



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 04:44 PM UTC

PDB ID : 5L1E / pdb_0000511e
Title : AMPA subtype ionotropic glutamate receptor GluA2 in complex with non-competitive inhibitor CP465022
Authors : Yelshanskaya, M.V.; Singh, A.K.; Sampson, J.M.; Sobolevsky, A.I.
Deposited on : 2016-07-29
Resolution : 4.37 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

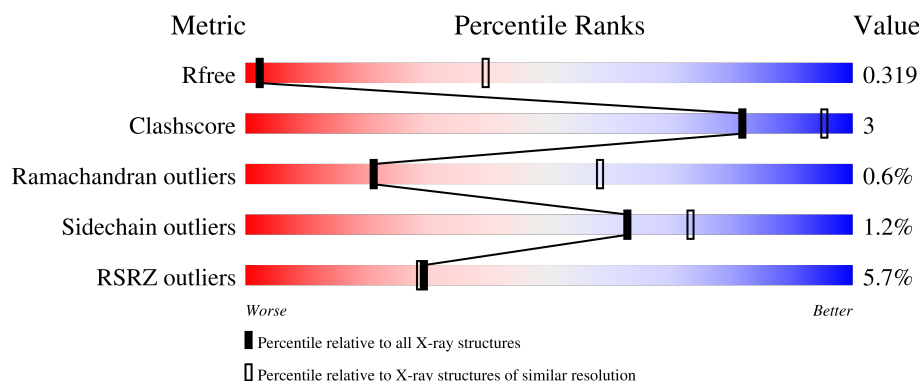
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 4.37 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	1085 (4.84-3.90)
Clashscore	190562	1132 (4.84-3.90)
Ramachandran outliers	187476	1024 (4.84-3.90)
Sidechain outliers	187428	1008 (4.84-3.90)
RSRZ outliers	180081	1081 (4.84-3.90)

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	803	4% 91% 5%
1	B	803	7% 86% 10%
1	C	803	4% 89% 7%
1	D	803	7% 92% 5%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 24092 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 Glutamate receptor 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	777	Total	C	N	O	S	0	0	0
			5986	3847	992	1118	29			
1	B	773	Total	C	N	O	S	0	0	0
			5993	3846	989	1129	29			
1	C	773	Total	C	N	O	S	0	0	0
			5952	3825	985	1114	28			
1	D	777	Total	C	N	O	S	0	0	0
			5972	3835	990	1120	27			

There are 72 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	241	GLU	ASN	engineered mutation	UNP P19491
A	?	-	VAL	deletion	UNP P19491
A	?	-	THR	deletion	UNP P19491
A	?	-	LEU	deletion	UNP P19491
A	?	-	PRO	deletion	UNP P19491
A	?	-	SER	deletion	UNP P19491
A	?	-	GLY	deletion	UNP P19491
A	385	ASP	ASN	engineered mutation	UNP P19491
A	392	GLN	ASN	engineered mutation	UNP P19491
A	564	ASP	-	linker	UNP P19491
A	565	THR	-	linker	UNP P19491
A	566	ASP	-	linker	UNP P19491
A	589	ALA	CYS	engineered mutation	UNP P19491
A	827	GLY	-	cloning artifact	UNP P19491
A	828	LEU	-	cloning artifact	UNP P19491
A	829	VAL	-	cloning artifact	UNP P19491
A	830	PRO	-	cloning artifact	UNP P19491
A	831	ARG	-	cloning artifact	UNP P19491
B	241	GLU	ASN	engineered mutation	UNP P19491
B	?	-	VAL	deletion	UNP P19491
B	?	-	THR	deletion	UNP P19491

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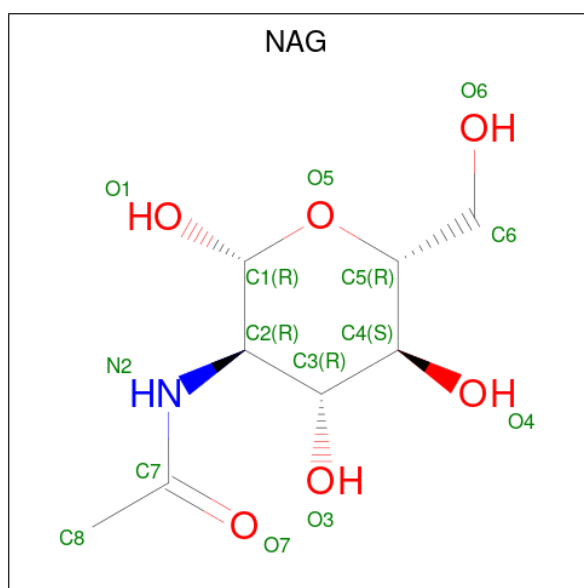
Chain	Residue	Modelled	Actual	Comment	Reference
B	?	-	LEU	deletion	UNP P19491
B	?	-	PRO	deletion	UNP P19491
B	?	-	SER	deletion	UNP P19491
B	?	-	GLY	deletion	UNP P19491
B	385	ASP	ASN	engineered mutation	UNP P19491
B	392	GLN	ASN	engineered mutation	UNP P19491
B	564	ASP	-	linker	UNP P19491
B	565	THR	-	linker	UNP P19491
B	566	ASP	-	linker	UNP P19491
B	589	ALA	CYS	engineered mutation	UNP P19491
B	827	GLY	-	cloning artifact	UNP P19491
B	828	LEU	-	cloning artifact	UNP P19491
B	829	VAL	-	cloning artifact	UNP P19491
B	830	PRO	-	cloning artifact	UNP P19491
B	831	ARG	-	cloning artifact	UNP P19491
C	241	GLU	ASN	engineered mutation	UNP P19491
C	?	-	VAL	deletion	UNP P19491
C	?	-	THR	deletion	UNP P19491
C	?	-	LEU	deletion	UNP P19491
C	?	-	PRO	deletion	UNP P19491
C	?	-	SER	deletion	UNP P19491
C	?	-	GLY	deletion	UNP P19491
C	385	ASP	ASN	engineered mutation	UNP P19491
C	392	GLN	ASN	engineered mutation	UNP P19491
C	564	ASP	-	linker	UNP P19491
C	565	THR	-	linker	UNP P19491
C	566	ASP	-	linker	UNP P19491
C	589	ALA	CYS	engineered mutation	UNP P19491
C	827	GLY	-	cloning artifact	UNP P19491
C	828	LEU	-	cloning artifact	UNP P19491
C	829	VAL	-	cloning artifact	UNP P19491
C	830	PRO	-	cloning artifact	UNP P19491
C	831	ARG	-	cloning artifact	UNP P19491
D	241	GLU	ASN	engineered mutation	UNP P19491
D	?	-	VAL	deletion	UNP P19491
D	?	-	THR	deletion	UNP P19491
D	?	-	LEU	deletion	UNP P19491
D	?	-	PRO	deletion	UNP P19491
D	?	-	SER	deletion	UNP P19491
D	?	-	GLY	deletion	UNP P19491
D	385	ASP	ASN	engineered mutation	UNP P19491
D	392	GLN	ASN	engineered mutation	UNP P19491

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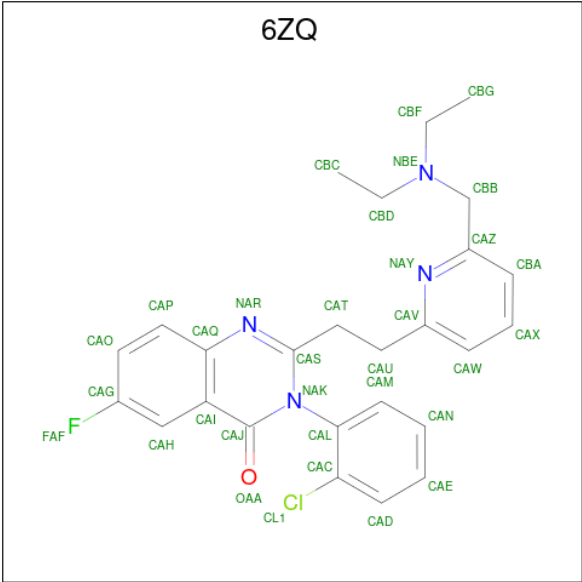
Chain	Residue	Modelled	Actual	Comment	Reference
D	564	ASP	-	linker	UNP P19491
D	565	THR	-	linker	UNP P19491
D	566	ASP	-	linker	UNP P19491
D	589	ALA	CYS	engineered mutation	UNP P19491
D	827	GLY	-	cloning artifact	UNP P19491
D	828	LEU	-	cloning artifact	UNP P19491
D	829	VAL	-	cloning artifact	UNP P19491
D	830	PRO	-	cloning artifact	UNP P19491
D	831	ARG	-	cloning artifact	UNP P19491

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



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			15	8	1	6		
2	B	1	Total	C	N	O	0	0
			14	8	1	5		
2	C	1	Total	C	N	O	0	0
			14	8	1	5		
2	D	1	Total	C	N	O	0	0
			14	8	1	5		

- Molecule 3 is 3-(2-chlorophenyl)-2-(2-{6-[(diethylamino)methyl]pyridin-2-yl}ethyl)-6-fluoroquinazolin-4(3H)-one (CCD ID: 6ZQ) (formula: $C_{26}H_{26}ClFN_4O$).

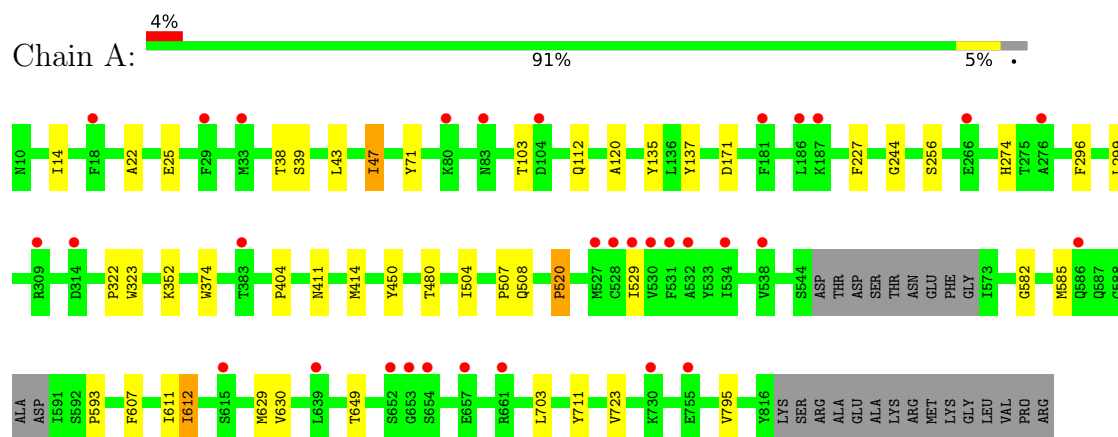


Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
3	A	1	Total	C	Cl	F	N	O	0	0
			33	26	1	1	4	1		
3	B	1	Total	C	Cl	F	N	O	0	0
			33	26	1	1	4	1		
3	C	1	Total	C	Cl	F	N	O	0	0
			33	26	1	1	4	1		
3	D	1	Total	C	Cl	F	N	O	0	0
			33	26	1	1	4	1		

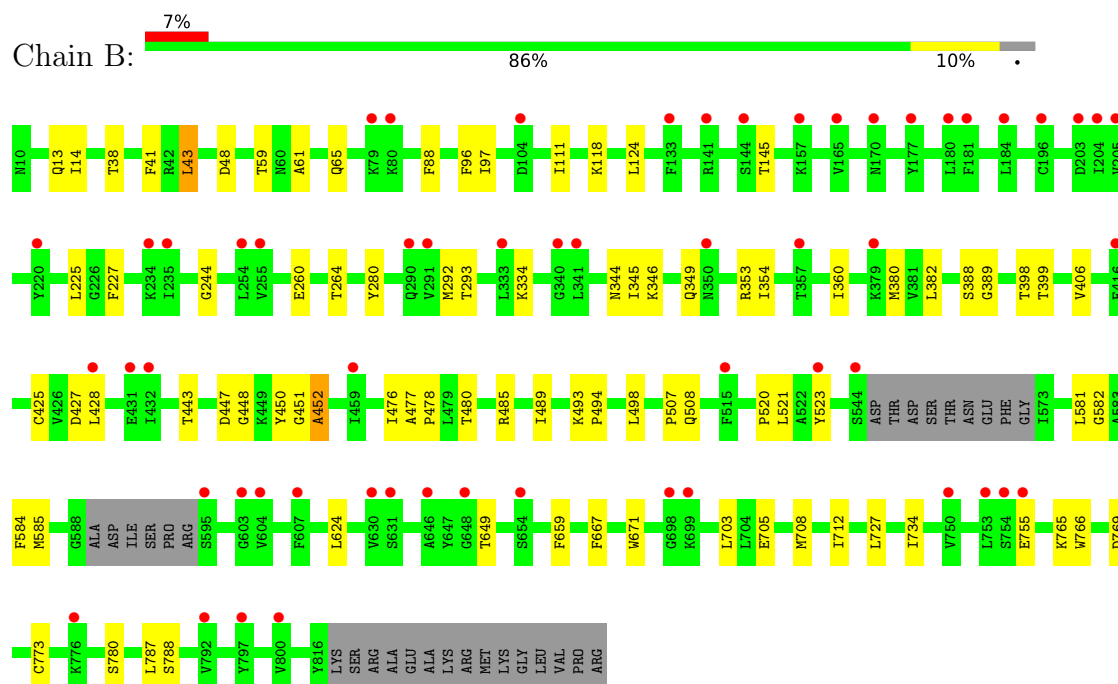
3 Residue-property plots [i](#)

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

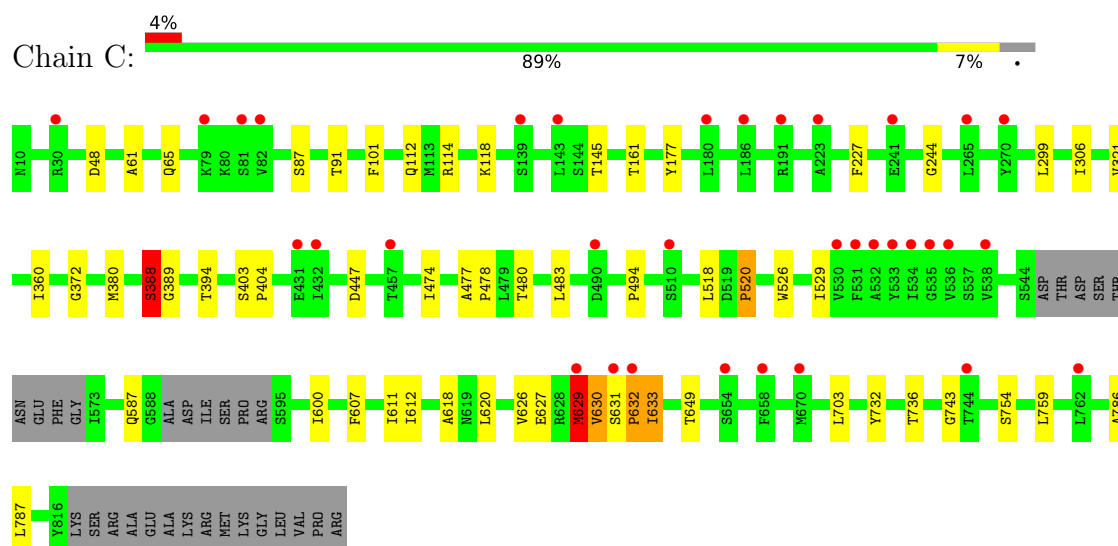
• Molecule 1: Glutamate receptor 2



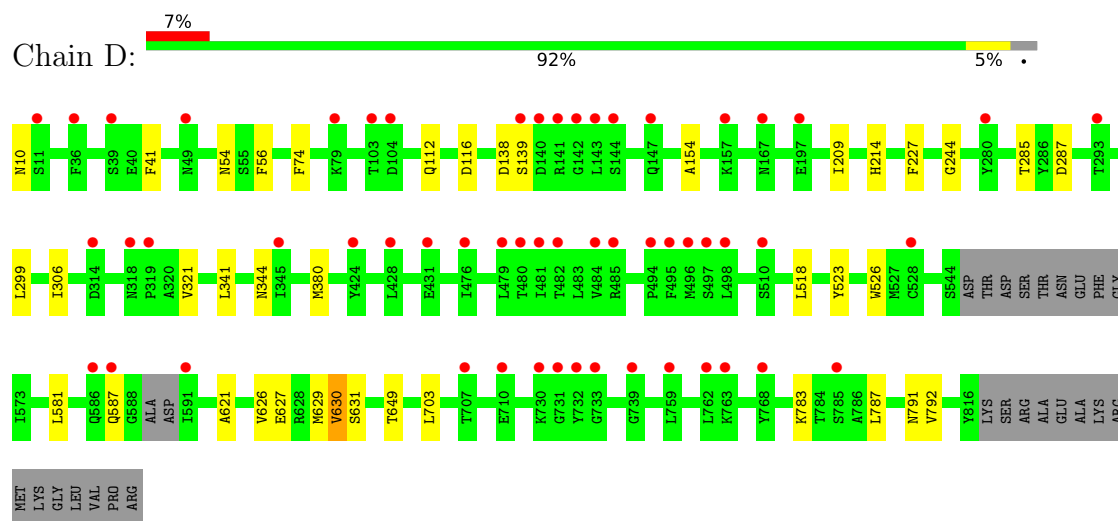
• Molecule 1: Glutamate receptor 2



• Molecule 1: Glutamate receptor 2



• Molecule 1: Glutamate receptor 2



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	92.68Å 109.86Å 602.46Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.02 – 4.37 49.02 – 4.37	Depositor EDS
% Data completeness (in resolution range)	97.9 (49.02-4.37) 98.4 (49.02-4.37)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.52 (at 4.45Å)	Xtriage
Refinement program	PHENIX 1.10.1 _2155	Depositor
R, R_{free}	0.239 , 0.292 0.261 , 0.319	Depositor DCC
R_{free} test set	2026 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	238.0	Xtriage
Anisotropy	0.187	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.25 , 308.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.35$, $\langle L^2 \rangle = 0.18$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.85	EDS
Total number of atoms	24092	wwPDB-VP
Average B, all atoms (Å ²)	275.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.12% 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: 6ZQ, NAG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.11	0/6109	0.31	0/8269
1	B	0.12	0/6115	0.32	0/8274
1	C	0.35	1/6074 (0.0%)	0.38	6/8225 (0.1%)
1	D	0.10	0/6095	0.29	0/8255
All	All	0.20	1/24393 (0.0%)	0.33	6/33023 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	629	MET	C-N	25.01	1.67	1.33

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	629	MET	CA-C-N	9.76	139.53	121.97
1	C	629	MET	C-N-CA	9.76	139.53	121.97
1	C	632	PRO	CA-C-N	6.81	133.96	121.70
1	C	632	PRO	C-N-CA	6.81	133.96	121.70
1	C	388	SER	CA-C-N	5.42	131.45	121.70
1	C	388	SER	C-N-CA	5.42	131.45	121.70

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5986	0	5886	21	0
1	B	5993	0	5913	45	0
1	C	5952	0	5839	40	0
1	D	5972	0	5848	24	0
2	A	15	0	15	0	0
2	B	14	0	13	0	0
2	C	14	0	13	0	0
2	D	14	0	13	0	0
3	A	33	0	0	1	0
3	B	33	0	0	1	0
3	C	33	0	0	2	0
3	D	33	0	0	3	0
All	All	24092	0	23540	121	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 3.

All (121) 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:629:MET:C	1:C:630:VAL:N	1.67	1.50
1:C:631:SER:OG	1:C:632:PRO:C	2.06	0.99
1:D:630:VAL:HG23	3:D:902:6ZQ:CBG	2.02	0.89
1:C:626:VAL:HG11	1:D:783:LYS:O	1.82	0.79
1:C:631:SER:OG	1:C:632:PRO:O	2.01	0.78
1:D:630:VAL:CG2	3:D:902:6ZQ:CBG	2.61	0.78
1:B:451:GLY:HA2	1:B:452:ALA:HB3	1.67	0.77
1:C:630:VAL:HG12	1:C:632:PRO:HA	1.70	0.71
1:A:582:GLY:HA2	1:A:585:MET:HE3	1.72	0.69
1:C:631:SER:OG	1:C:632:PRO:CA	2.41	0.68
1:C:629:MET:CA	1:C:630:VAL:N	2.59	0.65
1:C:388:SER:CB	1:C:389:GLY:HA2	2.27	0.64
1:B:582:GLY:HA2	1:B:585:MET:HE3	1.79	0.64
1:C:360:ILE:HB	1:C:372:GLY:HA3	1.81	0.61
1:B:97:ILE:HD13	1:B:292:MET:HG2	1.83	0.61
1:C:87:SER:OG	1:D:54:ASN:OD1	2.20	0.59
1:D:629:MET:O	1:D:631:SER:N	2.36	0.58
1:B:447:ASP:N	1:B:448:GLY:HA2	2.19	0.57
1:A:649:THR:HG22	1:A:703:LEU:HB2	1.86	0.56
1:C:649:THR:HG22	1:C:703:LEU:HB2	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:518:LEU:HD23	1:D:518:LEU:H	1.72	0.55
1:B:360:ILE:HD13	1:B:380:MET:HE2	1.90	0.53
1:C:630:VAL:HG12	1:C:632:PRO:CA	2.41	0.51
1:D:227:PHE:CD2	1:D:244:GLY:HA3	2.45	0.51
1:B:476:ILE:HG22	1:B:734:ILE:HG12	1.93	0.51
1:B:346:LYS:HG3	1:B:354:ILE:HG13	1.93	0.51
1:C:118:LYS:HG2	1:C:145:THR:HG22	1.93	0.50
1:B:14:ILE:HD12	1:B:43:LEU:HB3	1.94	0.50
1:B:43:LEU:HD21	1:B:293:THR:HG22	1.93	0.50
1:B:227:PHE:CD1	1:B:244:GLY:HA3	2.47	0.50
1:A:135:TYR:CE1	1:A:137:TYR:HB3	2.46	0.50
1:A:47:ILE:H	1:A:47:ILE:HD13	1.76	0.50
1:C:632:PRO:HD2	1:C:633:ILE:HB	1.94	0.49
1:C:630:VAL:HG12	1:C:631:SER:N	2.26	0.49
1:B:521:LEU:HD12	1:C:787:LEU:HD21	1.93	0.49
1:C:631:SER:OG	1:C:632:PRO:HA	2.11	0.49
1:A:14:ILE:HD13	1:A:43:LEU:HD23	1.95	0.49
1:D:299:LEU:HD13	1:D:306:ILE:HG21	1.95	0.49
1:C:618:ALA:HA	1:D:621:ALA:HB2	1.95	0.48
1:D:380:MET:HE3	1:D:380:MET:HA	1.95	0.48
1:A:227:PHE:CD1	1:A:244:GLY:HA3	2.49	0.48
1:B:124:LEU:HA	1:B:380:MET:HE1	1.94	0.48
1:C:520:PRO:HD3	3:C:902:6ZQ:NAR	2.28	0.48
1:A:103:THR:O	1:A:352:LYS:NZ	2.46	0.48
1:B:581:LEU:HA	1:B:584:PHE:HB3	1.96	0.48
1:C:627:GLU:O	1:C:630:VAL:HG23	2.14	0.47
1:B:48:ASP:OD1	1:B:65:GLN:NE2	2.47	0.47
1:C:161:THR:HG23	1:D:154:ALA:HB2	1.96	0.47
1:A:411:ASN:HD22	1:A:414:MET:HE3	1.80	0.47
1:B:667:PHE:HE1	1:B:727:LEU:HD13	1.80	0.47
1:A:71:TYR:HA	1:A:323:TRP:HH2	1.80	0.47
1:A:607:PHE:O	1:A:611:ILE:HG12	2.15	0.47
1:B:649:THR:HG22	1:B:703:LEU:HB2	1.97	0.47
1:A:529:ILE:HD13	1:A:612:ILE:HD12	1.97	0.46
1:B:260:GLU:O	1:B:264:THR:OG1	2.34	0.46
1:D:626:VAL:HG12	1:D:627:GLU:N	2.29	0.46
1:B:498:LEU:HD13	1:B:705:GLU:HB2	1.98	0.46
1:B:755:GLU:OE2	1:C:483:LEU:N	2.44	0.46
1:A:22:ALA:HB1	1:A:25:GLU:HB2	1.98	0.46
1:B:398:THR:HA	1:B:443:THR:O	2.16	0.45
1:C:474:ILE:HG13	1:C:736:THR:HG22	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:118:LYS:HB3	1:B:145:THR:HG22	1.99	0.45
1:A:171:ASP:OD1	1:A:171:ASP:N	2.46	0.45
1:C:101:PHE:HA	1:C:114:ARG:HD2	1.98	0.45
1:C:754:SER:HB2	1:C:759:LEU:HD12	1.97	0.45
1:D:649:THR:HG22	1:D:703:LEU:HB2	1.98	0.45
1:A:520:PRO:HD3	3:A:902:6ZQ:NAR	2.32	0.45
1:D:518:LEU:HB2	1:D:526:TRP:CD1	2.52	0.45
1:B:388:SER:HA	1:B:389:GLY:HA3	1.77	0.44
1:B:708:MET:O	1:B:712:ILE:HG12	2.17	0.44
1:C:620:LEU:HD11	3:C:902:6ZQ:CL1	2.54	0.44
1:C:600:ILE:HG22	1:D:581:LEU:HD23	2.00	0.44
1:B:477:ALA:HB1	1:B:478:PRO:HD2	2.00	0.43
1:A:120:ALA:HB2	1:A:374:TRP:NE1	2.33	0.43
1:B:61:ALA:O	1:B:65:GLN:HG2	2.18	0.43
1:B:225:LEU:HB2	1:B:280:TYR:CD2	2.53	0.43
1:C:494:PRO:HA	1:C:732:TYR:O	2.18	0.43
1:B:427:ASP:OD2	1:B:766:TRP:NE1	2.41	0.43
1:C:227:PHE:CD2	1:C:244:GLY:HA3	2.53	0.43
1:D:787:LEU:HD21	1:D:792:VAL:HG21	1.99	0.43
1:B:765:LYS:O	1:B:769:ASP:HB2	2.19	0.43
1:B:96:PHE:O	1:B:111:ILE:N	2.43	0.43
1:C:299:LEU:HD13	1:C:306:ILE:HG21	2.01	0.43
1:A:507:PRO:HA	1:A:508:GLN:CB	2.49	0.43
1:C:91:THR:HG21	1:D:56:PHE:CE1	2.54	0.43
1:D:138:ASP:OD1	1:D:139:SER:N	2.52	0.43
1:D:10:ASN:HB2	1:D:41:PHE:HA	2.01	0.43
1:B:787:LEU:HD22	1:B:788:SER:H	1.85	0.42
1:C:403:SER:HA	1:C:404:PRO:HA	1.82	0.42
1:C:607:PHE:O	1:C:611:ILE:HG12	2.19	0.42
1:D:209:ILE:HA	1:D:214:HIS:CD2	2.54	0.42
1:B:344:ASN:O	1:B:353:ARG:NH2	2.50	0.42
1:D:287:ASP:CG	1:D:341:LEU:H	2.27	0.42
1:B:624:LEU:HD11	3:B:902:6ZQ:CL1	2.56	0.42
1:A:411:ASN:OD1	1:A:411:ASN:N	2.51	0.42
1:C:529:ILE:HD13	1:C:612:ILE:HD12	2.02	0.42
1:B:485:ARG:O	1:B:489:ILE:HG13	2.20	0.42
1:C:61:ALA:O	1:C:65:GLN:HG2	2.19	0.42
1:B:344:ASN:HD22	1:B:345:ILE:N	2.17	0.41
1:B:507:PRO:N	1:B:508:GLN:HA	2.35	0.41
1:B:399:THR:HG21	1:B:406:VAL:HG21	2.02	0.41
1:C:447:ASP:OD1	1:C:447:ASP:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:630:VAL:CG1	1:C:631:SER:N	2.82	0.41
1:D:74:PHE:CZ	1:D:285:THR:HG23	2.55	0.41
1:A:404:PRO:HB3	1:A:711:TYR:CZ	2.56	0.41
1:B:507:PRO:HD2	1:B:508:GLN:HA	2.01	0.41
1:B:334:LYS:NZ	1:B:349:GLN:O	2.37	0.41
1:B:494:PRO:HG3	1:C:494:PRO:HG3	2.02	0.41
1:A:38:THR:OG1	1:A:39:SER:N	2.54	0.41
1:B:425:CYS:HA	1:B:428:LEU:HB3	2.02	0.41
1:B:38:THR:HG23	1:B:41:PHE:H	1.85	0.41
1:B:659:PHE:HB3	1:B:671:TRP:HB2	2.02	0.41
1:A:296:PHE:HA	1:A:299:LEU:HD12	2.03	0.41
1:B:507:PRO:CD	1:B:508:GLN:HA	2.51	0.41
1:C:477:ALA:HB1	1:C:478:PRO:HD2	2.03	0.41
1:B:493:LYS:HB3	1:B:494:PRO:HD2	2.03	0.41
1:C:518:LEU:HB2	1:C:526:TRP:CD1	2.56	0.41
1:B:59:THR:HG23	1:B:88:PHE:CZ	2.57	0.40
1:D:626:VAL:CG1	1:D:627:GLU:N	2.84	0.40
1:D:630:VAL:HG21	3:D:902:6ZQ:CBG	2.50	0.40
1:A:504:ILE:HD11	1:A:723:VAL:HG11	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	771/803 (96%)	723 (94%)	44 (6%)	4 (0%)	24	62
1	B	767/803 (96%)	714 (93%)	50 (6%)	3 (0%)	30	66
1	C	767/803 (96%)	718 (94%)	41 (5%)	8 (1%)	12	47
1	D	771/803 (96%)	722 (94%)	47 (6%)	2 (0%)	36	71
All	All	3076/3212 (96%)	2877 (94%)	182 (6%)	17 (1%)	21	58

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	388	SER
1	C	630	VAL
1	C	743	GLY
1	C	786	ALA
1	D	587	GLN
1	A	520	PRO
1	B	780	SER
1	C	587	GLN
1	B	452	ALA
1	B	520	PRO
1	A	630	VAL
1	C	380	MET
1	C	520	PRO
1	A	322	PRO
1	C	633	ILE
1	D	630	VAL
1	A	593	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	627/683 (92%)	618 (99%)	9 (1%)	59	71
1	B	636/683 (93%)	629 (99%)	7 (1%)	65	74
1	C	622/683 (91%)	615 (99%)	7 (1%)	65	74
1	D	623/683 (91%)	617 (99%)	6 (1%)	68	76
All	All	2508/2732 (92%)	2479 (99%)	29 (1%)	63	73

All (29) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	47	ILE
1	A	112	GLN
1	A	256	SER

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Mol	Chain	Res	Type
1	A	274	HIS
1	A	450	TYR
1	A	480	THR
1	A	612	ILE
1	A	629	MET
1	A	795	VAL
1	B	13	GLN
1	B	43	LEU
1	B	382	LEU
1	B	450	TYR
1	B	480	THR
1	B	523	TYR
1	B	773	CYS
1	C	48	ASP
1	C	112	GLN
1	C	177	TYR
1	C	321	VAL
1	C	394	THR
1	C	480	THR
1	C	629	MET
1	D	112	GLN
1	D	116	ASP
1	D	321	VAL
1	D	344	ASN
1	D	523	TYR
1	D	791	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	46	HIS
1	B	46	HIS
1	B	344	ASN
1	B	726	ASN
1	C	164	ASN
1	C	298	ASN
1	C	435	HIS
1	D	46	HIS
1	D	83	ASN
1	D	167	ASN
1	D	359	ASN
1	D	418	ASN

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Mol	Chain	Res	Type
1	D	726	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

8 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
2	NAG	A	901	-	15,15,15	0.14	0	21,21,21	0.27	0
3	6ZQ	A	902	-	36,36,36	2.05	8 (22%)	48,50,50	1.95	14 (29%)
2	NAG	C	901	-	14,14,15	0.36	0	17,19,21	0.59	0
2	NAG	D	901	-	14,14,15	0.31	0	17,19,21	0.36	0
2	NAG	B	901	-	14,14,15	0.31	0	17,19,21	0.48	0
3	6ZQ	B	902	-	36,36,36	2.05	8 (22%)	48,50,50	1.63	13 (27%)
3	6ZQ	D	902	-	36,36,36	2.03	6 (16%)	48,50,50	1.75	13 (27%)
3	6ZQ	C	902	-	36,36,36	2.07	9 (25%)	48,50,50	1.79	11 (22%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

'-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	A	901	-	-	0/6/26/26	0/1/1/1
3	6ZQ	A	902	-	-	7/17/17/17	0/4/4/4
2	NAG	C	901	-	-	0/6/23/26	0/1/1/1
2	NAG	D	901	-	-	0/6/23/26	0/1/1/1
2	NAG	B	901	-	-	0/6/23/26	0/1/1/1
3	6ZQ	B	902	-	-	5/17/17/17	0/4/4/4
3	6ZQ	D	902	-	-	6/17/17/17	0/4/4/4
3	6ZQ	C	902	-	-	3/17/17/17	0/4/4/4

All (31) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	902	6ZQ	OAA-CAJ	9.00	1.40	1.22
3	D	902	6ZQ	OAA-CAJ	8.73	1.40	1.22
3	B	902	6ZQ	OAA-CAJ	8.72	1.40	1.22
3	A	902	6ZQ	OAA-CAJ	8.58	1.39	1.22
3	A	902	6ZQ	CAJ-NAK	-3.77	1.33	1.40
3	B	902	6ZQ	CAJ-NAK	-3.70	1.33	1.40
3	D	902	6ZQ	CAJ-NAK	-3.61	1.33	1.40
3	C	902	6ZQ	CAT-CAS	3.51	1.54	1.49
3	B	902	6ZQ	CAT-CAS	3.45	1.54	1.49
3	A	902	6ZQ	CAT-CAS	3.38	1.53	1.49
3	C	902	6ZQ	CAJ-NAK	-3.34	1.34	1.40
3	A	902	6ZQ	CAI-CAQ	-3.13	1.36	1.40
3	D	902	6ZQ	CAI-CAQ	-3.12	1.36	1.40
3	B	902	6ZQ	CAI-CAQ	-3.08	1.36	1.40
3	C	902	6ZQ	CAI-CAQ	-3.05	1.36	1.40
3	D	902	6ZQ	CAT-CAS	3.01	1.53	1.49
3	A	902	6ZQ	CAI-CAJ	-2.47	1.42	1.47
3	D	902	6ZQ	CAI-CAJ	-2.46	1.42	1.47
3	B	902	6ZQ	CAI-CAJ	-2.41	1.42	1.47
3	A	902	6ZQ	CAS-NAK	-2.35	1.34	1.38
3	C	902	6ZQ	CAC-CL1	2.27	1.79	1.73
3	D	902	6ZQ	CAC-CL1	2.25	1.79	1.73
3	A	902	6ZQ	CAC-CL1	2.24	1.78	1.73
3	B	902	6ZQ	CAC-CL1	2.23	1.78	1.73
3	C	902	6ZQ	CAS-NAK	-2.09	1.34	1.38
3	C	902	6ZQ	CAI-CAJ	-2.08	1.43	1.47
3	C	902	6ZQ	CAP-CAQ	2.08	1.43	1.40
3	C	902	6ZQ	CAH-CAI	2.06	1.43	1.39
3	B	902	6ZQ	CAP-CAQ	2.02	1.43	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	902	6ZQ	CAS-NAK	-2.02	1.34	1.38
3	A	902	6ZQ	CAP-CAQ	2.01	1.43	1.40

All (51) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	902	6ZQ	CAU-CAT-CAS	7.10	120.88	112.04
3	C	902	6ZQ	CAU-CAT-CAS	5.09	118.38	112.04
3	D	902	6ZQ	CAI-CAJ-NAK	4.74	121.18	114.69
3	A	902	6ZQ	CAI-CAJ-NAK	4.65	121.06	114.69
3	B	902	6ZQ	CAI-CAJ-NAK	4.63	121.02	114.69
3	C	902	6ZQ	CAI-CAJ-NAK	4.47	120.81	114.69
3	A	902	6ZQ	CAI-CAQ-NAR	-3.74	118.66	122.41
3	D	902	6ZQ	CAI-CAQ-NAR	-3.70	118.70	122.41
3	C	902	6ZQ	CAI-CAQ-NAR	-3.63	118.76	122.41
3	B	902	6ZQ	CAI-CAQ-NAR	-3.55	118.85	122.41
3	D	902	6ZQ	CAT-CAS-NAR	-3.54	115.39	119.75
3	A	902	6ZQ	CAU-CAV-NAY	3.41	121.23	116.06
3	D	902	6ZQ	CAL-NAK-CAS	3.18	123.79	120.53
3	D	902	6ZQ	CAU-CAT-CAS	3.14	115.95	112.04
3	C	902	6ZQ	CAU-CAV-NAY	3.07	120.71	116.06
3	C	902	6ZQ	CAT-CAS-NAR	-3.06	115.98	119.75
3	B	902	6ZQ	CAU-CAV-NAY	2.90	120.46	116.06
3	D	902	6ZQ	CAU-CAV-NAY	2.90	120.45	116.06
3	B	902	6ZQ	CAZ-NAY-CAV	2.81	121.58	118.17
3	C	902	6ZQ	CAZ-NAY-CAV	2.76	121.51	118.17
3	A	902	6ZQ	CAQ-CAI-CAJ	-2.68	117.16	119.54
3	C	902	6ZQ	CAQ-CAI-CAJ	-2.64	117.19	119.54
3	D	902	6ZQ	CAZ-NAY-CAV	2.60	121.32	118.17
3	A	902	6ZQ	CAZ-NAY-CAV	2.60	121.32	118.17
3	C	902	6ZQ	CAH-CAI-CAJ	2.52	123.37	118.37
3	C	902	6ZQ	CAQ-NAR-CAS	2.51	123.34	117.26
3	A	902	6ZQ	CAT-CAS-NAR	-2.47	116.71	119.75
3	B	902	6ZQ	CAQ-CAI-CAJ	-2.46	117.36	119.54
3	A	902	6ZQ	CAQ-NAR-CAS	2.44	123.17	117.26
3	B	902	6ZQ	CBB-CAZ-NAY	2.44	120.11	115.85
3	B	902	6ZQ	CAO-CAG-CAH	-2.42	120.04	123.23
3	A	902	6ZQ	CAO-CAG-CAH	-2.40	120.07	123.23
3	A	902	6ZQ	CBB-CAZ-NAY	2.39	120.03	115.85
3	B	902	6ZQ	CAU-CAT-CAS	2.39	115.02	112.04
3	C	902	6ZQ	CBB-CAZ-NAY	2.36	119.98	115.85
3	B	902	6ZQ	CAT-CAS-NAR	-2.36	116.84	119.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	902	6ZQ	CAO-CAG-CAH	-2.35	120.13	123.23
3	D	902	6ZQ	CBA-CAX-CAW	-2.35	117.22	120.24
3	B	902	6ZQ	CAL-NAK-CAS	2.32	122.91	120.53
3	A	902	6ZQ	CAP-CAQ-NAR	2.27	121.50	118.61
3	A	902	6ZQ	CAT-CAU-CAV	-2.26	107.26	113.00
3	D	902	6ZQ	CAQ-CAI-CAJ	-2.25	117.54	119.54
3	B	902	6ZQ	CAP-CAQ-NAR	2.25	121.48	118.61
3	D	902	6ZQ	CAQ-NAR-CAS	2.24	122.71	117.26
3	B	902	6ZQ	CAQ-NAR-CAS	2.24	122.70	117.26
3	D	902	6ZQ	CAP-CAQ-NAR	2.16	121.36	118.61
3	A	902	6ZQ	CBA-CAX-CAW	-2.15	117.48	120.24
3	D	902	6ZQ	CBB-CAZ-NAY	2.14	119.59	115.85
3	C	902	6ZQ	CAO-CAG-CAH	-2.05	120.52	123.23
3	A	902	6ZQ	CAH-CAI-CAJ	2.04	122.42	118.37
3	B	902	6ZQ	CBA-CAX-CAW	-2.02	117.65	120.24

There are no chirality outliers.

All (21) torsion outliers are listed below:

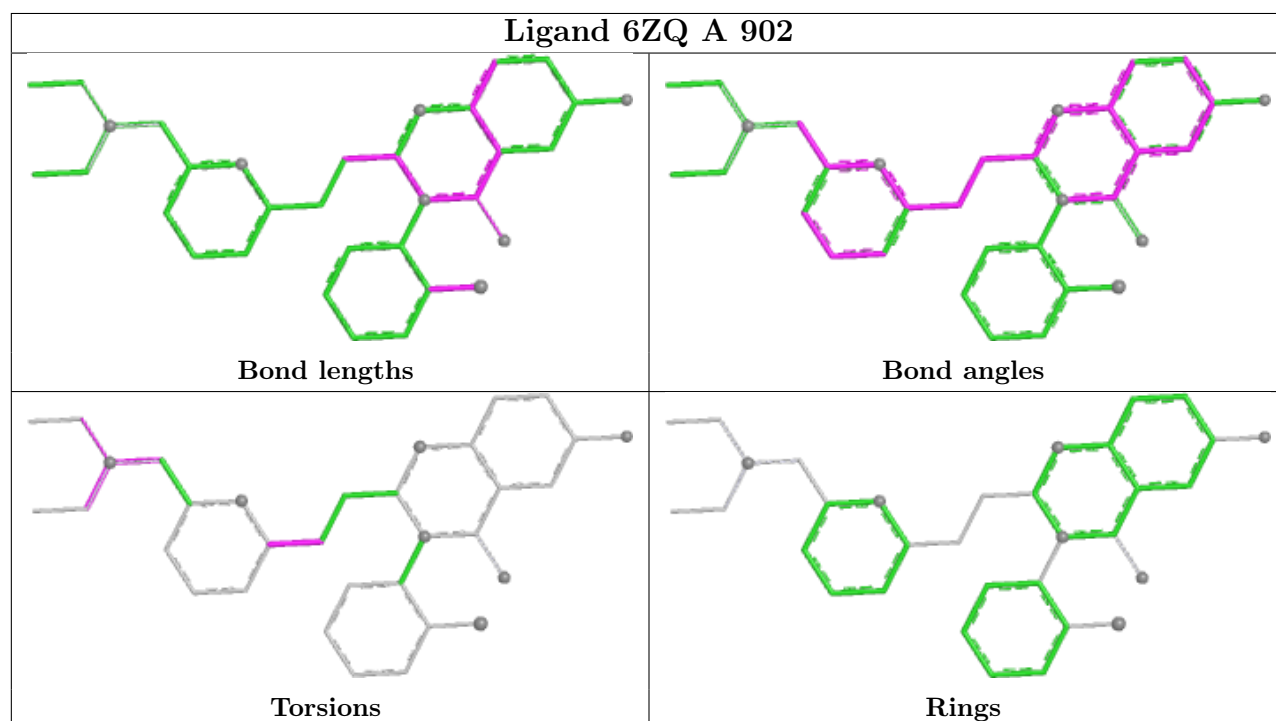
Mol	Chain	Res	Type	Atoms
3	D	902	6ZQ	CAC-CAL-NAK-CAS
3	D	902	6ZQ	CBG-CBF-NBE-CBD
3	B	902	6ZQ	CBG-CBF-NBE-CBB
3	B	902	6ZQ	CBG-CBF-NBE-CBD
3	C	902	6ZQ	CBG-CBF-NBE-CBD
3	D	902	6ZQ	CBG-CBF-NBE-CBB
3	C	902	6ZQ	CBG-CBF-NBE-CBB
3	A	902	6ZQ	CBG-CBF-NBE-CBD
3	A	902	6ZQ	CBG-CBF-NBE-CBB
3	A	902	6ZQ	CBC-CBD-NBE-CBB
3	A	902	6ZQ	CBC-CBD-NBE-CBF
3	D	902	6ZQ	CAT-CAU-CAV-CAW
3	B	902	6ZQ	CAT-CAU-CAV-CAW
3	A	902	6ZQ	CAT-CAU-CAV-NAY
3	B	902	6ZQ	CAT-CAU-CAV-NAY
3	D	902	6ZQ	CAT-CAU-CAV-NAY
3	A	902	6ZQ	CAZ-CBB-NBE-CBF
3	B	902	6ZQ	CAC-CAL-NAK-CAS
3	C	902	6ZQ	CAC-CAL-NAK-CAS
3	A	902	6ZQ	CAT-CAU-CAV-CAW
3	D	902	6ZQ	CAZ-CBB-NBE-CBF

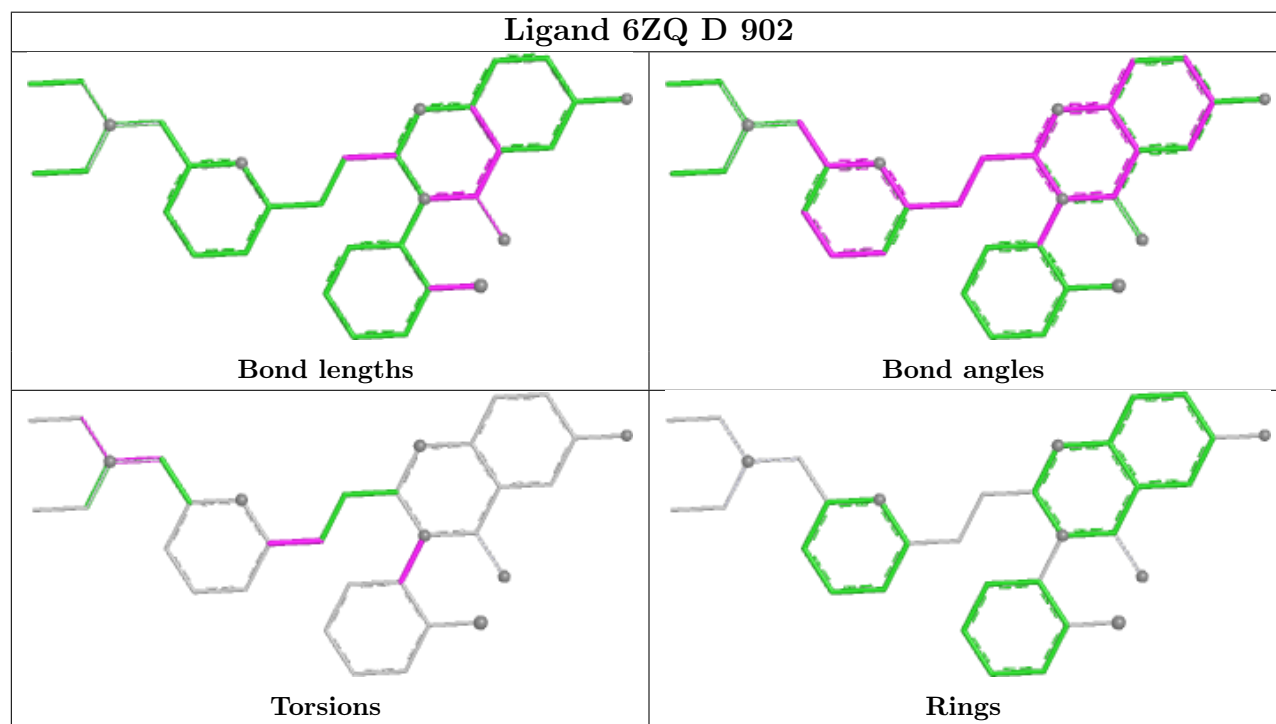
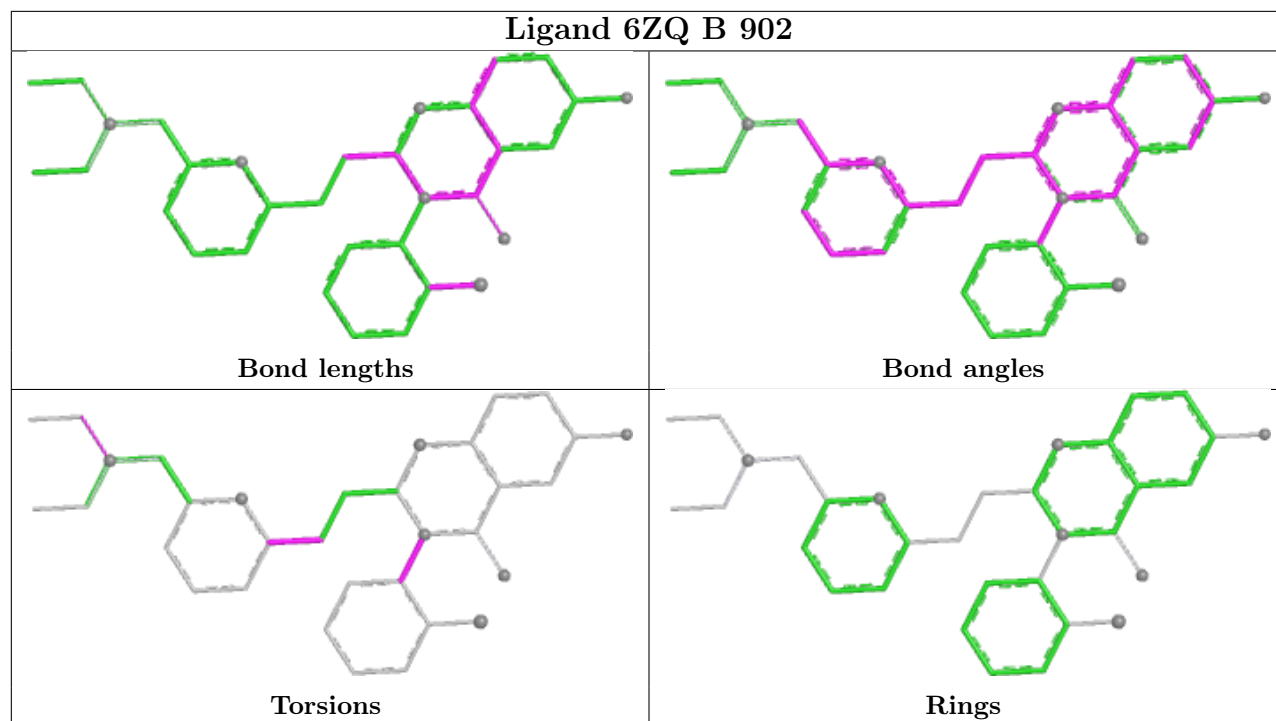
There are no ring outliers.

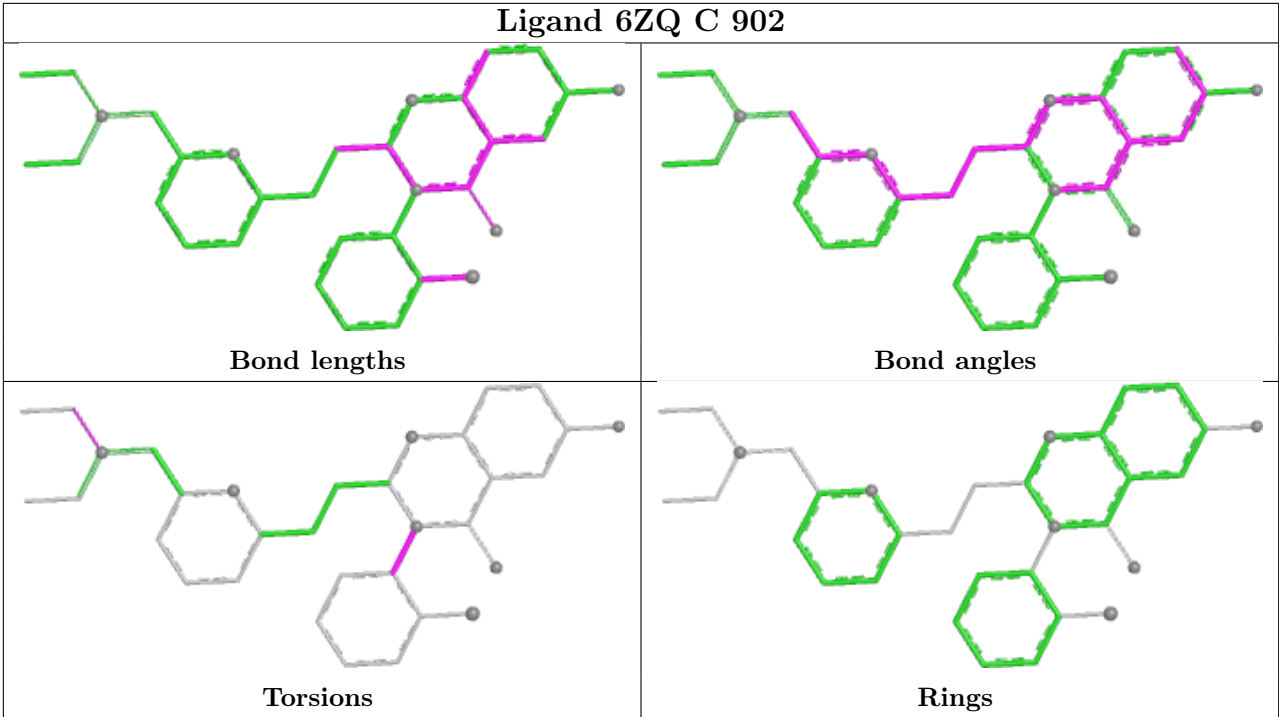
4 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	902	6ZQ	1	0
3	B	902	6ZQ	1	0
3	D	902	6ZQ	3	0
3	C	902	6ZQ	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.







5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	C	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	629:MET	C	630:VAL	N	1.67

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	777/803 (96%)	-0.03	32 (4%)	41	36	141, 251, 384, 431	0
1	B	773/803 (96%)	0.06	57 (7%)	20	23	128, 237, 362, 483	0
1	C	773/803 (96%)	-0.02	34 (4%)	39	34	160, 288, 389, 435	0
1	D	777/803 (96%)	0.16	55 (7%)	22	24	176, 299, 395, 443	0
All	All	3100/3212 (96%)	0.04	178 (5%)	29	29	128, 272, 387, 483	0

All (178) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	104	ASP	11.9
1	D	143	LEU	8.0
1	A	531	PHE	7.3
1	A	186	LEU	6.9
1	D	79	LYS	6.8
1	D	142	GLY	6.5
1	D	139	SER	6.2
1	B	157	LYS	6.2
1	C	762	LEU	6.2
1	D	140	ASP	6.1
1	D	497	SER	5.8
1	C	270	TYR	5.8
1	C	79	LYS	5.7
1	D	484	VAL	5.7
1	A	187	LYS	5.4
1	C	534	ILE	5.4
1	C	531	PHE	5.4
1	D	428	LEU	5.2
1	A	528	CYS	5.1
1	D	496	MET	5.0
1	A	529	ILE	4.9

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Mol	Chain	Res	Type	RSRZ
1	A	527	MET	4.7
1	A	654	SER	4.6
1	B	607	PHE	4.6
1	D	424	TYR	4.5
1	D	431	GLU	4.1
1	B	753	LEU	4.1
1	A	532	ALA	4.0
1	B	797	TYR	4.0
1	D	762	LEU	3.9
1	C	535	GLY	3.9
1	B	165	VAL	3.9
1	C	538	VAL	3.9
1	B	654	SER	3.7
1	C	632	PRO	3.6
1	D	485	ARG	3.6
1	D	157	LYS	3.5
1	B	133	PHE	3.5
1	B	432	ILE	3.5
1	D	498	LEU	3.4
1	D	480	THR	3.4
1	B	523	TYR	3.4
1	D	39	SER	3.4
1	A	615	SER	3.4
1	C	186	LEU	3.4
1	B	203	ASP	3.4
1	D	732	TYR	3.3
1	B	750	VAL	3.2
1	D	495	PHE	3.2
1	A	276	ALA	3.2
1	A	29	PHE	3.2
1	B	754	SER	3.1
1	A	586	GLN	3.1
1	C	30	ARG	3.1
1	D	141	ARG	3.1
1	D	763	LYS	3.1
1	D	147	GLN	3.1
1	D	768	TYR	3.1
1	C	530	VAL	3.0
1	C	180	LEU	3.0
1	B	181	PHE	3.0
1	B	459	ILE	3.0
1	A	661	ARG	3.0

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Mol	Chain	Res	Type	RSRZ
1	A	755	GLU	3.0
1	A	530	VAL	3.0
1	D	144	SER	2.9
1	D	103	THR	2.9
1	A	83	ASN	2.9
1	A	80	LYS	2.9
1	B	205	VAL	2.9
1	D	167	ASN	2.9
1	C	532	ALA	2.8
1	C	432	ILE	2.8
1	D	481	ILE	2.8
1	B	196	CYS	2.8
1	D	591	ILE	2.8
1	D	510	SER	2.8
1	A	657	GLU	2.8
1	D	586	GLN	2.8
1	C	191	ARG	2.7
1	B	699	LYS	2.7
1	B	184	LEU	2.7
1	C	139	SER	2.7
1	D	785	SER	2.7
1	B	341	LEU	2.7
1	D	710	GLU	2.7
1	A	652	SER	2.7
1	B	204	ILE	2.7
1	B	604	VAL	2.7
1	D	197	GLU	2.7
1	B	800	VAL	2.7
1	C	143	LEU	2.7
1	A	538	VAL	2.6
1	D	494	PRO	2.6
1	A	18	PHE	2.6
1	D	759	LEU	2.6
1	D	587	GLN	2.6
1	B	544	SER	2.6
1	C	658	PHE	2.6
1	B	333	LEU	2.6
1	C	82	VAL	2.6
1	B	416	GLU	2.6
1	C	81	SER	2.6
1	A	534	ILE	2.6
1	C	631	SER	2.5

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Mol	Chain	Res	Type	RSRZ
1	B	648	GLY	2.5
1	D	731	GLY	2.5
1	B	431	GLU	2.5
1	C	457	THR	2.5
1	B	104	ASP	2.5
1	C	744	THR	2.5
1	D	293	THR	2.5
1	D	730	LYS	2.5
1	B	144	SER	2.5
1	D	11	SER	2.5
1	A	309	ARG	2.5
1	B	630	VAL	2.5
1	A	639	LEU	2.4
1	D	482	THR	2.4
1	C	536	VAL	2.4
1	A	653	GLY	2.4
1	B	603	GLY	2.4
1	B	646	ALA	2.4
1	B	291	VAL	2.4
1	B	340	GLY	2.4
1	C	223	ALA	2.4
1	B	290	GLN	2.4
1	C	510	SER	2.4
1	B	254	LEU	2.4
1	B	792	VAL	2.4
1	C	533	TYR	2.4
1	D	318	ASN	2.4
1	B	631	SER	2.4
1	B	235	ILE	2.4
1	C	490	ASP	2.4
1	A	104	ASP	2.4
1	A	383	THR	2.3
1	C	431	GLU	2.3
1	B	428	LEU	2.3
1	D	314	ASP	2.3
1	B	515	PHE	2.3
1	A	181	PHE	2.3
1	A	314	ASP	2.3
1	B	79	LYS	2.3
1	B	698	GLY	2.3
1	A	33	MET	2.3
1	B	595	SER	2.3

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Mol	Chain	Res	Type	RSRZ
1	D	345	ILE	2.3
1	B	141	ARG	2.3
1	C	629	MET	2.3
1	B	170	ASN	2.2
1	D	36	PHE	2.2
1	D	476	ILE	2.2
1	B	755	GLU	2.2
1	D	733	GLY	2.1
1	B	220	TYR	2.1
1	C	265	LEU	2.1
1	C	241	GLU	2.1
1	D	739	GLY	2.1
1	B	177	TYR	2.1
1	C	654	SER	2.1
1	A	266	GLU	2.1
1	D	319	PRO	2.1
1	B	255	VAL	2.1
1	C	670	MET	2.1
1	B	234	LYS	2.1
1	B	776	LYS	2.1
1	D	479	LEU	2.1
1	B	80	LYS	2.1
1	B	180	LEU	2.1
1	B	350	ASN	2.1
1	B	357	THR	2.1
1	D	280	TYR	2.0
1	D	528	CYS	2.0
1	D	707	THR	2.0
1	A	730	LYS	2.0
1	B	379	LYS	2.0
1	D	49	ASN	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 ⓘ

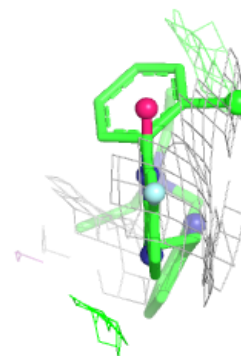
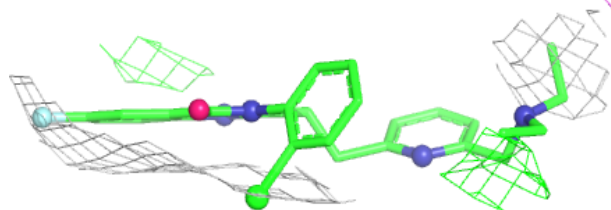
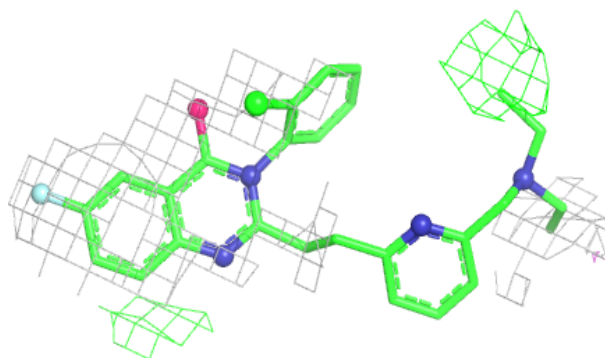
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q<0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	NAG	D	901	14/15	0.73	0.11	228,316,336,339	0
3	6ZQ	D	902	33/33	0.78	0.11	240,314,354,385	0
2	NAG	A	901	15/15	0.84	0.08	72,132,149,152	0
2	NAG	B	901	14/15	0.85	0.10	196,210,271,277	0
3	6ZQ	A	902	33/33	0.88	0.10	233,285,399,416	0
2	NAG	C	901	14/15	0.88	0.10	264,288,305,316	0
3	6ZQ	C	902	33/33	0.90	0.12	244,354,442,442	0
3	6ZQ	B	902	33/33	0.90	0.11	295,323,434,439	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.

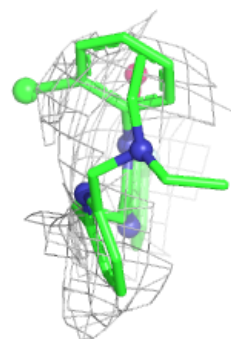
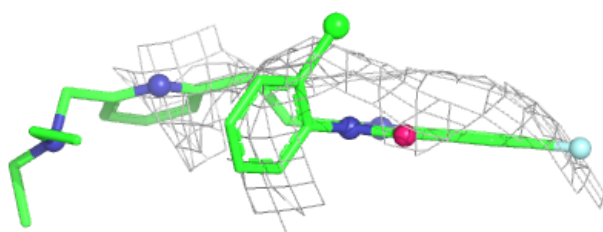
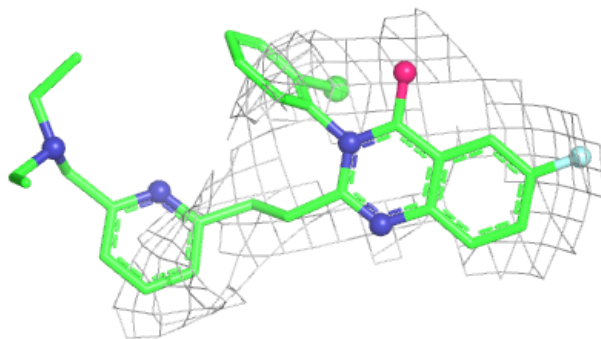
Electron density around 6ZQ D 902:

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

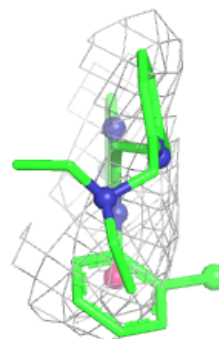
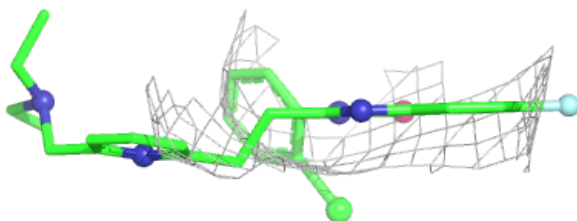
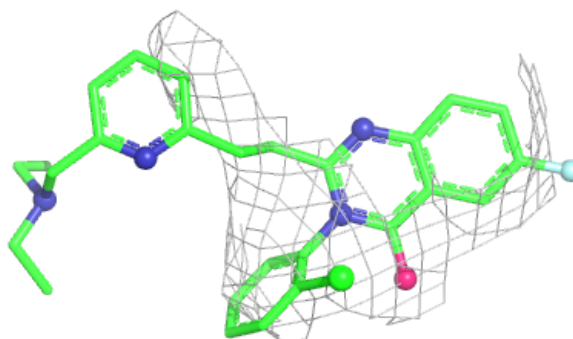


Electron density around 6ZQ A 902:

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

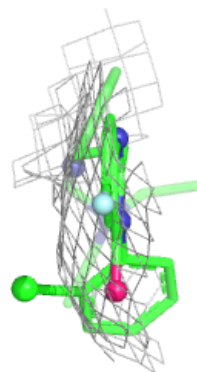
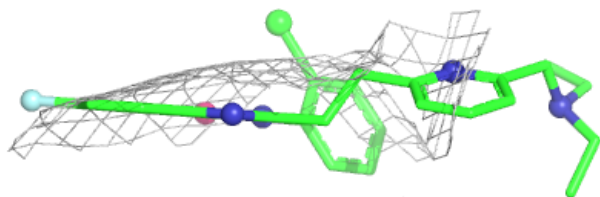
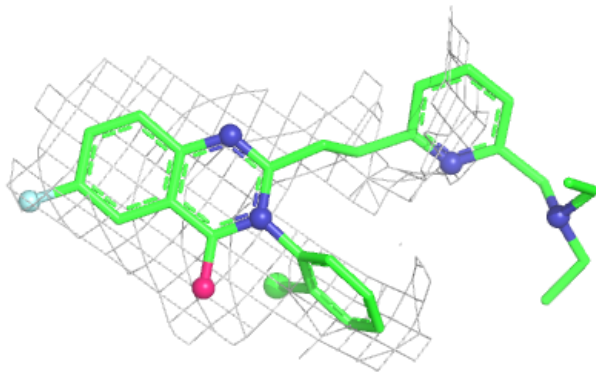
**Electron density around 6ZQ C 902:**

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



Electron density around 6ZQ B 902:

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



6.5 Other polymers ⓘ

There are no such residues in this entry.