



Full wwPDB X-ray Structure Validation Report ⓘ

Jan 15, 2024 – 10:25 pm GMT

PDB ID : 6HTC
Title : Yeast 20S proteasome with human beta2c (S171G) in complex with ONX 0914
Authors : Huber, E.M.; Groll, M.
Deposited on : 2018-10-03
Resolution : 2.80 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 : 4.02b-467
Mogul : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

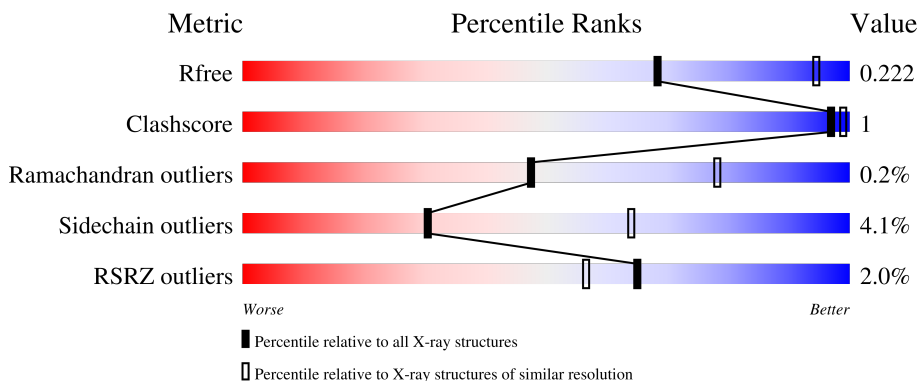
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.80 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}	130704	3140 (2.80-2.80)
Clashscore	141614	3569 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)
RSRZ outliers	127900	3078 (2.80-2.80)

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	250	 3% 94% . .
1	O	250	 2% 94% . .
2	B	258	 3% 89% 5% . 5%
2	P	258	 3% 90% . 5%
3	C	254	 3% 89% 6% 6%

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Mol	Chain	Length	Quality of chain
3	Q	254	 6% 89% 6% 6%
4	D	260	 86% 10%
4	R	260	 2% 86% 10%
5	E	234	 2% 93% 6%
5	S	234	 6% 93% 5%
6	F	288	 80% 16%
6	T	288	 2% 81% 16%
7	G	252	 88% 6%
7	U	252	 2% 88% 6%
8	H	234	 2% 88% 6%
8	V	234	 2% 90% 6%
9	I	205	 95%
9	W	205	 96%
10	J	198	 90% 7%
10	X	198	 91% 7%
11	K	212	 92% 8%
11	Y	212	 92% 8%
12	L	222	 3% 95% 5%
12	Z	222	 3% 94% 5%
13	M	246	 87% 9%
13	a	246	 88% 9%
14	N	196	 97%
14	b	196	 98%

2 Entry composition

There are 20 unique types of molecules in this entry. The entry contains 49687 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 Proteasome subunit alpha type-2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	240	Total 1842	C 1171	N 305	O 362	S 4	0	0	0
1	O	240	Total 1842	C 1171	N 305	O 362	S 4	0	0	0

- Molecule 2 is a protein called Proteasome subunit alpha type-3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	244	Total 1904	C 1201	N 321	O 379	S 3	0	0	0
2	P	244	Total 1904	C 1201	N 321	O 379	S 3	0	0	0

- Molecule 3 is a protein called Proteasome subunit alpha type-4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	240	Total 1881	C 1176	N 329	O 372	S 4	0	0	0
3	Q	240	Total 1881	C 1176	N 329	O 372	S 4	0	0	0

- Molecule 4 is a protein called Proteasome subunit alpha type-5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	D	235	Total 1813	C 1136	N 304	O 366	S 7	0	0	0
4	R	235	Total 1813	C 1136	N 304	O 366	S 7	0	0	0

- Molecule 5 is a protein called Proteasome subunit alpha type-6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	E	231	1773	1114	307	348	4	0	0	0
5	S	231	1773	1114	307	348	4	0	0	0

- Molecule 6 is a protein called Probable proteasome subunit alpha type-7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	F	243	1892	1203	329	356	4	0	0	0
6	T	243	1892	1203	329	356	4	0	0	0

- Molecule 7 is a protein called Proteasome subunit alpha type-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	G	241	1907	1214	320	365	8	0	0	0
7	U	241	1907	1214	320	365	8	0	0	0

- Molecule 8 is a protein called Proteasome subunit beta type-7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	H	219	1648	1038	282	316	12	0	0	0
8	V	219	1648	1038	282	316	12	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	171	GLY	SER	engineered mutation	UNP Q99436
V	171	GLY	SER	engineered mutation	UNP Q99436

- Molecule 9 is a protein called Proteasome subunit beta type-3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	I	204	1581	1010	258	305	8	0	0	0
9	W	204	1581	1010	258	305	8	0	0	0

- Molecule 10 is a protein called Proteasome subunit beta type-4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	195	Total	C	N	O	S	0	0	0
			1561	992	264	299	6			
10	X	195	Total	C	N	O	S	0	0	0
			1561	992	264	299	6			

- Molecule 11 is a protein called Proteasome subunit beta type-5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	212	Total	C	N	O	S	0	0	0
			1644	1045	280	312	7			
11	Y	212	Total	C	N	O	S	0	0	0
			1644	1045	280	312	7			

- Molecule 12 is a protein called Proteasome subunit beta type-6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	222	Total	C	N	O	S	0	0	0
			1757	1115	303	335	4			
12	Z	222	Total	C	N	O	S	0	0	0
			1757	1115	303	335	4			

- Molecule 13 is a protein called Proteasome subunit beta type-7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	224	Total	C	N	O	S	0	0	0
			1753	1108	300	338	7			
13	a	224	Total	C	N	O	S	0	0	0
			1753	1108	300	338	7			

- Molecule 14 is a protein called Proteasome subunit beta type-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	196	Total	C	N	O	S	0	0	0
			1512	955	250	300	7			
14	b	196	Total	C	N	O	S	0	0	0
			1512	955	250	300	7			

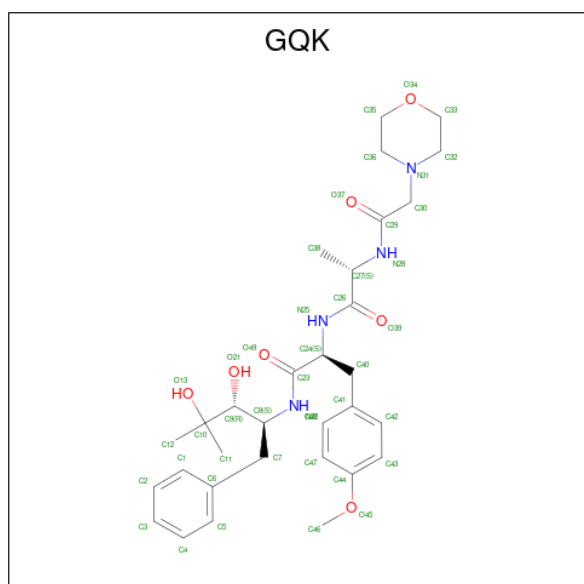
- Molecule 15 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
15	G	1	Total Mg 1 1	0	0
15	I	2	Total Mg 2 2	0	0
15	K	1	Total Mg 1 1	0	0
15	N	1	Total Mg 1 1	0	0
15	V	2	Total Mg 2 2	0	0
15	W	1	Total Mg 1 1	0	0
15	Y	1	Total Mg 1 1	0	0
15	Z	1	Total Mg 1 1	0	0

- Molecule 16 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

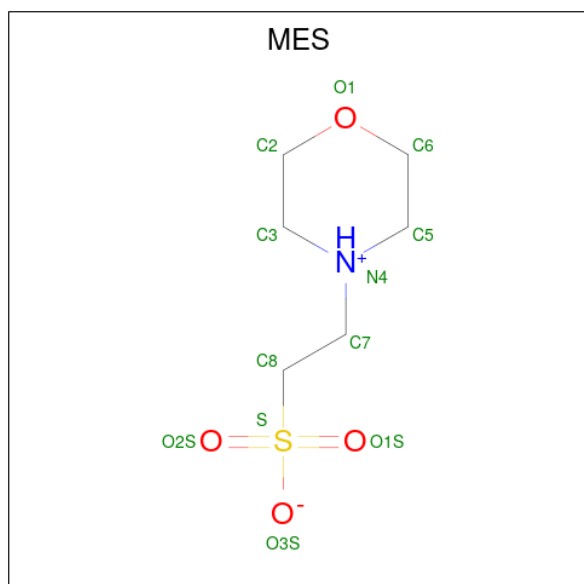
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
16	G	1	Total Cl 1 1	0	0
16	U	1	Total Cl 1 1	0	0

- Molecule 17 is (2 {S})-3-(4-methoxyphenyl)- {N}-[(2 {S}),3 {R}]-4-methyl-3,4-bis(oxidanyl)-1-phenyl-pentan-2-yl]-2-[(2 {S})-2-(2-morpholin-4-ylethanoylamino)propanoyl]amino]prop anamide (three-letter code: GQK) (formula: C₃₁H₄₄N₄O₇).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
17	H	1	Total	C	N	O	0	0
			42	31	4	7		
17	K	1	Total	C	N	O	0	0
			42	31	4	7		
17	N	1	Total	C	N	O	0	0
			42	31	4	7		
17	V	1	Total	C	N	O	0	0
			42	31	4	7		
17	Y	1	Total	C	N	O	0	0
			42	31	4	7		
17	b	1	Total	C	N	O	0	0
			42	31	4	7		

- Molecule 18 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (three-letter code: MES) (formula: C₆H₁₃NO₄S).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
18	H	1	Total	C	N	O	S	0	0
			12	6	1	4	1		
18	K	1	Total	C	N	O	S	0	0
			12	6	1	4	1		
18	V	1	Total	C	N	O	S	0	0
			12	6	1	4	1		
18	Y	1	Total	C	N	O	S	0	0
			12	6	1	4	1		

- Molecule 19 is SULFATE ION (three-letter code: SO₄) (formula: O₄S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
19	N	1	Total	O	S	0	0
			5	4	1		
19	b	1	Total	O	S	0	0
			5	4	1		

- Molecule 20 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
20	A	13	Total	O	0	0
			13	13		
20	B	19	Total	O	0	0
			19	19		
20	C	18	Total	O	0	0
			18	18		
20	D	12	Total	O	0	0
			12	12		
20	E	7	Total	O	0	0
			7	7		
20	F	8	Total	O	0	0
			8	8		
20	G	14	Total	O	0	0
			14	14		
20	H	13	Total	O	0	0
			13	13		
20	I	15	Total	O	0	0
			15	15		
20	J	23	Total	O	0	0
			23	23		

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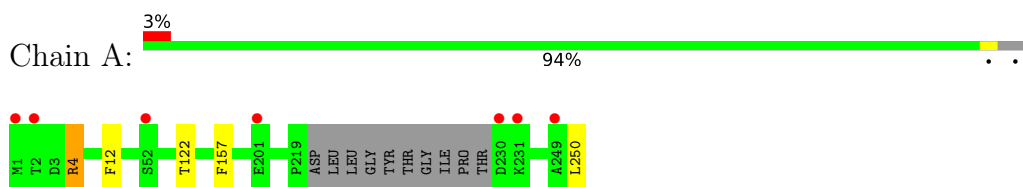
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
20	K	22	Total 22	O 22	0	0
20	L	15	Total 15	O 15	0	0
20	M	21	Total 21	O 21	0	0
20	N	17	Total 17	O 17	0	0
20	O	7	Total 7	O 7	0	0
20	P	13	Total 13	O 13	0	0
20	Q	9	Total 9	O 9	0	0
20	R	8	Total 8	O 8	0	0
20	S	9	Total 9	O 9	0	0
20	T	10	Total 10	O 10	0	0
20	U	17	Total 17	O 17	0	0
20	V	10	Total 10	O 10	0	0
20	W	11	Total 11	O 11	0	0
20	X	28	Total 28	O 28	0	0
20	Y	26	Total 26	O 26	0	0
20	Z	19	Total 19	O 19	0	0
20	a	28	Total 28	O 28	0	0
20	b	17	Total 17	O 17	0	0

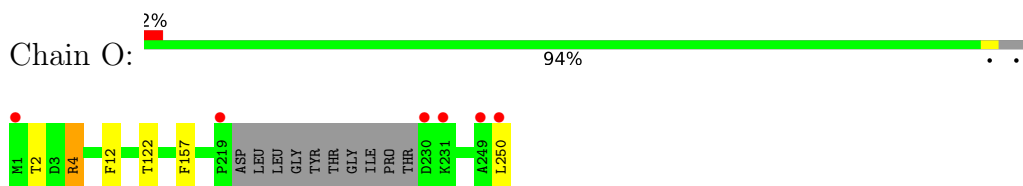
3 Residue-property plots

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

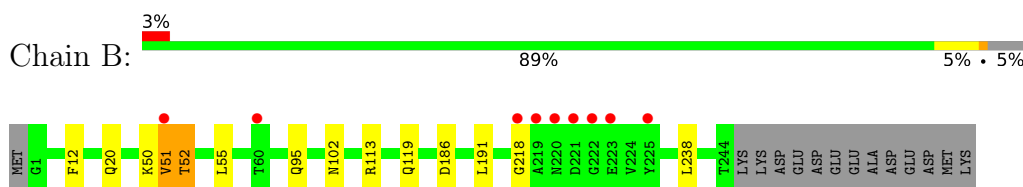
- Molecule 1: Proteasome subunit alpha type-2



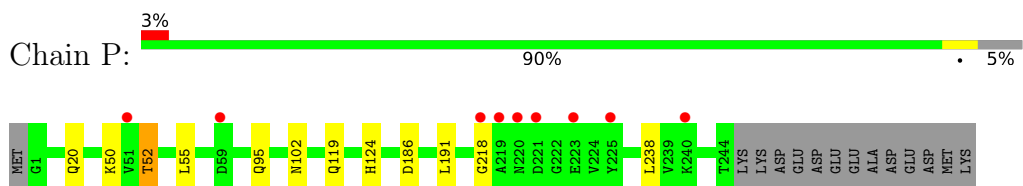
- Molecule 1: Proteasome subunit alpha type-2



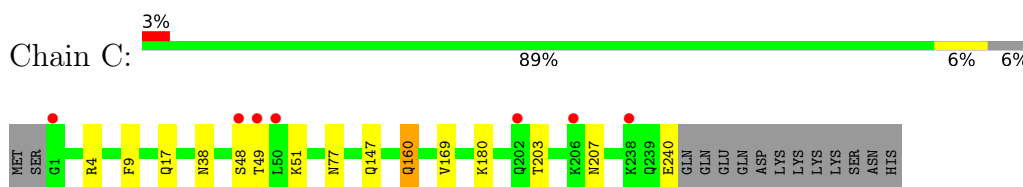
- Molecule 2: Proteasome subunit alpha type-3



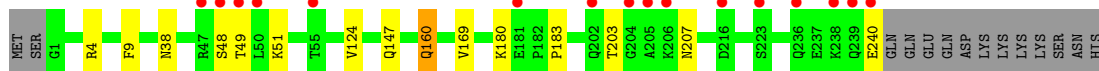
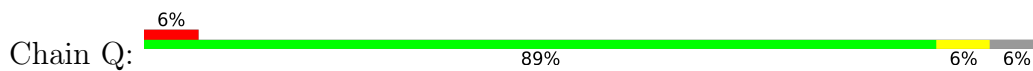
- Molecule 2: Proteasome subunit alpha type-3



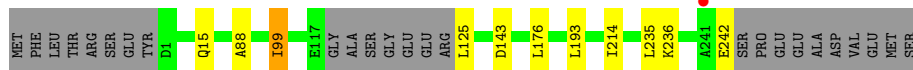
- Molecule 3: Proteasome subunit alpha type-4



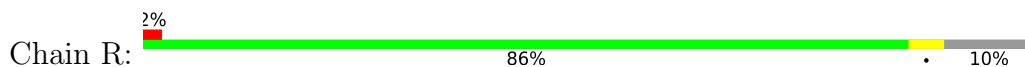
- Molecule 3: Proteasome subunit alpha type-4



● Molecule 4: Proteasome subunit alpha type-5



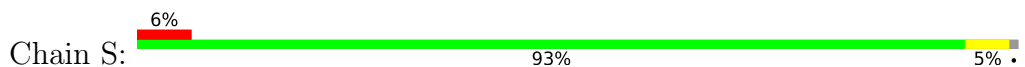
● Molecule 4: Proteasome subunit alpha type-5



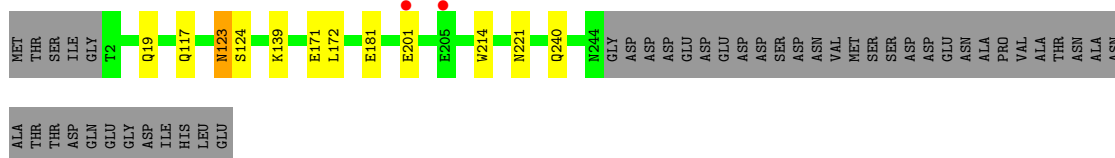
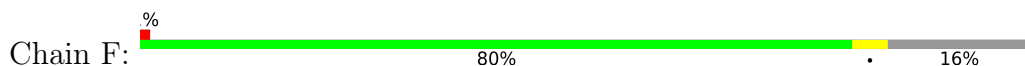
● Molecule 5: Proteasome subunit alpha type-6



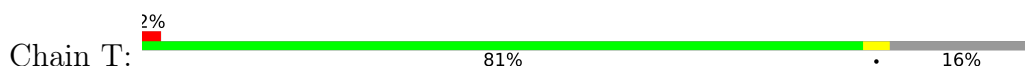
● Molecule 5: Proteasome subunit alpha type-6

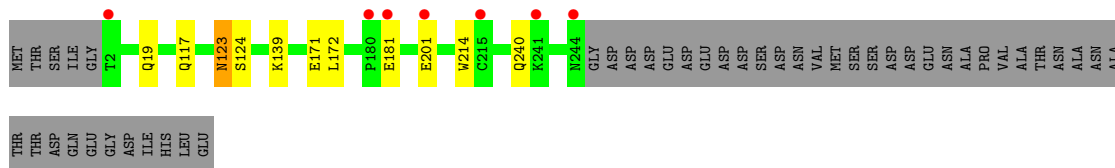


● Molecule 6: Probable proteasome subunit alpha type-7

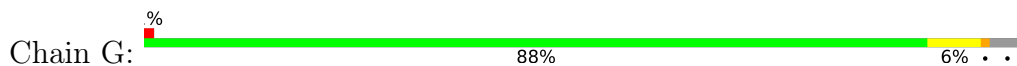


● Molecule 6: Probable proteasome subunit alpha type-7

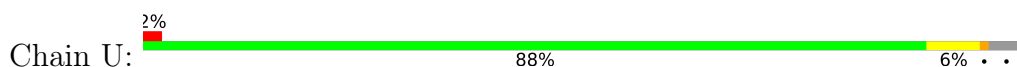




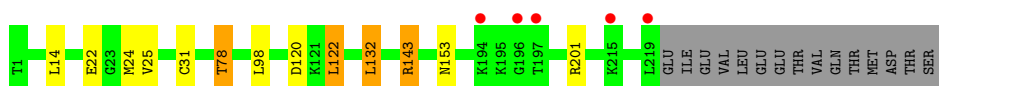
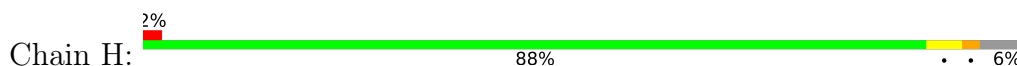
• Molecule 7: Proteasome subunit alpha type-1



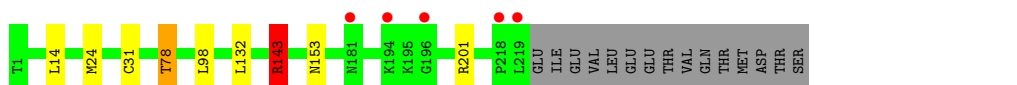
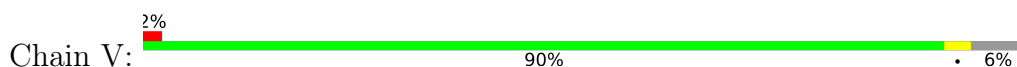
• Molecule 7: Proteasome subunit alpha type-1



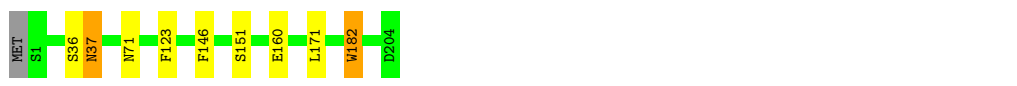
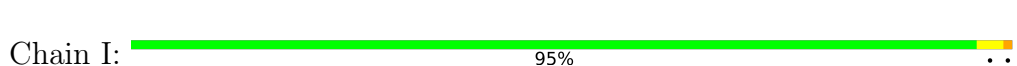
• Molecule 8: Proteasome subunit beta type-7



• Molecule 8: Proteasome subunit beta type-7



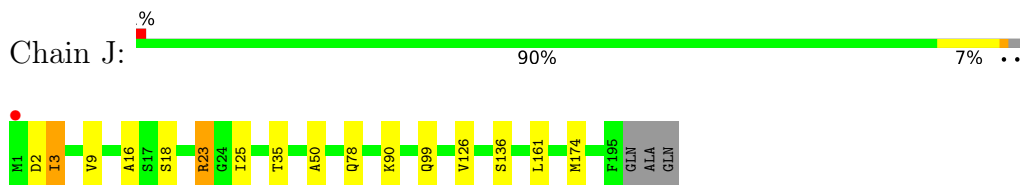
• Molecule 9: Proteasome subunit beta type-3



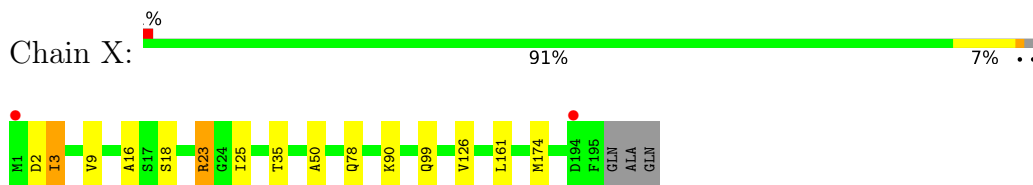
• Molecule 9: Proteasome subunit beta type-3



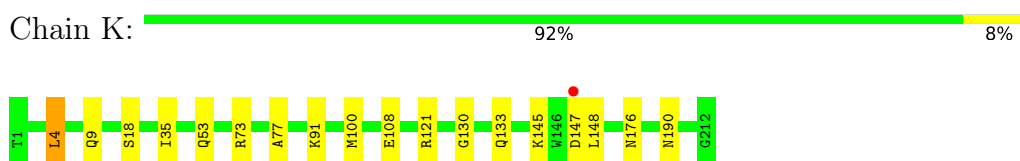
- Molecule 10: Proteasome subunit beta type-4



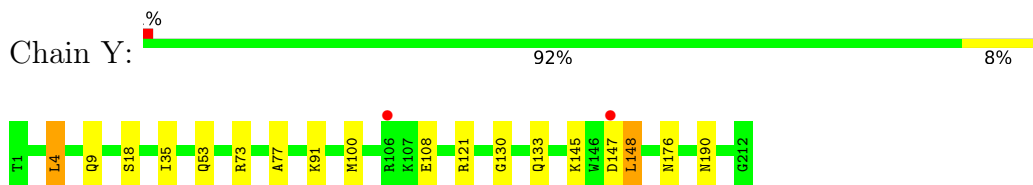
- Molecule 10: Proteasome subunit beta type-4



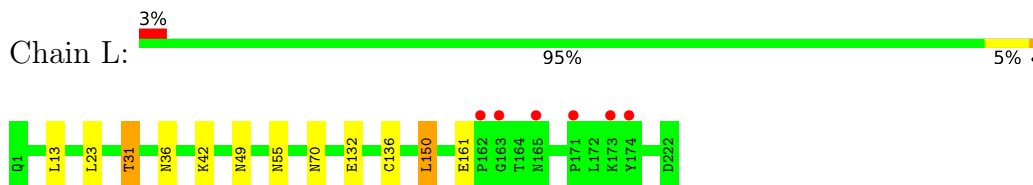
- Molecule 11: Proteasome subunit beta type-5



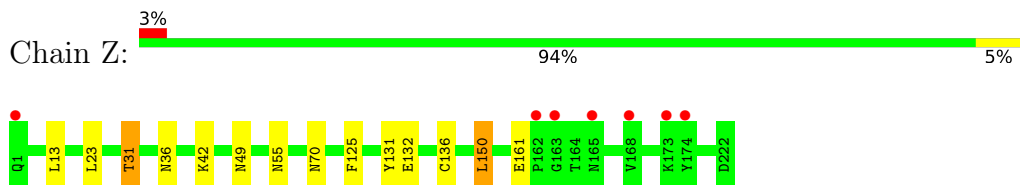
- Molecule 11: Proteasome subunit beta type-5



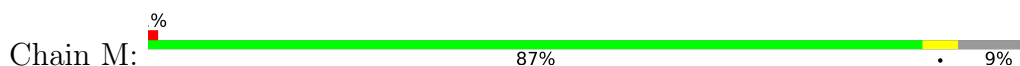
- Molecule 12: Proteasome subunit beta type-6

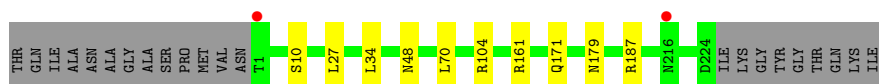


- Molecule 12: Proteasome subunit beta type-6



- Molecule 13: Proteasome subunit beta type-7





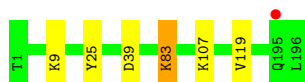
- Molecule 13: Proteasome subunit beta type-7

Chain a: 88% 9%



- Molecule 14: Proteasome subunit beta type-1

Chain N: 97%



- Molecule 14: Proteasome subunit beta type-1

Chain b: 98%



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	135.63Å 300.76Å 144.64Å 90.00° 112.88° 90.00°	Depositor
Resolution (Å)	15.00 – 2.80 15.00 – 2.80	Depositor EDS
% Data completeness (in resolution range)	97.5 (15.00-2.80) 98.2 (15.00-2.80)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.18 (at 2.81Å)	Xtrriage
Refinement program	REFMAC 5.8.0158	Depositor
R, R_{free}	0.180 , 0.218 0.185 , 0.222	Depositor DCC
R_{free} test set	12731 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	58.5	Xtrriage
Anisotropy	0.585	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.30 , 34.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	49687	wwPDB-VP
Average B, all atoms (Å ²)	73.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.42% 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 [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: CL, MES, SO4, GQK, MG

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	0.38	0/1876	0.81	3/2535 (0.1%)
1	O	0.38	0/1876	0.81	4/2535 (0.2%)
2	B	0.39	0/1934	0.64	1/2618 (0.0%)
2	P	0.39	0/1934	0.63	0/2618
3	C	0.39	0/1910	0.64	0/2586
3	Q	0.38	0/1910	0.63	0/2586
4	D	0.38	0/1837	0.60	0/2475
4	R	0.37	0/1837	0.59	0/2475
5	E	0.38	0/1800	0.59	0/2433
5	S	0.38	0/1800	0.59	0/2433
6	F	0.38	0/1932	0.56	0/2609
6	T	0.38	0/1932	0.57	0/2609
7	G	0.39	0/1945	0.76	3/2634 (0.1%)
7	U	0.39	0/1945	0.81	3/2634 (0.1%)
8	H	0.40	0/1675	0.88	3/2267 (0.1%)
8	V	0.38	0/1675	0.86	3/2267 (0.1%)
9	I	0.39	0/1611	0.61	0/2174
9	W	0.38	0/1611	0.60	0/2174
10	J	0.37	0/1589	0.67	1/2142 (0.0%)
10	X	0.37	0/1589	0.67	1/2142 (0.0%)
11	K	0.36	0/1681	0.63	1/2274 (0.0%)
11	Y	0.36	0/1681	0.63	1/2274 (0.0%)
12	L	0.39	0/1795	0.61	0/2420
12	Z	0.38	0/1795	0.60	0/2420
13	M	0.38	0/1783	0.63	0/2420
13	a	0.39	0/1783	0.64	0/2420
14	N	0.36	0/1541	0.60	0/2087
14	b	0.36	0/1541	0.59	0/2087
All	All	0.38	0/49818	0.67	24/67348 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	O	0	1
7	U	0	1
8	V	0	1
All	All	0	4

There are no bond length outliers.

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	U	68	ARG	NE-CZ-NH2	-22.33	109.14	120.30
1	A	4	ARG	NE-CZ-NH2	-21.29	109.66	120.30
8	V	143	ARG	NE-CZ-NH2	-20.33	110.13	120.30
1	O	4	ARG	NE-CZ-NH1	-20.15	110.22	120.30
8	H	143	ARG	NE-CZ-NH1	-18.96	110.82	120.30
7	G	68	ARG	NE-CZ-NH1	-17.17	111.72	120.30
8	H	143	ARG	NE-CZ-NH2	16.78	128.69	120.30
1	O	4	ARG	NE-CZ-NH2	15.98	128.29	120.30
7	G	68	ARG	NE-CZ-NH2	15.05	127.83	120.30
1	A	4	ARG	NE-CZ-NH1	14.59	127.59	120.30
8	V	143	ARG	NE-CZ-NH1	13.95	127.28	120.30
7	U	68	ARG	NE-CZ-NH1	12.68	126.64	120.30
7	U	68	ARG	CD-NE-CZ	11.36	139.50	123.60
1	A	4	ARG	CD-NE-CZ	10.22	137.91	123.60
8	V	143	ARG	CD-NE-CZ	10.09	137.73	123.60
1	O	4	ARG	CD-NE-CZ	9.72	137.21	123.60
8	H	143	ARG	CD-NE-CZ	8.04	134.86	123.60
7	G	68	ARG	CD-NE-CZ	7.62	134.26	123.60
10	X	23	ARG	NE-CZ-NH2	7.20	123.90	120.30
10	J	23	ARG	NE-CZ-NH2	6.87	123.74	120.30
2	B	51	VAL	CG1-CB-CG2	5.69	120.00	110.90
1	O	4	ARG	CG-CD-NE	5.64	123.64	111.80
11	K	4	LEU	CA-CB-CG	5.31	127.51	115.30
11	Y	4	LEU	CA-CB-CG	5.27	127.43	115.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	4	ARG	Sidechain
1	O	4	ARG	Sidechain
7	U	68	ARG	Sidechain
8	V	143	ARG	Sidechain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1842	0	1855	1	0
1	O	1842	0	1855	1	0
2	B	1904	0	1904	4	0
2	P	1904	0	1904	4	0
3	C	1881	0	1895	5	0
3	Q	1881	0	1895	5	0
4	D	1813	0	1797	2	0
4	R	1813	0	1797	2	0
5	E	1773	0	1775	6	0
5	S	1773	0	1775	6	0
6	F	1892	0	1883	3	0
6	T	1892	0	1883	3	0
7	G	1907	0	1901	6	0
7	U	1907	0	1901	5	0
8	H	1648	0	1671	4	0
8	V	1648	0	1671	1	0
9	I	1581	0	1574	5	0
9	W	1581	0	1574	4	0
10	J	1561	0	1569	5	0
10	X	1561	0	1569	5	0
11	K	1644	0	1593	5	0
11	Y	1644	0	1593	5	0
12	L	1757	0	1711	7	0
12	Z	1757	0	1711	8	0
13	M	1753	0	1754	2	0
13	a	1753	0	1754	0	0
14	N	1512	0	1479	3	0
14	b	1512	0	1479	0	0
15	G	1	0	0	0	0
15	I	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	K	1	0	0	0	0
15	N	1	0	0	0	0
15	V	2	0	0	0	0
15	W	1	0	0	0	0
15	Y	1	0	0	0	0
15	Z	1	0	0	0	0
16	G	1	0	0	0	0
16	U	1	0	0	0	0
17	H	42	0	0	0	0
17	K	42	0	0	0	0
17	N	42	0	0	0	0
17	V	42	0	0	0	0
17	Y	42	0	0	0	0
17	b	42	0	0	0	0
18	H	12	0	13	0	0
18	K	12	0	13	0	0
18	V	12	0	13	0	0
18	Y	12	0	13	0	0
19	N	5	0	0	0	0
19	b	5	0	0	0	0
20	A	13	0	0	0	0
20	B	19	0	0	0	0
20	C	18	0	0	0	0
20	D	12	0	0	0	0
20	E	7	0	0	0	0
20	F	8	0	0	0	0
20	G	14	0	0	1	0
20	H	13	0	0	0	0
20	I	15	0	0	0	0
20	J	23	0	0	1	0
20	K	22	0	0	0	0
20	L	15	0	0	0	0
20	M	21	0	0	1	0
20	N	17	0	0	0	0
20	O	7	0	0	0	0
20	P	13	0	0	0	0
20	Q	9	0	0	0	0
20	R	8	0	0	0	0
20	S	9	0	0	0	0
20	T	10	0	0	0	0
20	U	17	0	0	1	0
20	V	10	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	W	11	0	0	0	0
20	X	28	0	0	1	0
20	Y	26	0	0	0	0
20	Z	19	0	0	0	0
20	a	28	0	0	0	0
20	b	17	0	0	0	0
All	All	49687	0	48774	80	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 1.

All (80) 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)
5:S:92:ASN:HD21	12:Z:70:ASN:HD21	1.20	0.89
5:E:92:ASN:HD21	12:L:70:ASN:HD21	1.24	0.82
3:C:160:GLN:HE21	3:C:160:GLN:HA	1.59	0.68
3:Q:160:GLN:HE21	3:Q:160:GLN:HA	1.61	0.65
5:S:92:ASN:ND2	12:Z:70:ASN:HD21	1.94	0.64
12:L:42:LYS:HD2	12:L:55:ASN:HD22	1.63	0.63
1:O:12:PHE:H	2:P:20:GLN:HE22	1.47	0.62
12:Z:42:LYS:HD2	12:Z:55:ASN:HD22	1.65	0.61
5:E:92:ASN:HD21	12:L:70:ASN:ND2	1.98	0.60
5:S:92:ASN:HD21	12:Z:70:ASN:ND2	1.94	0.60
7:G:23:PHE:O	7:G:26:THR:HB	2.04	0.57
12:L:31:THR:HG23	12:L:36:ASN:HD21	1.69	0.57
5:E:92:ASN:ND2	12:L:70:ASN:HD21	1.97	0.56
2:B:12:PHE:H	3:C:17:GLN:HE22	1.53	0.56
12:Z:31:THR:HG23	12:Z:36:ASN:HD21	1.69	0.56
12:L:31:THR:CG2	12:L:36:ASN:HD21	2.19	0.56
12:Z:31:THR:CG2	12:Z:36:ASN:HD21	2.19	0.56
7:U:23:PHE:O	7:U:26:THR:HB	2.06	0.55
5:S:12:PHE:H	6:T:19:GLN:HE22	1.53	0.55
5:E:12:PHE:H	6:F:19:GLN:HE22	1.56	0.54
6:F:123:ASN:HD22	6:F:124:SER:N	2.06	0.53
6:T:123:ASN:HD22	6:T:124:SER:N	2.08	0.52
5:E:87:LEU:HD21	5:E:107:ALA:HB1	1.92	0.52
10:X:174:MET:HB2	20:X:222:HOH:O	2.10	0.52
11:K:77:ALA:O	11:K:121:ARG:NH1	2.43	0.52
5:S:87:LEU:HD21	5:S:107:ALA:HB1	1.91	0.51
7:G:99:TYR:O	8:H:78:THR:HB	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:176:ASN:ND2	11:K:190:ASN:HD22	2.09	0.50
2:B:95:GLN:HE22	9:I:71:ASN:HD22	1.58	0.50
11:Y:77:ALA:O	11:Y:121:ARG:NH1	2.44	0.50
6:F:123:ASN:HD22	6:F:123:ASN:C	2.15	0.50
10:X:16:ALA:HB2	10:X:161:LEU:HD21	1.94	0.50
8:H:120:ASP:HB3	8:H:122:LEU:HD22	1.93	0.49
6:T:123:ASN:HD22	6:T:123:ASN:C	2.15	0.49
10:J:16:ALA:HB2	10:J:161:LEU:HD21	1.94	0.49
1:A:12:PHE:H	2:B:20:GLN:HE22	1.61	0.49
3:C:48:SER:HB2	3:C:207:ASN:HD21	1.79	0.48
10:J:50:ALA:O	11:K:91:LYS:NZ	2.47	0.47
7:U:122:ARG:HD2	20:U:413:HOH:O	2.15	0.47
9:W:36:SER:HB2	10:X:126:VAL:HG11	1.96	0.47
9:I:36:SER:HB2	10:J:126:VAL:HG11	1.96	0.47
11:K:130:GLY:O	11:K:133:GLN:HG2	2.15	0.47
3:Q:48:SER:HB2	3:Q:207:ASN:HD21	1.79	0.47
9:W:37:ASN:HB3	9:W:182:TRP:CE3	2.49	0.47
11:Y:130:GLY:O	11:Y:133:GLN:HG2	2.16	0.46
10:J:174:MET:HB2	20:J:209:HOH:O	2.15	0.46
9:I:37:ASN:HB3	9:I:182:TRP:CE3	2.50	0.46
14:N:83:LYS:HG3	14:N:119:VAL:CG2	2.46	0.45
10:X:3:ILE:HG23	10:X:18:SER:HB3	1.98	0.45
10:J:3:ILE:HG23	10:J:18:SER:HB3	1.98	0.45
3:Q:9:PHE:H	4:R:15:GLN:HE22	1.65	0.45
2:P:95:GLN:HE22	9:W:71:ASN:HD22	1.65	0.45
2:B:95:GLN:NE2	9:I:71:ASN:HD22	2.14	0.45
4:R:88:ALA:HA	4:R:99:ILE:HG21	1.99	0.44
7:G:167:GLN:HE21	7:G:171:THR:HG23	1.82	0.44
7:G:68:ARG:NH1	14:N:39:ASP:OD2	2.51	0.44
4:D:88:ALA:HA	4:D:99:ILE:HG21	1.98	0.44
7:U:99:TYR:O	8:V:78:THR:HB	2.18	0.44
10:X:50:ALA:O	11:Y:91:LYS:NZ	2.51	0.43
13:M:171:GLN:HG3	20:M:318:HOH:O	2.19	0.43
12:L:13:LEU:HD11	12:L:150:LEU:HD21	2.00	0.42
5:E:118:ASN:HD22	5:E:118:ASN:N	2.17	0.42
8:H:132:LEU:HD22	14:N:25:TYR:CE1	2.54	0.42
2:P:95:GLN:NE2	9:W:71:ASN:HD22	2.17	0.42
11:Y:145:LYS:HG3	11:Y:148:LEU:HD12	2.02	0.42
13:M:27:LEU:HD21	13:M:34:LEU:HD22	2.02	0.42
5:S:118:ASN:N	5:S:118:ASN:HD22	2.18	0.42
7:U:167:GLN:HE21	7:U:171:THR:HG23	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:145:LYS:HG3	11:K:148:LEU:HD12	2.03	0.41
12:Z:13:LEU:HD11	12:Z:150:LEU:HD21	2.01	0.41
3:C:48:SER:HB2	3:C:207:ASN:ND2	2.36	0.41
7:G:122:ARG:HD2	20:G:412:HOH:O	2.19	0.41
11:Y:176:ASN:ND2	11:Y:190:ASN:HD22	2.19	0.41
7:G:73:VAL:HG12	7:G:133:THR:HB	2.02	0.41
3:C:9:PHE:H	4:D:15:GLN:HE22	1.68	0.41
8:H:25:VAL:HG11	9:I:146:PHE:CD2	2.56	0.41
3:Q:48:SER:HB2	3:Q:207:ASN:ND2	2.36	0.41
7:U:149:ASP:HB2	7:U:150:PRO:CD	2.51	0.40
2:P:124:HIS:HB3	3:Q:124:VAL:HG12	2.04	0.40
12:Z:125:PHE:CD2	12:Z:131:TYR:HB3	2.57	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	236/250 (94%)	229 (97%)	7 (3%)	0	100	100
1	O	236/250 (94%)	228 (97%)	8 (3%)	0	100	100
2	B	242/258 (94%)	237 (98%)	3 (1%)	2 (1%)	19	49
2	P	242/258 (94%)	236 (98%)	4 (2%)	2 (1%)	19	49
3	C	238/254 (94%)	235 (99%)	3 (1%)	0	100	100
3	Q	238/254 (94%)	236 (99%)	1 (0%)	1 (0%)	34	66
4	D	231/260 (89%)	226 (98%)	5 (2%)	0	100	100
4	R	231/260 (89%)	226 (98%)	5 (2%)	0	100	100
5	E	229/234 (98%)	220 (96%)	9 (4%)	0	100	100
5	S	229/234 (98%)	220 (96%)	9 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	F	241/288 (84%)	238 (99%)	3 (1%)	0	100	100
6	T	241/288 (84%)	238 (99%)	3 (1%)	0	100	100
7	G	239/252 (95%)	237 (99%)	2 (1%)	0	100	100
7	U	239/252 (95%)	237 (99%)	2 (1%)	0	100	100
8	H	217/234 (93%)	215 (99%)	2 (1%)	0	100	100
8	V	217/234 (93%)	215 (99%)	2 (1%)	0	100	100
9	I	202/205 (98%)	193 (96%)	9 (4%)	0	100	100
9	W	202/205 (98%)	193 (96%)	9 (4%)	0	100	100
10	J	193/198 (98%)	189 (98%)	3 (2%)	1 (0%)	29	61
10	X	193/198 (98%)	190 (98%)	2 (1%)	1 (0%)	29	61
11	K	210/212 (99%)	203 (97%)	6 (3%)	1 (0%)	29	61
11	Y	210/212 (99%)	203 (97%)	5 (2%)	2 (1%)	15	44
12	L	220/222 (99%)	215 (98%)	5 (2%)	0	100	100
12	Z	220/222 (99%)	216 (98%)	4 (2%)	0	100	100
13	M	222/246 (90%)	213 (96%)	9 (4%)	0	100	100
13	a	222/246 (90%)	213 (96%)	9 (4%)	0	100	100
14	N	194/196 (99%)	189 (97%)	5 (3%)	0	100	100
14	b	194/196 (99%)	189 (97%)	5 (3%)	0	100	100
All	All	6228/6618 (94%)	6079 (98%)	139 (2%)	10 (0%)	47	78

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	52	THR
2	B	218	GLY
2	P	52	THR
2	P	218	GLY
11	K	147	ASP
11	Y	147	ASP
11	Y	148	LEU
10	J	9	VAL
10	X	9	VAL
3	Q	183	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	201/209 (96%)	198 (98%)	3 (2%)	65 89
1	O	201/209 (96%)	197 (98%)	4 (2%)	55 84
2	B	203/216 (94%)	193 (95%)	10 (5%)	25 57
2	P	203/216 (94%)	195 (96%)	8 (4%)	32 66
3	C	212/226 (94%)	201 (95%)	11 (5%)	23 55
3	Q	212/226 (94%)	202 (95%)	10 (5%)	26 59
4	D	194/215 (90%)	185 (95%)	9 (5%)	27 60
4	R	194/215 (90%)	185 (95%)	9 (5%)	27 60
5	E	190/193 (98%)	182 (96%)	8 (4%)	30 63
5	S	190/193 (98%)	181 (95%)	9 (5%)	26 59
6	F	201/239 (84%)	191 (95%)	10 (5%)	24 56
6	T	201/239 (84%)	192 (96%)	9 (4%)	27 60
7	G	206/210 (98%)	196 (95%)	10 (5%)	25 57
7	U	206/210 (98%)	196 (95%)	10 (5%)	25 57
8	H	179/194 (92%)	168 (94%)	11 (6%)	18 48
8	V	179/194 (92%)	170 (95%)	9 (5%)	24 56
9	I	172/173 (99%)	166 (96%)	6 (4%)	36 70
9	W	172/173 (99%)	166 (96%)	6 (4%)	36 70
10	J	173/175 (99%)	164 (95%)	9 (5%)	23 55
10	X	173/175 (99%)	165 (95%)	8 (5%)	27 60
11	K	169/169 (100%)	161 (95%)	8 (5%)	26 59
11	Y	169/169 (100%)	161 (95%)	8 (5%)	26 59
12	L	185/185 (100%)	178 (96%)	7 (4%)	33 67
12	Z	185/185 (100%)	178 (96%)	7 (4%)	33 67
13	M	192/208 (92%)	185 (96%)	7 (4%)	35 69
13	a	192/208 (92%)	185 (96%)	7 (4%)	35 69

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
14	N	162/162 (100%)	159 (98%)	3 (2%)	57	85
14	b	162/162 (100%)	159 (98%)	3 (2%)	57	85
All	All	5278/5548 (95%)	5059 (96%)	219 (4%)	30	64

All (219) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	122	THR
1	A	157	PHE
1	A	250	LEU
2	B	50	LYS
2	B	51	VAL
2	B	52	THR
2	B	55	LEU
2	B	102	ASN
2	B	113	ARG
2	B	119	GLN
2	B	186	ASP
2	B	191	LEU
2	B	238	LEU
3	C	4	ARG
3	C	38	ASN
3	C	49	THR
3	C	51	LYS
3	C	77	ASN
3	C	147	GLN
3	C	160	GLN
3	C	169	VAL
3	C	180	LYS
3	C	203	THR
3	C	240	GLU
4	D	99	ILE
4	D	125	LEU
4	D	143	ASP
4	D	176	LEU
4	D	193	LEU
4	D	214	ILE
4	D	235	LEU
4	D	236	LYS
4	D	242	GLU
5	E	9	THR

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Mol	Chain	Res	Type
5	E	29	LYS
5	E	55	LEU
5	E	71	LEU
5	E	116	GLN
5	E	184	ASN
5	E	188	LEU
5	E	202	ASP
6	F	117	GLN
6	F	123	ASN
6	F	139	LYS
6	F	171	GLU
6	F	172	LEU
6	F	181	GLU
6	F	201	GLU
6	F	214	TRP
6	F	221	ASN
6	F	240	GLN
7	G	13	GLU
7	G	83	ASN
7	G	115	LEU
7	G	117	GLN
7	G	122	ARG
7	G	125	MET
7	G	154	TYR
7	G	208	GLU
7	G	235	ARG
7	G	236	LEU
8	H	14	LEU
8	H	22	GLU
8	H	24	MET
8	H	31	CYS
8	H	78	THR
8	H	98	LEU
8	H	122	LEU
8	H	132	LEU
8	H	143	ARG
8	H	153	ASN
8	H	201	ARG
9	I	37	ASN
9	I	123	PHE
9	I	151	SER
9	I	160	GLU

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Mol	Chain	Res	Type
9	I	171	LEU
9	I	182	TRP
10	J	2	ASP
10	J	3	ILE
10	J	23	ARG
10	J	25	ILE
10	J	35	THR
10	J	78	GLN
10	J	90	LYS
10	J	99	GLN
10	J	136	SER
11	K	4	LEU
11	K	9	GLN
11	K	18	SER
11	K	35	ILE
11	K	53	GLN
11	K	73	ARG
11	K	100	MET
11	K	108	GLU
12	L	23	LEU
12	L	31	THR
12	L	49	ASN
12	L	132	GLU
12	L	136	CYS
12	L	150	LEU
12	L	161	GLU
13	M	10	SER
13	M	48	ASN
13	M	70	LEU
13	M	104	ARG
13	M	161	ARG
13	M	179	ASN
13	M	187	ARG
14	N	9	LYS
14	N	83	LYS
14	N	107	LYS
1	O	2	THR
1	O	122	THR
1	O	157	PHE
1	O	250	LEU
2	P	50	LYS
2	P	52	THR

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Mol	Chain	Res	Type
2	P	55	LEU
2	P	102	ASN
2	P	119	GLN
2	P	186	ASP
2	P	191	LEU
2	P	238	LEU
3	Q	4	ARG
3	Q	38	ASN
3	Q	49	THR
3	Q	51	LYS
3	Q	147	GLN
3	Q	160	GLN
3	Q	169	VAL
3	Q	180	LYS
3	Q	203	THR
3	Q	240	GLU
4	R	99	ILE
4	R	125	LEU
4	R	143	ASP
4	R	176	LEU
4	R	193	LEU
4	R	214	ILE
4	R	235	LEU
4	R	236	LYS
4	R	242	GLU
5	S	9	THR
5	S	29	LYS
5	S	55	LEU
5	S	71	LEU
5	S	116	GLN
5	S	118	ASN
5	S	184	ASN
5	S	188	LEU
5	S	202	ASP
6	T	117	GLN
6	T	123	ASN
6	T	139	LYS
6	T	171	GLU
6	T	172	LEU
6	T	181	GLU
6	T	201	GLU
6	T	214	TRP

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Mol	Chain	Res	Type
6	T	240	GLN
7	U	13	GLU
7	U	83	ASN
7	U	115	LEU
7	U	117	GLN
7	U	122	ARG
7	U	125	MET
7	U	154	TYR
7	U	208	GLU
7	U	235	ARG
7	U	236	LEU
8	V	14	LEU
8	V	24	MET
8	V	31	CYS
8	V	78	THR
8	V	98	LEU
8	V	132	LEU
8	V	143	ARG
8	V	153	ASN
8	V	201	ARG
9	W	37	ASN
9	W	123	PHE
9	W	151	SER
9	W	160	GLU
9	W	171	LEU
9	W	182	TRP
10	X	2	ASP
10	X	3	ILE
10	X	23	ARG
10	X	25	ILE
10	X	35	THR
10	X	78	GLN
10	X	90	LYS
10	X	99	GLN
11	Y	4	LEU
11	Y	9	GLN
11	Y	18	SER
11	Y	35	ILE
11	Y	53	GLN
11	Y	73	ARG
11	Y	100	MET
11	Y	108	GLU

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Mol	Chain	Res	Type
12	Z	23	LEU
12	Z	31	THR
12	Z	49	ASN
12	Z	132	GLU
12	Z	136	CYS
12	Z	150	LEU
12	Z	161	GLU
13	a	10	SER
13	a	48	ASN
13	a	70	LEU
13	a	104	ARG
13	a	161	ARG
13	a	179	ASN
13	a	187	ARG
14	b	9	LYS
14	b	83	LYS
14	b	107	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (120) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	20	GLN
2	B	58	GLN
2	B	95	GLN
2	B	119	GLN
2	B	123	GLN
2	B	155	ASN
2	B	176	GLN
3	C	17	GLN
3	C	38	ASN
3	C	77	ASN
3	C	147	GLN
3	C	160	GLN
3	C	207	ASN
4	D	15	GLN
4	D	91	HIS
4	D	146	GLN
4	D	160	ASN
4	D	225	ASN
5	E	59	GLN
5	E	68	HIS
5	E	99	ASN

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Mol	Chain	Res	Type
5	E	116	GLN
5	E	118	ASN
5	E	120	GLN
5	E	184	ASN
6	F	19	GLN
6	F	86	ASN
6	F	117	GLN
6	F	123	ASN
6	F	191	GLN
6	F	240	GLN
7	G	83	ASN
7	G	114	ASN
7	G	117	GLN
7	G	121	GLN
7	G	166	GLN
7	G	167	GLN
7	G	175	ASN
8	H	153	ASN
9	I	71	ASN
9	I	88	GLN
10	J	55	GLN
10	J	118	GLN
11	K	85	ASN
11	K	133	GLN
11	K	176	ASN
12	L	3	ASN
12	L	49	ASN
12	L	55	ASN
12	L	70	ASN
12	L	152	ASN
12	L	158	ASN
13	M	18	ASN
13	M	48	ASN
13	M	102	GLN
13	M	179	ASN
13	M	194	ASN
13	M	213	GLN
14	N	161	GLN
2	P	20	GLN
2	P	58	GLN
2	P	95	GLN
2	P	119	GLN

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Mol	Chain	Res	Type
2	P	123	GLN
2	P	155	ASN
2	P	176	GLN
3	Q	17	GLN
3	Q	38	ASN
3	Q	77	ASN
3	Q	147	GLN
3	Q	160	GLN
3	Q	207	ASN
4	R	15	GLN
4	R	91	HIS
4	R	146	GLN
4	R	160	ASN
4	R	225	ASN
5	S	59	GLN
5	S	68	HIS
5	S	99	ASN
5	S	116	GLN
5	S	118	ASN
5	S	120	GLN
5	S	184	ASN
6	T	19	GLN
6	T	86	ASN
6	T	117	GLN
6	T	123	ASN
6	T	191	GLN
6	T	240	GLN
7	U	83	ASN
7	U	114	ASN
7	U	117	GLN
7	U	121	GLN
7	U	166	GLN
7	U	167	GLN
7	U	175	ASN
8	V	153	ASN
9	W	71	ASN
10	X	55	GLN
10	X	78	GLN
10	X	86	GLN
10	X	118	GLN
11	Y	85	ASN
11	Y	176	ASN

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Mol	Chain	Res	Type
11	Y	208	ASN
12	Z	3	ASN
12	Z	49	ASN
12	Z	55	ASN
12	Z	70	ASN
12	Z	152	ASN
12	Z	158	ASN
13	a	18	ASN
13	a	48	ASN
13	a	102	GLN
13	a	108	ASN
13	a	179	ASN
13	a	194	ASN
13	a	213	GLN
14	b	161	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 24 ligands modelled in this entry, 12 are monoatomic - leaving 12 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
17	GQK	Y	301	11	44,44,44	1.24	3 (6%)	59,60,60	1.62	8 (13%)
19	SO4	N	203	-	4,4,4	0.35	0	6,6,6	0.18	0
18	MES	V	304	-	12,12,12	2.30	1 (8%)	14,16,16	1.56	2 (14%)
17	GQK	b	201	14	44,44,44	1.58	6 (13%)	59,60,60	1.26	6 (10%)
17	GQK	N	201	14	44,44,44	1.56	5 (11%)	59,60,60	1.25	6 (10%)
18	MES	H	302	-	12,12,12	2.09	1 (8%)	14,16,16	1.70	4 (28%)
17	GQK	V	301	8	44,44,44	1.60	6 (13%)	59,60,60	1.39	9 (15%)
18	MES	K	303	-	12,12,12	2.44	1 (8%)	14,16,16	1.76	4 (28%)
18	MES	Y	303	-	12,12,12	2.41	1 (8%)	14,16,16	1.60	3 (21%)
17	GQK	K	301	11	44,44,44	1.31	3 (6%)	59,60,60	1.68	8 (13%)
19	SO4	b	202	-	4,4,4	0.30	0	6,6,6	0.09	0
17	GQK	H	301	8	44,44,44	1.66	6 (13%)	59,60,60	1.38	8 (13%)

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
17	GQK	Y	301	11	-	10/44/52/52	0/3/3/3
18	MES	V	304	-	-	3/6/14/14	0/1/1/1
17	GQK	b	201	14	-	6/44/52/52	0/3/3/3
17	GQK	N	201	14	-	6/44/52/52	0/3/3/3
18	MES	H	302	-	-	3/6/14/14	0/1/1/1
17	GQK	V	301	8	-	7/44/52/52	0/3/3/3
18	MES	K	303	-	-	3/6/14/14	0/1/1/1
18	MES	Y	303	-	-	0/6/14/14	0/1/1/1
17	GQK	K	301	11	-	10/44/52/52	0/3/3/3
17	GQK	H	301	8	-	6/44/52/52	0/3/3/3

All (33) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	K	303	MES	C8-S	-8.36	1.65	1.77
18	Y	303	MES	C8-S	-8.21	1.65	1.77
18	V	304	MES	C8-S	-7.78	1.66	1.77
18	H	302	MES	C8-S	-7.02	1.67	1.77
17	H	301	GQK	C11-C10	6.31	1.63	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	V	301	GQK	C11-C10	5.72	1.62	1.52
17	K	301	GQK	C40-C41	-4.94	1.39	1.51
17	b	201	GQK	C40-C41	-4.85	1.39	1.51
17	N	201	GQK	C40-C41	-4.73	1.39	1.51
17	H	301	GQK	C40-C41	-4.66	1.40	1.51
17	Y	301	GQK	C40-C41	-4.60	1.40	1.51
17	b	201	GQK	C11-C10	4.44	1.59	1.52
17	V	301	GQK	C40-C41	-4.42	1.40	1.51
17	N	201	GQK	C11-C10	4.30	1.59	1.52
17	N	201	GQK	C9-C8	4.29	1.58	1.53
17	b	201	GQK	C9-C8	4.28	1.58	1.53
17	H	301	GQK	C9-C8	3.60	1.58	1.53
17	K	301	GQK	C7-C6	-3.08	1.43	1.51
17	V	301	GQK	C9-C8	3.06	1.57	1.53
17	V	301	GQK	C10-C9	3.00	1.60	1.54
17	N	201	GQK	C7-C6	-2.84	1.44	1.51
17	Y	301	GQK	C7-C6	-2.80	1.44	1.51
17	H	301	GQK	C7-C6	-2.78	1.44	1.51
17	b	201	GQK	C7-C6	-2.70	1.44	1.51
17	H	301	GQK	C12-C10	2.68	1.57	1.52
17	N	201	GQK	C30-C29	2.67	1.56	1.52
17	V	301	GQK	C12-C10	2.63	1.56	1.52
17	V	301	GQK	C7-C6	-2.55	1.45	1.51
17	b	201	GQK	C30-C29	2.49	1.56	1.52
17	H	301	GQK	C10-C9	2.44	1.59	1.54
17	K	301	GQK	O21-C9	2.03	1.46	1.42
17	b	201	GQK	O21-C9	2.03	1.46	1.42
17	Y	301	GQK	C9-C8	2.01	1.56	1.53

All (58) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	K	301	GQK	C12-C10-C11	-7.63	99.65	110.56
17	Y	301	GQK	C12-C10-C11	-7.30	100.12	110.56
18	K	303	MES	O1S-S-C8	4.28	112.07	106.92
17	H	301	GQK	C11-C10-C9	4.23	119.19	111.28
17	V	301	GQK	C11-C10-C9	4.19	119.12	111.28
17	K	301	GQK	C30-N31-C36	-3.71	105.34	111.09
17	K	301	GQK	C46-O45-C44	3.71	125.56	117.51
18	H	302	MES	O3S-S-C8	3.66	111.68	105.77
17	Y	301	GQK	C30-N31-C36	-3.59	105.53	111.09
17	V	301	GQK	C12-C10-C11	-3.48	105.58	110.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	V	304	MES	O2S-S-C8	3.48	111.10	106.92
17	b	201	GQK	C7-C6-C5	3.42	127.69	120.91
17	N	201	GQK	C7-C6-C5	3.40	127.67	120.91
17	Y	301	GQK	C46-O45-C44	3.32	124.72	117.51
17	H	301	GQK	C12-C10-C11	-3.32	105.81	110.56
17	N	201	GQK	C46-O45-C44	3.25	124.57	117.51
18	Y	303	MES	O3S-S-C8	3.17	110.89	105.77
17	K	301	GQK	C7-C6-C5	3.13	127.13	120.91
17	b	201	GQK	C46-O45-C44	3.11	124.25	117.51
17	H	301	GQK	C7-C6-C5	3.07	126.99	120.91
17	H	301	GQK	C30-N31-C36	-3.05	106.36	111.09
17	K	301	GQK	C11-C10-C9	3.04	116.98	111.28
17	V	301	GQK	C30-N31-C36	-3.01	106.43	111.09
18	H	302	MES	O1S-S-C8	3.01	110.53	106.92
17	V	301	GQK	C7-C6-C5	3.00	126.86	120.91
17	b	201	GQK	O34-C35-C36	-2.97	105.26	111.80
17	Y	301	GQK	C7-C6-C5	2.94	126.73	120.91
17	H	301	GQK	C29-C30-N31	-2.93	106.57	113.36
17	N	201	GQK	O34-C35-C36	-2.92	105.37	111.80
17	H	301	GQK	C46-O45-C44	2.91	123.82	117.51
17	V	301	GQK	C29-C30-N31	-2.88	106.67	113.36
17	b	201	GQK	C30-N31-C36	-2.74	106.85	111.09
17	V	301	GQK	C46-O45-C44	2.70	123.38	117.51
18	Y	303	MES	C2-C3-N4	-2.70	106.01	110.10
17	Y	301	GQK	O34-C35-C36	-2.67	105.92	111.80
18	V	304	MES	O3S-S-C8	2.66	110.08	105.77
17	N	201	GQK	C30-N31-C36	-2.61	107.04	111.09
17	Y	301	GQK	C11-C10-C9	2.57	116.08	111.28
17	K	301	GQK	O34-C35-C36	-2.53	106.22	111.80
17	K	301	GQK	C7-C6-C1	-2.49	115.96	120.91
18	H	302	MES	C2-C3-N4	2.43	113.78	110.10
17	V	301	GQK	C33-C32-N31	-2.42	106.43	110.10
17	b	201	GQK	C7-C6-C1	-2.36	116.22	120.91
17	N	201	GQK	C11-C10-C9	2.36	115.69	111.28
17	N	201	GQK	C7-C6-C1	-2.34	116.26	120.91
18	K	303	MES	O3S-S-C8	2.32	109.52	105.77
17	H	301	GQK	C33-C32-N31	-2.30	106.62	110.10
18	K	303	MES	C2-C3-N4	-2.26	106.68	110.10
18	K	303	MES	C6-C5-N4	-2.23	106.72	110.10
17	Y	301	GQK	C7-C6-C1	-2.22	116.51	120.91
17	H	301	GQK	C7-C6-C1	-2.19	116.57	120.91
17	Y	301	GQK	C41-C40-C24	-2.16	107.43	113.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	K	301	GQK	C41-C40-C24	-2.14	107.48	113.39
18	Y	303	MES	C6-C5-N4	2.14	113.34	110.10
17	V	301	GQK	C7-C6-C1	-2.13	116.69	120.91
18	H	302	MES	C7-N4-C3	-2.08	105.92	111.23
17	b	201	GQK	C11-C10-C9	2.04	115.10	111.28
17	V	301	GQK	C30-N31-C32	2.01	114.20	111.09

There are no chirality outliers.

All (54) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
17	K	301	GQK	C11-C10-C9-C8
17	K	301	GQK	C11-C10-C9-O21
17	K	301	GQK	C12-C10-C9-C8
17	K	301	GQK	C12-C10-C9-O21
17	K	301	GQK	O13-C10-C9-C8
17	K	301	GQK	O13-C10-C9-O21
17	Y	301	GQK	C11-C10-C9-C8
17	Y	301	GQK	C11-C10-C9-O21
17	Y	301	GQK	C12-C10-C9-C8
17	Y	301	GQK	C12-C10-C9-O21
17	Y	301	GQK	O13-C10-C9-C8
17	Y	301	GQK	O13-C10-C9-O21
18	V	304	MES	N4-C7-C8-S
17	b	201	GQK	C5-C6-C7-C8
17	b	201	GQK	N25-C24-C40-C41
17	N	201	GQK	C5-C6-C7-C8
17	b	201	GQK	C1-C6-C7-C8
17	N	201	GQK	C1-C6-C7-C8
17	N	201	GQK	N25-C24-C40-C41
17	Y	301	GQK	C5-C6-C7-C8
17	N	201	GQK	C23-C24-C40-C41
17	K	301	GQK	C5-C6-C7-C8
17	Y	301	GQK	C1-C6-C7-C8
17	K	301	GQK	C1-C6-C7-C8
17	b	201	GQK	C23-C24-C40-C41
17	H	301	GQK	C5-C6-C7-C8
17	V	301	GQK	C5-C6-C7-C8
17	V	301	GQK	C1-C6-C7-C8
17	H	301	GQK	C1-C6-C7-C8
18	H	302	MES	C7-C8-S-O3S
17	H	301	GQK	N28-C29-C30-N31

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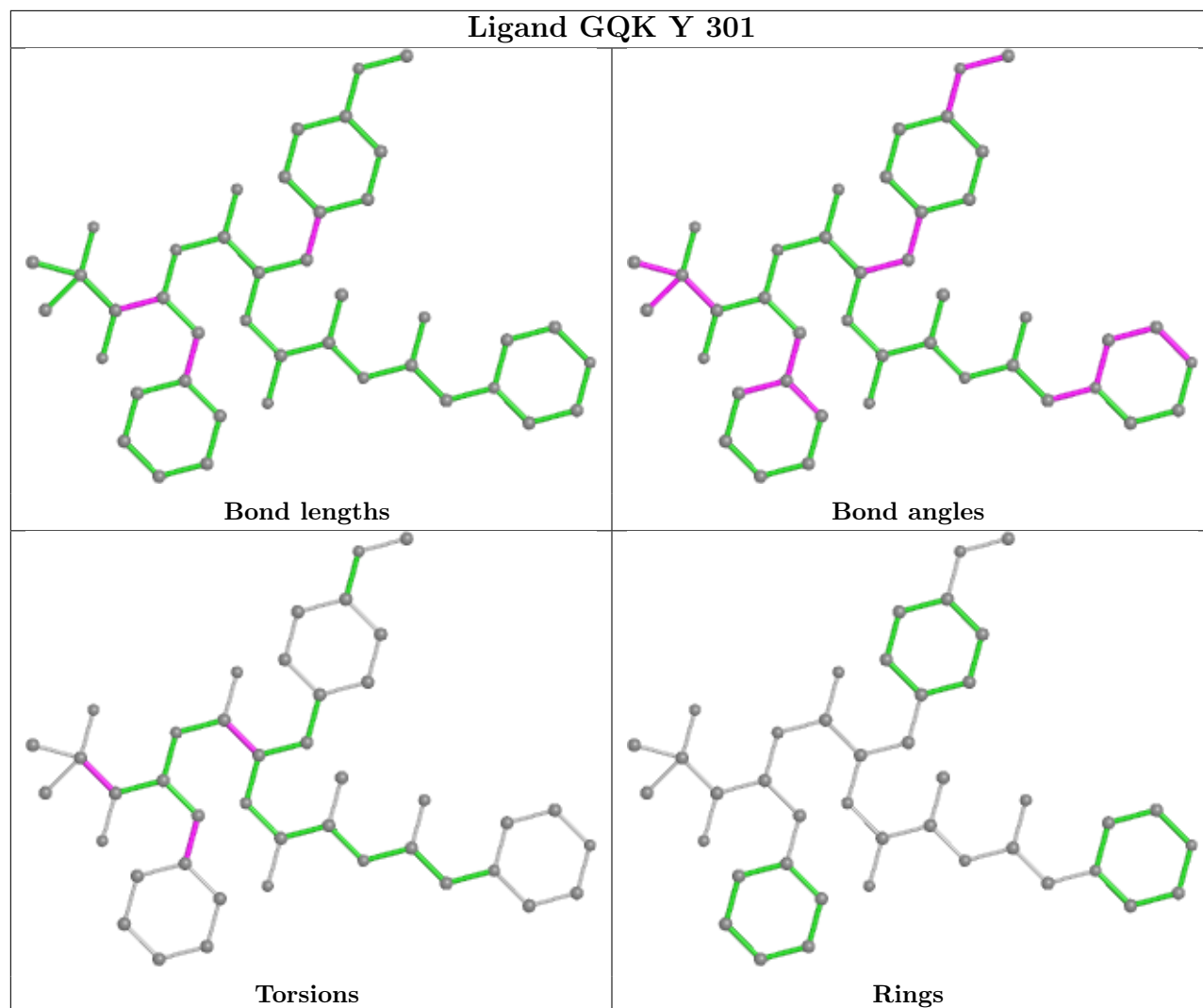
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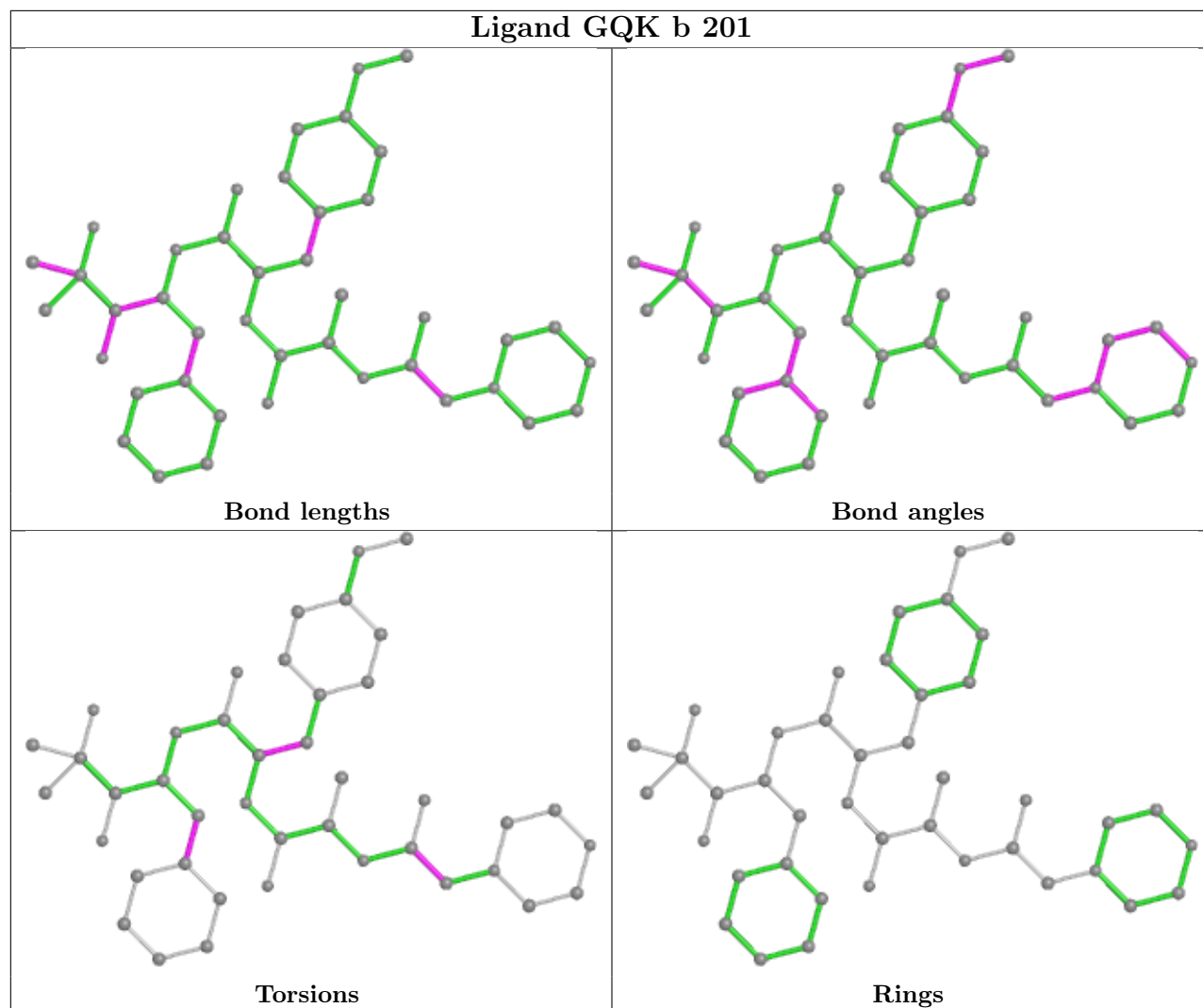
Mol	Chain	Res	Type	Atoms
17	V	301	GQK	N28-C29-C30-N31
18	K	303	MES	C7-C8-S-O3S
17	V	301	GQK	O37-C29-C30-N31
17	N	201	GQK	N28-C29-C30-N31
17	b	201	GQK	N28-C29-C30-N31
17	H	301	GQK	O37-C29-C30-N31
17	N	201	GQK	O37-C29-C30-N31
17	b	201	GQK	O37-C29-C30-N31
18	H	302	MES	C7-C8-S-O1S
18	H	302	MES	C7-C8-S-O2S
18	K	303	MES	C7-C8-S-O1S
18	K	303	MES	C7-C8-S-O2S
17	K	301	GQK	O49-C23-C24-N25
17	Y	301	GQK	O49-C23-C24-N25
17	H	301	GQK	C12-C10-C9-C8
17	V	301	GQK	C12-C10-C9-C8
17	V	301	GQK	C12-C10-C9-O21
17	Y	301	GQK	N22-C23-C24-N25
18	V	304	MES	C7-C8-S-O3S
17	H	301	GQK	O13-C10-C9-O21
17	V	301	GQK	O13-C10-C9-O21
18	V	304	MES	C7-C8-S-O1S
17	K	301	GQK	N22-C23-C24-N25

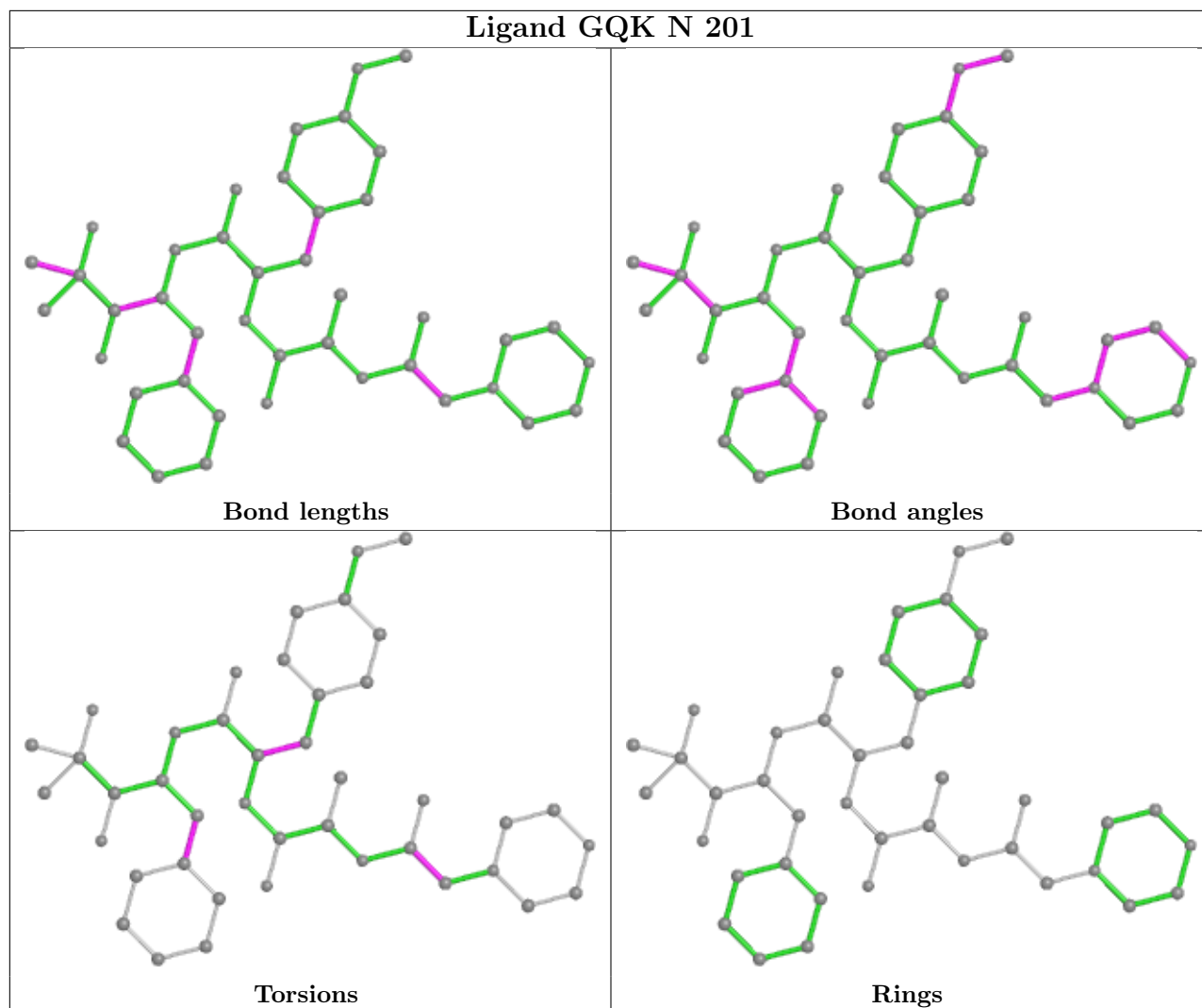
There are no ring outliers.

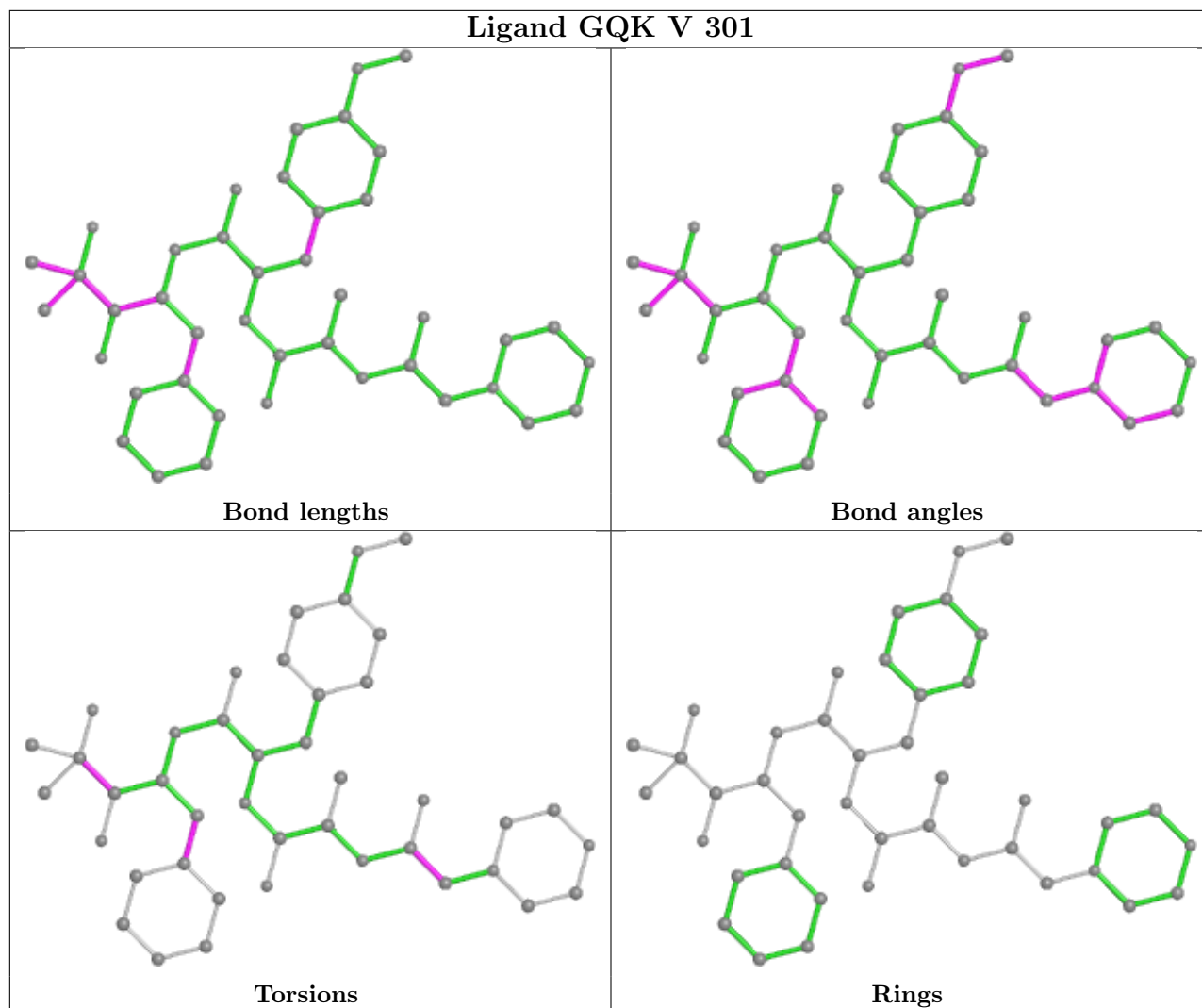
No monomer is involved in short contacts.

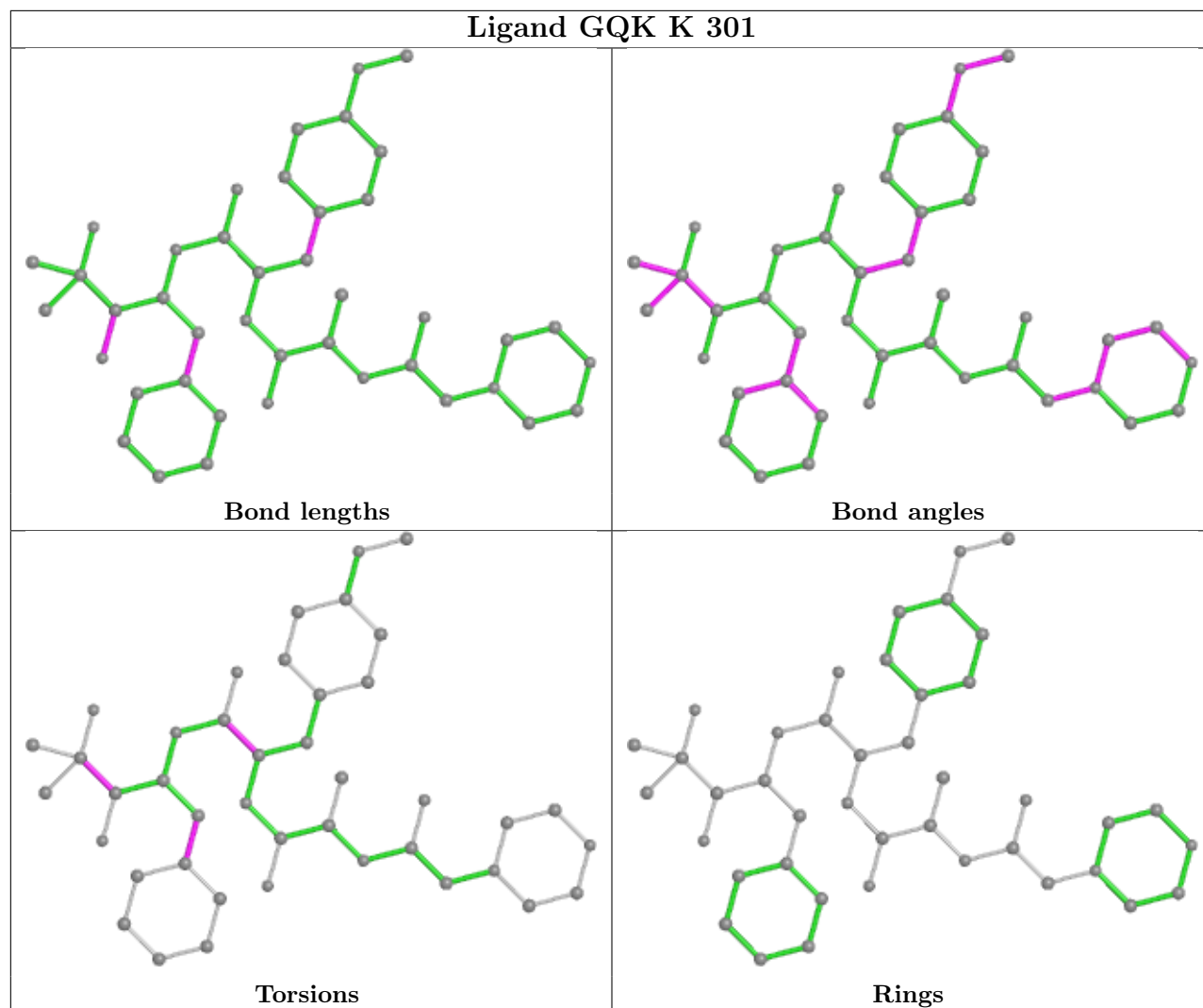
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

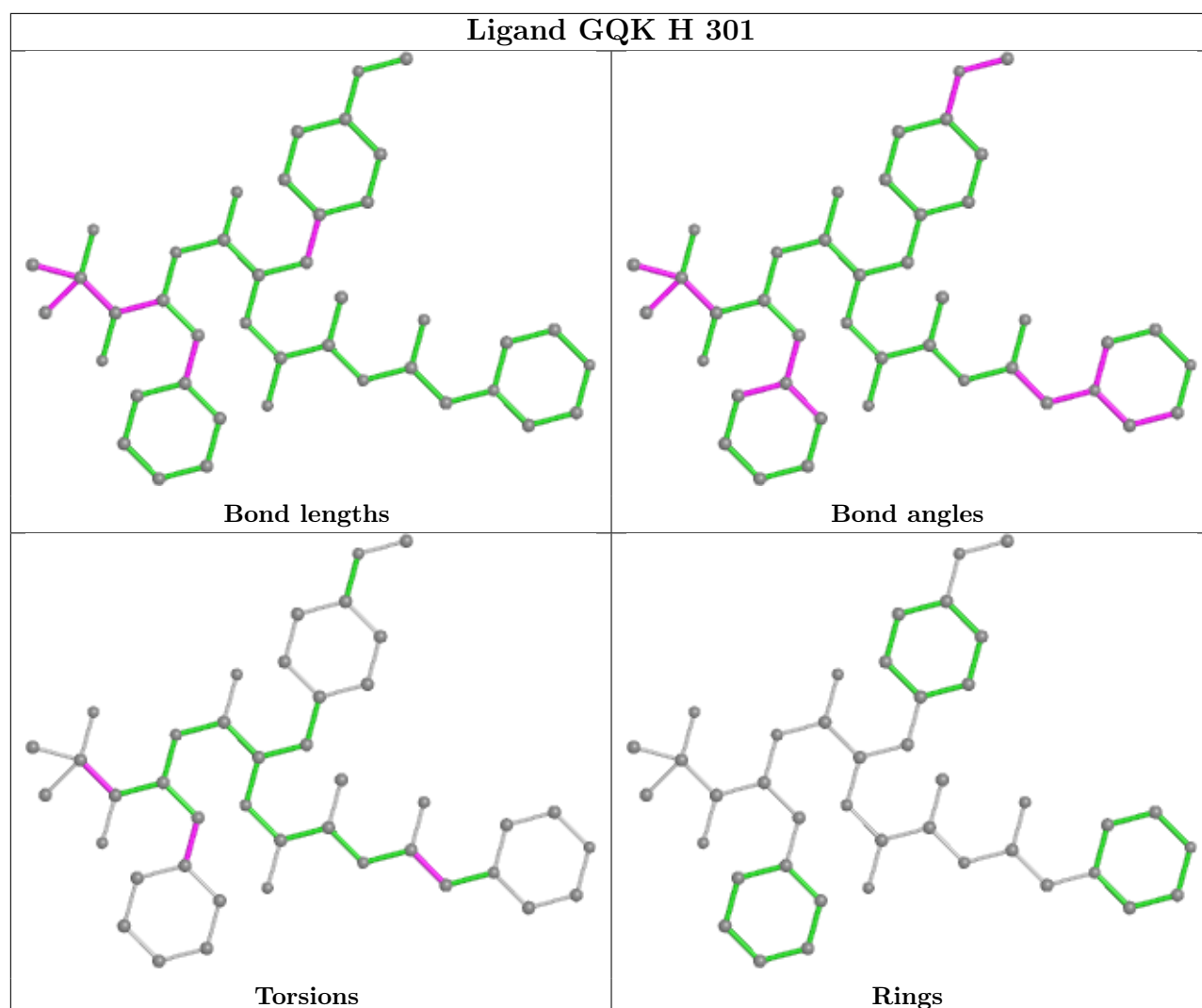












5.7 Other polymers [\(i\)](#)

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 i

6.1 Protein, DNA and RNA chains i

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	240/250 (96%)	-0.48	7 (2%) 51 41	47, 68, 108, 146	0
1	O	240/250 (96%)	-0.35	6 (2%) 57 47	55, 76, 121, 154	0
2	B	244/258 (94%)	-0.35	9 (3%) 41 31	48, 70, 121, 176	0
2	P	244/258 (94%)	-0.37	9 (3%) 41 31	53, 72, 117, 170	0
3	C	240/254 (94%)	-0.40	7 (2%) 51 41	49, 73, 133, 160	0
3	Q	240/254 (94%)	-0.06	16 (6%) 17 10	57, 91, 171, 190	0
4	D	235/260 (90%)	-0.53	1 (0%) 92 91	47, 72, 103, 140	0
4	R	235/260 (90%)	-0.38	5 (2%) 63 54	56, 78, 121, 151	0
5	E	231/234 (98%)	-0.39	4 (1%) 70 63	52, 74, 111, 153	0
5	S	231/234 (98%)	-0.23	13 (5%) 24 16	54, 86, 134, 170	0
6	F	243/288 (84%)	-0.55	2 (0%) 86 81	46, 67, 117, 147	0
6	T	243/288 (84%)	-0.45	7 (2%) 51 41	50, 79, 131, 165	0
7	G	241/252 (95%)	-0.59	3 (1%) 79 73	45, 64, 103, 156	0
7	U	241/252 (95%)	-0.50	5 (2%) 63 54	51, 67, 102, 140	0
8	H	219/234 (93%)	-0.47	5 (2%) 60 51	45, 63, 115, 133	0
8	V	219/234 (93%)	-0.42	5 (2%) 60 51	45, 66, 118, 155	0
9	I	204/205 (99%)	-0.77	0 100 100	42, 58, 86, 114	0
9	W	204/205 (99%)	-0.79	0 100 100	41, 59, 87, 106	0
10	J	195/198 (98%)	-0.61	1 (0%) 91 88	44, 61, 89, 128	0
10	X	195/198 (98%)	-0.62	2 (1%) 82 77	44, 63, 88, 149	0
11	K	212/212 (100%)	-0.66	1 (0%) 91 88	32, 61, 89, 110	0
11	Y	212/212 (100%)	-0.59	2 (0%) 84 80	31, 66, 96, 122	0
12	L	222/222 (100%)	-0.53	6 (2%) 54 44	46, 62, 108, 137	0
12	Z	222/222 (100%)	-0.48	7 (3%) 47 37	44, 63, 114, 145	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	M	224/246 (91%)	-0.63	2 (0%) 84 80	44, 63, 90, 123	0
13	a	224/246 (91%)	-0.66	1 (0%) 92 91	42, 62, 91, 125	0
14	N	196/196 (100%)	-0.69	1 (0%) 91 88	40, 57, 88, 115	0
14	b	196/196 (100%)	-0.68	1 (0%) 91 88	39, 59, 90, 116	0
All	All	6292/6618 (95%)	-0.50	128 (2%) 65 56	31, 67, 118, 190	0

All (128) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	Q	49	THR	10.1
2	B	221	ASP	8.0
3	Q	50	LEU	7.4
2	B	220	ASN	7.2
12	Z	163	GLY	6.8
10	X	1	MET	6.3
2	P	221	ASP	6.2
12	L	174	TYR	5.6
2	P	220	ASN	5.6
3	Q	240	GLU	5.5
13	M	1	THR	5.4
2	P	59	ASP	5.4
1	O	230	ASP	5.2
3	Q	239	GLN	5.1
8	H	219	LEU	5.1
2	P	51	VAL	5.1
1	A	1	MET	5.1
2	P	219	ALA	5.1
8	H	196	GLY	5.1
12	Z	174	TYR	5.1
2	B	51	VAL	5.0
13	a	1	THR	4.9
3	Q	206	LYS	4.8
8	V	196	GLY	4.7
3	C	206	LYS	4.4
1	A	230	ASP	4.4
5	S	202	ASP	4.4
8	V	219	LEU	4.4
12	Z	168	VAL	4.4
8	V	194	LYS	4.3
5	E	202	ASP	4.1
3	Q	238	LYS	4.1

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Mol	Chain	Res	Type	RSRZ
10	J	1	MET	4.0
10	X	194	ASP	4.0
12	Z	173	LYS	3.9
1	O	1	MET	3.7
3	C	49	THR	3.7
14	N	195	GLN	3.7
5	S	227	GLU	3.7
1	O	249	ALA	3.6
3	C	202	GLN	3.5
2	P	223	GLU	3.4
2	B	222	GLY	3.4
3	Q	48	SER	3.3
5	E	201	ARG	3.3
3	Q	202	GLN	3.3
1	O	219	PRO	3.3
5	S	180	LYS	3.3
4	R	241	ALA	3.3
3	C	50	LEU	3.3
8	V	218	PRO	3.2
3	Q	55	THR	3.2
6	T	201	GLU	3.1
6	T	181	GLU	3.1
1	O	231	LYS	3.1
1	A	249	ALA	3.0
3	Q	204	GLY	3.0
12	L	163	GLY	3.0
7	U	181	LYS	3.0
3	Q	223	SER	3.0
5	S	204	SER	3.0
7	U	222	ASP	2.9
1	A	231	LYS	2.9
3	Q	236	GLN	2.8
12	L	162	PRO	2.8
7	G	2	GLY	2.7
8	H	194	LYS	2.7
14	b	195	GLN	2.7
5	E	233	ILE	2.7
5	S	225	ASP	2.7
2	B	225	TYR	2.6
2	B	219	ALA	2.6
12	L	173	LYS	2.6
11	K	147	ASP	2.6

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Mol	Chain	Res	Type	RSRZ
6	F	201	GLU	2.6
6	T	241	LYS	2.6
1	A	201	GLU	2.5
3	Q	47	ARG	2.5
2	P	240	LYS	2.5
12	Z	1	GLN	2.5
2	P	218	GLY	2.5
3	C	238	LYS	2.5
5	S	201	ARG	2.5
3	Q	181	GLU	2.5
6	F	205	GLU	2.4
3	Q	216	ASP	2.4
6	T	2	THR	2.4
2	P	225	TYR	2.4
2	B	218	GLY	2.4
5	E	180	LYS	2.4
2	B	223	GLU	2.4
5	S	58	TYR	2.3
4	R	54	ASP	2.3
6	T	215	CYS	2.3
8	H	197	THR	2.3
7	U	51	PRO	2.3
4	R	1	ASP	2.3
8	V	181	ASN	2.3
5	S	218	ASP	2.3
2	B	60	THR	2.2
3	C	1	GLY	2.2
7	U	242	GLN	2.2
1	O	250	LEU	2.2
4	R	217	GLN	2.2
6	T	180	PRO	2.2
12	L	171	PRO	2.2
7	G	242	GLN	2.2
6	T	244	ASN	2.2
11	Y	147	ASP	2.2
5	S	57	SER	2.2
7	U	241	GLU	2.2
8	H	215	LYS	2.2
5	S	51	ASN	2.1
12	Z	165	ASN	2.1
12	Z	162	PRO	2.1
1	A	52	SER	2.1

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Mol	Chain	Res	Type	RSRZ
3	C	48	SER	2.1
5	S	54	GLU	2.1
11	Y	106	ARG	2.1
13	M	216	ASN	2.1
5	S	173	ARG	2.1
3	Q	205	ALA	2.1
7	G	222	ASP	2.1
1	A	2	THR	2.0
4	D	241	ALA	2.0
5	S	203	GLU	2.0
12	L	165	ASN	2.0
4	R	242	GLU	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

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.

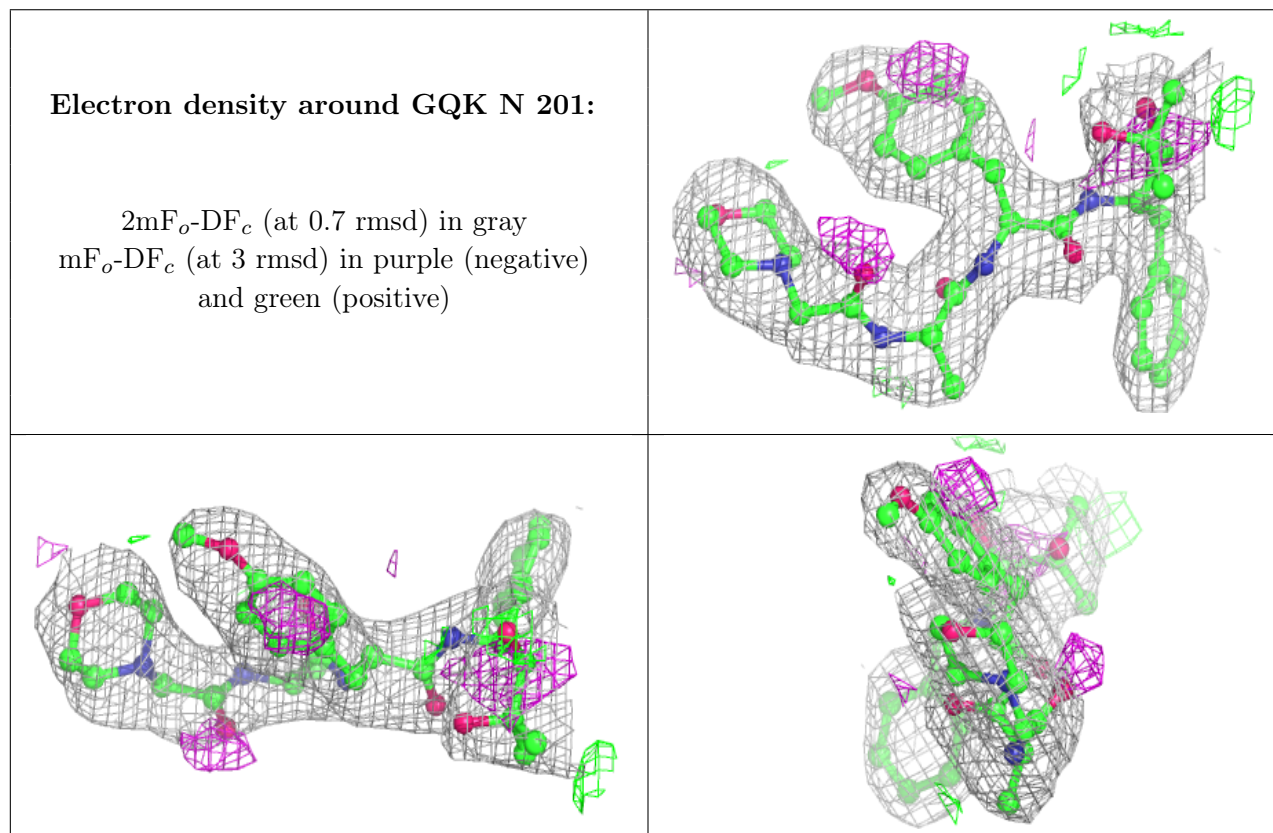
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
15	MG	Z	301	1/1	0.91	0.36	79,79,79,79	0
17	GQK	N	201	42/42	0.91	0.20	42,57,75,80	0
18	MES	H	302	12/12	0.92	0.22	35,39,41,43	12
15	MG	V	303	1/1	0.93	0.09	61,61,61,61	0
16	CL	G	302	1/1	0.93	0.24	77,77,77,77	0
19	SO4	N	203	5/5	0.93	0.27	69,78,81,91	5
19	SO4	b	202	5/5	0.93	0.24	75,77,86,99	5
17	GQK	H	301	42/42	0.94	0.17	44,54,81,84	0
17	GQK	V	301	42/42	0.94	0.17	43,50,83,87	0
17	GQK	b	201	42/42	0.94	0.20	41,58,82,85	0
18	MES	V	304	12/12	0.95	0.19	38,39,45,46	12

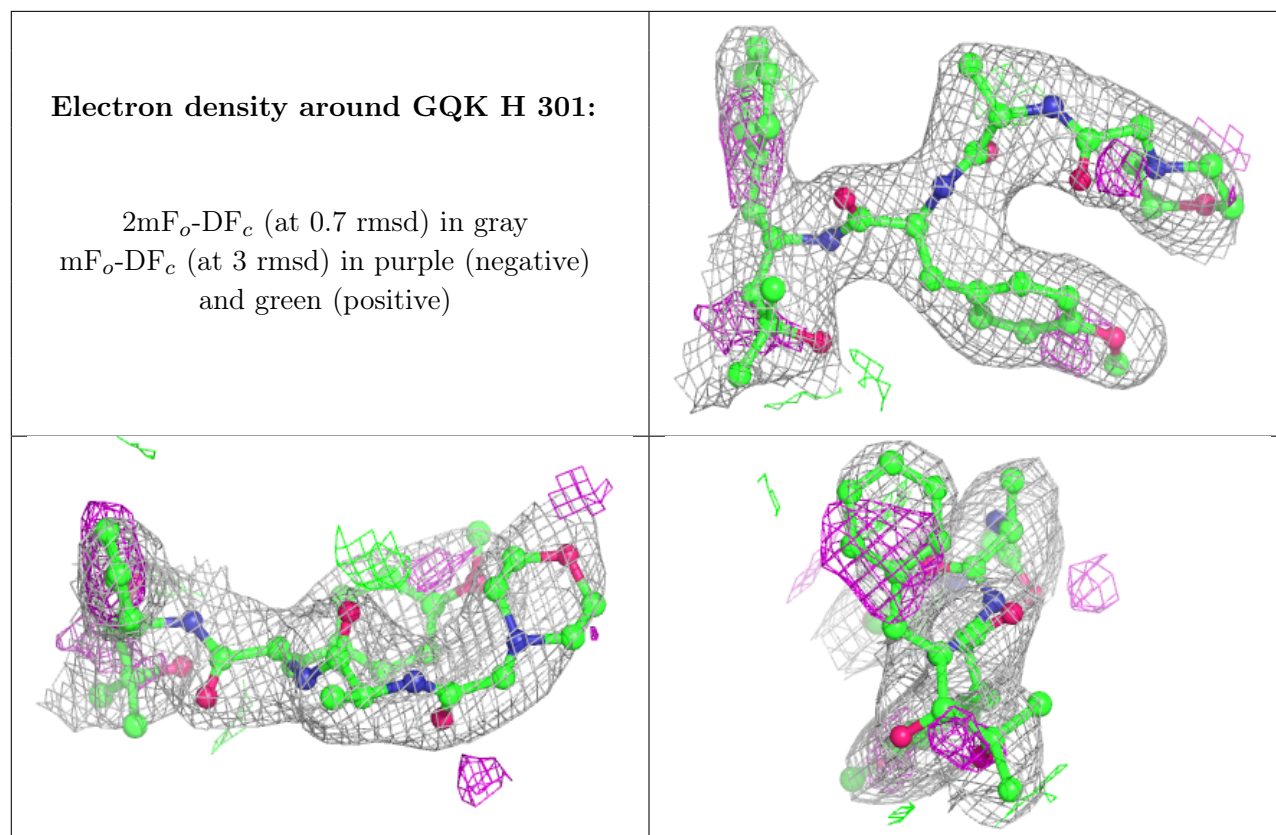
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
15	MG	G	301	1/1	0.96	0.12	71,71,71,71	0
18	MES	Y	303	12/12	0.96	0.22	27,38,38,39	12
17	GQK	K	301	42/42	0.96	0.16	28,43,59,60	0
15	MG	W	301	1/1	0.96	0.18	60,60,60,60	0
15	MG	V	302	1/1	0.97	0.12	85,85,85,85	0
15	MG	I	302	1/1	0.97	0.13	61,61,61,61	0
16	CL	U	301	1/1	0.97	0.45	88,88,88,88	0
17	GQK	Y	301	42/42	0.97	0.14	27,44,63,64	0
15	MG	K	302	1/1	0.97	0.16	92,92,92,92	0
15	MG	Y	302	1/1	0.98	0.15	67,67,67,67	0
18	MES	K	303	12/12	0.98	0.21	30,37,39,39	12
15	MG	I	301	1/1	0.98	0.25	81,81,81,81	0
15	MG	N	202	1/1	0.99	0.07	60,60,60,60	0

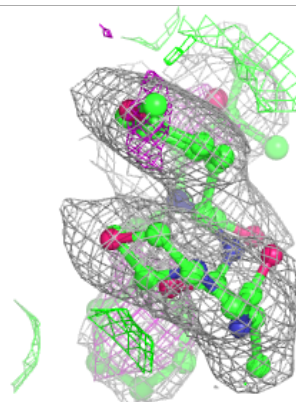
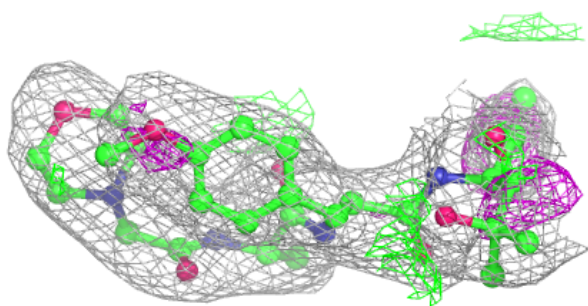
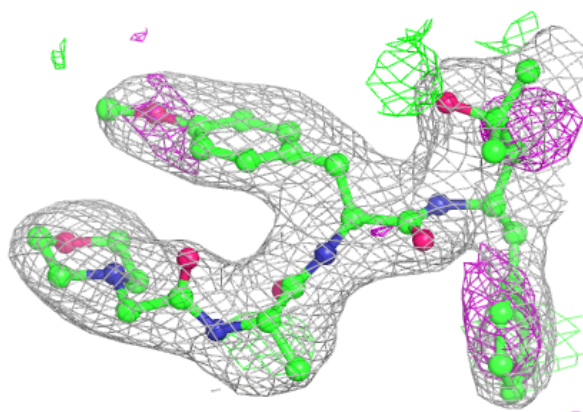
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

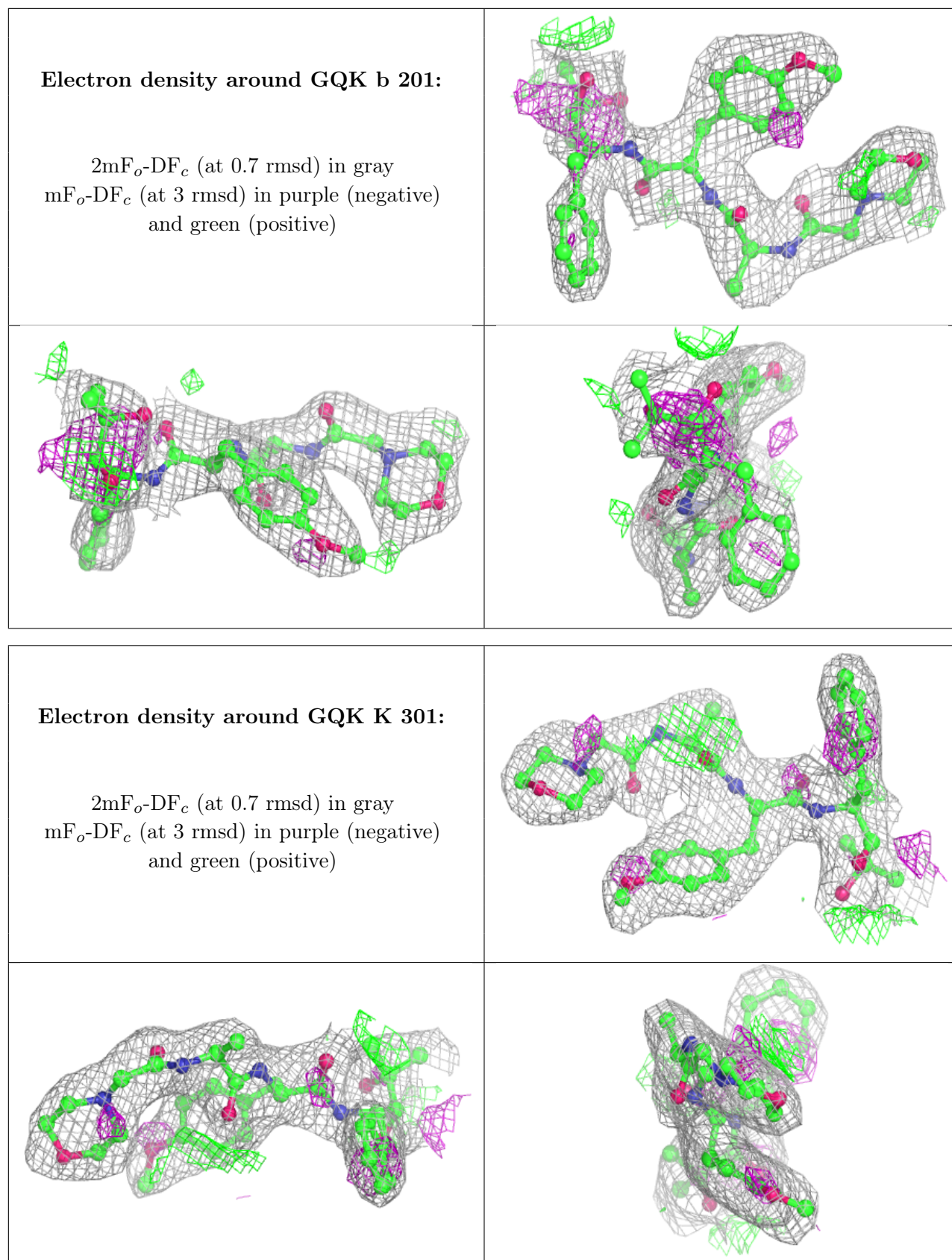


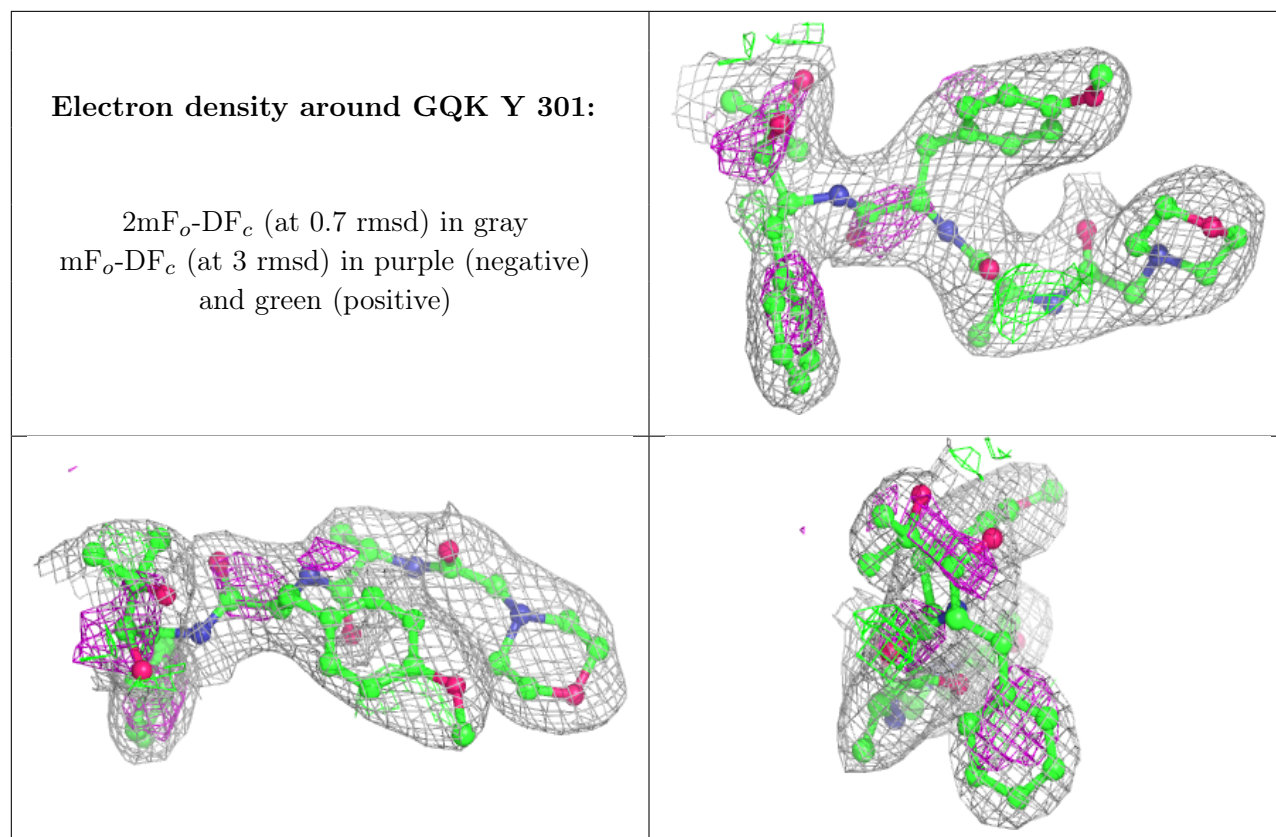


Electron density around GQK V 301:

$2mF_o-DF_c$ (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.