



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 04:40 PM UTC

PDB ID : 6UE6 / pdb_00006ue6
Title : PWWP1 domain of NSD2 in complex with MR837
Authors : Liu, Y.; Tempel, W.; De Freitas, R.F.; Schapira, M.; Brown, P.J.; Bountra, C.;
Edwards, A.M.; Arrowsmith, C.H.; Min, J.; Structural Genomics Consortium
(SGC)
Deposited on : 2019-09-20
Resolution : 2.40 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

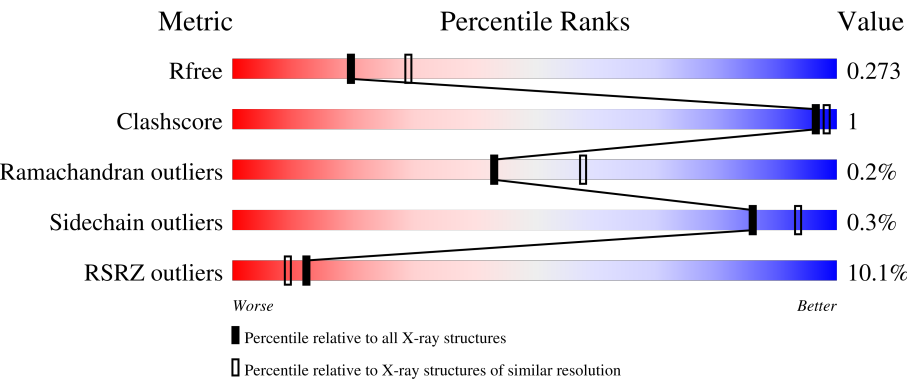
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.40 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	4912 (2.40-2.40)
Clashscore	190562	5391 (2.40-2.40)
Ramachandran outliers	187476	5320 (2.40-2.40)
Sidechain outliers	187428	5321 (2.40-2.40)
RSRZ outliers	180081	4916 (2.40-2.40)

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	141	11% 91% 6%
1	B	141	3% 84% 12%
1	C	141	10% 75% 24%
1	D	141	14% 83% 15%

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Mol	Chain	Length	Quality of chain
1	E	141	9% 88% • 11%
1	F	141	11% 73% • • 23%
1	G	141	6% 82% • 14%
1	H	141	6% 87% • 9%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 7347 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.

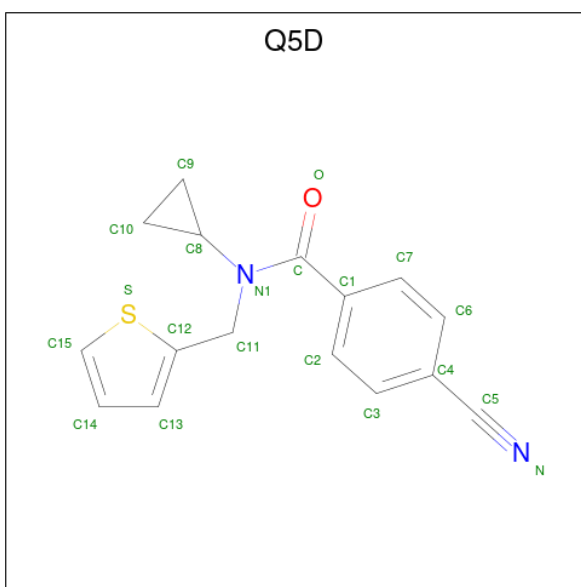
- Molecule 1 is a protein called Histone-lysine N-methyltransferase NSD2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	132	Total	C	N	O	S	0	0	0
			968	634	159	170	5			
1	B	124	Total	C	N	O	S	0	0	1
			926	606	152	163	5			
1	C	107	Total	C	N	O	S	0	0	3
			795	522	133	136	4			
1	D	120	Total	C	N	O	S	0	0	2
			861	558	148	150	5			
1	E	126	Total	C	N	O	S	0	0	1
			908	591	151	161	5			
1	F	108	Total	C	N	O	S	0	0	0
			826	540	138	143	5			
1	G	121	Total	C	N	O	S	0	0	1
			910	601	148	156	5			
1	H	128	Total	C	N	O	S	0	0	0
			942	614	159	164	5			

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	210	GLY	-	expression tag	UNP O96028
B	210	GLY	-	expression tag	UNP O96028
C	210	GLY	-	expression tag	UNP O96028
D	210	GLY	-	expression tag	UNP O96028
E	210	GLY	-	expression tag	UNP O96028
F	210	GLY	-	expression tag	UNP O96028
G	210	GLY	-	expression tag	UNP O96028
H	210	GLY	-	expression tag	UNP O96028

- Molecule 2 is 4-cyano-N-cyclopropyl-N-[(thiophen-2-yl)methyl]benzamide (CCD ID: Q5D) (formula: C₁₆H₁₄N₂OS) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	S	0	0
			20	16	2	1	1		
2	B	1	Total	C	N	O	S	0	0
			20	16	2	1	1		
2	C	1	Total	C	N	O	S	0	0
			20	16	2	1	1		
2	D	1	Total	C	N	O	S	0	0
			20	16	2	1	1		
2	E	1	Total	C	N	O	S	0	0
			20	16	2	1	1		
2	F	1	Total	C	N	O	S	0	0
			20	16	2	1	1		
2	G	1	Total	C	N	O	S	0	0
			20	16	2	1	1		
2	H	1	Total	C	N	O	S	0	0
			20	16	2	1	1		

- Molecule 3 is UNKNOWN ATOM OR ION (CCD ID: UNX) (formula: X).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	9	Total	X	0	0
			9	9		
3	B	11	Total	X	0	0
			11	11		
3	C	5	Total	X	0	0
			5	5		
3	D	3	Total	X	0	0
			3	3		

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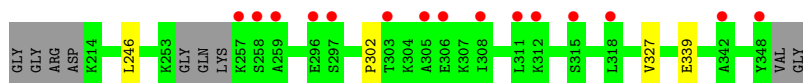
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	E	5	Total 5	X 5	0	0
3	F	4	Total 4	X 4	0	0
3	G	11	Total 11	X 11	0	0
3	H	3	Total 3	X 3	0	0

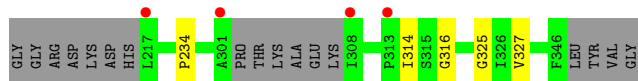
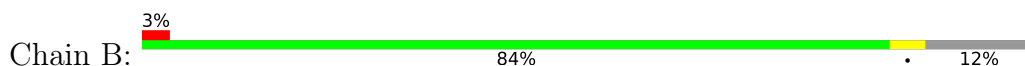
3 Residue-property plots [i](#)

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

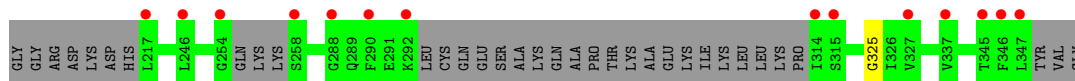
- Molecule 1: Histone-lysine N-methyltransferase NSD2



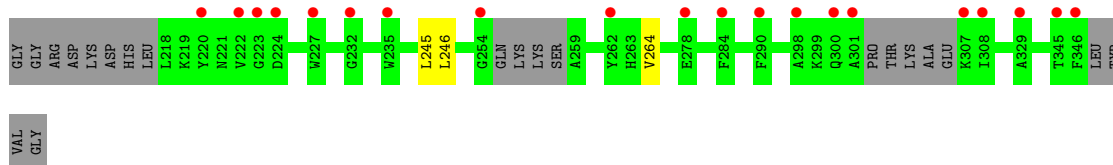
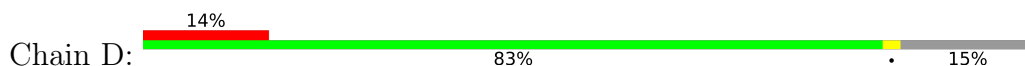
- Molecule 1: Histone-lysine N-methyltransferase NSD2



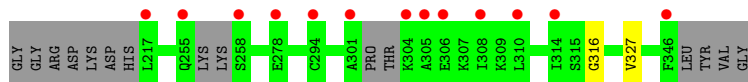
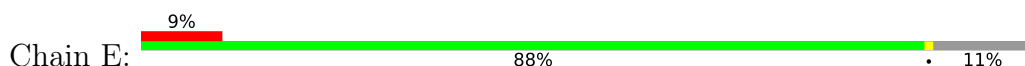
- Molecule 1: Histone-lysine N-methyltransferase NSD2



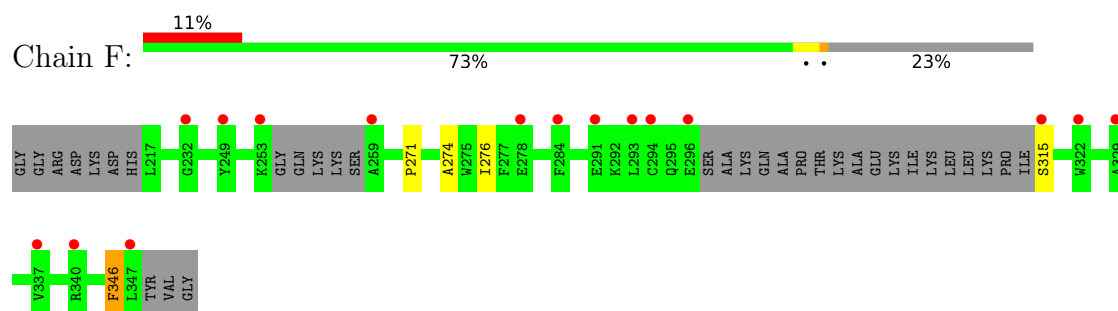
- Molecule 1: Histone-lysine N-methyltransferase NSD2



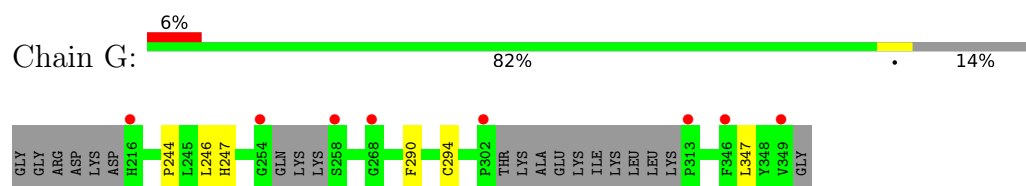
- Molecule 1: Histone-lysine N-methyltransferase NSD2



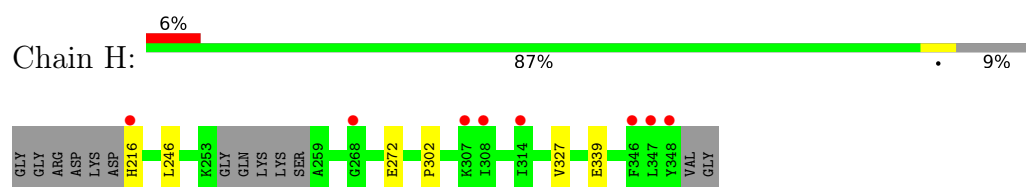
- Molecule 1: Histone-lysine N-methyltransferase NSD2



- Molecule 1: Histone-lysine N-methyltransferase NSD2



- Molecule 1: Histone-lysine N-methyltransferase NSD2



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	69.21Å 70.32Å 228.83Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.30 – 2.40 45.30 – 2.40	Depositor EDS
% Data completeness (in resolution range)	99.7 (45.30-2.40) 99.6 (45.30-2.40)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.39 (at 2.39Å)	Xtriage
Refinement program	BUSTER 2.10.3	Depositor
R, R_{free}	0.235 , 0.252 0.248 , 0.273	Depositor DCC
R_{free} test set	2275 reflections (5.10%)	wwPDB-VP
Wilson B-factor (Å ²)	52.9	Xtriage
Anisotropy	0.374	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 60.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	0.058 for k,h,-l	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	7347	wwPDB-VP
Average B, all atoms (Å ²)	60.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.09% 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: UNX, Q5D

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	0.84	0/995	1.29	1/1353 (0.1%)
1	B	0.84	0/951	1.29	4/1290 (0.3%)
1	C	0.85	0/818	1.26	2/1109 (0.2%)
1	D	0.80	0/885	1.25	0/1204
1	E	0.83	0/932	1.27	1/1267 (0.1%)
1	F	0.86	0/850	1.24	3/1151 (0.3%)
1	G	0.89	0/937	1.26	0/1271
1	H	0.87	0/969	1.30	5/1318 (0.4%)
All	All	0.85	0/7337	1.27	16/9963 (0.2%)

There are no bond length outliers.

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	H	339	GLU	CA-C-N	6.24	128.56	120.44
1	H	339	GLU	C-N-CA	6.24	128.56	120.44
1	B	316	GLY	CA-C-N	5.90	128.11	120.44
1	B	316	GLY	C-N-CA	5.90	128.11	120.44
1	F	346	PHE	CA-CB-CG	5.71	119.51	113.80
1	A	339	GLU	CB-CG-CD	5.70	122.30	112.60
1	H	216	HIS	CA-C-N	5.32	128.31	120.82
1	H	216	HIS	C-N-CA	5.32	128.31	120.82
1	B	325	GLY	CA-C-N	5.22	127.14	120.56
1	B	325	GLY	C-N-CA	5.22	127.14	120.56
1	E	316	GLY	N-CA-C	5.08	120.59	111.34
1	C	325	GLY	CA-C-N	5.07	126.94	120.56
1	C	325	GLY	C-N-CA	5.07	126.94	120.56
1	H	272	GLU	CB-CG-CD	5.05	121.19	112.60
1	F	315	SER	CA-C-N	5.02	125.51	119.94
1	F	315	SER	C-N-CA	5.02	125.51	119.94

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	968	0	833	4	0
1	B	926	0	843	3	0
1	C	795	0	703	0	0
1	D	861	0	727	2	0
1	E	908	0	774	2	0
1	F	826	0	737	2	0
1	G	910	0	833	4	0
1	H	942	0	825	3	0
2	A	20	0	0	0	0
2	B	20	0	0	0	0
2	C	20	0	0	0	0
2	D	20	0	0	0	0
2	E	20	0	0	0	0
2	F	20	0	0	0	0
2	G	20	0	0	0	0
2	H	20	0	0	0	0
3	A	9	0	0	0	0
3	B	11	0	0	0	0
3	C	5	0	0	0	0
3	D	3	0	0	0	0
3	E	5	0	0	0	0
3	F	4	0	0	0	0
3	G	11	0	0	0	0
3	H	3	0	0	0	0
All	All	7347	0	6275	13	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 (13) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:246:LEU:HD11	1:B:327:VAL:HG13	1.57	0.87
1:A:246:LEU:HD11	1:B:327:VAL:CG1	2.23	0.69
1:E:327:VAL:HG13	1:H:246:LEU:HD11	1.79	0.62
1:G:247:HIS:HD2	1:G:347:LEU:HD22	1.66	0.60
1:F:271:PRO:HB2	1:F:346:PHE:CZ	2.36	0.60
1:A:327:VAL:CG1	1:D:246:LEU:HD11	2.33	0.58
1:E:327:VAL:CG1	1:H:246:LEU:HD11	2.33	0.58
1:G:246:LEU:HD11	1:H:327:VAL:HG12	1.90	0.52
1:A:327:VAL:HG12	1:D:246:LEU:HD11	1.97	0.46
1:G:244:PRO:HA	1:G:347:LEU:HD23	1.97	0.46
1:B:234:PRO:HG3	1:B:314:ILE:HD13	2.00	0.44
1:G:290:PHE:CZ	1:G:294:CYS:SG	3.11	0.43
1:F:274:ALA:HB3	1:F:276:ILE:HD11	2.01	0.43

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	128/141 (91%)	126 (98%)	1 (1%)	1 (1%)	16	25
1	B	120/141 (85%)	120 (100%)	0	0	100	100
1	C	101/141 (72%)	100 (99%)	1 (1%)	0	100	100
1	D	114/141 (81%)	114 (100%)	0	0	100	100
1	E	120/141 (85%)	120 (100%)	0	0	100	100
1	F	102/141 (72%)	102 (100%)	0	0	100	100
1	G	115/141 (82%)	114 (99%)	1 (1%)	0	100	100
1	H	124/141 (88%)	123 (99%)	0	1 (1%)	16	25
All	All	924/1128 (82%)	919 (100%)	3 (0%)	2 (0%)	43	58

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	302	PRO
1	H	302	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	76/117 (65%)	76 (100%)	0	100	100
1	B	80/117 (68%)	80 (100%)	0	100	100
1	C	66/117 (56%)	66 (100%)	0	100	100
1	D	68/117 (58%)	66 (97%)	2 (3%)	37	60
1	E	70/117 (60%)	70 (100%)	0	100	100
1	F	72/117 (62%)	72 (100%)	0	100	100
1	G	80/117 (68%)	80 (100%)	0	100	100
1	H	77/117 (66%)	77 (100%)	0	100	100
All	All	589/936 (63%)	587 (100%)	2 (0%)	86	93

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

Mol	Chain	Res	Type
1	D	245	LEU
1	D	264	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	E	261	GLN
1	G	247	HIS

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 59 ligands modelled in this entry, 51 are unknown - leaving 8 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$
2	Q5D	A	2001	-	22,22,22	0.48	0	29,30,30	0.80	1 (3%)
2	Q5D	B	2001	-	22,22,22	0.45	0	29,30,30	0.54	0
2	Q5D	D	2001	-	22,22,22	0.36	0	29,30,30	0.47	0
2	Q5D	G	2001	-	22,22,22	0.41	0	29,30,30	0.59	1 (3%)
2	Q5D	H	2001	-	22,22,22	0.47	0	29,30,30	0.59	1 (3%)
2	Q5D	E	2001	-	22,22,22	0.42	0	29,30,30	0.55	0
2	Q5D	C	2001	-	22,22,22	0.53	0	29,30,30	0.71	1 (3%)
2	Q5D	F	2001	-	22,22,22	0.43	0	29,30,30	0.59	1 (3%)

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	Q5D	A	2001	-	-	0/18/20/20	0/3/3/3
2	Q5D	B	2001	-	-	0/18/20/20	0/3/3/3
2	Q5D	D	2001	-	-	0/18/20/20	0/3/3/3
2	Q5D	G	2001	-	-	0/18/20/20	0/3/3/3
2	Q5D	H	2001	-	-	0/18/20/20	0/3/3/3
2	Q5D	E	2001	-	-	0/18/20/20	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	Q5D	C	2001	-	-	0/18/20/20	0/3/3/3
2	Q5D	F	2001	-	-	0/18/20/20	0/3/3/3

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	2001	Q5D	C9-C8-N1	3.37	122.64	118.46
2	C	2001	Q5D	C9-C8-N1	2.75	121.87	118.46
2	G	2001	Q5D	C9-C8-N1	2.53	121.60	118.46
2	H	2001	Q5D	C9-C8-N1	2.14	121.12	118.46
2	F	2001	Q5D	C9-C8-N1	2.13	121.10	118.46

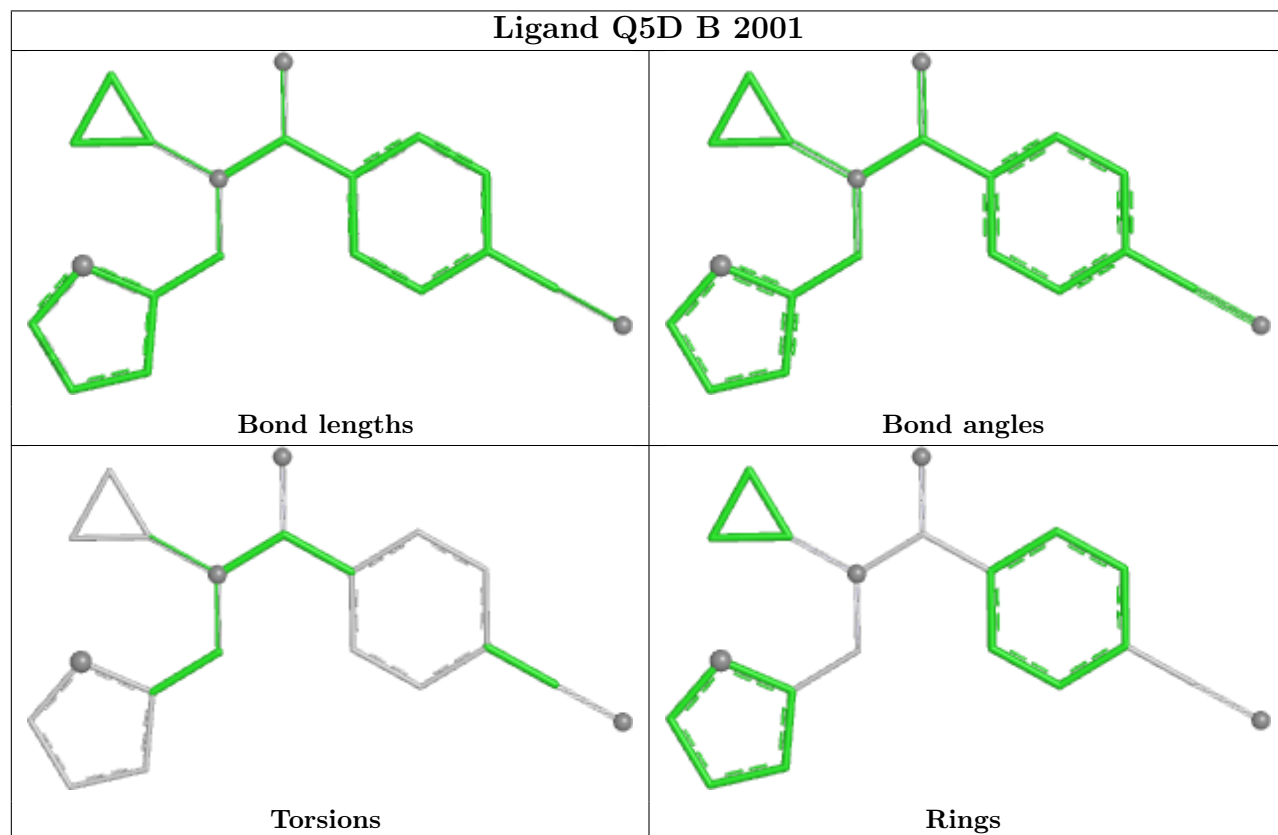
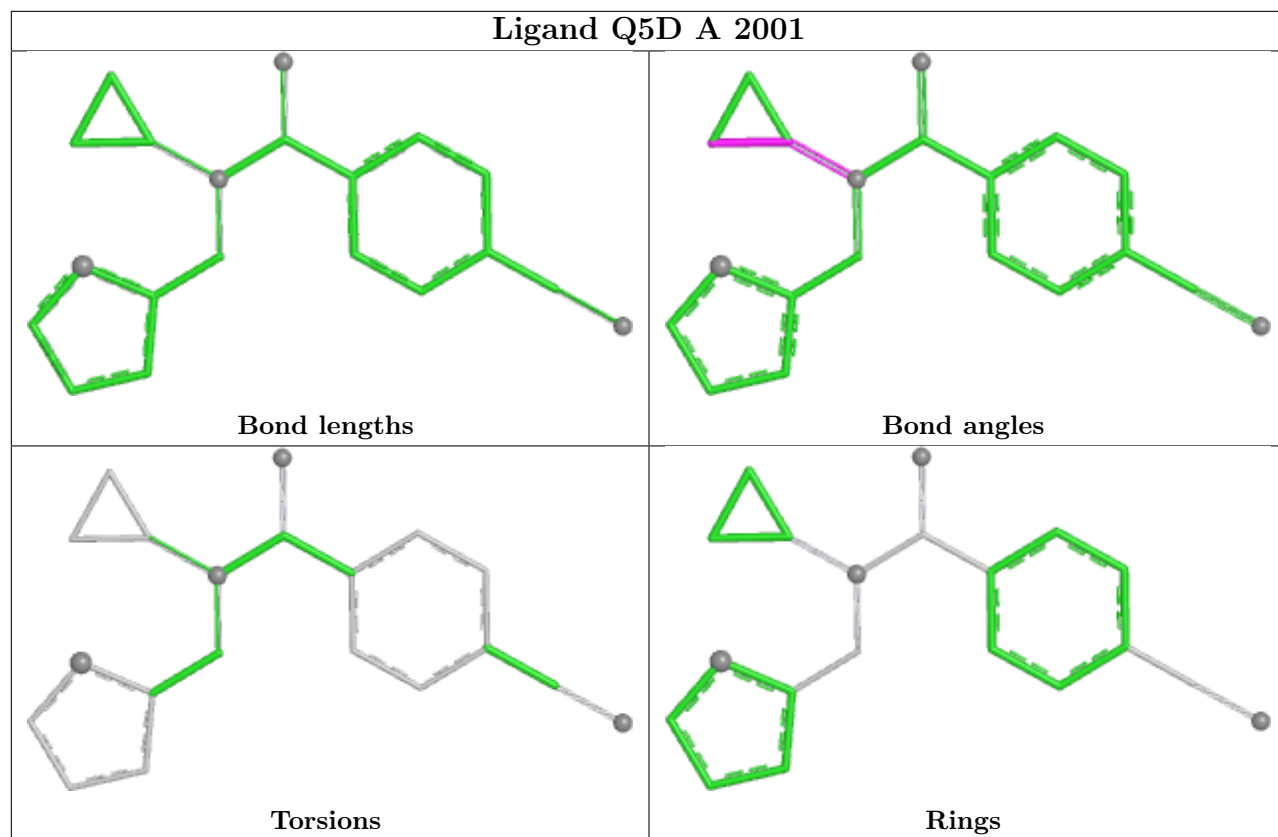
There are no chirality outliers.

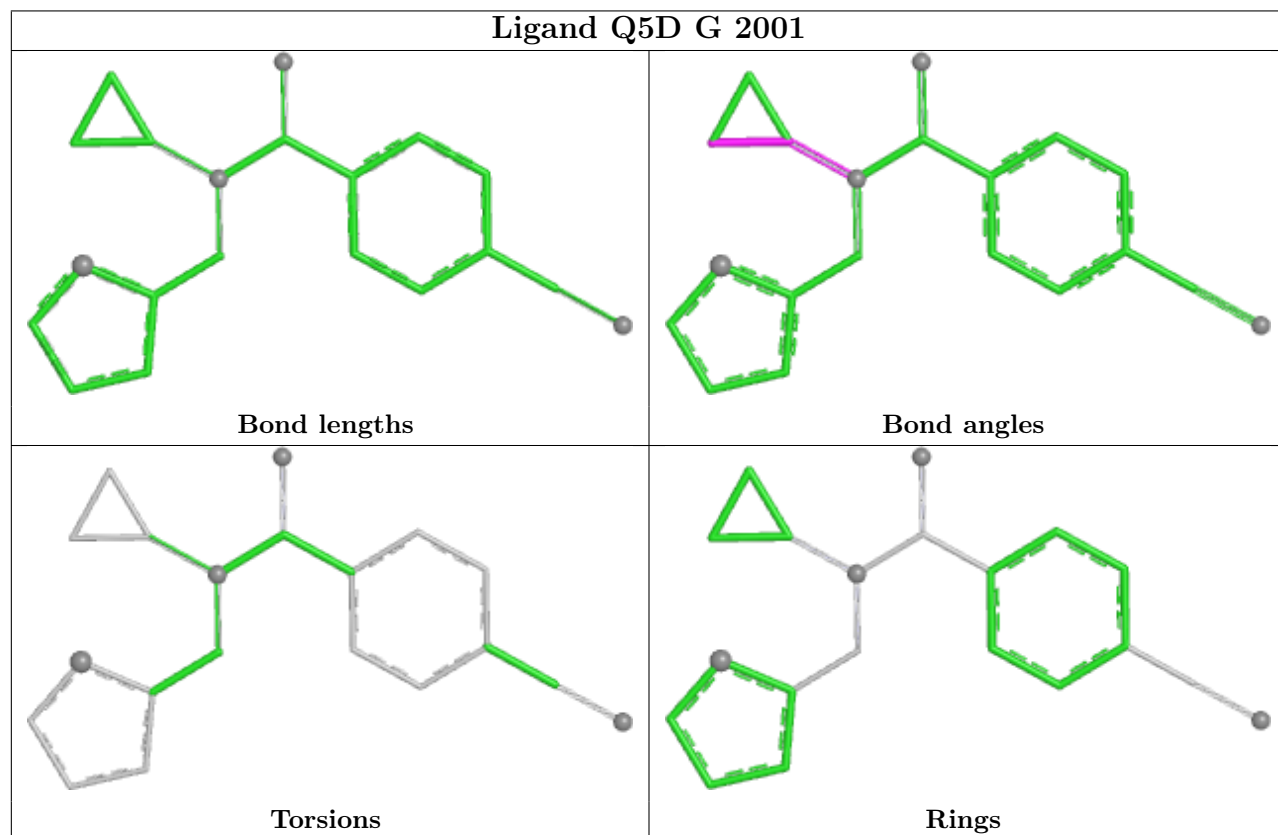
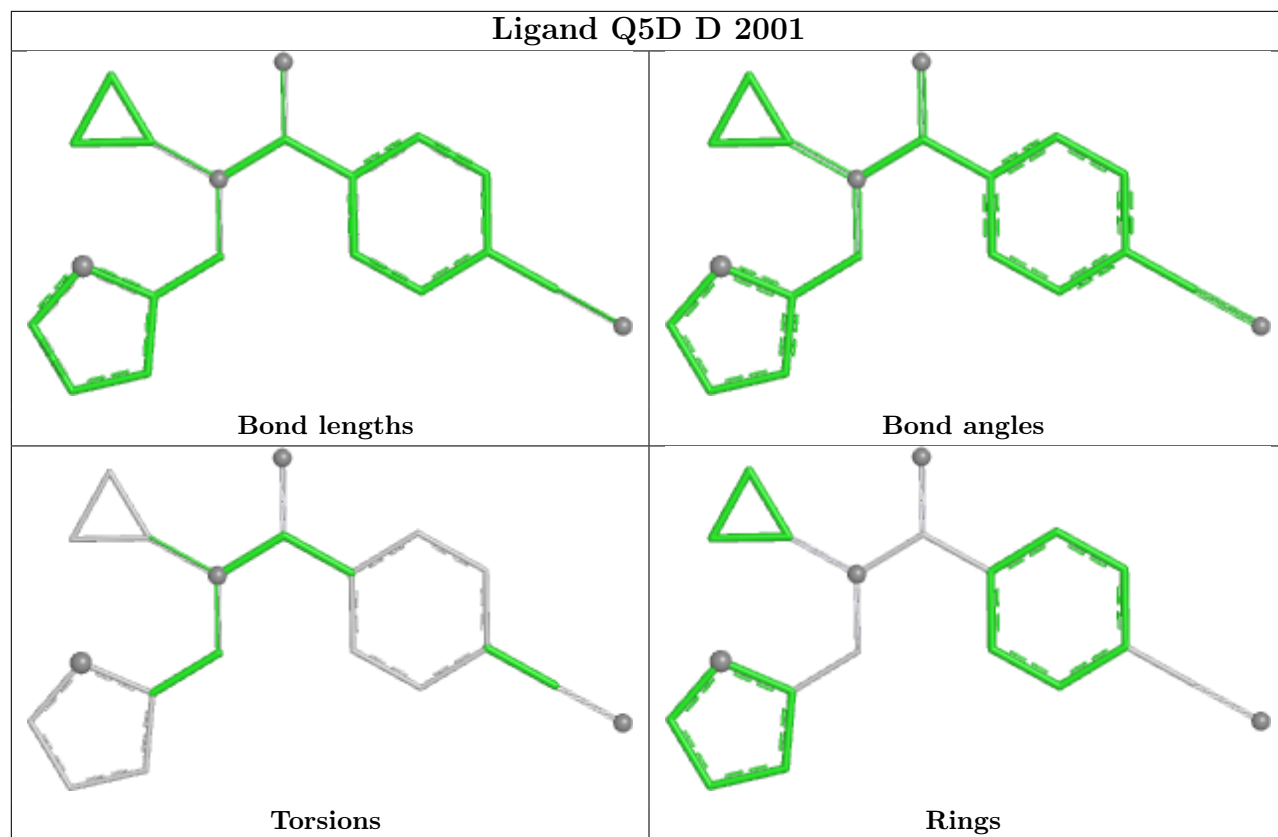
There are no torsion outliers.

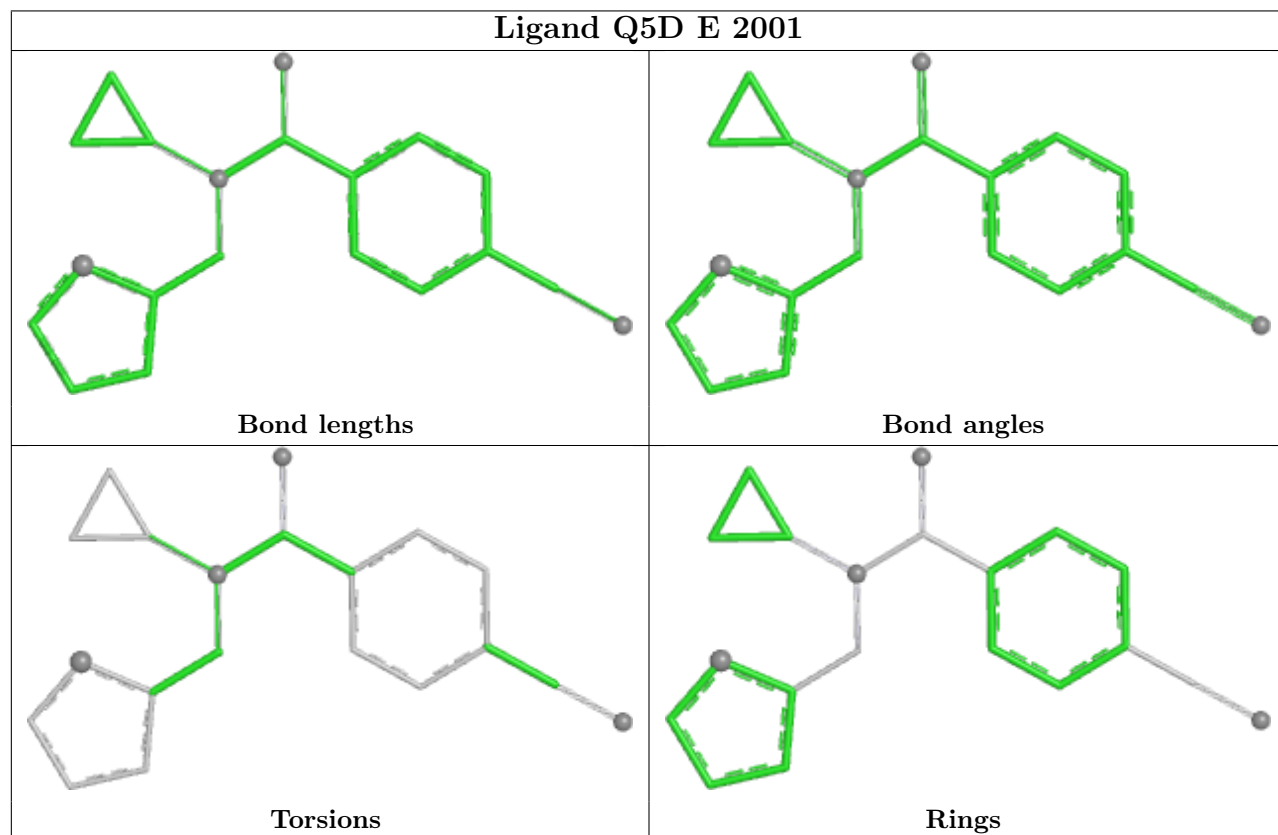
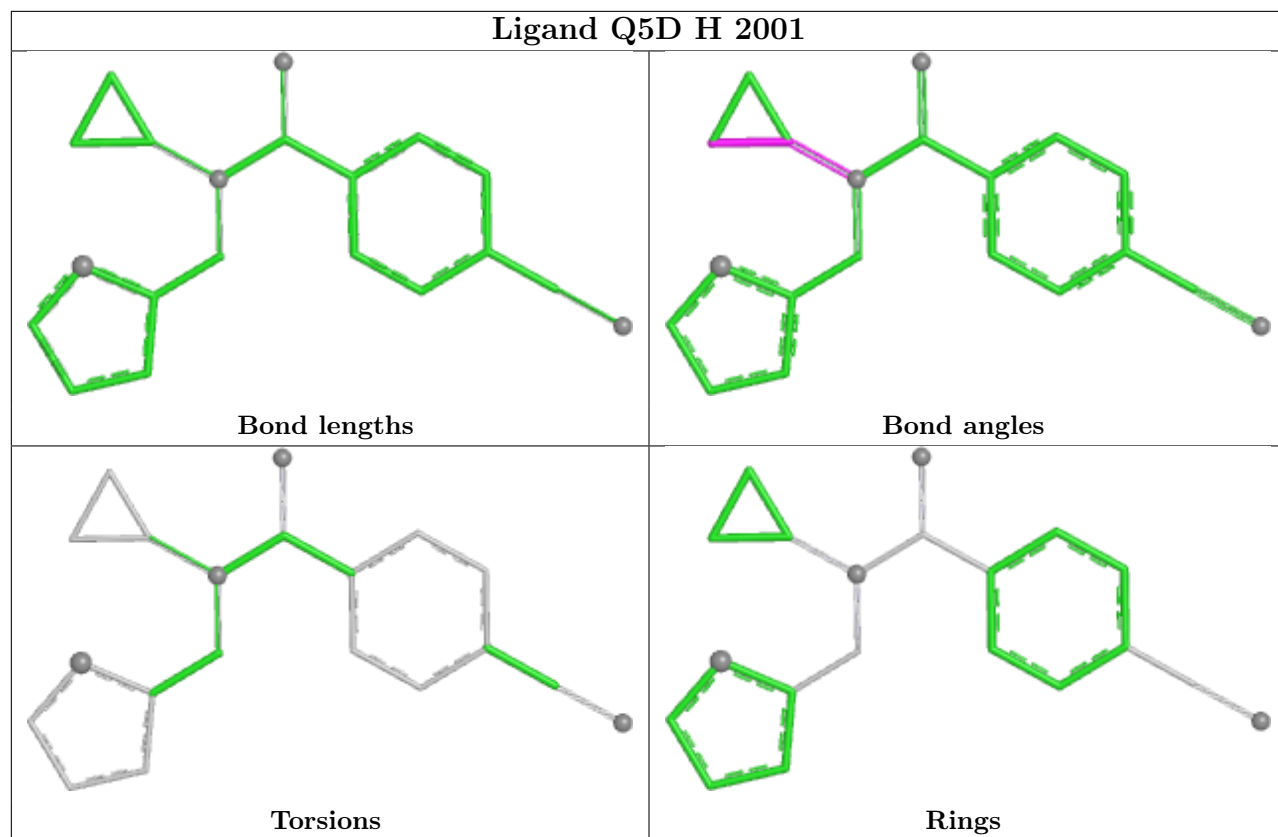
There are no ring outliers.

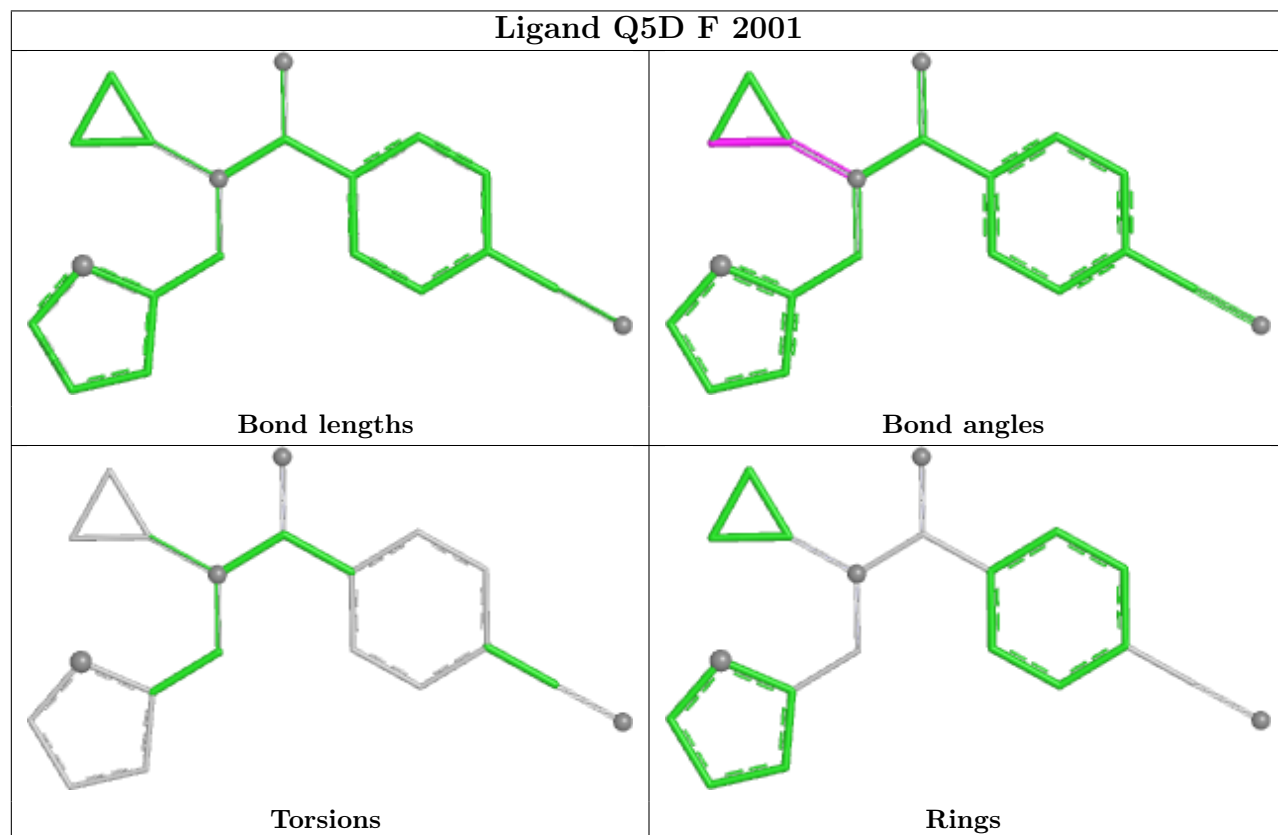
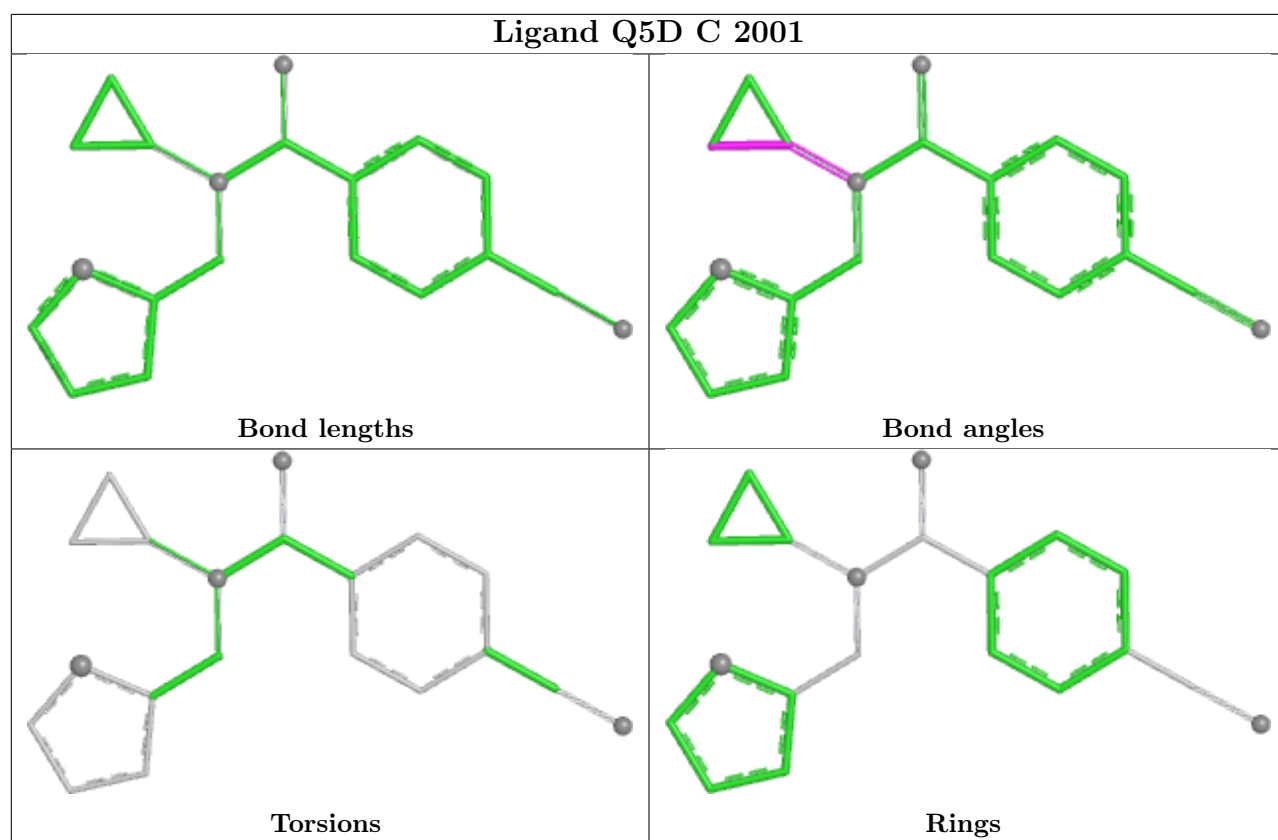
No monomer is involved in short contacts.

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

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	132/141 (93%)	0.68	15 (11%) 10 7	41, 58, 103, 120	0
1	B	124/141 (87%)	0.43	4 (3%) 50 46	35, 50, 79, 109	0
1	C	107/141 (75%)	0.87	14 (13%) 7 5	39, 54, 85, 116	0
1	D	120/141 (85%)	1.20	20 (16%) 4 3	46, 77, 104, 120	0
1	E	126/141 (89%)	0.93	13 (10%) 12 9	45, 68, 100, 117	0
1	F	108/141 (76%)	1.10	16 (14%) 5 4	42, 65, 93, 137	0
1	G	121/141 (85%)	0.50	8 (6%) 24 20	35, 51, 79, 93	0
1	H	128/141 (90%)	0.56	8 (6%) 26 22	37, 53, 100, 119	0
All	All	966/1128 (85%)	0.77	98 (10%) 12 9	35, 59, 97, 137	0

All (98) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	349	VAL	8.1
1	C	292	LYS	6.7
1	C	254	GLY	6.3
1	D	254	GLY	6.2
1	F	347	LEU	6.1
1	D	301	ALA	5.4
1	C	347	LEU	5.4
1	E	255	GLN	5.3
1	G	254	GLY	5.1
1	C	290	PHE	4.6
1	E	305	ALA	4.5
1	G	216	HIS	4.4
1	F	284	PHE	4.3
1	E	346	PHE	4.0
1	A	311	LEU	3.8
1	D	220	TYR	3.8

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Mol	Chain	Res	Type	RSRZ
1	H	346	PHE	3.7
1	G	302	PRO	3.7
1	E	304	LYS	3.7
1	F	296	GLU	3.7
1	F	232	GLY	3.6
1	B	301	ALA	3.5
1	D	290	PHE	3.5
1	A	318	LEU	3.5
1	H	347	LEU	3.5
1	A	348	TYR	3.5
1	E	258	SER	3.5
1	D	232	GLY	3.4
1	D	307	LYS	3.4
1	G	346	PHE	3.3
1	D	223	GLY	3.3
1	A	342	ALA	3.3
1	B	217	LEU	3.3
1	D	222	VAL	3.2
1	D	346	PHE	3.1
1	F	293	LEU	3.1
1	F	294	CYS	3.1
1	A	303	THR	3.0
1	C	314	ILE	3.0
1	D	345	THR	3.0
1	B	308	ILE	3.0
1	H	348	TYR	2.9
1	A	258	SER	2.9
1	F	315	SER	2.8
1	A	297	SER	2.8
1	A	315	SER	2.8
1	C	345	THR	2.8
1	E	301	ALA	2.8
1	E	306	GLU	2.8
1	F	291	GLU	2.8
1	C	258	SER	2.7
1	F	259	ALA	2.7
1	C	327	VAL	2.7
1	F	337	VAL	2.6
1	C	217	LEU	2.6
1	D	278	GLU	2.6
1	F	329	ALA	2.6
1	D	235	TRP	2.6

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Mol	Chain	Res	Type	RSRZ
1	C	288	GLY	2.6
1	D	262	TYR	2.6
1	D	227	TRP	2.5
1	H	314	ILE	2.5
1	G	258	SER	2.5
1	H	216	HIS	2.5
1	D	300	GLN	2.4
1	A	312	LYS	2.4
1	E	294	CYS	2.4
1	E	310	LEU	2.4
1	D	284	PHE	2.4
1	C	315	SER	2.4
1	C	346	PHE	2.4
1	A	259	ALA	2.3
1	A	296	GLU	2.3
1	A	305	ALA	2.3
1	F	253	LYS	2.3
1	A	257	LYS	2.2
1	E	278	GLU	2.2
1	E	308	ILE	2.2
1	E	314	ILE	2.2
1	F	249	TYR	2.2
1	G	313	PRO	2.2
1	D	224	ASP	2.1
1	C	337	VAL	2.1
1	C	246	LEU	2.1
1	H	308	ILE	2.1
1	B	313	PRO	2.1
1	D	298	ALA	2.1
1	E	217	LEU	2.1
1	A	306	GLU	2.1
1	F	278	GLU	2.1
1	D	329	ALA	2.0
1	F	340	ARG	2.0
1	F	322	TRP	2.0
1	H	307	LYS	2.0
1	G	268	GLY	2.0
1	H	268	GLY	2.0
1	A	308	ILE	2.0
1	D	308	ILE	2.0

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

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

6.3 Carbohydrates ⓘ

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($\text{\AA}^2$)	Q<0.9
3	UNX	F	2003	1/1	0.47	0.15	58,58,58,58	0
3	UNX	F	2002	1/1	0.53	0.24	55,55,55,55	0
3	UNX	G	2011	1/1	0.62	0.21	46,46,46,46	0
3	UNX	A	2009	1/1	0.70	0.18	59,59,59,59	0
3	UNX	A	2010	1/1	0.70	0.16	57,57,57,57	0
3	UNX	B	2005	1/1	0.70	0.22	51,51,51,51	0
3	UNX	A	2006	1/1	0.74	0.21	34,34,34,34	0
3	UNX	F	2005	1/1	0.76	0.23	48,48,48,48	0
3	UNX	G	2009	1/1	0.81	0.10	36,36,36,36	0
3	UNX	D	2002	1/1	0.82	0.30	55,55,55,55	0
3	UNX	B	2008	1/1	0.83	0.18	50,50,50,50	0
3	UNX	G	2004	1/1	0.84	0.20	52,52,52,52	0
3	UNX	G	2007	1/1	0.84	0.24	52,52,52,52	0
3	UNX	E	2004	1/1	0.84	0.12	45,45,45,45	0
3	UNX	A	2003	1/1	0.84	0.22	47,47,47,47	0
3	UNX	A	2004	1/1	0.85	0.26	36,36,36,36	0
3	UNX	B	2010	1/1	0.85	0.15	45,45,45,45	0
3	UNX	E	2005	1/1	0.85	0.23	42,42,42,42	0
3	UNX	G	2002	1/1	0.85	0.10	29,29,29,29	0
3	UNX	A	2005	1/1	0.86	0.18	35,35,35,35	0
3	UNX	B	2002	1/1	0.86	0.16	46,46,46,46	0
3	UNX	H	2003	1/1	0.86	0.14	47,47,47,47	0
3	UNX	C	2005	1/1	0.87	0.15	44,44,44,44	0
3	UNX	G	2005	1/1	0.87	0.27	40,40,40,40	0
3	UNX	C	2002	1/1	0.87	0.13	33,33,33,33	0
3	UNX	B	2009	1/1	0.88	0.12	30,30,30,30	0
3	UNX	E	2006	1/1	0.88	0.09	31,31,31,31	0

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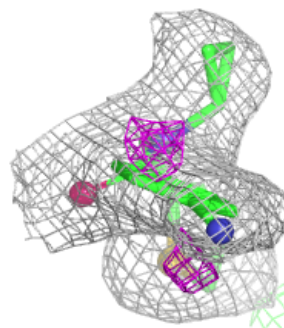
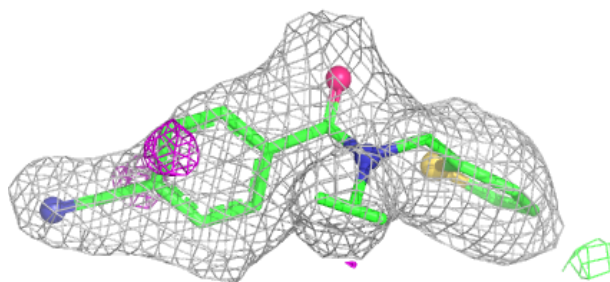
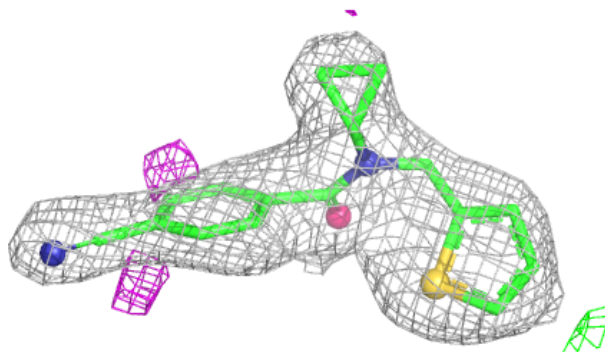
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
3	UNX	C	2006	1/1	0.88	0.23	35,35,35,35	0
2	Q5D	F	2001	20/20	0.88	0.14	42,58,63,64	0
3	UNX	D	2004	1/1	0.88	0.14	44,44,44,44	0
3	UNX	B	2003	1/1	0.88	0.16	42,42,42,42	0
3	UNX	B	2007	1/1	0.89	0.10	30,30,30,30	0
3	UNX	B	2011	1/1	0.89	0.10	52,52,52,52	0
3	UNX	A	2008	1/1	0.89	0.14	45,45,45,45	0
3	UNX	F	2004	1/1	0.89	0.17	42,42,42,42	0
3	UNX	C	2003	1/1	0.89	0.15	45,45,45,45	0
3	UNX	A	2007	1/1	0.89	0.14	45,45,45,45	0
2	Q5D	E	2001	20/20	0.91	0.12	43,51,58,58	0
2	Q5D	D	2001	20/20	0.92	0.11	51,56,61,64	0
3	UNX	G	2010	1/1	0.92	0.12	41,41,41,41	0
3	UNX	D	2003	1/1	0.92	0.13	30,30,30,30	0
3	UNX	G	2008	1/1	0.92	0.10	29,29,29,29	0
3	UNX	B	2012	1/1	0.93	0.08	32,32,32,32	0
2	Q5D	A	2001	20/20	0.93	0.10	41,44,51,53	0
3	UNX	H	2002	1/1	0.93	0.08	39,39,39,39	0
3	UNX	A	2002	1/1	0.93	0.11	48,48,48,48	0
2	Q5D	B	2001	20/20	0.94	0.10	33,43,47,48	0
2	Q5D	H	2001	20/20	0.94	0.08	36,43,47,54	0
3	UNX	E	2002	1/1	0.94	0.10	37,37,37,37	0
3	UNX	C	2004	1/1	0.94	0.09	41,41,41,41	0
3	UNX	B	2006	1/1	0.95	0.18	39,39,39,39	0
3	UNX	G	2012	1/1	0.95	0.17	33,33,33,33	0
3	UNX	H	2004	1/1	0.95	0.08	37,37,37,37	0
2	Q5D	C	2001	20/20	0.96	0.07	36,43,48,50	0
2	Q5D	G	2001	20/20	0.96	0.07	32,41,43,45	0
3	UNX	B	2004	1/1	0.96	0.09	48,48,48,48	0
3	UNX	E	2003	1/1	0.97	0.24	47,47,47,47	0
3	UNX	G	2003	1/1	0.97	0.17	41,41,41,41	0
3	UNX	G	2006	1/1	0.97	0.17	40,40,40,40	0

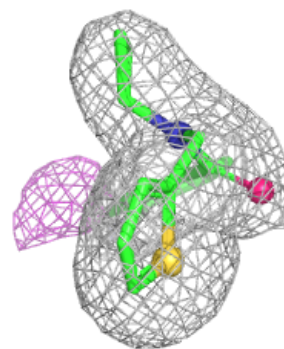
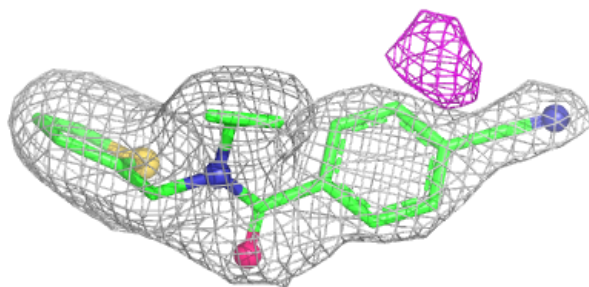
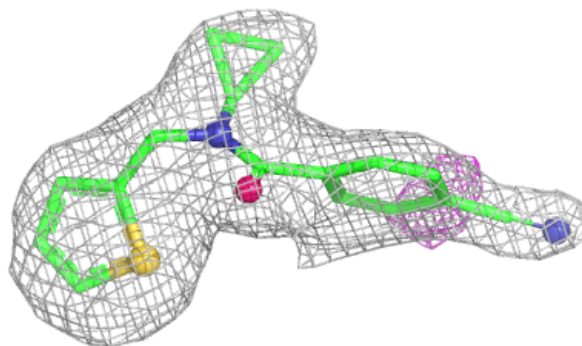
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around Q5D F 2001:

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

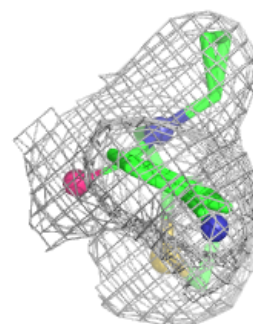
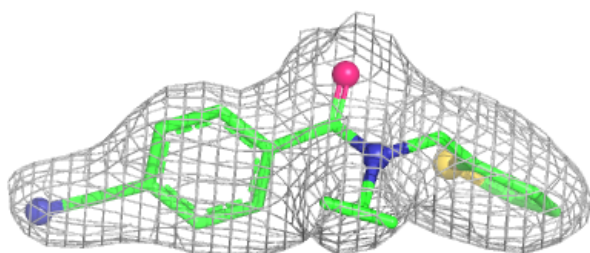
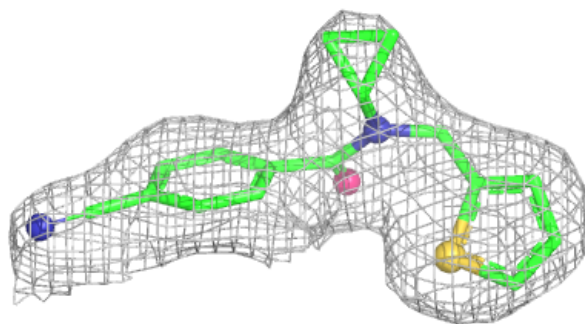
**Electron density around Q5D E 2001:**

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

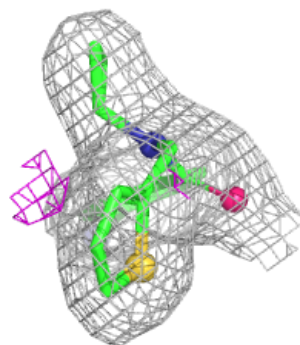
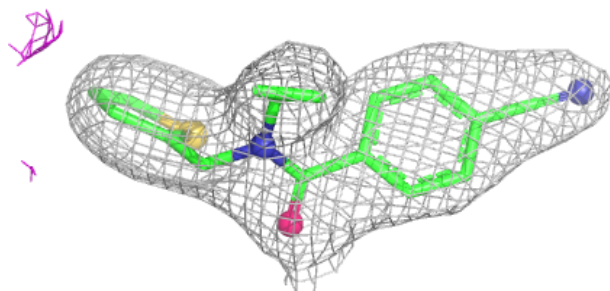
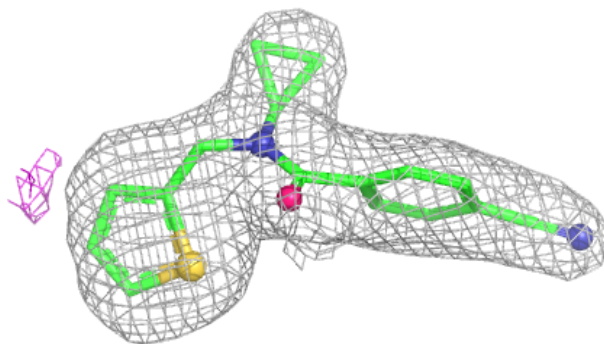


Electron density around Q5D D 2001:

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

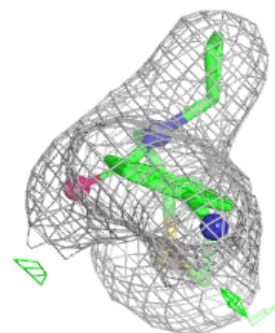
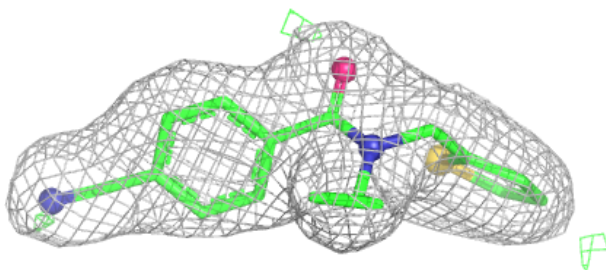
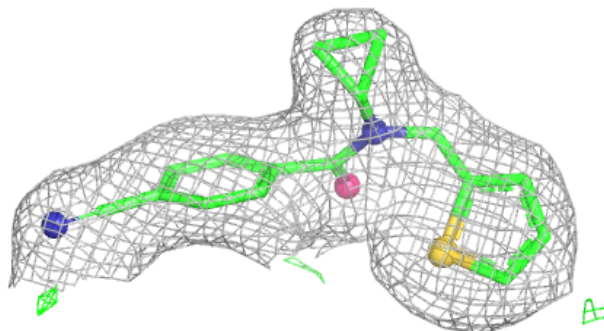
**Electron density around Q5D A 2001:**

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

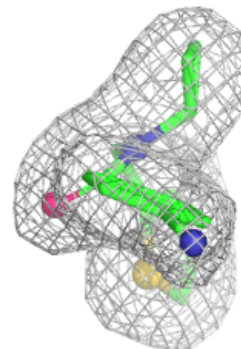
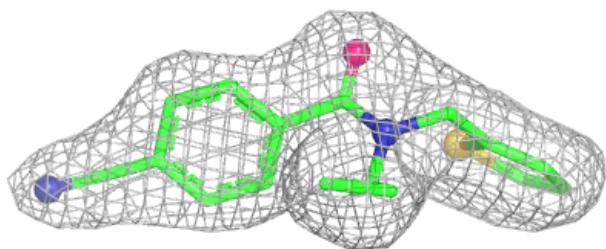
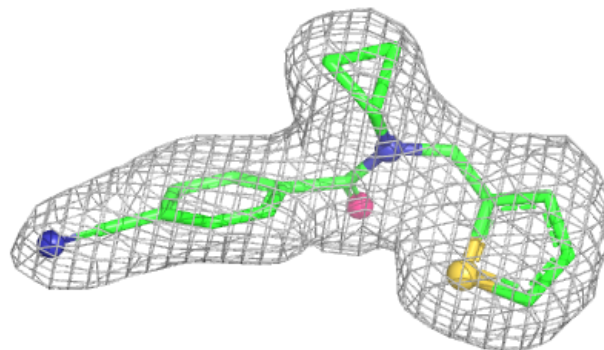


Electron density around Q5D B 2001:

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

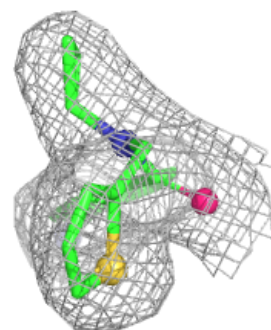
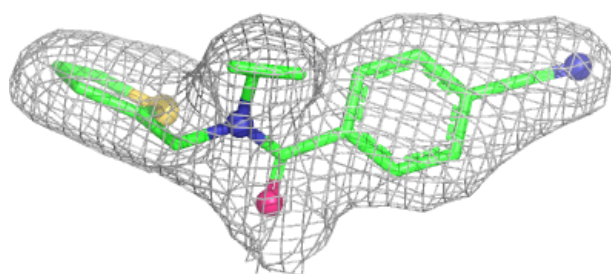
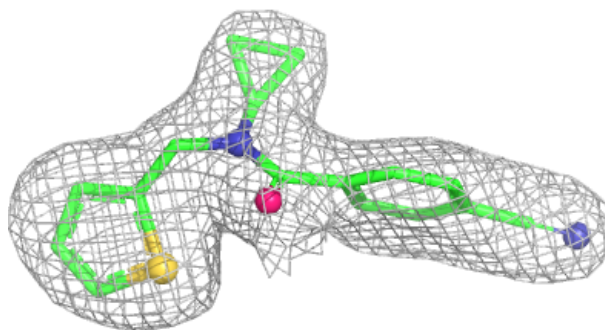
**Electron density around Q5D H 2001:**

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

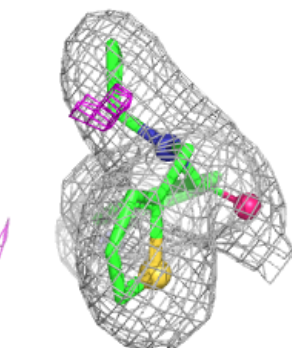
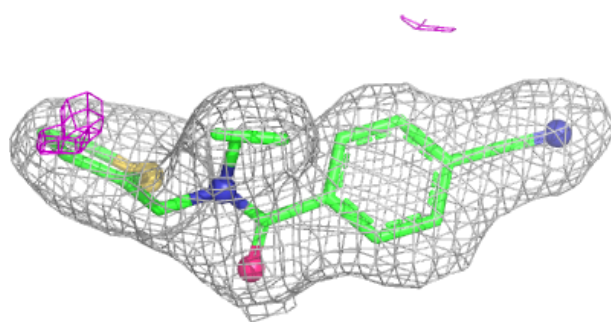
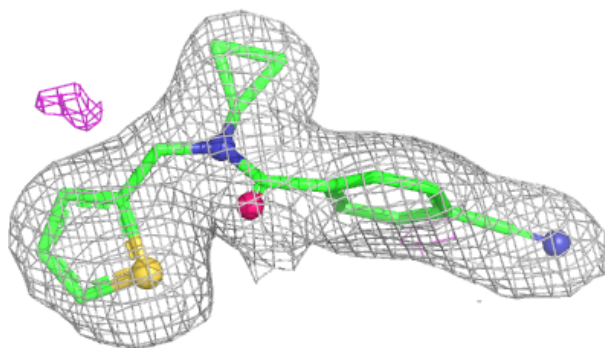


Electron density around Q5D C 2001:

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

**Electron density around Q5D G 2001:**

$2mF_o-DF_c$ (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.