



# Full wwPDB X-ray Structure Validation Report ⓘ

Sep 13, 2023 – 08:48 AM EDT

PDB ID : 4R00  
Title : yCP beta5-C52F mutant in complex with Omuralide  
Authors : Huber, E.M.; Heinemeyer, W.; Groll, M.  
Deposited on : 2014-07-29  
Resolution : 2.80 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](mailto: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>.

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.35.1  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.35.1

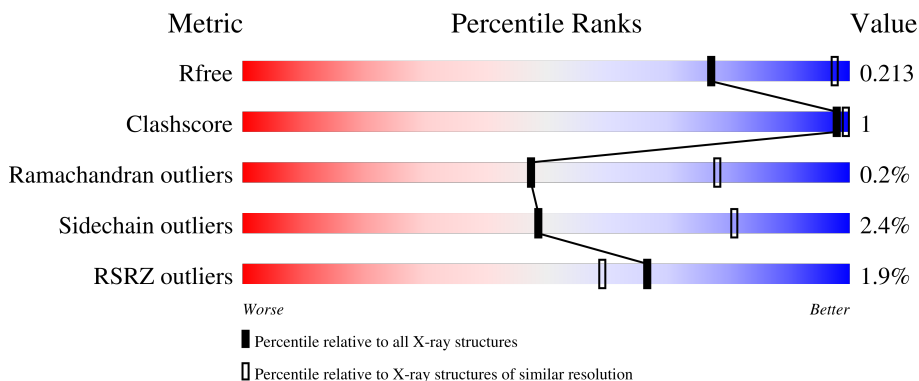
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

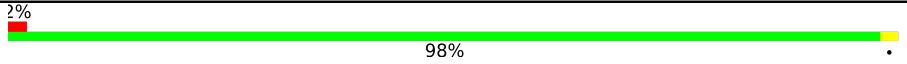
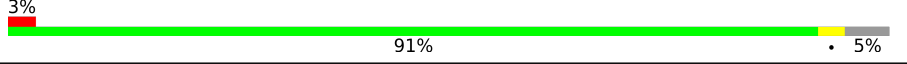
The reported resolution of this entry is 2.80 Å.

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))
$R_{free}$	130704	3140 (2.80-2.80)
Clashscore	141614	3569 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)
RSRZ outliers	127900	3078 (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 of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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	250	 2% 98%
1	O	250	 2% 98%
2	B	258	 2% 91% 5%
2	P	258	 3% 91% 5%
3	C	254	 5% 88% 6% 1%

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Mol	Chain	Length	Quality of chain
3	Q	254	6% 88% 6% • 6%
4	D	260	% 87% • 10%
4	R	260	2% 87% • 10%
5	E	234	% 94% 5% •
5	S	234	3% 95% • •
6	F	288	% 82% • 16%
6	T	288	2% 82% • 16%
7	G	252	% 90% 5% •
7	U	252	2% 90% 6% •
8	H	232	% 95% • •
8	V	232	2% 94% • •
9	I	205	96% •
9	W	205	% 96% •
10	J	198	2% 91% 6% • •
10	X	198	2% 91% 7% • •
11	K	212	93% 6% •
11	Y	212	93% 6% •
12	L	222	% 97% •
12	Z	222	2% 97% •
13	M	246	92% • 5%
13	a	246	92% • 5%
14	N	196	% 98% • •
14	b	196	% 99% •

## 2 Entry composition

There are 18 unique types of molecules in this entry. The entry contains 49822 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
			Total	C	N	O	S			
1	A	250	Total	C	N	O	S	0	0	0
			1915	1219	315	377	4			
1	O	250	Total	C	N	O	S	0	0	0
			1915	1219	315	377	4			

- Molecule 2 is a protein called Proteasome subunit alpha type-3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	244	Total	C	N	O	S	0	0	0
			1904	1201	321	379	3			
2	P	244	Total	C	N	O	S	0	0	0
			1904	1201	321	379	3			

- Molecule 3 is a protein called Proteasome subunit alpha type-4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	240	Total	C	N	O	S	0	0	0
			1881	1176	329	372	4			
3	Q	240	Total	C	N	O	S	0	0	0
			1881	1176	329	372	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	D	235	Total	C	N	O	S	0	0	0
			1813	1136	304	366	7			
4	R	235	Total	C	N	O	S	0	0	0
			1813	1136	304	366	7			

- Molecule 5 is a protein called Proteasome subunit alpha type-6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	E	231	1773	1114	307	348	4	0	0	0
5	S	231	1773	1114	307	348	4	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	F	243	1892	1203	329	356	4	0	0	0
6	T	243	1892	1203	329	356	4	0	0	0

- Molecule 7 is a protein called Proteasome subunit alpha type-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	G	241	1907	1214	320	365	8	0	0	0
7	U	241	1907	1214	320	365	8	0	0	0

- Molecule 8 is a protein called Proteasome subunit beta type-2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	H	226	1719	1082	298	332	7	0	0	0
8	V	226	1719	1082	298	332	7	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	I	204	1581	1010	258	305	8	0	0	0
9	W	204	1581	1010	258	305	8	0	0	0

- Molecule 10 is a protein called Proteasome subunit beta type-4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	J	195	1561	992	264	299	6	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	X	195	1561	992	264	299	6	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	K	212	1649	1051	280	312	6	0	0	0
11	Y	212	1649	1051	280	312	6	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	52	PHE	CYS	engineered mutation	UNP P30656
Y	52	PHE	CYS	engineered mutation	UNP P30656

- Molecule 12 is a protein called Proteasome subunit beta type-6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	L	222	1757	1115	303	335	4	0	0	0
12	Z	222	1757	1115	303	335	4	0	0	0

- Molecule 13 is a protein called Proteasome subunit beta type-7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	M	233	1824	1154	312	351	7	0	0	0
13	a	233	1824	1154	312	351	7	0	0	0

- Molecule 14 is a protein called Proteasome subunit beta type-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
14	N	196	1512	955	250	300	7	0	0	0
14	b	196	1512	955	250	300	7	0	0	0

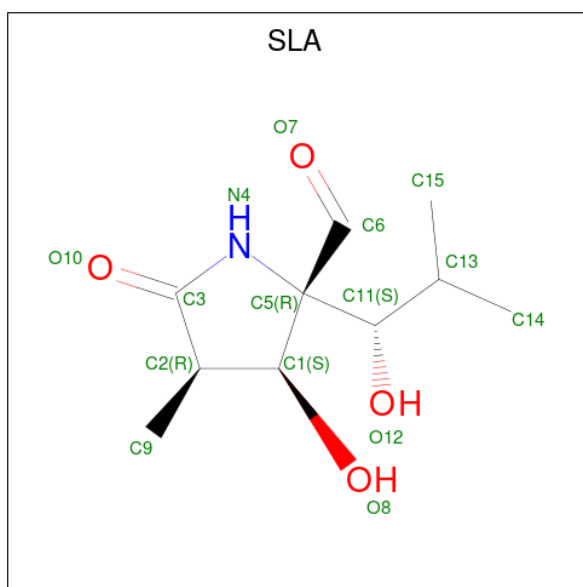
- Molecule 15 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
15	G	1	Total Mg 1 1	0	0
15	I	1	Total Mg 1 1	0	0
15	J	1	Total Mg 1 1	0	0
15	K	1	Total Mg 1 1	0	0
15	N	1	Total Mg 1 1	0	0
15	V	1	Total Mg 1 1	0	0
15	Y	1	Total Mg 1 1	0	0
15	Z	1	Total Mg 1 1	0	0

- Molecule 16 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
16	G	1	Total Cl 1 1	0	0
16	K	1	Total Cl 1 1	0	0
16	N	1	Total Cl 1 1	0	0
16	U	1	Total Cl 1 1	0	0
16	b	1	Total Cl 1 1	0	0

- Molecule 17 is Omuralide, open form (three-letter code: SLA) (formula: C<sub>10</sub>H<sub>17</sub>NO<sub>4</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
17	H	1	Total	C	N	O	0	0
			15	10	1	4		
17	K	1	Total	C	N	O	0	0
			15	10	1	4		
17	N	1	Total	C	N	O	0	0
			15	10	1	4		
17	V	1	Total	C	N	O	0	0
			15	10	1	4		
17	Y	1	Total	C	N	O	0	0
			15	10	1	4		
17	b	1	Total	C	N	O	0	0
			15	10	1	4		

- Molecule 18 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
18	A	14	Total	O	0	0
			14	14		
18	B	8	Total	O	0	0
			8	8		
18	C	12	Total	O	0	0
			12	12		
18	D	7	Total	O	0	0
			7	7		
18	E	5	Total	O	0	0
			5	5		
18	F	16	Total	O	0	0
			16	16		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
18	G	16	Total O 16 16	0	0
18	H	8	Total O 8 8	0	0
18	I	7	Total O 7 7	0	0
18	J	21	Total O 21 21	0	0
18	K	9	Total O 9 9	0	0
18	L	21	Total O 21 21	0	0
18	M	28	Total O 28 28	0	0
18	N	14	Total O 14 14	0	0
18	O	5	Total O 5 5	0	0
18	P	11	Total O 11 11	0	0
18	Q	8	Total O 8 8	0	0
18	R	7	Total O 7 7	0	0
18	S	3	Total O 3 3	0	0
18	T	9	Total O 9 9	0	0
18	U	16	Total O 16 16	0	0
18	V	11	Total O 11 11	0	0
18	W	10	Total O 10 10	0	0
18	X	15	Total O 15 15	0	0
18	Y	10	Total O 10 10	0	0
18	Z	17	Total O 17 17	0	0
18	a	20	Total O 20 20	0	0

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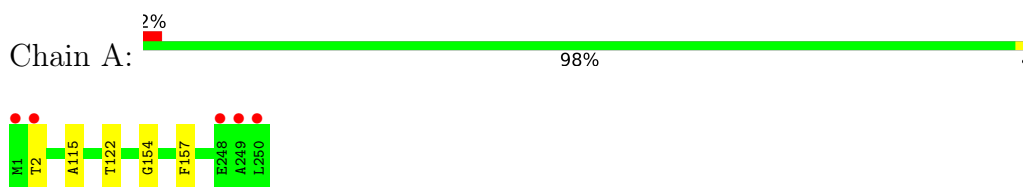
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>ZeroOcc</b>	<b>AltConf</b>
18	b	15	Total	O	0	0
			15	15		

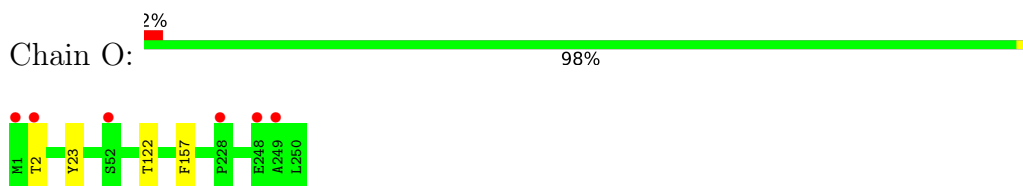
### 3 Residue-property plots [i](#)

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.

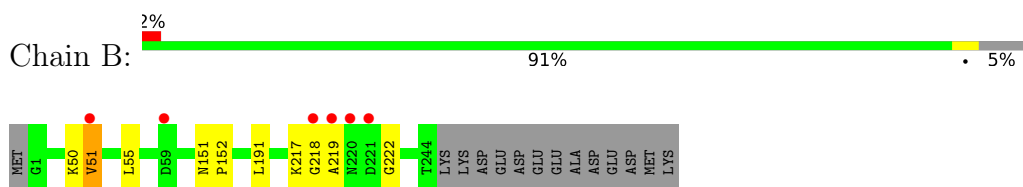
- Molecule 1: Proteasome subunit alpha type-2



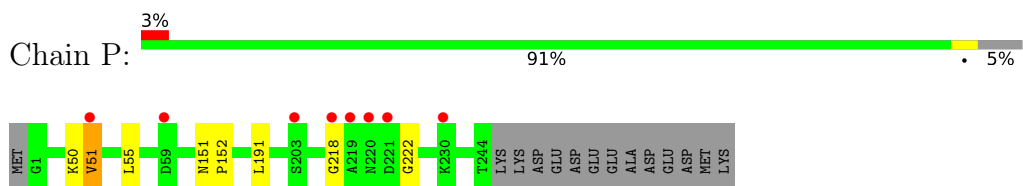
- Molecule 1: Proteasome subunit alpha type-2



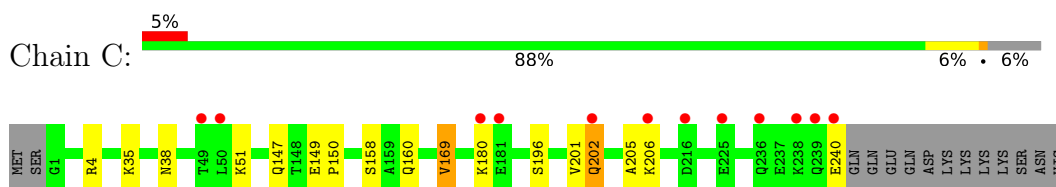
- Molecule 2: Proteasome subunit alpha type-3



- Molecule 2: Proteasome subunit alpha type-3



- Molecule 3: Proteasome subunit alpha type-4



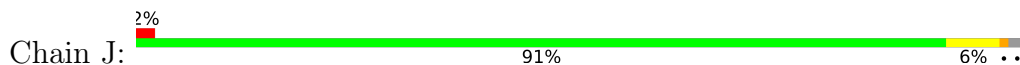
- Molecule 3: Proteasome subunit alpha type-4



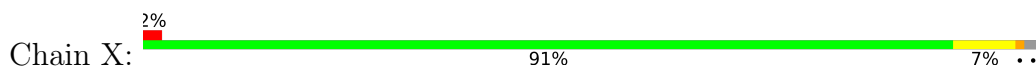




- Molecule 10: Proteasome subunit beta type-4



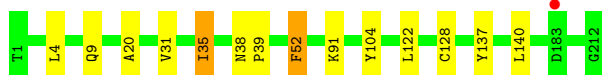
- Molecule 10: Proteasome subunit beta type-4



- Molecule 11: Proteasome subunit beta type-5



- Molecule 11: Proteasome subunit beta type-5



- Molecule 12: Proteasome subunit beta type-6



- Molecule 12: Proteasome subunit beta type-6



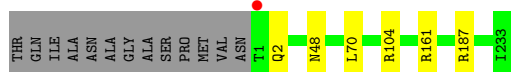
- Molecule 13: Proteasome subunit beta type-7

Chain M:  92% • 5%



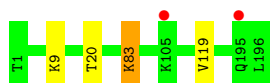
- Molecule 13: Proteasome subunit beta type-7

Chain a:  92% • 5%



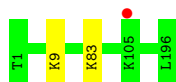
- Molecule 14: Proteasome subunit beta type-1

Chain N:  98% • •



- Molecule 14: Proteasome subunit beta type-1

Chain b:  99% •



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	136.25Å 301.24Å 144.33Å 90.00° 113.16° 90.00°	Depositor
Resolution (Å)	15.00 – 2.80 15.00 – 2.80	Depositor EDS
% Data completeness (in resolution range)	97.6 (15.00-2.80) 97.7 (15.00-2.80)	Depositor EDS
$R_{merge}$	0.09	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.32 (at 2.81Å)	Xtrriage
Refinement program	REFMAC	Depositor
R, $R_{free}$	0.184 , 0.210 0.189 , 0.213	Depositor DCC
$R_{free}$ test set	12695 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	54.5	Xtrriage
Anisotropy	0.101	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.31 , 37.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.94	EDS
Total number of atoms	49822	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	60.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.53% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: SLA, MG, CL

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.27	0/1952	0.46	0/2642
1	O	0.27	0/1952	0.46	0/2642
2	B	0.27	0/1934	0.48	0/2618
2	P	0.27	0/1934	0.48	0/2618
3	C	0.27	0/1910	0.49	0/2586
3	Q	0.27	0/1910	0.49	0/2586
4	D	0.27	0/1837	0.46	0/2475
4	R	0.27	0/1837	0.46	0/2475
5	E	0.27	0/1800	0.45	0/2433
5	S	0.27	0/1800	0.46	0/2433
6	F	0.27	0/1932	0.44	0/2609
6	T	0.27	0/1932	0.44	0/2609
7	G	0.27	0/1945	0.46	0/2634
7	U	0.27	0/1945	0.46	0/2634
8	H	0.26	0/1750	0.46	0/2373
8	V	0.26	0/1750	0.46	0/2373
9	I	0.27	0/1611	0.47	0/2174
9	W	0.27	0/1611	0.47	0/2174
10	J	0.28	0/1589	0.48	0/2142
10	X	0.28	0/1589	0.47	0/2142
11	K	0.26	0/1687	0.47	0/2282
11	Y	0.26	0/1687	0.47	0/2282
12	L	0.27	0/1795	0.46	0/2420
12	Z	0.27	0/1795	0.46	0/2420
13	M	0.27	0/1855	0.50	0/2514
13	a	0.27	0/1855	0.50	0/2514
14	N	0.25	0/1541	0.46	0/2087
14	b	0.25	0/1541	0.46	0/2087
All	All	0.27	0/50276	0.47	0/67978

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1915	0	1929	1	0
1	O	1915	0	1929	1	0
2	B	1904	0	1904	4	0
2	P	1904	0	1904	2	0
3	C	1881	0	1895	5	0
3	Q	1881	0	1895	5	0
4	D	1813	0	1797	0	0
4	R	1813	0	1797	0	0
5	E	1773	0	1775	3	0
5	S	1773	0	1775	2	0
6	F	1892	0	1883	0	0
6	T	1892	0	1883	0	0
7	G	1907	0	1901	3	0
7	U	1907	0	1901	4	0
8	H	1719	0	1718	1	0
8	V	1719	0	1718	2	0
9	I	1581	0	1574	3	0
9	W	1581	0	1574	3	0
10	J	1561	0	1569	9	0
10	X	1561	0	1569	8	0
11	K	1649	0	1598	6	0
11	Y	1649	0	1598	6	0
12	L	1757	0	1711	2	0
12	Z	1757	0	1711	2	0
13	M	1824	0	1832	1	0
13	a	1824	0	1832	0	0
14	N	1512	0	1480	2	0
14	b	1512	0	1480	0	0
15	G	1	0	0	0	0
15	I	1	0	0	0	0
15	J	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	K	1	0	0	0	0
15	N	1	0	0	0	0
15	V	1	0	0	0	0
15	Y	1	0	0	0	0
15	Z	1	0	0	0	0
16	G	1	0	0	0	0
16	K	1	0	0	0	0
16	N	1	0	0	0	0
16	U	1	0	0	0	0
16	b	1	0	0	0	0
17	H	15	0	16	0	0
17	K	15	0	16	1	0
17	N	15	0	16	1	0
17	V	15	0	16	0	0
17	Y	15	0	16	1	0
17	b	15	0	16	0	0
18	A	14	0	0	0	0
18	B	8	0	0	0	0
18	C	12	0	0	0	0
18	D	7	0	0	0	0
18	E	5	0	0	0	0
18	F	16	0	0	0	0
18	G	16	0	0	0	0
18	H	8	0	0	0	0
18	I	7	0	0	0	0
18	J	21	0	0	0	0
18	K	9	0	0	0	0
18	L	21	0	0	0	0
18	M	28	0	0	1	0
18	N	14	0	0	0	0
18	O	5	0	0	0	0
18	P	11	0	0	0	0
18	Q	8	0	0	0	0
18	R	7	0	0	0	0
18	S	3	0	0	0	0
18	T	9	0	0	0	0
18	U	16	0	0	0	0
18	V	11	0	0	0	0
18	W	10	0	0	0	0
18	X	15	0	0	0	0
18	Y	10	0	0	0	0
18	Z	17	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
18	a	20	0	0	0	0
18	b	15	0	0	0	0
All	All	49822	0	49228	69	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 1.

All (69) 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:25:ILE:O	10:X:139:TYR:OH	2.12	0.68
14:N:20:THR:HG23	17:N:201:SLA:H15	1.78	0.65
11:K:35:ILE:HB	11:K:52:PHE:CZ	2.37	0.60
10:J:139:TYR:OH	10:X:25:ILE:O	2.20	0.59
11:Y:35:ILE:HB	11:Y:52:PHE:CZ	2.37	0.58
13:M:2:GLN:NE2	18:M:327:HOH:O	2.41	0.53
7:U:23:PHE:O	7:U:26:THR:HB	2.10	0.52
11:Y:20:ALA:HB2	11:Y:31:VAL:HG21	1.92	0.51
3:C:201:VAL:O	3:C:202:GLN:CB	2.59	0.51
7:G:23:PHE:O	7:G:26:THR:HB	2.11	0.50
9:I:9:GLY:HA3	9:I:41:LYS:HE2	1.94	0.50
11:K:20:ALA:HB2	11:K:31:VAL:HG21	1.92	0.50
3:C:201:VAL:O	3:C:202:GLN:HB3	2.12	0.50
3:Q:201:VAL:O	3:Q:202:GLN:CB	2.59	0.49
9:W:9:GLY:HA3	9:W:41:LYS:HE2	1.94	0.49
10:J:16:ALA:HB2	10:J:161:LEU:HD21	1.95	0.49
3:Q:201:VAL:O	3:Q:202:GLN:HB3	2.12	0.49
10:J:1:MET:HG2	10:J:34:LYS:HE3	1.95	0.48
10:X:16:ALA:HB2	10:X:161:LEU:HD21	1.95	0.48
17:K:301:SLA:C6	17:K:301:SLA:H13	2.44	0.48
10:X:1:MET:HG2	10:X:34:LYS:HE3	1.95	0.47
10:X:21:VAL:HG11	11:Y:122:LEU:HD11	1.96	0.47
3:C:35:LYS:HG2	3:C:158:SER:O	2.15	0.47
3:Q:35:LYS:HG2	3:Q:158:SER:O	2.15	0.47
12:L:13:LEU:HD11	12:L:150:LEU:HD21	1.97	0.46
17:Y:301:SLA:C6	17:Y:301:SLA:H13	2.46	0.46
12:Z:31:THR:HG23	12:Z:36:ASN:HD21	1.81	0.46
12:L:31:THR:HG23	12:L:36:ASN:HD21	1.81	0.45
12:Z:13:LEU:HD11	12:Z:150:LEU:HD21	1.97	0.45
10:J:21:VAL:HG11	11:K:122:LEU:HD11	1.98	0.45
3:Q:169:VAL:HG23	3:Q:196:SER:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:98:ARG:O	9:I:126:ILE:HD11	2.18	0.44
2:P:50:LYS:O	2:P:51:VAL:C	2.56	0.44
9:W:10:ILE:HG21	9:W:141:ALA:HB3	2.00	0.43
10:J:23:ARG:HA	10:J:23:ARG:HD3	1.73	0.43
3:C:169:VAL:HG23	3:C:196:SER:HB2	1.99	0.43
9:I:10:ILE:HG21	9:I:141:ALA:HB3	2.01	0.43
2:B:50:LYS:O	2:B:51:VAL:C	2.57	0.43
10:J:3:ILE:HG23	10:J:18:SER:HB3	2.01	0.43
14:N:83:LYS:HG3	14:N:119:VAL:CG2	2.49	0.42
7:G:78:ILE:N	7:G:79:PRO:CD	2.82	0.42
10:J:50:ALA:O	11:K:91:LYS:NZ	2.52	0.42
10:X:3:ILE:HG23	10:X:18:SER:HB3	2.02	0.42
9:W:98:ARG:O	9:W:126:ILE:HD11	2.19	0.42
7:U:78:ILE:N	7:U:79:PRO:CD	2.82	0.42
11:Y:128:CYS:HB2	11:Y:137:TYR:CE2	2.55	0.42
11:K:128:CYS:HB2	11:K:137:TYR:CE2	2.54	0.42
3:Q:149:GLU:HB2	3:Q:150:PRO:HD2	2.02	0.41
2:B:50:LYS:HD3	2:B:50:LYS:HA	1.97	0.41
3:C:149:GLU:HB2	3:C:150:PRO:HD2	2.03	0.41
8:H:104:ASP:HB2	8:H:105:PRO:HD2	2.01	0.41
1:O:23:TYR:CD1	7:U:12:PRO:HA	2.56	0.41
5:S:77:ALA:N	5:S:78:PRO:CD	2.84	0.41
5:S:87:LEU:HD21	5:S:107:ALA:HB1	2.02	0.41
7:G:149:ASP:HB2	7:G:150:PRO:CD	2.51	0.41
5:E:77:ALA:N	5:E:78:PRO:CD	2.84	0.41
8:V:104:ASP:HB2	8:V:105:PRO:HD2	2.02	0.41
10:X:50:ALA:O	11:Y:91:LYS:NZ	2.54	0.41
2:B:151:ASN:HB2	2:B:152:PRO:CD	2.51	0.41
5:E:87:LEU:HD21	5:E:107:ALA:HB1	2.03	0.41
2:P:151:ASN:HB2	2:P:152:PRO:CD	2.50	0.41
7:U:149:ASP:HB2	7:U:150:PRO:CD	2.51	0.41
10:J:25:ILE:HG13	10:X:139:TYR:OH	2.20	0.41
1:A:115:ALA:HB1	1:A:154:GLY:O	2.22	0.40
2:B:217:LYS:O	2:B:219:ALA:N	2.46	0.40
5:E:175:LEU:HA	5:E:178:PHE:CE2	2.56	0.40
11:Y:38:ASN:HB2	11:Y:39:PRO:CD	2.52	0.40
11:K:38:ASN:HB2	11:K:39:PRO:CD	2.52	0.40
8:V:84:LYS:HG3	8:V:85:GLN:N	2.37	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	248/250 (99%)	238 (96%)	9 (4%)	1 (0%)	34	66
1	O	248/250 (99%)	238 (96%)	9 (4%)	1 (0%)	34	66
2	B	242/258 (94%)	234 (97%)	5 (2%)	3 (1%)	13	39
2	P	242/258 (94%)	234 (97%)	5 (2%)	3 (1%)	13	39
3	C	238/254 (94%)	233 (98%)	3 (1%)	2 (1%)	19	49
3	Q	238/254 (94%)	233 (98%)	3 (1%)	2 (1%)	19	49
4	D	231/260 (89%)	228 (99%)	3 (1%)	0	100	100
4	R	231/260 (89%)	228 (99%)	3 (1%)	0	100	100
5	E	229/234 (98%)	220 (96%)	9 (4%)	0	100	100
5	S	229/234 (98%)	220 (96%)	9 (4%)	0	100	100
6	F	241/288 (84%)	238 (99%)	3 (1%)	0	100	100
6	T	241/288 (84%)	238 (99%)	3 (1%)	0	100	100
7	G	239/252 (95%)	236 (99%)	3 (1%)	0	100	100
7	U	239/252 (95%)	236 (99%)	3 (1%)	0	100	100
8	H	224/232 (97%)	218 (97%)	6 (3%)	0	100	100
8	V	224/232 (97%)	218 (97%)	6 (3%)	0	100	100
9	I	202/205 (98%)	195 (96%)	7 (4%)	0	100	100
9	W	202/205 (98%)	195 (96%)	7 (4%)	0	100	100
10	J	193/198 (98%)	189 (98%)	4 (2%)	0	100	100
10	X	193/198 (98%)	189 (98%)	4 (2%)	0	100	100
11	K	210/212 (99%)	207 (99%)	3 (1%)	0	100	100
11	Y	210/212 (99%)	207 (99%)	3 (1%)	0	100	100
12	L	220/222 (99%)	214 (97%)	6 (3%)	0	100	100
12	Z	220/222 (99%)	215 (98%)	5 (2%)	0	100	100
13	M	231/246 (94%)	223 (96%)	8 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	a	231/246 (94%)	223 (96%)	8 (4%)	0	100	100
14	N	194/196 (99%)	189 (97%)	5 (3%)	0	100	100
14	b	194/196 (99%)	189 (97%)	5 (3%)	0	100	100
All	All	6284/6614 (95%)	6125 (98%)	147 (2%)	12 (0%)	47	78

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	51	VAL
3	C	202	GLN
2	P	51	VAL
3	Q	202	GLN
1	A	2	THR
2	B	218	GLY
2	B	222	GLY
1	O	2	THR
2	P	218	GLY
2	P	222	GLY
3	C	205	ALA
3	Q	205	ALA

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	209/209 (100%)	207 (99%)	2 (1%)	76	93
1	O	209/209 (100%)	207 (99%)	2 (1%)	76	93
2	B	203/216 (94%)	201 (99%)	2 (1%)	76	93
2	P	203/216 (94%)	201 (99%)	2 (1%)	76	93
3	C	212/226 (94%)	203 (96%)	9 (4%)	30	63
3	Q	212/226 (94%)	203 (96%)	9 (4%)	30	63
4	D	194/215 (90%)	186 (96%)	8 (4%)	30	64

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	R	194/215 (90%)	186 (96%)	8 (4%)	30	64
5	E	190/193 (98%)	185 (97%)	5 (3%)	46	79
5	S	190/193 (98%)	185 (97%)	5 (3%)	46	79
6	F	201/239 (84%)	195 (97%)	6 (3%)	41	75
6	T	201/239 (84%)	195 (97%)	6 (3%)	41	75
7	G	206/210 (98%)	199 (97%)	7 (3%)	37	71
7	U	206/210 (98%)	199 (97%)	7 (3%)	37	71
8	H	185/190 (97%)	181 (98%)	4 (2%)	52	83
8	V	185/190 (97%)	182 (98%)	3 (2%)	62	88
9	I	172/173 (99%)	171 (99%)	1 (1%)	86	96
9	W	172/173 (99%)	171 (99%)	1 (1%)	86	96
10	J	173/175 (99%)	168 (97%)	5 (3%)	42	76
10	X	173/175 (99%)	168 (97%)	5 (3%)	42	76
11	K	169/169 (100%)	163 (96%)	6 (4%)	35	69
11	Y	169/169 (100%)	163 (96%)	6 (4%)	35	69
12	L	185/185 (100%)	183 (99%)	2 (1%)	73	92
12	Z	185/185 (100%)	183 (99%)	2 (1%)	73	92
13	M	199/208 (96%)	193 (97%)	6 (3%)	41	75
13	a	199/208 (96%)	193 (97%)	6 (3%)	41	75
14	N	162/162 (100%)	160 (99%)	2 (1%)	71	92
14	b	162/162 (100%)	160 (99%)	2 (1%)	71	92
All	All	5320/5540 (96%)	5191 (98%)	129 (2%)	49	81

All (129) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	122	THR
1	A	157	PHE
2	B	55	LEU
2	B	191	LEU
3	C	4	ARG
3	C	38	ASN
3	C	51	LYS
3	C	147	GLN
3	C	160	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	169	VAL
3	C	180	LYS
3	C	206	LYS
3	C	240	GLU
4	D	99	ILE
4	D	125	LEU
4	D	176	LEU
4	D	193	LEU
4	D	214	ILE
4	D	235	LEU
4	D	236	LYS
4	D	242	GLU
5	E	9	THR
5	E	29	LYS
5	E	71	LEU
5	E	184	ASN
5	E	188	LEU
6	F	117	GLN
6	F	123	ASN
6	F	171	GLU
6	F	181	GLU
6	F	214	TRP
6	F	240	GLN
7	G	115	LEU
7	G	117	GLN
7	G	122	ARG
7	G	125	MET
7	G	154	TYR
7	G	208	GLU
7	G	235	ARG
8	H	30	ASN
8	H	68	LEU
8	H	91	GLN
8	H	196	ARG
9	I	37	ASN
10	J	3	ILE
10	J	23	ARG
10	J	78	GLN
10	J	90	LYS
10	J	99	GLN
11	K	4	LEU
11	K	9	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
11	K	35	ILE
11	K	52	PHE
11	K	104	TYR
11	K	140	LEU
12	L	23	LEU
12	L	136	CYS
13	M	2	GLN
13	M	48	ASN
13	M	70	LEU
13	M	104	ARG
13	M	161	ARG
13	M	187	ARG
14	N	9	LYS
14	N	83	LYS
1	O	122	THR
1	O	157	PHE
2	P	55	LEU
2	P	191	LEU
3	Q	4	ARG
3	Q	38	ASN
3	Q	51	LYS
3	Q	147	GLN
3	Q	160	GLN
3	Q	169	VAL
3	Q	180	LYS
3	Q	206	LYS
3	Q	240	GLU
4	R	99	ILE
4	R	125	LEU
4	R	176	LEU
4	R	193	LEU
4	R	214	ILE
4	R	235	LEU
4	R	236	LYS
4	R	242	GLU
5	S	9	THR
5	S	29	LYS
5	S	71	LEU
5	S	184	ASN
5	S	188	LEU
6	T	117	GLN
6	T	123	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
6	T	171	GLU
6	T	181	GLU
6	T	214	TRP
6	T	240	GLN
7	U	115	LEU
7	U	117	GLN
7	U	122	ARG
7	U	125	MET
7	U	154	TYR
7	U	208	GLU
7	U	235	ARG
8	V	30	ASN
8	V	68	LEU
8	V	196	ARG
9	W	37	ASN
10	X	3	ILE
10	X	23	ARG
10	X	78	GLN
10	X	90	LYS
10	X	99	GLN
11	Y	4	LEU
11	Y	9	GLN
11	Y	35	ILE
11	Y	52	PHE
11	Y	104	TYR
11	Y	140	LEU
12	Z	23	LEU
12	Z	136	CYS
13	a	2	GLN
13	a	48	ASN
13	a	70	LEU
13	a	104	ARG
13	a	161	ARG
13	a	187	ARG
14	b	9	LYS
14	b	83	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (72) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	20	GLN
2	B	58	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	95	GLN
2	B	119	GLN
2	B	123	GLN
2	B	155	ASN
3	C	147	GLN
3	C	160	GLN
4	D	91	HIS
4	D	100	ASN
4	D	146	GLN
4	D	225	ASN
5	E	68	HIS
5	E	92	ASN
5	E	99	ASN
5	E	116	GLN
5	E	120	GLN
5	E	184	ASN
6	F	19	GLN
6	F	86	ASN
6	F	117	GLN
6	F	123	ASN
7	G	83	ASN
7	G	114	ASN
7	G	117	GLN
7	G	121	GLN
7	G	166	GLN
8	H	66	HIS
9	I	37	ASN
10	J	55	GLN
11	K	85	ASN
11	K	176	ASN
12	L	3	ASN
12	L	70	ASN
12	L	158	ASN
13	M	48	ASN
13	M	102	GLN
2	P	20	GLN
2	P	58	GLN
2	P	119	GLN
2	P	123	GLN
3	Q	147	GLN
3	Q	160	GLN
4	R	91	HIS

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Mol	Chain	Res	Type
4	R	100	ASN
4	R	146	GLN
5	S	68	HIS
5	S	92	ASN
5	S	116	GLN
5	S	120	GLN
5	S	151	ASN
5	S	184	ASN
6	T	19	GLN
6	T	86	ASN
6	T	117	GLN
6	T	123	ASN
7	U	83	ASN
7	U	114	ASN
7	U	117	GLN
7	U	121	GLN
7	U	166	GLN
9	W	37	ASN
10	X	55	GLN
11	Y	85	ASN
11	Y	176	ASN
12	Z	3	ASN
12	Z	70	ASN
12	Z	79	HIS
12	Z	95	HIS
12	Z	158	ASN
13	a	48	ASN
13	a	102	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry

Of 19 ligands modelled in this entry, 13 are monoatomic - leaving 6 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
17	SLA	V	301	8	10,15,15	4.01	1 (10%)	12,23,23	2.77	5 (41%)
17	SLA	N	201	14	10,15,15	4.12	2 (20%)	12,23,23	2.80	4 (33%)
17	SLA	b	201	14	10,15,15	4.19	2 (20%)	12,23,23	2.79	4 (33%)
17	SLA	Y	301	11	10,15,15	4.20	1 (10%)	12,23,23	2.44	4 (33%)
17	SLA	H	301	8	10,15,15	4.06	1 (10%)	12,23,23	2.73	5 (41%)
17	SLA	K	301	11	10,15,15	4.19	1 (10%)	12,23,23	2.41	4 (33%)

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
17	SLA	V	301	8	-	0/6/32/32	0/1/1/1
17	SLA	N	201	14	-	0/6/32/32	0/1/1/1
17	SLA	b	201	14	-	0/6/32/32	0/1/1/1
17	SLA	Y	301	11	-	0/6/32/32	0/1/1/1
17	SLA	H	301	8	-	0/6/32/32	0/1/1/1
17	SLA	K	301	11	-	0/6/32/32	0/1/1/1

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	Y	301	SLA	C2-C3	-12.99	1.40	1.52
17	K	301	SLA	C2-C3	-12.98	1.40	1.52
17	b	201	SLA	C2-C3	-12.81	1.40	1.52
17	H	301	SLA	C2-C3	-12.60	1.40	1.52
17	N	201	SLA	C2-C3	-12.57	1.40	1.52
17	V	301	SLA	C2-C3	-12.39	1.41	1.52
17	N	201	SLA	C13-C11	2.76	1.56	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	b	201	SLA	C13-C11	2.66	1.55	1.53

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	N	201	SLA	C5-N4-C3	-7.77	109.17	114.58
17	b	201	SLA	C5-N4-C3	-7.76	109.18	114.58
17	V	301	SLA	C5-N4-C3	-7.62	109.27	114.58
17	H	301	SLA	C5-N4-C3	-7.47	109.38	114.58
17	Y	301	SLA	C5-N4-C3	-6.14	110.30	114.58
17	K	301	SLA	C5-N4-C3	-6.02	110.38	114.58
17	H	301	SLA	C9-C2-C1	-3.58	112.77	116.54
17	V	301	SLA	C9-C2-C1	-3.50	112.85	116.54
17	Y	301	SLA	O10-C3-C2	-3.47	123.41	126.17
17	N	201	SLA	C9-C2-C1	-3.43	112.92	116.54
17	K	301	SLA	O10-C3-C2	-3.38	123.48	126.17
17	b	201	SLA	C9-C2-C1	-3.35	113.00	116.54
17	K	301	SLA	C9-C2-C1	-3.04	113.34	116.54
17	Y	301	SLA	C9-C2-C1	-2.89	113.50	116.54
17	b	201	SLA	O10-C3-C2	-2.70	124.03	126.17
17	K	301	SLA	O10-C3-N4	-2.60	122.34	125.72
17	Y	301	SLA	O10-C3-N4	-2.59	122.36	125.72
17	N	201	SLA	O10-C3-N4	-2.55	122.39	125.72
17	V	301	SLA	O10-C3-N4	-2.50	122.46	125.72
17	H	301	SLA	O10-C3-N4	-2.44	122.55	125.72
17	V	301	SLA	O10-C3-C2	-2.35	124.30	126.17
17	N	201	SLA	O10-C3-C2	-2.31	124.34	126.17
17	b	201	SLA	O10-C3-N4	-2.30	122.73	125.72
17	H	301	SLA	O10-C3-C2	-2.22	124.41	126.17
17	H	301	SLA	O12-C11-C13	-2.03	105.54	109.90
17	V	301	SLA	O12-C11-C13	-2.01	105.59	109.90

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
17	N	201	SLA	1	0
17	Y	301	SLA	1	0
17	K	301	SLA	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 [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	250/250 (100%)	-0.44	5 (2%) 65 56	35, 51, 89, 122	0
1	O	250/250 (100%)	-0.39	6 (2%) 59 49	39, 58, 105, 130	0
2	B	244/258 (94%)	-0.38	6 (2%) 57 47	37, 57, 99, 156	0
2	P	244/258 (94%)	-0.33	8 (3%) 46 36	43, 60, 101, 150	0
3	C	240/254 (94%)	-0.22	12 (5%) 28 19	36, 60, 124, 151	0
3	Q	240/254 (94%)	-0.04	16 (6%) 17 10	44, 72, 152, 182	0
4	D	235/260 (90%)	-0.47	3 (1%) 77 72	39, 60, 91, 125	0
4	R	235/260 (90%)	-0.36	5 (2%) 63 54	44, 65, 104, 142	0
5	E	231/234 (98%)	-0.33	3 (1%) 77 72	40, 62, 99, 133	0
5	S	231/234 (98%)	-0.19	8 (3%) 44 34	45, 70, 112, 144	0
6	F	243/288 (84%)	-0.48	3 (1%) 79 73	35, 57, 104, 128	0
6	T	243/288 (84%)	-0.37	5 (2%) 63 54	38, 66, 119, 148	0
7	G	241/252 (95%)	-0.53	3 (1%) 79 73	34, 51, 87, 138	0
7	U	241/252 (95%)	-0.45	4 (1%) 70 63	39, 56, 91, 139	0
8	H	226/232 (97%)	-0.47	3 (1%) 77 72	32, 47, 82, 146	0
8	V	226/232 (97%)	-0.43	5 (2%) 62 52	34, 50, 80, 164	0
9	I	204/205 (99%)	-0.72	0 100 100	31, 46, 73, 105	0
9	W	204/205 (99%)	-0.67	2 (0%) 82 77	32, 49, 77, 102	0
10	J	195/198 (98%)	-0.57	3 (1%) 73 68	32, 50, 78, 111	0
10	X	195/198 (98%)	-0.54	3 (1%) 73 68	36, 52, 79, 130	0
11	K	212/212 (100%)	-0.55	1 (0%) 91 88	30, 49, 79, 97	0
11	Y	212/212 (100%)	-0.56	1 (0%) 91 88	34, 50, 80, 98	0
12	L	222/222 (100%)	-0.52	3 (1%) 75 70	34, 49, 93, 131	0
12	Z	222/222 (100%)	-0.48	5 (2%) 60 51	32, 51, 94, 126	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	M	233/246 (94%)	-0.63	1 (0%) 92 91	28, 49, 73, 94	0
13	a	233/246 (94%)	-0.60	1 (0%) 92 91	27, 48, 70, 88	0
14	N	196/196 (100%)	-0.69	2 (1%) 82 77	32, 44, 73, 100	0
14	b	196/196 (100%)	-0.66	1 (0%) 91 88	32, 45, 75, 104	0
All	All	6344/6614 (95%)	-0.46	118 (1%) 66 59	27, 54, 100, 182	0

All (118) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	Q	49	THR	6.0
3	Q	206	LYS	5.8
3	Q	50	LEU	5.7
10	X	1	MET	5.6
2	P	51	VAL	5.5
12	Z	174	TYR	5.4
3	Q	239	GLN	4.6
12	L	174	TYR	4.5
2	P	218	GLY	4.4
5	S	202	ASP	4.3
3	Q	236	GLN	4.3
8	V	226	GLU	4.2
1	A	1	MET	4.1
2	P	220	ASN	4.0
3	C	49	THR	4.0
3	C	50	LEU	4.0
3	C	238	LYS	4.0
5	E	202	ASP	4.0
1	O	2	THR	3.9
2	B	51	VAL	3.8
10	X	194	ASP	3.7
10	J	1	MET	3.6
3	C	206	LYS	3.6
7	U	242	GLN	3.6
8	V	224	GLN	3.6
12	L	165	ASN	3.5
3	C	236	GLN	3.5
3	Q	238	LYS	3.5
9	W	1	SER	3.5
2	B	221	ASP	3.5
2	P	221	ASP	3.4
3	Q	240	GLU	3.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
2	P	59	ASP	3.3
1	O	1	MET	3.2
8	V	222	ASP	3.2
1	A	2	THR	3.2
12	Z	165	ASN	3.2
3	C	239	GLN	3.1
5	S	173	ARG	3.1
4	R	241	ALA	3.1
7	G	241	GLU	3.1
3	C	225	GLU	3.1
3	C	202	GLN	3.0
3	Q	202	GLN	3.0
8	H	226	GLU	3.0
4	R	1	ASP	3.0
3	Q	205	ALA	2.9
1	O	249	ALA	2.8
6	T	230	ASP	2.8
2	B	218	GLY	2.7
3	C	240	GLU	2.7
14	b	105	LYS	2.7
3	Q	48	SER	2.7
2	B	220	ASN	2.7
5	S	180	LYS	2.6
3	Q	225	GLU	2.6
2	P	219	ALA	2.6
1	O	52	SER	2.6
7	U	222	ASP	2.6
12	Z	173	LYS	2.6
14	N	105	LYS	2.6
6	T	180	PRO	2.6
13	M	47	ASP	2.5
10	X	193	ASP	2.5
4	D	242	GLU	2.5
12	Z	163	GLY	2.5
9	W	192	ASP	2.5
4	R	230	GLU	2.5
3	C	216	ASP	2.5
3	Q	55	THR	2.4
5	S	227	GLU	2.4
2	P	203	SER	2.4
1	A	248	GLU	2.3
6	T	244	ASN	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
14	N	195	GLN	2.3
12	L	173	LYS	2.3
2	B	59	ASP	2.3
6	F	215	CYS	2.3
1	A	250	LEU	2.3
5	E	122	TYR	2.2
1	A	249	ALA	2.2
5	E	123	GLY	2.2
10	J	193	ASP	2.2
11	Y	183	ASP	2.2
8	H	224	GLN	2.2
7	G	179	LYS	2.2
1	O	228	PRO	2.2
10	J	194	ASP	2.2
5	S	165	GLN	2.2
6	T	243	ILE	2.2
3	Q	187	GLU	2.2
4	D	1	ASP	2.1
3	C	181	GLU	2.1
3	Q	237	GLU	2.1
8	H	222	ASP	2.1
7	G	242	GLN	2.1
6	F	2	THR	2.1
4	R	54	ASP	2.1
1	O	248	GLU	2.1
8	V	145	ASP	2.1
5	S	54	GLU	2.1
8	V	225	GLU	2.1
6	T	201	GLU	2.1
12	Z	1	GLN	2.1
2	B	219	ALA	2.1
5	S	233	ILE	2.1
4	R	125	LEU	2.1
3	Q	60	SER	2.0
7	U	2	GLY	2.0
5	S	207	VAL	2.0
3	Q	204	GLY	2.0
4	D	241	ALA	2.0
13	a	1	THR	2.0
11	K	209	ASN	2.0
2	P	230	LYS	2.0
3	C	180	LYS	2.0

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Mol	Chain	Res	Type	RSRZ
6	F	229	GLY	2.0
7	U	183	ASP	2.0

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

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

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
17	SLA	Y	301	15/15	0.93	0.18	40,42,43,45	0
15	MG	K	302	1/1	0.94	0.12	55,55,55,55	0
17	SLA	b	201	15/15	0.94	0.14	44,46,48,49	0
17	SLA	N	201	15/15	0.95	0.14	43,45,46,48	0
15	MG	N	202	1/1	0.95	0.11	43,43,43,43	0
17	SLA	H	301	15/15	0.95	0.16	37,41,43,45	0
15	MG	G	301	1/1	0.96	0.08	52,52,52,52	0
16	CL	K	303	1/1	0.96	0.49	63,63,63,63	0
16	CL	b	202	1/1	0.97	0.09	40,40,40,40	0
17	SLA	V	301	15/15	0.97	0.13	37,42,44,45	0
15	MG	Z	301	1/1	0.97	0.23	58,58,58,58	0
17	SLA	K	301	15/15	0.97	0.14	41,43,44,46	0
16	CL	G	302	1/1	0.98	0.12	39,39,39,39	0
15	MG	J	201	1/1	0.98	0.24	41,41,41,41	0
16	CL	N	203	1/1	0.98	0.04	36,36,36,36	0
15	MG	Y	302	1/1	0.98	0.09	51,51,51,51	0
15	MG	I	301	1/1	0.98	0.33	56,56,56,56	0
16	CL	U	301	1/1	0.99	0.15	40,40,40,40	0
15	MG	V	302	1/1	0.99	0.05	59,59,59,59	0

## 6.5 Other polymers

There are no such residues in this entry.