WORLDWIDE PDB
PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Dec 16, 2023 – 09:51 AM EST

PDB ID	:	2ONC
Title	:	Crystal structure of human DPP-4
Authors	:	Feng, J.; Zhang, Z.; Wallace, M.B.; Stafford, J.A.; Kaldor, S.W.; Kassel, D.B.; Navre, M.; Shi, L.; Skene, R.J.; Asakawa, T.; Takeuchi, K.; Xu, R.; Webb, D.R.; Gwaltney, S.L.
Deposited on	:	2007-01-23
Resolution	:	2.55 Å(reported)

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

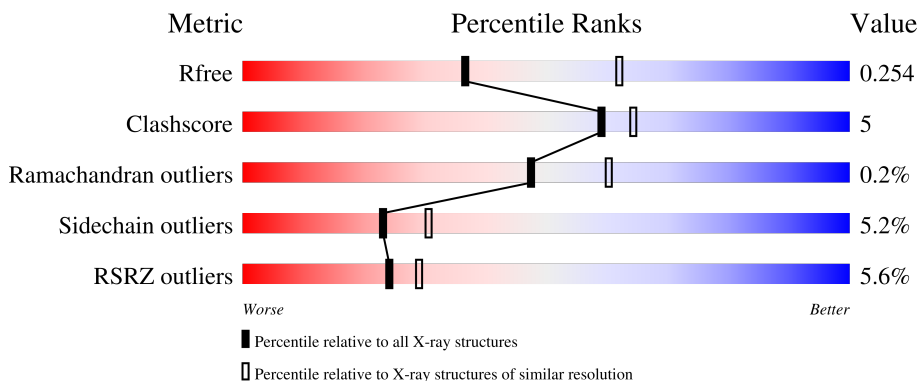|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh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

1　Overall quality at a glance　ⓘ

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

The reported resolution of this entry is 2.55 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	Percentile Ranks	Value
Rfree		0.254
Clashscore		5
Ramachandran outliers		0.2%
Sidechain outliers		5.2%
RSRZ outliers		5.6%

Worse *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1284 (2.56-2.52)
Clashscore	141614	1332 (2.56-2.52)
Ramachandran outliers	138981	1315 (2.56-2.52)
Sidechain outliers	138945	1315 (2.56-2.52)
RSRZ outliers	127900	1272 (2.56-2.52)

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	731	5% 85% 12% ••
1	B	731	3% 84% 15% •
1	C	731	6% 86% 11% ••
1	D	731	8% 85% 13% ••

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

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 25016 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 Dipeptidyl peptidase 4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	724	Total	C	N	O	S	0	1	0
			5925	3807	973	1119	26			
1	B	728	Total	C	N	O	S	0	1	0
			5958	3826	981	1125	26			
1	C	723	Total	C	N	O	S	0	1	0
			5918	3802	972	1118	26			
1	D	722	Total	C	N	O	S	0	0	0
			5907	3795	969	1117	26			

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	36	HIS	-	expression tag	UNP P27487
A	37	HIS	-	expression tag	UNP P27487
A	38	ALA	-	expression tag	UNP P27487
A	39	SER	-	expression tag	UNP P27487
A	40	ALA	-	expression tag	UNP P27487
B	36	HIS	-	expression tag	UNP P27487
B	37	HIS	-	expression tag	UNP P27487
B	38	ALA	-	expression tag	UNP P27487
B	39	SER	-	expression tag	UNP P27487
B	40	ALA	-	expression tag	UNP P27487
C	36	HIS	-	expression tag	UNP P27487
C	37	HIS	-	expression tag	UNP P27487
C	38	ALA	-	expression tag	UNP P27487
C	39	SER	-	expression tag	UNP P27487
C	40	ALA	-	expression tag	UNP P27487
D	36	HIS	-	expression tag	UNP P27487
D	37	HIS	-	expression tag	UNP P27487
D	38	ALA	-	expression tag	UNP P27487
D	39	SER	-	expression tag	UNP P27487
D	40	ALA	-	expression tag	UNP P27487

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	E	2	Total 28	C 16	N 2	O 10	0	0	0
2	F	2	Total 28	C 16	N 2	O 10	0	0	0
2	G	2	Total 28	C 16	N 2	O 10	0	0	0
2	H	2	Total 28	C 16	N 2	O 10	0	0	0
2	I	2	Total 28	C 16	N 2	O 10	0	0	0

- 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 14	C 8	N 1	O 5	0	0
3	A	1	Total 14	C 8	N 1	O 5	0	0
3	A	1	Total 14	C 8	N 1	O 5	0	0

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

- Molecule 4 is 2-({2-[(3R)-3-AMINOPIPERIDIN-1-YL]-4-OXOQUINAZOLIN-3(4H)-YL}METHYL)BENZONITRILE (three-letter code: SY1) (formula: $C_{21}H_{21}N_5O$).
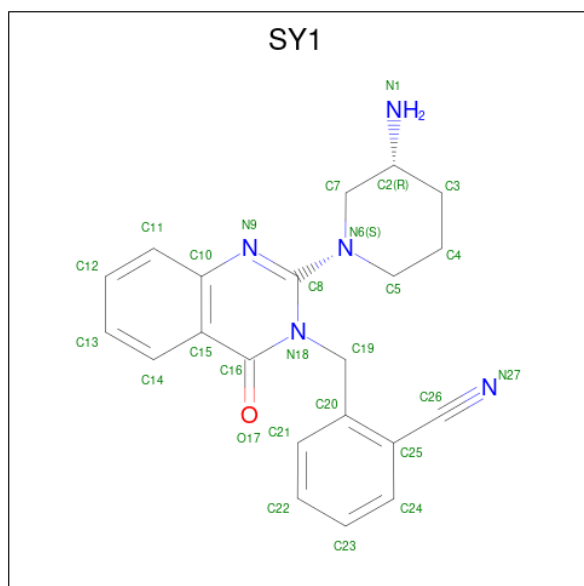
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total 27	C 21	N 5	O 1	0	0
4	A	1	Total 27	C 21	N 5	O 1	0	0
4	B	1	Total 27	C 21	N 5	O 1	0	0
4	B	1	Total 27	C 21	N 5	O 1	0	0
4	C	1	Total 27	C 21	N 5	O 1	0	0
4	C	1	Total 27	C 21	N 5	O 1	0	0
4	D	1	Total 27	C 21	N 5	O 1	0	0
4	D	1	Total 27	C 21	N 5	O 1	0	0

- Molecule 5 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	227	Total 227	O 227	0	0
5	B	213	Total 213	O 213	0	0
5	C	219	Total 219	O 219	0	0
5	D	97	Total 97	O 97	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.
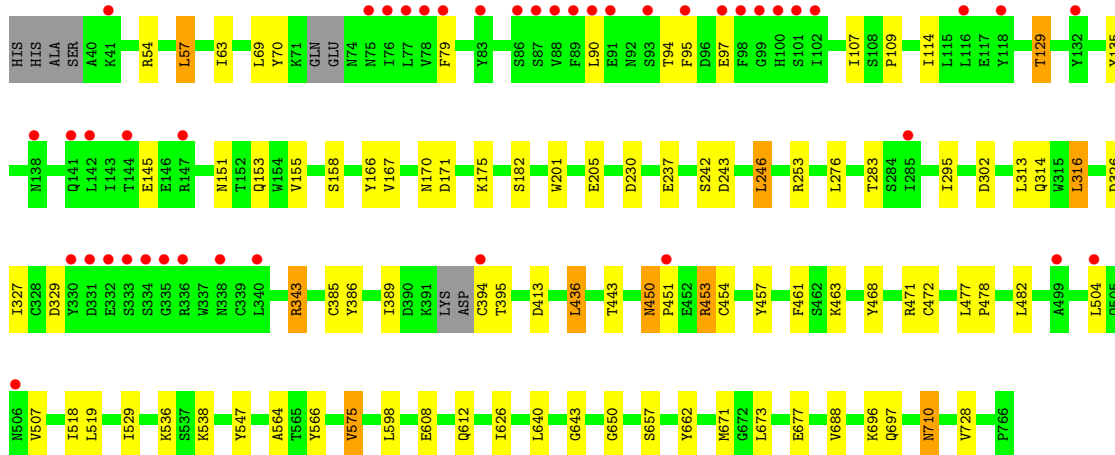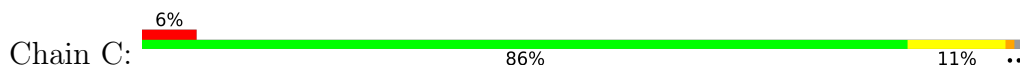
- Molecule 1: Dipeptidyl peptidase 4
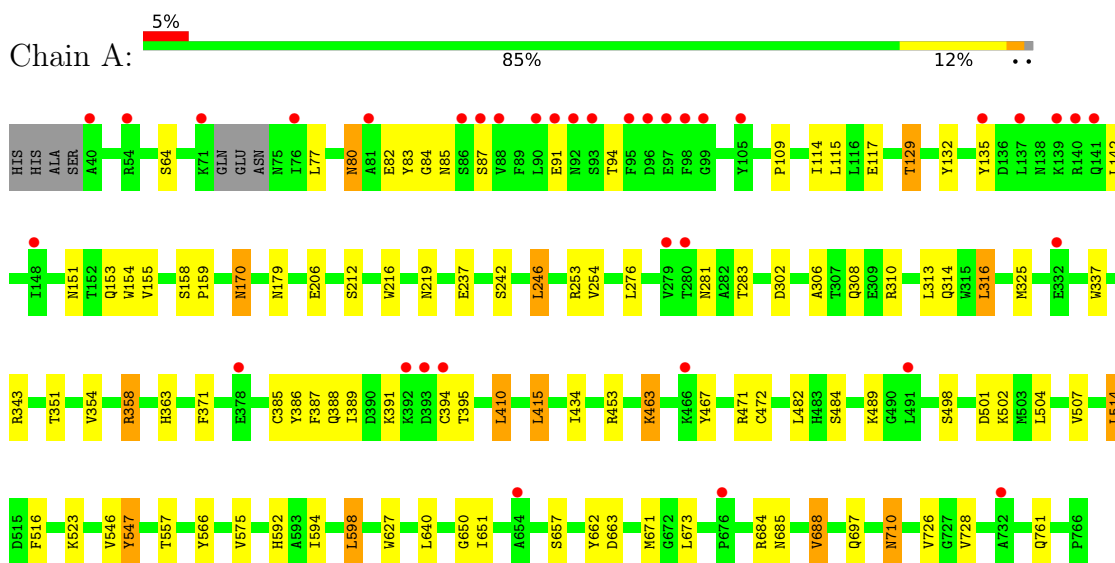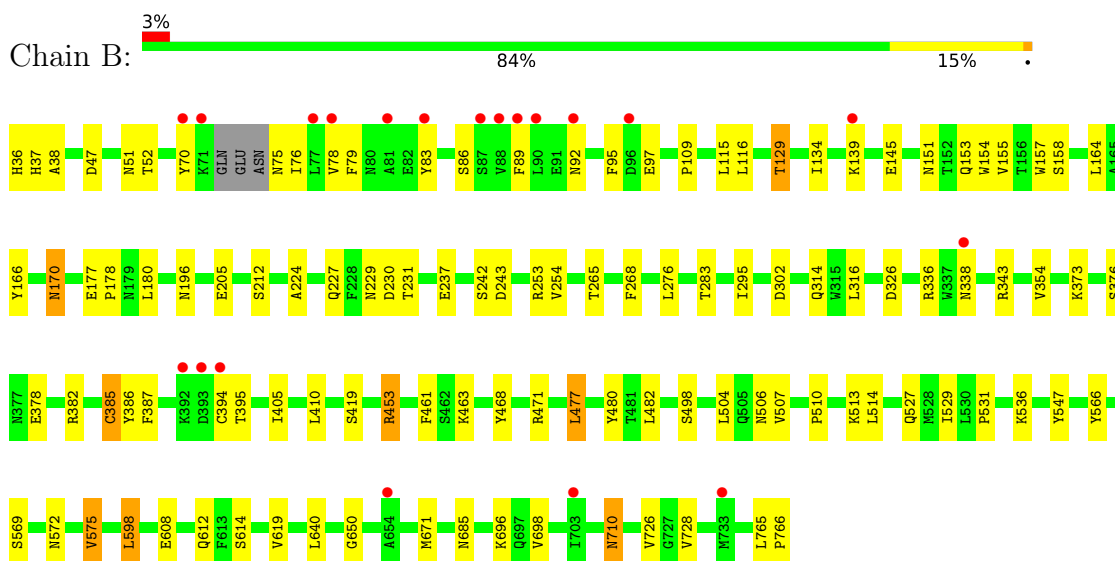
Chain A:

- Molecule 1: Dipeptidyl peptidase 4

Chain B:

- Molecule 1: Dipeptidyl peptidase 4

Chain C:

• Molecule 1: Dipeptidyl peptidase 4

Chain D:
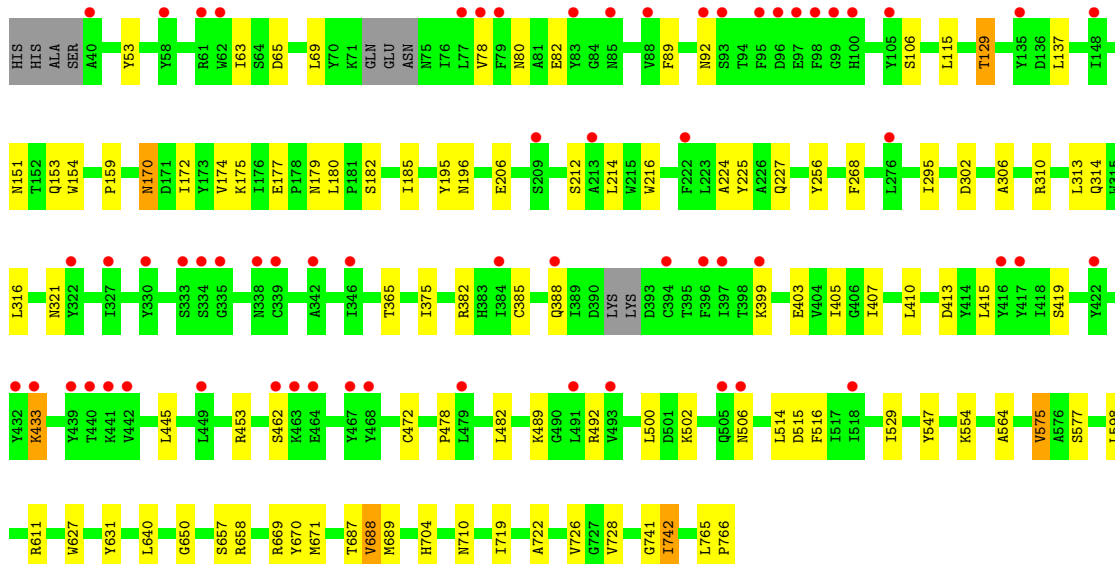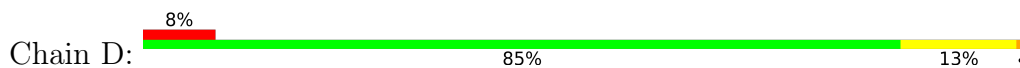
• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain E:

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

Chain F:

NAG1 NAG2
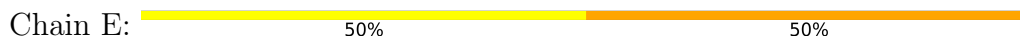
• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-gluc opyranose

Chain G:

50% 50%

NAG1 NAG2

• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-gluc opyranose

Chain H:

100%

NAG1 NAG2

• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-gluc opyranose

Chain I:

100%

NAG1 NAG2

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	122.36Å 123.70Å 145.36Å 90.00° 114.89° 90.00°	Depositor
Resolution (Å)	50.00 – 2.55 38.65 – 2.55	Depositor EDS
% Data completeness (in resolution range)	92.8 (50.00-2.55) 92.8 (38.65-2.55)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.61 (at 2.54Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.195 , 0.254 0.195 , 0.254	Depositor DCC
R_{free} test set	5942 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å^2)	46.8	Xtriage
Anisotropy	0.526	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 49.5	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.012 for h,-k,-h-l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	25016	wwPDB-VP
Average B, all atoms (Å^2)	54.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.26% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1] Intensities estimated from amplitudes.

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

5   Model quality ⓘ

5.1   Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: NAG, SY1

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	0.44	0/6096	0.59	2/8291 (0.0%)
1	B	0.42	0/6135	0.58	0/8344
1	C	0.43	0/6092	0.59	2/8285 (0.0%)
1	D	0.40	0/6077	0.55	0/8266
All	All	0.42	0/24400	0.58	4/33186 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	316	LEU	CA-CB-CG	5.45	127.84	115.30
1	C	57	LEU	CA-CB-CG	5.37	127.66	115.30
1	A	316	LEU	CA-CB-CG	5.09	127.00	115.30
1	A	142	LEU	CA-CB-CG	5.03	126.88	115.30

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	5925	0	5639	53	0
1	B	5958	0	5670	58	0
1	C	5918	0	5635	43	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	D	5907	0	5621	46	0
2	E	28	0	25	1	0
2	F	28	0	25	0	0
2	G	28	0	25	0	0
2	H	28	0	25	0	0
2	I	28	0	25	0	0
3	A	56	0	52	0	0
3	B	56	0	52	0	0
3	C	56	0	52	0	0
3	D	28	0	26	0	0
4	A	54	0	42	6	0
4	B	54	0	42	6	0
4	C	54	0	42	6	0
4	D	54	0	42	5	0
5	A	227	0	0	5	0
5	B	213	0	0	5	0
5	C	219	0	0	0	0
5	D	97	0	0	2	0
All	All	25016	0	23040	220	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 5.

All (220) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:153:GLN:HE22	1:B:170:ASN:H	1.07	1.00
1:C:153:GLN:HE22	1:C:170:ASN:H	1.13	0.95
1:A:153:GLN:HE22	1:A:170:ASN:H	1.20	0.89
4:B:800:SY1:H52	4:B:800:SY1:H191	1.57	0.87
1:D:153:GLN:HE22	1:D:170:ASN:H	1.25	0.81
1:D:433:LYS:HD2	1:D:445:LEU:HD21	1.64	0.80
4:A:800:SY1:H191	4:A:800:SY1:H52	1.63	0.80
1:C:386:TYR:O	1:C:394:CYS:HB2	1.81	0.80
1:C:63:ILE:HD11	1:C:69:LEU:HG	1.64	0.77
1:A:281:ASN:HD21	2:E:1:NAG:C1	1.99	0.76
1:C:564:ALA:HB1	1:C:575:VAL:HG11	1.69	0.74
1:C:90:LEU:HD21	1:C:95:PHE:HE2	1.53	0.74
1:D:321:ASN:ND2	5:D:829:HOH:O	2.21	0.73
1:B:153:GLN:NE2	1:B:170:ASN:H	1.85	0.72
4:C:800:SY1:H191	4:C:800:SY1:H52	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:800:SY1:H191	4:D:800:SY1:H52	1.72	0.70
1:C:327:ILE:HD13	1:C:389:ILE:HG13	1.73	0.70
1:C:129:THR:HG23	1:C:151:ASN:HA	1.74	0.69
1:B:696:LYS:HG3	1:B:728:VAL:HG22	1.76	0.67
1:B:78:VAL:HG23	1:B:89:PHE:HB2	1.77	0.67
1:A:640:LEU:HD11	1:A:650:GLY:HA3	1.78	0.66
1:A:129:THR:HG23	1:A:151:ASN:HA	1.76	0.66
1:B:153:GLN:HE22	1:B:170:ASN:N	1.88	0.66
1:B:70:TYR:HB3	1:B:79:PHE:HE1	1.62	0.64
1:B:38:ALA:HB2	5:B:906:HOH:O	1.97	0.63
1:B:640:LEU:HD11	1:B:650:GLY:HA3	1.81	0.63
1:C:529:ILE:HB	1:C:575:VAL:HG13	1.82	0.62
1:B:70:TYR:HB3	1:B:79:PHE:CE1	2.35	0.62
1:A:302:ASP:HB3	1:A:314:GLN:HB2	1.82	0.61
1:B:115:LEU:HD21	1:B:155:VAL:HG21	1.82	0.61
4:B:800:SY1:H52	4:B:800:SY1:C19	2.29	0.61
1:C:696:LYS:HG3	1:C:728:VAL:HG22	1.83	0.61
1:C:657:SER:HA	1:C:688:VAL:HG13	1.83	0.61
1:A:685:ASN:ND2	5:A:974:HOH:O	2.33	0.60
1:C:640:LEU:HD11	1:C:650:GLY:HA3	1.83	0.60
1:A:598:LEU:HD22	1:A:671:MET:HG2	1.83	0.60
1:D:302:ASP:HB3	1:D:314:GLN:HB2	1.83	0.60
1:A:91:GLU:HB2	1:A:94:THR:HG23	1.84	0.60
1:B:109:PRO:HG2	1:B:158:SER:O	2.02	0.59
4:D:800:SY1:H191	4:D:800:SY1:H72	1.83	0.59
4:D:800:SY1:H52	4:D:800:SY1:C19	2.33	0.59
1:B:97:GLU:HG3	5:B:880:HOH:O	2.01	0.59
1:D:214:LEU:HD23	1:D:225:TYR:HB3	1.84	0.59
1:A:170:ASN:N	1:A:170:ASN:HD22	2.01	0.59
1:D:382:ARG:H	1:D:403:GLU:HG2	1.68	0.58
1:A:325:MET:HE3	1:A:371:PHE:CZ	2.38	0.58
1:A:684:ARG:HD3	5:A:989:HOH:O	2.03	0.58
1:B:237:GLU:HG2	1:B:253:ARG:HB3	1.85	0.58
1:A:471:ARG:HD2	5:A:902:HOH:O	2.04	0.58
1:B:36:HIS:N	5:B:905:HOH:O	2.36	0.58
4:C:800:SY1:H191	4:C:800:SY1:H72	1.86	0.58
1:B:510:PRO:HD3	1:B:569:SER:HB2	1.86	0.58
1:D:63:ILE:HD11	1:D:69:LEU:HG	1.86	0.57
1:D:78:VAL:HG23	1:D:89:PHE:HB2	1.85	0.57
1:D:472:CYS:O	1:D:478:PRO:HA	2.03	0.57
1:C:237:GLU:HG2	1:C:253:ARG:HG2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:80:ASN:HD22	1:A:82:GLU:H	1.51	0.56
4:C:800:SY1:H52	4:C:800:SY1:C19	2.35	0.56
1:C:153:GLN:NE2	1:C:170:ASN:H	1.92	0.56
1:D:129:THR:HG23	1:D:151:ASN:HA	1.87	0.56
1:C:598:LEU:HD22	1:C:671:MET:HG2	1.87	0.56
1:B:129:THR:HG23	1:B:151:ASN:HA	1.88	0.56
1:A:710:ASN:HD22	1:A:710:ASN:C	2.09	0.55
1:D:529:ILE:HB	1:D:575:VAL:HG13	1.89	0.55
1:D:611:ARG:HD3	5:D:852:HOH:O	2.07	0.55
1:A:726:VAL:HG23	1:A:728:VAL:HG23	1.90	0.54
1:D:224:ALA:HB1	1:D:268:PHE:CZ	2.43	0.53
1:B:614:SER:HA	1:B:619:VAL:HB	1.90	0.53
1:C:70:TYR:HB3	1:C:79:PHE:CE1	2.43	0.53
1:C:472:CYS:O	1:C:478:PRO:HA	2.08	0.53
1:A:387:PHE:CD1	1:A:394:CYS:HB3	2.44	0.53
1:B:205:GLU:OE1	4:B:800:SY1:N1	2.42	0.53
1:C:155:VAL:HG12	1:C:166:TYR:HB3	1.91	0.53
1:B:385:CYS:HB3	1:B:387:PHE:CE2	2.43	0.53
1:C:453:ARG:HG3	1:C:454:CYS:SG	2.49	0.53
1:B:710:ASN:C	1:B:710:ASN:HD22	2.13	0.52
1:C:242:SER:HB3	1:C:246:LEU:HD12	1.91	0.52
4:A:800:SY1:H52	4:A:800:SY1:C19	2.37	0.52
4:B:800:SY1:H191	4:B:800:SY1:C5	2.35	0.52
1:A:115:LEU:HD21	1:A:155:VAL:HG21	1.92	0.51
1:D:726:VAL:HG23	1:D:728:VAL:HG23	1.92	0.51
1:B:598:LEU:HB2	1:B:671:MET:SD	2.50	0.51
1:C:153:GLN:HE22	1:C:170:ASN:N	1.94	0.51
1:C:175:LYS:HG2	1:C:182:SER:HB3	1.92	0.51
1:B:129:THR:HG22	5:B:904:HOH:O	2.09	0.51
1:C:329:ASP:OD2	1:C:343:ARG:NH1	2.44	0.51
1:A:662:TYR:HE1	1:A:710:ASN:ND2	2.09	0.51
4:A:801:SY1:C5	4:A:801:SY1:H192	2.41	0.51
1:B:529:ILE:HB	1:B:575:VAL:HG13	1.92	0.51
1:C:205:GLU:OE1	4:C:800:SY1:N1	2.44	0.51
1:D:159:PRO:HD3	1:D:216:TRP:CB	2.41	0.51
1:D:657:SER:HB3	1:D:719:ILE:HD11	1.93	0.50
1:A:80:ASN:HB3	1:A:84:GLY:H	1.77	0.50
1:D:172:ILE:HG22	1:D:185:ILE:HD13	1.94	0.50
1:A:114:ILE:HG23	1:A:135:TYR:HB3	1.93	0.50
1:A:516:PHE:CD1	1:A:523:LYS:HG2	2.46	0.50
1:D:410:LEU:HD13	1:D:415:LEU:HD23	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:657:SER:HA	1:A:688:VAL:HG13	1.93	0.50
1:B:471:ARG:HG3	1:B:480:TYR:CE1	2.47	0.50
1:B:36:HIS:CG	1:B:37:HIS:H	2.30	0.49
1:D:554:LYS:HB3	1:D:577:SER:HB3	1.94	0.49
1:A:351:THR:OG1	1:A:592:HIS:HD2	1.96	0.49
1:A:386:TYR:O	1:A:394:CYS:HB2	2.12	0.49
1:B:196:ASN:OD1	1:B:227:GLN:HG3	2.11	0.49
1:D:657:SER:HA	1:D:688:VAL:HG13	1.94	0.48
1:D:658:ARG:NH2	1:D:687:THR:HG21	2.28	0.48
1:A:206:GLU:OE2	1:A:663:ASP:OD2	2.31	0.48
1:D:689:MET:HG3	1:D:722:ALA:HB2	1.94	0.48
1:D:640:LEU:HD11	1:D:650:GLY:HA3	1.94	0.48
1:C:657:SER:HA	1:C:688:VAL:CG1	2.44	0.48
1:D:564:ALA:HB1	1:D:575:VAL:HG11	1.94	0.48
1:C:457:TYR:HA	1:C:471:ARG:O	2.13	0.48
1:A:306:ALA:HB3	1:A:310:ARG:HG2	1.95	0.47
4:A:800:SY1:H191	4:A:800:SY1:C5	2.39	0.47
1:A:415:LEU:HB3	1:A:434:ILE:HG23	1.96	0.47
1:B:405:ILE:HG12	1:B:419:SER:HA	1.96	0.47
1:D:175:LYS:CG	1:D:182:SER:HB3	2.44	0.47
1:A:109:PRO:HG2	1:A:158:SER:O	2.15	0.47
1:A:657:SER:HA	1:A:688:VAL:CG1	2.45	0.47
1:A:662:TYR:CE1	1:A:710:ASN:ND2	2.83	0.47
1:D:407:ILE:HG23	1:D:415:LEU:HD21	1.97	0.46
1:C:643:GLY:HA2	1:C:697:GLN:HE22	1.80	0.46
1:B:302:ASP:HB3	1:B:314:GLN:HB2	1.97	0.46
1:B:513:LYS:O	1:B:527:GLN:HA	2.15	0.46
1:B:726:VAL:HG23	1:B:728:VAL:HG23	1.97	0.46
1:B:76:ILE:HG22	1:B:89:PHE:HB3	1.98	0.46
1:B:157:TRP:CE3	1:B:164:LEU:HD13	2.51	0.46
1:A:325:MET:CE	1:A:371:PHE:CZ	2.99	0.46
1:C:343:ARG:CD	1:C:389:ILE:HG23	2.46	0.46
1:D:170:ASN:O	1:D:196:ASN:HB2	2.16	0.46
4:C:800:SY1:N27	4:C:800:SY1:H71	2.31	0.46
1:D:405:ILE:HG12	1:D:419:SER:HA	1.98	0.46
4:B:800:SY1:H71	4:B:800:SY1:N27	2.31	0.45
1:A:129:THR:HG21	1:A:151:ASN:HD22	1.82	0.45
1:A:154:TRP:CE2	1:A:212:SER:HB2	2.51	0.45
1:B:338:ASN:HB2	5:B:977:HOH:O	2.16	0.45
1:B:154:TRP:CE2	1:B:212:SER:HB2	2.52	0.45
1:B:453:ARG:NH2	1:B:477:LEU:O	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:800:SY1:H191	4:C:800:SY1:C5	2.45	0.45
1:D:741:GLY:O	1:D:742:ILE:C	2.55	0.45
1:B:229:ASN:HB3	1:B:265:THR:OG1	2.16	0.45
1:C:343:ARG:HD2	1:C:389:ILE:HG23	1.99	0.45
1:D:598:LEU:HG	1:D:631:TYR:OH	2.17	0.45
1:B:170:ASN:N	1:B:170:ASN:HD22	2.14	0.45
1:D:195:TYR:O	1:D:227:GLN:HA	2.17	0.45
1:D:177:GLU:HB2	1:D:180:LEU:HG	1.99	0.44
1:D:268:PHE:CD2	1:D:313:LEU:HD21	2.53	0.44
1:B:95:PHE:CE1	1:B:116:LEU:HD11	2.52	0.44
1:B:531:PRO:HB3	1:B:572:ASN:HD22	1.83	0.44
1:A:391:LYS:HE2	1:A:391:LYS:HB3	1.80	0.44
1:B:177:GLU:HB2	1:B:180:LEU:HD12	2.00	0.44
1:B:461:PHE:CD2	1:B:468:TYR:HB3	2.53	0.44
1:B:640:LEU:HB3	1:B:698:VAL:HG21	1.99	0.44
1:A:117:GLU:HB2	1:A:132:TYR:CE2	2.52	0.44
1:D:598:LEU:HD22	1:D:671:MET:HG2	1.98	0.44
1:B:155:VAL:HG12	1:B:166:TYR:HB3	1.98	0.44
1:C:109:PRO:HG2	1:C:158:SER:O	2.18	0.44
1:D:53:TYR:HB3	1:D:500:LEU:HD11	1.99	0.44
1:A:80:ASN:ND2	1:A:82:GLU:H	2.15	0.43
1:A:504:LEU:HA	1:A:507:VAL:CG1	2.47	0.43
1:C:608:GLU:O	1:C:612:GLN:HG2	2.18	0.43
1:A:498:SER:HA	1:A:501:ASP:HB3	2.01	0.43
1:A:516:PHE:CE1	1:A:523:LYS:HG2	2.52	0.43
1:B:47:ASP:HA	1:B:52:THR:OG1	2.18	0.43
1:D:175:LYS:HG3	1:D:182:SER:HB3	2.00	0.43
1:A:64:SER:HA	1:A:463:LYS:NZ	2.33	0.43
1:A:358:ARG:HD3	5:A:881:HOH:O	2.19	0.43
1:C:114:ILE:HG23	1:C:135:TYR:HB3	2.01	0.43
1:A:467:TYR:HD2	1:A:484:SER:HA	1.84	0.43
1:B:134:ILE:HD13	1:B:178:PRO:HB3	2.01	0.43
1:B:608:GLU:O	1:B:612:GLN:HG2	2.18	0.43
1:B:224:ALA:HB1	1:B:268:PHE:CZ	2.54	0.42
1:B:387:PHE:CD1	1:B:394:CYS:HB3	2.54	0.42
1:B:765:LEU:HA	1:B:766:PRO:HD3	1.90	0.42
4:A:801:SY1:H192	4:A:801:SY1:H51	2.01	0.42
1:A:242:SER:HB3	1:A:246:LEU:HD12	2.02	0.42
1:B:376:SER:HA	1:B:382:ARG:HA	2.01	0.42
4:B:800:SY1:C19	4:B:800:SY1:C5	2.96	0.42
1:C:302:ASP:HB3	1:C:314:GLN:HB2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:461:PHE:CD2	1:C:468:TYR:HB3	2.54	0.42
1:D:206:GLU:OE1	4:D:800:SY1:N1	2.52	0.42
1:D:306:ALA:HB3	1:D:310:ARG:HG2	2.02	0.42
1:D:174:VAL:HG23	1:D:185:ILE:HD11	2.00	0.42
1:A:627:TRP:HB2	1:A:651:ILE:HB	2.02	0.42
1:C:518:ILE:O	1:C:519:LEU:HD12	2.19	0.42
1:A:547:TYR:C	1:A:547:TYR:CD1	2.93	0.42
1:D:106:SER:HB3	1:D:115:LEU:HB3	2.00	0.42
1:D:669:ARG:HD2	1:D:670:TYR:CZ	2.55	0.42
1:D:154:TRP:CE2	1:D:212:SER:HB2	2.54	0.42
1:D:765:LEU:HA	1:D:766:PRO:HD3	1.94	0.42
1:B:386:TYR:O	1:B:394:CYS:HB2	2.20	0.41
1:C:167:VAL:HA	1:C:171:ASP:O	2.20	0.41
1:B:115:LEU:HD21	1:B:155:VAL:CG2	2.47	0.41
1:D:515:ASP:OD2	1:D:516:PHE:N	2.50	0.41
4:A:800:SY1:C19	4:A:800:SY1:C5	2.98	0.41
1:C:564:ALA:HB1	1:C:575:VAL:CG1	2.46	0.41
1:B:78:VAL:O	1:B:86:SER:HB2	2.20	0.41
1:A:363:HIS:HB3	1:A:410:LEU:HD22	2.02	0.41
1:A:697:GLN:NE2	5:A:951:HOH:O	2.53	0.41
1:C:107:ILE:HD13	1:C:114:ILE:HB	2.01	0.41
1:A:237:GLU:HG2	1:A:253:ARG:HG2	2.02	0.41
1:A:159:PRO:HD3	1:A:216:TRP:HB3	2.03	0.41
1:A:514:LEU:HD12	1:A:557:THR:HG22	2.03	0.41
1:B:242:SER:OG	1:B:243:ASP:N	2.54	0.41
1:C:90:LEU:HD21	1:C:95:PHE:CE2	2.43	0.41
1:C:201:TRP:CZ2	1:C:710:ASN:HA	2.56	0.41
1:C:413:ASP:O	1:C:436:LEU:HB2	2.20	0.41
1:C:626:ILE:O	1:C:650:GLY:HA2	2.21	0.41
4:D:800:SY1:C19	4:D:800:SY1:C5	2.99	0.41
1:D:65:ASP:HA	1:D:462:SER:HB2	2.03	0.41
1:D:80:ASN:HD21	1:D:82:GLU:HB2	1.86	0.41
1:A:343:ARG:HD3	1:A:389:ILE:CG2	2.51	0.40
1:A:219:ASN:HB3	1:A:308:GLN:NE2	2.37	0.40
1:B:230:ASP:O	1:B:231:THR:C	2.60	0.40
1:C:450:ASN:HA	1:C:451:PRO:HD2	1.77	0.40
1:A:598:LEU:HB2	1:A:671:MET:SD	2.62	0.40
1:C:662:TYR:OH	1:C:710:ASN:ND2	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	720/731 (98%)	681 (95%)	37 (5%)	2 (0%)	41	51
1	B	725/731 (99%)	686 (95%)	37 (5%)	2 (0%)	41	51
1	C	718/731 (98%)	678 (94%)	39 (5%)	1 (0%)	51	65
1	D	716/731 (98%)	671 (94%)	44 (6%)	1 (0%)	51	65
All	All	2879/2924 (98%)	2716 (94%)	157 (6%)	6 (0%)	47	60

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	85	ASN
1	A	87	SER
1	B	463	LYS
1	B	83	TYR
1	C	536	LYS
1	D	742	ILE

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	648/654 (99%)	611 (94%)	37 (6%)	20	27
1	B	652/654 (100%)	616 (94%)	36 (6%)	21	29
1	C	648/654 (99%)	614 (95%)	34 (5%)	23	30
1	D	646/654 (99%)	618 (96%)	28 (4%)	29	39

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
All	All	2594/2616 (99%)	2459 (95%)	135 (5%)	23	30

All (135) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	77	LEU
1	A	80	ASN
1	A	83	TYR
1	A	129	THR
1	A	170	ASN
1	A	179	ASN
1	A	246	LEU
1	A	254	VAL
1	A	276	LEU
1	A	283	THR
1	A	313	LEU
1	A	316	LEU
1	A	337	TRP
1	A	354	VAL
1	A	358	ARG
1	A	385	CYS
1	A	388	GLN
1	A	395	THR
1	A	410	LEU
1	A	415	LEU
1	A	453	ARG
1	A	463	LYS
1	A	472	CYS
1	A	482	LEU
1	A	489	LYS
1	A	502	LYS
1	A	514	LEU
1	A	546	VAL
1	A	547	TYR
1	A	566	TYR
1	A	575	VAL
1	A	594	ILE
1	A	598	LEU
1	A	673	LEU
1	A	688	VAL
1	A	710	ASN
1	A	761	GLN

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Mol	Chain	Res	Type
1	B	51	ASN
1	B	75	ASN
1	B	92	ASN
1	B	129	THR
1	B	139	LYS
1	B	145	GLU
1	B	170	ASN
1	B	254	VAL
1	B	276	LEU
1	B	283	THR
1	B	295	ILE
1	B	316	LEU
1	B	326	ASP
1	B	336	ARG
1	B	343	ARG
1	B	354	VAL
1	B	373	LYS
1	B	378	GLU
1	B	385	CYS
1	B	395	THR
1	B	410	LEU
1	B	453	ARG
1	B	477	LEU
1	B	482	LEU
1	B	498	SER
1	B	504	LEU
1	B	506	ASN
1	B	507	VAL
1	B	514	LEU
1	B	536	LYS
1	B	547	TYR
1	B	566	TYR
1	B	575	VAL
1	B	598	LEU
1	B	685	ASN
1	B	710	ASN
1	C	54	ARG
1	C	57	LEU
1	C	94	THR
1	C	97	GLU
1	C	129	THR
1	C	145	GLU

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Mol	Chain	Res	Type
1	C	230	ASP
1	C	243	ASP
1	C	246	LEU
1	C	276	LEU
1	C	283	THR
1	C	295	ILE
1	C	313	LEU
1	C	316	LEU
1	C	326	ASP
1	C	343	ARG
1	C	385	CYS
1	C	395	THR
1	C	436	LEU
1	C	443	THR
1	C	450	ASN
1	C	453	ARG
1	C	463	LYS
1	C	477	LEU
1	C	482	LEU
1	C	504	LEU
1	C	507	VAL
1	C	538	LYS
1	C	547	TYR
1	C	566	TYR
1	C	575	VAL
1	C	673	LEU
1	C	677	GLU
1	C	710	ASN
1	D	92	ASN
1	D	129	THR
1	D	137	LEU
1	D	170	ASN
1	D	179	ASN
1	D	256	TYR
1	D	295	ILE
1	D	316	LEU
1	D	365	THR
1	D	375	ILE
1	D	385	CYS
1	D	388	GLN
1	D	399	LYS
1	D	413	ASP

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Mol	Chain	Res	Type
1	D	433	LYS
1	D	453	ARG
1	D	482	LEU
1	D	489	LYS
1	D	492	ARG
1	D	502	LYS
1	D	506	ASN
1	D	514	LEU
1	D	547	TYR
1	D	575	VAL
1	D	627	TRP
1	D	688	VAL
1	D	704	HIS
1	D	710	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (58) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	75	ASN
1	A	80	ASN
1	A	92	ASN
1	A	123	GLN
1	A	141	GLN
1	A	151	ASN
1	A	153	GLN
1	A	169	ASN
1	A	170	ASN
1	A	179	ASN
1	A	281	ASN
1	A	338	ASN
1	A	344	GLN
1	A	455	GLN
1	A	592	HIS
1	A	697	GLN
1	A	710	ASN
1	B	80	ASN
1	B	141	GLN
1	B	153	GLN
1	B	169	ASN
1	B	170	ASN
1	B	338	ASN
1	B	344	GLN

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Mol	Chain	Res	Type
1	B	430	ASN
1	B	455	GLN
1	B	506	ASN
1	B	572	ASN
1	B	592	HIS
1	B	710	ASN
1	C	80	ASN
1	C	153	GLN
1	C	169	ASN
1	C	170	ASN
1	C	338	ASN
1	C	344	GLN
1	C	572	ASN
1	C	685	ASN
1	C	694	ASN
1	C	697	GLN
1	C	710	ASN
1	D	80	ASN
1	D	92	ASN
1	D	153	GLN
1	D	169	ASN
1	D	170	ASN
1	D	179	ASN
1	D	298	HIS
1	D	344	GLN
1	D	383	HIS
1	D	430	ASN
1	D	487	ASN
1	D	505	GLN
1	D	506	ASN
1	D	572	ASN
1	D	592	HIS
1	D	710	ASN
1	D	731	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　ⓘ

10 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	NAG	E	1	2	14,14,15	0.65	0	17,19,21	1.66	3 (17%)
2	NAG	E	2	2	14,14,15	0.51	0	17,19,21	0.95	1 (5%)
2	NAG	F	1	2,1	14,14,15	0.67	0	17,19,21	0.79	0
2	NAG	F	2	2	14,14,15	0.48	0	17,19,21	1.05	1 (5%)
2	NAG	G	1	2,1	14,14,15	0.52	0	17,19,21	0.68	0
2	NAG	G	2	2	14,14,15	0.55	0	17,19,21	0.99	1 (5%)
2	NAG	H	1	2,1	14,14,15	0.57	0	17,19,21	1.49	3 (17%)
2	NAG	H	2	2	14,14,15	0.49	0	17,19,21	0.82	1 (5%)
2	NAG	I	1	2,1	14,14,15	0.46	0	17,19,21	1.03	2 (11%)
2	NAG	I	2	2	14,14,15	0.50	0	17,19,21	1.10	1 (5%)

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	NAG	E	1	2	-	4/6/23/26	0/1/1/1
2	NAG	E	2	2	-	1/6/23/26	0/1/1/1
2	NAG	F	1	2,1	-	2/6/23/26	0/1/1/1
2	NAG	F	2	2	-	1/6/23/26	0/1/1/1
2	NAG	G	1	2,1	-	2/6/23/26	0/1/1/1
2	NAG	G	2	2	-	0/6/23/26	0/1/1/1
2	NAG	H	1	2,1	-	2/6/23/26	0/1/1/1
2	NAG	H	2	2	-	2/6/23/26	0/1/1/1
2	NAG	I	1	2,1	-	2/6/23/26	0/1/1/1
2	NAG	I	2	2	-	0/6/23/26	0/1/1/1

There are no bond length outliers.

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	E	1	NAG	O5-C1-C2	-3.58	105.64	111.29
2	E	1	NAG	C3-C4-C5	3.58	116.62	110.24
2	E	1	NAG	C4-C3-C2	3.36	115.95	111.02
2	F	2	NAG	C1-O5-C5	3.24	116.58	112.19
2	I	2	NAG	C1-O5-C5	3.16	116.47	112.19
2	H	1	NAG	C2-N2-C7	-3.05	118.56	122.90
2	H	1	NAG	C1-O5-C5	2.73	115.89	112.19
2	G	2	NAG	C4-C3-C2	2.50	114.67	111.02
2	I	1	NAG	C1-O5-C5	2.47	115.54	112.19
2	I	1	NAG	O5-C1-C2	-2.25	107.74	111.29
2	E	2	NAG	C4-C3-C2	2.21	114.26	111.02
2	H	2	NAG	C1-O5-C5	2.10	115.03	112.19
2	H	1	NAG	O5-C1-C2	-2.01	108.12	111.29

There are no chirality outliers.

All (16) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	E	1	NAG	C8-C7-N2-C2
2	E	1	NAG	O7-C7-N2-C2
2	F	1	NAG	C8-C7-N2-C2
2	F	1	NAG	O7-C7-N2-C2
2	G	1	NAG	C8-C7-N2-C2
2	G	1	NAG	O7-C7-N2-C2
2	H	2	NAG	C8-C7-N2-C2
2	H	2	NAG	O7-C7-N2-C2
2	E	1	NAG	C4-C5-C6-O6
2	E	2	NAG	O5-C5-C6-O6
2	I	1	NAG	C8-C7-N2-C2
2	H	1	NAG	C4-C5-C6-O6
2	I	1	NAG	O7-C7-N2-C2
2	E	1	NAG	O5-C5-C6-O6
2	H	1	NAG	O5-C5-C6-O6
2	F	2	NAG	C4-C5-C6-O6

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	E	1	NAG	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 E

Bond lengths

Bond angles

Torsions

Rings

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

Bond lengths

Bond angles

Torsions

Rings
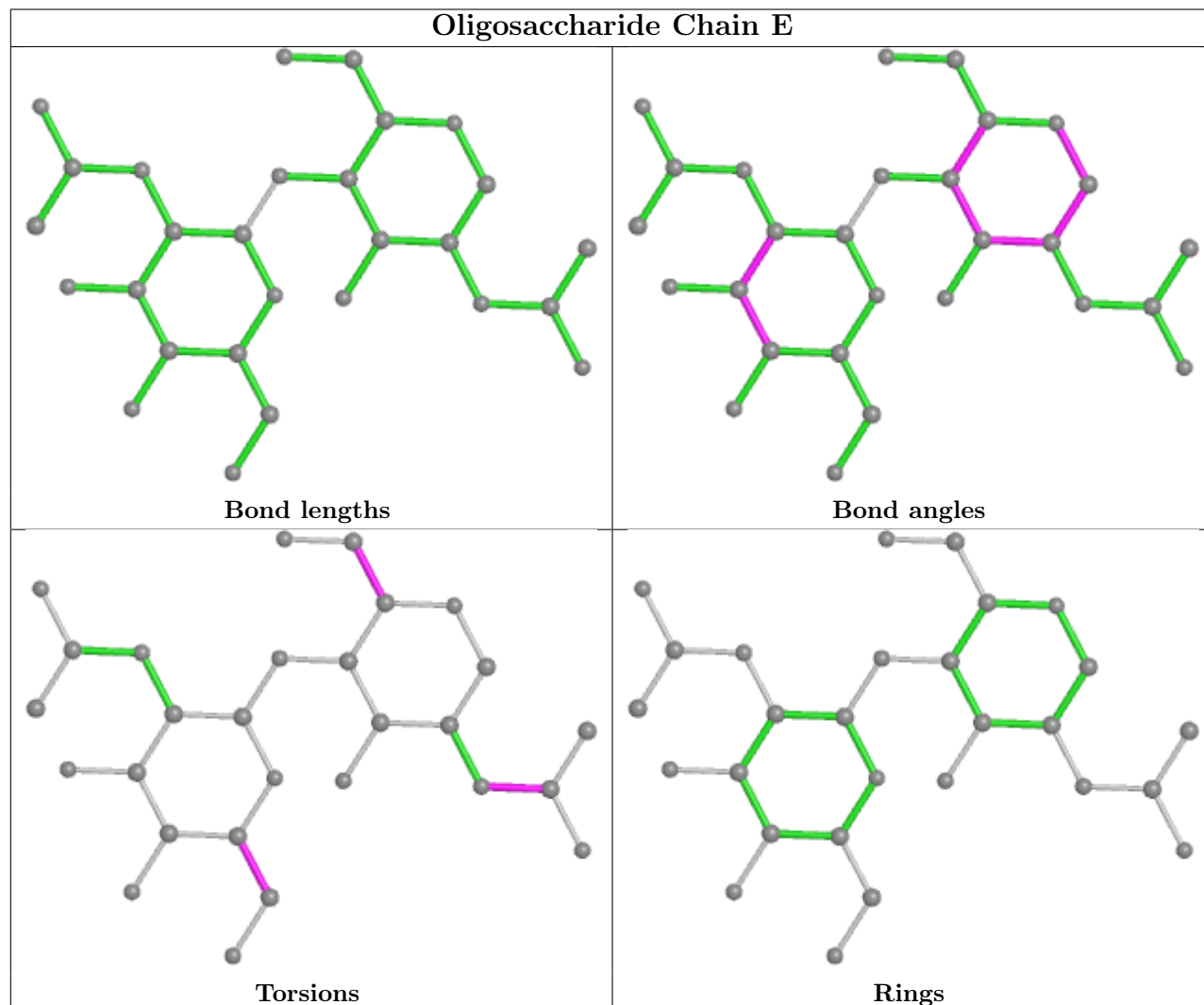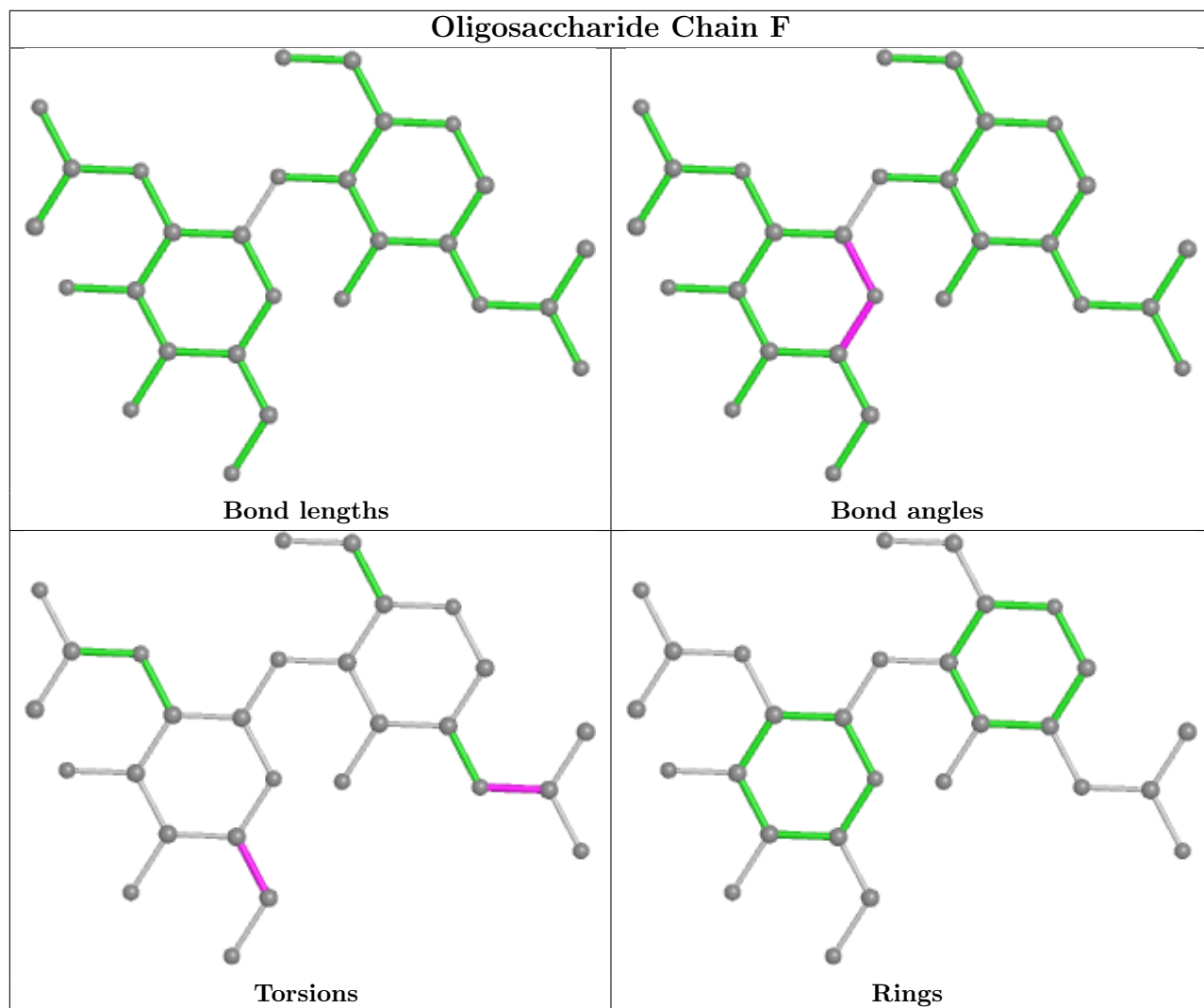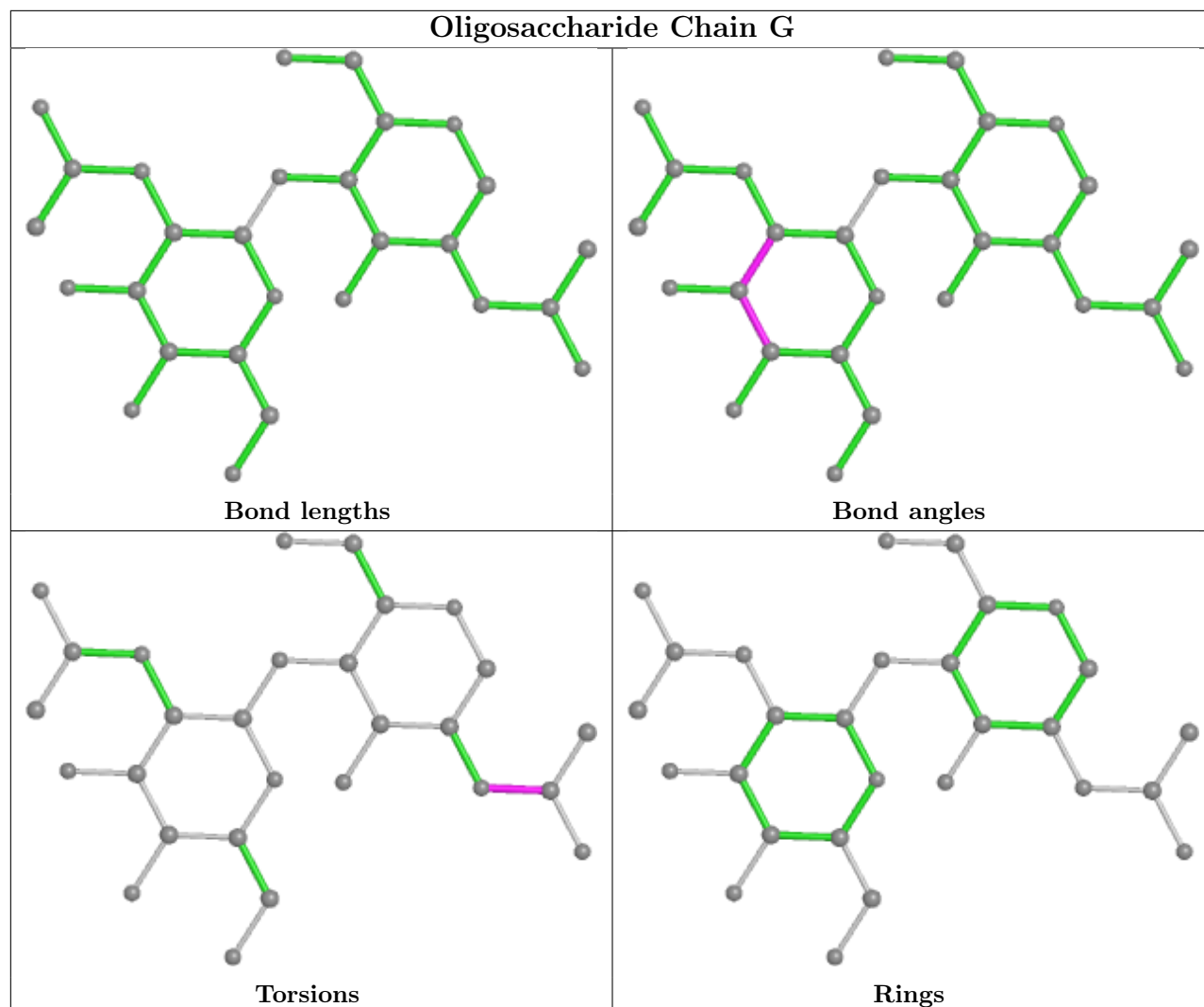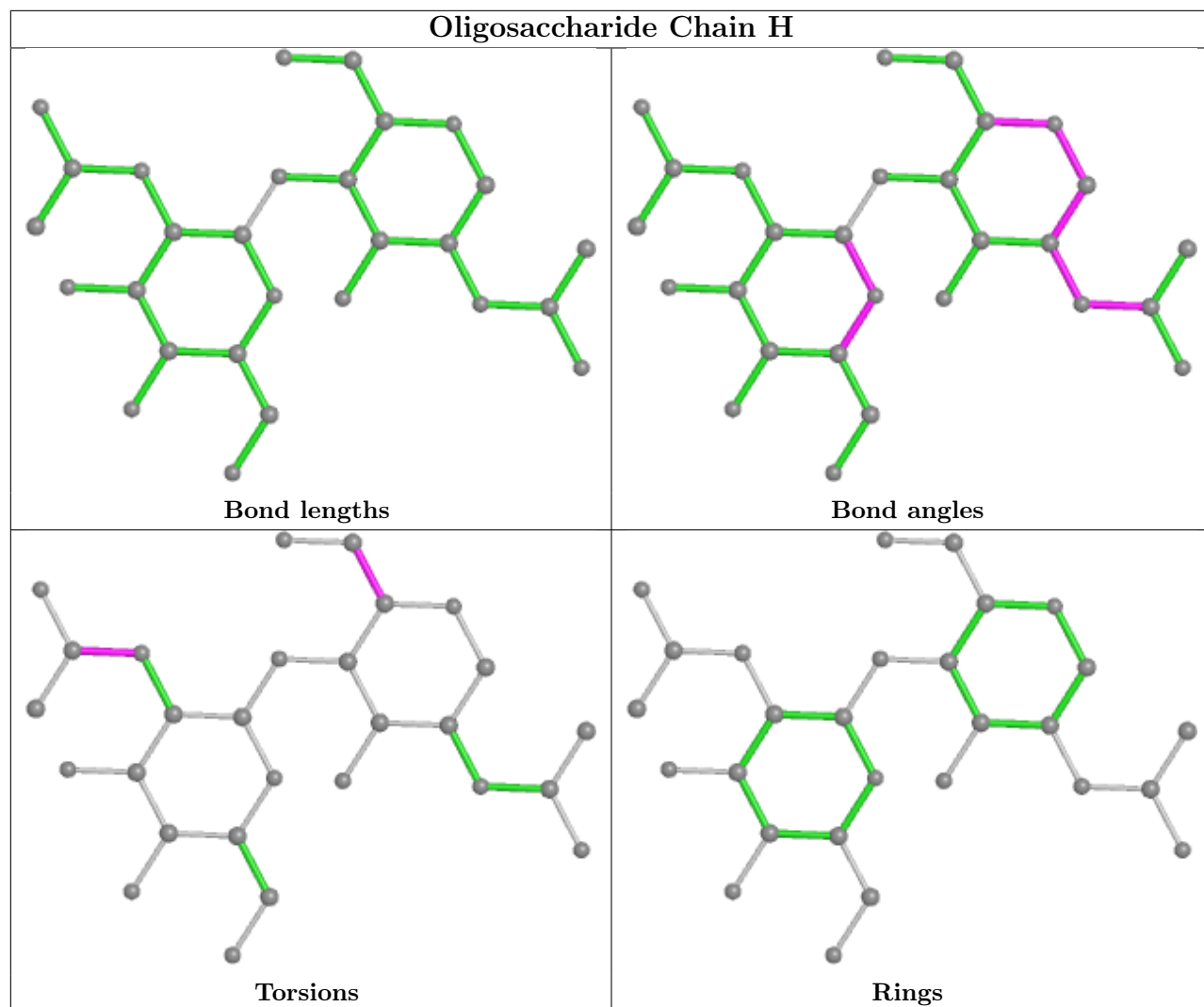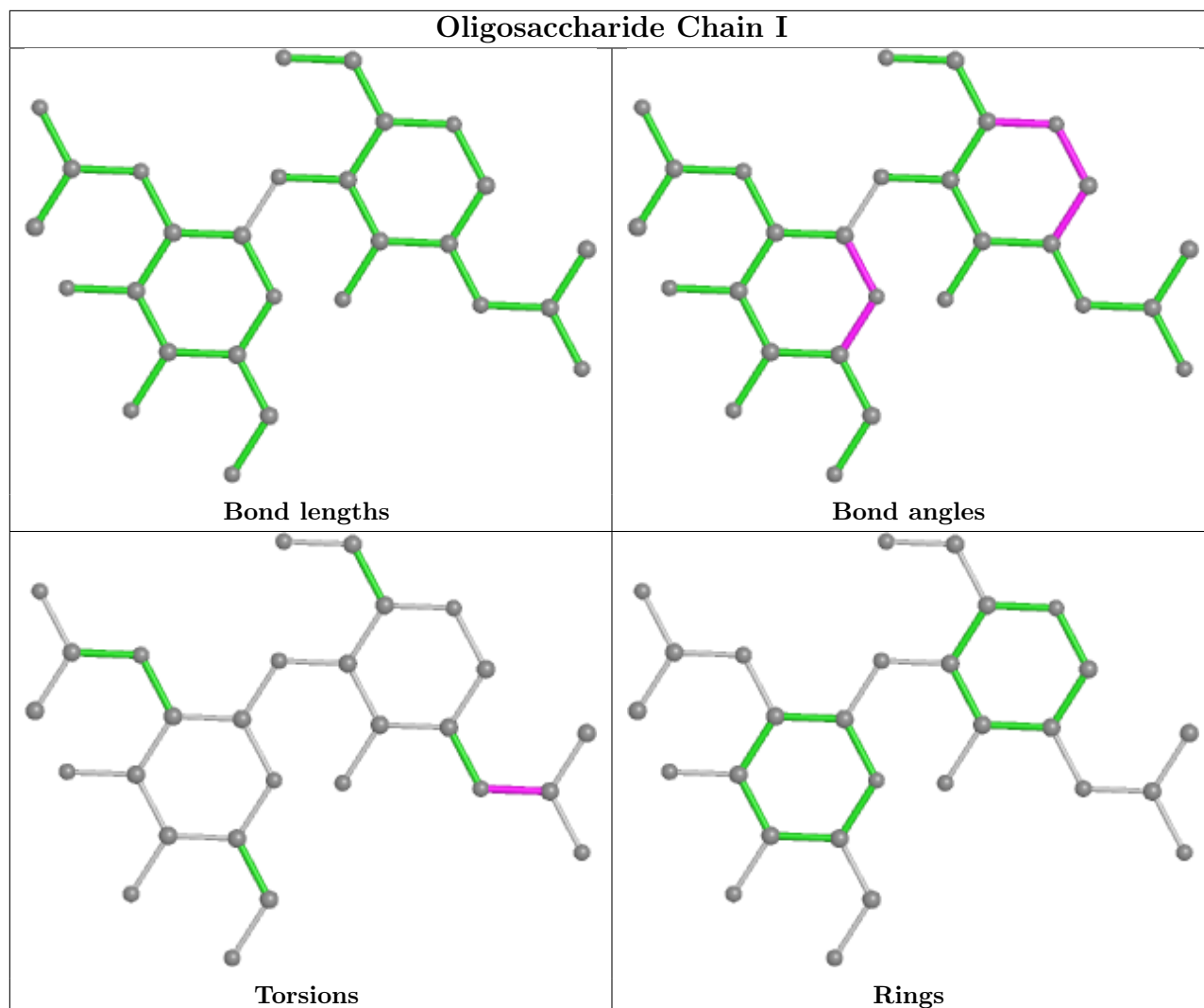
5.6　Ligand geometry ⓘ

22 ligands 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
4	SY1	C	800	-	30,30,30	1.91	5 (16%)	29,42,42	1.95	9 (31%)
3	NAG	C	807	1	14,14,15	0.61	0	17,19,21	1.23	1 (5%)
3	NAG	D	802	1	14,14,15	0.62	0	17,19,21	1.04	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
3	NAG	D	805	1	14,14,15	0.50	0	17,19,21	1.02	2 (11%)
4	SY1	B	800	-	30,30,30	1.95	5 (16%)	29,42,42	1.93	8 (27%)
4	SY1	D	800	-	30,30,30	1.92	4 (13%)	29,42,42	1.89	8 (27%)
3	NAG	A	807	1	14,14,15	0.58	0	17,19,21	1.10	1 (5%)
3	NAG	A	804	1	14,14,15	0.53	0	17,19,21	0.92	1 (5%)
3	NAG	B	802	1	14,14,15	0.61	0	17,19,21	1.07	1 (5%)
3	NAG	C	803	1	14,14,15	0.51	0	17,19,21	1.04	1 (5%)
3	NAG	A	802	1	14,14,15	0.60	0	17,19,21	1.06	2 (11%)
3	NAG	C	802	1	14,14,15	0.61	0	17,19,21	0.98	1 (5%)
3	NAG	B	807	1	14,14,15	0.49	0	17,19,21	1.13	2 (11%)
4	SY1	B	801	-	30,30,30	1.97	5 (16%)	29,42,42	1.50	6 (20%)
4	SY1	A	801	-	30,30,30	1.98	5 (16%)	29,42,42	1.80	8 (27%)
4	SY1	C	801	-	30,30,30	2.38	5 (16%)	29,42,42	2.52	9 (31%)
3	NAG	B	803	1	14,14,15	0.57	0	17,19,21	1.11	1 (5%)
4	SY1	D	801	-	30,30,30	2.05	6 (20%)	29,42,42	2.08	8 (27%)
3	NAG	A	803	1	14,14,15	0.60	0	17,19,21	1.07	2 (11%)
4	SY1	A	800	-	30,30,30	1.92	5 (16%)	29,42,42	2.15	10 (34%)
3	NAG	B	804	1	14,14,15	0.52	0	17,19,21	0.94	1 (5%)
3	NAG	C	806	1	14,14,15	0.59	0	17,19,21	1.04	2 (11%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	SY1	C	800	-	-	2/8/20/20	0/4/4/4
3	NAG	C	807	1	-	2/6/23/26	0/1/1/1
3	NAG	D	802	1	-	0/6/23/26	0/1/1/1
3	NAG	D	805	1	-	4/6/23/26	0/1/1/1
4	SY1	B	800	-	-	2/8/20/20	0/4/4/4
4	SY1	D	800	-	-	2/8/20/20	0/4/4/4
3	NAG	A	807	1	-	0/6/23/26	0/1/1/1
3	NAG	A	804	1	-	2/6/23/26	0/1/1/1
3	NAG	B	802	1	-	2/6/23/26	0/1/1/1
3	NAG	C	803	1	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	NAG	A	802	1	-	1/6/23/26	0/1/1/1
3	NAG	C	802	1	-	0/6/23/26	0/1/1/1
3	NAG	B	807	1	-	4/6/23/26	0/1/1/1
4	SY1	B	801	-	-	3/8/20/20	0/4/4/4
4	SY1	A	801	-	-	1/8/20/20	0/4/4/4
4	SY1	C	801	-	-	6/8/20/20	0/4/4/4
3	NAG	B	803	1	-	1/6/23/26	0/1/1/1
4	SY1	D	801	-	-	1/8/20/20	0/4/4/4
3	NAG	A	803	1	-	1/6/23/26	0/1/1/1
4	SY1	A	800	-	-	2/8/20/20	0/4/4/4
3	NAG	B	804	1	-	0/6/23/26	0/1/1/1
3	NAG	C	806	1	-	0/6/23/26	0/1/1/1

All (40) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	801	SY1	C26-N27	8.40	1.29	1.14
4	C	800	SY1	C26-C25	-7.69	1.28	1.43
4	B	801	SY1	C26-C25	-7.52	1.28	1.43
4	D	800	SY1	C26-C25	-7.50	1.29	1.43
4	A	800	SY1	C26-C25	-7.46	1.29	1.43
4	B	800	SY1	C26-C25	-7.31	1.29	1.43
4	A	801	SY1	C26-C25	-7.23	1.29	1.43
4	D	801	SY1	C26-C25	-6.97	1.30	1.43
4	C	801	SY1	C26-C25	-6.90	1.30	1.43
4	D	801	SY1	C26-N27	4.34	1.22	1.14
4	A	801	SY1	C8-N9	4.03	1.37	1.31
4	C	801	SY1	C8-N9	3.79	1.37	1.31
4	D	801	SY1	C8-N9	3.71	1.36	1.31
4	D	800	SY1	C8-N9	3.69	1.36	1.31
4	B	801	SY1	C8-N9	3.43	1.36	1.31
4	A	801	SY1	C16-N18	-3.32	1.34	1.40
4	A	800	SY1	C8-N9	3.20	1.36	1.31
4	B	800	SY1	C8-N9	3.12	1.36	1.31
4	C	800	SY1	C8-N9	3.06	1.36	1.31
4	D	801	SY1	C16-N18	-2.99	1.34	1.40
4	B	800	SY1	C19-C20	2.96	1.54	1.51
4	A	801	SY1	C25-C20	2.74	1.41	1.37
4	B	801	SY1	C16-N18	-2.74	1.35	1.40
4	C	801	SY1	C16-N18	-2.72	1.35	1.40
4	A	800	SY1	C16-N18	-2.67	1.35	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	801	SY1	C25-C20	2.66	1.41	1.37
4	D	801	SY1	C25-C20	2.60	1.41	1.37
4	B	800	SY1	C25-C20	2.55	1.41	1.37
4	C	800	SY1	C24-C25	-2.51	1.39	1.44
4	B	801	SY1	C19-C20	2.50	1.53	1.51
4	C	801	SY1	C25-C20	2.48	1.41	1.37
4	C	800	SY1	C25-C20	2.40	1.41	1.37
4	B	800	SY1	C16-N18	-2.35	1.35	1.40
4	D	800	SY1	C16-N18	-2.30	1.36	1.40
4	A	800	SY1	C19-C20	2.25	1.53	1.51
4	D	800	SY1	C24-C25	-2.22	1.39	1.44
4	A	801	SY1	C26-N27	2.21	1.18	1.14
4	C	800	SY1	C19-C20	2.14	1.53	1.51
4	D	801	SY1	C19-C20	2.06	1.53	1.51
4	A	800	SY1	C24-C25	-2.05	1.40	1.44

All (85) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	C	801	SY1	C25-C26-N27	-10.58	159.03	177.72
4	D	801	SY1	C25-C26-N27	-7.77	164.00	177.72
4	A	800	SY1	C7-C2-N1	-5.96	99.27	111.60
4	A	801	SY1	C25-C26-N27	-5.34	168.30	177.72
4	B	800	SY1	C7-C2-N1	-4.86	101.55	111.60
4	A	800	SY1	N6-C8-N9	-4.47	110.73	118.87
4	D	800	SY1	C7-C2-N1	-4.45	102.39	111.60
4	B	800	SY1	N6-C8-N9	-4.29	111.06	118.87
4	C	800	SY1	C7-C2-N1	-4.11	103.09	111.60
3	C	807	NAG	C4-C3-C2	3.90	116.74	111.02
4	C	800	SY1	N6-C8-N9	-3.84	111.89	118.87
4	A	800	SY1	C3-C2-N1	-3.79	100.45	111.03
3	B	803	NAG	C1-O5-C5	3.75	117.28	112.19
3	A	807	NAG	C1-O5-C5	3.65	117.14	112.19
4	D	800	SY1	N6-C8-N9	-3.61	112.29	118.87
4	C	800	SY1	C15-C10-N9	-3.29	118.42	123.14
4	C	800	SY1	O17-C16-C15	-3.25	117.88	124.95
4	A	800	SY1	O17-C16-C15	-3.20	118.00	124.95
4	B	800	SY1	C15-C10-N9	-3.17	118.59	123.14
3	A	803	NAG	C1-O5-C5	3.16	116.47	112.19
4	A	800	SY1	C15-C10-N9	-3.09	118.71	123.14
4	C	800	SY1	C3-C2-N1	-3.06	102.47	111.03
3	D	802	NAG	C1-O5-C5	3.00	116.25	112.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	800	SY1	C15-C10-N9	-2.90	118.97	123.14
3	B	807	NAG	C1-O5-C5	2.89	116.11	112.19
4	D	800	SY1	O17-C16-C15	-2.88	118.69	124.95
4	B	800	SY1	C3-C2-N1	-2.79	103.23	111.03
4	C	800	SY1	C10-N9-C8	2.76	123.84	114.79
4	D	801	SY1	C19-N18-C16	2.75	119.95	115.12
3	D	805	NAG	C1-O5-C5	2.73	115.89	112.19
4	D	801	SY1	C15-C10-N9	-2.71	119.25	123.14
4	C	801	SY1	C19-N18-C16	2.71	119.88	115.12
3	C	806	NAG	O5-C5-C6	2.71	111.45	107.20
4	A	800	SY1	C10-N9-C8	2.71	123.66	114.79
3	C	803	NAG	C1-O5-C5	2.67	115.81	112.19
4	B	801	SY1	C19-N18-C16	2.66	119.78	115.12
4	C	801	SY1	C15-C10-N9	-2.63	119.36	123.14
4	C	801	SY1	O17-C16-C15	-2.63	119.24	124.95
4	C	800	SY1	C5-N6-C8	-2.61	109.64	119.08
3	B	802	NAG	O5-C5-C6	2.61	111.29	107.20
4	D	800	SY1	C3-C2-N1	-2.58	103.82	111.03
4	B	800	SY1	C10-N9-C8	2.57	123.21	114.79
4	D	800	SY1	C5-N6-C8	-2.57	109.80	119.08
3	B	807	NAG	O5-C5-C6	2.57	111.23	107.20
4	B	800	SY1	C5-N6-C8	-2.56	109.82	119.08
4	D	800	SY1	C10-N9-C8	2.52	123.04	114.79
4	A	801	SY1	N6-C8-N9	2.51	123.45	118.87
4	D	801	SY1	C7-C2-N1	-2.49	106.45	111.60
4	C	801	SY1	C11-C10-N9	2.47	121.27	116.94
4	B	801	SY1	C15-C10-N9	-2.46	119.60	123.14
4	C	801	SY1	C5-N6-C8	-2.46	110.18	119.08
4	D	800	SY1	C7-N6-C8	-2.43	110.24	119.02
3	A	802	NAG	C4-C3-C2	2.43	114.58	111.02
4	D	801	SY1	C5-N6-C8	-2.42	110.32	119.08
4	B	800	SY1	O17-C16-C15	-2.42	119.70	124.95
4	A	801	SY1	C11-C10-N9	2.40	121.15	116.94
4	A	801	SY1	C5-N6-C8	-2.40	110.41	119.08
4	D	801	SY1	C7-N6-C8	-2.39	110.38	119.02
4	B	800	SY1	C7-N6-C8	-2.38	110.44	119.02
4	A	800	SY1	C5-N6-C8	-2.37	110.52	119.08
4	A	801	SY1	C15-C10-N9	-2.35	119.77	123.14
3	A	802	NAG	C1-O5-C5	2.35	115.37	112.19
4	A	801	SY1	C19-N18-C16	2.34	119.23	115.12
3	B	804	NAG	C1-O5-C5	2.34	115.36	112.19
4	B	801	SY1	C5-N6-C8	-2.33	110.67	119.08

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	B	801	SY1	C7-N6-C8	-2.32	110.67	119.02
4	C	801	SY1	C7-N6-C8	-2.31	110.70	119.02
3	A	804	NAG	C1-O5-C5	2.29	115.30	112.19
4	B	801	SY1	O17-C16-C15	-2.27	120.01	124.95
4	A	800	SY1	C7-N6-C8	-2.27	110.84	119.02
4	A	801	SY1	C7-N6-C8	-2.26	110.87	119.02
4	C	800	SY1	C7-N6-C8	-2.26	110.88	119.02
3	A	803	NAG	O5-C5-C6	2.25	110.73	107.20
3	C	806	NAG	C1-O5-C5	2.25	115.24	112.19
3	D	805	NAG	O5-C5-C6	2.24	110.72	107.20
4	A	800	SY1	C11-C10-N9	2.24	120.87	116.94
4	C	801	SY1	C12-C11-C10	2.24	120.14	117.35
4	B	801	SY1	C11-C10-N9	2.23	120.84	116.94
4	A	800	SY1	C15-C16-N18	2.21	120.42	116.20
4	C	800	SY1	C11-C10-N9	2.19	120.78	116.94
4	C	801	SY1	C10-N9-C8	2.16	121.88	114.79
4	A	801	SY1	C12-C11-C10	2.09	119.95	117.35
4	D	801	SY1	C10-N9-C8	2.09	121.63	114.79
4	D	801	SY1	C11-C10-N9	2.06	120.55	116.94
3	C	802	NAG	O5-C5-C6	2.01	110.35	107.20

There are no chirality outliers.

All (38) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	B	802	NAG	C8-C7-N2-C2
3	B	802	NAG	O7-C7-N2-C2
3	B	807	NAG	C8-C7-N2-C2
3	B	807	NAG	O7-C7-N2-C2
3	D	805	NAG	C8-C7-N2-C2
3	D	805	NAG	O7-C7-N2-C2
4	A	800	SY1	C20-C19-N18-C8
4	A	800	SY1	C20-C19-N18-C16
4	B	800	SY1	C20-C19-N18-C8
4	B	800	SY1	C20-C19-N18-C16
4	B	801	SY1	C20-C19-N18-C8
4	B	801	SY1	C20-C19-N18-C16
4	C	800	SY1	C20-C19-N18-C8
4	C	800	SY1	C20-C19-N18-C16
4	C	801	SY1	N9-C8-N6-C5
4	C	801	SY1	C20-C19-N18-C16
4	D	800	SY1	C20-C19-N18-C8

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Mol	Chain	Res	Type	Atoms
4	D	800	SY1	C20-C19-N18-C16
3	C	803	NAG	C8-C7-N2-C2
3	C	803	NAG	O7-C7-N2-C2
3	C	807	NAG	C8-C7-N2-C2
3	C	807	NAG	O7-C7-N2-C2
3	D	805	NAG	O5-C5-C6-O6
3	B	807	NAG	C4-C5-C6-O6
3	B	807	NAG	O5-C5-C6-O6
3	D	805	NAG	C4-C5-C6-O6
3	A	804	NAG	C8-C7-N2-C2
3	A	804	NAG	O7-C7-N2-C2
3	A	802	NAG	O5-C5-C6-O6
3	B	803	NAG	C4-C5-C6-O6
4	C	801	SY1	N18-C8-N6-C5
4	C	801	SY1	N9-C8-N6-C7
4	A	801	SY1	C20-C19-N18-C16
4	D	801	SY1	C20-C19-N18-C16
3	A	803	NAG	C4-C5-C6-O6
4	B	801	SY1	N18-C8-N6-C5
4	C	801	SY1	N18-C8-N6-C7
4	C	801	SY1	C20-C19-N18-C8

There are no ring outliers.

5 monomers are involved in 23 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	C	800	SY1	6	0
4	B	800	SY1	6	0
4	D	800	SY1	5	0
4	A	801	SY1	2	0
4	A	800	SY1	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 SY1 C 800

Bond lengths

Bond angles

Torsions

Rings

Ligand SY1 B 800

Bond lengths

Bond angles

Torsions

Rings

Ligand SY1 D 800

Bond lengths

Bond angles

Torsions

Rings

Ligand SY1 B 801

Bond lengths

Bond angles

Torsions

Rings

Ligand SY1 A 801

Bond lengths

Bond angles

Torsions

Rings

Ligand SY1 C 801

Bond lengths

Bond angles

Torsions

Rings

Ligand SY1 D 801

Bond lengths

Bond angles

Torsions

Rings

Ligand SY1 A 800

Bond lengths

Bond angles

Torsions

Rings

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	724/731 (99%)	0.22	36 (4%)	28	34	28, 45, 76, 113	1 (0%)
1	B	728/731 (99%)	0.10	20 (2%)	54	61	32, 49, 74, 102	0
1	C	723/731 (98%)	0.20	44 (6%)	21	25	31, 49, 77, 94	0
1	D	722/731 (98%)	0.47	62 (8%)	10	12	35, 62, 91, 133	0
All	All	2897/2924 (99%)	0.25	162 (5%)	24	29	28, 51, 83, 133	1 (0%)

All (162) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	392	LYS	6.3
1	D	83	TYR	6.2
1	A	88	VAL	6.0
1	D	77	LEU	5.7
1	C	88	VAL	5.2
1	D	333	SER	5.2
1	B	88	VAL	5.2
1	C	78	VAL	5.2
1	D	93	SER	5.1
1	A	93	SER	5.1
1	D	99	GLY	5.0
1	C	87	SER	4.9
1	D	88	VAL	4.7
1	D	334	SER	4.7
1	A	394	CYS	4.6
1	C	89	PHE	4.6
1	C	98	PHE	4.6
1	D	135	TYR	4.5
1	D	100	HIS	4.4
1	D	97	GLU	4.2
1	C	330	TYR	4.1

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Mol	Chain	Res	Type	RSRZ
1	D	98	PHE	4.1
1	C	334	SER	4.0
1	D	96	ASP	3.9
1	C	100	HIS	3.9
1	D	95	PHE	3.9
1	A	99	GLY	3.8
1	D	92	ASN	3.8
1	D	467	TYR	3.8
1	A	95	PHE	3.8
1	A	393	ASP	3.7
1	A	98	PHE	3.7
1	A	81	ALA	3.7
1	D	397	ILE	3.7
1	B	87	SER	3.7
1	C	102	ILE	3.7
1	A	97	GLU	3.6
1	D	327	ILE	3.5
1	C	132	TYR	3.5
1	D	439	TYR	3.5
1	A	71	LYS	3.5
1	C	76	ILE	3.5
1	D	40	ALA	3.5
1	A	491	LEU	3.4
1	A	96	ASP	3.4
1	D	468	TYR	3.4
1	D	432	TYR	3.4
1	C	95	PHE	3.3
1	D	384	ILE	3.3
1	C	144	THR	3.3
1	D	464	GLU	3.3
1	D	396	PHE	3.3
1	C	77	LEU	3.3
1	C	333	SER	3.2
1	D	276	LEU	3.2
1	B	90	LEU	3.2
1	D	346	ILE	3.2
1	D	441	LYS	3.2
1	A	90	LEU	3.1
1	C	83	TYR	3.1
1	D	322	TYR	3.1
1	A	92	ASN	3.1
1	C	99	GLY	3.1

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Mol	Chain	Res	Type	RSRZ
1	C	91	GLU	3.0
1	D	449	LEU	3.0
1	D	491	LEU	3.0
1	C	79	PHE	3.0
1	B	394	CYS	2.9
1	A	87	SER	2.9
1	B	83	TYR	2.9
1	C	90	LEU	2.9
1	D	105	TYR	2.9
1	B	96	ASP	2.8
1	B	393	ASP	2.8
1	D	394	CYS	2.8
1	B	81	ALA	2.8
1	A	135	TYR	2.8
1	C	41	LYS	2.8
1	C	118	TYR	2.7
1	D	213	ALA	2.7
1	A	279	VAL	2.7
1	A	105	TYR	2.7
1	C	506	ASN	2.7
1	B	77	LEU	2.7
1	D	61	ARG	2.7
1	D	399	LYS	2.7
1	C	75	ASN	2.6
1	D	330	TYR	2.6
1	B	392	LYS	2.6
1	D	78	VAL	2.6
1	C	340	LEU	2.6
1	D	416	TYR	2.6
1	D	433	LYS	2.5
1	C	97	GLU	2.5
1	A	139	LYS	2.5
1	B	70	TYR	2.5
1	B	338	ASN	2.5
1	D	85	ASN	2.5
1	B	139	LYS	2.5
1	C	499	ALA	2.5
1	A	86	SER	2.5
1	D	505	GLN	2.5
1	A	732	ALA	2.5
1	D	62	TRP	2.5
1	A	141	GLN	2.5

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Mol	Chain	Res	Type	RSRZ
1	B	654	ALA	2.5
1	A	40	ALA	2.5
1	B	92	ASN	2.5
1	C	336	ARG	2.4
1	C	331	ASP	2.4
1	A	332	GLU	2.4
1	C	141	GLN	2.4
1	C	504	LEU	2.4
1	B	71	LYS	2.4
1	D	463	LYS	2.4
1	A	466	LYS	2.4
1	C	394	CYS	2.4
1	C	142	LEU	2.4
1	A	54	ARG	2.3
1	B	733	MET	2.3
1	C	332	GLU	2.3
1	C	335	GLY	2.3
1	B	703	ILE	2.3
1	D	335	GLY	2.3
1	A	91	GLU	2.2
1	D	79	PHE	2.2
1	D	339	CYS	2.2
1	D	493	VAL	2.2
1	D	417	TYR	2.2
1	A	140	ARG	2.2
1	C	101	SER	2.2
1	A	148	ILE	2.2
1	A	654	ALA	2.2
1	D	506	ASN	2.2
1	D	442	VAL	2.2
1	C	138	ASN	2.1
1	B	89	PHE	2.1
1	C	116	LEU	2.1
1	A	676	PRO	2.1
1	D	148	ILE	2.1
1	A	378	GLU	2.1
1	C	338	ASN	2.1
1	B	78	VAL	2.1
1	D	342	ALA	2.1
1	D	58	TYR	2.1
1	C	285	ILE	2.1
1	D	518	ILE	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	93	SER	2.1
1	D	338	ASN	2.1
1	D	440	THR	2.1
1	D	462	SER	2.1
1	D	479	LEU	2.0
1	A	280	THR	2.0
1	A	76	ILE	2.0
1	A	137	LEU	2.0
1	D	388	GLN	2.0
1	C	86	SER	2.0
1	C	147	ARG	2.0
1	D	209	SER	2.0
1	D	222	PHE	2.0
1	D	422	TYR	2.0
1	C	451	PRO	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 ⓘ

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
2	NAG	E	1	14/15	0.52	0.19	97,99,101,101	0
2	NAG	E	2	14/15	0.79	0.22	101,102,103,103	0
2	NAG	H	2	14/15	0.84	0.32	74,77,80,80	0
2	NAG	G	2	14/15	0.86	0.26	80,82,83,83	0
2	NAG	I	2	14/15	0.86	0.21	74,75,76,76	0
2	NAG	F	2	14/15	0.91	0.15	67,68,69,69	0
2	NAG	G	1	14/15	0.92	0.16	68,70,73,77	0
2	NAG	I	1	14/15	0.93	0.14	67,69,70,72	0
2	NAG	H	1	14/15	0.94	0.14	62,65,68,72	0
2	NAG	F	1	14/15	0.95	0.16	57,61,63,65	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.

WORLDWIDE
wwPDB
PROTEIN DATA BANK

Electron density around Chain E:

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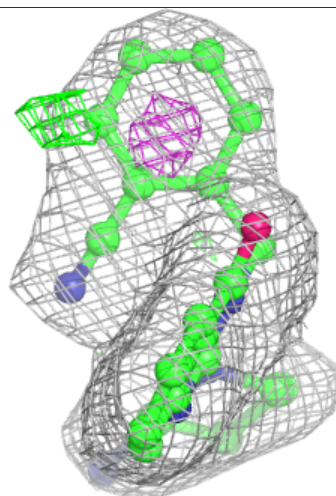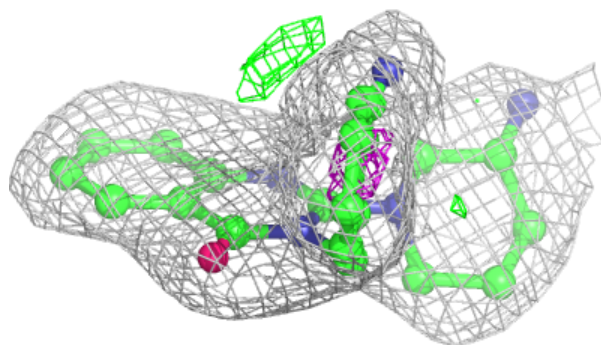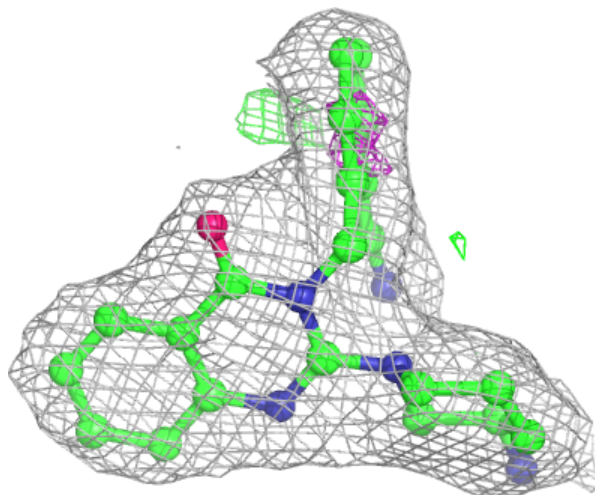and green (positive)

Electron density around 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)
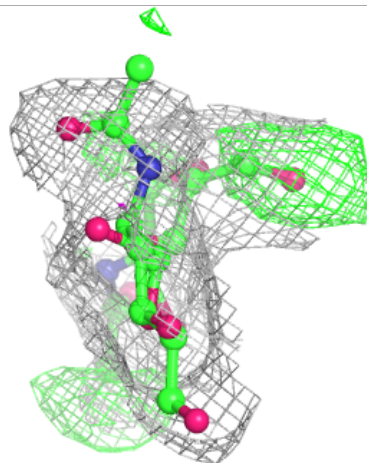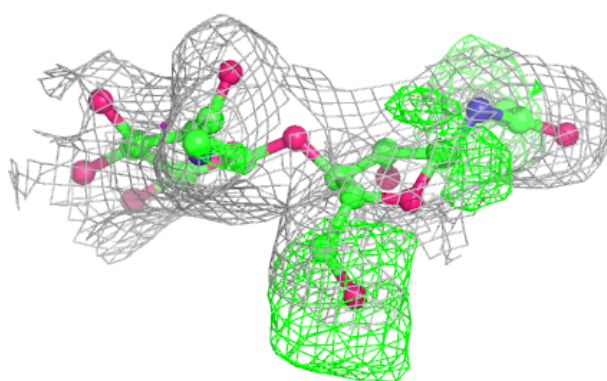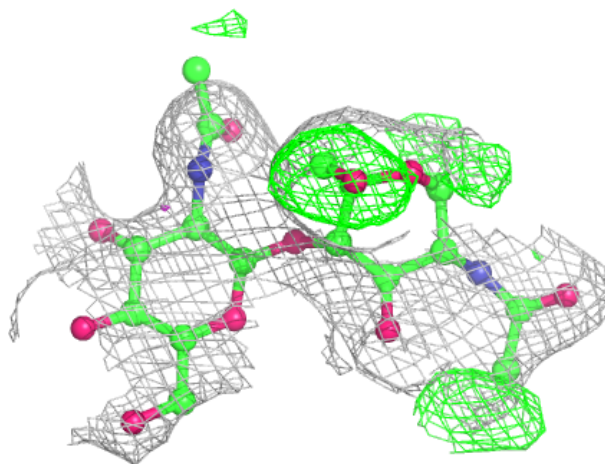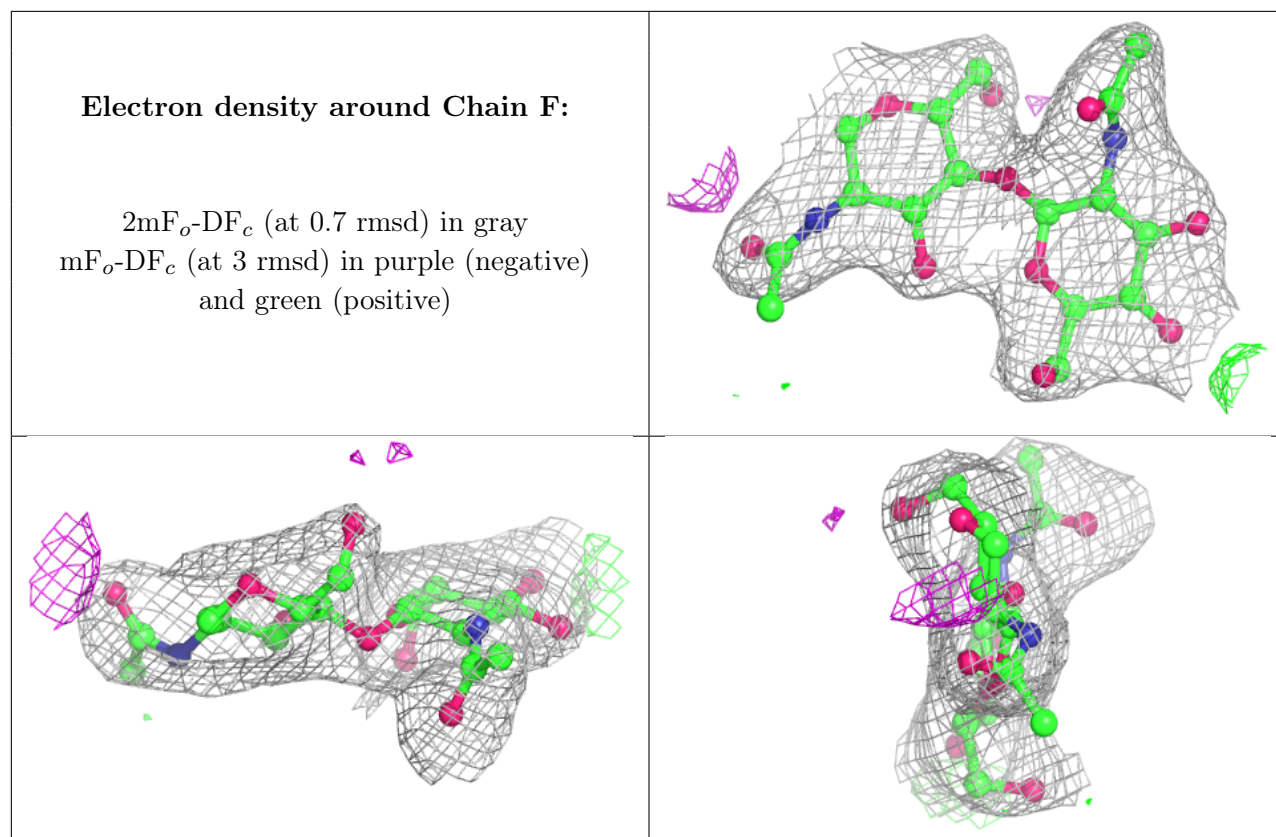
Electron density around Chain G:

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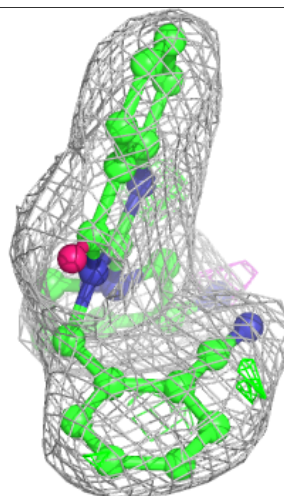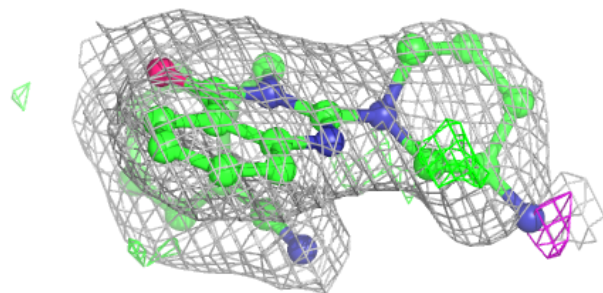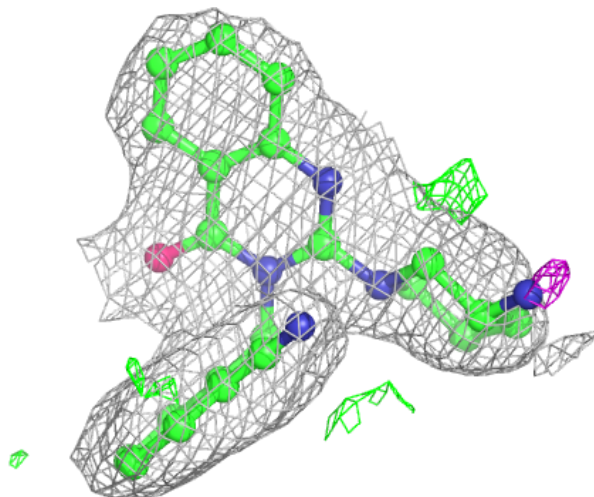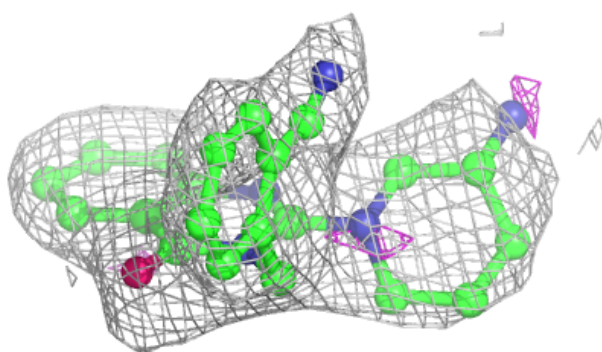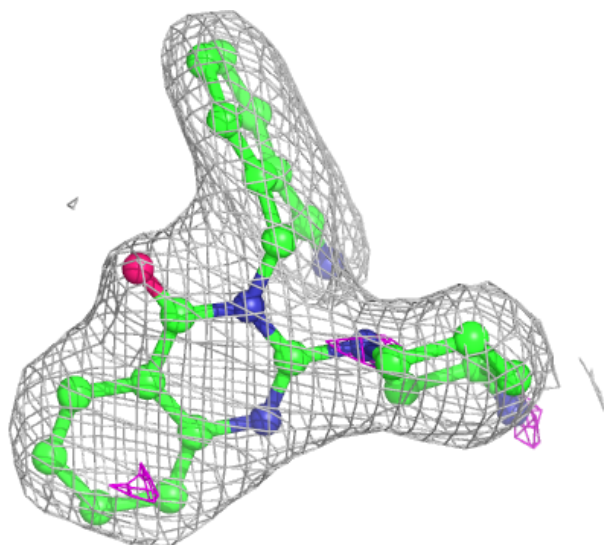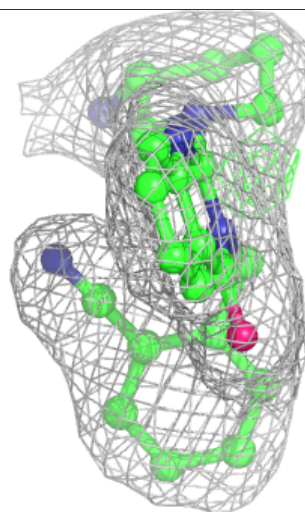and green (positive)
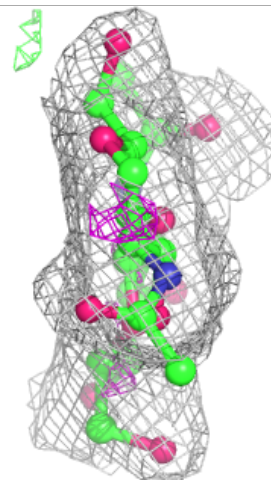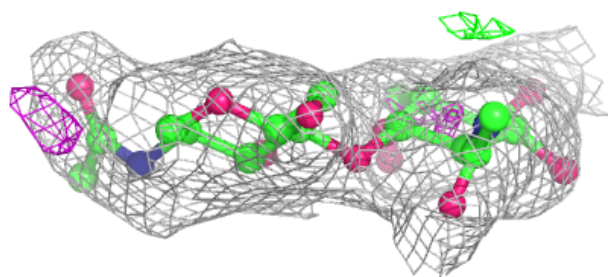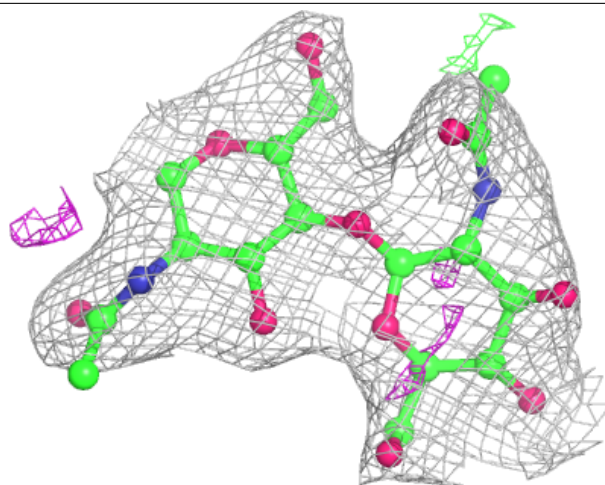
Electron density around Chain H:

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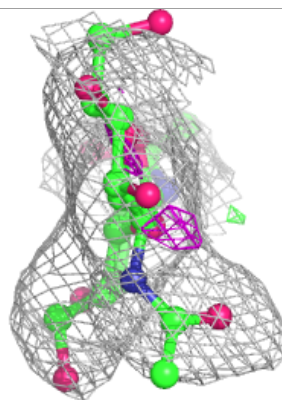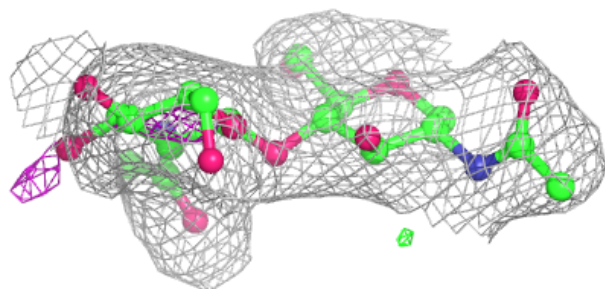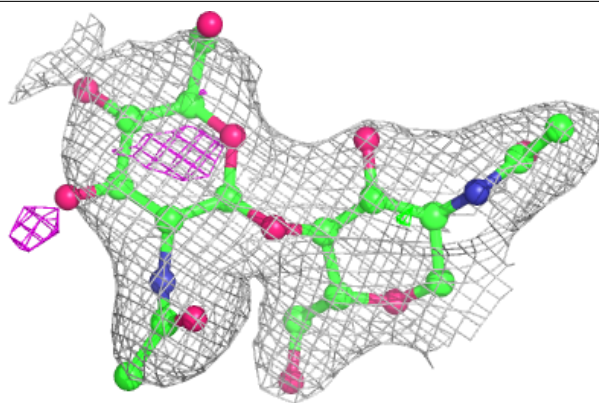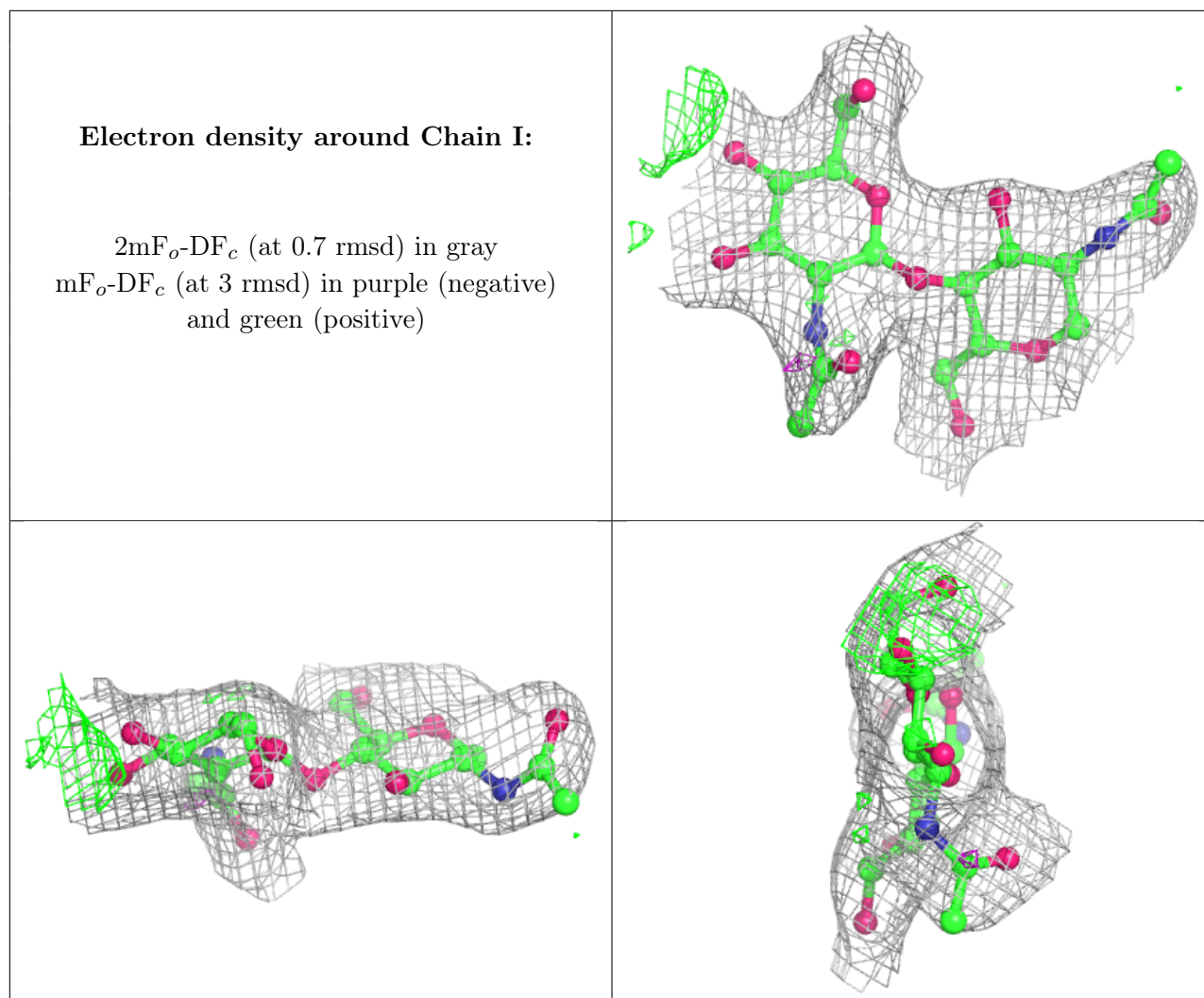
Electron density around Chain I:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (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, 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($\mathring{A}^2$)	Q<0.9
3	NAG	A	802	14/15	0.68	0.19	105,105,106,106	0
3	NAG	B	802	14/15	0.78	0.13	98,100,100,100	0
3	NAG	A	803	14/15	0.79	0.31	72,75,77,78	0
3	NAG	B	807	14/15	0.79	0.14	75,77,78,79	0
3	NAG	C	806	14/15	0.80	0.16	82,84,86,86	0
3	NAG	C	802	14/15	0.81	0.29	72,73,74,75	0
3	NAG	B	804	14/15	0.82	0.28	72,74,76,77	0
3	NAG	C	803	14/15	0.83	0.29	69,71,74,75	0
3	NAG	D	802	14/15	0.83	0.24	78,80,81,81	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	NAG	C	807	14/15	0.88	0.36	70,74,75,76	0
3	NAG	A	804	14/15	0.88	0.30	70,72,76,77	0
3	NAG	D	805	14/15	0.88	0.17	80,81,82,83	0
3	NAG	A	807	14/15	0.90	0.40	60,64,66,66	0
4	SY1	C	801	27/27	0.90	0.17	62,63,64,64	0
3	NAG	B	803	14/15	0.93	0.17	62,64,66,67	0
4	SY1	A	801	27/27	0.94	0.15	47,50,53,53	0
4	SY1	B	801	27/27	0.95	0.15	48,49,51,52	0
4	SY1	D	801	27/27	0.95	0.20	56,58,62,65	0
4	SY1	D	800	27/27	0.96	0.20	43,46,47,47	0
4	SY1	B	800	27/27	0.96	0.19	38,40,44,45	0
4	SY1	C	800	27/27	0.97	0.17	33,37,41,41	0
4	SY1	A	800	27/27	0.97	0.23	36,41,42,43	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.
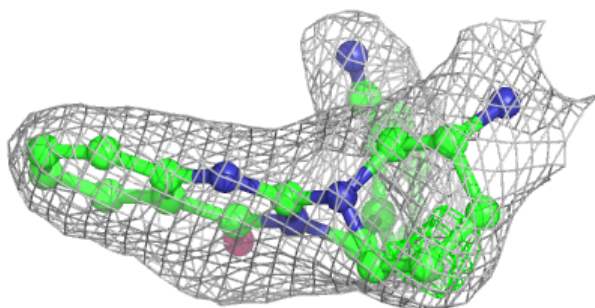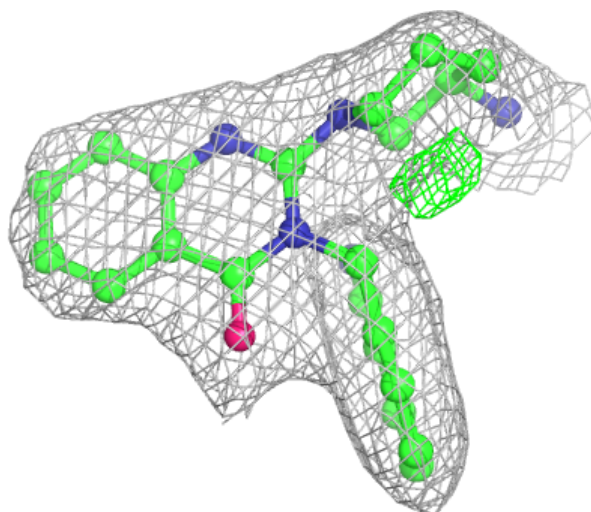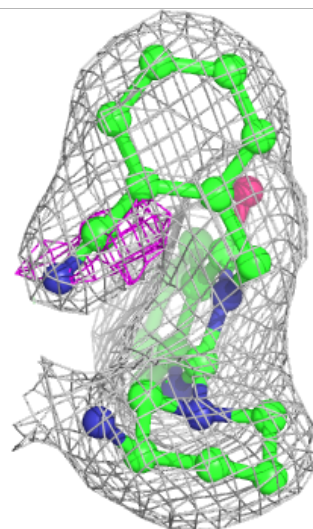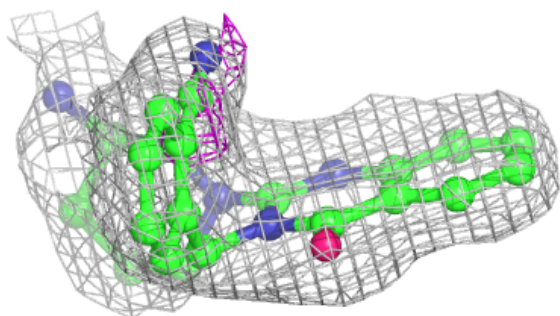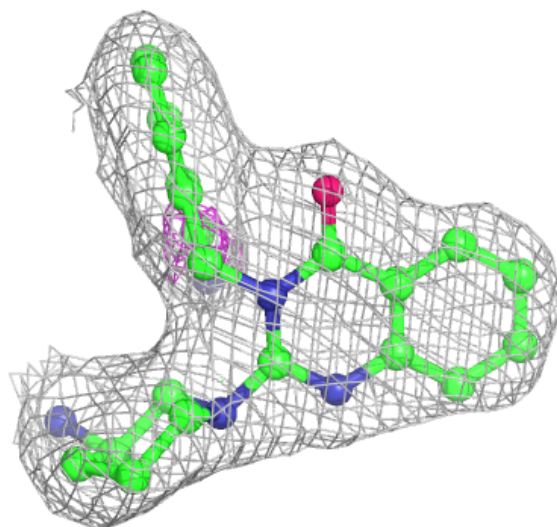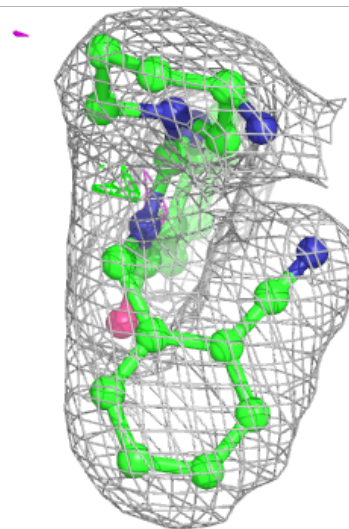
Electron density around SY1 C 801:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
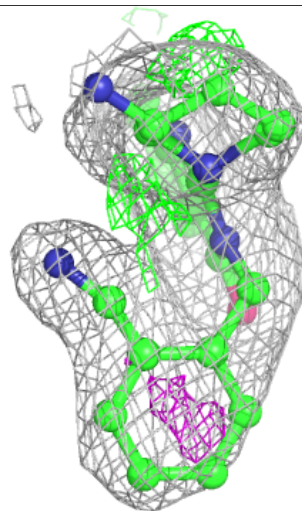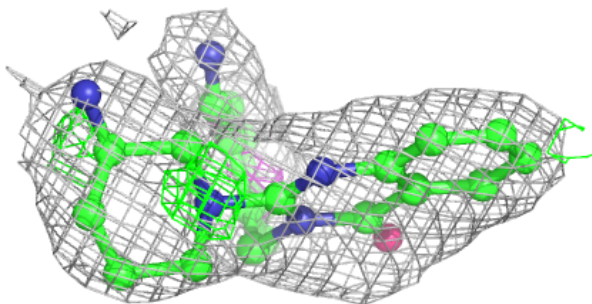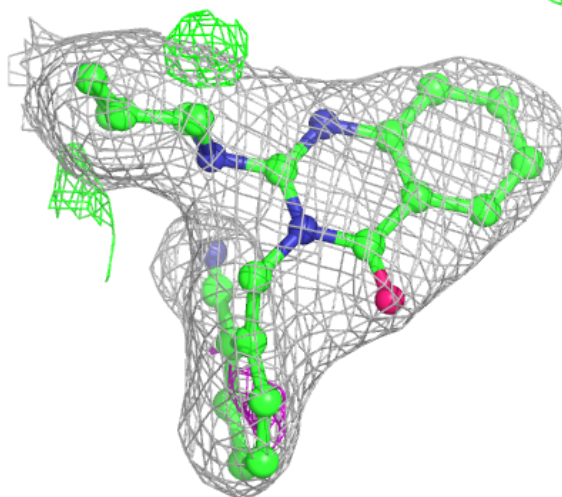
Electron density around SY1 A 801:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
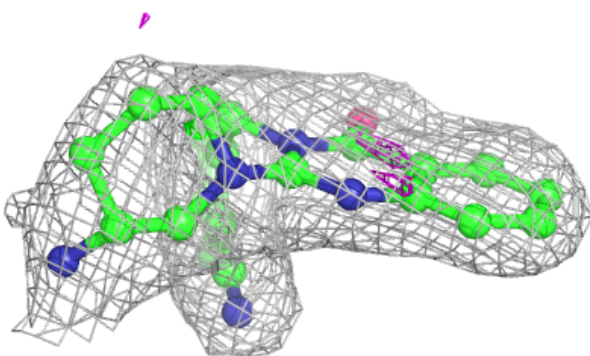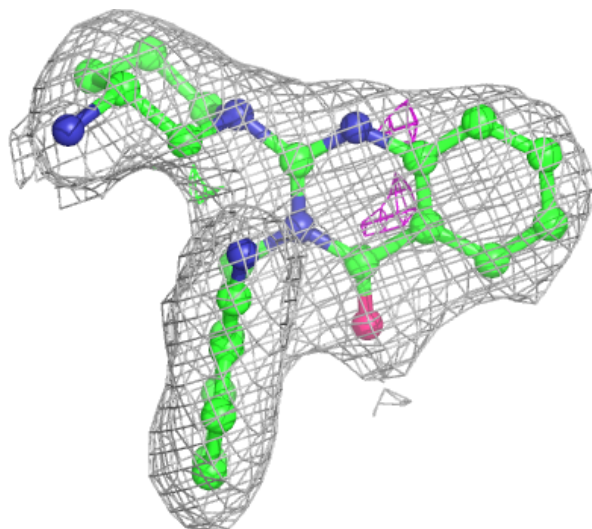and green (positive)

Electron density around SY1 B 801:

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 SY1 D 801:

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

Electron density around SY1 D 800:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
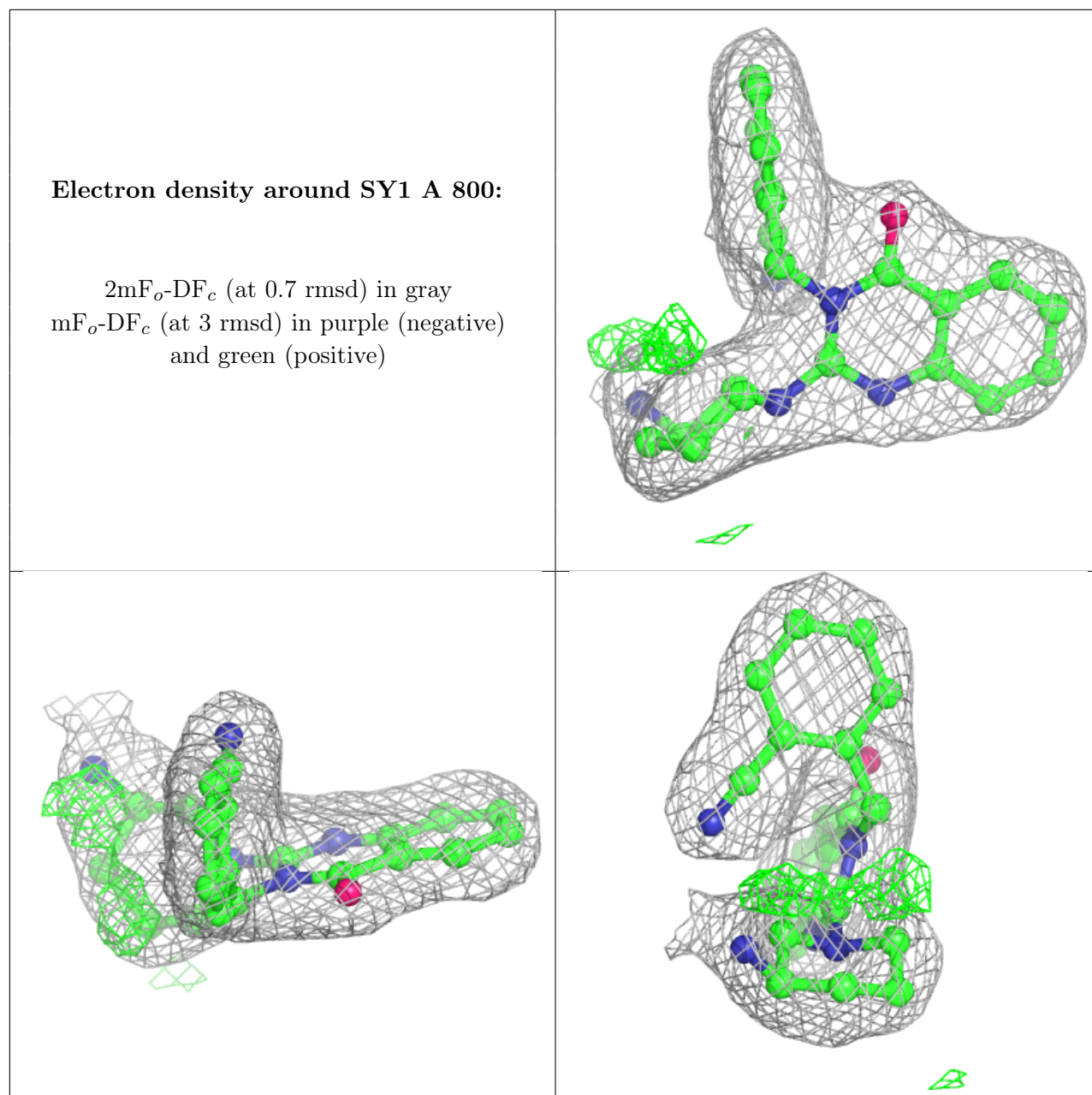and green (positive)

Electron density around SY1 B 800:

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

Electron density around SY1 C 800:

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

Electron density around SY1 A 800:

$2mF_o$-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.