



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 27, 2023 – 08:14 AM EDT

PDB ID : 3H6F
Title : Crystal Structure of Mycobacterium Tuberculosis Proteasome Modified by inhibitor HT1171
Authors : Li, D.; Li, H.; Lin, G.
Deposited on : 2009-04-23
Resolution : 2.51 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.35
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

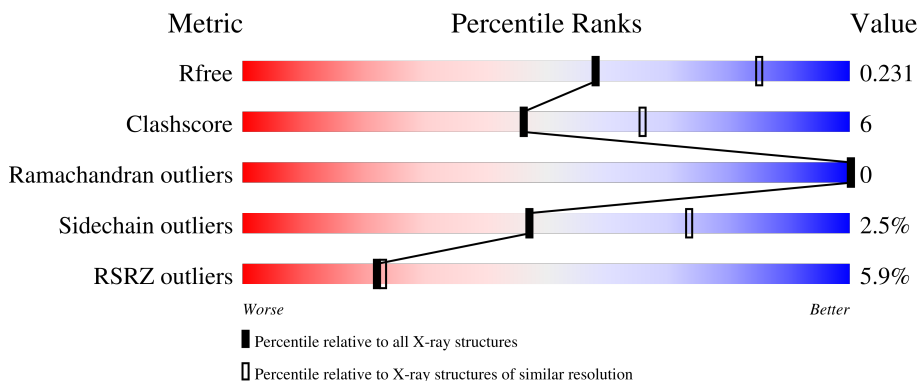
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.51 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	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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	1	248	<div style="display: flex; align-items: center;"> <div style="width: 8%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 77%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 8%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 13%; height: 10px; background-color: grey;"></div> </div>
1	A	248	<div style="display: flex; align-items: center;"> <div style="width: 10%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 76%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 10%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 13%; height: 10px; background-color: grey;"></div> </div>
1	B	248	<div style="display: flex; align-items: center;"> <div style="width: 7%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 78%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 8%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 14%; height: 10px; background-color: grey;"></div> </div>
1	D	248	<div style="display: flex; align-items: center;"> <div style="width: 10%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 75%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 10%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 14%; height: 10px; background-color: grey;"></div> </div>
1	F	248	<div style="display: flex; align-items: center;"> <div style="width: 4%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 78%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 8%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 13%; height: 10px; background-color: grey;"></div> </div>

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Mol	Chain	Length	Quality of chain
1	I	248	7% 75% 10% • 14%
1	K	248	12% 77% 9% • 13%
1	M	248	9% 74% 12% 13%
1	O	248	7% 76% 10% • 13%
1	Q	248	8% 72% 15% 12%
1	S	248	10% 75% 11% • 13%
1	U	248	8% 74% 11% • 14%
1	W	248	10% 76% 10% • 12%
1	Y	248	13% 74% 10% • 14%
2	2	240	3% 85% 5% 10%
2	C	240	2% 83% 5% • 10%
2	E	240	82% 8% 10%
2	G	240	% 84% 5% 10%
2	H	240	82% 6% • 11%
2	J	240	% 82% 8% 10%
2	L	240	2% 83% 7% 10%
2	N	240	% 81% 8% 11%
2	P	240	2% 84% 5% 10%
2	R	240	% 83% 9% • 7%
2	T	240	2% 83% 6% 10%
2	V	240	% 84% 8% 8%
2	X	240	2% 83% 7% 10%
2	Z	240	2% 82% 7% 10%

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
3	DMF	2	49	-	-	-	X
3	DMF	C	55	-	-	X	-
3	DMF	E	20	-	-	-	X
3	DMF	G	24	-	-	-	X
3	DMF	H	32	-	-	-	X
3	DMF	J	4	-	-	X	-
3	DMF	N	22	-	-	-	X
3	DMF	P	14	-	-	-	X
3	DMF	T	29	-	-	X	-
3	DMF	Z	18	-	-	-	X
3	DMF	Z	54	-	-	-	X

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 47697 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 (Alpha subunit) PrcA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	215	Total 1656	C 1038	N 303	O 312	S 3	0	0	0
1	B	214	Total 1650	C 1033	N 302	O 312	S 3	0	0	0
1	D	214	Total 1648	C 1032	N 302	O 311	S 3	0	0	0
1	F	216	Total 1662	C 1041	N 304	O 314	S 3	0	0	0
1	I	214	Total 1652	C 1036	N 302	O 311	S 3	0	0	0
1	K	215	Total 1656	C 1038	N 303	O 312	S 3	0	0	0
1	M	215	Total 1658	C 1039	N 303	O 313	S 3	0	0	0
1	O	215	Total 1654	C 1035	N 303	O 313	S 3	0	0	0
1	Q	217	Total 1670	C 1047	N 305	O 315	S 3	0	0	0
1	S	215	Total 1654	C 1035	N 303	O 313	S 3	0	0	0
1	U	214	Total 1650	C 1033	N 302	O 312	S 3	0	0	0
1	W	217	Total 1670	C 1047	N 305	O 315	S 3	0	0	0
1	Y	213	Total 1644	C 1030	N 301	O 310	S 3	0	0	0
1	1	215	Total 1656	C 1038	N 303	O 312	S 3	0	0	0

- Molecule 2 is a protein called Proteasome (Beta subunit) PrcB.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	C	215	1593	998	274	317	4	0	0	0
2	E	216	1601	1004	275	318	4	0	0	0
2	G	216	1601	1004	275	318	4	0	0	0
2	H	213	1583	992	272	315	4	0	0	0
2	J	216	1601	1004	275	318	4	0	0	0
2	L	216	1601	1004	275	318	4	0	0	0
2	N	213	1580	989	272	315	4	0	0	0
2	P	216	1601	1004	275	318	4	0	0	0
2	R	223	1646	1031	282	329	4	0	0	0
2	T	216	1601	1004	275	318	4	0	0	0
2	V	222	1638	1025	281	328	4	0	0	0
2	X	216	1601	1004	275	318	4	0	0	0
2	Z	215	1593	998	274	317	4	0	0	0
2	2	215	1593	998	274	317	4	0	0	0

There are 98 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	301	OZT	-	insertion	UNP O33245
C	535	HIS	-	expression tag	UNP O33245
C	536	HIS	-	expression tag	UNP O33245
C	537	HIS	-	expression tag	UNP O33245
C	538	HIS	-	expression tag	UNP O33245
C	539	HIS	-	expression tag	UNP O33245
C	540	HIS	-	expression tag	UNP O33245
E	301	OZT	-	insertion	UNP O33245
E	535	HIS	-	expression tag	UNP O33245
E	536	HIS	-	expression tag	UNP O33245
E	537	HIS	-	expression tag	UNP O33245
E	538	HIS	-	expression tag	UNP O33245

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Chain	Residue	Modelled	Actual	Comment	Reference
E	539	HIS	-	expression tag	UNP O33245
E	540	HIS	-	expression tag	UNP O33245
G	301	OZT	-	insertion	UNP O33245
G	535	HIS	-	expression tag	UNP O33245
G	536	HIS	-	expression tag	UNP O33245
G	537	HIS	-	expression tag	UNP O33245
G	538	HIS	-	expression tag	UNP O33245
G	539	HIS	-	expression tag	UNP O33245
G	540	HIS	-	expression tag	UNP O33245
H	301	OZT	-	insertion	UNP O33245
H	535	HIS	-	expression tag	UNP O33245
H	536	HIS	-	expression tag	UNP O33245
H	537	HIS	-	expression tag	UNP O33245
H	538	HIS	-	expression tag	UNP O33245
H	539	HIS	-	expression tag	UNP O33245
H	540	HIS	-	expression tag	UNP O33245
J	301	OZT	-	insertion	UNP O33245
J	535	HIS	-	expression tag	UNP O33245
J	536	HIS	-	expression tag	UNP O33245
J	537	HIS	-	expression tag	UNP O33245
J	538	HIS	-	expression tag	UNP O33245
J	539	HIS	-	expression tag	UNP O33245
J	540	HIS	-	expression tag	UNP O33245
L	301	OZT	-	insertion	UNP O33245
L	535	HIS	-	expression tag	UNP O33245
L	536	HIS	-	expression tag	UNP O33245
L	537	HIS	-	expression tag	UNP O33245
L	538	HIS	-	expression tag	UNP O33245
L	539	HIS	-	expression tag	UNP O33245
L	540	HIS	-	expression tag	UNP O33245
N	301	OZT	-	insertion	UNP O33245
N	535	HIS	-	expression tag	UNP O33245
N	536	HIS	-	expression tag	UNP O33245
N	537	HIS	-	expression tag	UNP O33245
N	538	HIS	-	expression tag	UNP O33245
N	539	HIS	-	expression tag	UNP O33245
N	540	HIS	-	expression tag	UNP O33245
P	301	OZT	-	insertion	UNP O33245
P	535	HIS	-	expression tag	UNP O33245
P	536	HIS	-	expression tag	UNP O33245
P	537	HIS	-	expression tag	UNP O33245
P	538	HIS	-	expression tag	UNP O33245

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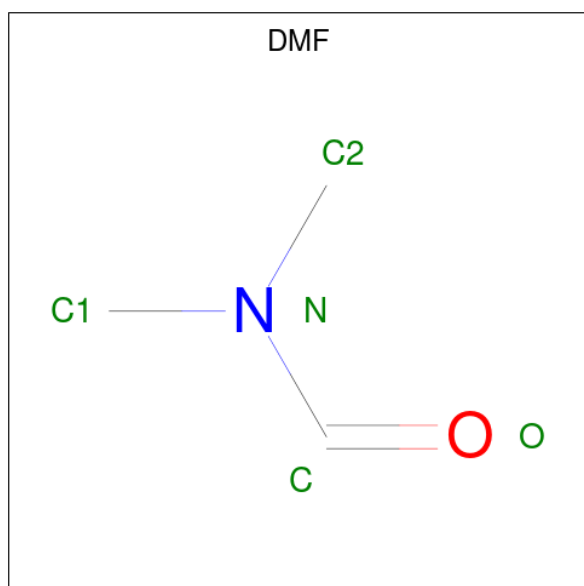
Chain	Residue	Modelled	Actual	Comment	Reference
P	539	HIS	-	expression tag	UNP O33245
P	540	HIS	-	expression tag	UNP O33245
R	301	OZT	-	insertion	UNP O33245
R	535	HIS	-	expression tag	UNP O33245
R	536	HIS	-	expression tag	UNP O33245
R	537	HIS	-	expression tag	UNP O33245
R	538	HIS	-	expression tag	UNP O33245
R	539	HIS	-	expression tag	UNP O33245
R	540	HIS	-	expression tag	UNP O33245
T	301	OZT	-	insertion	UNP O33245
T	535	HIS	-	expression tag	UNP O33245
T	536	HIS	-	expression tag	UNP O33245
T	537	HIS	-	expression tag	UNP O33245
T	538	HIS	-	expression tag	UNP O33245
T	539	HIS	-	expression tag	UNP O33245
T	540	HIS	-	expression tag	UNP O33245
V	301	OZT	-	insertion	UNP O33245
V	535	HIS	-	expression tag	UNP O33245
V	536	HIS	-	expression tag	UNP O33245
V	537	HIS	-	expression tag	UNP O33245
V	538	HIS	-	expression tag	UNP O33245
V	539	HIS	-	expression tag	UNP O33245
V	540	HIS	-	expression tag	UNP O33245
X	301	OZT	-	insertion	UNP O33245
X	535	HIS	-	expression tag	UNP O33245
X	536	HIS	-	expression tag	UNP O33245
X	537	HIS	-	expression tag	UNP O33245
X	538	HIS	-	expression tag	UNP O33245
X	539	HIS	-	expression tag	UNP O33245
X	540	HIS	-	expression tag	UNP O33245
Z	301	OZT	-	insertion	UNP O33245
Z	535	HIS	-	expression tag	UNP O33245
Z	536	HIS	-	expression tag	UNP O33245
Z	537	HIS	-	expression tag	UNP O33245
Z	538	HIS	-	expression tag	UNP O33245
Z	539	HIS	-	expression tag	UNP O33245
Z	540	HIS	-	expression tag	UNP O33245
2	301	OZT	-	insertion	UNP O33245
2	535	HIS	-	expression tag	UNP O33245
2	536	HIS	-	expression tag	UNP O33245
2	537	HIS	-	expression tag	UNP O33245
2	538	HIS	-	expression tag	UNP O33245

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Chain	Residue	Modelled	Actual	Comment	Reference
2	539	HIS	-	expression tag	UNP O33245
2	540	HIS	-	expression tag	UNP O33245

- Molecule 3 is DIMETHYLFORMAMIDE (three-letter code: DMF) (formula: C₃H₇NO).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
3	A	1	Total	C	N	O	0	0
			5	3	1	1		
3	B	1	Total	C	N	O	0	0
			5	3	1	1		
3	B	1	Total	C	N	O	0	0
			5	3	1	1		
3	C	1	Total	C	N	O	0	0
			5	3	1	1		
3	C	1	Total	C	N	O	0	0
			5	3	1	1		
3	C	1	Total	C	N	O	0	0
			5	3	1	1		
3	D	1	Total	C	N	O	0	0
			5	3	1	1		
3	E	1	Total	C	N	O	0	0
			5	3	1	1		
3	E	1	Total	C	N	O	0	0
			5	3	1	1		

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	E	1	Total	C	N	O	0	0
			5	3	1	1		
3	F	1	Total	C	N	O	0	0
			5	3	1	1		
3	G	1	Total	C	N	O	0	0
			5	3	1	1		
3	G	1	Total	C	N	O	0	0
			5	3	1	1		
3	G	1	Total	C	N	O	0	0
			5	3	1	1		
3	G	1	Total	C	N	O	0	0
			5	3	1	1		
3	H	1	Total	C	N	O	0	0
			5	3	1	1		
3	H	1	Total	C	N	O	0	0
			5	3	1	1		
3	H	1	Total	C	N	O	0	0
			5	3	1	1		
3	H	1	Total	C	N	O	0	0
			5	3	1	1		
3	I	1	Total	C	N	O	0	0
			5	3	1	1		
3	I	1	Total	C	N	O	0	0
			5	3	1	1		
3	J	1	Total	C	N	O	0	0
			5	3	1	1		
3	J	1	Total	C	N	O	0	0
			5	3	1	1		
3	J	1	Total	C	N	O	0	0
			5	3	1	1		
3	K	1	Total	C	N	O	0	0
			5	3	1	1		
3	K	1	Total	C	N	O	0	0
			5	3	1	1		
3	K	1	Total	C	N	O	0	0
			5	3	1	1		
3	L	1	Total	C	N	O	0	0
			5	3	1	1		
3	L	1	Total	C	N	O	0	0
			5	3	1	1		

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	L	1	Total	C	N	O	0	0
			5	3	1	1		
3	M	1	Total	C	N	O	0	0
			5	3	1	1		
3	M	1	Total	C	N	O	0	0
			5	3	1	1		
3	N	1	Total	C	N	O	0	0
			5	3	1	1		
3	N	1	Total	C	N	O	0	0
			5	3	1	1		
3	N	1	Total	C	N	O	0	0
			5	3	1	1		
3	O	1	Total	C	N	O	0	0
			5	3	1	1		
3	P	1	Total	C	N	O	0	0
			5	3	1	1		
3	P	1	Total	C	N	O	0	0
			5	3	1	1		
3	P	1	Total	C	N	O	0	0
			5	3	1	1		
3	P	1	Total	C	N	O	0	0
			5	3	1	1		
3	Q	1	Total	C	N	O	0	0
			5	3	1	1		
3	R	1	Total	C	N	O	0	0
			5	3	1	1		
3	R	1	Total	C	N	O	0	0
			5	3	1	1		
3	S	1	Total	C	N	O	0	0
			5	3	1	1		
3	T	1	Total	C	N	O	0	0
			5	3	1	1		
3	T	1	Total	C	N	O	0	0
			5	3	1	1		
3	U	1	Total	C	N	O	0	0
			5	3	1	1		
3	V	1	Total	C	N	O	0	0
			5	3	1	1		
3	V	1	Total	C	N	O	0	0
			5	3	1	1		

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	W	1	Total	C	N	O	0	0
			5	3	1	1		
3	X	1	Total	C	N	O	0	0
			5	3	1	1		
3	X	1	Total	C	N	O	0	0
			5	3	1	1		
3	X	1	Total	C	N	O	0	0
			5	3	1	1		
3	Z	1	Total	C	N	O	0	0
			5	3	1	1		
3	Z	1	Total	C	N	O	0	0
			5	3	1	1		
3	Z	1	Total	C	N	O	0	0
			5	3	1	1		
3	Z	1	Total	C	N	O	0	0
			5	3	1	1		
3	1	1	Total	C	N	O	0	0
			5	3	1	1		
3	1	1	Total	C	N	O	0	0
			5	3	1	1		
3	2	1	Total	C	N	O	0	0
			5	3	1	1		
3	2	1	Total	C	N	O	0	0
			5	3	1	1		
3	2	1	Total	C	N	O	0	0
			5	3	1	1		
3	2	1	Total	C	N	O	0	0
			5	3	1	1		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	34	Total	O	0	0
			34	34		
4	B	40	Total	O	0	0
			40	40		
4	C	95	Total	O	0	0
			95	95		
4	D	49	Total	O	0	0
			49	49		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	E	89	Total O 89 89	0	0
4	F	40	Total O 40 40	0	0
4	G	72	Total O 72 72	0	0
4	H	91	Total O 91 91	0	0
4	I	38	Total O 38 38	0	0
4	J	90	Total O 90 90	0	0
4	K	39	Total O 39 39	0	0
4	L	90	Total O 90 90	0	0
4	M	42	Total O 42 42	0	0
4	N	86	Total O 86 86	0	0
4	O	40	Total O 40 40	0	0
4	P	82	Total O 82 82	0	0
4	Q	34	Total O 34 34	0	0
4	R	97	Total O 97 97	0	0
4	S	34	Total O 34 34	0	0
4	T	78	Total O 78 78	0	0
4	U	38	Total O 38 38	0	0
4	V	104	Total O 104 104	0	0
4	W	27	Total O 27 27	0	0
4	X	84	Total O 84 84	0	0
4	Y	24	Total O 24 24	0	0

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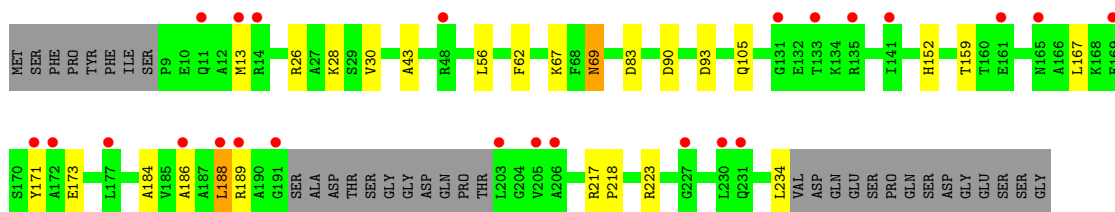
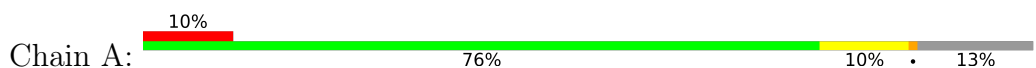
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	Z	85	Total O 85 85	0	0
4	1	34	Total O 34 34	0	0
4	2	93	Total O 93 93	0	0

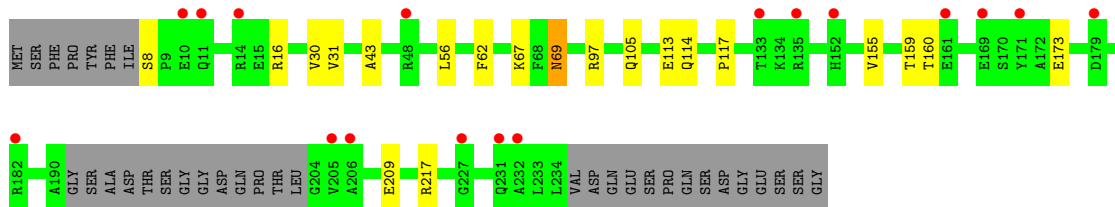
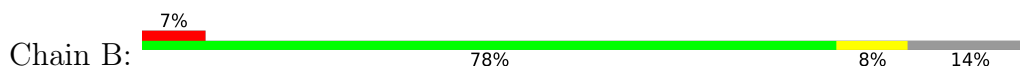
3 Residue-property plots [i](#)

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.

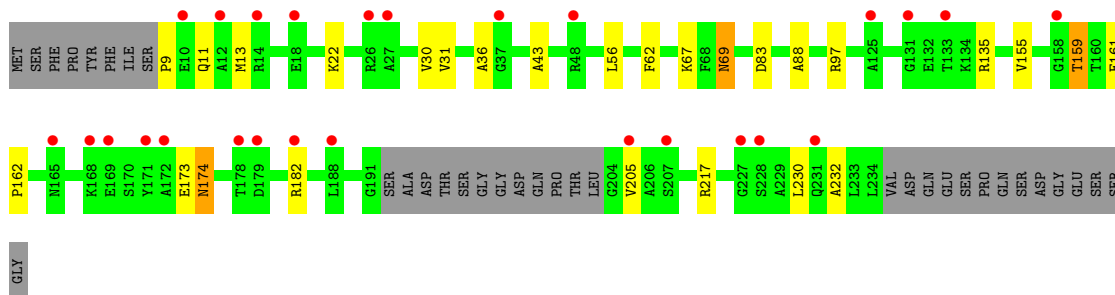
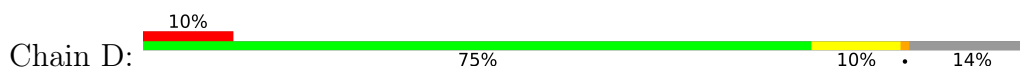
- Molecule 1: Proteasome (Alpha subunit) PrcA



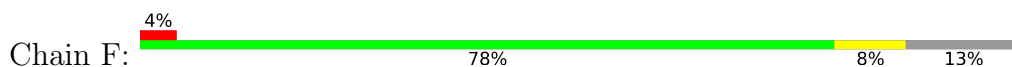
- Molecule 1: Proteasome (Alpha subunit) PrcA

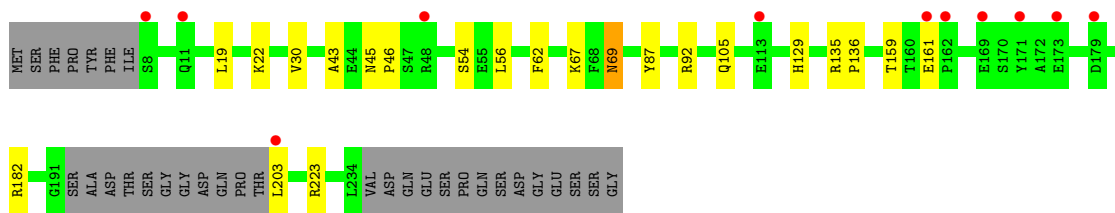


- Molecule 1: Proteasome (Alpha subunit) PrcA

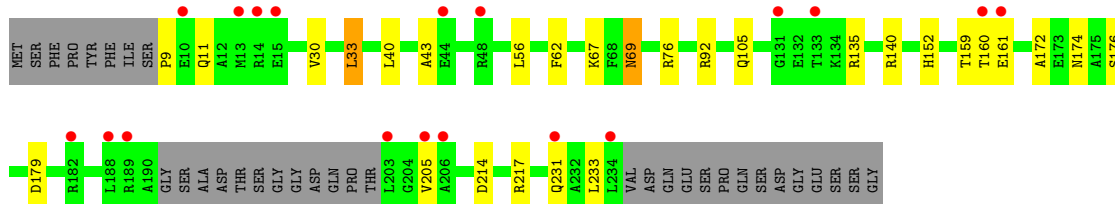
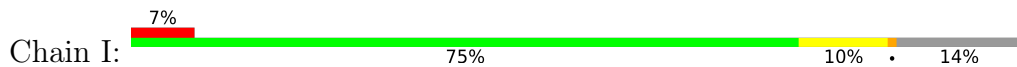


- Molecule 1: Proteasome (Alpha subunit) PrcA

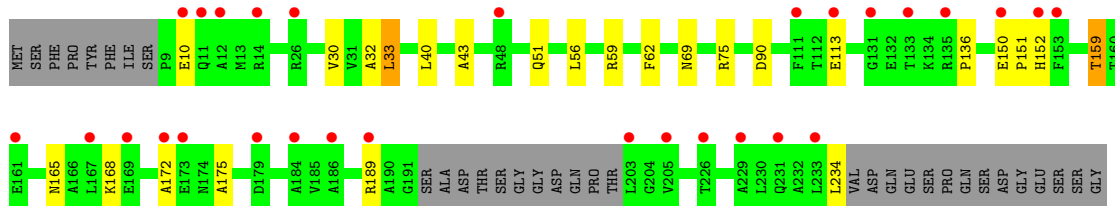
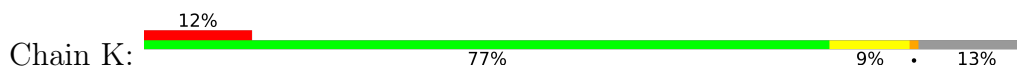




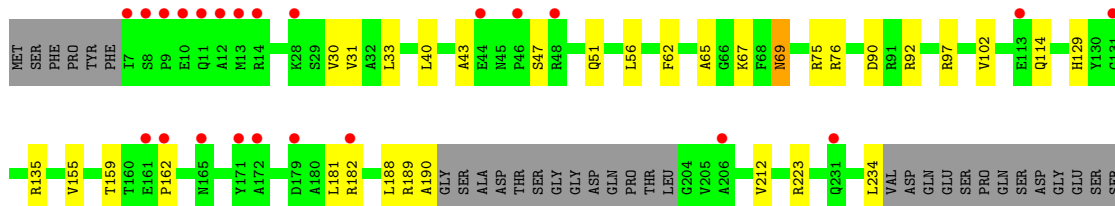
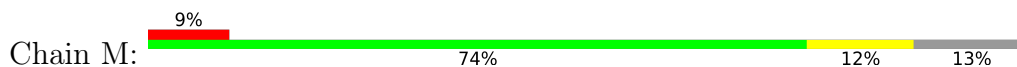
● Molecule 1: Proteasome (Alpha subunit) PrcA



● Molecule 1: Proteasome (Alpha subunit) PrcA

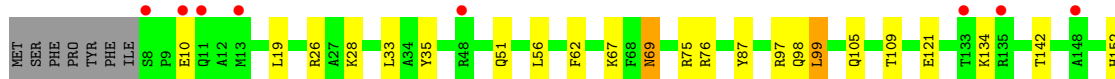
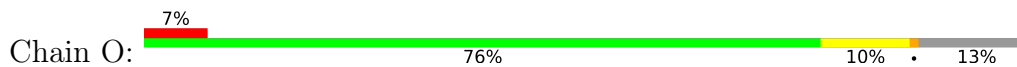


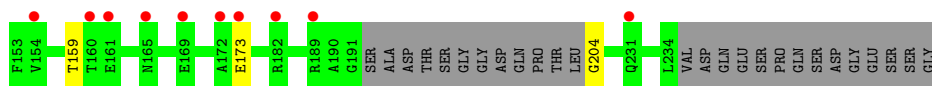
● Molecule 1: Proteasome (Alpha subunit) PrcA



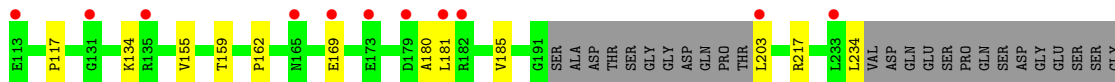
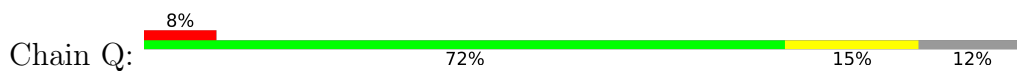
GLY

● Molecule 1: Proteasome (Alpha subunit) PrcA

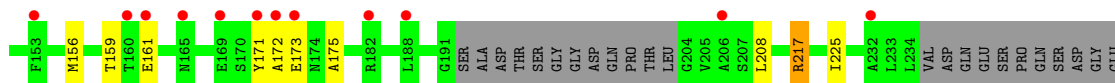
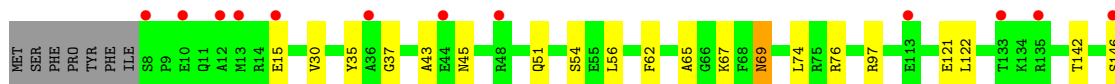
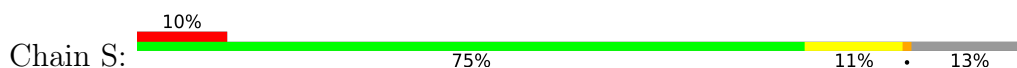




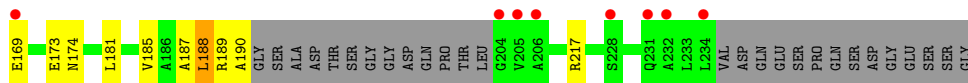
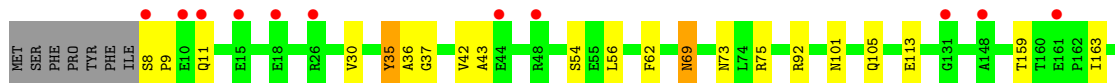
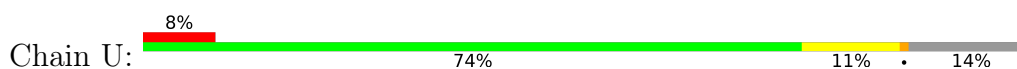
- Molecule 1: Proteasome (Alpha subunit) PrcA



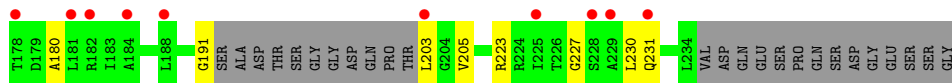
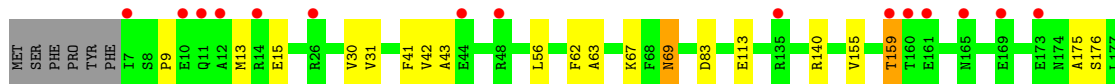
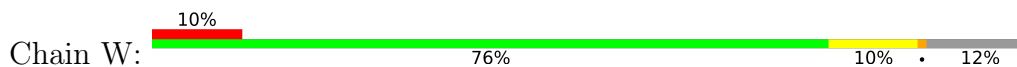
- Molecule 1: Proteasome (Alpha subunit) PrcA



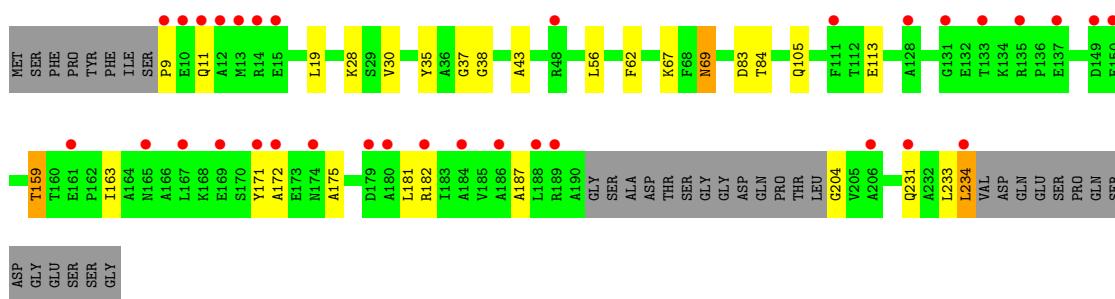
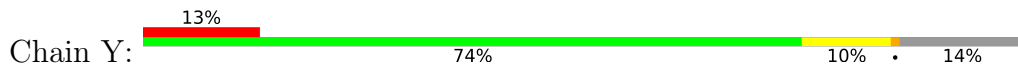
- Molecule 1: Proteasome (Alpha subunit) PrcA



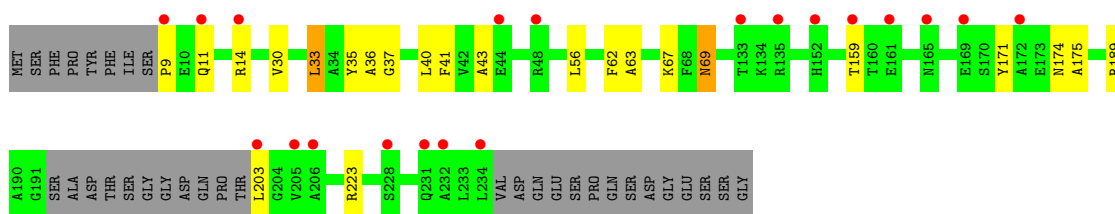
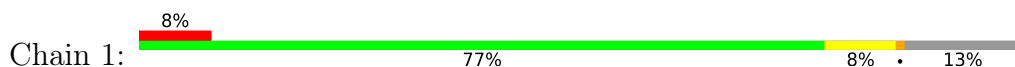
- Molecule 1: Proteasome (Alpha subunit) PrcA



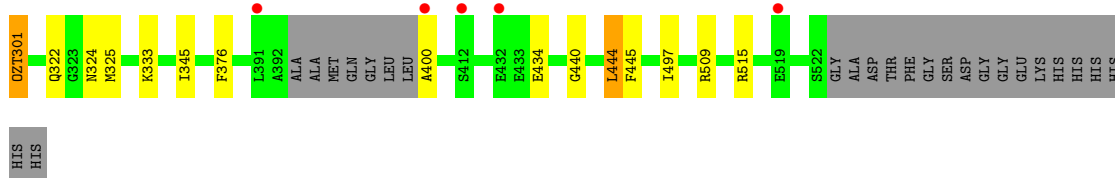
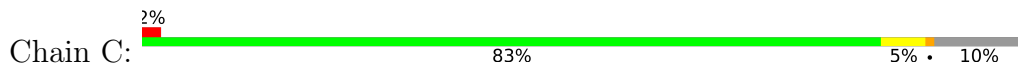
- Molecule 1: Proteasome (Alpha subunit) PrcA



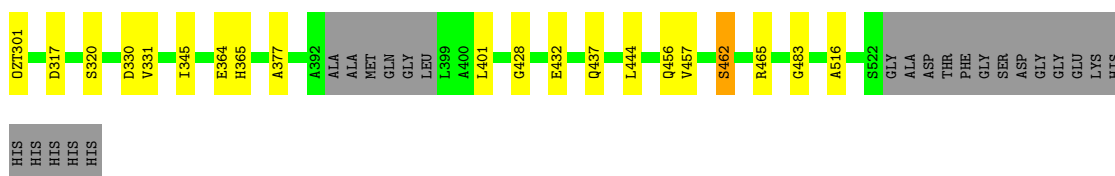
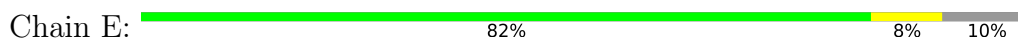
- Molecule 1: Proteasome (Alpha subunit) PrcA



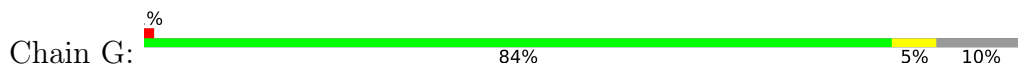
- Molecule 2: Proteasome (Beta subunit) PrcB

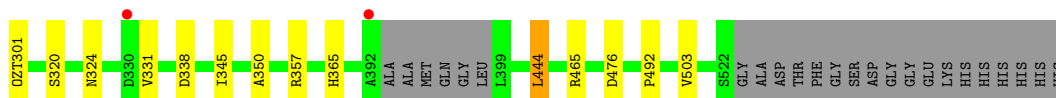


- Molecule 2: Proteasome (Beta subunit) PrcB

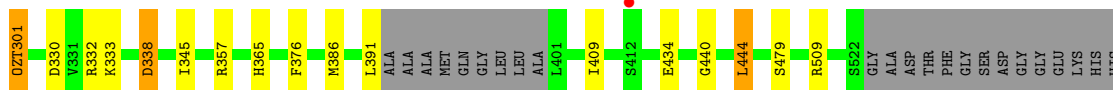
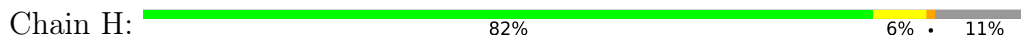


- Molecule 2: Proteasome (Beta subunit) PrcB

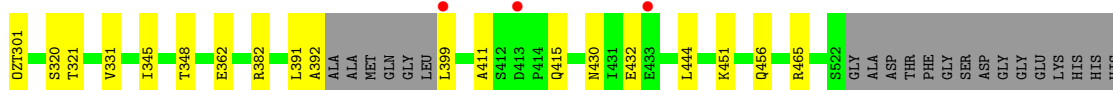
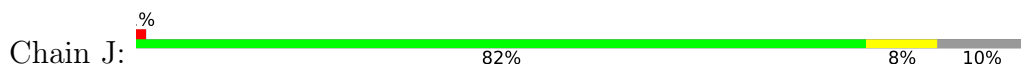




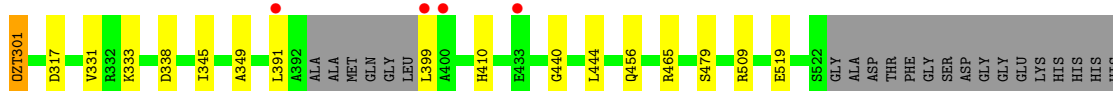
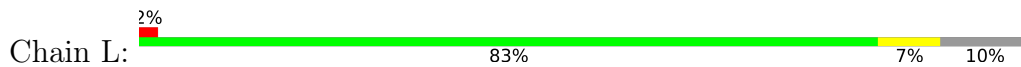
- Molecule 2: Proteasome (Beta subunit) PrcB



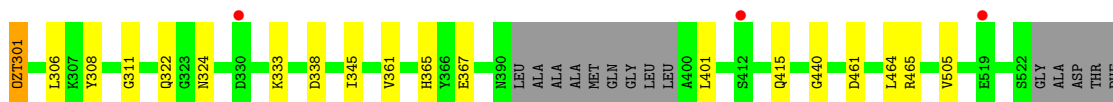
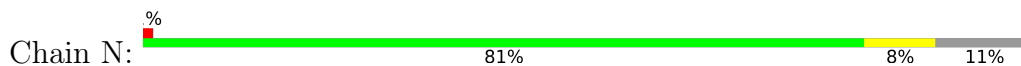
- Molecule 2: Proteasome (Beta subunit) PrcB



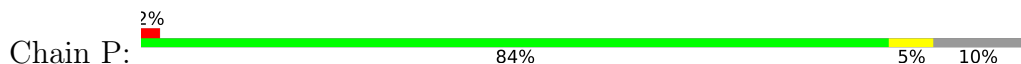
- Molecule 2: Proteasome (Beta subunit) PrcB

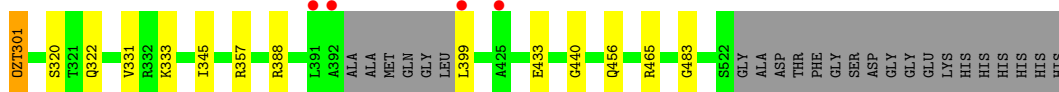


- Molecule 2: Proteasome (Beta subunit) PrcB

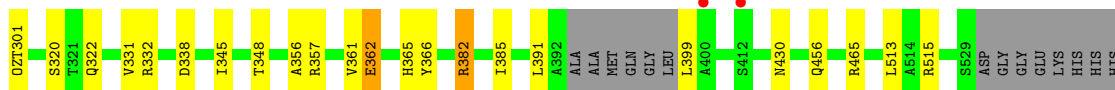
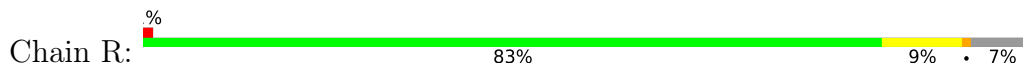


- Molecule 2: Proteasome (Beta subunit) PrcB

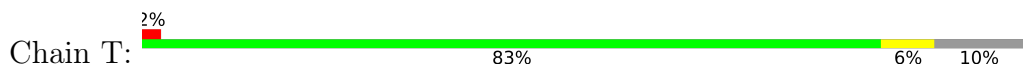




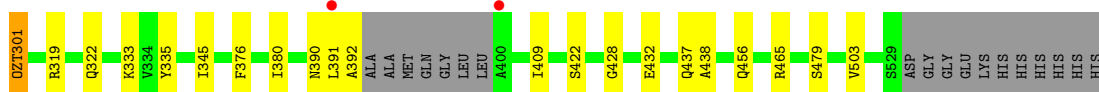
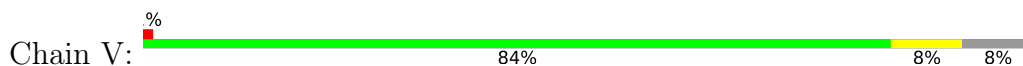
● Molecule 2: Proteasome (Beta subunit) PrcB



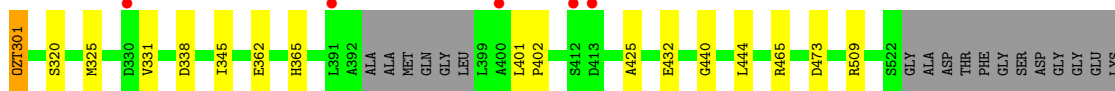
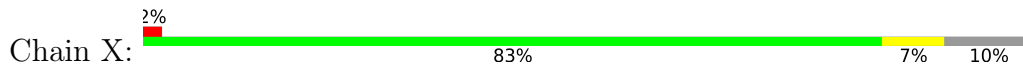
● Molecule 2: Proteasome (Beta subunit) PrcB



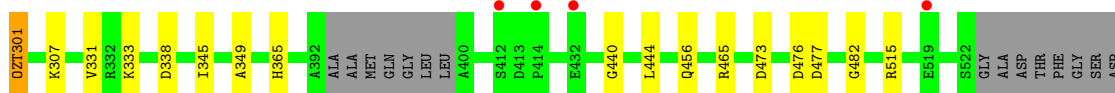
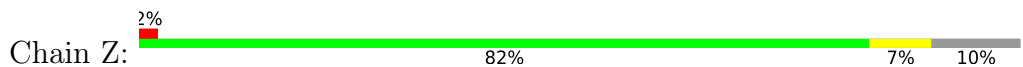
● Molecule 2: Proteasome (Beta subunit) PrcB



● Molecule 2: Proteasome (Beta subunit) PrcB




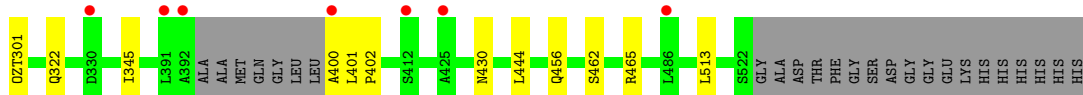
● Molecule 2: Proteasome (Beta subunit) PrcB



GLY
GLY
GLU
LYS
HIS
HIS
HIS
HIS
HIS

● Molecule 2: Proteasome (Beta subunit) PrcB

Chain 2:  3% 85% 5% 10%



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	171.98Å 118.04Å 197.06Å 90.00° 113.62° 90.00°	Depositor
Resolution (Å)	29.83 – 2.51 33.75 – 2.51	Depositor EDS
% Data completeness (in resolution range)	94.2 (29.83-2.51) 94.4 (33.75-2.51)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.84 (at 2.51Å)	Xtrriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.216 , 0.238 0.210 , 0.231	Depositor DCC
R_{free} test set	11735 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å ²)	27.5	Xtrriage
Anisotropy	0.239	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 42.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	0.004 for h,-k,-h-l	Xtrriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	47697	wwPDB-VP
Average B, all atoms (Å ²)	40.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.68% 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 i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: OZT, DMF

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	1	0.68	0/1681	0.78	0/2270
1	A	0.71	0/1681	0.76	0/2270
1	B	0.67	0/1675	0.77	0/2263
1	D	0.69	0/1673	0.78	0/2259
1	F	0.68	0/1687	0.76	0/2279
1	I	0.72	1/1677 (0.1%)	0.79	0/2265
1	K	0.68	0/1681	0.77	0/2270
1	M	0.71	0/1683	0.80	2/2274 (0.1%)
1	O	0.75	0/1679	0.78	0/2268
1	Q	0.67	0/1695	0.77	0/2290
1	S	0.66	0/1679	0.78	1/2268 (0.0%)
1	U	0.76	0/1675	0.79	0/2263
1	W	0.66	0/1695	0.77	0/2290
1	Y	0.66	0/1669	0.77	0/2254
2	2	0.71	0/1607	0.76	0/2178
2	C	0.76	0/1607	0.77	0/2178
2	E	0.81	1/1615 (0.1%)	0.79	0/2189
2	G	0.68	0/1615	0.75	0/2189
2	H	0.72	0/1597	0.76	1/2164 (0.0%)
2	J	0.75	0/1615	0.78	0/2189
2	L	0.77	0/1615	0.77	0/2189
2	N	0.76	0/1594	0.77	0/2160
2	P	0.74	0/1615	0.76	0/2189
2	R	0.79	1/1661 (0.1%)	0.76	0/2251
2	T	0.78	0/1615	0.78	1/2189 (0.0%)
2	V	0.78	0/1653	0.76	0/2240
2	X	0.72	0/1615	0.76	0/2189
2	Z	0.75	0/1607	0.76	0/2178
All	All	0.72	3/46161 (0.0%)	0.77	5/62455 (0.0%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	516	ALA	CA-CB	-5.67	1.40	1.52
2	R	366	TYR	CD1-CE1	-5.25	1.31	1.39
1	I	172	ALA	CA-CB	-5.09	1.41	1.52

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	M	90	ASP	CB-CG-OD1	5.58	123.32	118.30
1	M	234	LEU	CA-CB-CG	5.51	127.97	115.30
2	H	338	ASP	CB-CG-OD1	5.22	123.00	118.30
1	S	208	LEU	CA-CB-CG	5.12	127.08	115.30
2	T	338	ASP	CB-CG-OD1	5.01	122.81	118.30

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	1	1656	0	1658	24	0
1	A	1656	0	1658	22	0
1	B	1650	0	1648	21	0
1	D	1648	0	1647	37	0
1	F	1662	0	1662	22	0
1	I	1652	0	1655	19	0
1	K	1656	0	1658	29	0
1	M	1658	0	1659	40	0
1	O	1654	0	1651	29	0
1	Q	1670	0	1673	40	0
1	S	1654	0	1651	28	0
1	U	1650	0	1648	25	0
1	W	1670	0	1673	24	0
1	Y	1644	0	1644	37	0
2	2	1593	0	1577	11	0
2	C	1593	0	1577	15	0
2	E	1601	0	1588	15	0
2	G	1601	0	1588	9	0

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Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	H	1583	0	1567	15	0
2	J	1601	0	1588	17	0
2	L	1601	0	1588	9	0
2	N	1580	0	1561	13	0
2	P	1601	0	1588	11	0
2	R	1646	0	1624	20	0
2	T	1601	0	1588	11	0
2	V	1638	0	1613	20	0
2	X	1601	0	1588	15	0
2	Z	1593	0	1577	14	0
3	1	10	0	14	0	0
3	2	20	0	28	0	0
3	A	5	0	7	0	0
3	B	10	0	14	0	0
3	C	20	0	28	6	0
3	D	5	0	7	0	0
3	E	15	0	21	3	0
3	F	5	0	7	0	0
3	G	25	0	35	2	0
3	H	20	0	28	0	0
3	I	10	0	14	0	0
3	J	15	0	21	5	0
3	K	15	0	21	1	0
3	L	15	0	21	2	0
3	M	10	0	14	2	0
3	N	20	0	28	1	0
3	O	5	0	7	0	0
3	P	20	0	28	1	0
3	Q	5	0	7	0	0
3	R	10	0	14	2	0
3	S	5	0	7	0	0
3	T	10	0	14	4	0
3	U	5	0	7	0	0
3	V	10	0	14	1	0
3	W	5	0	7	0	0
3	X	15	0	21	1	0
3	Z	25	0	35	2	0
4	1	34	0	0	9	0
4	2	93	0	0	4	0
4	A	34	0	0	8	0
4	B	40	0	0	13	0
4	C	95	0	0	8	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	D	49	0	0	10	0
4	E	89	0	0	5	0
4	F	40	0	0	15	0
4	G	72	0	0	4	0
4	H	91	0	0	11	0
4	I	38	0	0	10	0
4	J	90	0	0	13	0
4	K	39	0	0	17	0
4	L	90	0	0	4	0
4	M	42	0	0	22	0
4	N	86	0	0	4	0
4	O	40	0	0	17	0
4	P	82	0	0	4	0
4	Q	34	0	0	14	0
4	R	97	0	0	5	0
4	S	34	0	0	17	0
4	T	78	0	0	9	0
4	U	38	0	0	7	0
4	V	104	0	0	4	0
4	W	27	0	0	11	0
4	X	84	0	0	10	0
4	Y	24	0	0	14	0
4	Z	85	0	0	7	0
All	All	47697	0	45866	582	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.

All (582) 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:D:173:GLU:C	1:D:174:ASN:HD22	1.40	1.24
2:J:432:GLU:HG2	4:J:1761:HOH:O	1.37	1.21
1:I:140:ARG:HD2	4:I:1512:HOH:O	1.41	1.19
2:P:399:LEU:HD12	4:P:1556:HOH:O	1.36	1.19
2:E:432:GLU:HG2	4:E:1322:HOH:O	1.42	1.18
1:I:135:ARG:HG2	4:I:1769:HOH:O	1.39	1.17
4:A:1674:HOH:O	1:B:8:SER:HB2	1.45	1.16
1:Y:182:ARG:HD3	4:Y:1675:HOH:O	1.42	1.15
1:O:121:GLU:HG3	4:O:1391:HOH:O	1.41	1.15
2:X:401:LEU:HB2	4:X:1614:HOH:O	1.42	1.14

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:T:515:ARG:HD3	4:T:1499:HOH:O	1.44	1.14
1:Y:233:LEU:O	1:Y:234:LEU:O	1.69	1.11
1:K:168:LYS:HD2	4:K:1705:HOH:O	1.53	1.08
1:K:189:ARG:HD2	4:K:1741:HOH:O	1.51	1.08
1:W:159:THR:HB	4:W:1559:HOH:O	1.53	1.08
2:H:332:ARG:HB2	4:H:1570:HOH:O	1.53	1.07
1:U:9:PRO:HD3	4:U:1536:HOH:O	1.56	1.06
1:B:173:GLU:HG3	4:B:1646:HOH:O	1.52	1.05
2:J:399:LEU:HG	4:J:1403:HOH:O	1.54	1.04
1:Q:134:LYS:HE3	4:Q:1565:HOH:O	1.53	1.03
1:M:223:ARG:HD3	4:M:1627:HOH:O	1.60	1.01
4:F:1688:HOH:O	1:W:9:PRO:HG3	1.58	1.00
1:M:223:ARG:HG2	4:M:1631:HOH:O	1.61	1.00
2:C:400:ALA:HB2	4:C:1575:HOH:O	1.62	1.00
1:A:186:ALA:O	1:A:189:ARG:HG2	1.60	0.99
2:H:332:ARG:HD2	4:H:1570:HOH:O	1.61	0.99
1:Y:28:LYS:HE3	4:Y:1700:HOH:O	1.61	0.99
1:U:92:ARG:HB2	4:U:1709:HOH:O	1.63	0.99
3:X:40:DMF:H22	4:X:1639:HOH:O	1.62	0.98
1:A:152:HIS:HB3	1:A:171:TYR:CE2	2.00	0.97
1:D:173:GLU:C	1:D:174:ASN:ND2	2.19	0.95
1:O:26:ARG:HG3	4:O:1474:HOH:O	1.67	0.95
2:V:456:GLN:HE21	2:V:465:ARG:HH22	1.13	0.94
1:A:26:ARG:HD3	4:A:1777:HOH:O	1.69	0.91
1:M:182:ARG:HD3	4:M:1510:HOH:O	1.68	0.91
2:J:456:GLN:HE21	2:J:465:ARG:HH22	1.18	0.89
4:M:1478:HOH:O	2:N:361:VAL:HG23	1.74	0.88
1:U:217:ARG:HD3	4:U:1532:HOH:O	1.74	0.87
4:K:1467:HOH:O	1:M:97:ARG:HD2	1.74	0.87
2:T:357:ARG:HD2	4:T:1567:HOH:O	1.72	0.87
1:O:76:ARG:HD3	4:O:1375:HOH:O	1.74	0.86
2:C:324:ASN:HB2	4:C:1648:HOH:O	1.72	0.86
2:X:465:ARG:HD2	4:X:1379:HOH:O	1.75	0.86
1:D:173:GLU:HG2	1:D:174:ASN:ND2	1.91	0.85
2:J:399:LEU:HD12	4:J:1413:HOH:O	1.75	0.85
2:2:430:ASN:HB2	4:2:1473:HOH:O	1.76	0.85
1:Y:35:TYR:CD2	1:Y:38:GLY:O	2.29	0.85
1:Y:181:LEU:HD12	1:Y:233:LEU:HD22	1.56	0.85
1:S:225:ILE:HA	4:S:1371:HOH:O	1.75	0.84
1:1:14:ARG:HA	4:1:1788:HOH:O	1.77	0.84
1:S:217:ARG:HD2	4:S:1458:HOH:O	1.76	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:182:ARG:HB2	4:M:1510:HOH:O	1.77	0.84
1:B:105:GLN:HG3	4:B:1554:HOH:O	1.78	0.84
1:D:173:GLU:CG	1:D:174:ASN:HD21	1.90	0.84
1:O:26:ARG:CD	4:O:1474:HOH:O	2.25	0.83
2:L:410:HIS:CE1	4:L:1630:HOH:O	2.31	0.83
1:I:9:PRO:HD3	4:I:1373:HOH:O	1.79	0.83
1:1:14:ARG:HG2	4:1:1448:HOH:O	1.76	0.83
1:Q:7:ILE:HG23	1:Q:11:GLN:HB3	1.59	0.83
2:X:432:GLU:HG2	4:X:1310:HOH:O	1.80	0.82
1:I:92:ARG:HD2	4:I:1723:HOH:O	1.77	0.82
1:U:181:LEU:O	1:U:185:VAL:HG23	1.79	0.82
1:U:69:ASN:H	1:U:69:ASN:HD22	1.26	0.81
3:J:4:DMF:C2	4:J:1466:HOH:O	2.28	0.81
1:1:14:ARG:CG	4:1:1788:HOH:O	2.28	0.81
4:M:1478:HOH:O	2:N:361:VAL:CG2	2.28	0.80
1:B:97:ARG:HD2	4:B:1748:HOH:O	1.82	0.80
1:K:33:LEU:O	1:K:33:LEU:CD1	2.30	0.80
2:T:509:ARG:HD2	4:T:1578:HOH:O	1.81	0.80
2:V:456:GLN:NE2	2:V:465:ARG:HH22	1.78	0.80
1:D:174:ASN:ND2	1:D:174:ASN:N	2.30	0.79
1:B:97:ARG:CD	4:B:1748:HOH:O	2.29	0.79
1:B:217:ARG:CD	4:B:1475:HOH:O	2.31	0.79
1:D:232:ALA:HB2	4:D:1728:HOH:O	1.81	0.79
2:P:456:GLN:HE21	2:P:465:ARG:HH12	1.27	0.79
1:D:36:ALA:HB3	4:D:1680:HOH:O	1.81	0.79
1:W:231:GLN:HA	4:W:1447:HOH:O	1.82	0.79
1:1:171:TYR:CE1	4:1:1654:HOH:O	2.36	0.79
2:2:444:LEU:CD1	4:2:1592:HOH:O	2.30	0.79
1:K:136:PRO:HD3	4:K:1568:HOH:O	1.82	0.78
1:Y:231:GLN:HA	4:Y:1576:HOH:O	1.83	0.78
2:J:321:THR:H	3:J:4:DMF:HC	1.48	0.78
2:G:444:LEU:HB3	4:G:1370:HOH:O	1.83	0.78
2:2:456:GLN:HE22	2:2:465:ARG:HH22	1.31	0.78
1:A:26:ARG:CD	4:A:1777:HOH:O	2.28	0.77
2:V:456:GLN:HE22	2:V:465:ARG:HH12	1.32	0.77
1:1:223:ARG:CD	4:1:1596:HOH:O	2.32	0.77
1:B:217:ARG:HD3	4:B:1475:HOH:O	1.85	0.77
1:B:160:THR:HG22	4:B:1526:HOH:O	1.84	0.77
1:1:33:LEU:HD12	1:1:40:LEU:HB3	1.67	0.76
1:D:173:GLU:CG	1:D:174:ASN:ND2	2.48	0.76
2:J:444:LEU:HB3	4:J:1376:HOH:O	1.84	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:14:ARG:HG3	4:1:1788:HOH:O	1.86	0.75
1:1:223:ARG:HD3	4:1:1596:HOH:O	1.86	0.75
1:O:26:ARG:CG	4:O:1474:HOH:O	2.28	0.75
1:D:173:GLU:CB	1:D:174:ASN:ND2	2.49	0.75
3:T:29:DMF:H22	4:T:1567:HOH:O	1.86	0.75
1:I:92:ARG:CD	4:I:1723:HOH:O	2.34	0.74
1:Y:181:LEU:CD1	1:Y:233:LEU:HD22	2.16	0.74
1:F:54:SER:HA	4:F:1410:HOH:O	1.87	0.74
1:Q:91:ARG:HD2	4:Q:1398:HOH:O	1.88	0.74
2:C:445:PHE:CE2	3:C:55:DMF:H12	2.23	0.73
1:O:56:LEU:HD13	1:O:99:LEU:HD22	1.70	0.73
1:S:121:GLU:HG3	4:S:1386:HOH:O	1.88	0.73
1:Y:234:LEU:C	1:Y:234:LEU:HD23	2.08	0.73
1:K:33:LEU:O	1:K:33:LEU:HD12	1.88	0.73
1:O:134:LYS:HB2	4:O:1785:HOH:O	1.87	0.73
1:D:173:GLU:HG2	1:D:174:ASN:HD21	1.49	0.73
1:F:182:ARG:HB2	4:F:1672:HOH:O	1.88	0.73
1:K:136:PRO:HG3	4:K:1568:HOH:O	1.89	0.72
1:A:152:HIS:HB3	1:A:171:TYR:HE2	1.49	0.72
1:U:35:TYR:CE1	1:U:37:GLY:N	2.56	0.72
2:R:456:GLN:HE21	2:R:465:ARG:HH12	1.35	0.72
2:H:376:PHE:HD1	4:H:1358:HOH:O	1.72	0.72
1:U:11:GLN:HG2	4:U:1729:HOH:O	1.89	0.72
1:K:136:PRO:CD	4:K:1568:HOH:O	2.36	0.72
3:J:4:DMF:H21	4:J:1466:HOH:O	1.87	0.72
1:Y:181:LEU:HD12	1:Y:233:LEU:CD2	2.19	0.72
1:S:142:THR:HA	4:S:1386:HOH:O	1.90	0.71
4:D:1754:HOH:O	1:K:10:GLU:HG3	1.91	0.71
1:I:33:LEU:HD11	1:I:40:LEU:HD23	1.73	0.71
2:V:432:GLU:CD	2:V:437:GLN:HE21	1.95	0.71
1:Q:7:ILE:HG22	1:Q:8:SER:N	2.06	0.70
2:C:434:GLU:HG3	4:J:1791:HOH:O	1.89	0.70
1:O:105:GLN:OE1	1:U:73:ASN:HB2	1.91	0.70
1:F:92:ARG:CD	4:F:1747:HOH:O	2.39	0.70
1:S:97:ARG:CB	4:S:1727:HOH:O	2.38	0.70
1:O:134:LYS:HD2	4:O:1785:HOH:O	1.92	0.69
2:N:324:ASN:HB2	4:N:1388:HOH:O	1.92	0.69
1:Y:159:THR:HG23	4:Y:1427:HOH:O	1.92	0.69
1:Q:106:THR:O	1:Q:110:ILE:HG13	1.92	0.69
1:W:227:GLY:HA3	4:W:1758:HOH:O	1.91	0.68
2:2:444:LEU:HD12	4:2:1592:HOH:O	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:233:LEU:O	1:Y:234:LEU:C	2.30	0.68
2:V:456:GLN:HE21	2:V:465:ARG:NH2	1.89	0.68
2:X:425:ALA:HB2	4:X:1655:HOH:O	1.93	0.68
1:K:172:ALA:HB3	1:K:175:ALA:HB2	1.76	0.68
1:M:223:ARG:CD	4:M:1627:HOH:O	2.28	0.68
2:2:456:GLN:NE2	2:2:465:ARG:HH22	1.91	0.68
1:D:159:THR:HG22	4:D:1455:HOH:O	1.92	0.68
1:Y:84:THR:HB	4:Y:1479:HOH:O	1.94	0.68
1:1:33:LEU:CD1	1:1:40:LEU:HB3	2.24	0.68
1:M:162:PRO:HB2	1:M:190:ALA:O	1.94	0.67
1:S:15:GLU:OE2	1:1:9:PRO:HB3	1.95	0.67
1:S:35:TYR:CE1	1:S:37:GLY:HA3	2.29	0.67
2:L:410:HIS:ND1	4:L:1630:HOH:O	2.27	0.67
1:Q:73:ASN:ND2	4:Q:1696:HOH:O	2.27	0.67
1:I:176:SER:OG	1:I:179:ASP:HB2	1.95	0.67
2:J:456:GLN:NE2	2:J:465:ARG:HH22	1.90	0.67
1:O:10:GLU:HG3	4:O:1774:HOH:O	1.93	0.67
4:F:1702:HOH:O	2:G:365:HIS:HE1	1.77	0.66
2:R:456:GLN:NE2	2:R:465:ARG:HH22	1.94	0.66
2:C:325:MET:HE3	4:C:1776:HOH:O	1.95	0.66
1:Q:33:LEU:HD11	1:Q:180:ALA:HB1	1.78	0.66
1:M:33:LEU:HD12	1:M:33:LEU:O	1.96	0.66
1:Y:233:LEU:C	1:Y:234:LEU:O	2.35	0.66
1:B:97:ARG:NE	4:B:1748:HOH:O	2.29	0.65
1:D:11:GLN:HG2	4:D:1284:HOH:O	1.96	0.65
2:H:357:ARG:HD2	4:H:1224:HOH:O	1.96	0.65
1:A:217:ARG:NH1	4:A:1792:HOH:O	2.30	0.65
1:I:217:ARG:NH1	4:I:1658:HOH:O	2.30	0.65
2:Z:482:GLY:HA3	4:Z:1417:HOH:O	1.95	0.65
1:K:33:LEU:O	1:K:33:LEU:HD13	1.96	0.65
2:J:399:LEU:CD1	4:J:1413:HOH:O	2.40	0.65
1:Q:7:ILE:HG23	1:Q:11:GLN:CB	2.27	0.65
1:S:156:MET:HA	4:S:1513:HOH:O	1.94	0.65
1:K:33:LEU:CD1	1:K:40:LEU:HB3	2.26	0.65
1:M:223:ARG:CG	4:M:1631:HOH:O	2.32	0.65
1:O:33:LEU:O	1:O:33:LEU:HD12	1.96	0.65
1:Y:105:GLN:NE2	4:Y:1749:HOH:O	2.30	0.65
1:D:9:PRO:HD3	1:Q:7:ILE:CD1	2.27	0.64
1:W:191:GLY:HA3	4:W:1559:HOH:O	1.97	0.64
1:K:152:HIS:CG	4:K:1560:HOH:O	2.50	0.64
2:C:445:PHE:CD2	3:C:55:DMF:H12	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:456:GLN:HE22	2:R:465:ARG:HH22	1.45	0.64
1:F:92:ARG:HD2	4:F:1747:HOH:O	1.97	0.64
2:R:430:ASN:HB2	4:R:1290:HOH:O	1.98	0.64
2:Z:515:ARG:NE	4:Z:1691:HOH:O	2.30	0.64
4:F:1688:HOH:O	1:W:9:PRO:CG	2.30	0.64
2:J:451:LYS:NZ	2:Z:473:ASP:OD1	2.30	0.64
1:K:136:PRO:CG	4:K:1568:HOH:O	2.46	0.64
3:Z:18:DMF:C	4:Z:1771:HOH:O	2.46	0.64
1:F:161:GLU:N	1:F:161:GLU:OE1	2.30	0.64
1:F:19:LEU:HD11	1:W:13:MET:HG3	1.79	0.63
2:C:325:MET:CE	4:C:1776:HOH:O	2.45	0.63
2:H:444:LEU:HB3	4:H:1361:HOH:O	1.98	0.63
1:U:69:ASN:H	1:U:69:ASN:ND2	1.91	0.63
1:B:114:GLN:NE2	4:B:1389:HOH:O	2.29	0.63
2:H:409:ILE:CD1	4:H:1704:HOH:O	2.46	0.62
1:S:172:ALA:HB3	1:S:175:ALA:HB2	1.80	0.62
1:U:35:TYR:CE1	1:U:37:GLY:CA	2.83	0.62
1:Q:83:ASP:OD2	2:R:365:HIS:HD2	1.83	0.62
1:I:11:GLN:HB3	4:I:1368:HOH:O	2.00	0.62
2:H:434:GLU:HG3	4:H:1573:HOH:O	1.99	0.61
1:D:173:GLU:HB3	1:D:174:ASN:ND2	2.14	0.61
1:O:152:HIS:CD2	1:O:173:GLU:OE2	2.52	0.61
1:S:97:ARG:HB3	4:S:1727:HOH:O	1.99	0.61
1:O:28:LYS:HE3	4:O:1486:HOH:O	2.01	0.61
1:Y:172:ALA:HB3	1:Y:175:ALA:HB2	1.82	0.61
3:T:29:DMF:H21	4:T:1461:HOH:O	2.00	0.61
1:M:182:ARG:CG	4:M:1510:HOH:O	2.48	0.61
1:Q:28:LYS:HE3	4:Q:1387:HOH:O	1.99	0.61
1:O:33:LEU:HD12	1:O:33:LEU:C	2.22	0.60
1:A:184:ALA:O	1:A:188:LEU:HB2	2.01	0.60
4:M:1390:HOH:O	2:N:365:HIS:HE1	1.82	0.60
2:2:400:ALA:HA	4:2:1459:HOH:O	2.01	0.60
2:P:456:GLN:HE21	2:P:465:ARG:NH1	1.98	0.60
1:Q:7:ILE:CG2	1:Q:11:GLN:HB3	2.31	0.60
1:S:97:ARG:HD3	4:S:1727:HOH:O	2.02	0.60
1:Y:35:TYR:CE1	1:Y:37:GLY:HA3	2.36	0.60
2:N:401:LEU:HB2	4:N:1641:HOH:O	2.01	0.60
1:M:31:VAL:HG12	1:M:155:VAL:HG22	1.83	0.60
2:R:456:GLN:NE2	2:R:465:ARG:HH12	2.00	0.60
1:S:76:ARG:HD3	4:S:1020:HOH:O	2.02	0.60
1:U:217:ARG:CD	4:U:1532:HOH:O	2.39	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:7:ILE:CG2	1:Q:8:SER:N	2.64	0.60
2:X:425:ALA:CB	4:X:1655:HOH:O	2.47	0.60
2:X:509:ARG:NH1	4:X:1515:HOH:O	2.35	0.59
1:O:26:ARG:HD3	4:O:1474:HOH:O	1.98	0.59
1:D:36:ALA:CB	4:D:1680:HOH:O	2.44	0.59
1:F:56:LEU:HG	1:F:62:PHE:HB2	1.84	0.59
1:U:35:TYR:CD1	1:U:37:GLY:N	2.60	0.59
1:I:33:LEU:HD12	1:I:33:LEU:O	2.02	0.59
2:N:367:GLU:HG2	4:N:1520:HOH:O	2.01	0.59
1:Y:35:TYR:CZ	1:Y:37:GLY:HA3	2.38	0.59
1:1:223:ARG:HD2	4:1:1596:HOH:O	1.99	0.59
1:O:10:GLU:CG	4:O:1774:HOH:O	2.48	0.58
1:Q:48:ARG:CB	4:Q:1636:HOH:O	2.50	0.58
1:1:35:TYR:CE1	1:1:37:GLY:HA3	2.38	0.58
2:2:456:GLN:HE21	2:2:465:ARG:HH12	1.51	0.58
1:Q:109:THR:HB	4:Q:1637:HOH:O	2.03	0.58
2:R:356:ALA:HB3	3:R:34:DMF:H22	1.86	0.58
1:U:101:ASN:O	1:U:105:GLN:HG2	2.03	0.58
1:Q:7:ILE:N	4:Q:1206:HOH:O	2.36	0.57
2:V:409:ILE:HG22	4:V:1453:HOH:O	2.03	0.57
2:E:456:GLN:HE21	2:E:465:ARG:NH1	2.02	0.57
1:U:35:TYR:CE1	1:U:37:GLY:HA3	2.39	0.57
2:V:456:GLN:NE2	2:V:465:ARG:HH12	2.00	0.57
1:I:161:GLU:OE1	1:I:161:GLU:N	2.30	0.57
1:K:33:LEU:HD11	1:K:40:LEU:HB3	1.86	0.57
1:K:159:THR:HA	4:K:1652:HOH:O	2.05	0.57
3:T:29:DMF:HC	4:T:1461:HOH:O	2.04	0.57
1:A:28:LYS:HE3	4:A:1366:HOH:O	2.04	0.56
1:M:162:PRO:CB	1:M:190:ALA:O	2.53	0.56
1:Q:7:ILE:HG23	1:Q:11:GLN:CG	2.35	0.56
1:M:182:ARG:CD	4:M:1510:HOH:O	2.35	0.56
2:P:456:GLN:NE2	2:P:465:ARG:HH12	2.01	0.56
2:V:301:OZT:H27	2:V:333:LYS:HE2	1.86	0.56
1:B:217:ARG:HD2	4:B:1475:HOH:O	1.98	0.56
2:V:319:ARG:NH1	2:V:479:SER:O	2.38	0.56
2:J:415:GLN:HB3	4:J:1632:HOH:O	2.04	0.56
2:E:444:LEU:HB2	3:E:66:DMF:H12	1.88	0.56
1:Q:13:MET:HG3	1:Y:19:LEU:HD11	1.86	0.56
2:G:324:ASN:HB2	4:G:1736:HOH:O	2.04	0.56
1:Y:28:LYS:HB2	4:Y:1700:HOH:O	2.03	0.56
1:I:152:HIS:HB2	4:I:1601:HOH:O	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:173:GLU:CG	4:B:1646:HOH:O	2.29	0.55
2:J:348:THR:HG22	3:J:4:DMF:H22	1.88	0.55
1:O:105:GLN:NE2	4:O:1408:HOH:O	2.38	0.55
1:Y:231:GLN:CA	4:Y:1576:HOH:O	2.48	0.55
2:H:376:PHE:CD1	4:H:1358:HOH:O	2.50	0.55
2:X:362:GLU:HG3	4:X:1609:HOH:O	2.06	0.55
1:M:65:ALA:HA	4:M:1412:HOH:O	2.05	0.55
1:S:45:ASN:HA	4:S:1602:HOH:O	2.07	0.55
1:S:161:GLU:OE1	1:S:161:GLU:N	2.30	0.55
2:C:400:ALA:HB1	4:C:1253:HOH:O	2.06	0.55
2:H:409:ILE:HD11	4:H:1704:HOH:O	2.05	0.55
1:F:223:ARG:HD3	4:F:1550:HOH:O	2.05	0.54
2:H:301:OZT:H27	2:H:333:LYS:HE2	1.89	0.54
1:O:142:THR:HA	4:O:1391:HOH:O	2.06	0.54
2:C:515:ARG:HD2	4:C:1405:HOH:O	2.07	0.54
2:E:428:GLY:HA2	4:E:1096:HOH:O	2.08	0.54
1:K:33:LEU:CD1	1:K:33:LEU:C	2.74	0.54
2:Z:456:GLN:HE21	2:Z:465:ARG:HH12	1.54	0.54
1:Q:7:ILE:CG2	1:Q:8:SER:H	2.21	0.54
2:C:444:LEU:HB2	3:C:55:DMF:H13	1.88	0.54
1:K:165:ASN:HA	4:K:1705:HOH:O	2.07	0.54
1:A:167:LEU:O	1:A:171:TYR:HB2	2.08	0.54
1:D:9:PRO:HD3	1:Q:7:ILE:HD13	1.88	0.54
3:C:10:DMF:H12	4:C:1638:HOH:O	2.07	0.53
2:G:503:VAL:HA	4:G:1527:HOH:O	2.08	0.53
1:W:15:GLU:OE2	1:Y:9:PRO:HB3	2.08	0.53
2:L:456:GLN:HE21	2:L:465:ARG:HH22	1.55	0.53
1:M:33:LEU:HD12	1:M:33:LEU:C	2.28	0.53
1:Y:204:GLY:N	4:Y:1252:HOH:O	2.42	0.53
2:T:451:LYS:NZ	2:X:473:ASP:OD1	2.41	0.53
1:U:36:ALA:HA	1:U:174:ASN:OD1	2.08	0.53
1:F:203:LEU:N	4:F:1740:HOH:O	2.42	0.53
2:R:382:ARG:HH21	2:R:385:ILE:HD13	1.74	0.53
1:W:175:ALA:HB3	1:W:180:ALA:HB2	1.91	0.53
1:M:189:ARG:O	1:M:190:ALA:C	2.47	0.52
1:I:9:PRO:HB2	1:I:11:GLN:H	1.73	0.52
1:D:173:GLU:CA	1:D:174:ASN:HD22	2.18	0.52
1:Y:159:THR:HA	4:Y:1427:HOH:O	2.08	0.52
1:D:135:ARG:HB3	1:Q:48:ARG:HH22	1.75	0.52
2:E:444:LEU:H	3:E:66:DMF:H12	1.73	0.52
4:K:1762:HOH:O	1:M:135:ARG:HB3	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:K:1467:HOH:O	1:M:97:ARG:CD	2.45	0.51
1:M:97:ARG:NH1	4:M:1211:HOH:O	2.37	0.51
2:N:308:TYR:CZ	2:N:311:GLY:HA3	2.45	0.51
2:V:456:GLN:NE2	2:V:465:ARG:NH2	2.53	0.51
1:I:105:GLN:NE2	4:I:1246:HOH:O	2.42	0.51
1:S:97:ARG:NH1	4:S:1727:HOH:O	2.36	0.51
1:W:83:ASP:OD2	2:X:365:HIS:HD2	1.94	0.51
1:1:35:TYR:CZ	1:1:37:GLY:HA3	2.44	0.51
2:E:432:GLU:HG3	2:E:437:GLN:HB2	1.93	0.51
2:J:391:LEU:O	2:J:392:ALA:HB2	2.10	0.51
1:K:59:ARG:HB2	4:K:1392:HOH:O	2.10	0.51
3:N:22:DMF:C1	4:P:1377:HOH:O	2.58	0.51
1:F:136:PRO:HG3	4:F:1598:HOH:O	2.10	0.51
1:M:76:ARG:HD3	4:M:647:HOH:O	2.09	0.51
1:Y:9:PRO:HB2	1:Y:11:GLN:H	1.75	0.51
1:D:13:MET:HG3	1:Q:19:LEU:HD11	1.93	0.51
1:M:40:LEU:HD13	1:M:212:VAL:CG1	2.41	0.51
2:2:456:GLN:HE22	2:2:465:ARG:NH2	2.04	0.51
2:J:411:ALA:HB1	4:J:1667:HOH:O	2.11	0.50
1:1:67:LYS:HE3	1:1:69:ASN:HD21	1.76	0.50
1:Q:8:SER:H	1:Q:11:GLN:HB3	1.77	0.50
1:I:205:VAL:HG21	1:I:231:GLN:HG2	1.94	0.50
2:R:348:THR:HG23	4:R:1446:HOH:O	2.11	0.50
2:Z:307:LYS:HD3	4:Z:277:HOH:O	2.11	0.50
1:W:175:ALA:CB	1:W:180:ALA:HB2	2.41	0.50
2:C:445:PHE:CD2	3:C:55:DMF:C1	2.95	0.50
1:Q:76:ARG:HD3	4:Q:411:HOH:O	2.12	0.50
2:Z:456:GLN:HE21	2:Z:465:ARG:NH1	2.08	0.50
1:F:135:ARG:NH1	4:F:1640:HOH:O	2.44	0.50
2:L:317:ASP:OD1	2:L:333:LYS:NZ	2.44	0.50
1:W:231:GLN:CA	4:W:1447:HOH:O	2.51	0.50
2:Z:515:ARG:HD2	4:Z:1691:HOH:O	2.12	0.50
1:D:173:GLU:CB	1:D:174:ASN:HD22	2.21	0.49
2:L:391:LEU:HD12	2:L:399:LEU:HD23	1.92	0.49
1:M:40:LEU:CD1	1:M:212:VAL:CG1	2.90	0.49
1:U:69:ASN:ND2	1:U:69:ASN:N	2.59	0.49
1:S:35:TYR:CZ	1:S:37:GLY:HA3	2.47	0.49
1:A:105:GLN:NE2	4:A:1308:HOH:O	2.45	0.49
1:M:223:ARG:CD	4:M:1631:HOH:O	2.60	0.49
2:V:409:ILE:CG2	4:V:1453:HOH:O	2.60	0.49
2:R:362:GLU:OE2	2:R:382:ARG:HD3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:105:GLN:NE2	4:F:1457:HOH:O	2.46	0.49
1:W:41:PHE:CD1	1:W:63:ALA:HB2	2.48	0.49
1:S:97:ARG:N	4:S:1484:HOH:O	2.34	0.49
1:Q:48:ARG:HB3	4:Q:1636:HOH:O	2.12	0.49
1:1:67:LYS:HG2	1:1:69:ASN:ND2	2.27	0.49
1:A:223:ARG:HD2	4:A:1724:HOH:O	2.12	0.49
1:D:173:GLU:CB	1:D:174:ASN:HD21	2.19	0.49
1:O:204:GLY:N	4:O:1277:HOH:O	2.45	0.48
1:A:90:ASP:OD1	1:A:93:ASP:N	2.46	0.48
1:O:56:LEU:HG	1:O:62:PHE:HB2	1.94	0.48
2:T:432:GLU:O	4:T:1228:HOH:O	2.20	0.48
1:U:54:SER:CB	1:U:75:ARG:HD2	2.43	0.48
1:Y:56:LEU:HG	1:Y:62:PHE:HB2	1.96	0.48
2:2:465:ARG:HG3	2:2:513:LEU:HD22	1.94	0.48
1:U:163:ILE:HG23	1:U:187:ALA:O	2.13	0.48
2:V:390:ASN:HD22	2:V:390:ASN:N	2.11	0.48
2:X:320:SER:HB3	2:X:331:VAL:HG21	1.95	0.48
1:I:56:LEU:HG	1:I:62:PHE:HB2	1.94	0.48
2:G:476:ASP:OD1	3:G:12:DMF:H12	2.13	0.48
2:R:465:ARG:HD3	4:R:1108:HOH:O	2.14	0.48
1:M:51:GLN:NE2	1:M:75:ARG:CZ	2.77	0.48
1:O:97:ARG:HG2	1:O:97:ARG:HH11	1.78	0.48
1:S:171:TYR:HE2	1:S:173:GLU:HG2	1.78	0.48
1:A:13:MET:HG3	1:O:19:LEU:HD11	1.94	0.48
1:B:209:GLU:HB2	4:B:1563:HOH:O	2.12	0.48
1:M:102:VAL:HG12	3:M:249:DMF:H22	1.95	0.48
1:M:182:ARG:CB	4:M:1510:HOH:O	2.46	0.48
1:K:51:GLN:NE2	1:K:75:ARG:CZ	2.77	0.48
1:Q:51:GLN:HB2	4:Q:851:HOH:O	2.14	0.48
1:1:189:ARG:HH11	1:1:203:LEU:HB2	1.79	0.48
1:D:9:PRO:N	4:D:1284:HOH:O	2.46	0.48
1:1:33:LEU:HD12	1:1:33:LEU:O	2.14	0.48
1:B:56:LEU:HG	1:B:62:PHE:HB2	1.96	0.48
2:C:444:LEU:HB2	3:C:55:DMF:C1	2.44	0.48
2:V:376:PHE:CE2	2:V:380:ILE:HD11	2.49	0.48
1:W:230:LEU:C	4:W:1447:HOH:O	2.52	0.48
1:M:51:GLN:HE21	1:M:75:ARG:CZ	2.26	0.47
1:O:10:GLU:HB2	4:O:1774:HOH:O	2.12	0.47
1:Q:56:LEU:HG	1:Q:62:PHE:HB2	1.96	0.47
1:1:30:VAL:HG13	1:1:43:ALA:HB2	1.96	0.47
1:Y:163:ILE:HG23	1:Y:187:ALA:O	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:456:GLN:HE22	2:R:465:ARG:NH2	2.11	0.47
2:N:415:GLN:NE2	4:N:541:HOH:O	2.47	0.47
2:N:464:LEU:HD21	2:N:505:VAL:HG11	1.96	0.47
1:S:65:ALA:HA	4:S:1382:HOH:O	2.14	0.47
1:1:41:PHE:CE1	1:1:63:ALA:HB2	2.49	0.47
1:B:209:GLU:HG3	4:B:1563:HOH:O	2.13	0.47
1:M:56:LEU:HG	1:M:62:PHE:HB2	1.97	0.47
2:R:465:ARG:HG3	2:R:513:LEU:HD22	1.96	0.47
1:U:92:ARG:NE	4:U:1709:HOH:O	2.46	0.47
1:O:51:GLN:HE21	1:O:75:ARG:CZ	2.28	0.47
2:J:320:SER:HB3	2:J:331:VAL:HG21	1.95	0.47
3:M:249:DMF:H12	4:M:1743:HOH:O	2.15	0.47
2:N:306:LEU:C	2:N:306:LEU:HD12	2.35	0.47
2:P:301:OZT:H27	2:P:333:LYS:HE2	1.95	0.47
2:Z:515:ARG:CD	4:Z:1691:HOH:O	2.63	0.47
1:Y:234:LEU:C	1:Y:234:LEU:CD2	2.78	0.47
2:E:456:GLN:HE21	2:E:465:ARG:HH12	1.62	0.47
1:I:30:VAL:HG13	1:I:43:ALA:HB2	1.96	0.47
1:S:56:LEU:HG	1:S:62:PHE:HB2	1.95	0.47
2:V:428:GLY:HA2	4:V:1440:HOH:O	2.14	0.47
1:K:56:LEU:HG	1:K:62:PHE:HB2	1.96	0.47
1:Y:231:GLN:C	4:Y:1576:HOH:O	2.53	0.47
3:J:4:DMF:H23	4:J:1466:HOH:O	2.07	0.46
1:W:56:LEU:HG	1:W:62:PHE:HB2	1.97	0.46
3:T:29:DMF:C2	4:T:1567:HOH:O	2.55	0.46
1:A:56:LEU:HG	1:A:62:PHE:HB2	1.96	0.46
2:L:331:VAL:HG13	2:L:349:ALA:HB2	1.98	0.46
1:S:97:ARG:HB2	4:S:1727:HOH:O	2.05	0.46
2:P:483:GLY:HA2	4:P:38:HOH:O	2.14	0.46
1:K:33:LEU:HD12	1:K:40:LEU:HB3	1.96	0.46
1:F:22:LYS:HE2	4:F:1400:HOH:O	2.15	0.46
2:H:332:ARG:CD	4:H:1570:HOH:O	2.41	0.46
3:L:53:DMF:HC	4:L:1603:HOH:O	2.14	0.46
2:E:377:ALA:HB1	3:L:53:DMF:HC	1.98	0.46
2:N:301:OZT:H27	2:N:333:LYS:HE2	1.97	0.46
1:W:205:VAL:CG2	4:W:1447:HOH:O	2.63	0.46
1:D:30:VAL:HG13	1:D:43:ALA:HB2	1.98	0.46
1:D:217:ARG:NH1	4:D:1496:HOH:O	2.44	0.46
1:Y:159:THR:CA	4:Y:1427:HOH:O	2.63	0.46
1:B:67:LYS:HG2	1:B:69:ASN:HD21	1.81	0.46
1:K:51:GLN:HG2	4:K:561:HOH:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:430:ASN:HB2	4:J:1239:HOH:O	2.15	0.45
1:K:51:GLN:HE21	1:K:75:ARG:CZ	2.29	0.45
4:M:1478:HOH:O	2:N:361:VAL:HG22	2.06	0.45
1:Q:16:ARG:NH1	1:Q:117:PRO:HD3	2.31	0.45
1:U:35:TYR:CD1	1:U:36:ALA:N	2.84	0.45
1:A:152:HIS:CB	1:A:171:TYR:HE2	2.25	0.45
1:U:56:LEU:HG	1:U:62:PHE:HB2	1.97	0.45
2:Z:331:VAL:HG13	2:Z:349:ALA:HB2	1.98	0.45
1:B:30:VAL:HG13	1:B:43:ALA:HB2	1.97	0.45
1:Y:83:ASP:OD2	2:Z:365:HIS:HD2	1.99	0.45
2:C:301:OZT:H27	2:C:333:LYS:HE2	1.97	0.45
2:L:509:ARG:HD3	4:L:1362:HOH:O	2.16	0.45
1:M:40:LEU:CD1	1:M:212:VAL:HG12	2.47	0.45
1:W:231:GLN:N	4:W:1447:HOH:O	2.50	0.45
2:H:509:ARG:HD3	4:H:1309:HOH:O	2.17	0.45
1:1:56:LEU:HG	1:1:62:PHE:HB2	1.99	0.45
1:A:83:ASP:OD2	2:H:365:HIS:HD2	2.00	0.45
1:D:182:ARG:HD3	4:D:1270:HOH:O	2.17	0.45
1:D:9:PRO:CD	1:Q:7:ILE:CD1	2.95	0.45
1:O:87:TYR:O	2:P:357:ARG:NH2	2.49	0.45
1:Y:171:TYR:CE1	4:Y:1692:HOH:O	2.56	0.45
1:1:36:ALA:HB2	1:1:174:ASN:O	2.16	0.45
2:G:320:SER:HB3	2:G:331:VAL:HG21	1.99	0.45
1:I:76:ARG:HD3	4:I:977:HOH:O	2.17	0.45
2:T:515:ARG:HD2	4:T:1505:HOH:O	2.15	0.45
1:M:30:VAL:HG13	1:M:43:ALA:HB2	1.99	0.45
1:S:146:SER:HA	4:S:1501:HOH:O	2.17	0.45
1:M:92:ARG:CG	1:M:92:ARG:O	2.64	0.44
1:A:30:VAL:HG13	1:A:43:ALA:HB2	1.99	0.44
1:D:135:ARG:HB3	1:Q:48:ARG:NH2	2.32	0.44
1:O:51:GLN:NE2	1:O:75:ARG:CZ	2.80	0.44
1:Q:85:ARG:HD3	4:Q:1588:HOH:O	2.16	0.44
1:Y:30:VAL:HG13	1:Y:43:ALA:HB2	1.99	0.44
3:G:12:DMF:H13	4:V:1271:HOH:O	2.17	0.44
1:K:32:ALA:HA	1:K:40:LEU:O	2.16	0.44
1:M:129:HIS:NE2	4:M:1739:HOH:O	2.35	0.44
2:R:430:ASN:ND2	4:R:1315:HOH:O	2.50	0.44
1:B:67:LYS:HG2	1:B:69:ASN:ND2	2.33	0.44
1:U:11:GLN:CG	4:U:1729:HOH:O	2.57	0.44
2:X:301:OZT:O	2:X:440:GLY:HA3	2.17	0.44
1:Y:35:TYR:HD2	1:Y:38:GLY:O	1.96	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:54:SER:HB2	4:S:1464:HOH:O	2.16	0.44
1:A:67:LYS:HG2	1:A:69:ASN:HD21	1.83	0.44
1:D:56:LEU:HG	1:D:62:PHE:HB2	2.00	0.44
2:T:422:SER:OG	2:T:432:GLU:OE2	2.30	0.44
2:C:301:OZT:O	2:C:440:GLY:HA3	2.17	0.44
1:U:30:VAL:HG13	1:U:43:ALA:HB2	1.99	0.44
1:Y:35:TYR:CE1	1:Y:37:GLY:CA	3.00	0.44
1:M:40:LEU:HD13	1:M:212:VAL:HG12	2.00	0.44
2:X:401:LEU:HD12	4:X:1614:HOH:O	2.18	0.44
2:E:456:GLN:NE2	2:E:465:ARG:NH1	2.65	0.43
1:F:22:LYS:CE	4:F:1400:HOH:O	2.66	0.43
1:Q:162:PRO:HA	4:Q:1424:HOH:O	2.18	0.43
2:R:320:SER:HB3	2:R:331:VAL:HG21	2.00	0.43
1:W:223:ARG:HA	4:W:1590:HOH:O	2.17	0.43
1:B:16:ARG:NH1	1:B:117:PRO:HD3	2.33	0.43
1:S:30:VAL:HG13	1:S:43:ALA:HB2	1.98	0.43
2:2:401:LEU:HA	2:2:402:PRO:HD3	1.88	0.43
1:F:67:LYS:HG2	1:F:69:ASN:HD21	1.84	0.43
1:M:65:ALA:CA	4:M:1412:HOH:O	2.64	0.43
1:M:114:GLN:NE2	4:M:1597:HOH:O	2.52	0.43
1:S:74:LEU:HD13	1:S:122:LEU:HD11	2.01	0.43
1:Y:35:TYR:CE1	1:Y:37:GLY:N	2.82	0.43
2:R:356:ALA:CB	3:R:34:DMF:H22	2.49	0.43
2:C:376:PHE:HD1	4:C:1247:HOH:O	2.02	0.43
2:E:320:SER:HB3	2:E:331:VAL:HG21	2.01	0.43
2:R:357:ARG:O	2:R:361:VAL:HG23	2.19	0.43
2:V:422:SER:OG	2:V:432:GLU:OE2	2.29	0.42
1:W:140:ARG:NH2	4:W:1077:HOH:O	2.45	0.42
1:Y:84:THR:CG2	4:Y:1479:HOH:O	2.67	0.42
4:E:1508:HOH:O	1:K:90:ASP:HB2	2.19	0.42
1:K:30:VAL:HG13	1:K:43:ALA:HB2	2.01	0.42
1:O:35:TYR:HE1	4:O:1616:HOH:O	2.02	0.42
1:F:30:VAL:HG13	1:F:43:ALA:HB2	2.00	0.42
2:J:415:GLN:CB	4:J:1632:HOH:O	2.66	0.42
3:K:250:DMF:C	4:K:1485:HOH:O	2.67	0.42
2:T:301:OZT:O	2:T:440:GLY:HA3	2.18	0.42
2:Z:301:OZT:O	2:Z:440:GLY:HA3	2.20	0.42
1:A:67:LYS:HG2	1:A:69:ASN:ND2	2.35	0.42
1:D:205:VAL:HG13	1:D:230:LEU:HD23	2.00	0.42
2:T:432:GLU:HG3	2:T:437:GLN:HB2	2.01	0.42
2:V:391:LEU:O	2:V:392:ALA:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:457:VAL:HA	2:E:462:SER:HB3	2.02	0.42
1:Q:31:VAL:HG12	1:Q:155:VAL:HG22	2.02	0.42
1:Q:69:ASN:HD22	1:Q:69:ASN:H	1.68	0.42
2:T:320:SER:HB3	2:T:331:VAL:HG21	2.00	0.42
1:W:31:VAL:HG12	1:W:155:VAL:HG22	2.02	0.42
1:F:87:TYR:O	2:G:357:ARG:NH2	2.53	0.42
1:F:161:GLU:N	1:F:161:GLU:CD	2.72	0.42
2:V:301:OZT:C7	2:V:333:LYS:HE2	2.50	0.42
1:Q:28:LYS:CE	4:Q:1387:HOH:O	2.62	0.42
2:Z:301:OZT:H27	2:Z:333:LYS:HE2	2.01	0.42
1:1:174:ASN:O	1:1:175:ALA:C	2.58	0.42
2:E:364:GLU:HB3	4:E:1451:HOH:O	2.18	0.42
1:Q:217:ARG:NH2	4:Q:1650:HOH:O	2.52	0.42
1:W:205:VAL:HG22	4:W:1447:HOH:O	2.19	0.42
1:A:69:ASN:H	1:A:69:ASN:HD22	1.68	0.42
1:D:173:GLU:CA	1:D:174:ASN:ND2	2.82	0.42
1:F:129:HIS:CD2	4:F:1726:HOH:O	2.73	0.42
4:K:1467:HOH:O	1:M:97:ARG:NE	2.52	0.42
2:Z:444:LEU:HD12	4:Z:1433:HOH:O	2.20	0.42
1:D:97:ARG:HD2	1:Q:49:SER:O	2.20	0.42
2:E:444:LEU:HD13	3:E:66:DMF:H23	2.02	0.42
2:V:437:GLN:HG3	2:V:438:ALA:N	2.35	0.42
1:A:217:ARG:HA	1:A:218:PRO:HD3	1.85	0.41
1:A:223:ARG:CD	4:A:1724:HOH:O	2.68	0.41
2:J:362:GLU:OE2	2:J:382:ARG:HD3	2.20	0.41
1:U:189:ARG:O	1:U:190:ALA:C	2.58	0.41
2:2:456:GLN:NE2	2:2:465:ARG:HH12	2.16	0.41
1:B:69:ASN:HD22	1:B:69:ASN:H	1.68	0.41
1:Q:30:VAL:HG13	1:Q:43:ALA:HB2	2.02	0.41
2:T:464:LEU:HD21	2:T:505:VAL:HG11	2.01	0.41
2:Z:476:ASP:OD1	3:Z:18:DMF:H22	2.20	0.41
1:F:69:ASN:H	1:F:69:ASN:HD22	1.68	0.41
2:P:320:SER:HB3	2:P:331:VAL:HG21	2.02	0.41
1:Q:181:LEU:O	1:Q:185:VAL:HG23	2.20	0.41
2:X:444:LEU:HD13	4:X:1671:HOH:O	2.21	0.41
1:B:31:VAL:HG12	1:B:155:VAL:HG22	2.02	0.41
1:S:51:GLN:HB2	4:S:1464:HOH:O	2.20	0.41
1:U:42:VAL:HG12	1:U:188:LEU:HD21	2.02	0.41
1:1:14:ARG:HG2	4:1:1788:HOH:O	2.07	0.41
1:D:88:ALA:HB2	4:D:535:HOH:O	2.19	0.41
1:M:67:LYS:HG2	1:M:69:ASN:HD21	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:332:ARG:NE	4:R:1547:HOH:O	2.35	0.41
2:R:391:LEU:HD12	2:R:399:LEU:HD23	2.03	0.41
1:W:67:LYS:HG2	1:W:69:ASN:HD21	1.86	0.41
1:M:92:ARG:O	1:M:92:ARG:HG3	2.20	0.41
2:P:388:ARG:NH1	4:P:1095:HOH:O	2.53	0.41
2:R:361:VAL:O	2:R:365:HIS:HB2	2.21	0.41
1:D:22:LYS:NZ	1:K:10:GLU:OE1	2.54	0.41
1:D:161:GLU:HB2	1:D:162:PRO:HD3	2.03	0.41
2:E:483:GLY:HA2	4:E:1046:HOH:O	2.20	0.41
1:K:189:ARG:CD	4:K:1741:HOH:O	2.32	0.41
2:L:301:OZT:O	2:L:440:GLY:HA3	2.20	0.41
1:S:67:LYS:HG2	1:S:69:ASN:HD21	1.86	0.41
2:X:401:LEU:HA	2:X:402:PRO:HD3	1.82	0.41
1:F:67:LYS:HG2	1:F:69:ASN:ND2	2.35	0.41
2:G:444:LEU:HD21	2:X:325:MET:SD	2.61	0.41
1:K:150:GLU:HA	1:K:151:PRO:HD3	1.95	0.41
1:M:47:SER:HA	4:M:1402:HOH:O	2.20	0.41
2:N:301:OZT:O	2:N:440:GLY:HA3	2.21	0.41
1:S:35:TYR:CE1	1:S:37:GLY:CA	3.02	0.41
1:W:30:VAL:HG13	1:W:43:ALA:HB2	2.02	0.41
1:D:31:VAL:HG12	1:D:155:VAL:HG22	2.02	0.41
1:D:67:LYS:HG2	1:D:69:ASN:HD21	1.86	0.41
1:D:83:ASP:OD2	2:E:365:HIS:HD2	2.03	0.41
2:V:335:TYR:HB3	3:V:27:DMF:H12	2.01	0.41
1:Q:67:LYS:HG2	1:Q:69:ASN:HD21	1.87	0.40
2:H:479:SER:HB2	2:L:479:SER:HB2	2.02	0.40
1:I:67:LYS:HG2	1:I:69:ASN:HD21	1.86	0.40
1:M:67:LYS:HG2	1:M:69:ASN:ND2	2.35	0.40
1:F:45:ASN:HA	1:F:46:PRO:HD2	2.01	0.40
1:O:51:GLN:NE2	4:O:937:HOH:O	2.54	0.40
2:P:483:GLY:HA3	3:P:14:DMF:H11	2.03	0.40
2:V:390:ASN:HD22	2:V:390:ASN:H	1.70	0.40
1:Y:67:LYS:HE3	1:Y:69:ASN:HD21	1.85	0.40
2:G:350:ALA:CB	4:G:1411:HOH:O	2.69	0.40
2:H:301:OZT:O	2:H:440:GLY:HA3	2.22	0.40
2:P:301:OZT:O	2:P:440:GLY:HA3	2.22	0.40
1:W:31:VAL:HG23	1:W:42:VAL:HB	2.02	0.40
1:I:214:ASP:O	1:I:217:ARG:HG3	2.22	0.40
1:O:67:LYS:HG2	1:O:69:ASN:ND2	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	1	211/248 (85%)	205 (97%)	6 (3%)	0	100	100
1	A	211/248 (85%)	204 (97%)	7 (3%)	0	100	100
1	B	210/248 (85%)	205 (98%)	5 (2%)	0	100	100
1	D	210/248 (85%)	205 (98%)	5 (2%)	0	100	100
1	F	212/248 (86%)	207 (98%)	5 (2%)	0	100	100
1	I	210/248 (85%)	204 (97%)	6 (3%)	0	100	100
1	K	211/248 (85%)	206 (98%)	5 (2%)	0	100	100
1	M	211/248 (85%)	205 (97%)	6 (3%)	0	100	100
1	O	211/248 (85%)	207 (98%)	4 (2%)	0	100	100
1	Q	213/248 (86%)	207 (97%)	6 (3%)	0	100	100
1	S	211/248 (85%)	207 (98%)	4 (2%)	0	100	100
1	U	210/248 (85%)	205 (98%)	5 (2%)	0	100	100
1	W	213/248 (86%)	207 (97%)	6 (3%)	0	100	100
1	Y	209/248 (84%)	202 (97%)	7 (3%)	0	100	100
2	2	211/240 (88%)	209 (99%)	2 (1%)	0	100	100
2	C	211/240 (88%)	209 (99%)	2 (1%)	0	100	100
2	E	212/240 (88%)	210 (99%)	2 (1%)	0	100	100
2	G	212/240 (88%)	208 (98%)	4 (2%)	0	100	100
2	H	209/240 (87%)	206 (99%)	3 (1%)	0	100	100
2	J	212/240 (88%)	209 (99%)	3 (1%)	0	100	100
2	L	212/240 (88%)	210 (99%)	2 (1%)	0	100	100
2	N	209/240 (87%)	208 (100%)	1 (0%)	0	100	100
2	P	212/240 (88%)	209 (99%)	3 (1%)	0	100	100
2	R	219/240 (91%)	217 (99%)	2 (1%)	0	100	100
2	T	212/240 (88%)	210 (99%)	2 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	V	218/240 (91%)	216 (99%)	2 (1%)	0	100	100
2	X	212/240 (88%)	208 (98%)	4 (2%)	0	100	100
2	Z	211/240 (88%)	209 (99%)	2 (1%)	0	100	100
All	All	5925/6832 (87%)	5814 (98%)	111 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	1	164/192 (85%)	161 (98%)	3 (2%)	59	81
1	A	164/192 (85%)	159 (97%)	5 (3%)	41	68
1	B	164/192 (85%)	161 (98%)	3 (2%)	59	81
1	D	163/192 (85%)	160 (98%)	3 (2%)	59	81
1	F	165/192 (86%)	163 (99%)	2 (1%)	71	88
1	I	164/192 (85%)	158 (96%)	6 (4%)	34	60
1	K	164/192 (85%)	159 (97%)	5 (3%)	41	68
1	M	165/192 (86%)	161 (98%)	4 (2%)	49	74
1	O	164/192 (85%)	159 (97%)	5 (3%)	41	68
1	Q	166/192 (86%)	160 (96%)	6 (4%)	35	61
1	S	164/192 (85%)	161 (98%)	3 (2%)	59	81
1	U	164/192 (85%)	156 (95%)	8 (5%)	25	47
1	W	166/192 (86%)	161 (97%)	5 (3%)	41	68
1	Y	163/192 (85%)	159 (98%)	4 (2%)	47	73
2	2	160/177 (90%)	157 (98%)	3 (2%)	57	80
2	C	160/177 (90%)	155 (97%)	5 (3%)	40	67
2	E	161/177 (91%)	156 (97%)	5 (3%)	40	67
2	G	161/177 (91%)	156 (97%)	5 (3%)	40	67

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	H	160/177 (90%)	154 (96%)	6 (4%)	33	58
2	J	161/177 (91%)	160 (99%)	1 (1%)	86	95
2	L	161/177 (91%)	157 (98%)	4 (2%)	47	73
2	N	159/177 (90%)	154 (97%)	5 (3%)	40	67
2	P	161/177 (91%)	158 (98%)	3 (2%)	57	80
2	R	165/177 (93%)	159 (96%)	6 (4%)	35	61
2	T	161/177 (91%)	159 (99%)	2 (1%)	71	88
2	V	164/177 (93%)	161 (98%)	3 (2%)	59	81
2	X	161/177 (91%)	159 (99%)	2 (1%)	71	88
2	Z	160/177 (90%)	157 (98%)	3 (2%)	57	80
All	All	4555/5166 (88%)	4440 (98%)	115 (2%)	47	73

All (115) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	69	ASN
1	A	159	THR
1	A	173	GLU
1	A	188	LEU
1	A	234	LEU
1	B	69	ASN
1	B	113	GLU
1	B	159	THR
2	C	322	GLN
2	C	345	ILE
2	C	444	LEU
2	C	497	ILE
2	C	509	ARG
1	D	69	ASN
1	D	159	THR
1	D	174	ASN
2	E	317	ASP
2	E	330	ASP
2	E	345	ILE
2	E	401	LEU
2	E	462	SER
1	F	69	ASN
1	F	159	THR

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Mol	Chain	Res	Type
2	G	338	ASP
2	G	345	ILE
2	G	444	LEU
2	G	465	ARG
2	G	492	PRO
2	H	330	ASP
2	H	338	ASP
2	H	345	ILE
2	H	386	MET
2	H	391	LEU
2	H	444	LEU
1	I	33	LEU
1	I	69	ASN
1	I	159	THR
1	I	160	THR
1	I	174	ASN
1	I	233	LEU
2	J	345	ILE
1	K	33	LEU
1	K	69	ASN
1	K	113	GLU
1	K	159	THR
1	K	234	LEU
2	L	338	ASP
2	L	345	ILE
2	L	444	LEU
2	L	519	GLU
1	M	69	ASN
1	M	159	THR
1	M	181	LEU
1	M	188	LEU
2	N	322	GLN
2	N	338	ASP
2	N	345	ILE
2	N	461	ASP
2	N	465	ARG
1	O	69	ASN
1	O	98	GLN
1	O	99	LEU
1	O	109	THR
1	O	159	THR
2	P	322	GLN

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Mol	Chain	Res	Type
2	P	345	ILE
2	P	433	GLU
1	Q	9	PRO
1	Q	69	ASN
1	Q	159	THR
1	Q	169	GLU
1	Q	203	LEU
1	Q	234	LEU
2	R	322	GLN
2	R	338	ASP
2	R	345	ILE
2	R	362	GLU
2	R	382	ARG
2	R	515	ARG
1	S	69	ASN
1	S	159	THR
1	S	217	ARG
2	T	345	ILE
2	T	444	LEU
1	U	8	SER
1	U	35	TYR
1	U	69	ASN
1	U	113	GLU
1	U	159	THR
1	U	169	GLU
1	U	173	GLU
1	U	188	LEU
2	V	322	GLN
2	V	345	ILE
2	V	503	VAL
1	W	69	ASN
1	W	113	GLU
1	W	159	THR
1	W	176	SER
1	W	203	LEU
2	X	338	ASP
2	X	345	ILE
1	Y	69	ASN
1	Y	113	GLU
1	Y	159	THR
1	Y	234	LEU
2	Z	338	ASP

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Mol	Chain	Res	Type
2	Z	345	ILE
2	Z	477	ASP
1	1	33	LEU
1	1	69	ASN
1	1	159	THR
2	2	322	GLN
2	2	345	ILE
2	2	462	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (66) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	69	ASN
1	A	114	GLN
1	A	129	HIS
1	B	69	ASN
1	B	114	GLN
1	B	129	HIS
2	C	365	HIS
2	C	456	GLN
1	D	69	ASN
1	D	114	GLN
1	D	129	HIS
1	D	174	ASN
2	E	365	HIS
2	E	456	GLN
1	F	69	ASN
1	F	231	GLN
2	G	365	HIS
2	G	456	GLN
2	H	365	HIS
2	H	456	GLN
1	I	69	ASN
1	I	231	GLN
2	J	365	HIS
2	J	456	GLN
1	K	51	GLN
1	K	69	ASN
1	K	129	HIS
2	L	365	HIS
2	L	456	GLN
1	M	51	GLN

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Mol	Chain	Res	Type
1	M	69	ASN
2	N	365	HIS
2	N	415	GLN
2	N	456	GLN
1	O	51	GLN
1	O	69	ASN
1	O	98	GLN
1	O	105	GLN
1	O	152	HIS
2	P	365	HIS
2	P	456	GLN
1	Q	69	ASN
2	R	365	HIS
2	R	456	GLN
1	S	69	ASN
1	S	114	GLN
2	T	365	HIS
2	T	456	GLN
1	U	69	ASN
1	U	216	ASN
2	V	365	HIS
2	V	390	ASN
2	V	437	GLN
2	V	456	GLN
1	W	69	ASN
1	W	114	GLN
1	W	129	HIS
2	X	365	HIS
2	X	456	GLN
1	Y	69	ASN
2	Z	365	HIS
2	Z	456	GLN
1	1	69	ASN
1	1	114	GLN
2	2	365	HIS
2	2	456	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

14 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
2	OZT	G	301	2	7,9,10	4.02	3 (42%)	9,12,14	5.27	7 (77%)
2	OZT	V	301	2	7,9,10	4.14	4 (57%)	9,12,14	5.67	7 (77%)
2	OZT	C	301	2	7,9,10	4.33	4 (57%)	9,12,14	5.30	7 (77%)
2	OZT	X	301	2	7,9,10	4.14	4 (57%)	9,12,14	5.20	6 (66%)
2	OZT	R	301	2	7,9,10	4.41	4 (57%)	9,12,14	5.09	7 (77%)
2	OZT	N	301	2	7,9,10	3.99	4 (57%)	9,12,14	5.39	7 (77%)
2	OZT	P	301	2	7,9,10	3.99	4 (57%)	9,12,14	5.44	7 (77%)
2	OZT	L	301	2	7,9,10	4.30	4 (57%)	9,12,14	5.39	7 (77%)
2	OZT	E	301	2	7,9,10	4.39	4 (57%)	9,12,14	5.05	7 (77%)
2	OZT	2	301	2	7,9,10	3.94	4 (57%)	9,12,14	5.32	6 (66%)
2	OZT	T	301	2	7,9,10	4.06	4 (57%)	9,12,14	5.48	7 (77%)
2	OZT	H	301	2	7,9,10	4.18	4 (57%)	9,12,14	5.47	6 (66%)
2	OZT	J	301	2	7,9,10	4.18	4 (57%)	9,12,14	5.43	6 (66%)
2	OZT	Z	301	2	7,9,10	4.15	4 (57%)	9,12,14	5.32	6 (66%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	OZT	G	301	2	-	1/1/14/16	0/1/1/1
2	OZT	V	301	2	-	1/1/14/16	0/1/1/1
2	OZT	C	301	2	-	1/1/14/16	0/1/1/1
2	OZT	X	301	2	-	1/1/14/16	0/1/1/1
2	OZT	R	301	2	-	1/1/14/16	0/1/1/1
2	OZT	N	301	2	-	1/1/14/16	0/1/1/1
2	OZT	P	301	2	-	1/1/14/16	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	OZT	L	301	2	-	1/1/14/16	0/1/1/1
2	OZT	E	301	2	-	1/1/14/16	0/1/1/1
2	OZT	2	301	2	-	1/1/14/16	0/1/1/1
2	OZT	T	301	2	-	1/1/14/16	0/1/1/1
2	OZT	H	301	2	-	1/1/14/16	0/1/1/1
2	OZT	J	301	2	-	1/1/14/16	0/1/1/1
2	OZT	Z	301	2	-	1/1/14/16	0/1/1/1

All (55) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	301	OZT	O1-C5	9.92	1.49	1.36
2	C	301	OZT	O1-C5	9.74	1.49	1.36
2	R	301	OZT	O1-C5	9.71	1.49	1.36
2	L	301	OZT	O1-C5	9.60	1.49	1.36
2	J	301	OZT	O1-C5	9.35	1.49	1.36
2	T	301	OZT	O1-C5	9.17	1.48	1.36
2	H	301	OZT	O1-C5	9.16	1.48	1.36
2	X	301	OZT	O1-C5	9.01	1.48	1.36
2	G	301	OZT	O1-C5	8.87	1.48	1.36
2	P	301	OZT	O1-C5	8.83	1.48	1.36
2	N	301	OZT	O1-C5	8.83	1.48	1.36
2	Z	301	OZT	O1-C5	8.59	1.48	1.36
2	2	301	OZT	O1-C5	8.50	1.47	1.36
2	V	301	OZT	O1-C5	8.46	1.47	1.36
2	V	301	OZT	C5-N	4.95	1.40	1.33
2	Z	301	OZT	C5-N	4.53	1.40	1.33
2	X	301	OZT	C2-CA	-4.50	1.45	1.54
2	H	301	OZT	C2-CA	-4.13	1.46	1.54
2	N	301	OZT	C5-N	4.07	1.39	1.33
2	R	301	OZT	C5-N	4.03	1.39	1.33
2	Z	301	OZT	C2-CA	-4.01	1.46	1.54
2	G	301	OZT	C5-N	3.94	1.39	1.33
2	C	301	OZT	C5-N	3.91	1.39	1.33
2	L	301	OZT	C5-N	3.82	1.39	1.33
2	R	301	OZT	C2-CA	-3.80	1.47	1.54
2	P	301	OZT	C2-CA	-3.80	1.47	1.54
2	T	301	OZT	C5-N	3.74	1.38	1.33
2	E	301	OZT	C2-CA	-3.72	1.47	1.54
2	2	301	OZT	C2-CA	-3.67	1.47	1.54
2	P	301	OZT	C5-N	3.60	1.38	1.33
2	J	301	OZT	C5-N	3.60	1.38	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	G	301	OZT	C2-CA	-3.56	1.47	1.54
2	2	301	OZT	C5-N	3.52	1.38	1.33
2	V	301	OZT	C2-CA	-3.50	1.47	1.54
2	E	301	OZT	C5-N	3.46	1.38	1.33
2	L	301	OZT	C2-CA	-3.28	1.48	1.54
2	X	301	OZT	O1-C2	-3.25	1.41	1.46
2	H	301	OZT	O1-C2	-3.23	1.41	1.46
2	C	301	OZT	C2-CA	-3.19	1.48	1.54
2	L	301	OZT	O1-C2	-3.15	1.42	1.46
2	J	301	OZT	C2-CA	-3.15	1.48	1.54
2	V	301	OZT	O1-C2	-3.11	1.42	1.46
2	2	301	OZT	O1-C2	-3.08	1.42	1.46
2	H	301	OZT	C5-N	3.05	1.38	1.33
2	J	301	OZT	O1-C2	-3.03	1.42	1.46
2	C	301	OZT	O1-C2	-3.02	1.42	1.46
2	R	301	OZT	O1-C2	-3.01	1.42	1.46
2	E	301	OZT	O1-C2	-2.98	1.42	1.46
2	Z	301	OZT	O1-C2	-2.89	1.42	1.46
2	T	301	OZT	C2-CA	-2.84	1.49	1.54
2	T	301	OZT	O1-C2	-2.81	1.42	1.46
2	N	301	OZT	C2-CA	-2.81	1.49	1.54
2	N	301	OZT	O1-C2	-2.70	1.42	1.46
2	X	301	OZT	C5-N	2.51	1.37	1.33
2	P	301	OZT	O1-C2	-2.27	1.43	1.46

All (93) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	T	301	OZT	O1-C5-N	9.74	118.03	109.86
2	J	301	OZT	O1-C5-N	9.53	117.86	109.86
2	2	301	OZT	O1-C5-N	9.43	117.77	109.86
2	L	301	OZT	O1-C5-N	9.42	117.76	109.86
2	N	301	OZT	O1-C5-N	9.41	117.75	109.86
2	P	301	OZT	O1-C5-N	9.39	117.74	109.86
2	V	301	OZT	O1-C5-N	9.29	117.65	109.86
2	H	301	OZT	O1-C5-N	9.21	117.58	109.86
2	Z	301	OZT	O1-C5-N	9.20	117.58	109.86
2	X	301	OZT	O1-C5-N	9.14	117.53	109.86
2	C	301	OZT	O1-C5-N	9.09	117.49	109.86
2	G	301	OZT	O1-C5-N	8.97	117.39	109.86
2	R	301	OZT	O1-C5-N	8.57	117.05	109.86
2	E	301	OZT	O1-C5-N	8.43	116.94	109.86

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	V	301	OZT	O1-C2-CA	7.71	111.02	103.58
2	J	301	OZT	O6-C5-N	-7.59	120.35	129.22
2	H	301	OZT	O6-C5-N	-7.46	120.50	129.22
2	T	301	OZT	O6-C5-N	-7.37	120.61	129.22
2	X	301	OZT	O6-C5-N	-7.37	120.61	129.22
2	L	301	OZT	O6-C5-N	-7.32	120.67	129.22
2	2	301	OZT	O6-C5-N	-7.26	120.74	129.22
2	G	301	OZT	O6-C5-N	-7.09	120.94	129.22
2	C	301	OZT	O6-C5-N	-7.03	121.00	129.22
2	N	301	OZT	O6-C5-N	-7.03	121.00	129.22
2	P	301	OZT	O6-C5-N	-6.99	121.06	129.22
2	V	301	OZT	C2-O1-C5	-6.95	99.03	110.41
2	E	301	OZT	O6-C5-N	-6.88	121.18	129.22
2	Z	301	OZT	O6-C5-N	-6.84	121.23	129.22
2	T	301	OZT	C2-O1-C5	-6.69	99.46	110.41
2	P	301	OZT	C2-O1-C5	-6.67	99.49	110.41
2	R	301	OZT	O6-C5-N	-6.64	121.46	129.22
2	J	301	OZT	C2-O1-C5	-6.56	99.67	110.41
2	L	301	OZT	C2-O1-C5	-6.55	99.69	110.41
2	V	301	OZT	O6-C5-N	-6.55	121.57	129.22
2	H	301	OZT	C2-O1-C5	-6.51	99.75	110.41
2	N	301	OZT	C2-O1-C5	-6.50	99.77	110.41
2	2	301	OZT	C2-O1-C5	-6.46	99.83	110.41
2	C	301	OZT	C2-O1-C5	-6.45	99.86	110.41
2	G	301	OZT	C2-O1-C5	-6.43	99.89	110.41
2	Z	301	OZT	C2-O1-C5	-6.42	99.90	110.41
2	R	301	OZT	C2-O1-C5	-6.31	100.08	110.41
2	X	301	OZT	C2-O1-C5	-6.26	100.17	110.41
2	E	301	OZT	C2-O1-C5	-6.18	100.29	110.41
2	P	301	OZT	O1-C2-CA	5.97	109.33	103.58
2	N	301	OZT	O1-C2-CA	5.82	109.19	103.58
2	H	301	OZT	C2-CA-C	-5.66	106.29	114.16
2	C	301	OZT	O1-C2-CA	5.61	108.99	103.58
2	L	301	OZT	O1-C2-CA	5.58	108.96	103.58
2	G	301	OZT	O1-C2-CA	5.57	108.95	103.58
2	J	301	OZT	O1-C2-CA	5.53	108.91	103.58
2	T	301	OZT	O1-C2-CA	5.49	108.87	103.58
2	Z	301	OZT	O1-C2-CA	5.46	108.84	103.58
2	H	301	OZT	O1-C2-CA	5.45	108.84	103.58
2	2	301	OZT	O1-C2-CA	5.41	108.80	103.58
2	Z	301	OZT	C2-CA-C	-5.40	106.65	114.16
2	R	301	OZT	O1-C2-CA	5.22	108.62	103.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	P	301	OZT	C2-CA-C	-5.09	107.09	114.16
2	C	301	OZT	C2-CA-C	-5.07	107.11	114.16
2	E	301	OZT	O1-C2-CA	5.06	108.46	103.58
2	E	301	OZT	C2-CA-C	-5.05	107.14	114.16
2	V	301	OZT	C2-CA-C	-4.95	107.28	114.16
2	X	301	OZT	C2-CA-C	-4.93	107.30	114.16
2	N	301	OZT	C2-CA-C	-4.87	107.38	114.16
2	R	301	OZT	C2-CA-C	-4.83	107.44	114.16
2	G	301	OZT	C2-CA-C	-4.80	107.49	114.16
2	T	301	OZT	C2-CA-C	-4.74	107.56	114.16
2	L	301	OZT	C2-CA-C	-4.74	107.57	114.16
2	J	301	OZT	C2-CA-C	-4.71	107.61	114.16
2	V	301	OZT	C7-C2-CA	-4.70	108.19	114.80
2	2	301	OZT	C2-CA-C	-4.68	107.65	114.16
2	X	301	OZT	O1-C2-CA	4.60	108.02	103.58
2	H	301	OZT	C7-C2-CA	-4.43	108.57	114.80
2	P	301	OZT	C7-C2-CA	-4.27	108.79	114.80
2	N	301	OZT	C7-C2-CA	-4.19	108.91	114.80
2	G	301	OZT	C7-C2-CA	-4.18	108.92	114.80
2	Z	301	OZT	C7-C2-CA	-4.17	108.94	114.80
2	T	301	OZT	C7-C2-CA	-4.13	108.99	114.80
2	R	301	OZT	C7-C2-CA	-4.13	109.00	114.80
2	L	301	OZT	C7-C2-CA	-4.11	109.02	114.80
2	J	301	OZT	C7-C2-CA	-4.07	109.08	114.80
2	C	301	OZT	C7-C2-CA	-4.01	109.16	114.80
2	X	301	OZT	C7-C2-CA	-3.99	109.19	114.80
2	E	301	OZT	C7-C2-CA	-3.92	109.29	114.80
2	2	301	OZT	C7-C2-CA	-3.89	109.32	114.80
2	R	301	OZT	O-C-CA	-2.39	118.17	124.83
2	G	301	OZT	O-C-CA	-2.17	118.78	124.83
2	V	301	OZT	O-C-CA	-2.13	118.89	124.83
2	L	301	OZT	O-C-CA	-2.09	118.99	124.83
2	T	301	OZT	O-C-CA	-2.09	119.01	124.83
2	C	301	OZT	O-C-CA	-2.07	119.07	124.83
2	E	301	OZT	O-C-CA	-2.05	119.11	124.83
2	N	301	OZT	O-C-CA	-2.05	119.11	124.83
2	P	301	OZT	O-C-CA	-2.02	119.20	124.83

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	2	301	OZT	O-C-CA-C2
2	C	301	OZT	O-C-CA-C2
2	E	301	OZT	O-C-CA-C2
2	G	301	OZT	O-C-CA-C2
2	H	301	OZT	O-C-CA-C2
2	J	301	OZT	O-C-CA-C2
2	L	301	OZT	O-C-CA-C2
2	N	301	OZT	O-C-CA-C2
2	P	301	OZT	O-C-CA-C2
2	R	301	OZT	O-C-CA-C2
2	T	301	OZT	O-C-CA-C2
2	V	301	OZT	O-C-CA-C2
2	X	301	OZT	O-C-CA-C2
2	Z	301	OZT	O-C-CA-C2

There are no ring outliers.

9 monomers are involved in 15 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	V	301	OZT	2	0
2	C	301	OZT	2	0
2	X	301	OZT	1	0
2	N	301	OZT	2	0
2	P	301	OZT	2	0
2	L	301	OZT	1	0
2	T	301	OZT	1	0
2	H	301	OZT	2	0
2	Z	301	OZT	2	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

67 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	DMF	P	14	-	4,4,4	0.50	0	4,4,4	0.30	0
3	DMF	W	249	-	4,4,4	0.50	0	4,4,4	0.31	0
3	DMF	Z	41	-	4,4,4	0.52	0	4,4,4	0.33	0
3	DMF	G	24	-	4,4,4	0.52	0	4,4,4	0.29	0
3	DMF	U	249	-	4,4,4	0.45	0	4,4,4	0.29	0
3	DMF	G	64	-	4,4,4	0.55	0	4,4,4	0.40	0
3	DMF	V	27	-	4,4,4	0.24	0	4,4,4	0.47	0
3	DMF	T	29	-	4,4,4	0.53	0	4,4,4	0.32	0
3	DMF	K	249	-	4,4,4	0.54	0	4,4,4	0.30	0
3	DMF	C	38	-	4,4,4	0.25	0	4,4,4	0.34	0
3	DMF	D	249	-	4,4,4	0.49	0	4,4,4	0.36	0
3	DMF	M	249	-	4,4,4	0.51	0	4,4,4	0.34	0
3	DMF	2	49	-	4,4,4	0.52	0	4,4,4	0.36	0
3	DMF	C	10	-	4,4,4	0.47	0	4,4,4	0.40	0
3	DMF	E	66	-	4,4,4	0.66	0	4,4,4	0.31	0
3	DMF	C	55	-	4,4,4	0.29	0	4,4,4	0.58	0
3	DMF	1	249	-	4,4,4	0.56	0	4,4,4	0.30	0
3	DMF	1	250	-	4,4,4	0.58	0	4,4,4	0.29	0
3	DMF	N	2	-	4,4,4	0.54	0	4,4,4	0.27	0
3	DMF	T	67	-	4,4,4	0.55	0	4,4,4	1.22	0
3	DMF	2	42	-	4,4,4	0.36	0	4,4,4	0.32	0
3	DMF	E	20	-	4,4,4	0.56	0	4,4,4	0.33	0
3	DMF	X	40	-	4,4,4	0.62	0	4,4,4	0.32	0
3	DMF	P	65	-	4,4,4	0.61	0	4,4,4	0.32	0
3	DMF	F	249	-	4,4,4	0.54	0	4,4,4	0.30	0
3	DMF	I	250	-	4,4,4	0.54	0	4,4,4	0.29	0
3	DMF	Z	43	-	4,4,4	0.61	0	4,4,4	0.29	0
3	DMF	J	50	-	4,4,4	0.47	0	4,4,4	0.31	0
3	DMF	X	16	-	4,4,4	0.51	0	4,4,4	0.33	0
3	DMF	K	251	-	4,4,4	0.46	0	4,4,4	0.30	0
3	DMF	G	60	-	4,4,4	0.54	0	4,4,4	0.36	0
3	DMF	L	3	-	4,4,4	0.30	0	4,4,4	0.32	0
3	DMF	X	61	-	4,4,4	0.42	0	4,4,4	0.37	0
3	DMF	B	249	-	4,4,4	0.62	0	4,4,4	0.29	0
3	DMF	H	26	-	4,4,4	0.58	0	4,4,4	0.31	0
3	DMF	J	4	-	4,4,4	0.52	0	4,4,4	0.34	0
3	DMF	A	249	-	4,4,4	0.49	0	4,4,4	0.29	0
3	DMF	M	250	-	4,4,4	0.72	0	4,4,4	0.36	0
3	DMF	E	28	-	4,4,4	0.59	0	4,4,4	0.29	0
3	DMF	N	58	-	4,4,4	0.50	0	4,4,4	0.36	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	DMF	P	56	-	4,4,4	0.48	0	4,4,4	0.30	0
3	DMF	N	22	-	4,4,4	0.56	0	4,4,4	0.32	0
3	DMF	Z	30	-	4,4,4	0.41	0	4,4,4	0.34	0
3	DMF	B	250	-	4,4,4	0.57	0	4,4,4	0.31	0
3	DMF	L	36	-	4,4,4	0.45	0	4,4,4	0.37	0
3	DMF	H	62	-	4,4,4	0.69	0	4,4,4	0.34	0
3	DMF	2	63	-	4,4,4	0.59	0	4,4,4	0.37	0
3	DMF	R	59	-	4,4,4	0.62	0	4,4,4	0.35	0
3	DMF	L	53	-	4,4,4	0.48	0	4,4,4	0.37	0
3	DMF	G	1	-	4,4,4	0.40	0	4,4,4	0.42	0
3	DMF	O	249	-	4,4,4	0.44	0	4,4,4	0.34	0
3	DMF	S	249	-	4,4,4	0.53	0	4,4,4	0.28	0
3	DMF	2	52	-	4,4,4	0.53	0	4,4,4	0.30	0
3	DMF	G	12	-	4,4,4	0.52	0	4,4,4	0.28	0
3	DMF	R	34	-	4,4,4	0.17	0	4,4,4	0.45	0
3	DMF	Z	54	-	4,4,4	0.53	0	4,4,4	0.32	0
3	DMF	K	250	-	4,4,4	0.59	0	4,4,4	0.38	0
3	DMF	P	51	-	4,4,4	0.67	0	4,4,4	0.31	0
3	DMF	J	45	-	4,4,4	0.58	0	4,4,4	0.36	0
3	DMF	N	15	-	4,4,4	0.47	0	4,4,4	0.28	0
3	DMF	Q	249	-	4,4,4	0.63	0	4,4,4	0.29	0
3	DMF	Z	18	-	4,4,4	0.44	0	4,4,4	0.36	0
3	DMF	I	249	-	4,4,4	0.65	0	4,4,4	0.28	0
3	DMF	C	47	-	4,4,4	0.53	0	4,4,4	0.37	0
3	DMF	V	39	-	4,4,4	0.59	0	4,4,4	0.32	0
3	DMF	H	32	-	4,4,4	0.67	0	4,4,4	0.35	0
3	DMF	H	33	-	4,4,4	0.61	0	4,4,4	0.37	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
3	DMF	P	14	-	-	0/2/2/2	-
3	DMF	W	249	-	-	0/2/2/2	-
3	DMF	Z	41	-	-	0/2/2/2	-
3	DMF	G	24	-	-	0/2/2/2	-
3	DMF	U	249	-	-	0/2/2/2	-
3	DMF	G	64	-	-	0/2/2/2	-
3	DMF	V	27	-	-	2/2/2/2	-
3	DMF	T	29	-	-	0/2/2/2	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	DMF	K	249	-	-	0/2/2/2	-
3	DMF	C	38	-	-	2/2/2/2	-
3	DMF	D	249	-	-	0/2/2/2	-
3	DMF	M	249	-	-	0/2/2/2	-
3	DMF	2	49	-	-	0/2/2/2	-
3	DMF	C	10	-	-	0/2/2/2	-
3	DMF	E	66	-	-	0/2/2/2	-
3	DMF	C	55	-	-	2/2/2/2	-
3	DMF	1	249	-	-	0/2/2/2	-
3	DMF	1	250	-	-	0/2/2/2	-
3	DMF	N	2	-	-	0/2/2/2	-
3	DMF	T	67	-	-	2/2/2/2	-
3	DMF	2	42	-	-	0/2/2/2	-
3	DMF	E	20	-	-	0/2/2/2	-
3	DMF	X	40	-	-	0/2/2/2	-
3	DMF	P	65	-	-	0/2/2/2	-
3	DMF	F	249	-	-	0/2/2/2	-
3	DMF	I	250	-	-	0/2/2/2	-
3	DMF	Z	43	-	-	0/2/2/2	-
3	DMF	J	50	-	-	0/2/2/2	-
3	DMF	X	16	-	-	0/2/2/2	-
3	DMF	K	251	-	-	0/2/2/2	-
3	DMF	G	60	-	-	0/2/2/2	-
3	DMF	L	3	-	-	0/2/2/2	-
3	DMF	X	61	-	-	0/2/2/2	-
3	DMF	B	249	-	-	0/2/2/2	-
3	DMF	H	26	-	-	0/2/2/2	-
3	DMF	J	4	-	-	0/2/2/2	-
3	DMF	A	249	-	-	0/2/2/2	-
3	DMF	M	250	-	-	0/2/2/2	-
3	DMF	E	28	-	-	0/2/2/2	-
3	DMF	N	58	-	-	0/2/2/2	-
3	DMF	P	56	-	-	0/2/2/2	-
3	DMF	N	22	-	-	0/2/2/2	-
3	DMF	Z	30	-	-	0/2/2/2	-
3	DMF	B	250	-	-	0/2/2/2	-
3	DMF	L	36	-	-	0/2/2/2	-
3	DMF	H	62	-	-	0/2/2/2	-
3	DMF	2	63	-	-	0/2/2/2	-
3	DMF	R	59	-	-	0/2/2/2	-
3	DMF	L	53	-	-	0/2/2/2	-
3	DMF	G	1	-	-	0/2/2/2	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	DMF	O	249	-	-	0/2/2/2	-
3	DMF	S	249	-	-	0/2/2/2	-
3	DMF	2	52	-	-	0/2/2/2	-
3	DMF	G	12	-	-	0/2/2/2	-
3	DMF	R	34	-	-	2/2/2/2	-
3	DMF	Z	54	-	-	0/2/2/2	-
3	DMF	K	250	-	-	0/2/2/2	-
3	DMF	P	51	-	-	0/2/2/2	-
3	DMF	J	45	-	-	0/2/2/2	-
3	DMF	N	15	-	-	0/2/2/2	-
3	DMF	Q	249	-	-	0/2/2/2	-
3	DMF	Z	18	-	-	0/2/2/2	-
3	DMF	I	249	-	-	0/2/2/2	-
3	DMF	C	47	-	-	0/2/2/2	-
3	DMF	V	39	-	-	0/2/2/2	-
3	DMF	H	32	-	-	0/2/2/2	-
3	DMF	H	33	-	-	0/2/2/2	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	C	38	DMF	O-C-N-C2
3	C	38	DMF	O-C-N-C1
3	R	34	DMF	O-C-N-C2
3	R	34	DMF	O-C-N-C1
3	C	55	DMF	O-C-N-C1
3	T	67	DMF	O-C-N-C1
3	V	27	DMF	O-C-N-C1
3	T	67	DMF	O-C-N-C2
3	V	27	DMF	O-C-N-C2
3	C	55	DMF	O-C-N-C2

There are no ring outliers.

15 monomers are involved in 33 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	P	14	DMF	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	V	27	DMF	1	0
3	T	29	DMF	4	0
3	M	249	DMF	2	0
3	C	10	DMF	1	0
3	E	66	DMF	3	0
3	C	55	DMF	5	0
3	X	40	DMF	1	0
3	J	4	DMF	5	0
3	N	22	DMF	1	0
3	L	53	DMF	2	0
3	G	12	DMF	2	0
3	R	34	DMF	2	0
3	K	250	DMF	1	0
3	Z	18	DMF	2	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, 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	1	215/248 (86%)	0.47	20 (9%) 8 8	19, 54, 89, 99	0
1	A	215/248 (86%)	0.70	24 (11%) 5 4	18, 54, 91, 98	0
1	B	214/248 (86%)	0.58	17 (7%) 12 12	19, 55, 89, 97	0
1	D	214/248 (86%)	0.70	26 (12%) 4 4	17, 55, 91, 98	0
1	F	216/248 (87%)	0.40	11 (5%) 28 29	19, 55, 87, 95	0
1	I	214/248 (86%)	0.55	18 (8%) 11 11	18, 54, 88, 94	0
1	K	215/248 (86%)	0.74	29 (13%) 3 2	18, 56, 89, 98	0
1	M	215/248 (86%)	0.69	23 (10%) 6 5	19, 53, 88, 98	0
1	O	215/248 (86%)	0.55	18 (8%) 11 11	19, 53, 89, 94	0
1	Q	217/248 (87%)	0.56	20 (9%) 9 9	18, 53, 87, 95	0
1	S	215/248 (86%)	0.62	24 (11%) 5 4	18, 55, 93, 100	0
1	U	214/248 (86%)	0.53	19 (8%) 9 9	18, 54, 91, 96	0
1	W	217/248 (87%)	0.64	25 (11%) 4 4	20, 55, 92, 97	0
1	Y	213/248 (85%)	0.82	33 (15%) 2 1	20, 56, 94, 105	0
2	2	214/240 (89%)	-0.29	7 (3%) 46 50	4, 20, 45, 67	0
2	C	214/240 (89%)	-0.28	5 (2%) 60 63	6, 20, 48, 73	0
2	E	215/240 (89%)	-0.42	0 100 100	6, 20, 47, 72	0
2	G	215/240 (89%)	-0.31	2 (0%) 84 86	8, 22, 48, 74	0
2	H	212/240 (88%)	-0.29	1 (0%) 91 91	8, 21, 44, 64	0
2	J	215/240 (89%)	-0.27	3 (1%) 75 77	7, 20, 48, 64	0
2	L	215/240 (89%)	-0.23	4 (1%) 66 69	5, 21, 48, 71	0
2	N	212/240 (88%)	-0.28	3 (1%) 75 77	4, 20, 44, 64	0
2	P	215/240 (89%)	-0.30	4 (1%) 66 69	6, 22, 49, 72	0
2	R	222/240 (92%)	-0.39	2 (0%) 84 86	7, 20, 48, 67	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
2	T	215/240 (89%)	-0.26	4 (1%) 66 69	8, 22, 49, 77	0
2	V	221/240 (92%)	-0.36	2 (0%) 84 86	3, 20, 44, 69	0
2	X	215/240 (89%)	-0.27	5 (2%) 60 63	8, 22, 49, 75	0
2	Z	214/240 (89%)	-0.32	4 (1%) 66 69	9, 23, 48, 64	0
All	All	6023/6832 (88%)	0.15	353 (5%) 22 23	3, 34, 86, 105	0

All (353) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	M	7	ILE	7.3
1	D	169	GLU	6.9
1	D	48	ARG	6.7
1	B	206	ALA	6.7
1	S	8	SER	6.2
1	U	204	GLY	5.9
1	W	7	ILE	5.7
1	Y	10	GLU	5.7
1	W	161	GLU	5.5
1	Q	7	ILE	5.3
1	A	11	GLN	5.2
1	Y	9	PRO	5.2
1	Y	184	ALA	5.1
1	Y	131	GLY	4.8
1	Y	11	GLN	4.7
1	U	206	ALA	4.7
1	D	12	ALA	4.6
1	A	169	GLU	4.6
1	Y	14	ARG	4.6
1	Y	188	LEU	4.6
1	Q	169	GLU	4.6
1	I	203	LEU	4.6
1	A	191	GLY	4.5
1	U	205	VAL	4.4
1	Y	13	MET	4.4
1	O	161	GLU	4.4
1	D	182	ARG	4.4
1	Y	179	ASP	4.4
1	S	172	ALA	4.3
1	A	48	ARG	4.2
1	Y	169	GLU	4.1
1	F	11	GLN	4.1

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Mol	Chain	Res	Type	RSRZ
1	U	48	ARG	4.1
1	M	206	ALA	4.1
1	K	11	GLN	4.0
1	U	231	GLN	4.0
1	S	188	LEU	3.9
1	Y	133	THR	3.9
1	M	172	ALA	3.9
1	W	14	ARG	3.9
1	I	205	VAL	3.9
1	S	169	GLU	3.9
1	F	48	ARG	3.9
2	R	412	SER	3.9
1	M	9	PRO	3.8
1	M	8	SER	3.8
1	Q	10	GLU	3.8
1	O	8	SER	3.8
1	K	233	LEU	3.7
1	K	203	LEU	3.7
1	W	160	THR	3.7
1	M	12	ALA	3.7
1	K	10	GLU	3.6
1	B	231	GLN	3.6
1	M	113	GLU	3.6
1	Y	171	TYR	3.6
1	B	48	ARG	3.5
1	O	172	ALA	3.5
1	S	36	ALA	3.5
1	D	131	GLY	3.5
1	D	188	LEU	3.5
1	I	234	LEU	3.5
1	K	179	ASP	3.5
1	U	10	GLU	3.5
1	S	182	ARG	3.4
1	I	188	LEU	3.4
1	K	169	GLU	3.4
1	S	173	GLU	3.4
1	A	135	ARG	3.4
1	D	14	ARG	3.4
1	W	228	SER	3.4
1	S	48	ARG	3.4
1	I	44	GLU	3.4
1	B	232	ALA	3.4

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Mol	Chain	Res	Type	RSRZ
2	X	413	ASP	3.4
1	I	48	ARG	3.4
1	B	227	GLY	3.3
1	S	44	GLU	3.3
2	N	412	SER	3.3
1	S	232	ALA	3.3
1	Y	12	ALA	3.3
1	B	205	VAL	3.3
2	P	399	LEU	3.3
1	K	135	ARG	3.3
2	T	391	LEU	3.2
1	A	172	ALA	3.2
1	K	131	GLY	3.2
1	Q	173	GLU	3.2
2	X	391	LEU	3.2
1	1	206	ALA	3.2
1	O	13	MET	3.2
1	K	133	THR	3.2
1	I	10	GLU	3.1
1	A	206	ALA	3.1
1	1	228	SER	3.1
1	B	171	TYR	3.1
1	M	11	GLN	3.1
1	D	133	THR	3.1
1	Y	15	GLU	3.1
1	Q	11	GLN	3.1
1	U	11	GLN	3.1
1	B	133	THR	3.1
1	W	135	ARG	3.1
1	W	169	GLU	3.1
1	Y	48	ARG	3.1
1	D	227	GLY	3.1
1	A	177	LEU	3.1
2	2	391	LEU	3.1
1	U	131	GLY	3.0
1	1	9	PRO	3.0
1	I	231	GLN	3.0
1	Y	231	GLN	3.0
1	W	26	ARG	3.0
1	U	228	SER	3.0
1	A	186	ALA	3.0
1	F	203	LEU	3.0

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Mol	Chain	Res	Type	RSRZ
1	1	48	ARG	3.0
1	D	179	ASP	2.9
1	U	8	SER	2.9
1	1	205	VAL	2.9
1	D	172	ALA	2.9
1	1	11	GLN	2.9
1	A	165	ASN	2.9
1	Q	131	GLY	2.9
2	L	400	ALA	2.9
1	I	15	GLU	2.9
1	M	10	GLU	2.9
1	O	231	GLN	2.9
1	1	169	GLU	2.9
1	M	165	ASN	2.8
1	M	179	ASP	2.8
1	O	135	ARG	2.8
1	B	169	GLU	2.8
1	I	206	ALA	2.8
2	G	392	ALA	2.8
1	A	131	GLY	2.8
1	Y	165	ASN	2.8
1	S	135	ARG	2.8
1	F	169	GLU	2.8
1	K	173	GLU	2.8
2	X	412	SER	2.8
1	K	48	ARG	2.8
1	S	171	TYR	2.7
1	Q	36	ALA	2.7
2	C	412	SER	2.7
1	Q	179	ASP	2.7
1	A	227	GLY	2.7
1	M	131	GLY	2.7
1	W	165	ASN	2.7
2	H	412	SER	2.7
1	W	231	GLN	2.7
1	D	27	ALA	2.7
1	I	133	THR	2.7
2	2	412	SER	2.7
1	I	161	GLU	2.7
2	2	392	ALA	2.7
1	K	231	GLN	2.7
2	J	413	ASP	2.7

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Mol	Chain	Res	Type	RSRZ
1	Y	186	ALA	2.7
1	Q	203	LEU	2.7
1	W	181	LEU	2.7
1	A	189	ARG	2.7
1	S	160	THR	2.7
1	W	229	ALA	2.7
1	O	133	THR	2.6
1	Y	206	ALA	2.6
1	D	158	GLY	2.6
1	W	11	GLN	2.6
1	S	15	GLU	2.6
1	Y	172	ALA	2.6
2	L	391	LEU	2.6
2	Z	432	GLU	2.6
2	2	486	LEU	2.6
1	M	46	PRO	2.6
1	K	161	GLU	2.6
1	K	205	VAL	2.6
2	V	391	LEU	2.6
1	F	162	PRO	2.6
1	W	182	ARG	2.6
1	D	10	GLU	2.6
1	M	161	GLU	2.6
1	U	44	GLU	2.6
1	K	229	ALA	2.6
1	Y	180	ALA	2.6
1	D	231	GLN	2.6
1	D	228	SER	2.6
1	I	189	ARG	2.6
1	W	12	ALA	2.6
2	V	400	ALA	2.6
1	A	161	GLU	2.6
1	B	10	GLU	2.6
1	D	37	GLY	2.6
1	M	182	ARG	2.6
1	Y	174	ASN	2.6
1	1	232	ALA	2.5
1	K	26	ARG	2.5
2	J	433	GLU	2.5
1	A	188	LEU	2.5
1	K	153	PHE	2.5
1	1	165	ASN	2.5

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Mol	Chain	Res	Type	RSRZ
1	I	160	THR	2.5
1	K	226	THR	2.5
1	W	184	ALA	2.5
1	W	173	GLU	2.5
1	W	188	LEU	2.5
1	U	232	ALA	2.5
1	D	165	ASN	2.5
1	A	231	GLN	2.5
1	M	13	MET	2.5
1	K	14	ARG	2.5
1	Q	14	ARG	2.5
2	T	392	ALA	2.5
2	X	400	ALA	2.5
1	1	231	GLN	2.5
1	I	14	ARG	2.5
1	S	13	MET	2.5
1	K	186	ALA	2.5
2	P	391	LEU	2.5
1	K	184	ALA	2.5
1	W	203	LEU	2.4
1	F	173	GLU	2.4
1	1	133	THR	2.4
1	1	152	HIS	2.4
2	L	399	LEU	2.4
1	S	161	GLU	2.4
1	B	135	ARG	2.4
1	M	231	GLN	2.4
1	Y	111	PHE	2.4
1	D	178	THR	2.4
1	U	169	GLU	2.4
2	N	330	ASP	2.4
2	Z	412	SER	2.4
1	Q	182	ARG	2.4
1	U	26	ARG	2.4
2	2	425	ALA	2.4
1	D	168	LYS	2.4
1	D	205	VAL	2.4
1	A	13	MET	2.4
1	D	18	GLU	2.4
1	D	171	TYR	2.4
1	B	14	ARG	2.4
1	O	11	GLN	2.4

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Mol	Chain	Res	Type	RSRZ
1	Y	182	ARG	2.4
1	A	133	THR	2.4
1	S	133	THR	2.4
1	S	113	GLU	2.4
1	W	44	GLU	2.4
2	T	412	SER	2.4
1	F	179	ASP	2.3
1	S	146	SER	2.3
1	Q	37	GLY	2.3
1	S	10	GLU	2.3
1	K	172	ALA	2.3
2	T	400	ALA	2.3
1	Y	189	ARG	2.3
1	O	165	ASN	2.3
1	1	159	THR	2.3
1	K	150	GLU	2.3
2	C	519	GLU	2.3
1	B	11	GLN	2.3
1	S	165	ASN	2.3
1	O	10	GLU	2.3
1	Q	113	GLU	2.3
1	W	48	ARG	2.3
1	1	172	ALA	2.3
1	A	203	LEU	2.3
1	Q	181	LEU	2.3
1	K	152	HIS	2.3
1	A	205	VAL	2.3
1	I	13	MET	2.3
1	K	189	ARG	2.3
1	M	48	ARG	2.3
1	Y	128	ALA	2.3
2	P	425	ALA	2.3
1	D	26	ARG	2.2
1	I	182	ARG	2.2
1	1	14	ARG	2.2
1	Q	165	ASN	2.2
1	F	161	GLU	2.2
1	A	141	ILE	2.2
1	D	125	ALA	2.2
1	M	28	LYS	2.2
2	R	400	ALA	2.2
1	B	182	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
1	Q	135	ARG	2.2
1	A	230	LEU	2.2
1	F	171	TYR	2.2
1	U	15	GLU	2.2
1	U	161	GLU	2.2
1	Y	149	ASP	2.2
2	C	432	GLU	2.2
2	Z	519	GLU	2.2
1	S	206	ALA	2.2
2	J	399	LEU	2.2
1	F	8	SER	2.2
1	W	178	THR	2.2
1	W	225	ILE	2.2
1	M	44	GLU	2.2
1	O	169	GLU	2.2
1	Y	161	GLU	2.2
2	N	519	GLU	2.2
1	A	171	TYR	2.2
1	S	12	ALA	2.2
1	W	159	THR	2.2
2	X	330	ASP	2.2
2	2	330	ASP	2.2
2	C	391	LEU	2.2
2	L	433	GLU	2.2
1	U	148	ALA	2.2
1	Q	233	LEU	2.2
1	D	207	SER	2.2
1	M	171	TYR	2.1
2	P	392	ALA	2.1
1	S	153	PHE	2.1
2	Z	414	PRO	2.1
1	K	167	LEU	2.1
2	2	400	ALA	2.1
1	Y	167	LEU	2.1
1	W	10	GLU	2.1
1	K	12	ALA	2.1
1	1	203	LEU	2.1
1	O	48	ARG	2.1
1	O	189	ARG	2.1
1	O	154	VAL	2.1
1	M	162	PRO	2.1
1	K	113	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
1	M	14	ARG	2.1
1	U	234	LEU	2.1
2	G	330	ASP	2.1
1	I	131	GLY	2.1
2	C	400	ALA	2.1
1	Q	44	GLU	2.1
1	A	14	ARG	2.1
1	O	182	ARG	2.1
1	K	111	PHE	2.1
1	1	135	ARG	2.1
1	O	160	THR	2.1
1	B	161	GLU	2.1
1	1	161	GLU	2.1
1	Q	48	ARG	2.1
1	B	179	ASP	2.0
1	B	152	HIS	2.0
1	I	234	LEU	2.0
1	Y	137	GLU	2.0
1	Y	234	LEU	2.0
1	Y	135	ARG	2.0
1	O	173	GLU	2.0
1	U	18	GLU	2.0
1	Y	150	GLU	2.0
1	1	44	GLU	2.0
1	Q	50	LEU	2.0
1	O	148	ALA	2.0
1	F	113	GLU	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
2	OZT	L	301	9/10	0.93	0.11	19,24,26,27	0
2	OZT	2	301	9/10	0.94	0.13	25,31,33,35	0
2	OZT	J	301	9/10	0.95	0.12	19,23,27,31	0
2	OZT	G	301	9/10	0.95	0.12	21,24,29,32	0
2	OZT	R	301	9/10	0.95	0.10	20,23,27,28	0
2	OZT	X	301	9/10	0.95	0.12	19,21,23,26	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
2	OZT	H	301	9/10	0.95	0.10	22,24,25,28	0
2	OZT	C	301	9/10	0.96	0.10	18,23,26,29	0
2	OZT	V	301	9/10	0.96	0.11	20,22,27,31	0
2	OZT	N	301	9/10	0.97	0.08	21,24,27,31	0
2	OZT	Z	301	9/10	0.97	0.10	19,21,23,24	0
2	OZT	P	301	9/10	0.97	0.12	23,28,30,33	0
2	OZT	E	301	9/10	0.98	0.09	20,23,25,27	0
2	OZT	T	301	9/10	0.98	0.09	22,22,24,25	0

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, 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(\AA^2)	Q<0.9
3	DMF	1	250	5/5	0.54	0.30	61,62,63,63	0
3	DMF	E	20	5/5	0.56	0.49	84,84,85,85	0
3	DMF	N	22	5/5	0.60	0.47	91,92,92,92	0
3	DMF	2	49	5/5	0.60	0.47	93,93,94,94	0
3	DMF	P	14	5/5	0.61	0.53	90,91,92,92	0
3	DMF	Z	54	5/5	0.61	0.42	85,86,86,86	0
3	DMF	H	32	5/5	0.62	0.41	73,74,75,76	0
3	DMF	Z	18	5/5	0.68	0.45	97,98,98,99	0
3	DMF	G	24	5/5	0.71	0.44	80,80,81,82	0
3	DMF	K	250	5/5	0.71	0.28	57,59,59,60	0
3	DMF	X	40	5/5	0.72	0.32	92,93,93,93	0
3	DMF	E	66	5/5	0.74	0.30	65,65,66,67	0
3	DMF	N	58	5/5	0.78	0.30	54,56,58,59	0
3	DMF	P	51	5/5	0.79	0.32	76,76,76,76	0
3	DMF	G	12	5/5	0.79	0.30	66,67,67,67	0
3	DMF	L	53	5/5	0.81	0.33	84,84,85,86	0
3	DMF	G	64	5/5	0.81	0.27	56,57,58,58	0
3	DMF	C	10	5/5	0.81	0.30	42,45,46,48	0
3	DMF	J	45	5/5	0.81	0.35	85,85,85,85	0
3	DMF	C	47	5/5	0.81	0.30	71,71,71,72	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	DMF	B	250	5/5	0.82	0.29	77,78,78,79	0
3	DMF	W	249	5/5	0.82	0.32	76,76,77,78	0
3	DMF	Z	41	5/5	0.82	0.40	93,93,93,93	0
3	DMF	N	2	5/5	0.84	0.26	69,69,70,70	0
3	DMF	I	249	5/5	0.84	0.27	55,56,58,59	0
3	DMF	J	4	5/5	0.85	0.26	60,61,61,62	0
3	DMF	M	249	5/5	0.85	0.26	54,54,55,56	0
3	DMF	J	50	5/5	0.86	0.22	57,58,58,58	0
3	DMF	R	34	5/5	0.86	0.28	68,69,70,71	0
3	DMF	C	55	5/5	0.86	0.24	74,74,74,74	0
3	DMF	2	52	5/5	0.86	0.26	75,75,76,76	0
3	DMF	L	3	5/5	0.87	0.33	57,58,59,60	0
3	DMF	T	67	5/5	0.87	0.29	51,51,53,53	0
3	DMF	H	26	5/5	0.88	0.23	64,64,65,65	0
3	DMF	T	29	5/5	0.88	0.30	63,63,63,63	0
3	DMF	K	251	5/5	0.88	0.27	60,62,62,62	0
3	DMF	V	39	5/5	0.88	0.29	72,72,72,72	0
3	DMF	P	56	5/5	0.88	0.24	64,64,64,65	0
3	DMF	P	65	5/5	0.88	0.22	50,51,52,52	0
3	DMF	A	249	5/5	0.89	0.19	60,61,62,62	0
3	DMF	C	38	5/5	0.89	0.25	63,64,64,65	0
3	DMF	G	60	5/5	0.89	0.27	50,52,52,52	0
3	DMF	1	249	5/5	0.89	0.19	49,51,51,52	0
3	DMF	M	250	5/5	0.89	0.18	39,40,41,41	0
3	DMF	R	59	5/5	0.89	0.24	58,59,60,60	0
3	DMF	X	61	5/5	0.89	0.22	55,56,58,60	0
3	DMF	F	249	5/5	0.90	0.20	70,71,71,71	0
3	DMF	S	249	5/5	0.90	0.23	79,80,81,81	0
3	DMF	H	62	5/5	0.90	0.22	42,43,45,47	0
3	DMF	X	16	5/5	0.91	0.21	46,46,47,48	0
3	DMF	Q	249	5/5	0.91	0.16	49,49,50,50	0
3	DMF	V	27	5/5	0.92	0.33	77,77,78,79	0
3	DMF	Z	30	5/5	0.92	0.20	56,56,57,57	0
3	DMF	E	28	5/5	0.92	0.26	45,47,48,48	0
3	DMF	O	249	5/5	0.92	0.23	46,47,48,50	0
3	DMF	H	33	5/5	0.93	0.18	39,40,41,41	0
3	DMF	I	250	5/5	0.93	0.17	61,61,61,61	0
3	DMF	K	249	5/5	0.93	0.19	51,53,54,55	0
3	DMF	2	42	5/5	0.93	0.21	54,54,55,55	0
3	DMF	D	249	5/5	0.93	0.20	53,53,53,54	0
3	DMF	Z	43	5/5	0.93	0.16	48,48,49,49	0
3	DMF	L	36	5/5	0.94	0.20	57,57,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	DMF	G	1	5/5	0.94	0.21	42,44,45,46	0
3	DMF	B	249	5/5	0.94	0.20	47,47,48,48	0
3	DMF	U	249	5/5	0.94	0.20	51,51,52,52	0
3	DMF	2	63	5/5	0.94	0.17	43,45,45,46	0
3	DMF	N	15	5/5	0.95	0.17	44,46,47,47	0

6.5 Other polymers [i](#)

There are no such residues in this entry.