



Full wwPDB X-ray Structure Validation Report

Mar 1, 2014 – 01:12 AM GMT

PDB ID : 4HW2
Title : Discovery of potent Mcl-1 inhibitors using fragment-based methods and structure-based design
Authors : Zhao, B.
Deposited on : 2012-11-07
Resolution : 2.80 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

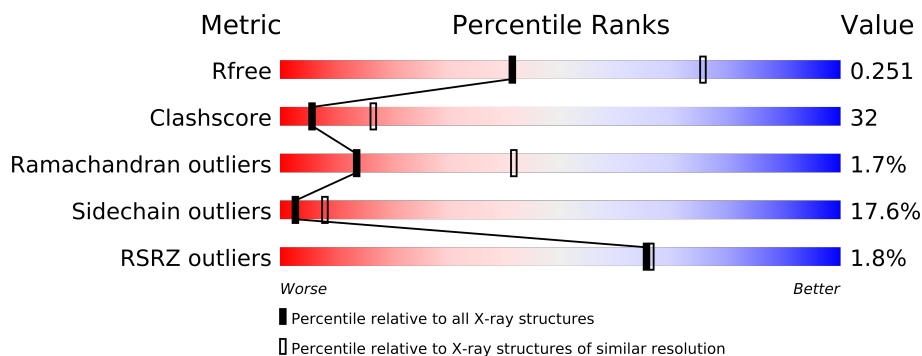
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.15 2013
Xtriage (Phenix) : dev-1323
EDS : stable22639
Percentile statistics : 21963
Refmac : 5.8.0049
CCP4 : 6.3.0 (Settle)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable22683

1 Overall quality at a glance

The reported resolution of this entry is 2.80 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}	66092	1799 (2.80-2.80)
Clashscore	79885	2295 (2.80-2.80)
Ramachandran outliers	78287	2252 (2.80-2.80)
Sidechain outliers	78261	2254 (2.80-2.80)
RSRZ outliers	66119	1802 (2.80-2.80)

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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	A	153	
1	B	153	
1	C	153	
1	D	153	
1	E	153	
1	F	153	

The following table lists non-polymeric compounds that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Geometry	Electron density
3	PGE	A	402	-	X

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 7376 atoms, of which 0 are hydrogen and 0 are deuterium.

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.

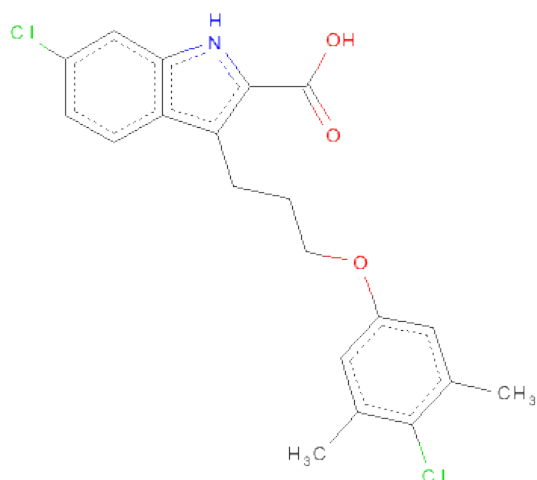
- Molecule 1 is a protein called Induced myeloid leukemia cell differentiation protein Mcl-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	149	Total	C	N	O	S	0	0	0
			1186	745	217	221	3			
1	B	151	Total	C	N	O	S	0	0	0
			1212	761	224	223	4			
1	C	150	Total	C	N	O	S	0	0	0
			1185	745	218	218	4			
1	D	151	Total	C	N	O	S	0	0	0
			1203	757	221	221	4			
1	E	151	Total	C	N	O	S	0	0	0
			1209	760	224	221	4			
1	F	150	Total	C	N	O	S	0	0	0
			1191	747	218	222	4			

There are 6 discrepancies between the modelled and reference sequences:

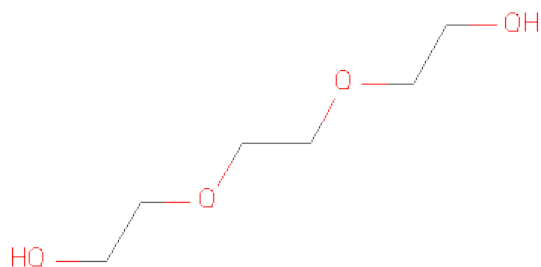
Chain	Residue	Modelled	Actual	Comment	Reference
A	171	GLY	-	EXPRESSION TAG	UNP Q07820
B	171	GLY	-	EXPRESSION TAG	UNP Q07820
C	171	GLY	-	EXPRESSION TAG	UNP Q07820
D	171	GLY	-	EXPRESSION TAG	UNP Q07820
E	171	GLY	-	EXPRESSION TAG	UNP Q07820
F	171	GLY	-	EXPRESSION TAG	UNP Q07820

- Molecule 2 is 6-CHLORO-3-[3-(4-CHLORO-3,5-DIMETHYLPHENOXY)PROPYL]-1H-INDOLE-2-CARBOXYLICACID (three-letter code: 19H) (formula: C₂₀H₁₉Cl₂NO₃).



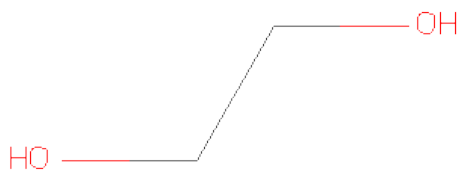
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	Cl	N	O	0	0
			26	20	2	1	3		
2	B	1	Total	C	Cl	N	O	0	0
			26	20	2	1	3		
2	C	1	Total	C	Cl	N	O	0	0
			26	20	2	1	3		
2	D	1	Total	C	Cl	N	O	0	0
			26	20	2	1	3		
2	E	1	Total	C	Cl	N	O	0	0
			26	20	2	1	3		
2	F	1	Total	C	Cl	N	O	0	0
			26	20	2	1	3		

- Molecule 3 is TRIETHYLENE GLYCOL (three-letter code: PGE) (formula: C₆H₁₄O₄).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			10	6	4		
3	B	1	Total	C	O	0	0
			10	6	4		
3	B	1	Total	C	O	0	0
			10	6	4		

- Molecule 4 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: $C_2H_6O_2$).

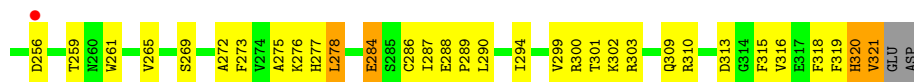


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	B	1	Total	C	O	0	0
			4	2	2		



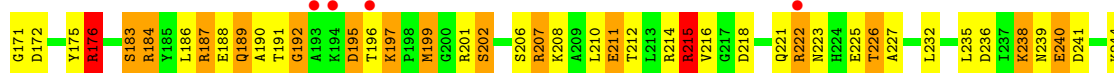
- Molecule 1: Induced myeloid leukemia cell differentiation protein Mcl-1

Chain E:



- Molecule 1: Induced myeloid leukemia cell differentiation protein Mcl-1

Chain F:



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α , β , γ	122.00Å 134.33Å 62.04Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 2.80 38.92 – 2.80	Depositor EDS
% Data completeness (in resolution range)	(Not available) (30.00-2.80) 97.3 (38.92-2.80)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	0.06	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.82 (at 2.81Å)	Xtriage
Refinement program	CNS 1.3	Depositor
R, R_{free}	0.217 , 0.245 0.225 , 0.251	Depositor DCC
R_{free} test set	2490 reflections (9.92%)	DCC
Wilson B-factor (Å ²)	49.7	Xtriage
Anisotropy	0.110	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 29.6	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Outliers	0 of 25113 reflections	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	7376	wwPDB-VP
Average B, all atoms (Å ²)	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.06% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: PGE, EDO, 19H

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	1.29	9/1205 (0.7%)	0.87	0/1623
1	B	1.23	4/1232 (0.3%)	0.85	1/1656 (0.1%)
1	C	1.17	6/1205 (0.5%)	0.87	1/1623 (0.1%)
1	D	0.95	5/1223 (0.4%)	0.79	1/1645 (0.1%)
1	E	1.05	4/1229 (0.3%)	0.80	1/1652 (0.1%)
1	F	1.04	8/1211 (0.7%)	0.97	2/1631 (0.1%)
All	All	1.13	36/7305 (0.5%)	0.86	6/9830 (0.1%)

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	1
1	C	0	1
1	F	0	2
All	All	0	4

All (36) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	E	269	SER	CB-OG	-6.00	1.34	1.42
1	C	216	VAL	CB-CG1	-5.92	1.40	1.52
1	F	184	ARG	CZ-NH1	-5.91	1.25	1.33
1	E	233	ARG	CZ-NH2	-5.80	1.25	1.33
1	A	233	ARG	CZ-NH1	-5.78	1.25	1.33
1	D	188	GLU	CD-OE1	-5.71	1.19	1.25
1	A	184	ARG	CZ-NH1	-5.70	1.25	1.33
1	F	211	GLU	CG-CD	-5.68	1.43	1.51
1	C	247	SER	CB-OG	-5.67	1.34	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	263	ARG	CZ-NH1	-5.66	1.25	1.33
1	A	247	SER	CB-OG	-5.64	1.34	1.42
1	B	316	VAL	CB-CG1	-5.64	1.41	1.52
1	A	316	VAL	CB-CG1	-5.61	1.41	1.52
1	D	184	ARG	CZ-NH1	-5.61	1.25	1.33
1	A	249	VAL	CB-CG2	-5.54	1.41	1.52
1	A	207	ARG	CZ-NH1	-5.53	1.25	1.33
1	D	208	LYS	CD-CE	-5.50	1.37	1.51
1	B	300	ARG	CZ-NH2	-5.49	1.25	1.33
1	C	300	ARG	CZ-NH1	-5.44	1.25	1.33
1	D	247	SER	CB-OG	-5.39	1.35	1.42
1	F	211	GLU	CD-OE1	-5.35	1.19	1.25
1	B	317	GLU	CG-CD	-5.34	1.44	1.51
1	F	300	ARG	CZ-NH1	-5.34	1.26	1.33
1	F	247	SER	CB-OG	-5.32	1.35	1.42
1	F	269	SER	CB-OG	-5.28	1.35	1.42
1	F	300	ARG	CZ-NH2	-5.27	1.26	1.33
1	C	225	GLU	CD-OE1	-5.24	1.19	1.25
1	B	215	ARG	CB-CG	-5.22	1.38	1.52
1	C	216	VAL	CB-CG2	-5.20	1.42	1.52
1	A	233	ARG	CZ-NH2	-5.20	1.26	1.33
1	A	221	GLN	CD-OE1	-5.19	1.12	1.24
1	D	207	ARG	CZ-NH1	-5.13	1.26	1.33
1	F	206	SER	CB-OG	-5.11	1.35	1.42
1	E	216	VAL	CB-CG2	-5.06	1.42	1.52
1	A	225	GLU	CG-CD	-5.02	1.44	1.51
1	E	216	VAL	CB-CG1	-5.00	1.42	1.52

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	F	215	ARG	NE-CZ-NH2	-16.69	111.95	120.30
1	F	215	ARG	NE-CZ-NH1	11.15	125.88	120.30
1	E	200	GLY	N-CA-C	8.26	133.76	113.10
1	B	194	LYS	N-CA-CB	5.65	120.77	110.60
1	C	190	ALA	N-CA-C	-5.27	96.77	111.00
1	D	222	ARG	NE-CZ-NH1	-5.15	117.72	120.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	248	ARG	Sidechain
1	C	215	ARG	Sidechain
1	F	176	ARG	Sidechain
1	F	215	ARG	Sidechain

5.2 Close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1186	0	1177	59	0
1	B	1212	0	1223	68	0
1	C	1185	0	1177	79	0
1	D	1203	0	1210	57	0
1	E	1209	0	1221	90	0
1	F	1191	0	1181	117	0
2	A	26	0	18	1	0
2	B	26	0	18	0	0
2	C	26	0	18	5	0
2	D	26	0	18	1	0
2	E	26	0	18	1	0
2	F	26	0	18	1	0
3	A	10	0	14	4	0
3	B	20	0	28	2	0
4	B	4	0	6	1	0
All	All	7376	0	7345	467	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 32.

All (467) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:D:193:ALA:CB	1:D:194:LYS:HA	1.50	1.31
1:B:171:GLY:HA2	1:B:303:ARG:NH2	1.42	1.31
1:C:171:GLY:HA2	1:C:303:ARG:NH2	1.50	1.27
1:D:193:ALA:HB1	1:D:194:LYS:CA	1.70	1.21
1:E:318:PHE:HD2	1:E:319:PHE:CE1	1.59	1.20

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:171:GLY:CA	1:F:303:ARG:HH12	1.58	1.13
1:B:193:ALA:HB1	1:B:194:LYS:HB3	1.21	1.12
1:F:258:VAL:HG13	1:F:259:THR:H	1.08	1.11
1:E:318:PHE:CD2	1:E:319:PHE:HE1	1.68	1.10
1:C:191:THR:HG21	1:C:193:ALA:HB2	1.20	1.09
1:F:211:GLU:HA	1:F:211:GLU:OE1	1.52	1.08
1:F:189:GLN:NE2	1:F:189:GLN:HA	1.67	1.07
1:B:203:GLY:O	1:B:207:ARG:HG3	1.56	1.06
1:F:258:VAL:HG13	1:F:259:THR:N	1.67	1.05
1:C:191:THR:HG22	1:C:193:ALA:N	1.72	1.05
1:F:171:GLY:HA2	1:F:303:ARG:NH1	1.73	1.04
1:B:171:GLY:CA	1:B:303:ARG:HH22	1.70	1.03
1:F:189:GLN:HA	1:F:189:GLN:HE21	1.15	1.03
1:B:173:GLU:CD	1:B:201:ARG:HD3	1.79	1.02
1:F:313:ASP:O	1:F:316:VAL:HG12	1.59	1.01
1:F:171:GLY:CA	1:F:303:ARG:NH1	2.23	1.00
1:B:171:GLY:HA2	1:B:303:ARG:HH22	0.90	0.98
1:C:171:GLY:CA	1:C:303:ARG:HH22	1.76	0.98
1:E:171:GLY:CA	1:E:303:ARG:NH2	2.26	0.97
1:F:258:VAL:O	1:F:259:THR:HB	1.62	0.97
1:C:171:GLY:CA	1:C:303:ARG:NH2	2.28	0.96
1:D:171:GLY:HA3	1:D:303:ARG:NH2	1.82	0.95
1:F:171:GLY:HA3	1:F:303:ARG:HH12	1.31	0.94
1:B:250:MET:CE	1:B:297:VAL:HG21	1.97	0.94
1:F:191:THR:HG22	1:F:279:LYS:HE2	1.49	0.94
1:A:224:HIS:CE1	3:A:402:PGE:H1	2.02	0.93
1:E:318:PHE:CD2	1:E:319:PHE:CE1	2.50	0.93
1:E:171:GLY:HA3	1:E:303:ARG:NH2	1.82	0.92
1:B:250:MET:HE2	1:B:297:VAL:HG21	1.49	0.92
1:C:184:ARG:HH12	1:C:195:ASP:CB	1.81	0.92
1:A:171:GLY:HA3	1:A:303:ARG:HH22	1.34	0.92
1:A:224:HIS:NE2	3:A:402:PGE:H1	1.84	0.92
1:E:278:LEU:HD23	1:E:286:CYS:HB2	1.52	0.92
1:D:320:HIS:O	1:D:321:VAL:HG12	1.67	0.92
1:F:320:HIS:O	1:F:320:HIS:ND1	2.02	0.92
1:F:196:THR:O	1:F:197:LYS:O	1.87	0.92
1:C:191:THR:HG22	1:C:192:GLY:N	1.85	0.91
1:F:201:ARG:O	1:F:202:SER:OG	1.86	0.91
1:B:171:GLY:CA	1:B:303:ARG:NH2	2.29	0.91
1:F:259:THR:OG1	1:F:302:LYS:HE3	1.70	0.91
1:C:190:ALA:O	1:C:191:THR:HB	1.67	0.91
1:B:173:GLU:OE2	1:B:201:ARG:HD3	1.70	0.91

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:171:GLY:HA2	1:C:303:ARG:HH22	1.08	0.90
1:F:236:ASP:OD1	1:F:236:ASP:O	1.90	0.90
1:C:202:SER:O	1:C:205:THR:HG22	1.70	0.90
1:A:187:ARG:O	1:A:191:THR:HG22	1.72	0.90
1:F:212:THR:HG23	1:F:215:ARG:NH2	1.88	0.89
1:F:171:GLY:HA2	1:F:303:ARG:HH12	1.31	0.89
1:E:278:LEU:CD2	1:E:286:CYS:HB2	2.03	0.89
1:E:216:VAL:HG21	1:E:319:PHE:HD2	1.36	0.87
1:A:313:ASP:O	1:A:317:GLU:HG2	1.74	0.87
1:F:258:VAL:CG1	1:F:259:THR:H	1.66	0.86
1:C:191:THR:HG22	1:C:193:ALA:H	1.35	0.86
1:E:171:GLY:HA2	1:E:303:ARG:NH2	1.89	0.85
1:E:171:GLY:CA	1:E:303:ARG:HH22	1.89	0.85
1:C:229:GLN:O	1:C:229:GLN:NE2	2.10	0.84
1:F:212:THR:HG23	1:F:215:ARG:HH21	1.42	0.84
1:C:288:GLU:O	1:C:292:GLU:HG3	1.78	0.84
1:F:221:GLN:O	1:F:225:GLU:HG2	1.79	0.83
1:D:193:ALA:HB1	1:D:194:LYS:HA	0.86	0.83
1:B:224:HIS:HA	4:B:404:EDO:H22	1.60	0.82
1:E:171:GLY:HA3	1:E:303:ARG:HH22	1.41	0.81
1:D:188:GLU:HG3	1:D:193:ALA:HB3	1.62	0.81
1:C:191:THR:HG21	1:C:193:ALA:CB	2.07	0.80
1:A:196:THR:CG2	1:C:284:GLU:OE2	2.28	0.80
1:E:318:PHE:HD2	1:E:319:PHE:HE1	0.87	0.80
1:F:171:GLY:HA3	1:F:303:ARG:NH1	1.93	0.80
1:C:191:THR:CG2	1:C:193:ALA:HB2	2.10	0.80
1:A:303:ARG:O	1:A:307:VAL:HG23	1.80	0.80
1:F:191:THR:OG1	1:F:192:GLY:N	2.15	0.79
1:F:258:VAL:HG22	1:F:259:THR:N	1.96	0.79
1:A:196:THR:HG21	1:C:284:GLU:OE2	1.83	0.79
1:E:232:LEU:O	1:E:232:LEU:HD12	1.81	0.79
1:F:222:ARG:NH1	1:F:223:ASN:OD1	2.16	0.79
1:F:248:ARG:HH11	1:F:248:ARG:HG3	1.47	0.79
1:C:184:ARG:NH1	1:C:195:ASP:CB	2.46	0.79
1:F:258:VAL:CG1	1:F:259:THR:N	2.33	0.79
1:B:197:LYS:HG2	1:B:198:PRO:HD2	1.65	0.78
1:A:171:GLY:CA	1:A:303:ARG:HH22	1.97	0.78
1:B:193:ALA:HB1	1:B:194:LYS:CB	2.10	0.78
1:F:259:THR:HG22	1:F:305:TRP:CE2	2.19	0.77
1:A:248:ARG:HG3	1:A:248:ARG:HH11	1.49	0.77
1:C:196:THR:O	1:C:197:LYS:CB	2.30	0.77
1:F:211:GLU:OE1	1:F:211:GLU:CA	2.30	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:187:ARG:HA	1:F:190:ALA:HB3	1.67	0.76
1:E:216:VAL:HG21	1:E:319:PHE:CD2	2.21	0.76
1:F:259:THR:HG21	1:F:305:TRP:CD2	2.21	0.75
1:C:216:VAL:HG12	1:C:265:VAL:HG11	1.67	0.75
1:F:191:THR:HG22	1:F:279:LYS:CE	2.15	0.75
1:E:229:GLN:HE21	1:E:229:GLN:C	1.90	0.75
1:F:279:LYS:HB2	1:F:284:GLU:OE2	1.87	0.74
1:F:239:ASN:HB3	1:F:283:GLN:OE1	1.88	0.74
1:E:313:ASP:O	1:E:316:VAL:HG12	1.88	0.73
1:A:295:THR:O	1:A:299:VAL:HG23	1.87	0.73
1:B:173:GLU:OE2	1:B:176:ARG:NH2	2.21	0.73
1:F:199:MET:HG3	1:F:199:MET:O	1.87	0.73
1:B:189:GLN:HG2	1:B:272:ALA:HB1	1.69	0.72
1:C:250:MET:HE3	1:C:297:VAL:HG21	1.71	0.72
1:E:321:VAL:O	1:E:321:VAL:HG12	1.88	0.72
1:B:261:TRP:O	1:B:265:VAL:HG23	1.89	0.72
1:B:303:ARG:O	1:B:307:VAL:HG23	1.89	0.72
1:C:212:THR:HG23	1:C:215:ARG:HH12	1.55	0.72
1:F:196:THR:OG1	1:F:197:LYS:N	2.20	0.72
1:E:299:VAL:O	1:E:303:ARG:HB2	1.91	0.71
1:B:189:GLN:CG	1:B:272:ALA:HB1	2.20	0.71
1:F:259:THR:CG2	1:F:305:TRP:CE2	2.73	0.71
1:F:184:ARG:NH2	1:F:195:ASP:HB2	2.05	0.71
1:B:171:GLY:HA3	1:B:175:TYR:HB2	1.73	0.71
1:C:191:THR:CG2	1:C:192:GLY:N	2.53	0.71
1:B:250:MET:CE	1:B:297:VAL:CG2	2.69	0.70
1:F:279:LYS:CB	1:F:284:GLU:OE2	2.39	0.70
1:B:321:VAL:O	1:B:321:VAL:HG12	1.90	0.70
1:A:171:GLY:HA3	1:A:303:ARG:NH2	2.07	0.70
1:E:205:THR:HG21	1:E:313:ASP:OD1	1.91	0.70
1:E:184:ARG:NH2	1:E:197:LYS:O	2.25	0.70
1:D:171:GLY:CA	1:D:303:ARG:NH2	2.54	0.69
1:E:229:GLN:NE2	1:E:229:GLN:O	2.25	0.69
1:D:321:VAL:HG13	1:D:321:VAL:O	1.92	0.69
1:A:253:VAL:HG12	2:A:401:19H:H9	1.75	0.69
1:F:258:VAL:O	1:F:259:THR:CB	2.39	0.69
1:B:224:HIS:HE2	3:B:403:PGE:H12	1.57	0.69
1:A:235:LEU:O	1:A:236:ASP:HB2	1.91	0.69
1:F:232:LEU:HD21	1:F:277:HIS:CG	2.27	0.69
1:E:320:HIS:O	1:E:321:VAL:HB	1.92	0.69
1:A:299:VAL:HG12	1:A:303:ARG:HH21	1.57	0.68
1:F:248:ARG:HH11	1:F:248:ARG:CG	2.06	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:296:ASP:O	1:C:300:ARG:HB2	1.93	0.68
1:E:318:PHE:C	1:E:319:PHE:HD1	1.97	0.68
1:C:191:THR:CG2	1:C:193:ALA:N	2.53	0.68
1:D:278:LEU:HD23	1:D:287:ILE:HD13	1.74	0.68
1:F:186:LEU:O	1:F:190:ALA:HB2	1.95	0.67
1:E:181:ILE:HG23	1:E:210:LEU:HD12	1.74	0.67
1:E:199:MET:HB2	1:E:203:GLY:HA3	1.77	0.67
1:D:212:THR:O	1:D:216:VAL:HG22	1.94	0.67
1:E:229:GLN:CA	1:E:229:GLN:HE21	2.05	0.66
1:F:250:MET:CE	1:F:294:ILE:HA	2.25	0.66
1:D:232:LEU:HD11	1:D:277:HIS:CD2	2.30	0.66
1:F:201:ARG:C	1:F:202:SER:HG	1.93	0.66
1:F:212:THR:HG21	1:F:319:PHE:HB2	1.78	0.66
1:B:256:ASP:O	1:B:263:ARG:NH2	2.29	0.66
1:D:193:ALA:CB	1:D:194:LYS:CA	2.40	0.66
1:C:265:VAL:O	1:C:269:SER:HB2	1.96	0.66
1:D:246:LEU:HD13	2:D:400:19H:CL1	2.32	0.66
1:B:184:ARG:O	1:B:188:GLU:HG3	1.96	0.66
1:C:190:ALA:O	1:C:191:THR:CB	2.42	0.66
1:F:199:MET:HE3	1:F:207:ARG:HD2	1.78	0.66
1:E:185:TYR:CZ	1:E:189:GLN:NE2	2.65	0.65
1:C:241:ASP:HA	1:C:244:LYS:HD3	1.77	0.65
1:C:191:THR:CG2	1:C:193:ALA:H	2.05	0.65
1:E:185:TYR:HE1	1:E:214:ARG:HA	1.61	0.65
1:C:188:GLU:OE2	1:C:214:ARG:NE	2.29	0.65
1:F:196:THR:O	1:F:197:LYS:C	2.34	0.64
1:B:207:ARG:HH11	1:B:207:ARG:HB2	1.61	0.64
1:F:259:THR:CG2	1:F:305:TRP:CD2	2.79	0.64
1:D:317:GLU:HG2	1:D:317:GLU:O	1.95	0.64
1:A:190:ALA:O	1:A:191:THR:HG22	1.97	0.64
1:F:240:GLU:O	1:F:244:LYS:HG3	1.97	0.64
1:D:189:GLN:HG3	1:D:276:LYS:NZ	2.12	0.64
1:D:203:GLY:HA2	1:D:206:SER:HB2	1.80	0.64
1:F:183:SER:O	1:F:187:ARG:HG3	1.97	0.64
1:A:248:ARG:HH11	1:A:248:ARG:CG	2.11	0.63
1:A:219:GLY:O	1:A:222:ARG:HB3	1.98	0.63
1:F:221:GLN:OE1	1:F:276:LYS:NZ	2.31	0.62
1:E:232:LEU:HD21	1:E:277:HIS:CD2	2.34	0.62
1:A:299:VAL:CG1	1:A:303:ARG:HH21	2.13	0.62
1:B:265:VAL:O	1:B:269:SER:HB2	1.98	0.62
1:E:290:LEU:O	1:E:294:ILE:HG13	2.00	0.61
1:E:191:THR:O	1:E:191:THR:HG22	2.00	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:189:GLN:HG2	1:A:272:ALA:HB1	1.82	0.61
1:D:298:LEU:HD11	1:D:306:LEU:HD11	1.82	0.61
1:D:171:GLY:HA3	1:D:303:ARG:HH22	1.65	0.61
1:C:239:ASN:HD22	1:C:241:ASP:HB2	1.66	0.61
1:A:279:LYS:HG2	1:A:284:GLU:HG2	1.83	0.61
1:F:216:VAL:HG11	1:F:319:PHE:CD1	2.35	0.61
1:A:299:VAL:CG1	1:A:303:ARG:NH2	2.64	0.61
1:B:288:GLU:HB3	1:B:289:PRO:HD3	1.83	0.60
1:A:171:GLY:CA	1:A:303:ARG:NH2	2.62	0.60
1:D:256:ASP:O	1:D:263:ARG:NH2	2.25	0.60
1:D:197:LYS:HG2	1:D:198:PRO:HD2	1.84	0.60
1:C:215:ARG:NH2	1:C:319:PHE:O	2.34	0.60
1:B:256:ASP:OD1	1:B:256:ASP:N	2.27	0.60
1:D:180:GLU:OE2	1:D:199:MET:HG2	2.01	0.60
1:A:196:THR:HG23	1:C:284:GLU:OE2	2.00	0.59
1:A:309:GLN:O	1:A:310:ARG:HB2	2.00	0.59
1:B:203:GLY:HA2	1:B:206:SER:HB2	1.83	0.59
1:E:232:LEU:HD21	1:E:277:HIS:CG	2.37	0.59
1:B:296:ASP:O	1:B:300:ARG:HB2	2.02	0.59
1:E:318:PHE:HD2	1:E:319:PHE:CD1	2.15	0.59
1:B:180:GLU:O	1:B:184:ARG:HG2	2.03	0.59
1:F:258:VAL:CG2	1:F:259:THR:N	2.54	0.59
1:E:301:THR:O	1:E:302:LYS:HD3	2.02	0.59
1:B:180:GLU:HG2	1:B:199:MET:HE3	1.82	0.59
1:E:211:GLU:OE1	1:E:214:ARG:NH1	2.36	0.59
1:F:284:GLU:N	1:F:284:GLU:OE1	2.36	0.58
1:D:193:ALA:HB3	1:D:194:LYS:HA	1.69	0.58
1:F:313:ASP:O	1:F:316:VAL:CG1	2.46	0.58
1:E:278:LEU:CD2	1:E:286:CYS:CB	2.81	0.58
1:F:189:GLN:CA	1:F:189:GLN:HE21	2.03	0.57
1:B:173:GLU:OE1	1:B:201:ARG:HD3	2.05	0.57
1:E:321:VAL:O	1:E:321:VAL:CG1	2.51	0.57
1:C:212:THR:CG2	1:C:215:ARG:HH12	2.17	0.57
1:E:259:THR:HG23	1:E:302:LYS:NZ	2.20	0.57
1:A:212:THR:OG1	1:A:316:VAL:HG13	2.03	0.57
1:D:176:ARG:HH12	1:D:201:ARG:CB	2.17	0.57
1:A:183:SER:OG	1:A:187:ARG:NH1	2.37	0.57
1:E:239:ASN:N	1:E:239:ASN:OD1	2.37	0.57
1:C:202:SER:O	1:C:205:THR:CG2	2.47	0.57
1:D:216:VAL:HG11	1:D:319:PHE:CD1	2.38	0.57
1:F:190:ALA:O	1:F:279:LYS:HD2	2.04	0.57
1:B:197:LYS:CG	1:B:198:PRO:HD2	2.34	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:236:ASP:O	1:F:236:ASP:CG	2.43	0.57
1:A:240:GLU:HG3	1:A:244:LYS:HE3	1.85	0.56
1:C:184:ARG:HG2	1:C:184:ARG:HH11	1.70	0.56
1:D:197:LYS:CG	1:D:198:PRO:HD2	2.36	0.56
1:A:212:THR:O	1:A:216:VAL:HG13	2.05	0.56
1:B:180:GLU:OE2	1:B:199:MET:HG3	2.04	0.56
1:B:250:MET:HE3	1:B:297:VAL:HG21	1.85	0.56
1:C:212:THR:HG23	1:C:215:ARG:NH1	2.18	0.56
1:F:275:ALA:HB1	1:F:287:ILE:HD13	1.86	0.56
1:C:197:LYS:N	1:C:198:PRO:HD3	2.20	0.56
1:B:320:HIS:O	1:B:321:VAL:HB	2.05	0.56
1:A:221:GLN:NE2	1:A:276:LYS:HE3	2.21	0.56
1:F:250:MET:HE1	1:F:294:ILE:HA	1.86	0.56
1:C:187:ARG:HH11	1:C:187:ARG:CG	2.18	0.56
1:E:286:CYS:C	1:E:289:PRO:HD2	2.27	0.55
1:D:320:HIS:O	1:D:321:VAL:CG1	2.48	0.55
1:F:188:GLU:CD	1:F:214:ARG:HE	2.09	0.55
1:A:211:GLU:HG3	1:A:212:THR:N	2.19	0.55
1:A:299:VAL:HG12	1:A:303:ARG:NH2	2.20	0.55
1:A:188:GLU:OE2	1:A:214:ARG:NE	2.40	0.55
1:E:215:ARG:HG2	1:E:216:VAL:N	2.21	0.55
1:D:288:GLU:HB3	1:D:289:PRO:HD3	1.89	0.55
1:E:228:PHE:HB3	1:E:273:PHE:HD2	1.71	0.55
1:E:228:PHE:HB3	1:E:273:PHE:CD2	2.42	0.55
1:B:309:GLN:O	1:B:314:GLY:HA3	2.07	0.55
1:C:212:THR:CG2	1:C:215:ARG:NH1	2.69	0.55
1:F:189:GLN:HG3	1:F:276:LYS:HE3	1.88	0.55
1:B:207:ARG:HH11	1:B:207:ARG:CB	2.19	0.55
1:D:204:ALA:HA	1:D:207:ARG:NH2	2.22	0.55
1:F:191:THR:HG1	1:F:192:GLY:H	1.48	0.54
1:F:191:THR:HG22	1:F:279:LYS:NZ	2.21	0.54
1:F:318:PHE:HD2	1:F:319:PHE:CE2	2.24	0.54
1:D:179:LEU:O	1:D:183:SER:HB3	2.08	0.54
1:F:211:GLU:OE1	1:F:214:ARG:HB2	2.07	0.54
1:C:261:TRP:O	1:C:265:VAL:HG23	2.07	0.54
1:E:208:LYS:HB3	1:E:316:VAL:HG21	1.89	0.54
1:E:301:THR:C	1:E:302:LYS:HD3	2.28	0.54
1:C:188:GLU:HA	1:C:193:ALA:HB3	1.90	0.54
1:E:185:TYR:CE1	1:E:189:GLN:NE2	2.76	0.54
1:F:250:MET:HE3	1:F:294:ILE:HA	1.87	0.54
1:C:233:ARG:HG3	1:C:234:LYS:N	2.23	0.54
1:F:211:GLU:OE1	1:F:214:ARG:HD2	2.08	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:E:199:MET:SD	1:E:206:SER:HB3	2.48	0.53
1:D:212:THR:CG2	1:D:319:PHE:HB2	2.38	0.53
1:E:173:GLU:OE2	1:E:176:ARG:NH2	2.42	0.53
1:B:250:MET:HE2	1:B:297:VAL:CG2	2.31	0.53
1:C:187:ARG:HH11	1:C:187:ARG:HG2	1.71	0.53
1:B:180:GLU:HG2	1:B:199:MET:CE	2.39	0.53
1:C:250:MET:O	1:C:253:VAL:HG12	2.08	0.53
1:C:256:ASP:OD1	1:C:256:ASP:N	2.28	0.53
1:F:284:GLU:O	1:F:286:CYS:N	2.41	0.53
1:F:176:ARG:NH1	1:F:201:ARG:CB	2.72	0.53
1:B:240:GLU:O	1:B:244:LYS:HG2	2.09	0.52
1:F:258:VAL:HG22	1:F:259:THR:O	2.09	0.52
1:D:171:GLY:CA	1:D:303:ARG:HH22	2.20	0.52
1:E:232:LEU:C	1:E:232:LEU:HD12	2.29	0.52
1:E:183:SER:OG	1:E:187:ARG:NH2	2.41	0.52
1:C:309:GLN:O	1:C:314:GLY:HA3	2.09	0.52
1:F:284:GLU:C	1:F:286:CYS:N	2.60	0.52
1:A:190:ALA:HB2	1:A:276:LYS:HA	1.91	0.52
1:A:188:GLU:CD	1:A:214:ARG:HE	2.13	0.52
1:D:288:GLU:HA	1:D:288:GLU:OE1	2.10	0.52
1:D:192:GLY:O	1:D:193:ALA:O	2.27	0.52
1:D:197:LYS:CG	1:D:198:PRO:CD	2.88	0.52
1:E:319:PHE:N	1:E:319:PHE:CD1	2.74	0.52
1:F:299:VAL:O	1:F:303:ARG:CB	2.58	0.52
1:F:187:ARG:HA	1:F:190:ALA:CB	2.37	0.52
1:F:316:VAL:HG13	1:F:317:GLU:N	2.24	0.52
1:D:275:ALA:HB1	1:D:287:ILE:HD12	1.92	0.52
1:E:189:GLN:HG2	1:E:272:ALA:HB1	1.91	0.52
1:C:187:ARG:NH1	1:C:187:ARG:CG	2.73	0.52
1:D:204:ALA:HA	1:D:207:ARG:CZ	2.40	0.52
1:D:180:GLU:OE2	1:D:199:MET:HA	2.10	0.51
1:A:224:HIS:CE1	3:A:402:PGE:C1	2.88	0.51
1:F:239:ASN:O	1:F:241:ASP:N	2.44	0.51
1:B:203:GLY:O	1:B:207:ARG:CG	2.45	0.51
1:C:197:LYS:N	1:C:198:PRO:CD	2.73	0.51
1:D:215:ARG:HG2	1:D:216:VAL:N	2.26	0.51
1:E:199:MET:SD	1:E:206:SER:CB	2.98	0.51
1:F:215:ARG:HH22	1:F:319:PHE:HB3	1.76	0.51
1:E:216:VAL:HG12	1:E:265:VAL:HG11	1.92	0.51
1:C:210:LEU:O	1:C:214:ARG:HG3	2.11	0.51
1:D:299:VAL:O	1:D:303:ARG:HB2	2.11	0.51
1:E:229:GLN:NE2	1:E:229:GLN:CA	2.71	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:212:THR:CG2	1:F:319:PHE:HB2	2.41	0.50
1:F:278:LEU:HD13	1:F:286:CYS:HB2	1.93	0.50
1:B:213:LEU:O	1:B:217:GLY:N	2.41	0.50
1:B:197:LYS:HG2	1:B:198:PRO:CD	2.38	0.50
1:D:189:GLN:HG3	1:D:276:LYS:HZ3	1.75	0.50
1:E:221:GLN:HE22	1:E:276:LYS:NZ	2.10	0.50
1:F:258:VAL:CG2	1:F:259:THR:H	2.12	0.50
1:A:224:HIS:CD2	3:A:402:PGE:H1	2.47	0.50
1:F:215:ARG:NH2	1:F:319:PHE:O	2.45	0.50
1:C:267:LEU:HD12	2:C:400:19H:H10	1.92	0.50
1:F:284:GLU:O	1:F:285:SER:C	2.45	0.50
1:E:185:TYR:HE2	1:E:272:ALA:HB2	1.77	0.49
1:B:259:THR:HG23	1:B:302:LYS:HE3	1.95	0.49
1:C:216:VAL:O	1:C:220:VAL:HG23	2.13	0.49
1:E:278:LEU:HD21	1:E:286:CYS:CB	2.43	0.49
1:C:253:VAL:HG13	2:C:400:19H:H11	1.94	0.49
1:C:185:TYR:O	1:C:189:GLN:HG2	2.13	0.49
1:C:180:GLU:O	1:C:184:ARG:HB2	2.13	0.49
1:A:191:THR:HG23	1:A:192:GLY:O	2.12	0.49
1:B:176:ARG:HH12	1:B:201:ARG:H	1.61	0.49
1:B:272:ALA:O	1:B:276:LYS:HG3	2.13	0.49
1:E:259:THR:CG2	1:E:302:LYS:NZ	2.75	0.49
1:C:238:LYS:HE2	1:C:239:ASN:OD1	2.12	0.48
1:C:242:ASP:N	1:C:242:ASP:OD1	2.46	0.48
1:A:256:ASP:O	1:A:263:ARG:NH2	2.46	0.48
1:A:248:ARG:NH1	1:A:248:ARG:CG	2.73	0.48
1:E:259:THR:CG2	1:E:302:LYS:HZ3	2.26	0.48
1:C:286:CYS:C	1:C:289:PRO:HD2	2.33	0.48
1:F:211:GLU:OE1	1:F:214:ARG:NH1	2.40	0.48
1:B:191:THR:O	1:B:193:ALA:N	2.46	0.48
1:F:279:LYS:HA	1:F:284:GLU:OE2	2.14	0.48
1:A:240:GLU:O	1:A:244:LYS:HD2	2.11	0.48
1:B:299:VAL:O	1:B:303:ARG:HB2	2.14	0.48
1:A:299:VAL:O	1:A:303:ARG:HB2	2.13	0.48
1:E:278:LEU:HD21	1:E:286:CYS:HB2	1.91	0.48
1:E:203:GLY:HA2	1:E:206:SER:HB2	1.96	0.48
1:C:171:GLY:HA2	1:C:303:ARG:CZ	2.33	0.48
1:E:221:GLN:HE22	1:E:276:LYS:HZ1	1.61	0.48
1:B:189:GLN:HG2	1:B:272:ALA:CB	2.41	0.48
1:D:189:GLN:CG	1:D:276:LYS:NZ	2.77	0.48
1:C:203:GLY:HA2	1:C:206:SER:HB2	1.96	0.48
1:E:261:TRP:CZ3	1:E:315:PHE:HB2	2.48	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:299:VAL:O	1:F:303:ARG:HB3	2.14	0.47
1:A:187:ARG:O	1:A:191:THR:CG2	2.56	0.47
1:F:212:THR:O	1:F:216:VAL:HG13	2.13	0.47
1:C:215:ARG:NH1	1:C:319:PHE:HB3	2.29	0.47
1:E:284:GLU:O	1:E:287:ILE:HG13	2.13	0.47
1:C:253:VAL:HG11	2:C:400:19H:H12	1.96	0.47
1:A:184:ARG:O	1:A:188:GLU:HB2	2.15	0.47
1:E:216:VAL:HG11	1:E:319:PHE:CE2	2.49	0.47
1:D:190:ALA:O	1:D:192:GLY:N	2.44	0.46
1:E:275:ALA:HB1	1:E:287:ILE:HD13	1.97	0.46
1:A:265:VAL:O	1:A:269:SER:OG	2.25	0.46
1:D:189:GLN:HG3	1:D:276:LYS:HZ1	1.79	0.46
1:B:275:ALA:HB1	1:B:287:ILE:HD13	1.97	0.46
1:D:180:GLU:CD	1:D:199:MET:HG2	2.36	0.46
1:F:186:LEU:O	1:F:190:ALA:CB	2.62	0.46
1:F:199:MET:CE	1:F:207:ARG:HD2	2.43	0.46
1:F:258:VAL:HG22	1:F:259:THR:H	1.70	0.46
1:D:189:GLN:CG	1:D:276:LYS:HZ1	2.29	0.46
1:F:238:LYS:HB3	1:F:238:LYS:HE2	1.63	0.46
1:F:259:THR:HG22	1:F:305:TRP:NE1	2.31	0.46
1:C:253:VAL:CG1	2:C:400:19H:H11	2.45	0.46
1:C:239:ASN:ND2	1:C:241:ASP:HB2	2.31	0.46
1:B:243:VAL:HG21	1:B:286:CYS:HB3	1.98	0.46
1:E:215:ARG:CG	1:E:216:VAL:N	2.79	0.45
1:B:184:ARG:HB2	1:B:210:LEU:HD11	1.98	0.45
1:E:197:LYS:HG3	1:E:198:PRO:HD2	1.98	0.45
1:E:185:TYR:CE2	1:E:272:ALA:HB2	2.51	0.45
1:B:173:GLU:OE2	1:B:176:ARG:CZ	2.63	0.45
1:F:250:MET:HE3	1:F:294:ILE:HG12	1.99	0.45
1:E:261:TRP:O	1:E:265:VAL:HG23	2.16	0.45
1:B:231:MET:O	1:B:235:LEU:HG	2.16	0.45
1:B:192:GLY:O	1:B:193:ALA:HB3	2.16	0.45
1:F:248:ARG:NH1	1:F:248:ARG:CG	2.71	0.45
1:F:261:TRP:CE3	1:F:315:PHE:HD1	2.34	0.45
1:C:216:VAL:CG1	1:C:265:VAL:HG11	2.42	0.45
1:C:204:ALA:O	1:C:207:ARG:HB2	2.17	0.45
1:F:259:THR:HG21	1:F:305:TRP:CG	2.50	0.45
1:D:210:LEU:HD13	1:D:210:LEU:HA	1.49	0.45
1:E:187:ARG:O	1:E:190:ALA:O	2.35	0.45
1:C:191:THR:CG2	1:C:193:ALA:CB	2.83	0.45
1:D:232:LEU:HD23	1:D:273:PHE:HE1	1.82	0.45
1:D:199:MET:O	1:D:200:GLY:O	2.35	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:B:207:ARG:HB2	1:B:207:ARG:NH1	2.30	0.45
1:C:244:LYS:NZ	1:C:244:LYS:HB2	2.32	0.45
1:E:221:GLN:CD	1:E:276:LYS:HZ3	2.20	0.44
1:C:199:MET:O	1:C:200:GLY:O	2.36	0.44
1:E:319:PHE:HD1	1:E:319:PHE:N	2.11	0.44
1:A:171:GLY:HA2	1:A:303:ARG:NH2	2.32	0.44
1:D:321:VAL:CG1	1:D:321:VAL:O	2.62	0.44
1:E:211:GLU:OE1	1:E:211:GLU:HA	2.17	0.44
1:B:201:ARG:CG	1:B:202:SER:N	2.80	0.44
1:D:309:GLN:O	1:D:314:GLY:HA3	2.17	0.44
1:F:318:PHE:CD2	1:F:319:PHE:CE2	3.05	0.44
1:E:207:ARG:NH2	2:F:400:19H:OAD	2.51	0.44
1:B:191:THR:HG22	1:B:279:LYS:HD2	2.00	0.43
1:F:189:GLN:NE2	1:F:189:GLN:CA	2.54	0.43
1:E:210:LEU:O	1:E:214:ARG:HB2	2.18	0.43
1:F:235:LEU:HA	1:F:235:LEU:HD23	1.79	0.43
1:F:184:ARG:O	1:F:188:GLU:HB2	2.18	0.43
1:C:235:LEU:HD22	1:C:246:LEU:HD21	1.99	0.43
1:A:190:ALA:CB	1:A:276:LYS:HA	2.48	0.43
1:D:232:LEU:HD21	1:D:277:HIS:HB2	1.99	0.43
1:F:226:THR:HG22	1:F:227:ALA:N	2.31	0.43
1:F:299:VAL:O	1:F:303:ARG:HB2	2.19	0.43
1:B:191:THR:O	1:B:191:THR:OG1	2.26	0.43
1:B:224:HIS:NE2	3:B:403:PGE:H12	2.29	0.43
1:F:187:ARG:CA	1:F:190:ALA:HB3	2.43	0.43
1:B:189:GLN:HG3	1:B:276:LYS:HE3	2.01	0.43
1:B:288:GLU:OE1	1:B:288:GLU:HA	2.18	0.43
1:F:208:LYS:H	1:F:208:LYS:HG2	1.63	0.43
1:B:191:THR:HG22	1:B:284:GLU:OE2	2.19	0.43
1:D:230:GLY:O	1:D:234:LYS:HG3	2.19	0.43
1:C:244:LYS:NZ	1:C:244:LYS:CB	2.81	0.43
1:F:317:GLU:O	1:F:320:HIS:CD2	2.72	0.42
1:D:197:LYS:HG3	1:D:198:PRO:CD	2.47	0.42
1:A:318:PHE:CD2	1:A:318:PHE:O	2.72	0.42
1:F:316:VAL:CG1	1:F:317:GLU:N	2.82	0.42
1:E:185:TYR:CE1	1:E:214:ARG:HA	2.49	0.42
1:A:240:GLU:O	1:A:244:LYS:CD	2.68	0.42
1:F:279:LYS:CA	1:F:284:GLU:OE2	2.67	0.42
1:A:221:GLN:HE21	1:A:276:LYS:HE3	1.85	0.42
1:F:222:ARG:HH11	1:F:222:ARG:CG	2.32	0.42
1:C:254:PHE:CD2	2:C:400:19H:H8	2.54	0.42
1:F:232:LEU:HD21	1:F:277:HIS:CB	2.50	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:B:239:ASN:O	1:B:242:ASP:HB2	2.19	0.42
1:A:299:VAL:HG11	1:A:303:ARG:NH2	2.34	0.42
1:C:202:SER:OG	1:C:205:THR:CG2	2.68	0.42
1:E:320:HIS:N	1:E:320:HIS:ND1	2.68	0.42
1:A:312:TRP:O	1:A:315:PHE:HB3	2.20	0.42
1:F:251:ILE:O	1:F:255:SER:HB2	2.20	0.42
1:E:188:GLU:HG2	1:E:193:ALA:O	2.19	0.42
1:F:171:GLY:HA3	1:F:175:TYR:HB2	2.01	0.42
1:D:171:GLY:N	1:D:303:ARG:NH2	2.68	0.42
1:D:193:ALA:HB1	1:D:194:LYS:C	2.33	0.42
1:B:188:GLU:HG2	1:B:194:LYS:HA	2.02	0.42
1:A:179:LEU:O	1:A:183:SER:HB3	2.20	0.42
1:F:199:MET:CE	1:F:207:ARG:CD	2.98	0.42
1:E:246:LEU:HD13	2:E:400:19H:CL1	2.57	0.42
1:C:259:THR:HG23	1:C:302:LYS:HE3	2.02	0.42
1:A:309:GLN:O	1:A:314:GLY:HA3	2.19	0.41
1:D:171:GLY:HA3	1:D:303:ARG:CZ	2.46	0.41
1:F:201:ARG:O	1:F:202:SER:CB	2.67	0.41
1:E:310:ARG:O	1:E:313:ASP:HB2	2.21	0.41
1:E:176:ARG:HE	1:E:176:ARG:HB3	1.60	0.41
1:E:174:LEU:HA	1:E:174:LEU:HD12	1.89	0.41
1:A:231:MET:O	1:A:235:LEU:HG	2.21	0.41
1:F:186:LEU:O	1:F:190:ALA:N	2.53	0.41
1:E:318:PHE:C	1:E:319:PHE:CD1	2.86	0.41
1:B:176:ARG:HB3	1:B:176:ARG:HE	1.59	0.41
1:A:300:ARG:HD3	1:A:300:ARG:HH11	1.71	0.41
1:F:214:ARG:O	1:F:218:ASP:OD2	2.38	0.41
1:A:190:ALA:O	1:A:191:THR:CB	2.69	0.41
1:C:254:PHE:O	1:C:254:PHE:CG	2.73	0.41
1:E:300:ARG:NH1	1:E:300:ARG:HG2	2.35	0.41
1:C:299:VAL:O	1:C:303:ARG:HB2	2.21	0.41
1:E:318:PHE:CD2	1:E:319:PHE:CD1	3.00	0.41
1:C:224:HIS:N	1:C:224:HIS:ND1	2.67	0.41
1:F:236:ASP:OD1	1:F:236:ASP:C	2.56	0.40
1:E:199:MET:SD	1:E:206:SER:HB2	2.60	0.40
1:D:176:ARG:NH1	1:D:201:ARG:CB	2.84	0.40
1:C:299:VAL:CG1	1:C:303:ARG:HH21	2.34	0.40
1:E:221:GLN:HE21	1:E:221:GLN:HB3	1.54	0.40
1:C:215:ARG:CZ	1:C:319:PHE:O	2.69	0.40
1:E:180:GLU:O	1:E:184:ARG:HB2	2.20	0.40
1:A:256:ASP:O	1:A:263:ARG:NH1	2.54	0.40
1:A:288:GLU:CB	1:A:289:PRO:HD3	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	145/153 (95%)	142 (98%)	2 (1%)	1 (1%)	30	69
1	B	149/153 (97%)	144 (97%)	4 (3%)	1 (1%)	30	69
1	C	148/153 (97%)	140 (95%)	5 (3%)	3 (2%)	11	35
1	D	149/153 (97%)	139 (93%)	6 (4%)	4 (3%)	8	25
1	E	149/153 (97%)	140 (94%)	9 (6%)	0	100	100
1	F	148/153 (97%)	135 (91%)	7 (5%)	6 (4%)	4	14
All	All	888/918 (97%)	840 (95%)	33 (4%)	15 (2%)	14	42

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	192	GLY
1	C	197	LYS
1	C	200	GLY
1	D	193	ALA
1	F	197	LYS
1	F	202	SER
1	F	240	GLU
1	F	259	THR
1	D	200	GLY
1	D	318	PHE
1	A	191	THR
1	C	201	ARG
1	D	172	ASP
1	F	258	VAL
1	F	192	GLY

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	127/133 (96%)	110 (87%)	17 (13%)	6	16
1	B	131/133 (98%)	103 (79%)	28 (21%)	1	4
1	C	125/133 (94%)	92 (74%)	33 (26%)	1	2
1	D	129/133 (97%)	114 (88%)	15 (12%)	8	23
1	E	130/133 (98%)	109 (84%)	21 (16%)	3	10
1	F	127/133 (96%)	106 (84%)	21 (16%)	3	9
All	All	769/798 (96%)	634 (82%)	135 (18%)	3	8

All (135) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	172	ASP
1	A	210	LEU
1	A	215	ARG
1	A	221	GLN
1	A	225	GLU
1	A	233	ARG
1	A	244	LYS
1	A	248	ARG
1	A	249	VAL
1	A	269	SER
1	A	278	LEU
1	A	279	LYS
1	A	289	PRO
1	A	296	ASP
1	A	302	LYS
1	A	303	ARG
1	A	321	VAL
1	B	172	ASP
1	B	176	ARG
1	B	184	ARG
1	B	189	GLN
1	B	199	MET
1	B	201	ARG

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Mol	Chain	Res	Type
1	B	205	THR
1	B	206	SER
1	B	207	ARG
1	B	213	LEU
1	B	226	THR
1	B	231	MET
1	B	234	LYS
1	B	236	ASP
1	B	244	LYS
1	B	245	SER
1	B	247	SER
1	B	248	ARG
1	B	250	MET
1	B	256	ASP
1	B	259	THR
1	B	263	ARG
1	B	267	LEU
1	B	269	SER
1	B	278	LEU
1	B	285	SER
1	B	287	ILE
1	B	296	ASP
1	C	172	ASP
1	C	176	ARG
1	C	184	ARG
1	C	187	ARG
1	C	196	THR
1	C	210	LEU
1	C	211	GLU
1	C	212	THR
1	C	213	LEU
1	C	224	HIS
1	C	225	GLU
1	C	231	MET
1	C	232	LEU
1	C	233	ARG
1	C	234	LYS
1	C	238	LYS
1	C	239	ASN
1	C	240	GLU
1	C	247	SER
1	C	248	ARG

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Mol	Chain	Res	Type
1	C	249	VAL
1	C	250	MET
1	C	258	VAL
1	C	259	THR
1	C	267	LEU
1	C	269	SER
1	C	279	LYS
1	C	282	ASN
1	C	285	SER
1	C	293	SER
1	C	296	ASP
1	C	307	VAL
1	C	308	LYS
1	D	176	ARG
1	D	189	GLN
1	D	191	THR
1	D	194	LYS
1	D	196	THR
1	D	202	SER
1	D	206	SER
1	D	207	ARG
1	D	208	LYS
1	D	210	LEU
1	D	233	ARG
1	D	259	THR
1	D	278	LEU
1	D	307	VAL
1	D	317	GLU
1	E	172	ASP
1	E	176	ARG
1	E	184	ARG
1	E	194	LYS
1	E	202	SER
1	E	207	ARG
1	E	210	LEU
1	E	211	GLU
1	E	215	ARG
1	E	221	GLN
1	E	229	GLN
1	E	232	LEU
1	E	241	ASP
1	E	248	ARG

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Mol	Chain	Res	Type
1	E	256	ASP
1	E	278	LEU
1	E	284	GLU
1	E	288	GLU
1	E	309	GLN
1	E	320	HIS
1	E	321	VAL
1	F	172	ASP
1	F	176	ARG
1	F	183	SER
1	F	187	ARG
1	F	189	GLN
1	F	195	ASP
1	F	199	MET
1	F	207	ARG
1	F	210	LEU
1	F	215	ARG
1	F	222	ARG
1	F	226	THR
1	F	238	LYS
1	F	247	SER
1	F	248	ARG
1	F	259	THR
1	F	279	LYS
1	F	284	GLU
1	F	287	ILE
1	F	303	ARG
1	F	320	HIS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	221	GLN
1	B	177	GLN
1	D	277	HIS
1	E	189	GLN
1	E	229	GLN
1	F	189	GLN

5.3.3 RNA ⓘ

There are no RNA chains in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

10 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	19H	A	401	-	28,28,28	3.58	15 (53%)	40,40,40	2.24	13 (32%)
3	PGE	A	402	-	9,9,9	0.68	0	8,8,8	0.66	0
2	19H	B	401	-	28,28,28	3.65	13 (46%)	40,40,40	2.43	16 (40%)
3	PGE	B	402	-	9,9,9	0.71	0	8,8,8	0.61	0
3	PGE	B	403	-	9,9,9	0.70	0	8,8,8	0.90	0
4	EDO	B	404	-	3,3,3	0.68	0	2,2,2	0.41	0
2	19H	C	400	-	28,28,28	3.66	13 (46%)	40,40,40	2.34	13 (32%)
2	19H	D	400	-	28,28,28	3.60	14 (50%)	40,40,40	2.51	16 (40%)
2	19H	E	400	-	28,28,28	3.66	14 (50%)	40,40,40	2.34	13 (32%)
2	19H	F	400	-	28,28,28	3.63	13 (46%)	40,40,40	2.34	14 (35%)

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	19H	A	401	-	-	2/10/11/11	0/1/3/3
3	PGE	A	402	-	-	0/7/7/7	0/0/0/0
2	19H	B	401	-	-	0/10/11/11	0/1/3/3
3	PGE	B	402	-	-	0/7/7/7	0/0/0/0
3	PGE	B	403	-	-	0/7/7/7	0/0/0/0
4	EDO	B	404	-	-	0/1/1/1	0/0/0/0
2	19H	C	400	-	-	0/10/11/11	0/1/3/3
2	19H	D	400	-	-	0/10/11/11	0/1/3/3
2	19H	E	400	-	-	0/10/11/11	0/1/3/3
2	19H	F	400	-	-	0/10/11/11	0/1/3/3

All (82) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	400	19H	CAB-CAS	-9.41	1.30	1.51
2	B	401	19H	CAB-CAS	-9.24	1.31	1.51
2	B	401	19H	CAA-CAR	-9.21	1.31	1.51
2	F	400	19H	CAB-CAS	-9.20	1.31	1.51
2	A	401	19H	CAB-CAS	-9.03	1.31	1.51
2	F	400	19H	CAA-CAR	-9.03	1.31	1.51
2	C	400	19H	CAA-CAR	-8.99	1.31	1.51
2	E	400	19H	CAB-CAS	-8.98	1.31	1.51
2	A	401	19H	CAA-CAR	-8.90	1.31	1.51
2	E	400	19H	CAA-CAR	-8.84	1.32	1.51
2	D	400	19H	CAA-CAR	-8.83	1.32	1.51
2	D	400	19H	CAB-CAS	-8.79	1.32	1.51
2	E	400	19H	CAX-CAZ	-7.56	1.31	1.41
2	D	400	19H	CAX-CAZ	-7.49	1.31	1.41
2	F	400	19H	CAX-CAZ	-7.22	1.32	1.41
2	B	401	19H	CAX-CAZ	-7.06	1.32	1.41
2	C	400	19H	CAX-CAZ	-7.04	1.32	1.41
2	A	401	19H	CAX-CAZ	-6.54	1.33	1.41
2	E	400	19H	CAW-CAX	-5.55	1.30	1.42
2	A	401	19H	CAW-CAX	-5.45	1.31	1.42
2	D	400	19H	CAW-CAX	-5.40	1.31	1.42
2	C	400	19H	CAW-CAX	-5.35	1.31	1.42
2	F	400	19H	CAW-CAX	-5.32	1.31	1.42
2	B	401	19H	CAW-CAX	-5.19	1.31	1.42
2	C	400	19H	CAH-CAZ	-4.99	1.31	1.42
2	B	401	19H	CAH-CAZ	-4.95	1.31	1.42
2	E	400	19H	CAH-CAZ	-4.84	1.32	1.42
2	F	400	19H	CAH-CAZ	-4.80	1.32	1.42
2	A	401	19H	CAH-CAZ	-4.76	1.32	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	400	19H	CAH-CAZ	-4.69	1.32	1.42
2	E	400	19H	CAN-CAX	4.58	1.61	1.52
2	D	400	19H	CAN-CAX	4.38	1.61	1.52
2	A	401	19H	CAZ-CAY	-4.29	1.33	1.41
2	F	400	19H	CAN-CAX	4.29	1.61	1.52
2	C	400	19H	CAN-CAX	4.20	1.61	1.52
2	B	401	19H	CAN-CAX	4.11	1.60	1.52
2	A	401	19H	CAN-CAX	4.08	1.60	1.52
2	E	400	19H	CAZ-CAY	-4.02	1.34	1.41
2	F	400	19H	CAZ-CAY	-3.95	1.34	1.41
2	C	400	19H	CAZ-CAY	-3.94	1.34	1.41
2	A	401	19H	CAW-CAQ	-3.82	1.27	1.56
2	D	400	19H	CAZ-CAY	-3.82	1.34	1.41
2	C	400	19H	CAW-CAQ	-3.80	1.28	1.56
2	B	401	19H	CAZ-CAY	-3.78	1.34	1.41
2	F	400	19H	CAW-CAQ	-3.78	1.28	1.56
2	B	401	19H	CAW-CAQ	-3.78	1.28	1.56
2	E	400	19H	CAW-CAQ	-3.77	1.28	1.56
2	D	400	19H	CAW-CAQ	-3.74	1.28	1.56
2	A	401	19H	CAK-CAY	-3.43	1.30	1.39
2	B	401	19H	CAK-CAY	-3.43	1.30	1.39
2	C	400	19H	CAK-CAY	-3.42	1.30	1.39
2	F	400	19H	CAK-CAY	-3.34	1.31	1.39
2	E	400	19H	CAK-CAY	-3.28	1.31	1.39
2	D	400	19H	CAK-CAY	-3.18	1.31	1.39
2	B	401	19H	CAH-CAG	3.03	1.43	1.36
2	C	400	19H	CAH-CAG	2.95	1.42	1.36
2	A	401	19H	CAH-CAG	2.92	1.42	1.36
2	F	400	19H	CAH-CAG	2.89	1.42	1.36
2	E	400	19H	CAH-CAG	2.85	1.42	1.36
2	D	400	19H	CAH-CAG	2.85	1.42	1.36
2	B	401	19H	CAW-NAO	2.66	1.39	1.36
2	C	400	19H	CAW-NAO	2.64	1.39	1.36
2	E	400	19H	CAW-NAO	2.61	1.39	1.36
2	A	401	19H	CAW-NAO	2.59	1.39	1.36
2	D	400	19H	CAW-NAO	2.51	1.39	1.36
2	F	400	19H	CAW-NAO	2.30	1.39	1.36
2	B	401	19H	CAI-CAR	2.28	1.43	1.39
2	A	401	19H	CAI-CAR	2.26	1.43	1.39
2	C	400	19H	OAP-CAU	-2.17	1.32	1.37
2	E	400	19H	OAD-CAQ	2.15	1.29	1.23
2	D	400	19H	CAJ-CAS	2.15	1.43	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	401	19H	OAD-CAQ	2.13	1.29	1.23
2	E	400	19H	CAK-CAT	2.13	1.41	1.36
2	F	400	19H	OAD-CAQ	2.12	1.29	1.23
2	D	400	19H	OAD-CAQ	2.12	1.29	1.23
2	B	401	19H	OAD-CAQ	2.11	1.29	1.23
2	F	400	19H	CAK-CAT	2.09	1.41	1.36
2	E	400	19H	OAP-CAU	-2.08	1.32	1.37
2	A	401	19H	OAP-CAU	-2.07	1.32	1.37
2	A	401	19H	CAK-CAT	2.07	1.41	1.36
2	D	400	19H	OAP-CAU	-2.06	1.32	1.37
2	C	400	19H	OAD-CAQ	2.06	1.29	1.23

All (85) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	400	19H	CAW-CAX-CAZ	6.86	118.89	108.17
2	B	401	19H	CAW-CAX-CAZ	6.84	118.86	108.17
2	D	400	19H	CAW-CAX-CAZ	6.76	118.73	108.17
2	C	400	19H	CAW-CAX-CAZ	6.63	118.53	108.17
2	F	400	19H	CAW-CAX-CAZ	6.46	118.26	108.17
2	A	401	19H	CAW-CAX-CAZ	6.34	118.08	108.17
2	B	401	19H	OAC-CAQ-OAD	-6.18	109.33	123.35
2	D	400	19H	OAC-CAQ-OAD	-6.03	109.67	123.35
2	A	401	19H	OAC-CAQ-OAD	-6.03	109.68	123.35
2	C	400	19H	OAC-CAQ-OAD	-5.76	110.29	123.35
2	E	400	19H	OAC-CAQ-OAD	-5.70	110.41	123.35
2	F	400	19H	OAC-CAQ-OAD	-5.67	110.49	123.35
2	D	400	19H	CAX-CAW-NAO	-5.42	98.12	106.83
2	B	401	19H	CAX-CAW-NAO	-5.28	98.34	106.83
2	E	400	19H	CAX-CAW-NAO	-5.15	98.54	106.83
2	C	400	19H	CAX-CAW-NAO	-4.87	98.99	106.83
2	F	400	19H	CAX-CAW-NAO	-4.87	99.00	106.83
2	A	401	19H	CAX-CAW-NAO	-4.62	99.39	106.83
2	D	400	19H	CAG-CAT-CAK	-3.79	116.18	121.93
2	D	400	19H	CAQ-CAW-NAO	3.72	125.50	118.19
2	F	400	19H	CAG-CAT-CAK	-3.64	116.40	121.93
2	B	401	19H	CAG-CAT-CAK	-3.57	116.51	121.93
2	E	400	19H	CAQ-CAW-NAO	3.52	125.10	118.19
2	D	400	19H	CAK-CAT-CL2	3.51	125.02	119.77
2	C	400	19H	CAG-CAT-CAK	-3.40	116.77	121.93
2	F	400	19H	CAA-CAR-CAI	3.33	125.85	119.41
2	D	400	19H	CAN-CAX-CAZ	-3.23	119.85	126.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	401	19H	CAG-CAT-CAK	-3.20	117.06	121.93
2	D	400	19H	CAW-NAO-CAY	3.19	113.14	108.18
2	B	401	19H	CAB-CAS-CAJ	3.18	125.54	119.41
2	C	400	19H	CAQ-CAW-NAO	3.14	124.35	118.19
2	A	401	19H	OAC-CAQ-CAW	3.13	126.12	113.46
2	E	400	19H	CAU-CAJ-CAS	2.93	123.66	120.57
2	E	400	19H	CAN-CAX-CAZ	-2.91	120.51	126.56
2	C	400	19H	OAC-CAQ-CAW	2.86	125.01	113.46
2	B	401	19H	CAW-NAO-CAY	2.85	112.61	108.18
2	E	400	19H	CAG-CAT-CAK	-2.84	117.61	121.93
2	B	401	19H	CAQ-CAW-NAO	2.81	123.71	118.19
2	C	400	19H	CAU-CAI-CAR	2.80	123.53	120.57
2	C	400	19H	CAN-CAX-CAZ	-2.77	120.81	126.56
2	F	400	19H	OAC-CAQ-CAW	2.75	124.58	113.46
2	D	400	19H	CAA-CAR-CAI	2.72	124.67	119.41
2	A	401	19H	CAQ-CAW-NAO	2.70	123.49	118.19
2	F	400	19H	CAN-CAX-CAZ	-2.69	120.98	126.56
2	B	401	19H	CAJ-CAS-CAV	-2.68	114.86	117.76
2	D	400	19H	CAU-CAJ-CAS	2.66	123.38	120.57
2	E	400	19H	CAB-CAS-CAJ	2.64	124.51	119.41
2	B	401	19H	CAN-CAX-CAZ	-2.64	121.08	126.56
2	D	400	19H	OAC-CAQ-CAW	2.62	124.06	113.46
2	C	400	19H	CAM-OAP-CAU	-2.62	111.28	117.94
2	E	400	19H	CAW-NAO-CAY	2.60	112.21	108.18
2	E	400	19H	OAC-CAQ-CAW	2.59	123.94	113.46
2	D	400	19H	CAR-CAV-CL1	-2.58	114.88	118.71
2	E	400	19H	CAK-CAT-CL2	2.57	123.61	119.77
2	B	401	19H	OAD-CAQ-CAW	2.54	127.16	118.96
2	F	400	19H	CAW-NAO-CAY	2.52	112.08	108.18
2	B	401	19H	OAC-CAQ-CAW	2.48	123.51	113.46
2	A	401	19H	CAL-CAN-CAX	2.45	117.16	112.65
2	C	400	19H	CAU-CAJ-CAS	2.43	123.14	120.57
2	F	400	19H	CAU-CAI-CAR	2.40	123.11	120.57
2	F	400	19H	CAQ-CAW-NAO	2.38	122.88	118.19
2	F	400	19H	CAI-CAR-CAV	-2.38	115.17	117.76
2	C	400	19H	CAW-NAO-CAY	2.37	111.86	108.18
2	E	400	19H	CAJ-CAS-CAV	-2.32	115.24	117.76
2	D	400	19H	OAD-CAQ-CAW	2.26	126.26	118.96
2	B	401	19H	CAH-CAZ-CAX	2.24	138.25	133.56
2	A	401	19H	CAJ-CAS-CAV	-2.23	115.34	117.76
2	A	401	19H	CAS-CAV-CL1	-2.23	115.40	118.71
2	D	400	19H	CAU-CAI-CAR	2.22	122.92	120.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	401	19H	CAI-CAR-CAV	-2.18	115.39	117.76
2	C	400	19H	CAK-CAT-CL2	2.17	123.03	119.77
2	A	401	19H	CAW-NAO-CAY	2.17	111.55	108.18
2	B	401	19H	CAS-CAV-CL1	-2.16	115.50	118.71
2	F	400	19H	CAR-CAV-CL1	-2.14	115.53	118.71
2	A	401	19H	CAN-CAX-CAW	-2.12	119.65	126.21
2	B	401	19H	CAK-CAT-CL2	2.11	122.93	119.77
2	A	401	19H	CAN-CAX-CAZ	-2.11	122.19	126.56
2	F	400	19H	CAH-CAZ-CAX	2.10	137.94	133.56
2	C	400	19H	OAP-CAM-CAL	2.09	116.61	108.42
2	E	400	19H	OAD-CAQ-CAW	2.05	125.60	118.96
2	F	400	19H	CAX-CAW-CAQ	2.04	138.13	131.55
2	A	401	19H	CAH-CAZ-CAX	2.03	137.81	133.56
2	D	400	19H	CAJ-CAS-CAV	-2.02	115.56	117.76
2	D	400	19H	CAT-CAK-CAY	2.02	122.81	118.56
2	B	401	19H	CAN-CAX-CAW	-2.01	120.00	126.21

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	401	19H	OAD-CAQ-CAW-NAO
2	A	401	19H	OAC-CAQ-CAW-CAX

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	149/153 (97%)	-0.18	4 (2%) 52 52	26, 46, 70, 85	0
1	B	151/153 (98%)	-0.15	0 100 100	7, 44, 65, 73	0
1	C	150/153 (98%)	-0.30	2 (1%) 74 75	27, 50, 72, 78	0
1	D	151/153 (98%)	-0.16	3 (1%) 62 63	28, 48, 69, 81	0
1	E	151/153 (98%)	-0.17	2 (1%) 74 75	28, 49, 71, 87	0
1	F	150/153 (98%)	-0.04	4 (2%) 52 52	24, 49, 77, 87	0
All	All	902/918 (98%)	-0.17	15 (1%) 65 68	7, 48, 71, 87	0

All (15) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	196	THR	4.3
1	F	193	ALA	3.4
1	A	202	SER	3.3
1	A	196	THR	3.3
1	D	202	SER	3.0
1	E	223	ASN	3.0
1	D	320	HIS	2.9
1	A	198	PRO	2.7
1	F	194	LYS	2.6
1	E	256	ASP	2.5
1	C	222	ARG	2.2
1	A	203	GLY	2.2
1	C	198	PRO	2.1
1	D	321	VAL	2.1
1	F	222	ARG	2.0

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

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

6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(Å ²)	Q<0.9
3	PGE	A	402	10/10	0.27	7.28	36,56,76,79	0
4	EDO	B	404	4/4	0.26	1.84	33,41,62,77	0
3	PGE	B	403	10/10	0.22	1.31	32,48,61,65	0
2	19H	D	400	26/26	0.14	-0.41	17,37,59,79	0
3	PGE	B	402	10/10	0.18	-0.53	26,60,74,80	0
2	19H	A	401	26/26	0.16	-0.56	1,40,57,66	0
2	19H	E	400	26/26	0.14	-0.56	1,43,62,70	0
2	19H	F	400	26/26	0.14	-0.86	10,42,61,87	0
2	19H	C	400	26/26	0.14	-0.87	29,55,73,89	0
2	19H	B	401	26/26	0.14	-3.26	1,23,37,47	0

6.5 Other polymers ⓘ

There are no such residues in this entry.