Full wwPDB X-ray Structure Validation Report ⓘ

Feb 18, 2024 – 05:44 PM EST

PDB ID	:	4FOI
Title	:	Crystal Structure of recombinant human Hexokinase type I mutant D413N with Glucose 1,6-bisphosphate
Authors	:	Shen, L.; Honzatko, R.B.
Deposited on	:	2012-06-20
Resolution	:	2.40 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:

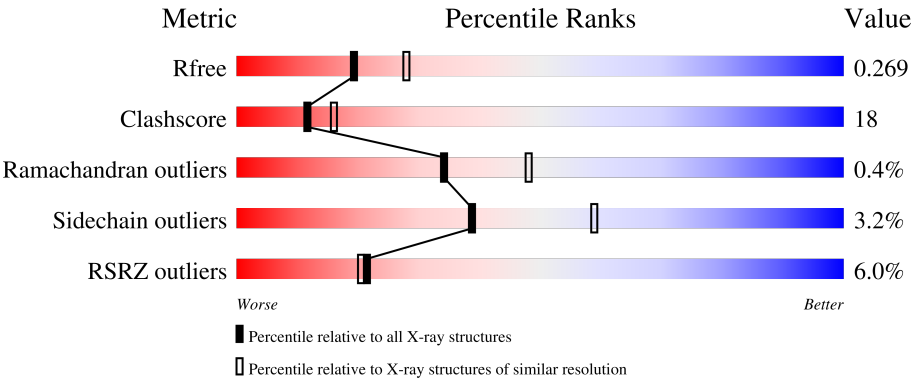
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.40 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	917	6% 68% 28%
1	B	917	6% 74% 22%

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
5	CIT	A	1007	-	-	-	X

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 14495 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.

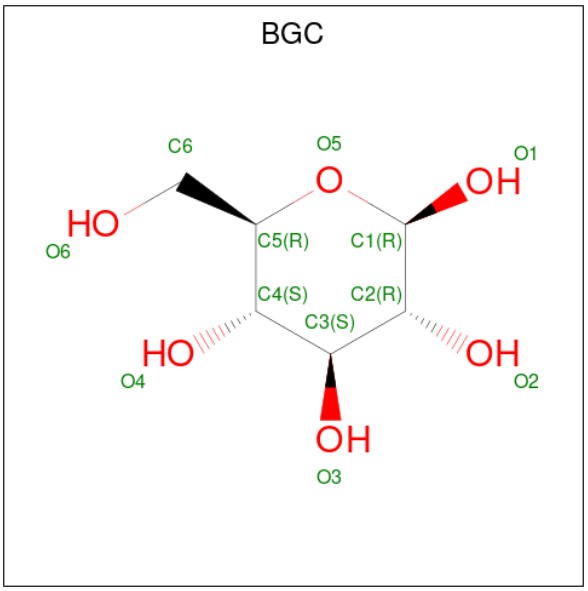
- Molecule 1 is a protein called Hexokinase-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	899	Total	C	N	O	S	0	0	0
			7032	4407	1241	1331	53			
1	B	899	Total	C	N	O	S	0	0	0
			7032	4407	1241	1331	53			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	413	ASN	ASP	engineered mutation	UNP P19367
B	413	ASN	ASP	engineered mutation	UNP P19367

- Molecule 2 is beta-D-glucopyranose (three-letter code: BGC) (formula: $C_6H_{12}O_6$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			12	6	6		

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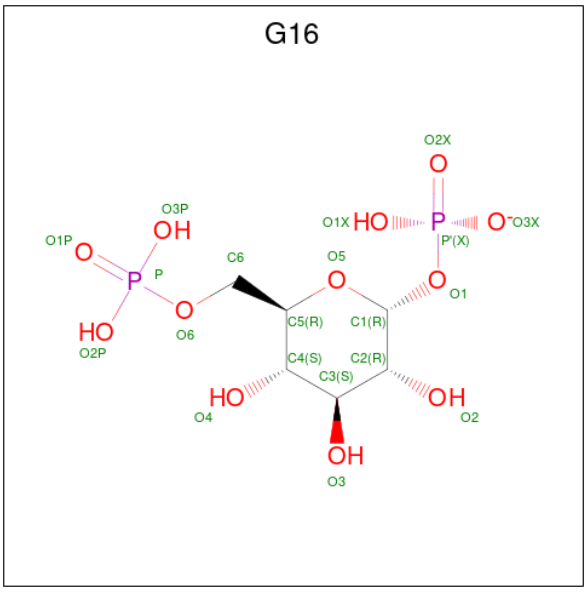
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C O 12 6 6	0	0
2	B	1	Total C O 12 6 6	0	0
2	B	1	Total C O 12 6 6	0	0

- Molecule 3 is 1,6-di-O-phosphono-alpha-D-glucopyranose (three-letter code: G16) (formula: $C_6H_{13}O_{12}P_2$).

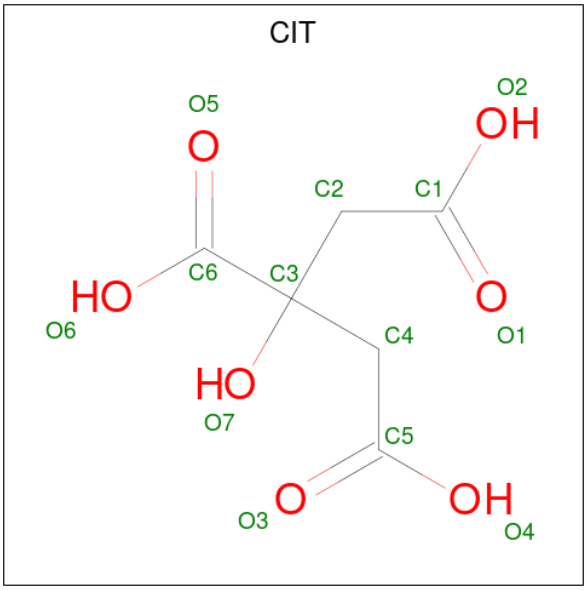


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O P 20 6 12 2	0	0
3	A	1	Total C O P 20 6 12 2	0	0
3	B	1	Total C O P 20 6 12 2	0	0
3	B	1	Total C O P 20 6 12 2	0	0

- Molecule 4 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	2	Total Na 2 2	0	0
4	B	2	Total Na 2 2	0	0

- Molecule 5 is CITRIC ACID (three-letter code: CIT) (formula: $C_6H_8O_7$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 13 6 7	0	0
5	B	1	Total C O 13 6 7	0	0

- Molecule 6 is water.

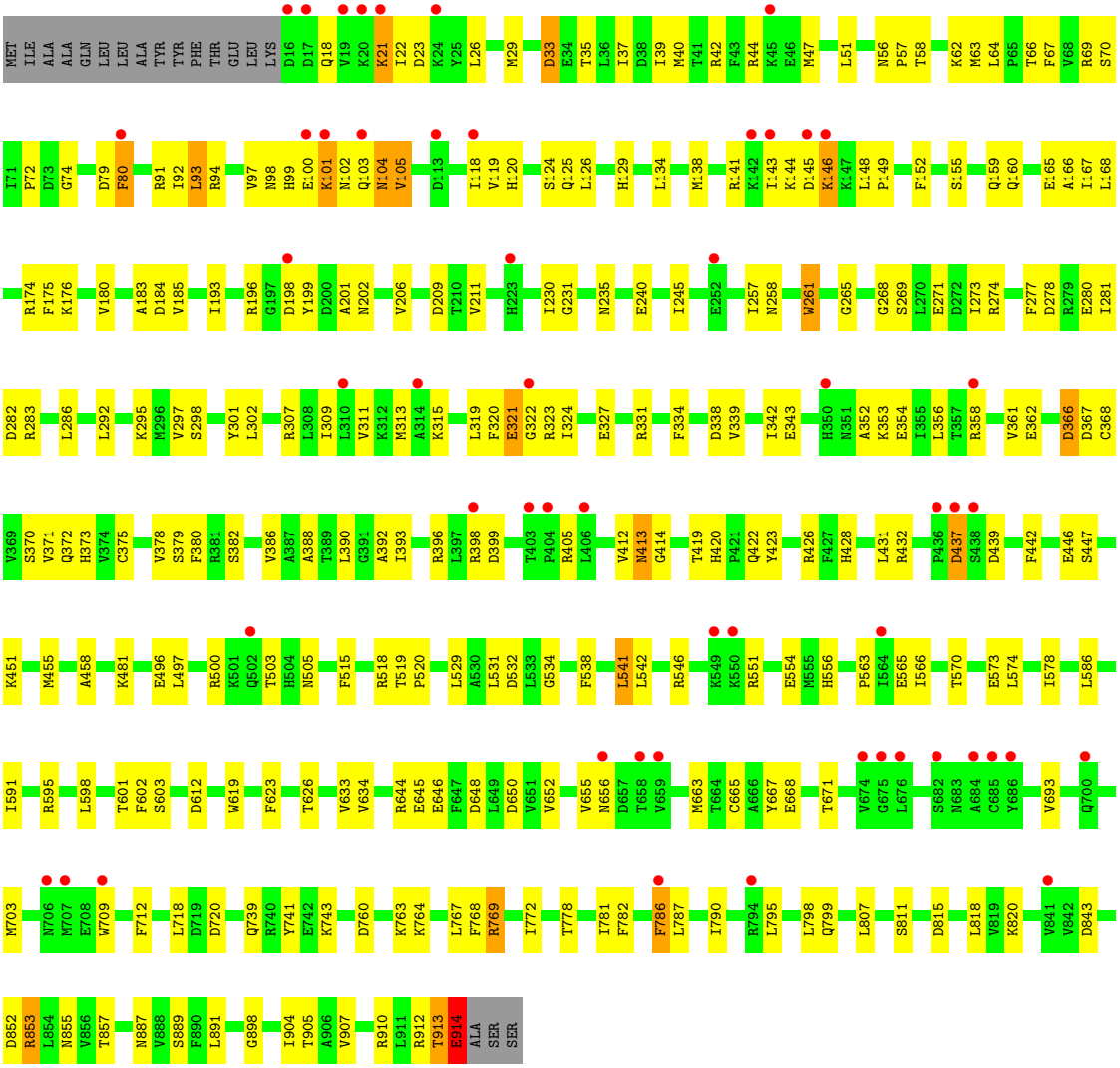
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	130	Total O 130 130	0	0
6	B	143	Total O 143 143	0	0

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.

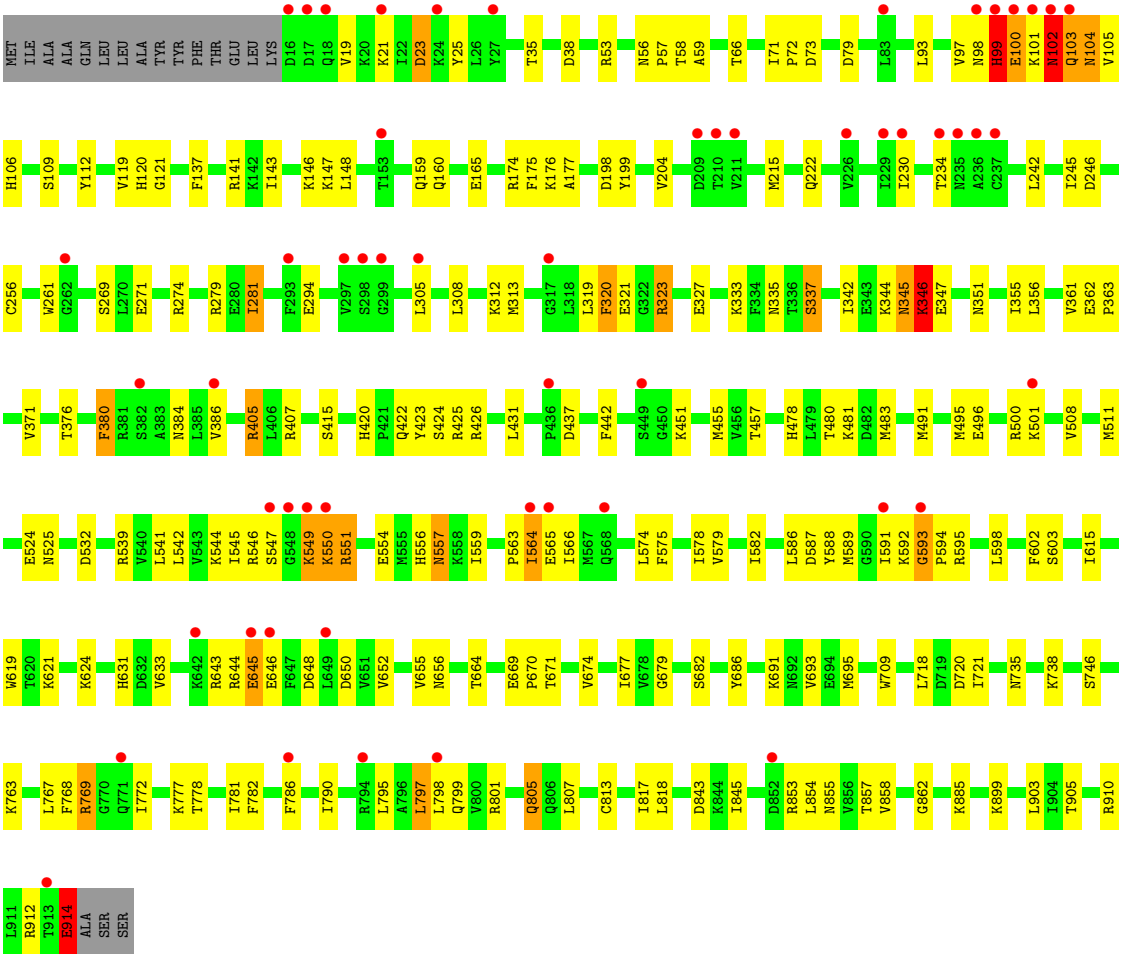
• Molecule 1: Hexokinase-1

Chain A:



• Molecule 1: Hexokinase-1

Chain B:


MET ILE ALA ALA GLN LEU LEU ALA TYR TYR PHE THR GLU LEU LYS D16 D17 Q18 V19 K20 K21 I22 D23 K24 Y25 L26 Y27 T35 D38 R53 N56 P57 T58 A59 T66 I71 P72 D73 D79 L83 L93 V97 N98 H99 E100 K101 N102 Q103 N104 V105
H106 S109 Y112 V119 H120 G121 F137 R141 K142 I143 K146 K147 L148 T153 Q159 Q160 E165 R174 F175 K176 A177 D198 Y199 V204 D209 T210 V211 M215 Q222 V226 I229 I230 T234 N235 A236 C237 L242 I245 D246
C256 W261 G262 S269 L270 E271 R274 R279 E280 I281 F293 E294 V297 S298 G299 L305 L308 K312 M313 G317 L318 L319 F320 E321 G322 R323 E327 K333 F334 N335 T336 S337 I342 E343 K344 N345 K346 E347 N351 I355 L356 V361 E362 P363
V371 T376 F380 R381 S382 A383 N384 L385 V386 R405 L406 R407 S415 H420 P421 Q422 Y423 S424 R425 R426 L431 P436 D437 F442 S449 G450 K451 M455 V456 T457 H478 L479 T480 K481 D482 M483 M491 M495 E496 R500 K501 V508 M511
E524 N525 D532 R539 V540 L541 L542 V543 K544 I545 R546 S547 G548 K549 K550 R551 E554 M555 H556 N557 K558 I559 P563 I564 E565 I566 M567 Q568 L574 F575 I578 V579 I582 L586 D587 Y588 M589 G590 I591 K592 G593 P594 R595 L598 F602 S603 I615
W619 T620 K621 K624 H631 D632 V633 K642 R643 R644 E645 E646 F647 D648 L649 D650 V651 V652 V655 N656 T664 E669 P670 T671 V674 I677 V678 G679 S682 Y686 K691 W692 V693 E694 H695 W709 L718 D719 D720 I721 N735 K738 S746
K763 L767 F768 R769 G770 Q771 I772 K777 T778 I781 F782 F786 I790 R794 L795 A796 L797 L798 Q799 V800 R801 Q805 Q806 L807 C813 I817 L818 D843 K844 I845 D852 R853 L854 N855 V856 T857 V858 G862 K885 K899 L903 I904 T905 R910
L911 R912 T913 E914 ALA SER SER

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	82.38Å 120.77Å 120.59Å 90.00° 92.80° 90.00°	Depositor
Resolution (Å)	35.41 – 2.40 35.41 – 2.40	Depositor EDS
% Data completeness (in resolution range)	98.5 (35.41-2.40) 98.5 (35.41-2.40)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.08 (at 2.39Å)	Xtriage
Refinement program	REFMAC 5.5.0066	Depositor
R, R_{free}	0.247 , 0.273 0.244 , 0.269	Depositor DCC
R_{free} test set	4524 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å^2)	45.7	Xtriage
Anisotropy	0.050	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 40.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	0.009 for -h,-l,-k 0.000 for -h,l,k 0.018 for h,-k,-l	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	14495	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 3.20% 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: CIT, G16, NA, BGC

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	0.26	1/7138 (0.0%)	0.47	1/9606 (0.0%)
1	B	0.27	1/7138 (0.0%)	0.47	1/9606 (0.0%)
All	All	0.27	2/14276 (0.0%)	0.47	2/19212 (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	B	0	3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	914	GLU	C-O	8.47	1.39	1.23
1	B	914	GLU	C-O	6.13	1.35	1.23

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	914	GLU	CA-C-O	17.38	156.60	120.10
1	B	914	GLU	CA-C-O	13.91	149.32	120.10

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	102	ASN	Peptide

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Mol	Chain	Res	Type	Group
1	B	345	ASN	Peptide
1	B	99	HIS	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	7032	0	7092	258	0
1	B	7032	0	7092	242	0
2	A	24	0	24	0	0
2	B	24	0	24	2	0
3	A	40	0	20	2	0
3	B	40	0	20	1	0
4	A	2	0	0	0	0
4	B	2	0	0	0	0
5	A	13	0	5	0	0
5	B	13	0	5	1	0
6	A	130	0	0	8	0
6	B	143	0	0	14	0
All	All	14495	0	14282	499	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 18.

All (499) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:99:HIS:N	1:B:100:GLU:HB3	1.29	1.47
1:A:496:GLU:HG3	1:A:500:ARG:NH1	1.13	1.45
1:B:323:ARG:NH1	1:B:362:GLU:HB2	1.38	1.34
1:A:496:GLU:CG	1:A:500:ARG:HH12	1.39	1.32
1:A:94:ARG:NH1	1:A:143:ILE:HD11	1.57	1.17
1:B:159:GLN:HG2	6:B:1204:HOH:O	1.44	1.15
1:B:563:PRO:HG2	1:B:566:ILE:HD12	1.25	1.11
1:B:595:ARG:HD2	1:B:648:ASP:OD2	1.50	1.10
1:B:103:GLN:OE1	1:B:103:GLN:HA	1.51	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:361:VAL:HB	6:A:1192:HOH:O	1.52	1.09
1:A:668:GLU:HG3	6:A:1204:HOH:O	0.90	1.07
1:A:101:LYS:HD2	1:A:101:LYS:N	1.66	1.05
1:A:820:LYS:NZ	6:A:1198:HOH:O	1.67	1.05
1:A:595:ARG:HD2	1:A:648:ASP:OD2	1.53	1.04
1:B:99:HIS:N	1:B:100:GLU:CB	2.21	1.03
1:A:176:LYS:HE2	6:A:1216:HOH:O	1.58	1.02
1:A:496:GLU:CG	1:A:500:ARG:NH1	2.09	1.01
1:B:99:HIS:H	1:B:100:GLU:CB	1.74	0.99
1:B:564:ILE:H	1:B:564:ILE:CD1	1.74	0.98
1:A:565:GLU:HG3	1:A:566:ILE:N	1.80	0.96
1:B:564:ILE:HD12	1:B:564:ILE:N	1.81	0.95
1:B:335:ASN:OD1	6:B:1150:HOH:O	1.85	0.95
1:A:98:ASN:OD1	1:A:101:LYS:HD3	1.65	0.95
1:B:345:ASN:N	1:B:346:LYS:HB3	1.82	0.95
1:B:563:PRO:CG	1:B:566:ILE:HD12	1.96	0.94
1:B:323:ARG:NH1	1:B:362:GLU:CB	2.30	0.93
1:B:797:LEU:HD11	1:B:817:ILE:HD11	1.49	0.93
1:A:913:THR:HG22	1:A:913:THR:O	1.65	0.93
1:B:795:LEU:HD11	1:B:799:GLN:HG2	1.51	0.92
1:B:323:ARG:HH12	1:B:362:GLU:HB2	1.37	0.89
1:B:323:ARG:HH11	1:B:362:GLU:HB2	1.20	0.89
1:B:564:ILE:H	1:B:564:ILE:HD12	1.34	0.89
1:A:97:VAL:HG22	1:A:105:VAL:HA	1.55	0.88
1:B:103:GLN:HG3	1:B:106:HIS:HB2	1.54	0.88
1:B:345:ASN:N	1:B:346:LYS:CB	2.36	0.88
1:A:343:GLU:HG3	1:A:420:HIS:CE1	2.10	0.87
1:B:99:HIS:H	1:B:100:GLU:HB3	1.06	0.87
1:A:591:ILE:HG22	1:A:591:ILE:O	1.74	0.87
1:B:321:GLU:CG	1:B:323:ARG:NH2	2.38	0.86
1:A:143:ILE:HG21	1:A:148:LEU:CD1	2.05	0.86
1:B:431:LEU:HD22	1:B:442:PHE:HZ	1.40	0.86
1:A:563:PRO:HG2	1:A:566:ILE:HD12	1.56	0.86
1:B:591:ILE:O	1:B:591:ILE:HG22	1.74	0.85
1:A:94:ARG:CZ	1:A:143:ILE:HD11	2.07	0.85
1:A:51:LEU:HD21	1:A:257:ILE:HD13	1.58	0.85
1:A:767:LEU:HG	1:A:818:LEU:HD23	1.57	0.85
1:B:563:PRO:HG2	1:B:566:ILE:CD1	2.07	0.85
1:B:102:ASN:HA	1:B:104:ASN:N	1.93	0.83
1:A:101:LYS:N	1:A:101:LYS:CD	2.40	0.83
1:A:518:ARG:HH21	1:A:910:ARG:HH22	1.26	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:768:PHE:HA	1:B:769:ARG:NH2	1.94	0.83
1:B:650:ASP:OD2	1:B:912:ARG:NH2	2.12	0.83
1:A:143:ILE:HG21	1:A:148:LEU:HD12	1.59	0.82
1:A:320:PHE:CG	1:A:361:VAL:HG11	2.14	0.82
1:B:420:HIS:HD2	1:B:423:TYR:H	1.24	0.82
1:B:99:HIS:CA	1:B:100:GLU:HB3	2.10	0.81
1:A:518:ARG:HH21	1:A:910:ARG:NH2	1.80	0.80
1:B:98:ASN:HB2	1:B:100:GLU:HG2	1.64	0.80
1:A:763:LYS:HG3	1:A:772:ILE:HD11	1.65	0.79
1:B:323:ARG:HH11	1:B:362:GLU:CB	1.92	0.79
1:A:160:GLN:HG2	1:A:165:GLU:O	1.83	0.78
1:A:565:GLU:CG	1:A:566:ILE:N	2.46	0.78
1:A:380:PHE:HD2	1:A:426:ARG:HD3	1.49	0.77
1:A:79:ASP:OD1	1:A:148:LEU:HD22	1.82	0.77
1:B:356:LEU:HD11	1:B:371:VAL:HG21	1.65	0.77
1:B:321:GLU:HG3	1:B:323:ARG:NH2	1.99	0.77
1:A:143:ILE:HG22	1:A:143:ILE:O	1.82	0.77
1:A:431:LEU:HD23	1:A:442:PHE:HZ	1.47	0.76
1:B:103:GLN:OE1	1:B:103:GLN:CA	2.33	0.76
1:A:281:ILE:HD12	6:A:1229:HOH:O	1.85	0.75
1:B:321:GLU:CG	1:B:323:ARG:HH21	2.00	0.74
1:A:343:GLU:HG3	1:A:420:HIS:HE1	1.52	0.74
1:A:380:PHE:CD2	1:A:426:ARG:HD3	2.23	0.73
1:A:145:ASP:O	1:A:146:LYS:CB	2.37	0.72
1:A:320:PHE:CD1	1:A:361:VAL:HG11	2.24	0.72
1:B:344:LYS:HB3	1:B:346:LYS:HG2	1.71	0.71
1:A:40:MET:HG3	1:A:388:ALA:O	1.91	0.71
1:B:778:THR:O	1:B:781:ILE:HG12	1.91	0.71
1:B:546:ARG:O	1:B:551:ARG:HA	1.92	0.70
1:B:508:VAL:HG22	6:B:1242:HOH:O	1.91	0.70
1:B:405:ARG:HB3	1:B:405:ARG:HH11	1.56	0.70
1:B:321:GLU:CB	1:B:323:ARG:HH21	2.05	0.69
1:A:309:ILE:O	1:A:313:MET:HG3	1.91	0.69
1:B:346:LYS:HG3	1:B:347:GLU:HG2	1.75	0.69
1:B:160:GLN:HG2	1:B:165:GLU:O	1.92	0.69
1:A:769:ARG:NH2	1:A:815:ASP:OD2	2.25	0.69
1:A:437:ASP:OD1	1:A:437:ASP:N	2.25	0.68
1:B:595:ARG:CD	1:B:648:ASP:OD2	2.36	0.68
1:B:674:VAL:HB	1:B:858:VAL:HG22	1.76	0.68
1:A:145:ASP:O	1:A:146:LYS:HG3	1.92	0.68
1:B:797:LEU:CD1	1:B:817:ILE:HD11	2.23	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:159:GLN:HB3	1:A:167:ILE:HB	1.74	0.67
1:A:420:HIS:HD2	1:A:423:TYR:N	1.92	0.67
1:A:913:THR:O	1:A:913:THR:CG2	2.38	0.67
1:B:344:LYS:HB3	1:B:346:LYS:HB3	1.76	0.67
1:B:21:LYS:NZ	1:B:21:LYS:HB3	2.09	0.67
1:B:102:ASN:HA	1:B:104:ASN:H	1.58	0.67
1:B:602:PHE:CE2	1:B:633:VAL:HG11	2.30	0.66
1:A:591:ILE:O	1:A:591:ILE:CG2	2.43	0.66
1:B:405:ARG:HD2	1:B:437:ASP:HB3	1.77	0.66
1:B:345:ASN:H	1:B:346:LYS:CB	2.09	0.66
1:A:786:PHE:CD2	1:A:807:LEU:HD11	2.31	0.66
1:A:145:ASP:O	1:A:146:LYS:HB2	1.95	0.66
1:A:245:ILE:HG12	1:A:257:ILE:HD11	1.75	0.66
1:A:100:GLU:C	1:A:101:LYS:HD2	2.15	0.65
1:B:103:GLN:O	1:B:104:ASN:C	2.34	0.65
1:B:98:ASN:HB2	1:B:100:GLU:CG	2.25	0.65
1:B:524:GLU:O	1:B:547:SER:HB3	1.96	0.65
1:B:174:ARG:NH1	6:B:1177:HOH:O	2.29	0.65
1:A:565:GLU:CG	1:A:566:ILE:H	2.10	0.65
1:B:345:ASN:H	1:B:346:LYS:HB2	1.62	0.64
1:B:575:PHE:O	1:B:579:VAL:HG23	1.97	0.64
1:B:415:SER:HB2	6:B:1239:HOH:O	1.98	0.64
1:B:813:CYS:O	1:B:817:ILE:HG12	1.98	0.64
1:A:420:HIS:HD2	1:A:423:TYR:H	1.46	0.63
1:B:565:GLU:OE1	1:B:565:GLU:N	2.20	0.63
1:B:782:PHE:HD1	1:B:786:PHE:CE1	2.16	0.63
1:B:345:ASN:N	1:B:346:LYS:HB2	2.12	0.63
1:A:786:PHE:CZ	1:A:790:ILE:HG13	2.34	0.63
1:B:159:GLN:CG	6:B:1204:HOH:O	2.20	0.63
1:B:344:LYS:C	1:B:346:LYS:HB3	2.19	0.63
1:B:347:GLU:HB2	1:B:351:ASN:ND2	2.14	0.63
1:A:356:LEU:HD11	1:A:371:VAL:HG21	1.81	0.62
1:A:768:PHE:HE1	1:A:811:SER:HB3	1.65	0.62
1:B:346:LYS:CE	1:B:346:LYS:HA	2.29	0.62
1:B:598:LEU:HD23	1:B:598:LEU:C	2.20	0.62
1:B:321:GLU:HB2	1:B:323:ARG:HH21	1.64	0.62
1:A:431:LEU:CD2	1:A:442:PHE:HZ	2.13	0.62
1:A:176:LYS:CE	6:A:1216:HOH:O	2.30	0.62
1:B:914:GLU:C	1:B:914:GLU:OE1	2.39	0.62
1:B:79:ASP:HB3	1:B:148:LEU:HD22	1.82	0.61
1:B:346:LYS:HA	1:B:346:LYS:HE3	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:644:ARG:C	1:B:645:GLU:HG3	2.20	0.61
1:A:143:ILE:HG21	1:A:148:LEU:HD11	1.82	0.61
1:A:320:PHE:HB3	1:A:361:VAL:CG1	2.30	0.61
1:A:56:ASN:N	1:A:57:PRO:HD2	2.14	0.61
1:B:420:HIS:HD2	1:B:423:TYR:N	1.97	0.61
1:B:420:HIS:CD2	1:B:423:TYR:H	2.13	0.61
1:A:144:LYS:HD3	1:A:199:TYR:HB3	1.81	0.61
1:A:176:LYS:HG3	1:A:286:LEU:HG	1.83	0.61
1:A:361:VAL:HG12	1:A:362:GLU:N	2.15	0.61
1:B:772:ILE:HG22	1:B:777:LYS:HD2	1.83	0.61
1:A:529:LEU:HD11	1:A:586:LEU:HD21	1.83	0.61
1:B:541:LEU:HG	1:B:557:ASN:HB3	1.83	0.60
1:A:143:ILE:O	1:A:145:ASP:O	2.19	0.60
1:B:587:ASP:OD1	1:B:592:LYS:HD2	2.01	0.60
1:A:268:GLY:HA2	1:A:271:GLU:HG2	1.82	0.60
1:A:778:THR:HB	1:A:781:ILE:HD13	1.83	0.60
1:A:167:ILE:HD12	1:A:167:ILE:N	2.17	0.60
1:B:346:LYS:HG3	1:B:347:GLU:H	1.66	0.60
1:A:913:THR:O	1:A:914:GLU:CD	2.40	0.60
1:B:644:ARG:HD3	1:B:646:GLU:OE1	2.02	0.59
1:A:143:ILE:O	1:A:143:ILE:CG2	2.48	0.59
1:B:491:MET:O	1:B:495:MET:HG3	2.01	0.59
1:B:361:VAL:O	1:B:363:PRO:HD3	2.01	0.59
1:A:795:LEU:HD11	1:A:799:GLN:HG2	1.83	0.59
1:B:344:LYS:HB3	1:B:346:LYS:CG	2.31	0.59
1:B:564:ILE:H	1:B:564:ILE:HD13	1.64	0.59
1:B:102:ASN:HB2	1:B:104:ASN:ND2	2.17	0.59
1:A:798:LEU:HD23	1:A:798:LEU:C	2.23	0.59
1:B:59:ALA:HB1	6:B:1110:HOH:O	2.03	0.59
1:B:767:LEU:HG	1:B:818:LEU:HD23	1.85	0.59
1:A:93:LEU:N	1:A:93:LEU:HD12	2.18	0.59
1:A:320:PHE:O	1:A:323:ARG:HG3	2.02	0.58
1:B:431:LEU:HD22	1:B:442:PHE:CZ	2.31	0.58
1:A:119:VAL:HG13	1:A:175:PHE:CD1	2.38	0.58
1:A:431:LEU:HD23	1:A:442:PHE:CZ	2.36	0.58
1:B:335:ASN:ND2	1:B:337:SER:HB2	2.18	0.58
1:B:735:ASN:HB2	1:B:738:LYS:HE3	1.84	0.58
1:A:145:ASP:O	1:A:146:LYS:CG	2.52	0.58
1:A:315:LYS:HA	1:A:324:ILE:HD11	1.86	0.58
1:B:582:ILE:O	1:B:586:LEU:HG	2.03	0.58
1:A:786:PHE:CE2	1:A:790:ILE:HD11	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:496:GLU:CD	1:A:500:ARG:HH12	2.06	0.57
1:A:570:THR:OG1	1:A:573:GLU:HG3	2.04	0.57
1:A:652:VAL:HB	1:A:905:THR:HG23	1.87	0.57
1:B:99:HIS:CA	1:B:100:GLU:CB	2.80	0.57
1:A:428:HIS:O	1:A:432:ARG:HG2	2.04	0.57
1:A:497:LEU:O	1:A:503:THR:HG23	2.05	0.57
1:A:798:LEU:HD23	1:A:798:LEU:O	2.05	0.57
1:B:621:LYS:HE2	2:B:1003:BGC:O5	2.04	0.57
1:A:307:ARG:O	1:A:311:VAL:HG23	2.05	0.57
1:B:320:PHE:C	1:B:323:ARG:HH21	2.07	0.57
1:B:351:ASN:O	1:B:355:ILE:HG12	2.05	0.56
1:B:619:TRP:CD1	1:B:624:LYS:HA	2.41	0.56
1:B:693:VAL:HG12	1:B:693:VAL:O	2.05	0.56
1:A:21:LYS:HB2	1:A:21:LYS:NZ	2.20	0.56
1:A:302:LEU:HD22	1:A:378:VAL:HG12	1.87	0.56
1:A:570:THR:HA	1:A:626:THR:OG1	2.06	0.56
1:B:574:LEU:O	1:B:578:ILE:HG12	2.06	0.56
1:A:105:VAL:HG11	1:A:451:LYS:HE2	1.87	0.56
1:A:168:LEU:HD23	1:A:180:VAL:HG12	1.87	0.56
1:B:425:ARG:HH22	5:B:1007:CIT:H22	1.71	0.56
1:B:686:TYR:CD2	1:B:845:ILE:HD11	2.41	0.56
1:A:375:CYS:O	1:A:379:SER:HB3	2.06	0.55
1:B:578:ILE:O	1:B:582:ILE:HG13	2.05	0.55
1:B:542:LEU:HD11	1:B:544:LYS:HE3	1.86	0.55
1:B:525:ASN:HA	1:B:545:ILE:O	2.06	0.55
1:B:98:ASN:ND2	1:B:100:GLU:HG3	2.22	0.55
1:A:853:ARG:HH11	1:A:853:ARG:HG2	1.72	0.55
1:A:58:THR:OG1	1:B:799:GLN:NE2	2.40	0.54
1:B:545:ILE:HD13	1:B:903:LEU:HD23	1.89	0.54
1:A:912:ARG:O	1:A:914:GLU:N	2.37	0.54
1:B:346:LYS:HG3	1:B:347:GLU:N	2.21	0.54
1:A:760:ASP:O	1:A:764:LYS:HG2	2.07	0.54
1:B:313:MET:CB	1:B:319:LEU:HD12	2.37	0.54
1:A:98:ASN:OD1	1:A:101:LYS:CD	2.47	0.54
1:A:446:GLU:HG3	1:A:447:SER:N	2.23	0.54
1:B:98:ASN:HD21	1:B:101:LYS:HB2	1.73	0.54
1:A:307:ARG:NH2	1:A:331:ARG:HA	2.23	0.54
1:B:405:ARG:CD	1:B:437:ASP:HB3	2.38	0.54
1:B:643:ARG:O	1:B:645:GLU:CG	2.56	0.54
1:A:398:ARG:NH1	1:A:398:ARG:HB3	2.23	0.54
1:A:413:ASN:ND2	1:A:414:GLY:H	2.05	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:323:ARG:HH11	1:B:362:GLU:CG	2.20	0.54
1:B:344:LYS:HB3	1:B:346:LYS:CB	2.36	0.54
1:B:58:THR:HG22	1:B:58:THR:O	2.06	0.54
1:A:165:GLU:HG3	1:A:184:ASP:OD2	2.08	0.53
1:A:671:THR:OG1	1:A:857:THR:HG23	2.08	0.53
1:A:767:LEU:CG	1:A:818:LEU:HD23	2.35	0.53
1:B:650:ASP:CG	1:B:912:ARG:HH22	2.07	0.53
1:A:496:GLU:HG3	1:A:500:ARG:HH11	1.51	0.53
1:B:321:GLU:HG2	1:B:323:ARG:NH2	2.21	0.53
1:A:240:GLU:HB3	1:A:257:ILE:HD12	1.90	0.53
1:B:21:LYS:HB3	1:B:21:LYS:HZ2	1.72	0.53
1:B:361:VAL:HG12	1:B:362:GLU:N	2.23	0.53
1:A:104:ASN:O	1:A:105:VAL:C	2.47	0.53
1:A:342:ILE:O	1:A:372:GLN:HG3	2.08	0.53
1:B:591:ILE:O	1:B:591:ILE:CG2	2.47	0.53
1:A:563:PRO:HG2	1:A:566:ILE:CD1	2.34	0.53
1:A:39:ILE:HD11	1:A:273:ILE:HG12	1.90	0.53
1:A:283:ARG:HD2	1:B:559:ILE:O	2.09	0.53
1:B:198:ASP:HB3	1:B:199:TYR:HD1	1.74	0.53
1:B:313:MET:HB2	1:B:319:LEU:HD12	1.91	0.53
1:A:72:PRO:HG3	1:A:455:MET:HB3	1.90	0.53
1:A:297:VAL:HG13	1:A:382:SER:OG	2.08	0.53
1:A:505:ASN:HB2	6:A:1205:HOH:O	2.08	0.53
1:B:281:ILE:HG13	1:B:305:LEU:HD13	1.90	0.52
1:A:321:GLU:HB2	1:A:323:ARG:NH1	2.24	0.52
1:A:414:GLY:HA2	3:A:1002:G16:O6	2.09	0.52
1:B:679:GLY:O	1:B:746:SER:HB2	2.08	0.52
1:A:26:LEU:HD22	1:A:29:MET:CE	2.39	0.52
1:B:346:LYS:CG	1:B:347:GLU:H	2.21	0.52
1:A:94:ARG:CZ	1:A:143:ILE:CD1	2.84	0.52
1:B:782:PHE:CD1	1:B:786:PHE:CE1	2.97	0.52
1:B:539:ARG:HG3	1:B:541:LEU:HD11	1.92	0.51
1:B:541:LEU:HG	1:B:557:ASN:CB	2.40	0.51
1:A:166:ALA:HB3	1:A:185:VAL:HG22	1.92	0.51
1:B:347:GLU:HB2	1:B:351:ASN:HD21	1.74	0.51
1:A:91:ARG:HG2	1:A:92:ILE:N	2.24	0.51
1:A:98:ASN:CG	1:A:101:LYS:HD3	2.30	0.51
1:B:664:THR:HG23	1:B:899:LYS:HD3	1.92	0.51
1:B:786:PHE:CD2	1:B:807:LEU:HD11	2.45	0.51
1:B:798:LEU:O	1:B:798:LEU:HD23	2.10	0.51
1:A:295:LYS:HA	1:A:301:TYR:CD2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:71:ILE:HA	1:B:215:MET:SD	2.51	0.51
1:B:119:VAL:CG1	1:B:175:PHE:HA	2.41	0.51
1:A:18:GLN:HE22	1:A:366:ASP:HB3	1.74	0.51
1:B:644:ARG:C	1:B:645:GLU:CG	2.78	0.51
1:B:103:GLN:O	1:B:105:VAL:N	2.44	0.51
1:B:198:ASP:HB3	1:B:199:TYR:CD1	2.46	0.51
1:B:320:PHE:O	1:B:323:ARG:NH2	2.44	0.51
1:B:655:VAL:HG12	1:B:656:ASN:O	2.11	0.51
1:B:644:ARG:NE	1:B:646:GLU:OE1	2.44	0.51
1:A:66:THR:O	1:A:67:PHE:HB2	2.11	0.50
1:B:56:ASN:N	1:B:57:PRO:HD2	2.26	0.50
1:B:910:ARG:O	1:B:914:GLU:HB3	2.12	0.50
1:B:98:ASN:ND2	1:B:101:LYS:HB2	2.25	0.50
1:B:279:ARG:HD2	6:B:1218:HOH:O	2.11	0.50
1:B:588:TYR:CD2	1:B:589:MET:CE	2.94	0.50
1:A:574:LEU:O	1:A:578:ILE:HG12	2.10	0.50
1:B:242:LEU:HD12	1:B:245:ILE:HD12	1.93	0.50
1:B:79:ASP:HB3	1:B:148:LEU:CD2	2.41	0.50
1:B:320:PHE:O	1:B:323:ARG:HB2	2.12	0.50
1:A:271:GLU:OE1	1:A:271:GLU:HA	2.11	0.50
1:B:269:SER:HB3	6:B:1230:HOH:O	2.11	0.49
1:B:615:ILE:HA	1:B:631:HIS:O	2.12	0.49
1:A:98:ASN:HB3	1:A:103:GLN:OE1	2.13	0.49
1:A:645:GLU:O	1:A:645:GLU:HG2	2.13	0.49
1:B:35:THR:O	1:B:38:ASP:HB3	2.12	0.49
1:A:786:PHE:O	1:A:790:ILE:HG12	2.12	0.49
1:B:643:ARG:O	1:B:645:GLU:HG2	2.13	0.49
1:A:541:LEU:HD22	1:A:898:GLY:HA3	1.93	0.49
1:B:549:LYS:HD2	1:B:550:LYS:HB2	1.93	0.49
1:B:671:THR:OG1	1:B:857:THR:HG23	2.13	0.49
1:A:718:LEU:C	1:A:720:ASP:N	2.66	0.49
1:B:320:PHE:O	1:B:321:GLU:HB2	2.13	0.49
1:B:588:TYR:CD2	1:B:589:MET:HE2	2.48	0.49
1:B:380:PHE:CD2	1:B:426:ARG:HD3	2.48	0.49
1:B:644:ARG:CD	1:B:646:GLU:OE1	2.61	0.49
1:A:339:VAL:O	1:A:343:GLU:HG2	2.13	0.48
1:A:612:ASP:O	1:A:634:VAL:HG21	2.13	0.48
1:B:541:LEU:HD12	1:B:541:LEU:N	2.28	0.48
1:B:854:LEU:HD12	1:B:855:ASN:N	2.28	0.48
1:A:22:ILE:HD11	1:A:370:SER:HB3	1.94	0.48
1:A:79:ASP:OD1	1:A:148:LEU:CD2	2.57	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:152:PHE:HB3	1:A:206:VAL:HG22	1.95	0.48
1:B:234:THR:HG22	1:B:294:GLU:HG3	1.94	0.48
1:A:69:ARG:O	1:A:70:SER:HB3	2.14	0.48
1:B:105:VAL:HG11	1:B:451:LYS:HE2	1.94	0.48
1:B:320:PHE:CG	1:B:361:VAL:HG11	2.48	0.48
1:A:390:LEU:HD23	1:A:431:LEU:HD22	1.96	0.48
1:B:143:ILE:HD12	1:B:148:LEU:HD12	1.96	0.48
1:B:98:ASN:C	1:B:100:GLU:HB3	2.20	0.48
1:B:786:PHE:O	1:B:790:ILE:HG22	2.13	0.48
1:A:35:THR:O	1:A:39:ILE:HG12	2.14	0.48
1:A:39:ILE:HD13	1:A:42:ARG:HH21	1.78	0.48
1:A:230:ILE:HD11	1:A:386:VAL:HG11	1.96	0.48
1:B:420:HIS:CD2	1:B:423:TYR:HB2	2.49	0.48
1:B:335:ASN:HD22	1:B:337:SER:HB2	1.78	0.47
1:B:480:THR:OG1	1:B:483:MET:HG3	2.14	0.47
1:A:598:LEU:C	1:A:598:LEU:HD23	2.34	0.47
1:A:80:PHE:CZ	1:A:458:ALA:HB2	2.50	0.47
1:A:412:VAL:HG12	1:A:413:ASN:N	2.28	0.47
1:B:691:LYS:HB2	6:B:1213:HOH:O	2.14	0.47
1:A:601:THR:HA	1:A:655:VAL:O	2.14	0.47
1:B:93:LEU:HG	1:B:109:SER:HB2	1.96	0.47
1:A:144:LYS:NZ	1:A:198:ASP:OD2	2.44	0.47
1:A:398:ARG:HB3	1:A:398:ARG:HH11	1.79	0.47
1:B:71:ILE:HB	1:B:72:PRO:HD2	1.97	0.47
1:A:667:TYR:CE2	1:A:668:GLU:OE2	2.67	0.47
1:B:327:GLU:O	1:B:333:LYS:HG3	2.15	0.47
1:A:265:GLY:HA2	1:A:269:SER:HB2	1.96	0.47
1:A:278:ASP:O	1:A:281:ILE:HG22	2.15	0.47
1:A:361:VAL:CG1	1:A:362:GLU:N	2.77	0.47
1:A:353:LYS:HA	1:A:368:CYS:SG	2.55	0.47
1:A:338:ASP:O	1:A:342:ILE:HD13	2.14	0.46
1:A:405:ARG:NE	1:A:439:ASP:OD2	2.47	0.46
1:A:145:ASP:C	1:A:146:LYS:HG3	2.35	0.46
1:A:240:GLU:CB	1:A:257:ILE:HD12	2.46	0.46
1:B:549:LYS:HD2	1:B:550:LYS:N	2.30	0.46
1:B:669:GLU:OE2	1:B:670:PRO:HD2	2.15	0.46
1:A:33:ASP:O	1:A:37:ILE:HG12	2.16	0.46
1:B:478:HIS:HB2	6:B:1227:HOH:O	2.16	0.46
1:A:258:ASN:C	1:A:258:ASN:OD1	2.53	0.46
1:A:307:ARG:HB2	1:A:334:PHE:HB3	1.98	0.46
1:A:66:THR:HG21	1:A:211:VAL:HG21	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:155:SER:HB3	1:A:209:ASP:OD2	2.16	0.46
1:A:393:ILE:O	1:A:396:ARG:HB3	2.16	0.46
1:A:320:PHE:CB	1:A:361:VAL:HG11	2.45	0.45
1:B:495:MET:HB3	1:B:511:MET:HE2	1.98	0.45
1:A:168:LEU:CD2	1:A:180:VAL:HG12	2.46	0.45
1:A:515:PHE:HA	1:A:703:MET:SD	2.56	0.45
1:A:518:ARG:HH22	1:A:907:VAL:HG22	1.81	0.45
1:A:518:ARG:NH2	1:A:907:VAL:HG22	2.31	0.45
1:A:619:TRP:HB3	1:A:623:PHE:O	2.16	0.45
1:A:782:PHE:CD1	1:A:786:PHE:CE1	3.04	0.45
1:A:913:THR:O	1:A:914:GLU:OE2	2.34	0.45
1:B:230:ILE:HD11	1:B:386:VAL:HG11	1.97	0.45
1:B:550:LYS:HD2	1:B:550:LYS:HA	1.66	0.45
1:A:367:ASP:O	1:A:371:VAL:HG23	2.17	0.45
1:B:772:ILE:CG2	1:B:777:LYS:HD2	2.47	0.45
1:A:231:GLY:O	1:A:298:SER:HB2	2.17	0.45
1:A:342:ILE:O	1:A:342:ILE:CG2	2.65	0.45
1:A:354:GLU:O	1:A:358:ARG:HG3	2.17	0.45
1:A:541:LEU:N	1:A:541:LEU:HD12	2.31	0.45
1:A:663:MET:HG3	1:A:904:ILE:HD11	1.99	0.45
1:A:565:GLU:HG3	1:A:566:ILE:H	1.67	0.45
1:B:323:ARG:HB2	1:B:323:ARG:HE	1.62	0.45
1:B:854:LEU:HD12	1:B:855:ASN:H	1.82	0.45
1:A:655:VAL:HG12	1:A:656:ASN:O	2.17	0.45
1:A:62:LYS:HB3	1:A:64:LEU:HD21	1.98	0.45
1:A:546:ARG:O	1:A:551:ARG:HA	2.17	0.45
1:B:53:ARG:HB3	1:B:246:ASP:HB3	1.99	0.45
1:B:146:LYS:HB2	1:B:148:LEU:HG	1.99	0.45
1:B:593:GLY:N	1:B:594:PRO:CD	2.80	0.45
1:A:23:ASP:OD1	1:A:373:HIS:NE2	2.39	0.44
1:A:44:ARG:HA	1:A:47:MET:HE2	1.99	0.44
1:B:376:THR:O	1:B:380:PHE:HB2	2.16	0.44
1:B:738:LYS:HE3	6:B:1107:HOH:O	2.17	0.44
1:B:798:LEU:HD23	1:B:798:LEU:C	2.38	0.44
1:A:134:LEU:O	1:A:138:MET:HG3	2.17	0.44
1:A:119:VAL:HG13	1:A:175:PHE:CG	2.52	0.44
1:B:801:ARG:O	1:B:805:GLN:HB2	2.17	0.44
1:A:853:ARG:HH11	1:A:853:ARG:CG	2.29	0.44
1:B:271:GLU:OE2	1:B:274:ARG:HD3	2.18	0.44
1:B:323:ARG:HH11	1:B:362:GLU:HG3	1.82	0.44
1:B:718:LEU:C	1:B:720:ASP:N	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:554:GLU:OE2	1:A:556:HIS:HE1	2.01	0.44
1:A:852:ASP:C	1:A:853:ARG:HD2	2.38	0.44
1:B:121:GLY:O	1:B:177:ALA:HA	2.18	0.44
1:A:602:PHE:CE2	1:A:633:VAL:HG11	2.53	0.44
1:A:152:PHE:O	1:A:206:VAL:HA	2.18	0.44
1:B:19:VAL:O	1:B:23:ASP:HB2	2.17	0.44
1:A:56:ASN:N	1:A:57:PRO:CD	2.80	0.43
1:A:320:PHE:HB3	1:A:361:VAL:HG11	1.96	0.43
1:B:112:TYR:OH	1:B:137:PHE:HB2	2.18	0.43
1:A:327:GLU:N	1:A:327:GLU:OE1	2.51	0.43
1:B:451:LYS:O	1:B:455:MET:HG2	2.18	0.43
1:B:677:ILE:O	1:B:682:SER:HA	2.18	0.43
1:A:62:LYS:O	1:A:63:MET:C	2.57	0.43
1:A:104:ASN:HD22	1:A:104:ASN:HA	1.58	0.43
1:A:422:GLN:O	1:A:426:ARG:HG3	2.17	0.43
1:B:281:ILE:HG12	1:B:308:LEU:HD12	2.00	0.43
1:A:405:ARG:HG3	1:A:437:ASP:O	2.18	0.43
1:A:739:GLN:O	1:A:743:LYS:HG3	2.18	0.43
1:B:73:ASP:OD1	1:B:73:ASP:C	2.57	0.43
1:B:147:LYS:O	1:B:147:LYS:HG2	2.19	0.43
1:B:644:ARG:O	1:B:645:GLU:HG3	2.18	0.43
1:A:277:PHE:CE1	1:A:309:ILE:HA	2.53	0.43
1:A:420:HIS:CD2	1:A:422:GLN:H	2.36	0.43
1:B:718:LEU:HD22	1:B:721:ILE:HD11	2.00	0.43
1:A:26:LEU:HD22	1:A:29:MET:HE3	2.01	0.43
1:B:603:SER:HB2	2:B:1003:BGC:H4	2.01	0.43
1:A:21:LYS:HB2	1:A:21:LYS:HZ3	1.82	0.43
1:A:118:ILE:CG2	1:A:126:LEU:HA	2.49	0.43
1:A:176:LYS:HD2	1:A:286:LEU:HG	2.01	0.43
1:A:650:ASP:OD2	1:A:912:ARG:NH2	2.51	0.43
1:B:345:ASN:CA	1:B:346:LYS:CB	2.96	0.43
1:A:124:SER:O	1:A:125:GLN:C	2.57	0.43
1:A:143:ILE:HD13	1:A:148:LEU:HD11	2.00	0.43
1:A:280:GLU:HG3	1:A:283:ARG:NH2	2.33	0.43
1:A:532:ASP:O	1:A:538:PHE:HA	2.19	0.43
1:B:524:GLU:CD	1:B:524:GLU:H	2.22	0.43
1:A:193:ILE:HD13	1:A:201:ALA:HB3	2.00	0.43
1:B:25:TYR:OH	1:B:312:LYS:HG3	2.19	0.43
1:B:763:LYS:HG3	1:B:772:ILE:HD11	2.00	0.43
1:B:222:GLN:HA	1:B:222:GLN:NE2	2.34	0.42
1:B:320:PHE:C	1:B:323:ARG:NH2	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:321:GLU:HB2	1:B:323:ARG:NH2	2.31	0.42
1:A:202:ASN:C	1:A:202:ASN:ND2	2.72	0.42
1:A:274:ARG:NH1	1:A:292:LEU:HD22	2.34	0.42
1:A:519:THR:HB	1:A:520:PRO:HD2	2.00	0.42
1:A:667:TYR:CD2	1:A:668:GLU:HG2	2.54	0.42
1:B:361:VAL:CG1	1:B:362:GLU:N	2.82	0.42
1:B:786:PHE:CD1	1:B:786:PHE:C	2.92	0.42
1:A:80:PHE:CE2	1:A:458:ALA:HA	2.54	0.42
1:B:532:ASP:HB3	1:B:539:ARG:HG2	2.00	0.42
1:A:763:LYS:CG	1:A:772:ILE:HD11	2.43	0.42
1:B:66:THR:OG1	1:B:256:CYS:HB3	2.18	0.42
1:A:235:ASN:HA	1:A:261:TRP:CD1	2.55	0.42
1:B:420:HIS:CD2	1:B:422:GLN:H	2.37	0.42
1:B:853:ARG:HA	1:B:885:LYS:O	2.20	0.42
1:A:167:ILE:N	1:A:167:ILE:CD1	2.83	0.42
1:A:74:GLY:O	1:A:99:HIS:HD2	2.03	0.42
1:A:141:ARG:N	1:A:141:ARG:HD2	2.35	0.42
1:A:145:ASP:C	1:A:146:LYS:CG	2.87	0.42
3:A:1002:G16:O3P	3:A:1002:G16:H5	2.20	0.42
1:B:104:ASN:H	1:B:104:ASN:ND2	2.18	0.42
1:B:320:PHE:O	1:B:323:ARG:NE	2.53	0.42
1:B:342:ILE:O	1:B:342:ILE:HG22	2.20	0.42
1:B:652:VAL:HB	1:B:905:THR:HG23	2.02	0.42
1:B:763:LYS:CG	1:B:772:ILE:HD11	2.50	0.42
1:A:44:ARG:HA	1:A:47:MET:CE	2.50	0.42
1:A:534:GLY:HA3	1:A:603:SER:HB2	2.02	0.42
1:A:811:SER:HB2	1:A:815:ASP:HB2	2.01	0.42
1:B:120:HIS:NE2	1:B:174:ARG:O	2.52	0.42
1:B:554:GLU:OE2	1:B:556:HIS:HE1	2.03	0.42
1:A:166:ALA:HB3	1:A:185:VAL:CG2	2.50	0.41
1:A:320:PHE:HB3	1:A:361:VAL:HG13	2.00	0.41
1:B:501:LYS:CB	1:B:695:MET:SD	3.08	0.41
1:B:669:GLU:CD	1:B:670:PRO:HD2	2.40	0.41
1:A:44:ARG:HG2	1:A:392:ALA:HB1	2.02	0.41
1:A:644:ARG:HG2	1:A:646:GLU:HG3	2.02	0.41
1:B:176:LYS:HB3	6:B:1206:HOH:O	2.20	0.41
1:A:811:SER:HB2	1:A:815:ASP:CB	2.51	0.41
1:A:120:HIS:NE2	1:A:174:ARG:O	2.52	0.41
1:A:420:HIS:CD2	1:A:423:TYR:HB2	2.56	0.41
1:B:105:VAL:HG11	1:B:451:LYS:HG3	2.01	0.41
1:A:342:ILE:CG2	1:A:372:GLN:HG3	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:342:ILE:O	1:B:342:ILE:CG2	2.68	0.41
1:B:346:LYS:CG	1:B:347:GLU:N	2.83	0.41
1:B:862:GLY:HA2	3:B:1004:G16:O6	2.20	0.41
1:B:102:ASN:HA	1:B:103:GLN:C	2.39	0.41
1:B:496:GLU:OE2	1:B:500:ARG:NH1	2.44	0.41
1:A:148:LEU:HA	1:A:149:PRO:HD3	1.90	0.41
1:A:26:LEU:HD21	1:A:309:ILE:CG2	2.51	0.41
1:A:281:ILE:HG23	1:A:282:ASP:N	2.36	0.41
1:A:520:PRO:HD3	1:A:663:MET:CE	2.51	0.41
1:A:595:ARG:HG3	1:A:648:ASP:O	2.21	0.41
1:A:665:CYS:HB3	1:A:891:LEU:HD23	2.03	0.41
1:A:693:VAL:HA	6:A:1207:HOH:O	2.21	0.41
1:A:767:LEU:HG	1:A:818:LEU:CD2	2.41	0.41
1:B:545:ILE:HD13	1:B:903:LEU:CD2	2.50	0.41
1:A:62:LYS:HB3	1:A:64:LEU:CD2	2.51	0.41
1:A:196:ARG:C	1:A:198:ASP:N	2.74	0.41
1:A:319:LEU:O	1:A:321:GLU:O	2.39	0.41
1:A:786:PHE:CD1	1:A:787:LEU:N	2.89	0.41
1:A:342:ILE:HG13	1:A:352:ALA:HB2	2.02	0.40
1:A:356:LEU:CD1	1:A:371:VAL:HG21	2.49	0.40
1:B:384:ASN:HD22	1:B:384:ASN:HA	1.67	0.40
1:A:101:LYS:O	1:A:102:ASN:CB	2.70	0.40
1:A:167:ILE:HA	1:A:183:ALA:O	2.22	0.40
1:A:419:THR:O	1:A:420:HIS:C	2.59	0.40
1:A:798:LEU:C	1:A:798:LEU:CD2	2.89	0.40
1:A:718:LEU:C	1:A:720:ASP:H	2.23	0.40
1:B:141:ARG:O	1:B:143:ILE:HG23	2.22	0.40
1:B:204:VAL:CG2	1:B:457:THR:HG23	2.52	0.40
1:A:321:GLU:HB3	1:A:322:GLY:H	1.53	0.40
1:B:97:VAL:HA	1:B:104:ASN:O	2.21	0.40
1:B:405:ARG:HB3	1:B:405:ARG:NH1	2.29	0.40
1:A:126:LEU:O	1:A:129:HIS:HB3	2.21	0.40
1:A:196:ARG:C	1:A:198:ASP:H	2.25	0.40
1:A:353:LYS:CA	1:A:368:CYS:SG	3.10	0.40
1:A:712:PHE:HB3	1:A:741:TYR:HB2	2.03	0.40
1:A:855:ASN:OD1	1:A:887:ASN:HB3	2.21	0.40
1:A:857:THR:HA	1:A:889:SER:O	2.21	0.40
1:B:98:ASN:O	1:B:101:LYS:O	2.39	0.40
1:B:451:LYS:NZ	6:B:1238:HOH:O	2.45	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	897/917 (98%)	849 (95%)	45 (5%)	3 (0%)	41	55
1	B	897/917 (98%)	856 (95%)	37 (4%)	4 (0%)	34	48
All	All	1794/1834 (98%)	1705 (95%)	82 (5%)	7 (0%)	34	48

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	100	GLU
1	B	104	ASN
1	B	346	LYS
1	A	146	LYS
1	A	913	THR
1	A	105	VAL
1	B	593	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	774/788 (98%)	752 (97%)	22 (3%)	43	63
1	B	774/788 (98%)	747 (96%)	27 (4%)	36	55
All	All	1548/1576 (98%)	1499 (97%)	49 (3%)	39	59

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

Mol	Chain	Res	Type
1	A	21	LYS
1	A	33	ASP
1	A	80	PHE
1	A	93	LEU
1	A	101	LYS
1	A	104	ASN
1	A	261	TRP
1	A	321	GLU
1	A	366	ASP
1	A	399	ASP
1	A	413	ASN
1	A	437	ASP
1	A	481	LYS
1	A	531	LEU
1	A	541	LEU
1	A	542	LEU
1	A	709	TRP
1	A	769	ARG
1	A	786	PHE
1	A	843	ASP
1	A	853	ARG
1	A	914	GLU
1	B	23	ASP
1	B	99	HIS
1	B	102	ASN
1	B	103	GLN
1	B	261	TRP
1	B	281	ILE
1	B	320	PHE
1	B	323	ARG
1	B	337	SER
1	B	346	LYS
1	B	380	PHE
1	B	405	ARG
1	B	407	ARG
1	B	424	SER
1	B	481	LYS
1	B	549	LYS
1	B	550	LYS
1	B	551	ARG
1	B	557	ASN
1	B	564	ILE
1	B	645	GLU

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Mol	Chain	Res	Type
1	B	709	TRP
1	B	769	ARG
1	B	797	LEU
1	B	805	GLN
1	B	843	ASP
1	B	914	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	18	GLN
1	A	99	HIS
1	A	104	ASN
1	A	125	GLN
1	A	159	GLN
1	A	202	ASN
1	A	222	GLN
1	A	345	ASN
1	A	384	ASN
1	A	400	ASN
1	A	413	ASN
1	A	420	HIS
1	A	466	GLN
1	A	556	HIS
1	A	631	HIS
1	A	771	GLN
1	A	805	GLN
1	A	848	ASN
1	A	887	ASN
1	B	96	GLN
1	B	102	ASN
1	B	104	ASN
1	B	202	ASN
1	B	222	GLN
1	B	351	ASN
1	B	384	ASN
1	B	400	ASN
1	B	420	HIS
1	B	466	GLN
1	B	506	ASN
1	B	556	HIS
1	B	557	ASN

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Mol	Chain	Res	Type
1	B	799	GLN
1	B	805	GLN
1	B	806	GLN
1	B	810	ASN
1	B	832	GLN
1	B	855	ASN
1	B	877	GLN
1	B	887	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)

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)

Of 14 ligands modelled in this entry, 4 are monoatomic - leaving 10 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	$\#\|Z\| > 2$
3	G16	B	1004	-	19,20,20	0.52	0	30,31,31	0.93	0
3	G16	A	1002	-	19,20,20	0.56	0	30,31,31	0.86	0
3	G16	B	1002	-	19,20,20	0.54	0	30,31,31	0.96	0
5	CIT	B	1007	-	12,12,12	1.01	0	17,17,17	1.52	1 (5%)
2	BGC	B	1003	-	12,12,12	0.42	0	17,17,17	1.28	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	BGC	A	1001	-	12,12,12	0.56	0	17,17,17	1.06	2 (11%)
5	CIT	A	1007	-	12,12,12	1.03	0	17,17,17	1.53	1 (5%)
3	G16	A	1004	-	19,20,20	0.57	0	30,31,31	0.95	0
2	BGC	B	1001	-	12,12,12	0.33	0	17,17,17	0.85	1 (5%)
2	BGC	A	1003	-	12,12,12	0.39	0	17,17,17	1.19	2 (11%)

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	G16	B	1004	-	-	1/11/31/31	0/1/1/1
3	G16	A	1002	-	-	1/11/31/31	0/1/1/1
3	G16	B	1002	-	-	1/11/31/31	0/1/1/1
5	CIT	B	1007	-	-	10/16/16/16	-
2	BGC	B	1003	-	-	0/2/22/22	0/1/1/1
2	BGC	A	1001	-	-	0/2/22/22	0/1/1/1
5	CIT	A	1007	-	-	2/16/16/16	-
3	G16	A	1004	-	-	1/11/31/31	0/1/1/1
2	BGC	B	1001	-	-	0/2/22/22	0/1/1/1
2	BGC	A	1003	-	-	0/2/22/22	0/1/1/1

There are no bond length outliers.

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	A	1007	CIT	O6-C6-C3	4.19	120.33	113.05
5	B	1007	CIT	O6-C6-C3	4.12	120.20	113.05
2	A	1003	BGC	C1-O5-C5	-3.23	107.57	113.66
2	B	1003	BGC	C1-O5-C5	-3.16	107.69	113.66
2	A	1001	BGC	C1-O5-C5	-3.14	107.73	113.66
2	B	1003	BGC	O5-C1-C2	-2.89	105.13	110.28
2	A	1003	BGC	O5-C1-C2	-2.81	105.26	110.28
2	B	1001	BGC	C1-O5-C5	-2.22	109.48	113.66
2	A	1001	BGC	O5-C1-C2	-2.08	106.58	110.28

There are no chirality outliers.

All (16) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	B	1007	CIT	C2-C3-C4-C5
5	B	1007	CIT	O7-C3-C4-C5
5	B	1007	CIT	C6-C3-C4-C5
5	B	1007	CIT	O7-C3-C6-O5
5	B	1007	CIT	O7-C3-C6-O6
5	B	1007	CIT	C4-C3-C6-O5
5	B	1007	CIT	C4-C3-C6-O6
3	A	1002	G16	C5-C6-O6-P
3	B	1004	G16	C5-C6-O6-P
5	B	1007	CIT	C1-C2-C3-C6
3	A	1004	G16	C5-C6-O6-P
3	B	1002	G16	C5-C6-O6-P
5	B	1007	CIT	C1-C2-C3-O7
5	B	1007	CIT	C1-C2-C3-C4
5	A	1007	CIT	C6-C3-C4-C5
5	A	1007	CIT	C2-C3-C4-C5

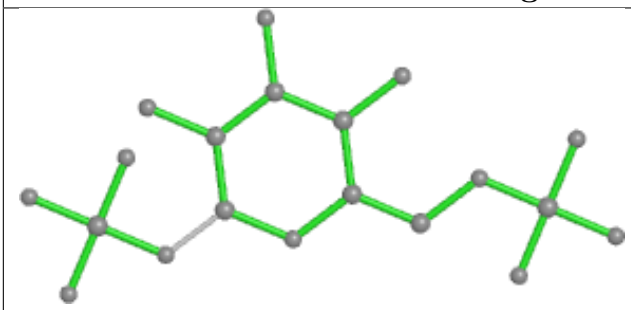
There are no ring outliers.

4 monomers are involved in 6 short contacts:

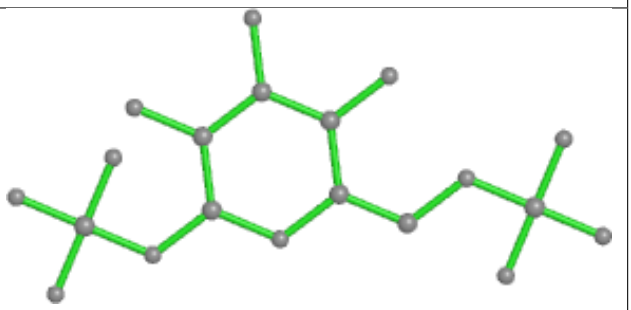
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	1004	G16	1	0
3	A	1002	G16	2	0
5	B	1007	CIT	1	0
2	B	1003	BGC	2	0

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.

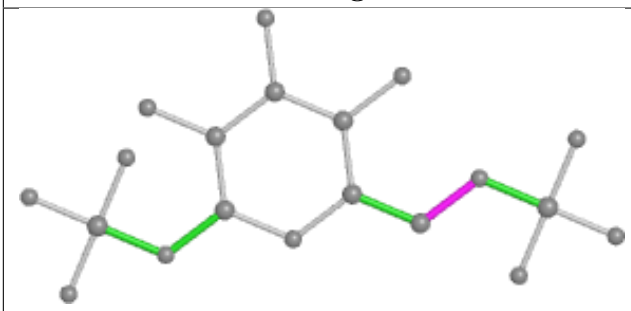
Ligand G16 B 1004



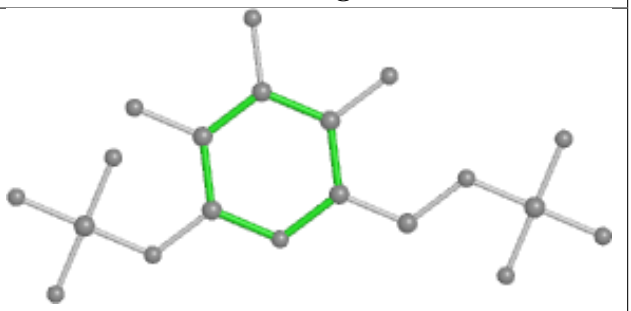
Bond lengths



Bond angles

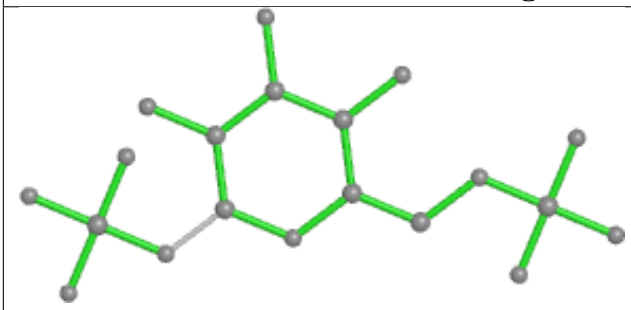


Torsions

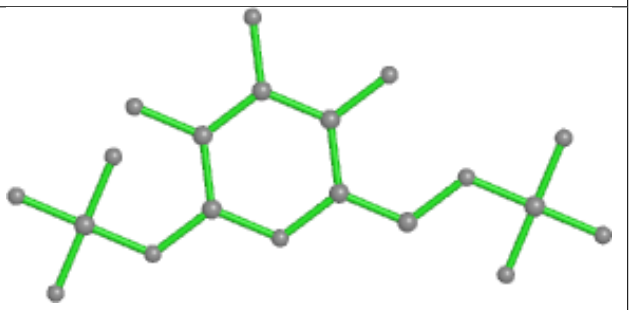


Rings

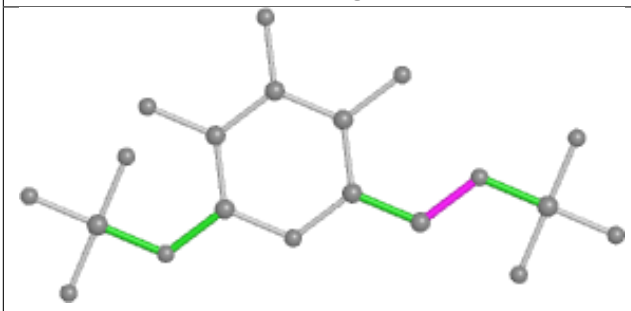
Ligand G16 A 1002



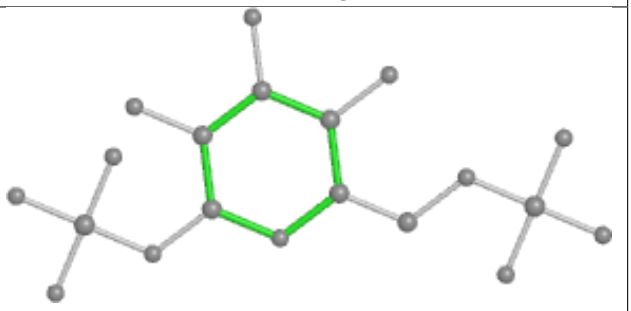
Bond lengths



Bond angles

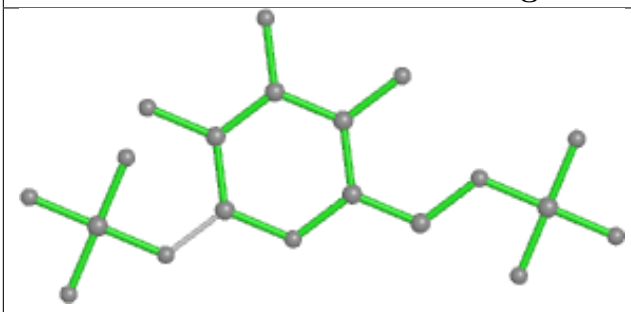


Torsions

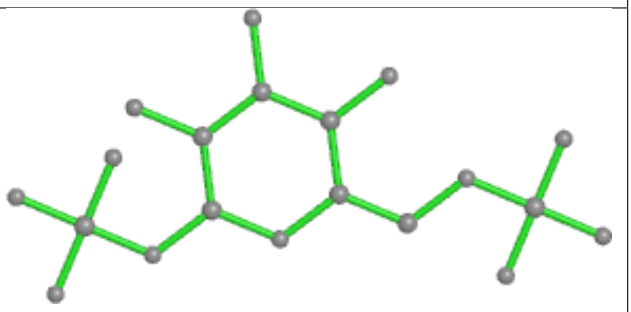


Rings

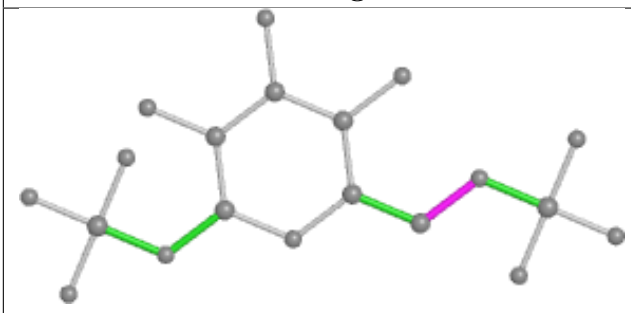
Ligand G16 B 1002



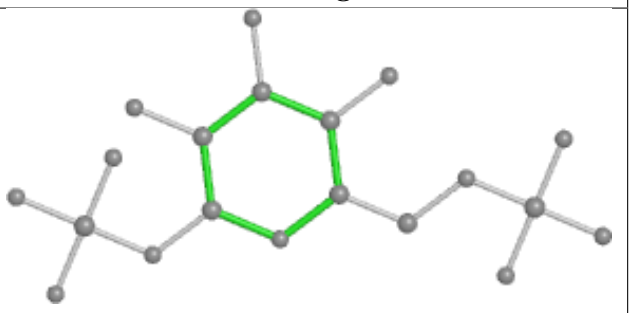
Bond lengths



Bond angles

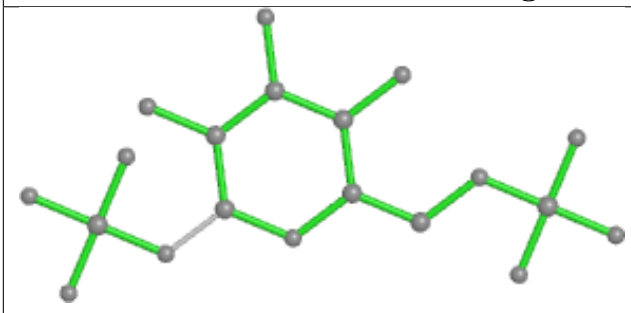


Torsions

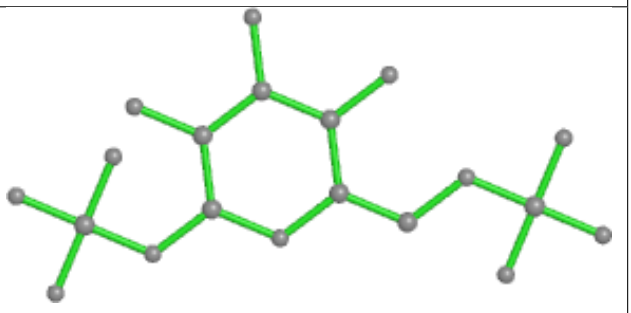


Rings

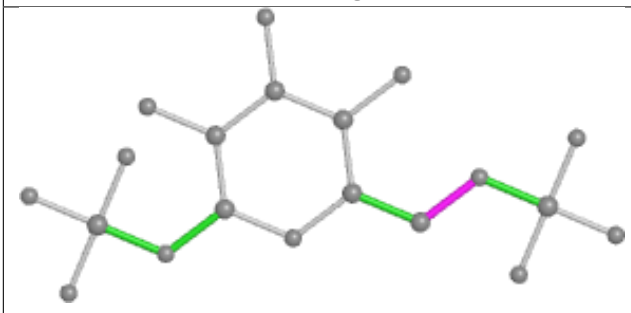
Ligand G16 A 1004



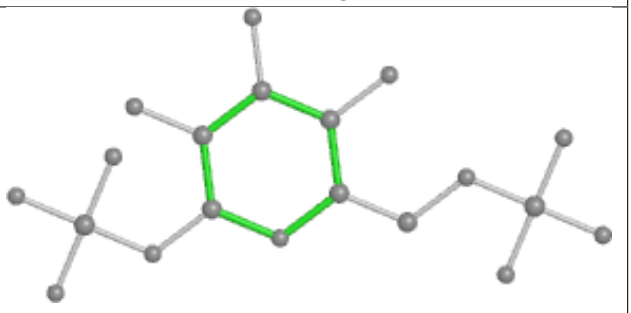
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

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	899/917 (98%)	0.29	53 (5%)	22	21	26, 51, 80, 119	0
1	B	899/917 (98%)	0.29	55 (6%)	21	20	27, 51, 80, 118	0
All	All	1798/1834 (98%)	0.29	108 (6%)	21	20	26, 51, 80, 119	0

All (108) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	16	ASP	7.1
1	A	16	ASP	6.9
1	A	17	ASP	6.5
1	B	100	GLU	6.0
1	B	102	ASN	5.0
1	A	21	LYS	5.0
1	B	103	GLN	4.6
1	B	101	LYS	4.6
1	A	685	CYS	4.5
1	B	564	ILE	4.2
1	B	99	HIS	4.2
1	B	548	GLY	4.0
1	B	549	LYS	3.7
1	B	550	LYS	3.6
1	A	794	ARG	3.4
1	B	798	LEU	3.3
1	A	322	GLY	3.3
1	B	17	ASP	3.2
1	A	684	ALA	3.2
1	A	404	PRO	3.2
1	A	145	ASP	3.2
1	A	314	ALA	3.1
1	B	591	ILE	3.1
1	A	709	TRP	3.1

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Mol	Chain	Res	Type	RSRZ
1	B	297	VAL	3.1
1	A	101	LYS	3.0
1	A	549	LYS	3.0
1	B	852	ASP	3.0
1	B	234	THR	3.0
1	A	143	ILE	2.9
1	A	707	MET	2.9
1	A	142	LYS	2.9
1	B	237	CYS	2.9
1	A	550	LYS	2.8
1	A	403	THR	2.8
1	A	223	HIS	2.8
1	B	24	LYS	2.8
1	B	794	ARG	2.8
1	A	786	PHE	2.7
1	B	449	SER	2.7
1	B	229	ILE	2.7
1	A	100	GLU	2.7
1	A	841	VAL	2.6
1	B	593	GLY	2.6
1	B	786	PHE	2.6
1	A	113	ASP	2.6
1	B	98	ASN	2.6
1	B	649	LEU	2.6
1	A	406	LEU	2.6
1	B	565	GLU	2.6
1	B	645	GLU	2.6
1	A	146	LYS	2.6
1	B	18	GLN	2.6
1	B	913	THR	2.5
1	A	310	LEU	2.5
1	A	436	PRO	2.5
1	B	211	VAL	2.5
1	A	438	SER	2.5
1	B	21	LYS	2.5
1	A	24	LYS	2.5
1	A	437	ASP	2.5
1	A	198	ASP	2.5
1	B	153	THR	2.5
1	B	317	GLY	2.4
1	A	398	ARG	2.4
1	A	676	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	659	VAL	2.4
1	B	642	LYS	2.4
1	B	771	GLN	2.4
1	B	436	PRO	2.4
1	A	103	GLN	2.4
1	A	19	VAL	2.4
1	A	658	THR	2.3
1	B	298	SER	2.3
1	A	656	ASN	2.3
1	B	262	GLY	2.3
1	B	382	SER	2.3
1	A	700	GLN	2.3
1	B	547	SER	2.3
1	A	564	ILE	2.3
1	A	358	ARG	2.3
1	A	118	ILE	2.3
1	A	45	LYS	2.2
1	A	20	LYS	2.2
1	B	210	THR	2.2
1	B	235	ASN	2.2
1	A	502	GLN	2.2
1	A	675	GLY	2.2
1	A	686	TYR	2.2
1	B	83	LEU	2.2
1	B	236	ALA	2.1
1	A	350	HIS	2.1
1	B	27	TYR	2.1
1	B	226	VAL	2.1
1	B	386	VAL	2.1
1	B	293	PHE	2.1
1	B	305	LEU	2.1
1	B	209	ASP	2.1
1	B	646	GLU	2.1
1	B	230	ILE	2.1
1	A	706	ASN	2.1
1	B	299	GLY	2.1
1	A	80	PHE	2.0
1	B	501	LYS	2.0
1	A	252	GLU	2.0
1	A	674	VAL	2.0
1	A	682	SER	2.0
1	B	568	GLN	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)

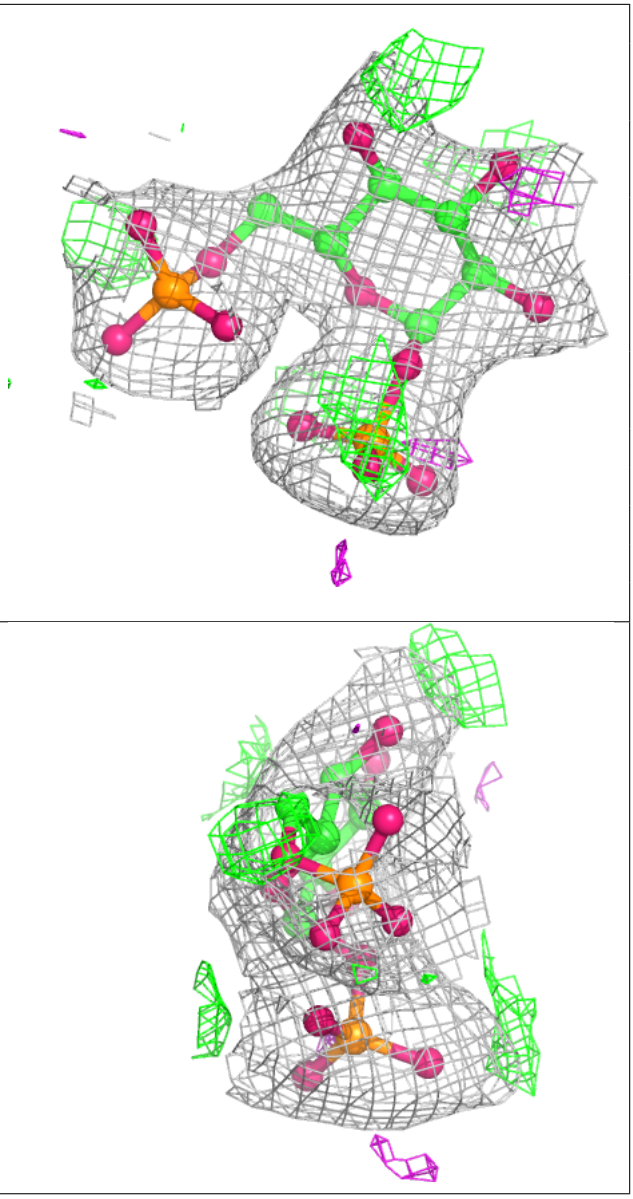
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' 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
5	CIT	B	1007	13/13	0.45	0.32	102,103,104,104	0
5	CIT	A	1007	13/13	0.80	0.43	105,106,106,106	0
4	NA	A	1006	1/1	0.87	0.13	54,54,54,54	0
2	BGC	A	1001	12/12	0.90	0.16	43,46,47,49	0
2	BGC	A	1003	12/12	0.92	0.30	33,35,35,38	0
4	NA	B	1005	1/1	0.92	0.12	53,53,53,53	0
2	BGC	B	1003	12/12	0.93	0.25	35,37,37,40	0
4	NA	B	1006	1/1	0.93	0.07	53,53,53,53	0
2	BGC	B	1001	12/12	0.94	0.33	41,43,44,46	0
4	NA	A	1005	1/1	0.95	0.15	55,55,55,55	0
3	G16	A	1002	20/20	0.95	0.11	51,53,55,55	0
3	G16	B	1002	20/20	0.97	0.21	48,50,53,53	0
3	G16	B	1004	20/20	0.97	0.14	30,32,35,35	0
3	G16	A	1004	20/20	0.98	0.17	28,30,33,34	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.

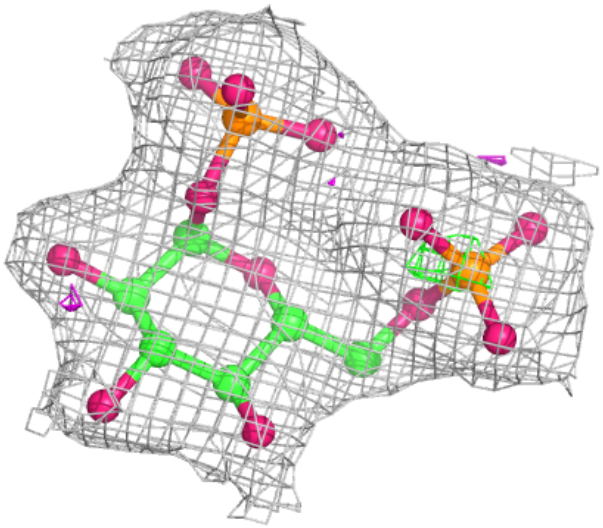
Electron density around G16 A 1002:

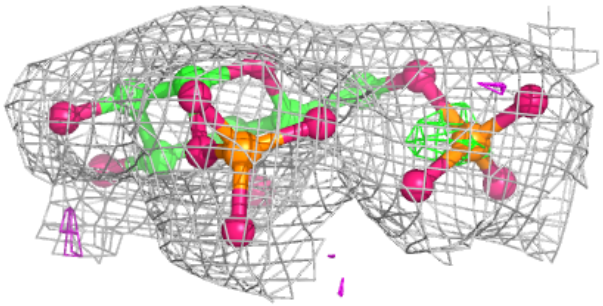
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

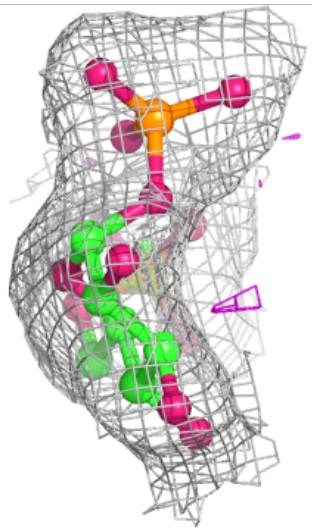


Electron density around G16 B 1002:

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

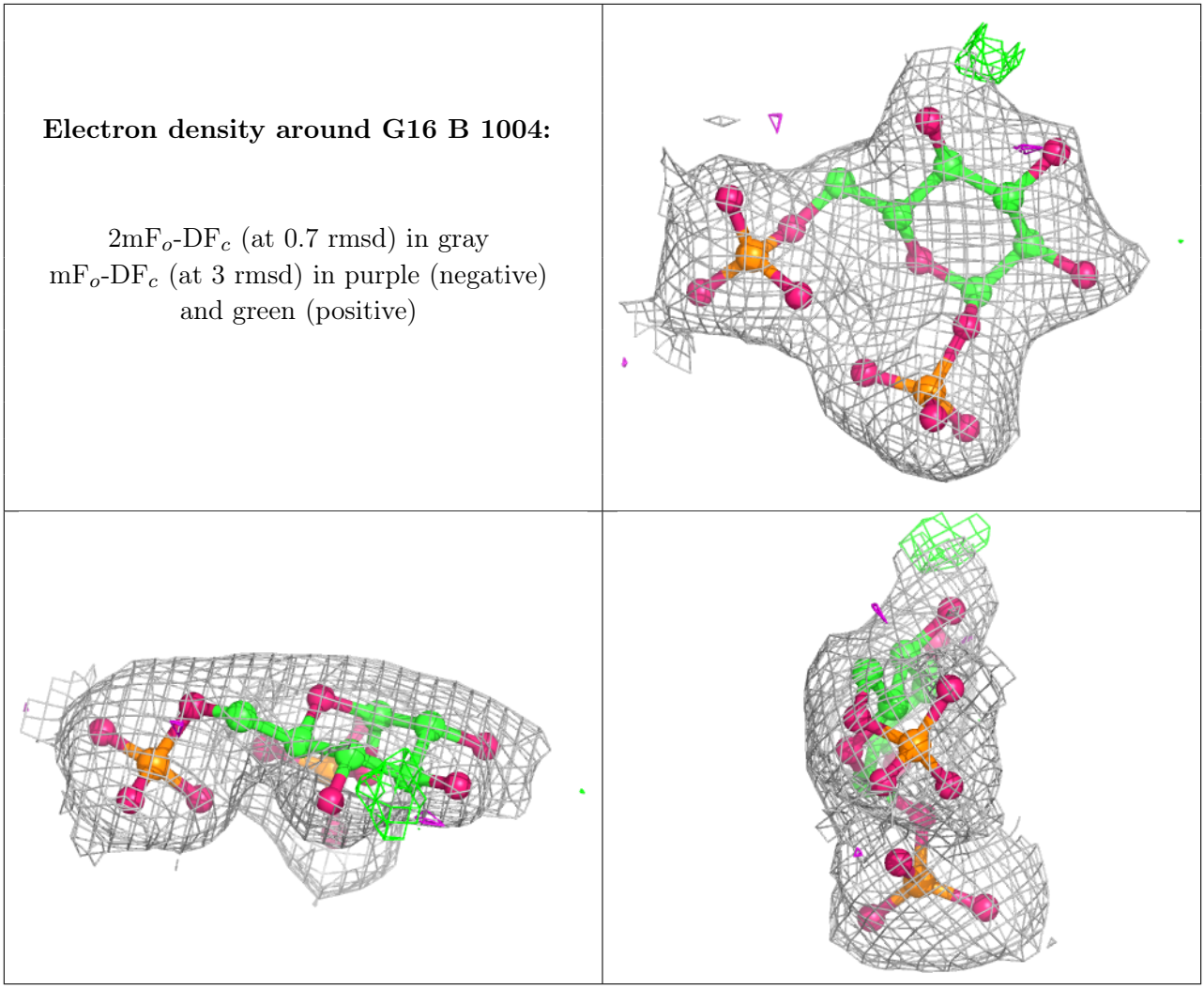






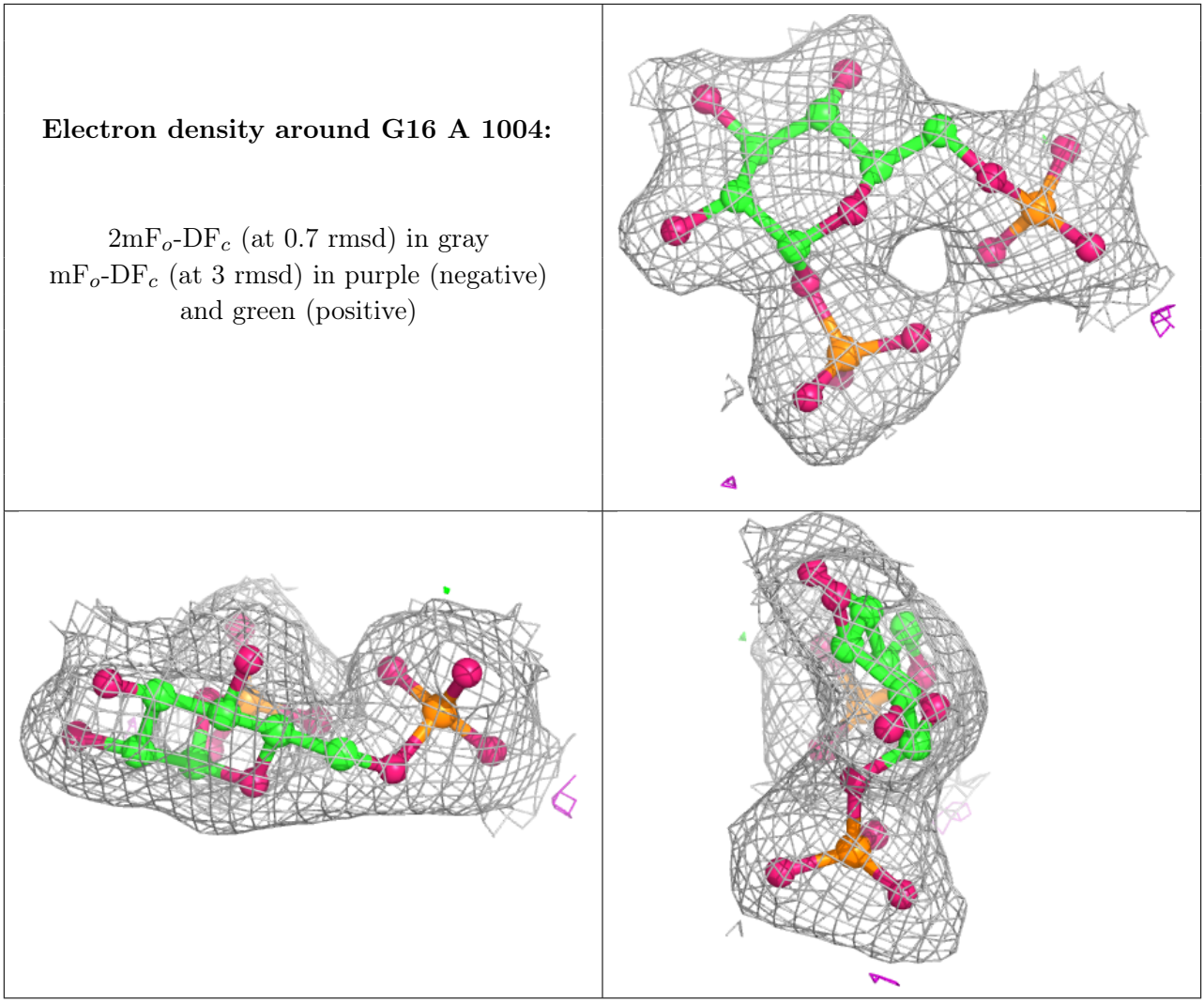
Electron density around G16 B 1004:

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



Electron density around G16 A 1004:

$2mF_o$-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.