Full wwPDB X-ray Structure Validation Report ⓘ

Dec 13, 2023 – 05:40 am GMT

PDB ID	:	2WU3
Title	:	CRYSTAL STRUCTURE OF MOUSE ACETYLCHOLINESTERASE IN COMPLEX WITH FENAMIPHOS AND HI-6
Authors	:	Hornberg, A.; Artursson, E.; Warme, R.; Pang, Y.-P.; Ekstrom, F.
Deposited on	:	2009-09-28
Resolution	:	2.70 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:

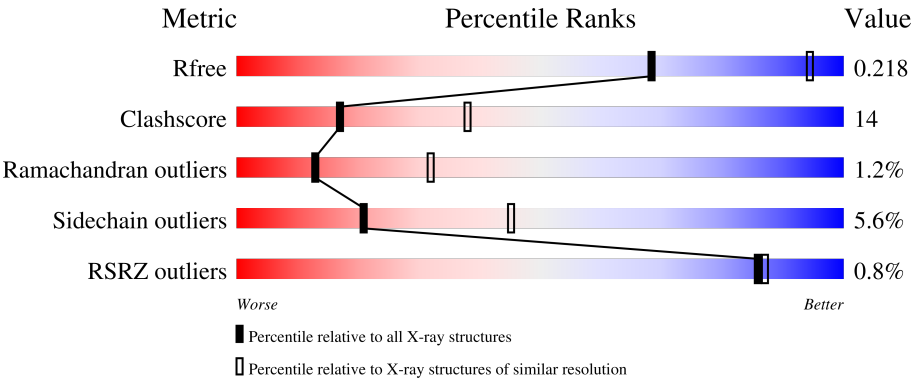
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.70 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	2808 (2.70-2.70)
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	548	% 74% 22%
1	B	548	68% 26%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	HI6	A	601	-	-	X	-
2	HI6	B	601	-	-	X	-
3	NAG	A	603	X	-	-	-
4	P6G	A	604	-	X	-	-

2 Entry composition

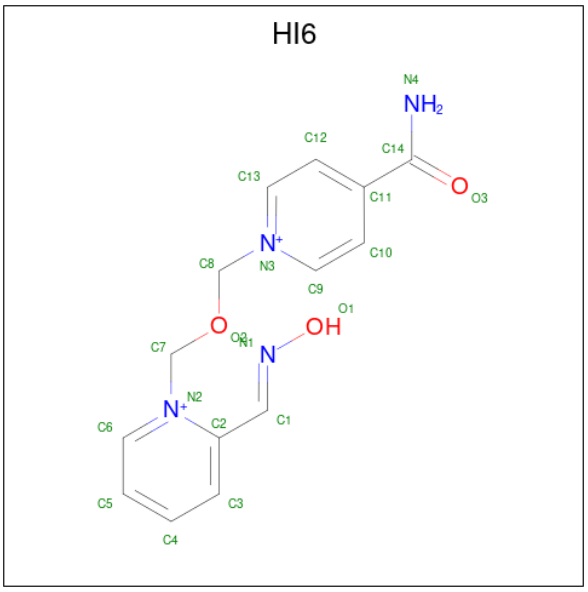
There are 6 unique types of molecules in this entry. The entry contains 8805 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called ACETYLCHOLINESTERASE.

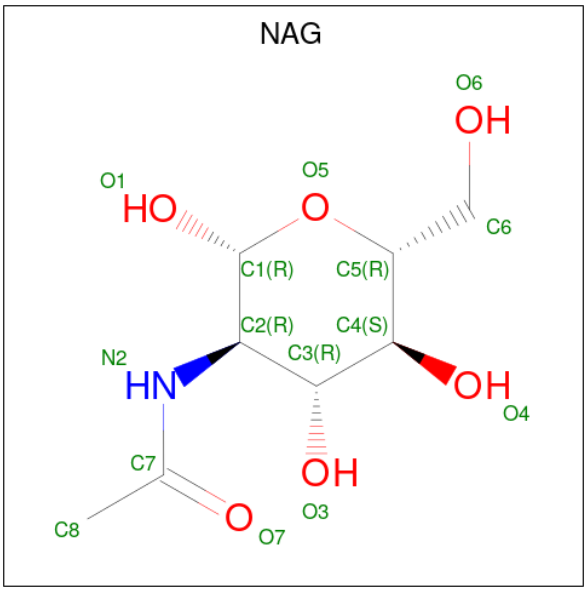
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	539	Total	C	N	O	P	S	0	2	0
			4239	2715	733	775	2	14			
1	B	533	Total	C	N	O	P	S	0	1	0
			4184	2684	724	760	2	14			

- Molecule 2 is 4-(AMINOCARBONYL)-1-[({2-[(E)-(HYDROXYIMINO)METHYL]PYRIDINIUM-1-YL}METHOXY)METHYL]PYRIDINIUM (three-letter code: HI6) (formula: $C_{14}H_{16}N_4O_3$).



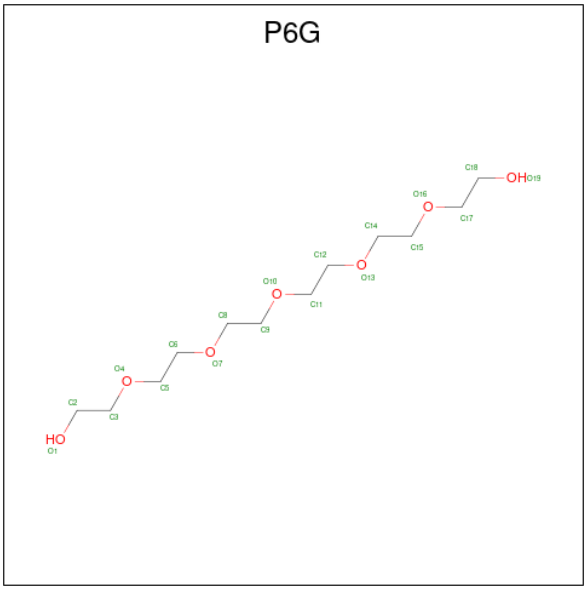
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			18	13	3	2		
2	B	1	Total	C	N	O	0	0
			18	13	3	2		

- Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



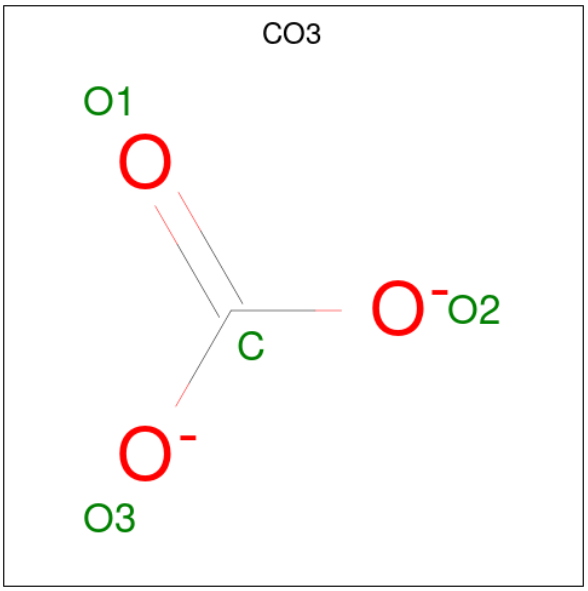
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C N O 14 8 1 5	0	0
3	A	1	Total C N O 14 8 1 5	0	0

- Molecule 4 is HEXAETHYLENE GLYCOL (three-letter code: P6G) (formula: $C_{12}H_{26}O_7$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 19 12 7	0	0

- Molecule 5 is CARBONATE ION (three-letter code: CO3) (formula: CO_3).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 4 1 3	0	0
5	B	1	Total C O 4 1 3	0	0

- Molecule 6 is water.

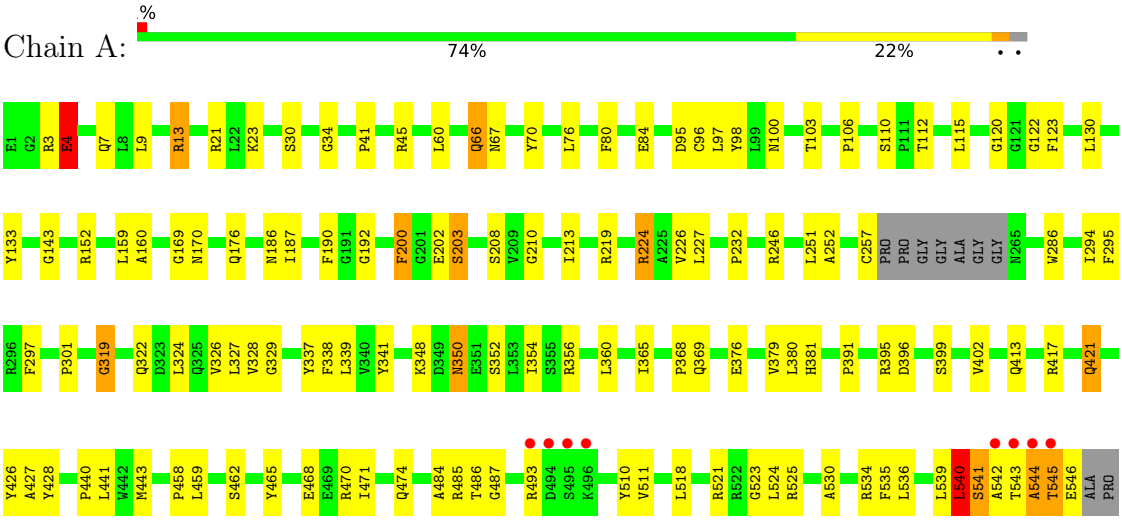
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	165	Total O 165 165	0	0
6	B	126	Total O 126 126	0	0

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.

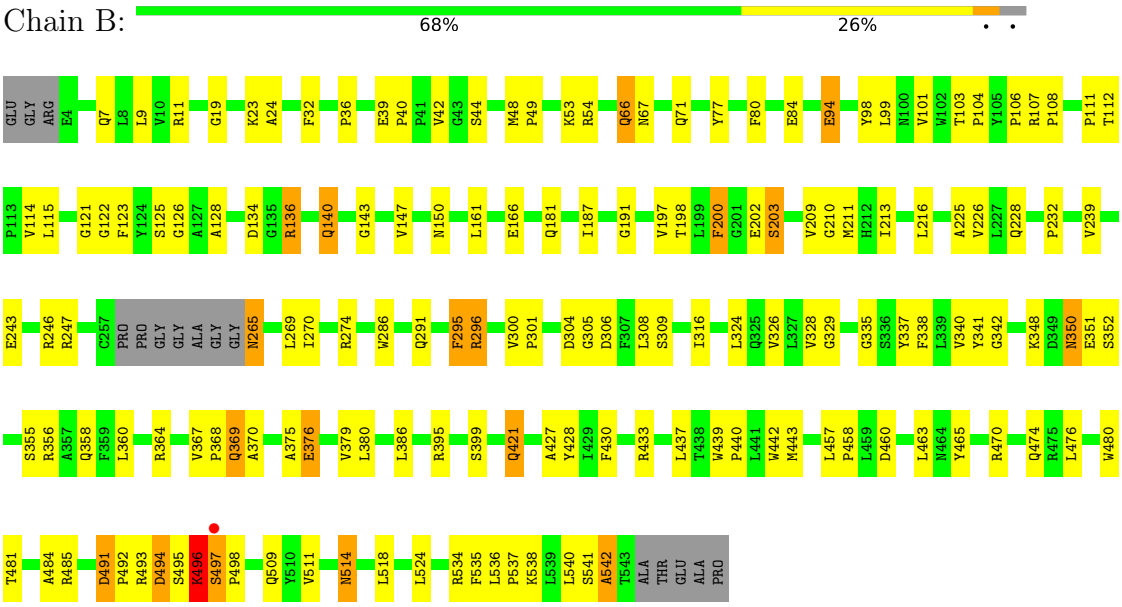
• Molecule 1: ACETYLCHOLINESTERASE

Chain A:



• Molecule 1: ACETYLCHOLINESTERASE

Chain B:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	78.76Å 111.23Å 227.70Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.02 – 2.70 29.02 – 2.70	Depositor EDS
% Data completeness (in resolution range)	100.0 (29.02-2.70) 100.0 (29.02-2.70)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	4.39 (at 2.72Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.171 , 0.226 0.165 , 0.218	Depositor DCC
R_{free} test set	1098 reflections (1.97%)	wwPDB-VP
Wilson B-factor (Å^2)	52.2	Xtriage
Anisotropy	0.095	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.30 , 53.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	8805	wwPDB-VP
Average B, all atoms (Å^2)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.78% 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: SXE, HI6, CO3, P6G, NAG

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	0.56	1/4334 (0.0%)	0.69	2/5919 (0.0%)
1	B	0.51	0/4276	0.66	0/5842
All	All	0.53	1/8610 (0.0%)	0.68	2/11761 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	96	CYS	CB-SG	-8.67	1.67	1.82

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	541	SER	N-CA-C	-5.57	95.95	111.00
1	A	540	LEU	CA-CB-CG	-5.01	103.78	115.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	540	LEU	Peptide
1	A	95	ASP	Peptide

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	4239	0	4131	110	0
1	B	4184	0	4080	128	0
2	A	18	0	14	11	0
2	B	18	0	14	9	0
3	A	28	0	26	1	0
4	A	19	0	24	5	0
5	A	4	0	0	0	0
5	B	4	0	0	0	0
6	A	165	0	0	3	0
6	B	126	0	0	4	0
All	All	8805	0	8289	235	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 14.

All (235) 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:350:ASN:HD22	1:A:352:SER:H	1.09	0.96
1:B:7:GLN:HE22	1:B:107:ARG:H	0.96	0.95
1:A:350:ASN:ND2	1:A:352:SER:H	1.67	0.91
1:B:7:GLN:NE2	1:B:107:ARG:H	1.71	0.88
1:A:350:ASN:OD1	3:A:602:NAG:C1	2.22	0.87
1:B:286:TRP:CH2	2:B:601:HI6:H81	2.12	0.84
1:B:350:ASN:HD22	1:B:352:SER:H	1.23	0.83
1:B:210:GLY:HA3	1:B:232:PRO:HG3	1.60	0.82
1:B:355:SER:H	1:B:358:GLN:HE21	1.23	0.82
1:A:210:GLY:HA3	1:A:232:PRO:HG3	1.63	0.80
1:B:66:GLN:HE21	1:B:67:ASN:H	1.30	0.79
1:B:497:SER:HB3	1:B:498:PRO:O	1.82	0.79
1:A:176:GLN:HE22	1:A:208:SER:HB3	1.46	0.79
1:B:350:ASN:ND2	1:B:352:SER:H	1.82	0.78
1:A:381:HIS:HA	4:A:604:P6G:H31	1.69	0.75
1:A:417:ARG:HH21	1:A:421:GLN:HE22	1.31	0.74
1:A:286:TRP:CZ2	2:A:601:HI6:H82	2.23	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:224:ARG:HG3	1:A:224:ARG:HH11	1.53	0.74
1:B:166:GLU:HG2	1:B:270:ILE:HD13	1.70	0.73
1:A:286:TRP:CH2	2:A:601:HI6:H82	2.24	0.72
1:B:460:ASP:HB3	1:B:463:LEU:HD12	1.70	0.72
1:A:542:ALA:HB2	6:A:2110:HOH:O	1.89	0.72
1:A:224:ARG:HG3	1:A:224:ARG:NH1	2.05	0.71
1:A:341:TYR:CD1	2:A:601:HI6:H72	2.24	0.71
1:B:112:THR:HG21	1:B:143:GLY:O	1.92	0.68
1:A:350:ASN:HD22	1:A:352:SER:N	1.88	0.68
1:A:7:GLN:O	1:A:7:GLN:HG3	1.94	0.67
1:B:243:GLU:O	1:B:247:ARG:HG3	1.95	0.67
1:B:211:MET:HG2	1:B:308:LEU:HD21	1.75	0.67
1:A:66:GLN:HE21	1:A:67:ASN:H	1.44	0.66
1:B:202:GLU:O	1:B:203[A]:SXE:HBC1	1.96	0.66
1:B:509:GLN:HG3	6:B:756:HOH:O	1.96	0.66
1:B:329:GLY:HA3	1:B:428:TYR:CZ	2.31	0.66
1:A:203[B]:SXE:H2C2	2:A:601:HI6:H4	1.77	0.65
1:B:71:GLN:HA	6:B:766:HOH:O	1.96	0.65
1:A:485:ARG:HB3	1:A:486:THR:HG23	1.78	0.65
1:B:104:PRO:HD2	1:B:108:PRO:HD3	1.77	0.65
1:A:203[A]:SXE:C5	2:A:601:HI6:H4	2.29	0.62
1:A:337:TYR:HA	1:A:443:MET:HE2	1.81	0.62
1:A:459:LEU:HD23	1:A:470:ARG:HG3	1.82	0.62
1:B:368:PRO:HG2	1:B:369:GLN:HG3	1.82	0.62
1:A:319:GLY:O	1:A:421:GLN:HG2	2.01	0.61
1:A:341:TYR:CE1	2:A:601:HI6:H72	2.35	0.61
1:A:224:ARG:HH11	1:A:224:ARG:CG	2.13	0.61
1:A:376:GLU:OE1	1:B:538:LYS:HD3	2.00	0.61
1:A:380:LEU:HD22	1:B:535:PHE:HB2	1.83	0.61
1:B:7:GLN:HE22	1:B:107:ARG:N	1.81	0.60
1:B:337:TYR:HE2	2:B:601:HI6:C4	2.15	0.60
1:A:545:THR:O	1:A:546:GLU:HB3	2.02	0.60
1:A:203[B]:SXE:C2	2:A:601:HI6:H4	2.31	0.60
1:B:122:GLY:O	1:B:123:PHE:HB2	2.02	0.60
1:B:71:GLN:HE22	1:B:126:GLY:H	1.50	0.59
1:B:497:SER:CB	1:B:498:PRO:O	2.51	0.59
1:A:350:ASN:HD22	1:A:350:ASN:C	2.05	0.59
1:A:380:LEU:HB3	4:A:604:P6G:H51	1.85	0.58
1:B:439:TRP:HB3	1:B:440:PRO:HD2	1.85	0.58
1:B:66:GLN:HG3	1:B:98:TYR:CD1	2.39	0.57
1:B:540:LEU:C	1:B:542:ALA:H	2.07	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:24:ALA:HB3	1:B:140:GLN:HG3	1.85	0.57
1:B:42:VAL:HG12	1:B:94:GLU:HB3	1.86	0.57
1:B:337:TYR:HE2	2:B:601:HI6:H4	1.69	0.57
1:A:470:ARG:O	1:A:474:GLN:HG3	2.03	0.57
1:A:395:ARG:HD2	1:A:396:ASP:OD1	2.05	0.56
1:B:367:VAL:HG12	1:B:370:ALA:HB2	1.87	0.56
1:B:470:ARG:O	1:B:474:GLN:HG3	2.05	0.56
1:A:13:ARG:NH2	6:A:2001:HOH:O	2.38	0.56
1:A:458:PRO:HA	1:A:465:TYR:CD2	2.40	0.56
1:A:203[B]:SXE:H3C1	1:A:297:PHE:CZ	2.40	0.56
1:A:539:LEU:O	1:A:540:LEU:HD23	2.05	0.55
1:A:213:ILE:O	1:A:219:ARG:HD3	2.05	0.55
1:B:202:GLU:O	1:B:203[B]:SXE:HBC1	2.04	0.55
1:B:329:GLY:HA3	1:B:428:TYR:CE2	2.42	0.55
1:B:328:VAL:O	1:B:427:ALA:HA	2.07	0.55
1:A:545:THR:HG22	1:A:546:GLU:H	1.71	0.55
1:A:66:GLN:HG3	1:A:98:TYR:CD1	2.41	0.55
1:B:128:ALA:H	1:B:150:ASN:HD21	1.55	0.55
1:A:545:THR:HG22	1:A:546:GLU:N	2.22	0.54
1:B:66:GLN:HE21	1:B:67:ASN:N	2.02	0.54
1:B:430:PHE:HE2	1:B:476:LEU:HD11	1.72	0.54
1:A:210:GLY:CA	1:A:232:PRO:HG3	2.37	0.54
1:B:326:VAL:HG12	1:B:328:VAL:HG13	1.87	0.54
1:B:210:GLY:CA	1:B:232:PRO:HG3	2.34	0.54
1:B:300:VAL:HB	1:B:301:PRO:HD2	1.90	0.53
1:A:202:GLU:O	1:A:203[A]:SXE:HBC1	2.09	0.53
1:A:350:ASN:ND2	1:A:352:SER:N	2.46	0.53
1:A:511:VAL:HG11	1:A:518:LEU:HD13	1.91	0.53
1:A:76:LEU:HD22	1:A:341:TYR:CD1	2.44	0.53
1:B:161:LEU:HD12	1:B:270:ILE:HD11	1.91	0.52
1:B:161:LEU:HD11	1:B:269:LEU:HD22	1.91	0.52
1:A:545:THR:O	1:A:546:GLU:CB	2.58	0.52
1:B:514:ASN:C	1:B:514:ASN:HD22	2.13	0.52
1:A:203[B]:SXE:H3C1	1:A:297:PHE:HZ	1.73	0.52
1:A:459:LEU:CD2	1:A:470:ARG:HG3	2.40	0.51
1:B:80:PHE:O	1:B:84:GLU:HB2	2.09	0.51
1:A:380:LEU:HB3	4:A:604:P6G:C5	2.40	0.51
1:A:160:ALA:HB2	1:A:169:GLY:CA	2.40	0.51
1:B:493:ARG:O	1:B:494:ASP:CB	2.59	0.51
1:A:203[A]:SXE:H5C1	2:A:601:HI6:C4	2.41	0.51
1:B:108:PRO:HG2	1:B:191:GLY:HA3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:166:GLU:HG2	1:B:270:ILE:CD1	2.40	0.51
1:A:41:PRO:HG2	1:A:152:ARG:HD3	1.93	0.51
1:B:66:GLN:HG3	1:B:98:TYR:CG	2.46	0.51
1:B:304:ASP:OD2	1:B:306:ASP:HB3	2.11	0.51
1:B:115:LEU:HD23	1:B:198:THR:HB	1.93	0.50
1:A:251:LEU:O	1:A:251:LEU:HG	2.09	0.50
1:A:339:LEU:HD11	1:A:399:SER:HA	1.93	0.50
1:B:511:VAL:HB	1:B:518:LEU:HD22	1.93	0.50
1:B:337:TYR:CE2	2:B:601:HI6:H4	2.46	0.50
1:B:36:PRO:HB2	1:B:53:LYS:HD3	1.93	0.50
1:B:495:SER:O	1:B:496:LYS:O	2.30	0.50
1:B:286:TRP:CZ2	2:B:601:HI6:H81	2.47	0.49
1:A:543:THR:O	1:A:543:THR:HG23	2.12	0.49
1:B:228:GLN:HE21	1:B:480:TRP:HE1	1.61	0.49
1:A:224:ARG:HD3	1:A:487:GLY:HA2	1.94	0.49
1:B:71:GLN:NE2	1:B:126:GLY:H	2.11	0.49
1:B:458:PRO:HA	1:B:465:TYR:CD2	2.47	0.49
1:A:252:ALA:HB1	1:A:257:CYS:HB2	1.93	0.49
1:A:471:ILE:HA	1:A:474:GLN:HE21	1.77	0.49
1:B:77:TYR:CD1	1:B:348:LYS:HE3	2.47	0.49
1:B:440:PRO:HG2	1:B:443:MET:HG3	1.93	0.49
1:B:350:ASN:HD22	1:B:351:GLU:N	2.11	0.49
1:A:328:VAL:O	1:A:427:ALA:HA	2.13	0.49
1:A:329:GLY:HA3	1:A:428:TYR:CE2	2.48	0.49
1:B:296:ARG:NH1	1:B:369:GLN:HE21	2.11	0.48
1:B:48:MET:CE	1:B:166:GLU:HA	2.43	0.48
1:A:365:ILE:O	1:A:368:PRO:HD3	2.14	0.48
1:B:265:ASN:C	1:B:265:ASN:OD1	2.52	0.48
1:A:4:GLU:HG2	1:A:9:LEU:HD21	1.96	0.48
1:B:376:GLU:O	1:B:380:LEU:HG	2.13	0.48
1:A:66:GLN:HE21	1:A:67:ASN:N	2.09	0.48
1:B:7:GLN:NE2	1:B:107:ARG:N	2.52	0.48
1:A:34:GLY:H	1:A:100:ASN:ND2	2.12	0.48
1:B:352:SER:O	1:B:395:ARG:HG3	2.13	0.48
1:B:71:GLN:NE2	1:B:125:SER:HB2	2.29	0.47
1:A:348:LYS:O	1:A:440:PRO:HG3	2.15	0.47
1:A:203[B]:SXE:H1	1:A:203[B]:SXE:H4C2	1.61	0.47
1:A:115:LEU:HD21	1:A:484:ALA:HB2	1.96	0.47
1:B:355:SER:OG	1:B:358:GLN:HG3	2.15	0.47
1:B:296:ARG:HH12	1:B:369:GLN:NE2	2.13	0.47
1:B:360:LEU:N	1:B:360:LEU:HD23	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:115:LEU:HD21	1:B:484:ALA:HB2	1.96	0.47
1:A:13:ARG:H	1:A:186:ASN:ND2	2.13	0.46
1:A:354:ILE:O	1:A:391:PRO:HA	2.15	0.46
1:B:395:ARG:CZ	1:B:442:TRP:HB2	2.45	0.46
1:A:187:ILE:HG13	1:A:192:GLY:HA3	1.96	0.46
1:B:497:SER:CB	1:B:498:PRO:C	2.84	0.46
1:A:350:ASN:ND2	1:A:350:ASN:C	2.67	0.46
1:A:525:ARG:HD3	6:A:2138:HOH:O	2.16	0.46
1:A:122:GLY:O	1:A:123:PHE:HB2	2.15	0.46
1:A:523:GLY:HA3	1:B:386:LEU:HD21	1.97	0.45
1:A:543:THR:O	1:A:544:ALA:HB2	2.16	0.45
1:A:80:PHE:O	1:A:84:GLU:HG2	2.16	0.45
1:A:227:LEU:HB2	1:A:328:VAL:HG12	1.99	0.45
1:A:530:ALA:O	1:A:534:ARG:HB2	2.15	0.45
1:B:7:GLN:NE2	1:B:106:PRO:HA	2.32	0.45
1:B:48:MET:HB3	1:B:49:PRO:HD2	1.98	0.45
1:B:107:ARG:HE	1:B:107:ARG:HB2	1.59	0.45
1:B:128:ALA:H	1:B:150:ASN:ND2	2.13	0.45
1:B:111:PRO:HA	1:B:191:GLY:O	2.17	0.45
1:A:360:LEU:HD22	1:A:379:VAL:HG21	1.99	0.45
1:B:364:ARG:O	1:B:368:PRO:HA	2.17	0.45
1:B:340:VAL:HG11	1:B:443:MET:CE	2.46	0.45
1:B:305:GLY:HA2	1:B:309:SER:HA	1.99	0.45
1:B:491:ASP:HA	1:B:492:PRO:HD3	1.76	0.45
1:B:265:ASN:ND2	6:B:703:HOH:O	2.50	0.44
1:A:203[A]:SXE:H5C3	2:A:601:HI6:H4	1.97	0.44
1:B:19:GLY:HA3	1:B:32:PHE:CD2	2.53	0.44
1:A:103:THR:HG21	1:A:190:PHE:HB3	2.00	0.44
1:A:160:ALA:HB2	1:A:169:GLY:HA2	2.00	0.44
1:A:170:ASN:OD1	1:A:301:PRO:HA	2.17	0.44
1:A:120:GLY:C	1:A:203[A]:SXE:H2C2	2.37	0.44
1:A:341:TYR:CD1	2:A:601:HI6:C7	2.98	0.44
1:A:66:GLN:HG3	1:A:98:TYR:CG	2.53	0.44
1:B:228:GLN:NE2	1:B:480:TRP:HE1	2.15	0.44
1:A:356:ARG:O	1:A:360:LEU:HG	2.17	0.43
1:A:381:HIS:HD1	4:A:604:P6G:H22	1.83	0.43
1:A:41:PRO:HG3	1:A:97:LEU:CD1	2.48	0.43
1:A:200:PHE:HB2	1:A:226:VAL:HB	2.00	0.43
1:B:341:TYR:CD2	2:B:601:HI6:H72	2.53	0.43
1:A:30:SER:HB2	1:A:103:THR:OG1	2.18	0.43
1:A:535:PHE:CE2	4:A:604:P6G:H91	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:481:THR:OG1	1:B:485:ARG:NH2	2.51	0.43
1:A:130:LEU:HD12	1:A:133:TYR:CE2	2.54	0.43
1:B:161:LEU:HD12	1:B:270:ILE:CG1	2.48	0.43
1:B:497:SER:H	1:B:498:PRO:HA	1.82	0.43
1:A:60:LEU:C	1:A:60:LEU:HD23	2.38	0.43
1:B:39:GLU:HA	1:B:40:PRO:HD3	1.91	0.43
1:B:300:VAL:HB	1:B:301:PRO:CD	2.48	0.43
1:A:112:THR:HG21	1:A:143:GLY:O	2.19	0.43
1:A:200:PHE:CB	1:A:226:VAL:HB	2.49	0.42
1:A:66:GLN:HE21	1:A:66:GLN:CA	2.31	0.42
1:B:134:ASP:OD1	1:B:136:ARG:HD2	2.18	0.42
1:B:536:LEU:HB3	1:B:537:PRO:HD3	2.01	0.42
1:B:66:GLN:NE2	1:B:67:ASN:H	2.08	0.42
1:B:460:ASP:O	1:B:463:LEU:HB2	2.20	0.42
1:A:326:VAL:HG12	1:A:328:VAL:HG13	2.02	0.42
1:B:209:VAL:O	1:B:213:ILE:HG13	2.20	0.42
1:A:327:LEU:HD12	1:A:426:TYR:O	2.20	0.42
1:A:510:TYR:CZ	1:A:521:ARG:HB2	2.55	0.42
1:B:99:LEU:C	1:B:99:LEU:HD12	2.41	0.42
1:B:269:LEU:C	1:B:269:LEU:HD23	2.40	0.42
1:B:286:TRP:CH2	2:B:601:HI6:C8	2.95	0.41
1:B:457:LEU:N	1:B:458:PRO:CD	2.83	0.41
1:A:41:PRO:HG3	1:A:97:LEU:HD11	2.02	0.41
1:A:224:ARG:HD3	1:A:487:GLY:CA	2.50	0.41
1:B:491:ASP:HB3	1:B:494:ASP:HB3	2.02	0.41
1:B:496:LYS:HE3	1:B:496:LYS:HB2	1.83	0.41
1:A:213:ILE:HD13	1:A:324:LEU:HD21	2.02	0.41
1:B:44:SER:HA	1:B:274:ARG:HD2	2.02	0.41
1:B:335:GLY:HA3	1:B:399:SER:O	2.21	0.41
1:B:433:ARG:NH2	1:B:439:TRP:O	2.53	0.41
1:B:534:ARG:HD3	6:B:769:HOH:O	2.20	0.41
1:A:440:PRO:HD2	1:A:443:MET:SD	2.61	0.41
1:B:295:PHE:CE2	1:B:338:PHE:CZ	3.08	0.41
1:A:468:GLU:CD	1:A:468:GLU:H	2.24	0.41
1:B:187:ILE:HD12	1:B:187:ILE:HA	1.92	0.41
1:B:200:PHE:CB	1:B:226:VAL:HB	2.49	0.41
1:B:203[B]:SXE:H2C1	2:B:601:HI6:C4	2.50	0.41
1:B:540:LEU:C	1:B:542:ALA:N	2.73	0.41
1:A:159:LEU:HD23	1:A:159:LEU:C	2.41	0.41
1:B:48:MET:HE1	1:B:166:GLU:HA	2.03	0.41
1:B:375:ALA:O	1:B:379:VAL:HG23	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:101:VAL:HG22	1:B:147:VAL:HG22	2.03	0.41
1:A:286:TRP:CZ2	2:A:601:HI6:C8	3.01	0.40
1:B:203[B]:SXE:H2C1	2:B:601:HI6:H4	2.03	0.40
1:B:209:VAL:CG1	1:B:225:ALA:HB1	2.50	0.40
1:A:7:GLN:NE2	1:A:106:PRO:HB3	2.37	0.40
1:B:324:LEU:HD12	1:B:324:LEU:HA	1.77	0.40
1:A:294:ILE:HD11	1:A:402:VAL:HG21	2.04	0.40
1:B:316:ILE:O	1:B:421:GLN:NE2	2.54	0.40
1:A:203[B]:SXE:H2C3	1:A:338:PHE:CZ	2.57	0.40
1:B:53:LYS:HG3	1:B:54:ARG:O	2.22	0.40
1:B:114:VAL:HB	1:B:197:VAL:HG22	2.04	0.40
1:B:329:GLY:HA3	1:B:428:TYR:CE1	2.55	0.40
1:B:457:LEU:N	1:B:458:PRO:HD2	2.35	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	535/548 (98%)	505 (94%)	24 (4%)	6 (1%)	14	34
1	B	528/548 (96%)	500 (95%)	21 (4%)	7 (1%)	12	30
All	All	1063/1096 (97%)	1005 (94%)	45 (4%)	13 (1%)	13	32

All (13) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	4	GLU
1	A	541	SER
1	A	544	ALA
1	A	545	THR
1	B	494	ASP

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Mol	Chain	Res	Type
1	B	496	LYS
1	B	542	ALA
1	A	319	GLY
1	B	497	SER
1	B	541	SER
1	A	493	ARG
1	B	342	GLY
1	B	121	GLY

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	443/445 (100%)	421 (95%)	22 (5%)	24	51
1	B	437/445 (98%)	410 (94%)	27 (6%)	18	40
All	All	880/890 (99%)	831 (94%)	49 (6%)	21	45

All (49) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3	ARG
1	A	4	GLU
1	A	13	ARG
1	A	21	ARG
1	A	23	LYS
1	A	45	ARG
1	A	66	GLN
1	A	70	TYR
1	A	110	SER
1	A	200	PHE
1	A	224	ARG
1	A	246	ARG
1	A	295	PHE
1	A	322	GLN
1	A	350	ASN

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Mol	Chain	Res	Type
1	A	369	GLN
1	A	413	GLN
1	A	421	GLN
1	A	441	LEU
1	A	462	SER
1	A	524	LEU
1	A	536	LEU
1	B	9	LEU
1	B	11	ARG
1	B	23	LYS
1	B	66	GLN
1	B	94	GLU
1	B	103	THR
1	B	136	ARG
1	B	140	GLN
1	B	181	GLN
1	B	200	PHE
1	B	216	LEU
1	B	239	VAL
1	B	246	ARG
1	B	265	ASN
1	B	291	GLN
1	B	295	PHE
1	B	296	ARG
1	B	350	ASN
1	B	356	ARG
1	B	369	GLN
1	B	376	GLU
1	B	421	GLN
1	B	437	LEU
1	B	491	ASP
1	B	496	LYS
1	B	514	ASN
1	B	524	LEU

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

Mol	Chain	Res	Type
1	A	16	GLN
1	A	66	GLN
1	A	100	ASN
1	A	176	GLN

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Mol	Chain	Res	Type
1	A	181	GLN
1	A	184	GLN
1	A	186	ASN
1	A	350	ASN
1	A	421	GLN
1	A	474	GLN
1	B	7	GLN
1	B	66	GLN
1	B	71	GLN
1	B	150	ASN
1	B	228	GLN
1	B	291	GLN
1	B	350	ASN
1	B	358	GLN
1	B	369	GLN
1	B	514	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

4 non-standard protein/DNA/RNA residues 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	$\#\|Z\| > 2$
1	SXE	B	203[B]	1	13,14,15	1.55	1 (7%)	14,18,20	0.87	0
1	SXE	B	203[A]	1	13,14,15	1.56	1 (7%)	14,18,20	0.75	0
1	SXE	A	203[B]	1	13,14,15	1.56	1 (7%)	14,18,20	0.89	0
1	SXE	A	203[A]	1	13,14,15	1.58	1 (7%)	14,18,20	0.92	0

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
1	SXE	B	203[B]	1	-	4/14/17/19	-
1	SXE	B	203[A]	1	-	6/14/17/19	-
1	SXE	A	203[B]	1	-	9/14/17/19	-
1	SXE	A	203[A]	1	-	8/14/17/19	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	203[A]	SXE	P1-N1	5.02	1.67	1.61
1	A	203[B]	SXE	P1-N1	4.99	1.67	1.61
1	B	203[B]	SXE	P1-N1	4.98	1.66	1.61
1	B	203[A]	SXE	P1-N1	4.97	1.66	1.61

There are no bond angle outliers.

There are no chirality outliers.

All (27) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	203[A]	SXE	N-CA-CB-OG
1	A	203[A]	SXE	CB-OG-P1-N1
1	A	203[A]	SXE	CB-OG-P1-O2
1	A	203[A]	SXE	C1-N1-P1-O1
1	A	203[B]	SXE	N-CA-CB-OG
1	A	203[B]	SXE	C4-O2-P1-O1
1	B	203[A]	SXE	N-CA-CB-OG
1	B	203[A]	SXE	CB-OG-P1-N1
1	B	203[A]	SXE	C1-N1-P1-O1
1	B	203[B]	SXE	N-CA-CB-OG
1	A	203[A]	SXE	CB-OG-P1-O1
1	A	203[A]	SXE	C4-O2-P1-O1
1	A	203[B]	SXE	CB-OG-P1-O1
1	B	203[A]	SXE	CB-OG-P1-O1
1	B	203[B]	SXE	CB-OG-P1-O1
1	A	203[B]	SXE	CB-OG-P1-O2
1	B	203[A]	SXE	CB-OG-P1-O2
1	B	203[A]	SXE	C4-O2-P1-OG
1	A	203[A]	SXE	C4-O2-P1-N1
1	A	203[B]	SXE	CB-OG-P1-N1

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Mol	Chain	Res	Type	Atoms
1	A	203[B]	SXE	C4-O2-P1-N1
1	B	203[B]	SXE	CB-OG-P1-N1
1	A	203[B]	SXE	C3-C1-N1-P1
1	A	203[B]	SXE	C2-C1-N1-P1
1	A	203[A]	SXE	C4-O2-P1-OG
1	A	203[B]	SXE	C4-O2-P1-OG
1	B	203[B]	SXE	CB-OG-P1-O2

There are no ring outliers.

4 monomers are involved in 15 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	B	203[B]	SXE	3	0
1	B	203[A]	SXE	1	0
1	A	203[B]	SXE	6	0
1	A	203[A]	SXE	5	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

7 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	$\#\|Z\| > 2$
3	NAG	A	603	1	14,14,15	0.73	0	17,19,21	1.86	3 (17%)
5	CO3	B	602	-	2,3,3	0.23	0	2,3,3	0.44	0
3	NAG	A	602	-	14,14,15	0.53	0	17,19,21	1.94	3 (17%)
2	HI6	B	601	-	15,19,22	0.50	0	17,24,28	0.82	0
4	P6G	A	604	-	18,18,18	1.76	5 (27%)	17,17,17	2.18	11 (64%)
5	CO3	A	605	-	2,3,3	0.22	0	2,3,3	0.81	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	HI6	A	601	-	15,19,22	0.44	0	17,24,28	0.85	0

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
3	NAG	A	603	1	1/1/5/7	1/6/23/26	0/1/1/1
3	NAG	A	602	-	-	2/6/23/26	0/1/1/1
2	HI6	B	601	-	-	4/10/10/13	0/2/2/2
4	P6G	A	604	-	-	7/16/16/16	-
2	HI6	A	601	-	-	3/10/10/13	0/2/2/2

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	604	P6G	C17-C18	-2.86	1.34	1.49
4	A	604	P6G	C3-C2	-2.85	1.34	1.49
4	A	604	P6G	C15-C14	-2.83	1.34	1.49
4	A	604	P6G	C6-C5	-2.79	1.34	1.49
4	A	604	P6G	C9-C8	-2.77	1.34	1.49

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	603	NAG	C1-O5-C5	5.30	119.37	112.19
3	A	602	NAG	C1-C2-N2	-4.58	102.67	110.49
3	A	602	NAG	O5-C1-C2	4.14	117.82	111.29
3	A	603	NAG	C1-C2-N2	-3.61	104.33	110.49
4	A	604	P6G	O7-C8-C9	3.45	125.97	110.39
3	A	602	NAG	C1-O5-C5	3.35	116.73	112.19
4	A	604	P6G	O7-C6-C5	2.80	123.03	110.39
4	A	604	P6G	O13-C14-C15	2.76	122.85	110.39
3	A	603	NAG	O5-C5-C6	2.66	111.38	107.20
4	A	604	P6G	O16-C15-C14	2.52	121.75	110.39
4	A	604	P6G	C5-O4-C3	2.51	124.17	113.29
4	A	604	P6G	O10-C9-C8	2.51	121.71	110.39
4	A	604	P6G	O16-C17-C18	2.36	120.42	110.07
4	A	604	P6G	O4-C3-C2	2.16	119.54	110.07
4	A	604	P6G	O4-C5-C6	2.07	119.74	110.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	604	P6G	C11-O10-C9	2.04	122.14	113.29
4	A	604	P6G	C17-O16-C15	2.04	122.13	113.29

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
3	A	603	NAG	C1

All (17) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	601	HI6	O2-C7-N2-C6
2	B	601	HI6	O2-C8-N3-C9
2	B	601	HI6	O2-C8-N3-C13
2	B	601	HI6	O2-C7-N2-C6
3	A	602	NAG	C4-C5-C6-O6
3	A	602	NAG	O5-C5-C6-O6
4	A	604	P6G	O13-C14-C15-O16
4	A	604	P6G	O4-C5-C6-O7
4	A	604	P6G	O7-C8-C9-O10
4	A	604	P6G	C14-C15-O16-C17
4	A	604	P6G	C6-C5-O4-C3
4	A	604	P6G	C18-C17-O16-C15
2	B	601	HI6	N3-C8-O2-C7
2	A	601	HI6	N3-C8-O2-C7
2	A	601	HI6	N2-C7-O2-C8
4	A	604	P6G	C12-C11-O10-C9
3	A	603	NAG	C4-C5-C6-O6

There are no ring outliers.

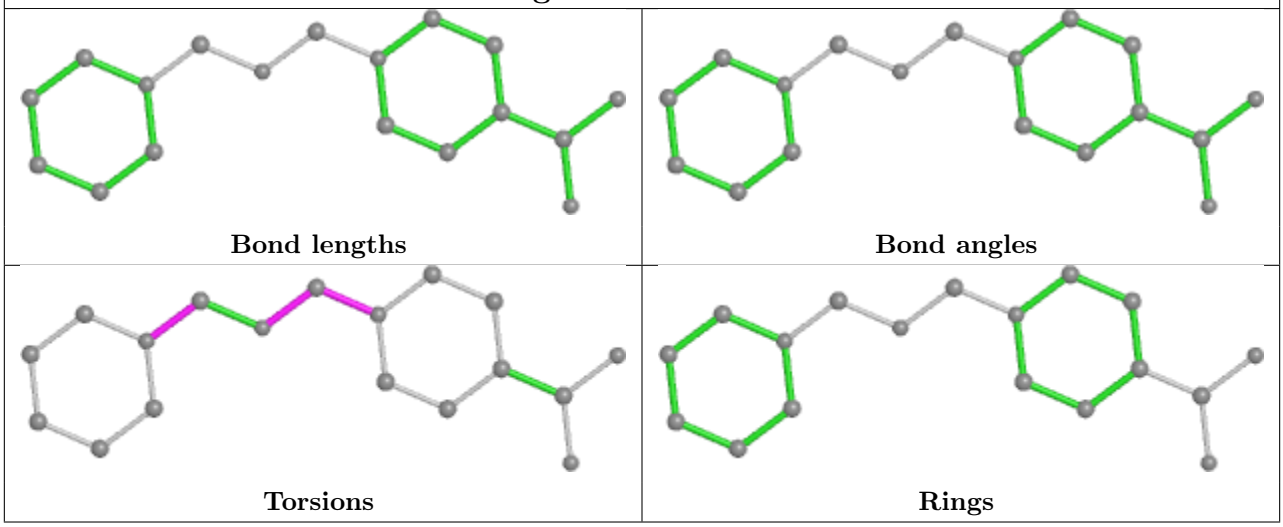
4 monomers are involved in 26 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	602	NAG	1	0
2	B	601	HI6	9	0
4	A	604	P6G	5	0
2	A	601	HI6	11	0

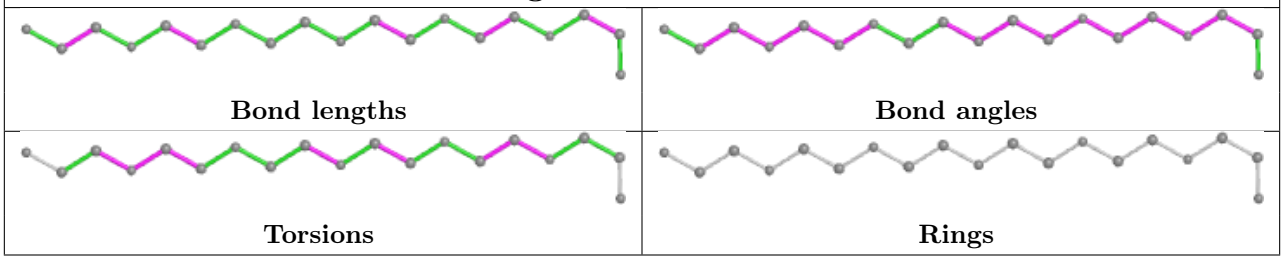
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

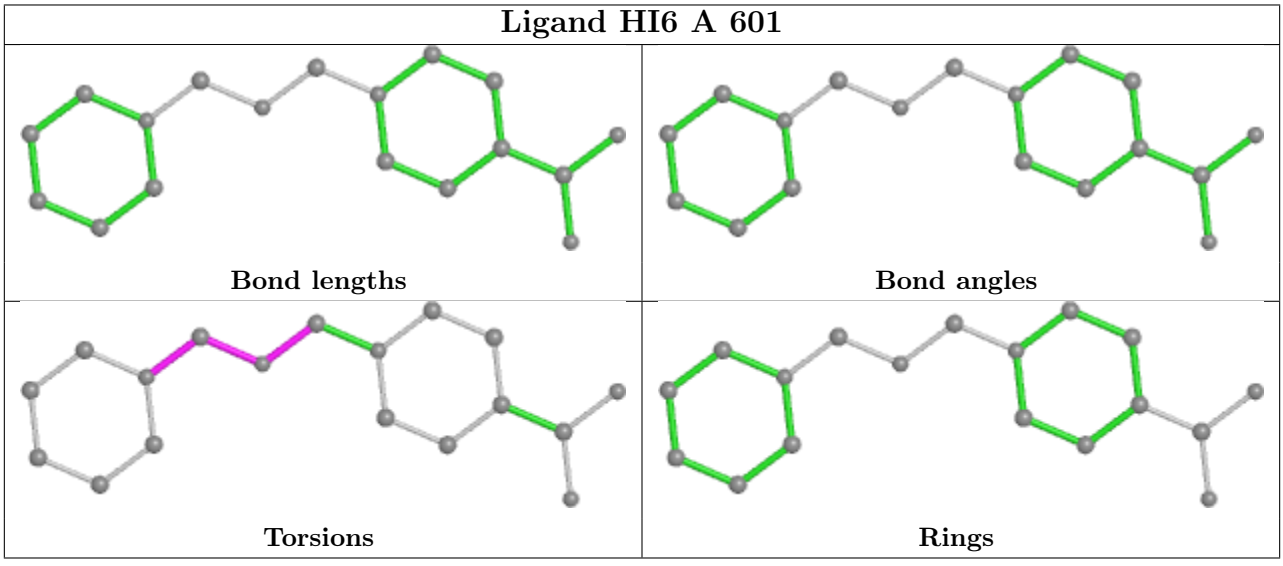
Ligand HI6 B 601



Ligand P6G A 604



Ligand HI6 A 601



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	538/548 (98%)	-0.63	8 (1%)	73	76	29, 45, 83, 159	0
1	B	532/548 (97%)	-0.56	1 (0%)	95	96	29, 52, 85, 145	0
All	All	1070/1096 (97%)	-0.59	9 (0%)	86	87	29, 48, 84, 159	0

All (9) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	496	LYS	4.1
1	A	493	ARG	3.3
1	A	494	ASP	3.3
1	A	495	SER	2.9
1	A	542	ALA	2.6
1	A	543	THR	2.5
1	B	497	SER	2.4
1	A	544	ALA	2.3
1	A	545	THR	2.2

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

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
1	SXE	A	203[A]	15/16	0.98	0.24	32,39,55,58	15
1	SXE	A	203[B]	15/16	0.98	0.24	30,38,54,58	15
1	SXE	B	203[A]	15/16	0.98	0.17	37,54,64,67	15
1	SXE	B	203[B]	15/16	0.98	0.17	37,52,64,66	15

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

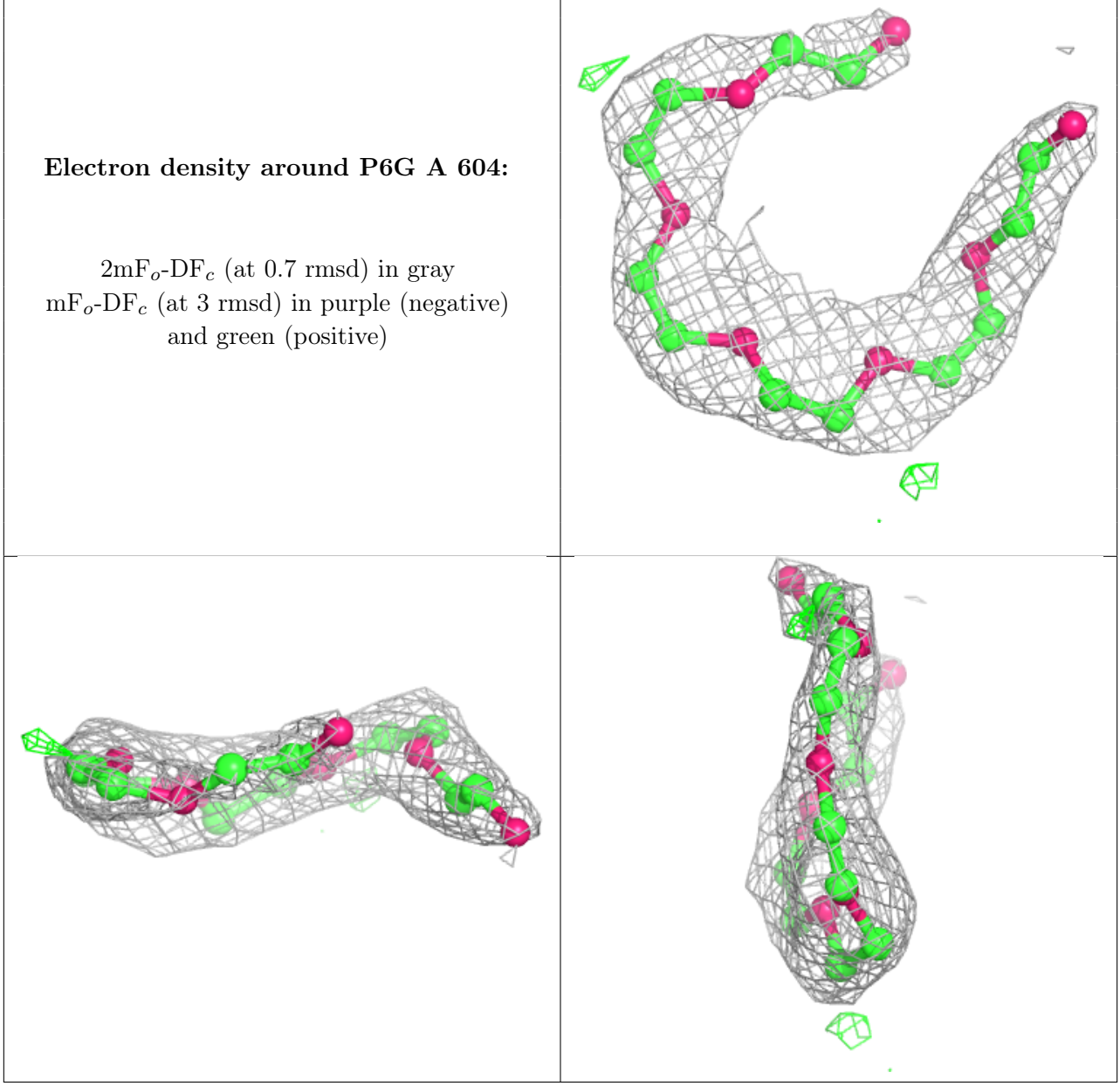
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' 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
3	NAG	A	603	14/15	0.81	0.34	106,119,126,126	0
3	NAG	A	602	14/15	0.83	0.28	87,110,117,118	0
5	CO3	A	605	4/4	0.83	0.17	78,82,82,86	0
5	CO3	B	602	4/4	0.87	0.19	87,87,94,98	0
4	P6G	A	604	19/19	0.94	0.20	46,81,100,100	0
2	HI6	A	601	18/21	0.94	0.17	56,71,88,89	0
2	HI6	B	601	18/21	0.94	0.17	78,93,106,108	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.

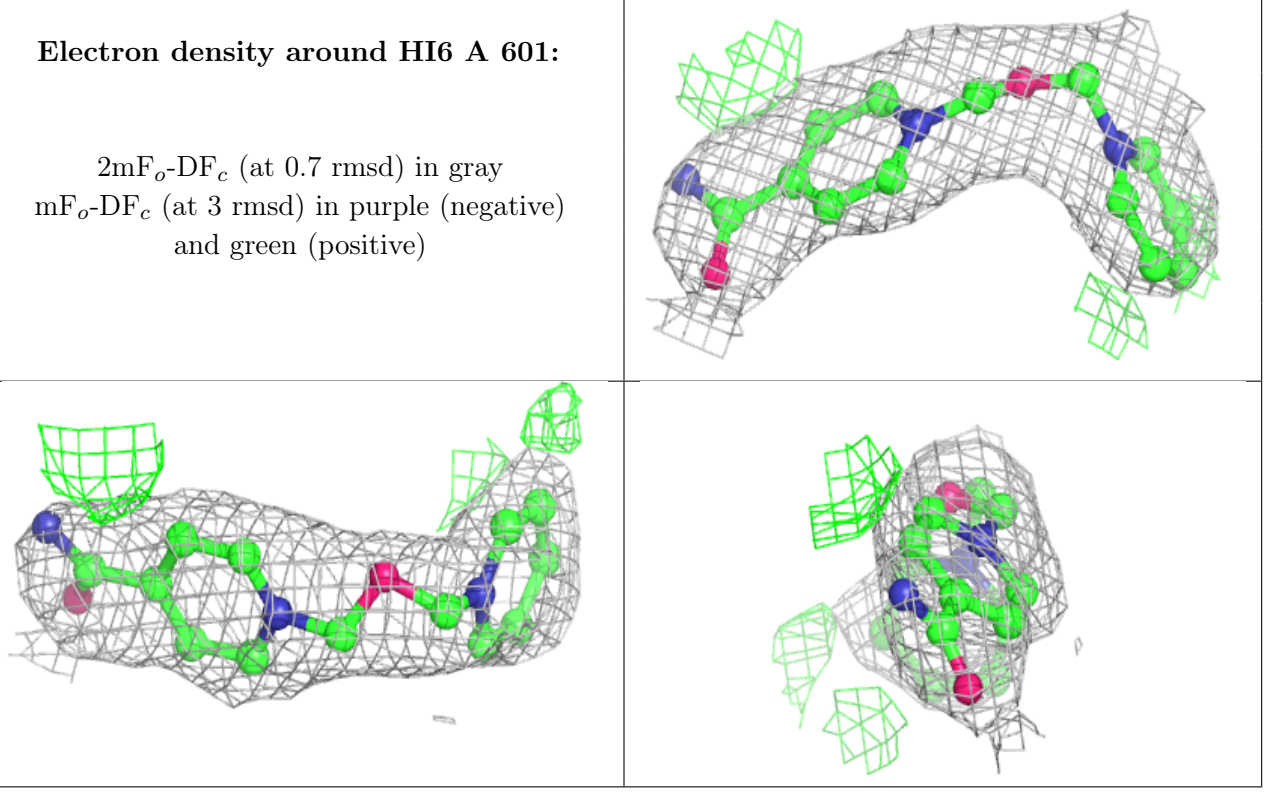
Electron density around P6G A 604:

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



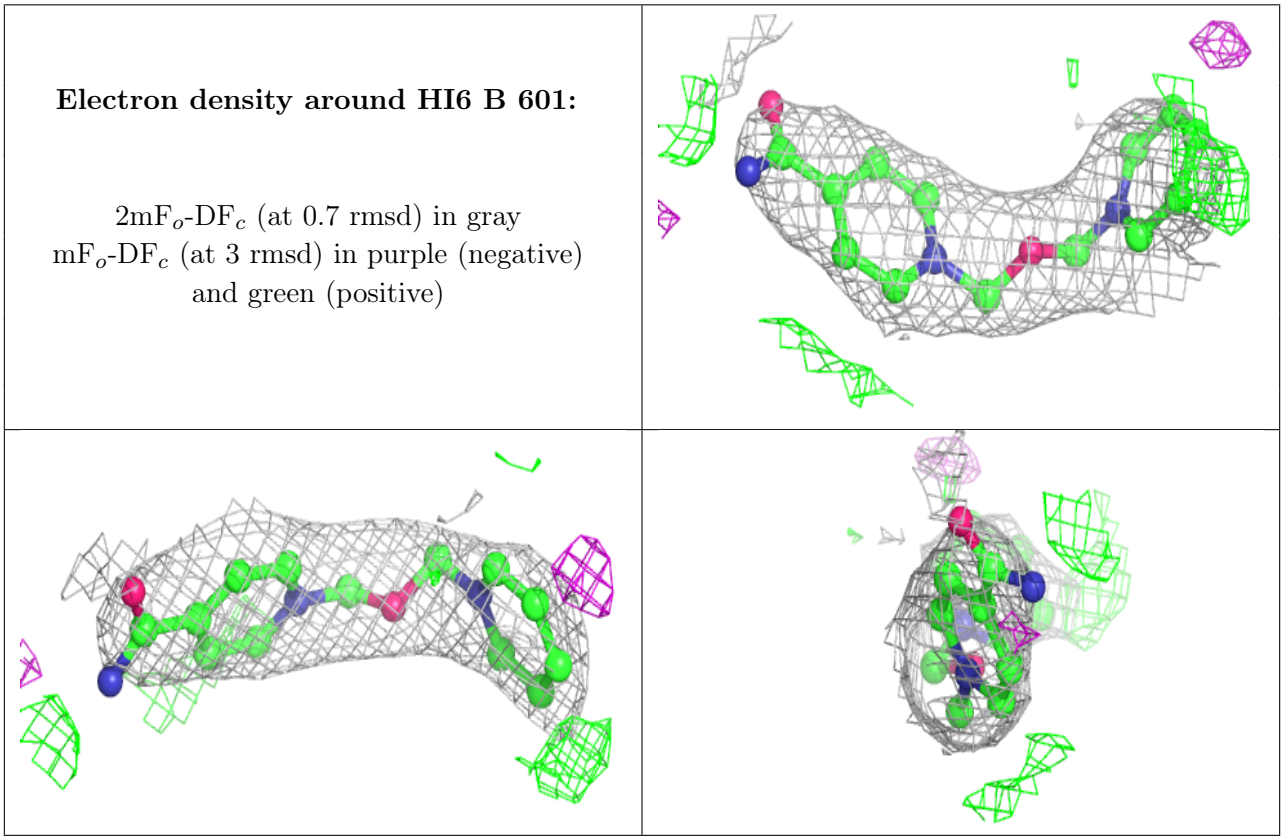
Electron density around HI6 A 601:

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



Electron density around HI6 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)



6.5 Other polymers (i)

There are no such residues in this entry.