Full wwPDB X-ray Structure Validation Report (i)

Sep 11, 2023 – 05:10 pm BST

PDB ID	:	8A45
Title	:	Structural analysis of 1-deoxy-D-xylulose 5-phosphate synthase from Pseudomonas aeruginosa with 2-acetyl thiamine diphosphate
Authors	:	Hamid, R.; Hirsch, A.
Deposited on	:	2022-06-10
Resolution	:	2.00 Å(reported)

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

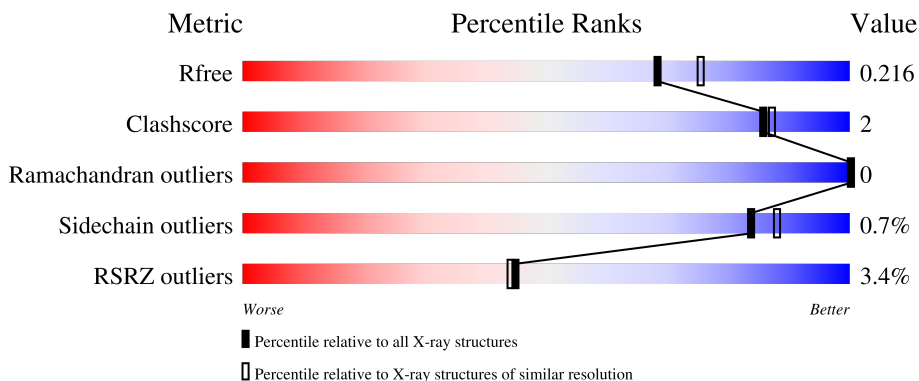|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

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 2.00 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.
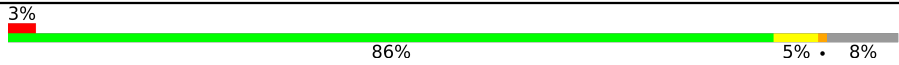
Metric	Percentile Ranks	Value
Rfree		0.216
Clashscore		2
Ramachandran outliers		0
Sidechain outliers		0.7%
RSRZ outliers		3.4%

Worse *Better*

▌ Percentile relative to all X-ray structures
▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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 <=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	622	2% 87% · 9%
1	B	622	3% 87% 5% 8%
1	C	622	3% 88% · 8%
1	D	622	4% 87% · 9%
1	E	622	4% 87% · 9%

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Mol	Chain	Length	Quality of chain
1	F	622	3% red; 86% green; 5%; 8%

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 53209 atoms, of which 24826 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 1-deoxy-D-xylulose-5-phosphate synthase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	567	Total 8487	C 2734	H 4165	N 749	O 818	S 21	0	0	0
1	B	570	Total 8585	C 2745	H 4245	N 753	O 821	S 21	0	0	0
1	C	570	Total 8628	C 2743	H 4290	N 752	O 822	S 21	0	0	0
1	D	566	Total 8390	C 2725	H 4081	N 749	O 814	S 21	0	0	0
1	E	567	Total 8211	C 2730	H 3893	N 749	O 818	S 21	0	0	0
1	F	573	Total 8412	C 2765	H 4044	N 757	O 824	S 22	0	0	0

There are 42 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	235	GLY	-	linker	PDB ?
A	236	GLY	-	linker	PDB ?
A	237	GLY	-	linker	PDB ?
A	238	GLY	-	linker	PDB ?
A	239	GLY	-	linker	PDB ?
A	240	GLY	-	linker	PDB ?
A	241	PRO	-	linker	PDB ?
B	235	GLY	-	linker	PDB ?
B	236	GLY	-	linker	PDB ?
B	237	GLY	-	linker	PDB ?
B	238	GLY	-	linker	PDB ?
B	239	GLY	-	linker	PDB ?
B	240	GLY	-	linker	PDB ?
B	241	PRO	-	linker	PDB ?
C	235	GLY	-	linker	PDB ?
C	236	GLY	-	linker	PDB ?
C	237	GLY	-	linker	PDB ?

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Chain	Residue	Modelled	Actual	Comment	Reference
C	238	GLY	-	linker	PDB ?
C	239	GLY	-	linker	PDB ?
C	240	GLY	-	linker	PDB ?
C	241	PRO	-	linker	PDB ?
D	235	GLY	-	linker	PDB ?
D	236	GLY	-	linker	PDB ?
D	237	GLY	-	linker	PDB ?
D	238	GLY	-	linker	PDB ?
D	239	GLY	-	linker	PDB ?
D	240	GLY	-	linker	PDB ?
D	241	PRO	-	linker	PDB ?
E	235	GLY	-	linker	PDB ?
E	236	GLY	-	linker	PDB ?
E	237	GLY	-	linker	PDB ?
E	238	GLY	-	linker	PDB ?
E	239	GLY	-	linker	PDB ?
E	240	GLY	-	linker	PDB ?
E	241	PRO	-	linker	PDB ?
F	235	GLY	-	linker	PDB ?
F	236	GLY	-	linker	PDB ?
F	237	GLY	-	linker	PDB ?
F	238	GLY	-	linker	PDB ?
F	239	GLY	-	linker	PDB ?
F	240	GLY	-	linker	PDB ?
F	241	PRO	-	linker	PDB ?

- Molecule 2 is 2-ACETYL-THIAMINE DIPHOSPHATE (three-letter code: HTL) (formula: $C_{14}H_{21}N_4O_8P_2S$) (labeled as "Ligand of Interest" by depositor).

HTL

Mol	Chain	Residues	Atoms								ZeroOcc	AltConf
2	A	1	Total	C	H	N	O	P	S		0	0
			47	14	18	4	8	2	1			
2	B	1	Total	C	H	N	O	P	S		0	0
			47	14	18	4	8	2	1			
2	C	1	Total	C	H	N	O	P	S		0	0
			47	14	18	4	8	2	1			
2	D	1	Total	C	H	N	O	P	S		0	0
			47	14	18	4	8	2	1			
2	E	1	Total	C	H	N	O	P	S		0	0
			47	14	18	4	8	2	1			
2	F	1	Total	C	H	N	O	P	S		0	0
			47	14	18	4	8	2	1			

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	Mg	0	0
			1	1		
3	B	1	Total	Mg	0	0
			1	1		
3	C	1	Total	Mg	0	0
			1	1		
3	D	1	Total	Mg	0	0
			1	1		
3	E	1	Total	Mg	0	0
			1	1		
3	F	1	Total	Mg	0	0
			1	1		

• Molecule 4 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	3	Total 3	Ca 3	0	0
4	D	4	Total 4	Ca 4	0	0
4	E	1	Total 1	Ca 1	0	0
4	F	4	Total 4	Ca 4	0	0

• Molecule 5 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	1	Total 1	Na 1	0	0
5	B	1	Total 1	Na 1	0	0
5	C	1	Total 1	Na 1	0	0
5	E	1	Total 1	Na 1	0	0

• Molecule 6 is water.

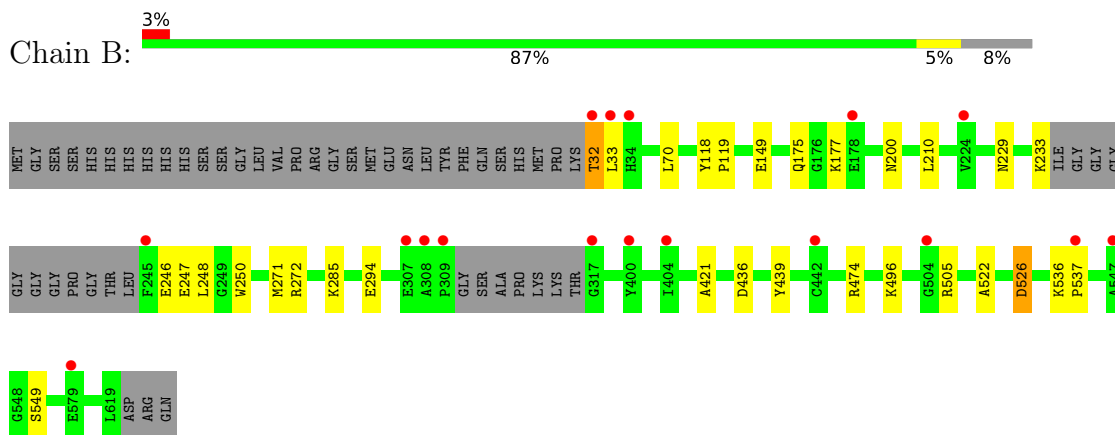| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	396	Total 396	O 396	0	0
6	B	354	Total 354	O 354	0	0
6	C	382	Total 382	O 382	0	0
6	D	352	Total 352	O 352	0	0
6	E	343	Total 343	O 343	0	0
6	F	365	Total 365	O 365	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.
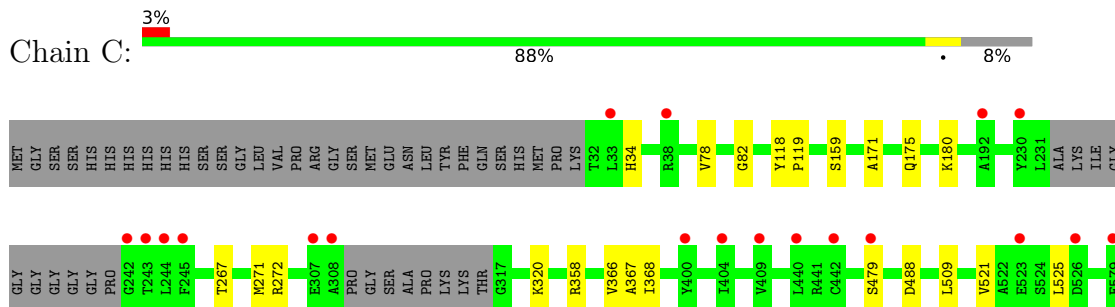
- Molecule 1: 1-deoxy-D-xylulose-5-phosphate synthase

Chain A:

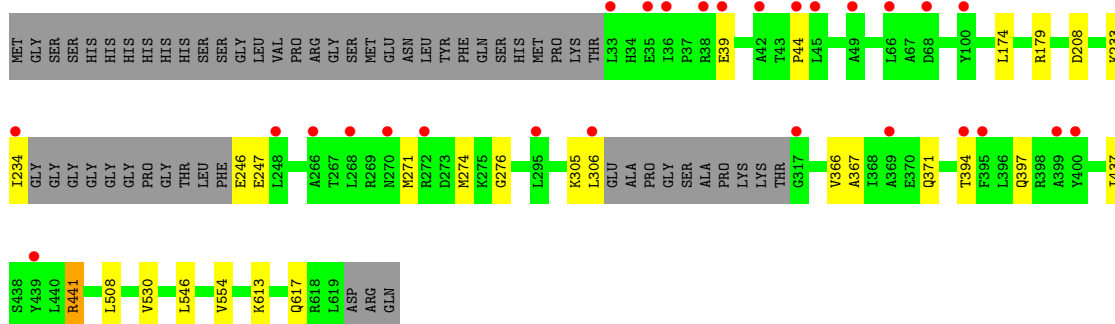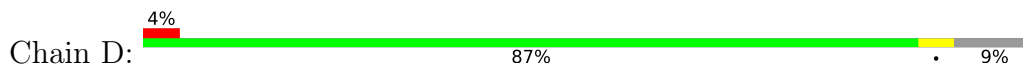- Molecule 1: 1-deoxy-D-xylulose-5-phosphate synthase

Chain B:

- Molecule 1: 1-deoxy-D-xylulose-5-phosphate synthase

Chain C:

I611 V615 L619 ASP ARG GLN

• Molecule 1: 1-deoxy-D-xylulose-5-phosphate synthase

Chain D:

4%

87%   •   9%

MET GLY SER SER HIS HIS HIS HIS HIS SER SER GLY LEU VAL PRO ARG GLY SER MET GLU ASN LEU TYR PHE GLN SER HIS MET PRO LYS THR L33 H34 E35 I36 P37 R38 E39 A42 T43 P44 L45 A49 L66 A67 D68 Y100 L174 R179 D208 K233

I234 GLY GLY GLY GLY GLY PRO GLY THR LEU PHE E246 E247 L248 A266 T267 L268 R269 N270 M271 R272 D273 M274 K275 G276 L295 K305 L306 GLU ALA PRO GLY SER ALA PRO LYS LYS THR G317 V366 A367 I368 A369 E370 Q371 T394 F395 L396 Q397 R398 A399 Y400 I437

S438 Y439 L440 R441 L508 V530 L546 V554 K613 Q617 R618 L619 ASP ARG GLN
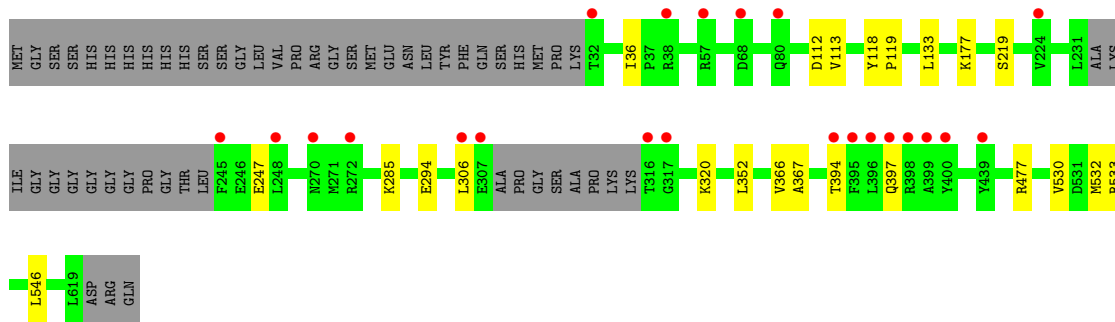
• Molecule 1: 1-deoxy-D-xylulose-5-phosphate synthase

Chain E:
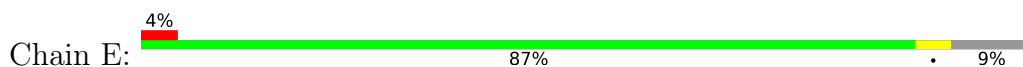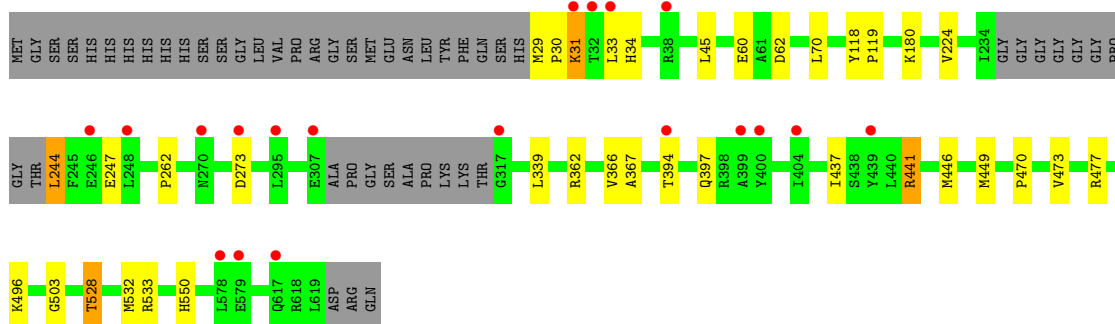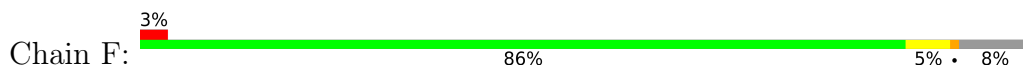
4%

87%   •   9%

MET GLY SER SER HIS HIS HIS HIS HIS SER SER GLY LEU VAL PRO ARG GLY SER MET GLU ASN LEU TYR PHE GLN SER HIS MET PRO LYS T32 I36 P37 R38 R57 D68 Q80 D112 V113 Y118 P119 L133 K177 S219 V224 L231 ALA LYS

ILE GLY GLY GLY GLY GLY PRO GLY THR LEU F245 E246 E247 L248 N270 M271 R272 K285 E294 L306 E307 ALA PRO GLY SER ALA PRO LYS LYS T316 G317 K320 L352 V366 A367 T394 F395 L396 Q397 R398 A399 Y400 Y439 R477 V530 D531 M532 R533

L546 L619 ASP ARG GLN

• Molecule 1: 1-deoxy-D-xylulose-5-phosphate synthase

Chain F:

3%

86%   5% •   8%

MET GLY SER SER HIS HIS HIS HIS HIS SER SER GLY LEU VAL PRO ARG GLY SER MET GLU ASN LEU TYR PHE GLN SER HIS M29 P30 K31 T32 L33 H34 R38 L45 E60 A61 D62 L70 Y118 P119 K180 V224 I234 GLY GLY GLY GLY GLY GLY PRO

GLY THR L244 F245 E246 E247 L248 P262 N270 D273 L295 E307 ALA PRO GLY SER ALA PRO LYS LYS THR G317 L339 R362 V366 A367 T394 Q397 R398 A399 Y400 I404 I437 S438 Y439 L440 R441 M446 M449 P470 V473 R477

K496 G503 T528 M532 R533 H550 L578 E579 Q617 R618 L619 ASP ARG GLN

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	117.12Å　　138.01Å　　231.63Å 90.00°　　90.00°　　90.00°	Depositor
Resolution (Å)	48.59　–　2.00 48.59　–　2.00	Depositor EDS
% Data completeness (in resolution range)	99.4 (48.59-2.00) 99.4 (48.59-2.00)	Depositor EDS
R_{merge}	0.03	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.23 (at 2.00Å)	Xtriage
Refinement program	PHENIX 1.20.1_4487, PHENIX 1.20.1_4487	Depositor
R, R_{free}	0.183　,　0.217 0.182　,　0.216	Depositor DCC
R_{free} test set	12516 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å^2)	24.2	Xtriage
Anisotropy	0.533	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.43 , 46.3	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	53209	wwPDB-VP
Average B, all atoms (Å^2)	31.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 17.38% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: HTL, CA, NA, MG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$|Z|$ >5	RMSZ	#$|Z|$ >5
1	A	0.25	0/4408	0.51	0/5977
1	B	0.25	0/4427	0.51	0/6003
1	C	0.25	0/4424	0.51	0/5999
1	D	0.25	0/4394	0.50	0/5957
1	E	0.26	0/4404	0.51	0/5971
1	F	0.25	0/4455	0.51	0/6039
All	All	0.25	0/26512	0.51	0/35946

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4322	4165	4289	15	0
1	B	4340	4245	4308	24	0
1	C	4338	4290	4304	15	0
1	D	4309	4081	4285	28	0
1	E	4318	3893	4279	15	0
1	F	4368	4044	4347	23	0
2	A	29	18	18	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	29	18	18	0	0
2	C	29	18	18	1	0
2	D	29	18	18	0	0
2	E	29	18	18	1	0
2	F	29	18	18	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	E	1	0	0	0	0
3	F	1	0	0	0	0
4	A	3	0	0	0	0
4	D	4	0	0	0	0
4	E	1	0	0	0	0
4	F	4	0	0	0	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
5	C	1	0	0	0	0
5	E	1	0	0	0	0
6	A	396	0	0	1	0
6	B	354	0	0	3	0
6	C	382	0	0	1	3
6	D	352	0	0	1	0
6	E	343	0	0	1	3
6	F	365	0	0	4	0
All	All	28383	24826	25920	116	3

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 2.

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:D:305:LYS:HD2	1:D:306:LEU:HD23	1.48	0.96
1:C:358:ARG:NH1	6:C:801:HOH:O	2.06	0.89
1:A:230:TYR:CE2	1:D:247:GLU:HG2	2.14	0.83
1:B:149:GLU:OE1	6:B:801:HOH:O	2.03	0.76
1:F:247:GLU:OE1	1:F:247:GLU:HA	1.83	0.75
1:D:271:MET:HA	1:D:274:MET:HE3	1.70	0.72
1:A:371:GLN:NE2	1:D:371:GLN:OE1	2.30	0.64
1:F:60:GLU:OE2	6:F:801:HOH:O	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:31:LYS:HD3	1:F:31:LYS:H	1.64	0.63
1:B:421:ALA:HB1	1:B:474:ARG:CZ	2.28	0.62
1:D:233:LYS:HG2	1:D:234:ILE:HG22	1.82	0.61
1:C:521:VAL:HG12	1:C:525:LEU:HD13	1.83	0.61
1:A:260:ASP:OD2	1:A:263:THR:OG1	2.15	0.61
1:D:508:LEU:HD23	1:D:554:VAL:HB	1.84	0.60
1:B:229:ASN:O	1:B:233:LYS:HG2	2.02	0.60
1:C:34:HIS:CE1	1:D:174:LEU:HD23	2.38	0.59
1:D:247:GLU:O	1:D:247:GLU:HG3	2.02	0.58
1:B:247:GLU:HA	1:B:247:GLU:OE2	2.01	0.58
1:B:436:ASP:OD2	1:B:474:ARG:HD2	2.04	0.57
1:D:271:MET:CA	1:D:274:MET:HE3	2.32	0.57
1:D:305:LYS:CD	1:D:306:LEU:HD23	2.28	0.57
1:F:394:THR:O	1:F:397:GLN:HG2	2.05	0.56
1:D:305:LYS:HB2	1:D:306:LEU:HD22	1.87	0.56
1:C:320:LYS:HA	1:C:479:SER:HA	1.89	0.54
1:F:33:LEU:HD12	1:F:34:HIS:H	1.72	0.54
1:B:233:LYS:HE2	1:B:233:LYS:N	2.24	0.53
1:B:32:THR:O	1:B:33:LEU:HD22	2.10	0.52
1:E:36:ILE:HG21	1:E:306:LEU:HD11	1.92	0.52
1:E:36:ILE:CG2	1:E:306:LEU:HD11	2.41	0.51
1:E:247:GLU:HA	1:E:247:GLU:OE1	2.11	0.50
1:E:285:LYS:HE3	1:E:294:GLU:HG2	1.92	0.50
1:D:44:PRO:O	6:D:801:HOH:O	2.20	0.50
1:E:394:THR:O	1:E:397:GLN:HG2	2.11	0.50
1:F:528:THR:HG21	1:F:550:HIS:NE2	2.26	0.50
1:B:200:ASN:HD21	1:B:248:LEU:HD22	1.75	0.50
1:B:200:ASN:ND2	1:B:248:LEU:HD22	2.27	0.49
1:B:32:THR:HG22	6:B:894:HOH:O	2.11	0.49
1:F:503:GLY:H	1:F:528:THR:HG22	1.77	0.49
1:D:39:GLU:HA	1:D:39:GLU:OE1	2.12	0.49
1:F:477:ARG:NH2	6:F:811:HOH:O	2.46	0.49
1:A:553:LEU:HD22	1:A:580:VAL:HG11	1.95	0.49
1:D:306:LEU:HD22	1:D:306:LEU:N	2.28	0.48
1:B:421:ALA:HB1	1:B:474:ARG:NH2	2.29	0.48
1:F:224:VAL:O	1:F:224:VAL:HG13	2.12	0.48
1:A:118:TYR:CZ	1:A:133:LEU:HD21	2.48	0.48
1:C:180:LYS:HE3	1:C:272:ARG:O	2.14	0.48
1:D:366:VAL:O	1:D:367:ALA:HB3	2.13	0.48
1:F:366:VAL:O	1:F:367:ALA:HB3	2.14	0.48
1:D:246:GLU:HA	1:D:246:GLU:OE1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:613:LYS:O	1:D:617:GLN:HG3	2.14	0.47
1:F:70:LEU:HD23	1:F:70:LEU:O	2.15	0.47
1:E:118:TYR:CZ	1:E:133:LEU:HD21	2.50	0.47
1:E:366:VAL:O	1:E:367:ALA:HB3	2.14	0.47
1:F:244:LEU:HD23	6:F:1022:HOH:O	2.14	0.47
1:D:234:ILE:O	1:D:234:ILE:HG13	2.14	0.46
1:F:437:ILE:O	1:F:441:ARG:HB3	2.15	0.46
1:D:394:THR:O	1:D:397:GLN:HG2	2.14	0.46
1:E:530:VAL:HG21	1:E:546:LEU:HD11	1.97	0.46
1:B:421:ALA:HB1	1:B:474:ARG:NE	2.31	0.46
1:C:366:VAL:O	1:C:367:ALA:HB3	2.15	0.46
1:E:320:LYS:HE3	6:E:1050:HOH:O	2.15	0.46
1:F:528:THR:CG2	1:F:550:HIS:NE2	2.79	0.45
1:F:45:LEU:HD21	1:F:62:ASP:HB3	1.99	0.45
1:A:200:ASN:OD1	1:A:248:LEU:HD22	2.17	0.45
1:B:175:GLN:NE2	6:B:807:HOH:O	2.35	0.45
1:A:530:VAL:HG21	1:A:546:LEU:HD11	1.99	0.44
1:D:437:ILE:O	1:D:441:ARG:HB3	2.17	0.44
1:C:34:HIS:CE1	1:D:174:LEU:CD2	3.01	0.44
1:D:394:THR:O	1:D:397:GLN:CG	2.66	0.44
1:B:175:GLN:HG3	1:B:177:LYS:HG3	1.98	0.44
1:D:530:VAL:HG21	1:D:546:LEU:HD11	2.00	0.44
1:E:118:TYR:HB2	1:E:119:PRO:HD3	2.00	0.44
1:F:449:MET:HE3	1:F:473:VAL:HG22	2.00	0.44
1:E:285:LYS:HE3	1:E:294:GLU:CG	2.48	0.43
1:F:118:TYR:HB2	1:F:119:PRO:HD3	2.00	0.43
1:F:496:LYS:HE3	6:F:859:HOH:O	2.18	0.43
1:D:306:LEU:HD22	1:D:306:LEU:H	1.81	0.43
1:B:522:ALA:O	1:B:526:ASP:N	2.52	0.43
1:F:446:MET:SD	1:F:470:PRO:HB2	2.59	0.43
1:C:611:ILE:O	1:C:615:VAL:HG23	2.18	0.43
1:E:532:MET:O	1:E:533:ARG:HB2	2.19	0.43
1:C:78:VAL:CG1	1:C:82:GLY:O	2.67	0.43
1:D:208:ASP:OD1	1:D:276:GLY:N	2.39	0.43
1:A:596:LYS:HB2	1:A:599:GLU:HG3	2.01	0.43
1:E:177:LYS:HA	1:E:177:LYS:HD2	1.69	0.43
1:E:352:LEU:HD12	1:E:352:LEU:N	2.33	0.43
1:D:271:MET:CG	1:D:274:MET:HE3	2.49	0.42
1:F:29:MET:HA	1:F:30:PRO:HD3	1.93	0.42
1:B:118:TYR:HB2	1:B:119:PRO:HD3	2.02	0.42
2:E:701:HTL:H4'2	2:E:701:HTL:C1'	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:339:LEU:O	1:F:362:ARG:HD2	2.20	0.42
1:A:532:MET:O	1:A:533:ARG:HB2	2.20	0.42
1:E:112:ASP:O	1:E:113:VAL:HB	2.19	0.42
1:B:496:LYS:HD2	1:B:496:LYS:HA	1.79	0.41
1:F:31:LYS:H	1:F:31:LYS:CD	2.33	0.41
1:B:536:LYS:HB3	1:B:537:PRO:HD3	2.02	0.41
1:C:509:LEU:HD12	1:C:509:LEU:N	2.34	0.41
1:B:210:LEU:HD13	1:B:271:MET:HE2	2.03	0.41
1:B:285:LYS:HE3	1:B:294:GLU:HA	2.02	0.41
1:B:536:LYS:HB3	1:B:537:PRO:CD	2.51	0.41
1:D:305:LYS:HB2	1:D:306:LEU:CD2	2.51	0.41
1:B:70:LEU:O	1:B:70:LEU:HD23	2.21	0.41
1:A:45:LEU:HD21	1:A:62:ASP:HB3	2.02	0.41
1:A:230:TYR:CD2	1:D:247:GLU:HG2	2.52	0.41
1:B:436:ASP:HA	1:B:439:TYR:CE2	2.56	0.41
1:C:78:VAL:HG13	1:C:82:GLY:O	2.21	0.41
1:A:618:ARG:HD2	6:A:1039:HOH:O	2.19	0.41
1:C:171:ALA:O	1:C:175:GLN:HG2	2.21	0.41
1:B:246:GLU:HA	1:B:250:TRP:O	2.21	0.40
1:F:532:MET:O	1:F:533:ARG:HB2	2.21	0.40
1:A:247:GLU:HA	1:A:247:GLU:OE2	2.22	0.40
1:C:267:THR:O	1:C:271:MET:HG3	2.21	0.40
1:A:436:ASP:HA	1:A:439:TYR:CE2	2.56	0.40
1:A:54:GLU:HG3	1:A:57:ARG:HH12	1.85	0.40
1:C:118:TYR:HB2	1:C:119:PRO:HD3	2.02	0.40
1:C:368:ILE:CD1	2:C:701:HTL:H4A1	2.51	0.40

All (3) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:1122:HOH:O	6:E:1127:HOH:O[4_466]	1.98	0.22
6:C:1054:HOH:O	6:E:1127:HOH:O[4_466]	2.04	0.16
6:C:1150:HOH:O	6:E:1075:HOH:O[4_466]	2.14	0.06

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	561/622 (90%)	536 (96%)	25 (4%)	0	100	100
1	B	564/622 (91%)	541 (96%)	23 (4%)	0	100	100
1	C	564/622 (91%)	543 (96%)	21 (4%)	0	100	100
1	D	560/622 (90%)	538 (96%)	22 (4%)	0	100	100
1	E	561/622 (90%)	540 (96%)	21 (4%)	0	100	100
1	F	567/622 (91%)	547 (96%)	20 (4%)	0	100	100
All	All	3377/3732 (90%)	3245 (96%)	132 (4%)	0	100	100

There are no Ramachandran outliers to report.

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	449/490 (92%)	447 (100%)	2 (0%)	91	93
1	B	450/490 (92%)	445 (99%)	5 (1%)	73	78
1	C	450/490 (92%)	448 (100%)	2 (0%)	91	93
1	D	447/490 (91%)	445 (100%)	2 (0%)	91	93
1	E	448/490 (91%)	446 (100%)	2 (0%)	91	93
1	F	454/490 (93%)	447 (98%)	7 (2%)	65	69
All	All	2698/2940 (92%)	2678 (99%)	20 (1%)	84	88

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	244	LEU
1	A	477	ARG
1	B	32	THR
1	B	272	ARG
1	B	505	ARG
1	B	526	ASP
1	B	549	SER
1	C	159	SER
1	C	488	ASP
1	D	179	ARG
1	D	441	ARG
1	E	219	SER
1	E	477	ARG
1	F	31	LYS
1	F	180	LYS
1	F	244	LEU
1	F	262	PRO
1	F	273	ASP
1	F	441	ARG
1	F	528	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	80	GLN
1	B	200	ASN
1	B	617	GLN
1	C	251	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 monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 28 ligands modelled in this entry, 22 are monoatomic - leaving 6 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	HTL	D	701	3	23,30,30	1.83	5 (21%)	31,45,45	2.80	9 (29%)
2	HTL	A	701	3	23,30,30	1.79	4 (17%)	31,45,45	2.86	8 (25%)
2	HTL	F	701	3	23,30,30	1.81	5 (21%)	31,45,45	2.84	8 (25%)
2	HTL	E	701	3	23,30,30	1.87	6 (26%)	31,45,45	2.83	9 (29%)
2	HTL	B	701	3	23,30,30	1.80	5 (21%)	31,45,45	2.81	8 (25%)
2	HTL	C	701	3	23,30,30	1.80	4 (17%)	31,45,45	2.86	8 (25%)

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	HTL	D	701	3	-	5/16/21/21	0/2/2/2
2	HTL	A	701	3	-	4/16/21/21	0/2/2/2
2	HTL	F	701	3	-	6/16/21/21	0/2/2/2
2	HTL	E	701	3	-	3/16/21/21	0/2/2/2
2	HTL	B	701	3	-	5/16/21/21	0/2/2/2
2	HTL	C	701	3	-	4/16/21/21	0/2/2/2

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	701	HTL	C4'-N4'	4.56	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	F	701	HTL	C4'-N4'	4.56	1.45	1.34
2	E	701	HTL	C4'-N4'	4.55	1.45	1.34
2	B	701	HTL	C4'-N4'	4.50	1.45	1.34
2	D	701	HTL	C4'-N4'	4.49	1.45	1.34
2	A	701	HTL	C4'-N4'	4.47	1.45	1.34
2	B	701	HTL	C4A-C4	3.75	1.57	1.49
2	C	701	HTL	C4A-C4	3.75	1.57	1.49
2	A	701	HTL	C4A-C4	3.74	1.57	1.49
2	D	701	HTL	C4A-C4	3.70	1.57	1.49
2	F	701	HTL	C4A-C4	3.70	1.57	1.49
2	E	701	HTL	C4A-C4	3.58	1.57	1.49
2	E	701	HTL	C5A-C5	3.14	1.52	1.50
2	B	701	HTL	C35-C5'	3.13	1.57	1.51
2	C	701	HTL	C35-C5'	3.09	1.57	1.51
2	E	701	HTL	C35-C5'	3.07	1.57	1.51
2	D	701	HTL	C35-C5'	3.04	1.57	1.51
2	F	701	HTL	C35-C5'	3.03	1.57	1.51
2	A	701	HTL	C35-C5'	2.94	1.57	1.51
2	D	701	HTL	C5-S1	-2.47	1.69	1.74
2	E	701	HTL	C5-S1	-2.40	1.69	1.74
2	C	701	HTL	C5-S1	-2.19	1.70	1.74
2	A	701	HTL	C5-S1	-2.19	1.70	1.74
2	B	701	HTL	C5-S1	-2.17	1.70	1.74
2	F	701	HTL	C5-S1	-2.10	1.70	1.74
2	F	701	HTL	C5A-C5	2.06	1.51	1.50
2	D	701	HTL	C5A-C5	2.04	1.51	1.50
2	B	701	HTL	C3'-C1'	2.01	1.55	1.49
2	E	701	HTL	C2A-C2'	2.01	1.55	1.49

All (50) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	701	HTL	C4-N3-C2	13.38	116.08	108.64
2	C	701	HTL	C4-N3-C2	13.36	116.07	108.64
2	F	701	HTL	C4-N3-C2	13.21	115.99	108.64
2	B	701	HTL	C4-N3-C2	13.00	115.87	108.64
2	E	701	HTL	C4-N3-C2	12.92	115.83	108.64
2	D	701	HTL	C4-N3-C2	12.60	115.65	108.64
2	C	701	HTL	C6'-N1'-C2'	3.58	122.05	115.96
2	E	701	HTL	C6'-N1'-C2'	3.57	122.03	115.96
2	D	701	HTL	C6'-N1'-C2'	3.50	121.92	115.96
2	B	701	HTL	C6'-N1'-C2'	3.49	121.90	115.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	F	701	HTL	C6'-N1'-C2'	3.43	121.79	115.96
2	A	701	HTL	C6'-N1'-C2'	3.42	121.78	115.96
2	E	701	HTL	C5-C4-N3	3.39	114.76	107.66
2	A	701	HTL	C5'-C6'-N1'	-3.19	118.51	123.82
2	F	701	HTL	C5-C4-N3	3.18	114.32	107.66
2	D	701	HTL	C5'-C6'-N1'	-3.15	118.56	123.82
2	D	701	HTL	C5-C4-N3	3.15	114.24	107.66
2	C	701	HTL	C5'-C6'-N1'	-3.11	118.64	123.82
2	B	701	HTL	C5-C4-N3	3.11	114.15	107.66
2	F	701	HTL	C5'-C6'-N1'	-3.09	118.68	123.82
2	C	701	HTL	C5-C4-N3	3.08	114.10	107.66
2	E	701	HTL	C5'-C6'-N1'	-3.07	118.71	123.82
2	B	701	HTL	C5'-C6'-N1'	-3.06	118.72	123.82
2	A	701	HTL	C5-C4-N3	3.04	114.02	107.66
2	E	701	HTL	N1'-C2'-N3'	-2.76	120.78	125.54
2	D	701	HTL	N1'-C2'-N3'	-2.73	120.84	125.54
2	B	701	HTL	N1'-C2'-N3'	-2.69	120.91	125.54
2	D	701	HTL	C5A-C5-C4	2.69	129.59	127.43
2	C	701	HTL	N1'-C2'-N3'	-2.69	120.91	125.54
2	A	701	HTL	N1'-C2'-N3'	-2.60	121.06	125.54
2	F	701	HTL	N1'-C2'-N3'	-2.59	121.08	125.54
2	D	701	HTL	C2A-C2'-N1'	2.57	119.96	117.14
2	E	701	HTL	C5A-C5-C4	2.52	129.46	127.43
2	B	701	HTL	C2A-C2'-N1'	2.49	119.87	117.14
2	F	701	HTL	P1-O11-P2	-2.48	124.31	132.83
2	B	701	HTL	P1-O11-P2	-2.48	124.31	132.83
2	A	701	HTL	C2A-C2'-N1'	2.48	119.86	117.14
2	D	701	HTL	P1-O11-P2	-2.47	124.34	132.83
2	A	701	HTL	C4A-C4-C5	-2.45	122.25	127.60
2	F	701	HTL	C4A-C4-C5	-2.45	122.25	127.60
2	C	701	HTL	P1-O11-P2	-2.30	124.94	132.83
2	E	701	HTL	P1-O11-P2	-2.23	125.18	132.83
2	A	701	HTL	P1-O11-P2	-2.21	125.23	132.83
2	F	701	HTL	C2A-C2'-N1'	2.20	119.56	117.14
2	C	701	HTL	C4A-C4-C5	-2.18	122.83	127.60
2	B	701	HTL	C4A-C4-C5	-2.15	122.91	127.60
2	C	701	HTL	C2A-C2'-N1'	2.11	119.46	117.14
2	D	701	HTL	C4A-C4-C5	-2.09	123.03	127.60
2	E	701	HTL	C4A-C4-C5	-2.09	123.03	127.60
2	E	701	HTL	C2A-C2'-N1'	2.03	119.37	117.14

There are no chirality outliers.

All (27) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	701	HTL	N3-C35-C5'-C4'
2	B	701	HTL	N3-C35-C5'-C4'
2	B	701	HTL	P1-O11-P2-O22
2	B	701	HTL	P1-O11-P2-O23
2	C	701	HTL	N3-C35-C5'-C4'
2	D	701	HTL	N3-C35-C5'-C4'
2	D	701	HTL	P1-O11-P2-O22
2	D	701	HTL	P1-O11-P2-O23
2	E	701	HTL	N3-C35-C5'-C4'
2	E	701	HTL	P1-O11-P2-O22
2	F	701	HTL	N3-C35-C5'-C4'
2	F	701	HTL	C5B-O5G-P1-O12
2	F	701	HTL	P1-O11-P2-O23
2	E	701	HTL	N3-C35-C5'-C6'
2	A	701	HTL	C4-C5-C5A-C5B
2	B	701	HTL	C4-C5-C5A-C5B
2	F	701	HTL	C4-C5-C5A-C5B
2	F	701	HTL	P1-O11-P2-O21
2	D	701	HTL	P1-O11-P2-O21
2	A	701	HTL	P1-O11-P2-O22
2	C	701	HTL	P1-O11-P2-O22
2	A	701	HTL	C5B-O5G-P1-O12
2	B	701	HTL	C5B-O5G-P1-O12
2	C	701	HTL	C5B-O5G-P1-O12
2	D	701	HTL	N3-C35-C5'-C6'
2	F	701	HTL	N3-C35-C5'-C6'
2	C	701	HTL	C4-C5-C5A-C5B

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	E	701	HTL	1	0
2	C	701	HTL	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 then 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
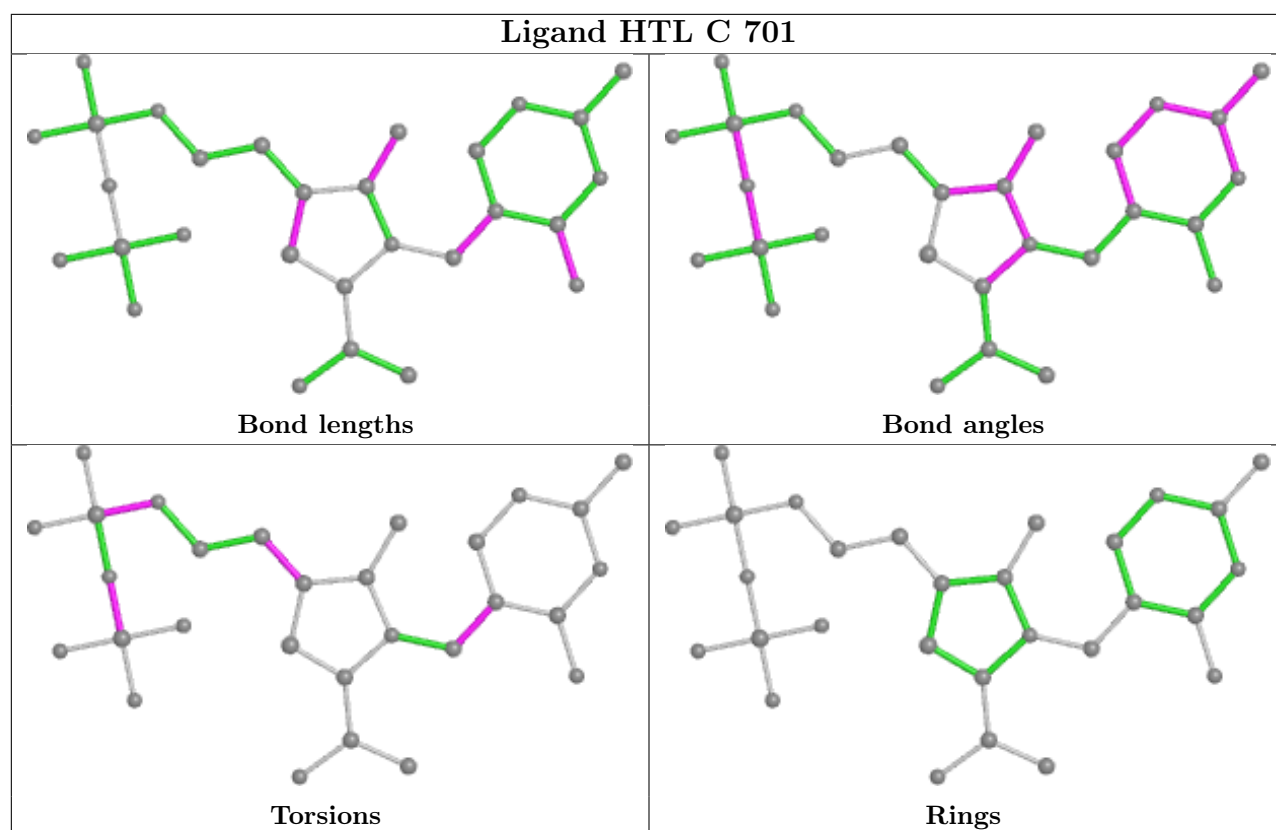
highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified 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 HTL D 701

Bond lengths — Bond angles — Torsions — Rings

Ligand HTL A 701

Bond lengths

Bond angles

Torsions

Rings

Ligand HTL F 701

Bond lengths

Bond angles

Torsions

Rings

Ligand HTL E 701

Bond lengths

Bond angles

Torsions

Rings

Ligand HTL B 701

Bond lengths

Bond angles

Torsions

Rings

Ligand HTL C 701

Bond lengths

Bond angles

Torsions

Rings
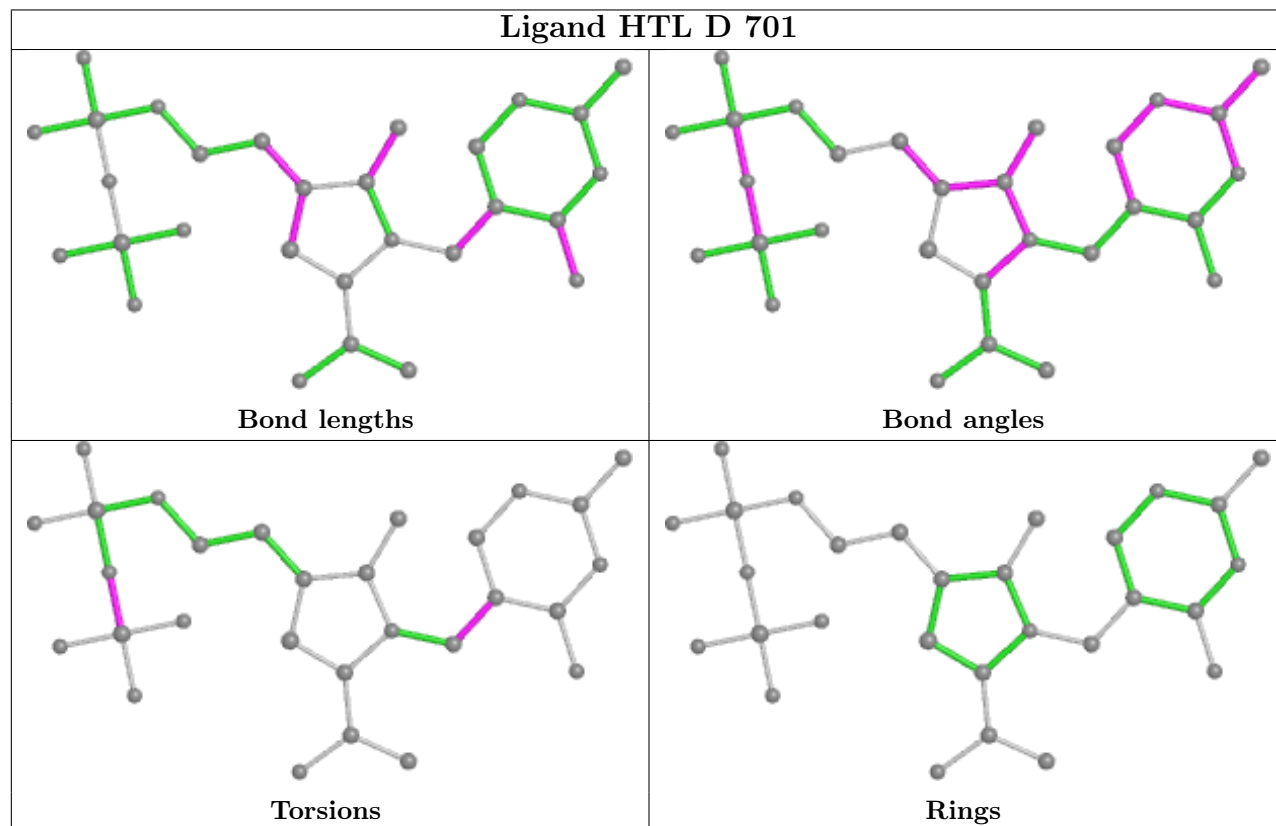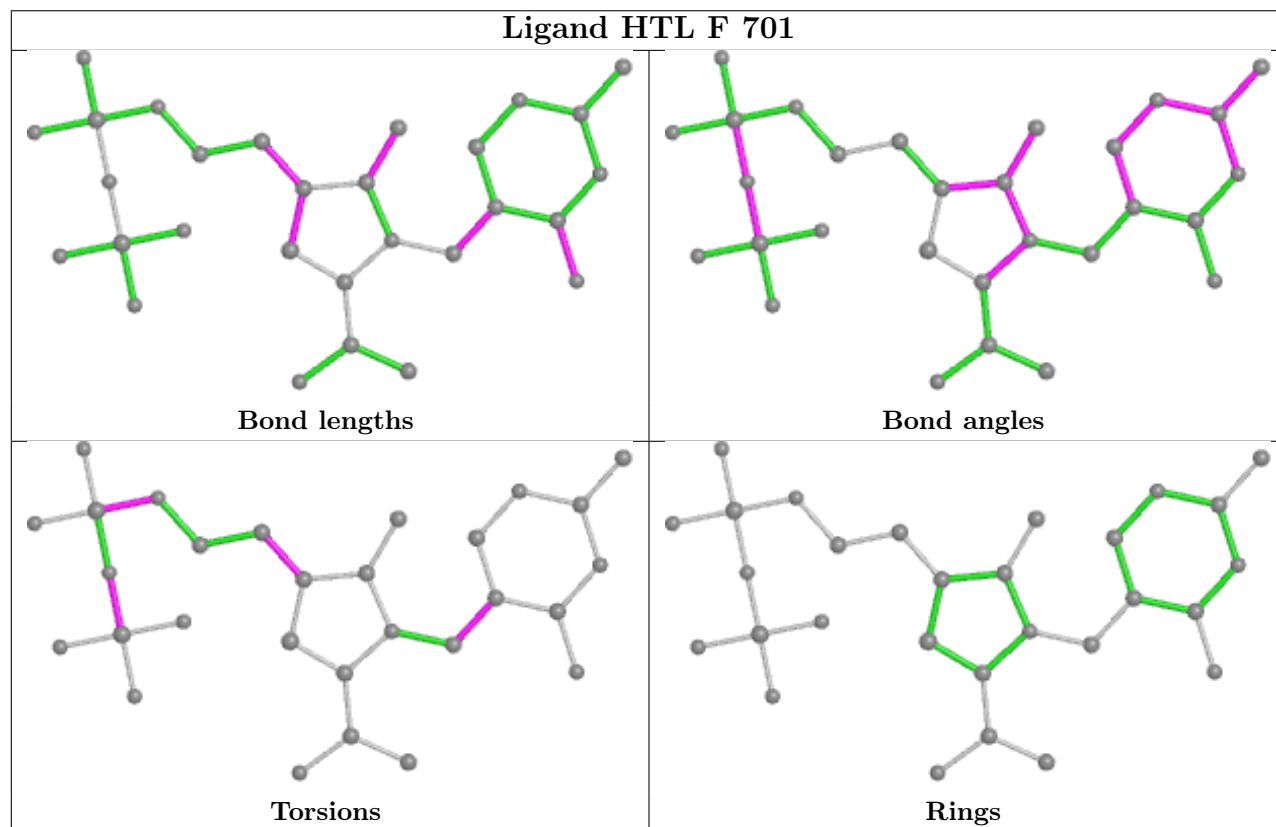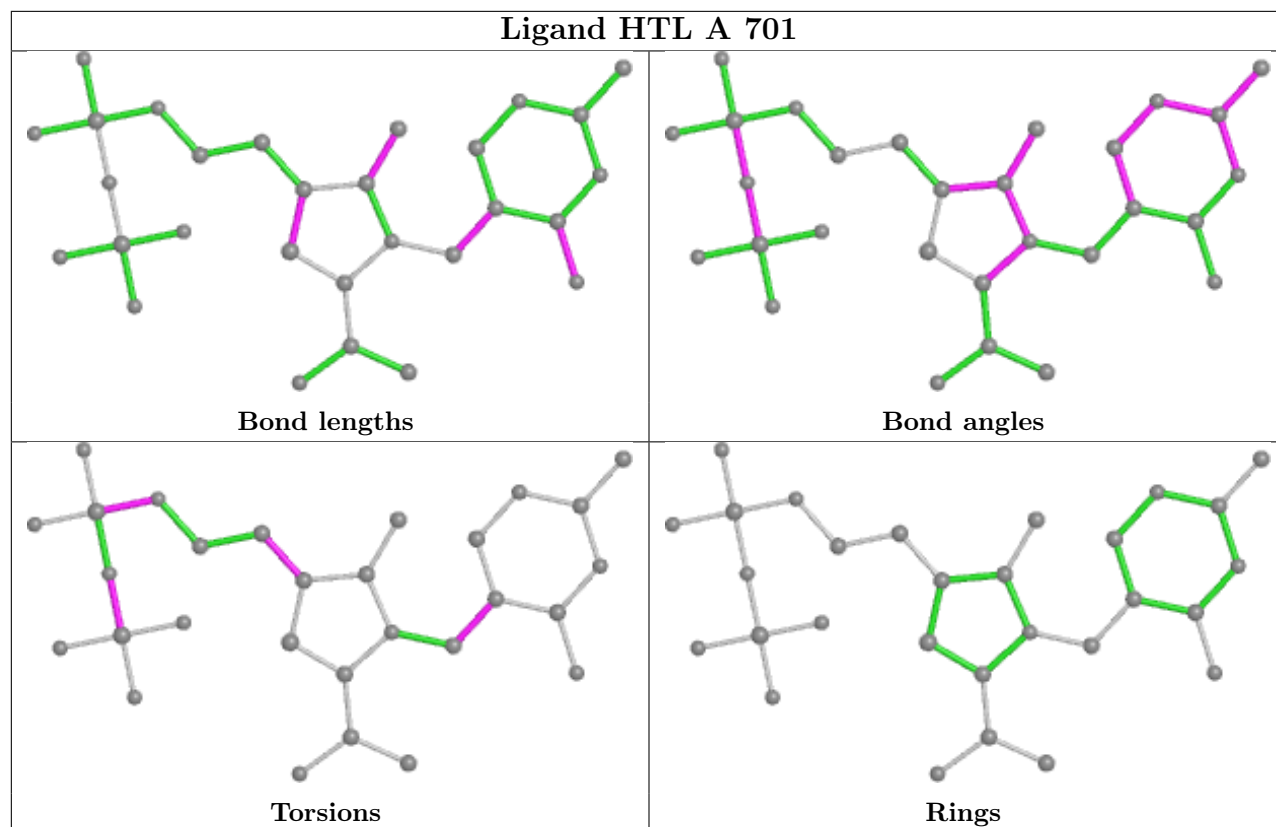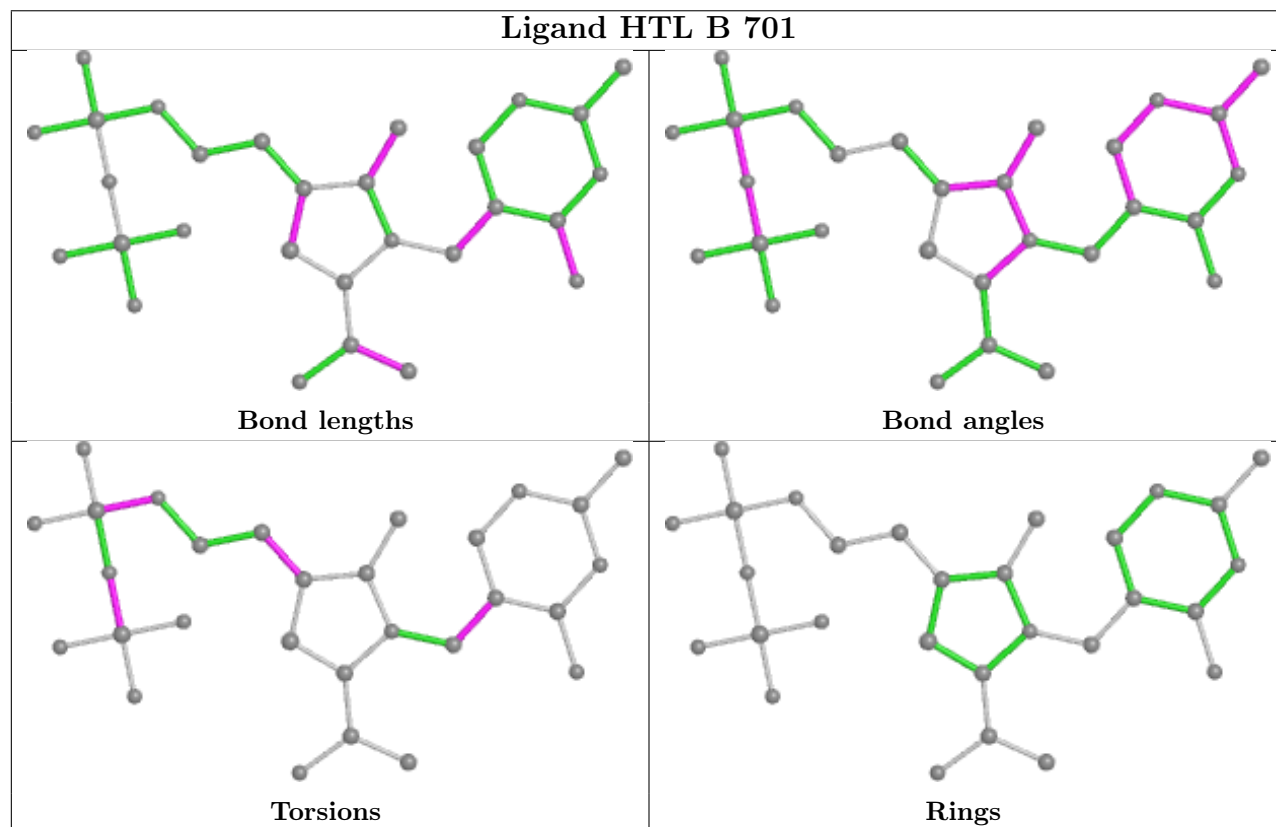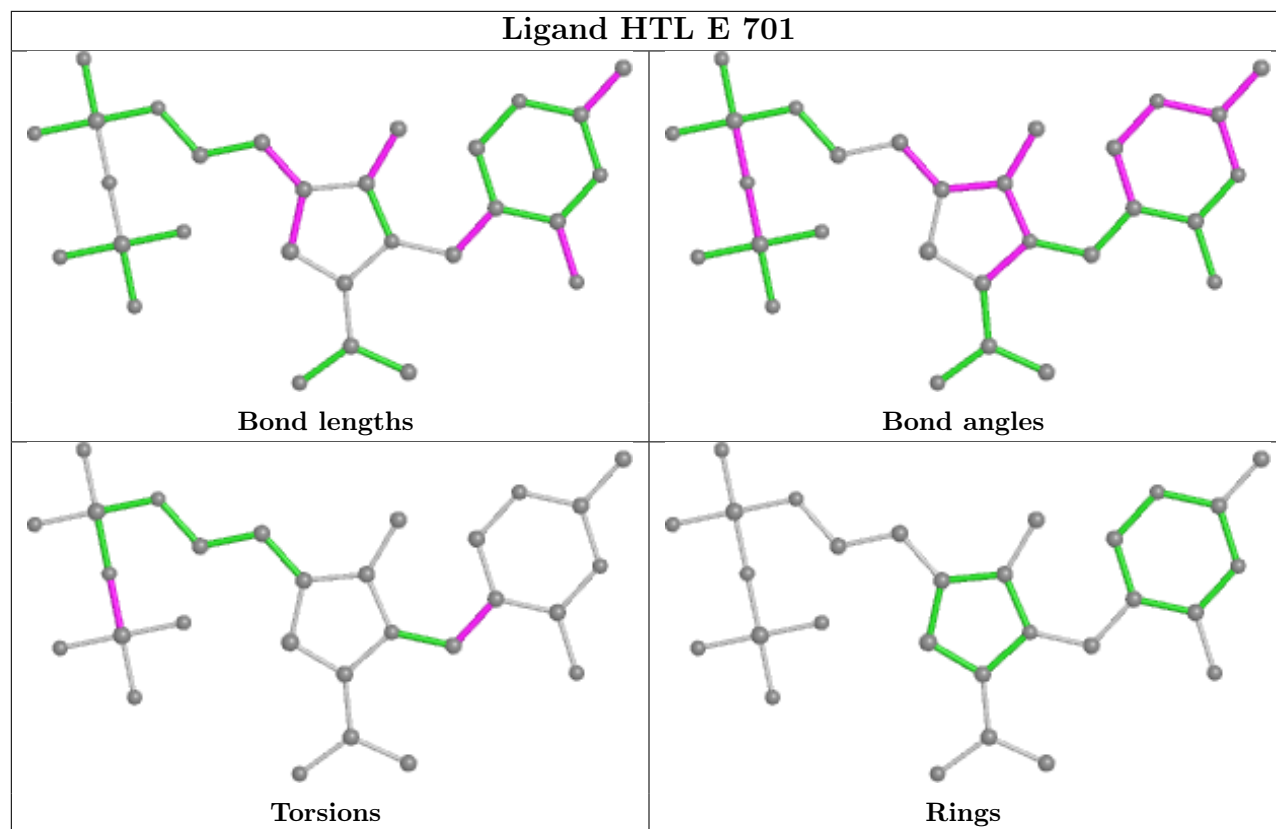
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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	567/622 (91%)	0.05	11 (1%)	66	65	17, 26, 43, 70	0
1	B	570/622 (91%)	0.11	17 (2%)	50	49	19, 28, 48, 75	0
1	C	570/622 (91%)	0.11	19 (3%)	46	45	17, 26, 45, 83	0
1	D	566/622 (90%)	0.19	27 (4%)	30	29	17, 27, 48, 71	0
1	E	567/622 (91%)	0.14	22 (3%)	39	38	16, 25, 43, 74	0
1	F	573/622 (92%)	0.16	19 (3%)	46	45	18, 26, 43, 74	0
All	All	3413/3732 (91%)	0.13	115 (3%)	45	44	16, 26, 46, 83	0

All (115) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	309	PRO	6.2
1	C	442	CYS	4.5
1	E	316	THR	4.4
1	C	243	THR	4.3
1	D	33	LEU	3.7
1	E	306	LEU	3.7
1	E	307	GLU	3.7
1	B	245	PHE	3.7
1	D	234	ILE	3.5
1	A	244	LEU	3.5
1	A	230	TYR	3.5
1	A	307	GLU	3.4
1	F	400	TYR	3.3
1	D	295	LEU	3.3
1	B	32	THR	3.3
1	D	45	LEU	3.3
1	B	307	GLU	3.2
1	E	38	ARG	3.2
1	A	224	VAL	3.2

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Mol	Chain	Res	Type	RSRZ
1	E	400	TYR	3.2
1	F	38	ARG	3.2
1	E	32	THR	3.1
1	E	224	VAL	3.1
1	C	33	LEU	3.0
1	D	395	PHE	3.0
1	F	399	ALA	3.0
1	C	308	ALA	3.0
1	B	308	ALA	2.9
1	C	244	LEU	2.9
1	F	248	LEU	2.9
1	D	439	TYR	2.8
1	F	270	ASN	2.8
1	C	579	GLU	2.8
1	C	242	GLY	2.8
1	E	399	ALA	2.8
1	B	224	VAL	2.8
1	F	32	THR	2.8
1	D	317	GLY	2.8
1	D	306	LEU	2.7
1	D	35	GLU	2.7
1	A	243	THR	2.7
1	D	399	ALA	2.7
1	B	33	LEU	2.7
1	E	439	TYR	2.7
1	E	270	ASN	2.7
1	E	68	ASP	2.7
1	D	400	TYR	2.7
1	F	307	GLU	2.7
1	D	42	ALA	2.6
1	A	306	LEU	2.6
1	D	100	TYR	2.6
1	C	479	SER	2.6
1	A	409	VAL	2.6
1	B	400	TYR	2.6
1	B	504	GLY	2.6
1	F	31	LYS	2.5
1	F	295	LEU	2.5
1	F	273	ASP	2.5
1	F	579	GLU	2.5
1	B	404	ILE	2.5
1	C	230	TYR	2.5

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| Mol	Chain	Res	Type	RSRZ
1	B	579	GLU	2.5
1	F	394	THR	2.4
1	A	442	CYS	2.4
1	B	317	GLY	2.4
1	C	400	TYR	2.4
1	D	272	ARG	2.4
1	C	526	ASP	2.4
1	B	34	HIS	2.4
1	B	547	ALA	2.4
1	F	404	ILE	2.4
1	C	245	PHE	2.4
1	D	39	GLU	2.4
1	C	523	GLU	2.3
1	D	66	LEU	2.3
1	A	222	HIS	2.3
1	B	178	GLU	2.3
1	D	38	ARG	2.3
1	E	57	ARG	2.3
1	F	33	LEU	2.3
1	D	49	ALA	2.3
1	E	317	GLY	2.3
1	E	394	THR	2.3
1	E	395	PHE	2.3
1	E	248	LEU	2.2
1	A	401	ASP	2.2
1	D	266	ALA	2.2
1	D	369	ALA	2.2
1	F	578	LEU	2.2
1	F	317	GLY	2.2
1	C	440	LEU	2.2
1	D	68	ASP	2.2
1	E	396	LEU	2.2
1	E	245	PHE	2.2
1	F	246	GLU	2.2
1	C	307	GLU	2.2
1	C	404	ILE	2.2
1	D	268	LEU	2.2
1	D	248	LEU	2.1
1	B	442	CYS	2.1
1	E	397	GLN	2.1
1	F	617	GLN	2.1
1	C	192	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	38	ARG	2.1
1	D	270	ASN	2.1
1	E	272	ARG	2.1
1	E	398	ARG	2.0
1	B	537	PRO	2.0
1	D	394	THR	2.0
1	F	439	TYR	2.0
1	A	443	ILE	2.0
1	D	36	ILE	2.0
1	C	409	VAL	2.0
1	D	44	PRO	2.0
1	E	80	GLN	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 monosaccharides 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
4	CA	F	706	1/1	0.71	0.13	65,65,65,65	0
4	CA	D	706	1/1	0.72	0.09	72,72,72,72	0
4	CA	A	703	1/1	0.93	0.10	53,53,53,53	0
2	HTL	C	701	29/29	0.94	0.17	18,26,48,51	0
2	HTL	A	701	29/29	0.94	0.16	22,30,50,51	0
2	HTL	F	701	29/29	0.95	0.19	18,28,45,55	0
2	HTL	B	701	29/29	0.95	0.17	20,27,40,46	0
2	HTL	D	701	29/29	0.95	0.18	22,31,49,58	0
2	HTL	E	701	29/29	0.95	0.17	20,28,45,47	0
5	NA	A	706	1/1	0.95	0.05	25,25,25,25	0
5	NA	E	704	1/1	0.96	0.07	31,31,31,31	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	CA	A	704	1/1	0.97	0.06	38,38,38,38	0
4	CA	E	703	1/1	0.97	0.07	30,30,30,30	0
4	CA	F	703	1/1	0.97	0.09	36,36,36,36	0
4	CA	F	705	1/1	0.97	0.07	40,40,40,40	0
4	CA	D	703	1/1	0.97	0.11	47,47,47,47	0
4	CA	D	704	1/1	0.97	0.05	39,39,39,39	0
4	CA	D	705	1/1	0.97	0.38	48,48,48,48	0
4	CA	A	705	1/1	0.98	0.28	56,56,56,56	0
5	NA	B	703	1/1	0.98	0.08	24,24,24,24	0
5	NA	C	703	1/1	0.98	0.04	23,23,23,23	0
4	CA	F	704	1/1	0.98	0.08	41,41,41,41	0
3	MG	E	702	1/1	0.99	0.16	17,17,17,17	0
3	MG	F	702	1/1	0.99	0.16	17,17,17,17	0
3	MG	A	702	1/1	0.99	0.18	21,21,21,21	0
3	MG	B	702	1/1	0.99	0.22	19,19,19,19	0
3	MG	C	702	1/1	0.99	0.19	17,17,17,17	0
3	MG	D	702	1/1	0.99	0.17	21,21,21,21	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.
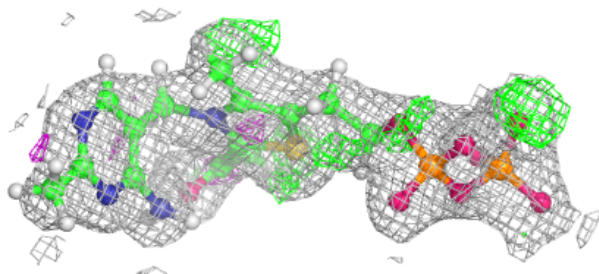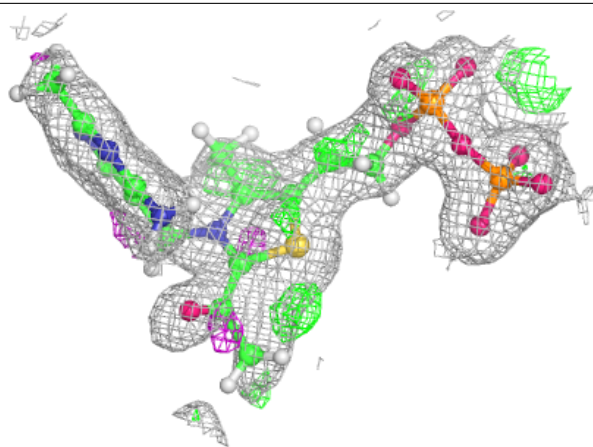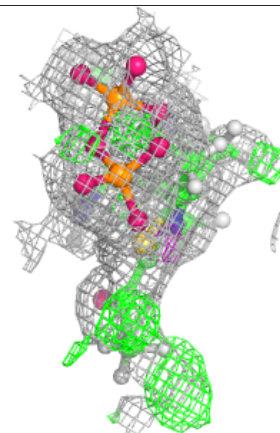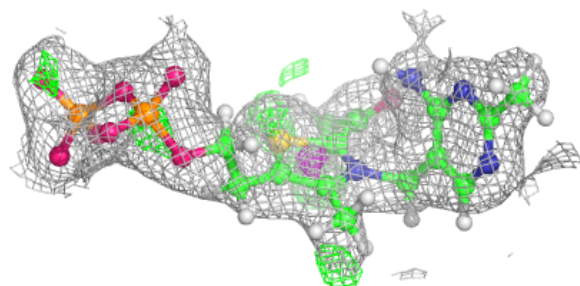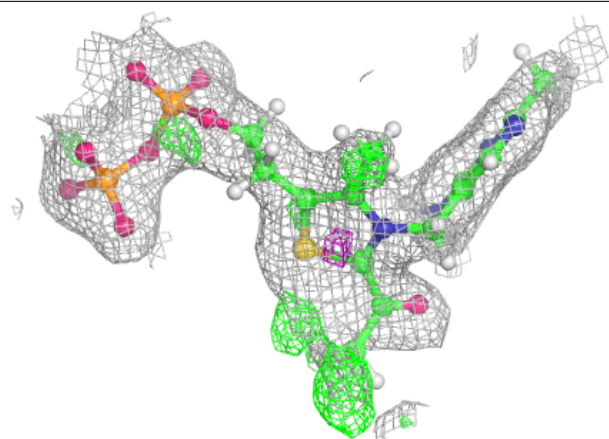
Electron density around HTL C 701:

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

Electron density around HTL A 701:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
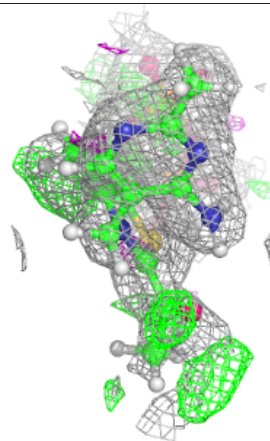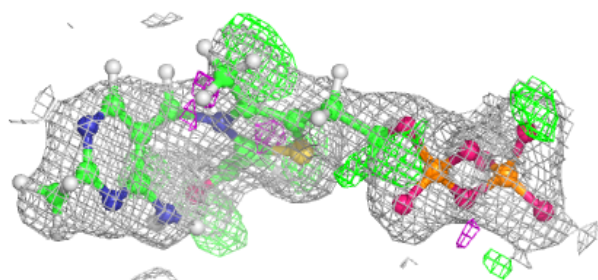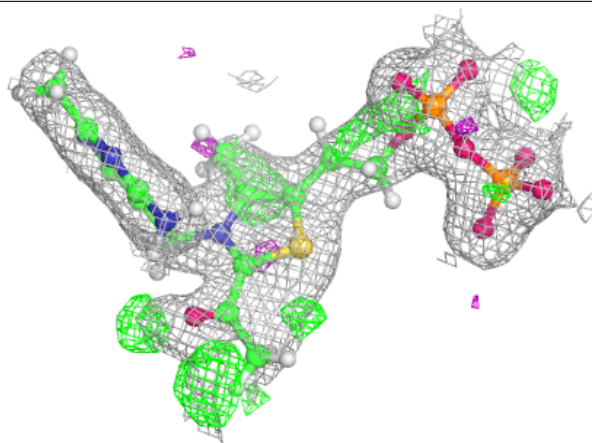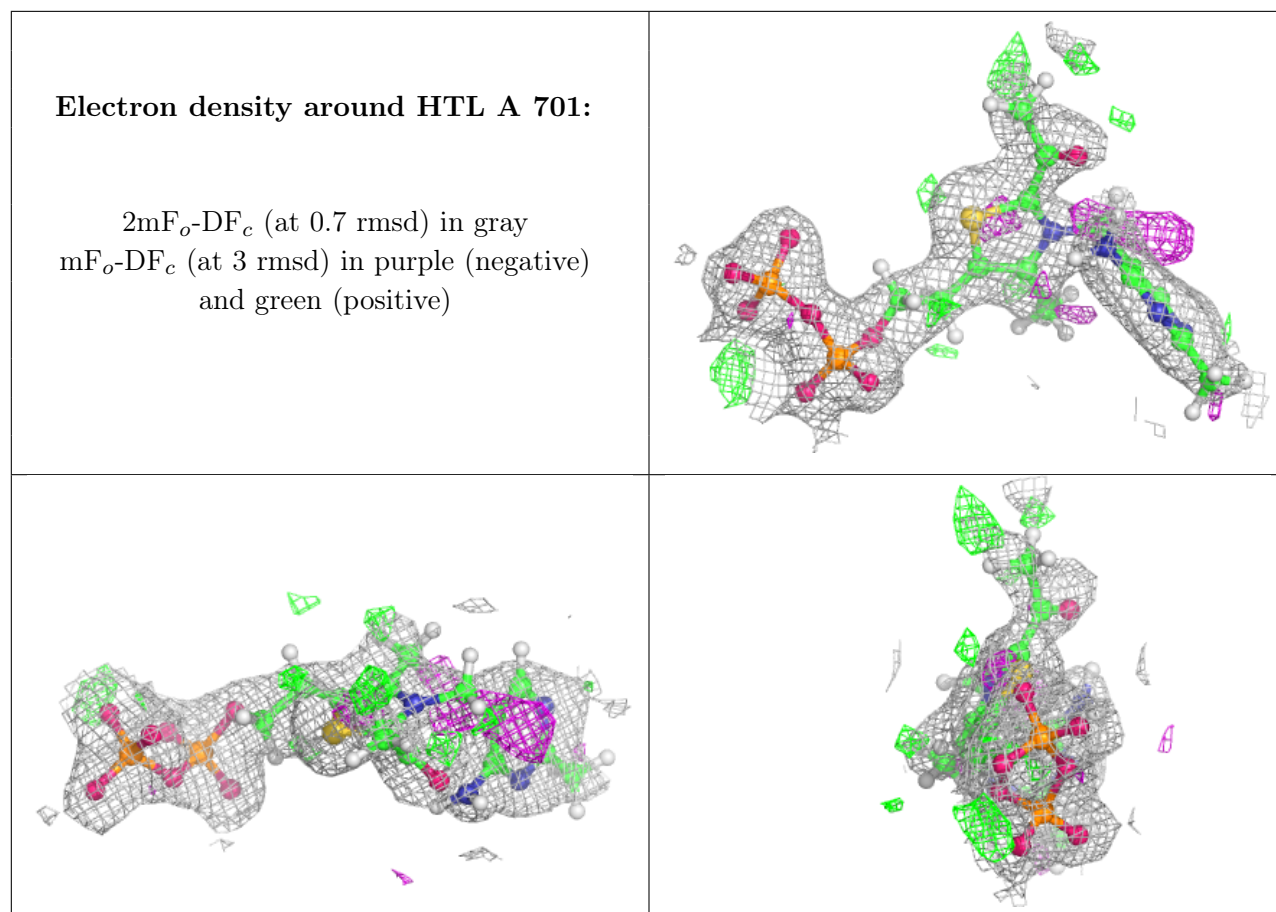
Electron density around HTL F 701:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
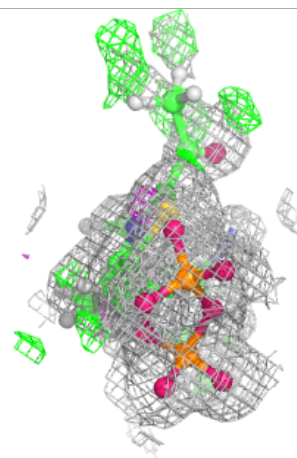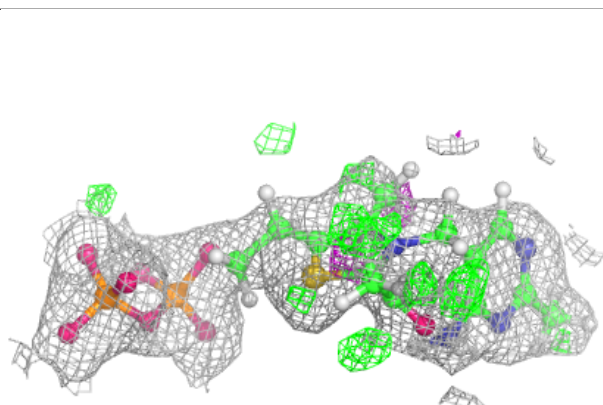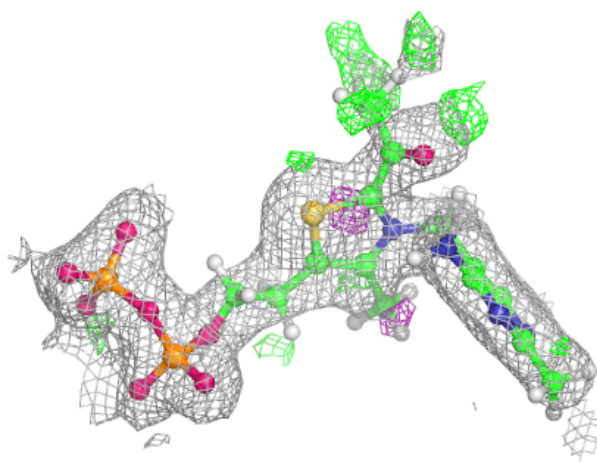
Electron density around HTL B 701:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
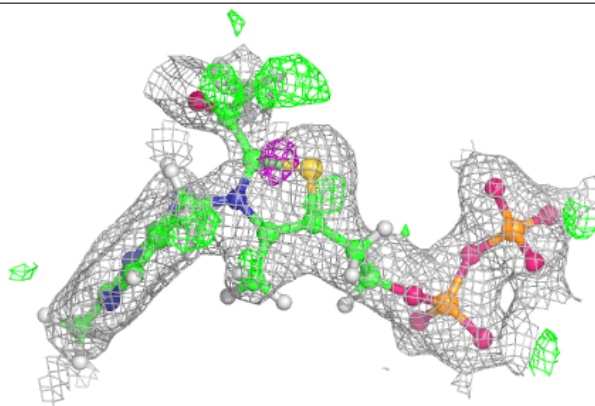and green (positive)
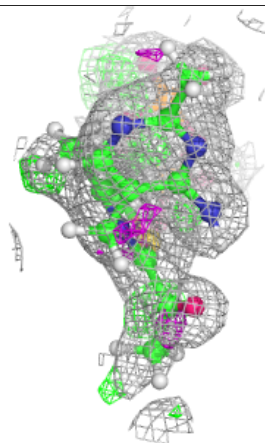
Electron density around HTL D 701:

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

Electron density around HTL E 701:

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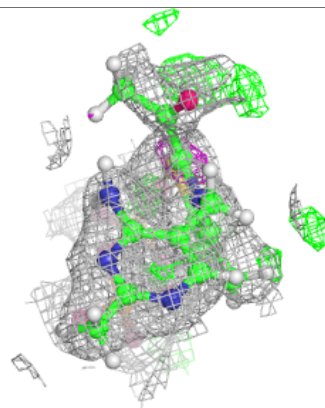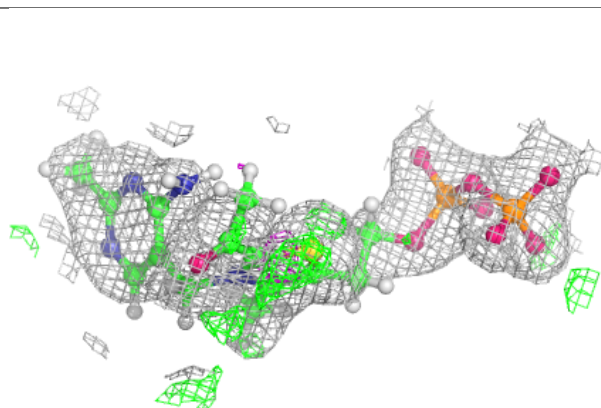
6.5 Other polymers (i)

There are no such residues in this entry.