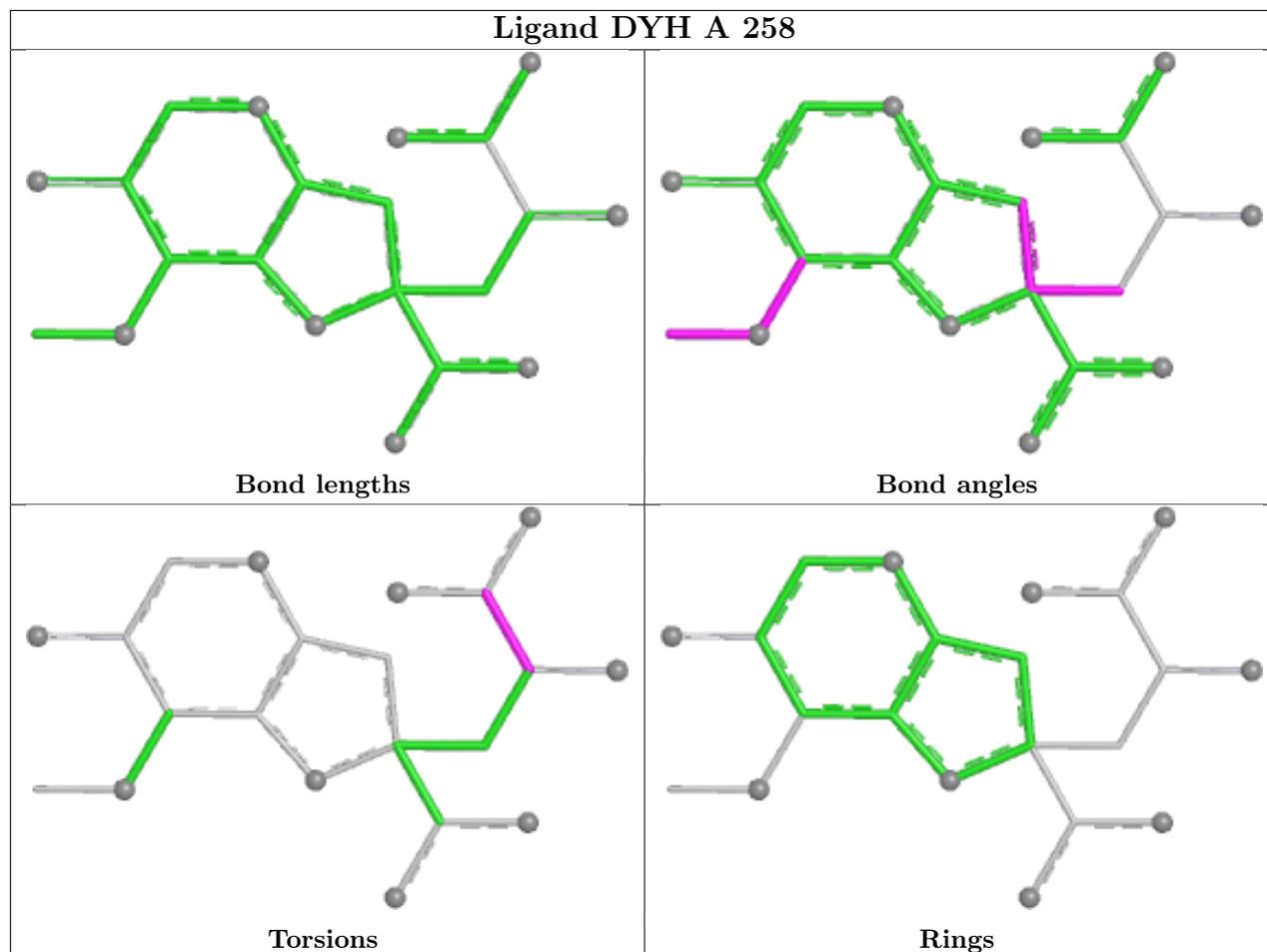
5.7 Other polymers ⓘ

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(Å²)	Q<0.9
1	A	257/257 (100%)	0.37	18 (7%)	24	31	3, 10, 19, 23	11 (4%)
1	B	257/257 (100%)	0.40	18 (7%)	24	31	3, 11, 19, 27	9 (3%)
1	C	251/257 (97%)	0.70	35 (13%)	7	10	3, 12, 24, 34	14 (5%)
1	D	250/257 (97%)	0.51	28 (11%)	11	14	3, 11, 22, 34	12 (4%)
All	All	1015/1028 (98%)	0.49	99 (9%)	14	18	3, 11, 21, 34	46 (4%)

All (99) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	27	TYR	7.7
1	C	25	PRO	6.0
1	A	27	TYR	5.5
1	D	66	ASP	5.2
1	B	27	TYR	5.2
1	C	68	GLY	5.0
1	D	27	TYR	4.7
1	C	66	ASP	4.7
1	C	26	LEU	4.3
1	C	22	SER	4.3
1	A	66	ASP	4.2
1	A	93	TYR	3.9
1	C	28	GLY	3.9
1	D	25	PRO	3.8
1	B	66	ASP	3.8
1	D	128[A]	LYS	3.7
1	A	257	PRO	3.7
1	C	23	ASP	3.7
1	B	257	PRO	3.6
1	A	256	CYS	3.5
1	A	23	ASP	3.4

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Mol	Chain	Res	Type	RSRZ
1	C	24	LYS	3.4
1	D	121	ASP	3.3
1	B	256	CYS	3.3
1	C	164	ARG	3.2
1	C	166	GLN	3.1
1	A	239	GLU	3.1
1	B	93	TYR	3.1
1	C	30	ASP	3.1
1	D	67	LYS	3.0
1	C	48	GLY	3.0
1	D	22	SER	3.0
1	B	239	GLU	2.9
1	C	257	PRO	2.9
1	D	257	PRO	2.9
1	B	21	LYS	2.9
1	C	132	ILE	2.8
1	D	48	GLY	2.8
1	D	164	ARG	2.8
1	C	124	ASP	2.8
1	A	68	GLY	2.8
1	B	45	ASN	2.8
1	B	121	ASP	2.8
1	D	132	ILE	2.8
1	C	93	TYR	2.8
1	C	256	CYS	2.7
1	C	67	LYS	2.7
1	C	128[A]	LYS	2.7
1	D	23	ASP	2.6
1	A	235	LEU	2.6
1	A	67	LYS	2.6
1	B	23	ASP	2.6
1	B	64	GLN	2.5
1	C	152	SER	2.5
1	A	121	ASP	2.5
1	D	124	ASP	2.5
1	D	256	CYS	2.5
1	D	64	GLN	2.5
1	D	166	GLN	2.5
1	D	69	GLU	2.4
1	C	121	ASP	2.4
1	A	36	CYS	2.4
1	D	68	GLY	2.4

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Mol	Chain	Res	Type	RSRZ
1	C	69	GLU	2.4
1	B	36	CYS	2.4
1	A	119	PRO	2.4
1	C	47	LEU	2.4
1	D	93	TYR	2.4
1	D	65	ASN	2.3
1	B	25	PRO	2.3
1	C	81	ARG	2.3
1	C	80	HIS	2.3
1	C	171	LYS	2.3
1	C	50	LEU	2.3
1	B	119	PRO	2.3
1	C	19	TYR	2.2
1	D	21	LYS	2.2
1	D	26	LEU	2.2
1	C	36	CYS	2.2
1	A	64	GLN	2.2
1	A	69	GLU	2.2
1	D	36	CYS	2.2
1	D	151	ILE	2.1
1	C	238	GLN	2.1
1	B	69	GLU	2.1
1	D	5	THR	2.1
1	A	25	PRO	2.1
1	A	166	GLN	2.0
1	B	19	TYR	2.0
1	B	128	LYS	2.0
1	C	174	ASP	2.0
1	C	20	ARG	2.0
1	C	64	GLN	2.0
1	D	167	SER	2.0
1	A	174	ASP	2.0
1	B	171	LYS	2.0
1	C	21	LYS	2.0
1	D	131	LYS	2.0
1	D	174	ASP	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	CL	B	261	1/1	0.76	0.20	56,56,56,56	0
4	GOL	B	260	6/6	0.81	0.18	25,30,30,32	0
5	CL	A	261	1/1	0.82	0.18	51,51,51,51	0
4	GOL	C	259	6/6	0.82	0.17	40,40,40,40	0
3	SO4	B	259	5/5	0.83	0.14	29,30,30,30	0
4	GOL	A	260	6/6	0.83	0.16	24,29,29,30	0
3	SO4	A	259	5/5	0.87	0.13	24,25,26,27	0
2	DYH	C	258	21/21	0.98	0.04	5,6,7,7	0
2	DYH	B	258	21/21	0.98	0.04	4,5,6,6	0
2	DYH	D	258	21/21	0.99	0.03	5,6,6,7	0
2	DYH	A	258	21/21	0.99	0.03	4,5,6,6	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 DYH C 258:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
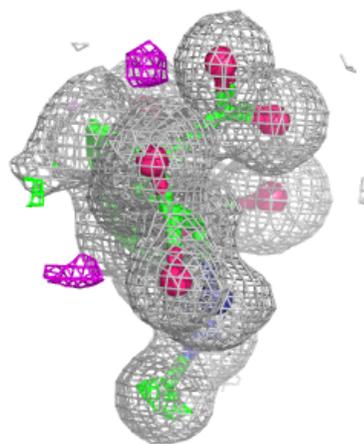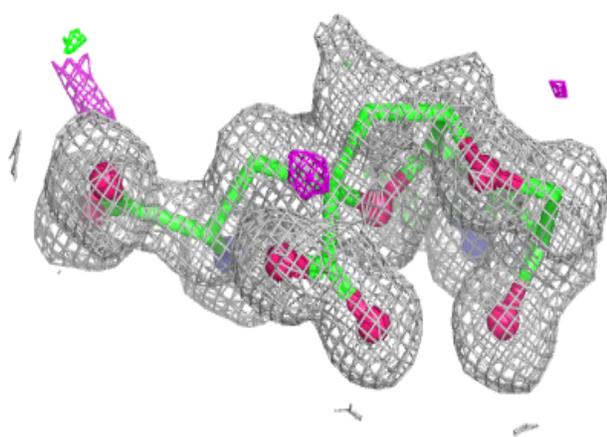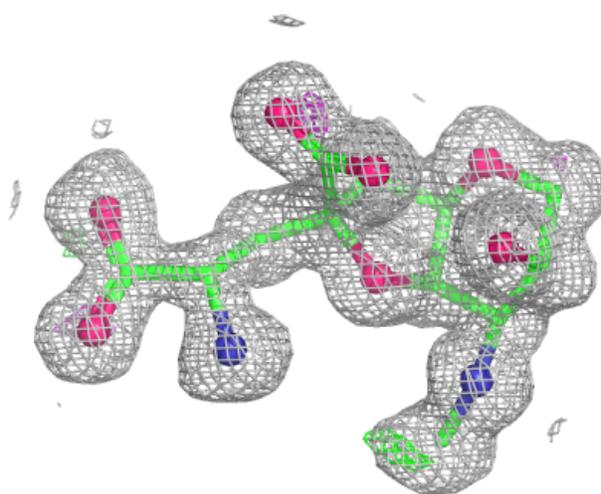
Electron density around DYH B 258:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
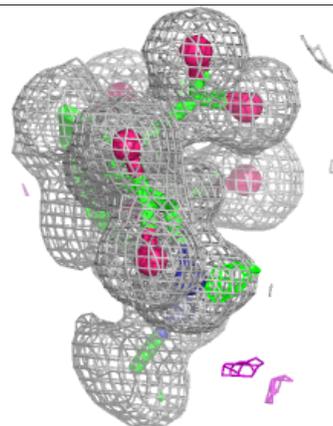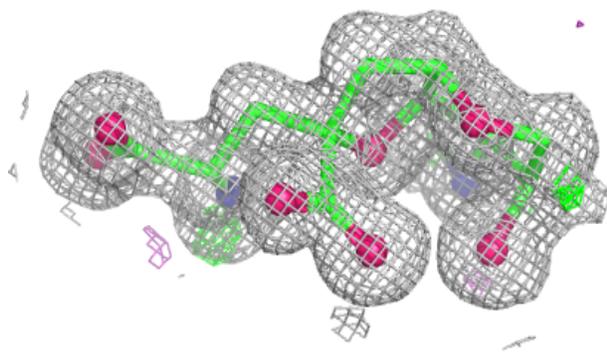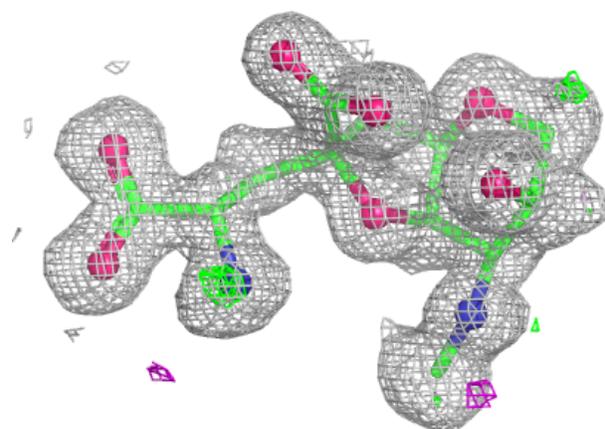
Electron density around DYH D 258:

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 DYH A 258:

$2mF_o$-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 ⓘ

There are no such residues in this entry.