



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 14, 2026 – 02:17 PM UTC

PDB ID : 2AJB / pdb_00002ajb
Title : Porcine dipeptidyl peptidase IV (CD26) in complex with the tripeptide tert-butyl-Gly-L-Pro-L-Ile (tBu-GPI)
Authors : Engel, M.; Hoffmann, T.; Manhart, S.; Heiser, U.; Chambre, S.; Huber, R.; Demuth, H.U.; Bode, W.
Deposited on : 2005-08-01
Resolution : 2.75 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp>

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:

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

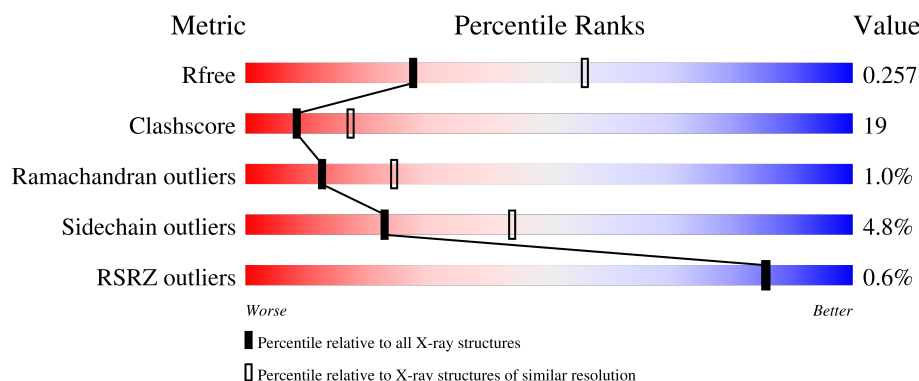
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.75 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.



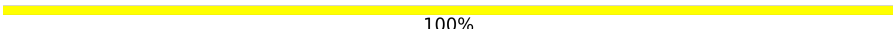
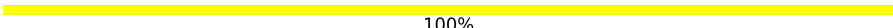
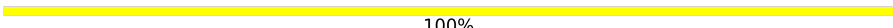
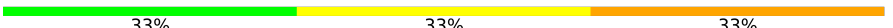
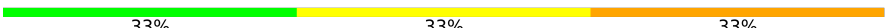
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1009 (2.76-2.76)
Clashscore	190562	1044 (2.76-2.76)
Ramachandran outliers	187476	1024 (2.76-2.76)
Sidechain outliers	187428	1024 (2.76-2.76)
RSRZ outliers	180081	1009 (2.76-2.76)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	728	% 61% 36% .
1	B	728	% 59% 36% 5%
1	C	728	% 56% 39% 5%
1	D	728	60% 36% .

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Mol	Chain	Length	Quality of chain
2	E	2	 50% 50%
2	F	2	 100%
2	H	2	 50% 50%
2	I	2	 100%
2	K	2	 50% 50%
2	L	2	 100%
2	M	2	 100%
3	G	3	 33% 33% 33%
3	J	3	 33% 33% 33%

2 Entry composition [i](#)

There are 7 unique types of molecules in this entry. The entry contains 25306 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 Dipeptidyl peptidase 4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	728	Total	C	N	O	S	80	0	0
			5966	3825	986	1132	23			
1	B	728	Total	C	N	O	S	42	0	0
			5966	3825	986	1132	23			
1	C	728	Total	C	N	O	S	83	0	0
			5966	3825	986	1132	23			
1	D	728	Total	C	N	O	S	36	0	0
			5966	3825	986	1132	23			

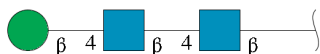
- Molecule 2 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	E	2	Total	C	N	O	0	0	0
			28	16	2	10			
2	F	2	Total	C	N	O	0	0	0
			28	16	2	10			
2	H	2	Total	C	N	O	0	0	0
			28	16	2	10			
2	I	2	Total	C	N	O	0	0	0
			28	16	2	10			
2	K	2	Total	C	N	O	0	0	0
			28	16	2	10			
2	L	2	Total	C	N	O	0	0	0
			28	16	2	10			
2	M	2	Total	C	N	O	0	0	0
			28	16	2	10			

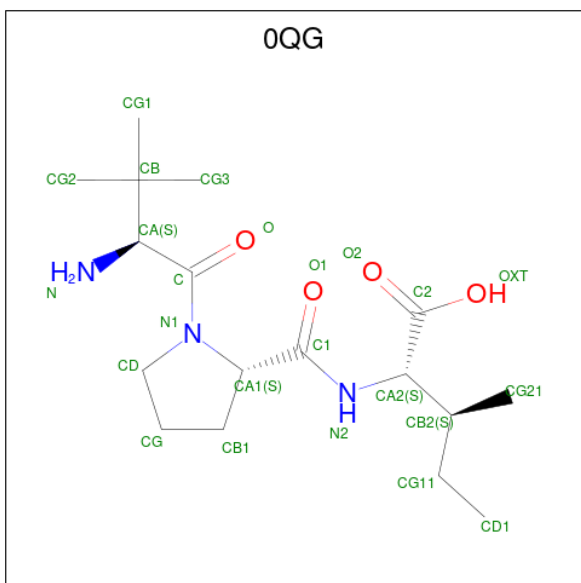
- Molecule 3 is an oligosaccharide called beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-b

eta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



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

- Molecule 4 is 3-methyl-L-valyl-L-prolyl-L-isoleucine (CCD ID: 0QG) (formula: $C_{17}H_{31}N_3O_4$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total	C	N	O	9	0
			24	17	3	4		
4	B	1	Total	C	N	O	9	0
			24	17	3	4		
4	C	1	Total	C	N	O	9	0
			24	17	3	4		
4	D	1	Total	C	N	O	9	0
			24	17	3	4		

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



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
5	A	1	Total	C	N	O	0	0
			14	8	1	5		
5	A	1	Total	C	N	O	0	0
			14	8	1	5		
5	A	1	Total	C	N	O	3	0
			14	8	1	5		
5	A	1	Total	C	N	O	0	0
			14	8	1	5		
5	B	1	Total	C	N	O	0	0
			14	8	1	5		
5	B	1	Total	C	N	O	0	0
			14	8	1	5		
5	B	1	Total	C	N	O	0	0
			14	8	1	5		
5	B	1	Total	C	N	O	0	0
			14	8	1	5		
5	C	1	Total	C	N	O	0	0
			14	8	1	5		
5	C	1	Total	C	N	O	0	0
			14	8	1	5		
5	C	1	Total	C	N	O	0	0
			14	8	1	5		
5	C	1	Total	C	N	O	0	0
			14	8	1	5		
5	C	1	Total	C	N	O	0	0
			14	8	1	5		
5	D	1	Total	C	N	O	0	0
			14	8	1	5		

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

- Molecule 6 is SULFATE ION (CCD ID: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total	O	S	0	0
			5	4	1		
6	B	1	Total	O	S	0	0
			5	4	1		
6	C	1	Total	O	S	0	0
			5	4	1		
6	D	1	Total	O	S	0	0
			5	4	1		

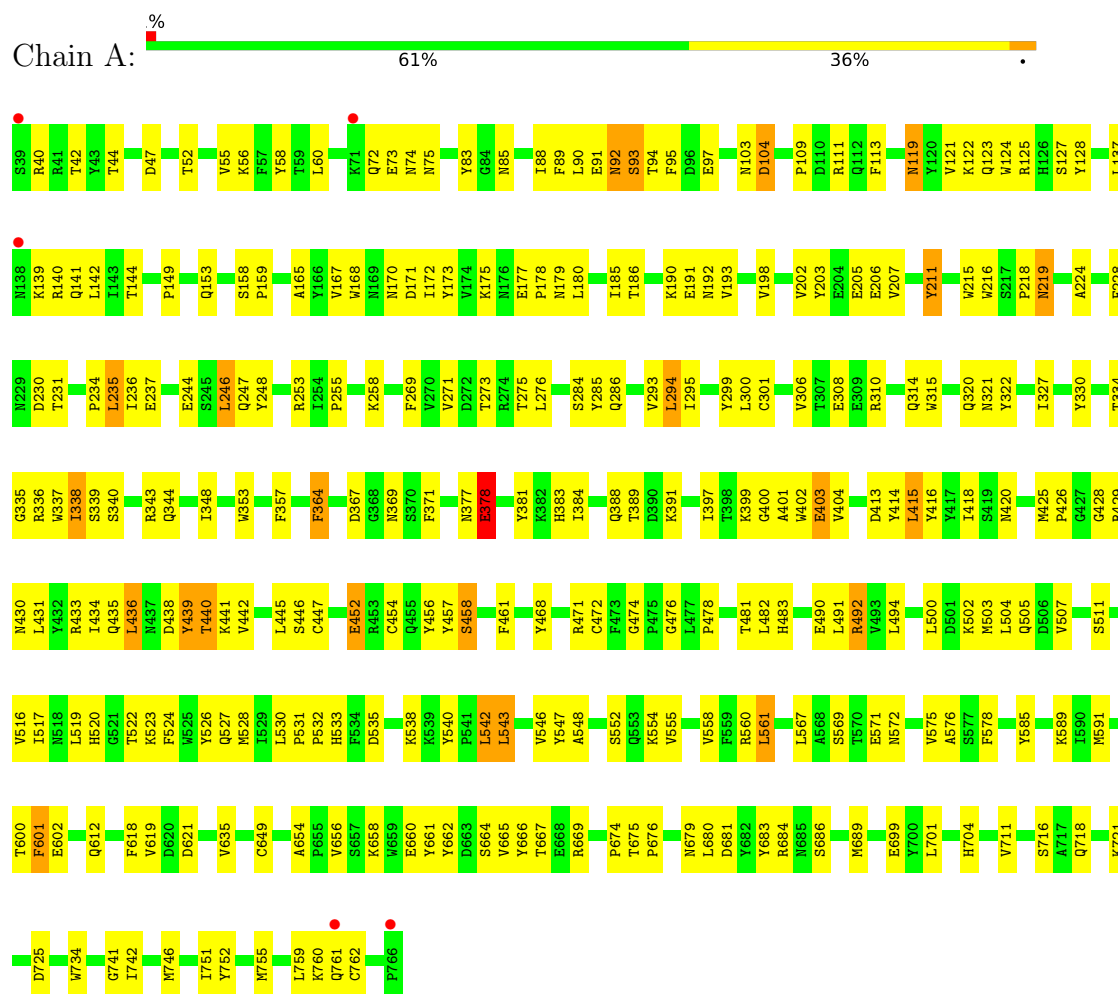
- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	189	Total	O	0	0
			189	189		
7	B	219	Total	O	0	0
			219	219		
7	C	219	Total	O	0	0
			219	219		
7	D	215	Total	O	0	0
			215	215		

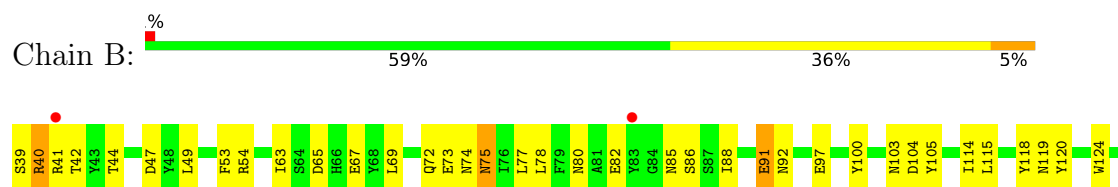
3 Residue-property plots

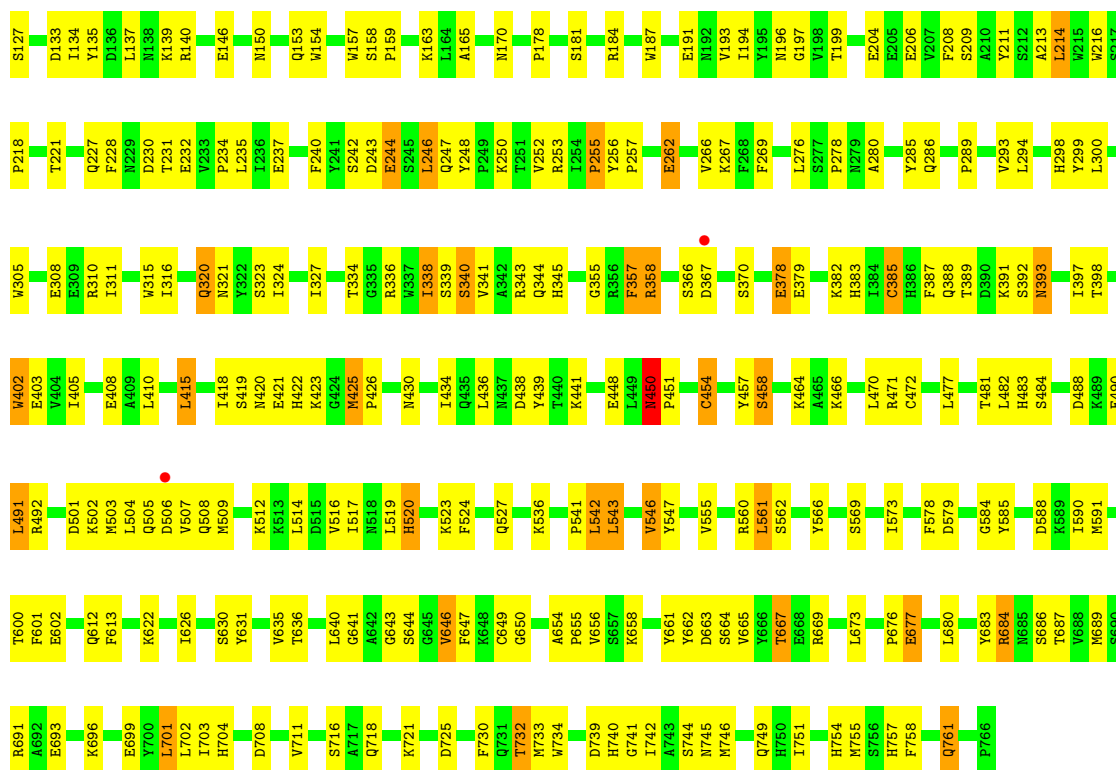
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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 dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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: Dipeptidyl peptidase 4

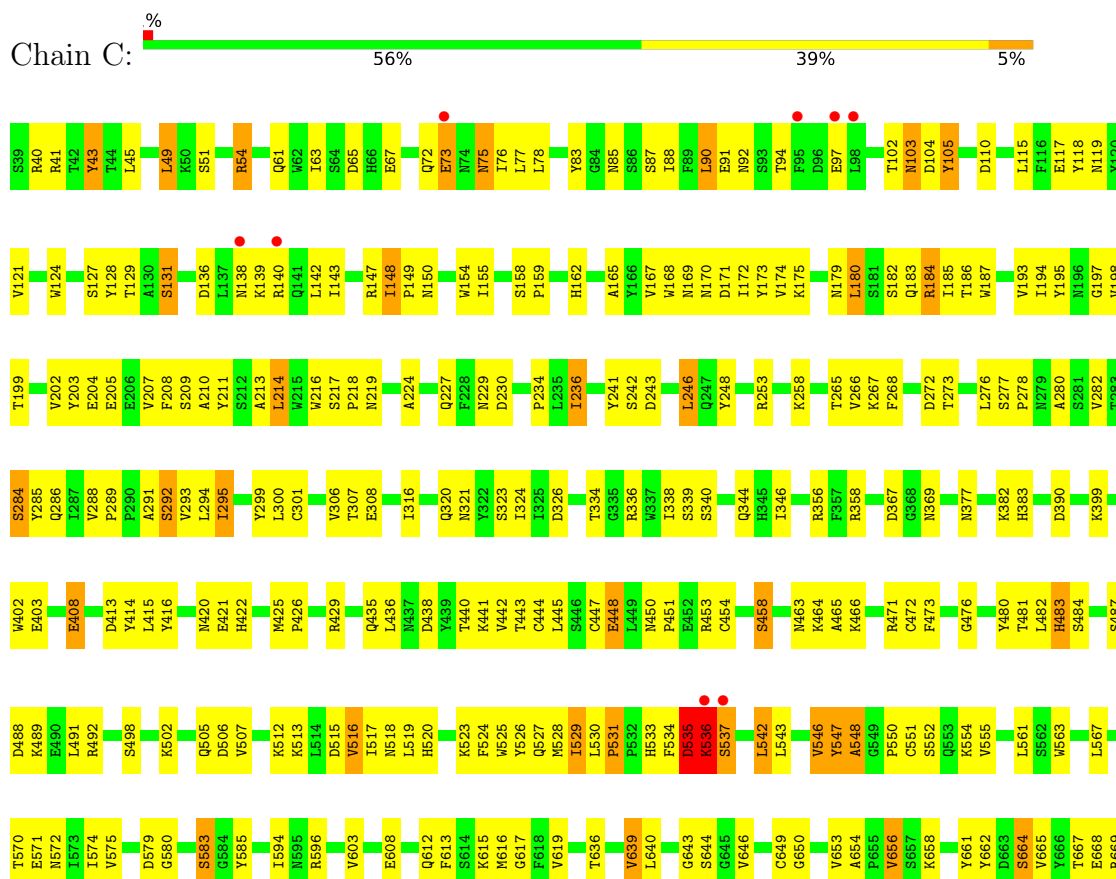


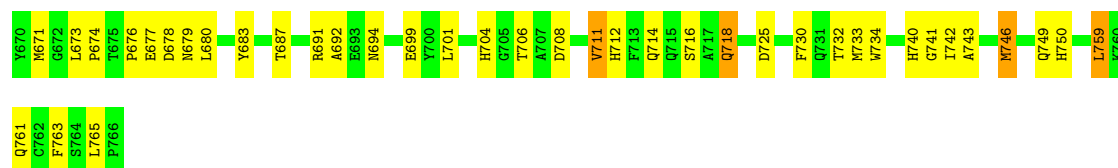
• Molecule 1: Dipeptidyl peptidase 4





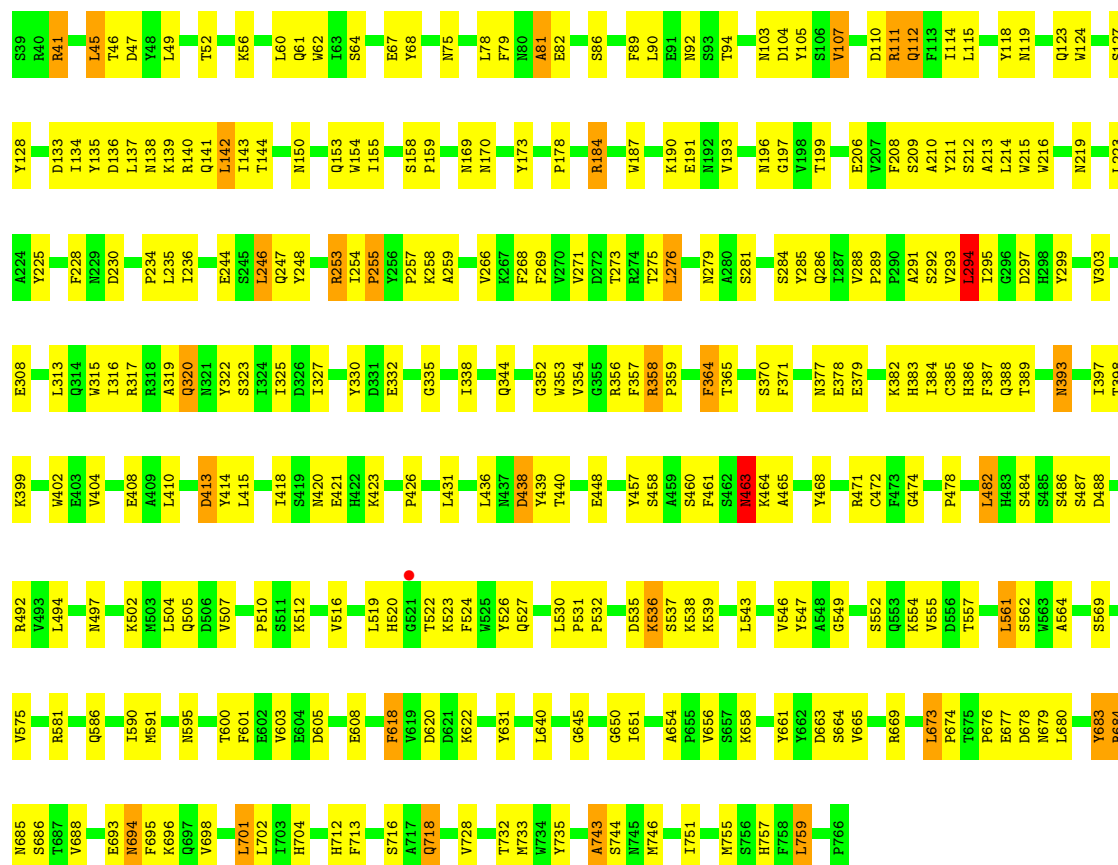
• Molecule 1: Dipeptidyl peptidase 4





• Molecule 1: Dipeptidyl peptidase 4

Chain D: 60% 36%



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

Chain E: 50% 50%



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

Chain F: 100%



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

Chain H:  50% 50%

MAG1
MAG2

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

Chain I:  100%

MAG1
MAG2

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

Chain K:  50% 50%

MAG1
MAG2

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

Chain L:  100%

MAG1
MAG2

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

Chain M:  100%

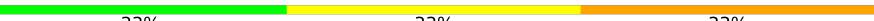
MAG1
MAG2

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

Chain G:  33% 33% 33%

MAG1
MAG2
BWA3

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

Chain J:  33% 33% 33%



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	62.30Å 118.50Å 133.53Å 112.67° 94.94° 91.02°	Depositor
Resolution (Å)	19.96 – 2.75 19.96 – 2.75	Depositor EDS
% Data completeness (in resolution range)	95.8 (19.96-2.75) 95.6 (19.96-2.75)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.08 (at 2.75Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.198 , 0.270 0.186 , 0.257	Depositor DCC
R_{free} test set	4407 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å ²)	29.3	Xtriage
Anisotropy	0.699	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 51.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	25306	wwPDB-VP
Average B, all atoms (Å ²)	30.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.23% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: SO4, OQG, NAG, BMA

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.50	0/6141	1.00	24/8353 (0.3%)
1	B	0.53	0/6141	1.02	36/8353 (0.4%)
1	C	0.52	0/6141	1.03	43/8353 (0.5%)
1	D	0.51	0/6141	0.99	26/8353 (0.3%)
All	All	0.52	0/24564	1.01	129/33412 (0.4%)

There are no bond length outliers.

All (129) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	94	THR	N-CA-C	-11.10	99.69	113.01
1	A	378	GLU	N-CA-C	-10.61	99.73	112.89
1	D	378	GLU	N-CA-C	-10.11	100.95	113.18
1	A	92	ASN	N-CA-C	-9.61	97.29	110.35
1	B	656	VAL	N-CA-C	-9.30	96.72	109.55
1	C	91	GLU	N-CA-C	8.78	121.93	110.43
1	D	338	ILE	N-CA-C	8.08	120.75	108.71
1	C	300	LEU	N-CA-C	-7.83	96.45	109.46
1	A	207	VAL	N-CA-C	7.38	118.31	112.12
1	C	205	GLU	N-CA-C	7.36	119.09	111.14
1	A	211	TYR	N-CA-C	-7.17	104.66	113.41
1	B	684	ARG	N-CA-C	7.08	118.79	111.14
1	C	537	SER	N-CA-C	-7.04	104.95	113.97
1	A	458	SER	N-CA-C	-6.97	98.75	109.14
1	C	547	TYR	N-CA-C	-6.91	102.86	112.12
1	A	656	VAL	N-CA-C	-6.86	99.88	109.21
1	B	664	SER	N-CA-C	6.78	118.36	110.97
1	C	236	ILE	N-CA-C	-6.78	98.47	108.97
1	D	743	ALA	N-CA-C	6.76	121.55	113.16
1	C	492	ARG	N-CA-C	6.72	118.54	107.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	664	SER	N-CA-C	6.71	118.25	111.07
1	B	357	PHE	N-CA-C	-6.62	102.54	112.54
1	A	338	ILE	N-CA-C	6.61	119.22	108.97
1	B	300	LEU	N-CA-C	-6.60	99.27	109.76
1	C	148	ILE	CA-C-N	6.55	128.02	119.84
1	C	148	ILE	C-N-CA	6.55	128.02	119.84
1	D	266	VAL	N-CA-C	6.52	118.10	108.45
1	D	364	PHE	N-CA-C	6.51	120.11	110.48
1	C	683	TYR	N-CA-C	-6.49	103.83	111.03
1	C	458	SER	N-CA-C	-6.48	99.19	109.23
1	C	338	ILE	N-CA-C	6.46	117.89	108.58
1	C	102	THR	N-CA-C	6.42	116.54	108.45
1	C	656	VAL	N-CA-C	-6.38	99.03	109.12
1	B	157	TRP	N-CA-C	-6.36	102.33	110.53
1	C	529	ILE	N-CA-C	-6.29	98.60	108.23
1	A	206	GLU	N-CA-C	6.29	121.90	113.72
1	D	698	VAL	N-CA-C	6.29	117.98	108.80
1	B	338	ILE	N-CA-C	6.29	118.42	108.87
1	B	677	GLU	N-CA-C	-6.28	105.47	113.01
1	B	450	ASN	CA-C-N	6.26	127.66	119.84
1	B	450	ASN	C-N-CA	6.26	127.66	119.84
1	D	255	PRO	N-CA-C	-6.25	99.59	112.47
1	D	562	SER	N-CA-C	6.22	118.91	109.95
1	B	454	CYS	N-CA-C	6.20	118.51	108.34
1	C	692	ALA	N-CA-C	6.17	118.00	111.28
1	B	255	PRO	N-CA-C	-6.16	100.82	110.50
1	C	743	ALA	N-CA-C	6.16	120.94	113.17
1	C	41	ARG	N-CA-C	6.14	117.96	110.41
1	D	319	ALA	N-CA-C	-6.12	97.71	108.23
1	C	483	HIS	N-CA-C	6.06	118.41	109.69
1	C	546	VAL	N-CA-C	6.05	118.17	108.85
1	A	236	ILE	N-CA-C	-6.03	101.01	109.21
1	A	454	CYS	N-CA-C	6.02	118.21	108.34
1	D	158	SER	N-CA-C	-6.01	101.37	110.39
1	B	150	ASN	N-CA-C	-6.01	101.87	110.59
1	B	562	SER	N-CA-C	6.00	119.00	109.81
1	A	440	THR	N-CA-C	-5.97	106.61	114.31
1	D	281	SER	N-CA-C	-5.92	102.85	110.19
1	C	408	GLU	N-CA-C	5.91	120.67	112.45
1	C	454	CYS	N-CA-C	5.89	118.00	108.34
1	C	711	VAL	N-CA-C	-5.87	98.51	106.85
1	C	639	VAL	N-CA-C	-5.87	104.90	110.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	656	VAL	N-CA-C	-5.85	100.16	108.58
1	D	664	SER	N-CA-C	5.84	117.34	110.97
1	D	206	GLU	N-CA-C	5.83	121.30	113.72
1	D	458	SER	N-CA-C	-5.83	100.45	109.14
1	D	683	TYR	N-CA-C	-5.83	104.29	111.40
1	B	392	SER	N-CA-C	5.83	120.53	112.90
1	B	321	ASN	N-CA-C	-5.82	104.73	112.94
1	D	388	GLN	N-CA-C	-5.78	99.87	109.46
1	A	403	GLU	N-CA-C	5.77	118.18	109.23
1	A	364	PHE	N-CA-C	5.77	118.63	110.50
1	C	199	THR	N-CA-C	5.77	119.01	110.48
1	C	636	THR	N-CA-C	-5.69	104.98	111.07
1	B	425	MET	CA-C-N	5.67	126.05	119.47
1	B	425	MET	C-N-CA	5.67	126.05	119.47
1	B	206	GLU	CA-C-N	-5.64	117.44	122.97
1	B	206	GLU	C-N-CA	-5.64	117.44	122.97
1	B	546	VAL	N-CA-C	5.62	118.02	108.86
1	B	646	VAL	N-CA-C	5.60	115.80	110.53
1	B	744	SER	N-CA-C	-5.59	103.11	110.43
1	C	321	ASN	N-CA-C	-5.59	104.10	112.54
1	C	574	ILE	N-CA-C	-5.56	101.65	109.21
1	A	89	PHE	N-CA-C	-5.55	106.55	113.55
1	A	235	LEU	N-CA-C	5.53	117.97	109.07
1	A	414	TYR	N-CA-C	5.49	118.52	109.85
1	A	447	CYS	N-CA-C	5.48	122.48	110.80
1	D	112	GLN	N-CA-C	5.48	118.17	111.82
1	A	357	PHE	N-CA-C	-5.47	105.40	113.61
1	A	664	SER	N-CA-C	5.47	117.24	111.28
1	D	45	LEU	N-CA-C	-5.43	105.36	111.28
1	A	601	PHE	N-CA-C	5.42	117.19	111.28
1	C	43	TYR	N-CA-C	-5.39	101.01	109.25
1	C	54	ARG	N-CA-C	5.38	118.03	109.96
1	D	357	PHE	N-CA-C	-5.35	106.50	114.64
1	B	75	ASN	N-CA-C	-5.34	102.14	110.42
1	B	320	GLN	N-CA-C	5.32	119.72	113.23
1	C	103	ASN	N-CA-C	5.31	122.11	110.80
1	C	390	ASP	N-CA-C	5.31	118.57	112.57
1	B	591	MET	N-CA-C	5.29	117.04	111.28
1	D	684	ARG	N-CA-C	5.29	117.04	111.28
1	B	54	ARG	N-CA-C	5.28	117.36	108.96
1	B	458	SER	N-CA-C	-5.28	101.05	109.23
1	C	450	ASN	CA-C-N	5.26	126.41	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	450	ASN	C-N-CA	5.26	126.41	119.84
1	B	667	THR	N-CA-C	5.25	116.70	110.97
1	C	150	ASN	N-CA-C	-5.23	103.12	110.50
1	C	548	ALA	N-CA-C	5.23	118.95	112.47
1	A	683	TYR	N-CA-C	-5.22	105.20	112.45
1	A	321	ASN	N-CA-C	-5.21	105.64	112.41
1	C	531	PRO	CA-C-N	5.20	125.45	119.83
1	C	531	PRO	C-N-CA	5.20	125.45	119.83
1	D	688	VAL	N-CA-C	-5.19	105.34	111.00
1	D	89	PHE	N-CA-C	-5.19	107.08	113.41
1	B	206	GLU	N-CA-C	5.18	120.61	113.97
1	D	150	ASN	N-CA-C	-5.16	103.58	110.55
1	B	683	TYR	N-CA-C	-5.14	105.75	111.36
1	D	463	ASN	N-CA-C	5.14	119.86	111.37
1	C	203	TYR	N-CA-C	-5.13	105.38	111.69
1	C	617	GLY	N-CA-C	5.10	122.00	115.32
1	C	448	GLU	N-CA-C	5.10	118.59	111.30
1	B	588	ASP	N-CA-C	5.07	117.70	111.82
1	B	584	GLY	N-CA-C	5.05	119.49	112.57
1	B	97	GLU	N-CA-C	5.05	119.07	113.01
1	B	560	ARG	N-CA-C	5.05	117.63	108.69
1	A	542	LEU	N-CA-C	5.05	117.14	108.90
1	B	402	TRP	N-CA-C	-5.05	101.56	108.38
1	C	49	LEU	N-CA-C	5.03	116.76	111.28
1	D	294	LEU	N-CA-C	-5.00	106.86	112.87

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	5966	0	5662	225	0
1	B	5966	0	5662	215	0
1	C	5966	0	5661	252	0
1	D	5966	0	5661	228	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	E	28	0	25	0	0
2	F	28	0	25	1	0
2	H	28	0	25	1	0
2	I	28	0	25	2	0
2	K	28	0	25	0	0
2	L	28	0	25	0	0
2	M	28	0	25	2	0
3	G	39	0	34	3	0
3	J	39	0	34	2	0
4	A	24	0	30	2	0
4	B	24	0	30	0	0
4	C	24	0	30	0	0
4	D	24	0	30	0	0
5	A	56	0	52	0	0
5	B	56	0	52	7	0
5	C	70	0	65	3	0
5	D	28	0	26	1	0
6	A	5	0	0	0	0
6	B	5	0	0	0	0
6	C	5	0	0	0	0
6	D	5	0	0	0	0
7	A	189	0	0	13	0
7	B	219	0	0	12	0
7	C	219	0	0	17	0
7	D	215	0	0	17	0
All	All	25306	0	23204	898	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 19.

All (898) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:492:ARG:HH21	1:A:492:ARG:HB3	1.33	0.93
1:B:393:ASN:HD22	1:B:393:ASN:H	1.12	0.92
3:G:1:NAG:H62	3:G:2:NAG:H82	1.52	0.91
1:B:718:GLN:HE22	1:B:721:LYS:HZ1	1.15	0.88
1:C:746:MET:HE2	1:C:746:MET:H	1.37	0.88
1:D:75:ASN:ND2	1:D:92:ASN:H	1.71	0.88
1:D:291:ALA:O	1:D:295:ILE:HG13	1.76	0.84
1:C:481:THR:OG1	1:C:483:HIS:HE1	1.61	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:378:GLU:CD	1:A:378:GLU:H	1.86	0.82
1:C:612:GLN:O	1:C:615:LYS:HG2	1.79	0.82
1:C:90:LEU:HD13	1:C:90:LEU:O	1.79	0.82
1:A:558:VAL:HB	1:A:560:ARG:HH12	1.43	0.82
1:C:746:MET:H	1:C:746:MET:CE	1.93	0.82
1:D:184:ARG:NH1	1:D:187:TRP:HA	1.94	0.82
1:C:253:ARG:HH21	1:D:253:ARG:HH22	1.28	0.81
1:A:558:VAL:HB	1:A:560:ARG:NH1	1.94	0.81
1:B:718:GLN:HE22	1:B:721:LYS:NZ	1.79	0.80
1:A:75:ASN:HB3	1:A:92:ASN:N	1.96	0.80
1:B:65:ASP:HB2	1:B:466:LYS:HD2	1.63	0.79
1:B:438:ASP:OD2	1:B:441:LYS:HE3	1.83	0.79
1:C:194:ILE:HD12	5:C:769(A):NAG:H82	1.65	0.78
1:D:288:VAL:HG13	1:D:289:PRO:HD2	1.65	0.77
1:D:676:PRO:HG2	1:D:677:GLU:OE1	1.85	0.77
1:A:75:ASN:HD22	1:A:92:ASN:ND2	1.83	0.76
1:C:704:HIS:HD2	1:C:716:SER:OG	1.69	0.76
1:A:327:ILE:HB	1:A:343:ARG:HG2	1.68	0.76
1:A:75:ASN:ND2	1:A:92:ASN:ND2	2.33	0.76
3:G:1:NAG:C6	3:G:2:NAG:H82	2.16	0.75
1:A:75:ASN:HB3	1:A:92:ASN:H	1.51	0.75
1:A:502:LYS:O	1:A:505:GLN:HG2	1.87	0.75
1:D:522:THR:HB	1:D:524:PHE:CE1	2.22	0.75
1:C:184:ARG:NH1	1:C:187:TRP:HA	2.03	0.74
1:C:512:LYS:HE3	1:C:527:GLN:NE2	2.03	0.73
1:D:136:ASP:CG	1:D:139:LYS:HG2	2.14	0.73
1:B:320:GLN:OE1	1:B:669:ARG:HD3	1.88	0.73
1:A:340:SER:OG	1:A:343:ARG:HB2	1.88	0.73
1:B:388:GLN:HB3	1:B:391:LYS:HB2	1.69	0.73
1:C:367:ASP:OD2	1:C:369:ASN:HB2	1.89	0.72
1:B:378:GLU:CD	1:B:378:GLU:H	1.95	0.72
7:C:1641:HOH:O	1:D:746:MET:HB2	1.89	0.72
1:C:184:ARG:HH11	1:C:187:TRP:HA	1.55	0.72
1:B:269:PHE:CE2	1:B:286:GLN:HG3	2.25	0.71
1:C:40:ARG:HB2	1:C:506:ASP:O	1.89	0.71
1:C:175:LYS:HG3	1:C:182:SER:HB3	1.73	0.71
1:C:236:ILE:HA	7:C:1538:HOH:O	1.90	0.71
1:B:75:ASN:HD22	1:B:91:GLU:HA	1.55	0.71
1:D:680:LEU:HD11	1:D:684:ARG:HE	1.55	0.71
1:A:676:PRO:HD3	1:A:680:LEU:HD22	1.72	0.71
1:C:534:PHE:O	1:C:535:ASP:O	2.08	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:75:ASN:ND2	1:A:92:ASN:HD22	1.89	0.71
1:C:356:ARG:HD2	7:C:1604:HOH:O	1.91	0.71
1:D:320:GLN:OE1	1:D:669:ARG:HD3	1.90	0.70
1:C:97:GLU:HG3	7:C:1634:HOH:O	1.91	0.70
1:C:420:ASN:ND2	1:C:426:PRO:HA	2.07	0.69
1:C:718:GLN:HA	1:C:718:GLN:HE21	1.55	0.69
1:D:133:ASP:HB3	1:D:142:LEU:HD21	1.73	0.69
1:D:317:ARG:HD2	1:D:322:TYR:HB3	1.75	0.68
1:C:463:ASN:C	1:C:465:ALA:H	2.00	0.68
1:B:246:LEU:HD13	1:B:248:TYR:O	1.94	0.68
1:A:388:GLN:HB2	1:A:391:LYS:HB2	1.74	0.68
1:D:658:LYS:HB3	1:D:661:TYR:CD2	2.29	0.68
1:C:49:LEU:HD22	1:C:749:GLN:HA	1.77	0.67
1:C:613:PHE:HA	1:C:616:MET:HE3	1.75	0.67
1:D:127:SER:HB3	1:D:211:TYR:CG	2.29	0.67
1:C:75:ASN:HD22	1:C:92:ASN:HB2	1.60	0.67
1:C:267:LYS:HB3	7:C:1576:HOH:O	1.92	0.67
1:C:519:LEU:HD22	1:C:608:GLU:OE1	1.95	0.67
1:A:435:GLN:NE2	1:A:441:LYS:HD3	2.10	0.67
1:C:536:LYS:N	1:C:536:LYS:HE3	2.10	0.67
1:B:393:ASN:HD22	1:B:393:ASN:N	1.90	0.66
1:A:177:GLU:HB2	1:A:180:LEU:HB2	1.77	0.66
1:A:500:LEU:HA	1:A:503:MET:HE3	1.77	0.66
1:B:44:THR:O	1:B:47:ASP:HB2	1.94	0.66
1:D:460:SER:HA	7:D:1583:HOH:O	1.94	0.66
1:B:481:THR:OG1	1:B:483:HIS:HE1	1.78	0.66
1:B:88:ILE:HG21	1:B:91:GLU:HG3	1.76	0.65
1:A:438:ASP:HB3	1:A:441:LYS:HD2	1.78	0.65
1:C:320:GLN:OE1	1:C:669:ARG:HD3	1.97	0.65
1:C:104:ASP:HB3	1:C:117:GLU:HB3	1.78	0.65
1:C:194:ILE:CD1	5:C:769(A):NAG:H82	2.27	0.65
1:C:640:LEU:HD11	1:C:650:GLY:HA3	1.77	0.65
1:D:292:SER:HA	1:D:295:ILE:HD11	1.79	0.65
1:A:516:VAL:HG12	1:A:517:ILE:N	2.12	0.65
1:C:234:PRO:HB2	1:D:248:TYR:CZ	2.32	0.65
1:C:73:GLU:OE1	5:C:768(A):NAG:H4	1.97	0.65
1:D:397:ILE:HG13	1:D:398:THR:HG23	1.79	0.65
1:B:153:GLN:HE22	1:B:170:ASN:ND2	1.95	0.64
1:D:75:ASN:HD22	1:D:92:ASN:H	1.39	0.64
1:B:92:ASN:HB2	7:B:1711:HOH:O	1.97	0.64
1:B:718:GLN:NE2	1:B:721:LYS:HZ1	1.90	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:219:ASN:HB2	1:D:308:GLU:CD	2.22	0.64
1:B:422:HIS:CD2	1:B:423:LYS:HD3	2.32	0.64
1:D:353:TRP:CZ2	1:D:591:MET:HE3	2.33	0.64
1:C:142:LEU:HD23	1:C:143:ILE:O	1.98	0.64
1:C:733:MET:HA	1:D:732:THR:CG2	2.27	0.64
1:D:134:ILE:HG21	1:D:178:PRO:HB3	1.78	0.64
1:B:75:ASN:ND2	1:B:92:ASN:H	1.96	0.64
1:C:491:LEU:HD22	1:C:491:LEU:H	1.62	0.64
1:A:83:TYR:HB2	1:A:85:ASN:OD1	1.98	0.64
1:C:136:ASP:O	1:C:140:ARG:HA	1.98	0.64
1:C:175:LYS:CG	1:C:182:SER:HB3	2.27	0.64
1:B:733:MET:HE3	1:B:754:HIS:NE2	2.12	0.63
1:C:535:ASP:O	1:C:536:LYS:HB3	1.97	0.63
1:C:536:LYS:HZ1	1:C:537:SER:H	1.46	0.63
1:C:746:MET:HE2	1:C:746:MET:N	2.12	0.63
1:A:72:GLN:HG2	1:A:73:GLU:HG3	1.81	0.63
1:A:336:ARG:HG3	1:A:336:ARG:HH11	1.63	0.63
1:B:415:LEU:HB2	1:B:436:LEU:HD11	1.80	0.63
1:C:184:ARG:HD3	1:C:186:THR:O	1.99	0.63
1:C:118:TYR:CZ	1:C:131:SER:HB3	2.33	0.63
1:A:92:ASN:O	1:A:93:SER:CB	2.47	0.63
1:B:85:ASN:O	5:B:767(A):NAG:H82	1.99	0.63
1:C:414:TYR:HA	1:C:436:LEU:HD13	1.81	0.63
1:D:110:ASP:O	1:D:112:GLN:N	2.32	0.63
1:D:327:ILE:HD13	1:D:389:THR:HG23	1.80	0.63
1:A:159:PRO:HD3	1:A:216:TRP:HB3	1.80	0.62
1:A:546:VAL:HG21	1:A:635:VAL:HG11	1.81	0.62
1:B:86:SER:C	5:B:767(A):NAG:H81	2.25	0.62
1:B:397:ILE:HG13	1:B:398:THR:HG23	1.79	0.62
1:B:626:ILE:HG23	1:B:636:THR:HG23	1.80	0.62
1:B:415:LEU:HB3	1:B:434:ILE:CG2	2.29	0.62
1:C:420:ASN:HD22	1:C:426:PRO:HA	1.64	0.62
1:B:67:GLU:HB3	1:B:78:LEU:HD11	1.81	0.62
1:D:154:TRP:CE2	1:D:212:SER:HB3	2.35	0.62
1:D:184:ARG:HH11	1:D:187:TRP:HA	1.61	0.62
1:C:536:LYS:HG2	1:C:537:SER:N	2.14	0.61
1:A:377:ASN:HD21	1:A:383:HIS:CD2	2.18	0.61
1:C:105:TYR:HA	1:C:115:LEU:O	2.00	0.61
1:B:504:LEU:HA	1:B:507:VAL:HG12	1.82	0.61
1:C:159:PRO:HG2	1:C:217:SER:O	2.00	0.61
1:C:253:ARG:HH21	1:D:253:ARG:NH2	1.98	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:718:GLN:HA	1:D:718:GLN:HE21	1.66	0.60
1:B:630:SER:OG	1:B:631:TYR:N	2.33	0.60
1:D:273:THR:HA	1:D:276:LEU:HD22	1.83	0.60
1:A:438:ASP:OD2	1:A:441:LYS:HE3	2.01	0.60
1:A:125:ARG:NH2	1:A:205:GLU:OE2	2.30	0.60
1:A:258:LYS:HD2	1:B:247:GLN:HG2	1.84	0.60
1:D:153:GLN:HE22	1:D:170:ASN:ND2	1.99	0.60
1:A:428:GLY:O	1:A:429:ARG:HD3	2.02	0.60
1:C:173:TYR:CE2	1:C:184:ARG:HG3	2.35	0.60
1:A:504:LEU:HA	1:A:507:VAL:HG12	1.83	0.60
1:B:393:ASN:H	1:B:393:ASN:ND2	1.89	0.60
1:D:504:LEU:HA	1:D:507:VAL:HG12	1.84	0.60
1:B:334:THR:OG1	1:B:336:ARG:HG2	2.02	0.60
1:D:564:ALA:HB1	1:D:575:VAL:HG21	1.84	0.60
1:D:694:ASN:H	1:D:694:ASN:HD22	1.50	0.60
1:D:127:SER:HB3	1:D:211:TYR:CD1	2.37	0.60
1:C:167:VAL:HA	1:C:171:ASP:O	2.00	0.60
1:C:219:ASN:H	1:C:308:GLU:CD	2.10	0.60
1:B:316:ILE:HD11	1:B:320:GLN:HA	1.83	0.59
1:B:718:GLN:NE2	1:B:721:LYS:NZ	2.48	0.59
1:C:733:MET:CE	1:D:732:THR:HG22	2.32	0.59
1:A:55:VAL:HA	1:A:500:LEU:HD22	1.84	0.59
1:A:122:LYS:HG2	1:A:123:GLN:N	2.18	0.59
1:A:503:MET:HG3	7:A:1671:HOH:O	2.02	0.59
1:D:90:LEU:HD12	1:D:140:ARG:HH22	1.67	0.59
1:D:299:TYR:CZ	1:D:665:VAL:HG22	2.37	0.59
1:D:536:LYS:O	1:D:537:SER:CB	2.51	0.59
1:C:288:VAL:HG13	1:C:289:PRO:HD2	1.84	0.59
1:D:410:LEU:HD13	1:D:415:LEU:HD12	1.83	0.59
1:C:524:PHE:HB3	1:C:579:ASP:O	2.03	0.59
1:A:492:ARG:HB3	1:A:492:ARG:NH2	2.13	0.59
1:D:154:TRP:CD2	1:D:212:SER:HB3	2.38	0.58
1:A:109:PRO:HG3	1:A:158:SER:O	2.03	0.58
1:A:718:GLN:HE22	1:A:721:LYS:NZ	2.02	0.58
1:B:327:ILE:HD13	1:B:389:THR:HG23	1.85	0.58
1:C:65:ASP:HA	1:C:463:ASN:HB2	1.85	0.58
1:D:118:TYR:O	1:D:119:ASN:HB2	2.02	0.58
1:A:159:PRO:HD3	1:A:216:TRP:CB	2.34	0.58
1:C:197:GLY:C	1:C:213:ALA:HB3	2.29	0.58
1:B:410:LEU:HD13	1:B:415:LEU:HD22	1.86	0.58
1:D:402:TRP:CD2	1:D:421:GLU:HB2	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:253:ARG:NH2	1:D:253:ARG:HH22	1.98	0.57
1:D:143:ILE:CD1	1:D:178:PRO:HB2	2.34	0.57
1:A:415:LEU:HD13	1:A:416:TYR:N	2.19	0.57
1:C:502:LYS:O	1:C:505:GLN:HG2	2.04	0.57
1:D:81:ALA:O	1:D:82:GLU:HB3	2.03	0.57
1:D:510:PRO:HD3	1:D:569:SER:HB2	1.86	0.57
1:D:693:GLU:HG3	7:D:1509:HOH:O	2.05	0.57
1:B:746:MET:HG2	7:B:1654:HOH:O	2.03	0.57
1:C:664:SER:O	1:C:668:GLU:HB2	2.05	0.57
1:B:405:ILE:HG12	1:B:419:SER:HA	1.87	0.57
1:C:676:PRO:HG2	1:C:677:GLU:OE2	2.04	0.57
1:B:693:GLU:OE1	1:B:696:LYS:HE3	2.04	0.57
1:C:463:ASN:C	1:C:465:ALA:N	2.62	0.57
1:D:535:ASP:C	1:D:536:LYS:O	2.47	0.57
1:C:193:VAL:HG12	1:C:194:ILE:HG12	1.87	0.57
1:C:481:THR:OG1	1:C:483:HIS:CE1	2.52	0.57
1:C:704:HIS:HE1	1:C:711:VAL:O	1.87	0.57
1:D:704:HIS:HD2	1:D:716:SER:OG	1.88	0.57
1:D:291:ALA:O	1:D:295:ILE:CG1	2.51	0.57
1:D:415:LEU:HB2	1:D:436:LEU:HD11	1.87	0.57
1:A:248:TYR:CZ	1:B:234:PRO:HB2	2.40	0.56
1:B:262:GLU:HG3	7:B:1698:HOH:O	2.05	0.56
1:B:402:TRP:HA	7:B:1664:HOH:O	2.05	0.56
1:A:397:ILE:HG22	1:A:439:TYR:CE2	2.39	0.56
1:B:704:HIS:HD2	1:B:716:SER:OG	1.88	0.56
1:D:673:LEU:O	1:D:678:ASP:HB3	2.05	0.56
1:C:242:SER:HB3	1:C:246:LEU:HD12	1.87	0.56
1:C:438:ASP:OD2	1:C:441:LYS:HG3	2.05	0.56
1:C:535:ASP:C	1:C:536:LYS:HD3	2.31	0.56
1:D:674:PRO:O	1:D:680:LEU:HD13	2.05	0.56
1:D:364:PHE:CD2	1:D:371:PHE:HB3	2.41	0.56
1:B:701:LEU:HD12	1:B:758:PHE:CG	2.41	0.56
1:C:115:LEU:HD21	1:C:155:ILE:HD13	1.87	0.56
1:C:286:GLN:HG3	7:C:1576:HOH:O	2.06	0.56
1:B:262:GLU:OE1	1:B:262:GLU:HA	2.06	0.56
1:C:104:ASP:O	1:C:105:TYR:O	2.24	0.56
1:D:474:GLY:HA3	1:D:557:THR:O	2.05	0.56
1:B:105:TYR:HA	1:B:115:LEU:O	2.06	0.56
1:A:746:MET:HG3	1:B:725:ASP:HA	1.88	0.56
1:C:673:LEU:O	1:C:678:ASP:HB3	2.06	0.56
1:A:215:TRP:HB2	1:A:224:ALA:HB3	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:246:LEU:HD13	1:A:248:TYR:O	2.05	0.55
1:B:316:ILE:HA	1:B:323:SER:HA	1.88	0.55
1:B:397:ILE:HD12	1:B:434:ILE:HD13	1.87	0.55
1:C:179:ASN:OD1	1:C:180:LEU:HD23	2.06	0.55
1:D:694:ASN:HD22	1:D:694:ASN:N	2.03	0.55
1:B:289:PRO:HB3	1:B:315:TRP:CD2	2.41	0.55
1:C:484:SER:HB2	1:C:491:LEU:HD21	1.88	0.55
1:D:271:VAL:HG22	1:D:284:SER:HB3	1.86	0.55
1:A:103:ASN:O	1:A:104:ASP:HB2	2.06	0.55
1:A:718:GLN:HE21	1:A:718:GLN:HA	1.71	0.55
1:B:114:ILE:CG2	1:B:135:TYR:HB3	2.37	0.55
1:C:691:ARG:HH12	2:I:1:NAG:H81	1.70	0.55
1:A:377:ASN:HD21	1:A:383:HIS:HD2	1.53	0.55
1:B:49:LEU:HD22	1:B:749:GLN:HA	1.87	0.55
1:C:491:LEU:HD22	1:C:491:LEU:N	2.22	0.55
1:B:237:GLU:HG2	1:B:253:ARG:HG2	1.88	0.55
1:D:114:ILE:HG22	1:D:135:TYR:HB3	1.87	0.55
1:B:44:THR:HB	7:B:1564:HOH:O	2.05	0.55
1:B:718:GLN:HA	1:B:718:GLN:HE21	1.72	0.55
1:D:288:VAL:CG1	1:D:289:PRO:HD2	2.37	0.55
1:A:377:ASN:ND2	1:A:381:TYR:HB2	2.21	0.55
1:A:378:GLU:CD	1:A:378:GLU:N	2.62	0.55
1:B:80:ASN:OD1	1:B:82:GLU:HB2	2.07	0.55
1:C:658:LYS:HG3	1:C:687:THR:HG22	1.87	0.55
1:C:704:HIS:CD2	1:C:716:SER:OG	2.56	0.55
1:D:169:ASN:HB2	7:D:1531:HOH:O	2.06	0.55
1:A:235:LEU:HD23	1:A:255:PRO:HA	1.89	0.55
1:A:658:LYS:HB3	1:A:661:TYR:CD2	2.41	0.55
1:B:103:ASN:O	1:B:104:ASP:HB2	2.06	0.55
1:C:750:HIS:NE2	1:D:728:VAL:O	2.40	0.55
1:D:47:ASP:HA	1:D:52:THR:HG23	1.89	0.55
1:C:282:VAL:HG12	1:C:284:SER:OG	2.07	0.54
1:A:56:LYS:HD2	7:A:1601:HOH:O	2.06	0.54
1:B:458:SER:OG	1:B:471:ARG:HB2	2.07	0.54
1:A:725:ASP:HA	1:B:746:MET:HG3	1.90	0.54
1:C:253:ARG:NH2	1:D:253:ARG:NH2	2.56	0.54
1:D:397:ILE:HG22	1:D:439:TYR:CE2	2.42	0.54
7:A:1514:HOH:O	1:B:746:MET:HE3	2.08	0.54
1:B:118:TYR:CD2	1:B:119:ASN:ND2	2.75	0.54
1:B:517:ILE:O	1:B:523:LYS:HA	2.08	0.54
1:D:236:ILE:HG12	1:D:712:HIS:CE1	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:327:ILE:CD1	1:D:389:THR:HG23	2.37	0.54
1:B:41:ARG:NH1	1:B:47:ASP:OD1	2.41	0.54
1:C:216:TRP:HZ3	1:C:273:THR:HG21	1.72	0.54
1:C:734:TRP:CZ3	1:D:732:THR:OG1	2.61	0.54
1:A:420:ASN:HB2	1:A:426:PRO:HA	1.89	0.54
1:C:216:TRP:CZ3	1:C:273:THR:HG21	2.43	0.54
1:C:289:PRO:HG2	1:C:294:LEU:HG	1.90	0.54
1:A:662:TYR:HB3	1:A:667:THR:OG1	2.08	0.53
1:A:718:GLN:HA	1:A:718:GLN:NE2	2.23	0.53
1:B:408:GLU:HG2	7:B:1651:HOH:O	2.08	0.53
1:C:83:TYR:HB2	1:C:85:ASN:OD1	2.08	0.53
1:D:658:LYS:HB3	1:D:661:TYR:CE2	2.43	0.53
1:D:377:ASN:HD21	1:D:383:HIS:CD2	2.26	0.53
1:A:528:MET:HG2	1:A:576:ALA:HB2	1.89	0.53
1:D:502:LYS:O	1:D:505:GLN:HG2	2.08	0.53
1:D:522:THR:HG22	1:D:523:LYS:N	2.23	0.53
1:B:53:PHE:HE1	1:B:503:MET:HB3	1.73	0.53
1:B:184:ARG:HD3	1:B:187:TRP:CZ3	2.44	0.53
1:B:194:ILE:CD1	5:B:771(A):NAG:H82	2.38	0.53
1:A:185:ILE:HG22	1:A:186:THR:HG23	1.89	0.53
1:B:191:GLU:O	1:B:193:VAL:HG23	2.09	0.53
1:C:268:PHE:N	7:C:1576:HOH:O	2.41	0.53
1:D:471:ARG:HD3	1:D:471:ARG:N	2.23	0.53
1:D:543:LEU:HD22	1:D:759:LEU:HD11	1.90	0.53
1:A:139:LYS:O	1:A:141:GLN:HG3	2.08	0.53
1:C:718:GLN:HA	1:C:718:GLN:NE2	2.24	0.53
1:D:704:HIS:CD2	1:D:716:SER:OG	2.62	0.53
1:C:580:GLY:O	1:C:583:SER:OG	2.26	0.53
1:D:414:TYR:HA	1:D:436:LEU:HD13	1.90	0.53
1:D:486:SER:OG	1:D:487:SER:N	2.42	0.53
1:D:677:GLU:OE1	1:D:677:GLU:N	2.41	0.53
1:A:472:CYS:O	1:A:478:PRO:HA	2.09	0.52
1:B:41:ARG:HG2	1:B:42:THR:N	2.23	0.52
1:B:691:ARG:HG3	1:B:691:ARG:HH11	1.74	0.52
1:D:516:VAL:HG11	1:D:523:LYS:HB2	1.91	0.52
1:A:517:ILE:HG23	1:A:526:TYR:CE2	2.45	0.52
1:B:53:PHE:CE1	1:B:503:MET:HB3	2.45	0.52
1:C:258:LYS:HD2	1:D:247:GLN:HG2	1.90	0.52
1:C:438:ASP:OD1	1:C:440:THR:HB	2.09	0.52
1:D:408:GLU:HG2	7:D:1660:HOH:O	2.09	0.52
1:A:548:ALA:HB3	1:A:635:VAL:HG21	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:438:ASP:C	1:C:440:THR:H	2.16	0.52
1:C:708:ASP:OD2	1:C:740:HIS:HA	2.08	0.52
1:D:60:LEU:HD12	1:D:60:LEU:C	2.35	0.52
1:A:481:THR:OG1	1:A:483:HIS:HE1	1.92	0.52
1:C:77:LEU:HD23	1:C:88:ILE:HA	1.90	0.52
1:D:61:GLN:HE22	1:D:105:TYR:HE1	1.55	0.52
1:B:704:HIS:HE1	1:B:711:VAL:O	1.93	0.52
1:C:550:PRO:HB3	1:C:594:ILE:HD11	1.90	0.52
1:D:471:ARG:NH1	1:D:471:ARG:HG2	2.25	0.52
1:A:219:ASN:HB2	1:A:308:GLU:CG	2.39	0.52
1:B:512:LYS:HE3	1:B:527:GLN:NE2	2.25	0.52
1:D:352:GLY:HA2	1:D:595:ASN:OD1	2.09	0.52
1:A:681:ASP:OD1	1:A:684:ARG:NH2	2.43	0.52
1:C:159:PRO:HD3	1:C:216:TRP:CB	2.39	0.52
1:D:471:ARG:HG2	1:D:471:ARG:HH11	1.75	0.52
1:D:472:CYS:O	1:D:478:PRO:HA	2.10	0.52
1:A:125:ARG:HH21	1:A:205:GLU:CD	2.18	0.52
1:A:293:VAL:C	1:A:295:ILE:H	2.17	0.52
1:B:158:SER:OG	1:B:163:LYS:HB2	2.09	0.52
1:C:463:ASN:O	1:C:465:ALA:N	2.43	0.52
1:B:403:GLU:OE1	1:B:585:TYR:HA	2.10	0.52
1:B:490:GLU:O	1:B:491:LEU:C	2.52	0.52
1:C:536:LYS:HG2	1:C:537:SER:H	1.72	0.52
1:D:56:LYS:N	1:D:497:ASN:OD1	2.42	0.51
1:D:438:ASP:C	1:D:440:THR:H	2.18	0.51
1:A:400:GLY:HA3	1:A:402:TRP:NE1	2.25	0.51
1:A:686:SER:HA	2:F:1:NAG:H82	1.93	0.51
1:B:153:GLN:HE22	1:B:170:ASN:HD21	1.56	0.51
1:B:741:GLY:O	1:B:742:ILE:C	2.54	0.51
1:D:90:LEU:HD11	1:D:94:THR:HG21	1.93	0.51
1:D:111:ARG:O	1:D:137:LEU:HD12	2.10	0.51
1:A:301:CYS:SG	1:A:314:GLN:HG2	2.49	0.51
1:B:358:ARG:NH2	7:B:1515:HOH:O	2.32	0.51
1:B:654:ALA:HA	1:B:704:HIS:CD2	2.46	0.51
1:C:248:TYR:CZ	1:D:234:PRO:HB2	2.45	0.51
1:C:746:MET:HE1	7:C:1647:HOH:O	2.10	0.51
1:B:357:PHE:O	1:B:358:ARG:HB3	2.11	0.51
1:C:533:HIS:O	1:C:534:PHE:C	2.53	0.51
1:D:746:MET:HE3	7:D:1545:HOH:O	2.10	0.51
1:A:271:VAL:HG22	1:A:284:SER:HB3	1.92	0.51
1:A:527:GLN:HB3	1:A:555:VAL:HG13	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:154:TRP:CD1	1:C:214:LEU:HD11	2.46	0.51
1:C:183:GLN:OE1	1:C:278:PRO:HA	2.09	0.51
1:A:75:ASN:HD22	1:A:92:ASN:CG	2.19	0.51
1:A:353:TRP:CZ2	1:A:591:MET:HE3	2.45	0.51
1:A:547:TYR:HB2	1:A:554:LYS:HD3	1.92	0.51
1:A:681:ASP:HB2	7:A:1678:HOH:O	2.10	0.51
1:C:730:PHE:O	1:D:733:MET:HE1	2.11	0.51
1:D:197:GLY:C	1:D:213:ALA:HB3	2.35	0.51
1:D:214:LEU:HD23	1:D:225:TYR:HB3	1.93	0.51
1:D:549:GLY:HA2	1:D:631:TYR:CE1	2.46	0.51
1:A:258:LYS:HE3	1:B:247:GLN:O	2.10	0.51
1:B:92:ASN:HB2	3:G:1:NAG:H82	1.92	0.51
1:C:224:ALA:HB1	1:C:268:PHE:CZ	2.46	0.51
1:D:600:THR:OG1	1:D:601:PHE:N	2.44	0.51
1:D:651:ILE:HG23	1:D:701:LEU:HB3	1.93	0.51
1:B:316:ILE:CD1	1:B:320:GLN:HA	2.40	0.51
1:B:757:HIS:O	1:B:761:GLN:HB3	2.10	0.51
1:C:208:PHE:O	1:C:209:SER:C	2.52	0.51
1:A:446:SER:HB2	1:A:457:TYR:CE1	2.46	0.51
1:A:681:ASP:HA	1:A:684:ARG:HH21	1.76	0.51
1:D:654:ALA:HA	1:D:704:HIS:CD2	2.46	0.51
1:A:438:ASP:C	1:A:440:THR:H	2.20	0.50
1:B:732:THR:HG23	1:B:733:MET:N	2.25	0.50
1:A:269:PHE:CE2	1:A:286:GLN:HG3	2.46	0.50
1:B:643:GLY:HA2	7:B:1633:HOH:O	2.11	0.50
1:C:487:SER:O	1:C:489:LYS:N	2.44	0.50
1:C:725:ASP:O	1:D:746:MET:HE2	2.12	0.50
1:A:327:ILE:CD1	1:A:389:THR:HG23	2.41	0.50
1:B:72:GLN:HB3	1:B:77:LEU:HD12	1.93	0.50
1:B:159:PRO:HD3	1:B:216:TRP:CB	2.40	0.50
1:C:382:LYS:HB2	1:C:403:GLU:OE2	2.11	0.50
1:C:596:ARG:NH2	1:C:679:ASN:HB2	2.26	0.50
1:D:67:GLU:HB3	1:D:78:LEU:HD11	1.93	0.50
1:D:382:LYS:HE2	7:D:1639:HOH:O	2.11	0.50
1:A:452:GLU:HA	1:A:452:GLU:OE1	2.11	0.50
1:A:666:TYR:CZ	4:A:802:OQG:HD2	2.46	0.50
1:A:718:GLN:HE21	1:A:718:GLN:CA	2.23	0.50
1:B:199:THR:HA	1:B:228:PHE:CE2	2.46	0.50
1:D:139:LYS:O	1:D:141:GLN:HG3	2.11	0.50
1:D:153:GLN:HE22	1:D:170:ASN:HD22	1.58	0.50
1:A:167:VAL:HG21	1:A:198:VAL:HG13	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:338:ILE:HG22	1:B:339:SER:O	2.11	0.50
1:B:484:SER:O	1:B:488:ASP:HA	2.12	0.50
1:B:546:VAL:HG22	1:B:547:TYR:N	2.25	0.50
1:D:420:ASN:ND2	1:D:426:PRO:HA	2.27	0.50
1:D:547:TYR:HD2	1:D:552:SER:HB2	1.77	0.50
1:A:149:PRO:HB2	1:A:168:TRP:CD1	2.47	0.50
1:A:516:VAL:HG13	1:A:524:PHE:O	2.12	0.50
1:B:523:LYS:O	1:B:523:LYS:HG3	2.12	0.50
1:D:640:LEU:HD11	1:D:650:GLY:HA3	1.92	0.50
1:A:403:GLU:OE1	1:A:585:TYR:HA	2.12	0.50
1:A:543:LEU:HD12	1:A:567:LEU:HD13	1.93	0.50
1:C:458:SER:HG	1:C:473:PHE:HE1	1.56	0.50
1:D:60:LEU:HD12	1:D:60:LEU:O	2.11	0.50
1:A:674:PRO:O	1:A:680:LEU:HD13	2.12	0.50
1:B:293:VAL:HG12	1:B:298:HIS:HB3	1.94	0.50
1:C:51:SER:HB2	1:C:54:ARG:NH2	2.27	0.50
1:A:415:LEU:HB3	1:A:434:ILE:HG23	1.94	0.50
1:B:739:ASP:OD1	1:B:739:ASP:C	2.55	0.50
1:C:706:THR:HB	7:C:1619:HOH:O	2.11	0.50
1:D:316:ILE:HD12	1:D:323:SER:HB2	1.94	0.50
1:D:539:LYS:HB3	1:D:620:ASP:HB2	1.94	0.50
1:D:677:GLU:HA	7:D:1706:HOH:O	2.11	0.50
1:C:127:SER:HB3	1:C:211:TYR:CG	2.47	0.49
1:C:453:ARG:HG3	1:C:476:GLY:HA3	1.94	0.49
1:C:658:LYS:HB3	1:C:661:TYR:CD2	2.46	0.49
1:A:219:ASN:HB2	1:A:308:GLU:CD	2.37	0.49
1:B:454:CYS:HB3	1:B:457:TYR:CE1	2.47	0.49
1:C:515:ASP:HB3	1:C:526:TYR:CZ	2.47	0.49
1:C:536:LYS:NZ	1:C:537:SER:H	2.09	0.49
1:C:671:MET:HE1	7:C:1543:HOH:O	2.10	0.49
1:D:107:VAL:HA	1:D:114:ILE:HA	1.93	0.49
1:A:90:LEU:HD23	1:A:140:ARG:HH22	1.78	0.49
1:A:234:PRO:HB2	1:B:248:TYR:CZ	2.47	0.49
1:D:142:LEU:O	1:D:144:THR:HG23	2.12	0.49
1:A:492:ARG:HH21	1:A:492:ARG:CB	2.17	0.49
1:A:658:LYS:HD3	1:A:661:TYR:CZ	2.47	0.49
1:C:543:LEU:HD22	1:C:759:LEU:HD11	1.94	0.49
1:B:708:ASP:OD2	1:B:740:HIS:HA	2.12	0.49
1:C:513:LYS:O	1:C:527:GLN:HA	2.12	0.49
1:A:482:LEU:O	1:A:490:GLU:O	2.30	0.49
1:D:253:ARG:HD3	7:D:1636:HOH:O	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:273:THR:CA	1:D:276:LEU:HD22	2.42	0.49
1:B:305:TRP:CZ2	1:B:311:ILE:HD12	2.48	0.49
1:C:285:TYR:CE1	1:C:336:ARG:HG2	2.48	0.49
1:C:547:TYR:HD2	1:C:552:SER:HB2	1.77	0.49
1:C:691:ARG:NH1	2:I:1:NAG:H81	2.28	0.49
1:D:299:TYR:CE1	1:D:665:VAL:HG22	2.48	0.49
1:D:519:LEU:O	1:D:520:HIS:C	2.55	0.49
1:A:649:CYS:HB3	1:A:699:GLU:HB2	1.93	0.49
1:B:490:GLU:O	1:B:492:ARG:N	2.46	0.49
1:C:195:TYR:O	1:C:227:GLN:HA	2.13	0.49
1:C:299:TYR:CZ	1:C:665:VAL:HG22	2.48	0.49
1:C:654:ALA:HA	1:C:704:HIS:CD2	2.48	0.49
1:D:45:LEU:O	1:D:49:LEU:HG	2.13	0.49
1:B:63:ILE:HG21	1:B:69:LEU:HG	1.95	0.49
1:B:285:TYR:CE1	1:B:336:ARG:HB3	2.48	0.49
1:C:403:GLU:OE1	1:C:585:TYR:HA	2.12	0.49
1:C:422:HIS:CE1	1:C:447:CYS:HB3	2.47	0.49
1:C:733:MET:HE2	1:D:732:THR:HG22	1.94	0.49
1:D:258:LYS:O	1:D:259:ALA:C	2.55	0.49
1:D:332:GLU:HG3	7:D:1652:HOH:O	2.12	0.49
1:D:757:HIS:CE1	7:D:1505:HOH:O	2.65	0.49
1:B:194:ILE:HD12	5:B:771(A):NAG:H82	1.94	0.49
1:C:266:VAL:HG22	1:C:267:LYS:N	2.27	0.49
1:A:547:TYR:HD2	1:A:552:SER:CB	2.26	0.48
1:A:547:TYR:HD2	1:A:552:SER:HB2	1.78	0.48
1:B:72:GLN:HG2	1:B:73:GLU:HG2	1.95	0.48
1:B:88:ILE:HG21	1:B:91:GLU:CG	2.42	0.48
1:D:385:CYS:HB3	1:D:387:PHE:CE1	2.48	0.48
1:D:484:SER:O	1:D:488:ASP:HA	2.12	0.48
1:A:55:VAL:HG22	1:A:500:LEU:HD21	1.95	0.48
1:A:58:TYR:CD2	1:A:494:LEU:HB3	2.47	0.48
1:A:219:ASN:H	1:A:308:GLU:CD	2.19	0.48
1:A:327:ILE:HD13	1:A:389:THR:HG23	1.95	0.48
1:A:384:ILE:HG13	1:A:404:VAL:HG21	1.95	0.48
1:A:531:PRO:HB3	1:A:572:ASN:HD22	1.77	0.48
1:D:173:TYR:CE2	1:D:184:ARG:HG2	2.48	0.48
1:D:289:PRO:HB3	1:D:315:TRP:CD2	2.48	0.48
1:A:600:THR:OG1	1:A:601:PHE:N	2.47	0.48
1:D:219:ASN:H	1:D:308:GLU:CD	2.21	0.48
1:D:379:GLU:O	1:D:379:GLU:HG2	2.13	0.48
1:D:523:LYS:O	1:D:523:LYS:HG3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:640:LEU:HD11	1:B:650:GLY:HA3	1.95	0.48
1:C:198:VAL:N	1:C:213:ALA:HB3	2.28	0.48
1:C:402:TRP:CD2	1:C:421:GLU:HB2	2.48	0.48
1:B:294:LEU:HD23	1:B:294:LEU:O	2.13	0.48
1:C:288:VAL:HG11	1:C:294:LEU:HD11	1.96	0.48
1:B:420:ASN:HB2	1:B:426:PRO:HA	1.95	0.48
1:D:532:PRO:CD	1:D:569:SER:HA	2.44	0.48
1:D:538:LYS:HE3	7:D:1674:HOH:O	2.13	0.48
1:A:44:THR:HB	7:A:1591:HOH:O	2.12	0.48
1:A:415:LEU:C	1:A:415:LEU:CD1	2.87	0.48
1:B:137:LEU:O	1:B:140:ARG:NH1	2.46	0.48
1:B:242:SER:OG	1:B:243:ASP:N	2.47	0.48
1:B:266:VAL:HG22	1:B:267:LYS:N	2.29	0.48
1:C:518:ASN:O	1:C:519:LEU:HD23	2.14	0.48
1:D:512:LYS:HE3	1:D:527:GLN:CD	2.39	0.48
1:D:532:PRO:HD3	1:D:569:SER:HA	1.95	0.48
1:D:536:LYS:HA	1:D:618:PHE:HB3	1.96	0.48
1:A:535:ASP:C	1:A:535:ASP:OD2	2.57	0.48
1:A:666:TYR:CE2	4:A:802:OQG:HD2	2.49	0.48
1:D:47:ASP:HA	1:D:52:THR:CG2	2.44	0.48
1:A:42:THR:HB	1:A:569:SER:OG	2.14	0.47
1:A:415:LEU:HB3	1:A:434:ILE:CG2	2.44	0.47
1:C:142:LEU:HD23	1:C:142:LEU:C	2.39	0.47
1:D:62:TRP:CE3	1:D:68:TYR:HB3	2.49	0.47
1:A:142:LEU:O	1:A:144:THR:HG23	2.14	0.47
1:A:172:ILE:HB	1:A:185:ILE:HB	1.96	0.47
1:A:704:HIS:HE1	1:A:711:VAL:O	1.97	0.47
1:B:385:CYS:HB3	1:B:387:PHE:CE1	2.49	0.47
1:D:536:LYS:O	1:D:537:SER:HB2	2.13	0.47
1:C:76:ILE:HD12	1:C:90:LEU:CD1	2.45	0.47
1:C:45:LEU:HG	1:C:49:LEU:CD1	2.44	0.47
1:C:367:ASP:HB3	7:C:1522:HOH:O	2.13	0.47
1:A:517:ILE:HD11	1:A:578:PHE:CE1	2.49	0.47
1:C:272:ASP:OD2	1:C:272:ASP:C	2.57	0.47
1:C:414:TYR:CE2	1:C:435:GLN:HG3	2.50	0.47
1:A:334:THR:OG1	1:A:336:ARG:HG3	2.15	0.47
1:A:413:ASP:O	1:A:436:LEU:HB2	2.15	0.47
5:B:767(A):NAG:H61	7:B:1576:HOH:O	2.14	0.47
1:C:438:ASP:C	1:C:440:THR:N	2.73	0.47
1:D:384:ILE:HD11	1:D:404:VAL:HG11	1.96	0.47
3:J:2:NAG:H82	3:J:2:NAG:O3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:158:SER:HA	1:A:216:TRP:CD1	2.50	0.47
1:A:474:GLY:HA2	1:A:476:GLY:O	2.15	0.47
1:A:516:VAL:HG12	1:A:517:ILE:H	1.78	0.47
1:A:602:GLU:OE2	1:A:602:GLU:N	2.43	0.47
1:B:718:GLN:NE2	1:B:718:GLN:HA	2.30	0.47
1:C:159:PRO:HD3	1:C:216:TRP:HB3	1.95	0.47
1:C:415:LEU:HD23	1:C:415:LEU:C	2.40	0.47
1:D:268:PHE:CZ	1:D:313:LEU:HD21	2.50	0.47
1:D:292:SER:HA	1:D:295:ILE:CD1	2.44	0.47
1:D:365:THR:HG23	1:D:370:SER:O	2.15	0.47
1:A:92:ASN:O	1:A:93:SER:OG	2.33	0.47
1:A:431:LEU:HD23	1:A:445:LEU:HD12	1.96	0.47
1:B:40:ARG:HD2	1:B:506:ASP:O	2.14	0.47
1:B:280:ALA:HB2	1:D:285:TYR:HD1	1.80	0.47
1:B:626:ILE:HB	1:B:647:PHE:CE2	2.49	0.47
1:B:680:LEU:HD21	1:B:684:ARG:CZ	2.45	0.47
1:C:138:ASN:C	1:C:140:ARG:H	2.22	0.47
3:J:1:NAG:H62	3:J:2:NAG:HN2	1.79	0.47
1:A:119:ASN:O	1:A:121:VAL:HG23	2.13	0.47
1:B:196:ASN:OD1	1:B:227:GLN:HG3	2.14	0.47
1:B:524:PHE:HB2	1:B:578:PHE:CE1	2.49	0.47
1:B:602:GLU:N	1:B:602:GLU:OE2	2.48	0.47
1:C:529:ILE:HG12	1:C:575:VAL:O	2.15	0.47
1:A:516:VAL:CG1	1:A:517:ILE:N	2.78	0.47
1:A:675:THR:C	1:A:680:LEU:HB2	2.39	0.47
1:C:110:ASP:OD2	1:C:162:HIS:ND1	2.42	0.47
1:C:548:ALA:HA	7:C:1615:HOH:O	2.15	0.47
1:D:75:ASN:HD22	1:D:92:ASN:N	2.12	0.47
1:A:532:PRO:O	1:A:533:HIS:C	2.58	0.46
1:C:547:TYR:HB2	1:C:554:LYS:HD3	1.96	0.46
1:D:159:PRO:HD3	1:D:216:TRP:CB	2.44	0.46
1:A:391:LYS:HE3	7:A:1639:HOH:O	2.15	0.46
1:A:435:GLN:HE22	1:A:441:LYS:HD3	1.80	0.46
1:B:658:LYS:HG3	1:B:687:THR:HG22	1.97	0.46
1:B:661:TYR:OH	1:B:718:GLN:HG3	2.15	0.46
1:B:751:ILE:O	1:B:755:MET:HG3	2.15	0.46
1:D:546:VAL:HG22	1:D:547:TYR:N	2.30	0.46
1:A:293:VAL:C	1:A:295:ILE:N	2.73	0.46
1:B:165:ALA:HB2	1:B:216:TRP:CZ2	2.50	0.46
1:B:231:THR:HG22	1:B:232:GLU:HG3	1.97	0.46
5:B:767(A):NAG:C6	7:B:1576:HOH:O	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:136:ASP:CG	1:C:139:LYS:HG2	2.40	0.46
1:D:415:LEU:C	1:D:415:LEU:HD23	2.41	0.46
1:A:330:TYR:CE1	1:A:335:GLY:HA2	2.50	0.46
1:A:718:GLN:HE22	1:A:721:LYS:HZ1	1.63	0.46
1:B:299:TYR:CZ	1:B:665:VAL:HG22	2.50	0.46
1:C:167:VAL:HG11	1:C:198:VAL:HG13	1.97	0.46
1:C:316:ILE:HG22	1:C:323:SER:HB2	1.98	0.46
1:C:563:TRP:CH2	1:C:759:LEU:HD12	2.50	0.46
1:D:236:ILE:O	1:D:253:ARG:HA	2.16	0.46
1:D:215:TRP:CZ2	1:D:303:VAL:HG21	2.50	0.46
1:A:704:HIS:HD2	1:A:716:SER:OG	1.99	0.46
1:D:356:ARG:HD2	7:D:1568:HOH:O	2.14	0.46
1:A:55:VAL:HG22	1:A:500:LEU:CD2	2.45	0.46
1:A:273:THR:HA	1:A:276:LEU:HG	1.97	0.46
1:B:370:SER:HB2	1:B:387:PHE:O	2.15	0.46
1:C:94:THR:O	1:C:94:THR:HG22	2.14	0.46
1:C:674:PRO:O	1:C:680:LEU:HD13	2.16	0.46
1:D:288:VAL:HG11	1:D:294:LEU:CD1	2.46	0.46
1:A:299:TYR:CZ	1:A:665:VAL:HG22	2.51	0.46
1:A:377:ASN:ND2	1:A:383:HIS:HD2	2.13	0.46
1:B:402:TRP:CD2	1:B:421:GLU:HB2	2.51	0.46
1:C:184:ARG:HD2	1:C:187:TRP:CZ2	2.51	0.46
1:C:491:LEU:H	1:C:491:LEU:CD2	2.28	0.46
1:D:536:LYS:C	1:D:538:LYS:H	2.24	0.46
1:B:704:HIS:CE1	1:B:711:VAL:O	2.68	0.46
1:D:695:PHE:HB3	1:D:728:VAL:HG11	1.97	0.46
1:D:246:LEU:HD23	1:D:246:LEU:HA	1.73	0.46
1:A:429:ARG:HG2	1:A:456:TYR:CE2	2.50	0.45
1:C:316:ILE:HG22	1:C:323:SER:CB	2.46	0.45
1:D:190:LYS:HG2	1:D:193:VAL:HB	1.98	0.45
1:B:100:TYR:OH	1:B:133:ASP:OD2	2.27	0.45
1:B:278:PRO:HG2	5:B:772(A):NAG:H82	1.96	0.45
1:D:128:TYR:CD1	1:D:128:TYR:C	2.94	0.45
1:D:530:LEU:HA	1:D:531:PRO:HD3	1.87	0.45
1:B:73:GLU:OE2	1:B:73:GLU:HA	2.15	0.45
1:D:325:ILE:O	1:D:344:GLN:HA	2.17	0.45
1:A:452:GLU:HB2	7:A:1556:HOH:O	2.16	0.45
1:A:751:ILE:O	1:A:755:MET:HG3	2.16	0.45
1:B:159:PRO:HD3	1:B:216:TRP:HB3	1.97	0.45
1:B:482:LEU:C	1:B:483:HIS:ND1	2.75	0.45
1:B:561:LEU:HD12	1:B:561:LEU:HA	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:413:ASP:O	1:C:436:LEU:HD13	2.16	0.45
1:D:139:LYS:HB3	1:D:139:LYS:HE2	1.77	0.45
1:D:246:LEU:HD13	1:D:248:TYR:O	2.16	0.45
1:D:680:LEU:O	1:D:683:TYR:HB2	2.15	0.45
1:C:184:ARG:HD2	1:C:187:TRP:CE2	2.52	0.45
1:D:191:GLU:O	1:D:193:VAL:HG23	2.16	0.45
1:D:526:TYR:HA	1:D:555:VAL:HG21	1.98	0.45
1:A:111:ARG:O	1:A:137:LEU:HD12	2.17	0.45
1:B:146:GLU:OE1	1:B:181:SER:HA	2.16	0.45
1:C:487:SER:C	1:C:489:LYS:H	2.24	0.45
1:C:733:MET:HA	1:D:732:THR:HG21	1.97	0.45
1:D:269:PHE:CE2	1:D:286:GLN:HB2	2.50	0.45
1:A:457:TYR:HA	1:A:471:ARG:O	2.16	0.45
1:B:420:ASN:ND2	1:B:426:PRO:HA	2.32	0.45
1:C:90:LEU:C	1:C:90:LEU:HD22	2.41	0.45
1:C:704:HIS:CE1	1:C:711:VAL:O	2.69	0.45
1:D:79:PHE:CD1	1:D:86:SER:HB3	2.51	0.45
1:D:110:ASP:C	1:D:112:GLN:H	2.24	0.45
1:A:47:ASP:HA	1:A:52:THR:OG1	2.17	0.45
1:A:531:PRO:HA	1:A:532:PRO:HD3	1.85	0.45
1:A:589:LYS:HB2	7:A:1641:HOH:O	2.17	0.45
1:B:124:TRP:HB2	1:B:204:GLU:OE2	2.17	0.45
1:B:208:PHE:O	1:B:209:SER:C	2.59	0.45
1:C:121:VAL:HB	1:C:129:THR:OG1	2.16	0.45
1:D:685:ASN:O	2:M:1:NAG:H82	2.17	0.45
1:A:93:SER:C	1:A:95:PHE:N	2.69	0.45
1:B:415:LEU:HB3	1:B:434:ILE:HG22	1.98	0.45
1:B:644:SER:C	1:B:646:VAL:H	2.24	0.45
1:C:124:TRP:HB2	1:C:204:GLU:OE2	2.16	0.45
1:A:90:LEU:HD23	1:A:90:LEU:HA	1.62	0.45
1:A:128:TYR:CD1	1:A:128:TYR:C	2.95	0.45
1:A:167:VAL:HA	1:A:171:ASP:O	2.16	0.45
1:A:294:LEU:HD22	1:A:294:LEU:O	2.16	0.45
1:C:43:TYR:O	1:C:570:THR:OG1	2.32	0.45
1:C:649:CYS:HA	1:C:699:GLU:O	2.16	0.45
1:D:41:ARG:H	1:D:41:ARG:HG3	1.38	0.45
1:D:170:ASN:O	1:D:196:ASN:HB2	2.16	0.45
1:B:340:SER:O	1:B:344:GLN:HG3	2.16	0.44
1:D:330:TYR:CE1	1:D:335:GLY:HA2	2.53	0.44
1:A:113:PHE:CE1	1:A:178:PRO:HG2	2.52	0.44
1:A:219:ASN:HB2	1:A:308:GLU:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:257:PRO:O	1:B:663:ASP:HA	2.16	0.44
1:B:701:LEU:HD22	1:B:703:ILE:HG13	2.00	0.44
1:C:282:VAL:HA	7:C:1552:HOH:O	2.18	0.44
1:C:443:THR:HG22	1:C:445:LEU:HD23	1.99	0.44
1:C:613:PHE:O	1:C:619:VAL:HG21	2.17	0.44
1:C:763:PHE:CB	1:C:765:LEU:HG	2.47	0.44
1:D:214:LEU:HD22	1:D:223:LEU:HD11	1.98	0.44
1:A:516:VAL:HG11	1:A:523:LYS:HB2	1.98	0.44
1:B:382:LYS:HE2	7:B:1585:HOH:O	2.18	0.44
1:D:365:THR:HG21	1:D:370:SER:OG	2.18	0.44
1:A:127:SER:HB3	1:A:211:TYR:CD1	2.52	0.44
1:A:139:LYS:O	1:A:140:ARG:C	2.59	0.44
1:A:191:GLU:O	1:A:192:ASN:HB2	2.15	0.44
1:A:684:ARG:HE	1:A:684:ARG:HB2	1.60	0.44
1:C:603:VAL:HG13	1:C:639:VAL:HG23	2.00	0.44
1:A:322:TYR:CD1	1:A:322:TYR:C	2.95	0.44
1:B:73:GLU:O	1:B:74:ASN:HB2	2.18	0.44
1:B:154:TRP:NE1	1:B:214:LEU:HD11	2.33	0.44
1:B:285:TYR:CE1	1:B:336:ARG:CB	3.00	0.44
1:B:355:GLY:HA3	1:B:358:ARG:O	2.18	0.44
1:C:204:GLU:HA	1:C:210:ALA:O	2.17	0.44
1:C:741:GLY:O	1:C:742:ILE:C	2.60	0.44
1:D:439:TYR:N	1:D:439:TYR:CD1	2.85	0.44
1:B:470:LEU:HD23	1:B:470:LEU:HA	1.79	0.44
1:B:693:GLU:OE1	1:B:696:LYS:CE	2.65	0.44
1:C:288:VAL:CG1	1:C:289:PRO:HD2	2.47	0.44
1:D:293:VAL:C	1:D:295:ILE:N	2.74	0.44
1:D:386:HIS:CD2	1:D:386:HIS:C	2.95	0.44
1:D:504:LEU:HA	1:D:507:VAL:CG1	2.48	0.44
1:A:237:GLU:HG2	1:A:253:ARG:HG2	1.99	0.44
1:A:734:TRP:HB3	1:B:734:TRP:CE3	2.53	0.44
1:C:65:ASP:CA	1:C:463:ASN:HB2	2.47	0.44
1:C:644:SER:C	1:C:646:VAL:H	2.25	0.44
1:D:143:ILE:HD13	1:D:178:PRO:HB2	2.00	0.44
1:A:123:GLN:HG2	1:A:124:TRP:CD2	2.53	0.44
1:A:517:ILE:HG23	1:A:526:TYR:HE2	1.82	0.44
1:A:654:ALA:HA	1:A:704:HIS:CD2	2.52	0.44
1:A:658:LYS:HB3	1:A:661:TYR:CE2	2.52	0.44
1:B:418:ILE:HA	1:B:430:ASN:O	2.18	0.44
1:B:504:LEU:HD22	1:B:509:MET:HE2	1.99	0.44
1:C:458:SER:OG	1:C:471:ARG:HB2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:751:ILE:O	1:D:755:MET:HG3	2.17	0.44
1:A:502:LYS:HB3	7:A:1671:HOH:O	2.18	0.44
1:B:378:GLU:CD	1:B:378:GLU:N	2.71	0.44
1:C:75:ASN:ND2	1:C:92:ASN:HB2	2.31	0.44
1:C:241:TYR:CD1	1:C:241:TYR:N	2.86	0.44
1:C:377:ASN:ND2	1:C:383:HIS:HD2	2.16	0.44
1:C:512:LYS:HE3	1:C:527:GLN:CD	2.42	0.44
1:C:516:VAL:HG11	1:C:523:LYS:HE2	1.99	0.44
1:D:114:ILE:CG2	1:D:135:TYR:HB3	2.48	0.44
1:D:694:ASN:N	1:D:694:ASN:ND2	2.65	0.44
1:B:40:ARG:HB3	1:B:508:GLN:HG3	1.98	0.43
1:B:208:PHE:CD1	1:B:208:PHE:N	2.86	0.43
1:B:662:TYR:HB3	1:B:667:THR:OG1	2.18	0.43
1:C:128:TYR:CD1	1:C:128:TYR:C	2.96	0.43
1:C:356:ARG:NE	7:C:1636:HOH:O	2.50	0.43
1:C:415:LEU:HD23	1:C:416:TYR:N	2.33	0.43
1:C:487:SER:C	1:C:489:LYS:N	2.74	0.43
1:D:279:ASN:OD1	5:D:773(A):NAG:O7	2.36	0.43
1:A:530:LEU:HA	1:A:531:PRO:HD3	1.91	0.43
1:B:235:LEU:HD23	1:B:255:PRO:HA	2.00	0.43
1:B:256:TYR:CD1	1:B:256:TYR:C	2.96	0.43
1:D:686:SER:HA	2:M:1:NAG:H82	1.99	0.43
1:B:327:ILE:HB	1:B:343:ARG:HB3	2.00	0.43
1:B:658:LYS:HB2	1:B:689:MET:HE1	2.00	0.43
1:B:703:ILE:HG12	1:B:733:MET:HB3	1.99	0.43
1:C:733:MET:HA	1:D:732:THR:HG23	1.97	0.43
1:D:354:VAL:HG12	1:D:359:PRO:HB3	2.00	0.43
1:D:393:ASN:H	1:D:393:ASN:ND2	2.16	0.43
1:D:735:TYR:OH	1:D:751:ILE:HA	2.18	0.43
1:C:168:TRP:O	1:C:169:ASN:C	2.59	0.43
1:C:299:TYR:HB2	1:C:316:ILE:HG13	2.00	0.43
1:C:542:LEU:HD23	1:C:543:LEU:H	1.84	0.43
1:D:64:SER:C	1:D:463:ASN:HB2	2.43	0.43
1:B:42:THR:HB	1:B:569:SER:OG	2.19	0.43
1:B:527:GLN:HB3	1:B:555:VAL:HG13	2.01	0.43
1:C:567:LEU:O	1:C:571:GLU:HB2	2.17	0.43
1:A:338:ILE:HG22	1:A:339:SER:N	2.33	0.43
1:A:503:MET:HE1	7:A:1627:HOH:O	2.18	0.43
1:C:712:HIS:C	1:C:714:GLN:N	2.75	0.43
1:D:219:ASN:HB2	1:D:308:GLU:CG	2.48	0.43
1:A:517:ILE:HB	1:A:612:GLN:HE22	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:221:THR:HB	1:B:308:GLU:OE1	2.18	0.43
1:C:172:ILE:HB	1:C:185:ILE:HB	2.01	0.43
1:C:519:LEU:C	1:C:520:HIS:CG	2.97	0.43
1:A:381:TYR:CE2	1:A:401:ALA:HA	2.54	0.43
1:B:139:LYS:O	1:B:140:ARG:C	2.61	0.43
1:B:730:PHE:N	1:B:730:PHE:CD1	2.86	0.43
1:D:244:GLU:HG2	7:D:1590:HOH:O	2.19	0.43
1:D:561:LEU:HD12	1:D:561:LEU:HA	1.65	0.43
1:A:310:ARG:HD2	7:A:1586:HOH:O	2.18	0.43
1:C:229:ASN:HB3	1:C:265:THR:OG1	2.19	0.43
1:D:317:ARG:HD2	1:D:322:TYR:CB	2.48	0.43
1:A:165:ALA:HA	1:A:173:TYR:O	2.19	0.43
1:B:114:ILE:HG23	1:B:135:TYR:HB3	2.01	0.43
1:B:641:GLY:C	1:B:691:ARG:HD3	2.44	0.43
1:C:61:GLN:O	1:C:63:ILE:HG23	2.18	0.43
1:C:183:GLN:HE22	1:C:278:PRO:N	2.17	0.43
1:C:519:LEU:HD22	1:C:608:GLU:CD	2.43	0.43
1:D:418:ILE:HD13	1:D:431:LEU:HA	2.00	0.43
1:A:300:LEU:HB2	1:A:315:TRP:CZ3	2.54	0.42
1:A:435:GLN:NE2	1:A:441:LYS:CD	2.81	0.42
1:A:734:TRP:CD1	1:A:734:TRP:C	2.96	0.42
1:B:477:LEU:N	1:B:477:LEU:HD23	2.34	0.42
1:C:408:GLU:HG2	7:C:1559:HOH:O	2.19	0.42
1:D:103:ASN:O	1:D:104:ASP:HB2	2.18	0.42
1:D:413:ASP:O	1:D:436:LEU:HD13	2.19	0.42
1:A:153:GLN:HE22	1:A:170:ASN:ND2	2.17	0.42
1:B:39:SER:O	1:B:40:ARG:O	2.38	0.42
1:B:686:SER:HA	2:H:1:NAG:H82	2.01	0.42
1:C:243:ASP:HB2	7:C:1549:HOH:O	2.19	0.42
1:C:530:LEU:HA	1:C:531:PRO:HD3	1.89	0.42
1:D:293:VAL:C	1:D:295:ILE:H	2.26	0.42
1:D:461:PHE:CD2	1:D:468:TYR:HB3	2.54	0.42
1:A:425:MET:HA	1:A:426:PRO:HD2	1.90	0.42
1:B:703:ILE:HA	1:B:733:MET:O	2.19	0.42
1:C:324:ILE:HD12	1:C:346:ILE:HG12	2.01	0.42
1:C:436:LEU:N	1:C:436:LEU:HD12	2.34	0.42
1:C:444:CYS:SG	1:C:447:CYS:N	2.88	0.42
1:D:482:LEU:HB2	1:D:494:LEU:HD21	2.01	0.42
1:D:581:ARG:HE	1:D:605:ASP:CG	2.27	0.42
1:A:561:LEU:HD12	1:A:561:LEU:HA	1.84	0.42
1:B:154:TRP:HE1	1:B:214:LEU:HD11	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:345:HIS:HD2	7:B:1530:HOH:O	2.02	0.42
1:C:65:ASP:OD2	1:C:466:LYS:HD3	2.19	0.42
1:C:148:ILE:HG23	1:C:149:PRO:HD2	2.02	0.42
1:C:294:LEU:O	1:C:295:ILE:C	2.62	0.42
1:C:658:LYS:HB3	1:C:661:TYR:CE2	2.55	0.42
1:D:208:PHE:O	1:D:209:SER:C	2.60	0.42
1:A:416:TYR:CE2	1:A:433:ARG:HD3	2.54	0.42
1:C:435:GLN:OE1	1:C:441:LYS:HD2	2.19	0.42
1:B:134:ILE:HG21	1:B:178:PRO:HB3	2.00	0.42
1:B:341:VAL:HA	1:B:344:GLN:HG3	2.01	0.42
1:B:612:GLN:O	1:B:613:PHE:C	2.61	0.42
1:A:73:GLU:O	1:A:74:ASN:HB3	2.20	0.42
1:A:367:ASP:OD2	1:A:369:ASN:HB2	2.20	0.42
1:B:334:THR:O	1:D:275:THR:HG22	2.20	0.42
1:A:320:GLN:OE1	1:A:669:ARG:HD3	2.19	0.42
1:A:538:LYS:HD3	1:A:540:TYR:CZ	2.55	0.42
1:B:276:LEU:HD23	1:B:276:LEU:HA	1.82	0.42
1:B:519:LEU:C	1:B:520:HIS:CG	2.97	0.42
1:B:676:PRO:HG2	1:B:677:GLU:OE2	2.19	0.42
1:C:67:GLU:HB3	1:C:78:LEU:HD11	2.01	0.42
1:C:118:TYR:CD2	1:C:119:ASN:HB2	2.54	0.42
1:C:358:ARG:HG2	1:C:358:ARG:HH11	1.85	0.42
1:D:358:ARG:HE	1:D:358:ARG:HB3	1.42	0.42
1:A:246:LEU:HA	1:A:246:LEU:HD23	1.81	0.42
1:B:324:ILE:HD11	1:B:344:GLN:HB3	2.01	0.42
1:C:429:ARG:HG2	1:C:429:ARG:HH11	1.84	0.42
1:C:649:CYS:HB3	1:C:699:GLU:HB2	2.01	0.42
1:D:586:GLN:HB2	7:D:1507:HOH:O	2.20	0.42
1:A:92:ASN:C	1:A:92:ASN:OD1	2.63	0.42
1:A:519:LEU:HB2	1:A:524:PHE:CD1	2.55	0.42
1:B:88:ILE:CG2	1:B:91:GLU:HG3	2.49	0.42
1:B:240:PHE:O	1:B:250:LYS:HG2	2.19	0.42
1:C:207:VAL:HG12	1:C:208:PHE:CD1	2.55	0.42
1:C:526:TYR:CE1	1:C:528:MET:HE3	2.55	0.42
1:C:527:GLN:HB3	1:C:555:VAL:HG13	2.01	0.42
1:A:431:LEU:CD2	1:A:445:LEU:HD12	2.49	0.41
1:A:571:GLU:OE1	1:A:760:LYS:HD3	2.20	0.41
1:B:501:ASP:O	1:B:505:GLN:HG3	2.19	0.41
1:C:291:ALA:O	1:C:292:SER:C	2.63	0.41
1:C:301:CYS:SG	1:C:316:ILE:HD13	2.60	0.41
1:C:425:MET:HG2	1:C:525:TRP:CH2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:364:PHE:CD2	1:A:371:PHE:HB3	2.56	0.41
1:C:517:ILE:HG23	1:C:526:TYR:CE2	2.55	0.41
1:D:138:ASN:C	1:D:140:ARG:H	2.26	0.41
1:D:257:PRO:O	1:D:663:ASP:HA	2.20	0.41
1:D:547:TYR:HB2	1:D:554:LYS:HD3	2.01	0.41
1:A:438:ASP:OD1	1:A:440:THR:HB	2.19	0.41
1:B:310:ARG:NH1	1:B:389:THR:HG21	2.35	0.41
1:B:524:PHE:HB2	1:B:578:PHE:CZ	2.55	0.41
1:C:174:VAL:O	1:C:182:SER:HA	2.20	0.41
1:C:306:VAL:HG12	1:C:307:THR:HG23	2.03	0.41
1:C:340:SER:O	1:C:344:GLN:HG3	2.20	0.41
1:C:480:TYR:CD1	1:C:480:TYR:N	2.88	0.41
1:D:75:ASN:HD21	1:D:92:ASN:CG	2.28	0.41
1:D:115:LEU:HD21	1:D:155:ILE:HD13	2.02	0.41
1:A:88:ILE:HG21	1:A:91:GLU:HG2	2.02	0.41
1:A:446:SER:HB2	1:A:457:TYR:CZ	2.55	0.41
1:A:741:GLY:O	1:A:742:ILE:C	2.63	0.41
1:B:457:TYR:HD2	1:B:470:LEU:HD22	1.85	0.41
1:B:541:PRO:HG2	1:B:573:ILE:HG12	2.03	0.41
1:C:266:VAL:CG2	1:C:267:LYS:N	2.84	0.41
1:C:546:VAL:HG22	1:C:547:TYR:N	2.34	0.41
1:A:159:PRO:HB2	1:A:218:PRO:O	2.20	0.41
1:A:418:ILE:HA	1:A:430:ASN:O	2.21	0.41
1:A:751:ILE:HG23	1:A:752:TYR:N	2.36	0.41
1:B:542:LEU:HD23	1:B:543:LEU:H	1.85	0.41
1:C:139:LYS:O	1:C:140:ARG:C	2.63	0.41
1:C:551:CYS:O	1:C:551:CYS:SG	2.78	0.41
1:A:504:LEU:HA	1:A:507:VAL:CG1	2.48	0.41
1:A:527:GLN:O	1:A:576:ALA:HA	2.20	0.41
1:A:689:MET:HE3	1:B:244:GLU:HG3	2.03	0.41
1:B:631:TYR:CD1	1:B:635:VAL:HG23	2.55	0.41
1:C:183:GLN:NE2	1:C:277:SER:C	2.78	0.41
1:C:527:GLN:OE1	1:C:555:VAL:HA	2.21	0.41
1:C:763:PHE:HB2	1:C:765:LEU:HG	2.02	0.41
1:D:759:LEU:HD23	1:D:759:LEU:HA	1.87	0.41
1:A:175:LYS:HB3	1:A:175:LYS:HE2	1.88	0.41
1:A:190:LYS:HB3	1:A:193:VAL:HB	2.02	0.41
1:A:275:THR:HG22	1:C:334:THR:O	2.20	0.41
1:A:330:TYR:HB2	1:A:337:TRP:CH2	2.55	0.41
1:A:543:LEU:HB3	1:A:575:VAL:HG22	2.02	0.41
1:D:208:PHE:C	1:D:210:ALA:N	2.75	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:704:HIS:CE1	1:D:713:PHE:HA	2.56	0.41
1:A:60:LEU:HD12	1:A:60:LEU:C	2.46	0.41
1:A:203:TYR:CE2	1:A:228:PHE:HE1	2.38	0.41
1:A:235:LEU:HD23	1:A:255:PRO:CA	2.50	0.41
1:A:340:SER:O	1:A:344:GLN:HG3	2.20	0.41
1:C:653:VAL:O	1:C:654:ALA:C	2.64	0.41
1:C:718:GLN:HE21	1:C:718:GLN:CA	2.24	0.41
1:D:492:ARG:HD2	7:D:1609:HOH:O	2.21	0.41
1:A:175:LYS:NZ	1:A:178:PRO:O	2.53	0.41
1:A:285:TYR:HD1	1:C:280:ALA:HB2	1.85	0.41
1:A:522:THR:HB	1:A:524:PHE:CE1	2.56	0.41
1:A:618:PHE:CD1	1:A:619:VAL:HG23	2.55	0.41
1:B:39:SER:OG	1:B:40:ARG:N	2.54	0.41
1:B:187:TRP:CD1	1:B:187:TRP:N	2.89	0.41
1:B:218:PRO:HD3	1:B:305:TRP:HB3	2.03	0.41
1:B:237:GLU:HA	1:B:252:VAL:O	2.20	0.41
1:B:425:MET:HA	1:B:426:PRO:HD2	1.80	0.41
1:B:524:PHE:HB3	1:B:579:ASP:O	2.20	0.41
1:C:159:PRO:HB2	1:C:218:PRO:O	2.21	0.41
1:C:165:ALA:HA	1:C:173:TYR:O	2.21	0.41
1:C:273:THR:HA	1:C:276:LEU:HG	2.03	0.41
1:D:235:LEU:HD23	1:D:255:PRO:HA	2.01	0.41
1:D:236:ILE:HG22	1:D:254:ILE:HB	2.03	0.41
1:D:438:ASP:OD1	1:D:440:THR:HB	2.19	0.41
1:D:464:LYS:O	1:D:465:ALA:HB3	2.20	0.41
1:B:127:SER:HB3	1:B:211:TYR:CD1	2.56	0.41
1:C:45:LEU:HD12	1:C:45:LEU:HA	1.91	0.41
1:C:258:LYS:HZ1	1:C:712:HIS:CE1	2.38	0.41
1:C:661:TYR:OH	1:C:718:GLN:HG3	2.20	0.41
1:D:123:GLN:HG2	1:D:124:TRP:CD2	2.56	0.41
1:A:458:SER:OG	1:A:471:ARG:NH1	2.52	0.40
1:B:197:GLY:C	1:B:213:ALA:HB3	2.46	0.40
1:B:357:PHE:O	1:B:358:ARG:CB	2.69	0.40
1:C:414:TYR:CA	1:C:436:LEU:HD13	2.51	0.40
1:C:662:TYR:HB3	1:C:667:THR:OG1	2.21	0.40
1:B:450:ASN:HA	1:B:451:PRO:HD2	1.88	0.40
1:B:600:THR:OG1	1:B:601:PHE:N	2.52	0.40
1:C:483:HIS:C	1:C:491:LEU:HD23	2.46	0.40
1:D:696:LYS:HE2	7:D:1509:HOH:O	2.20	0.40
1:A:429:ARG:HH11	1:A:429:ARG:HG3	1.86	0.40
1:B:543:LEU:CD2	1:B:543:LEU:C	2.94	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:649:CYS:HB3	1:B:699:GLU:HB2	2.03	0.40
1:C:326:ASP:OD1	1:C:339:SER:OG	2.39	0.40
1:C:436:LEU:N	1:C:436:LEU:CD1	2.84	0.40
1:D:105:TYR:CD1	1:D:105:TYR:C	2.99	0.40
1:D:199:THR:HA	1:D:228:PHE:CE2	2.56	0.40
1:D:288:VAL:HG11	1:D:294:LEU:HD11	2.04	0.40
1:D:436:LEU:N	1:D:436:LEU:CD1	2.84	0.40
1:D:743:ALA:O	1:D:744:SER:C	2.63	0.40
1:A:230:ASP:O	1:A:231:THR:C	2.64	0.40
1:A:759:LEU:O	1:A:762:CYS:N	2.54	0.40
1:B:120:TYR:CD2	1:B:120:TYR:C	2.99	0.40
1:B:159:PRO:HB2	1:B:218:PRO:O	2.21	0.40
1:B:208:PHE:N	1:B:208:PHE:HD1	2.19	0.40
1:B:383:HIS:HB3	1:B:398:THR:OG1	2.21	0.40
1:B:502:LYS:O	1:B:505:GLN:HB2	2.22	0.40
1:C:643:GLY:HA2	7:C:1645:HOH:O	2.20	0.40
1:D:695:PHE:CB	1:D:728:VAL:HG11	2.51	0.40
1:A:153:GLN:HB3	1:A:211:TYR:CE2	2.57	0.40
1:A:306:VAL:HA	7:A:1538:HOH:O	2.21	0.40
1:A:461:PHE:CD2	1:A:468:TYR:HB3	2.57	0.40
1:A:543:LEU:O	1:A:575:VAL:HA	2.21	0.40
1:A:572:ASN:ND2	7:A:1670:HOH:O	2.54	0.40
1:A:759:LEU:O	1:A:760:LYS:C	2.64	0.40
1:B:504:LEU:HD22	1:B:509:MET:SD	2.61	0.40
1:C:87:SER:O	1:C:88:ILE:C	2.64	0.40
1:C:425:MET:HA	1:C:426:PRO:HD2	1.87	0.40
1:D:199:THR:CG2	1:D:208:PHE:HD2	2.34	0.40
1:D:297:ASP:HA	7:D:1571:HOH:O	2.20	0.40
1:D:457:TYR:HA	1:D:471:ARG:O	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	726/728 (100%)	657 (90%)	61 (8%)	8 (1%)	11	22
1	B	726/728 (100%)	669 (92%)	52 (7%)	5 (1%)	18	34
1	C	726/728 (100%)	649 (89%)	67 (9%)	10 (1%)	9	17
1	D	726/728 (100%)	663 (91%)	57 (8%)	6 (1%)	16	30
All	All	2904/2912 (100%)	2638 (91%)	237 (8%)	29 (1%)	12	24

All (29) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	97	GLU
1	B	40	ARG
1	B	491	LEU
1	C	103	ASN
1	C	105	TYR
1	C	488	ASP
1	C	535	ASP
1	D	111	ARG
1	A	93	SER
1	B	244	GLU
1	C	295	ILE
1	C	536	LYS
1	A	40	ARG
1	A	244	GLU
1	A	491	LEU
1	A	621	ASP
1	C	73	GLU
1	C	170	ASN
1	C	464	LYS
1	D	320	GLN
1	D	618	PHE
1	D	645	GLY
1	A	104	ASP
1	A	439	TYR
1	B	358	ARG
1	B	439	TYR
1	D	81	ALA
1	C	451	PRO
1	D	438	ASP

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	652/652 (100%)	628 (96%)	24 (4%)	30	54
1	B	652/652 (100%)	618 (95%)	34 (5%)	21	39
1	C	652/652 (100%)	615 (94%)	37 (6%)	18	35
1	D	652/652 (100%)	621 (95%)	31 (5%)	23	44
All	All	2608/2608 (100%)	2482 (95%)	126 (5%)	23	44

All (126) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	119	ASN
1	A	179	ASN
1	A	202	VAL
1	A	219	ASN
1	A	246	LEU
1	A	247	GLN
1	A	294	LEU
1	A	348	ILE
1	A	378	GLU
1	A	399	LYS
1	A	415	LEU
1	A	436	LEU
1	A	442	VAL
1	A	452	GLU
1	A	492	ARG
1	A	511	SER
1	A	520	HIS
1	A	542	LEU
1	A	543	LEU
1	A	561	LEU
1	A	660	GLU
1	A	679	ASN
1	A	701	LEU
1	A	761	GLN

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Mol	Chain	Res	Type
1	B	91	GLU
1	B	214	LEU
1	B	230	ASP
1	B	246	LEU
1	B	262	GLU
1	B	340	SER
1	B	366	SER
1	B	367	ASP
1	B	378	GLU
1	B	379	GLU
1	B	385	CYS
1	B	393	ASN
1	B	415	LEU
1	B	448	GLU
1	B	450	ASN
1	B	464	LYS
1	B	472	CYS
1	B	514	LEU
1	B	516	VAL
1	B	520	HIS
1	B	536	LYS
1	B	542	LEU
1	B	543	LEU
1	B	561	LEU
1	B	566	TYR
1	B	590	ILE
1	B	622	LYS
1	B	655	PRO
1	B	673	LEU
1	B	701	LEU
1	B	702	LEU
1	B	732	THR
1	B	745	ASN
1	B	761	GLN
1	C	72	GLN
1	C	75	ASN
1	C	90	LEU
1	C	131	SER
1	C	147	ARG
1	C	158	SER
1	C	180	LEU
1	C	184	ARG

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Mol	Chain	Res	Type
1	C	202	VAL
1	C	214	LEU
1	C	230	ASP
1	C	246	LEU
1	C	284	SER
1	C	292	SER
1	C	293	VAL
1	C	399	LYS
1	C	442	VAL
1	C	448	GLU
1	C	472	CYS
1	C	482	LEU
1	C	498	SER
1	C	507	VAL
1	C	516	VAL
1	C	535	ASP
1	C	536	LYS
1	C	542	LEU
1	C	561	LEU
1	C	572	ASN
1	C	583	SER
1	C	656	VAL
1	C	694	ASN
1	C	701	LEU
1	C	718	GLN
1	C	732	THR
1	C	746	MET
1	C	759	LEU
1	C	761	GLN
1	D	41	ARG
1	D	46	THR
1	D	107	VAL
1	D	142	LEU
1	D	184	ARG
1	D	230	ASP
1	D	246	LEU
1	D	253	ARG
1	D	276	LEU
1	D	294	LEU
1	D	358	ARG
1	D	393	ASN
1	D	399	LYS

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Mol	Chain	Res	Type
1	D	413	ASP
1	D	423	LYS
1	D	448	GLU
1	D	463	ASN
1	D	482	LEU
1	D	536	LYS
1	D	561	LEU
1	D	590	ILE
1	D	603	VAL
1	D	608	GLU
1	D	622	LYS
1	D	673	LEU
1	D	679	ASN
1	D	694	ASN
1	D	701	LEU
1	D	702	LEU
1	D	718	GLN
1	D	759	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (107) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	61	GLN
1	A	75	ASN
1	A	141	GLN
1	A	169	ASN
1	A	170	ASN
1	A	192	ASN
1	A	247	GLN
1	A	263	ASN
1	A	314	GLN
1	A	369	ASN
1	A	377	ASN
1	A	388	GLN
1	A	393	ASN
1	A	435	GLN
1	A	463	ASN
1	A	483	HIS
1	A	518	ASN
1	A	527	GLN
1	A	572	ASN
1	A	586	GLN

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Mol	Chain	Res	Type
1	A	606	GLN
1	A	612	GLN
1	A	679	ASN
1	A	694	ASN
1	A	704	HIS
1	A	718	GLN
1	A	745	ASN
1	B	61	GLN
1	B	72	GLN
1	B	75	ASN
1	B	103	ASN
1	B	119	ASN
1	B	169	ASN
1	B	170	ASN
1	B	176	ASN
1	B	183	GLN
1	B	192	ASN
1	B	219	ASN
1	B	227	GLN
1	B	247	GLN
1	B	345	HIS
1	B	369	ASN
1	B	383	HIS
1	B	393	ASN
1	B	422	HIS
1	B	435	GLN
1	B	463	ASN
1	B	483	HIS
1	B	505	GLN
1	B	527	GLN
1	B	586	GLN
1	B	595	ASN
1	B	612	GLN
1	B	679	ASN
1	B	694	ASN
1	B	704	HIS
1	B	718	GLN
1	B	731	GLN
1	B	761	GLN
1	C	75	ASN
1	C	151	ASN
1	C	170	ASN

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Mol	Chain	Res	Type
1	C	176	ASN
1	C	183	GLN
1	C	192	ASN
1	C	227	GLN
1	C	247	GLN
1	C	344	GLN
1	C	369	ASN
1	C	383	HIS
1	C	388	GLN
1	C	430	ASN
1	C	463	ASN
1	C	483	HIS
1	C	505	GLN
1	C	508	GLN
1	C	606	GLN
1	C	612	GLN
1	C	679	ASN
1	C	694	ASN
1	C	704	HIS
1	C	718	GLN
1	C	745	ASN
1	C	761	GLN
1	D	72	GLN
1	D	75	ASN
1	D	112	GLN
1	D	123	GLN
1	D	141	GLN
1	D	170	ASN
1	D	176	ASN
1	D	192	ASN
1	D	227	GLN
1	D	247	GLN
1	D	369	ASN
1	D	377	ASN
1	D	393	ASN
1	D	463	ASN
1	D	483	HIS
1	D	533	HIS
1	D	595	ASN
1	D	606	GLN
1	D	612	GLN
1	D	679	ASN

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Mol	Chain	Res	Type
1	D	694	ASN
1	D	704	HIS
1	D	718	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

20 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
2	NAG	E	1	1,2	14,14,15	0.50	0	17,19,21	0.62	0
2	NAG	E	2	2	14,14,15	0.52	0	17,19,21	0.79	1 (5%)
2	NAG	F	1	1,2	14,14,15	0.58	0	17,19,21	0.69	0
2	NAG	F	2	2	14,14,15	0.63	0	17,19,21	0.72	1 (5%)
3	NAG	G	1	1,3	14,14,15	0.67	0	17,19,21	0.80	0
3	NAG	G	2	3	14,14,15	0.59	0	17,19,21	0.80	1 (5%)
3	BMA	G	3	3	11,11,12	0.48	0	15,15,17	0.33	0
2	NAG	H	1	1,2	14,14,15	0.70	0	17,19,21	0.72	0
2	NAG	H	2	2	14,14,15	0.69	0	17,19,21	0.72	0
2	NAG	I	1	1,2	14,14,15	0.57	0	17,19,21	0.64	0
2	NAG	I	2	2	14,14,15	0.64	0	17,19,21	0.68	1 (5%)
3	NAG	J	1	1,3	14,14,15	0.81	1 (7%)	17,19,21	0.71	0
3	NAG	J	2	3	14,14,15	0.57	0	17,19,21	0.58	0
3	BMA	J	3	3	11,11,12	0.63	0	15,15,17	0.46	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	NAG	K	1	1,2	14,14,15	0.53	0	17,19,21	0.75	1 (5%)
2	NAG	K	2	2	14,14,15	0.59	0	17,19,21	0.69	0
2	NAG	L	1	1,2	14,14,15	0.66	0	17,19,21	0.96	1 (5%)
2	NAG	L	2	2	14,14,15	0.73	0	17,19,21	0.93	1 (5%)
2	NAG	M	1	1,2	14,14,15	0.55	0	17,19,21	0.77	0
2	NAG	M	2	2	14,14,15	0.64	0	17,19,21	1.33	3 (17%)

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

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

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	J	1	NAG	C1-C2	2.49	1.55	1.52

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	M	2	NAG	C1-C2-N2	3.18	115.44	110.43
2	L	1	NAG	C2-N2-C7	-2.72	119.25	122.90
3	G	2	NAG	C2-N2-C7	-2.48	119.57	122.90
2	M	2	NAG	C4-C3-C2	-2.35	107.57	111.02
2	L	2	NAG	C2-N2-C7	-2.33	119.77	122.90
2	M	2	NAG	O5-C1-C2	-2.32	107.69	111.29
2	E	2	NAG	C2-N2-C7	-2.29	119.83	122.90
2	K	1	NAG	C2-N2-C7	-2.12	120.06	122.90
2	F	2	NAG	C2-N2-C7	-2.11	120.07	122.90
2	I	2	NAG	C2-N2-C7	-2.03	120.18	122.90

There are no chirality outliers.

All (33) torsion outliers are listed below:

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

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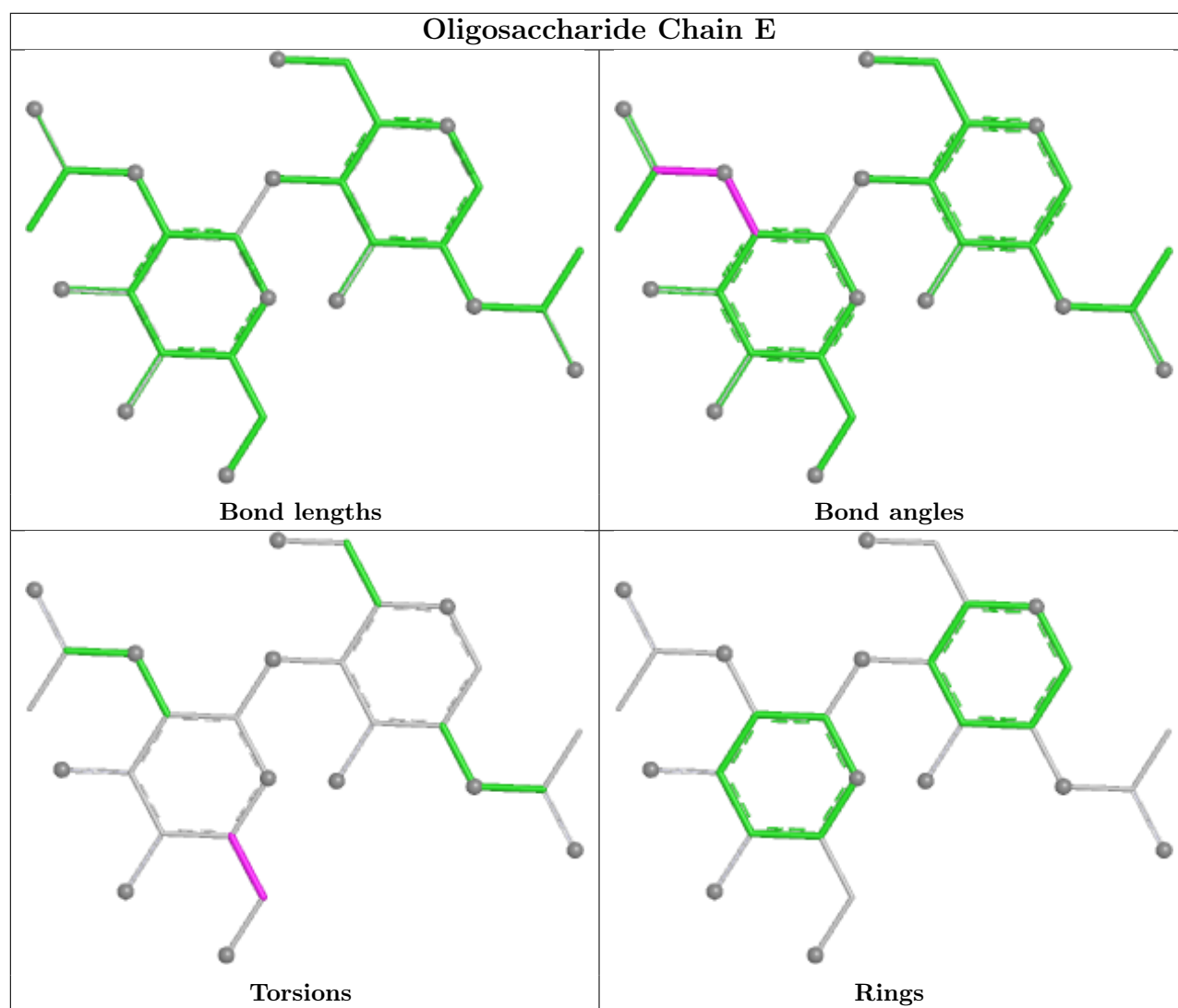
Mol	Chain	Res	Type	Atoms
2	I	1	NAG	O5-C5-C6-O6
2	F	2	NAG	C4-C5-C6-O6
2	M	2	NAG	C8-C7-N2-C2
2	F	2	NAG	O5-C5-C6-O6
2	M	2	NAG	O7-C7-N2-C2
2	M	1	NAG	C8-C7-N2-C2
2	M	1	NAG	O7-C7-N2-C2

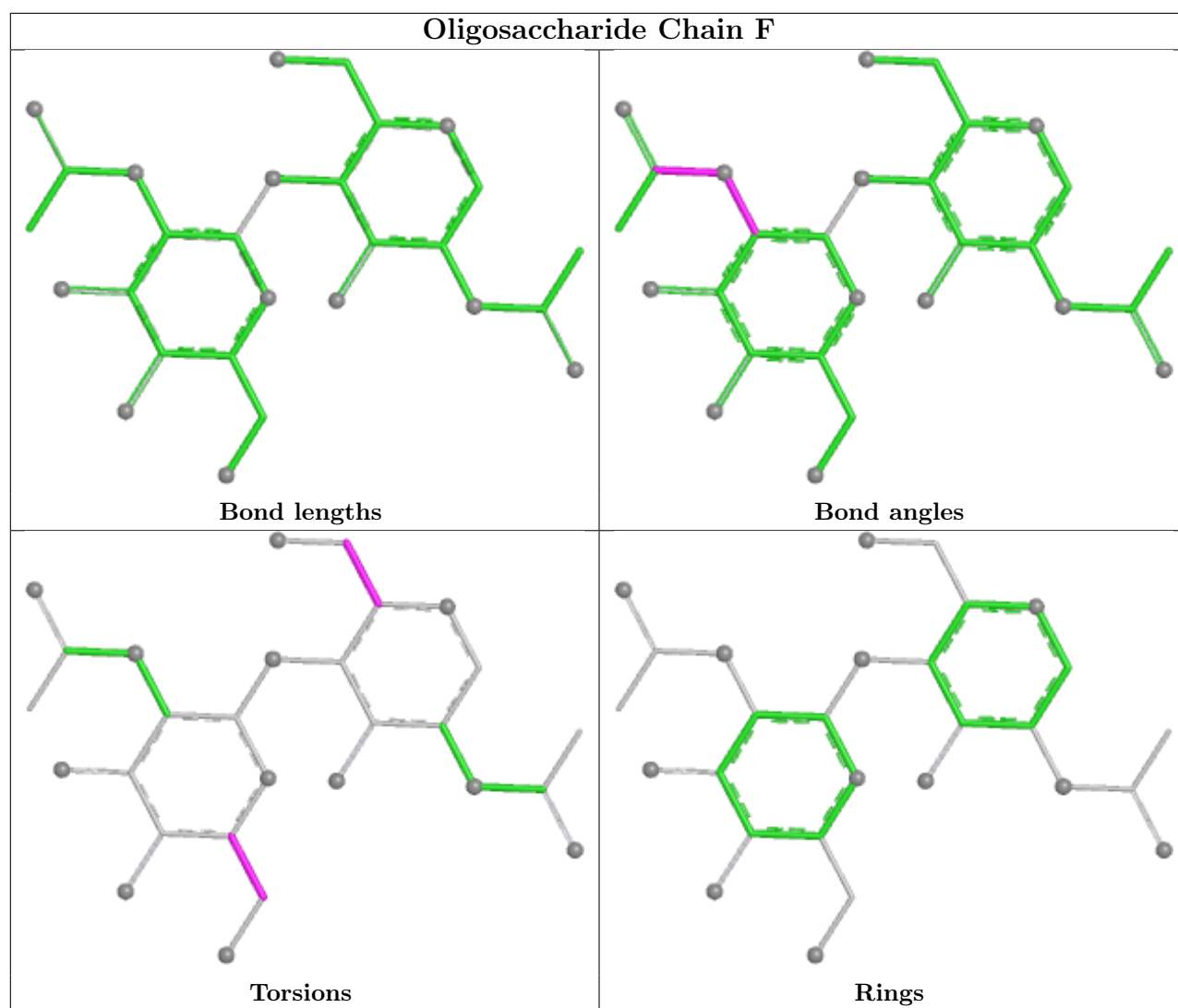
There are no ring outliers.

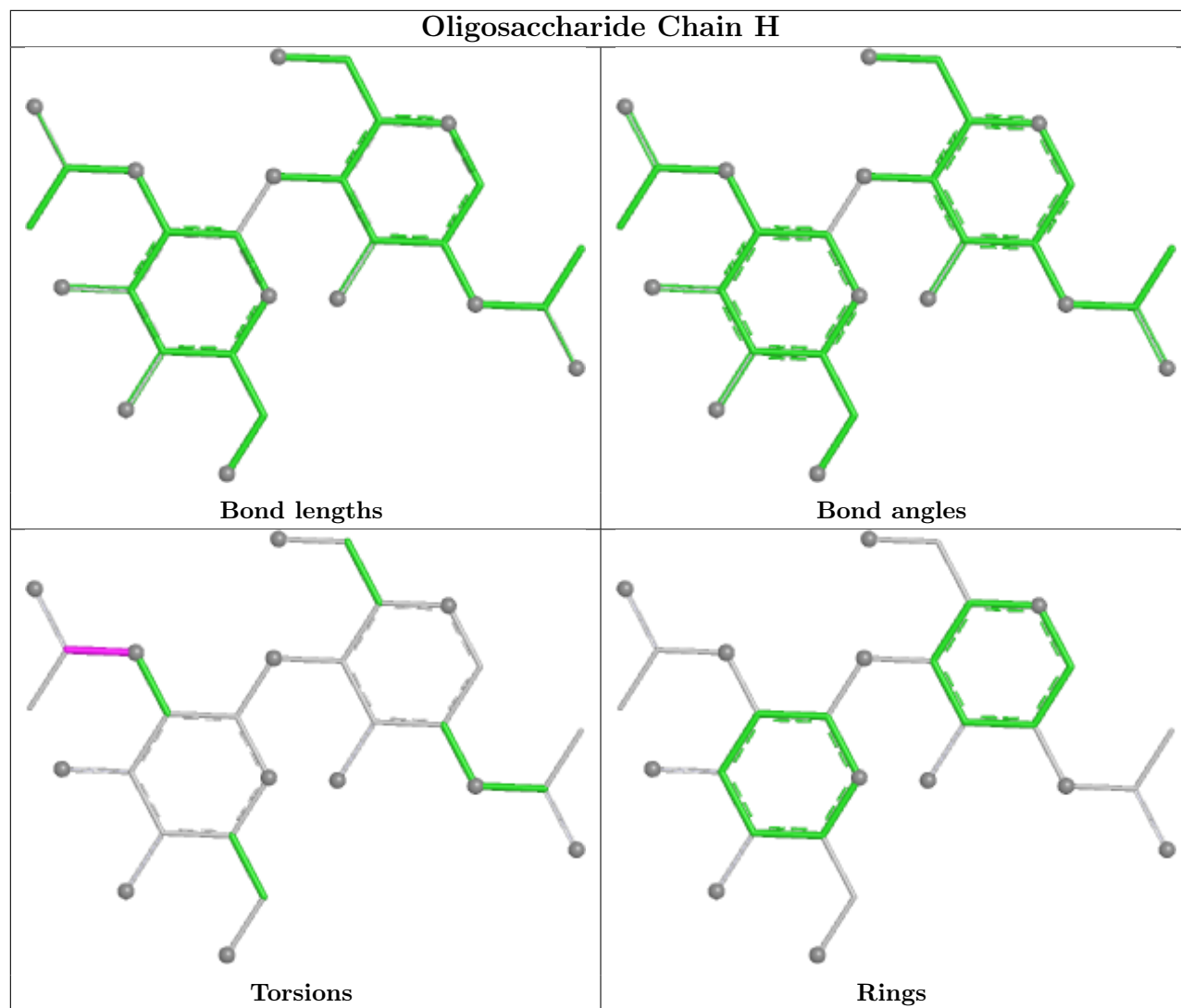
8 monomers are involved in 11 short contacts:

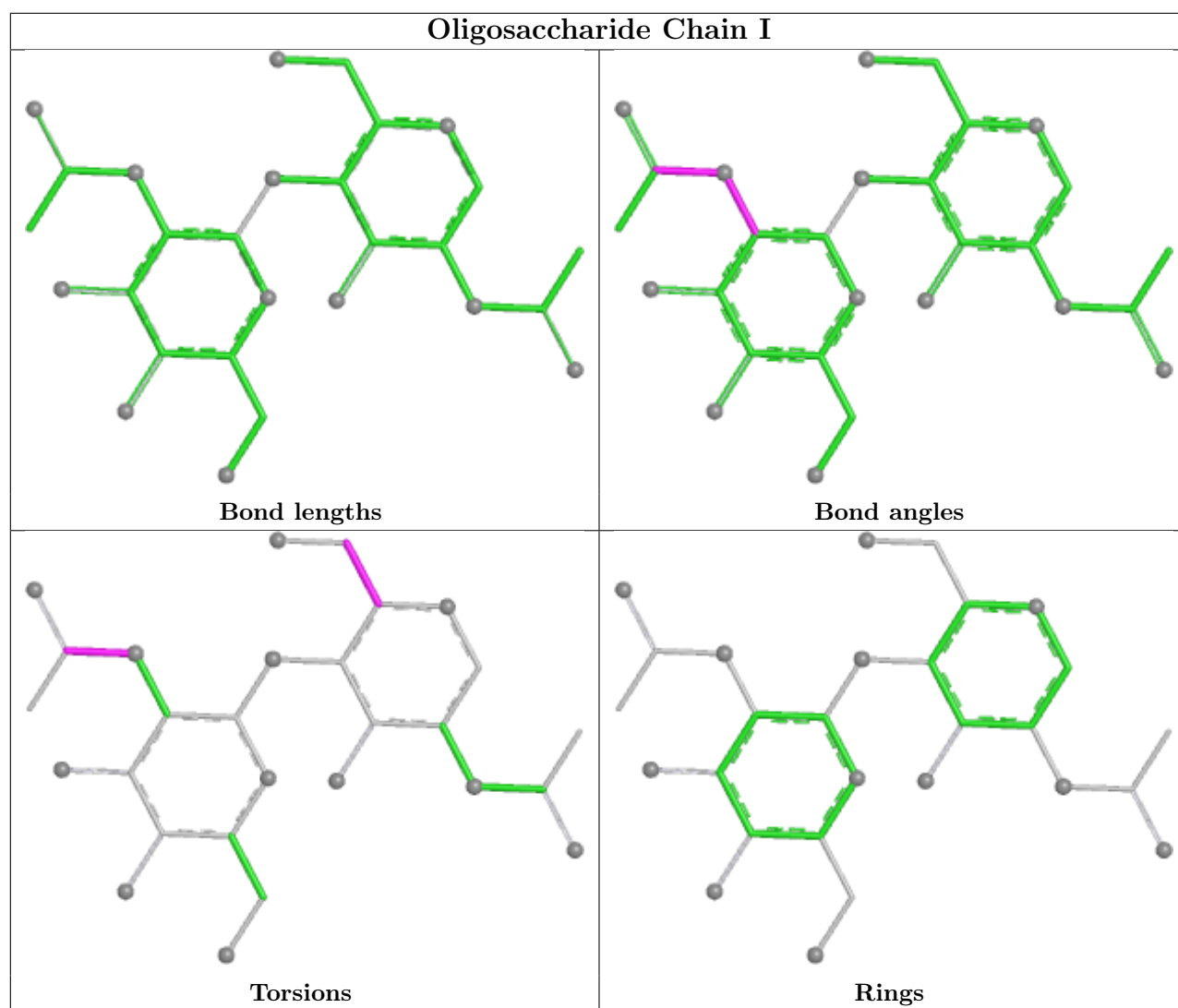
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	M	1	NAG	2	0
2	H	1	NAG	1	0
2	F	1	NAG	1	0
3	J	1	NAG	1	0
3	J	2	NAG	2	0
2	I	1	NAG	2	0
3	G	1	NAG	3	0
3	G	2	NAG	2	0

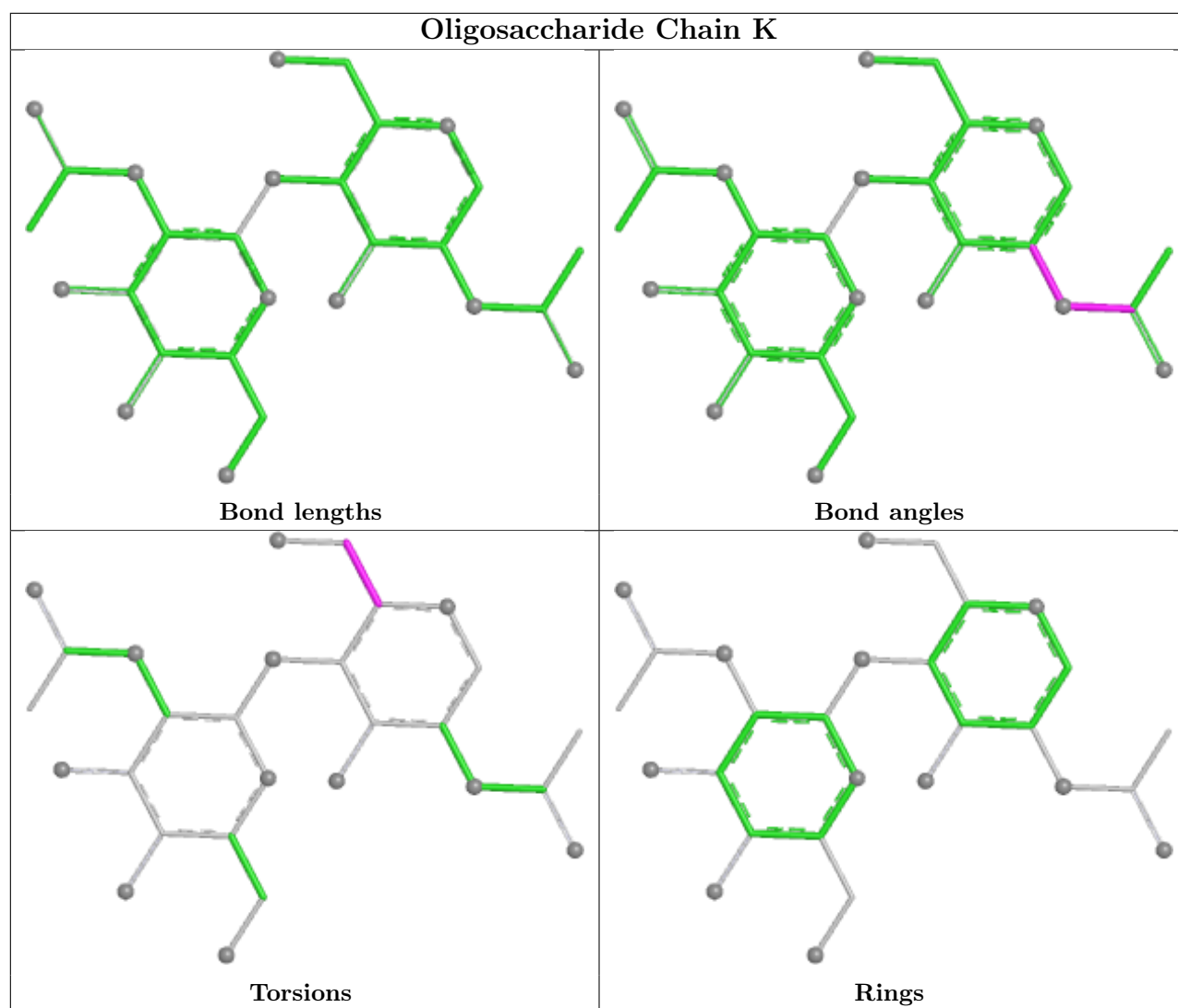
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

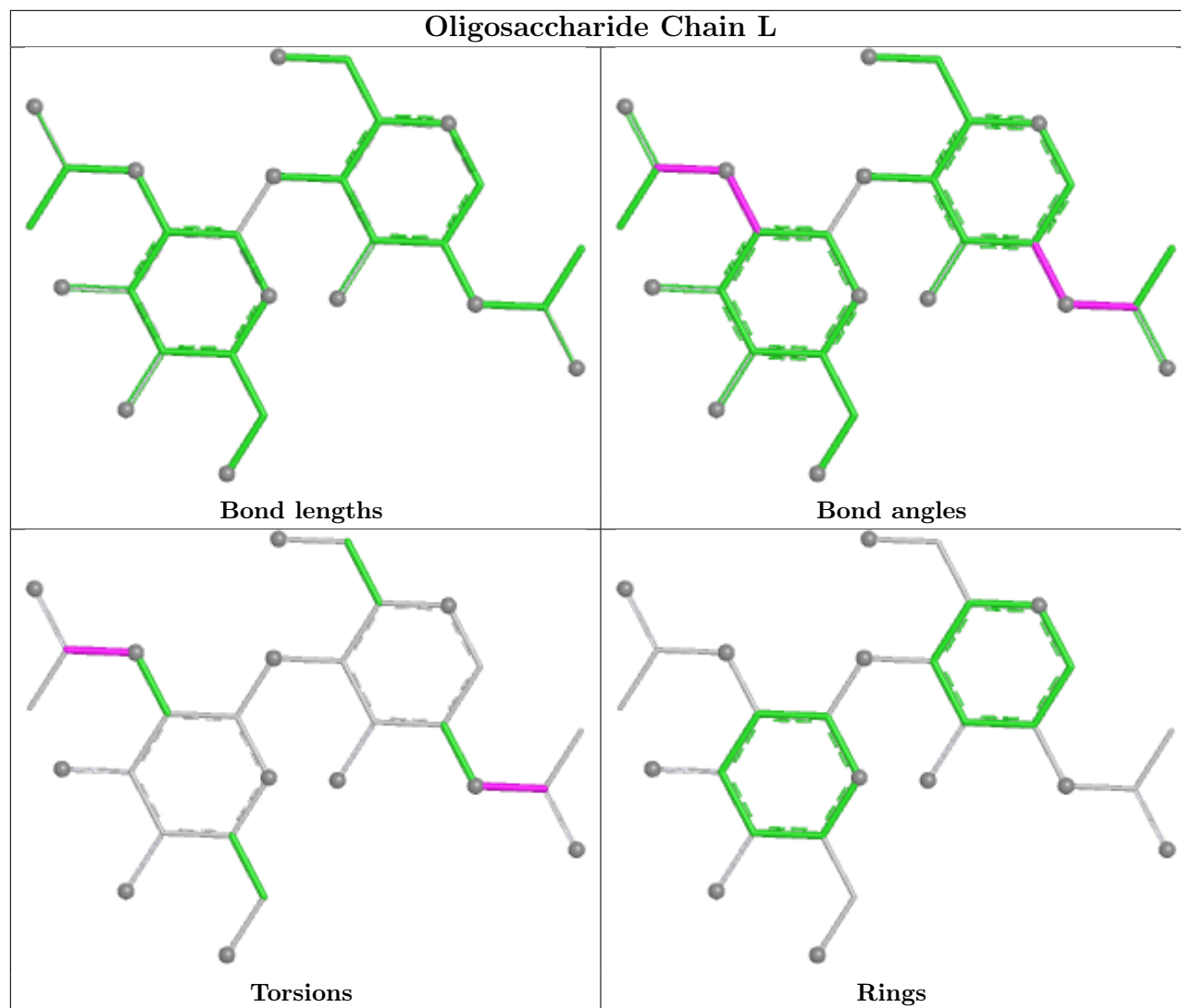


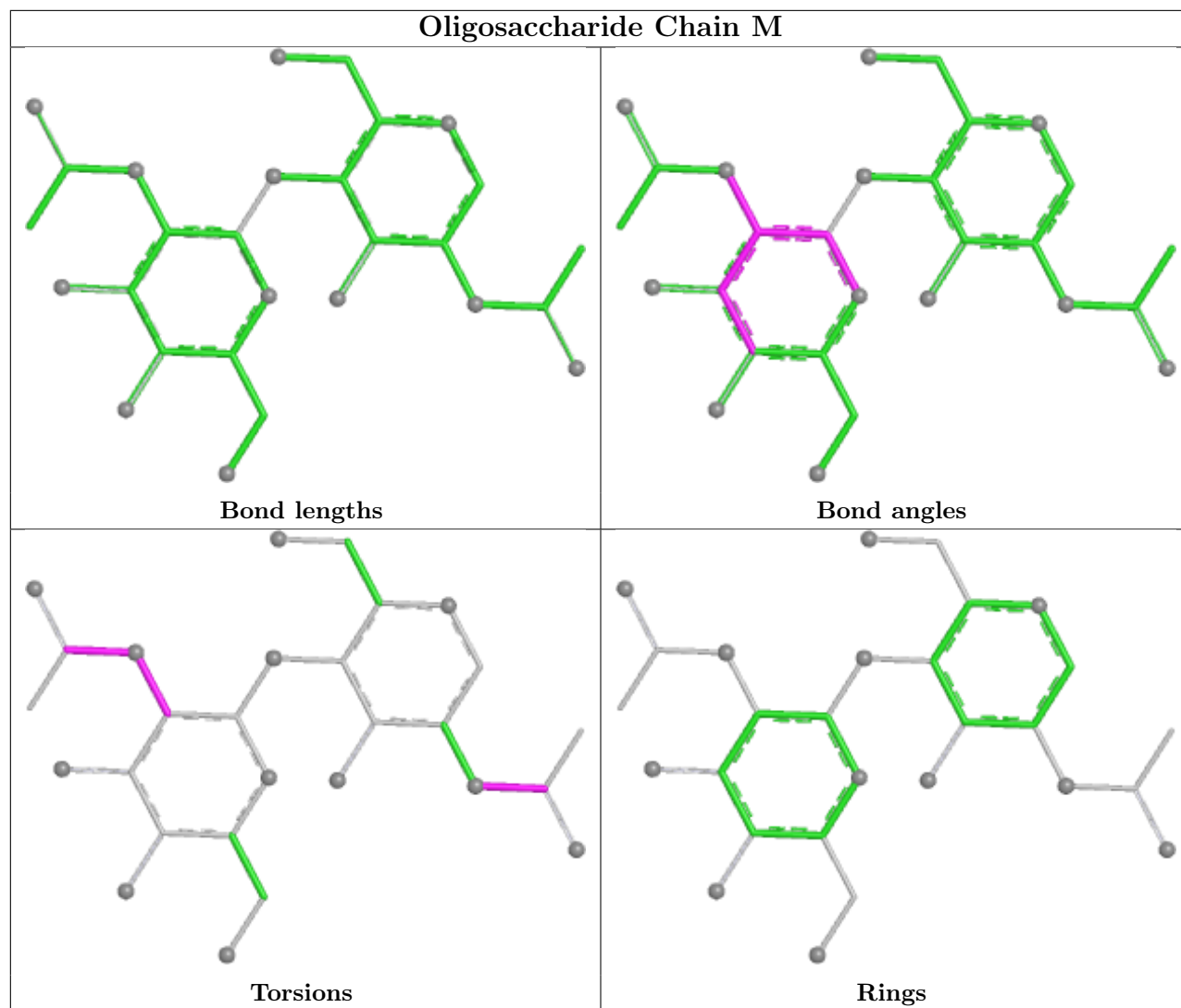


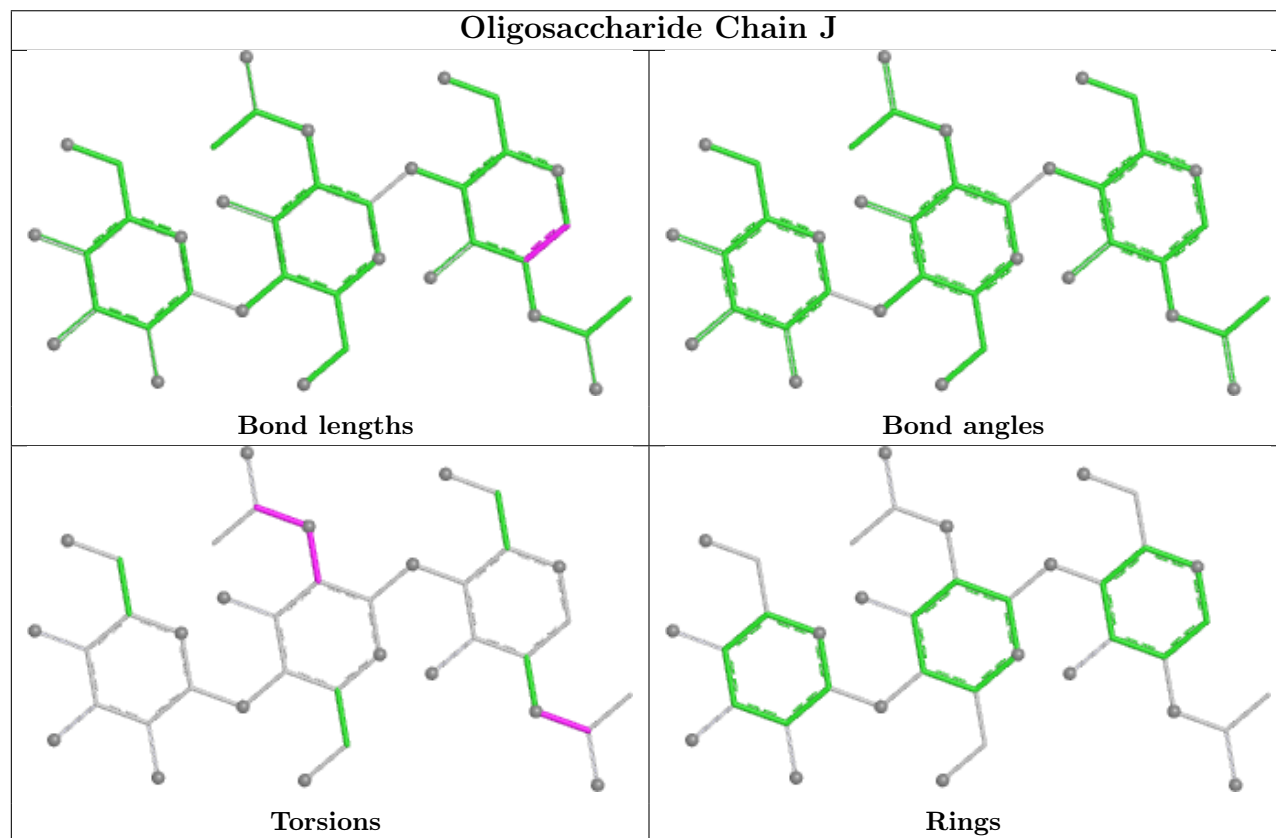
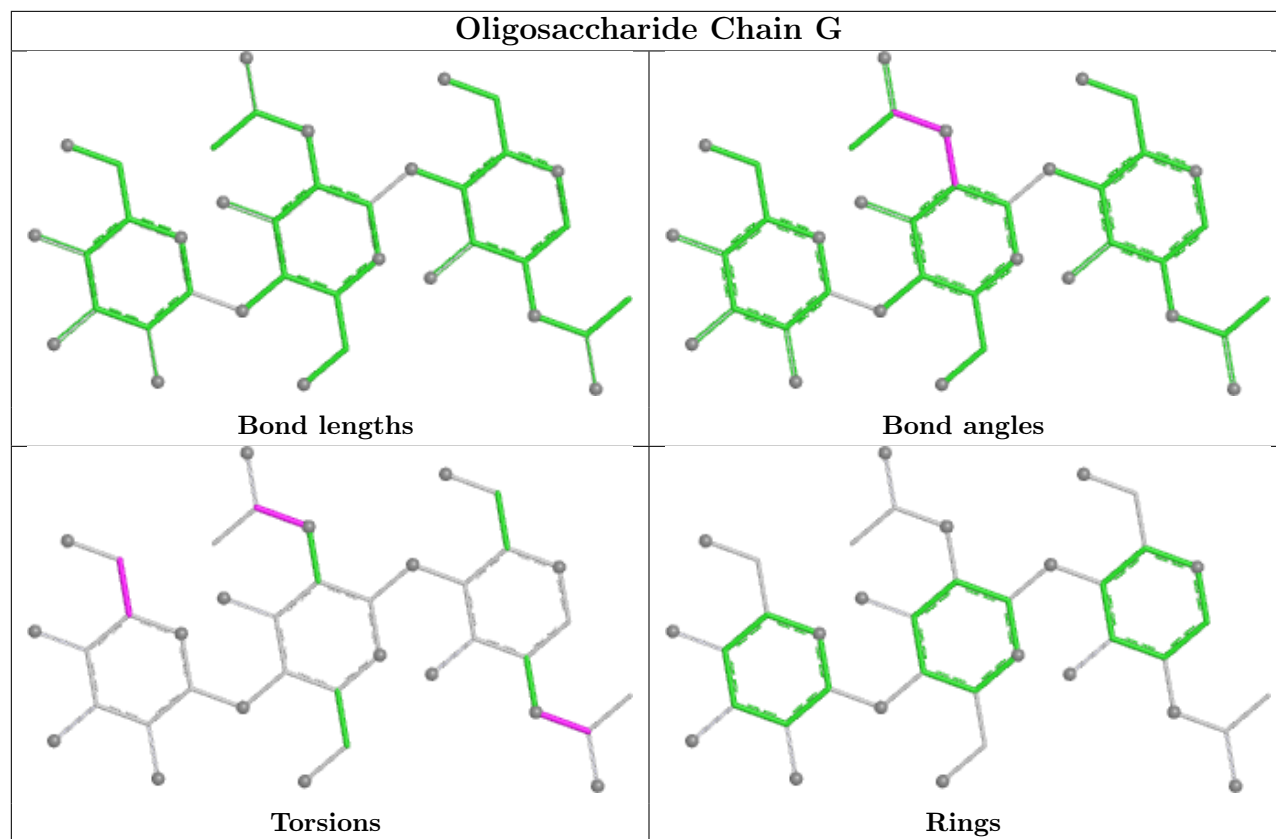












5.6 Ligand geometry

23 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
4	0QG	B	802	1	23,24,24	1.62	2 (8%)	33,35,35	2.00	7 (21%)
5	NAG	A	772(A)	1	14,14,15	0.44	0	17,19,21	1.07	1 (5%)
5	NAG	A	767(A)	1	14,14,15	0.57	0	17,19,21	0.75	1 (5%)
5	NAG	D	767(A)	1	14,14,15	0.69	0	17,19,21	0.70	0
6	SO4	C	1502	-	4,4,4	0.39	0	6,6,6	0.58	0
5	NAG	B	773(A)	1	14,14,15	0.44	0	17,19,21	0.97	1 (5%)
5	NAG	C	771(A)	1	14,14,15	0.64	0	17,19,21	0.96	0
5	NAG	C	770(A)	1	14,14,15	0.62	0	17,19,21	0.80	0
5	NAG	B	767(A)	1	14,14,15	0.58	0	17,19,21	0.84	1 (5%)
6	SO4	D	1503	-	4,4,4	0.49	0	6,6,6	0.65	0
5	NAG	C	768(A)	1	14,14,15	0.79	1 (7%)	17,19,21	0.77	0
5	NAG	B	772(A)	1	14,14,15	0.50	0	17,19,21	0.56	0
5	NAG	A	771(A)	1	14,14,15	0.55	0	17,19,21	0.68	0
4	0QG	D	802	1	23,24,24	1.52	1 (4%)	33,35,35	3.31	6 (18%)
5	NAG	C	767(A)	1	14,14,15	0.46	0	17,19,21	0.88	0
5	NAG	D	773(A)	1	14,14,15	0.67	0	17,19,21	0.76	1 (5%)
4	0QG	A	802	1	23,24,24	1.48	1 (4%)	33,35,35	1.98	6 (18%)
5	NAG	A	768(A)	1	14,14,15	0.66	0	17,19,21	0.65	0
5	NAG	C	769(A)	1	14,14,15	0.39	0	17,19,21	0.82	1 (5%)
6	SO4	B	1501	-	4,4,4	0.37	0	6,6,6	0.62	0
6	SO4	A	1500	-	4,4,4	0.49	0	6,6,6	0.57	0
4	0QG	C	802	1	23,24,24	1.48	2 (8%)	33,35,35	1.95	5 (15%)
5	NAG	B	771(A)	1	14,14,15	0.58	0	17,19,21	0.68	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	0QG	B	802	1	-	12/32/42/42	0/1/1/1
5	NAG	A	772(A)	1	-	2/6/23/26	0/1/1/1
5	NAG	A	767(A)	1	-	4/6/23/26	0/1/1/1
5	NAG	D	767(A)	1	-	4/6/23/26	0/1/1/1
5	NAG	B	773(A)	1	-	2/6/23/26	0/1/1/1
5	NAG	C	771(A)	1	-	4/6/23/26	0/1/1/1
5	NAG	C	770(A)	1	-	2/6/23/26	0/1/1/1
5	NAG	B	767(A)	1	-	3/6/23/26	0/1/1/1
5	NAG	C	768(A)	1	-	2/6/23/26	0/1/1/1
5	NAG	B	772(A)	1	-	4/6/23/26	0/1/1/1
5	NAG	A	771(A)	1	-	3/6/23/26	0/1/1/1
4	0QG	D	802	1	-	8/32/42/42	0/1/1/1
5	NAG	C	767(A)	1	-	4/6/23/26	0/1/1/1
5	NAG	D	773(A)	1	-	2/6/23/26	0/1/1/1
4	0QG	A	802	1	-	6/32/42/42	0/1/1/1
5	NAG	A	768(A)	1	-	2/6/23/26	0/1/1/1
5	NAG	C	769(A)	1	-	0/6/23/26	0/1/1/1
4	0QG	C	802	1	-	9/32/42/42	0/1/1/1
5	NAG	B	771(A)	1	-	2/6/23/26	0/1/1/1

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	802	0QG	C1-N2	6.79	1.48	1.34
4	D	802	0QG	C1-N2	6.19	1.47	1.34
4	A	802	0QG	C1-N2	6.14	1.47	1.34
4	C	802	0QG	C1-N2	6.03	1.47	1.34
4	C	802	0QG	CA1-C1	2.39	1.58	1.52
5	C	768(A)	NAG	C1-C2	2.28	1.55	1.52
4	B	802	0QG	CA1-C1	2.22	1.58	1.52

All (30) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	802	0QG	CG1-CB-CA	12.65	131.35	109.82
4	D	802	0QG	CG2-CB-CA	-7.80	96.55	109.82
4	D	802	0QG	O1-C1-N2	-7.55	109.45	122.96
4	C	802	0QG	O1-C1-N2	-7.41	109.69	122.96
4	A	802	0QG	O1-C1-N2	-7.37	109.76	122.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	B	802	0QG	O1-C1-N2	-6.90	110.61	122.96
4	D	802	0QG	CG3-CB-CA	-5.93	99.72	109.82
4	B	802	0QG	CG1-CB-CA	5.22	118.71	109.82
4	D	802	0QG	O1-C1-CA1	-4.99	108.67	120.69
4	A	802	0QG	O1-C1-CA1	-4.90	108.88	120.69
4	C	802	0QG	O1-C1-CA1	-4.78	109.16	120.69
4	B	802	0QG	O1-C1-CA1	-4.05	110.94	120.69
4	B	802	0QG	CG2-CB-CA	-3.72	103.48	109.82
4	C	802	0QG	CG2-CB-CA	-3.64	103.63	109.82
4	A	802	0QG	CG1-CB-CA	3.45	115.69	109.82
4	A	802	0QG	CG3-CB-CA	-3.45	103.95	109.82
4	D	802	0QG	CA1-C1-N2	-3.39	109.09	116.52
4	C	802	0QG	CA1-C1-N2	-3.38	109.12	116.52
4	C	802	0QG	CG1-CB-CA	3.37	115.55	109.82
4	A	802	0QG	CA1-C1-N2	-3.22	109.46	116.52
5	A	772(A)	NAG	C2-N2-C7	-2.85	119.08	122.90
5	B	773(A)	NAG	C2-N2-C7	-2.70	119.28	122.90
4	B	802	0QG	CA1-C1-N2	-2.48	111.08	116.52
5	D	773(A)	NAG	C2-N2-C7	-2.26	119.87	122.90
4	A	802	0QG	CB-CA-C	-2.17	110.34	113.22
4	B	802	0QG	CB-CA-C	-2.15	110.37	113.22
4	B	802	0QG	CG3-CB-CA	-2.11	106.22	109.82
5	B	767(A)	NAG	C2-N2-C7	-2.09	120.10	122.90
5	A	767(A)	NAG	C2-N2-C7	-2.08	120.12	122.90
5	C	769(A)	NAG	C2-N2-C7	-2.05	120.15	122.90

There are no chirality outliers.

All (75) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	C	802	0QG	N2-CA2-CB2-CG21
4	C	802	0QG	C2-CA2-CB2-CG11
5	A	768(A)	NAG	C8-C7-N2-C2
5	A	768(A)	NAG	O7-C7-N2-C2
5	A	771(A)	NAG	C8-C7-N2-C2
5	A	771(A)	NAG	O7-C7-N2-C2
5	C	768(A)	NAG	C8-C7-N2-C2
5	C	768(A)	NAG	O7-C7-N2-C2
5	C	770(A)	NAG	C8-C7-N2-C2
5	C	770(A)	NAG	O7-C7-N2-C2
5	C	771(A)	NAG	C8-C7-N2-C2
5	C	771(A)	NAG	O7-C7-N2-C2

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Mol	Chain	Res	Type	Atoms
5	D	767(A)	NAG	C8-C7-N2-C2
5	D	767(A)	NAG	O7-C7-N2-C2
5	D	773(A)	NAG	C8-C7-N2-C2
5	D	773(A)	NAG	O7-C7-N2-C2
4	A	802	0QG	O1-C1-N2-CA2
4	C	802	0QG	O1-C1-N2-CA2
4	D	802	0QG	O1-C1-N2-CA2
4	B	802	0QG	C2-CA2-N2-C1
5	B	767(A)	NAG	O5-C5-C6-O6
5	A	767(A)	NAG	O7-C7-N2-C2
5	C	767(A)	NAG	O5-C5-C6-O6
5	A	772(A)	NAG	O5-C5-C6-O6
5	B	773(A)	NAG	O5-C5-C6-O6
5	C	767(A)	NAG	C4-C5-C6-O6
5	A	767(A)	NAG	C8-C7-N2-C2
5	B	772(A)	NAG	C8-C7-N2-C2
5	B	767(A)	NAG	C4-C5-C6-O6
4	B	802	0QG	N2-C1-CA1-N1
5	B	773(A)	NAG	C4-C5-C6-O6
5	B	772(A)	NAG	O5-C5-C6-O6
5	B	772(A)	NAG	O7-C7-N2-C2
5	C	767(A)	NAG	C8-C7-N2-C2
5	B	771(A)	NAG	O5-C5-C6-O6
4	B	802	0QG	CB2-CA2-N2-C1
5	A	767(A)	NAG	C4-C5-C6-O6
5	C	767(A)	NAG	O7-C7-N2-C2
5	C	771(A)	NAG	C4-C5-C6-O6
5	A	772(A)	NAG	C4-C5-C6-O6
5	A	767(A)	NAG	O5-C5-C6-O6
5	C	771(A)	NAG	O5-C5-C6-O6
5	B	772(A)	NAG	C4-C5-C6-O6
4	C	802	0QG	N2-CA2-CB2-CG11
4	B	802	0QG	N2-C1-CA1-CB1
5	B	771(A)	NAG	C4-C5-C6-O6
5	A	771(A)	NAG	O5-C5-C6-O6
4	B	802	0QG	O1-C1-N2-CA2
4	C	802	0QG	N2-C1-CA1-N1
5	D	767(A)	NAG	O5-C5-C6-O6
4	A	802	0QG	N2-C1-CA1-N1
4	D	802	0QG	N2-C1-CA1-N1
4	B	802	0QG	N2-CA2-CB2-CG21
4	B	802	0QG	OXT-C2-CA2-N2

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Mol	Chain	Res	Type	Atoms
4	C	802	0QG	N2-C1-CA1-CB1
4	A	802	0QG	N2-C1-CA1-CB1
4	D	802	0QG	N2-C1-CA1-CB1
4	B	802	0QG	CA1-C1-N2-CA2
4	C	802	0QG	O-C-N1-CD
4	C	802	0QG	C2-CA2-CB2-CG21
4	D	802	0QG	N2-CA2-CB2-CG21
4	B	802	0QG	N2-CA2-CB2-CG11
4	B	802	0QG	O2-C2-CA2-N2
5	D	767(A)	NAG	C3-C2-N2-C7
4	B	802	0QG	C2-CA2-CB2-CG11
4	D	802	0QG	C2-CA2-N2-C1
4	D	802	0QG	CB2-CA2-N2-C1
4	A	802	0QG	O2-C2-CA2-N2
4	A	802	0QG	OXT-C2-CA2-N2
4	C	802	0QG	OXT-C2-CA2-N2
4	D	802	0QG	O2-C2-CA2-N2
4	D	802	0QG	OXT-C2-CA2-N2
5	B	767(A)	NAG	C8-C7-N2-C2
4	A	802	0QG	O1-C1-CA1-N1
4	B	802	0QG	C2-CA2-CB2-CG21

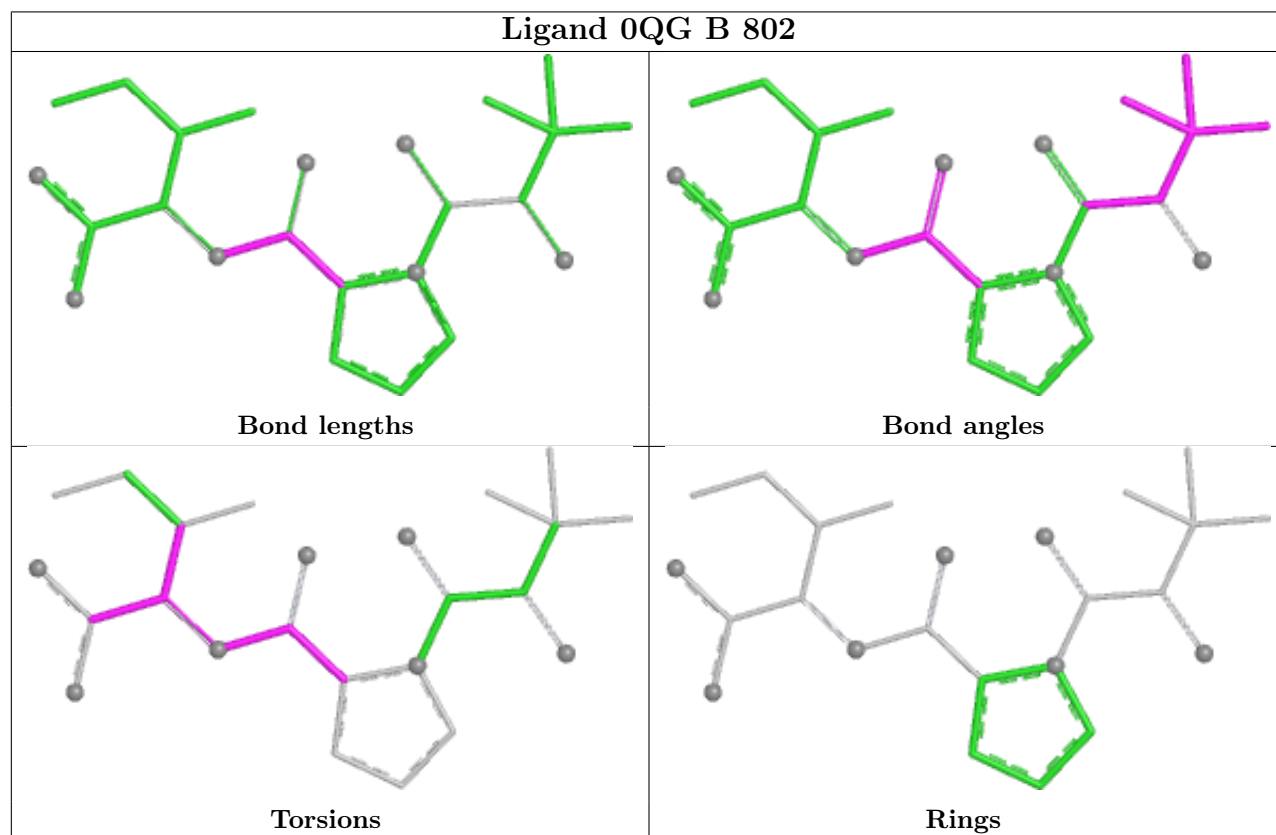
There are no ring outliers.

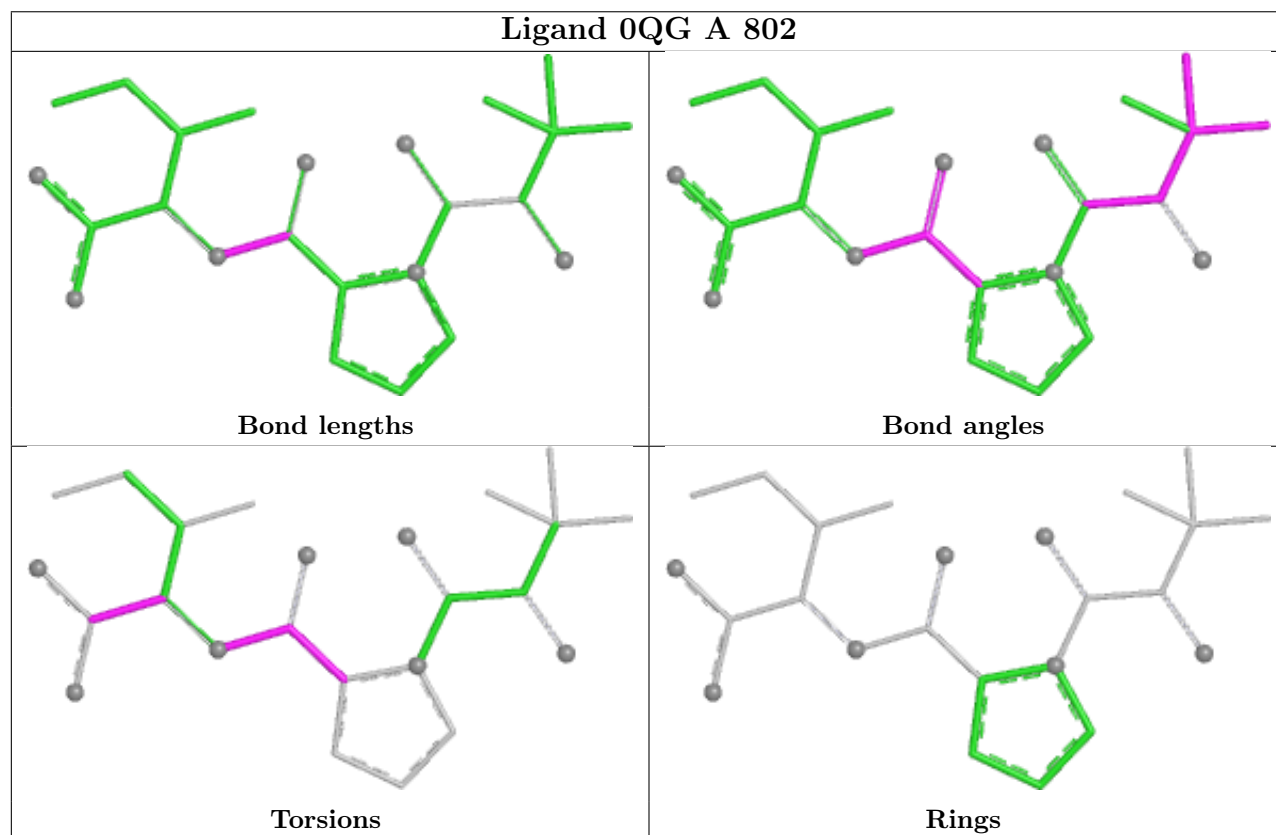
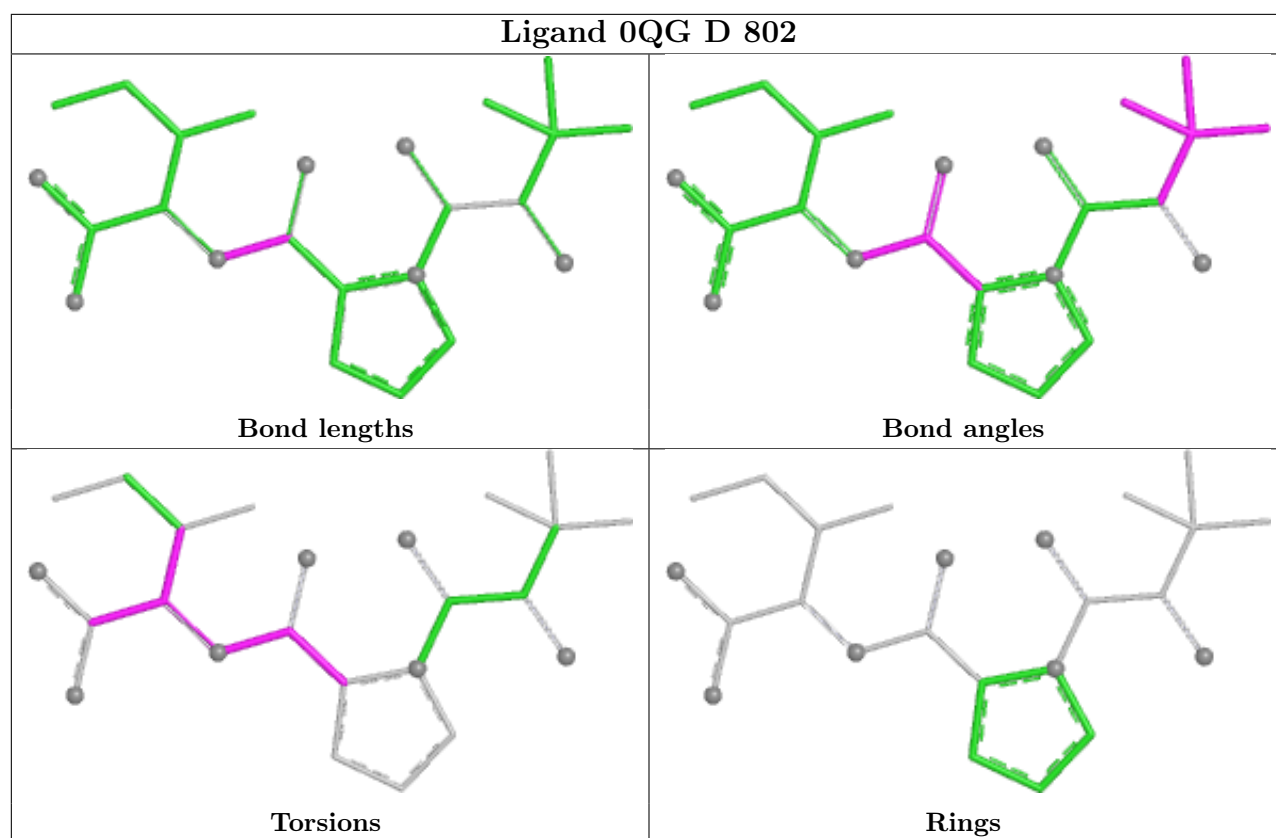
7 monomers are involved in 13 short contacts:

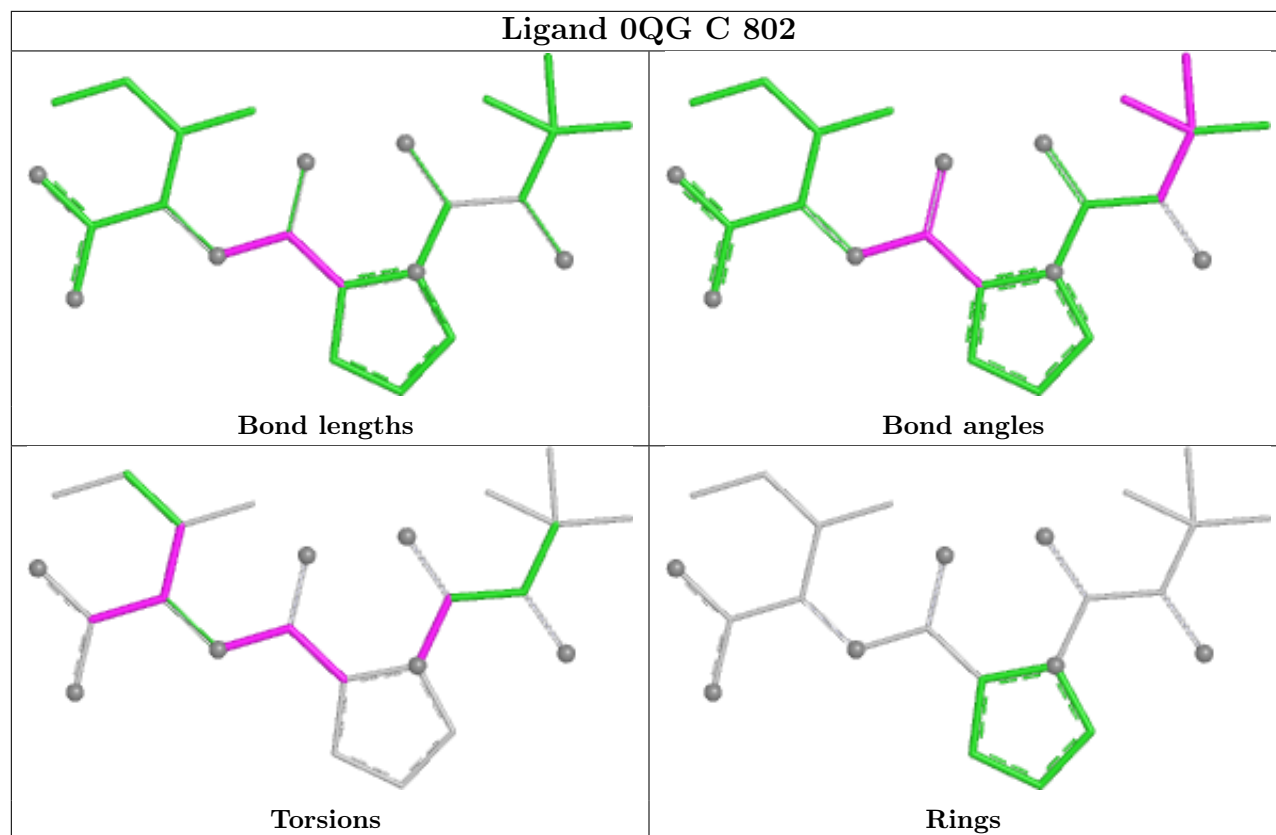
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	B	767(A)	NAG	4	0
5	C	768(A)	NAG	1	0
5	B	772(A)	NAG	1	0
5	D	773(A)	NAG	1	0
4	A	802	0QG	2	0
5	C	769(A)	NAG	2	0
5	B	771(A)	NAG	2	0

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







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 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	724/728 (99%)	-0.26	5 (0%) 84 84	9, 29, 56, 73	13 (1%)
1	B	728/728 (100%)	-0.38	4 (0%) 87 87	9, 24, 49, 73	12 (1%)
1	C	723/728 (99%)	-0.22	8 (1%) 78 77	9, 28, 57, 94	12 (1%)
1	D	728/728 (100%)	-0.26	1 (0%) 92 93	11, 29, 53, 75	10 (1%)
All	All	2903/2912 (99%)	-0.28	18 (0%) 85 86	9, 28, 53, 94	47 (1%)

All (18) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	98	LEU	3.9
1	B	506	ASP	3.1
1	A	71	LYS	3.0
1	B	83	TYR	2.9
1	C	95	PHE	2.9
1	C	537	SER	2.8
1	D	521	GLY	2.7
1	A	766	PRO	2.7
1	C	536	LYS	2.7
1	A	39	SER	2.4
1	A	138	ASN	2.2
1	C	73	GLU	2.2
1	C	138	ASN	2.2
1	B	41	ARG	2.1
1	C	140	ARG	2.1
1	C	97	GLU	2.1
1	B	367	ASP	2.0
1	A	761	GLN	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

6.3 Carbohydrates ⓘ

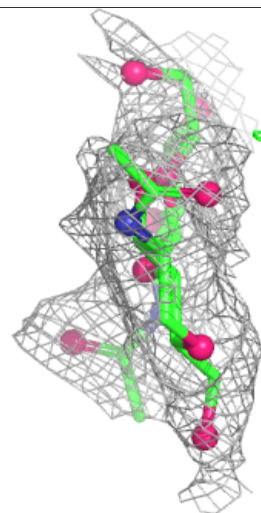
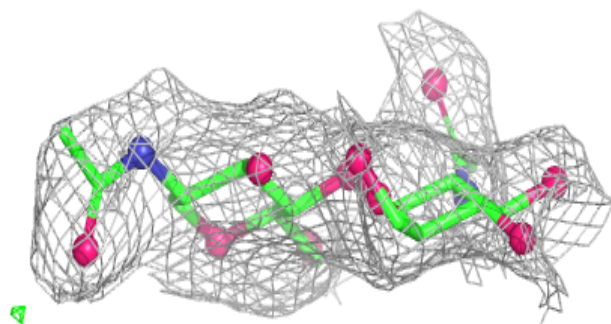
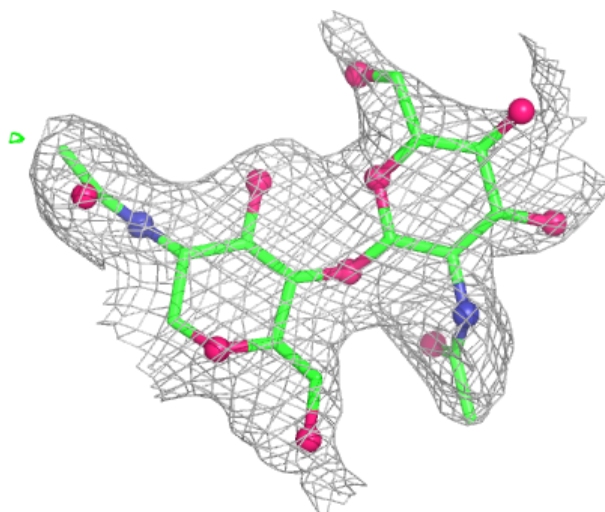
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	NAG	K	2	14/15	0.70	0.14	52,60,63,65	0
3	BMA	J	3	11/12	0.71	0.16	65,67,68,68	0
3	NAG	J	2	14/15	0.78	0.14	65,67,70,70	0
2	NAG	F	2	14/15	0.80	0.12	53,55,57,59	0
2	NAG	H	2	14/15	0.81	0.11	43,46,49,50	0
2	NAG	E	2	14/15	0.81	0.11	51,56,58,60	0
2	NAG	M	2	14/15	0.82	0.12	50,52,55,55	0
3	NAG	J	1	14/15	0.82	0.11	56,61,62,65	0
2	NAG	L	2	14/15	0.84	0.14	61,63,65,65	0
3	BMA	G	3	11/12	0.85	0.09	60,61,62,63	0
2	NAG	I	2	14/15	0.85	0.11	40,46,47,49	0
3	NAG	G	2	14/15	0.86	0.12	54,57,59,60	0
2	NAG	L	1	14/15	0.87	0.13	44,48,51,57	0
2	NAG	I	1	14/15	0.88	0.10	38,42,44,46	0
2	NAG	M	1	14/15	0.88	0.10	34,37,43,45	0
3	NAG	G	1	14/15	0.90	0.10	47,48,49,51	0
2	NAG	F	1	14/15	0.91	0.08	37,40,44,48	0
2	NAG	H	1	14/15	0.91	0.08	23,34,37,40	0
2	NAG	K	1	14/15	0.95	0.07	30,37,43,49	0
2	NAG	E	1	14/15	0.95	0.07	32,35,38,43	0

The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

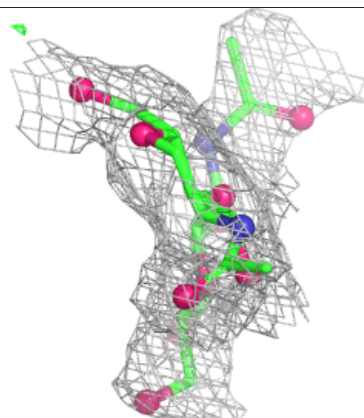
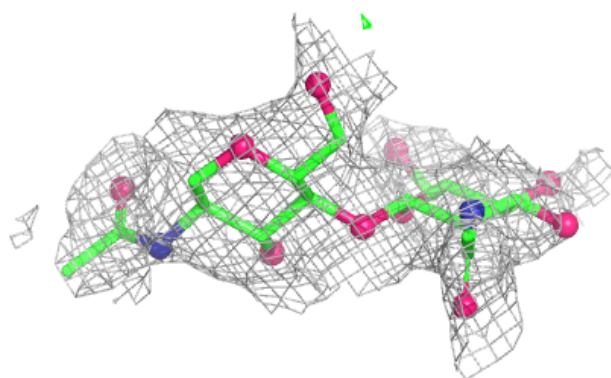
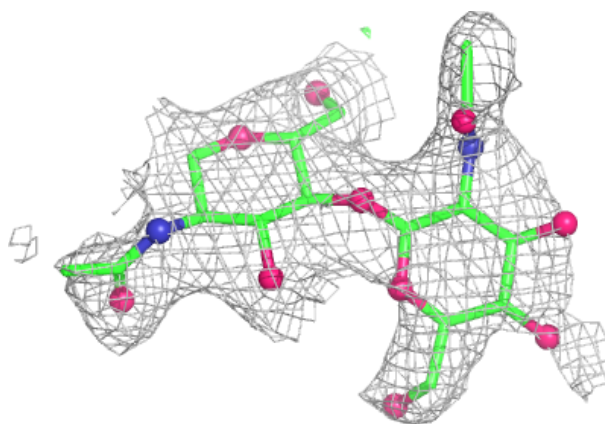
Electron density around Chain E:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



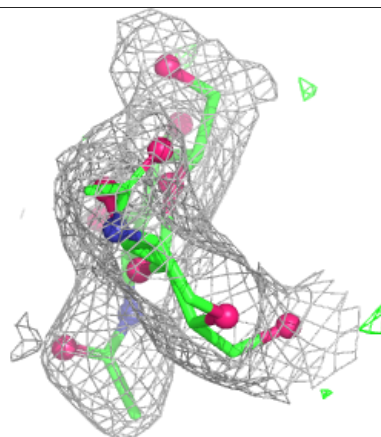
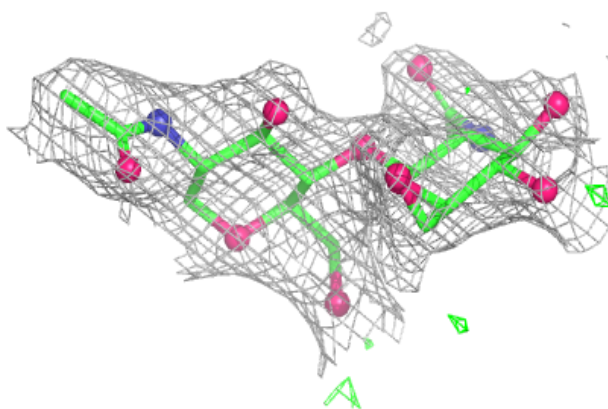
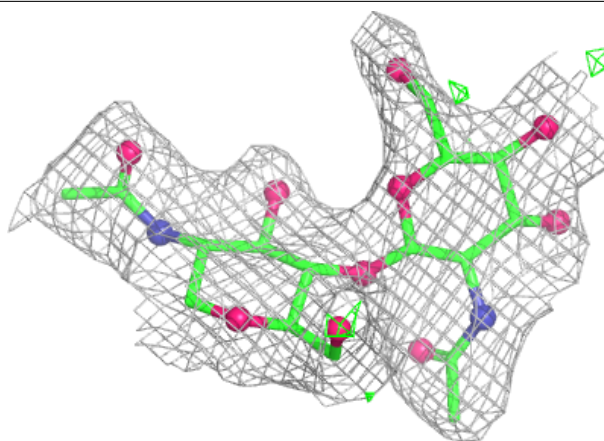
Electron density around Chain F:

$2mF_o - DF_c$ (at 0.7 rmsd) in gray
 $mF_o - DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)



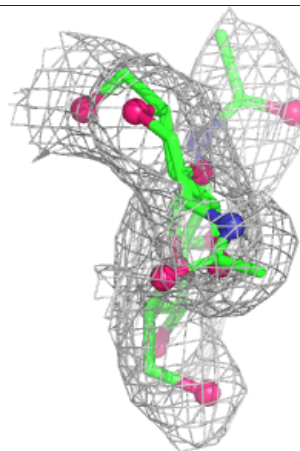
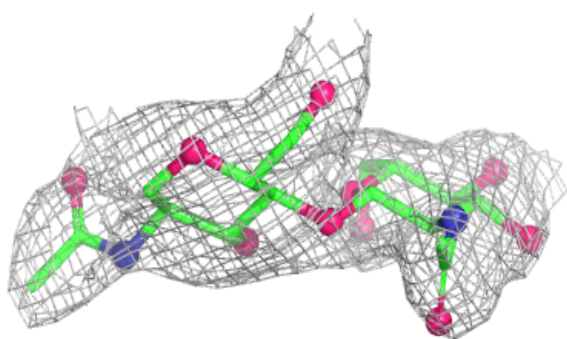
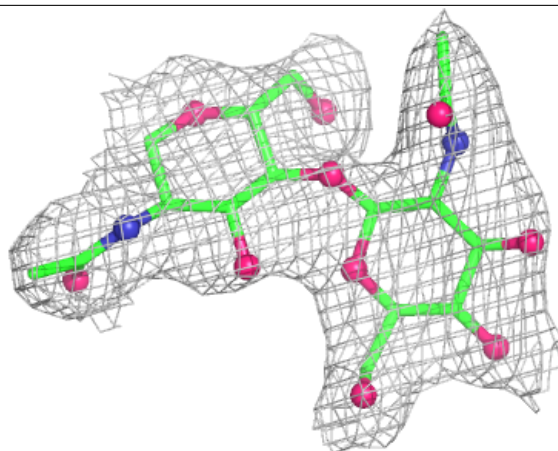
Electron density around Chain H:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



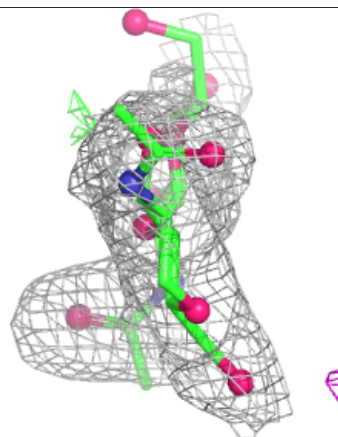
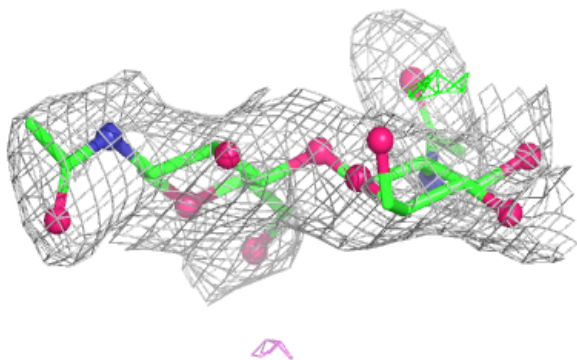
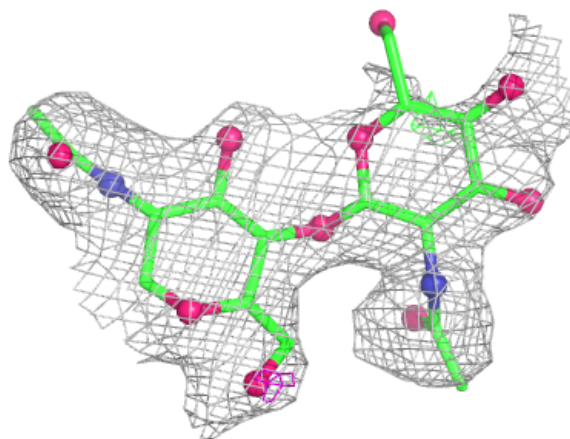
Electron density around Chain I:

$2mF_o - DF_c$ (at 0.7 rmsd) in gray
 $mF_o - DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)



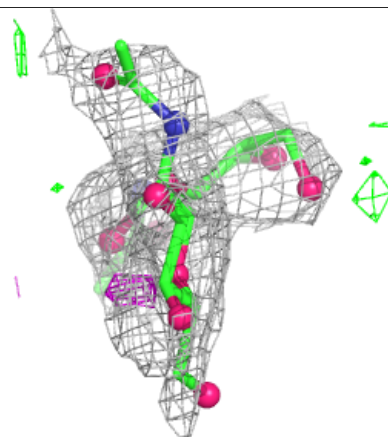
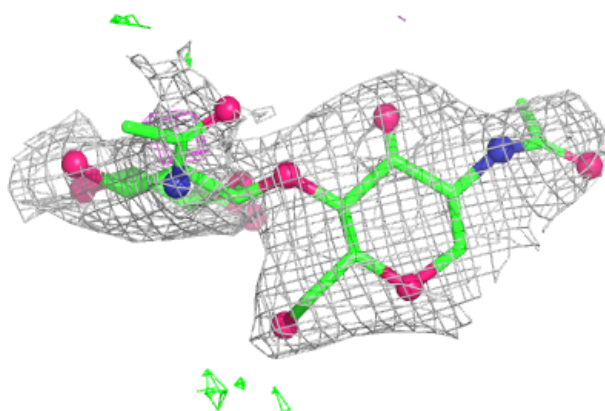
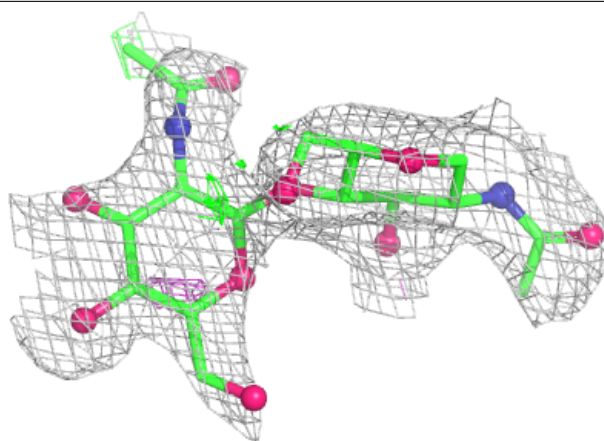
Electron density around Chain K:

$2mF_o - DF_c$ (at 0.7 rmsd) in gray
 $mF_o - DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)



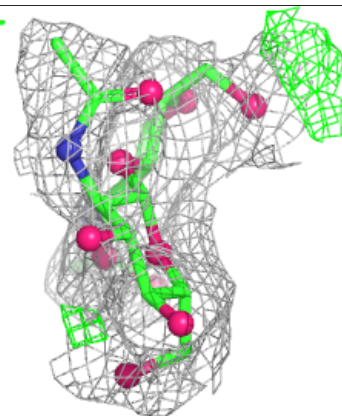
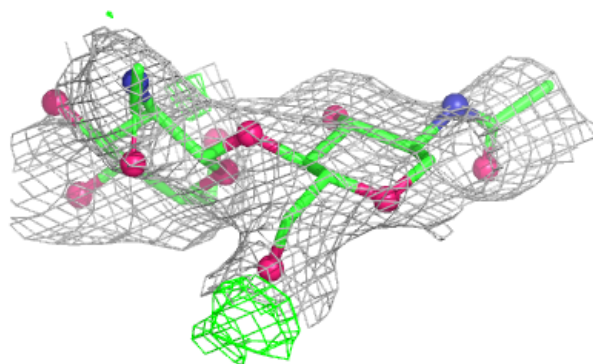
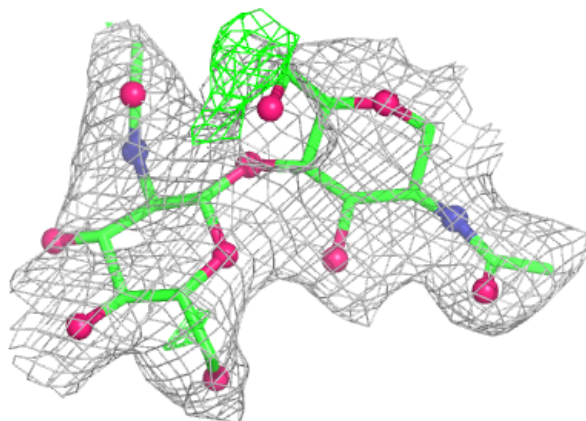
Electron density around Chain L:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

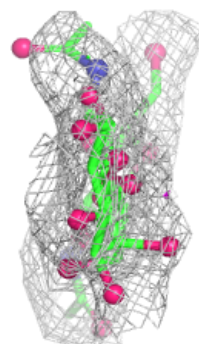
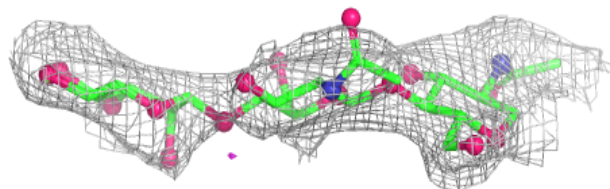
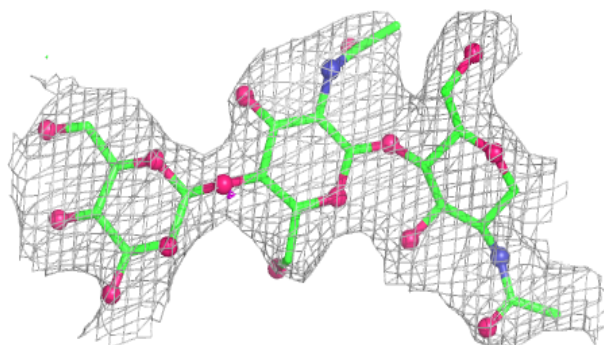


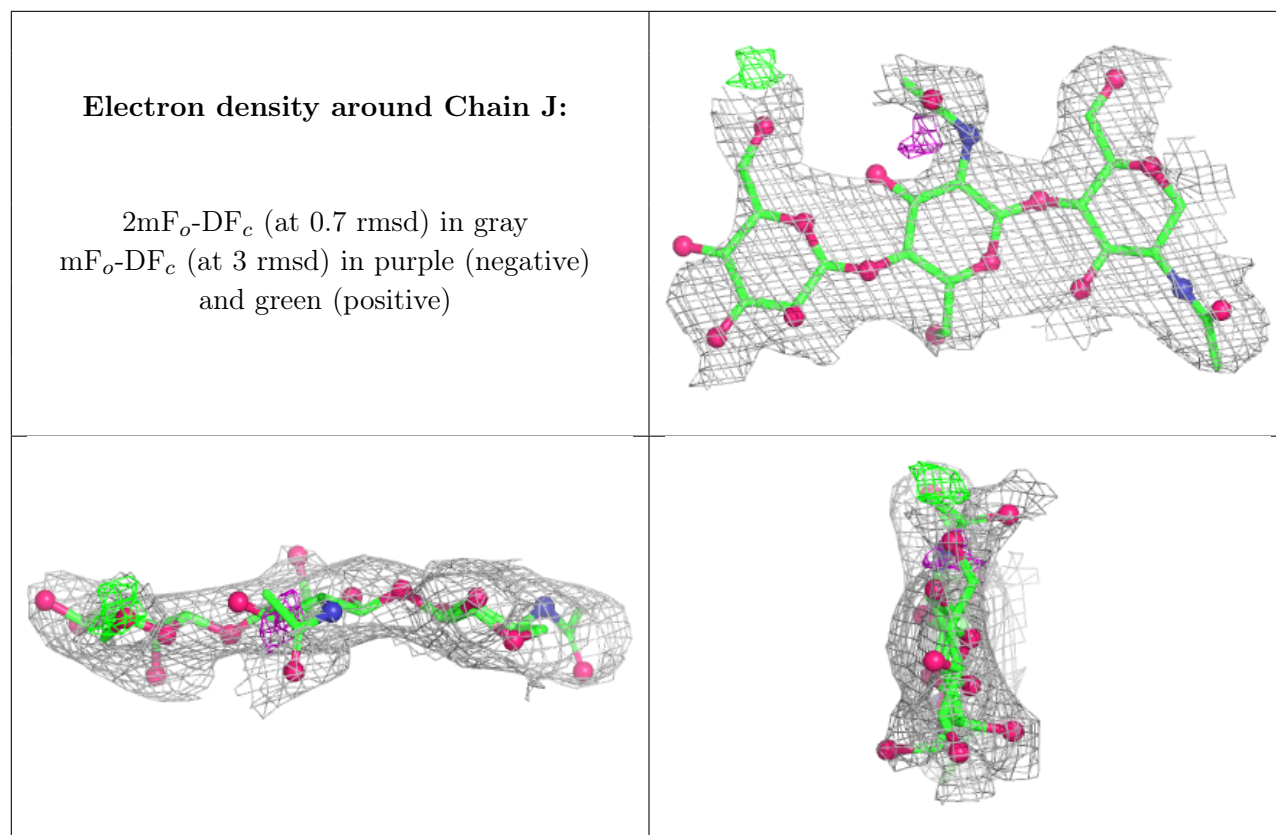
Electron density around Chain M:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around Chain G:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
5	NAG	D	767(A)	14/15	0.36	0.18	77,80,80,81	0
5	NAG	C	768(A)	14/15	0.66	0.16	76,80,81,82	0
5	NAG	A	771(A)	14/15	0.71	0.16	47,50,51,51	3
5	NAG	A	768(A)	14/15	0.73	0.14	59,62,64,64	0
5	NAG	A	767(A)	14/15	0.73	0.14	67,67,69,69	0
5	NAG	C	767(A)	14/15	0.75	0.16	60,62,63,64	0
5	NAG	C	771(A)	14/15	0.78	0.12	41,44,47,49	0
5	NAG	D	773(A)	14/15	0.78	0.12	48,50,53,53	0
5	NAG	C	770(A)	14/15	0.79	0.14	34,40,44,46	0
5	NAG	B	772(A)	14/15	0.81	0.12	48,52,53,54	0
5	NAG	B	771(A)	14/15	0.88	0.09	34,36,38,40	0
5	NAG	B	767(A)	14/15	0.88	0.10	58,60,63,64	0
5	NAG	A	772(A)	14/15	0.91	0.08	37,39,40,41	0
5	NAG	B	773(A)	14/15	0.91	0.09	30,34,39,39	0

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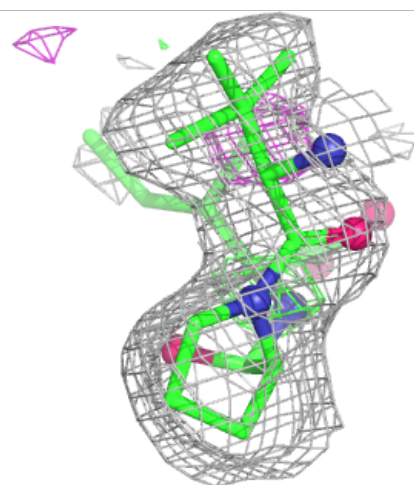
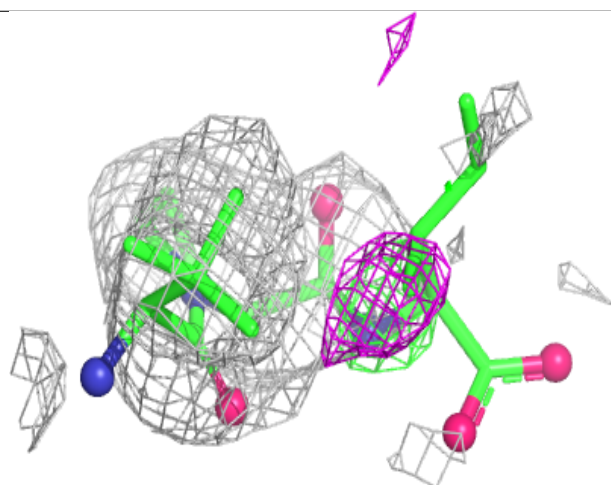
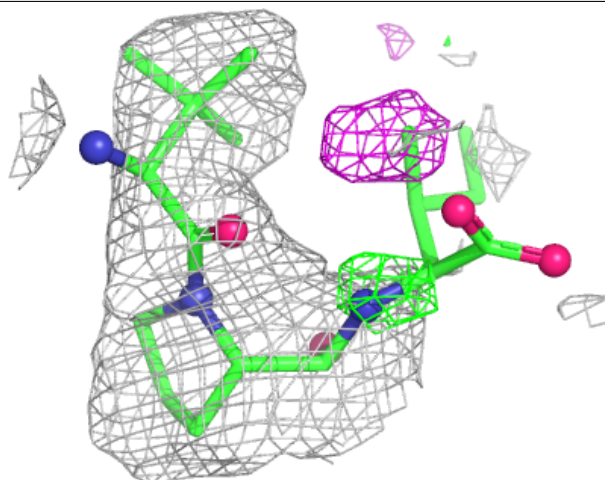
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
4	0QG	D	802	24/24	0.93	0.10	25,31,39,40	9
5	NAG	C	769(A)	14/15	0.93	0.09	28,29,33,33	0
4	0QG	C	802	24/24	0.93	0.08	18,27,34,34	9
4	0QG	B	802	24/24	0.94	0.09	24,30,36,37	9
4	0QG	A	802	24/24	0.95	0.09	31,38,42,43	9
6	SO4	A	1500	5/5	0.97	0.06	34,34,37,38	0
6	SO4	B	1501	5/5	0.98	0.06	29,29,30,31	0
6	SO4	C	1502	5/5	0.98	0.06	37,38,39,40	0
6	SO4	D	1503	5/5	0.98	0.05	43,43,44,45	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

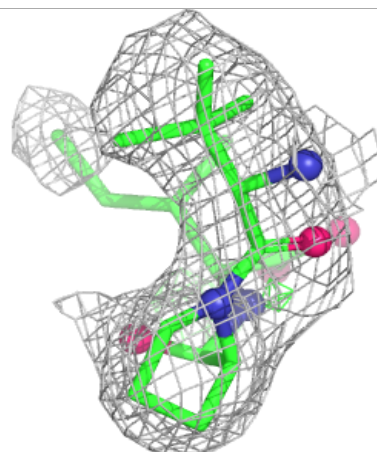
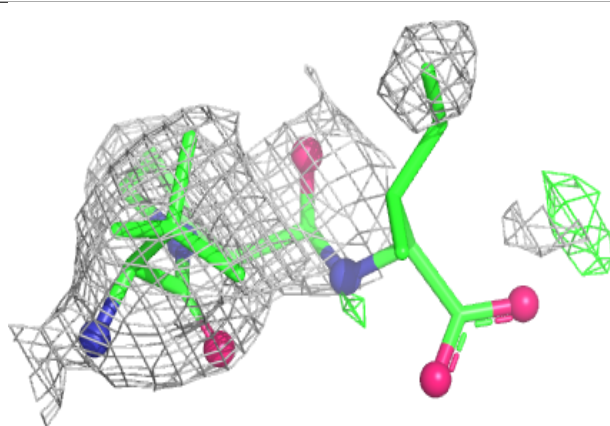
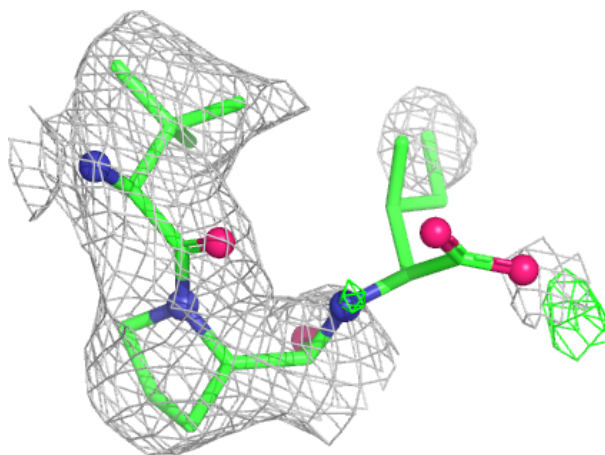
Electron density around 0QG D 802:

2mF_o-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



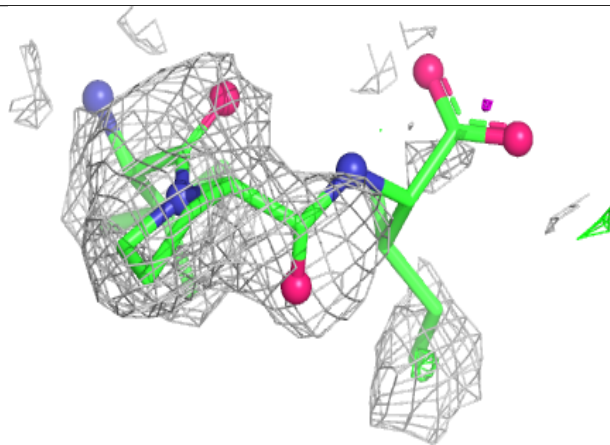
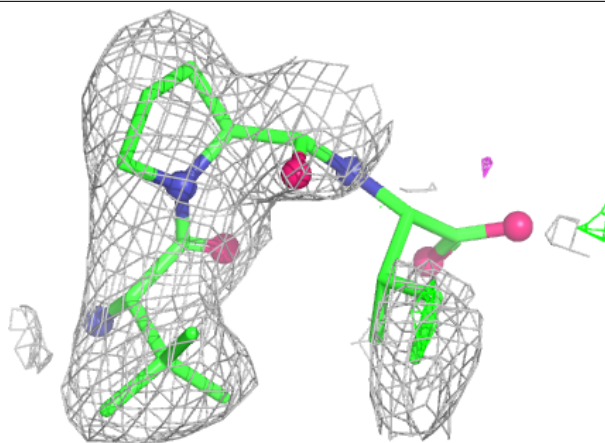
Electron density around 0QG C 802:

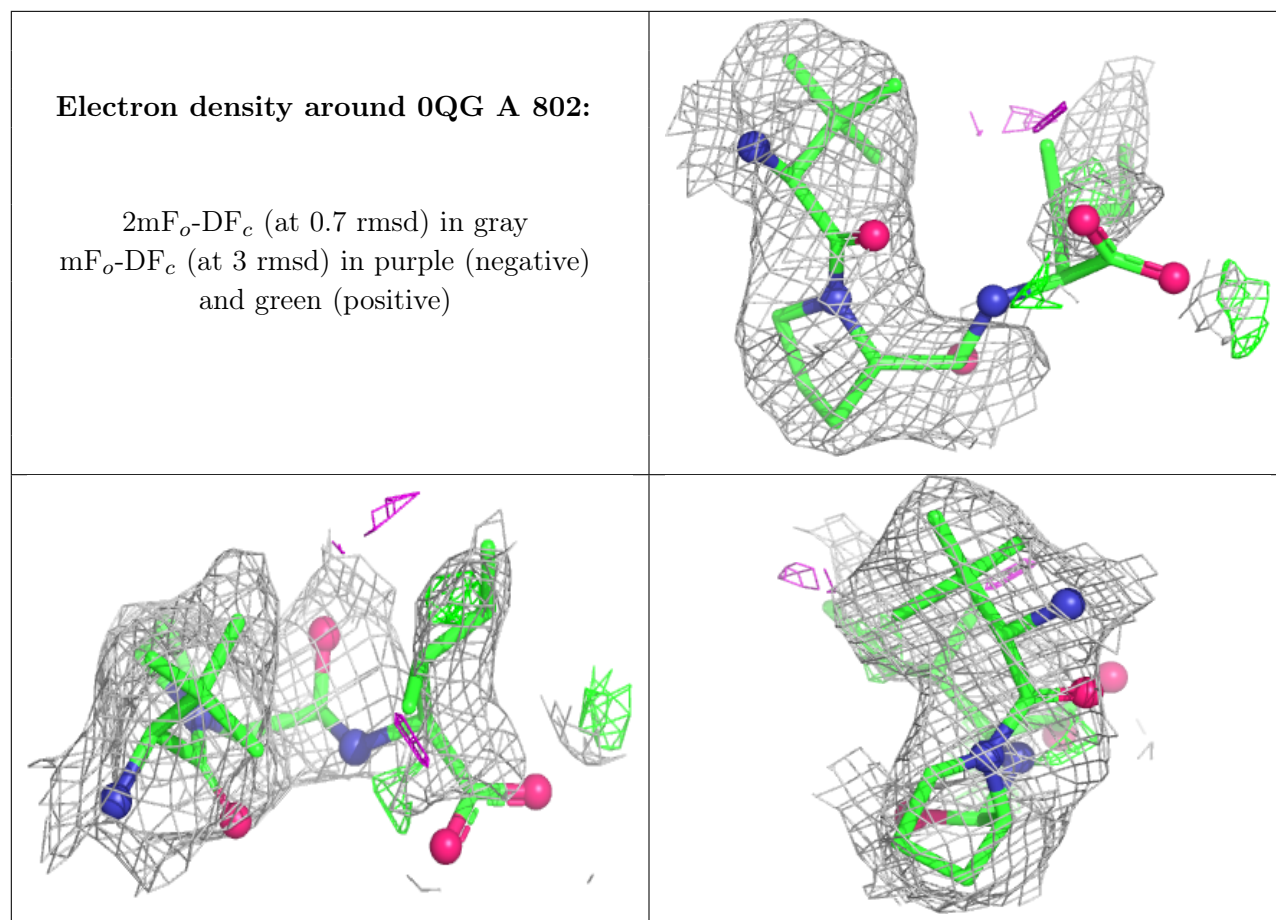
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around 0QG B 802:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





6.5 Other polymers [i](#)

There are no such residues in this entry.