Full wwPDB X-ray Structure Validation Report ⓘ

Mar 13, 2024 – 04:34 PM JST

PDB ID	:	5EJ5
Title	:	EcMenD-ThDP-Mn2+ complex soaked with 2-ketoglutarate for 1.5 h
Authors	:	Song, H.G.; Dong, C.; Chen, Y.Z.; Sun, Y.R.; Guo, Z.H.
Deposited on	:	2015-11-01
Resolution	:	2.30 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:

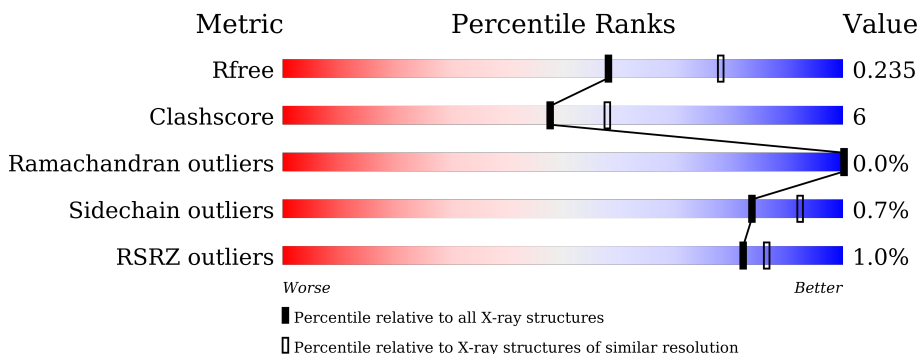|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 2.30 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.
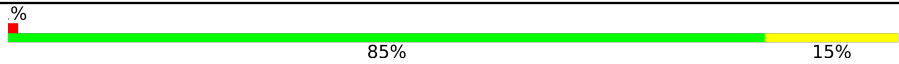
Metric	Percentile Ranks	Value
Rfree		0.235
Clashscore		6
Ramachandran outliers		0.0%
Sidechain outliers		0.7%
RSRZ outliers		1.0%

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	5042 (2.30-2.30)
Clashscore	141614	5643 (2.30-2.30)
Ramachandran outliers	138981	5575 (2.30-2.30)
Sidechain outliers	138945	5575 (2.30-2.30)
RSRZ outliers	127900	4938 (2.30-2.30)

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	556	89% 11%
1	B	556	.% 89% 11%
1	C	556	.% 88% 12%
1	D	556	2% 86% 14%
1	E	556	.% 87% 13%
1	F	556	.% 87% 13%

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| Mol	Chain	Length	Quality of chain
1	G	556	% 85% 15%
1	H	556	% 83% 16%

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 36844 atoms, of which 224 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 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	556	Total	C	N	O	S	0	4	0
			4348	2756	787	790	15			
1	B	556	Total	C	N	O	S	0	1	0
			4316	2738	776	788	14			
1	C	556	Total	C	N	O	S	0	5	0
			4355	2759	787	794	15			
1	D	556	Total	C	N	O	S	0	1	0
			4312	2738	776	783	15			
1	E	556	Total	C	N	O	S	0	5	0
			4360	2763	788	793	16			
1	F	556	Total	C	N	O	S	0	1	0
			4313	2737	776	786	14			
1	G	556	Total	C	N	O	S	0	5	0
			4350	2757	786	792	15			
1	H	556	Total	C	N	O	S	0	1	0
			4314	2738	777	784	15			

- Molecule 2 is (4S)-4-{3-[(4-amino-2-methylpyrimidin-5-yl)methyl]-5-(2-{[(S)-hydroxy(phosphonooxy)phosphoryl]oxy}ethyl)-4-methyl-1,3lambda 5 -thiazol-2-yl}-4-hydroxybutanoic acid (three-letter code: TD6) (formula: $C_{16}H_{25}N_4O_{10}P_2S$).
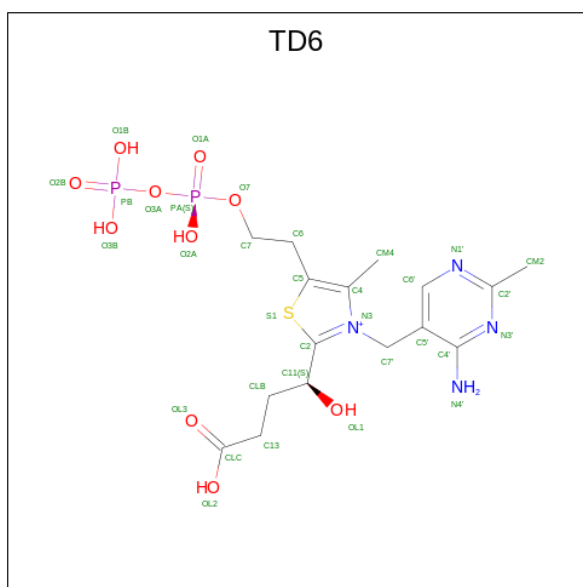
Mol	Chain	Residues	Atoms							ZeroOcc	AltConf
2	A	1	Total	C	H	N	O	P	S	0	0
			53	16	20	4	10	2	1		
2	B	1	Total	C	H	N	O	P	S	0	0
			53	16	20	4	10	2	1		
2	C	1	Total	C	H	N	O	P	S	0	0
			53	16	20	4	10	2	1		
2	D	1	Total	C	H	N	O	P	S	0	0
			53	16	20	4	10	2	1		
2	E	1	Total	C	H	N	O	P	S	0	0
			53	16	20	4	10	2	1		
2	F	1	Total	C	H	N	O	P	S	0	0
			53	16	20	4	10	2	1		
2	G	1	Total	C	H	N	O	P	S	0	0
			53	16	20	4	10	2	1		
2	H	1	Total	C	H	N	O	P	S	0	0
			53	16	20	4	10	2	1		

- Molecule 3 is MANGANESE (II) ION (three-letter code: MN) (formula: Mn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	Mn	0	0
			1	1		
3	B	1	Total	Mn	0	0
			1	1		
3	C	1	Total	Mn	0	0
			1	1		
3	D	1	Total	Mn	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	E	1	Total Mn		0	0
			1 1			
3	F	1	Total Mn		0	0
			1 1			
3	G	1	Total Mn		0	0
			1 1			
3	H	1	Total Mn		0	0
			1 1			

• Molecule 4 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).
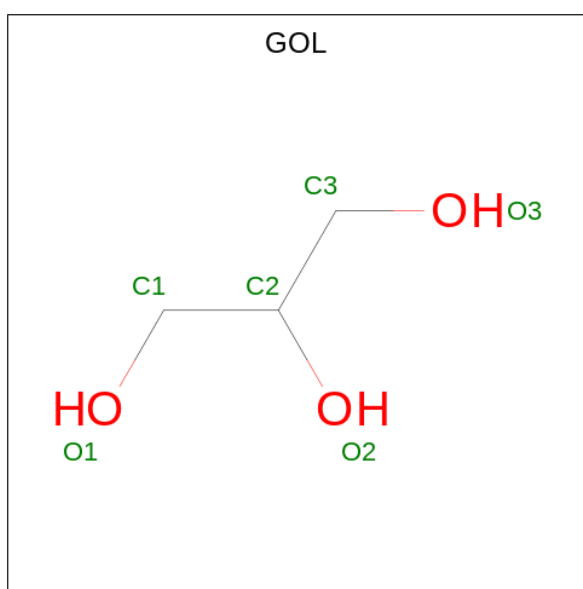
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total	C	H	O	0	0
			14	3	8	3		
4	B	1	Total	C	H	O	0	0
			14	3	8	3		
4	C	1	Total	C	H	O	0	0
			14	3	8	3		
4	D	1	Total	C	H	O	0	0
			14	3	8	3		
4	E	1	Total	C	H	O	0	0
			14	3	8	3		
4	F	1	Total	C	H	O	0	0
			14	3	8	3		
4	G	1	Total	C	H	O	0	0
			14	3	8	3		

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	H	1	Total 14	C 3	H 8	O 3	0	0

• Molecule 5 is water.

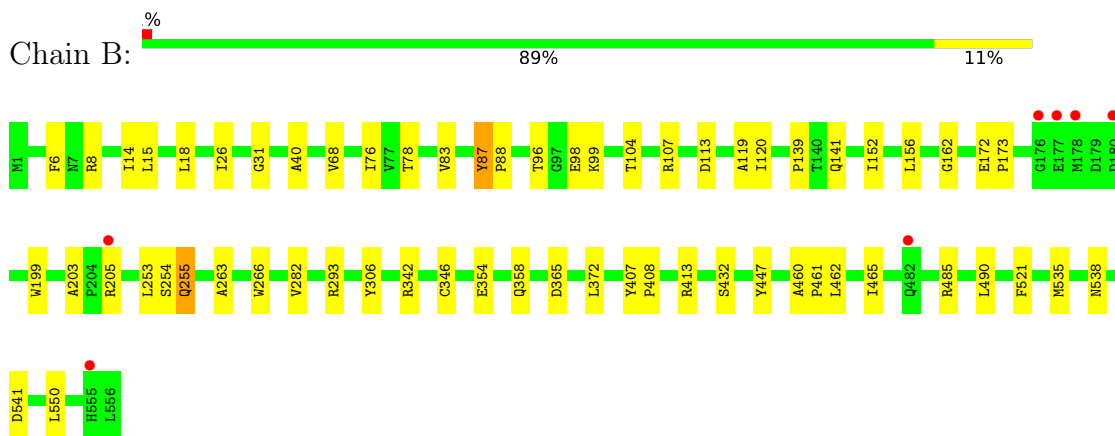| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	233	Total 233	O 233	0	0
5	B	216	Total 216	O 216	0	0
5	C	188	Total 188	O 188	0	0
5	D	166	Total 166	O 166	0	0
5	E	233	Total 233	O 233	0	0
5	F	207	Total 207	O 207	0	0
5	G	172	Total 172	O 172	0	0
5	H	217	Total 217	O 217	0	0

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.
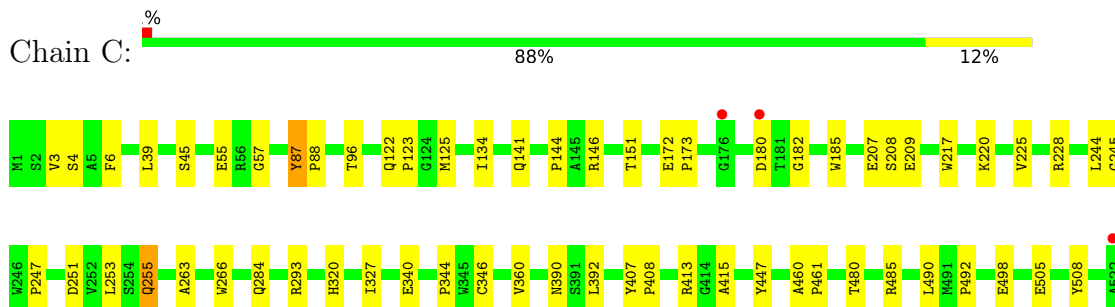
• Molecule 1: 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase

Chain A:

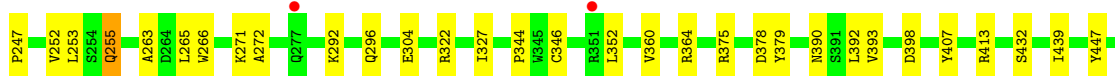• Molecule 1: 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase

Chain B:

• Molecule 1: 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase

Chain C:

D523 R526 T530 L549 L550 L556

• Molecule 1: 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase

2%

Chain D:
86%   14%

M1 R8 L15 R24 H25 I26 C27 I28 A29 A40 E43 L58 V68 I76 A82 V83 A84 Y87 P88 T96 G97 E98 K99 R107 Q118 A119 H129 P130 G162 E172 P173 G176 E177 M178 D179 D180 T181 G182 W185 G245 W246

P247 V252 L253 S254 Q255 A263 D264 L265 W266 K271 A272 Q277 K292 Q296 E304 R322 I327 P344 W345 C346 R351 L352 V360 R364 R375 D378 Y379 N390 S391 L392 V393 D398 Y407 R413 S432 I439 Y447

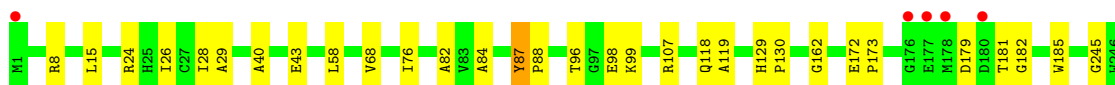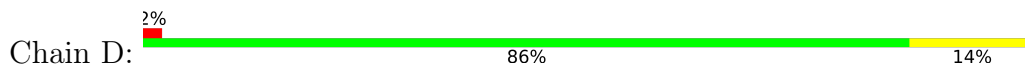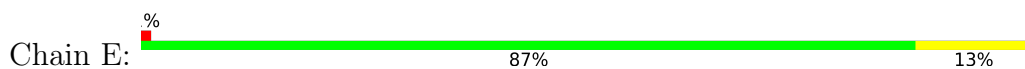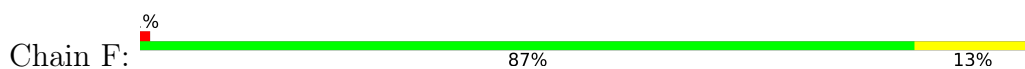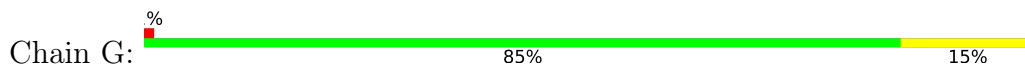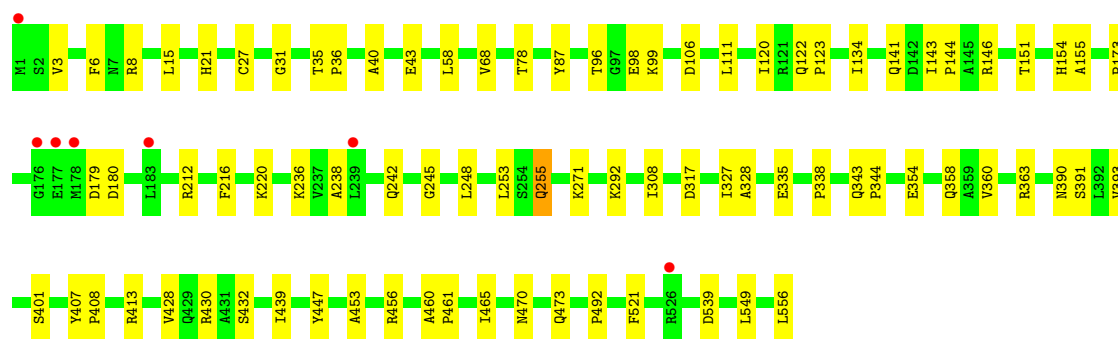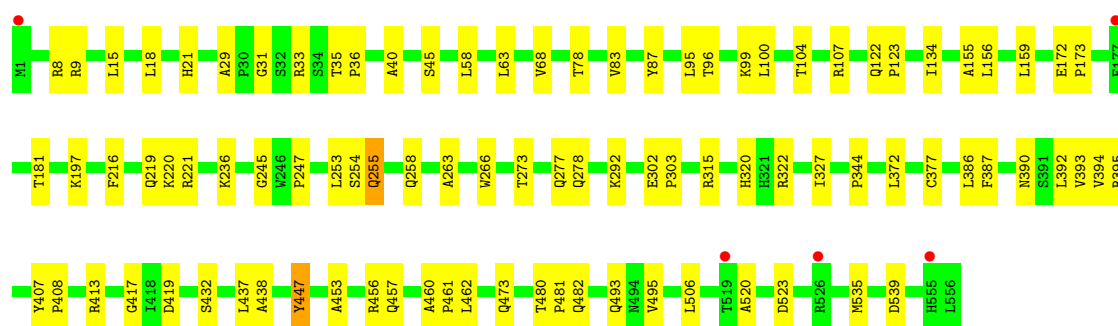L452 A453 L454 L455 R456 A460 P461 I465 T480 R485 K507 F521 W525 Q547 Q548 L549 L550 H555 L556

• Molecule 1: 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase

%

Chain E:
87%   13%

M1 S2 V3 F6 N7 R8 R9 I14 E43 L61 V68 Y87 P88 T96 L103 Q122 P123 G124 M125 I134 R138 Q141 P144 A145 R146 I152 A155 I166 P173 E177 M178 W199 L200 R201 V252 L253 S254 Q255 T256

A263 W266 A270 T273 Q277 Q298 E304 R315 H321 P350 E354 V360 D365 I376 C377 D378 L392 D398 L403 Y407 P408 R413 G427 R430 R431 S432 G433 K434 P435 Y447 L452 A453 L454 L455 R456 Q457 A460

P461 V466 F488 F497 L517 F521 T529 M535 L549 H555 L556

• Molecule 1: 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase

%

Chain F:
87%   13%

M1 L15 L18 V23 R24 G31 S32 R33 L39 F47 V68 Q71 P72 T78 Y87 K99 L103 R107 A119 H132 S133 I134 T151 L156 G162 I166 L174 Y175 G176 E177 M178 D179 D180 P198 K210 F216

K220 E233 G245 Q255 A263 W266 L267 L276 K292 R293 L294 L295 Q296 W297 I308 G314 D317 I327 L334 E335 L336 K341 P344 C377 N390 S391 Y407 R413 G417 T424 M178 V428 S432 Y447 A453 R456

A460 P461 L477 R485 L490 M491 P492 Q493 N494 V495 N538 D539 T540 D541 Q547 L550 L556

• Molecule 1: 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase
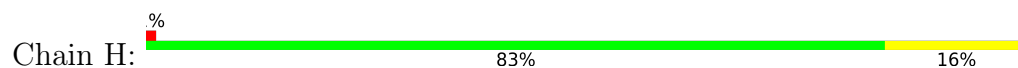
%

Chain G:
85%   15%

• Molecule 1: 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase

Chain H:

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	90.76Å 90.80Å 170.10Å 75.79° 83.29° 64.34°	Depositor
Resolution (Å)	33.76 – 2.30 33.76 – 2.30	Depositor EDS
% Data completeness (in resolution range)	92.4 (33.76-2.30) 89.8 (33.76-2.30)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.17 (at 2.29Å)	Xtriage
Refinement program	PHENIX 1.9_1692	Depositor
R, R_{free}	0.183 , 0.234 0.186 , 0.235	Depositor DCC
R_{free} test set	9871 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å^2)	23.2	Xtriage
Anisotropy	0.227	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 45.4	EDS
L-test for twinning[2]	$< \lvert L \rvert > = 0.46, < L^2 > = 0.28$	Xtriage
Estimated twinning fraction	0.018 for -h,-k,-k+l	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	36844	wwPDB-VP
Average B, all atoms (Å^2)	26.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.75% 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 $< \lvert L \rvert >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MN, TD6, GOL

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	0.41	0/4457	0.57	0/6082
1	B	0.47	0/4425	0.57	0/6041
1	C	0.42	0/4464	0.58	0/6092
1	D	0.42	0/4421	0.55	0/6034
1	E	0.42	0/4469	0.59	0/6096
1	F	0.45	0/4422	0.58	1/6037 (0.0%)
1	G	0.38	0/4459	0.55	0/6085
1	H	0.43	0/4423	0.57	0/6037
All	All	0.43	0/35540	0.57	1/48504 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	15	LEU	CA-CB-CG	-5.32	103.06	115.30

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	4348	0	4295	41	0
1	B	4316	0	4253	42	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	4355	0	4294	50	0
1	D	4312	0	4259	54	0
1	E	4360	0	4313	61	0
1	F	4313	0	4251	46	1
1	G	4350	0	4291	55	0
1	H	4314	0	4261	64	1
2	A	33	20	21	4	0
2	B	33	20	21	2	0
2	C	33	20	21	3	0
2	D	33	20	21	3	0
2	E	33	20	21	3	0
2	F	33	20	21	3	0
2	G	33	20	21	2	0
2	H	33	20	21	4	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
3	G	1	0	0	0	0
3	H	1	0	0	0	0
4	A	6	8	8	0	0
4	B	6	8	8	0	0
4	C	6	8	8	0	0
4	D	6	8	8	0	0
4	E	6	8	8	0	0
4	F	6	8	8	0	0
4	G	6	8	8	1	0
4	H	6	8	8	0	0
5	A	233	0	0	10	0
5	B	216	0	0	9	0
5	C	188	0	0	13	0
5	D	166	0	0	8	0
5	E	233	0	0	17	0
5	F	207	0	0	10	0
5	G	172	0	0	12	0
5	H	217	0	0	18	0
All	All	36620	224	34449	420	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

All (420) 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:E:252:VAL:CG2	1:E:398:ASP:HA	1.90	1.01
1:E:252:VAL:HG23	1:E:398:ASP:HA	1.52	0.91
1:B:203:ALA:HB1	1:B:205:ARG:HH12	1.37	0.89
1:H:457:GLN:HG3	5:H:766:HOH:O	1.78	0.82
1:B:365:ASP:O	5:B:701:HOH:O	1.97	0.82
1:H:219:GLN:HB3	5:H:702:HOH:O	1.78	0.81
2:B:601:TD6:HN4A	2:B:601:TD6:H11	1.45	0.81
1:G:180:ASP:OD1	5:G:701:HOH:O	1.98	0.81
1:E:378:ASP:OD2	5:E:701:HOH:O	1.99	0.80
1:F:174:LEU:O	5:F:701:HOH:O	2.00	0.79
1:D:379:TYR:OH	5:D:701:HOH:O	2.01	0.78
1:H:292:LYS:NZ	5:H:705:HOH:O	2.18	0.77
1:A:320:HIS:ND1	5:A:706:HOH:O	2.17	0.77
1:H:216:PHE:CZ	1:H:220:LYS:HE3	2.20	0.77
1:C:180:ASP:OD1	5:C:702:HOH:O	2.03	0.76
1:A:342:ARG:O	5:A:701:HOH:O	2.02	0.76
1:B:141:GLN:O	5:B:702:HOH:O	2.03	0.75
1:C:530:THR:O	5:C:701:HOH:O	2.03	0.75
1:H:8:ARG:O	5:H:701:HOH:O	2.02	0.75
1:D:453:ALA:HA	1:D:456:ARG:HD2	1.69	0.74
1:A:315:ARG:NH1	5:A:706:HOH:O	2.19	0.74
2:G:601:TD6:HN4A	2:G:601:TD6:H11	1.52	0.74
1:D:271:LYS:NZ	1:D:556:LEU:OXT	2.21	0.73
1:H:278:GLN:NE2	5:H:707:HOH:O	2.22	0.72
1:B:8:ARG:HD2	5:B:727:HOH:O	1.89	0.72
1:E:430:ARG:O	5:E:702:HOH:O	2.05	0.72
1:E:252:VAL:HG21	1:E:398:ASP:HA	1.70	0.72
1:H:506:LEU:O	5:H:704:HOH:O	2.07	0.72
1:F:377:CYS:O	5:F:702:HOH:O	2.07	0.72
1:F:377:CYS:SG	5:F:706:HOH:O	2.46	0.72
1:G:212:ARG:NH2	5:G:707:HOH:O	2.21	0.71
1:F:132[B]:HIS:NE2	5:F:707:HOH:O	2.24	0.71
1:G:21:HIS:O	5:G:704:HOH:O	2.11	0.69
1:H:493:GLN:O	1:H:495:VAL:HG23	1.92	0.69
1:G:236:LYS:O	5:G:703:HOH:O	2.09	0.69
1:A:9:ARG:NE	5:A:707:HOH:O	2.22	0.69
1:B:203:ALA:O	1:B:205:ARG:NH1	2.26	0.68
1:E:460:ALA:HB1	1:E:461:PRO:HD2	1.76	0.68
1:G:99:LYS:NZ	5:G:708:HOH:O	2.27	0.68
1:A:113:ASP:OD1	5:A:703:HOH:O	2.12	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:529:THR:O	5:E:704:HOH:O	2.12	0.67
2:H:601:TD6:H11	2:H:601:TD6:HN4A	1.59	0.67
1:E:146[B]:ARG:HG2	1:E:146[B]:ARG:HH21	1.59	0.66
1:H:453:ALA:HA	1:H:456:ARG:HD2	1.76	0.66
1:C:251:ASP:OD1	5:C:704:HOH:O	2.13	0.66
1:D:507:LYS:NZ	5:D:707:HOH:O	2.23	0.66
1:D:465:ILE:HD11	1:D:521:PHE:HZ	1.61	0.66
1:A:540:THR:OG1	5:A:704:HOH:O	2.12	0.66
1:B:107:ARG:HG3	1:B:119:ALA:HB2	1.76	0.66
1:G:68:VAL:HG11	1:G:432:SER:HB3	1.77	0.66
1:E:252:VAL:HG21	1:E:398:ASP:CA	2.27	0.65
1:D:378:ASP:O	5:D:702:HOH:O	2.14	0.65
1:H:460:ALA:HB1	1:H:461:PRO:HD2	1.77	0.65
1:B:342:ARG:O	5:B:703:HOH:O	2.14	0.64
1:E:252:VAL:CG2	1:E:398:ASP:CA	2.73	0.63
1:F:245:GLY:O	5:F:705:HOH:O	2.16	0.63
1:E:201:ARG:NH1	5:E:712:HOH:O	2.31	0.63
1:B:8:ARG:HB3	5:B:746:HOH:O	1.98	0.63
1:F:233:GLU:OE2	5:F:704:HOH:O	2.15	0.63
1:G:134:ILE:HD13	1:G:151:THR:HG22	1.80	0.62
1:H:99:LYS:HD3	1:H:159:LEU:HD23	1.82	0.62
1:C:360:VAL:HG22	1:C:549:LEU:HD13	1.82	0.61
1:C:523:ASP:HA	1:C:526:ARG:HE	1.65	0.61
2:D:601:TD6:H11	2:D:601:TD6:HN4A	1.65	0.61
1:C:523:ASP:OD1	1:C:526:ARG:NH2	2.33	0.60
1:G:453:ALA:HA	1:G:456:ARG:HD2	1.82	0.60
1:A:253:LEU:HD11	1:A:413:ARG:HG3	1.83	0.60
1:E:453:ALA:HA	1:E:456:ARG:HD2	1.81	0.60
1:C:3:VAL:HB	1:C:173:PRO:HD2	1.83	0.60
1:D:375:ARG:NE	5:D:709:HOH:O	2.24	0.60
1:G:328:ALA:HB2	5:G:854:HOH:O	2.02	0.60
1:A:526:ARG:HD2	5:A:831:HOH:O	2.01	0.60
1:G:360:VAL:HG22	1:G:549:LEU:HD13	1.84	0.60
1:G:134:ILE:HD11	1:G:155:ALA:HB2	1.83	0.60
1:C:208:SER:O	5:C:705:HOH:O	2.16	0.60
1:D:296:GLN:O	5:D:704:HOH:O	2.17	0.59
1:H:172:GLU:HB3	1:H:173:PRO:HA	1.84	0.59
1:E:177:GLU:O	5:E:705:HOH:O	2.15	0.59
2:E:601:TD6:HN4A	2:E:601:TD6:H11	1.66	0.59
1:G:68:VAL:HG21	1:G:428:VAL:HG13	1.84	0.59
1:D:304:GLU:OE1	5:D:703:HOH:O	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:488:PHE:O	5:E:706:HOH:O	2.17	0.59
1:G:216:PHE:CZ	1:G:220:LYS:HE2	2.37	0.59
1:F:107:ARG:HG3	1:F:119:ALA:HB2	1.83	0.58
1:D:364:ARG:O	1:D:375:ARG:NH2	2.32	0.58
1:F:493:GLN:HB2	5:F:777:HOH:O	2.03	0.58
1:G:106:ASP:OD2	5:G:706:HOH:O	2.17	0.58
1:G:401:SER:O	5:G:705:HOH:O	2.16	0.58
1:G:8:ARG:NH1	1:G:43:GLU:OE2	2.36	0.58
1:G:253:LEU:HD11	1:G:413:ARG:HG3	1.84	0.58
1:D:547:GLN:HA	1:D:550:LEU:HD12	1.84	0.58
1:E:315:ARG:NE	5:E:703:HOH:O	2.09	0.58
1:G:68:VAL:CG2	1:G:428:VAL:HG13	2.32	0.58
2:A:601:TD6:H11	2:A:601:TD6:HN4A	1.69	0.57
1:D:460:ALA:HB1	1:D:461:PRO:HD2	1.86	0.57
2:B:601:TD6:HN4A	2:B:601:TD6:C11	2.16	0.57
1:G:3:VAL:HB	1:G:173:PRO:HD2	1.86	0.57
1:A:552:GLN:OE1	5:A:705:HOH:O	2.17	0.57
1:B:96:THR:OG1	1:B:98:GLU:OE1	2.20	0.57
1:A:146[B]:ARG:HG2	1:A:146[B]:ARG:HH21	1.68	0.57
1:E:315:ARG:NH2	5:E:703:HOH:O	2.31	0.57
1:C:460:ALA:HB1	1:C:461:PRO:HD2	1.87	0.57
1:H:219:GLN:CB	5:H:702:HOH:O	2.46	0.57
1:F:99:LYS:HA	1:F:162:GLY:O	2.04	0.57
1:G:292:LYS:NZ	5:G:702:HOH:O	2.07	0.56
1:H:457:GLN:HA	5:H:715:HOH:O	2.04	0.56
1:C:207:GLU:OE2	5:C:706:HOH:O	2.18	0.56
1:H:15:LEU:HD12	1:H:40:ALA:HB3	1.86	0.56
1:H:181:THR:O	5:H:703:HOH:O	2.18	0.56
1:D:263:ALA:HA	1:D:266:TRP:NE1	2.21	0.55
1:A:71[B]:GLN:HB3	1:A:72:PRO:HD2	1.88	0.55
1:E:8:ARG:NH1	1:E:43:GLU:OE2	2.38	0.55
1:C:45:SER:HA	5:C:780:HOH:O	2.05	0.55
1:D:253:LEU:HD11	1:D:413:ARG:HG3	1.89	0.55
2:G:601:TD6:HN4A	2:G:601:TD6:C11	2.19	0.55
1:B:354:GLU:O	1:B:358:GLN:HG2	2.06	0.55
1:E:122:GLN:HA	1:E:125:MET:HG3	1.89	0.55
2:F:601:TD6:H11	2:F:601:TD6:HN4A	1.72	0.55
1:D:292:LYS:O	1:D:296:GLN:HG3	2.07	0.54
1:F:453:ALA:HA	1:F:456:ARG:HD2	1.89	0.54
1:D:265:LEU:HD23	1:D:550:LEU:HD23	1.89	0.54
1:H:263:ALA:HA	1:H:266:TRP:NE1	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:29:ALA:HB2	1:A:58:LEU:HD22	1.90	0.54
1:B:203:ALA:CB	1:B:205:ARG:HH12	2.17	0.53
2:C:601:TD6:H11	2:C:601:TD6:HN4A	1.73	0.53
1:E:255:GLN:HG2	1:E:407:TYR:O	2.08	0.53
1:F:276:LEU:HD13	1:F:297:TRP:CE2	2.44	0.53
1:A:382:GLU:OE1	1:A:383:GLN:HG2	2.08	0.53
1:E:457:GLN:HG3	5:E:803:HOH:O	2.09	0.53
1:A:179:ASP:OD1	1:A:180:ASP:N	2.40	0.53
1:D:24:ARG:NH2	5:D:722:HOH:O	2.40	0.53
1:D:452:LEU:HD23	1:D:455:LEU:HD12	1.90	0.53
1:C:263:ALA:HA	1:C:266:TRP:NE1	2.24	0.53
1:C:390:ASN:OD1	1:C:413:ARG:HD2	2.08	0.53
1:D:393:VAL:HG21	1:D:439:ILE:CG2	2.39	0.53
1:D:96:THR:OG1	1:D:98:GLU:OE1	2.23	0.53
1:A:146[B]:ARG:HG2	5:A:791:HOH:O	2.09	0.52
1:A:255:GLN:HE21	1:A:409:VAL:H	1.57	0.52
1:C:209:GLU:OE2	5:C:707:HOH:O	2.18	0.52
1:F:210:LYS:HE3	1:F:336:LEU:CD1	2.38	0.52
1:G:6:PHE:CE1	1:G:141:GLN:HG2	2.44	0.52
1:F:18:LEU:HD22	1:F:156:LEU:HD21	1.91	0.52
1:G:8:ARG:NH2	5:G:721:HOH:O	2.41	0.52
1:H:263:ALA:HA	1:H:266:TRP:CD1	2.45	0.52
1:D:15:LEU:HD12	1:D:40:ALA:HB3	1.91	0.52
1:D:360:VAL:HG22	1:D:549:LEU:HD13	1.92	0.52
1:E:3:VAL:HB	1:E:173:PRO:HD2	1.90	0.52
1:H:395:ARG:HH22	2:H:601:TD6:CLC	2.19	0.52
1:B:18:LEU:HD22	1:B:156:LEU:HD21	1.92	0.52
1:B:139:PRO:O	5:B:704:HOH:O	2.19	0.52
1:A:6:PHE:CE1	1:A:141:GLN:HG2	2.44	0.52
1:B:68:VAL:HG11	1:B:432:SER:HB3	1.92	0.52
1:G:343:GLN:HG3	1:G:344:PRO:HD2	1.92	0.52
1:G:460:ALA:HB1	1:G:461:PRO:HD2	1.91	0.52
1:H:33:ARG:CZ	1:H:107:ARG:HD2	2.40	0.52
1:F:23:VAL:HG12	1:F:47:PHE:HE1	1.75	0.52
1:F:391:SER:OG	2:F:601:TD6:O2B	2.18	0.52
1:F:538:ASN:HB2	1:F:541:ASP:OD2	2.09	0.52
2:H:601:TD6:HN4A	2:H:601:TD6:C11	2.23	0.52
1:A:31:GLY:HA3	1:A:78:THR:HB	1.92	0.51
1:D:392:LEU:HB2	2:D:601:TD6:O3B	2.10	0.51
1:H:254:SER:C	1:H:255:GLN:HE21	2.13	0.51
1:D:390:ASN:OD1	1:D:413:ARG:HD2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:120:ILE:HG22	1:H:95:LEU:HD11	1.92	0.51
1:C:6:PHE:CE1	1:C:141:GLN:HG2	2.46	0.51
1:F:424:THR:O	1:F:428:VAL:HG23	2.10	0.51
1:F:485:ARG:HG2	1:F:490:LEU:HG	1.91	0.51
1:H:15:LEU:CD1	1:H:40:ALA:HB3	2.41	0.51
1:D:8:ARG:NH2	1:D:43:GLU:OE2	2.44	0.51
1:A:96:THR:OG1	1:A:98:GLU:OE1	2.26	0.51
1:C:498:GLU:HB2	1:C:508:TYR:CE2	2.46	0.51
1:E:535:MET:HA	5:E:715:HOH:O	2.11	0.50
1:B:263:ALA:HA	1:B:266:TRP:NE1	2.27	0.50
1:E:517:LEU:HD11	1:E:521:PHE:CE2	2.46	0.50
1:C:253:LEU:HD11	1:C:413:ARG:HG3	1.91	0.50
1:C:480:THR:O	1:C:485:ARG:NH2	2.44	0.50
1:D:465:ILE:HD11	1:D:521:PHE:CZ	2.44	0.50
1:F:210:LYS:HE3	1:F:336:LEU:HD11	1.92	0.50
1:C:247:PRO:HG3	1:C:346:CYS:SG	2.52	0.50
1:B:253:LEU:HD11	1:B:413:ARG:HG3	1.92	0.50
1:G:363:ARG:HD2	5:G:711:HOH:O	2.11	0.50
1:D:99:LYS:HA	1:D:162:GLY:O	2.12	0.50
1:A:393:VAL:HG21	1:A:439:ILE:CG2	2.41	0.50
2:C:601:TD6:HN4A	2:C:601:TD6:C11	2.25	0.50
1:A:252:VAL:HG23	1:A:403:LEU:HD11	1.93	0.50
1:E:87:TYR:HB3	1:E:88:PRO:HD3	1.94	0.50
1:F:255:GLN:HG2	1:F:407:TYR:O	2.12	0.50
1:E:377[A]:CYS:SG	1:E:403:LEU:HD23	2.51	0.50
1:C:320:HIS:NE2	5:C:716:HOH:O	2.28	0.49
1:C:505:GLU:OE2	5:C:708:HOH:O	2.19	0.49
1:B:254:SER:C	1:B:255:GLN:HE21	2.16	0.49
1:H:253:LEU:HD11	1:H:413:ARG:HG3	1.94	0.49
1:H:63:LEU:HA	1:H:100:LEU:HD21	1.95	0.49
1:A:263:ALA:HA	1:A:266:TRP:NE1	2.28	0.49
1:D:182:GLY:O	1:D:185:TRP:HB3	2.13	0.49
1:D:327:ILE:N	1:D:327:ILE:HD12	2.27	0.49
1:F:460:ALA:HB1	1:F:461:PRO:HD2	1.95	0.49
1:H:520:ALA:O	1:H:523:ASP:HB3	2.13	0.49
1:A:129:HIS:N	1:A:130:PRO:CD	2.76	0.48
1:B:282:VAL:HG11	1:B:306:TYR:CE2	2.48	0.48
1:C:327:ILE:N	1:C:327:ILE:HD12	2.28	0.48
1:E:68:VAL:HG11	1:E:432:SER:HB3	1.94	0.48
1:G:31:GLY:HA3	1:G:78:THR:HB	1.95	0.48
1:B:346:CYS:HB2	5:B:763:HOH:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:179:ASP:HB3	1:D:181:THR:H	1.77	0.48
1:G:27:CYS:HB3	1:G:58:LEU:HD11	1.96	0.48
1:B:6:PHE:CE1	1:B:141:GLN:HG2	2.49	0.48
1:F:292:LYS:NZ	1:F:296:GLN:OE1	2.46	0.48
1:G:465:ILE:HD11	1:G:521:PHE:HZ	1.79	0.48
1:E:273:THR:O	1:E:277:GLN:HG3	2.14	0.48
1:G:354:GLU:O	1:G:358:GLN:HG2	2.13	0.48
1:C:122:GLN:N	1:C:123:PRO:CD	2.77	0.48
1:B:465:ILE:HD11	1:B:521:PHE:HZ	1.79	0.48
1:F:216:PHE:CZ	1:F:220:LYS:HE3	2.48	0.48
1:G:430:ARG:NH2	4:G:603:GOL:O3	2.46	0.48
1:H:539:ASP:OD1	1:H:539:ASP:N	2.46	0.48
1:E:253:LEU:HD11	1:E:413:ARG:HG3	1.94	0.47
1:A:252:VAL:HG23	1:A:403:LEU:CD1	2.45	0.47
1:A:284:GLN:HB3	1:A:308:ILE:HG12	1.95	0.47
1:C:182:GLY:O	1:C:185:TRP:HB3	2.14	0.47
1:H:302:GLU:N	1:H:303:PRO:CD	2.77	0.47
1:A:134:ILE:HD13	1:A:151:THR:HG22	1.94	0.47
1:G:393:VAL:HG21	1:G:439:ILE:CG2	2.44	0.47
1:H:236:LYS:O	5:H:706:HOH:O	2.20	0.47
1:A:485:ARG:O	1:A:489:TYR:HB2	2.15	0.47
1:F:267:LEU:HD13	1:F:294:LEU:HA	1.96	0.47
1:H:18:LEU:HD22	1:H:156:LEU:HD21	1.96	0.47
1:H:134:ILE:HD11	1:H:155:ALA:HB2	1.97	0.47
1:F:334:LEU:HB2	5:F:730:HOH:O	2.15	0.47
1:A:3:VAL:HB	1:A:173:PRO:HD2	1.97	0.47
1:C:87:TYR:HB3	1:D:84:ALA:HB1	1.97	0.47
1:C:122:GLN:HA	1:C:125:MET:HG3	1.96	0.47
1:E:199:TRP:CZ2	1:H:322:ARG:HB2	2.50	0.47
1:G:35:THR:HB	1:G:36:PRO:HD3	1.97	0.47
1:A:460:ALA:HB1	1:A:461:PRO:HD2	1.96	0.47
2:A:601:TD6:HN4A	2:A:601:TD6:C11	2.28	0.47
1:B:113:ASP:OD1	5:B:706:HOH:O	2.20	0.47
1:F:263:ALA:HA	1:F:266:TRP:NE1	2.30	0.47
1:A:407:TYR:HA	1:A:408:PRO:HD3	1.73	0.47
1:B:372:LEU:HD22	1:B:535:MET:SD	2.55	0.47
1:C:87:TYR:HB3	1:C:88:PRO:HD3	1.96	0.47
1:C:492:PRO:O	5:C:709:HOH:O	2.19	0.47
1:E:144:PRO:HB2	1:E:146[B]:ARG:HG3	1.97	0.47
1:H:8:ARG:HD2	5:H:799:HOH:O	2.15	0.47
1:H:29:ALA:HB2	1:H:58:LEU:HD22	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:392:LEU:HB2	2:H:601:TD6:O3B	2.15	0.47
1:C:485:ARG:HG2	1:C:490:LEU:HG	1.96	0.46
1:E:434:LYS:NZ	5:E:708:HOH:O	2.23	0.46
1:A:255:GLN:NE2	5:A:712:HOH:O	2.29	0.46
1:E:134:ILE:HD11	1:E:155:ALA:HB2	1.98	0.46
1:G:255:GLN:HG2	1:G:407:TYR:O	2.15	0.46
1:B:14:ILE:HG12	1:B:152:ILE:HD11	1.97	0.46
1:C:244:LEU:O	5:C:710:HOH:O	2.21	0.46
1:D:480:THR:O	1:D:485:ARG:NH2	2.48	0.46
1:G:179:ASP:OD1	1:G:180:ASP:N	2.41	0.46
1:H:83:VAL:HG13	1:H:104:THR:HG21	1.97	0.46
1:D:247:PRO:HG3	1:D:346:CYS:SG	2.55	0.46
1:D:255:GLN:HG2	1:D:407:TYR:O	2.16	0.46
1:B:15:LEU:HD12	1:B:40:ALA:HB3	1.98	0.46
1:C:144:PRO:HB2	1:C:146[B]:ARG:HG3	1.97	0.46
1:A:360:VAL:HG22	1:A:549:LEU:HD13	1.96	0.46
1:B:485:ARG:HG2	1:B:490:LEU:HG	1.96	0.46
1:F:23:VAL:HG12	1:F:47:PHE:CE1	2.51	0.46
1:H:372:LEU:HD22	1:H:535:MET:SD	2.56	0.46
1:B:255:GLN:HG2	1:B:407:TYR:O	2.16	0.46
1:C:340:GLU:OE1	1:C:340:GLU:HA	2.17	0.45
2:E:601:TD6:HN4A	2:E:601:TD6:C11	2.28	0.45
1:A:298:GLN:O	1:A:321:HIS:HE1	1.99	0.45
1:C:39:LEU:HD23	1:C:39:LEU:HA	1.76	0.45
1:E:254:SER:HB2	1:E:256:THR:HG23	1.98	0.45
1:C:245:GLY:O	1:C:344:PRO:HA	2.17	0.45
1:H:462:LEU:C	1:H:462:LEU:HD23	2.37	0.45
1:E:304:GLU:OE1	5:E:707:HOH:O	2.21	0.45
1:G:96:THR:OG1	1:G:98:GLU:OE1	2.24	0.45
1:G:144:PRO:HB2	1:G:146[B]:ARG:HG3	1.98	0.45
1:H:247:PRO:HD3	5:H:824:HOH:O	2.17	0.45
1:B:96:THR:HG21	5:B:720:HOH:O	2.17	0.45
1:B:465:ILE:HD11	1:B:521:PHE:CZ	2.51	0.45
1:D:68:VAL:HG11	1:D:432:SER:HB3	1.98	0.45
1:E:252:VAL:HG21	1:E:398:ASP:N	2.31	0.45
1:E:453:ALA:O	1:E:456:ARG:HD3	2.16	0.45
1:B:293:ARG:NH2	1:B:550:LEU:HD11	2.32	0.45
1:E:6:PHE:CE1	1:E:141:GLN:HG2	2.52	0.45
1:C:392:LEU:HB2	2:C:601:TD6:O3B	2.17	0.45
1:G:407:TYR:HA	1:G:408:PRO:HD3	1.87	0.45
1:C:134:ILE:HD13	1:C:151:THR:HG22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:263:ALA:HA	1:D:266:TRP:CE2	2.52	0.45
1:E:263:ALA:HA	1:E:266:TRP:NE1	2.32	0.45
1:D:28:ILE:HG12	1:D:76:ILE:HD12	1.99	0.44
1:F:71:GLN:HB3	1:F:72:PRO:HD2	1.98	0.44
1:H:245:GLY:O	1:H:344:PRO:HA	2.17	0.44
1:B:460:ALA:HB1	1:B:461:PRO:HD2	1.98	0.44
1:B:538:ASN:HB2	1:B:541:ASP:OD2	2.17	0.44
1:E:466:VAL:HG11	1:E:497:PHE:CE1	2.53	0.44
1:G:390:ASN:OD1	1:G:413:ARG:HD2	2.18	0.44
1:H:221:ARG:NH2	5:H:719:HOH:O	2.43	0.44
1:B:99:LYS:HA	1:B:162:GLY:O	2.17	0.44
1:F:263:ALA:HA	1:F:266:TRP:CE2	2.53	0.44
1:A:392:LEU:HB2	2:A:601:TD6:O3B	2.17	0.44
1:B:407:TYR:HA	1:B:408:PRO:HD3	1.80	0.44
1:H:40:ALA:HB2	5:H:701:HOH:O	2.18	0.44
1:C:217:TRP:O	1:C:220:LYS:HB2	2.17	0.44
1:D:107:ARG:HG3	1:D:119:ALA:HB2	1.99	0.44
1:E:122:GLN:N	1:E:123:PRO:CD	2.80	0.44
1:E:146[B]:ARG:HG2	5:E:874:HOH:O	2.18	0.44
1:F:550:LEU:HD23	1:F:550:LEU:C	2.38	0.44
1:H:407:TYR:HA	1:H:408:PRO:HD3	1.88	0.44
1:F:327:ILE:N	1:F:327:ILE:HD12	2.32	0.44
1:F:390:ASN:OD1	1:F:413:ARG:HD2	2.17	0.44
1:G:111:LEU:HA	1:G:111:LEU:HD23	1.78	0.44
1:F:33:ARG:CZ	1:F:107:ARG:HD2	2.48	0.43
1:G:308:ILE:HD11	1:G:317:ASP:HB2	2.00	0.43
1:E:298:GLN:NE2	5:E:719:HOH:O	2.51	0.43
1:F:31:GLY:HA3	1:F:78:THR:HB	2.00	0.43
1:E:14:ILE:HG12	1:E:152:ILE:HD11	2.01	0.43
2:D:601:TD6:HN4A	2:D:601:TD6:C11	2.29	0.43
1:E:298:GLN:O	1:E:321:HIS:HE1	2.02	0.43
1:F:68:VAL:HG11	1:F:432:SER:HB3	2.00	0.43
1:H:480:THR:HB	1:H:481:PRO:HD2	2.00	0.43
1:F:198:PRO:HA	5:F:739:HOH:O	2.18	0.43
1:C:57:GLY:HA3	5:C:743:HOH:O	2.19	0.43
1:C:263:ALA:HA	1:C:266:TRP:CE2	2.53	0.43
1:D:461:PRO:HB2	1:D:525:TRP:CE3	2.53	0.43
1:G:242:GLN:HG2	5:G:717:HOH:O	2.17	0.43
1:H:9:ARG:NE	5:H:703:HOH:O	2.05	0.43
1:H:96:THR:HG21	5:H:780:HOH:O	2.19	0.43
1:H:386:LEU:HD12	1:H:437:LEU:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:134:ILE:HD11	1:A:155:ALA:HB2	2.01	0.43
1:D:245:GLY:O	1:D:344:PRO:HA	2.18	0.43
1:G:27:CYS:HB3	1:G:58:LEU:CD1	2.49	0.43
1:G:271:LYS:NZ	1:G:556:LEU:O	2.51	0.43
1:H:68:VAL:HG11	1:H:432:SER:HB3	2.01	0.43
1:D:252:VAL:HB	1:D:398:ASP:HA	2.00	0.43
1:G:144:PRO:HB2	1:G:146[A]:ARG:HG2	2.01	0.43
1:C:55:GLU:OE2	5:C:711:HOH:O	2.21	0.43
1:D:15:LEU:CD1	1:D:40:ALA:HB3	2.48	0.43
1:E:96:THR:HG21	5:E:726:HOH:O	2.19	0.43
1:H:31:GLY:HA3	1:H:78:THR:HB	1.99	0.43
1:A:95:LEU:HD11	1:B:120:ILE:HG22	2.01	0.42
1:B:31:GLY:HA3	1:B:78:THR:HB	2.01	0.42
1:C:4[A]:SER:OG	1:C:173:PRO:HB2	2.18	0.42
1:C:293:ARG:NH1	1:C:550:LEU:HD11	2.34	0.42
1:D:26:ILE:HD11	1:D:76:ILE:HD11	2.01	0.42
1:D:172:GLU:HB3	1:D:173:PRO:HA	2.01	0.42
1:F:308:ILE:HD11	1:F:317:ASP:HB2	2.01	0.42
1:A:327:ILE:N	1:A:327:ILE:HD12	2.33	0.42
1:G:122:GLN:N	1:G:123:PRO:CD	2.82	0.42
1:A:395:ARG:HH22	2:A:601:TD6:CLC	2.32	0.42
1:C:407:TYR:HA	1:C:408:PRO:HD3	1.88	0.42
1:E:61:LEU:HD12	1:E:427:GLY:CA	2.49	0.42
1:C:255:GLN:HG2	1:C:407:TYR:O	2.19	0.42
1:H:327:ILE:N	1:H:327:ILE:HD12	2.34	0.42
1:F:492:PRO:HB3	5:F:709:HOH:O	2.19	0.42
1:H:197:LYS:HB2	1:H:197:LYS:HE2	1.86	0.42
1:E:365:ASP:HB2	5:E:774:HOH:O	2.18	0.42
1:B:87:TYR:N	1:B:88:PRO:CD	2.83	0.42
1:E:103:LEU:HD23	1:E:166:ILE:HB	2.02	0.42
1:C:122:GLN:H	1:C:123:PRO:CD	2.32	0.42
1:E:9:ARG:NE	1:E:178:MET:HE2	2.34	0.42
1:E:146[B]:ARG:HG2	1:E:146[B]:ARG:NH2	2.32	0.42
1:G:473:GLN:HG3	1:G:539:ASP:O	2.20	0.42
1:G:470:ASN:O	1:G:492:PRO:HB3	2.20	0.42
1:D:461:PRO:HB2	1:D:525:TRP:HE3	1.85	0.41
1:E:407:TYR:HA	1:E:408:PRO:HD3	1.89	0.41
1:H:315:ARG:HH12	1:H:320:HIS:CE1	2.38	0.41
1:A:172:GLU:HB3	1:A:173:PRO:HA	2.02	0.41
1:G:335:GLU:O	1:G:338:PRO:HD3	2.19	0.41
1:E:138:ARG:HD2	1:G:143:ILE:HD11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:263:ALA:HA	1:E:266:TRP:CD1	2.56	0.41
1:B:199:TRP:CZ2	1:D:322:ARG:HB2	2.54	0.41
1:D:393:VAL:HG21	1:D:439:ILE:HG21	2.02	0.41
1:E:122:GLN:H	1:E:123:PRO:CD	2.33	0.41
1:E:392:LEU:HB2	2:E:601:TD6:O3B	2.20	0.41
1:G:238:ALA:HA	1:G:248:LEU:HD22	2.02	0.41
1:H:21:HIS:HB2	1:H:156:LEU:HD23	2.03	0.41
1:C:172:GLU:HB3	1:C:173:PRO:HA	2.02	0.41
1:D:29:ALA:HB2	1:D:58:LEU:HD22	2.03	0.41
1:H:393:VAL:HG13	1:H:394:VAL:N	2.36	0.41
1:B:462:LEU:HD23	1:B:462:LEU:C	2.40	0.41
1:C:225:VAL:O	1:C:284:GLN:HA	2.21	0.41
1:D:263:ALA:HA	1:D:266:TRP:CD1	2.56	0.41
1:E:435:PRO:HB3	1:E:461:PRO:HG2	2.03	0.41
1:E:452:LEU:HD23	1:E:455:LEU:HD12	2.02	0.41
1:H:258:GLN:HG3	5:H:725:HOH:O	2.21	0.41
1:H:473:GLN:HG3	1:H:539:ASP:O	2.21	0.41
1:A:68:VAL:HG11	1:A:432:SER:HB3	2.02	0.41
1:F:103:LEU:HD23	1:F:166:ILE:HB	2.02	0.41
1:F:314:GLY:HA2	1:G:154:HIS:CE1	2.55	0.41
1:G:245:GLY:O	1:G:344:PRO:HA	2.21	0.41
1:H:33:ARG:CZ	1:H:107:ARG:CD	2.99	0.41
1:H:390:ASN:ND2	1:H:417:GLY:O	2.51	0.41
1:B:172:GLU:HB3	1:B:173:PRO:HA	2.03	0.41
1:C:415:ALA:O	1:D:118:GLN:HG3	2.21	0.41
1:D:129:HIS:N	1:D:130:PRO:CD	2.84	0.41
1:E:360:VAL:HG22	1:E:549:LEU:HD13	2.02	0.41
1:E:376:ILE:HD12	1:E:376:ILE:HA	1.87	0.41
1:G:327:ILE:HD12	1:G:327:ILE:N	2.36	0.41
1:H:482:GLN:N	5:H:733:HOH:O	2.53	0.41
1:F:245:GLY:O	1:F:344:PRO:HA	2.21	0.41
1:F:477:LEU:HD12	1:F:547:GLN:NE2	2.36	0.41
1:H:35:THR:HB	1:H:36:PRO:HD3	2.01	0.41
1:A:465:ILE:HD11	1:A:521:PHE:HZ	1.85	0.40
1:D:82:ALA:CB	5:D:718:HOH:O	2.69	0.40
1:B:26:ILE:HD11	1:B:76:ILE:CD1	2.51	0.40
1:E:350:PRO:O	1:E:354:GLU:HG2	2.21	0.40
1:F:539:ASP:OD1	1:F:540:THR:N	2.54	0.40
1:G:15:LEU:HD12	1:G:40:ALA:HB3	2.03	0.40
1:C:217:TRP:CE3	1:C:220:LYS:HG3	2.56	0.40
1:F:39:LEU:HD23	1:F:39:LEU:HA	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:134:ILE:HD13	1:F:151:THR:HG22	2.03	0.40
1:F:417:GLY:HA2	2:F:601:TD6:N3'	2.37	0.40
1:H:122:GLN:N	1:H:123:PRO:CD	2.85	0.40
1:H:419:ASP:HB3	1:H:447:TYR:CZ	2.57	0.40
1:B:83:VAL:HG13	1:B:104:THR:HG21	2.03	0.40
1:D:87:TYR:HB3	1:D:88:PRO:HD3	2.03	0.40
1:D:272:ALA:HB2	1:D:352:LEU:CD1	2.52	0.40
1:H:273:THR:O	1:H:277:GLN:HG3	2.21	0.40
1:C:96:THR:HG22	1:C:228:ARG:NH2	2.36	0.40
1:E:298:GLN:CD	5:E:719:HOH:O	2.58	0.40
1:H:387:PHE:O	1:H:438:ALA:HA	2.20	0.40

All (1) 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)
1:F:341:LYS:NZ	1:H:45:SER:O[1_545]	2.18	0.02

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	558/556 (100%)	547 (98%)	11 (2%)	0	100	100
1	B	555/556 (100%)	544 (98%)	11 (2%)	0	100	100
1	C	559/556 (100%)	548 (98%)	11 (2%)	0	100	100
1	D	555/556 (100%)	543 (98%)	12 (2%)	0	100	100
1	E	559/556 (100%)	548 (98%)	11 (2%)	0	100	100
1	F	555/556 (100%)	544 (98%)	11 (2%)	0	100	100
1	G	559/556 (100%)	547 (98%)	11 (2%)	1 (0%)	47	58

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	H	555/556 (100%)	545 (98%)	10 (2%)	0	100	100
All	All	4455/4448 (100%)	4366 (98%)	88 (2%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	G	391	SER

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	451/452 (100%)	449 (100%)	2 (0%)	91	96
1	B	447/452 (99%)	444 (99%)	3 (1%)	84	92
1	C	452/452 (100%)	449 (99%)	3 (1%)	84	92
1	D	446/452 (99%)	443 (99%)	3 (1%)	84	92
1	E	454/452 (100%)	451 (99%)	3 (1%)	84	92
1	F	446/452 (99%)	441 (99%)	5 (1%)	73	86
1	G	451/452 (100%)	448 (99%)	3 (1%)	84	92
1	H	447/452 (99%)	443 (99%)	4 (1%)	78	89
All	All	3594/3616 (99%)	3568 (99%)	26 (1%)	84	92

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	87	TYR
1	A	447	TYR
1	B	87	TYR
1	B	255	GLN
1	B	447	TYR
1	C	87	TYR
1	C	255	GLN

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Mol	Chain	Res	Type
1	C	447	TYR
1	D	87	TYR
1	D	255	GLN
1	D	447	TYR
1	E	87	TYR
1	E	255	GLN
1	E	447	TYR
1	F	24	ARG
1	F	87	TYR
1	F	255	GLN
1	F	447	TYR
1	F	495	VAL
1	G	87	TYR
1	G	255	GLN
1	G	447	TYR
1	H	87	TYR
1	H	255	GLN
1	H	377	CYS
1	H	447	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	552	GLN

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 24 ligands modelled in this entry, 8 are monoatomic - leaving 16 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	#$|Z| > 2$
4	GOL	A	603	-	5,5,5	0.30	0	5,5,5	0.22	0
2	TD6	D	601	3	29,34,34	2.57	4 (13%)	35,50,50	1.70	6 (17%)
4	GOL	H	603	-	5,5,5	0.36	0	5,5,5	0.25	0
4	GOL	B	603	-	5,5,5	0.33	0	5,5,5	0.36	0
4	GOL	G	603	-	5,5,5	0.33	0	5,5,5	0.36	0
2	TD6	B	601	3	29,34,34	3.14	5 (17%)	35,50,50	1.72	7 (20%)
2	TD6	H	601	3	29,34,34	2.87	5 (17%)	35,50,50	1.67	8 (22%)
4	GOL	E	603	-	5,5,5	0.35	0	5,5,5	0.28	0
4	GOL	F	603	-	5,5,5	0.31	0	5,5,5	0.32	0
2	TD6	G	601	3	29,34,34	3.10	5 (17%)	35,50,50	1.67	7 (20%)
2	TD6	A	601	3	29,34,34	3.07	7 (24%)	35,50,50	1.69	7 (20%)
2	TD6	C	601	3	29,34,34	2.90	5 (17%)	35,50,50	1.70	8 (22%)
4	GOL	D	603	-	5,5,5	0.40	0	5,5,5	0.44	0
4	GOL	C	603	-	5,5,5	0.37	0	5,5,5	0.18	0
2	TD6	E	601	3	29,34,34	2.45	5 (17%)	35,50,50	1.56	7 (20%)
2	TD6	F	601	3	29,34,34	2.93	5 (17%)	35,50,50	1.59	7 (20%)

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
4	GOL	A	603	-	-	2/4/4/4	-
2	TD6	D	601	3	-	2/21/26/26	0/2/2/2
4	GOL	H	603	-	-	2/4/4/4	-
4	GOL	B	603	-	-	2/4/4/4	-
4	GOL	G	603	-	-	2/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	TD6	B	601	3	-	2/21/26/26	0/2/2/2
2	TD6	H	601	3	-	1/21/26/26	0/2/2/2
4	GOL	E	603	-	-	2/4/4/4	-
4	GOL	F	603	-	-	2/4/4/4	-
2	TD6	G	601	3	-	2/21/26/26	0/2/2/2
2	TD6	A	601	3	-	2/21/26/26	0/2/2/2
2	TD6	C	601	3	-	7/21/26/26	0/2/2/2
4	GOL	D	603	-	-	2/4/4/4	-
4	GOL	C	603	-	-	2/4/4/4	-
2	TD6	E	601	3	-	4/21/26/26	0/2/2/2
2	TD6	F	601	3	-	2/21/26/26	0/2/2/2

All (41) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	601	TD6	C6-C5	15.21	1.57	1.50
2	G	601	TD6	C6-C5	15.06	1.57	1.50
2	A	601	TD6	C6-C5	14.69	1.57	1.50
2	F	601	TD6	C6-C5	14.06	1.57	1.50
2	C	601	TD6	C6-C5	13.80	1.57	1.50
2	H	601	TD6	C6-C5	13.70	1.56	1.50
2	D	601	TD6	C6-C5	11.91	1.56	1.50
2	E	601	TD6	C6-C5	11.08	1.55	1.50
2	A	601	TD6	CM4-C4	3.52	1.57	1.49
2	H	601	TD6	CM4-C4	3.50	1.57	1.49
2	B	601	TD6	CM4-C4	3.36	1.56	1.49
2	G	601	TD6	CM4-C4	3.25	1.56	1.49
2	C	601	TD6	CM4-C4	3.18	1.56	1.49
2	F	601	TD6	CM4-C4	3.17	1.56	1.49
2	A	601	TD6	CM2-C2'	3.02	1.58	1.49
2	G	601	TD6	CM2-C2'	2.93	1.58	1.49
2	E	601	TD6	CM4-C4	2.92	1.55	1.49
2	E	601	TD6	CM2-C2'	2.91	1.58	1.49
2	C	601	TD6	CM2-C2'	2.89	1.58	1.49
2	B	601	TD6	CM2-C2'	2.85	1.57	1.49
2	D	601	TD6	CM4-C4	2.81	1.55	1.49
2	D	601	TD6	CM2-C2'	2.80	1.57	1.49
2	F	601	TD6	CM2-C2'	2.75	1.57	1.49
2	H	601	TD6	CM2-C2'	2.70	1.57	1.49
2	B	601	TD6	C7'-C5'	2.43	1.56	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	601	TD6	C6-C7	2.43	1.59	1.50
2	G	601	TD6	C6-C7	2.39	1.59	1.50
2	A	601	TD6	C7'-C5'	2.30	1.56	1.51
2	B	601	TD6	C6-C7	2.30	1.58	1.50
2	D	601	TD6	C7'-C5'	2.28	1.56	1.51
2	E	601	TD6	C4-N3	-2.21	1.35	1.39
2	C	601	TD6	C7'-C5'	2.18	1.55	1.51
2	G	601	TD6	C5'-C4'	-2.18	1.39	1.42
2	H	601	TD6	C6-C7	2.17	1.58	1.50
2	A	601	TD6	C6-C7	2.16	1.58	1.50
2	F	601	TD6	C5'-C4'	-2.12	1.39	1.42
2	A	601	TD6	C5'-C4'	-2.12	1.39	1.42
2	F	601	TD6	C7'-C5'	2.09	1.55	1.51
2	A	601	TD6	OL2-CLC	-2.05	1.23	1.30
2	E	601	TD6	C7'-C5'	2.01	1.55	1.51
2	H	601	TD6	C5'-C4'	-2.01	1.39	1.42

All (57) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	601	TD6	C5-C4-N3	4.18	116.39	107.66
2	C	601	TD6	C5-C4-N3	3.98	115.99	107.66
2	D	601	TD6	CM2-C2'-N1'	3.96	121.50	117.14
2	F	601	TD6	C5-C4-N3	3.95	115.92	107.66
2	A	601	TD6	CM2-C2'-N1'	3.94	121.48	117.14
2	B	601	TD6	C5-C4-N3	3.93	115.88	107.66
2	D	601	TD6	C5-C4-N3	3.90	115.82	107.66
2	G	601	TD6	CM2-C2'-N1'	3.89	121.42	117.14
2	H	601	TD6	C5-C4-N3	3.88	115.78	107.66
2	D	601	TD6	C6'-N1'-C2'	3.87	122.55	115.96
2	B	601	TD6	C6'-N1'-C2'	3.84	122.50	115.96
2	E	601	TD6	C5-C4-N3	3.83	115.68	107.66
2	A	601	TD6	C5-C4-N3	3.82	115.64	107.66
2	C	601	TD6	C6'-N1'-C2'	3.77	122.37	115.96
2	A	601	TD6	C6'-N1'-C2'	3.51	121.94	115.96
2	H	601	TD6	C5'-C6'-N1'	-3.51	117.97	123.82
2	E	601	TD6	C6'-N1'-C2'	3.49	121.90	115.96
2	G	601	TD6	C6'-N1'-C2'	3.35	121.66	115.96
2	C	601	TD6	CM4-C4-C5	-3.31	120.36	127.60
2	F	601	TD6	C5'-C6'-N1'	-3.31	118.31	123.82
2	A	601	TD6	N1'-C2'-N3'	-3.31	119.85	125.54
2	D	601	TD6	C5'-C6'-N1'	-3.28	118.35	123.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	601	TD6	CM4-C4-C5	-3.28	120.43	127.60
2	H	601	TD6	C6'-N1'-C2'	3.28	121.54	115.96
2	D	601	TD6	N1'-C2'-N3'	-3.27	119.91	125.54
2	G	601	TD6	N1'-C2'-N3'	-3.26	119.92	125.54
2	B	601	TD6	C5'-C6'-N1'	-3.19	118.51	123.82
2	E	601	TD6	C5'-C6'-N1'	-3.19	118.51	123.82
2	G	601	TD6	CM4-C4-C5	-3.15	120.71	127.60
2	C	601	TD6	C5'-C6'-N1'	-3.10	118.66	123.82
2	C	601	TD6	N1'-C2'-N3'	-3.09	120.22	125.54
2	B	601	TD6	CM4-C4-C5	-3.09	120.85	127.60
2	H	601	TD6	CM4-C4-C5	-3.02	120.99	127.60
2	B	601	TD6	N1'-C2'-N3'	-3.01	120.35	125.54
2	B	601	TD6	CM2-C2'-N1'	3.01	120.45	117.14
2	D	601	TD6	CM4-C4-C5	-2.90	121.26	127.60
2	H	601	TD6	CM2-C2'-N1'	2.90	120.33	117.14
2	A	601	TD6	C5'-C6'-N1'	-2.89	119.01	123.82
2	F	601	TD6	C6'-N1'-C2'	2.87	120.84	115.96
2	E	601	TD6	N1'-C2'-N3'	-2.83	120.67	125.54
2	E	601	TD6	CM2-C2'-N1'	2.79	120.21	117.14
2	G	601	TD6	C5'-C6'-N1'	-2.78	119.19	123.82
2	F	601	TD6	C6'-C5'-C4'	2.77	119.50	115.72
2	E	601	TD6	CM4-C4-C5	-2.71	121.67	127.60
2	H	601	TD6	N1'-C2'-N3'	-2.70	120.89	125.54
2	H	601	TD6	C6'-C5'-C4'	2.65	119.33	115.72
2	F	601	TD6	CM2-C2'-N1'	2.61	120.00	117.14
2	F	601	TD6	CM4-C4-C5	-2.51	122.12	127.60
2	A	601	TD6	O1B-PB-O3A	2.42	112.75	104.64
2	F	601	TD6	N1'-C2'-N3'	-2.38	121.45	125.54
2	C	601	TD6	CM2-C2'-N1'	2.22	119.58	117.14
2	C	601	TD6	O1B-PB-O3A	2.14	111.81	104.64
2	H	601	TD6	PA-O3A-PB	-2.13	125.53	132.83
2	C	601	TD6	PA-O3A-PB	-2.08	125.69	132.83
2	G	601	TD6	O1B-PB-O3A	2.06	111.56	104.64
2	B	601	TD6	O3B-PB-O1B	2.04	115.44	107.64
2	E	601	TD6	O1B-PB-O3A	2.02	111.42	104.64

There are no chirality outliers.

All (38) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	601	TD6	C4-C5-C6-C7
2	C	601	TD6	C2-C11-CLB-C13

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Mol	Chain	Res	Type	Atoms
2	C	601	TD6	OL1-C11-CLB-C13
2	D	601	TD6	CLC-C13-CLB-C11
2	E	601	TD6	C4-C5-C6-C7
2	E	601	TD6	OL1-C11-CLB-C13
2	E	601	TD6	CLC-C13-CLB-C11
2	F	601	TD6	PB-O3A-PA-O7
4	D	603	GOL	C1-C2-C3-O3
4	F	603	GOL	C1-C2-C3-O3
4	A	603	GOL	C1-C2-C3-O3
4	B	603	GOL	C1-C2-C3-O3
4	C	603	GOL	C1-C2-C3-O3
4	E	603	GOL	C1-C2-C3-O3
4	G	603	GOL	C1-C2-C3-O3
4	H	603	GOL	C1-C2-C3-O3
4	B	603	GOL	O2-C2-C3-O3
4	D	603	GOL	O2-C2-C3-O3
4	E	603	GOL	O2-C2-C3-O3
4	F	603	GOL	O2-C2-C3-O3
4	A	603	GOL	O2-C2-C3-O3
4	C	603	GOL	O2-C2-C3-O3
4	G	603	GOL	O2-C2-C3-O3
4	H	603	GOL	O2-C2-C3-O3
2	B	601	TD6	PB-O3A-PA-O7
2	C	601	TD6	PB-O3A-PA-O7
2	D	601	TD6	PB-O3A-PA-O7
2	C	601	TD6	C5-C6-C7-O7
2	C	601	TD6	C7-O7-PA-O2A
2	A	601	TD6	C4-C5-C6-C7
2	F	601	TD6	C4-C5-C6-C7
2	G	601	TD6	C4-C5-C6-C7
2	H	601	TD6	C4-C5-C6-C7
2	A	601	TD6	C4'-C5'-C7'-N3
2	E	601	TD6	C4'-C5'-C7'-N3
2	C	601	TD6	C7-O7-PA-O3A
2	G	601	TD6	CLC-C13-CLB-C11
2	C	601	TD6	CLB-C13-CLC-OL2

There are no ring outliers.

9 monomers are involved in 25 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	601	TD6	3	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	G	603	GOL	1	0
2	B	601	TD6	2	0
2	H	601	TD6	4	0
2	G	601	TD6	2	0
2	A	601	TD6	4	0
2	C	601	TD6	3	0
2	E	601	TD6	3	0
2	F	601	TD6	3	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 TD6 D 601

Bond lengths

Bond angles

Torsions

Rings

Ligand TD6 B 601

Bond lengths

Bond angles

Torsions

Rings

Ligand TD6 H 601

Bond lengths

Bond angles

Torsions

Rings

Ligand TD6 G 601

Bond lengths

Bond angles

Torsions

Rings

Ligand TD6 A 601

Bond lengths

Bond angles

Torsions

Rings

Ligand TD6 C 601

Bond lengths

Bond angles

Torsions

Rings

Ligand TD6 E 601

Bond lengths

Bond angles

Torsions

Rings

Ligand TD6 F 601

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(Å²)	Q<0.9
1	A	556/556 (100%)	-0.27	2 (0%)	92	95	13, 22, 38, 61	0
1	B	556/556 (100%)	-0.26	7 (1%)	77	81	13, 22, 35, 55	2 (0%)
1	C	556/556 (100%)	-0.31	4 (0%)	87	91	16, 23, 38, 57	1 (0%)
1	D	556/556 (100%)	-0.15	10 (1%)	68	74	14, 27, 46, 63	2 (0%)
1	E	556/556 (100%)	-0.28	6 (1%)	80	85	14, 22, 36, 72	2 (0%)
1	F	556/556 (100%)	-0.31	5 (0%)	84	88	15, 23, 35, 65	1 (0%)
1	G	556/556 (100%)	-0.11	7 (1%)	77	81	15, 28, 45, 74	2 (0%)
1	H	556/556 (100%)	-0.29	5 (0%)	84	88	14, 23, 38, 63	0
All	All	4448/4448 (100%)	-0.25	46 (1%)	82	86	13, 24, 40, 74	10 (0%)

All (46) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	178	MET	6.5
1	D	178	MET	4.8
1	F	176	GLY	4.7
1	A	556	LEU	4.7
1	G	177	GLU	4.6
1	E	1	MET	4.4
1	B	176	GLY	4.0
1	H	1	MET	3.9
1	F	180	ASP	3.8
1	D	555	HIS	3.8
1	G	176	GLY	3.5
1	E	556	LEU	3.4
1	E	270	ALA	3.2
1	E	177	GLU	3.1
1	C	556	LEU	3.1
1	B	178	MET	3.0

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Mol	Chain	Res	Type	RSRZ
1	E	178	MET	3.0
1	H	526	ARG	2.8
1	B	177	GLU	2.8
1	F	178	MET	2.7
1	B	180	ASP	2.6
1	D	351	ARG	2.6
1	G	239	LEU	2.6
1	G	178	MET	2.6
1	D	277	GLN	2.6
1	H	177	GLU	2.5
1	D	176	GLY	2.4
1	B	205	ARG	2.4
1	H	555	HIS	2.4
1	C	522	ALA	2.4
1	F	179	ASP	2.3
1	G	183	LEU	2.3
1	C	176	GLY	2.3
1	B	555	HIS	2.3
1	D	1	MET	2.2
1	D	180	ASP	2.2
1	G	526	ARG	2.1
1	H	519	THR	2.1
1	E	555	HIS	2.1
1	D	177	GLU	2.1
1	D	556	LEU	2.1
1	G	1	MET	2.1
1	B	482	GLN	2.1
1	C	180	ASP	2.1
1	D	550	LEU	2.0
1	F	556	LEU	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	GOL	C	603	6/6	0.86	0.19	31,47,61,61	0
4	GOL	G	603	6/6	0.90	0.19	37,46,55,55	0
4	GOL	A	603	6/6	0.91	0.14	23,31,38,38	0
4	GOL	B	603	6/6	0.94	0.11	23,33,39,43	0
4	GOL	D	603	6/6	0.96	0.17	31,38,44,46	0
4	GOL	E	603	6/6	0.96	0.12	23,29,34,40	0
2	TD6	F	601	33/33	0.96	0.12	15,28,45,49	0
4	GOL	H	603	6/6	0.96	0.13	26,39,47,48	0
3	MN	E	602	1/1	0.97	0.03	30,30,30,30	0
2	TD6	B	601	33/33	0.97	0.11	17,26,39,58	0
2	TD6	C	601	33/33	0.97	0.11	13,28,37,42	0
2	TD6	D	601	33/33	0.97	0.11	18,27,45,56	0
2	TD6	E	601	33/33	0.97	0.13	12,23,42,46	0
2	TD6	A	601	33/33	0.97	0.12	16,28,42,50	0
4	GOL	F	603	6/6	0.97	0.07	17,29,33,35	0
2	TD6	G	601	33/33	0.97	0.11	15,29,46,50	0
2	TD6	H	601	33/33	0.97	0.11	16,26,40,48	0
3	MN	H	602	1/1	0.98	0.02	30,30,30,30	0
3	MN	D	602	1/1	0.98	0.05	34,34,34,34	0
3	MN	C	602	1/1	0.98	0.03	39,39,39,39	0
3	MN	A	602	1/1	0.99	0.04	34,34,34,34	0
3	MN	F	602	1/1	0.99	0.04	34,34,34,34	0
3	MN	G	602	1/1	0.99	0.03	34,34,34,34	0
3	MN	B	602	1/1	0.99	0.04	31,31,31,31	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 TD6 F 601:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
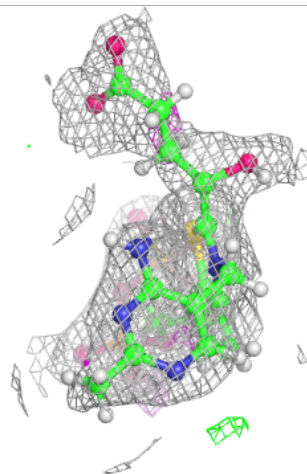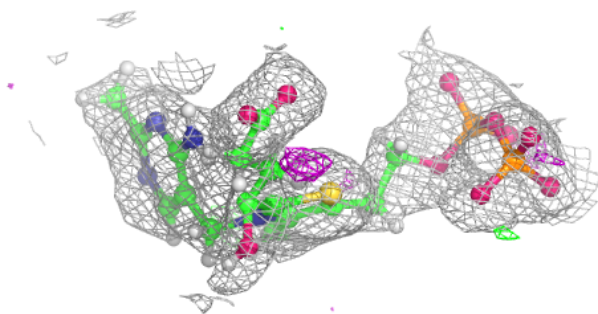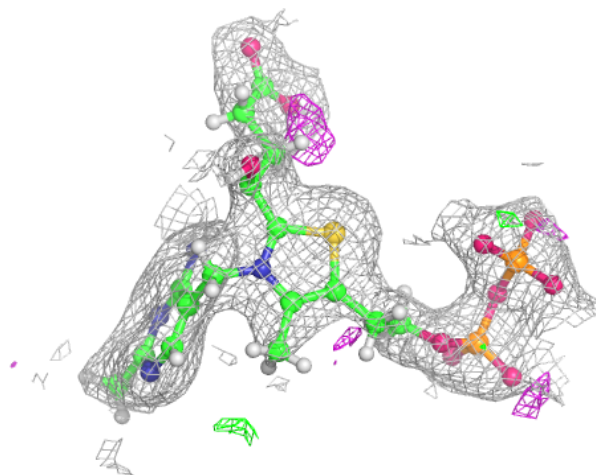
Electron density around TD6 B 601:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
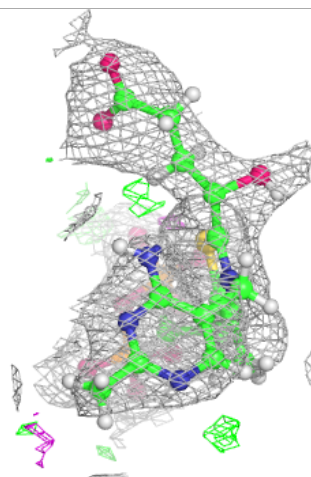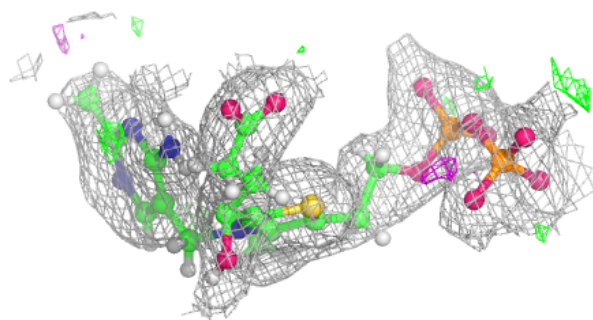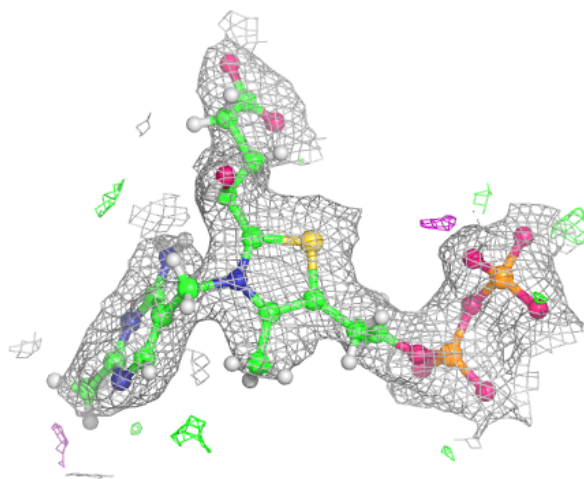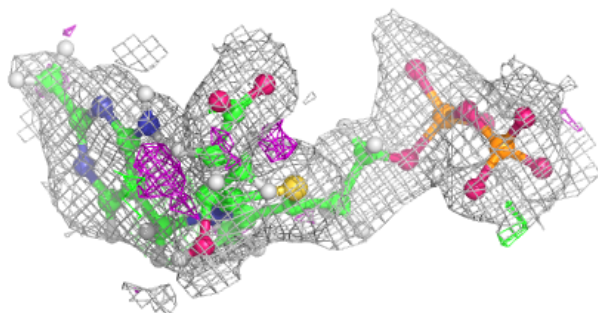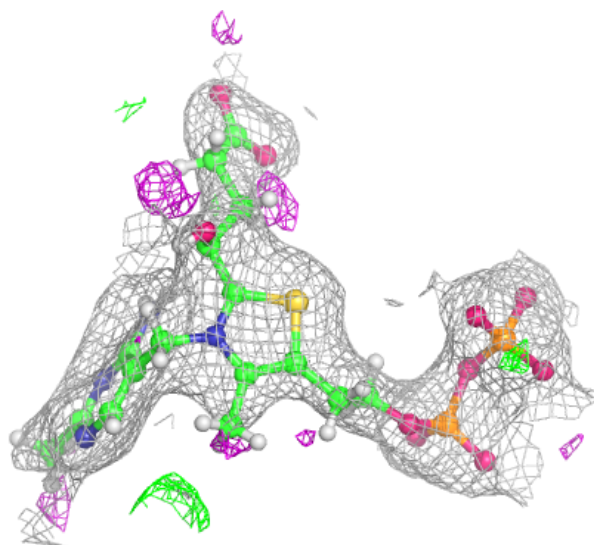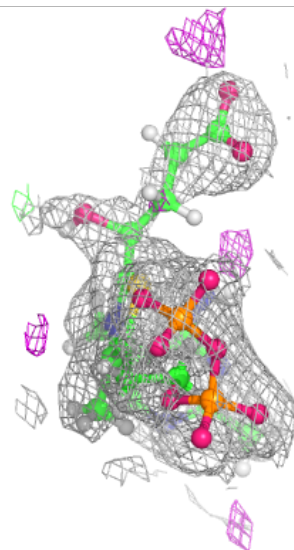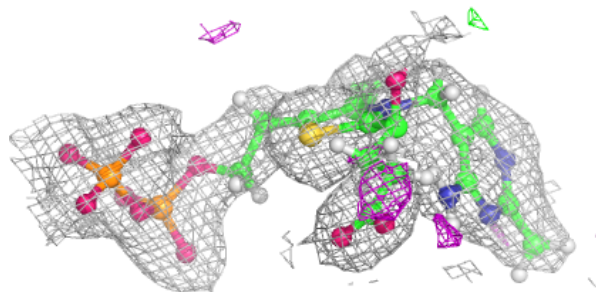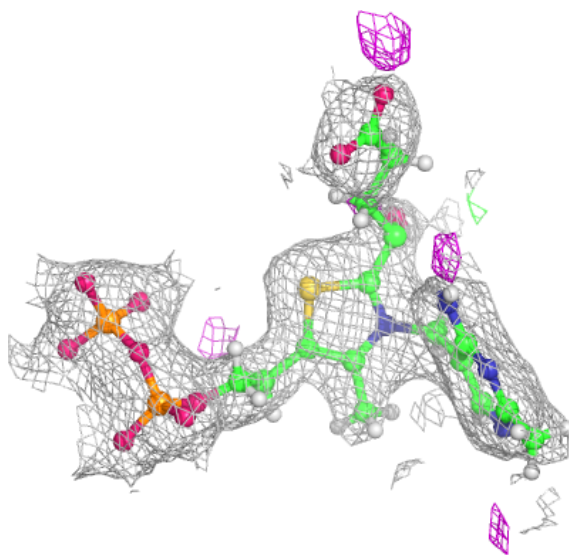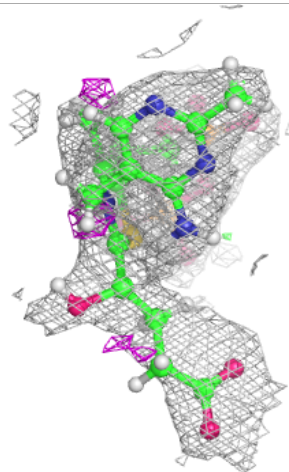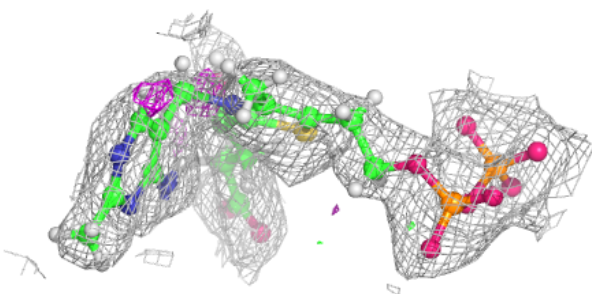and green (positive)
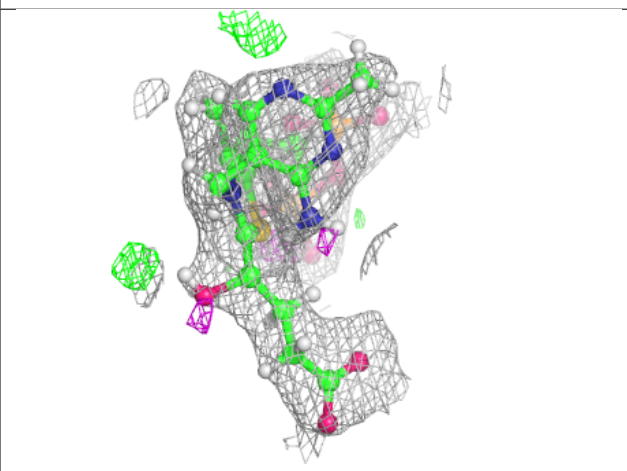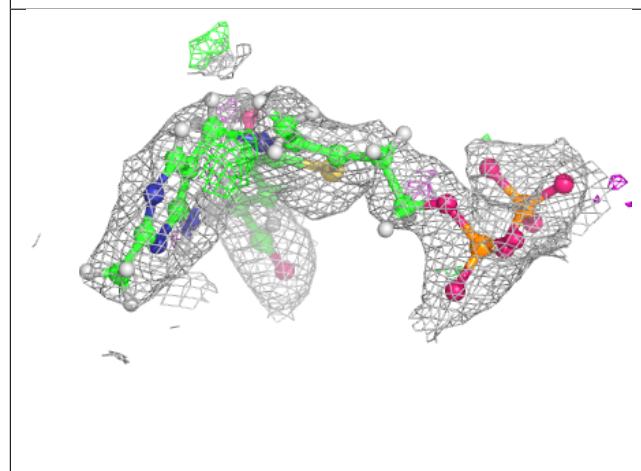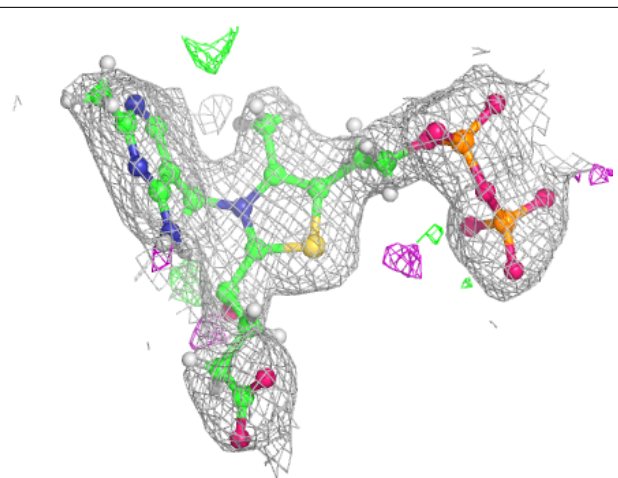
Electron density around TD6 C 601:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
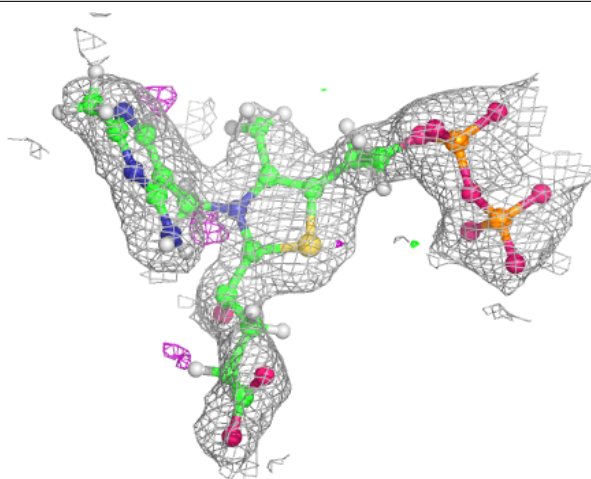and green (positive)
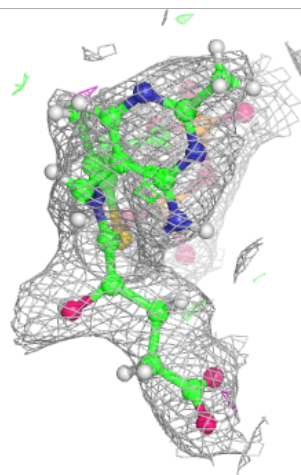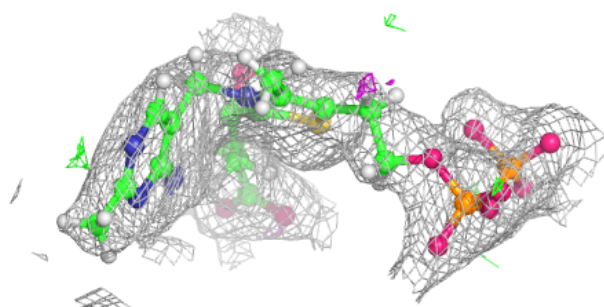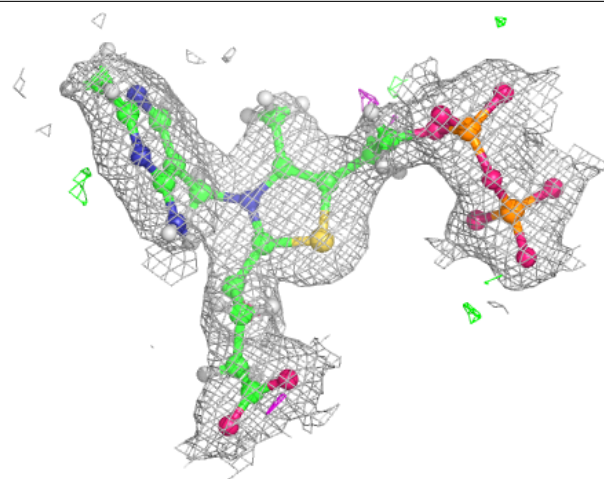
Electron density around TD6 D 601:

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

Electron density around TD6 E 601:

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

Electron density around TD6 A 601:

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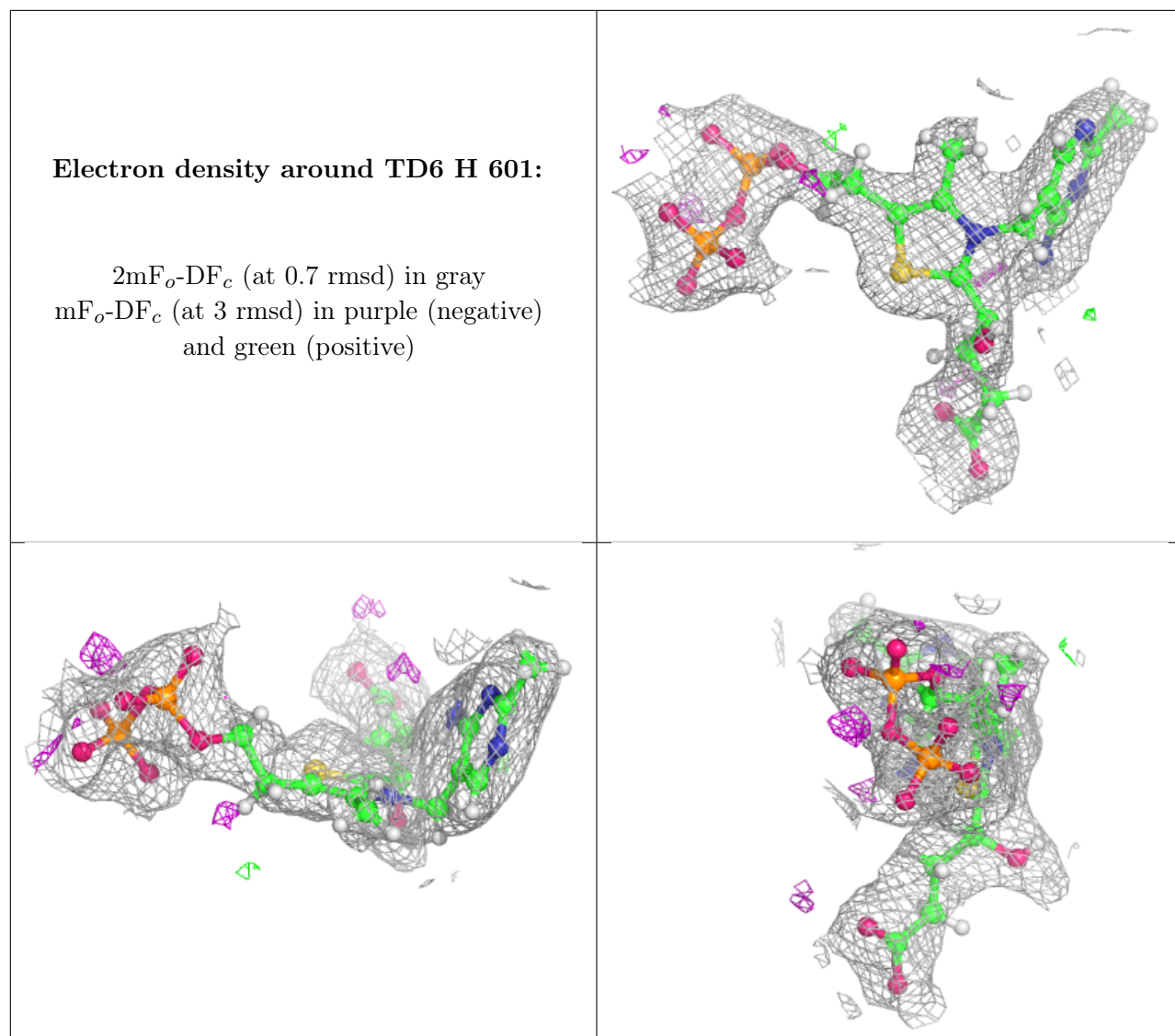and green (positive)

Electron density around TD6 G 601:

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

Electron density around TD6 H 601:

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

6.5　Other polymers ⓘ

There are no such residues in this entry.