WORLDWIDE wwPDB PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report (i)

Sep 23, 2023 – 09:23 PM EDT

PDB ID	:	5THO
Title	:	Crystal Structure of Mycobacterium Tuberculosis Proteasome in complex with N,C-capped Dipeptide Inhibitor PKS2205
Authors	:	Hsu, H.C.; Li, H.
Deposited on	:	2016-09-30
Resolution	:	3.00 Å(reported)

The following versions of software and data (see references (i)) 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
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

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 3.00 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.
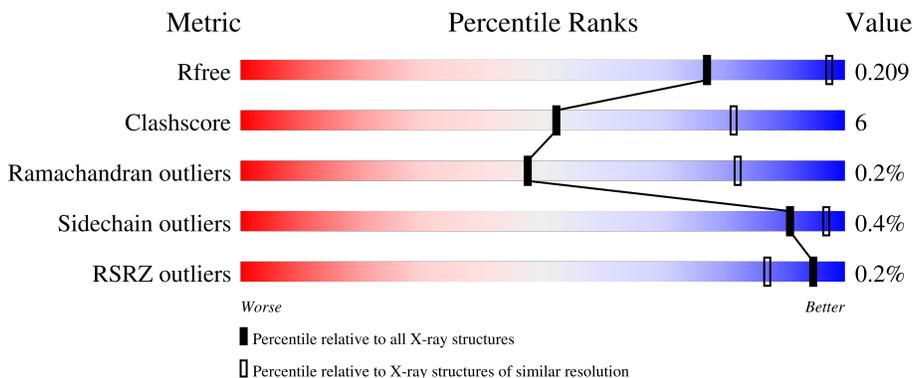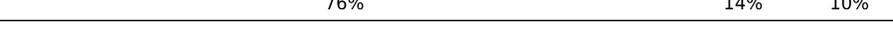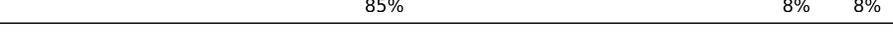

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2092 (3.00-3.00)
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RSRZ outliers	127900	1990 (3.00-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	240	64% 26% • 9%
1	B	240	70% 20% 10%
1	C	240	71% 19% • 10%
1	D	240	73% 17% 10%
1	E	240	74% 16% • 9%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	F	240	.% 75% 15% 10%
1	G	240	68% 22% • 9%
1	O	240	.% 78% 13% 9%
1	P	240	75% 15% 10%
1	Q	240	73% 16% 10%
1	R	240	73% 17% 10%
1	S	240	2% 78% 12% • 8%
1	T	240	75% 15% 10%
1	U	240	76% 14% 10%
2	H	240	85% 8% 8%
2	I	240	90% • 8%
2	J	240	84% 9% 8%
2	K	240	85% 8% 7%
2	L	240	86% 7% 7%
2	M	240	86% 7% 7%
2	N	240	82% 10% 8%
2	V	240	85% 8% 7%
2	W	240	86% 7% 7%
2	X	240	84% 9% 8%
2	Y	240	83% 10% 7%
2	Z	240	82% 11% 8%
2	a	240	93% 7%
2	b	240	93% 7%

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 47201 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.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	218	Total 1677	C 1050	N 306	O 317	S 4	0	0	0
1	B	215	Total 1660	C 1041	N 303	O 312	S 4	0	0	0
1	C	217	Total 1672	C 1047	N 305	O 316	S 4	0	0	0
1	D	216	Total 1663	C 1041	N 304	O 314	S 4	0	0	0
1	E	218	Total 1677	C 1050	N 306	O 317	S 4	0	0	0
1	F	217	Total 1670	C 1046	N 305	O 315	S 4	0	0	0
1	G	218	Total 1677	C 1050	N 306	O 317	S 4	0	0	0
1	O	218	Total 1677	C 1050	N 306	O 317	S 4	0	0	0
1	P	217	Total 1671	C 1047	N 305	O 315	S 4	0	0	0
1	Q	216	Total 1668	C 1045	N 304	O 315	S 4	0	0	0
1	R	217	Total 1670	C 1046	N 305	O 315	S 4	0	0	0
1	S	221	Total 1701	C 1064	N 310	O 323	S 4	0	0	0
1	T	217	Total 1671	C 1047	N 305	O 315	S 4	0	0	0
1	U	216	Total 1664	C 1043	N 304	O 313	S 4	0	0	0

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	9	MET	-	initiating methionine	UNP A5U4D5

Continued on next page...

WORLDWIDE
wwPDB
PROTEIN DATA BANK

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
B	9	MET	-	initiating methionine	UNP A5U4D5
C	9	MET	-	initiating methionine	UNP A5U4D5
D	9	MET	-	initiating methionine	UNP A5U4D5
E	9	MET	-	initiating methionine	UNP A5U4D5
F	9	MET	-	initiating methionine	UNP A5U4D5
G	9	MET	-	initiating methionine	UNP A5U4D5
O	9	MET	-	initiating methionine	UNP A5U4D5
P	9	MET	-	initiating methionine	UNP A5U4D5
Q	9	MET	-	initiating methionine	UNP A5U4D5
R	9	MET	-	initiating methionine	UNP A5U4D5
S	9	MET	-	initiating methionine	UNP A5U4D5
T	9	MET	-	initiating methionine	UNP A5U4D5
U	9	MET	-	initiating methionine	UNP A5U4D5

- Molecule 2 is a protein called Proteasome subunit beta.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	H	222	Total 1638	C 1027	N 282	O 324	S 5	0	0	0
2	I	222	Total 1638	C 1027	N 282	O 324	S 5	0	0	0
2	J	222	Total 1638	C 1027	N 282	O 324	S 5	0	0	0
2	K	223	Total 1642	C 1029	N 283	O 325	S 5	0	0	0
2	L	223	Total 1642	C 1029	N 283	O 325	S 5	0	0	0
2	M	223	Total 1642	C 1029	N 283	O 325	S 5	0	0	0
2	N	222	Total 1638	C 1027	N 282	O 324	S 5	0	0	0
2	V	223	Total 1642	C 1029	N 283	O 325	S 5	0	0	0
2	W	223	Total 1642	C 1029	N 283	O 325	S 5	0	0	0
2	X	222	Total 1638	C 1027	N 282	O 324	S 5	0	0	0
2	Y	223	Total 1642	C 1029	N 283	O 325	S 5	0	0	0
2	Z	222	Total 1638	C 1027	N 282	O 324	S 5	0	0	0
2	a	223	Total 1642	C 1029	N 283	O 325	S 5	0	0	0

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	b	223	1642	1029	283	325	5	0	0	0

There are 84 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	235	HIS	-	expression tag	UNP A5U4D6
H	236	HIS	-	expression tag	UNP A5U4D6
H	237	HIS	-	expression tag	UNP A5U4D6
H	238	HIS	-	expression tag	UNP A5U4D6
H	239	HIS	-	expression tag	UNP A5U4D6
H	240	HIS	-	expression tag	UNP A5U4D6
I	235	HIS	-	expression tag	UNP A5U4D6
I	236	HIS	-	expression tag	UNP A5U4D6
I	237	HIS	-	expression tag	UNP A5U4D6
I	238	HIS	-	expression tag	UNP A5U4D6
I	239	HIS	-	expression tag	UNP A5U4D6
I	240	HIS	-	expression tag	UNP A5U4D6
J	235	HIS	-	expression tag	UNP A5U4D6
J	236	HIS	-	expression tag	UNP A5U4D6
J	237	HIS	-	expression tag	UNP A5U4D6
J	238	HIS	-	expression tag	UNP A5U4D6
J	239	HIS	-	expression tag	UNP A5U4D6
J	240	HIS	-	expression tag	UNP A5U4D6
K	235	HIS	-	expression tag	UNP A5U4D6
K	236	HIS	-	expression tag	UNP A5U4D6
K	237	HIS	-	expression tag	UNP A5U4D6
K	238	HIS	-	expression tag	UNP A5U4D6
K	239	HIS	-	expression tag	UNP A5U4D6
K	240	HIS	-	expression tag	UNP A5U4D6
L	235	HIS	-	expression tag	UNP A5U4D6
L	236	HIS	-	expression tag	UNP A5U4D6
L	237	HIS	-	expression tag	UNP A5U4D6
L	238	HIS	-	expression tag	UNP A5U4D6
L	239	HIS	-	expression tag	UNP A5U4D6
L	240	HIS	-	expression tag	UNP A5U4D6
M	235	HIS	-	expression tag	UNP A5U4D6
M	236	HIS	-	expression tag	UNP A5U4D6
M	237	HIS	-	expression tag	UNP A5U4D6
M	238	HIS	-	expression tag	UNP A5U4D6
M	239	HIS	-	expression tag	UNP A5U4D6
M	240	HIS	-	expression tag	UNP A5U4D6

*Continued on next page...*

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
N	235	HIS	-	expression tag	UNP A5U4D6
N	236	HIS	-	expression tag	UNP A5U4D6
N	237	HIS	-	expression tag	UNP A5U4D6
N	238	HIS	-	expression tag	UNP A5U4D6
N	239	HIS	-	expression tag	UNP A5U4D6
N	240	HIS	-	expression tag	UNP A5U4D6
V	235	HIS	-	expression tag	UNP A5U4D6
V	236	HIS	-	expression tag	UNP A5U4D6
V	237	HIS	-	expression tag	UNP A5U4D6
V	238	HIS	-	expression tag	UNP A5U4D6
V	239	HIS	-	expression tag	UNP A5U4D6
V	240	HIS	-	expression tag	UNP A5U4D6
W	235	HIS	-	expression tag	UNP A5U4D6
W	236	HIS	-	expression tag	UNP A5U4D6
W	237	HIS	-	expression tag	UNP A5U4D6
W	238	HIS	-	expression tag	UNP A5U4D6
W	239	HIS	-	expression tag	UNP A5U4D6
W	240	HIS	-	expression tag	UNP A5U4D6
X	235	HIS	-	expression tag	UNP A5U4D6
X	236	HIS	-	expression tag	UNP A5U4D6
X	237	HIS	-	expression tag	UNP A5U4D6
X	238	HIS	-	expression tag	UNP A5U4D6
X	239	HIS	-	expression tag	UNP A5U4D6
X	240	HIS	-	expression tag	UNP A5U4D6
Y	235	HIS	-	expression tag	UNP A5U4D6
Y	236	HIS	-	expression tag	UNP A5U4D6
Y	237	HIS	-	expression tag	UNP A5U4D6
Y	238	HIS	-	expression tag	UNP A5U4D6
Y	239	HIS	-	expression tag	UNP A5U4D6
Y	240	HIS	-	expression tag	UNP A5U4D6
Z	235	HIS	-	expression tag	UNP A5U4D6
Z	236	HIS	-	expression tag	UNP A5U4D6
Z	237	HIS	-	expression tag	UNP A5U4D6
Z	238	HIS	-	expression tag	UNP A5U4D6
Z	239	HIS	-	expression tag	UNP A5U4D6
Z	240	HIS	-	expression tag	UNP A5U4D6
a	235	HIS	-	expression tag	UNP A5U4D6
a	236	HIS	-	expression tag	UNP A5U4D6
a	237	HIS	-	expression tag	UNP A5U4D6
a	238	HIS	-	expression tag	UNP A5U4D6
a	239	HIS	-	expression tag	UNP A5U4D6
a	240	HIS	-	expression tag	UNP A5U4D6

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
b	235	HIS	-	expression tag	UNP A5U4D6
b	236	HIS	-	expression tag	UNP A5U4D6
b	237	HIS	-	expression tag	UNP A5U4D6
b	238	HIS	-	expression tag	UNP A5U4D6
b	239	HIS	-	expression tag	UNP A5U4D6
b	240	HIS	-	expression tag	UNP A5U4D6

- Molecule 3 is N,N-diethyl-N 2 -(3-phenylpropanoyl)-L-asparaginyl-O-methyl-N-[(naphthalen-1-yl)methyl]-L-serinamide (three-letter code: 7C7) (formula: $C_{32}H_{40}N_4O_5$).
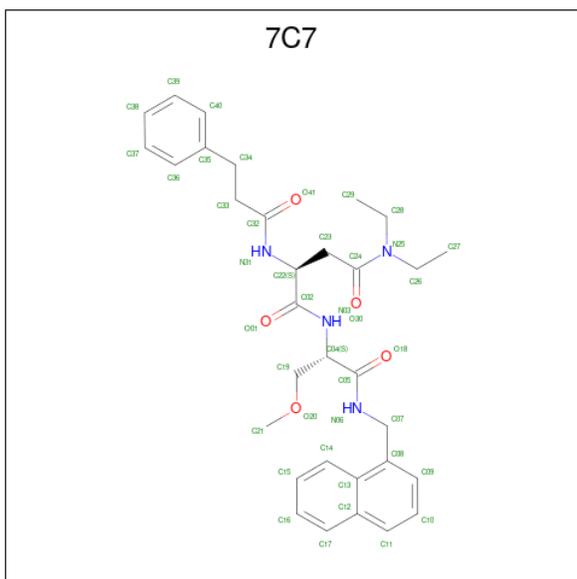
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	H	1	Total	C	N	O	0	0
			41	32	4	5		
3	I	1	Total	C	N	O	0	0
			41	32	4	5		
3	J	1	Total	C	N	O	0	0
			41	32	4	5		
3	K	1	Total	C	N	O	0	0
			41	32	4	5		
3	L	1	Total	C	N	O	0	0
			41	32	4	5		
3	M	1	Total	C	N	O	0	0
			41	32	4	5		
3	N	1	Total	C	N	O	0	0
			41	32	4	5		
3	V	1	Total	C	N	O	0	0
			41	32	4	5		

Continued from previous page...

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	W	1	Total 41	C 32	N 4	O 5	0	0
3	X	1	Total 41	C 32	N 4	O 5	0	0
3	Y	1	Total 41	C 32	N 4	O 5	0	0
3	Z	1	Total 41	C 32	N 4	O 5	0	0
3	a	1	Total 41	C 32	N 4	O 5	0	0
3	b	1	Total 41	C 32	N 4	O 5	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	9	Total 9	O 9	0	0
4	B	1	Total 1	O 1	0	0
4	C	3	Total 3	O 3	0	0
4	D	4	Total 4	O 4	0	0
4	E	3	Total 3	O 3	0	0
4	F	5	Total 5	O 5	0	0
4	G	3	Total 3	O 3	0	0
4	H	15	Total 15	O 15	0	0
4	I	18	Total 18	O 18	0	0
4	J	11	Total 11	O 11	0	0
4	K	16	Total 16	O 16	0	0
4	L	10	Total 10	O 10	0	0
4	M	12	Total 12	O 12	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	N	12	Total 12	O 12	0	0
4	O	6	Total 6	O 6	0	0
4	P	7	Total 7	O 7	0	0
4	Q	3	Total 3	O 3	0	0
4	R	5	Total 5	O 5	0	0
4	S	8	Total 8	O 8	0	0
4	T	6	Total 6	O 6	0	0
4	U	3	Total 3	O 3	0	0
4	V	20	Total 20	O 20	0	0
4	W	13	Total 13	O 13	0	0
4	X	10	Total 10	O 10	0	0
4	Y	10	Total 10	O 10	0	0
4	Z	12	Total 12	O 12	0	0
4	a	10	Total 10	O 10	0	0
4	b	10	Total 10	O 10	0	0

3   Residue-property plots ⓘ

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

Chain A:
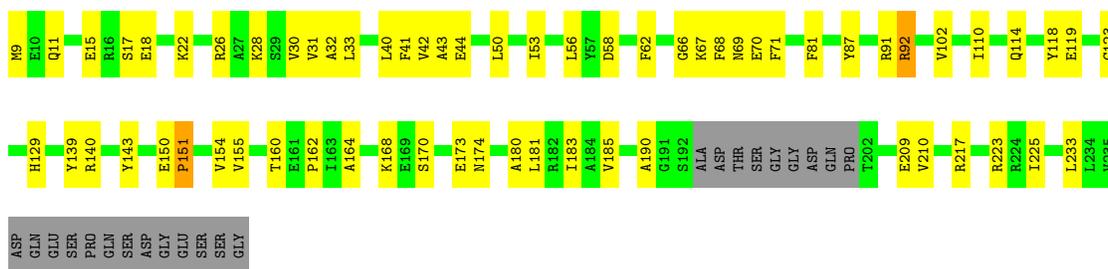
- Molecule 1: Proteasome subunit alpha

Chain B:
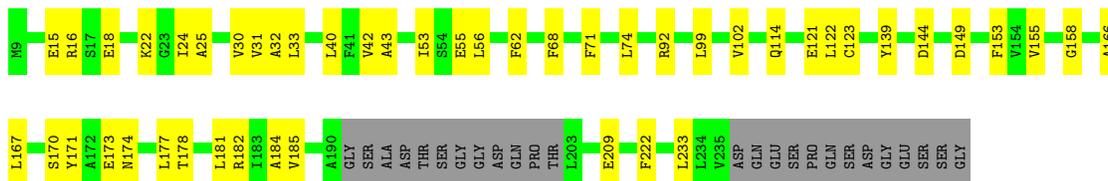
- Molecule 1: Proteasome subunit alpha

Chain C:
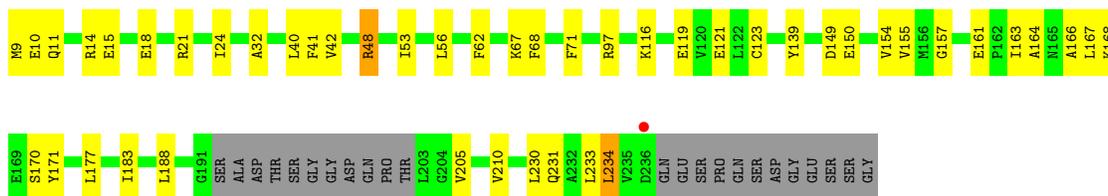
- Molecule 1: Proteasome subunit alpha

Chain D:

• Molecule 1: Proteasome subunit alpha

Chain E:

• Molecule 1: Proteasome subunit alpha

Chain F:

• Molecule 1: Proteasome subunit alpha

Chain G:

• Molecule 1: Proteasome subunit alpha

Chain O:

• Molecule 1: Proteasome subunit alpha

Chain P:

• Molecule 1: Proteasome subunit alpha

Chain Q:
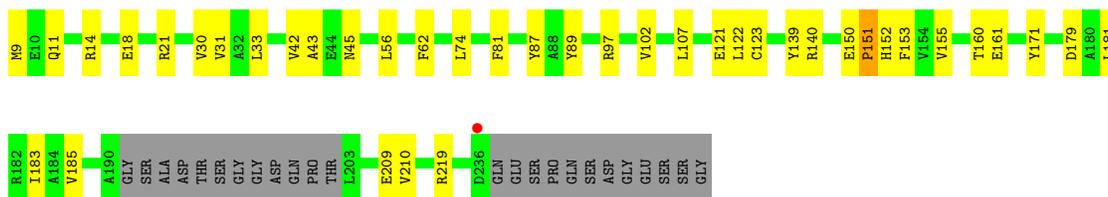
• Molecule 1: Proteasome subunit alpha

Chain R:
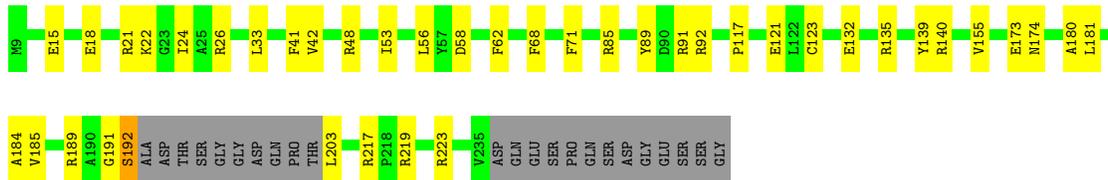
• Molecule 1: Proteasome subunit alpha

Chain S:
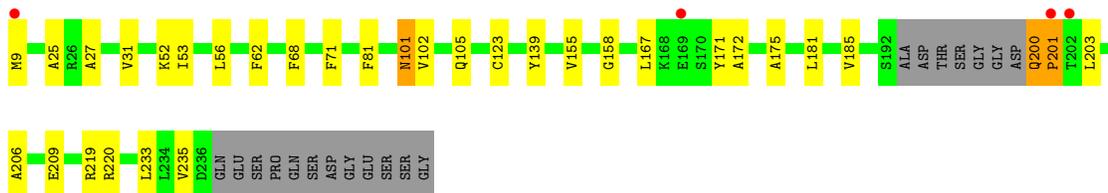
• Molecule 1: Proteasome subunit alpha

Chain T:
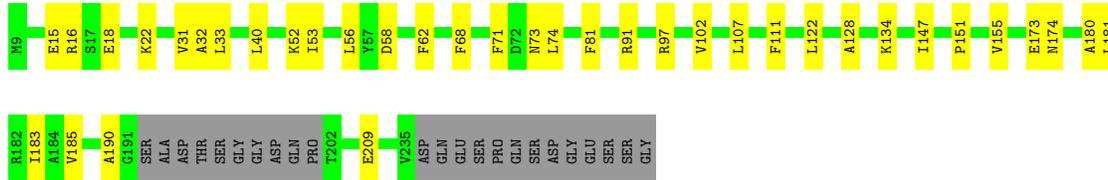
• Molecule 1: Proteasome subunit alpha

Chain U:

• Molecule 2: Proteasome subunit beta

Chain H:

• Molecule 2: Proteasome subunit beta

Chain I:

• Molecule 2: Proteasome subunit beta

Chain J:

• Molecule 2: Proteasome subunit beta

Chain K:

• Molecule 2: Proteasome subunit beta

Chain L:

• Molecule 2: Proteasome subunit beta

Chain M:

T1 T2 I3 R18 R19 S20 G28 D38 T41 E64 R82 R88 S122 F123 A126 W129 A138 V139 T193 G223 ALA ASP THR PHE GLY SER ASP GLY GLU LYS HIS HIS HIS HIS HIS
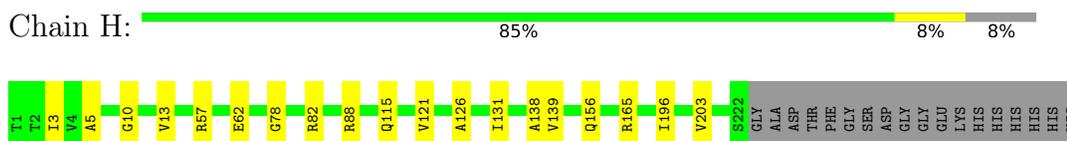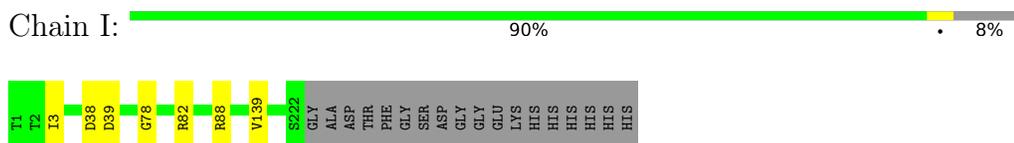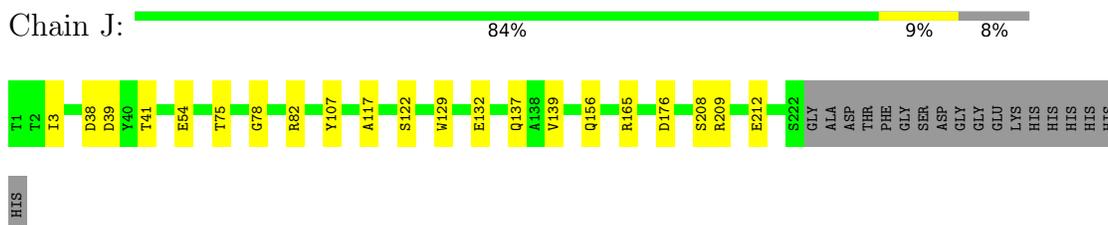
• Molecule 2: Proteasome subunit beta

Chain N: 82% 10% 8%

T1 A5 L6 K7 V12 V13 D38 T41 V51 R57 E62 L63 E64 V72 P73 R82 L98 G106 V121 N130 M150 Y154 S155 Q156 R165 I196 R215 E219 S222 GLY ALA ASP THR PHE GLY SER ASP GLY GLY GLU

LYS HIS HIS HIS HIS HIS

• Molecule 2: Proteasome subunit beta

Chain V: 85% 8% 7%

T1 T2 I3 V13 D38 D39 Y40 T41 V51 R88 L98 V121 S122 A126 W129 N130 I131 A138 R165 D176 D177 I196 L213 G223 ALA ASP THR PHE GLY SER ASP GLY GLY GLU LYS HIS HIS HIS HIS HIS

• Molecule 2: Proteasome subunit beta

Chain W: 86% 7% 7%

T1 T2 I3 V4 A5 V13 D38 T41 G44 V51 T75 R88 L98 G106 A126 Q156 R165 R188 S208 E212 G223 ALA ASP THR PHE GLY SER ASP GLY GLY GLU LYS HIS HIS HIS HIS HIS

• Molecule 2: Proteasome subunit beta

Chain X: 84% 9% 8%

T1 T2 I3 V4 A5 V13 R18 V31 R32 K33 G44 V51 R57 E64 R82 I85 R88 L98 A126 A138 V139 Q156 R165 I196 L213 S222 GLY ALA ASP THR PHE GLY SER ASP GLY GLY GLU LYS HIS HIS HIS HIS HIS

HIS HIS

• Molecule 2: Proteasome subunit beta

Chain Y: 83% 10% 7%

T1 T2 I3 R18 R19 S20 M25 V31 D38 V51 E64 K79 R82 R88 L98 V121 S122 A126 I131 Q137 A138 V139 M150 Y154 S155 Q156 R165 T193 G223 ALA ASP THR PHE GLY SER ASP GLY GLU LYS HIS

HIS HIS HIS HIS HIS

• Molecule 2: Proteasome subunit beta

Chain Z: 82% 11% 8%

T1 T2 I3 S20 G28 V31 D38 D39 Y40 T41 V51 E64 V72 P73 G78 R82 L98 P102 Y107 A117 F123 W129 A138 V139 L144 D161 A180 R209 S222 GLY ALA ASP THR PHE GLY SER ASP GLY GLY

GLU LYS HIS HIS HIS HIS HIS HIS

• Molecule 2: Proteasome subunit beta

Chain a: 93%   7%

T1 G223 ALA ASP THR PHE GLY SER ASP GLY GLY GLU LYS HIS HIS HIS HIS HIS HIS

• Molecule 2: Proteasome subunit beta

Chain b: 93%   7%

T1 G223 ALA ASP THR PHE GLY SER ASP GLY GLY LYS HIS HIS HIS HIS HIS HIS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	120.16Å　198.19Å　166.24Å 90.00°　103.35°　90.00°	Depositor
Resolution (Å)	49.55　–　3.00 49.68　–　3.00	Depositor EDS
% Data completeness (in resolution range)	97.5 (49.55-3.00) 93.3 (49.68-3.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$<I/\sigma(I)>$ [1]	1.64 (at 3.01Å)	Xtriage
Refinement program	PHENIX (1.10.1_2155: ???)	Depositor
R, R_{free}	0.176　,　0.210 0.178　,　0.209	Depositor DCC
R_{free} test set	7272 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å^2)	59.5	Xtriage
Anisotropy	0.012	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 30.0	EDS
L-test for twinning[2]	$<|L|> = 0.49, <L^2> = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	47201	wwPDB-VP
Average B, all atoms (Å^2)	59.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.76% of the height of the origin peak. No significant pseudotranslation is detected.*

---

[1]Intensities estimated from amplitudes.
[2]Theoretical values of $<|L|>$, $<L^2>$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: 7C7

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	0.32	0/1701	0.54	0/2297
1	B	0.30	0/1684	0.51	0/2274
1	C	0.30	0/1696	0.52	0/2290
1	D	0.31	0/1687	0.53	0/2277
1	E	0.30	0/1701	0.54	1/2297 (0.0%)
1	F	0.30	0/1694	0.53	0/2287
1	G	0.34	0/1701	0.53	0/2297
1	O	0.29	0/1701	0.50	0/2297
1	P	0.31	0/1695	0.51	0/2289
1	Q	0.31	0/1692	0.52	0/2285
1	R	0.30	0/1694	0.52	0/2287
1	S	0.33	0/1726	0.56	0/2332
1	T	0.30	0/1695	0.52	0/2289
1	U	0.30	0/1688	0.54	0/2279
2	H	0.30	0/1662	0.52	0/2254
2	I	0.30	0/1662	0.52	0/2254
2	J	0.30	0/1662	0.51	0/2254
2	K	0.30	0/1666	0.53	0/2259
2	L	0.30	0/1666	0.54	0/2259
2	M	0.30	0/1666	0.53	0/2259
2	N	0.31	0/1662	0.53	0/2254
2	V	0.30	0/1666	0.52	0/2259
2	W	0.30	0/1666	0.52	0/2259
2	X	0.29	0/1662	0.54	0/2254
2	Y	0.30	0/1666	0.51	0/2259
2	Z	0.30	0/1662	0.53	0/2254
2	a	0.30	0/1666	0.53	0/2259
2	b	0.30	0/1666	0.53	0/2259
All	All	0.31	0/47055	0.53	1/63673 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	33	LEU	CA-CB-CG	5.54	128.03	115.30

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	1677	0	1680	39	0
1	B	1660	0	1665	29	0
1	C	1672	0	1672	32	0
1	D	1663	0	1664	26	0
1	E	1677	0	1680	23	0
1	F	1670	0	1673	26	0
1	G	1677	0	1680	41	0
1	O	1677	0	1680	19	0
1	P	1671	0	1675	26	0
1	Q	1668	0	1669	28	0
1	R	1670	0	1673	28	0
1	S	1701	0	1699	29	0
1	T	1671	0	1675	24	0
1	U	1664	0	1668	23	0
2	H	1638	0	1633	11	0
2	I	1638	0	1633	4	0
2	J	1638	0	1633	14	0
2	K	1642	0	1636	11	0
2	L	1642	0	1636	10	0
2	M	1642	0	1636	11	0
2	N	1638	0	1633	15	0
2	V	1642	0	1636	11	0
2	W	1642	0	1636	10	0
2	X	1638	0	1633	14	0
2	Y	1642	0	1636	13	0
2	Z	1638	0	1633	18	0
2	a	1642	0	1636	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	b	1642	0	1636	0	0
3	H	41	0	0	0	0
3	I	41	0	0	0	0
3	J	41	0	0	0	0
3	K	41	0	0	0	0
3	L	41	0	0	0	0
3	M	41	0	0	0	0
3	N	41	0	0	0	0
3	V	41	0	0	0	0
3	W	41	0	0	0	0
3	X	41	0	0	0	0
3	Y	41	0	0	0	0
3	Z	41	0	0	0	0
3	a	41	0	0	0	0
3	b	41	0	0	0	0
4	A	9	0	0	0	0
4	B	1	0	0	0	0
4	C	3	0	0	0	0
4	D	4	0	0	1	0
4	E	3	0	0	0	0
4	F	5	0	0	0	0
4	G	3	0	0	0	0
4	H	15	0	0	0	0
4	I	18	0	0	1	0
4	J	11	0	0	1	0
4	K	16	0	0	0	0
4	L	10	0	0	0	0
4	M	12	0	0	0	0
4	N	12	0	0	0	0
4	O	6	0	0	0	0
4	P	7	0	0	0	0
4	Q	3	0	0	0	0
4	R	5	0	0	0	0
4	S	8	0	0	2	0
4	T	6	0	0	1	0
4	U	3	0	0	2	0
4	V	20	0	0	1	0
4	W	13	0	0	0	0
4	X	10	0	0	1	0
4	Y	10	0	0	0	0
4	Z	12	0	0	0	0
4	a	10	0	0	0	0

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	b	10	0	0	0	0
All	All	47201	0	46339	496	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 6.

The worst 5 of 496 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:200:GLN:HG3	1:S:201:PRO:CD	1.38	1.49
1:G:179:ASP:O	1:G:183:ILE:HG13	1.38	1.21
1:S:200:GLN:CG	1:S:201:PRO:CD	2.19	1.19
1:S:200:GLN:CG	1:S:201:PRO:HD2	1.74	1.18
1:F:189:ARG:HG3	1:F:203:LEU:CD2	1.85	1.05

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	214/240 (89%)	207 (97%)	6 (3%)	1 (0%)	29	68
1	B	211/240 (88%)	204 (97%)	7 (3%)	0	100	100
1	C	213/240 (89%)	209 (98%)	3 (1%)	1 (0%)	29	68
1	D	212/240 (88%)	204 (96%)	8 (4%)	0	100	100
1	E	214/240 (89%)	206 (96%)	7 (3%)	1 (0%)	29	68
1	F	213/240 (89%)	206 (97%)	6 (3%)	1 (0%)	29	68
1	G	214/240 (89%)	208 (97%)	6 (3%)	0	100	100
1	O	214/240 (89%)	206 (96%)	8 (4%)	0	100	100

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	P	213/240 (89%)	206 (97%)	7 (3%)	0	100	100
1	Q	212/240 (88%)	207 (98%)	4 (2%)	1 (0%)	29	68
1	R	213/240 (89%)	205 (96%)	8 (4%)	0	100	100
1	S	217/240 (90%)	210 (97%)	4 (2%)	3 (1%)	11	43
1	T	213/240 (89%)	204 (96%)	7 (3%)	2 (1%)	17	55
1	U	212/240 (88%)	203 (96%)	9 (4%)	0	100	100
2	H	220/240 (92%)	217 (99%)	3 (1%)	0	100	100
2	I	220/240 (92%)	217 (99%)	3 (1%)	0	100	100
2	J	220/240 (92%)	217 (99%)	3 (1%)	0	100	100
2	K	221/240 (92%)	217 (98%)	4 (2%)	0	100	100
2	L	221/240 (92%)	218 (99%)	3 (1%)	0	100	100
2	M	221/240 (92%)	216 (98%)	5 (2%)	0	100	100
2	N	220/240 (92%)	216 (98%)	4 (2%)	0	100	100
2	V	221/240 (92%)	218 (99%)	3 (1%)	0	100	100
2	W	221/240 (92%)	218 (99%)	3 (1%)	0	100	100
2	X	220/240 (92%)	216 (98%)	4 (2%)	0	100	100
2	Y	221/240 (92%)	218 (99%)	3 (1%)	0	100	100
2	Z	220/240 (92%)	217 (99%)	3 (1%)	0	100	100
2	a	221/240 (92%)	217 (98%)	4 (2%)	0	100	100
2	b	221/240 (92%)	217 (98%)	4 (2%)	0	100	100
All	All	6073/6720 (90%)	5924 (98%)	139 (2%)	10 (0%)	47	82

5 of 10 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	S	201	PRO
1	T	190	ALA
1	S	206	ALA
1	C	234	LEU
1	F	151	PRO

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	167/184 (91%)	166 (99%)	1 (1%)	86	95
1	B	165/184 (90%)	165 (100%)	0	100	100
1	C	166/184 (90%)	164 (99%)	2 (1%)	71	90
1	D	165/184 (90%)	163 (99%)	2 (1%)	71	90
1	E	167/184 (91%)	165 (99%)	2 (1%)	71	90
1	F	166/184 (90%)	166 (100%)	0	100	100
1	G	167/184 (91%)	162 (97%)	5 (3%)	41	75
1	O	167/184 (91%)	167 (100%)	0	100	100
1	P	166/184 (90%)	164 (99%)	2 (1%)	71	90
1	Q	166/184 (90%)	165 (99%)	1 (1%)	86	95
1	R	166/184 (90%)	165 (99%)	1 (1%)	86	95
1	S	170/184 (92%)	167 (98%)	3 (2%)	59	85
1	T	166/184 (90%)	166 (100%)	0	100	100
1	U	165/184 (90%)	165 (100%)	0	100	100
2	H	165/178 (93%)	165 (100%)	0	100	100
2	I	165/178 (93%)	165 (100%)	0	100	100
2	J	165/178 (93%)	165 (100%)	0	100	100
2	K	165/178 (93%)	165 (100%)	0	100	100
2	L	165/178 (93%)	165 (100%)	0	100	100
2	M	165/178 (93%)	165 (100%)	0	100	100
2	N	165/178 (93%)	165 (100%)	0	100	100
2	V	165/178 (93%)	165 (100%)	0	100	100
2	W	165/178 (93%)	165 (100%)	0	100	100
2	X	165/178 (93%)	165 (100%)	0	100	100
2	Y	165/178 (93%)	165 (100%)	0	100	100
2	Z	165/178 (93%)	165 (100%)	0	100	100
2	a	165/178 (93%)	165 (100%)	0	100	100
2	b	165/178 (93%)	165 (100%)	0	100	100
All	All	4639/5068 (92%)	4620 (100%)	19 (0%)	91	97

5 of 19 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	Q	97	ARG
1	S	200	GLN
1	S	203	LEU
1	S	101	ASN
1	G	101	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	129	HIS
1	S	200	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

14 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
3	7C7	H	301	-	43,43,43	1.23	6 (13%)	56,56,56	1.55	11 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
3	7C7	J	301	-	43,43,43	1.19	5 (11%)	56,56,56	1.47	10 (17%)
3	7C7	b	301	-	43,43,43	1.11	5 (11%)	56,56,56	1.44	12 (21%)
3	7C7	I	301	-	43,43,43	1.13	5 (11%)	56,56,56	1.38	8 (14%)
3	7C7	Y	301	-	43,43,43	1.11	5 (11%)	56,56,56	1.38	9 (16%)
3	7C7	N	301	-	43,43,43	1.05	4 (9%)	56,56,56	1.44	10 (17%)
3	7C7	Z	301	-	43,43,43	0.98	3 (6%)	56,56,56	1.46	11 (19%)
3	7C7	K	301	-	43,43,43	1.11	6 (13%)	56,56,56	1.40	12 (21%)
3	7C7	L	301	-	43,43,43	1.06	5 (11%)	56,56,56	1.41	12 (21%)
3	7C7	W	301	-	43,43,43	1.05	4 (9%)	56,56,56	1.48	9 (16%)
3	7C7	X	301	-	43,43,43	1.16	5 (11%)	56,56,56	1.54	11 (19%)
3	7C7	V	301	-	43,43,43	1.21	5 (11%)	56,56,56	1.53	12 (21%)
3	7C7	M	301	-	43,43,43	1.08	5 (11%)	56,56,56	1.42	10 (17%)
3	7C7	a	301	-	43,43,43	0.97	4 (9%)	56,56,56	1.37	10 (17%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	7C7	H	301	-	-	3/41/41/41	0/3/3/3
3	7C7	J	301	-	-	2/41/41/41	0/3/3/3
3	7C7	b	301	-	-	3/41/41/41	0/3/3/3
3	7C7	I	301	-	-	4/41/41/41	0/3/3/3
3	7C7	Y	301	-	-	2/41/41/41	0/3/3/3
3	7C7	N	301	-	-	2/41/41/41	0/3/3/3
3	7C7	Z	301	-	-	5/41/41/41	0/3/3/3
3	7C7	K	301	-	-	2/41/41/41	0/3/3/3
3	7C7	L	301	-	-	4/41/41/41	0/3/3/3
3	7C7	W	301	-	-	3/41/41/41	0/3/3/3
3	7C7	X	301	-	-	0/41/41/41	0/3/3/3
3	7C7	V	301	-	-	3/41/41/41	0/3/3/3
3	7C7	M	301	-	-	5/41/41/41	0/3/3/3
3	7C7	a	301	-	-	3/41/41/41	0/3/3/3

The worst 5 of 67 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	H	301	7C7	C05-N06	3.67	1.41	1.33
3	I	301	7C7	C05-N06	3.55	1.41	1.33
3	Y	301	7C7	C24-N25	3.41	1.42	1.35
3	V	301	7C7	C24-N25	3.34	1.42	1.35
3	K	301	7C7	C24-N25	3.32	1.42	1.35

The worst 5 of 147 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	301	7C7	C22-C23-C24	4.51	121.17	112.25
3	b	301	7C7	C22-C23-C24	4.40	120.94	112.25
3	W	301	7C7	C22-C23-C24	4.30	120.74	112.25
3	X	301	7C7	C22-C23-C24	4.25	120.66	112.25
3	J	301	7C7	C22-C23-C24	4.13	120.42	112.25

There are no chirality outliers.

5 of 41 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	H	301	7C7	N03-C04-C19-O20
3	H	301	7C7	C05-C04-C19-O20
3	I	301	7C7	N03-C04-C19-O20
3	I	301	7C7	C05-C04-C19-O20
3	K	301	7C7	N03-C04-C19-O20

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand 7C7 H 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 J 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 b 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 I 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 Y 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 N 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 Z 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 K 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 L 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 W 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 X 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 V 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 M 301

Bond lengths

Bond angles

Torsions

Rings

Ligand 7C7 a 301

Bond lengths

Bond angles

Torsions

Rings

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	218/240 (90%)	-0.50	0	100	100	42, 56, 84, 107	0
1	B	215/240 (89%)	-0.36	0	100	100	40, 69, 102, 124	0
1	C	217/240 (90%)	-0.26	1 (0%)	91	75	44, 73, 111, 140	0
1	D	216/240 (90%)	-0.25	1 (0%)	91	75	46, 69, 103, 121	0
1	E	218/240 (90%)	-0.37	0	100	100	43, 64, 96, 129	0
1	F	217/240 (90%)	-0.40	2 (0%)	84	63	44, 67, 101, 132	0
1	G	218/240 (90%)	-0.49	0	100	100	41, 59, 94, 118	0
1	O	218/240 (90%)	-0.31	2 (0%)	84	63	43, 69, 113, 131	0
1	P	217/240 (90%)	-0.40	0	100	100	40, 65, 99, 128	0
1	Q	216/240 (90%)	-0.44	1 (0%)	91	75	41, 62, 88, 129	0
1	R	217/240 (90%)	-0.42	0	100	100	38, 60, 89, 128	0
1	S	221/240 (92%)	-0.39	4 (1%)	68	40	39, 57, 98, 160	0
1	T	217/240 (90%)	-0.34	0	100	100	44, 66, 96, 114	0
1	U	216/240 (90%)	-0.46	1 (0%)	91	75	41, 61, 92, 119	0
2	H	222/240 (92%)	-0.49	0	100	100	39, 49, 71, 96	0
2	I	222/240 (92%)	-0.62	0	100	100	38, 46, 66, 93	0
2	J	222/240 (92%)	-0.64	0	100	100	40, 48, 71, 92	0
2	K	223/240 (92%)	-0.64	0	100	100	39, 47, 66, 86	0
2	L	223/240 (92%)	-0.62	0	100	100	38, 47, 73, 107	0
2	M	223/240 (92%)	-0.58	0	100	100	37, 49, 71, 97	0
2	N	222/240 (92%)	-0.62	0	100	100	41, 51, 75, 96	0
2	V	223/240 (92%)	-0.61	0	100	100	38, 45, 66, 79	0
2	W	223/240 (92%)	-0.65	0	100	100	39, 46, 66, 93	0
2	X	222/240 (92%)	-0.67	0	100	100	39, 48, 68, 85	0

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
2	Y	223/240 (92%)	-0.63	0	100	100	38, 47, 67, 90	0
2	Z	222/240 (92%)	-0.60	0	100	100	38, 49, 70, 94	0
2	a	223/240 (92%)	-0.61	0	100	100	40, 50, 73, 94	0
2	b	223/240 (92%)	-0.57	0	100	100	37, 49, 72, 84	0
All	All	6157/6720 (91%)	-0.50	12 (0%)	95	87	37, 54, 93, 160	0

The worst 5 of 12 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	S	201	PRO	3.5
1	C	236	ASP	3.1
1	D	9	MET	2.8
1	F	191	GLY	2.8
1	Q	236	ASP	2.5

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides 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(Å²)	Q<0.9
3	7C7	J	301	41/41	0.94	0.19	38,42,49,56	0
3	7C7	L	301	41/41	0.94	0.19	38,44,53,57	0
3	7C7	N	301	41/41	0.94	0.22	39,46,56,59	0
3	7C7	X	301	41/41	0.94	0.21	39,44,58,67	0
3	7C7	M	301	41/41	0.95	0.20	36,45,52,60	0
3	7C7	K	301	41/41	0.95	0.18	42,46,55,61	0
3	7C7	H	301	41/41	0.95	0.20	38,43,52,59	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	7C7	Y	301	41/41	0.95	0.19	33,43,48,52	0
3	7C7	Z	301	41/41	0.95	0.19	40,44,55,60	0
3	7C7	b	301	41/41	0.95	0.20	40,44,48,55	0
3	7C7	V	301	41/41	0.96	0.19	38,42,46,59	0
3	7C7	W	301	41/41	0.96	0.20	37,42,53,65	0
3	7C7	a	301	41/41	0.96	0.18	42,44,55,57	0
3	7C7	I	301	41/41	0.96	0.18	36,43,50,57	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around 7C7 J 301:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
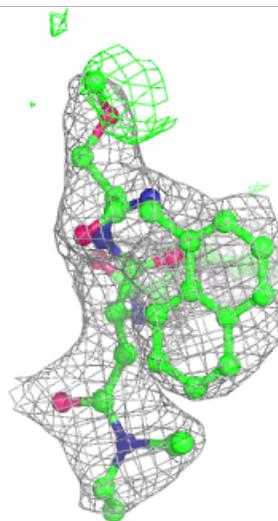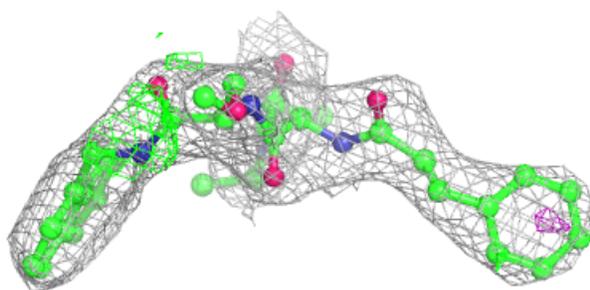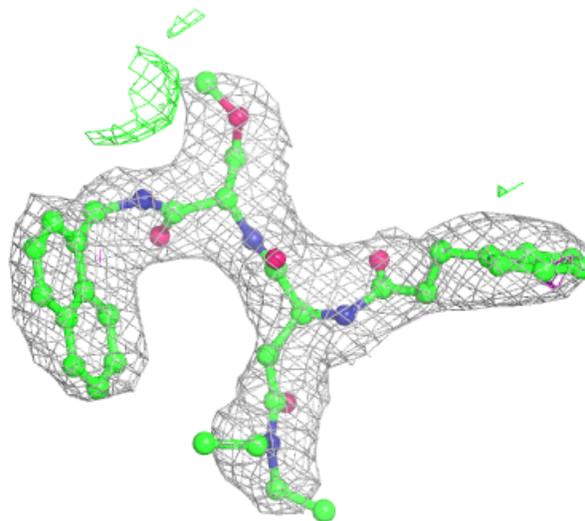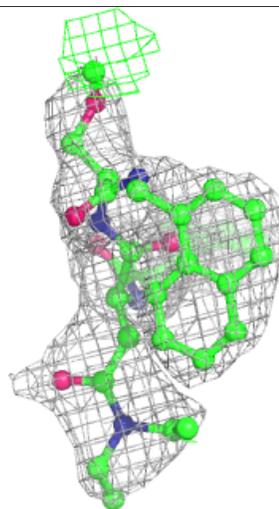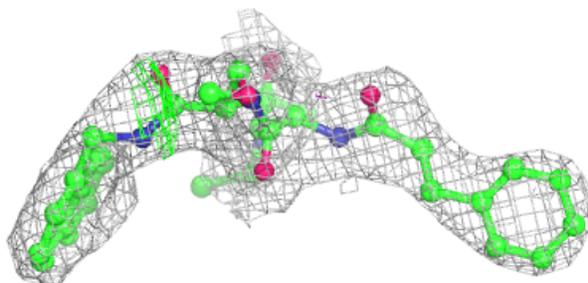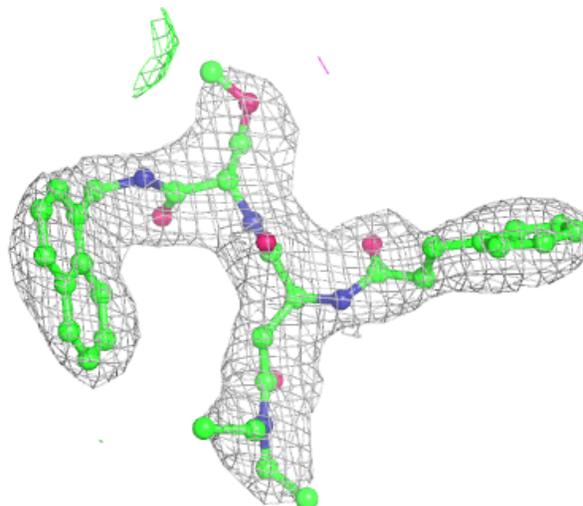$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative) and green (positive)
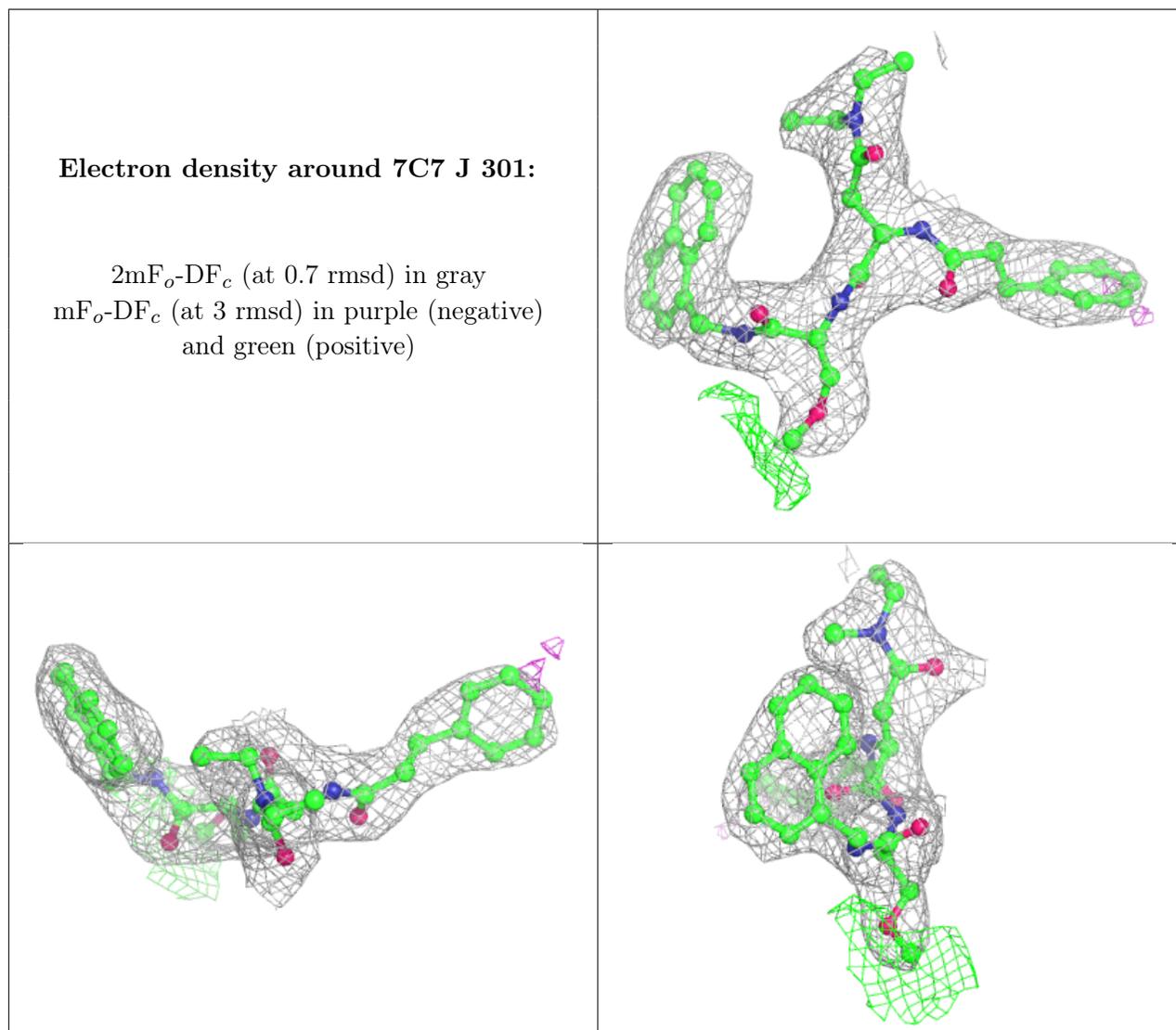
Electron density around 7C7 L 301:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
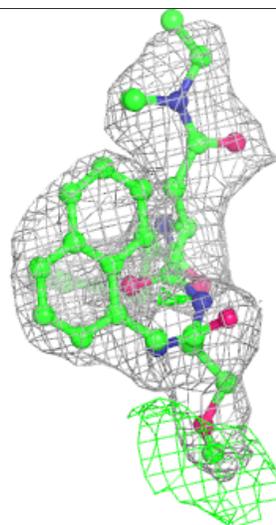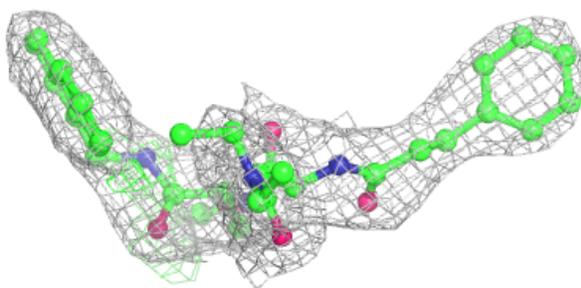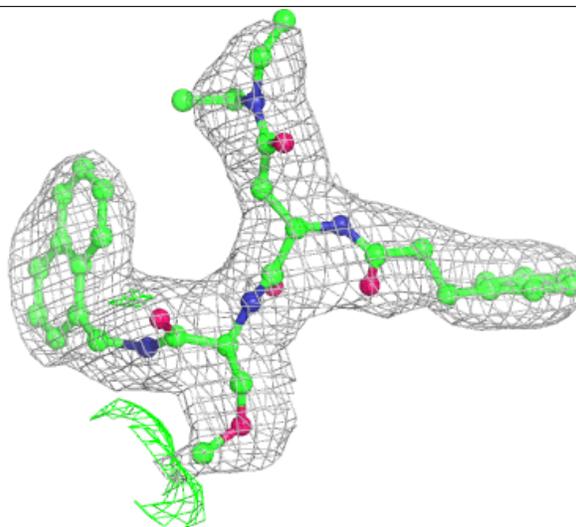
Electron density around 7C7 N 301:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
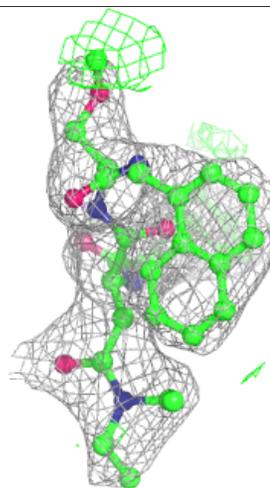and green (positive)
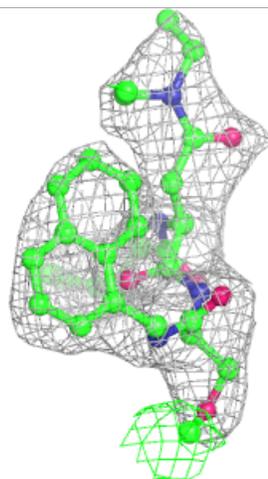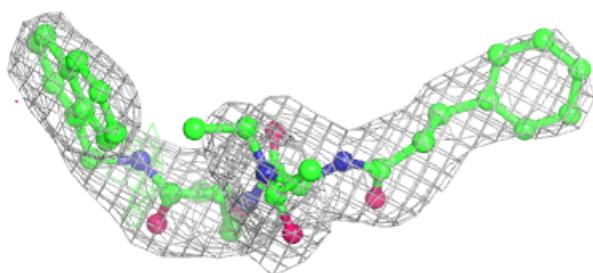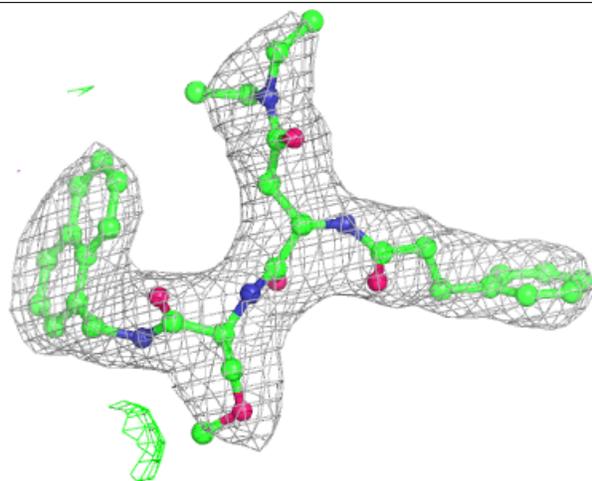
Electron density around 7C7 X 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
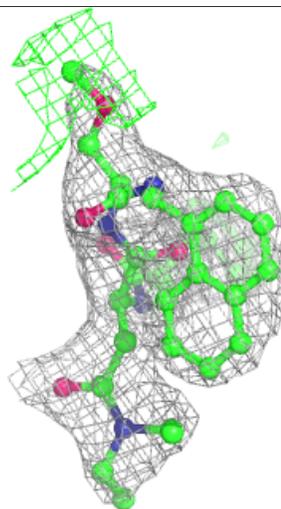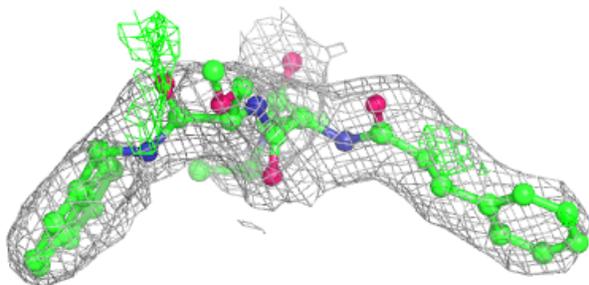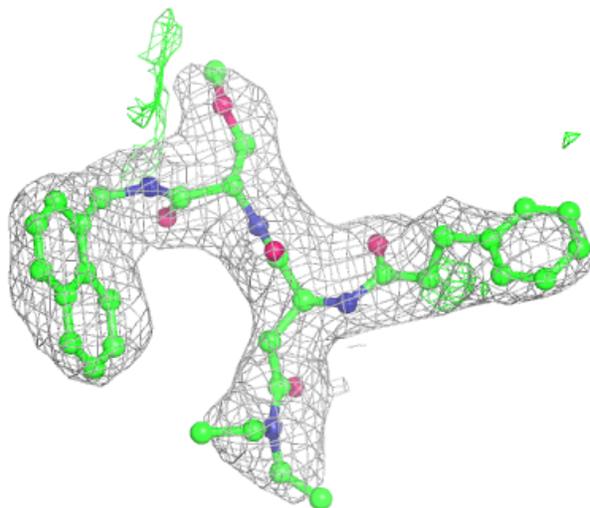
Electron density around 7C7 M 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
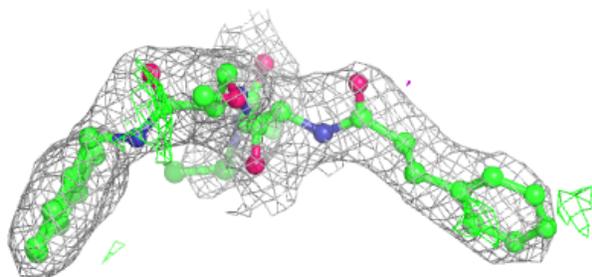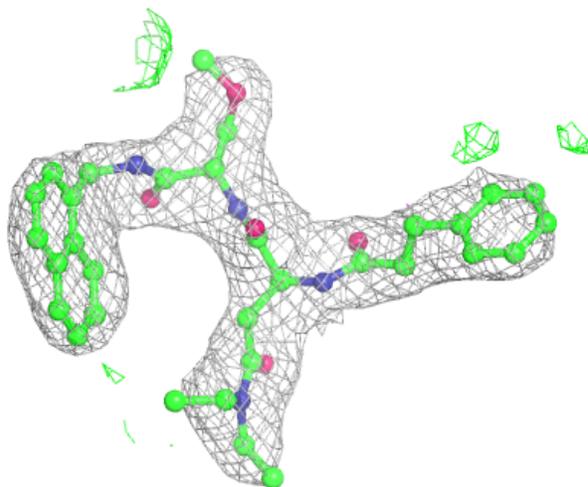and green (positive)
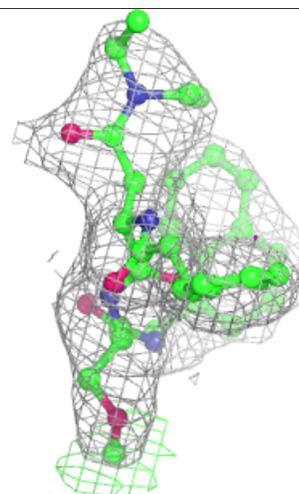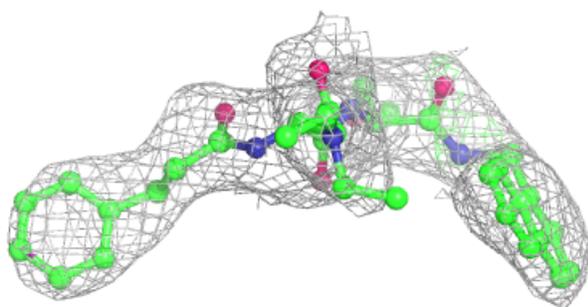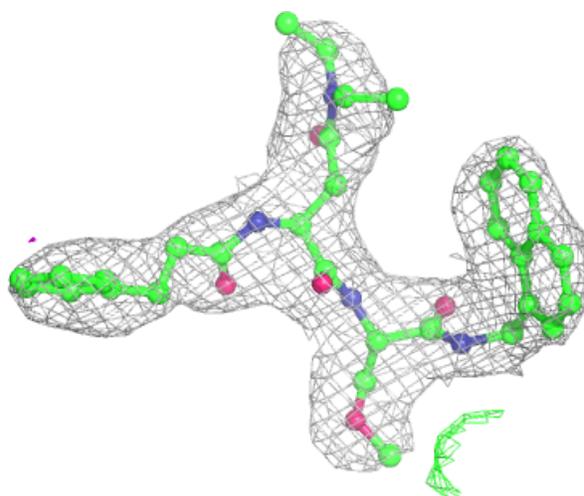
Electron density around 7C7 K 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
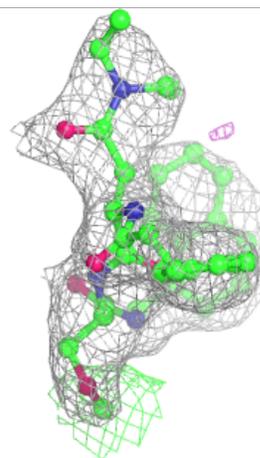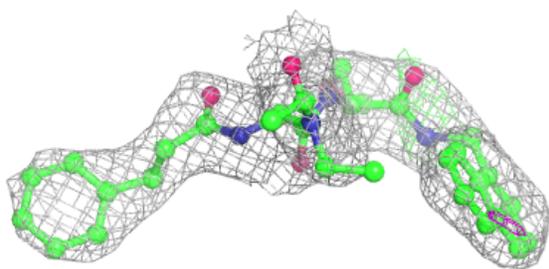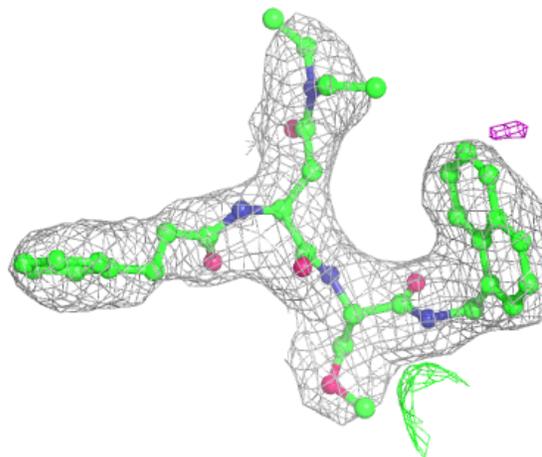
Electron density around 7C7 H 301:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
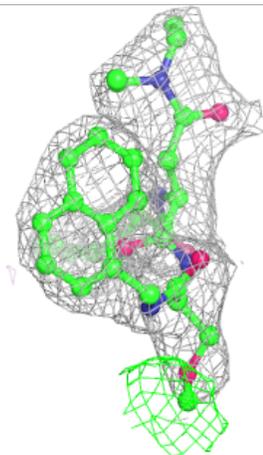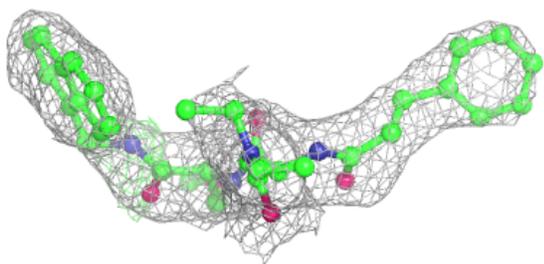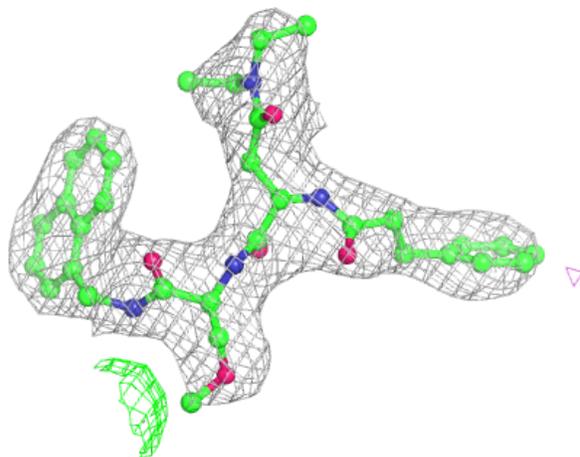
Electron density around 7C7 Y 301:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
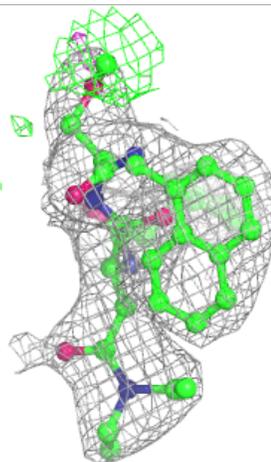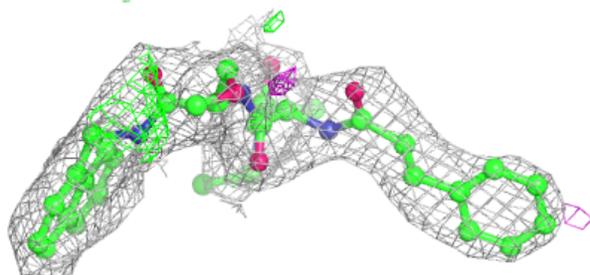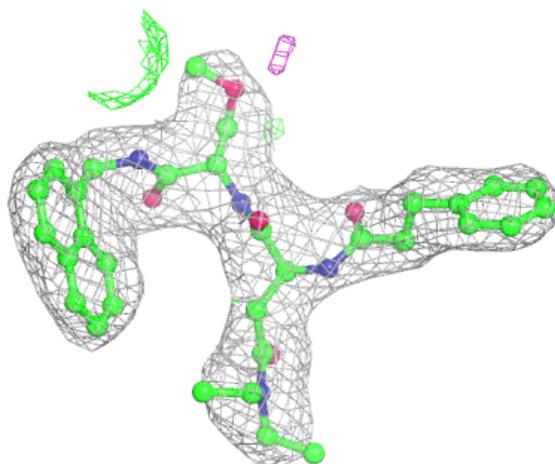
Electron density around 7C7 Z 301:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
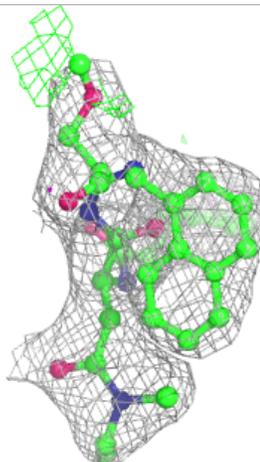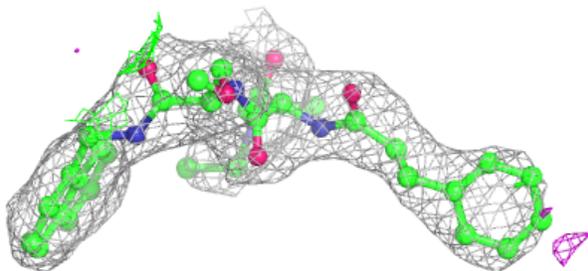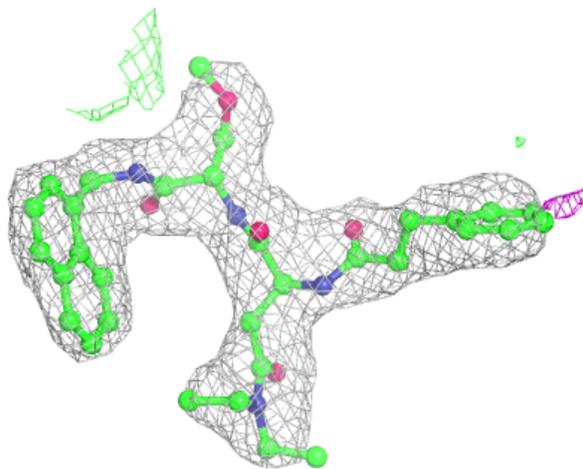
Electron density around 7C7 b 301:

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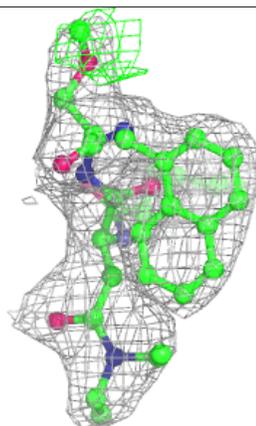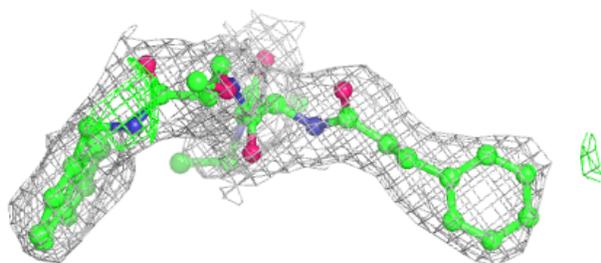$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
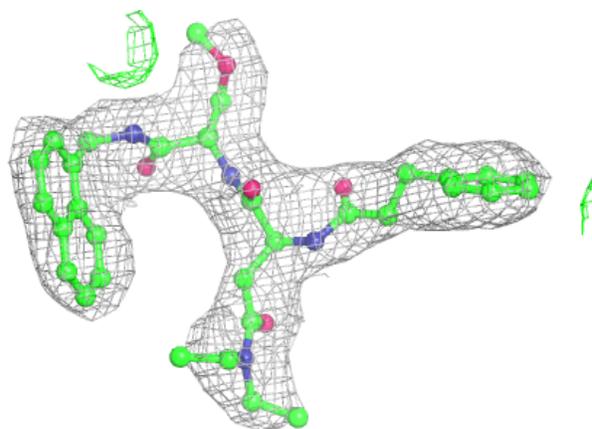and green (positive)

Electron density around 7C7 V 301:

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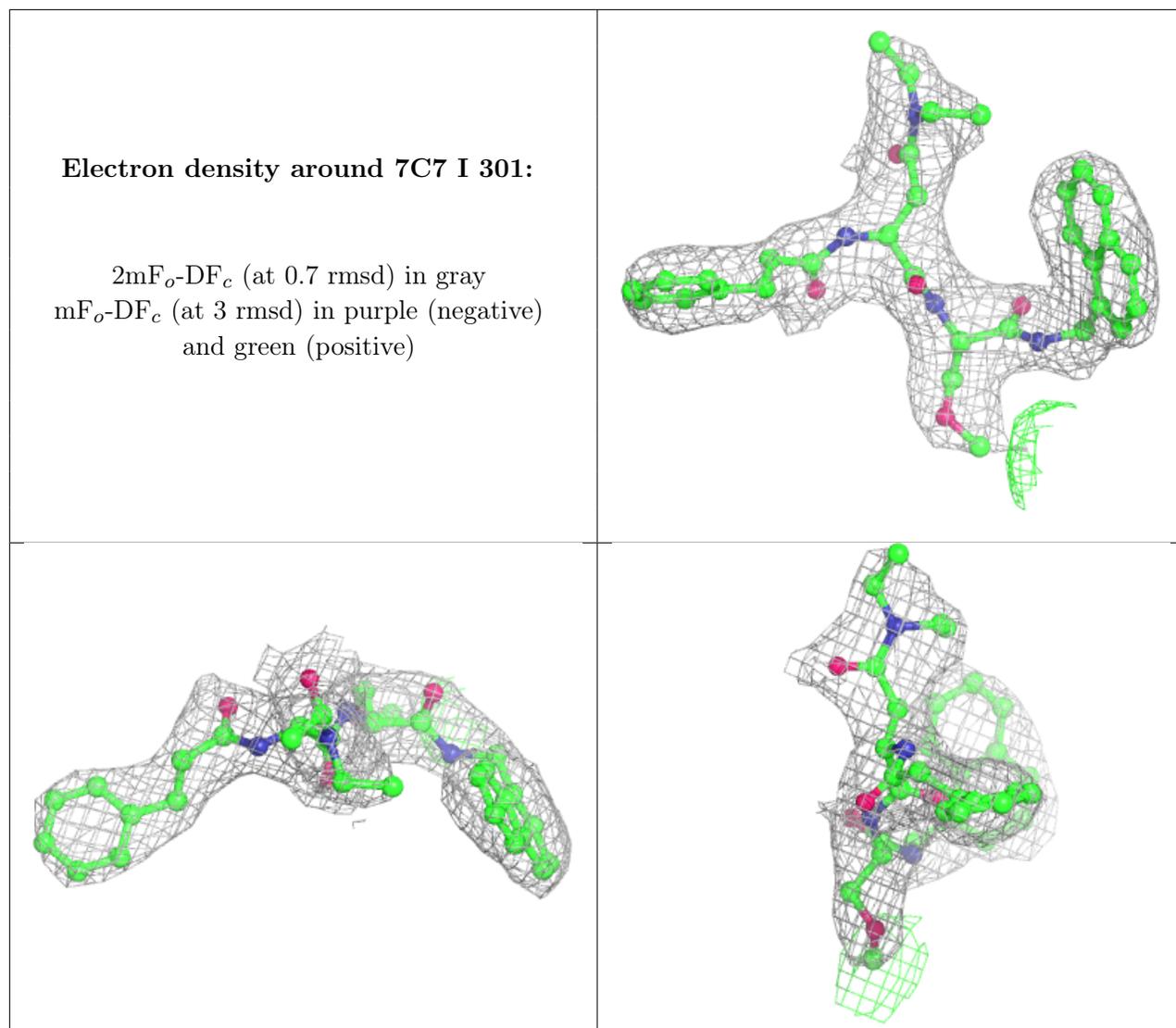and green (positive)

Electron density around 7C7 W 301:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around 7C7 a 301:

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

Electron density around 7C7 I 301:

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

6.5 Other polymers ⓘ

There are no such residues in this entry.