



## Full wwPDB EM Validation Report ⓘ

Apr 12, 2022 – 07:20 pm BST

PDB ID : 7O7L  
EMDB ID : EMD-12747  
Title : (h-alpha2M)4 native I  
Authors : Luque, D.; Goulas, T.; Mata, C.P.; Mendes, S.R.; Gomis-Ruth, F.X.; Caston, J.R.  
Deposited on : 2021-04-13  
Resolution : 4.50 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](mailto: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.

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

EMDB validation analysis : 0.0.0.dev97  
Mogul : 1.8.4, CSD as541be (2020)  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.27

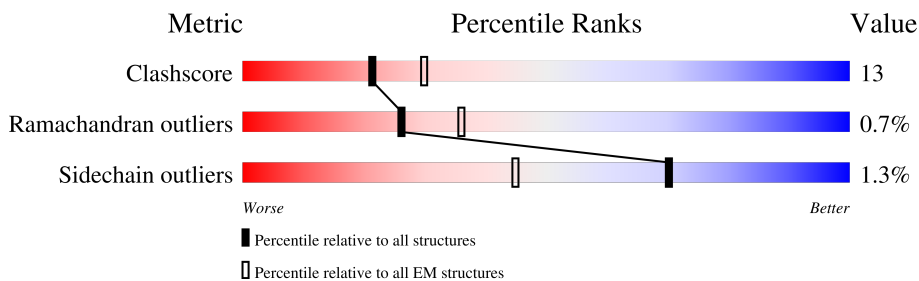
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 4.50 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  $\geq 3$ , 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	1474	60% 74% 21% ..
1	B	1474	15% 60% 35% ..
1	C	1474	60% 74% 20% ..
1	D	1474	15% 59% 35% ..
2	E	4	75% 25% 50% 25%
2	H	4	75% 25% 50% 25%
3	F	3	67% 33% 67%
3	I	3	67% 33% 67%

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Mol	Chain	Length	Quality of chain
4	G	2	100%
			
4	J	2	100%
			

## 2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 44614 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 Alpha-2-macroglobulin.

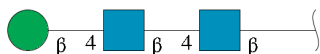
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1410	11004	6999	1840	2117	48	0	0
1	B	1410	11004	6999	1840	2117	48	0	0
1	C	1410	11004	6999	1840	2117	48	0	0
1	D	1410	11004	6999	1840	2117	48	0	0

- Molecule 2 is an oligosaccharide called alpha-D-mannopyranose-(1-6)-beta-D-mannopyranose-(1-4)-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		
2	E	4	50	28	2	20	0	0
2	H	4	50	28	2	20	0	0

- Molecule 3 is an oligosaccharide called beta-D-mannopyranose-(1-4)-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		
3	F	3	39	22	2	15	0	0

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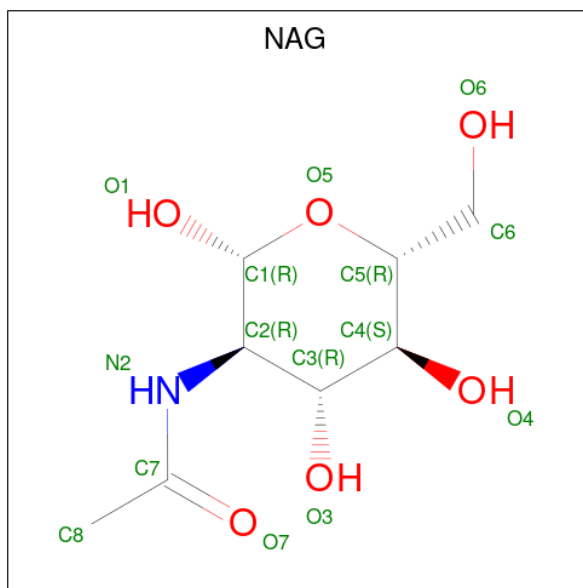
Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
3	I	3	39	22	2	15	0	0

- 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	G	2	28	16	2	10	0	0
4	J	2	28	16	2	10	0	0

- 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	112	64	8	40	0
5	A	1	112	64	8	40	0
5	A	1	112	64	8	40	0

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Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
5	A	1	Total 112	C 64	N 8	O 40	0
5	A	1	Total 112	C 64	N 8	O 40	0
5	A	1	Total 112	C 64	N 8	O 40	0
5	A	1	Total 112	C 64	N 8	O 40	0
5	A	1	Total 112	C 64	N 8	O 40	0
5	B	1	Total 70	C 40	N 5	O 25	0
5	B	1	Total 70	C 40	N 5	O 25	0
5	B	1	Total 70	C 40	N 5	O 25	0
5	B	1	Total 70	C 40	N 5	O 25	0
5	B	1	Total 70	C 40	N 5	O 25	0
5	B	1	Total 70	C 40	N 5	O 25	0
5	C	1	Total 112	C 64	N 8	O 40	0
5	C	1	Total 112	C 64	N 8	O 40	0
5	C	1	Total 112	C 64	N 8	O 40	0
5	C	1	Total 112	C 64	N 8	O 40	0
5	C	1	Total 112	C 64	N 8	O 40	0
5	C	1	Total 112	C 64	N 8	O 40	0
5	C	1	Total 112	C 64	N 8	O 40	0
5	C	1	Total 112	C 64	N 8	O 40	0
5	C	1	Total 112	C 64	N 8	O 40	0
5	D	1	Total 70	C 40	N 5	O 25	0
5	D	1	Total 70	C 40	N 5	O 25	0
5	D	1	Total 70	C 40	N 5	O 25	0

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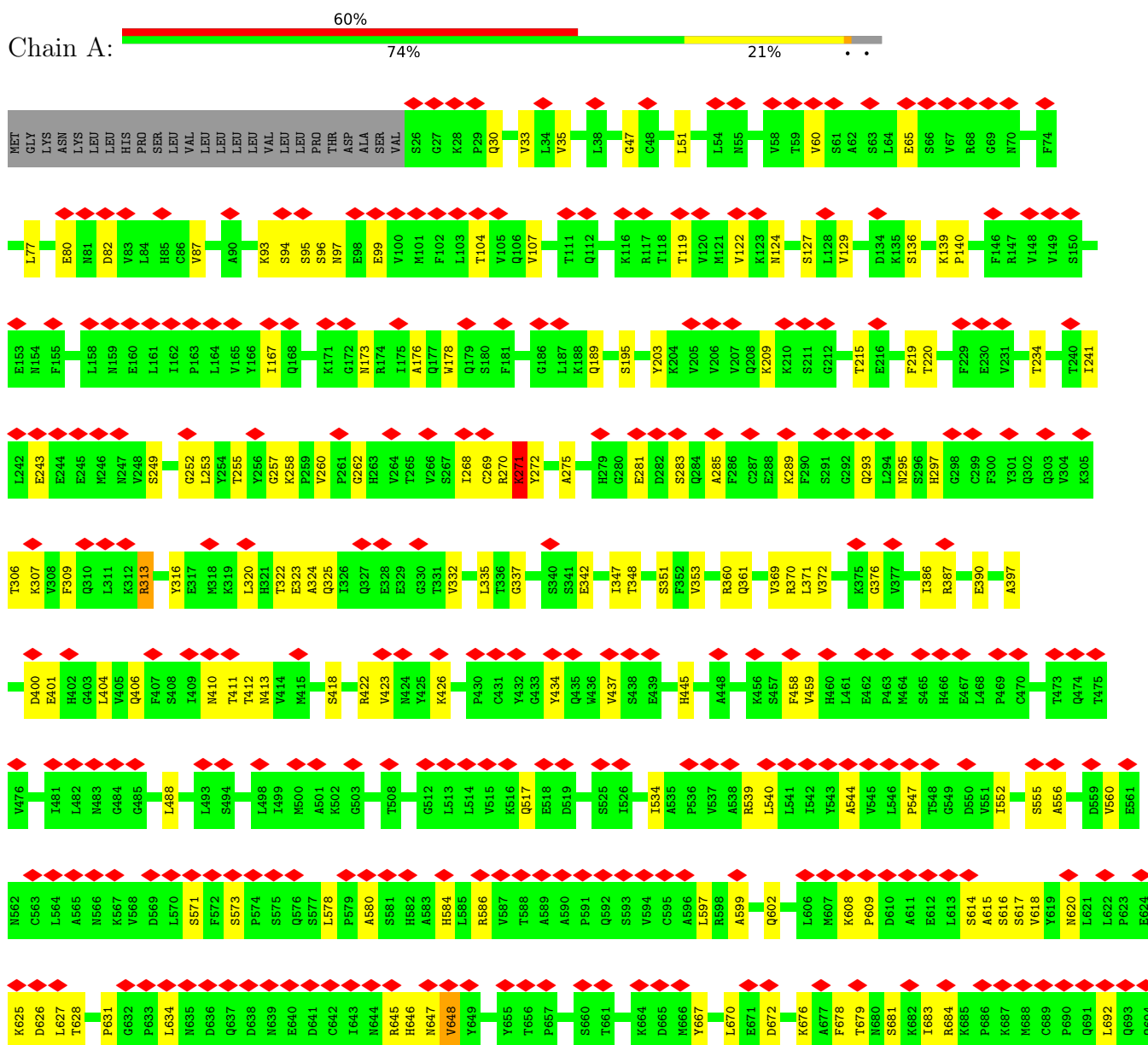
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Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
5	D	1	70	40	5	25	0
5	D	1	70	40	5	25	0

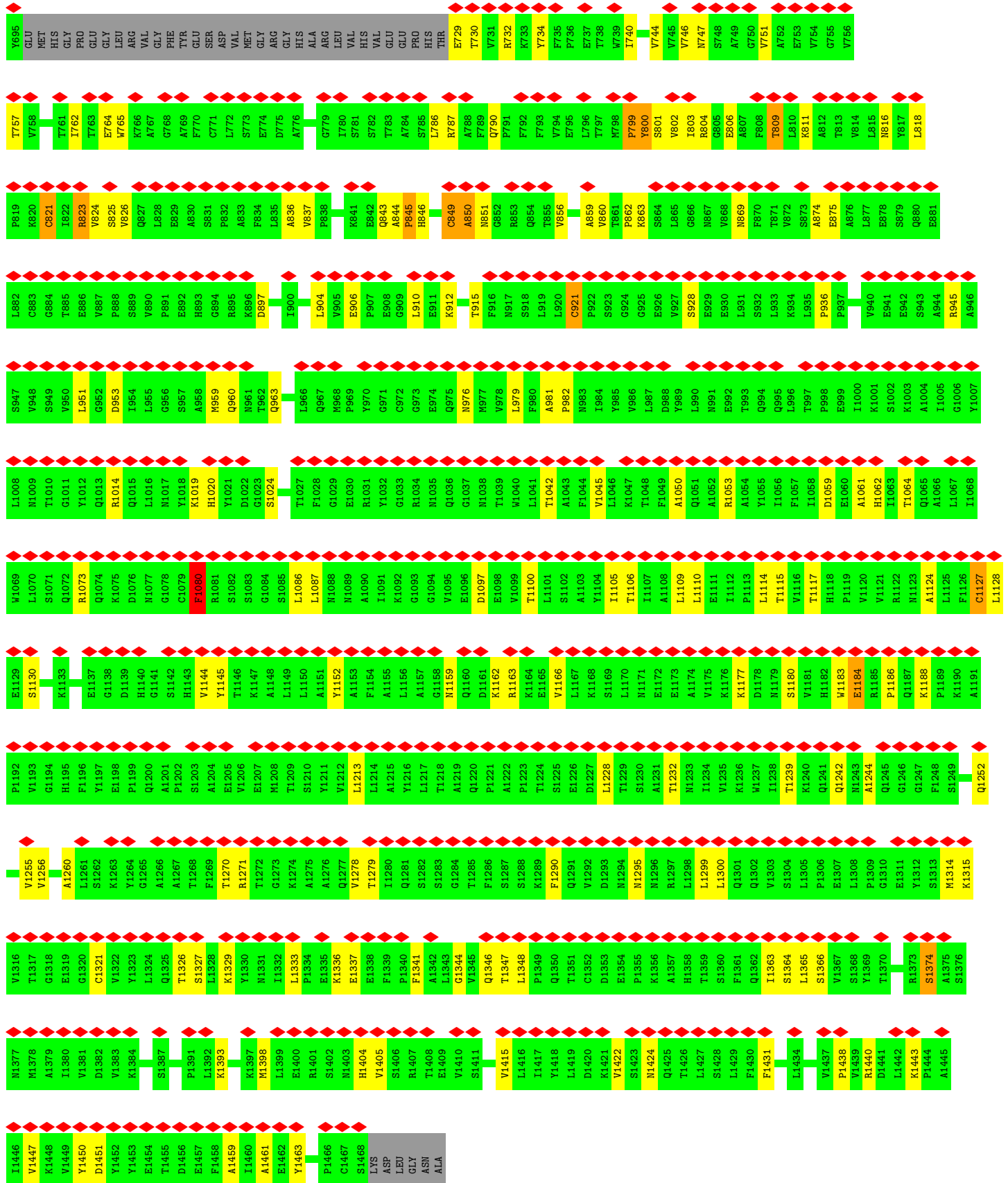
### 3 Residue-property plots

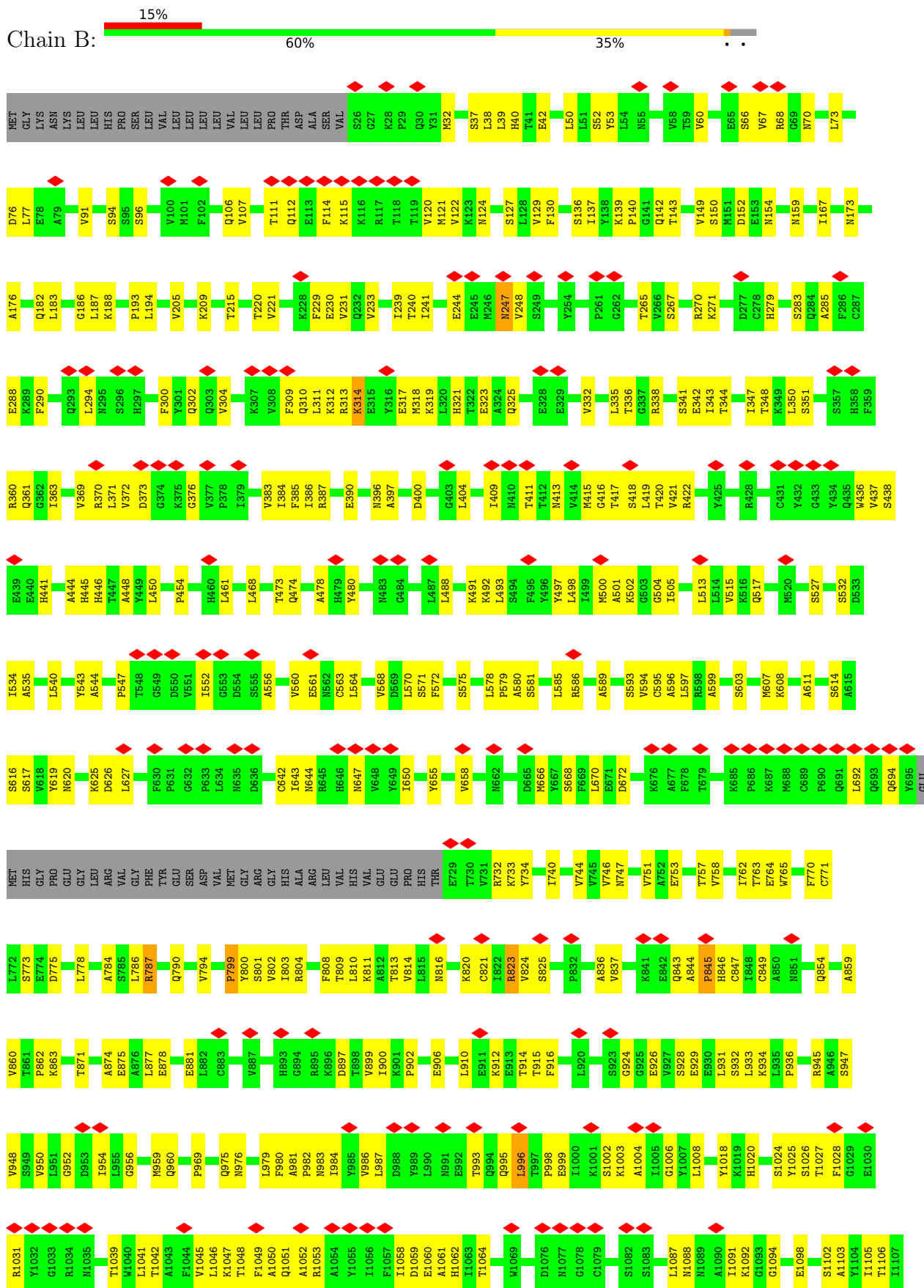
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

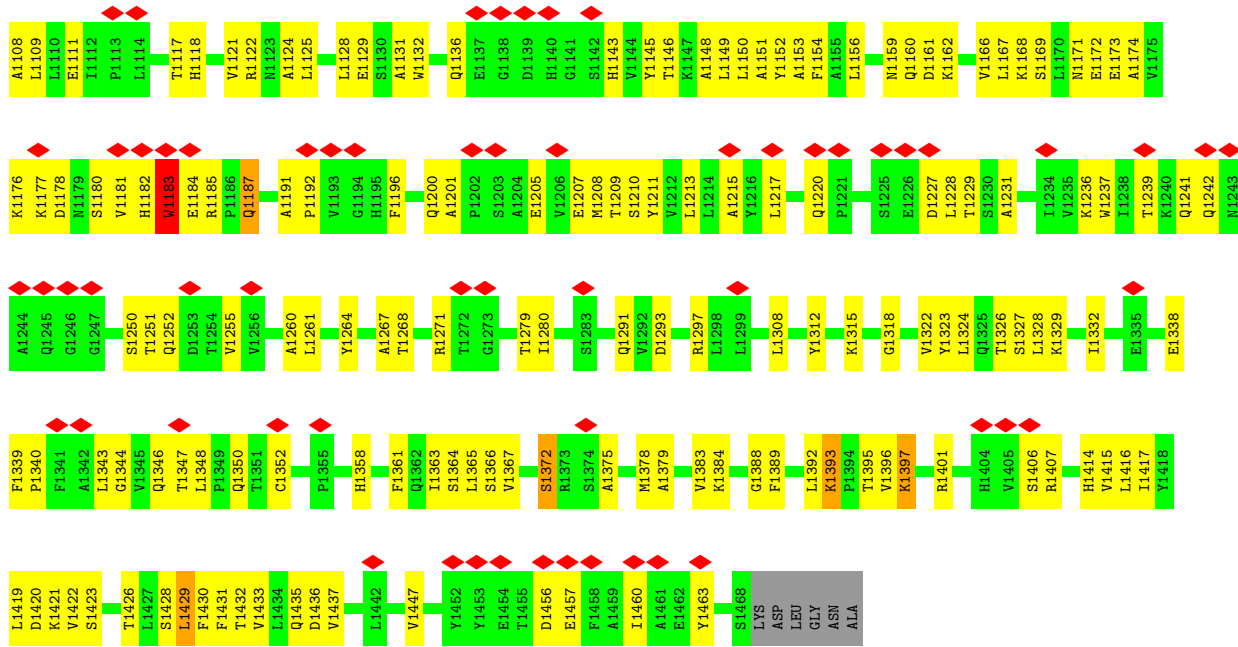
#### • Molecule 1: Alpha-2-macroglobulin



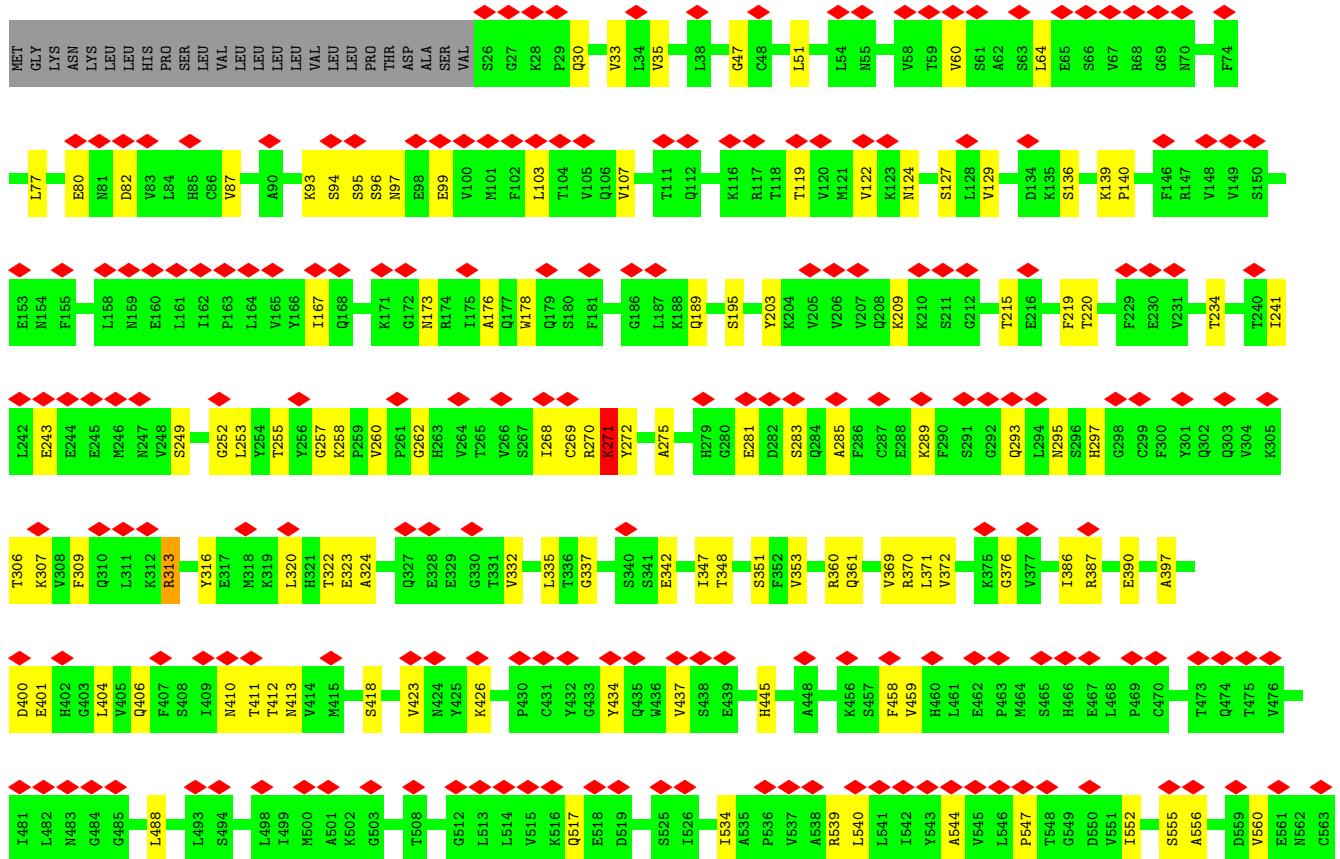
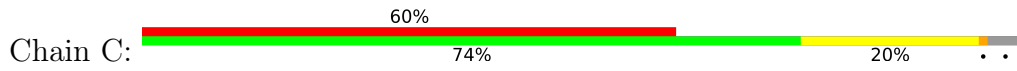




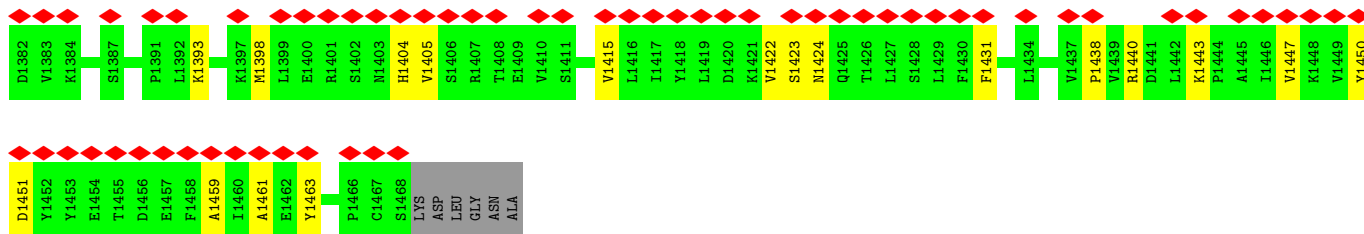




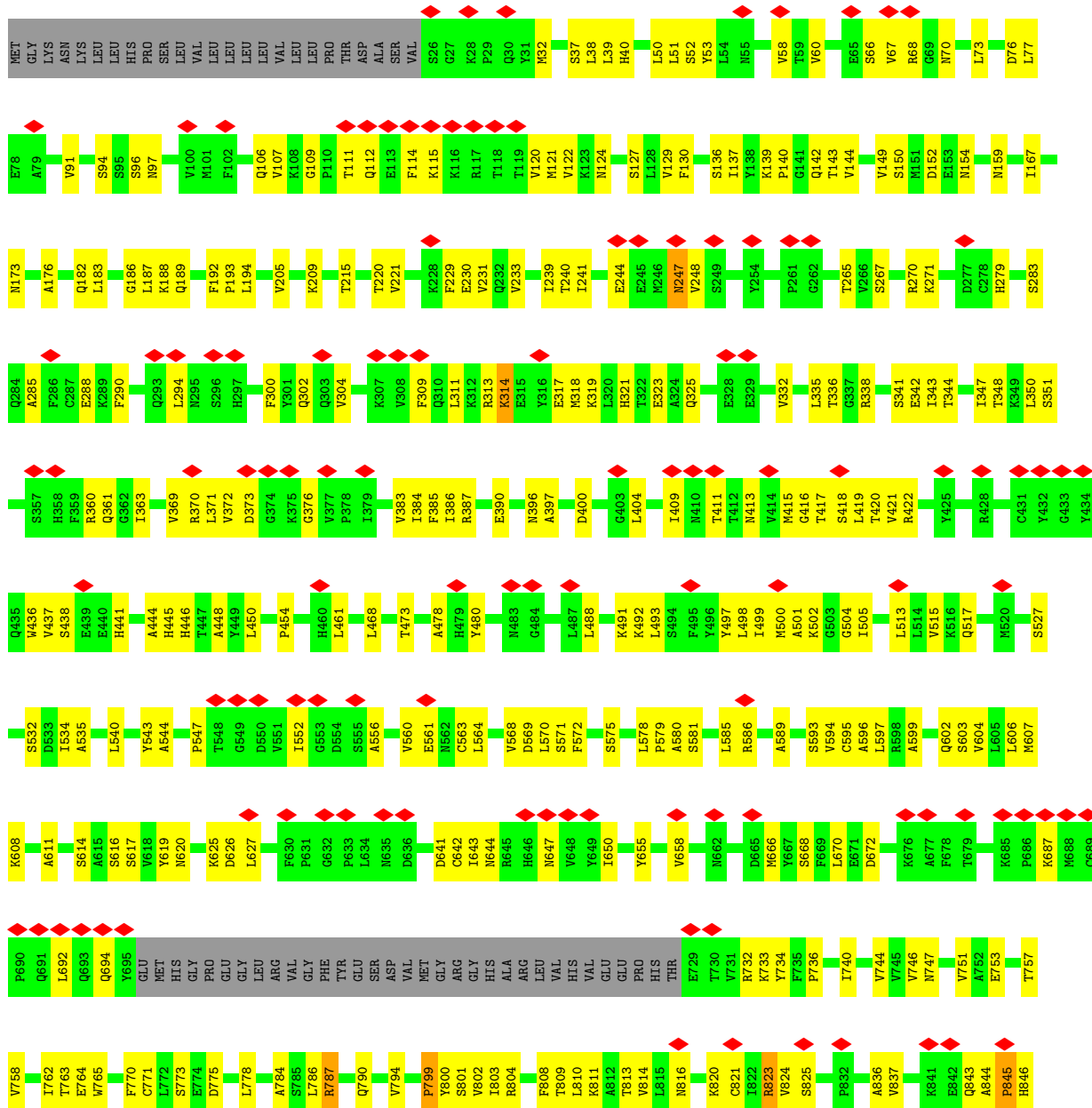
• Molecule 1: Alpha-2-macroglobulin

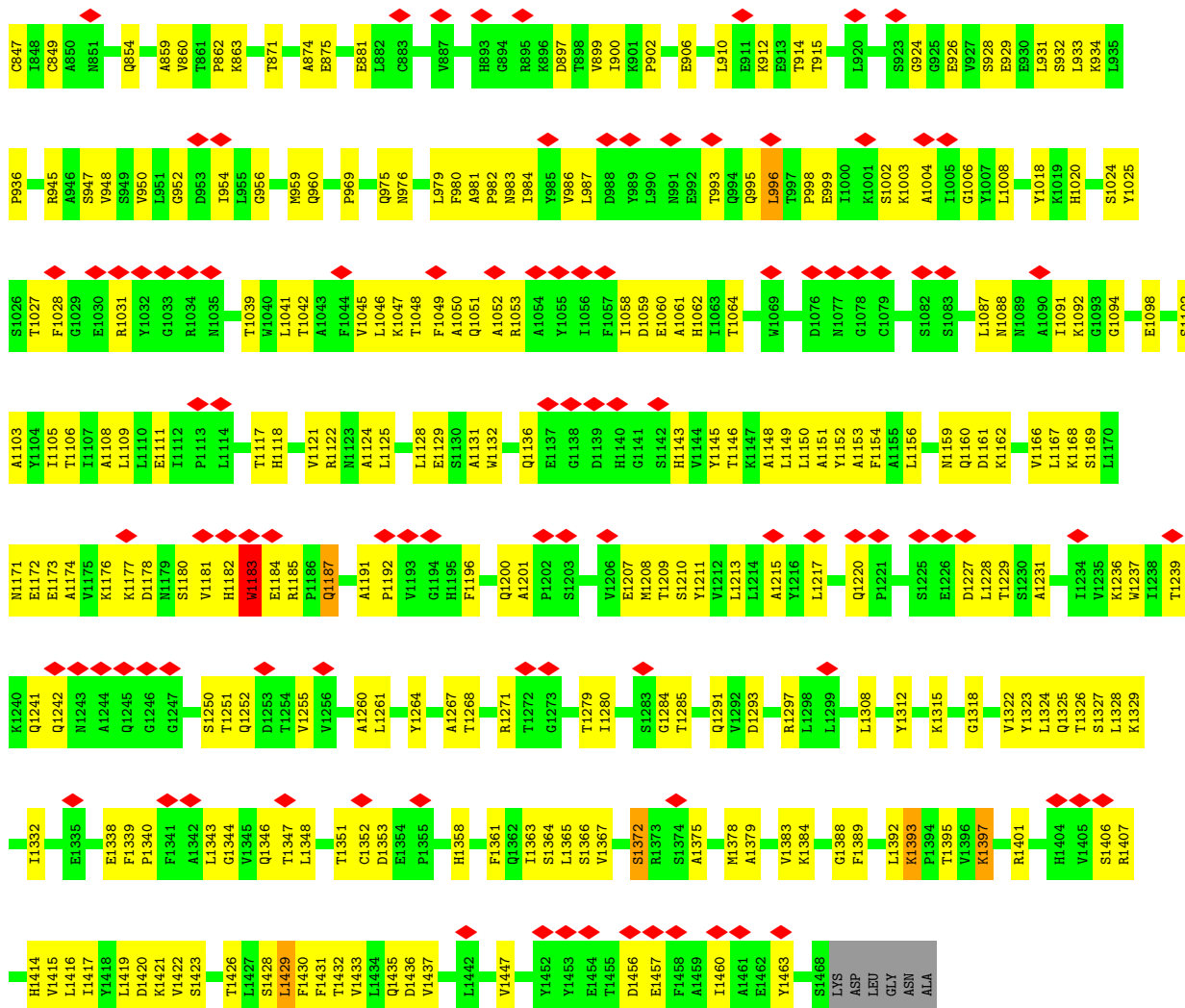


L664	A665	N666	K667	V668	D669	L670	S671	F672	S673	P674	S675	Q676	S677	L678	P679	A680	S681	H682	A683	H684	L685	R686	V687	T688	A689	P691	Q692	S693	C695	A696	L697	R698	A699	Q602	L606	M607	K608	P609	D610	A611	E612	L613	S614	A615	S616	V617	V618	Y619	N620	L621	L622	P623	E624	K625	D626				
L627	T628	P631	G632	P633	L634	M635	S637	D636	Q637	D638	M639	E640	D641	C642	I643	M644	R645	H646	N647	V648	Y649	L655	T656	P657	S660	T661	K664	D665	M666	Y667	L670	E671	D672	K676	A677	F678	T679	M680	S681	I683	R684	K685	P686	K687	M688	C689	P690	Q691	L692	Q693	Q694	Y695	GLU						
MET	HIS	GLY	PRO	GLU	GLY	LEU	ARG	VAL	GLY	PHE	TVR	GLU	SER	ASP	VAL	MET	GLY	ARG	GLY	HIS	ALA	ARG	ARG	LEU	VAL	HIS	VAL	GLU	PRO	HIS	THR	E729	T730	V731	R732	K733	Y734	F735	P736	E737	T738	W739	I740	V744	V745	V746	N747	S748	A749	K882	G750	V751	A752	E753	V754	G755	V756	T757	V758
T761	I762	T763	E764	W765	K766	A767	G768	A769	F770	C771	L772	S773	E774	D775	A776	G779	I780	S781	S782	T783	A784	S785	L786	R787	A788	F789	Q790	T791	F792	F793	V794	E795	L796	T797	M798	P799	Y800	V802	I803	R804	F805	T809	L810	K811	A812	T813	V814	G755	L815	N816	Y817	L818	P819	K820	C821	I822			
R823	V824	S825	V826	L828	E829	A830	S831	P832	A833	F834	L835	A836	V837	P838	K841	E842	Q843	A844	P845	H846	C849	A850	N851	G852	R853	Q854	T855	V856	A859	V860	T861	P862	K863	S864	L865	G866	N867	V868	N869	F870	T871	V872	S873	A874	E875	A876	L877	E878	S879	Q880	E881	L882	C883	G884	T885				
E886	V887	P888	S889	V890	P891	E892	H893	K894	R895	G896	L900	L904	Y905	E906	P907	E908	G909	L910	E911	K912	T915	F916	N917	S918	L919	A920	C921	P922	S923	G924	G925	E926	V927	S928	E929	E930	L931	S932	L933	K934	L935	P936	P937	V940	E941	E942	S943	A944	R945	A946	S947	V948	N949	Y950	L951				
G952	D953	I954	L955	G956	S957	A958	M959	Q960	G961	T962	Q963	L966	Q967	G968	P969	Y970	G971	G972	G973	E974	E975	N976	M977	V978	L979	F980	A981	P982	N983	I984	Y985	V986	L987	D988	Y989	L990	N991	E992	T993	Q994	Q995	L996	T997	P998	E999	I1000	K1001	S1002	K1003	A1004	I1005	R945	Y1007	L1008	M1009	T1010	G1011	Y1012	
Q1013	R1014	Q1015	L1016	M1017	Y1018	K1019	H1020	Y1021	D1022	G1023	S1024	T1027	F1028	G1029	E1030	R1031	Y1032	G1033	R1034	M1035	E974	K912	M977	V978	L979	F980	A981	P982	N983	I984	Y985	V986	L987	D988	Y989	L990	N991	E992	T993	Q994	Q995	L996	T997	P998	E999	I1000	K1001	S1002	K1003	A1004	I1005	R945	Y1007	L1008	M1009	T1010	G1011	Y1012	
Q1074	K1075	D1076	N1077	G1078	C1079	F1080	R1081	S1082	S1083	G1084	S1085	L1086	L1087	N1088	G1029	N1089	A1090	I1091	K1092	G1093	G1094	Y1095	E1096	D1097	E1098	V1099	T1100	L1101	S1102	A1103	Y1104	I1105	L1106	I1107	A1108	L1109	L1110	E1111	I1112	P1113	L1114	T1115	V1116	L1117	H1118	P1119	V1120	V1121	R1122	A1124	L1125	F1126	L1127	C1127	L1128	E1129	S1130	K1133	
E1137	G1138	D1139	H1140	G1141	S1142	H1143	V1144	T1145	K1147	A1148	L1149	L1150	A1151	Y1152	F1154	A1155	L1156	A1157	G1158	M1159	Q1160	D1161	K1162	L1163	K1164	E1165	V1166	L1167	K1168	S1169	L1170	M1171	E1172	E1173	A1174	V1175	K1176	K1177	D1178	M1179	S1180	V1181	H1182	H1183	E1184	R1185	P1186	Q1187	K1188	P1189	K1190	A1191	P1192	V1193	G1194	H1195	F1196		
Y1197	E1198	F1199	Q1200	A1201	P1202	S1203	A1204	E1205	V1206	E1207	M1208	T1209	S1210	Y1211	V1212	L1213	L1214	A1215	Y1216	L1217	T1218	A1219	Q1220	P1221	A1222	P1223	L1224	S1225	E1226	D1227	L1228	T1229	S1230	A1231	T1232	M1233	I1234	V1235	K1236	D1237	L1238	T1239	K1240	Q1241	Q1242	A1244	Q1245	G1246	G1247	F1248	S1249	Q1252	V1255	V1256	A1260				
L1261	K1263	G1264	A1266	A1267	T1268	F1269	T1270	R1271	T1272	G1273	K1274	A1275	A1276	Q1277	V1278	T1279	I1280	Q1281	S1282	S1283	G1284	T1285	F1286	S1287	S1288	K1289	F1290	Q1291	V1292	D1293	M1294	M1295	M1296	R1297	L1298	L1299	L1300	Q1301	Q1302	V1303	S1304	L1305	P1306	E1307	L1308	P1309	E1311	Y1312	S1313	M1314	K1315	V1316	T1317	G1318	E1319	G1320			
C1321	V1322	Y1323	L1324	Q1325	T1326	S1327	L1328	K1329	Y1330	N1331	I1332	L1333	P1334	A1335	K1336	E1337	E1338	F1339	P1340	F1341	A1342	L1343	G1344	V1345	Q1346	T1347	L1348	P1349	Q1350	T1351	C1352	D1353	E1354	P1355	K1356	A1357	H1358	T1359	S1360	F1361	Q1362	I1363	S1364	L1365	S1366	V1367	S1368	Y1369	T1370	R1373	S1374	A1375	S1376	M1377	M1378	A1379	I1380	V1381	

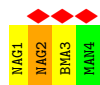
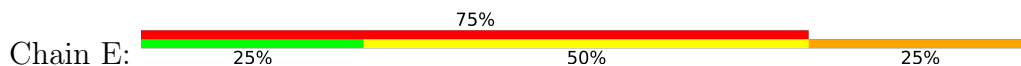


• Molecule 1: Alpha-2-macroglobulin

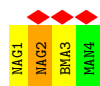
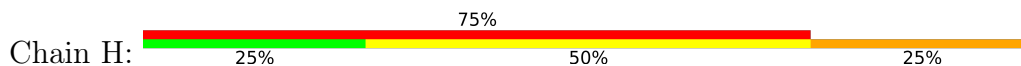




- Molecule 2: alpha-D-mannopyranose-(1-6)-beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



- Molecule 2: alpha-D-mannopyranose-(1-6)-beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



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



- Molecule 3: beta-D-mannopyranose-(1-4)-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, C2	Depositor
Number of particles used	45669	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	39.6	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3250	Depositor
Magnification	47775	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.107	Depositor
Minimum map value	-0.002	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.015	Depositor
Map size ( $\text{\AA}$ )	335.04, 335.04, 335.04	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.047, 1.047, 1.047	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: MAN, NAG, BMA

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	0.35	2/11249 (0.0%)	0.65	9/15286 (0.1%)
1	B	0.42	0/11248	0.69	4/15283 (0.0%)
1	C	0.35	2/11249 (0.0%)	0.65	9/15286 (0.1%)
1	D	0.42	0/11248	0.69	4/15283 (0.0%)
All	All	0.39	4/44994 (0.0%)	0.67	26/61138 (0.0%)

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	2
1	C	0	2
All	All	0	4

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	821	CYS	CB-SG	-7.47	1.69	1.82
1	C	821	CYS	CB-SG	-7.47	1.69	1.82
1	A	849	CYS	CB-SG	6.16	1.92	1.82
1	C	849	CYS	CB-SG	6.16	1.92	1.82

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	821	CYS	CA-CB-SG	11.47	134.64	114.00
1	C	821	CYS	CA-CB-SG	11.47	134.64	114.00
1	A	849	CYS	CA-CB-SG	7.19	126.94	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	849	CYS	CA-CB-SG	7.19	126.94	114.00
1	A	845	PRO	N-CA-C	-7.18	93.43	112.10
1	C	845	PRO	N-CA-C	-7.18	93.43	112.10
1	A	921	CYS	CA-CB-SG	6.97	126.54	114.00
1	C	921	CYS	CA-CB-SG	6.97	126.54	114.00
1	A	648	VAL	CA-CB-CG2	6.88	121.22	110.90
1	C	648	VAL	CA-CB-CG2	6.88	121.22	110.90
1	B	801	SER	N-CA-C	-6.68	92.95	111.00
1	D	801	SER	N-CA-C	-6.68	92.95	111.00
1	A	1127	CYS	CA-CB-SG	6.39	125.51	114.00
1	C	1127	CYS	CA-CB-SG	6.39	125.51	114.00
1	A	648	VAL	CG1-CB-CG2	6.28	120.95	110.90
1	C	648	VAL	CG1-CB-CG2	6.28	120.95	110.90
1	A	979	LEU	CA-CB-CG	6.20	129.55	115.30
1	C	979	LEU	CA-CB-CG	6.20	129.55	115.30
1	B	360	ARG	NE-CZ-NH1	6.07	123.33	120.30
1	D	360	ARG	NE-CZ-NH1	6.07	123.33	120.30
1	A	1080	PHE	N-CA-C	5.48	125.79	111.00
1	C	1080	PHE	N-CA-C	5.48	125.79	111.00
1	B	845	PRO	N-CA-C	-5.28	98.38	112.10
1	D	845	PRO	N-CA-C	-5.28	98.38	112.10
1	B	996	LEU	CA-CB-CG	5.16	127.16	115.30
1	D	996	LEU	CA-CB-CG	5.16	127.16	115.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	271	LYS	Mainchain
1	A	799	PRO	Mainchain
1	C	271	LYS	Mainchain
1	C	799	PRO	Mainchain

## 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	11004	0	10890	206	0
1	B	11004	0	10886	372	0
1	C	11004	0	10890	203	0
1	D	11004	0	10886	379	0
2	E	50	0	43	5	0
2	H	50	0	43	5	0
3	F	39	0	34	2	0
3	I	39	0	34	2	0
4	G	28	0	25	0	0
4	J	28	0	25	0	0
5	A	112	0	104	2	0
5	B	70	0	65	5	0
5	C	112	0	104	2	0
5	D	70	0	65	5	0
All	All	44614	0	44094	1162	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 13.

All (1162) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:396:ASN:ND2	2:H:1:NAG:C1	1.68	1.55
1:B:396:ASN:ND2	2:E:1:NAG:C1	1.68	1.50
1:B:247:ASN:HD21	5:B:2003:NAG:C1	1.31	1.42
1:D:247:ASN:HD21	5:D:2003:NAG:C1	1.31	1.40
1:B:247:ASN:ND2	5:B:2003:NAG:C1	2.15	1.08
1:D:247:ASN:ND2	5:D:2003:NAG:C1	2.15	1.07
1:B:390:GLU:O	1:B:413:ASN:ND2	2.11	0.83
1:A:597:LEU:HD11	1:A:744:VAL:HG22	1.61	0.83
1:B:1159:ASN:O	1:B:1162:LYS:NZ	2.11	0.83
1:D:390:GLU:O	1:D:413:ASN:ND2	2.11	0.83
1:D:1159:ASN:O	1:D:1162:LYS:NZ	2.11	0.82
1:C:597:LEU:HD11	1:C:744:VAL:HG22	1.61	0.82
1:A:127:SER:O	1:A:209:LYS:NZ	2.13	0.81
1:C:127:SER:O	1:C:209:LYS:NZ	2.13	0.81
1:A:809:THR:HG21	1:A:1438:PRO:HD2	1.64	0.80
1:B:1346:GLN:NE2	1:B:1348:LEU:O	2.15	0.80
1:D:1156:LEU:O	1:D:1220:GLN:NE2	2.15	0.79
1:C:809:THR:HG21	1:C:1438:PRO:HD2	1.64	0.79
1:D:910:LEU:HD22	1:D:1332:ILE:HD11	1.64	0.79
1:D:1346:GLN:NE2	1:D:1348:LEU:O	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1156:LEU:O	1:B:1220:GLN:NE2	2.15	0.79
1:B:910:LEU:HD22	1:B:1332:ILE:HD11	1.64	0.78
1:D:127:SER:O	1:D:209:LYS:NZ	2.17	0.78
1:A:360:ARG:NH1	1:A:459:VAL:O	2.17	0.78
1:D:1109:LEU:HD12	1:D:1117:THR:HG23	1.66	0.78
1:B:960:GLN:OE1	1:B:1242:GLN:NE2	2.17	0.78
1:D:960:GLN:OE1	1:D:1242:GLN:NE2	2.17	0.78
1:A:361:GLN:NE2	5:A:2005:NAG:O7	2.17	0.78
1:B:860:VAL:HG22	1:B:862:PRO:HD3	1.65	0.78
1:B:1149:LEU:O	1:B:1153:ALA:N	2.17	0.78
1:D:860:VAL:HG22	1:D:862:PRO:HD3	1.65	0.78
1:D:1420:ASP:O	1:D:1421:LYS:NZ	2.13	0.77
1:C:360:ARG:NH1	1:C:459:VAL:O	2.17	0.77
1:D:1149:LEU:O	1:D:1153:ALA:N	2.17	0.77
1:C:361:GLN:NE2	5:C:2005:NAG:O7	2.17	0.77
1:D:642:CYS:SG	1:D:643:ILE:N	2.59	0.76
1:A:353:VAL:HG21	1:A:404:LEU:HD13	1.66	0.76
1:D:94:SER:OG	1:D:96:SER:O	2.03	0.76
1:B:127:SER:O	1:B:209:LYS:NZ	2.17	0.76
1:B:400:ASP:OD1	1:B:404:LEU:N	2.19	0.76
1:B:1109:LEU:HD12	1:B:1117:THR:HG23	1.66	0.76
1:D:843:GLN:NE2	1:D:844:ALA:O	2.19	0.76
1:B:313:ARG:NH2	1:B:436:TRP:O	2.19	0.75
1:B:642:CYS:SG	1:B:643:ILE:N	2.59	0.75
1:D:1236:LYS:O	1:D:1239:THR:OG1	2.03	0.75
1:D:540:LEU:O	1:D:556:ALA:N	2.19	0.75
1:B:580:ALA:O	1:B:757:THR:OG1	2.05	0.75
1:B:843:GLN:NE2	1:B:844:ALA:O	2.19	0.75
1:C:353:VAL:HG21	1:C:404:LEU:HD13	1.66	0.75
1:D:400:ASP:OD1	1:D:404:LEU:N	2.19	0.75
1:B:540:LEU:O	1:B:556:ALA:N	2.19	0.75
1:D:313:ARG:NH2	1:D:436:TRP:O	2.19	0.75
1:D:575:SER:OG	1:D:787:ARG:O	2.04	0.75
1:B:94:SER:OG	1:B:96:SER:O	2.03	0.75
1:B:926:GLU:OE2	1:B:1315:LYS:NZ	2.18	0.75
1:B:575:SER:OG	1:B:787:ARG:O	2.04	0.74
1:A:608:LYS:NZ	1:A:609:PRO:O	2.19	0.74
1:D:564:LEU:HD11	1:D:778:LEU:HD21	1.70	0.74
1:D:773:SER:OG	1:D:775:ASP:OD1	2.03	0.74
1:B:823:ARG:HG2	1:B:846:HIS:O	1.88	0.74
1:B:564:LEU:HD11	1:B:778:LEU:HD21	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:608:LYS:NZ	1:C:609:PRO:O	2.19	0.74
1:B:1401:ARG:NH2	1:B:1428:SER:O	2.21	0.74
1:D:580:ALA:O	1:D:757:THR:OG1	2.05	0.74
1:D:1401:ARG:NH2	1:D:1428:SER:O	2.21	0.74
1:B:1420:ASP:O	1:B:1421:LYS:NZ	2.13	0.73
1:D:1293:ASP:O	1:D:1297:ARG:N	2.21	0.73
1:B:616:SER:O	1:B:620:ASN:ND2	2.21	0.73
1:D:270:ARG:NH1	1:D:309:PHE:O	2.22	0.73
1:A:539:ARG:NH1	1:A:672:ASP:O	2.21	0.73
1:B:270:ARG:NH1	1:B:309:PHE:O	2.22	0.73
1:B:1293:ASP:O	1:B:1297:ARG:N	2.21	0.73
1:C:539:ARG:NH1	1:C:672:ASP:O	2.21	0.73
1:A:976:ASN:OD1	1:A:1014:ARG:NH1	2.21	0.73
1:B:1045:VAL:O	1:B:1048:THR:N	2.22	0.73
1:D:1045:VAL:O	1:D:1048:THR:N	2.22	0.73
1:B:1236:LYS:O	1:B:1239:THR:OG1	2.03	0.73
1:B:956:GLY:O	1:B:995:GLN:NE2	2.22	0.73
1:B:825:SER:N	1:B:875:GLU:O	2.22	0.72
1:C:976:ASN:OD1	1:C:1014:ARG:NH1	2.21	0.72
1:D:616:SER:O	1:D:620:ASN:ND2	2.21	0.72
1:D:926:GLU:OE2	1:D:1315:LYS:NZ	2.18	0.72
1:D:1053:ARG:NE	1:D:1060:GLU:OE2	2.22	0.72
1:C:580:ALA:O	1:C:757:THR:OG1	2.05	0.72
1:B:1053:ARG:NE	1:B:1060:GLU:OE2	2.22	0.72
1:A:281:GLU:OE1	1:B:314:LYS:NZ	2.23	0.72
1:D:956:GLY:O	1:D:995:GLN:NE2	2.22	0.72
1:A:823:ARG:NH1	1:A:846:HIS:O	2.23	0.72
1:B:492:LYS:NZ	1:B:513:LEU:O	2.22	0.72
1:D:492:LYS:NZ	1:D:513:LEU:O	2.22	0.72
1:D:802:VAL:O	1:D:906:GLU:N	2.23	0.72
1:D:825:SER:N	1:D:875:GLU:O	2.22	0.72
1:D:823:ARG:HG2	1:D:846:HIS:O	1.88	0.71
1:C:800:TYR:O	1:C:802:VAL:HG13	1.91	0.71
1:C:823:ARG:NH1	1:C:846:HIS:O	2.23	0.71
1:C:843:GLN:NE2	1:C:844:ALA:O	2.23	0.71
1:A:912:LYS:HE2	1:A:1184:GLU:HB3	1.71	0.71
1:A:800:TYR:O	1:A:802:VAL:HG13	1.91	0.71
1:B:802:VAL:O	1:B:906:GLU:N	2.23	0.71
1:C:281:GLU:OE1	1:D:314:LYS:NZ	2.23	0.71
1:A:843:GLN:NE2	1:A:844:ALA:O	2.23	0.71
1:C:912:LYS:HE2	1:C:1184:GLU:HB3	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:96:SER:O	1:D:124:ASN:ND2	2.24	0.70
1:D:578:LEU:O	1:D:757:THR:HG21	1.91	0.70
1:B:96:SER:O	1:B:124:ASN:ND2	2.24	0.70
1:B:578:LEU:O	1:B:757:THR:HG21	1.91	0.70
1:C:262:GLY:O	1:C:293:GLN:NE2	2.25	0.70
1:C:915:THR:OG1	1:C:1326:THR:O	2.05	0.70
1:D:1178:ASP:OD2	1:D:1182:HIS:NE2	2.24	0.70
1:B:1237:TRP:O	1:B:1241:GLN:N	2.25	0.70
1:A:262:GLY:O	1:A:293:GLN:NE2	2.25	0.70
1:B:975:GLN:OE1	1:B:1407:ARG:NH1	2.25	0.70
1:A:580:ALA:O	1:A:757:THR:OG1	2.05	0.69
1:B:599:ALA:HB3	1:B:740:ILE:HB	1.74	0.69
1:D:975:GLN:OE1	1:D:1407:ARG:NH1	2.25	0.69
1:A:915:THR:OG1	1:A:1326:THR:O	2.05	0.69
1:C:270:ARG:NE	1:C:316:TYR:O	2.21	0.69
1:B:1178:ASP:OD2	1:B:1182:HIS:NE2	2.24	0.69
1:B:1384:LYS:H	1:B:1447:VAL:HG11	1.58	0.69
1:A:540:LEU:O	1:A:556:ALA:N	2.26	0.69
1:B:614:SER:O	1:B:617:SER:OG	2.07	0.69
1:B:1372:SER:HB3	1:B:1422:VAL:HG21	1.75	0.69
1:C:540:LEU:O	1:C:556:ALA:N	2.26	0.69
1:C:1213:LEU:HD23	1:C:1260:ALA:HA	1.75	0.69
1:D:1384:LYS:H	1:D:1447:VAL:HG11	1.58	0.69
1:A:1213:LEU:HD23	1:A:1260:ALA:HA	1.75	0.69
1:D:599:ALA:HB3	1:D:740:ILE:HB	1.74	0.69
1:B:773:SER:OG	1:B:775:ASP:OD1	2.03	0.69
1:C:1097:ASP:O	1:C:1100:THR:OG1	2.07	0.69
1:D:1237:TRP:O	1:D:1241:GLN:N	2.25	0.68
1:A:96:SER:O	1:A:124:ASN:ND2	2.26	0.68
1:A:1097:ASP:O	1:A:1100:THR:OG1	2.07	0.68
1:D:1372:SER:HB3	1:D:1422:VAL:HG21	1.75	0.68
1:B:603:SER:OG	1:B:764:GLU:OE1	2.12	0.68
1:C:295:ASN:ND2	1:C:297:HIS:O	2.27	0.68
1:D:603:SER:OG	1:D:764:GLU:OE1	2.12	0.68
1:D:231:VAL:HG23	1:D:335:LEU:HD13	1.76	0.68
1:A:270:ARG:NE	1:A:316:TYR:O	2.21	0.68
1:B:231:VAL:HG23	1:B:335:LEU:HD13	1.76	0.68
1:A:295:ASN:ND2	1:A:297:HIS:O	2.27	0.68
1:C:96:SER:O	1:C:124:ASN:ND2	2.26	0.68
1:B:597:LEU:HD11	1:B:744:VAL:HG22	1.76	0.67
1:C:390:GLU:O	1:C:413:ASN:ND2	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:348:THR:OG1	1:B:441:HIS:ND1	2.27	0.67
1:A:390:GLU:O	1:A:413:ASN:ND2	2.27	0.67
1:D:563:CYS:O	1:D:619:TYR:OH	2.12	0.67
1:D:823:ARG:NH1	1:D:846:HIS:O	2.27	0.67
1:B:823:ARG:NH1	1:B:846:HIS:O	2.27	0.67
1:D:348:THR:OG1	1:D:441:HIS:ND1	2.27	0.67
1:D:1207:GLU:O	1:D:1210:SER:OG	2.12	0.67
1:D:597:LEU:HD11	1:D:744:VAL:HG22	1.76	0.67
1:B:563:CYS:O	1:B:619:TYR:OH	2.12	0.67
1:B:1207:GLU:O	1:B:1210:SER:OG	2.12	0.67
1:D:981:ALA:HB3	1:D:982:PRO:HD3	1.77	0.66
1:B:902:PRO:HG3	5:B:2004:NAG:H61	1.78	0.66
1:B:981:ALA:HB3	1:B:982:PRO:HD3	1.77	0.66
1:D:385:PHE:N	1:D:422:ARG:O	2.29	0.66
1:A:860:VAL:HG22	1:A:862:PRO:HD3	1.78	0.66
1:D:1344:GLY:O	1:D:1366:SER:N	2.29	0.66
1:C:860:VAL:HG22	1:C:862:PRO:HD3	1.78	0.66
1:A:270:ARG:O	1:A:285:ALA:N	2.29	0.66
1:B:647:ASN:ND2	1:C:412:THR:O	2.29	0.66
1:C:270:ARG:O	1:C:285:ALA:N	2.29	0.66
1:D:614:SER:O	1:D:617:SER:OG	2.07	0.66
1:D:1094:GLY:N	1:D:1375:ALA:O	2.29	0.66
1:D:1397:LYS:HZ3	1:D:1429:LEU:HD22	1.59	0.66
1:B:692:LEU:O	1:B:694:GLN:NE2	2.29	0.66
1:D:902:PRO:HG3	5:D:2004:NAG:H61	1.78	0.65
1:D:692:LEU:O	1:D:694:GLN:NE2	2.29	0.65
1:A:412:THR:O	1:D:647:ASN:ND2	2.29	0.65
1:B:1344:GLY:O	1:B:1366:SER:N	2.29	0.65
1:A:136:SER:O	1:A:220:THR:N	2.30	0.65
1:D:1166:VAL:O	1:D:1169:SER:OG	2.15	0.65
1:B:385:PHE:N	1:B:422:ARG:O	2.29	0.65
1:C:825:SER:N	1:C:875:GLU:O	2.30	0.65
1:B:363:ILE:O	1:B:411:THR:HG21	1.97	0.64
1:B:1094:GLY:N	1:B:1375:ALA:O	2.29	0.64
1:B:1098:GLU:O	1:B:1102:SER:N	2.30	0.64
1:D:363:ILE:O	1:D:411:THR:HG21	1.97	0.64
1:A:825:SER:N	1:A:875:GLU:O	2.30	0.64
1:D:493:LEU:HD21	1:D:547:PRO:HD3	1.79	0.64
1:A:1228:LEU:O	1:A:1232:THR:HG23	1.97	0.64
1:B:94:SER:OG	1:B:124:ASN:ND2	2.31	0.64
1:C:281:GLU:OE2	1:D:438:SER:N	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:195:SER:N	1:C:963:GLN:OE1	2.31	0.64
1:B:493:LEU:HD21	1:B:547:PRO:HD3	1.79	0.64
1:C:1228:LEU:O	1:C:1232:THR:HG23	1.97	0.64
1:C:136:SER:O	1:C:220:THR:N	2.30	0.64
1:D:1004:ALA:O	1:D:1008:LEU:N	2.30	0.64
1:B:1397:LYS:HZ3	1:B:1429:LEU:HD22	1.62	0.64
1:B:1118:HIS:O	1:B:1121:VAL:HG22	1.99	0.63
1:D:934:LYS:NZ	1:D:1308:LEU:O	2.20	0.63
1:D:1098:GLU:O	1:D:1102:SER:N	2.30	0.63
1:D:1118:HIS:O	1:D:1121:VAL:HG22	1.99	0.63
1:B:1435:GLN:NE2	1:B:1437:VAL:O	2.31	0.63
1:D:1435:GLN:NE2	1:D:1437:VAL:O	2.31	0.63
1:A:119:THR:O	1:A:676:LYS:NZ	2.32	0.63
1:A:281:GLU:OE2	1:B:438:SER:N	2.30	0.63
1:B:159:ASN:OD1	1:B:186:GLY:N	2.31	0.63
1:D:1338:GLU:OE1	1:D:1338:GLU:N	2.32	0.63
1:B:1338:GLU:N	1:B:1338:GLU:OE1	2.32	0.63
1:B:314:LYS:NZ	1:B:437:VAL:HG12	2.13	0.63
1:D:314:LYS:NZ	1:D:437:VAL:HG12	2.13	0.63
1:D:473:THR:HG1	1:D:527:SER:HG	1.45	0.63
1:A:195:SER:N	1:A:963:GLN:OE1	2.31	0.63
1:B:1166:VAL:O	1:B:1169:SER:OG	2.15	0.63
1:D:94:SER:OG	1:D:124:ASN:ND2	2.31	0.63
1:B:1174:ALA:HB3	1:B:1196:PHE:CE2	2.34	0.62
1:D:765:TRP:O	1:D:786:LEU:N	2.31	0.62
1:A:195:SER:OG	1:A:1244:ALA:O	2.16	0.62
1:B:1132:TRP:O	1:B:1136:GLN:N	2.32	0.62
1:B:1406:SER:OG	1:B:1417:ILE:HD12	2.00	0.62
1:C:351:SER:O	1:C:369:VAL:HG13	2.00	0.62
1:D:1132:TRP:O	1:D:1136:GLN:N	2.32	0.62
1:D:1363:ILE:HG22	1:D:1365:LEU:HD11	1.81	0.62
1:B:1048:THR:O	1:B:1052:ALA:N	2.33	0.62
1:C:616:SER:O	1:C:620:ASN:ND2	2.33	0.62
1:C:195:SER:OG	1:C:1244:ALA:O	2.16	0.62
1:B:247:ASN:HD21	5:B:2003:NAG:C2	2.10	0.62
1:C:1177:LYS:N	1:C:1180:SER:O	2.32	0.62
1:D:1091:ILE:HG23	1:D:1092:LYS:HG2	1.82	0.62
1:D:247:ASN:HD21	5:D:2003:NAG:C2	2.10	0.62
1:D:491:LYS:HA	1:D:515:VAL:HG13	1.82	0.62
1:D:1406:SER:OG	1:D:1417:ILE:HD12	2.00	0.62
1:D:159:ASN:OD1	1:D:186:GLY:N	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1174:ALA:HB3	1:D:1196:PHE:CE2	2.34	0.61
1:B:668:SER:O	1:B:672:ASP:N	2.32	0.61
1:B:1020:HIS:N	1:B:1024:SER:O	2.33	0.61
1:C:119:THR:O	1:C:676:LYS:NZ	2.32	0.61
1:C:599:ALA:HB3	1:C:740:ILE:HG13	1.82	0.61
1:D:668:SER:O	1:D:672:ASP:N	2.32	0.61
1:D:1048:THR:O	1:D:1052:ALA:N	2.33	0.61
1:A:599:ALA:HB3	1:A:740:ILE:HG13	1.82	0.61
1:A:616:SER:O	1:A:620:ASN:ND2	2.33	0.61
1:B:1004:ALA:O	1:B:1008:LEU:N	2.30	0.61
1:A:963:GLN:O	1:A:1244:ALA:HB1	1.99	0.61
1:B:765:TRP:O	1:B:786:LEU:N	2.31	0.61
1:B:1363:ILE:HG22	1:B:1365:LEU:HD11	1.81	0.61
1:C:963:GLN:O	1:C:1244:ALA:HB1	1.99	0.61
1:A:351:SER:O	1:A:369:VAL:HG13	2.00	0.61
1:A:1059:ASP:OD1	1:A:1062:HIS:N	2.33	0.61
1:B:396:ASN:CG	2:E:1:NAG:C1	2.61	0.61
1:B:603:SER:OG	1:B:763:THR:OG1	2.17	0.61
1:B:1125:LEU:O	1:B:1129:GLU:N	2.34	0.61
1:D:1020:HIS:N	1:D:1024:SER:O	2.33	0.61
1:B:491:LYS:HA	1:B:515:VAL:HG13	1.82	0.61
1:B:564:LEU:HD11	1:B:778:LEU:CD2	2.31	0.60
1:A:1128:LEU:HD23	1:A:1128:LEU:O	2.01	0.60
1:A:1177:LYS:N	1:A:1180:SER:O	2.32	0.60
1:B:1091:ILE:HG23	1:B:1092:LYS:HG2	1.82	0.60
1:C:1128:LEU:HD23	1:C:1128:LEU:O	2.01	0.60
1:A:404:LEU:O	1:A:406:GLN:NE2	2.35	0.60
1:D:396:ASN:CG	2:H:1:NAG:C1	2.61	0.60
1:B:596:ALA:N	1:B:770:PHE:O	2.34	0.60
1:B:1347:THR:HA	1:B:1363:ILE:HG23	1.83	0.60
1:D:564:LEU:HD11	1:D:778:LEU:CD2	2.31	0.60
1:D:816:ASN:ND2	1:D:820:LYS:O	2.35	0.60
1:D:1169:SER:O	1:D:1173:GLU:N	2.35	0.60
1:C:96:SER:OG	1:C:97:ASN:N	2.35	0.60
1:D:571:SER:O	1:D:586:ARG:N	2.35	0.60
1:C:30:GLN:O	1:C:51:LEU:HD12	2.01	0.60
1:A:96:SER:OG	1:A:97:ASN:N	2.35	0.60
1:A:30:GLN:O	1:A:51:LEU:HD12	2.01	0.59
1:B:1169:SER:O	1:B:1173:GLU:N	2.35	0.59
1:C:626:ASP:OD1	1:C:628:THR:OG1	2.18	0.59
1:D:182:GLN:NE2	1:D:183:LEU:O	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:501:ALA:N	1:D:504:GLY:O	2.35	0.59
1:B:571:SER:O	1:B:586:ARG:N	2.35	0.59
1:D:603:SER:OG	1:D:763:THR:OG1	2.17	0.59
1:A:571:SER:O	1:A:586:ARG:N	2.35	0.59
1:C:555:SER:OG	1:C:672:ASP:OD1	2.21	0.59
1:A:928:SER:OG	1:A:1314:MET:O	2.12	0.59
1:B:816:ASN:ND2	1:B:820:LYS:O	2.35	0.59
1:D:570:LEU:HD21	1:D:784:ALA:HB3	1.84	0.59
1:D:596:ALA:N	1:D:770:PHE:O	2.34	0.59
1:C:1059:ASP:OD1	1:C:1062:HIS:N	2.33	0.59
1:D:836:ALA:HA	1:D:860:VAL:HG23	1.85	0.59
2:E:2:NAG:H3	2:E:2:NAG:C8	2.32	0.59
2:H:2:NAG:C8	2:H:2:NAG:H3	2.32	0.59
1:A:1346:GLN:NE2	1:A:1348:LEU:O	2.36	0.59
1:B:570:LEU:HD21	1:B:784:ALA:HB3	1.84	0.59
1:B:836:ALA:HA	1:B:860:VAL:HG23	1.85	0.59
1:D:1347:THR:HA	1:D:1363:ILE:HG23	1.83	0.59
1:B:1372:SER:HB2	1:B:1422:VAL:HG11	1.85	0.59
1:C:404:LEU:O	1:C:406:GLN:NE2	2.35	0.59
1:C:1346:GLN:NE2	1:C:1348:LEU:O	2.36	0.59
1:B:182:GLN:NE2	1:B:183:LEU:O	2.35	0.58
1:B:1168:LYS:O	1:B:1172:GLU:N	2.33	0.58
1:C:571:SER:O	1:C:586:ARG:N	2.35	0.58
1:B:501:ALA:N	1:B:504:GLY:O	2.35	0.58
1:B:799:PRO:HB2	1:B:802:VAL:HG11	1.85	0.58
1:B:912:LYS:HD2	1:B:1332:ILE:HD13	1.85	0.58
1:D:1372:SER:HB2	1:D:1422:VAL:HG11	1.85	0.58
1:D:73:LEU:HD12	1:D:91:VAL:HG12	1.86	0.58
1:D:1176:LYS:HB3	1:D:1181:VAL:HG13	1.85	0.58
1:D:1291:GLN:N	1:D:1291:GLN:OE1	2.37	0.58
1:B:73:LEU:HD12	1:B:91:VAL:HG12	1.86	0.58
1:D:129:VAL:HG23	1:D:215:THR:HG21	1.85	0.58
1:B:1291:GLN:OE1	1:B:1291:GLN:N	2.37	0.58
1:C:1106:THR:HG21	1:C:1124:ALA:HB3	1.86	0.58
1:D:912:LYS:HD2	1:D:1332:ILE:HD13	1.85	0.58
1:A:555:SER:OG	1:A:672:ASP:OD1	2.21	0.58
1:C:418:SER:OG	1:C:445:HIS:NE2	2.37	0.58
1:C:959:MET:SD	1:C:959:MET:N	2.76	0.57
1:D:578:LEU:HD13	1:D:790:GLN:HB2	1.86	0.57
1:A:599:ALA:HB3	1:A:740:ILE:CG1	2.34	0.57
1:C:129:VAL:HG23	1:C:215:THR:HG21	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:599:ALA:HB3	1:C:740:ILE:CG1	2.34	0.57
1:D:1125:LEU:O	1:D:1129:GLU:N	2.34	0.57
1:D:37:SER:OG	1:D:121:MET:N	2.36	0.57
1:D:411:THR:OG1	3:I:1:NAG:O7	2.22	0.57
1:B:129:VAL:HG23	1:B:215:THR:HG21	1.85	0.57
1:B:1372:SER:CB	1:B:1422:VAL:HG21	2.34	0.57
1:B:984:ILE:HG21	1:B:1045:VAL:HG23	1.85	0.57
1:A:1106:THR:HG21	1:A:1124:ALA:HB3	1.86	0.57
1:D:984:ILE:HG21	1:D:1045:VAL:HG23	1.85	0.57
1:B:931:LEU:O	1:B:1312:TYR:N	2.37	0.57
1:D:1168:LYS:O	1:D:1172:GLU:N	2.33	0.57
1:A:418:SER:OG	1:A:445:HIS:NE2	2.37	0.57
1:D:794:VAL:HG22	1:D:814:VAL:HG22	1.86	0.57
1:D:1372:SER:CB	1:D:1422:VAL:HG21	2.34	0.57
1:A:626:ASP:OD1	1:A:628:THR:OG1	2.18	0.57
1:B:666:MET:CE	1:B:670:LEU:HD21	2.35	0.56
1:B:1176:LYS:HB3	1:B:1181:VAL:HG13	1.85	0.56
1:C:912:LYS:CE	1:C:1184:GLU:HB3	2.36	0.56
1:D:931:LEU:O	1:D:1312:TYR:N	2.37	0.56
1:A:129:VAL:HG23	1:A:215:THR:HG21	1.86	0.56
1:A:959:MET:SD	1:A:959:MET:N	2.76	0.56
1:A:1020:HIS:N	1:A:1024:SER:O	2.38	0.56
1:B:39:LEU:HD12	1:B:122:VAL:HG12	1.86	0.56
1:B:794:VAL:HG22	1:B:814:VAL:HG22	1.86	0.56
1:C:1127:CYS:O	1:C:1130:SER:OG	2.18	0.56
1:D:39:LEU:HD12	1:D:122:VAL:HG12	1.86	0.56
1:D:666:MET:CE	1:D:670:LEU:HD21	2.35	0.56
1:D:799:PRO:HB2	1:D:802:VAL:HG11	1.85	0.56
1:B:578:LEU:HD13	1:B:790:GLN:HB2	1.86	0.56
1:C:1020:HIS:N	1:C:1024:SER:O	2.38	0.56
1:D:1213:LEU:HD23	1:D:1260:ALA:HA	1.88	0.56
1:B:480:TYR:CZ	1:B:513:LEU:HD21	2.41	0.56
1:B:614:SER:OG	1:B:617:SER:N	2.36	0.56
1:C:614:SER:O	1:C:617:SER:OG	2.23	0.56
1:D:267:SER:HG	1:D:321:HIS:CD2	2.22	0.56
1:D:952:GLY:N	1:D:1297:ARG:O	2.38	0.56
1:A:534:ILE:HG23	1:A:560:VAL:HG11	1.88	0.56
1:B:37:SER:OG	1:B:121:MET:N	2.36	0.56
1:B:152:ASP:OD2	1:B:154:ASN:N	2.39	0.56
1:D:1128:LEU:HD22	1:D:1150:LEU:HD21	1.88	0.56
1:B:578:LEU:HD11	1:B:762:ILE:CG2	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1407:ARG:CG	1:D:1419:LEU:HD21	2.36	0.56
1:B:915:THR:HG21	1:B:1177:LYS:NZ	2.21	0.56
1:C:323:GLU:OE1	1:C:324:ALA:N	2.39	0.56
1:D:578:LEU:HD11	1:D:762:ILE:CG2	2.36	0.56
1:B:952:GLY:N	1:B:1297:ARG:O	2.38	0.55
1:B:1407:ARG:CG	1:B:1419:LEU:HD21	2.36	0.55
1:D:1128:LEU:O	1:D:1128:LEU:HD23	2.07	0.55
1:D:915:THR:HG21	1:D:1177:LYS:NZ	2.21	0.55
1:B:267:SER:HG	1:B:321:HIS:CD2	2.22	0.55
1:C:809:THR:HG23	1:C:809:THR:O	2.07	0.55
1:C:1347:THR:HA	1:C:1363:ILE:HG23	1.88	0.55
1:D:1058:ILE:HD11	1:D:1062:HIS:HB3	1.88	0.55
1:A:323:GLU:OE1	1:A:324:ALA:N	2.39	0.55
1:A:912:LYS:CE	1:A:1184:GLU:HB3	2.36	0.55
1:B:468:LEU:N	1:B:561:GLU:OE1	2.40	0.55
1:D:370:ARG:HB3	1:D:404:LEU:HD23	1.89	0.55
1:B:959:MET:SD	1:B:959:MET:N	2.80	0.55
1:B:1213:LEU:HD23	1:B:1260:ALA:HA	1.88	0.55
1:C:679:THR:HG22	1:C:681:SER:H	1.72	0.55
1:D:372:VAL:HG23	1:D:376:GLY:HA2	1.89	0.55
1:D:813:THR:HG22	1:D:854:GLN:O	2.07	0.55
1:D:959:MET:SD	1:D:959:MET:N	2.80	0.55
1:D:1364:SER:C	1:D:1365:LEU:HD12	2.26	0.55
1:A:578:LEU:HD11	1:A:762:ILE:CG2	2.36	0.55
1:B:1128:LEU:HD22	1:B:1150:LEU:HD21	1.88	0.55
1:D:874:ALA:O	1:D:897:ASP:N	2.40	0.55
1:B:1364:SER:C	1:B:1365:LEU:HD12	2.26	0.55
1:D:66:SER:OG	1:D:67:VAL:N	2.40	0.55
1:D:152:ASP:OD2	1:D:154:ASN:N	2.39	0.55
1:A:1344:GLY:O	1:A:1366:SER:N	2.39	0.55
1:B:1151:ALA:CB	1:B:1215:ALA:HB1	2.37	0.55
1:B:411:THR:OG1	3:F:1:NAG:O7	2.22	0.55
1:C:578:LEU:HD11	1:C:762:ILE:CG2	2.36	0.55
1:D:480:TYR:CZ	1:D:513:LEU:HD21	2.41	0.55
1:D:614:SER:OG	1:D:617:SER:N	2.36	0.55
1:A:347:ILE:HG22	1:A:348:THR:HG23	1.89	0.55
1:A:799:PRO:O	1:A:800:TYR:HB2	2.07	0.55
1:C:347:ILE:HG22	1:C:348:THR:HG23	1.89	0.55
1:D:881:GLU:N	1:D:881:GLU:OE1	2.40	0.55
1:D:1264:TYR:O	1:D:1267:ALA:N	2.40	0.55
1:D:910:LEU:O	1:D:1332:ILE:N	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:799:PRO:O	1:C:800:TYR:HB2	2.07	0.54
1:D:1151:ALA:CB	1:D:1215:ALA:HB1	2.37	0.54
1:A:809:THR:HG23	1:A:809:THR:O	2.07	0.54
1:B:372:VAL:HG23	1:B:376:GLY:HA2	1.89	0.54
1:B:571:SER:N	1:B:586:ARG:O	2.41	0.54
1:B:733:LYS:NZ	1:B:734:TYR:O	2.34	0.54
1:D:314:LYS:HZ1	1:D:437:VAL:HG12	1.70	0.54
1:D:373:ASP:OD1	1:D:373:ASP:N	2.40	0.54
1:D:1250:SER:OG	1:D:1251:THR:N	2.41	0.54
1:B:370:ARG:HB3	1:B:404:LEU:HD23	1.89	0.54
1:C:534:ILE:HG23	1:C:560:VAL:HG11	1.88	0.54
1:A:47:GLY:O	1:A:87:VAL:N	2.40	0.54
1:B:813:THR:HG22	1:B:854:GLN:O	2.07	0.54
1:D:571:SER:N	1:D:586:ARG:O	2.41	0.54
1:B:66:SER:OG	1:B:67:VAL:N	2.40	0.54
1:B:387:ARG:HB2	1:B:420:THR:HG23	1.90	0.54
1:B:1059:ASP:OD1	1:B:1062:HIS:N	2.41	0.54
1:B:1128:LEU:O	1:B:1128:LEU:HD23	2.07	0.54
1:C:60:VAL:HG12	1:C:107:VAL:HA	1.89	0.54
1:A:845:PRO:HG2	1:A:856:VAL:HG13	1.90	0.54
1:B:874:ALA:O	1:B:897:ASP:N	2.40	0.54
1:B:1264:TYR:O	1:B:1267:ALA:N	2.40	0.54
1:D:1229:THR:HG21	1:D:1322:VAL:HG23	1.90	0.54
1:A:272:TYR:HB2	1:A:275:ALA:HB2	1.90	0.54
1:C:1344:GLY:O	1:C:1366:SER:N	2.39	0.54
1:D:468:LEU:N	1:D:561:GLU:OE1	2.40	0.54
1:A:60:VAL:HG12	1:A:107:VAL:HA	1.89	0.54
1:B:230:GLU:OE1	1:B:732:ARG:NH2	2.41	0.54
1:B:568:VAL:HG23	1:B:589:ALA:HB2	1.90	0.54
1:B:1128:LEU:O	1:B:1132:TRP:N	2.41	0.54
1:D:288:GLU:OE1	1:D:288:GLU:N	2.41	0.54
1:B:1250:SER:OG	1:B:1251:THR:N	2.41	0.53
1:C:272:TYR:HB2	1:C:275:ALA:HB2	1.90	0.53
1:C:845:PRO:HG2	1:C:856:VAL:HG13	1.90	0.53
1:C:1440:ARG:NH2	1:C:1443:LYS:O	2.41	0.53
1:D:387:ARG:HB2	1:D:420:THR:HG23	1.90	0.53
1:D:1128:LEU:O	1:D:1132:TRP:N	2.41	0.53
1:A:269:CYS:SG	1:A:289:LYS:NZ	2.80	0.53
1:A:679:THR:HG22	1:A:681:SER:H	1.72	0.53
1:B:271:LYS:N	1:B:317:GLU:O	2.41	0.53
1:B:534:ILE:HG23	1:B:560:VAL:HG11	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:230:GLU:OE1	1:D:732:ARG:NH2	2.41	0.53
1:D:534:ILE:HG23	1:D:560:VAL:HG11	1.90	0.53
1:D:568:VAL:CG2	1:D:589:ALA:HB2	2.39	0.53
1:B:881:GLU:N	1:B:881:GLU:OE1	2.40	0.53
1:B:1058:ILE:HD11	1:B:1062:HIS:HB3	1.88	0.53
1:D:1047:LYS:NZ	1:D:1111:GLU:OE2	2.29	0.53
1:B:373:ASP:OD1	1:B:373:ASP:N	2.40	0.53
1:D:1174:ALA:HB3	1:D:1196:PHE:HE2	1.74	0.53
1:A:836:ALA:HA	1:A:860:VAL:HG23	1.89	0.53
1:D:763:THR:OG1	1:D:764:GLU:N	2.42	0.53
1:A:94:SER:OG	1:A:124:ASN:ND2	2.42	0.53
1:A:1341:PHE:O	1:A:1461:ALA:HB2	2.09	0.53
1:A:1347:THR:HA	1:A:1363:ILE:HG23	1.88	0.53
1:B:409:ILE:CD1	1:B:419:LEU:HD21	2.39	0.53
1:D:350:LEU:HB3	1:D:371:LEU:HD13	1.90	0.53
1:A:620:ASN:O	1:A:625:LYS:NZ	2.39	0.53
1:B:608:LYS:HZ1	1:B:611:ALA:HB3	1.73	0.53
1:B:1229:THR:HG21	1:B:1322:VAL:HG23	1.90	0.53
1:C:269:CYS:SG	1:C:289:LYS:NZ	2.80	0.53
1:A:1440:ARG:NH2	1:A:1443:LYS:O	2.41	0.53
1:C:94:SER:OG	1:C:124:ASN:ND2	2.42	0.53
1:D:319:LYS:NZ	1:D:341:SER:OG	2.42	0.53
1:D:409:ILE:CD1	1:D:419:LEU:HD21	2.39	0.53
1:D:976:ASN:ND2	1:D:1018:TYR:OH	2.42	0.53
1:B:288:GLU:N	1:B:288:GLU:OE1	2.41	0.53
1:B:319:LYS:NZ	1:B:341:SER:OG	2.42	0.53
1:B:1367:VAL:O	1:B:1426:THR:OG1	2.23	0.53
1:C:1086:LEU:HG	1:C:1374:SER:HB2	1.91	0.53
1:D:568:VAL:HG23	1:D:589:ALA:HB2	1.90	0.53
1:D:1252:GLN:O	1:D:1255:VAL:HG22	2.09	0.53
1:B:976:ASN:ND2	1:B:1018:TYR:OH	2.42	0.53
1:C:189:GLN:OE1	1:C:189:GLN:N	2.41	0.53
1:A:1086:LEU:HG	1:A:1374:SER:HB2	1.91	0.52
1:C:268:ILE:HG22	1:C:320:LEU:HA	1.90	0.52
1:D:1393:LYS:NZ	1:D:1430:PHE:O	2.42	0.52
1:B:52:SER:OG	1:B:53:TYR:N	2.43	0.52
1:B:167:ILE:HD12	1:B:176:ALA:HB3	1.91	0.52
1:B:1252:GLN:O	1:B:1255:VAL:HG22	2.09	0.52
1:D:167:ILE:HD12	1:D:176:ALA:HB3	1.91	0.52
1:C:1341:PHE:O	1:C:1461:ALA:HB2	2.09	0.52
1:D:733:LYS:NZ	1:D:734:TYR:O	2.34	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:268:ILE:HG22	1:A:320:LEU:HA	1.90	0.52
1:B:568:VAL:CG2	1:B:589:ALA:HB2	2.39	0.52
1:D:980:PHE:CE1	1:D:1041:LEU:HD23	2.45	0.52
1:B:473:THR:HG1	1:B:527:SER:HG	1.53	0.52
1:C:47:GLY:O	1:C:87:VAL:N	2.40	0.52
1:D:1059:ASP:OD1	1:D:1062:HIS:N	2.41	0.52
1:A:645:ARG:HG2	1:A:648:VAL:HG22	1.92	0.52
1:B:980:PHE:CE1	1:B:1041:LEU:HD23	2.45	0.52
1:D:52:SER:OG	1:D:53:TYR:N	2.43	0.52
1:C:836:ALA:HA	1:C:860:VAL:HG23	1.89	0.52
1:B:111:THR:HG23	1:B:112:GLN:HG2	1.92	0.52
1:B:350:LEU:HB3	1:B:371:LEU:HD13	1.90	0.52
1:D:240:THR:OG1	1:D:347:ILE:HG23	2.10	0.52
1:D:271:LYS:N	1:D:317:GLU:O	2.41	0.52
1:D:928:SER:OG	1:D:929:GLU:N	2.43	0.52
1:D:1106:THR:HG21	1:D:1124:ALA:HB3	1.92	0.52
1:B:325:GLN:HA	1:B:332:VAL:HG13	1.92	0.52
1:B:998:PRO:O	1:B:1002:SER:N	2.42	0.52
1:B:1191:ALA:HB3	1:B:1192:PRO:HD3	1.92	0.52
1:C:271:LYS:HG3	1:C:272:TYR:H	1.75	0.52
1:A:243:GLU:O	1:A:306:THR:OG1	2.28	0.52
1:B:763:THR:OG1	1:B:764:GLU:N	2.42	0.52
1:D:325:GLN:HA	1:D:332:VAL:HG13	1.92	0.52
1:D:347:ILE:O	1:D:348:THR:OG1	2.28	0.52
1:D:947:SER:OG	1:D:948:VAL:N	2.42	0.52
1:A:271:LYS:HG3	1:A:272:TYR:H	1.75	0.51
1:A:387:ARG:HB2	1:A:423:VAL:HG11	1.92	0.51
1:B:314:LYS:HZ1	1:B:437:VAL:HG12	1.74	0.51
1:B:599:ALA:O	1:B:740:ILE:N	2.41	0.51
1:B:928:SER:OG	1:B:929:GLU:N	2.43	0.51
1:B:240:THR:OG1	1:B:347:ILE:HG23	2.10	0.51
1:B:409:ILE:HD13	1:B:419:LEU:HD21	1.93	0.51
1:B:415:MET:SD	1:B:416:GLY:N	2.84	0.51
1:D:68:ARG:NH2	1:D:70:ASN:OD1	2.44	0.51
1:D:415:MET:SD	1:D:416:GLY:N	2.84	0.51
1:B:746:VAL:HG22	1:B:747:ASN:O	2.11	0.51
1:C:1278:VAL:N	1:C:1290:PHE:O	2.44	0.51
1:D:998:PRO:O	1:D:1002:SER:N	2.42	0.51
1:D:1191:ALA:HB3	1:D:1192:PRO:HD3	1.92	0.51
1:D:1416:LEU:O	1:D:1417:ILE:HD13	2.11	0.51
1:A:167:ILE:HD12	1:A:176:ALA:CB	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:910:LEU:O	1:B:1332:ILE:N	2.37	0.51
1:B:1416:LEU:O	1:B:1417:ILE:HD13	2.11	0.51
1:B:593:SER:OG	1:B:594:VAL:N	2.44	0.51
1:B:947:SER:OG	1:B:948:VAL:N	2.42	0.51
1:D:167:ILE:HB	1:D:176:ALA:HB3	1.92	0.51
1:B:167:ILE:HD12	1:B:176:ALA:CB	2.41	0.51
1:B:265:THR:HG23	1:B:323:GLU:HB2	1.93	0.51
1:C:645:ARG:HG2	1:C:648:VAL:HG22	1.92	0.51
1:D:409:ILE:HD13	1:D:419:LEU:HD21	1.93	0.51
1:D:535:ALA:O	1:D:560:VAL:HG21	2.11	0.51
1:D:794:VAL:HG21	1:D:899:VAL:HG21	1.93	0.51
1:D:1367:VAL:O	1:D:1426:THR:OG1	2.23	0.51
1:B:1106:THR:HG21	1:B:1124:ALA:HB3	1.92	0.51
1:A:189:GLN:OE1	1:A:189:GLN:N	2.41	0.51
1:B:1393:LYS:NZ	1:B:1430:PHE:O	2.42	0.51
1:D:1185:ARG:HD3	1:D:1196:PHE:HB2	1.93	0.51
1:A:173:ASN:OD1	1:A:173:ASN:N	2.44	0.50
1:A:614:SER:O	1:A:617:SER:OG	2.23	0.50
1:A:51:LEU:O	1:A:82:ASP:N	2.44	0.50
1:B:535:ALA:O	1:B:560:VAL:HG21	2.11	0.50
1:C:1336:LYS:NZ	1:C:1337:GLU:OE1	2.36	0.50
1:D:746:VAL:HG22	1:D:747:ASN:O	2.11	0.50
1:D:1161:ASP:OD1	1:D:1161:ASP:N	2.43	0.50
1:D:1415:VAL:C	1:D:1416:LEU:HD12	2.32	0.50
1:A:80:GLU:N	1:A:80:GLU:OE1	2.45	0.50
1:B:763:THR:OG1	1:B:764:GLU:OE1	2.28	0.50
1:C:243:GLU:O	1:C:306:THR:OG1	2.28	0.50
1:C:387:ARG:HB2	1:C:423:VAL:HG11	1.92	0.50
1:C:1363:ILE:HG22	1:C:1365:LEU:HD11	1.93	0.50
1:D:167:ILE:HD12	1:D:176:ALA:CB	2.41	0.50
1:B:167:ILE:HB	1:B:176:ALA:HB3	1.92	0.50
1:B:1185:ARG:HD3	1:B:1196:PHE:HB2	1.93	0.50
1:C:167:ILE:HD12	1:C:176:ALA:CB	2.41	0.50
1:C:981:ALA:HB3	1:C:982:PRO:HD3	1.94	0.50
1:D:111:THR:HG23	1:D:112:GLN:HG2	1.92	0.50
1:B:68:ARG:NH2	1:B:70:ASN:OD1	2.44	0.50
1:B:142:GLN:O	1:B:194:LEU:N	2.44	0.50
1:B:794:VAL:HG21	1:B:899:VAL:HG21	1.93	0.50
1:C:1086:LEU:CG	1:C:1374:SER:HB2	2.42	0.50
1:D:265:THR:HG23	1:D:323:GLU:HB2	1.93	0.50
1:D:593:SER:OG	1:D:594:VAL:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:844:ALA:O	1:D:845:PRO:C	2.50	0.50
1:A:921:CYS:HB2	1:A:1321:CYS:HA	1.94	0.50
1:B:871:THR:HG22	1:B:900:ILE:HG23	1.94	0.50
1:D:142:GLN:O	1:D:194:LEU:N	2.44	0.50
1:D:644:ASN:HD21	1:D:692:LEU:HD13	1.77	0.50
1:A:1050:ALA:O	1:A:1053:ARG:NH1	2.44	0.50
1:C:1050:ALA:O	1:C:1053:ARG:NH1	2.44	0.50
1:B:1174:ALA:HB3	1:B:1196:PHE:HE2	1.74	0.50
1:D:871:THR:HG22	1:D:900:ILE:HG23	1.94	0.50
1:A:729:GLU:O	1:A:730:THR:OG1	2.27	0.50
1:A:1341:PHE:HB2	1:A:1459:ALA:HB1	1.93	0.50
1:B:270:ARG:O	1:B:285:ALA:N	2.45	0.50
1:B:844:ALA:O	1:B:845:PRO:C	2.50	0.50
1:B:945:ARG:O	1:B:1329:LYS:N	2.45	0.50
1:B:1415:VAL:C	1:B:1416:LEU:HD12	2.32	0.50
1:C:173:ASN:OD1	1:C:173:ASN:N	2.44	0.50
1:C:324:ALA:O	1:C:332:VAL:HG13	2.12	0.50
1:D:270:ARG:O	1:D:285:ALA:N	2.45	0.50
1:A:1086:LEU:CG	1:A:1374:SER:HB2	2.42	0.49
1:A:1278:VAL:N	1:A:1290:PHE:O	2.44	0.49
1:B:644:ASN:HD21	1:B:692:LEU:HD13	1.77	0.49
1:C:801:SER:OG	1:C:904:LEU:HD23	2.12	0.49
1:D:1145:TYR:O	1:D:1148:ALA:N	2.45	0.49
1:A:982:PRO:HG2	1:A:1255:VAL:HG21	1.94	0.49
1:C:271:LYS:O	1:C:272:TYR:CG	2.66	0.49
1:C:729:GLU:O	1:C:730:THR:OG1	2.27	0.49
1:D:173:ASN:N	1:D:173:ASN:OD1	2.45	0.49
1:D:1128:LEU:O	1:D:1131:ALA:N	2.45	0.49
1:D:1365:LEU:HD13	1:D:1431:PHE:HE1	1.77	0.49
1:A:960:GLN:O	1:A:1244:ALA:HB2	2.13	0.49
1:B:461:LEU:HG	1:B:478:ALA:HB2	1.94	0.49
1:B:924:GLY:N	1:B:1318:GLY:O	2.45	0.49
1:B:1050:ALA:HB1	1:B:1053:ARG:NH1	2.28	0.49
1:C:80:GLU:N	1:C:80:GLU:OE1	2.45	0.49
1:C:1159:ASN:O	1:C:1162:LYS:NZ	2.46	0.49
1:D:763:THR:OG1	1:D:764:GLU:OE1	2.28	0.49
1:A:1363:ILE:HG22	1:A:1365:LEU:HD11	1.93	0.49
1:B:106:GLN:OE1	1:B:114:PHE:N	2.45	0.49
1:B:347:ILE:O	1:B:348:THR:OG1	2.28	0.49
1:B:1128:LEU:O	1:B:1131:ALA:N	2.45	0.49
1:C:386:ILE:HD11	1:C:397:ALA:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:650:ILE:HG21	1:D:655:TYR:CD1	2.47	0.49
1:A:77:LEU:HD13	1:A:87:VAL:HG11	1.95	0.49
1:A:324:ALA:O	1:A:332:VAL:HG13	2.12	0.49
1:A:540:LEU:N	1:A:556:ALA:O	2.45	0.49
1:A:951:LEU:HD21	1:A:953:ASP:OD2	2.13	0.49
1:D:950:VAL:HG23	1:D:1323:TYR:O	2.13	0.49
1:A:255:THR:O	1:A:734:TYR:OH	2.31	0.49
1:A:271:LYS:O	1:A:272:TYR:CG	2.66	0.49
1:A:614:SER:OG	1:A:615:ALA:N	2.46	0.49
1:A:1159:ASN:O	1:A:1162:LYS:NZ	2.46	0.49
1:B:473:THR:HG1	1:B:474:GLN:N	2.11	0.49
1:B:650:ILE:HG21	1:B:655:TYR:CD1	2.47	0.49
1:B:874:ALA:N	1:B:897:ASP:O	2.45	0.49
1:B:1145:TYR:O	1:B:1148:ALA:N	2.45	0.49
1:C:77:LEU:HD13	1:C:87:VAL:HG11	1.95	0.49
1:C:645:ARG:CG	1:C:648:VAL:HG22	2.43	0.49
1:C:951:LEU:HD21	1:C:953:ASP:OD2	2.13	0.49
1:D:361:GLN:OE1	1:D:361:GLN:N	2.46	0.49
1:A:195:SER:HA	1:A:1244:ALA:HB3	1.94	0.49
1:A:1106:THR:HG21	1:A:1124:ALA:CB	2.43	0.49
1:A:1109:LEU:HD12	1:A:1117:THR:HG23	1.95	0.49
1:D:311:LEU:HD12	1:D:311:LEU:O	2.13	0.49
1:A:645:ARG:CG	1:A:648:VAL:HG22	2.43	0.49
1:A:1252:GLN:O	1:A:1255:VAL:HG22	2.12	0.49
1:B:1161:ASP:OD1	1:B:1161:ASP:N	2.43	0.49
1:C:614:SER:OG	1:C:615:ALA:N	2.46	0.49
1:C:982:PRO:HG2	1:C:1255:VAL:HG21	1.94	0.49
1:D:106:GLN:OE1	1:D:114:PHE:N	2.45	0.49
1:D:599:ALA:O	1:D:740:ILE:N	2.41	0.49
1:A:801:SER:OG	1:A:904:LEU:HD23	2.12	0.49
1:C:241:ILE:O	1:C:307:LYS:NZ	2.46	0.49
1:C:960:GLN:O	1:C:1244:ALA:HB2	2.13	0.49
1:C:1341:PHE:HB2	1:C:1459:ALA:HB1	1.93	0.49
1:D:351:SER:O	1:D:369:VAL:HG13	2.13	0.49
1:D:461:LEU:HG	1:D:478:ALA:HB2	1.94	0.49
1:D:1389:PHE:HB3	1:D:1433:VAL:HG21	1.95	0.49
1:B:1397:LYS:NZ	1:B:1429:LEU:HD22	2.27	0.49
1:D:945:ARG:O	1:D:1329:LYS:N	2.45	0.49
1:B:311:LEU:HD12	1:B:311:LEU:O	2.13	0.48
1:A:765:TRP:HB2	1:A:786:LEU:HD22	1.95	0.48
1:A:981:ALA:HB3	1:A:982:PRO:HD3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1028:PHE:O	1:B:1031:ARG:NH2	2.46	0.48
1:B:1365:LEU:HD13	1:B:1431:PHE:HE1	1.77	0.48
1:C:255:THR:O	1:C:734:TYR:OH	2.31	0.48
1:D:60:VAL:HG12	1:D:107:VAL:HA	1.95	0.48
1:D:874:ALA:N	1:D:897:ASP:O	2.45	0.48
1:A:241:ILE:O	1:A:307:LYS:NZ	2.46	0.48
1:B:60:VAL:HG12	1:B:107:VAL:HA	1.95	0.48
1:B:173:ASN:N	1:B:173:ASN:OD1	2.45	0.48
1:B:1279:THR:O	1:B:1280:ILE:HD13	2.13	0.48
1:C:1252:GLN:O	1:C:1255:VAL:HG22	2.12	0.48
1:B:934:LYS:NZ	1:B:1308:LEU:O	2.20	0.48
1:B:1324:LEU:HD23	1:B:1324:LEU:H	1.79	0.48
1:C:51:LEU:O	1:C:82:ASP:N	2.44	0.48
1:C:195:SER:HA	1:C:1244:ALA:HB3	1.94	0.48
1:C:1109:LEU:HD12	1:C:1117:THR:HG23	1.95	0.48
1:C:1346:GLN:O	1:C:1364:SER:N	2.46	0.48
1:D:38:LEU:HD23	1:D:39:LEU:N	2.29	0.48
1:D:418:SER:OG	1:D:445:HIS:NE2	2.46	0.48
1:D:419:LEU:N	1:D:446:HIS:O	2.46	0.48
1:B:950:VAL:HG23	1:B:1323:TYR:O	2.13	0.48
1:D:1279:THR:O	1:D:1280:ILE:HD13	2.13	0.48
1:B:351:SER:O	1:B:369:VAL:HG13	2.13	0.48
1:C:921:CYS:HB2	1:C:1321:CYS:HA	1.94	0.48
1:D:1050:ALA:HB1	1:D:1053:ARG:NH1	2.28	0.48
1:A:386:ILE:HD11	1:A:397:ALA:HB3	1.94	0.48
1:B:361:GLN:OE1	1:B:361:GLN:N	2.46	0.48
1:B:746:VAL:HG23	1:B:751:VAL:H	1.79	0.48
1:B:1041:LEU:HD11	1:B:1091:ILE:HG12	1.96	0.48
1:B:1143:HIS:NE2	1:B:1173:GLU:OE2	2.47	0.48
1:A:631:PRO:HD2	1:A:634:LEU:HD23	1.96	0.48
1:D:1028:PHE:O	1:D:1031:ARG:NH2	2.46	0.48
1:B:233:VAL:HG13	1:B:338:ARG:HD3	1.96	0.48
1:C:258:LYS:O	1:C:260:VAL:HG13	2.14	0.48
1:C:620:ASN:O	1:C:625:LYS:NZ	2.39	0.48
1:D:1200:GLN:OE1	1:D:1200:GLN:N	2.46	0.48
1:B:386:ILE:HA	1:B:421:VAL:HG13	1.96	0.47
1:B:454:PRO:HD2	1:B:552:ILE:HD11	1.96	0.47
1:D:1058:ILE:HD11	1:D:1062:HIS:CB	2.44	0.47
1:D:1103:ALA:O	1:D:1106:THR:OG1	2.24	0.47
1:D:1324:LEU:HD23	1:D:1324:LEU:H	1.79	0.47
1:A:1163:ARG:HA	1:A:1166:VAL:HG22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1451:ASP:N	1:A:1451:ASP:OD1	2.48	0.47
1:B:1167:LEU:O	1:B:1171:ASN:ND2	2.47	0.47
1:C:540:LEU:N	1:C:556:ALA:O	2.45	0.47
1:D:386:ILE:HA	1:D:421:VAL:HG13	1.96	0.47
1:D:1128:LEU:HD21	1:D:1146:THR:OG1	2.14	0.47
1:B:38:LEU:HD23	1:B:39:LEU:N	2.29	0.47
1:B:1200:GLN:OE1	1:B:1200:GLN:N	2.46	0.47
1:B:1389:PHE:HB3	1:B:1433:VAL:HG21	1.95	0.47
1:C:631:PRO:HD2	1:C:634:LEU:HD23	1.96	0.47
1:C:765:TRP:HB2	1:C:786:LEU:HD22	1.95	0.47
1:D:746:VAL:HG23	1:D:751:VAL:H	1.79	0.47
1:D:1159:ASN:N	1:D:1160:GLN:OE1	2.47	0.47
1:A:1114:LEU:O	1:A:1115:THR:OG1	2.27	0.47
1:B:1228:LEU:O	1:B:1231:ALA:N	2.47	0.47
1:B:1378:MET:SD	1:B:1378:MET:N	2.88	0.47
1:C:1061:ALA:HA	1:C:1064:THR:HG22	1.96	0.47
1:D:1041:LEU:HD11	1:D:1091:ILE:HG12	1.96	0.47
1:B:248:VAL:HG23	1:B:302:GLN:HB3	1.96	0.47
1:D:1228:LEU:O	1:D:1231:ALA:N	2.47	0.47
1:D:1363:ILE:HG22	1:D:1365:LEU:CD1	2.44	0.47
1:D:1388:GLY:O	1:D:1436:ASP:N	2.46	0.47
1:A:602:GLN:N	1:A:764:GLU:O	2.47	0.47
1:A:1346:GLN:O	1:A:1364:SER:N	2.46	0.47
1:B:418:SER:OG	1:B:445:HIS:NE2	2.46	0.47
1:B:1159:ASN:N	1:B:1160:GLN:OE1	2.47	0.47
1:B:1383:VAL:HG21	1:B:1415:VAL:HB	1.97	0.47
1:C:1106:THR:HG21	1:C:1124:ALA:CB	2.43	0.47
1:D:454:PRO:HD2	1:D:552:ILE:HD11	1.96	0.47
1:D:1042:THR:O	1:D:1046:LEU:N	2.44	0.47
1:D:1208:MET:SD	1:D:1209:THR:N	2.88	0.47
1:D:1378:MET:N	1:D:1378:MET:SD	2.88	0.47
1:A:99:GLU:O	1:A:122:VAL:HG22	2.15	0.47
1:A:746:VAL:HG23	1:A:751:VAL:HG12	1.97	0.47
1:A:844:ALA:O	1:A:845:PRO:C	2.52	0.47
1:B:999:GLU:O	1:B:1003:LYS:N	2.45	0.47
1:B:1128:LEU:HD21	1:B:1146:THR:OG1	2.14	0.47
1:B:1208:MET:SD	1:B:1209:THR:N	2.88	0.47
1:B:1447:VAL:O	1:B:1447:VAL:HG13	2.14	0.47
1:C:1042:THR:HA	1:C:1045:VAL:HG12	1.96	0.47
1:C:1163:ARG:HA	1:C:1166:VAL:HG22	1.96	0.47
1:A:30:GLN:NE2	1:A:547:PRO:O	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1183:TRP:HZ2	1:A:1450:TYR:HH	1.63	0.47
1:B:1363:ILE:HG22	1:B:1365:LEU:CD1	2.44	0.47
1:D:999:GLU:O	1:D:1003:LYS:N	2.45	0.47
1:D:1167:LEU:O	1:D:1171:ASN:ND2	2.47	0.47
1:B:626:ASP:OD1	1:B:627:LEU:N	2.48	0.47
1:D:1041:LEU:HD11	1:D:1091:ILE:CG1	2.45	0.47
1:B:39:LEU:HD11	1:B:120:VAL:HG11	1.97	0.47
1:B:244:GLU:N	1:B:244:GLU:OE1	2.47	0.47
1:D:1447:VAL:O	1:D:1447:VAL:HG13	2.14	0.47
1:C:746:VAL:HG23	1:C:751:VAL:HG12	1.97	0.46
1:C:1451:ASP:OD1	1:C:1451:ASP:N	2.48	0.46
1:D:1383:VAL:HG21	1:D:1415:VAL:HB	1.97	0.46
1:A:167:ILE:HD12	1:A:176:ALA:HB3	1.98	0.46
1:A:258:LYS:O	1:A:260:VAL:HG13	2.14	0.46
1:B:837:VAL:HB	1:B:859:ALA:HB3	1.97	0.46
1:B:1058:ILE:HD11	1:B:1062:HIS:CB	2.44	0.46
1:C:99:GLU:O	1:C:122:VAL:HG22	2.15	0.46
1:C:602:GLN:N	1:C:764:GLU:O	2.47	0.46
1:D:39:LEU:HD11	1:D:120:VAL:HG11	1.97	0.46
1:D:626:ASP:OD1	1:D:627:LEU:N	2.48	0.46
1:D:1217:LEU:HD21	1:D:1227:ASP:O	2.15	0.46
1:D:248:VAL:HG23	1:D:302:GLN:HB3	1.96	0.46
1:A:342:GLU:N	1:A:342:GLU:OE1	2.48	0.46
1:C:1073:ARG:NH1	1:C:1105:ILE:HG21	2.30	0.46
1:D:608:LYS:HZ1	1:D:611:ALA:HB3	1.79	0.46
1:D:1422:VAL:HG13	1:D:1423:SER:H	1.81	0.46
1:A:1239:THR:O	1:A:1242:GLN:NE2	2.49	0.46
1:C:30:GLN:NE2	1:C:547:PRO:O	2.48	0.46
1:D:233:VAL:HG13	1:D:338:ARG:HD3	1.96	0.46
1:D:244:GLU:OE1	1:D:244:GLU:N	2.47	0.46
1:D:1061:ALA:HA	1:D:1064:THR:HG22	1.97	0.46
1:B:1061:ALA:HA	1:B:1064:THR:HG22	1.97	0.46
1:C:951:LEU:HD22	1:C:1300:LEU:HD13	1.97	0.46
1:A:578:LEU:HD11	1:A:762:ILE:HG23	1.98	0.46
1:B:1045:VAL:O	1:B:1049:PHE:N	2.40	0.46
1:C:844:ALA:O	1:C:845:PRO:C	2.52	0.46
1:D:323:GLU:OE1	1:D:323:GLU:N	2.49	0.46
1:A:1073:ARG:NH1	1:A:1105:ILE:HG21	2.30	0.46
1:B:794:VAL:HG21	1:B:899:VAL:CG2	2.46	0.46
1:B:1041:LEU:HD11	1:B:1091:ILE:CG1	2.45	0.46
1:B:1103:ALA:O	1:B:1106:THR:OG1	2.24	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:35:VAL:O	1:A:676:LYS:N	2.47	0.46
1:A:1336:LYS:NZ	1:A:1337:GLU:OE1	2.36	0.46
1:B:572:PHE:CG	1:B:786:LEU:HD12	2.51	0.46
1:C:342:GLU:N	1:C:342:GLU:OE1	2.48	0.46
1:C:992:GLU:OE1	1:C:1263:LYS:NZ	2.41	0.46
1:C:1183:TRP:HZ2	1:C:1450:TYR:HH	1.63	0.46
1:D:837:VAL:HB	1:D:859:ALA:HB3	1.97	0.46
1:D:1111:GLU:CD	1:D:1152:TYR:HH	2.19	0.46
1:B:139:LYS:NZ	1:B:140:PRO:O	2.48	0.45
1:B:593:SER:HG	1:B:594:VAL:N	2.13	0.45
1:C:167:ILE:HD12	1:C:176:ALA:HB3	1.98	0.45
1:C:960:GLN:N	1:C:960:GLN:OE1	2.48	0.45
1:A:1042:THR:HA	1:A:1045:VAL:HG12	1.96	0.45
1:A:1061:ALA:HA	1:A:1064:THR:HG22	1.96	0.45
1:B:497:TYR:C	1:B:498:LEU:HD22	2.36	0.45
1:B:570:LEU:HB2	1:B:585:LEU:HD11	1.98	0.45
1:B:1047:LYS:NZ	1:B:1111:GLU:OE2	2.29	0.45
1:D:290:PHE:CG	1:D:304:VAL:HG12	2.51	0.45
1:D:497:TYR:C	1:D:498:LEU:HD22	2.36	0.45
1:D:139:LYS:NZ	1:D:140:PRO:O	2.48	0.45
1:D:924:GLY:N	1:D:1318:GLY:O	2.45	0.45
1:D:1422:VAL:HG13	1:D:1423:SER:N	2.31	0.45
1:A:1086:LEU:HD23	1:A:1374:SER:HB2	1.97	0.45
1:B:279:HIS:NE2	1:B:283:SER:OG	2.49	0.45
1:B:323:GLU:OE1	1:B:323:GLU:N	2.49	0.45
1:C:544:ALA:N	1:C:552:ILE:O	2.47	0.45
1:C:826:VAL:HG21	1:C:845:PRO:HB2	1.99	0.45
1:D:1143:HIS:NE2	1:D:1173:GLU:OE2	2.47	0.45
1:A:411:THR:O	5:A:2005:NAG:N2	2.49	0.45
1:A:646:HIS:O	1:A:648:VAL:N	2.50	0.45
1:A:670:LEU:HD22	1:A:683:ILE:HG21	1.98	0.45
1:A:951:LEU:HD22	1:A:1300:LEU:HD13	1.97	0.45
1:B:1217:LEU:HD21	1:B:1227:ASP:O	2.15	0.45
1:B:1422:VAL:HG13	1:B:1423:SER:N	2.31	0.45
1:C:945:ARG:O	1:C:1329:LYS:N	2.50	0.45
1:D:136:SER:O	1:D:220:THR:N	2.49	0.45
1:D:794:VAL:HG21	1:D:899:VAL:CG2	2.46	0.45
1:D:914:THR:O	1:D:1328:LEU:N	2.45	0.45
1:B:290:PHE:CG	1:B:304:VAL:HG12	2.51	0.45
1:B:1422:VAL:HG13	1:B:1423:SER:H	1.81	0.45
1:C:802:VAL:O	1:C:906:GLU:N	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:488:LEU:O	1:D:517:GLN:NE2	2.43	0.45
1:D:572:PHE:CG	1:D:786:LEU:HD12	2.51	0.45
1:A:802:VAL:O	1:A:906:GLU:N	2.46	0.45
1:B:473:THR:HG1	1:B:474:GLN:H	1.64	0.45
1:B:1111:GLU:CD	1:B:1152:TYR:HH	2.20	0.45
1:D:247:ASN:ND2	5:D:2003:NAG:C2	2.76	0.45
1:D:386:ILE:O	1:D:386:ILE:HG22	2.17	0.45
1:B:914:THR:O	1:B:1328:LEU:N	2.45	0.45
1:C:578:LEU:HD11	1:C:762:ILE:HG23	1.98	0.45
1:C:1114:LEU:O	1:C:1115:THR:OG1	2.27	0.45
1:C:1239:THR:O	1:C:1242:GLN:NE2	2.49	0.45
1:D:803:ILE:HG22	1:D:804:ARG:N	2.32	0.45
1:D:1183:TRP:O	1:D:1184:GLU:HG3	2.16	0.45
1:B:50:LEU:HD11	1:B:543:TYR:CE1	2.52	0.45
1:B:983:ASN:O	1:B:986:VAL:HG22	2.17	0.45
1:B:1361:PHE:N	1:B:1432:THR:OG1	2.46	0.45
1:B:1388:GLY:O	1:B:1436:ASP:N	2.46	0.45
1:C:1086:LEU:HD23	1:C:1374:SER:HB2	1.97	0.45
1:C:1365:LEU:HD13	1:C:1431:PHE:HE1	1.82	0.45
1:D:1397:LYS:NZ	1:D:1429:LEU:HD22	2.27	0.45
1:B:136:SER:O	1:B:220:THR:N	2.49	0.45
1:B:803:ILE:HG22	1:B:804:ARG:N	2.32	0.45
1:C:1447:VAL:O	1:C:1447:VAL:HG13	2.17	0.45
1:A:255:THR:HG23	1:A:257:GLY:H	1.82	0.44
1:A:1447:VAL:HG13	1:A:1447:VAL:O	2.17	0.44
1:B:1183:TRP:O	1:B:1184:GLU:HG3	2.16	0.44
1:C:255:THR:HG23	1:C:257:GLY:H	1.82	0.44
1:B:1027:THR:HB	1:B:1087:LEU:HD22	1.99	0.44
1:D:50:LEU:HD11	1:D:543:TYR:CE1	2.52	0.44
1:D:1251:THR:OG1	1:D:1252:GLN:N	2.50	0.44
1:A:945:ARG:O	1:A:1329:LYS:N	2.50	0.44
1:B:1326:THR:HG22	1:B:1327:SER:N	2.32	0.44
1:D:384:ILE:HD12	1:D:421:VAL:HG11	1.99	0.44
1:D:1326:THR:HG22	1:D:1327:SER:N	2.32	0.44
1:A:335:LEU:HD23	1:A:337:GLY:N	2.33	0.44
1:A:960:GLN:OE1	1:A:960:GLN:N	2.48	0.44
1:C:95:SER:OG	1:C:96:SER:N	2.50	0.44
1:D:240:THR:OG1	1:D:241:ILE:N	2.51	0.44
1:A:243:GLU:HB2	1:A:306:THR:HG21	1.99	0.44
1:A:544:ALA:N	1:A:552:ILE:O	2.47	0.44
1:B:336:THR:O	1:B:336:THR:OG1	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:646:HIS:O	1:C:648:VAL:N	2.50	0.44
1:D:1027:THR:HB	1:D:1087:LEU:HD22	1.99	0.44
1:D:1045:VAL:O	1:D:1049:PHE:N	2.40	0.44
1:A:1363:ILE:HG22	1:A:1365:LEU:CD1	2.48	0.44
1:B:1251:THR:OG1	1:B:1252:GLN:N	2.50	0.44
1:C:670:LEU:HD22	1:C:683:ILE:HG21	1.98	0.44
1:D:279:HIS:NE2	1:D:283:SER:OG	2.49	0.44
1:D:983:ASN:O	1:D:986:VAL:HG22	2.17	0.44
1:A:804:ARG:NH2	1:A:806:GLU:OE2	2.49	0.44
1:B:229:PHE:CD2	1:B:231:VAL:HG22	2.53	0.44
1:D:570:LEU:HB2	1:D:585:LEU:HD11	1.98	0.44
1:A:268:ILE:HD11	1:A:309:PHE:CE1	2.53	0.44
1:B:643:ILE:HG22	1:B:658:VAL:HB	2.00	0.44
1:B:1122:ARG:HA	1:B:1125:LEU:HB3	2.00	0.44
1:D:229:PHE:CD2	1:D:231:VAL:HG22	2.53	0.44
1:D:993:THR:HG23	1:D:1261:LEU:HD21	2.00	0.44
1:A:627:LEU:HD21	1:A:631:PRO:HG3	2.00	0.44
1:B:585:LEU:N	1:B:753:GLU:O	2.51	0.44
1:B:1151:ALA:HB1	1:B:1215:ALA:HB1	2.00	0.44
1:C:335:LEU:HD23	1:C:337:GLY:N	2.33	0.43
1:D:579:PRO:O	1:D:581:SER:N	2.50	0.43
1:A:139:LYS:NZ	1:A:140:PRO:O	2.48	0.43
1:A:1279:THR:HG21	1:A:1315:LYS:HE3	2.00	0.43
1:B:76:ASP:OD1	1:B:77:LEU:N	2.51	0.43
1:B:384:ILE:HD12	1:B:421:VAL:HG11	1.99	0.43
1:B:1027:THR:CB	1:B:1087:LEU:HD22	2.48	0.43
1:C:203:TYR:O	1:C:219:PHE:N	2.49	0.43
1:D:1181:VAL:HG23	1:D:1181:VAL:O	2.18	0.43
2:H:2:NAG:H3	2:H:2:NAG:H82	1.99	0.43
1:A:95:SER:OG	1:A:96:SER:N	2.50	0.43
1:A:1255:VAL:HG23	1:A:1256:VAL:HG23	2.00	0.43
1:B:386:ILE:O	1:B:386:ILE:HG22	2.17	0.43
1:B:579:PRO:O	1:B:581:SER:N	2.50	0.43
1:C:268:ILE:HD11	1:C:309:PHE:CE1	2.53	0.43
1:C:322:THR:OG1	1:C:323:GLU:N	2.52	0.43
1:C:488:LEU:O	1:C:517:GLN:NE2	2.51	0.43
1:C:692:LEU:O	1:C:692:LEU:HD12	2.18	0.43
1:C:1255:VAL:HG23	1:C:1256:VAL:HG23	2.00	0.43
1:D:76:ASP:OD1	1:D:77:LEU:N	2.51	0.43
1:A:617:SER:OG	1:A:618:VAL:N	2.52	0.43
1:D:371:LEU:HD12	1:D:372:VAL:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:488:LEU:O	1:A:517:GLN:NE2	2.51	0.43
1:A:826:VAL:HG21	1:A:845:PRO:HB2	1.99	0.43
1:B:419:LEU:N	1:B:446:HIS:O	2.46	0.43
1:B:969:PRO:HD3	1:B:979:LEU:HD11	2.01	0.43
1:B:1088:ASN:OD1	1:B:1088:ASN:N	2.50	0.43
1:B:1343:LEU:HA	1:B:1367:VAL:HG13	2.00	0.43
1:C:821:CYS:HB2	1:C:849:CYS:HB2	1.96	0.43
1:C:1270:THR:OG1	1:C:1271:ARG:N	2.51	0.43
1:C:1422:VAL:O	1:C:1423:SER:OG	2.33	0.43
1:D:969:PRO:HD3	1:D:979:LEU:HD11	2.01	0.43
1:A:1086:LEU:CD2	1:A:1374:SER:HB2	2.49	0.43
1:B:1352:CYS:SG	1:B:1358:HIS:N	2.92	0.43
1:C:243:GLU:HB2	1:C:306:THR:HG21	1.99	0.43
1:C:627:LEU:HD21	1:C:631:PRO:HG3	2.00	0.43
1:C:845:PRO:HB3	1:C:856:VAL:HG22	2.01	0.43
1:D:220:THR:HG22	1:D:221:VAL:N	2.33	0.43
1:A:824:VAL:HG13	1:A:824:VAL:O	2.19	0.43
1:B:371:LEU:HD12	1:B:372:VAL:H	1.83	0.43
1:B:1365:LEU:O	1:B:1428:SER:OG	2.34	0.43
1:C:271:LYS:HE2	1:C:271:LYS:HB2	1.90	0.43
1:C:824:VAL:HG13	1:C:824:VAL:O	2.19	0.43
1:D:417:THR:O	1:D:448:ALA:N	2.52	0.43
1:D:910:LEU:CD2	1:D:1332:ILE:HD11	2.43	0.43
1:D:932:SER:C	1:D:933:LEU:HD12	2.39	0.43
1:D:1122:ARG:HA	1:D:1125:LEU:HB3	2.00	0.43
1:D:1151:ALA:HB1	1:D:1215:ALA:HB1	2.00	0.43
1:A:33:VAL:O	1:A:33:VAL:HG13	2.19	0.43
1:A:322:THR:OG1	1:A:323:GLU:N	2.52	0.43
1:A:614:SER:C	1:A:617:SER:HG	2.19	0.43
1:A:874:ALA:N	1:A:897:ASP:O	2.48	0.43
1:A:1365:LEU:HD13	1:A:1431:PHE:HE1	1.82	0.43
1:C:1363:ILE:HG22	1:C:1365:LEU:CD1	2.48	0.43
2:E:2:NAG:H3	2:E:2:NAG:H82	1.99	0.43
1:A:271:LYS:HE2	1:A:271:LYS:HB2	1.90	0.43
1:B:595:CYS:HA	1:B:771:CYS:HA	2.00	0.43
1:C:617:SER:OG	1:C:618:VAL:N	2.52	0.43
1:C:1086:LEU:CD2	1:C:1374:SER:HB2	2.49	0.43
1:D:383:VAL:HG13	1:D:397:ALA:O	2.19	0.43
1:D:418:SER:C	1:D:419:LEU:HD12	2.39	0.43
1:D:1088:ASN:OD1	1:D:1088:ASN:N	2.50	0.43
1:A:1326:THR:HG22	1:A:1327:SER:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:220:THR:HG22	1:B:221:VAL:N	2.33	0.43
1:B:1024:SER:OG	1:B:1025:TYR:N	2.52	0.43
1:D:189:GLN:OE1	1:D:189:GLN:N	2.43	0.43
1:D:643:ILE:HG22	1:D:658:VAL:HB	2.00	0.43
1:A:845:PRO:HB3	1:A:856:VAL:HG22	2.01	0.42
1:A:1347:THR:HG23	1:A:1463:TYR:CE2	2.54	0.42
1:C:1279:THR:HG21	1:C:1315:LYS:HE3	2.00	0.42
1:D:318:MET:O	1:D:319:LYS:NZ	2.48	0.42
1:D:821:CYS:HA	1:D:849:CYS:HA	2.01	0.42
1:D:1024:SER:OG	1:D:1025:TYR:N	2.52	0.42
1:D:1039:THR:HA	1:D:1042:THR:HG22	2.01	0.42
1:D:1048:THR:HA	1:D:1051:GLN:OE1	2.19	0.42
1:D:1352:CYS:SG	1:D:1358:HIS:N	2.92	0.42
1:A:1270:THR:OG1	1:A:1271:ARG:N	2.51	0.42
1:B:1181:VAL:O	1:B:1181:VAL:HG23	2.18	0.42
1:B:1393:LYS:O	1:B:1396:VAL:N	2.52	0.42
1:C:94:SER:OG	1:C:96:SER:O	2.36	0.42
1:C:252:GLY:C	1:C:253:LEU:HD12	2.40	0.42
1:C:411:THR:O	5:C:2005:NAG:N2	2.49	0.42
1:C:667:TYR:OH	1:C:684:ARG:NH1	2.52	0.42
1:D:912:LYS:HA	1:D:1183:TRP:HE1	1.84	0.42
1:D:1027:THR:CB	1:D:1087:LEU:HD22	2.48	0.42
1:D:1284:GLY:O	1:D:1285:THR:OG1	2.36	0.42
1:A:313:ARG:CZ	1:A:437:VAL:HG22	2.49	0.42
1:A:667:TYR:OH	1:A:684:ARG:NH1	2.52	0.42
1:B:231:VAL:CG2	1:B:335:LEU:HD13	2.47	0.42
1:B:593:SER:HG	1:B:594:VAL:H	1.66	0.42
1:B:932:SER:C	1:B:933:LEU:HD12	2.39	0.42
1:B:993:THR:HG23	1:B:1261:LEU:HD21	2.00	0.42
1:B:1105:ILE:HG13	1:B:1106:THR:HG23	2.02	0.42
1:C:313:ARG:CZ	1:C:437:VAL:HG22	2.49	0.42
1:C:458:PHE:HB3	1:C:552:ILE:HG21	2.01	0.42
1:D:32:MET:O	1:D:50:LEU:N	2.49	0.42
1:D:999:GLU:HA	1:D:1002:SER:HB2	2.01	0.42
1:A:372:VAL:HG23	1:A:376:GLY:HA2	2.01	0.42
1:A:1144:VAL:HG23	1:A:1145:TYR:CD1	2.55	0.42
1:B:32:MET:O	1:B:50:LEU:N	2.49	0.42
1:B:999:GLU:HA	1:B:1002:SER:HB2	2.01	0.42
1:B:1048:THR:HA	1:B:1051:GLN:OE1	2.19	0.42
1:B:1059:ASP:OD1	1:B:1061:ALA:HB3	2.19	0.42
1:B:1105:ILE:O	1:B:1108:ALA:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:271:LYS:HG3	1:C:272:TYR:N	2.34	0.42
1:C:578:LEU:HD13	1:C:790:GLN:HB2	2.01	0.42
1:C:1326:THR:HG22	1:C:1327:SER:N	2.34	0.42
1:C:1404:HIS:O	1:C:1405:VAL:HG23	2.19	0.42
1:D:415:MET:HA	1:D:450:LEU:HD13	2.01	0.42
1:D:986:VAL:HG23	1:D:987:LEU:HD22	2.01	0.42
1:A:271:LYS:HG3	1:A:272:TYR:N	2.34	0.42
1:B:240:THR:OG1	1:B:241:ILE:N	2.51	0.42
1:B:418:SER:C	1:B:419:LEU:HD12	2.39	0.42
1:B:821:CYS:HA	1:B:849:CYS:HA	2.01	0.42
1:D:993:THR:HG21	1:D:996:LEU:HB2	2.02	0.42
1:D:1392:LEU:O	1:D:1395:THR:N	2.52	0.42
1:A:348:THR:O	1:A:422:ARG:NH2	2.52	0.42
1:B:986:VAL:HG23	1:B:987:LEU:HD22	2.01	0.42
1:B:1339:PHE:HB2	1:B:1460:ILE:H	1.85	0.42
1:C:599:ALA:HB3	1:C:740:ILE:HB	2.02	0.42
1:C:1200:GLN:OE1	1:C:1200:GLN:N	2.50	0.42
1:D:595:CYS:HA	1:D:771:CYS:HA	2.00	0.42
1:D:758:VAL:HG13	1:D:758:VAL:O	2.20	0.42
1:D:1059:ASP:OD1	1:D:1061:ALA:HB3	2.19	0.42
1:D:1105:ILE:HG13	1:D:1106:THR:HG23	2.02	0.42
1:D:1343:LEU:HA	1:D:1367:VAL:HG13	2.00	0.42
1:B:167:ILE:HG12	1:B:205:VAL:HG22	2.02	0.42
1:B:417:THR:O	1:B:448:ALA:N	2.52	0.42
1:D:336:THR:O	1:D:336:THR:OG1	2.35	0.42
1:A:203:TYR:O	1:A:219:PHE:N	2.49	0.42
1:A:252:GLY:C	1:A:253:LEU:HD12	2.40	0.42
1:B:347:ILE:HG22	1:B:348:THR:HG23	2.01	0.42
1:B:350:LEU:CD1	1:B:444:ALA:HB2	2.50	0.42
1:B:480:TYR:CE2	1:B:513:LEU:HD21	2.55	0.42
1:C:1144:VAL:HG23	1:C:1145:TYR:CD1	2.55	0.42
1:C:1347:THR:HG23	1:C:1463:TYR:CE2	2.54	0.42
1:D:1339:PHE:HB2	1:D:1460:ILE:H	1.85	0.42
1:A:692:LEU:HD12	1:A:692:LEU:O	2.18	0.42
1:B:318:MET:O	1:B:319:LYS:NZ	2.48	0.42
1:B:824:VAL:HG13	1:B:824:VAL:O	2.20	0.42
1:B:912:LYS:HA	1:B:1183:TRP:HE1	1.84	0.42
1:C:33:VAL:O	1:C:33:VAL:HG13	2.19	0.42
1:C:746:VAL:HG22	1:C:747:ASN:O	2.20	0.42
1:D:129:VAL:HG12	1:D:150:SER:CB	2.50	0.42
1:D:824:VAL:HG13	1:D:824:VAL:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1210:SER:OG	1:D:1211:TYR:N	2.53	0.42
1:A:837:VAL:HB	1:A:859:ALA:HB3	2.02	0.42
1:A:1404:HIS:O	1:A:1405:VAL:HG23	2.19	0.42
1:B:40:HIS:NE2	1:B:502:LYS:O	2.53	0.42
1:B:239:ILE:O	1:B:344:THR:HG21	2.20	0.42
1:B:383:VAL:HG13	1:B:397:ALA:O	2.19	0.42
1:B:810:LEU:HD23	1:B:810:LEU:H	1.85	0.42
1:D:40:HIS:NE2	1:D:502:LYS:O	2.53	0.42
1:D:143:THR:HA	1:D:193:PRO:HA	2.02	0.42
1:D:1003:LYS:O	1:D:1006:GLY:N	2.53	0.42
1:A:578:LEU:HD13	1:A:790:GLN:HB2	2.01	0.41
1:A:1127:CYS:O	1:A:1130:SER:OG	2.18	0.41
1:B:758:VAL:HG13	1:B:758:VAL:O	2.20	0.41
1:B:1042:THR:O	1:B:1046:LEU:N	2.44	0.41
1:C:400:ASP:OD1	1:C:401:GLU:N	2.53	0.41
1:C:1295:ASN:O	1:C:1299:LEU:HD23	2.20	0.41
1:B:1003:LYS:O	1:B:1006:GLY:N	2.53	0.41
1:C:35:VAL:O	1:C:676:LYS:N	2.47	0.41
1:C:234:THR:N	1:C:249:SER:O	2.53	0.41
1:D:239:ILE:O	1:D:344:THR:HG21	2.20	0.41
1:D:350:LEU:CD1	1:D:444:ALA:HB2	2.50	0.41
1:D:570:LEU:CD2	1:D:784:ALA:HB3	2.50	0.41
3:F:1:NAG:H62	3:F:2:NAG:HN2	1.85	0.41
1:B:42:GLU:N	1:B:91:VAL:O	2.51	0.41
1:B:993:THR:HG21	1:B:996:LEU:HB2	2.02	0.41
1:D:910:LEU:HD22	1:D:1332:ILE:CD1	2.44	0.41
1:A:573:SER:OG	1:A:584:HIS:N	2.53	0.41
1:B:294:LEU:HD23	1:B:300:PHE:HB2	2.03	0.41
1:B:415:MET:HA	1:B:450:LEU:HD13	2.01	0.41
1:B:915:THR:OG1	1:B:916:PHE:N	2.54	0.41
1:B:1039:THR:HA	1:B:1042:THR:HG22	2.01	0.41
1:C:372:VAL:HG23	1:C:376:GLY:HA2	2.01	0.41
1:C:1191:ALA:HB3	1:C:1192:PRO:HD3	2.03	0.41
1:D:544:ALA:N	1:D:552:ILE:O	2.53	0.41
1:D:585:LEU:N	1:D:753:GLU:O	2.51	0.41
1:D:934:LYS:NZ	1:D:1308:LEU:HD12	2.36	0.41
1:D:1383:VAL:HG23	1:D:1414:HIS:HA	2.02	0.41
1:D:1456:ASP:OD1	1:D:1457:GLU:N	2.53	0.41
2:H:1:NAG:O3	2:H:1:NAG:C7	2.69	0.41
1:A:1106:THR:HA	1:A:1109:LEU:HB2	2.03	0.41
1:B:137:ILE:HD11	1:B:607:MET:CE	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:143:THR:HA	1:B:193:PRO:HA	2.02	0.41
1:B:1201:ALA:HB3	1:B:1379:ALA:HB3	2.02	0.41
1:C:139:LYS:NZ	1:C:140:PRO:O	2.48	0.41
1:D:361:GLN:HB3	1:D:450:LEU:HD11	2.02	0.41
1:A:65:GLU:OE2	1:A:104:THR:OG1	2.39	0.41
1:A:400:ASP:OD1	1:A:401:GLU:N	2.53	0.41
1:A:458:PHE:HB3	1:A:552:ILE:HG21	2.01	0.41
1:A:746:VAL:HG22	1:A:747:ASN:O	2.20	0.41
1:A:1398:MET:CG	1:A:1415:VAL:HG13	2.51	0.41
1:B:1176:LYS:HB2	1:B:1180:SER:N	2.36	0.41
1:B:1456:ASP:OD1	1:B:1457:GLU:N	2.53	0.41
1:D:231:VAL:CG2	1:D:335:LEU:HD13	2.47	0.41
1:D:343:ILE:HG23	1:D:343:ILE:O	2.20	0.41
1:D:480:TYR:CE2	1:D:513:LEU:HD21	2.55	0.41
1:A:176:ALA:HB1	1:A:178:TRP:HZ3	1.85	0.41
1:A:816:ASN:ND2	1:A:818:LEU:O	2.54	0.41
1:A:850:ALA:O	1:A:851:ASN:C	2.57	0.41
1:B:129:VAL:HG12	1:B:150:SER:CB	2.50	0.41
1:B:310:GLN:O	1:B:312:LYS:N	2.51	0.41
1:B:544:ALA:N	1:B:552:ILE:O	2.53	0.41
1:B:934:LYS:NZ	1:B:1308:LEU:HD12	2.36	0.41
1:B:1346:GLN:O	1:B:1364:SER:N	2.52	0.41
1:C:803:ILE:HG22	1:C:804:ARG:N	2.36	0.41
1:D:137:ILE:HD11	1:D:607:MET:CE	2.50	0.41
1:D:137:ILE:HD11	1:D:607:MET:HE3	2.03	0.41
1:D:540:LEU:N	1:D:556:ALA:O	2.54	0.41
1:D:810:LEU:HD23	1:D:810:LEU:H	1.85	0.41
1:D:1105:ILE:O	1:D:1108:ALA:HB3	2.20	0.41
1:B:247:ASN:ND2	5:B:2003:NAG:C2	2.76	0.41
1:C:1343:LEU:H	1:C:1461:ALA:HB3	1.86	0.41
1:D:347:ILE:HG22	1:D:348:THR:HG23	2.01	0.41
1:D:569:ASP:OD1	1:D:570:LEU:N	2.54	0.41
1:D:1201:ALA:HB3	1:D:1379:ALA:HB3	2.02	0.41
1:D:1351:THR:OG1	1:D:1353:ASP:OD1	2.36	0.41
1:A:234:THR:N	1:A:249:SER:O	2.53	0.41
1:A:599:ALA:HB3	1:A:740:ILE:HB	2.02	0.41
1:A:910:LEU:HB2	1:A:1333:LEU:HD23	2.03	0.41
1:A:1295:ASN:O	1:A:1299:LEU:HD23	2.20	0.41
1:B:130:PHE:CZ	1:B:149:VAL:HG21	2.56	0.41
1:B:361:GLN:HB3	1:B:450:LEU:HD11	2.02	0.41
1:B:1160:GLN:OE1	1:B:1160:GLN:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1210:SER:OG	1:B:1211:TYR:N	2.53	0.41
1:B:1348:LEU:O	1:B:1350:GLN:N	2.50	0.41
1:B:1383:VAL:HG23	1:B:1414:HIS:HA	2.02	0.41
1:B:1392:LEU:O	1:B:1395:THR:N	2.52	0.41
1:C:573:SER:OG	1:C:584:HIS:N	2.53	0.41
1:C:910:LEU:HB2	1:C:1333:LEU:HD23	2.03	0.41
1:D:107:VAL:O	1:D:109:GLY:N	2.51	0.41
1:D:167:ILE:HG12	1:D:205:VAL:HG22	2.02	0.41
1:D:318:MET:O	1:D:341:SER:OG	2.39	0.41
1:D:602:GLN:O	1:D:606:LEU:N	2.43	0.41
1:D:604:VAL:HG11	1:D:736:PRO:HA	2.03	0.41
1:D:954:ILE:HD11	1:D:1268:THR:O	2.21	0.41
1:D:1042:THR:HA	1:D:1045:VAL:HG12	2.03	0.41
1:D:1154:PHE:O	1:D:1160:GLN:NE2	2.54	0.41
1:D:1347:THR:HG23	1:D:1463:TYR:CE2	2.56	0.41
3:I:1:NAG:H62	3:I:2:NAG:HN2	1.85	0.41
1:A:803:ILE:HG22	1:A:804:ARG:N	2.36	0.41
1:A:1087:LEU:HD23	1:A:1422:VAL:HG22	2.03	0.41
1:B:183:LEU:HD13	1:B:186:GLY:HA2	2.03	0.41
1:B:488:LEU:O	1:B:517:GLN:NE2	2.43	0.41
1:B:500:MET:HA	1:B:505:ILE:HD13	2.03	0.41
1:B:877:LEU:HD23	1:B:878:GLU:O	2.21	0.41
1:B:1042:THR:HA	1:B:1045:VAL:HG12	2.03	0.41
1:B:1339:PHE:HB3	1:B:1340:PRO:HD2	2.03	0.41
1:B:1437:VAL:O	1:B:1437:VAL:HG13	2.21	0.41
1:C:176:ALA:HB1	1:C:178:TRP:HZ3	1.85	0.41
1:C:816:ASN:ND2	1:C:818:LEU:O	2.54	0.41
1:C:837:VAL:HB	1:C:859:ALA:HB3	2.02	0.41
1:C:1087:LEU:HD23	1:C:1422:VAL:HG22	2.03	0.41
1:D:96:SER:OG	1:D:97:ASN:N	2.54	0.41
1:D:1176:LYS:HB2	1:D:1180:SER:N	2.36	0.41
1:B:187:LEU:HD12	1:B:188:LYS:CA	2.51	0.40
1:B:343:ILE:HG23	1:B:343:ILE:O	2.20	0.40
1:C:64:LEU:HD12	1:C:103:LEU:HD13	2.03	0.40
1:C:271:LYS:O	1:C:283:SER:O	2.39	0.40
1:D:342:GLU:OE1	1:D:342:GLU:N	2.54	0.40
1:D:1339:PHE:HB3	1:D:1340:PRO:HD2	2.03	0.40
1:D:1361:PHE:N	1:D:1432:THR:OG1	2.46	0.40
1:D:1437:VAL:O	1:D:1437:VAL:HG13	2.21	0.40
1:A:33:VAL:HG13	1:A:678:PHE:HD1	1.86	0.40
1:B:1187:GLN:HG3	1:B:1187:GLN:O	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1228:LEU:O	1:B:1231:ALA:HB3	2.22	0.40
1:C:370:ARG:NH1	1:C:371:LEU:O	2.54	0.40
1:D:130:PHE:CZ	1:D:149:VAL:HG21	2.56	0.40
1:D:294:LEU:HD23	1:D:300:PHE:HB2	2.03	0.40
1:B:342:GLU:OE1	1:B:342:GLU:N	2.54	0.40
1:D:51:LEU:HD22	1:D:58:VAL:HG11	2.03	0.40
1:D:183:LEU:HD13	1:D:186:GLY:HA2	2.03	0.40
1:D:187:LEU:HD12	1:D:188:LYS:N	2.36	0.40
1:D:1160:GLN:OE1	1:D:1160:GLN:N	2.54	0.40
1:D:1346:GLN:O	1:D:1364:SER:N	2.52	0.40
1:A:325:GLN:N	1:A:325:GLN:OE1	2.55	0.40
1:A:370:ARG:NH1	1:A:371:LEU:O	2.54	0.40
1:A:1087:LEU:CD2	1:A:1422:VAL:HG22	2.52	0.40
1:A:1110:LEU:HD23	1:A:1152:TYR:CE1	2.57	0.40
1:B:954:ILE:HD11	1:B:1268:THR:O	2.21	0.40
1:B:1026:SER:OG	1:B:1027:THR:N	2.55	0.40
1:B:1154:PHE:O	1:B:1160:GLN:NE2	2.54	0.40
1:B:1176:LYS:HD3	1:B:1205:GLU:HB2	2.04	0.40
1:C:850:ALA:O	1:C:851:ASN:C	2.57	0.40
1:C:1398:MET:CG	1:C:1415:VAL:HG13	2.51	0.40
1:D:248:VAL:HG23	1:D:248:VAL:O	2.21	0.40
1:D:500:MET:HA	1:D:505:ILE:HD13	2.03	0.40
1:D:948:VAL:HG23	1:D:1325:GLN:O	2.22	0.40
1:D:1228:LEU:O	1:D:1231:ALA:HB3	2.22	0.40
2:E:1:NAG:C7	2:E:1:NAG:O3	2.69	0.40
1:A:271:LYS:O	1:A:283:SER:O	2.39	0.40
1:B:129:VAL:CG2	1:B:215:THR:HG21	2.50	0.40
1:B:187:LEU:HD12	1:B:188:LYS:N	2.36	0.40
1:B:1347:THR:HG23	1:B:1463:TYR:CE2	2.56	0.40
1:D:144:VAL:N	1:D:192:PHE:O	2.55	0.40
1:D:187:LEU:HD12	1:D:188:LYS:CA	2.51	0.40
1:D:499:ILE:HD11	1:D:540:LEU:HD13	2.03	0.40
1:D:641:ASP:O	1:D:687:LYS:NZ	2.48	0.40
1:D:1187:GLN:O	1:D:1187:GLN:HG3	2.22	0.40
1:D:1201:ALA:HB3	1:D:1379:ALA:CB	2.51	0.40

There are no symmetry-related clashes.



## 5.3 Torsion angles

### 5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	1406/1474 (95%)	1189 (85%)	207 (15%)	10 (1%)	22	62
1	B	1404/1474 (95%)	1129 (80%)	266 (19%)	9 (1%)	25	65
1	C	1406/1474 (95%)	1189 (85%)	207 (15%)	10 (1%)	22	62
1	D	1404/1474 (95%)	1129 (80%)	266 (19%)	9 (1%)	25	65
All	All	5620/5896 (95%)	4636 (82%)	946 (17%)	38 (1%)	26	62

All (38) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	800	TYR
1	A	809	THR
1	A	850	ALA
1	A	1080	PHE
1	A	1184	GLU
1	B	800	TYR
1	B	1187	GLN
1	C	800	TYR
1	C	809	THR
1	C	850	ALA
1	C	1080	PHE
1	C	1184	GLU
1	D	800	TYR
1	D	1187	GLN
1	A	1374	SER
1	B	799	PRO
1	B	809	THR
1	C	1374	SER
1	D	799	PRO
1	D	809	THR
1	B	808	PHE
1	D	808	PHE

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Mol	Chain	Res	Type
1	A	434	TYR
1	A	647	ASN
1	B	847	CYS
1	C	434	TYR
1	C	647	ASN
1	D	847	CYS
1	A	1186	PRO
1	B	532	SER
1	B	1183	TRP
1	C	1186	PRO
1	D	532	SER
1	D	1183	TRP
1	A	936	PRO
1	C	936	PRO
1	B	936	PRO
1	D	936	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	1236/1290 (96%)	1218 (98%)	18 (2%)	65 80
1	B	1236/1290 (96%)	1222 (99%)	14 (1%)	73 85
1	C	1236/1290 (96%)	1218 (98%)	18 (2%)	65 80
1	D	1236/1290 (96%)	1222 (99%)	14 (1%)	73 85
All	All	4944/5160 (96%)	4880 (99%)	64 (1%)	70 82

All (64) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	93	LYS
1	A	271	LYS
1	A	313	ARG
1	A	410	ASN
1	A	426	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	732	ARG
1	A	787	ARG
1	A	811	LYS
1	A	821	CYS
1	A	823	ARG
1	A	849	CYS
1	A	863	LYS
1	A	869	ASN
1	A	1019	LYS
1	A	1080	PHE
1	A	1188	LYS
1	A	1393	LYS
1	A	1424	ASN
1	B	115	LYS
1	B	247	ASN
1	B	314	LYS
1	B	625	LYS
1	B	787	ARG
1	B	811	LYS
1	B	823	ARG
1	B	863	LYS
1	B	1183	TRP
1	B	1271	ARG
1	B	1372	SER
1	B	1393	LYS
1	B	1397	LYS
1	B	1429	LEU
1	C	93	LYS
1	C	271	LYS
1	C	313	ARG
1	C	410	ASN
1	C	426	LYS
1	C	732	ARG
1	C	787	ARG
1	C	811	LYS
1	C	821	CYS
1	C	823	ARG
1	C	849	CYS
1	C	863	LYS
1	C	869	ASN
1	C	1019	LYS
1	C	1080	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	1188	LYS
1	C	1393	LYS
1	C	1424	ASN
1	D	115	LYS
1	D	247	ASN
1	D	314	LYS
1	D	625	LYS
1	D	787	ARG
1	D	811	LYS
1	D	823	ARG
1	D	863	LYS
1	D	1183	TRP
1	D	1271	ARG
1	D	1372	SER
1	D	1393	LYS
1	D	1397	LYS
1	D	1429	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (36) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	182	GLN
1	A	279	HIS
1	A	284	GLN
1	A	392	ASN
1	A	483	ASN
1	A	917	ASN
1	A	1015	GLN
1	A	1259	HIS
1	A	1277	GLN
1	A	1291	GLN
1	A	1295	ASN
1	A	1325	GLN
1	B	132	GLN
1	B	182	GLN
1	B	247	ASN
1	B	693	GLN
1	B	976	ASN
1	C	279	HIS
1	C	284	GLN
1	C	392	ASN
1	C	483	ASN

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Mol	Chain	Res	Type
1	C	917	ASN
1	C	1015	GLN
1	C	1259	HIS
1	C	1277	GLN
1	C	1291	GLN
1	C	1295	ASN
1	C	1325	GLN
1	D	85	HIS
1	D	132	GLN
1	D	182	GLN
1	D	247	ASN
1	D	693	GLN
1	D	976	ASN
1	D	1013	GLN
1	D	1346	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](#)

18 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	NAG	E	1	2	14,14,15	0.38	0	17,19,21	0.57	0
2	NAG	E	2	2	14,14,15	0.39	0	17,19,21	1.07	1 (5%)
2	BMA	E	3	2	11,11,12	0.23	0	15,15,17	0.77	1 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	MAN	E	4	2	11,11,12	0.23	0	15,15,17	0.58	0
3	NAG	F	1	3,1	14,14,15	0.33	0	17,19,21	0.84	0
3	NAG	F	2	3	14,14,15	0.29	0	17,19,21	0.73	0
3	BMA	F	3	3	11,11,12	0.23	0	15,15,17	0.63	0
4	NAG	G	1	1,4	14,14,15	0.63	0	17,19,21	1.66	4 (23%)
4	NAG	G	2	4	14,14,15	0.38	0	17,19,21	0.83	1 (5%)
2	NAG	H	1	2	14,14,15	0.38	0	17,19,21	0.57	0
2	NAG	H	2	2	14,14,15	0.39	0	17,19,21	1.07	1 (5%)
2	BMA	H	3	2	11,11,12	0.23	0	15,15,17	0.77	1 (6%)
2	MAN	H	4	2	11,11,12	0.23	0	15,15,17	0.58	0
3	NAG	I	1	3,1	14,14,15	0.33	0	17,19,21	0.84	0
3	NAG	I	2	3	14,14,15	0.29	0	17,19,21	0.73	0
3	BMA	I	3	3	11,11,12	0.23	0	15,15,17	0.63	0
4	NAG	J	1	1,4	14,14,15	0.63	0	17,19,21	1.66	4 (23%)
4	NAG	J	2	4	14,14,15	0.38	0	17,19,21	0.83	1 (5%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	E	1	2	-	4/6/23/26	0/1/1/1
2	NAG	E	2	2	-	3/6/23/26	0/1/1/1
2	BMA	E	3	2	-	1/2/19/22	0/1/1/1
2	MAN	E	4	2	-	1/2/19/22	0/1/1/1
3	NAG	F	1	3,1	-	4/6/23/26	0/1/1/1
3	NAG	F	2	3	-	4/6/23/26	0/1/1/1
3	BMA	F	3	3	-	1/2/19/22	0/1/1/1
4	NAG	G	1	1,4	-	4/6/23/26	0/1/1/1
4	NAG	G	2	4	-	5/6/23/26	0/1/1/1
2	NAG	H	1	2	-	4/6/23/26	0/1/1/1
2	NAG	H	2	2	-	3/6/23/26	0/1/1/1
2	BMA	H	3	2	-	1/2/19/22	0/1/1/1
2	MAN	H	4	2	-	1/2/19/22	0/1/1/1
3	NAG	I	1	3,1	-	4/6/23/26	0/1/1/1
3	NAG	I	2	3	-	4/6/23/26	0/1/1/1
3	BMA	I	3	3	-	1/2/19/22	0/1/1/1
4	NAG	J	1	1,4	-	4/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	J	2	4	-	5/6/23/26	0/1/1/1

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	G	1	NAG	O5-C1-C2	-4.00	104.98	111.29
4	J	1	NAG	O5-C1-C2	-4.00	104.98	111.29
2	E	2	NAG	C1-O5-C5	3.42	116.83	112.19
2	H	2	NAG	C1-O5-C5	3.42	116.83	112.19
4	G	1	NAG	O4-C4-C3	3.32	118.03	110.35
4	J	1	NAG	O4-C4-C3	3.32	118.03	110.35
4	G	1	NAG	C1-O5-C5	2.28	115.28	112.19
4	J	1	NAG	C1-O5-C5	2.28	115.28	112.19
4	G	1	NAG	C4-C3-C2	2.22	114.28	111.02
4	J	1	NAG	C4-C3-C2	2.22	114.28	111.02
2	E	3	BMA	C1-O5-C5	2.08	115.01	112.19
2	H	3	BMA	C1-O5-C5	2.08	115.01	112.19
4	G	2	NAG	C4-C3-C2	2.06	114.03	111.02
4	J	2	NAG	C4-C3-C2	2.06	114.03	111.02

There are no chirality outliers.

All (54) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	E	1	NAG	C3-C2-N2-C7
2	E	1	NAG	C8-C7-N2-C2
2	E	1	NAG	O7-C7-N2-C2
2	E	2	NAG	C8-C7-N2-C2
2	E	2	NAG	O7-C7-N2-C2
2	H	1	NAG	C3-C2-N2-C7
2	H	1	NAG	C8-C7-N2-C2
2	H	1	NAG	O7-C7-N2-C2
2	H	2	NAG	C8-C7-N2-C2
2	H	2	NAG	O7-C7-N2-C2
3	F	1	NAG	C1-C2-N2-C7
3	F	1	NAG	C8-C7-N2-C2
3	F	1	NAG	O7-C7-N2-C2
3	F	2	NAG	C8-C7-N2-C2
3	F	2	NAG	O7-C7-N2-C2
3	I	1	NAG	C1-C2-N2-C7

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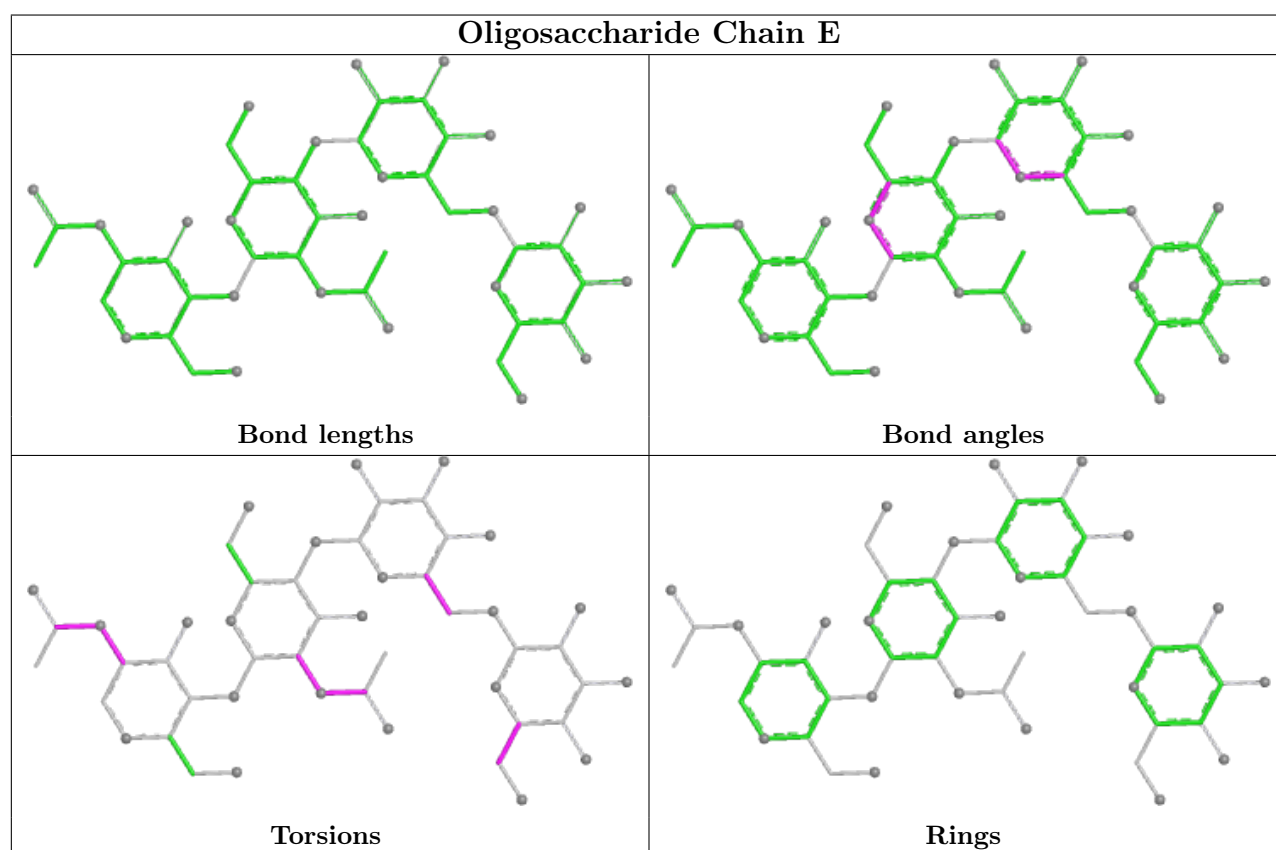
Mol	Chain	Res	Type	Atoms
3	I	1	NAG	C8-C7-N2-C2
3	I	1	NAG	O7-C7-N2-C2
3	I	2	NAG	C8-C7-N2-C2
3	I	2	NAG	O7-C7-N2-C2
4	G	1	NAG	C8-C7-N2-C2
4	G	1	NAG	O7-C7-N2-C2
4	G	2	NAG	C3-C2-N2-C7
4	G	2	NAG	C8-C7-N2-C2
4	G	2	NAG	O7-C7-N2-C2
4	J	1	NAG	C8-C7-N2-C2
4	J	1	NAG	O7-C7-N2-C2
4	J	2	NAG	C3-C2-N2-C7
4	J	2	NAG	C8-C7-N2-C2
4	J	2	NAG	O7-C7-N2-C2
3	F	2	NAG	C1-C2-N2-C7
3	I	2	NAG	C1-C2-N2-C7
2	E	2	NAG	C1-C2-N2-C7
2	H	2	NAG	C1-C2-N2-C7
3	F	3	BMA	O5-C5-C6-O6
3	I	3	BMA	O5-C5-C6-O6
4	G	1	NAG	O5-C5-C6-O6
4	J	1	NAG	O5-C5-C6-O6
2	E	4	MAN	O5-C5-C6-O6
2	H	4	MAN	O5-C5-C6-O6
2	E	3	BMA	O5-C5-C6-O6
2	H	3	BMA	O5-C5-C6-O6
3	F	2	NAG	C3-C2-N2-C7
3	I	2	NAG	C3-C2-N2-C7
4	G	1	NAG	C3-C2-N2-C7
4	J	1	NAG	C3-C2-N2-C7
2	E	1	NAG	C1-C2-N2-C7
2	H	1	NAG	C1-C2-N2-C7
4	G	2	NAG	O5-C5-C6-O6
4	J	2	NAG	O5-C5-C6-O6
3	F	1	NAG	C3-C2-N2-C7
3	I	1	NAG	C3-C2-N2-C7
4	G	2	NAG	C4-C5-C6-O6
4	J	2	NAG	C4-C5-C6-O6

There are no ring outliers.

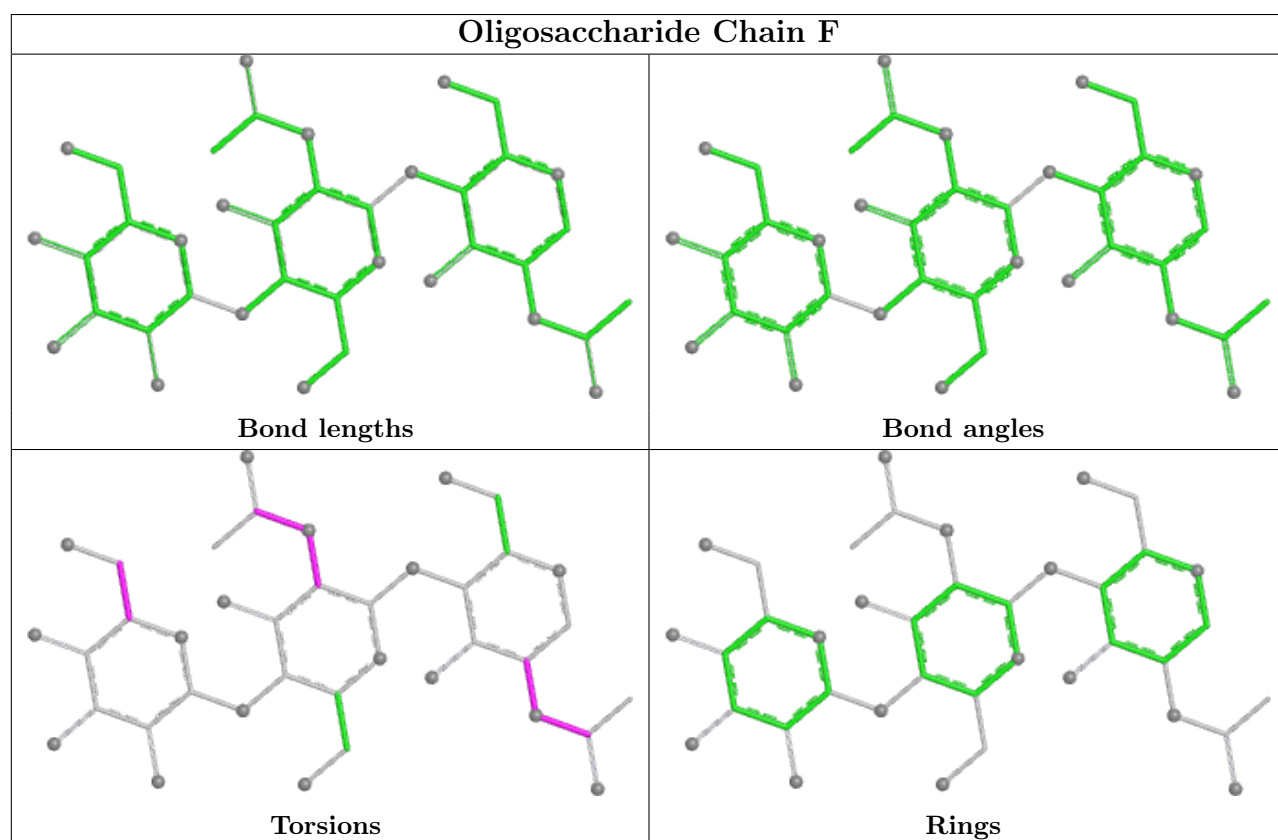
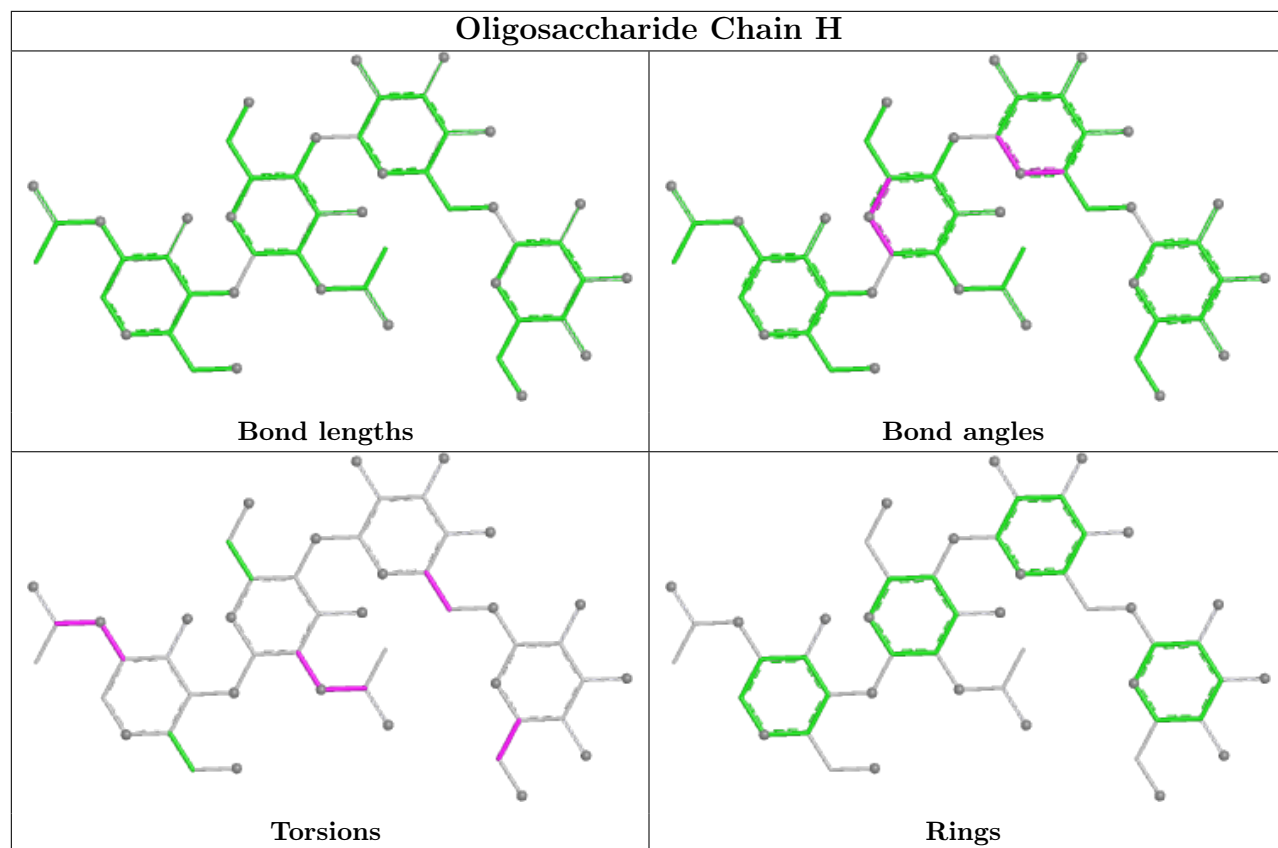
8 monomers are involved in 14 short contacts:

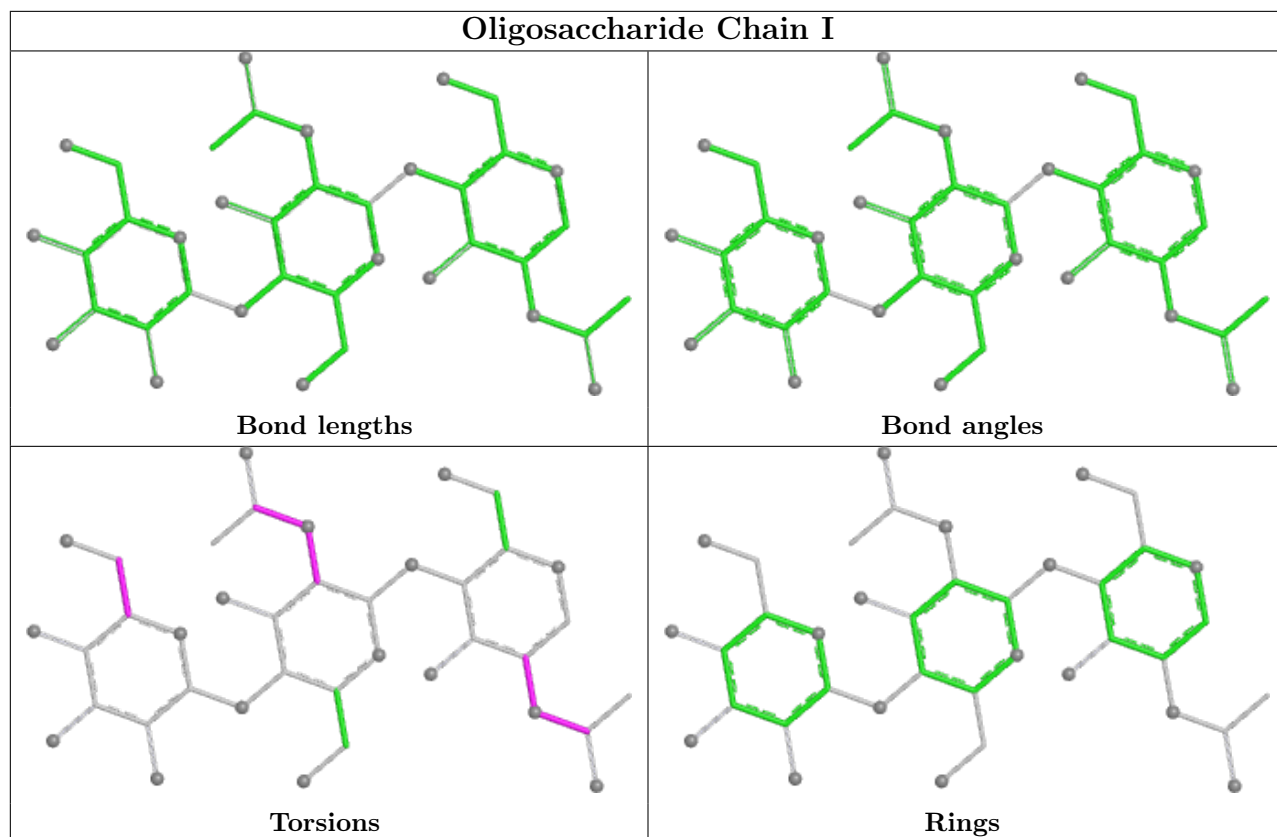
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	E	2	NAG	2	0
2	H	2	NAG	2	0
3	I	1	NAG	2	0
3	I	2	NAG	1	0
3	F	1	NAG	2	0
3	F	2	NAG	1	0
2	H	1	NAG	3	0
2	E	1	NAG	3	0

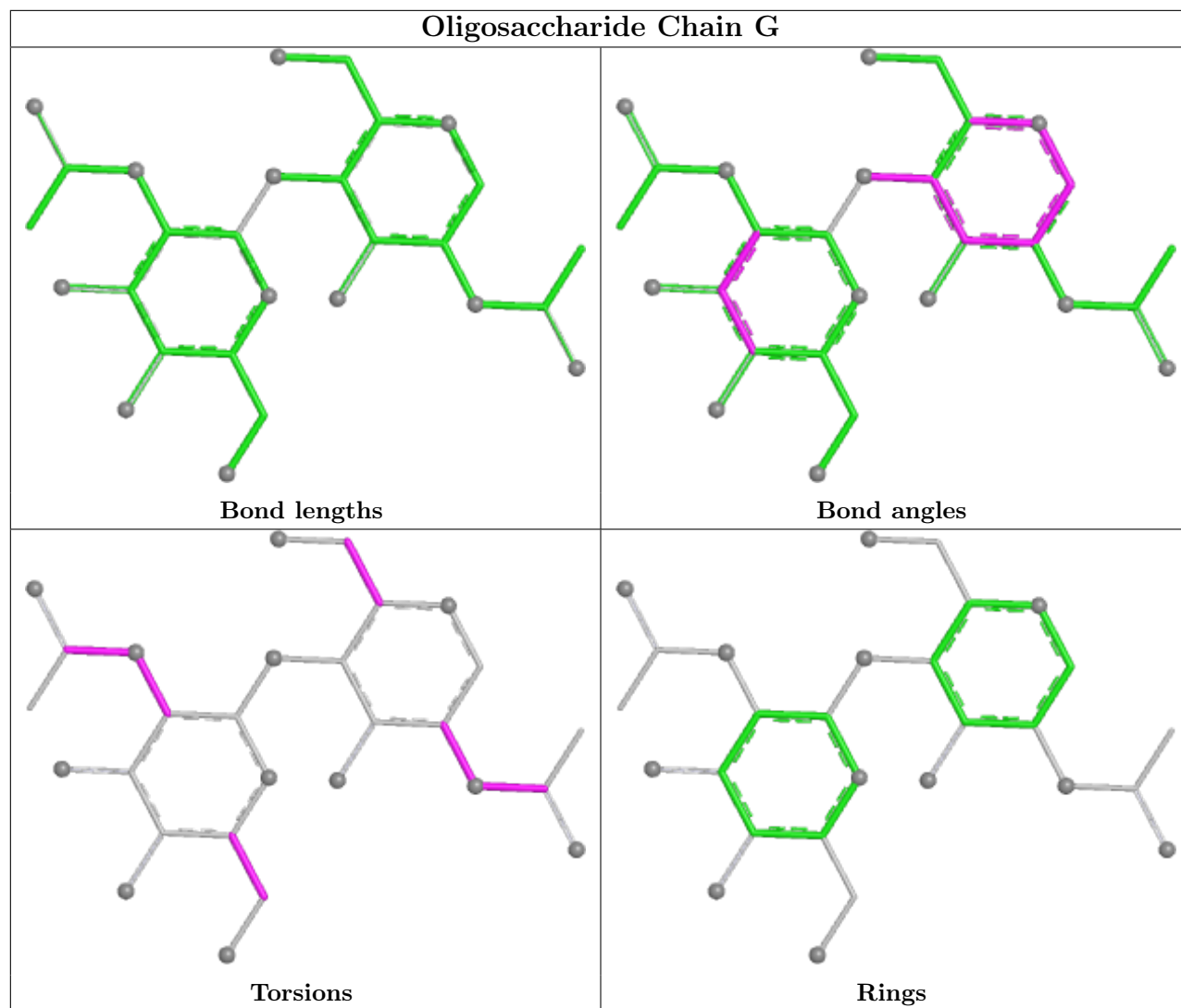
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

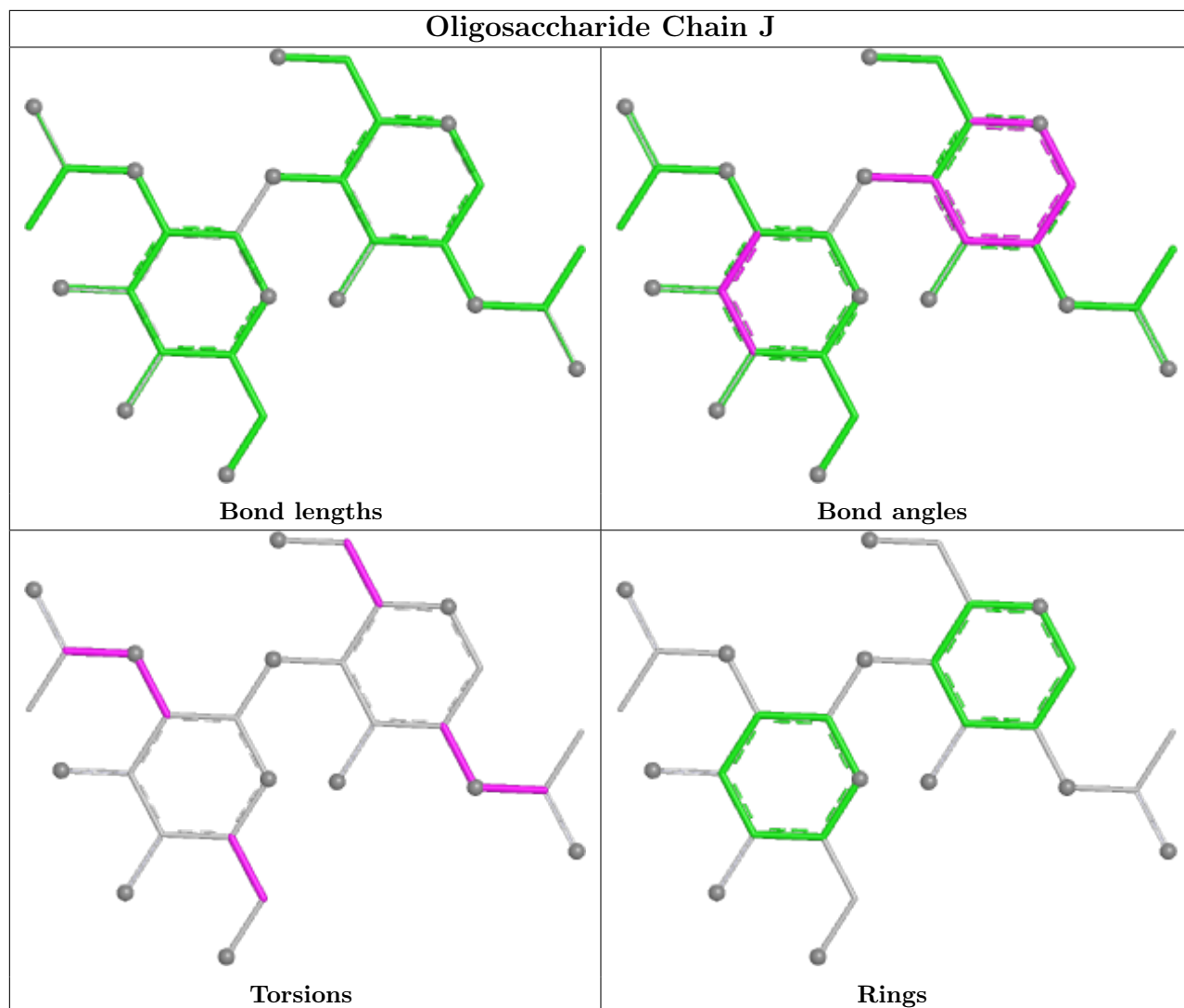












## 5.6 Ligand geometry [i](#)

26 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	2005	-	14,14,15	0.35	0	17,19,21	0.75	0
5	NAG	D	2004	-	14,14,15	0.37	0	17,19,21	0.96	1 (5%)
5	NAG	B	2004	-	14,14,15	0.37	0	17,19,21	0.96	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
5	NAG	C	2005	-	14,14,15	0.35	0	17,19,21	0.75	0
5	NAG	C	2001	1	14,14,15	0.27	0	17,19,21	1.26	2 (11%)
5	NAG	C	2004	1	14,14,15	0.33	0	17,19,21	0.64	0
5	NAG	A	2008	1	14,14,15	0.31	0	17,19,21	0.49	0
5	NAG	A	2004	1	14,14,15	0.33	0	17,19,21	0.64	0
5	NAG	D	2002	1	14,14,15	0.27	0	17,19,21	0.79	0
5	NAG	B	2002	1	14,14,15	0.27	0	17,19,21	0.79	0
5	NAG	C	2002	1	14,14,15	0.32	0	17,19,21	0.52	0
5	NAG	D	2001	1	14,14,15	0.27	0	17,19,21	1.26	2 (11%)
5	NAG	B	2003	-	14,14,15	0.32	0	17,19,21	0.51	0
5	NAG	A	2002	1	14,14,15	0.32	0	17,19,21	0.52	0
5	NAG	D	2005	-	14,14,15	0.29	0	17,19,21	0.91	1 (5%)
5	NAG	C	2008	1	14,14,15	0.31	0	17,19,21	0.49	0
5	NAG	C	2003	1	14,14,15	0.30	0	17,19,21	0.92	1 (5%)
5	NAG	A	2001	1	14,14,15	0.27	0	17,19,21	1.26	2 (11%)
5	NAG	A	2007	-	14,14,15	0.30	0	17,19,21	0.68	0
5	NAG	A	2003	1	14,14,15	0.30	0	17,19,21	0.92	1 (5%)
5	NAG	B	2001	1	14,14,15	0.27	0	17,19,21	1.26	2 (11%)
5	NAG	C	2006	1	14,14,15	0.31	0	17,19,21	0.84	0
5	NAG	B	2005	-	14,14,15	0.29	0	17,19,21	0.91	1 (5%)
5	NAG	A	2006	1	14,14,15	0.31	0	17,19,21	0.84	0
5	NAG	C	2007	-	14,14,15	0.30	0	17,19,21	0.68	0
5	NAG	D	2003	-	14,14,15	0.32	0	17,19,21	0.51	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	2005	-	-	3/6/23/26	0/1/1/1
5	NAG	D	2004	-	-	4/6/23/26	0/1/1/1
5	NAG	B	2004	-	-	4/6/23/26	0/1/1/1
5	NAG	C	2005	-	-	3/6/23/26	0/1/1/1
5	NAG	C	2001	1	-	1/6/23/26	0/1/1/1
5	NAG	C	2004	1	-	4/6/23/26	0/1/1/1
5	NAG	A	2008	1	-	4/6/23/26	0/1/1/1
5	NAG	A	2004	1	-	4/6/23/26	0/1/1/1
5	NAG	D	2002	1	-	4/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	NAG	B	2002	1	-	4/6/23/26	0/1/1/1
5	NAG	C	2002	1	-	3/6/23/26	0/1/1/1
5	NAG	D	2001	1	-	1/6/23/26	0/1/1/1
5	NAG	B	2003	-	-	4/6/23/26	0/1/1/1
5	NAG	A	2002	1	-	3/6/23/26	0/1/1/1
5	NAG	D	2005	-	-	2/6/23/26	0/1/1/1
5	NAG	C	2008	1	-	4/6/23/26	0/1/1/1
5	NAG	C	2003	1	-	0/6/23/26	0/1/1/1
5	NAG	A	2001	1	-	1/6/23/26	0/1/1/1
5	NAG	A	2007	-	-	3/6/23/26	0/1/1/1
5	NAG	A	2003	1	-	0/6/23/26	0/1/1/1
5	NAG	B	2001	1	-	1/6/23/26	0/1/1/1
5	NAG	C	2006	1	-	2/6/23/26	0/1/1/1
5	NAG	B	2005	-	-	2/6/23/26	0/1/1/1
5	NAG	A	2006	1	-	2/6/23/26	0/1/1/1
5	NAG	C	2007	-	-	3/6/23/26	0/1/1/1
5	NAG	D	2003	-	-	4/6/23/26	0/1/1/1

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	A	2001	NAG	C1-O5-C5	3.89	117.46	112.19
5	C	2001	NAG	C1-O5-C5	3.89	117.46	112.19
5	B	2001	NAG	C1-O5-C5	3.84	117.40	112.19
5	D	2001	NAG	C1-O5-C5	3.84	117.40	112.19
5	B	2004	NAG	O5-C5-C6	2.48	111.10	107.20
5	D	2004	NAG	O5-C5-C6	2.48	111.10	107.20
5	B	2005	NAG	C1-O5-C5	2.39	115.43	112.19
5	D	2005	NAG	C1-O5-C5	2.39	115.43	112.19
5	B	2001	NAG	C4-C3-C2	-2.17	107.84	111.02
5	D	2001	NAG	C4-C3-C2	-2.17	107.84	111.02
5	A	2001	NAG	C4-C3-C2	-2.12	107.91	111.02
5	C	2001	NAG	C4-C3-C2	-2.12	107.91	111.02
5	A	2003	NAG	C3-C4-C5	2.02	113.84	110.24
5	C	2003	NAG	C3-C4-C5	2.02	113.84	110.24

There are no chirality outliers.

All (70) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	2002	NAG	C3-C2-N2-C7
5	A	2002	NAG	C8-C7-N2-C2
5	A	2002	NAG	O7-C7-N2-C2
5	A	2004	NAG	C8-C7-N2-C2
5	A	2004	NAG	O7-C7-N2-C2
5	A	2005	NAG	C3-C2-N2-C7
5	A	2005	NAG	C8-C7-N2-C2
5	A	2005	NAG	O7-C7-N2-C2
5	A	2006	NAG	C8-C7-N2-C2
5	A	2006	NAG	O7-C7-N2-C2
5	A	2007	NAG	C3-C2-N2-C7
5	A	2007	NAG	C8-C7-N2-C2
5	A	2007	NAG	O7-C7-N2-C2
5	A	2008	NAG	C8-C7-N2-C2
5	A	2008	NAG	O7-C7-N2-C2
5	B	2002	NAG	C3-C2-N2-C7
5	B	2002	NAG	C8-C7-N2-C2
5	B	2002	NAG	O7-C7-N2-C2
5	B	2003	NAG	C8-C7-N2-C2
5	B	2003	NAG	O7-C7-N2-C2
5	B	2004	NAG	C8-C7-N2-C2
5	B	2004	NAG	O7-C7-N2-C2
5	B	2005	NAG	C8-C7-N2-C2
5	B	2005	NAG	O7-C7-N2-C2
5	C	2002	NAG	C3-C2-N2-C7
5	C	2002	NAG	C8-C7-N2-C2
5	C	2002	NAG	O7-C7-N2-C2
5	C	2004	NAG	C8-C7-N2-C2
5	C	2004	NAG	O7-C7-N2-C2
5	C	2005	NAG	C3-C2-N2-C7
5	C	2005	NAG	C8-C7-N2-C2
5	C	2005	NAG	O7-C7-N2-C2
5	C	2006	NAG	C8-C7-N2-C2
5	C	2006	NAG	O7-C7-N2-C2
5	C	2007	NAG	C3-C2-N2-C7
5	C	2007	NAG	C8-C7-N2-C2
5	C	2007	NAG	O7-C7-N2-C2
5	C	2008	NAG	C8-C7-N2-C2
5	C	2008	NAG	O7-C7-N2-C2
5	D	2002	NAG	C3-C2-N2-C7
5	D	2002	NAG	C8-C7-N2-C2
5	D	2002	NAG	O7-C7-N2-C2
5	D	2003	NAG	C8-C7-N2-C2

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
5	D	2003	NAG	O7-C7-N2-C2
5	D	2004	NAG	C8-C7-N2-C2
5	D	2004	NAG	O7-C7-N2-C2
5	D	2005	NAG	C8-C7-N2-C2
5	D	2005	NAG	O7-C7-N2-C2
5	A	2008	NAG	O5-C5-C6-O6
5	C	2008	NAG	O5-C5-C6-O6
5	B	2004	NAG	O5-C5-C6-O6
5	D	2004	NAG	O5-C5-C6-O6
5	B	2002	NAG	O5-C5-C6-O6
5	D	2002	NAG	O5-C5-C6-O6
5	B	2004	NAG	C3-C2-N2-C7
5	D	2004	NAG	C3-C2-N2-C7
5	A	2004	NAG	C4-C5-C6-O6
5	C	2004	NAG	C4-C5-C6-O6
5	A	2008	NAG	C3-C2-N2-C7
5	C	2008	NAG	C3-C2-N2-C7
5	B	2003	NAG	C1-C2-N2-C7
5	D	2003	NAG	C1-C2-N2-C7
5	A	2004	NAG	O5-C5-C6-O6
5	C	2004	NAG	O5-C5-C6-O6
5	A	2001	NAG	C3-C2-N2-C7
5	B	2001	NAG	C3-C2-N2-C7
5	B	2003	NAG	C3-C2-N2-C7
5	C	2001	NAG	C3-C2-N2-C7
5	D	2001	NAG	C3-C2-N2-C7
5	D	2003	NAG	C3-C2-N2-C7

There are no ring outliers.

6 monomers are involved in 14 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	2005	NAG	2	0
5	D	2004	NAG	1	0
5	B	2004	NAG	1	0
5	C	2005	NAG	2	0
5	B	2003	NAG	4	0
5	D	2003	NAG	4	0



## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	B	1
1	D	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	629:GLY	C	630:PHE	N	4.62
1	D	629:GLY	C	630:PHE	N	4.62

## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-12747. These allow visual inspection of the internal detail of the map and identification of artifacts.

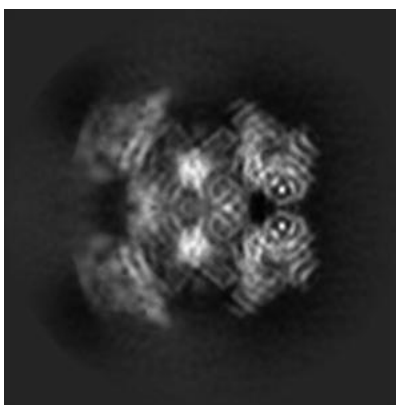
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

### 6.1 Orthogonal projections [i](#)

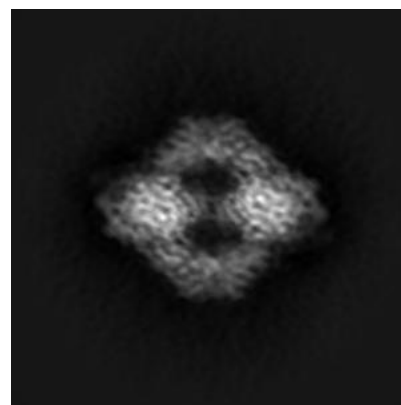
#### 6.1.1 Primary map



X



Y

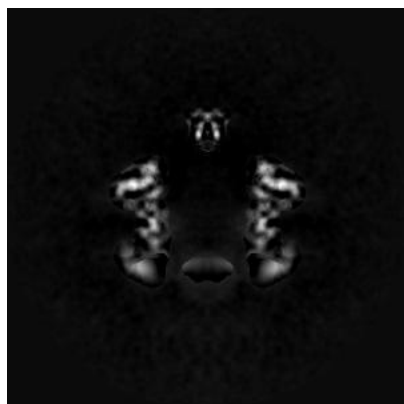


Z

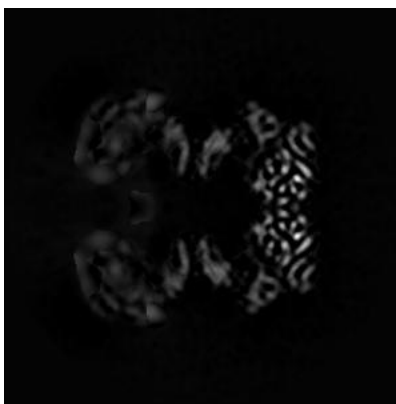
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

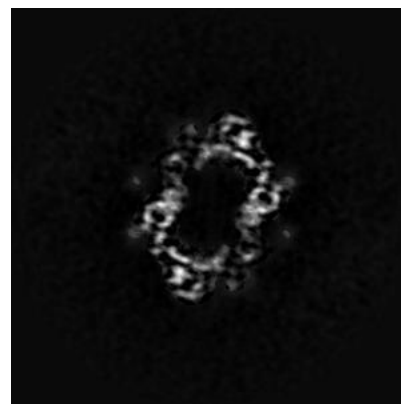
#### 6.2.1 Primary map



X Index: 160



Y Index: 160

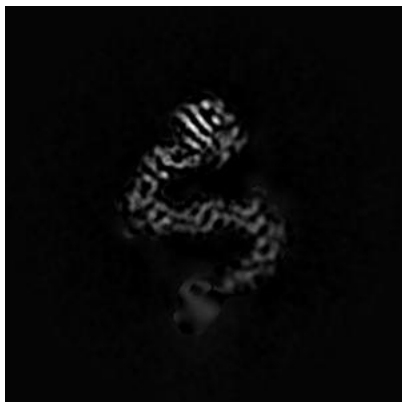


Z Index: 160

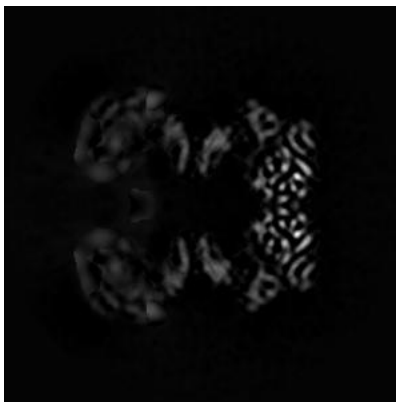
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

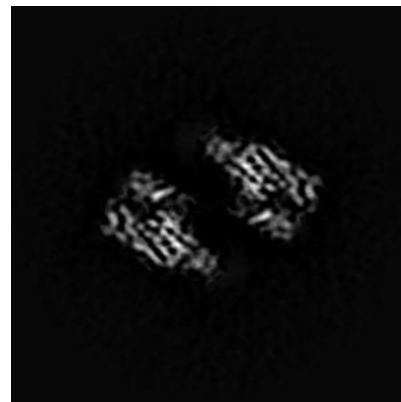
### 6.3.1 Primary map



X Index: 130



Y Index: 160

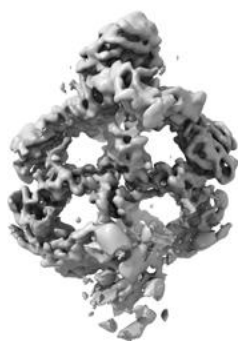


Z Index: 194

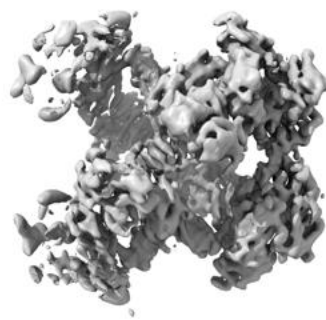
The images above show the largest variance slices of the map in three orthogonal directions.

## 6.4 Orthogonal surface views [i](#)

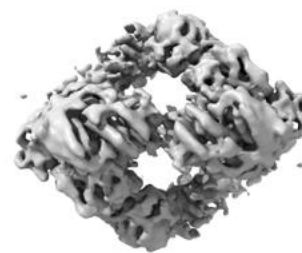
### 6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.015. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

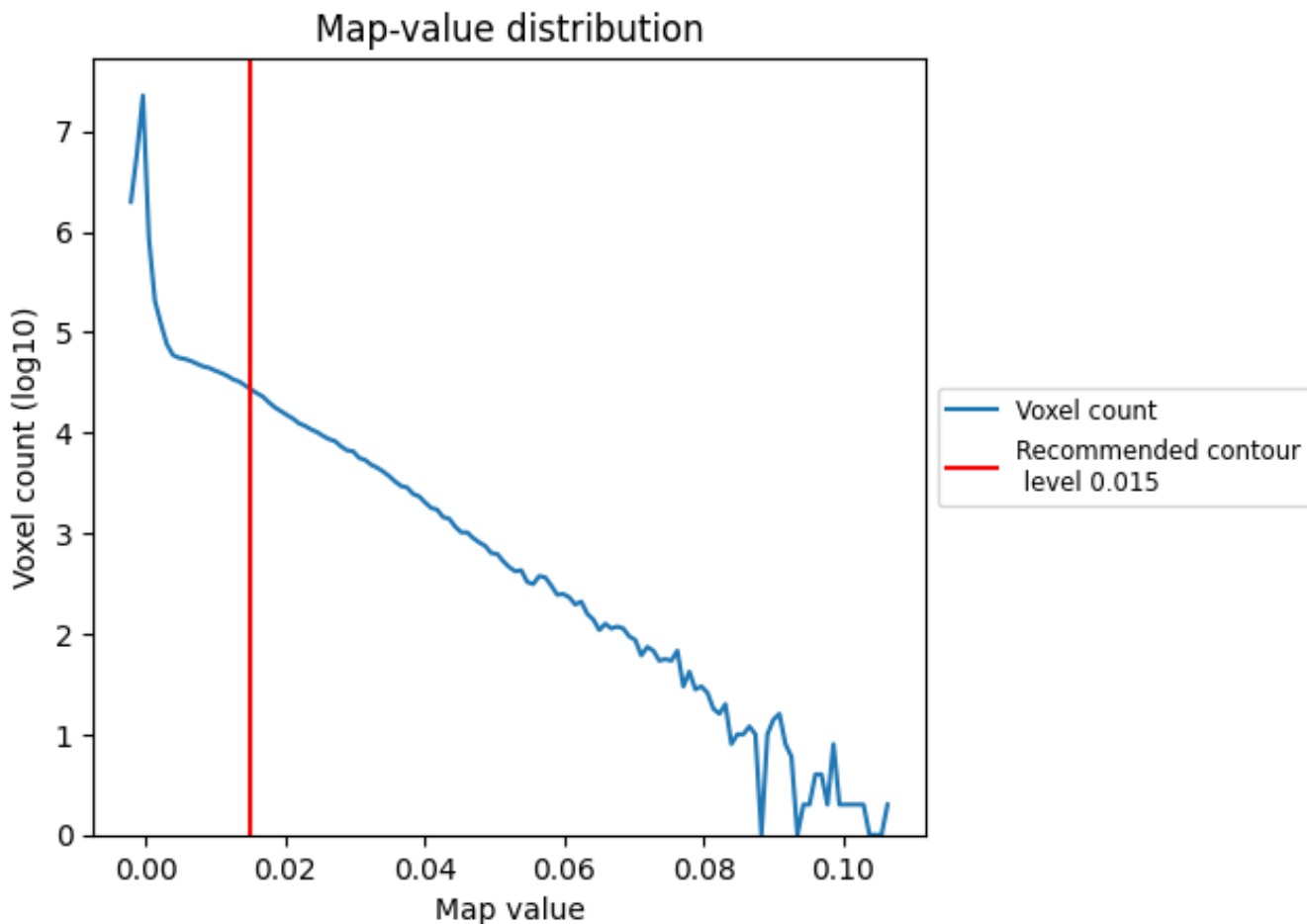
## 6.5 Mask visualisation

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

## 7 Map analysis [i](#)

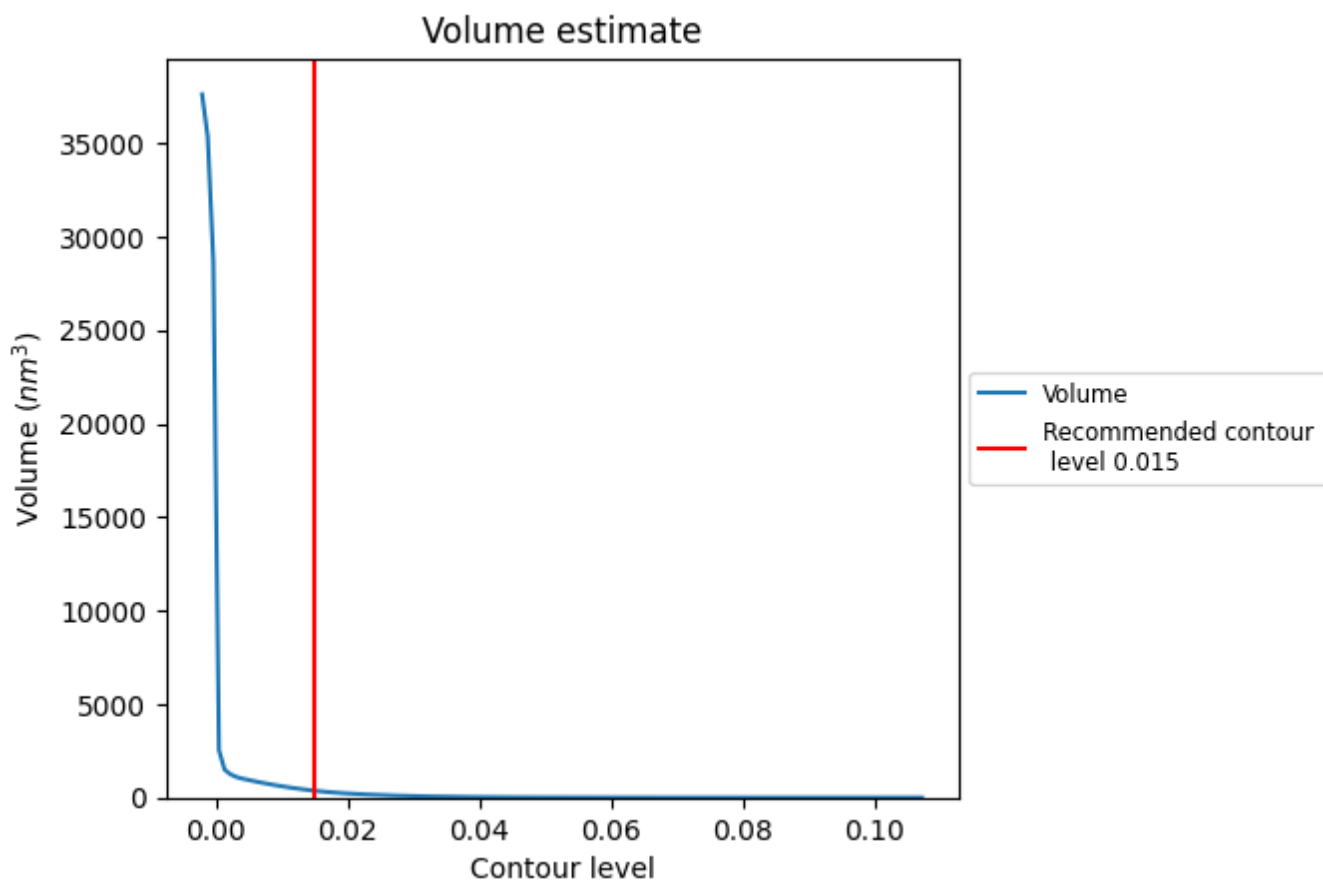
This section contains the results of statistical analysis of the map.

### 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.

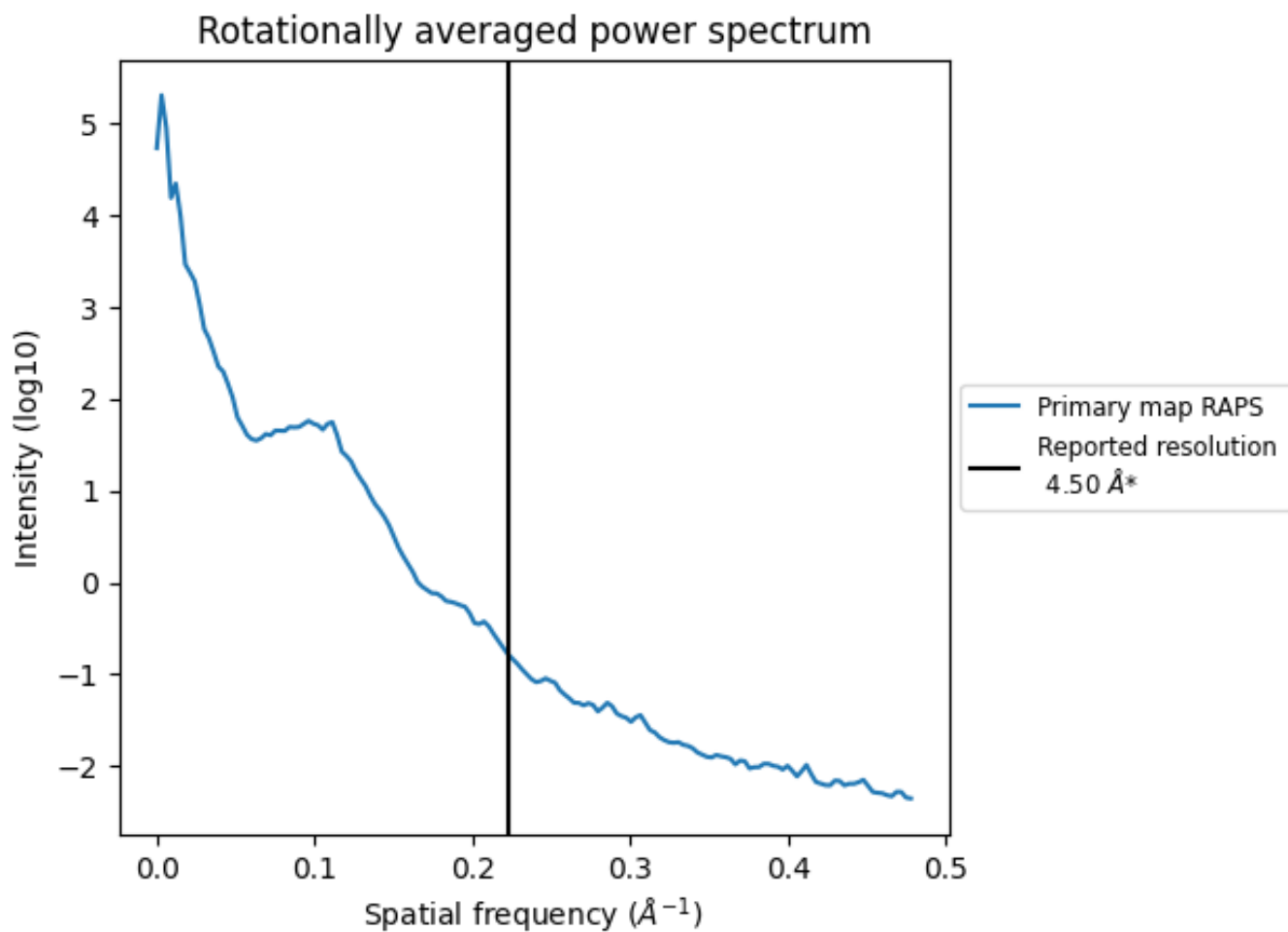
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 363 nm<sup>3</sup>; this corresponds to an approximate mass of 328 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  $0.222 \text{\AA}^{-1}$

## 8 Fourier-Shell correlation

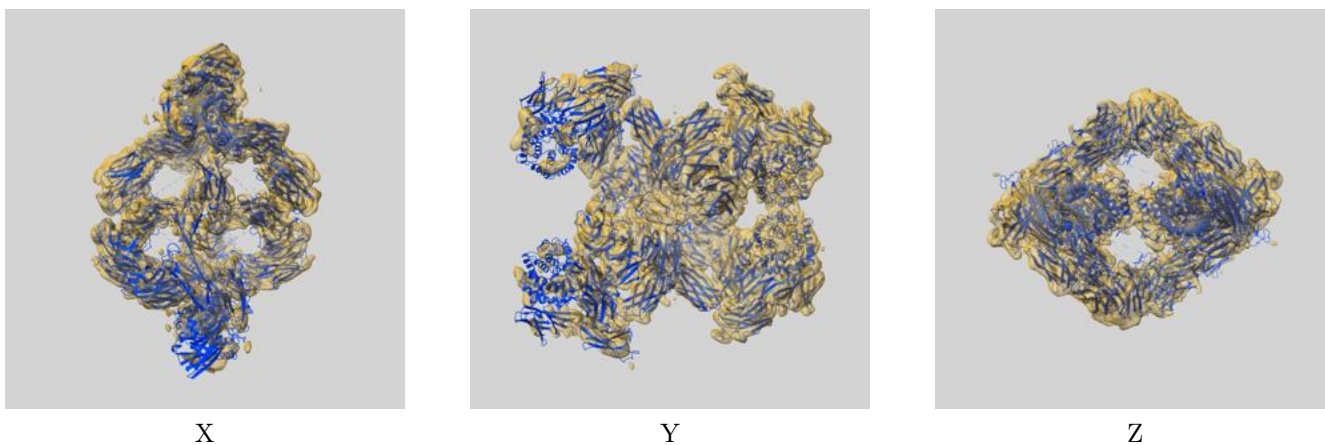
This section was not generated. No FSC curve or half-maps provided.



## 9 Map-model fit [i](#)

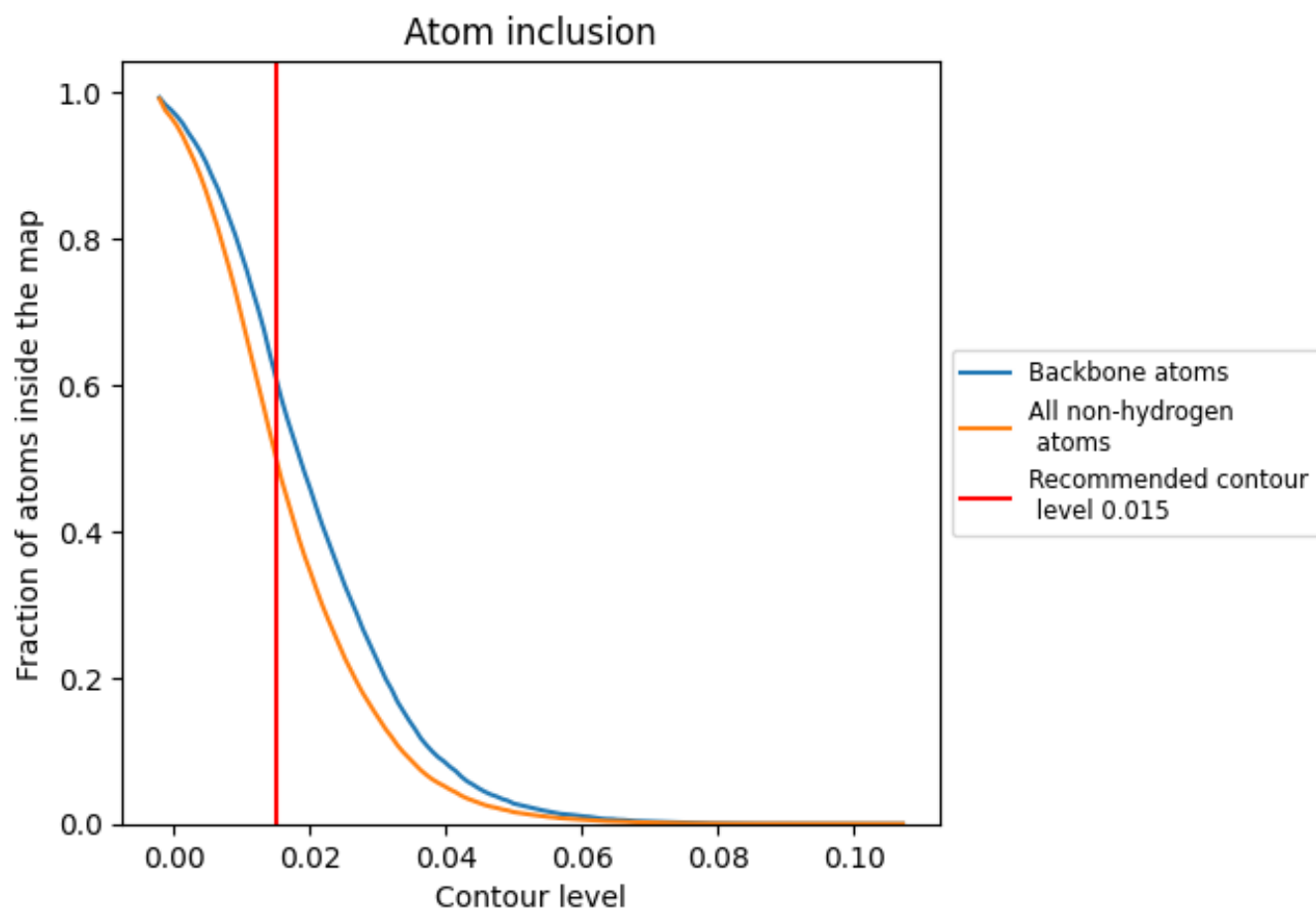
This section contains information regarding the fit between EMDB map EMD-12747 and PDB model 7O7L. Per-residue inclusion information can be found in section 3 on page 8.

### 9.1 Map-model overlay [i](#)



The images above show the 3D surface view of the map at the recommended contour level 0.015 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 Atom inclusion [i](#)



At the recommended contour level, 61% of all backbone atoms, 50% of all non-hydrogen atoms, are inside the map.