



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 08:39 PM UTC

PDB ID : 5FKJ / pdb_00005fkj
Title : Crystal structure of mouse acetylcholinesterase in complex with C-547, an alkyl ammonium derivative of 6-methyl uracil
Authors : Nachon, F.; Villard-Wandhammer, M.; Petrov, K.; Masson, P.
Deposited on : 2015-10-16
Resolution : 3.13 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

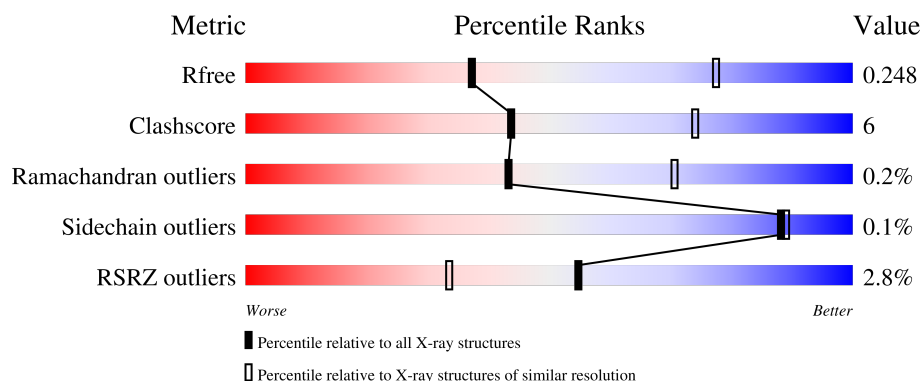
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.13 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	2351 (3.18-3.10)
Clashscore	190562	2452 (3.18-3.10)
Ramachandran outliers	187476	2324 (3.18-3.10)
Sidechain outliers	187428	2324 (3.18-3.10)
RSRZ outliers	180081	2351 (3.18-3.10)

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	543	<div> <div>2%</div> <div> <div></div> <div>85%</div> <div>14%</div> </div> </div>
1	B	543	<div> <div>6%</div> <div> <div></div> <div>80%</div> <div>19%</div> </div> </div>
1	C	543	<div> <div>2%</div> <div> <div></div> <div>88%</div> <div>11%</div> </div> </div>
1	D	543	<div> <div>0%</div> <div> <div></div> <div>86%</div> <div>13%</div> </div> </div>

2 Entry composition [i](#)

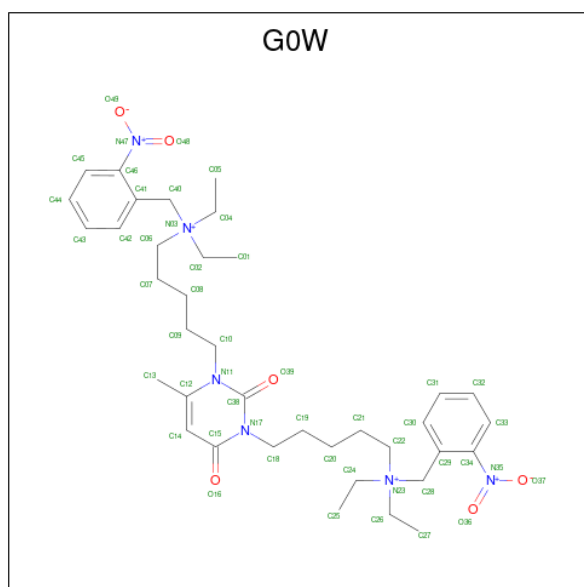
There are 6 unique types of molecules in this entry. The entry contains 17437 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 ACETYLCHOLINESTERASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	541	Total	C	N	O	S	0	0	0
			4211	2700	732	765	14			
1	B	538	Total	C	N	O	S	0	3	0
			4207	2700	730	763	14			
1	C	536	Total	C	N	O	S	0	2	0
			4185	2686	724	761	14			
1	D	536	Total	C	N	O	S	0	0	0
			4173	2678	724	757	14			

- Molecule 2 is 1,3-BIS[5(DIETHYL-O-NITROBENZYLAMMONIUM)PENTYL]-6-METHYLURACIL (CCD ID: G0W) (formula: $C_{37}H_{56}N_6O_6$).



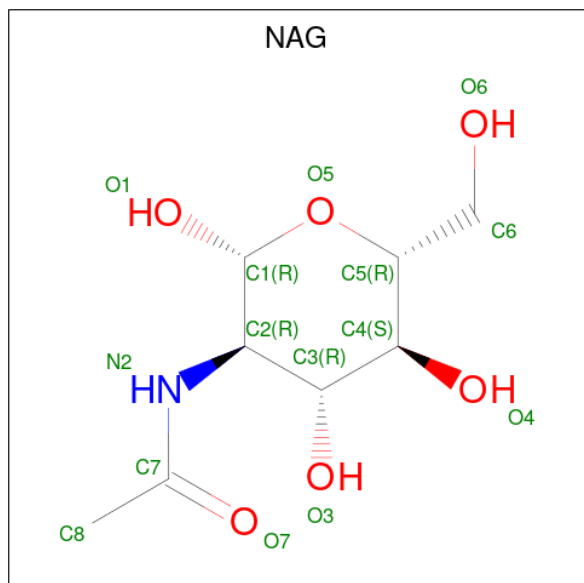
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			49	37	6	6		
2	B	1	Total	C	N	O	0	0
			31	23	4	4		

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	C	1	Total	C	N	O	0	0
			49	37	6	6		
2	D	1	Total	C	N	O	0	0
			31	23	4	4		

- Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



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

- Molecule 4 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

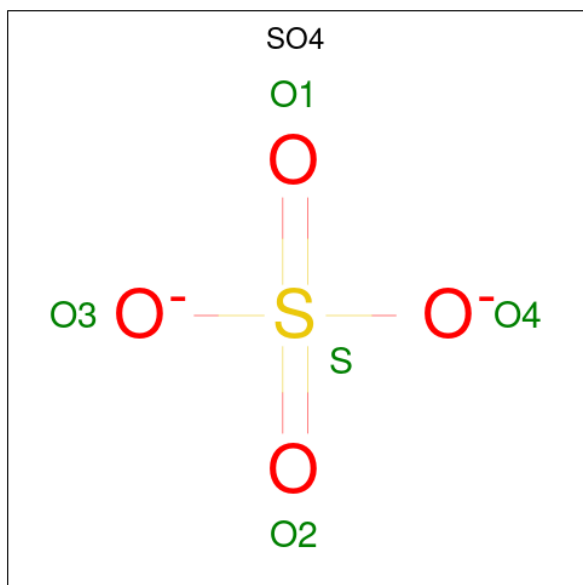
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	9	Total	Cl	0	0
			9	9		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	B	4	Total	Cl	0	0
			4	4		
4	C	9	Total	Cl	0	0
			9	9		
4	D	6	Total	Cl	0	0
			6	6		

- Molecule 5 is SULFATE ION (CCD ID: SO4) (formula: O₄S).



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

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	106	Total	O	0	0
			106	106		
6	B	56	Total	O	0	0
			56	56		
6	C	110	Total	O	0	0
			110	110		

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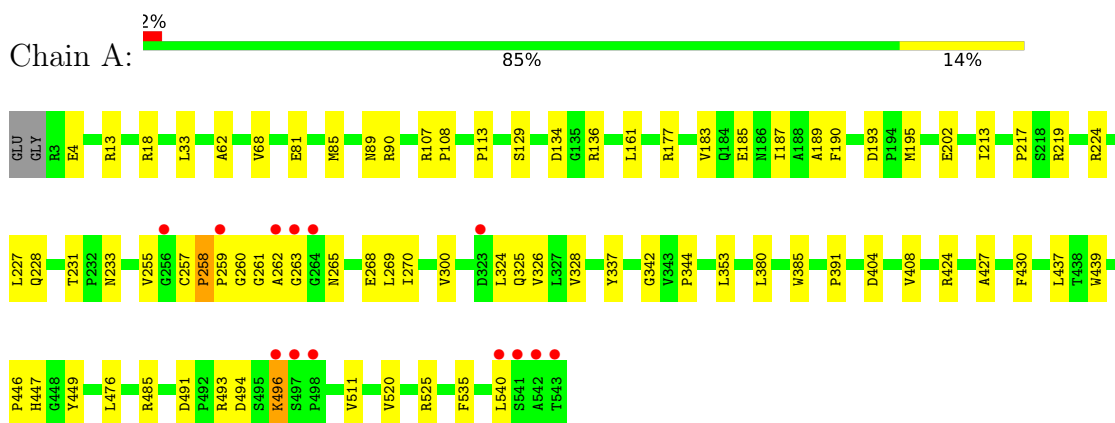
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	D	102	Total 102	O 102	0	0

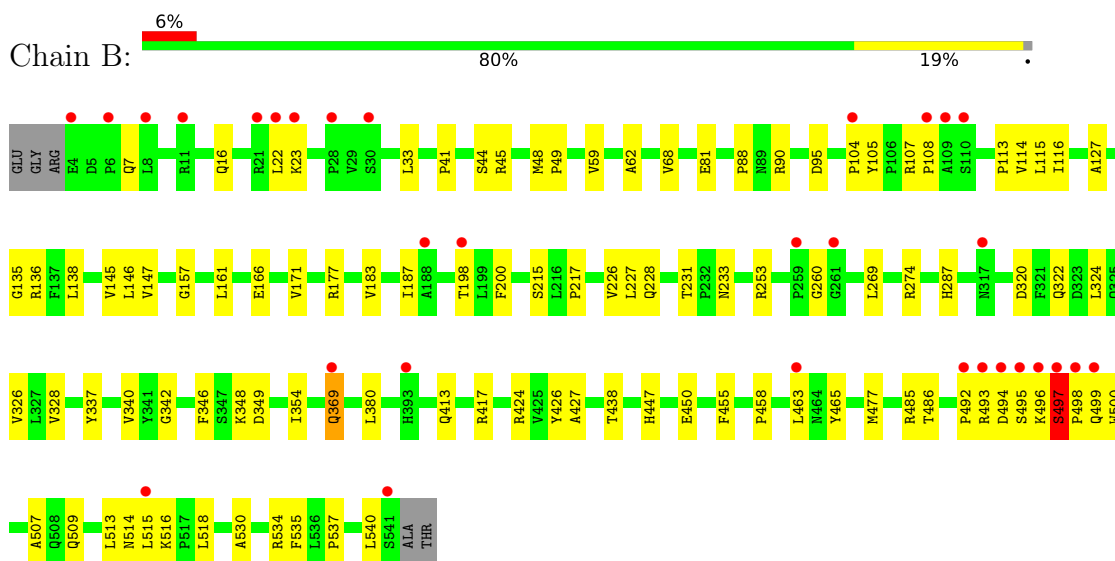
3 Residue-property plots

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.

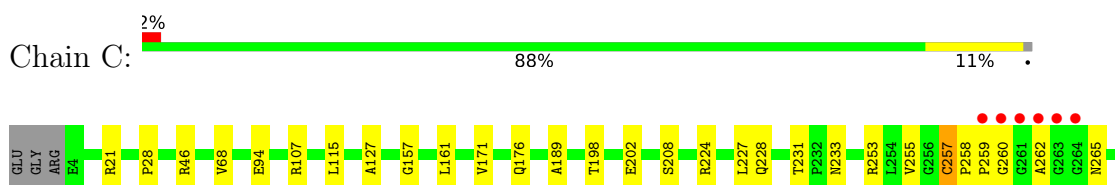
• Molecule 1: ACETYLCHOLINESTERASE

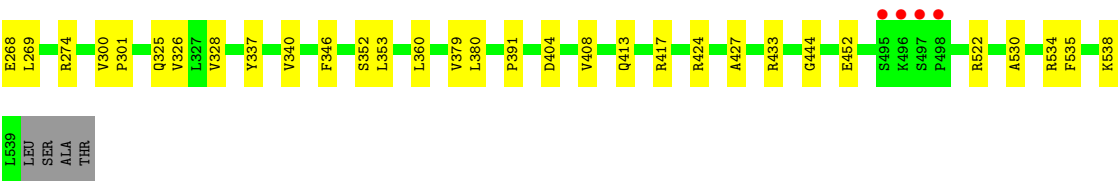


• Molecule 1: ACETYLCHOLINESTERASE

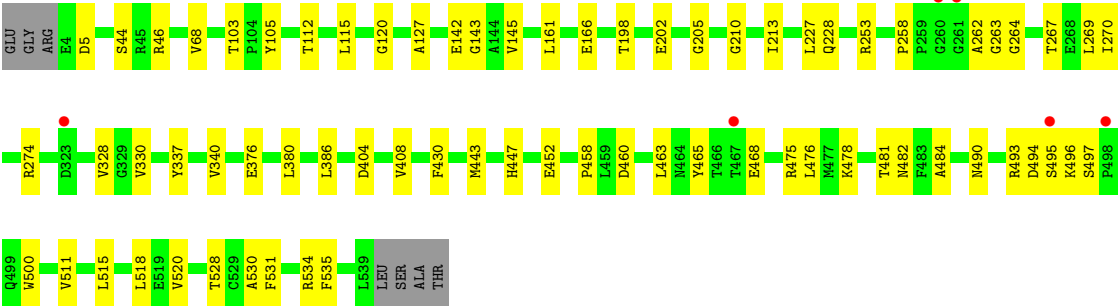
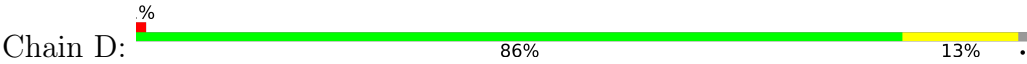


• Molecule 1: ACETYLCHOLINESTERASE





● Molecule 1: ACETYLCHOLINESTERASE



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	137.15Å 175.45Å 224.40Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	94.52 – 3.13 94.52 – 3.13	Depositor EDS
% Data completeness (in resolution range)	99.3 (94.52-3.13) 99.4 (94.52-3.13)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.87 (at 3.13Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.207 , 0.249 0.209 , 0.248	Depositor DCC
R_{free} test set	1046 reflections (1.10%)	wwPDB-VP
Wilson B-factor (Å ²)	66.0	Xtriage
Anisotropy	0.657	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 56.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	17437	wwPDB-VP
Average B, all atoms (Å ²)	71.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.35% 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, GOW, NAG, CL

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	0.21	0/4337	0.48	3/5926 (0.1%)
1	B	0.21	0/4342	0.52	0/5933
1	C	0.22	0/4317	0.54	2/5900 (0.0%)
1	D	0.18	0/4299	0.43	0/5876
All	All	0.21	0/17295	0.49	5/23635 (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	3
1	B	0	3
1	C	0	1
All	All	0	7

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	257	CYS	CA-C-N	-6.22	113.97	120.38
1	C	257	CYS	C-N-CA	-6.22	113.97	120.38
1	A	258	PRO	CA-C-N	5.64	140.55	127.00
1	A	258	PRO	C-N-CA	5.64	140.55	127.00
1	A	258	PRO	C-N-CD	-5.04	109.51	120.60

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	260	GLY	Peptide
1	A	496	LYS	Peptide
1	A	540	LEU	Peptide
1	B	260	GLY	Peptide
1	B	342	GLY	Peptide
1	B	497	SER	Peptide
1	C	262	ALA	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4211	0	4102	54	0
1	B	4207	0	4103	73	0
1	C	4185	0	4073	38	0
1	D	4173	0	4060	50	0
2	A	49	0	0	2	0
2	B	31	0	0	0	0
2	C	49	0	0	1	0
2	D	31	0	0	0	0
3	A	14	0	13	0	0
3	B	28	0	26	0	0
3	C	14	0	13	0	0
3	D	28	0	26	0	0
4	A	9	0	0	0	0
4	B	4	0	0	1	0
4	C	9	0	0	0	0
4	D	6	0	0	0	0
5	B	5	0	0	0	0
5	C	5	0	0	0	0
5	D	5	0	0	0	0
6	A	106	0	0	3	0
6	B	56	0	0	2	0
6	C	110	0	0	3	0
6	D	102	0	0	2	0
All	All	17437	0	16416	204	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 6.

All (204) 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:C:258:PRO:HB2	1:C:260:GLY:H	1.42	0.84
1:A:265:ASN:HB2	1:A:268:GLU:H	1.51	0.76
1:A:535:PHE:HB2	1:B:380:LEU:HD13	1.69	0.74
1:D:530:ALA:O	1:D:534:ARG:HB2	1.87	0.72
1:B:513:LEU:HD23	1:B:518:LEU:HD21	1.70	0.72
1:A:342:GLY:HA2	1:D:263:GLY:HA2	1.73	0.70
1:C:538:LYS:HE3	1:D:376:GLU:HG2	1.77	0.67
1:C:353:LEU:HB3	1:C:391:PRO:HB2	1.77	0.66
1:D:161:LEU:HD11	1:D:269:LEU:HD22	1.78	0.66
1:B:424:ARG:NH1	1:B:426:TYR:OH	2.28	0.66
1:B:161:LEU:HD11	1:B:269:LEU:HD22	1.77	0.65
1:A:404:ASP:HA	1:A:408:VAL:HB	1.79	0.65
1:C:258:PRO:HB2	1:C:260:GLY:N	2.11	0.65
1:A:227:LEU:HB2	1:A:328:VAL:HG12	1.77	0.65
1:B:498:PRO:CG	1:B:518:LEU:HB2	2.28	0.64
1:A:344:PRO:HG3	1:D:264:GLY:HA3	1.80	0.64
1:C:258:PRO:CB	1:C:260:GLY:H	2.12	0.63
1:D:258:PRO:HG2	1:D:262:ALA:HA	1.80	0.63
1:A:380:LEU:HD12	1:B:535:PHE:HB2	1.80	0.63
1:B:369[A]:GLN:NE2	6:B:2048:HOH:O	2.32	0.62
1:D:103:THR:HG22	1:D:145:VAL:HG22	1.80	0.61
1:B:113:PRO:HG3	1:B:485:ARG:HB3	1.83	0.61
1:C:274:ARG:NH2	6:C:2043:HOH:O	2.33	0.61
1:C:360:LEU:HD13	1:C:379:VAL:HG21	1.83	0.60
1:D:495:SER:C	1:D:497:SER:H	2.09	0.60
1:B:499:GLN:HG3	1:B:500:TRP:H	1.67	0.60
1:C:380:LEU:HD22	1:D:535:PHE:HB2	1.83	0.60
1:C:107:ARG:NH1	1:C:189:ALA:O	2.35	0.59
1:B:183:VAL:O	1:B:187:ILE:HB	2.02	0.59
1:A:265:ASN:HB2	1:A:268:GLU:HB2	1.86	0.58
2:A:550:GOW:O48	1:D:262:ALA:HB2	2.02	0.58
1:B:494:ASP:OD1	1:B:495:SER:N	2.28	0.57
1:A:224:ARG:HG2	1:A:325:GLN:HB2	1.87	0.57
1:A:408:VAL:HG11	1:A:525:ARG:HD2	1.86	0.57
1:B:115:LEU:HD23	1:B:198:THR:HB	1.87	0.57
1:C:161:LEU:HD11	1:C:269:LEU:HD23	1.86	0.56
1:D:161:LEU:HD12	1:D:270:ILE:HD11	1.87	0.56
1:A:68:VAL:HG23	1:A:90:ARG:HB2	1.87	0.56
1:A:446:PRO:HG2	1:A:449:TYR:CD2	2.41	0.56
1:A:300:VAL:O	6:A:2047:HOH:O	2.18	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:21:ARG:HH11	1:C:28:PRO:HB3	1.71	0.55
1:B:7:GLN:HG3	1:B:105:TYR:HE1	1.72	0.55
1:C:452:GLU:HG3	6:C:2099:HOH:O	2.07	0.55
1:D:166:GLU:HG2	1:D:274:ARG:HH22	1.72	0.55
1:A:491:ASP:HB3	1:A:494:ASP:HB3	1.89	0.54
1:B:498:PRO:HG2	1:B:518:LEU:HB2	1.89	0.54
1:B:348:LYS:NZ	1:B:349:ASP:OD1	2.39	0.54
1:B:104:PRO:HG2	1:B:108:PRO:HG3	1.87	0.54
1:C:68:VAL:HG13	1:C:127:ALA:HB2	1.90	0.53
1:B:45:ARG:HD3	1:B:48:MET:HB2	1.89	0.53
1:D:478:LYS:O	1:D:482:ASN:ND2	2.42	0.53
1:D:115:LEU:HD23	1:D:198:THR:HB	1.89	0.53
1:A:107:ARG:NH1	1:A:189:ALA:O	2.42	0.53
1:D:452:GLU:HG3	6:D:2091:HOH:O	2.09	0.52
1:B:138:LEU:HD21	1:B:455:PHE:HA	1.91	0.52
1:C:46:ARG:NH2	1:C:94:GLU:OE2	2.26	0.52
1:B:68:VAL:HG23	1:B:90:ARG:HB2	1.91	0.52
1:D:112:THR:HG21	1:D:143:GLY:O	2.09	0.52
1:B:200:PHE:HB2	1:B:226:VAL:HB	1.91	0.52
1:B:320:ASP:OD1	1:B:322:GLN:HG3	2.11	0.51
1:B:413:GLN:NE2	4:B:607:CL:CL	2.72	0.51
1:A:13:ARG:NE	1:A:185:GLU:HB3	2.25	0.51
1:B:157:GLY:O	1:B:171:VAL:HG22	2.10	0.51
1:A:107:ARG:HG3	1:A:108:PRO:HD2	1.91	0.51
1:B:48:MET:HE3	1:B:49:PRO:HD2	1.92	0.51
1:B:227:LEU:HB2	1:B:328:VAL:HG12	1.92	0.51
1:C:224:ARG:HG2	1:C:325:GLN:HB2	1.93	0.51
1:B:458:PRO:HA	1:B:465:TYR:CD2	2.47	0.50
1:B:68:VAL:HG13	1:B:127:ALA:HB2	1.93	0.50
1:A:437:LEU:HD11	1:A:446:PRO:HD2	1.94	0.50
1:B:44:SER:HA	1:B:274:ARG:HD2	1.94	0.50
1:B:337:TYR:O	1:B:340:VAL:HG22	2.12	0.49
1:D:337:TYR:CZ	1:D:447:HIS:HB3	2.47	0.49
1:B:138:LEU:HD13	1:B:477:MET:HE3	1.95	0.49
1:B:514:ASN:O	1:B:515:LEU:C	2.53	0.49
1:B:16:GLN:HB2	1:B:59:VAL:HA	1.95	0.48
1:D:337:TYR:O	1:D:340:VAL:HG22	2.12	0.48
1:B:492:PRO:HG2	1:B:493[A]:ARG:HD2	1.95	0.48
1:D:142:GLU:HB3	1:D:481:THR:HG21	1.95	0.48
1:D:468:GLU:HB3	1:D:515:LEU:HD11	1.95	0.48
1:A:257:CYS:N	1:A:258:PRO:HD3	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:346:PHE:HA	1:C:352:SER:OG	2.13	0.48
1:D:495:SER:C	1:D:497:SER:N	2.71	0.48
1:A:213:ILE:HA	1:A:219:ARG:HD3	1.94	0.48
1:C:328:VAL:O	1:C:427:ALA:HA	2.14	0.48
1:D:44:SER:HA	1:D:274:ARG:HD2	1.95	0.48
1:D:202:GLU:HA	1:D:228:GLN:O	2.14	0.48
1:A:107:ARG:HD2	1:A:190:PHE:HA	1.96	0.48
2:A:550:GOW:C44	1:D:253:ARG:HG3	2.44	0.47
1:B:497:SER:HB3	1:B:498:PRO:CD	2.43	0.47
1:C:231:THR:HB	1:C:233:ASN:OD1	2.14	0.47
1:B:287:HIS:CD2	1:C:253:ARG:HH12	2.32	0.47
1:D:490:ASN:HD21	1:D:500:TRP:H	1.63	0.47
1:B:515:LEU:HA	1:B:515:LEU:HD23	1.69	0.47
1:B:200:PHE:CB	1:B:226:VAL:HB	2.45	0.47
1:B:287:HIS:CD2	1:C:253:ARG:HH22	2.32	0.47
1:A:177:ARG:CZ	1:A:217:PRO:HB2	2.45	0.47
1:A:193:ASP:OD1	1:A:195:MET:HE3	2.15	0.47
1:C:522:ARG:HE	1:D:386:LEU:HD21	1.78	0.47
1:A:161:LEU:HD12	1:A:270:ILE:HD11	1.96	0.47
1:B:114:VAL:HG12	1:B:145:VAL:HB	1.97	0.47
1:B:166:GLU:OE1	1:B:166:GLU:N	2.48	0.46
1:A:161:LEU:HD11	1:A:269:LEU:HD23	1.97	0.46
1:A:81:GLU:O	1:A:85:MET:HB3	2.15	0.46
1:B:116:ILE:HA	1:B:147:VAL:O	2.16	0.46
1:B:135:GLY:HA3	1:B:146:LEU:HD22	1.98	0.46
1:C:404:ASP:HA	1:C:408:VAL:HB	1.97	0.46
1:B:516:LYS:H	1:B:516:LYS:HG3	1.50	0.46
1:B:537:PRO:O	1:B:540:LEU:HD23	2.16	0.46
1:B:177:ARG:NH2	1:B:215:SER:OG	2.49	0.46
1:C:115:LEU:HD23	1:C:198:THR:HB	1.97	0.46
1:B:507:ALA:HB1	1:B:509:GLN:HG3	1.98	0.46
1:C:326:VAL:HG12	1:C:328:VAL:HG13	1.99	0.45
1:A:328:VAL:O	1:A:427:ALA:HA	2.16	0.45
1:B:463:LEU:HD23	1:B:463:LEU:O	2.16	0.45
1:A:33:LEU:N	1:A:62:ALA:O	2.33	0.45
1:D:166:GLU:OE1	1:D:267:THR:HG22	2.17	0.45
1:D:528:THR:O	1:D:531:PHE:HB3	2.16	0.45
1:A:261:GLY:O	1:A:263:GLY:N	2.47	0.45
1:D:5:ASP:OD2	1:D:105:TYR:OH	2.29	0.45
1:B:177:ARG:CZ	1:B:217:PRO:HB2	2.47	0.45
1:B:537:PRO:HA	1:B:540:LEU:HD22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:324:LEU:HG	1:B:326:VAL:HG23	1.99	0.45
1:D:430:PHE:HE1	1:D:476:LEU:HD11	1.82	0.45
1:D:458:PRO:HA	1:D:465:TYR:CD2	2.52	0.45
1:A:424:ARG:NH1	6:A:2092:HOH:O	2.49	0.44
1:B:95:ASP:OD1	6:B:2012:HOH:O	2.21	0.44
1:A:261:GLY:C	1:A:263:GLY:H	2.25	0.44
1:A:337:TYR:CZ	1:A:447:HIS:HB3	2.52	0.44
1:D:46:ARG:HB3	1:D:274:ARG:HG2	1.99	0.44
1:D:210:GLY:O	1:D:213:ILE:HB	2.18	0.44
1:C:424:ARG:NH1	6:C:2091:HOH:O	2.51	0.44
1:B:33:LEU:H	1:B:62:ALA:HB1	1.83	0.44
1:A:113:PRO:HG2	1:A:485:ARG:HG3	2.00	0.44
1:A:219:ARG:HD2	1:A:219:ARG:HA	1.80	0.43
1:B:81:GLU:HB3	1:B:438:THR:HG21	2.00	0.43
1:B:413:GLN:O	1:B:417:ARG:HG2	2.18	0.43
1:B:530:ALA:O	1:B:534:ARG:HB2	2.18	0.43
1:D:337:TYR:HB3	1:D:443:MET:HE1	1.98	0.43
1:A:255:VAL:HG23	1:A:257:CYS:HB2	2.00	0.43
1:B:33:LEU:N	1:B:62:ALA:HB1	2.32	0.43
1:B:68:VAL:HG11	1:B:88:PRO:HB3	1.99	0.43
1:A:511:VAL:HG12	1:A:520:VAL:HG22	2.01	0.43
1:B:22:LEU:HD23	1:B:23:LYS:N	2.34	0.43
1:A:231:THR:HB	1:A:233:ASN:OD1	2.18	0.43
1:B:41:PRO:HA	1:B:45:ARG:HB3	1.99	0.43
1:B:253:ARG:HG3	2:C:550:GOW:C44	2.49	0.43
1:C:535:PHE:HB2	1:D:380:LEU:HD22	2.00	0.43
1:D:494:ASP:HB3	1:D:495:SER:H	1.59	0.43
1:B:514:ASN:N	1:B:514:ASN:OD1	2.51	0.43
1:D:404:ASP:HA	1:D:408:VAL:HB	2.00	0.43
1:A:437:LEU:CD2	1:A:439:TRP:H	2.31	0.43
1:D:518:LEU:HD23	1:D:518:LEU:HA	1.88	0.43
1:A:342:GLY:HA2	1:D:263:GLY:CA	2.47	0.43
1:A:380:LEU:HD22	1:A:385:TRP:CZ2	2.54	0.43
1:A:491:ASP:OD1	1:A:493:ARG:HD3	2.19	0.43
1:B:500:TRP:CD1	1:B:500:TRP:C	2.96	0.43
1:C:157:GLY:O	1:C:171:VAL:HG22	2.18	0.43
1:C:300:VAL:HB	1:C:301:PRO:HD2	2.01	0.43
1:D:120:GLY:HA2	1:D:205:GLY:H	1.84	0.43
1:A:353:LEU:HB3	1:A:391:PRO:HB2	2.01	0.42
1:B:228:GLN:HB3	1:B:450:GLU:OE2	2.18	0.42
1:B:231:THR:HB	1:B:233:ASN:OD1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:460:ASP:HB3	1:D:463:LEU:HD12	2.02	0.42
1:A:326:VAL:HG12	1:A:328:VAL:HG13	2.01	0.42
1:C:202:GLU:HA	1:C:228:GLN:O	2.20	0.42
1:D:330:VAL:HG11	1:D:408:VAL:HA	2.02	0.42
1:B:7:GLN:O	1:B:107:ARG:NH2	2.34	0.42
1:B:346:PHE:CE1	1:B:354:ILE:HG21	2.55	0.42
1:A:89:ASN:ND2	1:A:129:SER:O	2.40	0.42
1:D:511:VAL:HG12	1:D:520:VAL:HG22	2.01	0.42
1:B:7:GLN:OE1	1:B:107:ARG:HG2	2.20	0.42
1:D:115:LEU:HD21	1:D:484:ALA:HB2	2.02	0.42
1:B:485:ARG:HG3	1:B:486:THR:HG23	2.02	0.42
1:C:176:GLN:OE1	1:C:208:SER:HB3	2.19	0.42
1:C:227:LEU:HB2	1:C:328:VAL:HG12	2.01	0.41
1:C:257:CYS:N	1:C:258:PRO:HD3	2.35	0.41
1:C:433:ARG:HD2	1:C:444:GLY:O	2.19	0.41
1:D:490:ASN:ND2	1:D:500:TRP:H	2.18	0.41
1:A:183:VAL:O	1:A:187:ILE:HB	2.19	0.41
1:A:430:PHE:HE2	1:A:476:LEU:HD11	1.84	0.41
1:B:497:SER:HB3	1:B:498:PRO:HD3	2.02	0.41
1:C:530:ALA:O	1:C:534:ARG:HB2	2.21	0.41
1:D:227:LEU:HB2	1:D:328:VAL:HG12	2.01	0.41
1:C:413:GLN:O	1:C:417:ARG:HG2	2.20	0.41
1:A:134:ASP:OD2	1:A:136:ARG:HD2	2.21	0.41
1:A:380:LEU:HD22	1:A:385:TRP:HZ2	1.85	0.41
1:D:68:VAL:HG13	1:D:127:ALA:HB2	2.03	0.41
1:A:4:GLU:OE1	1:A:18:ARG:NH1	2.54	0.41
1:A:4:GLU:OE2	1:A:18:ARG:HD3	2.21	0.41
1:A:496:LYS:HA	1:A:496:LYS:HD2	1.81	0.41
1:B:22:LEU:HD13	1:B:136:ARG:HH12	1.86	0.41
1:A:202:GLU:HA	1:A:228:GLN:O	2.21	0.41
1:D:475:ARG:NH2	6:D:2093:HOH:O	2.51	0.41
1:C:255:VAL:HG23	1:C:257:CYS:HB2	2.04	0.40
1:C:337:TYR:O	1:C:340:VAL:HG22	2.21	0.40
1:D:493:ARG:HD2	1:D:493:ARG:HA	1.89	0.40
1:B:337:TYR:CZ	1:B:447:HIS:HB3	2.57	0.40
1:D:337:TYR:HB3	1:D:443:MET:CE	2.51	0.40
1:A:107:ARG:HG2	6:A:2032:HOH:O	2.22	0.40
1:B:328:VAL:O	1:B:427:ALA:HA	2.22	0.40
1:C:265:ASN:HB3	1:C:268:GLU:HB2	2.03	0.40
1:A:324:LEU:HG	1:A:326:VAL:HG23	2.03	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	539/543 (99%)	523 (97%)	14 (3%)	2 (0%)	30	59
1	B	539/543 (99%)	521 (97%)	17 (3%)	1 (0%)	43	70
1	C	536/543 (99%)	521 (97%)	14 (3%)	1 (0%)	43	70
1	D	534/543 (98%)	518 (97%)	15 (3%)	1 (0%)	43	70
All	All	2148/2172 (99%)	2083 (97%)	60 (3%)	5 (0%)	43	70

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	262	ALA
1	D	496	LYS
1	C	259	PRO
1	B	497	SER
1	A	259	PRO

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	442/443 (100%)	442 (100%)	0	100	100
1	B	443/443 (100%)	441 (100%)	2 (0%)	81	82
1	C	440/443 (99%)	440 (100%)	0	100	100
1	D	438/443 (99%)	438 (100%)	0	100	100
All	All	1763/1772 (100%)	1761 (100%)	2 (0%)	88	89

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	369[A]	GLN
1	B	369[B]	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	387	HIS
1	B	387	HIS
1	C	387	HIS
1	C	499	GLN
1	D	7	GLN
1	D	325	GLN
1	D	474	GLN
1	D	508	GLN
1	D	509	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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 41 ligands modelled in this entry, 28 are monoatomic - leaving 13 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
3	NAG	D	561	1	14,14,15	0.46	0	17,19,21	0.44	0
5	SO4	B	1542	-	4,4,4	0.25	0	6,6,6	0.15	0
3	NAG	C	560	1	14,14,15	0.56	0	17,19,21	0.80	1 (5%)
3	NAG	A	560	1	14,14,15	0.33	0	17,19,21	0.41	0
5	SO4	C	1541	-	4,4,4	0.25	0	6,6,6	0.05	0
3	NAG	D	560	1	14,14,15	0.54	0	17,19,21	0.63	1 (5%)
3	NAG	B	560	1	14,14,15	0.51	0	17,19,21	0.59	1 (5%)
5	SO4	D	1540	-	4,4,4	0.26	0	6,6,6	0.17	0
2	G0W	D	550	-	29,29,51	1.56	8 (27%)	34,38,70	1.46	6 (17%)
2	G0W	A	550	-	51,51,51	1.66	8 (15%)	62,70,70	1.55	10 (16%)
2	G0W	C	550	-	51,51,51	1.68	10 (19%)	62,70,70	1.66	10 (16%)
3	NAG	B	561	1	14,14,15	0.40	0	17,19,21	0.56	0
2	G0W	B	550	-	29,29,51	1.39	6 (20%)	34,38,70	1.38	6 (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
3	NAG	D	561	1	-	2/6/23/26	0/1/1/1
3	NAG	C	560	1	-	2/6/23/26	0/1/1/1
3	NAG	A	560	1	-	2/6/23/26	0/1/1/1
3	NAG	D	560	1	-	2/6/23/26	0/1/1/1
3	NAG	B	560	1	-	2/6/23/26	0/1/1/1
2	G0W	D	550	-	-	9/33/25/48	0/1/1/3
2	G0W	A	550	-	-	24/44/48/48	0/3/3/3
2	G0W	C	550	-	-	22/44/48/48	0/3/3/3
3	NAG	B	561	1	-	1/6/23/26	0/1/1/1
2	G0W	B	550	-	-	13/33/25/48	0/1/1/3

All (32) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	550	G0W	C40-N03	4.83	1.63	1.53
2	C	550	G0W	C46-N47	4.34	1.53	1.45
2	A	550	G0W	C46-N47	3.97	1.53	1.45
2	A	550	G0W	C34-N35	3.90	1.52	1.45
2	C	550	G0W	C46-C41	3.70	1.45	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	550	G0W	C34-N35	3.50	1.52	1.45
2	C	550	G0W	C34-N35	3.45	1.52	1.45
2	C	550	G0W	C40-N03	3.40	1.60	1.53
2	C	550	G0W	C38-N11	3.39	1.44	1.38
2	A	550	G0W	C38-N11	3.10	1.44	1.38
2	C	550	G0W	C22-N23	2.91	1.61	1.52
2	D	550	G0W	C22-N23	2.82	1.61	1.52
2	C	550	G0W	C15-N17	2.76	1.45	1.40
2	B	550	G0W	C38-N11	2.73	1.45	1.34
2	A	550	G0W	C22-N23	2.72	1.61	1.52
2	B	550	G0W	C22-N23	2.69	1.61	1.52
2	D	550	G0W	C15-N17	2.64	1.45	1.39
2	D	550	G0W	C38-N11	2.59	1.44	1.34
2	A	550	G0W	C46-C41	2.54	1.43	1.40
2	B	550	G0W	C10-N11	2.50	1.54	1.46
2	B	550	G0W	C34-N35	2.47	1.50	1.45
2	A	550	G0W	C15-N17	2.39	1.44	1.40
2	D	550	G0W	C34-C29	2.36	1.43	1.40
2	B	550	G0W	O37-N35	-2.35	1.19	1.35
2	D	550	G0W	O37-N35	-2.32	1.19	1.35
2	B	550	G0W	C15-N17	2.29	1.44	1.39
2	C	550	G0W	C40-C41	2.27	1.56	1.51
2	C	550	G0W	C18-N17	2.25	1.52	1.47
2	C	550	G0W	C34-C29	2.22	1.43	1.40
2	D	550	G0W	C10-N11	2.19	1.53	1.46
2	A	550	G0W	C34-C29	2.10	1.43	1.40
2	D	550	G0W	C28-N23	2.10	1.57	1.53

All (35) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	550	G0W	C45-C46-N47	-5.10	111.03	116.47
2	C	550	G0W	C15-N17-C38	-5.02	118.76	124.66
2	A	550	G0W	N17-C38-N11	4.94	121.77	115.75
2	A	550	G0W	C15-N17-C38	-4.71	119.13	124.66
2	C	550	G0W	N17-C38-N11	4.71	121.49	115.75
2	D	550	G0W	N11-C38-N17	3.95	121.87	115.33
2	D	550	G0W	C33-C34-N35	-3.94	112.26	116.47
2	B	550	G0W	N11-C38-N17	3.79	121.60	115.33
2	A	550	G0W	C45-C46-N47	-3.44	112.81	116.47
2	C	550	G0W	C42-C41-C46	-3.32	114.21	118.08
2	A	550	G0W	O39-C38-N11	-3.21	117.65	121.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	550	G0W	O39-C38-N11	-3.15	117.74	121.98
2	B	550	G0W	C33-C34-N35	-3.10	113.17	116.47
2	A	550	G0W	O36-N35-C34	3.08	124.31	119.03
2	C	550	G0W	O36-N35-C34	3.05	124.25	119.03
2	C	550	G0W	O48-N47-C46	2.95	124.08	119.03
3	C	560	NAG	C1-O5-C5	2.88	116.05	112.19
2	A	550	G0W	C42-C41-C46	-2.84	114.77	118.08
2	B	550	G0W	O36-N35-C34	-2.73	114.36	119.03
2	A	550	G0W	O48-N47-C46	2.72	123.69	119.03
2	C	550	G0W	C33-C34-N35	-2.69	113.61	116.47
2	A	550	G0W	C33-C34-N35	-2.57	113.73	116.47
2	D	550	G0W	C30-C29-C34	-2.54	115.12	118.08
2	D	550	G0W	C15-N17-C38	-2.27	119.17	122.84
2	C	550	G0W	C18-N17-C15	2.24	121.42	117.10
2	B	550	G0W	C15-N17-C38	-2.17	119.32	122.84
3	D	560	NAG	C1-O5-C5	2.16	115.08	112.19
2	D	550	G0W	O39-C38-N11	-2.16	117.77	123.35
2	C	550	G0W	C30-C29-C34	-2.14	115.58	118.08
2	A	550	G0W	C18-N17-C15	2.12	121.21	117.10
2	A	550	G0W	C30-C29-C34	-2.12	115.61	118.08
2	B	550	G0W	C30-C29-C34	-2.08	115.66	118.08
2	B	550	G0W	O39-C38-N11	-2.05	118.04	123.35
2	D	550	G0W	C31-C30-C29	2.05	123.88	120.88
3	B	560	NAG	C1-O5-C5	2.01	114.88	112.19

There are no chirality outliers.

All (79) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	550	G0W	C41-C40-N03-C02
2	A	550	G0W	C41-C40-N03-C04
2	A	550	G0W	C29-C28-N23-C22
2	A	550	G0W	C29-C28-N23-C26
2	B	550	G0W	C29-C28-N23-C22
2	B	550	G0W	C29-C28-N23-C24
2	C	550	G0W	C29-C28-N23-C22
2	C	550	G0W	C29-C28-N23-C26
2	D	550	G0W	C29-C28-N23-C24
2	D	550	G0W	C29-C28-N23-C26
2	A	550	G0W	C41-C40-N03-C06
2	A	550	G0W	C29-C28-N23-C24
2	B	550	G0W	C29-C28-N23-C26

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Mol	Chain	Res	Type	Atoms
2	C	550	G0W	C29-C28-N23-C24
2	D	550	G0W	C29-C28-N23-C22
2	C	550	G0W	C21-C22-N23-C26
2	C	550	G0W	C21-C22-N23-C24
2	A	550	G0W	C21-C22-N23-C24
2	A	550	G0W	C21-C22-N23-C26
3	C	560	NAG	O5-C5-C6-O6
2	C	550	G0W	C21-C22-N23-C28
2	A	550	G0W	C21-C22-N23-C28
2	A	550	G0W	C01-C02-N03-C40
2	B	550	G0W	C21-C22-N23-C24
2	B	550	G0W	C21-C22-N23-C28
2	A	550	G0W	C05-C04-N03-C02
2	B	550	G0W	C27-C26-N23-C28
2	A	550	G0W	C27-C26-N23-C24
2	B	550	G0W	C27-C26-N23-C24
2	A	550	G0W	C27-C26-N23-C28
2	B	550	G0W	C21-C22-N23-C26
2	C	550	G0W	C27-C26-N23-C24
2	C	550	G0W	C27-C26-N23-C28
2	A	550	G0W	C01-C02-N03-C06
2	B	550	G0W	C27-C26-N23-C22
3	A	560	NAG	C8-C7-N2-C2
3	A	560	NAG	O7-C7-N2-C2
2	A	550	G0W	C27-C26-N23-C22
3	D	561	NAG	O5-C5-C6-O6
2	C	550	G0W	C27-C26-N23-C22
2	A	550	G0W	C01-C02-N03-C04
2	A	550	G0W	C05-C04-N03-C40
3	C	560	NAG	C4-C5-C6-O6
2	A	550	G0W	C05-C04-N03-C06
2	D	550	G0W	C27-C26-N23-C28
3	D	561	NAG	C4-C5-C6-O6
2	D	550	G0W	C20-C21-C22-N23
2	D	550	G0W	C27-C26-N23-C24
2	A	550	G0W	N03-C06-C07-C08
2	D	550	G0W	C27-C26-N23-C22
2	B	550	G0W	C20-C21-C22-N23
2	A	550	G0W	C18-C19-C20-C21
3	B	561	NAG	O5-C5-C6-O6
2	B	550	G0W	C18-C19-C20-C21
2	D	550	G0W	C18-C19-C20-C21

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Mol	Chain	Res	Type	Atoms
2	C	550	G0W	N17-C18-C19-C20
2	C	550	G0W	C01-C02-N03-C06
2	C	550	G0W	N03-C06-C07-C08
3	B	560	NAG	C4-C5-C6-O6
2	C	550	G0W	C06-C07-C08-C09
2	C	550	G0W	C01-C02-N03-C04
2	D	550	G0W	N23-C28-C29-C30
2	A	550	G0W	C08-C09-C10-N11
2	A	550	G0W	C06-C07-C08-C09
2	C	550	G0W	C01-C02-N03-C40
3	D	560	NAG	C4-C5-C6-O6
2	C	550	G0W	C18-C19-C20-C21
2	C	550	G0W	C20-C21-C22-N23
2	B	550	G0W	C33-C34-N35-O36
3	D	560	NAG	O5-C5-C6-O6
2	C	550	G0W	C05-C04-N03-C06
2	A	550	G0W	C20-C21-C22-N23
3	B	560	NAG	O5-C5-C6-O6
2	B	550	G0W	C29-C34-N35-O36
2	C	550	G0W	C05-C04-N03-C02
2	C	550	G0W	C05-C04-N03-C40
2	C	550	G0W	C07-C08-C09-C10
2	A	550	G0W	N17-C18-C19-C20
2	C	550	G0W	C19-C20-C21-C22

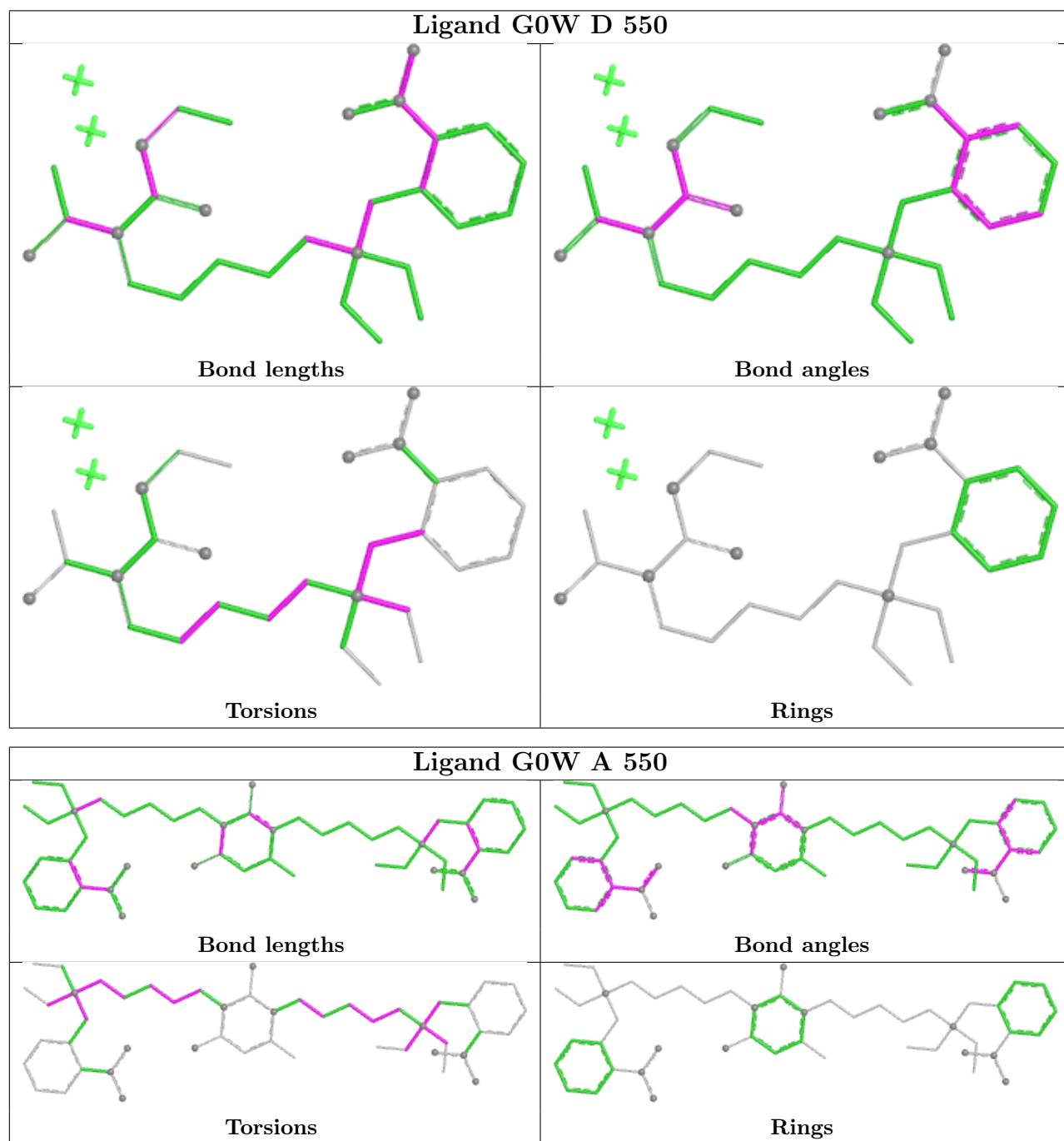
There are no ring outliers.

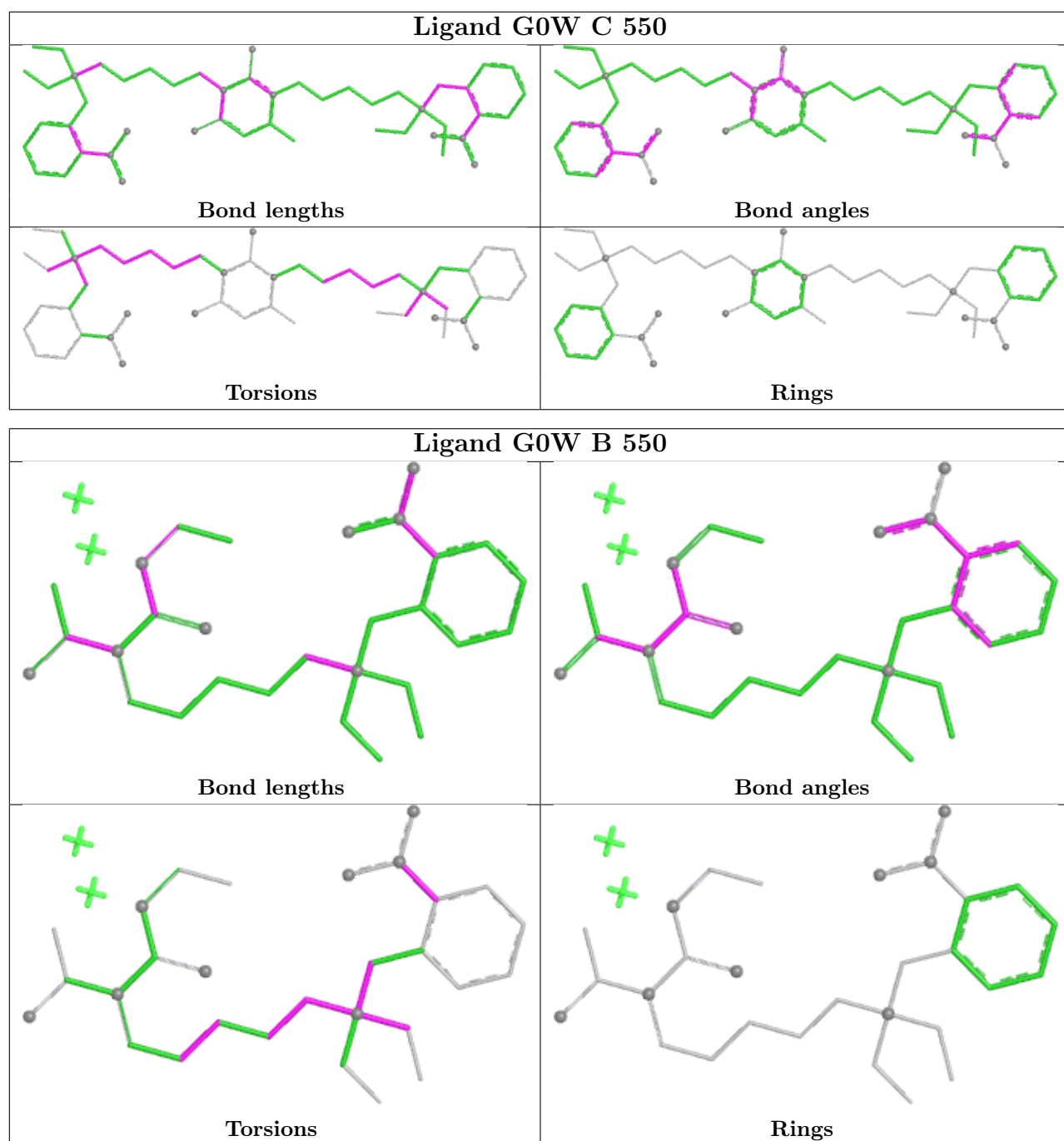
2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	550	G0W	2	0
2	C	550	G0W	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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	541/543 (99%)	-0.13	13 (2%) 59 38	44, 58, 87, 117	0
1	B	538/543 (99%)	0.46	31 (5%) 29 15	32, 89, 155, 196	3 (0%)
1	C	536/543 (98%)	-0.11	10 (1%) 66 45	36, 58, 78, 119	2 (0%)
1	D	536/543 (98%)	-0.04	6 (1%) 78 59	44, 66, 97, 132	1 (0%)
All	All	2151/2172 (99%)	0.04	60 (2%) 55 33	32, 64, 127, 196	6 (0%)

All (60) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	30	SER	5.3
1	C	262	ALA	4.8
1	A	262	ALA	4.7
1	B	493[A]	ARG	4.6
1	C	259	PRO	4.4
1	C	260	GLY	4.3
1	B	541	SER	4.1
1	A	540	LEU	3.9
1	B	108	PRO	3.8
1	C	261	GLY	3.7
1	B	463	LEU	3.5
1	C	263	GLY	3.5
1	C	264	GLY	3.4
1	B	4	GLU	3.4
1	B	22	LEU	3.4
1	B	496	LYS	3.4
1	B	109	ALA	3.2
1	A	542	ALA	3.0
1	B	23	LYS	3.0
1	B	494	ASP	3.0
1	B	497	SER	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	497	SER	2.9
1	A	263	GLY	2.9
1	D	498	PRO	2.8
1	B	498	PRO	2.8
1	A	541	SER	2.8
1	B	492	PRO	2.8
1	B	495	SER	2.8
1	B	6	PRO	2.7
1	B	259	PRO	2.7
1	A	543	THR	2.7
1	A	498	PRO	2.7
1	B	369[A]	GLN	2.6
1	B	21	ARG	2.6
1	B	515	LEU	2.6
1	B	499	GLN	2.5
1	A	496	LYS	2.5
1	D	261	GLY	2.5
1	C	497	SER	2.5
1	D	495	SER	2.4
1	B	28	PRO	2.4
1	A	259	PRO	2.4
1	B	8	LEU	2.4
1	C	496	LYS	2.3
1	C	495	SER	2.2
1	B	104	PRO	2.2
1	D	467	THR	2.2
1	B	317	ASN	2.2
1	B	198	THR	2.1
1	B	261	GLY	2.1
1	D	323	ASP	2.1
1	B	393	HIS	2.1
1	A	264	GLY	2.1
1	D	260	GLY	2.1
1	A	323	ASP	2.1
1	B	110	SER	2.0
1	B	188	ALA	2.0
1	C	498	PRO	2.0
1	B	11	ARG	2.0
1	A	256	GLY	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 oligosaccharides 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.

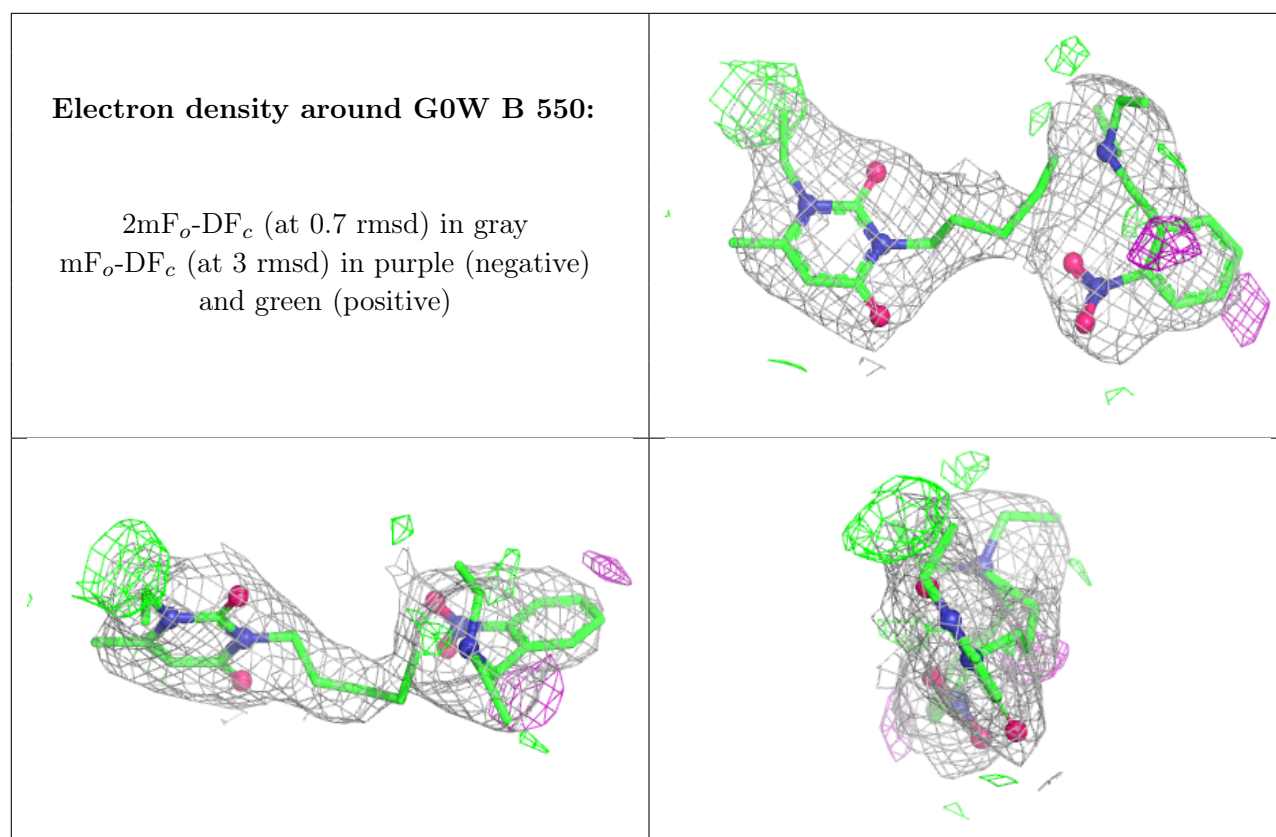
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	NAG	D	560	14/15	0.52	0.22	84,92,98,103	0
3	NAG	A	560	14/15	0.54	0.19	101,108,114,115	0
3	NAG	B	560	14/15	0.62	0.20	96,101,106,109	0
3	NAG	C	560	14/15	0.69	0.18	92,97,101,101	14
3	NAG	B	561	14/15	0.70	0.20	91,98,103,106	0
3	NAG	D	561	14/15	0.76	0.21	85,91,95,97	0
4	CL	A	605	1/1	0.79	0.19	88,88,88,88	0
4	CL	C	603	1/1	0.79	0.30	114,114,114,114	0
4	CL	D	607	1/1	0.81	0.13	89,89,89,89	0
4	CL	A	610	1/1	0.83	0.37	115,115,115,115	0
4	CL	A	607	1/1	0.84	0.20	103,103,103,103	0
4	CL	B	608	1/1	0.85	0.15	85,85,85,85	0
4	CL	C	608	1/1	0.86	0.32	120,120,120,120	0
4	CL	C	610	1/1	0.88	0.30	78,78,78,78	0
5	SO4	B	1542	5/5	0.88	0.10	81,82,82,83	5
4	CL	D	606	1/1	0.89	0.20	95,95,95,95	0
4	CL	A	601	1/1	0.89	0.26	107,107,107,107	0
4	CL	D	610	1/1	0.89	0.19	97,97,97,97	0
4	CL	B	605	1/1	0.89	0.23	94,94,94,94	0
4	CL	A	608	1/1	0.91	0.09	75,75,75,75	0
4	CL	C	606	1/1	0.91	0.20	73,73,73,73	0
4	CL	A	609	1/1	0.92	0.19	77,77,77,77	0
2	G0W	B	550	31/49	0.92	0.18	63,69,86,89	0
5	SO4	D	1540	5/5	0.92	0.10	73,73,74,74	5
2	G0W	A	550	49/49	0.93	0.17	49,59,103,106	0
4	CL	C	607	1/1	0.94	0.07	61,61,61,61	0
2	G0W	C	550	49/49	0.94	0.16	50,65,98,101	0

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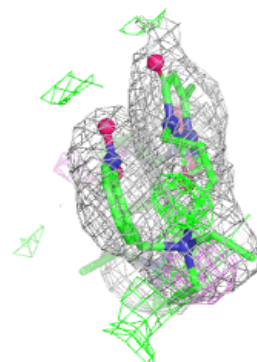
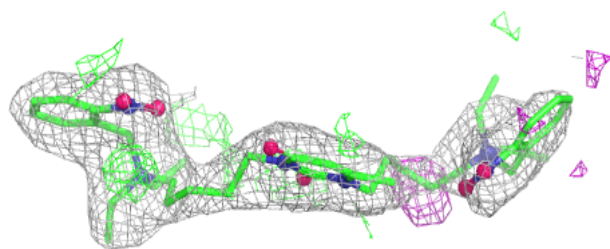
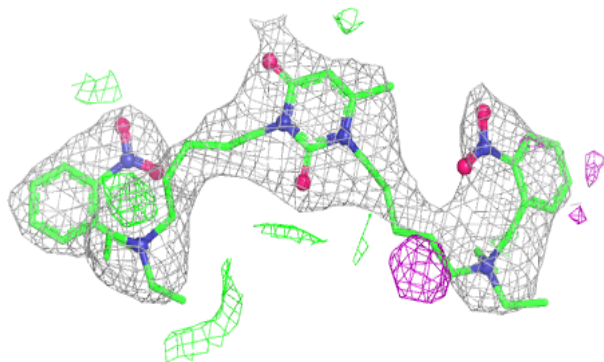
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
4	CL	C	609	1/1	0.94	0.13	89,89,89,89	0
4	CL	A	611	1/1	0.94	0.25	90,90,90,90	0
5	SO4	C	1541	5/5	0.94	0.08	86,86,87,88	0
4	CL	C	612	1/1	0.94	0.19	80,80,80,80	0
2	G0W	D	550	31/49	0.95	0.13	49,55,59,63	0
4	CL	D	605	1/1	0.95	0.09	69,69,69,69	0
4	CL	B	606	1/1	0.96	0.08	82,82,82,82	0
4	CL	D	608	1/1	0.96	0.08	55,55,55,55	0
4	CL	B	607	1/1	0.96	0.08	77,77,77,77	0
4	CL	C	605	1/1	0.97	0.12	74,74,74,74	0
4	CL	D	609	1/1	0.97	0.10	63,63,63,63	0
4	CL	A	606	1/1	0.98	0.14	46,46,46,46	0
4	CL	C	611	1/1	0.98	0.05	46,46,46,46	0
4	CL	A	604	1/1	0.98	0.16	77,77,77,77	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.

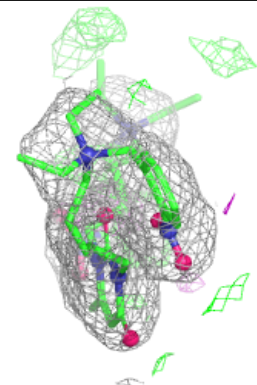
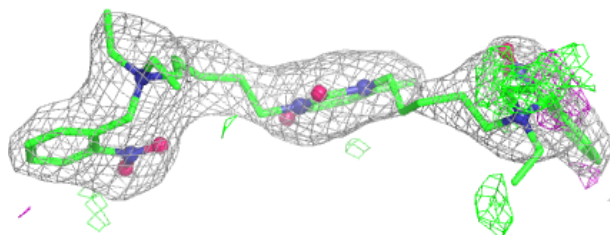
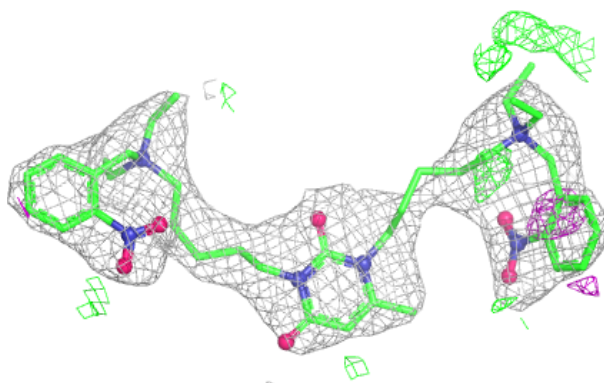


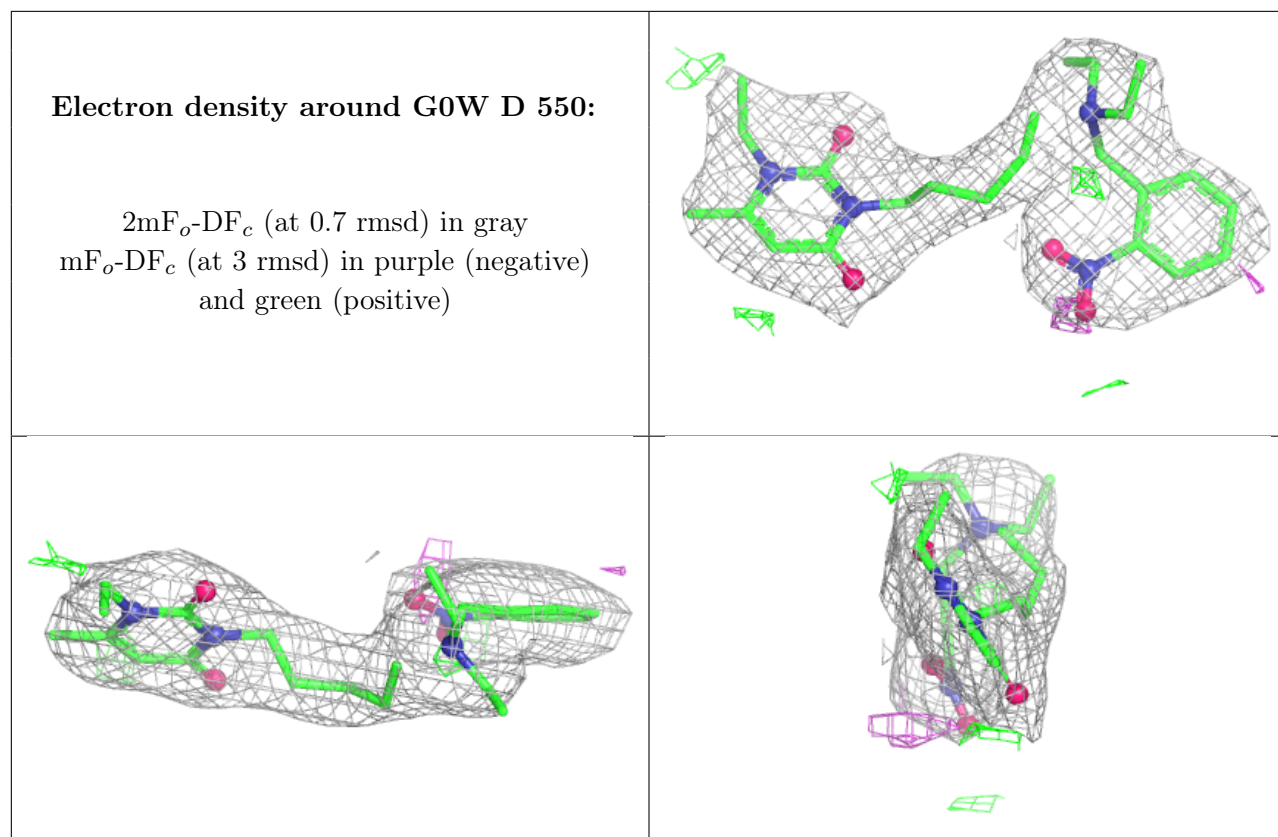
Electron density around G0W A 550:

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

**Electron density around G0W C 550:**

$2mF_o-DF_c$ (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.