



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 11:47 PM UTC

PDB ID : 3QQP / pdb_00003qqp
Title : Crystal Structure of 11beta-Hydroxysteroid Dehydrogenase 1 (11b-HSD1) in Complex with Urea Inhibitor
Authors : Loenze, P.; Schimanski-Breves, S.; Engel, C.K.
Deposited on : 2011-02-16
Resolution : 2.72 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

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

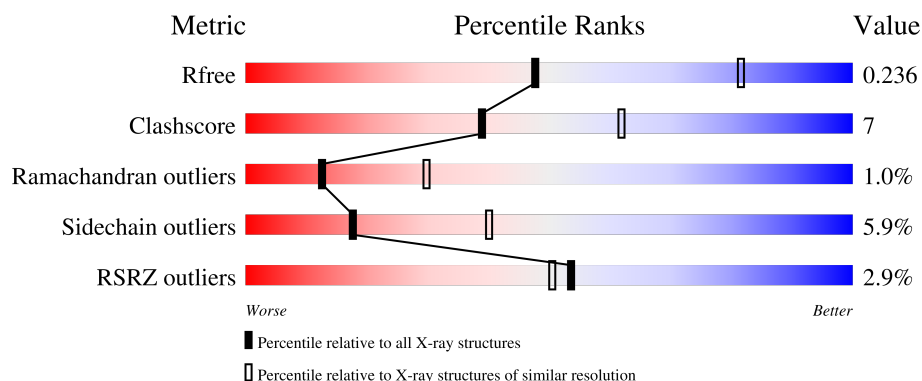
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.72 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	4348 (2.74-2.70)
Clashscore	190562	4665 (2.74-2.70)
Ramachandran outliers	187476	4584 (2.74-2.70)
Sidechain outliers	187428	4585 (2.74-2.70)
RSRZ outliers	180081	4348 (2.74-2.70)

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	286	4% 78% 16% • 6%
1	B	286	3% 76% 14% • 7%
1	C	286	% 77% 14% • 8%
1	D	286	2% 74% 16% • 10%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 8650 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 Corticosteroid 11-beta-dehydrogenase isozyme 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	270	Total	C	N	O	S	0	5	0
			2092	1332	353	391	16			
1	B	266	Total	C	N	O	S	0	7	0
			2074	1322	350	386	16			
1	C	262	Total	C	N	O	S	0	3	0
			2020	1288	343	374	15			
1	D	258	Total	C	N	O	S	0	5	0
			1985	1261	338	371	15			

There are 72 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	7	MET	-	expression tag	UNP P28845
A	8	LYS	-	expression tag	UNP P28845
A	9	HIS	-	expression tag	UNP P28845
A	10	GLN	-	expression tag	UNP P28845
A	11	HIS	-	expression tag	UNP P28845
A	12	GLN	-	expression tag	UNP P28845
A	13	HIS	-	expression tag	UNP P28845
A	14	GLN	-	expression tag	UNP P28845
A	15	HIS	-	expression tag	UNP P28845
A	16	GLN	-	expression tag	UNP P28845
A	17	HIS	-	expression tag	UNP P28845
A	18	GLN	-	expression tag	UNP P28845
A	19	HIS	-	expression tag	UNP P28845
A	20	GLN	-	expression tag	UNP P28845
A	21	GLN	-	expression tag	UNP P28845
A	22	PRO	-	expression tag	UNP P28845
A	23	LEU	-	expression tag	UNP P28845
A	272	SER	CYS	engineered mutation	UNP P28845
B	7	MET	-	expression tag	UNP P28845
B	8	LYS	-	expression tag	UNP P28845
B	9	HIS	-	expression tag	UNP P28845

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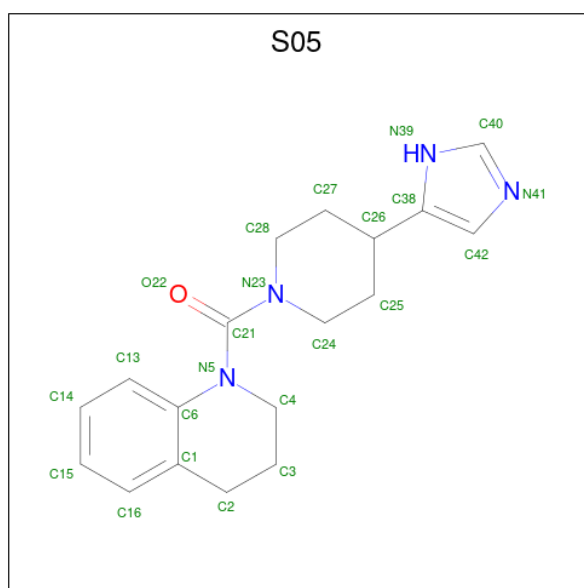
Chain	Residue	Modelled	Actual	Comment	Reference
B	10	GLN	-	expression tag	UNP P28845
B	11	HIS	-	expression tag	UNP P28845
B	12	GLN	-	expression tag	UNP P28845
B	13	HIS	-	expression tag	UNP P28845
B	14	GLN	-	expression tag	UNP P28845
B	15	HIS	-	expression tag	UNP P28845
B	16	GLN	-	expression tag	UNP P28845
B	17	HIS	-	expression tag	UNP P28845
B	18	GLN	-	expression tag	UNP P28845
B	19	HIS	-	expression tag	UNP P28845
B	20	GLN	-	expression tag	UNP P28845
B	21	GLN	-	expression tag	UNP P28845
B	22	PRO	-	expression tag	UNP P28845
B	23	LEU	-	expression tag	UNP P28845
B	272	SER	CYS	engineered mutation	UNP P28845
C	7	MET	-	expression tag	UNP P28845
C	8	LYS	-	expression tag	UNP P28845
C	9	HIS	-	expression tag	UNP P28845
C	10	GLN	-	expression tag	UNP P28845
C	11	HIS	-	expression tag	UNP P28845
C	12	GLN	-	expression tag	UNP P28845
C	13	HIS	-	expression tag	UNP P28845
C	14	GLN	-	expression tag	UNP P28845
C	15	HIS	-	expression tag	UNP P28845
C	16	GLN	-	expression tag	UNP P28845
C	17	HIS	-	expression tag	UNP P28845
C	18	GLN	-	expression tag	UNP P28845
C	19	HIS	-	expression tag	UNP P28845
C	20	GLN	-	expression tag	UNP P28845
C	21	GLN	-	expression tag	UNP P28845
C	22	PRO	-	expression tag	UNP P28845
C	23	LEU	-	expression tag	UNP P28845
C	272	SER	CYS	engineered mutation	UNP P28845
D	7	MET	-	expression tag	UNP P28845
D	8	LYS	-	expression tag	UNP P28845
D	9	HIS	-	expression tag	UNP P28845
D	10	GLN	-	expression tag	UNP P28845
D	11	HIS	-	expression tag	UNP P28845
D	12	GLN	-	expression tag	UNP P28845
D	13	HIS	-	expression tag	UNP P28845
D	14	GLN	-	expression tag	UNP P28845
D	15	HIS	-	expression tag	UNP P28845

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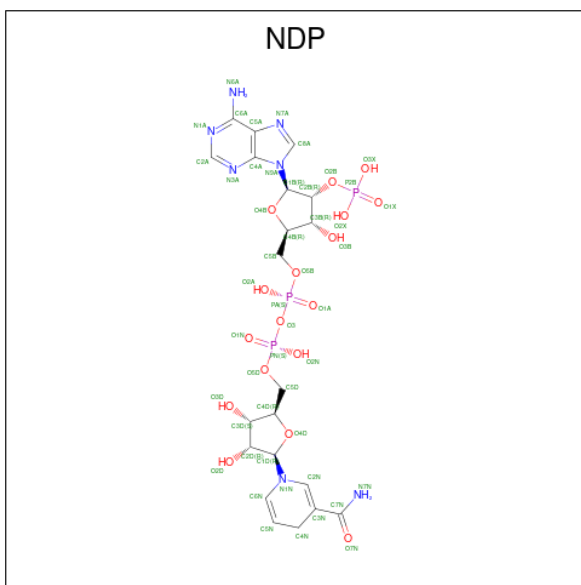
Chain	Residue	Modelled	Actual	Comment	Reference
D	16	GLN	-	expression tag	UNP P28845
D	17	HIS	-	expression tag	UNP P28845
D	18	GLN	-	expression tag	UNP P28845
D	19	HIS	-	expression tag	UNP P28845
D	20	GLN	-	expression tag	UNP P28845
D	21	GLN	-	expression tag	UNP P28845
D	22	PRO	-	expression tag	UNP P28845
D	23	LEU	-	expression tag	UNP P28845
D	272	SER	CYS	engineered mutation	UNP P28845

- Molecule 2 is 3,4-dihydroquinolin-1(2H)-yl[4-(1H-imidazol-5-yl)piperidin-1-yl]methanone (CCD ID: S05) (formula: C₁₈H₂₂N₄O).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			23	18	4	1		
2	B	1	Total	C	N	O	0	0
			23	18	4	1		
2	C	1	Total	C	N	O	0	0
			23	18	4	1		
2	D	1	Total	C	N	O	0	0
			23	18	4	1		

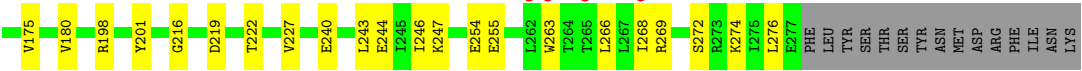
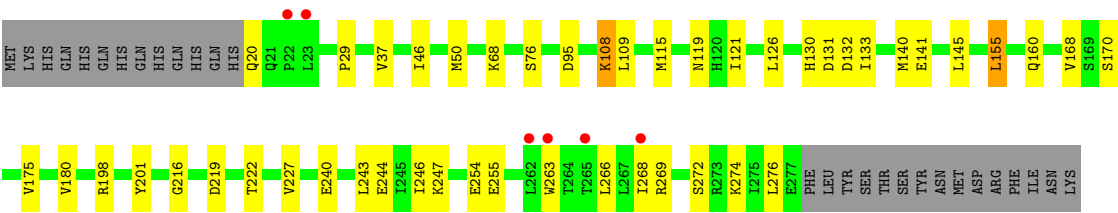
- Molecule 3 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (CCD ID: NDP) (formula: C₂₁H₃₀N₇O₁₇P₃).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total 48	C 21	N 7	O 17	P 3	0	0
3	B	1	Total 48	C 21	N 7	O 17	P 3	0	0
3	C	1	Total 48	C 21	N 7	O 17	P 3	0	0
3	D	1	Total 48	C 21	N 7	O 17	P 3	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	63	Total O 63 63	0	0
4	B	37	Total O 37 37	0	0
4	C	57	Total O 57 57	0	0
4	D	38	Total O 38 38	0	0



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	56.93Å 153.38Å 74.18Å 90.00° 93.46° 90.00°	Depositor
Resolution (Å)	36.71 – 2.72 36.71 – 2.72	Depositor EDS
% Data completeness (in resolution range)	99.8 (36.71-2.72) 99.8 (36.71-2.72)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	4.08 (at 2.73Å)	Xtriage
Refinement program	BUSTER-TNT BUSTER 2.9.7, BUSTER 2.9.7	Depositor
R, R_{free}	0.164 , 0.234 0.170 , 0.236	Depositor DCC
R_{free} test set	1684 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å ²)	25.9	Xtriage
Anisotropy	0.616	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 42.1	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	0.94	EDS
Total number of atoms	8650	wwPDB-VP
Average B, all atoms (Å ²)	29.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.82% 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: S05, NDP

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	0.85	0/2148	1.38	8/2900 (0.3%)
1	B	0.82	0/2134	1.39	10/2882 (0.3%)
1	C	0.82	0/2067	1.37	3/2791 (0.1%)
1	D	0.83	0/2037	1.41	9/2750 (0.3%)
All	All	0.83	0/8386	1.39	30/11323 (0.3%)

There are no bond length outliers.

All (30) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	231	VAL	CA-C-N	5.85	128.39	120.38
1	A	231	VAL	C-N-CA	5.85	128.39	120.38
1	B	72[A]	GLN	CB-CA-C	-5.79	101.55	110.81
1	B	72[B]	GLN	CB-CA-C	-5.79	101.55	110.81
1	B	221	GLU	CA-C-N	5.67	127.81	120.44
1	B	221	GLU	C-N-CA	5.67	127.81	120.44
1	C	145	LEU	N-CA-C	5.61	117.39	111.28
1	D	29	PRO	CA-C-N	5.54	128.47	120.38
1	D	29	PRO	C-N-CA	5.54	128.47	120.38
1	B	42	ALA	N-CA-C	5.51	119.00	112.72
1	A	240	GLU	CA-C-N	5.47	127.55	120.44
1	A	240	GLU	C-N-CA	5.47	127.55	120.44
1	D	108	LYS	CA-C-N	5.44	127.56	120.28
1	D	108	LYS	C-N-CA	5.44	127.56	120.28
1	B	143	ASN	CA-CB-CG	5.40	118.00	112.60
1	A	94	GLU	N-CA-C	-5.40	105.43	112.23
1	D	263	TRP	N-CA-C	-5.37	105.51	111.36
1	B	39	VAL	N-CA-CB	5.37	118.97	112.10
1	B	263	TRP	N-CA-C	-5.36	105.09	111.69
1	B	72[A]	GLN	N-CA-CB	5.31	117.85	109.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	72[B]	GLN	N-CA-CB	5.31	117.85	109.94
1	A	171	LEU	N-CA-C	-5.25	105.68	111.71
1	A	288	ARG	N-CA-C	-5.20	108.69	114.62
1	C	182	ALA	CA-C-N	5.20	127.20	120.44
1	C	182	ALA	C-N-CA	5.20	127.20	120.44
1	D	95	ASP	CA-CB-CG	5.11	117.71	112.60
1	A	219	ASP	CA-CB-CG	5.08	117.68	112.60
1	D	263	TRP	CA-C-N	5.05	127.31	120.65
1	D	263	TRP	C-N-CA	5.05	127.31	120.65
1	D	268	ILE	N-CA-C	5.04	117.35	111.05

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	2092	0	2128	21	0
1	B	2074	0	2110	53	0
1	C	2020	0	2064	28	0
1	D	1985	0	2031	31	0
2	A	23	0	22	0	0
2	B	23	0	22	0	0
2	C	23	0	22	1	0
2	D	23	0	22	0	0
3	A	48	0	26	0	0
3	B	48	0	26	3	0
3	C	48	0	26	2	0
3	D	48	0	26	9	0
4	A	63	0	0	1	0
4	B	37	0	0	1	0
4	C	57	0	0	0	0
4	D	38	0	0	0	0
All	All	8650	0	8525	116	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 7.

All (116) 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:B:274:LYS:HD2	1:D:266:LEU:HD13	1.21	1.15
1:B:278:PHE:CD2	1:B:279:LEU:CD2	2.30	1.14
1:C:265:THR:O	1:C:268:ILE:HG22	1.64	0.98
1:B:278:PHE:CD2	1:B:279:LEU:HD22	1.97	0.97
1:B:274:LYS:HE3	1:D:266:LEU:HD22	1.53	0.90
1:B:263:TRP:CD1	1:B:263:TRP:H	1.91	0.89
1:B:279:LEU:HD23	1:B:279:LEU:H	1.39	0.88
1:C:265:THR:O	1:C:268:ILE:CG2	2.22	0.88
1:B:274:LYS:HD2	1:D:266:LEU:CD1	2.02	0.87
1:B:275:ILE:HG23	1:B:279:LEU:HG	1.61	0.81
1:B:279:LEU:O	1:B:280:TYR:CD2	2.33	0.81
1:C:214:VAL:HG11	1:C:268:ILE:CD1	2.11	0.81
1:B:121:ILE:HG12	3:B:293:NDP:H3D	1.64	0.79
1:B:278:PHE:CD2	1:B:279:LEU:HD21	2.15	0.79
1:B:263:TRP:H	1:B:263:TRP:HD1	1.25	0.79
1:B:271:PRO:HA	1:B:274:LYS:HG2	1.65	0.78
1:B:263:TRP:CD1	1:B:263:TRP:N	2.51	0.77
1:B:279:LEU:HD23	1:B:279:LEU:N	2.00	0.76
1:C:257:TYR:CE2	1:C:268:ILE:HG12	2.20	0.76
1:A:140:MET:HE2	1:B:140:MET:HE2	1.66	0.76
1:B:261:SER:O	1:B:262:LEU:HD23	1.85	0.75
1:B:274:LYS:CE	1:D:266:LEU:HD22	2.18	0.74
1:B:279:LEU:CD2	1:B:279:LEU:N	2.50	0.73
1:C:265:THR:C	1:C:268:ILE:HG22	2.16	0.71
1:A:203:VAL:HG21	1:A:286:MET:HE3	1.72	0.70
1:C:214:VAL:HG11	1:C:268:ILE:HD11	1.74	0.70
1:B:278:PHE:CE2	1:B:279:LEU:HD22	2.29	0.68
1:D:155:LEU:HD21	1:D:201:TYR:OH	1.94	0.68
1:C:257:TYR:CD2	1:C:268:ILE:HG12	2.30	0.67
1:C:155:LEU:HD21	1:C:201:TYR:OH	1.97	0.64
1:B:278:PHE:O	1:B:280:TYR:N	2.30	0.62
1:B:278:PHE:C	1:B:280:TYR:H	2.09	0.59
1:A:151:THR:HG23	1:A:165:ILE:HD13	1.85	0.58
1:B:261:SER:C	1:B:262:LEU:HD23	2.27	0.58
1:C:248:GLY:HA3	1:C:256:VAL:HG21	1.85	0.58
1:B:204:SER:HB2	1:B:206:VAL:HG23	1.86	0.58
1:B:271:PRO:O	1:B:274:LYS:HG3	2.05	0.56
1:D:170:SER:CB	3:D:293:NDP:H5N	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:279:LEU:CD2	1:B:279:LEU:H	2.11	0.56
1:A:265:THR:O	1:A:268:ILE:HG22	2.06	0.55
1:C:149:VAL:HG22	1:D:133:ILE:HD12	1.87	0.55
1:D:46:ILE:HG22	1:D:50:MET:HE2	1.90	0.54
1:B:68:LYS:O	1:B:72[B]:GLN:HB3	2.07	0.54
1:B:278:PHE:CE2	1:B:279:LEU:CD2	2.87	0.54
1:C:278:PHE:HD2	1:C:278:PHE:C	2.16	0.53
1:B:278:PHE:C	1:B:278:PHE:CD1	2.86	0.53
1:B:216:GLY:O	3:B:293:NDP:H42N	2.09	0.53
1:A:193:PHE:HB2	1:B:185:ALA:HB2	1.90	0.53
1:C:278:PHE:C	1:C:278:PHE:CD2	2.87	0.52
1:D:126:LEU:HD11	1:D:227:VAL:HG12	1.92	0.52
1:B:224:MET:HA	1:B:224:MET:HE2	1.91	0.52
1:B:278:PHE:HD2	1:B:279:LEU:HD21	1.69	0.52
1:A:149:VAL:HG22	1:B:133:ILE:HD13	1.91	0.52
1:D:170:SER:HB3	3:D:293:NDP:C5N	2.41	0.51
1:B:278:PHE:HD2	1:B:279:LEU:CD2	2.12	0.51
1:C:270:ASN:C	1:C:270:ASN:HD22	2.20	0.50
1:D:170:SER:HB3	3:D:293:NDP:H5N	1.93	0.50
1:D:119:ASN:HD22	1:D:168:VAL:HG21	1.76	0.50
1:D:243:LEU:HG	1:D:247:LYS:HE3	1.92	0.49
1:A:248:GLY:HA3	1:A:256:VAL:HG21	1.95	0.49
1:C:216:GLY:O	3:C:293:NDP:H42N	2.12	0.49
1:D:119:ASN:ND2	3:D:293:NDP:H4D	2.28	0.49
1:D:240:GLU:O	1:D:244:GLU:HG2	2.13	0.49
1:B:278:PHE:CG	1:B:279:LEU:CD2	2.93	0.48
1:D:121:ILE:HG12	3:D:293:NDP:H3D	1.95	0.48
1:B:40:THR:O	1:B:119:ASN:HB3	2.15	0.47
1:A:267:LEU:O	1:B:272:SER:HB3	2.15	0.47
1:A:279:LEU:HD22	1:C:263:TRP:CD1	2.50	0.47
1:B:275:ILE:HD11	1:D:266:LEU:HB2	1.95	0.47
1:C:214:VAL:HG11	1:C:268:ILE:HD13	1.94	0.47
1:A:264:THR:HG23	1:B:276:LEU:HD11	1.97	0.46
1:B:278:PHE:CG	1:B:279:LEU:HD22	2.49	0.46
1:C:144:PHE:CE2	1:D:140:MET:HE3	2.50	0.46
1:C:216:GLY:HA3	1:C:259:ASP:OD2	2.14	0.46
1:C:267:LEU:O	1:D:272:SER:HB3	2.16	0.46
1:B:279:LEU:O	1:B:280:TYR:CG	2.69	0.46
1:A:284:TYR:CE2	1:A:286:MET:HE2	2.51	0.46
1:C:278:PHE:HD2	1:C:278:PHE:O	1.99	0.46
1:D:37:VAL:HG13	1:D:115:MET:HB3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:170:SER:HB3	3:D:293:NDP:C6N	2.45	0.46
1:C:119:ASN:HD22	1:C:168:VAL:HG21	1.80	0.45
1:D:141:GLU:HA	1:D:145:LEU:HB2	1.97	0.45
1:B:263:TRP:HD1	1:B:263:TRP:N	1.97	0.45
1:B:126:LEU:HD23	1:B:180:VAL:HG13	1.98	0.45
2:C:3:S05:H4A	3:C:293:NDP:H41N	1.99	0.45
1:C:42:ALA:HB3	1:C:63:VAL:HB	1.98	0.44
1:B:119:ASN:ND2	3:B:293:NDP:H4D	2.32	0.44
1:B:36:LYS:HG2	1:B:110:MET:HB3	2.00	0.44
1:A:46:ILE:HG22	1:A:50:MET:HE2	1.99	0.43
1:C:270:ASN:ND2	1:C:273:ARG:H	2.16	0.43
1:C:230:ILE:HD12	1:C:231:VAL:O	2.18	0.43
1:A:284:TYR:HB3	1:B:231:VAL:HG22	2.01	0.43
1:A:144:PHE:O	1:A:147:TYR:HB2	2.19	0.42
1:B:274:LYS:CD	1:D:266:LEU:HD13	2.15	0.42
1:A:119:ASN:HD22	1:A:168:VAL:HG21	1.84	0.42
1:C:148:VAL:HG13	1:C:193:PHE:CZ	2.54	0.42
1:D:130:HIS:O	1:D:131:ASP:HB2	2.19	0.42
1:D:216:GLY:O	3:D:293:NDP:H42N	2.19	0.42
1:D:170:SER:HB3	3:D:293:NDP:H6N	2.02	0.41
1:A:133:ILE:HD11	1:B:152:VAL:HG21	2.02	0.41
1:A:155:LEU:HD12	1:A:155:LEU:HA	1.88	0.41
1:B:28:ARG:HG2	1:B:31:MET:HG3	2.02	0.41
1:D:243:LEU:HA	1:D:246:ILE:HD12	2.01	0.41
1:A:37:VAL:HG22	1:A:115:MET:HB3	2.03	0.41
1:A:215:LEU:HD11	1:A:245:ILE:HD11	2.03	0.41
1:D:20:GLN:HG2	1:D:254:GLU:HG2	2.02	0.41
1:D:131:ASP:O	1:D:133:ILE:N	2.54	0.41
1:C:217:LEU:HD21	1:C:224:MET:HE1	2.02	0.41
1:A:216:GLY:HA3	1:A:259:ASP:OD2	2.20	0.41
4:A:337:HOH:O	1:B:273:ARG:NH1	2.53	0.41
1:C:155:LEU:N	1:C:156:PRO:CD	2.84	0.41
1:D:170:SER:HB2	3:D:293:NDP:H5N	2.02	0.41
1:B:87:HIS:HD2	4:B:299:HOH:O	2.04	0.40
1:D:198:ARG:NH2	1:D:254:GLU:O	2.55	0.40
1:C:123:ASN:ND2	1:C:123:ASN:H	2.19	0.40
1:A:137:ARG:HH22	1:B:96:MET:HG3	1.87	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	273/286 (96%)	261 (96%)	10 (4%)	2 (1%)	18	39
1	B	271/286 (95%)	247 (91%)	20 (7%)	4 (2%)	8	20
1	C	263/286 (92%)	251 (95%)	10 (4%)	2 (1%)	16	35
1	D	261/286 (91%)	247 (95%)	12 (5%)	2 (1%)	16	35
All	All	1068/1144 (93%)	1006 (94%)	52 (5%)	10 (1%)	12	33

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	280	TYR
1	B	279	LEU
1	D	132	ASP
1	D	219	ASP
1	A	287	ASP
1	A	219	ASP
1	C	67	SER
1	B	219	ASP
1	B	264	THR
1	C	219	ASP

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	232/243 (96%)	219 (94%)	13 (6%)	19	42

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	B	230/243 (95%)	216 (94%)	14 (6%)	17	38
1	C	222/243 (91%)	210 (95%)	12 (5%)	20	43
1	D	220/243 (90%)	206 (94%)	14 (6%)	16	36
All	All	904/972 (93%)	851 (94%)	53 (6%)	18	40

All (53) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	23	LEU
1	A	145	LEU
1	A	160	GLN
1	A	184	SER
1	A	221	GLU
1	A	230	ILE
1	A	231	VAL
1	A	239	GLU
1	A	262	LEU
1	A	269	ARG
1	A	274	LYS
1	A	288	ARG
1	A	289	PHE
1	B	21	GLN
1	B	39	VAL
1	B	44	LYS
1	B	108	LYS
1	B	121	ILE
1	B	145	LEU
1	B	184	SER
1	B	204	SER
1	B	228	SER
1	B	230	ILE
1	B	263	TRP
1	B	268	ILE
1	B	274	LYS
1	B	279	LEU
1	C	124	THR
1	C	138	LYS
1	C	145	LEU
1	C	225	LYS
1	C	230	ILE
1	C	233	MET

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Mol	Chain	Res	Type
1	C	239	GLU
1	C	262	LEU
1	C	268	ILE
1	C	269	ARG
1	C	274	LYS
1	C	279	LEU
1	D	68	LYS
1	D	76[A]	SER
1	D	76[B]	SER
1	D	108	LYS
1	D	109	LEU
1	D	155	LEU
1	D	160	GLN
1	D	175	VAL
1	D	180	VAL
1	D	222	THR
1	D	255	GLU
1	D	269	ARG
1	D	274	LYS
1	D	276	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	87	HIS
1	A	105	GLN
1	A	119	ASN
1	A	127	ASN
1	A	207	ASN
1	A	234	GLN
1	B	21	GLN
1	B	87	HIS
1	B	127	ASN
1	B	270	ASN
1	C	24	ASN
1	C	72	GLN
1	C	119	ASN
1	C	123	ASN
1	C	270	ASN
1	D	77	HIS
1	D	87	HIS
1	D	105	GLN

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Mol	Chain	Res	Type
1	D	119	ASN
1	D	160	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](#)

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	S05	A	1	-	25,26,26	1.60	5 (20%)	33,36,36	2.02	7 (21%)
2	S05	B	2	-	25,26,26	1.39	2 (8%)	33,36,36	1.89	6 (18%)
3	NDP	A	293	-	51,52,52	1.17	7 (13%)	71,80,80	1.30	9 (12%)
3	NDP	B	293	-	51,52,52	1.21	7 (13%)	71,80,80	1.18	7 (9%)
3	NDP	C	293	-	51,52,52	1.60	6 (11%)	71,80,80	1.10	2 (2%)
3	NDP	D	293	-	51,52,52	1.18	3 (5%)	71,80,80	1.20	4 (5%)
2	S05	C	3	-	25,26,26	1.56	6 (24%)	33,36,36	1.90	9 (27%)
2	S05	D	4	-	25,26,26	1.53	5 (20%)	33,36,36	1.92	7 (21%)

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	S05	A	1	-	-	7/12/32/32	0/4/4/4
2	S05	B	2	-	-	5/12/32/32	1/4/4/4
3	NDP	A	293	-	-	5/34/77/77	0/5/5/5
3	NDP	B	293	-	-	5/34/77/77	0/5/5/5
3	NDP	C	293	-	-	7/34/77/77	0/5/5/5
3	NDP	D	293	-	-	6/34/77/77	0/5/5/5
2	S05	C	3	-	-	4/12/32/32	1/4/4/4
2	S05	D	4	-	-	5/12/32/32	0/4/4/4

All (41) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	293	NDP	PA-O3	7.80	1.67	1.59
3	D	293	NDP	PA-O3	5.05	1.65	1.59
2	A	1	S05	C38-N39	-4.87	1.33	1.37
2	C	3	S05	C38-N39	-4.57	1.33	1.37
2	D	4	S05	C38-N39	-4.51	1.33	1.37
2	B	2	S05	C38-N39	-4.17	1.33	1.37
3	C	293	NDP	P2B-O2B	3.74	1.66	1.59
3	A	293	NDP	C2A-N3A	3.14	1.39	1.33
2	A	1	S05	C24-N23	2.97	1.52	1.47
2	C	3	S05	C6-N5	2.94	1.46	1.41
3	A	293	NDP	PN-O3	-2.89	1.56	1.59
3	B	293	NDP	PN-O3	-2.89	1.56	1.59
3	D	293	NDP	C2A-N3A	2.68	1.38	1.33
3	D	293	NDP	P2B-O2B	2.54	1.64	1.59
3	C	293	NDP	O4B-C1B	2.50	1.47	1.42
2	D	4	S05	C2-C1	2.50	1.55	1.51
2	A	1	S05	C4-N5	2.49	1.51	1.47
2	A	1	S05	C42-N41	-2.44	1.33	1.37
3	B	293	NDP	C6A-N6A	2.43	1.40	1.34
2	B	2	S05	C42-N41	-2.37	1.33	1.37
3	C	293	NDP	C2A-N3A	2.37	1.38	1.33
3	A	293	NDP	C8A-N9A	2.31	1.41	1.37
2	C	3	S05	C4-N5	2.30	1.51	1.47
2	D	4	S05	C42-N41	-2.29	1.33	1.37
2	C	3	S05	C2-C1	2.26	1.55	1.51
3	A	293	NDP	C2A-N1A	2.26	1.37	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	4	S05	C24-N23	2.23	1.51	1.47
3	B	293	NDP	C5A-C6A	2.21	1.47	1.41
2	C	3	S05	C42-N41	-2.15	1.33	1.37
3	B	293	NDP	P2B-O2B	2.13	1.63	1.59
3	B	293	NDP	C2A-N3A	2.11	1.37	1.33
2	C	3	S05	C28-N23	2.08	1.50	1.47
2	D	4	S05	C4-N5	2.06	1.51	1.47
3	A	293	NDP	O4B-C1B	2.06	1.46	1.42
3	A	293	NDP	C3B-C2B	2.05	1.57	1.53
3	C	293	NDP	C2A-N1A	2.05	1.37	1.33
2	A	1	S05	C28-N23	2.05	1.50	1.47
3	C	293	NDP	C7N-N7N	2.05	1.39	1.33
3	A	293	NDP	O4B-C4B	2.03	1.49	1.45
3	B	293	NDP	C4A-N3A	2.03	1.38	1.34
3	B	293	NDP	O4D-C1D	2.00	1.46	1.42

All (51) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	4	S05	N23-C21-N5	6.75	123.56	116.16
2	B	2	S05	N23-C21-N5	6.66	123.47	116.16
2	C	3	S05	N23-C21-N5	6.41	123.19	116.16
2	A	1	S05	N23-C21-N5	6.30	123.07	116.16
2	A	1	S05	C28-N23-C24	4.64	122.15	112.68
3	B	293	NDP	O2B-P2B-O1X	-4.13	94.61	109.33
3	D	293	NDP	O4D-C1D-N1N	3.94	115.59	108.08
2	D	4	S05	C28-N23-C24	3.92	120.68	112.68
2	A	1	S05	C42-C38-N39	3.72	110.77	105.76
2	B	2	S05	O22-C21-N23	-3.56	116.45	124.05
2	A	1	S05	O22-C21-N23	-3.45	116.68	124.05
2	B	2	S05	C28-N23-C24	3.45	119.72	112.68
3	A	293	NDP	O3B-C3B-C4B	-3.41	101.30	111.08
2	C	3	S05	C28-N23-C24	3.27	119.36	112.68
3	B	293	NDP	O3X-P2B-O2X	3.14	119.57	107.80
2	B	2	S05	C42-C38-N39	3.12	109.96	105.76
3	A	293	NDP	O4D-C1D-N1N	2.99	113.78	108.08
2	D	4	S05	O22-C21-N23	-2.96	117.73	124.05
2	C	3	S05	O22-C21-N23	-2.95	117.75	124.05
3	C	293	NDP	O4D-C1D-N1N	2.88	113.58	108.08
2	C	3	S05	C42-C38-N39	2.88	109.64	105.76
2	D	4	S05	C42-C38-N39	2.87	109.63	105.76
2	A	1	S05	C25-C24-N23	2.66	115.89	110.66

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	4	S05	C24-C25-C26	2.64	114.72	110.54
3	A	293	NDP	O2N-PN-O1N	2.56	124.36	112.44
2	D	4	S05	C26-C38-C42	-2.54	126.18	129.80
2	C	3	S05	C24-C25-C26	2.54	114.56	110.54
2	D	4	S05	C28-C27-C26	2.53	114.55	110.54
3	D	293	NDP	O2N-PN-O1N	2.52	124.16	112.44
2	B	2	S05	C24-C25-C26	2.50	114.50	110.54
2	A	1	S05	C24-C25-C26	2.49	114.48	110.54
2	A	1	S05	C26-C38-C42	-2.46	126.29	129.80
2	C	3	S05	C27-C26-C25	2.45	115.17	110.00
3	B	293	NDP	O3X-P2B-O1X	2.45	120.37	110.83
3	D	293	NDP	O2B-P2B-O1X	-2.33	101.03	109.33
3	B	293	NDP	O4B-C1B-N9A	2.31	112.52	108.09
3	A	293	NDP	C4A-C5A-N7A	2.31	113.22	110.58
3	D	293	NDP	O7N-C7N-C3N	-2.30	116.57	120.90
3	A	293	NDP	C4D-O4D-C1D	-2.29	104.41	109.47
3	A	293	NDP	O3D-C3D-C4D	2.28	117.64	111.08
3	B	293	NDP	O7N-C7N-N7N	-2.25	117.85	122.89
3	A	293	NDP	C2D-C1D-N1N	-2.25	107.78	113.31
3	A	293	NDP	O2A-PA-O1A	2.23	122.83	112.44
2	C	3	S05	C28-C27-C26	2.23	114.07	110.54
3	A	293	NDP	C2D-C3D-C4D	-2.21	98.34	102.61
2	B	2	S05	C26-C38-C42	-2.20	126.66	129.80
2	C	3	S05	C26-C38-C42	-2.19	126.68	129.80
3	C	293	NDP	O5B-C5B-C4B	-2.17	101.60	108.99
3	B	293	NDP	O2N-PN-O3	2.08	112.89	107.27
2	C	3	S05	C14-C13-C6	2.07	122.46	118.28
3	B	293	NDP	O2A-PA-O1A	2.01	121.79	112.44

There are no chirality outliers.

All (44) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1	S05	O22-C21-N5-C4
2	A	1	S05	N23-C21-N5-C4
2	A	1	S05	N5-C21-N23-C24
2	A	1	S05	N5-C21-N23-C28
2	A	1	S05	O22-C21-N23-C24
2	A	1	S05	O22-C21-N23-C28
2	B	2	S05	N23-C21-N5-C6
2	B	2	S05	N5-C21-N23-C24
2	B	2	S05	N5-C21-N23-C28

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Mol	Chain	Res	Type	Atoms
2	B	2	S05	O22-C21-N23-C24
2	B	2	S05	O22-C21-N23-C28
2	C	3	S05	N5-C21-N23-C24
2	C	3	S05	N5-C21-N23-C28
2	C	3	S05	O22-C21-N23-C24
2	C	3	S05	O22-C21-N23-C28
2	D	4	S05	N23-C21-N5-C6
2	D	4	S05	N5-C21-N23-C24
2	D	4	S05	N5-C21-N23-C28
2	D	4	S05	O22-C21-N23-C24
2	D	4	S05	O22-C21-N23-C28
3	D	293	NDP	C5D-O5D-PN-O1N
3	C	293	NDP	O4D-C1D-N1N-C6N
3	C	293	NDP	O4D-C4D-C5D-O5D
3	A	293	NDP	O4D-C1D-N1N-C6N
3	B	293	NDP	O4D-C1D-N1N-C6N
3	D	293	NDP	O4D-C1D-N1N-C6N
3	C	293	NDP	C3D-C4D-C5D-O5D
3	D	293	NDP	C3B-C2B-O2B-P2B
3	D	293	NDP	C1B-C2B-O2B-P2B
3	C	293	NDP	C1B-C2B-O2B-P2B
3	A	293	NDP	PN-O3-PA-O1A
3	B	293	NDP	PN-O3-PA-O1A
3	B	293	NDP	C2B-O2B-P2B-O2X
3	C	293	NDP	C3B-C2B-O2B-P2B
3	A	293	NDP	C2N-C3N-C7N-N7N
3	B	293	NDP	C2N-C3N-C7N-N7N
3	C	293	NDP	C2N-C3N-C7N-N7N
3	D	293	NDP	C2N-C3N-C7N-N7N
3	B	293	NDP	PN-O3-PA-O2A
3	C	293	NDP	O4B-C4B-C5B-O5B
3	D	293	NDP	O4B-C4B-C5B-O5B
2	A	1	S05	C25-C26-C38-N39
3	A	293	NDP	C2B-C1B-N9A-C8A
3	A	293	NDP	PN-O3-PA-O2A

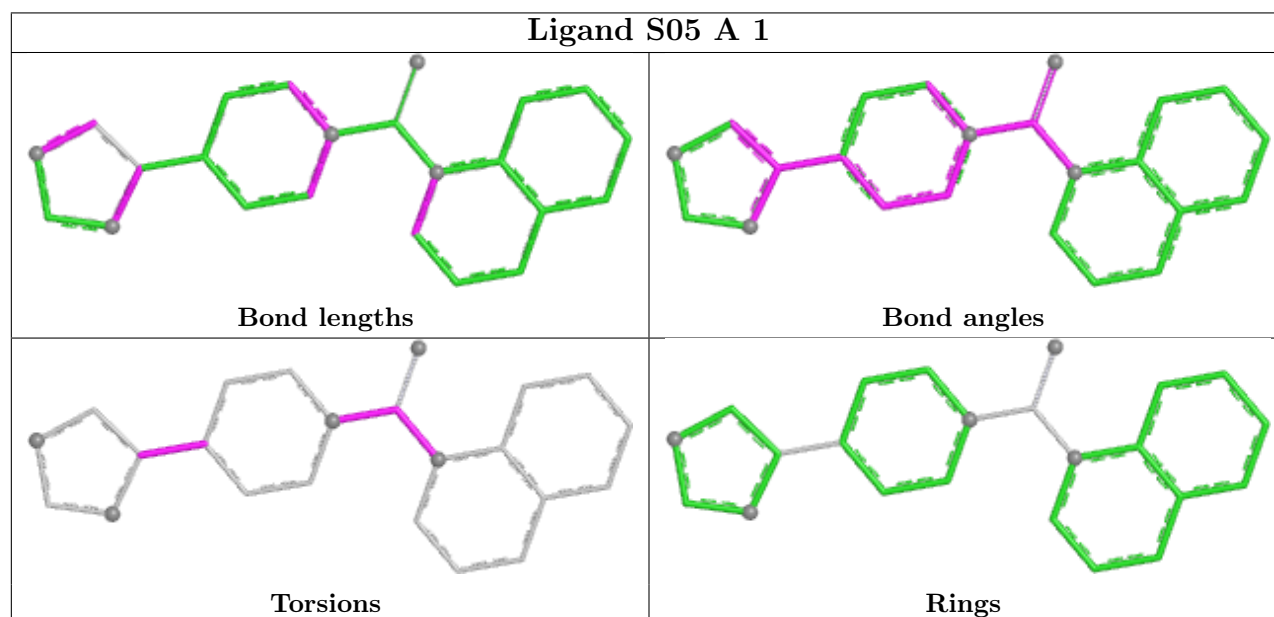
All (2) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	C	3	S05	C24-C25-C26-C27-C28-N23
2	B	2	S05	C24-C25-C26-C27-C28-N23

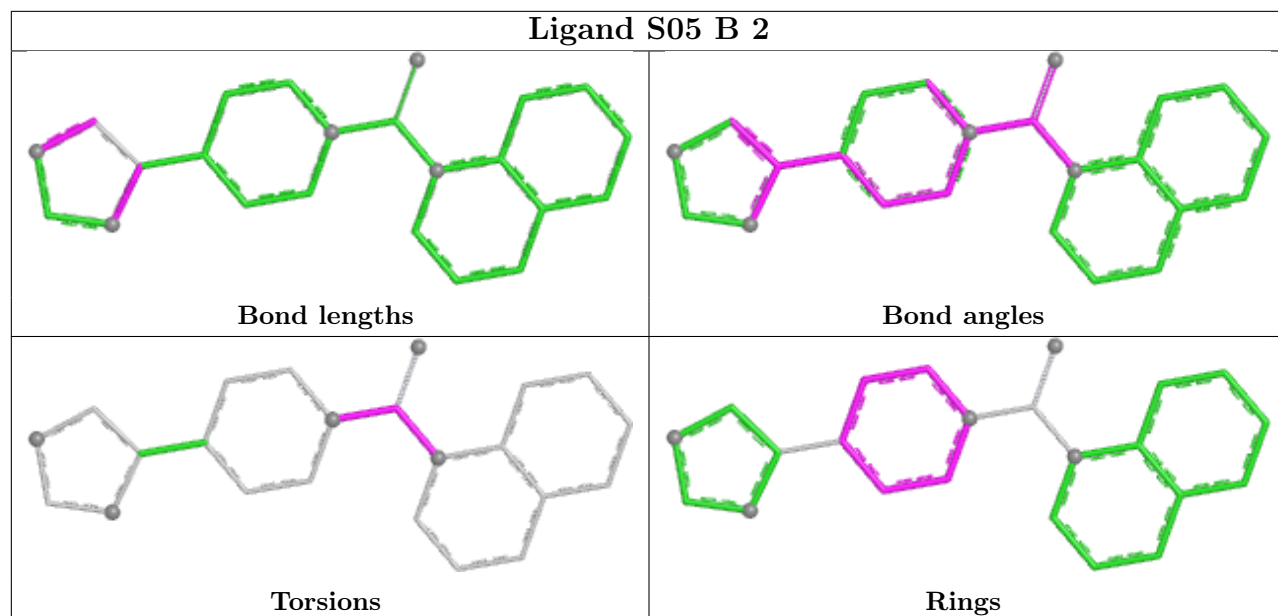
4 monomers are involved in 14 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	293	NDP	3	0
3	C	293	NDP	2	0
3	D	293	NDP	9	0
2	C	3	S05	1	0

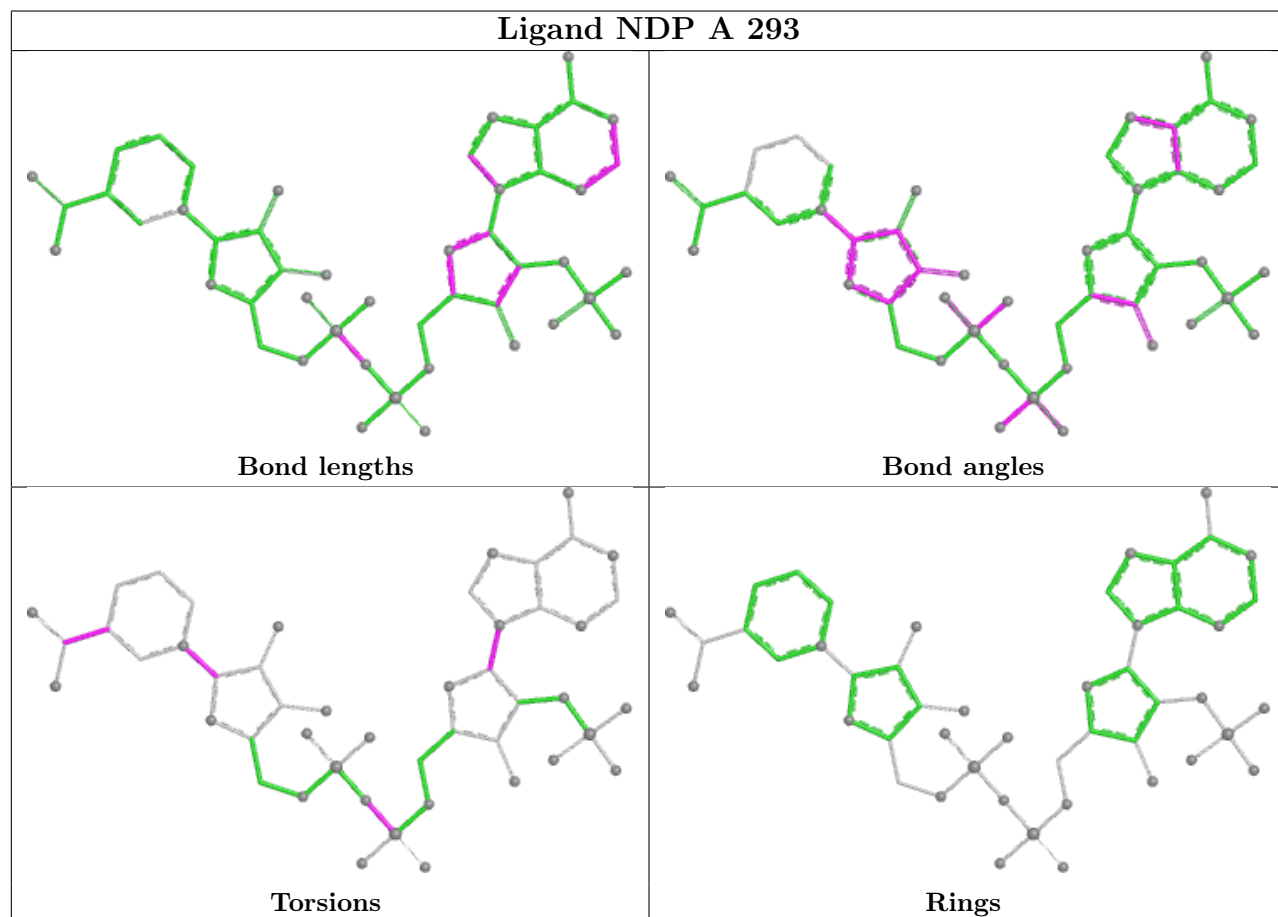
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

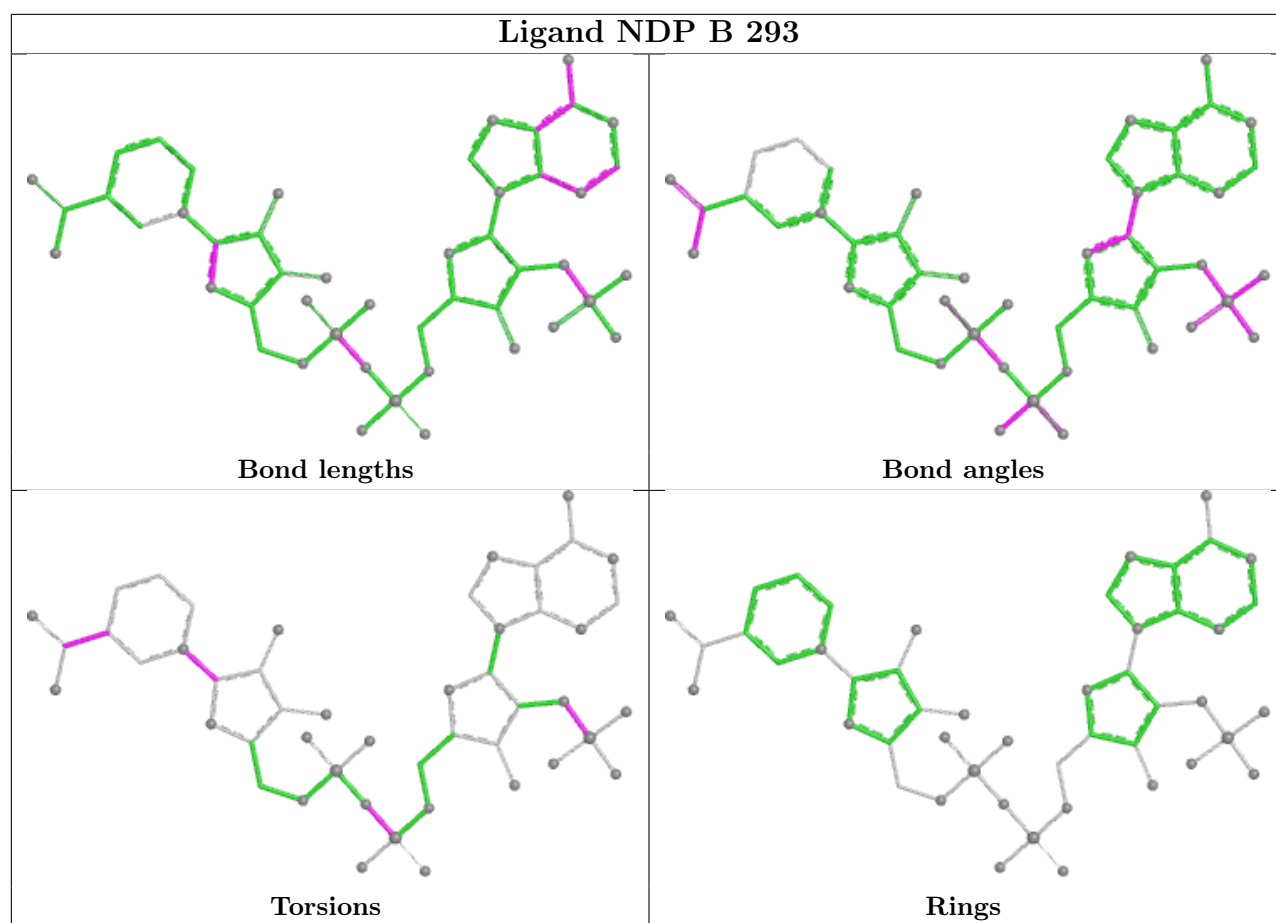


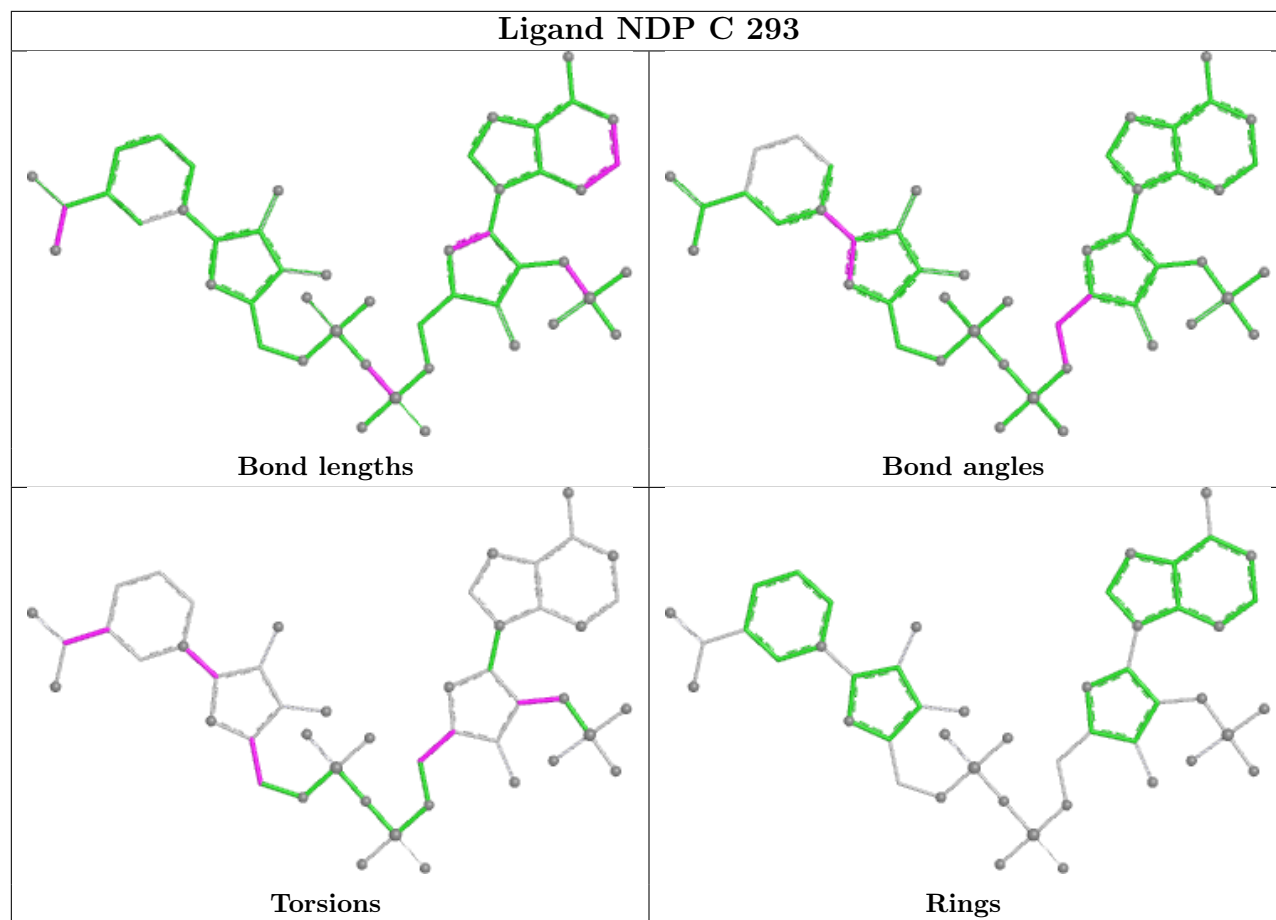
Ligand S05 B 2

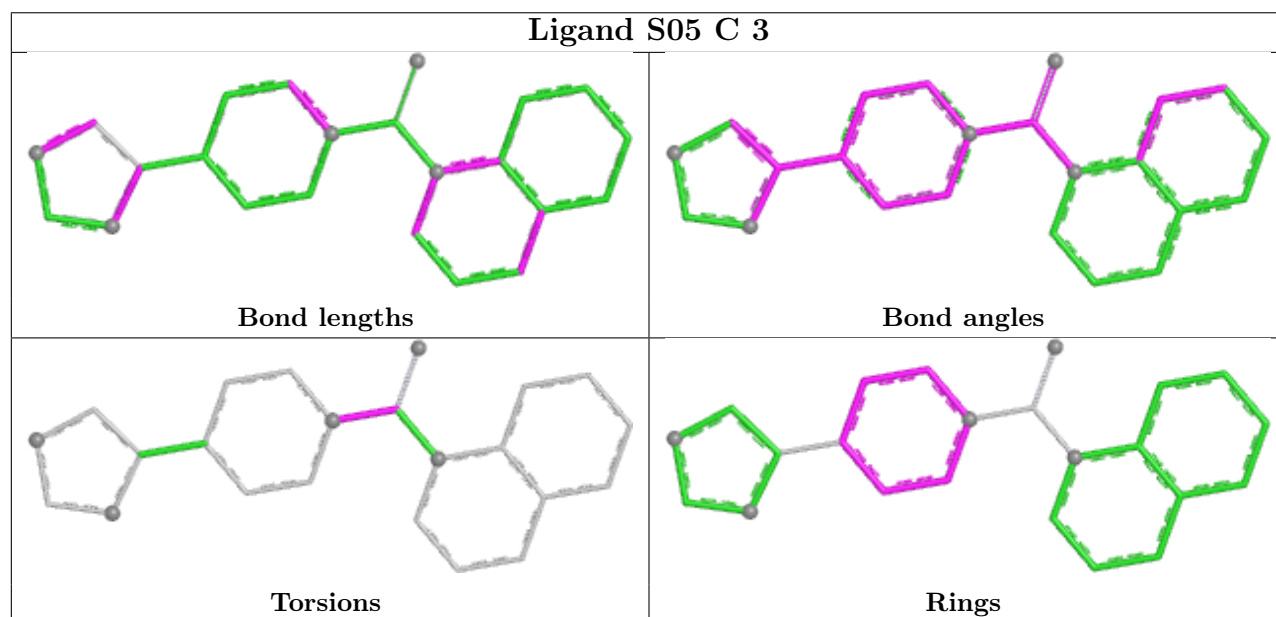
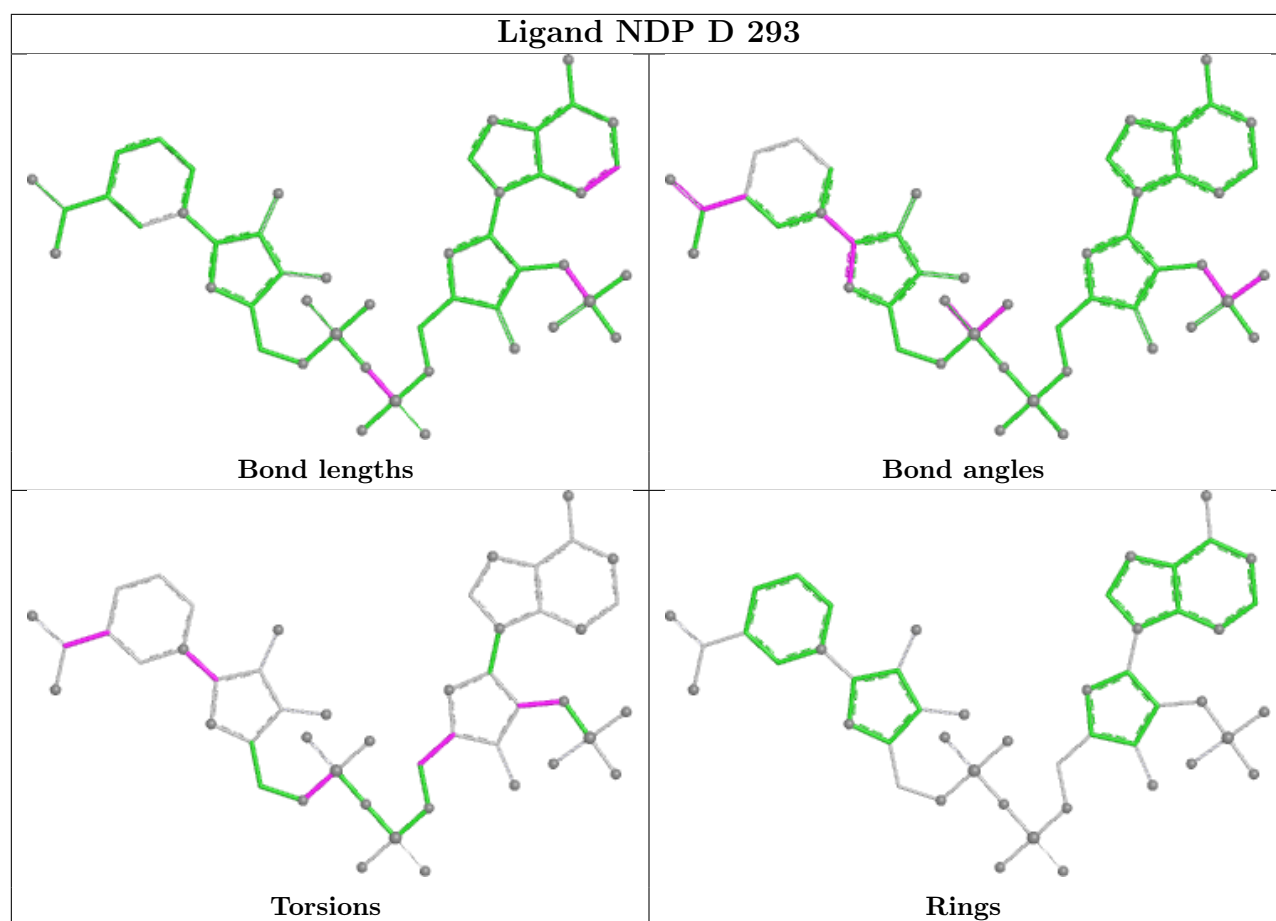


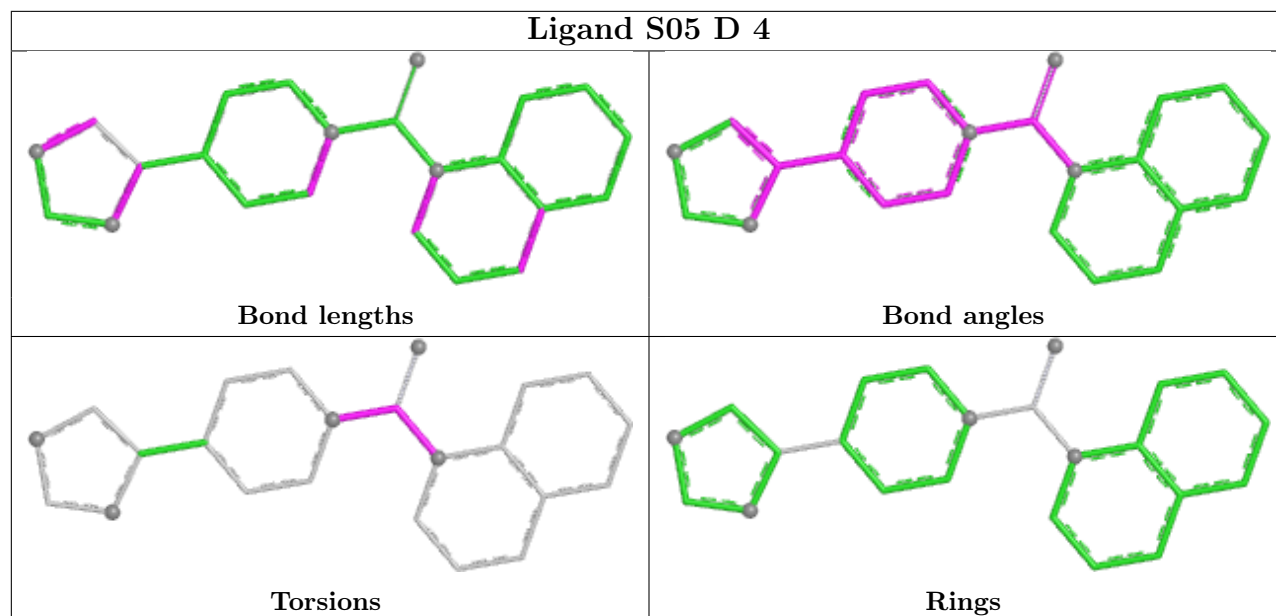
Ligand NDP A 293











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	270/286 (94%)	-0.35	12 (4%) 39 36	10, 23, 72, 100	5 (1%)
1	B	266/286 (93%)	-0.27	10 (3%) 44 40	10, 25, 65, 113	7 (2%)
1	C	262/286 (91%)	-0.46	3 (1%) 78 76	8, 20, 49, 62	3 (1%)
1	D	258/286 (90%)	-0.19	6 (2%) 61 58	13, 29, 64, 87	5 (1%)
All	All	1056/1144 (92%)	-0.32	31 (2%) 53 50	8, 24, 62, 113	20 (1%)

All (31) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	229	GLY	5.0
1	B	279	LEU	4.7
1	A	231	VAL	4.2
1	A	230	ILE	4.0
1	A	284	TYR	3.8
1	D	262	LEU	3.8
1	D	23	LEU	3.6
1	D	263	TRP	3.5
1	B	284	TYR	3.2
1	B	20	GLN	3.1
1	B	263	TRP	3.1
1	A	232	HIS	3.0
1	A	233	MET	3.0
1	A	263	TRP	2.9
1	B	23	LEU	2.7
1	D	22	PRO	2.7
1	B	262	LEU	2.6
1	B	22	PRO	2.6
1	B	280	TYR	2.6
1	B	285	ASN	2.6
1	A	289	PHE	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	280	TYR	2.5
1	D	265	THR	2.5
1	A	228	SER	2.4
1	A	23	LEU	2.4
1	C	20	GLN	2.3
1	A	20	GLN	2.3
1	C	130	HIS	2.3
1	B	21	GLN	2.2
1	D	268	ILE	2.2
1	C	263	TRP	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](#)

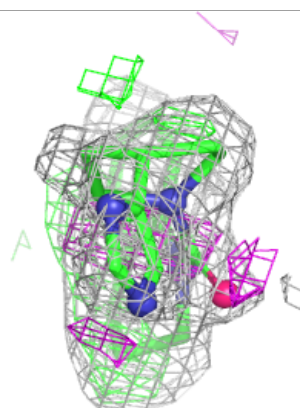
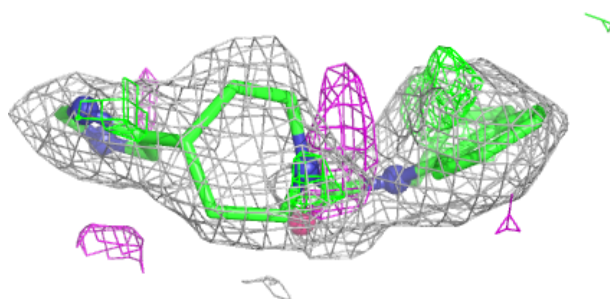
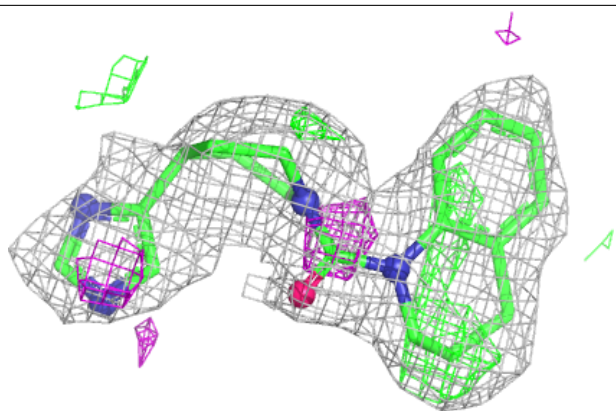
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	S05	C	3	23/23	0.81	0.19	45,50,53,53	0
2	S05	A	1	23/23	0.84	0.19	49,56,64,65	0
2	S05	B	2	23/23	0.87	0.21	55,64,67,67	0
2	S05	D	4	23/23	0.90	0.17	56,60,62,62	0
3	NDP	D	293	48/48	0.97	0.06	18,23,26,27	0
3	NDP	B	293	48/48	0.98	0.06	18,19,22,23	0
3	NDP	C	293	48/48	0.98	0.05	15,18,21,22	0
3	NDP	A	293	48/48	0.98	0.05	15,17,18,19	0

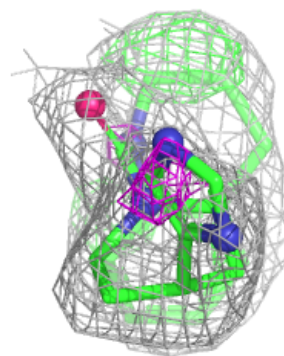
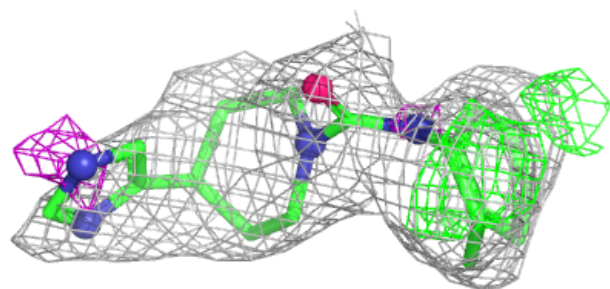
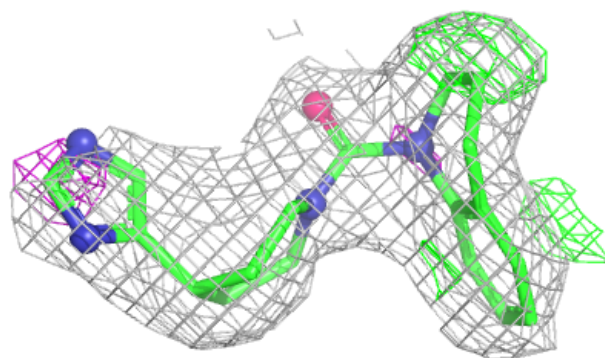
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around S05 C 3:

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

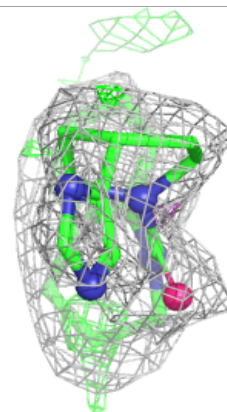
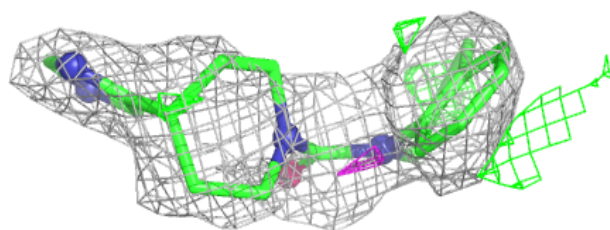
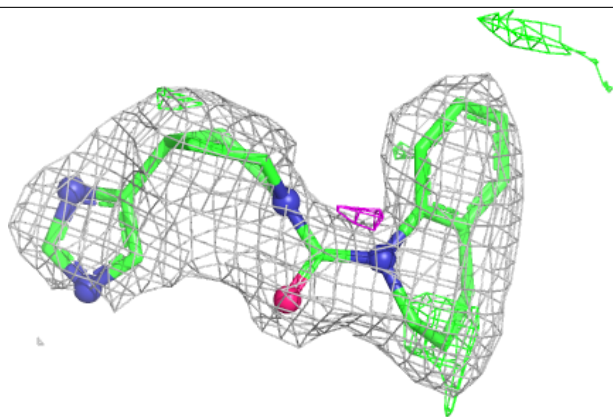
**Electron density around S05 A 1:**

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

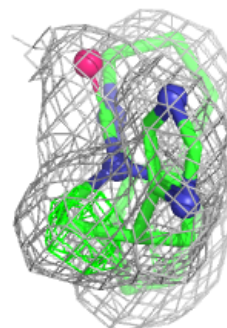
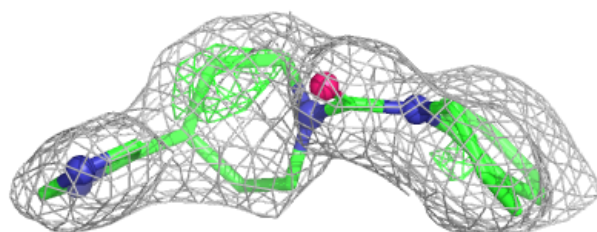
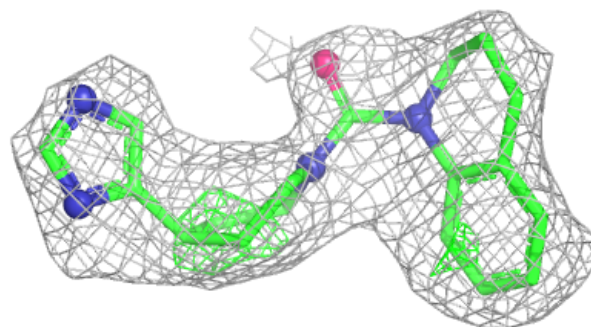


Electron density around S05 B 2:

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

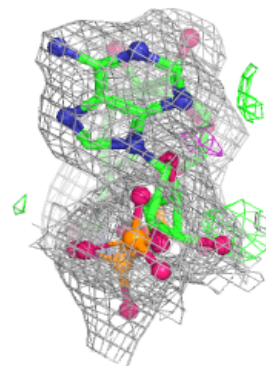
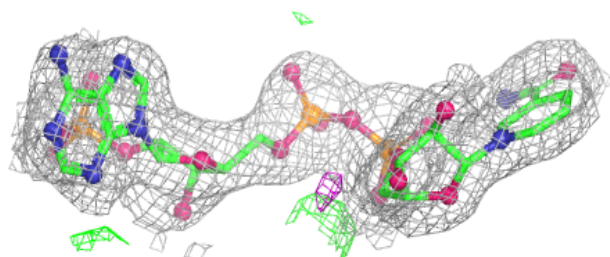
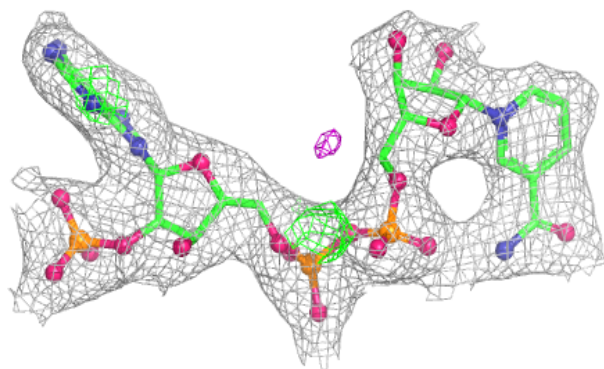
**Electron density around S05 D 4:**

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

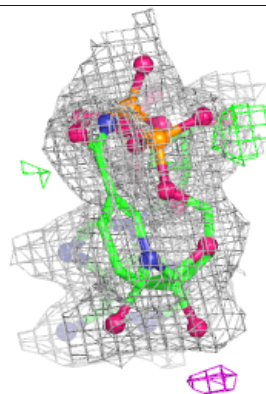
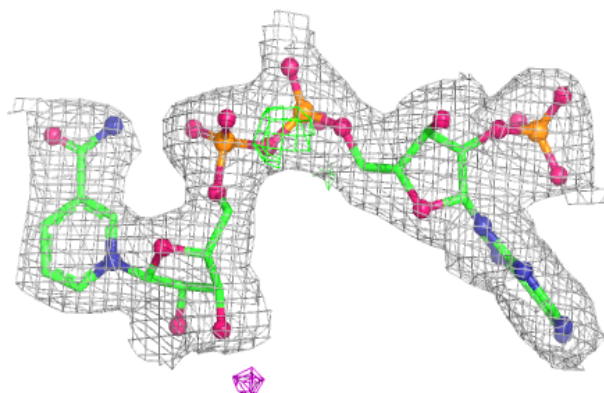


Electron density around NDP D 293:

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

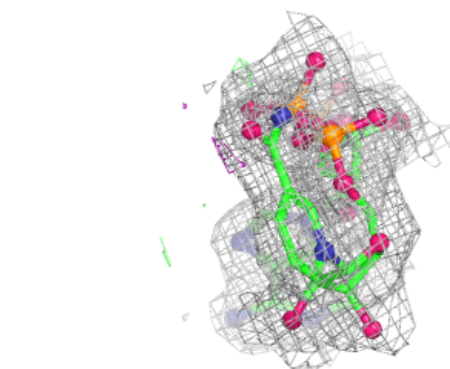
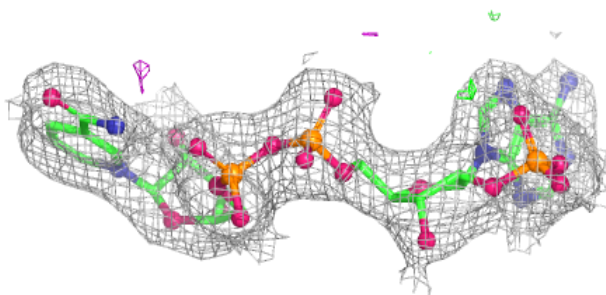
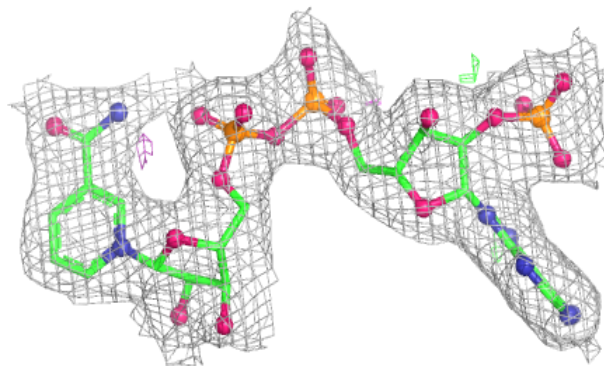
**Electron density around NDP B 293:**

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

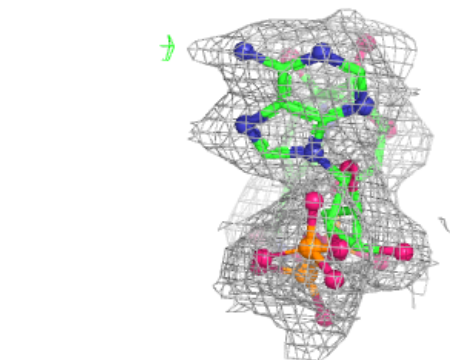
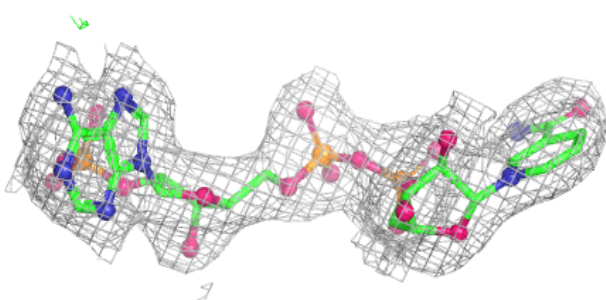
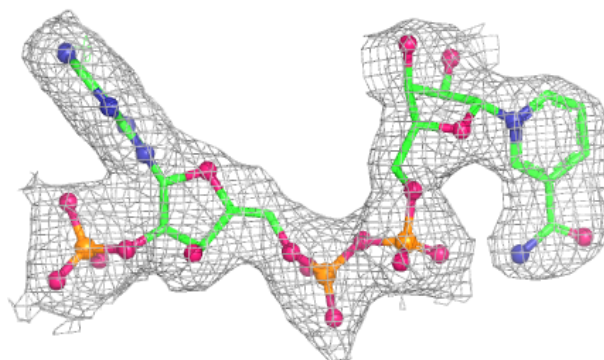


Electron density around NDP C 293:

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

**Electron density around NDP A 293:**

$2mF_o-DF_c$ (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.