Full wwPDB EM Validation Report ⓘ

Mar 10, 2026 – 09:13 AM UTC

PDB ID	:	6JP5 / pdb_00006jp5
EMDB ID	:	EMD-9866
Title	:	Rabbit Cav1.1-Nifedipine Complex
Authors	:	Zhao, Y.; Huang, G.; Wu, J.; Yan, N.
Deposited on	:	2019-03-25
Resolution	:	2.90 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:

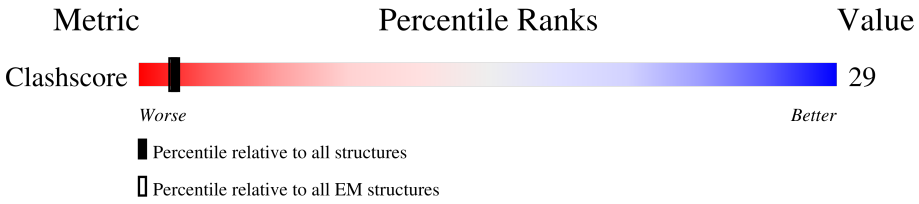
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

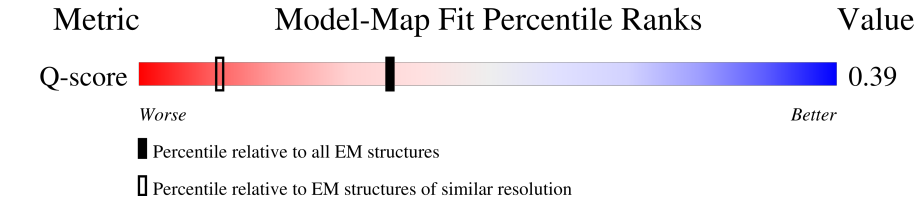
1 Overall quality at a glance

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

The reported resolution of this entry is 2.90 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Q-score	-	25397	13054 (2.40 - 3.40)

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	1873	26% 48% 20% • 32%
2	E	222	68% 48% 27% • 24%
3	F	1073	6% 54% 36% • 9%
4	B	450	22% 19% • 78%
4	C	450	40% 32% 8% 60%
5	D	2	50% 50% 50%

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Mol	Chain	Length	Quality of chain
5	G	2	50% 100%
5	J	2	100%
5	K	2	50% 100%
5	L	2	100% 50% 50%
6	H	3	33% 33% 33% 33%
6	I	3	33% 33% 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
5	NAG	D	1	-	-	X	-
5	NAG	L	1	-	-	X	-
7	NAG	F	1125	-	-	X	-

2 Entry composition (i)

There are 12 unique types of molecules in this entry. The entry contains 22068 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 Voltage-dependent L-type calcium channel subunit alpha-1S.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1274	Total	C	N	O	S	0	0
			10219	6728	1668	1753	70		

- Molecule 2 is a protein called Voltage-dependent calcium channel gamma-1 subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	169	Total	C	N	O	S	0	0
			1326	872	216	220	18		

- Molecule 3 is a protein called Voltage-dependent calcium channel subunit alpha-2/delta-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	F	973	Total	C	N	O	S	1	0
			7804	4942	1320	1510	32		

- Molecule 4 is a protein called Voltage-dependent L-type calcium channel subunit beta-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	B	100	Total	C	N	O	S	0	0
			710	455	125	129	1		
4	C	178	Total	C	N	O	S	0	0
			1367	876	232	254	5		

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	75	GLN	-	expression tag	UNP P19517
B	76	GLY	-	expression tag	UNP P19517
B	77	PRO	-	expression tag	UNP P19517
B	78	HIS	-	expression tag	UNP P19517
B	79	MET	-	expression tag	UNP P19517
C	75	GLN	-	expression tag	UNP P19517
C	76	GLY	-	expression tag	UNP P19517

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Chain	Residue	Modelled	Actual	Comment	Reference
C	77	PRO	-	expression tag	UNP P19517
C	78	HIS	-	expression tag	UNP P19517
C	79	MET	-	expression tag	UNP P19517

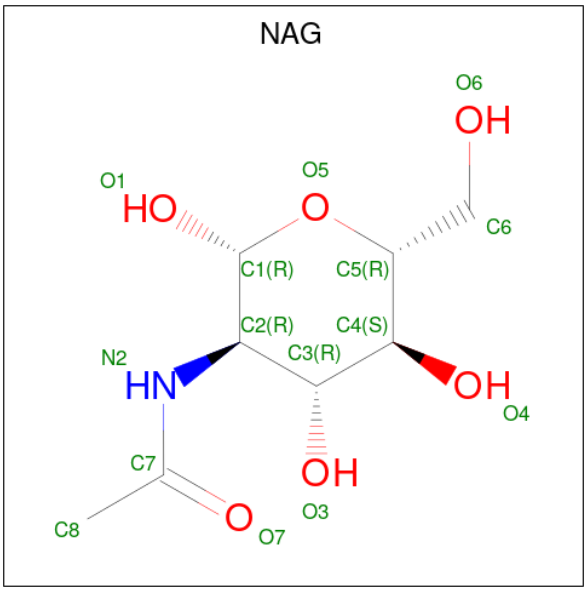
- Molecule 5 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	D	2	Total	C	N	O	0	0
			28	16	2	10		
5	G	2	Total	C	N	O	0	0
			28	16	2	10		
5	J	2	Total	C	N	O	0	0
			28	16	2	10		
5	K	2	Total	C	N	O	0	0
			28	16	2	10		
5	L	2	Total	C	N	O	0	0
			28	16	2	10		

- Molecule 6 is an oligosaccharide called beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

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

- Molecule 7 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).

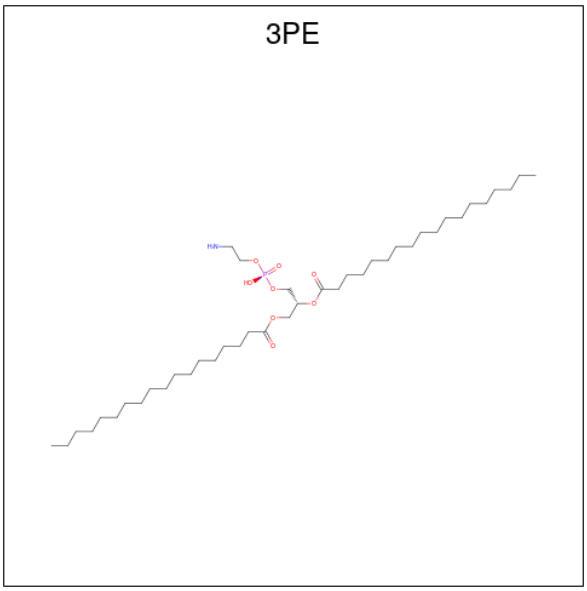


Mol	Chain	Residues	Atoms	AltConf
7	A	1	Total C N O 14 8 1 5	0
7	F	1	Total C N O 14 8 1 5	0
7	F	1	Total C N O 14 8 1 5	0
7	F	1	Total C N O 14 8 1 5	0
7	F	1	Total C N O 14 8 1 5	0
7	F	1	Total C N O 14 8 1 5	0
7	F	1	Total C N O 14 8 1 5	0
7	F	1	Total C N O 14 8 1 5	0
7	F	1	Total C N O 14 8 1 5	0

- Molecule 8 is CALCIUM ION (CCD ID: CA) (formula: Ca).

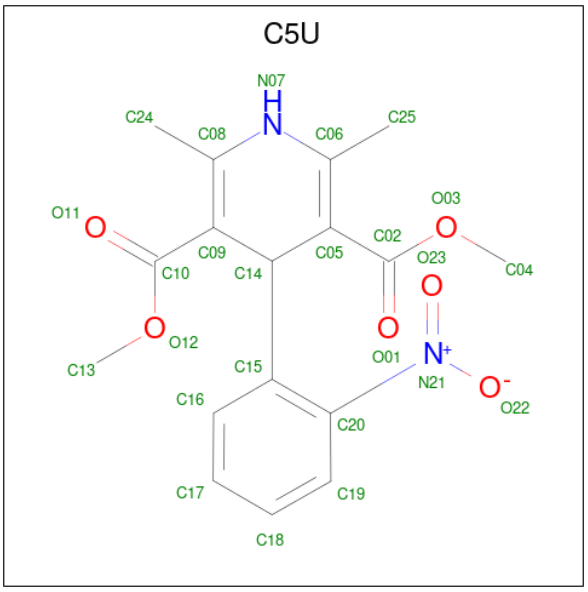
Mol	Chain	Residues	Atoms	AltConf
8	A	3	Total Ca 3 3	0

- Molecule 9 is 1,2-Distearoyl-sn-glycerophosphoethanolamine (CCD ID: 3PE) (formula: $C_{41}H_{82}NO_8P$).



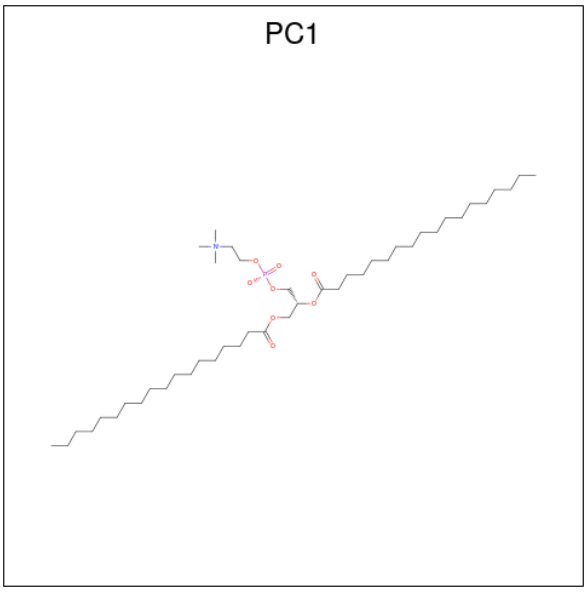
Mol	Chain	Residues	Atoms					AltConf
9	A	1	Total	C	N	O	P	0
			33	23	1	8	1	
9	A	1	Total	C	N	O	P	0
			30	20	1	8	1	
9	A	1	Total	C	N	O	P	0
			32	22	1	8	1	
9	A	1	Total	C	N	O	P	0
			19	11	1	6	1	
9	A	1	Total	C	N	O	P	0
			30	20	1	8	1	
9	A	1	Total	C	N	O	P	0
			30	20	1	8	1	
9	A	1	Total	C	N	O	P	0
			21	13	1	6	1	
9	A	1	Total	C	N	O	P	0
			32	22	1	8	1	

- Molecule 10 is dimethyl 2,6-dimethyl-4-(2-nitrophenyl)-1,4-dihydropyridine-3,5-dicarboxylate (CCD ID: C5U) (formula: $C_{17}H_{18}N_2O_6$).



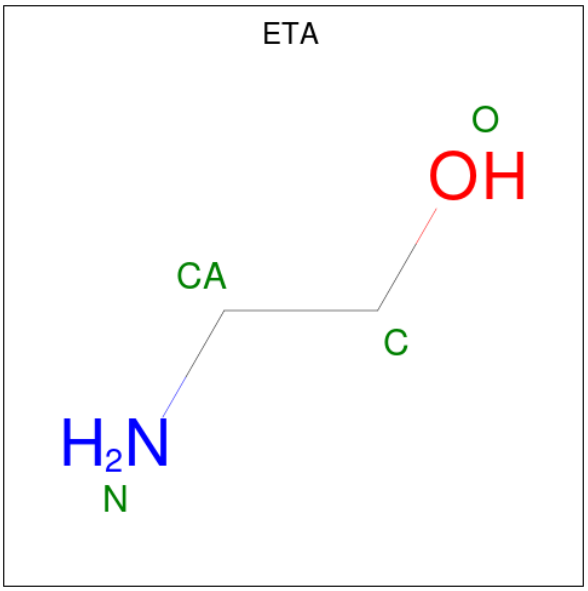
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
10	A	1	25	17	2	6	0

- Molecule 11 is 1,2-DIACYL-SN-GLYCERO-3-PHOSPHOCHOLINE (CCD ID: PC1) (formula: $C_{44}H_{88}NO_8P$).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
11	A	1	39	29	1	8	1	0

- Molecule 12 is ETHANOLAMINE (CCD ID: ETA) (formula: C_2H_7NO).



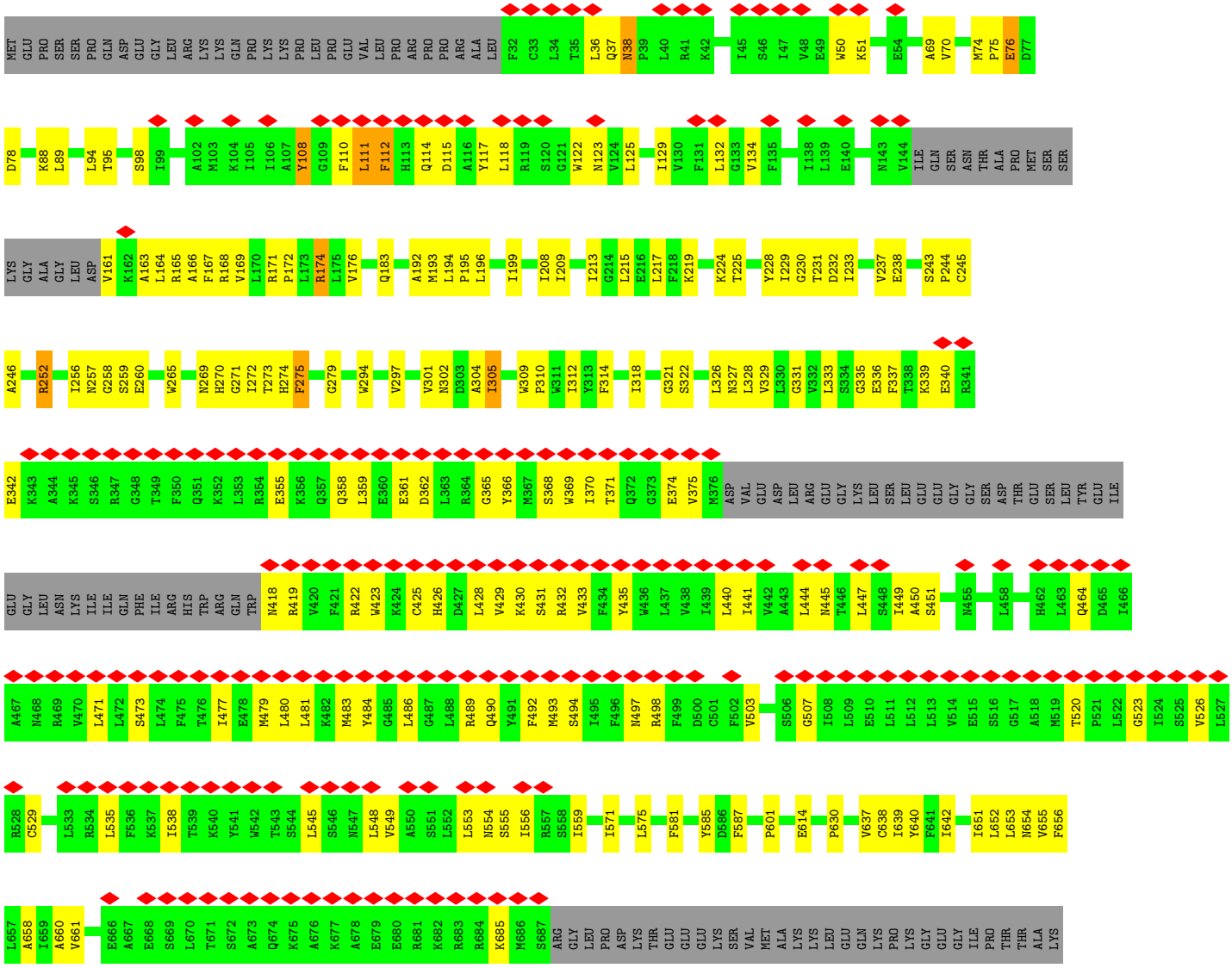
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
12	F	1	4	2	1	1	0

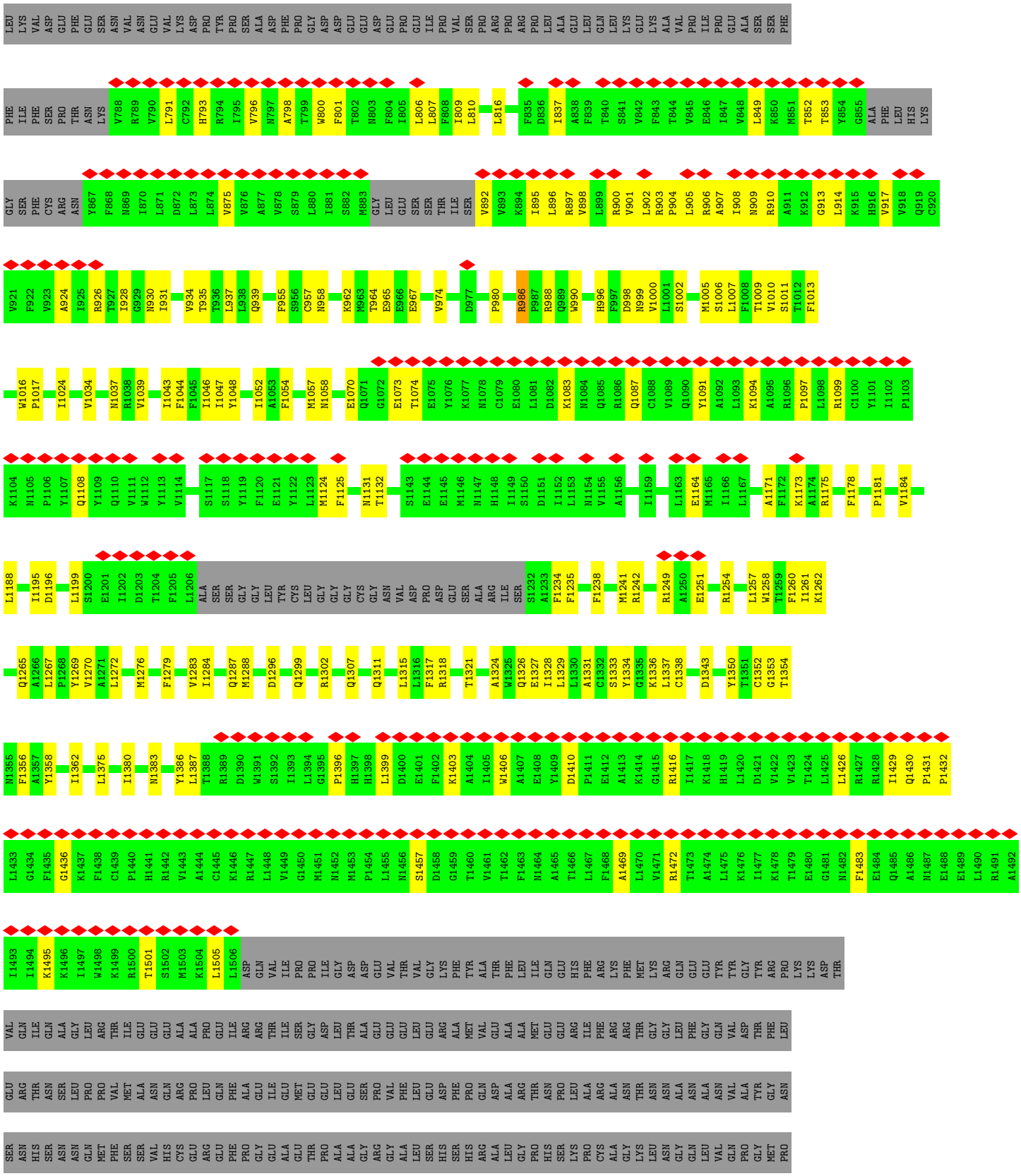
3 Residue-property plots (i)

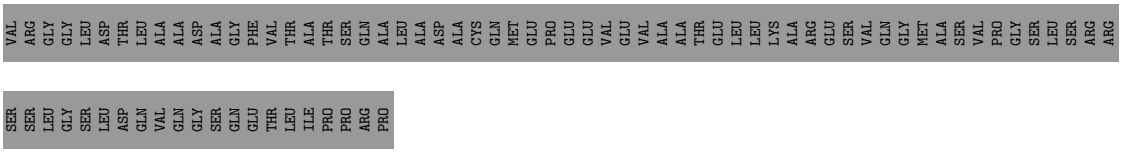
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Voltage-dependent L-type calcium channel subunit alpha-1S

Chain A:

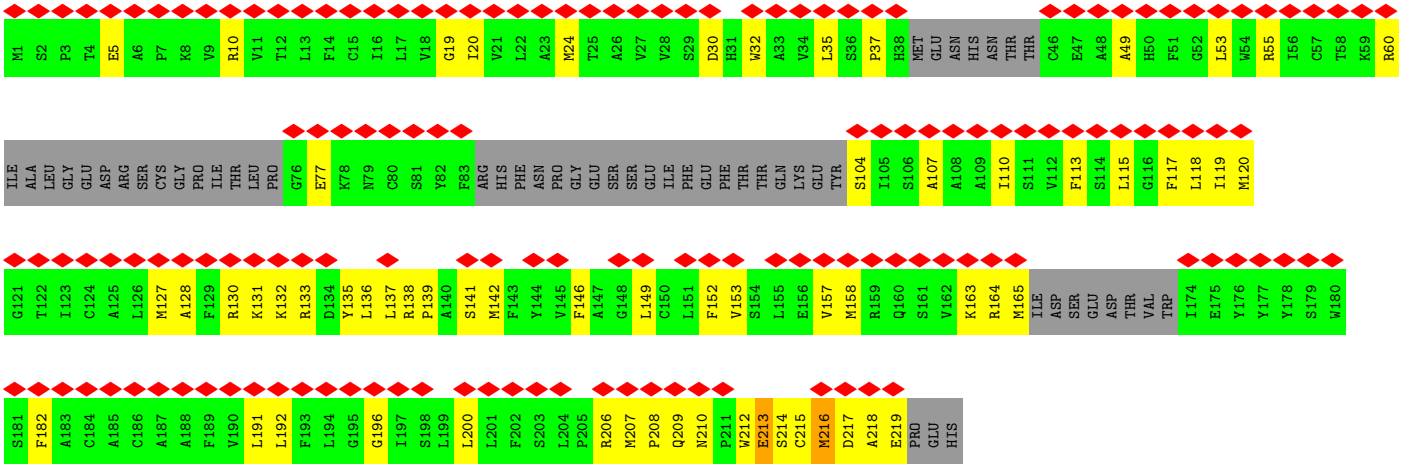






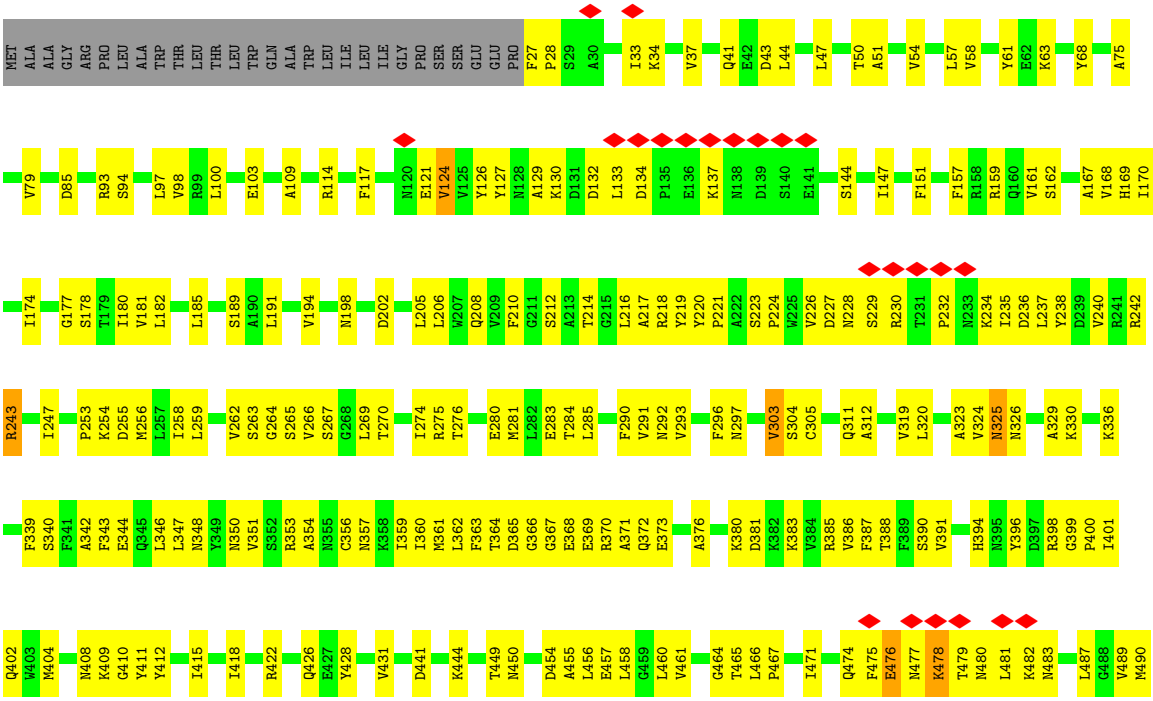
• Molecule 2: Voltage-dependent calcium channel gamma-1 subunit

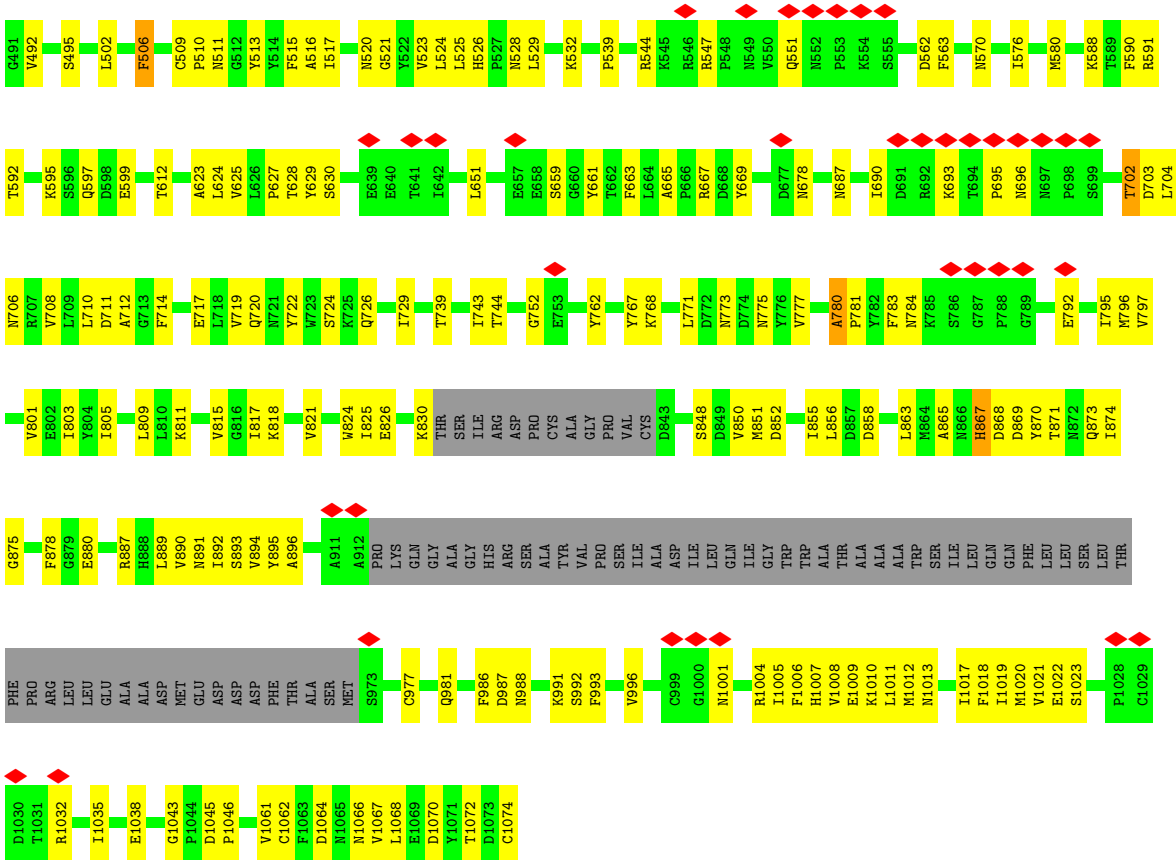
Chain E:



• Molecule 3: Voltage-dependent calcium channel subunit alpha-2/delta-1

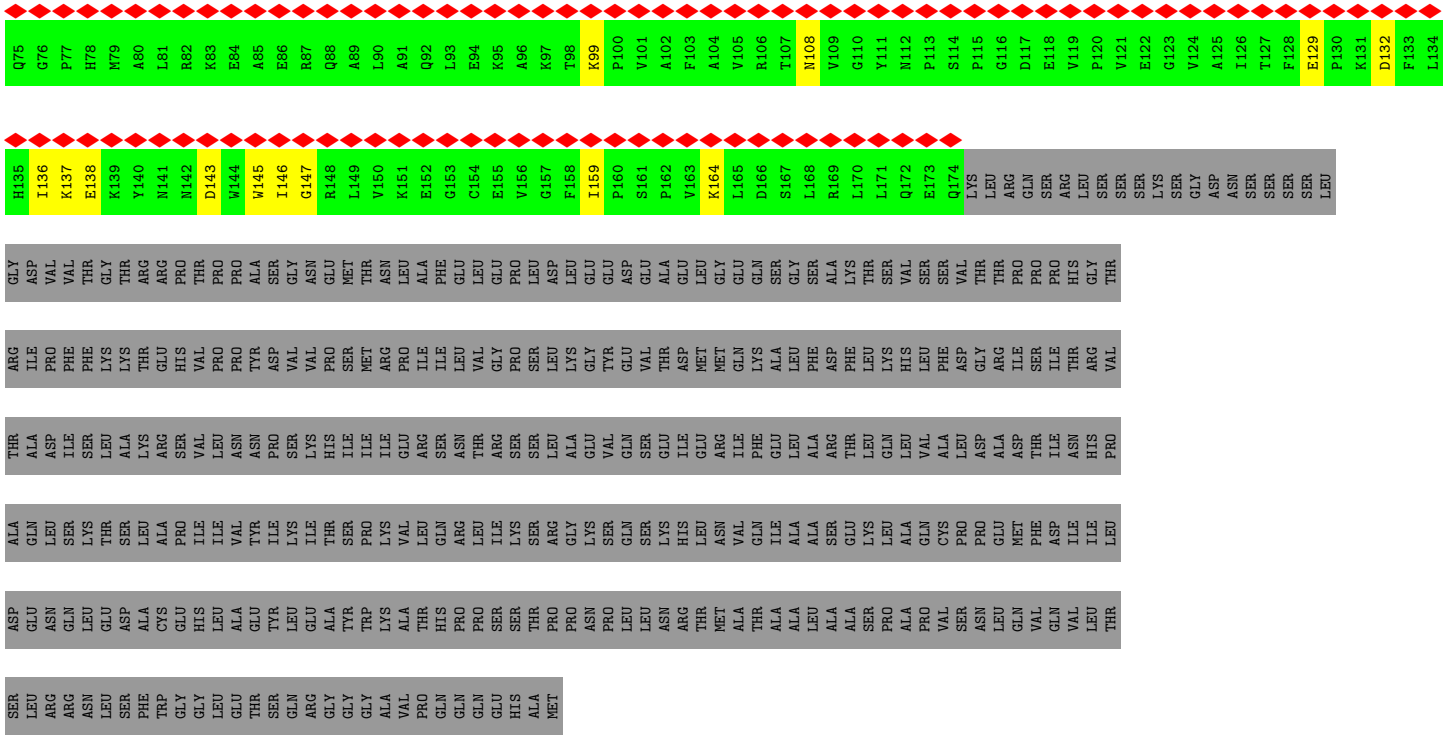
Chain F:





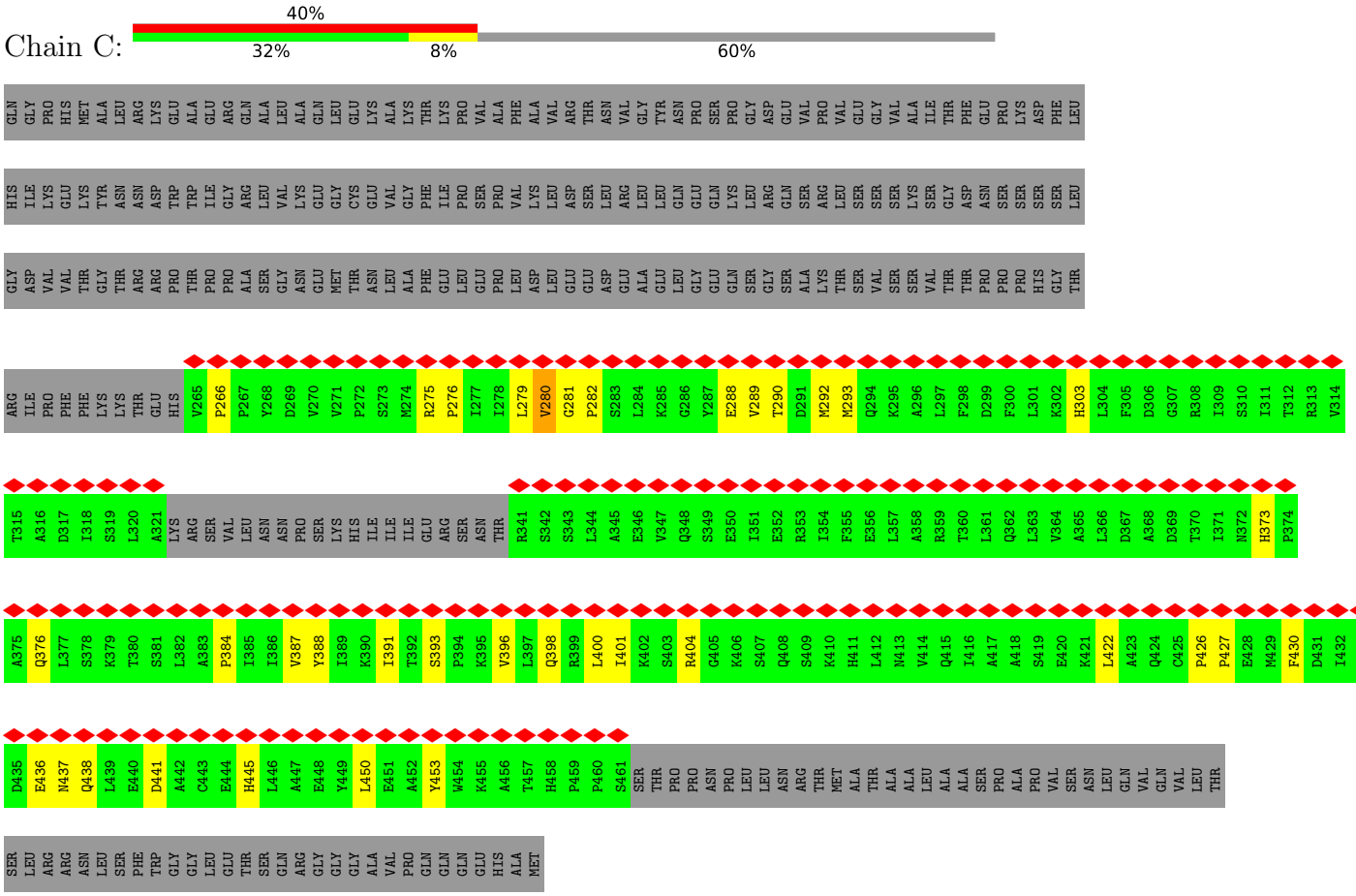
• Molecule 4: Voltage-dependent L-type calcium channel subunit beta-1

Chain B:



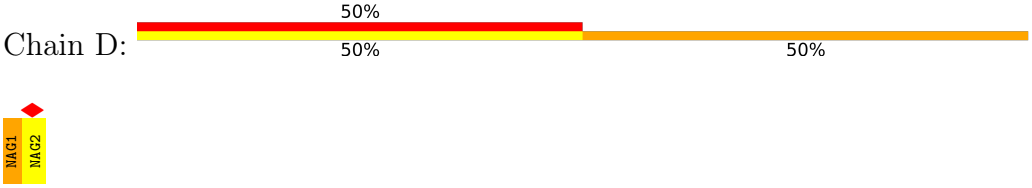
• Molecule 4: Voltage-dependent L-type calcium channel subunit beta-1

Chain C:



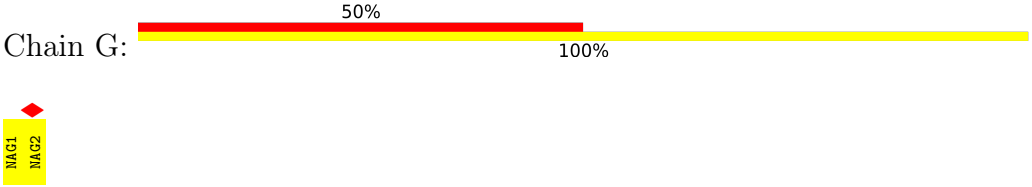
• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain D:



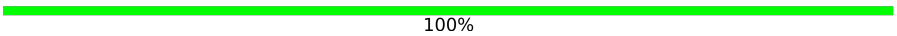
• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G:



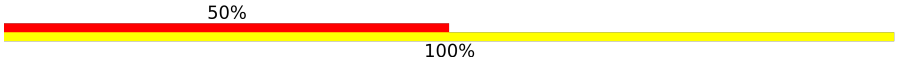
• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J:



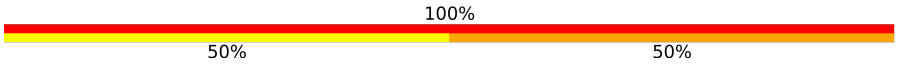
• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain K:



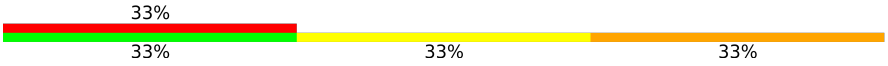
• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain L:



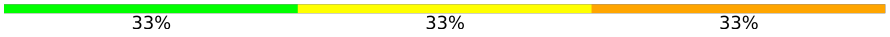
• Molecule 6: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain H:



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

Chain I:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	245171	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	48	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	0.201	Depositor
Minimum map value	-0.107	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.023	Depositor
Map size (Å)	349.12, 349.12, 349.12	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.091, 1.091, 1.091	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ETA, NAG, PC1, C5U, CA, BMA, 3PE

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	0.73	0/10463	0.96	37/14191 (0.3%)
2	E	0.49	0/1358	0.81	2/1832 (0.1%)
3	F	0.81	1/7974 (0.0%)	1.01	22/10816 (0.2%)
4	B	0.18	0/723	0.37	0/979
4	C	0.26	0/1394	0.49	1/1892 (0.1%)
All	All	0.72	1/21912 (0.0%)	0.93	62/29710 (0.2%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	F	665	ALA	C-N	-5.45	1.21	1.33

All (62) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	478	LYS	N-CA-C	9.73	121.89	111.28
1	A	493	MET	N-CA-C	9.07	121.17	111.28
3	F	869	ASP	N-CA-C	-8.10	103.40	113.28
3	F	991	LYS	N-CA-C	8.02	120.02	111.28
3	F	325	ASN	N-CA-C	7.95	120.85	111.71
1	A	38	ASN	N-CA-C	-7.54	101.27	110.31
3	F	303	VAL	N-CA-C	7.50	121.52	111.17
1	A	926	ARG	N-CA-C	7.17	118.98	111.03
1	A	939	GLN	N-CA-C	-7.13	103.84	112.54
1	A	1495	LYS	N-CA-C	-7.03	101.25	110.53
1	A	88	LYS	N-CA-C	-7.03	104.74	113.38
3	F	1043	GLY	C-N-CD	6.94	135.86	120.60
3	F	220	TYR	C-N-CD	6.87	135.71	120.60
3	F	399	GLY	O-C-N	6.87	123.54	121.07
3	F	347	LEU	N-CA-C	6.69	120.35	112.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	422	ARG	N-CA-C	6.64	120.48	112.38
1	A	1284	ILE	CA-C-N	6.61	127.27	120.00
1	A	1284	ILE	C-N-CA	6.61	127.27	120.00
3	F	506	PHE	N-CA-C	6.60	118.47	111.28
1	A	275	PHE	CA-C-N	-6.50	111.74	122.08
1	A	275	PHE	C-N-CA	-6.50	111.74	122.08
3	F	476	GLU	N-CA-C	6.42	121.26	113.17
3	F	243	ARG	N-CA-C	6.38	116.94	109.60
3	F	254	LYS	N-CA-C	6.32	119.56	108.75
1	A	108	TYR	N-CA-C	6.29	121.09	112.04
1	A	193	MET	N-CA-C	6.26	118.11	111.28
3	F	247	ILE	N-CA-C	6.18	116.96	110.72
1	A	305	ILE	N-CA-C	6.15	116.93	110.72
1	A	252	ARG	CA-C-N	-6.08	114.35	120.31
1	A	252	ARG	C-N-CA	-6.08	114.35	120.31
1	A	111	LEU	N-CA-C	6.03	123.64	110.80
3	F	124	VAL	N-CA-C	-5.95	99.30	107.99
1	A	1307	GLN	N-CA-C	5.95	117.85	111.36
1	A	257	ASN	N-CA-C	5.83	117.63	111.28
3	F	373	GLU	N-CA-C	5.71	117.51	111.28
1	A	986	ARG	CA-C-N	-5.66	114.13	119.85
1	A	986	ARG	C-N-CA	-5.66	114.13	119.85
1	A	112	PHE	N-CA-C	-5.64	105.14	111.28
1	A	76	GLU	N-CA-C	5.63	119.20	111.54
1	A	926	ARG	CA-C-N	5.59	130.06	120.72
1	A	926	ARG	C-N-CA	5.59	130.06	120.72
3	F	780	ALA	CA-C-N	-5.54	114.55	120.03
3	F	780	ALA	C-N-CA	-5.54	114.55	120.03
1	A	217	LEU	N-CA-C	5.54	117.39	111.36
1	A	1457	SER	CA-C-N	5.50	128.43	120.79
1	A	1457	SER	C-N-CA	5.50	128.43	120.79
1	A	1383	ASN	N-CA-C	-5.48	104.00	111.56
1	A	321	GLY	N-CA-C	5.46	119.76	112.77
3	F	702	THR	N-CA-C	5.46	117.31	111.36
2	E	213	GLU	N-CA-C	5.34	118.04	110.50
4	C	280	VAL	N-CA-C	5.31	115.29	107.75
1	A	554	ASN	CB-CA-C	5.26	120.37	110.63
1	A	244	PRO	N-CA-C	5.24	118.82	111.33
1	A	176	VAL	N-CA-C	-5.24	105.90	113.07
1	A	314	PHE	N-CA-C	5.20	116.75	111.14
3	F	867	HIS	N-CA-C	5.15	116.89	111.28
1	A	174	ARG	CA-CB-CG	5.12	124.34	114.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1324	ALA	N-CA-C	-5.11	102.76	110.06
3	F	157	PHE	N-CA-C	-5.07	100.19	108.76
2	E	216	MET	N-CA-C	-5.05	107.07	113.23
1	A	791	LEU	N-CA-C	5.04	116.77	111.28
1	A	1353	GLY	CA-C-O	-5.02	117.95	122.57

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	10219	0	10303	577	0
2	E	1326	0	1345	150	0
3	F	7804	0	7608	530	0
4	B	710	0	633	7	0
4	C	1367	0	1343	65	0
5	D	28	0	25	8	0
5	G	28	0	25	1	0
5	J	28	0	25	0	0
5	K	28	0	25	7	0
5	L	28	0	25	11	0
6	H	39	0	34	5	0
6	I	39	0	34	1	0
7	A	14	0	13	0	0
7	F	112	0	104	24	0
8	A	3	0	0	0	0
9	A	227	0	260	46	0
10	A	25	0	0	8	0
11	A	39	0	52	8	0
12	F	4	0	0	2	0
All	All	22068	0	21854	1256	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 29.

All (1256) 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)
3:F:784:ASN:ND2	7:F:1120:NAG:C1	1.68	1.55
3:F:678:ASN:HD21	5:K:1:NAG:C1	1.19	1.52
3:F:326:ASN:ND2	7:F:1104:NAG:C1	1.72	1.50
3:F:988:ASN:HD21	7:F:1122:NAG:C1	1.18	1.50
3:F:1001:ASN:HD21	7:F:1121:NAG:C1	1.27	1.44
7:F:1125:NAG:O4	5:L:1:NAG:C1	1.68	1.41
3:F:1001:ASN:ND2	7:F:1121:NAG:C1	1.81	1.40
2:E:133:ARG:HB2	2:E:135:TYR:CE2	1.57	1.39
1:A:163:ALA:CB	9:A:1908:3PE:H321	1.51	1.39
3:F:988:ASN:ND2	7:F:1122:NAG:C1	1.87	1.34
3:F:678:ASN:ND2	5:K:1:NAG:C1	1.87	1.34
3:F:852:ASP:HB3	3:F:867:HIS:NE2	1.44	1.30
1:A:1132:THR:CG2	9:A:1905:3PE:H281	1.62	1.29
3:F:326:ASN:ND2	7:F:1104:NAG:O5	1.62	1.26
1:A:163:ALA:HB2	9:A:1908:3PE:C32	1.65	1.26
1:A:1091:TYR:CE2	1:A:1399:LEU:HD12	1.74	1.21
3:F:1070:ASP:OD1	3:F:1072:THR:HG22	1.36	1.21
9:A:1904:3PE:O12	2:E:215:CYS:HB2	1.38	1.20
2:E:128:ALA:CB	2:E:137:LEU:HD23	1.73	1.19
3:F:255:ASP:OD1	3:F:354:ALA:HB3	1.42	1.19
5:L:2:NAG:C1	5:L:2:NAG:H82	1.71	1.18
1:A:366:TYR:CE2	4:C:396:VAL:HB	1.80	1.16
2:E:128:ALA:CB	2:E:137:LEU:CD2	2.23	1.16
3:F:132:ASP:OD2	3:F:137:LYS:HG2	1.45	1.15
3:F:359:ILE:HG22	3:F:385:ARG:HB2	1.16	1.14
3:F:100:LEU:CD1	3:F:198:ASN:HD21	1.59	1.14
3:F:47:LEU:HG	7:F:1125:NAG:H81	1.27	1.12
3:F:465:THR:CG2	3:F:489:VAL:CG1	2.28	1.12
1:A:1132:THR:HG21	9:A:1905:3PE:C28	1.79	1.11
3:F:161:VAL:HG21	3:F:221:PRO:HG2	1.19	1.11
1:A:931:ILE:O	1:A:935:THR:HG23	1.49	1.11
2:E:128:ALA:HB3	2:E:137:LEU:CD2	1.81	1.10
1:A:163:ALA:HB1	9:A:1908:3PE:H341	1.31	1.09
1:A:875:VAL:HG11	1:A:906:ARG:NH1	1.66	1.09
2:E:32:TRP:NE1	2:E:158:MET:HG3	1.68	1.09
3:F:100:LEU:HD11	3:F:198:ASN:HD21	1.13	1.09
3:F:889:LEU:HD12	3:F:892:ILE:CD1	1.83	1.09
1:A:305:ILE:HA	11:A:1912:PC1:H133	1.31	1.08
5:K:2:NAG:H82	5:K:2:NAG:H3	1.37	1.07
2:E:32:TRP:HE1	2:E:158:MET:HG3	0.99	1.07
1:A:1132:THR:HG21	9:A:1905:3PE:H281	1.11	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1261:ILE:HG22	2:E:207:MET:HE2	1.37	1.06
1:A:1091:TYR:HE2	1:A:1399:LEU:CD1	1.66	1.05
3:F:1074:CYS:O	12:F:1101:ETA:N	1.88	1.05
4:C:281:GLY:HA2	4:C:422:LEU:CD1	1.86	1.05
1:A:333:LEU:HD22	1:A:653:LEU:HD23	1.39	1.05
1:A:529:CYS:HB3	9:A:1913:3PE:H332	1.32	1.05
1:A:366:TYR:HE2	4:C:396:VAL:HB	1.12	1.05
2:E:113:PHE:O	2:E:117:PHE:HD1	1.39	1.05
3:F:515:PHE:HE2	3:F:580:MET:HE1	1.14	1.04
3:F:889:LEU:O	3:F:894:VAL:HG12	1.56	1.04
1:A:369:TRP:CE3	4:C:293:MET:HE3	1.92	1.04
3:F:178:SER:HB3	3:F:181:VAL:HG12	1.39	1.04
3:F:100:LEU:HD11	3:F:198:ASN:ND2	1.71	1.03
5:L:2:NAG:C1	5:L:2:NAG:C8	2.31	1.03
1:A:1091:TYR:HD1	2:E:212:TRP:CB	1.70	1.02
3:F:28:PRO:HD3	3:F:851:MET:HE1	1.41	1.02
1:A:1234:PHE:CE2	2:E:149:LEU:HD13	1.93	1.02
3:F:515:PHE:CE2	3:F:580:MET:HE1	1.94	1.02
1:A:1234:PHE:CZ	2:E:149:LEU:HD13	1.95	1.01
3:F:480:ASN:O	3:F:480:ASN:ND2	1.92	1.01
4:C:281:GLY:CA	4:C:422:LEU:HD13	1.90	1.01
3:F:889:LEU:HG	3:F:894:VAL:HG11	1.39	1.00
2:E:20:ILE:HG13	2:E:118:LEU:HD11	1.40	1.00
3:F:362:LEU:HD11	3:F:401:ILE:HD11	1.42	1.00
3:F:161:VAL:CG2	3:F:221:PRO:HG2	1.92	1.00
3:F:993:PHE:HB2	3:F:1008:VAL:CG1	1.92	0.99
1:A:229:ILE:HD12	1:A:229:ILE:H	1.24	0.99
3:F:889:LEU:HD12	3:F:892:ILE:HD11	1.00	0.99
3:F:889:LEU:CD1	3:F:892:ILE:HD11	1.91	0.99
4:C:282:PRO:HG2	4:C:290:THR:HG23	1.39	0.98
3:F:168:VAL:CG1	3:F:216:LEU:HD21	1.94	0.98
2:E:135:TYR:HA	2:E:138:ARG:NH1	1.78	0.97
1:A:1261:ILE:CG2	2:E:207:MET:HE2	1.94	0.97
2:E:128:ALA:HB3	2:E:137:LEU:HD23	1.39	0.97
3:F:465:THR:HG21	3:F:489:VAL:HG11	1.46	0.96
1:A:1091:TYR:HE2	1:A:1399:LEU:HD12	0.82	0.96
1:A:1276:MET:HE3	1:A:1276:MET:HA	1.46	0.96
1:A:1258:TRP:NE1	2:E:208:PRO:HD2	1.81	0.96
1:A:1241:MET:HE1	11:A:1912:PC1:H2D2	1.48	0.96
3:F:510:PRO:HG2	3:F:767:TYR:CE2	1.99	0.96
3:F:114:ARG:NH2	6:H:1:NAG:H62	1.79	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:215:LEU:CD2	1:A:219:LYS:HD3	1.96	0.95
3:F:336:LYS:HE3	3:F:369:GLU:OE2	1.67	0.95
3:F:263:SER:O	3:F:266:VAL:HG22	1.66	0.95
1:A:336:GLU:HA	1:A:339:LYS:HE3	1.46	0.95
2:E:128:ALA:HB1	2:E:137:LEU:CD2	1.93	0.94
1:A:1091:TYR:CD1	2:E:212:TRP:HB2	2.00	0.94
1:A:903:ARG:O	1:A:906:ARG:HG2	1.68	0.94
3:F:476:GLU:OE1	3:F:478:LYS:HB2	1.65	0.94
3:F:1070:ASP:CG	3:F:1072:THR:HG22	1.91	0.94
2:E:135:TYR:HA	2:E:138:ARG:HH11	1.33	0.94
3:F:159:ARG:HH22	3:F:226:VAL:HG12	1.32	0.94
3:F:291:VAL:HG12	3:F:312:ALA:HB2	1.49	0.94
3:F:852:ASP:HB3	3:F:867:HIS:CD2	2.02	0.94
2:E:128:ALA:CB	2:E:137:LEU:HD21	1.98	0.93
3:F:659:SER:O	3:F:719:VAL:HG11	1.67	0.93
1:A:1270:VAL:HG12	1:A:1375:LEU:HD13	1.51	0.93
2:E:133:ARG:HB2	2:E:135:TYR:HE2	1.27	0.93
3:F:356:CYS:SG	3:F:1062:CYS:HB2	2.07	0.93
7:F:1125:NAG:HO4	5:L:1:NAG:C1	1.67	0.92
1:A:117:TYR:CD2	1:A:123:ASN:OD1	2.22	0.92
3:F:161:VAL:HG21	3:F:221:PRO:CG	1.99	0.92
3:F:388:THR:HB	3:F:401:ILE:HG13	1.50	0.92
3:F:993:PHE:O	3:F:1008:VAL:HG12	1.70	0.92
3:F:669:TYR:CD1	3:F:704:LEU:CD2	2.53	0.91
4:C:279:LEU:HD23	4:C:387:VAL:HB	1.50	0.90
3:F:266:VAL:O	3:F:270:THR:HG23	1.71	0.90
1:A:163:ALA:CB	9:A:1908:3PE:C32	2.32	0.90
1:A:1331:ALA:O	1:A:1336:LYS:HG3	1.72	0.90
1:A:163:ALA:HB1	9:A:1908:3PE:C34	2.00	0.90
3:F:117:PHE:CG	3:F:182:LEU:HD12	2.07	0.89
3:F:159:ARG:NH2	3:F:226:VAL:HG12	1.86	0.89
3:F:993:PHE:HB2	3:F:1008:VAL:HG13	1.54	0.89
1:A:601:PRO:HD3	9:A:1909:3PE:H221	1.52	0.89
4:C:281:GLY:HA2	4:C:422:LEU:HD13	0.94	0.89
1:A:875:VAL:HG11	1:A:906:ARG:HH12	1.31	0.89
3:F:892:ILE:HG13	3:F:894:VAL:HG12	1.55	0.89
4:C:282:PRO:CG	4:C:290:THR:HG23	2.02	0.89
1:A:902:LEU:HD21	1:A:905:LEU:HD23	1.52	0.88
1:A:1234:PHE:CE2	2:E:149:LEU:HD22	2.07	0.88
1:A:108:TYR:CE2	1:A:117:TYR:CE1	2.61	0.88
3:F:710:LEU:HD21	3:F:714:PHE:CZ	2.07	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:426:HIS:HD2	1:A:486:LEU:HB3	1.37	0.88
3:F:367:GLY:O	3:F:400:PRO:HG2	1.73	0.88
3:F:350:ASN:HD21	5:D:1:NAG:C1	1.87	0.88
3:F:276:THR:O	3:F:280:GLU:HG2	1.74	0.88
1:A:1091:TYR:CD1	2:E:212:TRP:CB	2.55	0.87
1:A:1091:TYR:HD1	2:E:212:TRP:HB3	1.38	0.87
3:F:510:PRO:HG2	3:F:767:TYR:CD2	2.08	0.87
1:A:366:TYR:HE2	4:C:396:VAL:CB	1.87	0.87
2:E:132:LYS:HD3	2:E:132:LYS:N	1.88	0.87
3:F:852:ASP:HB3	3:F:867:HIS:HE2	1.08	0.87
1:A:117:TYR:CE2	1:A:123:ASN:OD1	2.28	0.86
1:A:301:VAL:CG1	1:A:305:ILE:HD13	2.05	0.86
1:A:108:TYR:CE2	1:A:117:TYR:HE1	1.93	0.86
3:F:591:ARG:HH22	7:F:1115:NAG:HN2	1.23	0.86
1:A:1195:ILE:HD11	2:E:117:PHE:CE2	2.11	0.86
1:A:192:ALA:O	1:A:195:PRO:HD2	1.74	0.85
1:A:1337:LEU:HD22	1:A:1338:CYS:N	1.91	0.85
3:F:889:LEU:O	3:F:894:VAL:CG1	2.24	0.85
3:F:480:ASN:HA	3:F:483:ASN:HB2	1.58	0.85
1:A:1188:LEU:HG	2:E:142:MET:SD	2.16	0.85
1:A:1262:LYS:HG3	2:E:209:GLN:HA	1.59	0.85
2:E:20:ILE:CD1	2:E:118:LEU:HD21	2.07	0.85
2:E:127:MET:HG3	2:E:136:LEU:CD2	2.06	0.85
1:A:1329:LEU:HD12	1:A:1329:LEU:O	1.77	0.85
9:A:1904:3PE:O12	2:E:215:CYS:CB	2.24	0.84
1:A:215:LEU:HD21	1:A:219:LYS:HD3	1.59	0.84
1:A:312:ILE:HG23	11:A:1912:PC1:H261	1.58	0.84
1:A:545:LEU:O	1:A:549:VAL:HG23	1.76	0.84
1:A:336:GLU:HA	1:A:339:LYS:CE	2.07	0.84
5:D:1:NAG:H83	5:D:2:NAG:C7	2.07	0.84
1:A:904:PRO:HG2	1:A:1279:PHE:HE2	1.43	0.84
1:A:1195:ILE:HD11	2:E:117:PHE:CZ	2.12	0.84
3:F:168:VAL:HG13	3:F:216:LEU:HD21	1.60	0.84
3:F:206:LEU:CD2	3:F:458:LEU:HD21	2.08	0.84
1:A:1258:TRP:HE1	2:E:208:PRO:HD2	1.43	0.84
3:F:134:ASP:HB2	3:F:137:LYS:HD3	1.60	0.84
1:A:166:ALA:O	1:A:169:VAL:HG12	1.78	0.84
1:A:371:THR:O	1:A:375:VAL:CG2	2.26	0.84
3:F:256:MET:HE2	3:F:258:ILE:HD11	1.58	0.84
3:F:852:ASP:CB	3:F:867:HIS:CD2	2.61	0.84
3:F:361:MET:HE2	3:F:387:PHE:CD1	2.13	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:168:VAL:CG1	3:F:216:LEU:CD2	2.56	0.83
3:F:361:MET:CE	3:F:387:PHE:CD1	2.61	0.83
3:F:170:ILE:HD13	3:F:216:LEU:HD23	1.58	0.83
2:E:133:ARG:CB	2:E:135:TYR:CE2	2.53	0.83
3:F:350:ASN:ND2	5:D:1:NAG:C1	2.41	0.83
3:F:1070:ASP:OD1	3:F:1072:THR:CG2	2.24	0.82
4:C:393:SER:O	4:C:396:VAL:HG23	1.79	0.82
2:E:113:PHE:O	2:E:117:PHE:CD1	2.29	0.82
3:F:243:ARG:HH21	3:F:243:ARG:HG3	1.45	0.82
3:F:1010:LYS:CG	3:F:1017:ILE:HG13	2.09	0.82
1:A:426:HIS:CD2	1:A:486:LEU:HB3	2.14	0.82
1:A:1097:PRO:O	2:E:218:ALA:HB2	1.79	0.82
1:A:1276:MET:HA	1:A:1276:MET:CE	2.09	0.82
4:C:282:PRO:HG2	4:C:290:THR:CG2	2.10	0.82
1:A:369:TRP:CZ3	4:C:293:MET:HE3	2.14	0.81
3:F:848:SER:O	3:F:867:HIS:HE1	1.63	0.81
3:F:28:PRO:CD	3:F:851:MET:HE1	2.11	0.81
3:F:852:ASP:CB	3:F:867:HIS:NE2	2.37	0.81
1:A:1091:TYR:CE2	1:A:1399:LEU:CD1	2.51	0.81
2:E:20:ILE:HD11	2:E:118:LEU:HD21	1.62	0.81
3:F:43:ASP:OD1	7:F:1125:NAG:H2	1.81	0.81
3:F:781:PRO:O	3:F:875:GLY:HA3	1.81	0.81
1:A:1337:LEU:HB2	1:A:1350:TYR:CD1	2.15	0.80
1:A:1132:THR:HG21	9:A:1905:3PE:C29	2.10	0.80
2:E:127:MET:CG	2:E:136:LEU:HD21	2.12	0.80
3:F:887:ARG:O	3:F:890:VAL:HG22	1.82	0.80
1:A:328:LEU:HD11	1:A:1260:PHE:CD2	2.17	0.80
1:A:901:VAL:HG21	1:A:1283:VAL:HB	1.63	0.80
3:F:858:ASP:HA	3:F:986:PHE:CZ	2.17	0.80
1:A:1318:ARG:HH11	1:A:1328:ILE:HD11	1.46	0.80
3:F:47:LEU:HG	7:F:1125:NAG:C8	2.09	0.80
3:F:465:THR:CG2	3:F:489:VAL:HG12	2.11	0.80
1:A:301:VAL:HG13	1:A:305:ILE:HD13	1.64	0.79
1:A:1006:SER:O	1:A:1010:VAL:HG12	1.82	0.79
2:E:32:TRP:HE1	2:E:158:MET:CG	1.91	0.79
3:F:481:LEU:HD23	3:F:482:LYS:H	1.46	0.79
1:A:1258:TRP:CD1	2:E:208:PRO:HD2	2.18	0.78
3:F:356:CYS:SG	3:F:1062:CYS:CB	2.71	0.78
3:F:590:PHE:CD2	3:F:592:THR:HG23	2.18	0.78
1:A:335:GLY:O	1:A:339:LYS:HE2	1.83	0.78
1:A:581:PHE:HE1	1:A:637:VAL:HG11	1.48	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:465:THR:HG23	3:F:489:VAL:HG12	1.66	0.78
1:A:902:LEU:HD23	1:A:905:LEU:HB3	1.64	0.78
1:A:1258:TRP:CZ2	2:E:208:PRO:HB2	2.19	0.78
3:F:168:VAL:HG22	3:F:218:ARG:HG2	1.64	0.78
2:E:128:ALA:HB1	2:E:137:LEU:HD21	1.60	0.77
3:F:669:TYR:CE1	3:F:704:LEU:HD21	2.20	0.77
3:F:1010:LYS:HG3	3:F:1017:ILE:HG13	1.64	0.77
3:F:663:PHE:HB2	3:F:744:THR:HG23	1.63	0.77
3:F:591:ARG:NH2	7:F:1115:NAG:HN2	1.81	0.77
3:F:359:ILE:HG22	3:F:385:ARG:CB	2.07	0.77
1:A:902:LEU:HD23	1:A:905:LEU:CB	2.15	0.77
2:E:30:ASP:OD2	2:E:55:ARG:HG3	1.85	0.77
3:F:669:TYR:CE1	3:F:704:LEU:CD2	2.68	0.76
1:A:902:LEU:CD2	1:A:905:LEU:HB3	2.16	0.76
3:F:359:ILE:CG2	3:F:385:ARG:HB2	2.08	0.76
7:F:1125:NAG:H83	7:F:1125:NAG:O3	1.86	0.76
3:F:478:LYS:HD3	3:F:478:LYS:C	2.11	0.76
3:F:178:SER:HB3	3:F:181:VAL:CG1	2.14	0.76
1:A:94:LEU:HD13	1:A:94:LEU:O	1.86	0.75
1:A:423:TRP:HE1	4:C:303:HIS:HB2	1.51	0.75
1:A:1007:LEU:HA	1:A:1010:VAL:CG1	2.16	0.75
2:E:214:SER:O	2:E:217:ASP:HB2	1.87	0.75
3:F:465:THR:HG22	3:F:489:VAL:CG1	2.16	0.75
3:F:1008:VAL:HG23	3:F:1019:ILE:HG22	1.67	0.75
2:E:136:LEU:O	2:E:139:PRO:HD2	1.86	0.75
3:F:388:THR:CB	3:F:401:ILE:HG13	2.16	0.75
1:A:1188:LEU:HD23	1:A:1188:LEU:O	1.87	0.74
1:A:793:HIS:HB2	1:A:853:THR:HG21	1.68	0.74
3:F:256:MET:HB2	3:F:359:ILE:CD1	2.18	0.74
3:F:988:ASN:CG	7:F:1122:NAG:C1	2.60	0.74
1:A:903:ARG:HB2	1:A:904:PRO:HD3	1.70	0.74
3:F:868:ASP:HA	3:F:871:THR:HG22	1.70	0.74
1:A:165:ARG:HH11	1:A:168:ARG:HH22	1.36	0.74
1:A:1362:ILE:HD12	9:A:1906:3PE:H322	1.68	0.74
1:A:1184:VAL:HG21	2:E:138:ARG:HD3	1.70	0.73
3:F:855:ILE:O	3:F:856:LEU:HD12	1.87	0.73
4:C:393:SER:HB3	4:C:396:VAL:CG2	2.18	0.73
1:A:428:LEU:HD23	1:A:428:LEU:O	1.88	0.73
1:A:905:LEU:O	1:A:908:ILE:HG23	1.88	0.73
3:F:100:LEU:CD1	3:F:198:ASN:ND2	2.38	0.73
4:C:281:GLY:HA3	4:C:388:TYR:CE1	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:36:LEU:O	1:A:37:GLN:CB	2.36	0.73
3:F:275:ARG:HD2	3:F:325:ASN:HA	1.69	0.73
1:A:163:ALA:HB2	9:A:1908:3PE:H321	0.77	0.73
1:A:895:ILE:HG23	1:A:896:LEU:HD23	1.70	0.73
3:F:206:LEU:HD23	3:F:458:LEU:CD2	2.19	0.73
1:A:581:PHE:CE1	1:A:637:VAL:HG11	2.23	0.73
1:A:1132:THR:CG2	9:A:1905:3PE:C28	2.51	0.73
1:A:229:ILE:HD12	1:A:229:ILE:N	2.02	0.73
3:F:255:ASP:OD1	3:F:354:ALA:CB	2.31	0.73
1:A:1337:LEU:HD22	1:A:1337:LEU:C	2.14	0.72
3:F:590:PHE:HD2	3:F:592:THR:HG23	1.52	0.72
3:F:117:PHE:CD1	3:F:182:LEU:HD12	2.23	0.72
1:A:301:VAL:HG12	1:A:305:ILE:CD1	2.19	0.72
1:A:793:HIS:O	1:A:796:VAL:HG12	1.89	0.72
3:F:889:LEU:CG	3:F:894:VAL:HG11	2.17	0.72
1:A:328:LEU:CD1	1:A:1260:PHE:CD2	2.72	0.72
1:A:365:GLY:HA2	4:C:437:ASN:O	1.90	0.72
1:A:371:THR:O	1:A:375:VAL:HG23	1.89	0.72
3:F:590:PHE:HE2	3:F:592:THR:HG21	1.53	0.72
1:A:118:LEU:HD13	1:A:118:LEU:C	2.14	0.72
3:F:205:LEU:HD21	3:F:492:VAL:CG2	2.20	0.72
3:F:359:ILE:HD13	3:F:361:MET:HE3	1.71	0.72
1:A:305:ILE:HA	11:A:1912:PC1:C13	2.16	0.72
2:E:127:MET:CG	2:E:136:LEU:CD2	2.68	0.71
3:F:229:SER:O	3:F:235:ILE:HG22	1.91	0.71
3:F:669:TYR:CD1	3:F:704:LEU:HD22	2.24	0.71
1:A:301:VAL:CG1	1:A:305:ILE:CD1	2.67	0.71
3:F:235:ILE:O	3:F:235:ILE:HD12	1.91	0.71
3:F:243:ARG:HG3	3:F:243:ARG:NH2	1.99	0.71
3:F:513:TYR:O	3:F:624:LEU:HD12	1.90	0.71
1:A:481:LEU:HD23	1:A:481:LEU:O	1.91	0.71
2:E:133:ARG:HB2	2:E:135:TYR:CZ	2.21	0.71
1:A:1188:LEU:HB2	2:E:142:MET:CE	2.21	0.71
1:A:1267:LEU:HD12	1:A:1270:VAL:HG23	1.72	0.71
3:F:133:LEU:H	3:F:133:LEU:CD2	2.03	0.71
3:F:705:ILE:HD12	3:F:705:ILE:C	2.15	0.71
1:A:639:ILE:C	1:A:639:ILE:HD12	2.15	0.71
2:E:118:LEU:HD23	2:E:118:LEU:C	2.15	0.71
3:F:210:PHE:HB2	3:F:490:MET:HE3	1.72	0.71
1:A:362:ASP:OD2	4:C:396:VAL:HG21	1.91	0.71
1:A:1337:LEU:HD22	1:A:1338:CYS:O	1.91	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:159:ARG:NH2	3:F:226:VAL:CG1	2.54	0.71
1:A:494:SER:HB3	1:A:497:ASN:ND2	2.06	0.70
1:A:481:LEU:HD23	1:A:481:LEU:C	2.17	0.70
1:A:1188:LEU:HB2	2:E:142:MET:SD	2.31	0.70
2:E:115:LEU:HD13	2:E:115:LEU:C	2.16	0.70
1:A:1258:TRP:HE1	2:E:208:PRO:CD	2.03	0.70
3:F:595:LYS:HD3	3:F:599:GLU:OE1	1.91	0.70
1:A:1091:TYR:CE2	1:A:1399:LEU:CG	2.75	0.70
1:A:122:TRP:CZ2	1:A:183:GLN:HG2	2.25	0.70
7:F:1125:NAG:O4	5:L:1:NAG:O5	1.97	0.70
1:A:369:TRP:HE3	4:C:293:MET:HE3	1.51	0.70
1:A:1234:PHE:HE2	2:E:149:LEU:HD13	1.52	0.70
1:A:1270:VAL:CG1	1:A:1375:LEU:HD13	2.20	0.70
3:F:93:ARG:NH1	3:F:202:ASP:OD2	2.25	0.70
3:F:705:ILE:HD12	3:F:706:ASN:N	2.06	0.70
3:F:850:VAL:HG22	3:F:851:MET:HG2	1.72	0.70
1:A:798:ALA:HB1	1:A:800:TRP:CD2	2.26	0.70
1:A:94:LEU:HD13	1:A:94:LEU:C	2.16	0.70
1:A:1234:PHE:CZ	2:E:149:LEU:CD1	2.73	0.70
1:A:168:ARG:O	1:A:171:ARG:HG2	1.92	0.70
1:A:366:TYR:OH	4:C:391:ILE:CG2	2.40	0.70
1:A:897:ARG:HH21	1:A:1287:GLN:CD	2.00	0.70
3:F:411:TYR:CD1	3:F:1074:CYS:HA	2.27	0.69
3:F:510:PRO:HG2	3:F:767:TYR:HE2	1.57	0.69
1:A:122:TRP:NE1	1:A:183:GLN:NE2	2.41	0.69
1:A:163:ALA:CB	9:A:1908:3PE:C33	2.69	0.69
1:A:1199:LEU:HG	2:E:110:ILE:HD11	1.74	0.69
1:A:914:LEU:HD21	1:A:1272:LEU:HD22	1.75	0.69
3:F:461:VAL:HG12	3:F:495:SER:HA	1.73	0.69
1:A:256:ILE:CG2	1:A:259:SER:HB3	2.22	0.69
1:A:898:VAL:O	1:A:901:VAL:HG12	1.93	0.69
1:A:900:ARG:O	1:A:903:ARG:HD2	1.92	0.69
1:A:447:LEU:HD13	1:A:447:LEU:C	2.17	0.69
1:A:1338:CYS:N	1:A:1352:CYS:SG	2.65	0.69
2:E:132:LYS:HD3	2:E:132:LYS:H	1.57	0.69
3:F:339:PHE:CZ	3:F:362:LEU:HD23	2.28	0.69
3:F:478:LYS:HD3	3:F:478:LYS:O	1.93	0.69
3:F:889:LEU:O	3:F:892:ILE:HG13	1.92	0.69
1:A:122:TRP:NE1	1:A:183:GLN:CD	2.50	0.68
1:A:1007:LEU:O	1:A:1010:VAL:HG13	1.93	0.68
1:A:1258:TRP:NE1	2:E:208:PRO:CD	2.56	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1337:LEU:CD2	1:A:1338:CYS:O	2.41	0.68
3:F:124:VAL:HG21	3:F:182:LEU:HD13	1.75	0.68
3:F:388:THR:HB	3:F:401:ILE:CG1	2.23	0.68
1:A:256:ILE:HG22	1:A:259:SER:OG	1.93	0.68
3:F:478:LYS:HD2	3:F:479:THR:HG23	1.74	0.68
3:F:996:VAL:HG23	3:F:1004:ARG:O	1.92	0.68
3:F:848:SER:O	3:F:867:HIS:CE1	2.46	0.68
1:A:333:LEU:CD2	1:A:653:LEU:HD23	2.21	0.68
1:A:1329:LEU:HD12	1:A:1329:LEU:C	2.17	0.68
1:A:1337:LEU:HB2	1:A:1350:TYR:HD1	1.54	0.68
2:E:130:ARG:O	2:E:131:LYS:HB2	1.92	0.68
3:F:311:GLN:HE22	3:F:520:ASN:HD21	1.41	0.68
3:F:398:ARG:O	3:F:402:GLN:HG3	1.94	0.68
3:F:889:LEU:HA	3:F:892:ILE:HD11	1.75	0.68
1:A:117:TYR:CG	1:A:123:ASN:OD1	2.46	0.68
3:F:162:SER:O	3:F:221:PRO:HB2	1.93	0.68
3:F:993:PHE:HB2	3:F:1008:VAL:HG11	1.75	0.68
1:A:473:SER:O	1:A:477:ILE:HG12	1.94	0.68
1:A:480:LEU:HD13	1:A:480:LEU:C	2.19	0.68
2:E:113:PHE:HB3	2:E:117:PHE:CE1	2.28	0.68
3:F:206:LEU:CD2	3:F:458:LEU:CD2	2.71	0.68
1:A:902:LEU:HD21	1:A:905:LEU:CD2	2.24	0.68
1:A:1234:PHE:HZ	2:E:149:LEU:HD13	1.56	0.68
3:F:370:ARG:CD	3:F:372:GLN:HE21	2.06	0.68
1:A:901:VAL:CG2	1:A:1283:VAL:HG11	2.24	0.68
3:F:411:TYR:CE1	3:F:1074:CYS:HA	2.29	0.68
3:F:515:PHE:HE2	3:F:580:MET:CE	2.00	0.68
3:F:590:PHE:CE2	3:F:592:THR:HG21	2.28	0.68
1:A:337:PHE:CB	1:A:661:VAL:HG11	2.24	0.68
1:A:1070:GLU:HA	1:A:1073:GLU:HB2	1.75	0.68
1:A:903:ARG:HA	1:A:906:ARG:NH1	2.09	0.67
3:F:867:HIS:O	3:F:868:ASP:HB3	1.93	0.67
1:A:74:MET:HB2	1:A:78:ASP:O	1.95	0.67
1:A:614:GLU:HG2	1:A:1017:PRO:CD	2.24	0.67
2:E:127:MET:HG3	2:E:136:LEU:HD21	1.74	0.67
3:F:44:LEU:HD11	3:F:824:TRP:CZ2	2.29	0.67
1:A:365:GLY:CA	4:C:437:ASN:O	2.43	0.66
1:A:1132:THR:HG22	9:A:1905:3PE:H281	1.68	0.66
1:A:94:LEU:HD11	1:A:134:VAL:HG12	1.78	0.66
3:F:528:ASN:HD22	3:F:528:ASN:C	2.02	0.66
1:A:309:TRP:CZ2	2:E:152:PHE:HZ	2.14	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:858:ASP:HA	3:F:986:PHE:CE1	2.30	0.66
1:A:428:LEU:HD23	1:A:428:LEU:C	2.21	0.66
1:A:447:LEU:HD13	1:A:447:LEU:O	1.96	0.66
3:F:132:ASP:OD2	3:F:137:LYS:CG	2.36	0.66
3:F:348:ASN:O	3:F:350:ASN:N	2.29	0.66
3:F:478:LYS:CD	3:F:479:THR:HG23	2.26	0.66
3:F:339:PHE:O	3:F:343:PHE:HD2	1.79	0.66
3:F:858:ASP:HB3	3:F:986:PHE:CE2	2.30	0.65
1:A:425:CYS:O	1:A:429:VAL:HG23	1.97	0.65
3:F:256:MET:HB2	3:F:359:ILE:HD11	1.79	0.65
3:F:783:PHE:CE1	3:F:873:GLN:HB2	2.31	0.65
1:A:907:ALA:O	1:A:910:ARG:HB2	1.97	0.65
3:F:366:GLY:HA3	3:F:396:TYR:CB	2.26	0.65
3:F:783:PHE:HE1	3:F:873:GLN:CB	2.09	0.65
3:F:865:ALA:HB1	3:F:870:TYR:HB2	1.78	0.65
1:A:125:LEU:O	1:A:125:LEU:HD23	1.96	0.65
1:A:335:GLY:C	1:A:339:LYS:HE2	2.21	0.65
1:A:901:VAL:HG21	1:A:1283:VAL:CB	2.26	0.65
1:A:924:ALA:O	1:A:928:ILE:HD12	1.96	0.65
3:F:114:ARG:HH21	6:H:1:NAG:H62	1.61	0.65
3:F:892:ILE:O	3:F:893:SER:HB3	1.97	0.65
5:K:1:NAG:H82	5:K:2:NAG:H2	1.79	0.65
1:A:337:PHE:HB3	1:A:661:VAL:HG11	1.79	0.65
3:F:783:PHE:HE1	3:F:873:GLN:HA	1.62	0.65
4:C:289:VAL:HG13	4:C:400:LEU:CD2	2.26	0.65
1:A:309:TRP:HB3	11:A:1912:PC1:H232	1.79	0.65
1:A:294:TRP:HE1	1:A:1321:THR:HG21	1.62	0.64
1:A:1046:ILE:CD1	9:A:1910:3PE:H262	2.27	0.64
3:F:361:MET:HE2	3:F:387:PHE:HD1	1.62	0.64
1:A:195:PRO:HG2	1:A:336:GLU:OE1	1.98	0.64
3:F:506:PHE:CZ	3:F:667:ARG:HG3	2.32	0.64
3:F:43:ASP:CG	7:F:1125:NAG:H2	2.23	0.64
3:F:159:ARG:HH22	3:F:226:VAL:CG1	2.06	0.64
1:A:331:GLY:HA3	1:A:1380:ILE:HD12	1.79	0.64
1:A:1262:LYS:CG	2:E:209:GLN:HA	2.26	0.64
1:A:1430:GLN:HG3	1:A:1432:PRO:HD2	1.80	0.64
3:F:114:ARG:CZ	6:H:1:NAG:H62	2.27	0.64
3:F:130:LYS:HA	3:F:228:ASN:HD22	1.63	0.64
3:F:168:VAL:HG11	3:F:216:LEU:HD21	1.76	0.64
3:F:465:THR:CG2	3:F:489:VAL:HG11	2.04	0.64
1:A:229:ILE:H	1:A:229:ILE:CD1	2.01	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:215:LEU:HD21	1:A:219:LYS:CD	2.28	0.64
1:A:256:ILE:HG21	1:A:259:SER:HB3	1.80	0.64
1:A:359:LEU:HD13	4:C:396:VAL:HG13	1.79	0.64
1:A:1188:LEU:C	1:A:1188:LEU:CD2	2.71	0.64
3:F:704:LEU:C	3:F:704:LEU:HD23	2.23	0.64
2:E:20:ILE:HG13	2:E:118:LEU:CD1	2.21	0.63
3:F:269:LEU:HD22	3:F:269:LEU:O	1.98	0.63
3:F:340:SER:O	3:F:344:GLU:HG2	1.97	0.63
2:E:107:ALA:N	2:E:157:VAL:HG11	2.13	0.63
1:A:111:LEU:HD12	1:A:114:GLN:HB3	1.80	0.63
1:A:423:TRP:HE1	4:C:303:HIS:CB	2.10	0.63
1:A:614:GLU:HG2	1:A:1017:PRO:HD3	1.81	0.63
1:A:1091:TYR:CE1	2:E:212:TRP:HB2	2.33	0.63
3:F:895:TYR:CZ	3:F:986:PHE:HE1	2.17	0.63
1:A:75:PRO:HG2	3:F:265:SER:HA	1.81	0.63
1:A:359:LEU:CD1	4:C:396:VAL:HG13	2.28	0.63
5:L:2:NAG:H83	5:L:2:NAG:O5	1.97	0.63
1:A:163:ALA:HB1	9:A:1908:3PE:C33	2.28	0.63
1:A:331:GLY:CA	1:A:1380:ILE:HD12	2.28	0.63
1:A:1472:ARG:HH12	1:A:1483:PHE:HA	1.62	0.63
1:A:340:GLU:OE1	1:A:340:GLU:HA	1.98	0.62
1:A:1091:TYR:CE2	1:A:1399:LEU:HB3	2.34	0.62
2:E:135:TYR:CD1	2:E:136:LEU:N	2.67	0.62
3:F:408:ASN:C	3:F:409:LYS:HG3	2.24	0.62
1:A:117:TYR:CE2	1:A:123:ASN:CG	2.76	0.62
1:A:322:SER:O	1:A:326:LEU:HB2	1.98	0.62
1:A:494:SER:CB	1:A:497:ASN:ND2	2.62	0.62
1:A:614:GLU:HG3	1:A:1017:PRO:HG2	1.81	0.62
1:A:269:ASN:O	1:A:270:HIS:HB2	1.98	0.62
3:F:103:GLU:HG3	3:F:194:VAL:HG21	1.81	0.62
3:F:178:SER:OG	3:F:180:ILE:HG22	2.00	0.62
4:C:393:SER:HB3	4:C:396:VAL:HG21	1.82	0.62
3:F:159:ARG:NH1	3:F:224:PRO:O	2.32	0.62
3:F:206:LEU:HD21	3:F:458:LEU:HD21	1.81	0.62
3:F:256:MET:HE2	3:F:258:ILE:CD1	2.29	0.62
1:A:422:ARG:NH2	1:A:484:TYR:O	2.33	0.62
1:A:523:GLY:HA2	1:A:526:VAL:HB	1.81	0.62
2:E:107:ALA:HB3	2:E:158:MET:HE2	1.82	0.62
3:F:783:PHE:CE1	3:F:873:GLN:CB	2.82	0.62
5:L:2:NAG:C8	5:L:2:NAG:O5	2.47	0.62
3:F:339:PHE:HZ	3:F:362:LEU:HD23	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:880:GLU:HG2	3:F:1035:ILE:HG22	1.82	0.62
3:F:993:PHE:O	3:F:1008:VAL:CG1	2.47	0.62
1:A:1249:ARG:NH2	1:A:1251:GLU:OE2	2.32	0.62
3:F:267:SER:HB3	3:F:329:ALA:HB3	1.80	0.62
1:A:520:THR:O	1:A:523:GLY:N	2.30	0.62
1:A:685:LYS:HE2	4:C:445:HIS:CG	2.34	0.62
1:A:423:TRP:CD1	4:C:303:HIS:CG	2.88	0.62
3:F:132:ASP:CG	3:F:137:LYS:HG2	2.22	0.62
1:A:419:ARG:NE	1:A:419:ARG:HA	2.15	0.61
1:A:423:TRP:NE1	4:C:303:HIS:CB	2.63	0.61
1:A:651:ILE:O	1:A:655:VAL:HG23	2.00	0.61
3:F:1008:VAL:CG2	3:F:1019:ILE:HG22	2.29	0.61
3:F:370:ARG:HD3	3:F:372:GLN:HE21	1.65	0.61
3:F:376:ALA:O	3:F:380:LYS:HB2	2.01	0.61
4:C:281:GLY:HA3	4:C:388:TYR:CD1	2.36	0.61
1:A:366:TYR:CZ	4:C:396:VAL:HB	2.35	0.61
1:A:366:TYR:OH	4:C:391:ILE:HG21	1.99	0.61
1:A:423:TRP:NE1	4:C:303:HIS:HB2	2.15	0.61
3:F:1010:LYS:HG2	3:F:1017:ILE:HG13	1.83	0.61
1:A:445:ASN:O	1:A:449:ILE:HG12	1.99	0.61
1:A:1011:SER:OG	10:A:1911:C5U:N07	2.34	0.61
3:F:97:LEU:HD11	3:F:464:GLY:O	1.99	0.61
3:F:784:ASN:CG	7:F:1120:NAG:C1	2.65	0.61
3:F:856:LEU:O	3:F:1017:ILE:HG22	2.01	0.61
1:A:1195:ILE:CD1	2:E:117:PHE:CZ	2.83	0.61
3:F:465:THR:HG22	3:F:489:VAL:HG13	1.81	0.61
1:A:1178:PHE:O	2:E:138:ARG:HD2	2.00	0.61
3:F:256:MET:HB2	3:F:359:ILE:HD12	1.83	0.61
3:F:781:PRO:CG	3:F:795:ILE:HG13	2.31	0.61
1:A:252:ARG:HD2	1:A:252:ARG:O	2.00	0.60
1:A:798:ALA:HB1	1:A:800:TRP:CE2	2.36	0.60
1:A:369:TRP:CE3	4:C:293:MET:CE	2.80	0.60
1:A:913:GLY:HA3	1:A:1269:TYR:CZ	2.36	0.60
3:F:133:LEU:H	3:F:133:LEU:HD23	1.66	0.60
2:E:20:ILE:CG1	2:E:118:LEU:HD21	2.30	0.60
5:D:1:NAG:H83	5:D:2:NAG:C8	2.31	0.60
1:A:1188:LEU:CG	2:E:142:MET:SD	2.87	0.60
1:A:1234:PHE:CE2	2:E:149:LEU:CD1	2.80	0.60
1:A:309:TRP:O	1:A:312:ILE:HG22	2.01	0.60
1:A:342:GLU:OE1	1:A:342:GLU:HA	2.01	0.60
3:F:852:ASP:CB	3:F:867:HIS:HE2	1.99	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:163:ALA:HB1	9:A:1908:3PE:C32	2.25	0.60
1:A:279:GLY:HA3	9:A:1907:3PE:H11	1.84	0.60
1:A:301:VAL:HG12	1:A:305:ILE:HD13	1.80	0.60
1:A:419:ARG:HA	1:A:419:ARG:HE	1.67	0.60
1:A:901:VAL:HG22	1:A:901:VAL:O	2.01	0.60
2:E:104:SER:HA	2:E:158:MET:HE1	1.84	0.60
3:F:391:VAL:HG12	3:F:415:ILE:HB	1.84	0.60
3:F:474:GLN:O	3:F:475:PHE:C	2.45	0.60
3:F:476:GLU:CD	3:F:478:LYS:HB2	2.26	0.60
3:F:1045:ASP:OD1	3:F:1046:PRO:HD2	2.02	0.60
1:A:1094:LYS:HD3	2:E:212:TRP:CH2	2.36	0.60
3:F:1068:LEU:HD12	3:F:1068:LEU:O	2.01	0.60
1:A:1270:VAL:CG1	1:A:1375:LEU:CD1	2.80	0.60
3:F:449:THR:HG22	3:F:450:ASN:N	2.17	0.60
1:A:199:ILE:HG21	1:A:329:VAL:HG22	1.83	0.60
3:F:109:ALA:HB2	3:F:471:ILE:O	2.02	0.60
1:A:1083:LYS:NZ	1:A:1087:GLN:OE1	2.35	0.59
1:A:1173:LYS:O	1:A:1175:ARG:N	2.34	0.59
1:A:165:ARG:HG3	1:A:168:ARG:NH2	2.17	0.59
1:A:169:VAL:O	1:A:172:PRO:HD2	2.02	0.59
1:A:199:ILE:HG21	1:A:329:VAL:CG2	2.32	0.59
1:A:1188:LEU:O	1:A:1188:LEU:CD2	2.50	0.59
3:F:792:GLU:OE1	3:F:792:GLU:N	2.22	0.59
1:A:301:VAL:HG12	1:A:305:ILE:HD11	1.85	0.59
3:F:590:PHE:CE2	3:F:592:THR:CG2	2.86	0.59
3:F:889:LEU:HG	3:F:894:VAL:CG1	2.23	0.59
1:A:444:LEU:HD12	1:A:471:LEU:HD21	1.85	0.59
3:F:216:LEU:C	3:F:216:LEU:HD13	2.28	0.59
3:F:476:GLU:OE1	3:F:478:LYS:CB	2.47	0.59
1:A:224:LYS:O	1:A:245:CYS:SG	2.61	0.59
1:A:1108:GLN:HE22	1:A:1173:LYS:HB2	1.67	0.59
1:A:328:LEU:HD11	1:A:1260:PHE:CG	2.37	0.59
1:A:999:ASN:OD1	1:A:1002:SER:HB2	2.03	0.59
1:A:1091:TYR:CZ	1:A:1399:LEU:HB3	2.37	0.59
3:F:33:ILE:HG21	3:F:1007:HIS:ND1	2.17	0.59
3:F:521:GLY:O	3:F:562:ASP:OD1	2.21	0.59
3:F:889:LEU:HA	3:F:892:ILE:CD1	2.32	0.59
4:C:437:ASN:OD1	4:C:438:GLN:HG2	2.03	0.59
1:A:125:LEU:CD2	1:A:129:ILE:CD1	2.81	0.59
1:A:480:LEU:HD13	1:A:480:LEU:O	2.03	0.59
3:F:796:MET:HB3	3:F:818:LYS:HD2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:169:VAL:HG23	1:A:575:LEU:HB2	1.83	0.59
1:A:327:ASN:ND2	1:A:1380:ILE:HD11	2.17	0.59
1:A:1276:MET:HE3	1:A:1276:MET:CA	2.27	0.59
3:F:161:VAL:CG2	3:F:221:PRO:CG	2.70	0.59
3:F:217:ALA:HB2	3:F:240:VAL:HG21	1.84	0.59
3:F:590:PHE:CD2	3:F:592:THR:CG2	2.85	0.59
3:F:710:LEU:CD2	3:F:714:PHE:CZ	2.82	0.59
1:A:529:CYS:SG	9:A:1913:3PE:O32	2.61	0.59
1:A:798:ALA:CB	1:A:800:TRP:CE2	2.85	0.59
1:A:1426:LEU:HD13	1:A:1429:ILE:HD12	1.85	0.58
3:F:361:MET:HE1	3:F:387:PHE:CD1	2.36	0.58
3:F:887:ARG:NH2	3:F:1032:ARG:O	2.36	0.58
3:F:170:ILE:CD1	3:F:216:LEU:HD23	2.31	0.58
1:A:122:TRP:CE2	1:A:183:GLN:CD	2.81	0.58
1:A:269:ASN:HB2	1:A:273:THR:HG22	1.85	0.58
2:E:107:ALA:CB	2:E:158:MET:HE2	2.33	0.58
3:F:168:VAL:HG13	3:F:216:LEU:CD2	2.24	0.58
1:A:1234:PHE:HZ	2:E:149:LEU:CD1	2.13	0.58
1:A:1406:TRP:NE1	1:A:1410:ASP:OD2	2.36	0.58
3:F:456:LEU:O	3:F:457:GLU:HB2	2.03	0.58
2:E:20:ILE:HG13	2:E:118:LEU:HD21	1.84	0.58
3:F:291:VAL:CG1	3:F:312:ALA:HB2	2.28	0.58
1:A:494:SER:HB3	1:A:497:ASN:HD22	1.69	0.58
1:A:538:ILE:HG23	1:A:937:LEU:HD21	1.86	0.58
1:A:654:ASN:O	1:A:658:ALA:CB	2.52	0.58
3:F:85:ASP:HB3	3:F:502:LEU:HD22	1.84	0.58
1:A:117:TYR:CZ	1:A:123:ASN:OD1	2.56	0.58
1:A:428:LEU:O	1:A:431:SER:HB3	2.04	0.58
1:A:1431:PRO:HB3	1:A:1436:GLY:HA2	1.84	0.58
3:F:851:MET:SD	3:F:1020:MET:SD	3.01	0.58
1:A:1048:TYR:CE1	1:A:1052:ILE:HG13	2.39	0.58
3:F:651:LEU:O	3:F:687:ASN:ND2	2.37	0.58
1:A:423:TRP:NE1	4:C:303:HIS:CG	2.71	0.58
3:F:357:ASN:ND2	3:F:1064:ASP:HB3	2.18	0.58
1:A:1333:SER:HA	1:A:1354:THR:O	2.04	0.58
3:F:523:VAL:HG21	3:F:526:HIS:HB2	1.85	0.58
3:F:366:GLY:HA3	3:F:396:TYR:HB3	1.84	0.57
3:F:702:THR:O	3:F:706:ASN:HB2	2.03	0.57
1:A:418:ASN:HB2	1:A:419:ARG:NH2	2.18	0.57
1:A:529:CYS:CB	9:A:1913:3PE:H332	2.22	0.57
3:F:1011:LEU:HD12	3:F:1011:LEU:N	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1258:TRP:CE2	2:E:208:PRO:HB2	2.39	0.57
3:F:693:LYS:NZ	3:F:696:ASN:OD1	2.37	0.57
2:E:127:MET:SD	2:E:136:LEU:HD21	2.44	0.57
1:A:366:TYR:CE2	4:C:396:VAL:CB	2.68	0.57
1:A:1097:PRO:O	2:E:218:ALA:CB	2.52	0.57
1:A:1315:LEU:C	1:A:1315:LEU:HD23	2.29	0.57
1:A:1334:TYR:O	1:A:1352:CYS:O	2.23	0.57
3:F:256:MET:CB	3:F:359:ILE:HD11	2.33	0.57
5:K:2:NAG:H82	5:K:2:NAG:C3	2.21	0.57
1:A:125:LEU:HD21	1:A:129:ILE:HD11	1.87	0.56
3:F:100:LEU:HD13	3:F:198:ASN:HD21	1.62	0.56
3:F:339:PHE:O	3:F:343:PHE:CD2	2.58	0.56
1:A:451:SER:OG	1:A:464:GLN:NE2	2.38	0.56
1:A:529:CYS:HB3	9:A:1913:3PE:C33	2.23	0.56
1:A:601:PRO:CD	9:A:1909:3PE:H221	2.29	0.56
1:A:798:ALA:CB	1:A:800:TRP:CZ2	2.88	0.56
3:F:205:LEU:HD21	3:F:492:VAL:HG21	1.88	0.56
1:A:902:LEU:CD2	1:A:905:LEU:CB	2.80	0.56
1:A:964:THR:OG1	1:A:965:GLU:N	2.38	0.56
1:A:1261:ILE:HG21	2:E:207:MET:HE2	1.86	0.56
3:F:895:TYR:CE1	3:F:986:PHE:HE1	2.22	0.56
3:F:1001:ASN:HD22	7:F:1121:NAG:C1	2.08	0.56
1:A:996:HIS:CE1	1:A:1002:SER:OG	2.58	0.56
3:F:326:ASN:ND2	7:F:1104:NAG:C2	2.65	0.56
3:F:366:GLY:HA3	3:F:396:TYR:HB2	1.88	0.56
1:A:233:ILE:HD13	3:F:547:ARG:HB3	1.88	0.56
3:F:889:LEU:O	3:F:892:ILE:CG1	2.54	0.56
3:F:1061:VAL:HG23	3:F:1061:VAL:O	2.05	0.56
1:A:902:LEU:HD23	1:A:905:LEU:HB2	1.88	0.56
1:A:904:PRO:HG2	1:A:1279:PHE:CE2	2.31	0.56
4:C:280:VAL:O	4:C:388:TYR:HA	2.05	0.56
1:A:370:ILE:O	1:A:374:GLU:HG3	2.06	0.56
3:F:37:VAL:HG13	3:F:1011:LEU:HG	1.88	0.56
3:F:444:LYS:NZ	3:F:467:PRO:O	2.39	0.56
2:E:113:PHE:CD1	2:E:117:PHE:HE1	2.24	0.56
3:F:121:GLU:HA	3:F:121:GLU:OE1	2.05	0.56
3:F:449:THR:HG22	3:F:450:ASN:H	1.71	0.56
3:F:773:ASN:HD22	3:F:777:VAL:HG21	1.71	0.56
3:F:1010:LYS:HG3	3:F:1017:ILE:CG1	2.34	0.56
1:A:798:ALA:HB1	1:A:800:TRP:CE3	2.41	0.56
1:A:132:LEU:HD21	1:A:167:PHE:CD2	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:243:ARG:HH21	3:F:243:ARG:CG	2.15	0.55
1:A:1108:GLN:NE2	1:A:1171:ALA:O	2.36	0.55
1:A:1288:MET:SD	1:A:1356:PHE:HD2	2.30	0.55
3:F:297:ASN:ND2	3:F:330:LYS:O	2.37	0.55
3:F:365:ASP:OD1	3:F:366:GLY:N	2.38	0.55
1:A:1016:TRP:N	1:A:1017:PRO:CD	2.69	0.55
1:A:1184:VAL:CG2	2:E:138:ARG:HD3	2.34	0.55
2:E:215:CYS:O	2:E:216:MET:HB3	2.05	0.55
5:D:1:NAG:C8	5:D:2:NAG:C7	2.83	0.55
1:A:660:ALA:CB	1:A:1058:ASN:O	2.54	0.55
1:A:1016:TRP:CD1	1:A:1017:PRO:HD3	2.41	0.55
1:A:1094:LYS:CD	2:E:212:TRP:CH2	2.90	0.55
1:A:304:ALA:O	11:A:1912:PC1:H131	2.07	0.55
1:A:125:LEU:CD2	1:A:129:ILE:HD12	2.37	0.55
1:A:892:VAL:HG12	1:A:895:ILE:HG22	1.87	0.55
1:A:1005:MET:O	1:A:1009:THR:HG23	2.07	0.55
3:F:852:ASP:HB2	3:F:867:HIS:CD2	2.40	0.55
1:A:903:ARG:HB3	1:A:906:ARG:NH1	2.22	0.55
3:F:37:VAL:CG2	3:F:1018:PHE:CD2	2.90	0.55
3:F:227:ASP:HB2	3:F:236:ASP:HB3	1.89	0.55
1:A:194:LEU:H	1:A:194:LEU:HD22	1.72	0.55
3:F:523:VAL:HG13	3:F:523:VAL:O	2.05	0.55
3:F:570:ASN:HD21	3:F:592:THR:CG2	2.20	0.55
3:F:629:TYR:CD1	3:F:629:TYR:C	2.84	0.55
1:A:529:CYS:SG	9:A:1913:3PE:C31	2.95	0.54
1:A:958:ASN:HD22	1:A:988:ARG:HA	1.72	0.54
1:A:1501:THR:O	1:A:1505:LEU:N	2.38	0.54
9:A:1904:3PE:N	2:E:213:GLU:O	2.38	0.54
3:F:361:MET:CE	3:F:387:PHE:HD1	2.18	0.54
3:F:370:ARG:HG3	3:F:372:GLN:HG3	1.89	0.54
1:A:228:TYR:HB2	1:A:231:THR:OG1	2.07	0.54
1:A:1296:ASP:OD1	1:A:1302:ARG:NH1	2.41	0.54
1:A:309:TRP:CZ2	2:E:152:PHE:CZ	2.95	0.54
1:A:585:TYR:O	1:A:587:PHE:N	2.39	0.54
3:F:63:LYS:NZ	3:F:717:GLU:OE2	2.36	0.54
1:A:327:ASN:C	1:A:327:ASN:HD22	2.15	0.54
3:F:385:ARG:HH12	3:F:431:VAL:HG12	1.73	0.54
1:A:654:ASN:O	1:A:658:ALA:HB2	2.08	0.54
1:A:796:VAL:O	1:A:801:PHE:CD2	2.60	0.54
1:A:1238:PHE:CE2	2:E:146:PHE:CE1	2.96	0.54
1:A:1288:MET:SD	1:A:1356:PHE:CD2	3.01	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1904:3PE:O22	9:A:1904:3PE:H241	2.06	0.54
3:F:33:ILE:HD11	3:F:1020:MET:HE3	1.88	0.54
3:F:256:MET:HE1	3:F:281:MET:CG	2.38	0.54
1:A:243:SER:O	1:A:252:ARG:NH2	2.41	0.54
1:A:903:ARG:N	1:A:904:PRO:CD	2.70	0.54
1:A:1057:MET:HE2	10:A:1911:C5U:C08	2.37	0.54
3:F:129:ALA:O	3:F:130:LYS:HG2	2.07	0.54
4:B:143:ASP:HB3	4:B:164:LYS:HD3	1.90	0.54
4:B:145:TRP:HB2	4:B:159:ILE:HB	1.90	0.54
1:A:1257:LEU:HB3	9:A:1904:3PE:H231	1.90	0.54
2:E:32:TRP:HB2	2:E:182:PHE:HB2	1.90	0.54
1:A:69:ALA:CB	9:A:1909:3PE:H321	2.38	0.54
1:A:269:ASN:HD22	1:A:273:THR:HG21	1.73	0.54
1:A:1091:TYR:CD1	2:E:212:TRP:HB3	2.30	0.54
1:A:1235:PHE:HE2	2:E:153:VAL:HG21	1.72	0.54
1:A:110:PHE:O	1:A:112:PHE:N	2.41	0.54
1:A:215:LEU:HD23	1:A:219:LYS:HB2	1.90	0.54
2:E:113:PHE:HB3	2:E:117:PHE:HE1	1.68	0.54
3:F:284:THR:HG21	3:F:428:TYR:OH	2.09	0.54
1:A:640:TYR:CD1	1:A:640:TYR:C	2.86	0.53
1:A:1057:MET:CE	10:A:1911:C5U:C08	2.86	0.53
1:A:1331:ALA:O	1:A:1336:LYS:CG	2.50	0.53
2:E:136:LEU:O	2:E:139:PRO:CD	2.56	0.53
3:F:171:PRO:HG2	3:F:174:ILE:HD12	1.88	0.53
3:F:570:ASN:ND2	3:F:592:THR:CG2	2.70	0.53
1:A:302:ASN:OD1	1:A:310:PRO:HG2	2.09	0.53
1:A:337:PHE:HB3	1:A:661:VAL:CG1	2.38	0.53
1:A:614:GLU:HG2	1:A:1017:PRO:CG	2.39	0.53
1:A:1046:ILE:HD12	9:A:1910:3PE:H262	1.89	0.53
3:F:230:ARG:N	3:F:230:ARG:HD3	2.22	0.53
3:F:441:ASP:N	3:F:441:ASP:OD1	2.40	0.53
3:F:896:ALA:CB	3:F:987:ASP:HB3	2.38	0.53
1:A:256:ILE:CG2	1:A:259:SER:CB	2.86	0.53
1:A:1234:PHE:HE2	2:E:149:LEU:HB3	1.73	0.53
3:F:993:PHE:CB	3:F:1008:VAL:CG1	2.77	0.53
3:F:858:ASP:CA	3:F:986:PHE:CZ	2.88	0.53
3:F:992:SER:O	3:F:993:PHE:CD1	2.62	0.53
3:F:1010:LYS:CG	3:F:1017:ILE:CG1	2.85	0.53
3:F:465:THR:HG23	3:F:489:VAL:CG1	2.23	0.53
3:F:528:ASN:O	3:F:528:ASN:ND2	2.27	0.53
1:A:1188:LEU:CB	2:E:142:MET:SD	2.97	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:30:ASP:OD2	2:E:55:ARG:CG	2.54	0.53
3:F:339:PHE:CZ	3:F:362:LEU:CD2	2.92	0.53
3:F:348:ASN:C	3:F:350:ASN:H	2.16	0.53
3:F:178:SER:O	3:F:181:VAL:HG13	2.09	0.53
1:A:215:LEU:HD23	1:A:219:LYS:HD3	1.89	0.52
1:A:908:ILE:HG13	1:A:909:ASN:N	2.24	0.52
1:A:910:ARG:HD2	1:A:910:ARG:N	2.24	0.52
3:F:729:ILE:CG2	5:L:1:NAG:C8	2.87	0.52
3:F:795:ILE:HD11	3:F:874:ILE:HD11	1.91	0.52
5:K:2:NAG:H3	5:K:2:NAG:C8	2.19	0.52
1:A:369:TRP:CZ3	4:C:293:MET:CE	2.90	0.52
1:A:809:ILE:HG21	1:A:907:ALA:HB2	1.91	0.52
1:A:1057:MET:HE1	10:A:1911:C5U:C24	2.39	0.52
3:F:729:ILE:CG2	5:L:1:NAG:H82	2.40	0.52
3:F:826:GLU:O	3:F:830:LYS:HG2	2.09	0.52
3:F:510:PRO:CG	3:F:767:TYR:CE2	2.84	0.52
3:F:777:VAL:O	3:F:797:VAL:HA	2.10	0.52
3:F:1066:ASN:HD22	3:F:1067:VAL:H	1.57	0.52
1:A:556:ILE:HA	1:A:559:ILE:HB	1.92	0.52
1:A:1238:PHE:CE2	2:E:146:PHE:HE1	2.28	0.52
1:A:165:ARG:CG	1:A:168:ARG:NH2	2.73	0.52
1:A:800:TRP:CD1	1:A:801:PHE:N	2.78	0.52
1:A:1188:LEU:HD23	1:A:1188:LEU:C	2.35	0.52
1:A:445:ASN:O	1:A:445:ASN:ND2	2.42	0.52
1:A:816:LEU:CD1	1:A:901:VAL:HA	2.40	0.52
3:F:127:TYR:HB2	3:F:147:ILE:HB	1.92	0.52
3:F:177:GLY:HA2	3:F:182:LEU:HD23	1.91	0.52
1:A:426:HIS:O	1:A:430:LYS:HG2	2.10	0.52
3:F:597:GLN:OE1	3:F:768:LYS:NZ	2.38	0.52
1:A:903:ARG:N	1:A:904:PRO:HD2	2.25	0.52
3:F:1011:LEU:N	3:F:1011:LEU:CD1	2.73	0.52
1:A:117:TYR:CD2	1:A:123:ASN:CG	2.88	0.51
1:A:910:ARG:HD2	1:A:910:ARG:H	1.73	0.51
3:F:359:ILE:HD13	3:F:361:MET:CE	2.37	0.51
1:A:806:LEU:HD21	1:A:910:ARG:HB3	1.92	0.51
1:A:122:TRP:HE1	1:A:183:GLN:CD	2.16	0.51
1:A:305:ILE:HD11	1:A:310:PRO:HG3	1.91	0.51
1:A:418:ASN:CB	1:A:419:ARG:NH2	2.73	0.51
1:A:419:ARG:NE	1:A:419:ARG:CA	2.73	0.51
1:A:1386:TYR:HD2	1:A:1387:LEU:HD12	1.76	0.51
3:F:532:LYS:NZ	3:F:532:LYS:CB	2.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:489:ARG:O	1:A:492:PHE:HB2	2.11	0.51
3:F:367:GLY:O	3:F:400:PRO:CG	2.51	0.51
3:F:34:LYS:CD	3:F:1009:GLU:OE2	2.59	0.51
3:F:346:LEU:O	3:F:353:ARG:NH2	2.43	0.51
1:A:233:ILE:CD1	3:F:547:ARG:HB3	2.40	0.51
1:A:526:VAL:HG22	9:A:1913:3PE:H32	1.93	0.51
1:A:907:ALA:HA	1:A:910:ARG:HD3	1.92	0.51
1:A:1131:ASN:OD1	1:A:1242:ARG:NH2	2.43	0.51
1:A:1311:GLN:NE2	1:A:1311:GLN:HA	2.24	0.51
3:F:386:VAL:O	3:F:410:GLY:HA3	2.10	0.51
3:F:889:LEU:HA	3:F:892:ILE:CG1	2.41	0.51
3:F:1008:VAL:HG23	3:F:1019:ILE:CG2	2.37	0.51
3:F:1070:ASP:OD1	3:F:1072:THR:N	2.40	0.51
1:A:479:MET:SD	1:A:479:MET:C	2.94	0.51
1:A:974:VAL:HG11	1:A:986:ARG:HD2	1.91	0.51
1:A:1099:ARG:HH11	2:E:219:GLU:H	1.58	0.51
3:F:690:ILE:HG23	3:F:695:PRO:HG3	1.93	0.51
3:F:783:PHE:HE1	3:F:873:GLN:CA	2.23	0.51
2:E:32:TRP:NE1	2:E:158:MET:CG	2.59	0.51
4:C:279:LEU:O	4:C:280:VAL:HG13	2.11	0.51
1:A:318:ILE:HG21	1:A:1317:PHE:CE2	2.46	0.50
1:A:614:GLU:CG	1:A:1017:PRO:HG2	2.40	0.50
1:A:1199:LEU:CG	2:E:110:ILE:HD11	2.41	0.50
2:E:136:LEU:O	2:E:139:PRO:HG2	2.11	0.50
4:C:289:VAL:HG13	4:C:400:LEU:HD23	1.91	0.50
1:A:163:ALA:HB2	9:A:1908:3PE:C33	2.33	0.50
1:A:297:VAL:O	1:A:301:VAL:HG23	2.11	0.50
3:F:891:ASN:OD1	7:F:1107:NAG:O5	2.25	0.50
1:A:318:ILE:HG21	1:A:1317:PHE:HE2	1.76	0.50
1:A:1024:ILE:HG23	1:A:1039:VAL:HA	1.92	0.50
1:A:1338:CYS:CA	1:A:1352:CYS:SG	2.99	0.50
3:F:339:PHE:HZ	3:F:362:LEU:CD2	2.24	0.50
3:F:487:LEU:HD22	6:I:1:NAG:H82	1.93	0.50
1:A:980:PRO:HB3	3:F:418:ILE:HG21	1.93	0.50
2:E:115:LEU:HD13	2:E:115:LEU:O	2.12	0.50
3:F:237:LEU:HD12	3:F:237:LEU:H	1.76	0.50
3:F:336:LYS:CE	3:F:369:GLU:OE2	2.52	0.50
3:F:481:LEU:HD23	3:F:482:LYS:N	2.22	0.50
1:A:1288:MET:HE1	1:A:1356:PHE:CE2	2.46	0.50
1:A:418:ASN:HB2	1:A:419:ARG:CZ	2.41	0.50
3:F:33:ILE:HG23	3:F:1018:PHE:HE2	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:726:GLN:HB3	3:F:729:ILE:HD11	1.94	0.50
1:A:581:PHE:CE1	1:A:637:VAL:CG1	2.95	0.50
1:A:806:LEU:HD11	1:A:910:ARG:HB3	1.92	0.50
3:F:712:ALA:HB2	3:F:743:ILE:HD13	1.94	0.50
3:F:792:GLU:H	3:F:792:GLU:CD	2.12	0.50
1:A:355:GLU:O	1:A:359:LEU:N	2.38	0.50
1:A:614:GLU:OE1	1:A:1013:PHE:O	2.29	0.50
3:F:629:TYR:CB	3:F:809:LEU:HD23	2.42	0.50
1:A:328:LEU:CD1	1:A:1260:PHE:CG	2.95	0.50
1:A:892:VAL:HG12	1:A:895:ILE:H	1.77	0.50
3:F:206:LEU:HD23	3:F:458:LEU:HD23	1.93	0.50
3:F:385:ARG:NH1	3:F:431:VAL:HG12	2.27	0.50
3:F:454:ASP:OD1	3:F:455:ALA:N	2.44	0.50
3:F:479:THR:O	3:F:480:ASN:HB3	2.11	0.50
1:A:366:TYR:OH	4:C:391:ILE:HG23	2.12	0.49
1:A:685:LYS:HZ3	4:C:445:HIS:HA	1.77	0.49
1:A:892:VAL:O	1:A:895:ILE:HG22	2.11	0.49
1:A:1011:SER:CB	10:A:1911:C5U:C25	2.89	0.49
1:A:1091:TYR:CE2	1:A:1399:LEU:HG	2.47	0.49
3:F:167:ALA:HB3	3:F:219:TYR:CZ	2.46	0.49
3:F:291:VAL:O	3:F:291:VAL:HG13	2.11	0.49
3:F:476:GLU:OE1	3:F:478:LYS:N	2.45	0.49
3:F:506:PHE:CZ	3:F:667:ARG:CG	2.94	0.49
1:A:232:ASP:OD1	3:F:544:ARG:NH1	2.45	0.49
2:E:118:LEU:C	2:E:118:LEU:CD2	2.85	0.49
3:F:256:MET:HE1	3:F:281:MET:HG2	1.93	0.49
3:F:775:ASN:HB2	3:F:1013:ASN:O	2.12	0.49
3:F:1008:VAL:CB	3:F:1019:ILE:HG22	2.41	0.49
1:A:901:VAL:HG23	1:A:1283:VAL:HG11	1.92	0.49
1:A:1011:SER:OG	10:A:1911:C5U:C25	2.61	0.49
1:A:1299:GLN:NE2	1:A:1327:GLU:HG2	2.27	0.49
3:F:781:PRO:HD3	3:F:795:ILE:HG13	1.93	0.49
4:C:373:HIS:HB3	4:C:376:GLN:HB2	1.93	0.49
1:A:793:HIS:HB2	1:A:853:THR:CG2	2.40	0.49
1:A:928:ILE:O	1:A:930:ASN:N	2.45	0.49
2:E:5:GLU:OE1	2:E:10:ARG:NH2	2.45	0.49
3:F:993:PHE:CB	3:F:1008:VAL:HG13	2.37	0.49
1:A:125:LEU:CD2	1:A:125:LEU:C	2.86	0.49
1:A:1234:PHE:CE2	2:E:149:LEU:CD2	2.90	0.49
2:E:212:TRP:NE1	2:E:213:GLU:HG2	2.28	0.49
3:F:350:ASN:CG	5:D:1:NAG:C1	2.85	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:1:NAG:H83	5:D:2:NAG:O7	2.12	0.49
1:A:656:PHE:CZ	1:A:1054:PHE:HB3	2.47	0.49
3:F:205:LEU:HD21	3:F:492:VAL:HG23	1.95	0.49
3:F:242:ARG:NH1	3:F:426:GLN:HB3	2.28	0.49
1:A:481:LEU:C	1:A:481:LEU:CD2	2.86	0.49
3:F:516:ALA:HB3	3:F:525:LEU:N	2.28	0.49
3:F:663:PHE:CB	3:F:744:THR:HG23	2.39	0.49
1:A:163:ALA:CB	9:A:1908:3PE:H341	2.23	0.49
1:A:796:VAL:O	1:A:801:PHE:HD2	1.94	0.49
3:F:477:ASN:N	3:F:477:ASN:ND2	2.60	0.49
3:F:710:LEU:HD23	3:F:710:LEU:O	2.12	0.49
3:F:1021:VAL:HG22	3:F:1022:GLU:N	2.26	0.49
1:A:169:VAL:HG23	1:A:575:LEU:CB	2.43	0.48
1:A:614:GLU:CG	1:A:1017:PRO:CG	2.91	0.48
2:E:128:ALA:HB3	2:E:137:LEU:HD21	1.68	0.48
3:F:57:LEU:HD23	3:F:801:VAL:HG21	1.94	0.48
3:F:151:PHE:CZ	3:F:224:PRO:HD3	2.48	0.48
3:F:357:ASN:ND2	3:F:1064:ASP:CB	2.76	0.48
3:F:532:LYS:HZ2	3:F:532:LYS:HB2	1.78	0.48
3:F:865:ALA:CB	3:F:870:TYR:HB2	2.43	0.48
1:A:122:TRP:CZ2	1:A:183:GLN:CD	2.91	0.48
3:F:460:LEU:HD13	3:F:529:LEU:CD1	2.42	0.48
4:C:279:LEU:HD23	4:C:387:VAL:CB	2.33	0.48
2:E:115:LEU:HD11	2:E:119:ILE:HD11	1.95	0.48
3:F:210:PHE:HB2	3:F:490:MET:CE	2.42	0.48
3:F:216:LEU:HD13	3:F:216:LEU:O	2.12	0.48
1:A:428:LEU:C	1:A:428:LEU:CD2	2.86	0.48
1:A:450:ALA:HA	1:A:1000:VAL:HG21	1.95	0.48
1:A:957:CYS:SG	1:A:958:ASN:N	2.87	0.48
2:E:19:GLY:HA3	2:E:191:LEU:HD22	1.95	0.48
2:E:115:LEU:C	2:E:115:LEU:CD1	2.86	0.48
2:E:136:LEU:C	2:E:139:PRO:HD2	2.38	0.48
3:F:161:VAL:HG23	3:F:223:SER:OG	2.14	0.48
3:F:281:MET:O	3:F:284:THR:HB	2.12	0.48
1:A:652:LEU:HD12	1:A:656:PHE:CD2	2.48	0.48
1:A:1336:LYS:HD3	1:A:1336:LYS:N	2.29	0.48
1:A:169:VAL:CG2	1:A:575:LEU:HB2	2.43	0.48
1:A:294:TRP:NE1	1:A:1321:THR:HG21	2.27	0.48
1:A:1343:ASP:OD1	1:A:1343:ASP:N	2.46	0.48
3:F:365:ASP:O	3:F:394:HIS:CE1	2.66	0.48
3:F:627:PRO:HG2	3:F:630:SER:HB3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1396:PRO:HA	1:A:1399:LEU:HB2	1.94	0.48
1:A:196:LEU:HD11	1:A:333:LEU:CD1	2.43	0.48
1:A:371:THR:O	1:A:375:VAL:HG21	2.12	0.48
3:F:133:LEU:CD2	3:F:133:LEU:N	2.73	0.48
3:F:262:VAL:HG23	3:F:297:ASN:HB3	1.95	0.48
3:F:510:PRO:CG	3:F:767:TYR:HE2	2.22	0.48
3:F:562:ASP:OD1	3:F:563:PHE:N	2.46	0.48
1:A:432:ARG:O	1:A:433:VAL:C	2.56	0.48
1:A:503:VAL:O	1:A:507:GLY:N	2.47	0.48
3:F:178:SER:CB	3:F:181:VAL:HG12	2.28	0.48
3:F:783:PHE:CE1	3:F:873:GLN:HA	2.44	0.48
3:F:889:LEU:HA	3:F:892:ILE:HG12	1.95	0.48
1:A:111:LEU:HD12	1:A:111:LEU:O	2.14	0.47
1:A:371:THR:HG21	1:A:490:GLN:HG3	1.95	0.47
3:F:34:LYS:HD2	3:F:1009:GLU:OE2	2.13	0.47
1:A:125:LEU:HD23	1:A:125:LEU:C	2.39	0.47
2:E:107:ALA:HB2	2:E:157:VAL:HG12	1.95	0.47
1:A:225:THR:HB	1:A:265:TRP:CD2	2.49	0.47
3:F:284:THR:CG2	3:F:428:TYR:OH	2.62	0.47
3:F:285:LEU:CD1	3:F:291:VAL:HG21	2.45	0.47
3:F:480:ASN:HD22	3:F:480:ASN:C	2.14	0.47
3:F:896:ALA:HB2	3:F:987:ASP:HB3	1.95	0.47
1:A:447:LEU:C	1:A:447:LEU:CD1	2.86	0.47
1:A:1044:PHE:HD1	9:A:1913:3PE:H271	1.79	0.47
1:A:125:LEU:CD2	1:A:129:ILE:HD11	2.42	0.47
1:A:1334:TYR:H	1:A:1354:THR:N	2.12	0.47
3:F:481:LEU:CD2	3:F:482:LYS:H	2.22	0.47
1:A:1270:VAL:HG11	1:A:1375:LEU:HD12	1.97	0.47
2:E:107:ALA:HB2	2:E:157:VAL:CG1	2.44	0.47
3:F:720:GLN:O	3:F:724:SER:OG	2.32	0.47
3:F:781:PRO:CD	3:F:795:ILE:HG13	2.45	0.47
1:A:423:TRP:CD1	4:C:303:HIS:CD2	3.02	0.47
1:A:480:LEU:C	1:A:480:LEU:CD1	2.86	0.47
1:A:555:SER:O	1:A:559:ILE:N	2.36	0.47
1:A:685:LYS:HE2	4:C:445:HIS:CD2	2.50	0.47
1:A:903:ARG:HB3	1:A:906:ARG:HH12	1.78	0.47
1:A:1337:LEU:C	1:A:1337:LEU:CD2	2.85	0.47
3:F:51:ALA:HB3	3:F:817:ILE:HD11	1.95	0.47
3:F:54:VAL:HG22	3:F:815:VAL:HG21	1.97	0.47
3:F:259:LEU:HD11	3:F:342:ALA:HB2	1.95	0.47
3:F:390:SER:HB2	3:F:412:TYR:OH	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:570:ASN:ND2	3:F:592:THR:HG22	2.30	0.47
1:A:441:ILE:HA	1:A:444:LEU:HG	1.95	0.47
3:F:669:TYR:CE1	3:F:708:VAL:HG21	2.49	0.47
3:F:710:LEU:HD21	3:F:714:PHE:CE1	2.46	0.47
3:F:710:LEU:CD2	3:F:714:PHE:CE1	2.98	0.47
3:F:1010:LYS:HG3	3:F:1017:ILE:CD1	2.45	0.47
4:C:276:PRO:HG2	4:C:384:PRO:HB3	1.97	0.47
1:A:901:VAL:O	1:A:904:PRO:HD2	2.15	0.47
3:F:285:LEU:HD11	3:F:291:VAL:HG21	1.97	0.47
3:F:669:TYR:HE1	3:F:708:VAL:HG21	1.78	0.47
4:C:279:LEU:C	4:C:280:VAL:HG13	2.40	0.47
1:A:369:TRP:HB3	4:C:293:MET:HA	1.97	0.47
1:A:445:ASN:ND2	1:A:445:ASN:C	2.73	0.47
1:A:897:ARG:NH2	1:A:1287:GLN:OE1	2.26	0.47
1:A:1337:LEU:HB2	1:A:1350:TYR:CE1	2.49	0.47
9:A:1904:3PE:H371	2:E:200:LEU:HD21	1.96	0.47
3:F:33:ILE:HG23	3:F:1018:PHE:CE2	2.50	0.47
3:F:711:ASP:OD2	3:F:739:THR:CG2	2.63	0.47
4:C:279:LEU:O	4:C:280:VAL:CG1	2.63	0.47
1:A:897:ARG:NH2	1:A:1287:GLN:CD	2.71	0.46
1:A:900:ARG:O	1:A:900:ARG:HG3	2.15	0.46
3:F:370:ARG:HD2	3:F:372:GLN:HE21	1.78	0.46
1:A:432:ARG:O	1:A:435:TYR:N	2.35	0.46
1:A:955:PHE:HB3	1:A:990:TRP:CZ2	2.51	0.46
4:B:129:GLU:N	4:B:132:ASP:OD2	2.47	0.46
4:C:292:MET:SD	4:C:404:ARG:NH2	2.88	0.46
1:A:892:VAL:CG1	1:A:895:ILE:HG22	2.45	0.46
1:A:901:VAL:CG2	1:A:1283:VAL:CG1	2.92	0.46
1:A:1178:PHE:HB3	2:E:138:ARG:HD2	1.98	0.46
1:A:652:LEU:CD1	1:A:656:PHE:CE2	2.99	0.46
3:F:126:TYR:HE1	3:F:144:SER:HB2	1.80	0.46
3:F:629:TYR:C	3:F:629:TYR:HD1	2.23	0.46
1:A:903:ARG:CA	1:A:906:ARG:NH1	2.77	0.46
2:E:133:ARG:CB	2:E:135:TYR:HE2	2.10	0.46
3:F:33:ILE:HG21	3:F:1007:HIS:CE1	2.50	0.46
3:F:466:LEU:HD12	3:F:467:PRO:HD2	1.98	0.46
3:F:856:LEU:HD21	3:F:878:PHE:CG	2.51	0.46
5:G:1:NAG:H62	5:G:2:NAG:HN2	1.80	0.46
1:A:545:LEU:HD12	1:A:934:VAL:HG21	1.98	0.46
3:F:711:ASP:OD2	3:F:739:THR:HG23	2.15	0.46
1:A:95:THR:HA	1:A:98:SER:HB3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:133:LEU:HD23	3:F:133:LEU:N	2.28	0.46
3:F:234:LYS:HB2	3:F:551:GLN:HG2	1.96	0.46
3:F:283:GLU:OE1	3:F:283:GLU:HA	2.16	0.46
3:F:516:ALA:CB	3:F:524:LEU:HB3	2.46	0.46
3:F:1012:MET:O	3:F:1013:ASN:CB	2.63	0.46
3:F:1074:CYS:C	12:F:1101:ETA:C	2.89	0.46
4:C:288:GLU:HB3	4:C:404:ARG:HH21	1.81	0.46
1:A:229:ILE:HA	1:A:260:GLU:HG2	1.96	0.46
1:A:1338:CYS:CB	1:A:1352:CYS:SG	3.04	0.46
2:E:135:TYR:CG	2:E:136:LEU:N	2.83	0.46
3:F:41:GLN:HB3	3:F:1011:LEU:HB3	1.97	0.46
3:F:114:ARG:NH2	6:H:1:NAG:C6	2.67	0.46
3:F:364:THR:O	3:F:390:SER:HA	2.15	0.46
3:F:628:THR:O	3:F:629:TYR:CD2	2.69	0.46
3:F:1070:ASP:OD2	3:F:1072:THR:HG22	2.14	0.46
3:F:539:PRO:HD3	3:F:977:CYS:HB3	1.98	0.46
1:A:122:TRP:CZ2	1:A:183:GLN:CG	2.95	0.46
1:A:1265:GLN:O	1:A:1265:GLN:HG2	2.16	0.46
3:F:285:LEU:HD13	3:F:291:VAL:HB	1.98	0.46
3:F:320:LEU:O	3:F:324:VAL:HG23	2.16	0.46
1:A:245:CYS:SG	1:A:246:ALA:N	2.89	0.45
1:A:652:LEU:HD12	1:A:656:PHE:CE2	2.51	0.45
1:A:1196:ASP:HB2	1:A:1235:PHE:HB3	1.98	0.45
1:A:1257:LEU:CB	9:A:1904:3PE:H231	2.46	0.45
1:A:1416:ARG:H	1:A:1416:ARG:HD3	1.81	0.45
3:F:28:PRO:HD3	3:F:851:MET:CE	2.28	0.45
3:F:895:TYR:CE1	3:F:986:PHE:CE1	3.03	0.45
1:A:115:ASP:O	1:A:118:LEU:HB3	2.16	0.45
2:E:24:MET:SD	2:E:115:LEU:HD23	2.57	0.45
3:F:292:ASN:OD1	3:F:293:VAL:N	2.47	0.45
1:A:309:TRP:CB	11:A:1912:PC1:H232	2.45	0.45
3:F:50:THR:O	3:F:722:TYR:OH	2.29	0.45
3:F:368:GLU:O	3:F:368:GLU:HG2	2.16	0.45
1:A:581:PHE:CZ	1:A:637:VAL:CG1	3.00	0.45
1:A:638:CYS:O	1:A:642:ILE:HG13	2.17	0.45
1:A:652:LEU:CD1	1:A:656:PHE:HE2	2.29	0.45
1:A:654:ASN:O	1:A:658:ALA:HB3	2.15	0.45
9:A:1906:3PE:H282	10:A:1911:C5U:C04	2.46	0.45
3:F:319:VAL:HG21	3:F:1046:PRO:HG3	1.98	0.45
3:F:362:LEU:HD12	3:F:362:LEU:O	2.17	0.45
3:F:628:THR:O	3:F:629:TYR:CG	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:629:TYR:HB2	3:F:809:LEU:HD23	1.98	0.45
1:A:1337:LEU:HD21	1:A:1338:CYS:O	2.15	0.45
1:A:1403:LYS:HA	1:A:1406:TRP:HB3	1.98	0.45
2:E:35:LEU:HG	2:E:37:PRO:HD3	1.98	0.45
3:F:304:SER:HB2	3:F:305:CYS:H	1.54	0.45
3:F:381:ASP:OD1	3:F:381:ASP:N	2.37	0.45
3:F:516:ALA:HB3	3:F:525:LEU:H	1.81	0.45
3:F:705:ILE:CD1	3:F:706:ASN:N	2.78	0.45
3:F:773:ASN:HD22	3:F:777:VAL:CG2	2.30	0.45
4:C:275:ARG:NH2	4:C:384:PRO:O	2.50	0.45
1:A:269:ASN:O	1:A:272:ILE:HG12	2.17	0.45
1:A:917:VAL:HG21	1:A:1269:TYR:HB3	1.99	0.45
3:F:75:ALA:O	3:F:79:VAL:HG23	2.17	0.45
3:F:161:VAL:HG22	3:F:162:SER:N	2.30	0.45
3:F:523:VAL:CG2	3:F:526:HIS:HB2	2.46	0.45
1:A:900:ARG:O	1:A:903:ARG:CD	2.63	0.45
1:A:1181:PRO:HG2	2:E:215:CYS:SG	2.57	0.45
2:E:35:LEU:HB3	2:E:49:ALA:H	1.81	0.45
3:F:79:VAL:HG12	3:F:612:THR:HG22	1.99	0.45
3:F:336:LYS:HG3	3:F:369:GLU:OE2	2.16	0.45
1:A:89:LEU:HD12	1:A:89:LEU:HA	1.63	0.45
1:A:122:TRP:CE2	1:A:183:GLN:NE2	2.84	0.45
1:A:237:VAL:HG12	1:A:238:GLU:H	1.82	0.45
1:A:1016:TRP:CG	1:A:1017:PRO:HD3	2.52	0.45
1:A:1331:ALA:O	1:A:1336:LYS:HE2	2.16	0.45
4:C:436:GLU:HG2	4:C:441:ASP:HB3	1.98	0.45
3:F:480:ASN:ND2	3:F:480:ASN:C	2.73	0.45
3:F:821:VAL:O	3:F:825:ILE:HG13	2.17	0.45
3:F:1006:PHE:O	3:F:1006:PHE:CD1	2.70	0.45
1:A:661:VAL:HG13	1:A:661:VAL:O	2.16	0.45
1:A:1034:VAL:HB	1:A:1037:ASN:HB2	1.98	0.45
3:F:182:LEU:HD22	3:F:182:LEU:HA	1.80	0.45
3:F:515:PHE:CZ	3:F:623:ALA:HB3	2.52	0.45
1:A:910:ARG:H	1:A:910:ARG:CD	2.31	0.44
1:A:1469:ALA:HA	1:A:1472:ARG:HB3	1.99	0.44
9:A:1904:3PE:C38	2:E:200:LEU:HD21	2.47	0.44
2:E:206:ARG:HH21	2:E:209:GLN:HG3	1.82	0.44
3:F:235:ILE:HD12	3:F:235:ILE:C	2.41	0.44
3:F:511:ASN:HB2	3:F:627:PRO:HG3	1.99	0.44
3:F:525:LEU:C	3:F:525:LEU:CD2	2.90	0.44
3:F:41:GLN:OE1	3:F:1012:MET:O	2.34	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:729:ILE:HG23	5:L:1:NAG:C8	2.47	0.44
3:F:771:LEU:O	3:F:811:LYS:NZ	2.49	0.44
1:A:271:GLY:O	1:A:274:HIS:CE1	2.71	0.44
1:A:1318:ARG:NH1	1:A:1328:ILE:HD11	2.25	0.44
3:F:27:PHE:CE1	3:F:1020:MET:HG2	2.52	0.44
3:F:576:ILE:HD11	3:F:588:LYS:HG2	1.99	0.44
1:A:70:VAL:HG12	9:A:1909:3PE:H2	1.99	0.44
1:A:1270:VAL:HG12	1:A:1375:LEU:CD1	2.32	0.44
2:E:120:MET:HE3	2:E:120:MET:HB2	1.79	0.44
3:F:669:TYR:CD1	3:F:704:LEU:HD21	2.37	0.44
3:F:669:TYR:HD1	3:F:704:LEU:CD2	2.24	0.44
3:F:710:LEU:CD2	3:F:710:LEU:C	2.90	0.44
3:F:739:THR:HG22	3:F:743:ILE:O	2.17	0.44
4:B:99:LYS:NZ	4:B:138:GLU:OE1	2.40	0.44
1:A:50:TRP:CG	1:A:51:LYS:H	2.35	0.44
1:A:256:ILE:HG22	1:A:259:SER:CB	2.46	0.44
1:A:494:SER:O	1:A:498:ARG:HG3	2.18	0.44
1:A:1311:GLN:HE21	1:A:1311:GLN:CA	2.29	0.44
9:A:1906:3PE:H262	9:A:1906:3PE:H292	1.81	0.44
3:F:465:THR:HG22	3:F:466:LEU:N	2.32	0.44
3:F:1010:LYS:CG	3:F:1017:ILE:CD1	2.95	0.44
1:A:999:ASN:OD1	1:A:999:ASN:N	2.47	0.44
1:A:1188:LEU:HD23	2:E:146:PHE:CE2	2.53	0.44
2:E:136:LEU:O	2:E:139:PRO:CG	2.66	0.44
1:A:368:SER:HA	1:A:371:THR:HG22	2.00	0.44
2:E:118:LEU:HD23	2:E:118:LEU:O	2.17	0.44
3:F:94:SER:O	3:F:98:VAL:HG23	2.17	0.44
1:A:229:ILE:CD1	1:A:258:GLY:C	2.91	0.44
1:A:230:GLY:C	1:A:231:THR:HG23	2.43	0.44
1:A:272:ILE:HD13	1:A:630:PRO:HG3	2.00	0.44
1:A:660:ALA:HB1	1:A:1058:ASN:O	2.18	0.44
3:F:826:GLU:OE1	3:F:826:GLU:HA	2.17	0.44
1:A:275:PHE:N	1:A:275:PHE:CD1	2.86	0.44
1:A:365:GLY:HA3	4:C:437:ASN:O	2.15	0.43
1:A:1091:TYR:CE2	1:A:1399:LEU:CB	2.99	0.43
3:F:133:LEU:H	3:F:133:LEU:HD22	1.80	0.43
3:F:281:MET:HE3	3:F:363:PHE:HZ	1.83	0.43
3:F:400:PRO:O	3:F:404:MET:HG3	2.18	0.43
3:F:702:THR:HG23	3:F:703:ASP:N	2.32	0.43
1:A:215:LEU:O	1:A:219:LYS:HB2	2.18	0.43
1:A:898:VAL:C	1:A:900:ARG:H	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:113:PHE:C	2:E:117:PHE:HD1	2.20	0.43
2:E:212:TRP:NE1	2:E:213:GLU:CG	2.81	0.43
3:F:238:TYR:CD1	3:F:238:TYR:C	2.96	0.43
3:F:704:LEU:HD23	3:F:704:LEU:O	2.18	0.43
3:F:855:ILE:C	3:F:856:LEU:HD12	2.42	0.43
3:F:208:GLN:O	3:F:219:TYR:HA	2.19	0.43
3:F:214:THR:HG22	3:F:214:THR:O	2.16	0.43
3:F:253:PRO:O	3:F:356:CYS:HB3	2.19	0.43
3:F:281:MET:CE	3:F:363:PHE:HZ	2.31	0.43
3:F:781:PRO:O	3:F:875:GLY:CA	2.60	0.43
3:F:803:ILE:HD12	3:F:805:ILE:HD11	1.99	0.43
1:A:196:LEU:HD11	1:A:333:LEU:HD12	2.00	0.43
1:A:479:MET:SD	1:A:483:MET:SD	3.17	0.43
2:E:127:MET:HG3	2:E:136:LEU:HD23	1.94	0.43
3:F:100:LEU:HD12	3:F:194:VAL:HG12	2.00	0.43
3:F:198:ASN:HB2	3:F:208:GLN:OE1	2.18	0.43
3:F:390:SER:CB	3:F:412:TYR:OH	2.66	0.43
3:F:481:LEU:HD23	3:F:481:LEU:N	2.33	0.43
3:F:516:ALA:HB3	3:F:524:LEU:HB3	2.01	0.43
1:A:122:TRP:NE1	1:A:183:GLN:HE22	2.16	0.43
1:A:494:SER:HB3	1:A:497:ASN:HB2	2.00	0.43
1:A:807:LEU:HA	1:A:810:LEU:HB2	2.01	0.43
1:A:1358:TYR:O	1:A:1362:ILE:HG13	2.18	0.43
3:F:169:HIS:CE1	3:F:238:TYR:HD1	2.37	0.43
3:F:460:LEU:C	3:F:461:VAL:HG13	2.44	0.43
3:F:1006:PHE:CD1	3:F:1006:PHE:C	2.96	0.43
1:A:122:TRP:NE1	1:A:183:GLN:OE1	2.40	0.43
1:A:229:ILE:HD11	1:A:258:GLY:C	2.43	0.43
1:A:798:ALA:O	1:A:801:PHE:HB3	2.18	0.43
2:E:163:LYS:HA	2:E:163:LYS:HD2	1.31	0.43
3:F:191:LEU:CD2	3:F:490:MET:HE1	2.49	0.43
3:F:661:TYR:HD2	3:F:752:GLY:HA3	1.83	0.43
1:A:494:SER:CB	1:A:497:ASN:HD22	2.28	0.43
1:A:793:HIS:HA	1:A:796:VAL:HG12	2.00	0.43
1:A:1094:LYS:HD2	2:E:212:TRP:CH2	2.54	0.43
2:E:113:PHE:HD1	2:E:117:PHE:HE1	1.67	0.43
3:F:243:ARG:HD2	3:F:243:ARG:HA	1.73	0.43
3:F:590:PHE:CD1	3:F:590:PHE:N	2.87	0.43
3:F:41:GLN:CB	3:F:1011:LEU:HB3	2.49	0.43
3:F:242:ARG:NH2	3:F:280:GLU:O	2.52	0.43
3:F:988:ASN:OD1	7:F:1122:NAG:O5	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:449:ILE:HG21	1:A:535:LEU:CD2	2.48	0.43
1:A:816:LEU:HD11	1:A:901:VAL:HA	2.01	0.43
1:A:903:ARG:CB	1:A:904:PRO:HD3	2.43	0.43
3:F:33:ILE:CG2	3:F:1007:HIS:CE1	3.02	0.43
3:F:205:LEU:HD23	3:F:206:LEU:N	2.34	0.43
3:F:513:TYR:CZ	3:F:625:VAL:HG21	2.54	0.43
3:F:517:ILE:HD12	3:F:580:MET:HE3	2.00	0.43
4:C:426:PRO:HA	4:C:427:PRO:HD3	1.90	0.43
5:D:1:NAG:H82	5:D:1:NAG:H3	2.00	0.43
1:A:252:ARG:HD2	1:A:252:ARG:C	2.44	0.43
1:A:1007:LEU:HA	1:A:1010:VAL:HG12	1.97	0.43
1:A:1267:LEU:HD13	1:A:1267:LEU:HA	1.86	0.43
1:A:1326:GLN:HG2	1:A:1327:GLU:N	2.32	0.43
2:E:110:ILE:HD13	2:E:110:ILE:HA	1.78	0.43
3:F:41:GLN:HB3	3:F:1011:LEU:CG	2.49	0.43
1:A:304:ALA:O	11:A:1912:PC1:C13	2.67	0.42
1:A:445:ASN:C	1:A:445:ASN:HD22	2.26	0.42
1:A:1188:LEU:C	1:A:1188:LEU:HD22	2.43	0.42
3:F:346:LEU:HD21	3:F:360:ILE:CG2	2.49	0.42
2:E:32:TRP:HH2	2:E:53:LEU:HG	1.83	0.42
1:A:209:ILE:O	1:A:213:ILE:HG13	2.18	0.42
1:A:1039:VAL:O	1:A:1039:VAL:HG12	2.18	0.42
1:A:1125:PHE:CE2	1:A:1249:ARG:HB2	2.54	0.42
2:E:32:TRP:CH2	2:E:53:LEU:HG	2.54	0.42
2:E:164:ARG:NH1	2:E:165:MET:HE3	2.34	0.42
3:F:319:VAL:CG2	3:F:1046:PRO:HG3	2.49	0.42
1:A:117:TYR:CD1	1:A:123:ASN:OD1	2.72	0.42
1:A:571:ILE:O	1:A:575:LEU:HG	2.19	0.42
1:A:639:ILE:C	1:A:639:ILE:CD1	2.86	0.42
1:A:1007:LEU:CA	1:A:1010:VAL:CG1	2.95	0.42
3:F:981:GLN:HG2	3:F:1038:GLU:HG2	2.01	0.42
3:F:1010:LYS:HG2	3:F:1017:ILE:CG1	2.47	0.42
5:K:1:NAG:H82	5:K:2:NAG:C2	2.47	0.42
1:A:94:LEU:O	1:A:94:LEU:HD22	2.19	0.42
1:A:208:ILE:HG21	9:A:1905:3PE:H282	2.02	0.42
1:A:798:ALA:HB2	1:A:800:TRP:CZ2	2.53	0.42
2:E:130:ARG:O	2:E:133:ARG:HD2	2.20	0.42
3:F:705:ILE:C	3:F:705:ILE:CD1	2.85	0.42
3:F:848:SER:OG	3:F:850:VAL:CG1	2.68	0.42
3:F:1008:VAL:HB	3:F:1019:ILE:HG22	2.02	0.42
1:A:444:LEU:CD1	1:A:471:LEU:HD21	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:509:CYS:HB2	3:F:510:PRO:CD	2.49	0.42
3:F:704:LEU:O	3:F:708:VAL:HG23	2.20	0.42
1:A:76:GLU:HB2	3:F:264:GLY:HA3	2.01	0.42
1:A:904:PRO:CG	1:A:1279:PHE:HE2	2.24	0.42
1:A:1043:ILE:O	1:A:1047:ILE:HG13	2.19	0.42
3:F:44:LEU:HD11	3:F:824:TRP:HZ2	1.82	0.42
3:F:206:LEU:CD2	3:F:495:SER:HB2	2.49	0.42
3:F:346:LEU:HD12	3:F:346:LEU:HA	1.86	0.42
3:F:570:ASN:ND2	3:F:592:THR:HG21	2.33	0.42
3:F:1005:ILE:HG23	3:F:1005:ILE:O	2.19	0.42
1:A:129:ILE:CG2	1:A:171:ARG:HD3	2.49	0.42
1:A:440:LEU:O	1:A:444:LEU:HG	2.20	0.42
1:A:902:LEU:HD23	1:A:902:LEU:O	2.20	0.42
1:A:996:HIS:ND1	1:A:998:ASP:HB2	2.35	0.42
1:A:1234:PHE:HE2	2:E:149:LEU:CD1	2.27	0.42
3:F:729:ILE:CG2	5:L:1:NAG:H81	2.50	0.42
3:F:1011:LEU:CD1	3:F:1011:LEU:H	2.33	0.42
1:A:199:ILE:HD13	1:A:329:VAL:HA	2.01	0.42
1:A:328:LEU:HD12	1:A:1260:PHE:CD2	2.53	0.42
1:A:426:HIS:HD2	1:A:486:LEU:CB	2.21	0.42
2:E:60:ARG:NE	2:E:77:GLU:OE1	2.49	0.42
1:A:171:ARG:O	1:A:174:ARG:HB3	2.19	0.41
1:A:1039:VAL:HB	9:A:1910:3PE:O12	2.20	0.41
2:E:141:SER:OG	2:E:196:GLY:O	2.37	0.41
2:E:192:LEU:HD23	2:E:192:LEU:HA	1.86	0.41
3:F:178:SER:O	3:F:181:VAL:CG1	2.68	0.41
3:F:185:LEU:O	3:F:189:SER:OG	2.36	0.41
3:F:212:SER:CB	3:F:216:LEU:O	2.67	0.41
3:F:383:LYS:HA	3:F:383:LYS:HD3	1.87	0.41
3:F:780:ALA:HA	3:F:863:LEU:HD21	2.01	0.41
3:F:780:ALA:HB2	3:F:863:LEU:HD21	2.02	0.41
4:B:136:ILE:HA	4:B:147:GLY:HA3	2.01	0.41
1:A:118:LEU:C	1:A:118:LEU:CD1	2.85	0.41
1:A:901:VAL:HB	1:A:1283:VAL:HG11	2.01	0.41
1:A:962:LYS:HG3	1:A:967:GLU:HB3	2.02	0.41
3:F:481:LEU:CD2	3:F:481:LEU:H	2.33	0.41
1:A:161:VAL:HA	1:A:164:LEU:HD13	2.02	0.41
1:A:215:LEU:CD2	1:A:215:LEU:C	2.94	0.41
1:A:336:GLU:CA	1:A:339:LYS:CE	2.91	0.41
1:A:793:HIS:C	1:A:796:VAL:HG12	2.45	0.41
1:A:849:LEU:O	1:A:852:THR:OG1	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:58:VAL:HG13	3:F:803:ILE:HG22	2.01	0.41
3:F:369:GLU:HG2	3:F:371:ALA:H	1.85	0.41
3:F:1066:ASN:HD22	3:F:1067:VAL:N	2.17	0.41
4:C:427:PRO:HA	4:C:430:PHE:HD2	1.86	0.41
1:A:38:ASN:HD22	1:A:38:ASN:HA	1.50	0.41
3:F:61:TYR:O	3:F:68:TYR:OH	2.24	0.41
3:F:705:ILE:HD12	3:F:706:ASN:CA	2.50	0.41
4:C:450:LEU:HA	4:C:453:TYR:HB3	2.02	0.41
3:F:114:ARG:HH21	6:H:1:NAG:C6	2.30	0.41
3:F:471:ILE:O	3:F:471:ILE:HG13	2.18	0.41
3:F:478:LYS:HD3	3:F:479:THR:HG23	2.01	0.41
3:F:889:LEU:HD12	3:F:889:LEU:HA	1.88	0.41
1:A:269:ASN:HB2	1:A:273:THR:CG2	2.48	0.41
1:A:837:ILE:HD12	1:A:837:ILE:HA	1.96	0.41
1:A:1315:LEU:HD23	1:A:1315:LEU:O	2.21	0.41
3:F:351:VAL:HG23	3:F:353:ARG:HG3	2.03	0.41
3:F:510:PRO:HG3	3:F:762:TYR:CD1	2.55	0.41
3:F:532:LYS:H	3:F:532:LYS:HG3	1.56	0.41
4:B:108:ASN:ND2	4:C:266:PRO:O	2.53	0.41
1:A:1254:ARG:HG3	9:A:1904:3PE:H221	2.02	0.41
1:A:1258:TRP:HH2	2:E:210:ASN:O	2.04	0.41
1:A:1337:LEU:HD22	1:A:1338:CYS:C	2.45	0.41
2:E:212:TRP:CD1	2:E:213:GLU:N	2.89	0.41
4:C:398:GLN:HA	4:C:401:ILE:HD12	2.02	0.41
4:C:437:ASN:OD1	4:C:438:GLN:N	2.53	0.41
1:A:358:GLN:HA	1:A:361:GLU:HG2	2.02	0.41
1:A:361:GLU:O	4:C:437:ASN:HB2	2.20	0.41
1:A:806:LEU:HD11	1:A:910:ARG:CG	2.51	0.41
1:A:897:ARG:NH2	1:A:1287:GLN:NE2	2.68	0.41
1:A:169:VAL:O	1:A:169:VAL:HG22	2.21	0.41
1:A:449:ILE:HG13	1:A:535:LEU:HD23	2.03	0.41
1:A:913:GLY:HA3	1:A:1269:TYR:CE2	2.56	0.41
1:A:1070:GLU:O	1:A:1074:THR:N	2.45	0.41
1:A:1124:MET:HE2	1:A:1164:GLU:HB3	2.03	0.41
1:A:1311:GLN:NE2	1:A:1311:GLN:CA	2.83	0.41
3:F:290:PHE:HD1	3:F:354:ALA:HB2	1.86	0.41
3:F:851:MET:HA	3:F:1023:SER:N	2.36	0.41
4:C:282:PRO:CG	4:C:290:THR:CG2	2.82	0.41
1:A:163:ALA:CB	9:A:1908:3PE:C34	2.84	0.41
1:A:1057:MET:CE	10:A:1911:C5U:C24	2.98	0.41
2:E:24:MET:SD	2:E:115:LEU:CD2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:232:PRO:HB2	3:F:234:LYS:HD3	2.01	0.41
1:A:269:ASN:HD22	1:A:273:THR:CG2	2.34	0.40
1:A:445:ASN:ND2	1:A:449:ILE:HG12	2.36	0.40
4:B:137:LYS:N	4:B:146:ILE:O	2.54	0.40
1:A:1054:PHE:O	1:A:1058:ASN:HB2	2.21	0.40
1:A:1318:ARG:HD3	1:A:1328:ILE:HD11	2.03	0.40
3:F:151:PHE:CE2	3:F:224:PRO:HD3	2.56	0.40
3:F:346:LEU:CD2	3:F:360:ILE:CG2	2.98	0.40
1:A:122:TRP:CE3	1:A:122:TRP:HA	2.56	0.40
1:A:194:LEU:N	1:A:194:LEU:HD13	2.36	0.40
1:A:914:LEU:HD21	1:A:1272:LEU:CD2	2.47	0.40
1:A:1430:GLN:HA	1:A:1431:PRO:HD3	1.93	0.40
2:E:20:ILE:HG13	2:E:118:LEU:CD2	2.52	0.40
3:F:43:ASP:OD2	7:F:1125:NAG:C1	2.70	0.40
3:F:230:ARG:N	3:F:230:ARG:CD	2.83	0.40
3:F:262:VAL:HG22	3:F:296:PHE:O	2.21	0.40
3:F:274:ILE:CG1	3:F:391:VAL:HG21	2.52	0.40
1:A:553:LEU:HD12	1:A:553:LEU:O	2.22	0.40
2:E:212:TRP:CD1	2:E:212:TRP:C	2.99	0.40
3:F:303:VAL:HG13	3:F:323:ALA:CB	2.51	0.40
3:F:398:ARG:O	3:F:401:ILE:HG22	2.21	0.40
3:F:477:ASN:N	3:F:477:ASN:HD22	2.18	0.40
1:A:545:LEU:HD22	1:A:548:LEU:HD23	2.04	0.40
3:F:256:MET:CE	3:F:258:ILE:HG13	2.52	0.40
3:F:357:ASN:HD21	3:F:1064:ASP:HB3	1.86	0.40
4:C:393:SER:CB	4:C:396:VAL:CG2	2.96	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

There are no protein backbone outliers to report in this entry.

5.3.2 Protein sidechains (i)

There are no protein residues with a non-rotameric sidechain to report in this entry.

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

16 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	$\#\|Z\| > 2$
5	NAG	D	1	5	14,14,15	0.28	0	17,19,21	0.99	1 (5%)
5	NAG	D	2	5	14,14,15	0.31	0	17,19,21	0.50	0
5	NAG	G	1	3,5	14,14,15	0.30	0	17,19,21	0.56	0
5	NAG	G	2	5	14,14,15	0.28	0	17,19,21	0.55	0
6	NAG	H	1	3,6	14,14,15	0.69	1 (7%)	17,19,21	0.70	0
6	NAG	H	2	6	14,14,15	0.37	0	17,19,21	0.80	0
6	BMA	H	3	6	11,11,12	0.73	0	15,15,17	0.94	1 (6%)
6	NAG	I	1	3,6	14,14,15	0.80	1 (7%)	17,19,21	0.84	0
6	NAG	I	2	6	14,14,15	1.54	1 (7%)	17,19,21	0.93	1 (5%)
6	BMA	I	3	6	11,11,12	0.90	0	15,15,17	0.92	0
5	NAG	J	1	3,5	14,14,15	0.52	0	17,19,21	0.64	0
5	NAG	J	2	5	14,14,15	0.31	0	17,19,21	0.40	0
5	NAG	K	1	5	14,14,15	0.28	0	17,19,21	0.62	0
5	NAG	K	2	5	14,14,15	0.29	0	17,19,21	0.51	0
5	NAG	L	1	5	14,14,15	0.31	0	17,19,21	0.65	0
5	NAG	L	2	5	14,14,15	0.27	0	17,19,21	1.32	1 (5%)

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

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

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	I	2	NAG	O5-C1	-5.58	1.34	1.43
6	I	1	NAG	O5-C1	-2.50	1.39	1.43
6	H	1	NAG	O5-C1	-2.23	1.40	1.43

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	L	2	NAG	C1-O5-C5	4.37	118.04	112.19
5	D	1	NAG	C3-C4-C5	2.50	114.76	110.23
6	H	3	BMA	C1-O5-C5	2.48	115.51	112.19
6	I	2	NAG	C4-C3-C2	2.29	114.38	111.02

There are no chirality outliers.

All (38) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	D	1	NAG	C1-C2-N2-C7
5	D	1	NAG	C8-C7-N2-C2
5	D	1	NAG	O7-C7-N2-C2

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Mol	Chain	Res	Type	Atoms
5	K	1	NAG	C8-C7-N2-C2
5	K	1	NAG	O7-C7-N2-C2
5	L	1	NAG	C1-C2-N2-C7
5	L	2	NAG	C1-C2-N2-C7
5	L	2	NAG	C8-C7-N2-C2
5	L	2	NAG	O7-C7-N2-C2
5	K	2	NAG	C8-C7-N2-C2
5	L	1	NAG	C8-C7-N2-C2
5	L	1	NAG	O7-C7-N2-C2
5	J	1	NAG	O5-C5-C6-O6
5	L	1	NAG	C4-C5-C6-O6
5	K	2	NAG	O7-C7-N2-C2
5	K	1	NAG	O5-C5-C6-O6
5	K	1	NAG	C4-C5-C6-O6
5	D	1	NAG	O5-C5-C6-O6
5	D	1	NAG	C4-C5-C6-O6
5	J	1	NAG	C4-C5-C6-O6
6	H	2	NAG	O5-C5-C6-O6
5	L	1	NAG	O5-C5-C6-O6
6	H	2	NAG	C4-C5-C6-O6
5	K	2	NAG	C4-C5-C6-O6
6	I	2	NAG	O5-C5-C6-O6
5	D	2	NAG	C8-C7-N2-C2
5	K	2	NAG	O5-C5-C6-O6
6	I	3	BMA	C4-C5-C6-O6
6	I	3	BMA	O5-C5-C6-O6
6	I	1	NAG	O5-C5-C6-O6
5	D	2	NAG	O7-C7-N2-C2
5	L	2	NAG	O5-C5-C6-O6
6	I	2	NAG	C4-C5-C6-O6
5	G	2	NAG	O5-C5-C6-O6
6	I	1	NAG	C4-C5-C6-O6
5	K	2	NAG	C3-C2-N2-C7
5	K	2	NAG	C1-C2-N2-C7
5	G	2	NAG	C3-C2-N2-C7

There are no ring outliers.

10 monomers are involved in 33 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	L	1	NAG	7	0
5	G	2	NAG	1	0

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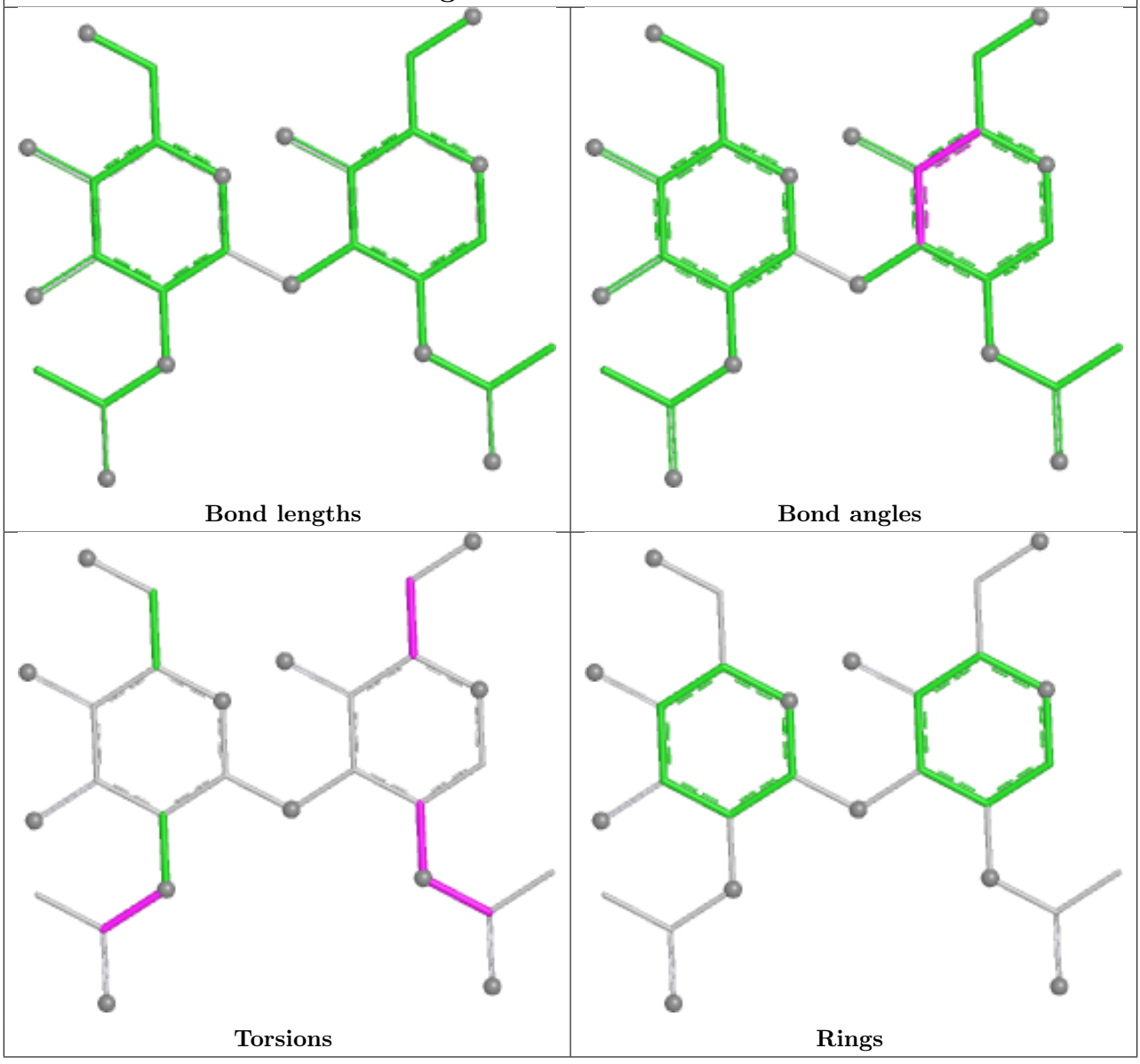
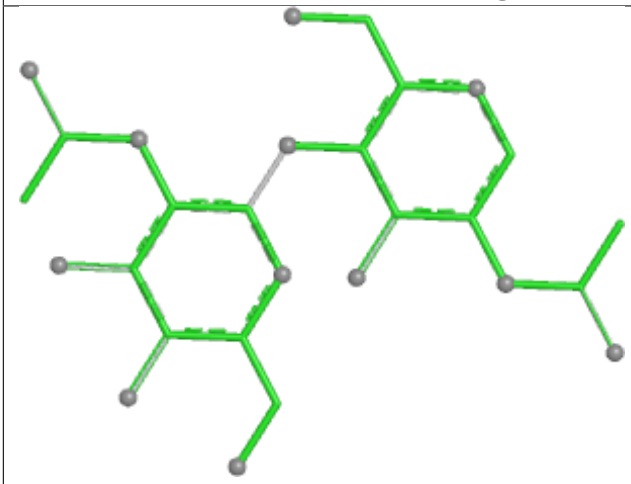
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	K	2	NAG	5	0
5	K	1	NAG	4	0
5	D	2	NAG	4	0
5	D	1	NAG	8	0
5	L	2	NAG	4	0
5	G	1	NAG	1	0
6	I	1	NAG	1	0
6	H	1	NAG	5	0

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

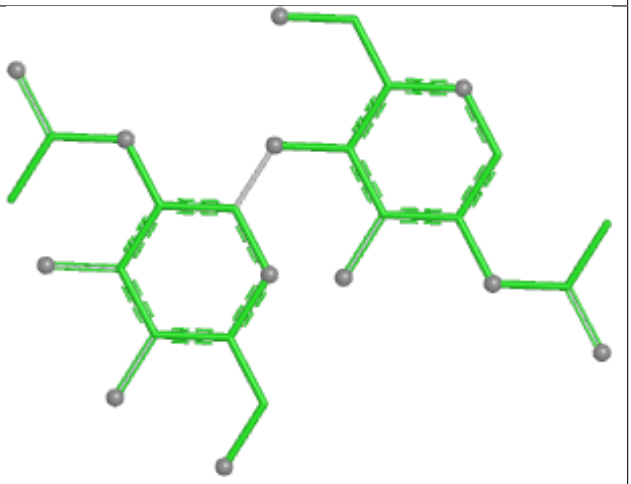
Oligosaccharide Chain D



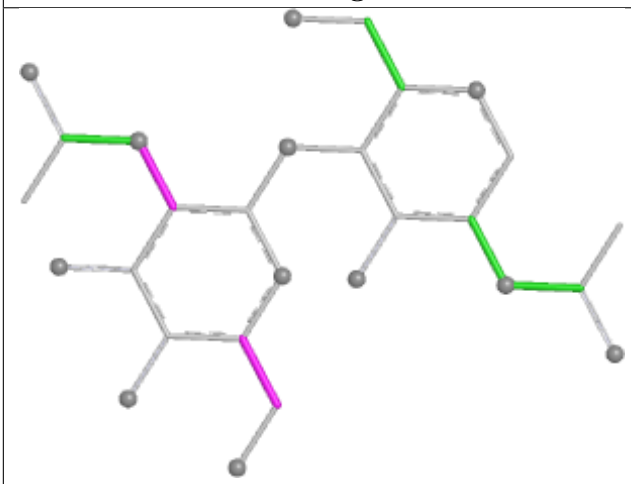
Oligosaccharide Chain G



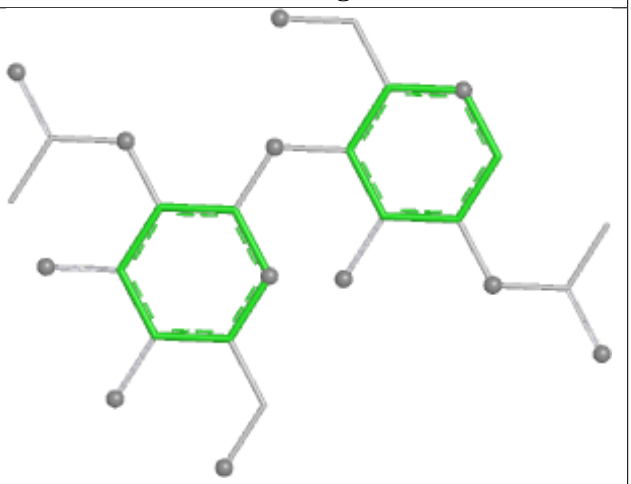
Bond lengths



Bond angles

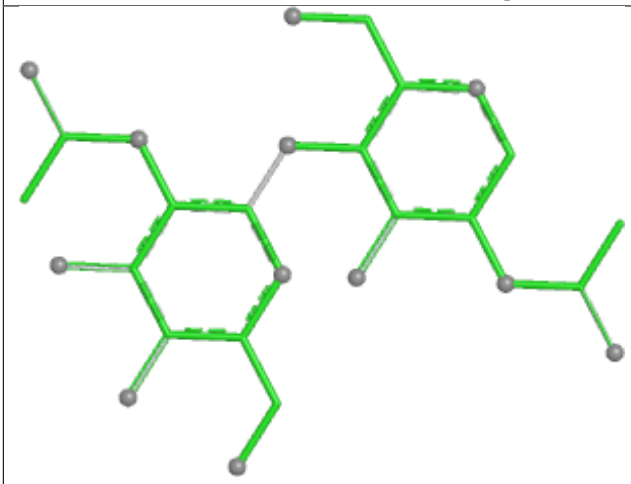


Torsions

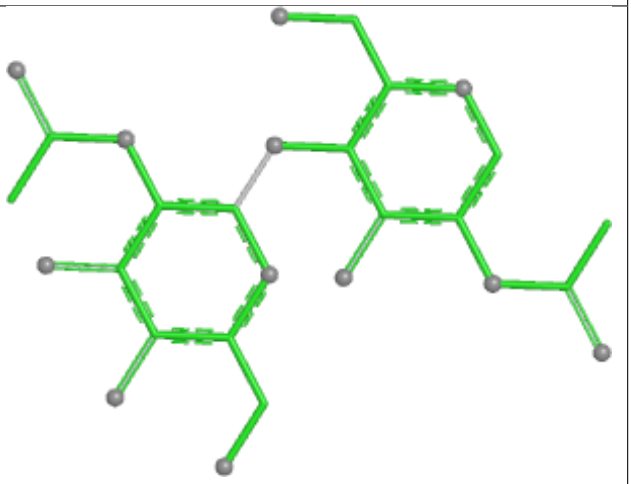


Rings

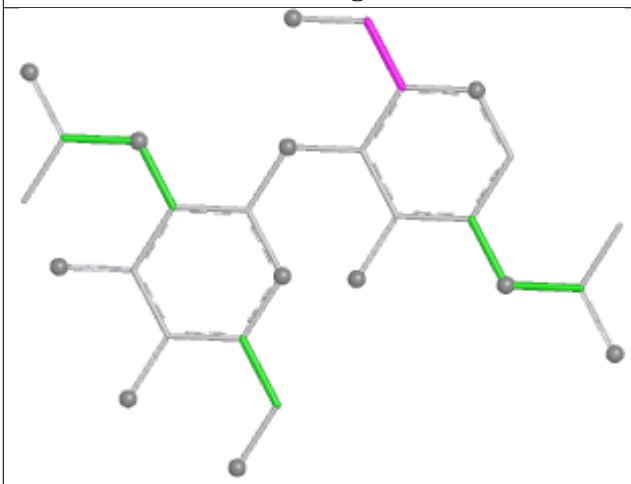
Oligosaccharide Chain J



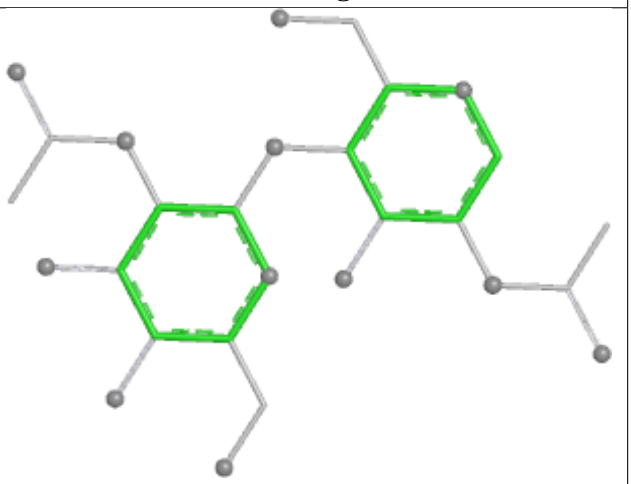
Bond lengths



Bond angles

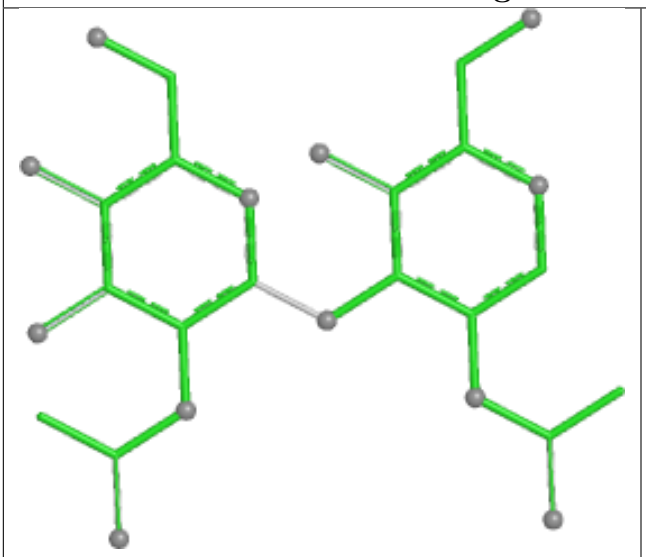


Torsions

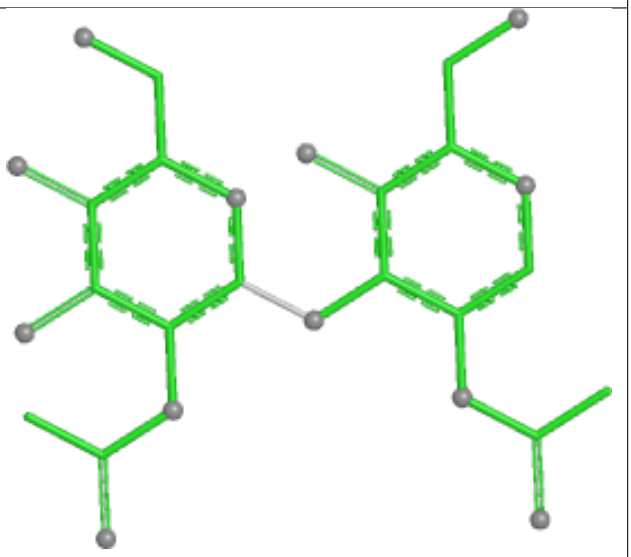


Rings

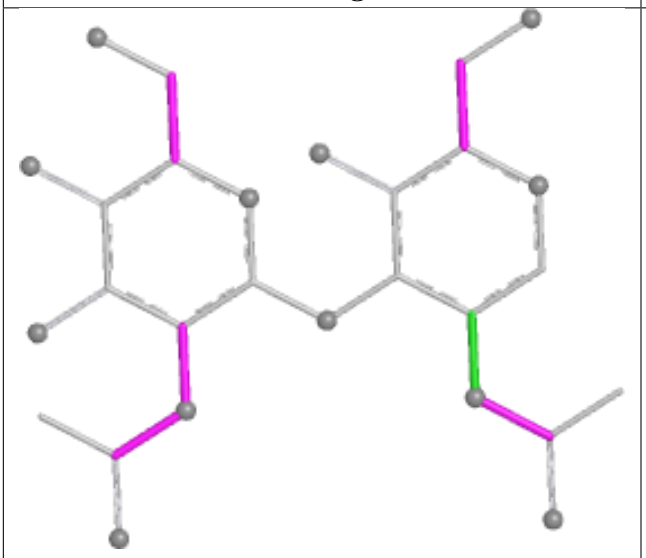
Oligosaccharide Chain K



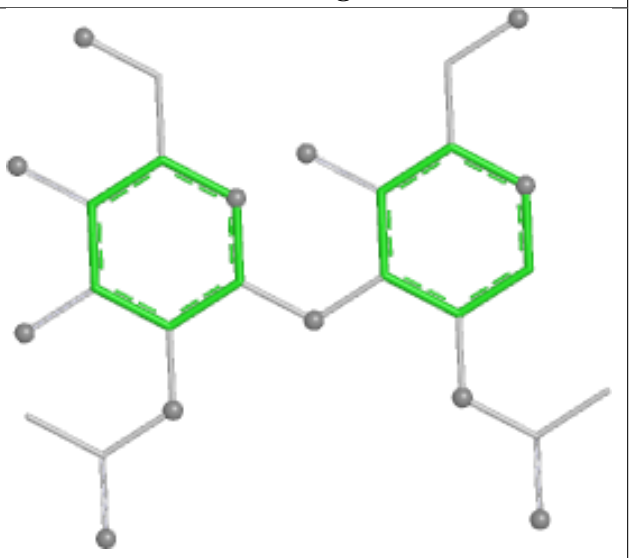
Bond lengths



Bond angles

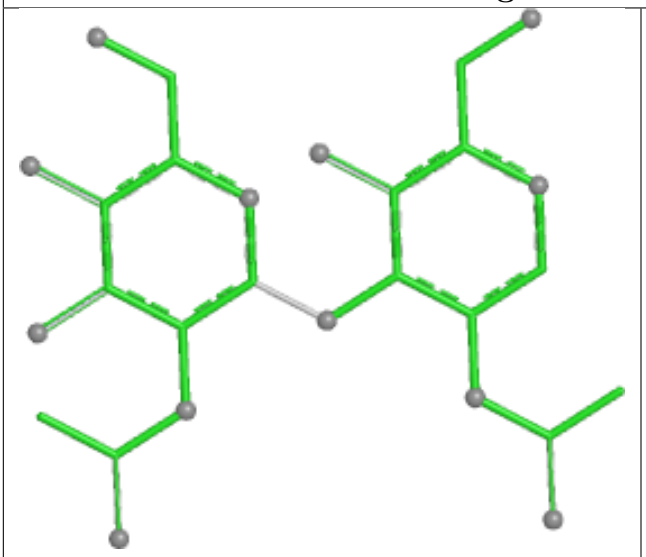


Torsions

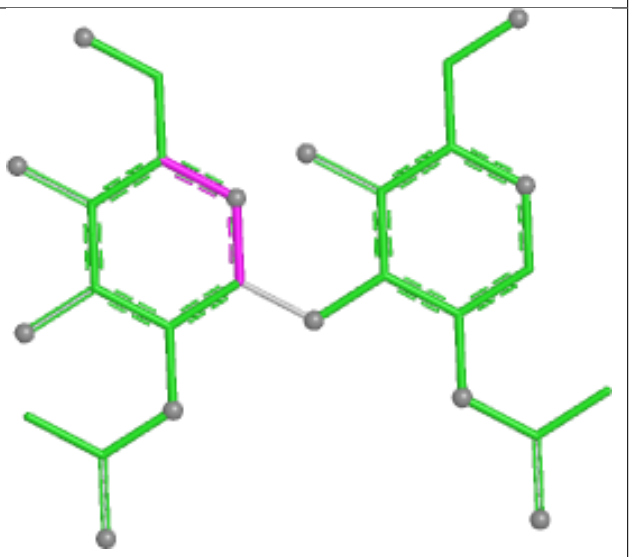


Rings

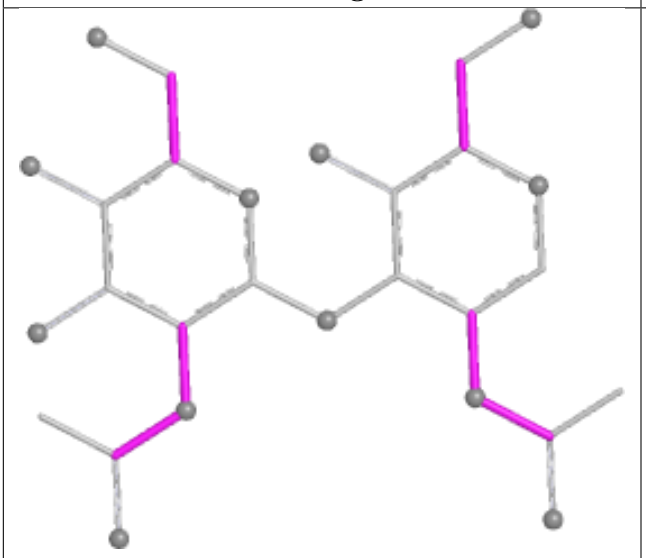
Oligosaccharide Chain L



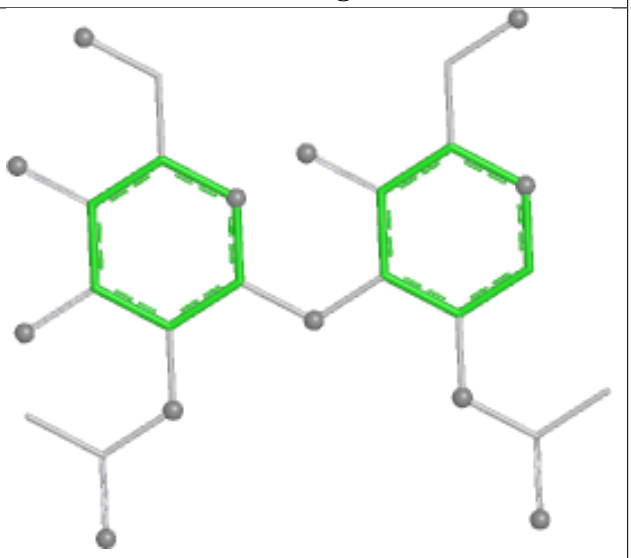
Bond lengths



Bond angles

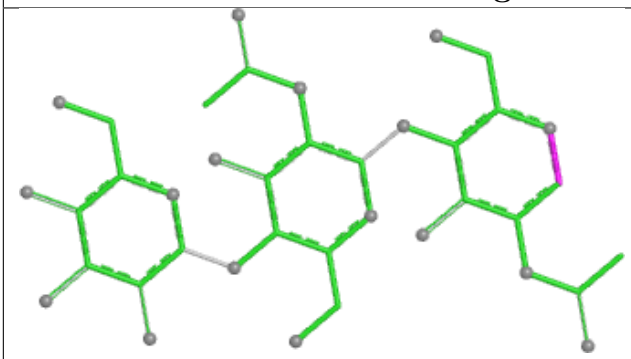


Torsions

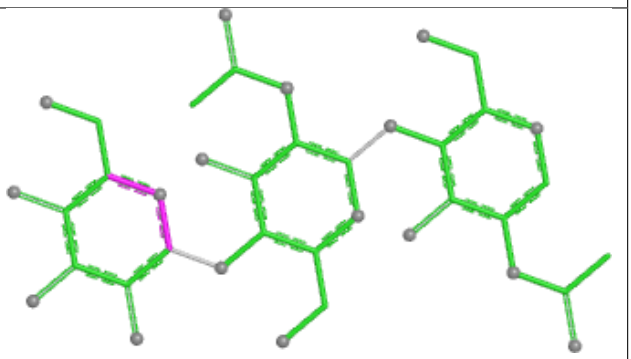


Rings

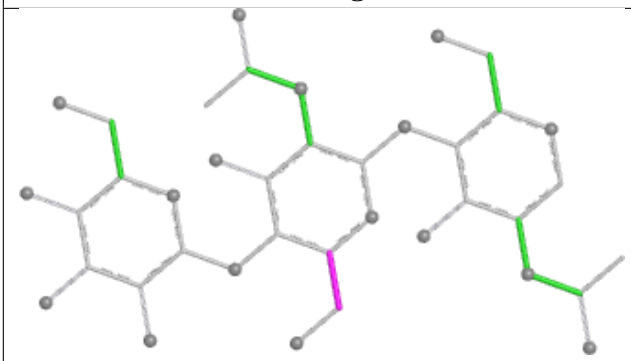
Oligosaccharide Chain H



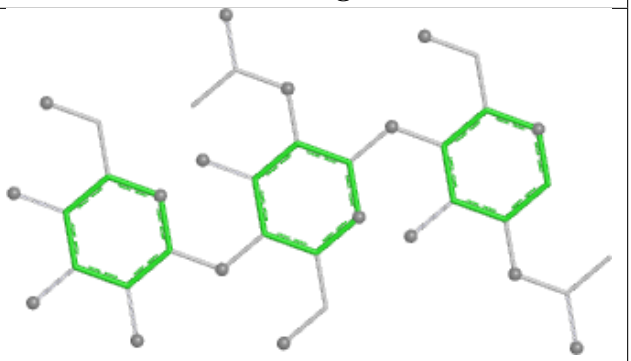
Bond lengths



Bond angles

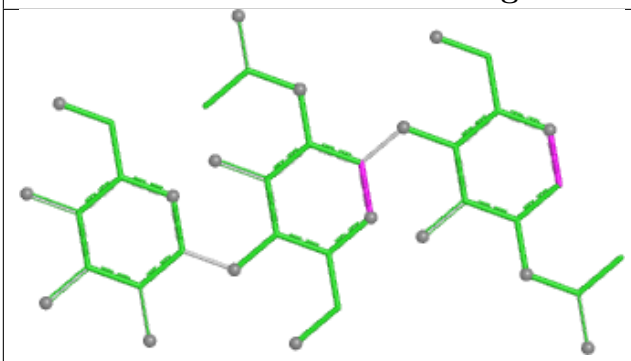


Torsions

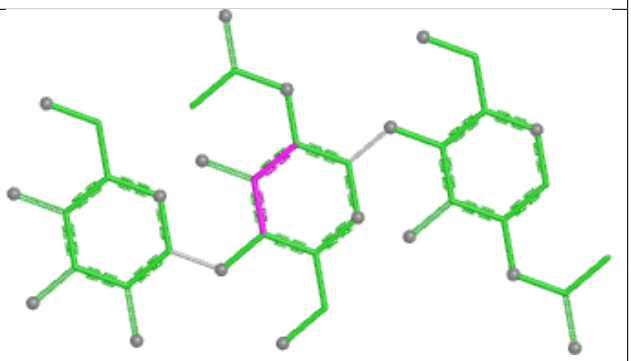


Rings

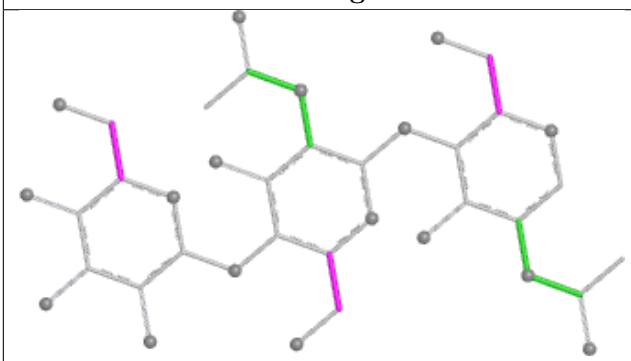
Oligosaccharide Chain I



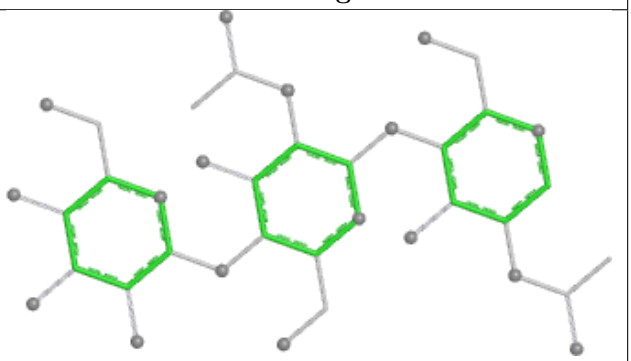
Bond lengths



Bond angles



Torsions



Rings

5.6 Ligand geometry (i)

Of 23 ligands modelled in this entry, 3 are monoatomic - leaving 20 for Mogul analysis.

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	$\#\|Z\| > 2$
7	NAG	F	1115	3	14,14,15	0.85	1 (7%)	17,19,21	1.02	1 (5%)
7	NAG	F	1104	-	14,14,15	0.30	0	17,19,21	0.64	0
7	NAG	A	1901	1	14,14,15	0.31	0	17,19,21	0.49	0
7	NAG	F	1125	3	14,14,15	0.28	0	17,19,21	0.59	0
9	3PE	A	1906	-	31,31,50	1.16	2 (6%)	34,36,55	1.04	2 (5%)
9	3PE	A	1904	-	32,32,50	1.14	2 (6%)	35,37,55	1.30	4 (11%)
9	3PE	A	1905	-	29,29,50	1.20	2 (6%)	32,34,55	1.14	2 (6%)
9	3PE	A	1909	-	29,29,50	1.18	2 (6%)	32,34,55	1.10	2 (6%)
10	C5U	A	1911	-	26,26,26	4.61	11 (42%)	34,37,37	3.13	13 (38%)
9	3PE	A	1913	-	31,31,50	1.18	2 (6%)	34,36,55	1.12	2 (5%)
7	NAG	F	1121	-	14,14,15	0.47	0	17,19,21	0.53	0
12	ETA	F	1101	-	3,3,3	0.41	0	2,2,2	0.49	0
7	NAG	F	1120	-	14,14,15	0.29	0	17,19,21	0.55	0
7	NAG	F	1122	-	14,14,15	0.28	0	17,19,21	0.57	0
11	PC1	A	1912	-	38,38,53	1.08	2 (5%)	44,46,61	1.06	3 (6%)
7	NAG	F	1107	3	14,14,15	0.30	0	17,19,21	0.57	0
7	NAG	F	1114	3	14,14,15	0.25	0	17,19,21	0.67	1 (5%)
9	3PE	A	1910	-	20,20,50	1.03	1 (5%)	22,23,55	0.99	1 (4%)
9	3PE	A	1907	-	18,18,50	1.11	1 (5%)	20,21,55	0.98	1 (5%)
9	3PE	A	1908	-	29,29,50	1.19	2 (6%)	32,34,55	1.13	2 (6%)

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
7	NAG	F	1115	3	-	0/6/23/26	0/1/1/1
7	NAG	F	1104	-	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	NAG	A	1901	1	-	1/6/23/26	0/1/1/1
7	NAG	F	1125	3	-	2/6/23/26	0/1/1/1
9	3PE	A	1906	-	-	7/35/35/54	-
9	3PE	A	1904	-	-	7/36/36/54	-
9	3PE	A	1905	-	-	2/33/33/54	-
9	3PE	A	1909	-	-	3/33/33/54	-
10	C5U	A	1911	-	-	8/18/40/40	0/2/2/2
9	3PE	A	1913	-	-	9/35/35/54	-
7	NAG	F	1121	-	-	0/6/23/26	0/1/1/1
12	ETA	F	1101	-	-	1/1/1/1	-
7	NAG	F	1120	-	-	2/6/23/26	0/1/1/1
7	NAG	F	1122	-	-	2/6/23/26	0/1/1/1
11	PC1	A	1912	-	-	12/42/42/57	-
7	NAG	F	1107	3	-	2/6/23/26	0/1/1/1
7	NAG	F	1114	3	-	0/6/23/26	0/1/1/1
9	3PE	A	1910	-	-	2/21/21/54	-
9	3PE	A	1907	-	-	1/19/19/54	-
9	3PE	A	1908	-	-	8/33/33/54	-

All (28) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	A	1911	C5U	C06-C05	14.63	1.52	1.35
10	A	1911	C5U	C08-C09	14.53	1.52	1.35
10	A	1911	C5U	C06-N07	4.86	1.44	1.38
10	A	1911	C5U	C08-N07	4.44	1.44	1.38
9	A	1907	3PE	O31-C31	4.28	1.45	1.33
9	A	1913	3PE	O31-C31	4.28	1.45	1.33
9	A	1908	3PE	O31-C31	4.26	1.45	1.33
9	A	1913	3PE	O21-C21	4.25	1.46	1.34
9	A	1905	3PE	O21-C21	4.25	1.46	1.34
9	A	1909	3PE	O31-C31	4.24	1.45	1.33
9	A	1904	3PE	O31-C31	4.22	1.45	1.33
11	A	1912	PC1	O31-C31	4.21	1.45	1.33
9	A	1905	3PE	O31-C31	4.18	1.45	1.33
9	A	1910	3PE	O21-C21	4.17	1.45	1.33
9	A	1906	3PE	O31-C31	4.15	1.45	1.33
9	A	1906	3PE	O21-C21	4.14	1.46	1.34
9	A	1904	3PE	O21-C21	4.01	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	A	1908	3PE	O21-C21	3.98	1.45	1.34
9	A	1909	3PE	O21-C21	3.96	1.45	1.34
11	A	1912	PC1	O21-C21	3.95	1.45	1.34
10	A	1911	C5U	C10-C09	3.64	1.54	1.47
10	A	1911	C5U	O03-C02	3.47	1.41	1.33
10	A	1911	C5U	C02-C05	3.46	1.53	1.47
10	A	1911	C5U	O12-C10	3.12	1.40	1.33
10	A	1911	C5U	O23-N21	-2.80	1.18	1.22
10	A	1911	C5U	C24-C08	2.80	1.54	1.49
7	F	1115	NAG	C1-C2	2.65	1.56	1.52
10	A	1911	C5U	C25-C06	2.56	1.54	1.49

All (34) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	A	1911	C5U	C25-C06-C05	-9.20	118.46	127.61
10	A	1911	C5U	C24-C08-C09	-7.71	119.95	127.61
10	A	1911	C5U	C25-C06-N07	5.17	119.44	113.42
10	A	1911	C5U	C24-C08-N07	5.17	119.43	113.42
10	A	1911	C5U	C08-N07-C06	-4.66	119.10	123.44
9	A	1904	3PE	O21-C21-C22	4.52	121.25	111.48
10	A	1911	C5U	O12-C10-C09	4.32	120.26	112.31
10	A	1911	C5U	O03-C02-C05	4.23	120.08	112.31
9	A	1905	3PE	O21-C21-C22	4.01	120.15	111.48
9	A	1908	3PE	O21-C21-C22	3.91	119.94	111.48
7	F	1115	NAG	C1-O5-C5	3.66	117.09	112.19
11	A	1912	PC1	O21-C21-C22	3.59	119.24	111.48
9	A	1913	3PE	O21-C21-C22	3.58	119.22	111.48
9	A	1906	3PE	O21-C21-C22	3.45	118.95	111.48
9	A	1904	3PE	C2-O21-C21	-3.39	109.68	117.80
9	A	1909	3PE	O21-C21-C22	3.33	118.68	111.48
10	A	1911	C5U	C20-C15-C14	-3.22	120.06	125.71
10	A	1911	C5U	C19-C20-N21	3.12	119.81	116.47
9	A	1910	3PE	O21-C21-C22	2.87	120.59	111.83
9	A	1907	3PE	O31-C31-C32	2.86	120.56	111.83
10	A	1911	C5U	C16-C15-C20	2.80	119.99	117.08
10	A	1911	C5U	O01-C02-C05	-2.80	119.29	125.20
9	A	1913	3PE	O31-C31-C32	2.78	120.31	111.83
9	A	1905	3PE	O31-C31-C32	2.78	120.30	111.83
9	A	1909	3PE	O31-C31-C32	2.71	120.09	111.83
9	A	1904	3PE	O21-C21-O22	-2.59	117.65	123.70
9	A	1904	3PE	O31-C31-C32	2.58	119.69	111.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	A	1908	3PE	O31-C31-C32	2.52	119.53	111.83
10	A	1911	C5U	O11-C10-C09	-2.51	119.91	125.20
11	A	1912	PC1	C2-O21-C21	-2.45	111.93	117.80
7	F	1114	NAG	C1-O5-C5	2.37	115.36	112.19
11	A	1912	PC1	O31-C31-C32	2.31	118.88	111.83
9	A	1906	3PE	O31-C31-C32	2.14	118.36	111.83
10	A	1911	C5U	C09-C14-C05	2.05	113.27	109.78

There are no chirality outliers.

All (71) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
7	A	1901	NAG	C3-C2-N2-C7
7	F	1104	NAG	C8-C7-N2-C2
7	F	1104	NAG	O7-C7-N2-C2
7	F	1125	NAG	C8-C7-N2-C2
7	F	1125	NAG	O7-C7-N2-C2
9	A	1906	3PE	C1-O11-P-O13
9	A	1906	3PE	C1-O11-P-O14
10	A	1911	C5U	C09-C10-O12-C13
10	A	1911	C5U	O11-C10-O12-C13
11	A	1912	PC1	C11-O13-P-O12
11	A	1912	PC1	C11-O13-P-O11
7	F	1120	NAG	O5-C5-C6-O6
7	F	1120	NAG	C4-C5-C6-O6
10	A	1911	C5U	C05-C02-O03-C04
9	A	1904	3PE	C22-C21-O21-C2
9	A	1904	3PE	O22-C21-O21-C2
9	A	1909	3PE	C22-C21-O21-C2
11	A	1912	PC1	C27-C28-C29-C2A
9	A	1910	3PE	C22-C21-O21-C2
9	A	1913	3PE	C26-C27-C28-C29
11	A	1912	PC1	C22-C21-O21-C2
10	A	1911	C5U	O01-C02-O03-C04
9	A	1909	3PE	O22-C21-O21-C2
11	A	1912	PC1	O21-C2-C3-O31
11	A	1912	PC1	O22-C21-O21-C2
9	A	1910	3PE	O22-C21-O21-C2
11	A	1912	PC1	O11-C1-C2-C3
9	A	1906	3PE	C22-C23-C24-C25
9	A	1913	3PE	C22-C23-C24-C25
9	A	1906	3PE	O21-C2-C3-O31

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Mol	Chain	Res	Type	Atoms
9	A	1908	3PE	C26-C27-C28-C29
9	A	1905	3PE	C26-C27-C28-C29
9	A	1906	3PE	C21-C22-C23-C24
9	A	1913	3PE	C23-C24-C25-C26
9	A	1906	3PE	C1-C2-C3-O31
11	A	1912	PC1	C1-C2-C3-O31
11	A	1912	PC1	C25-C26-C27-C28
9	A	1908	3PE	C22-C21-O21-C2
9	A	1908	3PE	O11-C1-C2-C3
9	A	1908	3PE	O11-C1-C2-O21
9	A	1913	3PE	O11-C1-C2-O21
9	A	1913	3PE	O21-C2-C3-O31
11	A	1912	PC1	O13-C11-C12-N
9	A	1908	3PE	O22-C21-O21-C2
11	A	1912	PC1	O11-C1-C2-O21
9	A	1904	3PE	O21-C2-C3-O31
9	A	1913	3PE	C1-C2-C3-O31
9	A	1908	3PE	C1-O11-P-O14
9	A	1909	3PE	C1-O11-P-O14
11	A	1912	PC1	C11-O13-P-O14
9	A	1908	3PE	C1-C2-O21-C21
9	A	1905	3PE	O11-C1-C2-C3
7	F	1122	NAG	C4-C5-C6-O6
9	A	1908	3PE	C24-C25-C26-C27
9	A	1913	3PE	C32-C33-C34-C35
7	F	1107	NAG	C4-C5-C6-O6
9	A	1904	3PE	C1-C2-C3-O31
9	A	1904	3PE	C22-C23-C24-C25
7	F	1122	NAG	O5-C5-C6-O6
10	A	1911	C5U	O03-C02-C05-C06
10	A	1911	C5U	C14-C09-C10-O12
7	F	1107	NAG	O5-C5-C6-O6
9	A	1913	3PE	O11-C1-C2-C3
9	A	1904	3PE	C27-C28-C29-C2A
9	A	1907	3PE	C1-C2-C3-O31
10	A	1911	C5U	C14-C09-C10-O11
9	A	1904	3PE	C33-C34-C35-C36
10	A	1911	C5U	O01-C02-C05-C06
12	F	1101	ETA	O-C-CA-N
9	A	1906	3PE	C26-C27-C28-C29
9	A	1913	3PE	O31-C31-C32-C33

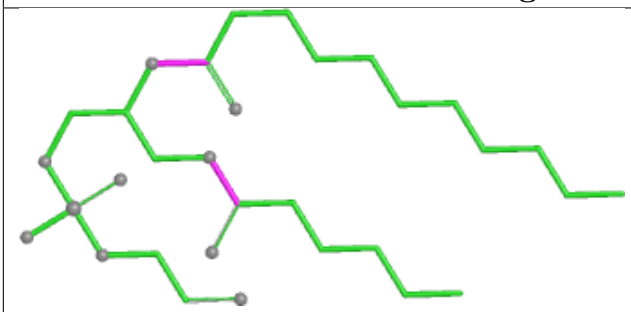
There are no ring outliers.

18 monomers are involved in 87 short contacts:

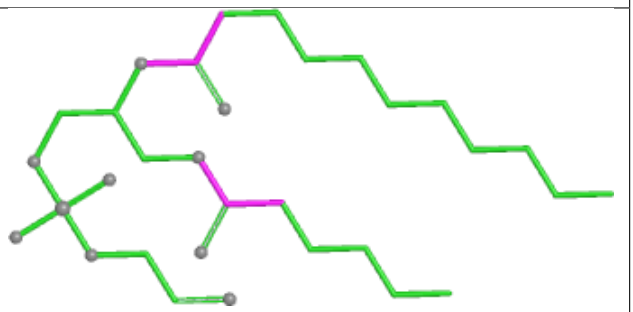
Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	F	1115	NAG	2	0
7	F	1104	NAG	3	0
7	F	1125	NAG	9	0
9	A	1906	3PE	3	0
9	A	1904	3PE	9	0
9	A	1905	3PE	7	0
9	A	1909	3PE	4	0
10	A	1911	C5U	8	0
9	A	1913	3PE	7	0
7	F	1121	NAG	3	0
12	F	1101	ETA	2	0
7	F	1120	NAG	2	0
7	F	1122	NAG	4	0
11	A	1912	PC1	8	0
7	F	1107	NAG	1	0
9	A	1910	3PE	3	0
9	A	1907	3PE	1	0
9	A	1908	3PE	12	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.

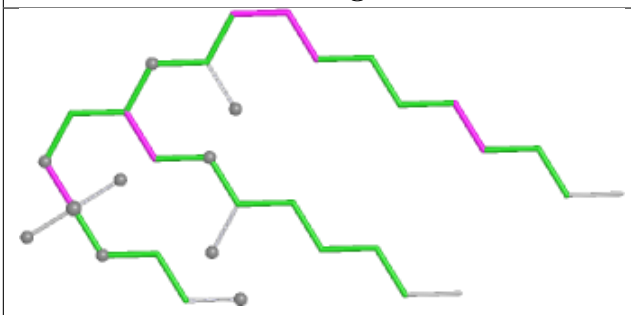
Ligand 3PE A 1906



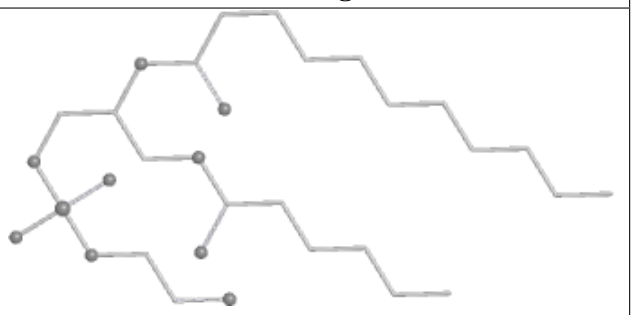
Bond lengths



Bond angles

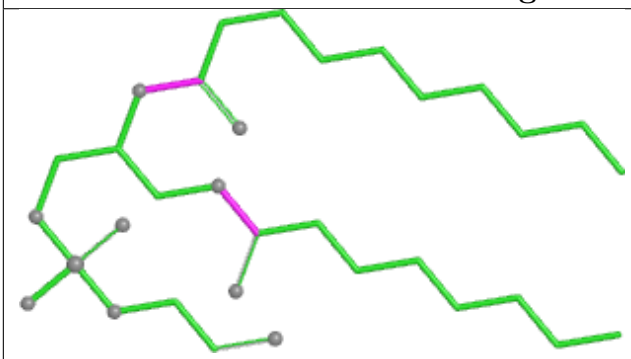


Torsions

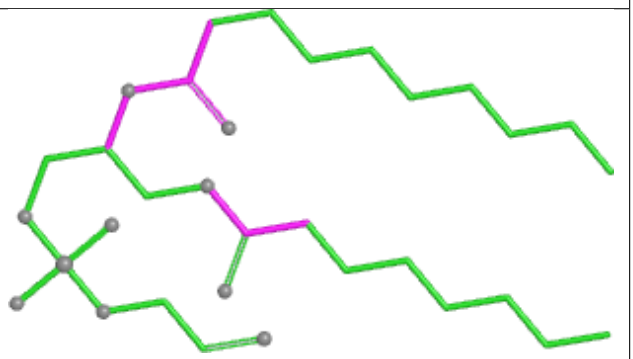


Rings

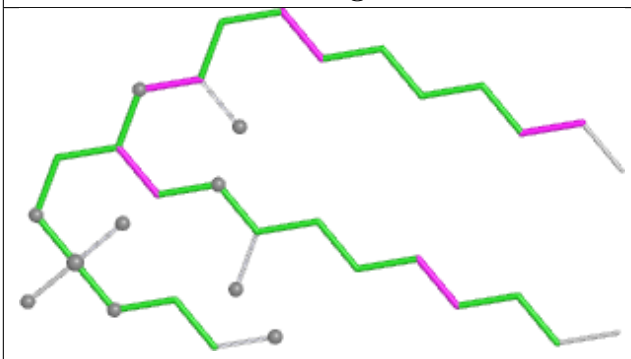
Ligand 3PE A 1904



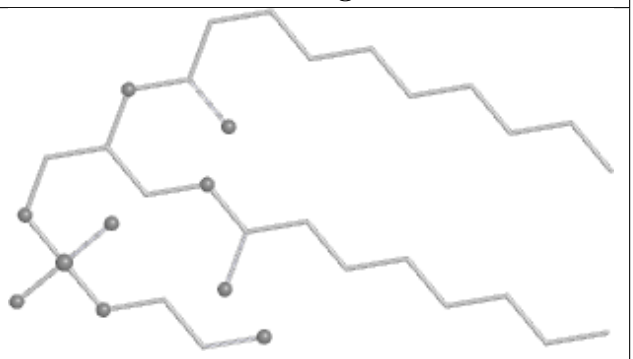
Bond lengths



Bond angles

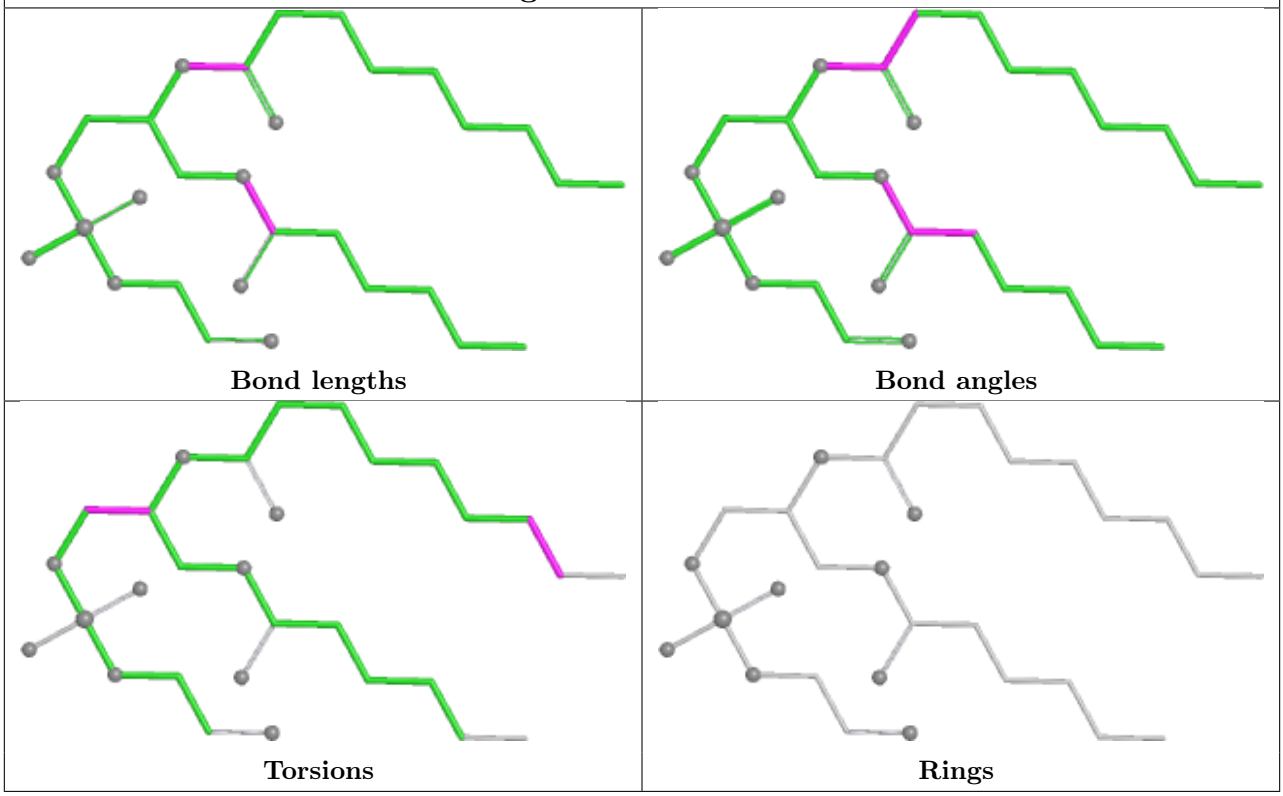


Torsions

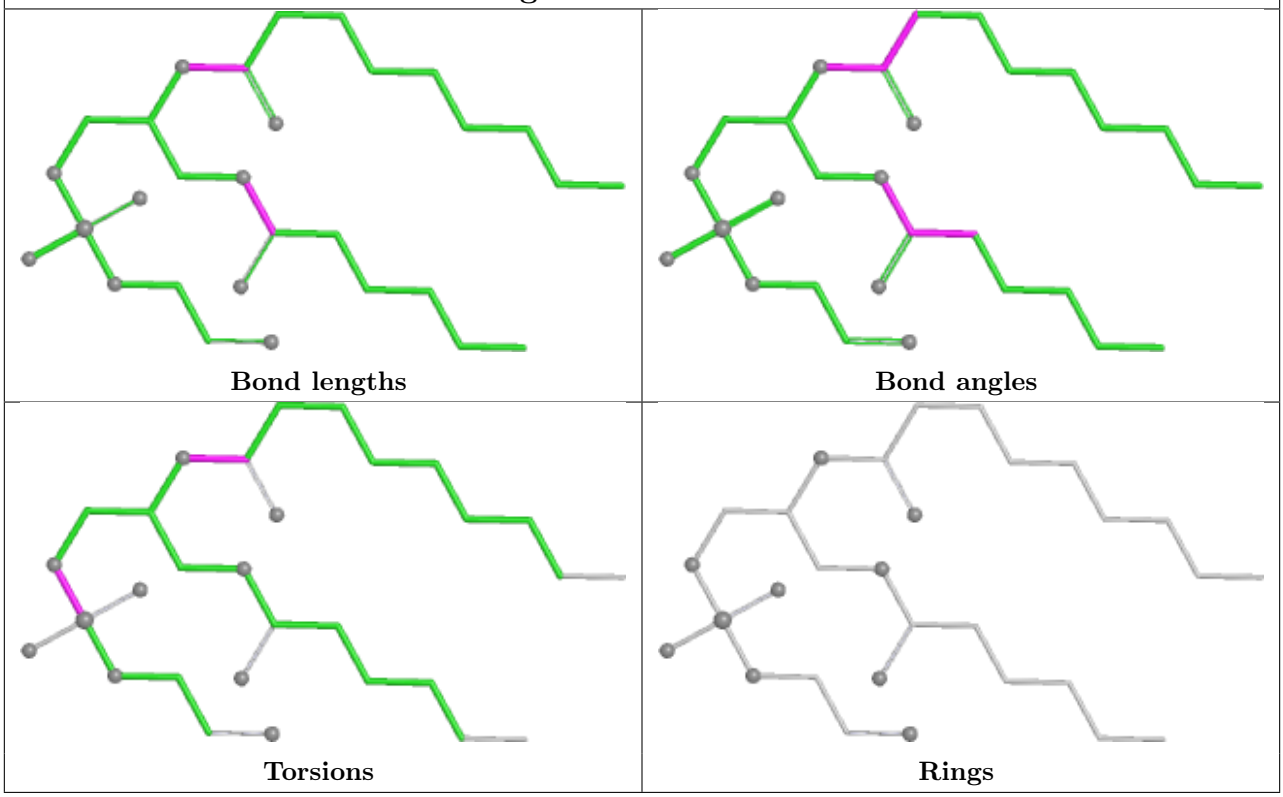


Rings

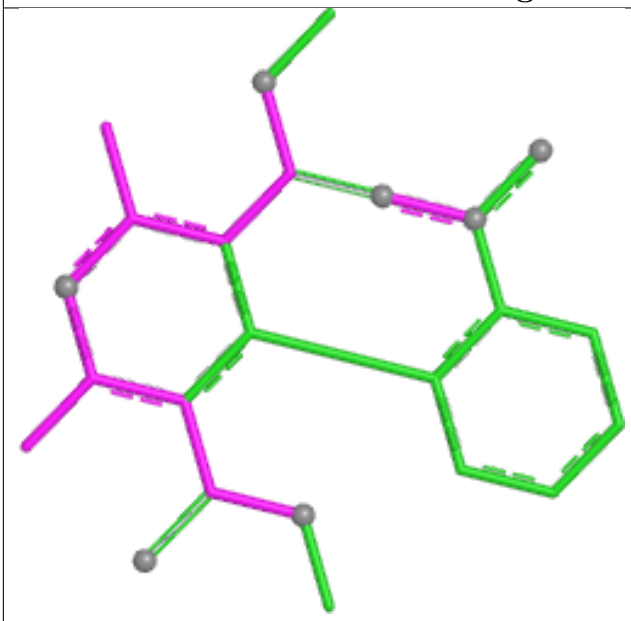
Ligand 3PE A 1905



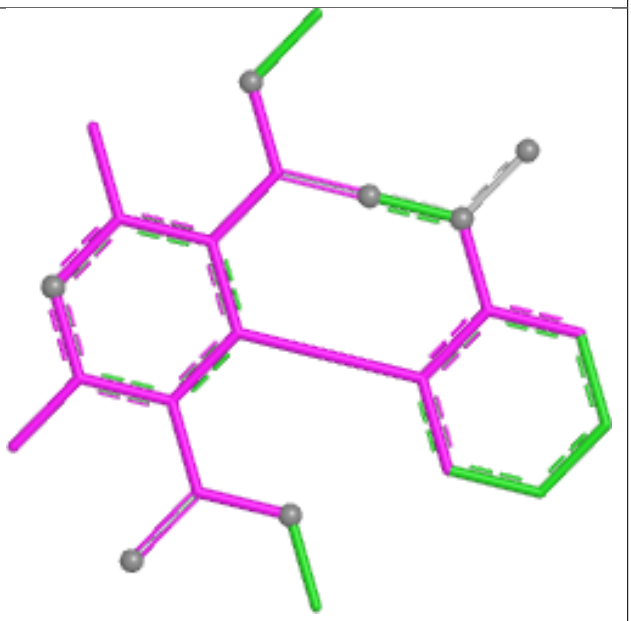
Ligand 3PE A 1909



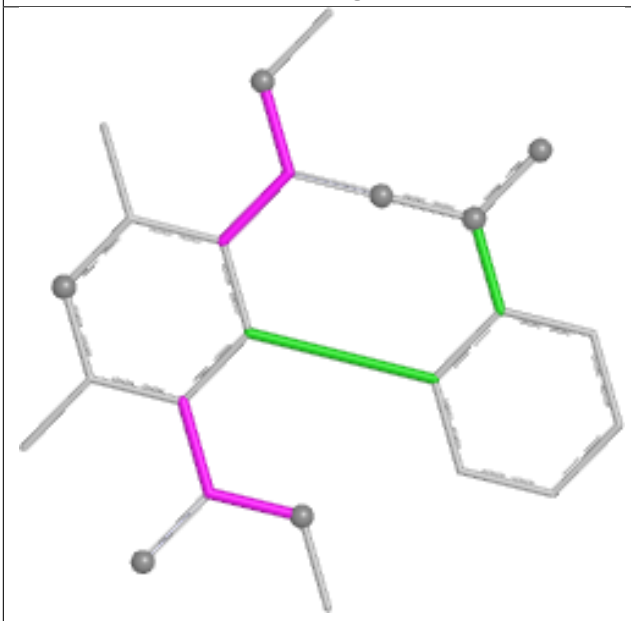
Ligand C5U A 1911



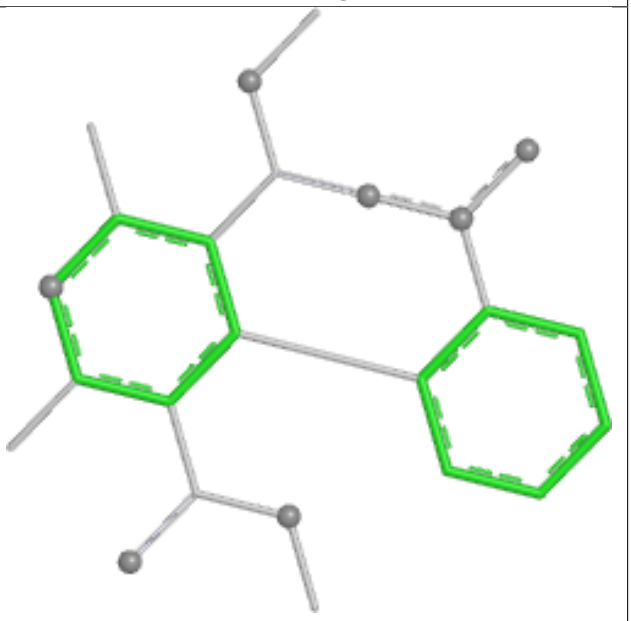
Bond lengths



Bond angles

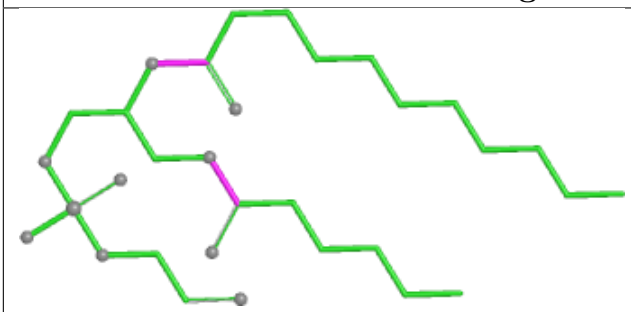


Torsions

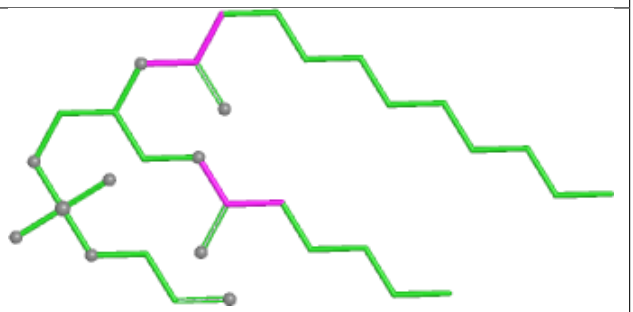


Rings

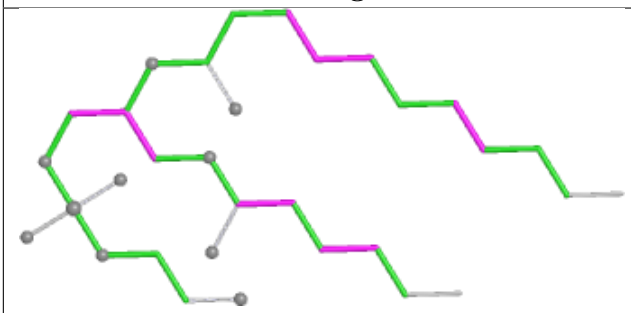
Ligand 3PE A 1913



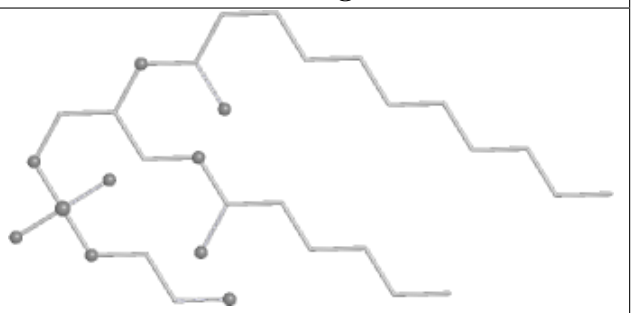
Bond lengths



Bond angles

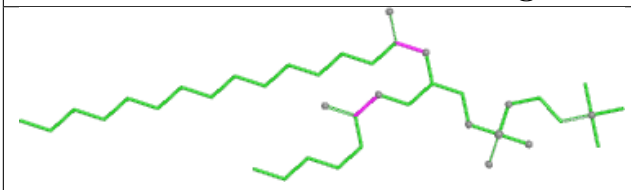


Torsions

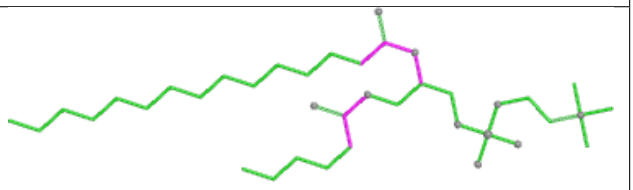


Rings

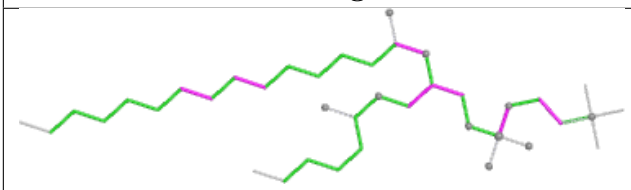
Ligand PC1 A 1912



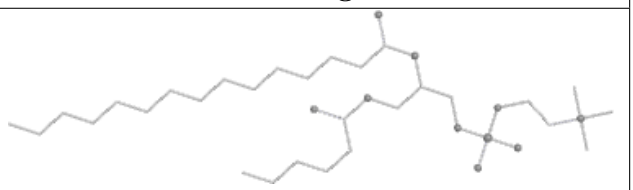
Bond lengths



Bond angles

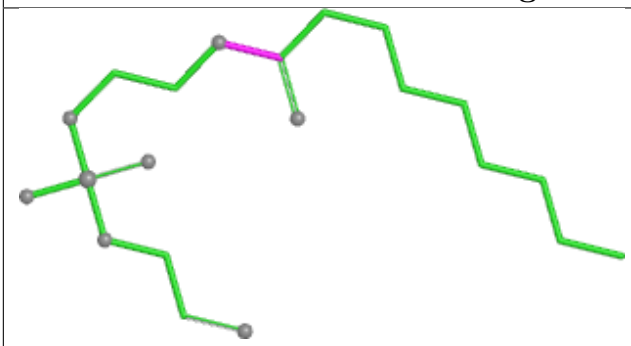


Torsions

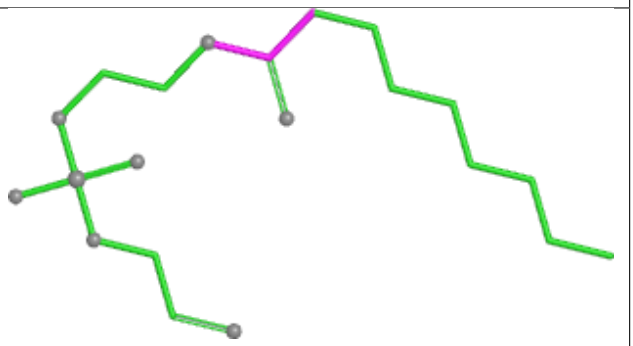


Rings

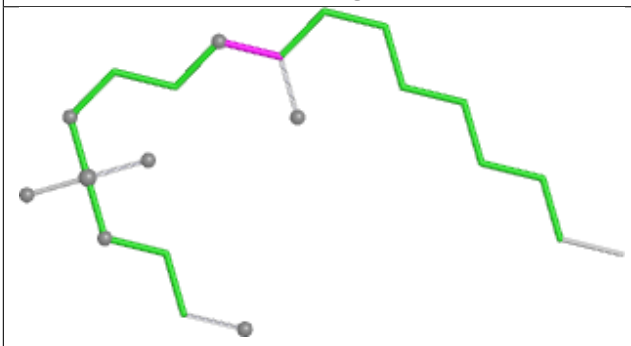
Ligand 3PE A 1910



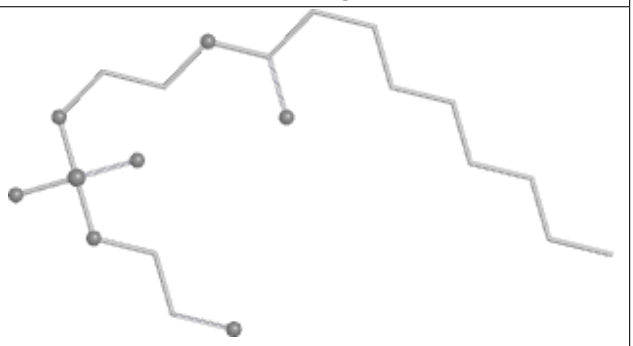
Bond lengths



Bond angles

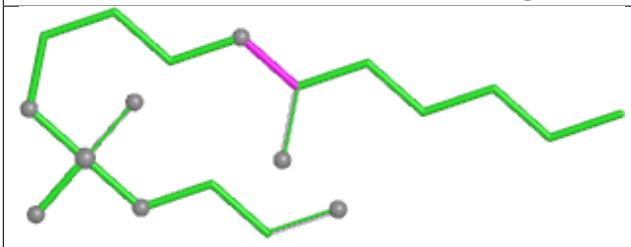


Torsions

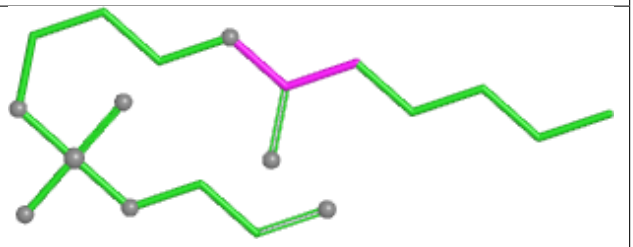


Rings

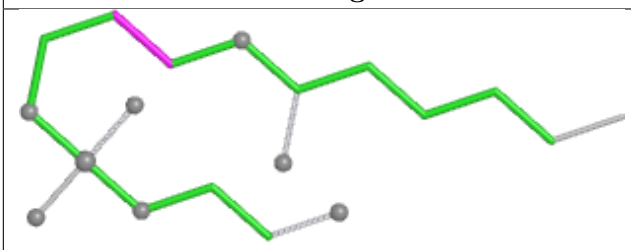
Ligand 3PE A 1907



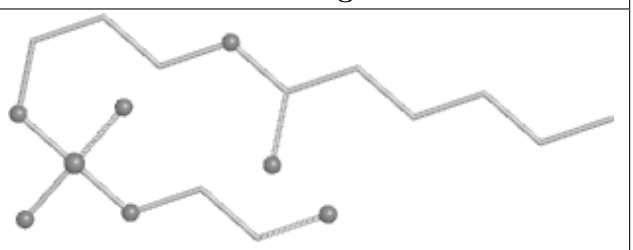
Bond lengths



Bond angles

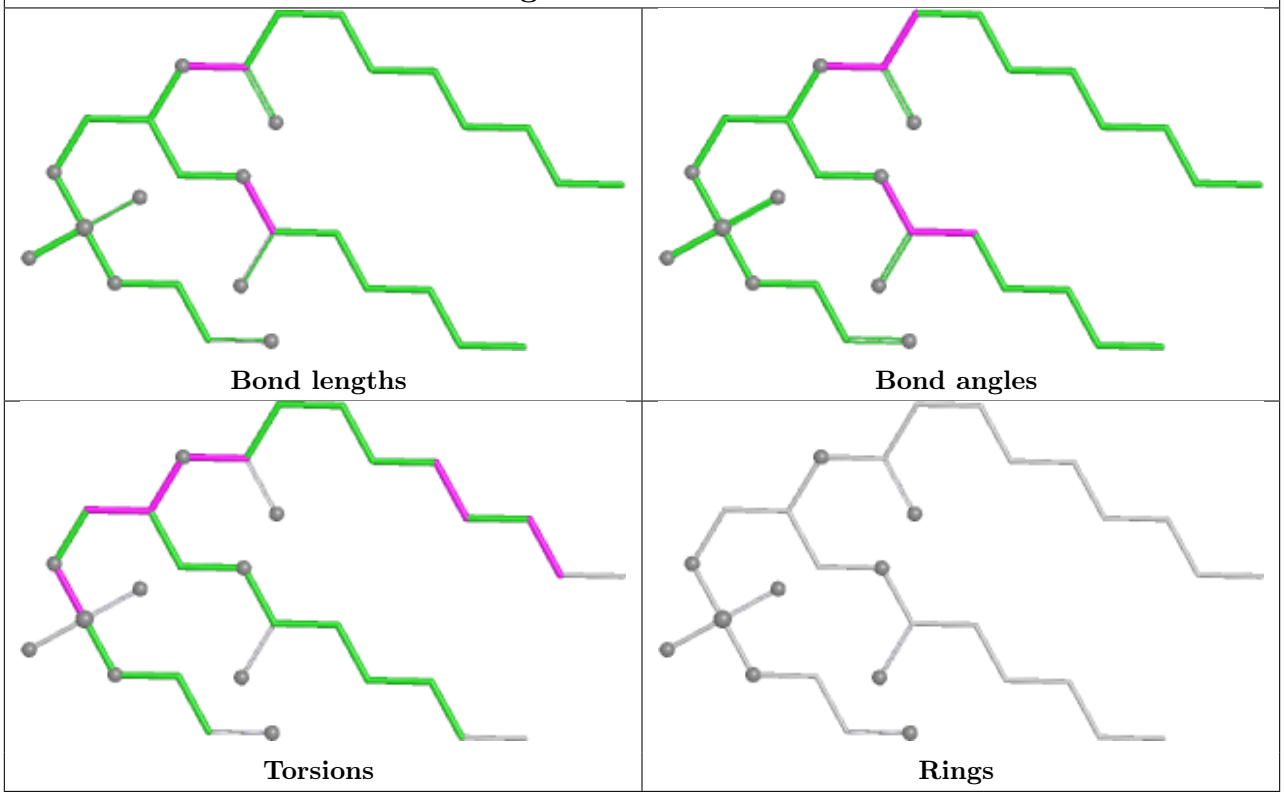


Torsions



Rings

Ligand 3PE A 1908



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

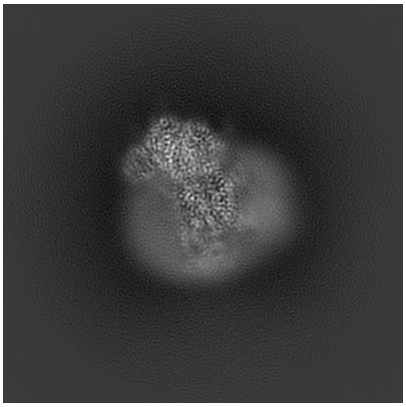
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-9866. These allow visual inspection of the internal detail of the map and identification of artifacts.

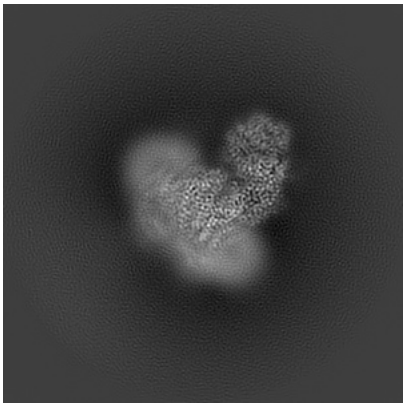
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

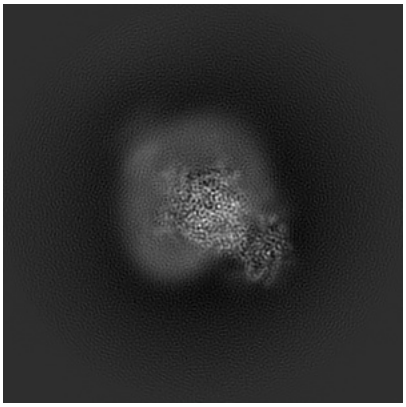
6.1.1 Primary map



X



Y

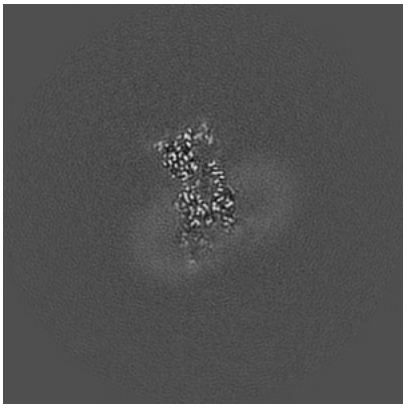


Z

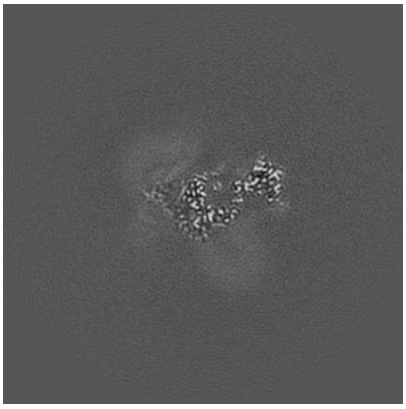
The images above show the map projected in three orthogonal directions.

6.2 Central slices

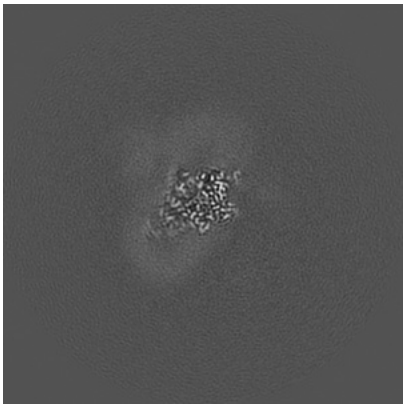
6.2.1 Primary map



X Index: 160



Y Index: 160

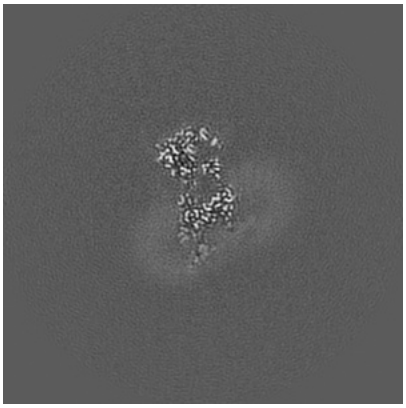


Z Index: 160

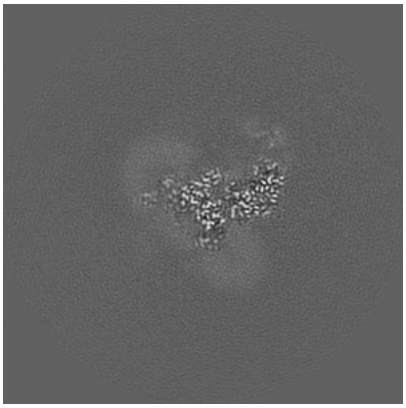
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

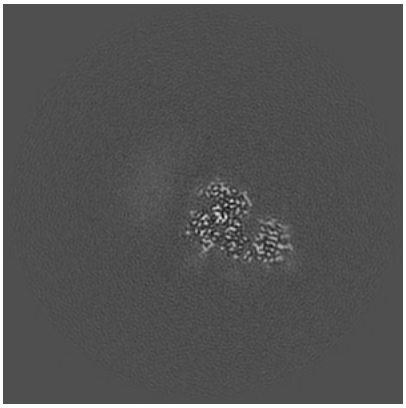
6.3.1 Primary map



X Index: 163



Y Index: 151

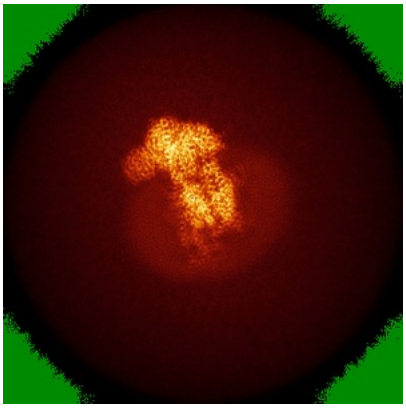


Z Index: 207

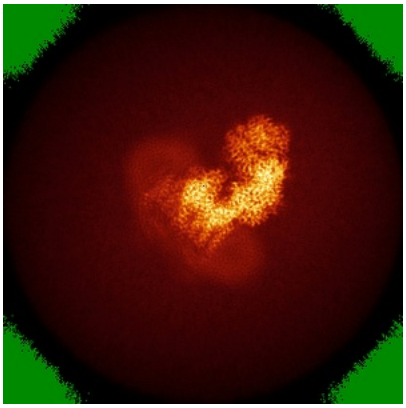
The images above show the largest variance slices of the map in three orthogonal directions.

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

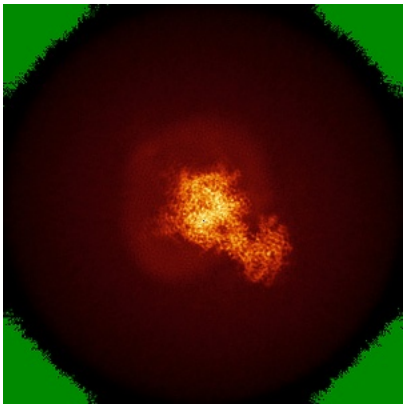
6.4.1 Primary map



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)

This section was not generated.

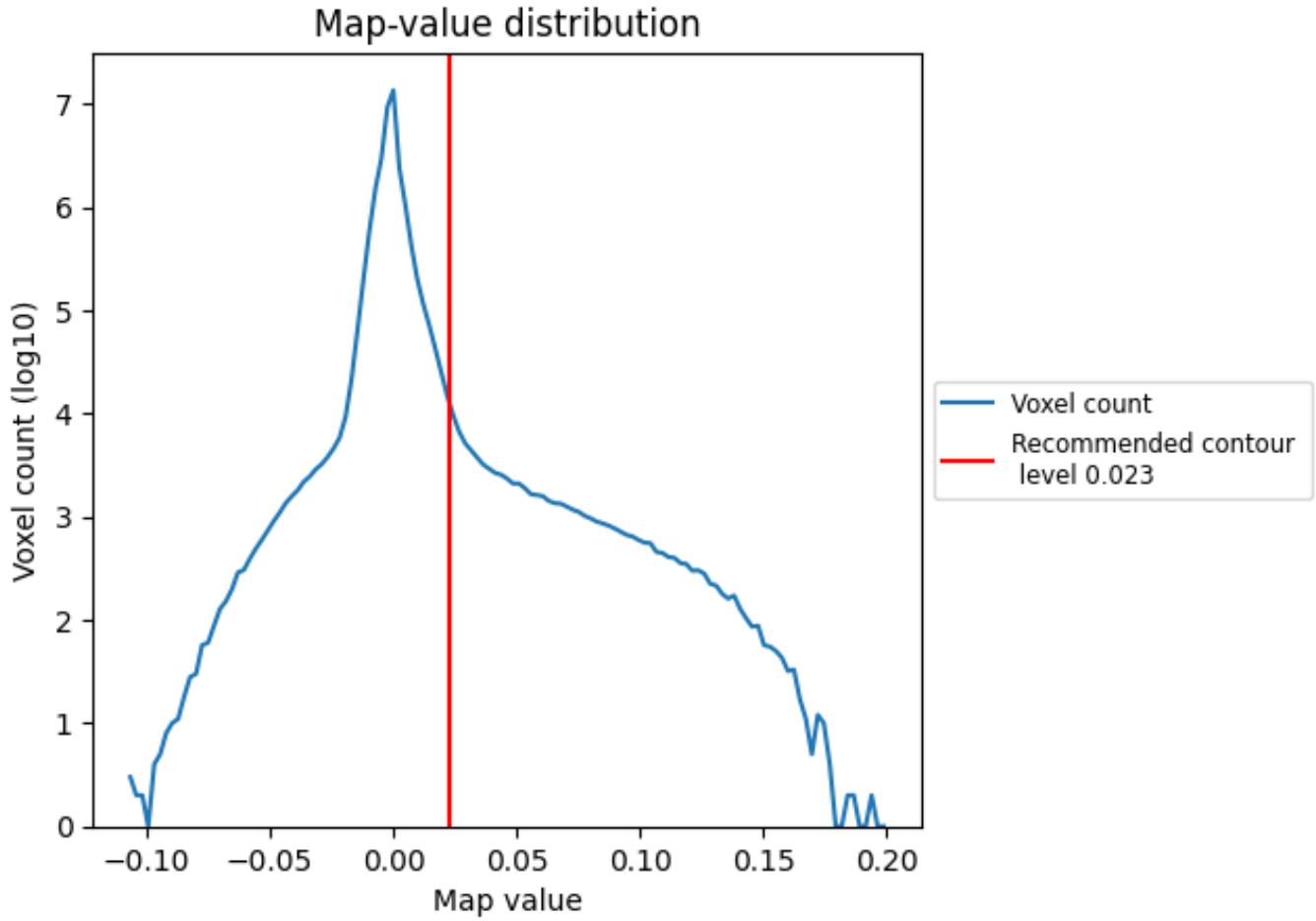
6.6 Mask visualisation (i)

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

7 Map analysis

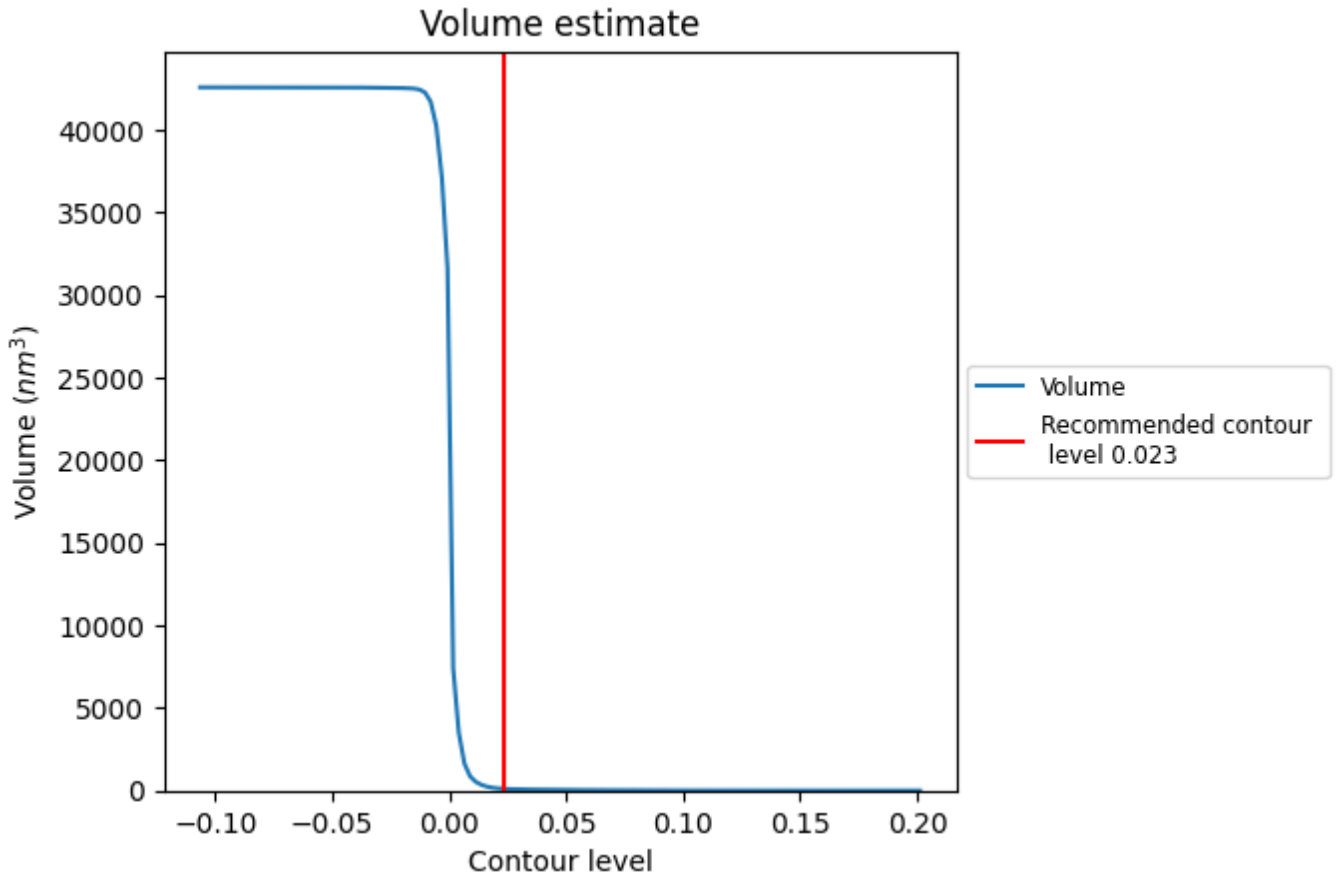
This section contains the results of statistical analysis of the map.

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.

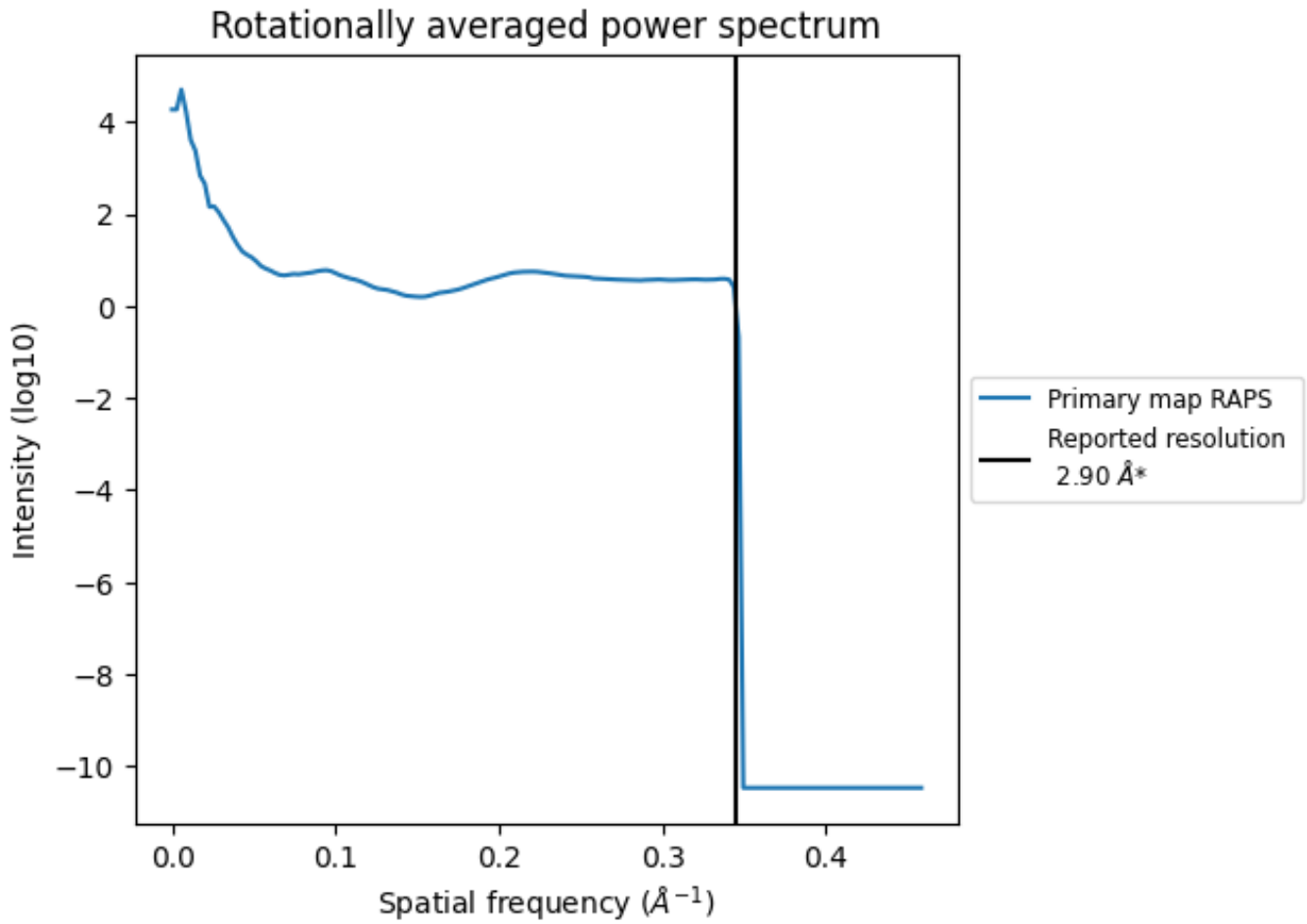
7.2 Volume estimate



The volume at the recommended contour level is 109 nm^3; this corresponds to an approximate mass of 98 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 0.345 Å^{-1}

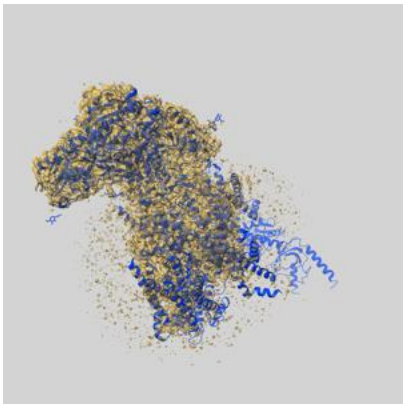
8 Fourier-Shell correlation (i)

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

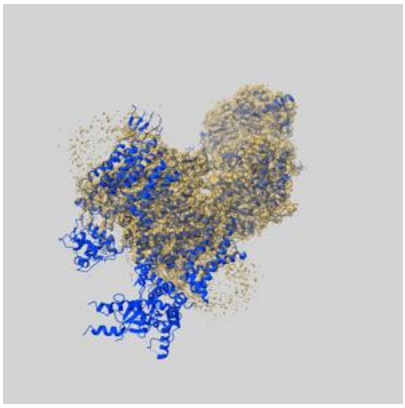
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-9866 and PDB model 6JP5. Per-residue inclusion information can be found in section 3 on page 10.

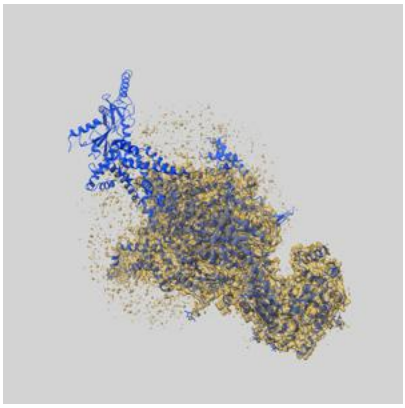
9.1 Map-model overlay



X



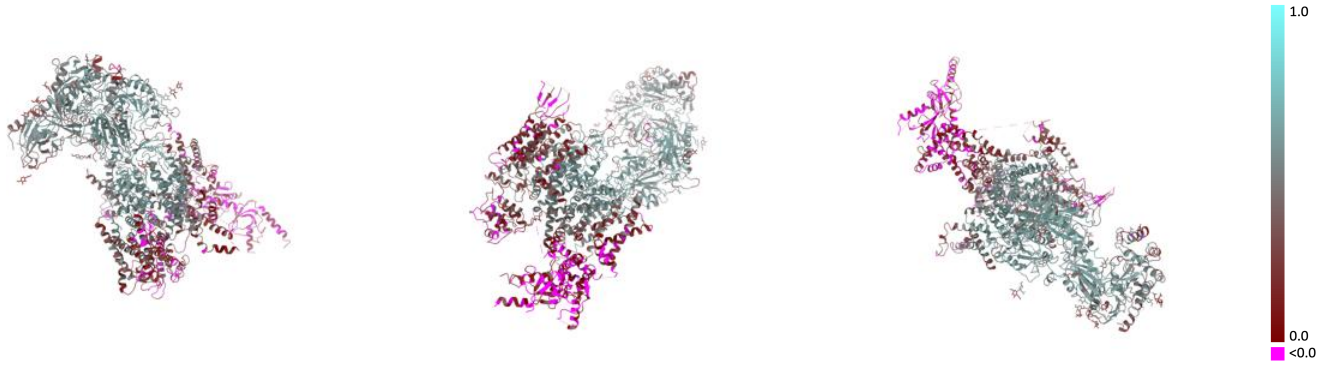
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.023 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.

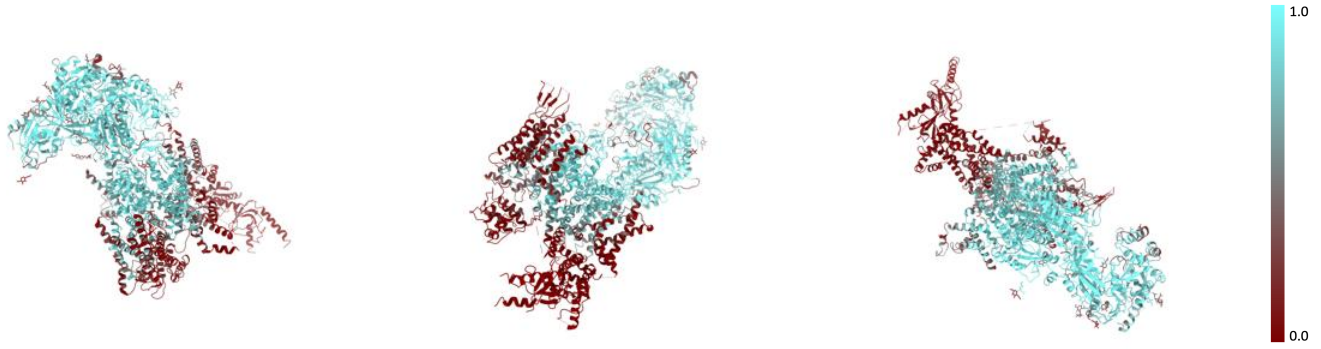
9.2 Q-score mapped to coordinate model (i)



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.

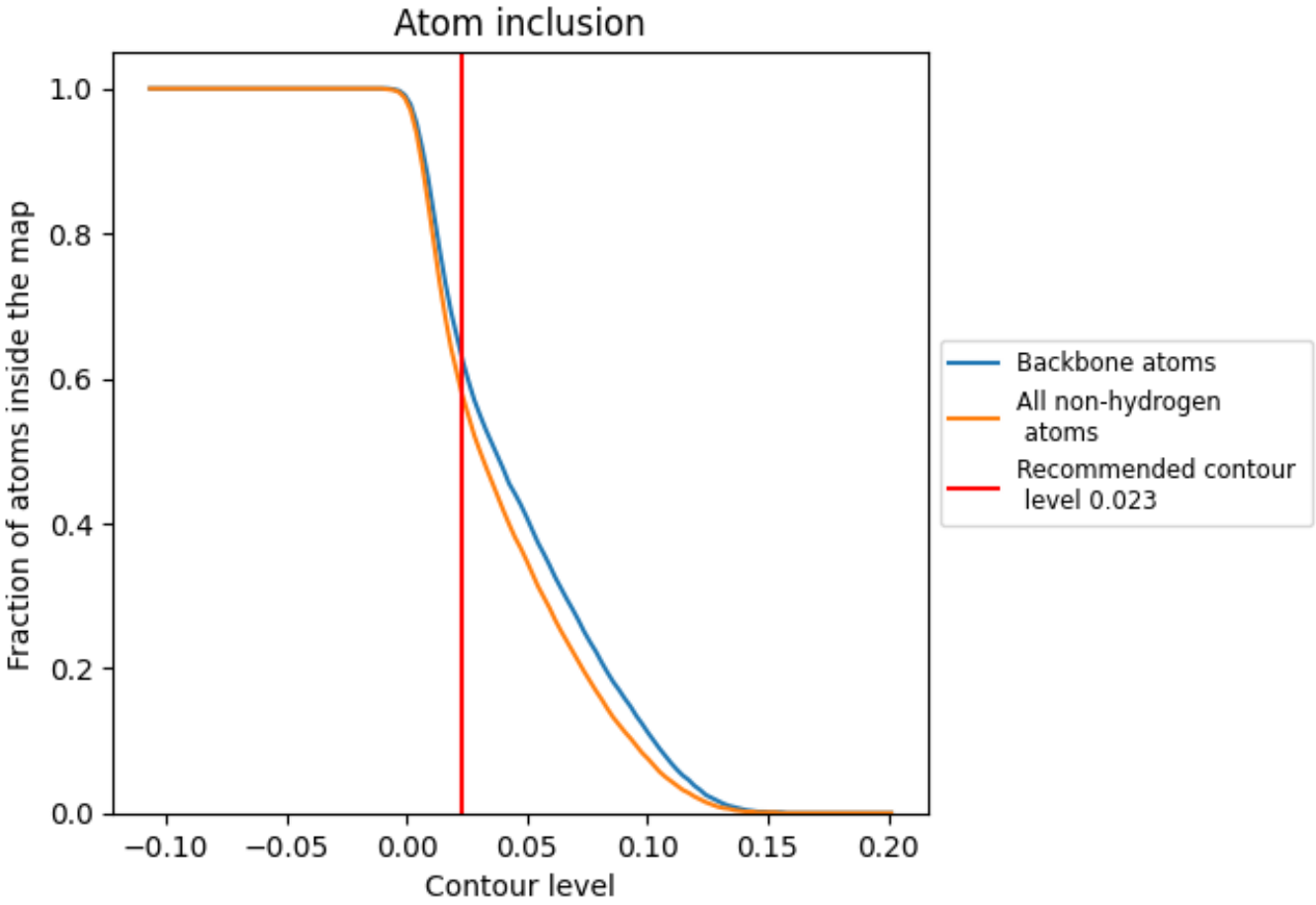
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.023).

9.4 Atom inclusion (i)



At the recommended contour level, 63% of all backbone atoms, 58% 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 (0.023) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5780	0.3900
A	0.5600	0.3990
B	0.0000	0.0150
C	0.0000	0.0150
D	0.4290	0.3220
E	0.1140	0.1500
F	0.8320	0.5180
G	0.5710	0.3830
H	0.4870	0.3010
I	0.9490	0.5390
J	0.6430	0.4070
K	0.5360	0.3380
L	0.3210	0.1600