



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 06:10 PM UTC

PDB ID : 5LEY / pdb_00005ley
Title : Human 20S proteasome complex with Oprozomib at 1.9 Angstrom
Authors : Schrader, J.; Henneberg, F.; Mata, R.; Tittmann, K.; Schneider, T.R.; Stark, H.; Bourenkov, G.; Chari, A.
Deposited on : 2016-06-30
Resolution : 1.90 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 : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

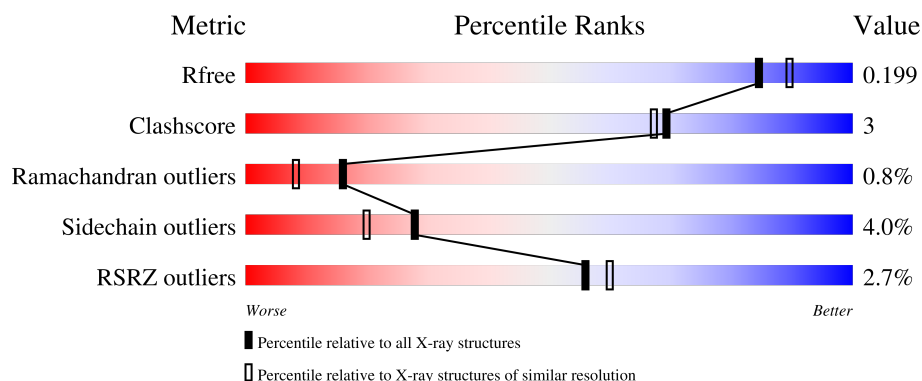
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.90 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}	180053	7789 (1.90-1.90)
Clashscore	190562	8410 (1.90-1.90)
Ramachandran outliers	187476	8333 (1.90-1.90)
Sidechain outliers	187428	8333 (1.90-1.90)
RSRZ outliers	180081	7790 (1.90-1.90)

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 $\leq 5\%$. 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	234	<div> <div>3%</div> <div> <div></div> <div>85%</div> <div>11%</div> <div>..</div> </div> </div>
1	O	234	<div> <div>4%</div> <div> <div></div> <div>89%</div> <div>6%</div> <div>..</div> </div> </div>
2	B	261	<div> <div>3%</div> <div> <div></div> <div>85%</div> <div>9%</div> <div>5%</div> </div> </div>
2	P	261	<div> <div>4%</div> <div> <div></div> <div>82%</div> <div>11%</div> <div>5%</div> </div> </div>
3	C	248	<div> <div>5%</div> <div> <div></div> <div>80%</div> <div>12%</div> <div>..</div> </div> </div>

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Mol	Chain	Length	Quality of chain
3	Q	248	
4	D	241	
4	R	241	
5	E	263	
5	S	263	
6	F	255	
6	T	255	
7	G	246	
7	U	246	
8	H	234	
8	V	234	
9	I	205	
9	W	205	
10	J	201	
10	X	201	
11	K	204	
11	Y	204	
12	L	213	
12	Z	213	
13	M	219	
13	a	219	
14	N	205	
14	b	205	
15	c	4	
15	d	4	

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
7	YCM	U	137	-	-	X	-
7	6V1	U	47	X	-	-	-

2 Entry composition

There are 20 unique types of molecules in this entry. The entry contains 51947 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 Proteasome subunit alpha type-2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	230	Total	C	N	O	S	0	3	0
			1788	1145	301	336	6			
1	O	230	Total	C	N	O	S	0	0	0
			1741	1111	293	331	6			

- Molecule 2 is a protein called Proteasome subunit alpha type-4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	248	Total	C	N	O	S	0	2	0
			1922	1217	331	363	11			
2	P	247	Total	C	N	O	S	0	2	0
			1898	1200	321	366	11			

- Molecule 3 is a protein called Proteasome subunit alpha type-7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	237	Total	C	N	O	S	0	2	0
			1798	1121	320	352	5			
3	Q	240	Total	C	N	O	S	0	0	0
			1825	1139	321	360	5			

- Molecule 4 is a protein called Proteasome subunit alpha type-5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	233	Total	C	N	O	S	0	1	0
			1762	1105	290	356	11			
4	R	233	Total	C	N	O	S	0	1	0
			1753	1103	293	346	11			

- Molecule 5 is a protein called Proteasome subunit alpha type-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	234	Total	C	N	O	S	0	1	0
			1822	1144	325	342	11			
5	S	236	Total	C	N	O	S	0	3	0
			1853	1160	335	347	11			

- Molecule 6 is a protein called Proteasome subunit alpha type-3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	239	Total	C	N	O	S	0	4	0
			1888	1198	325	353	12			
6	T	240	Total	C	N	O	S	0	1	0
			1856	1178	315	351	12			

- Molecule 7 is a protein called Proteasome subunit alpha type-6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	244	Total	C	N	O	S	0	2	0
			1912	1214	321	364	13			
7	U	238	Total	C	N	O	S	0	1	0
			1815	1147	304	350	14			

- Molecule 8 is a protein called Proteasome subunit beta type-7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	220	Total	C	N	O	S	0	2	0
			1664	1047	284	320	13			
8	V	220	Total	C	N	O	S	0	2	0
			1622	1023	269	318	12			

- Molecule 9 is a protein called Proteasome subunit beta type-3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	204	Total	C	N	O	S	0	3	0
			1613	1028	270	295	20			
9	W	204	Total	C	N	O	S	0	2	0
			1599	1018	267	295	19			

- Molecule 10 is a protein called Proteasome subunit beta type-2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	196	Total	C	N	O	S	0	3	0
			1590	1021	271	288	10			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	X	196	Total	C	N	O	S	0	2	0
			1576	1012	267	287	10			

- Molecule 11 is a protein called Proteasome subunit beta type-5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	200	Total	C	N	O	S	0	0	0
			1545	974	269	293	9			
11	Y	199	Total	C	N	O	S	0	3	0
			1570	991	278	291	10			

- Molecule 12 is a protein called Proteasome subunit beta type-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	213	Total	C	N	O	S	0	2	0
			1636	1038	277	310	11			
12	Z	213	Total	C	N	O	S	0	1	0
			1642	1041	280	310	11			

- Molecule 13 is a protein called Proteasome subunit beta type-4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	216	Total	C	N	O	S	0	1	0
			1692	1067	291	322	12			
13	a	216	Total	C	N	O	S	0	2	0
			1688	1064	291	321	12			

- Molecule 14 is a protein called Proteasome subunit beta type-6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	202	Total	C	N	O	S	0	1	0
			1519	953	258	295	13			
14	b	203	Total	C	N	O	S	0	1	0
			1524	956	259	296	13			

- Molecule 15 is a protein called bound Oprozomib.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	c	4	Total	C	N	O	S	0	0	0
			37	25	4	7	1			
15	d	4	Total	C	N	O	S	0	0	0
			37	25	4	7	1			

- Molecule 16 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
16	A	4	Total Cl 4 4	0	0
16	B	2	Total Cl 2 2	0	0
16	C	2	Total Cl 2 2	0	0
16	D	2	Total Cl 2 2	0	0
16	E	3	Total Cl 3 3	0	0
16	F	1	Total Cl 1 1	0	0
16	G	2	Total Cl 2 2	0	0
16	H	2	Total Cl 2 2	0	0
16	I	1	Total Cl 1 1	0	0
16	K	4	Total Cl 4 4	0	0
16	M	4	Total Cl 4 4	0	0
16	N	3	Total Cl 3 3	0	0
16	O	4	Total Cl 4 4	0	0
16	P	1	Total Cl 1 1	0	0
16	Q	2	Total Cl 2 2	0	0
16	R	2	Total Cl 2 2	0	0
16	S	3	Total Cl 3 3	0	0
16	U	1	Total Cl 1 1	0	0
16	V	2	Total Cl 2 2	0	0
16	W	1	Total Cl 1 1	0	0
16	Y	5	Total Cl 5 5	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
16	a	3	Total 3	Cl 3	0	0
16	b	4	Total 4	Cl 4	0	0

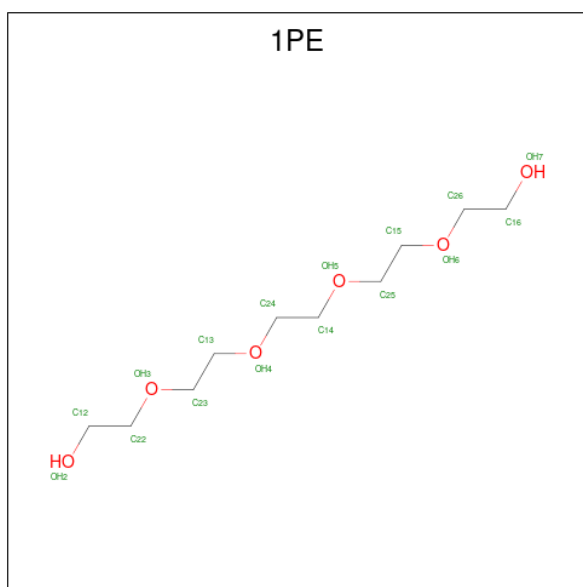
- Molecule 17 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
17	G	1	Total 1	K 1	0	0
17	L	1	Total 1	K 1	0	0
17	N	1	Total 1	K 1	0	0
17	U	1	Total 1	K 1	0	0
17	Z	1	Total 1	K 1	0	0
17	b	1	Total 1	K 1	0	0

- Molecule 18 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
18	H	2	Total 2	Mg 2	0	0
18	I	2	Total 2	Mg 2	0	0
18	J	1	Total 1	Mg 1	0	0
18	K	1	Total 1	Mg 1	0	0
18	L	1	Total 1	Mg 1	0	0
18	V	1	Total 1	Mg 1	0	0
18	W	1	Total 1	Mg 1	0	0
18	X	1	Total 1	Mg 1	0	0

- Molecule 19 is PENTAETHYLENE GLYCOL (CCD ID: 1PE) (formula: C₁₀H₂₂O₆).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
19	H	1	Total	C	O	0	0
			16	10	6		
19	H	1	Total	C	O	0	0
			16	10	6		
19	I	1	Total	C	O	0	0
			16	10	6		
19	I	1	Total	C	O	0	0
			16	10	6		
19	L	1	Total	C	O	0	0
			16	10	6		
19	M	1	Total	C	O	0	0
			16	10	6		
19	V	1	Total	C	O	0	0
			16	10	6		
19	W	1	Total	C	O	0	0
			16	10	6		
19	Z	1	Total	C	O	0	0
			16	10	6		

- Molecule 20 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
20	A	109	Total	O	0	0
			109	109		
20	B	120	Total	O	0	0
			120	120		
20	C	76	Total	O	0	0
			76	76		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
20	D	93	Total 93	O 93	0	0
20	E	137	Total 137	O 137	0	0
20	F	180	Total 180	O 180	0	0
20	G	187	Total 187	O 187	0	0
20	H	157	Total 157	O 157	0	0
20	I	155	Total 155	O 155	0	0
20	J	133	Total 133	O 133	0	0
20	K	98	Total 98	O 98	0	0
20	L	124	Total 124	O 124	0	0
20	M	148	Total 148	O 148	0	0
20	N	168	Total 168	O 168	0	0
20	O	89	Total 89	O 89	0	0
20	P	117	Total 117	O 117	0	0
20	Q	74	Total 74	O 74	0	0
20	R	122	Total 122	O 122	0	0
20	S	118	Total 118	O 118	0	0
20	T	92	Total 92	O 92	0	0
20	U	102	Total 102	O 102	0	0
20	V	112	Total 112	O 112	0	0
20	W	111	Total 111	O 111	0	0
20	X	124	Total 124	O 124	0	0

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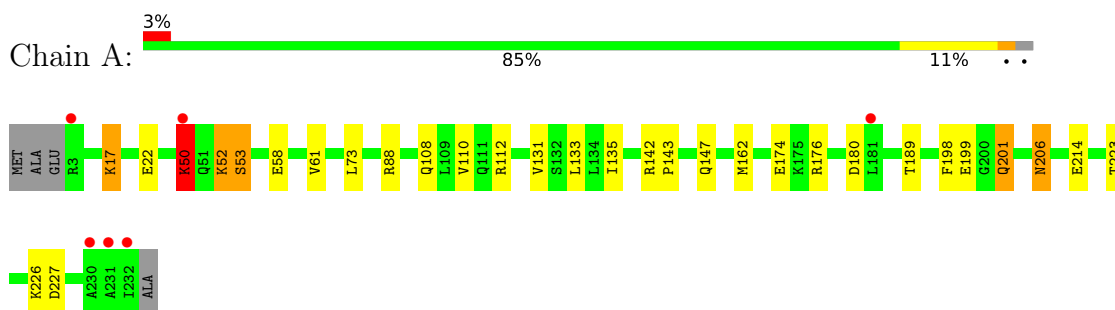
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
20	Y	137	Total 137	O 137	0	0
20	Z	164	Total 164	O 164	0	0
20	a	167	Total 167	O 167	0	0
20	b	126	Total 126	O 126	0	0
20	c	1	Total 1	O 1	0	0
20	d	1	Total 1	O 1	0	0

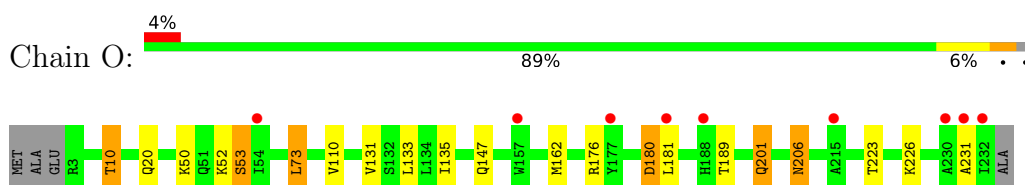
3 Residue-property plots [i](#)

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.

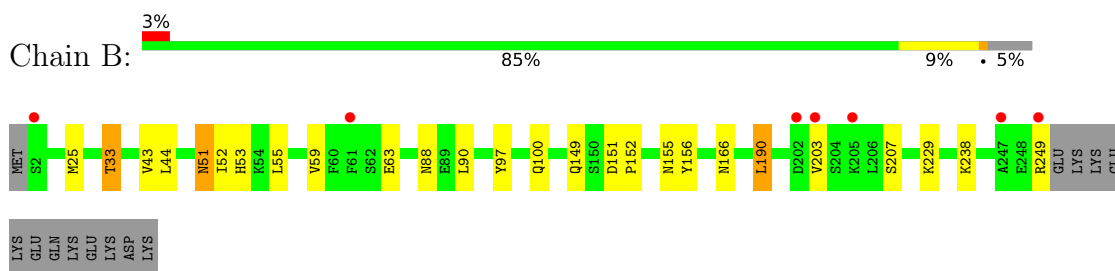
- Molecule 1: Proteasome subunit alpha type-2



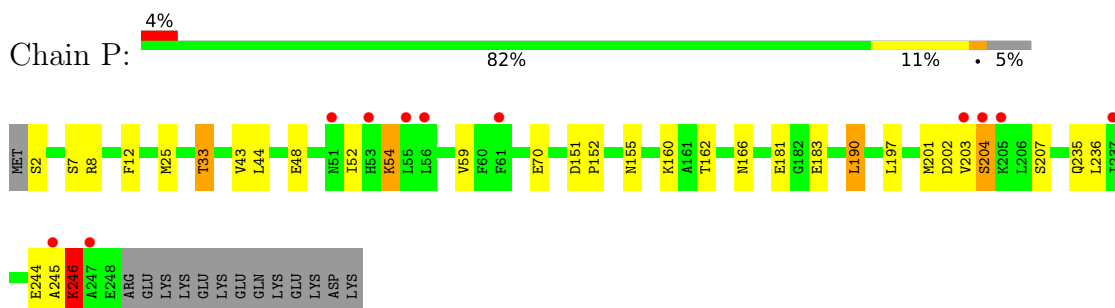
- Molecule 1: Proteasome subunit alpha type-2



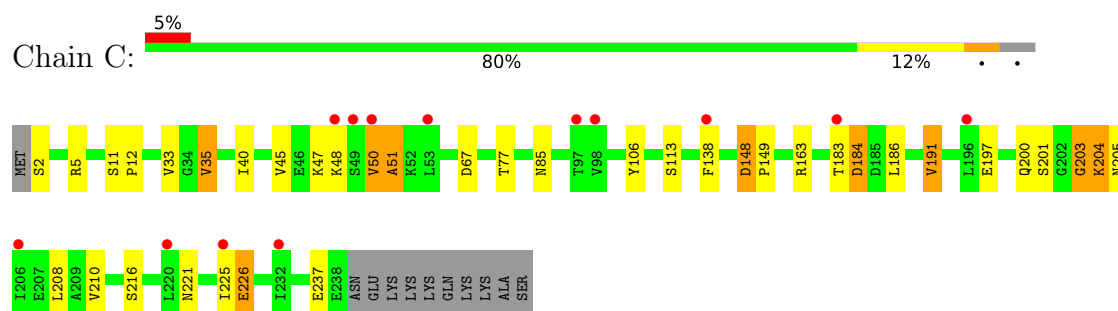
- Molecule 2: Proteasome subunit alpha type-4



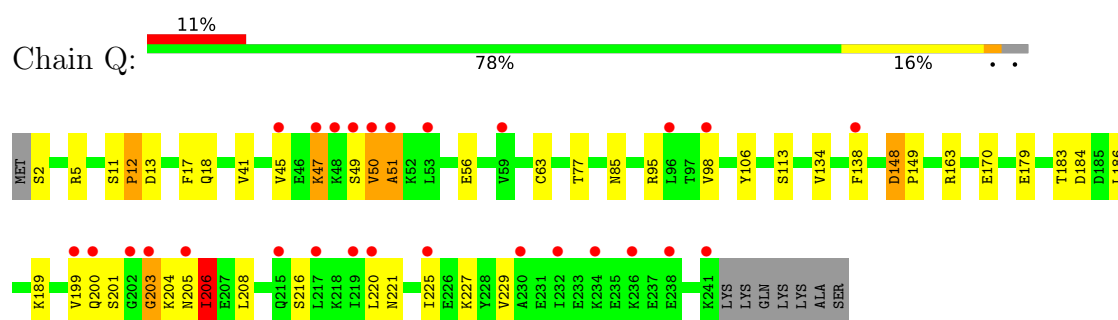
- Molecule 2: Proteasome subunit alpha type-4



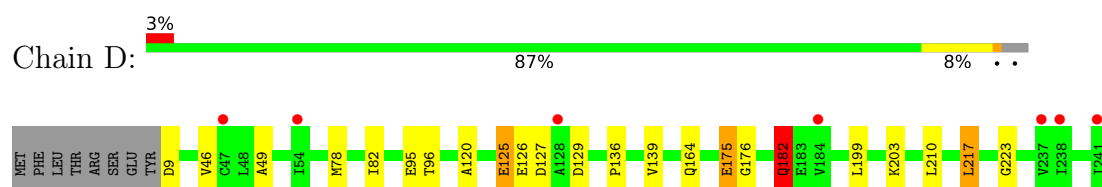
- Molecule 3: Proteasome subunit alpha type-7



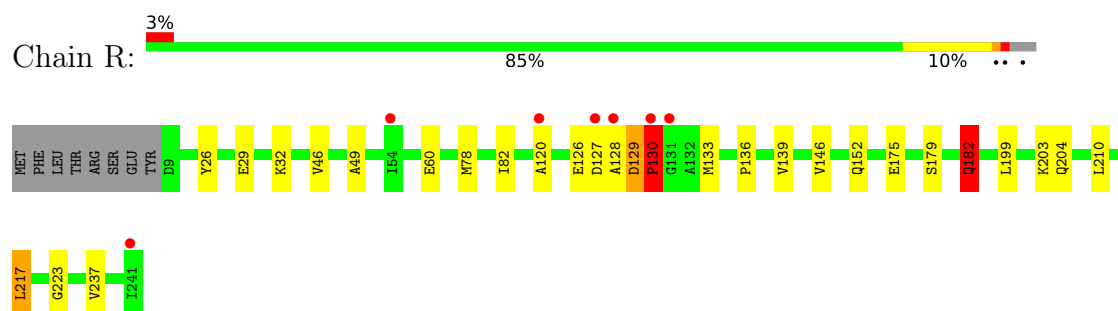
- Molecule 3: Proteasome subunit alpha type-7



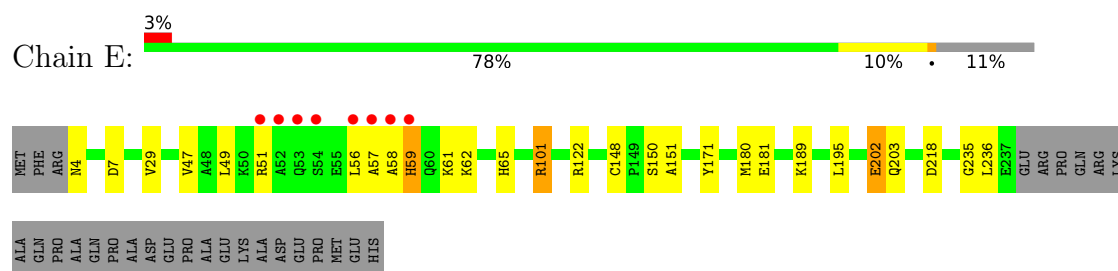
- Molecule 4: Proteasome subunit alpha type-5



- Molecule 4: Proteasome subunit alpha type-5

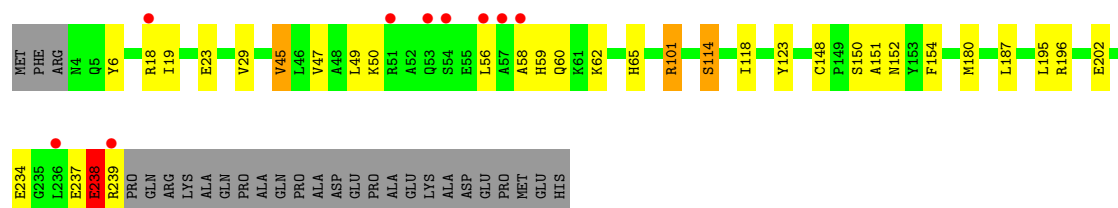


- Molecule 5: Proteasome subunit alpha type-1



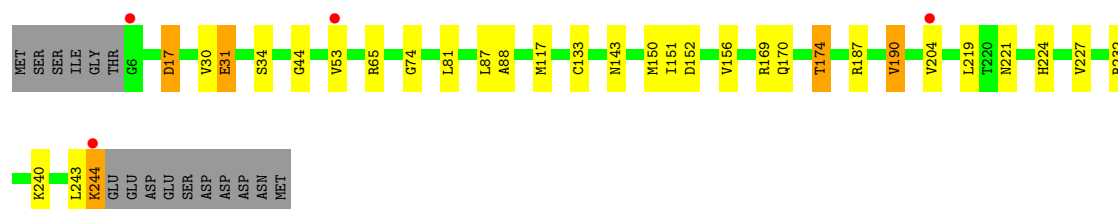
- Molecule 5: Proteasome subunit alpha type-1

Chain S: 3% 77% 11% 10%



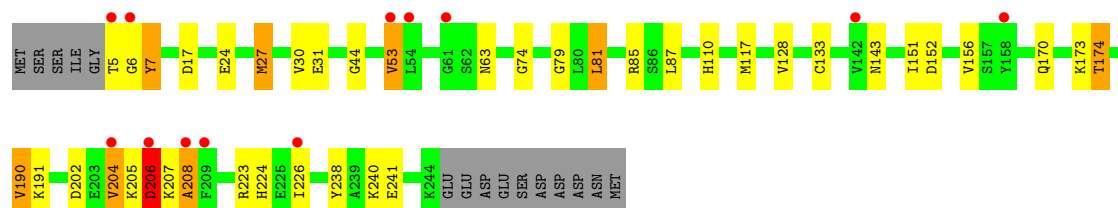
- Molecule 6: Proteasome subunit alpha type-3

Chain F: 2% 81% 11% 6%



- Molecule 6: Proteasome subunit alpha type-3

Chain T: 5% 78% 13% 6%



- Molecule 7: Proteasome subunit alpha type-6

Chain G: 2% 89% 8% 1%

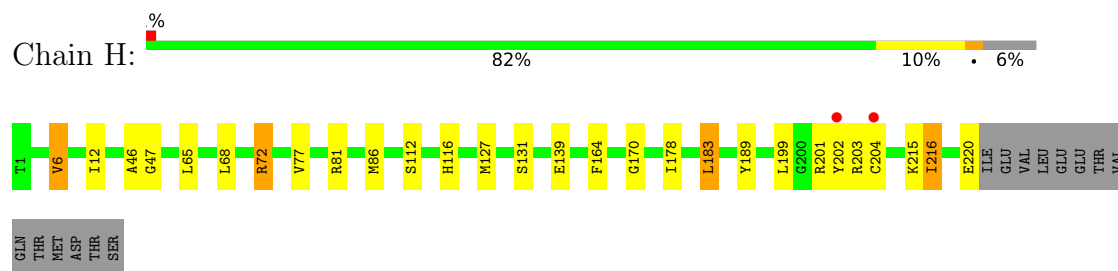


- Molecule 7: Proteasome subunit alpha type-6

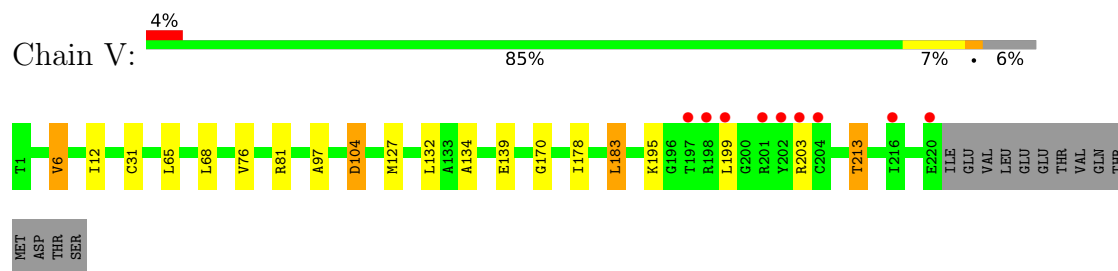
Chain U: 4% 82% 12% 2%



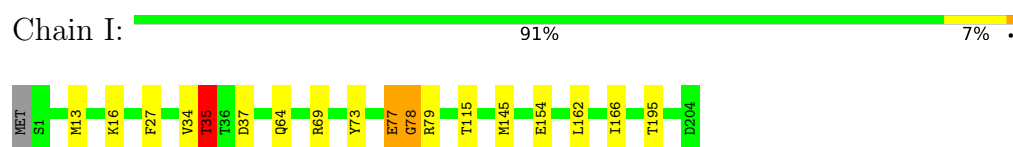
- Molecule 8: Proteasome subunit beta type-7



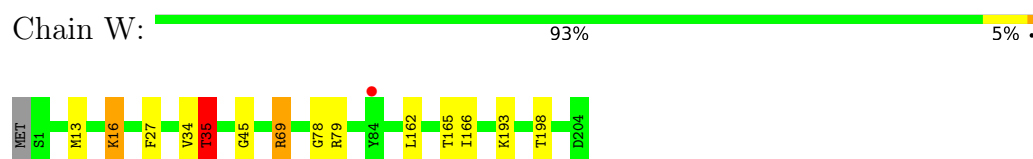
- Molecule 8: Proteasome subunit beta type-7



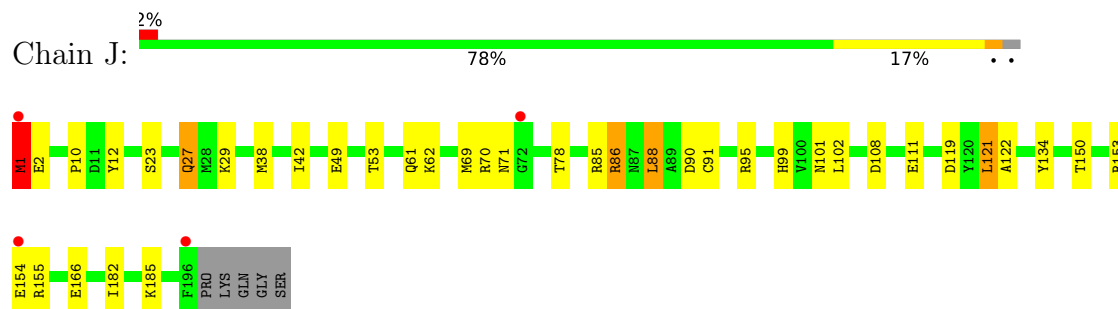
- Molecule 9: Proteasome subunit beta type-3



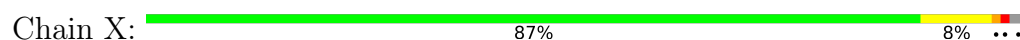
- Molecule 9: Proteasome subunit beta type-3

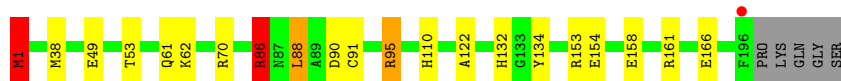


- Molecule 10: Proteasome subunit beta type-2



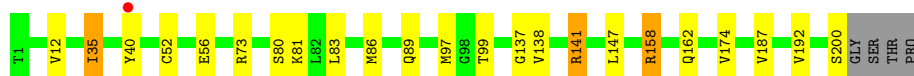
- Molecule 10: Proteasome subunit beta type-2





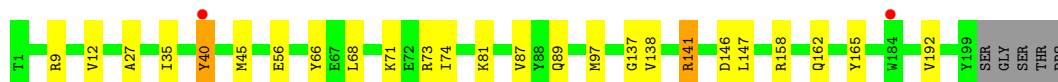
- Molecule 11: Proteasome subunit beta type-5

Chain K: 87% 10% ..



- Molecule 11: Proteasome subunit beta type-5

Chain Y: 85% 11% ..



- Molecule 12: Proteasome subunit beta type-1

Chain L: 91% 8% .



- Molecule 12: Proteasome subunit beta type-1

Chain Z: 90% 9% .



- Molecule 13: Proteasome subunit beta type-4

Chain M: 89% 9% .

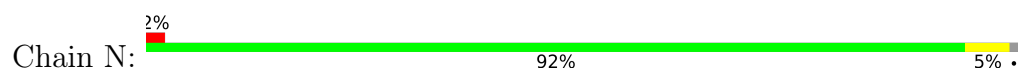


- Molecule 13: Proteasome subunit beta type-4

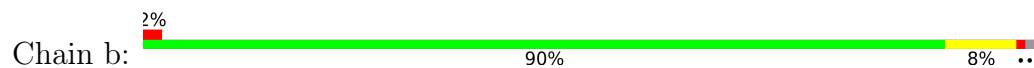
Chain a: 87% 11% ..



- Molecule 14: Proteasome subunit beta type-6



- Molecule 14: Proteasome subunit beta type-6



- Molecule 15: bound Oprozomib



- Molecule 15: bound Oprozomib



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	113.39Å 202.65Å 315.14Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	170.45 – 1.90 170.45 – 1.90	Depositor EDS
% Data completeness (in resolution range)	97.8 (170.45-1.90) 97.8 (170.45-1.90)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.26 (at 1.90Å)	Xtriage
Refinement program	REFMAC 5.8.0103	Depositor
R, R_{free}	0.188 , 0.225 (Not available) , 0.199	Depositor DCC
R_{free} test set	27607 reflections (4.88%)	wwPDB-VP
Wilson B-factor (Å ²)	37.8	Xtriage
Anisotropy	0.172	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 45.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	51947	wwPDB-VP
Average B, all atoms (Å ²)	50.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.81% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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: YCM, 6V9, CL, MG, 1PE, 6VA, 6V1, K, OAS

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	1.18	2/1833 (0.1%)	1.10	0/2489
1	O	1.05	0/1778	1.06	1/2419 (0.0%)
2	B	1.28	4/1958 (0.2%)	1.16	3/2645 (0.1%)
2	P	1.12	1/1934 (0.1%)	1.09	1/2617 (0.0%)
3	C	1.27	1/1818 (0.1%)	1.23	5/2469 (0.2%)
3	Q	1.24	3/1839 (0.2%)	1.24	13/2497 (0.5%)
4	D	1.18	1/1789 (0.1%)	1.12	3/2424 (0.1%)
4	R	1.35	5/1780 (0.3%)	1.18	6/2408 (0.2%)
5	E	1.28	3/1842 (0.2%)	1.14	2/2493 (0.1%)
5	S	1.22	0/1878	1.12	8/2541 (0.3%)
6	F	1.36	3/1935 (0.2%)	1.21	5/2605 (0.2%)
6	T	1.25	4/1894 (0.2%)	1.23	11/2556 (0.4%)
7	G	1.35	3/1909 (0.2%)	1.16	5/2579 (0.2%)
7	U	1.20	6/1804 (0.3%)	1.08	2/2441 (0.1%)
8	H	1.37	4/1697 (0.2%)	1.19	10/2299 (0.4%)
8	V	1.17	1/1655 (0.1%)	1.10	3/2251 (0.1%)
9	I	1.32	7/1648 (0.4%)	1.21	9/2219 (0.4%)
9	W	1.09	0/1630	1.09	10/2197 (0.5%)
10	J	1.43	8/1613 (0.5%)	1.21	3/2180 (0.1%)
10	X	1.28	0/1599	1.16	5/2163 (0.2%)
11	K	1.24	3/1576 (0.2%)	1.17	2/2131 (0.1%)
11	Y	1.35	4/1610 (0.2%)	1.16	1/2172 (0.0%)
12	L	1.19	0/1672	1.09	5/2257 (0.2%)
12	Z	1.37	5/1675 (0.3%)	1.15	7/2257 (0.3%)
13	M	1.34	2/1728 (0.1%)	1.12	2/2339 (0.1%)
13	a	1.36	4/1724 (0.2%)	1.14	3/2336 (0.1%)
14	N	1.41	5/1548 (0.3%)	1.19	1/2095 (0.0%)
14	b	1.34	5/1554 (0.3%)	1.20	6/2104 (0.3%)
All	All	1.27	84/48920 (0.2%)	1.15	132/66183 (0.2%)

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
2	P	0	5
3	C	0	1
3	Q	0	2
4	D	0	5
4	R	0	2
5	E	0	1
6	T	0	1
7	U	1	0
9	I	0	1
9	W	0	1
10	J	0	2
10	X	0	2
12	L	0	1
12	Z	0	1
13	a	0	1
All	All	1	26

All (84) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	J	154	GLU	CA-C	8.68	1.64	1.52
13	M	3	ASN	C-O	-8.41	1.18	1.25
7	G	108	GLU	CD-OE1	8.15	1.40	1.25
10	J	153	ARG	NE-CZ	-7.84	1.24	1.33
3	C	12	PRO	CA-C	7.47	1.62	1.52
14	N	104	ASP	N-CA	7.43	1.52	1.45
8	H	46	ALA	C-N	-7.40	1.28	1.33
9	I	69	ARG	CD-NE	-7.33	1.35	1.46
11	K	35	ILE	CA-C	7.18	1.61	1.52
2	B	97	TYR	N-CA	-6.88	1.38	1.46
8	H	164	PHE	C-O	-6.76	1.15	1.24
12	Z	3	SER	CB-OG	6.70	1.55	1.42
14	N	150	GLU	CG-CD	6.60	1.68	1.52
9	I	34	VAL	N-CA	6.54	1.53	1.45
3	Q	13	ASP	CB-CG	6.54	1.68	1.52
3	Q	206	ILE	CA-C	6.44	1.60	1.52
6	T	7	TYR	N-CA	6.40	1.58	1.46
7	G	82	GLY	C-O	-6.39	1.19	1.24
14	b	86	MET	CA-C	6.13	1.60	1.52
6	T	79	GLY	C-O	-6.11	1.19	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	J	23	SER	N-CA	-6.04	1.39	1.46
12	Z	99	ARG	CD-NE	-6.01	1.37	1.46
13	a	75	GLU	CD-OE1	5.97	1.36	1.25
4	D	136	PRO	CA-C	5.95	1.59	1.52
7	U	115	CYS	C-O	-5.93	1.17	1.24
8	V	134	ALA	C-O	5.92	1.31	1.24
10	J	78	THR	CA-C	5.73	1.60	1.52
11	Y	40	TYR	CA-C	5.73	1.60	1.52
7	G	114	LEU	CA-C	5.72	1.60	1.52
14	b	150	GLU	CG-CD	5.72	1.66	1.52
11	K	80	SER	C-O	5.71	1.30	1.24
6	T	206	ASP	N-CA	5.68	1.53	1.46
11	Y	74	ILE	CA-C	5.66	1.59	1.52
1	A	50	LYS	CA-C	5.57	1.60	1.52
7	U	82	GLY	C-O	-5.56	1.20	1.24
9	I	145	MET	N-CA	-5.56	1.39	1.46
3	Q	189	LYS	C-O	5.56	1.31	1.24
9	I	77	GLU	C-O	5.50	1.31	1.23
13	a	204	SER	CA-C	-5.50	1.46	1.52
9	I	37	ASP	C-O	-5.49	1.17	1.24
2	P	162	THR	C-O	5.48	1.29	1.23
13	M	22	ILE	N-CA	-5.47	1.40	1.46
11	K	89	GLN	C-O	-5.44	1.17	1.24
13	a	95	ALA	CA-C	5.42	1.59	1.52
14	b	24	SER	CA-C	5.41	1.60	1.52
12	Z	32	GLY	N-CA	5.40	1.53	1.45
9	I	78	GLY	C-O	-5.39	1.16	1.23
7	U	109	ILE	CA-C	5.39	1.59	1.52
14	b	29	ARG	CD-NE	-5.38	1.38	1.46
5	E	4	ASN	N-CA	5.38	1.56	1.46
7	U	108	GLU	CD-OE1	5.37	1.35	1.25
10	J	71	ASN	CA-C	5.35	1.59	1.52
2	B	100	GLN	CD-NE2	-5.34	1.22	1.33
6	F	88	ALA	N-CA	-5.34	1.39	1.46
8	H	202	TYR	CA-C	5.34	1.59	1.52
4	R	133	MET	N-CA	5.32	1.52	1.46
12	Z	125	ASP	CA-C	5.31	1.58	1.52
14	b	180	ALA	CA-C	5.31	1.59	1.52
7	U	171	LYS	N-CA	5.29	1.51	1.46
4	R	136	PRO	CA-C	5.28	1.58	1.52
9	I	69	ARG	NE-CZ	5.27	1.38	1.33
10	J	121	LEU	CA-C	5.27	1.60	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	J	85	ARG	N-CA	-5.24	1.40	1.46
6	F	17	ASP	CG-OD2	5.24	1.35	1.25
11	Y	27	ALA	N-CA	5.22	1.53	1.46
2	B	88	ASN	C-O	5.21	1.30	1.24
5	E	51	ARG	CA-C	5.18	1.59	1.52
6	F	44	GLY	N-CA	5.18	1.50	1.45
8	H	116	HIS	CA-C	5.18	1.60	1.52
4	R	179	SER	N-CA	-5.16	1.40	1.46
5	E	7	ASP	CB-CG	-5.13	1.39	1.52
12	Z	31	GLU	N-CA	-5.13	1.40	1.46
2	B	90	LEU	CA-C	5.12	1.59	1.52
4	R	126	GLU	N-CA	5.12	1.52	1.46
10	J	42	ILE	N-CA	5.08	1.52	1.46
6	T	128	VAL	CA-C	5.07	1.58	1.52
11	Y	165	TYR	N-CA	-5.05	1.40	1.46
4	R	146	VAL	CA-C	5.05	1.58	1.52
14	N	35	THR	CB-CG2	-5.03	1.35	1.52
14	N	144	ARG	N-CA	5.03	1.52	1.46
14	N	45	ARG	C-O	-5.02	1.18	1.24
13	a	104	ASN	CG-ND2	-5.01	1.22	1.33
7	U	88	ARG	N-CA	-5.01	1.40	1.46
1	A	50	LYS	N-CA	5.00	1.52	1.46

All (132) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	F	190	VAL	CB-CA-C	-11.63	96.80	112.04
10	X	86	ARG	NE-CZ-NH2	-10.72	109.55	119.20
10	J	86	ARG	NE-CZ-NH2	-10.63	109.63	119.20
6	T	190	VAL	CB-CA-C	-10.16	98.88	111.88
6	T	6	GLY	CA-C-N	9.54	138.87	121.70
6	T	6	GLY	C-N-CA	9.54	138.87	121.70
9	I	16[A]	LYS	CA-C-N	9.36	135.84	122.08
9	I	16[A]	LYS	C-N-CA	9.36	135.84	122.08
9	I	16[B]	LYS	CA-C-N	9.36	135.84	122.08
9	I	16[B]	LYS	C-N-CA	9.36	135.84	122.08
10	J	86	ARG	NE-CZ-NH1	9.10	130.60	121.50
10	X	86	ARG	NE-CZ-NH1	8.19	129.69	121.50
5	E	236	LEU	N-CA-C	-7.99	97.64	109.62
10	J	86	ARG	CD-NE-CZ	7.91	135.47	124.40
2	P	246	LYS	N-CA-C	7.56	121.77	112.54
12	Z	99	ARG	NE-CZ-NH2	-7.55	112.40	119.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	H	72	ARG	NE-CZ-NH2	-7.51	112.44	119.20
12	L	99	ARG	NE-CZ-NH2	-7.51	112.44	119.20
9	I	69	ARG	NE-CZ-NH1	7.46	128.96	121.50
7	G	183	VAL	CB-CA-C	-7.29	100.45	112.26
8	H	77	VAL	CB-CA-C	-7.26	100.90	112.16
3	Q	220	LEU	CA-C-N	7.25	134.75	121.70
3	Q	220	LEU	C-N-CA	7.25	134.75	121.70
6	T	143	ASN	N-CA-C	7.17	119.18	111.36
3	Q	12	PRO	CA-C-N	-7.14	111.94	122.86
3	Q	12	PRO	C-N-CA	-7.14	111.94	122.86
3	Q	220	LEU	N-CA-C	-7.13	99.96	110.52
3	Q	13	ASP	CB-CA-C	7.12	122.60	111.13
9	W	69	ARG	NE-CZ-NH1	6.95	128.45	121.50
3	Q	220	LEU	CA-C-O	-6.88	113.60	121.72
12	Z	172	MET	CG-SD-CE	-6.85	85.83	100.90
10	X	153	ARG	NE-CZ-NH1	-6.84	114.66	121.50
6	T	190	VAL	N-CA-CB	6.81	118.07	110.51
4	R	120[A]	ALA	N-CA-C	6.74	118.63	111.28
4	R	120[B]	ALA	N-CA-C	6.74	118.63	111.28
7	G	244	GLU	N-CA-C	6.69	119.14	109.71
6	F	143	ASN	N-CA-C	6.65	118.61	111.36
2	B	52	ILE	N-CA-C	6.59	120.13	113.47
6	F	190	VAL	N-CA-CB	6.45	118.53	110.47
3	C	11	SER	O-C-N	6.40	125.75	121.14
8	H	47	GLY	N-CA-C	-6.36	104.59	111.21
3	C	184	ASP	N-CA-C	6.35	117.87	111.07
6	T	226	ILE	CB-CA-C	-6.31	101.81	111.08
10	X	86	ARG	CD-NE-CZ	6.30	133.22	124.40
4	D	120	ALA	N-CA-C	6.30	118.15	111.28
8	H	72	ARG	CD-NE-CZ	6.25	133.15	124.40
9	W	35	THR	N-CA-CB	-6.22	101.27	111.66
9	I	35	THR	N-CA-CB	-6.22	101.27	111.66
8	V	170	GLY	N-CA-C	6.18	119.52	110.80
6	T	7	TYR	N-CA-CB	6.17	120.98	110.50
5	S	58	ALA	N-CA-C	-6.14	102.27	110.55
12	L	172	MET	CG-SD-CE	-6.13	87.41	100.90
5	S	118	ILE	CA-C-N	-6.13	113.49	119.87
5	S	118	ILE	C-N-CA	-6.13	113.49	119.87
6	F	117	MET	CG-SD-CE	6.06	114.22	100.90
11	Y	56	GLU	CA-CB-CG	-6.04	102.03	114.10
7	G	183	VAL	N-CA-C	6.01	118.61	111.09
5	S	114	SER	CB-CA-C	-5.98	101.45	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	U	208	ILE	N-CA-C	5.93	116.66	111.56
6	T	204	VAL	CB-CA-C	5.86	119.43	111.87
2	B	100	GLN	N-CA-C	5.84	117.72	111.36
9	W	34	VAL	N-CA-C	-5.83	107.17	111.90
3	Q	17	PHE	N-CA-C	5.73	117.53	111.28
13	M	5	MET	CG-SD-CE	5.72	113.48	100.90
5	S	238	GLU	CA-C-N	5.71	131.99	121.70
5	S	238	GLU	C-N-CA	5.71	131.99	121.70
6	T	27	MET	CG-SD-CE	5.68	113.41	100.90
12	Z	99	ARG	CD-NE-CZ	5.68	132.36	124.40
9	I	35	THR	OG1-CB-CG2	5.68	120.67	109.30
7	G	208	ILE	N-CA-C	5.68	116.44	111.56
3	Q	220	LEU	O-C-N	-5.67	116.59	122.94
14	b	29	ARG	CB-CA-C	-5.67	98.84	109.72
8	H	170	GLY	N-CA-C	5.62	118.72	110.80
4	R	182	GLN	N-CA-CB	5.58	118.33	110.12
3	C	197	GLU	N-CA-C	5.58	117.04	111.07
6	T	117	MET	CG-SD-CE	5.55	113.10	100.90
12	Z	80	ASN	N-CA-C	5.54	119.33	112.24
13	a	10	SER	N-CA-C	5.48	117.36	110.24
7	G	183	VAL	N-CA-CB	5.47	120.67	110.77
8	H	216	ILE	CB-CA-C	-5.45	103.51	110.98
12	Z	99	ARG	NE-CZ-NH1	5.45	126.95	121.50
12	L	99	ARG	CD-NE-CZ	5.42	131.99	124.40
8	H	72	ARG	NE-CZ-NH1	5.41	126.91	121.50
8	H	81	ARG	CB-CA-C	-5.40	102.41	110.88
11	K	86	MET	CG-SD-CE	5.40	112.78	100.90
13	a	5	MET	CG-SD-CE	5.39	112.76	100.90
13	M	10	SER	N-CA-C	5.39	117.25	110.24
3	Q	206	ILE	N-CA-C	5.37	120.52	109.34
9	W	69	ARG	NE-CZ-NH2	-5.37	114.37	119.20
8	V	81	ARG	CB-CA-C	-5.35	102.48	110.88
7	U	199	ILE	CB-CA-C	5.35	120.93	112.26
3	C	33	VAL	CB-CA-C	-5.34	102.27	110.50
14	b	35	THR	CB-CA-C	5.34	115.77	109.47
6	T	44	GLY	N-CA-C	5.33	118.26	110.63
9	W	79	ARG	N-CA-C	5.33	116.25	108.14
4	D	182	GLN	N-CA-CB	5.33	117.96	110.12
14	b	135	ILE	N-CA-C	5.30	117.31	112.43
9	I	69	ARG	NE-CZ-NH2	-5.28	114.45	119.20
14	b	154	GLN	CA-C-N	5.24	127.26	120.44
14	b	154	GLN	C-N-CA	5.24	127.26	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	Q	11	SER	O-C-N	5.24	124.92	121.14
6	F	31	GLU	N-CA-C	5.23	119.15	112.87
10	X	154	GLU	CB-CG-CD	5.23	121.49	112.60
3	C	191	VAL	CB-CA-C	-5.20	105.11	112.14
4	D	125	GLU	N-CA-C	5.19	119.16	112.41
14	N	35	THR	CB-CA-C	5.18	115.59	109.47
4	R	175	GLU	CA-C-N	5.18	125.70	119.94
4	R	175	GLU	C-N-CA	5.18	125.70	119.94
9	W	45	GLY	N-CA-C	-5.18	104.20	111.09
8	H	6	VAL	N-CA-CB	-5.17	102.97	111.45
14	b	199	VAL	N-CA-C	-5.16	102.19	109.21
9	W	16[A]	LYS	CA-C-N	5.16	132.88	123.13
9	W	16[A]	LYS	C-N-CA	5.16	132.88	123.13
9	W	16[B]	LYS	CA-C-N	5.16	132.88	123.13
9	W	16[B]	LYS	C-N-CA	5.16	132.88	123.13
8	V	6	VAL	N-CA-CB	-5.15	103.00	111.45
1	O	73	LEU	CB-CA-C	-5.14	99.26	109.79
12	Z	156	LYS	CA-CB-CG	-5.12	103.86	114.10
5	S	6	TYR	CA-C-N	-5.12	114.62	122.60
5	S	6	TYR	C-N-CA	-5.12	114.62	122.60
4	R	152	GLN	N-CA-C	5.11	116.83	108.55
12	L	80	ASN	N-CA-C	5.11	118.78	112.24
5	E	122	ARG	CG-CD-NE	-5.09	100.80	112.00
8	H	86	MET	CG-SD-CE	-5.09	89.70	100.90
3	Q	13	ASP	N-CA-C	-5.08	105.56	112.26
3	Q	199	VAL	N-CA-C	5.07	114.91	108.12
11	K	56	GLU	CA-CB-CG	-5.07	103.97	114.10
12	Z	103	PRO	N-CA-C	5.02	119.19	111.21
2	B	55	LEU	N-CA-C	5.01	119.16	113.19
13	a	110	MET	N-CA-C	5.01	117.42	109.50
9	I	79	ARG	N-CA-C	5.00	116.12	108.42
12	L	2	PHE	CA-C-O	-5.00	115.51	120.96

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
7	U	47	6V1	C1

All (26) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	C	237	GLU	Peptide

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Mol	Chain	Res	Type	Group
4	D	127	ASP	Peptide
4	D	175[A]	GLU	Peptide
4	D	175[B]	GLU	Mainchain,Peptide
4	D	223	GLY	Peptide
5	E	235	GLY	Peptide
9	I	78	GLY	Peptide
10	J	1[A]	MET	Peptide
10	J	1[B]	MET	Peptide
12	L	99	ARG	Sidechain
2	P	202	ASP	Peptide
2	P	203	VAL	Peptide
2	P	244	GLU	Peptide
2	P	245	ALA	Peptide
2	P	54	LYS	Peptide
3	Q	47	LYS	Peptide
3	Q	49	SER	Peptide
4	R	130	PRO	Peptide
4	R	223	GLY	Peptide
6	T	5	THR	Peptide
9	W	78	GLY	Peptide
10	X	1	MET	Peptide
10	X	86	ARG	Sidechain
12	Z	99	ARG	Sidechain
13	a	215	ILE	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	1788	0	1761	15	0
1	O	1741	0	1683	8	0
2	B	1922	0	1913	9	0
2	P	1898	0	1861	16	0
3	C	1798	0	1718	22	0
3	Q	1825	0	1751	17	0
4	D	1762	0	1709	9	0
4	R	1753	0	1726	12	0
5	E	1822	0	1779	13	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	S	1853	0	1796	25	0
6	F	1888	0	1882	13	0
6	T	1856	0	1816	15	0
7	G	1912	0	1882	7	0
7	U	1815	0	1748	24	0
8	H	1664	0	1681	12	0
8	V	1622	0	1595	7	0
9	I	1613	0	1646	10	0
9	W	1599	0	1621	8	0
10	J	1590	0	1581	24	0
10	X	1576	0	1561	15	0
11	K	1545	0	1495	7	0
11	Y	1570	0	1547	14	0
12	L	1636	0	1625	7	0
12	Z	1642	0	1635	7	0
13	M	1692	0	1670	12	0
13	a	1688	0	1658	15	0
14	N	1519	0	1496	7	0
14	b	1524	0	1496	11	0
15	c	37	0	6	0	0
15	d	37	0	6	0	0
16	A	4	0	0	0	0
16	B	2	0	0	1	0
16	C	2	0	0	1	0
16	D	2	0	0	0	0
16	E	3	0	0	0	0
16	F	1	0	0	0	0
16	G	2	0	0	0	0
16	H	2	0	0	1	0
16	I	1	0	0	0	0
16	K	4	0	0	0	0
16	M	4	0	0	1	0
16	N	3	0	0	0	0
16	O	4	0	0	0	0
16	P	1	0	0	0	0
16	Q	2	0	0	1	0
16	R	2	0	0	1	0
16	S	3	0	0	0	0
16	U	1	0	0	0	0
16	V	2	0	0	0	0
16	W	1	0	0	0	0
16	Y	5	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	a	3	0	0	1	0
16	b	4	0	0	1	0
17	G	1	0	0	0	0
17	L	1	0	0	0	0
17	N	1	0	0	0	0
17	U	1	0	0	0	0
17	Z	1	0	0	0	0
17	b	1	0	0	0	0
18	H	2	0	0	0	0
18	I	2	0	0	0	0
18	J	1	0	0	0	0
18	K	1	0	0	0	0
18	L	1	0	0	0	0
18	V	1	0	0	0	0
18	W	1	0	0	0	0
18	X	1	0	0	0	0
19	H	32	0	44	0	0
19	I	32	0	44	1	0
19	L	16	0	22	0	0
19	M	16	0	22	1	0
19	V	16	0	22	1	0
19	W	16	0	22	0	0
19	Z	16	0	22	0	0
20	A	109	0	0	3	0
20	B	120	0	0	0	0
20	C	76	0	0	1	0
20	D	93	0	0	3	0
20	E	137	0	0	2	0
20	F	180	0	0	4	0
20	G	187	0	0	4	0
20	H	157	0	0	6	0
20	I	155	0	0	1	0
20	J	133	0	0	2	0
20	K	98	0	0	0	0
20	L	124	0	0	1	0
20	M	148	0	0	1	0
20	N	168	0	0	0	0
20	O	89	0	0	1	0
20	P	117	0	0	2	0
20	Q	74	0	0	1	0
20	R	122	0	0	2	0
20	S	118	0	0	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	T	92	0	0	2	0
20	U	102	0	0	1	0
20	V	112	0	0	2	0
20	W	111	0	0	2	0
20	X	124	0	0	3	0
20	Y	137	0	0	0	0
20	Z	164	0	0	0	0
20	a	167	0	0	2	0
20	b	126	0	0	0	0
20	c	1	0	0	0	0
20	d	1	0	0	0	0
All	All	51947	0	47542	334	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 3.

All (334) 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)
10:J:1[A]:MET:HE1	10:J:134:TYR:H	1.21	1.03
2:P:25[B]:MET:HE3	2:P:25[B]:MET:HA	1.41	1.03
10:X:1:MET:HE1	10:X:134:TYR:H	1.23	1.00
12:L:144:MET:HE1	12:L:185:ARG:HB2	1.55	0.88
5:S:65[A]:HIS:CE1	20:S:404:HOH:O	2.27	0.87
16:R:301:CL:CL	20:R:506:HOH:O	2.29	0.86
5:E:47:VAL:HG12	5:E:195:LEU:HD22	1.60	0.84
5:S:18[B]:ARG:HG2	5:S:23:GLU:OE2	1.78	0.84
6:F:169[A]:ARG:NH1	20:F:401:HOH:O	2.07	0.81
5:S:47:VAL:HG12	5:S:195:LEU:HD22	1.61	0.80
7:U:137:YCM:HD3	7:U:168:ALA:HB1	1.64	0.79
7:U:137:YCM:OZ1	7:U:139:ILE:HG13	1.83	0.78
10:J:99[A]:HIS:CD2	20:J:406:HOH:O	2.36	0.78
10:J:1[A]:MET:HE1	10:J:134:TYR:N	1.99	0.77
1:O:73:LEU:HD22	1:O:135:ILE:HG12	1.66	0.77
8:V:195:LYS:CB	20:V:495:HOH:O	2.31	0.77
1:A:73:LEU:HD22	1:A:135:ILE:HG12	1.66	0.77
1:A:108:GLN:HE21	1:A:112:ARG:HH12	1.29	0.77
10:X:1:MET:HE1	10:X:134:TYR:N	2.01	0.74
4:D:96:THR:OG1	20:D:401:HOH:O	2.06	0.74
6:F:221:ASN:HB2	20:F:557:HOH:O	1.87	0.73
7:U:199:ILE:HD11	7:U:239:LEU:HD23	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S:152[B]:ASN:ND2	20:S:401:HOH:O	2.22	0.72
7:G:188:ASP:O	7:G:190:THR:HG22	1.89	0.72
3:C:85[B]:ASN:OD1	10:J:70:ARG:NH2	2.24	0.71
4:R:78:MET:HG3	4:R:82:ILE:HD12	1.73	0.70
13:a:86:ARG:NH1	13:a:133:GLU:OE1	2.24	0.70
9:I:35:THR:HG21	20:I:450:HOH:O	1.91	0.69
2:P:12:PHE:H	3:Q:18:GLN:HE22	1.39	0.69
14:N:35:THR:CG2	14:N:45:ARG:HE	2.05	0.69
14:b:35:THR:CG2	14:b:45:ARG:HE	2.05	0.69
1:A:88[B]:ARG:NH2	20:A:401:HOH:O	2.22	0.68
5:S:101:ARG:NH1	20:S:403:HOH:O	2.27	0.68
5:S:50:LYS:HB3	5:S:59:HIS:HB3	1.76	0.67
5:E:58:ALA:O	5:E:59:HIS:CB	2.43	0.67
3:C:85[B]:ASN:OD1	10:J:70:ARG:CZ	2.43	0.66
11:Y:158:ARG:HE	11:Y:162:GLN:HE21	1.43	0.66
1:O:10:THR:HG23	20:O:404:HOH:O	1.95	0.66
7:U:118:ILE:HG13	7:U:138:MET:HE1	1.78	0.66
20:H:541:HOH:O	12:Z:160:ASN:CB	2.43	0.66
5:E:47:VAL:CG1	5:E:195:LEU:HD22	2.26	0.65
5:S:65[A]:HIS:ND1	20:S:404:HOH:O	2.28	0.65
7:U:58:ASP:O	7:U:59:LYS:CB	2.44	0.65
4:R:129:ASP:CB	4:R:130:PRO:CD	2.75	0.65
16:C:302:CL:CL	20:C:446:HOH:O	2.51	0.64
7:U:137:YCM:HD3	7:U:168:ALA:CB	2.26	0.64
13:M:170:GLU:OE1	20:M:401:HOH:O	2.15	0.64
6:F:227:VAL:O	6:F:232[B]:ARG:NH1	2.27	0.64
3:C:47:LYS:CB	3:C:48:LYS:HA	2.28	0.63
2:P:25[B]:MET:HA	2:P:25[B]:MET:CE	2.25	0.62
5:S:47:VAL:CG1	5:S:195:LEU:HD22	2.27	0.62
4:D:78:MET:HG3	4:D:82:ILE:HD12	1.81	0.62
2:P:155:ASN:OD1	3:Q:77:THR:OG1	2.17	0.62
7:U:195:VAL:O	7:U:199:ILE:HG23	1.99	0.62
10:X:95:ARG:HH11	10:X:95:ARG:HB2	1.65	0.61
3:C:47:LYS:CB	3:C:48:LYS:CA	2.79	0.60
11:Y:35:ILE:HD11	11:Y:45:MET:SD	2.41	0.59
6:T:205:LYS:O	6:T:206:ASP:CG	2.45	0.59
12:L:144:MET:CE	12:L:185:ARG:HB2	2.31	0.59
9:I:13[A]:MET:HE3	9:I:162:LEU:HD12	1.84	0.58
8:H:204:CYS:SG	12:Z:158:MET:HE2	2.43	0.58
10:J:101:ASN:HD22	10:J:119:ASP:HA	1.69	0.58
11:Y:40:TYR:CD2	11:Y:73:ARG:CZ	2.87	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:108:GLN:NE2	1:A:112:ARG:HH12	2.01	0.58
5:E:49:LEU:O	5:E:62:LYS:HD2	2.04	0.58
13:a:5:MET:HE3	14:b:116:MET:HB2	1.85	0.57
2:B:44:LEU:HD22	2:B:190:LEU:HD13	1.85	0.57
4:D:49:ALA:HB2	4:D:217:LEU:HD12	1.86	0.57
5:S:49:LEU:O	5:S:62:LYS:HD2	2.04	0.57
20:D:458:HOH:O	5:E:57:ALA:HB2	2.05	0.57
10:J:185:LYS:NZ	20:J:401:HOH:O	2.15	0.57
3:C:40:ILE:HD11	3:C:210:VAL:HG13	1.87	0.57
5:S:18[A]:ARG:HD2	5:S:23:GLU:OE2	2.05	0.57
5:S:154:PHE:HD2	6:T:63:ASN:HD21	1.51	0.56
7:U:138:MET:HE3	7:U:140:LEU:HD11	1.87	0.56
1:A:52:LYS:CB	20:A:492:HOH:O	2.53	0.56
4:R:49:ALA:HB2	4:R:217:LEU:HD12	1.86	0.56
10:X:38:MET:HE1	10:X:61:GLN:HB2	1.89	0.55
2:P:246:LYS:HE3	2:P:246:LYS:N	2.22	0.55
9:W:13:MET:HE3	9:W:162:LEU:HD12	1.89	0.55
12:L:81:LYS:NZ	20:L:403:HOH:O	2.40	0.55
5:E:101[A]:ARG:NH1	20:E:401:HOH:O	2.38	0.55
2:P:44:LEU:HD22	2:P:190:LEU:HD13	1.88	0.54
2:P:160:LYS:HE2	2:P:181:GLU:OE1	2.07	0.54
3:C:35:VAL:HG13	3:C:191:VAL:CG2	2.37	0.54
13:M:5:MET:HE3	14:N:116:MET:HB2	1.90	0.54
2:P:197:LEU:HD22	2:P:201:MET:HE3	1.88	0.54
11:Y:68:LEU:O	11:Y:71:LYS:CE	2.55	0.54
10:X:110:HIS:HB2	20:X:513:HOH:O	2.09	0.53
4:R:78:MET:HG3	4:R:82:ILE:CD1	2.37	0.53
3:C:50:VAL:O	3:C:51:ALA:HB3	2.07	0.53
9:W:35:THR:HG21	20:W:444:HOH:O	2.09	0.53
13:a:5:MET:HE3	14:b:116:MET:CB	2.39	0.52
7:G:145:GLU:CB	20:G:547:HOH:O	2.56	0.52
20:Q:453:HOH:O	4:R:60:GLU:HG3	2.09	0.52
9:I:64:GLN:OE1	10:J:86:ARG:NH2	2.43	0.52
16:B:301:CL:CL	16:B:302:CL:CL	3.01	0.52
10:J:38:MET:HE1	10:J:61:GLN:HB2	1.90	0.52
6:T:202:ASP:OD1	6:T:204:VAL:HG12	2.09	0.52
11:Y:87:VAL:HG11	11:Y:97[B]:MET:HE1	1.92	0.51
1:A:214:GLU:HB3	20:A:499:HOH:O	2.11	0.51
8:H:203:ARG:NH2	9:I:154:GLU:OE1	2.38	0.51
9:I:73:TYR:CE1	9:I:77:GLU:OE2	2.64	0.51
2:P:48:GLU:HB2	2:P:201:MET:HE2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Q:203:GLY:HA2	3:Q:229:VAL:HG11	1.93	0.51
11:K:141:ARG:NH1	10:X:166:GLU:OE2	2.43	0.51
5:S:234:GLU:OE2	5:S:234:GLU:HA	2.10	0.51
13:a:92:LEU:HD12	13:a:112:ILE:HD11	1.94	0.51
3:Q:85:ASN:OD1	10:X:70:ARG:CZ	2.59	0.50
7:U:81:THR:HB	7:U:137:YCM:CD	2.42	0.50
2:B:44:LEU:C	2:B:44:LEU:HD12	2.37	0.50
20:H:476:HOH:O	13:a:216:SER:HB3	2.12	0.50
3:Q:183:THR:CG2	3:Q:186:LEU:HD13	2.41	0.50
4:R:182:GLN:HA	5:S:56:LEU:HD11	1.92	0.50
9:I:27:PHE:HB3	9:I:35:THR:HG22	1.94	0.50
3:Q:204:LYS:HA	3:Q:205:ASN:C	2.37	0.50
16:a:302:CL:CL	16:b:302:CL:CL	3.03	0.50
10:J:49:GLU:O	10:J:53:THR:HG23	2.10	0.50
7:U:80[A]:MET:HE2	7:U:91:VAL:CG2	2.42	0.50
4:D:129:ASP:HA	20:D:477:HOH:O	2.11	0.50
10:X:88:LEU:HB3	10:X:122:ALA:HB2	1.93	0.50
7:G:42:VAL:HG13	7:G:198:ALA:HB2	1.94	0.50
10:X:49:GLU:O	10:X:53:THR:HG23	2.12	0.50
6:T:24:GLU:HA	6:T:27:MET:HE3	1.94	0.50
9:I:73:TYR:CE1	9:I:77:GLU:CD	2.90	0.49
11:K:40:TYR:CD2	11:K:73:ARG:CZ	2.95	0.49
8:V:213:THR:HB	9:W:198:THR:OG1	2.12	0.49
3:Q:50:VAL:O	3:Q:51:ALA:HB3	2.12	0.49
13:a:112:ILE:HD12	13:a:112:ILE:N	2.28	0.49
3:C:183:THR:OG1	3:C:184:ASP:N	2.45	0.49
8:H:203:ARG:N	20:H:404:HOH:O	2.46	0.49
8:V:178:ILE:HG12	8:V:183:LEU:HD12	1.93	0.49
2:B:33:THR:HB	2:B:166:ASN:O	2.11	0.49
3:Q:106:TYR:CD1	3:Q:106:TYR:C	2.90	0.49
7:U:43:ARG:HB3	7:U:151:VAL:HG13	1.93	0.49
3:C:106:TYR:CD1	3:C:106:TYR:C	2.90	0.49
20:G:508:HOH:O	8:H:72:ARG:HD3	2.12	0.49
5:S:50:LYS:CB	5:S:59:HIS:HB3	2.40	0.49
7:U:80[A]:MET:HE2	7:U:91:VAL:HG22	1.95	0.49
16:M:302:CL:CL	16:M:303:CL:CL	3.05	0.48
2:B:155:ASN:OD1	3:C:77:THR:OG1	2.28	0.48
3:C:148:ASP:HB2	3:C:149:PRO:CD	2.42	0.48
8:H:216:ILE:HD13	9:I:195:THR:HG23	1.94	0.48
3:Q:148:ASP:HB2	3:Q:149:PRO:CD	2.43	0.48
1:A:206:ASN:C	1:A:206:ASN:HD22	2.22	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:148:LEU:HD23	12:L:178:VAL:CG1	2.43	0.48
2:P:155:ASN:ND2	20:P:402:HOH:O	2.38	0.48
11:Y:40:TYR:CD2	11:Y:73:ARG:NH1	2.82	0.48
13:a:96:MET:HE3	13:a:127:MET:HA	1.94	0.48
4:D:164:GLN:OE1	5:E:58:ALA:HB2	2.14	0.48
12:Z:184:GLU:OE2	12:Z:211:ARG:HD2	2.13	0.48
3:C:50:VAL:O	3:C:51:ALA:CB	2.61	0.48
10:J:1[A]:MET:HE2	10:J:1[A]:MET:HB3	1.79	0.48
7:U:43:ARG:HB3	7:U:151:VAL:CG1	2.43	0.48
6:F:152:ASP:OD1	6:F:156:VAL:HG12	2.14	0.48
8:V:132:LEU:HD22	14:b:25:TYR:CZ	2.49	0.48
9:I:13[A]:MET:HE2	9:I:166:ILE:HB	1.95	0.48
8:H:178:ILE:HG12	8:H:183:LEU:HD12	1.96	0.47
9:W:27:PHE:HB3	9:W:35:THR:HG22	1.96	0.47
10:X:161:ARG:HD3	20:X:492:HOH:O	2.14	0.47
1:A:147:GLN:HG3	1:A:162:MET:HE1	1.96	0.47
10:X:132:HIS:HD2	20:X:470:HOH:O	1.97	0.47
14:b:14:LEU:HD23	14:b:44:CYS:SG	2.54	0.47
1:A:174:GLU:OE1	2:B:53:HIS:NE2	2.46	0.47
3:C:5:ARG:NH1	4:D:125:GLU:OE2	2.41	0.47
13:a:47:ASN:ND2	20:a:402:HOH:O	2.47	0.47
6:F:30:VAL:HG22	6:F:133[A]:CYS:HA	1.97	0.47
3:C:40:ILE:HD11	3:C:210:VAL:CG1	2.43	0.47
7:U:195:VAL:HG13	7:U:196:GLU:OE1	2.14	0.47
14:N:190:LEU:H	14:N:193:GLN:HE21	1.61	0.47
4:R:29:GLU:OE2	4:R:32:LYS:HE2	2.14	0.47
6:T:110:HIS:HD2	20:T:346:HOH:O	1.97	0.47
14:b:190:LEU:H	14:b:193:GLN:HE21	1.62	0.47
3:C:226:GLU:O	3:C:226:GLU:HG3	2.13	0.47
5:E:65:HIS:HB2	20:E:439:HOH:O	2.15	0.47
13:M:27:LEU:HD22	13:M:184:TYR:HB2	1.97	0.47
1:O:147:GLN:HG3	1:O:162:MET:HE1	1.97	0.47
11:Y:68:LEU:O	11:Y:71:LYS:HE3	2.14	0.47
14:b:147[B]:MET:HE1	14:b:155:PHE:CD2	2.50	0.47
6:F:204:VAL:HG22	20:F:409:HOH:O	2.13	0.46
13:M:96:MET:HE3	13:M:127:MET:HA	1.97	0.46
6:T:173:LYS:HE2	6:T:173:LYS:HB3	1.64	0.46
7:U:78:CYS:HB2	7:U:140:LEU:HD23	1.97	0.46
1:A:17:LYS:HE2	1:A:22:GLU:OE2	2.15	0.46
14:N:14:LEU:HD23	14:N:44:CYS:SG	2.55	0.46
9:W:16[B]:LYS:NZ	20:W:405:HOH:O	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:219:LEU:HD22	20:F:433:HOH:O	2.14	0.46
2:P:33:THR:HB	2:P:166:ASN:O	2.14	0.46
13:a:5:MET:CE	14:b:116:MET:HB3	2.45	0.46
11:K:158:ARG:HD2	11:K:162:GLN:HE21	1.80	0.46
7:U:244:GLU:O	7:U:245:ARG:C	2.59	0.46
13:M:5:MET:HE3	14:N:116:MET:CB	2.46	0.46
6:F:243:LEU:O	6:F:244:LYS:C	2.59	0.46
2:P:2:SER:HB3	5:S:123:TYR:CE2	2.51	0.46
2:P:8:ARG:HH21	3:Q:5:ARG:HD2	1.80	0.46
7:U:42:VAL:HG13	7:U:198:ALA:HB2	1.98	0.46
1:O:206:ASN:C	1:O:206:ASN:HD22	2.24	0.46
11:Y:40:TYR:CZ	11:Y:73:ARG:HB3	2.51	0.46
8:H:112:SER:HB2	8:H:127[B]:MET:HE3	1.98	0.46
2:P:44:LEU:C	2:P:44:LEU:HD12	2.41	0.46
8:V:139:GLU:HA	8:V:139:GLU:OE2	2.16	0.46
13:a:151:ARG:HD3	20:a:449:HOH:O	2.16	0.46
4:D:78:MET:HG3	4:D:82:ILE:CD1	2.44	0.46
8:V:76:VAL:HG23	8:V:104[A]:ASP:OD2	2.16	0.46
11:K:40:TYR:CD2	11:K:73:ARG:NH1	2.84	0.45
14:b:35:THR:HG21	14:b:45:ARG:HE	1.80	0.45
3:C:67:ASP:OD1	10:J:69:MET:HE1	2.15	0.45
4:D:203:LYS:HE2	4:D:210:LEU:HB3	1.98	0.45
12:L:184:GLU:OE2	12:L:211:ARG:HD2	2.16	0.45
7:U:81:THR:OG1	7:U:137:YCM:NZ2	2.46	0.45
1:A:58[B]:GLU:CD	1:A:58[B]:GLU:H	2.25	0.45
11:Y:9:ARG:NH2	11:Y:146:ASP:OD1	2.45	0.45
2:B:51:ASN:HB2	2:B:63:GLU:OE1	2.16	0.45
5:E:218:ASP:OD1	5:E:218:ASP:N	2.49	0.45
3:Q:183:THR:OG1	3:Q:184:ASP:N	2.50	0.45
4:R:129:ASP:CB	4:R:130:PRO:HD3	2.45	0.45
5:S:196:ARG:NH2	5:S:238:GLU:CB	2.80	0.45
10:J:166:GLU:OE2	11:Y:141[A]:ARG:NH1	2.49	0.45
11:K:137:GLY:O	11:K:141:ARG:HG2	2.17	0.45
10:X:38:MET:HE2	10:X:38:MET:HA	1.99	0.45
7:G:43:ARG:HB3	7:G:151:VAL:HG23	1.99	0.45
6:T:30:VAL:HG22	6:T:133[A]:CYS:HA	1.98	0.45
1:A:133:LEU:O	1:A:147:GLN:HA	2.17	0.44
10:J:38:MET:HE2	10:J:38:MET:HA	1.99	0.44
7:U:72:ILE:HG21	7:U:114:LEU:HD21	1.97	0.44
7:U:80[A]:MET:CE	7:U:91:VAL:HG23	2.47	0.44
12:Z:148:LEU:HD23	12:Z:178:VAL:CG1	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Q:12:PRO:HA	4:R:26:TYR:CD2	2.53	0.44
13:M:114:GLY:HA2	13:M:192:VAL:HG11	2.00	0.44
8:H:189:TYR:OH	20:H:401:HOH:O	2.21	0.44
3:C:183:THR:HG23	3:C:186:LEU:H	1.83	0.44
8:H:201:ARG:NH1	20:H:406:HOH:O	2.49	0.44
13:M:178:TYR:HB3	14:b:29:ARG:HD2	1.98	0.44
1:O:10:THR:HB	1:O:20:GLN:HB2	1.99	0.44
13:M:144:TYR:CZ	19:M:305:1PE:H242	2.53	0.44
6:T:53:VAL:HG12	6:T:208:ALA:HB1	2.00	0.43
10:J:86:ARG:HD3	10:J:90:ASP:OD1	2.18	0.43
10:J:88:LEU:HB3	10:J:122:ALA:HB2	1.98	0.43
6:F:170:GLN:O	6:F:174:THR:HG23	2.18	0.43
14:N:172:GLY:HA2	13:a:209:TRP:CH2	2.53	0.43
7:G:72:ILE:HG21	7:G:114:LEU:HD21	2.00	0.43
10:J:12:TYR:CD1	10:J:182:ILE:HD11	2.52	0.43
5:S:49:LEU:HG	5:S:195:LEU:HD21	1.99	0.43
6:T:191:LYS:HB3	6:T:238:TYR:CD1	2.54	0.43
6:T:152:ASP:OD1	6:T:156:VAL:HG12	2.18	0.43
11:Y:66:TYR:CD2	11:Y:66:TYR:C	2.96	0.43
13:a:5:MET:HE2	14:b:116:MET:HB3	2.00	0.43
7:U:80[A]:MET:HE1	7:U:138:MET:SD	2.58	0.43
7:U:137:YCM:CD	7:U:137:YCM:C	2.97	0.43
5:S:237:GLU:O	5:S:238:GLU:CB	2.66	0.43
12:Z:172:MET:HE1	12:Z:197:ILE:HD11	2.00	0.43
13:M:86:ARG:NH1	13:M:133:GLU:OE2	2.49	0.43
10:X:86:ARG:HD3	10:X:90:ASP:OD1	2.19	0.43
14:N:190:LEU:H	14:N:193:GLN:NE2	2.17	0.42
1:O:110:VAL:HG22	1:O:135:ILE:HD12	2.01	0.42
1:O:133:LEU:O	1:O:147:GLN:HA	2.19	0.42
13:a:114:GLY:HA2	13:a:192:VAL:HG11	2.00	0.42
3:Q:95:ARG:HG2	16:Q:301:CL:CL	2.56	0.42
2:P:25[B]:MET:HE2	20:P:435:HOH:O	2.20	0.42
5:S:18[B]:ARG:CG	5:S:19:ILE:N	2.80	0.42
1:A:198:PHE:O	1:A:199:GLU:CB	2.67	0.42
5:E:150:SER:O	5:E:151:ALA:HB3	2.20	0.42
12:L:172:MET:HE1	12:L:197:ILE:HD11	2.01	0.42
4:R:203:LYS:HE2	4:R:210:LEU:HB3	2.01	0.42
9:I:13[A]:MET:HE1	9:I:166:ILE:N	2.34	0.42
6:T:74:GLY:HA3	6:T:224:HIS:CD2	2.54	0.42
8:V:97:ALA:HB1	8:V:127[B]:MET:CE	2.49	0.42
4:D:182:GLN:HA	5:E:56:LEU:HD11	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Q:85:ASN:OD1	10:X:70:ARG:NH2	2.52	0.42
3:Q:183:THR:HG23	3:Q:186:LEU:H	1.84	0.42
9:W:13:MET:HE2	9:W:166:ILE:HB	2.02	0.42
9:W:13:MET:HE1	9:W:166:ILE:N	2.34	0.42
11:Y:40:TYR:HB3	11:Y:73:ARG:NH1	2.34	0.42
13:a:124:TYR:O	13:a:131:ALA:HA	2.20	0.42
3:C:47:LYS:CB	3:C:48:LYS:C	2.93	0.42
3:C:47:LYS:CB	3:C:48:LYS:O	2.68	0.42
6:F:34:SER:OG	6:F:65:ARG:NH1	2.52	0.42
6:F:151:ILE:HA	6:F:156:VAL:O	2.20	0.42
3:Q:50:VAL:O	3:Q:51:ALA:CB	2.68	0.42
2:B:151:ASP:HB2	2:B:152:PRO:CD	2.50	0.42
11:K:83:LEU:CD2	11:K:99:THR:HG21	2.50	0.42
11:Y:158:ARG:HE	11:Y:162:GLN:NE2	2.14	0.42
16:H:304:CL:CL	20:H:521:HOH:O	2.59	0.42
5:S:196:ARG:HH22	5:S:238:GLU:CB	2.33	0.42
11:Y:137:GLY:O	11:Y:141[A]:ARG:HG2	2.20	0.42
7:G:117:ARG:NH2	20:G:404:HOH:O	2.44	0.41
13:M:112:ILE:HD12	13:M:112:ILE:N	2.35	0.41
10:X:1:MET:HE2	10:X:1:MET:HB3	1.80	0.41
6:F:150:MET:C	6:F:151:ILE:HD12	2.45	0.41
4:R:199:LEU:HD12	4:R:237:VAL:CG1	2.50	0.41
6:T:170:GLN:O	6:T:174:THR:HG23	2.20	0.41
2:B:25[B]:MET:SD	2:B:152:PRO:HD2	2.61	0.41
10:J:12:TYR:CD1	10:J:12:TYR:C	2.99	0.41
7:U:88:ARG:HA	7:U:88:ARG:HD2	1.89	0.41
8:H:139:GLU:HA	8:H:139:GLU:OE2	2.21	0.41
13:M:92:LEU:CD2	13:M:112:ILE:HD11	2.49	0.41
5:S:150:SER:O	5:S:151:ALA:HB3	2.20	0.41
7:U:186:LYS:N	20:U:404:HOH:O	2.53	0.41
3:C:35:VAL:HG13	3:C:191:VAL:HG22	2.03	0.41
3:C:203:GLY:HA2	3:C:204:LYS:CB	2.50	0.41
7:G:192:GLU:HG3	20:G:407:HOH:O	2.21	0.41
10:J:27[A]:GLN:HE21	10:J:29:LYS:N	2.19	0.41
10:J:108:ASP:HB3	10:J:111:GLU:HB2	2.03	0.41
2:P:151:ASP:HB2	2:P:152:PRO:CD	2.51	0.41
13:a:27:LEU:HD22	13:a:184:TYR:HB2	2.03	0.41
2:B:149:GLN:O	2:B:156:TYR:HA	2.20	0.41
19:I:303:1PE:H122	10:J:90:ASP:HB3	2.03	0.41
10:J:1[A]:MET:HG2	10:J:2:GLU:H	1.85	0.41
10:J:121:LEU:O	10:J:122:ALA:HB3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:148:LEU:HD23	12:L:178:VAL:HG12	2.03	0.41
6:T:151:ILE:HA	6:T:156:VAL:O	2.21	0.41
1:A:110:VAL:HG22	1:A:135:ILE:HD12	2.02	0.41
5:E:171:TYR:CD2	5:E:171:TYR:C	2.99	0.41
4:R:204:GLN:NE2	20:R:405:HOH:O	2.54	0.41
12:Z:148:LEU:O	12:Z:148:LEU:HG	2.19	0.41
10:J:10:PRO:HG3	10:J:150:THR:HA	2.02	0.40
1:O:180:ASP:OD1	1:O:180:ASP:N	2.54	0.40
9:W:13:MET:HE1	9:W:165:THR:HB	2.02	0.40
5:E:202:GLU:HG2	5:E:203:GLN:N	2.35	0.40
6:F:74:GLY:HA3	6:F:224:HIS:CD2	2.57	0.40
11:K:52:CYS:SG	11:K:97:MET:HG3	2.62	0.40
5:S:239:ARG:C	20:S:438:HOH:O	2.64	0.40
19:V:304:1PE:H241	20:V:499:HOH:O	2.21	0.40
1:A:142:ARG:HG2	1:A:143:PRO:HD2	2.02	0.40
8:H:199:LEU:HB3	12:Z:173:ARG:HG2	2.02	0.40
13:M:126:ASP:OD2	13:M:126:ASP:C	2.63	0.40
3:Q:41:VAL:HG11	3:Q:134:VAL:HB	2.04	0.40
5:S:45:VAL:CG1	5:S:187:LEU:HD23	2.51	0.40
6:T:81:LEU:HD13	6:T:85:ARG:CZ	2.51	0.40
6:T:207:LYS:HE2	20:T:376:HOH:O	2.22	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	231/234 (99%)	219 (95%)	7 (3%)	5 (2%)	5 1
1	O	228/234 (97%)	217 (95%)	5 (2%)	6 (3%)	4 1
2	B	248/261 (95%)	238 (96%)	8 (3%)	2 (1%)	16 8
2	P	247/261 (95%)	232 (94%)	12 (5%)	3 (1%)	10 4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	C	236/248 (95%)	220 (93%)	9 (4%)	7 (3%)	3	0
3	Q	237/248 (96%)	221 (93%)	6 (2%)	10 (4%)	2	0
4	D	232/241 (96%)	223 (96%)	6 (3%)	3 (1%)	9	3
4	R	232/241 (96%)	221 (95%)	7 (3%)	4 (2%)	7	2
5	E	232/263 (88%)	225 (97%)	6 (3%)	1 (0%)	30	22
5	S	236/263 (90%)	228 (97%)	7 (3%)	1 (0%)	30	22
6	F	241/255 (94%)	239 (99%)	2 (1%)	0	100	100
6	T	239/255 (94%)	232 (97%)	4 (2%)	3 (1%)	9	3
7	G	241/246 (98%)	237 (98%)	4 (2%)	0	100	100
7	U	232/246 (94%)	227 (98%)	4 (2%)	1 (0%)	30	22
8	H	220/234 (94%)	217 (99%)	3 (1%)	0	100	100
8	V	220/234 (94%)	216 (98%)	3 (1%)	1 (0%)	24	16
9	I	205/205 (100%)	201 (98%)	4 (2%)	0	100	100
9	W	204/205 (100%)	198 (97%)	6 (3%)	0	100	100
10	J	195/201 (97%)	193 (99%)	2 (1%)	0	100	100
10	X	195/201 (97%)	193 (99%)	2 (1%)	0	100	100
11	K	198/204 (97%)	195 (98%)	3 (2%)	0	100	100
11	Y	200/204 (98%)	197 (98%)	3 (2%)	0	100	100
12	L	213/213 (100%)	211 (99%)	2 (1%)	0	100	100
12	Z	212/213 (100%)	210 (99%)	2 (1%)	0	100	100
13	M	215/219 (98%)	209 (97%)	6 (3%)	0	100	100
13	a	216/219 (99%)	208 (96%)	8 (4%)	0	100	100
14	N	201/205 (98%)	198 (98%)	2 (1%)	1 (0%)	24	16
14	b	202/205 (98%)	200 (99%)	1 (0%)	1 (0%)	24	16
All	All	6208/6458 (96%)	6025 (97%)	134 (2%)	49 (1%)	16	8

All (49) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	50	LYS
1	A	52	LYS
1	A	53	SER
3	C	50	VAL
3	C	216	SER

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Mol	Chain	Res	Type
1	O	50	LYS
1	O	52	LYS
1	O	53	SER
1	O	231	ALA
2	P	204	SER
3	Q	47	LYS
3	Q	200	GLN
3	Q	206	ILE
3	Q	221	ASN
4	R	129	ASP
4	R	130	PRO
5	S	238	GLU
6	T	206	ASP
3	C	51	ALA
4	D	176	GLY
5	E	59	HIS
2	P	54	LYS
3	Q	50	VAL
3	Q	51	ALA
3	Q	201	SER
3	Q	216	SER
4	R	128	ALA
6	T	7	TYR
1	A	176	ARG
3	C	200	GLN
14	N	198	ALA
1	O	176	ARG
3	Q	138	PHE
7	U	58	ASP
8	V	203	ARG
2	B	203	VAL
3	C	204	LYS
2	P	52	ILE
6	T	208	ALA
14	b	198	ALA
1	A	201	GLN
2	B	51	ASN
3	C	138	PHE
4	D	175[A]	GLU
4	D	175[B]	GLU
4	R	127	ASP
1	O	201	GLN

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Mol	Chain	Res	Type
3	C	203	GLY
3	Q	203	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	185/191 (97%)	173 (94%)	12 (6%)	15	8
1	O	176/191 (92%)	166 (94%)	10 (6%)	18	11
2	B	199/221 (90%)	191 (96%)	8 (4%)	28	20
2	P	196/221 (89%)	183 (93%)	13 (7%)	15	8
3	C	179/210 (85%)	168 (94%)	11 (6%)	17	9
3	Q	184/210 (88%)	171 (93%)	13 (7%)	13	7
4	D	189/203 (93%)	181 (96%)	8 (4%)	26	19
4	R	187/203 (92%)	183 (98%)	4 (2%)	47	44
5	E	192/223 (86%)	184 (96%)	8 (4%)	26	19
5	S	195/223 (87%)	188 (96%)	7 (4%)	31	23
6	F	199/212 (94%)	189 (95%)	10 (5%)	22	14
6	T	192/212 (91%)	182 (95%)	10 (5%)	21	13
7	G	202/207 (98%)	193 (96%)	9 (4%)	24	17
7	U	186/207 (90%)	180 (97%)	6 (3%)	34	27
8	H	181/195 (93%)	174 (96%)	7 (4%)	28	21
8	V	172/195 (88%)	162 (94%)	10 (6%)	18	10
9	I	176/174 (101%)	174 (99%)	2 (1%)	65	67
9	W	173/174 (99%)	170 (98%)	3 (2%)	53	52
10	J	166/170 (98%)	157 (95%)	9 (5%)	20	12
10	X	165/170 (97%)	160 (97%)	5 (3%)	36	30
11	K	154/159 (97%)	143 (93%)	11 (7%)	13	7
11	Y	158/159 (99%)	150 (95%)	8 (5%)	21	13

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
12	L	175/178 (98%)	167 (95%)	8 (5%)	24	16
12	Z	175/178 (98%)	171 (98%)	4 (2%)	44	40
13	M	180/181 (99%)	177 (98%)	3 (2%)	53	52
13	a	178/181 (98%)	174 (98%)	4 (2%)	45	42
14	N	158/159 (99%)	156 (99%)	2 (1%)	61	61
14	b	158/159 (99%)	156 (99%)	2 (1%)	61	61
All	All	5030/5366 (94%)	4823 (96%)	207 (4%)	28	19

All (207) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	17	LYS
1	A	50	LYS
1	A	53	SER
1	A	61	VAL
1	A	131	VAL
1	A	180	ASP
1	A	189	THR
1	A	201	GLN
1	A	206	ASN
1	A	223	THR
1	A	226	LYS
1	A	227	ASP
2	B	33	THR
2	B	43	VAL
2	B	59	VAL
2	B	190	LEU
2	B	207	SER
2	B	229	LYS
2	B	238	LYS
2	B	249	ARG
3	C	2	SER
3	C	35	VAL
3	C	45	VAL
3	C	113	SER
3	C	148	ASP
3	C	163	ARG
3	C	201	SER
3	C	205	ASN
3	C	208	LEU

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Mol	Chain	Res	Type
3	C	225	ILE
3	C	226	GLU
4	D	9	ASP
4	D	46	VAL
4	D	95	GLU
4	D	126	GLU
4	D	139	VAL
4	D	182	GLN
4	D	199	LEU
4	D	217	LEU
5	E	29	VAL
5	E	61	LYS
5	E	101[A]	ARG
5	E	101[B]	ARG
5	E	180	MET
5	E	181	GLU
5	E	189	LYS
5	E	202	GLU
6	F	17	ASP
6	F	31	GLU
6	F	53	VAL
6	F	81	LEU
6	F	87	LEU
6	F	174	THR
6	F	187	ARG
6	F	190	VAL
6	F	240	LYS
6	F	244	LYS
7	G	42	VAL
7	G	78	CYS
7	G	88	ARG
7	G	183	VAL
7	G	190	THR
7	G	192	GLU
7	G	206	LEU
7	G	226	LYS
7	G	232	GLU
8	H	6	VAL
8	H	12	ILE
8	H	65	LEU
8	H	68	LEU
8	H	183	LEU

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Mol	Chain	Res	Type
8	H	215	LYS
8	H	220	GLU
9	I	35	THR
9	I	115	THR
10	J	1[A]	MET
10	J	1[B]	MET
10	J	27[A]	GLN
10	J	27[B]	GLN
10	J	62	LYS
10	J	88	LEU
10	J	95	ARG
10	J	102	LEU
10	J	155	ARG
11	K	12	VAL
11	K	35	ILE
11	K	81	LYS
11	K	138	VAL
11	K	141	ARG
11	K	147	LEU
11	K	158	ARG
11	K	174	VAL
11	K	187	VAL
11	K	192	VAL
11	K	200	SER
12	L	3[A]	SER
12	L	3[B]	SER
12	L	72	LEU
12	L	78	SER
12	L	161	VAL
12	L	174	LEU
12	L	207	THR
12	L	212	LYS
13	M	119	GLU
13	M	154	LEU
13	M	216	SER
14	N	35	THR
14	N	145	GLU
1	O	10	THR
1	O	53	SER
1	O	131	VAL
1	O	180	ASP
1	O	181	LEU

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Mol	Chain	Res	Type
1	O	189	THR
1	O	201	GLN
1	O	206	ASN
1	O	223	THR
1	O	226	LYS
2	P	7[A]	SER
2	P	7[B]	SER
2	P	33	THR
2	P	43	VAL
2	P	59	VAL
2	P	70	GLU
2	P	183	GLU
2	P	190	LEU
2	P	204	SER
2	P	207	SER
2	P	235	GLN
2	P	236	LEU
2	P	246	LYS
3	Q	2	SER
3	Q	45	VAL
3	Q	56	GLU
3	Q	98	VAL
3	Q	113	SER
3	Q	148	ASP
3	Q	163	ARG
3	Q	170	GLU
3	Q	179	GLU
3	Q	206	ILE
3	Q	208	LEU
3	Q	225	ILE
3	Q	227	LYS
4	R	46	VAL
4	R	139	VAL
4	R	182	GLN
4	R	217	LEU
5	S	29	VAL
5	S	45	VAL
5	S	60	GLN
5	S	101	ARG
5	S	114	SER
5	S	180	MET
5	S	202	GLU

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Mol	Chain	Res	Type
6	T	17	ASP
6	T	31	GLU
6	T	53	VAL
6	T	81	LEU
6	T	87	LEU
6	T	174	THR
6	T	190	VAL
6	T	223	ARG
6	T	240	LYS
6	T	241	GLU
7	U	42	VAL
7	U	78	CYS
7	U	151	VAL
7	U	199	ILE
7	U	206	LEU
7	U	232	GLU
8	V	6	VAL
8	V	12	ILE
8	V	31	CYS
8	V	65	LEU
8	V	68	LEU
8	V	104[A]	ASP
8	V	104[B]	ASP
8	V	183	LEU
8	V	199	LEU
8	V	213	THR
9	W	35	THR
9	W	69	ARG
9	W	193	LYS
10	X	1	MET
10	X	62	LYS
10	X	88	LEU
10	X	95	ARG
10	X	158	GLU
11	Y	12	VAL
11	Y	81	LYS
11	Y	89	GLN
11	Y	138	VAL
11	Y	141[A]	ARG
11	Y	141[B]	ARG
11	Y	147	LEU
11	Y	192	VAL

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Mol	Chain	Res	Type
12	Z	72	LEU
12	Z	174	LEU
12	Z	207	THR
12	Z	208	VAL
13	a	92	LEU
13	a	154	LEU
13	a	198	GLU
13	a	216	SER
14	b	29	ARG
14	b	35	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (63) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	51	GLN
1	A	62	HIS
1	A	94	GLN
1	A	108	GLN
1	A	206	ASN
2	B	40	ASN
2	B	100	GLN
2	B	102	GLN
2	B	142	HIS
3	C	54	GLN
4	D	227	HIS
5	E	16	GLN
5	E	65	HIS
6	F	143	ASN
7	G	68	HIS
7	G	100	ASN
8	H	80	ASN
8	H	153	ASN
9	I	80	GLN
9	I	161	HIS
10	J	63	ASN
10	J	101	ASN
11	K	62	GLN
11	K	162	GLN
12	L	157	ASN
13	M	65	GLN
13	M	162	GLN
14	N	106	GLN

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Mol	Chain	Res	Type
14	N	193	GLN
1	O	62	HIS
1	O	101	GLN
1	O	118	GLN
1	O	206	ASN
2	P	40	ASN
2	P	102	GLN
2	P	142	HIS
2	P	235	GLN
3	Q	18	GLN
3	Q	94	HIS
4	R	97	GLN
4	R	186	HIS
4	R	227	HIS
5	S	8	ASN
5	S	60	GLN
6	T	63	ASN
6	T	68	ASN
6	T	110	HIS
6	T	143	ASN
8	V	80	ASN
9	W	80	GLN
9	W	172	ASN
10	X	24	ASN
10	X	63	ASN
10	X	174	ASN
11	Y	62	GLN
11	Y	119	ASN
11	Y	162	GLN
12	Z	79	ASN
13	a	65	GLN
13	a	89	HIS
13	a	162	GLN
14	b	62	GLN
14	b	193	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

18 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
7	6V1	G	47	7	13,15,16	2.72	5 (38%)	10,20,22	2.30	1 (10%)
7	YCM	G	137	7	7,9,10	2.21	3 (42%)	5,10,12	2.09	2 (40%)
5	6V1	E	148	5	13,15,16	1.73	2 (15%)	10,20,22	3.12	4 (40%)
3	YCM	C	63	3	7,9,10	0.92	0	5,10,12	1.02	0
7	6V1	U	47	7	13,15,16	2.05	4 (30%)	10,20,22	2.10	3 (30%)
7	6V1	G	161	7	13,15,16	1.71	3 (23%)	10,20,22	2.29	5 (50%)
5	6V1	S	148	5	13,15,16	1.98	5 (38%)	10,20,22	2.61	4 (40%)
10	6V1	J	91	10	13,15,16	1.90	3 (23%)	10,20,22	4.88	7 (70%)
7	6V1	U	161	7	13,15,16	1.90	4 (30%)	10,20,22	3.11	5 (50%)
15	6V9	d	1	15	7,8,9	1.12	1 (14%)	7,10,12	4.52	5 (71%)
15	OAS	c	3	15	5,6,9	0.88	0	2,6,11	0.41	0
3	YCM	Q	63	3	7,9,10	1.56	1 (14%)	5,10,12	3.30	3 (60%)
15	OAS	d	3	15	5,6,9	0.96	0	2,6,11	0.68	0
15	OAS	c	2	15	5,6,9	0.75	0	2,6,11	2.73	1 (50%)
10	6V1	X	91	10	13,15,16	1.94	4 (30%)	10,20,22	5.13	7 (70%)
15	6V9	c	1	15	7,8,9	1.16	1 (14%)	7,10,12	3.38	5 (71%)
15	OAS	d	2	15	5,6,9	1.41	1 (20%)	2,6,11	4.70	2 (100%)
7	YCM	U	137	7	7,9,10	1.49	1 (14%)	5,10,12	3.18	3 (60%)

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
7	6V1	G	47	7	-	0/6/25/27	0/1/1/1
7	YCM	G	137	7	-	2/6/8/10	-
5	6V1	E	148	5	-	2/6/25/27	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	6V1	U	47	7	1/1/5/6	0/6/25/27	0/1/1/1
3	YCM	C	63	3	-	1/6/8/10	-
7	6V1	G	161	7	-	1/6/25/27	0/1/1/1
5	6V1	S	148	5	-	2/6/25/27	0/1/1/1
10	6V1	J	91	10	-	2/6/25/27	0/1/1/1
7	6V1	U	161	7	-	1/6/25/27	0/1/1/1
15	6V9	d	1	15	-	0/2/2/4	0/1/1/1
15	OAS	c	3	15	-	0/3/5/9	-
3	YCM	Q	63	3	-	4/6/8/10	-
15	OAS	d	3	15	-	0/3/5/9	-
15	OAS	c	2	15	-	3/3/5/9	-
10	6V1	X	91	10	-	2/6/25/27	0/1/1/1
15	6V9	c	1	15	-	0/2/2/4	0/1/1/1
15	OAS	d	2	15	-	3/3/5/9	-
7	YCM	U	137	7	-	3/6/8/10	-

All (38) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	G	47	6V1	CB-SG	-6.62	1.75	1.82
7	U	47	6V1	CB-SG	-5.35	1.76	1.82
10	J	91	6V1	C1-SG	-5.33	1.77	1.83
7	U	161	6V1	CB-SG	-4.92	1.77	1.82
5	E	148	6V1	CB-SG	-4.55	1.77	1.82
10	X	91	6V1	C1-SG	-4.51	1.78	1.83
5	S	148	6V1	CB-SG	-4.39	1.77	1.82
7	G	47	6V1	C2-N3	-4.15	1.33	1.38
7	G	47	6V1	C1-SG	3.93	1.87	1.83
3	Q	63	YCM	CD-SG	-3.60	1.72	1.81
7	G	47	6V1	C4-N3	-3.43	1.33	1.38
7	G	161	6V1	CB-SG	-3.37	1.78	1.82
5	S	148	6V1	C2-N3	-3.34	1.34	1.38
7	G	161	6V1	C4-N3	-3.21	1.33	1.38
10	X	91	6V1	O7-C2	3.14	1.28	1.22
7	G	137	YCM	CD-SG	3.11	1.89	1.81
7	G	137	YCM	CE-NZ2	2.99	1.42	1.32
5	E	148	6V1	C2-N3	-2.92	1.34	1.38
7	G	137	YCM	CB-SG	-2.84	1.70	1.81
7	U	47	6V1	C2-N3	-2.84	1.34	1.38
7	U	47	6V1	C4-N3	-2.76	1.34	1.38
7	U	137	YCM	CB-SG	-2.76	1.70	1.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	S	148	6V1	C5-C4	2.65	1.54	1.50
10	J	91	6V1	O7-C2	2.60	1.27	1.22
15	d	1	6V9	C-C3	2.53	1.48	1.45
5	S	148	6V1	C4-N3	-2.49	1.34	1.38
7	G	161	6V1	C2-N3	-2.48	1.35	1.38
7	U	161	6V1	C2-N3	-2.45	1.35	1.38
10	X	91	6V1	C4-N3	-2.43	1.35	1.38
10	X	91	6V1	C1-C2	2.33	1.54	1.52
7	G	47	6V1	C5-C4	2.32	1.54	1.50
7	U	47	6V1	C1-SG	-2.23	1.80	1.83
15	d	2	OAS	CA-N	-2.20	1.41	1.48
7	U	161	6V1	C1-C2	2.09	1.54	1.52
10	J	91	6V1	C4-N3	-2.07	1.35	1.38
15	c	1	6V9	C-C3	2.05	1.48	1.45
5	S	148	6V1	C1-C2	2.04	1.54	1.52
7	U	161	6V1	C4-N3	-2.02	1.35	1.38

All (57) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	d	1	6V9	S-C1-N	-9.40	108.24	114.63
10	J	91	6V1	C5-C4-N3	9.28	113.91	108.07
10	X	91	6V1	C5-C4-N3	8.51	113.43	108.07
10	X	91	6V1	O7-C2-N3	8.46	134.40	124.14
10	J	91	6V1	O7-C2-N3	7.29	132.99	124.14
5	E	148	6V1	C2-N3-C4	-7.24	108.83	113.07
10	X	91	6V1	C6-N3-C2	6.99	131.56	123.37
10	J	91	6V1	C6-N3-C2	6.48	130.97	123.37
15	c	1	6V9	S-C1-N	-6.41	110.28	114.63
7	G	47	6V1	C2-N3-C4	-6.32	109.37	113.07
7	U	161	6V1	C2-N3-C4	-5.95	109.59	113.07
7	U	137	YCM	CB-CA-C	5.89	126.81	110.80
3	Q	63	YCM	CE-CD-SG	-5.60	96.12	113.81
5	S	148	6V1	C5-C4-N3	5.39	111.46	108.07
7	U	161	6V1	C5-C4-N3	5.10	111.28	108.07
5	E	148	6V1	C5-C4-N3	5.02	111.23	108.07
15	d	2	OAS	C1A-OG-CB	4.77	131.50	112.37
15	d	1	6V9	C1-S-C3	4.73	92.38	89.63
15	c	1	6V9	C21-C3-C	4.67	132.54	127.15
15	d	2	OAS	OG-CB-CA	4.64	121.88	109.25
7	G	161	6V1	O8-C4-N3	4.60	128.87	123.94
10	X	91	6V1	C6-N3-C4	-4.57	117.11	122.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	X	91	6V1	C2-N3-C4	-4.53	110.42	113.07
5	S	148	6V1	C2-N3-C4	-4.48	110.45	113.07
7	U	47	6V1	C2-N3-C4	-4.44	110.47	113.07
10	J	91	6V1	C6-N3-C4	-4.40	117.31	122.52
10	J	91	6V1	C2-N3-C4	-4.38	110.50	113.07
7	G	137	YCM	CE-CD-SG	4.01	126.45	113.81
10	X	91	6V1	O7-C2-C1	-3.84	116.15	124.52
7	U	161	6V1	O8-C4-C5	-3.69	121.89	127.28
10	X	91	6V1	O8-C4-C5	-3.61	122.00	127.28
15	d	1	6V9	C21-C3-C	3.59	131.30	127.15
15	c	2	OAS	OG-CB-CA	3.45	118.64	109.25
15	d	1	6V9	O-C-C3	-3.45	118.90	124.98
3	Q	63	YCM	CA-CB-SG	-3.33	101.24	113.51
7	U	47	6V1	C5-C4-N3	3.29	110.14	108.07
10	J	91	6V1	O8-C4-C5	-2.98	122.92	127.28
7	G	161	6V1	O7-C2-N3	2.82	127.56	124.14
7	U	161	6V1	C6-N3-C2	2.78	126.63	123.37
7	G	161	6V1	O8-C4-C5	-2.76	123.25	127.28
3	Q	63	YCM	CB-SG-CD	2.71	128.38	104.24
7	U	161	6V1	O8-C4-N3	2.70	126.83	123.94
10	J	91	6V1	O7-C2-C1	-2.64	118.77	124.52
5	E	148	6V1	C6-N3-C4	2.59	125.58	122.52
7	U	137	YCM	OZ1-CE-NZ2	-2.52	115.79	122.53
7	G	161	6V1	O7-C2-C1	-2.51	119.06	124.52
7	U	137	YCM	CE-CD-SG	2.44	121.53	113.81
15	c	1	6V9	C1-S-C3	2.42	91.04	89.63
15	c	1	6V9	O-C-C3	-2.41	120.73	124.98
5	S	148	6V1	CB-CA-C	-2.40	104.27	110.80
15	d	1	6V9	C2-C1-S	2.39	127.63	122.51
5	S	148	6V1	C6-N3-C2	2.36	126.14	123.37
5	E	148	6V1	CB-CA-C	-2.21	104.79	110.80
7	U	47	6V1	O8-C4-C5	-2.19	124.07	127.28
7	G	161	6V1	C2-N3-C4	-2.17	111.80	113.07
7	G	137	YCM	OZ1-CE-NZ2	-2.04	117.08	122.53
15	c	1	6V9	C-C3-S	-2.01	118.86	121.31

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
7	U	47	6V1	C1

All (26) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	E	148	6V1	C3-C6-N3-C2
5	E	148	6V1	C3-C6-N3-C4
7	G	137	YCM	SG-CD-CE-NZ2
10	J	91	6V1	C3-C6-N3-C2
10	J	91	6V1	C3-C6-N3-C4
3	Q	63	YCM	CE-CD-SG-CB
3	Q	63	YCM	SG-CD-CE-OZ1
3	Q	63	YCM	SG-CD-CE-NZ2
10	X	91	6V1	C3-C6-N3-C2
10	X	91	6V1	C3-C6-N3-C4
15	c	2	OAS	N-CA-CB-OG
15	c	2	OAS	C-CA-CB-OG
15	c	2	OAS	CA-CB-OG-C1A
15	d	2	OAS	N-CA-CB-OG
15	d	2	OAS	C-CA-CB-OG
5	S	148	6V1	C3-C6-N3-C2
5	S	148	6V1	C3-C6-N3-C4
15	d	2	OAS	CA-CB-OG-C1A
7	U	137	YCM	N-CA-CB-SG
3	C	63	YCM	CE-CD-SG-CB
7	G	137	YCM	CE-CD-SG-CB
7	U	137	YCM	CE-CD-SG-CB
7	U	137	YCM	SG-CD-CE-NZ2
7	G	161	6V1	N-CA-CB-SG
7	U	161	6V1	N-CA-CB-SG
3	Q	63	YCM	CA-CB-SG-CD

There are no ring outliers.

1 monomer is involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	U	137	YCM	6	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 83 ligands modelled in this entry, 74 are monoatomic - leaving 9 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$
19	1PE	Z	301	-	15,15,15	0.64	0	14,14,14	0.58	0
19	1PE	H	306	-	15,15,15	0.60	0	14,14,14	0.48	0
19	1PE	I	303	-	15,15,15	0.55	0	14,14,14	0.99	1 (7%)
19	1PE	V	304	-	15,15,15	0.77	0	14,14,14	0.82	0
19	1PE	I	304	-	15,15,15	0.55	0	14,14,14	0.90	1 (7%)
19	1PE	W	303	-	15,15,15	0.66	0	14,14,14	0.46	0
19	1PE	M	305	-	15,15,15	0.57	0	14,14,14	0.37	0
19	1PE	L	301	-	15,15,15	0.62	0	14,14,14	0.76	0
19	1PE	H	305	-	15,15,15	0.59	0	14,14,14	0.65	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	1PE	Z	301	-	-	5/13/13/13	-
19	1PE	H	306	-	-	7/13/13/13	-
19	1PE	I	303	-	-	6/13/13/13	-
19	1PE	V	304	-	-	6/13/13/13	-
19	1PE	I	304	-	-	5/13/13/13	-
19	1PE	W	303	-	-	8/13/13/13	-
19	1PE	M	305	-	-	7/13/13/13	-
19	1PE	L	301	-	-	7/13/13/13	-
19	1PE	H	305	-	-	4/13/13/13	-

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	I	303	1PE	C25-OH5-C14	2.41	123.82	113.26
19	I	304	1PE	OH6-C15-C25	-2.23	100.20	110.35

There are no chirality outliers.

All (55) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
19	I	304	1PE	C24-C14-OH5-C25
19	I	303	1PE	C15-C25-OH5-C14
19	H	306	1PE	OH4-C13-C23-OH3
19	Z	301	1PE	C16-C26-OH6-C15
19	W	303	1PE	OH6-C15-C25-OH5
19	I	304	1PE	OH4-C13-C23-OH3
19	L	301	1PE	C16-C26-OH6-C15
19	V	304	1PE	OH4-C13-C23-OH3
19	M	305	1PE	OH5-C14-C24-OH4
19	Z	301	1PE	OH6-C15-C25-OH5
19	H	306	1PE	OH5-C14-C24-OH4
19	H	305	1PE	OH4-C13-C23-OH3
19	V	304	1PE	OH6-C15-C25-OH5
19	I	304	1PE	OH2-C12-C22-OH3
19	I	303	1PE	OH6-C15-C25-OH5
19	L	301	1PE	OH6-C15-C25-OH5
19	I	304	1PE	OH5-C14-C24-OH4
19	H	306	1PE	OH7-C16-C26-OH6
19	V	304	1PE	C24-C14-OH5-C25
19	H	305	1PE	OH2-C12-C22-OH3
19	Z	301	1PE	OH2-C12-C22-OH3
19	L	301	1PE	OH5-C14-C24-OH4
19	V	304	1PE	OH2-C12-C22-OH3
19	M	305	1PE	OH6-C15-C25-OH5
19	H	305	1PE	OH7-C16-C26-OH6
19	M	305	1PE	OH2-C12-C22-OH3
19	M	305	1PE	OH4-C13-C23-OH3
19	L	301	1PE	OH2-C12-C22-OH3
19	L	301	1PE	C25-C15-OH6-C26
19	I	303	1PE	OH2-C12-C22-OH3
19	L	301	1PE	C13-C23-OH3-C22
19	I	303	1PE	C24-C14-OH5-C25
19	W	303	1PE	C24-C14-OH5-C25
19	W	303	1PE	C23-C13-OH4-C24
19	Z	301	1PE	C12-C22-OH3-C23
19	M	305	1PE	C23-C13-OH4-C24
19	M	305	1PE	OH7-C16-C26-OH6
19	W	303	1PE	C12-C22-OH3-C23
19	H	306	1PE	C23-C13-OH4-C24
19	W	303	1PE	C13-C23-OH3-C22

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Mol	Chain	Res	Type	Atoms
19	H	306	1PE	C25-C15-OH6-C26
19	V	304	1PE	C12-C22-OH3-C23
19	H	306	1PE	C13-C23-OH3-C22
19	H	306	1PE	OH2-C12-C22-OH3
19	H	305	1PE	C12-C22-OH3-C23
19	I	304	1PE	OH6-C15-C25-OH5
19	I	303	1PE	C14-C24-OH4-C13
19	W	303	1PE	OH5-C14-C24-OH4
19	M	305	1PE	C14-C24-OH4-C13
19	L	301	1PE	C23-C13-OH4-C24
19	Z	301	1PE	OH4-C13-C23-OH3
19	I	303	1PE	C25-C15-OH6-C26
19	V	304	1PE	C25-C15-OH6-C26
19	W	303	1PE	OH2-C12-C22-OH3
19	W	303	1PE	C14-C24-OH4-C13

There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	I	303	1PE	1	0
19	V	304	1PE	1	0
19	M	305	1PE	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	230/234 (98%)	0.10	6 (2%) 57 61	23, 46, 80, 96	3 (1%)
1	O	230/234 (98%)	0.60	9 (3%) 43 46	40, 62, 100, 123	0
2	B	248/261 (95%)	0.20	7 (2%) 55 59	21, 49, 89, 136	2 (0%)
2	P	247/261 (94%)	0.46	11 (4%) 38 40	32, 58, 99, 134	2 (0%)
3	C	236/248 (95%)	0.62	13 (5%) 30 32	23, 59, 102, 140	2 (0%)
3	Q	239/248 (96%)	0.77	27 (11%) 10 10	35, 63, 118, 149	0
4	D	233/241 (96%)	0.41	7 (3%) 52 56	29, 56, 86, 121	1 (0%)
4	R	233/241 (96%)	0.12	7 (3%) 52 56	20, 44, 67, 92	1 (0%)
5	E	233/263 (88%)	0.09	8 (3%) 48 51	25, 42, 87, 105	1 (0%)
5	S	235/263 (89%)	0.20	9 (3%) 44 47	22, 48, 81, 106	3 (1%)
6	F	239/255 (93%)	-0.17	4 (1%) 69 72	20, 36, 57, 75	4 (1%)
6	T	240/255 (94%)	0.42	12 (5%) 34 36	27, 51, 85, 110	1 (0%)
7	G	241/246 (97%)	-0.04	4 (1%) 69 72	19, 40, 74, 106	2 (0%)
7	U	235/246 (95%)	0.60	10 (4%) 40 42	29, 59, 93, 129	1 (0%)
8	H	220/234 (94%)	-0.12	2 (0%) 81 83	22, 37, 68, 100	2 (0%)
8	V	220/234 (94%)	0.27	9 (4%) 41 44	25, 49, 81, 103	2 (0%)
9	I	204/205 (99%)	-0.29	0 100 100	21, 36, 57, 73	3 (1%)
9	W	204/205 (99%)	0.15	1 (0%) 87 89	25, 49, 71, 78	2 (0%)
10	J	195/201 (97%)	-0.16	4 (2%) 63 67	16, 40, 57, 70	3 (1%)
10	X	195/201 (97%)	-0.03	1 (0%) 87 89	20, 42, 56, 69	2 (1%)
11	K	200/204 (98%)	-0.00	1 (0%) 87 89	33, 44, 68, 83	0
11	Y	199/204 (97%)	-0.26	2 (1%) 79 82	21, 36, 58, 69	3 (1%)
12	L	213/213 (100%)	0.12	0 100 100	25, 48, 70, 85	2 (0%)
12	Z	213/213 (100%)	-0.19	0 100 100	27, 38, 60, 74	1 (0%)

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	M	216/219 (98%)	-0.14	1 (0%) 87 89	27, 39, 61, 89	1 (0%)
13	a	216/219 (98%)	-0.18	2 (0%) 81 83	25, 39, 61, 81	2 (0%)
14	N	202/205 (98%)	-0.25	5 (2%) 58 62	21, 35, 55, 87	1 (0%)
14	b	203/205 (99%)	-0.06	4 (1%) 65 69	30, 40, 66, 96	1 (0%)
15	c	0/4	-	-	-	-
15	d	0/4	-	-	-	-
All	All	6219/6466 (96%)	0.13	166 (2%) 56 60	16, 45, 84, 149	48 (0%)

All (166) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
11	K	40	TYR	5.4
11	Y	40	TYR	5.3
4	R	241	ILE	4.8
5	E	54	SER	4.7
2	P	203	VAL	4.6
4	D	241	ILE	4.5
8	V	204	CYS	4.5
3	C	138	PHE	4.4
7	U	186	LYS	4.3
5	E	56	LEU	4.3
5	E	57	ALA	4.2
5	E	59	HIS	4.1
5	E	58	ALA	4.0
13	M	215	ILE	3.9
2	P	61	PHE	3.9
1	O	177	TYR	3.7
13	a	216	SER	3.7
5	S	57	ALA	3.6
6	T	5	THR	3.6
5	S	18[A]	ARG	3.6
1	O	232	ILE	3.5
3	Q	48	LYS	3.5
6	T	204	VAL	3.4
5	E	52	ALA	3.4
6	T	6	GLY	3.4
14	N	202	LEU	3.4
2	B	61	PHE	3.3
7	G	189	TRP	3.3
3	Q	232	ILE	3.3
5	S	56	LEU	3.2

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Mol	Chain	Res	Type	RSRZ
3	Q	138	PHE	3.2
7	U	183	VAL	3.2
2	B	205	LYS	3.2
3	Q	203	GLY	3.2
5	S	239	ARG	3.2
3	Q	50	VAL	3.2
8	H	204	CYS	3.2
8	V	220	GLU	3.1
1	O	230	ALA	3.1
7	G	245	ARG	3.1
2	B	202	ASP	3.1
6	T	53	VAL	3.1
14	N	200	ALA	3.0
1	O	54	ILE	3.0
2	B	203	VAL	3.0
14	b	203	PRO	3.0
6	T	208	ALA	3.0
2	P	55	LEU	2.9
3	Q	241	LYS	2.9
10	J	1[A]	MET	2.9
13	a	215	ILE	2.9
3	C	49	SER	2.9
14	b	199	VAL	2.9
4	R	130	PRO	2.9
11	Y	184	TRP	2.9
1	A	231	ALA	2.9
4	R	128	ALA	2.9
8	V	199	LEU	2.9
5	S	54	SER	2.8
3	Q	53	LEU	2.8
3	C	196	LEU	2.8
3	C	206	ILE	2.8
8	V	201	ARG	2.8
7	G	187	PHE	2.8
5	E	51	ARG	2.8
3	Q	217	LEU	2.8
7	U	2	SER	2.7
3	Q	51	ALA	2.7
3	Q	202	GLY	2.7
3	Q	220	LEU	2.7
2	B	249	ARG	2.7
7	U	51	VAL	2.7

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Mol	Chain	Res	Type	RSRZ
8	V	202	TYR	2.7
8	V	203	ARG	2.7
7	U	185	LYS	2.7
8	V	197	THR	2.7
2	P	56	LEU	2.7
14	N	198	ALA	2.6
3	C	97	THR	2.6
2	P	245	ALA	2.6
14	b	202	LEU	2.6
5	S	58	ALA	2.6
2	P	51	ASN	2.6
8	H	202	TYR	2.6
7	U	193	GLN	2.6
1	O	188	HIS	2.5
5	S	51	ARG	2.5
7	U	3	ARG	2.5
3	Q	47	LYS	2.5
4	R	131	GLY	2.5
6	F	244	LYS	2.5
7	G	208	ILE	2.5
2	P	204	SER	2.5
8	V	198	ARG	2.5
4	R	120[A]	ALA	2.5
4	D	184	VAL	2.5
6	T	142	VAL	2.5
14	N	199	VAL	2.5
10	J	72	GLY	2.5
1	A	3	ARG	2.5
3	C	225	ILE	2.5
3	Q	59	VAL	2.5
3	C	183	THR	2.4
6	T	206	ASP	2.4
3	C	98	VAL	2.4
5	S	236	LEU	2.4
6	T	158	TYR	2.4
4	R	54	ILE	2.4
3	Q	230	ALA	2.4
3	C	50	VAL	2.4
2	P	53	HIS	2.4
4	R	127	ASP	2.4
7	U	208	ILE	2.4
14	b	198	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
5	S	53	GLN	2.4
6	F	53	VAL	2.4
6	F	204	VAL	2.4
3	C	53	LEU	2.3
14	N	201	THR	2.3
2	P	247	ALA	2.3
1	O	231	ALA	2.3
2	P	237	ILE	2.3
3	Q	225	ILE	2.3
5	E	53	GLN	2.3
6	T	209	PHE	2.3
6	T	226	ILE	2.3
3	Q	49	SER	2.3
3	Q	205	ASN	2.3
3	Q	236	LYS	2.3
2	B	247	ALA	2.2
1	A	232	ILE	2.2
8	V	216	ILE	2.2
3	Q	98	VAL	2.2
7	U	240	VAL	2.2
3	Q	234	LYS	2.2
1	A	181	LEU	2.2
3	C	220	LEU	2.2
10	J	196	PHE	2.2
4	D	54	ILE	2.2
3	C	48	LYS	2.2
4	D	237	VAL	2.2
3	Q	200	GLN	2.2
6	T	54	LEU	2.2
3	Q	96	LEU	2.2
1	A	230	ALA	2.2
9	W	84	TYR	2.1
7	U	199	ILE	2.1
6	F	6	GLY	2.1
1	A	50	LYS	2.1
10	J	154	GLU	2.1
4	D	128	ALA	2.1
10	X	196	PHE	2.1
3	Q	219	ILE	2.1
2	P	205	LYS	2.1
3	Q	238	GLU	2.1
4	D	47	CYS	2.1

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Mol	Chain	Res	Type	RSRZ
1	O	181	LEU	2.1
3	Q	215	GLN	2.1
3	C	232	ILE	2.1
2	B	2	SER	2.1
1	O	157	TRP	2.1
6	T	61	GLY	2.0
3	Q	199	VAL	2.0
1	O	215	ALA	2.0
4	D	238	ILE	2.0
3	Q	45	VAL	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q<0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
7	6V1	U	47	15/16	0.88	0.15	73,107,113,116	0
7	YCM	U	137	10/11	0.88	0.18	51,60,74,76	0
3	YCM	C	63	10/11	0.90	0.11	52,53,61,61	0
7	6V1	U	161	15/16	0.91	0.12	53,71,79,80	0
7	YCM	G	137	10/11	0.92	0.10	31,40,53,56	0
5	6V1	E	148	15/16	0.93	0.12	33,49,59,60	0
7	6V1	G	47	15/16	0.93	0.12	38,57,61,61	0
10	6V1	X	91	15/16	0.93	0.13	35,54,58,65	0
5	6V1	S	148	15/16	0.94	0.11	37,61,67,67	0
3	YCM	Q	63	10/11	0.95	0.08	52,54,64,65	0
7	6V1	G	161	15/16	0.95	0.11	33,51,58,61	0
10	6V1	J	91	15/16	0.95	0.12	33,51,56,57	0
15	OAS	d	2	7/10	0.96	0.08	27,30,37,40	0
15	OAS	c	2	7/10	0.97	0.06	34,37,41,44	0
15	6V9	c	1	8/9	0.97	0.08	38,39,41,42	0
15	OAS	c	3	7/10	0.97	0.06	35,35,38,38	0
15	OAS	d	3	7/10	0.97	0.05	27,28,29,30	0
15	6V9	d	1	8/9	0.98	0.05	33,33,35,36	0

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
19	1PE	I	304	16/16	0.80	0.16	53,62,77,81	0
19	1PE	M	305	16/16	0.82	0.17	70,73,87,90	0
19	1PE	H	306	16/16	0.86	0.15	55,66,88,88	0
16	CL	D	301	1/1	0.87	0.21	66,66,66,66	0
19	1PE	W	303	16/16	0.87	0.13	52,61,70,71	0
16	CL	O	303	1/1	0.88	0.11	85,85,85,85	0
19	1PE	L	301	16/16	0.89	0.12	53,64,70,71	0
16	CL	D	302	1/1	0.89	0.19	61,61,61,61	0
19	1PE	V	304	16/16	0.89	0.13	44,54,78,83	0
16	CL	V	302	1/1	0.89	0.15	56,56,56,56	0
19	1PE	I	303	16/16	0.90	0.12	50,55,61,67	0
16	CL	Y	305	1/1	0.90	0.26	59,59,59,59	0
16	CL	S	301	1/1	0.90	0.24	65,65,65,65	0
19	1PE	Z	301	16/16	0.90	0.12	53,61,66,66	0
16	CL	O	304	1/1	0.91	0.19	62,62,62,62	0
16	CL	C	302	1/1	0.91	0.19	62,62,62,62	0
16	CL	A	302	1/1	0.91	0.12	65,65,65,65	0
16	CL	Q	301	1/1	0.92	0.16	67,67,67,67	0
16	CL	H	303	1/1	0.92	0.16	53,53,53,53	0
16	CL	M	302	1/1	0.92	0.19	61,61,61,61	0
16	CL	M	304	1/1	0.92	0.12	54,54,54,54	0
16	CL	C	301	1/1	0.92	0.18	60,60,60,60	0
16	CL	B	302	1/1	0.92	0.20	57,57,57,57	0
16	CL	V	303	1/1	0.93	0.14	59,59,59,59	0
16	CL	Q	302	1/1	0.93	0.23	63,63,63,63	0
16	CL	a	301	1/1	0.93	0.18	60,60,60,60	0
19	1PE	H	305	16/16	0.93	0.10	39,53,62,62	0
16	CL	K	305	1/1	0.93	0.22	59,59,59,59	0
16	CL	K	303	1/1	0.93	0.12	69,69,69,69	0
16	CL	S	302	1/1	0.94	0.13	62,62,62,62	0
16	CL	K	304	1/1	0.94	0.20	60,60,60,60	0
16	CL	E	302	1/1	0.94	0.13	51,51,51,51	0
16	CL	Y	303	1/1	0.94	0.10	67,67,67,67	0
16	CL	R	301	1/1	0.94	0.14	57,57,57,57	0
16	CL	E	303	1/1	0.94	0.15	57,57,57,57	0
16	CL	a	303	1/1	0.94	0.12	56,56,56,56	0
16	CL	b	301	1/1	0.94	0.17	48,48,48,48	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
16	CL	b	302	1/1	0.94	0.19	62,62,62,62	0
16	CL	b	304	1/1	0.95	0.12	51,51,51,51	0
16	CL	O	302	1/1	0.95	0.11	59,59,59,59	0
16	CL	M	301	1/1	0.95	0.31	57,57,57,57	0
16	CL	A	304	1/1	0.95	0.17	56,56,56,56	0
16	CL	G	302	1/1	0.95	0.11	61,61,61,61	0
16	CL	b	303	1/1	0.96	0.13	51,51,51,51	0
16	CL	N	303	1/1	0.96	0.15	47,47,47,47	0
17	K	U	302	1/1	0.96	0.12	42,42,42,42	0
17	K	b	305	1/1	0.96	0.16	46,46,46,46	0
18	MG	I	301	1/1	0.96	0.09	34,34,34,34	0
16	CL	W	302	1/1	0.96	0.08	50,50,50,50	0
16	CL	B	301	1/1	0.96	0.10	41,41,41,41	0
16	CL	Y	304	1/1	0.96	0.10	56,56,56,56	0
16	CL	R	302	1/1	0.96	0.20	53,53,53,53	0
16	CL	F	301	1/1	0.96	0.12	51,51,51,51	0
16	CL	a	302	1/1	0.96	0.10	47,47,47,47	0
16	CL	I	302	1/1	0.96	0.11	44,44,44,44	0
16	CL	S	303	1/1	0.96	0.14	53,53,53,53	0
16	CL	N	302	1/1	0.96	0.11	47,47,47,47	0
16	CL	H	304	1/1	0.97	0.11	49,49,49,49	0
18	MG	I	305	1/1	0.97	0.12	30,30,30,30	0
16	CL	E	301	1/1	0.97	0.19	57,57,57,57	0
16	CL	G	301	1/1	0.97	0.22	46,46,46,46	0
16	CL	U	301	1/1	0.97	0.15	54,54,54,54	0
16	CL	P	301	1/1	0.97	0.09	52,52,52,52	0
16	CL	N	301	1/1	0.97	0.06	43,43,43,43	0
16	CL	A	303	1/1	0.97	0.11	49,49,49,49	0
16	CL	Y	302	1/1	0.97	0.20	59,59,59,59	0
16	CL	A	301	1/1	0.97	0.10	48,48,48,48	0
16	CL	O	301	1/1	0.97	0.11	55,55,55,55	0
18	MG	W	301	1/1	0.98	0.07	38,38,38,38	0
17	K	L	302	1/1	0.98	0.13	50,50,50,50	0
17	K	N	304	1/1	0.98	0.11	41,41,41,41	0
16	CL	Y	301	1/1	0.98	0.05	35,35,35,35	0
16	CL	K	302	1/1	0.98	0.10	38,38,38,38	0
18	MG	H	302	1/1	0.98	0.13	34,34,34,34	0
16	CL	M	303	1/1	0.98	0.12	44,44,44,44	0
17	K	G	303	1/1	0.98	0.10	35,35,35,35	0
18	MG	L	303	1/1	0.98	0.12	39,39,39,39	0
18	MG	V	301	1/1	0.98	0.06	53,53,53,53	0
18	MG	X	301	1/1	0.99	0.04	53,53,53,53	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
18	MG	K	301	1/1	0.99	0.07	35,35,35,35	0
18	MG	H	301	1/1	0.99	0.05	45,45,45,45	0
17	K	Z	302	1/1	0.99	0.09	42,42,42,42	0
18	MG	J	301	1/1	0.99	0.02	51,51,51,51	0

6.5 Other polymers [i](#)

There are no such residues in this entry.