Full wwPDB X-ray Structure Validation Report ⓘ

Oct 15, 2023 – 10:14 PM EDT

PDB ID	:	8E0P
Title	:	Crystal structure of mouse APCDD1 in fusion with engineered MBP
Authors	:	Hsieh, F.L.; Chang, T.H.; Gabelli, S.B.; Nathans, J.
Deposited on	:	2022-08-09
Resolution	:	2.33 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:

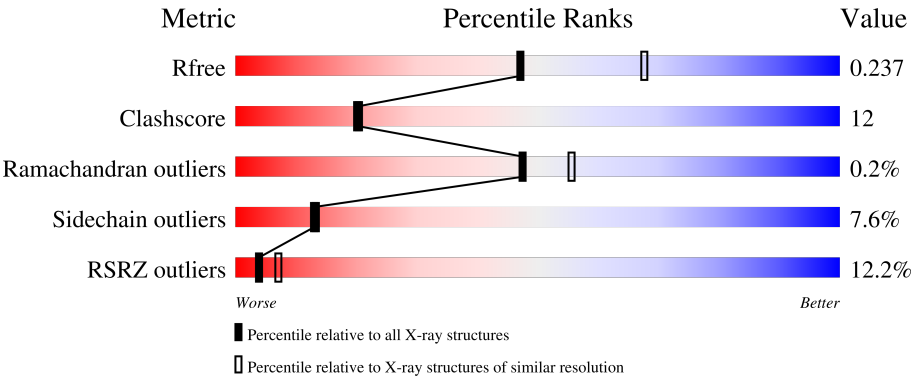
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.33 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2096 (2.36-2.32)
Clashscore	141614	2193 (2.36-2.32)
Ramachandran outliers	138981	2159 (2.36-2.32)
Sidechain outliers	138945	2160 (2.36-2.32)
RSRZ outliers	127900	2067 (2.36-2.32)

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	818	11% 71% 22% 5%
1	B	818	26% 62% 29% 6%
1	C	818	6% 73% 20%
1	D	818	5% 75% 18%
2	F	2	50% 50%

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Mol	Chain	Length	Quality of chain
2	G	2	50% 50%
2	H	2	100%
2	I	2	50% 50%

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
7	DMX	D	905	-	X	-	-

2 Entry composition (i)

There are 8 unique types of molecules in this entry. The entry contains 25921 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 Maltodextrin-binding protein, Protein APCDD1 complex.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	778	Total	C	N	O	S	0	3	0
			6184	3943	1076	1139	26			
1	B	789	Total	C	N	O	S	0	2	0
			6242	3975	1086	1153	28			
1	C	782	Total	C	N	O	S	0	4	0
			6221	3967	1078	1150	26			
1	D	784	Total	C	N	O	S	0	6	0
			6251	3978	1088	1159	26			

There are 116 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	GLU	-	expression tag	UNP C3SHQ8
A	2	THR	-	expression tag	UNP C3SHQ8
A	3	GLY	-	expression tag	UNP C3SHQ8
A	4	LYS	-	expression tag	UNP C3SHQ8
A	5	THR	-	expression tag	UNP C3SHQ8
A	85	ALA	ASP	engineered mutation	UNP C3SHQ8
A	86	ALA	LYS	engineered mutation	UNP C3SHQ8
A	175	ALA	GLU	engineered mutation	UNP C3SHQ8
A	176	ALA	ASN	engineered mutation	UNP C3SHQ8
A	218	HIS	ALA	engineered mutation	UNP C3SHQ8
A	222	HIS	LYS	engineered mutation	UNP C3SHQ8
A	242	ALA	LYS	engineered mutation	UNP C3SHQ8
A	315	VAL	ALA	engineered mutation	UNP C3SHQ8
A	320	VAL	ILE	engineered mutation	UNP C3SHQ8
A	362	ALA	GLU	engineered mutation	UNP C3SHQ8
A	365	ALA	LYS	engineered mutation	UNP C3SHQ8
A	366	ALA	ASP	engineered mutation	UNP C3SHQ8
A	370	ASN	-	linker	UNP C3SHQ8
A	371	ALA	-	linker	UNP C3SHQ8
A	372	ALA	-	linker	UNP C3SHQ8
A	810	THR	-	expression tag	UNP Q3U128

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Chain	Residue	Modelled	Actual	Comment	Reference
A	811	HIS	-	expression tag	UNP Q3U128
A	812	HIS	-	expression tag	UNP Q3U128
A	813	HIS	-	expression tag	UNP Q3U128
A	814	HIS	-	expression tag	UNP Q3U128
A	815	HIS	-	expression tag	UNP Q3U128
A	816	HIS	-	expression tag	UNP Q3U128
A	817	HIS	-	expression tag	UNP Q3U128
A	818	HIS	-	expression tag	UNP Q3U128
B	1	GLU	-	expression tag	UNP C3SHQ8
B	2	THR	-	expression tag	UNP C3SHQ8
B	3	GLY	-	expression tag	UNP C3SHQ8
B	4	LYS	-	expression tag	UNP C3SHQ8
B	5	THR	-	expression tag	UNP C3SHQ8
B	85	ALA	ASP	engineered mutation	UNP C3SHQ8
B	86	ALA	LYS	engineered mutation	UNP C3SHQ8
B	175	ALA	GLU	engineered mutation	UNP C3SHQ8
B	176	ALA	ASN	engineered mutation	UNP C3SHQ8
B	218	HIS	ALA	engineered mutation	UNP C3SHQ8
B	222	HIS	LYS	engineered mutation	UNP C3SHQ8
B	242	ALA	LYS	engineered mutation	UNP C3SHQ8
B	315	VAL	ALA	engineered mutation	UNP C3SHQ8
B	320	VAL	ILE	engineered mutation	UNP C3SHQ8
B	362	ALA	GLU	engineered mutation	UNP C3SHQ8
B	365	ALA	LYS	engineered mutation	UNP C3SHQ8
B	366	ALA	ASP	engineered mutation	UNP C3SHQ8
B	370	ASN	-	linker	UNP C3SHQ8
B	371	ALA	-	linker	UNP C3SHQ8
B	372	ALA	-	linker	UNP C3SHQ8
B	810	THR	-	expression tag	UNP Q3U128
B	811	HIS	-	expression tag	UNP Q3U128
B	812	HIS	-	expression tag	UNP Q3U128
B	813	HIS	-	expression tag	UNP Q3U128
B	814	HIS	-	expression tag	UNP Q3U128
B	815	HIS	-	expression tag	UNP Q3U128
B	816	HIS	-	expression tag	UNP Q3U128
B	817	HIS	-	expression tag	UNP Q3U128
B	818	HIS	-	expression tag	UNP Q3U128
C	1	GLU	-	expression tag	UNP C3SHQ8
C	2	THR	-	expression tag	UNP C3SHQ8
C	3	GLY	-	expression tag	UNP C3SHQ8
C	4	LYS	-	expression tag	UNP C3SHQ8
C	5	THR	-	expression tag	UNP C3SHQ8

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Chain	Residue	Modelled	Actual	Comment	Reference
C	85	ALA	ASP	engineered mutation	UNP C3SHQ8
C	86	ALA	LYS	engineered mutation	UNP C3SHQ8
C	175	ALA	GLU	engineered mutation	UNP C3SHQ8
C	176	ALA	ASN	engineered mutation	UNP C3SHQ8
C	218	HIS	ALA	engineered mutation	UNP C3SHQ8
C	222	HIS	LYS	engineered mutation	UNP C3SHQ8
C	242	ALA	LYS	engineered mutation	UNP C3SHQ8
C	315	VAL	ALA	engineered mutation	UNP C3SHQ8
C	320	VAL	ILE	engineered mutation	UNP C3SHQ8
C	362	ALA	GLU	engineered mutation	UNP C3SHQ8
C	365	ALA	LYS	engineered mutation	UNP C3SHQ8
C	366	ALA	ASP	engineered mutation	UNP C3SHQ8
C	370	ASN	-	linker	UNP C3SHQ8
C	371	ALA	-	linker	UNP C3SHQ8
C	372	ALA	-	linker	UNP C3SHQ8
C	810	THR	-	expression tag	UNP Q3U128
C	811	HIS	-	expression tag	UNP Q3U128
C	812	HIS	-	expression tag	UNP Q3U128
C	813	HIS	-	expression tag	UNP Q3U128
C	814	HIS	-	expression tag	UNP Q3U128
C	815	HIS	-	expression tag	UNP Q3U128
C	816	HIS	-	expression tag	UNP Q3U128
C	817	HIS	-	expression tag	UNP Q3U128
C	818	HIS	-	expression tag	UNP Q3U128
D	1	GLU	-	expression tag	UNP C3SHQ8
D	2	THR	-	expression tag	UNP C3SHQ8
D	3	GLY	-	expression tag	UNP C3SHQ8
D	4	LYS	-	expression tag	UNP C3SHQ8
D	5	THR	-	expression tag	UNP C3SHQ8
D	85	ALA	ASP	engineered mutation	UNP C3SHQ8
D	86	ALA	LYS	engineered mutation	UNP C3SHQ8
D	175	ALA	GLU	engineered mutation	UNP C3SHQ8
D	176	ALA	ASN	engineered mutation	UNP C3SHQ8
D	218	HIS	ALA	engineered mutation	UNP C3SHQ8
D	222	HIS	LYS	engineered mutation	UNP C3SHQ8
D	242	ALA	LYS	engineered mutation	UNP C3SHQ8
D	315	VAL	ALA	engineered mutation	UNP C3SHQ8
D	320	VAL	ILE	engineered mutation	UNP C3SHQ8
D	362	ALA	GLU	engineered mutation	UNP C3SHQ8
D	365	ALA	LYS	engineered mutation	UNP C3SHQ8
D	366	ALA	ASP	engineered mutation	UNP C3SHQ8
D	370	ASN	-	linker	UNP C3SHQ8

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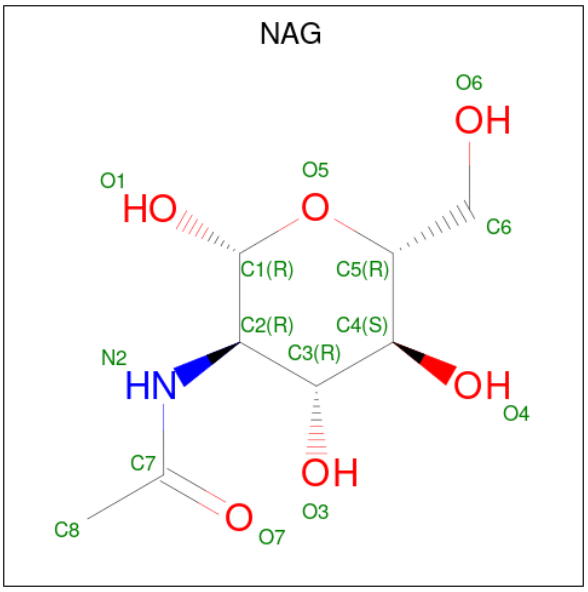
Chain	Residue	Modelled	Actual	Comment	Reference
D	371	ALA	-	linker	UNP C3SHQ8
D	372	ALA	-	linker	UNP C3SHQ8
D	810	THR	-	expression tag	UNP Q3U128
D	811	HIS	-	expression tag	UNP Q3U128
D	812	HIS	-	expression tag	UNP Q3U128
D	813	HIS	-	expression tag	UNP Q3U128
D	814	HIS	-	expression tag	UNP Q3U128
D	815	HIS	-	expression tag	UNP Q3U128
D	816	HIS	-	expression tag	UNP Q3U128
D	817	HIS	-	expression tag	UNP Q3U128
D	818	HIS	-	expression tag	UNP Q3U128

- Molecule 2 is an oligosaccharide called alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose.

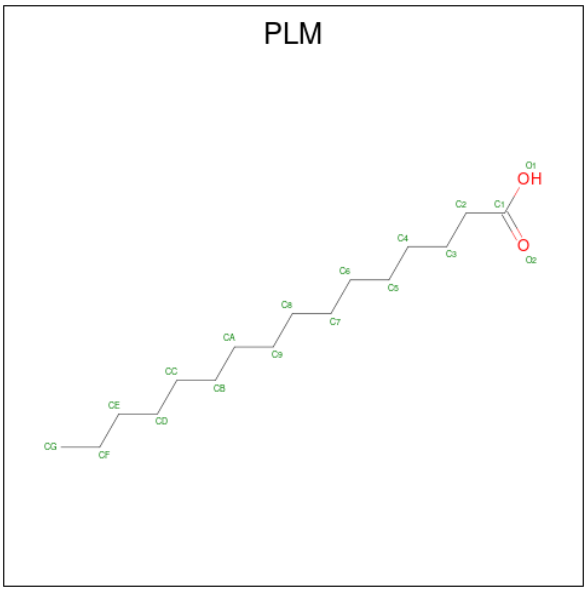
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
2	F	2	Total	C	O	0	0	0
			23	12	11			
2	G	2	Total	C	O	0	0	0
			23	12	11			
2	H	2	Total	C	O	0	0	0
			23	12	11			
2	I	2	Total	C	O	0	0	0
			23	12	11			

- Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



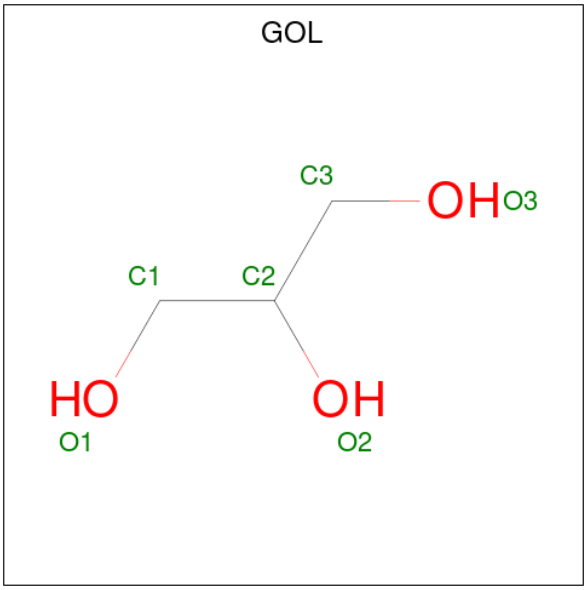
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C N O 14 8 1 5	0	0
3	A	1	Total C N O 14 8 1 5	0	0
3	A	1	Total C N O 14 8 1 5	0	0
3	B	1	Total C N O 14 8 1 5	0	0
3	B	1	Total C N O 14 8 1 5	0	0
3	B	1	Total C N O 14 8 1 5	0	0
3	C	1	Total C N O 14 8 1 5	0	0
3	C	1	Total C N O 14 8 1 5	0	0
3	C	1	Total C N O 14 8 1 5	0	0
3	D	1	Total C N O 14 8 1 5	0	0
3	D	1	Total C N O 14 8 1 5	0	0
3	D	1	Total C N O 14 8 1 5	0	0

- Molecule 4 is PALMITIC ACID (three-letter code: PLM) (formula: $C_{16}H_{32}O_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 18 16 2	0	0
4	C	1	Total C O 18 16 2	0	0

- Molecule 5 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



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

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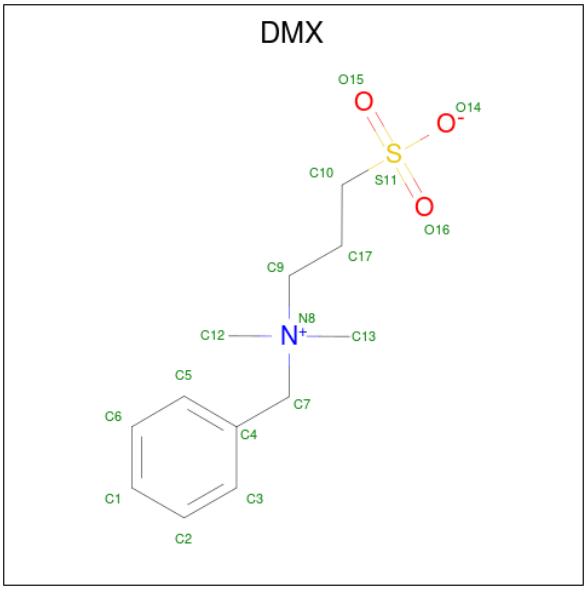
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	1	Total C O 6 3 3	0	0
5	C	1	Total C O 6 3 3	0	0
5	D	1	Total C O 6 3 3	0	0

- Molecule 6 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

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

- Molecule 7 is 3-[BENZYL(DIMETHYL)AMMONIO]PROPANE-1-SULFONATE (three-letter code: DMX) (formula: $C_{12}H_{19}NO_3S$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	C	1	Total C N O S 17 12 1 3 1	0	0
7	C	1	Total C N O S 17 12 1 3 1	0	0
7	D	1	Total C N O S 17 12 1 3 1	0	0

- Molecule 8 is water.

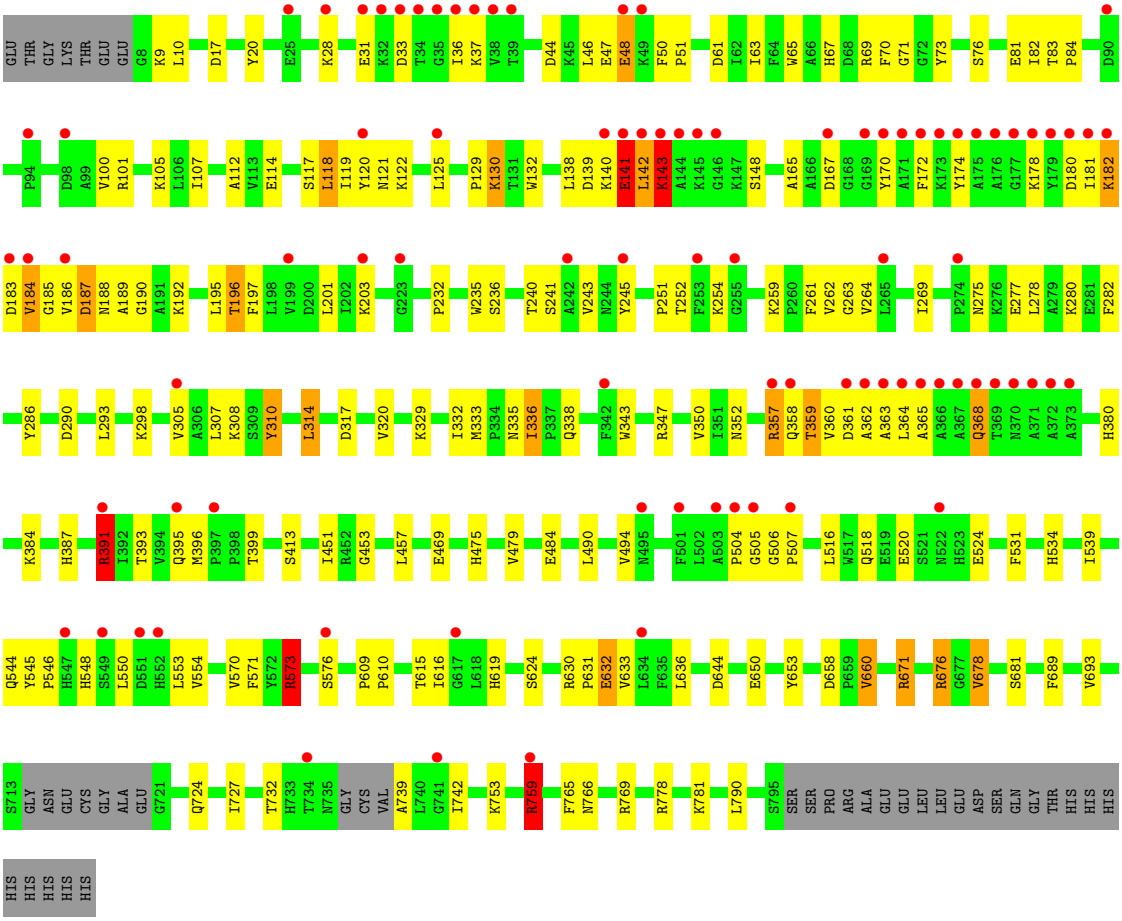
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	A	160	Total O 160 160	0	0
8	B	79	Total O 79 79	0	0
8	C	184	Total O 184 184	0	0
8	D	220	Total O 220 220	0	0

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.

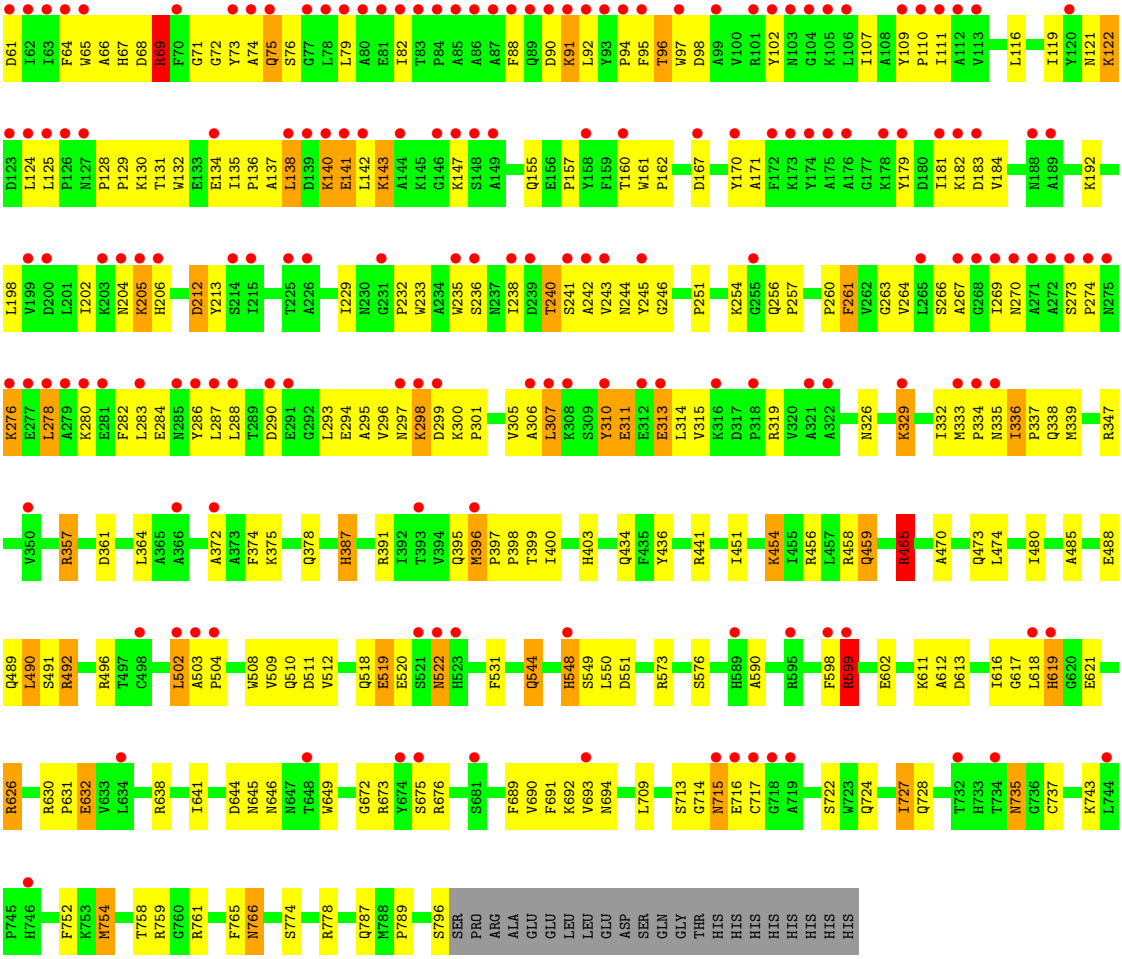
• Molecule 1: Maltodextrin-binding protein, Protein APCDD1 complex

Chain A:



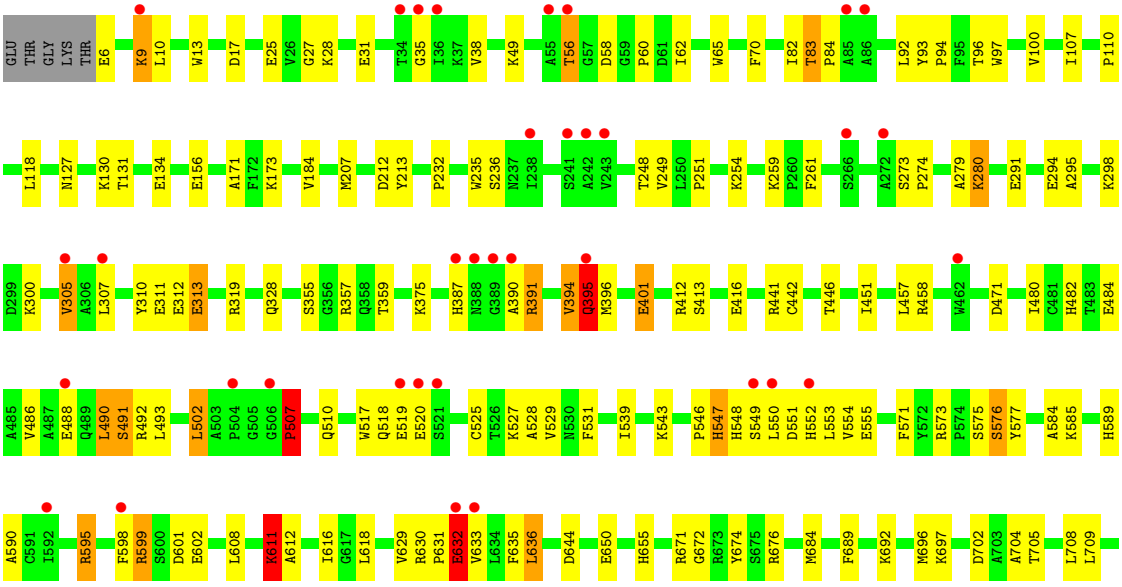
• Molecule 1: Maltodextrin-binding protein, Protein APCDD1 complex

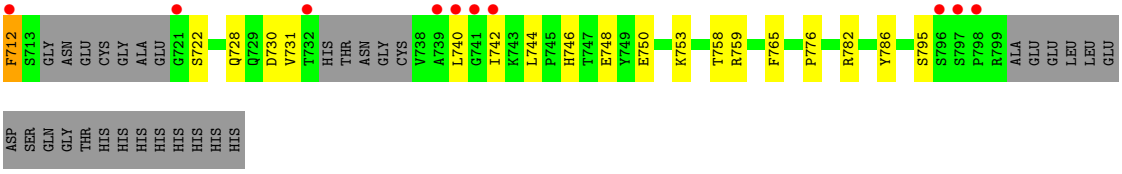
Chain B:



• Molecule 1: Maltodextrin-binding protein, Protein APCDD1 complex

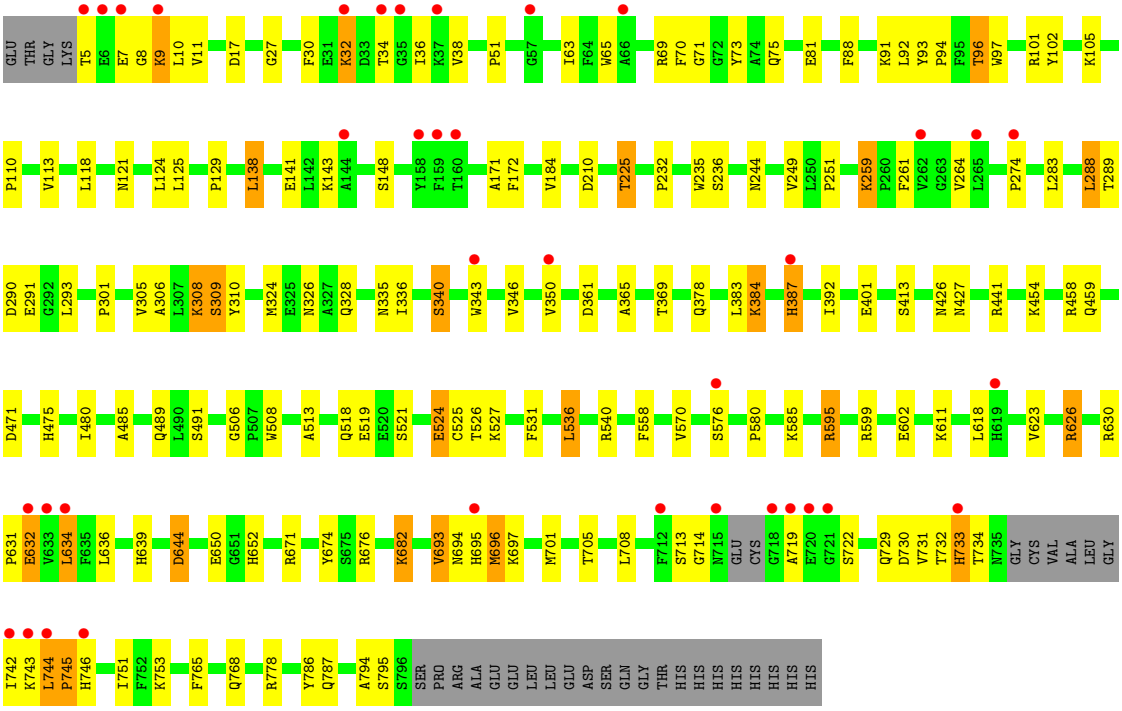
Chain C:





• Molecule 1: Maltodextrin-binding protein, Protein APCDD1 complex

Chain D:



• Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain F:

• Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

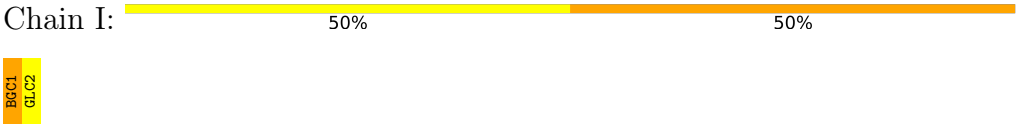
Chain G:

• Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain H:

• Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain I:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	123.91Å 98.36Å 156.51Å 90.00° 109.73° 90.00°	Depositor
Resolution (Å)	39.67 – 2.33 39.67 – 2.31	Depositor EDS
% Data completeness (in resolution range)	87.7 (39.67-2.33) 86.3 (39.67-2.31)	Depositor EDS
R_{merge}	0.25	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.98 (at 2.31Å)	Xtriage
Refinement program	PHENIX 1.19.2_4158	Depositor
R, R_{free}	0.192 , 0.239 0.206 , 0.237	Depositor DCC
R_{free} test set	1990 reflections (1.48%)	wwPDB-VP
Wilson B-factor (Å^2)	47.8	Xtriage
Anisotropy	0.013	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 49.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.51$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	25921	wwPDB-VP
Average B, all atoms (Å^2)	70.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.79% 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: CL, GLC, NAG, GOL, DMX, BGC, PLM

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	0.41	1/6356 (0.0%)	0.74	20/8638 (0.2%)
1	B	0.42	0/6417	0.65	9/8724 (0.1%)
1	C	0.52	11/6394 (0.2%)	0.94	32/8690 (0.4%)
1	D	0.40	1/6427 (0.0%)	0.63	9/8734 (0.1%)
All	All	0.44	13/25594 (0.1%)	0.75	70/34786 (0.2%)

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	5
1	B	0	4
1	C	0	4
1	D	0	6
All	All	0	19

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	611	LYS	CE-NZ	16.22	1.89	1.49
1	D	32	LYS	CD-CE	8.03	1.71	1.51
1	C	488	GLU	CD-OE1	7.69	1.34	1.25
1	C	759	ARG	CG-CD	7.04	1.69	1.51
1	C	313	GLU	CB-CG	6.62	1.64	1.52
1	C	488	GLU	CG-CD	6.51	1.61	1.51
1	C	313	GLU	CD-OE2	6.40	1.32	1.25
1	C	488	GLU	CD-OE2	5.97	1.32	1.25
1	A	573	ARG	CD-NE	-5.57	1.36	1.46
1	C	599	ARG	CD-NE	-5.28	1.37	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	291	GLU	CB-CG	5.11	1.61	1.52
1	C	599	ARG	CB-CG	-5.10	1.38	1.52
1	C	313	GLU	CG-CD	5.09	1.59	1.51

All (70) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	488	GLU	OE1-CD-OE2	-30.45	86.76	123.30
1	C	488	GLU	CG-CD-OE1	21.91	162.12	118.30
1	C	488	GLU	CG-CD-OE2	-19.70	78.89	118.30
1	A	391	ARG	CA-CB-CG	16.64	150.02	113.40
1	A	391	ARG	CB-CG-CD	-16.64	68.33	111.60
1	C	759	ARG	CB-CG-CD	-15.78	70.58	111.60
1	C	313	GLU	CA-CB-CG	14.77	145.90	113.40
1	C	611	LYS	CB-CA-C	-14.30	81.81	110.40
1	C	611	LYS	CD-CE-NZ	-14.01	79.47	111.70
1	C	611	LYS	N-CA-CB	13.03	134.05	110.60
1	A	391	ARG	CG-CD-NE	11.81	136.59	111.80
1	A	141	GLU	CA-CB-CG	11.69	139.13	113.40
1	C	599	ARG	CD-NE-CZ	-10.84	108.42	123.60
1	C	488	GLU	CA-CB-CG	10.27	135.99	113.40
1	C	759	ARG	CA-CB-CG	10.26	135.97	113.40
1	C	313	GLU	CB-CA-C	10.23	130.86	110.40
1	C	313	GLU	CG-CD-OE1	-10.06	98.17	118.30
1	C	313	GLU	CG-CD-OE2	10.00	138.31	118.30
1	B	599	ARG	CD-NE-CZ	9.90	137.46	123.60
1	C	395	GLN	CA-CB-CG	-9.50	92.49	113.40
1	D	682	LYS	CB-CG-CD	9.27	135.71	111.60
1	C	313	GLU	N-CA-CB	-9.22	94.00	110.60
1	C	611	LYS	CG-CD-CE	8.40	137.10	111.90
1	A	759	ARG	CB-CG-CD	8.17	132.85	111.60
1	C	312	GLU	C-N-CA	8.11	141.98	121.70
1	C	394	VAL	C-N-CA	-7.61	102.69	121.70
1	D	32	LYS	CD-CE-NZ	-7.60	94.22	111.70
1	C	300	LYS	CA-CB-CG	7.59	130.09	113.40
1	C	611	LYS	N-CA-C	-7.56	90.58	111.00
1	B	264	VAL	CG1-CB-CG2	7.48	122.87	110.90
1	B	29	LYS	CD-CE-NZ	-7.47	94.53	111.70
1	C	599	ARG	CG-CD-NE	7.47	127.48	111.80
1	A	142	LEU	CB-CG-CD1	-7.41	98.40	111.00
1	A	573	ARG	CG-CD-NE	-7.28	96.52	111.80
1	C	488	GLU	CB-CG-CD	-7.24	94.65	114.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	32	LYS	CB-CG-CD	7.22	130.37	111.60
1	A	391	ARG	CD-NE-CZ	-7.09	113.67	123.60
1	C	759	ARG	CG-CD-NE	6.90	126.29	111.80
1	C	401	GLU	CA-CB-CG	6.72	128.19	113.40
1	A	484	GLU	CA-CB-CG	6.69	128.11	113.40
1	C	395	GLN	N-CA-C	-6.61	93.16	111.00
1	C	759	ARG	CD-NE-CZ	6.61	132.85	123.60
1	A	336	ILE	CG1-CB-CG2	-6.58	96.93	111.40
1	C	611	LYS	CA-CB-CG	6.32	127.29	113.40
1	B	397	PRO	N-CA-C	-6.28	95.78	112.10
1	A	391	ARG	N-CA-CB	6.26	121.87	110.60
1	A	143	LYS	CA-CB-CG	6.24	127.13	113.40
1	D	32	LYS	CB-CA-C	6.16	122.71	110.40
1	A	759	ARG	CG-CD-NE	6.15	124.71	111.80
1	D	9	LYS	N-CA-CB	6.09	121.56	110.60
1	A	141	GLU	CB-CA-C	6.04	122.47	110.40
1	A	759	ARG	CA-CB-CG	-6.03	100.14	113.40
1	D	32	LYS	CA-CB-CG	5.85	126.27	113.40
1	C	401	GLU	N-CA-CB	5.80	121.03	110.60
1	B	91	LYS	CD-CE-NZ	5.68	124.76	111.70
1	D	9	LYS	CB-CG-CD	-5.66	96.88	111.60
1	C	401	GLU	CB-CA-C	-5.66	99.09	110.40
1	C	300	LYS	CB-CG-CD	-5.63	96.97	111.60
1	B	329	LYS	CA-CB-CG	5.61	125.73	113.40
1	B	465	ARG	CG-CD-NE	5.54	123.43	111.80
1	D	32	LYS	CG-CD-CE	-5.53	95.31	111.90
1	A	48	GLU	CA-CB-CG	-5.51	101.28	113.40
1	B	454	LYS	CA-CB-CG	5.45	125.39	113.40
1	C	507	PRO	N-CA-CB	-5.45	96.61	102.60
1	A	83	THR	OG1-CB-CG2	5.40	122.42	110.00
1	A	391	ARG	CB-CA-C	-5.37	99.67	110.40
1	B	307	LEU	CA-CB-CG	5.30	127.50	115.30
1	A	142	LEU	CA-CB-CG	5.30	127.48	115.30
1	D	682	LYS	CA-CB-CG	-5.05	102.29	113.40
1	A	314	LEU	CB-CG-CD2	-5.04	102.44	111.00

There are no chirality outliers.

All (19) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	101	ARG	Sidechain
1	A	141	GLU	Peptide

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Mol	Chain	Res	Type	Group
1	A	391	ARG	Sidechain
1	A	573	ARG	Sidechain
1	A	759	ARG	Sidechain
1	B	465	ARG	Sidechain
1	B	599	ARG	Sidechain
1	B	69	ARG	Sidechain
1	B	75	GLN	Sidechain
1	C	394	VAL	Peptide
1	C	395	GLN	Sidechain
1	C	595	ARG	Sidechain
1	C	599	ARG	Sidechain
1	D	536	LEU	Mainchain
1	D	595	ARG	Sidechain
1	D	626	ARG	Sidechain
1	D	745	PRO	Mainchain
1	D	8	GLY	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	6184	0	5991	135	1
1	B	6242	0	6036	225	1
1	C	6221	0	6018	142	1
1	D	6251	0	6034	121	1
2	F	23	0	21	2	0
2	G	23	0	21	1	0
2	H	23	0	21	3	0
2	I	23	0	21	2	0
3	A	42	0	39	1	0
3	B	42	0	39	1	0
3	C	42	0	39	0	0
3	D	42	0	39	0	0
4	A	18	0	31	6	0
4	C	18	0	31	4	0
5	A	6	0	8	0	0
5	B	12	0	16	1	0
5	C	6	0	8	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	D	6	0	8	0	0
6	A	1	0	0	0	0
6	B	1	0	0	1	0
6	D	1	0	0	1	0
7	C	34	0	38	8	0
7	D	17	0	19	5	0
8	A	160	0	0	6	1
8	B	79	0	0	3	1
8	C	184	0	0	3	0
8	D	220	0	0	3	2
All	All	25921	0	24478	618	4

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 12.

All (618) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:611:LYS:CE	1:C:611:LYS:NZ	1.89	1.36
1:C:611:LYS:NZ	1:C:611:LYS:CD	2.22	1.01
1:C:6:GLU:HB2	1:C:9:LYS:HD3	1.44	0.98
1:D:387:HIS:CD2	1:D:626:ARG:HE	1.83	0.97
1:D:731:VAL:HG23	1:D:744:LEU:HD11	1.51	0.92
1:A:391:ARG:NH1	1:A:393:THR:OG1	2.04	0.91
1:B:617:GLY:H	1:B:754:MET:HE1	1.35	0.90
1:D:94:PRO:HD2	7:D:905:DMX:H1	1.53	0.89
1:C:401:GLU:OE2	8:C:1001:HOH:O	1.89	0.88
1:C:27:GLY:HA3	1:C:38:VAL:HG21	1.53	0.86
1:B:621:GLU:HG2	1:B:641:ILE:HG12	1.57	0.86
1:B:47:GLU:HG3	1:B:69:ARG:HE	1.38	0.86
1:A:724:GLN:HG3	1:A:727:ILE:HG13	1.59	0.84
1:C:94:PRO:HD2	7:C:905:DMX:H1	1.60	0.83
1:C:611:LYS:HG3	1:C:612:ALA:C	1.98	0.82
1:C:611:LYS:HG3	1:C:612:ALA:N	1.95	0.82
1:A:46:LEU:HD13	1:A:63:ILE:HD11	1.62	0.81
1:B:293:LEU:HD13	1:B:305:VAL:HG21	1.62	0.81
1:C:62:ILE:HD11	1:C:279:ALA:HB1	1.62	0.80
1:C:212:ASP:OD1	1:C:213:TYR:N	2.14	0.80
1:D:732:THR:HA	1:D:744:LEU:HD13	1.64	0.80
1:C:611:LYS:NZ	1:C:611:LYS:HD2	1.94	0.80
1:B:714:GLY:O	1:B:715:ASN:ND2	2.17	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:283:LEU:HA	1:B:287:LEU:HB3	1.66	0.77
1:A:17:ASP:OD2	2:F:1:BGC:O1	2.01	0.77
1:B:326:ASN:O	1:B:329:LYS:HB2	1.85	0.77
1:C:118:LEU:HD22	1:C:251:PRO:HD3	1.66	0.77
1:B:96:THR:OG1	1:B:110:PRO:HB3	1.85	0.77
1:B:116:LEU:HD22	1:B:229:ILE:HG22	1.67	0.77
1:D:524:GLU:HG2	1:D:526:THR:H	1.50	0.76
1:C:611:LYS:HG3	1:C:612:ALA:O	1.85	0.76
1:B:649:TRP:HZ2	1:B:693:VAL:HG22	1.49	0.76
1:B:109:TYR:HE1	1:B:284:GLU:HG3	1.50	0.76
1:B:88:PHE:CE2	1:B:284:GLU:HG2	2.23	0.74
1:A:359:THR:HG22	1:A:362:ALA:H	1.51	0.73
1:B:94:PRO:HA	1:B:97:TRP:CD1	2.22	0.73
1:D:480:ILE:HD12	1:D:602:GLU:HB2	1.70	0.73
1:D:125:LEU:HD21	1:D:129:PRO:HD3	1.70	0.73
1:B:441:ARG:NH1	1:B:611:LYS:O	2.22	0.72
1:C:631:PRO:O	1:C:632:GLU:HB2	1.89	0.72
1:C:590:ALA:HB1	1:C:758:THR:HG21	1.72	0.72
1:D:88:PHE:HA	1:D:91:LYS:HD2	1.72	0.72
1:C:294:GLU:O	1:C:298:LYS:HG3	1.90	0.71
1:B:109:TYR:CE1	1:B:284:GLU:HG3	2.25	0.71
1:D:27:GLY:HA3	1:D:38:VAL:HG21	1.73	0.71
1:B:619:HIS:HB3	1:B:644:ASP:HB3	1.72	0.71
1:C:611:LYS:CG	1:C:612:ALA:N	2.44	0.71
1:A:358:GLN:HB2	1:A:363:ALA:HB2	1.72	0.71
1:A:391:ARG:HH12	1:A:393:THR:HG1	1.39	0.71
1:A:544:GLN:O	1:A:546:PRO:HD3	1.91	0.71
1:D:9:LYS:NZ	1:D:11:VAL:HG22	2.05	0.71
1:A:336:ILE:HG22	1:A:338:GLN:OE1	1.91	0.70
1:A:187:ASP:HB2	1:A:368:GLN:HG3	1.73	0.70
1:D:17:ASP:OD2	2:I:1:BGC:O1	2.10	0.70
1:B:238:ILE:HA	1:B:241:SER:HB3	1.74	0.69
1:C:395:GLN:OE1	1:C:543:LYS:HG3	1.91	0.69
1:D:693:VAL:HG13	1:D:746[A]:HIS:HB3	1.73	0.69
1:B:15:ASN:HD22	1:B:16:GLY:N	1.89	0.69
1:A:769:ARG:HD3	4:A:904:PLM:H22	1.75	0.69
1:C:546:PRO:HB3	1:C:551:ASP:HB2	1.73	0.69
1:A:76:SER:HA	1:A:759:ARG:HA	1.75	0.69
1:B:257:PRO:HB2	1:B:329:LYS:HD2	1.75	0.69
1:D:485:ALA:HB1	1:D:489:GLN:HE22	1.58	0.68
1:A:48:GLU:HA	1:A:51:PRO:HD2	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:88:PHE:CZ	1:B:284:GLU:HG2	2.28	0.68
1:C:65:TRP:HB3	1:C:70:PHE:HE1	1.59	0.67
1:D:733:HIS:CE1	1:D:734:THR:HG23	2.28	0.67
1:C:595:ARG:HA	1:C:598[A]:PHE:CD2	2.30	0.67
1:A:65:TRP:HB3	1:A:70:PHE:HE1	1.60	0.67
1:B:125:LEU:HD21	1:B:128:PRO:HA	1.77	0.67
1:D:387:HIS:CD2	1:D:626:ARG:NE	2.60	0.67
1:A:778:ARG:HG3	1:A:781:LYS:HE3	1.74	0.66
1:C:27:GLY:HA3	1:C:38:VAL:CG2	2.25	0.66
1:C:390:ALA:HA	1:C:547:HIS:CE1	2.30	0.66
1:B:92:LEU:HB2	1:B:97:TRP:CZ2	2.30	0.66
1:B:631:PRO:O	1:B:632:GLU:HB2	1.95	0.66
1:B:638:ARG:HH12	1:B:766:ASN:HD21	1.44	0.66
1:B:170:TYR:OH	1:B:183:ASP:OD1	2.03	0.66
1:B:15:ASN:HD22	1:B:16:GLY:H	1.42	0.65
1:B:92:LEU:HB2	1:B:97:TRP:CH2	2.31	0.65
1:C:518:GLN:HG3	1:C:520:GLU:HB2	1.79	0.65
1:A:739:ALA:O	1:A:742:ILE:HD12	1.97	0.65
1:A:254:LYS:O	1:A:254:LYS:HG2	1.96	0.65
1:B:13:TRP:CD2	1:B:60:PRO:HG3	2.31	0.65
1:D:30:PHE:O	1:D:34:THR:HG22	1.97	0.65
1:A:172:PHE:CE1	1:A:184:VAL:HG13	2.32	0.64
1:C:93:TYR:O	1:C:96:THR:HG22	1.96	0.64
1:B:23:LEU:O	1:B:26:VAL:HG12	1.96	0.64
1:C:25:GLU:HA	1:C:28:LYS:HE2	1.78	0.64
1:B:509:VAL:HG13	1:B:512:VAL:HG21	1.79	0.64
1:C:82:ILE:HD12	1:C:84:PRO:HG3	1.79	0.64
1:B:454:LYS:HA	1:B:454:LYS:HE2	1.79	0.63
1:B:67:HIS:HE1	1:B:263:GLY:HA2	1.63	0.63
1:A:724:GLN:CG	1:A:727:ILE:HG13	2.28	0.63
1:B:160:THR:HG23	1:B:198:LEU:HD13	1.81	0.63
1:A:180:ASP:OD2	1:A:182:LYS:HE3	1.97	0.63
1:B:137:ALA:HA	1:B:140:LYS:HD3	1.80	0.63
1:B:102:TYR:HB3	1:B:107:ILE:HG21	1.80	0.62
1:B:269:ILE:HG21	1:B:276:LYS:HD3	1.81	0.62
1:B:82:ILE:HD11	1:B:109:TYR:CZ	2.34	0.62
1:B:284:GLU:HA	1:B:288:LEU:HD12	1.82	0.62
1:B:283:LEU:HD23	1:B:287:LEU:HD23	1.81	0.62
1:B:396:MET:O	1:B:398:PRO:HD3	1.99	0.62
1:D:27:GLY:CA	1:D:38:VAL:HG21	2.30	0.62
1:B:167:ASP:HA	1:B:256:GLN:NE2	2.15	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:101:ARG:O	8:D:1001:HOH:O	2.16	0.61
1:B:17:ASP:OD2	1:B:18:LYS:NZ	2.34	0.61
1:B:51:PRO:HG3	1:B:73:TYR:CE1	2.36	0.61
1:A:262:VAL:HB	1:A:332:ILE:HA	1.82	0.61
1:B:27:GLY:HA3	1:B:38:VAL:HG21	1.81	0.61
1:B:142:LEU:HB3	1:B:147:LYS:HB2	1.82	0.61
1:B:616:ILE:HA	1:B:754:MET:HE3	1.82	0.60
1:A:676:ARG:HA	1:A:689:PHE:CE2	2.36	0.60
1:C:611:LYS:HG3	1:C:612:ALA:CA	2.30	0.60
1:A:172:PHE:CE1	1:A:181:ILE:HA	2.37	0.60
1:B:488:GLU:HG2	1:B:492:ARG:HH11	1.65	0.60
1:C:49:LYS:HD3	1:C:550:LEU:HD21	1.84	0.60
1:D:293:LEU:HD13	1:D:305:VAL:HG21	1.84	0.60
1:D:9:LYS:HZ3	1:D:11:VAL:HG22	1.65	0.59
1:D:631:PRO:O	1:D:632:GLU:HB2	2.02	0.59
1:A:139:ASP:O	1:A:143:LYS:HB2	2.02	0.59
1:C:708:LEU:HD22	1:D:705:THR:HG23	1.84	0.59
1:C:17:ASP:OD2	2:H:1:BGC:O1	2.19	0.59
1:A:67:HIS:CE1	1:A:263:GLY:HA2	2.38	0.59
1:D:454:LYS:HG2	1:D:475:HIS:NE2	2.18	0.59
1:B:109:TYR:HB2	1:B:267:ALA:HB3	1.83	0.59
1:C:310:TYR:HD1	1:C:313:GLU:OE1	1.86	0.59
1:D:118:LEU:HD22	1:D:251:PRO:HD3	1.85	0.59
1:A:293:LEU:HD13	1:A:305:VAL:HG11	1.85	0.58
1:A:506:GLY:N	1:A:507:PRO:HD3	2.18	0.58
1:D:695[A]:HIS:HE1	1:D:697:LYS:HG3	1.69	0.58
1:D:92:LEU:HB2	1:D:97:TRP:NE1	2.19	0.58
1:B:213:TYR:OH	1:B:233:TRP:NE1	2.36	0.57
1:A:650:GLU:HG2	1:A:671:ARG:HG3	1.86	0.57
1:B:276:LYS:HD2	1:B:280:LYS:HG3	1.85	0.57
1:C:156:GLU:HG3	2:H:2:GLC:O6	2.04	0.57
1:B:638:ARG:HH12	1:B:766:ASN:ND2	2.02	0.57
1:B:125:LEU:HD21	1:B:129:PRO:HD3	1.86	0.57
1:B:617:GLY:H	1:B:754:MET:CE	2.14	0.57
1:C:750:GLU:O	1:C:782:ARG:NH1	2.38	0.57
1:D:531:PHE:N	8:D:1006:HOH:O	2.36	0.57
1:A:67:HIS:HE1	1:A:263:GLY:HA2	1.70	0.56
1:A:616:ILE:HD11	1:A:753:LYS:HA	1.86	0.56
1:C:446:THR:HB	7:C:906:DMX:H171	1.85	0.56
1:D:94:PRO:HB2	7:D:905:DMX:H6	1.85	0.56
1:B:68:ASP:OD2	1:B:69:ARG:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:693:VAL:CG1	1:D:746[A]:HIS:HB3	2.36	0.56
1:B:198:LEU:O	1:B:202:ILE:HD12	2.06	0.56
1:B:241:SER:O	1:B:242:ALA:HB3	2.04	0.56
1:B:649:TRP:CZ2	1:B:693:VAL:HG22	2.37	0.56
1:C:6:GLU:HB2	1:C:9:LYS:CD	2.28	0.56
1:B:213:TYR:HH	1:B:233:TRP:HE1	1.54	0.56
1:B:171:ALA:O	1:B:184:VAL:HA	2.05	0.56
1:C:705:THR:HG22	1:C:709:LEU:HD12	1.88	0.56
1:C:709:LEU:HA	1:C:712:PHE:CD2	2.40	0.56
1:B:480:ILE:HD12	1:B:602:GLU:HB2	1.86	0.56
1:D:730:ASP:OD1	1:D:732:THR:HG22	2.06	0.56
1:A:548:HIS:O	8:A:1001:HOH:O	2.17	0.56
1:B:94:PRO:HA	1:B:97:TRP:HD1	1.68	0.56
1:B:82:ILE:HD11	1:B:109:TYR:CE1	2.42	0.55
1:B:235:TRP:HA	1:B:238:ILE:HD12	1.88	0.55
1:C:650:GLU:HG2	1:C:671:ARG:HG3	1.89	0.55
1:D:92:LEU:HB2	1:D:97:TRP:HE1	1.71	0.55
1:A:81:GLU:OE1	1:A:105:LYS:HG2	2.06	0.55
1:B:179:TYR:HD2	1:B:336:ILE:HD11	1.71	0.55
1:B:294:GLU:HA	1:B:310:TYR:OH	2.07	0.55
1:A:457:LEU:HD11	1:A:539:ILE:HD12	1.89	0.55
1:B:590:ALA:HB1	1:B:758:THR:HG21	1.89	0.54
1:D:458:ARG:HD2	1:D:471:ASP:OD2	2.06	0.54
1:D:713:SER:OG	1:D:714:GLY:N	2.40	0.54
1:B:490:LEU:HD22	1:B:508:TRP:HZ3	1.71	0.54
1:C:576:SER:OG	1:C:577:TYR:N	2.40	0.54
1:A:140:LYS:O	1:A:143:LYS:HB3	2.07	0.54
1:B:717:CYS:O	8:B:1001:HOH:O	2.18	0.54
1:A:167:ASP:OD2	1:A:190:GLY:HA2	2.06	0.54
1:B:142:LEU:O	1:B:147:LYS:N	2.38	0.54
1:A:139:ASP:OD2	1:A:143:LYS:NZ	2.40	0.54
1:A:479:VAL:HG12	1:A:516:LEU:HD13	1.90	0.54
1:A:724:GLN:HG3	1:A:727:ILE:CG1	2.35	0.54
1:B:53:VAL:HG12	1:B:59:GLY:HA2	1.88	0.54
1:C:630:ARG:HG3	1:C:636:LEU:CD2	2.38	0.54
1:A:573:ARG:CZ	8:A:1008:HOH:O	2.55	0.54
1:B:491:SER:HB2	3:B:902:NAG:H82	1.90	0.54
1:D:650:GLU:HG2	1:D:671:ARG:HG3	1.89	0.54
1:A:129:PRO:HG3	1:A:138:LEU:CD1	2.38	0.54
1:A:197:PHE:CE1	1:A:201:LEU:HD11	2.43	0.54
1:B:96:THR:OG1	1:B:110:PRO:CB	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:6:GLU:O	1:C:274:PRO:HG2	2.08	0.53
1:B:20:TYR:HA	1:B:23:LEU:HD23	1.90	0.53
1:A:67:HIS:NE2	1:A:333:MET:O	2.37	0.53
1:A:338:GLN:OE1	1:A:338:GLN:N	2.37	0.53
1:B:14:ILE:HD11	1:B:18:LYS:HB2	1.91	0.53
1:B:311:GLU:O	1:B:315:VAL:HG23	2.07	0.53
1:B:485:ALA:O	1:B:489:GLN:HG3	2.08	0.53
1:C:92:LEU:HD12	1:C:97:TRP:CZ2	2.44	0.53
1:D:401:GLU:OE1	1:D:426:ASN:ND2	2.42	0.53
1:B:95:PHE:HA	1:B:98:ASP:OD2	2.09	0.53
1:C:746:HIS:CE1	1:C:748:GLU:HG3	2.44	0.53
1:D:88:PHE:HZ	1:D:288:LEU:HD13	1.74	0.53
1:A:544:GLN:HG3	1:A:554:VAL:HB	1.91	0.52
1:B:79:LEU:HD12	1:B:107:ILE:HD12	1.91	0.52
1:B:235:TRP:HB2	1:B:301:PRO:HG2	1.91	0.52
1:B:488:GLU:O	1:B:492:ARG:HD3	2.07	0.52
1:A:36:ILE:HG13	1:A:278:LEU:HD13	1.92	0.52
1:D:289:THR:OG1	1:D:291:GLU:HG2	2.09	0.52
1:A:631:PRO:O	1:A:632:GLU:HB2	2.09	0.52
1:D:232:PRO:HA	1:D:235:TRP:CE2	2.44	0.52
1:B:283:LEU:HA	1:B:287:LEU:CB	2.39	0.52
1:C:391:ARG:HA	1:C:391:ARG:HH11	1.73	0.52
1:B:67:HIS:HE2	1:B:332:ILE:HG22	1.74	0.52
1:B:179:TYR:CD2	1:B:336:ILE:HD11	2.44	0.52
1:D:324:MET:O	1:D:328:GLN:HG2	2.10	0.52
1:D:69:ARG:NH1	1:D:340:SER:OG	2.43	0.52
1:D:51:PRO:HG3	1:D:73:TYR:CE1	2.45	0.52
1:A:197:PHE:CE1	1:A:201:LEU:HD21	2.46	0.51
1:B:68:ASP:HB3	1:B:333:MET:HE3	1.92	0.51
1:B:232:PRO:HD2	1:B:233:TRP:CE3	2.44	0.51
1:B:82:ILE:HA	1:B:280:LYS:NZ	2.25	0.51
1:C:584:ALA:HA	1:C:598[A]:PHE:CZ	2.45	0.51
1:B:619:HIS:HB3	1:B:644:ASP:CB	2.40	0.51
1:D:81:GLU:OE1	1:D:105:LYS:NZ	2.40	0.51
1:D:540[B]:ARG:HB3	1:D:558:PHE:HB2	1.92	0.51
1:B:20:TYR:CD2	1:B:42:HIS:HD2	2.28	0.51
1:B:179:TYR:CE2	1:B:334:PRO:HB3	2.46	0.51
1:C:451:ILE:HG12	1:C:531:PHE:CZ	2.46	0.51
1:C:553:LEU:HD12	1:C:554:VAL:N	2.26	0.51
1:D:387:HIS:HD2	1:D:626:ARG:HE	1.51	0.51
1:A:305:VAL:HG12	1:A:307:LEU:H	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:232:PRO:O	1:B:301:PRO:HG2	2.11	0.51
1:D:631:PRO:O	1:D:632:GLU:CB	2.58	0.51
1:A:138:LEU:O	1:A:142:LEU:HD12	2.10	0.51
1:A:67:HIS:ND1	1:A:264:VAL:HG22	2.26	0.51
1:C:543:LYS:HG2	1:C:555:GLU:HG2	1.92	0.51
1:A:505:GLY:O	1:D:384:LYS:HD2	2.11	0.51
1:B:50:PHE:CE1	1:B:54:ALA:HB2	2.46	0.51
1:C:611:LYS:CD	1:C:611:LYS:HZ2	2.22	0.51
1:B:451:ILE:HG12	1:B:531:PHE:CZ	2.46	0.50
1:B:456:ARG:HD3	1:C:571:PHE:CZ	2.46	0.50
1:A:119:ILE:HG23	1:A:245:TYR:HD2	1.77	0.50
1:D:731:VAL:HG23	1:D:744:LEU:CD1	2.35	0.50
1:A:172:PHE:CD1	1:A:184:VAL:HG13	2.46	0.50
1:B:257:PRO:HB3	1:B:329:LYS:HE3	1.93	0.50
1:A:753:LYS:HG2	1:A:765:PHE:HB2	1.92	0.50
1:D:121:ASN:HD22	1:D:124:LEU:HD22	1.75	0.50
1:B:691:PHE:CE1	1:B:752:PHE:HE1	2.30	0.50
1:D:34:THR:HG23	1:D:36:ILE:H	1.77	0.50
1:B:456:ARG:O	1:B:456:ARG:HG2	2.11	0.50
1:A:197:PHE:HE1	1:A:201:LEU:HD11	1.77	0.50
1:A:241:SER:HB2	1:A:243:VAL:HG22	1.94	0.50
1:A:534:HIS:CD2	8:A:1008:HOH:O	2.64	0.50
1:B:67:HIS:CE1	1:B:263:GLY:HA2	2.45	0.50
1:B:143:LYS:HD2	1:B:147:LYS:O	2.12	0.50
1:D:9:LYS:HZ3	1:D:11:VAL:CG2	2.24	0.50
1:A:490:LEU:O	1:A:494:VAL:HG23	2.11	0.49
1:D:27:GLY:C	1:D:38:VAL:HG21	2.32	0.49
1:D:518:GLN:HB2	1:D:521:SER:OG	2.12	0.49
1:B:132:TRP:CD1	1:B:251:PRO:HB2	2.47	0.49
1:B:735:ASN:OD1	1:B:735:ASN:N	2.45	0.49
1:C:70:PHE:HB3	1:C:107:ILE:CD1	2.42	0.49
1:C:518:GLN:CG	1:C:520:GLU:HB2	2.42	0.49
1:A:195:LEU:HD11	1:A:350:VAL:HG22	1.93	0.49
1:B:282:PHE:HA	1:B:286:TYR:HD2	1.76	0.49
1:B:630:ARG:NH2	6:B:906:CL:CL	2.81	0.49
1:C:517:TRP:CH2	1:C:519:GLU:HB3	2.47	0.49
1:B:11:VAL:HA	1:B:39:THR:OG1	2.13	0.49
1:B:765:PHE:CZ	1:B:789:PRO:HB3	2.48	0.49
1:C:712:PHE:CG	1:C:712:PHE:O	2.65	0.49
1:D:171:ALA:O	1:D:184:VAL:HA	2.13	0.49
1:D:753:LYS:HE2	1:D:786:TYR:CD2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:95:PHE:CD1	1:B:96:THR:HG22	2.47	0.49
1:B:692:LYS:HD3	1:B:694:ASN:OD1	2.12	0.49
1:D:88:PHE:CZ	1:D:288:LEU:HD13	2.48	0.49
1:A:534:HIS:CG	8:A:1008:HOH:O	2.65	0.49
1:B:276:LYS:O	1:B:280:LYS:N	2.40	0.49
1:C:441:ARG:NH1	1:C:612:ALA:HA	2.28	0.49
1:C:630:ARG:HG3	1:C:636:LEU:HD21	1.94	0.49
1:C:655:HIS:CE1	4:C:907:PLM:HF1	2.48	0.49
1:B:236:SER:OG	1:B:301:PRO:HD3	2.13	0.49
1:A:47:GLU:O	1:A:48:GLU:HG2	2.13	0.49
1:A:82:ILE:O	1:A:84:PRO:HD3	2.13	0.49
1:A:357:ARG:HD3	1:A:358:GLN:HG3	1.95	0.49
1:B:157:PRO:HD3	1:B:347:ARG:HG3	1.95	0.49
1:C:442:CYS:HB2	1:C:608:LEU:HD22	1.95	0.49
1:D:639:HIS:HB3	1:D:652:HIS:HB2	1.95	0.49
1:B:441:ARG:HH12	1:B:612:ALA:HA	1.76	0.48
1:A:573:ARG:NH1	8:A:1008:HOH:O	2.46	0.48
1:B:245:TYR:HE1	1:B:319:ARG:HD2	1.77	0.48
1:C:655:HIS:NE2	4:C:907:PLM:HF1	2.27	0.48
1:A:693:VAL:HG21	4:A:904:PLM:HC2	1.95	0.48
1:D:96:THR:HG23	1:D:110:PRO:CB	2.43	0.48
1:C:709:LEU:HA	1:C:712:PHE:HD2	1.78	0.48
1:A:125:LEU:HD11	1:A:138:LEU:HD11	1.96	0.48
1:A:310:TYR:CE1	1:A:314:LEU:HD21	2.48	0.48
1:D:71:GLY:HA3	1:D:335:ASN:O	2.12	0.48
1:A:504:PRO:HB3	1:D:701:MET:CE	2.44	0.48
1:B:71:GLY:HA3	1:B:335:ASN:O	2.14	0.48
1:B:766:ASN:OD1	1:B:787:GLN:NE2	2.46	0.48
1:A:170:TYR:CD1	1:A:185:GLY:HA3	2.49	0.48
1:A:172:PHE:CZ	1:A:181:ILE:HG22	2.48	0.48
1:A:395:GLN:HE22	1:A:399:THR:HB	1.79	0.48
1:B:131:THR:O	1:B:134:GLU:HG2	2.12	0.48
1:C:94:PRO:HD2	7:C:905:DMX:C1	2.36	0.48
1:C:235:TRP:CH2	1:C:319:ARG:HB3	2.49	0.48
1:C:328:GLN:HE22	7:C:905:DMX:H131	1.79	0.48
1:A:343:TRP:CD1	2:F:2:GLC:H4	2.49	0.48
1:B:30:PHE:CD2	1:B:36:ILE:HB	2.49	0.48
1:B:458:ARG:HG3	1:B:470:ALA:HA	1.95	0.48
1:D:290:ASP:OD1	1:D:309:SER:HB2	2.14	0.48
1:B:724:GLN:HB2	1:B:727:ILE:HG13	1.95	0.48
1:C:131:THR:OG1	1:C:134:GLU:HG2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:553:LEU:HD12	1:C:554:VAL:H	1.79	0.48
1:C:697:LYS:HG2	1:C:730:ASP:HA	1.96	0.48
1:D:9:LYS:HZ2	1:D:11:VAL:HG22	1.77	0.48
1:A:132:TRP:CD1	1:A:251:PRO:HB2	2.48	0.47
1:C:9:LYS:HE2	1:C:9:LYS:HB2	1.56	0.47
1:B:488:GLU:HG2	1:B:492:ARG:HD2	1.96	0.47
1:D:383:LEU:HG	1:D:623:VAL:HG21	1.95	0.47
1:B:41:GLU:HB3	1:B:43:PRO:HD3	1.95	0.47
1:A:188:ASN:OD1	1:A:189:ALA:N	2.47	0.47
1:B:167:ASP:HA	1:B:256:GLN:HE22	1.78	0.47
1:C:156:GLU:HG3	2:H:2:GLC:HO6	1.79	0.47
1:D:387:HIS:HD2	1:D:626:ARG:NE	2.10	0.47
1:B:336:ILE:HG22	1:B:337:PRO:HD2	1.97	0.47
1:B:374:PHE:HD1	1:B:374:PHE:H	1.62	0.47
1:D:387:HIS:CD2	1:D:392:ILE:HD11	2.49	0.47
1:C:728:GLN:OE1	5:C:904:GOL:H11	2.14	0.47
1:B:110:PRO:O	1:B:111:ILE:HD13	2.15	0.47
1:B:257:PRO:HB2	1:B:329:LYS:CD	2.42	0.47
1:C:696:MET:O	1:C:731:VAL:HG22	2.14	0.47
1:D:540[A]:ARG:HB3	1:D:558:PHE:HB2	1.96	0.47
1:D:768:GLN:HA	1:D:787:GLN:HG3	1.97	0.47
1:C:740:LEU:HB2	1:C:742:ILE:HD12	1.96	0.47
1:C:618:LEU:HD23	1:C:618:LEU:HA	1.77	0.47
1:D:236:SER:OG	1:D:301:PRO:HD3	2.15	0.47
1:D:753:LYS:HG2	1:D:765:PHE:HB2	1.97	0.47
1:B:616:ILE:HB	1:B:676:ARG:NH2	2.30	0.47
1:C:644[B]:ASP:OD1	1:C:674:TYR:OH	2.32	0.47
1:C:748:GLU:OE1	4:C:907:PLM:H82	2.14	0.47
1:B:27:GLY:CA	1:B:38:VAL:HG21	2.45	0.46
1:B:204:ASN:HB2	1:B:206:HIS:CD2	2.50	0.46
1:D:365:ALA:O	1:D:369:THR:HG23	2.15	0.46
1:D:644[B]:ASP:HA	1:D:674:TYR:OH	2.15	0.46
1:A:125:LEU:HD23	1:A:125:LEU:HA	1.62	0.46
1:B:19:GLY:N	1:B:300:LYS:HB2	2.30	0.46
1:A:138:LEU:HD22	1:A:142:LEU:HD11	1.97	0.46
1:B:282:PHE:HA	1:B:286:TYR:CD2	2.50	0.46
1:D:536:LEU:HA	1:D:536:LEU:HD23	1.70	0.46
1:D:695[A]:HIS:CE1	1:D:697:LYS:HG3	2.50	0.46
1:C:83:THR:O	1:C:280:LYS:NZ	2.48	0.46
1:D:644[A]:ASP:HA	1:D:674:TYR:OH	2.16	0.46
1:A:47:GLU:HB2	1:A:69:ARG:HD2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:903:NAG:O7	1:B:357:ARG:NH2	2.48	0.46
1:B:91:LYS:HB3	1:B:307:LEU:HD12	1.98	0.46
1:C:305:VAL:HG13	1:C:307:LEU:H	1.81	0.46
1:B:88:PHE:HZ	1:B:284:GLU:O	1.99	0.46
1:B:135:ILE:N	1:B:136:PRO:CD	2.79	0.46
1:B:240:THR:O	1:B:240:THR:OG1	2.31	0.46
1:A:36:ILE:HG13	1:A:278:LEU:CD1	2.46	0.46
1:B:17:ASP:OD2	2:G:1:BGC:O1	2.33	0.46
1:B:109:TYR:O	1:B:266:SER:HA	2.16	0.46
1:B:132:TRP:O	1:B:135:ILE:HG12	2.16	0.46
1:B:140:LYS:HE3	1:B:140:LYS:HB2	1.56	0.46
1:C:311:GLU:OE1	1:C:311:GLU:HA	2.15	0.46
1:C:529:VAL:HG12	7:C:906:DMX:H2	1.96	0.46
1:A:192:LYS:O	1:A:196:THR:HB	2.16	0.46
1:B:550:LEU:HA	1:B:550:LEU:HD12	1.73	0.46
1:A:232:PRO:HA	1:A:235:TRP:CE2	2.51	0.46
1:B:155:GLN:HG3	1:B:212:ASP:HB3	1.98	0.46
1:D:732:THR:CB	1:D:744:LEU:HD22	2.46	0.46
1:A:282:PHE:O	1:A:286:TYR:HB2	2.16	0.46
1:A:550:LEU:O	1:A:553:LEU:HB3	2.16	0.46
1:A:658:ASP:OD2	1:A:660:VAL:HG23	2.16	0.46
1:B:22:GLY:HA3	1:B:299:ASP:HB2	1.97	0.46
1:B:162:PRO:HG3	1:B:260:PRO:HA	1.96	0.46
1:B:689:PHE:CD1	1:B:752:PHE:HD1	2.34	0.46
1:B:752:PHE:CE2	1:B:766:ASN:HB3	2.51	0.46
1:C:56:THR:HG22	1:C:589:HIS:HB2	1.97	0.46
1:C:552:HIS:CD2	1:C:589:HIS:NE2	2.83	0.46
1:D:259:LYS:HB3	1:D:259:LYS:HE2	1.43	0.46
1:A:138:LEU:CD2	1:A:142:LEU:HD11	2.45	0.45
1:B:50:PHE:HA	1:B:53:VAL:HB	1.98	0.45
1:C:552:HIS:CD2	1:C:589:HIS:CD2	3.04	0.45
1:D:491:SER:HB3	1:D:508:TRP:HB2	1.99	0.45
1:A:50:PHE:HB3	1:A:51:PRO:HD3	1.97	0.45
1:A:100:VAL:O	1:A:107:ILE:HG12	2.17	0.45
1:B:13:TRP:CE3	1:B:60:PRO:HG3	2.51	0.45
1:C:100:VAL:O	1:C:107:ILE:HG13	2.16	0.45
1:A:118:LEU:HD12	1:A:251:PRO:HD3	1.98	0.45
1:A:293:LEU:HD13	1:A:305:VAL:CG1	2.46	0.45
1:C:590:ALA:HB1	1:C:758:THR:CG2	2.45	0.45
1:C:753:LYS:HE2	1:C:786:TYR:CD2	2.51	0.45
1:B:692:LYS:HE3	8:B:1068:HOH:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:599:ARG:HE	1:D:599:ARG:HB3	1.49	0.45
1:B:490:LEU:HD22	1:B:508:TRP:CZ3	2.49	0.45
1:C:13:TRP:CD2	1:C:60:PRO:HG3	2.51	0.45
1:C:56:THR:CG2	1:C:589:HIS:HB2	2.46	0.45
1:C:355:SER:OG	1:C:357:ARG:HG3	2.17	0.45
1:C:480:ILE:HD12	1:C:602:GLU:HB2	1.99	0.45
1:A:167:ASP:OD1	1:A:254:LYS:HD2	2.17	0.45
1:A:479:VAL:CG1	1:A:516:LEU:HD13	2.46	0.45
1:B:396:MET:HA	1:B:396:MET:CE	2.38	0.45
1:C:171:ALA:O	1:C:184:VAL:HA	2.17	0.45
4:C:907:PLM:H91	4:C:907:PLM:HC1	1.62	0.45
1:D:283:LEU:O	1:D:288:LEU:HB2	2.17	0.45
1:A:360:VAL:O	1:A:364:LEU:HB2	2.16	0.45
1:B:74:ALA:HB3	1:B:102:TYR:CD2	2.52	0.45
1:C:391:ARG:HA	1:C:391:ARG:NH1	2.31	0.45
1:C:484:GLU:HG3	1:C:510:GLN:NE2	2.32	0.45
1:A:310:TYR:CD1	1:A:314:LEU:HD21	2.52	0.45
1:C:412:ARG:HB2	1:C:416:GLU:HB2	1.98	0.45
1:C:702:ASP:OD1	1:C:705:THR:N	2.38	0.45
1:D:696:MET:O	1:D:731:VAL:HG22	2.17	0.45
1:A:10:LEU:HA	1:A:61:ASP:OD1	2.17	0.45
1:A:619:HIS:ND1	1:A:644:ASP:HB2	2.31	0.45
1:C:486:VAL:HG13	7:C:906:DMX:H131	1.99	0.45
1:C:753:LYS:HG2	1:C:765:PHE:HB2	1.98	0.45
1:D:346:VAL:O	1:D:350:VAL:HG12	2.16	0.45
1:A:46:LEU:CD1	1:A:63:ILE:HD11	2.40	0.44
1:B:65:TRP:CD1	1:B:66:ALA:N	2.86	0.44
1:B:280:LYS:O	1:B:284:GLU:HB2	2.17	0.44
1:C:391:ARG:HA	1:C:391:ARG:HD2	1.39	0.44
1:A:165:ALA:O	1:A:259:LYS:HD3	2.18	0.44
1:D:81:GLU:OE2	1:D:105:LYS:HG2	2.17	0.44
1:D:249:VAL:HA	1:D:326:ASN:HD21	1.82	0.44
1:A:130:LYS:O	1:A:252:THR:HG22	2.17	0.44
1:D:343:TRP:CE3	2:I:2:GLC:H61	2.52	0.44
1:D:719:ALA:HA	1:D:733:HIS:CE1	2.52	0.44
1:D:744:LEU:N	1:D:745:PRO:HD2	2.32	0.44
1:A:71:GLY:HA3	1:A:335:ASN:O	2.18	0.44
1:B:675:SER:HB3	1:B:690:VAL:CG1	2.47	0.44
1:D:94:PRO:CD	7:D:905:DMX:H1	2.38	0.44
1:D:485:ALA:O	1:D:489:GLN:NE2	2.51	0.44
1:A:358:GLN:CB	1:A:363:ALA:HB2	2.44	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:459:GLN:CD	1:B:459:GLN:H	2.21	0.44
1:D:93:TYR:O	1:D:96:THR:HG22	2.17	0.44
1:C:395:GLN:NE2	1:C:543:LYS:HD2	2.33	0.44
1:D:383:LEU:HG	1:D:623:VAL:CG2	2.48	0.44
1:D:634:LEU:HD13	1:D:634:LEU:HA	1.75	0.44
1:B:387[B]:HIS:NE2	1:B:626:ARG:HB3	2.33	0.44
1:B:82:ILE:HA	1:B:280:LYS:HZ2	1.82	0.43
1:B:179:TYR:CZ	1:B:334:PRO:HG3	2.53	0.43
1:B:387[A]:HIS:CD2	1:B:544:GLN:OE1	2.70	0.43
1:B:519:GLU:O	1:B:520:GLU:C	2.56	0.43
1:D:125:LEU:HD13	1:D:138:LEU:HD21	1.99	0.43
1:D:753:LYS:HE2	1:D:786:TYR:CE2	2.53	0.43
1:A:28:LYS:HB3	1:A:28:LYS:HE2	1.67	0.43
1:A:112:ALA:HA	1:A:305:VAL:HA	2.00	0.43
1:A:676:ARG:HG2	1:A:689:PHE:CE2	2.53	0.43
1:B:30:PHE:HE1	1:B:286:TYR:HE2	1.65	0.43
1:B:64:PHE:HE1	1:B:111:ILE:HG13	1.83	0.43
1:B:441:ARG:NH2	1:B:613:ASP:H	2.16	0.43
1:B:503:ALA:HB1	1:B:504:PRO:HD2	1.99	0.43
1:B:728:GLN:HE22	5:B:905:GOL:H31	1.82	0.43
1:B:765:PHE:CE2	1:B:789:PRO:HB3	2.53	0.43
1:C:248:THR:OG1	1:C:249:VAL:N	2.51	0.43
1:B:336:ILE:H	1:B:336:ILE:HG12	1.30	0.43
1:B:387[A]:HIS:NE2	1:B:544:GLN:OE1	2.51	0.43
1:B:618:LEU:HD23	1:B:618:LEU:HA	1.78	0.43
1:C:319:ARG:HE	1:C:319:ARG:HB2	1.65	0.43
1:C:585:LYS:HA	1:C:585:LYS:HD3	1.73	0.43
1:C:748:GLU:HG2	1:C:776:PRO:HG2	2.00	0.43
1:A:380:HIS:O	1:A:384:LYS:HG3	2.19	0.43
1:B:161:TRP:CE2	1:B:261:PHE:CE1	3.07	0.43
1:C:294:GLU:OE2	1:C:310:TYR:OH	2.36	0.43
1:C:442:CYS:CB	1:C:608:LEU:HD22	2.48	0.43
1:C:629:VAL:HG22	1:C:635:PHE:CD1	2.53	0.43
1:C:684:MET:HE3	1:C:684:MET:HB3	1.91	0.43
1:D:235:TRP:HB2	1:D:301:PRO:HG2	2.01	0.43
1:B:616:ILE:HA	1:B:754:MET:CE	2.48	0.43
1:B:645:ASN:O	1:B:646:ASN:OD1	2.36	0.43
1:C:295:ALA:HA	1:C:298:LYS:HD3	1.99	0.43
1:C:676:ARG:HG3	1:C:689:PHE:CZ	2.54	0.43
1:A:451:ILE:HG12	1:A:531:PHE:CZ	2.54	0.43
1:B:9:LYS:HD3	1:B:37:LYS:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:140:LYS:O	1:B:143:LYS:HB2	2.18	0.43
1:C:207:MET:HE2	1:C:207:MET:HB3	1.90	0.43
1:C:548:HIS:HB2	1:C:551:ASP:CG	2.39	0.43
1:A:31:GLU:OE2	1:A:37:LYS:HD2	2.19	0.43
1:A:506:GLY:N	1:A:507:PRO:CD	2.82	0.43
4:A:904:PLM:H91	4:A:904:PLM:HC1	1.69	0.43
1:B:161:TRP:CD1	1:B:261:PHE:CD1	3.07	0.43
1:B:278:LEU:HD23	1:B:278:LEU:HA	1.73	0.43
1:C:96:THR:HG23	1:C:110:PRO:HG2	2.01	0.43
1:C:493:LEU:HD21	1:C:528:ALA:O	2.19	0.43
1:D:671:ARG:HH21	1:D:695[A]:HIS:CD2	2.36	0.43
1:A:120:TYR:CE1	1:A:122:LYS:HG2	2.53	0.43
1:A:759:ARG:H	1:A:759:ARG:HG3	1.57	0.43
1:C:305:VAL:HG11	1:C:310:TYR:HB3	2.01	0.43
1:D:732:THR:HA	1:D:744:LEU:CD1	2.42	0.43
1:B:192:LYS:HE2	1:B:361:ASP:OD1	2.19	0.43
1:B:522:ASN:OD1	1:B:522:ASN:N	2.51	0.43
1:D:65:TRP:HB3	1:D:70:PHE:HE1	1.84	0.43
1:D:595:ARG:HG3	1:D:595:ARG:HH11	1.84	0.43
1:D:682:LYS:H	1:D:682:LYS:HG3	1.38	0.43
1:B:30:PHE:HE1	1:B:286:TYR:CE2	2.36	0.42
1:C:310:TYR:CD1	1:C:313:GLU:OE1	2.68	0.42
1:D:527:LYS:HA	8:D:1006:HOH:O	2.18	0.42
1:D:558:PHE:CE2	1:D:580:PRO:HB3	2.54	0.42
1:B:709:LEU:O	1:B:713:SER:HB2	2.20	0.42
1:C:684:MET:HG3	8:C:1013:HOH:O	2.18	0.42
1:D:10:LEU:HD23	1:D:10:LEU:HA	1.82	0.42
1:A:336:ILE:HD12	1:A:336:ILE:HG23	1.73	0.42
1:B:24:ALA:O	1:B:28:LYS:HG3	2.18	0.42
1:B:395:GLN:HE22	1:B:399:THR:HB	1.83	0.42
1:C:457:LEU:HD11	1:C:539:ILE:HD12	2.02	0.42
1:C:702:ASP:OD1	1:C:704:ALA:N	2.52	0.42
1:D:441:ARG:NE	1:D:611:LYS:O	2.50	0.42
1:D:524:GLU:HG2	1:D:525:CYS:N	2.33	0.42
1:A:545:TYR:CD2	1:A:553:LEU:HD13	2.54	0.42
1:B:138:LEU:O	1:B:141:GLU:HG3	2.19	0.42
1:C:10:LEU:HD23	1:C:10:LEU:HA	1.87	0.42
1:C:259:LYS:HB3	1:C:259:LYS:HE2	1.80	0.42
1:C:672:GLY:HA3	1:C:692:LYS:O	2.19	0.42
1:A:174:TYR:HA	1:A:178:LYS:O	2.20	0.42
1:A:769:ARG:HD3	4:A:904:PLM:C2	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:122:LYS:H	1:B:122:LYS:HG2	1.43	0.42
1:B:298:LYS:H	1:B:298:LYS:HG2	1.46	0.42
1:D:5:THR:HG21	1:D:274:PRO:HD3	2.01	0.42
1:D:328:GLN:HE22	7:D:905:DMX:H121	1.83	0.42
1:A:361:ASP:O	1:A:365:ALA:N	2.51	0.42
1:B:143:LYS:HD2	1:B:143:LYS:HA	1.75	0.42
1:B:778:ARG:HA	1:B:778:ARG:HD3	1.70	0.42
1:D:113:VAL:HG22	1:D:264:VAL:HG22	2.02	0.42
1:C:492:ARG:HD3	8:C:1021:HOH:O	2.20	0.42
1:C:601:ASP:HB2	1:C:602:GLU:OE1	2.20	0.42
1:A:10:LEU:HA	1:A:10:LEU:HD12	1.75	0.42
1:A:139:ASP:CG	1:A:143:LYS:NZ	2.74	0.42
1:A:317:ASP:OD2	1:A:320:VAL:HG23	2.20	0.42
1:B:32:LYS:HD3	1:B:32:LYS:HA	1.77	0.42
1:B:72:GLY:HA2	1:B:337:PRO:HG3	2.02	0.42
1:B:364:LEU:HD23	1:B:364:LEU:HA	1.90	0.42
1:C:232:PRO:HA	1:C:235:TRP:CE2	2.55	0.42
1:D:91:LYS:O	1:D:308:LYS:HG3	2.20	0.42
1:B:95:PHE:CE1	1:B:96:THR:HG22	2.55	0.41
1:C:458:ARG:NE	1:C:471:ASP:OD2	2.52	0.41
1:A:357:ARG:NH2	1:A:358:GLN:HG3	2.35	0.41
1:A:624:SER:HA	1:A:790:LEU:HD23	2.02	0.41
1:B:69:ARG:HG3	1:B:69:ARG:HH11	1.84	0.41
1:C:740:LEU:HB2	1:C:742:ILE:CD1	2.49	0.41
1:A:681:SER:N	8:A:1004:HOH:O	2.40	0.41
1:B:181:ILE:HD13	1:B:338:GLN:HG2	2.01	0.41
1:B:403:HIS:HD1	1:B:598:PHE:HE2	1.68	0.41
1:B:717:CYS:HB3	1:B:737:CYS:HB3	1.89	0.41
1:B:122:LYS:HE2	1:B:122:LYS:HB3	1.75	0.41
1:B:235:TRP:HB2	1:B:301:PRO:CG	2.50	0.41
1:B:509:VAL:HG13	1:B:512:VAL:CG2	2.48	0.41
1:B:510:GLN:O	1:B:512:VAL:HG23	2.20	0.41
1:B:709:LEU:O	1:B:713:SER:N	2.53	0.41
1:C:92:LEU:HB2	1:C:97:TRP:NE1	2.35	0.41
1:D:480:ILE:HG12	1:D:513:ALA:HA	2.02	0.41
1:A:47:GLU:C	1:A:48:GLU:HG2	2.41	0.41
1:B:11:VAL:HA	1:B:39:THR:HG1	1.85	0.41
1:B:374:PHE:CD1	1:B:374:PHE:N	2.89	0.41
1:B:257:PRO:CB	1:B:329:LYS:HE3	2.50	0.41
1:B:295:ALA:HA	1:B:298:LYS:HZ2	1.86	0.41
1:D:9:LYS:HB2	1:D:10:LEU:H	1.62	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:905:DMX:H131	7:D:905:DMX:H171	1.69	0.41
1:A:48:GLU:HA	1:A:51:PRO:CD	2.47	0.41
1:A:139:ASP:CG	1:A:143:LYS:HZ1	2.24	0.41
1:B:334:PRO:HB2	1:B:339:MET:CE	2.50	0.41
1:C:305:VAL:HG13	1:C:307:LEU:N	2.36	0.41
1:D:92:LEU:HD12	1:D:97:TRP:CZ2	2.55	0.41
1:D:618:LEU:HD23	1:D:618:LEU:HA	1.85	0.41
1:A:47:GLU:O	1:A:73:TYR:OH	2.31	0.41
1:A:277:GLU:HG2	1:D:141:GLU:HA	2.03	0.41
1:A:550:LEU:HD23	1:A:550:LEU:HA	1.77	0.41
1:A:678:VAL:HG13	1:B:548:HIS:HA	2.01	0.41
1:B:121:ASN:HD22	1:B:121:ASN:HA	1.75	0.41
1:B:124:LEU:HD12	1:B:124:LEU:HA	1.93	0.41
1:B:672:GLY:HA3	1:B:692:LYS:O	2.20	0.41
1:A:33:ASP:HB2	1:A:286:TYR:OH	2.21	0.41
1:A:453:GLY:HA2	1:A:475:HIS:CD2	2.55	0.41
1:A:630:ARG:NH2	4:A:904:PLM:O1	2.49	0.41
1:B:61:ASP:OD1	1:B:274:PRO:HD2	2.21	0.41
1:B:375:LYS:HA	1:B:378:GLN:CD	2.41	0.41
1:C:31:GLU:O	1:C:35:GLY:N	2.43	0.41
1:C:280:LYS:HE2	1:C:280:LYS:HB2	1.78	0.41
1:C:490:LEU:HD13	1:C:490:LEU:HA	1.76	0.41
1:C:744:LEU:HD23	1:C:744:LEU:HA	1.85	0.41
1:D:305:VAL:HG22	1:D:306:ALA:H	1.85	0.41
1:B:119:ILE:HA	1:B:246:GLY:O	2.21	0.41
1:B:212:ASP:OD1	1:B:213:TYR:N	2.53	0.41
1:B:396:MET:HA	1:B:396:MET:HE2	2.03	0.40
1:C:273:SER:HA	1:C:274:PRO:HD3	1.88	0.40
1:C:328:GLN:NE2	7:C:905:DMX:H131	2.36	0.40
1:C:575:SER:OG	1:C:631:PRO:HA	2.21	0.40
1:C:611:LYS:HD2	1:C:611:LYS:HZ3	1.81	0.40
1:C:705:THR:HG23	1:D:708:LEU:HD13	2.03	0.40
1:A:172:PHE:CD1	1:A:181:ILE:HA	2.57	0.40
1:A:308:LYS:H	1:A:308:LYS:HG3	1.75	0.40
1:A:352:ASN:O	1:A:357:ARG:N	2.51	0.40
1:A:609:PRO:HA	1:A:610:PRO:HD3	1.92	0.40
1:A:653:TYR:OH	4:A:904:PLM:HB2	2.22	0.40
1:B:92:LEU:HA	1:B:307:LEU:HA	2.02	0.40
1:B:296:VAL:O	1:B:297:ASN:C	2.60	0.40
1:B:456:ARG:HD3	1:C:571:PHE:CE2	2.56	0.40
1:B:502:LEU:HB2	8:B:1003:HOH:O	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:56:THR:HG22	1:C:589:HIS:CB	2.51	0.40
1:C:127:ASN:OD1	1:C:127:ASN:N	2.53	0.40
1:D:172:PHE:CD2	1:D:336:ILE:HD11	2.56	0.40
1:D:441:ARG:HH11	1:D:441:ARG:HG3	1.86	0.40
1:B:92:LEU:HB3	1:B:306:ALA:HB1	2.03	0.40
1:B:205:LYS:HE2	1:B:205:LYS:HB3	1.95	0.40
1:B:474:LEU:HD23	1:B:474:LEU:HA	1.90	0.40
1:C:486:VAL:HG13	7:C:906:DMX:C13	2.51	0.40
1:D:148:SER:OG	1:D:225:THR:HG23	2.21	0.40
1:D:696:MET:HB2	1:D:744:LEU:HD21	2.02	0.40
1:B:270:ASN:O	1:B:273:SER:HB2	2.22	0.40
1:B:311:GLU:O	1:B:314:LEU:N	2.55	0.40
1:B:434:GLN:HB3	1:B:436:TYR:CE1	2.56	0.40
1:D:75:GLN:HG3	1:D:102:TYR:OH	2.21	0.40
1:D:378:GLN:HA	1:D:794:ALA:O	2.21	0.40
1:D:630:ARG:NH2	6:D:906:CL:CL	2.91	0.40
1:A:82:ILE:HG22	1:A:269:ILE:HD12	2.04	0.40
1:B:21:ASN:O	1:B:24:ALA:HB3	2.21	0.40
1:B:338:GLN:HG3	1:B:372:ALA:O	2.22	0.40
1:C:62:ILE:HD11	1:C:279:ALA:CB	2.43	0.40
1:C:491:SER:OG	1:C:502:LEU:HD21	2.21	0.40

All (4) 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)
1:A:357:ARG:NH1	1:C:482:HIS:O[2_546]	1.42	0.78
1:B:313:GLU:OE1	1:D:244:ASN:ND2[2_555]	1.98	0.22
8:A:1002:HOH:O	8:D:1006:HOH:O[2_646]	1.99	0.21
8:B:1071:HOH:O	8:D:1159:HOH:O[2_656]	2.17	0.03

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	775/818 (95%)	746 (96%)	27 (4%)	2 (0%)	41	47
1	B	789/818 (96%)	754 (96%)	34 (4%)	1 (0%)	51	62
1	C	780/818 (95%)	758 (97%)	20 (3%)	2 (0%)	41	47
1	D	784/818 (96%)	755 (96%)	27 (3%)	2 (0%)	41	47
All	All	3128/3272 (96%)	3013 (96%)	108 (4%)	7 (0%)	47	55

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	632	GLU
1	C	507	PRO
1	D	632	GLU
1	A	632	GLU
1	B	632	GLU
1	D	506	GLY
1	A	633	VAL

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	651/681 (96%)	598 (92%)	53 (8%)	11	11
1	B	657/681 (96%)	585 (89%)	72 (11%)	6	5
1	C	656/681 (96%)	620 (94%)	36 (6%)	21	25
1	D	659/681 (97%)	616 (94%)	43 (6%)	17	19
All	All	2623/2724 (96%)	2419 (92%)	204 (8%)	13	12

All (204) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	9	LYS
1	A	20	TYR

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Mol	Chain	Res	Type
1	A	44	ASP
1	A	114	GLU
1	A	117	SER
1	A	118	LEU
1	A	121	ASN
1	A	130	LYS
1	A	141	GLU
1	A	143	LYS
1	A	148	SER
1	A	182	LYS
1	A	183	ASP
1	A	184	VAL
1	A	186	VAL
1	A	187	ASP
1	A	196	THR
1	A	203	LYS
1	A	236	SER
1	A	240	THR
1	A	261	PHE
1	A	275	ASN
1	A	280	LYS
1	A	290	ASP
1	A	298	LYS
1	A	310	TYR
1	A	329	LYS
1	A	347	ARG
1	A	357	ARG
1	A	359	THR
1	A	368	GLN
1	A	387[A]	HIS
1	A	387[B]	HIS
1	A	396	MET
1	A	413	SER
1	A	469[A]	GLU
1	A	469[B]	GLU
1	A	518	GLN
1	A	520	GLU
1	A	524	GLU
1	A	570	VAL
1	A	571	PHE
1	A	573	ARG
1	A	576	SER

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Mol	Chain	Res	Type
1	A	615	THR
1	A	636	LEU
1	A	660	VAL
1	A	671	ARG
1	A	676	ARG
1	A	678	VAL
1	A	732	THR
1	A	759	ARG
1	A	766	ASN
1	B	15	ASN
1	B	23	LEU
1	B	26	VAL
1	B	32	LYS
1	B	48	GLU
1	B	50	PHE
1	B	69	ARG
1	B	75	GLN
1	B	76	SER
1	B	90	ASP
1	B	96	THR
1	B	122	LYS
1	B	130	LYS
1	B	138	LEU
1	B	140	LYS
1	B	141	GLU
1	B	143	LYS
1	B	182	LYS
1	B	205	LYS
1	B	212	ASP
1	B	240	THR
1	B	243	VAL
1	B	244	ASN
1	B	254	LYS
1	B	261	PHE
1	B	276	LYS
1	B	278	LEU
1	B	290	ASP
1	B	298	LYS
1	B	310	TYR
1	B	311	GLU
1	B	313	GLU
1	B	336	ILE

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Mol	Chain	Res	Type
1	B	357	ARG
1	B	387[A]	HIS
1	B	387[B]	HIS
1	B	391	ARG
1	B	396	MET
1	B	400	ILE
1	B	459	GLN
1	B	465	ARG
1	B	473	GLN
1	B	490	LEU
1	B	492	ARG
1	B	496	ARG
1	B	502	LEU
1	B	511	ASP
1	B	518	GLN
1	B	519	GLU
1	B	522	ASN
1	B	544	GLN
1	B	548	HIS
1	B	549	SER
1	B	551	ASP
1	B	573	ARG
1	B	576	SER
1	B	599	ARG
1	B	619	HIS
1	B	626	ARG
1	B	673	ARG
1	B	715	ASN
1	B	716	GLU
1	B	722	SER
1	B	727	ILE
1	B	735	ASN
1	B	743	LYS
1	B	754	MET
1	B	759	ARG
1	B	761	ARG
1	B	766	ASN
1	B	774	SER
1	B	796	SER
1	C	9	LYS
1	C	56	THR
1	C	58[A]	ASP

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Mol	Chain	Res	Type
1	C	58[B]	ASP
1	C	83	THR
1	C	130	LYS
1	C	173	LYS
1	C	236	SER
1	C	254	LYS
1	C	261	PHE
1	C	280	LYS
1	C	305	VAL
1	C	359	THR
1	C	375	LYS
1	C	387	HIS
1	C	391	ARG
1	C	396	MET
1	C	413	SER
1	C	490	LEU
1	C	491	SER
1	C	502	LEU
1	C	507	PRO
1	C	525	CYS
1	C	527	LYS
1	C	547	HIS
1	C	549	SER
1	C	573	ARG
1	C	576	SER
1	C	611	LYS
1	C	616	ILE
1	C	632	GLU
1	C	633	VAL
1	C	636	LEU
1	C	712	PHE
1	C	722	SER
1	C	795	SER
1	D	7	GLU
1	D	32	LYS
1	D	63	ILE
1	D	96	THR
1	D	138	LEU
1	D	143	LYS
1	D	210	ASP
1	D	225	THR
1	D	259	LYS

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Mol	Chain	Res	Type
1	D	261	PHE
1	D	288	LEU
1	D	308	LYS
1	D	309	SER
1	D	310	TYR
1	D	340	SER
1	D	361	ASP
1	D	384	LYS
1	D	387	HIS
1	D	413	SER
1	D	427	ASN
1	D	459	GLN
1	D	519	GLU
1	D	524	GLU
1	D	570	VAL
1	D	576	SER
1	D	585	LYS
1	D	634	LEU
1	D	636	LEU
1	D	644[A]	ASP
1	D	644[B]	ASP
1	D	676	ARG
1	D	693	VAL
1	D	694	ASN
1	D	696	MET
1	D	722	SER
1	D	729	GLN
1	D	733	HIS
1	D	742	ILE
1	D	743	LYS
1	D	744	LEU
1	D	751	ILE
1	D	778	ARG
1	D	795	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	75	GLN
1	A	121	ASN
1	A	428	ASN
1	A	475	HIS

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Mol	Chain	Res	Type
1	A	489	GLN
1	A	537	GLN
1	B	15	ASN
1	B	121	ASN
1	B	222	HIS
1	B	256	GLN
1	B	395	GLN
1	B	475	HIS
1	B	547	HIS
1	B	587	HIS
1	B	715	ASN
1	B	766	ASN
1	B	787	GLN
1	C	103	ASN
1	C	385	HIS
1	C	459	GLN
1	C	523	HIS
1	C	552	HIS
1	C	746	HIS
1	D	121	ASN
1	D	370	ASN
1	D	378	GLN
1	D	387	HIS
1	D	426	ASN
1	D	459	GLN
1	D	489	GLN
1	D	518	GLN
1	D	733	HIS

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

8 monosaccharides are modelled in this entry.

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	BGC	F	1	2	12,12,12	0.64	0	17,17,17	1.96	3 (17%)
2	GLC	F	2	2	11,11,12	0.61	0	15,15,17	0.86	0
2	BGC	G	1	2	12,12,12	0.68	0	17,17,17	2.15	6 (35%)
2	GLC	G	2	2	11,11,12	0.74	0	15,15,17	0.93	0
2	BGC	H	1	2	12,12,12	0.59	0	17,17,17	1.84	3 (17%)
2	GLC	H	2	2	11,11,12	1.38	1 (9%)	15,15,17	1.34	2 (13%)
2	BGC	I	1	2	12,12,12	0.61	0	17,17,17	2.08	4 (23%)
2	GLC	I	2	2	11,11,12	0.63	0	15,15,17	1.07	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
2	BGC	F	1	2	-	0/2/22/22	0/1/1/1
2	GLC	F	2	2	-	0/2/19/22	0/1/1/1
2	BGC	G	1	2	-	0/2/22/22	0/1/1/1
2	GLC	G	2	2	-	0/2/19/22	0/1/1/1
2	BGC	H	1	2	-	0/2/22/22	0/1/1/1
2	GLC	H	2	2	-	0/2/19/22	0/1/1/1
2	BGC	I	1	2	-	0/2/22/22	0/1/1/1
2	GLC	I	2	2	-	0/2/19/22	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	2	GLC	O5-C1	-4.10	1.37	1.43

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	G	1	BGC	C1-O5-C5	-5.62	103.06	113.66

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	F	1	BGC	C1-O5-C5	-5.46	103.35	113.66
2	I	1	BGC	C1-O5-C5	-5.45	103.39	113.66
2	H	1	BGC	C1-O5-C5	-4.90	104.42	113.66
2	G	1	BGC	C1-C2-C3	-3.82	102.40	110.31
2	I	1	BGC	C1-C2-C3	-3.65	102.74	110.31
2	H	1	BGC	C1-C2-C3	-3.60	102.85	110.31
2	F	1	BGC	C1-C2-C3	-3.55	102.95	110.31
2	H	2	GLC	C1-O5-C5	3.08	116.36	112.19
2	I	1	BGC	O5-C1-C2	-2.87	105.17	110.28
2	H	1	BGC	O5-C1-C2	-2.76	105.35	110.28
2	I	1	BGC	O4-C4-C5	-2.74	102.50	109.30
2	G	1	BGC	O5-C1-C2	-2.67	105.52	110.28
2	F	1	BGC	O5-C1-C2	-2.62	105.62	110.28
2	G	1	BGC	O4-C4-C5	-2.33	103.52	109.30
2	G	1	BGC	O1-C1-C2	2.23	115.31	109.03
2	G	1	BGC	O4-C4-C3	-2.10	105.50	110.35
2	H	2	GLC	C2-C3-C4	-2.03	107.39	110.89

There are no chirality outliers.

There are no torsion outliers.

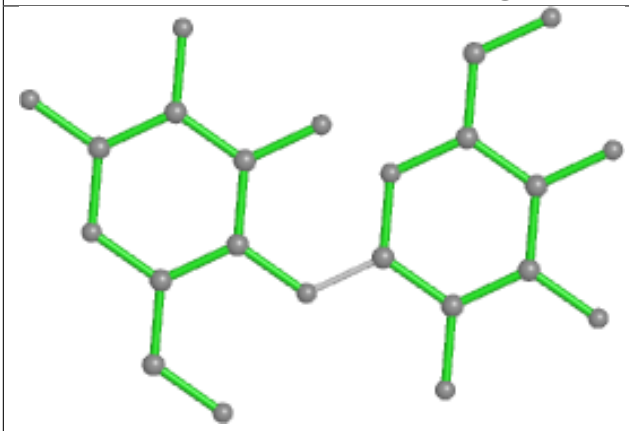
There are no ring outliers.

7 monomers are involved in 8 short contacts:

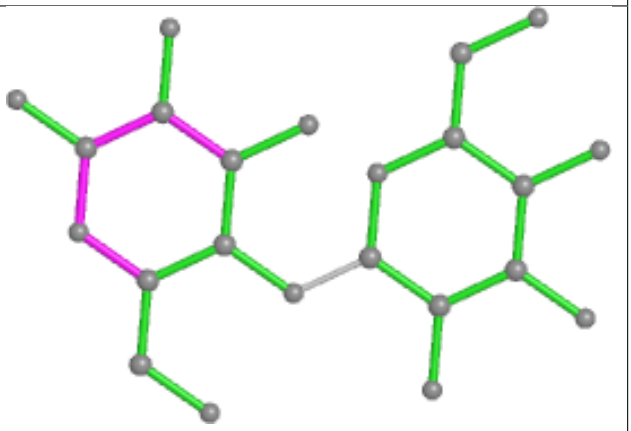
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	I	1	BGC	1	0
2	I	2	GLC	1	0
2	H	1	BGC	1	0
2	F	2	GLC	1	0
2	H	2	GLC	2	0
2	F	1	BGC	1	0
2	G	1	BGC	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

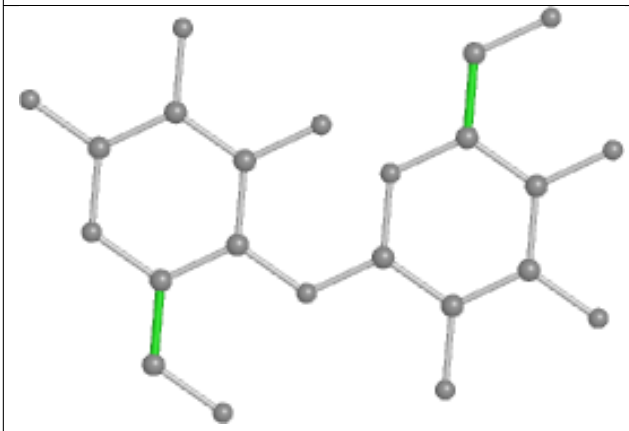
Oligosaccharide Chain F



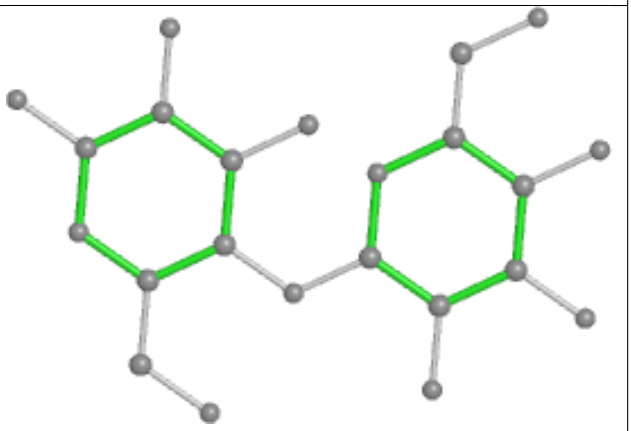
Bond lengths



Bond angles

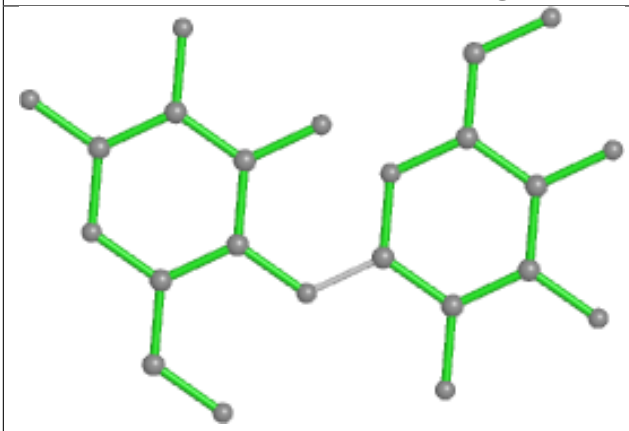


Torsions

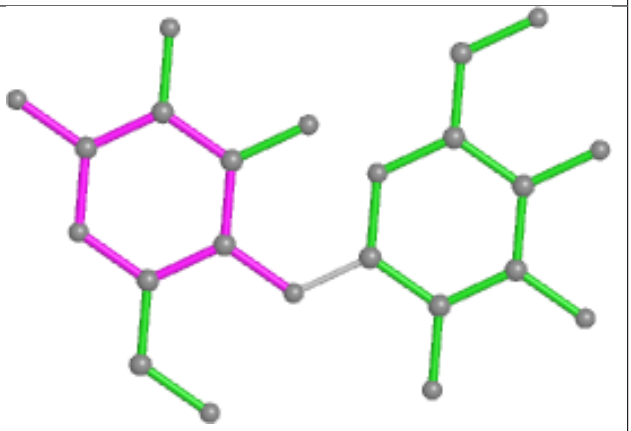


Rings

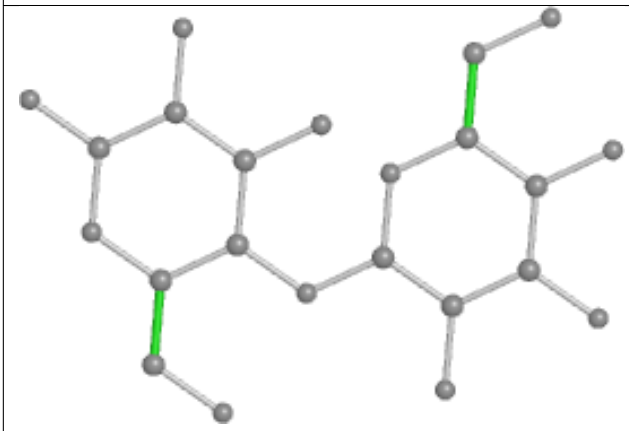
Oligosaccharide Chain G



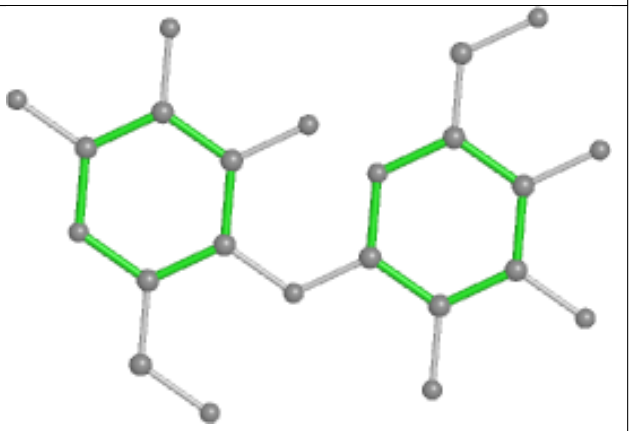
Bond lengths



Bond angles

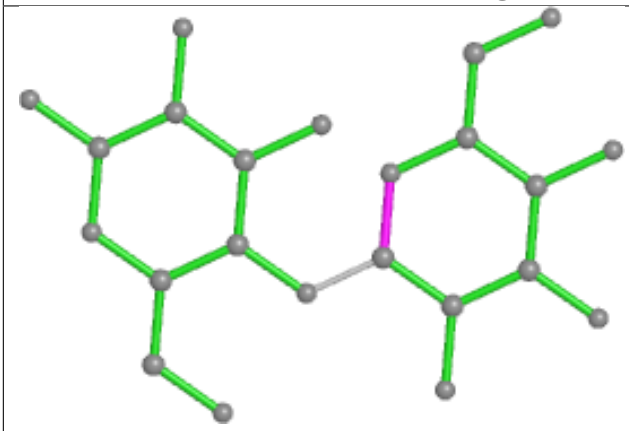


Torsions

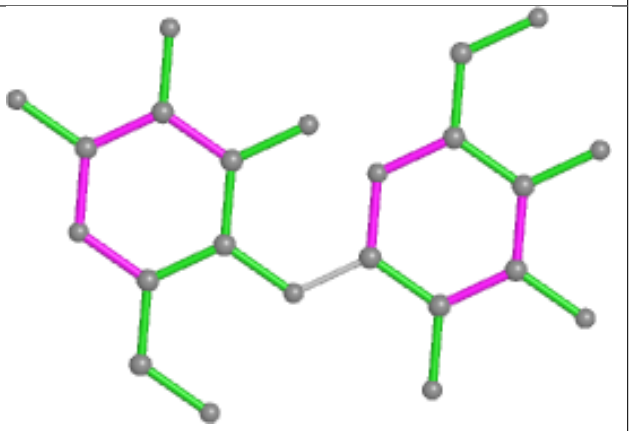


Rings

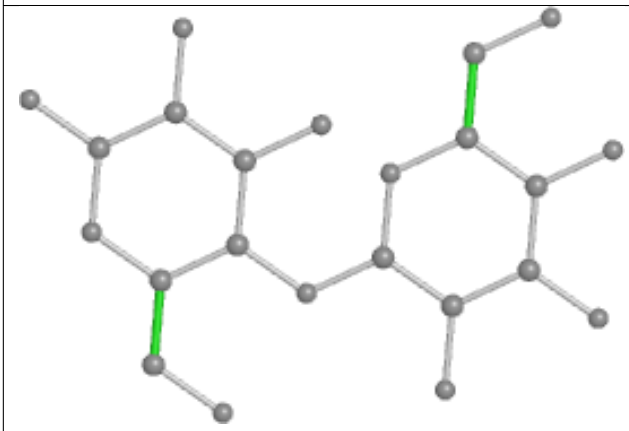
Oligosaccharide Chain H



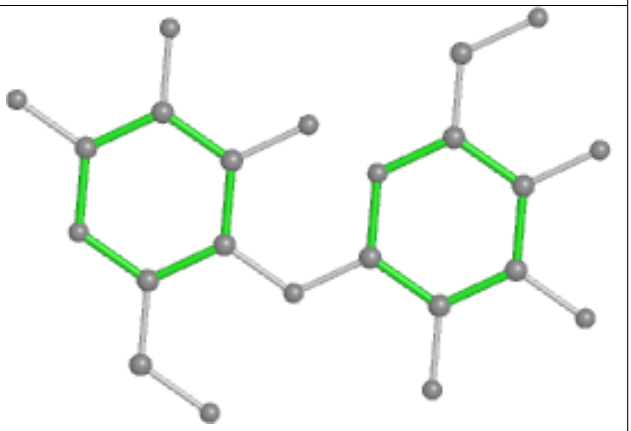
Bond lengths



Bond angles

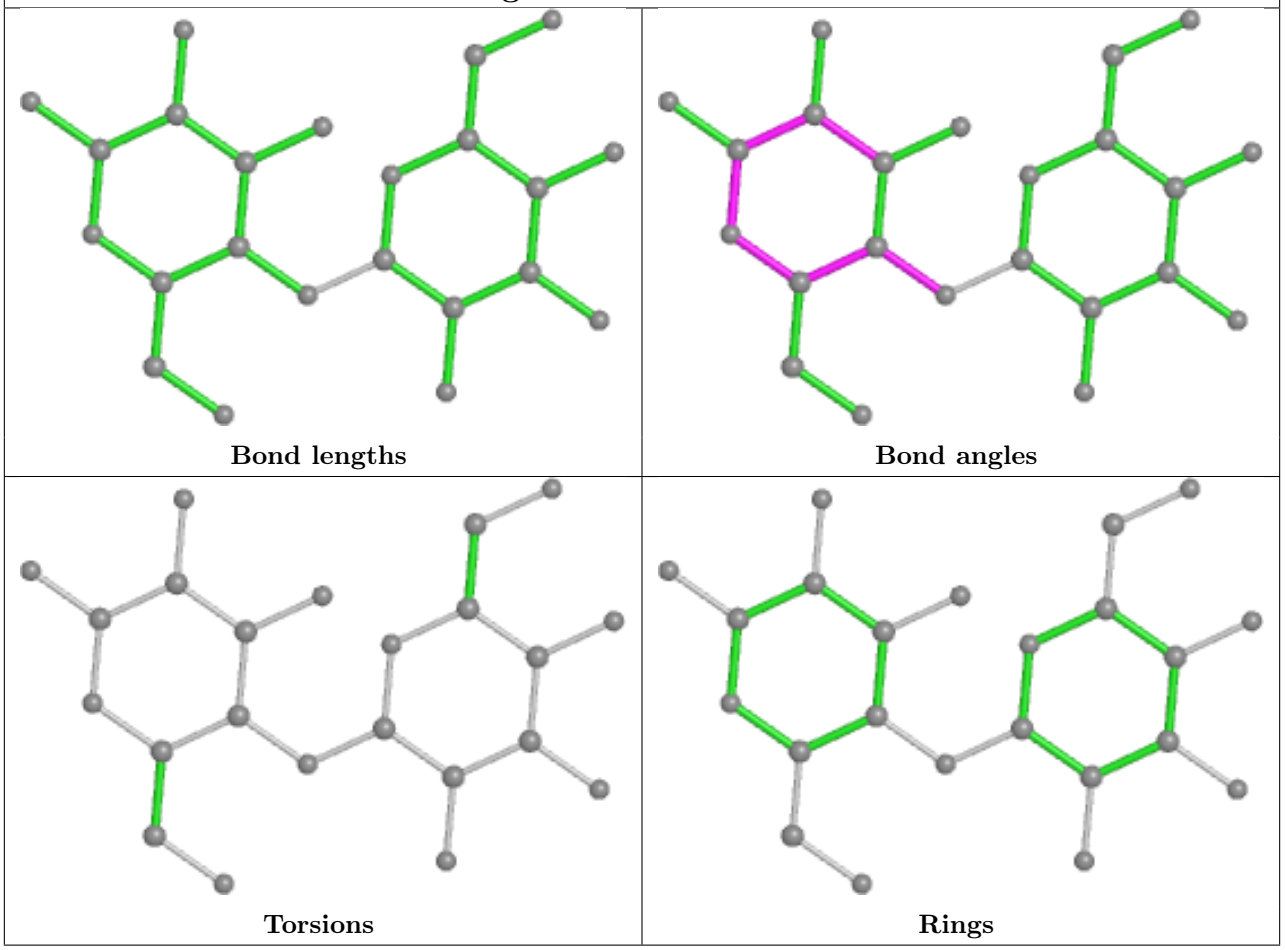


Torsions



Rings

Oligosaccharide Chain I



5.6 Ligand geometry (i)

Of 25 ligands modelled in this entry, 3 are monoatomic - leaving 22 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	$\#\|Z\| > 2$
5	GOL	C	904	-	5,5,5	0.92	0	5,5,5	0.91	0
5	GOL	B	905	-	5,5,5	0.91	0	5,5,5	0.98	0
5	GOL	A	905	-	5,5,5	1.06	0	5,5,5	0.97	0
3	NAG	A	903	1	14,14,15	0.27	0	17,19,21	0.43	0
7	DMX	C	905	-	17,17,17	1.55	2 (11%)	23,24,24	1.76	5 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	PLM	A	904	-	17,17,17	0.38	0	17,17,17	0.90	1 (5%)
3	NAG	B	902	1	14,14,15	0.43	0	17,19,21	0.58	0
3	NAG	C	901	1	14,14,15	0.18	0	17,19,21	0.40	0
3	NAG	B	901	1	14,14,15	0.33	0	17,19,21	0.40	0
7	DMX	D	905	-	17,17,17	1.34	2 (11%)	23,24,24	1.76	8 (34%)
3	NAG	D	903	1	14,14,15	0.39	0	17,19,21	0.35	0
3	NAG	A	901	1	14,14,15	0.28	0	17,19,21	0.47	0
5	GOL	D	904	-	5,5,5	0.92	0	5,5,5	1.01	0
3	NAG	D	901	1	14,14,15	0.27	0	17,19,21	0.38	0
3	NAG	B	903	1	14,14,15	0.42	0	17,19,21	0.86	0
5	GOL	B	904	-	5,5,5	0.89	0	5,5,5	0.93	0
3	NAG	A	902	1	14,14,15	0.34	0	17,19,21	0.66	0
4	PLM	C	907	-	17,17,17	0.31	0	17,17,17	0.82	0
3	NAG	D	902	1	14,14,15	0.31	0	17,19,21	0.82	0
3	NAG	C	902	1	14,14,15	0.44	0	17,19,21	0.68	0
7	DMX	C	906	-	17,17,17	1.50	1 (5%)	23,24,24	1.54	3 (13%)
3	NAG	C	903	1	14,14,15	0.39	0	17,19,21	0.56	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	GOL	C	904	-	-	0/4/4/4	-
5	GOL	B	905	-	-	4/4/4/4	-
5	GOL	A	905	-	-	2/4/4/4	-
3	NAG	A	903	1	-	2/6/23/26	0/1/1/1
7	DMX	C	905	-	-	6/13/13/13	0/1/1/1
4	PLM	A	904	-	-	14/15/15/15	-
3	NAG	B	902	1	-	2/6/23/26	0/1/1/1
3	NAG	C	901	1	-	2/6/23/26	0/1/1/1
3	NAG	B	901	1	-	2/6/23/26	0/1/1/1
7	DMX	D	905	-	-	13/13/13/13	0/1/1/1
3	NAG	D	903	1	-	1/6/23/26	0/1/1/1
3	NAG	A	901	1	-	0/6/23/26	0/1/1/1
5	GOL	D	904	-	-	3/4/4/4	-
3	NAG	D	901	1	-	0/6/23/26	0/1/1/1
3	NAG	B	903	1	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	GOL	B	904	-	-	2/4/4/4	-
3	NAG	A	902	1	-	2/6/23/26	0/1/1/1
4	PLM	C	907	-	-	11/15/15/15	-
3	NAG	D	902	1	-	2/6/23/26	0/1/1/1
3	NAG	C	902	1	-	2/6/23/26	0/1/1/1
7	DMX	C	906	-	-	10/13/13/13	0/1/1/1
3	NAG	C	903	1	-	0/6/23/26	0/1/1/1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	C	906	DMX	C10-S11	5.29	1.85	1.77
7	C	905	DMX	C10-S11	4.96	1.84	1.77
7	D	905	DMX	C10-S11	4.12	1.83	1.77
7	C	905	DMX	C9-N8	2.64	1.57	1.52
7	D	905	DMX	C7-N8	2.04	1.59	1.53

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	C	905	DMX	O15-S11-C10	-5.31	100.52	106.92
7	C	906	DMX	O15-S11-C10	-4.36	101.67	106.92
7	D	905	DMX	O16-S11-C10	-3.73	102.42	106.92
7	D	905	DMX	O15-S11-C10	-3.57	102.61	106.92
7	C	906	DMX	O16-S11-C10	-2.92	103.40	106.92
7	C	905	DMX	C12-N8-C7	-2.88	103.89	110.06
7	D	905	DMX	O14-S11-C10	-2.67	101.45	105.77
7	D	905	DMX	C4-C7-N8	2.61	120.87	114.86
7	C	905	DMX	O16-S11-C10	-2.48	103.93	106.92
7	D	905	DMX	C12-N8-C7	-2.42	104.88	110.06
7	D	905	DMX	C13-N8-C7	2.36	115.10	110.06
7	D	905	DMX	C17-C10-S11	-2.30	109.73	113.25
7	C	906	DMX	C12-N8-C7	-2.28	105.17	110.06
7	D	905	DMX	O14-S11-O15	2.15	116.52	111.27
7	C	905	DMX	O14-S11-O15	2.03	116.25	111.27
4	A	904	PLM	C3-C2-C1	-2.01	109.41	114.47
7	C	905	DMX	C4-C7-N8	2.00	119.47	114.86

There are no chirality outliers.

All (82) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	B	904	GOL	C1-C2-C3-O3
5	B	905	GOL	C1-C2-C3-O3
7	C	905	DMX	C10-C17-C9-N8
7	C	905	DMX	C17-C10-S11-O14
7	C	905	DMX	C17-C10-S11-O15
7	C	906	DMX	C4-C7-N8-C9
7	C	906	DMX	C4-C7-N8-C13
7	C	906	DMX	C17-C9-N8-C7
7	C	906	DMX	C10-C17-C9-N8
7	D	905	DMX	C4-C7-N8-C9
7	D	905	DMX	C4-C7-N8-C12
7	D	905	DMX	C4-C7-N8-C13
7	D	905	DMX	C17-C9-N8-C7
7	D	905	DMX	C17-C9-N8-C12
7	D	905	DMX	C10-C17-C9-N8
7	D	905	DMX	S11-C10-C17-C9
7	C	906	DMX	C5-C4-C7-N8
7	C	906	DMX	C3-C4-C7-N8
7	D	905	DMX	C3-C4-C7-N8
7	D	905	DMX	C5-C4-C7-N8
3	B	903	NAG	O5-C5-C6-O6
7	C	906	DMX	C17-C9-N8-C13
7	D	905	DMX	C17-C9-N8-C13
3	B	901	NAG	O5-C5-C6-O6
3	B	903	NAG	C4-C5-C6-O6
4	C	907	PLM	C9-CA-CB-CC
3	A	903	NAG	O5-C5-C6-O6
4	C	907	PLM	C4-C5-C6-C7
3	C	902	NAG	O5-C5-C6-O6
3	A	903	NAG	C4-C5-C6-O6
3	B	901	NAG	C4-C5-C6-O6
3	C	902	NAG	C4-C5-C6-O6
7	C	906	DMX	C17-C9-N8-C12
7	C	906	DMX	C4-C7-N8-C12
7	D	905	DMX	C17-C10-S11-O14
3	B	902	NAG	O5-C5-C6-O6
4	A	904	PLM	CB-CC-CD-CE
4	A	904	PLM	C8-C9-CA-CB
4	A	904	PLM	C1-C2-C3-C4
4	A	904	PLM	C5-C6-C7-C8
4	C	907	PLM	CB-CC-CD-CE
5	A	905	GOL	O1-C1-C2-C3
5	B	905	GOL	O1-C1-C2-C3

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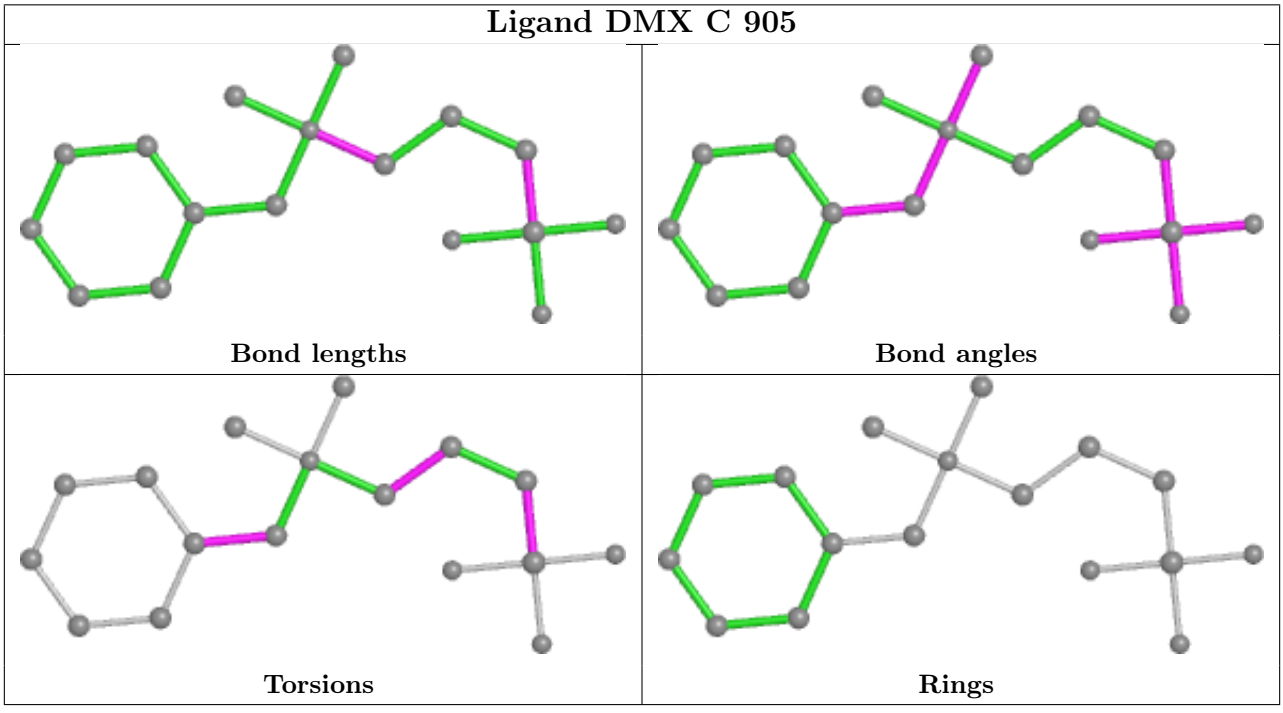
Mol	Chain	Res	Type	Atoms
5	D	904	GOL	O1-C1-C2-C3
7	C	906	DMX	S11-C10-C17-C9
4	C	907	PLM	C5-C6-C7-C8
4	C	907	PLM	C3-C4-C5-C6
5	A	905	GOL	O1-C1-C2-O2
5	B	905	GOL	O1-C1-C2-O2
5	B	905	GOL	O2-C2-C3-O3
5	D	904	GOL	O1-C1-C2-O2
7	C	905	DMX	C3-C4-C7-N8
3	C	901	NAG	C4-C5-C6-O6
5	B	904	GOL	O2-C2-C3-O3
4	A	904	PLM	C7-C8-C9-CA
7	C	905	DMX	C5-C4-C7-N8
4	A	904	PLM	C3-C4-C5-C6
7	C	905	DMX	C17-C10-S11-O16
7	D	905	DMX	C17-C10-S11-O15
7	D	905	DMX	C17-C10-S11-O16
3	C	901	NAG	O5-C5-C6-O6
4	A	904	PLM	CD-CE-CF-CG
4	A	904	PLM	C2-C3-C4-C5
4	A	904	PLM	C6-C7-C8-C9
4	A	904	PLM	C9-CA-CB-CC
3	B	902	NAG	C4-C5-C6-O6
4	C	907	PLM	CA-CB-CC-CD
4	C	907	PLM	C7-C8-C9-CA
3	A	902	NAG	C4-C5-C6-O6
4	A	904	PLM	CA-CB-CC-CD
3	A	902	NAG	O5-C5-C6-O6
4	C	907	PLM	CD-CE-CF-CG
3	D	902	NAG	C1-C2-N2-C7
4	A	904	PLM	O2-C1-C2-C3
4	A	904	PLM	O1-C1-C2-C3
5	D	904	GOL	O2-C2-C3-O3
3	D	903	NAG	C4-C5-C6-O6
4	C	907	PLM	O2-C1-C2-C3
4	A	904	PLM	C4-C5-C6-C7
4	C	907	PLM	O1-C1-C2-C3
3	D	902	NAG	C3-C2-N2-C7
4	C	907	PLM	CC-CD-CE-CF

There are no ring outliers.

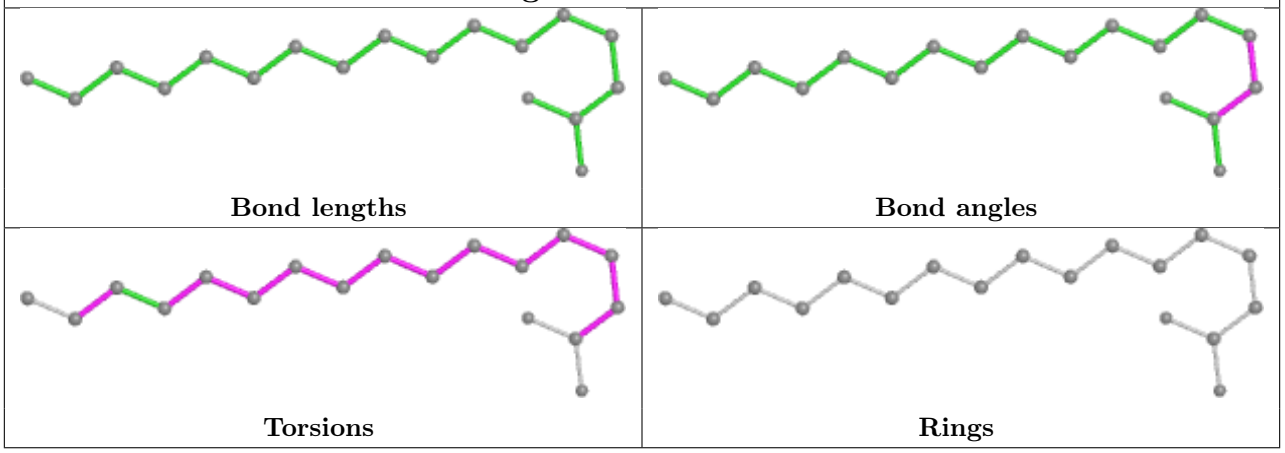
9 monomers are involved in 27 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	C	904	GOL	1	0
5	B	905	GOL	1	0
3	A	903	NAG	1	0
7	C	905	DMX	4	0
4	A	904	PLM	6	0
3	B	902	NAG	1	0
7	D	905	DMX	5	0
4	C	907	PLM	4	0
7	C	906	DMX	4	0

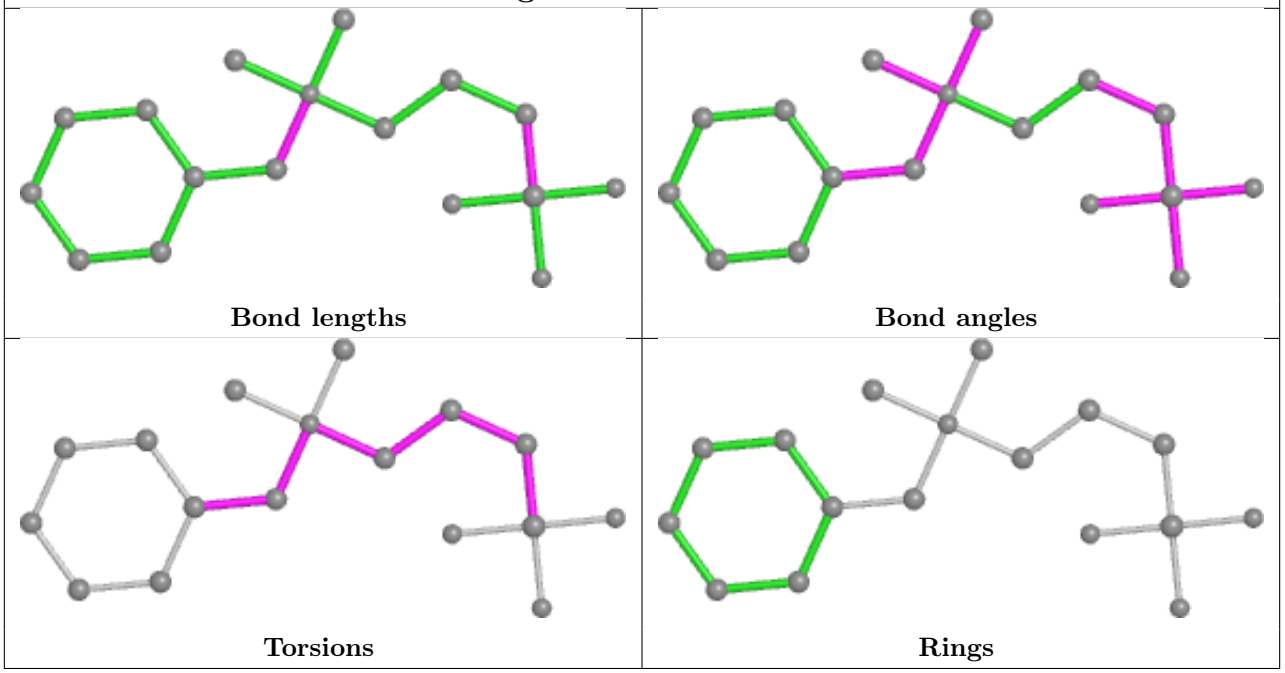
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



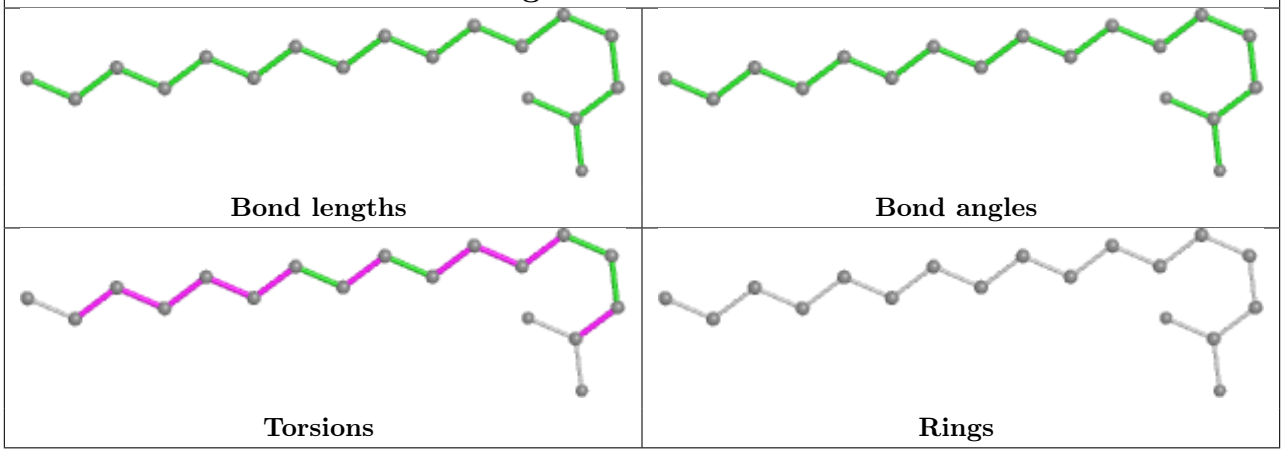
Ligand PLM A 904



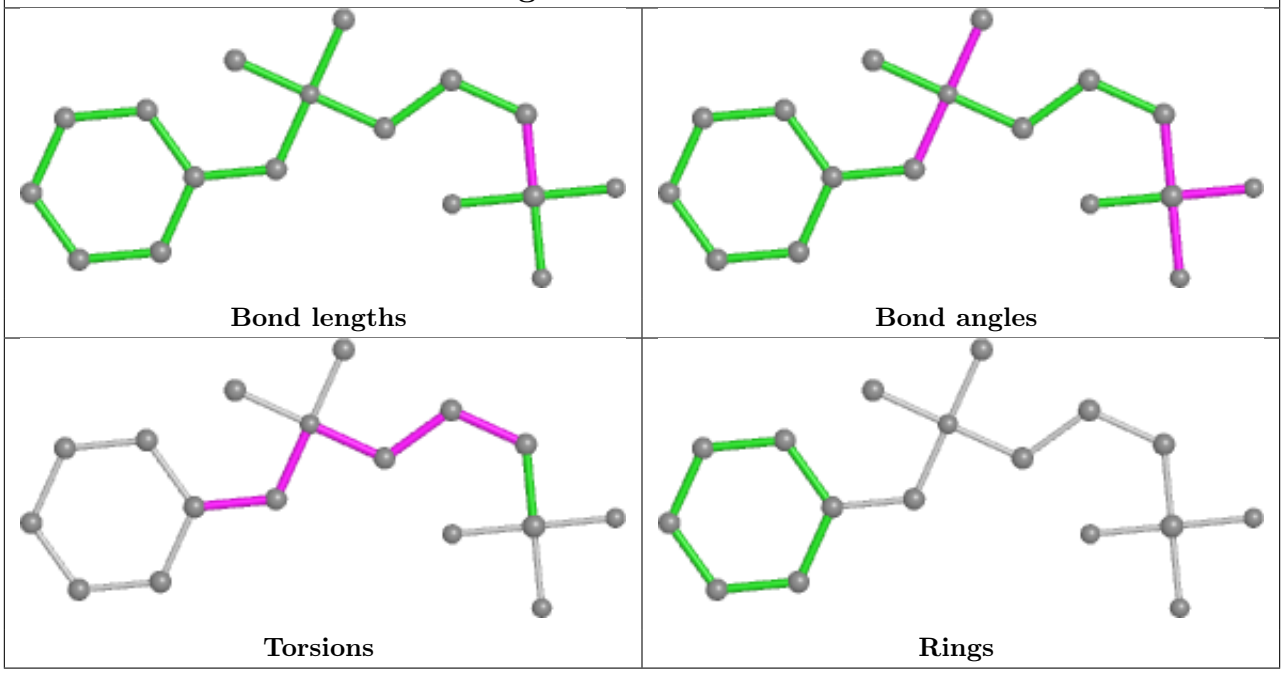
Ligand DMX D 905



Ligand PLM C 907



Ligand DMX C 906



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	778/818 (95%)	0.77	89 (11%) 5 8	25, 69, 119, 200	0
1	B	789/818 (96%)	1.47	212 (26%) 0 0	36, 84, 181, 238	0
1	C	782/818 (95%)	0.41	45 (5%) 23 32	30, 58, 102, 185	0
1	D	784/818 (95%)	0.37	37 (4%) 31 42	32, 51, 89, 165	0
All	All	3133/3272 (95%)	0.76	383 (12%) 4 7	25, 63, 138, 238	0

All (383) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	8	GLY	12.6
1	B	274	PRO	10.8
1	B	87	ALA	10.1
1	B	53	VAL	9.9
1	B	94	PRO	9.8
1	B	90	ASP	9.4
1	D	744	LEU	9.2
1	B	79	LEU	9.2
1	B	59	GLY	8.9
1	B	141	GLU	8.5
1	B	269	ILE	8.3
1	B	42	HIS	8.2
1	B	54	ALA	8.1
1	B	19	GLY	8.0
1	B	102	TYR	8.0
1	B	140	LYS	7.9
1	B	103	ASN	7.4
1	B	286	TYR	7.4
1	B	89	GLN	7.4
1	D	721	GLY	7.4
1	B	176	ALA	7.3

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Mol	Chain	Res	Type	RSRZ
1	B	84	PRO	7.3
1	B	77	GLY	6.9
1	B	50	PHE	6.8
1	A	504	PRO	6.8
1	B	92	LEU	6.7
1	B	285	ASN	6.6
1	B	78	LEU	6.6
1	B	276	LYS	6.6
1	A	175	ALA	6.4
1	A	174	TYR	6.3
1	B	106	LEU	6.2
1	B	85	ALA	6.2
1	B	38	VAL	6.2
1	B	75	GLN	6.1
1	B	9	LYS	6.1
1	B	281	GLU	6.1
1	B	36	ILE	6.1
1	A	177	GLY	6.1
1	C	550	LEU	6.0
1	B	82	ILE	6.0
1	B	37	LYS	6.0
1	B	142	LEU	6.0
1	A	357	ARG	6.0
1	B	30	PHE	6.0
1	B	61	ASP	5.9
1	B	273	SER	5.9
1	A	366	ALA	5.9
1	D	718	GLY	5.8
1	B	717	CYS	5.8
1	B	109	TYR	5.7
1	B	40	VAL	5.7
1	D	35	GLY	5.6
1	A	141	GLU	5.6
1	B	97	TRP	5.6
1	B	12	ILE	5.5
1	A	32	LYS	5.5
1	A	38	VAL	5.5
1	B	278	LEU	5.5
1	B	307	LEU	5.5
1	B	275	ASN	5.4
1	B	498	CYS	5.3
1	B	34	THR	5.3

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Mol	Chain	Res	Type	RSRZ
1	B	95	PHE	5.3
1	C	712	PHE	5.3
1	B	272	ALA	5.2
1	A	372	ALA	5.2
1	B	715	ASN	5.1
1	A	172	PHE	5.1
1	B	205	LYS	5.1
1	A	547	HIS	5.1
1	B	175	ALA	5.1
1	B	318	PRO	5.1
1	C	55	ALA	5.0
1	B	105	LYS	5.0
1	B	93	TYR	5.0
1	B	504	PRO	5.0
1	C	389	GLY	5.0
1	C	552	HIS	5.0
1	A	242	ALA	4.9
1	B	20	TYR	4.9
1	B	271	ALA	4.8
1	B	56	THR	4.8
1	B	52	GLN	4.8
1	B	88	PHE	4.8
1	A	178	LYS	4.8
1	B	57	GLY	4.8
1	B	183	ASP	4.7
1	B	522	ASN	4.6
1	B	283	LEU	4.6
1	A	184	VAL	4.6
1	B	170	TYR	4.6
1	B	619	HIS	4.6
1	C	742	ILE	4.6
1	B	104	GLY	4.6
1	A	397	PRO	4.5
1	C	56	THR	4.5
1	B	718	GLY	4.5
1	A	367	ALA	4.5
1	B	101	ARG	4.4
1	B	268	GLY	4.4
1	A	365	ALA	4.4
1	B	55	ALA	4.4
1	A	35	GLY	4.3
1	B	125	LEU	4.3

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Mol	Chain	Res	Type	RSRZ
1	B	287	LEU	4.3
1	A	145	LYS	4.3
1	B	241	SER	4.3
1	B	329	LYS	4.2
1	A	391	ARG	4.2
1	C	796	SER	4.2
1	B	306	ALA	4.2
1	D	743	LYS	4.2
1	B	32	LYS	4.2
1	B	312	GLU	4.2
1	B	290	ASP	4.2
1	A	186	VAL	4.2
1	B	14	ILE	4.1
1	B	60	PRO	4.1
1	B	39	THR	4.1
1	A	369	THR	4.0
1	A	170	TYR	4.0
1	D	9	LYS	4.0
1	A	179	TYR	4.0
1	B	139	ASP	4.0
1	B	335	ASN	4.0
1	B	238	ILE	3.9
1	B	46	LEU	3.9
1	A	37	LYS	3.9
1	D	387	HIS	3.9
1	A	48	GLU	3.9
1	A	180	ASP	3.9
1	C	506	GLY	3.9
1	A	183	ASP	3.9
1	C	732	THR	3.9
1	C	598[A]	PHE	3.9
1	B	11	VAL	3.9
1	A	363	ALA	3.9
1	A	34	THR	3.8
1	A	358	GLN	3.8
1	B	503	ALA	3.8
1	D	66	ALA	3.8
1	A	522	ASN	3.8
1	B	13	TRP	3.8
1	C	242	ALA	3.8
1	B	110	PRO	3.8
1	B	279	ALA	3.8

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Mol	Chain	Res	Type	RSRZ
1	B	297	ASN	3.8
1	B	91	LYS	3.8
1	A	171	ALA	3.7
1	A	33	ASP	3.7
1	B	310	TYR	3.7
1	B	203	LYS	3.7
1	A	167	ASP	3.7
1	B	26	VAL	3.7
1	B	334	PRO	3.7
1	B	83	THR	3.6
1	B	86	ALA	3.6
1	A	501	PHE	3.6
1	A	361	ASP	3.6
1	A	176	ALA	3.6
1	B	255	GLY	3.6
1	B	716	GLU	3.6
1	A	173	LYS	3.5
1	B	23	LEU	3.5
1	B	288	LEU	3.5
1	C	395	GLN	3.5
1	B	58	ASP	3.5
1	B	181	ILE	3.5
1	A	507	PRO	3.5
1	A	94	PRO	3.4
1	C	34	THR	3.4
1	A	182	LYS	3.4
1	B	21	ASN	3.4
1	B	313	GLU	3.4
1	B	172	PHE	3.4
1	C	740	LEU	3.4
1	B	298	LYS	3.4
1	B	35	GLY	3.3
1	B	321	ALA	3.3
1	A	368	GLN	3.3
1	B	43	PRO	3.3
1	A	362	ALA	3.3
1	B	299	ASP	3.3
1	B	188	ASN	3.3
1	B	182	LYS	3.3
1	D	715	ASN	3.3
1	B	62	ILE	3.3
1	B	112	ALA	3.2

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Mol	Chain	Res	Type	RSRZ
1	A	146	GLY	3.2
1	B	173	LYS	3.2
1	B	189	ALA	3.2
1	A	503	ALA	3.2
1	B	65	TRP	3.2
1	A	549	SER	3.2
1	C	549	SER	3.2
1	C	520	GLU	3.2
1	B	33	ASP	3.2
1	B	316	LYS	3.2
1	B	719	ALA	3.2
1	A	142	LEU	3.2
1	A	140	LYS	3.2
1	B	396	MET	3.2
1	A	199	VAL	3.1
1	C	521	SER	3.1
1	A	371	ALA	3.1
1	D	632	GLU	3.1
1	D	634	LEU	3.1
1	C	592	ILE	3.1
1	B	675	SER	3.1
1	B	372	ALA	3.1
1	B	225	THR	3.1
1	B	734	THR	3.1
1	B	111	ILE	3.1
1	A	144	ALA	3.1
1	B	144	ALA	3.1
1	A	551	ASP	3.1
1	B	521	SER	3.1
1	D	5	THR	3.1
1	B	126	PRO	3.1
1	B	99	ALA	3.1
1	A	370	ASN	3.0
1	B	243	VAL	3.0
1	C	798	PRO	3.0
1	C	36	ILE	3.0
1	B	200	ASP	3.0
1	B	206	HIS	3.0
1	C	388	ASN	3.0
1	B	242	ALA	2.9
1	B	215	ILE	2.9
1	A	617	GLY	2.9

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Mol	Chain	Res	Type	RSRZ
1	B	146	GLY	2.9
1	A	245	TYR	2.9
1	B	123	ASP	2.9
1	B	70	PHE	2.9
1	B	502	LEU	2.9
1	C	797	SER	2.9
1	B	41	GLU	2.9
1	B	366	ALA	2.9
1	C	85	ALA	2.9
1	B	167	ASP	2.9
1	D	34	THR	2.8
1	B	45	LYS	2.8
1	B	81	GLU	2.8
1	B	138	LEU	2.8
1	B	618	LEU	2.8
1	D	6	GLU	2.8
1	C	721	GLY	2.8
1	B	148	SER	2.8
1	A	223	GLY	2.8
1	B	746[A]	HIS	2.8
1	C	504	PRO	2.7
1	B	693	VAL	2.7
1	D	712	PHE	2.7
1	D	274	PRO	2.7
1	A	734	THR	2.7
1	A	552	HIS	2.7
1	B	158	TYR	2.7
1	D	7	GLU	2.7
1	A	31	GLU	2.7
1	A	120	TYR	2.7
1	C	305	VAL	2.7
1	B	22	GLY	2.7
1	A	305	VAL	2.7
1	A	274	PRO	2.7
1	B	124	LEU	2.7
1	C	739	ALA	2.6
1	C	519	GLU	2.6
1	B	204	ASN	2.6
1	D	343	TRP	2.6
1	B	149	ALA	2.6
1	B	64	PHE	2.6
1	C	243	VAL	2.6

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Mol	Chain	Res	Type	RSRZ
1	D	158	TYR	2.6
1	B	80	ALA	2.6
1	B	308	LYS	2.6
1	B	270	ASN	2.6
1	B	280	LYS	2.6
1	B	393	THR	2.6
1	B	634	LEU	2.6
1	B	333	MET	2.6
1	B	674	TYR	2.6
1	B	178	LYS	2.6
1	D	695[A]	HIS	2.6
1	A	495	ASN	2.6
1	B	245	TYR	2.5
1	B	74	ALA	2.5
1	A	169	GLY	2.5
1	A	181	ILE	2.5
1	C	741	GLY	2.5
1	A	90	ASP	2.5
1	B	236	SER	2.4
1	C	241	SER	2.4
1	B	267	ALA	2.4
1	C	632	GLU	2.4
1	A	505	GLY	2.4
1	A	759	ARG	2.4
1	C	9	LYS	2.4
1	D	633	VAL	2.4
1	D	37	LYS	2.4
1	D	159	PHE	2.4
1	B	17	ASP	2.4
1	B	598	PHE	2.4
1	B	73	TYR	2.4
1	A	255	GLY	2.4
1	B	199	VAL	2.4
1	B	28	LYS	2.3
1	D	262	VAL	2.3
1	C	35	GLY	2.3
1	A	125	LEU	2.3
1	A	143	LYS	2.3
1	A	373	ALA	2.3
1	C	633	VAL	2.3
1	B	47	GLU	2.3
1	B	523	HIS	2.3

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Mol	Chain	Res	Type	RSRZ
1	C	238	ILE	2.3
1	D	160	THR	2.3
1	A	253	PHE	2.3
1	B	147	LYS	2.3
1	B	63	ILE	2.3
1	A	49	LYS	2.3
1	B	120	TYR	2.3
1	C	387	HIS	2.3
1	B	127	ASN	2.3
1	A	265	LEU	2.2
1	B	174	TYR	2.2
1	D	32	LYS	2.2
1	A	25	GLU	2.2
1	B	48	GLU	2.2
1	D	720	GLU	2.2
1	C	86	ALA	2.2
1	D	719	ALA	2.2
1	D	57	GLY	2.2
1	D	733	HIS	2.2
1	B	31	GLU	2.2
1	B	29	LYS	2.2
1	B	350	VAL	2.2
1	A	98	ASP	2.2
1	B	226	ALA	2.2
1	D	144	ALA	2.2
1	B	265	LEU	2.2
1	B	239	ASP	2.2
1	B	277	GLU	2.2
1	C	488	GLU	2.2
1	D	576	SER	2.2
1	C	272	ALA	2.2
1	C	390	ALA	2.2
1	A	36	ILE	2.2
1	D	619	HIS	2.1
1	B	322	ALA	2.1
1	A	203	LYS	2.1
1	A	364	LEU	2.1
1	A	576	SER	2.1
1	B	113	VAL	2.1
1	B	648	THR	2.1
1	B	27	GLY	2.1
1	D	265	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	462	TRP	2.1
1	B	744	LEU	2.1
1	C	307	LEU	2.1
1	D	742	ILE	2.1
1	A	395	GLN	2.1
1	B	595	ARG	2.1
1	B	160	THR	2.1
1	B	235	TRP	2.1
1	B	134	GLU	2.0
1	B	548	HIS	2.0
1	B	589	HIS	2.0
1	A	741	GLY	2.0
1	A	342	PHE	2.0
1	B	179	TYR	2.0
1	A	634	LEU	2.0
1	B	291	GLU	2.0
1	C	266	SER	2.0
1	A	28	LYS	2.0
1	D	350	VAL	2.0
1	D	746[A]	HIS	2.0
1	B	231	GLY	2.0
1	A	39	THR	2.0
1	B	214	SER	2.0
1	B	599	ARG	2.0
1	B	681	SER	2.0
1	B	732	THR	2.0

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

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

6.3 Carbohydrates (i)

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
2	GLC	G	2	11/12	0.75	0.21	78,95,104,105	0
2	BGC	G	1	12/12	0.80	0.24	76,97,108,113	0

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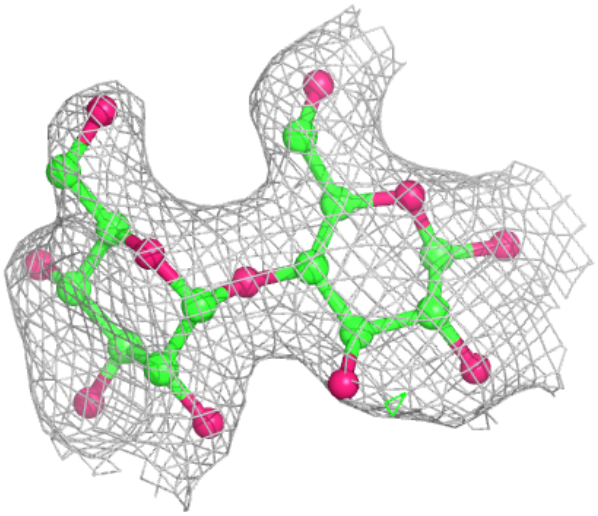
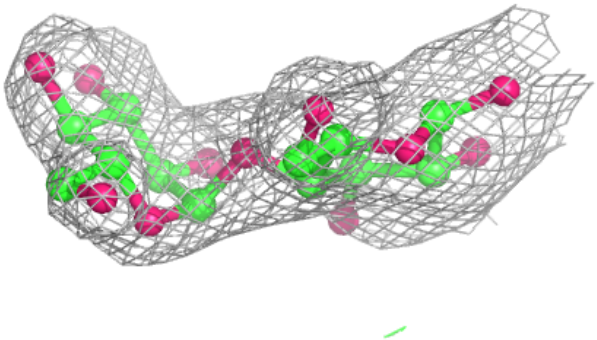
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	BGC	F	1	12/12	0.90	0.17	48,64,69,73	0
2	BGC	I	1	12/12	0.91	0.22	34,43,48,52	0
2	GLC	H	2	11/12	0.93	0.17	44,47,51,53	0
2	GLC	F	2	11/12	0.95	0.14	52,65,69,71	0
2	BGC	H	1	12/12	0.95	0.16	37,47,53,56	0
2	GLC	I	2	11/12	0.97	0.19	29,33,40,44	0

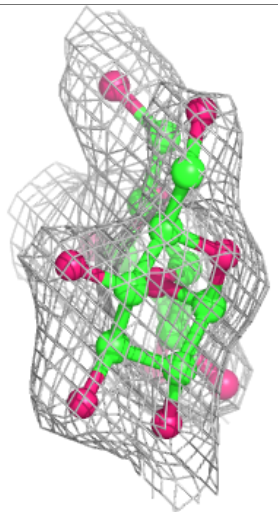
The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around Chain F:

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

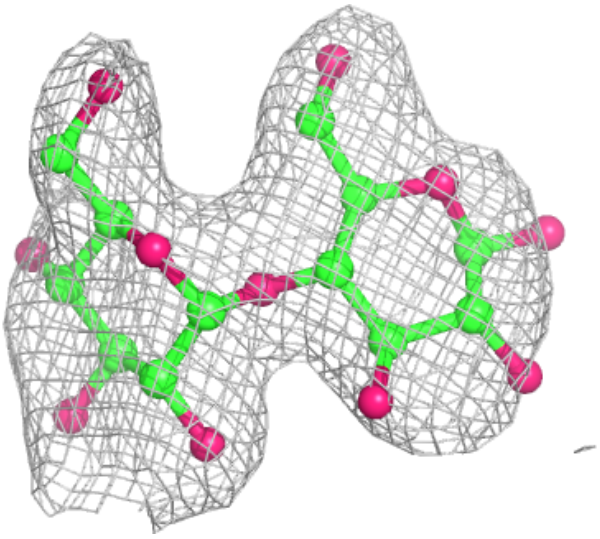


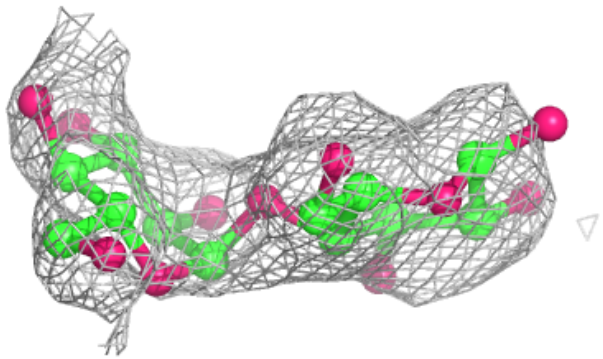


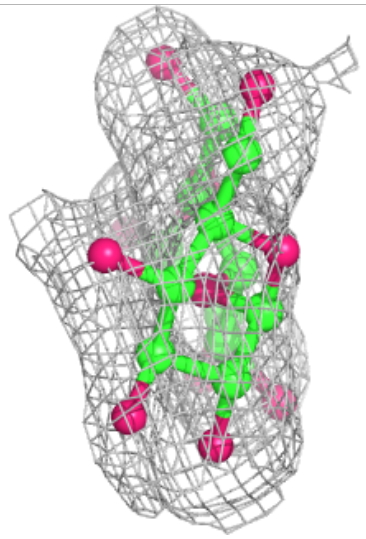


Electron density around Chain G:

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

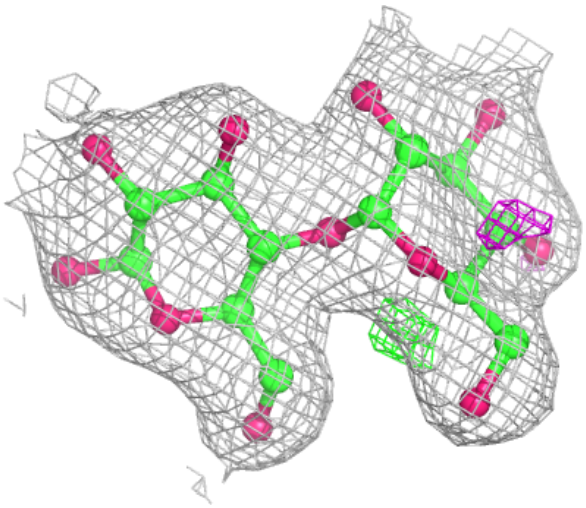


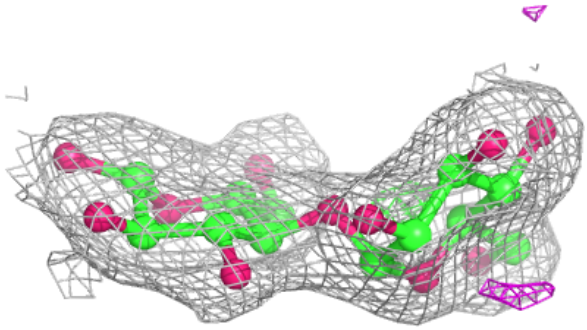


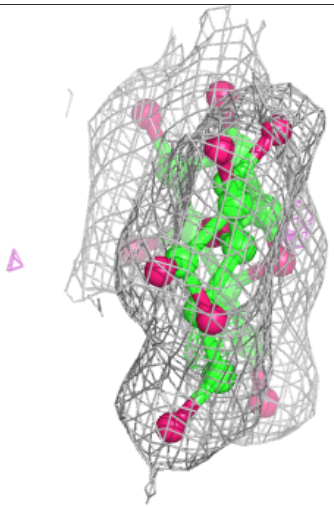


Electron density around Chain H:

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

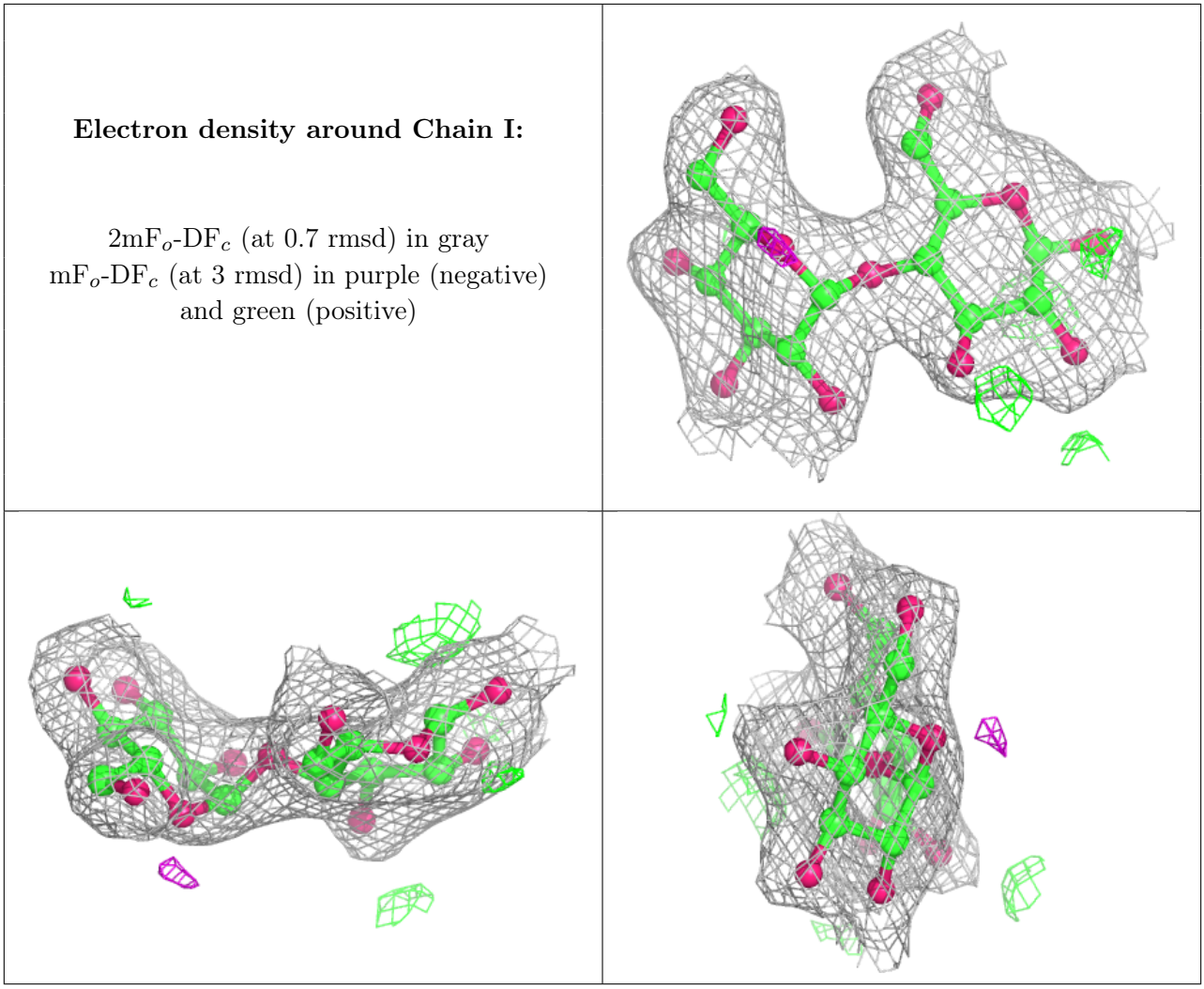






Electron density around Chain I:

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



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
3	NAG	B	902	14/15	0.71	0.32	82,92,104,106	0
5	GOL	B	905	6/6	0.72	0.25	68,76,80,82	0
7	DMX	C	906	17/17	0.73	0.39	68,84,120,187	0
3	NAG	A	902	14/15	0.77	0.22	81,93,101,102	0
7	DMX	D	905	17/17	0.77	0.28	85,120,133,196	0
4	PLM	A	904	18/18	0.79	0.31	48,61,75,76	0
3	NAG	D	901	14/15	0.79	0.29	79,93,100,108	0
3	NAG	B	901	14/15	0.80	0.33	74,85,96,98	0
7	DMX	C	905	17/17	0.81	0.25	71,93,101,158	0

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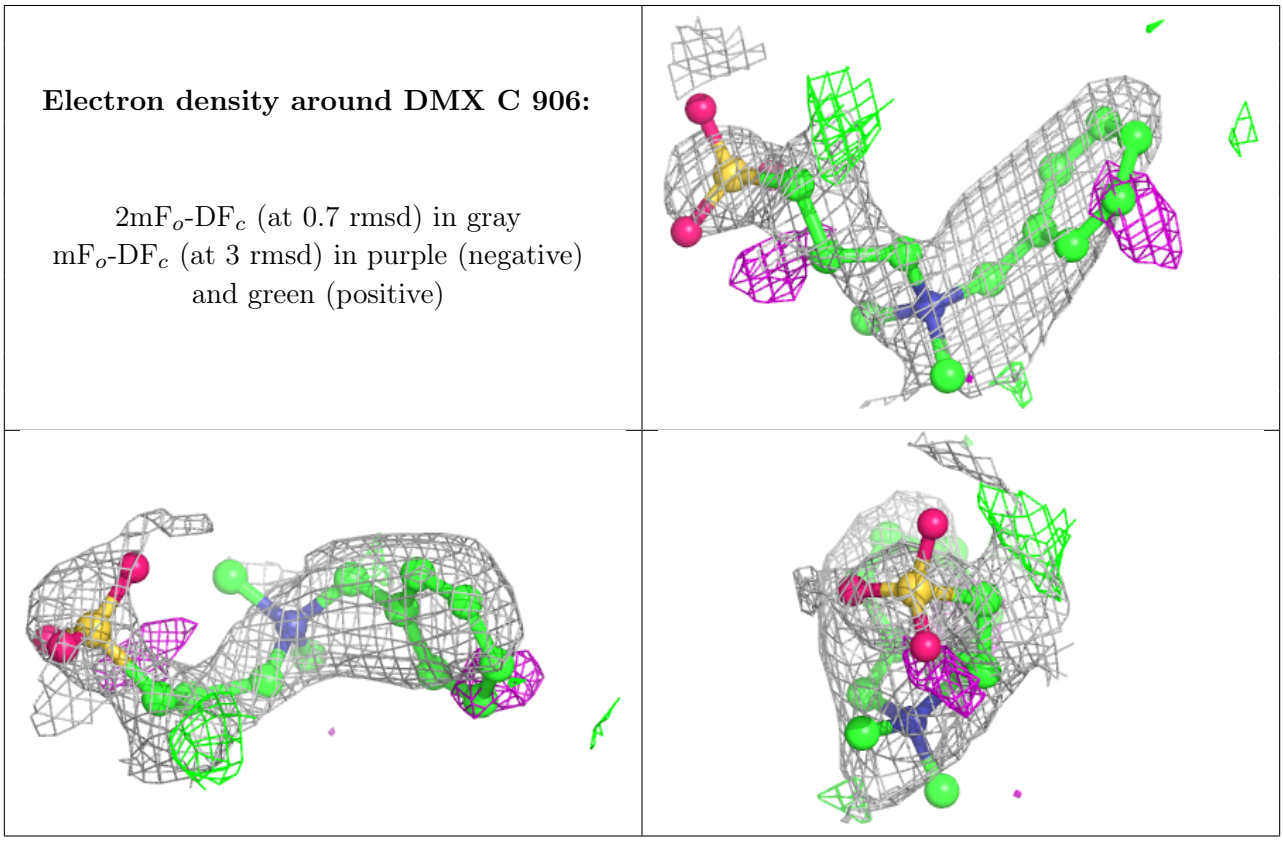
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	PLM	C	907	18/18	0.81	0.29	49,63,73,75	0
3	NAG	D	902	14/15	0.81	0.15	68,87,96,114	0
3	NAG	B	903	14/15	0.84	0.21	79,90,101,106	0
3	NAG	C	902	14/15	0.87	0.22	54,63,76,76	0
5	GOL	B	904	6/6	0.87	0.24	67,71,79,82	0
5	GOL	A	905	6/6	0.91	0.22	69,79,83,105	0
5	GOL	D	904	6/6	0.91	0.24	64,69,70,70	0
6	CL	A	906	1/1	0.91	0.08	82,82,82,82	0
3	NAG	C	903	14/15	0.92	0.19	48,53,62,64	0
3	NAG	A	901	14/15	0.92	0.15	55,62,78,79	0
6	CL	D	906	1/1	0.92	0.25	63,63,63,63	0
3	NAG	C	901	14/15	0.93	0.14	36,57,63,70	0
3	NAG	A	903	14/15	0.93	0.15	66,77,86,93	0
5	GOL	C	904	6/6	0.93	0.47	64,69,70,78	0
3	NAG	D	903	14/15	0.94	0.20	53,68,81,87	0
6	CL	B	906	1/1	0.95	0.32	68,68,68,68	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.

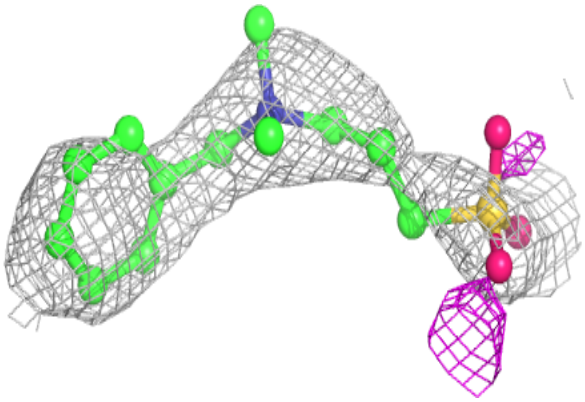
Electron density around DMX C 906:

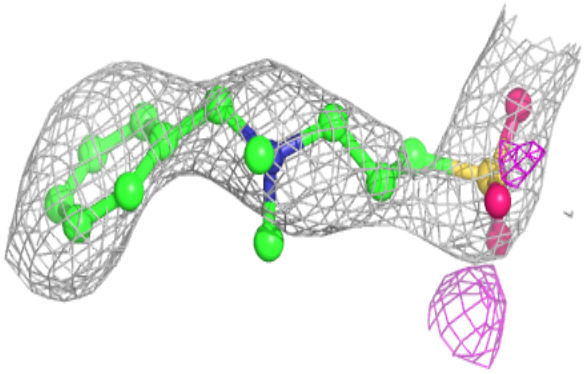
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

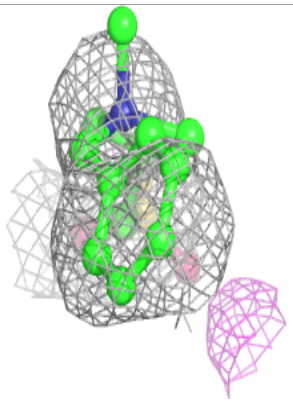


Electron density around DMX D 905:

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

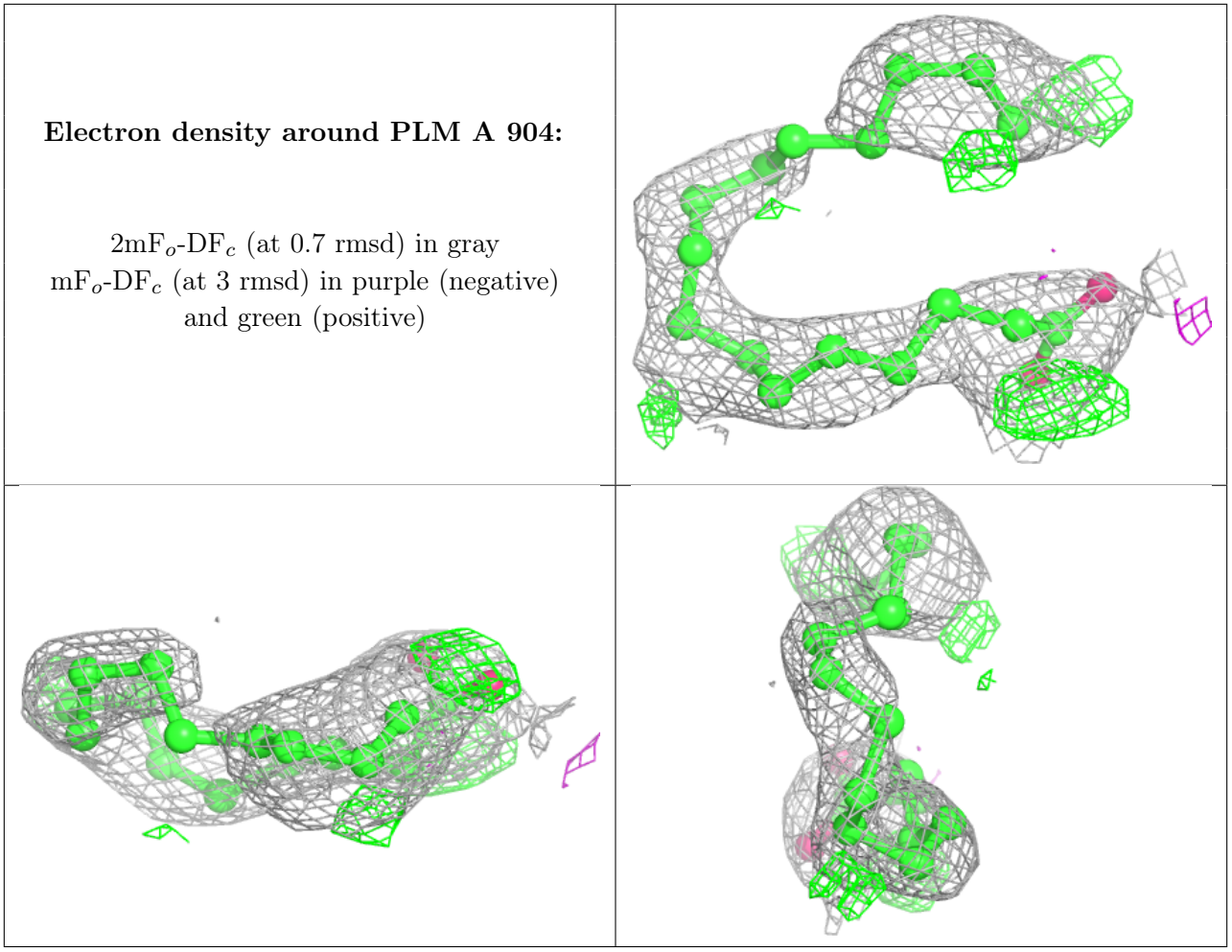






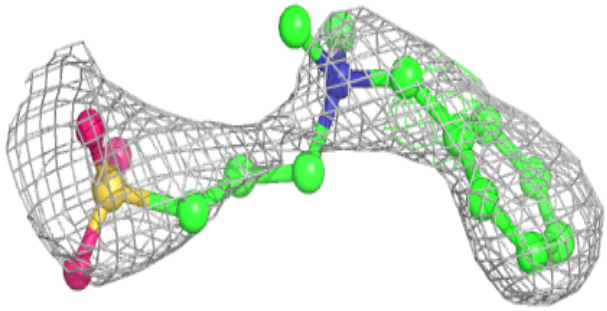
Electron density around PLM A 904:

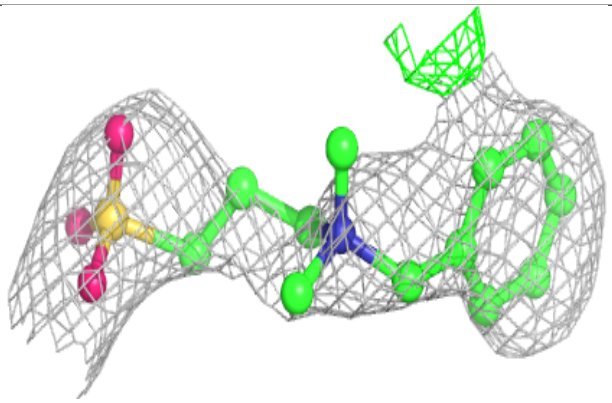
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

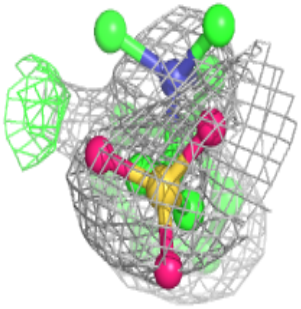


Electron density around DMX C 905:

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

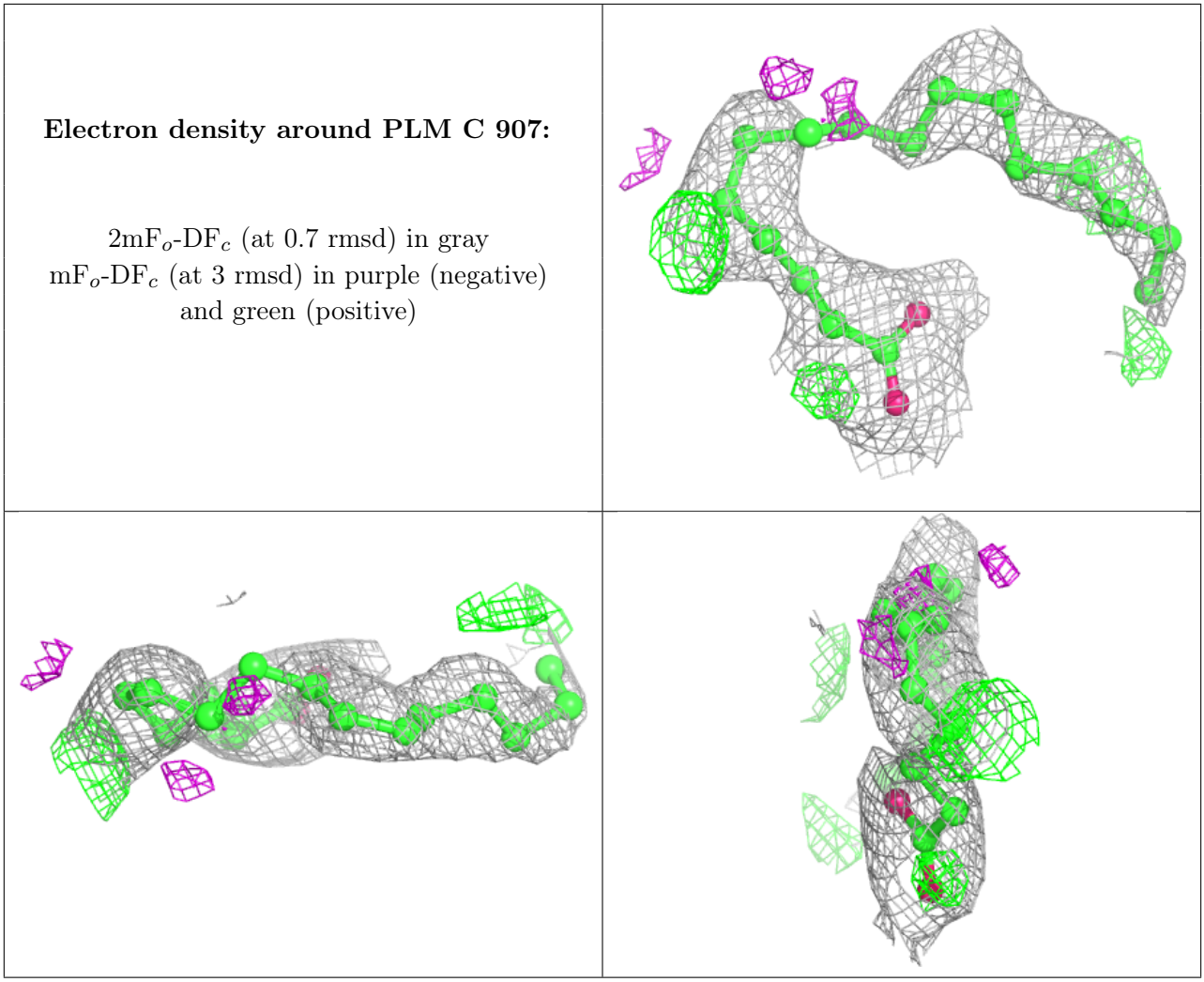






Electron density around PLM C 907:

$2mF_o$-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.