



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 06:09 PM GMT

PDB ID : 4KI7
Title : Design and structural analysis of aromatic inhibitors of type II dehydroquinase from Mycobacterium tuberculosis - compound 41c [3-hydroxy-5-(3-nitrophenoxy)benzoic acid]
Authors : Dias, M.V.B.; Howard, N.G.; Blundell, T.L.; Abell, C.
Deposited on : 2013-05-01
Resolution : 2.80 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix) : 1.9-1692
EDS : rb-20026688
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk26865

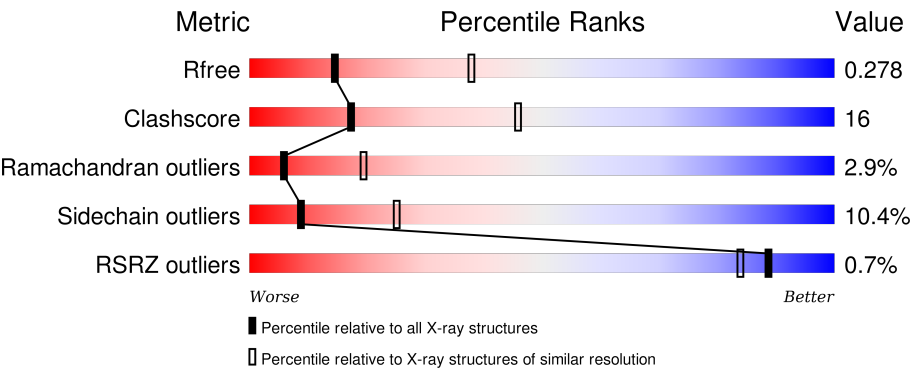
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.80 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.















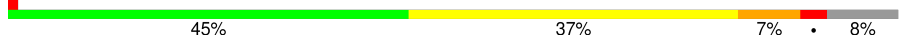






Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R _{free}	91344	2393 (2.80-2.80)
Clashscore	102246	2827 (2.80-2.80)
Ramachandran outliers	100387	2782 (2.80-2.80)
Sidechain outliers	100360	2784 (2.80-2.80)
RSRZ outliers	91569	2404 (2.80-2.80)

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

Mol	Chain	Length	Quality of chain
1	A	153	<div><div>%</div><div><div></div><div>57%</div><div>27%</div><div>• •</div><div>12%</div></div></div>
1	B	153	<div><div></div><div>69%</div><div>21%</div><div>• •</div><div>8%</div></div>
1	C	153	<div><div></div><div>66%</div><div>25%</div><div>•</div><div>8%</div></div>
1	D	153	<div><div></div><div>61%</div><div>27%</div><div>• •</div><div>7%</div></div>
1	E	153	<div><div>%</div><div><div></div><div>71%</div><div>16%</div><div>• •</div><div>8%</div></div></div>

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Mol	Chain	Length	Quality of chain
1	F	153	
1	G	153	
1	H	153	
1	I	153	
1	J	153	
1	K	153	
1	L	153	
1	M	153	
1	N	153	
1	O	153	
1	P	153	
1	Q	153	
1	R	153	
1	S	153	
1	T	153	
1	U	153	
1	V	153	
1	W	153	
1	X	153	

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
2	1R2	A	201	-	-	-	X
2	1R2	T	201	-	-	-	X
2	1R2	V	201	-	-	X	-
2	1R2	W	201	-	-	X	X
2	1R2	X	201	-	-	-	X

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 26499 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 3-dehydroquinate dehydratase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	134	Total	C	N	O	S	0	0	0
			1009	635	183	190	1			
1	B	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	C	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	D	143	Total	C	N	O	S	0	0	0
			1082	681	198	202	1			
1	E	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	F	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	G	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	H	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	I	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	J	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	K	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	L	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	M	137	Total	C	N	O	S	0	0	0
			1040	652	192	195	1			
1	N	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	O	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	P	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	Q	137	Total	C	N	O	S	0	0	0
			1043	656	192	194	1			
1	R	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	S	140	Total	C	N	O	S	0	0	0
			1057	665	192	199	1			
1	T	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	U	141	Total	C	N	O	S	0	0	0
			1071	674	196	200	1			
1	V	141	Total	C	N	O	S	0	0	0
			1067	672	196	198	1			
1	W	141	Total	C	N	O	S	0	0	0
			1067	672	196	198	1			
1	X	150	Total	C	N	O	S	0	0	0
			1150	725	208	215	2			

There are 144 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
A	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
A	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
A	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
A	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
A	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
B	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
B	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
B	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
B	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
B	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
B	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
C	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
C	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
C	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
C	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
C	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
C	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
D	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
D	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
D	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
D	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
D	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
E	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
E	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
E	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
E	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
E	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
E	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
F	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
F	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
F	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
F	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
F	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
F	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
G	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
G	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
G	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
G	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
G	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
G	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
H	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
H	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
H	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
H	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
H	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
H	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
I	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
I	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
I	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
I	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
I	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
I	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
J	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
J	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
J	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
J	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
J	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
J	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
K	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
K	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
K	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
K	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
K	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6

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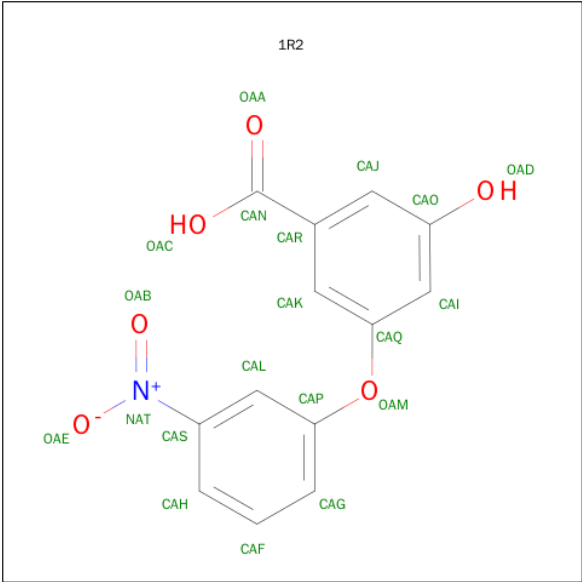
Chain	Residue	Modelled	Actual	Comment	Reference
K	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
L	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
L	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
L	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
L	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
L	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
L	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
M	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
M	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
M	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
M	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
M	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
M	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
N	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
N	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
N	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
N	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
N	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
N	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
O	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
O	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
O	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
O	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
O	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
O	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
P	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
P	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
P	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
P	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
P	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
P	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
Q	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
Q	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
Q	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
Q	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
Q	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
Q	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
R	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
R	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
R	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
R	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
R	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6

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Chain	Residue	Modelled	Actual	Comment	Reference
R	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
S	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
S	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
S	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
S	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
S	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
S	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
T	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
T	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
T	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
T	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
T	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
T	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
U	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
U	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
U	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
U	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
U	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
U	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
V	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
V	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
V	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
V	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
V	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
V	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
W	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
W	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
W	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
W	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
W	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
W	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6
X	-6	LEU	-	EXPRESSION TAG	UNP P0A4Z6
X	-5	TYR	-	EXPRESSION TAG	UNP P0A4Z6
X	-4	PHE	-	EXPRESSION TAG	UNP P0A4Z6
X	-3	GLN	-	EXPRESSION TAG	UNP P0A4Z6
X	-2	SER	-	EXPRESSION TAG	UNP P0A4Z6
X	-1	HIS	-	EXPRESSION TAG	UNP P0A4Z6

- Molecule 2 is 3-HYDROXY-5-(3-NITROPHENOXY)BENZOIC ACID (three-letter code: 1R2) (formula: C₁₃H₉NO₆).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			20	13	1	6		
2	B	1	Total	C	N	O	0	0
			20	13	1	6		
2	C	1	Total	C	N	O	0	0
			20	13	1	6		
2	D	1	Total	C	N	O	0	0
			20	13	1	6		
2	E	1	Total	C	N	O	0	0
			20	13	1	6		
2	F	1	Total	C	N	O	0	0
			20	13	1	6		
2	G	1	Total	C	N	O	0	0
			20	13	1	6		
2	H	1	Total	C	N	O	0	0
			20	13	1	6		
2	I	1	Total	C	N	O	0	0
			20	13	1	6		
2	J	1	Total	C	N	O	0	0
			20	13	1	6		
2	K	1	Total	C	N	O	0	0
			20	13	1	6		
2	L	1	Total	C	N	O	0	0
			20	13	1	6		
2	N	1	Total	C	N	O	0	0
			20	13	1	6		
2	O	1	Total	C	N	O	0	0
			20	13	1	6		

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	P	1	Total	C	N	O	0	0
			20	13	1	6		
2	R	1	Total	C	N	O	0	0
			20	13	1	6		
2	S	1	Total	C	N	O	0	0
			20	13	1	6		
2	T	1	Total	C	N	O	0	0
			20	13	1	6		
2	U	1	Total	C	N	O	0	0
			20	13	1	6		
2	V	1	Total	C	N	O	0	0
			20	13	1	6		
2	W	1	Total	C	N	O	0	0
			20	13	1	6		
2	X	1	Total	C	N	O	0	0
			20	13	1	6		

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	11	Total	O	0	0
			11	11		
3	B	23	Total	O	0	0
			23	23		
3	C	23	Total	O	0	0
			23	23		
3	D	18	Total	O	0	0
			18	18		
3	E	22	Total	O	0	0
			22	22		
3	F	14	Total	O	0	0
			14	14		
3	G	21	Total	O	0	0
			21	21		
3	H	21	Total	O	0	0
			21	21		
3	I	16	Total	O	0	0
			16	16		
3	J	21	Total	O	0	0
			21	21		
3	K	12	Total	O	0	0
			12	12		

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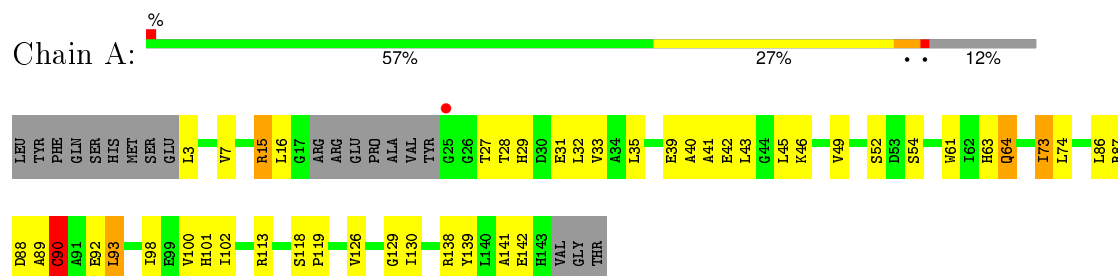
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	L	15	Total 15	O 15	0	0
3	M	11	Total 11	O 11	0	0
3	N	17	Total 17	O 17	0	0
3	O	11	Total 11	O 11	0	0
3	P	21	Total 21	O 21	0	0
3	Q	18	Total 18	O 18	0	0
3	R	14	Total 14	O 14	0	0
3	S	11	Total 11	O 11	0	0
3	T	23	Total 23	O 23	0	0
3	U	18	Total 18	O 18	0	0
3	V	21	Total 21	O 21	0	0
3	W	10	Total 10	O 10	0	0
3	X	16	Total 16	O 16	0	0

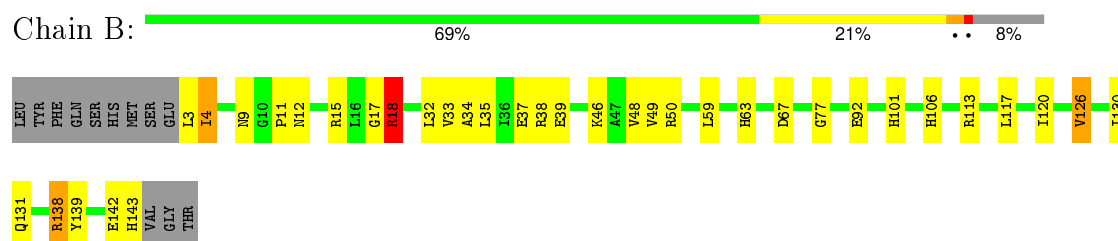
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

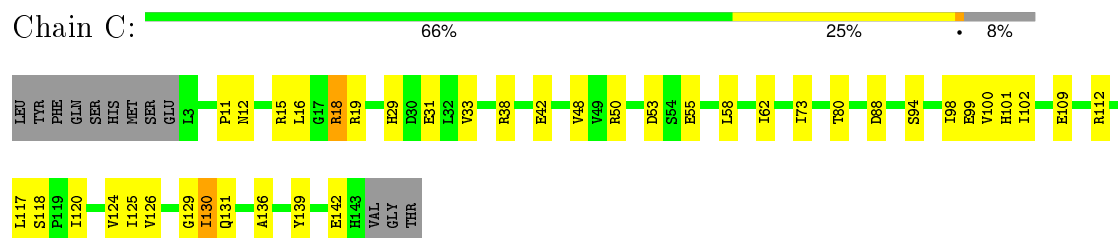
- Molecule 1: 3-dehydroquinate dehydratase



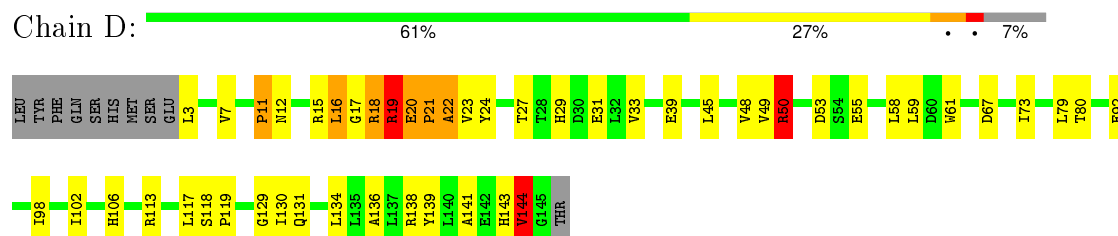
- Molecule 1: 3-dehydroquinate dehydratase



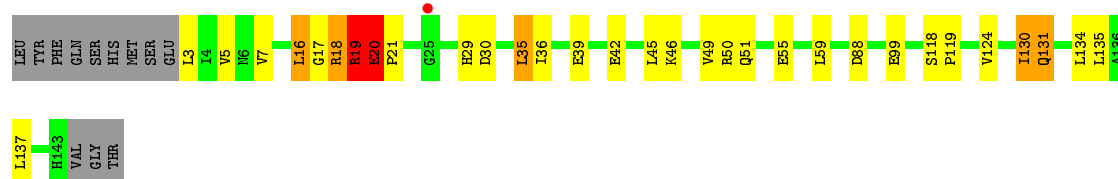
- Molecule 1: 3-dehydroquinate dehydratase



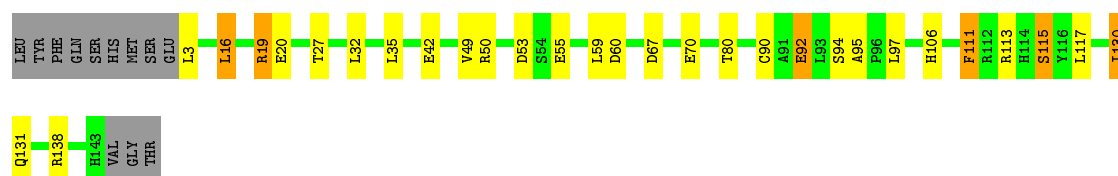
- Molecule 1: 3-dehydroquinate dehydratase



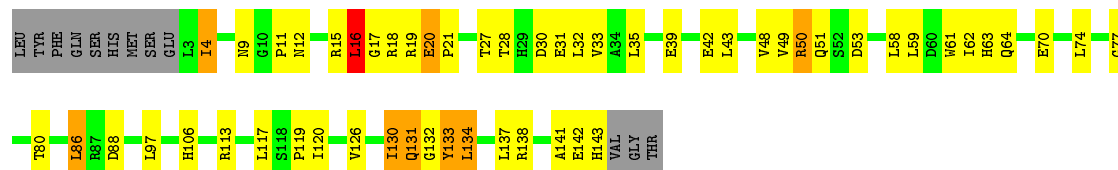
- Molecule 1: 3-dehydroquinatase



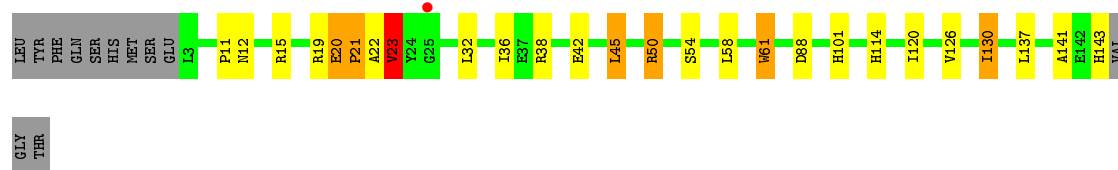
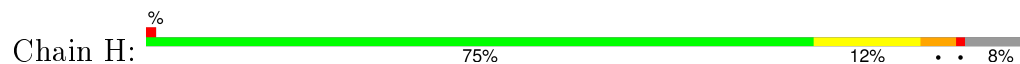
- Molecule 1: 3-dehydroquinatase



- Molecule 1: 3-dehydroquinatase



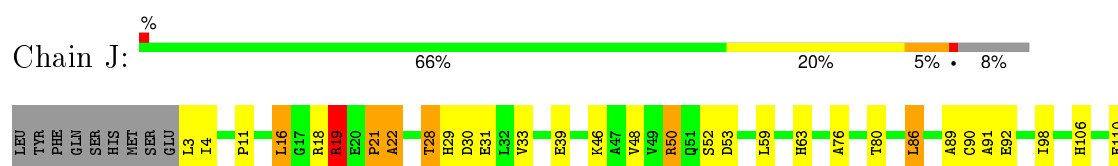
- Molecule 1: 3-dehydroquinatase



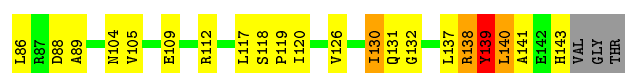
- Molecule 1: 3-dehydroquinatase



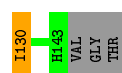
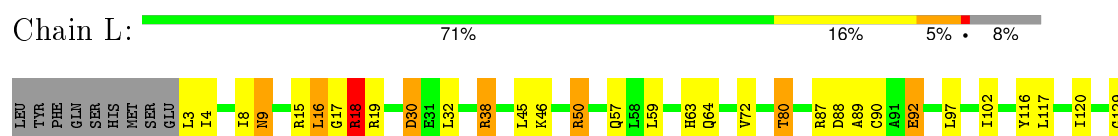
- Molecule 1: 3-dehydroquinatase



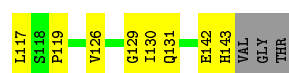
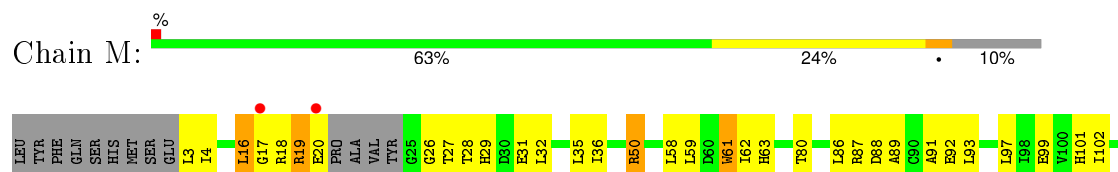
• Molecule 1: 3-dehydroquinatase dehydratase



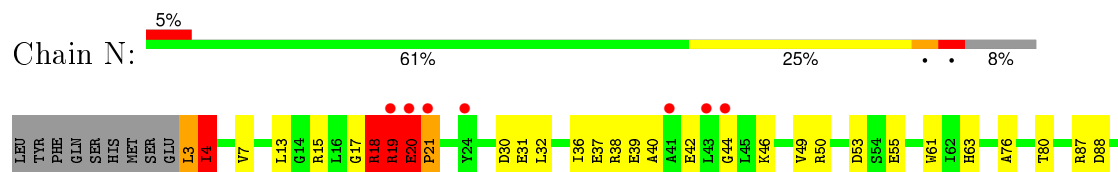
• Molecule 1: 3-dehydroquinatase dehydratase



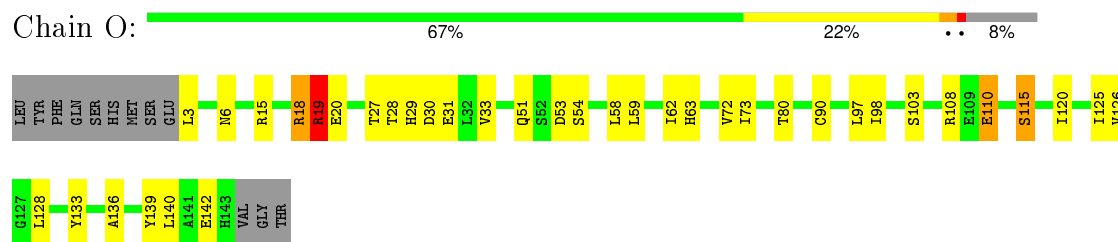
• Molecule 1: 3-dehydroquinatase dehydratase



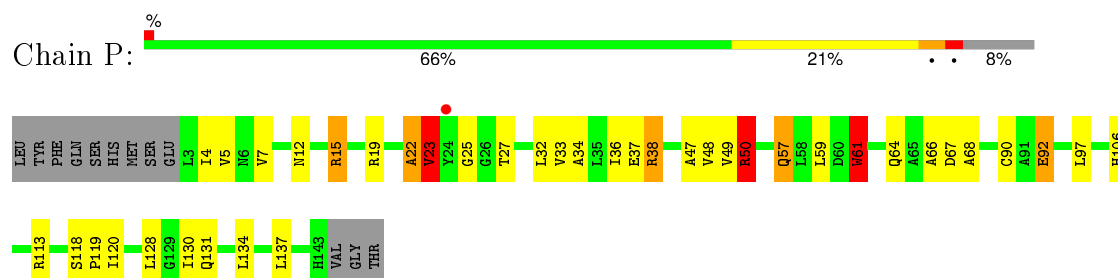
• Molecule 1: 3-dehydroquinatase dehydratase



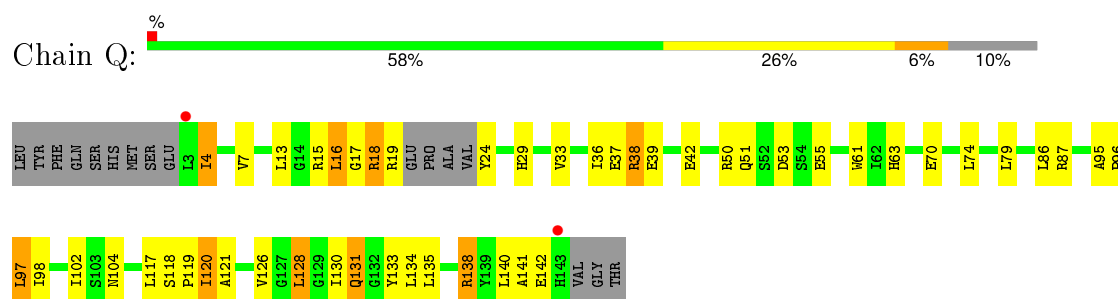
• Molecule 1: 3-dehydroquinatase dehydratase



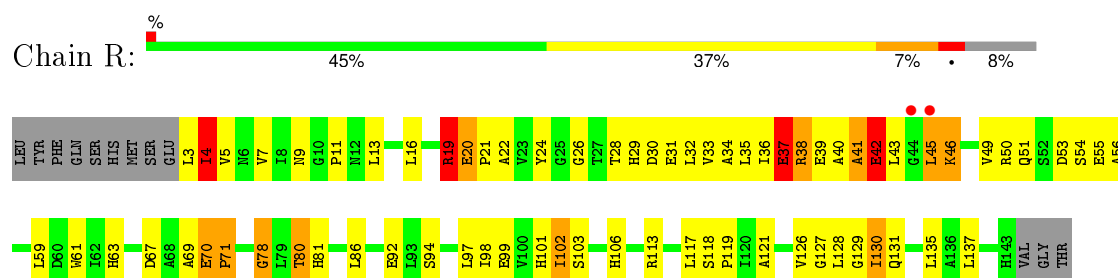
- Molecule 1: 3-dehydroquinate dehydratase



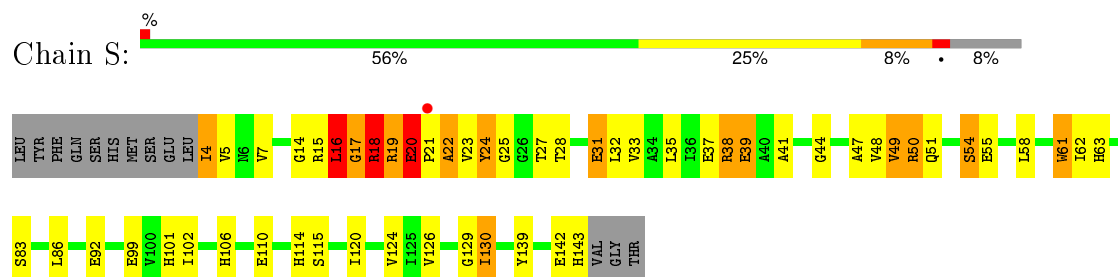
- Molecule 1: 3-dehydroquinate dehydratase



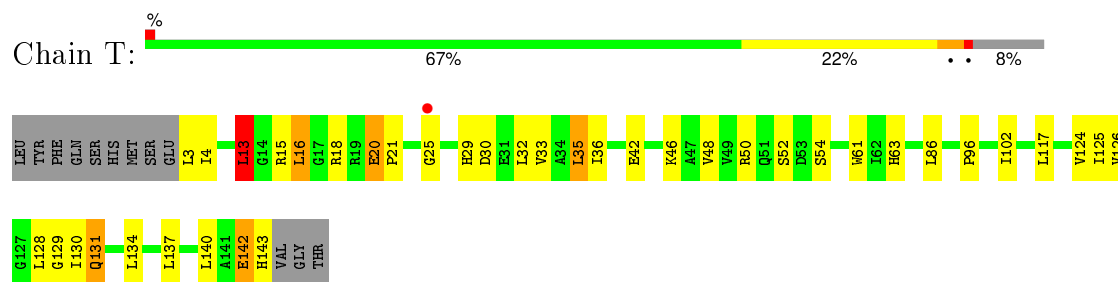
- Molecule 1: 3-dehydroquinate dehydratase



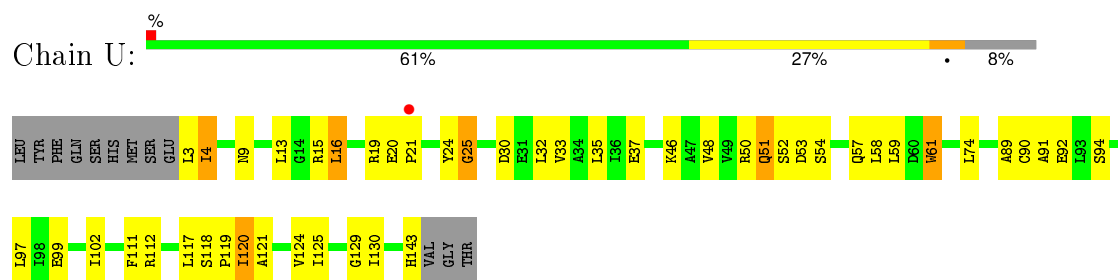
- Molecule 1: 3-dehydroquinate dehydratase



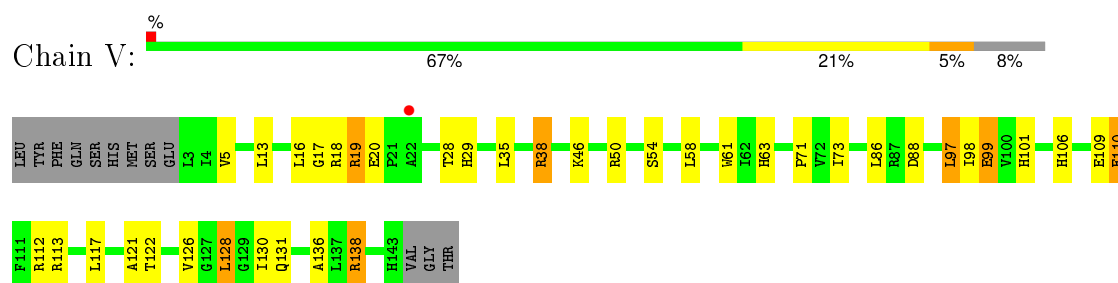
- Molecule 1: 3-dehydroquinate dehydratase



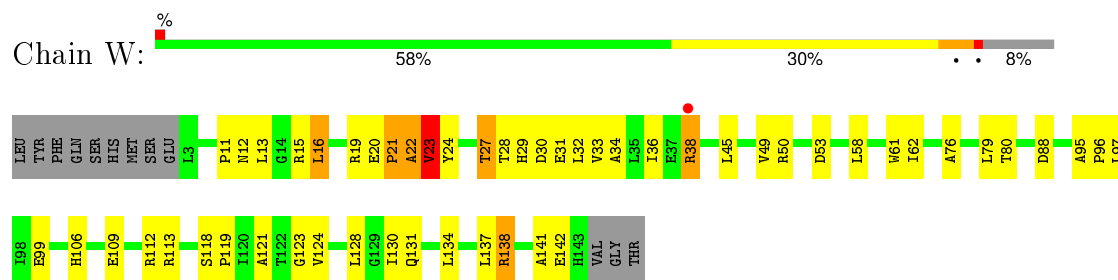
• Molecule 1: 3-dehydroquinatase dehydratase



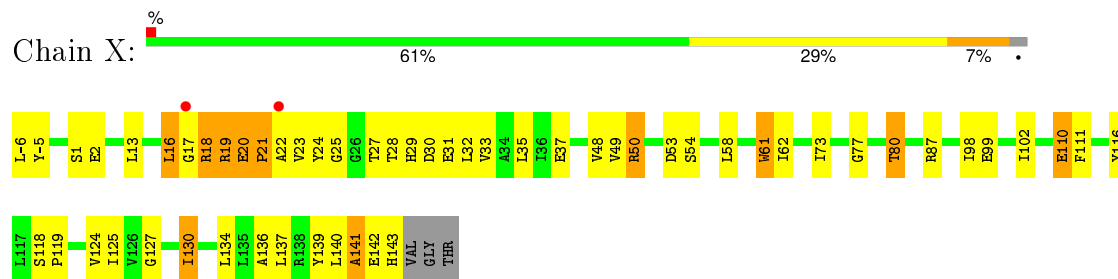
• Molecule 1: 3-dehydroquinatase dehydratase



• Molecule 1: 3-dehydroquinatase dehydratase



• Molecule 1: 3-dehydroquinatase dehydratase



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	96.74Å 139.69Å 143.81Å 90.00° 96.43° 90.00°	Depositor
Resolution (Å)	56.51 – 2.80 56.51 – 2.80	Depositor EDS
% Data completeness (in resolution range)	99.7 (56.51-2.80) 99.7 (56.51-2.80)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.37 (at 2.81Å)	Xtriage
Refinement program	REFMAC 5.6.0117	Depositor
R, R_{free}	0.188 , 0.278 0.189 , 0.278	Depositor DCC
R_{free} test set	4676 reflections (5.28%)	DCC
Wilson B-factor (Å ²)	29.3	Xtriage
Anisotropy	0.020	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 41.4	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Outliers	0 of 93258 reflections	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	26499	wwPDB-VP
Average B, all atoms (Å ²)	24.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.30% 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, 0.375 respectively for untwinned datasets, and 0.333, 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: 1R2

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.65	1/1024 (0.1%)	0.79	0/1393
1	B	0.65	0/1089	0.78	0/1483
1	C	0.66	0/1089	0.76	0/1483
1	D	0.70	0/1100	0.85	2/1498 (0.1%)
1	E	0.64	0/1089	0.77	0/1483
1	F	0.65	0/1089	0.75	1/1483 (0.1%)
1	G	0.65	1/1089 (0.1%)	0.84	2/1483 (0.1%)
1	H	0.65	1/1089 (0.1%)	0.79	0/1483
1	I	0.62	0/1089	0.75	0/1483
1	J	0.71	0/1089	0.81	1/1483 (0.1%)
1	K	0.65	0/1089	0.89	2/1483 (0.1%)
1	L	0.69	0/1089	0.83	0/1483
1	M	0.61	1/1055 (0.1%)	0.78	0/1433
1	N	0.60	0/1089	0.74	0/1483
1	O	0.66	0/1089	0.82	0/1483
1	P	0.69	1/1089 (0.1%)	0.85	1/1483 (0.1%)
1	Q	0.57	0/1059	0.73	0/1439
1	R	0.62	0/1089	0.84	0/1483
1	S	0.63	1/1075 (0.1%)	0.76	0/1465
1	T	0.66	0/1089	0.79	1/1483 (0.1%)
1	U	0.61	1/1089 (0.1%)	0.76	1/1483 (0.1%)
1	V	0.62	1/1085 (0.1%)	0.74	0/1478
1	W	0.59	0/1085	0.73	1/1478 (0.1%)
1	X	0.64	1/1171 (0.1%)	0.76	0/1593
All	All	0.64	9/26078 (0.0%)	0.79	12/35505 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	R	0	1
1	S	0	1
All	All	0	2

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	P	61	TRP	CD2-CE2	6.54	1.49	1.41
1	X	61	TRP	CD2-CE2	5.88	1.48	1.41
1	G	61	TRP	CD2-CE2	5.46	1.47	1.41
1	A	61	TRP	CD2-CE2	5.44	1.47	1.41
1	V	61	TRP	CD2-CE2	5.43	1.47	1.41
1	S	61	TRP	CD2-CE2	5.33	1.47	1.41
1	M	61	TRP	CD2-CE2	5.33	1.47	1.41
1	H	61	TRP	CD2-CE2	5.26	1.47	1.41
1	U	61	TRP	CD2-CE2	5.18	1.47	1.41

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	K	14	GLY	N-CA-C	-8.35	92.23	113.10
1	G	16	LEU	CA-CB-CG	7.49	132.52	115.30
1	J	128	LEU	N-CA-C	-6.27	94.08	111.00
1	T	13	LEU	CA-CB-CG	-5.94	101.64	115.30
1	U	53	ASP	CB-CG-OD1	5.83	123.55	118.30
1	D	3	LEU	CA-CB-CG	5.78	128.59	115.30
1	D	50	ARG	NE-CZ-NH1	5.49	123.04	120.30
1	F	53	ASP	CB-CG-OD1	5.36	123.12	118.30
1	K	16	LEU	CA-CB-CG	5.27	127.41	115.30
1	W	22	ALA	C-N-CA	5.22	134.74	121.70
1	P	23	VAL	N-CA-C	5.21	125.06	111.00
1	G	134	LEU	CA-CB-CG	5.01	126.82	115.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	R	78	GLY	Peptide
1	S	20	GLU	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1009	0	1016	37	0
1	B	1071	0	1079	34	0
1	C	1071	0	1079	27	0
1	D	1082	0	1091	63	0
1	E	1071	0	1079	26	0
1	F	1071	0	1079	19	0
1	G	1071	0	1079	43	0
1	H	1071	0	1079	29	0
1	I	1071	0	1079	30	0
1	J	1071	0	1079	34	0
1	K	1071	0	1079	54	0
1	L	1071	0	1079	28	0
1	M	1040	0	1048	38	0
1	N	1071	0	1079	33	0
1	O	1071	0	1079	31	0
1	P	1071	0	1079	42	0
1	Q	1043	0	1051	39	0
1	R	1071	0	1079	60	0
1	S	1057	0	1057	56	0
1	T	1071	0	1079	26	0
1	U	1071	0	1079	26	0
1	V	1067	0	1075	30	0
1	W	1067	0	1075	49	0
1	X	1150	0	1151	54	0
2	A	20	0	8	1	0
2	B	20	0	8	2	0
2	C	20	0	8	1	0
2	D	20	0	8	1	0
2	E	20	0	8	1	0
2	F	20	0	7	1	0
2	G	20	0	8	2	0
2	H	20	0	8	0	0
2	I	20	0	8	2	0
2	J	20	0	8	0	0
2	K	20	0	8	2	0
2	L	20	0	7	0	0
2	N	20	0	7	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	O	20	0	8	1	0
2	P	20	0	8	0	0
2	R	20	0	8	2	0
2	S	20	0	8	0	0
2	T	20	0	8	5	0
2	U	20	0	8	0	0
2	V	20	0	8	9	0
2	W	20	0	7	8	0
2	X	20	0	7	3	0
3	A	11	0	0	4	0
3	B	23	0	0	2	0
3	C	23	0	0	0	0
3	D	18	0	0	0	0
3	E	22	0	0	0	0
3	F	14	0	0	0	0
3	G	21	0	0	0	0
3	H	21	0	0	1	0
3	I	16	0	0	1	0
3	J	21	0	0	3	0
3	K	12	0	0	0	0
3	L	15	0	0	1	0
3	M	11	0	0	1	0
3	N	17	0	0	1	0
3	O	11	0	0	0	0
3	P	21	0	0	2	0
3	Q	18	0	0	1	0
3	R	14	0	0	2	0
3	S	11	0	0	2	0
3	T	23	0	0	1	0
3	U	18	0	0	1	0
3	V	21	0	0	2	0
3	W	10	0	0	1	0
3	X	16	0	0	0	0
All	All	26499	0	25999	837	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 16.

All (837) 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)
2:I:201:1R2:NAT	2:I:201:1R2:OAE	1.57	1.36
2:V:201:1R2:OAB	2:V:201:1R2:NAT	1.61	1.34
2:F:201:1R2:OAE	2:F:201:1R2:NAT	1.60	1.32
2:T:201:1R2:NAT	2:T:201:1R2:OAB	1.57	1.31
2:V:201:1R2:OAE	2:V:201:1R2:NAT	1.62	1.30
2:W:201:1R2:OAE	2:W:201:1R2:NAT	1.62	1.30
2:G:201:1R2:NAT	2:G:201:1R2:OAB	1.61	1.30
1:X:142:GLU:CB	1:X:143:HIS:HA	1.62	1.25
1:P:57:GLN:NE2	1:P:61:TRP:HE3	1.35	1.24
1:K:138:ARG:HA	1:K:139:TYR:O	1.39	1.17
1:B:17:GLY:HA3	1:B:18:ARG:HB2	1.20	1.15
1:E:20:GLU:H	1:E:21:PRO:HD3	1.06	1.14
1:X:21:PRO:HB2	1:X:22:ALA:HA	1.32	1.12
1:H:21:PRO:HB2	1:H:22:ALA:CA	1.80	1.10
1:X:142:GLU:HB3	1:X:143:HIS:HA	1.34	1.09
1:S:50:ARG:HG2	1:S:50:ARG:HH21	0.96	1.08
1:W:22:ALA:HB3	1:W:23:VAL:HB	1.13	1.08
1:H:21:PRO:HB2	1:H:22:ALA:HA	1.19	1.08
1:H:88:ASP:O	1:I:19:ARG:NH2	1.89	1.05
1:S:19:ARG:O	1:S:20:GLU:HG2	1.56	1.04
1:N:17:GLY:N	1:N:18:ARG:HB2	1.71	1.04
1:S:102:ILE:HG23	1:S:129:GLY:HA2	1.41	1.02
1:D:21:PRO:HB3	1:D:23:VAL:N	1.75	1.02
1:D:18:ARG:O	1:D:19:ARG:HB2	1.57	1.02
1:A:89:ALA:HB2	1:K:12:ASN:OD1	1.59	1.02
1:X:142:GLU:HB2	1:X:143:HIS:HA	1.36	1.01
1:L:32:LEU:HD13	1:L:130:ILE:HG13	1.42	1.00
1:D:138:ARG:NE	1:I:138:ARG:HD3	1.77	1.00
1:X:17:GLY:HA3	1:X:18:ARG:C	1.80	1.00
1:W:19:ARG:HG3	1:W:20:GLU:H	1.25	1.00
1:L:50:ARG:HH11	1:L:50:ARG:HB2	1.24	1.00
1:N:17:GLY:H	1:N:18:ARG:HB2	1.22	0.99
1:N:20:GLU:HB2	1:N:21:PRO:HA	1.46	0.96
1:W:22:ALA:CB	1:W:23:VAL:HB	1.96	0.95
1:P:57:GLN:NE2	1:P:61:TRP:CE3	2.27	0.94
1:E:20:GLU:N	1:E:21:PRO:HD3	1.83	0.93
1:P:47:ALA:HB3	3:P:305:HOH:O	1.69	0.93
1:X:17:GLY:HA3	1:X:18:ARG:O	1.65	0.93
1:X:21:PRO:HB2	1:X:22:ALA:CA	1.98	0.93
1:V:131:GLN:HE22	1:X:139:TYR:HA	1.34	0.93
1:X:20:GLU:HB3	1:X:21:PRO:O	1.69	0.92
1:B:63:HIS:HD2	3:B:311:HOH:O	1.51	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:21:PRO:HA	1:D:22:ALA:HB3	1.53	0.91
1:H:21:PRO:CB	1:H:22:ALA:HA	2.01	0.90
1:L:17:GLY:HA2	1:L:19:ARG:N	1.85	0.90
1:X:142:GLU:CB	1:X:143:HIS:CA	2.49	0.90
1:P:15:ARG:HD2	1:S:63:HIS:CD2	2.07	0.90
1:H:20:GLU:HB3	1:H:21:PRO:HA	1.54	0.89
1:V:38:ARG:HG3	1:V:38:ARG:HH11	1.37	0.89
1:N:20:GLU:HB2	1:N:21:PRO:CA	2.03	0.89
1:G:15:ARG:O	1:G:16:LEU:HB3	1.71	0.89
1:W:19:ARG:HG3	1:W:20:GLU:N	1.83	0.88
1:S:5:VAL:O	1:S:47:ALA:O	1.92	0.88
1:F:32:LEU:HD13	1:F:130:ILE:HG13	1.55	0.88
1:K:18:ARG:HG2	1:K:18:ARG:HH11	1.36	0.88
1:K:138:ARG:CA	1:K:139:TYR:O	2.20	0.88
1:V:29:HIS:HB2	3:V:302:HOH:O	1.73	0.88
1:G:32:LEU:HD13	1:G:130:ILE:HG13	1.56	0.87
1:D:143:HIS:O	1:D:144:VAL:HB	1.75	0.87
1:E:20:GLU:H	1:E:21:PRO:CD	1.87	0.86
1:D:15:ARG:HD2	1:G:63:HIS:CD2	2.11	0.85
1:B:17:GLY:CA	1:B:18:ARG:HB2	2.06	0.85
1:S:50:ARG:HG2	1:S:50:ARG:NH2	1.75	0.85
1:D:20:GLU:HB2	1:D:21:PRO:HD2	1.58	0.85
1:S:86:LEU:HG	3:S:303:HOH:O	1.76	0.85
1:K:14:GLY:O	1:K:16:LEU:N	2.10	0.85
1:V:99:GLU:OE2	1:V:101:HIS:NE2	2.10	0.85
1:Q:4:ILE:HG13	3:Q:207:HOH:O	1.76	0.84
1:I:23:VAL:HG11	1:I:108:ARG:NH1	1.92	0.84
1:G:15:ARG:O	1:G:16:LEU:CB	2.24	0.84
1:D:21:PRO:HG3	1:D:23:VAL:HB	1.58	0.84
1:L:17:GLY:HA2	1:L:19:ARG:H	1.44	0.83
1:I:23:VAL:HG11	1:I:108:ARG:HH12	1.40	0.83
1:R:24:TYR:HA	1:R:102:ILE:HD11	1.58	0.83
1:X:21:PRO:CB	1:X:22:ALA:HA	2.09	0.82
2:V:201:1R2:CAG	2:V:201:1R2:H2	2.08	0.82
1:C:101:HIS:HB2	1:C:126:VAL:HG22	1.60	0.82
1:X:142:GLU:HB2	1:X:143:HIS:CA	2.11	0.81
1:A:15:ARG:HD2	1:L:63:HIS:CD2	2.16	0.81
1:P:48:VAL:H	1:P:50:ARG:NH2	1.79	0.80
1:P:57:GLN:HE22	1:P:61:TRP:HE3	0.80	0.80
1:E:130:ILE:O	1:E:131:GLN:HB3	1.82	0.80
1:B:17:GLY:HA3	1:B:18:ARG:CB	2.09	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:19:ARG:O	1:E:20:GLU:HB2	1.82	0.79
1:S:50:ARG:HH21	1:S:50:ARG:CG	1.88	0.79
1:R:37:GLU:O	1:R:38:ARG:HB3	1.82	0.79
1:J:4:ILE:H	1:J:4:ILE:HD12	1.47	0.79
1:J:28:THR:HG21	3:J:306:HOH:O	1.81	0.78
1:K:18:ARG:CG	1:K:18:ARG:HH11	1.96	0.78
1:D:20:GLU:CB	1:D:21:PRO:CD	2.60	0.78
1:K:3:LEU:O	1:K:4:ILE:HG13	1.83	0.78
1:W:13:LEU:HG	2:W:201:1R2:H8	1.66	0.78
1:M:32:LEU:HD13	1:M:130:ILE:HD12	1.66	0.77
1:E:135:LEU:HD21	1:K:138:ARG:O	1.85	0.77
1:D:18:ARG:HB2	1:D:18:ARG:HH21	1.50	0.77
1:X:142:GLU:OE1	1:X:142:GLU:N	2.18	0.76
1:A:100:VAL:HG21	3:A:301:HOH:O	1.86	0.76
1:S:14:GLY:H	1:S:51:GLN:NE2	1.85	0.75
1:N:32:LEU:O	1:N:36:ILE:HG13	1.85	0.75
1:F:80:THR:HG22	1:F:115:SER:HB2	1.65	0.75
1:D:20:GLU:CB	1:D:21:PRO:HD2	2.12	0.75
1:D:138:ARG:HE	1:I:138:ARG:HD3	1.49	0.75
1:H:21:PRO:CB	1:H:22:ALA:CA	2.60	0.74
1:R:63:HIS:ND1	1:S:15:ARG:HD2	2.02	0.74
1:D:39:GLU:HG2	1:D:134:LEU:HD22	1.70	0.73
1:H:20:GLU:HB3	1:H:21:PRO:CA	2.16	0.73
1:N:20:GLU:CB	1:N:21:PRO:HA	2.17	0.73
1:H:88:ASP:C	1:I:19:ARG:HH22	1.91	0.72
1:V:38:ARG:HH11	1:V:38:ARG:CG	2.02	0.72
1:K:58:LEU:O	1:K:62:ILE:HG12	1.90	0.72
1:O:19:ARG:HG2	1:O:19:ARG:HH11	1.55	0.72
1:X:141:ALA:C	1:X:142:GLU:OE1	2.27	0.72
1:B:15:ARG:O	1:B:18:ARG:HB3	1.90	0.71
1:J:16:LEU:HD11	1:J:130:ILE:HD11	1.72	0.71
1:S:37:GLU:O	1:S:38:ARG:HB2	1.91	0.71
1:W:19:ARG:CG	1:W:20:GLU:H	2.01	0.71
1:N:63:HIS:CD2	1:O:15:ARG:HD2	2.26	0.71
1:D:21:PRO:HB3	1:D:23:VAL:H	1.55	0.71
1:A:73:ILE:O	1:A:98:ILE:O	2.09	0.70
1:R:130:ILE:N	1:R:130:ILE:HD12	2.07	0.70
1:M:50:ARG:HB3	1:M:61:TRP:CZ3	2.26	0.70
1:C:117:LEU:O	1:C:120:ILE:HG13	1.92	0.69
1:D:18:ARG:HH21	1:D:18:ARG:CB	2.05	0.69
1:T:128:LEU:O	1:T:131:GLN:HG2	1.91	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:32:LEU:HD13	1:B:130:ILE:HD11	1.74	0.69
1:N:7:VAL:HB	1:N:49:VAL:HG22	1.74	0.69
1:N:17:GLY:CA	1:N:18:ARG:HB2	2.23	0.69
2:V:201:1R2:H9	2:V:201:1R2:H2	1.75	0.69
1:X:58:LEU:O	1:X:62:ILE:HG12	1.93	0.69
1:M:17:GLY:HA2	1:M:18:ARG:C	2.13	0.69
1:B:4:ILE:HD12	1:B:4:ILE:H	1.57	0.69
1:X:17:GLY:CA	1:X:18:ARG:C	2.61	0.68
1:H:21:PRO:HB2	1:H:22:ALA:CB	2.22	0.68
1:S:129:GLY:O	1:S:130:ILE:HB	1.94	0.68
1:J:21:PRO:HB2	1:J:22:ALA:HB2	1.76	0.68
1:A:139:TYR:HA	1:G:131:GLN:OE1	1.94	0.68
1:A:101:HIS:HB2	1:A:126:VAL:HG22	1.75	0.68
1:T:131:GLN:N	1:T:131:GLN:HE21	1.91	0.68
1:R:35:LEU:O	1:R:39:GLU:HB2	1.94	0.68
1:Q:117:LEU:O	1:Q:120:ILE:HD13	1.94	0.68
1:N:18:ARG:O	1:N:19:ARG:HB2	1.93	0.68
1:G:20:GLU:N	1:G:21:PRO:HD2	2.08	0.68
1:G:20:GLU:N	1:G:21:PRO:CD	2.57	0.68
1:W:20:GLU:O	1:W:23:VAL:HG12	1.93	0.67
1:R:54:SER:O	1:R:56:ALA:N	2.24	0.67
1:T:131:GLN:H	1:T:131:GLN:NE2	1.92	0.67
1:R:97:LEU:HD23	1:R:121:ALA:HA	1.75	0.67
1:R:131:GLN:HG2	1:R:131:GLN:O	1.94	0.67
1:W:13:LEU:HG	2:W:201:1R2:CAF	2.24	0.67
1:M:92:GLU:HG2	1:W:19:ARG:HD3	1.75	0.67
1:R:3:LEU:O	1:R:4:ILE:HG22	1.95	0.67
1:T:131:GLN:H	1:T:131:GLN:HE21	1.43	0.67
1:V:109:GLU:OE1	1:V:112:ARG:NE	2.28	0.66
1:H:20:GLU:CB	1:H:21:PRO:HA	2.24	0.66
1:P:15:ARG:HD2	1:S:63:HIS:HD2	1.61	0.66
1:N:88:ASP:O	1:O:19:ARG:NH2	2.28	0.66
1:R:78:GLY:HA2	1:R:81:HIS:CD2	2.30	0.66
1:P:130:ILE:HD11	3:P:303:HOH:O	1.93	0.66
1:M:119:PRO:HB3	1:S:106:HIS:O	1.96	0.66
1:G:4:ILE:HG13	1:G:70:GLU:HG2	1.77	0.66
1:J:18:ARG:O	1:J:19:ARG:HB2	1.96	0.66
1:M:18:ARG:NH2	1:M:29:HIS:H	1.93	0.66
1:J:21:PRO:CB	1:J:22:ALA:HB2	2.25	0.66
1:D:48:VAL:HG12	1:D:50:ARG:HD2	1.78	0.65
1:C:48:VAL:HG12	1:C:50:ARG:HD2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:29:HIS:O	1:W:33:VAL:HG23	1.96	0.65
1:B:138:ARG:HG2	3:B:306:HOH:O	1.94	0.65
1:S:58:LEU:O	1:S:62:ILE:HG12	1.97	0.65
1:R:19:ARG:HG3	1:R:19:ARG:O	1.95	0.65
1:V:19:ARG:HG3	1:V:19:ARG:HH11	1.62	0.65
1:E:99:GLU:HB3	1:E:124:VAL:HG13	1.78	0.65
1:J:28:THR:CG2	3:J:306:HOH:O	2.43	0.65
1:H:15:ARG:HD2	1:J:63:HIS:CD2	2.31	0.65
1:D:21:PRO:CG	1:D:23:VAL:HB	2.25	0.65
1:R:24:TYR:HD1	1:R:102:ILE:HG12	1.62	0.65
1:N:120:ILE:HD12	1:N:121:ALA:N	2.12	0.65
1:O:19:ARG:HD3	2:O:201:1R2:OAB	1.97	0.64
1:P:66:ALA:HB1	1:P:92:GLU:CG	2.27	0.64
1:H:50:ARG:HD3	1:H:61:TRP:CD2	2.32	0.64
1:B:32:LEU:HD13	1:B:130:ILE:CG1	2.28	0.64
1:A:33:VAL:HG13	1:A:49:VAL:HB	1.79	0.64
1:V:99:GLU:OE2	1:V:101:HIS:CD2	2.49	0.64
1:P:128:LEU:HD11	1:U:125:ILE:HD11	1.80	0.64
1:I:59:LEU:HD12	1:J:53:ASP:HB3	1.80	0.64
1:R:41:ALA:O	1:R:43:LEU:N	2.29	0.64
1:K:33:VAL:HG13	1:K:34:ALA:N	2.12	0.64
1:M:92:GLU:CG	1:W:19:ARG:HD3	2.27	0.64
1:S:15:ARG:O	1:S:16:LEU:O	2.15	0.64
1:N:120:ILE:HD12	1:N:120:ILE:C	2.18	0.64
1:J:80:THR:HA	1:J:117:LEU:HD12	1.80	0.63
1:L:32:LEU:HD13	1:L:130:ILE:CG1	2.24	0.63
1:H:120:ILE:C	1:H:120:ILE:HD12	2.18	0.63
1:M:142:GLU:O	1:M:143:HIS:HB2	1.99	0.63
1:J:4:ILE:N	1:J:4:ILE:HD12	2.11	0.63
1:S:7:VAL:HB	1:S:49:VAL:HB	1.81	0.63
1:O:19:ARG:NH1	1:O:20:GLU:OE1	2.32	0.62
1:K:33:VAL:HG13	1:K:34:ALA:H	1.63	0.62
1:H:114:HIS:HA	3:H:311:HOH:O	1.98	0.62
1:D:20:GLU:HB2	1:D:21:PRO:CD	2.28	0.62
2:V:201:1R2:CAG	2:V:201:1R2:CAK	2.78	0.61
1:K:32:LEU:HD13	1:K:130:ILE:HD12	1.82	0.61
1:P:22:ALA:HA	1:P:23:VAL:C	2.21	0.61
1:X:33:VAL:HG12	1:X:37:GLU:OE2	1.99	0.61
1:A:63:HIS:CD2	1:K:15:ARG:HD2	2.35	0.61
1:E:130:ILE:O	1:E:131:GLN:CB	2.47	0.61
1:K:33:VAL:CG1	1:K:34:ALA:H	2.14	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:38:ARG:HG3	1:R:38:ARG:O	2.01	0.61
1:L:50:ARG:HH11	1:L:50:ARG:CB	2.07	0.60
1:Q:38:ARG:NH1	1:Q:39:GLU:HG2	2.15	0.60
1:N:3:LEU:C	1:N:4:ILE:HG13	2.21	0.60
1:X:18:ARG:O	1:X:28:THR:HG22	2.00	0.60
1:T:32:LEU:HD13	1:T:130:ILE:HG12	1.82	0.60
1:X:29:HIS:O	1:X:33:VAL:HG23	2.01	0.60
1:R:63:HIS:CG	1:S:15:ARG:HD2	2.36	0.60
1:N:13:LEU:HD23	2:N:201:1R2:H6	1.83	0.60
1:M:59:LEU:HD23	1:M:86:LEU:HD12	1.83	0.60
1:C:38:ARG:O	1:C:42:GLU:HG2	2.02	0.60
1:D:19:ARG:HG2	1:D:20:GLU:CD	2.22	0.60
1:O:73:ILE:HD11	1:O:140:LEU:HD12	1.82	0.60
1:J:86:LEU:HD23	1:J:117:LEU:HD21	1.84	0.59
1:R:101:HIS:HB2	1:R:126:VAL:HG12	1.83	0.59
1:X:19:ARG:N	1:X:19:ARG:HD2	2.17	0.59
1:C:18:ARG:O	1:C:19:ARG:HG3	2.03	0.59
1:M:18:ARG:HH22	1:M:29:HIS:H	1.48	0.59
1:X:33:VAL:HG13	1:X:49:VAL:HB	1.85	0.59
1:P:48:VAL:N	1:P:50:ARG:NH2	2.49	0.59
1:X:20:GLU:CB	1:X:21:PRO:HA	2.33	0.59
1:V:106:HIS:HA	1:V:113:ARG:HG2	1.85	0.59
1:O:28:THR:OG1	1:O:31:GLU:HG3	2.03	0.59
1:B:138:ARG:HD3	1:F:138:ARG:HD2	1.83	0.58
1:A:63:HIS:CG	1:K:15:ARG:HD2	2.38	0.58
1:D:131:GLN:HE22	1:I:142:GLU:HG2	1.68	0.58
1:Q:102:ILE:HD11	1:Q:133:TYR:HE1	1.68	0.58
1:R:37:GLU:O	1:R:37:GLU:HG2	2.01	0.58
1:I:99:GLU:HB3	1:I:124:VAL:HG13	1.85	0.58
1:S:102:ILE:CG2	1:S:129:GLY:HA2	2.27	0.58
1:R:92:GLU:CD	1:S:15:ARG:HE	2.07	0.58
1:K:33:VAL:O	1:K:37:GLU:HG2	2.03	0.58
1:K:30:ASP:O	1:K:33:VAL:HG12	2.03	0.58
1:D:92:GLU:HG3	1:F:19:ARG:CZ	2.33	0.58
1:W:106:HIS:HA	1:W:113:ARG:HG2	1.85	0.58
1:A:43:LEU:C	1:A:45:LEU:H	2.08	0.58
1:S:19:ARG:O	1:S:20:GLU:CG	2.41	0.57
1:J:28:THR:HG23	1:J:31:GLU:HG3	1.86	0.57
1:K:138:ARG:CG	1:K:138:ARG:O	2.51	0.57
1:B:139:TYR:CE1	1:B:143:HIS:CE1	2.92	0.57
1:R:29:HIS:O	1:R:33:VAL:HG23	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:34:ALA:O	1:R:38:ARG:HG2	2.05	0.57
1:P:130:ILE:H	1:P:130:ILE:HD12	1.70	0.57
1:P:7:VAL:O	1:P:49:VAL:O	2.22	0.57
1:X:20:GLU:HB2	1:X:21:PRO:HA	1.86	0.57
1:O:18:ARG:HG2	1:O:18:ARG:HH11	1.69	0.57
1:Q:38:ARG:NH1	1:Q:38:ARG:HB3	2.19	0.57
1:B:101:HIS:HB2	1:B:126:VAL:HG22	1.86	0.57
1:L:102:ILE:HG23	1:L:129:GLY:HA2	1.86	0.57
1:E:130:ILE:N	1:E:130:ILE:HD13	2.20	0.57
1:C:58:LEU:O	1:C:62:ILE:HG12	2.03	0.57
1:R:28:THR:HB	1:R:31:GLU:HG2	1.87	0.56
1:U:50:ARG:NE	3:U:303:HOH:O	2.38	0.56
1:K:80:THR:HG23	1:K:117:LEU:HD12	1.87	0.56
1:L:3:LEU:HD12	1:L:4:ILE:H	1.71	0.56
1:O:103:SER:OG	1:O:108:ARG:NH1	2.37	0.56
1:N:76:ALA:HB3	1:N:80:THR:OG1	2.05	0.56
1:D:16:LEU:C	1:D:18:ARG:H	2.08	0.56
1:L:8:ILE:O	1:L:9:ASN:O	2.22	0.56
1:Q:29:HIS:CE1	1:Q:51:GLN:HB2	2.40	0.56
2:W:201:1R2:H2	2:W:201:1R2:CAG	2.34	0.56
1:F:32:LEU:HD13	1:F:130:ILE:CG1	2.32	0.56
1:D:143:HIS:O	1:D:144:VAL:CB	2.52	0.56
1:W:13:LEU:CG	2:W:201:1R2:H8	2.34	0.56
1:J:19:ARG:HD2	1:J:21:PRO:HD3	1.87	0.56
1:Q:140:LEU:C	1:Q:142:GLU:H	2.09	0.56
1:K:138:ARG:HG2	1:K:138:ARG:O	2.05	0.56
1:D:50:ARG:HB3	1:D:61:TRP:CZ3	2.40	0.56
1:W:134:LEU:HA	1:W:137:LEU:HD12	1.88	0.56
1:R:103:SER:HB2	2:R:201:1R2:OAC	2.05	0.56
1:T:3:LEU:HD23	3:T:305:HOH:O	2.05	0.56
1:B:32:LEU:HD13	1:B:130:ILE:CD1	2.34	0.56
1:A:32:LEU:HD13	1:A:130:ILE:HG13	1.88	0.56
1:W:99:GLU:HB3	1:W:124:VAL:HG22	1.86	0.56
1:N:101:HIS:HB3	2:N:201:1R2:OAC	2.06	0.56
1:Q:29:HIS:O	1:Q:33:VAL:HG23	2.06	0.56
1:P:50:ARG:HD2	1:P:61:TRP:CZ2	2.41	0.55
1:D:16:LEU:HD13	1:D:27:THR:O	2.06	0.55
1:R:24:TYR:HE2	3:R:311:HOH:O	1.89	0.55
1:W:27:THR:HG23	1:W:31:GLU:HB2	1.88	0.55
1:G:16:LEU:HB2	2:G:201:1R2:OAE	2.06	0.55
1:W:20:GLU:O	1:W:23:VAL:CG1	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:4:ILE:HD13	1:Q:70:GLU:HG2	1.89	0.55
1:X:140:LEU:O	1:X:142:GLU:N	2.39	0.55
1:K:32:LEU:O	1:K:33:VAL:HB	2.06	0.55
1:R:127:GLY:O	1:R:129:GLY:N	2.39	0.55
2:V:201:1R2:OAB	2:V:201:1R2:CAS	2.50	0.55
1:D:21:PRO:HA	1:D:22:ALA:CB	2.31	0.55
1:M:102:ILE:HG23	1:M:129:GLY:HA2	1.88	0.55
1:X:32:LEU:HD13	1:X:130:ILE:CG1	2.36	0.55
1:S:18:ARG:HH21	1:S:18:ARG:CG	2.20	0.55
1:I:39:GLU:HG2	1:I:134:LEU:HD22	1.88	0.55
1:Q:18:ARG:O	1:Q:19:ARG:HG2	2.06	0.55
1:D:18:ARG:HH21	1:D:18:ARG:CG	2.18	0.55
1:R:5:VAL:HG22	1:R:71:PRO:HG2	1.88	0.55
1:W:95:ALA:HB3	3:W:309:HOH:O	2.07	0.55
1:N:142:GLU:HG3	1:N:142:GLU:O	2.06	0.55
1:D:138:ARG:CD	1:I:138:ARG:HD3	2.37	0.55
1:R:24:TYR:CA	1:R:102:ILE:HD11	2.33	0.55
1:H:101:HIS:HB2	1:H:126:VAL:HG22	1.88	0.55
1:M:18:ARG:NH2	1:M:28:THR:HB	2.21	0.54
1:T:3:LEU:HD12	1:T:4:ILE:H	1.71	0.54
1:H:32:LEU:HD13	1:H:130:ILE:HG13	1.88	0.54
1:D:16:LEU:O	1:D:18:ARG:N	2.40	0.54
1:S:101:HIS:HB2	1:S:126:VAL:HG22	1.89	0.54
1:K:33:VAL:CG1	1:K:34:ALA:N	2.71	0.54
1:L:30:ASP:OD2	1:L:30:ASP:N	2.40	0.54
1:A:63:HIS:CD2	1:K:15:ARG:CD	2.90	0.54
1:S:27:THR:HB	1:S:31:GLU:HB2	1.90	0.54
1:A:102:ILE:HG23	1:A:129:GLY:HA2	1.90	0.54
1:C:29:HIS:O	1:C:33:VAL:HG23	2.07	0.54
1:P:66:ALA:CB	1:P:92:GLU:HG3	2.37	0.54
1:I:29:HIS:O	1:I:33:VAL:HG23	2.08	0.54
1:Q:128:LEU:HD13	1:W:123:GLY:HA3	1.89	0.54
1:F:70:GLU:O	1:F:95:ALA:HB3	2.08	0.54
1:U:118:SER:HB2	1:U:119:PRO:HD3	1.88	0.54
1:V:19:ARG:NH1	1:V:19:ARG:HG3	2.22	0.54
1:M:59:LEU:HD12	1:W:53:ASP:HB3	1.90	0.54
1:P:67:ASP:O	1:P:68:ALA:HB3	2.08	0.54
1:J:4:ILE:H	1:J:4:ILE:CD1	2.19	0.54
1:T:102:ILE:HG23	1:T:129:GLY:HA2	1.90	0.54
1:U:59:LEU:HD22	1:U:89:ALA:HB2	1.90	0.54
1:K:18:ARG:CG	1:K:18:ARG:NH1	2.61	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:50:ARG:HB2	1:L:50:ARG:NH1	2.08	0.53
1:D:98:ILE:HD11	1:D:139:TYR:CD2	2.42	0.53
1:C:80:THR:HG23	1:C:117:LEU:HD12	1.89	0.53
1:A:64:GLN:HE21	1:A:64:GLN:HA	1.72	0.53
1:D:144:VAL:CG1	1:D:144:VAL:O	2.56	0.53
1:T:36:ILE:HG23	1:T:137:LEU:HD11	1.89	0.53
1:R:80:THR:HA	1:R:117:LEU:HD12	1.89	0.53
1:G:86:LEU:HD12	1:G:86:LEU:O	2.09	0.53
1:C:18:ARG:O	1:C:19:ARG:CG	2.56	0.53
1:K:75:ASN:C	1:K:75:ASN:HD22	2.11	0.53
1:G:106:HIS:HA	1:G:113:ARG:HG2	1.91	0.53
1:J:29:HIS:O	1:J:33:VAL:HG23	2.09	0.53
1:L:80:THR:HG23	1:L:117:LEU:HD12	1.90	0.53
1:P:37:GLU:O	1:P:38:ARG:HB3	2.07	0.53
1:G:132:GLY:C	1:G:133:TYR:O	2.44	0.53
1:D:138:ARG:CD	1:I:138:ARG:CD	2.87	0.52
1:O:63:HIS:CG	1:Q:15:ARG:HD3	2.43	0.52
1:D:7:VAL:HB	1:D:49:VAL:HG22	1.90	0.52
1:E:131:GLN:NE2	1:K:143:HIS:HE1	2.08	0.52
1:S:17:GLY:HA3	1:S:28:THR:HG22	1.90	0.52
1:C:88:ASP:OD2	2:E:201:1R2:H9	2.10	0.52
1:G:11:PRO:HA	1:G:53:ASP:OD1	2.10	0.52
1:T:52:SER:HB2	1:T:61:TRP:CH2	2.45	0.52
1:T:35:LEU:CD2	1:T:134:LEU:HD11	2.39	0.52
1:D:20:GLU:HB3	1:D:21:PRO:CD	2.38	0.52
1:L:38:ARG:HD2	3:L:309:HOH:O	2.09	0.52
1:G:35:LEU:O	1:G:39:GLU:HB2	2.09	0.52
1:R:106:HIS:HA	1:R:113:ARG:HG2	1.92	0.52
1:T:86:LEU:HG	1:T:117:LEU:HD21	1.91	0.52
1:P:36:ILE:HG23	1:P:137:LEU:HD11	1.90	0.52
1:X:20:GLU:CB	1:X:21:PRO:CA	2.87	0.52
1:N:17:GLY:CA	1:N:18:ARG:CB	2.87	0.52
1:R:56:ALA:HB2	1:S:54:SER:HB2	1.92	0.52
1:X:140:LEU:C	1:X:142:GLU:H	2.13	0.52
1:E:16:LEU:O	1:E:18:ARG:N	2.42	0.52
1:S:16:LEU:O	1:S:18:ARG:N	2.43	0.52
1:Q:98:ILE:HD12	1:W:128:LEU:HD21	1.91	0.52
1:L:87:ARG:NH1	1:L:116:TYR:O	2.42	0.52
1:Q:97:LEU:HD23	1:Q:121:ALA:HA	1.90	0.52
1:H:20:GLU:HG2	1:H:23:VAL:HB	1.90	0.52
1:P:5:VAL:HB	1:P:47:ALA:HB2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:80:THR:CG2	1:F:115:SER:HB2	2.39	0.52
1:W:97:LEU:HD23	1:W:121:ALA:HA	1.92	0.52
1:B:17:GLY:CA	1:B:18:ARG:CB	2.81	0.52
1:E:99:GLU:O	1:E:124:VAL:HA	2.09	0.52
1:I:124:VAL:HG12	1:I:126:VAL:HG23	1.92	0.52
1:X:50:ARG:NH2	1:X:61:TRP:CD1	2.78	0.52
1:P:59:LEU:HD12	1:R:53:ASP:HB3	1.92	0.52
1:W:109:GLU:OE1	1:W:112:ARG:NE	2.39	0.51
1:T:35:LEU:HD23	1:T:134:LEU:HD11	1.90	0.51
1:O:58:LEU:O	1:O:62:ILE:HG12	2.10	0.51
1:X:142:GLU:HB3	1:X:143:HIS:CA	2.23	0.51
1:D:21:PRO:CA	1:D:22:ALA:HB3	2.35	0.51
1:B:106:HIS:HA	1:B:113:ARG:HG2	1.92	0.51
1:H:15:ARG:HH11	1:H:15:ARG:HG2	1.75	0.51
1:R:28:THR:HG22	1:R:30:ASP:H	1.75	0.51
1:M:4:ILE:N	1:M:4:ILE:HD12	2.26	0.51
1:O:80:THR:HG22	1:O:115:SER:HB2	1.93	0.51
1:S:86:LEU:CD2	3:S:303:HOH:O	2.59	0.51
1:S:33:VAL:O	1:S:37:GLU:HG3	2.09	0.51
1:Q:18:ARG:O	1:Q:18:ARG:HG3	2.10	0.51
1:V:73:ILE:HD13	1:V:136:ALA:HB3	1.93	0.51
1:S:142:GLU:O	1:S:143:HIS:HB2	2.11	0.51
1:N:50:ARG:HD3	1:N:61:TRP:CE2	2.46	0.51
1:W:141:ALA:HB3	1:W:142:GLU:OE2	2.11	0.51
1:H:54:SER:O	1:H:58:LEU:HG	2.11	0.51
1:K:3:LEU:HG	1:K:4:ILE:N	2.25	0.51
1:B:138:ARG:HD3	1:F:138:ARG:CD	2.40	0.51
1:I:63:HIS:HD2	3:I:305:HOH:O	1.94	0.51
1:Q:13:LEU:O	1:Q:16:LEU:HB2	2.11	0.51
1:K:19:ARG:HD3	2:K:201:1R2:OAB	2.11	0.51
1:G:9:ASN:O	1:G:51:GLN:HA	2.11	0.51
1:O:59:LEU:HD12	1:Q:53:ASP:HB3	1.93	0.51
1:M:58:LEU:O	1:M:62:ILE:HG12	2.11	0.51
1:A:138:ARG:HD2	1:G:138:ARG:NE	2.26	0.51
1:C:102:ILE:HG23	1:C:129:GLY:HA2	1.93	0.51
1:V:101:HIS:HB2	1:V:126:VAL:HG22	1.92	0.50
1:P:34:ALA:O	1:P:37:GLU:O	2.29	0.50
1:B:63:HIS:CG	1:C:15:ARG:HD2	2.47	0.50
1:D:67:ASP:O	1:M:18:ARG:HD3	2.11	0.50
1:C:18:ARG:C	1:C:19:ARG:HG3	2.31	0.50
1:P:118:SER:HB2	1:P:119:PRO:HD3	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:142:GLU:HB2	1:X:143:HIS:CB	2.41	0.50
1:I:62:ILE:HD13	1:I:90:CYS:SG	2.51	0.50
1:O:110:GLU:CD	1:O:110:GLU:H	2.15	0.50
1:S:41:ALA:O	1:S:44:GLY:N	2.39	0.50
1:P:66:ALA:HB1	1:P:92:GLU:HG3	1.93	0.50
1:R:36:ILE:HG23	1:R:137:LEU:HD11	1.93	0.50
1:R:50:ARG:HB3	1:R:61:TRP:CZ3	2.46	0.50
1:P:120:ILE:HD12	1:P:120:ILE:O	2.11	0.50
1:W:19:ARG:CG	1:W:20:GLU:N	2.62	0.50
1:R:33:VAL:O	1:R:36:ILE:O	2.29	0.50
1:V:97:LEU:HD23	1:V:121:ALA:HA	1.92	0.50
1:M:18:ARG:HB3	1:M:19:ARG:HE	1.75	0.50
1:P:37:GLU:O	1:P:38:ARG:CB	2.58	0.50
1:K:63:HIS:CD2	1:L:15:ARG:HD2	2.46	0.50
1:A:39:GLU:O	1:A:40:ALA:C	2.49	0.50
1:W:16:LEU:O	1:W:28:THR:HA	2.11	0.50
1:J:11:PRO:HA	1:J:53:ASP:OD1	2.12	0.50
1:Q:50:ARG:HB3	1:Q:61:TRP:CH2	2.47	0.50
1:N:87:ARG:HA	1:N:117:LEU:HD23	1.93	0.50
1:G:58:LEU:O	1:G:62:ILE:HD12	2.11	0.50
1:T:124:VAL:HG12	1:T:126:VAL:HG23	1.94	0.50
1:K:3:LEU:HG	1:K:4:ILE:H	1.77	0.49
1:A:73:ILE:HG23	3:A:301:HOH:O	2.12	0.49
1:X:87:ARG:HD2	1:X:116:TYR:O	2.12	0.49
1:A:113:ARG:NH1	1:G:119:PRO:HG3	2.27	0.49
1:P:33:VAL:HG22	1:P:49:VAL:HB	1.94	0.49
1:N:40:ALA:O	1:N:44:GLY:HA2	2.13	0.49
1:U:33:VAL:O	1:U:37:GLU:HB2	2.12	0.49
1:E:20:GLU:N	1:E:21:PRO:CD	2.53	0.49
1:J:59:LEU:HD22	1:J:89:ALA:HB2	1.93	0.49
1:A:41:ALA:C	1:A:43:LEU:N	2.66	0.49
1:U:24:TYR:H	1:U:25:GLY:HA2	1.77	0.49
1:V:17:GLY:HA3	1:V:28:THR:HG22	1.94	0.49
1:I:57:GLN:HA	1:I:57:GLN:HE21	1.77	0.49
1:P:90:CYS:HB3	1:P:97:LEU:HD22	1.93	0.49
1:A:90:CYS:HA	1:A:93:LEU:HD22	1.94	0.49
1:C:98:ILE:HD11	1:C:139:TYR:CD2	2.47	0.49
1:U:52:SER:HB3	1:U:58:LEU:CD1	2.43	0.49
1:F:32:LEU:CD1	1:F:130:ILE:HG13	2.36	0.49
1:R:67:ASP:OD1	1:S:15:ARG:NH2	2.46	0.49
1:M:18:ARG:HH22	1:M:29:HIS:N	2.10	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:134:LEU:HA	1:P:137:LEU:HD12	1.93	0.49
1:T:96:PRO:HB2	1:T:140:LEU:HD21	1.93	0.49
1:O:125:ILE:CG2	1:O:128:LEU:HD12	2.43	0.49
1:T:29:HIS:O	1:T:33:VAL:HG23	2.12	0.49
1:D:144:VAL:HA	1:X:-5:TYR:O	2.12	0.49
1:M:17:GLY:HA2	1:M:19:ARG:N	2.27	0.49
1:U:32:LEU:HD13	1:U:130:ILE:HD12	1.94	0.49
1:R:7:VAL:HB	1:R:49:VAL:HG13	1.93	0.49
1:R:37:GLU:O	1:R:38:ARG:CB	2.55	0.49
1:Q:118:SER:N	1:Q:119:PRO:HD2	2.27	0.49
1:N:36:ILE:HG23	1:N:137:LEU:HD11	1.95	0.49
1:S:24:TYR:O	1:S:102:ILE:CG2	2.61	0.48
1:S:16:LEU:O	1:S:17:GLY:C	2.49	0.48
1:T:13:LEU:HD23	1:T:16:LEU:CD1	2.43	0.48
1:Q:104:ASN:HA	1:Q:126:VAL:HG12	1.94	0.48
1:G:48:VAL:HG12	1:G:50:ARG:HD2	1.95	0.48
1:D:11:PRO:O	1:D:12:ASN:HB2	2.12	0.48
1:I:50:ARG:NH1	1:I:61:TRP:CD1	2.81	0.48
1:A:73:ILE:CG2	3:A:301:HOH:O	2.60	0.48
1:X:118:SER:HB2	1:X:119:PRO:HD3	1.93	0.48
1:K:59:LEU:HD22	1:K:89:ALA:HB2	1.94	0.48
1:E:36:ILE:HG23	1:E:137:LEU:HD11	1.96	0.48
1:L:90:CYS:HB2	1:L:120:ILE:HD11	1.96	0.48
1:P:48:VAL:HG12	1:P:49:VAL:H	1.79	0.48
1:R:45:LEU:O	1:R:46:LYS:C	2.51	0.48
1:G:11:PRO:O	1:G:12:ASN:HB2	2.13	0.48
1:O:90:CYS:HB3	1:O:97:LEU:HD22	1.94	0.48
1:F:16:LEU:HB3	1:F:27:THR:O	2.14	0.48
1:S:22:ALA:O	1:S:25:GLY:O	2.31	0.48
1:R:9:ASN:O	1:R:51:GLN:HA	2.14	0.48
1:H:38:ARG:HH11	1:H:38:ARG:HB3	1.79	0.48
1:L:8:ILE:HD12	1:L:72:VAL:HG13	1.95	0.48
1:J:90:CYS:C	1:J:92:GLU:H	2.17	0.48
1:X:77:GLY:O	1:X:80:THR:OG1	2.24	0.48
1:X:20:GLU:HG3	2:X:201:1R2:OAB	2.13	0.48
1:X:21:PRO:HB2	1:X:22:ALA:C	2.33	0.48
1:H:20:GLU:CB	1:H:21:PRO:CA	2.90	0.48
1:S:32:LEU:HD13	1:S:130:ILE:HG12	1.95	0.48
1:D:55:GLU:O	1:D:59:LEU:HG	2.14	0.48
1:D:18:ARG:O	1:D:19:ARG:CB	2.44	0.48
1:R:4:ILE:HG23	1:R:70:GLU:HG2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:139:TYR:HA	1:F:131:GLN:HE22	1.78	0.48
1:M:32:LEU:CD1	1:M:130:ILE:HG23	2.44	0.48
1:R:63:HIS:ND1	1:S:15:ARG:CD	2.76	0.48
1:Q:38:ARG:HH12	1:Q:39:GLU:HG2	1.77	0.48
1:M:131:GLN:HE22	1:S:139:TYR:HA	1.79	0.48
1:E:130:ILE:CD1	1:E:130:ILE:H	2.26	0.47
1:J:21:PRO:HB2	1:J:22:ALA:CB	2.43	0.47
1:A:64:GLN:NE2	1:A:64:GLN:HA	2.28	0.47
1:W:50:ARG:HD2	1:W:61:TRP:CE2	2.48	0.47
1:J:106:HIS:HA	1:J:113:ARG:HG2	1.94	0.47
1:W:118:SER:HB2	1:W:119:PRO:HD3	1.96	0.47
1:T:21:PRO:HA	1:T:25:GLY:O	2.14	0.47
1:C:11:PRO:O	1:C:12:ASN:HB2	2.14	0.47
1:G:133:TYR:O	1:G:134:LEU:HB2	2.14	0.47
1:P:134:LEU:O	1:P:137:LEU:HB2	2.14	0.47
1:A:88:ASP:HB3	2:K:201:1R2:H9	1.96	0.47
1:R:94:SER:HA	3:R:302:HOH:O	2.14	0.47
1:V:86:LEU:HD12	1:V:86:LEU:HA	1.61	0.47
1:C:112:ARG:HD3	2:C:201:1R2:OAA	2.15	0.47
1:A:7:VAL:HG13	1:A:73:ILE:HG21	1.96	0.47
1:B:92:GLU:OE1	1:C:19:ARG:HD3	2.15	0.47
1:R:3:LEU:HD11	1:R:46:LYS:HD3	1.95	0.47
1:H:15:ARG:HG2	1:H:15:ARG:NH1	2.29	0.47
1:A:29:HIS:O	1:A:33:VAL:HG23	2.14	0.47
1:A:86:LEU:O	1:A:90:CYS:HB2	2.15	0.47
1:J:39:GLU:HG2	1:J:134:LEU:HD13	1.95	0.47
1:I:10:GLY:HA2	1:I:58:LEU:HD11	1.95	0.47
1:C:130:ILE:HD12	1:C:130:ILE:H	1.80	0.47
1:W:13:LEU:HG	2:W:201:1R2:CAG	2.45	0.47
1:S:99:GLU:HB3	1:S:124:VAL:HG22	1.97	0.47
2:I:201:1R2:CAS	2:I:201:1R2:OAE	2.51	0.47
1:N:46:LYS:NZ	3:N:316:HOH:O	2.47	0.47
1:L:64:GLN:HB3	1:L:64:GLN:HE21	1.53	0.47
1:B:48:VAL:HG12	1:B:50:ARG:HD2	1.97	0.47
1:K:12:ASN:C	1:K:13:LEU:O	2.51	0.47
1:O:18:ARG:CG	1:O:18:ARG:HH11	2.28	0.47
1:U:9:ASN:O	1:U:51:GLN:HA	2.14	0.47
1:G:16:LEU:HA	1:G:17:GLY:HA2	1.67	0.47
1:V:131:GLN:HE22	1:X:139:TYR:CA	2.16	0.47
1:B:67:ASP:CG	1:C:15:ARG:HH22	2.18	0.47
1:E:130:ILE:CD1	1:E:130:ILE:N	2.77	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:117:LEU:O	1:G:120:ILE:HG13	2.15	0.47
1:E:118:SER:HB2	1:E:119:PRO:HD3	1.97	0.47
1:S:55:GLU:OE1	1:S:83:SER:OG	2.20	0.47
1:M:93:LEU:HD12	1:M:97:LEU:HB2	1.97	0.47
1:A:73:ILE:HG12	3:A:301:HOH:O	2.14	0.46
1:D:39:GLU:CG	1:D:134:LEU:HD22	2.42	0.46
1:P:32:LEU:HD13	1:P:130:ILE:HG23	1.97	0.46
1:R:41:ALA:O	1:R:42:GLU:HG2	2.15	0.46
1:M:101:HIS:HB2	1:M:126:VAL:HG22	1.96	0.46
1:F:92:GLU:HG3	1:G:19:ARG:HG2	1.96	0.46
1:W:13:LEU:CD2	2:W:201:1R2:H8	2.45	0.46
1:P:128:LEU:CD1	1:U:125:ILE:HD11	2.45	0.46
1:O:27:THR:HG23	1:O:31:GLU:HB2	1.97	0.46
1:L:8:ILE:O	1:L:9:ASN:C	2.54	0.46
1:D:118:SER:HB2	1:D:119:PRO:HD3	1.97	0.46
1:N:15:ARG:HD2	1:Q:63:HIS:CD2	2.50	0.46
1:S:14:GLY:N	1:S:51:GLN:NE2	2.60	0.46
1:B:11:PRO:O	1:B:12:ASN:HB2	2.14	0.46
1:I:32:LEU:HD13	1:I:130:ILE:CG1	2.46	0.46
1:G:28:THR:HG22	1:G:30:ASP:N	2.30	0.46
1:V:13:LEU:HG	2:V:201:1R2:H9	1.97	0.46
1:B:63:HIS:CD2	1:C:15:ARG:HD2	2.51	0.46
1:Q:140:LEU:O	1:Q:142:GLU:N	2.39	0.46
1:X:134:LEU:HA	1:X:137:LEU:HD12	1.98	0.46
1:Q:38:ARG:HB3	1:Q:38:ARG:HH11	1.81	0.46
1:D:11:PRO:HD3	1:D:58:LEU:HD11	1.97	0.46
1:M:88:ASP:HB2	1:W:12:ASN:ND2	2.31	0.46
1:X:19:ARG:H	1:X:19:ARG:HD2	1.81	0.46
1:W:76:ALA:HB3	1:W:80:THR:OG1	2.15	0.46
1:G:43:LEU:HD22	1:G:141:ALA:CB	2.45	0.46
1:X:99:GLU:HB3	1:X:124:VAL:HG13	1.97	0.46
2:W:201:1R2:CAS	2:W:201:1R2:OAE	2.51	0.46
1:D:21:PRO:HB3	1:D:23:VAL:CA	2.45	0.46
1:U:59:LEU:CD2	1:U:89:ALA:HB2	2.44	0.46
1:K:41:ALA:C	1:K:43:LEU:N	2.69	0.46
1:A:27:THR:HG22	1:A:28:THR:O	2.15	0.46
1:K:29:HIS:O	1:K:32:LEU:O	2.32	0.46
1:D:92:GLU:HG3	1:F:19:ARG:NH1	2.30	0.46
1:X:32:LEU:HD13	1:X:130:ILE:HG12	1.97	0.46
1:V:54:SER:O	1:V:58:LEU:HG	2.16	0.46
1:R:19:ARG:HD2	2:R:201:1R2:OAB	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:128:LEU:HA	1:Q:128:LEU:HD12	1.76	0.46
1:N:104:ASN:HA	1:N:126:VAL:HG12	1.97	0.46
1:E:19:ARG:HA	1:E:19:ARG:HD2	1.62	0.45
1:U:48:VAL:HG12	1:U:50:ARG:HD2	1.99	0.45
1:H:120:ILE:CD1	1:H:120:ILE:C	2.84	0.45
1:N:63:HIS:HE1	1:O:53:ASP:OD2	1.99	0.45
1:V:109:GLU:O	1:V:110:GLU:C	2.55	0.45
1:N:120:ILE:CD1	1:N:120:ILE:C	2.85	0.45
1:Q:16:LEU:C	1:Q:18:ARG:H	2.19	0.45
1:I:108:ARG:HE	1:I:112:ARG:CD	2.30	0.45
1:V:13:LEU:HG	2:V:201:1R2:CAG	2.46	0.45
1:X:20:GLU:HB3	1:X:21:PRO:C	2.37	0.45
1:V:128:LEU:HD22	1:X:139:TYR:CG	2.51	0.45
1:Q:138:ARG:NH1	1:W:138:ARG:HD3	2.32	0.45
1:U:111:PHE:CE1	1:U:112:ARG:HG3	2.51	0.45
1:O:98:ILE:HD11	1:O:139:TYR:CD2	2.52	0.45
1:R:3:LEU:O	1:R:4:ILE:CG2	2.64	0.45
1:T:142:GLU:O	1:T:143:HIS:HB2	2.17	0.45
1:D:80:THR:HG23	1:D:117:LEU:HD12	1.99	0.45
1:M:87:ARG:HH12	1:M:119:PRO:HG2	1.82	0.45
1:Q:18:ARG:O	1:Q:19:ARG:CB	2.65	0.45
1:A:27:THR:HG23	1:A:31:GLU:HB3	1.99	0.45
1:K:118:SER:HB2	1:K:119:PRO:HD3	1.99	0.45
1:W:88:ASP:OD2	2:X:201:1R2:H9	2.16	0.45
1:V:128:LEU:HD22	1:X:139:TYR:CD1	2.51	0.45
1:K:8:ILE:CG2	1:K:58:LEU:HD22	2.46	0.45
1:P:64:GLN:O	1:P:67:ASP:O	2.35	0.45
1:W:58:LEU:O	1:W:62:ILE:HG12	2.17	0.45
1:R:29:HIS:O	1:R:32:LEU:HB3	2.16	0.45
1:L:16:LEU:HD21	1:L:102:ILE:HD13	1.98	0.45
1:U:4:ILE:HG23	1:U:46:LYS:HB3	1.99	0.44
1:E:35:LEU:HD21	1:E:134:LEU:HD11	1.98	0.44
1:E:18:ARG:O	1:E:19:ARG:O	2.34	0.44
1:G:33:VAL:HG22	1:G:49:VAL:CG2	2.47	0.44
1:U:13:LEU:O	1:U:16:LEU:HB2	2.17	0.44
1:O:29:HIS:O	1:O:33:VAL:HG23	2.17	0.44
1:R:130:ILE:CD1	1:R:130:ILE:N	2.75	0.44
1:T:125:ILE:HG23	1:T:128:LEU:HD12	1.99	0.44
1:K:30:ASP:O	1:K:33:VAL:CG1	2.64	0.44
1:K:75:ASN:C	1:K:75:ASN:ND2	2.71	0.44
1:F:106:HIS:HA	1:F:113:ARG:HG2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:73:ILE:HD13	1:X:136:ALA:HB3	1.98	0.44
1:Q:4:ILE:H	1:Q:4:ILE:HD12	1.82	0.44
1:N:32:LEU:HD13	1:N:130:ILE:CG1	2.47	0.44
1:J:18:ARG:O	1:J:19:ARG:CB	2.64	0.44
1:W:95:ALA:HB1	1:W:96:PRO:CD	2.47	0.44
1:R:11:PRO:HA	1:R:53:ASP:OD1	2.17	0.44
1:W:16:LEU:HD22	1:W:16:LEU:HA	1.87	0.44
1:U:117:LEU:O	1:U:120:ILE:HG13	2.17	0.44
1:X:20:GLU:HB3	1:X:21:PRO:CA	2.47	0.44
1:R:70:GLU:HA	1:R:71:PRO:HD2	1.74	0.44
1:A:138:ARG:HD2	1:G:138:ARG:CZ	2.48	0.44
1:N:106:HIS:HA	1:N:113:ARG:HG2	1.99	0.44
1:B:9:ASN:HA	1:B:9:ASN:HD22	1.66	0.44
1:D:50:ARG:HB3	1:D:61:TRP:CH2	2.53	0.44
1:I:63:HIS:HE1	1:J:53:ASP:OD2	2.01	0.44
1:U:90:CYS:C	1:U:92:GLU:H	2.21	0.44
1:X:110:GLU:HG3	1:X:111:PHE:N	2.33	0.44
1:X:102:ILE:O	1:X:127:GLY:HA2	2.17	0.44
1:D:29:HIS:O	1:D:33:VAL:HG23	2.18	0.44
2:V:201:1R2:OAB	2:V:201:1R2:CAH	2.66	0.44
1:J:28:THR:OG1	1:J:29:HIS:N	2.51	0.44
1:O:19:ARG:NH1	1:O:19:ARG:HG2	2.27	0.44
1:S:31:GLU:O	1:S:35:LEU:HG	2.17	0.44
1:N:110:GLU:OE2	1:N:113:ARG:HD3	2.18	0.44
1:N:135:LEU:HD22	1:R:135:LEU:HB3	1.98	0.44
1:L:59:LEU:HD22	1:L:89:ALA:HB2	2.00	0.44
1:K:88:ASP:O	1:L:19:ARG:NH1	2.47	0.44
1:R:118:SER:HB2	1:R:119:PRO:HD3	2.00	0.44
1:G:16:LEU:HD13	1:G:27:THR:O	2.18	0.43
1:S:17:GLY:H	1:S:28:THR:HA	1.83	0.43
1:A:43:LEU:O	1:A:45:LEU:N	2.51	0.43
1:F:111:PHE:CD1	1:F:111:PHE:C	2.90	0.43
1:W:32:LEU:O	1:W:36:ILE:HG13	2.18	0.43
1:R:131:GLN:O	1:R:131:GLN:CG	2.66	0.43
1:K:109:GLU:OE1	1:K:112:ARG:NE	2.46	0.43
1:D:19:ARG:HA	1:D:20:GLU:HA	1.47	0.43
1:E:7:VAL:HB	1:E:49:VAL:HG22	2.01	0.43
1:B:33:VAL:HG12	1:B:37:GLU:OE2	2.18	0.43
1:K:63:HIS:CD2	1:L:15:ARG:CD	3.02	0.43
1:L:90:CYS:HB3	1:L:97:LEU:HD22	2.00	0.43
1:N:110:GLU:OE2	1:N:110:GLU:HA	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:118:SER:HB2	1:A:119:PRO:HD3	2.00	0.43
1:I:19:ARG:O	1:I:20:GLU:C	2.56	0.43
1:L:17:GLY:HA2	1:L:18:ARG:C	2.35	0.43
1:G:130:ILE:HA	1:G:130:ILE:HD12	1.79	0.43
1:Q:138:ARG:HE	1:Q:138:ARG:HB2	1.47	0.43
1:K:105:VAL:HG22	1:K:126:VAL:HG11	2.00	0.43
1:B:34:ALA:HB1	1:B:38:ARG:HH21	1.84	0.43
1:S:15:ARG:O	1:S:18:ARG:HB2	2.19	0.43
1:P:92:GLU:C	1:P:92:GLU:CD	2.77	0.43
1:Q:33:VAL:O	1:Q:37:GLU:HG3	2.18	0.43
1:E:29:HIS:CE1	1:E:51:GLN:HB2	2.54	0.43
1:P:49:VAL:O	1:P:50:ARG:HG2	2.18	0.43
1:V:19:ARG:HA	1:V:20:GLU:HA	1.73	0.43
1:M:142:GLU:O	1:M:143:HIS:CB	2.67	0.43
1:R:86:LEU:HD23	1:R:117:LEU:HD11	2.01	0.43
1:P:106:HIS:HA	1:P:113:ARG:HG2	2.00	0.43
1:H:45:LEU:HD12	1:H:45:LEU:C	2.39	0.43
1:V:5:VAL:HG13	1:V:71:PRO:HB2	1.99	0.43
1:A:92:GLU:OE2	1:K:15:ARG:NE	2.49	0.43
1:T:50:ARG:HB3	1:T:61:TRP:CH2	2.54	0.43
1:K:11:PRO:HA	1:K:53:ASP:OD1	2.17	0.43
1:S:114:HIS:CG	1:S:115:SER:N	2.86	0.43
1:B:117:LEU:HA	1:B:117:LEU:HD23	1.70	0.43
1:M:50:ARG:HG2	1:M:61:TRP:CZ2	2.54	0.43
1:J:21:PRO:HB2	1:J:22:ALA:CA	2.48	0.43
1:E:7:VAL:HG21	1:E:36:ILE:HG21	1.99	0.43
1:O:90:CYS:HB2	1:O:120:ILE:HD11	2.00	0.43
1:I:80:THR:HG22	1:I:115:SER:HB2	2.00	0.43
1:I:32:LEU:HD13	1:I:130:ILE:HG12	2.00	0.43
1:W:88:ASP:HB3	2:X:201:1R2:H8	2.00	0.42
1:X:98:ILE:HD11	1:X:139:TYR:CD2	2.54	0.42
1:M:16:LEU:O	1:M:18:ARG:NH1	2.52	0.42
1:R:35:LEU:HD23	1:R:35:LEU:HA	1.76	0.42
1:M:131:GLN:NE2	1:S:139:TYR:HA	2.33	0.42
1:F:67:ASP:OD1	1:G:18:ARG:NH1	2.52	0.42
1:S:120:ILE:HG13	1:S:120:ILE:H	1.78	0.42
1:G:27:THR:HG23	1:G:31:GLU:HB3	2.00	0.42
1:J:30:ASP:HB2	3:J:306:HOH:O	2.19	0.42
1:G:20:GLU:H	1:G:21:PRO:HD2	1.81	0.42
1:Q:96:PRO:HB2	1:Q:140:LEU:HD21	2.00	0.42
1:C:100:VAL:HG22	1:C:125:ILE:HB	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:92:GLU:HG3	1:W:19:ARG:HD3	1.99	0.42
1:X:73:ILE:HD13	1:X:136:ALA:CB	2.49	0.42
1:U:74:LEU:HD23	1:U:117:LEU:HD13	2.01	0.42
1:K:104:ASN:HA	1:K:126:VAL:HG12	2.01	0.42
1:O:133:TYR:O	1:O:136:ALA:HB3	2.19	0.42
1:H:11:PRO:O	1:H:12:ASN:HB2	2.19	0.42
2:T:201:1R2:CAS	2:T:201:1R2:OAB	2.51	0.42
2:A:201:1R2:H9	1:L:88:ASP:OD2	2.19	0.42
1:H:21:PRO:HG2	1:H:22:ALA:HB2	2.02	0.42
1:G:4:ILE:H	1:G:4:ILE:HG12	1.14	0.42
1:K:32:LEU:CD1	1:K:130:ILE:HD12	2.49	0.42
1:J:86:LEU:O	1:J:89:ALA:HB3	2.19	0.42
1:F:59:LEU:HD12	1:G:53:ASP:HB3	2.01	0.42
1:O:29:HIS:CE1	1:O:51:GLN:HB2	2.54	0.42
1:T:63:HIS:CG	1:U:15:ARG:HD3	2.55	0.42
1:H:20:GLU:HG2	1:H:23:VAL:CB	2.49	0.42
1:S:24:TYR:O	1:S:102:ILE:HG21	2.20	0.42
1:M:32:LEU:HG	1:M:36:ILE:HD12	2.00	0.42
1:O:19:ARG:HB3	1:O:20:GLU:H	1.69	0.42
1:O:98:ILE:HD13	1:T:128:LEU:HD21	2.02	0.42
1:A:41:ALA:C	1:A:43:LEU:H	2.21	0.42
1:Q:87:ARG:HH12	1:Q:119:PRO:HG2	1.85	0.42
1:T:20:GLU:N	1:T:21:PRO:HD3	2.35	0.42
1:Q:74:LEU:HD21	1:Q:86:LEU:HD11	2.01	0.42
1:J:16:LEU:O	1:J:28:THR:HA	2.19	0.42
1:F:117:LEU:HA	1:F:117:LEU:HD23	1.71	0.42
1:S:50:ARG:HB2	1:S:61:TRP:CZ3	2.55	0.42
1:V:128:LEU:CD1	1:X:125:ILE:HD11	2.50	0.42
1:D:15:ARG:HD2	1:G:63:HIS:CG	2.53	0.42
1:A:7:VAL:HG13	1:A:73:ILE:CG2	2.49	0.42
1:M:18:ARG:CZ	1:M:29:HIS:H	2.32	0.42
1:Q:95:ALA:HB1	1:Q:96:PRO:HD2	2.02	0.42
1:M:80:THR:HG21	1:M:101:HIS:CE1	2.55	0.42
1:Q:138:ARG:CZ	1:W:138:ARG:HD3	2.49	0.42
1:I:15:ARG:O	1:I:18:ARG:HG2	2.19	0.42
1:D:16:LEU:C	1:D:18:ARG:N	2.72	0.42
1:D:15:ARG:CD	1:G:63:HIS:CD2	2.95	0.42
1:S:18:ARG:NH2	1:S:18:ARG:CG	2.82	0.42
1:Q:102:ILE:HD11	1:Q:133:TYR:CE1	2.53	0.42
1:C:73:ILE:HD13	1:C:136:ALA:HB3	2.02	0.42
1:C:99:GLU:OE1	1:C:118:SER:OG	2.26	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:77:GLY:HA2	2:B:201:1R2:CAQ	2.50	0.42
1:V:138:ARG:O	1:V:138:ARG:HG3	2.20	0.42
1:O:6:ASN:HB2	1:O:72:VAL:HG22	2.02	0.42
1:P:57:GLN:CD	1:P:61:TRP:CE3	2.91	0.42
1:V:29:HIS:CB	3:V:302:HOH:O	2.50	0.42
1:S:38:ARG:HB3	1:S:39:GLU:H	1.75	0.42
1:B:32:LEU:HD13	1:B:130:ILE:HG13	1.98	0.42
1:O:120:ILE:HD12	1:O:120:ILE:C	2.40	0.42
1:B:33:VAL:CG1	1:B:37:GLU:OE2	2.68	0.42
1:Q:131:GLN:HE21	1:Q:135:LEU:HG	1.85	0.42
1:W:79:LEU:HD23	1:W:79:LEU:HA	1.92	0.42
1:G:74:LEU:HB3	1:G:97:LEU:HD11	2.02	0.42
1:B:67:ASP:OD1	1:C:15:ARG:NH2	2.52	0.41
1:P:12:ASN:O	1:P:15:ARG:HB2	2.20	0.41
1:J:28:THR:CG2	1:J:31:GLU:HG3	2.50	0.41
1:S:18:ARG:HD3	1:S:18:ARG:HA	1.68	0.41
1:U:118:SER:N	1:U:119:PRO:CD	2.83	0.41
1:D:102:ILE:HG23	1:D:129:GLY:HA2	2.01	0.41
1:U:97:LEU:HD23	1:U:121:ALA:HA	2.00	0.41
1:D:138:ARG:HD2	1:I:138:ARG:HD2	2.02	0.41
1:R:3:LEU:O	1:R:4:ILE:CB	2.68	0.41
1:K:32:LEU:O	1:K:33:VAL:CB	2.68	0.41
1:W:49:VAL:O	1:W:50:ARG:HG2	2.21	0.41
1:C:109:GLU:OE1	1:C:112:ARG:NE	2.45	0.41
1:S:50:ARG:CG	1:S:50:ARG:NH2	2.58	0.41
1:P:66:ALA:HB2	1:P:92:GLU:HG3	2.02	0.41
1:D:11:PRO:HG2	1:D:79:LEU:HG	2.02	0.41
1:U:51:GLN:HB3	1:U:51:GLN:HE21	1.73	0.41
1:M:88:ASP:O	1:M:91:ALA:HB3	2.20	0.41
1:F:90:CYS:HB3	1:F:97:LEU:HD22	2.02	0.41
1:J:48:VAL:HG12	1:J:50:ARG:HD2	2.01	0.41
1:P:48:VAL:C	1:P:50:ARG:NE	2.74	0.41
1:R:127:GLY:C	1:R:129:GLY:H	2.24	0.41
1:K:75:ASN:ND2	1:K:77:GLY:H	2.18	0.41
2:T:201:1R2:CAF	1:V:88:ASP:HB3	2.51	0.41
2:T:201:1R2:H8	1:V:88:ASP:HB3	2.03	0.41
1:W:20:GLU:HA	1:W:21:PRO:HD3	1.96	0.41
1:R:40:ALA:C	1:R:41:ALA:O	2.57	0.41
1:L:89:ALA:O	1:L:92:GLU:HG3	2.20	0.41
1:Q:7:VAL:HG11	1:Q:36:ILE:HD13	2.03	0.41
1:H:36:ILE:HG23	1:H:137:LEU:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:21:PRO:HB2	1:H:22:ALA:HB2	2.00	0.41
1:A:89:ALA:CB	1:K:12:ASN:OD1	2.47	0.41
1:J:76:ALA:HB3	1:J:80:THR:OG1	2.20	0.41
1:O:125:ILE:HG23	1:O:128:LEU:HD12	2.03	0.41
1:T:15:ARG:HD3	1:V:63:HIS:CG	2.56	0.41
1:J:140:LEU:C	1:J:142:GLU:H	2.23	0.41
1:D:144:VAL:HG13	1:D:144:VAL:O	2.21	0.41
1:G:133:TYR:O	1:G:134:LEU:CB	2.68	0.41
1:I:76:ALA:HB1	1:I:79:LEU:HB2	2.03	0.41
1:D:106:HIS:HA	1:D:113:ARG:HG2	2.02	0.41
1:B:59:LEU:HD12	1:C:53:ASP:HB3	2.02	0.41
1:K:120:ILE:HD12	1:K:120:ILE:C	2.40	0.41
1:W:38:ARG:CZ	1:W:38:ARG:HB3	2.51	0.41
1:G:15:ARG:O	1:G:16:LEU:HB2	2.13	0.41
1:D:138:ARG:HD2	1:I:138:ARG:CD	2.50	0.41
1:X:111:PHE:CD1	1:X:111:PHE:C	2.94	0.41
1:D:53:ASP:HB3	1:G:59:LEU:HD12	2.03	0.41
1:U:99:GLU:HB3	1:U:124:VAL:HG22	2.03	0.41
1:M:89:ALA:O	1:M:92:GLU:HB2	2.21	0.41
1:S:4:ILE:HD13	1:S:5:VAL:N	2.35	0.41
1:S:38:ARG:O	1:S:41:ALA:N	2.54	0.41
1:U:130:ILE:HD13	1:U:130:ILE:HA	1.84	0.41
1:K:59:LEU:HD21	1:K:86:LEU:HA	2.02	0.41
1:C:99:GLU:HB3	1:C:124:VAL:HG22	2.02	0.41
1:W:34:ALA:O	1:W:38:ARG:HB2	2.21	0.41
1:U:102:ILE:HG23	1:U:129:GLY:HA2	2.02	0.41
1:D:73:ILE:HD13	1:D:136:ALA:HB3	2.03	0.41
1:U:57:GLN:NE2	1:U:61:TRP:CE2	2.89	0.41
1:M:63:HIS:HB3	1:W:15:ARG:NH1	2.35	0.41
1:E:135:LEU:CD2	1:K:138:ARG:O	2.64	0.41
1:W:23:VAL:HG13	1:W:24:TYR:CD2	2.55	0.41
1:R:28:THR:HG22	1:R:30:ASP:N	2.35	0.41
1:A:27:THR:HG23	1:A:31:GLU:CB	2.51	0.41
1:X:16:LEU:HD12	1:X:27:THR:O	2.20	0.41
2:T:201:1R2:OAB	2:T:201:1R2:CAH	2.69	0.40
1:D:21:PRO:CB	1:D:24:TYR:H	2.34	0.40
1:J:19:ARG:HB3	1:J:19:ARG:HE	1.59	0.40
1:X:48:VAL:HG12	1:X:50:ARG:HD3	2.04	0.40
1:M:80:THR:HG23	1:M:117:LEU:HD12	2.03	0.40
2:B:201:1R2:H9	1:E:88:ASP:OD2	2.22	0.40
1:I:97:LEU:HD23	1:I:121:ALA:HA	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:201:1R2:H9	1:G:88:ASP:OD2	2.20	0.40
1:E:5:VAL:HG21	1:E:45:LEU:HD13	2.03	0.40
1:M:20:GLU:HA	3:M:205:HOH:O	2.21	0.40
1:G:77:GLY:O	1:G:80:THR:HB	2.21	0.40
1:D:45:LEU:HD11	1:D:141:ALA:HB2	2.02	0.40
1:D:27:THR:HG23	1:D:31:GLU:HB3	2.03	0.40
1:O:19:ARG:NH1	1:O:19:ARG:CG	2.84	0.40
1:T:48:VAL:HG12	1:T:50:ARG:HD2	2.04	0.40
1:B:49:VAL:O	1:B:50:ARG:HG3	2.22	0.40
1:B:120:ILE:HD12	1:B:120:ILE:C	2.41	0.40
1:R:99:GLU:OE2	1:R:101:HIS:NE2	2.51	0.40
1:S:31:GLU:HG2	1:S:31:GLU:H	1.75	0.40
1:P:48:VAL:O	1:P:50:ARG:NH2	2.54	0.40
1:W:11:PRO:O	1:W:12:ASN:HB2	2.21	0.40
1:K:41:ALA:O	1:K:43:LEU:N	2.55	0.40
1:K:104:ASN:OD1	1:K:104:ASN:C	2.59	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	130/153 (85%)	116 (89%)	10 (8%)	4 (3%)	5	17
1	B	139/153 (91%)	130 (94%)	8 (6%)	1 (1%)	26	62
1	C	139/153 (91%)	134 (96%)	5 (4%)	0	100	100
1	D	141/153 (92%)	131 (93%)	4 (3%)	6 (4%)	3	10
1	E	139/153 (91%)	127 (91%)	6 (4%)	6 (4%)	3	10
1	F	139/153 (91%)	133 (96%)	6 (4%)	0	100	100
1	G	139/153 (91%)	125 (90%)	12 (9%)	2 (1%)	14	42

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	H	139/153 (91%)	129 (93%)	6 (4%)	4 (3%)	6	19
1	I	139/153 (91%)	132 (95%)	6 (4%)	1 (1%)	26	62
1	J	139/153 (91%)	129 (93%)	5 (4%)	5 (4%)	4	14
1	K	139/153 (91%)	118 (85%)	12 (9%)	9 (6%)	1	4
1	L	139/153 (91%)	128 (92%)	8 (6%)	3 (2%)	8	28
1	M	133/153 (87%)	124 (93%)	8 (6%)	1 (1%)	24	58
1	N	139/153 (91%)	117 (84%)	14 (10%)	8 (6%)	2	5
1	O	139/153 (91%)	134 (96%)	4 (3%)	1 (1%)	26	62
1	P	139/153 (91%)	112 (81%)	21 (15%)	6 (4%)	3	10
1	Q	133/153 (87%)	123 (92%)	8 (6%)	2 (2%)	13	40
1	R	139/153 (91%)	110 (79%)	14 (10%)	15 (11%)	0	1
1	S	138/153 (90%)	116 (84%)	11 (8%)	11 (8%)	1	2
1	T	139/153 (91%)	131 (94%)	8 (6%)	0	100	100
1	U	139/153 (91%)	126 (91%)	10 (7%)	3 (2%)	8	28
1	V	139/153 (91%)	125 (90%)	12 (9%)	2 (1%)	14	42
1	W	139/153 (91%)	124 (89%)	14 (10%)	1 (1%)	26	62
1	X	148/153 (97%)	135 (91%)	8 (5%)	5 (3%)	5	16
All	All	3325/3672 (91%)	3009 (90%)	220 (7%)	96 (3%)	6	19

All (96) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	74	LEU
1	A	90	CYS
1	D	19	ARG
1	D	20	GLU
1	D	21	PRO
1	D	22	ALA
1	D	144	VAL
1	E	18	ARG
1	E	19	ARG
1	E	20	GLU
1	H	21	PRO
1	J	21	PRO
1	J	22	ALA
1	K	15	ARG

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Mol	Chain	Res	Type
1	K	33	VAL
1	K	139	TYR
1	L	9	ASN
1	L	16	LEU
1	N	18	ARG
1	N	19	ARG
1	P	19	ARG
1	P	23	VAL
1	P	50	ARG
1	Q	141	ALA
1	R	4	ILE
1	R	19	ARG
1	R	21	PRO
1	R	22	ALA
1	R	41	ALA
1	S	16	LEU
1	S	18	ARG
1	S	20	GLU
1	S	21	PRO
1	S	38	ARG
1	W	23	VAL
1	X	20	GLU
1	X	21	PRO
1	X	141	ALA
1	B	18	ARG
1	E	17	GLY
1	H	20	GLU
1	H	141	ALA
1	J	19	ARG
1	K	4	ILE
1	K	141	ALA
1	N	4	ILE
1	N	39	GLU
1	N	42	GLU
1	P	38	ARG
1	R	46	LYS
1	R	70	GLU
1	S	17	GLY
1	S	22	ALA
1	X	18	ARG
1	X	25	GLY
1	A	141	ALA

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Mol	Chain	Res	Type
1	E	131	GLN
1	G	16	LEU
1	H	23	VAL
1	J	91	ALA
1	J	141	ALA
1	K	42	GLU
1	K	140	LEU
1	L	18	ARG
1	N	38	ARG
1	R	26	GLY
1	R	42	GLU
1	R	45	LEU
1	R	55	GLU
1	R	128	LEU
1	S	19	ARG
1	V	110	GLU
1	V	128	LEU
1	E	16	LEU
1	K	13	LEU
1	O	19	ARG
1	P	22	ALA
1	R	69	ALA
1	S	23	VAL
1	G	133	TYR
1	R	37	GLU
1	U	21	PRO
1	U	91	ALA
1	A	42	GLU
1	K	132	GLY
1	M	26	GLY
1	R	20	GLU
1	D	17	GLY
1	I	20	GLU
1	Q	17	GLY
1	S	130	ILE
1	U	25	GLY
1	N	20	GLU
1	S	48	VAL
1	P	25	GLY
1	N	21	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	104/121 (86%)	91 (88%)	13 (12%)	6	17
1	B	110/121 (91%)	100 (91%)	10 (9%)	12	33
1	C	110/121 (91%)	102 (93%)	8 (7%)	17	44
1	D	111/121 (92%)	104 (94%)	7 (6%)	22	53
1	E	110/121 (91%)	98 (89%)	12 (11%)	8	23
1	F	110/121 (91%)	95 (86%)	15 (14%)	5	14
1	G	110/121 (91%)	98 (89%)	12 (11%)	8	23
1	H	110/121 (91%)	103 (94%)	7 (6%)	22	52
1	I	110/121 (91%)	103 (94%)	7 (6%)	22	52
1	J	110/121 (91%)	97 (88%)	13 (12%)	6	19
1	K	110/121 (91%)	94 (86%)	16 (14%)	4	11
1	L	110/121 (91%)	100 (91%)	10 (9%)	12	33
1	M	107/121 (88%)	99 (92%)	8 (8%)	17	43
1	N	110/121 (91%)	95 (86%)	15 (14%)	5	14
1	O	110/121 (91%)	101 (92%)	9 (8%)	14	38
1	P	110/121 (91%)	101 (92%)	9 (8%)	14	38
1	Q	107/121 (88%)	92 (86%)	15 (14%)	4	13
1	R	110/121 (91%)	96 (87%)	14 (13%)	5	16
1	S	108/121 (89%)	97 (90%)	11 (10%)	9	26
1	T	110/121 (91%)	99 (90%)	11 (10%)	9	27
1	U	110/121 (91%)	98 (89%)	12 (11%)	8	23
1	V	109/121 (90%)	95 (87%)	14 (13%)	5	16
1	W	109/121 (90%)	99 (91%)	10 (9%)	11	32
1	X	119/121 (98%)	102 (86%)	17 (14%)	4	12
All	All	2634/2904 (91%)	2359 (90%)	275 (10%)	9	25

All (275) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3	LEU
1	A	15	ARG
1	A	16	LEU
1	A	35	LEU
1	A	46	LYS
1	A	52	SER
1	A	54	SER
1	A	64	GLN
1	A	73	ILE
1	A	87	ARG
1	A	90	CYS
1	A	93	LEU
1	A	142	GLU
1	B	3	LEU
1	B	4	ILE
1	B	18	ARG
1	B	35	LEU
1	B	39	GLU
1	B	46	LYS
1	B	126	VAL
1	B	131	GLN
1	B	138	ARG
1	B	142	GLU
1	C	16	LEU
1	C	18	ARG
1	C	31	GLU
1	C	55	GLU
1	C	94	SER
1	C	130	ILE
1	C	131	GLN
1	C	142	GLU
1	D	11	PRO
1	D	16	LEU
1	D	18	ARG
1	D	19	ARG
1	D	50	ARG
1	D	130	ILE
1	D	144	VAL
1	E	3	LEU
1	E	19	ARG
1	E	20	GLU
1	E	30	ASP
1	E	35	LEU

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Mol	Chain	Res	Type
1	E	39	GLU
1	E	42	GLU
1	E	46	LYS
1	E	50	ARG
1	E	55	GLU
1	E	59	LEU
1	E	130	ILE
1	F	3	LEU
1	F	16	LEU
1	F	19	ARG
1	F	20	GLU
1	F	35	LEU
1	F	42	GLU
1	F	49	VAL
1	F	50	ARG
1	F	55	GLU
1	F	60	ASP
1	F	92	GLU
1	F	94	SER
1	F	111	PHE
1	F	115	SER
1	F	130	ILE
1	G	4	ILE
1	G	20	GLU
1	G	42	GLU
1	G	50	ARG
1	G	64	GLN
1	G	86	LEU
1	G	126	VAL
1	G	130	ILE
1	G	131	GLN
1	G	137	LEU
1	G	142	GLU
1	G	143	HIS
1	H	19	ARG
1	H	23	VAL
1	H	42	GLU
1	H	45	LEU
1	H	50	ARG
1	H	130	ILE
1	H	143	HIS
1	I	16	LEU

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Mol	Chain	Res	Type
1	I	48	VAL
1	I	51	GLN
1	I	57	GLN
1	I	99	GLU
1	I	115	SER
1	I	130	ILE
1	J	3	LEU
1	J	16	LEU
1	J	19	ARG
1	J	28	THR
1	J	46	LYS
1	J	50	ARG
1	J	52	SER
1	J	86	LEU
1	J	98	ILE
1	J	110	GLU
1	J	130	ILE
1	J	142	GLU
1	J	143	HIS
1	K	3	LEU
1	K	13	LEU
1	K	18	ARG
1	K	20	GLU
1	K	27	THR
1	K	28	THR
1	K	45	LEU
1	K	50	ARG
1	K	70	GLU
1	K	75	ASN
1	K	130	ILE
1	K	131	GLN
1	K	137	LEU
1	K	138	ARG
1	K	139	TYR
1	K	140	LEU
1	L	18	ARG
1	L	30	ASP
1	L	38	ARG
1	L	45	LEU
1	L	46	LYS
1	L	50	ARG
1	L	57	GLN

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Mol	Chain	Res	Type
1	L	80	THR
1	L	92	GLU
1	L	130	ILE
1	M	3	LEU
1	M	16	LEU
1	M	19	ARG
1	M	27	THR
1	M	31	GLU
1	M	35	LEU
1	M	50	ARG
1	M	99	GLU
1	N	3	LEU
1	N	4	ILE
1	N	18	ARG
1	N	19	ARG
1	N	20	GLU
1	N	30	ASP
1	N	31	GLU
1	N	37	GLU
1	N	53	ASP
1	N	55	GLU
1	N	94	SER
1	N	98	ILE
1	N	108	ARG
1	N	110	GLU
1	N	130	ILE
1	O	3	LEU
1	O	18	ARG
1	O	19	ARG
1	O	30	ASP
1	O	54	SER
1	O	110	GLU
1	O	115	SER
1	O	126	VAL
1	O	142	GLU
1	P	4	ILE
1	P	15	ARG
1	P	23	VAL
1	P	27	THR
1	P	50	ARG
1	P	57	GLN
1	P	61	TRP

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Mol	Chain	Res	Type
1	P	92	GLU
1	P	131	GLN
1	Q	4	ILE
1	Q	16	LEU
1	Q	18	ARG
1	Q	24	TYR
1	Q	38	ARG
1	Q	42	GLU
1	Q	55	GLU
1	Q	79	LEU
1	Q	97	LEU
1	Q	120	ILE
1	Q	128	LEU
1	Q	130	ILE
1	Q	131	GLN
1	Q	134	LEU
1	Q	138	ARG
1	R	4	ILE
1	R	13	LEU
1	R	16	LEU
1	R	19	ARG
1	R	20	GLU
1	R	37	GLU
1	R	38	ARG
1	R	42	GLU
1	R	59	LEU
1	R	71	PRO
1	R	80	THR
1	R	98	ILE
1	R	102	ILE
1	R	130	ILE
1	S	4	ILE
1	S	16	LEU
1	S	18	ARG
1	S	24	TYR
1	S	31	GLU
1	S	39	GLU
1	S	49	VAL
1	S	50	ARG
1	S	54	SER
1	S	92	GLU
1	S	110	GLU

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Mol	Chain	Res	Type
1	T	13	LEU
1	T	16	LEU
1	T	18	ARG
1	T	20	GLU
1	T	30	ASP
1	T	35	LEU
1	T	42	GLU
1	T	46	LYS
1	T	54	SER
1	T	131	GLN
1	T	142	GLU
1	U	3	LEU
1	U	4	ILE
1	U	16	LEU
1	U	19	ARG
1	U	20	GLU
1	U	30	ASP
1	U	35	LEU
1	U	51	GLN
1	U	54	SER
1	U	94	SER
1	U	120	ILE
1	U	143	HIS
1	V	16	LEU
1	V	18	ARG
1	V	19	ARG
1	V	35	LEU
1	V	38	ARG
1	V	46	LYS
1	V	50	ARG
1	V	97	LEU
1	V	98	ILE
1	V	99	GLU
1	V	117	LEU
1	V	122	THR
1	V	130	ILE
1	V	138	ARG
1	W	16	LEU
1	W	21	PRO
1	W	23	VAL
1	W	27	THR
1	W	30	ASP

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Mol	Chain	Res	Type
1	W	38	ARG
1	W	45	LEU
1	W	130	ILE
1	W	131	GLN
1	W	138	ARG
1	X	-6	LEU
1	X	1	SER
1	X	2	GLU
1	X	13	LEU
1	X	16	LEU
1	X	19	ARG
1	X	23	VAL
1	X	24	TYR
1	X	30	ASP
1	X	31	GLU
1	X	35	LEU
1	X	50	ARG
1	X	53	ASP
1	X	54	SER
1	X	80	THR
1	X	110	GLU
1	X	130	ILE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (41) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	6	ASN
1	A	64	GLN
1	B	9	ASN
1	B	63	HIS
1	C	63	HIS
1	C	131	GLN
1	D	57	GLN
1	D	131	GLN
1	D	143	HIS
1	F	57	GLN
1	F	131	GLN
1	H	114	HIS
1	I	51	GLN
1	I	57	GLN
1	I	63	HIS
1	I	101	HIS

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Mol	Chain	Res	Type
1	J	57	GLN
1	K	63	HIS
1	K	75	ASN
1	K	143	HIS
1	L	6	ASN
1	L	12	ASN
1	L	57	GLN
1	L	63	HIS
1	L	64	GLN
1	M	131	GLN
1	N	63	HIS
1	O	131	GLN
1	P	6	ASN
1	P	51	GLN
1	R	6	ASN
1	R	131	GLN
1	S	51	GLN
1	S	63	HIS
1	S	64	GLN
1	T	131	GLN
1	U	51	GLN
1	V	63	HIS
1	V	131	GLN
1	W	9	ASN
1	W	12	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

22 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
2	1R2	A	201	-	16,21,21	3.22	1 (6%)	22,29,29	1.64	4 (18%)
2	1R2	B	201	-	16,21,21	2.36	2 (12%)	22,29,29	1.81	6 (27%)
2	1R2	C	201	-	16,21,21	2.93	1 (6%)	22,29,29	1.63	4 (18%)
2	1R2	D	201	-	16,21,21	2.44	1 (6%)	22,29,29	1.36	2 (9%)
2	1R2	E	201	-	16,21,21	2.49	1 (6%)	22,29,29	1.57	4 (18%)
2	1R2	F	201	-	16,21,21	3.89	1 (6%)	22,29,29	1.95	3 (13%)
2	1R2	G	201	-	16,21,21	5.00	1 (6%)	22,29,29	2.05	3 (13%)
2	1R2	H	201	-	16,21,21	2.52	1 (6%)	22,29,29	1.56	2 (9%)
2	1R2	I	201	-	16,21,21	2.83	1 (6%)	22,29,29	1.69	5 (22%)
2	1R2	J	201	-	16,21,21	2.41	2 (12%)	22,29,29	1.53	4 (18%)
2	1R2	K	201	-	16,21,21	2.98	1 (6%)	22,29,29	1.82	6 (27%)
2	1R2	L	201	-	16,21,21	4.26	2 (12%)	22,29,29	1.48	3 (13%)
2	1R2	N	201	-	16,21,21	3.43	1 (6%)	22,29,29	1.70	3 (13%)
2	1R2	O	201	-	16,21,21	2.37	2 (12%)	22,29,29	1.91	4 (18%)
2	1R2	P	201	-	16,21,21	1.73	1 (6%)	22,29,29	1.50	4 (18%)
2	1R2	R	201	-	16,21,21	3.02	3 (18%)	22,29,29	1.92	3 (13%)
2	1R2	S	201	-	16,21,21	3.19	1 (6%)	22,29,29	1.42	5 (22%)
2	1R2	T	201	-	16,21,21	4.57	3 (18%)	22,29,29	2.31	9 (40%)
2	1R2	U	201	-	16,21,21	3.85	1 (6%)	22,29,29	1.13	2 (9%)
2	1R2	V	201	-	16,21,21	4.96	1 (6%)	22,29,29	2.08	5 (22%)
2	1R2	W	201	-	16,21,21	3.36	1 (6%)	22,29,29	1.85	4 (18%)
2	1R2	X	201	-	16,21,21	1.83	1 (6%)	22,29,29	1.94	3 (13%)

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	1R2	A	201	-	-	0/8/12/12	0/2/2/2
2	1R2	B	201	-	-	0/8/12/12	0/2/2/2
2	1R2	C	201	-	-	0/8/12/12	0/2/2/2
2	1R2	D	201	-	-	0/8/12/12	0/2/2/2
2	1R2	E	201	-	-	0/8/12/12	0/2/2/2
2	1R2	F	201	-	-	0/8/12/12	0/2/2/2
2	1R2	G	201	-	-	0/8/12/12	0/2/2/2
2	1R2	H	201	-	-	0/8/12/12	0/2/2/2
2	1R2	I	201	-	-	0/8/12/12	0/2/2/2
2	1R2	J	201	-	-	0/8/12/12	0/2/2/2
2	1R2	K	201	-	-	0/8/12/12	0/2/2/2
2	1R2	L	201	-	-	0/8/12/12	0/2/2/2
2	1R2	N	201	-	-	0/8/12/12	0/2/2/2
2	1R2	O	201	-	-	0/8/12/12	0/2/2/2
2	1R2	P	201	-	-	0/8/12/12	0/2/2/2
2	1R2	R	201	-	-	0/8/12/12	0/2/2/2
2	1R2	S	201	-	-	0/8/12/12	0/2/2/2
2	1R2	T	201	-	-	0/8/12/12	0/2/2/2
2	1R2	U	201	-	-	0/8/12/12	0/2/2/2
2	1R2	V	201	-	-	0/8/12/12	0/2/2/2
2	1R2	W	201	-	-	0/8/12/12	0/2/2/2
2	1R2	X	201	-	-	0/8/12/12	0/2/2/2

All (30) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	J	201	1R2	CAI-CAO	2.05	1.42	1.39
2	R	201	1R2	CAL-CAP	2.07	1.42	1.38
2	B	201	1R2	CAK-CAQ	2.08	1.42	1.38
2	R	201	1R2	CAI-CAO	2.17	1.42	1.39
2	L	201	1R2	CAI-CAQ	2.23	1.43	1.38
2	O	201	1R2	CAI-CAQ	2.28	1.43	1.38
2	T	201	1R2	CAI-CAO	2.49	1.43	1.39
2	T	201	1R2	CAI-CAQ	2.51	1.43	1.38
2	P	201	1R2	OAB-NAT	6.09	1.34	1.22
2	X	201	1R2	OAB-NAT	6.55	1.35	1.22
2	B	201	1R2	OAB-NAT	8.53	1.39	1.22
2	O	201	1R2	OAB-NAT	8.62	1.39	1.22
2	J	201	1R2	OAB-NAT	8.74	1.40	1.22
2	D	201	1R2	OAB-NAT	9.06	1.40	1.22
2	E	201	1R2	OAB-NAT	9.28	1.41	1.22
2	H	201	1R2	OAB-NAT	9.46	1.41	1.22
2	I	201	1R2	OAB-NAT	10.52	1.43	1.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	K	201	1R2	OAB-NAT	11.30	1.45	1.22
2	C	201	1R2	OAB-NAT	11.31	1.45	1.22
2	R	201	1R2	OAB-NAT	11.31	1.45	1.22
2	S	201	1R2	OAB-NAT	12.19	1.46	1.22
2	A	201	1R2	OAB-NAT	12.50	1.47	1.22
2	W	201	1R2	OAB-NAT	13.13	1.48	1.22
2	N	201	1R2	OAB-NAT	13.26	1.49	1.22
2	U	201	1R2	OAB-NAT	15.03	1.52	1.22
2	F	201	1R2	OAB-NAT	15.10	1.52	1.22
2	L	201	1R2	OAB-NAT	16.70	1.55	1.22
2	T	201	1R2	OAB-NAT	17.69	1.57	1.22
2	V	201	1R2	OAB-NAT	19.49	1.61	1.22
2	G	201	1R2	OAB-NAT	19.62	1.61	1.22

All (88) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	T	201	1R2	CAH-CAS-NAT	-5.77	114.83	119.48
2	G	201	1R2	CAH-CAS-NAT	-5.42	115.12	119.48
2	C	201	1R2	CAQ-OAM-CAP	-5.06	106.22	118.81
2	B	201	1R2	CAQ-OAM-CAP	-5.03	106.29	118.81
2	V	201	1R2	CAH-CAS-NAT	-5.02	115.44	119.48
2	W	201	1R2	CAH-CAS-NAT	-4.62	115.76	119.48
2	F	201	1R2	CAQ-OAM-CAP	-4.52	107.55	118.81
2	X	201	1R2	CAH-CAS-NAT	-4.37	115.96	119.48
2	P	201	1R2	CAQ-OAM-CAP	-3.95	108.98	118.81
2	R	201	1R2	CAH-CAS-NAT	-3.68	116.51	119.48
2	D	201	1R2	CAQ-OAM-CAP	-3.34	110.50	118.81
2	V	201	1R2	CAQ-OAM-CAP	-3.32	110.56	118.81
2	N	201	1R2	CAQ-OAM-CAP	-3.29	110.63	118.81
2	K	201	1R2	CAH-CAS-NAT	-3.25	116.86	119.48
2	I	201	1R2	CAH-CAS-NAT	-3.23	116.88	119.48
2	A	201	1R2	CAH-CAS-NAT	-3.17	116.93	119.48
2	A	201	1R2	CAQ-OAM-CAP	-3.15	110.96	118.81
2	K	201	1R2	CAG-CAP-CAL	-3.06	116.26	120.56
2	O	201	1R2	CAH-CAS-NAT	-3.02	117.05	119.48
2	J	201	1R2	CAQ-OAM-CAP	-2.87	111.67	118.81
2	T	201	1R2	CAQ-OAM-CAP	-2.74	111.99	118.81
2	O	201	1R2	CAQ-OAM-CAP	-2.72	112.03	118.81
2	L	201	1R2	CAQ-OAM-CAP	-2.70	112.09	118.81
2	S	201	1R2	CAG-CAP-CAL	-2.68	116.80	120.56
2	W	201	1R2	CAQ-OAM-CAP	-2.61	112.33	118.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	H	201	1R2	CAH-CAS-NAT	-2.57	117.42	119.48
2	T	201	1R2	CAI-CAQ-CAK	-2.52	116.64	120.99
2	G	201	1R2	CAG-CAP-CAL	-2.52	117.02	120.56
2	E	201	1R2	CAH-CAS-NAT	-2.52	117.45	119.48
2	B	201	1R2	CAH-CAS-NAT	-2.51	117.46	119.48
2	K	201	1R2	CAQ-OAM-CAP	-2.48	112.64	118.81
2	J	201	1R2	CAH-CAS-NAT	-2.41	117.54	119.48
2	T	201	1R2	CAG-CAP-CAL	-2.37	117.24	120.56
2	S	201	1R2	CAI-CAQ-CAK	-2.29	117.04	120.99
2	R	201	1R2	CAG-CAP-CAL	-2.27	117.37	120.56
2	B	201	1R2	CAI-CAQ-CAK	-2.23	117.15	120.99
2	V	201	1R2	CAG-CAP-CAL	-2.09	117.62	120.56
2	P	201	1R2	CAG-CAP-CAL	-2.00	117.75	120.56
2	N	201	1R2	CAH-CAS-NAT	-2.00	117.87	119.48
2	X	201	1R2	CAR-CAK-CAQ	2.00	121.68	119.76
2	E	201	1R2	CAF-CAG-CAP	2.02	122.40	118.92
2	B	201	1R2	CAF-CAG-CAP	2.04	122.44	118.92
2	S	201	1R2	CAF-CAG-CAP	2.05	122.45	118.92
2	S	201	1R2	CAS-CAL-CAP	2.07	121.66	119.12
2	C	201	1R2	CAK-CAR-CAJ	2.09	121.51	118.29
2	D	201	1R2	CAF-CAG-CAP	2.14	122.60	118.92
2	I	201	1R2	CAQ-CAI-CAO	2.14	120.90	118.72
2	T	201	1R2	OAM-CAP-CAL	2.16	125.58	119.04
2	J	201	1R2	CAQ-CAI-CAO	2.16	120.92	118.72
2	T	201	1R2	CAR-CAK-CAQ	2.19	121.86	119.76
2	I	201	1R2	CAR-CAK-CAQ	2.22	121.89	119.76
2	E	201	1R2	CAQ-CAI-CAO	2.23	120.99	118.72
2	P	201	1R2	CAQ-CAI-CAO	2.27	121.03	118.72
2	I	201	1R2	CAR-CAJ-CAO	2.27	121.72	119.68
2	A	201	1R2	CAR-CAK-CAQ	2.27	121.94	119.76
2	V	201	1R2	CAR-CAK-CAQ	2.28	121.94	119.76
2	U	201	1R2	CAL-CAS-NAT	2.35	120.86	118.80
2	K	201	1R2	CAF-CAG-CAP	2.45	123.14	118.92
2	P	201	1R2	CAL-CAS-NAT	2.48	120.98	118.80
2	W	201	1R2	CAR-CAK-CAQ	2.52	122.18	119.76
2	B	201	1R2	CAL-CAS-NAT	2.54	121.03	118.80
2	U	201	1R2	CAR-CAK-CAQ	2.54	122.20	119.76
2	K	201	1R2	CAR-CAK-CAQ	2.56	122.21	119.76
2	T	201	1R2	CAF-CAG-CAP	2.64	123.47	118.92
2	F	201	1R2	CAR-CAK-CAQ	2.73	122.38	119.76
2	O	201	1R2	CAQ-CAI-CAO	2.73	121.50	118.72
2	C	201	1R2	CAQ-CAI-CAO	2.74	121.51	118.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	T	201	1R2	CAQ-CAI-CAO	2.86	121.63	118.72
2	L	201	1R2	CAQ-CAI-CAO	3.00	121.77	118.72
2	C	201	1R2	CAL-CAS-NAT	3.17	121.58	118.80
2	L	201	1R2	CAK-CAR-CAJ	3.24	123.28	118.29
2	B	201	1R2	CAR-CAK-CAQ	3.49	123.11	119.76
2	S	201	1R2	CAR-CAK-CAQ	3.53	123.15	119.76
2	A	201	1R2	CAL-CAS-NAT	3.73	122.07	118.80
2	J	201	1R2	CAL-CAS-NAT	3.98	122.29	118.80
2	K	201	1R2	CAL-CAS-NAT	4.16	122.45	118.80
2	E	201	1R2	CAL-CAS-NAT	4.44	122.70	118.80
2	H	201	1R2	CAL-CAS-NAT	4.60	122.83	118.80
2	N	201	1R2	CAL-CAS-NAT	4.89	123.08	118.80
2	T	201	1R2	CAL-CAS-NAT	4.91	123.10	118.80
2	I	201	1R2	CAL-CAS-NAT	4.92	123.11	118.80
2	W	201	1R2	CAL-CAS-NAT	5.22	123.38	118.80
2	V	201	1R2	CAL-CAS-NAT	5.36	123.50	118.80
2	F	201	1R2	CAL-CAS-NAT	5.62	123.73	118.80
2	R	201	1R2	CAL-CAS-NAT	5.76	123.85	118.80
2	G	201	1R2	CAL-CAS-NAT	5.81	123.90	118.80
2	O	201	1R2	CAL-CAS-NAT	5.95	124.02	118.80
2	X	201	1R2	CAL-CAS-NAT	6.39	124.40	118.80

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

16 monomers are involved in 43 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	201	1R2	1	0
2	B	201	1R2	2	0
2	C	201	1R2	1	0
2	D	201	1R2	1	0
2	E	201	1R2	1	0
2	F	201	1R2	1	0
2	G	201	1R2	2	0
2	I	201	1R2	2	0
2	K	201	1R2	2	0
2	N	201	1R2	2	0
2	O	201	1R2	1	0
2	R	201	1R2	2	0
2	T	201	1R2	5	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	V	201	1R2	9	0
2	W	201	1R2	8	0
2	X	201	1R2	3	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	134/153 (87%)	-0.43	1 (0%) 89 84	11, 17, 42, 66	0
1	B	141/153 (92%)	-0.54	0 100 100	9, 16, 35, 51	0
1	C	141/153 (92%)	-0.56	0 100 100	9, 17, 42, 67	0
1	D	143/153 (93%)	-0.54	0 100 100	8, 13, 34, 57	0
1	E	141/153 (92%)	-0.39	1 (0%) 89 84	10, 18, 51, 76	0
1	F	141/153 (92%)	-0.54	0 100 100	7, 16, 45, 58	0
1	G	141/153 (92%)	-0.49	0 100 100	10, 15, 39, 50	1 (0%)
1	H	141/153 (92%)	-0.62	1 (0%) 89 84	7, 15, 46, 66	0
1	I	141/153 (92%)	-0.46	0 100 100	10, 16, 36, 52	0
1	J	141/153 (92%)	-0.48	1 (0%) 89 84	9, 14, 41, 61	0
1	K	141/153 (92%)	-0.48	0 100 100	10, 18, 44, 62	0
1	L	141/153 (92%)	-0.44	0 100 100	7, 17, 34, 43	0
1	M	137/153 (89%)	-0.34	2 (1%) 76 68	16, 25, 49, 78	0
1	N	141/153 (92%)	0.13	7 (4%) 32 21	17, 26, 77, 110	0
1	O	141/153 (92%)	-0.52	0 100 100	9, 18, 37, 51	0
1	P	141/153 (92%)	-0.16	1 (0%) 89 84	14, 25, 62, 69	0
1	Q	137/153 (89%)	0.00	2 (1%) 76 68	19, 30, 53, 78	0
1	R	141/153 (92%)	-0.23	2 (1%) 78 69	17, 26, 55, 68	0
1	S	140/153 (91%)	-0.18	1 (0%) 89 84	16, 26, 62, 80	1 (0%)
1	T	141/153 (92%)	-0.51	1 (0%) 89 84	9, 16, 42, 67	0
1	U	141/153 (92%)	-0.26	1 (0%) 89 84	15, 23, 49, 82	0
1	V	141/153 (92%)	-0.27	1 (0%) 89 84	12, 20, 50, 82	0
1	W	141/153 (92%)	-0.07	1 (0%) 89 84	19, 30, 60, 78	0
1	X	150/153 (98%)	-0.41	2 (1%) 79 71	11, 22, 65, 76	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
All	All	3379/3672 (92%)	-0.37	25 (0%) 89 84	7, 20, 51, 110	2 (0%)

All (25) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	N	41	ALA	7.5
1	N	44	GLY	4.6
1	M	17	GLY	3.4
1	N	43	LEU	3.3
1	A	25	GLY	3.2
1	V	22	ALA	3.2
1	X	17	GLY	3.1
1	N	19	ARG	2.8
1	X	22	ALA	2.7
1	N	20	GLU	2.7
1	J	143	HIS	2.7
1	S	21	PRO	2.6
1	T	25	GLY	2.5
1	R	45	LEU	2.5
1	M	20	GLU	2.4
1	H	25	GLY	2.4
1	P	24	TYR	2.4
1	N	21	PRO	2.3
1	Q	143	HIS	2.3
1	Q	3	LEU	2.3
1	R	44	GLY	2.3
1	W	38	ARG	2.2
1	U	21	PRO	2.0
1	N	24	TYR	2.0
1	E	25	GLY	2.0

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

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

6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å ²)	Q<0.9
2	1R2	A	201	20/20	0.91	0.29	4.94	43,49,54,60	0
2	1R2	W	201	20/20	0.86	0.40	3.45	61,72,87,87	0
2	1R2	T	201	20/20	0.89	0.26	2.40	30,39,46,48	0
2	1R2	X	201	20/20	0.90	0.30	2.34	43,54,65,65	0
2	1R2	R	201	20/20	0.92	0.22	1.95	34,43,48,50	0
2	1R2	P	201	20/20	0.89	0.31	1.78	44,52,55,60	0
2	1R2	B	201	20/20	0.96	0.19	1.74	20,24,25,26	0
2	1R2	L	201	20/20	0.94	0.21	1.63	25,30,40,45	0
2	1R2	J	201	20/20	0.94	0.19	1.60	28,33,38,38	0
2	1R2	E	201	20/20	0.92	0.24	1.56	41,45,60,64	0
2	1R2	I	201	20/20	0.93	0.22	1.49	23,33,45,45	0
2	1R2	S	201	20/20	0.86	0.25	1.44	55,65,70,71	0
2	1R2	U	201	20/20	0.94	0.23	1.43	33,40,49,51	0
2	1R2	V	201	20/20	0.90	0.22	1.35	31,42,52,53	0
2	1R2	C	201	20/20	0.93	0.20	1.25	35,38,41,42	0
2	1R2	H	201	20/20	0.93	0.22	1.23	34,45,54,55	0
2	1R2	G	201	20/20	0.94	0.18	1.02	23,32,37,37	0
2	1R2	N	201	20/20	0.89	0.29	0.78	37,49,63,64	0
2	1R2	F	201	20/20	0.96	0.15	0.68	27,31,35,35	0
2	1R2	O	201	20/20	0.94	0.18	0.61	26,32,34,36	0
2	1R2	K	201	20/20	0.93	0.18	0.50	28,36,47,54	0
2	1R2	D	201	20/20	0.95	0.17	0.42	24,27,33,34	0

6.5 Other polymers ⓘ

There are no such residues in this entry.