Full wwPDB X-ray Structure Validation Report ⓘ

Aug 29, 2023 – 12:13 PM JST

PDB ID	:	7XGX
Title	:	Glucosyltransferase
Authors	:	Chen, T.T.; Ouyang, S.Y.
Deposited on	:	2022-04-07
Resolution	:	2.39 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:

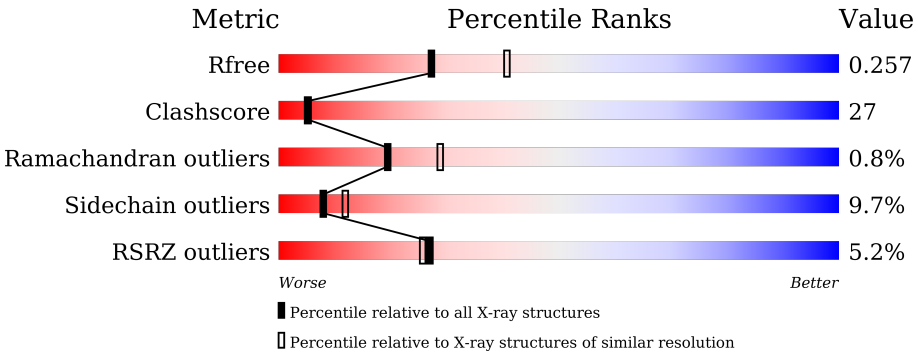
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.39 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3907 (2.40-2.40)
Clashscore	141614	4398 (2.40-2.40)
Ramachandran outliers	138981	4318 (2.40-2.40)
Sidechain outliers	138945	4319 (2.40-2.40)
RSRZ outliers	127900	3811 (2.40-2.40)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	655	4% 58% 29% 5% • 7%
1	B	655	5% 52% 32% 5% • 10%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 9711 atoms, of which 44 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 Lgt2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	607	Total	C	N	O	S	0	0	0
			4801	3040	828	907	26			
1	B	591	Total	C	N	O	S	0	0	0
			4674	2964	802	882	26			

There are 38 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-18	MET	-	initiating methionine	UNP A0A2S6F0H5
A	-17	GLY	-	expression tag	UNP A0A2S6F0H5
A	-16	SER	-	expression tag	UNP A0A2S6F0H5
A	-15	SER	-	expression tag	UNP A0A2S6F0H5
A	-14	HIS	-	expression tag	UNP A0A2S6F0H5
A	-13	HIS	-	expression tag	UNP A0A2S6F0H5
A	-12	HIS	-	expression tag	UNP A0A2S6F0H5
A	-11	HIS	-	expression tag	UNP A0A2S6F0H5
A	-10	HIS	-	expression tag	UNP A0A2S6F0H5
A	-9	HIS	-	expression tag	UNP A0A2S6F0H5
A	-8	SER	-	expression tag	UNP A0A2S6F0H5
A	-7	SER	-	expression tag	UNP A0A2S6F0H5
A	-6	GLY	-	expression tag	UNP A0A2S6F0H5
A	-5	LEU	-	expression tag	UNP A0A2S6F0H5
A	-4	VAL	-	expression tag	UNP A0A2S6F0H5
A	-3	PRO	-	expression tag	UNP A0A2S6F0H5
A	-2	ARG	-	expression tag	UNP A0A2S6F0H5
A	-1	GLY	-	expression tag	UNP A0A2S6F0H5
A	0	SER	-	expression tag	UNP A0A2S6F0H5
B	-18	MET	-	initiating methionine	UNP A0A2S6F0H5
B	-17	GLY	-	expression tag	UNP A0A2S6F0H5
B	-16	SER	-	expression tag	UNP A0A2S6F0H5
B	-15	SER	-	expression tag	UNP A0A2S6F0H5
B	-14	HIS	-	expression tag	UNP A0A2S6F0H5
B	-13	HIS	-	expression tag	UNP A0A2S6F0H5

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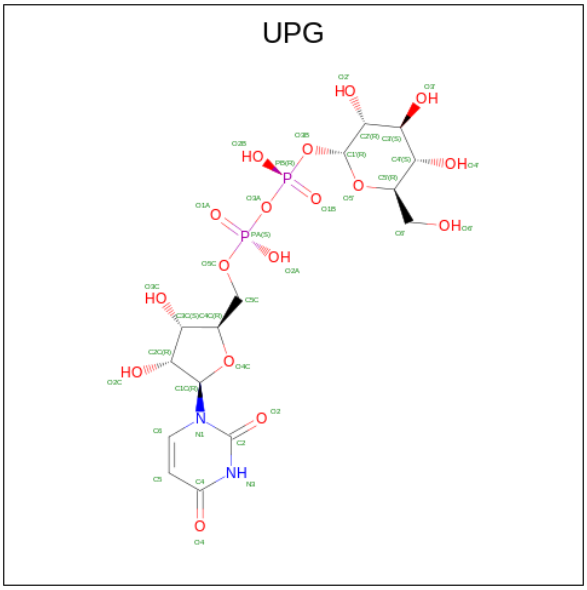
Chain	Residue	Modelled	Actual	Comment	Reference
B	-12	HIS	-	expression tag	UNP A0A2S6F0H5
B	-11	HIS	-	expression tag	UNP A0A2S6F0H5
B	-10	HIS	-	expression tag	UNP A0A2S6F0H5
B	-9	HIS	-	expression tag	UNP A0A2S6F0H5
B	-8	SER	-	expression tag	UNP A0A2S6F0H5
B	-7	SER	-	expression tag	UNP A0A2S6F0H5
B	-6	GLY	-	expression tag	UNP A0A2S6F0H5
B	-5	LEU	-	expression tag	UNP A0A2S6F0H5
B	-4	VAL	-	expression tag	UNP A0A2S6F0H5
B	-3	PRO	-	expression tag	UNP A0A2S6F0H5
B	-2	ARG	-	expression tag	UNP A0A2S6F0H5
B	-1	GLY	-	expression tag	UNP A0A2S6F0H5
B	0	SER	-	expression tag	UNP A0A2S6F0H5

- Molecule 2 is URIDINE-5'-DIPHOSPHATE-GLUCOSE (three-letter code: UPG) (formula: $C_{15}H_{24}N_2O_{17}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total	C	H	N	O	P	0	0
			58	15	22	2	17	2		
2	B	1	Total	C	H	N	O	P	0	0
			58	15	22	2	17	2		

- Molecule 3 is water.

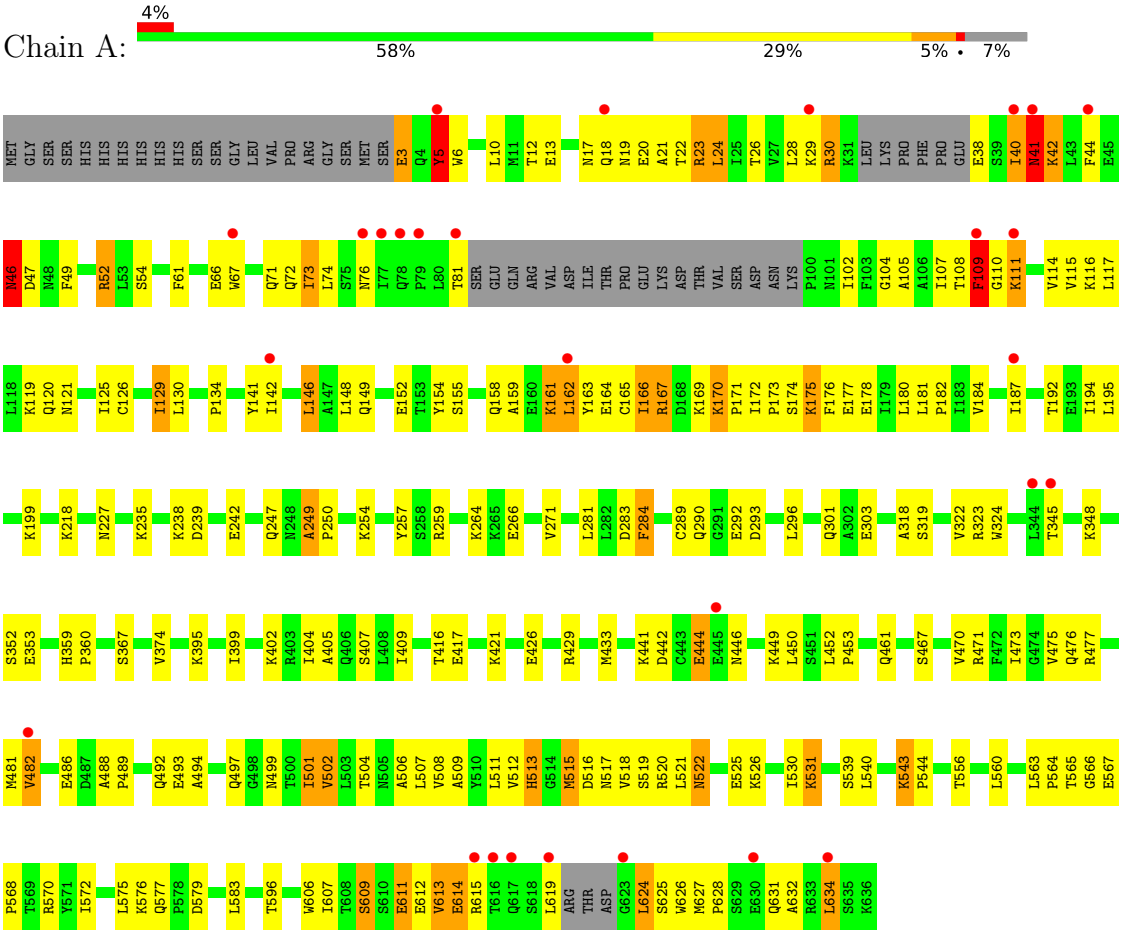
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	52	Total O 52 52	0	0
3	B	68	Total O 68 68	0	0

3 Residue-property plots (i)

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

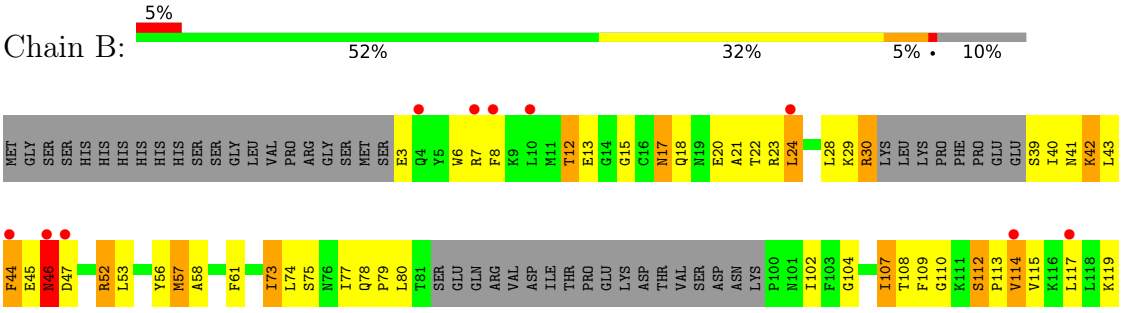
• Molecule 1: Lgt2

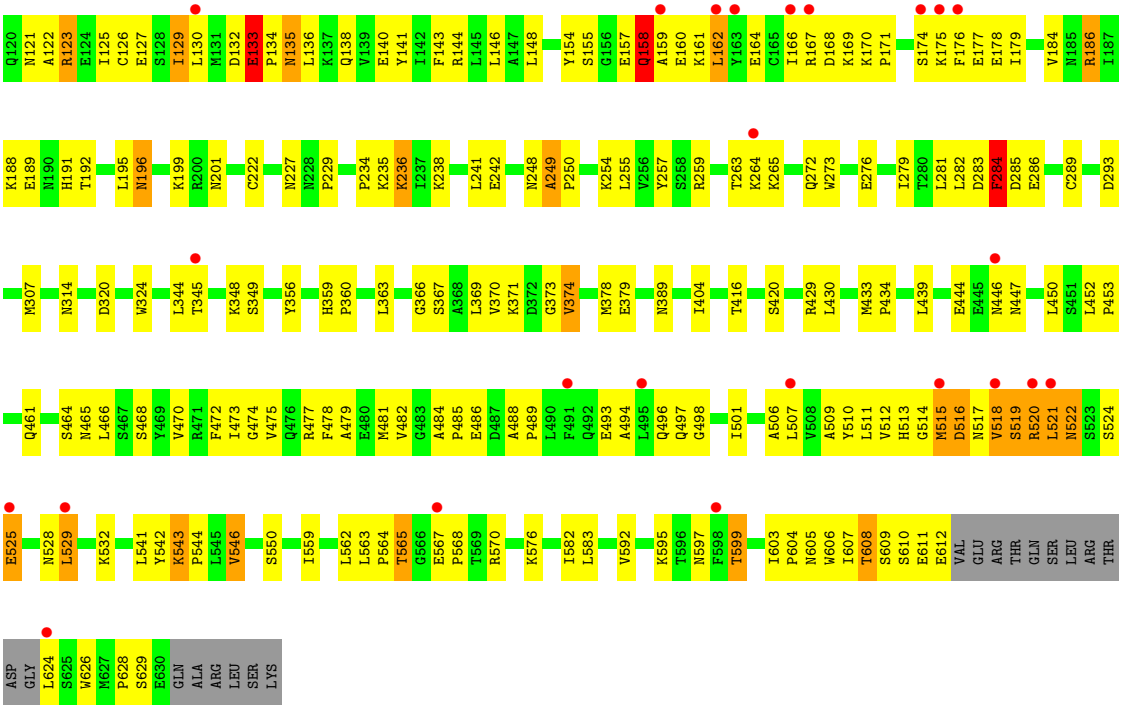
Chain A:



• Molecule 1: Lgt2

Chain B:




Q120 N121 A122 R123 E124 I125 C126 E127 S128 I129 L130 M131 D132 E133 P134 N135 L136 K137 Q138 V139 E140 Y141 I142 F143 R144 L145 L146 A147 L148 Y154 S155 G156 E157 Q158 A159 E160 K161 L162 Y163 E164 C165 I166 R167 D168 K169 K170 P171 S174 K175 F176 E177 E178 I179 V184 N185 R186 I187
K188 E189 N190 H191 T192 L195 N196 K199 R200 N201 C222 N227 N228 P229 P234 K235 K236 I237 K238 L241 E242 N248 A249 P250 K254 L255 V256 Y257 S258 R259 T263 K264 K265 Q272 W273 E276 I279 T280 L281 L282 D283 F284 D285 E286 C289 D293
M307 N314 D320 W324 L344 T345 K348 S349 Y356 H359 P360 L363 G366 S367 A368 L369 V370 K371 D372 G373 V374 M378 E379 N389 I404 T416 S420 R429 L430 M433 P434 L439 E444 E445 N446 N447 L450 S451 L452 P453
Q461 S464 N465 L466 S467 S468 Y469 V470 R471 F472 I473 G474 V475 Q476 R477 F478 A479 E480 M481 V482 G483 A484 P485 E486 D487 A488 P489 L490 F491 Q492 E493 A494 L495 Q496 Q497 G498 I501 A506 L507 V508 A509 Y510 L511 V512 H513 G514 M515 D516 N517 V518 S519 R520 L521 N522 S523 S524
E525 N528 L529 K532 L541 Y542 K543 P544 L545 V546 S550 I559 L562 L563 P564 T565 G566 E567 P568 T569 R570 K576 I582 L583 V592 K595 T596 N597 F598 T599 I603 P604 N605 W606 I607 T608 S609 S610 E611 E612 VAL GLU ARG THR GLN SER LEU ARG THR
ASP GLY L624 S625 W626 M627 P628 S629 E630 GLN ALA ARG LEU SER LYS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	75.06Å 75.86Å 126.64Å 90.00° 90.24° 90.00°	Depositor
Resolution (Å)	32.22 – 2.39 75.05 – 2.39	Depositor EDS
% Data completeness (in resolution range)	95.3 (32.22-2.39) 94.1 (75.05-2.39)	Depositor EDS
R_{merge}	0.03	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.50 (at 2.40Å)	Xtriage
Refinement program	PHENIX 1.18_3845	Depositor
R, R_{free}	0.215 , 0.265 0.226 , 0.257	Depositor DCC
R_{free} test set	1988 reflections (3.57%)	wwPDB-VP
Wilson B-factor (Å^2)	49.9	Xtriage
Anisotropy	0.578	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 46.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.013 for -k,-h,-l 0.014 for k,h,-l 0.149 for h,-k,-l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	9711	wwPDB-VP
Average B, all atoms (Å^2)	65.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.62% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: UPG

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	0.82	1/4887 (0.0%)	0.74	9/6603 (0.1%)
1	B	0.77	0/4760	0.81	17/6435 (0.3%)
All	All	0.79	1/9647 (0.0%)	0.77	26/13038 (0.2%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	303	GLU	CD-OE2	-5.10	1.20	1.25

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	47	ASP	N-CA-C	15.61	153.15	111.00
1	A	29	LYS	CB-CA-C	-15.39	79.61	110.40
1	B	47	ASP	CB-CA-C	-14.67	81.06	110.40
1	B	17	ASN	CB-CA-C	12.65	135.70	110.40
1	A	5	TYR	CB-CA-C	-11.64	87.12	110.40
1	B	133	GLU	N-CA-C	-9.56	85.18	111.00
1	A	632	ALA	CB-CA-C	8.60	122.99	110.10
1	B	133	GLU	CB-CA-C	8.44	127.28	110.40
1	A	109	PHE	N-CA-C	8.40	133.68	111.00
1	B	73	ILE	N-CA-C	8.06	132.77	111.00
1	B	565	THR	CB-CA-C	-7.85	90.40	111.60
1	B	46	ASN	CB-CA-C	7.82	126.04	110.40
1	B	133	GLU	C-N-CD	-7.72	103.63	120.60
1	A	5	TYR	N-CA-C	7.25	130.57	111.00
1	B	17	ASN	N-CA-C	-7.04	91.98	111.00
1	A	46	ASN	CB-CA-C	6.91	124.22	110.40
1	B	284	PHE	CB-CA-C	-6.77	96.86	110.40
1	A	41	ASN	N-CA-C	6.32	128.05	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	565	THR	N-CA-C	6.30	128.01	111.00
1	B	565	THR	N-CA-C	6.11	127.49	111.00
1	B	132	ASP	N-CA-C	6.07	127.39	111.00
1	A	632	ALA	C-N-CA	5.84	136.31	121.70
1	B	521	LEU	CB-CG-CD1	5.68	120.66	111.00
1	B	73	ILE	CB-CA-C	-5.40	100.81	111.60
1	B	158	GLN	CB-CA-C	5.15	120.69	110.40
1	B	248	ASN	N-CA-C	5.10	124.78	111.00

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	4801	0	4854	234	0
1	B	4674	0	4717	276	0
2	A	36	22	22	1	0
2	B	36	22	22	1	0
3	A	52	0	0	2	0
3	B	68	0	0	5	0
All	All	9667	44	9615	510	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 27.

All (510) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:129:ILE:CD1	1:A:192:THR:HG23	1.49	1.41
1:B:249:ALA:CB	1:B:250:PRO:CD	2.15	1.23
1:B:249:ALA:CB	1:B:250:PRO:HD2	1.71	1.21
1:B:249:ALA:HB1	1:B:250:PRO:CD	1.70	1.19
1:A:129:ILE:CD1	1:A:192:THR:CG2	2.20	1.19
1:A:114:VAL:HG12	1:A:172:ILE:HG22	1.25	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:129:ILE:HD12	1:A:192:THR:CG2	1.81	1.11
1:B:249:ALA:HB1	1:B:250:PRO:HD3	1.27	1.11
1:B:109:PHE:CD1	1:B:167:ARG:HA	1.86	1.09
1:B:249:ALA:HB3	1:B:250:PRO:HD2	1.30	1.07
1:A:17:ASN:OD1	1:A:20:GLU:HG2	1.52	1.07
1:A:129:ILE:HD11	1:A:192:THR:CG2	1.84	1.02
1:A:105:ALA:HB1	1:A:166:ILE:HD11	1.43	1.00
1:A:515:MET:HA	1:A:518:VAL:HG13	1.39	1.00
1:A:543:LYS:HB3	1:A:544:PRO:HD3	1.42	1.00
1:B:567:GLU:HG2	1:B:568:PRO:HD2	1.43	1.00
1:B:44:PHE:HD1	1:B:44:PHE:N	1.55	0.98
1:B:482:VAL:HG23	1:B:510:TYR:CB	1.92	0.97
1:A:129:ILE:HD11	1:A:192:THR:HG23	1.00	0.96
1:A:247:GLN:CD	1:A:345:THR:HG21	1.87	0.95
1:B:126:CYS:HB3	1:B:134:PRO:HG3	1.48	0.94
1:B:140:GLU:HG2	1:B:374:VAL:HG23	1.49	0.94
1:B:482:VAL:HG23	1:B:510:TYR:HB3	1.47	0.93
1:B:24:LEU:HD23	1:B:61:PHE:HE2	1.34	0.90
1:B:515:MET:HA	1:B:518:VAL:HG12	1.54	0.90
1:B:562:LEU:HG	1:B:582:ILE:HD11	1.52	0.89
1:A:104:GLY:O	1:A:108:THR:HG23	1.71	0.89
1:A:19:ASN:O	1:A:23:ARG:HB2	1.72	0.88
1:B:626:TRP:HB2	3:B:807:HOH:O	1.72	0.88
1:B:18:GLN:O	1:B:22:THR:HG23	1.76	0.85
1:A:567:GLU:HG2	1:A:568:PRO:HD2	1.59	0.84
1:B:567:GLU:HG2	1:B:568:PRO:CD	2.08	0.84
1:B:478:PHE:O	1:B:482:VAL:HG12	1.77	0.83
1:A:249:ALA:HB1	1:A:250:PRO:HD3	1.59	0.83
1:B:46:ASN:O	1:B:373:GLY:HA2	1.79	0.83
1:B:167:ARG:HG3	1:B:168:ASP:N	1.92	0.83
1:A:23:ARG:NE	1:A:61:PHE:CE1	2.45	0.83
1:A:486:GLU:OE1	1:A:486:GLU:N	2.11	0.82
1:B:284:PHE:CG	1:B:284:PHE:O	2.34	0.81
1:A:109:PHE:O	1:A:109:PHE:CD1	2.33	0.81
1:A:18:GLN:O	1:A:22:THR:HG23	1.80	0.81
1:B:8:PHE:O	1:B:12:THR:HB	1.82	0.79
1:B:452:LEU:HB3	1:B:453:PRO:HD3	1.64	0.79
1:A:518:VAL:HA	1:A:521:LEU:HD23	1.65	0.79
1:B:24:LEU:HD23	1:B:61:PHE:CE2	2.19	0.78
1:B:29:LYS:O	1:B:30:ARG:HD3	1.84	0.78
1:A:567:GLU:HG2	1:A:568:PRO:CD	2.13	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:513:HIS:CD2	1:A:513:HIS:H	2.01	0.78
1:A:114:VAL:HG12	1:A:172:ILE:CG2	2.11	0.77
1:A:24:LEU:CD1	1:A:28:LEU:HD22	2.15	0.77
1:B:109:PHE:CE1	1:B:167:ARG:HB2	2.20	0.77
1:B:129:ILE:HD11	1:B:188:LYS:O	1.86	0.76
1:B:73:ILE:HG22	1:B:73:ILE:O	1.84	0.76
1:B:109:PHE:CE1	1:B:167:ARG:CB	2.68	0.76
1:B:109:PHE:HE1	1:B:167:ARG:CB	1.99	0.76
1:B:154:TYR:HE2	1:B:179:ILE:HG21	1.50	0.76
1:A:444:GLU:OE2	1:A:444:GLU:HA	1.86	0.76
1:B:162:LEU:O	1:B:166:ILE:HG22	1.86	0.75
1:B:543:LYS:HB3	1:B:544:PRO:HD3	1.66	0.75
1:B:429:ARG:HD3	1:B:477:ARG:HH12	1.51	0.75
1:A:426:GLU:OE1	1:A:429:ARG:NH1	2.20	0.74
1:B:109:PHE:CE1	1:B:167:ARG:HA	2.22	0.74
1:A:249:ALA:HB1	1:A:250:PRO:CD	2.18	0.74
1:B:429:ARG:HG2	1:B:477:ARG:NH2	2.03	0.74
1:A:114:VAL:CG1	1:A:172:ILE:HG22	2.12	0.74
1:B:135:ASN:ND2	1:B:138:GLN:H	1.86	0.74
1:A:247:GLN:OE1	1:A:345:THR:CG2	2.36	0.73
1:B:429:ARG:HG2	1:B:477:ARG:HH22	1.53	0.73
1:A:172:ILE:HG13	1:A:172:ILE:O	1.89	0.73
1:B:542:TYR:CD2	1:B:628:PRO:HG3	2.23	0.73
1:A:515:MET:HA	1:A:518:VAL:CG1	2.17	0.73
1:A:67:TRP:HE1	1:A:71:GLN:HE21	1.35	0.72
1:A:442:ASP:O	1:A:446:ASN:HB2	1.89	0.72
1:B:29:LYS:HE2	1:B:42:LYS:HE2	1.69	0.72
1:A:24:LEU:HD13	1:A:28:LEU:HD22	1.70	0.71
1:A:24:LEU:HD23	1:A:61:PHE:HE2	1.54	0.71
1:A:249:ALA:CB	1:A:250:PRO:CD	2.68	0.71
1:B:477:ARG:HE	1:B:481:MET:CE	2.03	0.71
1:A:175:LYS:HB3	1:A:178:GLU:HG2	1.72	0.71
1:A:508:VAL:HG21	1:A:526:LYS:HG2	1.73	0.71
1:A:627:MET:HE3	1:A:628:PRO:HD3	1.72	0.71
1:B:46:ASN:O	1:B:373:GLY:CA	2.38	0.71
1:A:109:PHE:CD1	1:A:109:PHE:C	2.64	0.71
1:A:6:TRP:CZ2	1:A:40:ILE:HB	2.26	0.71
1:A:567:GLU:OE1	1:A:568:PRO:O	2.08	0.71
1:A:23:ARG:O	1:A:26:THR:HG22	1.92	0.70
1:B:126:CYS:CB	1:B:134:PRO:HG3	2.21	0.70
1:B:154:TYR:CD1	1:B:158:GLN:HG2	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:513:HIS:H	1:B:513:HIS:CD2	2.08	0.69
1:B:543:LYS:HB3	1:B:544:PRO:CD	2.22	0.69
1:B:155:SER:H	1:B:158:GLN:HE22	1.40	0.68
1:B:196:ASN:C	1:B:196:ASN:HD22	1.96	0.68
1:B:117:LEU:HD21	1:B:177:GLU:HG2	1.75	0.68
1:A:155:SER:O	1:A:158:GLN:NE2	2.22	0.68
1:A:627:MET:HE3	1:A:628:PRO:CD	2.24	0.68
1:A:521:LEU:HD12	1:A:525:GLU:HG3	1.77	0.67
1:B:515:MET:HA	1:B:518:VAL:CG1	2.24	0.67
1:A:109:PHE:C	1:A:109:PHE:HD1	1.97	0.67
1:B:41:ASN:CG	1:B:41:ASN:O	2.32	0.67
1:B:112:SER:OG	1:B:166:ILE:HD12	1.95	0.67
1:A:110:GLY:HA2	1:A:115:VAL:HG11	1.76	0.66
1:B:522:ASN:OD1	1:B:522:ASN:N	2.26	0.66
1:A:42:LYS:O	1:A:42:LYS:HD3	1.95	0.66
1:A:624:LEU:HD22	2:A:701:UPG:O1B	1.94	0.66
1:A:73:ILE:O	1:A:76:ASN:HB2	1.96	0.66
1:A:247:GLN:CD	1:A:345:THR:CG2	2.64	0.66
1:B:109:PHE:CE1	1:B:167:ARG:CA	2.78	0.66
1:B:379:GLU:HG2	1:B:583:LEU:CD1	2.26	0.66
1:A:247:GLN:OE1	1:A:345:THR:HG23	1.95	0.66
1:A:109:PHE:CE1	1:A:111:LYS:HB2	2.31	0.66
1:B:44:PHE:N	1:B:44:PHE:CD1	2.29	0.66
1:A:23:ARG:O	1:A:26:THR:CG2	2.44	0.65
1:A:609:SER:O	1:A:613:VAL:HG23	1.96	0.65
1:A:116:LYS:HD2	1:A:116:LYS:C	2.17	0.65
1:B:117:LEU:HD23	1:B:176:PHE:HE1	1.62	0.65
1:A:238:LYS:O	1:A:242:GLU:HG3	1.96	0.65
1:B:186:ARG:HH21	1:B:189:GLU:HB3	1.62	0.65
1:B:162:LEU:O	1:B:162:LEU:HD12	1.96	0.65
1:B:562:LEU:HG	1:B:582:ILE:CD1	2.25	0.65
1:A:614:GLU:HA	1:A:614:GLU:OE1	1.96	0.65
1:B:109:PHE:HD1	1:B:167:ARG:HA	1.56	0.64
1:B:158:GLN:OE1	1:B:159:ALA:N	2.31	0.64
1:B:129:ILE:HG12	1:B:191:HIS:HB2	1.78	0.64
1:B:135:ASN:OD1	1:B:138:GLN:NE2	2.29	0.64
1:A:46:ASN:O	1:A:47:ASP:OD2	2.13	0.64
1:A:129:ILE:CD1	1:A:192:THR:HG21	2.24	0.64
1:A:17:ASN:O	1:A:21:ALA:CB	2.46	0.64
1:B:482:VAL:HG23	1:B:510:TYR:HB2	1.80	0.64
1:B:154:TYR:CE2	1:B:179:ILE:HG21	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:104:GLY:HA2	1:A:107:ILE:CG2	2.28	0.63
1:B:129:ILE:HG13	1:B:192:THR:HG23	1.81	0.63
1:B:201:ASN:O	1:B:562:LEU:HD13	1.97	0.63
1:B:370:VAL:CG1	1:B:378:MET:HB2	2.28	0.63
1:A:292:GLU:OE2	1:A:402:LYS:HE3	1.99	0.63
1:A:259:ARG:NH2	1:A:264:LYS:HG3	2.13	0.63
1:B:42:LYS:HA	1:B:44:PHE:CE1	2.34	0.63
1:A:319:SER:OG	1:A:323:ARG:NH2	2.30	0.62
1:A:482:VAL:CG2	1:A:507:LEU:HA	2.29	0.62
1:B:444:GLU:HB3	3:B:829:HOH:O	1.99	0.62
1:A:129:ILE:HD12	1:A:192:THR:HG21	1.79	0.61
1:A:475:VAL:HG21	1:A:492:GLN:HE21	1.65	0.61
1:B:117:LEU:HD23	1:B:176:PHE:CE1	2.34	0.61
1:A:170:LYS:HB2	1:A:171:PRO:HD2	1.81	0.61
1:B:543:LYS:CB	1:B:544:PRO:CD	2.78	0.61
1:A:24:LEU:O	1:A:28:LEU:N	2.31	0.61
1:A:154:TYR:CE2	1:A:162:LEU:HD13	2.35	0.61
1:B:53:LEU:O	1:B:57:MET:HB2	2.01	0.61
1:B:123:ARG:NH2	1:B:133:GLU:OE1	2.34	0.61
1:B:430:LEU:HD23	1:B:541:LEU:HD13	1.82	0.61
1:A:105:ALA:CB	1:A:166:ILE:HD11	2.27	0.60
1:B:479:ALA:HB1	1:B:485:PRO:HA	1.84	0.60
1:A:23:ARG:HE	1:A:61:PHE:HE1	1.36	0.60
1:B:359:HIS:CG	1:B:360:PRO:HD2	2.37	0.60
1:A:257:TYR:CE1	1:A:281:LEU:HG	2.36	0.60
1:B:605:ASN:O	1:B:608:THR:HG22	2.01	0.60
1:A:66:GLU:OE2	1:A:66:GLU:HA	2.01	0.60
1:B:484:ALA:HB1	1:B:486:GLU:OE1	2.02	0.59
1:A:117:LEU:O	1:A:117:LEU:HG	2.02	0.59
1:B:272:GLN:O	1:B:276:GLU:HG3	2.02	0.59
1:A:452:LEU:HB3	1:A:453:PRO:HD3	1.83	0.59
1:A:606:TRP:O	1:A:607:ILE:HG12	2.01	0.59
1:B:43:LEU:H	1:B:43:LEU:HD22	1.67	0.59
1:B:222:CYS:SG	1:B:241:LEU:HD21	2.42	0.59
1:A:155:SER:C	1:A:158:GLN:HE22	2.05	0.59
1:B:515:MET:O	1:B:518:VAL:HG13	2.03	0.59
1:B:369:LEU:O	1:B:610:SER:HB2	2.02	0.59
1:A:359:HIS:CG	1:A:360:PRO:HD2	2.37	0.59
1:A:367:SER:OG	1:A:607:ILE:N	2.31	0.59
1:B:74:LEU:O	1:B:77:ILE:HD12	2.02	0.59
1:B:367:SER:OG	1:B:607:ILE:N	2.31	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:529:LEU:HA	1:B:532:LYS:NZ	2.18	0.58
1:B:529:LEU:HA	1:B:532:LYS:HZ3	1.69	0.58
1:B:528:ASN:O	1:B:532:LYS:HD3	2.02	0.58
1:A:515:MET:HG2	1:A:518:VAL:CG2	2.33	0.58
1:A:324:TRP:CE2	1:A:404:ILE:HG21	2.39	0.58
1:A:40:ILE:CG2	1:A:44:PHE:HE1	2.17	0.58
1:A:318:ALA:O	1:A:322:VAL:HG23	2.04	0.57
1:B:482:VAL:HG21	1:B:506:ALA:O	2.03	0.57
1:B:513:HIS:CD2	1:B:513:HIS:N	2.72	0.57
1:A:625:SER:O	1:A:631:GLN:NE2	2.36	0.57
1:A:494:ALA:HB1	1:A:499:ASN:HB3	1.87	0.57
1:A:17:ASN:O	1:A:21:ALA:HB2	2.04	0.57
1:A:417:GLU:O	1:A:421:LYS:HG3	2.04	0.57
1:A:161:LYS:HZ3	1:A:173:PRO:HG2	1.70	0.57
1:A:164:GLU:HG3	1:A:167:ARG:HH11	1.68	0.57
1:B:238:LYS:O	1:B:242:GLU:HG3	2.04	0.57
1:A:162:LEU:O	1:A:166:ILE:HG23	2.04	0.57
1:A:513:HIS:H	1:A:513:HIS:HD2	1.51	0.57
1:B:516:ASP:O	1:B:519:SER:HB3	2.05	0.56
1:B:129:ILE:HG13	1:B:192:THR:CG2	2.34	0.56
1:A:148:LEU:O	1:A:148:LEU:HD23	2.06	0.56
1:B:186:ARG:NH2	1:B:189:GLU:HB3	2.20	0.56
1:B:546:VAL:HA	3:B:842:HOH:O	2.05	0.56
1:A:24:LEU:HD12	1:A:28:LEU:HD22	1.88	0.56
1:A:513:HIS:CD2	1:A:513:HIS:N	2.72	0.56
1:A:40:ILE:HG21	1:A:44:PHE:HE1	1.71	0.56
1:A:148:LEU:O	1:A:152:GLU:HG2	2.06	0.56
1:B:129:ILE:HG12	1:B:191:HIS:CB	2.36	0.56
1:A:117:LEU:HD23	1:A:176:PHE:HE1	1.69	0.56
1:A:170:LYS:HB2	1:A:171:PRO:CD	2.35	0.56
1:B:140:GLU:HG2	1:B:374:VAL:CG2	2.32	0.56
1:B:174:SER:O	1:B:175:LYS:HG2	2.06	0.56
1:B:515:MET:CE	1:B:518:VAL:CG1	2.83	0.56
1:B:515:MET:CE	1:B:518:VAL:HG13	2.36	0.56
1:B:229:PRO:O	1:B:263:THR:HG23	2.06	0.56
1:B:605:ASN:O	1:B:608:THR:CG2	2.54	0.56
1:A:3:GLU:O	1:A:3:GLU:HG3	2.04	0.56
1:A:493:GLU:O	1:A:497:GLN:HG2	2.06	0.56
1:B:170:LYS:HB3	1:B:171:PRO:HD2	1.87	0.56
1:B:515:MET:HE2	1:B:518:VAL:HG11	1.88	0.56
1:B:222:CYS:SG	1:B:255:LEU:HD13	2.45	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:24:LEU:O	1:B:28:LEU:HB2	2.07	0.55
1:B:15:GLY:O	1:B:57:MET:HE2	2.06	0.55
1:B:186:ARG:HA	1:B:186:ARG:NE	2.21	0.55
1:A:161:LYS:HZ3	1:A:173:PRO:CG	2.19	0.55
1:A:499:ASN:O	1:A:502:VAL:HG13	2.07	0.55
1:B:78:GLN:HB2	1:B:79:PRO:HD2	1.87	0.54
1:B:446:ASN:O	1:B:447:ASN:O	2.25	0.54
1:A:477:ARG:O	1:A:481:MET:HG3	2.07	0.54
1:A:120:GLN:HE21	1:A:120:GLN:HA	1.72	0.54
1:A:142:ILE:O	1:A:146:LEU:HD22	2.06	0.54
1:B:513:HIS:H	1:B:513:HIS:HD2	1.52	0.54
1:A:161:LYS:NZ	1:A:173:PRO:HG2	2.23	0.54
1:A:17:ASN:OD1	1:A:20:GLU:CG	2.41	0.54
1:B:112:SER:OG	1:B:114:VAL:HG23	2.08	0.54
1:B:604:PRO:HB2	1:B:608:THR:HG21	1.90	0.54
1:B:515:MET:HG2	1:B:518:VAL:HG11	1.89	0.54
1:B:612:GLU:OE1	1:B:612:GLU:HA	2.08	0.53
1:A:556:THR:O	1:A:560:LEU:HG	2.08	0.53
1:B:284:PHE:O	1:B:284:PHE:CD1	2.61	0.53
1:A:259:ARG:HH22	1:A:264:LYS:HG3	1.71	0.53
1:B:56:TYR:O	1:B:58:ALA:N	2.41	0.53
1:B:109:PHE:CD1	1:B:167:ARG:CA	2.75	0.53
1:A:619:LEU:O	1:A:619:LEU:HD12	2.08	0.53
1:A:120:GLN:HA	1:A:120:GLN:NE2	2.24	0.53
1:A:494:ALA:CB	1:A:499:ASN:HB3	2.39	0.53
1:B:416:THR:CG2	1:B:450:LEU:HD23	2.39	0.53
1:B:446:ASN:O	1:B:447:ASN:C	2.46	0.53
1:B:493:GLU:O	1:B:497:GLN:HB2	2.09	0.53
1:B:515:MET:HE1	1:B:518:VAL:HG22	1.90	0.53
1:A:109:PHE:O	1:A:109:PHE:HD1	1.87	0.53
1:A:405:ALA:O	1:A:409:ILE:HG13	2.09	0.53
1:B:157:GLU:O	1:B:160:GLU:N	2.42	0.53
1:B:430:LEU:HD23	1:B:541:LEU:CD1	2.39	0.53
1:A:117:LEU:O	1:A:121:ASN:OD1	2.26	0.52
1:A:181:LEU:HB3	1:A:182:PRO:HD3	1.91	0.52
1:A:488:ALA:N	1:A:489:PRO:HD2	2.24	0.52
1:B:104:GLY:O	1:B:108:THR:HG23	2.09	0.52
1:B:434:PRO:HD2	1:B:474:GLY:N	2.24	0.52
1:B:514:GLY:O	1:B:517:ASN:HB2	2.09	0.52
1:A:195:LEU:HD12	1:A:579:ASP:O	2.09	0.52
1:B:109:PHE:HE1	1:B:167:ARG:HB2	1.62	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:117:LEU:O	1:B:121:ASN:HB2	2.09	0.52
1:A:117:LEU:HD23	1:A:176:PHE:CE1	2.45	0.52
1:B:227:ASN:HA	1:B:307:MET:HE3	1.91	0.52
1:B:265:LYS:HE2	3:B:849:HOH:O	2.09	0.52
1:B:363:LEU:CD1	1:B:559:ILE:HD11	2.40	0.52
1:A:470:VAL:O	1:A:473:ILE:O	2.28	0.52
1:B:236:LYS:H	1:B:236:LYS:CE	2.22	0.52
1:B:509:ALA:HB2	1:B:515:MET:HG2	1.92	0.52
1:A:611:GLU:CD	1:A:611:GLU:H	2.12	0.52
1:A:543:LYS:CB	1:A:544:PRO:HD3	2.22	0.51
1:A:125:ILE:HD11	1:A:184:VAL:HG13	1.92	0.51
1:A:543:LYS:HB3	1:A:544:PRO:CD	2.29	0.51
1:B:482:VAL:CG2	1:B:510:TYR:CB	2.80	0.51
1:A:6:TRP:CH2	1:A:40:ILE:HB	2.45	0.51
1:B:520:ARG:HD2	1:B:520:ARG:C	2.31	0.51
1:A:74:LEU:C	1:A:76:ASN:H	2.14	0.51
1:A:515:MET:HG2	1:A:518:VAL:HG22	1.93	0.51
1:B:186:ARG:HA	1:B:186:ARG:HE	1.76	0.51
1:B:370:VAL:HG13	1:B:378:MET:HB2	1.93	0.51
1:B:154:TYR:CE1	1:B:162:LEU:HD23	2.46	0.50
1:A:218:LYS:HD2	1:A:353:GLU:HG2	1.93	0.50
1:B:344:LEU:N	1:B:597:ASN:O	2.41	0.50
1:B:367:SER:O	1:B:608:THR:HG23	2.11	0.50
1:B:389:ASN:HB2	1:B:592:VAL:HG12	1.93	0.50
1:B:416:THR:HG22	1:B:450:LEU:HD23	1.94	0.50
1:B:433:MET:HE3	1:B:472:PHE:HD1	1.76	0.50
1:A:28:LEU:HD21	1:A:49:PHE:CZ	2.47	0.50
1:A:567:GLU:HG2	1:A:568:PRO:N	2.26	0.50
1:B:606:TRP:C	1:B:607:ILE:HG12	2.32	0.50
1:A:161:LYS:HZ1	1:A:162:LEU:HD12	1.76	0.50
1:A:516:ASP:OD1	1:A:517:ASN:N	2.45	0.50
1:B:314:ASN:ND2	3:B:807:HOH:O	2.44	0.49
1:B:135:ASN:O	1:B:136:LEU:C	2.49	0.49
1:B:434:PRO:HG2	1:B:474:GLY:HA2	1.93	0.49
1:B:73:ILE:O	1:B:75:SER:N	2.45	0.49
1:B:603:ILE:HB	1:B:604:PRO:HD2	1.95	0.49
1:B:52:ARG:NH1	1:B:80:LEU:HD21	2.28	0.49
1:B:567:GLU:CG	1:B:568:PRO:HD2	2.29	0.49
1:B:488:ALA:HB3	1:B:489:PRO:HD3	1.94	0.49
1:B:148:LEU:HD23	1:B:148:LEU:O	2.13	0.48
1:A:24:LEU:HD23	1:A:61:PHE:CE2	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:522:ASN:H	1:A:525:GLU:CD	2.17	0.48
1:A:154:TYR:HB3	1:A:159:ALA:HB2	1.94	0.48
1:A:348:LYS:HD2	1:A:348:LYS:HA	1.49	0.48
1:A:520:ARG:HD2	1:A:520:ARG:N	2.29	0.48
1:B:430:LEU:HD22	1:B:433:MET:HE2	1.95	0.48
1:A:289:CYS:HB3	1:A:293:ASP:HB3	1.96	0.48
1:A:504:THR:HG23	1:A:530:ILE:HD11	1.94	0.48
1:B:140:GLU:HG3	1:B:144:ARG:HD2	1.96	0.48
1:A:72:GLN:O	1:A:73:ILE:HG23	2.14	0.48
1:B:125:ILE:HG12	1:B:188:LYS:HB2	1.95	0.48
1:B:515:MET:HE2	1:B:518:VAL:CG1	2.44	0.48
1:B:516:ASP:OD1	1:B:516:ASP:N	2.42	0.48
1:B:606:TRP:O	1:B:607:ILE:HG12	2.14	0.48
1:A:149:GLN:HA	1:A:149:GLN:OE1	2.13	0.48
1:A:254:LYS:NZ	3:A:807:HOH:O	2.47	0.48
1:A:296:LEU:HD11	1:A:405:ALA:CB	2.44	0.48
1:A:109:PHE:O	1:A:109:PHE:CG	2.61	0.48
1:A:395:LYS:O	1:A:399:ILE:HG13	2.14	0.48
1:B:320:ASP:HB3	1:B:550:SER:O	2.14	0.48
1:B:324:TRP:CE2	1:B:404:ILE:HG21	2.49	0.48
1:A:170:LYS:CB	1:A:171:PRO:CD	2.91	0.47
1:A:429:ARG:HD3	1:A:477:ARG:NH2	2.28	0.47
1:B:74:LEU:CD2	1:B:77:ILE:HD11	2.45	0.47
1:B:141:TYR:CD1	1:B:570:ARG:HD2	2.49	0.47
1:B:155:SER:H	1:B:158:GLN:NE2	2.09	0.47
1:A:433:MET:SD	1:A:473:ILE:HG22	2.54	0.47
1:B:433:MET:HE3	1:B:472:PHE:CD1	2.48	0.47
1:A:5:TYR:O	1:A:5:TYR:CG	2.65	0.47
1:A:515:MET:CA	1:A:518:VAL:HG13	2.28	0.47
1:A:20:GLU:HA	1:A:23:ARG:HB2	1.97	0.47
1:A:194:ILE:HD11	1:A:577:GLN:NE2	2.29	0.47
1:A:42:LYS:HD3	1:A:42:LYS:C	2.34	0.47
1:B:470:VAL:O	1:B:473:ILE:O	2.33	0.47
1:B:516:ASP:O	1:B:519:SER:CB	2.62	0.47
1:B:604:PRO:HB2	1:B:608:THR:CG2	2.44	0.47
1:B:259:ARG:HH22	1:B:264:LYS:HG3	1.80	0.47
1:A:416:THR:HG22	1:A:450:LEU:HD23	1.97	0.47
1:B:40:ILE:O	1:B:42:LYS:N	2.44	0.47
1:B:374:VAL:HG23	1:B:374:VAL:O	2.15	0.47
1:B:126:CYS:O	1:B:130:LEU:HG	2.15	0.47
1:A:114:VAL:CG2	1:A:166:ILE:HG22	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:626:TRP:HA	1:A:631:GLN:CG	2.45	0.46
1:A:627:MET:HE3	1:A:628:PRO:HD2	1.96	0.46
1:B:130:LEU:O	1:B:576:LYS:HG3	2.15	0.46
1:B:501:ILE:HD12	1:B:501:ILE:H	1.81	0.46
1:A:126:CYS:HB3	1:A:134:PRO:CG	2.45	0.46
1:B:356:TYR:O	1:B:595:LYS:NZ	2.40	0.46
1:B:465:ASN:ND2	1:B:468:SER:OG	2.40	0.46
1:B:482:VAL:CG2	1:B:510:TYR:HB2	2.45	0.46
1:A:235:LYS:HE2	1:A:239:ASP:OD1	2.16	0.46
1:A:259:ARG:HB2	1:A:283:ASP:OD2	2.15	0.46
1:B:234:PRO:HB3	1:B:236:LYS:NZ	2.30	0.46
1:A:164:GLU:HG3	1:A:167:ARG:NH1	2.31	0.46
1:B:122:ALA:HB2	1:B:146:LEU:HD12	1.97	0.46
1:B:154:TYR:HD1	1:B:158:GLN:HG2	1.79	0.46
1:A:482:VAL:O	1:A:482:VAL:HG13	2.16	0.46
1:B:227:ASN:HA	1:B:307:MET:CE	2.46	0.46
1:A:104:GLY:CA	1:A:107:ILE:HG22	2.46	0.46
1:B:236:LYS:H	1:B:236:LYS:HE2	1.80	0.46
1:B:433:MET:CE	1:B:472:PHE:CD1	2.99	0.46
1:B:129:ILE:CG1	1:B:192:THR:HG23	2.45	0.46
1:B:494:ALA:O	1:B:498:GLY:O	2.34	0.46
1:A:374:VAL:HG12	1:A:374:VAL:O	2.16	0.45
1:A:421:LYS:HB3	1:A:421:LYS:HE2	1.71	0.45
1:B:123:ARG:NH1	1:B:127:GLU:OE2	2.47	0.45
1:B:609:SER:OG	1:B:611:GLU:HG2	2.16	0.45
1:A:141:TYR:CE1	1:A:570:ARG:HG3	2.52	0.45
1:A:257:TYR:HE1	1:A:281:LEU:HG	1.79	0.45
1:A:23:ARG:HA	1:A:26:THR:HG22	1.98	0.45
1:A:174:SER:C	1:A:175:LYS:HG3	2.37	0.45
1:B:257:TYR:CE1	1:B:281:LEU:HD13	2.51	0.45
1:A:52:ARG:HG2	1:A:67:TRP:CZ2	2.51	0.45
1:A:175:LYS:HB3	1:A:178:GLU:CG	2.46	0.45
1:A:116:LYS:C	1:A:116:LYS:CD	2.85	0.45
1:A:531:LYS:N	1:A:531:LYS:HD3	2.31	0.45
1:A:271:VAL:HG11	1:B:356:TYR:CZ	2.51	0.45
1:B:20:GLU:O	1:B:24:LEU:HB2	2.16	0.45
1:B:29:LYS:C	1:B:30:ARG:HG2	2.36	0.45
1:A:76:ASN:HD22	1:A:76:ASN:N	2.15	0.45
1:A:540:LEU:O	3:A:801:HOH:O	2.21	0.45
1:B:3:GLU:O	1:B:7:ARG:HB2	2.17	0.45
1:A:40:ILE:CG2	1:A:44:PHE:CE1	2.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:40:ILE:HD12	1:B:40:ILE:N	2.32	0.45
1:B:161:LYS:HE3	1:B:161:LYS:HB3	1.85	0.45
1:B:611:GLU:O	1:B:612:GLU:CB	2.64	0.45
1:A:104:GLY:HA2	1:A:107:ILE:HG22	1.99	0.45
1:A:583:LEU:HD23	1:A:583:LEU:HA	1.80	0.45
1:B:157:GLU:HG2	1:B:158:GLN:N	2.19	0.45
1:B:429:ARG:HD3	1:B:477:ARG:NH1	2.27	0.45
1:A:172:ILE:HD11	1:A:177:GLU:OE2	2.17	0.45
1:B:40:ILE:O	1:B:40:ILE:HG22	2.16	0.45
1:B:344:LEU:HG	1:B:599:THR:OG1	2.17	0.45
1:B:102:ILE:HD11	1:B:159:ALA:HA	1.99	0.44
1:B:110:GLY:HA2	1:B:115:VAL:HG11	1.99	0.44
1:B:164:GLU:O	1:B:168:ASP:HB2	2.17	0.44
1:B:236:LYS:H	1:B:236:LYS:CD	2.30	0.44
1:B:370:VAL:HG13	1:B:370:VAL:O	2.18	0.44
1:A:627:MET:HB3	1:A:627:MET:HE2	1.66	0.44
1:B:433:MET:CE	1:B:472:PHE:CE1	3.00	0.44
1:A:148:LEU:HD23	1:A:152:GLU:HG2	1.98	0.44
1:A:227:ASN:OD1	1:A:634:LEU:HD12	2.17	0.44
1:A:612:GLU:C	1:A:614:GLU:H	2.20	0.44
1:B:289:CYS:HB3	1:B:293:ASP:HB3	1.98	0.44
1:B:115:VAL:CG1	1:B:119:LYS:HG3	2.47	0.44
1:B:146:LEU:HD21	1:B:184:VAL:HG22	1.99	0.44
1:B:439:LEU:HD21	1:B:450:LEU:HD13	1.99	0.44
1:A:111:LYS:HD3	1:A:111:LYS:N	2.33	0.44
1:B:174:SER:O	1:B:175:LYS:CG	2.66	0.44
1:B:56:TYR:C	1:B:58:ALA:N	2.71	0.44
1:B:57:MET:HE2	1:B:57:MET:HB3	1.66	0.44
1:B:286:GLU:OE1	1:B:286:GLU:HA	2.16	0.44
1:A:109:PHE:HE1	1:A:111:LYS:HB2	1.82	0.43
1:A:501:ILE:HD13	1:A:501:ILE:H	1.83	0.43
1:A:175:LYS:CB	1:A:178:GLU:HG2	2.45	0.43
1:A:290:GLN:O	1:A:293:ASP:HB2	2.17	0.43
1:B:6:TRP:CH2	1:B:42:LYS:HD3	2.53	0.43
1:B:196:ASN:C	1:B:196:ASN:ND2	2.69	0.43
1:A:109:PHE:HE1	1:A:111:LYS:HG2	1.84	0.43
1:B:56:TYR:C	1:B:58:ALA:H	2.21	0.43
1:A:166:ILE:HG13	1:A:167:ARG:N	2.33	0.43
1:A:611:GLU:O	1:A:614:GLU:HG2	2.19	0.43
1:B:439:LEU:HD23	1:B:439:LEU:O	2.18	0.43
1:A:125:ILE:HG21	1:A:142:ILE:HG21	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:42:LYS:C	1:A:42:LYS:CD	2.87	0.43
1:A:187:ILE:HD13	1:A:187:ILE:N	2.34	0.43
1:A:606:TRP:C	1:A:607:ILE:HG12	2.39	0.43
1:B:363:LEU:HD11	1:B:559:ILE:HD11	2.01	0.43
1:A:30:ARG:O	1:A:30:ARG:HG2	2.18	0.43
1:A:499:ASN:OD1	1:A:501:ILE:HG12	2.18	0.43
1:B:130:LEU:O	1:B:576:LYS:HE3	2.19	0.43
1:B:348:LYS:HE2	1:B:348:LYS:HB3	1.84	0.43
1:B:366:GLY:HA3	1:B:604:PRO:O	2.19	0.43
1:A:516:ASP:O	1:A:519:SER:OG	2.33	0.43
1:B:521:LEU:HD23	1:B:521:LEU:HA	1.75	0.43
1:A:195:LEU:HD23	1:A:199:LYS:HB2	2.01	0.42
1:A:511:LEU:HD23	1:A:511:LEU:HA	1.78	0.42
1:A:482:VAL:HG22	1:A:506:ALA:O	2.19	0.42
1:B:17:ASN:O	1:B:21:ALA:N	2.42	0.42
1:B:430:LEU:HD13	1:B:430:LEU:O	2.19	0.42
1:A:102:ILE:HG12	1:A:163:TYR:HB2	2.01	0.42
1:A:521:LEU:N	1:A:521:LEU:HD22	2.34	0.42
1:B:283:ASP:OD1	1:B:283:ASP:O	2.37	0.42
1:B:563:LEU:HB3	1:B:564:PRO:CD	2.48	0.42
1:A:452:LEU:CB	1:A:453:PRO:HD3	2.49	0.42
1:A:521:LEU:HA	1:A:525:GLU:OE2	2.19	0.42
1:B:515:MET:HG2	1:B:518:VAL:CG1	2.48	0.42
1:B:515:MET:HE1	1:B:518:VAL:HG13	2.01	0.42
1:A:504:THR:HG23	1:A:530:ILE:CD1	2.50	0.42
1:A:626:TRP:HA	1:A:631:GLN:HG2	2.01	0.42
1:B:73:ILE:O	1:B:73:ILE:CG2	2.51	0.42
1:B:107:ILE:HD13	1:B:107:ILE:HG21	1.81	0.42
1:B:466:LEU:O	1:B:470:VAL:HG23	2.20	0.42
1:A:110:GLY:CA	1:A:115:VAL:HG11	2.47	0.42
1:B:461:GLN:O	1:B:464:SER:OG	2.35	0.42
1:A:572:ILE:HG21	1:A:575:LEU:HG	2.01	0.42
1:B:115:VAL:HG12	1:B:119:LYS:HG3	2.02	0.42
1:A:130:LEU:O	1:A:576:LYS:HG3	2.20	0.42
1:A:161:LYS:NZ	1:A:162:LEU:HD12	2.35	0.42
1:A:161:LYS:HD2	1:A:161:LYS:C	2.40	0.42
1:B:17:ASN:HB3	1:B:20:GLU:OE1	2.19	0.42
1:B:461:GLN:HA	1:B:464:SER:HG	1.84	0.42
1:A:23:ARG:O	1:A:26:THR:HG23	2.17	0.42
1:B:40:ILE:O	1:B:40:ILE:CG2	2.68	0.42
1:B:52:ARG:CZ	1:B:80:LEU:HD11	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:611:GLU:O	1:B:612:GLU:HB2	2.19	0.42
1:B:283:ASP:O	1:B:285:ASP:N	2.53	0.41
2:B:701:UPG:H3'	2:B:701:UPG:H5C2	2.02	0.41
1:B:74:LEU:HD22	1:B:77:ILE:HD11	2.01	0.41
1:B:125:ILE:O	1:B:129:ILE:HB	2.20	0.41
1:B:512:VAL:O	1:B:512:VAL:HG23	2.20	0.41
1:A:23:ARG:NE	1:A:61:PHE:CZ	2.88	0.41
1:B:29:LYS:O	1:B:30:ARG:CD	2.63	0.41
1:B:24:LEU:HD22	1:B:24:LEU:HA	1.83	0.41
1:B:130:LEU:C	1:B:576:LYS:HG3	2.40	0.41
1:B:515:MET:HE1	1:B:518:VAL:CG2	2.50	0.41
1:B:541:LEU:HA	1:B:541:LEU:HD23	1.75	0.41
1:A:125:ILE:HD13	1:A:125:ILE:HA	1.74	0.41
1:A:359:HIS:ND1	1:A:360:PRO:HD2	2.35	0.41
1:A:512:VAL:O	1:A:512:VAL:CG2	2.69	0.41
1:B:114:VAL:HG21	1:B:166:ILE:HA	2.01	0.41
1:B:348:LYS:O	1:B:348:LYS:HG2	2.21	0.41
1:A:284:PHE:CE2	1:A:301:GLN:NE2	2.88	0.41
1:B:113:PRO:HG2	1:B:170:LYS:O	2.21	0.41
1:B:543:LYS:N	1:B:544:PRO:HD2	2.35	0.41
1:B:158:GLN:O	1:B:162:LEU:HB2	2.20	0.41
1:A:23:ARG:HA	1:A:26:THR:CG2	2.51	0.41
1:A:40:ILE:N	1:A:40:ILE:CD1	2.83	0.41
1:B:119:LYS:HG2	1:B:143:PHE:CD1	2.56	0.41
1:B:133:GLU:HA	1:B:134:PRO:HD2	1.82	0.41
1:B:162:LEU:HD12	1:B:162:LEU:C	2.41	0.41
1:B:439:LEU:HD23	1:B:439:LEU:C	2.40	0.41
1:B:512:VAL:O	1:B:512:VAL:CG2	2.69	0.41
1:B:522:ASN:CG	1:B:525:GLU:HB2	2.41	0.41
1:A:74:LEU:C	1:A:76:ASN:N	2.75	0.40
1:A:129:ILE:HD12	1:A:129:ILE:HA	1.69	0.40
1:A:512:VAL:O	1:A:512:VAL:HG23	2.20	0.40
1:B:44:PHE:HD1	1:B:44:PHE:H	0.69	0.40
1:A:110:GLY:HA2	1:A:115:VAL:CG1	2.49	0.40
1:A:442:ASP:O	1:A:446:ASN:CB	2.65	0.40
1:A:509:ALA:O	1:A:512:VAL:O	2.39	0.40
1:A:563:LEU:HA	1:A:564:PRO:HD3	1.83	0.40
1:B:29:LYS:CE	1:B:42:LYS:HE2	2.44	0.40
1:B:45:GLU:H	1:B:45:GLU:HG2	1.70	0.40
1:B:439:LEU:CD2	1:B:450:LEU:HD13	2.52	0.40
1:B:567:GLU:HA	1:B:568:PRO:HD3	1.73	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:12:THR:HG23	1:A:13:GLU:HG3	2.04	0.40
1:A:266:GLU:OE1	1:A:266:GLU:HA	2.21	0.40
1:B:157:GLU:HA	1:B:160:GLU:HG3	2.04	0.40
1:B:167:ARG:HG3	1:B:168:ASP:OD2	2.22	0.40
1:A:17:ASN:O	1:A:21:ALA:HB3	2.20	0.40
1:B:254:LYS:HD2	1:B:282:LEU:HD12	2.04	0.40
1:B:273:TRP:CH2	1:B:279:ILE:HD13	2.57	0.40
1:B:532:LYS:HE2	1:B:532:LYS:HB2	1.95	0.40
1:B:567:GLU:CG	1:B:568:PRO:CD	2.91	0.40
1:B:140:GLU:CG	1:B:374:VAL:HG23	2.35	0.40
1:B:195:LEU:HD22	1:B:199:LYS:HB3	2.03	0.40
1:B:525:GLU:O	1:B:529:LEU:N	2.55	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	599/655 (92%)	561 (94%)	33 (6%)	5 (1%)	19	29
1	B	583/655 (89%)	543 (93%)	35 (6%)	5 (1%)	17	25
All	All	1182/1310 (90%)	1104 (93%)	68 (6%)	10 (1%)	19	29

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	41	ASN
1	A	249	ALA
1	B	249	ALA
1	B	565	THR
1	B	519	SER
1	B	57	MET

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Mol	Chain	Res	Type
1	B	284	PHE
1	A	30	ARG
1	A	566	GLY
1	A	613	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	533/578 (92%)	479 (90%)	54 (10%)	7 11
1	B	519/578 (90%)	471 (91%)	48 (9%)	9 13
All	All	1052/1156 (91%)	950 (90%)	102 (10%)	8 12

All (102) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3	GLU
1	A	5	TYR
1	A	10	LEU
1	A	23	ARG
1	A	24	LEU
1	A	38	GLU
1	A	40	ILE
1	A	41	ASN
1	A	42	LYS
1	A	46	ASN
1	A	52	ARG
1	A	54	SER
1	A	73	ILE
1	A	81	THR
1	A	109	PHE
1	A	111	LYS
1	A	119	LYS
1	A	129	ILE
1	A	146	LEU

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Mol	Chain	Res	Type
1	A	161	LYS
1	A	162	LEU
1	A	165	CYS
1	A	166	ILE
1	A	167	ARG
1	A	169	LYS
1	A	170	LYS
1	A	175	LYS
1	A	180	LEU
1	A	284	PHE
1	A	352	SER
1	A	407	SER
1	A	441	LYS
1	A	444	GLU
1	A	449	LYS
1	A	461	GLN
1	A	467	SER
1	A	471	ARG
1	A	476	GLN
1	A	482	VAL
1	A	501	ILE
1	A	502	VAL
1	A	513	HIS
1	A	515	MET
1	A	522	ASN
1	A	531	LYS
1	A	539	SER
1	A	543	LYS
1	A	596	THR
1	A	609	SER
1	A	611	GLU
1	A	614	GLU
1	A	615	ARG
1	A	624	LEU
1	A	634	LEU
1	B	12	THR
1	B	13	GLU
1	B	23	ARG
1	B	24	LEU
1	B	30	ARG
1	B	39	SER
1	B	42	LYS

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Mol	Chain	Res	Type
1	B	44	PHE
1	B	46	ASN
1	B	52	ARG
1	B	107	ILE
1	B	112	SER
1	B	114	VAL
1	B	123	ARG
1	B	129	ILE
1	B	133	GLU
1	B	135	ASN
1	B	158	GLN
1	B	162	LEU
1	B	169	LYS
1	B	178	GLU
1	B	186	ARG
1	B	196	ASN
1	B	235	LYS
1	B	236	LYS
1	B	345	THR
1	B	349	SER
1	B	371	LYS
1	B	374	VAL
1	B	420	SER
1	B	475	VAL
1	B	496	GLN
1	B	507	LEU
1	B	511	LEU
1	B	515	MET
1	B	516	ASP
1	B	518	VAL
1	B	520	ARG
1	B	522	ASN
1	B	524	SER
1	B	525	GLU
1	B	529	LEU
1	B	543	LYS
1	B	546	VAL
1	B	599	THR
1	B	608	THR
1	B	624	LEU
1	B	629	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	46	ASN
1	A	76	ASN
1	A	120	GLN
1	A	121	ASN
1	A	492	GLN
1	A	513	HIS
1	B	17	ASN
1	B	46	ASN
1	B	121	ASN
1	B	135	ASN
1	B	138	GLN
1	B	196	ASN
1	B	248	ASN
1	B	446	ASN
1	B	492	GLN
1	B	513	HIS

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

2 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	UPG	B	701	-	35,38,38	1.12	2 (5%)	53,58,58	2.14	12 (22%)
2	UPG	A	701	-	35,38,38	1.18	6 (17%)	53,58,58	2.12	8 (15%)

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	UPG	B	701	-	-	1/23/59/59	0/3/3/3
2	UPG	A	701	-	-	3/23/59/59	0/3/3/3

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	701	UPG	C6-N1	-2.54	1.31	1.38
2	A	701	UPG	C2-N1	2.36	1.42	1.38
2	A	701	UPG	C6-N1	-2.34	1.32	1.38
2	B	701	UPG	PB-O2B	-2.33	1.44	1.55
2	A	701	UPG	PB-O2B	-2.30	1.44	1.55
2	A	701	UPG	PB-O1B	-2.13	1.43	1.50
2	A	701	UPG	PA-O1A	-2.13	1.43	1.50
2	A	701	UPG	O4C-C4C	-2.10	1.40	1.45

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	701	UPG	O2-C2-N1	-7.59	112.70	122.79
2	A	701	UPG	O2-C2-N1	-7.09	113.36	122.79
2	A	701	UPG	C4-N3-C2	-6.40	118.14	126.58
2	B	701	UPG	C4-N3-C2	-6.07	118.57	126.58
2	B	701	UPG	N3-C2-N1	6.05	122.93	114.89
2	A	701	UPG	N3-C2-N1	5.60	122.33	114.89
2	A	701	UPG	O4-C4-C5	-4.23	117.72	125.16
2	B	701	UPG	O4-C4-C5	-4.21	117.75	125.16
2	A	701	UPG	O5'-C1'-O3B	-4.06	106.06	111.36
2	B	701	UPG	O4-C4-N3	3.12	123.89	119.31
2	A	701	UPG	O4-C4-N3	2.77	123.37	119.31
2	A	701	UPG	C5-C4-N3	2.71	118.90	114.84
2	B	701	UPG	C6-N1-C2	-2.71	117.52	120.99
2	B	701	UPG	O4C-C1C-N1	2.67	114.46	108.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	701	UPG	C1'-O5'-C5'	2.36	118.31	113.69
2	B	701	UPG	C5-C4-N3	2.35	118.36	114.84
2	B	701	UPG	C1C-N1-C2	2.31	121.74	117.57
2	B	701	UPG	O2B-PB-O1B	2.22	123.23	112.24
2	B	701	UPG	O5C-PA-O1A	-2.14	100.69	109.07
2	A	701	UPG	C1'-O5'-C5'	2.04	117.69	113.69

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	701	UPG	PB-O3A-PA-O1A
2	A	701	UPG	O5'-C1'-O3B-PB
2	A	701	UPG	PB-O3A-PA-O2A
2	B	701	UPG	C1'-O3B-PB-O3A

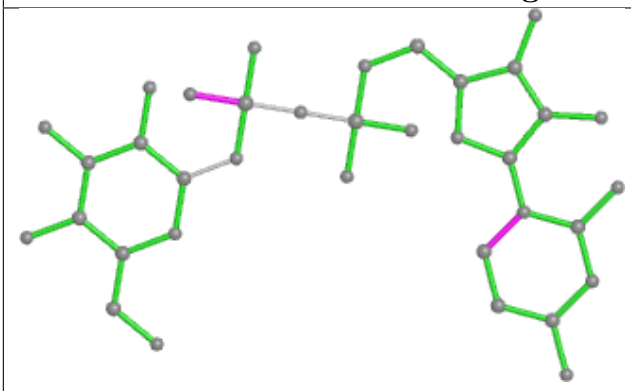
There are no ring outliers.

2 monomers are involved in 2 short contacts:

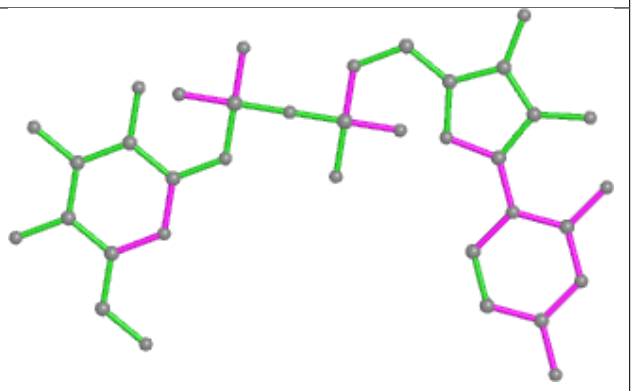
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	701	UPG	1	0
2	A	701	UPG	1	0

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.

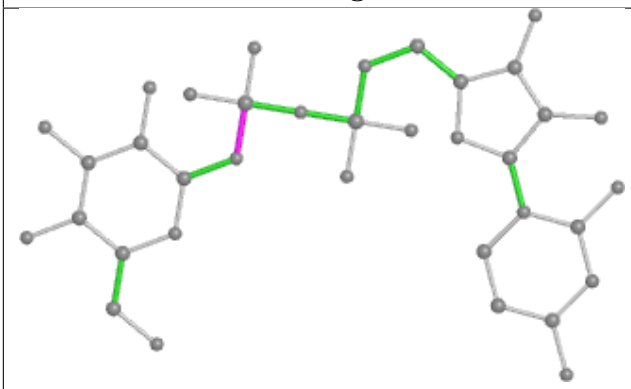
Ligand UPG B 701



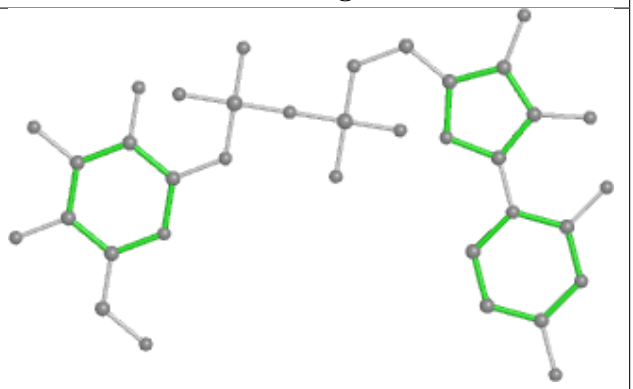
Bond lengths



Bond angles

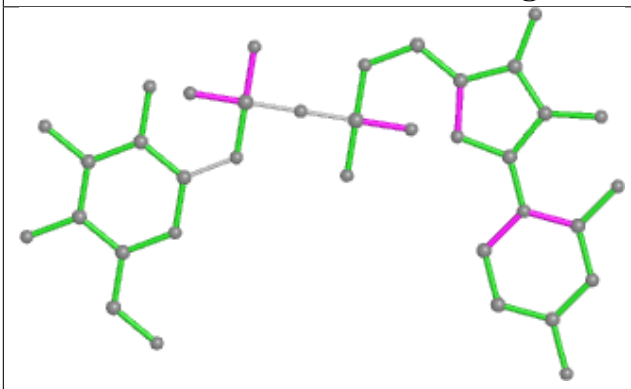


Torsions

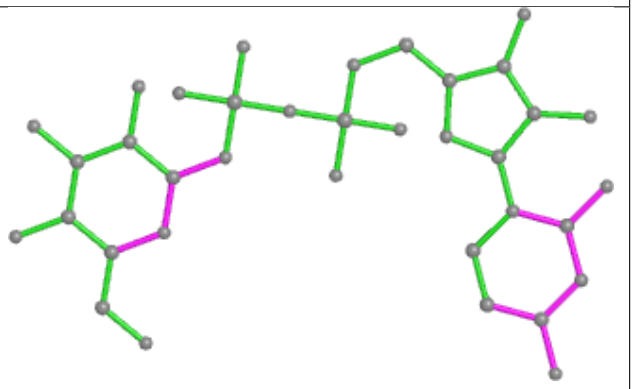


Rings

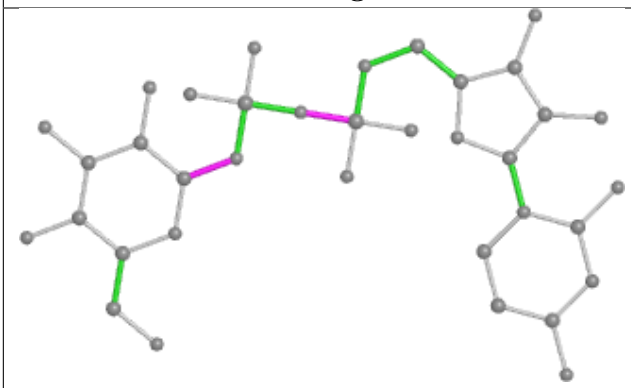
Ligand UPG A 701



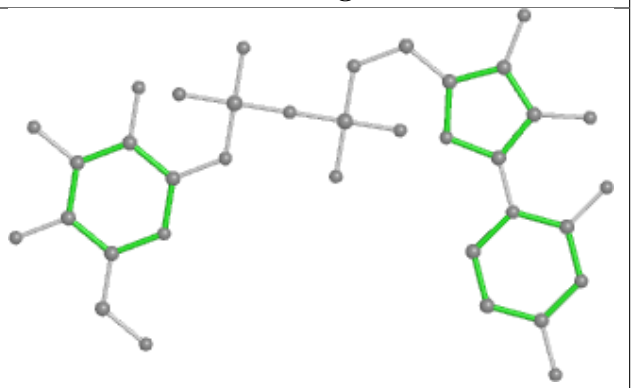
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} 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	607/655 (92%)	0.48	28 (4%)	32	31	38, 63, 96, 120	0
1	B	591/655 (90%)	0.53	34 (5%)	23	22	37, 60, 97, 109	0
All	All	1198/1310 (91%)	0.50	62 (5%)	27	26	37, 62, 97, 120	0

All (62) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	521	LEU	6.2
1	A	345	THR	5.4
1	B	44	PHE	5.4
1	A	619	LEU	5.0
1	B	114	VAL	4.4
1	A	5	TYR	4.3
1	A	109	PHE	4.2
1	A	615	ARG	4.1
1	B	166	ILE	3.9
1	A	617	GLN	3.8
1	A	634	LEU	3.6
1	A	44	PHE	3.6
1	A	81	THR	3.5
1	B	525	GLU	3.4
1	A	29	LYS	3.4
1	B	162	LEU	3.3
1	B	515	MET	3.1
1	B	163	TYR	3.1
1	A	445	GLU	3.0
1	A	111	LYS	3.0
1	B	10	LEU	3.0
1	B	264	LYS	2.8
1	B	46	ASN	2.8
1	A	79	PRO	2.7

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Mol	Chain	Res	Type	RSRZ
1	B	345	THR	2.7
1	B	495	LEU	2.7
1	B	130	LEU	2.7
1	B	174	SER	2.6
1	A	616	THR	2.6
1	B	167	ARG	2.6
1	A	41	ASN	2.6
1	B	175	LYS	2.6
1	B	24	LEU	2.6
1	A	78	GLN	2.5
1	A	482	VAL	2.5
1	B	624	LEU	2.5
1	B	159	ALA	2.4
1	A	344	LEU	2.4
1	B	117	LEU	2.4
1	A	142	ILE	2.4
1	A	67	TRP	2.3
1	B	598	PHE	2.3
1	B	176	PHE	2.3
1	A	623	GLY	2.3
1	B	491	PHE	2.3
1	B	7	ARG	2.3
1	B	567	GLU	2.3
1	A	630	GLU	2.3
1	B	518	VAL	2.2
1	A	76	ASN	2.2
1	B	507	LEU	2.2
1	A	187	ILE	2.2
1	B	4	GLN	2.2
1	B	520	ARG	2.1
1	A	77	ILE	2.1
1	A	40	ILE	2.1
1	B	529	LEU	2.1
1	A	18	GLN	2.1
1	B	446	ASN	2.1
1	B	47	ASP	2.0
1	B	8	PHE	2.0
1	A	162	LEU	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

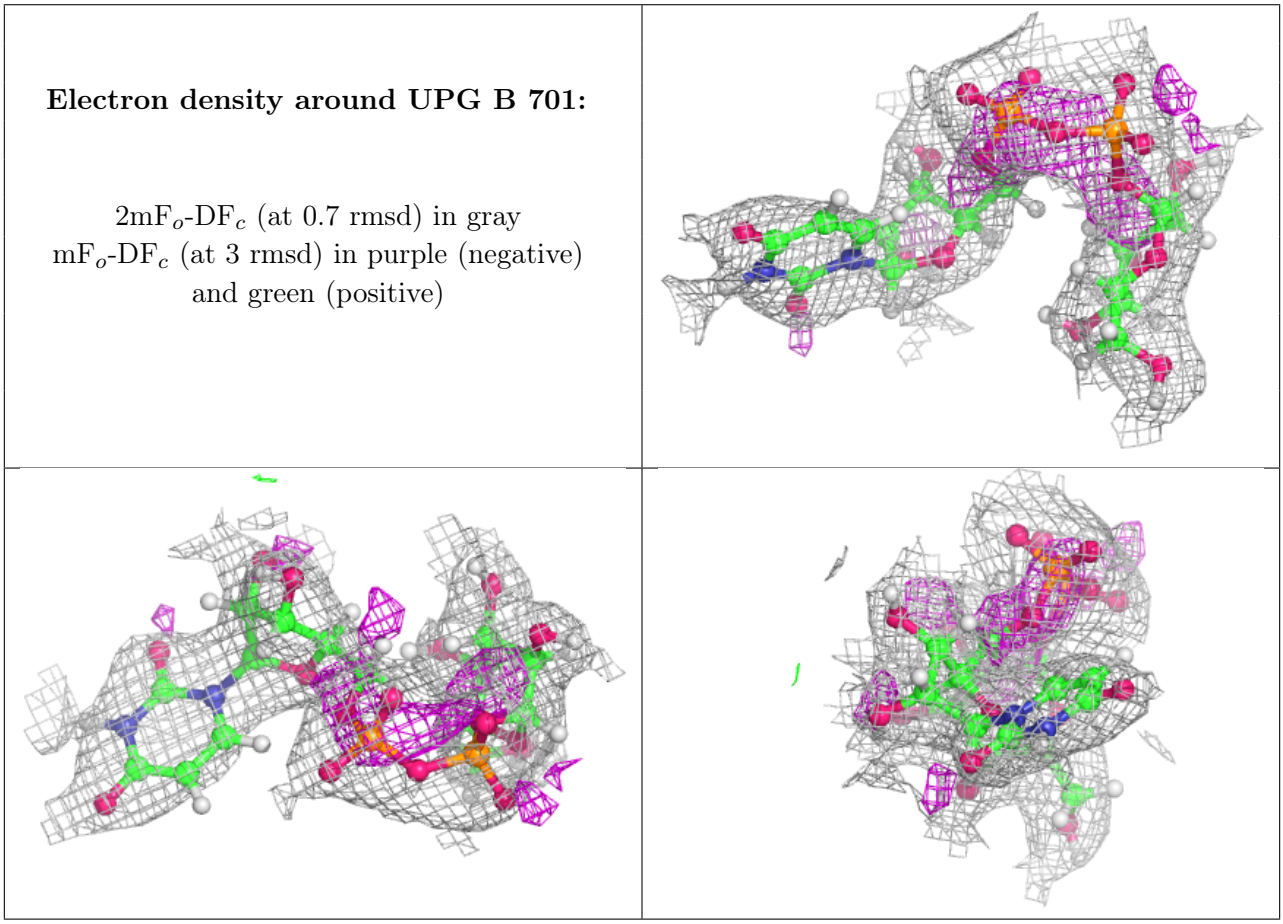
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	UPG	B	701	36/36	0.93	0.18	44,61,73,77	0
2	UPG	A	701	36/36	0.94	0.20	41,62,76,79	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.

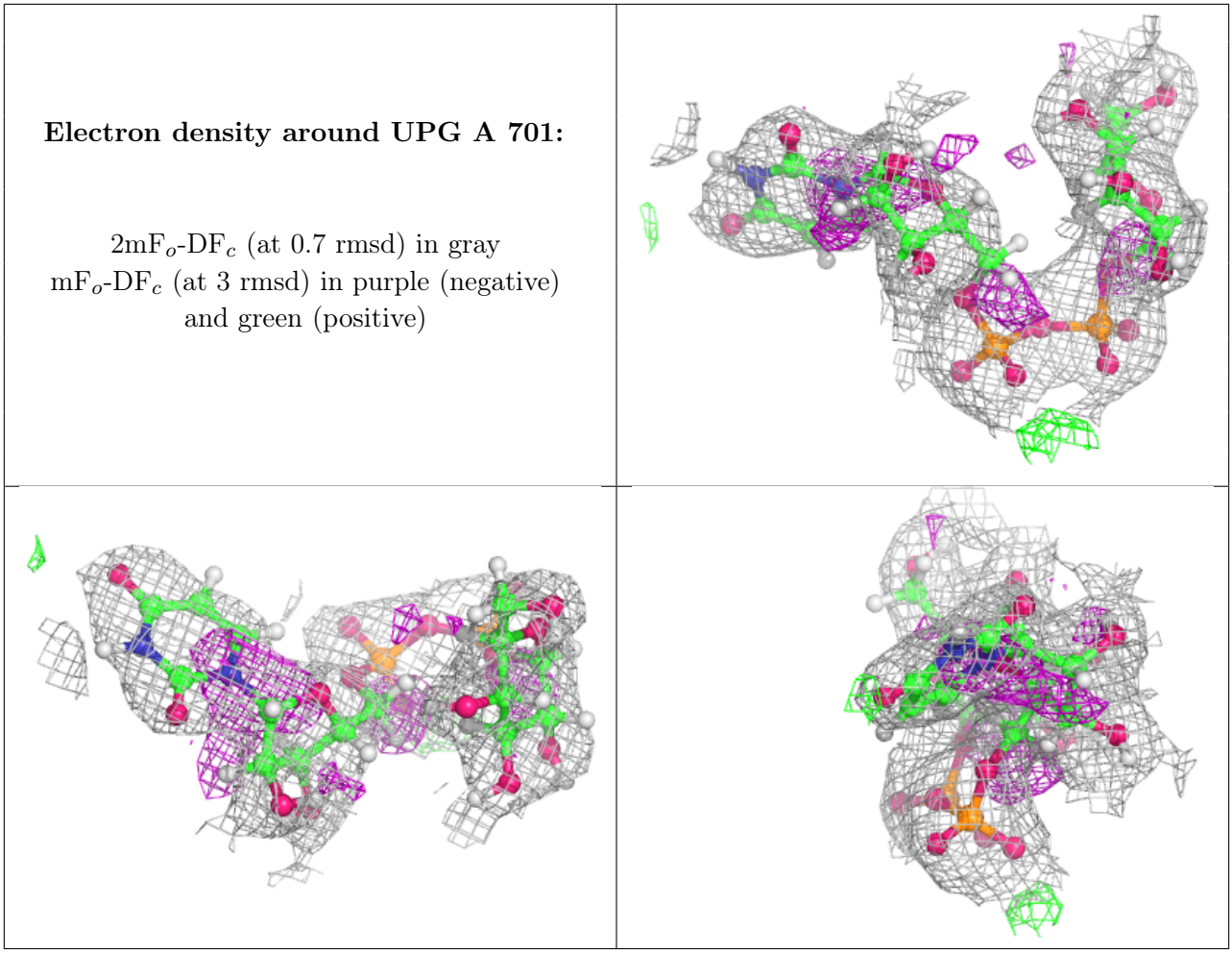
Electron density around UPG B 701:

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



Electron density around UPG A 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

There are no such residues in this entry.