



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 27, 2022 – 03:02 am BST

PDB ID : 7ZA3
Title : GPC3-Unc5D octamer structure and role in cell migration
Authors : Akkermans, O.; Delloye-Bourgeois, C.; Peregrina, C.; Carrasquero, M.; Kokolaki, M.; Berbeira-Santana, M.; Chavent, M.; Reynaud, F.; Ritu, R.; Agirre, J.; Aksu, M.; White, E.; Lowe, E.; Ben Amar, D.; Zaballa, S.; Huo, J.; Pakos, I.; McCubbin, P.; Comoletti, D.; Owens, R.; Robinson, C.; Castellani, V.; del Toro, D.; Seiradake, E.
Deposited on : 2022-03-21
Resolution : 4.00 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 : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.31.2
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0267
CCP4 : 7.1.010 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)

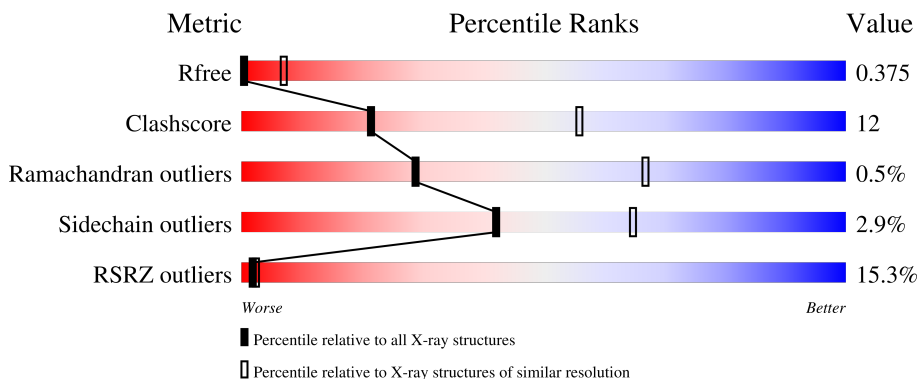
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 4.00 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	1087 (4.30-3.70)
Clashscore	141614	1148 (4.30-3.70)
Ramachandran outliers	138981	1108 (4.30-3.70)
Sidechain outliers	138945	1099 (4.30-3.70)
RSRZ outliers	127900	1028 (4.34-3.66)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	464	
1	B	464	
1	C	464	
1	D	464	

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Mol	Chain	Length	Quality of chain
2	E	268	
2	F	268	
2	G	268	
2	H	268	
3	I	2	

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
4	NAG	B	501	-	-	X	-
4	NAG	B	502	-	-	-	X
4	NAG	C	501	-	-	-	X
4	NAG	D	501	-	-	-	X
4	NAG	E	402	-	-	X	X
4	NAG	F	401	-	-	-	X
4	NAG	F	402	-	-	-	X
4	NAG	G	401	-	-	X	X
4	NAG	H	401	-	-	X	X
5	MAN	E	401	-	-	-	X
5	MAN	F	403	-	-	X	-
5	MAN	G	403	-	-	-	X

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 38653 atoms, of which 19208 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 Glypican-3.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	H	N	O	S			
1	A	351	5631	1791	2825	469	517	29	67	0	0
1	B	351	5630	1791	2824	469	517	29	67	0	0
1	C	351	5631	1791	2825	469	517	29	67	0	0
1	D	351	5631	1791	2825	469	517	29	67	0	0

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	28	GLU	-	expression tag	UNP Q8CFZ4
A	29	THR	-	expression tag	UNP Q8CFZ4
A	30	GLY	-	expression tag	UNP Q8CFZ4
A	483	GLY	-	expression tag	UNP Q8CFZ4
A	484	THR	-	expression tag	UNP Q8CFZ4
A	485	LYS	-	expression tag	UNP Q8CFZ4
A	486	HIS	-	expression tag	UNP Q8CFZ4
A	487	HIS	-	expression tag	UNP Q8CFZ4
A	488	HIS	-	expression tag	UNP Q8CFZ4
A	489	HIS	-	expression tag	UNP Q8CFZ4
A	490	HIS	-	expression tag	UNP Q8CFZ4
A	491	HIS	-	expression tag	UNP Q8CFZ4
B	28	GLU	-	expression tag	UNP Q8CFZ4
B	29	THR	-	expression tag	UNP Q8CFZ4
B	30	GLY	-	expression tag	UNP Q8CFZ4
B	483	GLY	-	expression tag	UNP Q8CFZ4
B	484	THR	-	expression tag	UNP Q8CFZ4
B	485	LYS	-	expression tag	UNP Q8CFZ4
B	486	HIS	-	expression tag	UNP Q8CFZ4
B	487	HIS	-	expression tag	UNP Q8CFZ4
B	488	HIS	-	expression tag	UNP Q8CFZ4

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Chain	Residue	Modelled	Actual	Comment	Reference
B	489	HIS	-	expression tag	UNP Q8CFZ4
B	490	HIS	-	expression tag	UNP Q8CFZ4
B	491	HIS	-	expression tag	UNP Q8CFZ4
C	28	GLU	-	expression tag	UNP Q8CFZ4
C	29	THR	-	expression tag	UNP Q8CFZ4
C	30	GLY	-	expression tag	UNP Q8CFZ4
C	483	GLY	-	expression tag	UNP Q8CFZ4
C	484	THR	-	expression tag	UNP Q8CFZ4
C	485	LYS	-	expression tag	UNP Q8CFZ4
C	486	HIS	-	expression tag	UNP Q8CFZ4
C	487	HIS	-	expression tag	UNP Q8CFZ4
C	488	HIS	-	expression tag	UNP Q8CFZ4
C	489	HIS	-	expression tag	UNP Q8CFZ4
C	490	HIS	-	expression tag	UNP Q8CFZ4
C	491	HIS	-	expression tag	UNP Q8CFZ4
D	28	GLU	-	expression tag	UNP Q8CFZ4
D	29	THR	-	expression tag	UNP Q8CFZ4
D	30	GLY	-	expression tag	UNP Q8CFZ4
D	483	GLY	-	expression tag	UNP Q8CFZ4
D	484	THR	-	expression tag	UNP Q8CFZ4
D	485	LYS	-	expression tag	UNP Q8CFZ4
D	486	HIS	-	expression tag	UNP Q8CFZ4
D	487	HIS	-	expression tag	UNP Q8CFZ4
D	488	HIS	-	expression tag	UNP Q8CFZ4
D	489	HIS	-	expression tag	UNP Q8CFZ4
D	490	HIS	-	expression tag	UNP Q8CFZ4
D	491	HIS	-	expression tag	UNP Q8CFZ4

- Molecule 2 is a protein called Netrin receptor UNC5D.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
2	E	251	Total	C	H	N	O	S	50	0	0
			3904	1237	1913	363	376	15			
2	F	251	Total	C	H	N	O	S	49	0	0
			3904	1237	1913	363	376	15			
2	G	251	Total	C	H	N	O	S	49	0	0
			3904	1237	1913	363	376	15			
2	H	251	Total	C	H	N	O	S	49	0	0
			3905	1237	1914	363	376	15			

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	308	HIS	-	expression tag	UNP F1LW30
E	309	HIS	-	expression tag	UNP F1LW30
E	310	HIS	-	expression tag	UNP F1LW30
E	311	HIS	-	expression tag	UNP F1LW30
E	312	HIS	-	expression tag	UNP F1LW30
E	313	HIS	-	expression tag	UNP F1LW30
F	308	HIS	-	expression tag	UNP F1LW30
F	309	HIS	-	expression tag	UNP F1LW30
F	310	HIS	-	expression tag	UNP F1LW30
F	311	HIS	-	expression tag	UNP F1LW30
F	312	HIS	-	expression tag	UNP F1LW30
F	313	HIS	-	expression tag	UNP F1LW30
G	308	HIS	-	expression tag	UNP F1LW30
G	309	HIS	-	expression tag	UNP F1LW30
G	310	HIS	-	expression tag	UNP F1LW30
G	311	HIS	-	expression tag	UNP F1LW30
G	312	HIS	-	expression tag	UNP F1LW30
G	313	HIS	-	expression tag	UNP F1LW30
H	308	HIS	-	expression tag	UNP F1LW30
H	309	HIS	-	expression tag	UNP F1LW30
H	310	HIS	-	expression tag	UNP F1LW30
H	311	HIS	-	expression tag	UNP F1LW30
H	312	HIS	-	expression tag	UNP F1LW30
H	313	HIS	-	expression tag	UNP F1LW30

- Molecule 3 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



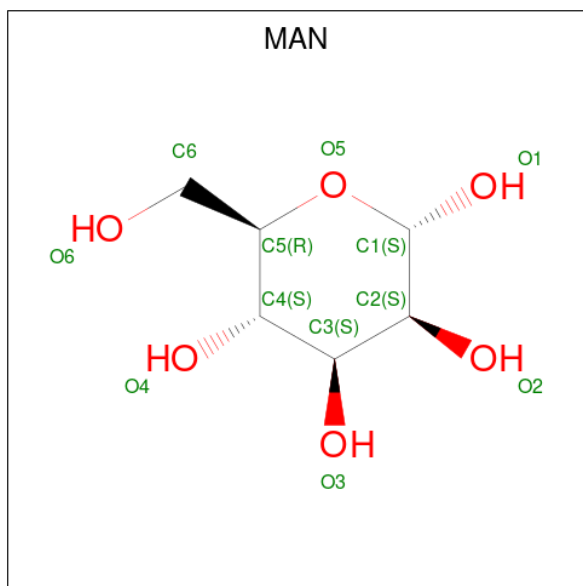
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
			Total	C	H	N				O
3	I	2	55	16	27	2	10	5	0	0

- Molecule 4 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: C₈H₁₅NO₆).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	H	N	O		
4	A	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	B	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	B	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	C	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	C	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	D	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	D	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	E	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	E	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	F	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	F	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	G	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	G	1	Total	C	H	N	O	3	0
			28	8	14	1	5		
4	H	1	Total	C	H	N	O	3	0
			28	8	14	1	5		

- Molecule 5 is alpha-D-mannopyranose (three-letter code: MAN) (formula: C₆H₁₂O₆).

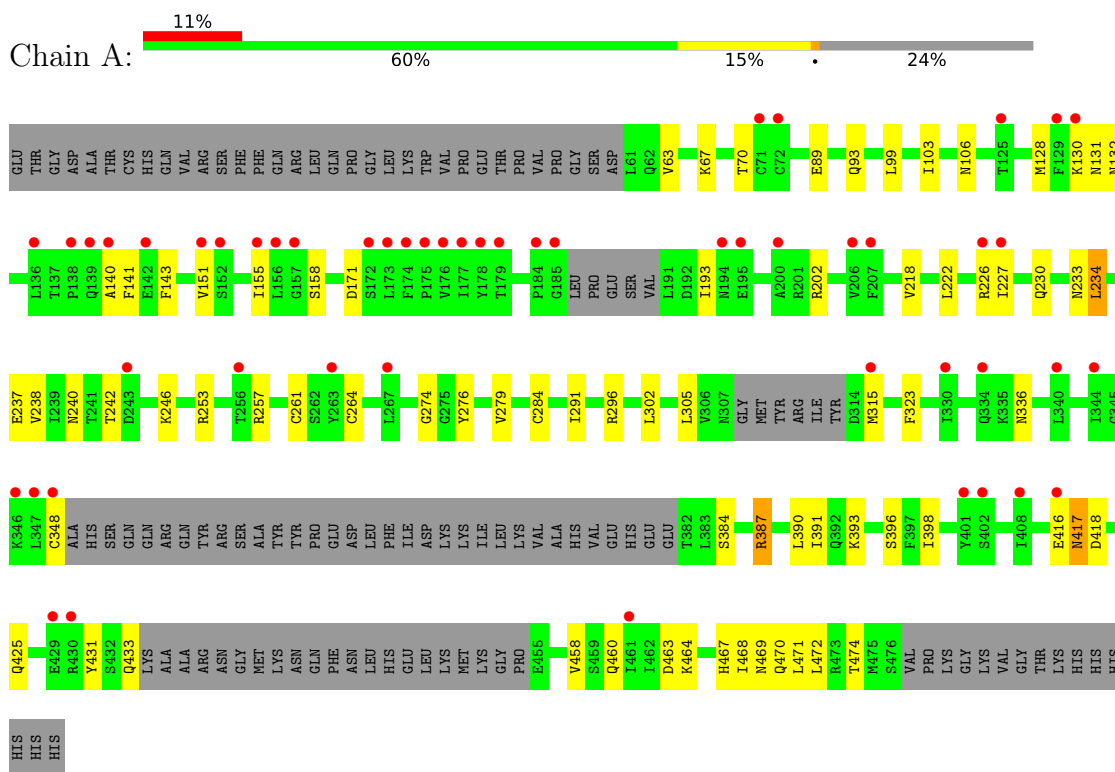


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
5	E	1	22	6	11	5	4	0
5	F	1	22	6	11	5	4	0
5	G	1	22	6	11	5	4	0

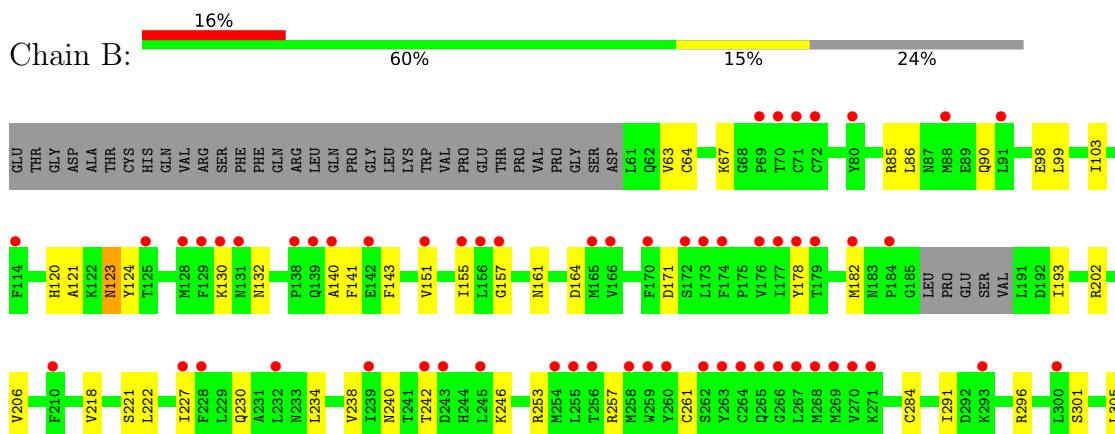
3 Residue-property plots [i](#)

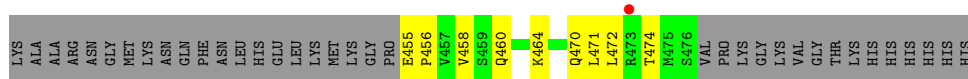
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: Glypican-3

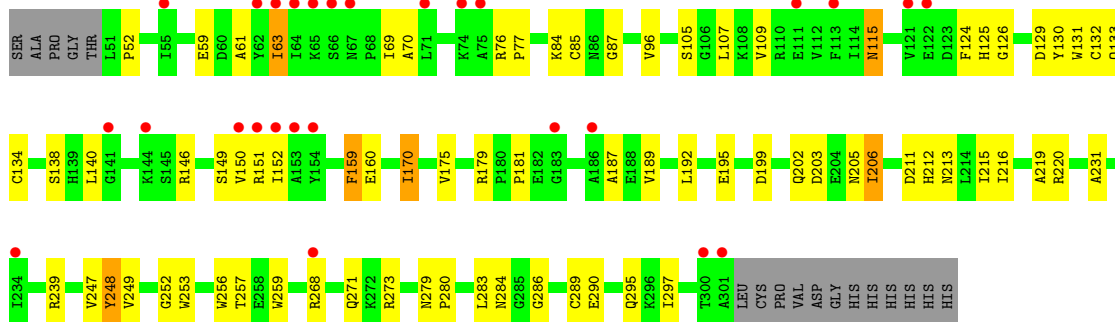


- Molecule 1: Glypican-3

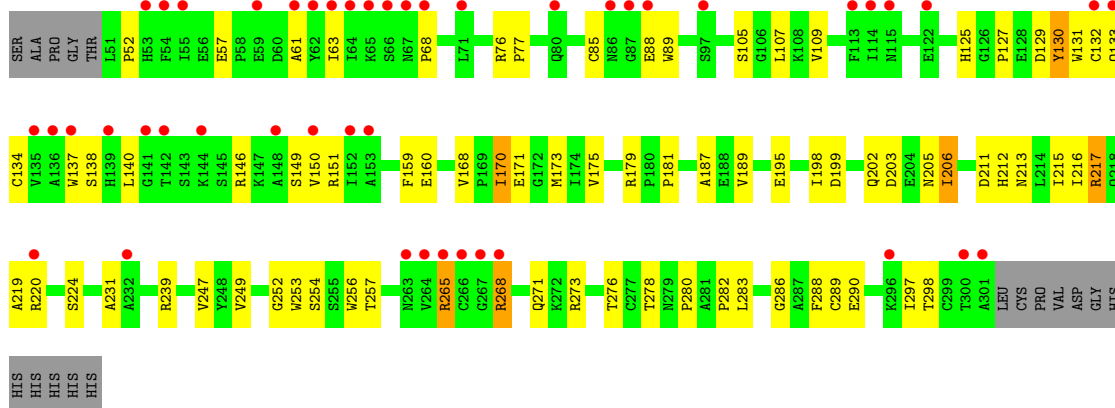




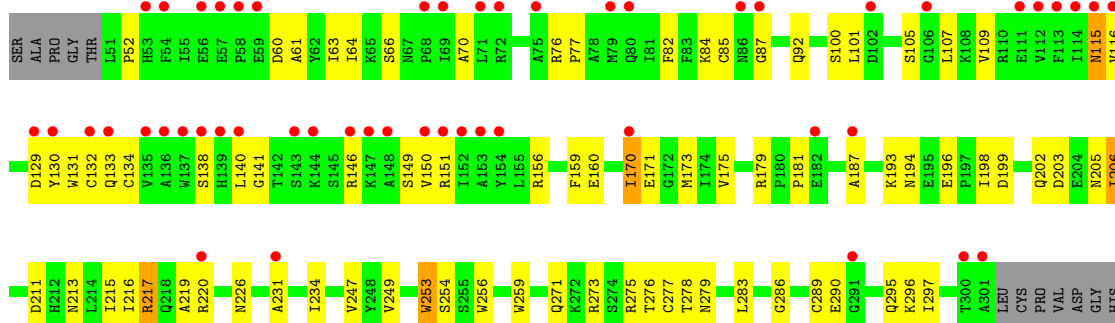
• Molecule 2: Netrin receptor UNC5D



• Molecule 2: Netrin receptor UNC5D

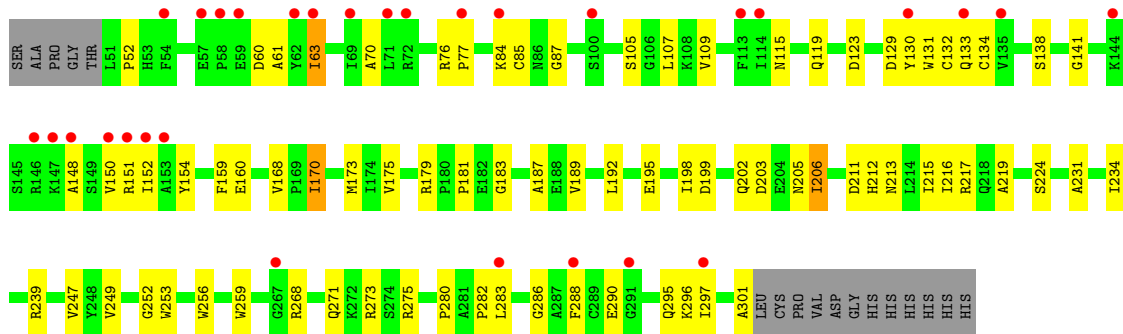


• Molecule 2: Netrin receptor UNC5D



HIS
HIS
HIS
HIS
HIS

• Molecule 2: Netrin receptor UNC5D



• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



NAG1
NAG2

4 Data and refinement statistics

Property	Value	Source
Space group	P 31	Depositor
Cell constants a, b, c, α , β , γ	119.58Å 119.58Å 257.94Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	80.88 – 4.00 80.75 – 4.00	Depositor EDS
% Data completeness (in resolution range)	74.8 (80.88-4.00) 74.8 (80.75-4.00)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.77 (at 4.01Å)	Xtrriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.355 , 0.385 0.353 , 0.375	Depositor DCC
R_{free} test set	1333 reflections (5.12%)	wwPDB-VP
Wilson B-factor (Å ²)	210.2	Xtrriage
Anisotropy	0.162	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	(Not available) , (Not available)	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	0.026 for -h,-k,l 0.418 for h,-h-k,-l 0.036 for -k,-h,-l	Xtrriage
F_o, F_c correlation	0.88	EDS
Total number of atoms	38653	wwPDB-VP
Average B, all atoms (Å ²)	319.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.12% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.61	0/2854	0.53	0/3846
1	B	0.62	0/2854	0.54	0/3846
1	C	0.63	0/2854	0.54	0/3846
1	D	0.62	0/2854	0.52	0/3846
2	E	0.63	0/2038	0.66	0/2764
2	F	0.63	0/2038	0.68	1/2764 (0.0%)
2	G	0.62	0/2038	0.65	1/2764 (0.0%)
2	H	0.62	0/2038	0.61	0/2764
All	All	0.62	0/19568	0.58	2/26440 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	217	ARG	CG-CD-NE	-7.79	95.44	111.80
2	F	265	ARG	NE-CZ-NH1	-5.26	117.67	120.30

There are no chirality outliers.

There are no planarity outliers.

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	2806	2825	2814	46	4

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	2806	2824	2813	60	4
1	C	2806	2825	2813	51	0
1	D	2806	2825	2815	43	0
2	E	1991	1913	1906	75	1
2	F	1991	1913	1904	87	30
2	G	1991	1913	1906	87	26
2	H	1991	1914	1906	66	3
3	I	28	27	25	0	0
4	A	14	14	13	4	0
4	B	28	28	26	11	0
4	C	28	28	24	4	0
4	D	28	28	26	3	0
4	E	28	28	26	11	0
4	F	28	28	26	4	0
4	G	28	28	26	9	0
4	H	14	14	13	7	0
5	E	11	11	10	0	0
5	F	11	11	10	7	0
5	G	11	11	10	0	0
All	All	19445	19208	19112	460	35

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 (460) 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)
2:F:253:TRP:CZ3	2:F:289:CYS:HB3	1.23	1.65
2:F:256:TRP:HD1	5:F:403:MAN:C1	1.17	1.43
1:D:123:ASN:HD21	4:D:501:NAG:C1	1.31	1.41
2:F:253:TRP:CZ3	2:F:289:CYS:CB	2.15	1.28
2:G:70:ALA:HB2	4:G:401:NAG:O7	1.35	1.25
2:F:253:TRP:CH2	2:F:289:CYS:HB3	1.71	1.23
1:C:123:ASN:HD21	4:C:501:NAG:C1	1.54	1.21
1:C:82:LEU:HD22	2:H:234:ILE:HD13	1.29	1.10
1:D:82:LEU:HD22	2:G:234:ILE:HD13	1.10	1.08
2:E:70:ALA:N	4:E:402:NAG:H81	1.68	1.06
2:F:127:PRO:HG3	2:H:296:LYS:O	1.55	1.05
1:C:138:PRO:HG3	2:G:66:SER:OG	1.54	1.05
1:B:123:ASN:HB2	4:B:501:NAG:O7	1.56	1.05
2:G:253:TRP:CZ2	2:G:289:CYS:HB3	1.96	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:70:ALA:HB3	4:H:401:NAG:C7	1.91	1.00
1:B:90:GLN:OE1	2:E:146:ARG:NH1	1.95	1.00
2:G:253:TRP:CE2	2:G:289:CYS:HB3	1.97	0.99
2:H:70:ALA:CB	4:H:401:NAG:C7	2.41	0.99
2:E:256:TRP:CE3	2:E:273:ARG:HG2	2.00	0.96
1:D:82:LEU:CD2	2:G:234:ILE:HD13	1.95	0.96
1:B:123:ASN:CB	4:B:501:NAG:O7	2.13	0.96
2:F:256:TRP:CD1	5:F:403:MAN:C2	2.49	0.94
1:C:82:LEU:HD22	2:H:234:ILE:CD1	1.96	0.93
2:E:256:TRP:HE3	2:E:273:ARG:HG2	1.32	0.91
2:F:127:PRO:CG	2:H:296:LYS:O	2.18	0.90
2:H:70:ALA:HB3	4:H:401:NAG:C8	2.02	0.90
2:F:127:PRO:HD3	2:H:296:LYS:O	1.72	0.89
2:E:256:TRP:CH2	2:E:295:GLN:HB2	2.08	0.89
2:E:253:TRP:CH2	2:E:289:CYS:HB3	2.09	0.88
1:D:82:LEU:HD22	2:G:234:ILE:CD1	2.01	0.87
2:F:253:TRP:HZ3	2:F:289:CYS:HB3	1.30	0.87
1:B:157:GLY:O	2:H:288:PHE:CE1	2.26	0.87
2:H:253:TRP:CZ3	2:H:275:ARG:HD3	2.11	0.86
2:F:127:PRO:CD	2:H:296:LYS:O	2.27	0.83
1:A:227:ILE:HD11	1:A:471:LEU:HB3	1.60	0.81
1:D:305:LEU:HD22	1:D:472:LEU:HD23	1.64	0.79
2:E:70:ALA:N	4:E:402:NAG:C8	2.45	0.79
2:F:256:TRP:HE1	5:F:403:MAN:H2	1.47	0.79
2:F:256:TRP:NE1	5:F:403:MAN:C1	2.45	0.78
1:C:305:LEU:HD22	1:C:472:LEU:HD23	1.66	0.78
1:C:234:LEU:HD11	1:C:464:LYS:HB3	1.66	0.78
2:F:127:PRO:HB3	2:H:295:GLN:HG3	1.66	0.78
2:G:256:TRP:HE3	2:G:273:ARG:HG2	1.47	0.78
1:B:305:LEU:HD22	1:B:472:LEU:HD23	1.65	0.76
1:D:94:SER:OG	2:G:146:ARG:NH2	2.18	0.76
1:A:305:LEU:HD22	1:A:472:LEU:HD23	1.67	0.76
2:G:70:ALA:HB2	4:G:401:NAG:C7	2.13	0.75
2:G:70:ALA:CB	4:G:401:NAG:H81	2.16	0.75
4:A:501:NAG:C8	2:G:279:ASN:HB2	2.17	0.74
1:B:227:ILE:HD11	1:B:471:LEU:HB3	1.70	0.74
2:F:253:TRP:CH2	2:F:290:GLU:N	2.56	0.74
1:C:227:ILE:HD11	1:C:471:LEU:HB3	1.70	0.73
1:B:120:HIS:HA	4:B:501:NAG:O7	1.88	0.73
2:G:253:TRP:CH2	2:G:289:CYS:HB3	2.23	0.73
2:F:253:TRP:CE3	2:F:289:CYS:SG	2.82	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:253:TRP:HZ2	2:H:290:GLU:O	1.70	0.72
2:E:129:ASP:HB3	2:E:151:ARG:HD3	1.72	0.71
2:F:256:TRP:NE1	5:F:403:MAN:C2	2.53	0.71
1:A:233:ASN:HB3	2:G:278:THR:HG22	1.73	0.70
2:E:253:TRP:HZ2	2:E:290:GLU:O	1.75	0.70
1:A:234:LEU:HD11	1:A:464:LYS:HB3	1.74	0.70
2:G:254:SER:OG	2:G:276:THR:N	2.25	0.70
2:H:70:ALA:CB	4:H:401:NAG:O7	2.39	0.69
2:G:129:ASP:HB3	2:G:151:ARG:HD3	1.74	0.69
1:C:138:PRO:CG	2:G:66:SER:OG	2.38	0.69
1:D:227:ILE:HD11	1:D:471:LEU:HB3	1.73	0.69
2:G:226:ASN:ND2	4:G:402:NAG:H82	2.07	0.68
2:E:69:ILE:C	4:E:402:NAG:H81	2.13	0.68
2:E:205:ASN:HD21	2:E:216:ILE:HG23	1.59	0.68
2:G:70:ALA:CB	4:G:401:NAG:O7	2.28	0.68
1:A:70:THR:OG1	1:A:264:CYS:SG	2.52	0.67
1:C:220:LYS:NZ	1:C:314:ASP:OD1	2.22	0.67
2:G:253:TRP:HZ2	2:G:290:GLU:C	1.98	0.67
2:E:96:VAL:HG11	4:E:402:NAG:C6	2.25	0.67
1:B:155:ILE:HD11	1:B:222:LEU:HD22	1.75	0.67
1:D:79:LYS:HE2	2:G:64:ILE:HD13	1.75	0.67
1:D:230:GLN:HE21	2:F:288:PHE:HZ	1.42	0.66
1:B:123:ASN:HB2	4:B:501:NAG:C7	2.25	0.66
1:B:123:ASN:HB3	4:B:501:NAG:O7	1.95	0.66
1:C:473:ARG:O	1:C:476:SER:OG	2.11	0.66
1:A:417:ASN:OD1	1:A:417:ASN:N	2.27	0.66
2:H:253:TRP:CE3	2:H:275:ARG:NE	2.64	0.66
2:G:70:ALA:HB1	4:G:401:NAG:H81	1.76	0.66
1:B:123:ASN:CB	4:B:501:NAG:C7	2.73	0.66
1:B:234:LEU:HD11	1:B:464:LYS:HB3	1.78	0.65
1:D:236:ILE:HG21	2:F:278:THR:HG21	1.78	0.65
2:E:52:PRO:HG3	2:E:138:SER:HB2	1.78	0.65
2:G:256:TRP:CZ3	2:G:295:GLN:HB2	2.32	0.65
1:D:236:ILE:CG2	2:F:278:THR:HG21	2.26	0.65
2:F:253:TRP:CH2	2:F:289:CYS:CB	2.60	0.65
2:F:252:GLY:HA3	2:F:280:PRO:HD2	1.79	0.65
1:D:155:ILE:HD11	1:D:222:LEU:HD22	1.78	0.65
2:E:96:VAL:HG21	4:E:402:NAG:H62	1.78	0.64
1:A:291:ILE:HD11	1:A:458:VAL:HG13	1.79	0.64
2:G:175:VAL:HG22	2:G:215:ILE:HG23	1.78	0.64
2:H:76:ARG:HD3	2:H:109:VAL:HG22	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:256:TRP:CE3	2:G:273:ARG:NE	2.66	0.64
2:H:70:ALA:HB2	4:H:401:NAG:C7	2.25	0.64
2:E:253:TRP:CZ2	2:E:289:CYS:HB3	2.34	0.63
2:G:61:ALA:HB3	2:G:150:VAL:HG22	1.80	0.63
1:A:463:ASP:OD2	2:G:220:ARG:HB3	1.99	0.63
1:A:155:ILE:HD11	1:A:222:LEU:HD22	1.80	0.63
2:F:76:ARG:HD3	2:F:109:VAL:HG22	1.81	0.62
2:F:76:ARG:HD2	2:F:107:LEU:HB3	1.82	0.62
1:A:230:GLN:OE1	2:G:283:LEU:HD23	1.99	0.62
1:C:291:ILE:HD11	1:C:458:VAL:HG13	1.82	0.62
2:F:68:PRO:O	4:F:401:NAG:H3	1.99	0.62
2:F:249:VAL:O	2:F:286:GLY:HA3	1.99	0.62
1:C:153:LEU:HD11	2:G:156:ARG:HH12	1.64	0.61
1:D:157:GLY:HA3	2:F:288:PHE:CE1	2.35	0.61
2:E:253:TRP:HZ2	2:E:290:GLU:C	2.04	0.61
2:E:253:TRP:CZ2	2:E:290:GLU:O	2.53	0.61
1:C:155:ILE:HD11	1:C:222:LEU:HD22	1.81	0.61
2:E:253:TRP:CZ3	2:E:289:CYS:HB3	2.34	0.61
1:D:234:LEU:HD11	1:D:464:LYS:HB3	1.82	0.61
2:F:205:ASN:OD1	2:F:217:ARG:HG3	2.01	0.61
2:G:253:TRP:CD2	2:G:289:CYS:HB3	2.35	0.60
2:H:76:ARG:HD2	2:H:107:LEU:HB3	1.81	0.60
1:A:171:ASP:OD2	1:A:202:ARG:NH1	2.34	0.60
2:E:131:TRP:HA	2:E:149:SER:HA	1.83	0.60
2:H:252:GLY:HA3	2:H:280:PRO:HD2	1.84	0.60
2:E:256:TRP:CE3	2:E:273:ARG:CG	2.81	0.60
2:E:187:ALA:HB1	2:E:231:ALA:HB1	1.83	0.60
2:G:52:PRO:HG3	2:G:138:SER:HB2	1.84	0.59
2:G:253:TRP:CH2	2:G:289:CYS:CB	2.84	0.59
2:G:256:TRP:HZ3	2:G:295:GLN:HB2	1.67	0.59
2:H:175:VAL:HG22	2:H:215:ILE:HG23	1.84	0.59
1:A:296:ARG:HG2	1:A:398:ILE:HG12	1.84	0.59
2:E:125:HIS:O	2:G:296:LYS:HE3	2.03	0.59
2:G:76:ARG:HD2	2:G:107:LEU:HB3	1.84	0.59
2:F:76:ARG:HB2	2:F:109:VAL:HG13	1.85	0.59
2:F:253:TRP:HH2	2:F:290:GLU:N	2.01	0.59
2:G:76:ARG:HD3	2:G:109:VAL:HG22	1.84	0.58
2:F:211:ASP:OD2	2:F:213:ASN:ND2	2.36	0.58
2:H:282:PRO:HG2	2:H:288:PHE:CD2	2.38	0.58
2:F:217:ARG:NH2	2:G:217:ARG:HE	2.02	0.58
1:C:305:LEU:HD11	1:C:472:LEU:O	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:254:SER:OG	2:G:275:ARG:HA	2.02	0.58
2:G:76:ARG:HH12	2:G:105:SER:HB2	1.68	0.58
1:B:171:ASP:OD2	1:B:202:ARG:NH1	2.36	0.58
2:G:256:TRP:CE3	2:G:273:ARG:HG2	2.36	0.58
2:G:253:TRP:C	2:G:276:THR:O	2.42	0.58
2:F:175:VAL:HG22	2:F:215:ILE:HG23	1.85	0.58
2:H:199:ASP:HB3	2:H:202:GLN:HB2	1.86	0.57
2:E:76:ARG:HH12	2:E:105:SER:HB2	1.69	0.57
2:F:253:TRP:CZ3	2:F:289:CYS:SG	2.97	0.57
2:G:211:ASP:OD2	2:G:213:ASN:ND2	2.36	0.57
1:B:120:HIS:HA	4:B:501:NAG:H81	1.86	0.57
2:F:256:TRP:NE1	5:F:403:MAN:H2	2.12	0.57
1:B:305:LEU:HD11	1:B:472:LEU:O	2.04	0.57
2:F:76:ARG:HH12	2:F:105:SER:HB2	1.70	0.57
2:F:199:ASP:HB3	2:F:202:GLN:HB2	1.87	0.57
2:H:249:VAL:O	2:H:286:GLY:HA3	2.04	0.57
1:B:296:ARG:HG2	1:B:398:ILE:HG12	1.87	0.57
2:H:76:ARG:HB2	2:H:109:VAL:HG13	1.85	0.57
2:H:253:TRP:CZ3	2:H:275:ARG:CD	2.86	0.57
2:F:129:ASP:HB3	2:F:151:ARG:HD3	1.86	0.57
1:B:157:GLY:O	2:H:288:PHE:CD1	2.57	0.56
2:E:211:ASP:OD2	2:E:213:ASN:ND2	2.38	0.56
1:D:123:ASN:CG	4:D:501:NAG:C1	2.73	0.56
2:F:253:TRP:CZ2	2:F:290:GLU:O	2.58	0.56
2:H:253:TRP:CE3	2:H:275:ARG:CD	2.87	0.56
1:B:120:HIS:HA	4:B:501:NAG:C7	2.35	0.56
2:G:256:TRP:CH2	2:G:295:GLN:NE2	2.74	0.56
2:H:52:PRO:HG3	2:H:138:SER:HB2	1.87	0.56
1:D:305:LEU:HD11	1:D:472:LEU:O	2.05	0.56
2:F:253:TRP:CH2	2:F:289:CYS:C	2.79	0.56
1:B:124:TYR:HB3	1:B:323:PHE:CE1	2.40	0.56
2:E:96:VAL:HG11	4:E:402:NAG:H62	1.88	0.56
2:H:211:ASP:OD2	2:H:213:ASN:ND2	2.39	0.56
1:C:431:TYR:CE2	1:C:433:GLN:HG2	2.40	0.56
2:E:249:VAL:O	2:E:286:GLY:HA3	2.06	0.55
1:B:130:LYS:HG3	1:B:141:PHE:HZ	1.71	0.55
2:G:70:ALA:CB	4:G:401:NAG:C7	2.83	0.55
2:E:160:GLU:HB3	2:E:179:ARG:HB3	1.87	0.55
2:E:256:TRP:HZ3	2:E:273:ARG:O	1.90	0.55
1:C:130:LYS:HG3	1:C:141:PHE:HZ	1.71	0.55
2:G:70:ALA:CB	4:G:401:NAG:C8	2.84	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:237:GLU:OE2	1:A:464:LYS:NZ	2.40	0.55
2:G:253:TRP:CZ2	2:G:289:CYS:CB	2.83	0.55
2:H:129:ASP:HB3	2:H:151:ARG:HD3	1.88	0.55
1:B:157:GLY:HA3	2:H:288:PHE:CZ	2.42	0.55
2:E:70:ALA:N	4:E:402:NAG:C7	2.64	0.55
2:F:52:PRO:HG3	2:F:138:SER:HB2	1.88	0.55
1:D:171:ASP:OD2	1:D:202:ARG:NH1	2.40	0.54
2:E:76:ARG:HD2	2:E:107:LEU:HB3	1.89	0.54
2:E:175:VAL:HG22	2:E:215:ILE:HG23	1.89	0.54
2:H:205:ASN:HD21	2:H:216:ILE:HG23	1.72	0.54
2:G:76:ARG:HB2	2:G:109:VAL:HG13	1.88	0.54
2:F:187:ALA:HB1	2:F:231:ALA:HB1	1.89	0.54
2:G:205:ASN:HD21	2:G:216:ILE:HG23	1.73	0.54
2:F:127:PRO:CB	2:H:295:GLN:HG3	2.35	0.54
2:F:254:SER:OG	2:F:276:THR:N	2.40	0.54
4:C:502:NAG:H61	2:E:279:ASN:ND2	2.22	0.54
1:D:296:ARG:HG2	1:D:398:ILE:HG12	1.89	0.54
2:E:76:ARG:HD3	2:E:109:VAL:HG22	1.89	0.54
2:F:52:PRO:HA	2:F:77:PRO:HD2	1.88	0.54
2:E:199:ASP:HB3	2:E:202:GLN:HB2	1.90	0.54
2:E:256:TRP:CD2	2:E:273:ARG:NE	2.76	0.54
2:F:253:TRP:CE3	2:F:289:CYS:CB	2.88	0.54
1:B:230:GLN:HE21	2:H:288:PHE:HZ	1.56	0.54
1:C:99:LEU:O	1:C:103:ILE:HG13	2.08	0.54
1:B:291:ILE:HD11	1:B:458:VAL:HG13	1.88	0.53
2:G:194:ASN:OD1	4:G:402:NAG:H81	2.08	0.53
4:A:501:NAG:O4	4:A:501:NAG:O6	2.21	0.53
1:B:86:LEU:HD13	2:E:59:GLU:CD	2.28	0.53
2:F:125:HIS:O	2:H:296:LYS:HE3	2.08	0.53
2:H:70:ALA:HB3	4:H:401:NAG:O7	2.03	0.53
2:E:253:TRP:CH2	2:E:289:CYS:CB	2.89	0.53
1:B:123:ASN:HB3	4:B:501:NAG:H2	1.90	0.53
2:H:76:ARG:HH12	2:H:105:SER:HB2	1.73	0.53
2:H:253:TRP:HZ3	2:H:275:ARG:HD3	1.71	0.53
1:A:467:HIS:HD2	2:G:283:LEU:HD13	1.74	0.53
2:H:205:ASN:OD1	2:H:217:ARG:HG3	2.08	0.53
2:E:76:ARG:HB2	2:E:109:VAL:HG13	1.90	0.52
1:B:151:VAL:O	1:B:155:ILE:HG12	2.09	0.52
2:E:52:PRO:HA	2:E:77:PRO:HD2	1.92	0.52
1:A:384:SER:HA	1:A:387:ARG:HD3	1.90	0.52
2:E:252:GLY:HA3	2:E:280:PRO:HD2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:151:VAL:O	1:A:155:ILE:HG12	2.10	0.52
2:G:199:ASP:HB3	2:G:202:GLN:HB2	1.92	0.52
1:D:291:ILE:HD11	1:D:458:VAL:HG13	1.91	0.52
1:C:467:HIS:NE2	2:E:284:ASN:ND2	2.58	0.52
1:B:99:LEU:O	1:B:103:ILE:HG13	2.09	0.51
1:D:151:VAL:O	1:D:155:ILE:HG12	2.09	0.51
2:F:61:ALA:HB3	2:F:150:VAL:HG22	1.92	0.51
1:B:123:ASN:HB3	4:B:501:NAG:C2	2.41	0.51
2:E:70:ALA:H	4:E:402:NAG:C8	2.22	0.51
1:A:99:LEU:O	1:A:103:ILE:HG13	2.11	0.51
1:C:296:ARG:HG2	1:C:398:ILE:HG12	1.92	0.51
2:H:187:ALA:HB1	2:H:231:ALA:HB1	1.90	0.51
1:D:99:LEU:O	1:D:103:ILE:HG13	2.10	0.51
1:A:416:GLU:H	1:A:416:GLU:CD	2.12	0.51
4:A:501:NAG:HO6	4:A:501:NAG:HO4	1.57	0.51
1:A:140:ALA:HA	1:A:143:PHE:CZ	2.46	0.51
1:C:138:PRO:HG3	2:G:66:SER:CB	2.40	0.51
2:F:171:GLU:OE1	2:F:220:ARG:NE	2.43	0.51
2:F:195:GLU:OE1	2:F:239:ARG:NH1	2.45	0.50
2:G:203:ASP:HB3	2:G:206:ILE:HD12	1.92	0.50
1:B:120:HIS:HA	4:B:501:NAG:C8	2.41	0.50
1:C:140:ALA:HA	1:C:143:PHE:CZ	2.46	0.50
2:H:159:PHE:HA	2:H:181:PRO:HG3	1.93	0.50
1:A:140:ALA:HA	1:A:143:PHE:CE2	2.46	0.50
1:C:151:VAL:O	1:C:155:ILE:HG12	2.10	0.50
2:H:52:PRO:HA	2:H:77:PRO:HD2	1.93	0.50
2:F:217:ARG:CZ	2:G:217:ARG:HE	2.25	0.50
1:A:130:LYS:HG3	1:A:141:PHE:HZ	1.75	0.50
1:C:384:SER:HA	1:C:387:ARG:HD3	1.93	0.50
1:D:238:VAL:O	1:D:242:THR:HG23	2.12	0.50
1:B:90:GLN:HE22	2:E:146:ARG:HH22	1.60	0.50
2:G:85:CYS:HA	2:G:132:CYS:HA	1.94	0.50
2:E:115:ASN:N	2:E:115:ASN:HD22	2.09	0.49
4:E:403:NAG:O7	4:E:403:NAG:H3	2.12	0.49
1:B:140:ALA:HA	1:B:143:PHE:CE2	2.47	0.49
2:F:217:ARG:NE	2:G:217:ARG:NE	2.60	0.49
2:G:187:ALA:HB1	2:G:231:ALA:HB1	1.94	0.49
1:C:257:ARG:HA	1:C:261:CYS:HB2	1.95	0.49
2:E:219:ALA:HB1	2:E:247:VAL:HG11	1.94	0.49
2:G:159:PHE:HA	2:G:181:PRO:HG3	1.95	0.49
1:A:431:TYR:CE2	1:A:433:GLN:HG3	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:140:ALA:HA	1:D:143:PHE:CZ	2.48	0.49
2:F:68:PRO:HD2	4:F:401:NAG:O6	2.13	0.49
2:F:85:CYS:HA	2:F:132:CYS:HA	1.95	0.49
2:H:85:CYS:HA	2:H:132:CYS:HA	1.94	0.49
2:H:271:GLN:HG2	2:H:297:ILE:O	2.13	0.49
1:B:206:VAL:HG12	1:B:340:LEU:HD11	1.94	0.49
1:A:238:VAL:O	1:A:242:THR:HG23	2.13	0.49
2:G:131:TRP:HZ3	2:G:133:GLN:HB2	1.77	0.48
1:B:315:MET:HG2	1:B:315:MET:O	2.13	0.48
2:G:52:PRO:HA	2:G:77:PRO:HD2	1.95	0.48
2:H:195:GLU:OE1	2:H:239:ARG:NH1	2.47	0.48
2:F:256:TRP:CD1	5:F:403:MAN:O2	2.65	0.48
2:F:271:GLN:HG2	2:F:297:ILE:O	2.13	0.48
2:G:131:TRP:HA	2:G:149:SER:HA	1.96	0.48
1:A:63:VAL:HG22	1:A:253:ARG:HG2	1.96	0.48
1:B:140:ALA:HA	1:B:143:PHE:CZ	2.48	0.48
1:B:460:GLN:HG2	1:B:464:LYS:HE3	1.94	0.48
2:F:254:SER:HB3	2:F:276:THR:O	2.14	0.48
1:C:140:ALA:HA	1:C:143:PHE:CE2	2.49	0.48
1:C:206:VAL:HG12	1:C:340:LEU:HD11	1.95	0.48
1:D:393:LYS:O	1:D:396:SER:OG	2.31	0.48
2:E:61:ALA:HB3	2:E:150:VAL:HG22	1.95	0.48
2:F:68:PRO:HD2	4:F:401:NAG:H5	1.96	0.48
2:H:154:TYR:O	2:H:183:GLY:HA2	2.13	0.48
1:A:305:LEU:HD11	1:A:472:LEU:O	2.14	0.48
2:E:203:ASP:HB3	2:E:206:ILE:HD12	1.96	0.48
2:E:256:TRP:HB3	2:E:273:ARG:HD2	1.96	0.48
1:D:123:ASN:C	1:D:123:ASN:HD22	2.15	0.48
1:A:89:GLU:OE2	1:A:246:LYS:NZ	2.46	0.47
1:B:63:VAL:HG22	1:B:253:ARG:HG2	1.96	0.47
2:G:249:VAL:O	2:G:286:GLY:HA3	2.13	0.47
1:D:306:VAL:HG11	1:D:391:ILE:HG13	1.96	0.47
2:E:85:CYS:HA	2:E:132:CYS:HA	1.95	0.47
2:G:100:SER:O	2:G:101:LEU:HD22	2.14	0.47
1:B:238:VAL:O	1:B:242:THR:HG23	2.13	0.47
1:C:178:TYR:HA	1:C:182:MET:HE3	1.96	0.47
2:F:168:VAL:HG13	2:F:247:VAL:HG12	1.95	0.47
2:F:189:VAL:HG11	2:F:212:HIS:HB3	1.96	0.47
1:C:455:GLU:N	1:C:456:PRO:HD2	2.30	0.47
1:D:140:ALA:HA	1:D:143:PHE:CE2	2.49	0.47
1:A:158:SER:O	1:A:226:ARG:NH2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:121:ALA:O	1:B:323:PHE:HE1	1.97	0.47
2:H:131:TRP:HZ3	2:H:133:GLN:HB2	1.80	0.47
4:A:501:NAG:H83	4:A:501:NAG:H2	1.76	0.47
2:F:170:ILE:HG12	2:F:249:VAL:HG22	1.96	0.47
1:B:455:GLU:N	1:B:456:PRO:HD2	2.30	0.47
2:F:219:ALA:HB1	2:F:247:VAL:HG11	1.96	0.47
1:B:193:ILE:HD11	1:B:348:CYS:HB3	1.96	0.46
1:D:86:LEU:HD13	2:G:60:ASP:OD2	2.16	0.46
2:E:131:TRP:HZ3	2:E:133:GLN:HB2	1.79	0.46
2:F:68:PRO:HB2	4:F:401:NAG:H5	1.97	0.46
2:F:203:ASP:HB3	2:F:206:ILE:HD12	1.97	0.46
2:E:96:VAL:HG11	4:E:402:NAG:O6	2.16	0.46
2:E:271:GLN:HG2	2:E:297:ILE:O	2.15	0.46
2:G:271:GLN:HG2	2:G:297:ILE:O	2.14	0.46
1:A:128:MET:HG3	1:A:323:PHE:CD2	2.51	0.46
1:A:460:GLN:HB2	2:G:220:ARG:CZ	2.45	0.46
2:F:131:TRP:HA	2:F:149:SER:HA	1.98	0.46
1:D:257:ARG:HA	1:D:261:CYS:HB2	1.98	0.46
2:H:63:ILE:HG22	2:H:152:ILE:HA	1.96	0.46
1:A:67:LYS:HD2	1:A:425:GLN:HB2	1.98	0.46
1:D:67:LYS:HE3	1:D:425:GLN:HB2	1.97	0.46
2:F:205:ASN:HD21	2:F:216:ILE:HG23	1.81	0.46
1:B:257:ARG:HA	1:B:261:CYS:HB2	1.98	0.46
1:C:63:VAL:HG22	1:C:253:ARG:HG2	1.96	0.46
2:E:70:ALA:H	4:E:402:NAG:C7	2.29	0.46
2:G:171:GLU:OE1	2:G:220:ARG:NE	2.49	0.46
2:E:84:LYS:NZ	2:E:87:GLY:O	2.47	0.46
2:F:168:VAL:O	2:F:247:VAL:HA	2.15	0.46
2:G:253:TRP:HA	2:G:277:CYS:HA	1.97	0.46
2:E:195:GLU:OE1	2:E:239:ARG:NH1	2.49	0.45
2:E:253:TRP:CZ3	2:E:289:CYS:CB	2.99	0.45
2:E:205:ASN:ND2	2:E:216:ILE:HG23	2.29	0.45
1:C:238:VAL:O	1:C:242:THR:HG23	2.15	0.45
2:H:170:ILE:HD13	2:H:170:ILE:HA	1.86	0.45
1:B:86:LEU:HD13	2:E:59:GLU:CG	2.47	0.45
1:B:178:TYR:HA	1:B:182:MET:HE3	1.99	0.45
1:B:393:LYS:O	1:B:396:SER:OG	2.29	0.45
1:C:171:ASP:OD2	1:C:202:ARG:NH1	2.50	0.45
1:D:470:GLN:O	1:D:474:THR:HG23	2.17	0.45
2:F:125:HIS:O	2:H:296:LYS:CE	2.65	0.45
1:B:67:LYS:HE3	1:B:425:GLN:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:237:GLU:OE2	1:C:464:LYS:NZ	2.50	0.45
1:D:90:GLN:OE1	2:G:146:ARG:HD2	2.17	0.45
1:A:460:GLN:HB2	2:G:220:ARG:NH1	2.32	0.45
1:C:306:VAL:HG11	1:C:391:ILE:HG13	1.99	0.45
1:C:322:LEU:HD23	1:C:322:LEU:HA	1.85	0.44
2:G:170:ILE:HD13	2:G:170:ILE:HA	1.86	0.44
2:H:189:VAL:HG11	2:H:212:HIS:HB3	2.00	0.44
1:C:470:GLN:O	1:C:474:THR:HG23	2.17	0.44
2:F:217:ARG:NE	2:G:217:ARG:CZ	2.81	0.44
2:F:249:VAL:HB	2:F:283:LEU:HB2	1.99	0.44
1:C:234:LEU:CD1	2:E:283:LEU:HD11	2.47	0.44
2:F:160:GLU:HB3	2:F:179:ARG:HB3	1.98	0.44
2:G:253:TRP:CZ2	2:G:289:CYS:C	2.90	0.44
1:A:460:GLN:HG2	1:A:464:LYS:HE3	2.00	0.44
1:B:470:GLN:O	1:B:474:THR:HG23	2.18	0.44
2:E:63:ILE:HG22	2:E:152:ILE:HA	2.00	0.44
2:E:124:PHE:CZ	2:E:126:GLY:HA3	2.52	0.44
2:H:203:ASP:HB3	2:H:206:ILE:HD12	2.00	0.44
2:H:283:LEU:HA	2:H:283:LEU:HD23	1.75	0.44
1:C:315:MET:O	1:C:315:MET:HG2	2.18	0.44
1:D:234:LEU:HD13	2:F:283:LEU:HD21	1.99	0.44
1:D:236:ILE:CB	2:F:278:THR:HG21	2.48	0.44
1:D:455:GLU:N	1:D:456:PRO:HD2	2.32	0.44
2:G:253:TRP:CZ2	2:G:290:GLU:N	2.86	0.44
2:H:61:ALA:HB3	2:H:150:VAL:HG22	1.98	0.44
1:D:90:GLN:OE1	2:G:146:ARG:CD	2.65	0.43
2:E:77:PRO:HB3	2:E:107:LEU:HD21	1.99	0.43
2:G:84:LYS:NZ	2:G:87:GLY:O	2.48	0.43
2:F:131:TRP:HZ3	2:F:133:GLN:HB2	1.82	0.43
2:G:160:GLU:HB3	2:G:179:ARG:HB3	2.00	0.43
2:F:217:ARG:CZ	2:G:217:ARG:NE	2.81	0.43
1:B:218:VAL:O	1:B:222:LEU:HG	2.18	0.43
4:C:502:NAG:H61	2:E:279:ASN:CG	2.39	0.43
1:B:85:ARG:NH2	1:B:246:LYS:HD2	2.33	0.43
2:G:283:LEU:HD23	2:G:283:LEU:HA	1.81	0.43
1:C:149:THR:O	1:C:153:LEU:HG	2.19	0.43
1:B:306:VAL:HG11	1:B:391:ILE:HG13	2.01	0.43
1:D:236:ILE:HB	2:F:278:THR:HG21	2.00	0.43
1:A:393:LYS:O	1:A:396:SER:OG	2.31	0.43
2:H:219:ALA:HB1	2:H:247:VAL:HG11	2.01	0.43
1:A:257:ARG:HA	1:A:261:CYS:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:248:TYR:CE1	2:E:286:GLY:HA2	2.53	0.43
1:A:315:MET:O	1:A:315:MET:HG2	2.17	0.43
1:C:82:LEU:CD2	2:H:234:ILE:HD13	2.22	0.43
2:F:159:PHE:HA	2:F:181:PRO:HG3	2.01	0.43
2:E:189:VAL:HG11	2:E:212:HIS:HB3	2.00	0.42
2:F:282:PRO:HG2	2:F:288:PHE:CD2	2.54	0.42
1:D:315:MET:O	1:D:315:MET:HG2	2.18	0.42
1:C:460:GLN:HB2	2:E:220:ARG:NH1	2.33	0.42
2:E:256:TRP:CE3	2:E:273:ARG:NE	2.88	0.42
2:F:76:ARG:HG2	2:F:107:LEU:HD23	2.01	0.42
2:F:253:TRP:HH2	2:F:289:CYS:C	2.22	0.42
2:G:253:TRP:CZ3	2:G:289:CYS:HB3	2.54	0.42
1:B:221:SER:HB2	1:B:315:MET:HB2	2.01	0.42
1:A:469:ASN:HA	1:A:472:LEU:HD12	2.01	0.42
1:B:161:ASN:HB3	1:B:164:ASP:HB2	2.01	0.42
1:C:393:LYS:O	1:C:396:SER:OG	2.36	0.42
1:D:460:GLN:HG2	1:D:464:LYS:HE3	2.02	0.42
1:C:467:HIS:CE1	2:E:284:ASN:HD21	2.37	0.42
1:D:322:LEU:HD23	1:D:322:LEU:HA	1.86	0.42
2:G:77:PRO:HB3	2:G:107:LEU:HD21	2.01	0.42
2:G:253:TRP:CZ3	2:G:289:CYS:CB	3.02	0.42
2:H:84:LYS:NZ	2:H:87:GLY:O	2.48	0.42
2:H:256:TRP:CE3	2:H:273:ARG:NE	2.87	0.42
1:A:106:ASN:CG	1:A:390:LEU:HD13	2.40	0.42
2:H:259:TRP:CE2	2:H:273:ARG:HD3	2.54	0.42
1:A:431:TYR:CD2	1:A:433:GLN:HG3	2.55	0.42
1:B:322:LEU:HD23	1:B:322:LEU:HA	1.86	0.42
2:G:219:ALA:HB1	2:G:247:VAL:HG11	2.01	0.42
2:F:88:GLU:OE2	2:H:268:ARG:HD3	2.20	0.41
1:A:193:ILE:HD11	1:A:348:CYS:HB3	2.01	0.41
1:A:218:VAL:O	1:A:222:LEU:HG	2.20	0.41
1:B:383:LEU:HD23	1:B:383:LEU:HA	1.94	0.41
1:A:234:LEU:HD22	1:A:468:ILE:HG21	2.03	0.41
1:C:92:LEU:HB3	1:C:243:ASP:HA	2.01	0.41
1:C:218:VAL:O	1:C:222:LEU:HG	2.21	0.41
1:C:383:LEU:HD23	1:C:383:LEU:HA	1.92	0.41
1:B:86:LEU:CD1	2:E:59:GLU:CD	2.89	0.41
1:D:218:VAL:O	1:D:222:LEU:HG	2.20	0.41
1:A:230:GLN:OE1	2:G:283:LEU:CD2	2.67	0.41
2:E:170:ILE:HD13	2:E:170:ILE:HA	1.87	0.41
2:F:253:TRP:CH2	2:F:289:CYS:CA	3.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:253:TRP:HZ2	2:F:290:GLU:O	2.03	0.41
1:A:470:GLN:O	1:A:474:THR:HG23	2.20	0.41
1:B:86:LEU:HD13	2:E:59:GLU:HG3	2.02	0.41
1:C:123:ASN:HD22	4:C:501:NAG:C1	2.21	0.41
1:D:127:ALA:HA	4:D:501:NAG:O7	2.20	0.41
2:E:159:PHE:HA	2:E:181:PRO:HG3	2.02	0.41
2:E:259:TRP:CE2	2:E:273:ARG:HD3	2.55	0.41
2:H:160:GLU:HB3	2:H:179:ARG:HB3	2.01	0.41
1:A:302:LEU:HG	1:A:391:ILE:HD11	2.03	0.41
1:B:86:LEU:CD1	2:E:59:GLU:OE1	2.69	0.41
2:F:170:ILE:HD13	2:F:170:ILE:HA	1.87	0.41
2:G:82:PHE:HZ	2:G:92:GLN:HE22	1.66	0.41
1:A:276:TYR:HA	1:A:279:VAL:HG22	2.02	0.41
1:C:67:LYS:HE3	1:C:425:GLN:HB2	2.02	0.41
2:E:76:ARG:HG2	2:E:107:LEU:HD23	2.02	0.41
2:G:193:LYS:N	2:G:196:GLU:O	2.54	0.41
1:B:301:SER:HB2	1:B:472:LEU:HD13	2.03	0.41
1:B:404:LEU:HD12	1:B:404:LEU:HA	1.96	0.40
1:C:246:LYS:HA	1:C:246:LYS:HD3	1.90	0.40
1:C:320:LEU:HD23	1:C:320:LEU:HA	1.92	0.40
2:H:70:ALA:HB3	4:H:401:NAG:H81	1.97	0.40
2:H:119:GLN:HG2	2:H:123:ASP:OD2	2.21	0.40
1:C:257:ARG:HA	1:C:261:CYS:CB	2.51	0.40
1:D:276:TYR:HA	1:D:279:VAL:HG22	2.04	0.40
2:G:259:TRP:CE2	2:G:273:ARG:HD3	2.57	0.40
1:B:85:ARG:HH22	1:B:246:LYS:HD2	1.86	0.40
2:F:253:TRP:HZ3	2:F:289:CYS:CB	2.03	0.40
2:H:168:VAL:HG13	2:H:247:VAL:HG12	2.02	0.40
1:A:274:GLY:N	1:A:418:ASP:OD1	2.54	0.40
1:B:431:TYR:CD2	1:B:433:GLN:HG3	2.57	0.40
1:C:276:TYR:HA	1:C:279:VAL:HG22	2.03	0.40
2:F:130:TYR:HB3	2:F:150:VAL:O	2.22	0.40
2:F:256:TRP:CE3	2:F:273:ARG:NE	2.89	0.40
2:H:60:ASP:HA	2:H:148:ALA:HB1	2.03	0.40
2:F:57:GLU:OE1	2:F:146:ARG:HG3	2.22	0.40
2:H:76:ARG:HG2	2:H:107:LEU:HD23	2.02	0.40

All (35) 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)
2:F:140:LEU:CG	2:G:141:GLY:N[1_665]	0.90	1.30
2:F:140:LEU:CG	2:G:141:GLY:CA[1_665]	0.98	1.22
2:F:140:LEU:CD2	2:G:141:GLY:N[1_665]	1.15	1.05
2:F:140:LEU:HG	2:G:141:GLY:CA[1_665]	0.64	0.96
2:F:140:LEU:CD1	2:G:140:LEU:C[1_665]	1.42	0.78
2:F:140:LEU:HG	2:G:141:GLY:HA3[1_665]	0.86	0.74
2:F:140:LEU:CG	2:G:140:LEU:C[1_665]	1.57	0.63
2:F:137:TRP:HH2	2:F:265:ARG:HH12[1_665]	1.04	0.56
2:F:140:LEU:CD1	2:G:141:GLY:N[1_665]	1.64	0.56
1:A:131:ASN:C	1:B:132:ASN:OD1[2_655]	1.66	0.54
2:F:140:LEU:HD22	2:G:141:GLY:H[1_665]	1.06	0.54
2:F:140:LEU:HB3	2:G:141:GLY:HA2[1_665]	1.15	0.45
2:F:140:LEU:CB	2:G:141:GLY:CA[1_665]	1.75	0.45
2:F:140:LEU:HD13	2:G:140:LEU:C[1_665]	1.16	0.44
1:A:131:ASN:O	1:B:132:ASN:OD1[2_655]	1.77	0.43
2:F:140:LEU:CD2	2:G:141:GLY:CA[1_665]	1.83	0.37
2:F:140:LEU:CD1	2:G:140:LEU:O[1_665]	1.83	0.37
2:F:268:ARG:NH2	2:H:301:ALA:O[1_445]	1.86	0.34
2:F:140:LEU:CD2	2:G:140:LEU:C[1_665]	1.88	0.32
2:E:140:LEU:HG	2:H:141:GLY:HA2[1_665]	1.30	0.30
2:F:140:LEU:CG	2:G:141:GLY:HA3[1_665]	1.30	0.30
2:F:268:ARG:HH22	2:H:301:ALA:O[1_445]	1.30	0.30
2:F:140:LEU:HD13	2:G:140:LEU:O[1_665]	1.31	0.29
1:A:132:ASN:N	1:B:132:ASN:OD1[2_655]	1.95	0.25
2:F:140:LEU:HD22	2:G:141:GLY:N[1_665]	1.36	0.24
2:F:140:LEU:CB	2:G:141:GLY:HA2[1_665]	1.39	0.21
2:F:140:LEU:HB2	2:G:140:LEU:O[1_665]	1.41	0.19
2:F:140:LEU:CB	2:G:140:LEU:O[1_665]	2.01	0.19
2:F:140:LEU:HG	2:G:141:GLY:N[1_665]	1.43	0.17
2:F:140:LEU:CG	2:G:140:LEU:O[1_665]	2.04	0.16
2:F:140:LEU:CG	2:G:141:GLY:HA2[1_665]	1.51	0.09
1:A:131:ASN:OD1	1:B:132:ASN:ND2[2_655]	2.13	0.07
2:F:89:TRP:CH2	2:F:265:ARG:NH1[1_665]	2.13	0.07
2:F:140:LEU:CD2	2:G:141:GLY:H[1_665]	1.54	0.06
2:F:140:LEU:HG	2:G:141:GLY:C[1_665]	1.59	0.01

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	341/464 (74%)	334 (98%)	7 (2%)	0	100	100
1	B	341/464 (74%)	334 (98%)	7 (2%)	0	100	100
1	C	341/464 (74%)	334 (98%)	7 (2%)	0	100	100
1	D	341/464 (74%)	334 (98%)	7 (2%)	0	100	100
2	E	249/268 (93%)	238 (96%)	9 (4%)	2 (1%)	19	58
2	F	249/268 (93%)	236 (95%)	10 (4%)	3 (1%)	13	49
2	G	249/268 (93%)	235 (94%)	10 (4%)	4 (2%)	9	44
2	H	249/268 (93%)	237 (95%)	10 (4%)	2 (1%)	19	58
All	All	2360/2928 (81%)	2282 (97%)	67 (3%)	11 (0%)	29	67

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	F	257	THR
2	G	253	TRP
2	E	130	TYR
2	F	130	TYR
2	G	130	TYR
2	H	130	TYR
2	E	257	THR
2	F	224	SER
2	G	115	ASN
2	G	116	VAL
2	H	224	SER

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	319/418 (76%)	312 (98%)	7 (2%)	52	71

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	B	319/418 (76%)	311 (98%)	8 (2%)	47	68
1	C	319/418 (76%)	312 (98%)	7 (2%)	52	71
1	D	319/418 (76%)	312 (98%)	7 (2%)	52	71
2	E	217/231 (94%)	208 (96%)	9 (4%)	30	57
2	F	217/231 (94%)	208 (96%)	9 (4%)	30	57
2	G	217/231 (94%)	210 (97%)	7 (3%)	39	62
2	H	217/231 (94%)	209 (96%)	8 (4%)	34	60
All	All	2144/2596 (83%)	2082 (97%)	62 (3%)	42	65

All (62) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	93	GLN
1	A	234	LEU
1	A	240	ASN
1	A	284	CYS
1	A	336	ASN
1	A	387	ARG
1	A	417	ASN
1	B	64	CYS
1	B	98	GLU
1	B	123	ASN
1	B	240	ASN
1	B	284	CYS
1	B	323	PHE
1	B	336	ASN
1	B	387	ARG
1	C	93	GLN
1	C	123	ASN
1	C	128	MET
1	C	234	LEU
1	C	284	CYS
1	C	336	ASN
1	C	387	ARG
1	D	64	CYS
1	D	93	GLN
1	D	123	ASN
1	D	234	LEU
1	D	284	CYS
1	D	336	ASN

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Mol	Chain	Res	Type
1	D	387	ARG
2	E	63	ILE
2	E	115	ASN
2	E	134	CYS
2	E	159	PHE
2	E	170	ILE
2	E	192	LEU
2	E	206	ILE
2	E	248	TYR
2	E	268	ARG
2	F	63	ILE
2	F	134	CYS
2	F	170	ILE
2	F	173	MET
2	F	198	ILE
2	F	206	ILE
2	F	217	ARG
2	F	268	ARG
2	F	298	THR
2	G	63	ILE
2	G	115	ASN
2	G	134	CYS
2	G	170	ILE
2	G	173	MET
2	G	198	ILE
2	G	206	ILE
2	H	63	ILE
2	H	115	ASN
2	H	134	CYS
2	H	170	ILE
2	H	173	MET
2	H	192	LEU
2	H	198	ILE
2	H	206	ILE

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

Mol	Chain	Res	Type
1	A	467	HIS
1	B	230	GLN
1	B	244	HIS
1	C	123	ASN

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Mol	Chain	Res	Type
1	D	123	ASN
1	D	230	GLN
2	E	279	ASN
2	E	295	GLN
2	F	218	GLN
2	F	271	GLN
2	G	295	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

2 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
3	NAG	I	1	3,2	14,14,15	1.19	2 (14%)	17,19,21	1.22	2 (11%)
3	NAG	I	2	3	14,14,15	0.93	0	17,19,21	1.54	6 (35%)

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
3	NAG	I	1	3,2	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	NAG	I	2	3	-	4/6/23/26	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	I	1	NAG	O5-C1	2.49	1.47	1.43
3	I	1	NAG	O4-C4	2.11	1.47	1.43

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	I	2	NAG	O5-C1-C2	3.12	116.22	111.29
3	I	1	NAG	C1-O5-C5	2.84	116.04	112.19
3	I	2	NAG	O4-C4-C3	-2.65	104.22	110.35
3	I	2	NAG	C2-N2-C7	2.56	126.55	122.90
3	I	2	NAG	O4-C4-C5	2.06	114.42	109.30
3	I	2	NAG	C1-C2-N2	2.04	113.98	110.49
3	I	2	NAG	C4-C3-C2	2.02	113.97	111.02
3	I	1	NAG	O3-C3-C2	-2.01	105.31	109.47

There are no chirality outliers.

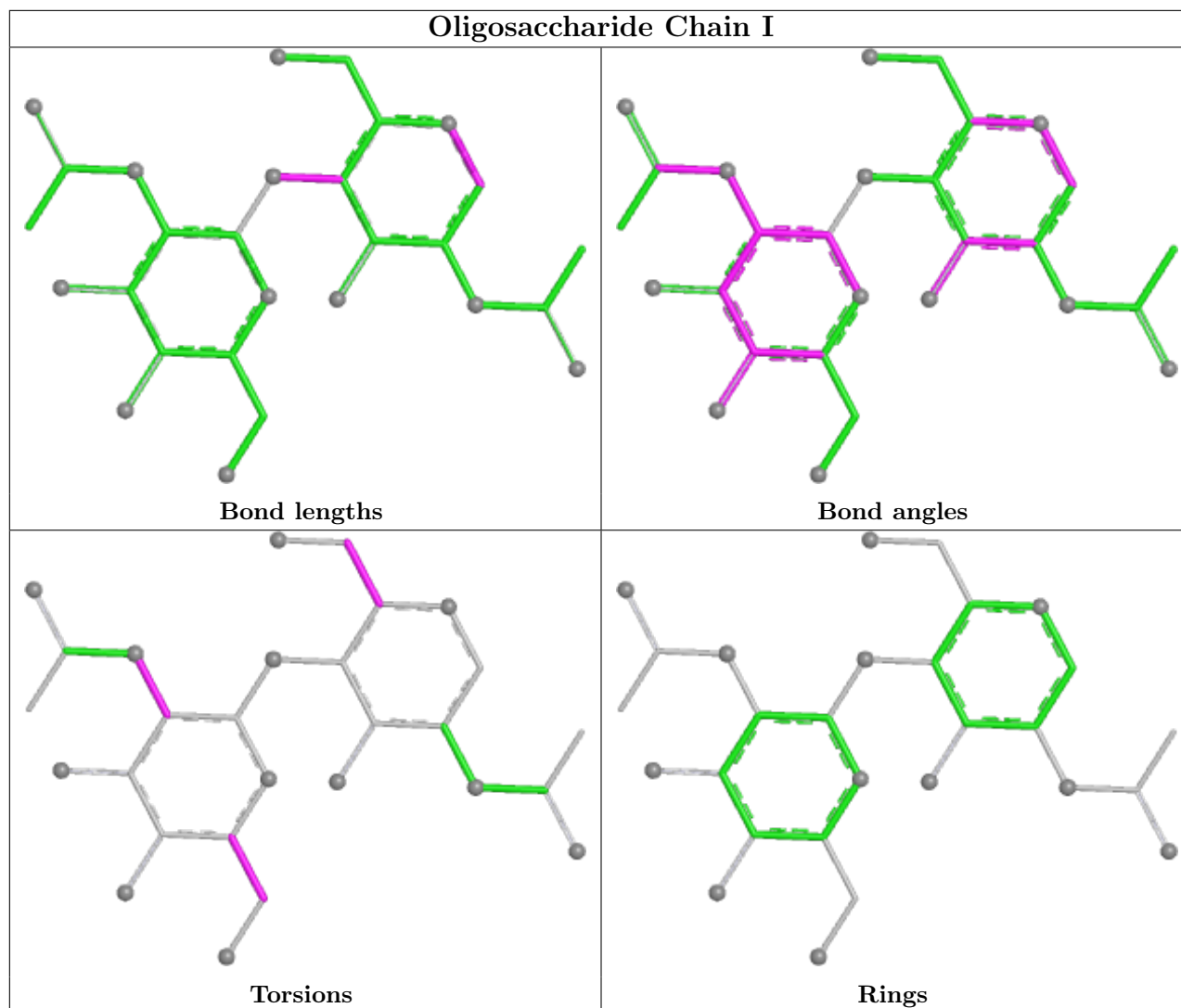
All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	I	2	NAG	C3-C2-N2-C7
3	I	1	NAG	O5-C5-C6-O6
3	I	1	NAG	C4-C5-C6-O6
3	I	2	NAG	O5-C5-C6-O6
3	I	2	NAG	C4-C5-C6-O6
3	I	2	NAG	C1-C2-N2-C7

There are no ring outliers.

No monomer is involved in short contacts.

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



5.6 Ligand geometry [i](#)

17 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	NAG	F	401	2	14,14,15	1.78	3 (21%)	17,19,21	1.55	2 (11%)
4	NAG	B	501	1	14,14,15	0.77	0	17,19,21	1.29	3 (17%)
4	NAG	E	403	2	14,14,15	1.65	3 (21%)	17,19,21	2.01	6 (35%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	NAG	E	402	2	14,14,15	0.93	0	17,19,21	2.09	6 (35%)
5	MAN	G	403	2	11,11,12	1.29	0	15,15,17	2.64	5 (33%)
4	NAG	D	501	1	14,14,15	0.76	0	17,19,21	2.02	3 (17%)
4	NAG	H	401	2	14,14,15	0.39	0	17,19,21	0.86	0
4	NAG	B	502	1	14,14,15	1.09	1 (7%)	17,19,21	2.11	3 (17%)
4	NAG	A	501	1	14,14,15	1.25	1 (7%)	17,19,21	2.57	7 (41%)
4	NAG	C	501	1	14,14,15	1.01	1 (7%)	17,19,21	1.09	1 (5%)
4	NAG	D	502	1	14,14,15	1.58	4 (28%)	17,19,21	2.89	5 (29%)
4	NAG	F	402	2	14,14,15	1.17	1 (7%)	17,19,21	2.09	4 (23%)
4	NAG	G	401	2	14,14,15	1.24	0	17,19,21	2.89	10 (58%)
5	MAN	F	403	2	11,11,12	0.85	0	15,15,17	2.48	5 (33%)
5	MAN	E	401	2	11,11,12	1.42	1 (9%)	15,15,17	2.43	7 (46%)
4	NAG	G	402	2	14,14,15	1.63	3 (21%)	17,19,21	2.80	9 (52%)
4	NAG	C	502	1	14,14,15	1.24	2 (14%)	17,19,21	3.66	11 (64%)

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	NAG	F	401	2	-	4/6/23/26	0/1/1/1
4	NAG	B	501	1	-	0/6/23/26	0/1/1/1
4	NAG	E	403	2	-	2/6/23/26	0/1/1/1
4	NAG	E	402	2	-	0/6/23/26	0/1/1/1
5	MAN	G	403	2	-	2/2/19/22	0/1/1/1
4	NAG	D	501	1	-	2/6/23/26	0/1/1/1
4	NAG	H	401	2	-	1/6/23/26	0/1/1/1
4	NAG	B	502	1	-	1/6/23/26	0/1/1/1
4	NAG	A	501	1	-	3/6/23/26	0/1/1/1
4	NAG	C	501	1	-	2/6/23/26	0/1/1/1
4	NAG	D	502	1	-	2/6/23/26	0/1/1/1
4	NAG	F	402	2	-	3/6/23/26	0/1/1/1
4	NAG	G	401	2	-	3/6/23/26	0/1/1/1
5	MAN	F	403	2	-	2/2/19/22	0/1/1/1
5	MAN	E	401	2	-	1/2/19/22	0/1/1/1
4	NAG	G	402	2	-	5/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	C	502	1	-	2/6/23/26	0/1/1/1

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	F	401	NAG	C2-N2	4.03	1.53	1.46
4	E	403	NAG	O5-C1	3.91	1.50	1.43
4	F	402	NAG	C1-C2	3.82	1.58	1.52
4	G	402	NAG	C1-C2	3.39	1.57	1.52
4	E	403	NAG	O5-C5	3.26	1.50	1.43
4	D	502	NAG	C1-C2	3.20	1.57	1.52
4	F	401	NAG	C3-C2	3.00	1.58	1.52
4	D	502	NAG	O5-C5	2.76	1.49	1.43
4	B	502	NAG	C1-C2	2.70	1.56	1.52
4	G	402	NAG	C4-C5	2.66	1.58	1.53
4	A	501	NAG	C1-C2	2.60	1.56	1.52
4	C	501	NAG	O5-C1	-2.59	1.39	1.43
4	D	502	NAG	C3-C2	2.39	1.57	1.52
4	G	402	NAG	C3-C2	2.37	1.57	1.52
4	D	502	NAG	O5-C1	2.34	1.47	1.43
4	C	502	NAG	C8-C7	-2.26	1.45	1.50
4	E	403	NAG	C1-C2	2.24	1.55	1.52
5	E	401	MAN	C4-C5	2.20	1.57	1.53
4	C	502	NAG	C2-N2	2.13	1.49	1.46
4	F	401	NAG	C4-C3	2.10	1.57	1.52

All (87) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	G	401	NAG	C2-N2-C7	7.92	134.18	122.90
4	A	501	NAG	O5-C5-C6	7.81	119.44	107.20
4	C	502	NAG	C2-N2-C7	7.48	133.56	122.90
4	D	502	NAG	C1-O5-C5	7.35	122.15	112.19
4	B	502	NAG	O5-C5-C6	7.14	118.39	107.20
4	G	402	NAG	C2-N2-C7	6.92	132.75	122.90
4	C	502	NAG	O5-C5-C6	6.56	117.49	107.20
4	C	502	NAG	O7-C7-N2	6.25	133.45	121.95
5	F	403	MAN	O5-C5-C6	6.19	116.91	107.20
4	E	403	NAG	O5-C5-C6	5.85	116.37	107.20
4	D	502	NAG	O5-C1-C2	-5.66	102.34	111.29
5	G	403	MAN	C1-O5-C5	5.48	119.62	112.19
4	F	402	NAG	C1-C2-N2	5.27	119.49	110.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	F	402	NAG	C1-O5-C5	5.15	119.17	112.19
4	G	402	NAG	C8-C7-N2	5.15	124.82	116.10
4	D	501	NAG	O5-C1-C2	5.14	119.40	111.29
4	D	501	NAG	C1-C2-N2	5.04	119.09	110.49
5	E	401	MAN	O3-C3-C2	5.03	119.62	109.99
5	G	403	MAN	O3-C3-C2	4.79	119.16	109.99
4	E	402	NAG	C1-O5-C5	4.78	118.67	112.19
4	D	502	NAG	O5-C5-C6	4.71	114.58	107.20
4	F	401	NAG	O3-C3-C2	4.44	118.66	109.47
4	C	502	NAG	C8-C7-N2	-4.33	108.77	116.10
5	E	401	MAN	C1-O5-C5	4.31	118.03	112.19
5	G	403	MAN	O5-C5-C6	4.26	113.89	107.20
5	G	403	MAN	C3-C4-C5	3.92	117.23	110.24
5	F	403	MAN	C1-O5-C5	3.80	117.34	112.19
4	G	402	NAG	C1-C2-N2	3.76	116.90	110.49
4	C	502	NAG	C6-C5-C4	-3.74	104.23	113.00
4	G	401	NAG	C1-C2-N2	3.72	116.83	110.49
5	E	401	MAN	C3-C4-C5	3.67	116.79	110.24
4	G	401	NAG	C1-O5-C5	3.64	117.13	112.19
4	E	402	NAG	O5-C5-C6	3.51	112.70	107.20
5	F	403	MAN	C3-C4-C5	3.48	116.44	110.24
4	C	502	NAG	C1-C2-N2	-3.46	104.58	110.49
4	A	501	NAG	O5-C1-C2	-3.40	105.92	111.29
4	G	401	NAG	C8-C7-N2	-3.33	110.46	116.10
4	C	502	NAG	C1-O5-C5	-3.23	107.81	112.19
4	G	401	NAG	O5-C1-C2	3.19	116.33	111.29
4	A	501	NAG	C6-C5-C4	-3.18	105.55	113.00
4	D	502	NAG	C1-C2-N2	3.14	115.86	110.49
4	C	502	NAG	O4-C4-C5	-3.13	101.53	109.30
4	E	402	NAG	C3-C4-C5	3.13	115.81	110.24
4	C	501	NAG	O5-C5-C6	3.07	112.01	107.20
4	G	402	NAG	O3-C3-C2	3.05	115.77	109.47
5	F	403	MAN	O3-C3-C4	3.02	117.33	110.35
4	D	502	NAG	C6-C5-C4	-3.00	105.98	113.00
4	E	403	NAG	O5-C1-C2	-2.98	106.58	111.29
5	E	401	MAN	O4-C4-C3	-2.95	103.54	110.35
4	E	402	NAG	C1-C2-N2	-2.94	105.46	110.49
4	B	501	NAG	O5-C5-C6	2.92	111.78	107.20
4	G	402	NAG	O4-C4-C5	2.92	116.54	109.30
4	F	402	NAG	O5-C1-C2	-2.92	106.69	111.29
4	C	502	NAG	C3-C4-C5	2.86	115.34	110.24
5	F	403	MAN	C1-C2-C3	2.78	113.09	109.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	401	MAN	C6-C5-C4	2.71	119.35	113.00
4	G	402	NAG	C1-O5-C5	2.63	115.75	112.19
4	G	401	NAG	O5-C5-C6	2.60	111.28	107.20
5	E	401	MAN	C1-C2-C3	2.60	112.86	109.67
4	F	401	NAG	C4-C3-C2	-2.59	107.22	111.02
4	F	402	NAG	C2-N2-C7	2.58	126.58	122.90
4	C	502	NAG	O7-C7-C8	-2.57	117.28	122.06
4	G	402	NAG	O7-C7-N2	-2.55	117.26	121.95
4	C	502	NAG	O4-C4-C3	2.53	116.20	110.35
4	D	501	NAG	C1-O5-C5	2.45	115.50	112.19
5	G	403	MAN	O2-C2-C1	2.41	114.09	109.15
4	E	402	NAG	O3-C3-C4	2.37	115.82	110.35
4	B	501	NAG	C8-C7-N2	2.31	120.01	116.10
4	A	501	NAG	O7-C7-C8	-2.27	117.83	122.06
4	B	501	NAG	O5-C1-C2	2.27	114.88	111.29
4	G	402	NAG	O7-C7-C8	-2.23	117.91	122.06
4	E	403	NAG	C1-C2-N2	2.23	114.30	110.49
4	B	502	NAG	C2-N2-C7	2.23	126.08	122.90
4	A	501	NAG	C3-C4-C5	-2.22	106.28	110.24
4	G	401	NAG	C4-C3-C2	-2.21	107.77	111.02
4	E	403	NAG	C1-O5-C5	2.21	115.19	112.19
4	G	402	NAG	C4-C3-C2	-2.21	107.78	111.02
4	G	401	NAG	O3-C3-C4	-2.19	105.28	110.35
4	A	501	NAG	O4-C4-C3	2.19	115.41	110.35
4	A	501	NAG	O3-C3-C4	-2.18	105.32	110.35
4	G	401	NAG	O7-C7-N2	2.16	125.92	121.95
4	G	401	NAG	O3-C3-C2	2.09	113.80	109.47
4	E	402	NAG	O4-C4-C5	-2.09	104.11	109.30
4	B	502	NAG	O5-C1-C2	2.08	114.57	111.29
4	E	403	NAG	C4-C3-C2	2.05	114.03	111.02
5	E	401	MAN	O4-C4-C5	2.05	114.39	109.30
4	E	403	NAG	C6-C5-C4	-2.03	108.24	113.00

There are no chirality outliers.

All (35) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	E	403	NAG	C3-C2-N2-C7
4	F	402	NAG	C1-C2-N2-C7
4	G	401	NAG	C1-C2-N2-C7
4	G	402	NAG	C1-C2-N2-C7
4	A	501	NAG	C8-C7-N2-C2

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Mol	Chain	Res	Type	Atoms
4	A	501	NAG	O7-C7-N2-C2
5	G	403	MAN	O5-C5-C6-O6
4	G	402	NAG	O5-C5-C6-O6
4	D	501	NAG	O7-C7-N2-C2
4	C	501	NAG	O5-C5-C6-O6
4	D	502	NAG	O5-C5-C6-O6
5	F	403	MAN	O5-C5-C6-O6
4	C	501	NAG	C4-C5-C6-O6
4	D	502	NAG	C4-C5-C6-O6
4	F	401	NAG	O5-C5-C6-O6
4	G	402	NAG	C4-C5-C6-O6
4	G	401	NAG	C4-C5-C6-O6
4	D	501	NAG	C8-C7-N2-C2
4	F	401	NAG	C8-C7-N2-C2
4	F	401	NAG	O7-C7-N2-C2
4	G	402	NAG	C8-C7-N2-C2
4	G	402	NAG	O7-C7-N2-C2
5	G	403	MAN	C4-C5-C6-O6
4	G	401	NAG	O5-C5-C6-O6
4	F	401	NAG	C4-C5-C6-O6
4	C	502	NAG	O5-C5-C6-O6
4	C	502	NAG	C1-C2-N2-C7
4	B	502	NAG	O5-C5-C6-O6
4	E	403	NAG	O5-C5-C6-O6
4	A	501	NAG	O5-C5-C6-O6
4	H	401	NAG	C4-C5-C6-O6
4	F	402	NAG	C4-C5-C6-O6
4	F	402	NAG	O5-C5-C6-O6
5	F	403	MAN	C4-C5-C6-O6
5	E	401	MAN	C4-C5-C6-O6

There are no ring outliers.

12 monomers are involved in 60 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	F	401	NAG	4	0
4	B	501	NAG	11	0
4	E	403	NAG	1	0
4	E	402	NAG	10	0
4	D	501	NAG	3	0
4	H	401	NAG	7	0
4	A	501	NAG	4	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	C	501	NAG	2	0
4	G	401	NAG	7	0
5	F	403	MAN	7	0
4	G	402	NAG	2	0
4	C	502	NAG	2	0

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, 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	351/464 (75%)	0.79	51 (14%) 2 3	155, 336, 473, 581	0
1	B	351/464 (75%)	1.07	75 (21%) 0 1	231, 369, 500, 627	0
1	C	351/464 (75%)	0.48	33 (9%) 8 8	156, 282, 398, 476	0
1	D	351/464 (75%)	0.76	55 (15%) 2 2	176, 314, 444, 496	0
2	E	251/268 (93%)	0.42	27 (10%) 5 5	165, 302, 434, 467	0
2	F	251/268 (93%)	0.85	46 (18%) 1 2	167, 330, 490, 572	0
2	G	251/268 (93%)	1.01	51 (20%) 1 1	147, 288, 516, 660	0
2	H	251/268 (93%)	0.56	30 (11%) 4 5	145, 294, 457, 544	0
All	All	2408/2928 (82%)	0.75	368 (15%) 2 2	145, 317, 471, 660	0

All (368) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	175	PRO	17.6
2	G	136	ALA	14.3
1	B	348	CYS	12.8
1	D	252	GLY	12.8
1	A	174	PHE	11.9
1	B	176	VAL	10.5
2	G	75	ALA	10.0
2	G	143	SER	9.9
2	F	153	ALA	9.6
1	B	177	ILE	9.0
1	B	267	LEU	8.9
2	G	57	GLU	8.9
2	G	114	ILE	8.8
2	E	268	ARG	8.7
1	B	173	LEU	8.6
1	B	270	VAL	8.4

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Mol	Chain	Res	Type	RSRZ
2	G	135	VAL	7.9
2	G	147	LYS	7.5
1	B	157	GLY	7.4
2	E	152	ILE	7.4
1	D	76	MET	7.3
2	F	87	GLY	7.2
2	F	266	CYS	7.0
2	F	150	VAL	6.9
1	A	173	LEU	6.9
2	E	301	ALA	6.7
2	F	86	ASN	6.7
1	C	269	MET	6.6
2	G	150	VAL	6.5
2	F	267	GLY	6.5
2	F	148	ALA	6.4
2	F	301	ALA	6.3
1	A	348	CYS	6.2
2	G	58	PRO	6.2
2	F	64	ILE	6.2
1	B	262	SER	6.2
2	F	142	THR	6.1
1	A	157	GLY	6.1
1	C	268	MET	6.1
2	G	71	LEU	6.1
2	E	153	ALA	6.0
2	G	148	ALA	6.0
2	G	111	GLU	6.0
2	F	152	ILE	5.9
2	F	135	VAL	5.9
1	D	260	TYR	5.8
1	B	430	ARG	5.8
1	D	263	TYR	5.8
1	A	136	LEU	5.7
1	D	79	LYS	5.7
2	G	130	TYR	5.7
2	H	148	ALA	5.6
1	B	256	THR	5.6
1	B	243	ASP	5.6
2	H	152	ILE	5.5
2	H	71	LEU	5.5
1	D	253	ARG	5.4
2	G	87	GLY	5.4

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Mol	Chain	Res	Type	RSRZ
1	C	259	TRP	5.4
2	E	67	ASN	5.4
2	G	113	PHE	5.4
2	G	129	ASP	5.3
2	F	88	GLU	5.3
1	B	170	PHE	5.3
2	H	58	PRO	5.3
2	H	288	PHE	5.3
1	B	265	GLN	5.3
1	B	130	LYS	5.3
2	G	153	ALA	5.2
2	E	74	LYS	5.2
2	F	71	LEU	5.2
2	F	66	SER	5.2
1	D	136	LEU	5.2
1	B	138	PRO	5.2
2	F	265	ARG	5.1
1	D	433	GLN	5.1
2	F	55	ILE	5.1
1	B	259	TRP	5.0
1	C	420	LEU	5.0
1	D	75	LYS	5.0
2	F	144	LYS	5.0
1	C	271	LYS	5.0
1	A	176	VAL	4.9
2	F	136	ALA	4.9
2	E	111	GLU	4.9
1	A	71	CYS	4.9
1	C	416	GLU	4.9
1	D	268	MET	4.8
2	G	106	GLY	4.8
2	G	301	ALA	4.7
2	F	132	CYS	4.7
1	B	80	TYR	4.7
2	E	151	ARG	4.7
1	D	80	TYR	4.7
2	H	113	PHE	4.7
1	B	347	LEU	4.7
1	A	138	PRO	4.6
1	D	420	LEU	4.6
1	B	174	PHE	4.6
1	B	151	VAL	4.6

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Mol	Chain	Res	Type	RSRZ
1	B	70	THR	4.6
1	B	142	GLU	4.6
1	B	166	VAL	4.6
2	E	300	THR	4.5
2	E	65	LYS	4.5
1	B	139	GLN	4.5
2	F	141	GLY	4.5
2	F	114	ILE	4.5
1	B	263	TYR	4.4
1	A	347	LEU	4.4
1	C	260	TYR	4.4
2	F	65	LYS	4.4
1	D	264	CYS	4.4
1	D	125	THR	4.4
1	C	270	VAL	4.4
1	B	264	CYS	4.4
2	F	268	ARG	4.3
2	H	153	ALA	4.3
1	A	430	ARG	4.3
2	F	300	THR	4.3
1	D	256	THR	4.3
1	A	207	PHE	4.3
1	B	255	LEU	4.3
1	D	247	PHE	4.3
1	B	300	LEU	4.2
1	A	429	GLU	4.1
2	H	150	VAL	4.1
2	H	130	TYR	4.1
2	G	68	PRO	4.1
2	F	122	GLU	4.0
1	A	156	LEU	4.0
1	D	270	VAL	4.0
1	B	129	PHE	4.0
1	A	177	ILE	4.0
2	G	151	ARG	4.0
1	A	330	ILE	3.9
2	G	152	ILE	3.9
1	B	128	MET	3.9
2	E	144	LYS	3.8
1	B	266	GLY	3.8
2	F	62	TYR	3.8
1	D	259	TRP	3.8

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Mol	Chain	Res	Type	RSRZ
1	B	402	SER	3.8
2	F	61	ALA	3.7
1	B	178	TYR	3.7
2	F	67	ASN	3.7
1	B	461	ILE	3.7
1	B	184	PRO	3.7
1	C	427	LEU	3.7
1	D	249	LYS	3.7
1	D	325	THR	3.7
2	G	72	ARG	3.6
1	D	281	MET	3.6
2	E	122	GLU	3.6
2	F	232	ALA	3.6
2	F	220	ARG	3.6
2	G	187	ALA	3.6
1	B	125	THR	3.6
1	D	280	VAL	3.6
1	B	323	PHE	3.5
2	E	75	ALA	3.5
1	C	263	TYR	3.5
1	D	315	MET	3.5
1	C	125	THR	3.5
1	B	155	ILE	3.5
2	F	59	GLU	3.5
2	F	133	GLN	3.5
1	B	254	MET	3.5
2	E	113	PHE	3.5
1	A	155	ILE	3.5
1	B	269	MET	3.4
2	H	144	LYS	3.4
2	H	72	ARG	3.4
1	A	195	GLU	3.4
1	A	130	LYS	3.4
1	D	272	PRO	3.4
2	G	220	ARG	3.4
1	B	71	CYS	3.4
2	G	86	ASN	3.4
2	F	68	PRO	3.4
1	B	465	LEU	3.3
1	C	315	MET	3.3
1	B	69	PRO	3.3
2	H	147	LYS	3.3

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Mol	Chain	Res	Type	RSRZ
1	A	139	GLN	3.3
2	H	297	ILE	3.3
2	G	56	GLU	3.3
2	F	113	PHE	3.3
2	G	146	ARG	3.2
1	D	269	MET	3.2
2	F	137	TRP	3.2
1	A	129	PHE	3.2
1	C	114	PHE	3.2
2	F	63	ILE	3.2
2	G	139	HIS	3.1
1	C	417	ASN	3.1
1	B	140	ALA	3.1
1	B	165	MET	3.1
1	D	321	GLY	3.1
1	A	179	THR	3.1
2	G	144	LYS	3.1
2	H	291	GLY	3.1
1	B	340	LEU	3.1
2	H	100	SER	3.0
1	B	429	GLU	3.0
1	A	151	VAL	3.0
1	B	462	ILE	3.0
1	A	194	ASN	3.0
2	H	267	GLY	3.0
2	H	62	TYR	3.0
1	A	72	CYS	2.9
1	D	86	LEU	2.9
1	A	185	GLY	2.9
1	B	182	MET	2.9
1	D	318	VAL	2.9
1	B	228	PHE	2.9
1	D	129	PHE	2.9
1	D	82	LEU	2.9
2	E	150	VAL	2.9
1	D	274	GLY	2.9
2	G	133	GLN	2.8
1	C	121	ALA	2.8
1	D	427	LEU	2.8
2	H	114	ILE	2.8
1	D	251	CYS	2.8
2	H	146	ARG	2.8

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Mol	Chain	Res	Type	RSRZ
2	G	112	VAL	2.8
1	D	148	PHE	2.8
2	H	133	GLN	2.8
2	E	64	ILE	2.8
1	A	140	ALA	2.8
1	C	395	LYS	2.7
1	A	243	ASP	2.7
1	B	72	CYS	2.7
2	G	69	ILE	2.7
1	A	125	THR	2.7
1	D	170	PHE	2.7
2	H	69	ILE	2.7
1	B	245	LEU	2.7
2	G	138	SER	2.7
1	C	155	ILE	2.7
2	G	154	TYR	2.6
2	E	71	LEU	2.6
1	B	172	SER	2.6
2	F	54	PHE	2.6
1	B	239	ILE	2.6
1	C	256	THR	2.6
1	D	322	LEU	2.6
1	B	114	PHE	2.6
1	D	160	ILE	2.6
1	A	267	LEU	2.6
1	A	184	PRO	2.6
1	D	67	LYS	2.6
2	G	115	ASN	2.6
2	E	63	ILE	2.6
1	C	79	LYS	2.6
2	F	264	VAL	2.6
2	F	53	HIS	2.6
2	H	283	LEU	2.6
1	B	131	ASN	2.6
2	G	59	GLU	2.6
2	H	57	GLU	2.6
2	H	59	GLU	2.6
1	C	174	PHE	2.5
2	G	54	PHE	2.5
2	G	116	VAL	2.5
1	D	114	PHE	2.5
1	A	315	MET	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	334	GLN	2.5
1	D	71	CYS	2.5
2	E	234	ILE	2.5
2	F	80	GLN	2.5
2	E	154	TYR	2.5
2	F	296	LYS	2.5
2	H	54	PHE	2.5
1	B	242	THR	2.5
2	G	300	THR	2.5
2	G	231	ALA	2.4
1	C	401	TYR	2.4
1	A	344	ILE	2.4
1	B	88	MET	2.4
1	D	118	VAL	2.4
1	D	72	CYS	2.4
1	A	346	LYS	2.4
1	A	178	TYR	2.4
1	D	319	LEU	2.4
1	C	136	LEU	2.4
1	A	152	SER	2.4
1	C	314	ASP	2.4
1	B	258	MET	2.4
2	E	66	SER	2.4
2	G	53	HIS	2.3
1	B	315	MET	2.3
1	C	318	VAL	2.3
2	F	115	ASN	2.3
1	D	103	ILE	2.3
1	D	429	GLU	2.3
1	B	91	LEU	2.3
1	C	118	VAL	2.3
1	A	226	ARG	2.3
2	F	97	SER	2.3
2	E	62	TYR	2.3
1	B	179	THR	2.3
2	G	291	GLY	2.3
1	D	87	ASN	2.3
1	D	140	ALA	2.3
1	A	172	SER	2.3
1	B	271	LYS	2.3
1	B	464	LYS	2.3
1	C	140	ALA	2.2

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Mol	Chain	Res	Type	RSRZ
1	D	262	SER	2.2
1	B	458	VAL	2.2
2	G	140	LEU	2.2
1	A	402	SER	2.2
1	B	334	GLN	2.2
1	B	327	HIS	2.2
2	E	121	VAL	2.2
1	D	64	CYS	2.2
1	B	227	ILE	2.2
1	C	117	VAL	2.2
2	H	63	ILE	2.2
1	A	408	ILE	2.2
1	C	103	ILE	2.2
1	A	401	TYR	2.2
1	B	293	LYS	2.2
1	D	400	PHE	2.2
2	E	141	GLY	2.2
2	H	151	ARG	2.2
1	D	421	CYS	2.2
1	D	473	ARG	2.2
2	F	139	HIS	2.2
1	B	416	GLU	2.2
2	G	182	GLU	2.1
2	H	77	PRO	2.1
1	A	263	TYR	2.1
1	A	200	ALA	2.1
1	C	247	PHE	2.1
2	F	263	ASN	2.1
1	B	232	LEU	2.1
1	D	255	LEU	2.1
2	G	170	ILE	2.1
2	G	79	MET	2.1
2	G	102	ASP	2.1
1	A	461	ILE	2.1
1	A	416	GLU	2.1
2	E	186	ALA	2.1
1	A	227	ILE	2.1
1	C	191	LEU	2.1
2	G	132	CYS	2.1
2	H	84	LYS	2.1
1	A	206	VAL	2.1
2	H	135	VAL	2.1

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Mol	Chain	Res	Type	RSRZ
2	E	55	ILE	2.1
2	G	80	GLN	2.1
1	C	234	LEU	2.1
1	D	117	VAL	2.1
1	B	210	PHE	2.1
1	B	156	LEU	2.1
2	G	137	TRP	2.1
1	A	142	GLU	2.0
1	A	256	THR	2.0
2	E	183	GLY	2.0
1	A	340	LEU	2.0
1	C	461	ILE	2.0
1	B	268	MET	2.0
1	D	401	TYR	2.0
1	C	400	PHE	2.0
1	B	260	TYR	2.0

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

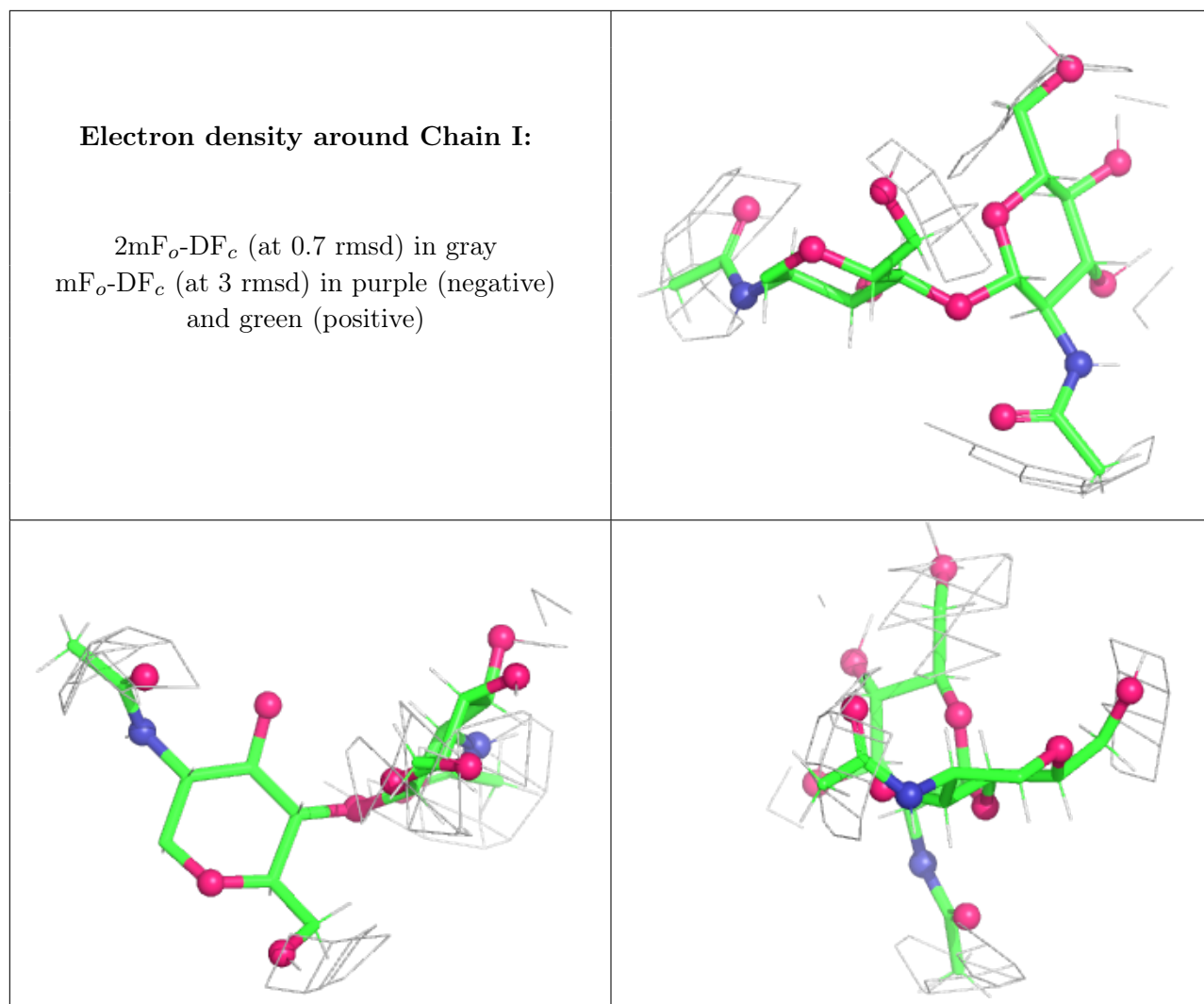
There are no non-standard protein/DNA/RNA residues in this entry.

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, 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
3	NAG	I	2	14/15	0.89	0.42	30,262,268,275	3
3	NAG	I	1	14/15	0.93	0.30	30,256,268,270	2

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.



6.4 Ligands [\(i\)](#)

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, 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
4	NAG	D	501	14/15	-0.16	1.10	30,440,496,498	3
4	NAG	F	401	14/15	-0.01	1.51	30,600,677,694	3
4	NAG	G	401	14/15	-0.01	1.06	30,432,449,462	3
4	NAG	H	401	14/15	0.39	0.50	30,312,330,333	3
4	NAG	C	501	14/15	0.43	0.51	30,338,366,378	3
4	NAG	B	502	14/15	0.49	0.47	30,267,285,288	3
5	MAN	G	403	11/12	0.50	0.45	30,361,387,418	4
4	NAG	C	502	14/15	0.53	0.37	30,258,339,354	3

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
4	NAG	A	501	14/15	0.53	0.39	30,220,237,248	3
4	NAG	D	502	14/15	0.54	0.37	30,244,263,266	3
5	MAN	E	401	11/12	0.55	0.76	30,430,436,440	4
4	NAG	F	402	14/15	0.59	0.46	30,293,359,371	3
4	NAG	E	402	14/15	0.62	0.68	30,403,417,426	3
4	NAG	B	501	14/15	0.71	0.28	30,436,449,453	3
4	NAG	G	402	14/15	0.76	0.36	30,234,282,284	3
4	NAG	E	403	14/15	0.76	0.37	30,283,309,320	3
5	MAN	F	403	11/12	0.83	0.28	30,330,336,336	4

6.5 Other polymers [i](#)

There are no such residues in this entry.