



Full wwPDB EM Validation Report ⓘ

Nov 20, 2022 – 07:14 PM JST

PDB ID : 7CHH
EMDB ID : EMD-30374
Title : Cryo-EM structure of the SARS-CoV-2 S-6P in complex with BD-368-2 Fabs
Authors : Xiao, J.; Zhu, Q.; Wang, G.
Deposited on : 2020-07-05
Resolution : 3.49 Å (reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

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:

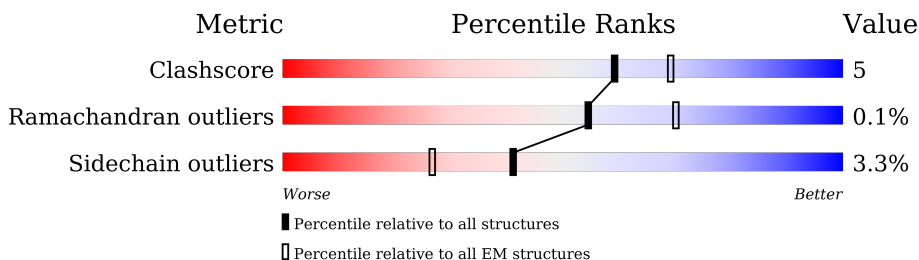
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.49 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)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1208	
1	B	1208	
1	C	1208	
2	D	230	
2	G	230	
2	J	230	
3	E	219	
3	H	219	

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Mol	Chain	Length	Quality of chain
3	K	219	<p>44% 37% 12% 49%</p>
4	F	2	<p>50% 50%</p>
4	I	2	<p>100% 50% 50%</p>
4	L	2	<p>100% 50% 50%</p>
4	M	2	<p>100% 100%</p>
4	N	2	<p>100% 50% 50%</p>

2 Entry composition i

There are 5 unique types of molecules in this entry. The entry contains 29029 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Spike glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1003	7734	4935	1289	1475	35	0	0
1	B	994	7652	4880	1271	1466	35	0	0
1	C	999	7672	4897	1270	1470	35	0	0

There are 27 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	682	GLY	ARG	conflict	UNP P0DTC2
A	683	SER	ARG	conflict	UNP P0DTC2
A	685	SER	ARG	conflict	UNP P0DTC2
A	817	PRO	PHE	conflict	UNP P0DTC2
A	892	PRO	ALA	conflict	UNP P0DTC2
A	899	PRO	ALA	conflict	UNP P0DTC2
A	942	PRO	ALA	conflict	UNP P0DTC2
A	986	PRO	LYS	conflict	UNP P0DTC2
A	987	PRO	VAL	conflict	UNP P0DTC2
B	682	GLY	ARG	conflict	UNP P0DTC2
B	683	SER	ARG	conflict	UNP P0DTC2
B	685	SER	ARG	conflict	UNP P0DTC2
B	817	PRO	PHE	conflict	UNP P0DTC2
B	892	PRO	ALA	conflict	UNP P0DTC2
B	899	PRO	ALA	conflict	UNP P0DTC2
B	942	PRO	ALA	conflict	UNP P0DTC2
B	986	PRO	LYS	conflict	UNP P0DTC2
B	987	PRO	VAL	conflict	UNP P0DTC2
C	682	GLY	ARG	conflict	UNP P0DTC2
C	683	SER	ARG	conflict	UNP P0DTC2
C	685	SER	ARG	conflict	UNP P0DTC2
C	817	PRO	PHE	conflict	UNP P0DTC2
C	892	PRO	ALA	conflict	UNP P0DTC2
C	899	PRO	ALA	conflict	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	942	PRO	ALA	conflict	UNP P0DTC2
C	986	PRO	LYS	conflict	UNP P0DTC2
C	987	PRO	VAL	conflict	UNP P0DTC2

- Molecule 2 is a protein called BD-368-2 Fab heavy chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	D	124	Total	C	N	O	S	0	0
			947	595	165	183	4		
2	G	124	Total	C	N	O	S	0	0
			947	595	165	183	4		
2	J	124	Total	C	N	O	S	0	0
			947	595	165	183	4		

- Molecule 3 is a protein called BD-368-2 Fab light chain.

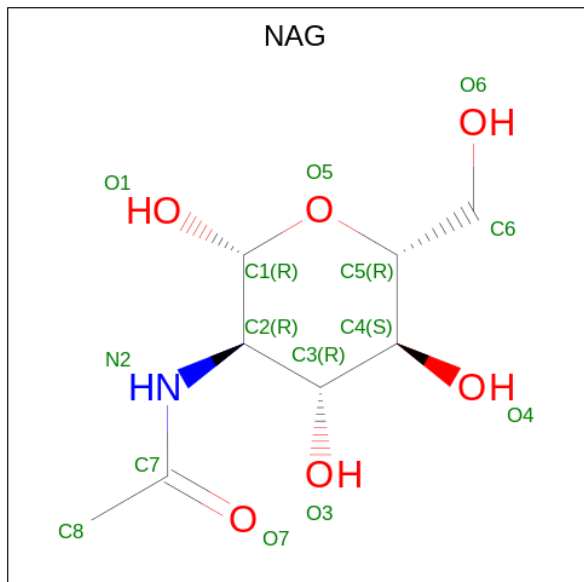
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	E	112	Total	C	N	O	S	0	0
			852	535	144	169	4		
3	H	112	Total	C	N	O	S	0	0
			852	535	144	169	4		
3	K	112	Total	C	N	O	S	0	0
			852	535	144	169	4		

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



Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
4	F	2	Total	C	N	O	0	0
			28	16	2	10		
4	I	2	Total	C	N	O	0	0
			28	16	2	10		
4	L	2	Total	C	N	O	0	0
			28	16	2	10		
4	M	2	Total	C	N	O	0	0
			28	16	2	10		
4	N	2	Total	C	N	O	0	0
			28	16	2	10		

- Molecule 5 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



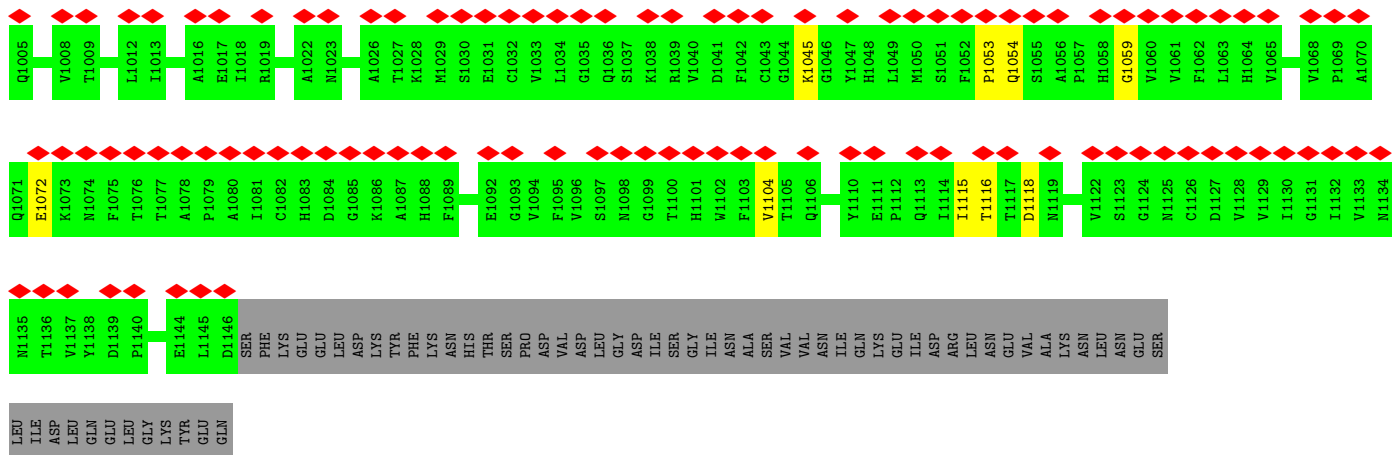
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
5	A	1	Total	C	N	O	0
			168	96	12	60	
5	A	1	Total	C	N	O	0
			168	96	12	60	
5	A	1	Total	C	N	O	0
			168	96	12	60	
5	A	1	Total	C	N	O	0
			168	96	12	60	
5	A	1	Total	C	N	O	0
			168	96	12	60	
5	A	1	Total	C	N	O	0
			168	96	12	60	
5	A	1	Total	C	N	O	0
			168	96	12	60	
5	A	1	Total	C	N	O	0
			168	96	12	60	
5	A	1	Total	C	N	O	0
			168	96	12	60	
5	A	1	Total	C	N	O	0
			168	96	12	60	

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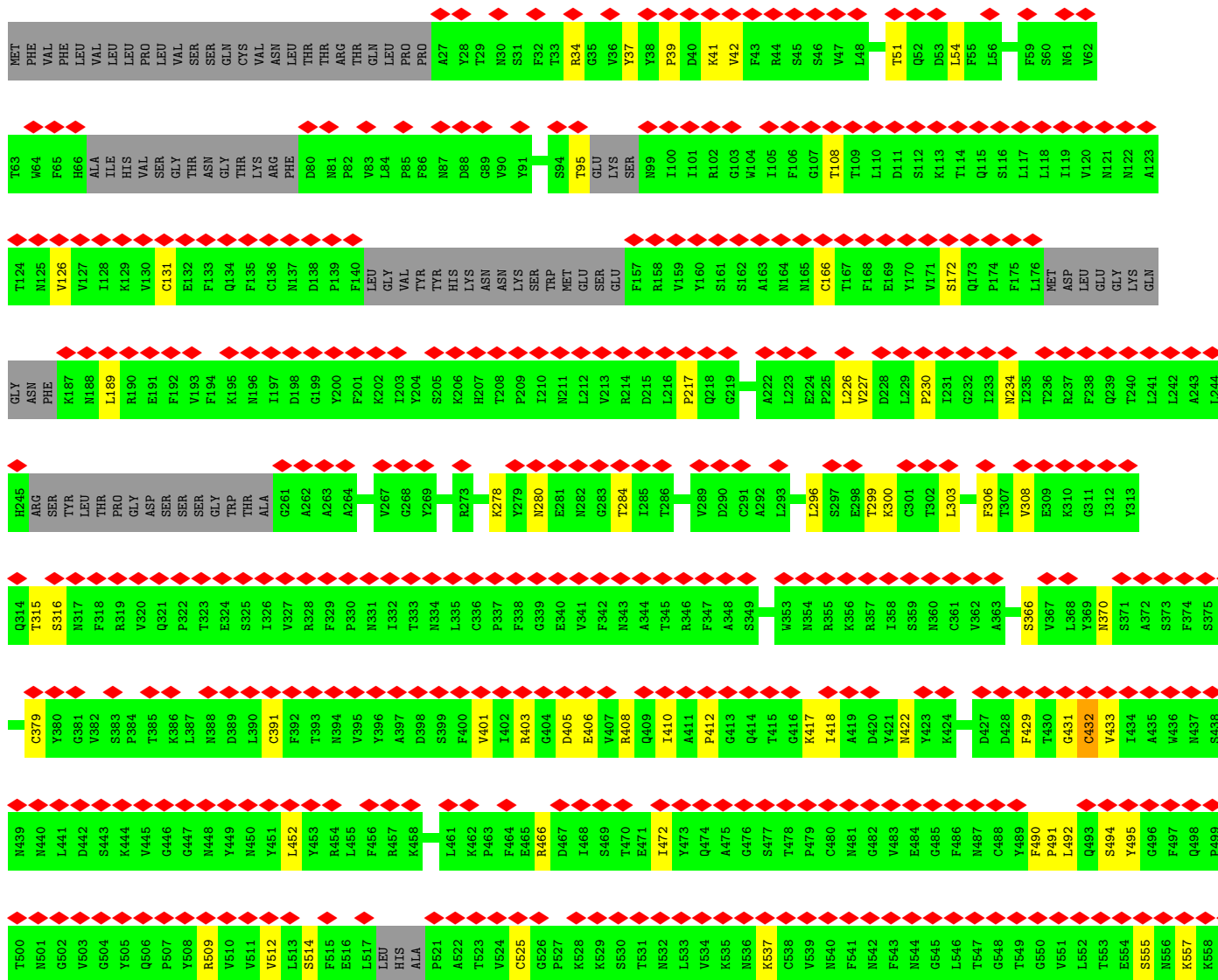
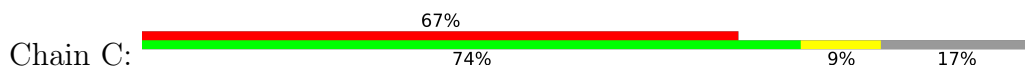
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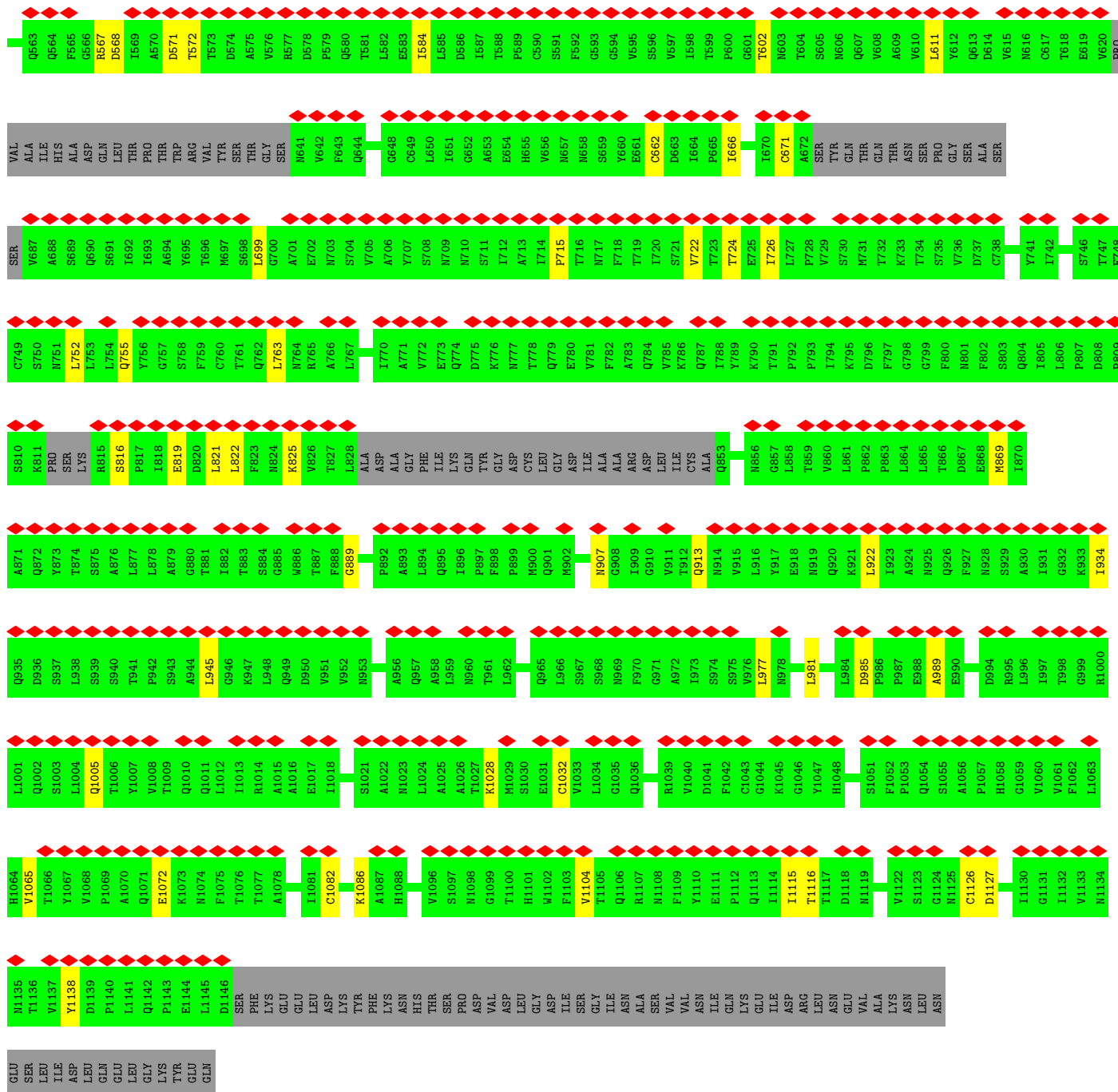
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 126	C 72	N 9	O 45	0
5	C	1	Total 126	C 72	N 9	O 45	0
5	C	1	Total 126	C 72	N 9	O 45	0
5	C	1	Total 126	C 72	N 9	O 45	0
5	C	1	Total 126	C 72	N 9	O 45	0
5	C	1	Total 126	C 72	N 9	O 45	0
5	C	1	Total 126	C 72	N 9	O 45	0
5	C	1	Total 126	C 72	N 9	O 45	0
5	C	1	Total 126	C 72	N 9	O 45	0

N122	N126	K129	V130	C131	F132	F133	Q134	F135	C136	N137	D138	P139	F140	L141	GLY	VAL	TYR	TRP	HIS	LYS	ASN	ASN	ASN	LEU	VAL	ASP	TRP	MET	GLU	S155	E156	F157	R158	V159	Y160	S161	S162	A163	M164	M165	C166	T167	F168	E169	Y170	V171	S172	Q173	P174	F175	L176	MET	ASP	LEU	GLU	GLY	GLY	GLN	GLY
ASN	PHE	K187	M188	E191	F192	V193	F194	K195	N196	I197	D198	G199	Y200	F201	K202	S205	T208	P209	ILE	ASN	ASN	ASN	LEU	VAL	VAL	ARG	ASP	LEU	P217	F220	E224	P225	L226	L228	V227	D228	L229	P230	I231	G232	I233	N234	L235	T236	R237	F238	Q239	T240	L241	L242	ALA	LEU	HIS	ARG	GLU	GLY	TYR	LEU	THR
PRO	GLY	ASP	SER	SER	GLY	TRP	THR	ALA	A263	A264	Y265	Y266	Y267	G268	Y269	L270	Q271	P272	R273	T274	F275	L276	L277	K278	Y279	N280	E281	G282	G283	T284	L285	L286	D287	A288	V289	D290	C291	A292	L293	D294	P295	L296	S297	F298	T299	K300	C301	T302	L303	K304	S305	F306	T307	V308	G311				
I312	T315	S316	R319	P322	T323	E324	S325	I326	V327	R328	F329	P330	N331	I332	T333	L335	C336	P337	F338	G339	E340	F341	F342	N343	A344	T345	R346	F347	A348	S349	V350	Y351	A352	N353	N354	R355	K356	R357	I358	S359	N360	C361	S362	A363	D364	Y365	S366	V367	L368	Y369	N370	S371	A372	F373	F374				
S375	T376	F377	K378	G381	V382	S383	P384	T385	K386	L387	D388	L389	C391	F392	T393	N394	V395	Y396	A397	D398	S399	F400	V401	I402	R403	D405	E406	V407	R408	Q409	I410	A411	Q414	T415	G416	K417	I418	A419	D420	Y421	N422	Y423	K424	L425	P426	D427	D428	F429	T430	G431	V433	I434	A435	W436					
M437	S438	M439	N440	L441	D442	S443	K444	V445	G446	G447	N448	Y449	M450	Y451	L452	Y453	R454	L455	F456	R457	K458	S459	M460	L461	K462	P463	F464	E465	R466	D467	I468	S469	T470	E471	I472	Y473	Q474	A475	T478	P479	C480	M481	V482	E484	G485	F486	M487	C488	Y489	F490	P491	L492	Q493	S494	Y495	G496	F497		
Q498	P499	T500	N501	G502	V503	G504	Y505	R506	P507	Y508	R509	V510	V511	V512	L513	S514	F515	E516	LEU	LEU	HIS	ALA	P521	A522	T523	V524	C525	G526	P527	K528	X529	S530	T531	N532	L533	V534	K535	N536	K537	C538	V539	N540	F541	N542	F543	N544	G545	L546	T549	G550	V551	L552	T553	E554	S555	N556	K557	R558	
F559	L560	P561	F562	Q563	Q564	F565	G566	R567	A570	D571	T572	T573	D574	A575	S576	R577	D578	Q580	T581	L582	E583	L584	L585	D586	I587	C590	S591	F592	S596	V597	I598	T599	P600	K601	T602	N603	T604	S605	N606	O607	V608	A609	V610	L611	V612	Q613	D614	V615	N616	C617	T618	E619	V620	PRO	VAL				
ALA	ILE	ALA	ASP	GLN	LEU	THR	PRO	TRP	ARG	VAL	TYR	T638	G639	S640	V641	F643	O644	T645	R646	A647	G648	C649	L650	I651	G652	A653	E654	H655	V656	M657	N658	S659	Y660	E661	D663	I664	G667	A668	G669	C671	A672	SER	TYR	GLN	THR	THR	ASN	SER	PRO	GLY	SER								
ALA	SER	LEU	V687	A688	S689	Q690	M691	L692	T693	A694	V695	T696	M697	S698	L699	G700	A701	E702	M703	S704	V705	A706	Y707	S708	M709	N710	S711	I712	A713	I714	P715	I716	N717	F718	A719	T720	S721	V722	T723	T724	E725	I726	L727	F728	V729	S730	M731	T732	K733	T734	S735	V736	D737	C738	T739	M740	Y741	I742	C743
S746	T747	E748	C749	S750	M751	L752	L753	L754	S756	F759	Q762	L763	M764	R765	A766	L767	T768	G769	I770	A771	V772	E773	Q774	D775	K776	N777	T778	Q779	E780	V781	F782	A783	Q784	V785	K786	Q787	K790	T791	F792	P793	I794	K795	D796	F797	G798	G799	F800	S803	Q804	I805	L806	P807	D808						
K811	PRO	SER	LYS	R815	S816	R817	I818	E819	D820	L821	L822	F823	N824	K825	V826	T827	L828	ALA	ASP	ALA	GLY	PHE	ILE	LYS	GLN	TYR	GLY	ASP	CYS	N710	GLY	ASP	LEU	LEU	LEU	ILE	ALA	ALA	ARG	ASP	Q853	K854	F855	N856	L861	P862	P863	L864	L865	T866	M868	I870	A871	Q872	Y873	T874			
S875	A876	L877	L878	A879	T883	S884	G885	W886	T887	F888	G889	A890	G891	L894	Q895	I896	P897	M900	Q901	M902	A903	Y904	R905	F906	N907	G908	I909	T912	Q913	N914	V915	L916	Y917	E918	N919	L922	I923	A924	N925	Q926	F927	N928	S929	A930	I931	G932	K933	I934	Q935	D936	S937	T938	L938	S939	S940				
T941	P942	S943	A944	L945	K946	S947	L948	Q949	D950	N953	Q954	N955	A956	L959	N960	T961	L962	Y963	K964	Q965	L966	S967	S968	G971	A972	I973	S974	S975	Y976	L977	N978	D979	L980	N981	S982	R983	L984	D985	P986	P987	E988	A989	E990	V991	Q992	I993	D994	R995	L996	T997	T998	G999	R1000	L1001	L1004				

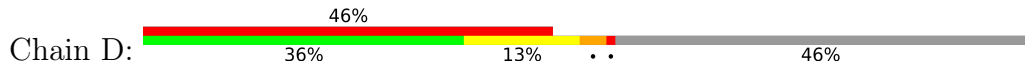


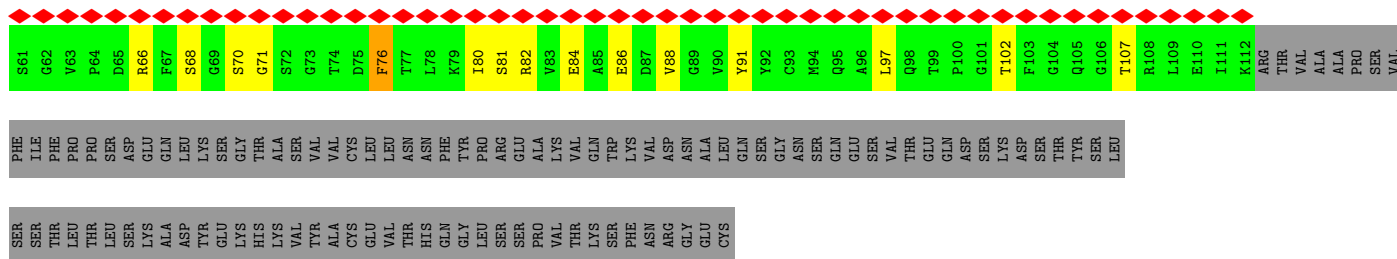
● Molecule 1: Spike glycoprotein



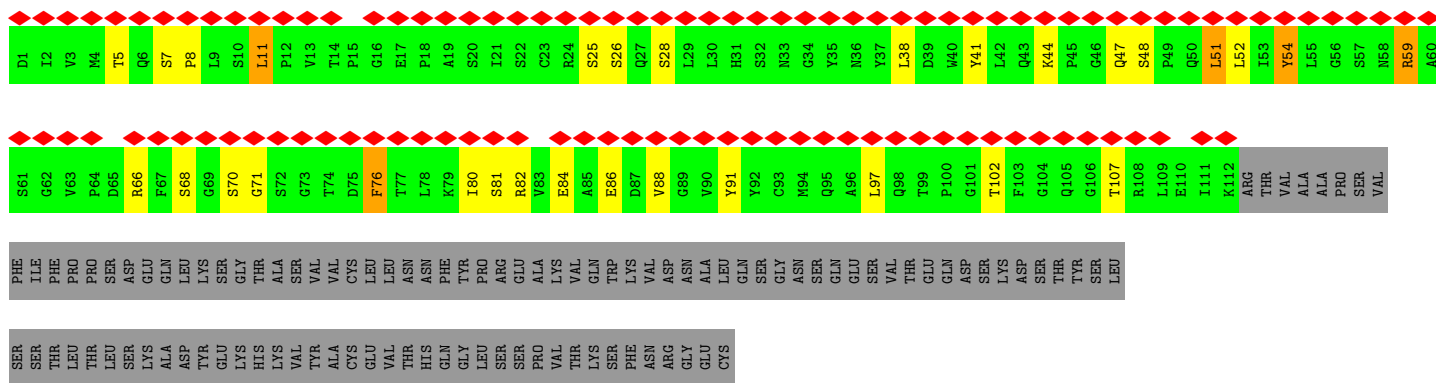
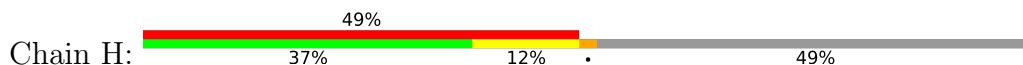


• Molecule 2: BD-368-2 Fab heavy chain

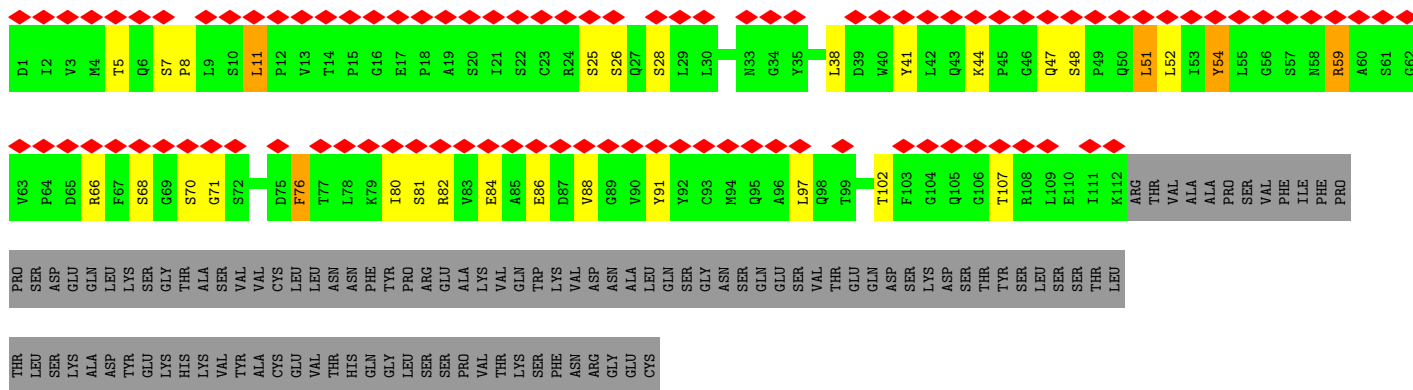
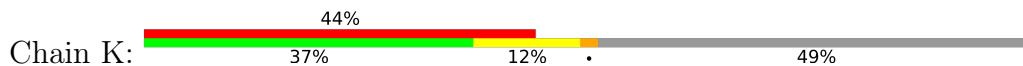




• Molecule 3: BD-368-2 Fab light chain



• Molecule 3: BD-368-2 Fab light chain



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



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



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



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



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



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	85053	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	59.80	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.111	Depositor
Minimum map value	-0.056	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.0122	Depositor
Map size (Å)	402.0, 402.0, 402.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.005, 1.005, 1.005	Depositor

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

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	0.39	0/7904	0.63	5/10764 (0.0%)
1	B	0.38	0/7822	0.60	2/10653 (0.0%)
1	C	0.38	0/7843	0.61	4/10689 (0.0%)
2	D	0.36	0/968	0.83	5/1311 (0.4%)
2	G	0.36	0/968	0.83	4/1311 (0.3%)
2	J	0.36	0/968	0.83	4/1311 (0.3%)
3	E	0.34	0/871	0.71	1/1183 (0.1%)
3	H	0.34	0/871	0.71	1/1183 (0.1%)
3	K	0.34	0/871	0.71	1/1183 (0.1%)
All	All	0.38	0/29086	0.65	27/39588 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	3
1	B	0	1
2	D	0	1
2	G	0	1
2	J	0	1
All	All	0	7

There are no bond length outliers.

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	113	ASP	CB-CG-OD1	10.72	127.95	118.30
2	D	113	ASP	CB-CG-OD1	10.65	127.89	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	J	113	ASP	CB-CG-OD1	10.65	127.89	118.30
1	C	432	CYS	CA-CB-SG	8.27	128.88	114.00
1	C	571	ASP	CB-CG-OD1	7.74	125.27	118.30
1	A	379	CYS	CA-CB-SG	7.23	127.02	114.00
1	A	166	CYS	CA-CB-SG	7.10	126.78	114.00
2	G	100	ARG	CB-CG-CD	-6.13	95.66	111.60
2	J	100	ARG	CB-CG-CD	-6.13	95.67	111.60
1	A	118	LEU	CA-CB-CG	6.12	129.38	115.30
2	D	100	ARG	CB-CG-CD	-6.11	95.72	111.60
1	B	546	LEU	CA-CB-CG	6.10	129.33	115.30
1	B	455	LEU	CA-CB-CG	6.02	129.15	115.30
1	C	466	ARG	NE-CZ-NH1	-5.97	117.31	120.30
2	D	43	ARG	CA-CB-CG	5.96	126.51	113.40
2	G	43	ARG	CA-CB-CG	5.96	126.51	113.40
1	C	466	ARG	CG-CD-NE	5.92	124.23	111.80
2	J	43	ARG	CA-CB-CG	5.92	126.43	113.40
1	A	995	ARG	NE-CZ-NH1	5.77	123.19	120.30
3	H	59	ARG	CB-CG-CD	5.34	125.49	111.60
3	E	59	ARG	CB-CG-CD	5.34	125.48	111.60
3	K	59	ARG	CB-CG-CD	5.33	125.46	111.60
2	J	27	PHE	CB-CG-CD2	5.19	124.44	120.80
2	G	27	PHE	CB-CG-CD2	5.18	124.43	120.80
2	D	27	PHE	CB-CG-CD2	5.17	124.42	120.80
1	A	1041	ASP	CB-CG-OD2	5.10	122.89	118.30
2	D	100	ARG	CA-CB-CG	5.02	124.44	113.40

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	165	ASN	Peptide
1	A	517	LEU	Peptide
1	A	617	CYS	Peptide
1	B	293	LEU	Peptide
2	D	100	ARG	Peptide
2	G	100	ARG	Peptide
2	J	100	ARG	Peptide

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	7734	0	7469	73	0
1	B	7652	0	7364	60	0
1	C	7672	0	7368	66	0
2	D	947	0	907	20	0
2	G	947	0	907	19	0
2	J	947	0	907	19	0
3	E	852	0	833	11	0
3	H	852	0	833	10	0
3	K	852	0	833	11	0
4	F	28	0	25	0	0
4	I	28	0	25	0	0
4	L	28	0	25	0	0
4	M	28	0	25	0	0
4	N	28	0	25	1	0
5	A	168	0	156	0	0
5	B	140	0	130	0	0
5	C	126	0	117	0	0
All	All	29029	0	27949	274	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 (274) 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:G:99:THR:HG22	2:G:101:GLY:H	1.56	0.71
2:D:99:THR:HG22	2:D:101:GLY:H	1.56	0.71
2:J:99:THR:HG22	2:J:101:GLY:H	1.56	0.70
1:A:346:ARG:NH1	1:A:347:PHE:O	2.25	0.69
1:B:106:PHE:HB2	1:B:117:LEU:HB2	1.77	0.67
1:C:452:LEU:HD21	1:C:492:LEU:HB3	1.78	0.66
1:B:360:ASN:H	1:B:523:THR:HB	1.61	0.65
2:D:22:CYS:HB3	2:D:79:LEU:HB3	1.80	0.64
2:G:22:CYS:HB3	2:G:79:LEU:HB3	1.79	0.63
1:A:64:TRP:HE1	1:A:264:ALA:HB1	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:396:TYR:HB2	1:A:514:SER:HB2	1.81	0.62
1:A:108:THR:HB	1:A:114:THR:HG21	1.82	0.62
1:C:308:VAL:HG22	1:C:602:THR:HG23	1.81	0.62
2:J:22:CYS:HB3	2:J:79:LEU:HB3	1.79	0.61
1:C:366:SER:O	1:C:370:ASN:HB2	2.00	0.61
1:C:472:ILE:HA	1:C:491:PRO:HD3	1.82	0.61
3:K:84:GLU:HG3	3:K:86:GLU:H	1.65	0.61
3:E:84:GLU:HG3	3:E:86:GLU:H	1.65	0.61
1:B:424:LYS:O	1:B:466:ARG:NH2	2.32	0.60
1:B:560:LEU:HB2	1:C:41:LYS:HD2	1.83	0.60
1:B:448:ASN:HB3	1:B:497:PHE:HD1	1.67	0.60
1:A:130:VAL:HB	1:A:168:PHE:HB2	1.82	0.60
3:H:84:GLU:HG3	3:H:86:GLU:H	1.65	0.60
1:A:358:ILE:HB	1:A:395:VAL:HB	1.84	0.59
1:B:106:PHE:HB3	1:B:235:ILE:HD11	1.84	0.59
1:A:327:VAL:HG22	1:A:542:ASN:HB3	1.83	0.59
1:B:1104:VAL:HG23	1:B:1115:ILE:HG12	1.85	0.59
1:A:391:CYS:HA	1:A:525:CYS:HB3	1.85	0.58
1:A:472:ILE:HA	1:A:491:PRO:HD3	1.84	0.58
1:B:642:VAL:HG22	1:B:651:ILE:HG12	1.86	0.57
1:A:379:CYS:HB3	1:A:432:CYS:HA	1.86	0.57
1:C:1104:VAL:HG23	1:C:1115:ILE:HG12	1.85	0.57
1:C:226:LEU:HG	1:C:227:VAL:HG13	1.85	0.57
1:A:654:GLU:HB3	1:A:693:ILE:HG22	1.87	0.56
1:C:922:LEU:HD11	4:N:1:NAG:H3	1.87	0.56
1:A:640:SER:OG	1:A:641:ASN:N	2.38	0.56
2:D:116:GLY:O	3:E:48:SER:OG	2.18	0.56
1:C:418:ILE:HA	1:C:422:ASN:HD22	1.71	0.55
1:B:484:GLU:OE2	2:G:102:ARG:NH2	2.33	0.55
1:C:391:CYS:HA	1:C:525:CYS:HB3	1.88	0.55
1:A:432:CYS:HB2	1:A:513:LEU:HD12	1.89	0.55
1:C:95:THR:HA	1:C:189:LEU:HA	1.89	0.54
3:H:44:LYS:HB2	3:H:47:GLN:HB3	1.90	0.54
1:C:722:VAL:HG22	1:C:1065:VAL:HG22	1.90	0.54
1:B:418:ILE:HA	1:B:422:ASN:HD22	1.72	0.54
3:E:44:LYS:HB2	3:E:47:GLN:HB3	1.90	0.54
1:A:106:PHE:HB2	1:A:117:LEU:HB3	1.89	0.54
1:A:65:PHE:HE2	1:A:84:LEU:HD13	1.72	0.54
1:A:722:VAL:HG22	1:A:1065:VAL:HG22	1.90	0.54
1:B:391:CYS:HA	1:B:525:CYS:HB3	1.88	0.54
1:A:763:LEU:HD13	1:A:1004:LEU:HD22	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:763:LEU:HD21	1:C:1005:GLN:HG3	1.91	0.54
1:A:448:ASN:HB3	1:A:497:PHE:HB2	1.90	0.53
3:K:44:LYS:HB2	3:K:47:GLN:HB3	1.90	0.53
1:A:42:VAL:HG11	1:C:567:ARG:HE	1.73	0.53
1:A:905:ARG:NH1	1:A:1049:LEU:O	2.40	0.53
2:D:39:GLN:HB2	2:D:45:LEU:HD23	1.91	0.53
1:A:117:LEU:HD13	1:A:130:VAL:HG22	1.90	0.53
2:J:39:GLN:HB2	2:J:45:LEU:HD23	1.91	0.53
1:A:516:GLU:HG3	1:A:517:LEU:H	1.74	0.52
1:B:472:ILE:HA	1:B:491:PRO:HD3	1.90	0.52
2:J:37:VAL:HG11	2:J:115:TRP:HZ3	1.75	0.52
1:C:1028:LYS:O	1:C:1032:CYS:HB2	2.10	0.52
1:A:126:VAL:HG13	1:A:174:PRO:HA	1.91	0.52
1:C:611:LEU:HD11	1:C:666:ILE:HG23	1.91	0.52
1:C:568:ASP:OD1	1:C:572:THR:OG1	2.27	0.52
1:A:707:TYR:HB3	1:B:792:PRO:HG3	1.91	0.51
1:A:729:VAL:HG22	1:A:1059:GLY:HA2	1.92	0.51
1:A:869:MET:HG2	1:C:699:LEU:HD11	1.91	0.51
1:B:424:LYS:H	1:B:466:ARG:HE	1.58	0.51
1:B:440:ASN:OD1	1:B:441:LEU:N	2.43	0.51
1:C:379:CYS:HA	1:C:432:CYS:HB3	1.93	0.51
1:A:444:LYS:HE2	1:A:448:ASN:HA	1.93	0.51
1:B:575:ALA:HA	1:B:586:ASP:HA	1.92	0.51
2:G:39:GLN:HB2	2:G:45:LEU:HD23	1.91	0.51
1:A:344:ALA:HB3	1:A:347:PHE:HE2	1.76	0.51
1:B:126:VAL:HG23	1:B:174:PRO:HA	1.92	0.51
1:B:1053:PRO:O	1:B:1054:GLN:NE2	2.38	0.51
3:H:44:LYS:NZ	3:H:88:VAL:O	2.40	0.51
3:K:71:GLY:HA3	3:K:76:PHE:HA	1.93	0.51
1:A:105:ILE:HG22	1:A:239:GLN:HB2	1.92	0.51
1:B:357:ARG:NH2	1:C:230:PRO:O	2.43	0.51
2:D:53:ASP:OD1	2:D:53:ASP:N	2.43	0.51
1:B:329:PHE:O	1:B:580:GLN:NE2	2.42	0.51
1:C:821:LEU:O	1:C:825:LYS:HB2	2.11	0.51
1:A:361:CYS:H	1:A:524:VAL:HG12	1.75	0.51
1:C:126:VAL:HB	1:C:172:SER:HB3	1.93	0.51
2:G:37:VAL:HG11	2:G:115:TRP:HZ3	1.75	0.51
2:D:37:VAL:HG11	2:D:115:TRP:HZ3	1.75	0.50
2:G:53:ASP:OD1	2:G:53:ASP:N	2.43	0.50
2:J:18:LEU:H	2:J:83:MET:HB2	1.77	0.50
1:A:130:VAL:HG21	1:A:231:ILE:HD12	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:401:VAL:HG22	1:C:509:ARG:HG2	1.93	0.50
3:E:71:GLY:HA3	3:E:76:PHE:HA	1.93	0.50
1:A:461:LEU:HD21	1:A:466:ARG:HG3	1.93	0.50
1:C:403:ARG:HD2	1:C:405:ASP:HB2	1.94	0.50
1:C:278:LYS:HB2	1:C:306:PHE:HE2	1.77	0.50
3:H:71:GLY:HA3	3:H:76:PHE:HA	1.93	0.50
1:B:552:LEU:HD23	1:B:585:LEU:HD13	1.93	0.50
1:B:1116:THR:OG1	1:B:1118:ASP:OD1	2.27	0.50
2:D:18:LEU:H	2:D:83:MET:HB2	1.76	0.50
2:G:18:LEU:H	2:G:83:MET:HB2	1.76	0.50
1:A:720:ILE:HD12	1:A:923:ILE:HG23	1.93	0.49
2:J:53:ASP:OD1	2:J:53:ASP:N	2.43	0.49
1:B:968:SER:OG	1:C:755:GLN:O	2.30	0.49
1:B:34:ARG:NH1	1:B:217:PRO:O	2.45	0.49
2:D:107:TYR:O	2:D:110:GLY:N	2.45	0.49
1:C:724:THR:HG23	1:C:934:ILE:HD11	1.93	0.49
2:J:107:TYR:O	2:J:110:GLY:N	2.45	0.49
3:E:44:LYS:NZ	3:E:88:VAL:O	2.40	0.49
1:B:334:ASN:O	1:B:362:VAL:N	2.44	0.49
1:C:907:ASN:ND2	1:C:913:GLN:OE1	2.46	0.49
3:H:81:SER:OG	3:H:82:ARG:NH1	2.46	0.49
1:B:605:SER:OG	1:B:606:ASN:N	2.45	0.49
2:D:85:SER:O	2:D:85:SER:OG	2.26	0.49
2:G:107:TYR:O	2:G:110:GLY:N	2.45	0.49
3:K:54:TYR:HD1	3:K:54:TYR:H	1.61	0.48
1:B:91:TYR:OH	1:B:191:GLU:OE1	2.30	0.48
1:B:729:VAL:HG22	1:B:1059:GLY:HA2	1.95	0.48
3:E:81:SER:OG	3:E:82:ARG:NH1	2.46	0.48
3:H:54:TYR:HD1	3:H:54:TYR:H	1.61	0.48
3:K:81:SER:OG	3:K:82:ARG:NH1	2.46	0.48
1:A:555:SER:HB2	1:A:586:ASP:HB2	1.94	0.48
1:B:108:THR:OG1	1:B:234:ASN:O	2.30	0.48
1:B:1045:LYS:NZ	1:C:889:GLY:O	2.44	0.48
1:C:406:GLU:OE1	1:C:408:ARG:NH2	2.45	0.48
3:H:66:ARG:NH2	3:H:84:GLU:OE2	2.46	0.48
2:J:34:MET:HG3	2:J:79:LEU:HD22	1.96	0.48
1:A:776:LYS:HZ1	1:A:780:GLU:HB3	1.78	0.48
1:C:39:PRO:HG2	1:C:51:THR:HG21	1.95	0.48
1:C:1116:THR:HG22	1:C:1138:TYR:HD2	1.78	0.48
1:A:453:TYR:HE1	1:A:455:LEU:HD13	1.79	0.48
3:H:8:PRO:HG2	3:H:11:LEU:HD21	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:85:SER:O	2:J:85:SER:OG	2.26	0.48
1:A:816:SER:HB2	1:A:819:GLU:HG3	1.96	0.48
1:B:715:PRO:HA	1:B:1072:GLU:HA	1.95	0.48
3:K:8:PRO:HG2	3:K:11:LEU:HD21	1.96	0.48
1:B:417:LYS:HE2	1:B:455:LEU:HD12	1.95	0.48
1:C:819:GLU:HA	1:C:822:LEU:HD12	1.96	0.48
1:A:752:LEU:HD21	1:A:990:GLU:HG2	1.96	0.47
3:E:54:TYR:H	3:E:54:TYR:HD1	1.61	0.47
1:B:886:TRP:HZ3	1:B:901:GLN:HG3	1.79	0.47
1:C:490:PHE:CE2	1:C:492:LEU:HB2	2.49	0.47
1:B:555:SER:OG	1:B:556:ASN:N	2.45	0.47
1:B:403:ARG:NE	1:B:405:ASP:OD1	2.39	0.47
3:E:66:ARG:NH2	3:E:84:GLU:OE2	2.46	0.47
2:G:34:MET:HG3	2:G:79:LEU:HD22	1.96	0.47
1:B:738:CYS:O	1:B:741:TYR:N	2.47	0.47
1:C:280:ASN:HD21	1:C:284:THR:HB	1.79	0.47
2:D:34:MET:HG3	2:D:79:LEU:HD22	1.96	0.47
2:J:51:ILE:HD12	2:J:72:ARG:HD2	1.96	0.47
2:D:51:ILE:HD12	2:D:72:ARG:HD2	1.96	0.46
1:C:412:PRO:HG3	1:C:429:PHE:HB3	1.96	0.46
2:G:99:THR:HA	2:G:112:LYS:HA	1.97	0.46
2:D:99:THR:HA	2:D:112:LYS:HA	1.97	0.46
3:E:8:PRO:HG2	3:E:11:LEU:HD21	1.96	0.46
1:A:742:ILE:O	1:A:1000:ARG:NH1	2.47	0.46
1:A:1081:ILE:HG13	1:A:1088:HIS:HB2	1.96	0.46
3:K:66:ARG:NH2	3:K:84:GLU:OE2	2.46	0.46
1:C:1127:ASP:OD1	1:C:1127:ASP:N	2.45	0.46
2:D:69:THR:HB	2:D:82:GLN:HB3	1.98	0.46
1:C:985:ASP:O	1:C:989:ALA:N	2.42	0.46
1:A:305:SER:OG	1:A:306:PHE:N	2.49	0.46
2:G:51:ILE:HD12	2:G:72:ARG:HD2	1.96	0.46
2:D:52:SER:O	2:D:72:ARG:NH1	2.49	0.46
3:K:44:LYS:NZ	3:K:88:VAL:O	2.40	0.46
1:B:439:ASN:O	1:B:443:SER:OG	2.34	0.46
2:G:64:VAL:HB	2:G:68:PHE:HD1	1.81	0.46
1:A:299:THR:HG21	1:A:597:VAL:HG21	1.98	0.45
1:A:886:TRP:HB3	1:A:1035:GLY:HA2	1.97	0.45
2:J:52:SER:O	2:J:72:ARG:NH1	2.49	0.45
2:G:52:SER:O	2:G:72:ARG:NH1	2.49	0.45
1:B:131:CYS:HB2	1:B:133:PHE:CE1	2.52	0.45
1:C:34:ARG:HH21	1:C:217:PRO:HG2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:91:THR:HG23	2:D:122:THR:HA	1.99	0.45
2:J:69:THR:HB	2:J:82:GLN:HB3	1.97	0.45
1:A:568:ASP:OD1	1:A:572:THR:OG1	2.30	0.45
2:J:91:THR:HG23	2:J:122:THR:HA	1.99	0.45
1:A:299:THR:O	1:A:303:LEU:HB2	2.17	0.45
2:G:69:THR:HB	2:G:82:GLN:HB3	1.98	0.45
1:A:281:GLU:O	1:C:557:LYS:NZ	2.50	0.45
2:J:99:THR:HA	2:J:112:LYS:HA	1.98	0.45
1:B:141:LEU:N	1:B:242:LEU:O	2.50	0.45
2:J:64:VAL:HB	2:J:68:PHE:HD1	1.81	0.45
1:A:85:PRO:HA	1:A:237:ARG:HA	1.99	0.44
1:A:1139:ASP:OD1	1:A:1139:ASP:N	2.43	0.44
1:A:1088:HIS:CD2	1:A:1137:VAL:HG21	2.53	0.44
1:B:409:GLN:HA	1:B:414:GLN:HG2	1.99	0.44
2:D:64:VAL:HB	2:D:68:PHE:HD1	1.81	0.44
1:B:616:ASN:HB3	1:B:618:THR:H	1.82	0.44
1:C:431:GLY:HA3	1:C:514:SER:HA	1.98	0.44
1:C:1082:CYS:HB2	1:C:1126:CYS:HB2	1.80	0.44
1:A:50:SER:HA	1:A:276:LEU:HA	2.00	0.44
1:B:409:GLN:HB3	1:B:419:ALA:HB2	2.00	0.44
1:B:662:CYS:HB2	1:B:671:CYS:HB3	1.77	0.44
2:G:91:THR:HG23	2:G:122:THR:HA	1.99	0.44
1:B:521:PRO:HA	1:B:564:GLN:HB2	1.99	0.44
1:C:131:CYS:HA	1:C:166:CYS:HA	1.99	0.44
1:C:662:CYS:HB2	1:C:671:CYS:HB3	1.73	0.44
1:A:715:PRO:HA	1:A:1072:GLU:HA	2.00	0.43
1:C:410:ILE:HG22	1:C:433:VAL:HG11	2.00	0.43
3:H:51:LEU:HD21	3:H:54:TYR:HB3	2.00	0.43
3:K:91:TYR:HB2	3:K:107:THR:HB	2.00	0.43
1:A:108:THR:OG1	1:A:234:ASN:O	2.35	0.43
1:B:699:LEU:HD11	1:C:869:MET:HB3	2.01	0.43
1:B:883:THR:OG1	1:B:884:SER:N	2.51	0.43
1:C:977:LEU:O	1:C:981:LEU:HB2	2.18	0.43
1:B:540:ASN:HA	1:B:549:THR:HA	2.01	0.43
1:B:816:SER:HB3	1:B:819:GLU:OE1	2.19	0.43
1:A:715:PRO:HD3	1:B:894:LEU:HD13	2.00	0.43
1:C:299:THR:O	1:C:303:LEU:HB2	2.18	0.43
1:C:433:VAL:HG12	1:C:512:VAL:HG22	1.99	0.43
3:H:91:TYR:HB2	3:H:107:THR:HB	2.00	0.43
1:A:825:LYS:HD3	1:A:825:LYS:HA	1.82	0.43
1:C:108:THR:OG1	1:C:234:ASN:O	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:91:TYR:HB2	3:E:107:THR:HB	2.00	0.43
1:A:125:ASN:HA	1:A:174:PRO:HD3	2.00	0.43
1:A:738:CYS:HB3	1:A:760:CYS:HB2	1.66	0.43
1:A:914:ASN:O	1:A:917:TYR:N	2.52	0.43
1:B:453:TYR:HB3	1:B:495:TYR:HE2	1.84	0.43
1:C:278:LYS:HB2	1:C:306:PHE:CE2	2.54	0.43
1:C:726:ILE:HD13	1:C:945:LEU:HD13	2.01	0.43
1:C:715:PRO:HA	1:C:1072:GLU:HA	2.00	0.42
2:J:100:ARG:NH1	3:K:54:TYR:HE2	2.17	0.42
1:A:726:ILE:HG12	1:A:945:LEU:HD23	2.01	0.42
3:E:51:LEU:HD21	3:E:54:TYR:HB3	2.00	0.42
1:A:484:GLU:O	2:D:100:ARG:NH2	2.52	0.42
1:A:121:ASN:HA	1:A:126:VAL:HG12	2.02	0.42
2:G:95:TYR:HB3	2:G:118:GLY:HA2	2.01	0.42
1:C:417:LYS:HA	1:C:417:LYS:HD3	1.82	0.42
2:G:85:SER:O	2:G:85:SER:OG	2.26	0.42
3:K:51:LEU:HD21	3:K:54:TYR:HB3	2.00	0.42
1:C:300:LYS:HE2	1:C:602:THR:HG21	2.01	0.42
1:A:395:VAL:HG23	1:A:524:VAL:HG21	2.02	0.42
2:D:95:TYR:HB3	2:D:118:GLY:HA2	2.01	0.42
2:G:27:PHE:CE1	2:G:98:LYS:HD3	2.55	0.42
1:A:84:LEU:HA	1:A:85:PRO:HD3	1.85	0.42
1:B:315:THR:OG1	1:B:316:SER:N	2.52	0.42
1:B:563:GLN:HE22	1:C:42:VAL:HA	1.84	0.42
1:B:796:ASP:OD1	1:B:796:ASP:N	2.53	0.42
1:B:434:ILE:HB	1:B:511:VAL:HG23	2.02	0.42
1:B:557:LYS:HA	1:B:557:LYS:HD3	1.90	0.42
1:C:494:SER:OG	1:C:495:TYR:N	2.53	0.42
2:G:92:ALA:HB3	2:G:94:TYR:HE1	1.85	0.42
2:D:27:PHE:CE1	2:D:98:LYS:HD3	2.55	0.42
1:A:289:VAL:HG11	1:A:300:LYS:HD3	2.01	0.41
1:A:395:VAL:HG22	1:A:515:PHE:CE1	2.54	0.41
1:C:296:LEU:O	1:C:299:THR:OG1	2.28	0.41
2:J:92:ALA:HB3	2:J:94:TYR:HE1	1.85	0.41
1:B:84:LEU:HD13	1:B:267:VAL:HG11	2.02	0.41
1:A:409:GLN:HB3	1:A:419:ALA:HB2	2.02	0.41
1:C:537:LYS:HB3	1:C:537:LYS:HE3	1.76	0.41
1:B:726:ILE:HD13	1:B:945:LEU:HD23	2.01	0.41
1:C:37:TYR:OH	1:C:54:LEU:O	2.28	0.41
1:A:317:ASN:HA	1:A:594:GLY:HA2	2.03	0.41
2:D:92:ALA:HB3	2:D:94:TYR:HE1	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:27:PHE:CE1	2:J:98:LYS:HD3	2.55	0.41
1:C:752:LEU:HD23	1:C:752:LEU:HA	1.91	0.41
1:C:816:SER:HB3	1:C:819:GLU:OE2	2.21	0.41
1:A:167:THR:HG22	1:A:168:PHE:CD1	2.56	0.41
1:A:328:ARG:HE	1:A:328:ARG:HB3	1.70	0.41
1:A:938:LEU:HD23	1:A:938:LEU:HA	1.88	0.41
2:J:95:TYR:HB3	2:J:118:GLY:HA2	2.01	0.41
1:B:86:PHE:N	1:B:236:THR:O	2.53	0.41
1:C:472:ILE:HG22	1:C:490:PHE:HD1	1.85	0.41
1:A:428:ASP:OD1	1:A:428:ASP:N	2.53	0.40
1:B:472:ILE:HD12	1:B:488:CYS:HB3	2.02	0.40
1:C:555:SER:HB3	1:C:584:ILE:HG13	2.02	0.40
1:A:1039:ARG:H	1:A:1039:ARG:HG2	1.60	0.40
1:B:93:ALA:HB3	1:B:266:TYR:HB2	2.04	0.40
1:C:315:THR:OG1	1:C:316:SER:N	2.54	0.40
1:A:854:LYS:HG2	1:A:859:THR:HA	2.03	0.40
1:A:865:LEU:HA	1:A:869:MET:HE2	2.03	0.40
1:C:1086:LYS:HE3	1:C:1086:LYS:HB2	1.84	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	981/1208 (81%)	924 (94%)	57 (6%)	0	100	100
1	B	972/1208 (80%)	917 (94%)	53 (6%)	2 (0%)	47	81
1	C	977/1208 (81%)	936 (96%)	41 (4%)	0	100	100
2	D	122/230 (53%)	114 (93%)	8 (7%)	0	100	100
2	G	122/230 (53%)	114 (93%)	8 (7%)	0	100	100
2	J	122/230 (53%)	114 (93%)	8 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	E	110/219 (50%)	105 (96%)	5 (4%)	0	100	100
3	H	110/219 (50%)	105 (96%)	5 (4%)	0	100	100
3	K	110/219 (50%)	105 (96%)	5 (4%)	0	100	100
All	All	3626/4971 (73%)	3434 (95%)	190 (5%)	2 (0%)	54	84

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	294	ASP
1	B	295	PRO

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 PDB entries followed by that with respect to all EM entries.

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	852/1056 (81%)	850 (100%)	2 (0%)	93	98
1	B	844/1056 (80%)	844 (100%)	0	100	100
1	C	843/1056 (80%)	843 (100%)	0	100	100
2	D	96/188 (51%)	81 (84%)	15 (16%)	2	16
2	G	96/188 (51%)	81 (84%)	15 (16%)	2	16
2	J	96/188 (51%)	81 (84%)	15 (16%)	2	16
3	E	96/192 (50%)	77 (80%)	19 (20%)	1	7
3	H	96/192 (50%)	77 (80%)	19 (20%)	1	7
3	K	96/192 (50%)	77 (80%)	19 (20%)	1	7
All	All	3115/4308 (72%)	3011 (97%)	104 (3%)	41	68

All (104) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	246	ARG
1	A	346	ARG

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Mol	Chain	Res	Type
2	D	4	LEU
2	D	17	SER
2	D	18	LEU
2	D	27	PHE
2	D	34	MET
2	D	43	ARG
2	D	52	SER
2	D	53	ASP
2	D	85	SER
2	D	95	TYR
2	D	106	ASP
2	D	108	VAL
2	D	113	ASP
2	D	117	GLN
2	D	119	THR
3	E	5	THR
3	E	7	SER
3	E	11	LEU
3	E	25	SER
3	E	26	SER
3	E	28	SER
3	E	38	LEU
3	E	41	TYR
3	E	48	SER
3	E	51	LEU
3	E	52	LEU
3	E	54	TYR
3	E	59	ARG
3	E	68	SER
3	E	70	SER
3	E	76	PHE
3	E	80	ILE
3	E	97	LEU
3	E	102	THR
2	G	4	LEU
2	G	17	SER
2	G	18	LEU
2	G	27	PHE
2	G	34	MET
2	G	43	ARG
2	G	52	SER
2	G	53	ASP

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Mol	Chain	Res	Type
2	G	85	SER
2	G	95	TYR
2	G	106	ASP
2	G	108	VAL
2	G	113	ASP
2	G	117	GLN
2	G	119	THR
3	H	5	THR
3	H	7	SER
3	H	11	LEU
3	H	25	SER
3	H	26	SER
3	H	28	SER
3	H	38	LEU
3	H	41	TYR
3	H	48	SER
3	H	51	LEU
3	H	52	LEU
3	H	54	TYR
3	H	59	ARG
3	H	68	SER
3	H	70	SER
3	H	76	PHE
3	H	80	ILE
3	H	97	LEU
3	H	102	THR
2	J	4	LEU
2	J	17	SER
2	J	18	LEU
2	J	27	PHE
2	J	34	MET
2	J	43	ARG
2	J	52	SER
2	J	53	ASP
2	J	85	SER
2	J	95	TYR
2	J	106	ASP
2	J	108	VAL
2	J	113	ASP
2	J	117	GLN
2	J	119	THR
3	K	5	THR

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Mol	Chain	Res	Type
3	K	7	SER
3	K	11	LEU
3	K	25	SER
3	K	26	SER
3	K	28	SER
3	K	38	LEU
3	K	41	TYR
3	K	48	SER
3	K	51	LEU
3	K	52	LEU
3	K	54	TYR
3	K	59	ARG
3	K	68	SER
3	K	70	SER
3	K	76	PHE
3	K	80	ILE
3	K	97	LEU
3	K	102	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	907	ASN

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](#)

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
4	NAG	F	1	1,4	14,14,15	0.28	0	17,19,21	0.73	1 (5%)
4	NAG	F	2	4	14,14,15	0.22	0	17,19,21	0.49	0
4	NAG	I	1	1,4	14,14,15	0.30	0	17,19,21	1.03	1 (5%)
4	NAG	I	2	4	14,14,15	0.24	0	17,19,21	0.46	0
4	NAG	L	1	1,4	14,14,15	0.34	0	17,19,21	0.83	0
4	NAG	L	2	4	14,14,15	1.44	1 (7%)	17,19,21	1.44	1 (5%)
4	NAG	M	1	1,4	14,14,15	0.24	0	17,19,21	0.45	0
4	NAG	M	2	4	14,14,15	0.35	0	17,19,21	0.52	0
4	NAG	N	1	1,4	14,14,15	0.30	0	17,19,21	0.55	0
4	NAG	N	2	4	14,14,15	0.34	0	17,19,21	0.40	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	F	1	1,4	-	1/6/23/26	0/1/1/1
4	NAG	F	2	4	-	2/6/23/26	0/1/1/1
4	NAG	I	1	1,4	-	1/6/23/26	0/1/1/1
4	NAG	I	2	4	-	2/6/23/26	0/1/1/1
4	NAG	L	1	1,4	-	1/6/23/26	0/1/1/1
4	NAG	L	2	4	-	2/6/23/26	0/1/1/1
4	NAG	M	1	1,4	-	0/6/23/26	0/1/1/1
4	NAG	M	2	4	-	0/6/23/26	0/1/1/1
4	NAG	N	1	1,4	-	1/6/23/26	0/1/1/1
4	NAG	N	2	4	-	1/6/23/26	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	L	2	NAG	O5-C1	5.18	1.52	1.43

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	L	2	NAG	C1-O5-C5	5.76	119.99	112.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	I	1	NAG	C2-N2-C7	3.04	127.23	122.90
4	F	1	NAG	C1-O5-C5	2.40	115.44	112.19

There are no chirality outliers.

All (11) torsion outliers are listed below:

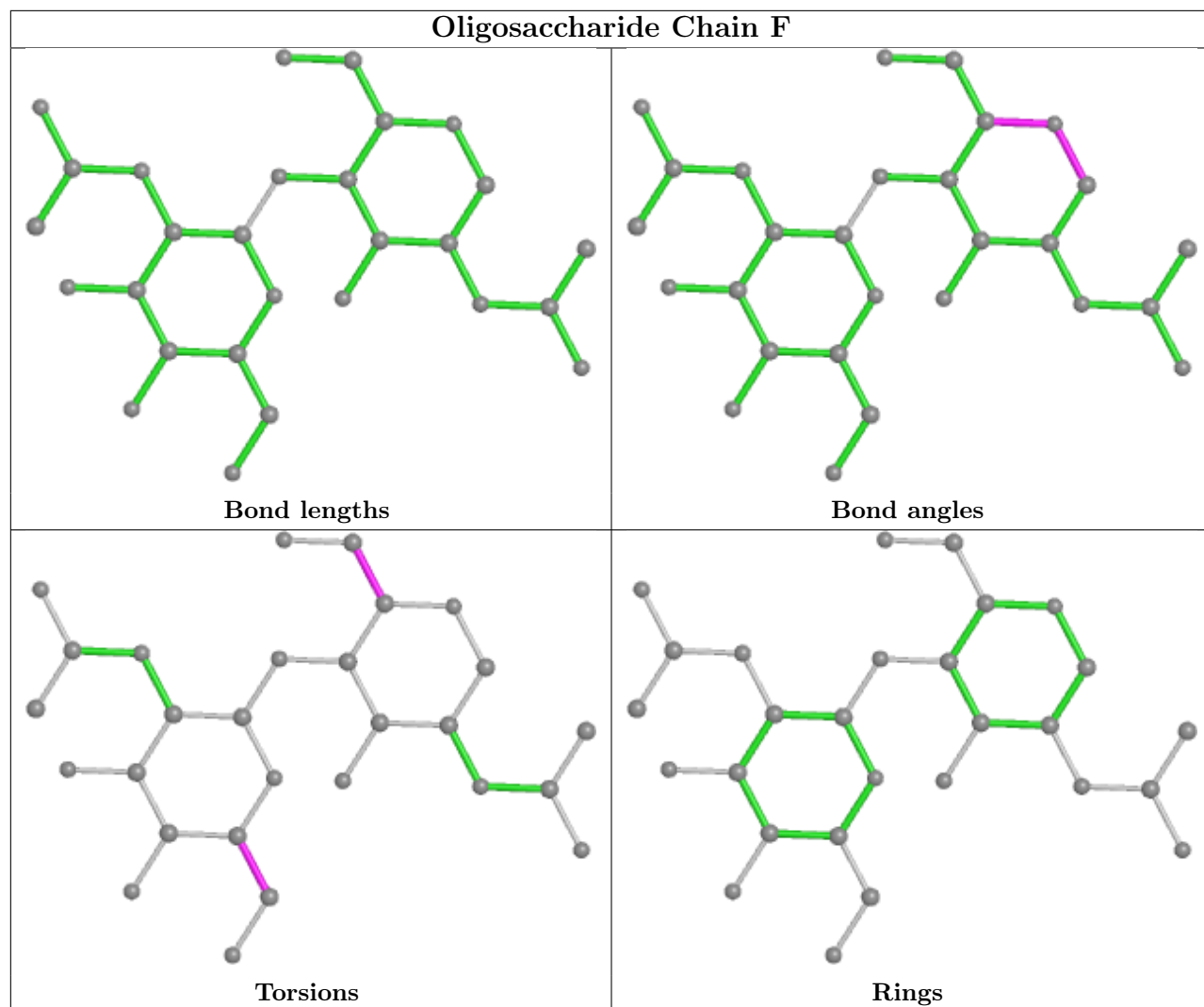
Mol	Chain	Res	Type	Atoms
4	F	2	NAG	O5-C5-C6-O6
4	L	2	NAG	O5-C5-C6-O6
4	F	2	NAG	C4-C5-C6-O6
4	I	2	NAG	O5-C5-C6-O6
4	I	2	NAG	C4-C5-C6-O6
4	L	2	NAG	C4-C5-C6-O6
4	N	1	NAG	O5-C5-C6-O6
4	F	1	NAG	O5-C5-C6-O6
4	L	1	NAG	O5-C5-C6-O6
4	N	2	NAG	O5-C5-C6-O6
4	I	1	NAG	C3-C2-N2-C7

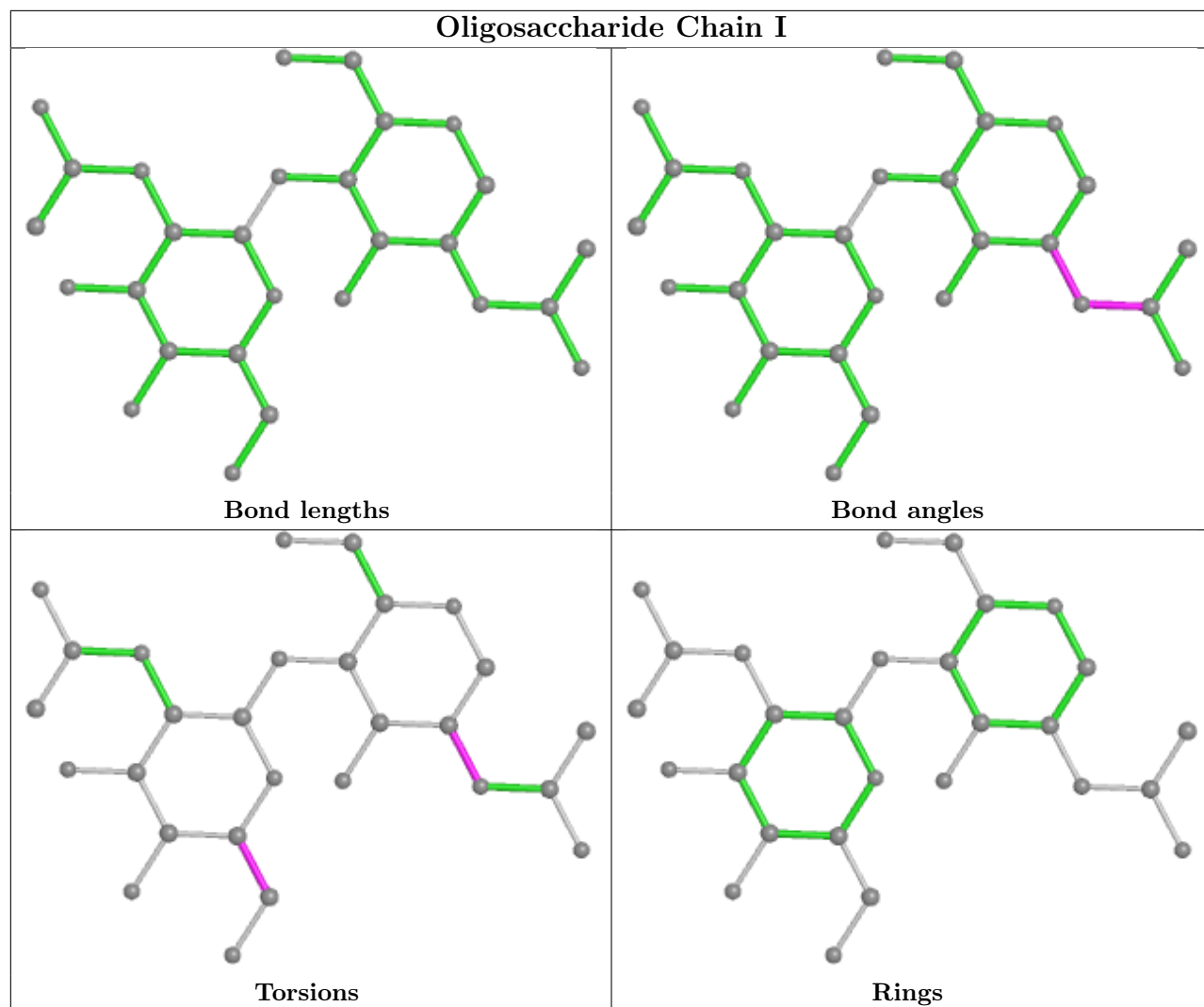
There are no ring outliers.

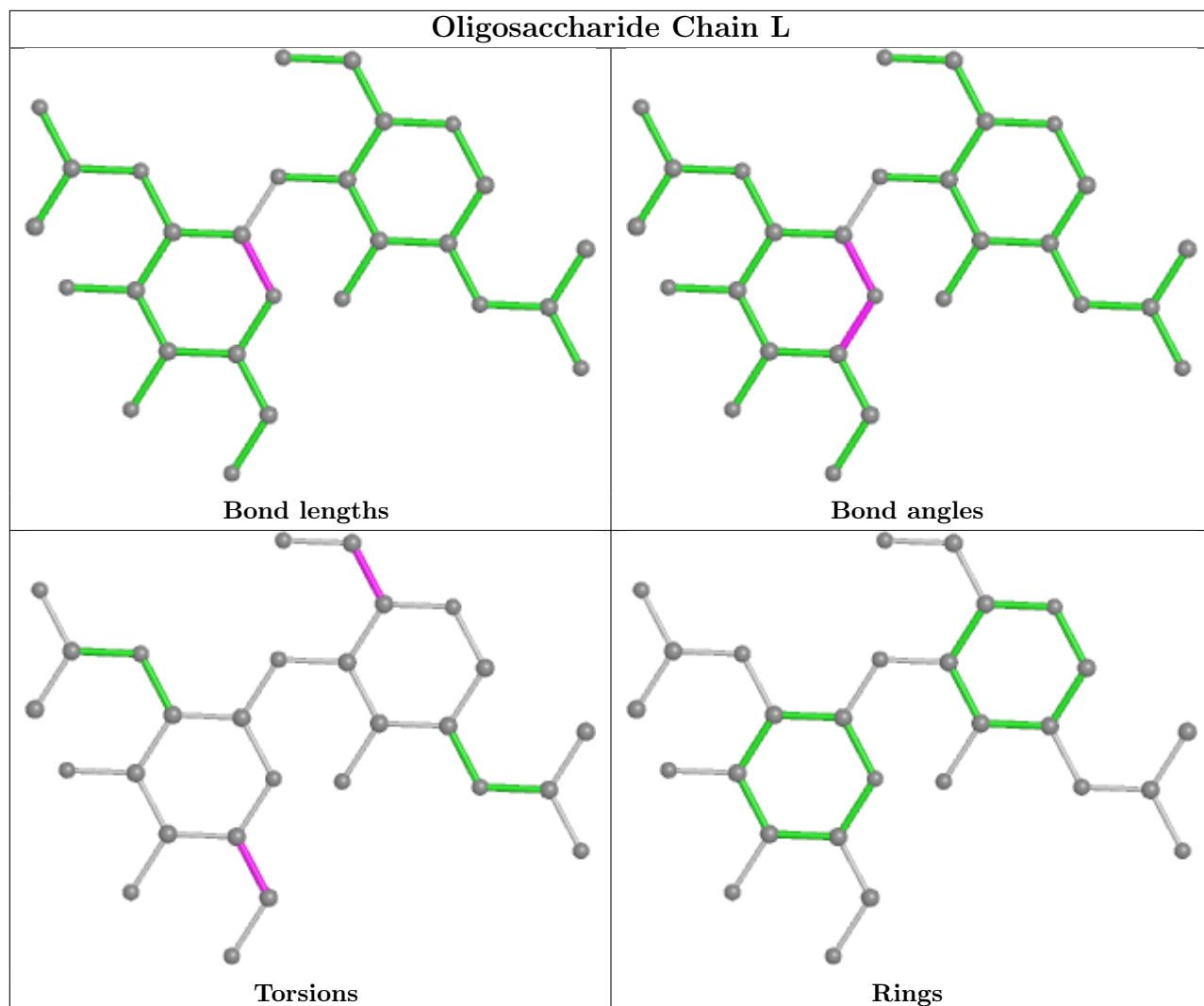
1 monomer is involved in 1 short contact:

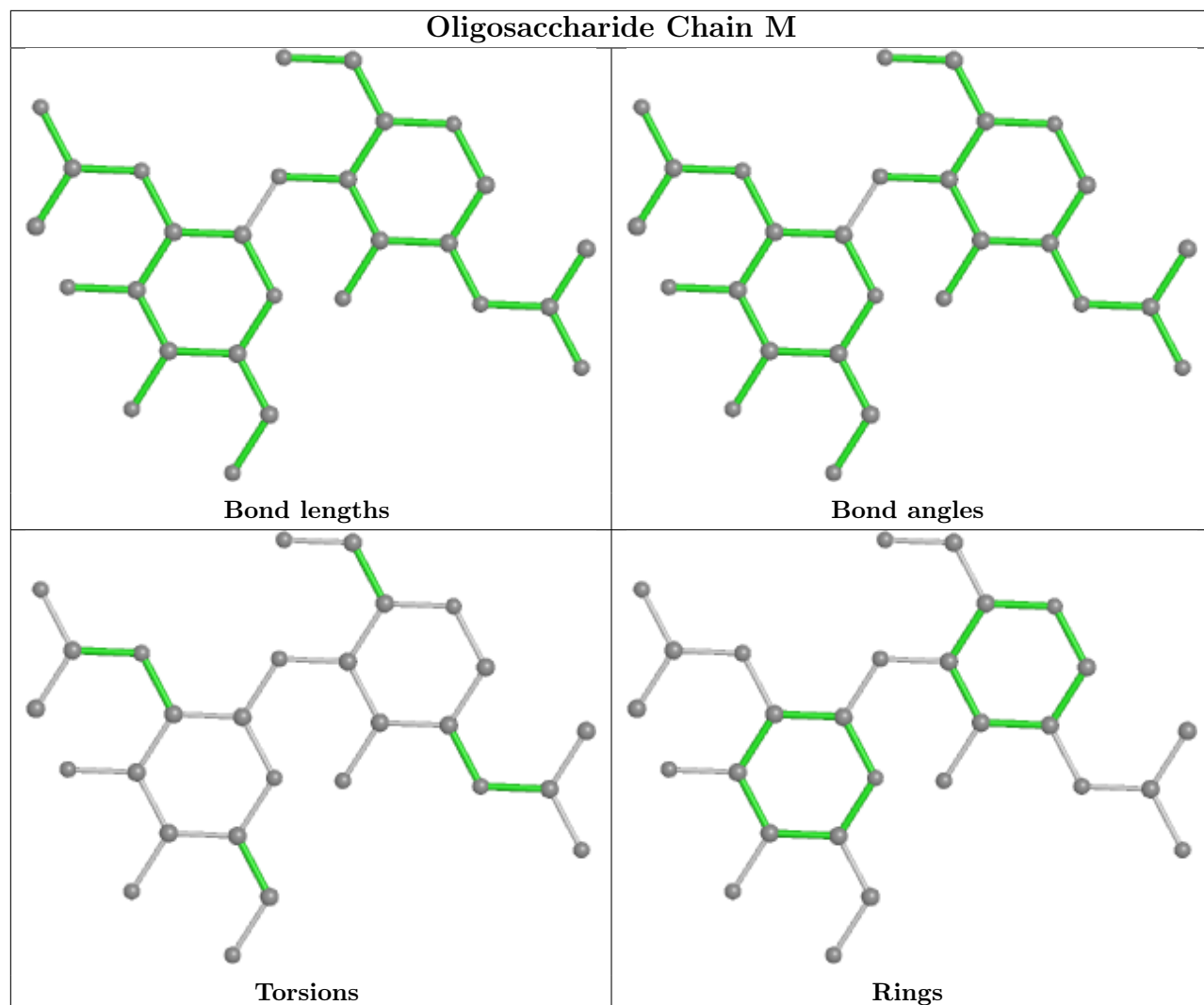
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	N	1	NAG	1	0

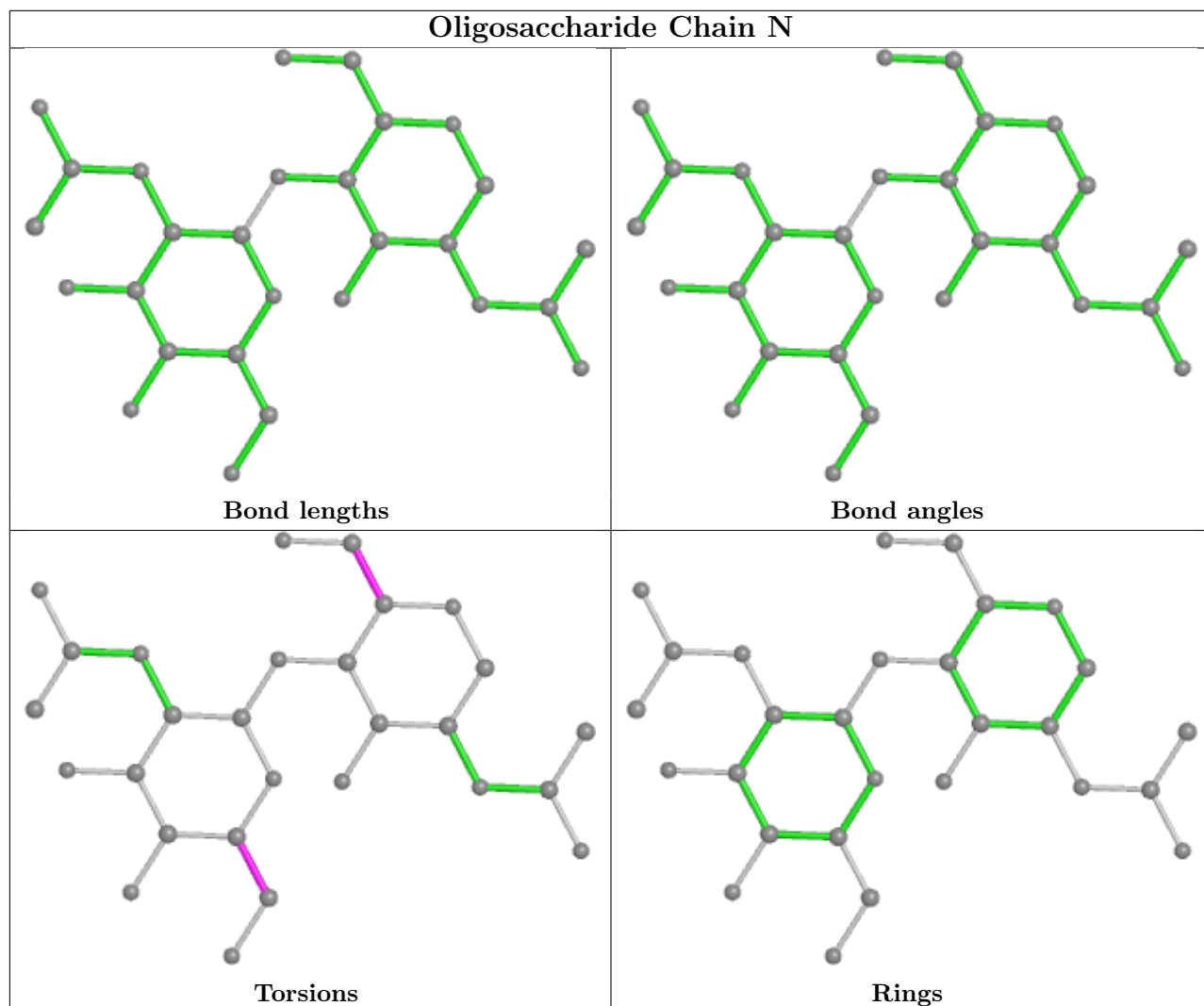
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.











5.6 Ligand geometry [i](#)

31 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	$\# Z > 2$
5	NAG	A	1303	1	14,14,15	0.27	0	17,19,21	0.60	1 (5%)
5	NAG	B	1301	1	14,14,15	0.38	0	17,19,21	0.93	1 (5%)
5	NAG	B	1307	1	14,14,15	0.24	0	17,19,21	0.48	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	NAG	A	1302	1	14,14,15	0.26	0	17,19,21	0.50	0
5	NAG	A	1308	1	14,14,15	0.22	0	17,19,21	0.53	0
5	NAG	A	1309	1	14,14,15	0.31	0	17,19,21	0.55	0
5	NAG	A	1312	1	14,14,15	0.24	0	17,19,21	0.43	0
5	NAG	C	1313	1	14,14,15	0.41	0	17,19,21	0.55	0
5	NAG	C	1309	1	14,14,15	0.38	0	17,19,21	0.63	1 (5%)
5	NAG	C	1308	1	14,14,15	0.70	0	17,19,21	2.21	3 (17%)
5	NAG	A	1301	1	14,14,15	0.30	0	17,19,21	0.61	1 (5%)
5	NAG	A	1306	1	14,14,15	0.26	0	17,19,21	0.58	0
5	NAG	B	1314	-	14,14,15	0.31	0	17,19,21	0.50	0
5	NAG	B	1303	1	14,14,15	0.77	1 (7%)	17,19,21	2.22	3 (17%)
5	NAG	A	1307	1	14,14,15	0.52	0	17,19,21	0.63	1 (5%)
5	NAG	A	1310	1	14,14,15	0.47	0	17,19,21	0.57	0
5	NAG	A	1314	-	14,14,15	0.27	0	17,19,21	0.55	0
5	NAG	B	1310	1	14,14,15	0.41	0	17,19,21	0.62	1 (5%)
5	NAG	B	1312	1	14,14,15	1.06	2 (14%)	17,19,21	2.25	4 (23%)
5	NAG	B	1313	1	14,14,15	0.36	0	17,19,21	0.63	1 (5%)
5	NAG	C	1310	1	14,14,15	0.55	0	17,19,21	0.94	1 (5%)
5	NAG	A	1311	1	14,14,15	0.40	0	17,19,21	0.50	0
5	NAG	A	1313	1	14,14,15	0.85	1 (7%)	17,19,21	2.23	3 (17%)
5	NAG	C	1305	1	14,14,15	0.37	0	17,19,21	0.41	0
5	NAG	B	1311	-	14,14,15	0.37	0	17,19,21	0.97	1 (5%)
5	NAG	C	1312	-	14,14,15	0.27	0	17,19,21	0.51	0
5	NAG	B	1302	1	14,14,15	0.21	0	17,19,21	0.52	0
5	NAG	C	1311	1	14,14,15	0.74	1 (7%)	17,19,21	2.21	3 (17%)
5	NAG	C	1304	1	14,14,15	0.43	0	17,19,21	0.63	1 (5%)
5	NAG	B	1304	1	14,14,15	0.43	0	17,19,21	0.59	1 (5%)
5	NAG	C	1301	1	14,14,15	0.32	0	17,19,21	0.50	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	NAG	A	1303	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1301	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1307	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1302	1	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	NAG	A	1308	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1309	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1312	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1313	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1309	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1308	1	-	5/6/23/26	0/1/1/1
5	NAG	A	1301	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1306	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1314	-	-	2/6/23/26	0/1/1/1
5	NAG	B	1303	1	-	5/6/23/26	0/1/1/1
5	NAG	A	1307	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1310	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1314	-	-	2/6/23/26	0/1/1/1
5	NAG	B	1310	1	-	1/6/23/26	0/1/1/1
5	NAG	B	1312	1	-	5/6/23/26	0/1/1/1
5	NAG	B	1313	1	-	1/6/23/26	0/1/1/1
5	NAG	C	1310	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1311	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1313	1	-	5/6/23/26	0/1/1/1
5	NAG	C	1305	1	-	1/6/23/26	0/1/1/1
5	NAG	B	1311	-	-	3/6/23/26	0/1/1/1
5	NAG	C	1312	-	-	1/6/23/26	0/1/1/1
5	NAG	B	1302	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1311	1	-	5/6/23/26	0/1/1/1
5	NAG	C	1304	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1304	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1301	1	-	0/6/23/26	0/1/1/1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	B	1312	NAG	C1-C2	2.90	1.56	1.52
5	A	1313	NAG	C1-C2	2.62	1.56	1.52
5	B	1303	NAG	C1-C2	2.18	1.55	1.52
5	B	1312	NAG	O5-C1	2.06	1.47	1.43
5	C	1311	NAG	C1-C2	2.03	1.55	1.52

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	B	1303	NAG	C2-N2-C7	7.83	134.06	122.90
5	C	1311	NAG	C2-N2-C7	7.83	134.06	122.90
5	C	1308	NAG	C2-N2-C7	7.79	134.00	122.90
5	A	1313	NAG	C2-N2-C7	7.78	133.99	122.90
5	B	1312	NAG	C2-N2-C7	7.77	133.96	122.90
5	A	1313	NAG	C1-C2-N2	3.72	116.85	110.49
5	C	1311	NAG	C1-C2-N2	3.64	116.71	110.49
5	B	1303	NAG	C1-C2-N2	3.59	116.62	110.49
5	C	1308	NAG	C1-C2-N2	3.55	116.55	110.49
5	B	1312	NAG	C1-C2-N2	3.49	116.44	110.49
5	B	1301	NAG	C2-N2-C7	3.07	127.28	122.90
5	B	1311	NAG	C2-N2-C7	3.02	127.21	122.90
5	C	1310	NAG	C2-N2-C7	2.92	127.06	122.90
5	B	1312	NAG	C1-O5-C5	2.31	115.33	112.19
5	C	1304	NAG	C1-O5-C5	2.25	115.23	112.19
5	C	1309	NAG	C1-O5-C5	2.23	115.22	112.19
5	B	1310	NAG	C1-O5-C5	2.16	115.12	112.19
5	A	1307	NAG	C1-O5-C5	2.16	115.12	112.19
5	B	1312	NAG	C8-C7-N2	2.16	119.75	116.10
5	C	1311	NAG	C8-C7-N2	2.14	119.73	116.10
5	B	1303	NAG	C8-C7-N2	2.13	119.70	116.10
5	A	1301	NAG	C1-O5-C5	2.13	115.07	112.19
5	C	1308	NAG	C8-C7-N2	2.12	119.68	116.10
5	A	1313	NAG	C8-C7-N2	2.12	119.68	116.10
5	B	1313	NAG	C1-O5-C5	2.11	115.05	112.19
5	A	1303	NAG	C1-O5-C5	2.10	115.03	112.19
5	B	1304	NAG	C1-O5-C5	2.01	114.91	112.19

There are no chirality outliers.

All (72) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	1303	NAG	O5-C5-C6-O6
5	C	1309	NAG	O5-C5-C6-O6
5	A	1309	NAG	O5-C5-C6-O6
5	A	1301	NAG	C4-C5-C6-O6
5	A	1312	NAG	O5-C5-C6-O6
5	B	1312	NAG	O5-C5-C6-O6
5	A	1302	NAG	C4-C5-C6-O6
5	B	1303	NAG	C4-C5-C6-O6
5	A	1308	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
5	A	1313	NAG	O5-C5-C6-O6
5	B	1314	NAG	O5-C5-C6-O6
5	C	1311	NAG	O5-C5-C6-O6
5	A	1310	NAG	C4-C5-C6-O6
5	A	1311	NAG	C4-C5-C6-O6
5	A	1314	NAG	C4-C5-C6-O6
5	A	1306	NAG	O5-C5-C6-O6
5	B	1307	NAG	O5-C5-C6-O6
5	B	1311	NAG	O5-C5-C6-O6
5	C	1308	NAG	O5-C5-C6-O6
5	C	1313	NAG	O5-C5-C6-O6
5	A	1313	NAG	C4-C5-C6-O6
5	C	1309	NAG	C4-C5-C6-O6
5	A	1303	NAG	C4-C5-C6-O6
5	B	1312	NAG	C4-C5-C6-O6
5	A	1301	NAG	O5-C5-C6-O6
5	A	1306	NAG	C4-C5-C6-O6
5	A	1310	NAG	O5-C5-C6-O6
5	A	1312	NAG	C4-C5-C6-O6
5	B	1311	NAG	C4-C5-C6-O6
5	A	1302	NAG	O5-C5-C6-O6
5	A	1314	NAG	O5-C5-C6-O6
5	B	1303	NAG	O5-C5-C6-O6
5	A	1307	NAG	O5-C5-C6-O6
5	B	1304	NAG	C4-C5-C6-O6
5	B	1307	NAG	C4-C5-C6-O6
5	A	1309	NAG	C4-C5-C6-O6
5	A	1307	NAG	C4-C5-C6-O6
5	A	1313	NAG	C8-C7-N2-C2
5	A	1313	NAG	O7-C7-N2-C2
5	B	1303	NAG	C8-C7-N2-C2
5	B	1303	NAG	O7-C7-N2-C2
5	B	1312	NAG	C8-C7-N2-C2
5	B	1312	NAG	O7-C7-N2-C2
5	C	1308	NAG	C8-C7-N2-C2
5	C	1308	NAG	O7-C7-N2-C2
5	C	1311	NAG	C8-C7-N2-C2
5	C	1311	NAG	O7-C7-N2-C2
5	B	1314	NAG	C4-C5-C6-O6
5	C	1313	NAG	C4-C5-C6-O6
5	C	1308	NAG	C4-C5-C6-O6
5	B	1304	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
5	A	1311	NAG	O5-C5-C6-O6
5	B	1310	NAG	O5-C5-C6-O6
5	C	1305	NAG	O5-C5-C6-O6
5	C	1311	NAG	C4-C5-C6-O6
5	A	1308	NAG	C4-C5-C6-O6
5	C	1304	NAG	O5-C5-C6-O6
5	C	1304	NAG	C4-C5-C6-O6
5	C	1312	NAG	O5-C5-C6-O6
5	B	1302	NAG	C4-C5-C6-O6
5	B	1313	NAG	O5-C5-C6-O6
5	B	1301	NAG	C4-C5-C6-O6
5	A	1313	NAG	C3-C2-N2-C7
5	B	1301	NAG	C3-C2-N2-C7
5	B	1303	NAG	C3-C2-N2-C7
5	B	1311	NAG	C3-C2-N2-C7
5	B	1312	NAG	C3-C2-N2-C7
5	C	1308	NAG	C3-C2-N2-C7
5	C	1310	NAG	C3-C2-N2-C7
5	C	1311	NAG	C3-C2-N2-C7
5	B	1302	NAG	O5-C5-C6-O6
5	C	1310	NAG	C4-C5-C6-O6

There are no ring outliers.

No monomer is involved in short contacts.

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.

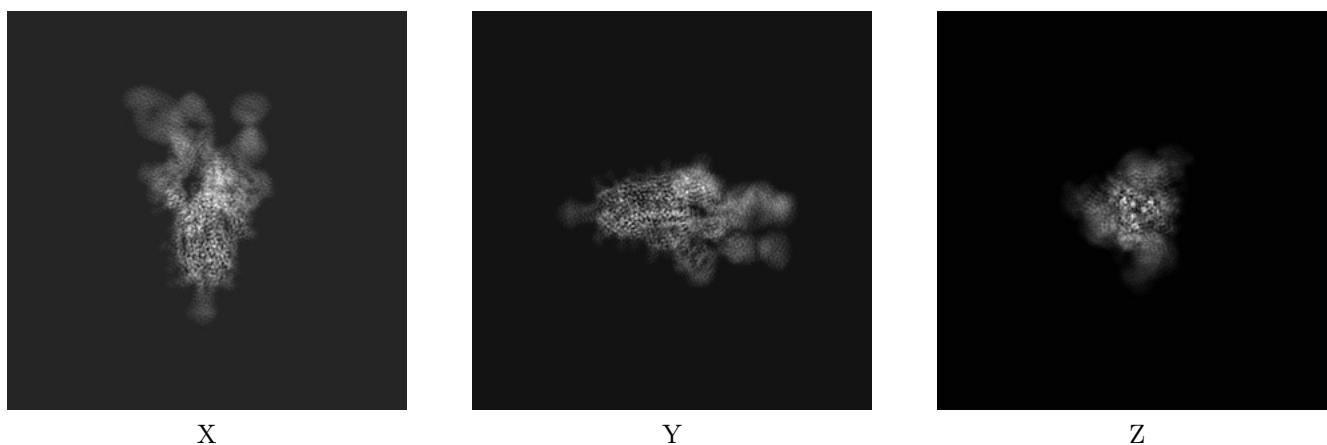
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-30374. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

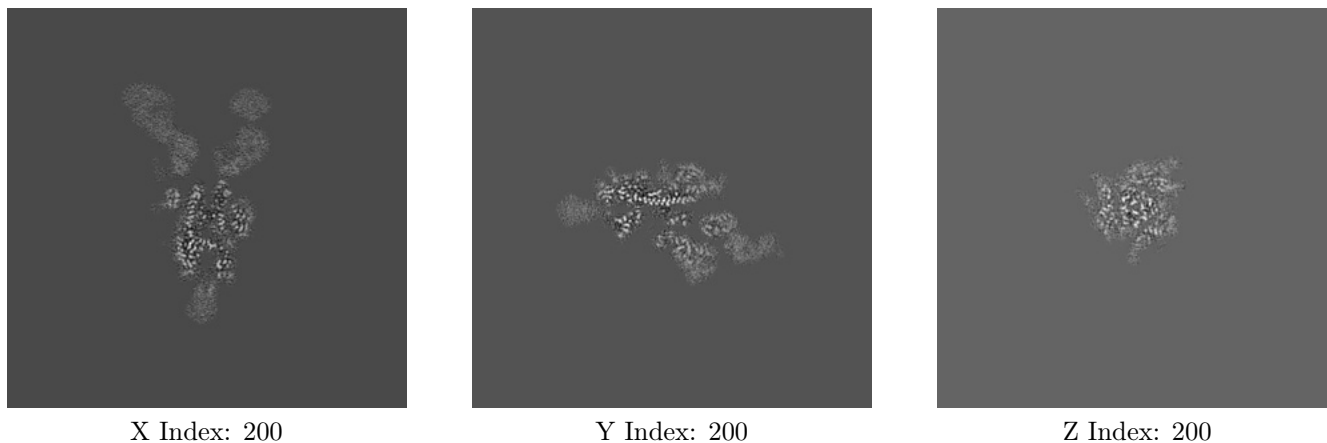
6.1.1 Primary map



The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

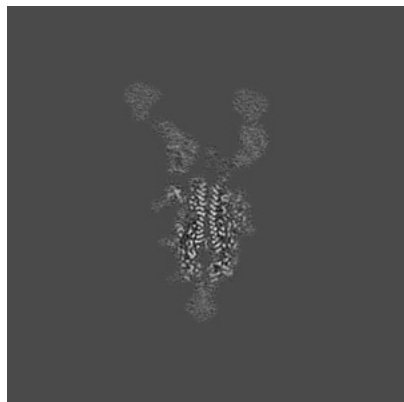
6.2.1 Primary map



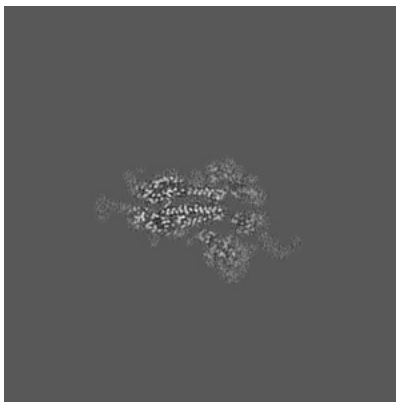
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 195



Y Index: 207

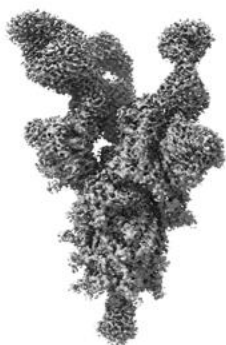


Z Index: 211

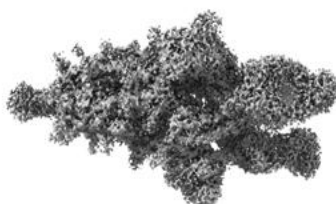
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0122. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

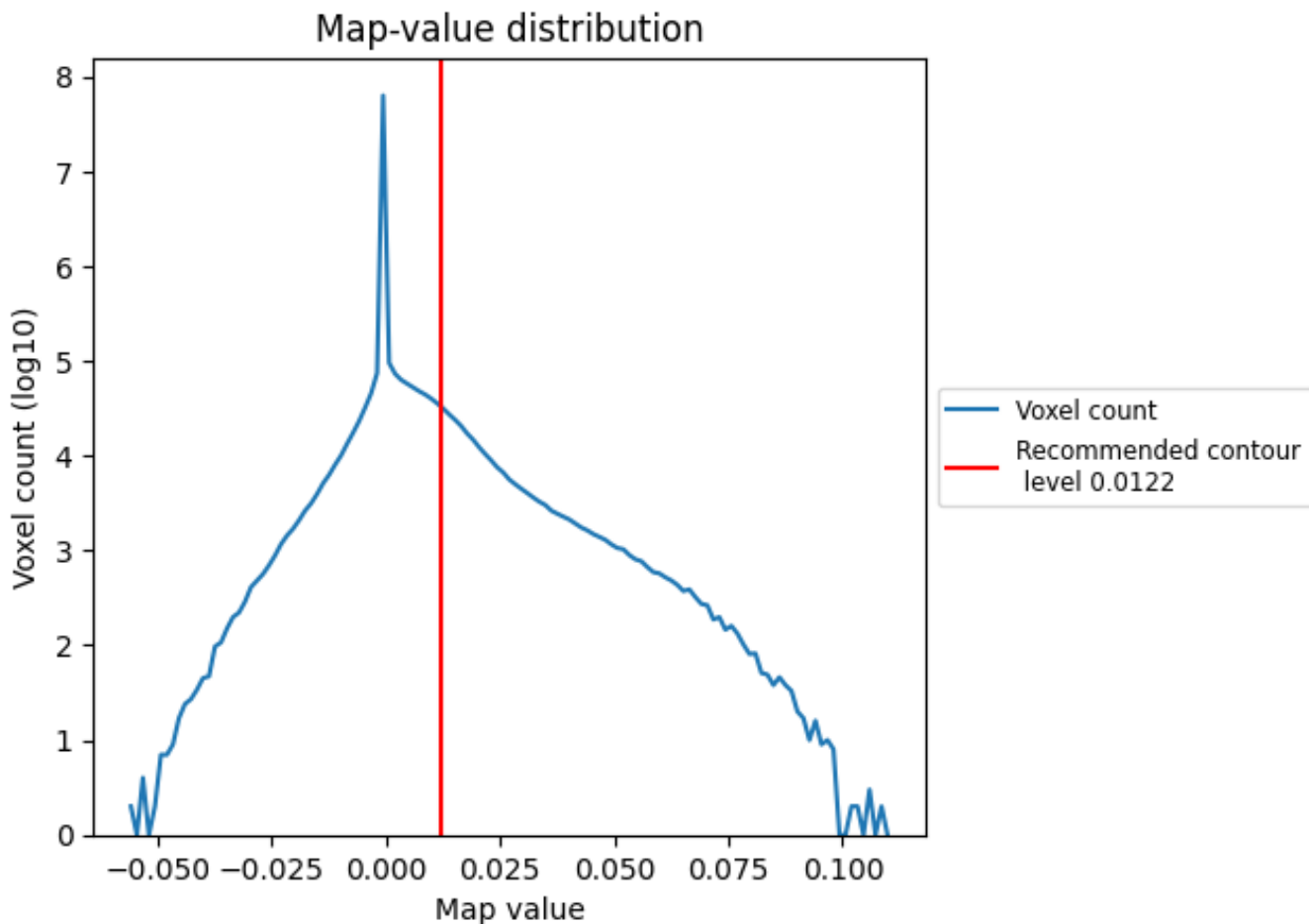
6.5 Mask visualisation

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

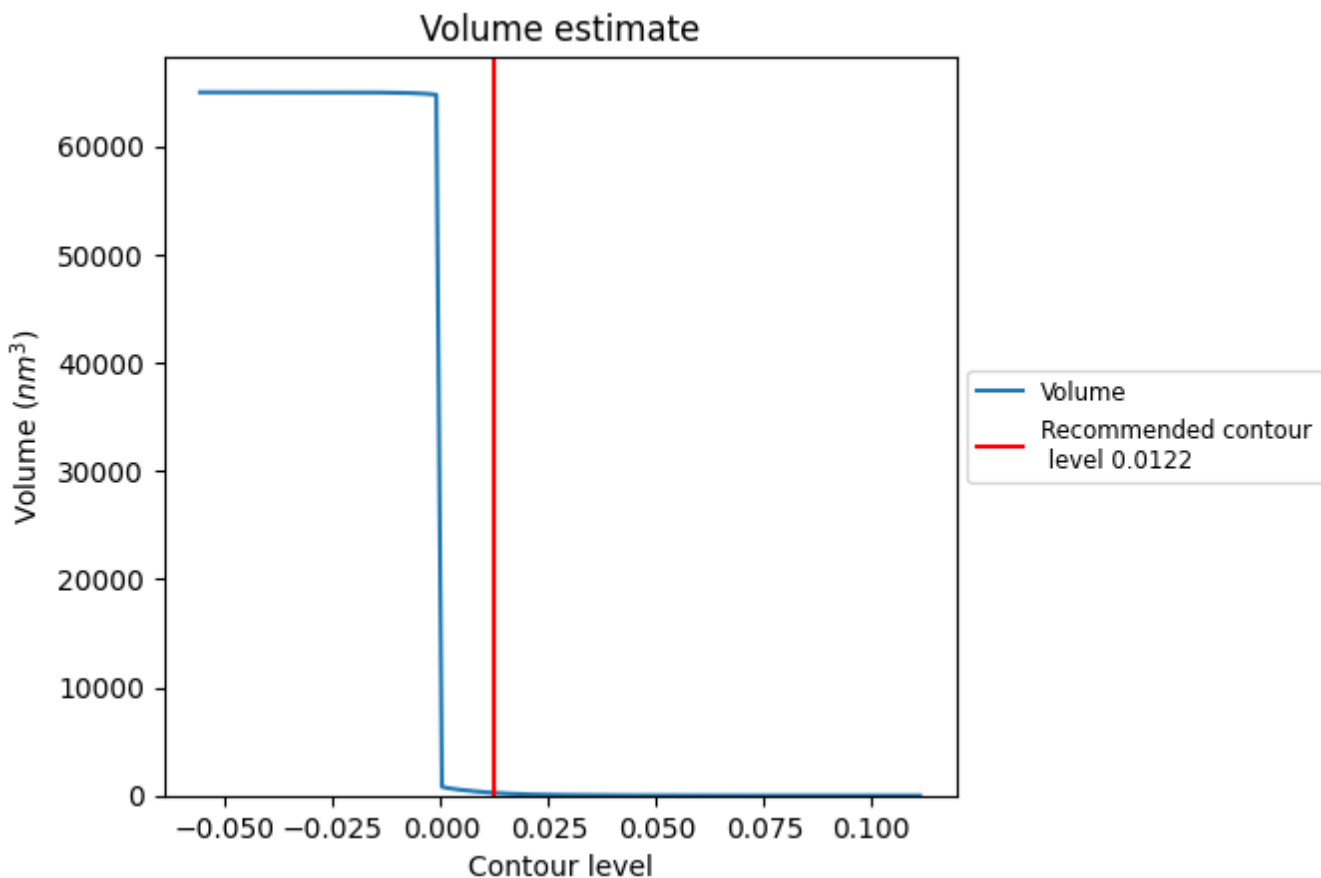
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

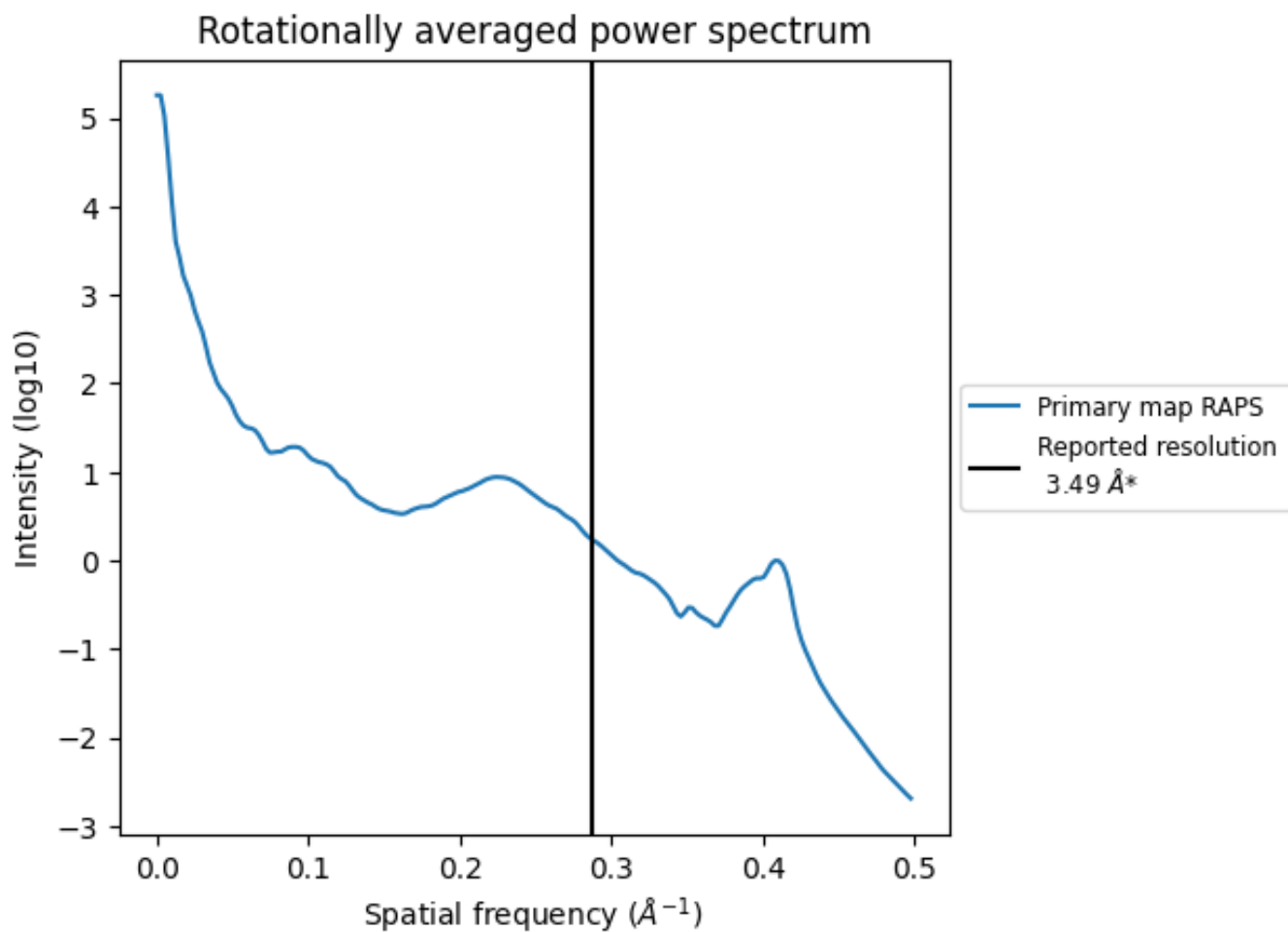
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 254 nm^3 ; this corresponds to an approximate mass of 230 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.287 Å⁻¹

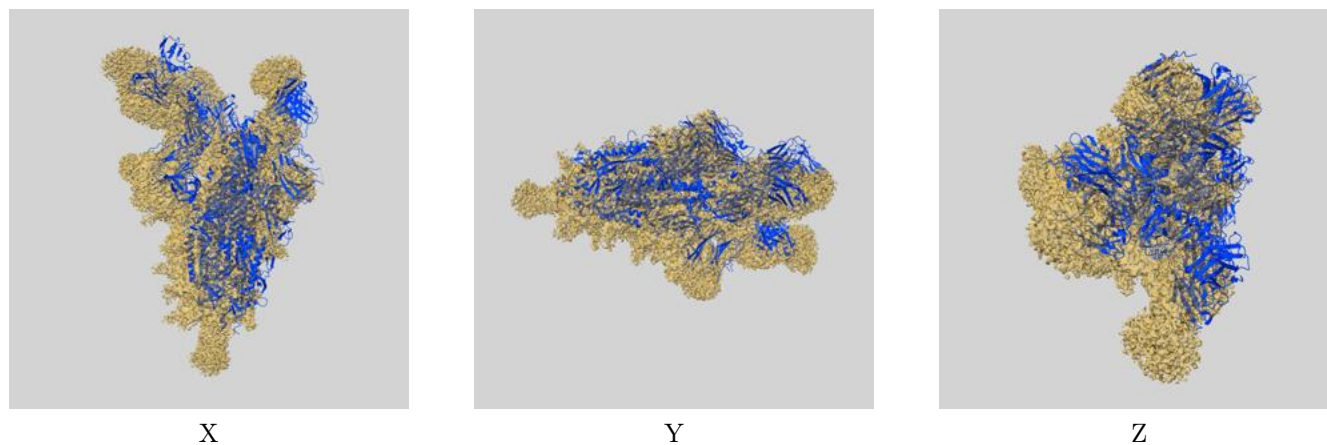
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-30374 and PDB model 7CHH. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



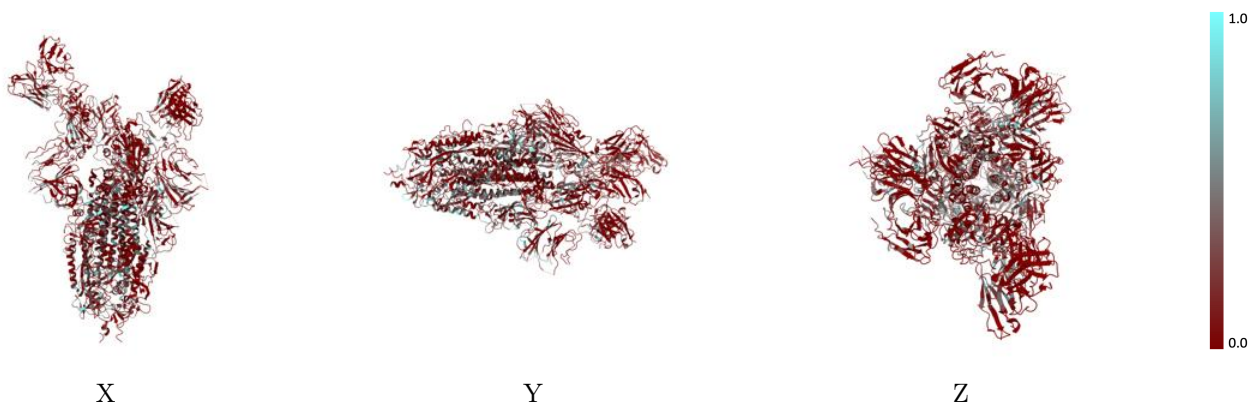
The images above show the 3D surface view of the map at the recommended contour level 0.0122 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



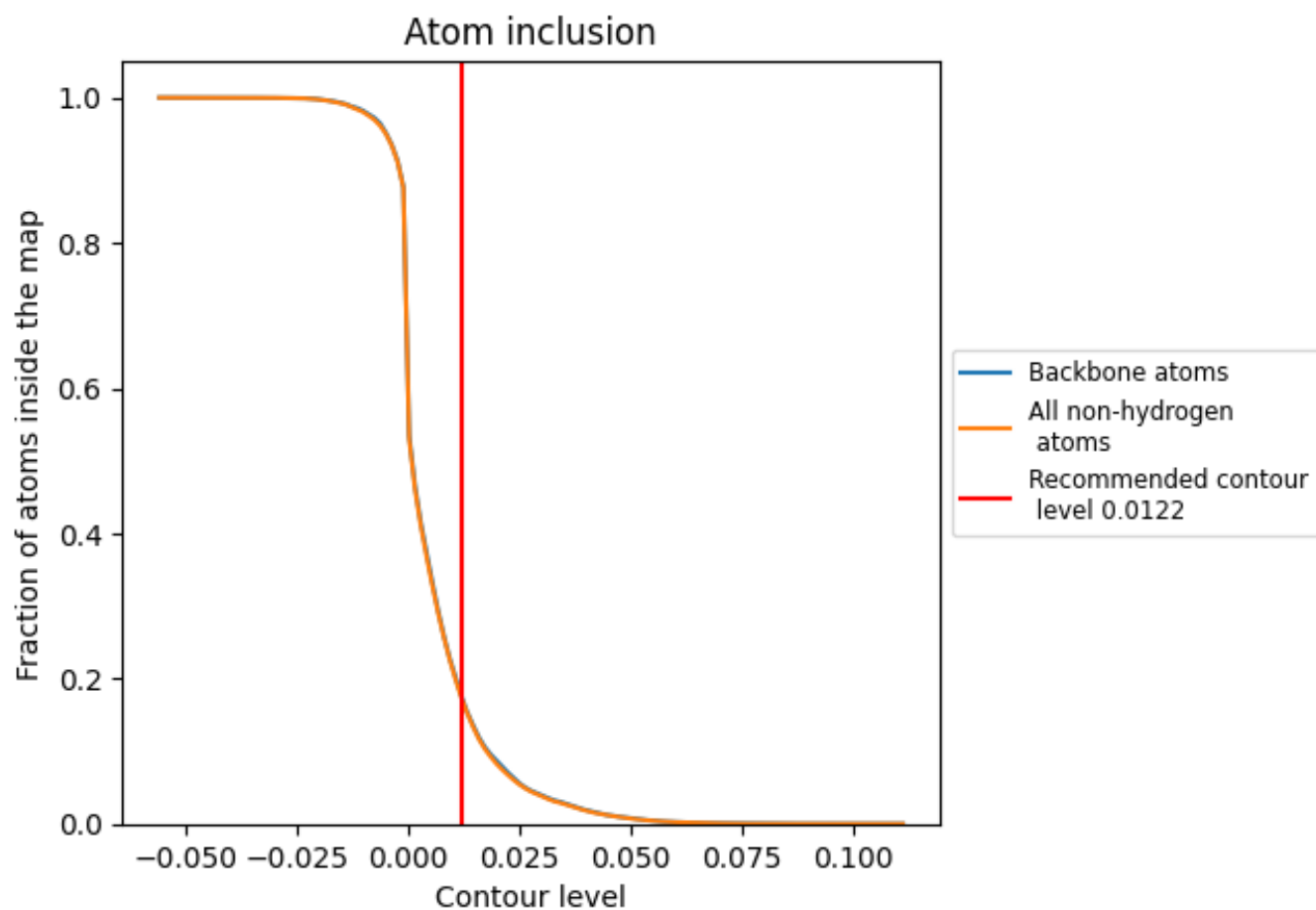
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0122).































9.4 Atom inclusion [i](#)



At the recommended contour level, 17% of all backbone atoms, 17% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0122) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.1706	 -0.0090
A	 0.2077	 -0.0060
B	 0.1834	 -0.0160
C	 0.1749	 -0.0050
D	 0.1699	 -0.0180
E	 0.0132	 -0.0140
F	 0.4286	 0.0720
G	 0.0969	 0.0170
H	 0.0527	 -0.0030
I	 0.0000	 0.0530
J	 0.0850	 -0.0270
K	 0.1329	 -0.0150
L	 0.0000	 -0.0280
M	 0.0000	 0.0010
N	 0.0000	 -0.0270

