Full wwPDB EM Validation Report ⓘ

Nov 21, 2022 – 02:46 PM JST

PDB ID	:	7CZV
EMDB ID	:	EMD-30518
Title	:	S protein of SARS-CoV-2 in complex bound with P5A-1B6_3B
Authors	:	Yan, R.H.; Zhang, Y.Y.; Li, Y.N.; Zhou, Q.
Deposited on	:	2020-09-09
Resolution	:	3.30 Å(reported)

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

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

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

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

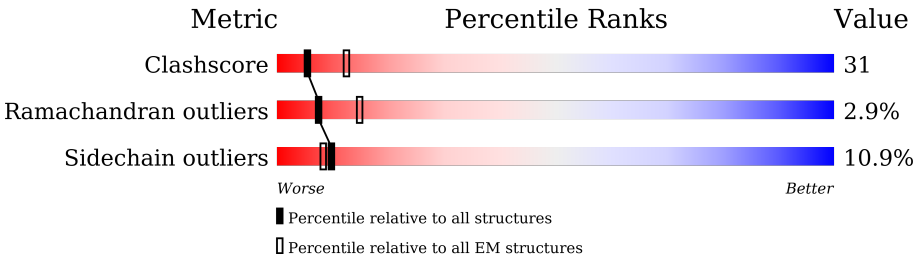
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance

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

The reported resolution of this entry is 3.30 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	1283	14% 53% 21% • 22%
1	B	1283	11% 51% 21% 6% 22%
1	C	1283	11% 51% 21% 5% 22%
2	H	457	50% 29% 19% • 50%
2	I	457	47% 29% 20% • 50%
2	J	457	48% 29% 20% • 50%
3	K	214	100% 62% 28% 9%
3	M	214	100% 64% 26% 10%

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Mol	Chain	Length	Quality of chain
3	N	214	96% 63% 28% 9%
4	D	2	50% 100%
4	E	2	50% 50%
4	F	2	50% 50% 50%
4	G	2	50% 50% 50%
4	L	2	50% 50%
4	O	2	50% 50% 50%
4	P	2	100%
4	Q	2	100% 50% 50%
4	R	2	50% 100%
4	S	2	50% 50%
4	T	2	50% 50% 50%
4	U	2	50% 50%
4	V	2	50% 100%
4	W	2	100% 100%
4	X	2	50% 50% 50%
4	Y	2	50% 50%
4	Z	2	50% 100%
4	a	2	50% 50% 50%
4	b	2	100%
4	c	2	50% 100%

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	B	1402	-	-	X	-

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 34672 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Spike glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1006	Total	C	N	O	S	0	0
			7863	5019	1308	1500	36		
1	B	1007	Total	C	N	O	S	0	0
			7870	5023	1310	1501	36		
1	C	1004	Total	C	N	O	S	0	0
			7853	5014	1307	1496	36		

There are 36 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	986	PRO	LYS	conflict	UNP P0DTC2
A	987	PRO	VAL	conflict	UNP P0DTC2
A	1274	LEU	-	expression tag	UNP P0DTC2
A	1275	GLU	-	expression tag	UNP P0DTC2
A	1276	ASP	-	expression tag	UNP P0DTC2
A	1277	TYR	-	expression tag	UNP P0DTC2
A	1278	LYS	-	expression tag	UNP P0DTC2
A	1279	ASP	-	expression tag	UNP P0DTC2
A	1280	ASP	-	expression tag	UNP P0DTC2
A	1281	ASP	-	expression tag	UNP P0DTC2
A	1282	ASP	-	expression tag	UNP P0DTC2
A	1283	LYS	-	expression tag	UNP P0DTC2
B	986	PRO	LYS	conflict	UNP P0DTC2
B	987	PRO	VAL	conflict	UNP P0DTC2
B	1274	LEU	-	expression tag	UNP P0DTC2
B	1275	GLU	-	expression tag	UNP P0DTC2
B	1276	ASP	-	expression tag	UNP P0DTC2
B	1277	TYR	-	expression tag	UNP P0DTC2
B	1278	LYS	-	expression tag	UNP P0DTC2
B	1279	ASP	-	expression tag	UNP P0DTC2
B	1280	ASP	-	expression tag	UNP P0DTC2
B	1281	ASP	-	expression tag	UNP P0DTC2
B	1282	ASP	-	expression tag	UNP P0DTC2
B	1283	LYS	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	986	PRO	LYS	conflict	UNP P0DTC2
C	987	PRO	VAL	conflict	UNP P0DTC2
C	1274	LEU	-	expression tag	UNP P0DTC2
C	1275	GLU	-	expression tag	UNP P0DTC2
C	1276	ASP	-	expression tag	UNP P0DTC2
C	1277	TYR	-	expression tag	UNP P0DTC2
C	1278	LYS	-	expression tag	UNP P0DTC2
C	1279	ASP	-	expression tag	UNP P0DTC2
C	1280	ASP	-	expression tag	UNP P0DTC2
C	1281	ASP	-	expression tag	UNP P0DTC2
C	1282	ASP	-	expression tag	UNP P0DTC2
C	1283	LYS	-	expression tag	UNP P0DTC2

- Molecule 2 is a protein called Immunoglobulin heavy variable 3-30-3,chain H of P5A-1B6_3 B,Immunoglobulin gamma-1 heavy chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	H	229	Total	C	N	O	S	0	0
			1710	1079	290	334	7		
2	I	229	Total	C	N	O	S	0	0
			1710	1079	290	334	7		
2	J	229	Total	C	N	O	S	0	0
			1710	1079	290	334	7		

- Molecule 3 is a protein called Immunoglobulin kappa variable 1-33,Uncharacterized protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	K	214	Total	C	N	O	S	0	0
			1654	1033	273	342	6		
3	M	214	Total	C	N	O	S	0	0
			1654	1033	273	342	6		
3	N	214	Total	C	N	O	S	0	0
			1654	1033	273	342	6		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	96	TYR	-	linker	UNP P01594
M	96	TYR	-	linker	UNP P01594
N	96	TYR	-	linker	UNP P01594

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

cetamido-2-deoxy-beta-D-glucopyranose.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	D	2	Total	C	N	O	0	0
			28	16	2	10		
4	E	2	Total	C	N	O	0	0
			28	16	2	10		
4	F	2	Total	C	N	O	0	0
			28	16	2	10		
4	G	2	Total	C	N	O	0	0
			28	16	2	10		
4	L	2	Total	C	N	O	0	0
			28	16	2	10		
4	O	2	Total	C	N	O	0	0
			28	16	2	10		
4	P	2	Total	C	N	O	0	0
			28	16	2	10		
4	Q	2	Total	C	N	O	0	0
			28	16	2	10		
4	R	2	Total	C	N	O	0	0
			28	16	2	10		
4	S	2	Total	C	N	O	0	0
			28	16	2	10		
4	T	2	Total	C	N	O	0	0
			28	16	2	10		
4	U	2	Total	C	N	O	0	0
			28	16	2	10		
4	V	2	Total	C	N	O	0	0
			28	16	2	10		
4	W	2	Total	C	N	O	0	0
			28	16	2	10		
4	X	2	Total	C	N	O	0	0
			28	16	2	10		
4	Y	2	Total	C	N	O	0	0
			28	16	2	10		
4	Z	2	Total	C	N	O	0	0
			28	16	2	10		
4	a	2	Total	C	N	O	0	0
			28	16	2	10		
4	b	2	Total	C	N	O	0	0
			28	16	2	10		

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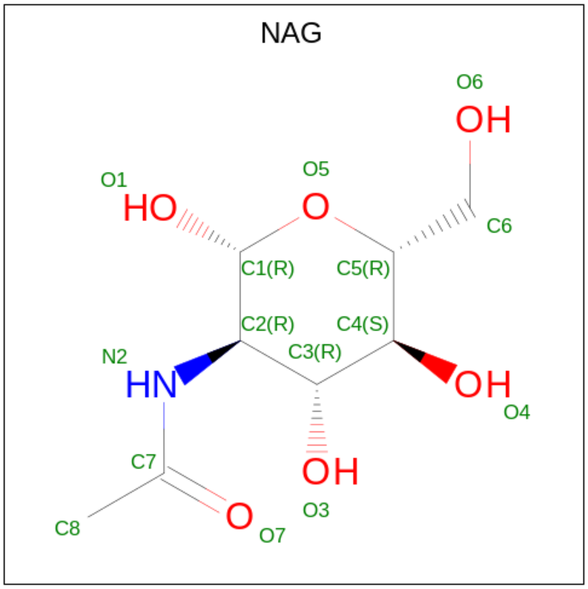
Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
4	c	2	28	16	2	10	0	0

- Molecule 5 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
5	A	1	154	88	11	55	0
5	A	1	154	88	11	55	0
5	A	1	154	88	11	55	0
5	A	1	154	88	11	55	0
5	A	1	154	88	11	55	0
5	A	1	154	88	11	55	0
5	A	1	154	88	11	55	0
5	A	1	154	88	11	55	0
5	A	1	154	88	11	55	0
5	A	1	154	88	11	55	0

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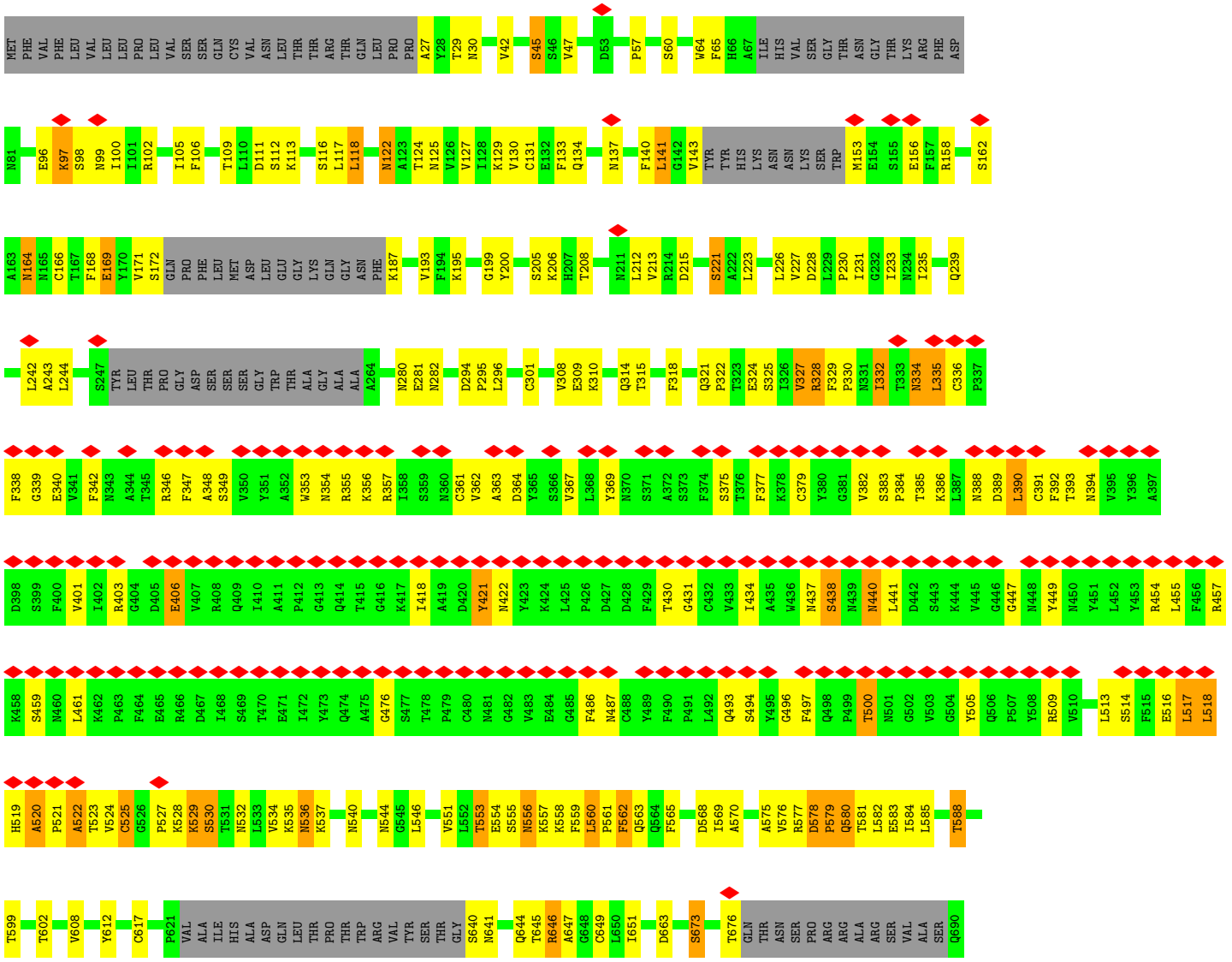
Mol	Chain	Residues	Atoms				AltConf
5	A	1	Total 154	C 88	N 11	O 55	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	B	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0
5	C	1	Total 140	C 80	N 10	O 50	0

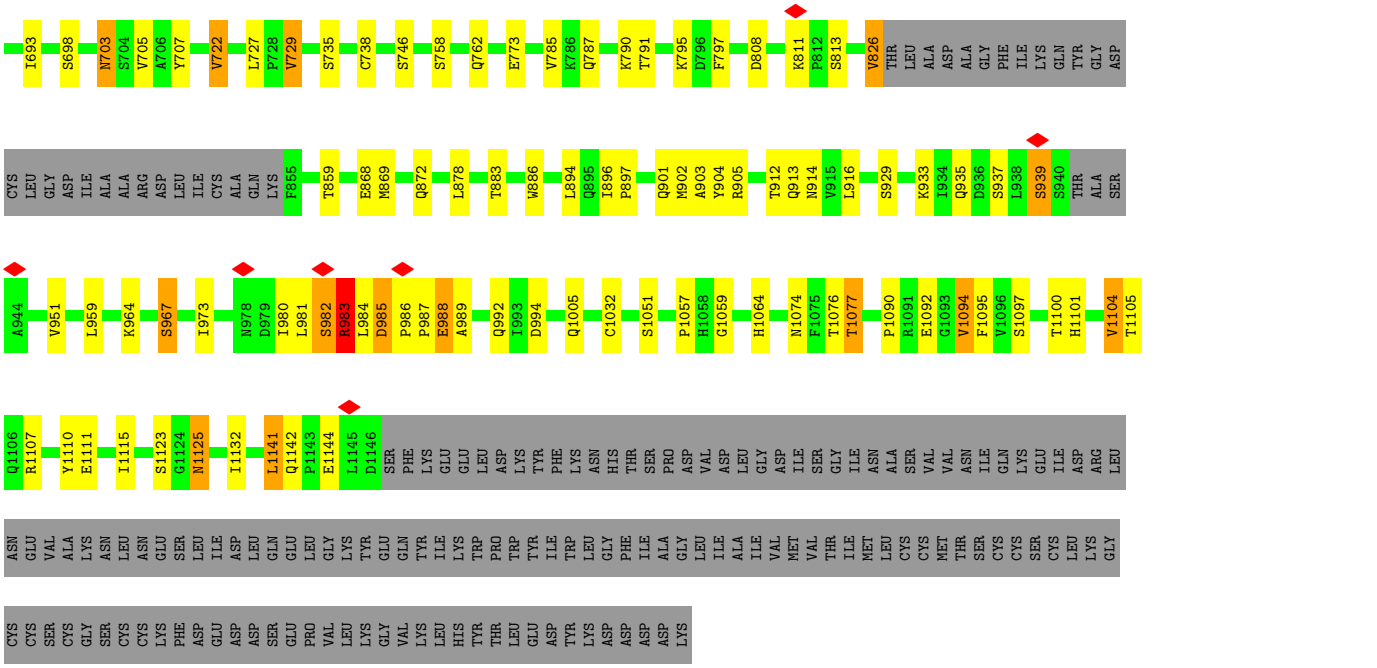
3 Residue-property plots (i)

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: Spike glycoprotein

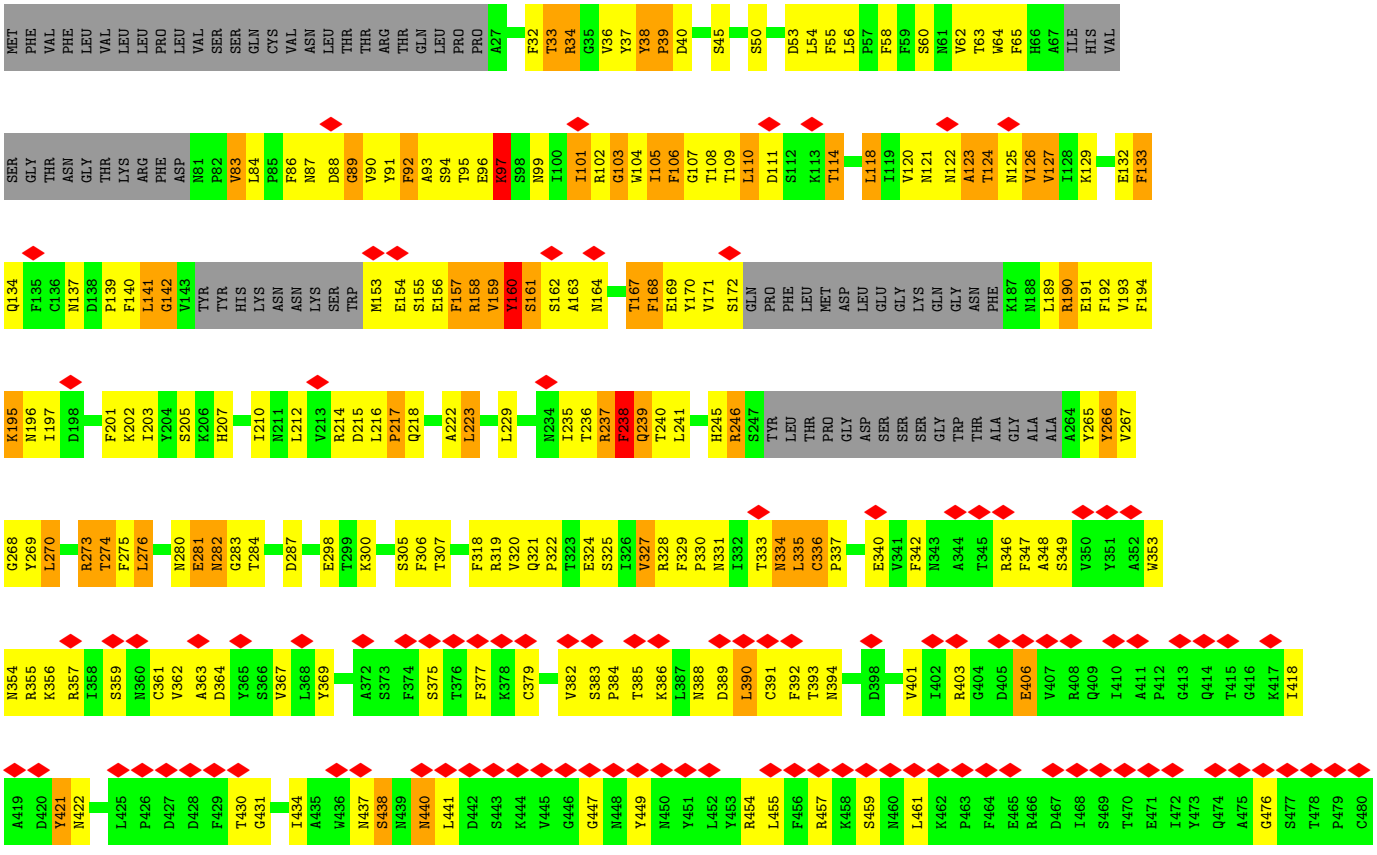
Chain A:

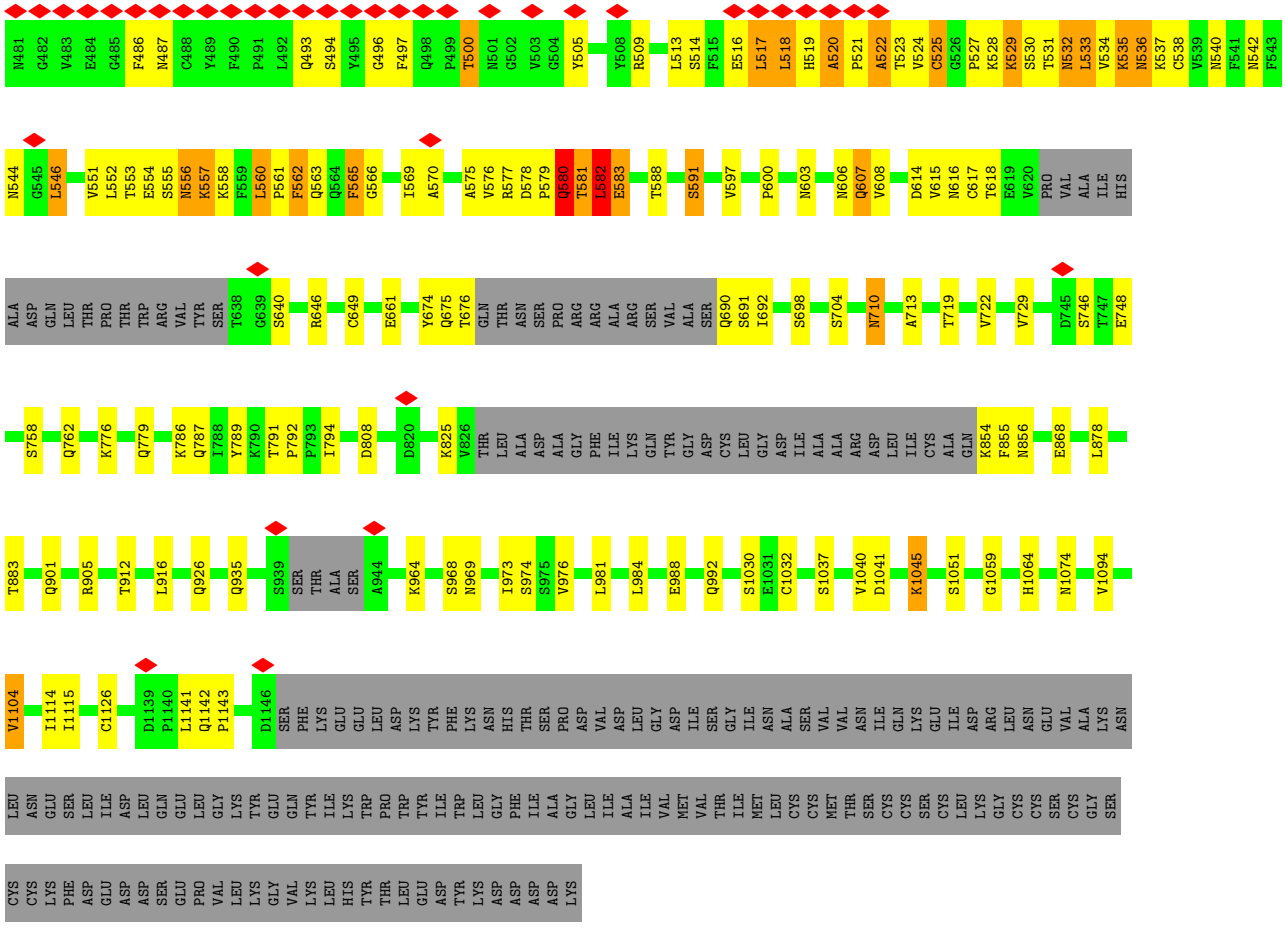




• Molecule 1: Spike glycoprotein

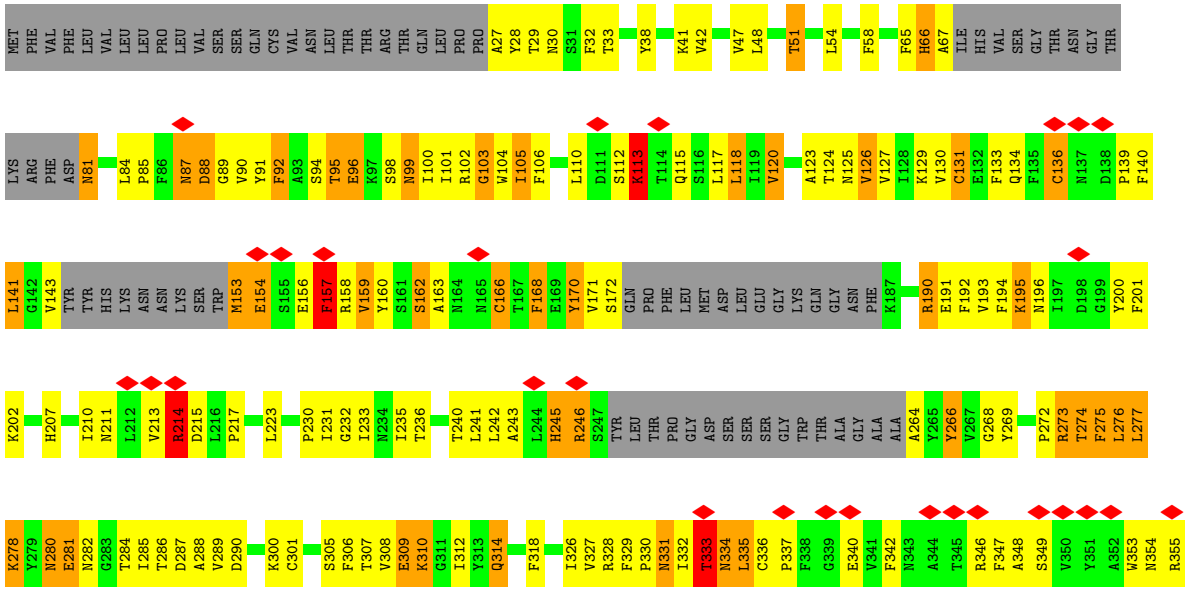
Chain B:

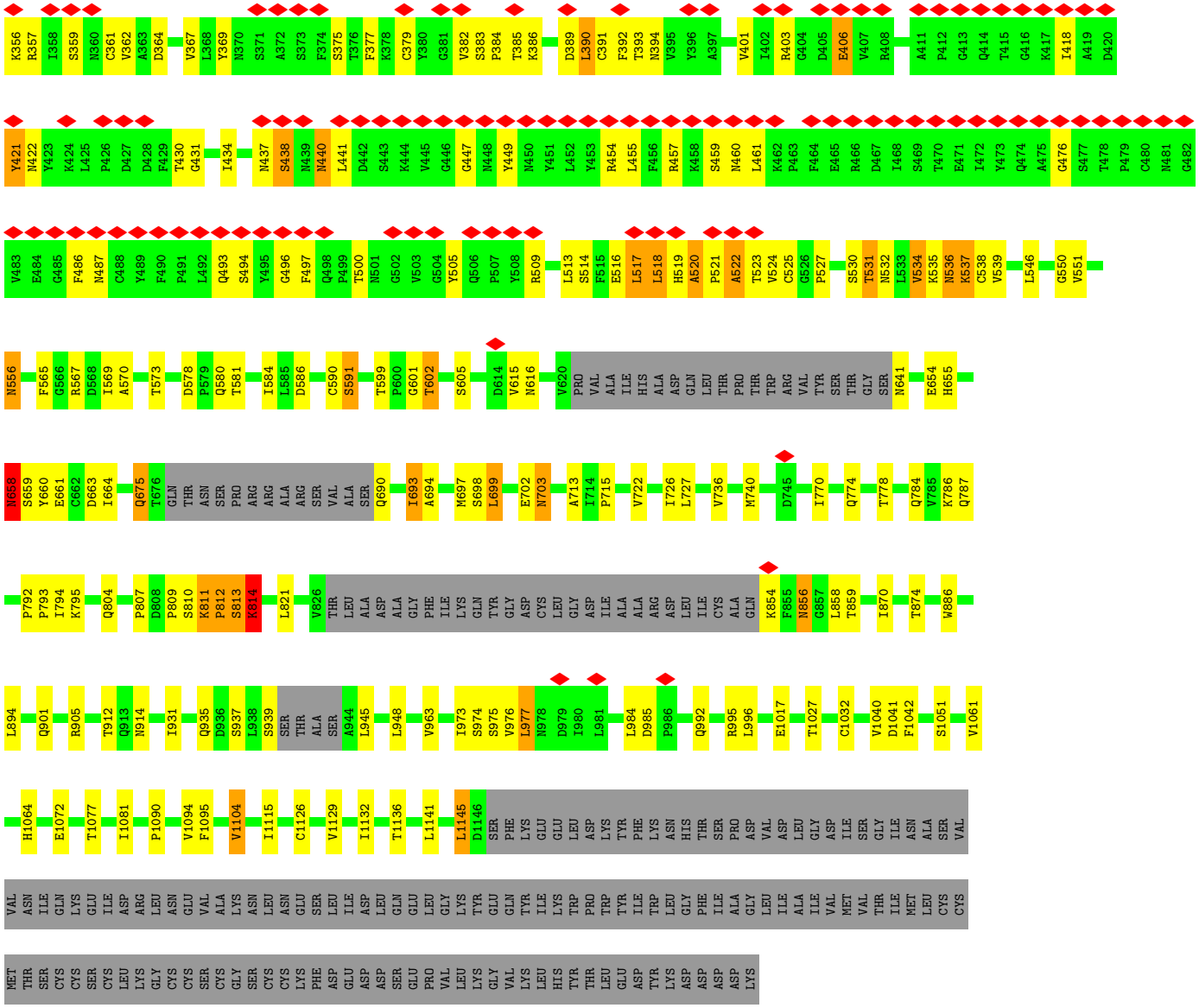




• Molecule 1: Spike glycoprotein

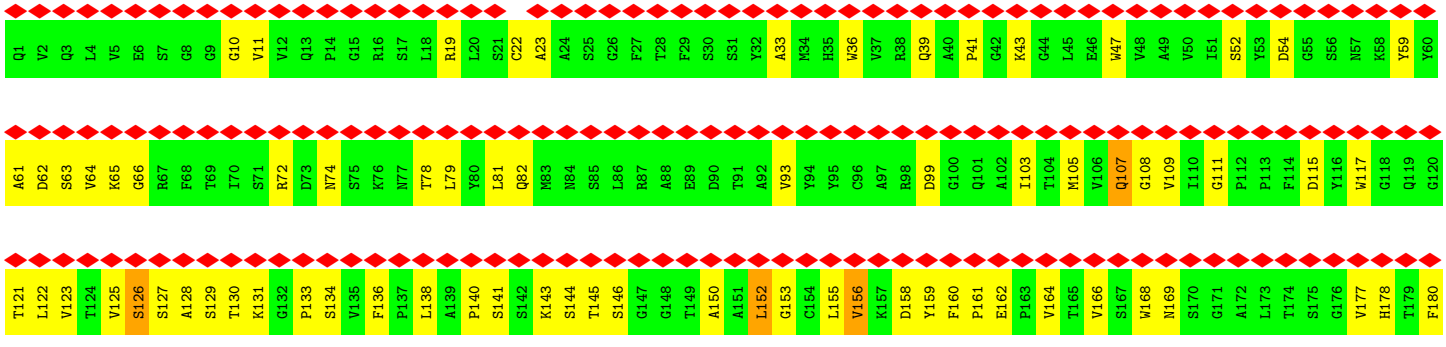
Chain C:

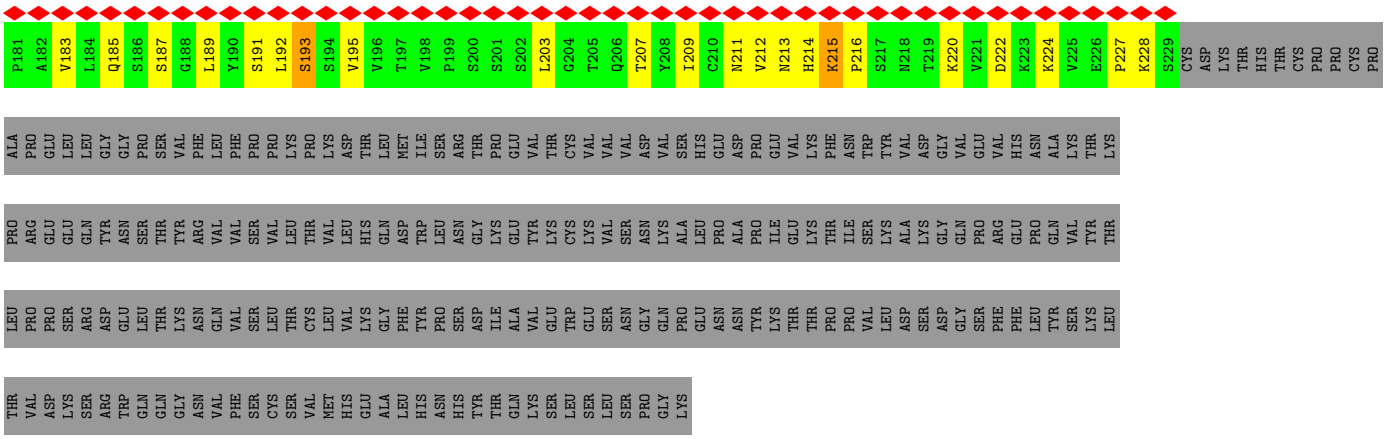




• Molecule 2: Immunoglobulin heavy variable 3-30-3,chain H of P5A-1B6_3B,Immunoglobulin gamma-1 heavy chain

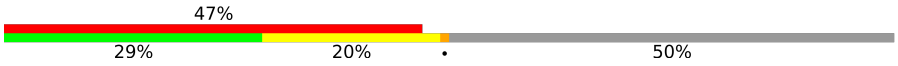
Chain H:

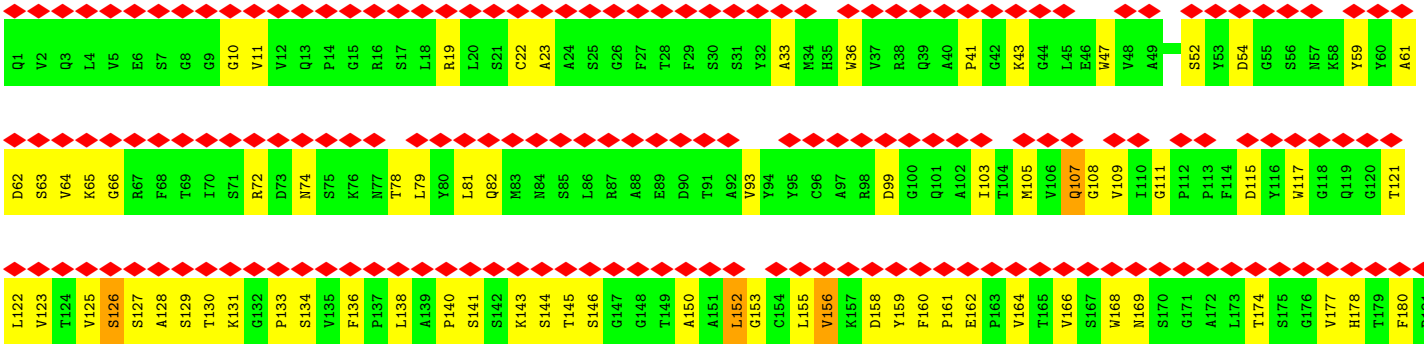




• Molecule 2: Immunoglobulin heavy variable 3-30-3,chain H of P5A-1B6_3B,Immunoglobulin gamma-1 heavy chain

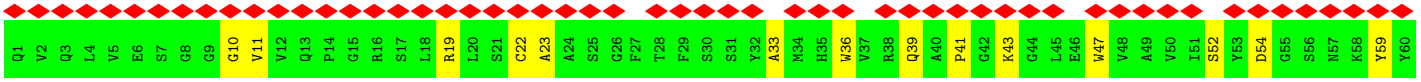
Chain I:

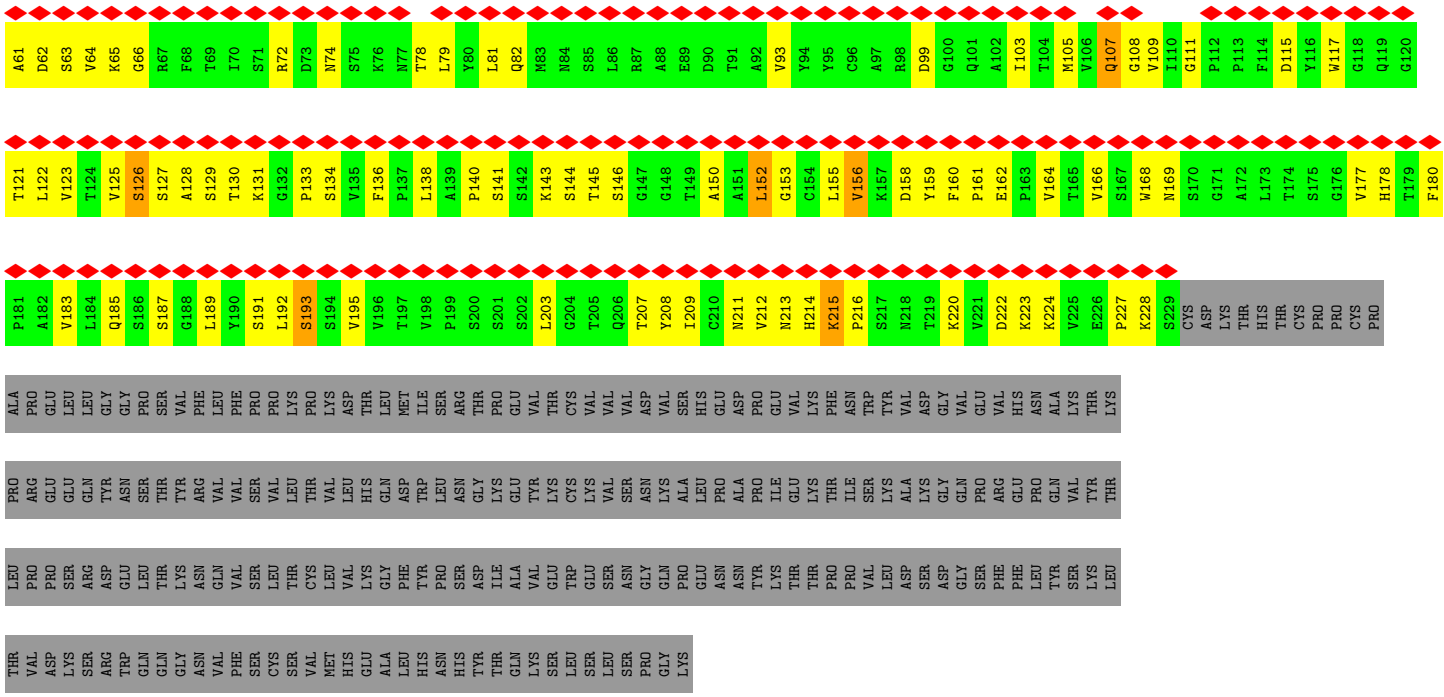




• Molecule 2: Immunoglobulin heavy variable 3-30-3,chain H of P5A-1B6_3B,Immunoglobulin gamma-1 heavy chain

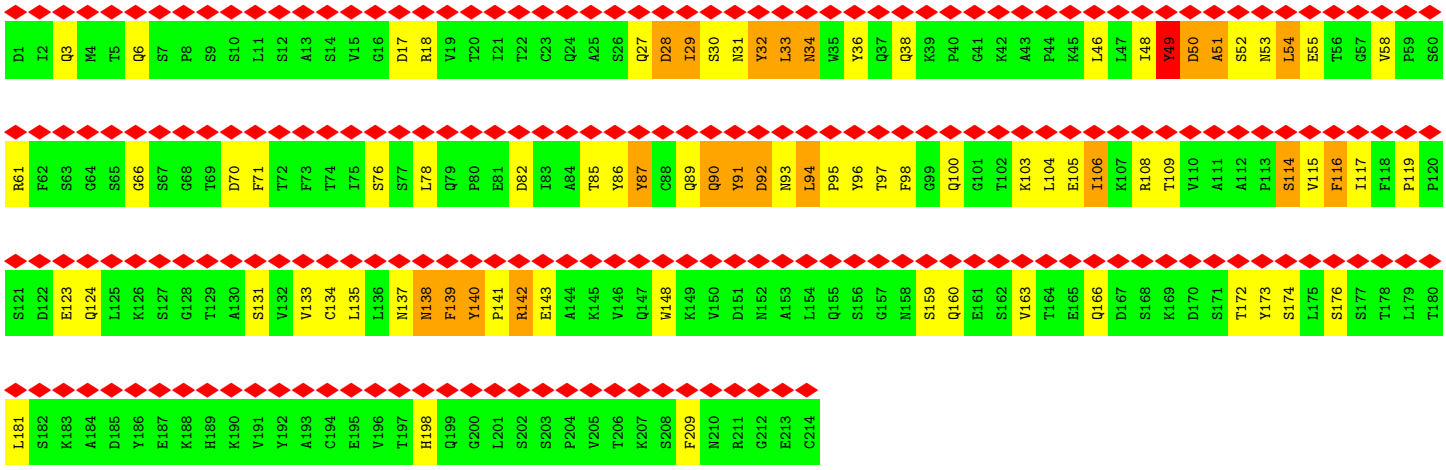
Chain J:





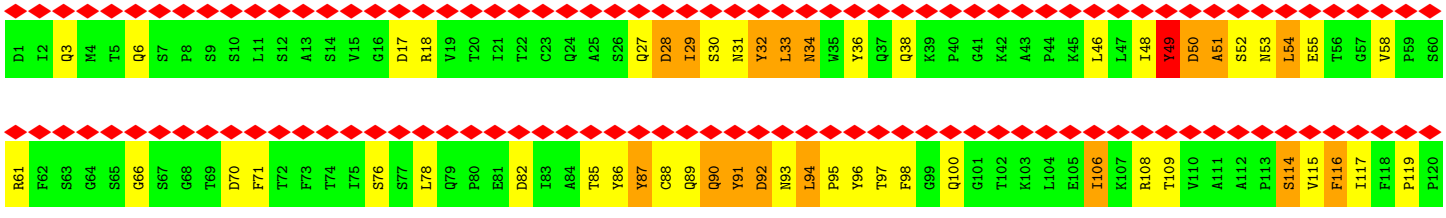
• Molecule 3: Immunoglobulin kappa variable 1-33,Uncharacterized protein

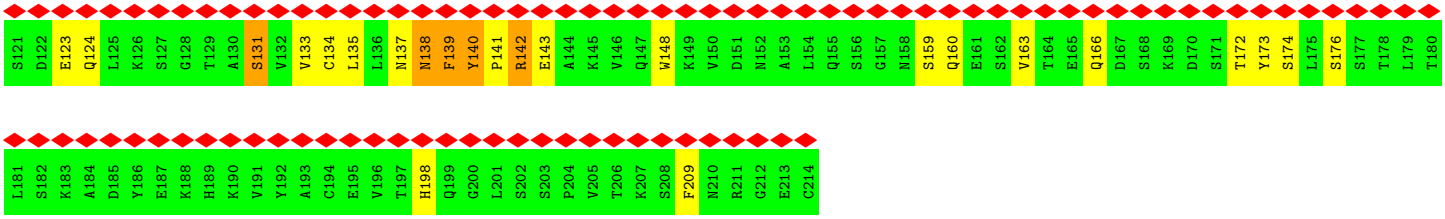
Chain K:



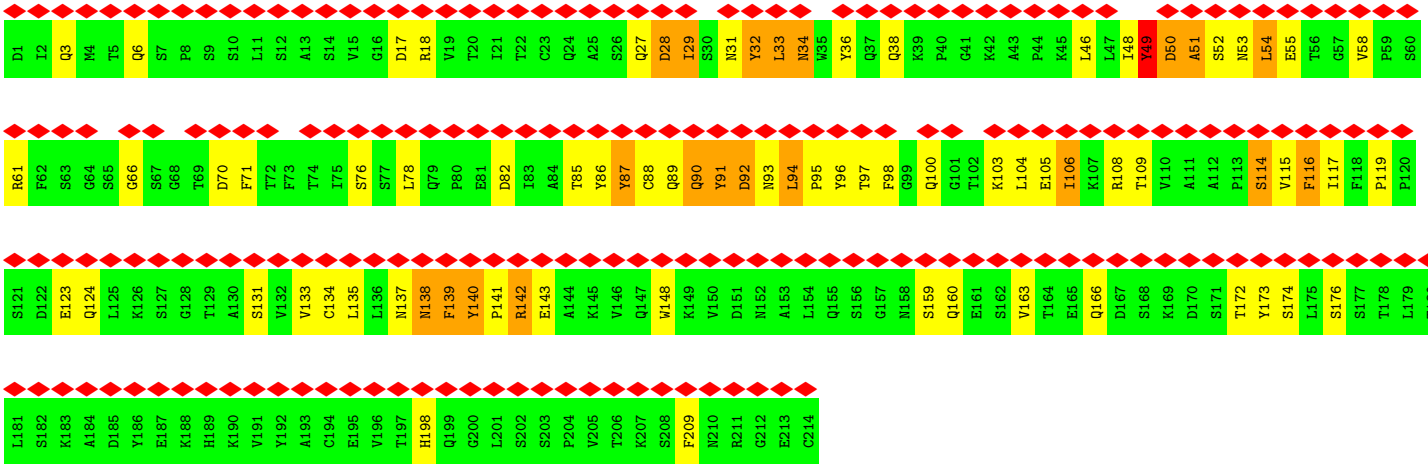
• Molecule 3: Immunoglobulin kappa variable 1-33,Uncharacterized protein

Chain M:





• Molecule 3: Immunoglobulin kappa variable 1-33,Uncharacterized protein



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

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

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

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

Chain G:

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

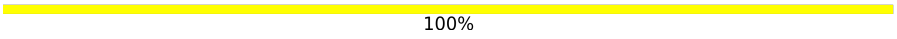
Chain L:

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

Chain O:

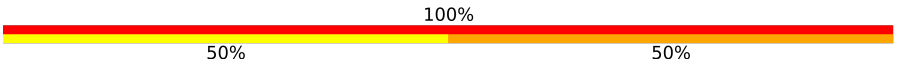
• Molecule 4: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain P:



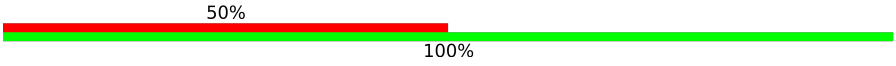
• Molecule 4: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Q:



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

Chain R:



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

Chain S:

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

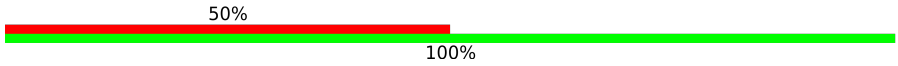
Chain T:

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

Chain U:

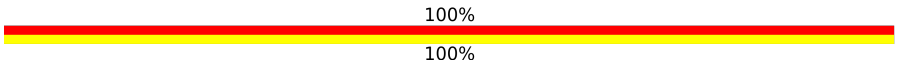
• Molecule 4: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain V:



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

Chain W:



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

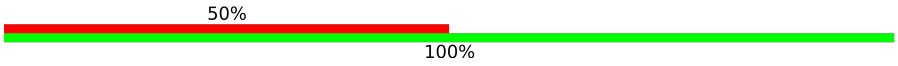
Chain X:

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

Chain Y:

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

Chain Z:

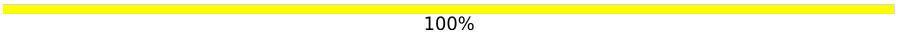


• Molecule 4: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain a:

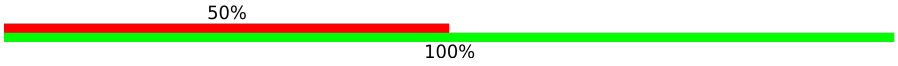
• Molecule 4: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain b:



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

Chain c:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	55619	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.169	Depositor
Minimum map value	-0.090	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.02	Depositor
Map size (Å)	313.056, 313.056, 313.056	wwPDB
Map dimensions	288, 288, 288	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.087, 1.087, 1.087	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.59	0/8039	0.56	0/10936
1	B	0.71	0/8045	0.74	0/10942
1	C	0.71	0/8028	0.73	0/10919
2	H	0.30	0/1751	0.57	0/2385
2	I	0.30	0/1751	0.57	0/2385
2	J	0.31	0/1751	0.57	0/2385
3	K	0.40	0/1689	0.56	0/2295
3	M	0.40	0/1689	0.56	0/2295
3	N	0.40	0/1689	0.56	0/2295
All	All	0.60	0/34432	0.65	0/46837

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	7863	0	7656	316	0
1	B	7870	0	7662	466	0
1	C	7853	0	7647	448	0
2	H	1710	0	1682	191	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	I	1710	0	1682	189	0
2	J	1710	0	1682	191	0
3	K	1654	0	1593	194	0
3	M	1654	0	1593	193	0
3	N	1654	0	1593	197	0
4	D	28	0	25	3	0
4	E	28	0	25	0	0
4	F	28	0	25	1	0
4	G	28	0	25	1	0
4	L	28	0	25	0	0
4	O	28	0	25	0	0
4	P	28	0	25	0	0
4	Q	28	0	25	3	0
4	R	28	0	25	0	0
4	S	28	0	25	0	0
4	T	28	0	25	0	0
4	U	28	0	25	1	0
4	V	28	0	25	0	0
4	W	28	0	25	4	0
4	X	28	0	25	1	0
4	Y	28	0	25	0	0
4	Z	28	0	25	0	0
4	a	28	0	25	0	0
4	b	28	0	25	0	0
4	c	28	0	25	0	0
5	A	154	0	143	7	0
5	B	140	0	129	14	0
5	C	140	0	130	9	0
All	All	34672	0	33692	2128	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 31.

All (2128) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:131:LYS:HD3	2:I:189:LEU:CD2	1.37	1.54
2:H:131:LYS:HD3	2:H:189:LEU:CD2	1.36	1.53
2:J:131:LYS:HD3	2:J:189:LEU:CD2	1.37	1.53
5:B:1409:NAG:O4	5:B:1410:NAG:C1	1.63	1.46
1:B:106:PHE:CB	1:B:235:ILE:HD13	1.49	1.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:276:LEU:CD2	1:C:289:VAL:HB	1.49	1.40
3:M:32:TYR:CD2	3:M:51:ALA:HB2	1.56	1.39
2:I:125:VAL:HG11	2:I:160:PHE:CE1	1.57	1.38
2:H:125:VAL:HG11	2:H:160:PHE:CE1	1.57	1.37
3:K:32:TYR:CD2	3:K:51:ALA:HB2	1.56	1.37
2:J:125:VAL:HG11	2:J:160:PHE:CE1	1.57	1.37
3:N:32:TYR:CD2	3:N:51:ALA:HB2	1.56	1.37
5:C:1406:NAG:O4	5:C:1407:NAG:C1	1.74	1.36
3:M:32:TYR:CB	3:M:50:ASP:HB2	1.57	1.34
1:B:53:ASP:HB3	1:B:55:PHE:CE1	1.62	1.34
5:A:1406:NAG:O4	5:A:1407:NAG:C1	1.76	1.33
3:K:32:TYR:CB	3:K:50:ASP:HB2	1.57	1.33
3:N:32:TYR:CB	3:N:50:ASP:HB2	1.57	1.32
1:C:101:ILE:HD11	1:C:240:THR:CG2	1.64	1.28
1:C:125:ASN:HD22	1:C:171:VAL:CG1	1.46	1.27
1:C:449:TYR:CE2	2:J:107:GLN:HG3	1.68	1.27
1:B:449:TYR:CE2	2:I:107:GLN:HG3	1.68	1.26
1:A:449:TYR:CE2	2:H:107:GLN:HG3	1.69	1.26
5:A:1406:NAG:HO4	5:A:1407:NAG:C1	1.48	1.24
1:C:95:THR:O	1:C:96:GLU:HG3	1.41	1.21
3:M:32:TYR:CD2	3:M:51:ALA:CB	2.25	1.19
2:I:125:VAL:CG1	2:I:160:PHE:CE1	2.26	1.19
3:K:85:THR:HG21	3:K:87:TYR:CZ	1.78	1.19
3:N:85:THR:HG21	3:N:87:TYR:CZ	1.78	1.18
3:M:85:THR:HG21	3:M:87:TYR:CZ	1.79	1.18
2:J:125:VAL:CG1	2:J:160:PHE:CE1	2.26	1.18
3:K:32:TYR:CD2	3:K:51:ALA:CB	2.25	1.17
3:N:32:TYR:CD2	3:N:51:ALA:CB	2.25	1.17
2:I:131:LYS:CD	2:I:189:LEU:HD22	1.74	1.17
2:H:125:VAL:CG1	2:H:160:PHE:CE1	2.26	1.17
2:H:130:THR:OG1	2:H:161:PRO:HG2	1.45	1.16
1:B:190:ARG:HD3	1:B:207:HIS:CE1	1.80	1.16
2:H:131:LYS:CD	2:H:189:LEU:HD22	1.74	1.16
2:J:131:LYS:CD	2:J:189:LEU:HD22	1.74	1.16
2:I:136:PHE:CE2	3:M:124:GLN:HG3	1.80	1.15
3:N:33:LEU:HD11	3:N:71:PHE:CE2	1.81	1.15
2:I:130:THR:OG1	2:I:161:PRO:HG2	1.45	1.15
3:K:33:LEU:HD11	3:K:71:PHE:CE2	1.81	1.15
2:J:136:PHE:CE2	3:N:124:GLN:HG3	1.80	1.15
1:A:555:SER:CB	1:A:584:ILE:HG22	1.77	1.15
1:B:340:GLU:OE2	1:B:356:LYS:HE2	1.47	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:136:PHE:CE2	3:K:124:GLN:HG3	1.80	1.14
1:A:340:GLU:OE2	1:A:356:LYS:HE2	1.47	1.14
3:M:32:TYR:HD2	3:M:51:ALA:CB	1.59	1.14
3:M:33:LEU:HD11	3:M:71:PHE:CE2	1.81	1.14
2:I:59:TYR:HB3	3:M:94:LEU:CD2	1.78	1.14
2:J:59:TYR:HB3	3:N:94:LEU:CD2	1.78	1.14
1:B:449:TYR:CD2	2:I:107:GLN:HG3	1.84	1.13
1:B:125:ASN:HB3	1:B:172:SER:C	1.68	1.13
2:H:59:TYR:HB3	3:K:94:LEU:CD2	1.78	1.13
2:J:130:THR:OG1	2:J:161:PRO:HG2	1.45	1.13
3:N:32:TYR:HD2	3:N:51:ALA:CB	1.59	1.13
3:K:32:TYR:HB2	3:K:50:ASP:HB2	1.29	1.12
3:K:32:TYR:HD2	3:K:51:ALA:CB	1.59	1.12
1:A:449:TYR:CD2	2:H:107:GLN:HG3	1.84	1.12
1:C:340:GLU:OE2	1:C:356:LYS:HE2	1.47	1.12
2:I:11:VAL:HG11	2:I:160:PHE:CZ	1.85	1.12
1:B:134:GLN:O	1:B:160:TYR:HA	1.49	1.12
1:A:523:THR:HG22	1:A:524:VAL:H	0.98	1.11
1:C:143:VAL:HG23	1:C:243:ALA:HB1	1.24	1.11
2:H:11:VAL:HG11	2:H:160:PHE:CZ	1.85	1.11
2:J:11:VAL:HG11	2:J:160:PHE:CZ	1.85	1.11
1:C:133:PHE:HE1	1:C:160:TYR:CE1	1.68	1.11
1:C:449:TYR:CD2	2:J:107:GLN:HG3	1.84	1.11
1:B:91:TYR:HB3	1:B:268:GLY:CA	1.80	1.10
1:B:118:LEU:HD21	1:B:120:VAL:CG1	1.81	1.10
1:B:523:THR:HG22	1:B:524:VAL:H	0.97	1.10
1:C:67:ALA:CB	1:C:81:ASN:OD1	2.00	1.10
2:J:131:LYS:CD	2:J:189:LEU:CD2	2.30	1.09
1:C:392:PHE:HB3	1:C:517:LEU:HD21	1.35	1.09
1:B:520:ALA:HB1	1:B:521:PRO:HD2	1.35	1.09
1:C:523:THR:HG22	1:C:524:VAL:H	0.98	1.09
1:B:91:TYR:HB3	1:B:268:GLY:HA3	1.28	1.09
1:C:29:THR:HG22	1:C:30:ASN:H	0.93	1.09
2:J:131:LYS:CE	2:J:158:ASP:HB3	1.83	1.09
2:I:131:LYS:CE	2:I:158:ASP:HB3	1.83	1.08
1:C:101:ILE:HD11	1:C:240:THR:HG22	1.30	1.08
1:C:276:LEU:HD23	1:C:289:VAL:HB	1.26	1.08
3:M:32:TYR:HB2	3:M:50:ASP:HB2	1.29	1.08
3:N:32:TYR:HB2	3:N:50:ASP:HB2	1.29	1.08
3:K:114:SER:HB2	3:K:116:PHE:CZ	1.89	1.08
3:M:114:SER:HB2	3:M:116:PHE:CZ	1.89	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:392:PHE:HB3	1:B:517:LEU:HD21	1.35	1.07
2:H:131:LYS:CE	2:H:158:ASP:HB3	1.83	1.07
3:N:32:TYR:HB3	3:N:50:ASP:HB2	1.34	1.07
1:B:127:VAL:HG11	5:B:1402:NAG:H61	1.34	1.07
1:C:133:PHE:HE1	1:C:160:TYR:CD1	1.71	1.07
1:A:392:PHE:HB3	1:A:517:LEU:HD21	1.35	1.07
3:K:32:TYR:HB3	3:K:50:ASP:HB2	1.34	1.07
3:N:114:SER:HB2	3:N:116:PHE:CZ	1.89	1.07
1:C:29:THR:CG2	1:C:30:ASN:H	1.68	1.06
2:H:131:LYS:CD	2:H:189:LEU:CD2	2.30	1.06
1:B:106:PHE:HB3	1:B:235:ILE:HD13	1.06	1.06
1:B:139:PRO:HB3	1:B:159:VAL:HG13	1.37	1.06
3:M:32:TYR:HB3	3:M:50:ASP:HB2	1.34	1.06
1:C:520:ALA:HB1	1:C:521:PRO:HD2	1.35	1.05
1:B:335:LEU:HA	1:B:362:VAL:HB	1.38	1.05
2:I:131:LYS:CD	2:I:189:LEU:CD2	2.30	1.05
1:A:520:ALA:HB1	1:A:521:PRO:HD2	1.35	1.04
1:B:523:THR:HG22	1:B:524:VAL:N	1.72	1.04
1:A:392:PHE:HB3	1:A:517:LEU:CD2	1.88	1.04
1:B:392:PHE:HB3	1:B:517:LEU:CD2	1.88	1.04
1:A:329:PHE:O	1:A:579:PRO:HG2	1.57	1.04
1:C:131:CYS:HB3	1:C:166:CYS:HA	1.36	1.04
1:C:196:ASN:HB2	1:C:201:PHE:CD1	1.93	1.04
1:C:29:THR:HG22	1:C:30:ASN:N	1.66	1.03
1:B:570:ALA:HB1	1:C:963:VAL:CG1	1.88	1.03
1:B:105:ILE:O	1:B:238:PHE:HA	1.57	1.02
1:A:536:ASN:O	1:A:537:LYS:HG2	1.59	1.01
1:B:96:GLU:O	1:B:97:LYS:HB3	1.54	1.01
1:C:310:LYS:HA	1:C:599:THR:O	1.59	1.01
1:C:392:PHE:HB3	1:C:517:LEU:CD2	1.88	1.01
1:C:523:THR:HG22	1:C:524:VAL:N	1.73	1.01
2:H:144:SER:CB	3:K:116:PHE:HB3	1.91	1.01
5:B:1409:NAG:C4	5:B:1410:NAG:C1	2.38	1.01
2:H:125:VAL:CG1	2:H:160:PHE:HE1	1.69	1.01
2:I:125:VAL:HG22	2:I:126:SER:H	1.25	1.01
1:C:196:ASN:HB2	1:C:201:PHE:HD1	1.24	1.00
1:A:403:ARG:NH1	1:A:505:TYR:HE1	1.58	1.00
1:C:392:PHE:CB	1:C:517:LEU:HD21	1.91	1.00
1:C:403:ARG:NH1	1:C:505:TYR:HE1	1.58	1.00
1:B:403:ARG:NH1	1:B:505:TYR:HE1	1.58	1.00
2:J:125:VAL:HG22	2:J:126:SER:H	1.25	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:550:GLY:HA2	1:C:590:CYS:SG	2.01	1.00
1:C:133:PHE:CE1	1:C:160:TYR:CD1	2.49	1.00
2:I:144:SER:CB	3:M:116:PHE:HB3	1.91	1.00
1:B:32:PHE:CE2	1:B:218:GLN:HG3	1.96	1.00
1:B:392:PHE:CB	1:B:517:LEU:HD21	1.91	1.00
1:B:536:ASN:O	1:B:537:LYS:HG2	1.59	1.00
1:C:133:PHE:CE1	1:C:160:TYR:CE1	2.50	0.99
1:B:106:PHE:CB	1:B:235:ILE:CD1	2.39	0.99
1:C:537:LYS:O	1:C:539:VAL:HG13	1.62	0.99
1:C:125:ASN:HD22	1:C:171:VAL:HG12	1.22	0.99
3:N:32:TYR:CB	3:N:50:ASP:CB	2.41	0.99
3:K:32:TYR:CB	3:K:50:ASP:CB	2.41	0.99
2:H:125:VAL:HG22	2:H:126:SER:H	1.25	0.99
2:J:144:SER:CB	3:N:116:PHE:HB3	1.91	0.99
1:B:118:LEU:HD21	1:B:120:VAL:HG11	1.42	0.98
1:B:553:THR:HG22	1:B:554:GLU:H	1.25	0.98
1:C:811:LYS:HB2	1:C:812:PRO:CD	1.91	0.98
3:M:32:TYR:CB	3:M:50:ASP:CB	2.40	0.98
1:B:53:ASP:CB	1:B:55:PHE:CE1	2.46	0.98
1:B:493:GLN:NE2	2:I:103:ILE:HA	1.79	0.98
2:J:136:PHE:CE2	3:N:124:GLN:CG	2.47	0.98
2:I:59:TYR:HB3	3:M:94:LEU:HD23	1.44	0.98
2:J:131:LYS:HD3	2:J:189:LEU:HD21	1.45	0.98
1:A:392:PHE:CB	1:A:517:LEU:HD21	1.91	0.98
2:J:59:TYR:HB3	3:N:94:LEU:HD23	1.44	0.98
1:B:32:PHE:CE2	1:B:218:GLN:CG	2.47	0.97
1:A:493:GLN:NE2	2:H:103:ILE:HA	1.78	0.97
1:C:112:SER:O	1:C:113:LYS:HG2	1.64	0.97
1:B:523:THR:CG2	1:B:524:VAL:H	1.77	0.97
1:C:95:THR:O	1:C:96:GLU:CG	2.11	0.97
1:C:327:VAL:H	1:C:531:THR:HG22	1.26	0.97
1:C:101:ILE:CD1	1:C:240:THR:CG2	2.42	0.97
2:I:131:LYS:HD3	2:I:189:LEU:HD21	1.45	0.97
2:I:136:PHE:CE2	3:M:124:GLN:CG	2.47	0.97
1:C:310:LYS:HE3	1:C:663:ASP:OD1	1.63	0.97
1:A:523:THR:CG2	1:A:524:VAL:H	1.77	0.97
1:B:346:ARG:NH2	1:B:347:PHE:O	1.98	0.97
1:C:277:LEU:H	1:C:277:LEU:HD22	1.29	0.96
1:C:493:GLN:NE2	2:J:103:ILE:HA	1.79	0.96
2:H:131:LYS:HD3	2:H:189:LEU:HD21	1.45	0.96
2:H:136:PHE:CE2	3:K:124:GLN:CG	2.47	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:59:TYR:HB3	3:K:94:LEU:HD23	1.44	0.96
2:H:47:TRP:CZ3	3:K:95:PRO:HA	2.01	0.96
2:H:131:LYS:HE2	2:H:158:ASP:HB3	1.47	0.96
2:H:59:TYR:HB3	3:K:94:LEU:HD21	1.48	0.96
1:C:87:ASN:HD22	1:C:269:TYR:HE1	1.14	0.96
1:B:403:ARG:NH1	1:B:505:TYR:CE1	2.33	0.96
2:I:127:SER:OG	2:I:160:PHE:HB2	1.66	0.95
1:C:276:LEU:CD2	1:C:289:VAL:CB	2.43	0.95
1:C:523:THR:CG2	1:C:524:VAL:H	1.77	0.95
2:J:47:TRP:CZ3	3:N:95:PRO:HA	2.01	0.95
1:A:403:ARG:NH1	1:A:505:TYR:CE1	2.33	0.95
1:C:346:ARG:NH2	1:C:347:PHE:O	1.98	0.95
2:H:127:SER:OG	2:H:160:PHE:HB2	1.66	0.95
2:J:127:SER:OG	2:J:160:PHE:HB2	1.66	0.95
1:A:523:THR:HG22	1:A:524:VAL:N	1.73	0.95
1:C:403:ARG:NH1	1:C:505:TYR:CE1	2.33	0.95
2:I:47:TRP:CZ3	3:M:95:PRO:HA	2.01	0.95
3:M:32:TYR:HB2	3:M:50:ASP:CB	1.97	0.94
2:H:125:VAL:HG11	2:H:160:PHE:HE1	1.12	0.94
1:A:555:SER:HB3	1:A:584:ILE:HG22	1.47	0.94
3:N:32:TYR:HB2	3:N:50:ASP:CB	1.97	0.94
1:A:346:ARG:NH2	1:A:347:PHE:O	1.98	0.94
2:J:125:VAL:CG1	2:J:160:PHE:HE1	1.69	0.94
1:B:190:ARG:CD	1:B:207:HIS:CE1	2.51	0.94
2:J:59:TYR:CB	3:N:94:LEU:HD21	1.98	0.93
1:C:125:ASN:ND2	1:C:171:VAL:CG1	2.31	0.93
1:A:330:PRO:CA	1:A:579:PRO:HB2	1.97	0.93
1:C:101:ILE:CD1	1:C:240:THR:HG22	1.97	0.93
2:H:59:TYR:CB	3:K:94:LEU:HD21	1.98	0.93
2:I:125:VAL:CG1	2:I:160:PHE:HE1	1.69	0.93
2:I:131:LYS:HE2	2:I:158:ASP:HB3	1.47	0.93
1:B:53:ASP:HB3	1:B:55:PHE:CZ	2.04	0.93
1:C:449:TYR:CE2	2:J:107:GLN:CG	2.52	0.93
2:J:59:TYR:HB3	3:N:94:LEU:HD21	1.48	0.93
2:I:125:VAL:HG11	2:I:160:PHE:HE1	1.12	0.92
1:C:143:VAL:CG2	1:C:243:ALA:HB1	1.99	0.92
1:B:102:ARG:NH1	1:B:141:LEU:HD12	1.82	0.92
1:B:106:PHE:HB2	1:B:235:ILE:HD13	1.50	0.92
1:C:329:PHE:HB3	1:C:330:PRO:HD2	1.50	0.92
2:I:59:TYR:CB	3:M:94:LEU:HD21	1.98	0.92
1:A:330:PRO:HA	1:A:579:PRO:HB2	1.50	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:449:TYR:CE2	2:I:107:GLN:CG	2.52	0.92
3:K:32:TYR:HB2	3:K:50:ASP:CB	1.97	0.92
1:A:449:TYR:CE2	2:H:107:GLN:CG	2.52	0.92
1:C:275:PHE:HA	1:C:289:VAL:O	1.68	0.92
2:J:131:LYS:HE2	2:J:158:ASP:HB3	1.47	0.92
1:C:811:LYS:HB2	1:C:812:PRO:HD2	1.50	0.92
3:K:142:ARG:HE	3:K:163:VAL:HG11	1.35	0.92
3:N:142:ARG:HE	3:N:163:VAL:HG11	1.35	0.92
5:C:1406:NAG:HO4	5:C:1407:NAG:C1	1.66	0.91
1:B:127:VAL:CG1	5:B:1402:NAG:H61	1.98	0.91
1:B:273:ARG:HG3	1:B:275:PHE:CE1	2.06	0.91
1:C:327:VAL:H	1:C:531:THR:CG2	1.83	0.91
2:J:125:VAL:HG11	2:J:160:PHE:HE1	1.13	0.91
1:B:330:PRO:HA	1:B:579:PRO:O	1.70	0.91
2:H:131:LYS:HE3	2:H:158:ASP:O	1.71	0.91
3:K:85:THR:CG2	3:K:87:TYR:CZ	2.54	0.91
1:C:133:PHE:CZ	1:C:163:ALA:HB2	2.06	0.91
1:B:106:PHE:HB3	1:B:235:ILE:CD1	2.00	0.90
3:M:91:TYR:O	3:M:92:ASP:HB3	1.71	0.90
2:J:131:LYS:HE3	2:J:158:ASP:O	1.71	0.90
2:I:59:TYR:HB3	3:M:94:LEU:HD21	1.48	0.90
1:C:87:ASN:ND2	1:C:269:TYR:HE1	1.69	0.90
2:I:131:LYS:HE3	2:I:158:ASP:O	1.71	0.90
3:N:85:THR:CG2	3:N:87:TYR:CZ	2.54	0.90
1:B:529:LYS:NZ	1:B:529:LYS:HA	1.84	0.90
1:B:102:ARG:HG3	1:B:102:ARG:HH11	1.33	0.90
3:M:85:THR:CG2	3:M:87:TYR:CZ	2.54	0.90
3:M:142:ARG:HE	3:M:163:VAL:HG11	1.35	0.89
2:J:144:SER:HB3	3:N:116:PHE:HB3	1.54	0.89
1:B:570:ALA:HB1	1:C:963:VAL:HG11	1.53	0.89
1:C:67:ALA:HB3	1:C:81:ASN:OD1	1.73	0.89
1:B:455:LEU:HD11	2:I:103:ILE:HD12	1.54	0.89
3:N:32:TYR:HB3	3:N:50:ASP:CB	2.02	0.89
1:A:329:PHE:C	1:A:579:PRO:CG	2.41	0.89
3:K:32:TYR:HB3	3:K:50:ASP:CB	2.02	0.89
2:J:125:VAL:HG11	2:J:160:PHE:CD1	2.08	0.89
3:N:33:LEU:HD11	3:N:71:PHE:CZ	2.07	0.89
1:B:281:GLU:HG3	1:B:282:ASN:H	1.36	0.89
1:A:455:LEU:HD11	2:H:103:ILE:HD12	1.54	0.89
2:J:11:VAL:HG11	2:J:160:PHE:HZ	1.38	0.89
1:B:109:THR:OG1	1:B:114:THR:HB	1.73	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:11:VAL:HG11	2:I:160:PHE:HZ	1.38	0.88
3:M:32:TYR:HB3	3:M:50:ASP:CB	2.02	0.88
1:B:139:PRO:CB	1:B:159:VAL:HG13	2.02	0.88
3:N:91:TYR:O	3:N:92:ASP:HB3	1.71	0.88
3:N:114:SER:HB2	3:N:116:PHE:HZ	1.38	0.88
3:K:33:LEU:HD11	3:K:71:PHE:CZ	2.07	0.88
3:K:91:TYR:O	3:K:92:ASP:HB3	1.71	0.88
1:C:455:LEU:HD11	2:J:103:ILE:HD12	1.54	0.88
1:C:276:LEU:HD22	1:C:289:VAL:HB	1.50	0.88
2:H:125:VAL:HG11	2:H:160:PHE:CD1	2.08	0.88
3:M:32:TYR:C	3:M:33:LEU:HD13	1.94	0.88
3:M:33:LEU:HD11	3:M:71:PHE:CZ	2.07	0.88
1:B:127:VAL:HG11	5:B:1402:NAG:C6	2.03	0.88
2:H:144:SER:HB3	3:K:116:PHE:HB3	1.54	0.88
2:I:144:SER:HB3	3:M:116:PHE:HB3	1.54	0.88
3:K:32:TYR:C	3:K:33:LEU:HD13	1.94	0.88
1:C:67:ALA:HB2	1:C:81:ASN:OD1	1.73	0.87
1:B:102:ARG:HH12	1:B:141:LEU:HD12	1.38	0.87
2:I:136:PHE:CZ	3:M:124:GLN:HG3	2.09	0.87
2:H:11:VAL:CG1	2:H:160:PHE:HZ	1.88	0.87
1:A:329:PHE:C	1:A:579:PRO:HG3	1.94	0.87
2:H:136:PHE:HE2	3:K:124:GLN:HG3	1.38	0.87
2:J:136:PHE:CZ	3:N:124:GLN:HG3	2.09	0.87
1:A:551:VAL:HB	1:A:588:THR:HG23	1.57	0.87
2:I:11:VAL:CG1	2:I:160:PHE:HZ	1.88	0.87
2:J:144:SER:O	3:N:116:PHE:CD1	2.28	0.87
2:I:125:VAL:HG11	2:I:160:PHE:CD1	2.08	0.87
2:I:130:THR:CB	2:I:161:PRO:HG2	2.05	0.87
1:C:273:ARG:O	1:C:274:THR:OG1	1.91	0.86
2:H:144:SER:O	3:K:116:PHE:CD1	2.28	0.86
1:B:118:LEU:CD2	1:B:120:VAL:HG12	2.05	0.86
1:B:393:THR:O	1:B:523:THR:HG21	1.76	0.86
3:N:32:TYR:C	3:N:33:LEU:HD13	1.94	0.86
1:B:529:LYS:HA	1:B:529:LYS:HZ3	1.36	0.86
1:A:393:THR:O	1:A:523:THR:HG21	1.76	0.86
1:C:392:PHE:CD2	1:C:517:LEU:HD21	2.11	0.86
2:J:130:THR:CB	2:J:161:PRO:HG2	2.05	0.86
1:B:570:ALA:HB1	1:C:963:VAL:HG12	1.57	0.86
1:C:91:TYR:HB3	1:C:268:GLY:HA3	1.58	0.86
1:A:392:PHE:CD2	1:A:517:LEU:HD21	2.11	0.85
1:A:520:ALA:HB1	1:A:521:PRO:CD	2.06	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:729:VAL:HG13	1:A:1059:GLY:HA2	1.57	0.85
1:C:393:THR:O	1:C:523:THR:HG21	1.76	0.85
2:I:144:SER:O	3:M:116:PHE:CD1	2.28	0.85
2:J:136:PHE:HE2	3:N:124:GLN:HG3	1.38	0.85
1:A:329:PHE:O	1:A:579:PRO:CG	2.25	0.85
2:H:130:THR:CB	2:H:161:PRO:HG2	2.05	0.85
2:H:136:PHE:CZ	3:K:124:GLN:HG3	2.09	0.85
3:M:91:TYR:O	3:M:92:ASP:CB	2.25	0.85
2:H:136:PHE:CZ	3:K:124:GLN:CB	2.60	0.85
2:J:136:PHE:CZ	3:N:124:GLN:CB	2.60	0.85
1:B:392:PHE:CD2	1:B:517:LEU:HD21	2.11	0.85
1:B:560:LEU:HB3	1:B:561:PRO:HD2	1.59	0.85
2:J:11:VAL:CG1	2:J:160:PHE:HZ	1.88	0.85
1:B:96:GLU:CG	1:B:101:ILE:HD11	2.07	0.84
1:B:133:PHE:CD1	1:B:160:TYR:HD2	1.96	0.84
2:I:136:PHE:CZ	3:M:124:GLN:CB	2.60	0.84
1:B:520:ALA:HB1	1:B:521:PRO:CD	2.06	0.84
1:A:555:SER:CB	1:A:584:ILE:CG2	2.55	0.84
2:I:62:ASP:O	2:I:63:SER:OG	1.94	0.84
2:H:62:ASP:O	2:H:63:SER:OG	1.94	0.84
3:M:114:SER:HB2	3:M:116:PHE:HZ	1.38	0.84
1:B:516:GLU:O	1:B:517:LEU:HD22	1.78	0.84
1:C:520:ALA:HB1	1:C:521:PRO:CD	2.06	0.84
2:J:62:ASP:O	2:J:63:SER:OG	1.95	0.84
1:A:516:GLU:O	1:A:517:LEU:HD22	1.78	0.84
3:K:114:SER:HB2	3:K:116:PHE:HZ	1.38	0.84
2:I:136:PHE:HE2	3:M:124:GLN:HG3	1.38	0.84
1:C:273:ARG:HB3	1:C:275:PHE:CE1	2.12	0.84
3:K:91:TYR:O	3:K:92:ASP:CB	2.25	0.84
3:N:91:TYR:O	3:N:92:ASP:CB	2.25	0.84
1:B:58:PHE:CE1	1:B:275:PHE:HE2	1.95	0.83
3:M:32:TYR:CE2	3:M:51:ALA:HB2	2.13	0.83
2:H:11:VAL:HG11	2:H:160:PHE:HZ	1.38	0.83
3:M:139:PHE:CD1	3:M:173:TYR:O	2.32	0.83
1:B:33:THR:HG22	1:B:58:PHE:CE2	2.12	0.83
1:C:125:ASN:HB3	1:C:171:VAL:HG13	1.60	0.83
1:C:65:PHE:CZ	1:C:84:LEU:HD21	2.13	0.83
3:N:32:TYR:CE2	3:N:51:ALA:HB2	2.13	0.83
1:C:516:GLU:O	1:C:517:LEU:HD22	1.78	0.83
2:J:11:VAL:CG1	2:J:160:PHE:CZ	2.61	0.83
1:C:125:ASN:HD22	1:C:171:VAL:HG11	1.42	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:139:PHE:CD1	3:N:173:TYR:O	2.32	0.83
1:C:310:LYS:CE	1:C:663:ASP:OD1	2.26	0.83
3:N:32:TYR:HD2	3:N:51:ALA:HB3	1.44	0.83
1:B:133:PHE:CD1	1:B:160:TYR:CD2	2.67	0.83
1:C:112:SER:O	1:C:113:LYS:CB	2.26	0.83
1:B:300:LYS:HG2	1:B:305:SER:O	1.78	0.83
2:H:11:VAL:CG1	2:H:160:PHE:CZ	2.61	0.83
3:M:32:TYR:HD2	3:M:51:ALA:HB3	1.44	0.83
3:M:33:LEU:CD1	3:M:71:PHE:CE2	2.62	0.83
2:J:131:LYS:HD3	2:J:189:LEU:HD22	0.83	0.83
1:B:118:LEU:HD21	1:B:120:VAL:HG12	1.57	0.82
3:N:94:LEU:HB3	3:N:95:PRO:HD3	1.61	0.82
1:C:675:GLN:HA	1:C:675:GLN:HE21	1.44	0.82
3:K:94:LEU:HB3	3:K:95:PRO:HD3	1.61	0.82
1:B:171:VAL:HG12	1:B:172:SER:H	1.44	0.82
1:B:901:GLN:HE21	1:B:905:ARG:HE	1.26	0.82
1:C:112:SER:O	1:C:113:LYS:CG	2.27	0.82
2:H:127:SER:HB3	2:H:160:PHE:CD1	2.15	0.82
5:C:1406:NAG:H62	5:C:1407:NAG:O7	1.78	0.82
3:K:139:PHE:CD1	3:K:173:TYR:O	2.32	0.82
1:B:494:SER:O	2:I:108:GLY:HA2	1.79	0.82
1:C:48:LEU:HD23	1:C:278:LYS:HB2	1.61	0.82
3:M:94:LEU:HB3	3:M:95:PRO:HD3	1.61	0.82
1:C:273:ARG:HG2	1:C:273:ARG:HH11	1.44	0.82
2:I:11:VAL:CG1	2:I:160:PHE:CZ	2.61	0.81
3:N:33:LEU:CD1	3:N:71:PHE:CE2	2.62	0.81
1:A:449:TYR:HE2	2:H:107:GLN:C	1.84	0.81
1:C:901:GLN:HE21	1:C:905:ARG:HE	1.27	0.81
2:H:131:LYS:HD3	2:H:189:LEU:HD22	0.83	0.81
1:B:449:TYR:HE2	2:I:107:GLN:C	1.83	0.81
1:B:105:ILE:HD12	1:B:110:LEU:HD22	1.63	0.81
1:C:214:ARG:HB3	1:C:264:ALA:HB1	1.62	0.81
2:J:127:SER:HB3	2:J:160:PHE:CD1	2.15	0.81
1:B:189:LEU:HD22	1:B:217:PRO:HG2	1.62	0.81
1:B:273:ARG:HG3	1:B:275:PHE:HE1	1.42	0.81
1:C:449:TYR:HE2	2:J:107:GLN:C	1.83	0.81
1:A:494:SER:O	2:H:108:GLY:HA2	1.79	0.81
2:I:127:SER:HB3	2:I:160:PHE:CD1	2.15	0.81
1:C:494:SER:O	2:J:108:GLY:HA2	1.79	0.81
3:K:33:LEU:CD1	3:K:71:PHE:CE2	2.62	0.81
1:C:133:PHE:CD1	1:C:162:SER:O	2.34	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:272:PRO:O	1:C:273:ARG:NH1	2.13	0.80
2:I:131:LYS:HD3	2:I:189:LEU:HD22	0.83	0.80
1:C:87:ASN:ND2	1:C:269:TYR:CE1	2.49	0.80
3:N:34:ASN:ND2	3:N:46:LEU:CD1	2.45	0.80
3:K:32:TYR:CE2	3:K:51:ALA:HB2	2.13	0.80
3:M:34:ASN:ND2	3:M:46:LEU:CD1	2.45	0.80
1:A:529:LYS:HZ3	1:A:529:LYS:HA	1.48	0.79
3:N:32:TYR:HB3	3:N:51:ALA:N	1.98	0.79
3:M:32:TYR:HB3	3:M:51:ALA:N	1.98	0.79
1:C:101:ILE:HD12	1:C:241:LEU:O	1.82	0.79
3:N:139:PHE:HD1	3:N:173:TYR:O	1.65	0.79
1:C:153:MET:HB3	1:C:246:ARG:HB2	1.64	0.79
1:C:213:VAL:C	1:C:214:ARG:HG3	2.03	0.79
2:I:131:LYS:NZ	2:I:158:ASP:HB3	1.98	0.79
1:C:392:PHE:O	1:C:523:THR:HB	1.83	0.79
3:K:34:ASN:ND2	3:K:46:LEU:CD1	2.45	0.79
1:B:106:PHE:HB2	1:B:235:ILE:CD1	2.09	0.79
1:B:392:PHE:O	1:B:523:THR:HB	1.83	0.79
1:C:327:VAL:C	1:C:328:ARG:HG2	2.04	0.79
3:K:139:PHE:HD1	3:K:173:TYR:O	1.65	0.79
3:K:139:PHE:CE2	3:K:142:ARG:HA	2.18	0.79
1:C:390:LEU:HD23	1:C:391:CYS:H	1.48	0.78
1:A:555:SER:HB3	1:A:584:ILE:CG2	2.11	0.78
3:M:139:PHE:CE2	3:M:142:ARG:HA	2.18	0.78
1:B:118:LEU:CD2	1:B:120:VAL:CG1	2.61	0.78
1:B:91:TYR:CB	1:B:268:GLY:HA3	2.13	0.78
3:K:32:TYR:HD2	3:K:51:ALA:HB3	1.44	0.78
1:B:529:LYS:HA	1:B:529:LYS:CE	2.14	0.78
1:B:422:ASN:HD21	1:B:454:ARG:H	1.32	0.78
1:C:422:ASN:HD21	1:C:454:ARG:H	1.32	0.78
1:A:403:ARG:HH21	2:H:109:VAL:HG23	1.49	0.78
3:M:139:PHE:HD1	3:M:173:TYR:O	1.65	0.78
1:C:335:LEU:HA	1:C:362:VAL:HB	1.65	0.78
1:A:390:LEU:HD23	1:A:391:CYS:H	1.48	0.78
2:J:136:PHE:CZ	3:N:124:GLN:HB2	2.19	0.78
2:H:131:LYS:NZ	2:H:158:ASP:HB3	1.98	0.77
3:K:32:TYR:HB3	3:K:51:ALA:N	1.98	0.77
2:J:131:LYS:NZ	2:J:158:ASP:HB3	1.98	0.77
1:B:403:ARG:HH21	2:I:109:VAL:HG23	1.49	0.77
1:C:281:GLU:OE2	5:C:1405:NAG:H62	1.83	0.77
1:C:308:VAL:CG2	1:C:599:THR:HG21	2.14	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:403:ARG:HH21	2:J:109:VAL:HG23	1.49	0.77
2:I:136:PHE:CZ	3:M:124:GLN:HB2	2.19	0.77
1:A:392:PHE:O	1:A:523:THR:HB	1.83	0.77
2:I:47:TRP:HZ3	3:M:95:PRO:HA	1.50	0.77
1:A:335:LEU:HA	1:A:362:VAL:HB	1.67	0.77
1:C:273:ARG:HG2	1:C:273:ARG:NH1	2.00	0.77
3:N:139:PHE:CE2	3:N:142:ARG:HA	2.18	0.77
1:A:403:ARG:HH11	1:A:505:TYR:HE1	1.33	0.77
1:B:390:LEU:HD23	1:B:391:CYS:H	1.48	0.77
2:H:47:TRP:HZ3	3:K:95:PRO:HA	1.50	0.77
1:A:388:ASN:OD1	1:A:527:PRO:HD2	1.84	0.77
1:C:100:ILE:HG13	1:C:101:ILE:N	2.00	0.77
1:B:158:ARG:HA	1:B:158:ARG:HE	1.50	0.77
2:H:136:PHE:CZ	3:K:124:GLN:HB2	2.19	0.77
3:N:85:THR:HG21	3:N:87:TYR:OH	1.85	0.77
1:C:125:ASN:ND2	1:C:171:VAL:HG12	1.98	0.76
1:C:105:ILE:O	1:C:105:ILE:HG13	1.86	0.76
1:A:361:CYS:SG	1:A:524:VAL:HG21	2.25	0.76
1:A:486:PHE:HE1	2:H:59:TYR:CE1	2.03	0.76
1:B:133:PHE:HD1	1:B:160:TYR:HD2	1.33	0.76
3:K:85:THR:HG21	3:K:87:TYR:OH	1.85	0.76
3:M:137:ASN:O	3:M:138:ASN:O	2.04	0.76
1:A:422:ASN:HD21	1:A:454:ARG:H	1.32	0.76
1:C:133:PHE:CZ	1:C:163:ALA:CB	2.68	0.76
1:B:63:THR:O	1:B:266:TYR:HB3	1.85	0.76
1:C:98:SER:O	1:C:100:ILE:HG23	1.85	0.76
3:M:34:ASN:ND2	3:M:46:LEU:HD13	2.01	0.76
1:B:106:PHE:CG	1:B:235:ILE:HD13	2.20	0.76
3:M:85:THR:HG21	3:M:87:TYR:OH	1.85	0.76
1:A:328:ARG:HA	1:A:530:SER:HB3	1.67	0.76
1:C:530:SER:CB	1:C:580:GLN:NE2	2.49	0.75
3:K:52:SER:OG	3:K:53:ASN:N	2.20	0.75
3:K:137:ASN:O	3:K:138:ASN:O	2.04	0.75
1:A:826:VAL:HG13	1:A:1057:PRO:HG2	1.68	0.75
1:A:1125:ASN:HD22	1:A:1125:ASN:H	1.33	0.75
3:N:137:ASN:O	3:N:138:ASN:O	2.04	0.75
1:B:126:VAL:HG12	1:B:127:VAL:N	2.01	0.75
1:C:536:ASN:C	1:C:537:LYS:HG3	2.06	0.75
1:B:486:PHE:HE1	2:I:59:TYR:CE1	2.04	0.75
1:A:973:ILE:HG23	1:A:992:GLN:NE2	2.02	0.75
1:B:37:TYR:O	1:B:39:PRO:HD3	1.87	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:105:ILE:O	1:B:238:PHE:CA	2.35	0.75
3:K:34:ASN:ND2	3:K:46:LEU:HD13	2.01	0.75
1:B:195:LYS:HB2	1:B:202:LYS:HB2	1.67	0.75
1:B:239:GLN:HG2	1:B:240:THR:H	1.52	0.75
1:C:403:ARG:HH11	1:C:505:TYR:HE1	1.33	0.75
1:C:486:PHE:HE1	2:J:59:TYR:CE1	2.04	0.75
1:C:273:ARG:HB3	1:C:275:PHE:HE1	1.51	0.74
3:M:52:SER:OG	3:M:53:ASN:N	2.20	0.74
1:B:192:PHE:CE2	1:B:205:SER:OG	2.40	0.74
1:C:277:LEU:HD22	1:C:277:LEU:N	2.02	0.74
1:B:32:PHE:HE2	1:B:218:GLN:HG2	1.51	0.74
1:B:191:GLU:OE1	1:B:191:GLU:N	2.20	0.74
2:H:125:VAL:HG12	2:H:160:PHE:CE1	2.21	0.74
1:B:53:ASP:HB3	1:B:55:PHE:HE1	1.44	0.74
2:J:125:VAL:HG12	2:J:160:PHE:CE1	2.21	0.74
1:C:190:ARG:HB3	1:C:192:PHE:CE1	2.21	0.74
2:I:125:VAL:HG22	2:I:126:SER:N	2.02	0.74
2:J:131:LYS:HE2	2:J:158:ASP:CB	2.17	0.74
2:H:59:TYR:CG	3:K:94:LEU:HD21	2.23	0.74
3:N:140:TYR:HB3	3:N:141:PRO:HD3	1.68	0.74
2:H:131:LYS:HE2	2:H:158:ASP:CB	2.17	0.74
3:K:33:LEU:HD22	3:K:33:LEU:N	2.03	0.74
3:M:33:LEU:N	3:M:33:LEU:HD22	2.03	0.74
3:M:140:TYR:HB3	3:M:141:PRO:HD3	1.68	0.74
3:N:34:ASN:ND2	3:N:46:LEU:HD13	2.01	0.74
2:I:131:LYS:HE2	2:I:158:ASP:CB	2.17	0.74
1:C:95:THR:O	1:C:96:GLU:CB	2.36	0.73
3:N:33:LEU:HD22	3:N:33:LEU:N	2.03	0.73
1:B:91:TYR:O	1:B:268:GLY:N	2.22	0.73
1:B:190:ARG:NE	1:B:207:HIS:CE1	2.55	0.73
1:B:335:LEU:HA	1:B:362:VAL:CB	2.17	0.73
1:B:583:GLU:OE1	1:B:583:GLU:HA	1.86	0.73
3:K:140:TYR:HB3	3:K:141:PRO:HD3	1.68	0.73
2:I:59:TYR:CG	3:M:94:LEU:HD21	2.23	0.73
3:K:85:THR:HG22	3:K:86:TYR:H	1.53	0.73
3:N:85:THR:HB	3:N:87:TYR:CE1	2.24	0.73
1:B:335:LEU:CA	1:B:362:VAL:HB	2.18	0.73
3:N:33:LEU:HD22	3:N:33:LEU:H	1.54	0.73
1:B:329:PHE:O	1:B:580:GLN:CG	2.37	0.73
1:A:392:PHE:HD2	1:A:517:LEU:HD21	1.53	0.73
1:B:155:SER:HB2	1:B:158:ARG:HG2	1.68	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:392:PHE:HD2	1:C:517:LEU:HD21	1.53	0.73
1:C:811:LYS:CB	1:C:812:PRO:CD	2.66	0.73
3:M:85:THR:HB	3:M:87:TYR:CE1	2.24	0.73
2:I:136:PHE:CE2	3:M:124:GLN:HB2	2.24	0.73
2:J:125:VAL:HG22	2:J:126:SER:N	2.02	0.73
1:A:391:CYS:HA	1:A:525:CYS:HB3	1.71	0.72
1:B:32:PHE:CE2	1:B:218:GLN:HG2	2.21	0.72
1:B:1142:GLN:HG3	1:B:1143:PRO:HD3	1.71	0.72
1:B:403:ARG:HH11	1:B:505:TYR:HE1	1.33	0.72
1:B:553:THR:HG22	1:B:554:GLU:N	2.04	0.72
1:B:973:ILE:HG12	1:B:992:GLN:HE21	1.53	0.72
2:H:127:SER:OG	2:H:160:PHE:CB	2.38	0.72
3:K:33:LEU:HD22	3:K:33:LEU:H	1.54	0.72
2:J:59:TYR:CG	3:N:94:LEU:HD21	2.23	0.72
2:J:127:SER:HB3	2:J:160:PHE:CG	2.24	0.72
1:B:103:GLY:HA3	1:B:120:VAL:HA	1.70	0.72
1:C:66:HIS:HE1	1:C:214:ARG:CZ	2.02	0.72
1:C:112:SER:O	1:C:113:LYS:HB2	1.88	0.72
1:C:308:VAL:HG22	1:C:602:THR:HB	1.70	0.72
2:I:125:VAL:HG12	2:I:160:PHE:CE1	2.21	0.72
2:I:127:SER:HB3	2:I:160:PHE:CG	2.24	0.72
1:B:403:ARG:NH2	2:I:109:VAL:HG23	2.05	0.72
1:C:403:ARG:NH2	2:J:109:VAL:HG23	2.05	0.72
3:K:85:THR:HB	3:K:87:TYR:CE1	2.24	0.72
1:A:406:GLU:CD	1:A:418:ILE:HG13	2.10	0.72
1:B:64:TRP:CD1	1:B:266:TYR:CE2	2.78	0.72
1:B:391:CYS:SG	1:B:525:CYS:CB	2.77	0.72
1:B:392:PHE:HD2	1:B:517:LEU:HD21	1.53	0.72
1:C:190:ARG:HD2	1:C:192:PHE:HZ	1.54	0.72
1:C:246:ARG:HB3	1:C:246:ARG:NH1	2.04	0.72
1:C:406:GLU:CD	1:C:418:ILE:HG13	2.10	0.72
2:I:131:LYS:CE	2:I:158:ASP:O	2.38	0.72
1:C:66:HIS:CE1	1:C:214:ARG:CZ	2.73	0.72
1:C:655:HIS:HD2	1:C:694:ALA:O	1.72	0.72
2:I:127:SER:OG	2:I:160:PHE:CB	2.38	0.72
3:M:85:THR:HG22	3:M:86:TYR:H	1.53	0.72
3:N:85:THR:HG22	3:N:86:TYR:H	1.53	0.72
1:B:90:VAL:HG12	1:B:91:TYR:H	1.55	0.72
2:H:131:LYS:CE	2:H:158:ASP:O	2.38	0.72
3:K:34:ASN:HD21	3:K:46:LEU:CD1	2.03	0.72
1:C:329:PHE:HB3	1:C:330:PRO:CD	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:27:GLN:HG2	3:K:28:ASP:OD1	1.90	0.72
2:J:136:PHE:CE2	3:N:124:GLN:HB2	2.24	0.72
3:N:27:GLN:HG2	3:N:28:ASP:OD1	1.90	0.72
3:N:140:TYR:CD2	3:N:141:PRO:HD3	2.25	0.72
1:B:159:VAL:HG12	1:B:160:TYR:N	2.04	0.71
2:H:127:SER:HB3	2:H:160:PHE:CG	2.24	0.71
2:H:136:PHE:CE2	3:K:124:GLN:HB2	2.24	0.71
3:N:52:SER:OG	3:N:53:ASN:N	2.20	0.71
1:B:127:VAL:CB	5:B:1402:NAG:H61	2.20	0.71
3:N:34:ASN:HD21	3:N:46:LEU:CD1	2.03	0.71
1:A:403:ARG:NH2	2:H:109:VAL:HG23	2.04	0.71
1:A:790:LYS:NZ	1:C:702:GLU:OE2	2.20	0.71
3:K:32:TYR:CD2	3:K:51:ALA:HB3	2.22	0.71
1:B:102:ARG:NH1	1:B:102:ARG:HG3	2.04	0.71
3:K:140:TYR:CD2	3:K:141:PRO:HD3	2.25	0.71
2:J:131:LYS:CE	2:J:158:ASP:O	2.38	0.71
1:B:406:GLU:CD	1:B:418:ILE:HG13	2.10	0.71
3:M:27:GLN:HG2	3:M:28:ASP:OD1	1.90	0.71
1:C:246:ARG:HB3	1:C:246:ARG:HH11	1.56	0.71
1:C:531:THR:HG23	1:C:532:ASN:N	2.04	0.71
1:C:326:ILE:HA	1:C:531:THR:HG21	1.71	0.71
3:M:34:ASN:HD21	3:M:46:LEU:CD1	2.03	0.71
1:B:94:SER:HB2	1:B:101:ILE:HG12	1.72	0.71
1:B:340:GLU:OE2	1:B:356:LYS:CE	2.35	0.71
1:B:101:ILE:H	1:B:101:ILE:HD12	1.54	0.71
5:B:1409:NAG:H4	5:B:1410:NAG:C1	2.21	0.71
1:A:329:PHE:O	1:A:580:GLN:HG2	1.91	0.71
1:A:493:GLN:NE2	2:H:103:ILE:CA	2.54	0.70
1:A:559:PHE:HB2	1:A:584:ILE:HD11	1.73	0.70
1:B:125:ASN:CB	1:B:172:SER:C	2.56	0.70
1:B:493:GLN:NE2	2:I:103:ILE:CA	2.54	0.70
2:J:127:SER:OG	2:J:160:PHE:CB	2.38	0.70
2:J:136:PHE:CZ	3:N:124:GLN:CG	2.73	0.70
1:B:359:SER:O	1:B:524:VAL:CG1	2.40	0.70
2:H:125:VAL:HG22	2:H:126:SER:N	2.02	0.70
1:C:196:ASN:HA	1:C:200:TYR:O	1.91	0.70
3:N:32:TYR:CD2	3:N:51:ALA:HB3	2.22	0.70
2:H:136:PHE:CZ	3:K:124:GLN:CG	2.73	0.70
1:C:133:PHE:CE1	1:C:162:SER:O	2.44	0.70
1:C:276:LEU:HD21	1:C:289:VAL:HB	1.68	0.70
2:I:136:PHE:CZ	3:M:124:GLN:CG	2.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:140:TYR:CD2	3:M:141:PRO:HD3	2.25	0.70
2:J:47:TRP:HZ3	3:N:95:PRO:HA	1.50	0.70
1:A:187:LYS:N	1:A:212:LEU:O	2.25	0.70
2:H:130:THR:HG1	2:H:161:PRO:HG2	1.57	0.70
3:M:33:LEU:HD22	3:M:33:LEU:H	1.54	0.70
2:H:136:PHE:CE2	3:K:124:GLN:CB	2.75	0.70
1:A:124:THR:HG21	5:A:1402:NAG:HN2	1.56	0.70
2:J:136:PHE:CE2	3:N:124:GLN:CB	2.75	0.70
1:B:236:THR:O	1:B:237:ARG:HB3	1.91	0.70
1:C:310:LYS:HB2	1:C:664:ILE:HD11	1.73	0.70
1:B:105:ILE:CD1	1:B:110:LEU:HD22	2.22	0.70
1:B:53:ASP:CB	1:B:55:PHE:HE1	1.97	0.69
1:C:131:CYS:HB3	1:C:166:CYS:CA	2.17	0.69
1:C:329:PHE:O	1:C:580:GLN:HG3	1.92	0.69
1:C:945:LEU:HD12	1:C:948:LEU:HD12	1.74	0.69
1:A:580:GLN:HA	1:A:580:GLN:HE21	1.55	0.69
2:I:127:SER:CB	2:I:160:PHE:CD1	2.75	0.69
2:J:127:SER:CB	2:J:160:PHE:CD1	2.75	0.69
1:C:675:GLN:HA	1:C:675:GLN:NE2	2.05	0.69
2:H:127:SER:CB	2:H:160:PHE:CD1	2.75	0.69
2:I:183:VAL:HG22	3:M:160:GLN:OE1	1.92	0.69
1:B:570:ALA:CB	1:C:963:VAL:HG11	2.21	0.69
1:C:133:PHE:CE1	1:C:163:ALA:HB2	2.28	0.69
1:A:568:ASP:OD1	1:A:569:ILE:HD12	1.93	0.69
1:C:359:SER:O	1:C:524:VAL:CG1	2.39	0.69
3:K:139:PHE:H	3:K:172:THR:HB	1.58	0.69
3:M:139:PHE:H	3:M:172:THR:HB	1.58	0.69
1:C:275:PHE:CA	1:C:289:VAL:O	2.41	0.69
2:H:183:VAL:HG22	3:K:160:GLN:OE1	1.92	0.69
2:J:144:SER:O	3:N:116:PHE:HD1	1.76	0.69
1:C:310:LYS:NZ	1:C:663:ASP:OD1	2.25	0.69
1:C:569:ILE:H	1:C:569:ILE:HD12	1.56	0.69
3:K:3:GLN:NE2	3:K:28:ASP:HB2	2.08	0.69
3:M:3:GLN:NE2	3:M:28:ASP:HB2	2.08	0.69
2:J:183:VAL:HG22	3:N:160:GLN:OE1	1.92	0.69
2:I:136:PHE:CE2	3:M:124:GLN:CB	2.75	0.69
2:I:183:VAL:CG2	3:M:160:GLN:OE1	2.41	0.69
3:N:139:PHE:H	3:N:172:THR:HB	1.57	0.68
3:M:90:GLN:NE2	3:M:90:GLN:O	2.26	0.68
1:B:90:VAL:HG12	1:B:91:TYR:N	2.08	0.68
1:C:100:ILE:HG13	1:C:101:ILE:H	1.57	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:143:VAL:HG23	1:C:243:ALA:CB	2.13	0.68
2:I:144:SER:O	3:M:116:PHE:HD1	1.76	0.68
1:B:106:PHE:HB3	1:B:235:ILE:CG2	2.24	0.68
1:C:130:VAL:HG21	1:C:231:ILE:HG21	1.73	0.68
1:C:287:ASP:OD1	1:C:288:ALA:N	2.26	0.68
3:N:90:GLN:O	3:N:90:GLN:NE2	2.26	0.68
1:A:569:ILE:HD12	1:A:569:ILE:H	1.58	0.68
1:C:690:GLN:HG2	1:C:690:GLN:O	1.94	0.68
2:H:183:VAL:CG2	3:K:160:GLN:OE1	2.41	0.68
3:N:3:GLN:NE2	3:N:28:ASP:HB2	2.08	0.68
1:A:329:PHE:HB3	1:A:330:PRO:CD	2.24	0.68
3:K:90:GLN:O	3:K:90:GLN:NE2	2.26	0.68
1:B:239:GLN:HG2	1:B:240:THR:N	2.09	0.68
1:B:281:GLU:OE2	5:B:1405:NAG:H5	1.92	0.67
2:J:183:VAL:CG2	3:N:160:GLN:OE1	2.41	0.67
1:A:529:LYS:HA	1:A:529:LYS:NZ	2.08	0.67
1:A:577:ARG:HD3	1:A:582:LEU:HD22	1.75	0.67
1:B:392:PHE:CG	1:B:517:LEU:HD21	2.29	0.67
1:C:493:GLN:NE2	2:J:103:ILE:CA	2.54	0.67
1:A:486:PHE:CE1	2:H:59:TYR:CE1	2.82	0.67
1:A:96:GLU:OE1	1:A:98:SER:N	2.28	0.67
1:C:340:GLU:OE2	1:C:356:LYS:CE	2.35	0.67
2:H:144:SER:CA	3:K:116:PHE:HB3	2.24	0.67
3:N:33:LEU:HD11	3:N:71:PHE:CD2	2.30	0.67
1:A:391:CYS:CA	1:A:525:CYS:HB3	2.24	0.67
3:K:139:PHE:CE1	3:K:173:TYR:C	2.68	0.67
2:J:144:SER:CA	3:N:116:PHE:HB3	2.24	0.67
1:B:493:GLN:HE22	2:I:103:ILE:HB	1.60	0.67
1:C:392:PHE:CG	1:C:517:LEU:HD21	2.29	0.67
1:C:534:VAL:HB	1:C:537:LYS:CD	2.25	0.67
3:M:139:PHE:CE1	3:M:173:TYR:C	2.68	0.67
1:B:33:THR:CG2	1:B:58:PHE:CE2	2.78	0.67
3:K:85:THR:HG21	3:K:87:TYR:CE2	2.30	0.67
2:I:144:SER:CA	3:M:116:PHE:HB3	2.24	0.67
3:N:139:PHE:CE1	3:N:173:TYR:C	2.68	0.67
1:B:190:ARG:HE	1:B:207:HIS:CE1	2.13	0.66
1:B:1045:LYS:NZ	1:C:786:LYS:HE3	2.09	0.66
1:A:392:PHE:CG	1:A:517:LEU:HD21	2.29	0.66
1:C:29:THR:CG2	1:C:30:ASN:N	2.38	0.66
1:A:310:LYS:NZ	1:A:663:ASP:OD1	2.27	0.66
1:A:560:LEU:HB2	1:A:563:GLN:CD	2.16	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:187:LYS:HG2	1:A:213:VAL:HA	1.77	0.66
1:C:486:PHE:CE1	2:J:59:TYR:CE1	2.83	0.66
2:H:144:SER:O	3:K:116:PHE:HD1	1.76	0.66
1:A:493:GLN:HE22	2:H:103:ILE:HB	1.61	0.66
1:B:96:GLU:HG3	1:B:101:ILE:HD11	1.78	0.66
1:B:569:ILE:H	1:B:569:ILE:HD12	1.61	0.66
1:C:493:GLN:HE22	2:J:103:ILE:HB	1.60	0.66
1:B:486:PHE:CE1	2:I:59:TYR:CE1	2.83	0.66
1:B:691:SER:O	1:B:692:ILE:HG13	1.96	0.66
1:C:392:PHE:HD2	1:C:517:LEU:CD2	2.09	0.66
1:A:560:LEU:HD13	1:A:562:PHE:HE2	1.60	0.66
1:A:581:THR:O	1:A:582:LEU:HB2	1.96	0.66
1:B:535:LYS:O	1:B:536:ASN:HB2	1.95	0.66
1:C:275:PHE:CE1	1:C:290:ASP:OD1	2.49	0.66
2:J:130:THR:HA	2:J:161:PRO:HG3	1.78	0.66
1:B:134:GLN:O	1:B:160:TYR:CA	2.38	0.66
1:B:281:GLU:HG3	1:B:282:ASN:N	2.11	0.66
1:B:535:LYS:O	1:B:536:ASN:CB	2.43	0.66
1:A:330:PRO:CB	1:A:579:PRO:HB2	2.25	0.65
1:B:392:PHE:HD2	1:B:517:LEU:CD2	2.09	0.65
1:C:213:VAL:O	1:C:214:ARG:HG3	1.95	0.65
1:A:392:PHE:HD2	1:A:517:LEU:CD2	2.09	0.65
1:C:534:VAL:HB	1:C:537:LYS:HD3	1.77	0.65
3:K:139:PHE:HE2	3:K:142:ARG:HA	1.61	0.65
1:B:719:THR:HA	1:B:926:GLN:HE22	1.60	0.65
1:C:91:TYR:HB3	1:C:268:GLY:CA	2.26	0.65
3:M:139:PHE:HE2	3:M:142:ARG:HA	1.61	0.65
1:A:388:ASN:OD1	1:A:527:PRO:CD	2.44	0.65
3:M:85:THR:HG21	3:M:87:TYR:CE2	2.30	0.65
1:A:983:ARG:O	1:A:984:LEU:HG	1.96	0.65
1:B:129:LYS:HD3	1:B:169:GLU:OE2	1.97	0.65
1:B:522:ALA:O	1:B:523:THR:OG1	2.14	0.65
1:B:523:THR:HG22	1:B:524:VAL:HG22	1.79	0.65
1:C:190:ARG:C	1:C:191:GLU:HG3	2.17	0.65
1:B:281:GLU:CG	1:B:282:ASN:H	2.07	0.65
1:C:48:LEU:CD2	1:C:278:LYS:HB2	2.26	0.65
2:I:136:PHE:CZ	3:M:124:GLN:CA	2.80	0.65
1:B:168:PHE:O	1:B:169:GLU:HG2	1.96	0.65
1:B:329:PHE:O	1:B:580:GLN:HG2	1.96	0.65
1:A:340:GLU:OE2	1:A:356:LYS:CE	2.35	0.65
1:A:705:VAL:HB	1:B:883:THR:HG21	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:523:THR:HG22	1:C:524:VAL:HG22	1.79	0.65
3:K:32:TYR:CE2	3:K:51:ALA:CB	2.76	0.65
3:M:32:TYR:CE2	3:M:51:ALA:CB	2.77	0.65
1:B:38:TYR:HD1	1:B:38:TYR:H	1.44	0.65
1:C:33:THR:HG22	1:C:58:PHE:CD2	2.31	0.65
2:I:213:ASN:HB3	2:I:220:LYS:HE2	1.79	0.65
3:M:32:TYR:CD2	3:M:51:ALA:HB3	2.22	0.65
1:C:193:VAL:HG23	1:C:223:LEU:HD23	1.78	0.64
3:N:93:ASN:O	3:N:96:TYR:HE1	1.80	0.64
1:C:101:ILE:CD1	1:C:240:THR:HG21	2.26	0.64
1:C:190:ARG:HD2	1:C:192:PHE:CZ	2.32	0.64
3:K:93:ASN:O	3:K:96:TYR:HE1	1.80	0.64
3:K:116:PHE:CD2	3:K:135:LEU:HD23	2.33	0.64
2:I:130:THR:HA	2:I:161:PRO:HG3	1.78	0.64
1:C:143:VAL:CG2	1:C:243:ALA:CB	2.73	0.64
1:A:522:ALA:O	1:A:523:THR:OG1	2.14	0.64
2:I:61:ALA:H	2:I:64:VAL:HG21	1.63	0.64
3:M:93:ASN:O	3:M:96:TYR:HE1	1.80	0.64
3:K:33:LEU:HD11	3:K:71:PHE:CD2	2.30	0.64
3:M:116:PHE:CD2	3:M:135:LEU:HD23	2.33	0.64
3:N:116:PHE:CD2	3:N:135:LEU:HD23	2.33	0.64
1:C:120:VAL:O	1:C:126:VAL:HG13	1.98	0.64
2:H:131:LYS:CD	2:H:189:LEU:HD21	2.16	0.64
2:H:136:PHE:CZ	3:K:124:GLN:CA	2.80	0.64
3:M:32:TYR:HB3	3:M:50:ASP:CA	2.28	0.64
1:B:58:PHE:CE1	1:B:275:PHE:CE2	2.84	0.64
1:C:493:GLN:HE22	2:J:103:ILE:CB	2.11	0.64
1:C:535:LYS:O	1:C:537:LYS:HG3	1.97	0.64
2:H:61:ALA:H	2:H:64:VAL:HG21	1.63	0.64
3:N:140:TYR:HD2	3:N:141:PRO:HD3	1.63	0.64
1:B:96:GLU:O	1:B:97:LYS:CB	2.34	0.64
1:B:607:GLN:O	1:B:608:VAL:HG23	1.98	0.64
3:M:33:LEU:HD11	3:M:71:PHE:CD2	2.30	0.64
1:B:335:LEU:HA	1:B:362:VAL:O	1.97	0.64
1:B:560:LEU:HB3	1:B:561:PRO:CD	2.26	0.64
1:C:280:ASN:HB2	1:C:286:THR:CG2	2.27	0.64
1:C:522:ALA:O	1:C:523:THR:OG1	2.14	0.64
1:C:530:SER:HB3	1:C:580:GLN:HE22	1.61	0.64
2:H:130:THR:HA	2:H:161:PRO:HG3	1.78	0.64
2:J:136:PHE:CZ	3:N:124:GLN:CA	2.80	0.64
3:N:85:THR:HG21	3:N:87:TYR:CE2	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:61:ALA:H	2:J:64:VAL:HG21	1.63	0.64
1:B:566:GLY:HA2	1:C:42:VAL:HG13	1.80	0.63
1:C:276:LEU:HD23	1:C:289:VAL:CB	2.17	0.63
1:B:493:GLN:HE22	2:I:103:ILE:CB	2.11	0.63
1:C:334:ASN:O	1:C:362:VAL:HB	1.98	0.63
2:H:213:ASN:HB3	2:H:220:LYS:HE2	1.79	0.63
1:B:563:GLN:HG2	1:C:41:LYS:O	1.98	0.63
2:H:138:LEU:HD11	2:H:155:LEU:HB2	1.81	0.63
1:B:133:PHE:CE1	1:B:160:TYR:CD2	2.86	0.63
1:C:535:LYS:C	1:C:536:ASN:HD22	2.01	0.63
2:J:130:THR:HA	2:J:161:PRO:CG	2.29	0.63
3:K:106:ILE:CG1	3:K:166:GLN:HE22	2.12	0.63
2:I:130:THR:HA	2:I:161:PRO:CG	2.29	0.63
3:M:106:ILE:CG1	3:M:166:GLN:HE22	2.12	0.63
3:N:89:GLN:HG3	3:N:98:PHE:CE1	2.34	0.63
1:C:578:ASP:OD2	1:C:581:THR:CB	2.47	0.63
3:K:32:TYR:HB3	3:K:50:ASP:CA	2.28	0.63
3:K:89:GLN:HG3	3:K:98:PHE:CE1	2.34	0.63
1:A:493:GLN:HE22	2:H:103:ILE:CB	2.12	0.63
1:B:105:ILE:O	1:B:105:ILE:HG13	1.99	0.63
1:A:117:LEU:HD12	1:A:118:LEU:H	1.64	0.63
1:A:565:PHE:HB2	1:A:575:ALA:O	1.99	0.63
1:B:126:VAL:CG1	1:B:127:VAL:N	2.62	0.63
2:H:130:THR:HA	2:H:161:PRO:CG	2.29	0.63
3:N:32:TYR:HB3	3:N:50:ASP:CA	2.28	0.63
3:N:106:ILE:CG1	3:N:166:GLN:HE22	2.12	0.63
1:C:391:CYS:SG	1:C:523:THR:O	2.56	0.63
3:N:139:PHE:HE2	3:N:142:ARG:HA	1.61	0.63
2:H:166:VAL:HG22	2:H:212:VAL:HG22	1.81	0.62
3:N:54:LEU:HD13	3:N:58:VAL:CG2	2.29	0.62
1:A:124:THR:OG1	1:A:125:ASN:N	2.32	0.62
1:A:551:VAL:HB	1:A:588:THR:CG2	2.29	0.62
2:I:138:LEU:HD11	2:I:155:LEU:HB2	1.81	0.62
3:M:54:LEU:HD13	3:M:58:VAL:CG2	2.29	0.62
1:A:982:SER:O	1:A:983:ARG:HB3	1.98	0.62
1:B:334:ASN:O	1:B:362:VAL:HG23	1.99	0.62
1:B:391:CYS:SG	1:B:523:THR:O	2.56	0.62
1:C:277:LEU:H	1:C:277:LEU:CD2	2.10	0.62
3:K:140:TYR:HD2	3:K:141:PRO:HD3	1.63	0.62
1:A:808:ASP:HB3	1:A:811:LYS:HD2	1.82	0.62
1:C:334:ASN:O	1:C:362:VAL:N	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:534:VAL:O	1:A:534:VAL:HG23	2.00	0.62
1:B:273:ARG:O	1:B:274:THR:OG1	2.13	0.62
1:B:449:TYR:CE2	2:I:107:GLN:CB	2.83	0.62
1:C:813:SER:O	1:C:814:LYS:HE2	2.00	0.62
3:K:54:LEU:HD13	3:K:58:VAL:CG2	2.29	0.62
2:I:166:VAL:HG22	2:I:212:VAL:HG22	1.81	0.62
1:A:555:SER:HB2	1:A:584:ILE:HG22	1.76	0.62
1:B:321:GLN:HA	1:B:321:GLN:OE1	1.98	0.62
1:C:811:LYS:HB2	1:C:812:PRO:HD3	1.80	0.62
1:C:157:PHE:O	1:C:158:ARG:HB2	1.98	0.62
2:I:130:THR:CB	2:I:161:PRO:CG	2.77	0.62
3:N:89:GLN:HG3	3:N:98:PHE:CZ	2.35	0.62
1:B:91:TYR:N	1:B:268:GLY:O	2.32	0.62
1:C:530:SER:HB2	1:C:580:GLN:NE2	2.14	0.62
3:K:34:ASN:OD1	3:K:49:TYR:HA	2.00	0.62
2:J:138:LEU:HD11	2:J:155:LEU:HB2	1.81	0.62
2:J:213:ASN:HB3	2:J:220:LYS:HE2	1.79	0.62
3:K:106:ILE:CG1	3:K:166:GLN:NE2	2.63	0.62
1:B:50:SER:HB2	1:B:276:LEU:HD12	1.80	0.62
1:C:362:VAL:CG1	1:C:527:PRO:HB3	2.30	0.62
3:K:116:PHE:HE2	3:K:137:ASN:HB2	1.65	0.62
3:M:89:GLN:HG3	3:M:98:PHE:CE1	2.34	0.62
3:M:89:GLN:HG3	3:M:98:PHE:CZ	2.35	0.62
1:B:64:TRP:NE1	1:B:266:TYR:CE2	2.68	0.61
1:B:106:PHE:HB3	1:B:235:ILE:HG21	1.82	0.61
2:I:144:SER:HA	3:M:116:PHE:HB3	1.82	0.61
1:A:96:GLU:OE1	1:A:97:LYS:N	2.32	0.61
1:A:330:PRO:HB3	1:A:579:PRO:HB2	1.82	0.61
3:N:116:PHE:HE2	3:N:137:ASN:HB2	1.65	0.61
1:A:457:ARG:NH1	1:A:459:SER:O	2.33	0.61
1:A:869:MET:CE	1:C:697:MET:HG2	2.31	0.61
1:B:64:TRP:CD1	1:B:266:TYR:CD2	2.88	0.61
1:C:33:THR:HG22	1:C:58:PHE:CE2	2.36	0.61
1:C:449:TYR:CE2	2:J:107:GLN:CB	2.83	0.61
3:K:89:GLN:HG3	3:K:98:PHE:CZ	2.35	0.61
3:M:106:ILE:CG1	3:M:166:GLN:NE2	2.63	0.61
3:N:32:TYR:CE2	3:N:51:ALA:CB	2.77	0.61
3:N:106:ILE:CG1	3:N:166:GLN:NE2	2.63	0.61
1:C:273:ARG:HH11	1:C:273:ARG:CG	2.13	0.61
3:N:142:ARG:NE	3:N:163:VAL:HG11	2.13	0.61
1:A:986:PRO:HB2	1:A:987:PRO:HD3	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1077:THR:HG22	1:A:1095:PHE:O	2.01	0.61
1:C:457:ARG:NH1	1:C:459:SER:O	2.33	0.61
3:M:34:ASN:OD1	3:M:49:TYR:HA	2.00	0.61
3:M:108:ARG:NH1	3:M:109:THR:O	2.33	0.61
1:B:89:GLY:HA3	1:B:270:LEU:HD11	1.83	0.61
2:I:125:VAL:CG2	2:I:126:SER:H	2.08	0.61
2:J:59:TYR:CB	3:N:94:LEU:CD2	2.60	0.61
3:N:34:ASN:OD1	3:N:49:TYR:HA	2.00	0.61
1:A:449:TYR:CE2	2:H:107:GLN:CB	2.83	0.61
1:A:516:GLU:O	1:A:517:LEU:CD2	2.48	0.61
1:B:107:GLY:HA3	1:B:110:LEU:HD23	1.83	0.61
1:B:493:GLN:HE21	2:I:103:ILE:HG13	1.66	0.61
1:B:516:GLU:O	1:B:517:LEU:CD2	2.48	0.61
1:C:51:THR:OG1	1:C:277:LEU:HD21	2.00	0.61
2:H:59:TYR:CB	3:K:94:LEU:CD2	2.60	0.61
3:K:31:ASN:C	3:K:32:TYR:HD1	2.05	0.61
3:K:114:SER:CB	3:K:116:PHE:CZ	2.75	0.61
1:A:985:ASP:OD1	1:A:988:GLU:HB2	2.01	0.61
1:B:33:THR:HG22	1:B:58:PHE:CZ	2.36	0.61
1:B:159:VAL:HG12	1:B:160:TYR:H	1.66	0.61
1:B:329:PHE:CE2	1:B:544:ASN:HA	2.35	0.61
2:H:144:SER:HA	3:K:116:PHE:HB3	1.82	0.60
2:J:144:SER:HA	3:N:116:PHE:HD1	1.66	0.60
3:N:31:ASN:C	3:N:32:TYR:HD1	2.05	0.60
1:A:523:THR:HG22	1:A:524:VAL:HG12	1.83	0.60
1:B:457:ARG:NH1	1:B:459:SER:O	2.33	0.60
2:I:144:SER:HA	3:M:116:PHE:HD1	1.66	0.60
3:M:31:ASN:C	3:M:32:TYR:HD1	2.05	0.60
3:N:34:ASN:HD21	3:N:46:LEU:HD13	1.63	0.60
1:B:406:GLU:OE1	1:B:418:ILE:HG12	2.02	0.60
1:C:675:GLN:O	1:C:690:GLN:N	2.34	0.60
2:H:130:THR:CB	2:H:161:PRO:CG	2.77	0.60
2:I:136:PHE:CZ	3:M:124:GLN:HA	2.36	0.60
3:M:140:TYR:HD2	3:M:141:PRO:HD3	1.63	0.60
2:J:131:LYS:CD	2:J:189:LEU:HD21	2.16	0.60
2:J:144:SER:HA	3:N:116:PHE:HB3	1.82	0.60
1:A:406:GLU:OE1	1:A:418:ILE:HG12	2.02	0.60
1:A:617:CYS:H	1:A:644:GLN:HE22	1.49	0.60
1:B:158:ARG:HA	1:B:158:ARG:NE	2.14	0.60
3:M:116:PHE:HE2	3:M:137:ASN:HB2	1.65	0.60
3:M:142:ARG:NE	3:M:163:VAL:HG11	2.13	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:130:THR:CB	2:J:161:PRO:CG	2.77	0.60
3:N:106:ILE:HG12	3:N:166:GLN:HE22	1.67	0.60
1:B:134:GLN:HB2	1:B:162:SER:HB2	1.83	0.60
1:B:333:THR:O	1:B:335:LEU:HG	2.01	0.60
1:B:335:LEU:CA	1:B:362:VAL:O	2.49	0.60
1:C:308:VAL:HG23	1:C:599:THR:HG21	1.83	0.60
1:C:493:GLN:HE21	2:J:103:ILE:HG13	1.66	0.60
1:C:521:PRO:O	1:C:522:ALA:HB2	2.01	0.60
3:K:108:ARG:NH1	3:K:109:THR:O	2.33	0.60
3:M:106:ILE:HG12	3:M:166:GLN:HE22	1.67	0.60
2:J:166:VAL:HG22	2:J:212:VAL:HG22	1.81	0.60
1:C:327:VAL:O	1:C:328:ARG:HG2	2.01	0.60
1:C:357:ARG:HH12	1:C:394:ASN:HD21	1.49	0.60
1:C:406:GLU:OE1	1:C:418:ILE:HG12	2.02	0.60
2:H:136:PHE:CZ	3:K:124:GLN:HA	2.36	0.60
3:N:114:SER:CB	3:N:116:PHE:CZ	2.75	0.60
1:A:329:PHE:CA	1:A:579:PRO:HG3	2.31	0.60
2:H:144:SER:HA	3:K:116:PHE:HD1	1.66	0.60
2:J:136:PHE:CZ	3:N:124:GLN:HA	2.36	0.60
2:J:143:LYS:HD2	3:N:117:ILE:HG23	1.84	0.60
1:A:164:ASN:OD1	1:A:164:ASN:N	2.35	0.60
1:B:521:PRO:O	1:B:522:ALA:HB2	2.01	0.60
1:C:140:PHE:O	1:C:159:VAL:CG2	2.50	0.60
3:K:34:ASN:HD22	3:K:36:TYR:HE1	1.49	0.60
1:C:530:SER:CB	1:C:580:GLN:HE22	2.15	0.60
5:C:1406:NAG:C4	5:C:1407:NAG:C1	2.77	0.60
2:J:125:VAL:CG2	2:J:126:SER:H	2.08	0.60
3:N:108:ARG:NH1	3:N:109:THR:O	2.33	0.60
1:A:556:ASN:HD22	1:A:556:ASN:H	1.50	0.60
1:B:171:VAL:O	1:B:172:SER:HB3	2.00	0.60
1:B:335:LEU:O	1:B:362:VAL:O	2.20	0.60
3:K:106:ILE:HG12	3:K:166:GLN:NE2	2.17	0.60
1:A:973:ILE:HG23	1:A:992:GLN:HE21	1.66	0.59
1:B:529:LYS:NZ	1:B:530:SER:H	2.00	0.59
2:H:143:LYS:HD2	3:K:117:ILE:HG23	1.84	0.59
3:M:114:SER:CB	3:M:116:PHE:CZ	2.75	0.59
1:A:141:LEU:HB2	1:A:156:GLU:HB2	1.85	0.59
1:C:125:ASN:O	1:C:126:VAL:HB	2.03	0.59
3:K:34:ASN:HD21	3:K:46:LEU:HD13	1.63	0.59
3:M:34:ASN:HD21	3:M:46:LEU:HD13	1.63	0.59
1:A:521:PRO:O	1:A:522:ALA:HB2	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:335:LEU:H	1:C:335:LEU:HD12	1.68	0.59
1:C:361:CYS:N	1:C:524:VAL:HG12	2.18	0.59
1:A:357:ARG:HH12	1:A:394:ASN:HD21	1.49	0.59
1:B:406:GLU:CD	1:B:418:ILE:CG1	2.71	0.59
2:H:115:ASP:OD2	2:H:117:TRP:NE1	2.35	0.59
2:J:115:ASP:OD2	2:J:117:TRP:NE1	2.35	0.59
3:N:34:ASN:HD22	3:N:36:TYR:HE1	1.49	0.59
3:N:106:ILE:HG12	3:N:166:GLN:NE2	2.17	0.59
1:A:536:ASN:C	1:A:537:LYS:HG2	2.23	0.59
1:A:560:LEU:CD1	1:A:562:PHE:CE2	2.86	0.59
1:A:645:THR:HG22	1:A:647:ALA:H	1.66	0.59
1:B:361:CYS:N	1:B:524:VAL:HG12	2.18	0.59
1:C:578:ASP:OD2	1:C:581:THR:N	2.31	0.59
2:I:133:PRO:HD3	2:I:214:HIS:HD1	1.67	0.59
2:J:133:PRO:HD3	2:J:214:HIS:HD1	1.68	0.59
1:A:555:SER:OG	1:A:584:ILE:CG2	2.50	0.59
1:B:118:LEU:HD23	1:B:120:VAL:HG12	1.82	0.59
1:B:190:ARG:HB3	1:B:207:HIS:HA	1.84	0.59
3:K:106:ILE:HG12	3:K:166:GLN:HE22	1.67	0.59
1:A:493:GLN:HE21	2:H:103:ILE:HG13	1.67	0.59
1:A:560:LEU:HB2	1:A:563:GLN:OE1	2.01	0.59
1:B:535:LYS:C	1:B:536:ASN:OD1	2.41	0.59
1:C:284:THR:O	1:C:284:THR:HG23	2.01	0.59
3:M:106:ILE:HG12	3:M:166:GLN:NE2	2.17	0.59
1:B:536:ASN:C	1:B:537:LYS:HG2	2.23	0.59
1:C:406:GLU:CD	1:C:418:ILE:CG1	2.71	0.59
2:I:195:VAL:HG21	3:M:135:LEU:HD22	1.85	0.59
1:A:406:GLU:CD	1:A:418:ILE:CG1	2.71	0.58
1:B:167:THR:O	1:B:168:PHE:HB2	2.01	0.58
2:H:133:PRO:HD3	2:H:214:HIS:HD1	1.68	0.58
1:A:722:VAL:HA	1:A:1064:HIS:O	2.03	0.58
1:B:531:THR:OG1	1:B:532:ASN:N	2.34	0.58
1:C:98:SER:O	1:C:100:ILE:N	2.37	0.58
1:C:276:LEU:HD23	1:C:276:LEU:O	2.02	0.58
1:C:516:GLU:O	1:C:517:LEU:CD2	2.48	0.58
3:K:94:LEU:CB	3:K:95:PRO:HD3	2.32	0.58
1:A:391:CYS:SG	1:A:523:THR:O	2.62	0.58
1:B:240:THR:HG22	1:B:241:LEU:N	2.18	0.58
1:B:493:GLN:NE2	2:I:103:ILE:CB	2.67	0.58
1:C:811:LYS:CB	1:C:812:PRO:HD2	2.28	0.58
2:J:144:SER:HB3	3:N:116:PHE:CB	2.31	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:357:ARG:HH12	1:B:394:ASN:HD21	1.49	0.58
1:C:143:VAL:O	1:C:143:VAL:HG12	2.02	0.58
3:K:90:GLN:NE2	3:K:97:THR:HG22	2.19	0.58
2:J:138:LEU:HD21	3:N:133:VAL:HG21	1.86	0.58
3:N:27:GLN:HG2	3:N:28:ASP:CG	2.24	0.58
3:N:94:LEU:CB	3:N:95:PRO:HD3	2.32	0.58
1:A:554:GLU:HA	1:A:585:LEU:HD23	1.86	0.58
1:A:872:GLN:HB3	1:C:699:LEU:HD23	1.85	0.58
1:C:327:VAL:O	1:C:531:THR:HG22	2.02	0.58
3:M:94:LEU:CB	3:M:95:PRO:HD3	2.32	0.58
3:N:94:LEU:HB3	3:N:95:PRO:CD	2.32	0.58
1:A:206:LYS:NZ	1:A:221:SER:OG	2.35	0.58
1:B:96:GLU:HG2	1:B:101:ILE:HD11	1.86	0.58
1:C:143:VAL:C	1:C:154:GLU:HA	2.24	0.58
1:C:493:GLN:NE2	2:J:103:ILE:CB	2.67	0.58
3:M:34:ASN:HD22	3:M:36:TYR:HE1	1.49	0.58
3:M:94:LEU:HB3	3:M:95:PRO:CD	2.32	0.58
1:A:328:ARG:NH1	1:A:580:GLN:HB2	2.19	0.58
1:A:901:GLN:HE21	1:A:905:ARG:HE	1.50	0.58
1:B:155:SER:CB	1:B:158:ARG:HG2	2.34	0.58
1:C:273:ARG:CB	1:C:275:PHE:CE1	2.85	0.58
3:K:27:GLN:HG2	3:K:28:ASP:CG	2.24	0.58
3:N:140:TYR:HB3	3:N:141:PRO:CD	2.34	0.58
1:B:36:VAL:O	1:B:222:ALA:HA	2.03	0.58
1:B:63:THR:HG22	1:B:64:TRP:N	2.18	0.58
2:H:195:VAL:HG21	3:K:135:LEU:HD22	1.85	0.58
1:A:361:CYS:SG	1:A:524:VAL:CG2	2.92	0.57
5:A:1405:NAG:H3	5:A:1405:NAG:H83	1.86	0.57
2:H:11:VAL:HG11	2:H:160:PHE:CE2	2.38	0.57
3:K:94:LEU:HB3	3:K:95:PRO:CD	2.32	0.57
2:I:115:ASP:OD2	2:I:117:TRP:NE1	2.35	0.57
2:I:138:LEU:HD21	3:M:133:VAL:HG21	1.86	0.57
2:J:127:SER:CB	2:J:160:PHE:CG	2.87	0.57
3:N:90:GLN:NE2	3:N:97:THR:HG22	2.19	0.57
1:A:338:PHE:O	1:A:340:GLU:N	2.37	0.57
2:I:11:VAL:HG11	2:I:160:PHE:CE2	2.38	0.57
2:I:127:SER:CB	2:I:160:PHE:CG	2.87	0.57
2:J:195:VAL:HG21	3:N:135:LEU:HD22	1.85	0.57
1:B:388:ASN:OD1	1:B:527:PRO:HD2	2.04	0.57
2:I:64:VAL:HG23	2:I:65:LYS:N	2.19	0.57
2:I:143:LYS:HD2	3:M:117:ILE:HG23	1.84	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:27:GLN:HG2	3:M:28:ASP:CG	2.24	0.57
1:A:560:LEU:HD13	1:A:562:PHE:CE2	2.39	0.57
1:C:85:PRO:HB2	1:C:269:TYR:OH	2.04	0.57
2:H:127:SER:CB	2:H:160:PHE:CG	2.87	0.57
3:M:90:GLN:NE2	3:M:97:THR:HG22	2.19	0.57
1:A:813:SER:O	1:A:813:SER:OG	2.18	0.57
1:B:109:THR:OG1	1:B:114:THR:CB	2.49	0.57
3:K:115:VAL:O	3:K:116:PHE:CD1	2.58	0.57
1:B:901:GLN:NE2	1:B:905:ARG:HE	1.99	0.57
1:C:106:PHE:HB3	1:C:235:ILE:HD13	1.86	0.57
2:H:64:VAL:HG23	2:H:65:LYS:N	2.19	0.57
2:I:107:GLN:HA	2:I:107:GLN:NE2	2.19	0.57
3:M:32:TYR:HB3	3:M:50:ASP:C	2.25	0.57
3:M:70:ASP:OD1	3:M:70:ASP:N	2.37	0.57
2:J:107:GLN:NE2	2:J:107:GLN:HA	2.19	0.57
3:N:28:ASP:O	3:N:29:ILE:O	2.23	0.57
3:N:115:VAL:O	3:N:116:PHE:CD1	2.58	0.57
1:A:493:GLN:NE2	2:H:103:ILE:CB	2.68	0.57
3:K:32:TYR:HB3	3:K:50:ASP:C	2.25	0.57
1:A:390:LEU:HD23	1:A:391:CYS:N	2.19	0.57
1:B:32:PHE:CD2	1:B:218:GLN:HG3	2.40	0.57
1:B:238:PHE:N	1:B:238:PHE:CD1	2.73	0.57
1:B:438:SER:O	1:B:438:SER:OG	2.21	0.57
1:C:66:HIS:O	1:C:67:ALA:HB2	2.05	0.57
3:K:70:ASP:OD1	3:K:70:ASP:N	2.37	0.57
2:I:144:SER:HA	3:M:116:PHE:CD1	2.40	0.57
3:M:54:LEU:HD13	3:M:58:VAL:HG21	1.87	0.57
3:M:115:VAL:O	3:M:116:PHE:CD1	2.58	0.57
3:M:140:TYR:HB3	3:M:141:PRO:CD	2.34	0.57
2:J:122:LEU:HG	2:J:122:LEU:O	2.05	0.57
1:C:101:ILE:HG13	1:C:102:ARG:N	2.19	0.57
1:C:153:MET:CB	1:C:246:ARG:HB2	2.34	0.57
1:A:29:THR:HG22	1:A:30:ASN:H	1.70	0.56
1:B:190:ARG:NE	1:B:207:HIS:ND1	2.53	0.56
1:C:170:TYR:CD1	1:C:171:VAL:N	2.73	0.56
2:H:138:LEU:HD21	3:K:133:VAL:HG21	1.86	0.56
1:B:273:ARG:CG	1:B:275:PHE:HE1	2.15	0.56
1:B:335:LEU:H	1:B:335:LEU:HD12	1.70	0.56
2:H:144:SER:HB3	3:K:116:PHE:CB	2.31	0.56
2:I:122:LEU:O	2:I:122:LEU:HG	2.05	0.56
3:N:32:TYR:HB3	3:N:50:ASP:C	2.25	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:334:ASN:O	1:A:362:VAL:HB	2.04	0.56
1:A:342:PHE:HB3	4:D:1:NAG:H82	1.87	0.56
1:A:519:HIS:ND1	1:A:519:HIS:O	2.38	0.56
1:B:342:PHE:HB3	4:Q:1:NAG:H82	1.87	0.56
1:B:519:HIS:ND1	1:B:519:HIS:O	2.38	0.56
1:C:449:TYR:CE2	2:J:107:GLN:C	2.73	0.56
1:C:804:GLN:HE21	1:C:935:GLN:HE22	1.52	0.56
2:H:125:VAL:CG2	2:H:126:SER:H	2.08	0.56
3:K:114:SER:CB	3:K:116:PHE:HZ	2.16	0.56
1:A:105:ILE:HG12	1:A:239:GLN:HB2	1.87	0.56
1:B:1045:LYS:HZ2	1:C:786:LYS:HE3	1.69	0.56
1:C:101:ILE:HD11	1:C:240:THR:HG23	1.74	0.56
1:C:275:PHE:N	1:C:275:PHE:CD1	2.72	0.56
2:I:131:LYS:HE2	2:I:158:ASP:C	2.26	0.56
2:J:144:SER:HA	3:N:116:PHE:CD1	2.40	0.56
1:B:575:ALA:O	1:B:576:VAL:HG13	2.05	0.56
2:H:107:GLN:HA	2:H:107:GLN:NE2	2.19	0.56
1:A:985:ASP:O	1:A:989:ALA:N	2.37	0.56
1:B:390:LEU:HD23	1:B:391:CYS:N	2.19	0.56
2:H:144:SER:HA	3:K:116:PHE:CD1	2.40	0.56
3:K:54:LEU:HD13	3:K:58:VAL:HG21	1.87	0.56
3:K:142:ARG:NE	3:K:163:VAL:HG11	2.13	0.56
3:N:94:LEU:CB	3:N:95:PRO:CD	2.84	0.56
3:N:114:SER:CB	3:N:116:PHE:HZ	2.16	0.56
1:A:334:ASN:N	1:A:334:ASN:OD1	2.37	0.56
1:A:406:GLU:OE1	1:A:418:ILE:CG1	2.54	0.56
1:B:300:LYS:HE2	1:B:306:PHE:O	2.05	0.56
1:B:565:PHE:N	1:B:565:PHE:CD1	2.73	0.56
1:C:65:PHE:CZ	1:C:84:LEU:CD2	2.87	0.56
2:H:131:LYS:HE2	2:H:158:ASP:C	2.26	0.56
3:K:140:TYR:HB3	3:K:141:PRO:CD	2.34	0.56
1:C:101:ILE:O	1:C:102:ARG:HG2	2.06	0.56
3:K:49:TYR:N	3:K:49:TYR:CD1	2.73	0.56
2:I:131:LYS:CD	2:I:189:LEU:HD21	2.16	0.56
1:A:980:ILE:O	1:A:980:ILE:HG22	2.06	0.56
1:B:216:LEU:HD22	1:B:217:PRO:HD2	1.88	0.56
1:C:519:HIS:ND1	1:C:519:HIS:O	2.38	0.56
3:M:32:TYR:N	3:M:32:TYR:CD1	2.74	0.56
2:J:131:LYS:HE2	2:J:158:ASP:C	2.26	0.56
3:N:54:LEU:HD13	3:N:58:VAL:HG21	1.87	0.56
1:C:214:ARG:HB3	1:C:264:ALA:CB	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:342:PHE:HB3	4:W:1:NAG:H82	1.87	0.55
3:N:70:ASP:OD1	3:N:70:ASP:N	2.37	0.55
1:A:227:VAL:HG12	1:A:228:ASP:N	2.20	0.55
1:B:162:SER:O	1:B:164:ASN:N	2.39	0.55
1:B:406:GLU:OE1	1:B:418:ILE:CG1	2.54	0.55
1:C:47:VAL:HG12	1:C:48:LEU:H	1.70	0.55
2:I:213:ASN:HD22	2:I:215:LYS:HE3	1.71	0.55
3:M:49:TYR:N	3:M:49:TYR:CD1	2.73	0.55
3:M:89:GLN:NE2	3:M:96:TYR:HB3	2.21	0.55
1:A:347:PHE:CE1	1:A:509:ARG:HD3	2.42	0.55
3:K:34:ASN:HD21	3:K:46:LEU:HD11	1.72	0.55
3:K:94:LEU:CB	3:K:95:PRO:CD	2.84	0.55
1:B:126:VAL:CG1	1:B:127:VAL:H	2.20	0.55
2:H:122:LEU:HG	2:H:122:LEU:O	2.05	0.55
3:K:108:ARG:NH1	3:K:109:THR:OG1	2.40	0.55
3:M:32:TYR:HB3	3:M:51:ALA:H	1.71	0.55
3:N:49:TYR:N	3:N:49:TYR:CD1	2.73	0.55
4:G:2:NAG:H3	4:G:2:NAG:H83	1.87	0.55
1:B:194:PHE:HB3	1:B:201:PHE:CZ	2.42	0.55
1:C:391:CYS:SG	1:C:524:VAL:O	2.64	0.55
2:J:64:VAL:HG23	2:J:65:LYS:N	2.19	0.55
1:B:106:PHE:N	1:B:106:PHE:CD1	2.73	0.55
1:B:391:CYS:SG	1:B:524:VAL:O	2.64	0.55
3:K:89:GLN:NE2	3:K:96:TYR:HB3	2.22	0.55
3:M:108:ARG:NH1	3:M:109:THR:OG1	2.40	0.55
1:B:661:GLU:OE2	1:B:698:SER:OG	2.25	0.55
3:K:29:ILE:HD12	3:K:29:ILE:O	2.07	0.55
3:M:34:ASN:ND2	3:M:46:LEU:HD11	2.21	0.55
3:N:108:ARG:NH1	3:N:109:THR:OG1	2.40	0.55
1:A:392:PHE:HB3	1:A:517:LEU:HD22	1.82	0.55
1:A:449:TYR:CE2	2:H:107:GLN:C	2.74	0.55
1:A:663:ASP:OD2	1:A:673:SER:OG	2.22	0.55
1:B:102:ARG:HH12	1:B:141:LEU:CD1	2.16	0.55
1:C:92:PHE:HE1	1:C:94:SER:HG	1.54	0.55
3:K:34:ASN:ND2	3:K:46:LEU:HD11	2.21	0.55
3:M:34:ASN:HD21	3:M:46:LEU:HD11	1.72	0.55
2:J:213:ASN:HD22	2:J:215:LYS:HE3	1.71	0.55
3:N:32:TYR:N	3:N:32:TYR:CD1	2.74	0.55
4:D:1:NAG:H61	4:D:2:NAG:HN2	1.72	0.55
1:B:280:ASN:O	1:B:282:ASN:N	2.40	0.55
1:B:577:ARG:HA	1:B:583:GLU:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:347:PHE:CE1	1:C:509:ARG:HD3	2.42	0.55
2:I:72:ARG:HA	2:I:79:LEU:HA	1.89	0.55
3:M:28:ASP:O	3:M:29:ILE:O	2.23	0.55
4:Q:1:NAG:H61	4:Q:2:NAG:HN2	1.72	0.55
1:B:347:PHE:CE1	1:B:509:ARG:HD3	2.42	0.55
1:C:92:PHE:HE1	1:C:94:SER:OG	1.90	0.55
1:C:406:GLU:OE1	1:C:418:ILE:CG1	2.54	0.55
2:H:72:ARG:HA	2:H:79:LEU:HA	1.89	0.55
3:K:28:ASP:O	3:K:29:ILE:O	2.23	0.55
3:N:33:LEU:HD13	3:N:33:LEU:N	2.22	0.55
1:A:556:ASN:HD22	1:A:556:ASN:N	2.05	0.54
1:C:530:SER:HB3	1:C:580:GLN:NE2	2.20	0.54
2:H:213:ASN:HD22	2:H:215:LYS:HE3	1.71	0.54
3:K:32:TYR:N	3:K:32:TYR:CD1	2.74	0.54
3:K:85:THR:CG2	3:K:87:TYR:CE1	2.91	0.54
2:J:143:LYS:NZ	3:N:209:PHE:HB3	2.21	0.54
1:B:38:TYR:N	1:B:38:TYR:CD1	2.73	0.54
1:C:421:TYR:HA	1:C:461:LEU:HG	1.90	0.54
5:C:1405:NAG:H3	5:C:1405:NAG:H83	1.88	0.54
2:H:143:LYS:NZ	3:K:209:PHE:HB3	2.22	0.54
2:I:144:SER:HB3	3:M:116:PHE:CB	2.31	0.54
3:M:94:LEU:CB	3:M:95:PRO:CD	2.84	0.54
3:N:140:TYR:CB	3:N:141:PRO:HD3	2.37	0.54
4:W:1:NAG:H61	4:W:2:NAG:HN2	1.72	0.54
1:B:91:TYR:C	1:B:268:GLY:H	2.09	0.54
1:B:579:PRO:O	1:B:580:GLN:HG2	2.08	0.54
2:H:153:GLY:HA2	2:H:168:TRP:HZ2	1.73	0.54
3:M:33:LEU:HD13	3:M:33:LEU:N	2.22	0.54
2:J:11:VAL:HG11	2:J:160:PHE:CE2	2.38	0.54
3:N:32:TYR:HB3	3:N:51:ALA:H	1.71	0.54
3:N:89:GLN:NE2	3:N:96:TYR:HB3	2.22	0.54
1:A:707:TYR:HB3	1:B:792:PRO:HG3	1.90	0.54
1:B:335:LEU:C	1:B:362:VAL:O	2.46	0.54
1:C:329:PHE:O	1:C:580:GLN:CG	2.55	0.54
2:J:140:PRO:HG3	2:J:152:LEU:HD23	1.89	0.54
1:B:334:ASN:O	1:B:362:VAL:N	2.40	0.54
1:B:359:SER:O	1:B:524:VAL:HG11	2.06	0.54
1:C:392:PHE:HA	1:C:517:LEU:HD11	1.89	0.54
2:J:144:SER:O	3:N:116:PHE:CE1	2.61	0.54
1:A:392:PHE:HA	1:A:517:LEU:HD11	1.89	0.54
1:A:886:TRP:HH2	1:A:904:TYR:HD2	1.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:144:SER:O	3:K:116:PHE:CE1	2.61	0.54
3:N:29:ILE:O	3:N:29:ILE:HD12	2.07	0.54
1:B:273:ARG:HG3	1:B:275:PHE:CD1	2.43	0.54
1:B:529:LYS:HZ2	1:B:530:SER:H	1.55	0.54
1:C:117:LEU:HD12	1:C:118:LEU:H	1.72	0.54
2:J:72:ARG:HA	2:J:79:LEU:HA	1.89	0.54
1:A:100:ILE:O	1:A:242:LEU:HA	2.08	0.54
1:C:127:VAL:HG12	1:C:129:LYS:HG2	1.90	0.54
1:C:359:SER:O	1:C:524:VAL:HG11	2.06	0.54
1:C:493:GLN:NE2	2:J:103:ILE:HG13	2.23	0.54
3:K:33:LEU:HD13	3:K:33:LEU:N	2.22	0.54
3:M:29:ILE:O	3:M:29:ILE:HD12	2.07	0.54
3:N:32:TYR:CG	3:N:50:ASP:HB2	2.38	0.54
1:A:111:ASP:OD1	1:A:134:GLN:NE2	2.41	0.54
1:B:105:ILE:HD11	1:B:110:LEU:HD13	1.90	0.54
1:B:392:PHE:HA	1:B:517:LEU:HD11	1.89	0.54
2:I:153:GLY:HA2	2:I:168:TRP:HZ2	1.72	0.54
1:A:555:SER:OG	1:A:584:ILE:HG22	2.08	0.53
1:B:392:PHE:CD2	1:B:517:LEU:CD2	2.85	0.53
1:B:1142:GLN:HG3	1:B:1143:PRO:CD	2.37	0.53
2:H:162:GLU:CD	2:H:162:GLU:H	2.12	0.53
2:I:143:LYS:NZ	3:M:209:PHE:HB3	2.21	0.53
1:B:266:TYR:CD1	1:B:266:TYR:N	2.76	0.53
1:B:493:GLN:NE2	2:I:103:ILE:HG13	2.23	0.53
1:C:38:TYR:CE2	1:C:285:ILE:HG13	2.44	0.53
2:J:127:SER:CB	2:J:160:PHE:HB2	2.38	0.53
3:N:85:THR:CG2	3:N:87:TYR:CE1	2.91	0.53
3:N:141:PRO:O	3:N:198:HIS:NE2	2.40	0.53
1:A:493:GLN:NE2	2:H:103:ILE:HG13	2.23	0.53
1:B:330:PRO:CA	1:B:579:PRO:O	2.51	0.53
1:B:334:ASN:O	1:B:362:VAL:HB	2.08	0.53
1:C:102:ARG:O	1:C:103:GLY:O	2.25	0.53
1:C:136:CYS:O	1:C:139:PRO:HD3	2.08	0.53
3:K:32:TYR:CG	3:K:50:ASP:HB2	2.38	0.53
3:K:61:ARG:NH2	3:K:82:ASP:OD2	2.40	0.53
2:I:54:ASP:OD2	2:I:74:ASN:ND2	2.42	0.53
2:I:140:PRO:HG3	2:I:152:LEU:HD23	1.90	0.53
3:M:116:PHE:HD2	3:M:135:LEU:HD23	1.73	0.53
2:J:162:GLU:CD	2:J:162:GLU:H	2.12	0.53
1:A:563:GLN:O	1:A:577:ARG:NH1	2.41	0.53
1:C:476:GLY:H	1:C:487:ASN:HB3	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:116:PHE:HD2	3:K:135:LEU:HD23	1.73	0.53
1:A:476:GLY:H	1:A:487:ASN:HB3	1.74	0.53
1:C:27:ALA:C	1:C:28:TYR:HD1	2.12	0.53
1:C:390:LEU:HD23	1:C:391:CYS:N	2.19	0.53
3:M:140:TYR:CB	3:M:141:PRO:HD3	2.37	0.53
3:N:34:ASN:ND2	3:N:46:LEU:HD11	2.21	0.53
4:F:2:NAG:H83	4:F:2:NAG:H3	1.90	0.53
1:C:438:SER:O	1:C:438:SER:OG	2.21	0.53
2:I:144:SER:O	3:M:116:PHE:CE1	2.61	0.53
1:A:1141:LEU:HD12	1:C:1141:LEU:HD11	1.90	0.53
1:B:421:TYR:HA	1:B:461:LEU:HG	1.90	0.53
1:C:289:VAL:HG23	1:C:306:PHE:CZ	2.44	0.53
2:I:127:SER:CB	2:I:160:PHE:HB2	2.38	0.53
1:C:392:PHE:CD2	1:C:517:LEU:CD2	2.85	0.53
2:H:127:SER:CB	2:H:160:PHE:HB2	2.38	0.53
3:K:89:GLN:CG	3:K:98:PHE:CE1	2.91	0.53
2:I:162:GLU:H	2:I:162:GLU:CD	2.12	0.53
1:B:34:ARG:HD3	1:B:216:LEU:CD1	2.39	0.53
2:I:131:LYS:HE2	2:I:158:ASP:CA	2.38	0.53
3:M:85:THR:CG2	3:M:87:TYR:CE1	2.91	0.53
2:J:131:LYS:HE2	2:J:158:ASP:CA	2.39	0.53
2:J:153:GLY:HA2	2:J:168:TRP:HZ2	1.73	0.53
1:B:91:TYR:HB3	1:B:268:GLY:N	2.24	0.53
1:B:476:GLY:H	1:B:487:ASN:HB3	1.74	0.53
1:B:1104:VAL:HG22	1:B:1115:ILE:HG12	1.91	0.53
1:C:308:VAL:HG21	1:C:599:THR:HG21	1.91	0.53
3:M:87:TYR:N	3:M:87:TYR:CD1	2.77	0.53
1:B:95:THR:HG23	1:B:266:TYR:HE1	1.74	0.52
1:B:329:PHE:O	1:B:580:GLN:HG3	2.09	0.52
1:B:391:CYS:SG	1:B:525:CYS:HB3	2.47	0.52
1:B:544:ASN:O	1:B:544:ASN:ND2	2.41	0.52
1:B:578:ASP:OD2	1:B:581:THR:HG22	2.10	0.52
1:C:272:PRO:O	1:C:273:ARG:HG2	2.08	0.52
2:H:131:LYS:HE2	2:H:158:ASP:CA	2.39	0.52
3:N:89:GLN:CG	3:N:98:PHE:CE1	2.92	0.52
1:A:544:ASN:ND2	1:A:544:ASN:O	2.41	0.52
1:B:107:GLY:CA	1:B:110:LEU:HD23	2.39	0.52
2:H:140:PRO:HG3	2:H:152:LEU:HD23	1.89	0.52
1:A:57:PRO:O	1:A:60:SER:OG	2.24	0.52
1:B:334:ASN:O	1:B:362:VAL:CB	2.58	0.52
1:B:363:ALA:O	1:B:527:PRO:HD3	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:140:PHE:O	1:C:159:VAL:HG22	2.09	0.52
1:A:330:PRO:HB3	1:A:579:PRO:CB	2.38	0.52
1:A:578:ASP:O	1:A:582:LEU:HD23	2.07	0.52
1:A:894:LEU:HB3	1:C:713:ALA:HB3	1.90	0.52
1:B:37:TYR:O	1:B:39:PRO:CD	2.56	0.52
1:B:65:PHE:CD2	1:B:265:TYR:CE1	2.98	0.52
1:B:89:GLY:O	1:B:90:VAL:CG2	2.57	0.52
1:B:189:LEU:HG	1:B:189:LEU:O	2.09	0.52
1:C:327:VAL:CG1	1:C:329:PHE:CE1	2.93	0.52
1:C:599:THR:C	1:C:601:GLY:H	2.13	0.52
2:H:144:SER:CA	3:K:116:PHE:HD1	2.22	0.52
3:K:140:TYR:CB	3:K:141:PRO:HD3	2.37	0.52
3:N:87:TYR:N	3:N:87:TYR:CD1	2.77	0.52
1:A:579:PRO:HG2	1:A:580:GLN:H	1.74	0.52
1:B:90:VAL:CG1	1:B:91:TYR:H	2.20	0.52
1:B:556:ASN:N	1:B:556:ASN:HD22	2.08	0.52
3:M:33:LEU:CD1	3:M:71:PHE:CZ	2.89	0.52
2:J:144:SER:CA	3:N:116:PHE:HD1	2.22	0.52
1:A:421:TYR:HA	1:A:461:LEU:HG	1.90	0.52
2:J:54:ASP:OD2	2:J:74:ASN:ND2	2.42	0.52
1:A:560:LEU:HB3	1:A:561:PRO:HD2	1.91	0.52
1:B:88:ASP:O	1:B:89:GLY:O	2.27	0.52
1:B:193:VAL:O	1:B:203:ILE:HA	2.10	0.52
1:B:329:PHE:HB3	1:B:330:PRO:HD2	1.90	0.52
1:C:88:ASP:OD1	1:C:88:ASP:N	2.41	0.52
3:M:28:ASP:O	3:M:29:ILE:C	2.48	0.52
3:M:33:LEU:O	3:M:50:ASP:HA	2.10	0.52
3:M:114:SER:CB	3:M:116:PHE:HZ	2.16	0.52
3:M:89:GLN:CG	3:M:98:PHE:CE1	2.91	0.52
3:N:34:ASN:HD21	3:N:46:LEU:HD11	1.72	0.52
1:A:363:ALA:O	1:A:527:PRO:HD3	2.10	0.52
1:B:134:GLN:HB2	1:B:162:SER:CB	2.39	0.52
1:B:334:ASN:O	1:B:362:VAL:CG2	2.58	0.52
1:B:556:ASN:ND2	1:B:556:ASN:H	2.08	0.52
3:K:28:ASP:O	3:K:29:ILE:C	2.48	0.52
2:I:144:SER:CA	3:M:116:PHE:HD1	2.22	0.52
2:J:144:SER:HA	3:N:116:PHE:CB	2.40	0.52
3:N:28:ASP:O	3:N:29:ILE:C	2.48	0.52
1:A:529:LYS:NZ	1:A:529:LYS:CB	2.73	0.52
1:A:901:GLN:NE2	1:A:905:ARG:HH21	2.07	0.52
1:B:126:VAL:HG12	1:B:127:VAL:H	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:449:TYR:HE2	2:J:108:GLY:N	2.08	0.52
3:N:140:TYR:CD2	3:N:141:PRO:CD	2.93	0.52
1:A:338:PHE:C	1:A:340:GLU:H	2.13	0.51
2:H:54:ASP:OD2	2:H:74:ASN:ND2	2.42	0.51
1:B:101:ILE:HD12	1:B:101:ILE:N	2.24	0.51
1:B:379:CYS:HB3	1:B:382:VAL:O	2.10	0.51
1:C:192:PHE:CD1	1:C:192:PHE:N	2.77	0.51
1:C:715:PRO:HA	1:C:1072:GLU:HA	1.92	0.51
2:J:125:VAL:HG13	2:J:127:SER:H	1.75	0.51
3:N:33:LEU:O	3:N:50:ASP:HA	2.10	0.51
1:A:529:LYS:NZ	1:A:529:LYS:CA	2.73	0.51
1:A:529:LYS:CB	1:A:529:LYS:HZ2	2.23	0.51
1:B:449:TYR:HE2	2:I:108:GLY:N	2.08	0.51
1:C:385:THR:HG1	1:C:386:LYS:HZ3	1.54	0.51
3:N:134:CYS:HB2	3:N:148:TRP:CH2	2.46	0.51
1:B:523:THR:CG2	1:B:524:VAL:N	2.45	0.51
1:C:535:LYS:HB3	1:C:536:ASN:ND2	2.25	0.51
1:A:438:SER:O	1:A:438:SER:OG	2.21	0.51
1:C:125:ASN:O	1:C:172:SER:HB3	2.10	0.51
5:C:1406:NAG:H62	5:C:1407:NAG:C7	2.41	0.51
3:N:139:PHE:CD1	3:N:173:TYR:C	2.84	0.51
1:A:64:TRP:HD1	1:A:65:PHE:N	2.07	0.51
1:C:348:ALA:HB2	1:C:354:ASN:ND2	2.26	0.51
3:K:87:TYR:N	3:K:87:TYR:CD1	2.77	0.51
3:K:139:PHE:CD1	3:K:173:TYR:C	2.84	0.51
2:I:47:TRP:CH2	3:M:94:LEU:O	2.64	0.51
3:M:139:PHE:CD1	3:M:173:TYR:C	2.84	0.51
3:N:139:PHE:CE1	3:N:173:TYR:HB2	2.46	0.51
1:B:235:ILE:O	1:B:236:THR:HG22	2.11	0.51
1:B:348:ALA:HB2	1:B:354:ASN:ND2	2.26	0.51
1:C:327:VAL:CG1	1:C:329:PHE:HE1	2.24	0.51
3:K:33:LEU:O	3:K:50:ASP:HA	2.10	0.51
3:M:91:TYR:O	3:M:92:ASP:CG	2.49	0.51
3:M:134:CYS:HB2	3:M:148:TRP:CH2	2.46	0.51
3:N:116:PHE:HD2	3:N:135:LEU:HD23	1.73	0.51
1:A:130:VAL:HB	1:A:168:PHE:HB3	1.93	0.51
1:A:486:PHE:HE1	2:H:59:TYR:HE1	1.57	0.51
1:A:869:MET:HE1	1:C:697:MET:HG2	1.93	0.51
1:C:379:CYS:HB3	1:C:382:VAL:O	2.10	0.51
1:C:675:GLN:NE2	1:C:675:GLN:CA	2.73	0.51
3:K:134:CYS:HB2	3:K:148:TRP:CH2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:85:THR:CB	3:N:87:TYR:CE1	2.94	0.51
1:B:89:GLY:C	1:B:90:VAL:HG23	2.30	0.51
1:B:449:TYR:CE2	2:I:107:GLN:C	2.73	0.51
1:B:563:GLN:CG	1:C:41:LYS:O	2.59	0.51
1:C:392:PHE:HB3	1:C:517:LEU:HD22	1.82	0.51
2:H:47:TRP:CH2	3:K:94:LEU:O	2.64	0.51
3:M:139:PHE:CE1	3:M:173:TYR:HB2	2.46	0.51
1:B:190:ARG:CD	1:B:207:HIS:ND1	2.73	0.51
3:N:91:TYR:O	3:N:92:ASP:CG	2.49	0.51
1:A:348:ALA:HB2	1:A:354:ASN:ND2	2.26	0.50
1:B:392:PHE:HB3	1:B:517:LEU:HD22	1.82	0.50
1:C:275:PHE:N	1:C:275:PHE:HD1	2.07	0.50
1:C:328:ARG:HA	1:C:530:SER:OG	2.12	0.50
3:M:141:PRO:O	3:M:198:HIS:NE2	2.40	0.50
1:A:129:LYS:HG2	1:A:133:PHE:HZ	1.77	0.50
1:A:401:VAL:HG22	1:A:509:ARG:HG2	1.94	0.50
1:C:91:TYR:CB	1:C:268:GLY:HA3	2.36	0.50
1:C:96:GLU:CD	1:C:100:ILE:HD13	2.31	0.50
1:C:403:ARG:NH1	1:C:505:TYR:CD1	2.78	0.50
3:K:139:PHE:CE1	3:K:173:TYR:HB2	2.46	0.50
2:I:144:SER:HA	3:M:116:PHE:CB	2.40	0.50
1:A:449:TYR:HE2	2:H:108:GLY:N	2.09	0.50
1:B:201:PHE:CE2	1:B:203:ILE:HD11	2.46	0.50
1:C:333:THR:O	1:C:335:LEU:HG	2.11	0.50
3:M:61:ARG:NH2	3:M:82:ASP:OD2	2.40	0.50
2:J:11:VAL:HG13	2:J:160:PHE:HZ	1.75	0.50
2:J:47:TRP:CH2	3:N:94:LEU:O	2.64	0.50
2:J:169:ASN:ND2	2:J:207:THR:O	2.45	0.50
1:B:32:PHE:CD2	1:B:218:GLN:CG	2.95	0.50
1:B:89:GLY:HA3	1:B:270:LEU:CD1	2.41	0.50
1:B:281:GLU:O	1:B:283:GLY:N	2.44	0.50
2:H:144:SER:HA	3:K:116:PHE:CB	2.40	0.50
3:K:32:TYR:HB3	3:K:51:ALA:H	1.71	0.50
2:I:125:VAL:HG13	2:I:127:SER:H	1.76	0.50
3:M:32:TYR:CG	3:M:50:ASP:HB2	2.38	0.50
1:A:964:LYS:HE3	1:C:570:ALA:HA	1.93	0.50
1:C:280:ASN:HB2	1:C:286:THR:HG23	1.93	0.50
1:C:401:VAL:HG22	1:C:509:ARG:HG2	1.93	0.50
2:H:125:VAL:HG13	2:H:127:SER:H	1.76	0.50
2:I:10:GLY:O	2:I:123:VAL:N	2.42	0.50
2:I:130:THR:CA	2:I:161:PRO:CG	2.90	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:379:CYS:HB3	1:A:382:VAL:O	2.10	0.50
1:B:320:VAL:HG12	1:B:321:GLN:N	2.26	0.50
1:B:320:VAL:HG23	1:B:591:SER:O	2.11	0.50
1:B:616:ASN:HB3	1:B:618:THR:HG22	1.94	0.50
4:U:1:NAG:H62	4:U:2:NAG:H2	1.93	0.50
1:A:106:PHE:HB3	1:A:235:ILE:HD13	1.93	0.50
1:B:171:VAL:HG12	1:B:172:SER:N	2.22	0.50
1:C:139:PRO:CB	1:C:159:VAL:HG13	2.42	0.50
1:C:804:GLN:HE21	1:C:935:GLN:NE2	2.08	0.50
2:H:169:ASN:ND2	2:H:207:THR:O	2.45	0.50
2:J:130:THR:CA	2:J:161:PRO:CG	2.90	0.50
2:J:143:LYS:NZ	3:N:209:PHE:CB	2.75	0.50
1:B:92:PHE:CD1	1:B:92:PHE:C	2.86	0.50
1:C:103:GLY:C	1:C:104:TRP:CE3	2.85	0.50
1:C:140:PHE:C	1:C:140:PHE:CD1	2.86	0.50
1:C:807:PRO:O	1:C:809:PRO:HD3	2.12	0.50
1:C:1032:CYS:O	1:C:1051:SER:HB2	2.12	0.50
1:C:1090:PRO:HD3	1:C:1095:PHE:CE2	2.47	0.50
3:K:91:TYR:O	3:K:92:ASP:CG	2.49	0.50
3:M:140:TYR:CD2	3:M:141:PRO:CD	2.93	0.50
2:J:228:LYS:CE	3:N:119:PRO:CD	2.90	0.50
3:K:66:GLY:HA2	3:K:71:PHE:HD1	1.77	0.50
3:K:140:TYR:CD2	3:K:141:PRO:CD	2.93	0.50
1:A:431:GLY:HA3	1:A:513:LEU:O	2.12	0.49
1:A:578:ASP:OD1	1:A:585:LEU:HD12	2.12	0.49
1:B:675:GLN:HA	1:B:690:GLN:HG3	1.93	0.49
1:C:193:VAL:HG23	1:C:223:LEU:CD2	2.40	0.49
3:N:61:ARG:NH2	3:N:82:ASP:OD2	2.40	0.49
1:B:385:THR:HG1	1:B:386:LYS:HZ3	1.55	0.49
1:B:403:ARG:NH1	1:B:505:TYR:CD1	2.78	0.49
2:H:143:LYS:NZ	3:K:209:PHE:CB	2.75	0.49
2:I:228:LYS:CE	3:M:119:PRO:HD2	2.42	0.49
3:M:66:GLY:HA2	3:M:71:PHE:HD1	1.77	0.49
3:N:50:ASP:HB3	3:N:91:TYR:OH	2.12	0.49
1:A:735:SER:HB3	1:A:859:THR:HG22	1.94	0.49
1:B:124:THR:O	1:B:124:THR:HG23	2.13	0.49
1:B:523:THR:O	1:B:525:CYS:SG	2.70	0.49
1:C:104:TRP:HB2	1:C:106:PHE:CE1	2.47	0.49
3:K:138:ASN:O	3:K:139:PHE:HB3	2.13	0.49
3:K:141:PRO:O	3:K:198:HIS:NE2	2.40	0.49
1:A:131:CYS:H	1:A:133:PHE:HE1	1.59	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:91:TYR:HB3	1:B:268:GLY:C	2.31	0.49
1:B:190:ARG:HD3	1:B:207:HIS:ND1	2.24	0.49
1:B:536:ASN:N	1:B:552:LEU:O	2.45	0.49
1:C:92:PHE:CD1	1:C:92:PHE:C	2.86	0.49
1:C:437:ASN:OD1	1:C:438:SER:N	2.46	0.49
2:H:228:LYS:CE	3:K:119:PRO:HD2	2.42	0.49
2:I:131:LYS:CD	2:I:189:LEU:CD1	2.91	0.49
3:M:31:ASN:C	3:M:32:TYR:CD1	2.86	0.49
1:A:403:ARG:NH1	1:A:505:TYR:CD1	2.78	0.49
1:A:529:LYS:HZ2	1:A:529:LYS:HB3	1.78	0.49
1:B:322:PRO:HB3	1:B:538:CYS:SG	2.52	0.49
1:B:401:VAL:HG22	1:B:509:ARG:HG2	1.93	0.49
2:H:131:LYS:CD	2:H:189:LEU:CD1	2.91	0.49
3:N:66:GLY:HA2	3:N:71:PHE:HD1	1.77	0.49
1:B:437:ASN:OD1	1:B:438:SER:N	2.46	0.49
1:B:486:PHE:HE1	2:I:59:TYR:HE1	1.58	0.49
2:I:143:LYS:NZ	3:M:209:PHE:CB	2.75	0.49
2:I:228:LYS:CE	3:M:119:PRO:CD	2.90	0.49
2:J:10:GLY:O	2:J:123:VAL:N	2.42	0.49
1:B:493:GLN:HE22	2:I:103:ILE:HA	1.72	0.49
1:C:102:ARG:O	1:C:241:LEU:HB2	2.12	0.49
1:C:170:TYR:CD1	1:C:170:TYR:C	2.85	0.49
1:C:334:ASN:O	1:C:362:VAL:CB	2.60	0.49
1:C:431:GLY:HA3	1:C:513:LEU:O	2.13	0.49
3:M:50:ASP:HB3	3:M:91:TYR:OH	2.12	0.49
3:M:139:PHE:CE1	3:M:173:TYR:CB	2.95	0.49
1:A:171:VAL:HG12	1:A:172:SER:H	1.78	0.49
1:A:869:MET:HE2	1:C:697:MET:HG2	1.95	0.49
1:B:538:CYS:N	1:B:551:VAL:HG22	2.27	0.49
1:C:312:ILE:HG23	1:C:312:ILE:O	2.13	0.49
2:J:228:LYS:CE	3:N:119:PRO:HD2	2.42	0.49
3:N:139:PHE:CE1	3:N:173:TYR:CB	2.95	0.49
1:C:536:ASN:ND2	1:C:536:ASN:N	2.60	0.49
2:J:131:LYS:CD	2:J:189:LEU:CD1	2.91	0.49
1:A:493:GLN:HE22	2:H:103:ILE:CA	2.26	0.49
1:B:431:GLY:HA3	1:B:513:LEU:O	2.12	0.49
1:B:556:ASN:N	1:B:556:ASN:ND2	2.60	0.49
1:C:143:VAL:O	1:C:154:GLU:HG2	2.13	0.49
2:H:130:THR:CA	2:H:161:PRO:CG	2.90	0.49
3:K:139:PHE:CE1	3:K:173:TYR:CB	2.95	0.49
2:J:180:PHE:HE2	3:N:174:SER:C	2.17	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:200:TYR:CZ	1:C:521:PRO:HB2	2.47	0.48
1:A:524:VAL:HG22	1:A:525:CYS:N	2.27	0.48
1:C:280:ASN:HB3	1:C:284:THR:CG2	2.42	0.48
2:I:59:TYR:CB	3:M:94:LEU:CD2	2.60	0.48
2:I:65:LYS:HE3	2:I:65:LYS:HB2	1.63	0.48
3:M:138:ASN:O	3:M:139:PHE:HB3	2.13	0.48
3:N:138:ASN:O	3:N:139:PHE:HB3	2.13	0.48
1:A:122:ASN:N	1:A:122:ASN:OD1	2.46	0.48
1:A:896:ILE:HG13	1:A:897:PRO:HD2	1.96	0.48
1:C:168:PHE:CD2	1:C:231:ILE:HD11	2.48	0.48
3:K:50:ASP:HB3	3:K:91:TYR:OH	2.12	0.48
1:A:535:LYS:O	1:A:536:ASN:HB2	2.13	0.48
1:B:89:GLY:C	1:B:90:VAL:CG2	2.82	0.48
1:B:92:PHE:O	1:B:92:PHE:HD1	1.96	0.48
1:B:139:PRO:CA	1:B:159:VAL:HG22	2.42	0.48
1:B:195:LYS:HD2	1:B:197:ILE:HD11	1.94	0.48
2:H:64:VAL:CG2	2:H:65:LYS:N	2.76	0.48
1:A:227:VAL:HG12	1:A:228:ASP:H	1.79	0.48
1:A:403:ARG:HH21	2:H:109:VAL:CG2	2.22	0.48
1:B:281:GLU:CG	1:B:282:ASN:N	2.73	0.48
2:H:164:VAL:HG22	2:H:214:HIS:CD2	2.49	0.48
2:H:180:PHE:HE2	3:K:174:SER:C	2.17	0.48
2:H:228:LYS:CE	3:K:119:PRO:CD	2.90	0.48
3:K:38:GLN:OE1	3:K:87:TYR:CE1	2.67	0.48
3:K:85:THR:CB	3:K:87:TYR:CE1	2.94	0.48
2:I:169:ASN:ND2	2:I:207:THR:O	2.45	0.48
3:M:38:GLN:OE1	3:M:87:TYR:CE1	2.67	0.48
1:A:437:ASN:OD1	1:A:438:SER:N	2.46	0.48
2:I:33:ALA:HB3	2:I:99:ASP:HB3	1.95	0.48
2:I:164:VAL:HG22	2:I:214:HIS:CD2	2.49	0.48
1:A:516:GLU:C	1:A:517:LEU:CD2	2.82	0.48
1:A:560:LEU:HD12	1:A:562:PHE:CZ	2.47	0.48
1:A:935:GLN:O	1:A:939:SER:HB3	2.14	0.48
1:B:391:CYS:HB2	1:B:525:CYS:HB3	1.95	0.48
1:C:332:ILE:CG2	1:C:362:VAL:HG11	2.43	0.48
1:C:486:PHE:HE1	2:J:59:TYR:HE1	1.58	0.48
3:N:31:ASN:C	3:N:32:TYR:CD1	2.86	0.48
1:A:392:PHE:CD2	1:A:517:LEU:CD2	2.85	0.48
1:A:707:TYR:HB2	1:B:883:THR:HG23	1.94	0.48
1:C:117:LEU:HD13	1:C:130:VAL:HG22	1.96	0.48
1:C:1104:VAL:HG22	1:C:1115:ILE:HG12	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:161:PRO:HB2	2:I:214:HIS:NE2	2.29	0.48
3:M:85:THR:CB	3:M:87:TYR:CE1	2.94	0.48
1:A:555:SER:OG	1:A:584:ILE:HG21	2.12	0.48
1:C:534:VAL:HB	1:C:537:LYS:HE2	1.94	0.48
1:C:578:ASP:OD2	1:C:581:THR:HB	2.13	0.48
2:I:183:VAL:HG21	3:M:160:GLN:HB3	1.96	0.48
2:J:65:LYS:HG3	2:J:66:GLY:N	2.29	0.48
1:A:361:CYS:O	1:A:524:VAL:HG23	2.13	0.48
1:A:554:GLU:HA	1:A:585:LEU:CD2	2.44	0.48
1:B:710:ASN:HD22	1:B:710:ASN:N	2.11	0.48
1:C:550:GLY:CA	1:C:590:CYS:SG	2.90	0.48
2:I:64:VAL:CG2	2:I:65:LYS:N	2.76	0.48
2:J:64:VAL:CG2	2:J:65:LYS:N	2.76	0.48
1:B:95:THR:CG2	1:B:266:TYR:HE1	2.25	0.48
2:H:127:SER:O	2:H:129:SER:N	2.47	0.48
3:K:85:THR:HG22	3:K:86:TYR:N	2.26	0.48
2:I:11:VAL:HG13	2:I:160:PHE:HZ	1.75	0.48
2:I:127:SER:O	2:I:129:SER:N	2.47	0.48
2:I:180:PHE:HE2	3:M:174:SER:C	2.17	0.48
2:J:127:SER:O	2:J:129:SER:N	2.47	0.48
2:J:164:VAL:HG22	2:J:214:HIS:CD2	2.49	0.48
1:A:231:ILE:HB	1:A:233:ILE:HG22	1.95	0.47
1:B:105:ILE:O	1:B:238:PHE:CB	2.62	0.47
1:B:516:GLU:C	1:B:517:LEU:CD2	2.82	0.47
1:A:321:GLN:OE1	1:A:322:PRO:HD2	2.14	0.47
1:A:886:TRP:CH2	1:A:904:TYR:HD2	2.32	0.47
1:B:238:PHE:O	1:B:239:GLN:CB	2.61	0.47
1:B:403:ARG:HH21	2:I:109:VAL:CG2	2.22	0.47
1:B:493:GLN:HE22	2:I:103:ILE:CA	2.27	0.47
1:C:168:PHE:CE1	1:C:170:TYR:HB2	2.48	0.47
1:C:659:SER:HB3	1:C:698:SER:HB3	1.97	0.47
2:H:195:VAL:HG11	3:K:135:LEU:HD22	1.96	0.47
3:M:32:TYR:HB2	3:M:50:ASP:HB3	1.92	0.47
1:A:555:SER:HB3	1:A:584:ILE:CB	2.43	0.47
1:B:84:LEU:O	1:B:237:ARG:HB2	2.14	0.47
1:B:193:VAL:HG23	1:B:223:LEU:HD23	1.96	0.47
1:B:201:PHE:HE2	1:B:203:ILE:HD11	1.78	0.47
1:C:516:GLU:C	1:C:517:LEU:CD2	2.82	0.47
3:M:18:ARG:HG2	3:M:76:SER:HA	1.96	0.47
3:N:38:GLN:OE1	3:N:87:TYR:CE1	2.67	0.47
3:N:50:ASP:O	3:N:52:SER:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:50:SER:HB2	1:B:276:LEU:CD1	2.42	0.47
1:B:159:VAL:CG1	1:B:160:TYR:N	2.73	0.47
1:C:195:LYS:O	1:C:202:LYS:HG2	2.15	0.47
2:H:161:PRO:HB2	2:H:214:HIS:NE2	2.29	0.47
2:I:65:LYS:HG3	2:I:66:GLY:N	2.29	0.47
1:A:45:SER:O	1:A:47:VAL:HG22	2.14	0.47
1:B:333:THR:O	1:B:335:LEU:N	2.48	0.47
1:C:658:ASN:ND2	1:C:660:TYR:OH	2.33	0.47
2:J:183:VAL:HG21	3:N:160:GLN:HB3	1.96	0.47
1:A:560:LEU:HD12	1:A:562:PHE:CE2	2.49	0.47
1:C:140:PHE:C	1:C:141:LEU:HG	2.35	0.47
2:H:183:VAL:HG21	3:K:160:GLN:HB3	1.96	0.47
3:K:50:ASP:O	3:K:52:SER:N	2.48	0.47
2:J:52:SER:HB3	2:J:105:MET:HG2	1.96	0.47
1:A:369:TYR:CE2	1:A:384:PRO:HB2	2.50	0.47
1:B:505:TYR:CE2	2:I:111:GLY:HA2	2.50	0.47
1:C:113:LYS:HA	1:C:113:LYS:HD3	1.69	0.47
1:C:131:CYS:CB	1:C:166:CYS:HA	2.26	0.47
1:C:726:ILE:HG12	1:C:1061:VAL:HG22	1.97	0.47
2:H:11:VAL:HG13	2:H:160:PHE:HZ	1.75	0.47
3:K:18:ARG:HG2	3:K:76:SER:HA	1.97	0.47
2:J:131:LYS:CE	2:J:158:ASP:C	2.83	0.47
1:A:500:THR:O	1:A:500:THR:OG1	2.31	0.47
1:B:91:TYR:O	1:B:267:VAL:HA	2.15	0.47
1:C:125:ASN:ND2	1:C:171:VAL:HG11	2.15	0.47
1:C:190:ARG:HB3	1:C:192:PHE:HE1	1.77	0.47
1:C:310:LYS:HE2	1:C:664:ILE:HG13	1.97	0.47
2:H:33:ALA:HB3	2:H:99:ASP:HB3	1.95	0.47
2:H:131:LYS:CE	2:H:158:ASP:C	2.83	0.47
3:M:50:ASP:O	3:M:52:SER:N	2.48	0.47
2:J:228:LYS:HE3	3:N:119:PRO:CD	2.45	0.47
1:A:212:LEU:HD23	1:A:215:ASP:HB2	1.95	0.47
1:B:729:VAL:HG13	1:B:1059:GLY:HA2	1.97	0.47
1:C:973:ILE:HG12	1:C:992:GLN:HE21	1.79	0.47
3:M:6:GLN:HA	3:M:100:GLN:HE22	1.80	0.47
3:M:85:THR:HB	3:M:87:TYR:HE1	1.78	0.47
3:N:18:ARG:HG2	3:N:76:SER:HA	1.97	0.47
1:A:329:PHE:H	1:A:530:SER:HB3	1.79	0.47
1:B:361:CYS:H	1:B:524:VAL:HG12	1.79	0.47
1:B:391:CYS:CB	1:B:525:CYS:HB3	2.45	0.47
1:C:369:TYR:CE2	1:C:384:PRO:HB2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:505:TYR:CE2	2:J:111:GLY:HA2	2.50	0.47
2:H:144:SER:CA	3:K:116:PHE:CD1	2.98	0.47
3:K:6:GLN:HA	3:K:100:GLN:HE22	1.80	0.47
3:K:31:ASN:C	3:K:32:TYR:CD1	2.86	0.47
3:K:33:LEU:HB2	3:K:34:ASN:H	1.49	0.47
2:J:33:ALA:HB3	2:J:99:ASP:HB3	1.95	0.47
2:J:93:VAL:HA	2:J:121:THR:HA	1.97	0.47
2:J:144:SER:CA	3:N:116:PHE:CD1	2.98	0.47
3:N:32:TYR:HB2	3:N:50:ASP:HB3	1.92	0.47
1:A:560:LEU:N	1:A:563:GLN:OE1	2.39	0.46
1:A:580:GLN:HE21	1:A:580:GLN:CA	2.25	0.46
1:A:872:GLN:OE1	1:C:699:LEU:HD22	2.16	0.46
1:B:142:GLY:HA3	1:B:155:SER:O	2.14	0.46
1:B:364:ASP:O	1:B:367:VAL:HG12	2.15	0.46
1:B:713:ALA:HB3	1:C:894:LEU:HB3	1.97	0.46
2:H:52:SER:HB3	2:H:105:MET:HG2	1.96	0.46
2:H:228:LYS:HE3	3:K:119:PRO:CD	2.45	0.46
2:J:161:PRO:HB2	2:J:214:HIS:NE2	2.29	0.46
3:N:6:GLN:HA	3:N:100:GLN:HE22	1.80	0.46
1:C:274:THR:C	1:C:275:PHE:HD1	2.18	0.46
1:C:275:PHE:CD1	1:C:290:ASP:HA	2.50	0.46
1:C:804:GLN:HG3	1:C:935:GLN:HE22	1.80	0.46
2:H:145:THR:HG23	2:H:150:ALA:HB2	1.97	0.46
1:B:533:LEU:O	1:B:533:LEU:HD23	2.15	0.46
1:C:307:THR:HA	1:C:602:THR:HG21	1.97	0.46
1:C:393:THR:HA	1:C:523:THR:HB	1.98	0.46
1:C:531:THR:HG23	1:C:532:ASN:H	1.76	0.46
2:J:65:LYS:HB2	2:J:65:LYS:HE3	1.63	0.46
3:N:89:GLN:HE22	3:N:96:TYR:HD2	1.63	0.46
1:A:524:VAL:C	1:A:525:CYS:SG	2.93	0.46
1:A:553:THR:O	1:A:585:LEU:CD2	2.64	0.46
1:A:1105:THR:HG22	1:A:1111:GLU:H	1.80	0.46
1:B:109:THR:HG23	1:B:114:THR:HG21	1.96	0.46
1:B:369:TYR:CE2	1:B:384:PRO:HB2	2.50	0.46
1:B:603:ASN:OD1	5:B:1406:NAG:N2	2.49	0.46
1:C:266:TYR:N	1:C:266:TYR:CD1	2.83	0.46
1:C:977:LEU:HD12	1:C:996:LEU:HD12	1.98	0.46
2:H:62:ASP:C	2:H:63:SER:HG	2.01	0.46
1:A:449:TYR:CE2	2:H:107:GLN:HB3	2.51	0.46
1:C:327:VAL:H	1:C:531:THR:HG21	1.75	0.46
2:H:65:LYS:HG3	2:H:66:GLY:N	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:33:LEU:CD1	3:K:71:PHE:CZ	2.89	0.46
2:I:195:VAL:HG11	3:M:135:LEU:HD22	1.96	0.46
1:A:117:LEU:HD12	1:A:118:LEU:N	2.30	0.46
1:A:967:SER:O	1:A:967:SER:OG	2.24	0.46
1:B:240:THR:CG2	1:B:241:LEU:N	2.79	0.46
2:I:52:SER:HB3	2:I:105:MET:HG2	1.96	0.46
2:I:62:ASP:C	2:I:63:SER:HG	2.05	0.46
2:J:131:LYS:CE	2:J:189:LEU:HD22	2.43	0.46
2:J:141:SER:HB3	2:J:143:LYS:HG2	1.98	0.46
1:A:403:ARG:NH2	2:H:109:VAL:CG2	2.77	0.46
1:B:393:THR:HA	1:B:523:THR:HB	1.98	0.46
1:B:710:ASN:HD22	1:B:710:ASN:H	1.62	0.46
1:C:362:VAL:HG11	1:C:527:PRO:HB3	1.98	0.46
1:C:364:ASP:O	1:C:367:VAL:HG12	2.15	0.46
2:I:131:LYS:HD2	2:I:189:LEU:CD1	2.46	0.46
2:I:228:LYS:HE3	3:M:119:PRO:CD	2.45	0.46
2:J:195:VAL:HG11	3:N:135:LEU:HD22	1.96	0.46
1:A:912:THR:OG1	1:A:914:ASN:ND2	2.48	0.46
1:A:981:LEU:C	1:A:983:ARG:H	2.19	0.46
1:B:53:ASP:CB	1:B:55:PHE:CZ	2.84	0.46
1:B:447:GLY:HA2	1:B:497:PHE:O	2.16	0.46
1:B:1032:CYS:O	1:B:1051:SER:HB2	2.16	0.46
1:C:377:PHE:CD2	1:C:434:ILE:HG12	2.51	0.46
2:H:214:HIS:CD2	2:H:216:PRO:HD2	2.51	0.46
2:I:144:SER:CA	3:M:116:PHE:CD1	2.98	0.46
2:I:145:THR:HG23	2:I:150:ALA:HB2	1.97	0.46
2:I:214:HIS:CD2	2:I:216:PRO:HD2	2.51	0.46
3:N:142:ARG:HH21	3:N:163:VAL:HB	1.81	0.46
1:A:393:THR:O	1:A:523:THR:CG2	2.58	0.46
1:B:95:THR:HG23	1:B:266:TYR:CE1	2.51	0.46
1:B:722:VAL:HA	1:B:1064:HIS:O	2.16	0.46
1:C:449:TYR:CE2	2:J:107:GLN:HB3	2.51	0.46
2:I:131:LYS:CE	2:I:158:ASP:C	2.83	0.46
2:J:131:LYS:HD2	2:J:189:LEU:CD1	2.46	0.46
3:N:140:TYR:CB	3:N:141:PRO:CD	2.94	0.46
1:A:127:VAL:HG11	5:A:1402:NAG:H61	1.98	0.46
1:B:89:GLY:O	1:B:90:VAL:HG22	2.15	0.46
1:B:195:LYS:N	1:B:202:LYS:O	2.41	0.46
1:B:377:PHE:CD2	1:B:434:ILE:HG12	2.51	0.46
1:B:825:LYS:HB3	1:B:825:LYS:HE2	1.79	0.46
3:M:142:ARG:HH21	3:M:163:VAL:HB	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:145:THR:HG23	2:J:150:ALA:HB2	1.97	0.46
1:A:523:THR:CG2	1:A:524:VAL:N	2.46	0.45
1:B:158:ARG:HE	1:B:158:ARG:CA	2.26	0.45
1:B:245:HIS:N	1:B:245:HIS:CD2	2.84	0.45
1:B:321:GLN:OE1	1:B:322:PRO:HD2	2.16	0.45
1:C:90:VAL:HA	1:C:268:GLY:O	2.15	0.45
1:C:190:ARG:HD3	1:C:207:HIS:CE1	2.51	0.45
1:C:361:CYS:H	1:C:524:VAL:HG12	1.79	0.45
2:J:214:HIS:CD2	2:J:216:PRO:HD2	2.51	0.45
3:N:85:THR:HB	3:N:87:TYR:HE1	1.79	0.45
1:A:29:THR:HG22	1:A:30:ASN:N	2.31	0.45
1:A:520:ALA:CB	1:A:521:PRO:CD	2.79	0.45
1:A:903:ALA:HB1	1:A:913:GLN:HG2	1.98	0.45
1:B:216:LEU:HD23	1:B:266:TYR:CE1	2.51	0.45
2:H:10:GLY:O	2:H:123:VAL:N	2.42	0.45
2:H:131:LYS:HD2	2:H:189:LEU:CD1	2.46	0.45
3:K:140:TYR:CB	3:K:141:PRO:CD	2.94	0.45
3:K:142:ARG:HH21	3:K:163:VAL:HB	1.81	0.45
2:I:141:SER:HB3	2:I:143:LYS:HG2	1.98	0.45
3:M:85:THR:O	3:M:86:TYR:CG	2.70	0.45
3:N:85:THR:HG22	3:N:86:TYR:N	2.26	0.45
1:A:377:PHE:CD2	1:A:434:ILE:HG12	2.51	0.45
1:C:403:ARG:NH2	2:J:109:VAL:CG2	2.77	0.45
3:N:33:LEU:HB2	3:N:34:ASN:H	1.50	0.45
1:A:505:TYR:CE2	2:H:111:GLY:HA2	2.50	0.45
1:A:984:LEU:HD22	1:A:988:GLU:HB3	1.99	0.45
1:A:1094:VAL:HG22	1:A:1107:ARG:HG2	1.99	0.45
1:B:758:SER:O	1:B:762:GLN:HG3	2.16	0.45
1:B:1045:LYS:HZ1	1:C:786:LYS:HE3	1.80	0.45
1:C:537:LYS:O	1:C:538:CYS:C	2.55	0.45
2:I:93:VAL:HA	2:I:121:THR:HA	1.97	0.45
1:A:332:ILE:HD11	1:A:528:LYS:O	2.16	0.45
1:B:87:ASN:OD1	1:B:269:TYR:CE1	2.69	0.45
1:B:362:VAL:CG1	1:B:527:PRO:HB3	2.47	0.45
1:C:106:PHE:HB3	1:C:235:ILE:CD1	2.46	0.45
2:H:65:LYS:HB2	2:H:65:LYS:HE3	1.63	0.45
2:J:23:ALA:HA	2:J:78:THR:HA	1.99	0.45
2:J:185:GLN:OE1	2:J:191:SER:OG	2.31	0.45
1:B:449:TYR:CE2	2:I:107:GLN:HB3	2.51	0.45
1:C:190:ARG:O	1:C:191:GLU:CG	2.65	0.45
3:N:3:GLN:HE21	3:N:28:ASP:HB2	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:153:MET:N	1:A:153:MET:SD	2.90	0.45
1:A:393:THR:HA	1:A:523:THR:HB	1.98	0.45
1:A:646:ARG:HG3	1:A:646:ARG:O	2.17	0.45
1:B:534:VAL:HG23	1:B:534:VAL:O	2.17	0.45
3:N:33:LEU:CD1	3:N:71:PHE:CZ	2.89	0.45
1:A:329:PHE:HA	1:A:579:PRO:HG3	1.98	0.45
1:A:1090:PRO:HD3	1:A:1095:PHE:CE2	2.51	0.45
1:B:92:PHE:CD1	1:B:92:PHE:O	2.70	0.45
1:B:124:THR:O	1:B:125:ASN:CB	2.64	0.45
1:B:235:ILE:C	1:B:236:THR:CG2	2.86	0.45
1:C:125:ASN:HB3	1:C:171:VAL:CG1	2.38	0.45
1:C:231:ILE:HG22	1:C:232:GLY:O	2.17	0.45
1:C:496:GLY:HA3	2:J:108:GLY:HA3	1.98	0.45
1:C:658:ASN:OD1	1:C:658:ASN:N	2.49	0.45
2:H:11:VAL:HA	2:H:123:VAL:O	2.17	0.45
2:H:144:SER:C	3:K:116:PHE:HD1	2.19	0.45
3:M:89:GLN:HE22	3:M:96:TYR:HD2	1.63	0.45
1:A:187:LYS:HE3	1:A:213:VAL:HG12	1.99	0.45
1:A:447:GLY:HA2	1:A:497:PHE:O	2.16	0.45
1:B:580:GLN:HE21	1:B:580:GLN:HB3	1.58	0.45
1:B:581:THR:C	1:B:582:LEU:HG	2.37	0.45
2:H:93:VAL:HA	2:H:121:THR:HA	1.97	0.45
2:H:159:TYR:OH	2:H:192:LEU:HD23	2.17	0.45
2:H:228:LYS:HE3	3:K:119:PRO:HD2	1.99	0.45
2:J:11:VAL:HA	2:J:123:VAL:O	2.17	0.45
1:A:329:PHE:HB3	1:A:330:PRO:HD2	1.96	0.45
1:A:364:ASP:O	1:A:367:VAL:HG12	2.15	0.45
1:A:676:THR:HB	1:A:693:ILE:HG21	1.98	0.45
1:C:327:VAL:N	1:C:531:THR:CG2	2.66	0.45
2:H:22:CYS:N	2:H:79:LEU:O	2.42	0.45
2:H:23:ALA:HA	2:H:78:THR:HA	1.99	0.45
2:I:144:SER:C	3:M:116:PHE:HD1	2.19	0.45
2:I:159:TYR:OH	2:I:192:LEU:HD23	2.17	0.45
3:N:85:THR:O	3:N:86:TYR:CG	2.70	0.45
3:N:85:THR:O	3:N:86:TYR:CD2	2.70	0.45
1:A:440:ASN:ND2	1:A:441:LEU:HG	2.32	0.44
1:A:617:CYS:HB2	1:A:649:CYS:HB2	1.87	0.44
1:B:92:PHE:HA	1:B:267:VAL:HA	1.98	0.44
1:B:111:ASP:HA	1:B:134:GLN:HE22	1.81	0.44
1:B:170:TYR:CE1	1:B:171:VAL:O	2.70	0.44
1:B:403:ARG:NH2	2:I:109:VAL:CG2	2.77	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:562:PHE:O	1:C:41:LYS:HD2	2.17	0.44
1:C:29:THR:HG22	1:C:30:ASN:O	2.16	0.44
1:C:447:GLY:HA2	1:C:497:PHE:O	2.16	0.44
1:C:1141:LEU:O	1:C:1145:LEU:HD12	2.16	0.44
2:H:131:LYS:O	2:H:159:TYR:HA	2.17	0.44
2:H:185:GLN:OE1	2:H:191:SER:OG	2.31	0.44
3:M:106:ILE:HG13	3:M:166:GLN:HE22	1.81	0.44
1:B:170:TYR:CZ	1:B:171:VAL:O	2.70	0.44
1:B:449:TYR:CZ	2:I:107:GLN:HB3	2.52	0.44
1:B:496:GLY:HA3	2:I:108:GLY:HA3	1.98	0.44
1:C:314:GLN:HE21	1:C:314:GLN:HB2	1.56	0.44
1:A:134:GLN:HB3	1:A:162:SER:HB2	2.00	0.44
1:B:96:GLU:HB3	1:B:97:LYS:H	1.52	0.44
1:B:142:GLY:N	1:B:155:SER:O	2.50	0.44
1:B:328:ARG:O	1:B:329:PHE:CD1	2.70	0.44
1:B:521:PRO:O	1:B:522:ALA:CB	2.66	0.44
1:C:134:GLN:HG3	1:C:134:GLN:O	2.16	0.44
2:J:36:TRP:CD2	2:J:81:LEU:HD12	2.53	0.44
3:N:106:ILE:HG13	3:N:166:GLN:HE22	1.81	0.44
1:C:530:SER:HB2	1:C:580:GLN:HE21	1.83	0.44
1:C:1040:VAL:O	1:C:1041:ASP:HB2	2.17	0.44
2:I:131:LYS:CE	2:I:189:LEU:HD22	2.43	0.44
2:J:159:TYR:OH	2:J:192:LEU:HD23	2.17	0.44
1:A:536:ASN:C	1:A:537:LYS:CG	2.85	0.44
1:A:557:LYS:O	1:A:584:ILE:HG13	2.17	0.44
1:B:63:THR:HG21	1:B:65:PHE:CZ	2.53	0.44
1:B:125:ASN:N	1:B:125:ASN:ND2	2.63	0.44
1:B:139:PRO:CB	1:B:159:VAL:HG22	2.47	0.44
1:B:327:VAL:CG1	1:B:329:PHE:HE1	2.31	0.44
3:K:85:THR:O	3:K:86:TYR:CD2	2.70	0.44
2:I:228:LYS:HE3	3:M:119:PRO:HD2	1.99	0.44
3:M:30:SER:HB2	3:M:31:ASN:H	1.69	0.44
1:A:328:ARG:HH12	1:A:581:THR:HG22	1.83	0.44
1:B:58:PHE:CD1	1:B:275:PHE:HE2	2.35	0.44
1:B:106:PHE:CG	1:B:235:ILE:CD1	2.94	0.44
1:B:1045:LYS:NZ	1:C:786:LYS:CE	2.79	0.44
1:C:280:ASN:HB3	1:C:284:THR:HG22	2.00	0.44
1:C:403:ARG:HH21	2:J:109:VAL:CG2	2.22	0.44
3:K:85:THR:O	3:K:86:TYR:CG	2.70	0.44
3:M:85:THR:O	3:M:86:TYR:CD2	2.70	0.44
1:A:140:PHE:CG	1:A:244:LEU:HD11	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:521:PRO:O	1:A:522:ALA:CB	2.66	0.44
1:C:27:ALA:O	1:C:28:TYR:CD1	2.70	0.44
1:C:534:VAL:HB	1:C:537:LYS:CE	2.48	0.44
2:H:41:PRO:O	2:H:43:LYS:NZ	2.50	0.44
2:I:36:TRP:CD2	2:I:81:LEU:HD12	2.53	0.44
2:J:144:SER:C	3:N:116:PHE:HD1	2.19	0.44
2:J:228:LYS:HE3	3:N:119:PRO:CG	2.48	0.44
1:B:440:ASN:ND2	1:B:441:LEU:HG	2.32	0.44
1:B:560:LEU:HD12	1:B:562:PHE:CE2	2.53	0.44
1:C:449:TYR:CZ	2:J:107:GLN:HB3	2.53	0.44
1:C:535:LYS:CB	1:C:536:ASN:ND2	2.81	0.44
2:H:107:GLN:HE21	2:H:108:GLY:H	1.65	0.44
3:K:106:ILE:HG13	3:K:166:GLN:HE22	1.81	0.44
2:I:23:ALA:HA	2:I:78:THR:HA	1.99	0.44
2:I:107:GLN:HE21	2:I:108:GLY:H	1.65	0.44
2:J:209:ILE:HG23	2:J:224:LYS:HD2	2.00	0.44
1:A:130:VAL:HG21	1:A:231:ILE:HD12	2.00	0.44
5:A:1404:NAG:HO3	5:A:1404:NAG:C7	2.31	0.44
1:B:154:GLU:N	1:B:246:ARG:HG2	2.32	0.44
1:B:318:PHE:CG	1:B:318:PHE:O	2.70	0.44
1:B:536:ASN:C	1:B:537:LYS:CG	2.85	0.44
1:C:1081:ILE:HG12	1:C:1095:PHE:CE2	2.53	0.44
2:H:36:TRP:CD2	2:H:81:LEU:HD12	2.53	0.44
2:I:19:ARG:HA	2:I:82:GLN:HA	2.00	0.44
2:I:22:CYS:N	2:I:79:LEU:O	2.42	0.44
2:I:131:LYS:O	2:I:159:TYR:HA	2.17	0.44
2:J:41:PRO:O	2:J:43:LYS:NZ	2.50	0.44
2:J:228:LYS:HE3	3:N:119:PRO:HD2	1.98	0.44
1:A:640:SER:OG	1:A:641:ASN:N	2.48	0.43
1:A:1104:VAL:HG22	1:A:1115:ILE:HG12	2.00	0.43
1:B:240:THR:O	1:B:241:LEU:HD23	2.18	0.43
1:B:318:PHE:O	1:B:318:PHE:CD2	2.70	0.43
1:C:101:ILE:CD1	1:C:241:LEU:O	2.61	0.43
1:C:740:MET:HE2	1:C:740:MET:HB2	1.78	0.43
2:H:141:SER:HB3	2:H:143:LYS:HG2	1.98	0.43
2:H:228:LYS:HE3	3:K:119:PRO:CG	2.48	0.43
3:K:89:GLN:HE22	3:K:96:TYR:HD2	1.63	0.43
2:I:168:TRP:HD1	2:I:177:VAL:HG13	1.83	0.43
2:I:185:GLN:OE1	2:I:191:SER:OG	2.31	0.43
3:M:85:THR:HG22	3:M:86:TYR:N	2.26	0.43
2:J:107:GLN:HE21	2:J:108:GLY:H	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:335:LEU:HD12	1:A:335:LEU:H	1.83	0.43
1:A:385:THR:HG1	1:A:386:LYS:HZ3	1.59	0.43
1:A:496:GLY:HA3	2:H:108:GLY:HA3	1.99	0.43
1:B:86:PHE:CD1	1:B:90:VAL:CG2	3.01	0.43
1:B:189:LEU:CD2	1:B:217:PRO:HG2	2.42	0.43
1:C:143:VAL:O	1:C:154:GLU:HA	2.18	0.43
1:C:493:GLN:HE22	2:J:103:ILE:CA	2.27	0.43
3:M:140:TYR:CB	3:M:141:PRO:CD	2.94	0.43
3:N:3:GLN:NE2	3:N:27:GLN:O	2.39	0.43
1:B:56:LEU:HD12	1:B:269:TYR:O	2.19	0.43
1:B:155:SER:HB2	1:B:158:ARG:CG	2.44	0.43
1:B:238:PHE:O	1:B:239:GLN:HB2	2.19	0.43
1:C:440:ASN:ND2	1:C:441:LEU:HG	2.32	0.43
3:K:3:GLN:NE2	3:K:27:GLN:O	2.39	0.43
2:I:11:VAL:HA	2:I:123:VAL:O	2.17	0.43
3:M:3:GLN:NE2	3:M:27:GLN:O	2.39	0.43
2:J:131:LYS:O	2:J:159:TYR:HA	2.17	0.43
2:J:169:ASN:OD1	2:J:209:ILE:HG13	2.19	0.43
4:W:1:NAG:H61	4:W:2:NAG:N2	2.33	0.43
1:B:83:VAL:CG1	1:B:237:ARG:HD3	2.48	0.43
1:B:556:ASN:HD22	1:B:556:ASN:H	1.65	0.43
1:B:122:ASN:C	1:B:124:THR:N	2.72	0.43
1:B:142:GLY:O	1:B:156:GLU:HG2	2.19	0.43
1:B:516:GLU:C	1:B:517:LEU:HD23	2.39	0.43
1:C:309:GLU:H	1:C:309:GLU:HG2	1.63	0.43
2:H:131:LYS:CE	2:H:189:LEU:HD22	2.43	0.43
2:I:131:LYS:CD	2:I:189:LEU:HD13	2.49	0.43
2:I:228:LYS:HE3	3:M:119:PRO:CG	2.48	0.43
1:A:335:LEU:C	1:A:362:VAL:O	2.56	0.43
1:A:612:TYR:HE1	1:A:651:ILE:HD12	1.84	0.43
1:A:795:LYS:HB3	1:A:797:PHE:CE2	2.54	0.43
1:A:959:LEU:HD23	1:A:959:LEU:HA	1.78	0.43
1:B:93:ALA:HB2	1:B:191:GLU:HB3	1.99	0.43
1:B:102:ARG:NH1	1:B:102:ARG:CG	2.73	0.43
2:H:107:GLN:HE21	2:H:108:GLY:N	2.17	0.43
3:K:85:THR:CB	3:K:87:TYR:CZ	3.01	0.43
2:J:223:LYS:HD2	2:J:223:LYS:HA	1.92	0.43
4:D:1:NAG:H61	4:D:2:NAG:N2	2.33	0.43
1:A:294:ASP:OD1	1:A:294:ASP:N	2.50	0.43
1:A:330:PRO:CA	1:A:579:PRO:CB	2.85	0.43
1:A:516:GLU:C	1:A:517:LEU:HD23	2.39	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1097:SER:HA	1:A:1101:HIS:O	2.19	0.43
1:B:493:GLN:NE2	2:I:103:ILE:CG1	2.82	0.43
1:C:156:GLU:O	1:C:157:PHE:CB	2.64	0.43
2:H:169:ASN:OD1	2:H:209:ILE:HG13	2.19	0.43
2:I:107:GLN:HE21	2:I:108:GLY:N	2.17	0.43
2:I:156:VAL:HG13	2:I:192:LEU:HG	2.01	0.43
3:M:85:THR:CB	3:M:87:TYR:CZ	3.01	0.43
2:J:11:VAL:HG22	2:J:123:VAL:HB	2.00	0.43
1:A:141:LEU:O	1:A:243:ALA:HA	2.18	0.43
1:A:985:ASP:OD1	1:A:985:ASP:N	2.33	0.43
1:B:122:ASN:O	1:B:124:THR:N	2.51	0.43
1:B:320:VAL:CG1	1:B:321:GLN:N	2.81	0.43
1:C:106:PHE:HE2	1:C:194:PHE:CD2	2.37	0.43
2:H:11:VAL:HG22	2:H:123:VAL:HB	2.00	0.43
2:H:19:ARG:HA	2:H:82:GLN:HA	2.00	0.43
3:M:17:ASP:H	3:M:78:LEU:HB2	1.84	0.43
2:J:168:TRP:HD1	2:J:177:VAL:HG13	1.83	0.43
2:J:192:LEU:HD12	2:J:193:SER:N	2.34	0.43
3:N:17:ASP:H	3:N:78:LEU:HB2	1.84	0.43
3:N:85:THR:CB	3:N:87:TYR:CZ	3.01	0.43
1:A:131:CYS:HB3	1:A:164:ASN:O	2.19	0.43
1:A:388:ASN:CG	1:A:527:PRO:HD2	2.37	0.43
1:A:1032:CYS:O	1:A:1051:SER:HB2	2.18	0.43
1:B:127:VAL:HG21	5:B:1402:NAG:C6	2.49	0.43
1:B:189:LEU:HD22	1:B:217:PRO:CG	2.43	0.43
1:C:281:GLU:OE2	5:C:1405:NAG:C6	2.61	0.43
1:C:330:PRO:O	1:C:331:ASN:O	2.36	0.43
1:C:516:GLU:C	1:C:517:LEU:HD23	2.39	0.43
1:C:912:THR:OG1	1:C:914:ASN:ND2	2.51	0.43
2:H:161:PRO:HD2	2:H:214:HIS:CE1	2.54	0.43
2:J:22:CYS:N	2:J:79:LEU:O	2.42	0.43
2:J:161:PRO:HD2	2:J:214:HIS:CE1	2.54	0.43
1:A:328:ARG:NH1	1:A:581:THR:HG22	2.34	0.43
1:A:390:LEU:O	1:A:525:CYS:HB3	2.18	0.43
1:B:104:TRP:HB2	1:B:106:PHE:CZ	2.54	0.43
5:B:1409:NAG:O4	5:B:1410:NAG:O5	2.28	0.43
1:C:127:VAL:CG1	1:C:129:LYS:HG2	2.48	0.43
1:C:722:VAL:HA	1:C:1064:HIS:O	2.19	0.43
2:H:168:TRP:HD1	2:H:177:VAL:HG13	1.83	0.43
2:I:41:PRO:O	2:I:43:LYS:NZ	2.50	0.43
2:I:169:ASN:OD1	2:I:209:ILE:HG13	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:180:PHE:HE2	3:M:174:SER:O	2.02	0.43
2:I:192:LEU:HD12	2:I:193:SER:N	2.34	0.43
3:N:103:LYS:HA	3:N:103:LYS:HD2	1.87	0.43
3:N:139:PHE:HE1	3:N:173:TYR:C	2.21	0.43
1:A:449:TYR:CZ	2:H:107:GLN:HB3	2.53	0.42
1:B:38:TYR:HD1	1:B:38:TYR:N	2.12	0.42
2:H:180:PHE:HE2	3:K:174:SER:O	2.02	0.42
2:I:121:THR:OG1	2:I:122:LEU:N	2.52	0.42
2:J:19:ARG:HA	2:J:82:GLN:HA	2.00	0.42
2:J:131:LYS:CD	2:J:189:LEU:HD13	2.49	0.42
1:A:127:VAL:HG21	5:A:1402:NAG:H5	2.01	0.42
1:A:569:ILE:O	1:A:570:ALA:HB3	2.19	0.42
1:B:63:THR:CG2	1:B:64:TRP:N	2.81	0.42
1:B:121:ASN:CG	1:B:122:ASN:N	2.73	0.42
1:B:569:ILE:O	1:B:570:ALA:HB3	2.19	0.42
1:C:101:ILE:HD13	1:C:240:THR:HG21	2.01	0.42
1:C:995:ARG:HE	1:C:995:ARG:HB3	1.66	0.42
2:H:209:ILE:HG23	2:H:224:LYS:HD2	2.00	0.42
2:J:121:THR:OG1	2:J:122:LEU:N	2.52	0.42
1:A:27:ALA:HB3	1:A:64:TRP:HB3	2.01	0.42
1:B:273:ARG:NH1	1:B:273:ARG:HB3	2.34	0.42
1:B:600:PRO:HB3	1:B:674:TYR:HB2	2.00	0.42
1:B:748:GLU:CD	1:B:981:LEU:HD21	2.39	0.42
2:H:156:VAL:HG13	2:H:192:LEU:HG	2.01	0.42
2:I:11:VAL:HG22	2:I:123:VAL:HB	2.00	0.42
3:N:115:VAL:C	3:N:116:PHE:CG	2.93	0.42
1:A:112:SER:O	1:A:113:LYS:HB3	2.20	0.42
1:B:92:PHE:CE2	1:B:265:TYR:CD1	3.06	0.42
1:B:327:VAL:O	1:B:327:VAL:HG12	2.19	0.42
1:C:190:ARG:C	1:C:191:GLU:CG	2.85	0.42
1:C:556:ASN:HD22	1:C:556:ASN:HA	1.53	0.42
2:J:107:GLN:HE21	2:J:108:GLY:N	2.17	0.42
1:A:493:GLN:NE2	2:H:103:ILE:CG1	2.83	0.42
1:A:1051:SER:OG	1:A:1064:HIS:ND1	2.46	0.42
1:C:326:ILE:CA	1:C:531:THR:HG21	2.45	0.42
1:C:493:GLN:NE2	2:J:103:ILE:CG1	2.82	0.42
3:K:17:ASP:H	3:K:78:LEU:HB2	1.84	0.42
3:K:90:GLN:OE1	3:K:92:ASP:OD1	2.38	0.42
2:I:209:ILE:HG23	2:I:224:LYS:HD2	2.00	0.42
3:M:90:GLN:OE1	3:M:92:ASP:OD1	2.38	0.42
3:M:139:PHE:HE1	3:M:173:TYR:C	2.21	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:156:VAL:HG13	2:J:192:LEU:HG	2.01	0.42
1:A:392:PHE:CA	1:A:517:LEU:HD21	2.49	0.42
1:B:393:THR:O	1:B:523:THR:CG2	2.58	0.42
1:C:92:PHE:C	1:C:92:PHE:HD1	2.23	0.42
1:C:520:ALA:CB	1:C:521:PRO:CD	2.79	0.42
1:C:1027:THR:HG22	1:C:1042:PHE:HZ	1.83	0.42
2:H:121:THR:OG1	2:H:122:LEU:N	2.52	0.42
2:H:131:LYS:CD	2:H:189:LEU:HD13	2.49	0.42
2:J:180:PHE:HE2	3:N:174:SER:O	2.02	0.42
3:N:116:PHE:CE2	3:N:137:ASN:HB2	2.51	0.42
1:A:113:LYS:O	1:A:113:LYS:NZ	2.31	0.42
1:B:139:PRO:CB	1:B:159:VAL:CG1	2.87	0.42
1:C:245:HIS:C	1:C:245:HIS:ND1	2.73	0.42
1:C:792:PRO:O	1:C:795:LYS:NZ	2.52	0.42
5:C:1406:NAG:O4	5:C:1407:NAG:C2	2.56	0.42
2:I:203:LEU:HB3	2:I:227:PRO:HG3	2.02	0.42
1:A:933:LYS:HB2	1:A:933:LYS:HE3	1.86	0.42
1:C:133:PHE:CD1	1:C:160:TYR:CD1	3.04	0.42
1:C:393:THR:H	1:C:517:LEU:HD22	1.85	0.42
1:C:599:THR:C	1:C:601:GLY:N	2.73	0.42
1:C:736:VAL:HG23	1:C:858:LEU:HD23	2.02	0.42
1:C:784:GLN:HE21	1:C:784:GLN:HB3	1.63	0.42
1:C:793:PRO:HG2	1:C:794:ILE:HD12	2.00	0.42
2:I:161:PRO:HD2	2:I:214:HIS:CE1	2.54	0.42
3:N:90:GLN:OE1	3:N:92:ASP:OD1	2.38	0.42
4:Q:1:NAG:H61	4:Q:2:NAG:N2	2.33	0.42
1:A:99:ASN:O	1:A:102:ARG:NE	2.35	0.42
1:A:524:VAL:CG2	1:A:525:CYS:N	2.83	0.42
1:A:886:TRP:HH2	1:A:904:TYR:CD2	2.35	0.42
1:B:34:ARG:HD3	1:B:216:LEU:HD11	2.00	0.42
1:C:106:PHE:N	1:C:106:PHE:CD1	2.87	0.42
2:H:143:LYS:HZ3	3:K:209:PHE:HB3	1.84	0.42
2:H:144:SER:OG	3:K:116:PHE:HB3	2.20	0.42
2:H:203:LEU:HB3	2:H:227:PRO:HG3	2.02	0.42
1:A:42:VAL:HG22	1:C:565:PHE:CZ	2.55	0.42
1:B:106:PHE:HB3	1:B:235:ILE:HG23	1.98	0.42
1:B:127:VAL:HB	5:B:1402:NAG:H61	2.01	0.42
1:B:281:GLU:C	1:B:283:GLY:N	2.73	0.42
1:C:327:VAL:N	1:C:531:THR:HG22	2.10	0.42
2:I:143:LYS:HZ3	3:M:209:PHE:CB	2.33	0.42
1:A:393:THR:H	1:A:517:LEU:HD22	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:393:THR:H	1:B:517:LEU:HD22	1.85	0.41
1:C:281:GLU:HG3	1:C:282:ASN:OD1	2.19	0.41
2:H:130:THR:HG23	2:H:130:THR:O	2.19	0.41
2:J:203:LEU:HB3	2:J:227:PRO:HG3	2.02	0.41
1:B:553:THR:CG2	1:B:554:GLU:N	2.73	0.41
1:C:95:THR:O	1:C:96:GLU:HB2	2.19	0.41
1:C:335:LEU:C	1:C:362:VAL:O	2.58	0.41
2:H:136:PHE:CE1	3:K:123:GLU:HB3	2.55	0.41
3:K:115:VAL:C	3:K:116:PHE:CG	2.93	0.41
3:M:3:GLN:HE21	3:M:28:ASP:HB2	1.81	0.41
1:A:309:GLU:H	1:A:309:GLU:HG2	1.71	0.41
1:A:758:SER:O	1:A:762:GLN:HG3	2.19	0.41
2:H:39:GLN:HE22	3:K:38:GLN:HE22	1.69	0.41
2:H:192:LEU:HD12	2:H:193:SER:N	2.34	0.41
2:H:213:ASN:HB3	2:H:220:LYS:CE	2.49	0.41
1:A:327:VAL:HG12	1:A:327:VAL:O	2.19	0.41
1:A:406:GLU:CG	1:A:418:ILE:HG13	2.50	0.41
1:A:986:PRO:C	1:A:988:GLU:N	2.73	0.41
1:A:987:PRO:HB2	1:A:988:GLU:OE1	2.21	0.41
1:C:276:LEU:HD22	1:C:289:VAL:CB	2.31	0.41
1:C:335:LEU:HD12	1:C:335:LEU:N	2.33	0.41
1:C:703:ASN:C	1:C:703:ASN:HD22	2.24	0.41
1:C:856:ASN:O	1:C:856:ASN:ND2	2.48	0.41
1:C:985:ASP:OD1	1:C:985:ASP:N	2.47	0.41
2:H:127:SER:CB	2:H:160:PHE:CB	2.98	0.41
3:K:90:GLN:NE2	3:K:90:GLN:C	2.73	0.41
2:I:127:SER:CB	2:I:160:PHE:CB	2.98	0.41
2:J:130:THR:HG23	2:J:130:THR:O	2.19	0.41
4:X:1:NAG:H3	4:X:1:NAG:H83	2.03	0.41
1:A:280:ASN:OD1	1:A:281:GLU:N	2.51	0.41
1:A:295:PRO:HB2	1:A:608:VAL:HG11	2.01	0.41
1:C:92:PHE:CZ	1:C:104:TRP:NE1	2.78	0.41
3:K:139:PHE:HE1	3:K:174:SER:N	2.19	0.41
3:M:90:GLN:NE2	3:M:90:GLN:C	2.73	0.41
3:N:90:GLN:NE2	3:N:90:GLN:C	2.73	0.41
1:B:776:LYS:HE3	1:B:776:LYS:HB3	1.65	0.41
1:C:92:PHE:CE2	1:C:104:TRP:NE1	2.87	0.41
1:C:973:ILE:HG23	1:C:992:GLN:NE2	2.34	0.41
3:K:103:LYS:HA	3:K:103:LYS:HD2	1.87	0.41
2:J:61:ALA:H	2:J:64:VAL:CG2	2.32	0.41
1:A:226:LEU:HB3	1:A:227:VAL:HG23	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:96:GLU:HG3	1:B:101:ILE:CD1	2.46	0.41
1:B:134:GLN:HB2	1:B:162:SER:OG	2.21	0.41
1:B:329:PHE:HB3	1:B:330:PRO:CD	2.50	0.41
1:B:529:LYS:HA	1:B:529:LYS:HE2	2.01	0.41
1:C:96:GLU:OE2	1:C:100:ILE:HD13	2.20	0.41
1:C:693:ILE:H	1:C:693:ILE:HG13	1.72	0.41
2:H:61:ALA:H	2:H:64:VAL:CG2	2.32	0.41
2:I:131:LYS:HZ1	2:I:158:ASP:HB3	1.82	0.41
2:I:136:PHE:CE1	3:M:123:GLU:HB3	2.55	0.41
2:I:223:LYS:HD2	2:I:223:LYS:HA	1.92	0.41
2:J:183:VAL:HG21	3:N:160:GLN:OE1	2.20	0.41
1:A:985:ASP:OD1	1:A:988:GLU:HG2	2.21	0.41
1:B:335:LEU:O	1:B:336:CYS:HB2	2.20	0.41
5:B:1405:NAG:H83	5:B:1405:NAG:H2	1.90	0.41
1:C:460:ASN:OD1	1:C:460:ASN:N	2.53	0.41
2:H:61:ALA:O	2:H:64:VAL:HG22	2.20	0.41
3:M:115:VAL:C	3:M:116:PHE:CG	2.93	0.41
2:J:39:GLN:HE22	3:N:38:GLN:HE22	1.69	0.41
2:J:136:PHE:CE1	3:N:123:GLU:HB3	2.55	0.41
2:J:136:PHE:HZ	3:N:124:GLN:HA	1.85	0.41
2:J:214:HIS:HD2	2:J:216:PRO:HD2	1.86	0.41
1:A:193:VAL:HG23	1:A:223:LEU:CD2	2.51	0.41
1:A:230:PRO:HB2	1:C:521:PRO:HG2	2.03	0.41
1:A:559:PHE:CG	1:A:584:ILE:CD1	3.03	0.41
1:A:560:LEU:HD23	1:A:560:LEU:HA	1.88	0.41
1:B:55:PHE:C	1:B:270:LEU:HB3	2.41	0.41
1:B:96:GLU:CB	1:B:101:ILE:HD11	2.50	0.41
1:B:406:GLU:CG	1:B:418:ILE:HG13	2.50	0.41
1:B:500:THR:O	1:B:500:THR:OG1	2.31	0.41
1:B:542:ASN:HA	1:B:546:LEU:O	2.21	0.41
1:C:89:GLY:C	1:C:90:VAL:CG1	2.89	0.41
1:C:103:GLY:HA2	1:C:104:TRP:CE3	2.56	0.41
1:C:406:GLU:CG	1:C:418:ILE:HG13	2.50	0.41
1:C:578:ASP:OD2	1:C:581:THR:OG1	2.34	0.41
1:C:931:ILE:HD13	1:C:931:ILE:HA	1.86	0.41
3:K:103:LYS:NZ	3:K:104:LEU:O	2.54	0.41
2:I:213:ASN:HB3	2:I:220:LYS:CE	2.49	0.41
3:M:108:ARG:HG2	3:M:109:THR:N	2.36	0.41
3:M:124:GLN:HE22	3:M:131:SER:HG	1.66	0.41
3:M:139:PHE:HE1	3:M:174:SER:N	2.19	0.41
1:B:53:ASP:CA	1:B:55:PHE:HE1	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:110:LEU:HD11	1:B:237:ARG:HG3	2.03	0.41
1:B:154:GLU:HA	1:B:246:ARG:HG2	2.02	0.41
1:B:1040:VAL:O	1:B:1041:ASP:HB2	2.21	0.41
1:C:300:LYS:HE2	1:C:306:PHE:O	2.21	0.41
1:C:821:LEU:HD22	1:C:939:SER:HB3	2.03	0.41
3:K:3:GLN:HE21	3:K:28:ASP:HB2	1.81	0.41
3:K:181:LEU:HD23	3:K:181:LEU:HA	1.82	0.41
2:J:61:ALA:O	2:J:64:VAL:HG22	2.21	0.41
2:J:127:SER:CB	2:J:160:PHE:CB	2.98	0.41
2:J:143:LYS:HZ2	3:N:209:PHE:CB	2.34	0.41
3:N:103:LYS:NZ	3:N:104:LEU:O	2.54	0.41
3:N:139:PHE:HE1	3:N:174:SER:N	2.19	0.41
1:A:166:CYS:HB3	1:A:169:GLU:OE1	2.21	0.40
1:A:986:PRO:HB2	1:A:987:PRO:CD	2.48	0.40
1:B:50:SER:CB	1:B:276:LEU:HD12	2.49	0.40
1:B:646:ARG:HG3	1:B:646:ARG:O	2.21	0.40
1:C:393:THR:O	1:C:523:THR:CG2	2.58	0.40
1:C:854:LYS:HE2	1:C:854:LYS:HB3	1.88	0.40
2:H:143:LYS:HZ3	3:K:209:PHE:CB	2.33	0.40
3:K:48:ILE:CG2	3:K:52:SER:HA	2.52	0.40
2:I:143:LYS:HZ3	3:M:209:PHE:HB3	1.84	0.40
3:M:116:PHE:CE2	3:M:137:ASN:HB2	2.51	0.40
1:B:105:ILE:CG2	1:B:241:LEU:HD11	2.52	0.40
1:C:27:ALA:C	1:C:28:TYR:CD1	2.93	0.40
1:C:342:PHE:CB	4:W:1:NAG:H82	2.52	0.40
1:C:870:ILE:O	1:C:874:THR:HG23	2.21	0.40
3:K:30:SER:HB2	3:K:31:ASN:H	1.68	0.40
3:K:104:LEU:C	3:K:105:GLU:HG3	2.42	0.40
3:K:108:ARG:HG2	3:K:109:THR:N	2.36	0.40
2:I:130:THR:HG23	2:I:130:THR:O	2.19	0.40
3:M:33:LEU:HB2	3:M:34:ASN:H	1.49	0.40
1:A:199:GLY:O	1:C:521:PRO:HG3	2.21	0.40
1:A:1105:THR:HG21	1:A:1110:TYR:CD1	2.57	0.40
1:B:520:ALA:CB	1:B:521:PRO:CD	2.79	0.40
1:C:67:ALA:O	1:C:242:LEU:CD2	2.69	0.40
1:C:158:ARG:HD2	1:C:158:ARG:HA	1.63	0.40
1:C:158:ARG:C	1:C:159:VAL:HG23	2.40	0.40
1:C:347:PHE:CD1	1:C:509:ARG:HD3	2.56	0.40
1:C:615:VAL:HG12	1:C:616:ASN:O	2.20	0.40
1:C:770:ILE:O	1:C:774:GLN:HG2	2.21	0.40
1:A:553:THR:O	1:A:585:LEU:HD22	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:86:PHE:CD1	1:B:90:VAL:HG21	2.56	0.40
1:B:123:ALA:O	1:B:124:THR:HB	2.22	0.40
1:B:127:VAL:CG2	5:B:1402:NAG:H61	2.52	0.40
1:B:369:TYR:CZ	1:B:384:PRO:HB2	2.57	0.40
1:B:984:LEU:HD23	1:B:988:GLU:HB3	2.03	0.40
1:C:126:VAL:O	1:C:126:VAL:HG12	2.22	0.40
1:C:280:ASN:HB2	1:C:286:THR:HG21	2.01	0.40
1:C:307:THR:HG22	1:C:308:VAL:N	2.36	0.40
2:H:212:VAL:O	2:H:220:LYS:HA	2.22	0.40
2:I:61:ALA:O	2:I:64:VAL:HG22	2.21	0.40
3:M:48:ILE:CG2	3:M:52:SER:HA	2.52	0.40
3:M:88:CYS:O	3:M:88:CYS:SG	2.79	0.40
2:J:180:PHE:HZ	3:N:174:SER:HB3	1.87	0.40
2:J:208:TYR:H	2:J:224:LYS:HE3	1.87	0.40
2:J:212:VAL:O	2:J:220:LYS:HA	2.22	0.40
3:N:48:ILE:CG2	3:N:52:SER:HA	2.52	0.40
3:N:104:LEU:C	3:N:105:GLU:HG3	2.42	0.40
1:A:187:LYS:N	1:A:187:LYS:HE2	2.37	0.40
1:A:200:TYR:CE1	1:A:230:PRO:HB3	2.57	0.40
1:A:369:TYR:CZ	1:A:384:PRO:HB2	2.57	0.40
1:A:703:ASN:O	1:B:789:TYR:HA	2.22	0.40
1:B:124:THR:O	1:B:125:ASN:HB2	2.21	0.40
1:B:139:PRO:HB2	1:B:159:VAL:HG13	1.94	0.40
1:B:347:PHE:CD1	1:B:509:ARG:HD3	2.56	0.40
1:B:794:ILE:H	1:B:794:ILE:HG13	1.69	0.40
1:C:201:PHE:CE1	1:C:235:ILE:HD12	2.57	0.40
1:C:275:PHE:CZ	1:C:290:ASP:CG	2.95	0.40
1:C:984:LEU:HD23	1:C:984:LEU:HA	1.91	0.40
2:H:180:PHE:HZ	3:K:174:SER:HB3	1.87	0.40
2:I:212:VAL:O	2:I:220:LYS:HA	2.22	0.40
3:N:54:LEU:HD13	3:N:58:VAL:HG23	2.02	0.40
3:N:88:CYS:O	3:N:88:CYS:SG	2.79	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	988/1283 (77%)	871 (88%)	104 (10%)	13 (1%)	12	40
1	B	989/1283 (77%)	842 (85%)	106 (11%)	41 (4%)	3	17
1	C	986/1283 (77%)	851 (86%)	93 (9%)	42 (4%)	2	16
2	H	227/457 (50%)	193 (85%)	33 (14%)	1 (0%)	34	66
2	I	227/457 (50%)	193 (85%)	33 (14%)	1 (0%)	34	66
2	J	227/457 (50%)	193 (85%)	33 (14%)	1 (0%)	34	66
3	K	212/214 (99%)	175 (82%)	28 (13%)	9 (4%)	3	17
3	M	212/214 (99%)	175 (82%)	28 (13%)	9 (4%)	3	17
3	N	212/214 (99%)	175 (82%)	28 (13%)	9 (4%)	3	17
All	All	4280/5862 (73%)	3668 (86%)	486 (11%)	126 (3%)	7	24

All (126) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	518	LEU
1	A	983	ARG
1	B	97	LYS
1	B	133	PHE
1	B	159	VAL
1	B	163	ALA
1	B	239	GLN
1	B	281	GLU
1	B	518	LEU
1	B	536	ASN
1	C	96	GLU
1	C	99	ASN
1	C	113	LYS
1	C	154	GLU
1	C	162	SER
1	C	233	ILE
1	C	274	THR
1	C	280	ASN
1	C	331	ASN
1	C	518	LEU
1	C	531	THR
1	C	814	LYS

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Mol	Chain	Res	Type
3	K	29	ILE
3	K	92	ASP
3	K	138	ASN
3	M	29	ILE
3	M	92	ASP
3	M	138	ASN
3	N	29	ILE
3	N	92	ASP
3	N	138	ASN
1	A	339	GLY
1	A	536	ASN
1	A	562	PHE
1	B	45	SER
1	B	89	GLY
1	B	161	SER
1	B	237	ARG
1	B	274	THR
1	B	282	ASN
1	B	327	VAL
1	B	334	ASN
1	B	557	LYS
1	B	562	PHE
1	C	103	GLY
1	C	123	ALA
1	C	168	PHE
1	C	210	ILE
1	C	334	ASN
1	C	591	SER
1	C	810	SER
2	H	128	ALA
3	K	49	TYR
2	I	128	ALA
3	M	49	TYR
2	J	128	ALA
3	N	49	TYR
1	A	327	VAL
1	A	336	CYS
1	A	522	ALA
1	B	168	PHE
1	B	215	ASP
1	B	238	PHE
1	B	331	ASN

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Mol	Chain	Res	Type
1	B	337	PRO
1	B	522	ALA
1	C	87	ASN
1	C	157	PHE
1	C	214	ARG
1	C	522	ALA
1	C	658	ASN
3	K	51	ALA
3	M	51	ALA
3	N	51	ALA
1	A	349	SER
1	A	520	ALA
1	A	982	SER
1	B	99	ASN
1	B	123	ALA
1	B	157	PHE
1	B	160	TYR
1	B	349	SER
1	B	520	ALA
1	B	560	LEU
1	C	32	PHE
1	C	211	ASN
1	C	336	CYS
1	C	349	SER
1	C	520	ALA
1	C	813	SER
1	B	110	LEU
1	B	126	VAL
1	B	580	GLN
1	C	124	THR
1	C	126	VAL
1	C	159	VAL
1	C	217	PRO
1	C	281	GLU
1	C	337	PRO
1	C	605	SER
1	C	661	GLU
1	C	812	PRO
3	K	139	PHE
3	K	140	TYR
3	K	143	GLU
3	M	139	PHE

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Mol	Chain	Res	Type
3	M	140	TYR
3	M	143	GLU
3	N	139	PHE
3	N	140	TYR
3	N	143	GLU
1	A	560	LEU
1	B	40	ASP
1	B	124	THR
1	B	582	LEU
1	C	230	PRO
1	C	333	THR
1	C	811	LYS
1	B	336	CYS
3	K	106	ILE
3	M	106	ILE
3	N	106	ILE
1	A	579	PRO
1	B	39	PRO
1	B	142	GLY
1	B	103	GLY

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	881/1122 (78%)	779 (88%)	102 (12%)	5 22
1	B	881/1122 (78%)	759 (86%)	122 (14%)	3 16
1	C	879/1122 (78%)	781 (89%)	98 (11%)	6 23
2	H	191/402 (48%)	179 (94%)	12 (6%)	18 47
2	I	191/402 (48%)	178 (93%)	13 (7%)	16 44
2	J	191/402 (48%)	179 (94%)	12 (6%)	18 47
3	K	190/190 (100%)	172 (90%)	18 (10%)	8 29
3	M	190/190 (100%)	172 (90%)	18 (10%)	8 29

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
3	N	190/190 (100%)	172 (90%)	18 (10%)	8 29
All	All	3784/5142 (74%)	3371 (89%)	413 (11%)	10 24

All (413) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	45	SER
1	A	97	LYS
1	A	109	THR
1	A	116	SER
1	A	118	LEU
1	A	122	ASN
1	A	137	ASN
1	A	141	LEU
1	A	143	VAL
1	A	158	ARG
1	A	164	ASN
1	A	169	GLU
1	A	195	LYS
1	A	205	SER
1	A	208	THR
1	A	221	SER
1	A	282	ASN
1	A	296	LEU
1	A	301	CYS
1	A	308	VAL
1	A	314	GLN
1	A	315	THR
1	A	318	PHE
1	A	324	GLU
1	A	325	SER
1	A	328	ARG
1	A	332	ILE
1	A	334	ASN
1	A	335	LEU
1	A	353	TRP
1	A	355	ARG
1	A	375	SER
1	A	383	SER
1	A	389	ASP
1	A	390	LEU
1	A	406	GLU

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Mol	Chain	Res	Type
1	A	421	TYR
1	A	430	THR
1	A	438	SER
1	A	440	ASN
1	A	500	THR
1	A	514	SER
1	A	517	LEU
1	A	518	LEU
1	A	525	CYS
1	A	529	LYS
1	A	530	SER
1	A	532	ASN
1	A	540	ASN
1	A	546	LEU
1	A	553	THR
1	A	556	ASN
1	A	558	LYS
1	A	576	VAL
1	A	578	ASP
1	A	580	GLN
1	A	583	GLU
1	A	588	THR
1	A	599	THR
1	A	602	THR
1	A	646	ARG
1	A	673	SER
1	A	698	SER
1	A	703	ASN
1	A	722	VAL
1	A	727	LEU
1	A	729	VAL
1	A	738	CYS
1	A	746	SER
1	A	773	GLU
1	A	785	VAL
1	A	787	GLN
1	A	791	THR
1	A	826	VAL
1	A	868	GLU
1	A	878	LEU
1	A	883	THR
1	A	902	MET

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Mol	Chain	Res	Type
1	A	916	LEU
1	A	929	SER
1	A	937	SER
1	A	939	SER
1	A	951	VAL
1	A	967	SER
1	A	983	ARG
1	A	985	ASP
1	A	988	GLU
1	A	994	ASP
1	A	1005	GLN
1	A	1074	ASN
1	A	1076	THR
1	A	1077	THR
1	A	1092	GLU
1	A	1094	VAL
1	A	1100	THR
1	A	1104	VAL
1	A	1123	SER
1	A	1125	ASN
1	A	1132	ILE
1	A	1141	LEU
1	A	1142	GLN
1	A	1144	GLU
1	B	33	THR
1	B	34	ARG
1	B	38	TYR
1	B	54	LEU
1	B	60	SER
1	B	62	VAL
1	B	83	VAL
1	B	92	PHE
1	B	97	LYS
1	B	101	ILE
1	B	105	ILE
1	B	106	PHE
1	B	108	THR
1	B	114	THR
1	B	118	LEU
1	B	127	VAL
1	B	132	GLU
1	B	137	ASN

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Mol	Chain	Res	Type
1	B	140	PHE
1	B	141	LEU
1	B	153	MET
1	B	157	PHE
1	B	158	ARG
1	B	160	TYR
1	B	161	SER
1	B	167	THR
1	B	190	ARG
1	B	195	LYS
1	B	196	ASN
1	B	210	ILE
1	B	212	LEU
1	B	214	ARG
1	B	217	PRO
1	B	223	LEU
1	B	229	LEU
1	B	238	PHE
1	B	246	ARG
1	B	266	TYR
1	B	270	LEU
1	B	273	ARG
1	B	276	LEU
1	B	284	THR
1	B	287	ASP
1	B	298	GLU
1	B	307	THR
1	B	319	ARG
1	B	324	GLU
1	B	325	SER
1	B	335	LEU
1	B	353	TRP
1	B	355	ARG
1	B	375	SER
1	B	383	SER
1	B	389	ASP
1	B	390	LEU
1	B	406	GLU
1	B	421	TYR
1	B	430	THR
1	B	438	SER
1	B	440	ASN

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Mol	Chain	Res	Type
1	B	500	THR
1	B	514	SER
1	B	517	LEU
1	B	518	LEU
1	B	525	CYS
1	B	528	LYS
1	B	529	LYS
1	B	532	ASN
1	B	533	LEU
1	B	535	LYS
1	B	540	ASN
1	B	546	LEU
1	B	555	SER
1	B	556	ASN
1	B	557	LYS
1	B	558	LYS
1	B	565	PHE
1	B	580	GLN
1	B	581	THR
1	B	582	LEU
1	B	583	GLU
1	B	588	THR
1	B	591	SER
1	B	597	VAL
1	B	606	ASN
1	B	607	GLN
1	B	614	ASP
1	B	615	VAL
1	B	617	CYS
1	B	640	SER
1	B	649	CYS
1	B	676	THR
1	B	704	SER
1	B	710	ASN
1	B	746	SER
1	B	779	GLN
1	B	786	LYS
1	B	787	GLN
1	B	791	THR
1	B	808	ASP
1	B	854	LYS
1	B	855	PHE

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Mol	Chain	Res	Type
1	B	856	ASN
1	B	868	GLU
1	B	878	LEU
1	B	912	THR
1	B	916	LEU
1	B	935	GLN
1	B	964	LYS
1	B	968	SER
1	B	969	ASN
1	B	974	SER
1	B	976	VAL
1	B	1030	SER
1	B	1037	SER
1	B	1045	LYS
1	B	1074	ASN
1	B	1094	VAL
1	B	1104	VAL
1	B	1114	ILE
1	B	1126	CYS
1	B	1141	LEU
1	C	51	THR
1	C	54	LEU
1	C	66	HIS
1	C	81	ASN
1	C	88	ASP
1	C	92	PHE
1	C	95	THR
1	C	99	ASN
1	C	105	ILE
1	C	110	LEU
1	C	113	LYS
1	C	115	GLN
1	C	118	LEU
1	C	120	VAL
1	C	131	CYS
1	C	136	CYS
1	C	141	LEU
1	C	153	MET
1	C	157	PHE
1	C	166	CYS
1	C	170	TYR
1	C	190	ARG

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Mol	Chain	Res	Type
1	C	195	LYS
1	C	214	ARG
1	C	215	ASP
1	C	236	THR
1	C	245	HIS
1	C	246	ARG
1	C	266	TYR
1	C	273	ARG
1	C	275	PHE
1	C	276	LEU
1	C	277	LEU
1	C	278	LYS
1	C	301	CYS
1	C	305	SER
1	C	309	GLU
1	C	310	LYS
1	C	314	GLN
1	C	318	PHE
1	C	333	THR
1	C	335	LEU
1	C	353	TRP
1	C	355	ARG
1	C	375	SER
1	C	383	SER
1	C	389	ASP
1	C	390	LEU
1	C	406	GLU
1	C	421	TYR
1	C	430	THR
1	C	438	SER
1	C	440	ASN
1	C	500	THR
1	C	514	SER
1	C	517	LEU
1	C	518	LEU
1	C	525	CYS
1	C	534	VAL
1	C	536	ASN
1	C	537	LYS
1	C	546	LEU
1	C	551	VAL
1	C	556	ASN

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Mol	Chain	Res	Type
1	C	567	ARG
1	C	573	THR
1	C	584	ILE
1	C	586	ASP
1	C	591	SER
1	C	602	THR
1	C	641	ASN
1	C	654	GLU
1	C	658	ASN
1	C	675	GLN
1	C	693	ILE
1	C	699	LEU
1	C	703	ASN
1	C	727	LEU
1	C	778	THR
1	C	787	GLN
1	C	814	LYS
1	C	856	ASN
1	C	859	THR
1	C	886	TRP
1	C	937	SER
1	C	974	SER
1	C	975	SER
1	C	976	VAL
1	C	977	LEU
1	C	1017	GLU
1	C	1077	THR
1	C	1094	VAL
1	C	1104	VAL
1	C	1126	CYS
1	C	1129	VAL
1	C	1132	ILE
1	C	1136	THR
1	C	1145	LEU
2	H	107	GLN
2	H	126	SER
2	H	134	SER
2	H	146	SER
2	H	152	LEU
2	H	156	VAL
2	H	178	HIS
2	H	187	SER

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Mol	Chain	Res	Type
2	H	193	SER
2	H	211	ASN
2	H	215	LYS
2	H	222	ASP
3	K	28	ASP
3	K	32	TYR
3	K	33	LEU
3	K	34	ASN
3	K	49	TYR
3	K	50	ASP
3	K	54	LEU
3	K	55	GLU
3	K	87	TYR
3	K	90	GLN
3	K	91	TYR
3	K	94	LEU
3	K	114	SER
3	K	116	PHE
3	K	131	SER
3	K	142	ARG
3	K	159	SER
3	K	176	SER
2	I	107	GLN
2	I	126	SER
2	I	134	SER
2	I	146	SER
2	I	152	LEU
2	I	156	VAL
2	I	174	THR
2	I	178	HIS
2	I	187	SER
2	I	193	SER
2	I	211	ASN
2	I	215	LYS
2	I	222	ASP
3	M	28	ASP
3	M	32	TYR
3	M	33	LEU
3	M	34	ASN
3	M	49	TYR
3	M	50	ASP
3	M	54	LEU

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Mol	Chain	Res	Type
3	M	55	GLU
3	M	87	TYR
3	M	90	GLN
3	M	91	TYR
3	M	94	LEU
3	M	114	SER
3	M	116	PHE
3	M	131	SER
3	M	142	ARG
3	M	159	SER
3	M	176	SER
2	J	107	GLN
2	J	126	SER
2	J	134	SER
2	J	146	SER
2	J	152	LEU
2	J	156	VAL
2	J	178	HIS
2	J	187	SER
2	J	193	SER
2	J	211	ASN
2	J	215	LYS
2	J	222	ASP
3	N	28	ASP
3	N	32	TYR
3	N	33	LEU
3	N	34	ASN
3	N	49	TYR
3	N	50	ASP
3	N	54	LEU
3	N	55	GLU
3	N	87	TYR
3	N	90	GLN
3	N	91	TYR
3	N	94	LEU
3	N	114	SER
3	N	116	PHE
3	N	131	SER
3	N	142	ARG
3	N	159	SER
3	N	176	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (110)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	134	GLN
1	A	137	ASN
1	A	188	ASN
1	A	239	GLN
1	A	354	ASN
1	A	360	ASN
1	A	394	ASN
1	A	422	ASN
1	A	440	ASN
1	A	493	GLN
1	A	498	GLN
1	A	532	ASN
1	A	540	ASN
1	A	556	ASN
1	A	564	GLN
1	A	644	GLN
1	A	658	ASN
1	A	690	GLN
1	A	703	ASN
1	A	762	GLN
1	A	787	GLN
1	A	856	ASN
1	A	901	GLN
1	A	914	ASN
1	A	919	ASN
1	A	926	GLN
1	A	955	ASN
1	A	969	ASN
1	A	992	GLN
1	A	1125	ASN
1	A	1142	GLN
1	B	81	ASN
1	B	115	GLN
1	B	125	ASN
1	B	137	ASN
1	B	164	ASN
1	B	239	GLN
1	B	245	HIS
1	B	354	ASN
1	B	360	ASN
1	B	394	ASN
1	B	422	ASN

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Mol	Chain	Res	Type
1	B	440	ASN
1	B	493	GLN
1	B	498	GLN
1	B	540	ASN
1	B	556	ASN
1	B	564	GLN
1	B	580	GLN
1	B	606	ASN
1	B	607	GLN
1	B	710	ASN
1	B	804	GLN
1	B	901	GLN
1	B	914	ASN
1	B	919	ASN
1	B	920	GLN
1	B	926	GLN
1	B	992	GLN
1	B	1054	GLN
1	C	30	ASN
1	C	66	HIS
1	C	87	ASN
1	C	125	ASN
1	C	196	ASN
1	C	314	GLN
1	C	321	GLN
1	C	354	ASN
1	C	360	ASN
1	C	394	ASN
1	C	422	ASN
1	C	440	ASN
1	C	493	GLN
1	C	498	GLN
1	C	532	ASN
1	C	536	ASN
1	C	556	ASN
1	C	580	GLN
1	C	641	ASN
1	C	655	HIS
1	C	675	GLN
1	C	703	ASN
1	C	784	GLN
1	C	804	GLN

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Mol	Chain	Res	Type
1	C	901	GLN
1	C	907	ASN
1	C	914	ASN
1	C	926	GLN
1	C	935	GLN
1	C	969	ASN
1	C	992	GLN
1	C	1010	GLN
1	C	1071	GLN
1	C	1101	HIS
1	C	1106	GLN
2	H	39	GLN
2	H	57	ASN
2	H	107	GLN
3	K	90	GLN
3	K	166	GLN
2	I	39	GLN
2	I	57	ASN
2	I	107	GLN
3	M	90	GLN
3	M	166	GLN
2	J	39	GLN
2	J	57	ASN
2	J	107	GLN
3	N	90	GLN
3	N	166	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

40 monosaccharides are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	NAG	D	1	1,4	14,14,15	0.57	0	17,19,21	0.56	0
4	NAG	D	2	4	14,14,15	0.31	0	17,19,21	0.45	0
4	NAG	E	1	1,4	14,14,15	0.35	0	17,19,21	0.63	1 (5%)
4	NAG	E	2	4	14,14,15	0.53	0	17,19,21	0.46	0
4	NAG	F	1	1,4	14,14,15	0.38	0	17,19,21	0.72	0
4	NAG	F	2	4	14,14,15	0.29	0	17,19,21	1.31	2 (11%)
4	NAG	G	1	1,4	14,14,15	0.69	1 (7%)	17,19,21	0.70	0
4	NAG	G	2	4	14,14,15	0.40	0	17,19,21	1.39	3 (17%)
4	NAG	L	1	1,4	14,14,15	0.70	1 (7%)	17,19,21	0.67	0
4	NAG	L	2	4	14,14,15	0.30	0	17,19,21	0.64	0
4	NAG	O	1	1,4	14,14,15	0.26	0	17,19,21	0.70	1 (5%)
4	NAG	O	2	4	14,14,15	0.15	0	17,19,21	0.46	0
4	NAG	P	1	1,4	14,14,15	0.41	0	17,19,21	1.16	2 (11%)
4	NAG	P	2	4	14,14,15	0.41	0	17,19,21	1.17	2 (11%)
4	NAG	Q	1	1,4	14,14,15	0.57	1 (7%)	17,19,21	0.56	0
4	NAG	Q	2	4	14,14,15	0.31	0	17,19,21	0.45	0
4	NAG	R	1	1,4	14,14,15	0.32	0	17,19,21	0.40	0
4	NAG	R	2	4	14,14,15	0.38	0	17,19,21	0.36	0
4	NAG	S	1	1,4	14,14,15	0.34	0	17,19,21	1.11	1 (5%)
4	NAG	S	2	4	14,14,15	0.25	0	17,19,21	0.45	0
4	NAG	T	1	1,4	14,14,15	0.31	0	17,19,21	0.69	1 (5%)
4	NAG	T	2	4	14,14,15	0.21	0	17,19,21	0.40	0
4	NAG	U	1	1,4	14,14,15	0.76	1 (7%)	17,19,21	0.91	1 (5%)
4	NAG	U	2	4	14,14,15	0.31	0	17,19,21	0.68	0
4	NAG	V	1	1,4	14,14,15	0.25	0	17,19,21	0.44	0
4	NAG	V	2	4	14,14,15	0.28	0	17,19,21	0.38	0
4	NAG	W	1	1,4	14,14,15	0.56	0	17,19,21	0.56	0
4	NAG	W	2	4	14,14,15	0.31	0	17,19,21	0.44	0
4	NAG	X	1	1,4	14,14,15	0.22	0	17,19,21	1.35	1 (5%)
4	NAG	X	2	4	14,14,15	0.20	0	17,19,21	0.50	0
4	NAG	Y	1	1,4	14,14,15	0.53	0	17,19,21	0.71	1 (5%)
4	NAG	Y	2	4	14,14,15	0.39	0	17,19,21	0.45	0
4	NAG	Z	1	1,4	14,14,15	0.34	0	17,19,21	0.42	0
4	NAG	Z	2	4	14,14,15	0.23	0	17,19,21	0.72	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	NAG	a	1	1,4	14,14,15	0.38	0	17,19,21	0.48	0
4	NAG	a	2	4	14,14,15	0.55	0	17,19,21	1.32	1 (5%)
4	NAG	b	1	1,4	14,14,15	0.65	1 (7%)	17,19,21	0.44	0
4	NAG	b	2	4	14,14,15	0.31	0	17,19,21	1.35	2 (11%)
4	NAG	c	1	1,4	14,14,15	0.42	0	17,19,21	0.43	0
4	NAG	c	2	4	14,14,15	0.23	0	17,19,21	0.48	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	D	1	1,4	-	0/6/23/26	0/1/1/1
4	NAG	D	2	4	-	4/6/23/26	0/1/1/1
4	NAG	E	1	1,4	-	0/6/23/26	0/1/1/1
4	NAG	E	2	4	-	2/6/23/26	0/1/1/1
4	NAG	F	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	F	2	4	-	3/6/23/26	0/1/1/1
4	NAG	G	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	G	2	4	-	5/6/23/26	0/1/1/1
4	NAG	L	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	L	2	4	-	3/6/23/26	0/1/1/1
4	NAG	O	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	O	2	4	-	0/6/23/26	0/1/1/1
4	NAG	P	1	1,4	-	0/6/23/26	0/1/1/1
4	NAG	P	2	4	-	0/6/23/26	0/1/1/1
4	NAG	Q	1	1,4	-	0/6/23/26	0/1/1/1
4	NAG	Q	2	4	-	4/6/23/26	0/1/1/1
4	NAG	R	1	1,4	-	0/6/23/26	0/1/1/1
4	NAG	R	2	4	-	1/6/23/26	0/1/1/1
4	NAG	S	1	1,4	-	1/6/23/26	0/1/1/1
4	NAG	S	2	4	-	0/6/23/26	0/1/1/1
4	NAG	T	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	T	2	4	-	3/6/23/26	0/1/1/1
4	NAG	U	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	U	2	4	-	3/6/23/26	0/1/1/1
4	NAG	V	1	1,4	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	V	2	4	-	2/6/23/26	0/1/1/1
4	NAG	W	1	1,4	-	0/6/23/26	0/1/1/1
4	NAG	W	2	4	-	4/6/23/26	0/1/1/1
4	NAG	X	1	1,4	-	6/6/23/26	0/1/1/1
4	NAG	X	2	4	-	2/6/23/26	0/1/1/1
4	NAG	Y	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	Y	2	4	-	2/6/23/26	0/1/1/1
4	NAG	Z	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	Z	2	4	-	1/6/23/26	0/1/1/1
4	NAG	a	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	a	2	4	-	5/6/23/26	0/1/1/1
4	NAG	b	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	b	2	4	-	4/6/23/26	0/1/1/1
4	NAG	c	1	1,4	-	0/6/23/26	0/1/1/1
4	NAG	c	2	4	-	2/6/23/26	0/1/1/1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	U	1	NAG	O5-C1	-2.78	1.39	1.43
4	L	1	NAG	O5-C1	-2.55	1.39	1.43
4	G	1	NAG	O5-C1	-2.36	1.40	1.43
4	b	1	NAG	O5-C1	-2.21	1.40	1.43
4	Q	1	NAG	O5-C1	-2.01	1.40	1.43

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	X	1	NAG	C2-N2-C7	4.62	129.47	122.90
4	b	2	NAG	C2-N2-C7	4.36	129.11	122.90
4	a	2	NAG	C2-N2-C7	4.34	129.08	122.90
4	F	2	NAG	C2-N2-C7	4.32	129.06	122.90
4	G	2	NAG	C2-N2-C7	4.32	129.05	122.90
4	S	1	NAG	C1-O5-C5	3.24	116.58	112.19
4	G	2	NAG	C1-C2-N2	2.44	114.65	110.49
4	U	1	NAG	O4-C4-C3	-2.40	104.80	110.35
4	P	2	NAG	C8-C7-N2	2.32	120.02	116.10
4	b	2	NAG	C1-C2-N2	2.29	114.41	110.49
4	P	1	NAG	C8-C7-N2	2.29	119.98	116.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	Y	1	NAG	C1-O5-C5	2.25	115.23	112.19
4	T	1	NAG	C1-O5-C5	2.24	115.23	112.19
4	F	2	NAG	C1-C2-N2	2.23	114.30	110.49
4	O	1	NAG	C1-O5-C5	2.22	115.20	112.19
4	G	2	NAG	C1-O5-C5	2.09	115.03	112.19
4	E	1	NAG	C1-O5-C5	2.06	114.98	112.19
4	P	1	NAG	C2-N2-C7	-2.05	119.99	122.90
4	P	2	NAG	C2-N2-C7	-2.04	119.99	122.90

There are no chirality outliers.

All (79) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	X	2	NAG	O5-C5-C6-O6
4	Y	2	NAG	O5-C5-C6-O6
4	Z	1	NAG	O5-C5-C6-O6
4	L	1	NAG	O5-C5-C6-O6
4	U	1	NAG	O5-C5-C6-O6
4	Y	1	NAG	O5-C5-C6-O6
4	U	1	NAG	C4-C5-C6-O6
4	V	1	NAG	C4-C5-C6-O6
4	Y	1	NAG	C4-C5-C6-O6
4	U	2	NAG	O5-C5-C6-O6
4	L	1	NAG	C4-C5-C6-O6
4	Z	1	NAG	C4-C5-C6-O6
4	Y	2	NAG	C4-C5-C6-O6
4	a	2	NAG	O5-C5-C6-O6
4	X	2	NAG	C4-C5-C6-O6
4	U	2	NAG	C4-C5-C6-O6
4	F	2	NAG	C8-C7-N2-C2
4	F	2	NAG	O7-C7-N2-C2
4	G	2	NAG	C8-C7-N2-C2
4	G	2	NAG	O7-C7-N2-C2
4	T	2	NAG	C8-C7-N2-C2
4	T	2	NAG	O7-C7-N2-C2
4	X	1	NAG	C8-C7-N2-C2
4	X	1	NAG	O7-C7-N2-C2
4	a	2	NAG	C8-C7-N2-C2
4	a	2	NAG	O7-C7-N2-C2
4	b	2	NAG	C8-C7-N2-C2
4	b	2	NAG	O7-C7-N2-C2
4	V	2	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
4	G	1	NAG	C4-C5-C6-O6
4	a	2	NAG	C4-C5-C6-O6
4	F	1	NAG	C4-C5-C6-O6
4	X	1	NAG	O5-C5-C6-O6
4	X	1	NAG	C4-C5-C6-O6
4	V	2	NAG	C4-C5-C6-O6
4	V	1	NAG	O5-C5-C6-O6
4	L	2	NAG	O5-C5-C6-O6
4	b	1	NAG	O5-C5-C6-O6
4	F	1	NAG	O5-C5-C6-O6
4	G	1	NAG	O5-C5-C6-O6
4	L	2	NAG	C4-C5-C6-O6
4	b	1	NAG	C4-C5-C6-O6
4	O	1	NAG	C4-C5-C6-O6
4	O	1	NAG	O5-C5-C6-O6
4	D	2	NAG	C1-C2-N2-C7
4	Q	2	NAG	C1-C2-N2-C7
4	W	2	NAG	C1-C2-N2-C7
4	b	2	NAG	O5-C5-C6-O6
4	T	2	NAG	O5-C5-C6-O6
4	T	1	NAG	C4-C5-C6-O6
4	E	2	NAG	O5-C5-C6-O6
4	E	2	NAG	C4-C5-C6-O6
4	c	2	NAG	C4-C5-C6-O6
4	c	2	NAG	O5-C5-C6-O6
4	a	1	NAG	C4-C5-C6-O6
4	R	2	NAG	C4-C5-C6-O6
4	L	2	NAG	C3-C2-N2-C7
4	S	1	NAG	C3-C2-N2-C7
4	U	2	NAG	C3-C2-N2-C7
4	Z	2	NAG	C3-C2-N2-C7
4	G	2	NAG	C4-C5-C6-O6
4	a	1	NAG	O5-C5-C6-O6
4	G	2	NAG	O5-C5-C6-O6
4	X	1	NAG	C1-C2-N2-C7
4	W	2	NAG	C4-C5-C6-O6
4	D	2	NAG	C4-C5-C6-O6
4	Q	2	NAG	C4-C5-C6-O6
4	T	1	NAG	O5-C5-C6-O6
4	D	2	NAG	C3-C2-N2-C7
4	F	2	NAG	C3-C2-N2-C7
4	G	2	NAG	C3-C2-N2-C7

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Mol	Chain	Res	Type	Atoms
4	Q	2	NAG	C3-C2-N2-C7
4	W	2	NAG	C3-C2-N2-C7
4	X	1	NAG	C3-C2-N2-C7
4	a	2	NAG	C3-C2-N2-C7
4	b	2	NAG	C3-C2-N2-C7
4	D	2	NAG	O5-C5-C6-O6
4	W	2	NAG	O5-C5-C6-O6
4	Q	2	NAG	O5-C5-C6-O6

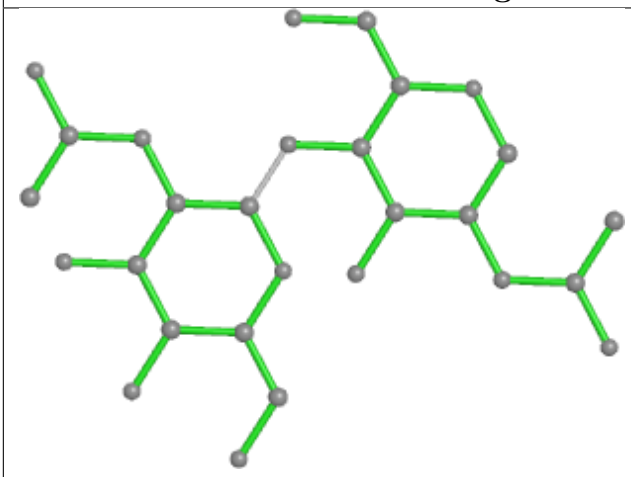
There are no ring outliers.

11 monomers are involved in 14 short contacts:

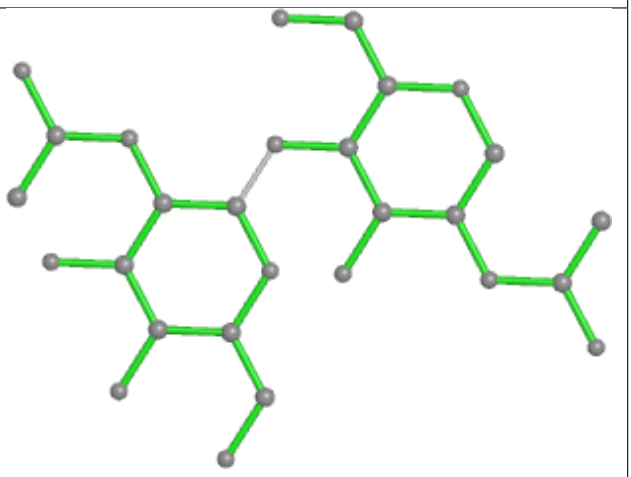
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	G	2	NAG	1	0
4	U	1	NAG	1	0
4	D	2	NAG	2	0
4	F	2	NAG	1	0
4	Q	2	NAG	2	0
4	U	2	NAG	1	0
4	X	1	NAG	1	0
4	Q	1	NAG	3	0
4	W	1	NAG	4	0
4	D	1	NAG	3	0
4	W	2	NAG	2	0

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

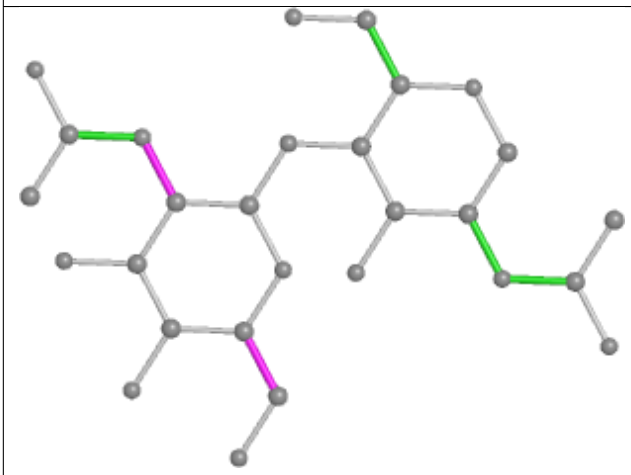
Oligosaccharide Chain D



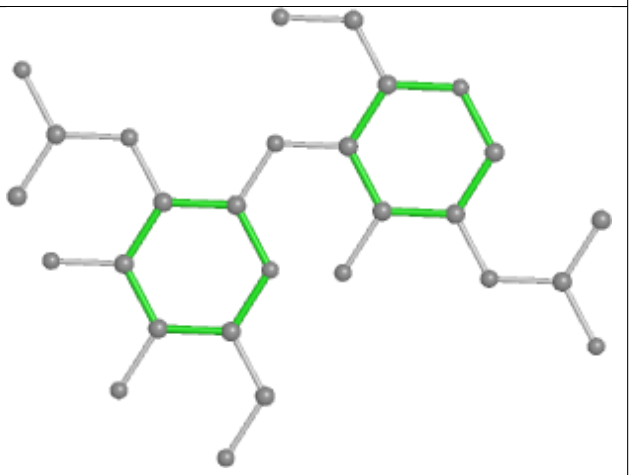
Bond lengths



Bond angles

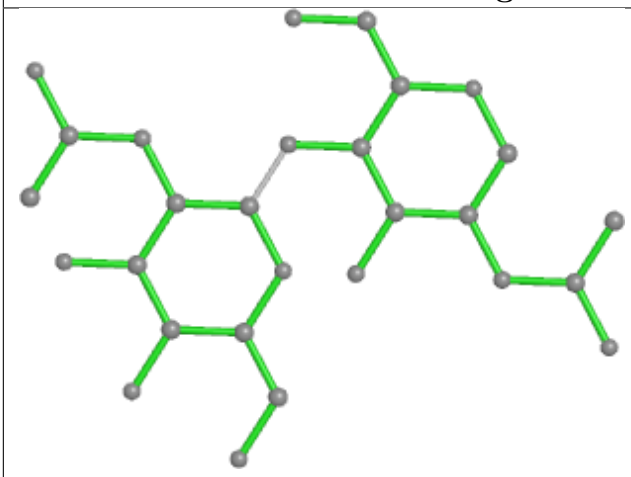


Torsions

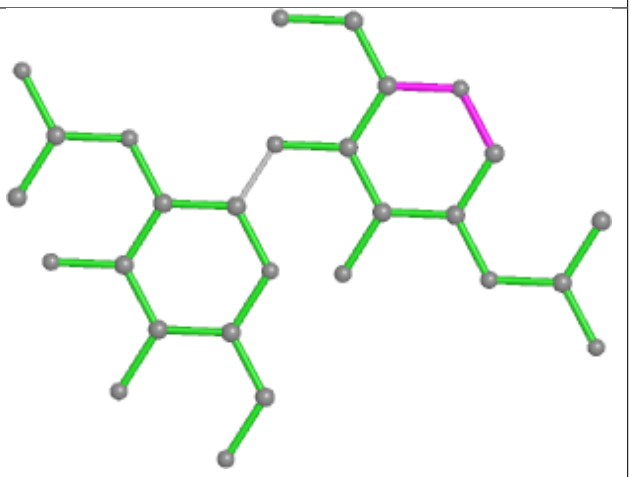


Rings

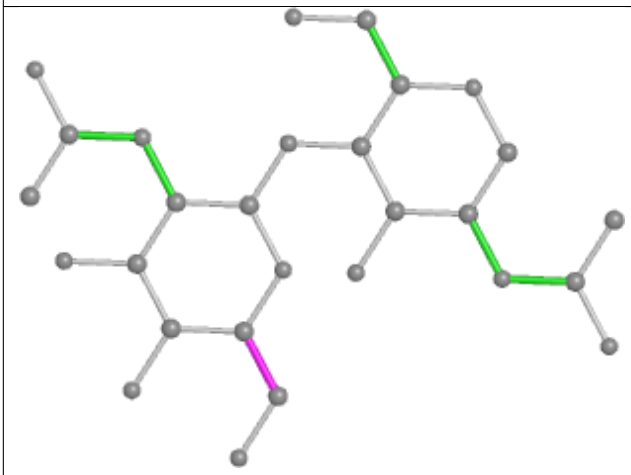
Oligosaccharide Chain E



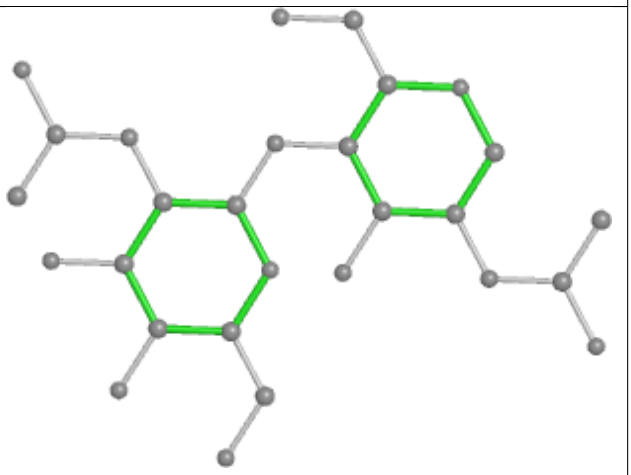
Bond lengths



Bond angles

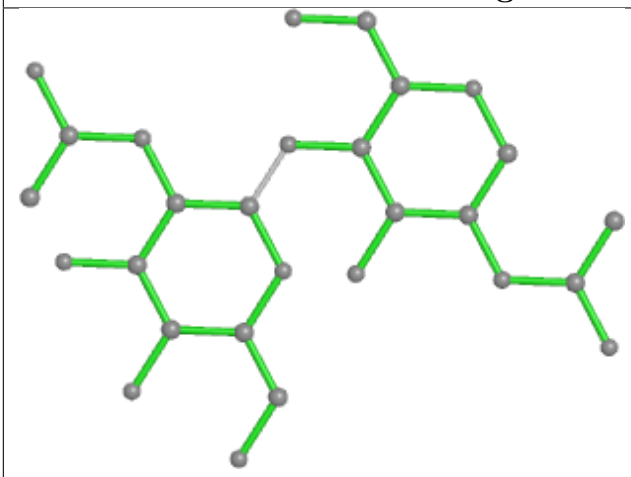


Torsions

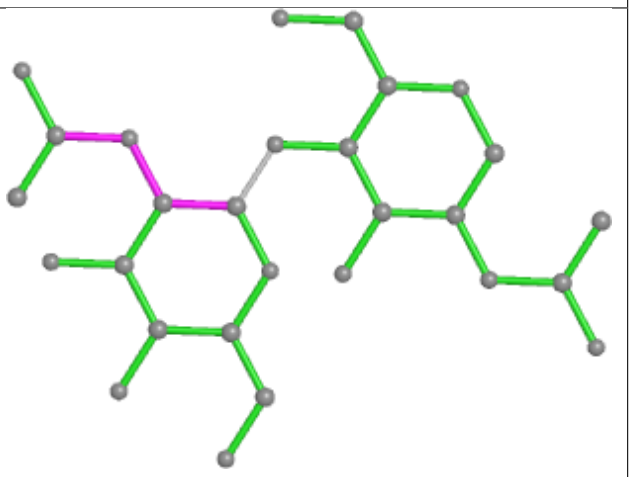


Rings

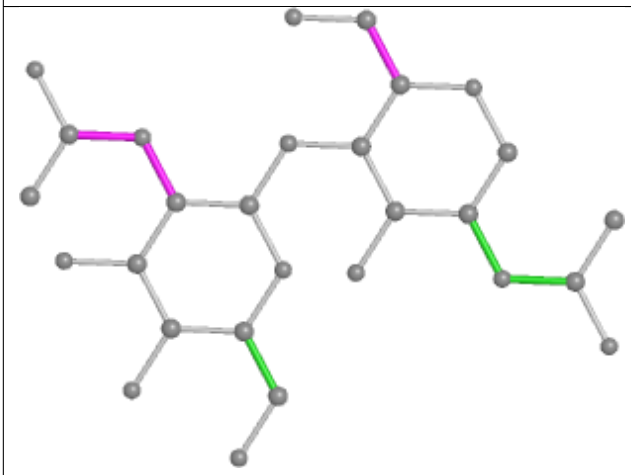
Oligosaccharide Chain F



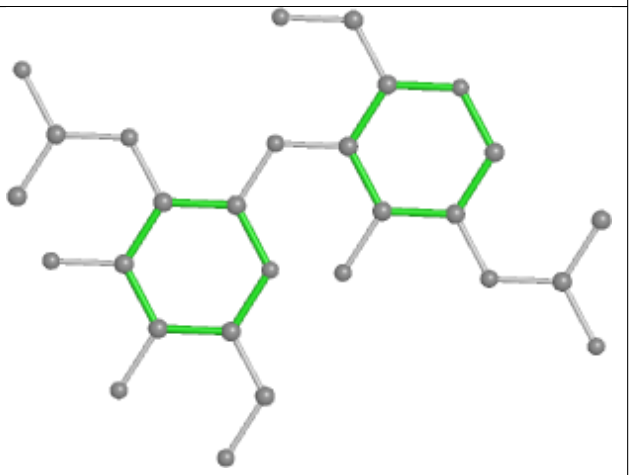
Bond lengths



Bond angles

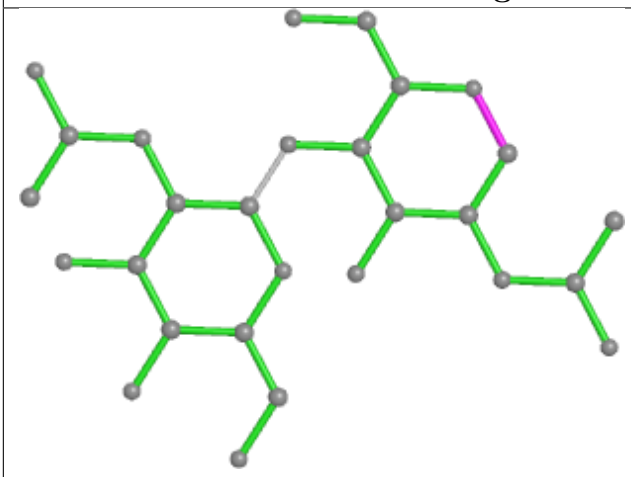


Torsions

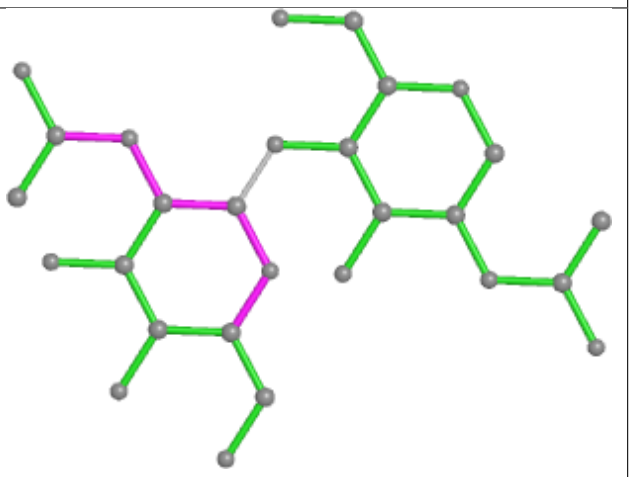


Rings

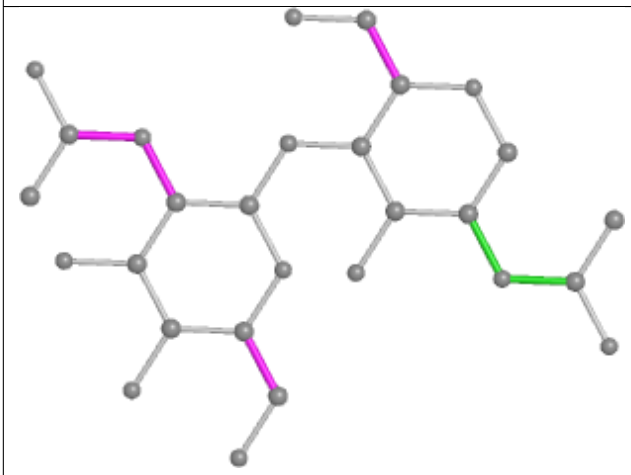
Oligosaccharide Chain G



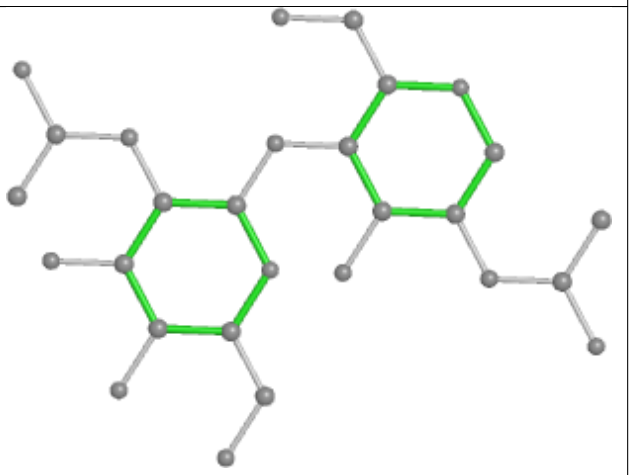
Bond lengths



Bond angles

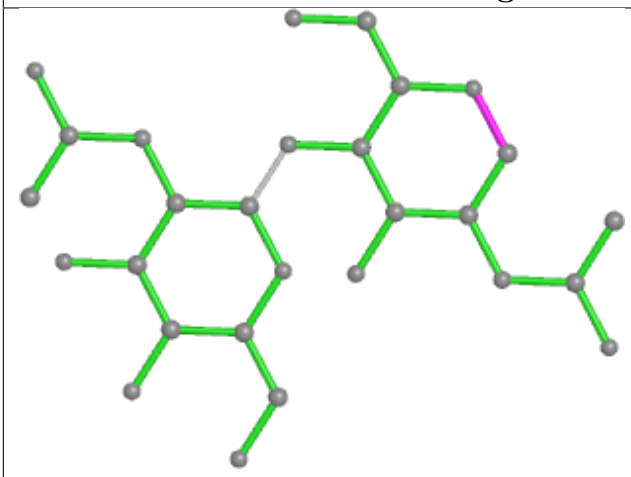


Torsions

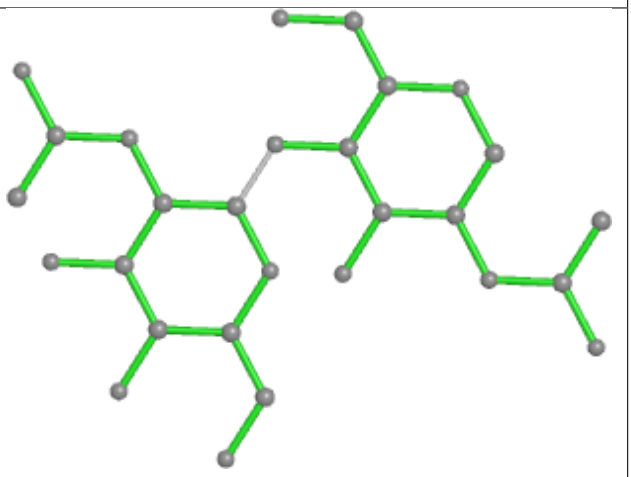


Rings

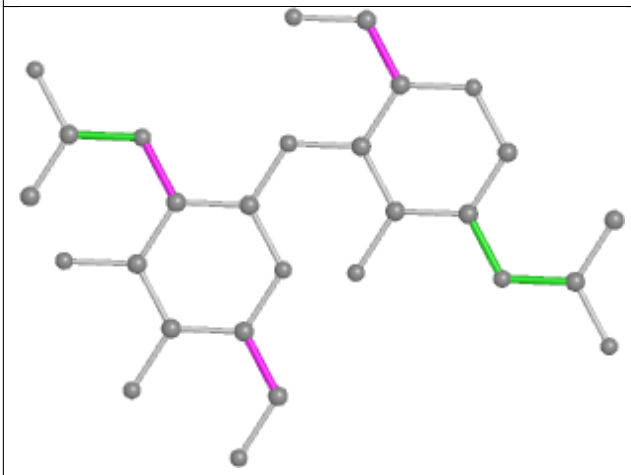
Oligosaccharide Chain L



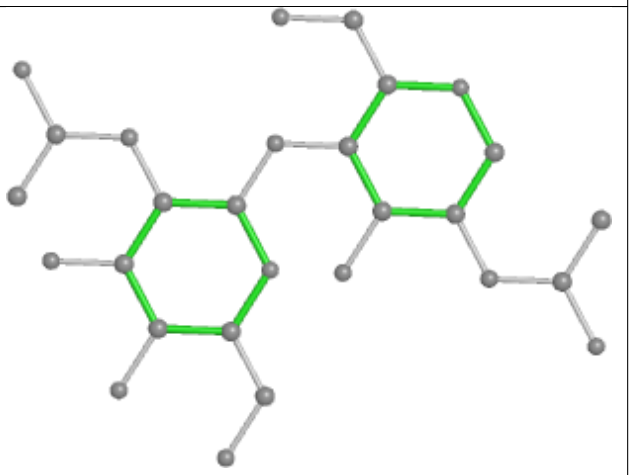
Bond lengths



Bond angles

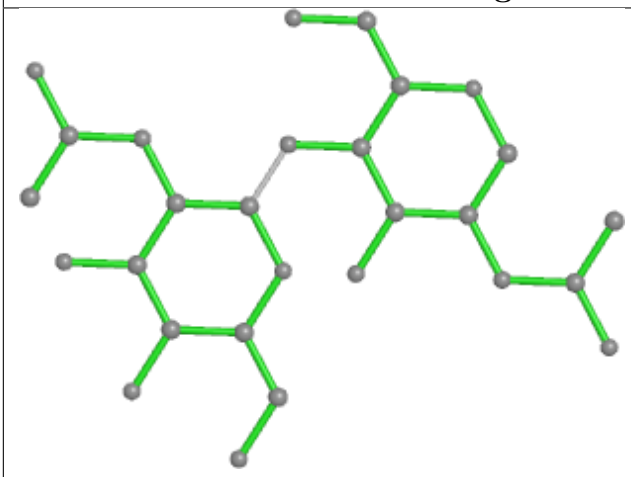


Torsions

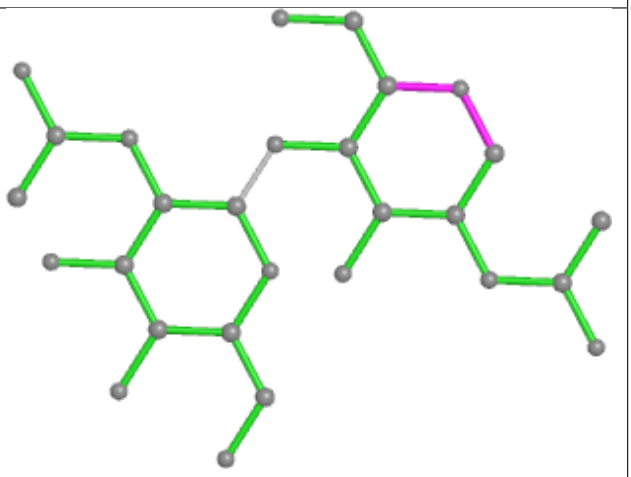


Rings

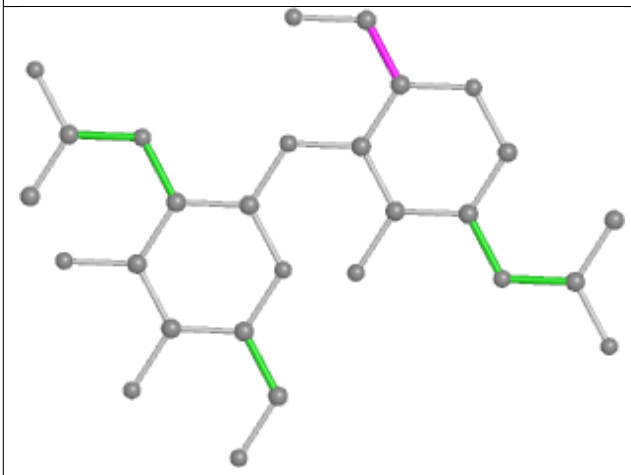
Oligosaccharide Chain O



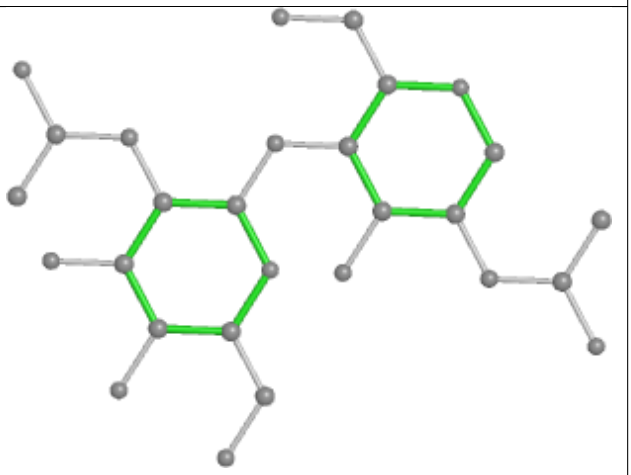
Bond lengths



Bond angles

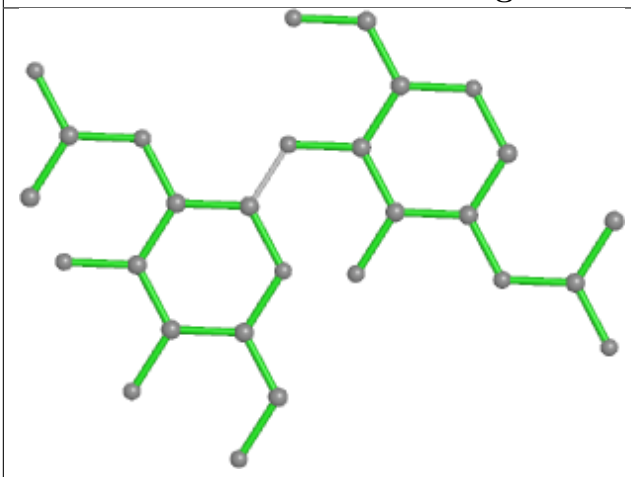


Torsions

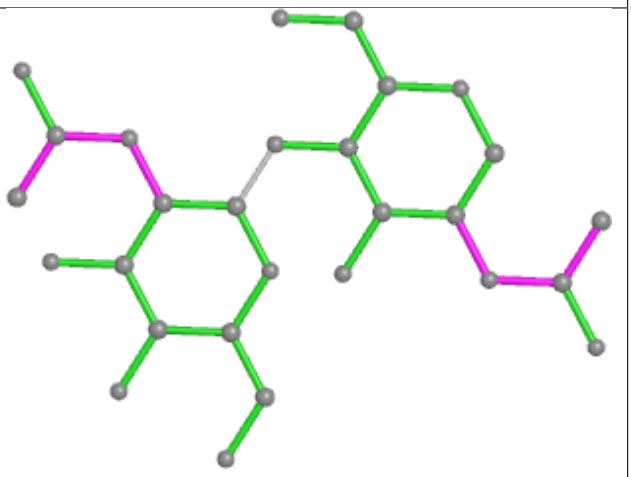


Rings

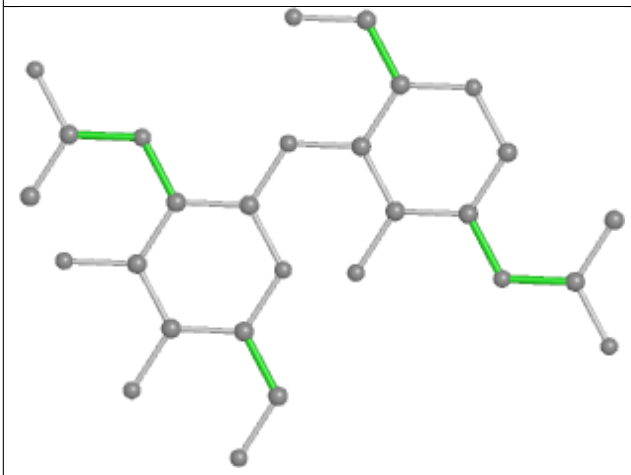
Oligosaccharide Chain P



Bond lengths



Bond angles



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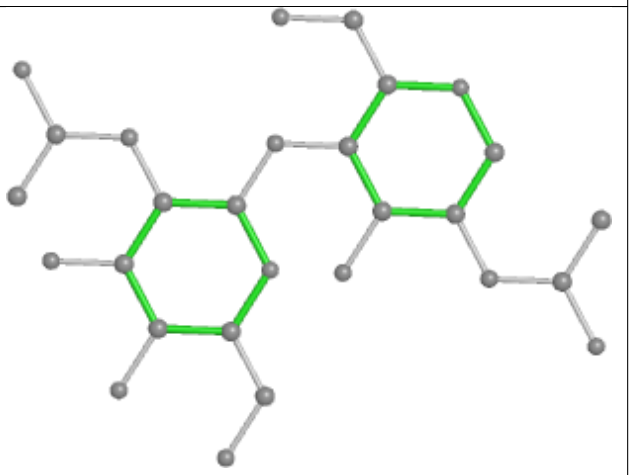
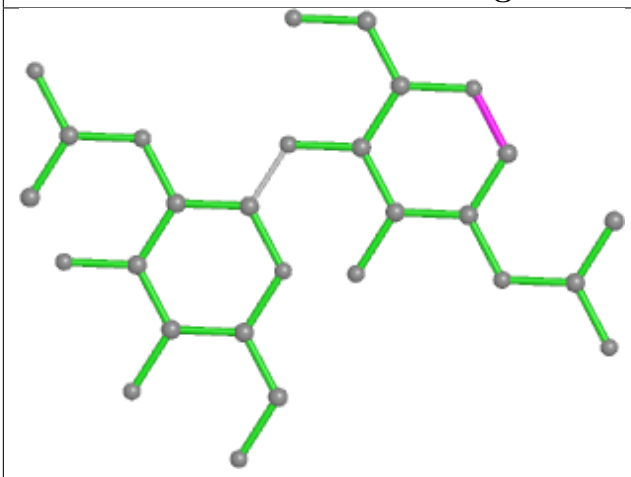


Rings

Oligosaccharide Chain Q



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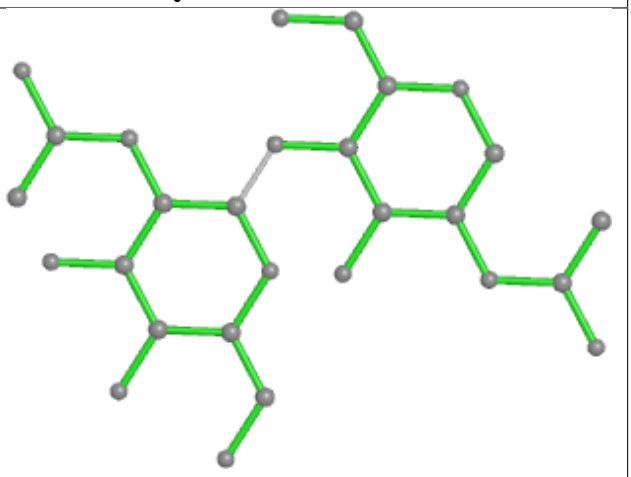

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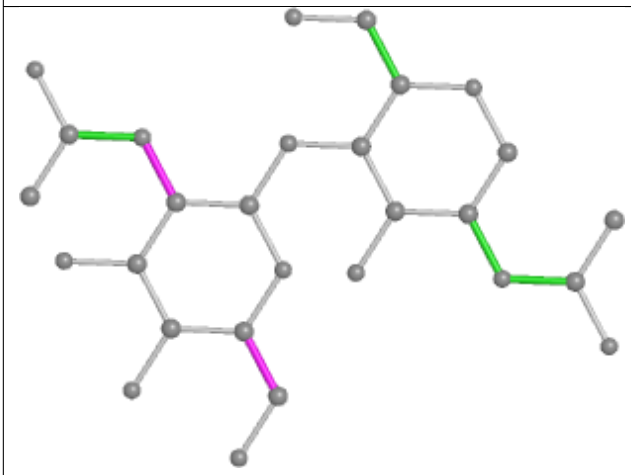

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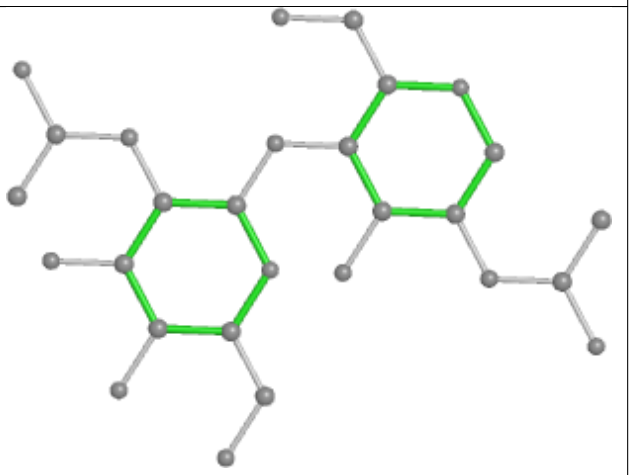
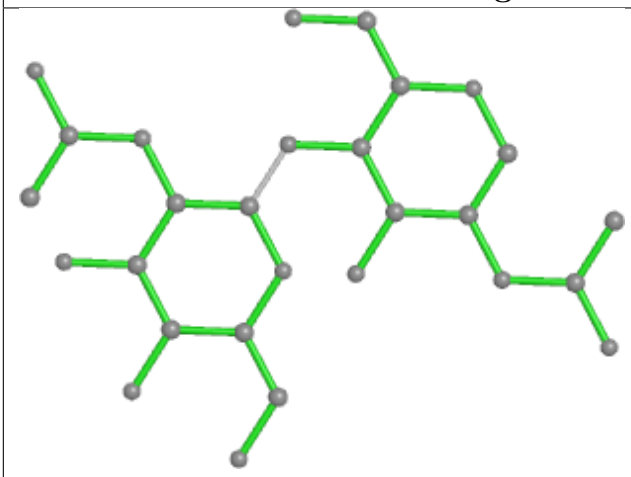


Rings

Oligosaccharide Chain R



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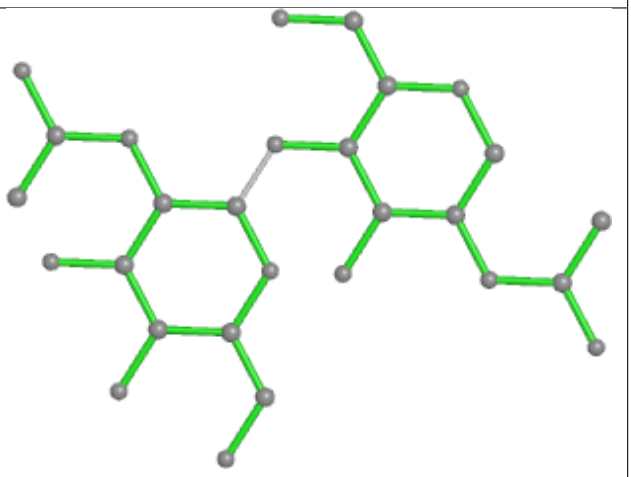

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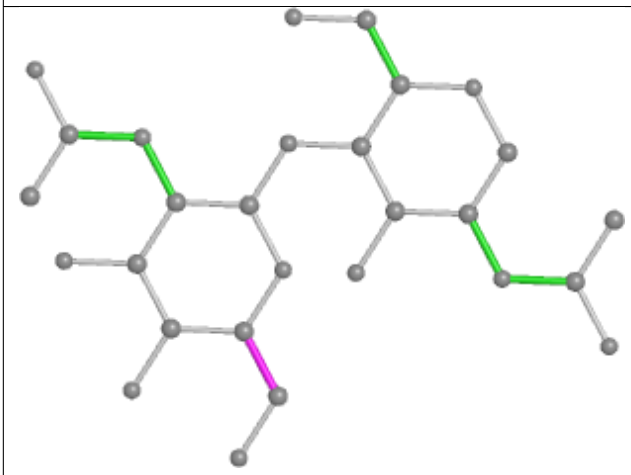

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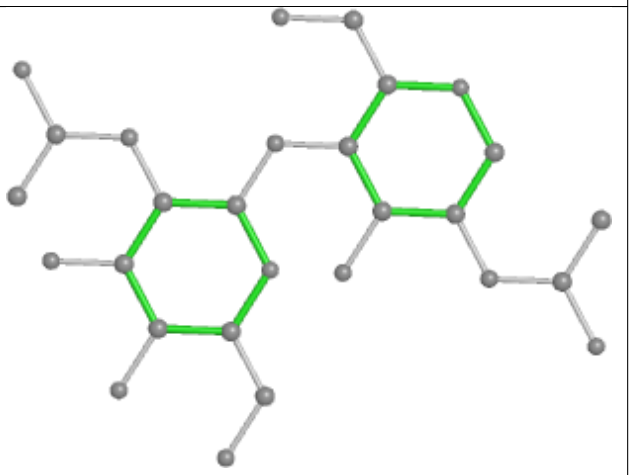
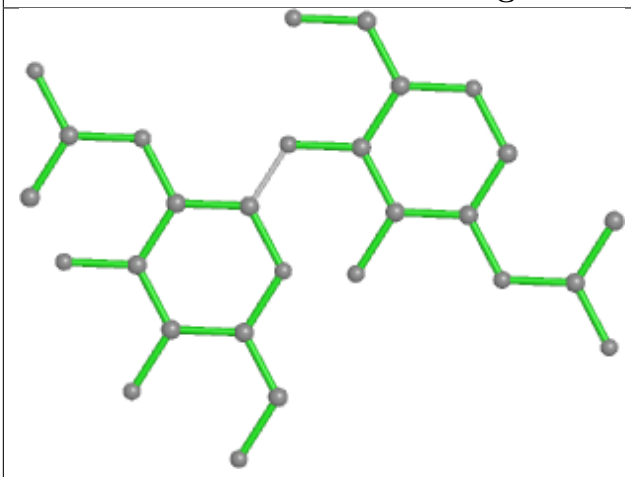
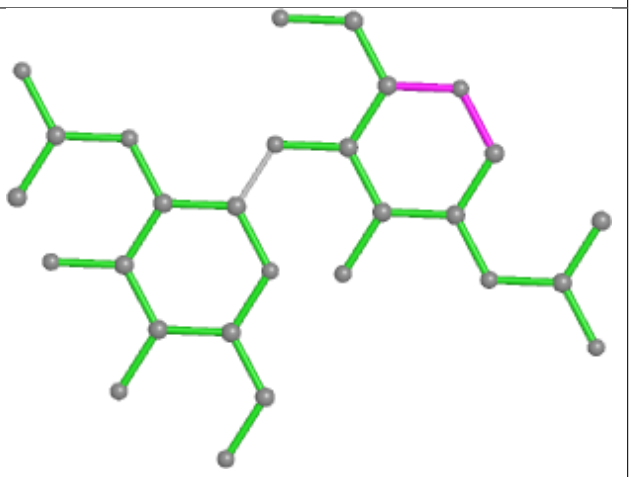


Rings

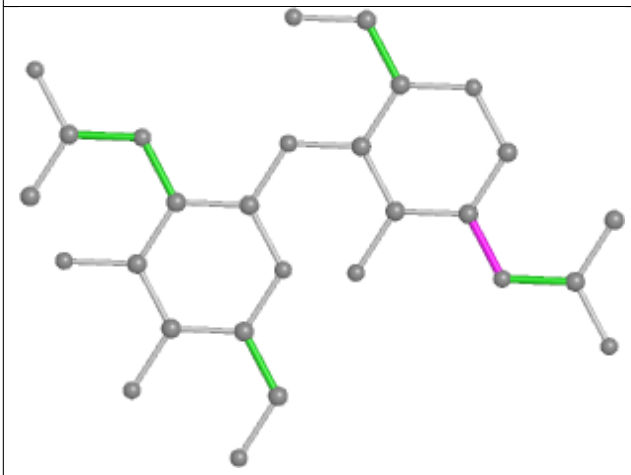
Oligosaccharide Chain S



Bond lengths



Bond angles



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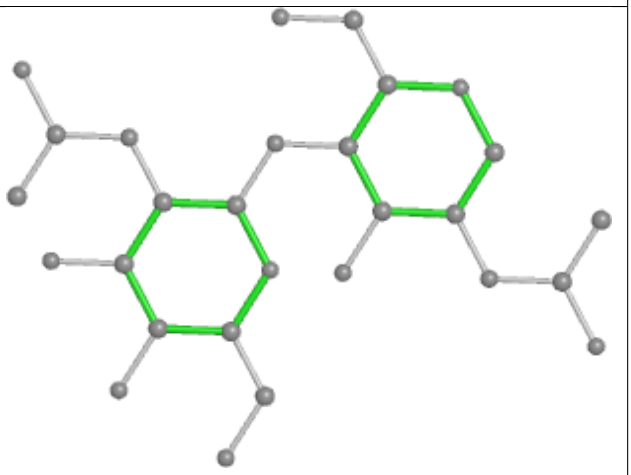
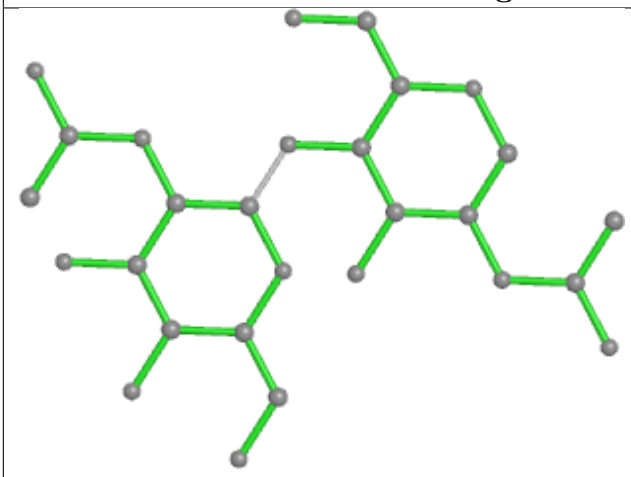
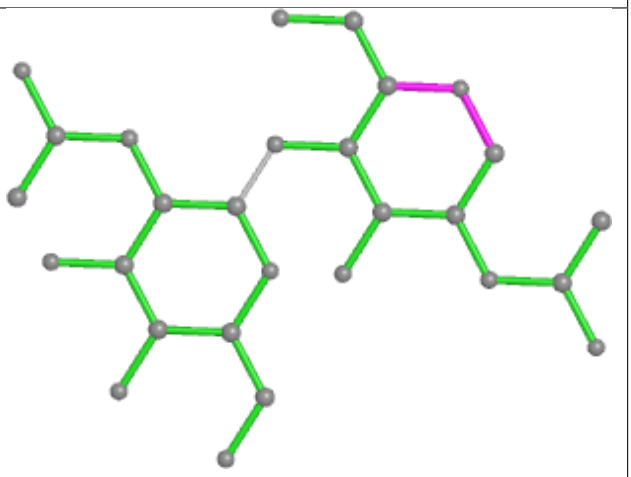


Rings

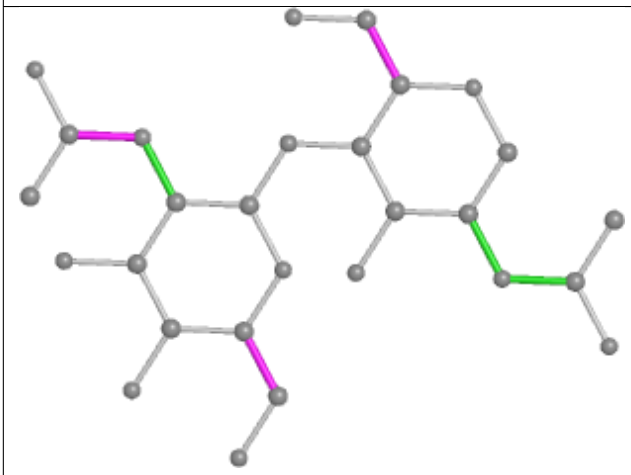
Oligosaccharide Chain T



Bond lengths



Bond angles



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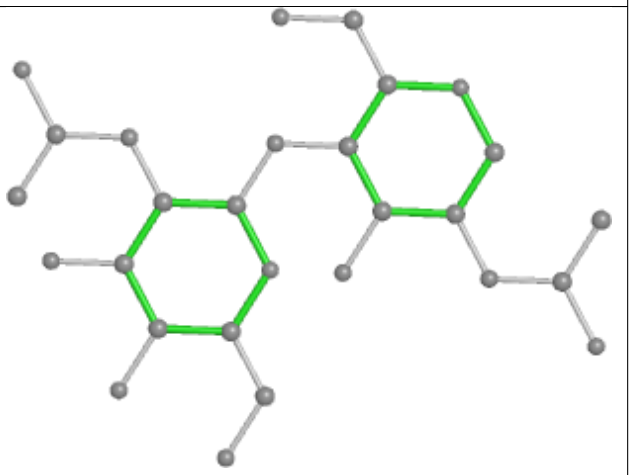
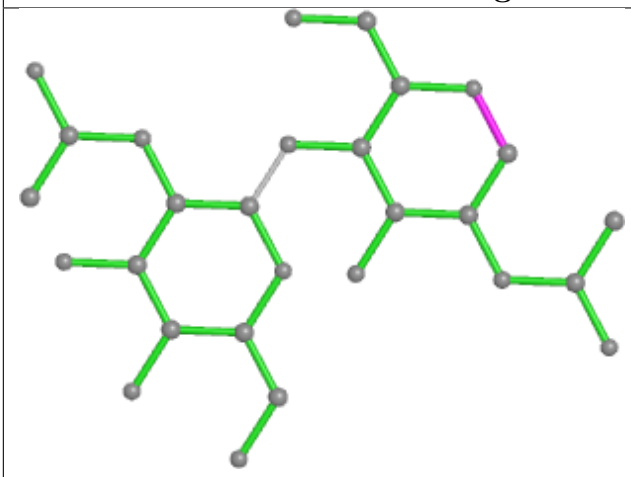
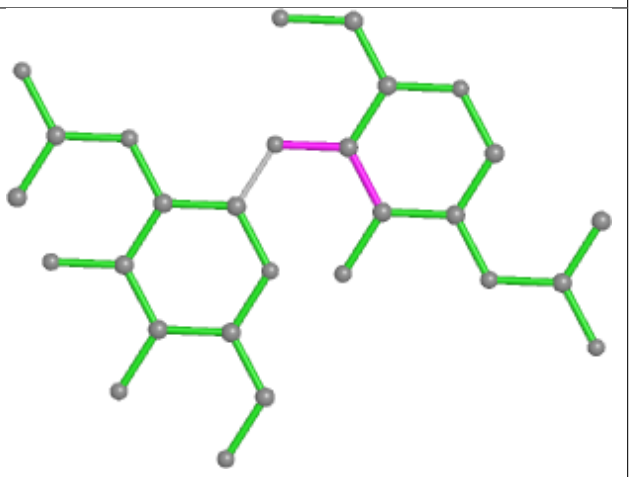


Rings

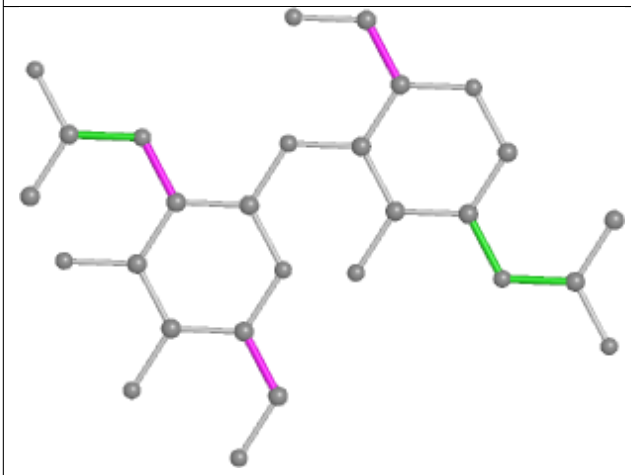
Oligosaccharide Chain U



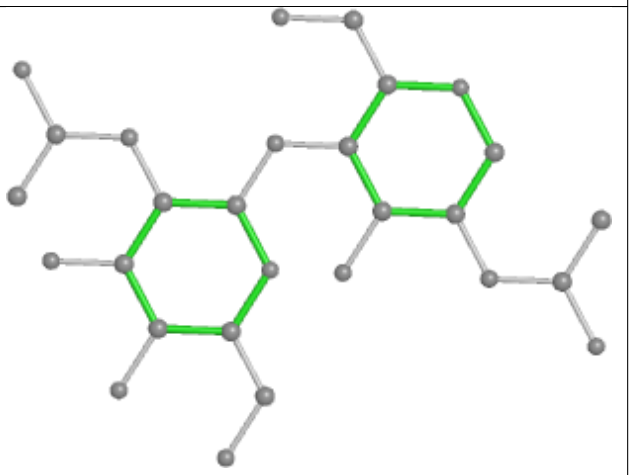
Bond lengths



Bond angles

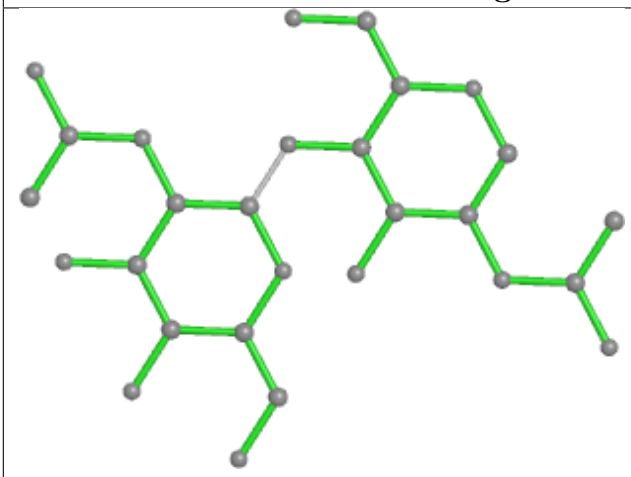


Torsions

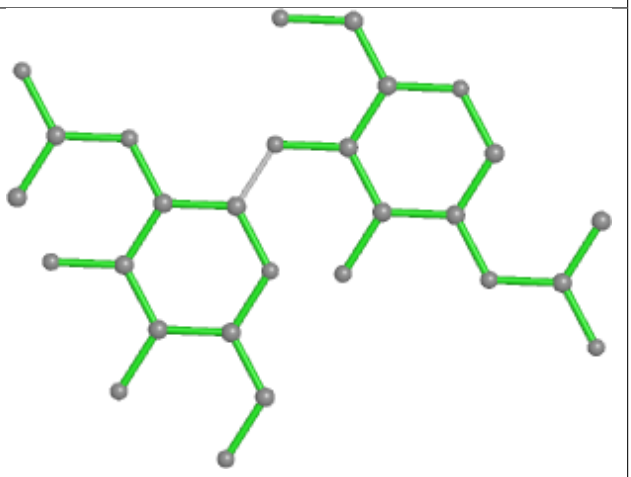


Rings

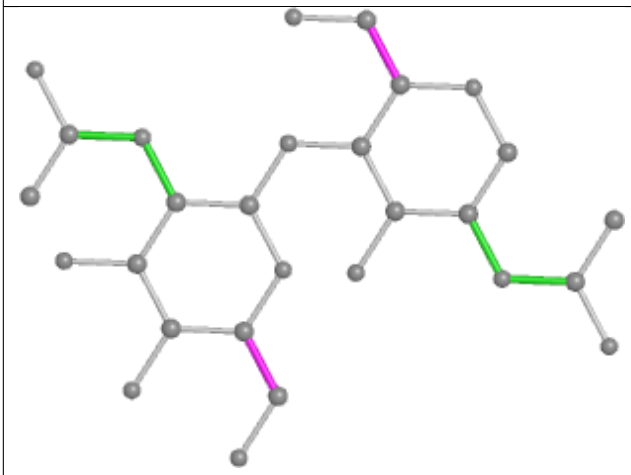
Oligosaccharide Chain V



Bond lengths



Bond angles



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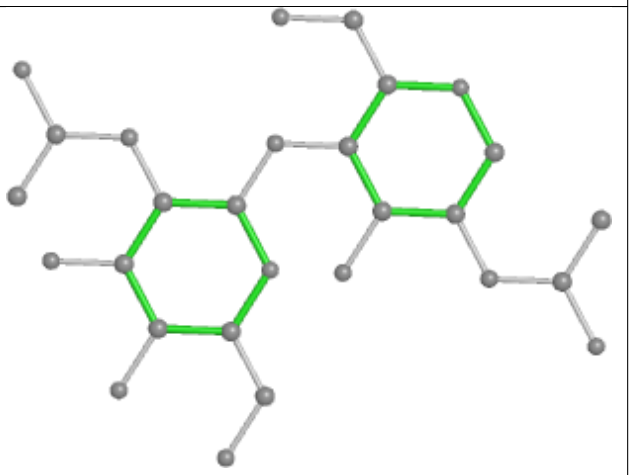
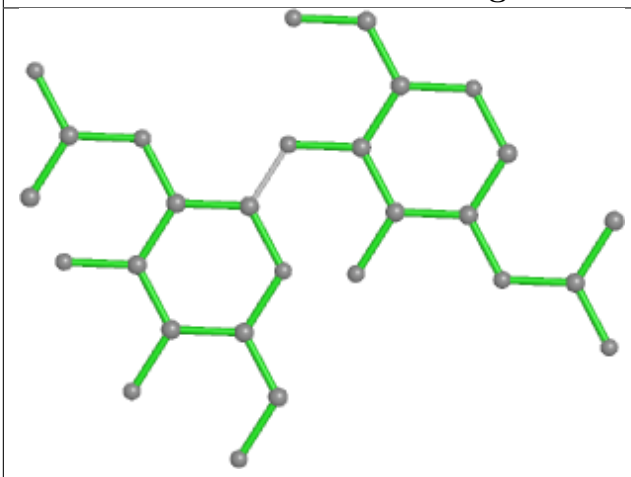


Rings

Oligosaccharide Chain W



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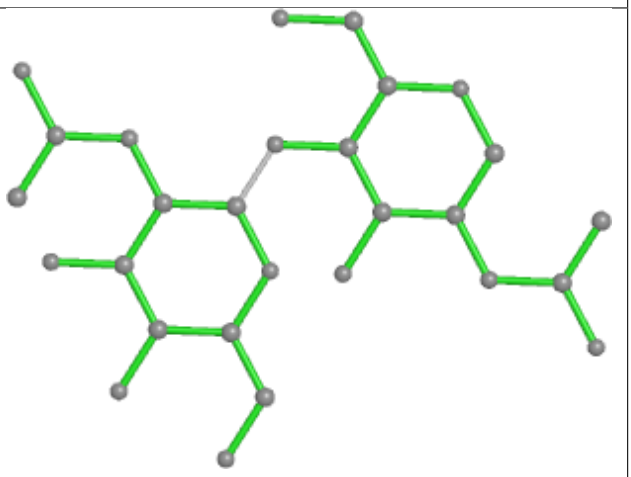
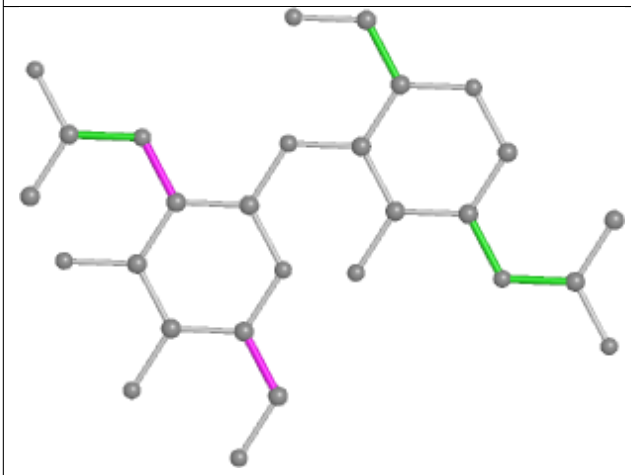


Bond angles



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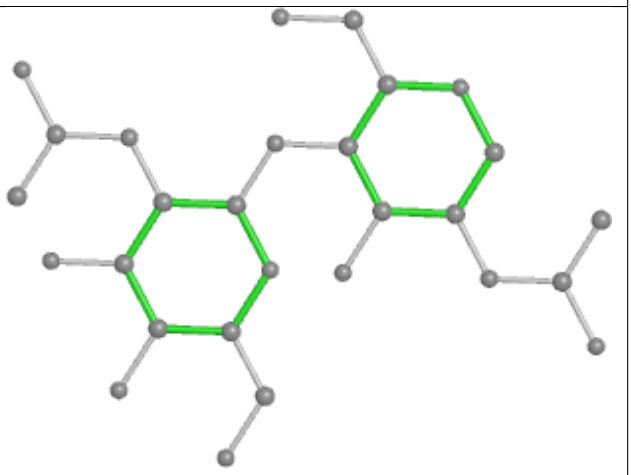
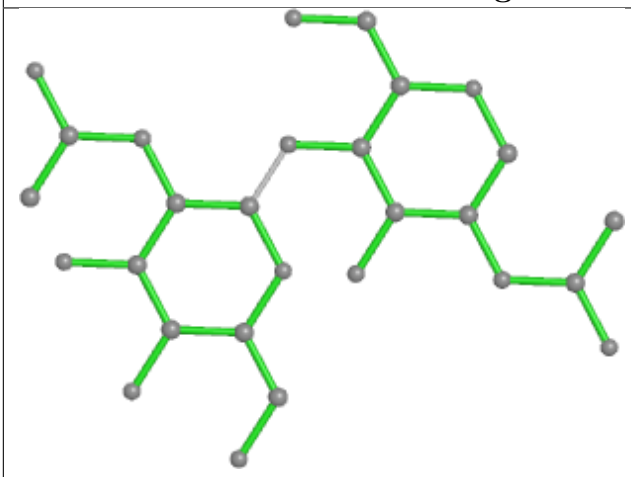
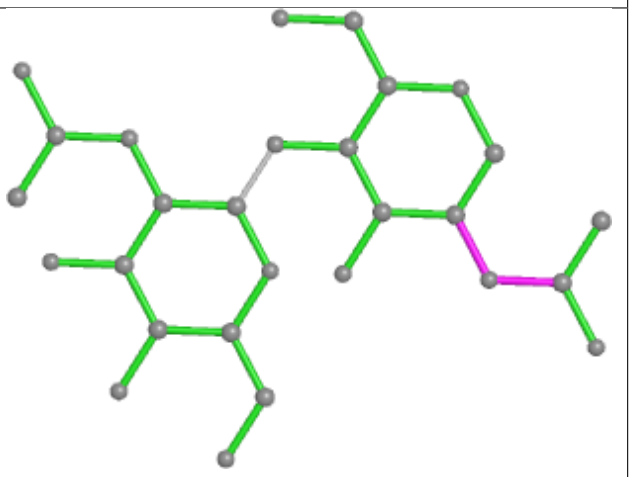


Rings

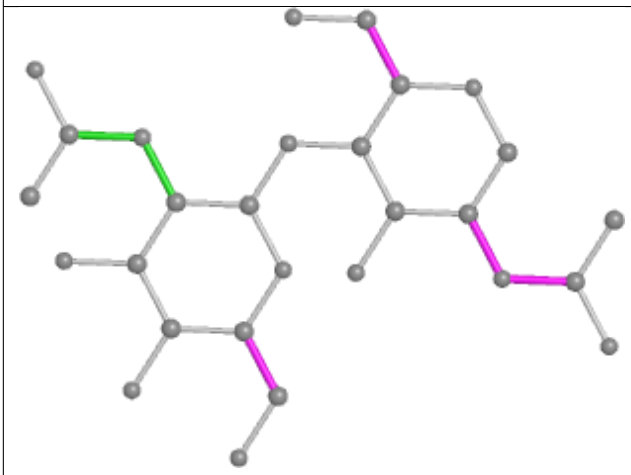
Oligosaccharide Chain X



Bond lengths



Bond angles



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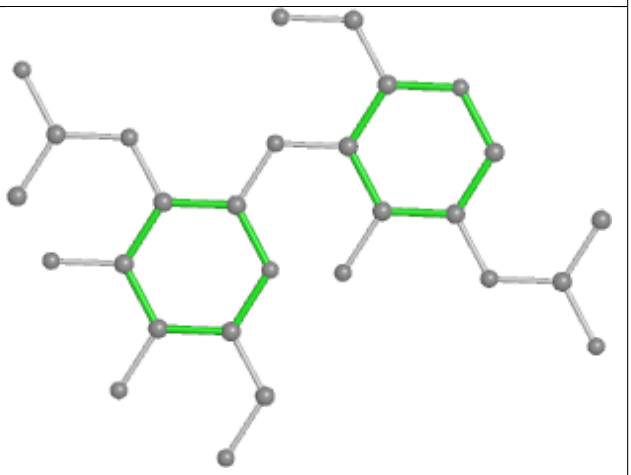
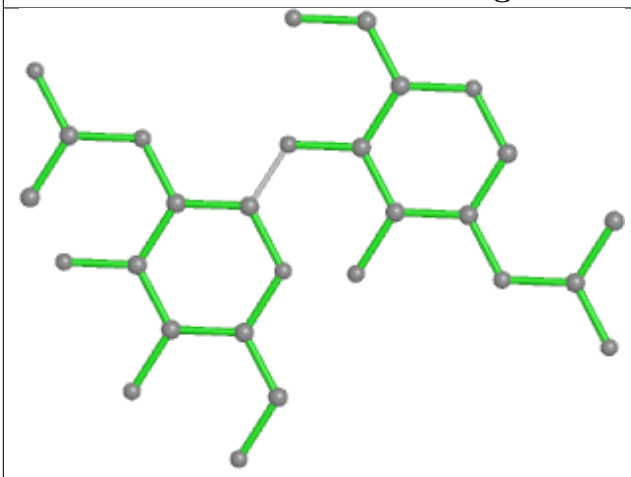


Rings

Oligosaccharide Chain Y



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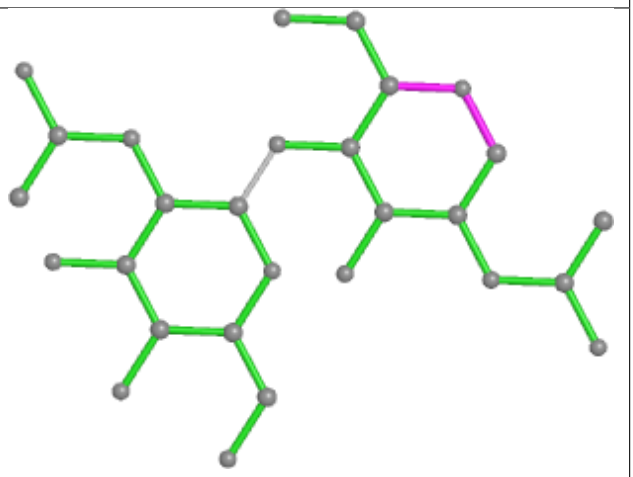
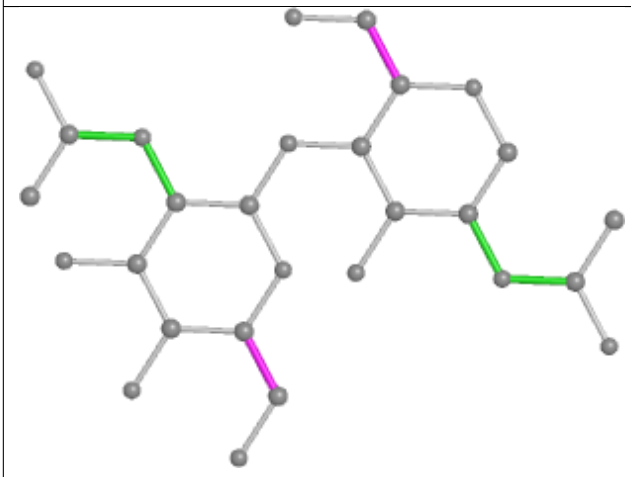
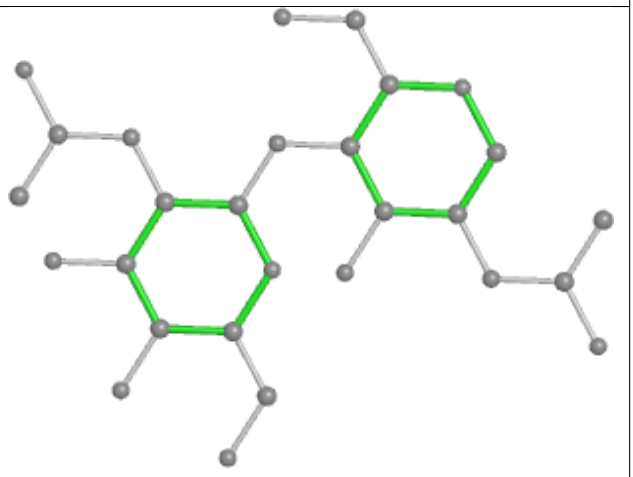


Bond angles

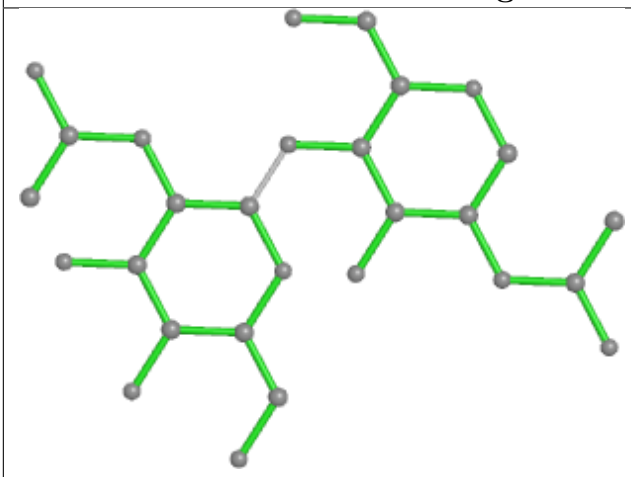


Torsions

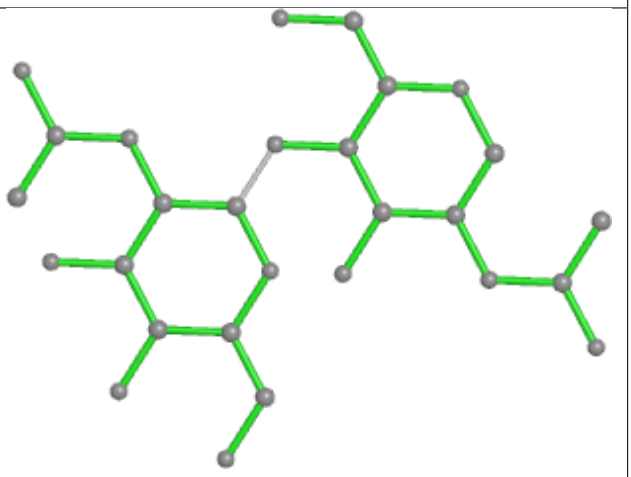


Rings

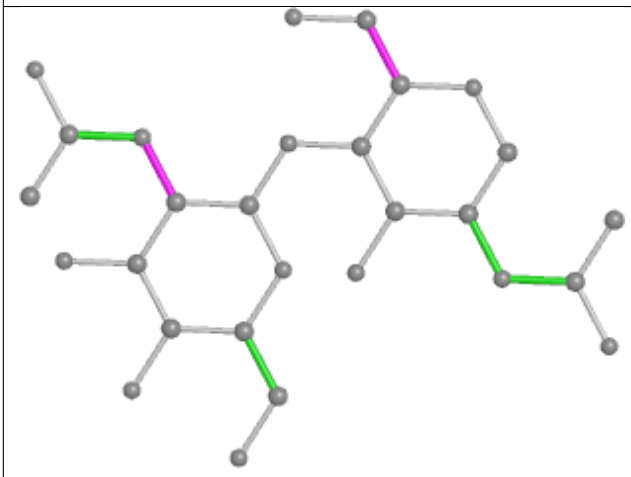
Oligosaccharide Chain Z



Bond lengths



Bond angles



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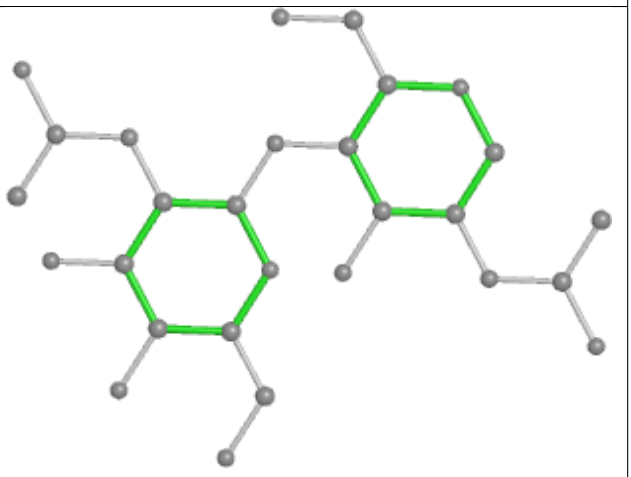
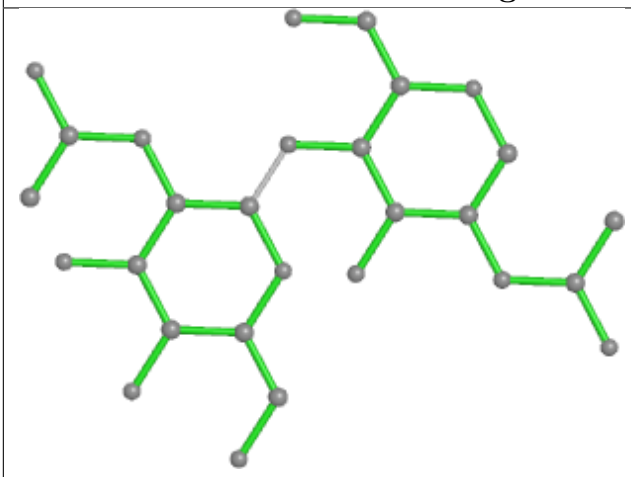
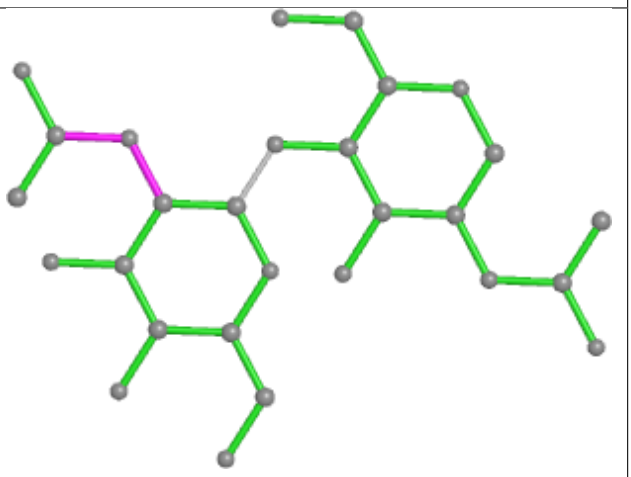


Rings

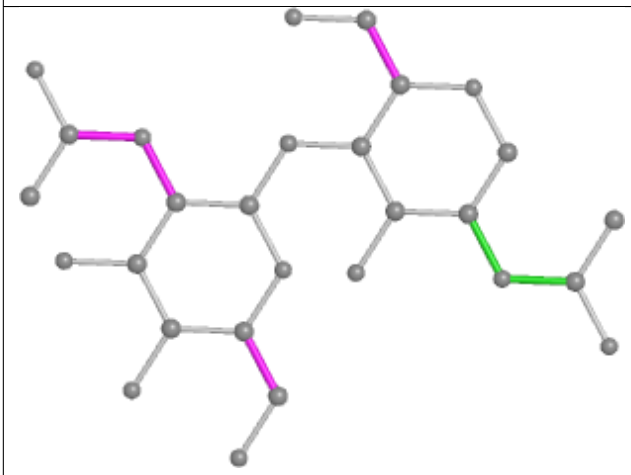
Oligosaccharide Chain a



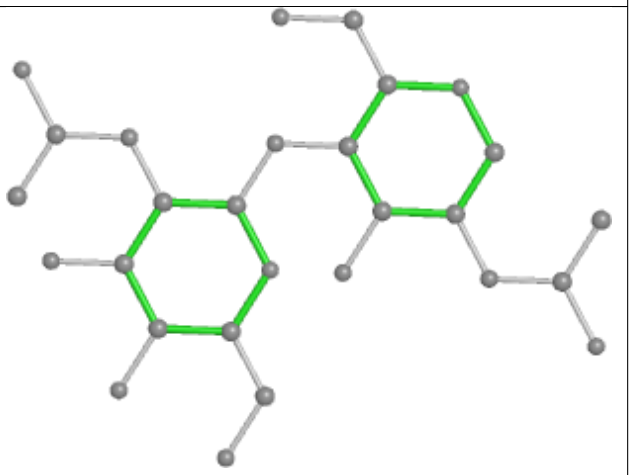
Bond lengths



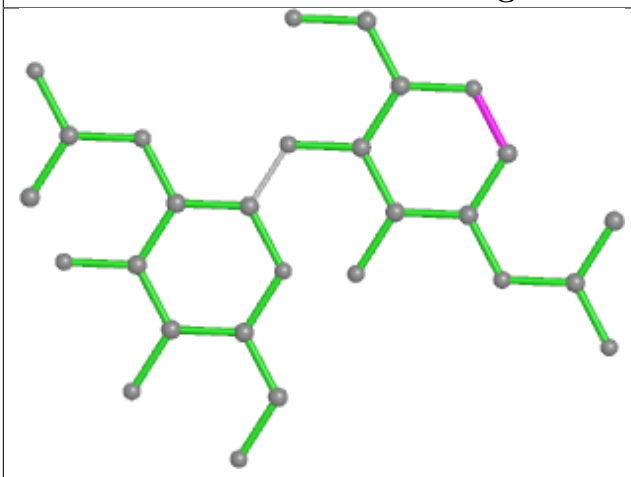
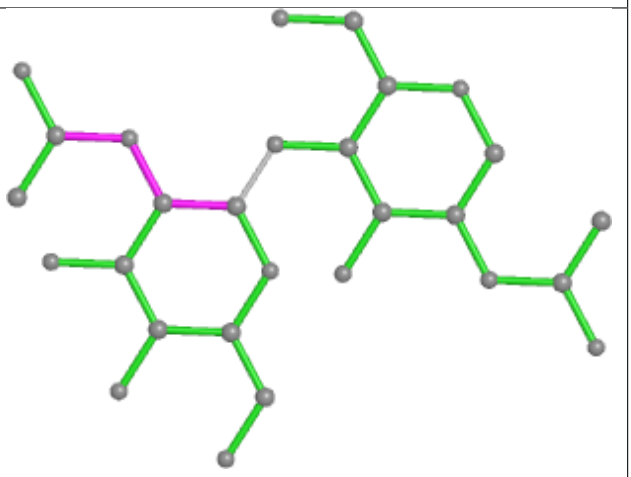
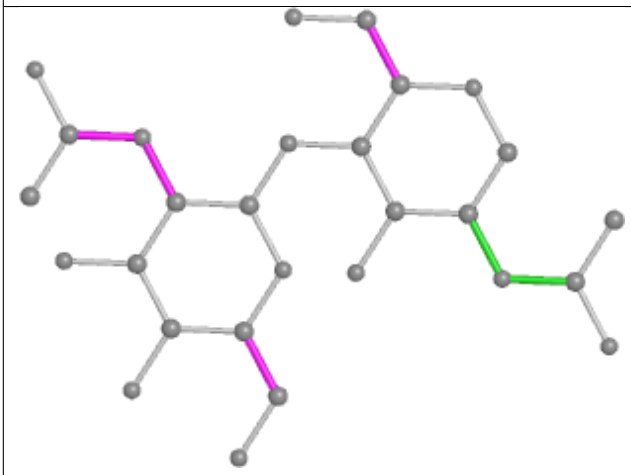
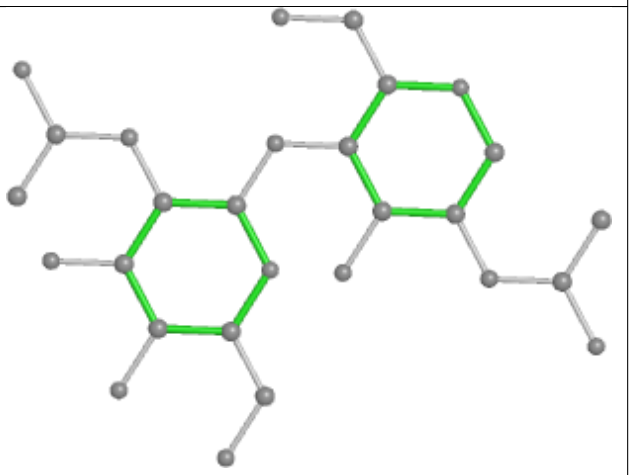
Bond angles



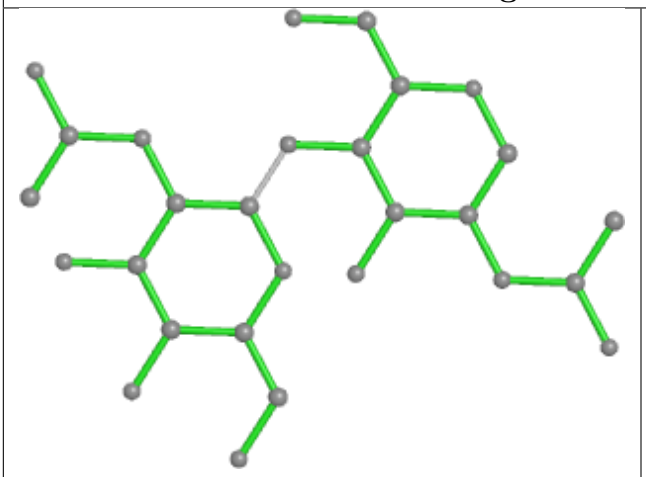
Torsions



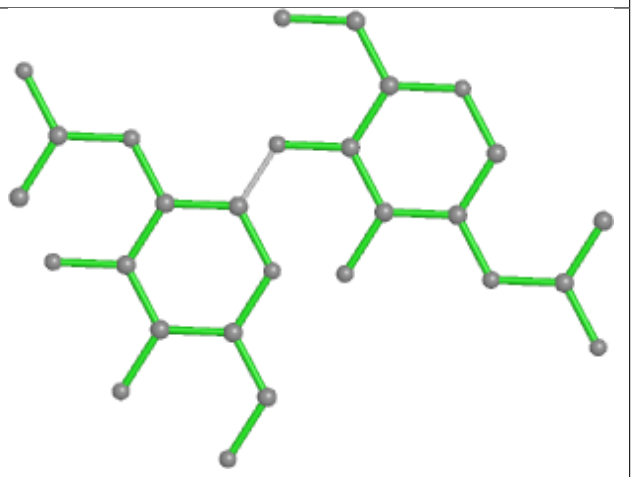
Rings

Oligosaccharide Chain b	
	
Bond lengths	**Bond angles**
	
Torsions	**Rings**

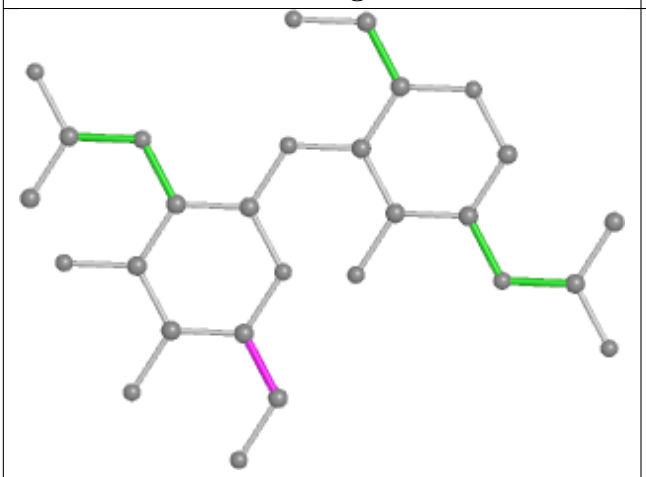
Oligosaccharide Chain c



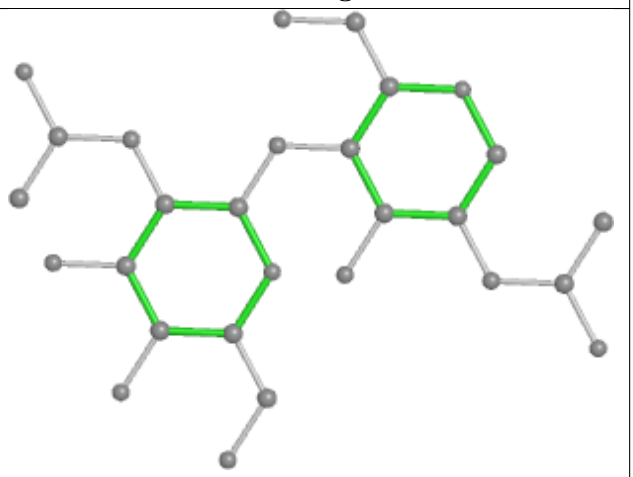
Bond lengths



Bond angles



Torsions



Rings

5.6 Ligand geometry

31 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
5	NAG	C	1407	-	14,14,15	0.42	0	17,19,21	1.16	2 (11%)
5	NAG	C	1409	1	14,14,15	0.34	0	17,19,21	0.63	0
5	NAG	B	1409	1	14,14,15	0.41	0	17,19,21	1.16	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
5	NAG	A	1401	1	14,14,15	0.31	0	17,19,21	0.34	0
5	NAG	B	1408	1	14,14,15	0.21	0	17,19,21	0.40	0
5	NAG	B	1410	-	14,14,15	0.34	0	17,19,21	0.42	0
5	NAG	C	1404	1	14,14,15	0.29	0	17,19,21	0.61	0
5	NAG	A	1403	1	14,14,15	0.22	0	17,19,21	0.40	0
5	NAG	B	1406	1	14,14,15	0.41	0	17,19,21	0.73	1 (5%)
5	NAG	A	1411	1	14,14,15	0.52	0	17,19,21	0.36	0
5	NAG	C	1405	1	14,14,15	0.40	0	17,19,21	1.30	2 (11%)
5	NAG	A	1410	1	14,14,15	0.31	0	17,19,21	0.40	0
5	NAG	B	1402	1	14,14,15	0.33	0	17,19,21	0.64	0
5	NAG	C	1401	1	14,14,15	0.43	0	17,19,21	0.79	1 (5%)
5	NAG	C	1403	1	14,14,15	0.55	0	17,19,21	0.44	0
5	NAG	B	1404	1	14,14,15	0.29	0	17,19,21	0.62	0
5	NAG	C	1402	1	14,14,15	0.46	0	17,19,21	0.56	0
5	NAG	A	1404	1	14,14,15	0.44	0	17,19,21	0.54	0
5	NAG	B	1407	1	14,14,15	0.34	0	17,19,21	0.40	0
5	NAG	A	1406	1	14,14,15	0.41	0	17,19,21	1.16	2 (11%)
5	NAG	C	1410	1	14,14,15	0.15	0	17,19,21	0.56	0
5	NAG	C	1406	1	14,14,15	0.40	0	17,19,21	1.17	2 (11%)
5	NAG	A	1408	1	14,14,15	0.29	0	17,19,21	0.38	0
5	NAG	C	1408	1	14,14,15	0.19	0	17,19,21	0.38	0
5	NAG	A	1407	-	14,14,15	0.41	0	17,19,21	1.16	1 (5%)
5	NAG	A	1409	1	14,14,15	0.27	0	17,19,21	0.49	0
5	NAG	B	1403	1	14,14,15	0.41	0	17,19,21	1.17	2 (11%)
5	NAG	B	1405	1	14,14,15	0.30	0	17,19,21	0.61	0
5	NAG	B	1401	1	14,14,15	0.34	0	17,19,21	0.55	0
5	NAG	A	1402	1	14,14,15	0.22	0	17,19,21	0.62	0
5	NAG	A	1405	1	14,14,15	0.56	0	17,19,21	1.25	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	C	1407	-	-	0/6/23/26	0/1/1/1
5	NAG	C	1409	1	-	3/6/23/26	0/1/1/1
5	NAG	B	1409	1	-	0/6/23/26	0/1/1/1
5	NAG	A	1401	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1408	1	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	NAG	B	1410	-	-	0/6/23/26	0/1/1/1
5	NAG	C	1404	1	-	0/6/23/26	0/1/1/1
5	NAG	A	1403	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1406	1	-	3/6/23/26	0/1/1/1
5	NAG	A	1411	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1405	1	-	3/6/23/26	0/1/1/1
5	NAG	A	1410	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1402	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1401	1	-	1/6/23/26	0/1/1/1
5	NAG	C	1403	1	-	4/6/23/26	0/1/1/1
5	NAG	B	1404	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1402	1	-	0/6/23/26	0/1/1/1
5	NAG	A	1404	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1407	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1406	1	-	0/6/23/26	0/1/1/1
5	NAG	C	1410	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1406	1	-	0/6/23/26	0/1/1/1
5	NAG	A	1408	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1408	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1407	-	-	0/6/23/26	0/1/1/1
5	NAG	A	1409	1	-	1/6/23/26	0/1/1/1
5	NAG	B	1403	1	-	0/6/23/26	0/1/1/1
5	NAG	B	1405	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1401	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1402	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1405	1	-	5/6/23/26	0/1/1/1

There are no bond length outliers.

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	C	1405	NAG	C2-N2-C7	4.34	129.08	122.90
5	A	1405	NAG	C2-N2-C7	4.28	129.00	122.90
5	C	1401	NAG	C1-O5-C5	2.87	116.08	112.19
5	B	1406	NAG	C1-O5-C5	2.39	115.43	112.19
5	A	1406	NAG	C8-C7-N2	2.33	120.05	116.10
5	A	1407	NAG	C8-C7-N2	2.32	120.03	116.10
5	C	1407	NAG	C8-C7-N2	2.31	120.02	116.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	C	1406	NAG	C8-C7-N2	2.31	120.01	116.10
5	B	1403	NAG	C8-C7-N2	2.30	120.00	116.10
5	B	1409	NAG	C8-C7-N2	2.29	119.98	116.10
5	C	1405	NAG	C1-C2-N2	2.23	114.30	110.49
5	B	1403	NAG	C2-N2-C7	-2.07	119.96	122.90
5	C	1406	NAG	C2-N2-C7	-2.04	119.99	122.90
5	C	1407	NAG	C2-N2-C7	-2.03	120.01	122.90
5	A	1406	NAG	C2-N2-C7	-2.02	120.03	122.90
5	B	1409	NAG	C2-N2-C7	-2.01	120.04	122.90

There are no chirality outliers.

All (50) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	B	1405	NAG	C8-C7-N2-C2
5	B	1405	NAG	O7-C7-N2-C2
5	B	1407	NAG	O5-C5-C6-O6
5	B	1401	NAG	O5-C5-C6-O6
5	A	1408	NAG	O5-C5-C6-O6
5	B	1402	NAG	O5-C5-C6-O6
5	C	1410	NAG	O5-C5-C6-O6
5	A	1402	NAG	C4-C5-C6-O6
5	A	1401	NAG	O5-C5-C6-O6
5	A	1404	NAG	O5-C5-C6-O6
5	B	1401	NAG	C4-C5-C6-O6
5	A	1402	NAG	O5-C5-C6-O6
5	A	1405	NAG	O5-C5-C6-O6
5	B	1404	NAG	O5-C5-C6-O6
5	A	1410	NAG	O5-C5-C6-O6
5	A	1411	NAG	C4-C5-C6-O6
5	B	1407	NAG	C4-C5-C6-O6
5	B	1402	NAG	C4-C5-C6-O6
5	B	1406	NAG	O5-C5-C6-O6
5	A	1405	NAG	C4-C5-C6-O6
5	A	1405	NAG	C8-C7-N2-C2
5	A	1405	NAG	O7-C7-N2-C2
5	C	1405	NAG	C8-C7-N2-C2
5	C	1405	NAG	O7-C7-N2-C2
5	C	1408	NAG	C8-C7-N2-C2
5	C	1408	NAG	O7-C7-N2-C2
5	B	1404	NAG	C4-C5-C6-O6
5	A	1411	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
5	A	1408	NAG	C4-C5-C6-O6
5	B	1406	NAG	C4-C5-C6-O6
5	C	1401	NAG	O5-C5-C6-O6
5	C	1410	NAG	C4-C5-C6-O6
5	A	1404	NAG	C4-C5-C6-O6
5	C	1409	NAG	C4-C5-C6-O6
5	A	1403	NAG	O5-C5-C6-O6
5	C	1403	NAG	O5-C5-C6-O6
5	A	1403	NAG	C4-C5-C6-O6
5	B	1408	NAG	C4-C5-C6-O6
5	C	1403	NAG	C4-C5-C6-O6
5	C	1403	NAG	C1-C2-N2-C7
5	A	1410	NAG	C4-C5-C6-O6
5	C	1409	NAG	O5-C5-C6-O6
5	B	1408	NAG	O5-C5-C6-O6
5	A	1401	NAG	C4-C5-C6-O6
5	A	1409	NAG	C1-C2-N2-C7
5	B	1406	NAG	C3-C2-N2-C7
5	C	1409	NAG	C3-C2-N2-C7
5	A	1405	NAG	C3-C2-N2-C7
5	C	1403	NAG	C3-C2-N2-C7
5	C	1405	NAG	C3-C2-N2-C7

There are no ring outliers.

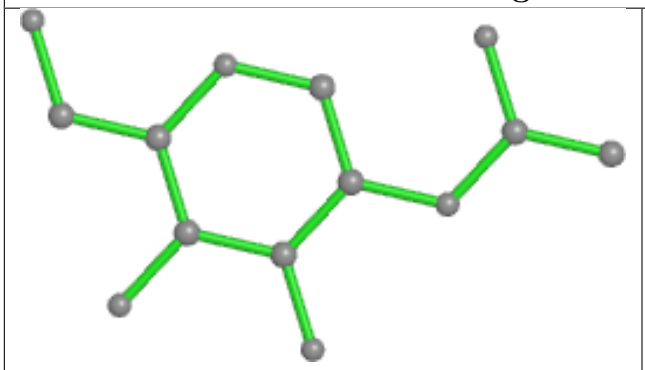
13 monomers are involved in 30 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	C	1407	NAG	6	0
5	B	1409	NAG	4	0
5	B	1410	NAG	4	0
5	B	1406	NAG	1	0
5	C	1405	NAG	3	0
5	B	1402	NAG	7	0
5	A	1404	NAG	1	0
5	A	1406	NAG	2	0
5	C	1406	NAG	6	0
5	A	1407	NAG	2	0
5	B	1405	NAG	2	0
5	A	1402	NAG	3	0
5	A	1405	NAG	1	0

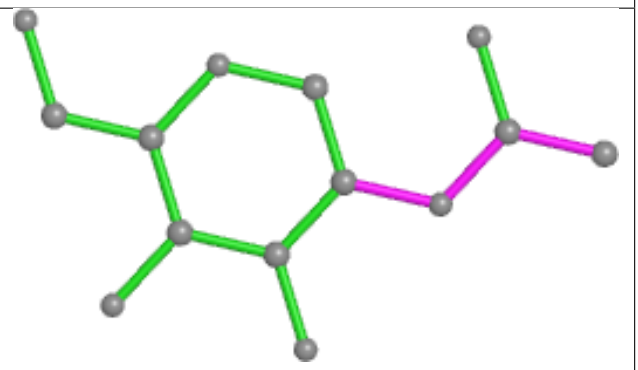
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

bond angles, torsion angles, and ring geometry for 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.

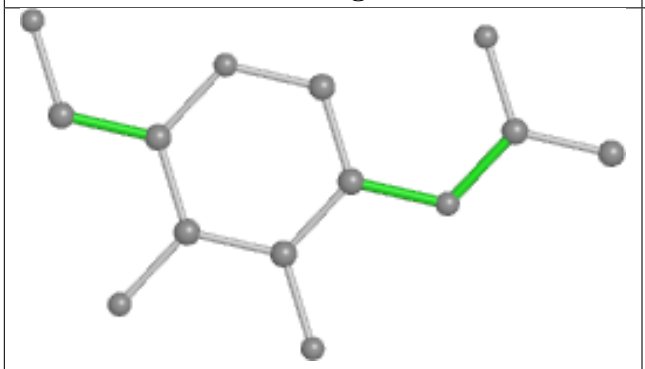
Ligand NAG C 1407



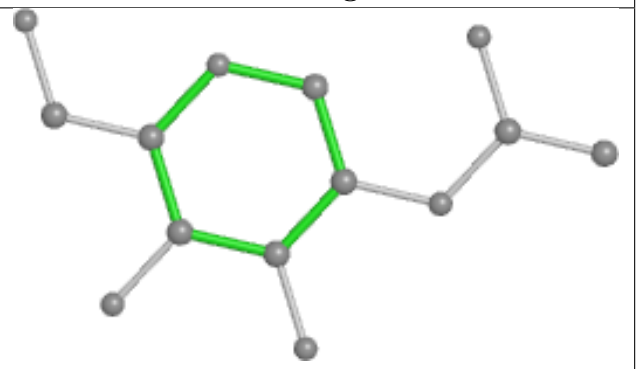
Bond lengths



Bond angles

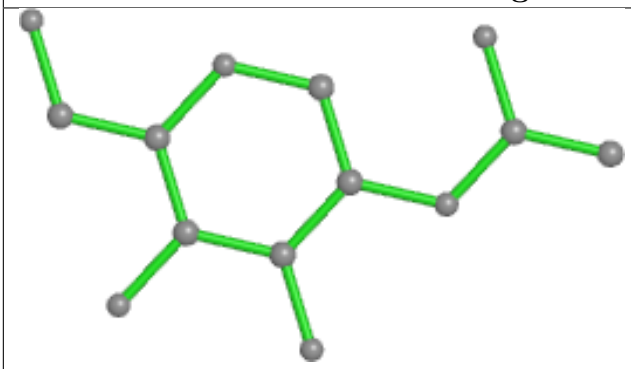


Torsions

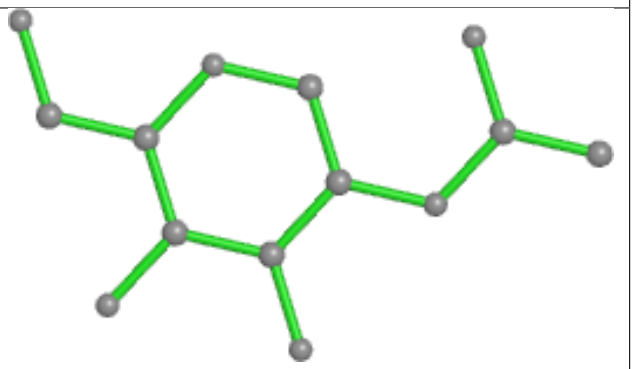


Rings

Ligand NAG C 1409



Bond lengths



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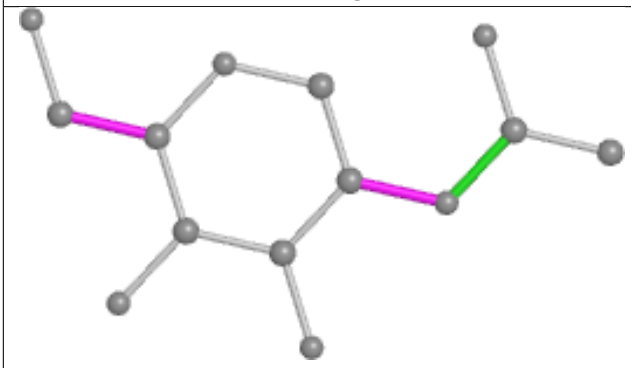
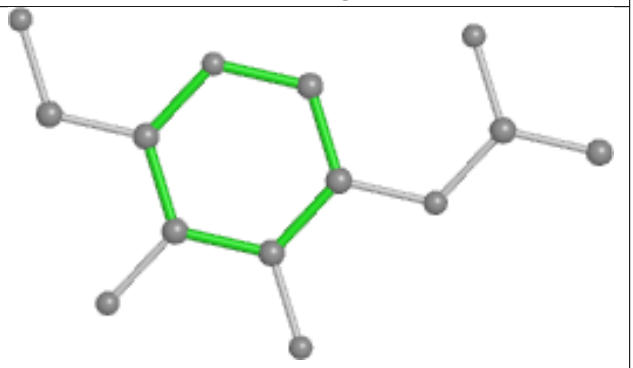
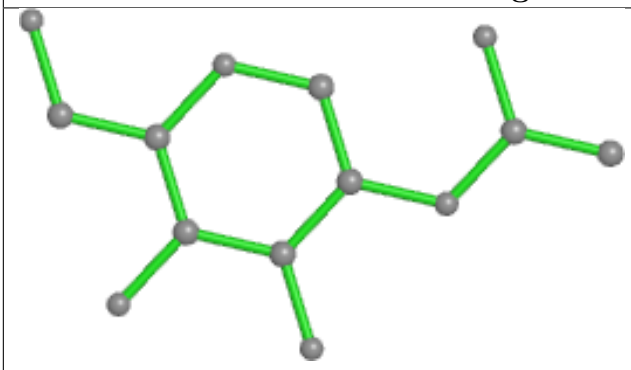


Torsions

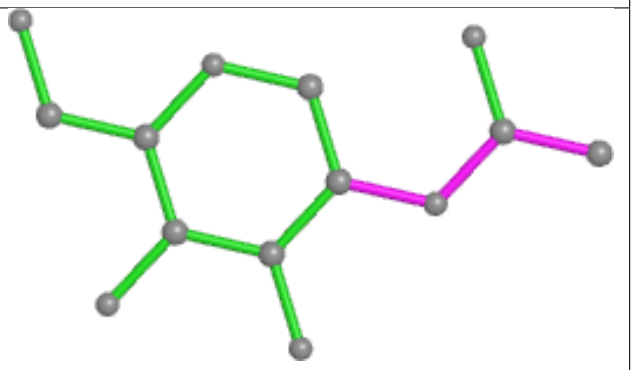


Rings

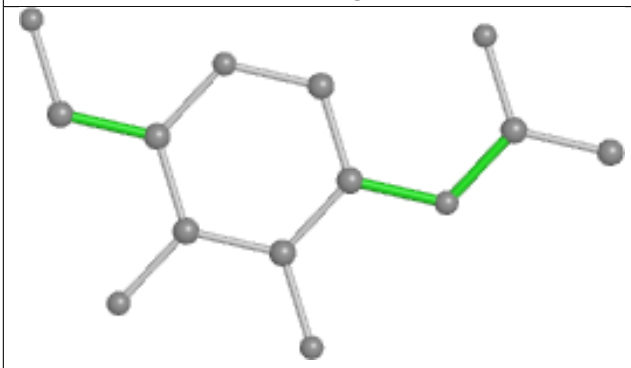
Ligand NAG B 1409



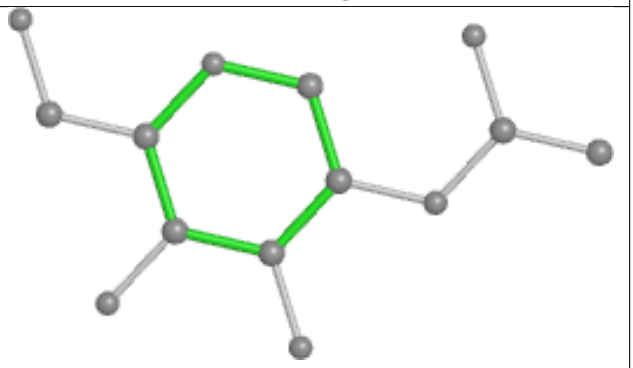
Bond lengths



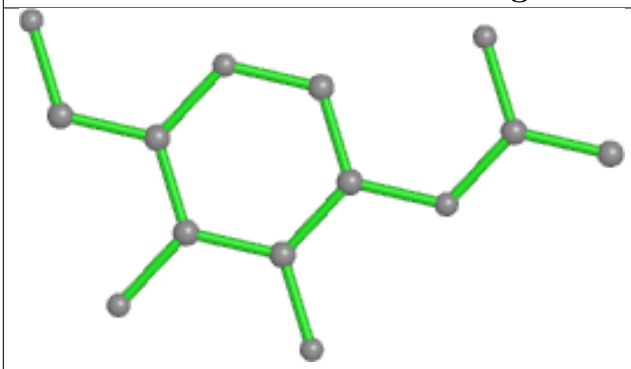
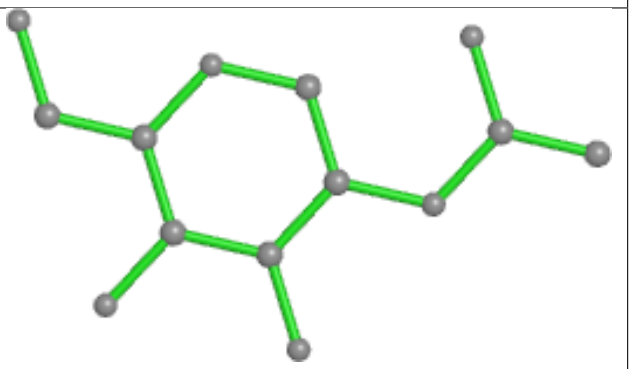
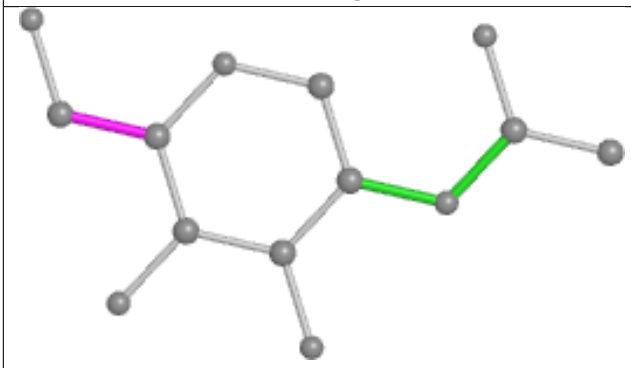
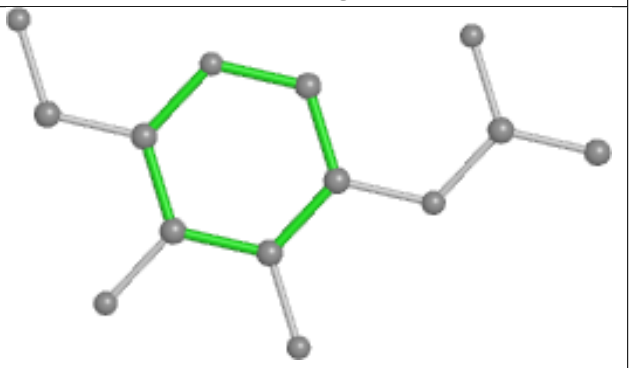
Bond angles



Torsions



Rings

Ligand NAG A 1401	
 Bond lengths	 Bond angles
 Torsions	 Rings

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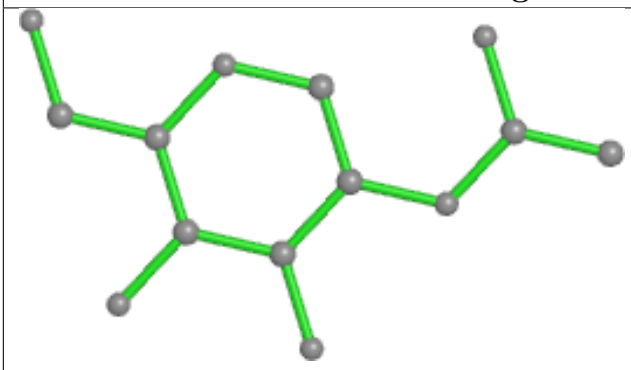
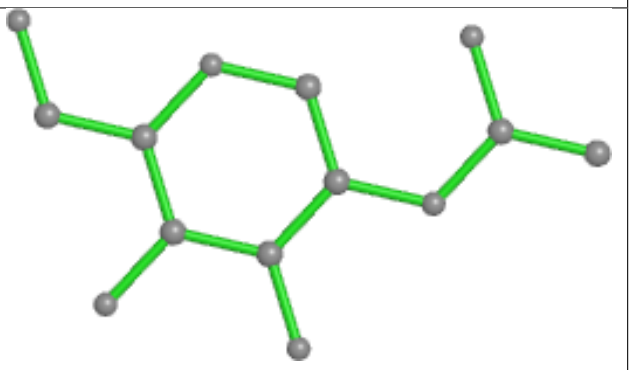
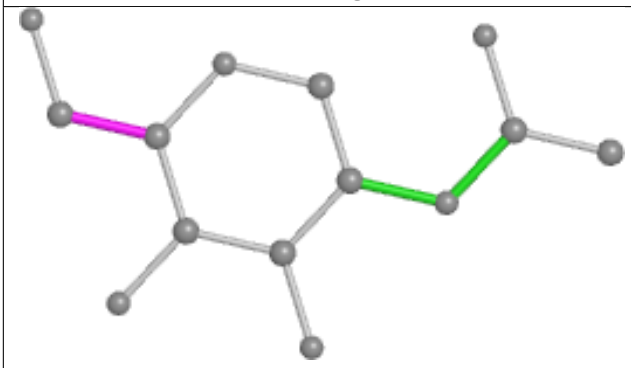
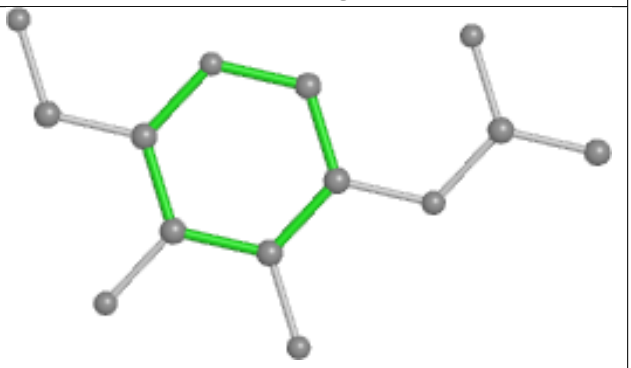
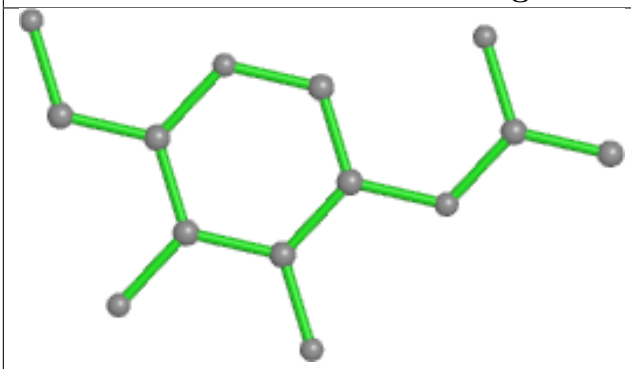
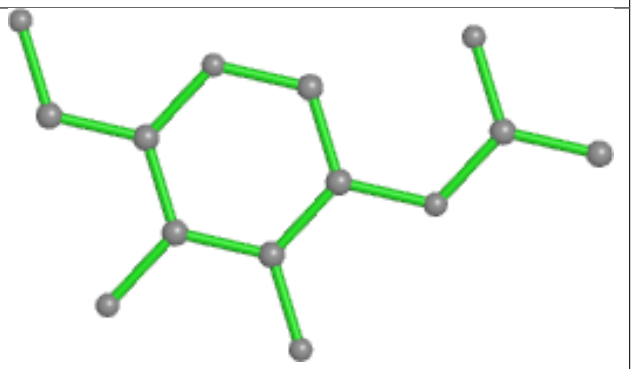
 Bond lengths	 Bond angles
 Torsions	 Rings

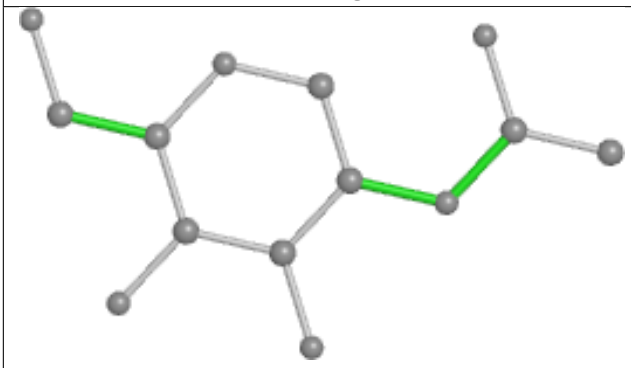
Ligand NAG B 1410



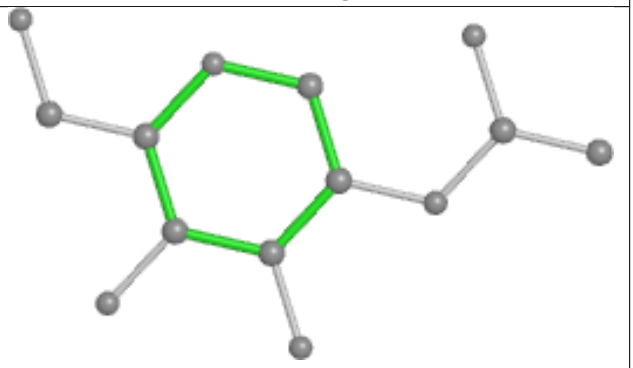
Bond lengths



Bond angles

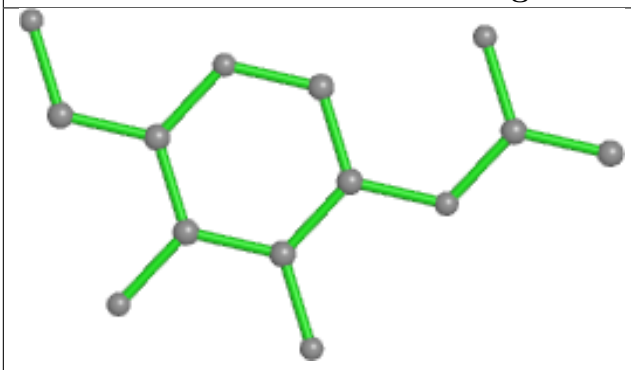


Torsions

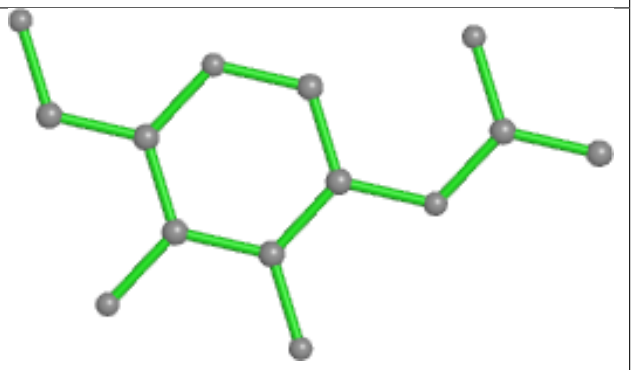


Rings

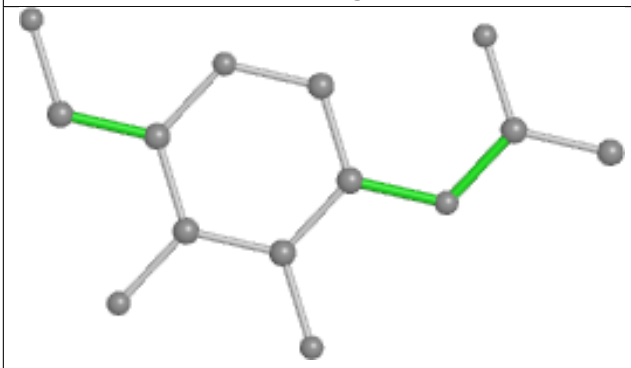
Ligand NAG C 1404



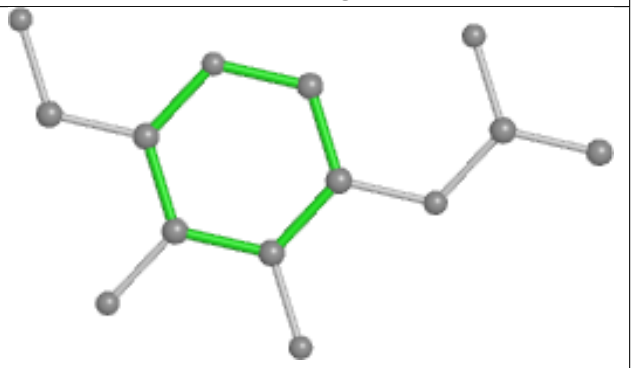
Bond lengths



Bond angles

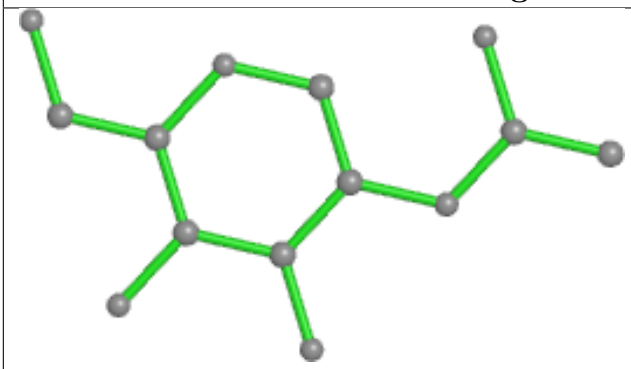


Torsions

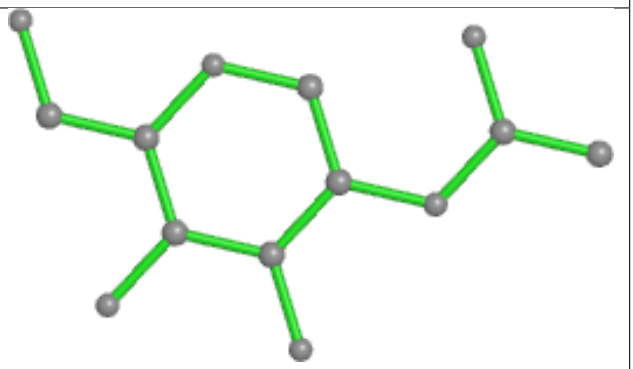


Rings

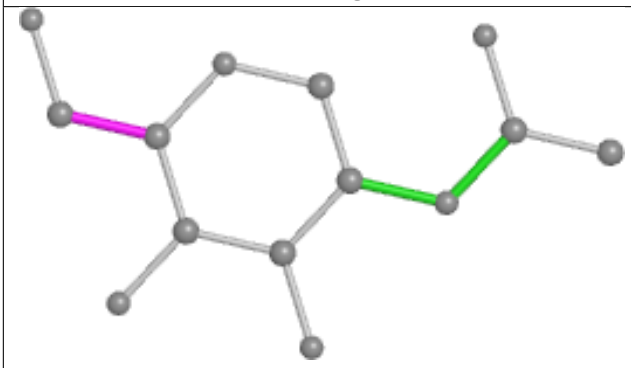
Ligand NAG A 1403



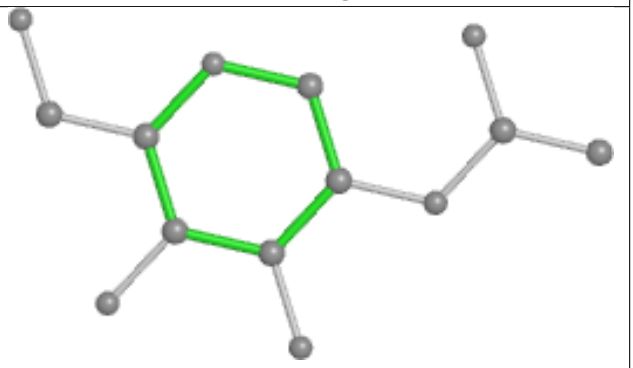
Bond lengths



Bond angles

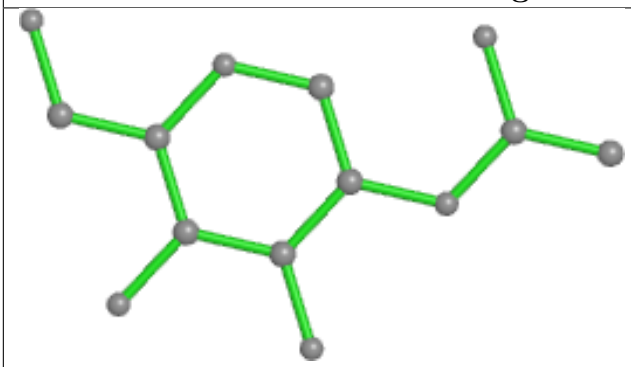


Torsions

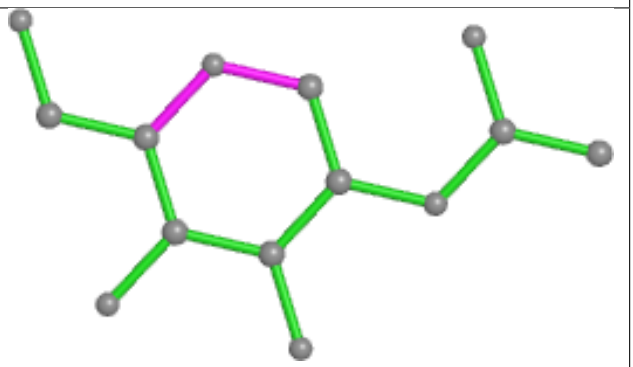


Rings

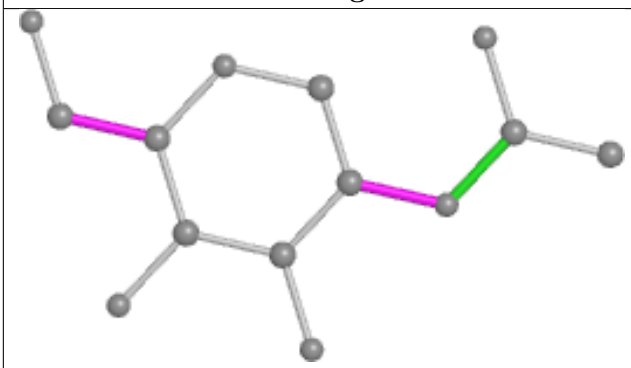
Ligand NAG B 1406



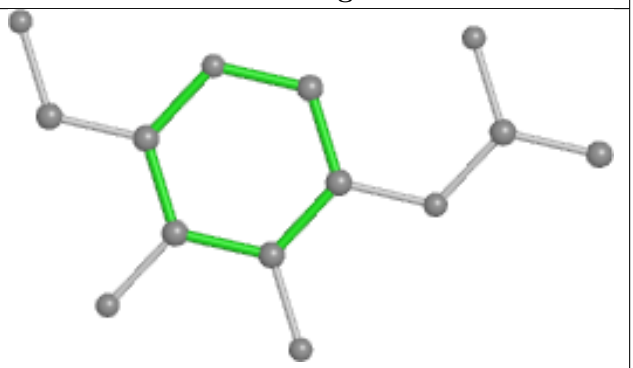
Bond lengths



Bond angles

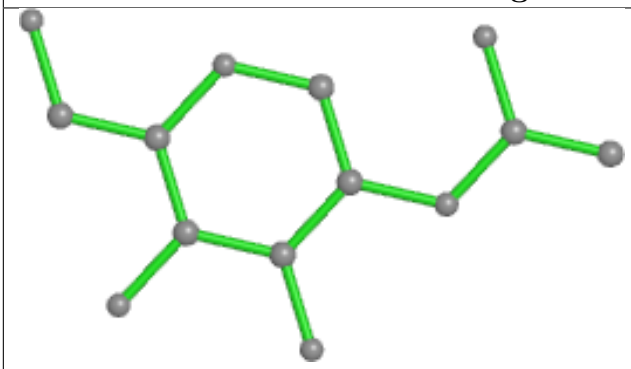


Torsions

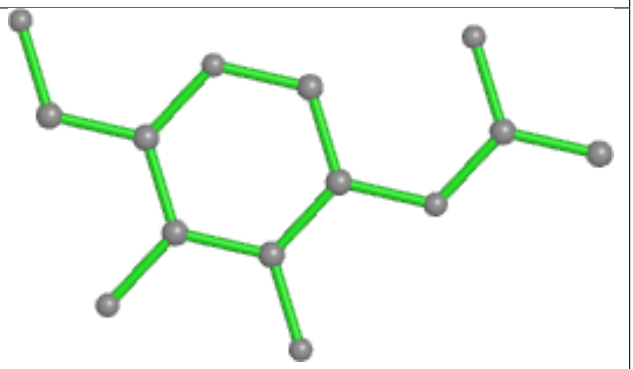


Rings

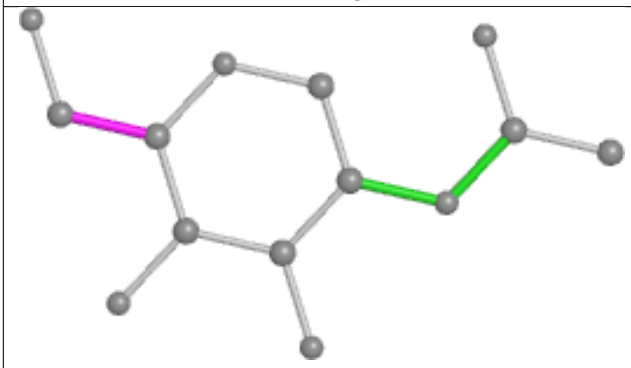
Ligand NAG A 1411



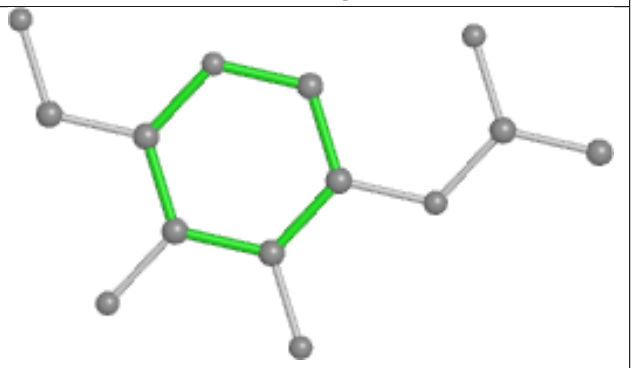
Bond lengths



Bond angles

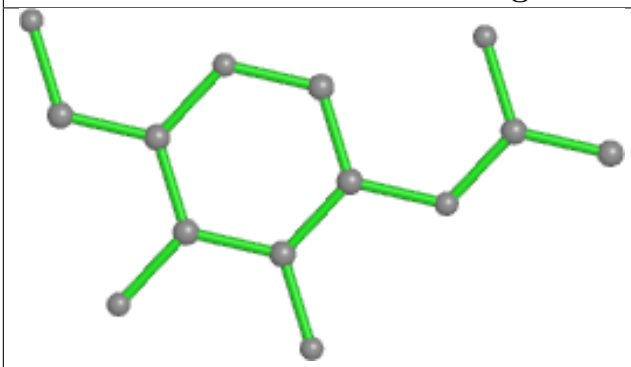


Torsions



Rings

Ligand NAG C 1405



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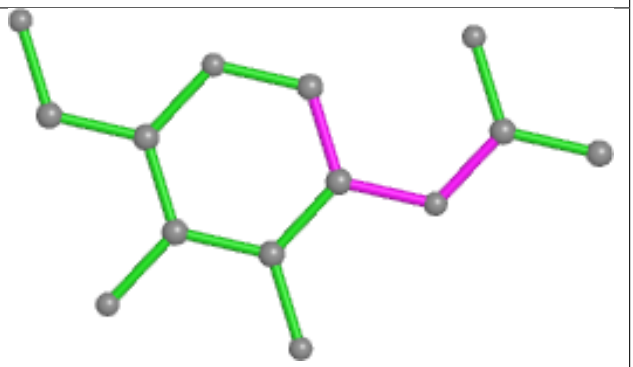
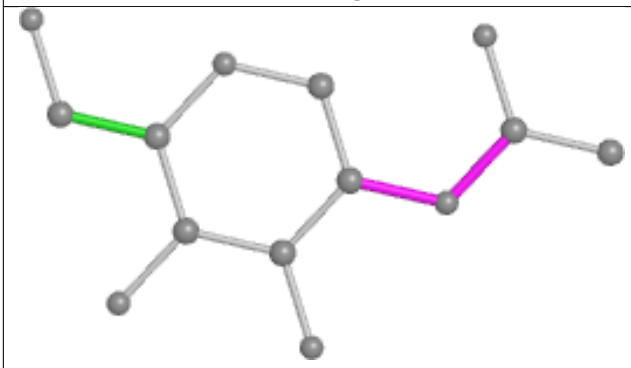
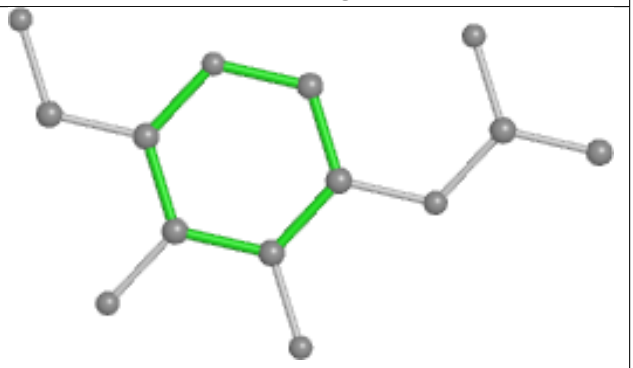


Bond angles

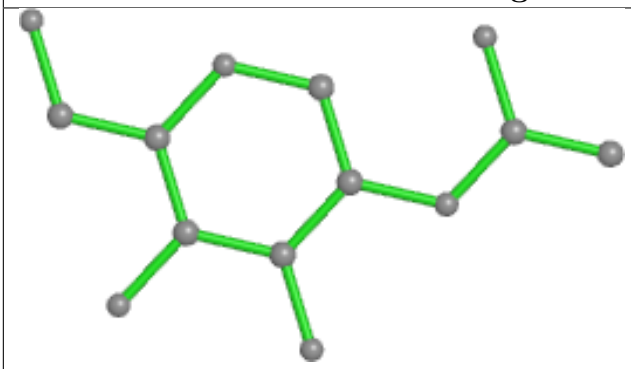


Torsions

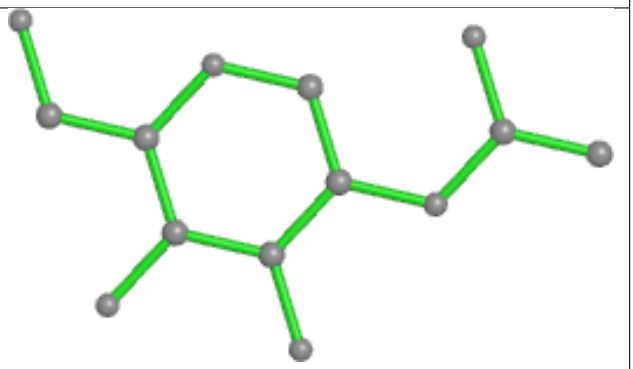


Rings

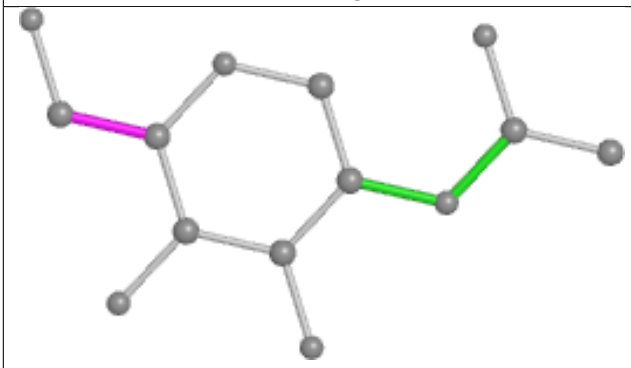
Ligand NAG A 1410



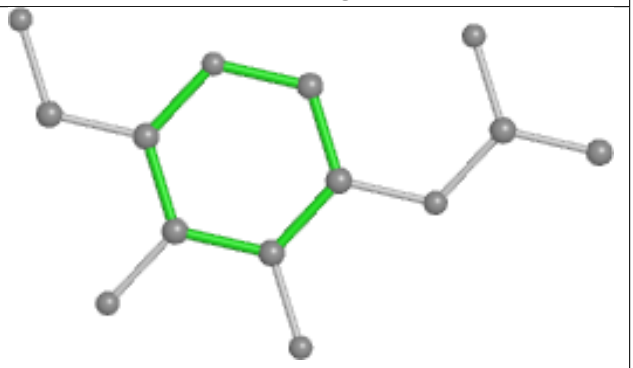
Bond lengths



Bond angles

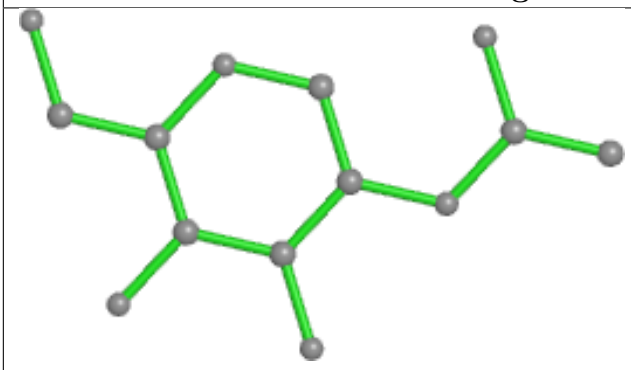


Torsions

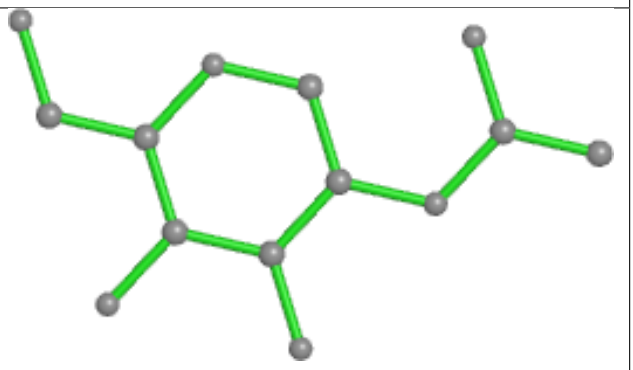


Rings

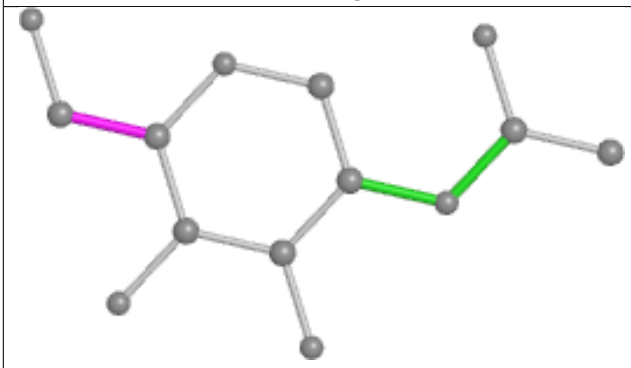
Ligand NAG B 1402



Bond lengths



Bond angles



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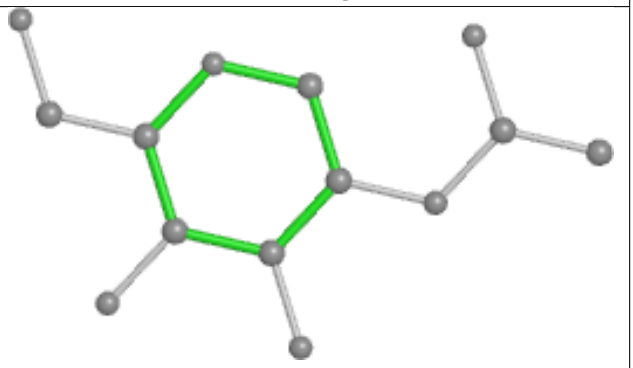
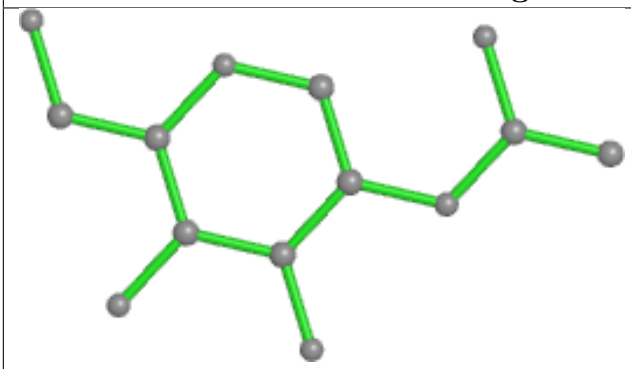


Rings

Ligand NAG C 1401



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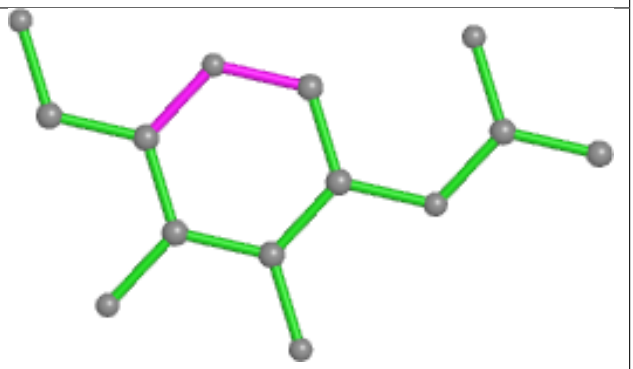
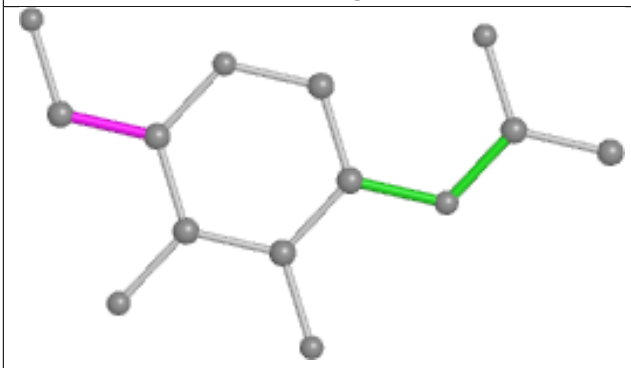


Bond angles



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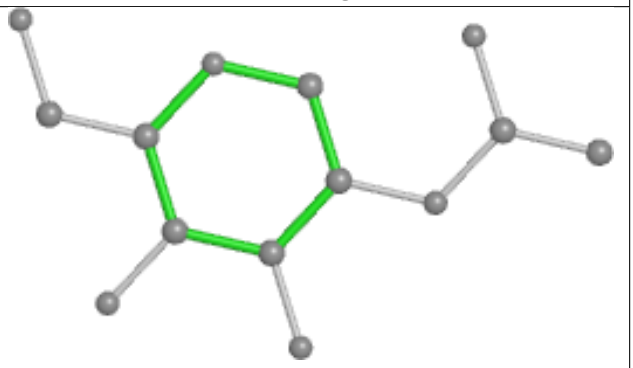
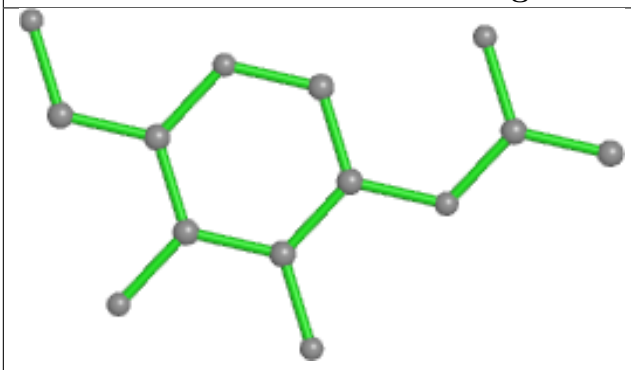


Rings

Ligand NAG C 1403



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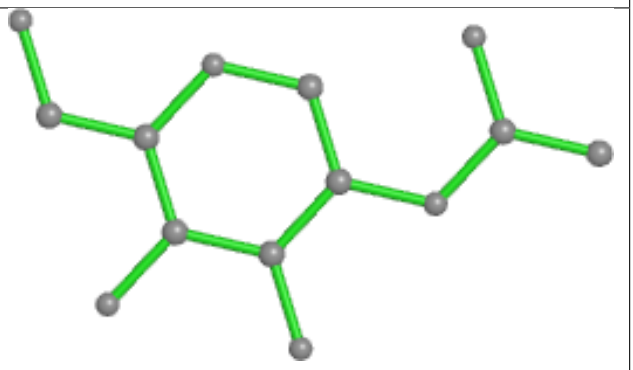
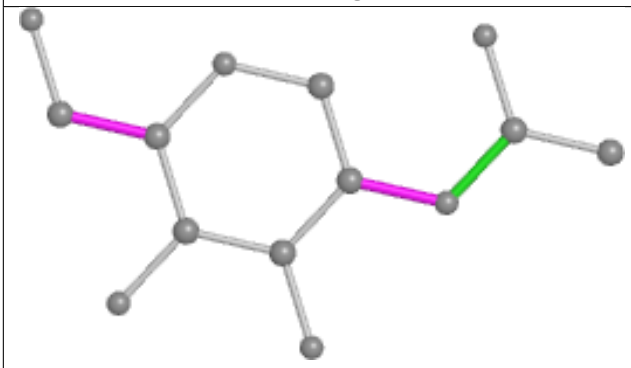


Bond angles



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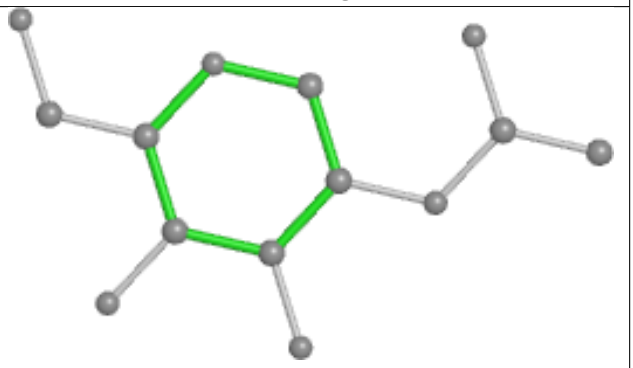
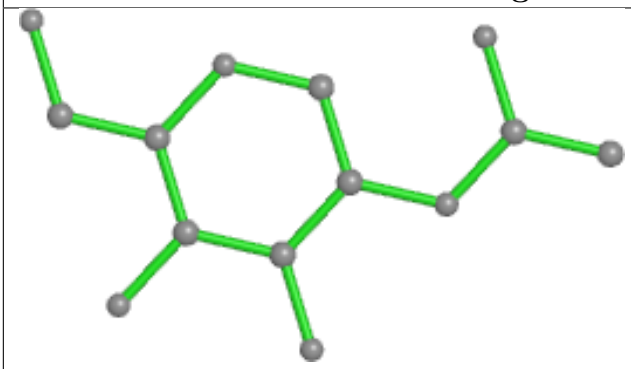
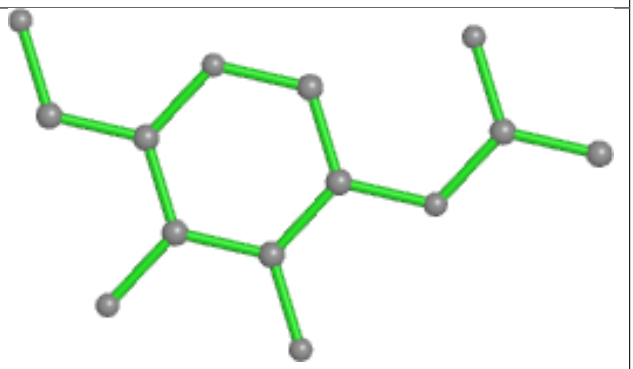


Rings

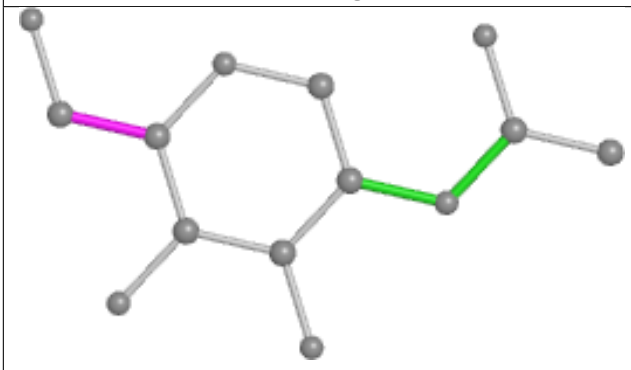
Ligand NAG B 1404



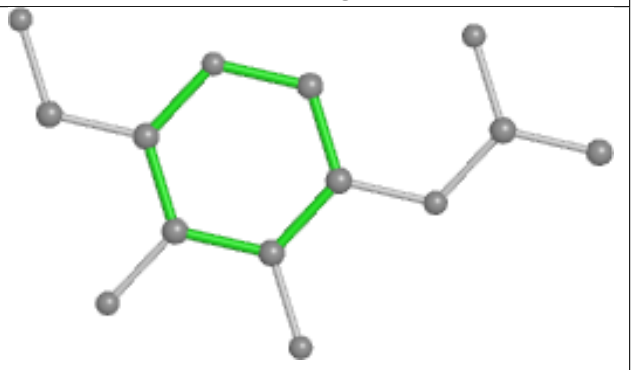
Bond lengths



Bond angles

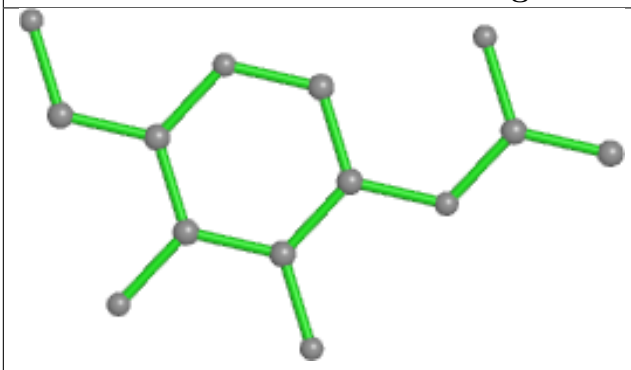


Torsions

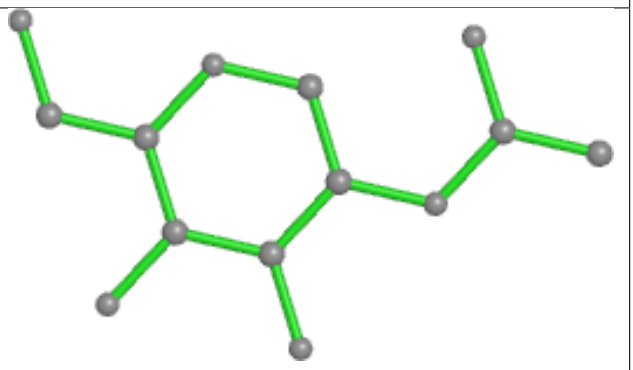


Rings

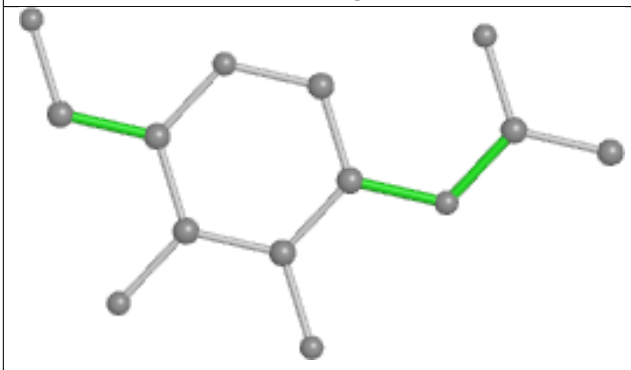
Ligand NAG C 1402



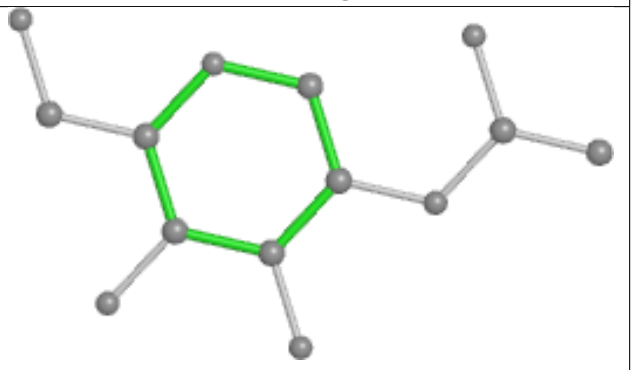
Bond lengths



Bond angles

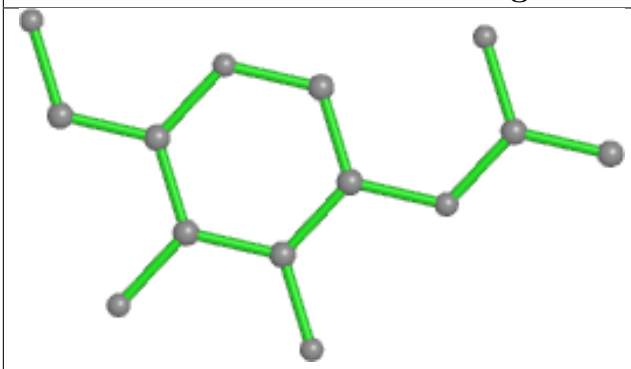


Torsions

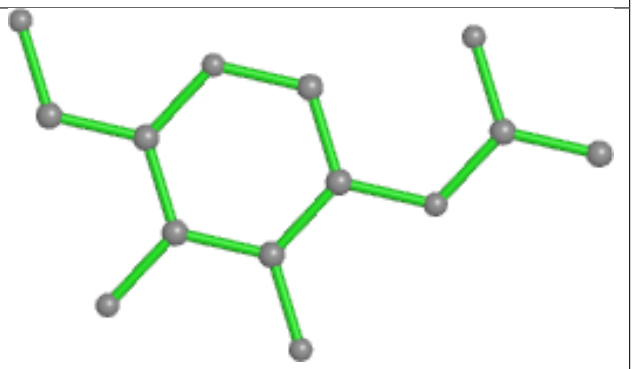


Rings

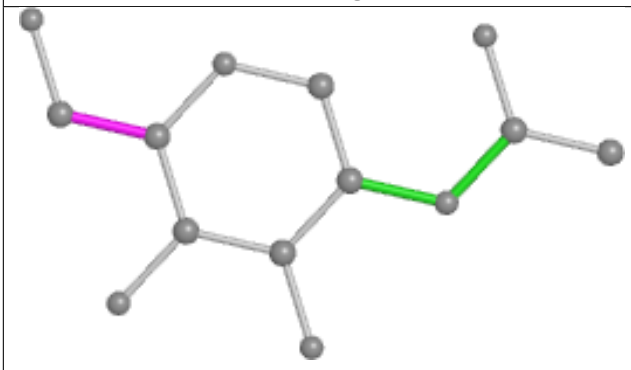
Ligand NAG A 1404



Bond lengths



Bond angles



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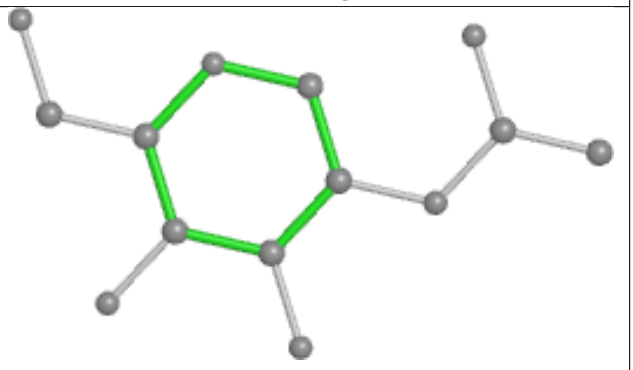
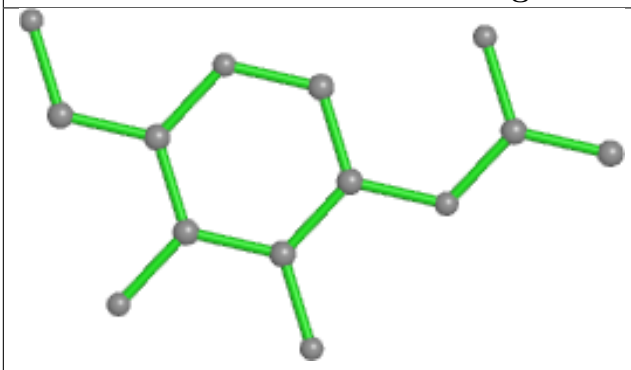


Rings

Ligand NAG B 1407



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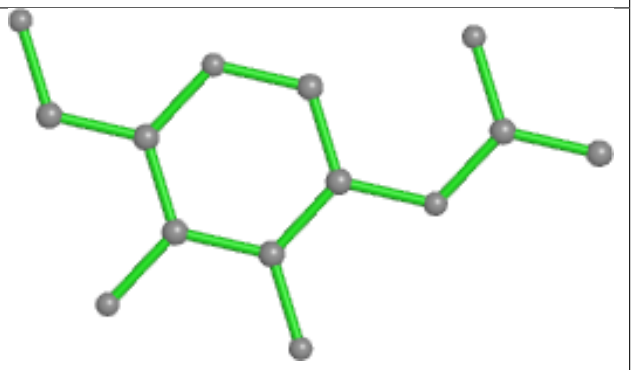
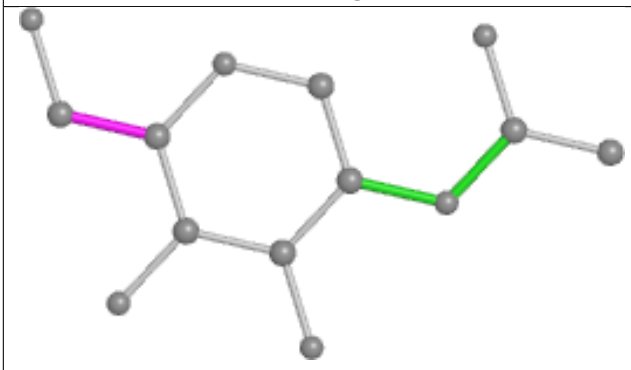


Bond angles



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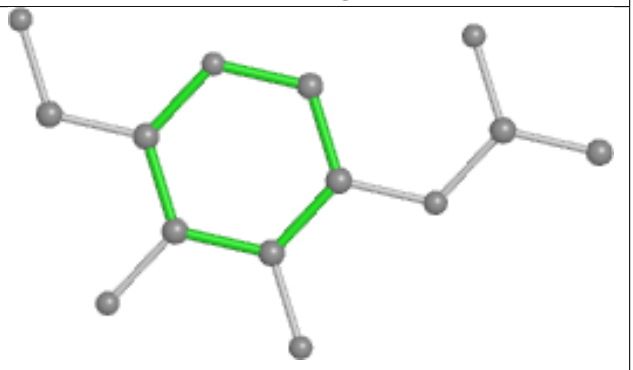
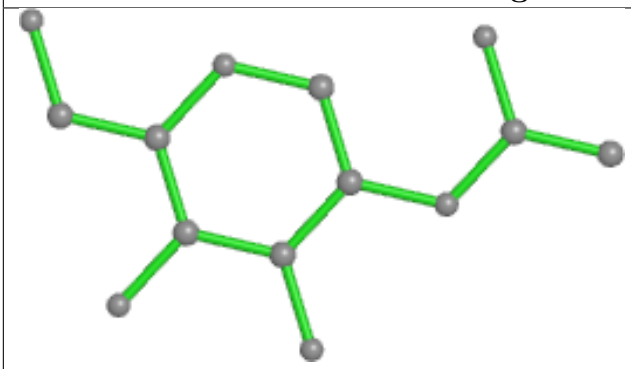


Rings

Ligand NAG A 1406



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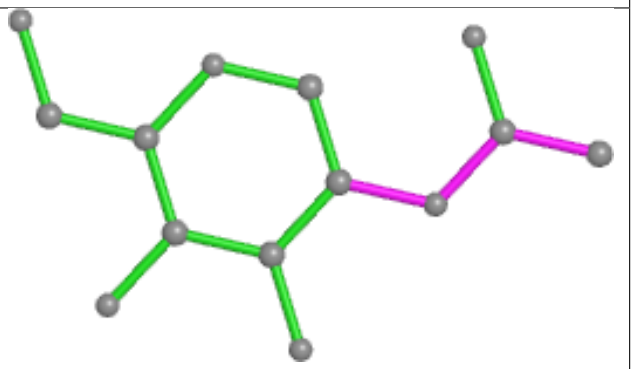
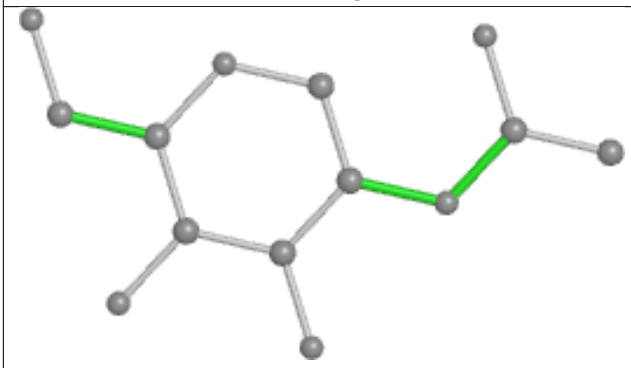


Bond angles



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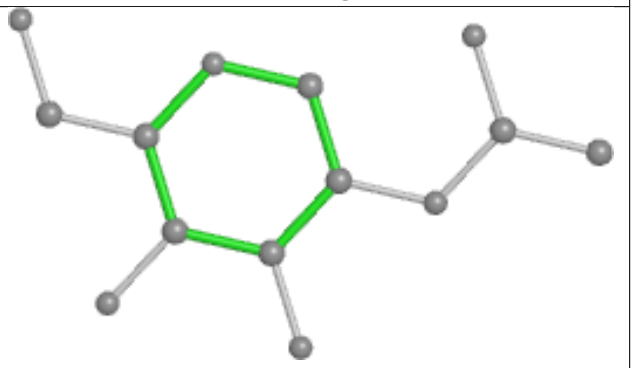
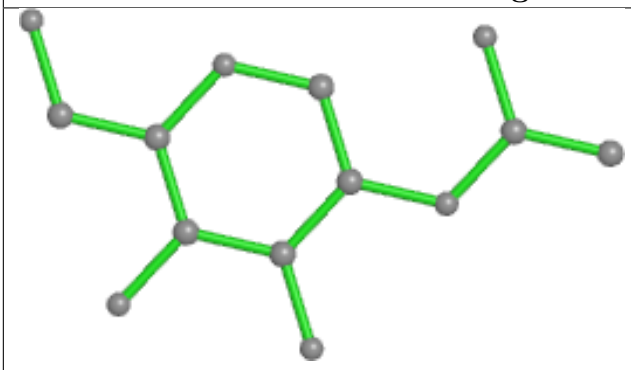
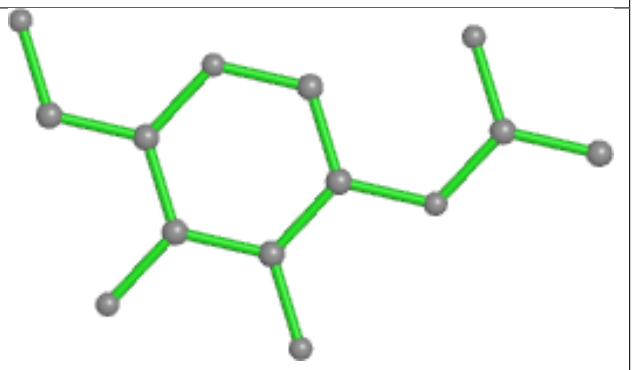


Rings

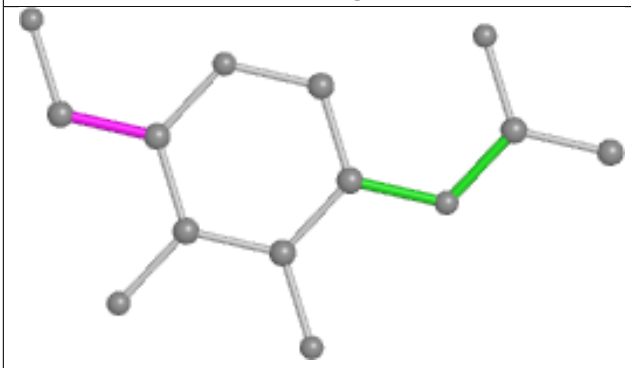
Ligand NAG C 1410



Bond lengths



Bond angles



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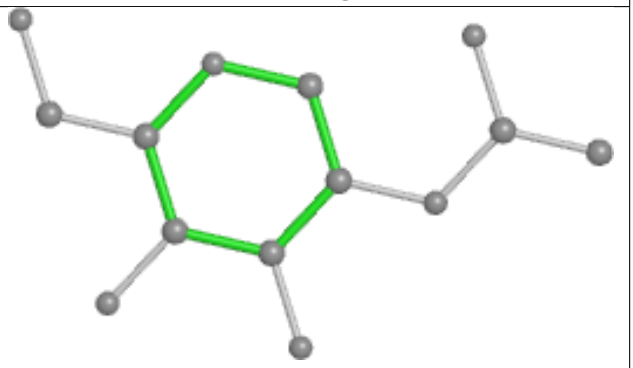
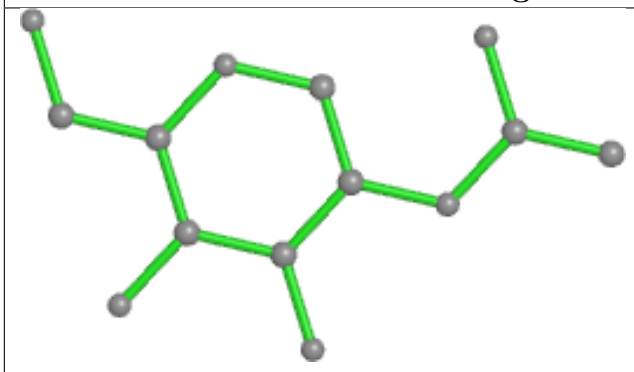
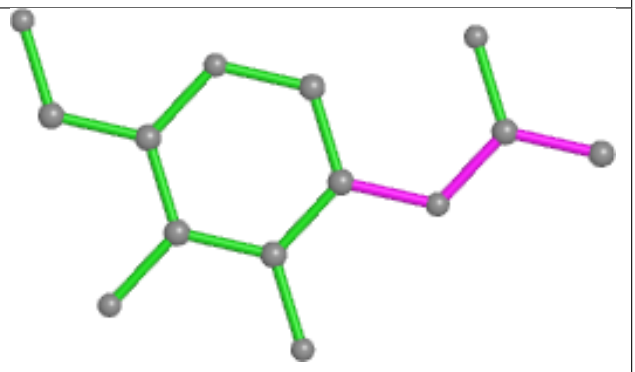


Rings

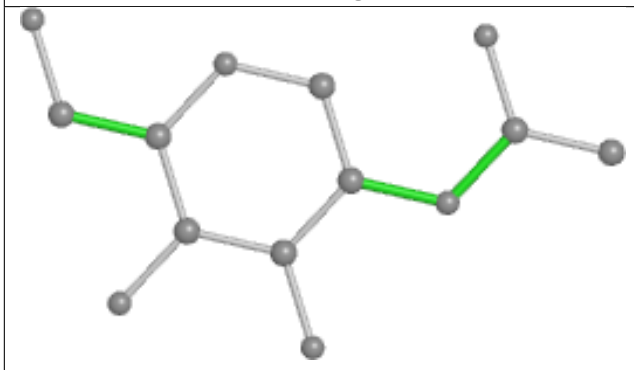
Ligand NAG C 1406



Bond lengths



Bond angles



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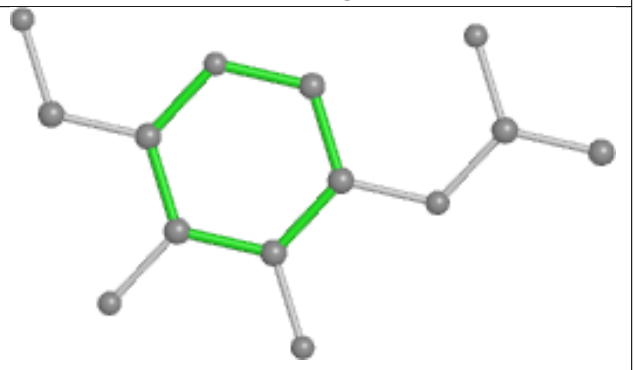
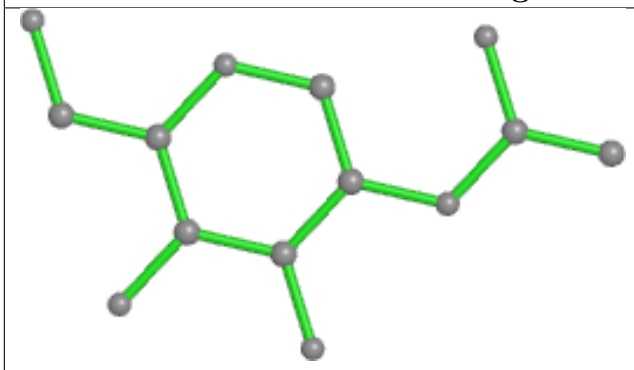
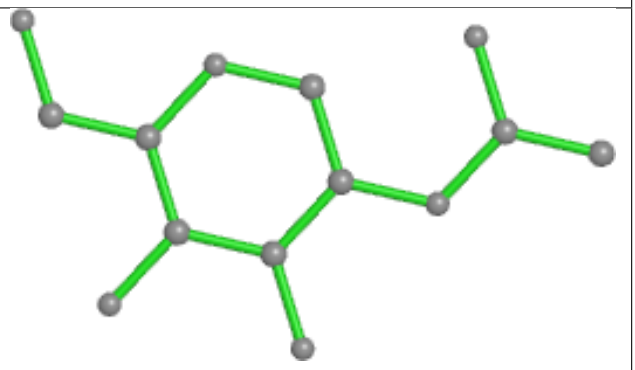


Rings

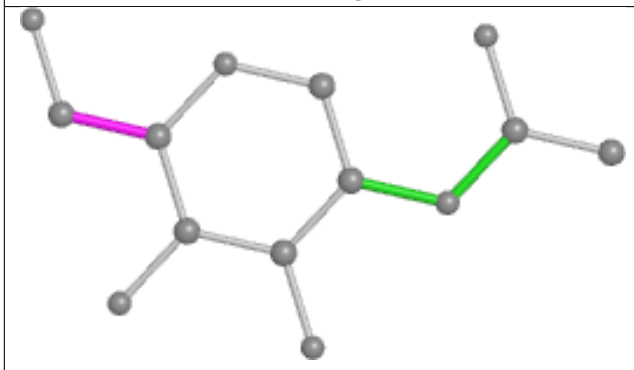
Ligand NAG A 1408



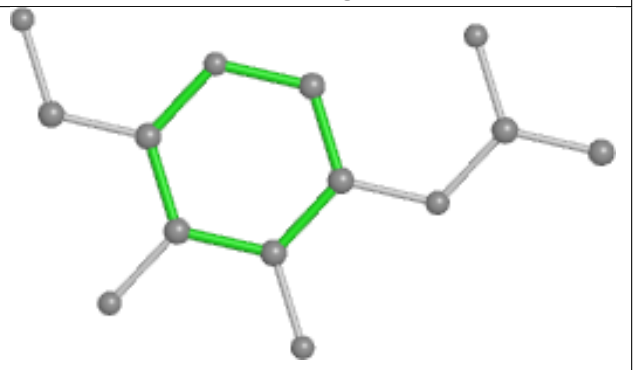
Bond lengths



Bond angles

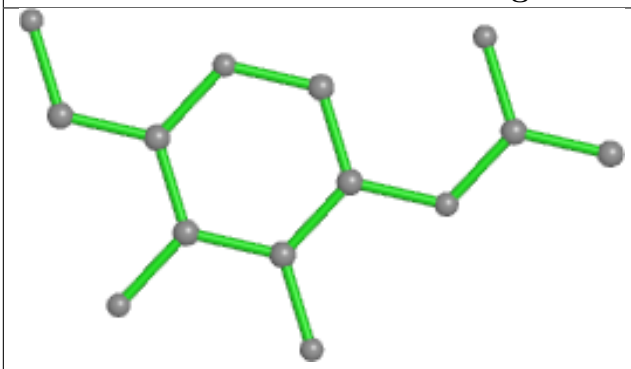


Torsions

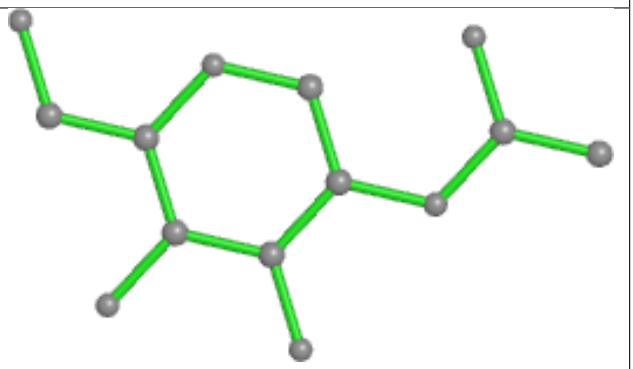


Rings

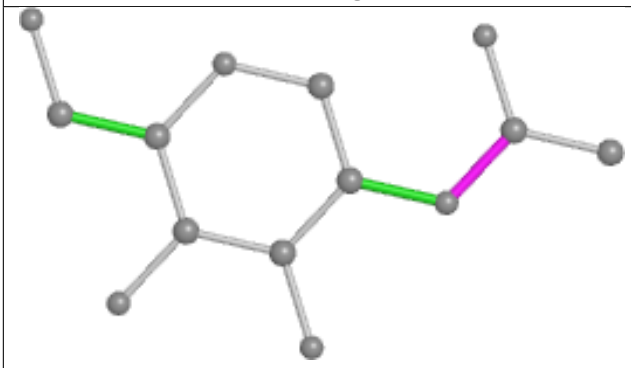
Ligand NAG C 1408



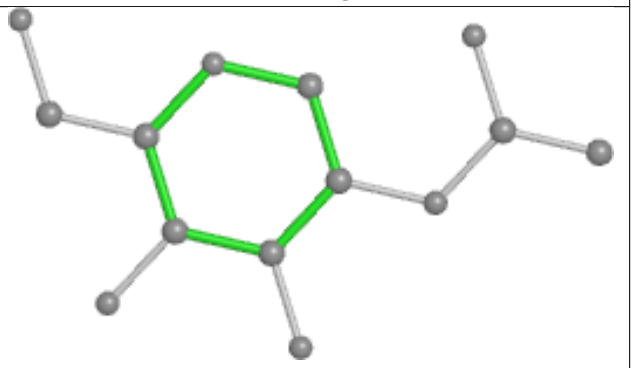
Bond lengths



Bond angles

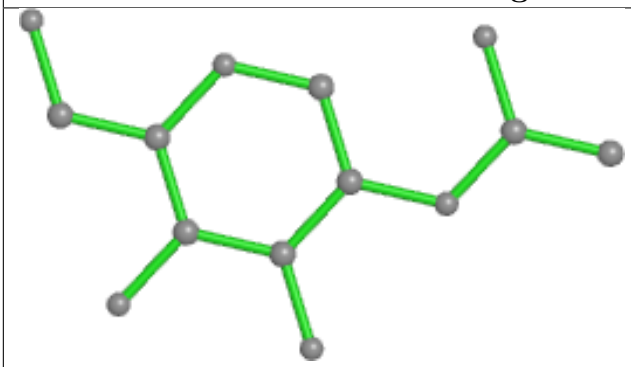


Torsions

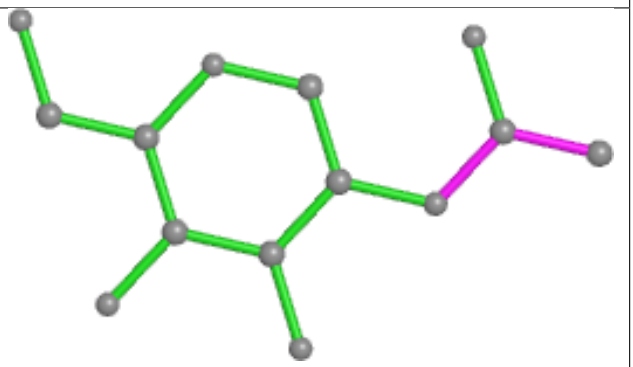


Rings

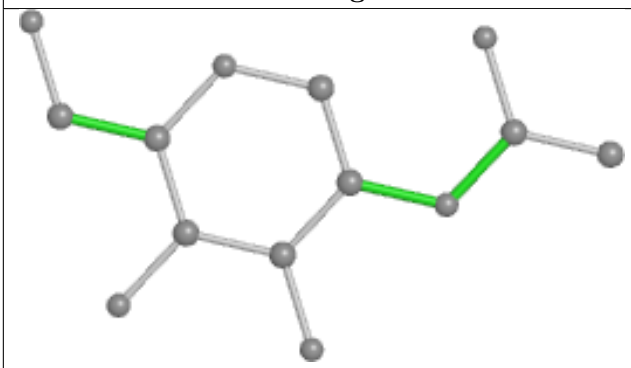
Ligand NAG A 1407



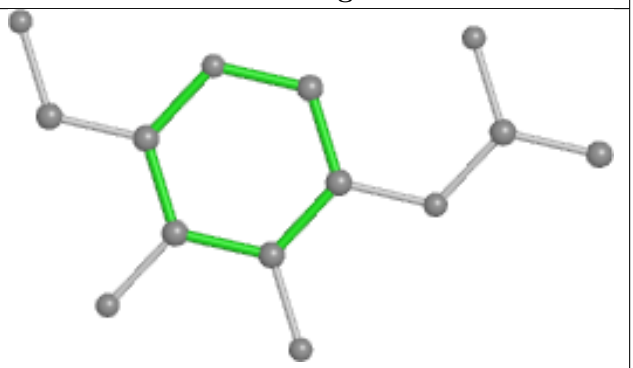
Bond lengths



Bond angles

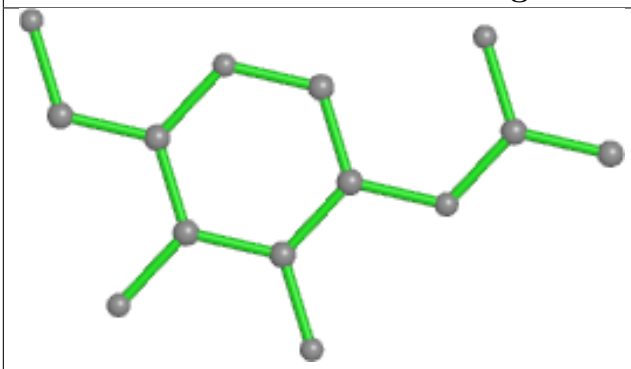


Torsions

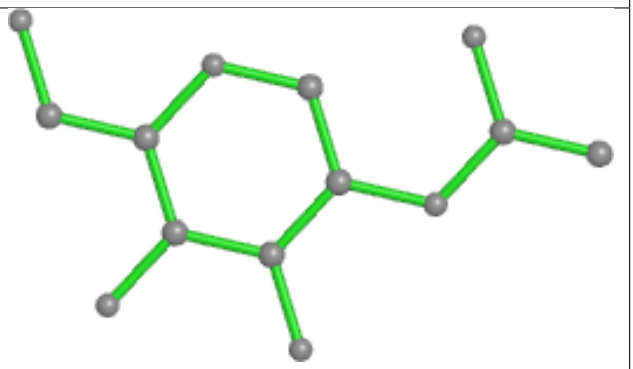


Rings

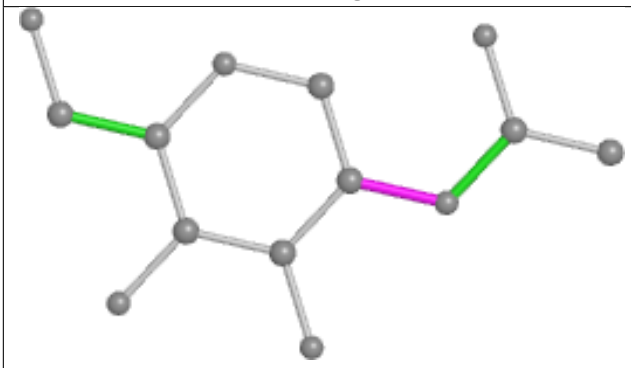
Ligand NAG A 1409



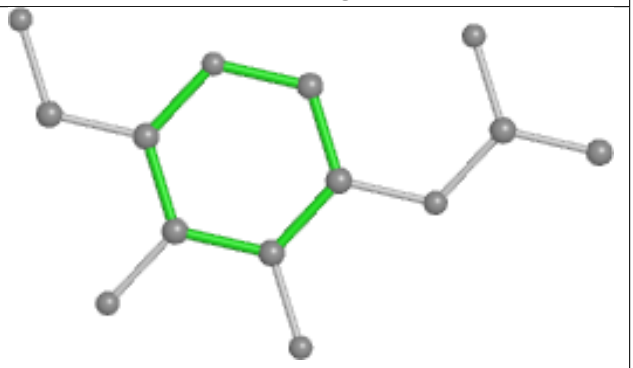
Bond lengths



Bond angles

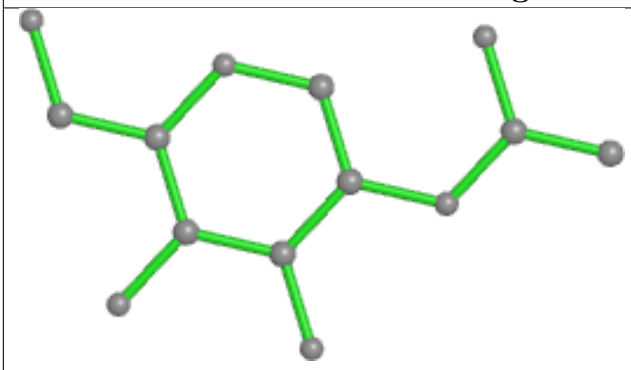


Torsions

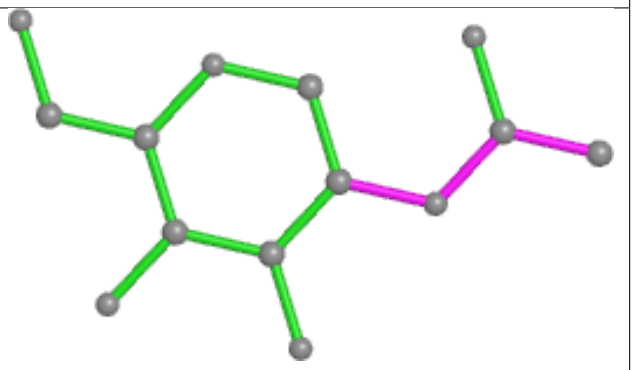


Rings

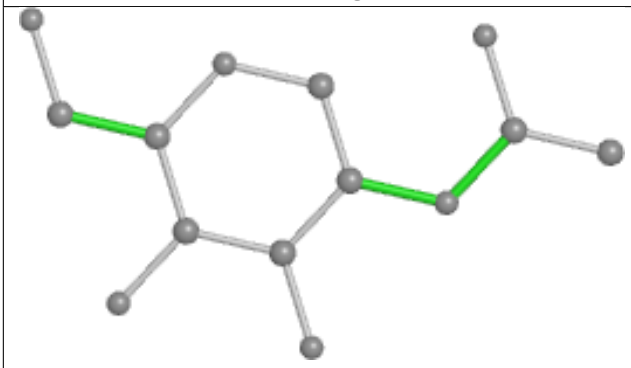
Ligand NAG B 1403



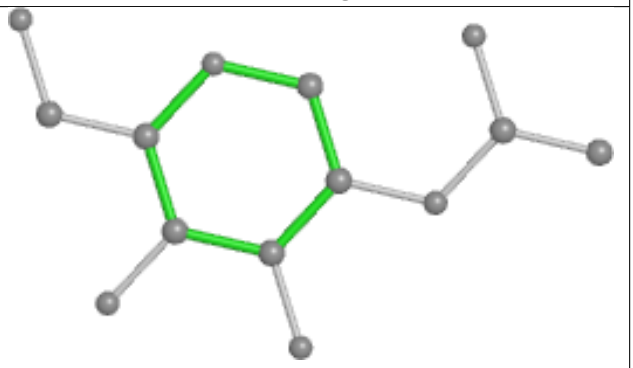
Bond lengths



Bond angles

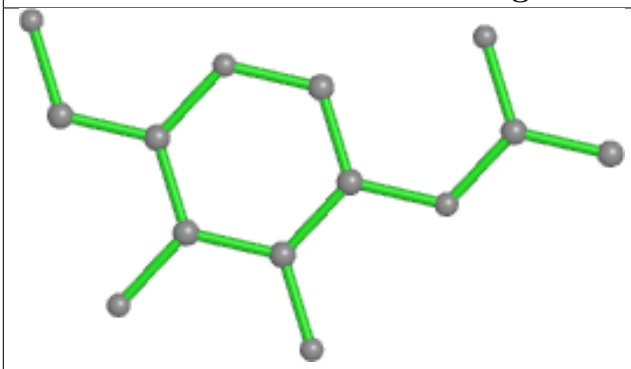


Torsions

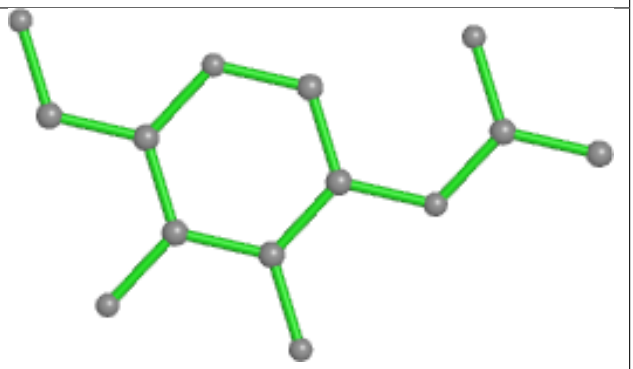


Rings

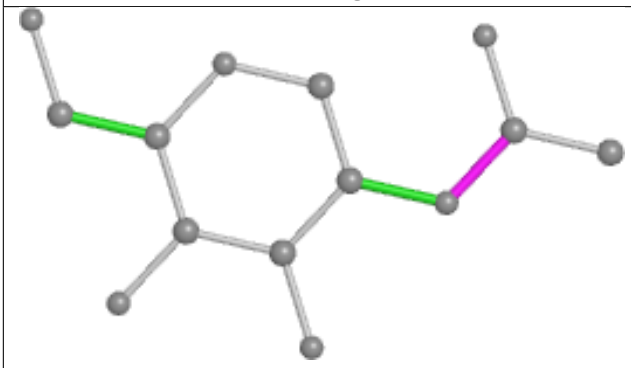
Ligand NAG B 1405



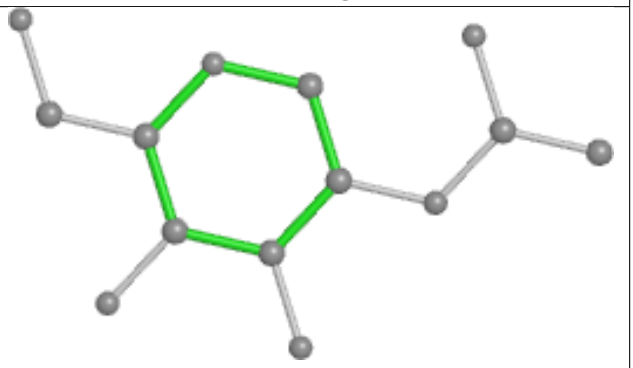
Bond lengths



Bond angles

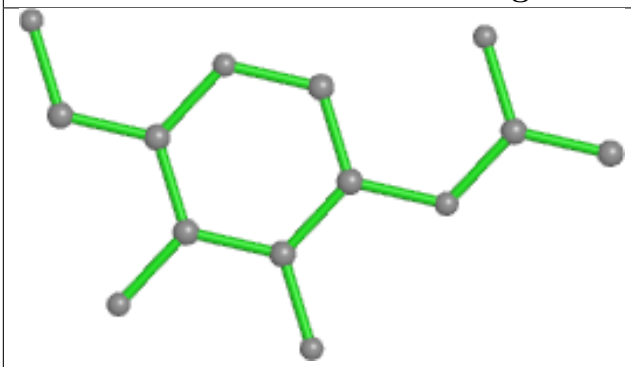


Torsions

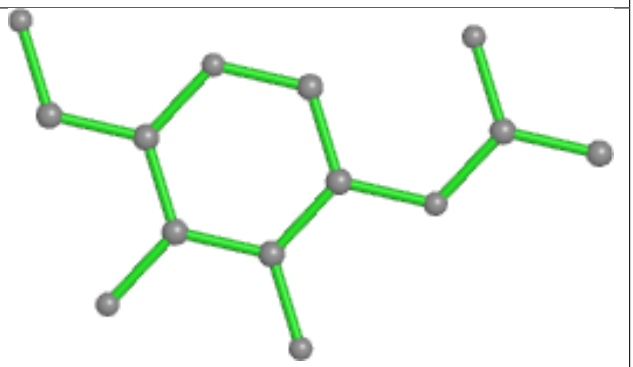


Rings

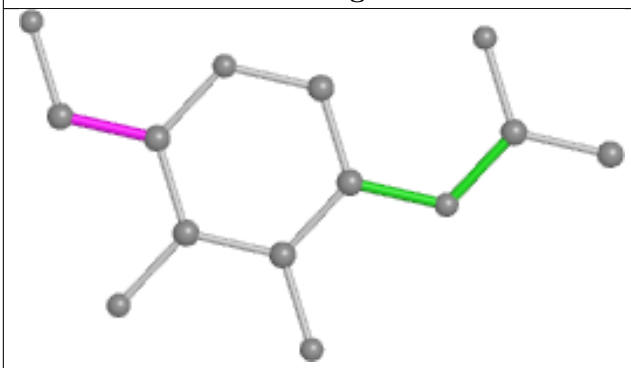
Ligand NAG B 1401



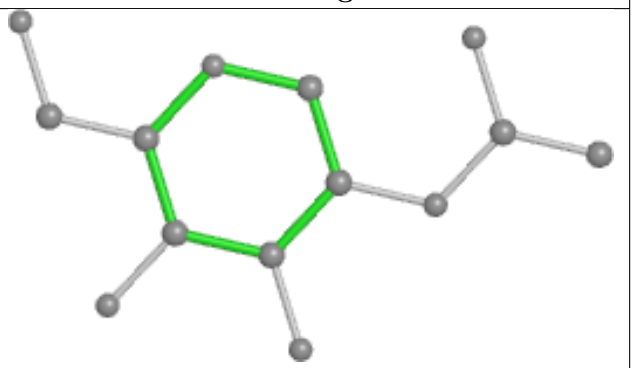
Bond lengths



Bond angles

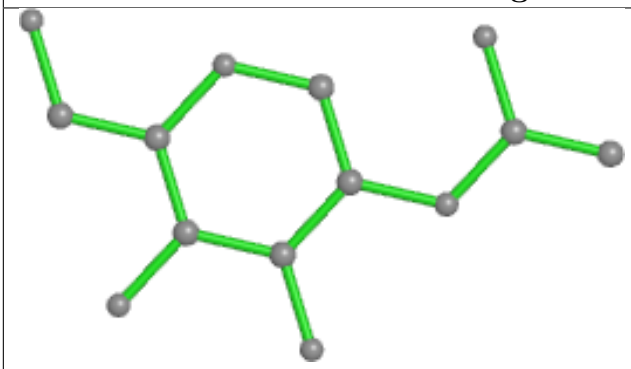


Torsions

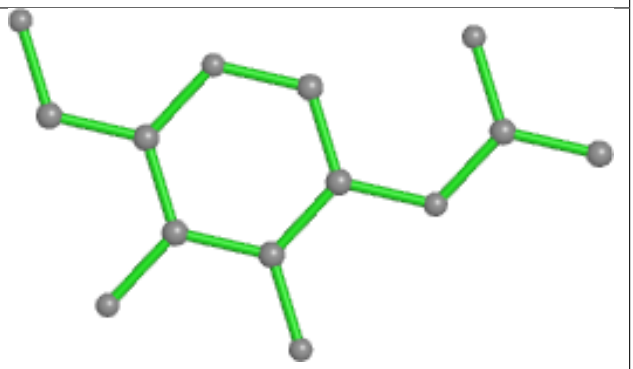


Rings

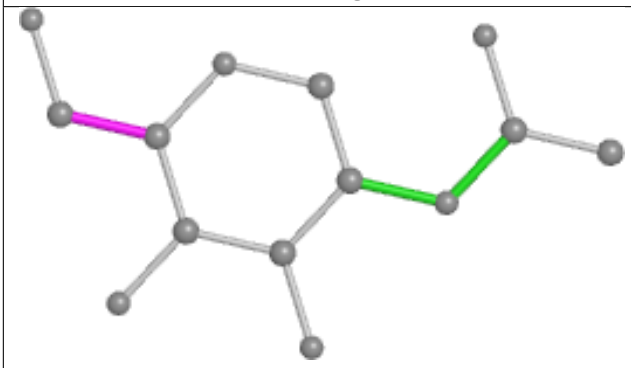
Ligand NAG A 1402



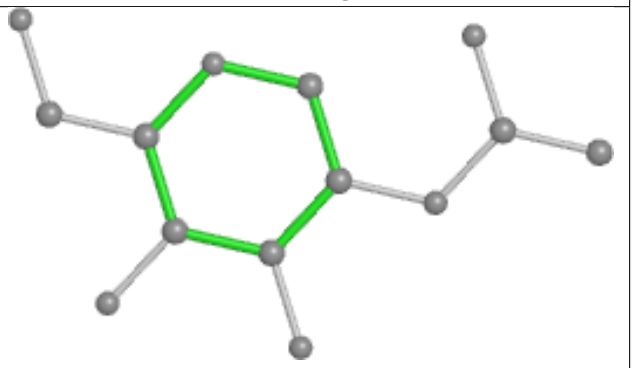
Bond lengths



Bond angles

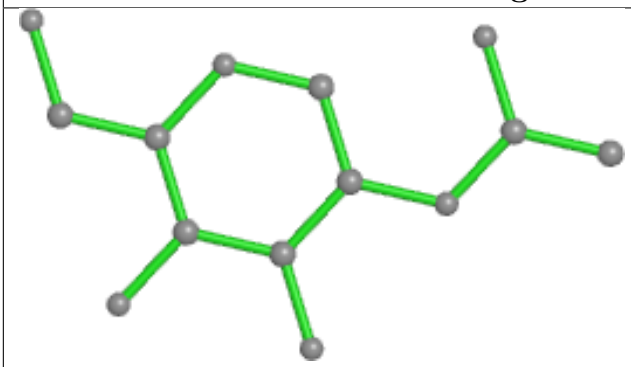


Torsions

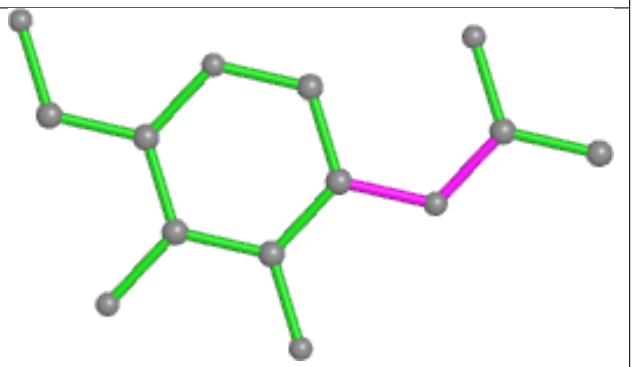


Rings

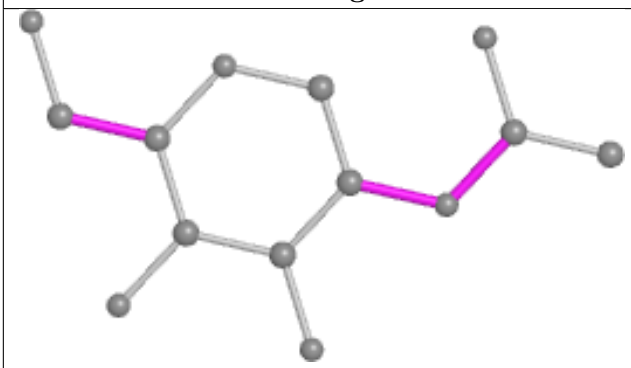
Ligand NAG A 1405



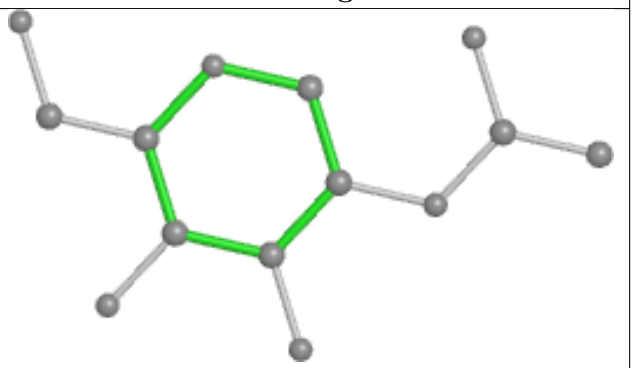
Bond lengths



Bond angles



Torsions



Rings

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.

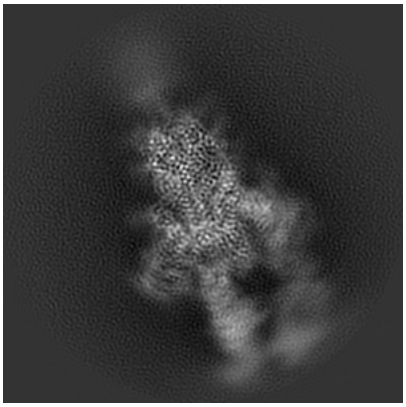
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-30518. These allow visual inspection of the internal detail of the map and identification of artifacts.

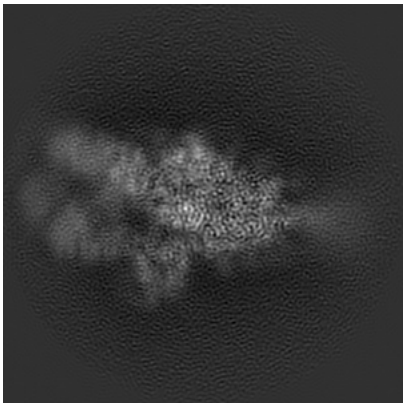
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

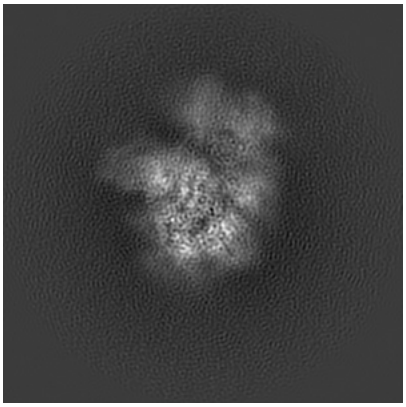
6.1.1 Primary map



X



Y

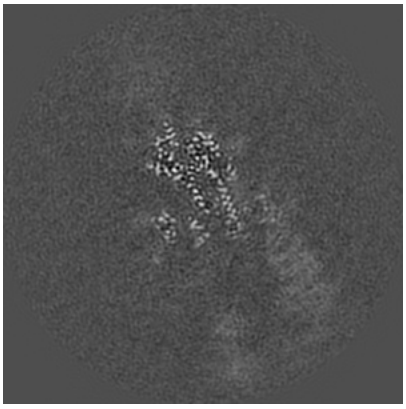


Z

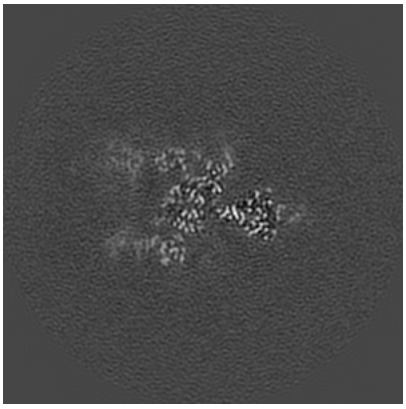
The images above show the map projected in three orthogonal directions.

6.2 Central slices

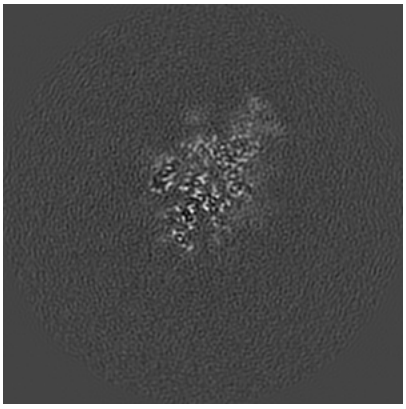
6.2.1 Primary map



X Index: 144



Y Index: 144

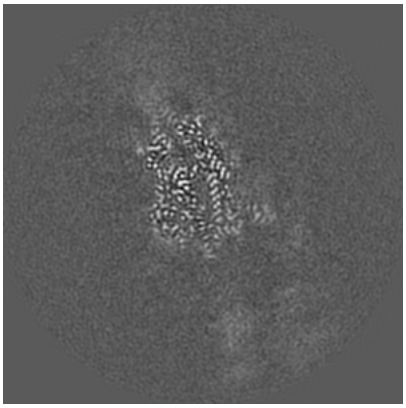


Z Index: 144

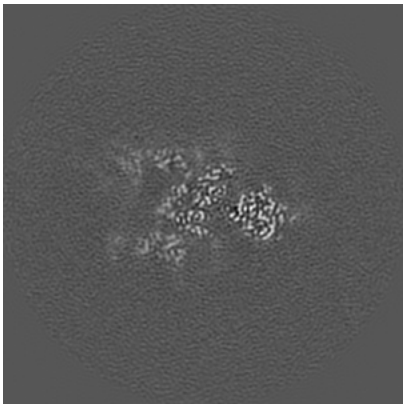
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

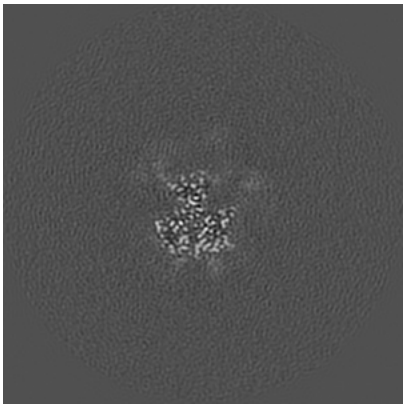
6.3.1 Primary map



X Index: 131



Y Index: 142



Z Index: 167

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

6.4 Orthogonal surface views (i)

6.4.1 Primary map

X

Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.02. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

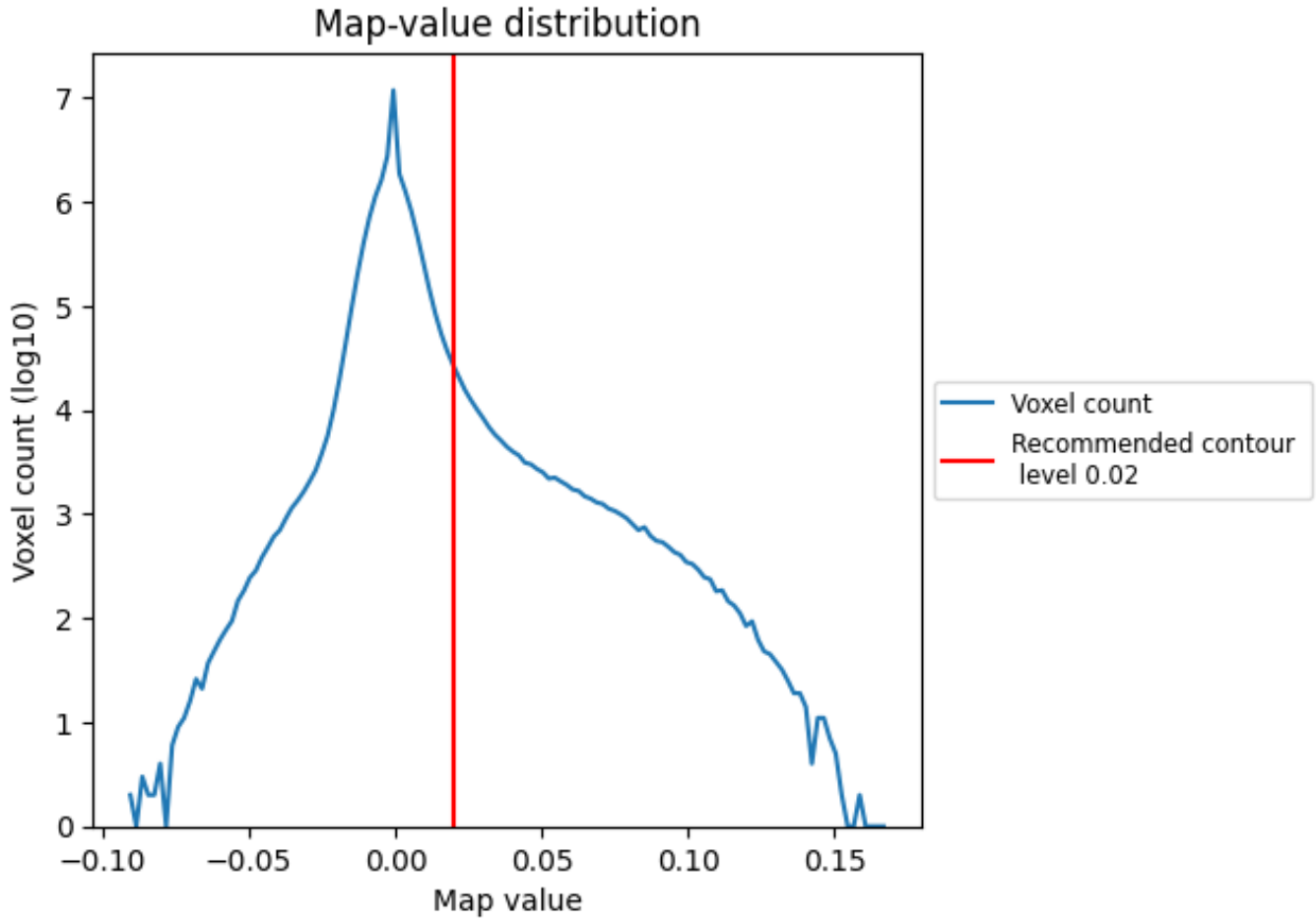
6.5 Mask visualisation (i)

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

7 Map analysis

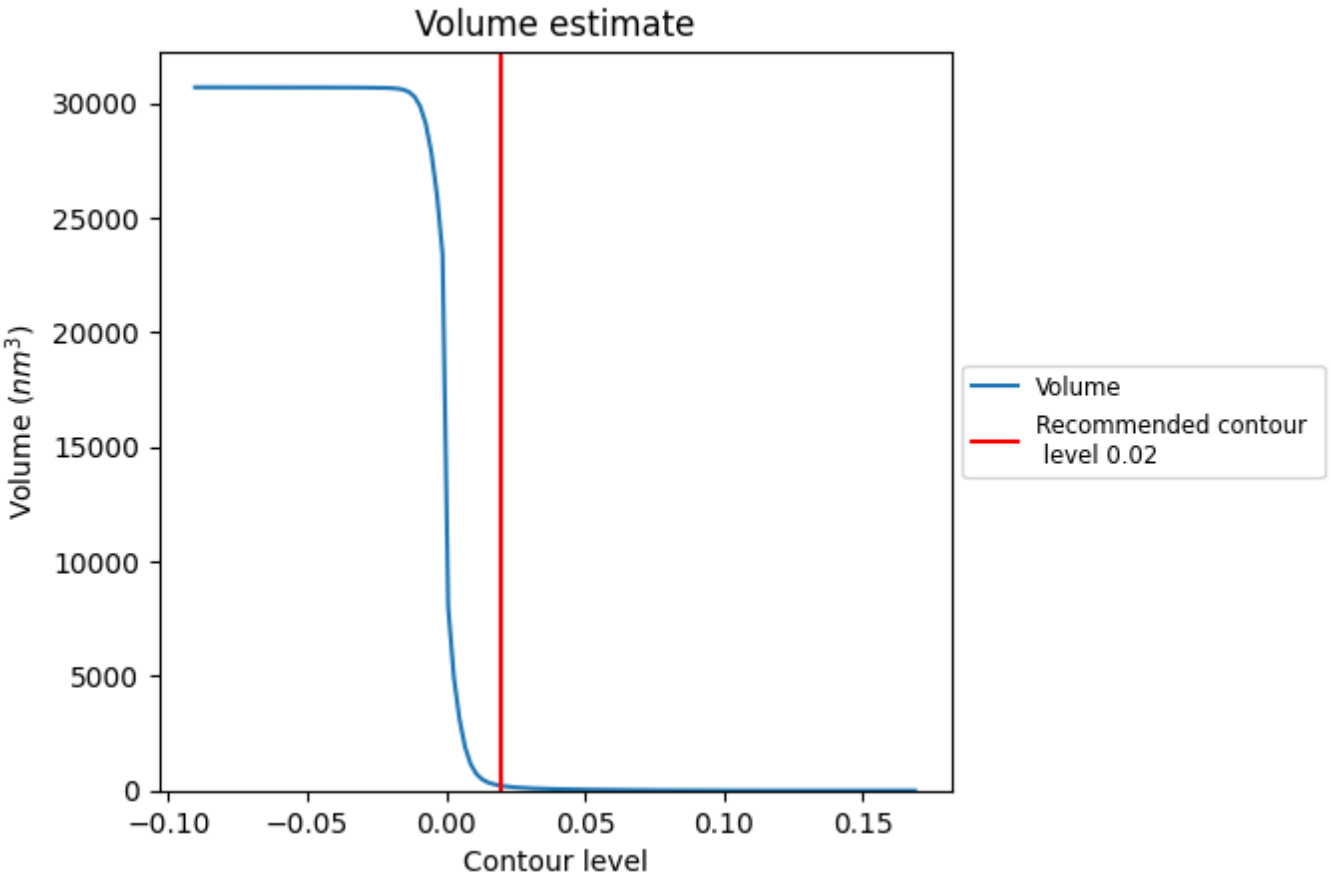
This section contains the results of statistical analysis of the map.

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.

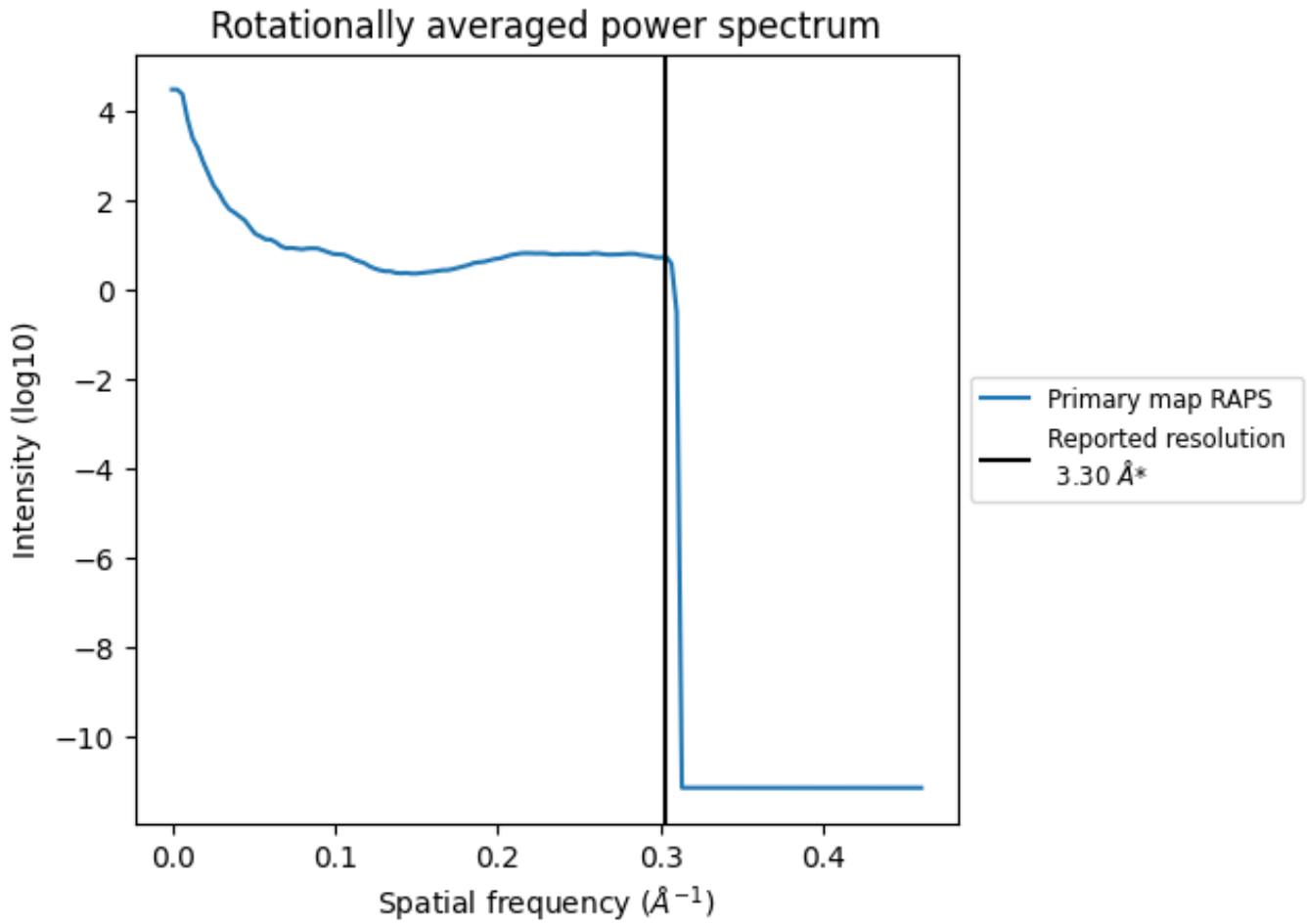
7.2 Volume estimate



The volume at the recommended contour level is 207 nm^3; this corresponds to an approximate mass of 187 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 0.303 Å^{-1}

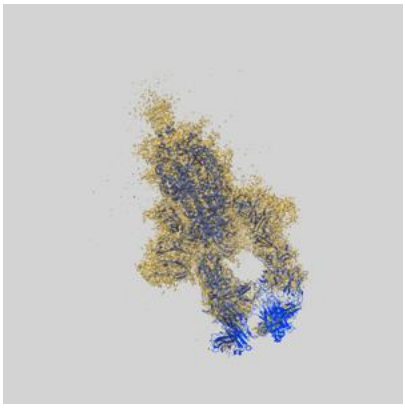
8 Fourier-Shell correlation

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

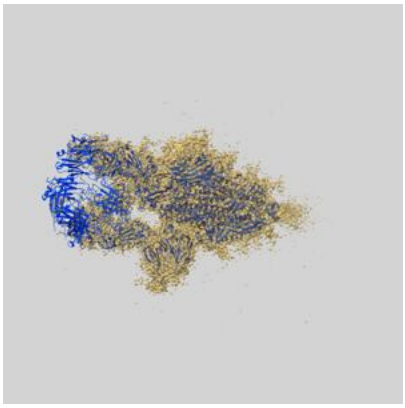
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-30518 and PDB model 7CZV. Per-residue inclusion information can be found in section 3 on page 9.

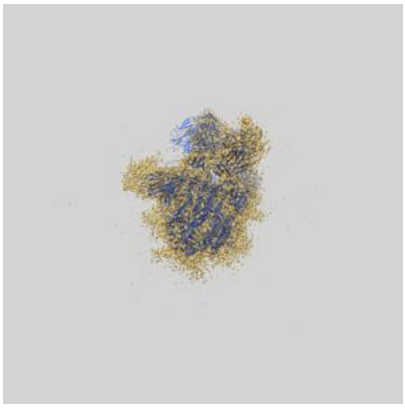
9.1 Map-model overlay



X



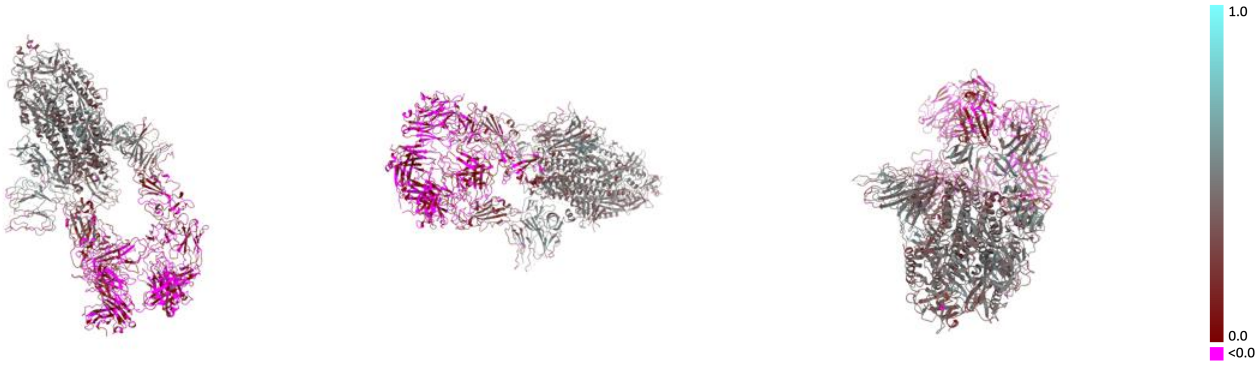
Y



Z

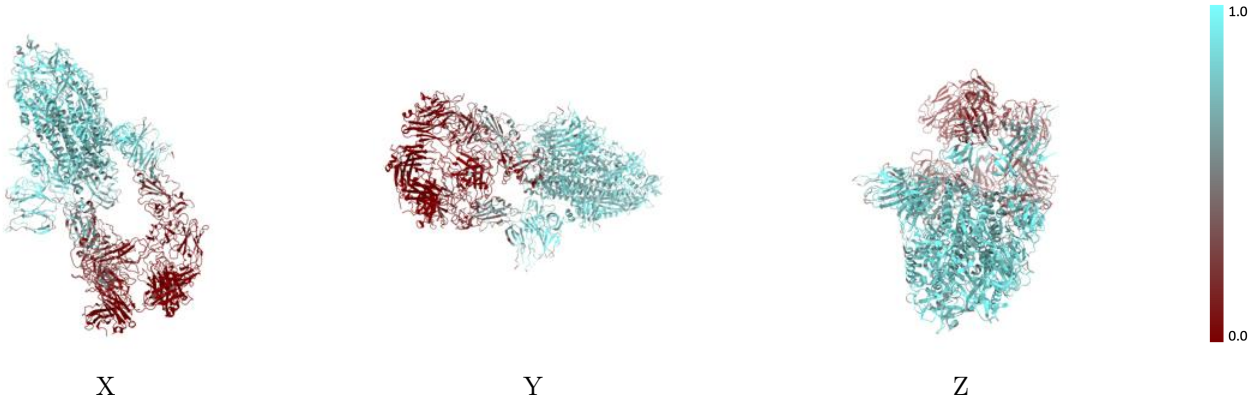
The images above show the 3D surface view of the map at the recommended contour level 0.02 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)



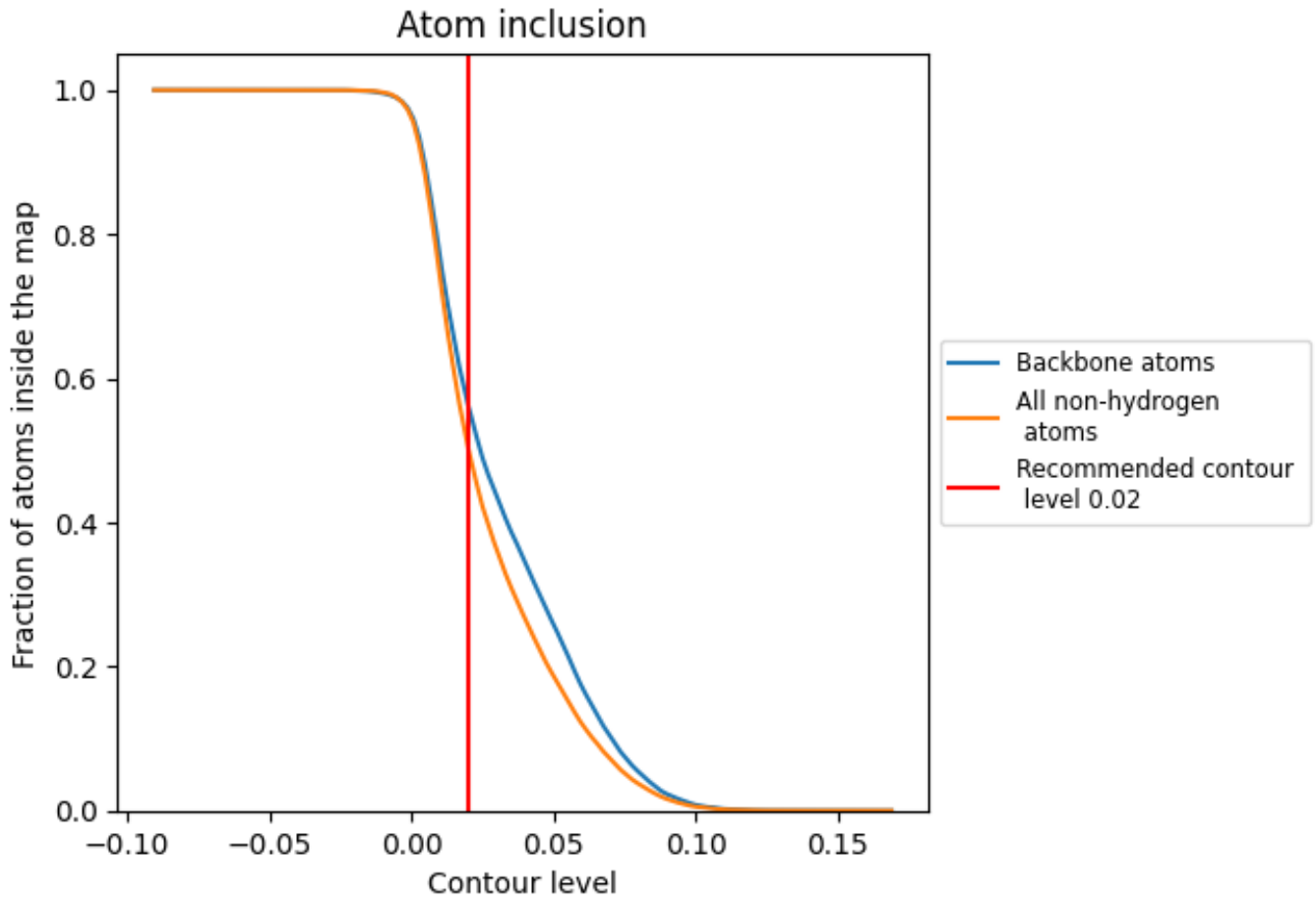
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model (i)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.02).

9.4 Atom inclusion (i)



At the recommended contour level, 56% of all backbone atoms, 50% 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 (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5021	0.2600
A	0.6649	0.3440
B	0.6978	0.3630
C	0.7037	0.3720
D	0.2143	0.0670
E	0.6786	0.3810
F	0.5357	0.2900
G	0.2857	0.2170
H	0.0345	0.0290
I	0.1005	0.0170
J	0.0779	0.0320
K	0.0178	0.0340
L	0.7500	0.3600
M	0.0435	0.0090
N	0.0705	0.0190
O	0.5000	0.2320
P	0.5714	0.3080
Q	0.2857	0.1330
R	0.3929	0.1590
S	0.6429	0.3400
T	0.6429	0.2690
U	0.6429	0.2670
V	0.4286	0.1910
W	0.2500	0.1800
X	0.3571	0.2360
Y	0.6071	0.3280
Z	0.5357	0.3340
a	0.3929	0.1980
b	0.7143	0.2770
c	0.5714	0.2320