Full wwPDB EM Validation Report ⓘ

May 13, 2025 – 06:27 PM EDT

PDB ID	:	6W5V / pdb_00006w5v
EMDB ID	:	EMD-21549
Title	:	NPC1-NPC2 complex structure at pH 5.5
Authors	:	Yan, N.; Qian, H.W.; Wu, X.L.
Deposited on	:	2020-03-13
Resolution	:	4.00 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

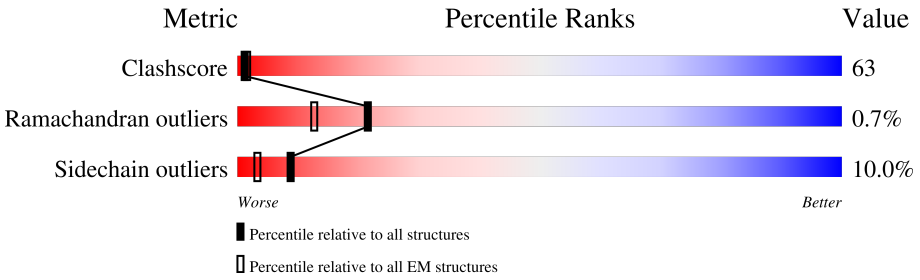
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

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 4.00 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	1311	8% 32% 52% 5% 10%
2	D	161	45% 19% 49% 14% 18%
3	B	2	50% 50%
3	E	2	50% 50% 50%
3	F	2	50% 100%
3	G	2	50% 100%
4	C	3	67% 33%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard

residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	NAG	E	1	X	-	-	-
3	NAG	E	2	X	-	-	-
3	NAG	F	2	X	-	-	-
3	NAG	G	1	-	-	X	-
5	NAG	A	1414	-	-	X	-

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 10586 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 NPC intracellular cholesterol transporter 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1175	9189	5954	1479	1685	71	0	0

There are 33 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1279	LEU	-	expression tag	UNP O15118
A	1280	GLU	-	expression tag	UNP O15118
A	1281	GLY	-	expression tag	UNP O15118
A	1282	SER	-	expression tag	UNP O15118
A	1283	ASP	-	expression tag	UNP O15118
A	1284	GLU	-	expression tag	UNP O15118
A	1285	VAL	-	expression tag	UNP O15118
A	1286	ASP	-	expression tag	UNP O15118
A	1287	ALA	-	expression tag	UNP O15118
A	1288	GLY	-	expression tag	UNP O15118
A	1289	SER	-	expression tag	UNP O15118
A	1290	HIS	-	expression tag	UNP O15118
A	1291	HIS	-	expression tag	UNP O15118
A	1292	HIS	-	expression tag	UNP O15118
A	1293	HIS	-	expression tag	UNP O15118
A	1294	HIS	-	expression tag	UNP O15118
A	1295	HIS	-	expression tag	UNP O15118
A	1296	HIS	-	expression tag	UNP O15118
A	1297	HIS	-	expression tag	UNP O15118
A	1298	HIS	-	expression tag	UNP O15118
A	1299	HIS	-	expression tag	UNP O15118
A	1300	GLY	-	expression tag	UNP O15118
A	1301	SER	-	expression tag	UNP O15118
A	1302	VAL	-	expression tag	UNP O15118
A	1303	GLU	-	expression tag	UNP O15118
A	1304	ASP	-	expression tag	UNP O15118
A	1305	TYR	-	expression tag	UNP O15118
A	1306	LYS	-	expression tag	UNP O15118

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1307	ASP	-	expression tag	UNP O15118
A	1308	ASP	-	expression tag	UNP O15118
A	1309	ASP	-	expression tag	UNP O15118
A	1310	ASP	-	expression tag	UNP O15118
A	1311	LYS	-	expression tag	UNP O15118

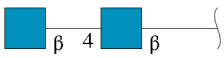
- Molecule 2 is a protein called NPC intracellular cholesterol transporter 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	D	132	Total	C	N	O	S	0	0
			1022	654	166	195	7		

There are 10 discrepancies between the modelled and reference sequences:

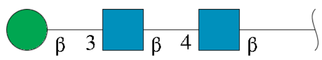
Chain	Residue	Modelled	Actual	Comment	Reference
D	152	LEU	-	expression tag	UNP P61916
D	153	GLU	-	expression tag	UNP P61916
D	154	HIS	-	expression tag	UNP P61916
D	155	HIS	-	expression tag	UNP P61916
D	156	HIS	-	expression tag	UNP P61916
D	157	HIS	-	expression tag	UNP P61916
D	158	HIS	-	expression tag	UNP P61916
D	159	HIS	-	expression tag	UNP P61916
D	160	HIS	-	expression tag	UNP P61916
D	161	HIS	-	expression tag	UNP P61916

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



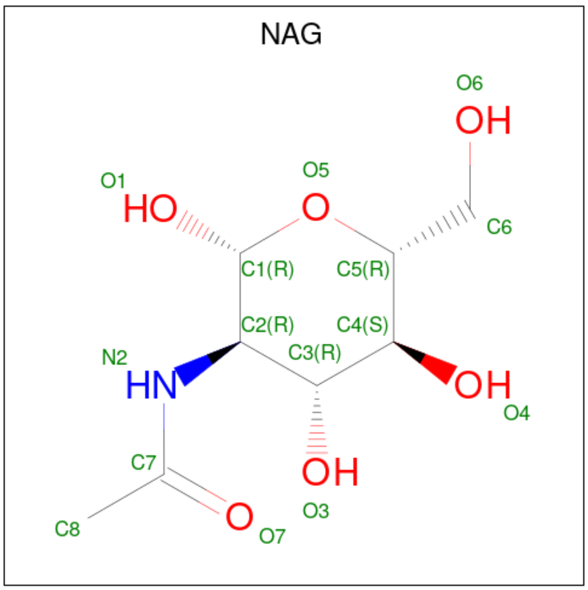
Mol	Chain	Residues	Atoms				AltConf	Trace
3	B	2	Total	C	N	O	0	0
			28	16	2	10		
3	E	2	Total	C	N	O	0	0
			28	16	2	10		
3	F	2	Total	C	N	O	0	0
			28	16	2	10		
3	G	2	Total	C	N	O	0	0
			28	16	2	10		

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



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

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



Mol	Chain	Residues	Atoms	AltConf
5	A	1	Total C N O 14 8 1 5	0
5	A	1	Total C N O 14 8 1 5	0
5	A	1	Total C N O 14 8 1 5	0
5	A	1	Total C N O 14 8 1 5	0
5	A	1	Total C N O 14 8 1 5	0
5	A	1	Total C N O 14 8 1 5	0
5	A	1	Total C N O 14 8 1 5	0

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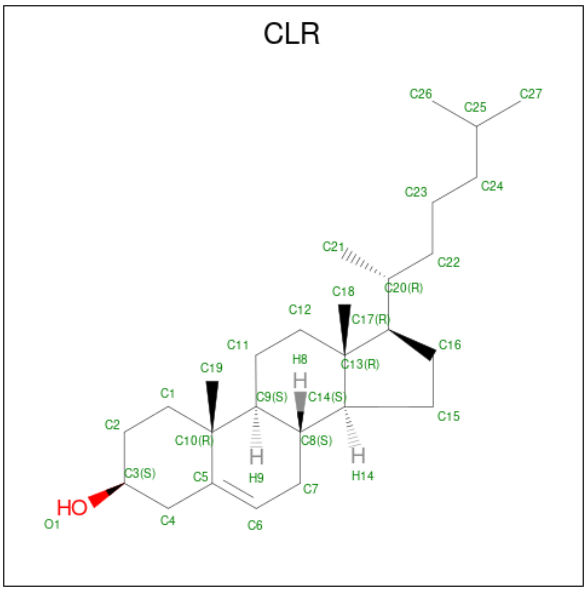
Mol	Chain	Residues	Atoms	AltConf
5	A	1	Total C N O 14 8 1 5	0
5	A	1	Total C N O 14 8 1 5	0
5	D	1	Total C N O 14 8 1 5	0

- Molecule 6 is CHOLESTEROL (CCD ID: CLR) (formula: $C_{27}H_{46}O$) (labeled as "Ligand of Interest" by depositor).



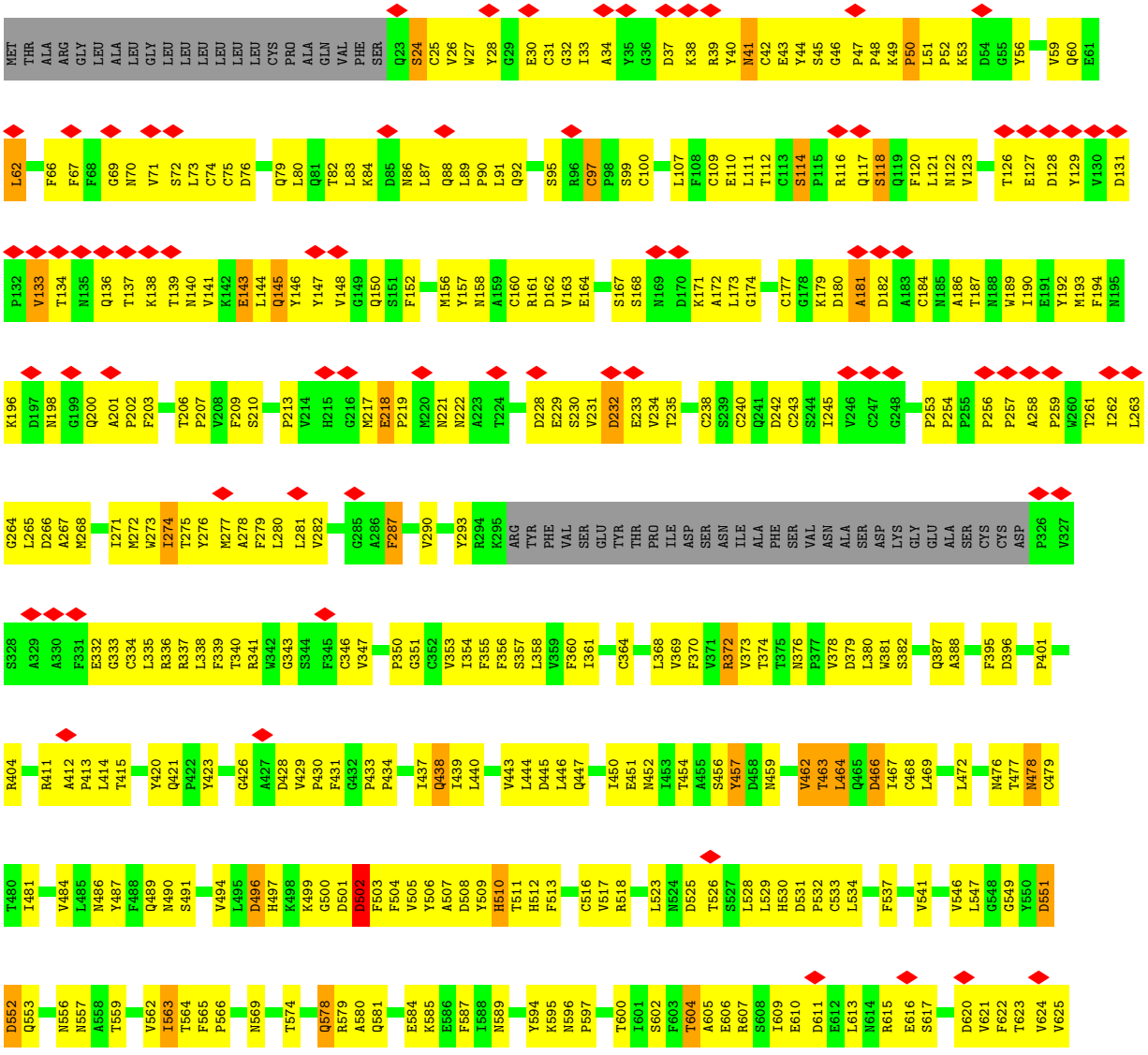
Mol	Chain	Residues	Atoms	AltConf
6	A	1	Total C O 28 27 1	0
6	A	1	Total C O 28 27 1	0
6	D	1	Total C O 28 27 1	0

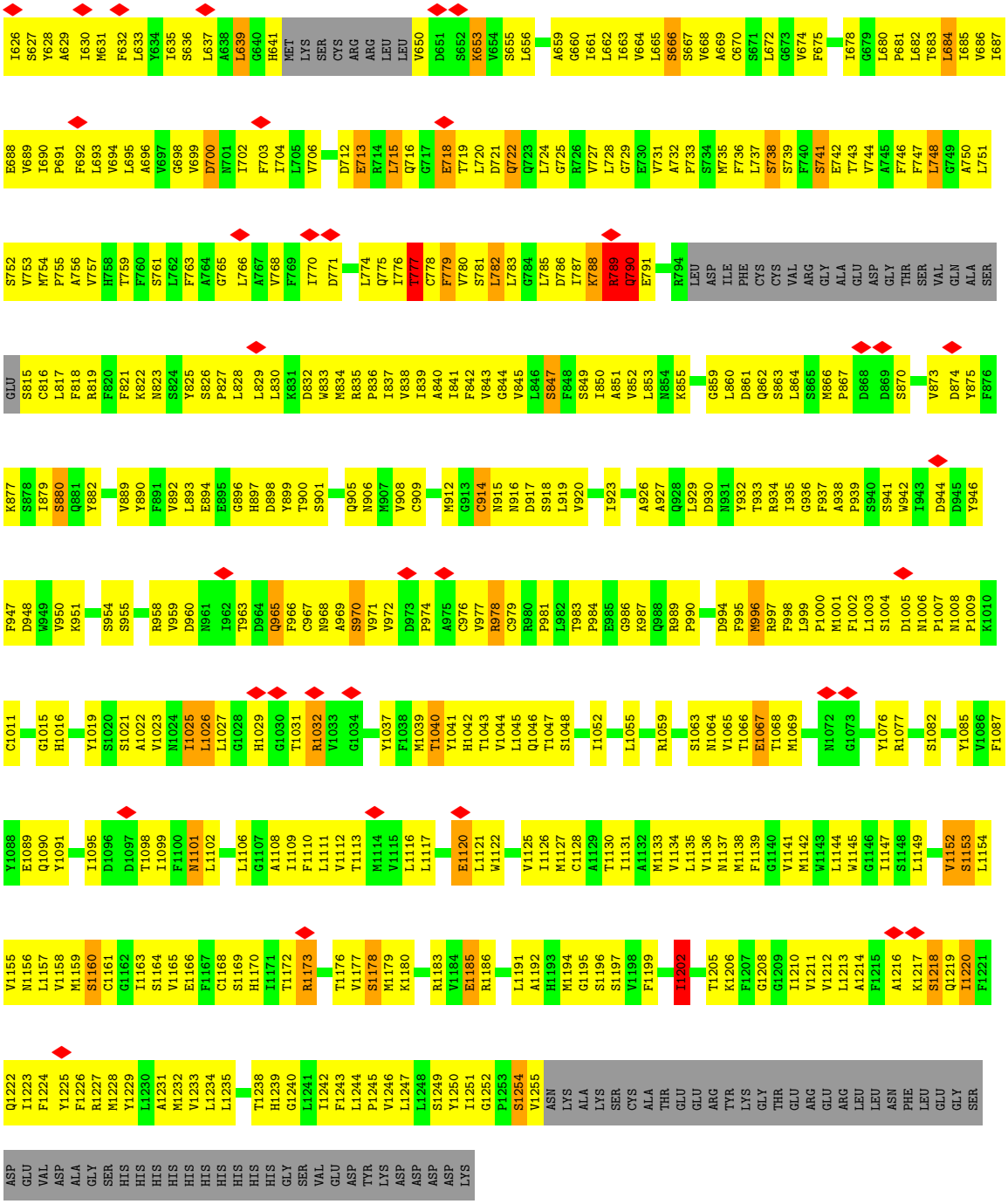
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and 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: NPC intracellular cholesterol transporter 1

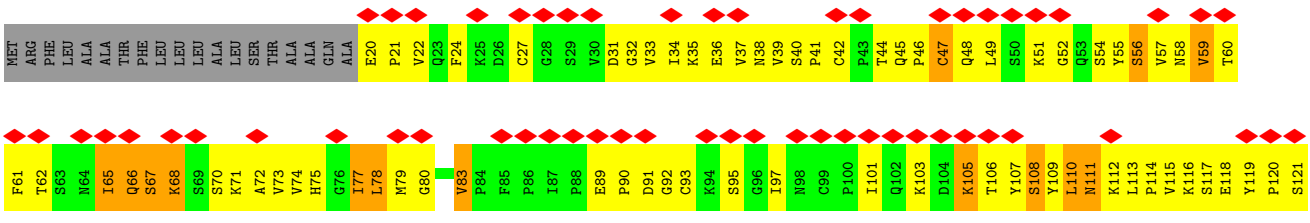
Chain A:

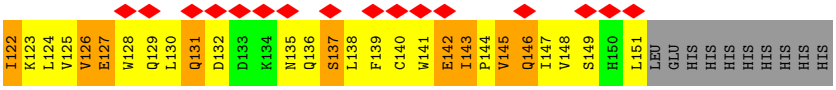




• Molecule 2: NPC intracellular cholesterol transporter 2

Chain D:





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

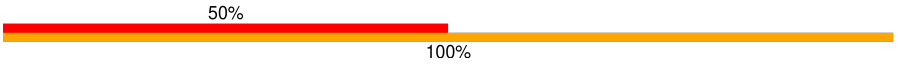
Chain B:

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

Chain E:

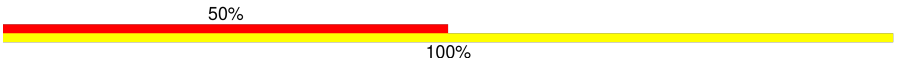
• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain F:



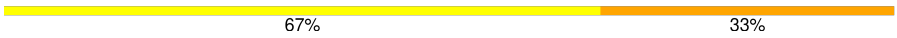
• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G:



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

Chain C:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	101364	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.108	Depositor
Minimum map value	-0.048	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.022	Depositor
Map size (Å)	267.36, 267.36, 267.36	wwPDB
Map dimensions	240, 240, 240	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.114, 1.114, 1.114	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: NAG, CLR, 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	0.41	1/9431 (0.0%)	0.88	27/12847 (0.2%)
2	D	0.30	0/1048	1.04	8/1428 (0.6%)
All	All	0.40	1/10479 (0.0%)	0.89	35/14275 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	748	LEU	CA-C	-5.50	1.45	1.52

All (35) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	551	ASP	N-CA-C	12.15	126.58	112.72
1	A	777	THR	N-CA-C	11.47	123.53	111.14
1	A	789	ARG	N-CA-C	10.84	123.10	111.28
1	A	372	ARG	CB-CA-C	10.66	135.24	111.78
1	A	1202	ILE	N-CA-C	10.58	121.40	110.72
1	A	496	ASP	N-CA-C	10.01	122.27	111.36
2	D	59	VAL	CB-CA-C	-9.71	98.37	110.99
1	A	791	GLU	N-CA-C	9.45	121.58	111.28
2	D	59	VAL	N-CA-C	8.25	120.40	107.28
2	D	122	ILE	CB-CA-C	8.17	124.69	111.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	823	ASN	N-CA-C	7.69	119.67	111.28
1	A	716	GLN	N-CA-C	7.42	119.16	111.14
1	A	426	GLY	N-CA-C	7.38	119.54	112.08
1	A	565	PHE	N-CA-C	-7.33	92.89	108.73
1	A	563	ILE	CB-CA-C	-6.92	98.49	111.30
1	A	372	ARG	N-CA-C	-6.81	99.81	110.36
1	A	788	LYS	N-CA-C	-6.76	103.83	111.07
1	A	989	ARG	CA-C-N	6.40	127.84	119.84
1	A	989	ARG	C-N-CA	6.40	127.84	119.84
2	D	143	ILE	CB-CA-C	-6.24	100.00	111.36
1	A	133	VAL	N-CA-C	-5.94	107.09	111.90
1	A	1152	VAL	N-CA-C	-5.71	105.52	111.58
2	D	126	VAL	N-CA-C	-5.69	101.47	109.21
1	A	908	VAL	N-CA-C	-5.66	106.80	113.42
1	A	779	PHE	CA-C-N	-5.63	112.43	120.42
1	A	779	PHE	C-N-CA	-5.63	112.43	120.42
2	D	122	ILE	CA-C-N	5.46	131.12	122.94
2	D	122	ILE	C-N-CA	5.46	131.12	122.94
2	D	111	ASN	CB-CA-C	5.34	120.88	110.30
1	A	62	LEU	CA-C-N	-5.21	116.52	122.26
1	A	62	LEU	C-N-CA	-5.21	116.52	122.26
1	A	60	GLN	N-CA-C	5.19	116.75	111.14
1	A	1055	LEU	CA-CB-CG	-5.13	98.35	116.30
1	A	790	GLN	N-CA-C	5.10	116.84	111.28
1	A	181	ALA	N-CA-C	-5.03	106.43	113.37

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	478	ASN	Peptide
1	A	69	GLY	Peptide
1	A	70	ASN	Peptide

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	9189	0	8953	1096	0
2	D	1022	0	1020	205	0
3	B	28	0	25	5	0
3	E	28	0	25	1	0
3	F	28	0	25	5	0
3	G	28	0	25	11	0
4	C	39	0	34	7	0
5	A	126	0	117	35	0
5	D	14	0	13	4	0
6	A	56	0	92	15	0
6	D	28	0	46	2	0
All	All	10586	0	10375	1317	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 63.

All (1317) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:58:ASN:ND2	3:G:1:NAG:C1	1.72	1.47
2:D:111:ASN:ND2	2:D:113:LEU:HD21	1.46	1.28
1:A:431:PHE:CE2	1:A:510:HIS:HB3	1.68	1.27
2:D:31:ASP:OD2	2:D:136:GLN:HB3	1.23	1.26
1:A:741:SER:OG	1:A:1109:ILE:HD11	1.36	1.24
1:A:900:THR:OG1	1:A:996:MET:HE2	1.39	1.23
1:A:340:THR:HA	1:A:728:LEU:HD11	1.26	1.16
1:A:631:MET:CE	1:A:1205:THR:HG23	1.75	1.16
2:D:110:LEU:CD2	3:G:1:NAG:H83	1.75	1.15
1:A:630:ILE:HG21	1:A:1212:VAL:HG21	1.24	1.14
1:A:1117:LEU:HD23	1:A:1173:ARG:HE	1.00	1.13
1:A:503:PHE:CD2	2:D:144:PRO:HG3	1.84	1.13
1:A:1202:ILE:CG2	1:A:1206:LYS:HE3	1.79	1.12
2:D:35:LYS:HB2	2:D:60:THR:HG22	1.30	1.12
2:D:95:SER:HB3	2:D:109:TYR:CE1	1.84	1.12
1:A:741:SER:OG	1:A:1109:ILE:CD1	1.98	1.11
1:A:1163:ILE:HD13	1:A:1232:MET:CE	1.80	1.11
1:A:1216:ALA:HB3	1:A:1222:GLN:HB2	1.33	1.11
2:D:95:SER:HB3	2:D:109:TYR:HE1	0.98	1.09
1:A:960:ASP:HB3	1:A:963:THR:HG22	1.33	1.08
1:A:631:MET:HE1	1:A:1205:THR:HG23	1.15	1.08
1:A:147:TYR:HB3	1:A:219:PRO:HG3	1.32	1.08
1:A:523:LEU:HD22	1:A:1009:PRO:HA	1.32	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1180:LYS:CE	1:A:1185:GLU:HG2	1.83	1.08
1:A:663:ILE:HD11	1:A:774:LEU:HB3	1.34	1.07
1:A:1163:ILE:CD1	1:A:1232:MET:HE1	1.83	1.07
2:D:65:ILE:HD12	2:D:66:GLN:H	0.93	1.06
2:D:135:ASN:ND2	5:D:203:NAG:C1	2.19	1.06
1:A:503:PHE:HE2	2:D:144:PRO:HB3	1.21	1.05
1:A:26:VAL:HG23	1:A:27:TRP:HD1	1.19	1.05
1:A:32:GLY:HA3	1:A:140:ASN:HD21	1.19	1.04
2:D:65:ILE:HD12	2:D:66:GLN:N	1.72	1.03
1:A:431:PHE:HE2	1:A:510:HIS:HB3	0.86	1.02
1:A:123:VAL:HA	1:A:144:LEU:HB3	1.42	1.01
2:D:110:LEU:HD21	3:G:1:NAG:C8	1.90	1.01
1:A:503:PHE:CE2	2:D:144:PRO:HG3	1.95	1.01
1:A:499:LYS:O	1:A:506:TYR:HB2	1.61	1.00
1:A:1180:LYS:HE2	1:A:1185:GLU:HG2	1.43	1.00
1:A:754:MET:HE1	1:A:756:ALA:HB3	1.44	1.00
2:D:109:TYR:CZ	2:D:111:ASN:HB2	1.95	1.00
1:A:1202:ILE:HG23	1:A:1206:LYS:HE3	1.38	0.99
2:D:110:LEU:HD21	3:G:1:NAG:H83	0.99	0.99
1:A:1135:LEU:HD21	1:A:1161:CYS:HB3	1.44	0.98
2:D:95:SER:CB	2:D:109:TYR:HE1	1.75	0.98
1:A:89:LEU:HG	1:A:90:PRO:HD3	1.45	0.98
1:A:262:ILE:HG22	1:A:263:LEU:HD23	1.45	0.98
2:D:31:ASP:OD2	2:D:136:GLN:CB	2.13	0.97
2:D:54:SER:HA	2:D:114:PRO:HA	1.46	0.97
1:A:900:THR:OG1	1:A:996:MET:CE	2.12	0.97
2:D:65:ILE:CD1	2:D:66:GLN:H	1.76	0.97
1:A:1117:LEU:HD23	1:A:1173:ARG:NE	1.79	0.96
1:A:939:PRO:HA	1:A:1040:THR:HG23	1.47	0.96
1:A:1134:VAL:HG13	1:A:1235:LEU:HD22	1.46	0.96
1:A:1163:ILE:HD13	1:A:1232:MET:HE1	0.95	0.95
1:A:126:THR:HG22	1:A:141:VAL:HA	1.48	0.95
1:A:620:ASP:O	1:A:623:THR:HG22	1.67	0.95
1:A:960:ASP:CB	1:A:963:THR:HG22	1.98	0.94
1:A:972:VAL:HG13	1:A:974:PRO:HD3	1.50	0.94
2:D:66:GLN:HG2	2:D:103:LYS:HB2	1.46	0.94
1:A:779:PHE:HA	1:A:782:LEU:HG	1.49	0.94
1:A:1117:LEU:CD2	1:A:1173:ARG:HE	1.81	0.93
1:A:750:ALA:HB2	1:A:761:SER:HB3	1.49	0.93
1:A:404:ARG:CG	1:A:606:GLU:HG2	1.99	0.93
2:D:111:ASN:ND2	2:D:113:LEU:CD2	2.32	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:210:SER:O	1:A:219:PRO:HG2	1.70	0.92
1:A:51:LEU:HB2	1:A:73:LEU:HD21	1.52	0.92
2:D:62:THR:HG23	2:D:106:THR:HG22	1.50	0.92
2:D:127:GLU:HG3	2:D:142:GLU:HG2	1.49	0.92
2:D:33:VAL:N	2:D:62:THR:O	2.03	0.91
1:A:431:PHE:HE2	1:A:510:HIS:CB	1.81	0.91
1:A:213:PRO:HG3	1:A:218:GLU:HB2	1.51	0.91
5:A:1409:NAG:H3	5:A:1409:NAG:H83	1.49	0.91
1:A:503:PHE:CE2	2:D:144:PRO:HB3	2.06	0.91
2:D:111:ASN:HD21	2:D:113:LEU:HD21	1.15	0.90
1:A:126:THR:HB	1:A:139:THR:HG22	1.54	0.90
1:A:462:VAL:HG23	1:A:466:ASP:OD2	1.70	0.90
2:D:31:ASP:HB3	2:D:65:ILE:CG2	2.01	0.90
1:A:1052:ILE:HD11	1:A:1091:TYR:HD2	1.35	0.90
2:D:33:VAL:O	2:D:62:THR:N	2.05	0.90
2:D:95:SER:CB	2:D:109:TYR:CE1	2.52	0.90
1:A:343:GLY:O	1:A:347:VAL:HG23	1.71	0.89
2:D:112:LYS:C	2:D:113:LEU:HD22	1.96	0.89
1:A:198:ASN:ND2	6:A:1419:CLR:H262	1.87	0.89
1:A:1202:ILE:HD12	1:A:1202:ILE:H	1.36	0.89
1:A:1127:MET:HE2	1:A:1127:MET:HA	1.54	0.89
1:A:99:SER:HB3	1:A:238:CYS:SG	2.12	0.89
1:A:861:ASP:HB2	1:A:864:LEU:HD22	1.53	0.88
1:A:38:LYS:HD2	1:A:202:PRO:HB3	1.54	0.88
1:A:447:GLN:O	1:A:450:ILE:HG22	1.72	0.88
1:A:129:TYR:N	1:A:138:LYS:O	2.06	0.88
1:A:835:ARG:HG2	1:A:1246:VAL:HG12	1.53	0.88
1:A:24:SER:CB	1:A:47:PRO:HA	2.03	0.88
1:A:1178:SER:O	1:A:1179:MET:HE2	1.72	0.88
1:A:80:LEU:O	1:A:83:LEU:HG	1.74	0.88
2:D:33:VAL:HB	2:D:62:THR:HB	1.56	0.87
1:A:91:LEU:HD12	1:A:95:SER:HB2	1.55	0.87
1:A:338:LEU:HD12	1:A:339:PHE:N	1.89	0.87
1:A:24:SER:HB3	1:A:47:PRO:HA	1.55	0.87
1:A:26:VAL:HG23	1:A:27:TRP:CD1	2.09	0.87
2:D:46:PRO:HB3	2:D:144:PRO:O	1.75	0.87
1:A:1137:ASN:HB3	1:A:1235:LEU:HD11	1.55	0.87
1:A:123:VAL:HA	1:A:144:LEU:CB	2.04	0.86
1:A:667:SER:OG	1:A:771:ASP:HA	1.75	0.86
1:A:609:ILE:HG13	1:A:866:MET:CE	2.06	0.86
1:A:834:MET:O	1:A:837:ILE:HG12	1.75	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:73:LEU:HD13	1:A:75:CYS:HB3	1.58	0.86
2:D:27:CYS:HB3	2:D:142:GLU:OE2	1.74	0.86
1:A:739:SER:O	1:A:743:THR:HG23	1.76	0.86
1:A:462:VAL:HG11	1:A:579:ARG:HG3	1.58	0.86
1:A:551:ASP:O	1:A:552:ASP:HB2	1.75	0.86
1:A:622:PHE:O	1:A:626:ILE:HG12	1.74	0.86
1:A:450:ILE:HD11	1:A:587:PHE:HD1	1.40	0.85
1:A:1137:ASN:CB	1:A:1235:LEU:HD11	2.06	0.85
1:A:423:TYR:O	2:D:123:LYS:HE3	1.75	0.85
1:A:503:PHE:CE2	2:D:144:PRO:CG	2.59	0.85
5:A:1401:NAG:H83	5:A:1401:NAG:H3	1.57	0.85
1:A:631:MET:HE1	1:A:1205:THR:CG2	2.04	0.85
2:D:130:LEU:HD23	2:D:138:LEU:HB2	1.54	0.85
1:A:287:PHE:CE2	1:A:836:PRO:HG2	2.12	0.85
1:A:1180:LYS:CD	1:A:1185:GLU:HG2	2.06	0.85
1:A:631:MET:CE	1:A:1205:THR:CG2	2.55	0.84
1:A:659:ALA:O	1:A:662:LEU:HG	1.77	0.84
1:A:629:ALA:O	1:A:633:LEU:HG	1.78	0.84
1:A:523:LEU:O	1:A:532:PRO:HB3	1.77	0.84
1:A:737:LEU:CD1	1:A:1116:LEU:HD23	2.06	0.84
1:A:503:PHE:HE2	2:D:144:PRO:CB	1.90	0.84
1:A:874:ASP:HA	1:A:877:LYS:HE2	1.58	0.84
1:A:656:LEU:HD21	1:A:786:ASP:OD1	1.78	0.84
1:A:581:GLN:HB3	1:A:607:ARG:HD2	1.60	0.84
2:D:39:VAL:HG13	2:D:42:CYS:HB2	1.59	0.84
1:A:411:ARG:HD3	1:A:882:TYR:HE2	1.43	0.84
1:A:656:LEU:HD21	1:A:786:ASP:CG	2.03	0.84
1:A:357:SER:CB	1:A:778:CYS:SG	2.66	0.83
1:A:609:ILE:HG13	1:A:866:MET:HE1	1.59	0.83
1:A:698:GLY:O	1:A:702:ILE:HG23	1.78	0.83
1:A:88:GLN:HG3	1:A:89:LEU:N	1.91	0.83
1:A:870:SER:O	1:A:873:VAL:HG22	1.79	0.83
1:A:472:LEU:H	1:A:472:LEU:HD23	1.43	0.83
2:D:65:ILE:CD1	2:D:66:GLN:N	2.39	0.83
2:D:45:GLN:HA	2:D:46:PRO:C	2.04	0.82
1:A:551:ASP:O	1:A:552:ASP:CB	2.25	0.82
2:D:141:TRP:HZ3	2:D:143:ILE:HG12	1.43	0.82
1:A:107:LEU:HD12	1:A:152:PHE:HE2	1.44	0.82
1:A:469:LEU:HD21	1:A:566:PRO:HB2	1.61	0.82
2:D:44:THR:O	2:D:47:CYS:HA	1.78	0.82
1:A:463:THR:HG23	1:A:466:ASP:HB3	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:143:ILE:O	2:D:143:ILE:HG13	1.76	0.82
1:A:91:LEU:O	1:A:95:SER:HB3	1.80	0.81
1:A:668:VAL:CG2	1:A:694:VAL:HG21	2.10	0.81
1:A:984:PRO:HA	1:A:987:LYS:HD2	1.62	0.81
1:A:462:VAL:HB	1:A:579:ARG:HD3	1.61	0.81
1:A:748:LEU:O	1:A:751:LEU:HD22	1.80	0.81
1:A:743:THR:HG22	1:A:768:VAL:HG13	1.60	0.81
1:A:1202:ILE:HG22	1:A:1206:LYS:HE3	1.62	0.81
1:A:1180:LYS:CE	1:A:1185:GLU:CG	2.59	0.81
1:A:123:VAL:CG2	1:A:141:VAL:HG13	2.10	0.80
1:A:826:SER:O	1:A:830:LEU:HD23	1.81	0.80
5:A:1405:NAG:O7	5:A:1405:NAG:H3	1.80	0.80
1:A:30:GLU:N	1:A:30:GLU:OE1	2.15	0.80
1:A:782:LEU:HD12	1:A:783:LEU:N	1.97	0.80
1:A:1090:GLN:HE21	1:A:1091:TYR:HE1	1.28	0.80
2:D:35:LYS:HB2	2:D:60:THR:CG2	2.12	0.80
2:D:135:ASN:ND2	5:D:203:NAG:O5	2.15	0.80
1:A:24:SER:HA	1:A:48:PRO:HD3	1.63	0.80
1:A:158:ASN:HD21	5:A:1418:NAG:H83	1.46	0.79
1:A:340:THR:CA	1:A:728:LEU:HD11	2.09	0.79
1:A:906:ASN:HA	1:A:914:CYS:HB3	1.64	0.79
1:A:361:ILE:HD13	1:A:666:SER:OG	1.82	0.79
1:A:700:ASP:O	1:A:704:ILE:HD12	1.81	0.79
1:A:958:ARG:O	1:A:967:CYS:N	2.15	0.79
1:A:934:ARG:HB3	1:A:1043:THR:HG22	1.64	0.79
1:A:369:VAL:HG13	1:A:370:PHE:CD1	2.18	0.79
1:A:404:ARG:HG2	1:A:606:GLU:HG2	1.62	0.79
1:A:404:ARG:HG3	1:A:606:GLU:HG2	1.64	0.79
1:A:900:THR:HG1	1:A:996:MET:HE2	1.47	0.78
1:A:26:VAL:HA	1:A:44:TYR:O	1.83	0.78
1:A:663:ILE:HD11	1:A:774:LEU:CB	2.13	0.78
1:A:1213:LEU:HD23	1:A:1213:LEU:O	1.84	0.78
2:D:57:VAL:CG2	2:D:111:ASN:HB3	2.13	0.78
1:A:1102:LEU:HD23	1:A:1158:VAL:HG22	1.65	0.78
1:A:1022:ALA:HA	1:A:1037:TYR:CE1	2.18	0.78
1:A:1165:VAL:HA	1:A:1168:CYS:SG	2.24	0.78
1:A:51:LEU:HG	1:A:52:PRO:HD2	1.65	0.78
1:A:718:GLU:HB3	1:A:722:GLN:HB3	1.66	0.77
1:A:1180:LYS:NZ	1:A:1185:GLU:HG3	1.99	0.77
2:D:58:ASN:CG	3:G:1:NAG:C1	2.57	0.77
1:A:941:SER:HB2	1:A:944:ASP:OD2	1.85	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:128:ASP:HB3	1:A:137:THR:HB	1.65	0.77
1:A:699:VAL:O	1:A:702:ILE:HG12	1.85	0.77
1:A:733:PRO:HB2	1:A:1173:ARG:HH22	1.50	0.77
1:A:27:TRP:HB3	1:A:141:VAL:HG21	1.65	0.77
1:A:1032:ARG:NH1	1:A:1032:ARG:HB2	1.99	0.77
1:A:722:GLN:OE1	1:A:722:GLN:HA	1.84	0.77
1:A:110:GLU:O	1:A:114:SER:HB2	1.85	0.76
1:A:196:LYS:HG3	1:A:201:ALA:O	1.85	0.76
1:A:1026:LEU:O	1:A:1026:LEU:HD23	1.85	0.76
2:D:127:GLU:HG3	2:D:142:GLU:CG	2.14	0.76
1:A:278:ALA:O	1:A:281:LEU:HG	1.85	0.76
1:A:346:CYS:SG	1:A:353:VAL:HG21	2.24	0.76
1:A:631:MET:HE3	1:A:631:MET:HA	1.67	0.76
1:A:597:PRO:HD2	5:A:1409:NAG:O7	1.86	0.76
1:A:472:LEU:HG	1:A:472:LEU:O	1.84	0.75
1:A:523:LEU:CD2	1:A:1009:PRO:HA	2.15	0.75
1:A:630:ILE:CG2	1:A:1212:VAL:HG21	2.13	0.75
1:A:1247:LEU:HD23	1:A:1247:LEU:O	1.86	0.75
2:D:130:LEU:HD22	2:D:139:PHE:HE1	1.51	0.75
1:A:609:ILE:O	1:A:613:LEU:HD13	1.86	0.75
1:A:1005:ASP:O	1:A:1016:HIS:HB3	1.86	0.75
1:A:279:PHE:CE2	1:A:843:VAL:HG21	2.20	0.75
1:A:388:ALA:HB2	1:A:1089:GLU:HG3	1.69	0.75
1:A:412:ALA:CB	1:A:439:ILE:HD13	2.16	0.75
1:A:1243:PHE:CE1	1:A:1247:LEU:HD12	2.21	0.75
1:A:123:VAL:HG23	1:A:141:VAL:HG13	1.69	0.75
2:D:120:PRO:O	2:D:147:ILE:HG21	1.87	0.75
1:A:379:ASP:O	1:A:755:PRO:HG3	1.87	0.74
1:A:32:GLY:HA2	1:A:129:TYR:CE1	2.22	0.74
1:A:979:CYS:HB3	1:A:998:PHE:CE2	2.21	0.74
1:A:1229:TYR:HA	1:A:1232:MET:HG2	1.67	0.74
1:A:364:CYS:HB2	1:A:670:CYS:SG	2.28	0.74
1:A:336:ARG:HG3	1:A:729:GLY:O	1.88	0.74
1:A:26:VAL:HG12	1:A:45:SER:HA	1.69	0.74
1:A:51:LEU:CD1	1:A:73:LEU:HD11	2.18	0.74
1:A:437:ILE:HD13	1:A:509:TYR:CE2	2.23	0.74
1:A:713:GLU:OE1	1:A:713:GLU:HA	1.87	0.74
1:A:174:GLY:N	1:A:181:ALA:HB2	2.03	0.73
1:A:530:HIS:CE1	5:A:1405:NAG:H61	2.22	0.73
1:A:786:ASP:O	1:A:790:GLN:N	2.19	0.73
2:D:151:LEU:O	2:D:151:LEU:HD23	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:549:GLY:HA3	1:A:559:THR:OG1	1.87	0.73
1:A:682:LEU:HD21	1:A:687:ILE:HB	1.68	0.73
1:A:27:TRP:CB	1:A:141:VAL:HG21	2.18	0.73
1:A:939:PRO:HA	1:A:1040:THR:CG2	2.18	0.73
1:A:62:LEU:HD13	1:A:83:LEU:HD11	1.70	0.73
2:D:73:VAL:HG12	2:D:75:HIS:NE2	2.03	0.73
2:D:121:SER:HA	2:D:147:ILE:HG22	1.70	0.73
3:B:2:NAG:O7	3:B:2:NAG:O3	2.05	0.73
1:A:934:ARG:HD3	1:A:1043:THR:HG21	1.70	0.73
1:A:1098:THR:HA	1:A:1154:LEU:HD21	1.70	0.72
1:A:261:THR:HA	1:A:265:LEU:O	1.89	0.72
1:A:503:PHE:CE2	2:D:144:PRO:CB	2.68	0.72
1:A:859:GLY:HA2	1:A:1091:TYR:CE2	2.24	0.72
1:A:1106:LEU:O	1:A:1109:ILE:HG22	1.88	0.72
1:A:738:SER:O	1:A:742:GLU:HG3	1.88	0.72
1:A:501:ASP:O	1:A:504:PHE:O	2.07	0.72
1:A:1025:ILE:HD12	1:A:1025:ILE:H	1.52	0.72
2:D:58:ASN:ND2	3:G:1:NAG:O5	2.22	0.72
1:A:49:LYS:NZ	1:A:50:PRO:HD2	2.05	0.72
1:A:779:PHE:HA	1:A:782:LEU:CG	2.19	0.72
1:A:920:VAL:HG13	1:A:939:PRO:HG3	1.71	0.72
1:A:357:SER:HB2	1:A:778:CYS:SG	2.30	0.72
1:A:1160:SER:HA	1:A:1163:ILE:HG22	1.72	0.72
1:A:781:SER:O	1:A:785:LEU:HD13	1.90	0.72
1:A:34:ALA:HB2	1:A:40:TYR:CZ	2.25	0.71
1:A:1142:MET:HE1	1:A:1157:LEU:HD11	1.71	0.71
1:A:278:ALA:O	1:A:282:VAL:HG23	1.91	0.71
1:A:616:GLU:OE1	1:A:1217:LYS:HG3	1.89	0.71
1:A:765:GLY:O	1:A:768:VAL:HG12	1.90	0.71
1:A:968:ASN:HD21	5:A:1414:NAG:H83	1.53	0.71
1:A:469:LEU:CD2	1:A:566:PRO:HB2	2.21	0.71
1:A:996:MET:O	1:A:1000:PRO:HD3	1.90	0.71
1:A:51:LEU:HD12	1:A:73:LEU:HD11	1.71	0.71
1:A:737:LEU:HD13	1:A:1116:LEU:HD23	1.71	0.71
2:D:123:LYS:HG2	2:D:146:GLN:HB2	1.73	0.71
1:A:725:GLY:HA2	1:A:728:LEU:CD2	2.21	0.71
1:A:469:LEU:HD23	1:A:469:LEU:H	1.55	0.71
1:A:512:HIS:HE1	1:A:533:CYS:SG	2.14	0.71
1:A:1025:ILE:HD12	1:A:1025:ILE:N	2.06	0.71
1:A:1142:MET:CE	1:A:1157:LEU:HD11	2.21	0.71
1:A:147:TYR:O	1:A:219:PRO:HB3	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:272:MET:HG3	1:A:851:ALA:HB2	1.73	0.70
1:A:669:ALA:HA	1:A:672:LEU:HD12	1.72	0.70
1:A:725:GLY:HA2	1:A:728:LEU:HD21	1.73	0.70
1:A:624:VAL:HG23	1:A:692:PHE:CZ	2.26	0.70
1:A:415:THR:HG23	1:A:433:PRO:CB	2.21	0.70
1:A:684:LEU:HA	1:A:687:ILE:HG22	1.72	0.70
3:G:1:NAG:O7	3:G:1:NAG:H3	1.91	0.70
1:A:842:PHE:CD2	1:A:1243:PHE:HB2	2.26	0.70
2:D:126:VAL:HB	2:D:143:ILE:HG13	1.71	0.70
1:A:24:SER:O	1:A:118:SER:HB2	1.92	0.70
1:A:790:GLN:OE1	1:A:790:GLN:HA	1.91	0.70
1:A:852:VAL:HG12	1:A:852:VAL:O	1.92	0.70
2:D:35:LYS:HE3	2:D:62:THR:OG1	1.92	0.70
2:D:73:VAL:CG1	2:D:75:HIS:NE2	2.55	0.70
1:A:412:ALA:HB1	1:A:439:ILE:HD13	1.74	0.69
1:A:864:LEU:H	1:A:864:LEU:HD23	1.56	0.69
1:A:983:THR:HB	1:A:984:PRO:HD2	1.74	0.69
1:A:32:GLY:HA3	1:A:140:ASN:ND2	1.99	0.69
1:A:73:LEU:HD12	1:A:75:CYS:H	1.57	0.69
1:A:213:PRO:HG3	1:A:218:GLU:CB	2.21	0.69
1:A:849:SER:OG	1:A:1136:VAL:O	2.10	0.69
1:A:934:ARG:HD3	1:A:1043:THR:CG2	2.22	0.69
1:A:779:PHE:CD2	1:A:782:LEU:HD11	2.27	0.69
2:D:130:LEU:HD22	2:D:139:PHE:CE1	2.26	0.69
1:A:71:VAL:HB	1:A:73:LEU:HD23	1.75	0.69
1:A:464:LEU:HD12	1:A:468:CYS:SG	2.33	0.69
1:A:504:PHE:HE2	2:D:144:PRO:HB3	1.58	0.69
1:A:1130:THR:O	1:A:1134:VAL:HG23	1.93	0.69
1:A:1138:MET:HE1	1:A:1228:MET:O	1.92	0.69
1:A:632:PHE:HA	1:A:635:ILE:HG22	1.73	0.69
1:A:860:LEU:HD11	1:A:864:LEU:HD11	1.75	0.69
2:D:38:ASN:HB3	2:D:58:ASN:HB3	1.74	0.69
1:A:464:LEU:CD1	1:A:468:CYS:SG	2.81	0.69
1:A:472:LEU:HD21	1:A:537:PHE:O	1.93	0.69
1:A:1108:ALA:O	1:A:1112:VAL:HG22	1.93	0.69
2:D:31:ASP:O	2:D:138:LEU:HD23	1.93	0.68
1:A:630:ILE:HG21	1:A:1212:VAL:CG2	2.13	0.68
1:A:411:ARG:HD3	1:A:882:TYR:CE2	2.26	0.68
1:A:860:LEU:HD11	1:A:864:LEU:HD21	1.76	0.68
1:A:31:CYS:N	1:A:42:CYS:SG	2.67	0.68
1:A:62:LEU:HD13	1:A:83:LEU:HD21	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:192:TYR:CE2	1:A:198:ASN:ND2	2.62	0.68
1:A:243:CYS:SG	1:A:245:ILE:HG22	2.33	0.68
2:D:77:ILE:C	2:D:77:ILE:HD13	2.18	0.68
2:D:93:CYS:HA	2:D:97:ILE:O	1.93	0.68
2:D:47:CYS:SG	2:D:49:LEU:HD11	2.33	0.68
1:A:631:MET:HE2	1:A:1205:THR:HG23	1.71	0.68
1:A:916:ASN:ND2	5:A:1410:NAG:O6	2.26	0.68
1:A:1142:MET:HE3	1:A:1157:LEU:HD21	1.75	0.68
1:A:38:LYS:HD2	1:A:202:PRO:CB	2.22	0.68
1:A:144:LEU:O	1:A:206:THR:HG22	1.93	0.68
1:A:358:LEU:HD23	1:A:358:LEU:O	1.94	0.68
2:D:32:GLY:HA3	2:D:138:LEU:O	1.93	0.68
1:A:43:GLU:HB2	1:A:139:THR:O	1.94	0.68
1:A:147:TYR:C	1:A:219:PRO:HB3	2.19	0.68
2:D:67:SER:O	2:D:101:ILE:HB	1.94	0.68
2:D:65:ILE:CG1	2:D:66:GLN:N	2.57	0.68
1:A:1240:GLY:HA2	1:A:1244:LEU:HD12	1.76	0.67
2:D:109:TYR:OH	2:D:111:ASN:HB2	1.93	0.67
1:A:51:LEU:HD13	1:A:73:LEU:HD21	1.76	0.67
1:A:506:TYR:HB3	1:A:528:LEU:HD21	1.76	0.67
1:A:968:ASN:ND2	5:A:1414:NAG:H83	2.09	0.67
1:A:254:PRO:O	1:A:256:PRO:HD3	1.94	0.67
1:A:783:LEU:O	1:A:787:ILE:HG12	1.94	0.67
1:A:835:ARG:O	1:A:838:VAL:HG12	1.94	0.67
1:A:1243:PHE:HE1	1:A:1247:LEU:HD12	1.57	0.67
1:A:129:TYR:HB3	1:A:138:LYS:O	1.94	0.67
1:A:741:SER:HG	1:A:1109:ILE:HD11	1.60	0.67
1:A:1090:GLN:HG3	1:A:1091:TYR:CD1	2.30	0.67
1:A:860:LEU:CD1	1:A:864:LEU:HD21	2.25	0.67
1:A:1159:MET:HE1	1:A:1229:TYR:CE1	2.29	0.67
1:A:1180:LYS:NZ	1:A:1185:GLU:CG	2.58	0.67
1:A:222:ASN:CG	3:F:1:NAG:O7	2.38	0.66
1:A:621:VAL:O	1:A:625:VAL:HG13	1.95	0.66
5:A:1405:NAG:C7	5:A:1405:NAG:H5	2.25	0.66
2:D:78:LEU:N	2:D:78:LEU:HD12	2.10	0.66
2:D:109:TYR:OH	2:D:111:ASN:CG	2.38	0.66
1:A:24:SER:HB2	1:A:47:PRO:HA	1.75	0.66
1:A:459:ASN:OD1	5:A:1402:NAG:N2	2.28	0.66
1:A:632:PHE:HA	1:A:635:ILE:CG2	2.24	0.66
1:A:1127:MET:HE2	1:A:1127:MET:CA	2.24	0.66
1:A:1152:VAL:O	1:A:1155:VAL:HG12	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1180:LYS:HD3	1:A:1185:GLU:CG	2.26	0.66
1:A:1220:ILE:O	1:A:1220:ILE:HD12	1.96	0.66
1:A:340:THR:HA	1:A:728:LEU:CD1	2.15	0.66
1:A:686:VAL:HA	1:A:689:VAL:HG12	1.78	0.66
1:A:776:ILE:O	1:A:780:VAL:HG13	1.96	0.66
1:A:838:VAL:O	1:A:841:ILE:HG22	1.94	0.66
1:A:699:VAL:HG21	1:A:1205:THR:HG21	1.78	0.66
1:A:1176:THR:HG23	1:A:1177:VAL:HG23	1.78	0.66
2:D:31:ASP:CB	2:D:65:ILE:CG2	2.74	0.66
2:D:77:ILE:HG23	2:D:125:VAL:HB	1.77	0.66
1:A:423:TYR:HA	2:D:123:LYS:NZ	2.10	0.65
1:A:659:ALA:HA	1:A:662:LEU:CD2	2.26	0.65
1:A:685:ILE:HG21	6:A:1420:CLR:H263	1.77	0.65
1:A:198:ASN:ND2	6:A:1419:CLR:C26	2.57	0.65
1:A:616:GLU:HG3	1:A:867:PRO:HD3	1.78	0.65
1:A:686:VAL:HB	1:A:690:ILE:HD11	1.77	0.65
1:A:278:ALA:HA	1:A:281:LEU:CD2	2.26	0.65
1:A:683:THR:OG1	1:A:686:VAL:HG13	1.95	0.65
1:A:861:ASP:O	1:A:862:GLN:HB3	1.95	0.65
1:A:875:TYR:CE2	1:A:879:ILE:HD11	2.30	0.65
2:D:93:CYS:HA	2:D:97:ILE:HB	1.79	0.65
2:D:146:GLN:O	2:D:146:GLN:HG3	1.96	0.65
1:A:230:SER:HB2	1:A:235:THR:O	1.97	0.65
1:A:737:LEU:HD12	1:A:1116:LEU:HD23	1.78	0.65
2:D:71:LYS:HA	2:D:90:PRO:O	1.97	0.65
1:A:581:GLN:HB3	1:A:607:ARG:CD	2.26	0.65
1:A:919:LEU:O	1:A:923:ILE:HG13	1.97	0.65
1:A:51:LEU:HB2	1:A:73:LEU:CD2	2.25	0.65
1:A:446:LEU:HD12	1:A:594:TYR:CE2	2.32	0.64
1:A:123:VAL:HG21	1:A:141:VAL:HG13	1.78	0.64
1:A:200:GLN:CG	6:A:1419:CLR:H263	2.27	0.64
1:A:660:GLY:HA2	1:A:663:ILE:HG22	1.79	0.64
1:A:983:THR:C	1:A:987:LYS:HE2	2.22	0.64
1:A:346:CYS:SG	1:A:781:SER:HB2	2.36	0.64
1:A:503:PHE:CE2	2:D:125:VAL:HG22	2.32	0.64
1:A:680:LEU:HD12	1:A:763:PHE:HE1	1.62	0.64
1:A:684:LEU:HA	1:A:687:ILE:CG2	2.27	0.64
1:A:947:PHE:HA	1:A:950:VAL:HG12	1.77	0.64
1:A:1202:ILE:HD12	1:A:1202:ILE:N	2.10	0.64
1:A:1216:ALA:CB	1:A:1222:GLN:HB2	2.18	0.64
1:A:56:TYR:CD1	1:A:67:PHE:HE1	2.16	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:111:LEU:HD12	1:A:146:TYR:CD2	2.32	0.64
2:D:141:TRP:CE3	2:D:143:ILE:HG23	2.33	0.64
1:A:62:LEU:HD12	1:A:80:LEU:HD22	1.80	0.64
1:A:401:PRO:HG2	1:A:569:ASN:O	1.98	0.64
1:A:420:TYR:HB3	1:A:429:VAL:HG23	1.80	0.64
1:A:530:HIS:ND1	5:A:1405:NAG:H61	2.13	0.64
1:A:525:ASP:O	1:A:526:THR:HG22	1.98	0.64
1:A:750:ALA:HB2	1:A:761:SER:CB	2.25	0.64
1:A:413:PRO:HG2	1:A:414:LEU:HD23	1.80	0.63
2:D:31:ASP:CG	2:D:65:ILE:HG21	2.23	0.63
1:A:663:ILE:CD1	1:A:774:LEU:HB3	2.21	0.63
6:A:1420:CLR:H121	6:A:1420:CLR:H212	1.80	0.63
1:A:1127:MET:HA	1:A:1127:MET:CE	2.25	0.63
1:A:86:ASN:ND2	6:A:1419:CLR:H111	2.12	0.63
1:A:682:LEU:HD21	1:A:687:ILE:HD12	1.79	0.63
2:D:20:GLU:N	2:D:38:ASN:OD1	2.31	0.63
1:A:861:ASP:CB	1:A:864:LEU:HD22	2.27	0.63
2:D:77:ILE:CG2	2:D:125:VAL:HB	2.28	0.63
2:D:127:GLU:CG	2:D:142:GLU:CG	2.75	0.63
1:A:433:PRO:HG2	1:A:434:PRO:HD3	1.80	0.63
1:A:503:PHE:CD2	2:D:144:PRO:CG	2.72	0.63
1:A:616:GLU:CG	1:A:867:PRO:HD3	2.29	0.63
1:A:628:TYR:HE2	1:A:665:LEU:CD2	2.11	0.63
1:A:750:ALA:CB	1:A:761:SER:HB3	2.28	0.63
1:A:1139:PHE:CE1	1:A:1157:LEU:HD13	2.34	0.63
2:D:143:ILE:HD12	2:D:145:VAL:HG12	1.79	0.63
1:A:500:GLY:CA	1:A:506:TYR:H	2.12	0.63
1:A:512:HIS:CE1	1:A:533:CYS:SG	2.91	0.63
1:A:994:ASP:O	1:A:998:PHE:HD1	1.81	0.63
1:A:1180:LYS:HD3	1:A:1185:GLU:HG2	1.79	0.63
1:A:126:THR:HB	1:A:139:THR:CG2	2.27	0.63
1:A:262:ILE:H	1:A:267:ALA:HB2	1.63	0.63
2:D:128:TRP:HB3	2:D:141:TRP:CE2	2.34	0.63
1:A:180:ASP:C	1:A:182:ASP:H	2.05	0.62
2:D:22:VAL:HG23	2:D:45:GLN:CD	2.24	0.62
1:A:415:THR:HG23	1:A:433:PRO:HB3	1.81	0.62
1:A:604:THR:CG2	1:A:605:ALA:N	2.62	0.62
1:A:817:LEU:HD23	1:A:1196:SER:O	1.99	0.62
1:A:262:ILE:HG22	1:A:263:LEU:CD2	2.25	0.62
1:A:724:LEU:HA	1:A:727:VAL:HG12	1.81	0.62
1:A:842:PHE:HB3	1:A:1133:MET:HE1	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:977:VAL:HG22	1:A:978:ARG:N	2.13	0.62
1:A:1131:ILE:HG12	1:A:1164:SER:OG	1.99	0.62
2:D:21:PRO:HB3	2:D:36:GLU:OE2	1.99	0.62
1:A:83:LEU:O	1:A:87:LEU:HD23	2.00	0.62
1:A:404:ARG:HG2	1:A:606:GLU:CG	2.30	0.62
1:A:838:VAL:HG11	1:A:1246:VAL:HG11	1.81	0.62
2:D:118:GLU:OE1	2:D:118:GLU:HA	1.99	0.62
1:A:49:LYS:HZ1	1:A:50:PRO:HD2	1.62	0.62
1:A:73:LEU:HD12	1:A:73:LEU:O	1.99	0.62
1:A:609:ILE:HG13	1:A:866:MET:HE2	1.79	0.62
1:A:1067:GLU:HG3	1:A:1068:THR:N	2.15	0.62
1:A:1137:ASN:HB2	1:A:1235:LEU:HD11	1.81	0.62
1:A:145:GLN:HA	1:A:206:THR:HG23	1.82	0.62
1:A:1224:PHE:HB3	1:A:1228:MET:CE	2.30	0.62
1:A:636:SER:OG	1:A:637:LEU:HD12	1.98	0.62
1:A:720:LEU:HD11	1:A:787:ILE:HG21	1.82	0.61
1:A:728:LEU:HD12	1:A:729:GLY:N	2.14	0.61
1:A:896:GLY:HA3	1:A:1076:TYR:CD2	2.35	0.61
2:D:135:ASN:HD21	5:D:203:NAG:C1	2.11	0.61
2:D:141:TRP:CZ3	2:D:143:ILE:HG12	2.30	0.61
1:A:754:MET:HB3	1:A:757:VAL:HG12	1.82	0.61
1:A:1002:PHE:CE1	1:A:1015:GLY:HA3	2.34	0.61
2:D:60:THR:HA	2:D:108:SER:HB3	1.79	0.61
2:D:77:ILE:HD11	2:D:80:GLY:H	1.64	0.61
1:A:420:TYR:HD2	1:A:429:VAL:HG21	1.65	0.61
1:A:899:TYR:HE2	1:A:942:TRP:HZ2	1.46	0.61
1:A:983:THR:O	1:A:987:LYS:HE2	2.00	0.61
5:A:1409:NAG:H3	5:A:1409:NAG:C8	2.25	0.61
1:A:529:LEU:HD12	1:A:529:LEU:O	2.00	0.61
1:A:551:ASP:O	1:A:552:ASP:CG	2.43	0.61
2:D:124:LEU:O	2:D:144:PRO:HA	2.00	0.61
1:A:411:ARG:HB2	1:A:600:THR:OG1	2.01	0.61
1:A:134:THR:CG2	1:A:136:GLN:HG2	2.31	0.61
1:A:350:PRO:O	1:A:353:VAL:HG12	2.00	0.61
1:A:631:MET:HE2	1:A:1205:THR:CG2	2.29	0.61
1:A:668:VAL:HG21	1:A:694:VAL:HG21	1.79	0.61
1:A:934:ARG:HB3	1:A:1043:THR:CG2	2.30	0.61
2:D:66:GLN:CG	2:D:103:LYS:HB2	2.27	0.61
1:A:1145:TRP:CE3	1:A:1227:ARG:HD3	2.36	0.61
1:A:33:ILE:HG13	1:A:38:LYS:O	2.01	0.61
1:A:506:TYR:OH	2:D:77:ILE:HD11	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1163:ILE:HD11	1:A:1206:LYS:NZ	2.16	0.61
1:A:757:VAL:CG2	1:A:1155:VAL:HB	2.31	0.60
1:A:958:ARG:O	1:A:967:CYS:HB2	2.01	0.60
1:A:213:PRO:HA	1:A:218:GLU:HA	1.83	0.60
5:A:1405:NAG:O7	5:A:1405:NAG:C3	2.48	0.60
2:D:77:ILE:HD13	2:D:77:ILE:O	2.01	0.60
1:A:462:VAL:HG11	1:A:579:ARG:CG	2.29	0.60
1:A:500:GLY:HA2	1:A:506:TYR:CD2	2.36	0.60
3:F:2:NAG:O3	3:F:2:NAG:H82	2.01	0.60
1:A:972:VAL:CG1	1:A:974:PRO:HD3	2.28	0.60
1:A:631:MET:HE3	1:A:631:MET:CA	2.28	0.60
1:A:1234:LEU:O	1:A:1238:THR:HG23	2.02	0.60
1:A:574:THR:O	1:A:578:GLN:HG3	2.02	0.60
1:A:581:GLN:CB	1:A:607:ARG:HD2	2.31	0.60
1:A:51:LEU:CD2	1:A:59:VAL:HG21	2.31	0.60
1:A:753:VAL:HG23	1:A:753:VAL:O	2.00	0.60
1:A:1110:PHE:HB2	1:A:1128:CYS:SG	2.42	0.60
1:A:43:GLU:CB	1:A:139:THR:O	2.50	0.60
1:A:88:GLN:HG3	1:A:89:LEU:H	1.64	0.60
1:A:1183:ARG:HH21	1:A:1254:SER:CB	2.14	0.60
1:A:1242:ILE:C	1:A:1245:PRO:HD2	2.27	0.60
1:A:51:LEU:HD22	1:A:59:VAL:HG21	1.82	0.59
1:A:450:ILE:HD11	1:A:587:PHE:CD1	2.29	0.59
1:A:963:THR:CG2	1:A:965:GLN:HB2	2.32	0.59
1:A:423:TYR:HA	2:D:123:LYS:HZ2	1.67	0.59
2:D:130:LEU:HD23	2:D:138:LEU:CB	2.30	0.59
1:A:504:PHE:HE2	2:D:144:PRO:CB	2.15	0.59
1:A:606:GLU:OE1	1:A:606:GLU:HA	2.02	0.59
1:A:682:LEU:CD2	1:A:687:ILE:HD12	2.32	0.59
1:A:779:PHE:CG	1:A:782:LEU:HD11	2.38	0.59
1:A:968:ASN:HB2	5:A:1414:NAG:O5	2.02	0.59
2:D:27:CYS:CB	2:D:142:GLU:OE2	2.47	0.59
1:A:25:CYS:SG	1:A:117:GLN:HB3	2.42	0.59
1:A:206:THR:HG23	1:A:206:THR:O	2.02	0.59
1:A:340:THR:OG1	1:A:729:GLY:HA3	2.02	0.59
1:A:446:LEU:HD23	1:A:446:LEU:C	2.27	0.59
1:A:874:ASP:HA	1:A:877:LYS:CE	2.29	0.59
1:A:947:PHE:HA	1:A:950:VAL:CG1	2.32	0.59
2:D:31:ASP:HB3	2:D:65:ILE:HG21	1.83	0.59
2:D:122:ILE:H	2:D:147:ILE:HB	1.66	0.59
1:A:343:GLY:HA3	1:A:728:LEU:HD22	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:728:LEU:HD12	1:A:728:LEU:C	2.27	0.59
1:A:278:ALA:HA	1:A:281:LEU:HD23	1.85	0.59
1:A:861:ASP:OD2	1:A:864:LEU:HD13	2.02	0.59
1:A:1202:ILE:H	1:A:1202:ILE:CD1	2.13	0.59
1:A:253:PRO:HG3	1:A:932:TYR:HB2	1.85	0.58
1:A:849:SER:OG	1:A:1136:VAL:HG12	2.03	0.58
1:A:1121:LEU:O	1:A:1125:VAL:HG13	2.02	0.58
1:A:1180:LYS:HE2	1:A:1185:GLU:CG	2.26	0.58
2:D:135:ASN:CG	5:D:203:NAG:C1	2.76	0.58
1:A:53:LYS:HG3	1:A:56:TYR:HE2	1.68	0.58
1:A:451:GLU:HA	1:A:464:LEU:CD2	2.33	0.58
1:A:690:ILE:N	1:A:691:PRO:HD2	2.17	0.58
2:D:65:ILE:HA	2:D:103:LYS:HD2	1.85	0.58
1:A:200:GLN:HG3	6:A:1419:CLR:H263	1.84	0.58
1:A:622:PHE:O	1:A:625:VAL:HG22	2.03	0.58
1:A:894:GLU:HB2	1:A:1077:ARG:O	2.03	0.58
1:A:1208:GLY:O	1:A:1211:VAL:HG12	2.02	0.58
1:A:376:ASN:ND2	1:A:378:VAL:HG12	2.18	0.58
1:A:380:LEU:O	1:A:755:PRO:HG2	2.03	0.58
1:A:609:ILE:HD11	6:A:1420:CLR:H6	1.84	0.58
1:A:683:THR:HG1	1:A:686:VAL:HG13	1.67	0.58
1:A:89:LEU:CG	1:A:90:PRO:HD3	2.28	0.58
1:A:1232:MET:HG3	1:A:1233:VAL:N	2.18	0.58
1:A:24:SER:CA	1:A:48:PRO:HD3	2.33	0.58
1:A:920:VAL:HG13	1:A:939:PRO:CG	2.33	0.58
1:A:984:PRO:HA	1:A:987:LYS:CD	2.33	0.58
1:A:51:LEU:CB	1:A:73:LEU:HD21	2.31	0.58
1:A:99:SER:HA	1:A:231:VAL:CG1	2.34	0.58
1:A:189:TRP:O	1:A:193:MET:HG3	2.03	0.58
1:A:374:THR:HG23	1:A:681:PRO:HB2	1.86	0.58
1:A:429:VAL:HG23	1:A:429:VAL:O	2.03	0.58
1:A:628:TYR:CE2	1:A:665:LEU:HD21	2.39	0.58
1:A:688:GLU:O	1:A:692:PHE:HE1	1.87	0.58
1:A:38:LYS:CD	1:A:202:PRO:HB3	2.31	0.57
1:A:73:LEU:HD13	1:A:75:CYS:CB	2.32	0.57
1:A:1008:ASN:OD1	1:A:1009:PRO:HD2	2.03	0.57
5:A:1401:NAG:C1	5:A:1401:NAG:H82	2.34	0.57
2:D:128:TRP:CD1	2:D:128:TRP:C	2.81	0.57
1:A:842:PHE:HD2	1:A:1243:PHE:HB2	1.69	0.57
1:A:1008:ASN:HB3	1:A:1011:CYS:HB3	1.86	0.57
1:A:1095:ILE:O	1:A:1098:THR:HG22	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:97:ILE:CG2	2:D:101:ILE:HD11	2.34	0.57
1:A:501:ASP:HB2	1:A:506:TYR:CE2	2.40	0.57
1:A:552:ASP:O	1:A:553:GLN:HG2	2.04	0.57
1:A:631:MET:CE	1:A:631:MET:HA	2.35	0.57
1:A:360:PHE:CE1	1:A:774:LEU:HD21	2.39	0.57
1:A:404:ARG:HG2	1:A:606:GLU:CB	2.35	0.57
1:A:771:ASP:O	1:A:775:GLN:HB2	2.03	0.57
1:A:91:LEU:O	1:A:95:SER:CB	2.51	0.57
1:A:335:LEU:HA	1:A:338:LEU:HG	1.87	0.57
1:A:815:SER:O	1:A:819:ARG:HG3	2.04	0.57
1:A:847:SER:O	1:A:850:ILE:HG22	2.03	0.57
3:B:1:NAG:O7	3:B:1:NAG:H3	2.05	0.57
2:D:130:LEU:O	2:D:137:SER:HA	2.03	0.57
1:A:213:PRO:CG	1:A:218:GLU:HB2	2.31	0.57
1:A:502:ASP:HB3	1:A:503:PHE:CD1	2.40	0.57
1:A:732:ALA:N	1:A:733:PRO:HD2	2.19	0.57
1:A:775:GLN:O	1:A:779:PHE:HB3	2.04	0.57
1:A:1006:ASN:HB3	1:A:1007:PRO:HD2	1.85	0.57
2:D:21:PRO:HA	2:D:37:VAL:O	2.03	0.57
2:D:36:GLU:OE1	3:G:1:NAG:H61	2.05	0.57
1:A:91:LEU:CD1	1:A:95:SER:HB2	2.30	0.57
1:A:916:ASN:ND2	5:A:1410:NAG:O7	2.38	0.57
1:A:1247:LEU:HD23	1:A:1247:LEU:C	2.29	0.57
1:A:594:TYR:CE2	1:A:596:ASN:HB2	2.39	0.56
1:A:926:ALA:HB1	1:A:933:THR:HG21	1.85	0.56
1:A:741:SER:HB3	1:A:1165:VAL:HG11	1.86	0.56
1:A:1173:ARG:HH21	1:A:1173:ARG:CG	2.18	0.56
1:A:51:LEU:HB2	1:A:71:VAL:HG21	1.86	0.56
1:A:372:ARG:O	1:A:373:VAL:HG13	2.06	0.56
1:A:433:PRO:N	1:A:434:PRO:HD2	2.20	0.56
1:A:746:PHE:CE1	1:A:1159:MET:HG2	2.41	0.56
1:A:751:LEU:HD21	1:A:1101:ASN:OD1	2.05	0.56
1:A:777:THR:CG2	1:A:778:CYS:N	2.68	0.56
1:A:839:ILE:O	1:A:843:VAL:HG22	2.05	0.56
1:A:1214:ALA:HB2	1:A:1226:PHE:CE1	2.39	0.56
2:D:68:LYS:HD3	2:D:68:LYS:N	2.20	0.56
2:D:109:TYR:OH	2:D:111:ASN:CB	2.52	0.56
1:A:86:ASN:OD1	6:A:1419:CLR:H212	2.05	0.56
1:A:266:ASP:O	1:A:267:ALA:HB3	2.04	0.56
1:A:337:ARG:O	1:A:341:ARG:HG3	2.05	0.56
1:A:523:LEU:C	1:A:532:PRO:HB3	2.31	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:700:ASP:HB2	1:A:1202:ILE:HG13	1.87	0.56
1:A:134:THR:HG23	1:A:136:GLN:HG2	1.87	0.56
1:A:158:ASN:HA	1:A:161:ARG:HG2	1.86	0.56
1:A:340:THR:HG23	1:A:725:GLY:C	2.31	0.56
1:A:420:TYR:HB3	1:A:429:VAL:CG2	2.36	0.56
1:A:632:PHE:CA	1:A:635:ILE:HG22	2.35	0.56
1:A:830:LEU:HD13	1:A:835:ARG:HD3	1.88	0.56
1:A:996:MET:O	1:A:1000:PRO:CD	2.53	0.56
1:A:1163:ILE:HD11	1:A:1206:LYS:HZ3	1.69	0.56
1:A:1251:ILE:HG22	1:A:1251:ILE:O	2.04	0.56
2:D:148:VAL:HG21	2:D:151:LEU:HD12	1.86	0.56
1:A:864:LEU:H	1:A:864:LEU:CD2	2.18	0.56
1:A:890:TYR:HD1	1:A:1039:MET:HB3	1.71	0.56
1:A:335:LEU:HA	1:A:338:LEU:HD21	1.88	0.56
1:A:494:VAL:HA	1:A:497:HIS:CD2	2.40	0.56
1:A:546:VAL:HG23	1:A:547:LEU:HG	1.88	0.56
1:A:841:ILE:O	1:A:845:VAL:HG23	2.06	0.56
1:A:1206:LYS:O	1:A:1210:ILE:HG12	2.06	0.56
1:A:494:VAL:HA	1:A:497:HIS:HD2	1.71	0.56
1:A:650:VAL:O	1:A:650:VAL:HG22	2.05	0.56
1:A:959:VAL:HA	1:A:965:GLN:O	2.05	0.56
1:A:357:SER:HB3	1:A:778:CYS:SG	2.46	0.56
1:A:1180:LYS:HZ3	1:A:1185:GLU:HG3	1.69	0.56
1:A:271:ILE:O	1:A:275:THR:HG23	2.05	0.55
1:A:421:GLN:N	1:A:421:GLN:OE1	2.38	0.55
5:A:1415:NAG:H82	5:A:1415:NAG:O3	2.06	0.55
1:A:240:CYS:SG	1:A:240:CYS:O	2.64	0.55
1:A:893:LEU:HD23	1:A:894:GLU:O	2.07	0.55
1:A:990:PRO:O	1:A:995:PHE:HB2	2.05	0.55
1:A:662:LEU:HD12	1:A:663:ILE:N	2.21	0.55
1:A:684:LEU:HD12	1:A:687:ILE:HG21	1.89	0.55
5:A:1409:NAG:H82	5:A:1409:NAG:C1	2.37	0.55
1:A:48:PRO:HB3	1:A:74:CYS:HB3	1.89	0.55
1:A:335:LEU:HA	1:A:338:LEU:CD2	2.36	0.55
1:A:627:SER:O	1:A:630:ILE:HG22	2.05	0.55
1:A:948:ASP:O	1:A:951:LYS:HG2	2.06	0.55
1:A:257:PRO:HG2	1:A:259:PRO:HD3	1.88	0.55
1:A:1064:ASN:O	1:A:1068:THR:HG22	2.07	0.55
1:A:387:GLN:HG3	1:A:1059:ARG:HH22	1.71	0.55
1:A:462:VAL:HG23	1:A:467:ILE:HG23	1.88	0.55
2:D:67:SER:H	2:D:101:ILE:HB	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:161:ARG:HH21	5:A:1418:NAG:C6	2.19	0.55
1:A:499:LYS:HB3	1:A:507:ALA:HB3	1.89	0.55
1:A:776:ILE:CG2	1:A:777:THR:N	2.69	0.55
1:A:930:ASP:OD1	1:A:936:GLY:HA2	2.07	0.55
2:D:83:VAL:HG11	6:D:204:CLR:H6	1.88	0.55
1:A:720:LEU:HD21	1:A:787:ILE:HG22	1.88	0.55
1:A:1005:ASP:O	1:A:1016:HIS:CB	2.55	0.55
1:A:439:ILE:O	1:A:443:VAL:HG12	2.07	0.55
1:A:477:THR:O	1:A:477:THR:HG22	2.06	0.55
1:A:503:PHE:O	1:A:504:PHE:CG	2.60	0.55
1:A:1173:ARG:HA	1:A:1176:THR:HG22	1.89	0.55
1:A:1180:LYS:HD3	1:A:1185:GLU:CB	2.37	0.55
1:A:194:PHE:CE2	1:A:207:PRO:HB3	2.42	0.54
5:A:1401:NAG:H3	5:A:1401:NAG:C8	2.33	0.54
3:F:1:NAG:H62	3:F:2:NAG:H5	1.89	0.54
1:A:51:LEU:HD13	1:A:73:LEU:CD2	2.37	0.54
1:A:624:VAL:HG23	1:A:692:PHE:CE2	2.42	0.54
1:A:1240:GLY:O	1:A:1245:PRO:HD3	2.07	0.54
2:D:124:LEU:HD12	2:D:125:VAL:N	2.22	0.54
1:A:173:LEU:HB3	1:A:177:CYS:SG	2.47	0.54
1:A:335:LEU:HA	1:A:338:LEU:CG	2.37	0.54
1:A:737:LEU:HA	1:A:1116:LEU:CD2	2.37	0.54
1:A:966:PHE:HB2	1:A:1001:MET:SD	2.47	0.54
1:A:1032:ARG:CB	1:A:1032:ARG:CZ	2.85	0.54
1:A:25:CYS:HB3	1:A:117:GLN:OE1	2.08	0.54
1:A:616:GLU:OE2	1:A:867:PRO:HB3	2.07	0.54
1:A:770:ILE:O	1:A:774:LEU:HD23	2.06	0.54
1:A:905:GLN:O	1:A:909:CYS:HB2	2.07	0.54
1:A:1122:TRP:O	1:A:1126:ILE:HG12	2.07	0.54
4:C:2:NAG:C4	4:C:3:BMA:H2	2.38	0.54
1:A:661:ILE:O	1:A:665:LEU:HG	2.08	0.54
1:A:675:PHE:CD1	1:A:678:ILE:HD12	2.42	0.54
1:A:832:ASP:HA	1:A:835:ARG:HH21	1.71	0.54
1:A:257:PRO:HB2	1:A:259:PRO:HD3	1.89	0.54
1:A:464:LEU:O	1:A:468:CYS:SG	2.66	0.54
1:A:127:GLU:O	1:A:139:THR:HA	2.07	0.54
1:A:200:GLN:HG2	6:A:1419:CLR:H263	1.90	0.54
1:A:693:LEU:HD21	1:A:1229:TYR:CE2	2.43	0.54
1:A:51:LEU:CB	1:A:71:VAL:HG21	2.37	0.54
1:A:942:TRP:HB3	1:A:1019:TYR:CD1	2.43	0.54
2:D:65:ILE:HG13	2:D:66:GLN:N	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:111:LEU:HD12	1:A:146:TYR:CE2	2.42	0.54
1:A:451:GLU:HA	1:A:464:LEU:HD23	1.89	0.54
1:A:457:TYR:CD1	1:A:457:TYR:C	2.86	0.54
1:A:609:ILE:HA	1:A:866:MET:HE1	1.88	0.54
1:A:660:GLY:HA2	1:A:663:ILE:CG2	2.37	0.54
1:A:731:VAL:O	1:A:735:MET:HG3	2.08	0.54
1:A:1121:LEU:O	1:A:1125:VAL:HG22	2.08	0.54
2:D:31:ASP:CB	2:D:65:ILE:HG21	2.37	0.54
2:D:70:SER:O	2:D:91:ASP:HA	2.07	0.54
1:A:1255:VAL:O	1:A:1255:VAL:HG13	2.06	0.53
1:A:464:LEU:HD11	1:A:468:CYS:SG	2.48	0.53
1:A:513:PHE:CD1	1:A:513:PHE:C	2.85	0.53
1:A:741:SER:OG	1:A:1109:ILE:HD12	2.02	0.53
1:A:830:LEU:HA	1:A:835:ARG:HD3	1.90	0.53
2:D:60:THR:HA	2:D:108:SER:CB	2.38	0.53
1:A:353:VAL:HG13	1:A:354:ILE:N	2.22	0.53
1:A:557:ASN:OD1	4:C:1:NAG:H2	2.06	0.53
1:A:747:PHE:O	1:A:750:ALA:HB3	2.08	0.53
1:A:1224:PHE:HB3	1:A:1228:MET:HE3	1.89	0.53
1:A:129:TYR:CB	1:A:138:LYS:O	2.57	0.53
1:A:670:CYS:O	1:A:674:VAL:HG12	2.09	0.53
2:D:47:CYS:O	2:D:49:LEU:HD12	2.09	0.53
1:A:24:SER:HB2	1:A:46:GLY:O	2.08	0.53
1:A:660:GLY:CA	1:A:663:ILE:HG22	2.38	0.53
1:A:691:PRO:HA	1:A:694:VAL:HG22	1.90	0.53
1:A:152:PHE:CD1	1:A:221:ASN:HB2	2.44	0.53
1:A:373:VAL:HG12	1:A:682:LEU:HB3	1.89	0.53
1:A:684:LEU:CA	1:A:687:ILE:HG22	2.37	0.53
1:A:233:GLU:C	1:A:912:MET:HE3	2.33	0.53
1:A:374:THR:HG21	1:A:681:PRO:HG2	1.91	0.53
1:A:1170:HIS:HB3	1:A:1194:MET:HG2	1.91	0.53
1:A:500:GLY:HA3	1:A:506:TYR:H	1.73	0.53
1:A:660:GLY:O	1:A:663:ILE:HG22	2.09	0.53
1:A:684:LEU:C	1:A:687:ILE:HG22	2.33	0.53
1:A:875:TYR:CZ	1:A:879:ILE:HD11	2.43	0.53
1:A:958:ARG:HD3	1:A:976:CYS:O	2.09	0.53
1:A:621:VAL:O	1:A:624:VAL:HG12	2.09	0.53
1:A:621:VAL:HG12	1:A:688:GLU:OE1	2.08	0.53
1:A:972:VAL:HG13	1:A:974:PRO:CD	2.32	0.53
1:A:1138:MET:O	1:A:1141:VAL:HG12	2.09	0.53
2:D:67:SER:CB	2:D:132:ASP:HB2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:245:ILE:HG13	1:A:245:ILE:O	2.07	0.53
1:A:334:CYS:SG	1:A:337:ARG:NH2	2.82	0.53
1:A:580:ALA:O	1:A:584:GLU:HG3	2.09	0.53
1:A:628:TYR:HE2	1:A:665:LEU:HD21	1.72	0.53
2:D:122:ILE:HG22	2:D:123:LYS:H	1.74	0.53
1:A:120:PHE:CD1	1:A:146:TYR:HE1	2.27	0.52
1:A:630:ILE:HD13	1:A:1212:VAL:CG2	2.39	0.52
2:D:49:LEU:HD12	2:D:49:LEU:N	2.24	0.52
2:D:56:SER:HA	2:D:112:LYS:HA	1.91	0.52
1:A:257:PRO:CB	1:A:259:PRO:HD3	2.40	0.52
1:A:261:THR:N	1:A:267:ALA:HB2	2.24	0.52
1:A:338:LEU:HD12	1:A:339:PHE:H	1.72	0.52
1:A:446:LEU:HD23	1:A:446:LEU:O	2.08	0.52
1:A:447:GLN:OE1	1:A:481:ILE:HG21	2.08	0.52
1:A:728:LEU:HA	1:A:731:VAL:HG12	1.90	0.52
1:A:919:LEU:HD13	1:A:1065:VAL:HG11	1.91	0.52
1:A:968:ASN:HD21	5:A:1414:NAG:C8	2.21	0.52
2:D:121:SER:HA	2:D:147:ILE:CG2	2.38	0.52
1:A:158:ASN:HB2	5:A:1418:NAG:O5	2.09	0.52
1:A:181:ALA:HA	1:A:184:CYS:SG	2.49	0.52
1:A:1065:VAL:HA	1:A:1068:THR:HG22	1.92	0.52
1:A:1082:SER:HB3	1:A:1085:TYR:CE1	2.45	0.52
2:D:74:VAL:HG22	2:D:128:TRP:CE3	2.45	0.52
1:A:350:PRO:HB2	1:A:785:LEU:HD21	1.91	0.52
1:A:364:CYS:CB	1:A:670:CYS:SG	2.96	0.52
1:A:462:VAL:CG2	1:A:467:ILE:HG23	2.40	0.52
1:A:720:LEU:HD11	1:A:787:ILE:CG2	2.39	0.52
2:D:57:VAL:HG22	2:D:111:ASN:HB3	1.88	0.52
1:A:27:TRP:HB2	1:A:141:VAL:HG21	1.91	0.52
1:A:262:ILE:O	1:A:263:LEU:HD22	2.08	0.52
1:A:374:THR:CG2	1:A:681:PRO:HB2	2.39	0.52
2:D:44:THR:HG23	2:D:48:GLN:OE1	2.09	0.52
1:A:123:VAL:HG23	1:A:141:VAL:CG1	2.39	0.52
1:A:686:VAL:C	1:A:688:GLU:H	2.18	0.52
1:A:696:ALA:O	1:A:699:VAL:HG22	2.10	0.52
1:A:1052:ILE:HD11	1:A:1091:TYR:CD2	2.28	0.52
1:A:1102:LEU:HD23	1:A:1158:VAL:CG2	2.38	0.52
1:A:963:THR:HG23	1:A:965:GLN:HB2	1.90	0.52
1:A:1186:ARG:HH12	1:A:1255:VAL:HG12	1.74	0.52
1:A:595:LYS:HD3	1:A:595:LYS:N	2.25	0.52
1:A:969:ALA:HB3	1:A:1008:ASN:ND2	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:67:SER:HB3	2:D:132:ASP:HB2	1.91	0.52
1:A:66:PHE:CE1	3:F:1:NAG:H82	2.45	0.52
1:A:564:THR:HG22	1:A:566:PRO:HD3	1.91	0.52
1:A:158:ASN:HD21	5:A:1418:NAG:C8	2.21	0.52
1:A:186:ALA:O	1:A:190:ILE:HD13	2.10	0.52
1:A:504:PHE:CE2	2:D:144:PRO:CB	2.93	0.52
1:A:653:LYS:HD3	1:A:653:LYS:N	2.25	0.52
1:A:660:GLY:O	1:A:663:ILE:CG2	2.57	0.52
1:A:689:VAL:HG21	1:A:1225:TYR:CE1	2.45	0.52
1:A:867:PRO:HG2	1:A:870:SER:HB2	1.92	0.52
2:D:105:LYS:HB3	2:D:107:TYR:CE2	2.45	0.52
1:A:702:ILE:HG13	1:A:703:PHE:N	2.24	0.51
1:A:1173:ARG:O	1:A:1176:THR:HG22	2.10	0.51
1:A:287:PHE:CE2	1:A:836:PRO:CG	2.91	0.51
1:A:757:VAL:HG21	1:A:1155:VAL:HB	1.91	0.51
1:A:893:LEU:HD21	1:A:897:HIS:HB2	1.92	0.51
1:A:127:GLU:OE1	1:A:127:GLU:N	2.42	0.51
1:A:413:PRO:HG2	1:A:414:LEU:CD2	2.41	0.51
1:A:472:LEU:H	1:A:472:LEU:CD2	2.19	0.51
1:A:656:LEU:HD22	1:A:656:LEU:N	2.24	0.51
1:A:83:LEU:HD12	1:A:84:LYS:N	2.26	0.51
1:A:262:ILE:HG12	1:A:267:ALA:HB1	1.92	0.51
1:A:611:ASP:O	1:A:615:ARG:HB2	2.10	0.51
2:D:72:ALA:HB1	2:D:128:TRP:CH2	2.45	0.51
2:D:130:LEU:O	2:D:138:LEU:N	2.42	0.51
1:A:889:VAL:HG22	1:A:1042:HIS:CD2	2.45	0.51
1:A:959:VAL:HG23	1:A:965:GLN:O	2.11	0.51
2:D:116:LYS:HB3	2:D:119:TYR:CZ	2.45	0.51
1:A:1111:LEU:C	1:A:1111:LEU:HD23	2.36	0.51
1:A:1176:THR:HG23	1:A:1177:VAL:N	2.26	0.51
1:A:180:ASP:C	1:A:182:ASP:N	2.69	0.51
1:A:334:CYS:O	1:A:338:LEU:HG	2.11	0.51
1:A:1163:ILE:HD13	1:A:1232:MET:SD	2.51	0.51
2:D:66:GLN:HG2	2:D:103:LYS:CB	2.30	0.51
1:A:161:ARG:HH21	5:A:1418:NAG:H62	1.76	0.51
1:A:343:GLY:HA3	1:A:728:LEU:CD2	2.40	0.51
1:A:585:LYS:O	1:A:589:ASN:ND2	2.43	0.51
1:A:946:TYR:O	1:A:950:VAL:HG12	2.11	0.51
1:A:977:VAL:CG2	1:A:978:ARG:N	2.74	0.51
1:A:1180:LYS:HD3	1:A:1185:GLU:HB3	1.93	0.51
2:D:32:GLY:CA	2:D:138:LEU:O	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:59:VAL:O	2:D:108:SER:HA	2.11	0.51
1:A:228:ASP:O	1:A:229:GLU:HG3	2.11	0.50
1:A:789:ARG:HG3	1:A:790:GLN:N	2.23	0.50
2:D:92:GLY:HA3	2:D:97:ILE:HD12	1.92	0.50
1:A:464:LEU:HD12	1:A:464:LEU:O	2.12	0.50
1:A:756:ALA:HB1	6:A:1420:CLR:H231	1.93	0.50
1:A:830:LEU:N	1:A:830:LEU:HD22	2.26	0.50
1:A:1191:LEU:O	1:A:1192:ALA:C	2.54	0.50
1:A:632:PHE:C	1:A:635:ILE:HG22	2.36	0.50
1:A:686:VAL:C	1:A:688:GLU:N	2.69	0.50
1:A:983:THR:O	1:A:987:LYS:HG3	2.12	0.50
1:A:1142:MET:HE2	1:A:1153:SER:OG	2.12	0.50
3:G:2:NAG:O7	3:G:2:NAG:O3	2.22	0.50
1:A:281:LEU:C	1:A:281:LEU:HD12	2.37	0.50
1:A:604:THR:OG1	1:A:875:TYR:CD2	2.55	0.50
1:A:864:LEU:HD23	1:A:864:LEU:N	2.26	0.50
1:A:1138:MET:HE1	1:A:1231:ALA:HB3	1.94	0.50
2:D:67:SER:OG	2:D:132:ASP:HB2	2.11	0.50
1:A:266:ASP:C	1:A:268:MET:H	2.20	0.50
1:A:273:TRP:CE2	1:A:277:MET:HE2	2.46	0.50
1:A:712:ASP:OD1	1:A:713:GLU:N	2.45	0.50
2:D:112:LYS:O	2:D:113:LEU:HD22	2.11	0.50
1:A:62:LEU:CD1	1:A:83:LEU:HD11	2.40	0.50
1:A:632:PHE:O	1:A:635:ILE:HG22	2.12	0.50
1:A:842:PHE:HD2	1:A:1243:PHE:HD2	1.60	0.50
1:A:1090:GLN:HG3	1:A:1091:TYR:CE1	2.47	0.50
2:D:56:SER:OG	2:D:112:LYS:HB2	2.12	0.50
1:A:373:VAL:HA	1:A:682:LEU:O	2.11	0.50
1:A:428:ASP:HB2	4:C:3:BMA:HO2	1.77	0.50
2:D:122:ILE:HG22	2:D:123:LYS:N	2.26	0.50
1:A:111:LEU:HD23	1:A:111:LEU:C	2.37	0.49
1:A:144:LEU:HD12	1:A:144:LEU:C	2.37	0.49
1:A:842:PHE:HD2	1:A:1243:PHE:CD2	2.30	0.49
1:A:30:GLU:O	1:A:30:GLU:HG2	2.11	0.49
1:A:369:VAL:HG13	1:A:370:PHE:CE1	2.47	0.49
1:A:404:ARG:CG	1:A:606:GLU:CG	2.84	0.49
1:A:430:PRO:O	1:A:556:ASN:HB3	2.13	0.49
1:A:703:PHE:HA	1:A:706:VAL:HG12	1.93	0.49
1:A:994:ASP:HA	1:A:997:ARG:HB3	1.92	0.49
1:A:505:VAL:HG12	1:A:507:ALA:O	2.11	0.49
1:A:574:THR:O	1:A:578:GLN:CG	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:41:PRO:HD2	2:D:55:TYR:CD2	2.47	0.49
1:A:143:GLU:HG3	1:A:144:LEU:N	2.27	0.49
1:A:541:VAL:O	1:A:541:VAL:HG13	2.12	0.49
1:A:1032:ARG:HB2	1:A:1032:ARG:HH11	1.71	0.49
2:D:40:SER:O	2:D:56:SER:N	2.36	0.49
1:A:51:LEU:HD13	1:A:73:LEU:HD11	1.92	0.49
1:A:257:PRO:C	1:A:259:PRO:HD3	2.38	0.49
1:A:737:LEU:HD23	1:A:1169:SER:OG	2.11	0.49
1:A:829:LEU:O	1:A:829:LEU:HD23	2.12	0.49
1:A:999:LEU:O	1:A:1003:LEU:HD23	2.12	0.49
1:A:1113:THR:CG2	1:A:1117:LEU:HD12	2.43	0.49
2:D:120:PRO:O	2:D:147:ILE:CG2	2.59	0.49
1:A:53:LYS:HG3	1:A:56:TYR:CE2	2.47	0.49
1:A:107:LEU:HD23	1:A:107:LEU:C	2.37	0.49
1:A:656:LEU:HD12	1:A:782:LEU:HD13	1.94	0.49
1:A:662:LEU:HD12	1:A:662:LEU:C	2.38	0.49
1:A:751:LEU:HD21	1:A:1101:ASN:CG	2.37	0.49
2:D:127:GLU:HA	2:D:142:GLU:HG3	1.94	0.49
2:D:151:LEU:HD23	2:D:151:LEU:C	2.38	0.49
2:D:139:PHE:HE2	2:D:141:TRP:HE1	1.60	0.49
1:A:253:PRO:HG3	1:A:932:TYR:CB	2.43	0.49
1:A:741:SER:HG	1:A:1109:ILE:CD1	2.20	0.49
1:A:1113:THR:HG23	1:A:1117:LEU:HD12	1.94	0.49
1:A:420:TYR:HD2	1:A:429:VAL:CG2	2.25	0.48
1:A:1065:VAL:HA	1:A:1068:THR:CG2	2.43	0.48
1:A:1160:SER:O	1:A:1163:ILE:HG22	2.13	0.48
4:C:2:NAG:H4	4:C:3:BMA:H2	1.95	0.48
1:A:79:GLN:O	1:A:82:THR:HG22	2.12	0.48
1:A:89:LEU:HD12	1:A:90:PRO:N	2.28	0.48
1:A:890:TYR:CD1	1:A:1039:MET:HB3	2.47	0.48
1:A:938:ALA:HB1	1:A:939:PRO:HD2	1.94	0.48
2:D:48:GLN:OE1	2:D:48:GLN:N	2.43	0.48
2:D:95:SER:HB2	2:D:109:TYR:CE1	2.46	0.48
3:B:1:NAG:H3	3:B:2:NAG:O5	2.14	0.48
1:A:40:TYR:HE1	1:A:202:PRO:O	1.96	0.48
1:A:122:ASN:HD22	1:A:217:MET:HE1	1.78	0.48
1:A:381:TRP:HD1	1:A:1087:PHE:HB3	1.77	0.48
1:A:440:LEU:HA	1:A:443:VAL:HG12	1.94	0.48
1:A:1135:LEU:CD2	1:A:1161:CYS:HB3	2.31	0.48
1:A:1144:LEU:HD23	1:A:1144:LEU:O	2.14	0.48
1:A:1220:ILE:HD12	1:A:1220:ILE:C	2.37	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:38:ASN:O	2:D:58:ASN:N	2.35	0.48
1:A:162:ASP:HB3	1:A:242:ASP:O	2.13	0.48
1:A:281:LEU:HD12	1:A:282:VAL:N	2.29	0.48
1:A:627:SER:HA	1:A:1212:VAL:HG11	1.96	0.48
1:A:656:LEU:CD2	1:A:786:ASP:CG	2.83	0.48
1:A:141:VAL:HG11	1:A:144:LEU:HD23	1.95	0.48
1:A:528:LEU:O	1:A:528:LEU:HG	2.13	0.48
1:A:639:LEU:HD11	1:A:706:VAL:HG11	1.96	0.48
1:A:686:VAL:HB	1:A:690:ILE:CD1	2.42	0.48
1:A:970:SER:C	1:A:971:VAL:HG13	2.38	0.48
1:A:38:LYS:HG3	1:A:202:PRO:HA	1.94	0.48
1:A:131:ASP:HB3	1:A:133:VAL:HG22	1.95	0.48
1:A:604:THR:HG23	1:A:605:ALA:N	2.29	0.48
2:D:143:ILE:O	2:D:143:ILE:CG1	2.56	0.48
1:A:1127:MET:SD	1:A:1168:CYS:HB2	2.54	0.48
1:A:452:ASN:O	1:A:454:THR:HG23	2.13	0.48
1:A:860:LEU:HD12	1:A:861:ASP:H	1.78	0.48
1:A:927:ALA:HA	1:A:935:ILE:O	2.14	0.48
1:A:1183:ARG:HG3	1:A:1183:ARG:HH11	1.79	0.48
1:A:1242:ILE:O	1:A:1246:VAL:HG22	2.12	0.48
2:D:72:ALA:HB1	2:D:128:TRP:CZ2	2.49	0.48
1:A:51:LEU:H	1:A:71:VAL:CG2	2.27	0.48
1:A:51:LEU:CG	1:A:52:PRO:HD2	2.38	0.48
1:A:74:CYS:SG	1:A:114:SER:O	2.72	0.48
1:A:1219:GLN:O	1:A:1223:ILE:HG13	2.13	0.48
4:C:1:NAG:O4	4:C:2:NAG:O7	2.31	0.48
1:A:50:PRO:CB	1:A:72:SER:HA	2.43	0.47
1:A:146:TYR:CE2	1:A:148:VAL:HG22	2.49	0.47
1:A:754:MET:SD	1:A:755:PRO:HD2	2.54	0.47
1:A:25:CYS:SG	1:A:117:GLN:CB	3.02	0.47
1:A:381:TRP:CD1	1:A:1087:PHE:HB3	2.49	0.47
1:A:500:GLY:HA2	1:A:506:TYR:H	1.76	0.47
1:A:693:LEU:HD23	1:A:693:LEU:N	2.29	0.47
1:A:963:THR:HG23	1:A:965:GLN:N	2.29	0.47
2:D:73:VAL:CG1	2:D:75:HIS:CE1	2.96	0.47
1:A:664:VAL:HA	1:A:771:ASP:OD2	2.13	0.47
1:A:744:VAL:HG13	1:A:748:LEU:HD23	1.96	0.47
1:A:972:VAL:HG22	1:A:972:VAL:O	2.13	0.47
6:A:1419:CLR:H212	6:A:1419:CLR:H121	1.95	0.47
1:A:462:VAL:CG1	1:A:579:ARG:HG3	2.36	0.47
1:A:1170:HIS:HB3	1:A:1194:MET:CG	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:31:ASP:HB3	2:D:65:ILE:HG22	1.93	0.47
2:D:123:LYS:HA	2:D:146:GLN:HA	1.97	0.47
1:A:50:PRO:HG3	1:A:72:SER:HA	1.95	0.47
1:A:724:LEU:HA	1:A:727:VAL:CG1	2.43	0.47
2:D:116:LYS:HG2	2:D:117:SER:N	2.30	0.47
2:D:128:TRP:O	2:D:140:CYS:HA	2.13	0.47
2:D:148:VAL:HG22	2:D:149:SER:N	2.30	0.47
3:B:2:NAG:HO3	3:B:2:NAG:C7	2.19	0.47
1:A:27:TRP:HA	1:A:42:CYS:O	2.14	0.47
2:D:51:LYS:HD3	2:D:119:TYR:O	2.15	0.47
2:D:113:LEU:HD22	2:D:113:LEU:N	2.30	0.47
1:A:88:GLN:CG	1:A:89:LEU:N	2.68	0.47
1:A:187:THR:OG1	1:A:209:PHE:HE2	1.98	0.47
1:A:628:TYR:CE2	1:A:665:LEU:CD2	2.95	0.47
1:A:853:LEU:C	1:A:853:LEU:HD23	2.40	0.47
1:A:1043:THR:O	1:A:1045:LEU:HG	2.15	0.47
1:A:1173:ARG:CG	1:A:1173:ARG:NH2	2.76	0.47
5:A:1401:NAG:C1	5:A:1401:NAG:C8	2.92	0.47
2:D:93:CYS:CA	2:D:97:ILE:O	2.60	0.47
1:A:51:LEU:CD1	1:A:73:LEU:HD21	2.45	0.47
1:A:200:GLN:OE1	1:A:200:GLN:HA	2.15	0.47
1:A:660:GLY:C	1:A:663:ILE:HG22	2.39	0.47
1:A:828:LEU:C	1:A:828:LEU:HD23	2.40	0.47
1:A:889:VAL:O	1:A:1039:MET:HA	2.15	0.47
2:D:73:VAL:HG11	2:D:75:HIS:NE2	2.29	0.47
1:A:272:MET:HG3	1:A:851:ALA:CB	2.44	0.47
1:A:287:PHE:HE2	1:A:836:PRO:HG2	1.77	0.47
1:A:546:VAL:HA	1:A:562:VAL:HB	1.97	0.47
1:A:584:GLU:OE1	1:A:607:ARG:HG2	2.15	0.47
1:A:632:PHE:O	1:A:635:ILE:CG2	2.63	0.47
1:A:968:ASN:CB	5:A:1414:NAG:O5	2.63	0.47
1:A:136:GLN:O	1:A:136:GLN:HG3	2.15	0.47
1:A:143:GLU:HG3	1:A:144:LEU:H	1.80	0.47
1:A:152:PHE:HB2	1:A:221:ASN:HB3	1.97	0.47
1:A:280:LEU:HD23	1:A:280:LEU:C	2.39	0.47
1:A:622:PHE:HA	1:A:625:VAL:HG22	1.97	0.47
1:A:686:VAL:HG23	1:A:687:ILE:N	2.29	0.47
1:A:725:GLY:O	1:A:728:LEU:HG	2.15	0.47
1:A:898:ASP:O	1:A:899:TYR:HB2	2.13	0.47
1:A:963:THR:HG23	1:A:965:GLN:CB	2.45	0.47
1:A:996:MET:SD	1:A:1031:THR:O	2.73	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:40:TYR:HB2	1:A:140:ASN:ND2	2.30	0.46
1:A:51:LEU:H	1:A:71:VAL:HG23	1.79	0.46
1:A:88:GLN:O	1:A:92:GLN:HG3	2.15	0.46
1:A:194:PHE:HE2	1:A:207:PRO:HB3	1.80	0.46
1:A:274:ILE:HD12	1:A:274:ILE:HA	1.76	0.46
1:A:374:THR:OG1	1:A:380:LEU:HD21	2.15	0.46
1:A:821:PHE:HE2	1:A:1195:GLY:O	1.98	0.46
1:A:1223:ILE:HG22	1:A:1224:PHE:CD1	2.51	0.46
1:A:51:LEU:HG	1:A:52:PRO:CD	2.41	0.46
1:A:177:CYS:HA	1:A:189:TRP:CD1	2.50	0.46
1:A:754:MET:HE3	1:A:757:VAL:H	1.81	0.46
1:A:1095:ILE:O	1:A:1098:THR:CG2	2.63	0.46
2:D:22:VAL:HA	2:D:45:GLN:NE2	2.29	0.46
1:A:32:GLY:CA	1:A:140:ASN:HD21	2.09	0.46
1:A:529:LEU:HD12	1:A:529:LEU:C	2.40	0.46
1:A:695:LEU:O	1:A:699:VAL:HG13	2.16	0.46
1:A:157:TYR:O	1:A:161:ARG:CG	2.63	0.46
1:A:413:PRO:HD3	1:A:600:THR:HG23	1.97	0.46
1:A:782:LEU:HD12	1:A:782:LEU:C	2.41	0.46
1:A:852:VAL:O	1:A:852:VAL:CG1	2.63	0.46
2:D:39:VAL:HG13	2:D:42:CYS:CB	2.40	0.46
2:D:74:VAL:HG22	2:D:128:TRP:CZ3	2.50	0.46
1:A:107:LEU:O	1:A:110:GLU:HG2	2.15	0.46
1:A:335:LEU:O	1:A:338:LEU:HG	2.15	0.46
1:A:379:ASP:O	1:A:755:PRO:CG	2.59	0.46
1:A:630:ILE:HD13	1:A:1212:VAL:HG23	1.96	0.46
1:A:641:HIS:HE1	1:A:816:CYS:SG	2.38	0.46
1:A:737:LEU:HA	1:A:1116:LEU:HD23	1.97	0.46
1:A:979:CYS:HB3	1:A:998:PHE:HE2	1.73	0.46
1:A:1098:THR:HG23	1:A:1099:ILE:N	2.30	0.46
1:A:1186:ARG:NH1	1:A:1255:VAL:HG12	2.31	0.46
2:D:124:LEU:HD12	2:D:124:LEU:C	2.39	0.46
1:A:1095:ILE:O	1:A:1099:ILE:HG12	2.16	0.46
1:A:1098:THR:OG1	1:A:1154:LEU:HD11	2.16	0.46
1:A:1127:MET:SD	1:A:1168:CYS:O	2.74	0.46
5:A:1410:NAG:O6	5:A:1410:NAG:C1	2.64	0.46
1:A:27:TRP:CE2	1:A:117:GLN:NE2	2.84	0.46
1:A:73:LEU:CD1	1:A:75:CYS:HB3	2.38	0.46
1:A:350:PRO:CB	1:A:785:LEU:HD21	2.46	0.46
1:A:1142:MET:HE1	1:A:1157:LEU:CD1	2.45	0.46
2:D:24:PHE:CE2	2:D:34:ILE:HD12	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:689:VAL:HG21	1:A:1225:TYR:CZ	2.51	0.46
1:A:984:PRO:HA	1:A:987:LYS:CE	2.46	0.46
1:A:1091:TYR:CD1	1:A:1091:TYR:N	2.81	0.46
1:A:196:LYS:HA	1:A:201:ALA:HB3	1.98	0.46
1:A:358:LEU:HD23	1:A:358:LEU:C	2.40	0.46
2:D:52:GLY:HA2	2:D:115:VAL:O	2.15	0.46
2:D:59:VAL:HG11	2:D:139:PHE:CE2	2.51	0.46
2:D:125:VAL:HA	2:D:144:PRO:HA	1.97	0.46
1:A:686:VAL:C	1:A:690:ILE:HD12	2.41	0.46
1:A:829:LEU:HD21	1:A:1246:VAL:HG13	1.98	0.46
1:A:873:VAL:HG23	1:A:874:ASP:N	2.30	0.46
1:A:431:PHE:HA	1:A:556:ASN:O	2.16	0.45
1:A:551:ASP:C	1:A:552:ASP:OD1	2.59	0.45
1:A:667:SER:OG	1:A:771:ASP:CA	2.58	0.45
1:A:970:SER:O	1:A:971:VAL:CG1	2.64	0.45
1:A:1006:ASN:HB2	5:A:1414:NAG:H81	1.99	0.45
1:A:152:PHE:HD1	1:A:221:ASN:HB2	1.81	0.45
1:A:821:PHE:HA	1:A:825:TYR:HB3	1.97	0.45
1:A:836:PRO:O	1:A:839:ILE:HG22	2.16	0.45
1:A:1133:MET:SD	1:A:1239:HIS:NE2	2.89	0.45
2:D:40:SER:HA	2:D:41:PRO:HA	1.61	0.45
1:A:38:LYS:CE	1:A:200:GLN:O	2.65	0.45
1:A:110:GLU:HG3	1:A:111:LEU:N	2.31	0.45
1:A:861:ASP:O	1:A:862:GLN:CB	2.62	0.45
1:A:1163:ILE:HG21	1:A:1232:MET:SD	2.56	0.45
1:A:1191:LEU:HD13	1:A:1245:PRO:HG3	1.98	0.45
1:A:351:GLY:O	1:A:354:ILE:HG22	2.17	0.45
1:A:433:PRO:N	1:A:434:PRO:CD	2.79	0.45
1:A:469:LEU:O	1:A:469:LEU:HG	2.17	0.45
1:A:487:TYR:O	1:A:533:CYS:HB3	2.15	0.45
1:A:1121:LEU:HD12	1:A:1122:TRP:N	2.31	0.45
1:A:1199:PHE:CD1	1:A:1199:PHE:C	2.95	0.45
1:A:1202:ILE:HG23	1:A:1206:LYS:CE	2.27	0.45
3:E:1:NAG:H4	3:E:2:NAG:H2	1.38	0.45
1:A:50:PRO:CA	1:A:72:SER:HA	2.45	0.45
1:A:71:VAL:HG23	1:A:72:SER:N	2.32	0.45
1:A:276:TYR:CE1	1:A:844:GLY:HA2	2.51	0.45
1:A:563:ILE:HG22	1:A:564:THR:N	2.31	0.45
1:A:1025:ILE:N	1:A:1025:ILE:CD1	2.73	0.45
1:A:334:CYS:HA	1:A:337:ARG:HE	1.81	0.45
1:A:958:ARG:HB2	1:A:958:ARG:CZ	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:420:TYR:OH	1:A:511:THR:OG1	2.26	0.45
1:A:702:ILE:CG1	1:A:703:PHE:N	2.79	0.45
1:A:893:LEU:HD23	1:A:893:LEU:C	2.42	0.45
1:A:1032:ARG:HB2	1:A:1032:ARG:CZ	2.47	0.45
1:A:1106:LEU:HD21	1:A:1135:LEU:HD11	1.98	0.45
1:A:1250:TYR:O	1:A:1251:ILE:HD13	2.16	0.45
5:A:1409:NAG:C8	5:A:1409:NAG:C1	2.95	0.45
2:D:77:ILE:C	2:D:77:ILE:CD1	2.86	0.45
1:A:353:VAL:HG11	1:A:781:SER:CB	2.47	0.45
1:A:368:LEU:O	1:A:368:LEU:HD23	2.17	0.45
1:A:374:THR:CG2	1:A:681:PRO:HG2	2.46	0.45
1:A:748:LEU:HD13	1:A:748:LEU:HA	1.86	0.45
1:A:1110:PHE:HE2	1:A:1125:VAL:HG12	1.82	0.45
1:A:1156:ASN:HD22	1:A:1228:MET:CE	2.30	0.45
6:D:204:CLR:H121	6:D:204:CLR:H212	1.97	0.45
1:A:158:ASN:ND2	5:A:1418:NAG:H83	2.22	0.44
1:A:776:ILE:HG23	1:A:777:THR:N	2.31	0.44
1:A:258:ALA:N	1:A:259:PRO:HD3	2.31	0.44
1:A:440:LEU:HA	1:A:443:VAL:CG1	2.47	0.44
1:A:606:GLU:OE1	1:A:606:GLU:CA	2.65	0.44
1:A:1180:LYS:CD	1:A:1185:GLU:CG	2.80	0.44
1:A:264:GLY:C	1:A:265:LEU:HD12	2.43	0.44
1:A:412:ALA:HB2	1:A:439:ILE:HD13	1.95	0.44
1:A:585:LYS:HB2	1:A:607:ARG:NH2	2.33	0.44
1:A:609:ILE:CG2	1:A:610:GLU:N	2.80	0.44
1:A:636:SER:HG	1:A:637:LEU:HD12	1.82	0.44
1:A:836:PRO:HA	1:A:839:ILE:HG22	1.99	0.44
1:A:1127:MET:HE1	1:A:1244:LEU:CD2	2.47	0.44
1:A:107:LEU:HD12	1:A:152:PHE:CE2	2.35	0.44
1:A:147:TYR:HB3	1:A:219:PRO:CG	2.24	0.44
1:A:257:PRO:HG2	1:A:259:PRO:CD	2.46	0.44
1:A:376:ASN:ND2	1:A:378:VAL:CG1	2.80	0.44
1:A:682:LEU:HD21	1:A:687:ILE:CB	2.45	0.44
1:A:968:ASN:HD21	5:A:1414:NAG:C7	2.30	0.44
1:A:999:LEU:HB3	1:A:1000:PRO:HD3	2.00	0.44
1:A:528:LEU:O	1:A:528:LEU:CG	2.66	0.44
1:A:120:PHE:HD1	1:A:120:PHE:O	2.01	0.44
1:A:157:TYR:CD2	1:A:186:ALA:HB2	2.52	0.44
1:A:240:CYS:HA	1:A:243:CYS:O	2.17	0.44
1:A:262:ILE:N	1:A:267:ALA:HB2	2.32	0.44
1:A:504:PHE:CE2	2:D:144:PRO:HB2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1122:TRP:HA	1:A:1122:TRP:CE3	2.52	0.44
1:A:273:TRP:CD1	1:A:273:TRP:C	2.96	0.44
1:A:502:ASP:C	1:A:503:PHE:CD1	2.96	0.44
1:A:915:ASN:HB3	1:A:917:ASP:OD1	2.18	0.44
2:D:75:HIS:HB2	2:D:127:GLU:HB3	1.98	0.44
2:D:105:LYS:HB3	2:D:107:TYR:CZ	2.53	0.44
1:A:38:LYS:HD2	1:A:202:PRO:CA	2.48	0.44
1:A:49:LYS:HD2	1:A:49:LYS:HA	1.81	0.44
1:A:332:GLU:CD	1:A:333:GLY:N	2.76	0.44
1:A:818:PHE:O	1:A:822:LYS:HG2	2.18	0.44
1:A:880:SER:CB	1:A:1046:GLN:HE21	2.31	0.44
1:A:1173:ARG:HA	1:A:1173:ARG:HD3	1.57	0.44
2:D:141:TRP:HE3	2:D:143:ILE:HG23	1.82	0.44
1:A:163:VAL:HA	1:A:242:ASP:HB3	1.98	0.44
1:A:428:ASP:HB2	4:C:3:BMA:O2	2.18	0.44
1:A:691:PRO:HA	1:A:694:VAL:CG2	2.47	0.44
1:A:963:THR:HG23	1:A:965:GLN:H	1.82	0.44
5:A:1402:NAG:O7	5:A:1402:NAG:O3	2.26	0.44
2:D:31:ASP:HB2	2:D:138:LEU:HA	2.00	0.44
1:A:157:TYR:O	1:A:161:ARG:HB3	2.18	0.43
1:A:353:VAL:CG1	1:A:354:ILE:N	2.81	0.43
1:A:604:THR:HG22	1:A:605:ALA:N	2.33	0.43
1:A:680:LEU:HD23	1:A:680:LEU:N	2.32	0.43
1:A:163:VAL:HG23	1:A:163:VAL:O	2.17	0.43
1:A:684:LEU:O	1:A:687:ILE:HG22	2.19	0.43
1:A:695:LEU:HD23	1:A:695:LEU:C	2.42	0.43
1:A:1183:ARG:HH21	1:A:1254:SER:HB3	1.81	0.43
1:A:350:PRO:HA	1:A:353:VAL:HG12	2.00	0.43
1:A:378:VAL:HG13	1:A:379:ASP:N	2.33	0.43
1:A:505:VAL:HG11	1:A:508:ASP:OD2	2.17	0.43
1:A:1166:GLU:OE1	1:A:1202:ILE:CG2	2.66	0.43
2:D:122:ILE:HG22	2:D:123:LYS:O	2.18	0.43
1:A:97:CYS:HB2	1:A:238:CYS:HB3	1.91	0.43
1:A:484:VAL:HG22	1:A:484:VAL:O	2.17	0.43
1:A:937:PHE:HD2	1:A:1041:TYR:HB2	1.83	0.43
1:A:1173:ARG:NH2	1:A:1173:ARG:HG2	2.33	0.43
2:D:31:ASP:CB	2:D:65:ILE:HG22	2.49	0.43
2:D:120:PRO:HB2	2:D:122:ILE:HG13	2.00	0.43
2:D:126:VAL:O	2:D:143:ILE:N	2.50	0.43
1:A:163:VAL:HG23	1:A:172:ALA:HB3	2.01	0.43
1:A:438:GLN:H	1:A:438:GLN:HG2	1.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:604:THR:HG23	1:A:605:ALA:H	1.84	0.43
1:A:609:ILE:CD1	6:A:1420:CLR:H41	2.49	0.43
1:A:279:PHE:HE2	1:A:843:VAL:HG21	1.78	0.43
1:A:512:HIS:CE1	1:A:533:CYS:HB3	2.54	0.43
1:A:1113:THR:HG23	1:A:1117:LEU:CD1	2.48	0.43
2:D:67:SER:O	2:D:101:ILE:CB	2.65	0.43
1:A:34:ALA:HB2	1:A:40:TYR:OH	2.19	0.43
1:A:112:THR:O	1:A:117:GLN:NE2	2.52	0.43
1:A:502:ASP:HB3	1:A:503:PHE:HD1	1.82	0.43
1:A:628:TYR:OH	1:A:691:PRO:HB2	2.19	0.43
1:A:659:ALA:HA	1:A:662:LEU:HD21	1.98	0.43
1:A:689:VAL:O	1:A:689:VAL:HG22	2.19	0.43
1:A:919:LEU:CD1	1:A:1065:VAL:HG21	2.49	0.43
1:A:1069:MET:HE2	1:A:1069:MET:HB2	1.91	0.43
2:D:61:PHE:CD2	2:D:107:TYR:O	2.72	0.43
1:A:62:LEU:HD12	1:A:80:LEU:HB3	2.00	0.43
1:A:688:GLU:O	1:A:692:PHE:CE1	2.70	0.43
1:A:838:VAL:HG13	1:A:839:ILE:N	2.34	0.43
1:A:873:VAL:O	1:A:877:LYS:HG3	2.18	0.43
1:A:950:VAL:O	1:A:950:VAL:HG22	2.19	0.43
1:A:207:PRO:HB2	1:A:209:PHE:CE1	2.53	0.43
1:A:724:LEU:O	1:A:727:VAL:HG12	2.19	0.43
1:A:748:LEU:N	1:A:748:LEU:HD22	2.33	0.43
1:A:1027:LEU:N	1:A:1027:LEU:HD22	2.33	0.43
1:A:1183:ARG:HG3	1:A:1183:ARG:NH1	2.33	0.43
1:A:52:PRO:O	1:A:53:LYS:HB3	2.18	0.43
1:A:148:VAL:O	1:A:209:PHE:HA	2.19	0.43
1:A:380:LEU:HD23	1:A:380:LEU:HA	1.75	0.42
1:A:414:LEU:N	1:A:414:LEU:HD22	2.34	0.42
1:A:666:SER:O	1:A:670:CYS:HB2	2.19	0.42
1:A:683:THR:C	1:A:685:ILE:H	2.26	0.42
1:A:704:ILE:HG12	1:A:1170:HIS:HE1	1.84	0.42
1:A:833:TRP:O	1:A:837:ILE:HG23	2.19	0.42
1:A:901:SER:O	1:A:905:GLN:HG3	2.19	0.42
1:A:947:PHE:CA	1:A:950:VAL:HG12	2.47	0.42
2:D:116:LYS:HB3	2:D:119:TYR:CE2	2.54	0.42
1:A:27:TRP:HE1	1:A:121:LEU:HD13	1.84	0.42
1:A:51:LEU:HD13	1:A:73:LEU:CD1	2.49	0.42
1:A:258:ALA:N	1:A:259:PRO:CD	2.83	0.42
1:A:600:THR:OG1	1:A:600:THR:O	2.37	0.42
1:A:1160:SER:HA	1:A:1163:ILE:CG2	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1169:SER:O	1:A:1172:THR:HG22	2.18	0.42
1:A:66:PHE:CZ	1:A:114:SER:HA	2.54	0.42
1:A:80:LEU:HA	1:A:83:LEU:CD2	2.49	0.42
1:A:257:PRO:CG	1:A:259:PRO:HD3	2.49	0.42
1:A:462:VAL:HG21	1:A:467:ILE:CG2	2.50	0.42
1:A:552:ASP:O	1:A:553:GLN:CG	2.68	0.42
1:A:704:ILE:CD1	1:A:1170:HIS:HE1	2.33	0.42
1:A:905:GLN:O	1:A:909:CYS:CB	2.67	0.42
1:A:1098:THR:CA	1:A:1154:LEU:HD21	2.46	0.42
3:G:1:NAG:O7	3:G:1:NAG:C3	2.59	0.42
1:A:38:LYS:HE2	1:A:200:GLN:O	2.19	0.42
1:A:173:LEU:HD12	1:A:173:LEU:N	2.34	0.42
1:A:350:PRO:HB3	1:A:785:LEU:HD11	2.01	0.42
1:A:951:LYS:HG3	1:A:954:SER:H	1.84	0.42
1:A:954:SER:O	1:A:955:SER:HB2	2.19	0.42
1:A:1121:LEU:HD12	1:A:1121:LEU:C	2.44	0.42
1:A:1149:LEU:O	1:A:1149:LEU:HG	2.19	0.42
1:A:1218:SER:O	1:A:1219:GLN:HB2	2.19	0.42
2:D:78:LEU:N	2:D:78:LEU:CD1	2.81	0.42
1:A:28:TYR:HE1	1:A:76:ASP:HB2	1.84	0.42
1:A:472:LEU:HG	1:A:476:ASN:HB3	2.01	0.42
1:A:616:GLU:HG2	1:A:867:PRO:HD3	1.98	0.42
1:A:963:THR:HG21	1:A:965:GLN:HB2	2.01	0.42
1:A:173:LEU:O	1:A:177:CYS:SG	2.77	0.42
1:A:447:GLN:C	1:A:450:ILE:HG22	2.42	0.42
1:A:715:LEU:HD22	1:A:718:GLU:OE2	2.20	0.42
1:A:724:LEU:HD13	1:A:727:VAL:HG11	2.01	0.42
1:A:1047:THR:HG22	1:A:1048:SER:N	2.35	0.42
1:A:1109:ILE:HD12	1:A:1109:ILE:HA	1.93	0.42
1:A:459:ASN:CG	5:A:1402:NAG:N2	2.75	0.42
1:A:613:LEU:HD12	1:A:613:LEU:N	2.35	0.42
1:A:623:THR:CG2	1:A:624:VAL:N	2.82	0.42
1:A:736:PHE:C	1:A:736:PHE:CD1	2.97	0.42
1:A:839:ILE:HG23	1:A:840:ALA:N	2.34	0.42
1:A:1242:ILE:O	1:A:1245:PRO:HD2	2.20	0.42
1:A:33:ILE:HA	1:A:39:ARG:HA	2.01	0.42
1:A:99:SER:HA	1:A:231:VAL:HG11	2.00	0.42
1:A:899:TYR:HE2	1:A:942:TRP:CZ2	2.33	0.42
2:D:59:VAL:O	2:D:109:TYR:N	2.51	0.42
2:D:130:LEU:CD2	2:D:138:LEU:HB2	2.39	0.42
1:A:89:LEU:N	1:A:90:PRO:CD	2.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:89:LEU:HD12	1:A:89:LEU:C	2.45	0.42
1:A:787:ILE:O	1:A:788:LYS:C	2.62	0.42
1:A:818:PHE:CE2	1:A:822:LYS:HD2	2.55	0.42
1:A:830:LEU:N	1:A:830:LEU:CD2	2.83	0.42
1:A:970:SER:O	1:A:971:VAL:HG13	2.20	0.42
1:A:1127:MET:CA	1:A:1127:MET:CE	2.94	0.42
1:A:1218:SER:O	1:A:1220:ILE:N	2.49	0.42
1:A:121:LEU:HD23	1:A:121:LEU:C	2.45	0.41
1:A:276:TYR:CE1	1:A:844:GLY:CA	3.02	0.41
1:A:754:MET:CE	1:A:756:ALA:HB3	2.31	0.41
1:A:900:THR:HG22	1:A:900:THR:O	2.20	0.41
1:A:981:PRO:O	1:A:986:GLY:HA3	2.20	0.41
1:A:38:LYS:HA	1:A:38:LYS:HD3	1.73	0.41
1:A:686:VAL:O	1:A:688:GLU:N	2.53	0.41
1:A:695:LEU:O	1:A:699:VAL:HG22	2.20	0.41
1:A:766:LEU:HD12	1:A:766:LEU:HA	1.89	0.41
1:A:835:ARG:HG2	1:A:1246:VAL:CG1	2.35	0.41
1:A:847:SER:O	1:A:850:ILE:CG2	2.68	0.41
1:A:1065:VAL:O	1:A:1068:THR:HG22	2.19	0.41
2:D:54:SER:CA	2:D:114:PRO:HA	2.34	0.41
1:A:50:PRO:CG	1:A:72:SER:HA	2.50	0.41
1:A:190:ILE:H	1:A:190:ILE:HD12	1.85	0.41
1:A:444:LEU:HD12	1:A:444:LEU:O	2.19	0.41
1:A:462:VAL:CG2	1:A:467:ILE:CG2	2.98	0.41
1:A:1120:GLU:H	1:A:1120:GLU:HG2	1.41	0.41
6:A:1419:CLR:H272	6:A:1419:CLR:H232	1.92	0.41
2:D:97:ILE:HG22	2:D:101:ILE:HD11	2.02	0.41
2:D:127:GLU:CG	2:D:142:GLU:HG3	2.49	0.41
1:A:28:TYR:CE1	1:A:76:ASP:HB2	2.55	0.41
1:A:156:MET:C	1:A:156:MET:SD	3.04	0.41
1:A:415:THR:HG23	1:A:433:PRO:HB2	2.02	0.41
1:A:486:ASN:OD1	1:A:490:ASN:ND2	2.53	0.41
1:A:724:LEU:HA	1:A:724:LEU:HD13	1.91	0.41
1:A:958:ARG:HB2	1:A:958:ARG:NH1	2.35	0.41
1:A:1247:LEU:C	1:A:1247:LEU:CD2	2.93	0.41
1:A:232:ASP:C	1:A:234:VAL:H	2.29	0.41
1:A:334:CYS:HA	1:A:337:ARG:HH21	1.84	0.41
1:A:500:GLY:HA3	1:A:505:VAL:HA	2.02	0.41
1:A:1155:VAL:HG13	1:A:1156:ASN:N	2.35	0.41
1:A:120:PHE:CD1	1:A:120:PHE:C	2.98	0.41
1:A:196:LYS:HD2	1:A:203:PHE:HA	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:504:PHE:CZ	2:D:144:PRO:HB2	2.56	0.41
1:A:712:ASP:OD1	1:A:713:GLU:O	2.39	0.41
1:A:1138:MET:O	1:A:1141:VAL:CG1	2.69	0.41
1:A:27:TRP:CE3	1:A:41:ASN:OD1	2.74	0.41
1:A:66:PHE:CE1	3:F:1:NAG:C8	3.04	0.41
1:A:86:ASN:HB3	6:A:1419:CLR:H121	2.02	0.41
1:A:691:PRO:O	1:A:694:VAL:HG22	2.21	0.41
1:A:693:LEU:H	1:A:693:LEU:HG	1.57	0.41
1:A:838:VAL:CG1	1:A:839:ILE:N	2.83	0.41
1:A:1180:LYS:HZ2	1:A:1185:GLU:HG3	1.79	0.41
2:D:22:VAL:HG23	2:D:45:GLN:OE1	2.21	0.41
2:D:36:GLU:N	2:D:60:THR:HB	2.35	0.41
2:D:110:LEU:HD11	3:G:1:NAG:C8	2.51	0.41
1:A:335:LEU:CA	1:A:338:LEU:HG	2.50	0.41
1:A:880:SER:HB3	1:A:1046:GLN:HE21	1.85	0.41
1:A:979:CYS:CB	1:A:998:PHE:HE2	2.34	0.41
1:A:1135:LEU:HD21	1:A:1161:CYS:CB	2.30	0.41
1:A:37:ASP:O	1:A:39:ARG:HG3	2.21	0.41
1:A:686:VAL:HA	1:A:689:VAL:CG1	2.49	0.41
1:A:929:LEU:HA	1:A:929:LEU:HD23	1.80	0.41
1:A:958:ARG:HB3	1:A:967:CYS:HB2	2.03	0.41
1:A:1109:ILE:HG23	1:A:1110:PHE:N	2.36	0.41
1:A:1122:TRP:O	1:A:1125:VAL:HG22	2.20	0.41
1:A:1183:ARG:CZ	1:A:1252:GLY:O	2.68	0.41
1:A:1191:LEU:HD12	1:A:1191:LEU:HA	1.93	0.41
5:A:1405:NAG:H5	5:A:1405:NAG:N2	2.36	0.41
2:D:27:CYS:SG	2:D:142:GLU:OE2	2.79	0.41
2:D:62:THR:CG2	2:D:106:THR:HG22	2.36	0.41
1:A:88:GLN:CG	1:A:89:LEU:H	2.30	0.41
1:A:131:ASP:OD2	1:A:136:GLN:HG2	2.21	0.41
1:A:609:ILE:HG23	1:A:610:GLU:N	2.36	0.41
1:A:1003:LEU:HD11	1:A:1023:VAL:HG21	2.02	0.41
1:A:1127:MET:HE2	1:A:1127:MET:N	2.36	0.41
1:A:1223:ILE:HG22	1:A:1224:PHE:HD1	1.85	0.41
2:D:129:GLN:HB3	2:D:131:GLN:OE1	2.21	0.41
3:B:1:NAG:C3	3:B:2:NAG:O5	2.68	0.41
1:A:534:LEU:HD12	1:A:534:LEU:HA	1.79	0.40
1:A:859:GLY:HA2	1:A:1091:TYR:HE2	1.82	0.40
1:A:1147:ILE:HD11	1:A:1227:ARG:HB2	2.03	0.40
1:A:1156:ASN:HB2	1:A:1228:MET:SD	2.60	0.40
1:A:1244:LEU:HB2	1:A:1245:PRO:HD3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:152:PHE:HB2	1:A:221:ASN:CB	2.51	0.40
1:A:1250:TYR:C	1:A:1251:ILE:HD13	2.46	0.40
2:D:45:GLN:HA	2:D:47:CYS:N	2.36	0.40
2:D:55:TYR:HD1	2:D:115:VAL:HG23	1.86	0.40
1:A:122:ASN:HB2	1:A:217:MET:SD	2.61	0.40
1:A:450:ILE:HD12	1:A:450:ILE:HA	1.89	0.40
1:A:777:THR:HG22	1:A:778:CYS:N	2.36	0.40
1:A:826:SER:N	1:A:827:PRO:CD	2.85	0.40
4:C:2:NAG:C4	4:C:3:BMA:C2	3.00	0.40
1:A:24:SER:CB	1:A:48:PRO:HD3	2.52	0.40
1:A:395:PHE:HD1	1:A:892:VAL:HG21	1.87	0.40
1:A:440:LEU:HA	1:A:440:LEU:HD23	1.81	0.40
1:A:513:PHE:CE1	1:A:517:VAL:HG11	2.57	0.40
1:A:1027:LEU:N	1:A:1027:LEU:CD2	2.85	0.40
1:A:1032:ARG:NH1	1:A:1032:ARG:CB	2.76	0.40
2:D:47:CYS:O	2:D:49:LEU:CD1	2.69	0.40
1:A:27:TRP:HE3	1:A:41:ASN:CB	2.33	0.40
1:A:49:LYS:O	1:A:50:PRO:C	2.63	0.40
1:A:355:PHE:HD2	1:A:356:PHE:CD1	2.40	0.40
1:A:512:HIS:HA	1:A:525:ASP:OD2	2.21	0.40
1:A:686:VAL:CG2	1:A:687:ILE:N	2.85	0.40
1:A:1044:VAL:O	1:A:1044:VAL:HG13	2.21	0.40
2:D:127:GLU:HG2	2:D:142:GLU:HG3	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	1167/1311 (89%)	1076 (92%)	82 (7%)	9 (1%)	16 53
2	D	130/161 (81%)	121 (93%)	9 (7%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	1297/1472 (88%)	1197 (92%)	91 (7%)	9 (1%)	21 55

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	478	ASN
1	A	552	ASP
1	A	715	LEU
1	A	479	CYS
1	A	639	LEU
1	A	684	LEU
1	A	50	PRO
1	A	502	ASP
1	A	719	THR

5.3.2 Protein sidechains

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	1017/1138 (89%)	923 (91%)	94 (9%)	7 26
2	D	124/147 (84%)	104 (84%)	20 (16%)	2 13
All	All	1141/1285 (89%)	1027 (90%)	114 (10%)	9 23

All (114) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	24	SER
1	A	41	ASN
1	A	97	CYS
1	A	100	CYS
1	A	109	CYS
1	A	114	SER
1	A	116	ARG
1	A	118	SER
1	A	143	GLU

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Mol	Chain	Res	Type
1	A	145	GLN
1	A	150	GLN
1	A	160	CYS
1	A	164	GLU
1	A	167	SER
1	A	168	SER
1	A	171	LYS
1	A	179	LYS
1	A	218	GLU
1	A	232	ASP
1	A	274	ILE
1	A	287	PHE
1	A	290	VAL
1	A	293	TYR
1	A	382	SER
1	A	396	ASP
1	A	438	GLN
1	A	445	ASP
1	A	456	SER
1	A	457	TYR
1	A	462	VAL
1	A	463	THR
1	A	464	LEU
1	A	466	ASP
1	A	489	GLN
1	A	491	SER
1	A	496	ASP
1	A	502	ASP
1	A	510	HIS
1	A	516	CYS
1	A	518	ARG
1	A	531	ASP
1	A	578	GLN
1	A	602	SER
1	A	604	THR
1	A	617	SER
1	A	653	LYS
1	A	655	SER
1	A	666	SER
1	A	700	ASP
1	A	713	GLU
1	A	718	GLU

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Mol	Chain	Res	Type
1	A	721	ASP
1	A	722	GLN
1	A	738	SER
1	A	741	SER
1	A	752	SER
1	A	759	THR
1	A	777	THR
1	A	782	LEU
1	A	789	ARG
1	A	790	GLN
1	A	847	SER
1	A	855	LYS
1	A	863	SER
1	A	880	SER
1	A	914	CYS
1	A	918	SER
1	A	965	GLN
1	A	970	SER
1	A	978	ARG
1	A	996	MET
1	A	1004	SER
1	A	1021	SER
1	A	1025	ILE
1	A	1026	LEU
1	A	1029	HIS
1	A	1032	ARG
1	A	1040	THR
1	A	1063	SER
1	A	1066	THR
1	A	1067	GLU
1	A	1101	ASN
1	A	1120	GLU
1	A	1153	SER
1	A	1160	SER
1	A	1173	ARG
1	A	1178	SER
1	A	1185	GLU
1	A	1197	SER
1	A	1202	ILE
1	A	1218	SER
1	A	1220	ILE
1	A	1249	SER

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Mol	Chain	Res	Type
1	A	1254	SER
2	D	47	CYS
2	D	56	SER
2	D	65	ILE
2	D	66	GLN
2	D	67	SER
2	D	68	LYS
2	D	77	ILE
2	D	78	LEU
2	D	79	MET
2	D	83	VAL
2	D	89	GLU
2	D	105	LYS
2	D	108	SER
2	D	110	LEU
2	D	127	GLU
2	D	131	GLN
2	D	137	SER
2	D	142	GLU
2	D	145	VAL
2	D	146	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (24) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	23	GLN
1	A	140	ASN
1	A	154	ASN
1	A	198	ASN
1	A	252	GLN
1	A	376	ASN
1	A	397	GLN
1	A	398	HIS
1	A	512	HIS
1	A	554	ASN
1	A	568	ASN
1	A	593	ASN
1	A	596	ASN
1	A	614	ASN
1	A	641	HIS
1	A	884	HIS
1	A	921	GLN

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Mol	Chain	Res	Type
1	A	953	GLN
1	A	1046	GLN
1	A	1090	GLN
1	A	1170	HIS
2	D	135	ASN
2	D	136	GLN
2	D	146	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

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

5.5 Carbohydrates

11 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	NAG	B	1	1,3	14,14,15	0.36	0	17,19,21	0.48	0
3	NAG	B	2	3	14,14,15	0.35	0	17,19,21	0.81	1 (5%)
4	NAG	C	1	4,1	14,14,15	0.27	0	17,19,21	0.42	0
4	NAG	C	2	4	14,14,15	0.30	0	17,19,21	0.43	0
4	BMA	C	3	4	11,11,12	0.61	0	15,15,17	0.95	1 (6%)
3	NAG	E	1	1,3	14,14,15	0.32	0	17,19,21	0.73	0
3	NAG	E	2	3	14,14,15	0.32	0	17,19,21	0.85	1 (5%)
3	NAG	F	1	1,3	14,14,15	0.28	0	17,19,21	0.95	1 (5%)
3	NAG	F	2	3	14,14,15	0.29	0	17,19,21	0.92	1 (5%)
3	NAG	G	1	3	14,14,15	0.45	0	17,19,21	0.59	0
3	NAG	G	2	3	14,14,15	0.30	0	17,19,21	0.40	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	NAG	B	1	1,3	-	3/6/23/26	0/1/1/1
3	NAG	B	2	3	-	3/6/23/26	0/1/1/1
4	NAG	C	1	4,1	-	3/6/23/26	0/1/1/1
4	NAG	C	2	4	-	3/6/23/26	0/1/1/1
4	BMA	C	3	4	-	0/2/19/22	0/1/1/1
3	NAG	E	1	1,3	1/1/5/7	1/6/23/26	0/1/1/1
3	NAG	E	2	3	1/1/5/7	4/6/23/26	0/1/1/1
3	NAG	F	1	1,3	-	3/6/23/26	0/1/1/1
3	NAG	F	2	3	1/1/5/7	6/6/23/26	0/1/1/1
3	NAG	G	1	3	-	3/6/23/26	0/1/1/1
3	NAG	G	2	3	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	2	NAG	C1-O5-C5	2.78	115.91	112.19
3	F	1	NAG	O5-C1-C2	-2.51	107.41	111.29
3	B	2	NAG	C1-O5-C5	-2.36	109.03	112.19
3	E	2	NAG	O5-C1-C2	-2.20	107.88	111.29
4	C	3	BMA	C1-O5-C5	2.06	114.94	112.19

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
3	E	1	NAG	C1
3	E	2	NAG	C1
3	F	2	NAG	C1

All (31) torsion outliers are listed below:

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

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Mol	Chain	Res	Type	Atoms
3	F	2	NAG	C8-C7-N2-C2
3	F	2	NAG	O7-C7-N2-C2
3	G	1	NAG	C3-C2-N2-C7
4	C	2	NAG	C1-C2-N2-C7
3	B	1	NAG	O5-C5-C6-O6
4	C	1	NAG	C4-C5-C6-O6
3	G	1	NAG	O5-C5-C6-O6
4	C	2	NAG	O5-C5-C6-O6
4	C	1	NAG	O5-C5-C6-O6
3	B	1	NAG	C4-C5-C6-O6
3	G	1	NAG	C4-C5-C6-O6
3	G	2	NAG	O5-C5-C6-O6
3	B	2	NAG	C4-C5-C6-O6
3	B	1	NAG	C3-C2-N2-C7
3	B	2	NAG	C3-C2-N2-C7
3	B	2	NAG	O5-C5-C6-O6
3	E	1	NAG	O5-C5-C6-O6
3	F	1	NAG	O5-C5-C6-O6
4	C	2	NAG	C4-C5-C6-O6
3	F	2	NAG	C4-C5-C6-O6
3	E	2	NAG	O5-C5-C6-O6
3	F	2	NAG	C3-C2-N2-C7
3	G	2	NAG	C3-C2-N2-C7
3	F	2	NAG	O5-C5-C6-O6
3	F	2	NAG	C1-C2-N2-C7
3	E	2	NAG	C3-C2-N2-C7
4	C	1	NAG	C3-C2-N2-C7

There are no ring outliers.

11 monomers are involved in 29 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	1	NAG	3	0
3	G	1	NAG	10	0
4	C	2	NAG	4	0
3	E	1	NAG	1	0
3	B	2	NAG	4	0
3	F	1	NAG	4	0
4	C	1	NAG	2	0
3	F	2	NAG	2	0
4	C	3	BMA	5	0
3	G	2	NAG	1	0

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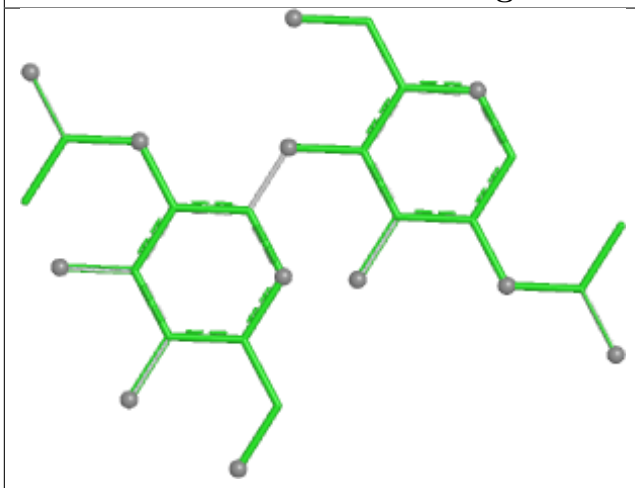
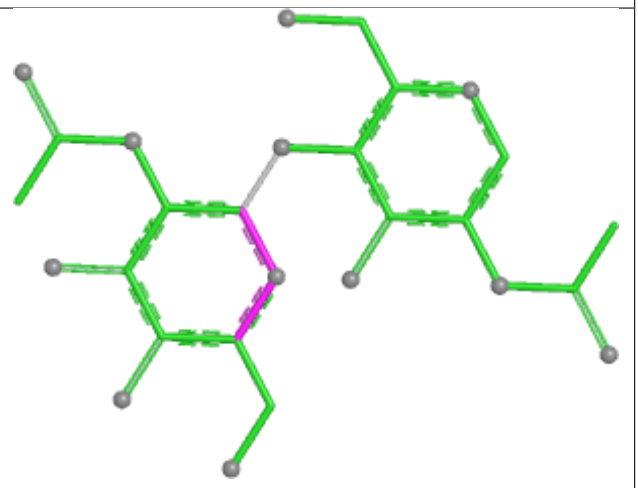
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	E	2	NAG	1	0

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

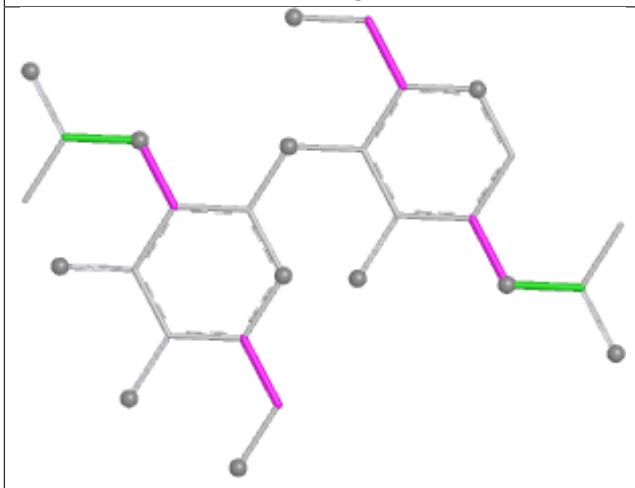
Oligosaccharide Chain B



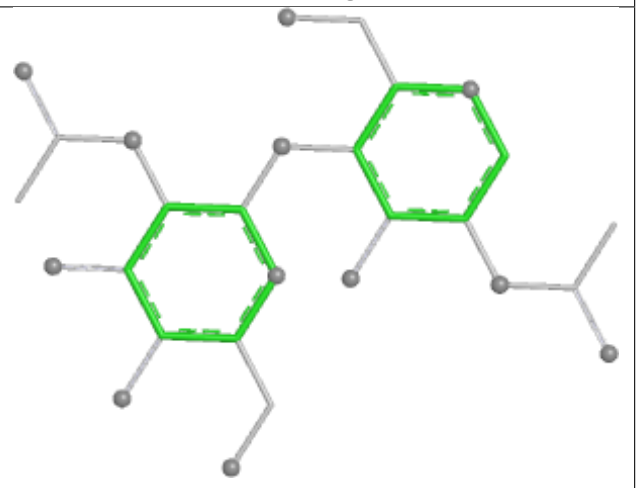
Bond lengths



Bond angles

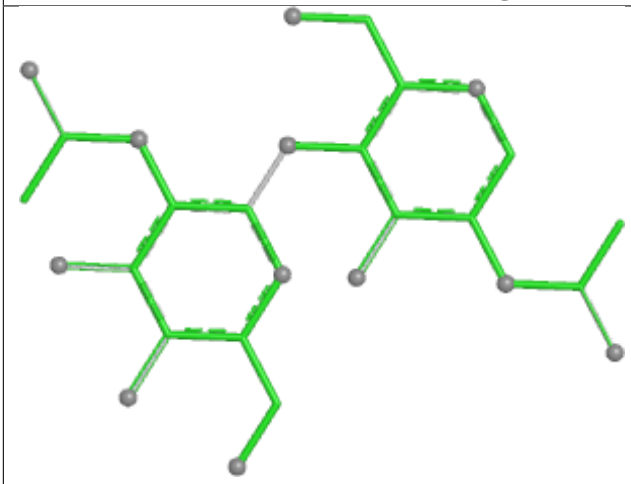


Torsions

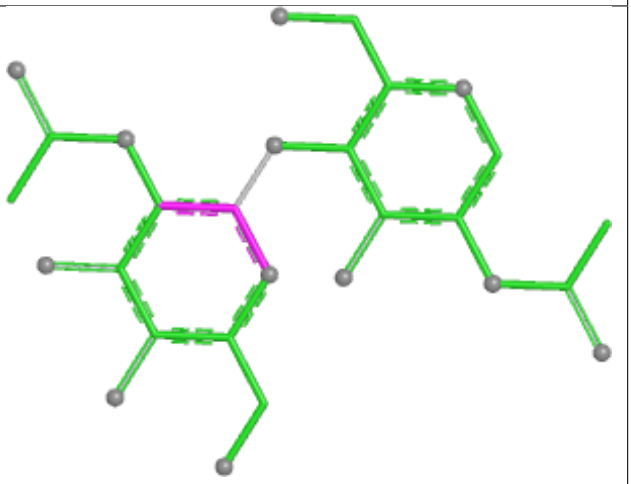


Rings

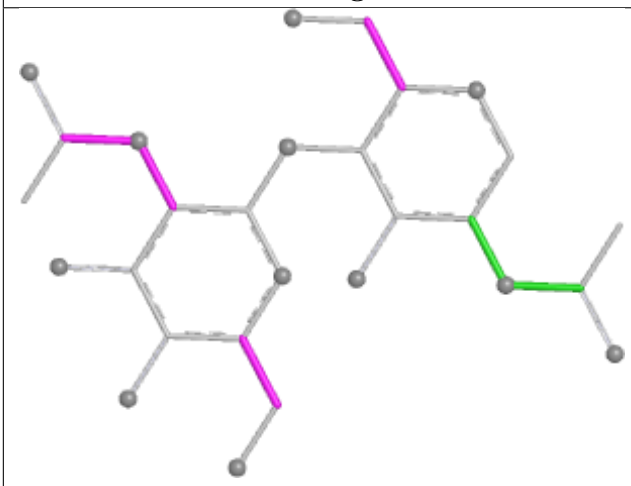
Oligosaccharide Chain E



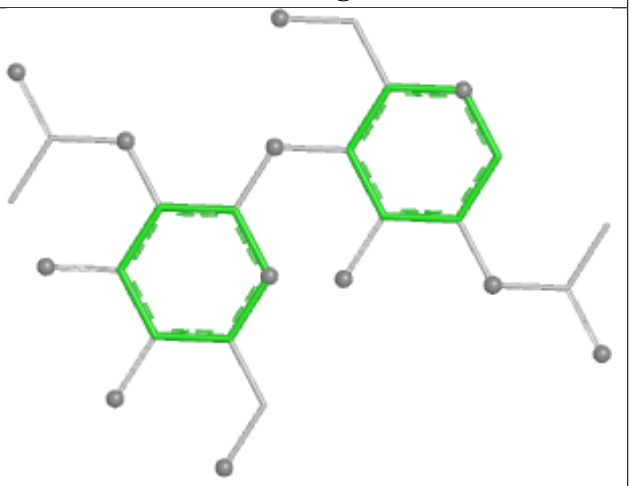
Bond lengths



Bond angles

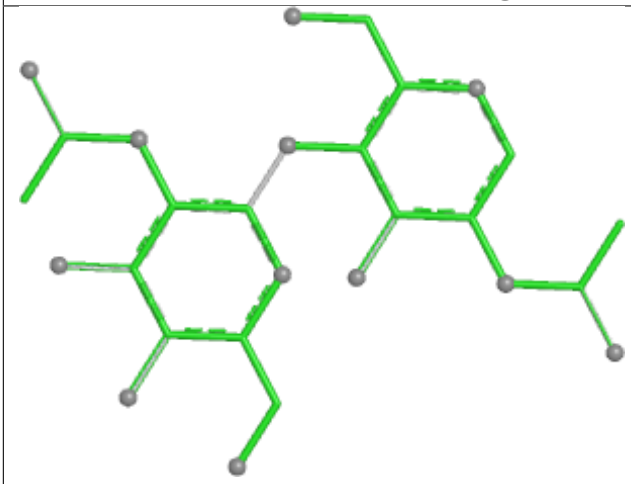


Torsions

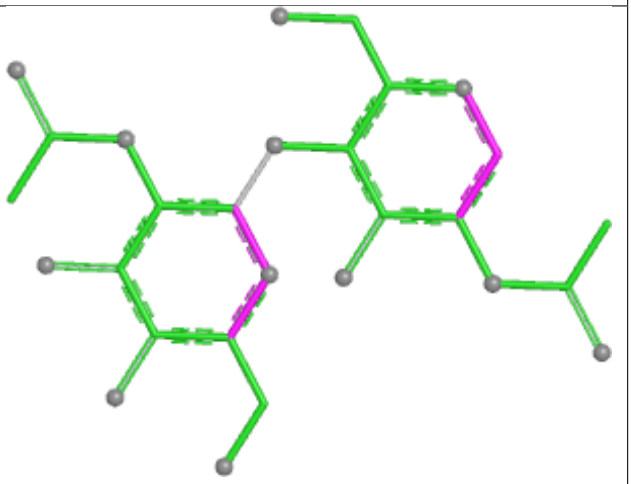


Rings

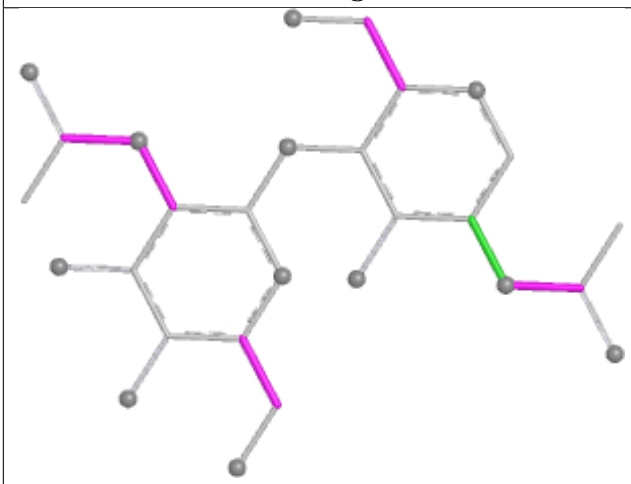
Oligosaccharide Chain F



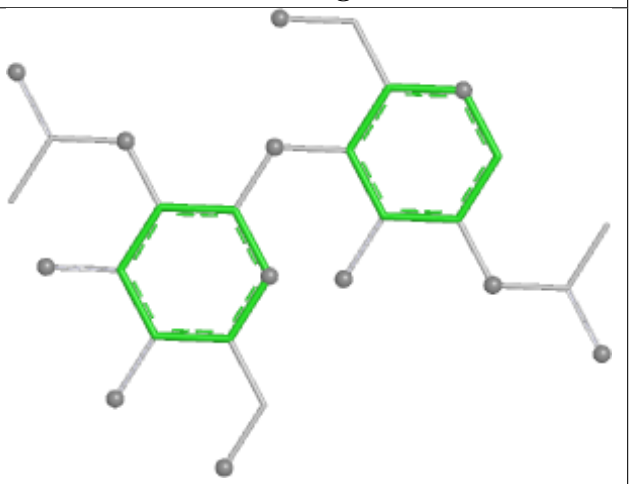
Bond lengths



Bond angles

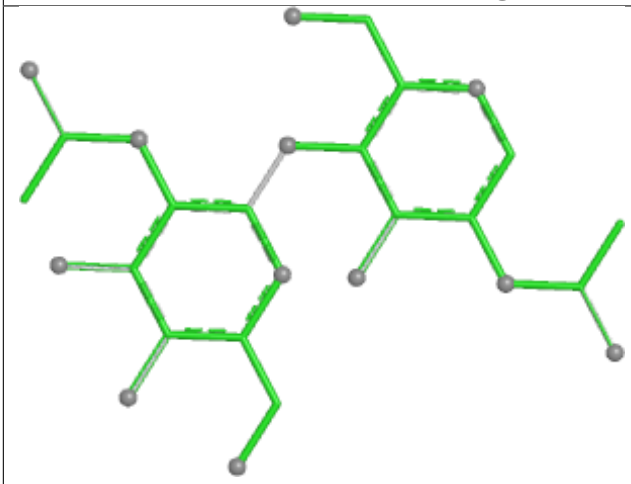


Torsions

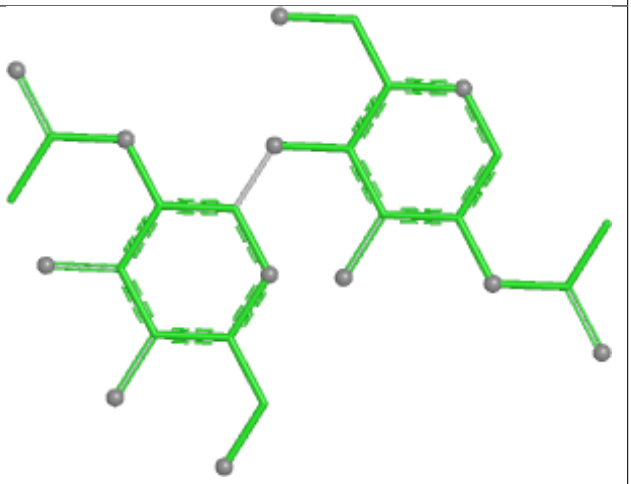


Rings

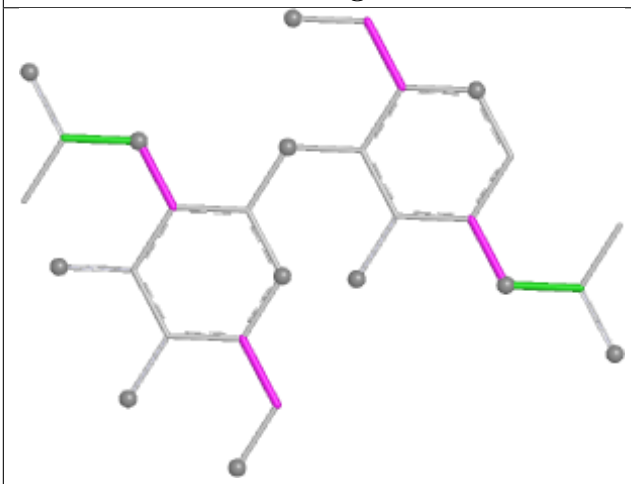
Oligosaccharide Chain G



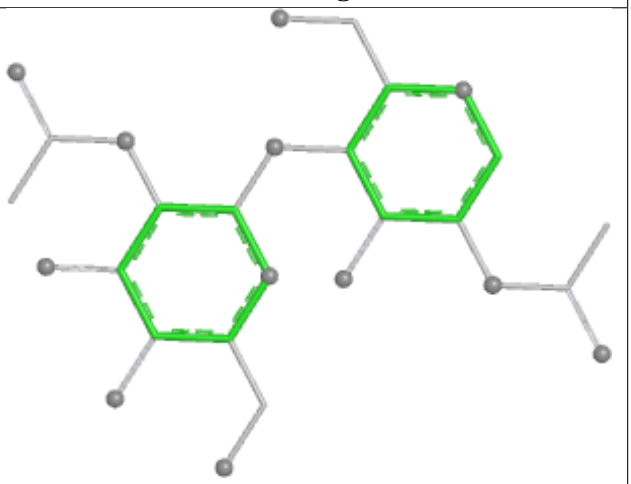
Bond lengths



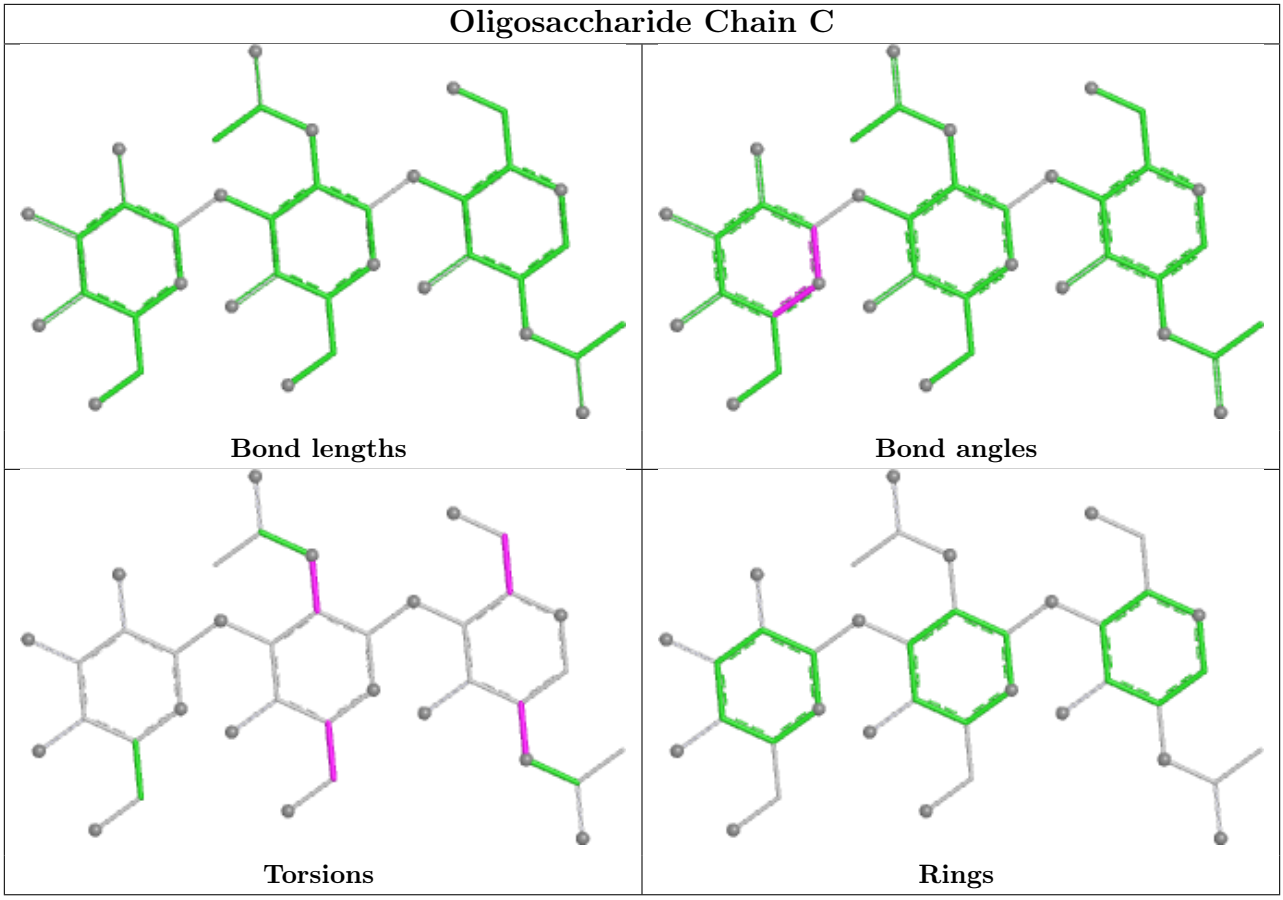
Bond angles



Torsions



Rings



5.6 Ligand geometry (i)

13 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	1418	1	14,14,15	0.19	0	17,19,21	0.37	0
6	CLR	A	1420	-	31,31,31	1.01	2 (6%)	48,48,48	1.63	10 (20%)
5	NAG	A	1405	1	14,14,15	0.71	1 (7%)	17,19,21	0.85	2 (11%)
5	NAG	D	203	-	14,14,15	0.31	0	17,19,21	0.41	0
5	NAG	A	1402	1	14,14,15	0.34	0	17,19,21	0.53	0
5	NAG	A	1410	1	14,14,15	0.50	0	17,19,21	1.10	1 (5%)
5	NAG	A	1401	1	14,14,15	0.42	0	17,19,21	0.55	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
5	NAG	A	1413	1	14,14,15	0.33	0	17,19,21	0.37	0
5	NAG	A	1414	1	14,14,15	0.18	0	17,19,21	0.48	0
5	NAG	A	1415	1	14,14,15	0.31	0	17,19,21	0.51	0
6	CLR	D	204	-	31,31,31	1.15	2 (6%)	48,48,48	1.15	4 (8%)
5	NAG	A	1409	1	14,14,15	0.18	0	17,19,21	0.52	0
6	CLR	A	1419	-	31,31,31	0.94	2 (6%)	48,48,48	1.55	10 (20%)

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	1418	1	-	5/6/23/26	0/1/1/1
6	CLR	A	1420	-	-	3/10/68/68	0/4/4/4
5	NAG	A	1405	1	-	3/6/23/26	0/1/1/1
5	NAG	D	203	-	-	2/6/23/26	0/1/1/1
5	NAG	A	1402	1	-	3/6/23/26	0/1/1/1
5	NAG	A	1410	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1401	1	-	6/6/23/26	0/1/1/1
5	NAG	A	1413	1	-	0/6/23/26	0/1/1/1
5	NAG	A	1414	1	-	4/6/23/26	0/1/1/1
5	NAG	A	1415	1	-	4/6/23/26	0/1/1/1
6	CLR	D	204	-	-	3/10/68/68	0/4/4/4
5	NAG	A	1409	1	-	5/6/23/26	0/1/1/1
6	CLR	A	1419	-	-	0/10/68/68	0/4/4/4

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	D	204	CLR	C13-C14	-2.37	1.50	1.55
6	A	1420	CLR	C13-C14	-2.33	1.50	1.55
6	D	204	CLR	C10-C9	-2.33	1.52	1.56
6	A	1419	CLR	C13-C14	-2.31	1.50	1.55
6	A	1420	CLR	C10-C9	-2.28	1.52	1.56
6	A	1419	CLR	C10-C9	-2.23	1.52	1.56
5	A	1405	NAG	O5-C1	2.23	1.47	1.43

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	A	1420	CLR	C21-C20-C22	5.05	118.16	110.34
5	A	1410	NAG	C1-O5-C5	4.17	117.77	112.19
6	A	1419	CLR	C13-C14-C8	-3.62	109.27	114.41
6	A	1419	CLR	C13-C17-C20	-3.56	114.00	119.50
6	A	1419	CLR	C8-C7-C6	-3.51	107.90	112.76
6	A	1420	CLR	C13-C17-C20	-3.17	114.60	119.50
6	A	1419	CLR	C3-C4-C5	-2.91	107.42	112.05
6	A	1419	CLR	C14-C8-C9	-2.82	105.41	109.09
6	A	1420	CLR	C9-C10-C5	2.76	113.70	109.65
6	A	1420	CLR	C11-C12-C13	-2.74	108.11	112.74
6	D	204	CLR	C8-C7-C6	-2.68	109.05	112.76
6	A	1420	CLR	C22-C20-C17	2.65	115.83	110.33
6	A	1420	CLR	C21-C20-C17	-2.57	109.03	112.88
6	D	204	CLR	C11-C12-C13	-2.56	108.42	112.74
6	A	1419	CLR	C9-C10-C5	2.48	113.29	109.65
6	D	204	CLR	C15-C14-C8	-2.45	115.19	119.10
5	A	1405	NAG	C1-O5-C5	2.45	115.46	112.19
6	A	1420	CLR	C16-C17-C20	2.44	115.88	112.18
6	D	204	CLR	C13-C17-C20	-2.39	115.81	119.50
6	A	1419	CLR	C19-C10-C9	-2.38	108.99	111.66
6	A	1420	CLR	C8-C7-C6	-2.36	109.50	112.76
6	A	1420	CLR	C7-C8-C9	-2.32	107.04	109.72
6	A	1419	CLR	C11-C9-C10	-2.24	110.33	113.08
6	A	1419	CLR	C17-C13-C14	2.14	102.56	100.10
5	A	1405	NAG	C2-N2-C7	2.05	125.65	122.90
6	A	1420	CLR	C17-C13-C14	2.01	102.40	100.10
6	A	1419	CLR	C2-C3-C4	-2.00	107.47	110.29

There are no chirality outliers.

All (40) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	1405	NAG	C3-C2-N2-C7
5	A	1410	NAG	C1-C2-N2-C7
6	A	1420	CLR	C21-C20-C22-C23
5	A	1414	NAG	C4-C5-C6-O6
5	A	1401	NAG	O5-C5-C6-O6
5	D	203	NAG	O5-C5-C6-O6
5	D	203	NAG	C4-C5-C6-O6
5	A	1418	NAG	O5-C5-C6-O6
5	A	1405	NAG	O5-C5-C6-O6
5	A	1414	NAG	O5-C5-C6-O6
6	D	204	CLR	C17-C20-C22-C23

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Mol	Chain	Res	Type	Atoms
5	A	1401	NAG	C4-C5-C6-O6
5	A	1401	NAG	C8-C7-N2-C2
5	A	1401	NAG	O7-C7-N2-C2
5	A	1409	NAG	C8-C7-N2-C2
5	A	1409	NAG	O7-C7-N2-C2
5	A	1414	NAG	C8-C7-N2-C2
5	A	1414	NAG	O7-C7-N2-C2
5	A	1415	NAG	C8-C7-N2-C2
5	A	1415	NAG	O7-C7-N2-C2
5	A	1418	NAG	C8-C7-N2-C2
5	A	1418	NAG	O7-C7-N2-C2
6	D	204	CLR	C21-C20-C22-C23
6	D	204	CLR	C22-C23-C24-C25
5	A	1402	NAG	O5-C5-C6-O6
6	A	1420	CLR	C22-C23-C24-C25
5	A	1405	NAG	C4-C5-C6-O6
5	A	1409	NAG	O5-C5-C6-O6
5	A	1418	NAG	C4-C5-C6-O6
5	A	1410	NAG	C3-C2-N2-C7
5	A	1401	NAG	C1-C2-N2-C7
5	A	1409	NAG	C3-C2-N2-C7
5	A	1402	NAG	C4-C5-C6-O6
6	A	1420	CLR	C16-C17-C20-C22
5	A	1409	NAG	C1-C2-N2-C7
5	A	1418	NAG	C1-C2-N2-C7
5	A	1401	NAG	C3-C2-N2-C7
5	A	1402	NAG	C3-C2-N2-C7
5	A	1415	NAG	C4-C5-C6-O6
5	A	1415	NAG	O5-C5-C6-O6

There are no ring outliers.

12 monomers are involved in 56 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	1418	NAG	6	0
6	A	1420	CLR	5	0
5	A	1405	NAG	6	0
5	D	203	NAG	4	0
5	A	1402	NAG	3	0
5	A	1410	NAG	3	0
5	A	1401	NAG	4	0
5	A	1414	NAG	7	0

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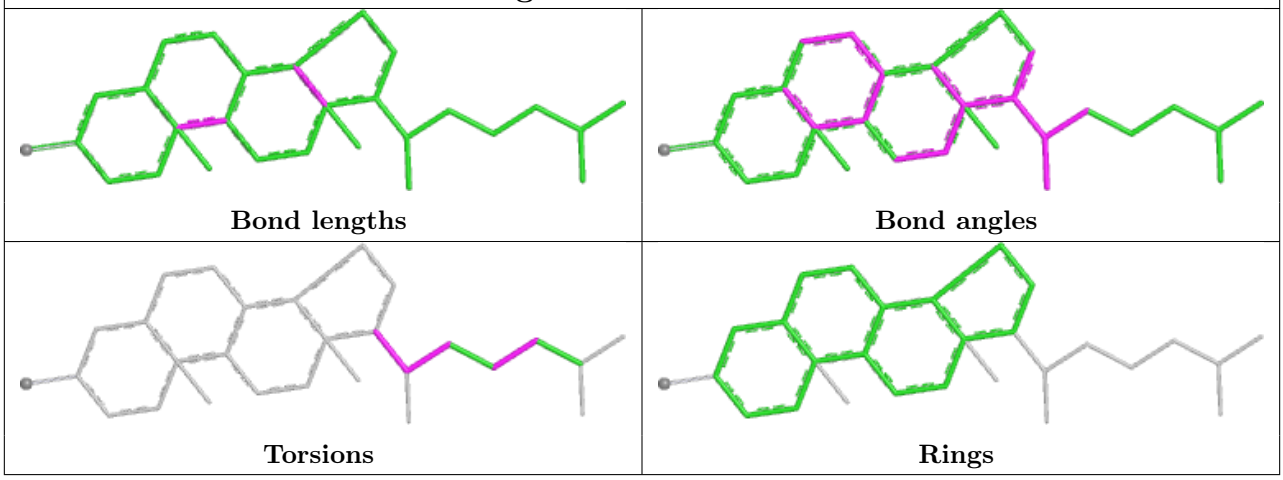
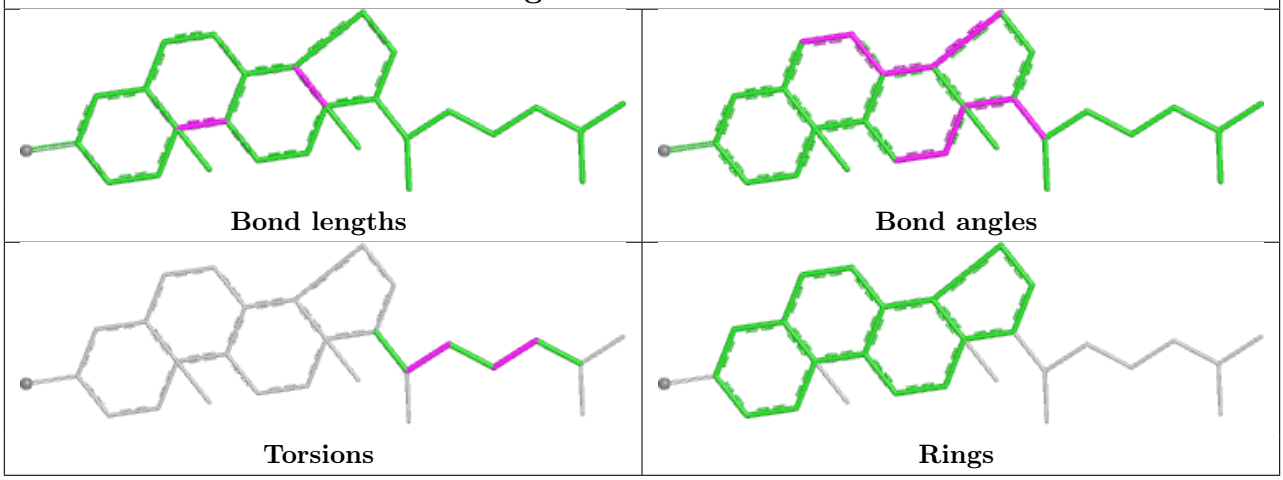
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	1415	NAG	1	0
6	D	204	CLR	2	0
5	A	1409	NAG	5	0
6	A	1419	CLR	10	0

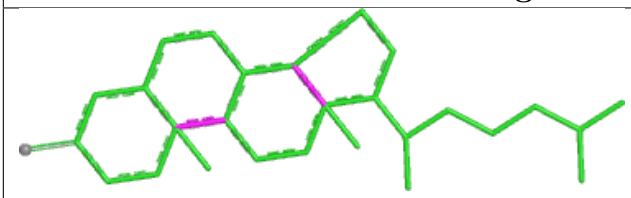
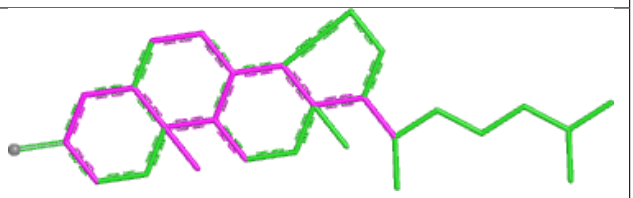
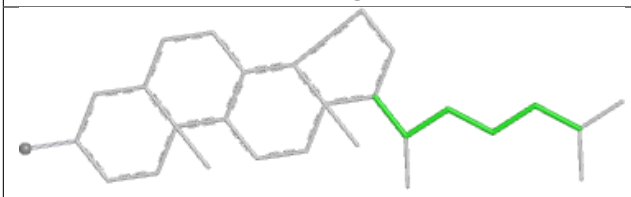
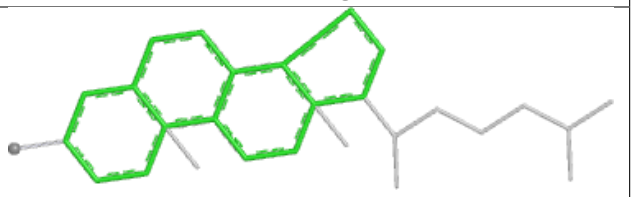
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand CLR A 1420



Ligand CLR D 204



Ligand CLR A 1419	
 Bond lengths	 Bond angles
 Torsions	 Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

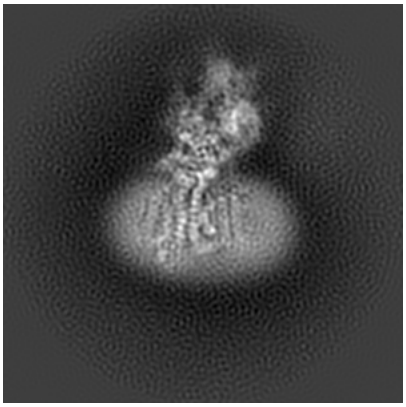
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-21549. These allow visual inspection of the internal detail of the map and identification of artifacts.

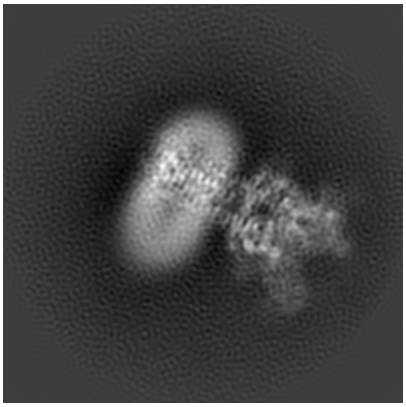
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

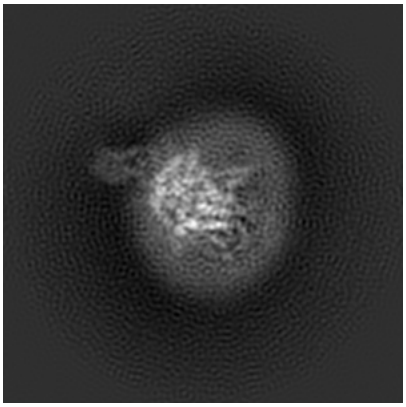
6.1.1 Primary map



X



Y

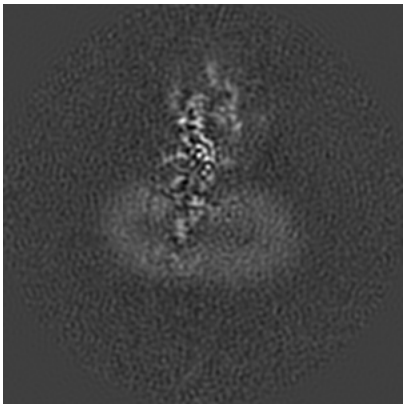


Z

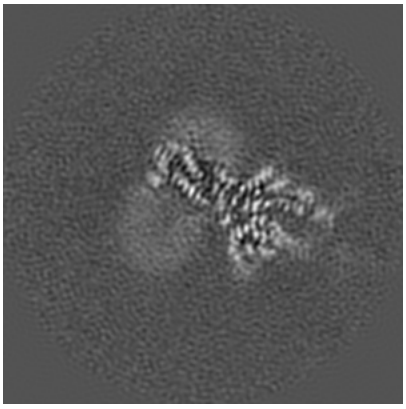
The images above show the map projected in three orthogonal directions.

6.2 Central slices

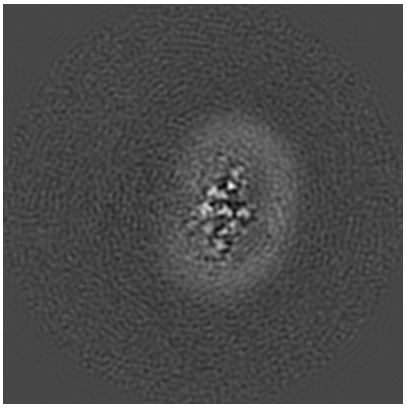
6.2.1 Primary map



X Index: 120



Y Index: 120

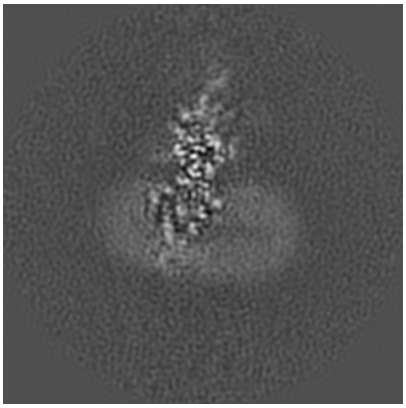


Z Index: 120

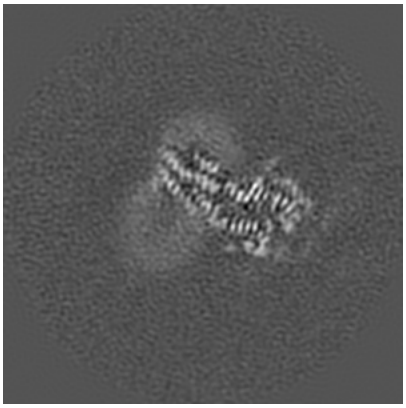
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

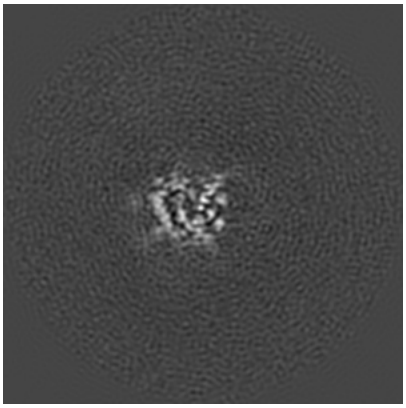
6.3.1 Primary map



X Index: 126



Y Index: 115

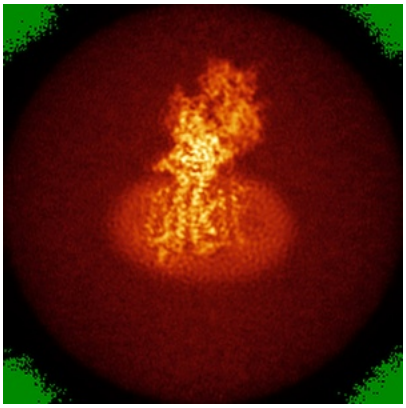


Z Index: 147

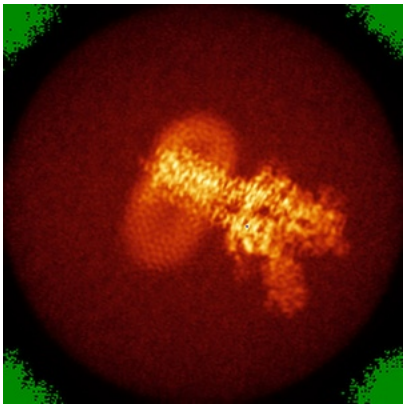
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

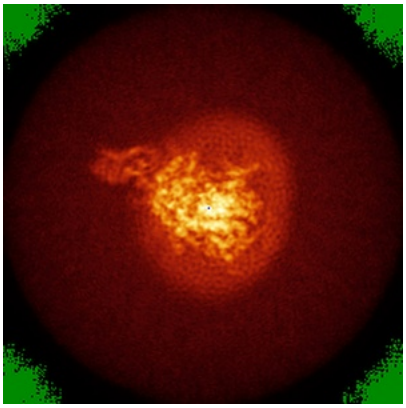
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.022. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

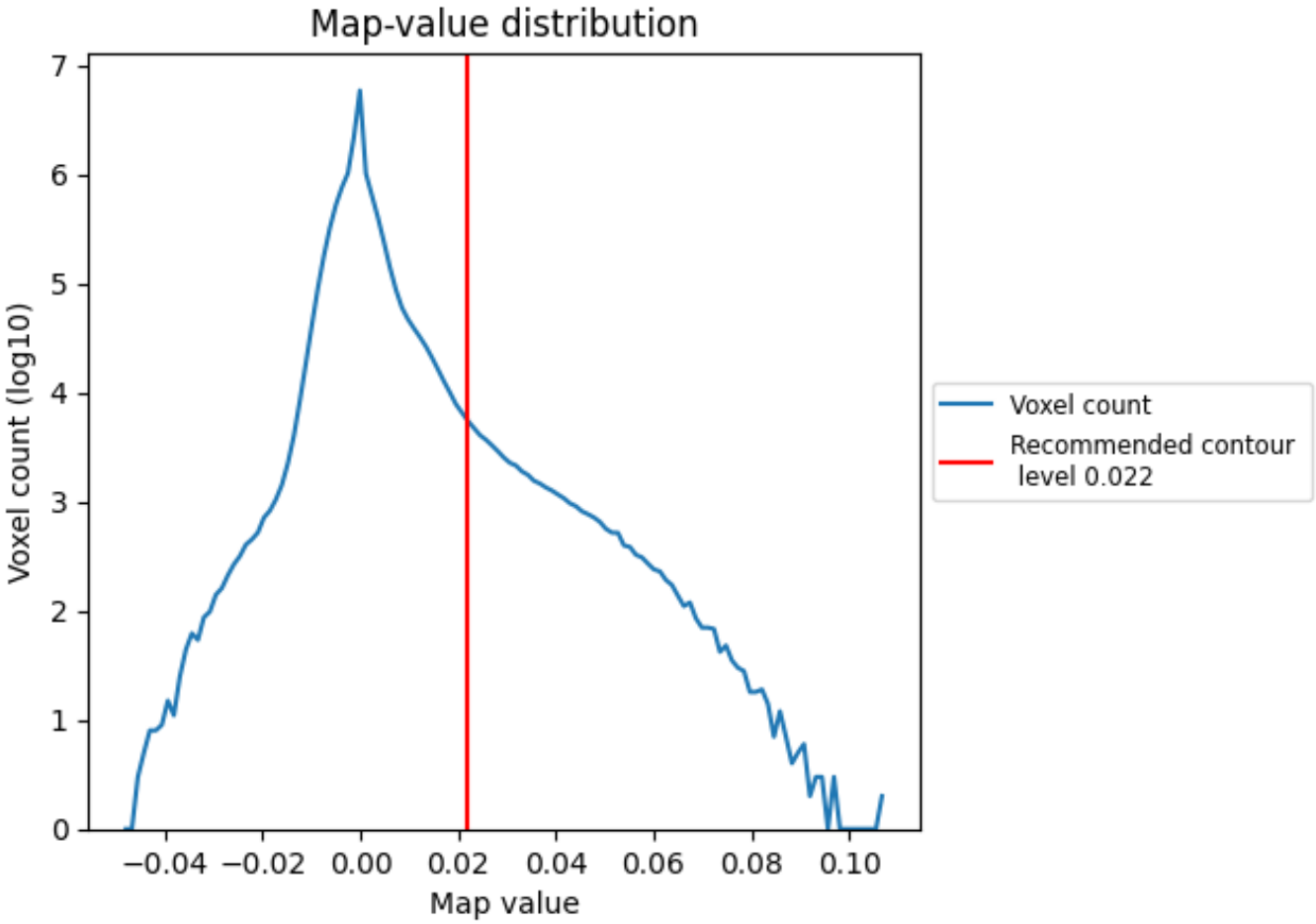
6.6 Mask visualisation (i)

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

7 Map analysis

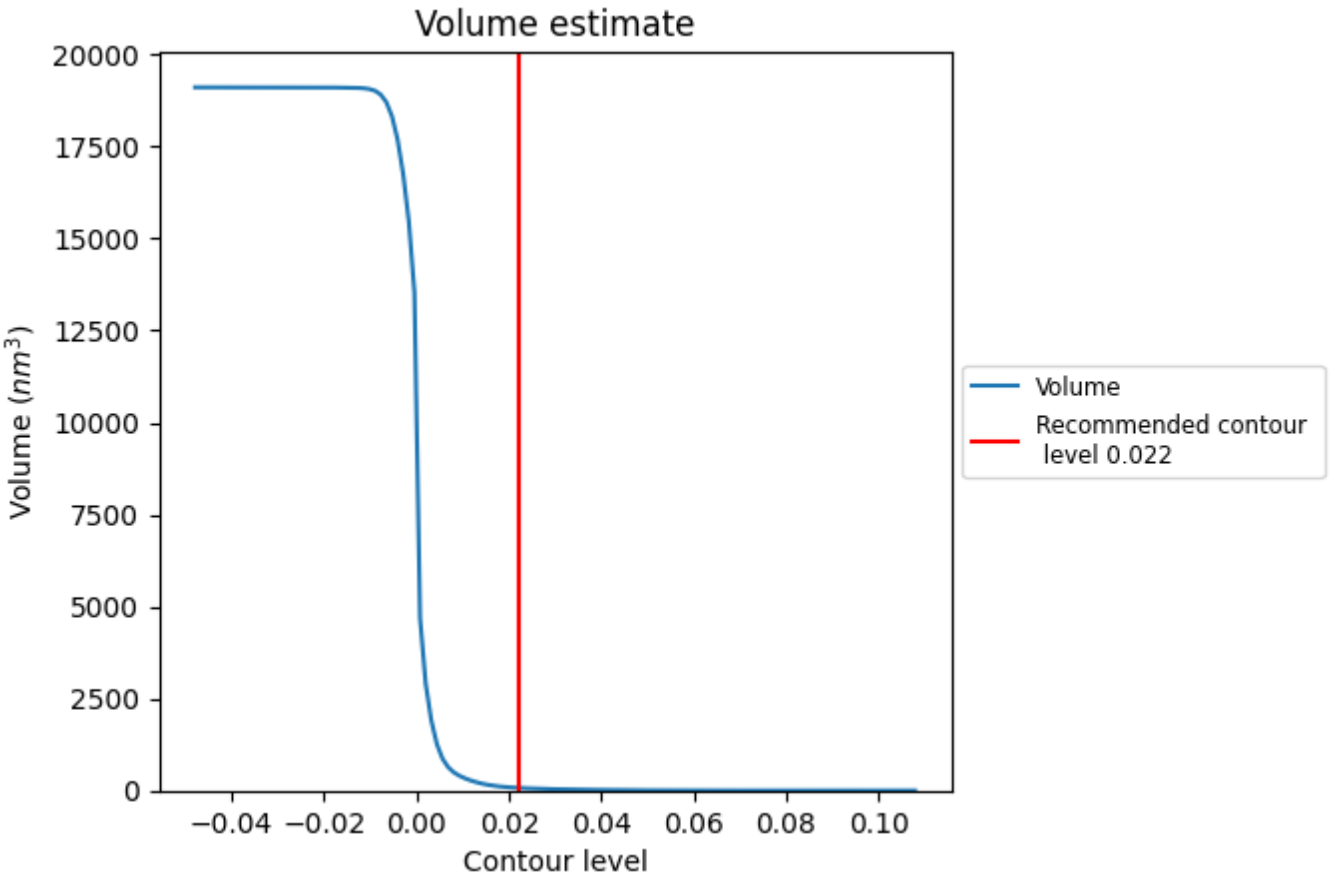
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

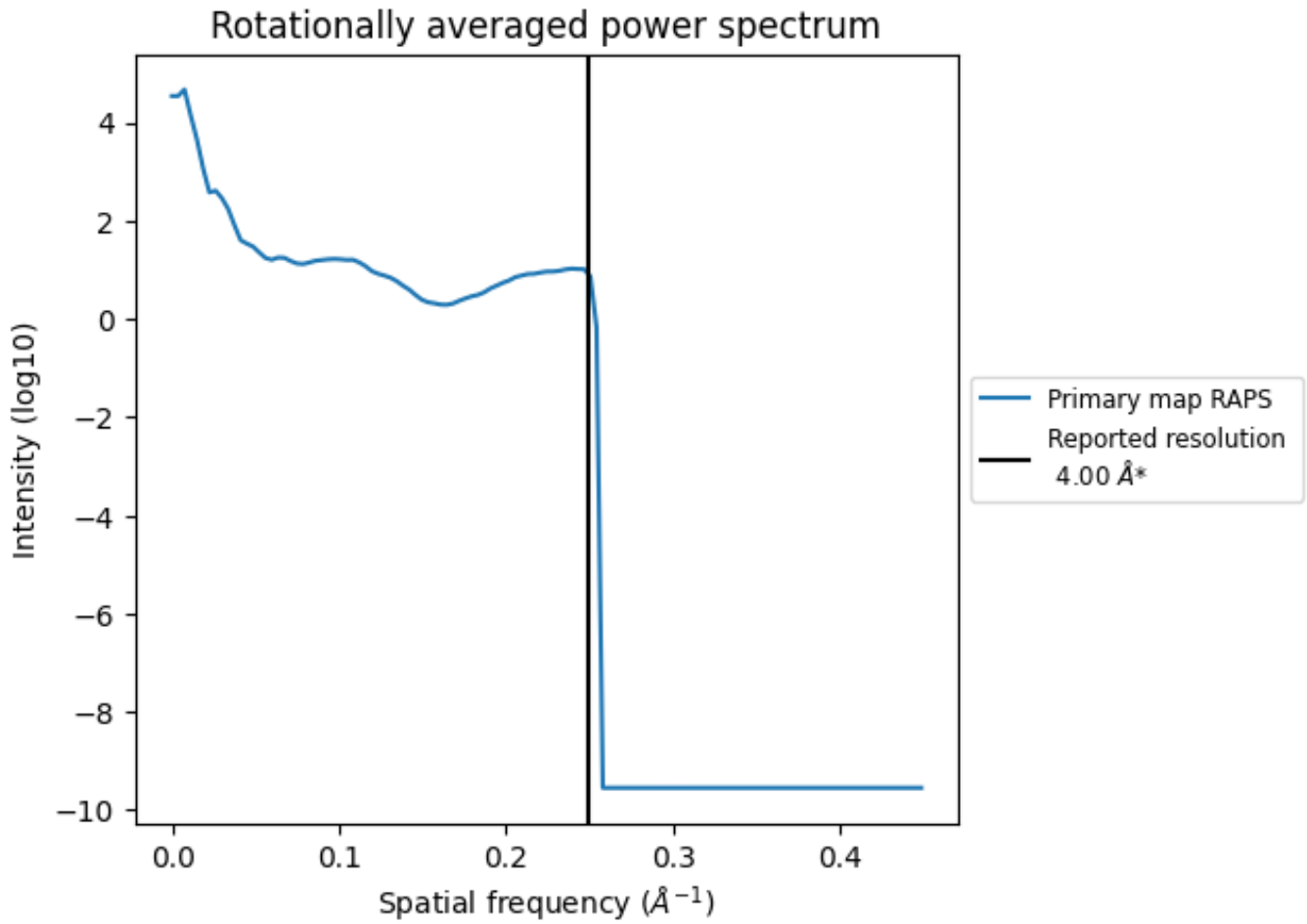
7.2 Volume estimate



The volume at the recommended contour level is 73 nm^3; this corresponds to an approximate mass of 66 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 0.250 Å^{-1}

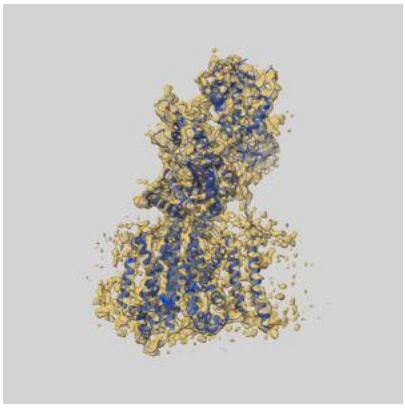
8 Fourier-Shell correlation (i)

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

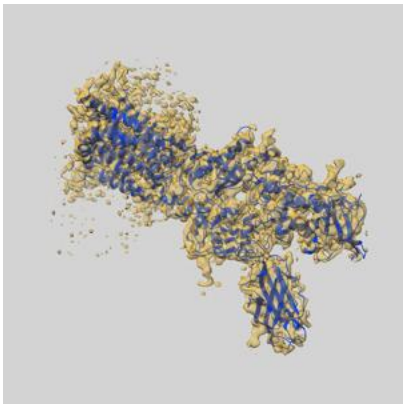
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-21549 and PDB model 6W5V. Per-residue inclusion information can be found in section 3 on page 8.

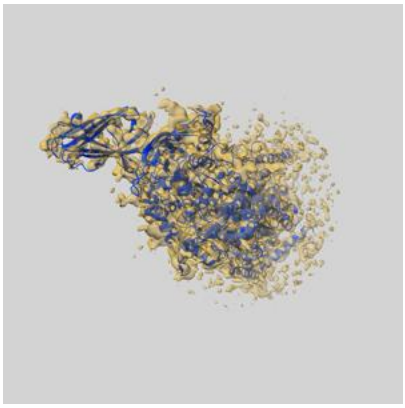
9.1 Map-model overlay



X



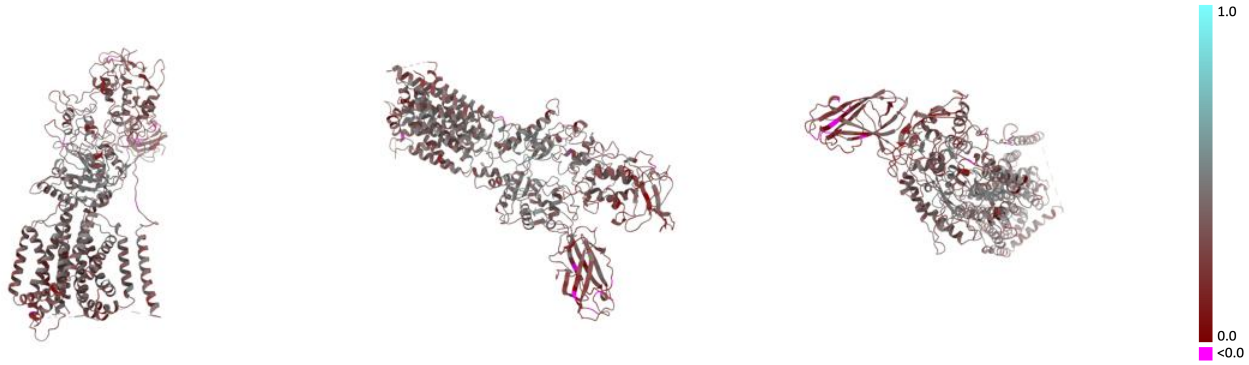
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.022 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

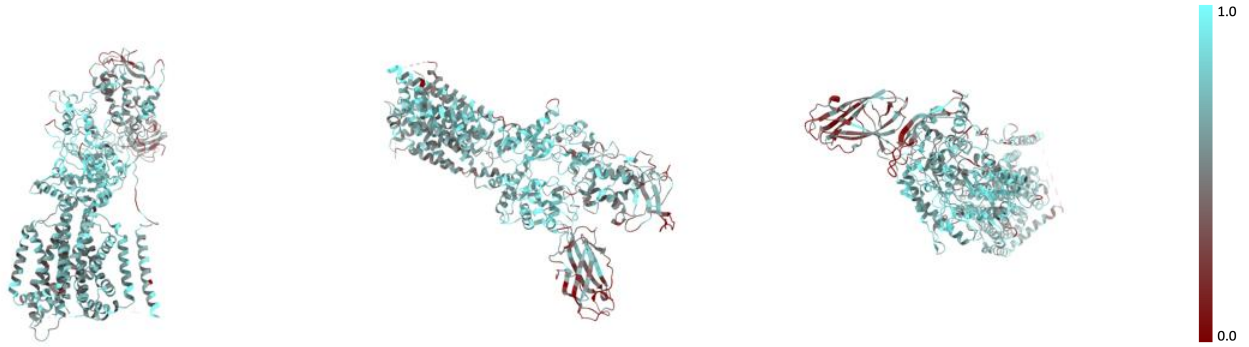
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

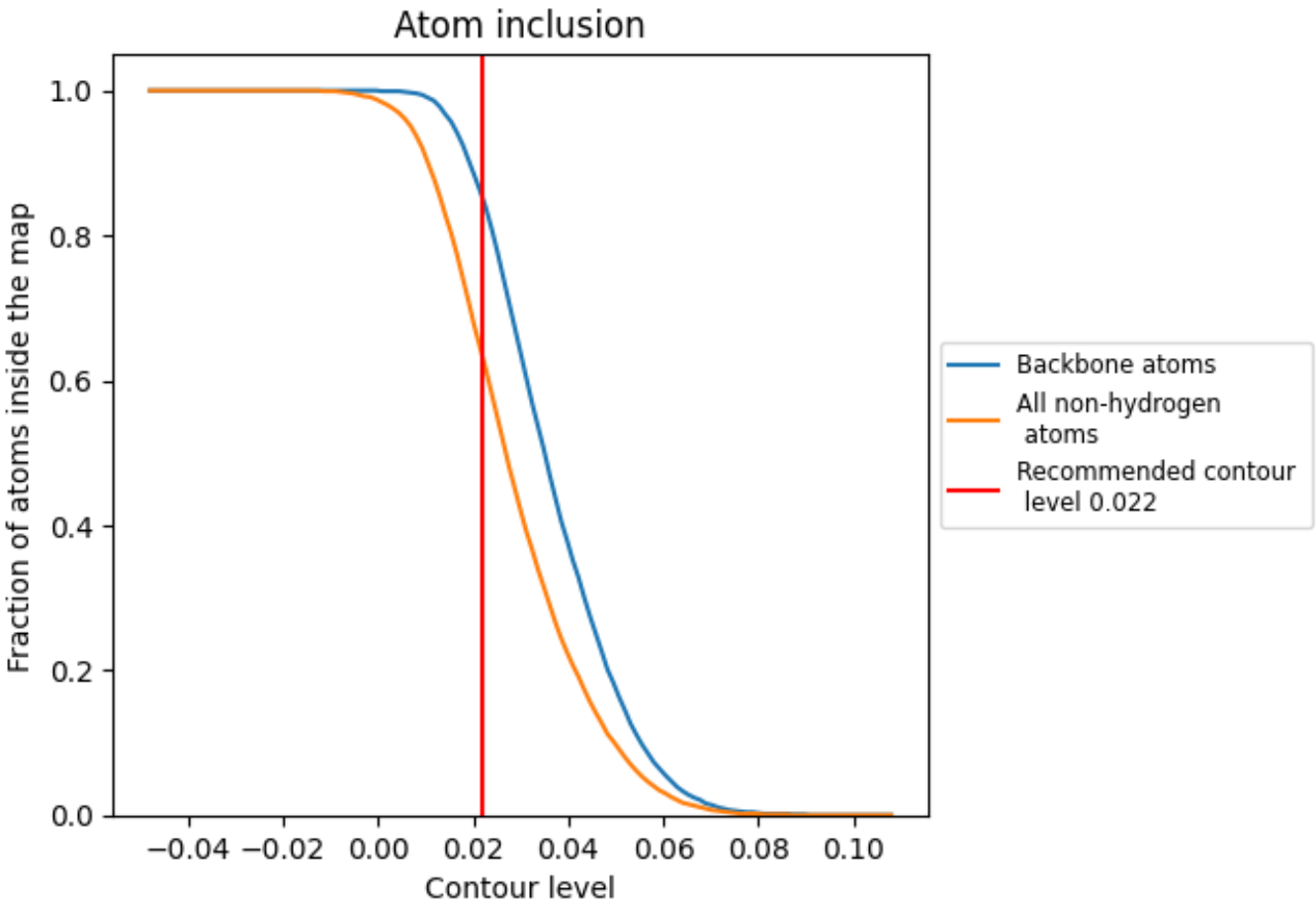
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.022).

9.4 Atom inclusion (i)



At the recommended contour level, 85% of all backbone atoms, 63% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.022) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6320	0.3580
A	0.6630	0.3700
B	0.7500	0.3820
C	0.7950	0.4660
D	0.3700	0.2510
E	0.2860	0.3320
F	0.5360	0.3880
G	0.3210	0.3350