Full wwPDB EM Validation Report

Jun 10, 2026 – 02:01 pm BST

PDB ID	:	30GA / pdb_000030ga
EMDB ID	:	EMD-57736
Title	:	Cryo-EM structure of the PseCascade-TniQ-TnsC-TnsAB holocomplex
Authors	:	Finocchio, G.; Oberli, S.; Schmitz, M.; Jinek, M.
Deposited on	:	2026-04-23
Resolution	:	3.20 Å(reported)
Based on initial model	:	?

This is a Full wwPDB EM 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/EMValidationReportHelp
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:

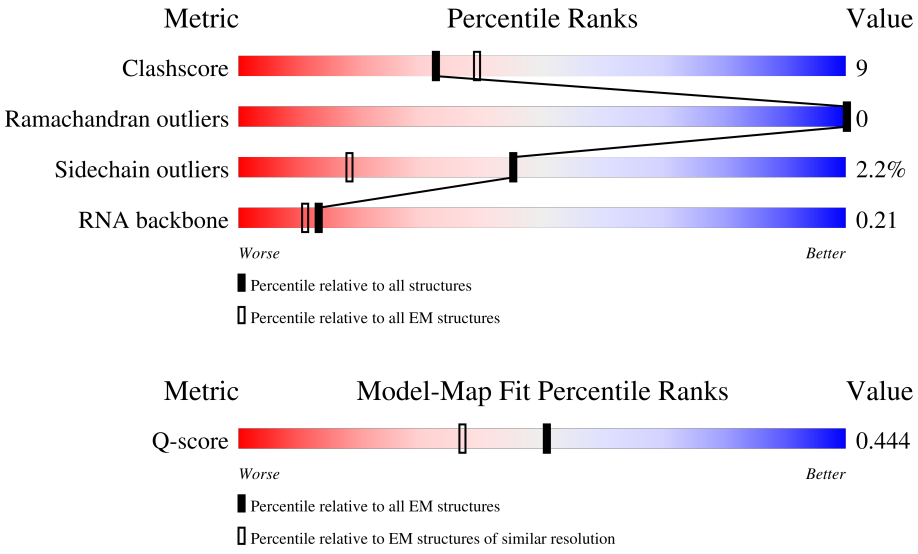
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.20 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)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	15020 (2.70 - 3.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	93	14% 40% 11% 35%
2	2	145	31% 48% 21%
2	5	145	9% 21% 70%

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Mol	Chain	Length	Quality of chain
3	3	90	36% 28% 37%
3	7	90	11% 86%
4	4	54	39% 17% 44%
4	6	54	37% 19% 44%
5	A	350	75% 17% 8%
5	B	350	82% 16%
5	C	350	83% 16%
5	D	350	84% 14%
5	E	350	85% 14%
5	F	350	82% 16%
6	G	695	81% 17%
7	H	237	68% 15% 16%
8	I	432	77% 17% 6%
8	J	432	78% 16% 6%
9	K	333	76% 21%
9	L	333	64% 29% 6%
9	M	333	67% 26% 7%
9	N	333	75% 19% 6%
9	O	333	75% 20%
9	P	333	77% 17% 6%
9	Q	333	73% 22%
10	R	1258	99%
10	S	1258	99%
10	T	1258	99%
10	U	1258	99%

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Mol	Chain	Length	Quality of chain
10	V	1258	99%
10	W	1258	99%
10	X	1258	99%
10	a	1258	51% 12% 37%
10	b	1258	5% 47% 15% 37%
10	c	1258	19% 7% 73%
10	d	1258	21% 6% 73%

2 Entry composition (i)

There are 12 unique types of molecules in this entry. The entry contains 74403 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 RNA chain called CRISPR RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	60	Total	C	N	O	P	0	0
			1291	577	243	412	59		

- Molecule 2 is a DNA chain called TS_RE-transferred.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	2	114	Total	C	N	O	P	0	0
			2307	1098	408	688	113		
2	5	44	Total	C	N	O	P	0	0
			901	427	172	259	43		

- Molecule 3 is a DNA chain called Non-target DNA strand.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	3	57	Total	C	N	O	P	0	1
			1115	530	209	322	54		
3	7	13	Total	C	N	O	P	0	0
			258	123	47	76	12		

- Molecule 4 is a DNA chain called RE_non-trasferred.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	4	30	Total	C	N	O	P	0	1
			592	284	100	179	29		
4	6	30	Total	C	N	O	P	0	1
			592	284	100	179	29		

- Molecule 5 is a protein called Cas7.1.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	A	321	Total	C	N	O	S	0	0
			2580	1649	429	490	12		

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Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	346	Total	C	N	O	S	0	0
			2777	1774	462	529	12		
5	C	346	Total	C	N	O	S	0	0
			2777	1774	462	529	12		
5	D	346	Total	C	N	O	S	0	0
			2777	1774	462	529	12		
5	E	346	Total	C	N	O	S	0	0
			2777	1774	462	529	12		
5	F	344	Total	C	N	O	S	0	0
			2763	1766	460	525	12		

- Molecule 6 is a protein called Cas8.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	684	Total	C	N	O	S	0	0
			5489	3525	945	994	25		

- Molecule 7 is a protein called Cas6.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	198	Total	C	N	O	S	0	0
			1599	1019	278	293	9		

There are 34 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	204	SER	-	expression tag	UNP A0ABF7PQC0
H	205	ALA	-	expression tag	UNP A0ABF7PQC0
H	206	TRP	-	expression tag	UNP A0ABF7PQC0
H	207	SER	-	expression tag	UNP A0ABF7PQC0
H	208	HIS	-	expression tag	UNP A0ABF7PQC0
H	209	PRO	-	expression tag	UNP A0ABF7PQC0
H	210	GLN	-	expression tag	UNP A0ABF7PQC0
H	211	PHE	-	expression tag	UNP A0ABF7PQC0
H	212	GLU	-	expression tag	UNP A0ABF7PQC0
H	213	LYS	-	expression tag	UNP A0ABF7PQC0
H	214	GLY	-	expression tag	UNP A0ABF7PQC0
H	215	GLY	-	expression tag	UNP A0ABF7PQC0
H	216	GLY	-	expression tag	UNP A0ABF7PQC0
H	217	SER	-	expression tag	UNP A0ABF7PQC0
H	218	GLY	-	expression tag	UNP A0ABF7PQC0
H	219	GLY	-	expression tag	UNP A0ABF7PQC0

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Chain	Residue	Modelled	Actual	Comment	Reference
H	220	GLY	-	expression tag	UNP A0ABF7PQC0
H	221	SER	-	expression tag	UNP A0ABF7PQC0
H	222	GLY	-	expression tag	UNP A0ABF7PQC0
H	223	GLY	-	expression tag	UNP A0ABF7PQC0
H	224	SER	-	expression tag	UNP A0ABF7PQC0
H	225	ALA	-	expression tag	UNP A0ABF7PQC0
H	226	TRP	-	expression tag	UNP A0ABF7PQC0
H	227	SER	-	expression tag	UNP A0ABF7PQC0
H	228	HIS	-	expression tag	UNP A0ABF7PQC0
H	229	PRO	-	expression tag	UNP A0ABF7PQC0
H	230	GLN	-	expression tag	UNP A0ABF7PQC0
H	231	PHE	-	expression tag	UNP A0ABF7PQC0
H	232	GLU	-	expression tag	UNP A0ABF7PQC0
H	233	LYS	-	expression tag	UNP A0ABF7PQC0
H	234	SER	-	expression tag	UNP A0ABF7PQC0
H	235	GLY	-	expression tag	UNP A0ABF7PQC0
H	236	GLY	-	expression tag	UNP A0ABF7PQC0
H	237	GLY	-	expression tag	UNP A0ABF7PQC0

- Molecule 8 is a protein called TniQ.1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	408	Total	C	N	O	S	0	0
			3311	2120	561	614	16		
8	J	404	Total	C	N	O	S	0	0
			3271	2094	556	604	17		

There are 46 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	-22	MET	-	initiating methionine	UNP A0ABF7PQC1
I	-21	GLY	-	expression tag	UNP A0ABF7PQC1
I	-20	HIS	-	expression tag	UNP A0ABF7PQC1
I	-19	HIS	-	expression tag	UNP A0ABF7PQC1
I	-18	HIS	-	expression tag	UNP A0ABF7PQC1
I	-17	HIS	-	expression tag	UNP A0ABF7PQC1
I	-16	HIS	-	expression tag	UNP A0ABF7PQC1
I	-15	HIS	-	expression tag	UNP A0ABF7PQC1
I	-14	HIS	-	expression tag	UNP A0ABF7PQC1
I	-13	HIS	-	expression tag	UNP A0ABF7PQC1
I	-12	HIS	-	expression tag	UNP A0ABF7PQC1
I	-11	HIS	-	expression tag	UNP A0ABF7PQC1

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Chain	Residue	Modelled	Actual	Comment	Reference
I	-10	GLY	-	expression tag	UNP A0ABF7PQC1
I	-9	GLY	-	expression tag	UNP A0ABF7PQC1
I	-8	SER	-	expression tag	UNP A0ABF7PQC1
I	-7	GLU	-	expression tag	UNP A0ABF7PQC1
I	-6	ASN	-	expression tag	UNP A0ABF7PQC1
I	-5	LEU	-	expression tag	UNP A0ABF7PQC1
I	-4	TYR	-	expression tag	UNP A0ABF7PQC1
I	-3	PHE	-	expression tag	UNP A0ABF7PQC1
I	-2	GLN	-	expression tag	UNP A0ABF7PQC1
I	-1	SER	-	expression tag	UNP A0ABF7PQC1
I	0	GLY	-	expression tag	UNP A0ABF7PQC1
J	-22	MET	-	initiating methionine	UNP A0ABF7PQC1
J	-21	GLY	-	expression tag	UNP A0ABF7PQC1
J	-20	HIS	-	expression tag	UNP A0ABF7PQC1
J	-19	HIS	-	expression tag	UNP A0ABF7PQC1
J	-18	HIS	-	expression tag	UNP A0ABF7PQC1
J	-17	HIS	-	expression tag	UNP A0ABF7PQC1
J	-16	HIS	-	expression tag	UNP A0ABF7PQC1
J	-15	HIS	-	expression tag	UNP A0ABF7PQC1
J	-14	HIS	-	expression tag	UNP A0ABF7PQC1
J	-13	HIS	-	expression tag	UNP A0ABF7PQC1
J	-12	HIS	-	expression tag	UNP A0ABF7PQC1
J	-11	HIS	-	expression tag	UNP A0ABF7PQC1
J	-10	GLY	-	expression tag	UNP A0ABF7PQC1
J	-9	GLY	-	expression tag	UNP A0ABF7PQC1
J	-8	SER	-	expression tag	UNP A0ABF7PQC1
J	-7	GLU	-	expression tag	UNP A0ABF7PQC1
J	-6	ASN	-	expression tag	UNP A0ABF7PQC1
J	-5	LEU	-	expression tag	UNP A0ABF7PQC1
J	-4	TYR	-	expression tag	UNP A0ABF7PQC1
J	-3	PHE	-	expression tag	UNP A0ABF7PQC1
J	-2	GLN	-	expression tag	UNP A0ABF7PQC1
J	-1	SER	-	expression tag	UNP A0ABF7PQC1
J	0	GLY	-	expression tag	UNP A0ABF7PQC1

- Molecule 9 is a protein called AAA+ ATPase domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	K	327	Total	C	N	O	S	0	0
			2658	1704	455	486	13		
9	L	313	Total	C	N	O	S	0	0
			2545	1631	434	467	13		

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Mol	Chain	Residues	Atoms					AltConf	Trace
9	M	311	Total	C	N	O	S	0	0
			2529	1622	432	463	12		
9	N	313	Total	C	N	O	S	0	0
			2547	1635	435	465	12		
9	O	319	Total	C	N	O	S	0	0
			2592	1664	443	473	12		
9	P	314	Total	C	N	O	S	0	0
			2559	1644	436	467	12		
9	Q	319	Total	C	N	O	S	0	0
			2598	1669	445	472	12		

There are 161 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	11	LYS	GLN	conflict	UNP A0A290S0Z4
K	27	THR	ALA	conflict	UNP A0A290S0Z4
K	47	CYS	GLY	conflict	UNP A0A290S0Z4
K	84	VAL	ILE	conflict	UNP A0A290S0Z4
K	98	VAL	ILE	conflict	UNP A0A290S0Z4
K	112	ILE	MET	conflict	UNP A0A290S0Z4
K	120	ASP	GLU	conflict	UNP A0A290S0Z4
K	219	ALA	VAL	conflict	UNP A0A290S0Z4
K	221	LYS	GLN	conflict	UNP A0A290S0Z4
K	226	VAL	GLU	conflict	UNP A0A290S0Z4
K	234	ASN	HIS	conflict	UNP A0A290S0Z4
K	237	ILE	MET	conflict	UNP A0A290S0Z4
K	255	LEU	MET	conflict	UNP A0A290S0Z4
K	275	THR	ALA	conflict	UNP A0A290S0Z4
K	276	ALA	VAL	conflict	UNP A0A290S0Z4
K	278	ASP	GLU	conflict	UNP A0A290S0Z4
K	287	GLU	ASP	conflict	UNP A0A290S0Z4
K	288	LYS	SER	conflict	UNP A0A290S0Z4
K	291	SER	LEU	conflict	UNP A0A290S0Z4
K	303	GLU	ILE	conflict	UNP A0A290S0Z4
K	308	ILE	THR	conflict	UNP A0A290S0Z4
K	326	ASP	GLY	conflict	UNP A0A290S0Z4
K	328	VAL	LYS	conflict	UNP A0A290S0Z4
L	11	LYS	GLN	conflict	UNP A0A290S0Z4
L	27	THR	ALA	conflict	UNP A0A290S0Z4
L	47	CYS	GLY	conflict	UNP A0A290S0Z4
L	84	VAL	ILE	conflict	UNP A0A290S0Z4
L	98	VAL	ILE	conflict	UNP A0A290S0Z4
L	112	ILE	MET	conflict	UNP A0A290S0Z4

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Chain	Residue	Modelled	Actual	Comment	Reference
L	120	ASP	GLU	conflict	UNP A0A290S0Z4
L	219	ALA	VAL	conflict	UNP A0A290S0Z4
L	221	LYS	GLN	conflict	UNP A0A290S0Z4
L	226	VAL	GLU	conflict	UNP A0A290S0Z4
L	234	ASN	HIS	conflict	UNP A0A290S0Z4
L	237	ILE	MET	conflict	UNP A0A290S0Z4
L	255	LEU	MET	conflict	UNP A0A290S0Z4
L	275	THR	ALA	conflict	UNP A0A290S0Z4
L	276	ALA	VAL	conflict	UNP A0A290S0Z4
L	278	ASP	GLU	conflict	UNP A0A290S0Z4
L	287	GLU	ASP	conflict	UNP A0A290S0Z4
L	288	LYS	SER	conflict	UNP A0A290S0Z4
L	291	SER	LEU	conflict	UNP A0A290S0Z4
L	303	GLU	ILE	conflict	UNP A0A290S0Z4
L	308	ILE	THR	conflict	UNP A0A290S0Z4
L	326	ASP	GLY	conflict	UNP A0A290S0Z4
L	328	VAL	LYS	conflict	UNP A0A290S0Z4
M	11	LYS	GLN	conflict	UNP A0A290S0Z4
M	27	THR	ALA	conflict	UNP A0A290S0Z4
M	47	CYS	GLY	conflict	UNP A0A290S0Z4
M	84	VAL	ILE	conflict	UNP A0A290S0Z4
M	98	VAL	ILE	conflict	UNP A0A290S0Z4
M	112	ILE	MET	conflict	UNP A0A290S0Z4
M	120	ASP	GLU	conflict	UNP A0A290S0Z4
M	219	ALA	VAL	conflict	UNP A0A290S0Z4
M	221	LYS	GLN	conflict	UNP A0A290S0Z4
M	226	VAL	GLU	conflict	UNP A0A290S0Z4
M	234	ASN	HIS	conflict	UNP A0A290S0Z4
M	237	ILE	MET	conflict	UNP A0A290S0Z4
M	255	LEU	MET	conflict	UNP A0A290S0Z4
M	275	THR	ALA	conflict	UNP A0A290S0Z4
M	276	ALA	VAL	conflict	UNP A0A290S0Z4
M	278	ASP	GLU	conflict	UNP A0A290S0Z4
M	287	GLU	ASP	conflict	UNP A0A290S0Z4
M	288	LYS	SER	conflict	UNP A0A290S0Z4
M	291	SER	LEU	conflict	UNP A0A290S0Z4
M	303	GLU	ILE	conflict	UNP A0A290S0Z4
M	308	ILE	THR	conflict	UNP A0A290S0Z4
M	326	ASP	GLY	conflict	UNP A0A290S0Z4
M	328	VAL	LYS	conflict	UNP A0A290S0Z4
N	11	LYS	GLN	conflict	UNP A0A290S0Z4
N	27	THR	ALA	conflict	UNP A0A290S0Z4

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Chain	Residue	Modelled	Actual	Comment	Reference
N	47	CYS	GLY	conflict	UNP A0A290S0Z4
N	84	VAL	ILE	conflict	UNP A0A290S0Z4
N	98	VAL	ILE	conflict	UNP A0A290S0Z4
N	112	ILE	MET	conflict	UNP A0A290S0Z4
N	120	ASP	GLU	conflict	UNP A0A290S0Z4
N	219	ALA	VAL	conflict	UNP A0A290S0Z4
N	221	LYS	GLN	conflict	UNP A0A290S0Z4
N	226	VAL	GLU	conflict	UNP A0A290S0Z4
N	234	ASN	HIS	conflict	UNP A0A290S0Z4
N	237	ILE	MET	conflict	UNP A0A290S0Z4
N	255	LEU	MET	conflict	UNP A0A290S0Z4
N	275	THR	ALA	conflict	UNP A0A290S0Z4
N	276	ALA	VAL	conflict	UNP A0A290S0Z4
N	278	ASP	GLU	conflict	UNP A0A290S0Z4
N	287	GLU	ASP	conflict	UNP A0A290S0Z4
N	288	LYS	SER	conflict	UNP A0A290S0Z4
N	291	SER	LEU	conflict	UNP A0A290S0Z4
N	303	GLU	ILE	conflict	UNP A0A290S0Z4
N	308	ILE	THR	conflict	UNP A0A290S0Z4
N	326	ASP	GLY	conflict	UNP A0A290S0Z4
N	328	VAL	LYS	conflict	UNP A0A290S0Z4
O	11	LYS	GLN	conflict	UNP A0A290S0Z4
O	27	THR	ALA	conflict	UNP A0A290S0Z4
O	47	CYS	GLY	conflict	UNP A0A290S0Z4
O	84	VAL	ILE	conflict	UNP A0A290S0Z4
O	98	VAL	ILE	conflict	UNP A0A290S0Z4
O	112	ILE	MET	conflict	UNP A0A290S0Z4
O	120	ASP	GLU	conflict	UNP A0A290S0Z4
O	219	ALA	VAL	conflict	UNP A0A290S0Z4
O	221	LYS	GLN	conflict	UNP A0A290S0Z4
O	226	VAL	GLU	conflict	UNP A0A290S0Z4
O	234	ASN	HIS	conflict	UNP A0A290S0Z4
O	237	ILE	MET	conflict	UNP A0A290S0Z4
O	255	LEU	MET	conflict	UNP A0A290S0Z4
O	275	THR	ALA	conflict	UNP A0A290S0Z4
O	276	ALA	VAL	conflict	UNP A0A290S0Z4
O	278	ASP	GLU	conflict	UNP A0A290S0Z4
O	287	GLU	ASP	conflict	UNP A0A290S0Z4
O	288	LYS	SER	conflict	UNP A0A290S0Z4
O	291	SER	LEU	conflict	UNP A0A290S0Z4
O	303	GLU	ILE	conflict	UNP A0A290S0Z4
O	308	ILE	THR	conflict	UNP A0A290S0Z4

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Chain	Residue	Modelled	Actual	Comment	Reference
O	326	ASP	GLY	conflict	UNP A0A290S0Z4
O	328	VAL	LYS	conflict	UNP A0A290S0Z4
P	11	LYS	GLN	conflict	UNP A0A290S0Z4
P	27	THR	ALA	conflict	UNP A0A290S0Z4
P	47	CYS	GLY	conflict	UNP A0A290S0Z4
P	84	VAL	ILE	conflict	UNP A0A290S0Z4
P	98	VAL	ILE	conflict	UNP A0A290S0Z4
P	112	ILE	MET	conflict	UNP A0A290S0Z4
P	120	ASP	GLU	conflict	UNP A0A290S0Z4
P	219	ALA	VAL	conflict	UNP A0A290S0Z4
P	221	LYS	GLN	conflict	UNP A0A290S0Z4
P	226	VAL	GLU	conflict	UNP A0A290S0Z4
P	234	ASN	HIS	conflict	UNP A0A290S0Z4
P	237	ILE	MET	conflict	UNP A0A290S0Z4
P	255	LEU	MET	conflict	UNP A0A290S0Z4
P	275	THR	ALA	conflict	UNP A0A290S0Z4
P	276	ALA	VAL	conflict	UNP A0A290S0Z4
P	278	ASP	GLU	conflict	UNP A0A290S0Z4
P	287	GLU	ASP	conflict	UNP A0A290S0Z4
P	288	LYS	SER	conflict	UNP A0A290S0Z4
P	291	SER	LEU	conflict	UNP A0A290S0Z4
P	303	GLU	ILE	conflict	UNP A0A290S0Z4
P	308	ILE	THR	conflict	UNP A0A290S0Z4
P	326	ASP	GLY	conflict	UNP A0A290S0Z4
P	328	VAL	LYS	conflict	UNP A0A290S0Z4
Q	11	LYS	GLN	conflict	UNP A0A290S0Z4
Q	27	THR	ALA	conflict	UNP A0A290S0Z4
Q	47	CYS	GLY	conflict	UNP A0A290S0Z4
Q	84	VAL	ILE	conflict	UNP A0A290S0Z4
Q	98	VAL	ILE	conflict	UNP A0A290S0Z4
Q	112	ILE	MET	conflict	UNP A0A290S0Z4
Q	120	ASP	GLU	conflict	UNP A0A290S0Z4
Q	219	ALA	VAL	conflict	UNP A0A290S0Z4
Q	221	LYS	GLN	conflict	UNP A0A290S0Z4
Q	226	VAL	GLU	conflict	UNP A0A290S0Z4
Q	234	ASN	HIS	conflict	UNP A0A290S0Z4
Q	237	ILE	MET	conflict	UNP A0A290S0Z4
Q	255	LEU	MET	conflict	UNP A0A290S0Z4
Q	275	THR	ALA	conflict	UNP A0A290S0Z4
Q	276	ALA	VAL	conflict	UNP A0A290S0Z4
Q	278	ASP	GLU	conflict	UNP A0A290S0Z4
Q	287	GLU	ASP	conflict	UNP A0A290S0Z4

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Chain	Residue	Modelled	Actual	Comment	Reference
Q	288	LYS	SER	conflict	UNP A0A290S0Z4
Q	291	SER	LEU	conflict	UNP A0A290S0Z4
Q	303	GLU	ILE	conflict	UNP A0A290S0Z4
Q	308	ILE	THR	conflict	UNP A0A290S0Z4
Q	326	ASP	GLY	conflict	UNP A0A290S0Z4
Q	328	VAL	LYS	conflict	UNP A0A290S0Z4

- Molecule 10 is a protein called Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	R	9	Total	C	N	O		0	0
			80	51	10	19			
10	S	9	Total	C	N	O		0	0
			80	51	10	19			
10	T	9	Total	C	N	O		0	0
			80	51	10	19			
10	U	9	Total	C	N	O		0	0
			80	51	10	19			
10	V	9	Total	C	N	O		0	0
			80	51	10	19			
10	W	9	Total	C	N	O		0	0
			80	51	10	19			
10	X	9	Total	C	N	O		0	0
			80	51	10	19			
10	a	790	Total	C	N	O	S	0	0
			6429	4132	1090	1186	21		
10	b	790	Total	C	N	O	S	0	0
			6429	4132	1090	1186	21		
10	c	336	Total	C	N	O	S	0	0
			2775	1786	460	518	11		
10	d	336	Total	C	N	O	S	0	0
			2775	1786	460	518	11		

There are 451 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R	-406	MET	-	initiating methionine	UNP P0AEX9
R	-405	GLY	-	expression tag	UNP P0AEX9
R	-404	SER	-	expression tag	UNP P0AEX9
R	-403	SER	-	expression tag	UNP P0AEX9
R	-402	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
R	-401	HIS	-	expression tag	UNP P0AEX9
R	-400	HIS	-	expression tag	UNP P0AEX9
R	-399	HIS	-	expression tag	UNP P0AEX9
R	-398	HIS	-	expression tag	UNP P0AEX9
R	-397	HIS	-	expression tag	UNP P0AEX9
R	-396	GLY	-	expression tag	UNP P0AEX9
R	-395	SER	-	expression tag	UNP P0AEX9
R	-394	SER	-	expression tag	UNP P0AEX9
R	-393	MET	-	expression tag	UNP P0AEX9
R	-26	ASN	-	linker	UNP P0AEX9
R	-25	SER	-	linker	UNP P0AEX9
R	-24	SER	-	linker	UNP P0AEX9
R	-23	SER	-	linker	UNP P0AEX9
R	-22	ASN	-	linker	UNP P0AEX9
R	-21	ASN	-	linker	UNP P0AEX9
R	-20	ASN	-	linker	UNP P0AEX9
R	-19	ASN	-	linker	UNP P0AEX9
R	-18	ASN	-	linker	UNP P0AEX9
R	-17	ASN	-	linker	UNP P0AEX9
R	-16	ASN	-	linker	UNP P0AEX9
R	-15	ASN	-	linker	UNP P0AEX9
R	-14	ASN	-	linker	UNP P0AEX9
R	-13	ASN	-	linker	UNP P0AEX9
R	-12	LEU	-	linker	UNP P0AEX9
R	-11	GLY	-	linker	UNP P0AEX9
R	-10	ILE	-	linker	UNP P0AEX9
R	-9	GLU	-	linker	UNP P0AEX9
R	-8	GLU	-	linker	UNP P0AEX9
R	-7	ASN	-	linker	UNP P0AEX9
R	-6	LEU	-	linker	UNP P0AEX9
R	-5	TYR	-	linker	UNP P0AEX9
R	-4	PHE	-	linker	UNP P0AEX9
R	-3	GLN	-	linker	UNP P0AEX9
R	-2	SER	-	linker	UNP P0AEX9
R	-1	ASN	-	linker	UNP P0AEX9
R	0	ALA	-	linker	UNP P0AEX9
S	-406	MET	-	initiating methionine	UNP P0AEX9
S	-405	GLY	-	expression tag	UNP P0AEX9
S	-404	SER	-	expression tag	UNP P0AEX9
S	-403	SER	-	expression tag	UNP P0AEX9
S	-402	HIS	-	expression tag	UNP P0AEX9
S	-401	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
S	-400	HIS	-	expression tag	UNP P0AEX9
S	-399	HIS	-	expression tag	UNP P0AEX9
S	-398	HIS	-	expression tag	UNP P0AEX9
S	-397	HIS	-	expression tag	UNP P0AEX9
S	-396	GLY	-	expression tag	UNP P0AEX9
S	-395	SER	-	expression tag	UNP P0AEX9
S	-394	SER	-	expression tag	UNP P0AEX9
S	-393	MET	-	expression tag	UNP P0AEX9
S	-26	ASN	-	linker	UNP P0AEX9
S	-25	SER	-	linker	UNP P0AEX9
S	-24	SER	-	linker	UNP P0AEX9
S	-23	SER	-	linker	UNP P0AEX9
S	-22	ASN	-	linker	UNP P0AEX9
S	-21	ASN	-	linker	UNP P0AEX9
S	-20	ASN	-	linker	UNP P0AEX9
S	-19	ASN	-	linker	UNP P0AEX9
S	-18	ASN	-	linker	UNP P0AEX9
S	-17	ASN	-	linker	UNP P0AEX9
S	-16	ASN	-	linker	UNP P0AEX9
S	-15	ASN	-	linker	UNP P0AEX9
S	-14	ASN	-	linker	UNP P0AEX9
S	-13	ASN	-	linker	UNP P0AEX9
S	-12	LEU	-	linker	UNP P0AEX9
S	-11	GLY	-	linker	UNP P0AEX9
S	-10	ILE	-	linker	UNP P0AEX9
S	-9	GLU	-	linker	UNP P0AEX9
S	-8	GLU	-	linker	UNP P0AEX9
S	-7	ASN	-	linker	UNP P0AEX9
S	-6	LEU	-	linker	UNP P0AEX9
S	-5	TYR	-	linker	UNP P0AEX9
S	-4	PHE	-	linker	UNP P0AEX9
S	-3	GLN	-	linker	UNP P0AEX9
S	-2	SER	-	linker	UNP P0AEX9
S	-1	ASN	-	linker	UNP P0AEX9
S	0	ALA	-	linker	UNP P0AEX9
T	-406	MET	-	initiating methionine	UNP P0AEX9
T	-405	GLY	-	expression tag	UNP P0AEX9
T	-404	SER	-	expression tag	UNP P0AEX9
T	-403	SER	-	expression tag	UNP P0AEX9
T	-402	HIS	-	expression tag	UNP P0AEX9
T	-401	HIS	-	expression tag	UNP P0AEX9
T	-400	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
T	-399	HIS	-	expression tag	UNP P0AEX9
T	-398	HIS	-	expression tag	UNP P0AEX9
T	-397	HIS	-	expression tag	UNP P0AEX9
T	-396	GLY	-	expression tag	UNP P0AEX9
T	-395	SER	-	expression tag	UNP P0AEX9
T	-394	SER	-	expression tag	UNP P0AEX9
T	-393	MET	-	expression tag	UNP P0AEX9
T	-26	ASN	-	linker	UNP P0AEX9
T	-25	SER	-	linker	UNP P0AEX9
T	-24	SER	-	linker	UNP P0AEX9
T	-23	SER	-	linker	UNP P0AEX9
T	-22	ASN	-	linker	UNP P0AEX9
T	-21	ASN	-	linker	UNP P0AEX9
T	-20	ASN	-	linker	UNP P0AEX9
T	-19	ASN	-	linker	UNP P0AEX9
T	-18	ASN	-	linker	UNP P0AEX9
T	-17	ASN	-	linker	UNP P0AEX9
T	-16	ASN	-	linker	UNP P0AEX9
T	-15	ASN	-	linker	UNP P0AEX9
T	-14	ASN	-	linker	UNP P0AEX9
T	-13	ASN	-	linker	UNP P0AEX9
T	-12	LEU	-	linker	UNP P0AEX9
T	-11	GLY	-	linker	UNP P0AEX9
T	-10	ILE	-	linker	UNP P0AEX9
T	-9	GLU	-	linker	UNP P0AEX9
T	-8	GLU	-	linker	UNP P0AEX9
T	-7	ASN	-	linker	UNP P0AEX9
T	-6	LEU	-	linker	UNP P0AEX9
T	-5	TYR	-	linker	UNP P0AEX9
T	-4	PHE	-	linker	UNP P0AEX9
T	-3	GLN	-	linker	UNP P0AEX9
T	-2	SER	-	linker	UNP P0AEX9
T	-1	ASN	-	linker	UNP P0AEX9
T	0	ALA	-	linker	UNP P0AEX9
U	-406	MET	-	initiating methionine	UNP P0AEX9
U	-405	GLY	-	expression tag	UNP P0AEX9
U	-404	SER	-	expression tag	UNP P0AEX9
U	-403	SER	-	expression tag	UNP P0AEX9
U	-402	HIS	-	expression tag	UNP P0AEX9
U	-401	HIS	-	expression tag	UNP P0AEX9
U	-400	HIS	-	expression tag	UNP P0AEX9
U	-399	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
U	-398	HIS	-	expression tag	UNP P0AEX9
U	-397	HIS	-	expression tag	UNP P0AEX9
U	-396	GLY	-	expression tag	UNP P0AEX9
U	-395	SER	-	expression tag	UNP P0AEX9
U	-394	SER	-	expression tag	UNP P0AEX9
U	-393	MET	-	expression tag	UNP P0AEX9
U	-26	ASN	-	linker	UNP P0AEX9
U	-25	SER	-	linker	UNP P0AEX9
U	-24	SER	-	linker	UNP P0AEX9
U	-23	SER	-	linker	UNP P0AEX9
U	-22	ASN	-	linker	UNP P0AEX9
U	-21	ASN	-	linker	UNP P0AEX9
U	-20	ASN	-	linker	UNP P0AEX9
U	-19	ASN	-	linker	UNP P0AEX9
U	-18	ASN	-	linker	UNP P0AEX9
U	-17	ASN	-	linker	UNP P0AEX9
U	-16	ASN	-	linker	UNP P0AEX9
U	-15	ASN	-	linker	UNP P0AEX9
U	-14	ASN	-	linker	UNP P0AEX9
U	-13	ASN	-	linker	UNP P0AEX9
U	-12	LEU	-	linker	UNP P0AEX9
U	-11	GLY	-	linker	UNP P0AEX9
U	-10	ILE	-	linker	UNP P0AEX9
U	-9	GLU	-	linker	UNP P0AEX9
U	-8	GLU	-	linker	UNP P0AEX9
U	-7	ASN	-	linker	UNP P0AEX9
U	-6	LEU	-	linker	UNP P0AEX9
U	-5	TYR	-	linker	UNP P0AEX9
U	-4	PHE	-	linker	UNP P0AEX9
U	-3	GLN	-	linker	UNP P0AEX9
U	-2	SER	-	linker	UNP P0AEX9
U	-1	ASN	-	linker	UNP P0AEX9
U	0	ALA	-	linker	UNP P0AEX9
V	-406	MET	-	initiating methionine	UNP P0AEX9
V	-405	GLY	-	expression tag	UNP P0AEX9
V	-404	SER	-	expression tag	UNP P0AEX9
V	-403	SER	-	expression tag	UNP P0AEX9
V	-402	HIS	-	expression tag	UNP P0AEX9
V	-401	HIS	-	expression tag	UNP P0AEX9
V	-400	HIS	-	expression tag	UNP P0AEX9
V	-399	HIS	-	expression tag	UNP P0AEX9
V	-398	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
V	-397	HIS	-	expression tag	UNP P0AEX9
V	-396	GLY	-	expression tag	UNP P0AEX9
V	-395	SER	-	expression tag	UNP P0AEX9
V	-394	SER	-	expression tag	UNP P0AEX9
V	-393	MET	-	expression tag	UNP P0AEX9
V	-26	ASN	-	linker	UNP P0AEX9
V	-25	SER	-	linker	UNP P0AEX9
V	-24	SER	-	linker	UNP P0AEX9
V	-23	SER	-	linker	UNP P0AEX9
V	-22	ASN	-	linker	UNP P0AEX9
V	-21	ASN	-	linker	UNP P0AEX9
V	-20	ASN	-	linker	UNP P0AEX9
V	-19	ASN	-	linker	UNP P0AEX9
V	-18	ASN	-	linker	UNP P0AEX9
V	-17	ASN	-	linker	UNP P0AEX9
V	-16	ASN	-	linker	UNP P0AEX9
V	-15	ASN	-	linker	UNP P0AEX9
V	-14	ASN	-	linker	UNP P0AEX9
V	-13	ASN	-	linker	UNP P0AEX9
V	-12	LEU	-	linker	UNP P0AEX9
V	-11	GLY	-	linker	UNP P0AEX9
V	-10	ILE	-	linker	UNP P0AEX9
V	-9	GLU	-	linker	UNP P0AEX9
V	-8	GLU	-	linker	UNP P0AEX9
V	-7	ASN	-	linker	UNP P0AEX9
V	-6	LEU	-	linker	UNP P0AEX9
V	-5	TYR	-	linker	UNP P0AEX9
V	-4	PHE	-	linker	UNP P0AEX9
V	-3	GLN	-	linker	UNP P0AEX9
V	-2	SER	-	linker	UNP P0AEX9
V	-1	ASN	-	linker	UNP P0AEX9
V	0	ALA	-	linker	UNP P0AEX9
W	-406	MET	-	initiating methionine	UNP P0AEX9
W	-405	GLY	-	expression tag	UNP P0AEX9
W	-404	SER	-	expression tag	UNP P0AEX9
W	-403	SER	-	expression tag	UNP P0AEX9
W	-402	HIS	-	expression tag	UNP P0AEX9
W	-401	HIS	-	expression tag	UNP P0AEX9
W	-400	HIS	-	expression tag	UNP P0AEX9
W	-399	HIS	-	expression tag	UNP P0AEX9
W	-398	HIS	-	expression tag	UNP P0AEX9
W	-397	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
W	-396	GLY	-	expression tag	UNP P0AEX9
W	-395	SER	-	expression tag	UNP P0AEX9
W	-394	SER	-	expression tag	UNP P0AEX9
W	-393	MET	-	expression tag	UNP P0AEX9
W	-26	ASN	-	linker	UNP P0AEX9
W	-25	SER	-	linker	UNP P0AEX9
W	-24	SER	-	linker	UNP P0AEX9
W	-23	SER	-	linker	UNP P0AEX9
W	-22	ASN	-	linker	UNP P0AEX9
W	-21	ASN	-	linker	UNP P0AEX9
W	-20	ASN	-	linker	UNP P0AEX9
W	-19	ASN	-	linker	UNP P0AEX9
W	-18	ASN	-	linker	UNP P0AEX9
W	-17	ASN	-	linker	UNP P0AEX9
W	-16	ASN	-	linker	UNP P0AEX9
W	-15	ASN	-	linker	UNP P0AEX9
W	-14	ASN	-	linker	UNP P0AEX9
W	-13	ASN	-	linker	UNP P0AEX9
W	-12	LEU	-	linker	UNP P0AEX9
W	-11	GLY	-	linker	UNP P0AEX9
W	-10	ILE	-	linker	UNP P0AEX9
W	-9	GLU	-	linker	UNP P0AEX9
W	-8	GLU	-	linker	UNP P0AEX9
W	-7	ASN	-	linker	UNP P0AEX9
W	-6	LEU	-	linker	UNP P0AEX9
W	-5	TYR	-	linker	UNP P0AEX9
W	-4	PHE	-	linker	UNP P0AEX9
W	-3	GLN	-	linker	UNP P0AEX9
W	-2	SER	-	linker	UNP P0AEX9
W	-1	ASN	-	linker	UNP P0AEX9
W	0	ALA	-	linker	UNP P0AEX9
X	-406	MET	-	initiating methionine	UNP P0AEX9
X	-405	GLY	-	expression tag	UNP P0AEX9
X	-404	SER	-	expression tag	UNP P0AEX9
X	-403	SER	-	expression tag	UNP P0AEX9
X	-402	HIS	-	expression tag	UNP P0AEX9
X	-401	HIS	-	expression tag	UNP P0AEX9
X	-400	HIS	-	expression tag	UNP P0AEX9
X	-399	HIS	-	expression tag	UNP P0AEX9
X	-398	HIS	-	expression tag	UNP P0AEX9
X	-397	HIS	-	expression tag	UNP P0AEX9
X	-396	GLY	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
X	-395	SER	-	expression tag	UNP P0AEX9
X	-394	SER	-	expression tag	UNP P0AEX9
X	-393	MET	-	expression tag	UNP P0AEX9
X	-26	ASN	-	linker	UNP P0AEX9
X	-25	SER	-	linker	UNP P0AEX9
X	-24	SER	-	linker	UNP P0AEX9
X	-23	SER	-	linker	UNP P0AEX9
X	-22	ASN	-	linker	UNP P0AEX9
X	-21	ASN	-	linker	UNP P0AEX9
X	-20	ASN	-	linker	UNP P0AEX9
X	-19	ASN	-	linker	UNP P0AEX9
X	-18	ASN	-	linker	UNP P0AEX9
X	-17	ASN	-	linker	UNP P0AEX9
X	-16	ASN	-	linker	UNP P0AEX9
X	-15	ASN	-	linker	UNP P0AEX9
X	-14	ASN	-	linker	UNP P0AEX9
X	-13	ASN	-	linker	UNP P0AEX9
X	-12	LEU	-	linker	UNP P0AEX9
X	-11	GLY	-	linker	UNP P0AEX9
X	-10	ILE	-	linker	UNP P0AEX9
X	-9	GLU	-	linker	UNP P0AEX9
X	-8	GLU	-	linker	UNP P0AEX9
X	-7	ASN	-	linker	UNP P0AEX9
X	-6	LEU	-	linker	UNP P0AEX9
X	-5	TYR	-	linker	UNP P0AEX9
X	-4	PHE	-	linker	UNP P0AEX9
X	-3	GLN	-	linker	UNP P0AEX9
X	-2	SER	-	linker	UNP P0AEX9
X	-1	ASN	-	linker	UNP P0AEX9
X	0	ALA	-	linker	UNP P0AEX9
a	-406	MET	-	initiating methionine	UNP P0AEX9
a	-405	GLY	-	expression tag	UNP P0AEX9
a	-404	SER	-	expression tag	UNP P0AEX9
a	-403	SER	-	expression tag	UNP P0AEX9
a	-402	HIS	-	expression tag	UNP P0AEX9
a	-401	HIS	-	expression tag	UNP P0AEX9
a	-400	HIS	-	expression tag	UNP P0AEX9
a	-399	HIS	-	expression tag	UNP P0AEX9
a	-398	HIS	-	expression tag	UNP P0AEX9
a	-397	HIS	-	expression tag	UNP P0AEX9
a	-396	GLY	-	expression tag	UNP P0AEX9
a	-395	SER	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
a	-394	SER	-	expression tag	UNP P0AEX9
a	-393	MET	-	expression tag	UNP P0AEX9
a	-26	ASN	-	linker	UNP P0AEX9
a	-25	SER	-	linker	UNP P0AEX9
a	-24	SER	-	linker	UNP P0AEX9
a	-23	SER	-	linker	UNP P0AEX9
a	-22	ASN	-	linker	UNP P0AEX9
a	-21	ASN	-	linker	UNP P0AEX9
a	-20	ASN	-	linker	UNP P0AEX9
a	-19	ASN	-	linker	UNP P0AEX9
a	-18	ASN	-	linker	UNP P0AEX9
a	-17	ASN	-	linker	UNP P0AEX9
a	-16	ASN	-	linker	UNP P0AEX9
a	-15	ASN	-	linker	UNP P0AEX9
a	-14	ASN	-	linker	UNP P0AEX9
a	-13	ASN	-	linker	UNP P0AEX9
a	-12	LEU	-	linker	UNP P0AEX9
a	-11	GLY	-	linker	UNP P0AEX9
a	-10	ILE	-	linker	UNP P0AEX9
a	-9	GLU	-	linker	UNP P0AEX9
a	-8	GLU	-	linker	UNP P0AEX9
a	-7	ASN	-	linker	UNP P0AEX9
a	-6	LEU	-	linker	UNP P0AEX9
a	-5	TYR	-	linker	UNP P0AEX9
a	-4	PHE	-	linker	UNP P0AEX9
a	-3	GLN	-	linker	UNP P0AEX9
a	-2	SER	-	linker	UNP P0AEX9
a	-1	ASN	-	linker	UNP P0AEX9
a	0	ALA	-	linker	UNP P0AEX9
b	-406	MET	-	initiating methionine	UNP P0AEX9
b	-405	GLY	-	expression tag	UNP P0AEX9
b	-404	SER	-	expression tag	UNP P0AEX9
b	-403	SER	-	expression tag	UNP P0AEX9
b	-402	HIS	-	expression tag	UNP P0AEX9
b	-401	HIS	-	expression tag	UNP P0AEX9
b	-400	HIS	-	expression tag	UNP P0AEX9
b	-399	HIS	-	expression tag	UNP P0AEX9
b	-398	HIS	-	expression tag	UNP P0AEX9
b	-397	HIS	-	expression tag	UNP P0AEX9
b	-396	GLY	-	expression tag	UNP P0AEX9
b	-395	SER	-	expression tag	UNP P0AEX9
b	-394	SER	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
b	-393	MET	-	expression tag	UNP P0AEX9
b	-26	ASN	-	linker	UNP P0AEX9
b	-25	SER	-	linker	UNP P0AEX9
b	-24	SER	-	linker	UNP P0AEX9
b	-23	SER	-	linker	UNP P0AEX9
b	-22	ASN	-	linker	UNP P0AEX9
b	-21	ASN	-	linker	UNP P0AEX9
b	-20	ASN	-	linker	UNP P0AEX9
b	-19	ASN	-	linker	UNP P0AEX9
b	-18	ASN	-	linker	UNP P0AEX9
b	-17	ASN	-	linker	UNP P0AEX9
b	-16	ASN	-	linker	UNP P0AEX9
b	-15	ASN	-	linker	UNP P0AEX9
b	-14	ASN	-	linker	UNP P0AEX9
b	-13	ASN	-	linker	UNP P0AEX9
b	-12	LEU	-	linker	UNP P0AEX9
b	-11	GLY	-	linker	UNP P0AEX9
b	-10	ILE	-	linker	UNP P0AEX9
b	-9	GLU	-	linker	UNP P0AEX9
b	-8	GLU	-	linker	UNP P0AEX9
b	-7	ASN	-	linker	UNP P0AEX9
b	-6	LEU	-	linker	UNP P0AEX9
b	-5	TYR	-	linker	UNP P0AEX9
b	-4	PHE	-	linker	UNP P0AEX9
b	-3	GLN	-	linker	UNP P0AEX9
b	-2	SER	-	linker	UNP P0AEX9
b	-1	ASN	-	linker	UNP P0AEX9
b	0	ALA	-	linker	UNP P0AEX9
c	-406	MET	-	initiating methionine	UNP P0AEX9
c	-405	GLY	-	expression tag	UNP P0AEX9
c	-404	SER	-	expression tag	UNP P0AEX9
c	-403	SER	-	expression tag	UNP P0AEX9
c	-402	HIS	-	expression tag	UNP P0AEX9
c	-401	HIS	-	expression tag	UNP P0AEX9
c	-400	HIS	-	expression tag	UNP P0AEX9
c	-399	HIS	-	expression tag	UNP P0AEX9
c	-398	HIS	-	expression tag	UNP P0AEX9
c	-397	HIS	-	expression tag	UNP P0AEX9
c	-396	GLY	-	expression tag	UNP P0AEX9
c	-395	SER	-	expression tag	UNP P0AEX9
c	-394	SER	-	expression tag	UNP P0AEX9
c	-393	MET	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
c	-26	ASN	-	linker	UNP P0AEX9
c	-25	SER	-	linker	UNP P0AEX9
c	-24	SER	-	linker	UNP P0AEX9
c	-23	SER	-	linker	UNP P0AEX9
c	-22	ASN	-	linker	UNP P0AEX9
c	-21	ASN	-	linker	UNP P0AEX9
c	-20	ASN	-	linker	UNP P0AEX9
c	-19	ASN	-	linker	UNP P0AEX9
c	-18	ASN	-	linker	UNP P0AEX9
c	-17	ASN	-	linker	UNP P0AEX9
c	-16	ASN	-	linker	UNP P0AEX9
c	-15	ASN	-	linker	UNP P0AEX9
c	-14	ASN	-	linker	UNP P0AEX9
c	-13	ASN	-	linker	UNP P0AEX9
c	-12	LEU	-	linker	UNP P0AEX9
c	-11	GLY	-	linker	UNP P0AEX9
c	-10	ILE	-	linker	UNP P0AEX9
c	-9	GLU	-	linker	UNP P0AEX9
c	-8	GLU	-	linker	UNP P0AEX9
c	-7	ASN	-	linker	UNP P0AEX9
c	-6	LEU	-	linker	UNP P0AEX9
c	-5	TYR	-	linker	UNP P0AEX9
c	-4	PHE	-	linker	UNP P0AEX9
c	-3	GLN	-	linker	UNP P0AEX9
c	-2	SER	-	linker	UNP P0AEX9
c	-1	ASN	-	linker	UNP P0AEX9
c	0	ALA	-	linker	UNP P0AEX9
d	-406	MET	-	initiating methionine	UNP P0AEX9
d	-405	GLY	-	expression tag	UNP P0AEX9
d	-404	SER	-	expression tag	UNP P0AEX9
d	-403	SER	-	expression tag	UNP P0AEX9
d	-402	HIS	-	expression tag	UNP P0AEX9
d	-401	HIS	-	expression tag	UNP P0AEX9
d	-400	HIS	-	expression tag	UNP P0AEX9
d	-399	HIS	-	expression tag	UNP P0AEX9
d	-398	HIS	-	expression tag	UNP P0AEX9
d	-397	HIS	-	expression tag	UNP P0AEX9
d	-396	GLY	-	expression tag	UNP P0AEX9
d	-395	SER	-	expression tag	UNP P0AEX9
d	-394	SER	-	expression tag	UNP P0AEX9
d	-393	MET	-	expression tag	UNP P0AEX9
d	-26	ASN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
d	-25	SER	-	linker	UNP P0AEX9
d	-24	SER	-	linker	UNP P0AEX9
d	-23	SER	-	linker	UNP P0AEX9
d	-22	ASN	-	linker	UNP P0AEX9
d	-21	ASN	-	linker	UNP P0AEX9
d	-20	ASN	-	linker	UNP P0AEX9
d	-19	ASN	-	linker	UNP P0AEX9
d	-18	ASN	-	linker	UNP P0AEX9
d	-17	ASN	-	linker	UNP P0AEX9
d	-16	ASN	-	linker	UNP P0AEX9
d	-15	ASN	-	linker	UNP P0AEX9
d	-14	ASN	-	linker	UNP P0AEX9
d	-13	ASN	-	linker	UNP P0AEX9
d	-12	LEU	-	linker	UNP P0AEX9
d	-11	GLY	-	linker	UNP P0AEX9
d	-10	ILE	-	linker	UNP P0AEX9
d	-9	GLU	-	linker	UNP P0AEX9
d	-8	GLU	-	linker	UNP P0AEX9
d	-7	ASN	-	linker	UNP P0AEX9
d	-6	LEU	-	linker	UNP P0AEX9
d	-5	TYR	-	linker	UNP P0AEX9
d	-4	PHE	-	linker	UNP P0AEX9
d	-3	GLN	-	linker	UNP P0AEX9
d	-2	SER	-	linker	UNP P0AEX9
d	-1	ASN	-	linker	UNP P0AEX9
d	0	ALA	-	linker	UNP P0AEX9

- Molecule 11 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
11	2	1	Total Mg 1 1	0
11	5	1	Total Mg 1 1	0
11	K	1	Total Mg 1 1	0
11	L	1	Total Mg 1 1	0
11	M	1	Total Mg 1 1	0
11	N	1	Total Mg 1 1	0

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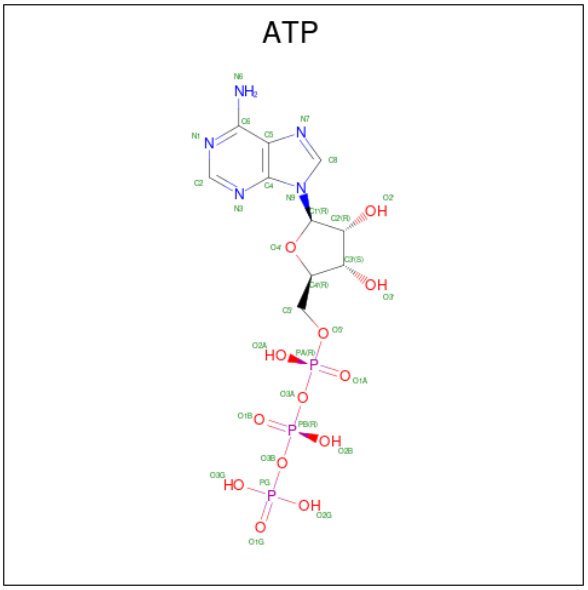
Mol	Chain	Residues	Atoms	AltConf
11	O	1	Total Mg 1 1	0
11	P	1	Total Mg 1 1	0
11	Q	1	Total Mg 1 1	0
11	a	2	Total Mg 2 2	0
11	b	2	Total Mg 2 2	0

- Molecule 12 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	AltConf
12	K	1	Total C N O P 31 10 5 13 3	0
12	L	1	Total C N O P 31 10 5 13 3	0
12	M	1	Total C N O P 31 10 5 13 3	0
12	N	1	Total C N O P 31 10 5 13 3	0
12	O	1	Total C N O P 31 10 5 13 3	0
12	P	1	Total C N O P 31 10 5 13 3	0

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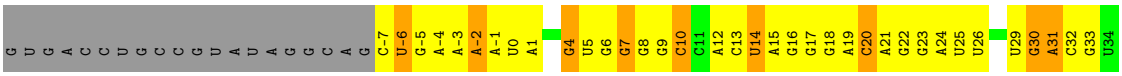
Mol	Chain	Residues	Atoms					AltConf
12	Q	1	Total	C	N	O	P	0
			31	10	5	13	3	

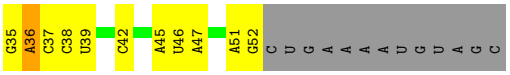
3 Residue-property plots (i)

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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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: CRISPR RNA

Chain 1:



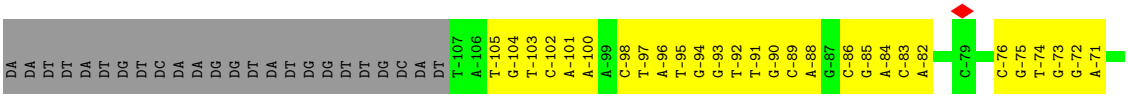


• Molecule 2: TS_RE-transferred

Chain 2:

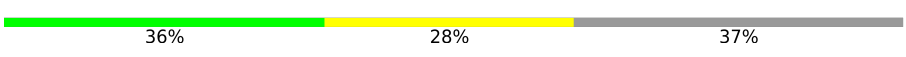
• Molecule 2: TS_RE-transferred

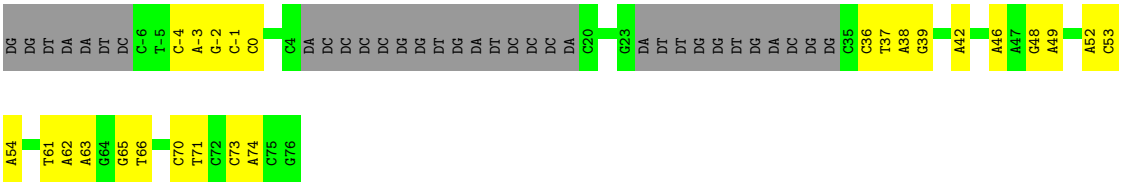
Chain 5:



• Molecule 3: Non-target DNA strand

Chain 3:



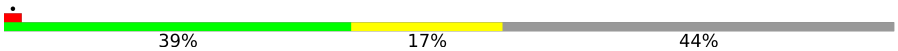


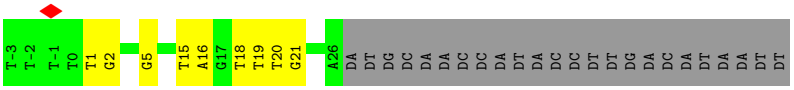
• Molecule 3: Non-target DNA strand

Chain 7:

• Molecule 4: RE_non-trasferred

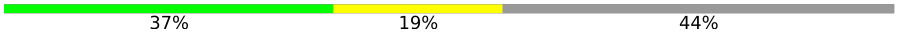
Chain 4:





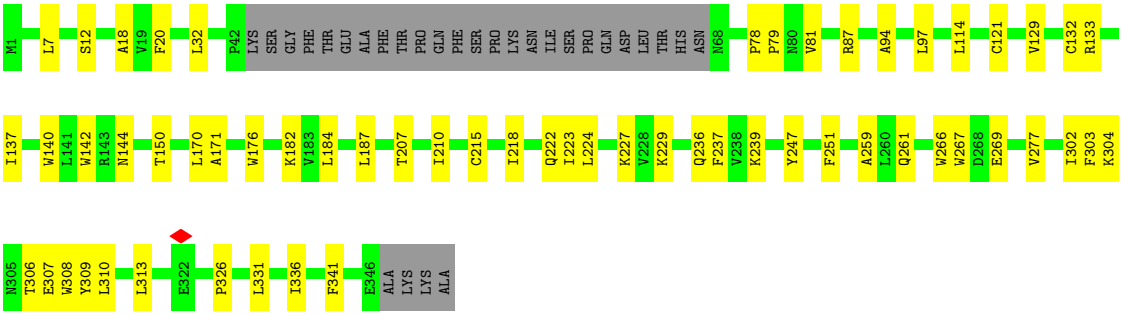
• Molecule 4: RE_non-trasferred

Chain 6:



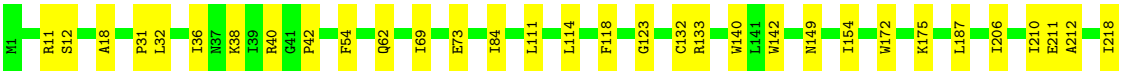
• Molecule 5: Cas7.1

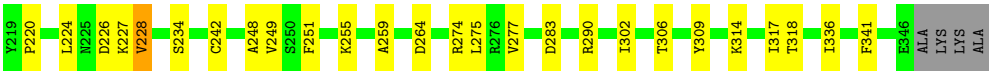
Chain A:



• Molecule 5: Cas7.1

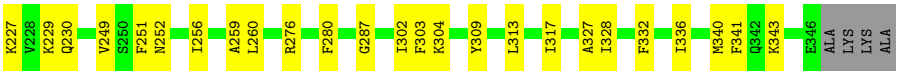
Chain B:





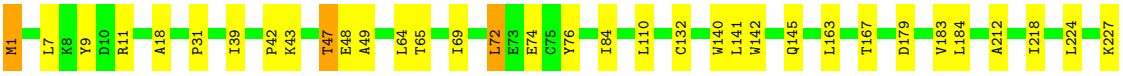
• Molecule 5: Cas7.1

Chain C:



• Molecule 5: Cas7.1

Chain D:

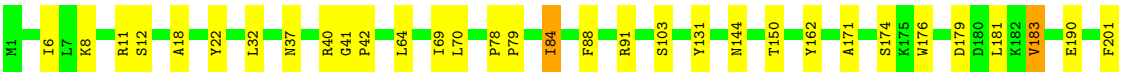


• Molecule 5: Cas7.1

Chain E:

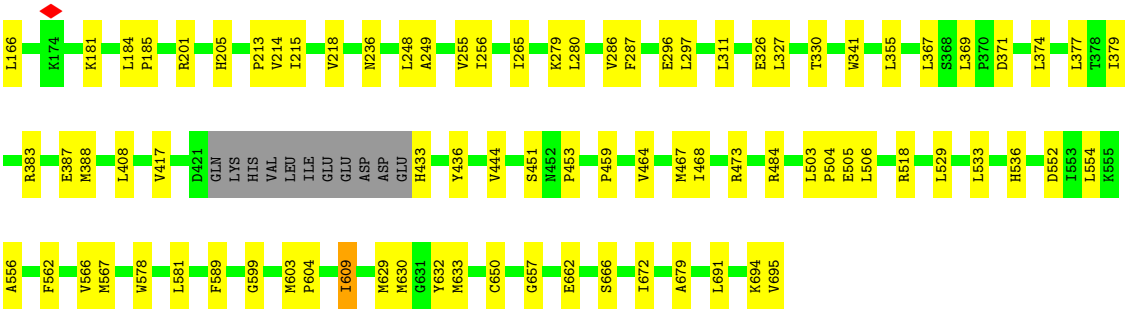
• Molecule 5: Cas7.1

Chain F:

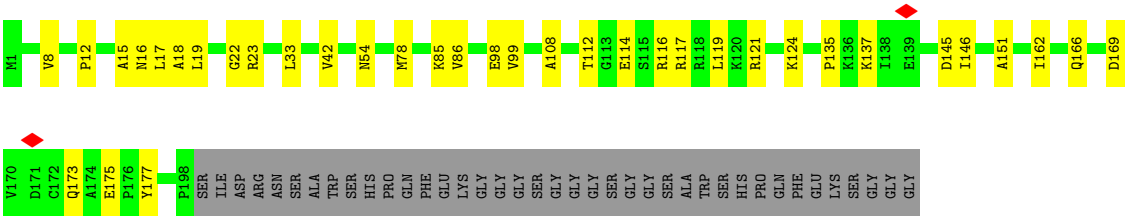


• Molecule 6: Cas8

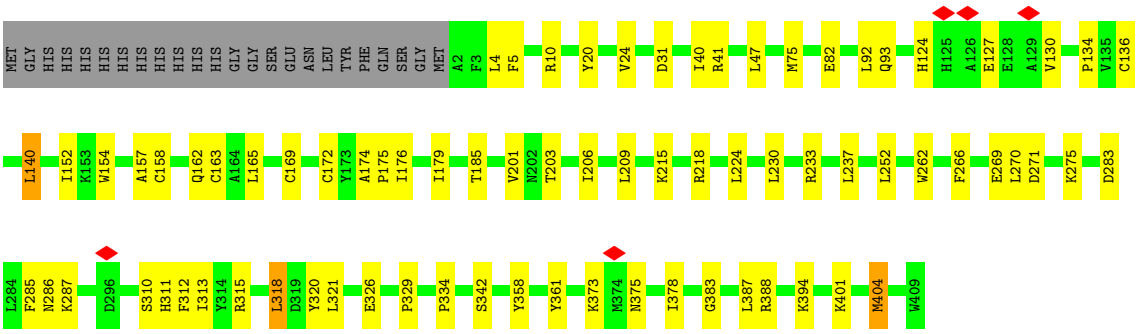
Chain G:



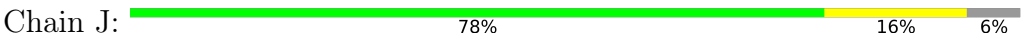
• Molecule 7: Cas6

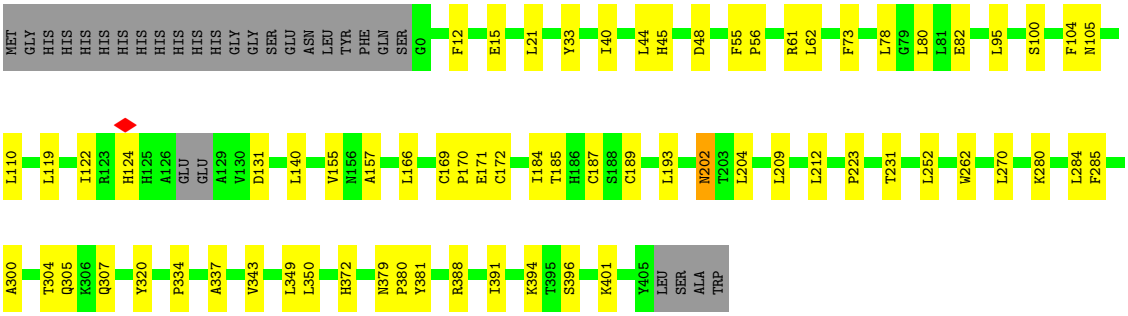


• Molecule 8: TniQ.1



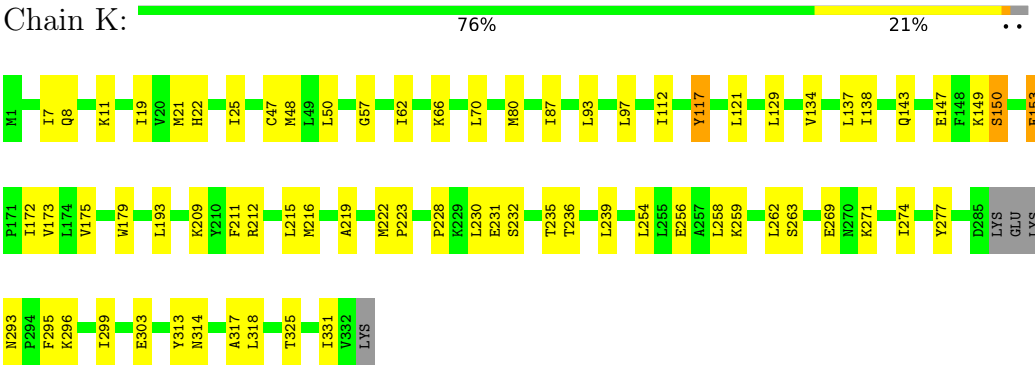
• Molecule 8: TniQ.1





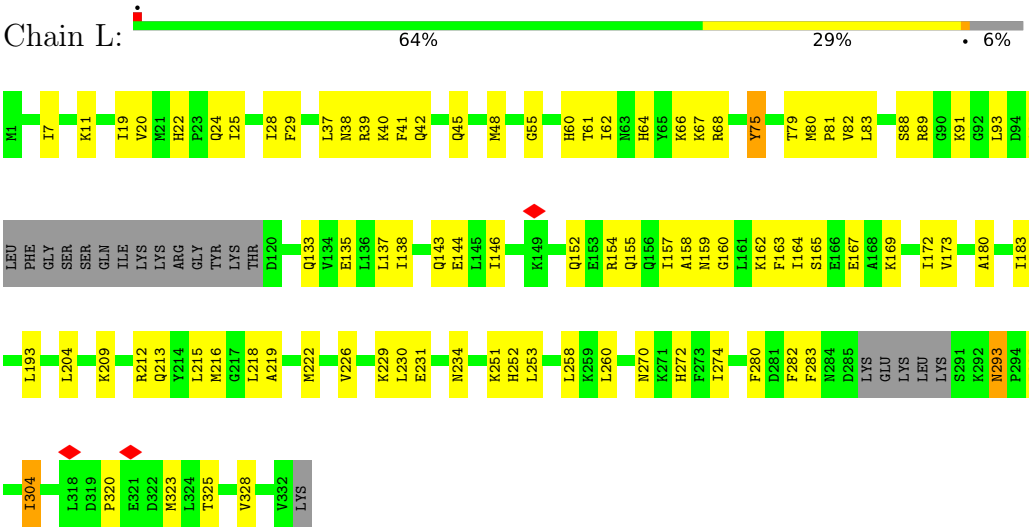
• Molecule 9: AAA+ ATPase domain-containing protein

Chain K:



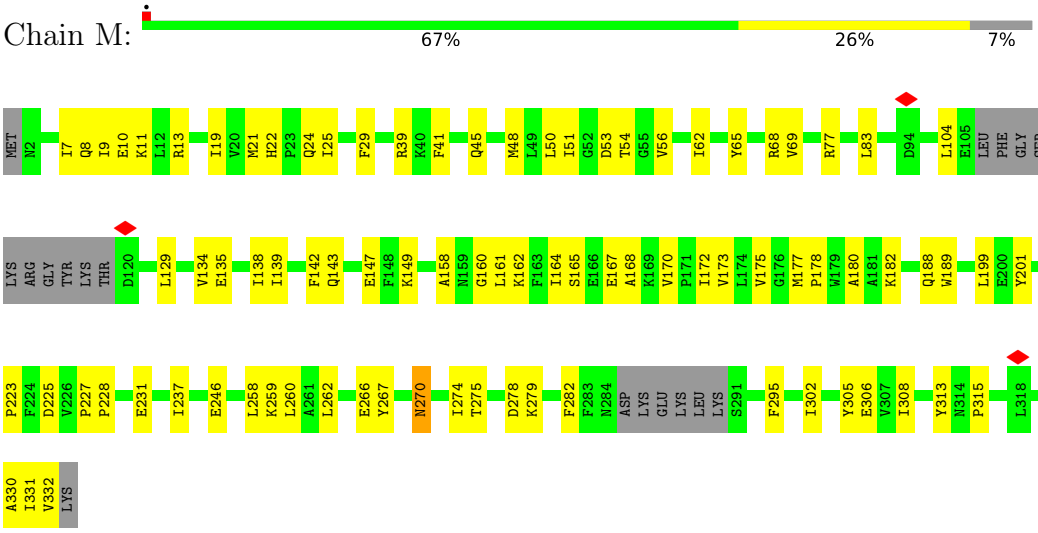
• Molecule 9: AAA+ ATPase domain-containing protein

Chain L:



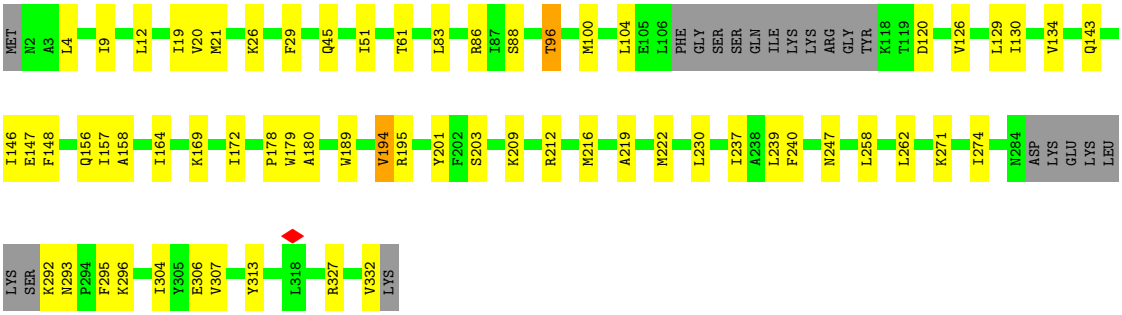
• Molecule 9: AAA+ ATPase domain-containing protein

Chain M:

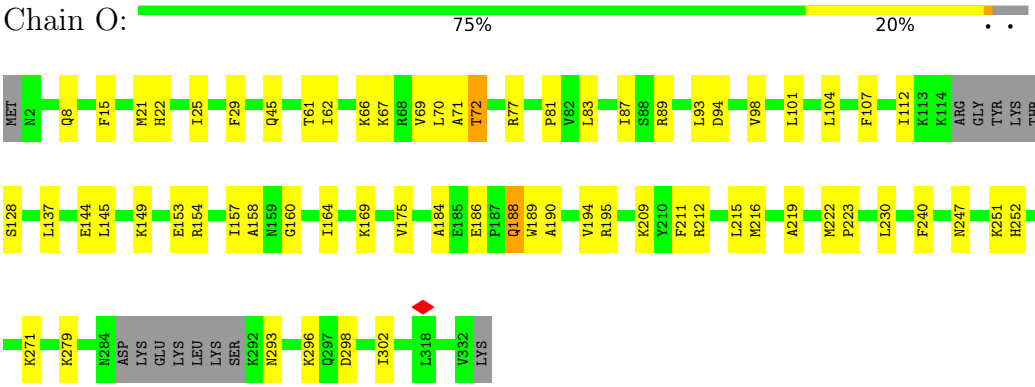


• Molecule 9: AAA+ ATPase domain-containing protein

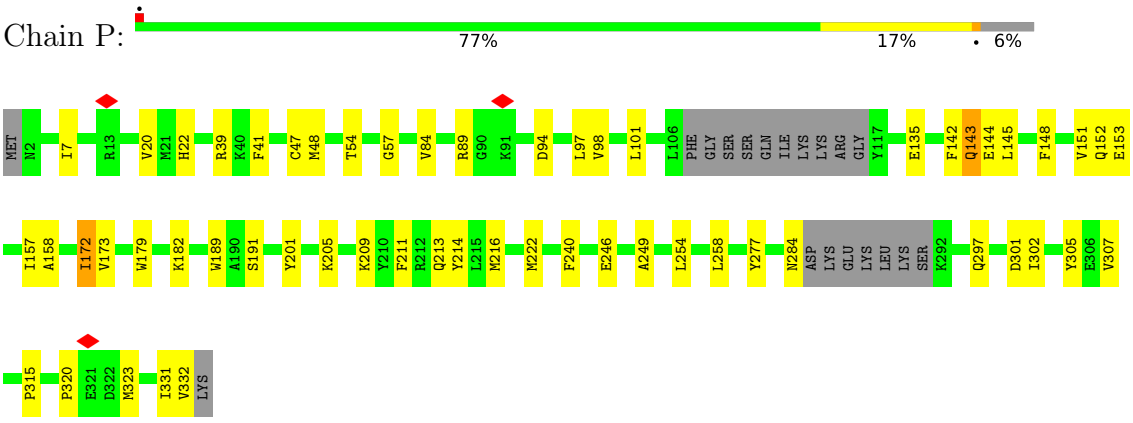
Chain N:



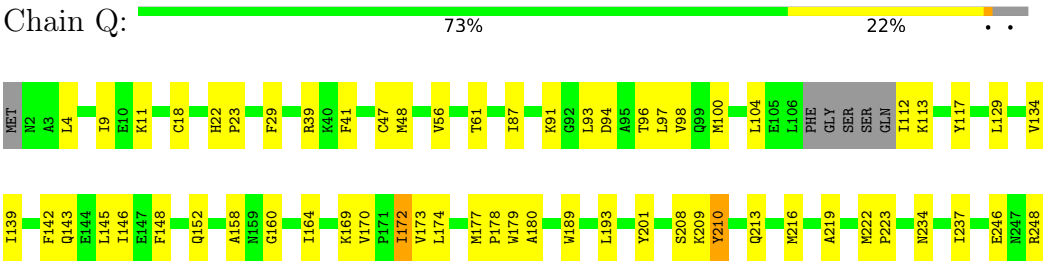
• Molecule 9: AAA+ ATPase domain-containing protein

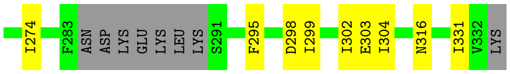


• Molecule 9: AAA+ ATPase domain-containing protein



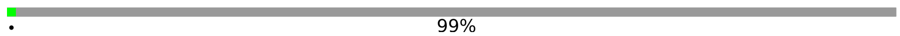
• Molecule 9: AAA+ ATPase domain-containing protein

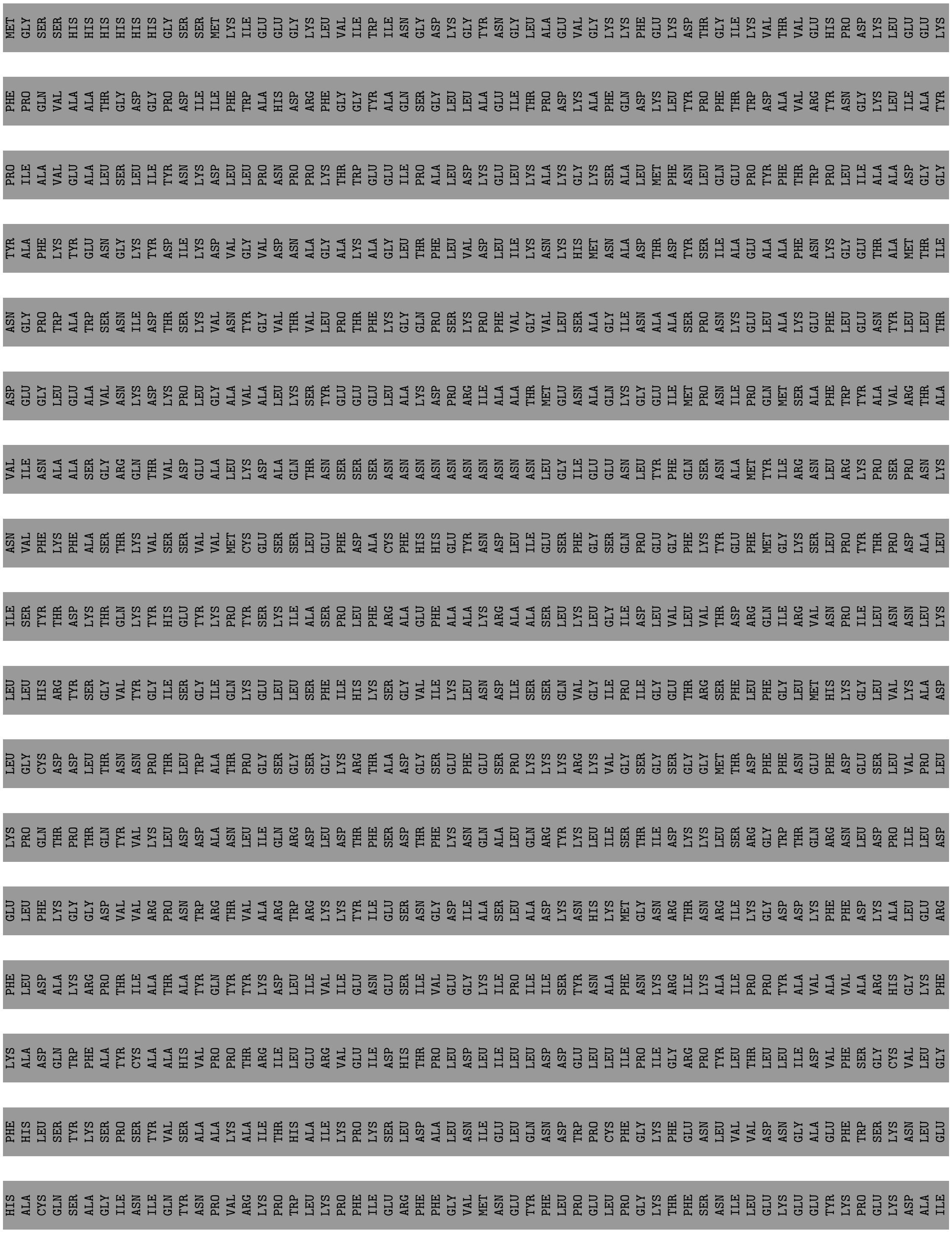


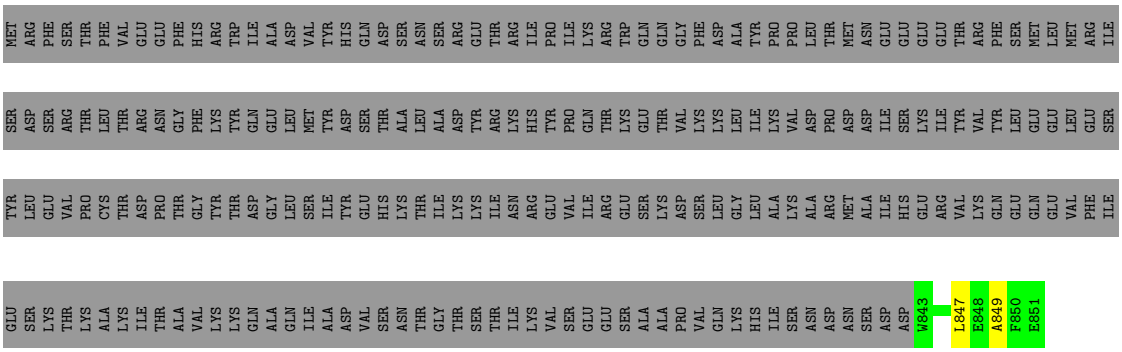


• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain R:

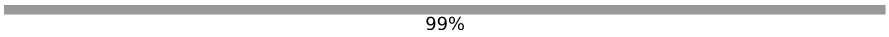


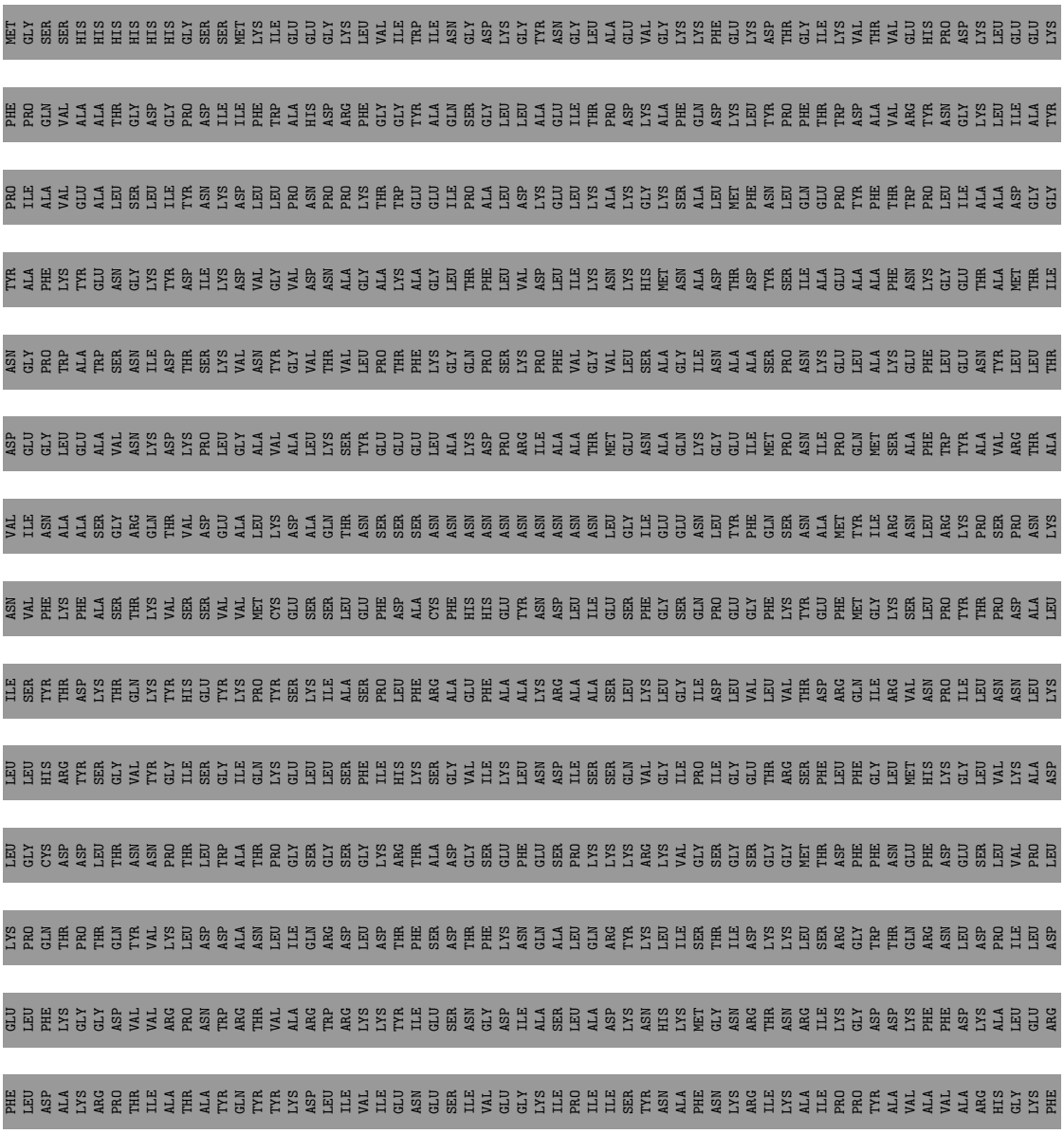


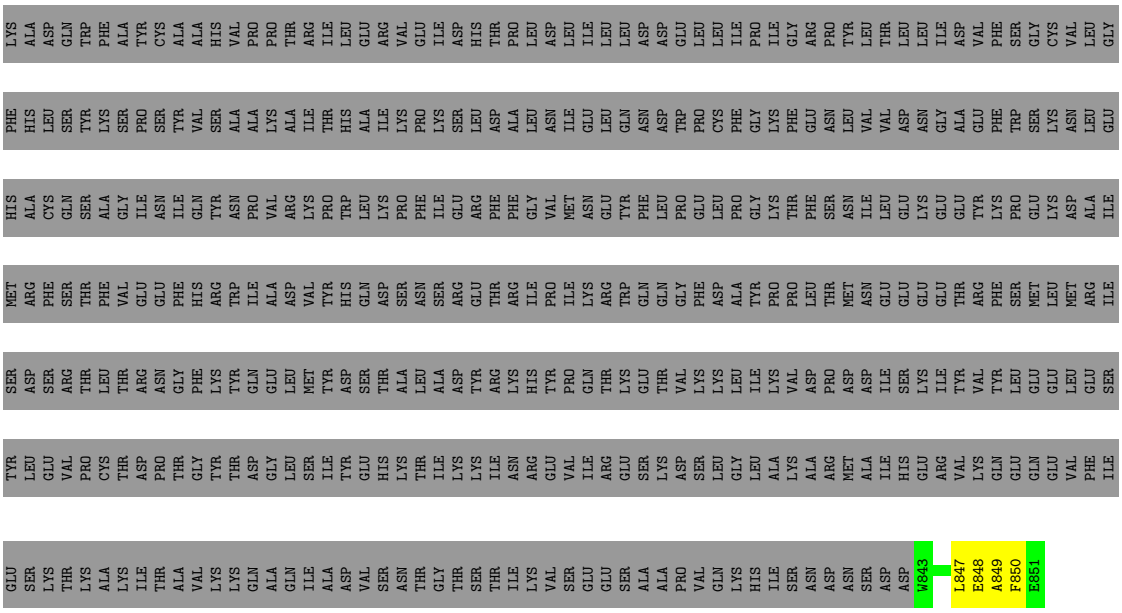


• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain S:

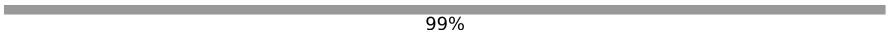


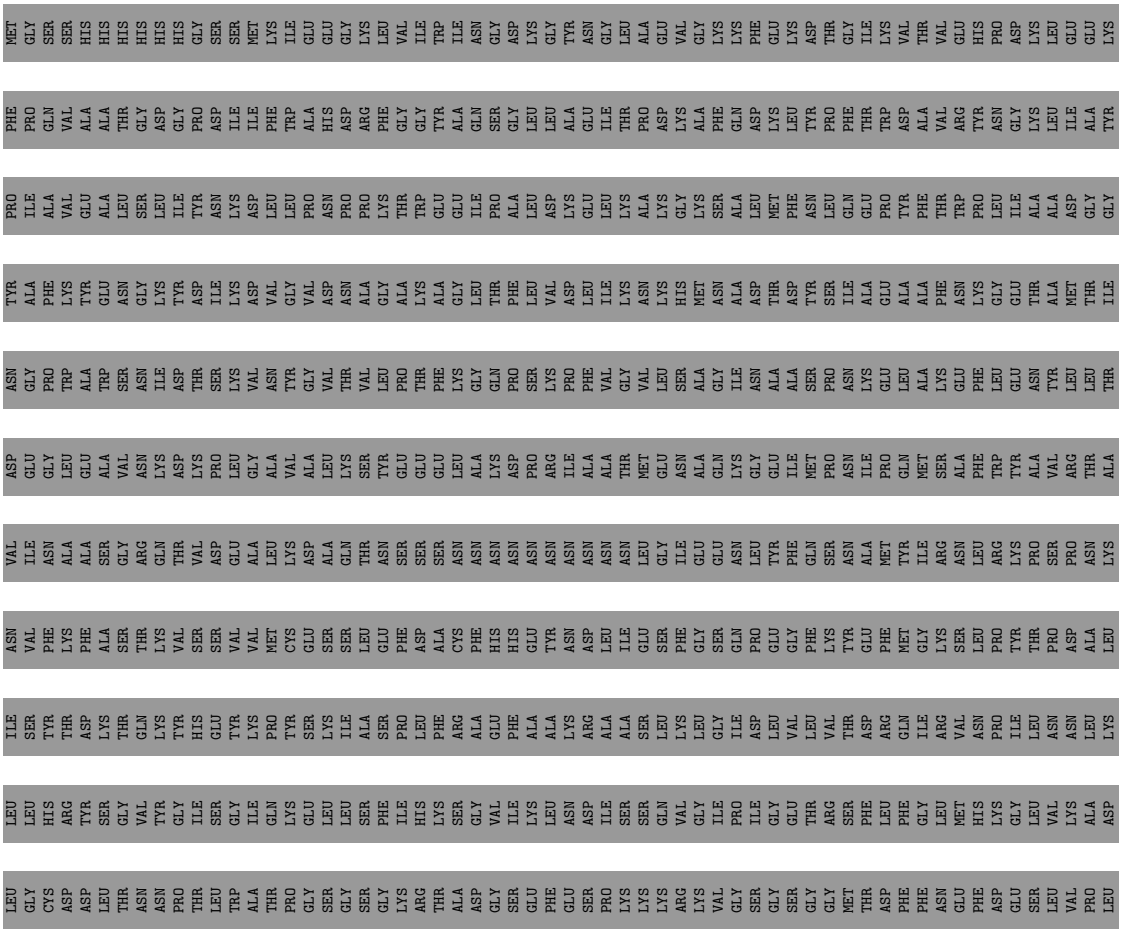


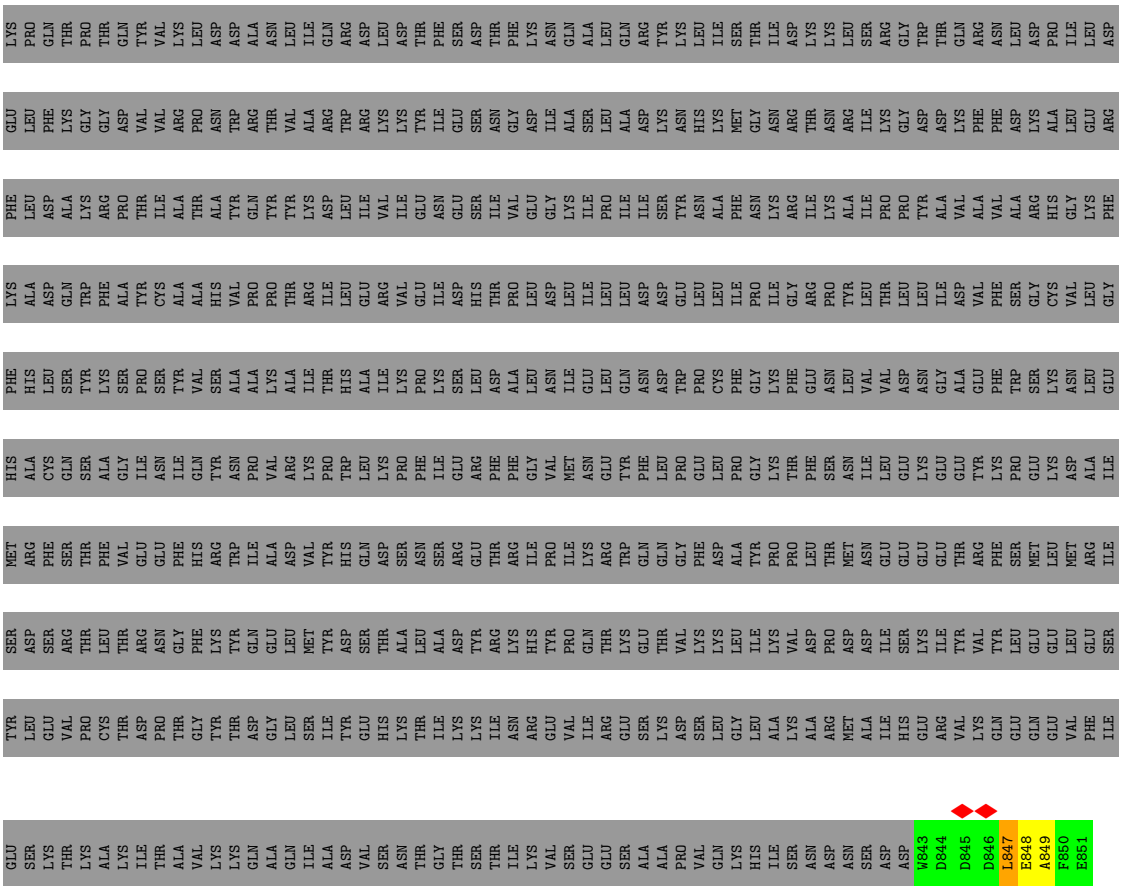


• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain T:

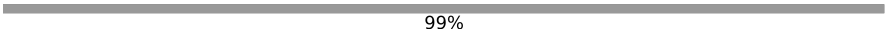


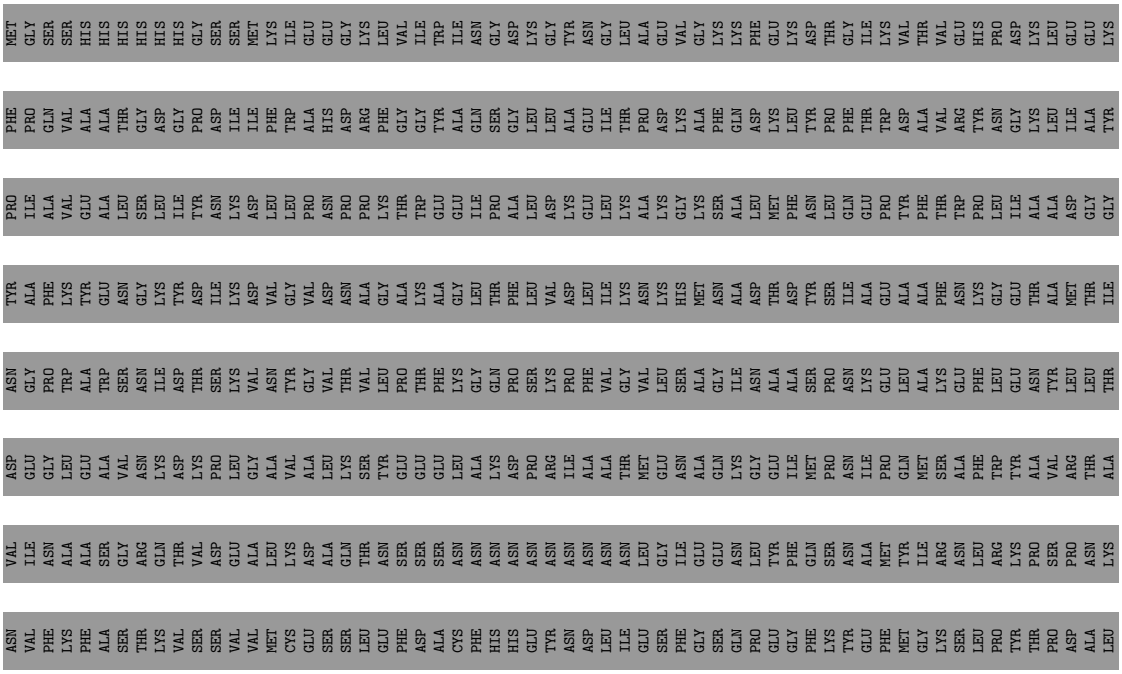


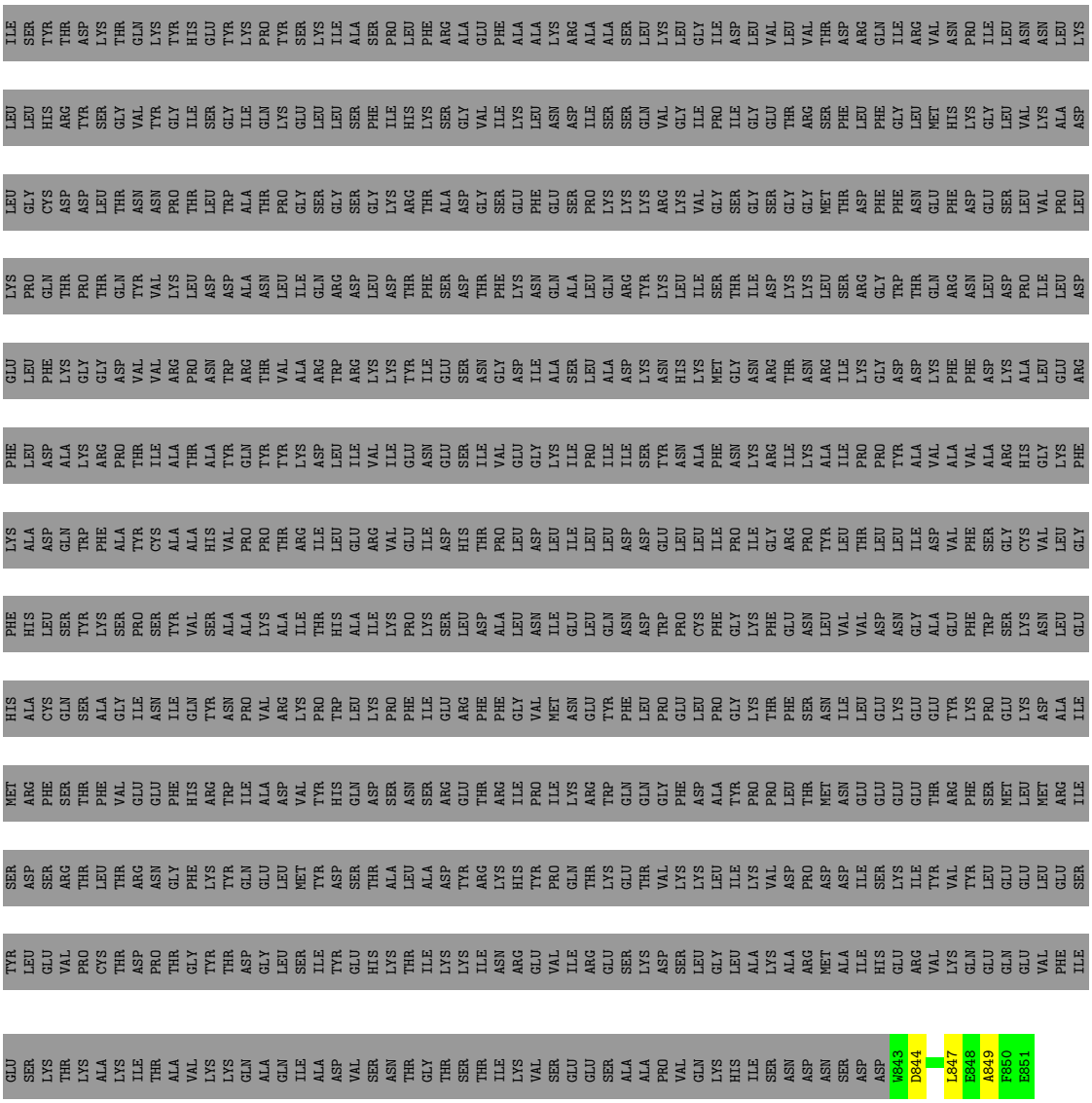


• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain U:

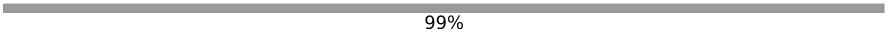


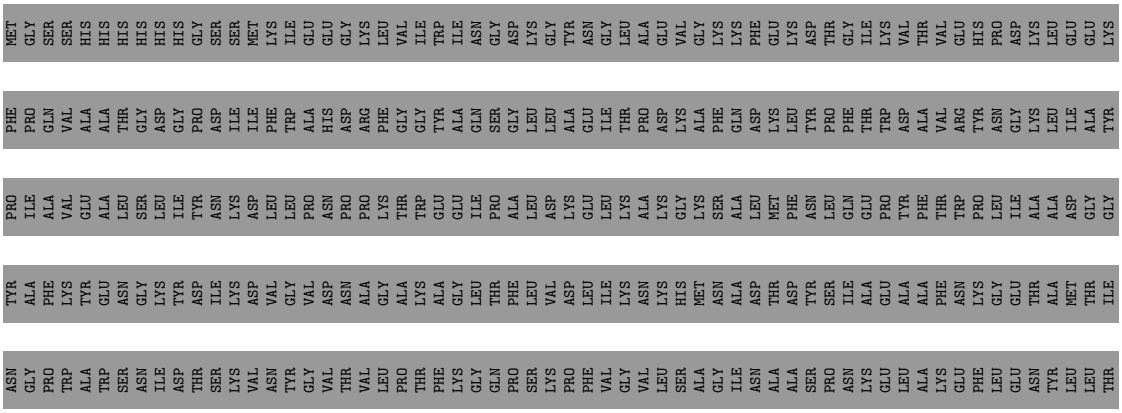


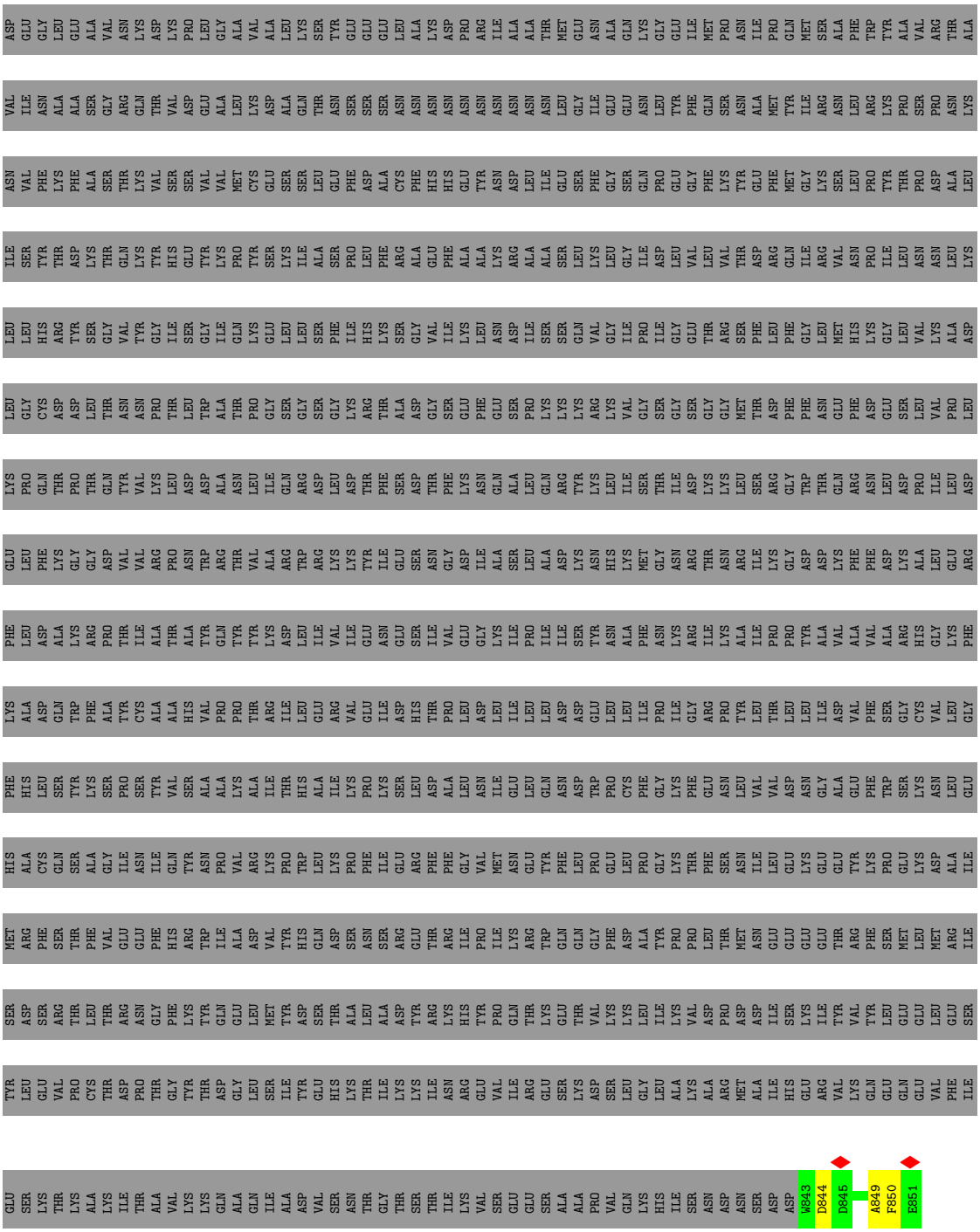


• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain V:

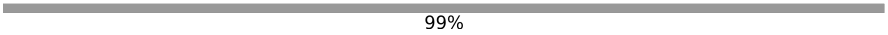


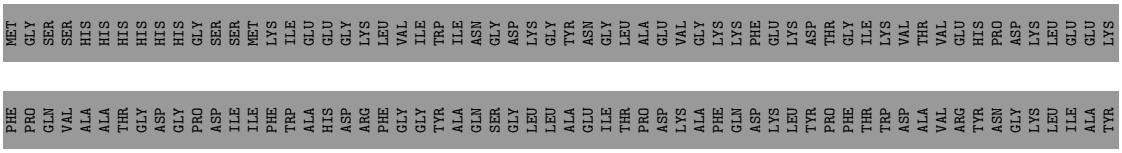


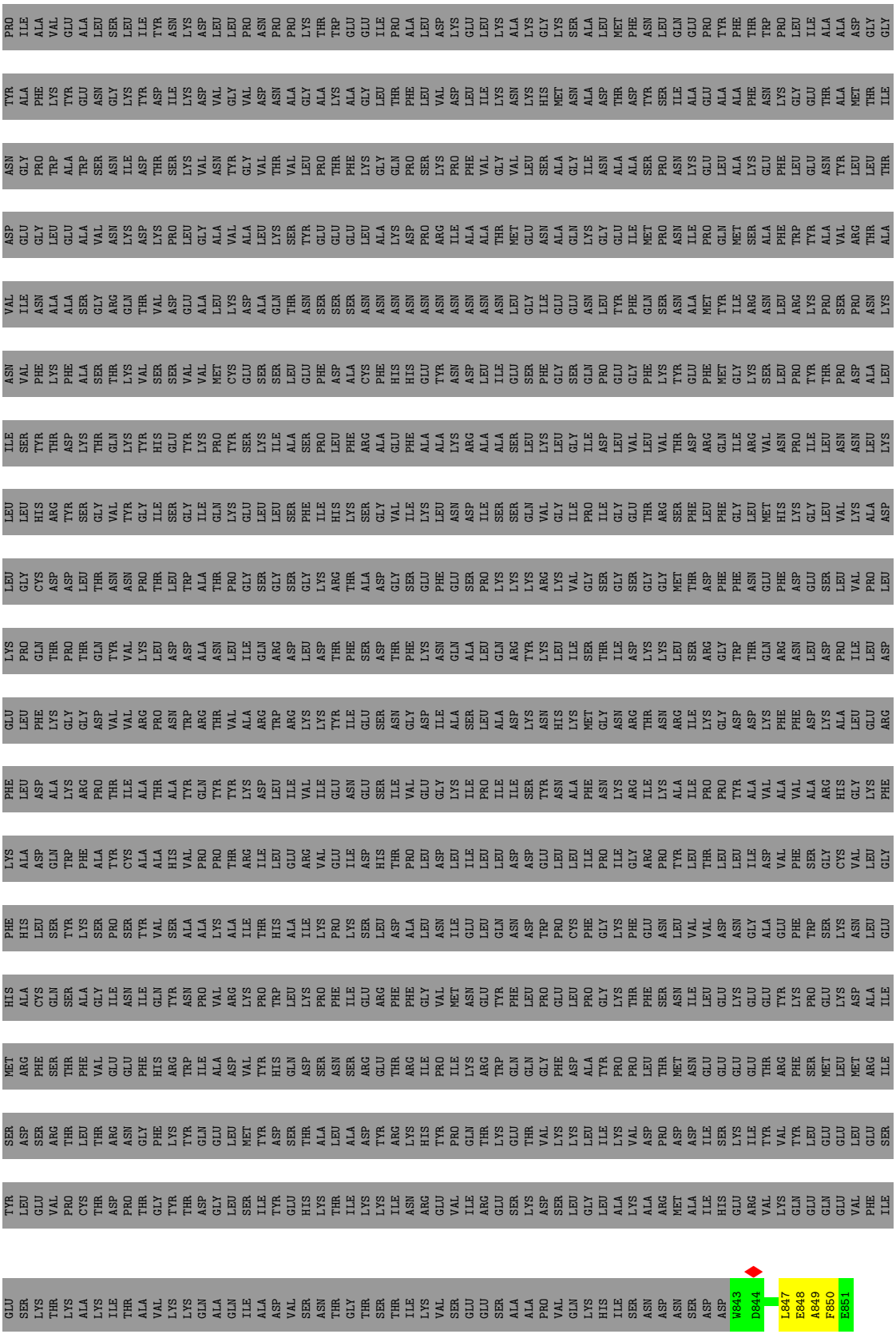


• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain W:

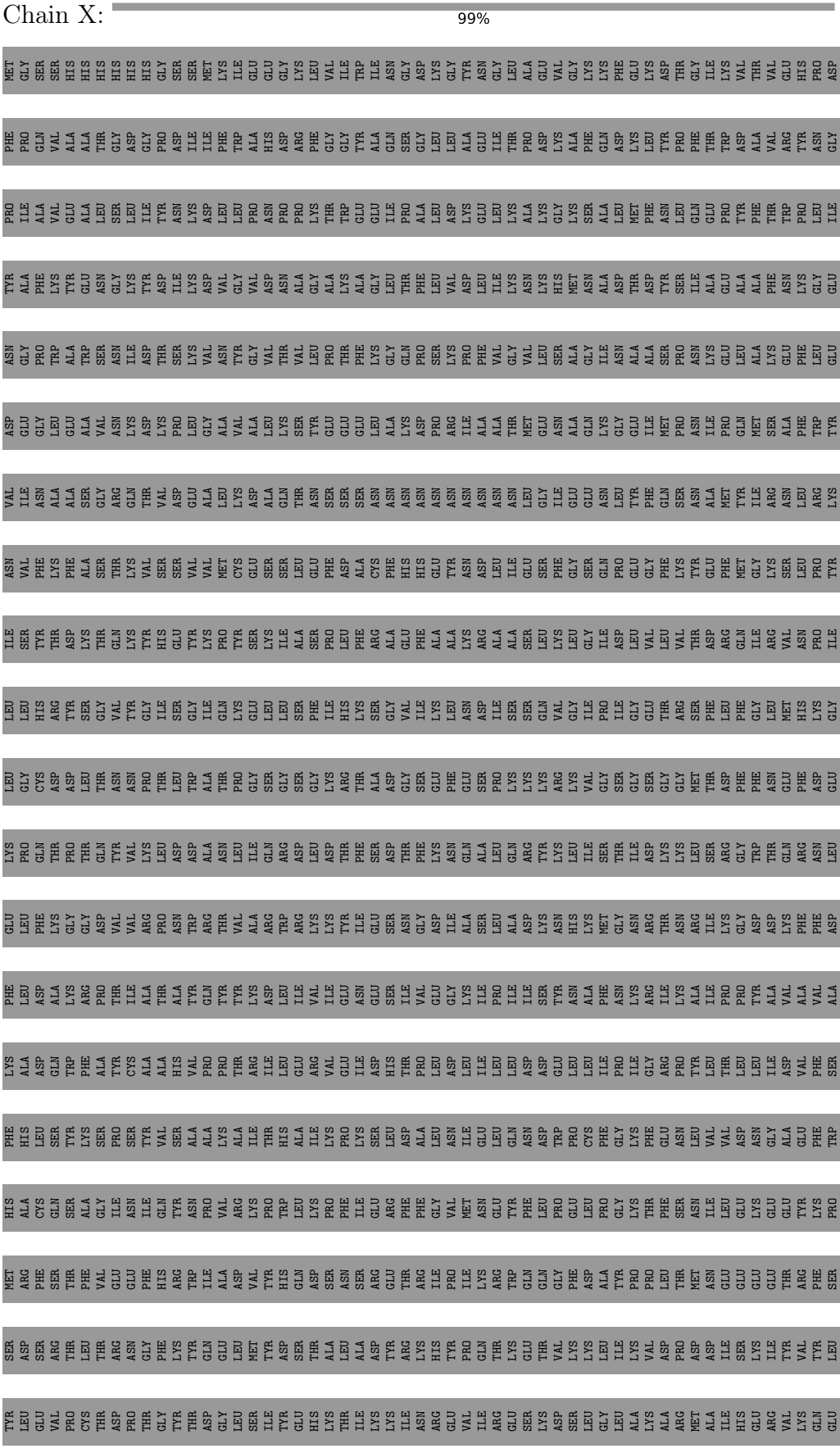






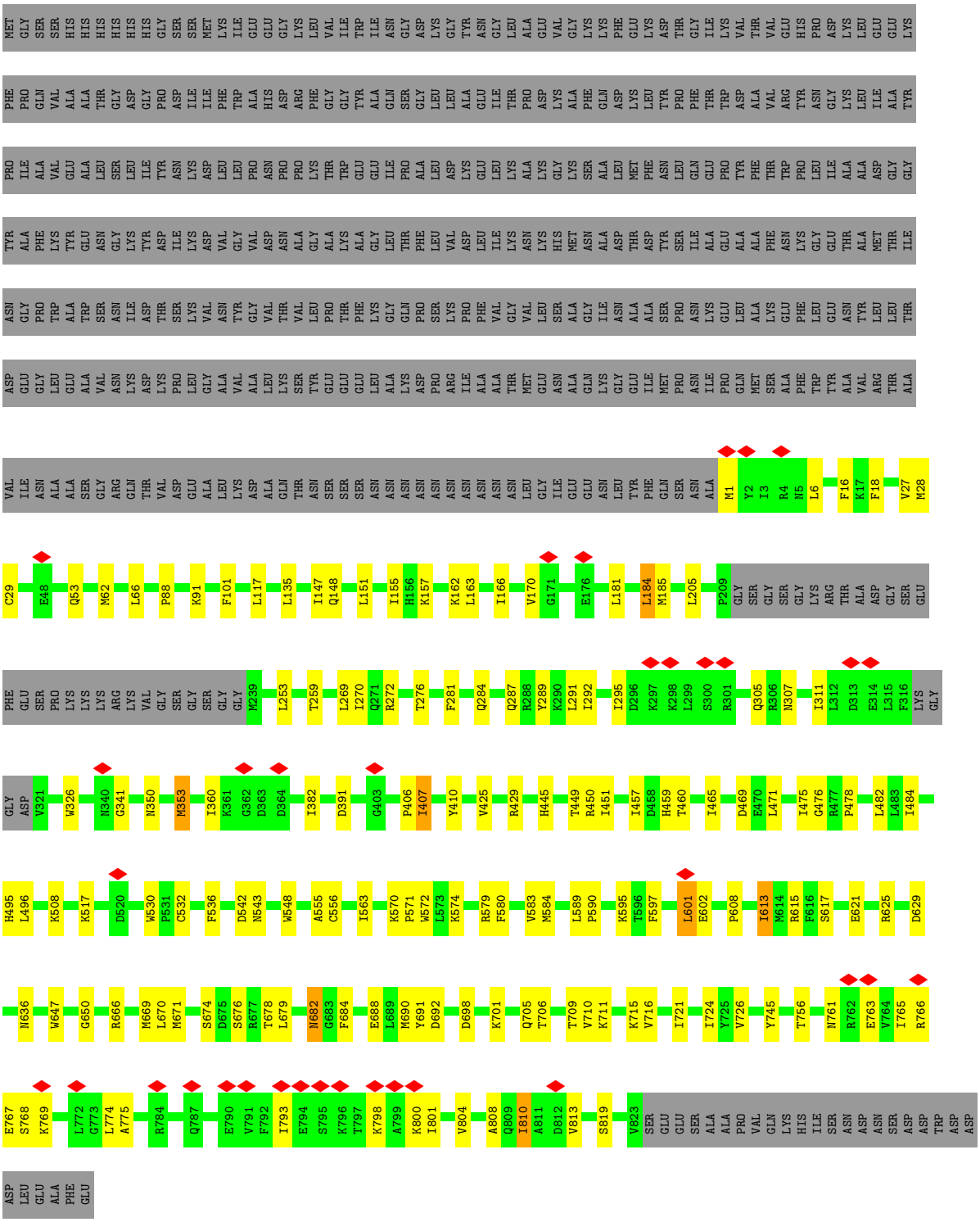
• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain X:



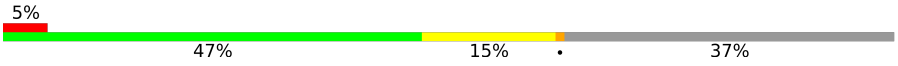
• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

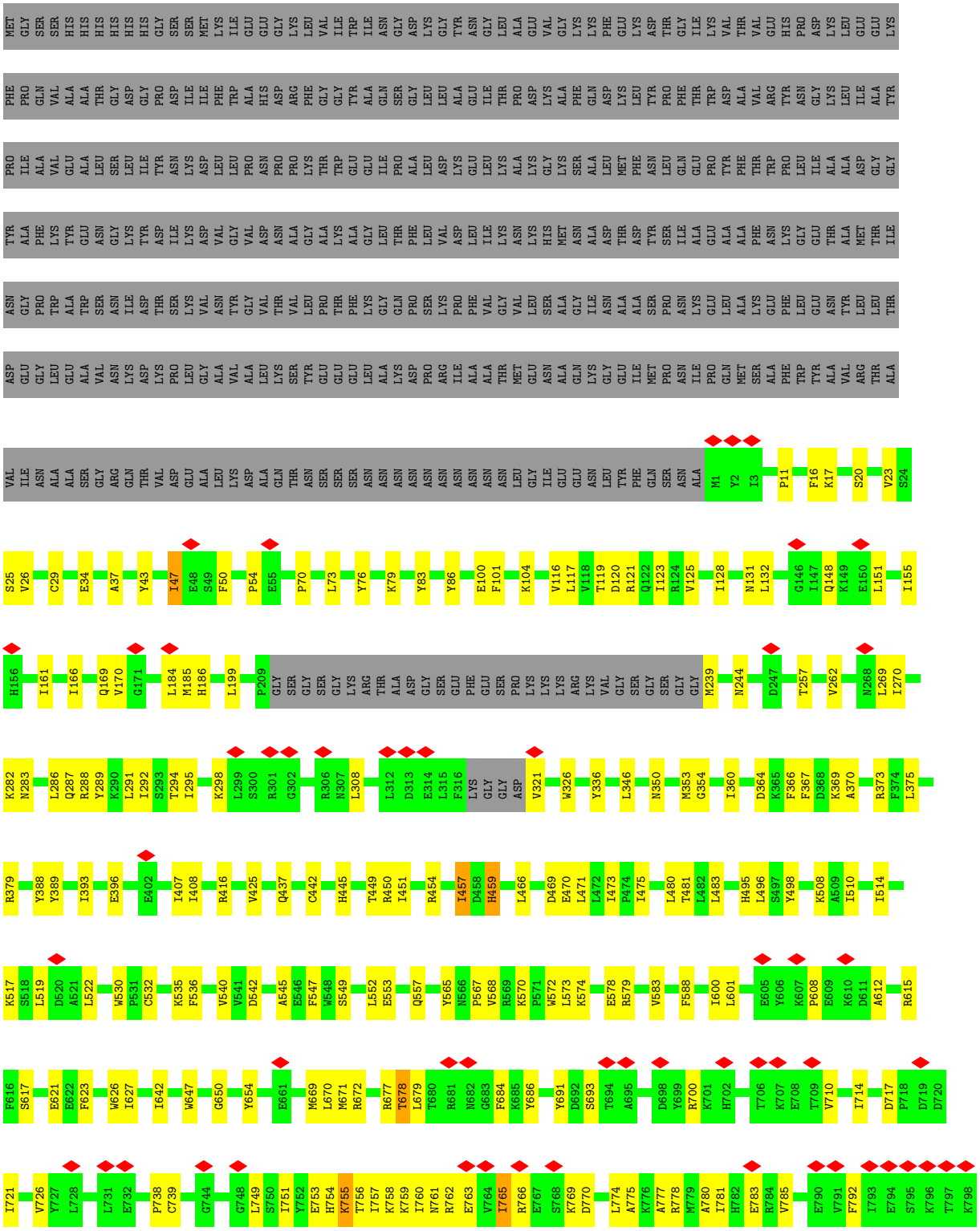
Chain a:

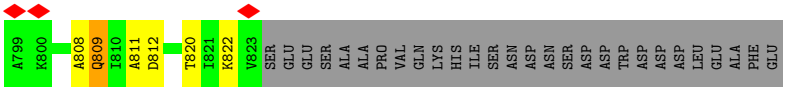


• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain b:

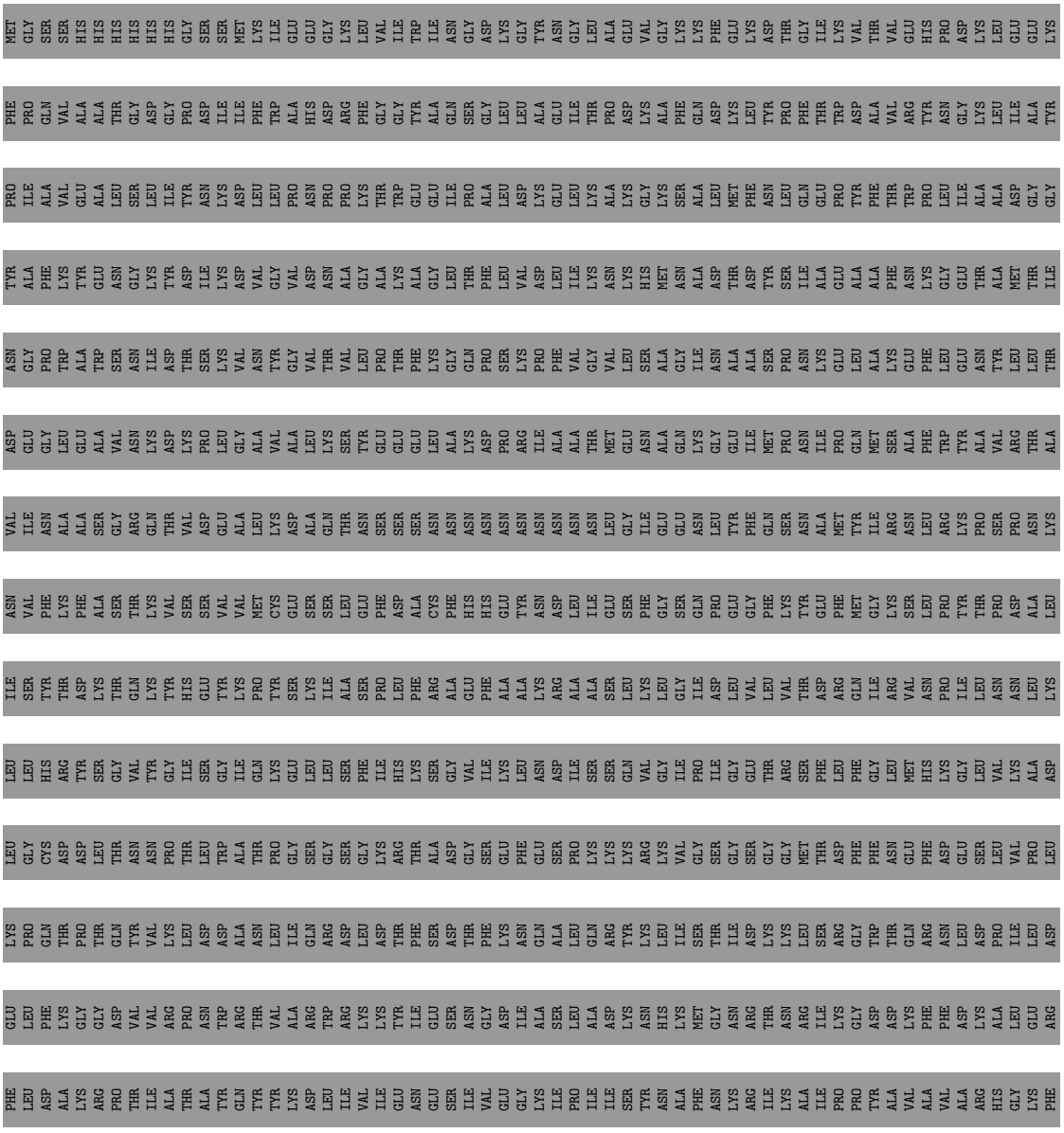


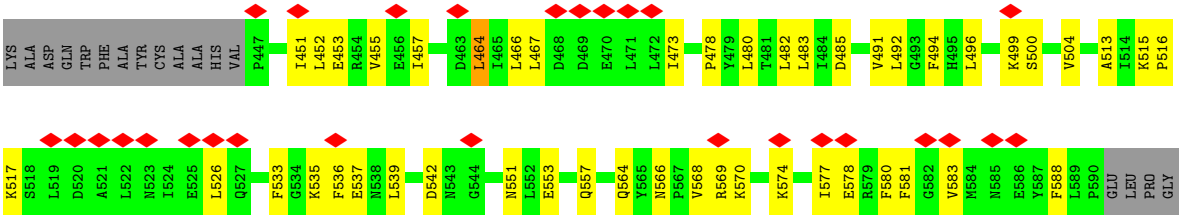


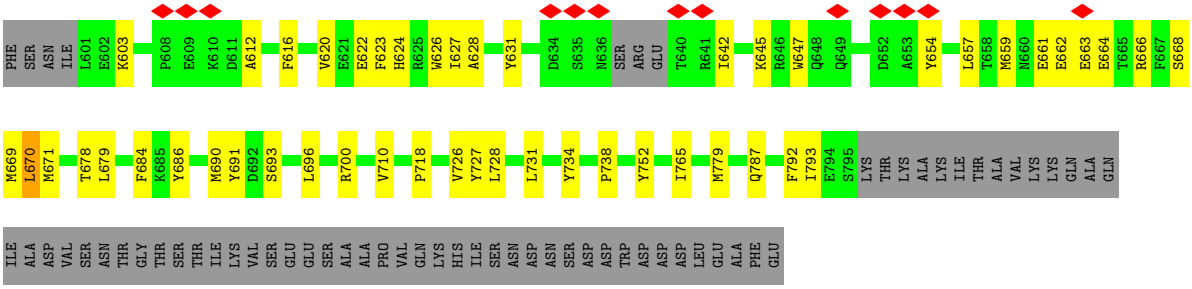


• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain c:

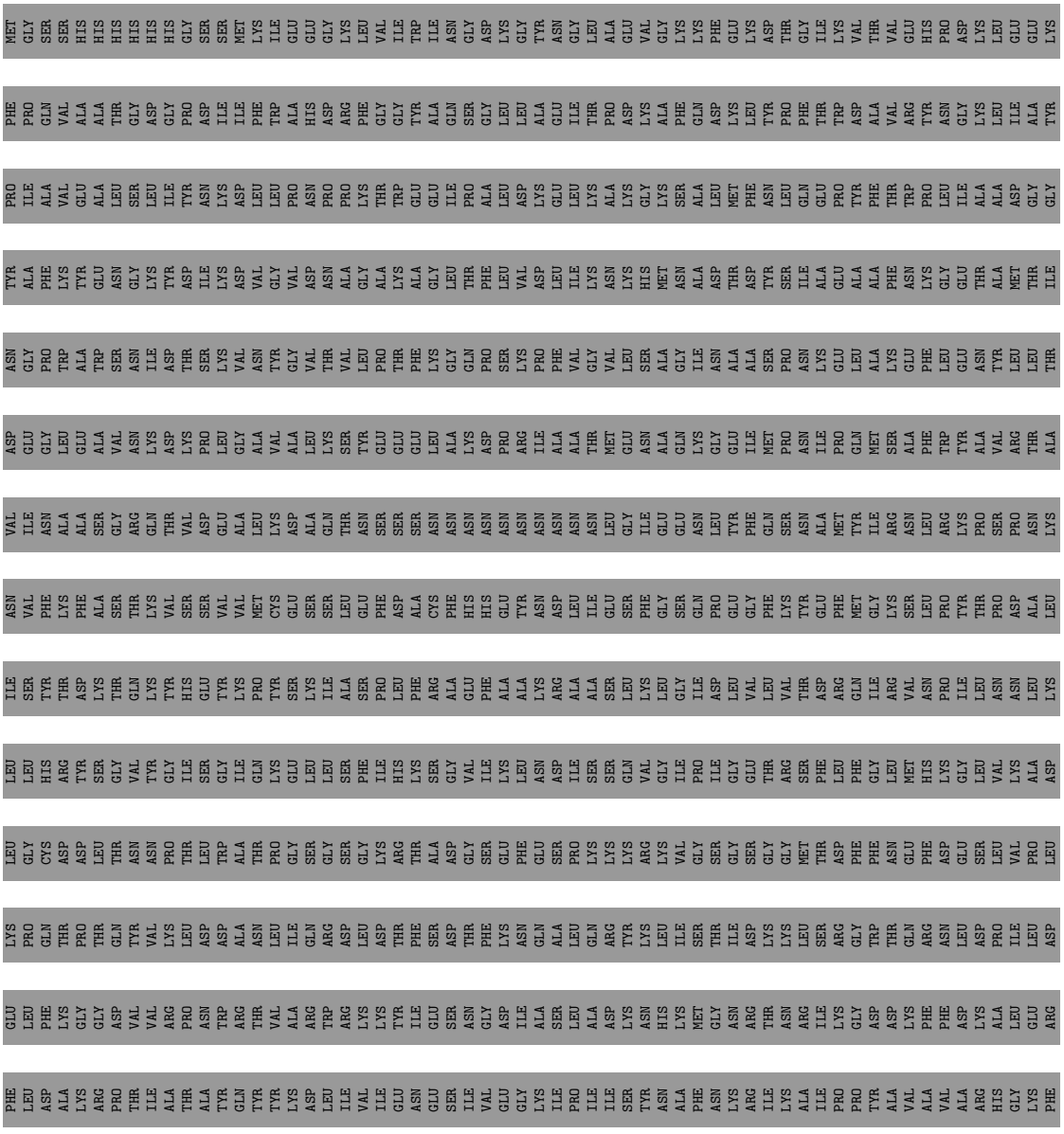


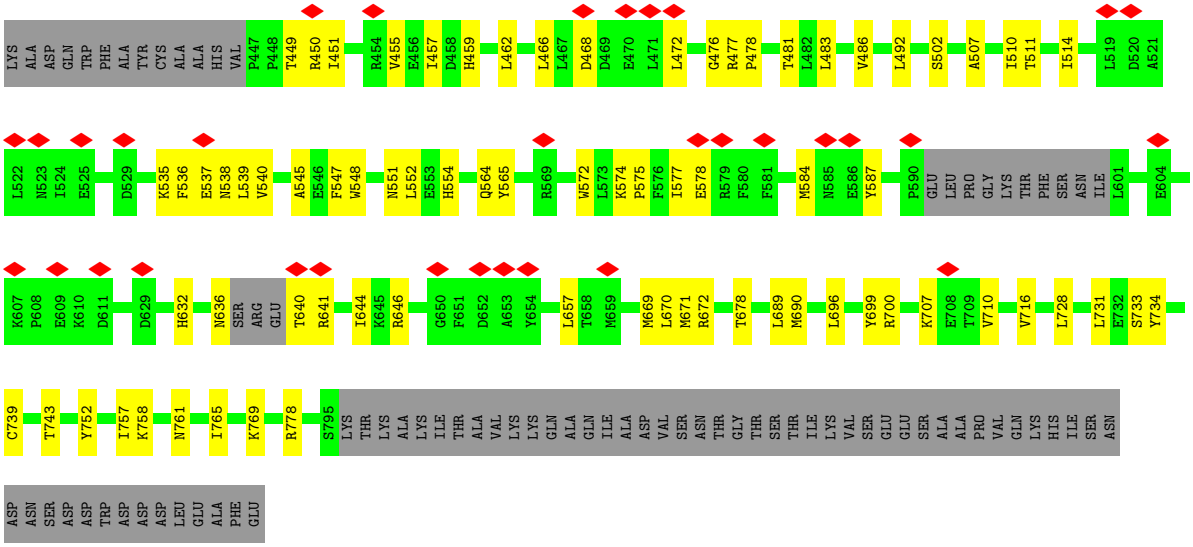




• Molecule 10: Maltose/maltodextrin-binding periplasmic protein,TnsA endonuclease N-terminal domain-containing protein,TnsB transposase

Chain d:




LYS ALA ASP GLN TRP PHE ALA TYR CYS ALA ALA HIS VAL P447 P448 T449 R450 I451 R454 V455 E456 I457 D458 H459 L462 L466 L467 D468 D469 E470 L471 L472 G476 R477 P478 T481 L482 L483 V486 L492 S502 A507 I510 T511 I514 L519 D520 A521
L522 N523 I524 E525 D529 K535 F536 E537 N538 L539 V540 A545 E546 F547 W548 N551 L552 E553 H554 Q564 Y565 R569 W572 L573 K574 P575 F576 I577 E578 R579 F580 F581 M584 N585 E586 V587 P590 GLU LEU PRO GLY LYS THR PHE SER ASN ILE L601 E604
K607 P608 E609 K610 D611 D629 H632 N636 SER ARG GLU T640 R641 I644 K645 R646 G650 F651 D652 A653 Y654 L657 T658 M659 M669 L670 M671 R672 T678 L689 M690 L696 Y699 R700 K707 E708 T709 V710 V716 L728 L731 E732 S733 Y734
C739 T743 Y752 I757 K758 N761 I765 K769 R778 S795 LYS THR LYS ALA LYS ILE THR ALA VAL LYS LYS GLN ALA GLN ILE ALA ASP VAL SER ASN THR GLY THR SER THR ILE LYS VAL SER GLU GLU SER ALA ALA PRO VAL GLN LYS HIS ILE SER ASN
ASP ASN SER ASP ASP TRP ASP ASP ASP LEU GLU ALA PHE GLU

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	49606	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	62.82	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	130000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.473	Depositor
Minimum map value	-0.042	Depositor
Average map value	0.005	Depositor
Map value standard deviation	0.011	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	454.99997, 454.99997, 454.99997	wwPDB
Map dimensions	700, 700, 700	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.65, 0.65, 0.65	Depositor

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: MG, ATP

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	0.14	0/1447	0.38	0/2258
2	2	0.21	0/2583	0.52	0/3984
2	5	0.20	0/1012	0.38	0/1561
3	3	0.18	0/1249	0.36	0/1921
3	7	0.17	0/288	0.34	0/442
4	4	0.20	0/661	0.41	0/1019
4	6	0.21	0/661	0.41	0/1019
5	A	0.11	0/2637	0.29	0/3565
5	B	0.11	0/2842	0.26	0/3846
5	C	0.11	0/2842	0.29	0/3846
5	D	0.10	0/2842	0.24	0/3846
5	E	0.10	0/2842	0.25	0/3846
5	F	0.10	0/2828	0.24	0/3827
6	G	0.10	0/5617	0.25	0/7609
7	H	0.12	0/1634	0.30	0/2201
8	I	0.17	0/3392	0.38	0/4595
8	J	0.11	0/3349	0.29	0/4534
9	K	0.16	0/2704	0.36	0/3635
9	L	0.15	0/2588	0.40	0/3481
9	M	0.23	0/2572	0.50	0/3460
9	N	0.13	0/2590	0.39	0/3484
9	O	0.13	0/2636	0.35	0/3543
9	P	0.18	0/2603	0.34	0/3502
9	Q	0.11	0/2642	0.31	0/3551
10	R	0.63	0/82	0.87	0/111
10	S	0.75	0/82	1.05	0/111
10	T	0.85	0/82	1.00	0/111
10	U	0.79	0/82	1.00	0/111
10	V	0.66	0/82	0.90	0/111
10	W	0.55	0/82	0.84	0/111
10	X	0.56	0/82	0.83	0/111
10	a	0.23	0/6582	0.39	0/8900

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
10	b	0.24	0/6582	0.41	0/8900
10	c	0.18	0/2844	0.38	0/3848
10	d	0.11	0/2844	0.32	0/3848
All	All	0.17	0/76487	0.36	0/104848

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	1291	0	648	34	0
2	2	2307	0	1272	60	0
2	5	901	0	490	31	0
3	3	1115	0	610	17	0
3	7	258	0	142	2	0
4	4	592	0	331	6	0
4	6	592	0	331	8	0
5	A	2580	0	2544	39	0
5	B	2777	0	2730	43	0
5	C	2777	0	2730	36	0
5	D	2777	0	2730	37	0
5	E	2777	0	2730	33	0
5	F	2763	0	2719	39	0
6	G	5489	0	5543	76	0
7	H	1599	0	1588	25	0
8	I	3311	0	3241	60	0
8	J	3271	0	3212	50	0
9	K	2658	0	2733	48	0
9	L	2545	0	2610	71	0
9	M	2529	0	2594	63	0
9	N	2547	0	2619	50	0
9	O	2592	0	2662	55	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
9	P	2559	0	2628	49	0
9	Q	2598	0	2681	75	0
10	R	80	0	58	5	0
10	S	80	0	58	9	0
10	T	80	0	58	3	0
10	U	80	0	58	10	0
10	V	80	0	58	11	0
10	W	80	0	58	15	0
10	X	80	0	58	24	0
10	a	6429	0	6449	102	0
10	b	6429	0	6449	123	0
10	c	2775	0	2744	70	0
10	d	2775	0	2744	52	0
11	2	1	0	0	0	0
11	5	1	0	0	0	0
11	K	1	0	0	0	0
11	L	1	0	0	0	0
11	M	1	0	0	0	0
11	N	1	0	0	0	0
11	O	1	0	0	0	0
11	P	1	0	0	0	0
11	Q	1	0	0	0	0
11	a	2	0	0	0	0
11	b	2	0	0	0	0
12	K	31	0	12	1	0
12	L	31	0	12	3	0
12	M	31	0	12	0	0
12	N	31	0	12	1	0
12	O	31	0	12	2	0
12	P	31	0	12	1	0
12	Q	31	0	12	1	0
All	All	74403	0	70994	1238	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 9.

All (1238) 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)
9:O:216:MET:CB	10:V:849:ALA:HB2	1.58	1.31
8:J:187:CYS:SG	8:J:193:LEU:HD21	1.77	1.23

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:J:171:GLU:HB2	8:J:189:CYS:SG	1.78	1.22
9:Q:210:TYR:CD1	10:X:850:PHE:HE2	1.58	1.21
8:I:136:CYS:SG	8:I:165:LEU:CD2	2.31	1.18
9:O:216:MET:CB	10:V:849:ALA:CB	2.20	1.18
8:I:136:CYS:SG	8:I:165:LEU:HD23	1.83	1.17
9:O:216:MET:HB2	10:V:849:ALA:CB	1.79	1.12
9:Q:210:TYR:CD1	10:X:850:PHE:CE2	2.37	1.12
9:O:216:MET:HB3	10:V:849:ALA:CB	1.81	1.08
9:Q:216:MET:HE1	10:X:847:LEU:O	1.53	1.08
9:O:209:LYS:HE2	10:V:844:ASP:OD1	1.57	1.04
9:Q:210:TYR:CE1	10:X:850:PHE:CE2	2.46	1.03
8:J:187:CYS:SG	8:J:193:LEU:CD2	2.52	0.97
9:O:216:MET:HB3	10:V:849:ALA:HB2	0.95	0.95
9:Q:209:LYS:NZ	10:X:847:LEU:CD2	2.33	0.91
9:Q:210:TYR:HD1	10:X:850:PHE:CE2	1.80	0.90
9:P:216:MET:HE1	10:W:847:LEU:O	1.72	0.89
9:P:216:MET:HE2	10:W:849:ALA:N	1.85	0.89
9:Q:210:TYR:CE1	10:X:850:PHE:HE2	1.88	0.88
9:Q:209:LYS:HZ3	10:X:847:LEU:HD21	1.37	0.87
9:L:64:HIS:HA	9:L:67:LYS:HZ3	1.40	0.86
9:Q:209:LYS:NZ	10:X:847:LEU:HD21	1.91	0.86
9:N:209:LYS:HG3	10:U:847:LEU:HD22	1.56	0.85
9:N:212:ARG:CZ	10:U:847:LEU:HD11	2.07	0.85
9:N:216:MET:HE3	10:U:849:ALA:HB2	1.58	0.84
8:J:171:GLU:CB	8:J:189:CYS:SG	2.64	0.82
9:P:209:LYS:HG2	10:W:847:LEU:HD21	1.60	0.82
9:P:216:MET:HG3	10:W:849:ALA:HB2	1.60	0.82
8:I:136:CYS:SG	8:I:165:LEU:HD21	2.20	0.81
9:N:212:ARG:CZ	10:U:847:LEU:CD1	2.59	0.81
9:O:216:MET:HB2	10:V:849:ALA:HB1	1.62	0.81
9:P:216:MET:CE	10:W:849:ALA:N	2.44	0.81
8:J:172:CYS:SG	8:J:189:CYS:HB2	2.21	0.80
7:H:17:LEU:HD11	7:H:54:ASN:HA	1.63	0.79
9:L:158:ALA:HB1	9:L:189:TRP:HE1	1.47	0.79
8:I:136:CYS:SG	8:I:158:CYS:CB	2.71	0.79
10:b:669:MET:HA	10:b:672:ARG:HE	1.47	0.79
8:I:136:CYS:HG	8:I:158:CYS:HB3	1.49	0.78
9:Q:210:TYR:HE1	10:X:850:PHE:CE2	2.01	0.78
5:F:11:ARG:HH22	6:G:566:VAL:HG22	1.49	0.76
8:I:140:LEU:HD12	8:I:185:THR:HG22	1.68	0.75
8:I:136:CYS:SG	8:I:158:CYS:HB3	2.26	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:162:GLN:HG3	8:I:206:ILE:HD13	1.68	0.75
10:c:491:VAL:HG11	10:c:627:ILE:HD11	1.68	0.75
10:a:706:THR:HB	10:a:709:THR:HG22	1.70	0.74
10:c:482:LEU:HD12	10:c:483:LEU:H	1.51	0.74
8:I:136:CYS:SG	8:I:158:CYS:HB2	2.28	0.74
9:O:87:ILE:HD11	9:O:144:GLU:HB2	1.70	0.74
9:K:19:ILE:HD11	9:K:25:ILE:HG21	1.68	0.74
9:M:216:MET:HB3	10:T:849:ALA:HB2	1.70	0.73
9:Q:209:LYS:HZ3	10:X:847:LEU:CD2	1.97	0.73
5:E:12:SER:HB2	5:E:336:ILE:HG23	1.70	0.73
8:I:203:THR:HA	8:I:206:ILE:HD12	1.67	0.73
9:Q:213:GLN:HG2	10:X:848:GLU:O	1.88	0.73
9:Q:209:LYS:HZ2	10:X:847:LEU:CD2	1.99	0.73
9:M:41:PHE:HE1	9:N:9:ILE:HG12	1.54	0.73
9:L:234:ASN:HA	9:L:299:ILE:HD11	1.71	0.73
9:Q:316:ASN:HD21	10:a:682:ASN:HA	1.53	0.73
9:N:222:MET:HG2	9:N:258:LEU:HD11	1.71	0.72
8:J:202:ASN:HD21	8:J:204:LEU:HB3	1.55	0.72
10:b:47:ILE:HD11	10:b:50:PHE:HB3	1.71	0.72
5:D:43:LYS:HB3	5:D:48:GLU:HG2	1.71	0.72
9:Q:213:GLN:NE2	10:X:848:GLU:O	2.23	0.72
9:M:216:MET:HE2	9:M:231:GLU:HG3	1.72	0.71
6:G:695:VAL:HG11	9:O:77:ARG:HE	1.55	0.71
5:D:84:ILE:HD13	5:D:218:ILE:HD11	1.71	0.71
9:L:188:GLN:HE22	9:M:177:MET:HE3	1.56	0.71
9:O:216:MET:CB	10:V:849:ALA:HB1	2.19	0.71
10:b:73:LEU:HD12	10:b:83:TYR:HE1	1.56	0.71
10:a:678:THR:HA	10:a:711:LYS:HA	1.71	0.70
9:L:80:MET:HE2	9:L:83:LEU:HA	1.74	0.70
2:5:-101:DA:H2'	2:5:-100:DA:C8	2.27	0.70
8:I:136:CYS:HG	8:I:163:CYS:HG	1.14	0.69
10:d:466:LEU:HD11	10:d:478:PRO:HB3	1.74	0.69
10:b:119:THR:HG23	10:b:121:ARG:H	1.56	0.69
9:P:216:MET:HE2	10:W:848:GLU:C	2.16	0.69
5:D:31:PRO:HB3	5:D:248:ALA:HB2	1.74	0.69
2:2:-101:DA:H2'	2:2:-100:DA:C8	2.27	0.69
10:b:469:ASP:HA	10:b:615:ARG:HG2	1.74	0.69
10:a:135:LEU:HD11	10:a:185:MET:HB2	1.75	0.68
1:1:23:G:H1'	5:C:42:PRO:HD2	1.75	0.68
10:a:270:ILE:HB	10:c:734:TYR:HB2	1.76	0.68
9:K:235:THR:O	9:K:239:LEU:HD12	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:O:216:MET:HB2	10:V:849:ALA:CA	2.23	0.68
2:2:-105:DT:H2'	2:2:-104:DG:H8	1.59	0.68
2:5:-105:DT:H2'	2:5:-104:DG:C8	2.29	0.68
9:L:22:HIS:HB3	10:S:850:PHE:CD2	2.29	0.68
9:L:212:ARG:O	9:L:216:MET:HG2	1.94	0.67
10:b:760:ILE:HB	10:b:765:ILE:HG13	1.75	0.67
8:I:169:CYS:HB2	8:I:172:CYS:HB2	1.75	0.67
5:D:18:ALA:HB3	5:D:251:PHE:HB2	1.75	0.67
6:G:184:LEU:HD12	6:G:185:PRO:HD2	1.76	0.67
9:M:260:LEU:HD13	9:M:275:THR:HG23	1.74	0.67
2:5:-74:DT:H2'	2:5:-73:DG:C8	2.30	0.67
5:D:328:ILE:HD12	5:D:328:ILE:H	1.59	0.67
2:2:-79:DC:H5'	10:b:600:ILE:HD11	1.77	0.66
2:5:-105:DT:H2'	2:5:-104:DG:H8	1.59	0.66
8:J:21:LEU:HD13	8:J:62:LEU:HD21	1.77	0.66
2:2:-105:DT:H2'	2:2:-104:DG:C8	2.30	0.66
5:C:287:GLY:HA2	5:D:65:THR:HG21	1.77	0.66
9:K:11:LYS:HB3	9:K:223:PRO:HB3	1.77	0.66
9:Q:47:CYS:HB3	9:Q:193:LEU:HD23	1.77	0.66
2:2:-54:DT:H2"	2:2:-53:DG:C8	2.31	0.66
5:B:62:GLN:HE22	8:J:372:HIS:HB2	1.61	0.66
9:Q:146:ILE:HG21	9:Q:180:ALA:HA	1.76	0.66
5:A:266:TRP:HB3	5:A:326:PRO:HB3	1.78	0.66
8:I:136:CYS:CB	8:I:163:CYS:HG	2.08	0.66
9:K:219:ALA:HA	9:K:222:MET:HG3	1.78	0.65
10:a:476:GLY:HA2	10:a:801:ILE:HD12	1.77	0.65
9:K:209:LYS:HG2	10:R:847:LEU:HD21	1.78	0.65
10:a:688:GLU:OE2	10:a:769:LYS:HB2	1.96	0.65
10:c:668:SER:HA	10:c:671:MET:HE3	1.77	0.65
10:d:535:LYS:HE2	10:d:657:LEU:HD11	1.78	0.65
9:Q:246:GLU:HG2	9:Q:249:ALA:H	1.62	0.65
2:2:-16:DC:H4'	5:D:47:THR:HG21	1.79	0.65
9:M:223:PRO:HD2	9:M:258:LEU:HD21	1.78	0.65
2:5:-73:DG:H2'	2:5:-72:DG:C8	2.32	0.65
9:K:47:CYS:HB3	9:K:193:LEU:HD23	1.77	0.65
9:L:209:LYS:HG2	10:S:847:LEU:HD21	1.80	0.64
9:N:19:ILE:HG12	9:N:21:MET:HE1	1.79	0.64
1:1:-1:A:H1'	6:G:505:GLU:HB3	1.77	0.64
1:1:10:C:H5"	5:D:11:ARG:HB3	1.78	0.64
5:C:229:LYS:HD2	5:C:230:GLN:N	2.13	0.64
5:F:18:ALA:HB3	5:F:251:PHE:HB2	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:216:MET:CB	10:R:849:ALA:HB2	2.27	0.64
10:a:590:PRO:HA	10:a:595:LYS:HE3	1.78	0.64
5:F:286:ILE:HG13	5:F:290:ARG:HH21	1.63	0.64
9:O:219:ALA:HA	9:O:222:MET:HE3	1.79	0.64
10:c:496:LEU:HD11	10:c:620:VAL:HG12	1.80	0.64
6:G:107:HIS:HB3	6:G:110:VAL:HG22	1.78	0.63
10:c:466:LEU:HG	10:c:478:PRO:HG3	1.80	0.63
10:c:686:TYR:HB3	10:c:691:TYR:HE2	1.64	0.63
5:E:286:ILE:HG13	5:E:290:ARG:HH21	1.64	0.63
10:a:475:ILE:HG13	10:a:804:VAL:HG12	1.80	0.63
9:N:212:ARG:NH1	10:U:847:LEU:HD11	2.14	0.63
9:Q:210:TYR:CD1	10:X:850:PHE:CZ	2.87	0.63
10:b:754:HIS:O	10:b:755:LYS:C	2.41	0.63
5:A:79:PRO:HG2	7:H:135:PRO:HG2	1.79	0.63
5:E:258:ALA:HA	5:E:276:ARG:HE	1.64	0.62
9:K:216:MET:HB2	10:R:849:ALA:CB	2.29	0.62
9:K:129:LEU:HD22	9:K:134:VAL:HG11	1.79	0.62
9:N:21:MET:HB3	9:N:26:LYS:HE3	1.82	0.62
9:L:274:ILE:HG12	9:L:295:PHE:HB2	1.81	0.62
9:Q:48:MET:HB3	9:Q:173:VAL:HG13	1.82	0.62
10:d:540:VAL:HG22	10:d:564:GLN:HB3	1.81	0.62
2:2:-86:DC:H2"	2:2:-85:DG:C8	2.34	0.62
2:5:-86:DC:H2"	2:5:-85:DG:C8	2.35	0.62
5:D:265:ASP:HB3	5:D:274:ARG:HG2	1.81	0.62
5:F:301:SER:HA	5:F:304:LYS:HE3	1.81	0.61
8:J:166:LEU:HD21	8:J:170:PRO:HD3	1.81	0.61
9:Q:104:LEU:HD11	9:Q:129:LEU:HD23	1.82	0.61
9:P:216:MET:HG3	10:W:849:ALA:CB	2.29	0.61
5:F:201:PHE:HB2	6:G:556:ALA:HA	1.82	0.61
10:b:16:PHE:HB2	10:b:29:CYS:HB2	1.82	0.61
1:1:17:G:H1'	5:D:42:PRO:HD2	1.80	0.61
10:b:116:VAL:HA	10:b:244:ASN:HD22	1.65	0.61
2:2:5:DA:H2"	2:2:6:DG:C8	2.36	0.61
5:D:313:LEU:HD11	5:D:328:ILE:HG21	1.82	0.61
9:L:213:GLN:NE2	10:S:850:PHE:CE1	2.68	0.61
9:M:305:TYR:HE1	9:M:331:ILE:HG13	1.66	0.61
9:O:160:GLY:O	9:O:164:ILE:HG23	2.00	0.61
2:2:-3:DT:H5'	5:E:342:GLN:HE21	1.63	0.61
9:M:147:GLU:HA	9:M:313:TYR:CE2	2.36	0.61
10:c:452:LEU:HG	10:c:654:TYR:HE2	1.66	0.61
6:G:467:MET:HG3	6:G:567:MET:HE1	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:L:62:ILE:HD12	9:L:138:ILE:HG21	1.82	0.61
9:P:246:GLU:HG2	9:P:249:ALA:H	1.66	0.61
2:2:-62:DT:H2"	2:2:-61:DA:C8	2.36	0.60
9:N:237:ILE:HG13	9:N:304:ILE:HD11	1.82	0.60
6:G:383:ARG:O	6:G:387:GLU:HG2	2.02	0.60
6:G:503:LEU:HD12	6:G:504:PRO:HD2	1.83	0.60
1:1:29:U:H1'	5:B:42:PRO:HD2	1.82	0.60
10:a:181:LEU:HD13	10:a:205:LEU:HD22	1.83	0.60
5:A:239:LYS:HD2	5:A:247:TYR:HB3	1.84	0.60
5:B:154:ILE:HG23	5:B:206:ILE:HG12	1.83	0.60
10:a:471:LEU:HD22	10:a:793:ILE:HD11	1.84	0.60
10:b:471:LEU:HB3	10:b:473:ILE:HG12	1.82	0.60
2:2:-89:DC:H2"	2:2:-88:DA:C8	2.36	0.60
1:1:-3:A:H1'	5:F:8:LYS:HD2	1.82	0.60
8:J:40:ILE:HD12	8:J:80:LEU:HD23	1.82	0.60
9:M:160:GLY:O	9:M:164:ILE:HG12	2.01	0.60
9:O:222:MET:HE1	9:O:230:LEU:HD11	1.83	0.60
9:N:158:ALA:HB1	9:N:189:TRP:HE1	1.65	0.60
10:a:705:GLN:HE21	10:a:710:VAL:HG22	1.66	0.60
10:d:584:MET:HE1	10:d:587:TYR:HB2	1.82	0.60
4:6:18:DT:H2'	4:6:19:DT:H71	1.84	0.59
5:A:114:LEU:HA	5:A:310:LEU:HD13	1.84	0.59
8:J:212:LEU:HD22	8:J:252:LEU:HD11	1.84	0.59
10:c:551:ASN:HB3	10:c:670:LEU:HD11	1.84	0.59
9:L:64:HIS:HA	9:L:67:LYS:NZ	2.16	0.59
9:O:22:HIS:CE1	9:O:25:ILE:HG12	2.37	0.59
9:L:229:LYS:HD3	9:L:231:GLU:HG2	1.83	0.59
9:N:212:ARG:CZ	10:U:847:LEU:HD12	2.31	0.59
9:M:158:ALA:HB1	9:M:189:TRP:HE1	1.68	0.59
9:Q:216:MET:HB2	10:X:849:ALA:HB2	1.83	0.59
2:2:-83:DC:H2"	10:b:578:GLU:HG3	1.85	0.59
9:L:7:ILE:O	9:L:11:LYS:HG3	2.01	0.59
5:D:242:CYS:HA	5:E:79:PRO:HD2	1.83	0.59
5:F:12:SER:HB2	5:F:336:ILE:HG23	1.84	0.59
8:I:82:GLU:HG2	8:I:92:LEU:HD12	1.83	0.59
9:Q:112:ILE:HG22	9:Q:113:LYS:H	1.67	0.59
8:J:172:CYS:HG	8:J:189:CYS:HB2	1.68	0.59
5:A:78:PRO:HG2	5:A:81:VAL:HG21	1.85	0.59
5:E:18:ALA:HB3	5:E:251:PHE:HB2	1.83	0.59
9:Q:209:LYS:HG2	10:X:847:LEU:HD21	1.85	0.59
10:d:450:ARG:HE	10:d:451:ILE:HG12	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:144:ASN:HD21	5:A:218:ILE:HA	1.68	0.58
9:M:22:HIS:CE1	9:M:25:ILE:HG12	2.38	0.58
9:N:212:ARG:NE	10:U:847:LEU:CD1	2.66	0.58
9:P:315:PRO:HA	9:P:323:MET:HE3	1.85	0.58
10:c:526:LEU:HD12	10:c:628:ALA:HB3	1.85	0.58
10:d:510:ILE:O	10:d:514:ILE:HG12	2.04	0.58
5:C:220:PRO:HG3	5:C:249:VAL:HB	1.85	0.58
5:E:1:MET:HG3	5:E:306:THR:HG21	1.85	0.58
9:K:134:VAL:HG13	9:K:170:VAL:HG11	1.84	0.58
9:L:216:MET:HB2	10:S:849:ALA:CB	2.34	0.58
10:a:469:ASP:HA	10:a:615:ARG:HG2	1.85	0.58
10:d:690:MET:HA	10:d:690:MET:HE2	1.86	0.58
9:L:89:ARG:HD3	9:L:144:GLU:HB3	1.85	0.58
10:a:756:THR:HG21	10:a:810:ILE:HD11	1.86	0.58
10:b:567:PRO:HB2	10:b:570:LYS:HD2	1.84	0.58
6:G:119:ALA:HB3	6:G:218:VAL:HG22	1.86	0.58
9:Q:219:ALA:HA	9:Q:222:MET:HG3	1.84	0.58
8:I:201:VAL:HG13	8:I:206:ILE:HD11	1.86	0.58
7:H:16:ASN:HD22	8:J:284:LEU:HD22	1.68	0.57
9:L:48:MET:HB3	9:L:173:VAL:HG13	1.86	0.57
4:6:5:DG:H5'	10:a:583:VAL:HG22	1.86	0.57
2:2:-89:DC:H2"	2:2:-88:DA:H8	1.68	0.57
5:F:325:ASP:HB3	5:F:328:ILE:HD12	1.86	0.57
10:a:678:THR:HB	10:a:710:VAL:HG12	1.86	0.57
10:a:761:ASN:HD22	10:a:774:LEU:HD23	1.68	0.57
5:E:325:ASP:HB3	5:E:328:ILE:HD12	1.87	0.57
9:K:216:MET:HB3	10:R:849:ALA:HB2	1.87	0.57
9:N:292:LYS:HD3	9:N:292:LYS:N	2.20	0.57
1:1:12:A:H3'	5:E:40:ARG:HB2	1.86	0.57
9:K:293:ASN:HB3	9:K:296:LYS:HG2	1.87	0.57
10:a:679:LEU:HB3	10:a:705:GLN:HE22	1.69	0.57
9:K:274:ILE:HG13	9:K:295:PHE:HB2	1.85	0.57
2:5:-73:DG:H1'	10:b:545:ALA:HB1	1.86	0.57
6:G:297:LEU:HD22	6:G:330:THR:HG21	1.87	0.57
9:N:216:MET:CE	10:U:847:LEU:O	2.52	0.57
9:Q:87:ILE:HD13	9:Q:145:LEU:HB2	1.87	0.57
10:a:28:MET:HE3	10:a:28:MET:HA	1.85	0.57
5:A:7:LEU:HD21	5:A:303:PHE:HE2	1.70	0.57
5:B:36:ILE:HG12	5:B:73:GLU:HG3	1.87	0.57
6:G:468:ILE:HD11	6:G:533:LEU:HD21	1.87	0.57
10:a:101:PHE:CZ	10:a:117:LEU:HB2	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:5:-67:DG:H2"	2:5:-66:DA:C8	2.40	0.56
9:N:230:LEU:HD12	9:N:239:LEU:HD11	1.88	0.56
6:G:99:LEU:HD23	6:G:214:VAL:HG11	1.87	0.56
7:H:98:GLU:HG3	7:H:173:GLN:HB2	1.87	0.56
9:L:165:SER:HB2	9:L:172:ILE:HD12	1.88	0.56
1:1:9:G:C2	5:D:340:MET:HG2	2.39	0.56
5:B:18:ALA:HB3	5:B:251:PHE:HB2	1.87	0.56
9:K:212:ARG:O	9:K:216:MET:HG2	2.04	0.56
10:a:761:ASN:OD1	10:a:767:GLU:N	2.38	0.56
10:b:289:TYR:HE2	10:d:554:HIS:HA	1.70	0.56
10:b:519:LEU:HD22	10:b:522:LEU:HD22	1.88	0.56
10:c:583:VAL:HG22	10:c:626:TRP:HZ3	1.71	0.56
6:G:379:ILE:H	6:G:379:ILE:HD12	1.71	0.56
10:c:624:HIS:HA	10:c:627:ILE:HG22	1.88	0.56
10:a:745:TYR:HB2	10:a:775:ALA:HB2	1.87	0.56
10:c:603:LYS:H	10:c:603:LYS:HD3	1.71	0.56
8:J:105:ASN:HD21	8:J:300:ALA:HA	1.69	0.56
1:1:31:A:O2'	5:A:222:GLN:HB2	2.06	0.56
9:L:66:LYS:HD2	9:L:82:VAL:HG23	1.86	0.56
10:c:580:PHE:CE2	10:c:623:PHE:HD1	2.23	0.56
10:a:542:ASP:HB3	10:a:574:LYS:HZ1	1.71	0.56
10:d:536:PHE:HE1	10:d:539:LEU:HD12	1.71	0.56
10:d:551:ASN:HB2	10:d:670:LEU:HD21	1.88	0.56
5:A:12:SER:HB2	5:A:336:ILE:HG23	1.88	0.56
5:C:12:SER:HB3	5:C:336:ILE:HG23	1.87	0.56
5:A:114:LEU:HD22	5:A:306:THR:HG23	1.87	0.55
9:K:216:MET:HB2	10:R:849:ALA:HB2	1.88	0.55
9:Q:158:ALA:HB1	9:Q:189:TRP:HE1	1.69	0.55
5:B:228:VAL:HG11	5:B:234:SER:HA	1.89	0.55
6:G:89:TYR:HE1	6:G:453:PRO:HB3	1.72	0.55
5:C:84:ILE:HD13	5:C:218:ILE:HD11	1.87	0.55
9:M:62:ILE:HD12	9:M:138:ILE:HD13	1.88	0.55
9:K:314:ASN:ND2	9:K:317:ALA:HB2	2.20	0.55
10:b:151:LEU:O	10:b:155:ILE:HG12	2.06	0.55
10:b:495:HIS:NE2	10:b:508:LYS:HD3	2.21	0.55
6:G:503:LEU:HD11	6:G:518:ARG:HH11	1.69	0.55
10:a:706:THR:CB	10:a:709:THR:HG22	2.36	0.55
10:b:672:ARG:HH11	10:b:717:ASP:HB2	1.70	0.55
10:c:482:LEU:HD12	10:c:483:LEU:N	2.19	0.55
2:2:-73:DG:H2"	2:2:-72:DG:H8	1.71	0.55
2:2:3:DT:H1'	2:2:4:DG:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:8:VAL:HG13	7:H:86:VAL:HG22	1.88	0.55
8:I:286:ASN:HB3	8:I:334:PRO:HB3	1.89	0.55
8:I:312:PHE:HA	8:I:315:ARG:HD2	1.89	0.55
9:K:150:SER:OG	9:K:153:GLU:HB2	2.06	0.55
9:P:158:ALA:HB1	9:P:189:TRP:HE1	1.71	0.55
10:a:669:MET:HE2	10:a:669:MET:HA	1.89	0.55
3:3:61:DT:H2"	3:3:62:DA:C8	2.41	0.55
5:B:149:ASN:H	5:B:211:GLU:HB3	1.71	0.55
5:E:224:LEU:HD21	5:F:69:ILE:HD12	1.88	0.55
5:F:41:GLY:HA3	5:F:70:LEU:HD11	1.88	0.55
9:M:65:TYR:O	9:M:69:VAL:HG23	2.07	0.55
9:O:216:MET:HB2	10:V:849:ALA:HA	1.88	0.55
10:b:617:SER:O	10:b:621:GLU:HG2	2.07	0.55
8:J:45:HIS:HA	9:Q:117:TYR:HD2	1.72	0.54
10:a:601:LEU:HD13	10:b:601:LEU:HD13	1.88	0.54
10:a:765:ILE:HG22	10:a:766:ARG:H	1.71	0.54
4:6:3:DT:O2	10:a:579:ARG:HD3	2.07	0.54
8:J:184:ILE:HG22	8:J:185:THR:HG23	1.87	0.54
9:L:29:PHE:HE1	9:L:61:THR:HG23	1.71	0.54
10:b:283:ASN:O	10:b:287:GLN:HG2	2.07	0.54
5:A:227:LYS:HB3	5:A:229:LYS:HG2	1.90	0.54
5:F:179:ASP:O	5:F:183:VAL:HG12	2.07	0.54
6:G:578:TRP:H	6:G:578:TRP:CD1	2.25	0.54
9:M:29:PHE:HD2	9:M:68:ARG:HH21	1.54	0.54
9:M:182:LYS:HA	9:M:182:LYS:HE3	1.89	0.54
9:O:72:THR:HG23	9:O:81:PRO:HG2	1.87	0.54
3:3:-4:DC:H2"	3:3:-3:DA:C8	2.42	0.54
6:G:444:VAL:HG11	6:G:562:PHE:HD2	1.73	0.54
10:c:693:SER:HB2	10:c:738:PRO:HD2	1.89	0.54
1:1:5:U:H1'	5:F:42:PRO:HD2	1.90	0.54
2:2:-53:DG:H2"	2:2:-52:DT:H72	1.89	0.54
7:H:12:PRO:HB2	7:H:15:ALA:HB2	1.89	0.54
10:a:597:PHE:HD2	10:a:602:GLU:HG2	1.73	0.54
5:C:132:CYS:SG	5:C:187:LEU:HB3	2.48	0.54
9:O:83:LEU:HD22	9:O:104:LEU:HD13	1.90	0.54
10:a:556:CYS:HB2	10:a:563:ILE:HD11	1.90	0.54
10:b:100:GLU:O	10:b:104:LYS:HG3	2.07	0.54
6:G:7:LEU:HD22	6:G:57:LEU:HD21	1.89	0.54
9:P:97:LEU:O	9:P:101:LEU:HD22	2.08	0.54
9:Q:23:PRO:HD2	9:Q:210:TYR:HE1	1.73	0.54
5:B:84:ILE:HD12	5:B:218:ILE:HD11	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:c:661:GLU:HA	10:c:664:GLU:HG2	1.88	0.54
2:2:-36:DG:H2"	8:J:381:TYR:CE2	2.43	0.54
2:5:-89:DC:H2"	2:5:-88:DA:C8	2.43	0.54
8:J:285:PHE:HB2	8:J:334:PRO:HB2	1.89	0.54
9:K:277:TYR:HB2	9:K:295:PHE:HE2	1.74	0.54
10:b:567:PRO:HD2	10:b:573:LEU:HD12	1.90	0.54
4:4:18:DT:H2'	4:4:19:DT:H71	1.89	0.53
8:I:230:LEU:HD12	8:I:230:LEU:H	1.73	0.53
10:b:781:ILE:O	10:b:785:VAL:HG23	2.08	0.53
10:c:678:THR:HG23	10:c:710:VAL:HB	1.90	0.53
5:C:140:TRP:CD1	5:C:140:TRP:H	2.25	0.53
3:3:42:DA:C8	3:3:42:DA:H5'	2.43	0.53
10:b:454:ARG:HH11	10:b:540:VAL:HG11	1.74	0.53
10:b:457:ILE:HB	10:b:483:LEU:HG	1.91	0.53
5:A:142:TRP:NE1	5:A:259:ALA:HB2	2.24	0.53
9:M:77:ARG:HA	9:M:77:ARG:NE	2.24	0.53
9:L:219:ALA:HB2	9:L:230:LEU:HD11	1.90	0.53
9:Q:91:LYS:HE3	9:Q:91:LYS:HA	1.89	0.53
10:b:43:TYR:HB2	10:b:132:LEU:HD11	1.91	0.53
2:2:-73:DG:H2"	2:2:-72:DG:C8	2.43	0.53
4:4:5:DG:H5'	10:b:583:VAL:HG22	1.91	0.53
8:I:4:LEU:HD21	8:I:40:ILE:HD13	1.90	0.53
8:I:373:LYS:NZ	8:I:378:ILE:HG12	2.24	0.53
9:L:38:ASN:HA	9:L:41:PHE:CE1	2.44	0.53
5:F:340:MET:HG2	5:F:342:GLN:HE22	1.74	0.53
9:K:314:ASN:HD22	9:K:317:ALA:HB2	1.74	0.53
10:a:272:ARG:HB2	10:a:276:THR:HG21	1.89	0.53
10:b:288:ARG:O	10:b:292:ILE:HG22	2.09	0.53
10:b:360:ILE:HG13	10:b:408:ILE:HG22	1.90	0.53
10:b:514:ILE:HD12	10:b:535:LYS:HA	1.89	0.53
2:2:-101:DA:H2'	2:2:-100:DA:H8	1.72	0.53
5:B:62:GLN:NE2	8:J:372:HIS:HB2	2.24	0.53
6:G:124:HIS:CG	6:G:125:ASN:H	2.27	0.53
6:G:213:PRO:HB3	6:G:632:TYR:HE2	1.73	0.53
7:H:78:MET:HE1	8:J:280:LYS:HA	1.91	0.53
9:L:216:MET:CB	10:S:849:ALA:HB2	2.38	0.53
10:b:760:ILE:O	10:b:761:ASN:C	2.49	0.53
10:a:6:LEU:HD13	10:a:28:MET:HB3	1.91	0.53
5:A:79:PRO:HG3	7:H:119:LEU:HD13	1.92	0.53
8:I:4:LEU:HD12	8:I:5:PHE:HB3	1.91	0.53
10:b:34:GLU:HG2	10:b:86:TYR:HD2	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:249:ALA:HA	6:G:256:ILE:HD11	1.90	0.52
6:G:25:PRO:HB2	6:G:248:LEU:HD13	1.91	0.52
9:N:194:VAL:HG12	9:N:195:ARG:HG3	1.90	0.52
9:Q:248:ARG:HB2	12:Q:401:ATP:H5'2	1.91	0.52
1:1:-7:C:C2	6:G:201:ARG:HD3	2.44	0.52
2:5:-76:DC:H2'	2:5:-75:DG:C8	2.43	0.52
5:C:313:LEU:O	5:C:317:ILE:HG23	2.09	0.52
10:b:37:ALA:N	10:b:123:ILE:HD11	2.24	0.52
1:1:14:U:H2'	1:1:15:A:C8	2.44	0.52
5:C:84:ILE:HG13	5:C:212:ALA:HB2	1.92	0.52
6:G:311:LEU:HD22	8:I:375:ASN:HA	1.91	0.52
9:N:20:VAL:H	12:N:401:ATP:HN62	1.58	0.52
5:D:39:ILE:HD11	5:D:72:LEU:HD21	1.91	0.52
8:J:140:LEU:HD22	8:J:185:THR:HG22	1.92	0.52
9:K:149:LYS:HB2	9:Q:152:GLN:HG2	1.90	0.52
10:c:662:GLU:O	10:c:666:ARG:HG3	2.10	0.52
5:C:1:MET:H2	5:C:304:LYS:HA	1.75	0.52
8:J:350:LEU:HA	8:J:394:LYS:HD3	1.90	0.52
9:L:251:LYS:HG3	12:L:401:ATP:H1'	1.90	0.52
9:Q:274:ILE:HG12	9:Q:295:PHE:HB2	1.92	0.52
8:I:271:ASP:O	8:I:275:LYS:HG3	2.09	0.52
10:a:597:PHE:HE2	10:b:379:ARG:HE	1.57	0.52
6:G:451:SER:HB2	6:G:629:MET:HB3	1.92	0.52
9:K:48:MET:HB3	9:K:173:VAL:HG22	1.92	0.52
9:N:158:ALA:HB1	9:N:189:TRP:NE1	2.24	0.52
9:O:45:GLN:HE22	9:O:169:LYS:HB3	1.75	0.52
10:a:478:PRO:HG2	10:a:496:LEU:HD11	1.92	0.52
2:5:-75:DG:H2'	2:5:-74:DT:C6	2.44	0.52
8:I:134:PRO:HB2	8:I:165:LEU:HB3	1.91	0.52
5:A:215:CYS:HB2	7:H:116:ARG:HG3	1.92	0.52
6:G:371:ASP:HA	6:G:374:LEU:HG	1.92	0.52
6:G:630:MET:HG2	6:G:657:GLY:HA3	1.92	0.52
10:d:462:LEU:HD21	10:d:577:ILE:HG12	1.90	0.52
8:I:136:CYS:HB3	8:I:163:CYS:SG	2.50	0.51
6:G:280:LEU:HD23	6:G:355:LEU:HD22	1.93	0.51
9:K:62:ILE:HD12	9:K:138:ILE:HD13	1.92	0.51
9:L:216:MET:HB2	10:S:849:ALA:HB2	1.93	0.51
9:M:216:MET:HB3	10:T:849:ALA:CB	2.39	0.51
2:2:-98:DC:H2"	2:2:-97:DT:O5'	2.10	0.51
9:L:213:GLN:HG2	10:S:848:GLU:O	2.10	0.51
9:Q:142:PHE:HE1	9:Q:145:LEU:HD13	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:d:632:HIS:HB3	10:d:644:ILE:HG12	1.90	0.51
2:2:-78:DC:H1'	2:2:-77:DC:H5'	1.91	0.51
5:F:343:LYS:HG3	5:F:344:LYS:HD3	1.92	0.51
9:K:232:SER:O	9:K:236:THR:HG23	2.09	0.51
9:P:48:MET:HB3	9:P:173:VAL:HG22	1.92	0.51
10:a:676:SER:HB2	10:a:711:LYS:HE3	1.92	0.51
5:D:141:LEU:HB2	5:D:145:GLN:HA	1.92	0.51
6:G:41:ILE:HG22	6:G:166:LEU:HD21	1.92	0.51
9:N:83:LEU:HD22	9:N:104:LEU:HD23	1.93	0.51
9:N:88:SER:HB3	9:N:96:THR:HA	1.92	0.51
9:Q:177:MET:HE3	9:Q:178:PRO:HD2	1.93	0.51
9:Q:222:MET:SD	9:Q:258:LEU:HD21	2.51	0.51
8:I:373:LYS:HZ2	8:I:378:ILE:HG12	1.76	0.51
8:J:110:LEU:HD11	8:J:119:LEU:HD13	1.91	0.51
9:L:20:VAL:HG21	9:L:218:LEU:HD22	1.91	0.51
9:L:75:TYR:HE1	9:L:81:PRO:HD3	1.75	0.51
10:d:462:LEU:O	10:d:477:ARG:HD2	2.10	0.51
5:C:302:ILE:HD12	5:C:327:ALA:HB1	1.92	0.51
5:D:1:MET:HE3	5:D:306:THR:HG21	1.92	0.51
6:G:287:PHE:HB2	6:G:388:MET:HE1	1.93	0.51
8:J:12:PHE:HB2	8:J:15:GLU:HB2	1.91	0.51
9:O:8:GLN:HG2	9:O:262:LEU:HD13	1.93	0.51
9:O:145:LEU:HD12	9:O:149:LYS:HZ2	1.75	0.51
10:b:131:ASN:ND2	10:b:199:LEU:H	2.09	0.51
10:a:425:VAL:HG13	10:a:429:ARG:HD3	1.93	0.51
5:E:1:MET:HE3	5:E:107:VAL:HG13	1.91	0.51
1:1:36:A:C8	7:H:162:ILE:HD11	2.46	0.50
2:2:-84:DA:H2	10:b:579:ARG:HD3	1.76	0.50
2:2:-58:DA:H2"	2:2:-57:DA:C8	2.46	0.50
5:F:84:ILE:HG12	5:F:210:ILE:HB	1.93	0.50
7:H:145:ASP:HB2	7:H:166:GLN:HE21	1.76	0.50
8:I:130:VAL:HG23	8:I:175:PRO:HG3	1.93	0.50
9:K:254:LEU:O	9:K:258:LEU:HD23	2.11	0.50
9:M:10:GLU:HG2	9:M:13:ARG:HH21	1.77	0.50
9:M:39:ARG:HD3	9:M:135:GLU:HA	1.92	0.50
10:a:291:LEU:O	10:a:295:ILE:HG22	2.11	0.50
2:5:-98:DC:H2"	2:5:-97:DT:O5'	2.11	0.50
9:K:303:GLU:HB2	9:K:331:ILE:HD11	1.94	0.50
9:L:159:ASN:HA	9:L:162:LYS:HE2	1.94	0.50
10:b:120:ASP:HA	10:b:123:ILE:HG22	1.94	0.50
2:2:-21:DT:H2"	2:2:-20:DG:H5'	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:N:51:ILE:HD12	9:N:178:PRO:HA	1.93	0.50
3:3:48:DG:H2"	3:3:49:DA:C8	2.46	0.50
5:E:1:MET:HE1	5:E:303:PHE:CE2	2.47	0.50
8:I:224:LEU:HD23	8:I:233:ARG:HG2	1.93	0.50
9:L:189:TRP:O	9:L:193:LEU:HG	2.11	0.50
9:O:94:ASP:O	9:O:98:VAL:HG13	2.12	0.50
10:d:671:MET:C	10:d:672:ARG:HD2	2.37	0.50
8:I:136:CYS:HB3	8:I:163:CYS:HG	1.77	0.50
8:J:379:ASN:HB2	8:J:381:TYR:CE1	2.46	0.50
9:L:19:ILE:HD11	9:L:25:ILE:HD13	1.92	0.50
9:P:222:MET:HE1	9:P:254:LEU:HD12	1.92	0.50
6:G:604:PRO:HB2	6:G:694:LYS:HB2	1.94	0.50
8:I:172:CYS:C	8:I:174:ALA:H	2.20	0.50
9:N:216:MET:HE2	10:U:847:LEU:O	2.11	0.50
9:O:158:ALA:HB1	9:O:189:TRP:HE1	1.76	0.50
5:E:242:CYS:HA	5:F:79:PRO:HD2	1.94	0.50
10:b:780:ALA:HA	10:b:783:GLU:OE2	2.12	0.50
3:3:53:DC:H2"	3:3:54:DA:C8	2.47	0.49
5:B:242:CYS:HA	5:C:79:PRO:HD2	1.94	0.49
9:Q:303:GLU:HG2	9:Q:331:ILE:HD13	1.94	0.49
10:a:706:THR:CA	10:a:709:THR:HG22	2.42	0.49
10:c:686:TYR:HB3	10:c:691:TYR:CE2	2.46	0.49
9:K:137:LEU:HD23	9:K:172:ILE:HG12	1.93	0.49
5:E:40:ARG:HD3	5:E:67:ASN:ND2	2.27	0.49
8:I:152:ILE:HG22	8:I:154:TRP:H	1.76	0.49
9:K:93:LEU:HD13	9:K:157:ILE:HA	1.92	0.49
9:Q:96:THR:O	9:Q:100:MET:HG3	2.12	0.49
10:a:613:ILE:HG12	10:c:792:PHE:HB2	1.94	0.49
10:d:552:LEU:HD23	10:d:670:LEU:HD13	1.94	0.49
1:1:38:C:H2'	1:1:39:U:C6	2.48	0.49
6:G:506:LEU:HD11	6:G:518:ARG:HH21	1.77	0.49
8:J:95:LEU:HD23	8:J:95:LEU:O	2.13	0.49
10:b:131:ASN:HB3	10:b:199:LEU:HD12	1.93	0.49
8:J:223:PRO:HG3	8:J:262:TRP:HB3	1.93	0.49
9:M:308:ILE:HD13	9:M:330:ALA:HB2	1.94	0.49
9:Q:160:GLY:O	9:Q:164:ILE:HG12	2.11	0.49
1:1:24:A:H3'	5:C:40:ARG:HG3	1.95	0.49
8:J:337:ALA:HB3	8:J:388:ARG:HH21	1.77	0.49
9:M:51:ILE:HD13	9:M:178:PRO:HA	1.94	0.49
9:O:83:LEU:HD23	9:O:137:LEU:HD13	1.93	0.49
9:Q:93:LEU:O	9:Q:97:LEU:HG	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:70:DC:H2'	3:3:71:DT:H71	1.94	0.49
8:I:361:TYR:CE2	8:I:373:LYS:HG3	2.47	0.49
9:N:293:ASN:HB3	9:N:296:LYS:HB2	1.95	0.49
9:P:94:ASP:O	9:P:98:VAL:HG13	2.12	0.49
10:c:515:LYS:HB2	10:c:515:LYS:HE2	1.63	0.49
1:1:22:G:H5"	5:B:11:ARG:HB3	1.93	0.49
8:I:310:SER:H	8:I:315:ARG:HH21	1.61	0.49
8:J:187:CYS:SG	8:J:193:LEU:HD22	2.51	0.49
9:N:203:SER:HA	9:N:240:PHE:CZ	2.48	0.49
9:O:22:HIS:HB3	10:V:850:PHE:CD2	2.48	0.49
10:a:674:SER:HB2	10:a:715:LYS:HE3	1.94	0.49
10:b:79:LYS:HD3	10:b:79:LYS:N	2.28	0.49
10:c:626:TRP:HE1	10:c:631:TYR:HB2	1.76	0.49
8:J:187:CYS:HB2	8:J:189:CYS:HB3	1.95	0.49
9:P:20:VAL:HB	9:P:214:TYR:HE1	1.78	0.49
9:P:47:CYS:SG	9:P:172:ILE:HG23	2.53	0.49
9:Q:29:PHE:HE1	9:Q:61:THR:HG23	1.77	0.49
9:Q:216:MET:CB	10:X:849:ALA:HB2	2.42	0.49
1:1:42:C:H5	7:H:121:ARG:HH12	1.60	0.49
5:C:40:ARG:HD3	5:C:67:ASN:ND2	2.27	0.49
5:E:41:GLY:HA3	5:E:70:LEU:HD11	1.94	0.49
9:L:320:PRO:HA	9:L:323:MET:HG2	1.95	0.49
9:Q:136:LEU:O	9:Q:138:ILE:HG13	2.13	0.49
10:a:617:SER:O	10:a:621:GLU:HG2	2.12	0.49
10:a:625:ARG:O	10:a:629:ASP:HB2	2.12	0.49
2:2:-92:DT:H2'	2:2:-91:DT:C6	2.48	0.48
2:5:-104:DG:H2'	2:5:-103:DT:C6	2.48	0.48
10:d:574:LYS:HB3	10:d:575:PRO:HD3	1.94	0.48
8:I:321:LEU:HD13	8:I:387:LEU:HD11	1.94	0.48
10:d:678:THR:HG23	10:d:710:VAL:HB	1.94	0.48
9:M:8:GLN:HA	9:M:11:LYS:HZ3	1.78	0.48
10:d:468:ASP:HB3	10:d:472:LEU:H	1.78	0.48
6:G:38:VAL:HA	6:G:41:ILE:HG12	1.96	0.48
8:I:342:SER:HA	8:I:383:GLY:HA2	1.95	0.48
9:K:259:LYS:O	9:K:263:SER:HB3	2.14	0.48
9:N:129:LEU:HD12	9:N:164:ILE:HD11	1.94	0.48
9:K:259:LYS:HD3	9:Q:41:PHE:HZ	1.77	0.48
9:M:274:ILE:HG12	9:M:295:PHE:HB2	1.94	0.48
9:O:67:LYS:HA	9:O:70:LEU:HG	1.95	0.48
9:O:212:ARG:O	9:O:216:MET:HG2	2.13	0.48
9:P:94:ASP:HA	9:P:97:LEU:HD12	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:P:205:LYS:HE2	9:P:332:VAL:HG13	1.95	0.48
5:B:220:PRO:HG3	5:B:249:VAL:HB	1.95	0.48
5:D:279:GLU:HB2	5:E:44:SER:HB2	1.95	0.48
10:a:6:LEU:HD21	10:a:53:GLN:HG3	1.96	0.48
10:a:706:THR:O	10:a:709:THR:HG22	2.13	0.48
10:b:760:ILE:O	10:b:763:GLU:N	2.46	0.48
10:b:774:LEU:O	10:b:777:ALA:HB3	2.14	0.48
9:K:97:LEU:HD23	9:K:121:LEU:HB3	1.95	0.48
9:L:212:ARG:HA	9:L:215:LEU:HG	1.96	0.48
9:O:251:LYS:HE3	12:O:401:ATP:N3	2.29	0.48
9:P:151:VAL:HG23	9:Q:148:PHE:CE2	2.48	0.48
9:Q:209:LYS:HZ2	10:X:847:LEU:HD22	1.78	0.48
10:b:336:TYR:HB2	10:b:346:LEU:HD11	1.95	0.48
10:c:626:TRP:NE1	10:c:631:TYR:HB2	2.28	0.48
2:2:-5:DA:H5'	2:2:-5:DA:C8	2.49	0.48
6:G:205:HIS:N	9:O:71:ALA:HB2	2.28	0.48
9:M:161:LEU:HD23	9:M:164:ILE:HD11	1.94	0.48
9:Q:210:TYR:HD1	10:X:850:PHE:CZ	2.24	0.48
10:b:449:THR:HG23	10:b:450:ARG:HG3	1.96	0.48
10:c:492:LEU:HB3	10:c:513:ALA:HB1	1.95	0.48
10:c:626:TRP:CD1	10:c:626:TRP:C	2.91	0.48
2:5:-67:DG:H2"	2:5:-66:DA:H8	1.79	0.48
9:O:194:VAL:HG23	9:O:195:ARG:HG3	1.94	0.48
10:a:706:THR:HB	10:a:709:THR:CG2	2.40	0.48
1:1:51:A:H2'	1:1:52:G:C8	2.49	0.48
4:4:20:DT:H2"	4:4:21:DG:C8	2.49	0.48
5:E:140:TRP:HB2	5:E:256:ILE:HD12	1.95	0.48
6:G:141:TRP:O	6:G:142:GLN:HG3	2.14	0.48
9:K:216:MET:SD	9:K:231:GLU:HB3	2.54	0.48
9:M:11:LYS:HE2	9:M:223:PRO:HB2	1.96	0.48
9:N:96:THR:O	9:N:100:MET:HG2	2.14	0.48
9:Q:142:PHE:CE1	9:Q:145:LEU:HD13	2.49	0.48
5:B:142:TRP:NE1	5:B:259:ALA:HB2	2.28	0.47
5:B:314:LYS:O	5:B:318:THR:HG23	2.14	0.47
9:N:29:PHE:HE1	9:N:61:THR:HG23	1.78	0.47
9:Q:234:ASN:HB3	9:Q:299:ILE:HD11	1.95	0.47
5:C:40:ARG:HD3	5:C:67:ASN:HD22	1.79	0.47
5:C:313:LEU:HD13	5:C:328:ILE:HD13	1.95	0.47
5:F:190:GLU:HB3	5:F:202:TRP:HE1	1.79	0.47
9:L:68:ARG:HG2	9:L:68:ARG:HH11	1.78	0.47
9:P:213:GLN:HG2	10:W:848:GLU:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:a:166:ILE:O	10:a:170:VAL:HG12	2.14	0.47
2:2:-93:DG:H2'	2:2:-92:DT:C6	2.49	0.47
9:P:305:TYR:HE1	9:P:331:ILE:HG13	1.78	0.47
2:2:1:DG:H21	6:G:125:ASN:ND2	2.12	0.47
9:L:55:GLY:HA2	12:L:401:ATP:H5'2	1.97	0.47
10:a:289:TYR:HA	10:a:292:ILE:HG22	1.97	0.47
10:c:483:LEU:HB3	10:c:492:LEU:HB2	1.95	0.47
5:B:172:TRP:CE2	5:B:274:ARG:HD3	2.49	0.47
6:G:83:HIS:HA	6:G:100:ALA:HB2	1.96	0.47
9:L:93:LEU:HD23	9:L:157:ILE:HA	1.96	0.47
9:O:145:LEU:HD11	9:O:157:ILE:HG21	1.96	0.47
10:a:706:THR:H	10:a:709:THR:CG2	2.28	0.47
10:b:693:SER:HB3	10:b:738:PRO:HD2	1.97	0.47
10:c:453:GLU:HG2	10:c:537:GLU:HB3	1.95	0.47
2:2:-85:DG:H2"	2:2:-84:DA:C8	2.50	0.47
5:F:162:TYR:CD1	5:F:183:VAL:HG23	2.50	0.47
8:J:169:CYS:SG	8:J:189:CYS:HB2	2.54	0.47
9:M:143:GLN:HB3	9:M:177:MET:H	1.79	0.47
9:O:21:MET:HE2	9:O:21:MET:HA	1.96	0.47
10:a:148:GLN:HB3	10:a:184:LEU:HD21	1.97	0.47
10:b:547:PHE:HA	10:b:552:LEU:HD23	1.97	0.47
1:1:-2:A:N6	5:F:340:MET:HE1	2.29	0.47
5:B:224:LEU:HD22	5:C:69:ILE:HG23	1.96	0.47
5:D:224:LEU:HD22	5:E:69:ILE:HG23	1.96	0.47
5:F:239:LYS:HB3	5:F:247:TYR:HB3	1.97	0.47
8:J:104:PHE:HZ	8:J:231:THR:HG23	1.78	0.47
9:K:57:GLY:HA3	12:K:401:ATP:H8	1.80	0.47
9:P:153:GLU:O	9:P:157:ILE:HG12	2.14	0.47
9:P:216:MET:HE3	10:W:849:ALA:N	2.28	0.47
10:d:449:THR:HG21	10:d:486:VAL:HG23	1.95	0.47
5:A:18:ALA:HB3	5:A:251:PHE:HB2	1.96	0.47
8:J:78:LEU:O	8:J:82:GLU:HG3	2.15	0.47
9:P:216:MET:CE	10:W:849:ALA:H	2.22	0.47
10:b:642:ILE:HG13	10:d:765:ILE:HD11	1.96	0.47
10:b:756:THR:HA	10:b:759:LYS:HG2	1.96	0.47
3:3:52:DA:H2"	3:3:53:DC:C6	2.50	0.47
4:4:2:DG:H4'	10:b:445:HIS:CE1	2.49	0.47
2:5:-68:DG:H2"	2:5:-67:DG:C8	2.50	0.47
9:L:253:LEU:HD21	9:L:295:PHE:HZ	1.80	0.47
9:L:304:ILE:H	9:L:304:ILE:HG13	1.48	0.47
10:b:588:PHE:HB2	10:b:626:TRP:CE2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:d:669:MET:HE2	10:d:669:MET:HA	1.95	0.47
5:A:223:ILE:HB	5:A:236:GLN:HB2	1.97	0.47
6:G:436:TYR:CZ	6:G:536:HIS:HD2	2.33	0.47
6:G:589:PHE:CG	6:G:672:ILE:HG13	2.50	0.47
10:b:775:ALA:C	10:b:777:ALA:N	2.72	0.47
10:c:564:GLN:HE22	10:c:566:ASN:HB3	1.80	0.47
5:D:49:ALA:HB2	5:D:64:LEU:HD21	1.95	0.46
6:G:327:LEU:HD21	6:G:408:LEU:HD23	1.97	0.46
9:L:45:GLN:NE2	9:L:169:LYS:HA	2.30	0.46
9:M:306:GLU:HB2	9:M:332:VAL:HG11	1.97	0.46
9:P:216:MET:CE	10:W:847:LEU:O	2.54	0.46
2:2:-69:DC:H2"	2:2:-68:DG:H8	1.80	0.46
9:L:45:GLN:HE22	9:L:169:LYS:HA	1.81	0.46
9:L:152:GLN:HE21	9:M:149:LYS:H	1.63	0.46
9:M:83:LEU:HD13	9:M:104:LEU:HD23	1.95	0.46
9:Q:210:TYR:HD1	10:X:850:PHE:HE2	1.14	0.46
1:1:30:G:H3'	5:B:40:ARG:HB2	1.98	0.46
5:A:121:CYS:SG	5:A:313:LEU:HD22	2.56	0.46
5:A:302:ILE:HG23	5:A:309:TYR:CE2	2.50	0.46
8:I:157:ALA:HA	8:I:165:LEU:HG	1.97	0.46
10:a:284:GLN:O	10:a:287:GLN:HG3	2.15	0.46
10:d:689:LEU:HD12	10:d:739:CYS:SG	2.56	0.46
1:1:46:U:C5	7:H:137:LYS:HB3	2.50	0.46
5:F:22:TYR:CZ	5:F:78:PRO:HG2	2.51	0.46
8:J:157:ALA:HB3	8:J:209:LEU:HD22	1.98	0.46
9:P:222:MET:SD	9:P:258:LEU:HD21	2.56	0.46
10:a:88:PRO:HD2	10:a:91:LYS:HE2	1.98	0.46
10:a:305:GLN:HB3	10:a:326:TRP:CE2	2.49	0.46
10:b:369:LYS:O	10:b:373:ARG:HG2	2.15	0.46
5:A:224:LEU:HD21	5:B:69:ILE:HD12	1.97	0.46
10:a:350:ASN:HA	10:a:353:MET:SD	2.55	0.46
10:a:584:MET:HE3	10:a:589:LEU:HD21	1.98	0.46
10:a:706:THR:N	10:a:709:THR:HG22	2.30	0.46
2:2:-27:DC:H2"	2:2:-26:DA:C8	2.51	0.46
7:H:124:LYS:HE3	7:H:124:LYS:HB2	1.70	0.46
9:K:21:MET:HE1	9:K:25:ILE:HG22	1.98	0.46
9:M:313:TYR:CZ	9:M:323:MET:HE3	2.50	0.46
9:P:211:PHE:HE2	9:P:240:PHE:HB2	1.81	0.46
10:c:553:GLU:HG2	10:c:557:GLN:OE1	2.16	0.46
10:d:457:ILE:HB	10:d:483:LEU:HD13	1.96	0.46
10:d:696:LEU:O	10:d:700:ARG:HG3	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:39:U:OP2	7:H:117:ARG:HD3	2.16	0.46
2:5:-96:DA:N3	10:b:354:GLY:HA2	2.31	0.46
7:H:108:ALA:HB1	7:H:114:GLU:HG3	1.98	0.46
8:I:215:LYS:HA	8:I:230:LEU:HD11	1.97	0.46
10:b:54:PRO:HG2	10:b:70:PRO:HG2	1.97	0.46
10:b:459:HIS:HB3	10:b:481:THR:HG22	1.98	0.46
5:D:132:CYS:SG	5:D:184:LEU:HD12	2.55	0.46
5:F:176:TRP:HB2	5:F:181:LEU:HG	1.98	0.46
9:P:151:VAL:HG23	9:Q:148:PHE:HE2	1.79	0.46
10:c:504:VAL:HG23	10:c:671:MET:HA	1.98	0.46
10:c:663:GLU:HA	10:c:666:ARG:HD2	1.98	0.46
5:A:269:GLU:CD	5:A:269:GLU:H	2.24	0.46
9:Q:139:ILE:HG13	9:Q:172:ILE:HD11	1.98	0.46
9:Q:213:GLN:CG	10:X:848:GLU:O	2.61	0.46
9:Q:237:ILE:HG23	9:Q:304:ILE:HD11	1.97	0.46
10:a:532:CYS:HA	10:a:647:TRP:CZ2	2.51	0.46
5:A:261:GLN:O	5:A:277:VAL:HG23	2.16	0.46
5:F:220:PRO:HG3	5:F:249:VAL:HB	1.98	0.46
9:P:41:PHE:HD2	9:Q:9:ILE:HG23	1.81	0.46
10:a:253:LEU:HD23	10:a:253:LEU:H	1.81	0.46
10:a:495:HIS:CE1	10:a:508:LYS:HD3	2.51	0.46
10:b:11:PRO:HA	10:b:568:VAL:HG12	1.97	0.46
10:b:761:ASN:HB2	10:b:769:LYS:NZ	2.31	0.46
1:1:21:A:H5"	5:C:143:ARG:NH2	2.30	0.45
2:2:-19:DT:C4	5:D:69:ILE:HD11	2.52	0.45
4:6:4:DC:H2"	4:6:5:DG:C8	2.51	0.45
8:J:55:PHE:HB2	8:J:73:PHE:CD1	2.51	0.45
10:a:495:HIS:NE2	10:a:508:LYS:HD3	2.31	0.45
10:b:308:LEU:HD12	10:b:326:TRP:HB2	1.98	0.45
1:1:20:C:H2'	1:1:21:A:C4	2.50	0.45
5:C:1:MET:SD	5:C:107:VAL:HG13	2.56	0.45
6:G:31:ASP:HA	6:G:140:LYS:HB3	1.98	0.45
9:L:260:LEU:HG	9:L:272:HIS:HD2	1.81	0.45
10:a:147:ILE:O	10:a:151:LEU:HG	2.17	0.45
10:b:475:ILE:HG23	10:b:498:TYR:OH	2.15	0.45
10:b:670:LEU:HD23	10:b:671:MET:HG2	1.98	0.45
2:2:-96:DA:C8	2:2:-96:DA:H5'	2.51	0.45
4:6:2:DG:H4'	10:a:445:HIS:CE1	2.52	0.45
5:C:142:TRP:CE2	5:C:259:ALA:HB2	2.51	0.45
6:G:215:ILE:HA	6:G:215:ILE:HD12	1.80	0.45
9:P:191:SER:OG	9:Q:248:ARG:HD2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:a:451:ILE:HG23	10:a:650:GLY:HA3	1.98	0.45
10:b:366:PHE:HZ	10:b:396:GLU:HG2	1.81	0.45
10:c:574:LYS:O	10:c:578:GLU:HG2	2.16	0.45
10:d:477:ARG:HD3	10:d:478:PRO:HD2	1.97	0.45
2:5:-95:DT:H2"	2:5:-94:DG:H8	1.79	0.45
5:A:140:TRP:H	5:A:140:TRP:CD1	2.32	0.45
5:A:182:LYS:HB2	5:A:182:LYS:HE2	1.66	0.45
7:H:22:GLY:HA3	7:H:151:ALA:O	2.17	0.45
7:H:114:GLU:CD	7:H:117:ARG:HH22	2.25	0.45
9:M:41:PHE:CE1	9:N:9:ILE:HG12	2.43	0.45
9:Q:216:MET:CE	10:X:847:LEU:O	2.44	0.45
5:A:133:ARG:HG2	5:A:137:ILE:HD11	1.98	0.45
5:A:224:LEU:HB3	5:B:38:LYS:HB2	1.99	0.45
9:L:41:PHE:CZ	9:M:259:LYS:HD3	2.51	0.45
10:b:47:ILE:HA	10:b:76:TYR:HA	1.97	0.45
10:b:185:MET:HE1	10:b:199:LEU:HD21	1.99	0.45
10:b:642:ILE:HD11	10:d:769:LYS:HB2	1.98	0.45
10:d:699:TYR:CE2	10:d:728:LEU:HD22	2.51	0.45
2:5:-95:DT:H2"	2:5:-94:DG:C8	2.51	0.45
5:B:12:SER:OG	5:B:336:ILE:HG23	2.17	0.45
5:C:1:MET:HG2	5:C:110:LEU:HD23	1.99	0.45
6:G:129:VAL:HG22	6:G:133:LYS:HE3	1.98	0.45
6:G:279:LYS:HE2	6:G:279:LYS:HB3	1.82	0.45
7:H:146:ILE:HD12	7:H:146:ILE:H	1.81	0.45
8:I:329:PRO:HA	8:I:388:ARG:HH12	1.82	0.45
9:P:89:ARG:HD2	9:P:148:PHE:HE1	1.80	0.45
10:a:18:PHE:HB3	10:a:27:VAL:HB	1.98	0.45
3:3:62:DA:H4'	3:3:63:DA:OP1	2.15	0.45
2:5:-102:DC:H2"	2:5:-101:DA:C8	2.52	0.45
5:C:84:ILE:HG21	5:C:218:ILE:HD11	1.98	0.45
9:O:87:ILE:HD13	9:O:145:LEU:HD13	1.99	0.45
9:O:104:LEU:HD23	9:O:128:SER:HB3	1.99	0.45
10:a:706:THR:N	10:a:709:THR:CG2	2.80	0.45
2:5:-90:DG:H2"	2:5:-89:DC:H5"	1.98	0.45
5:C:76:TYR:CE2	5:C:217:GLU:HB2	2.51	0.45
8:I:262:TRP:HH2	8:I:313:ILE:HG23	1.82	0.45
9:L:39:ARG:HD2	9:L:135:GLU:HB3	1.99	0.45
9:L:160:GLY:O	9:L:164:ILE:HG12	2.17	0.45
9:Q:143:GLN:HB2	9:Q:179:TRP:NE1	2.32	0.45
10:a:482:LEU:HD21	10:a:580:PHE:CE2	2.52	0.45
10:a:517:LYS:HD2	10:a:530:TRP:CE3	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:5:-85:DG:H2"	2:5:-84:DA:C8	2.52	0.45
5:D:179:ASP:O	5:D:183:VAL:HG12	2.17	0.45
8:I:10:ARG:HA	8:I:10:ARG:HD3	1.65	0.45
9:L:88:SER:HB2	9:L:91:LYS:HE3	1.99	0.45
9:N:219:ALA:HB2	9:N:230:LEU:HD23	1.99	0.45
9:P:302:ILE:H	9:P:302:ILE:HG13	1.63	0.45
9:Q:23:PRO:HD2	9:Q:210:TYR:CE1	2.51	0.45
9:Q:298:ASP:O	9:Q:302:ILE:HG13	2.16	0.45
10:T:847:LEU:O	10:T:848:GLU:C	2.59	0.45
10:a:62:MET:HE2	10:a:62:MET:HA	1.99	0.45
10:a:151:LEU:O	10:a:155:ILE:HG12	2.16	0.45
10:b:367:PHE:CZ	10:b:416:ARG:HB3	2.52	0.45
10:c:542:ASP:HB3	10:c:569:ARG:HE	1.81	0.45
5:A:132:CYS:SG	5:A:187:LEU:HB3	2.58	0.44
5:C:115:ALA:HA	5:C:332:PHE:HZ	1.82	0.44
6:G:47:THR:HG22	6:G:134:LEU:HB2	1.99	0.44
9:N:271:LYS:H	9:N:271:LYS:HD2	1.82	0.44
10:a:449:THR:HG23	10:a:450:ARG:HG3	1.99	0.44
10:a:465:ILE:HD12	10:a:608:PRO:HB2	1.99	0.44
10:b:291:LEU:O	10:b:295:ILE:HG12	2.17	0.44
10:b:760:ILE:C	10:b:762:ARG:N	2.75	0.44
10:d:459:HIS:HB2	10:d:481:THR:HG22	1.99	0.44
10:d:545:ALA:HB3	10:d:548:TRP:HB2	1.99	0.44
9:P:209:LYS:HG2	10:W:847:LEU:CD2	2.40	0.44
9:P:305:TYR:CE1	9:P:331:ILE:HG13	2.53	0.44
10:c:679:LEU:HD21	10:c:700:ARG:HG2	1.99	0.44
3:3:36:DC:H2'	3:3:37:DT:H71	1.99	0.44
3:3:38:DA:H2"	3:3:39:DG:H8	1.82	0.44
4:4:1:DT:H4'	4:4:2:DG:OP1	2.18	0.44
2:5:-98:DC:H4'	2:5:-97:DT:OP1	2.17	0.44
5:E:142:TRP:NE1	5:E:259:ALA:HB2	2.32	0.44
9:K:22:HIS:NE2	9:K:25:ILE:HG12	2.32	0.44
9:K:269:GLU:HB3	9:K:271:LYS:HE3	1.98	0.44
9:L:162:LYS:HG3	9:L:189:TRP:CZ2	2.53	0.44
9:L:251:LYS:HE2	9:L:251:LYS:HB3	1.80	0.44
9:M:48:MET:HB3	9:M:173:VAL:HG22	1.99	0.44
9:P:216:MET:HE3	10:W:849:ALA:H	1.81	0.44
10:a:16:PHE:HB2	10:a:29:CYS:HB2	1.98	0.44
2:2:-69:DC:H2"	2:2:-68:DG:C8	2.53	0.44
2:2:1:DG:H21	6:G:125:ASN:HD21	1.66	0.44
4:6:20:DT:H2"	4:6:21:DG:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:314:LYS:O	5:B:317:ILE:HG22	2.17	0.44
6:G:695:VAL:HG11	9:O:77:ARG:NE	2.28	0.44
8:I:283:ASP:OD1	8:I:287:LYS:HB2	2.17	0.44
8:J:343:VAL:HG22	8:J:380:PRO:HA	1.99	0.44
9:L:93:LEU:HA	9:L:157:ILE:HD13	1.98	0.44
9:L:222:MET:HE2	9:L:258:LEU:HD13	1.99	0.44
9:M:138:ILE:HG12	9:M:173:VAL:HB	1.99	0.44
9:N:126:VAL:O	9:N:130:ILE:HG12	2.17	0.44
9:N:216:MET:HE1	10:U:847:LEU:O	2.17	0.44
9:O:66:LYS:HA	9:O:69:VAL:HG22	1.98	0.44
10:a:800:LYS:HD3	10:a:800:LYS:HA	1.73	0.44
10:b:17:LYS:HG3	10:b:565:TYR:HE2	1.82	0.44
10:b:294:THR:O	10:b:298:LYS:HG2	2.17	0.44
10:b:470:GLU:HB3	10:b:822:LYS:HE3	1.99	0.44
10:b:808:ALA:O	10:b:809:GLN:C	2.61	0.44
10:c:457:ILE:HD13	10:c:457:ILE:HA	1.86	0.44
10:c:496:LEU:HD23	10:c:496:LEU:H	1.82	0.44
1:1:14:U:H2'	1:1:15:A:N9	2.32	0.44
6:G:3:LEU:HB2	6:G:32:ILE:HG22	1.99	0.44
9:L:37:LEU:HD12	9:L:40:LYS:HE2	2.00	0.44
9:M:77:ARG:HA	9:M:77:ARG:CZ	2.47	0.44
9:P:143:GLN:HG2	9:P:144:GLU:N	2.32	0.44
9:P:201:TYR:CD2	9:P:307:VAL:HG21	2.52	0.44
10:b:451:ILE:HG23	10:b:650:GLY:HA3	2.00	0.44
10:c:535:LYS:HB2	10:c:535:LYS:HE3	1.66	0.44
5:D:84:ILE:HG13	5:D:212:ALA:HB2	2.00	0.44
5:E:172:TRP:CE2	5:E:274:ARG:HD3	2.53	0.44
8:I:401:LYS:HD2	8:I:401:LYS:HA	1.69	0.44
8:J:401:LYS:HB2	8:J:401:LYS:HE3	1.75	0.44
9:M:53:ASP:HB3	9:M:201:TYR:CZ	2.52	0.44
9:N:146:ILE:HG13	9:N:180:ALA:HA	2.00	0.44
9:O:298:ASP:O	9:O:302:ILE:HG13	2.18	0.44
10:b:761:ASN:HB2	10:b:769:LYS:HZ3	1.83	0.44
10:c:451:ILE:HG22	10:c:654:TYR:CE1	2.53	0.44
10:c:539:LEU:HD23	10:c:539:LEU:HA	1.82	0.44
10:c:690:MET:HE2	10:c:690:MET:HA	1.98	0.44
1:1:7:G:N3	5:F:40:ARG:HD3	2.32	0.44
8:I:82:GLU:HG2	8:I:92:LEU:HB2	2.00	0.44
8:I:358:TYR:HE1	8:I:373:LYS:HZ1	1.65	0.44
8:J:270:LEU:HB3	8:J:320:TYR:CE2	2.53	0.44
9:P:152:GLN:HA	9:Q:148:PHE:HD2	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:a:157:LYS:HA	10:a:157:LYS:HD3	1.69	0.44
10:d:577:ILE:HD12	10:d:577:ILE:HA	1.84	0.44
2:5:-75:DG:H2'	2:5:-74:DT:H6	1.82	0.44
5:C:252:ASN:O	5:C:256:ILE:HG22	2.17	0.44
5:E:84:ILE:HD13	5:E:212:ALA:HB2	1.99	0.44
7:H:99:VAL:HG12	7:H:169:ASP:HB3	1.98	0.44
8:J:305:GLN:HB2	8:J:307:GLN:HE22	1.83	0.44
9:O:293:ASN:HB3	9:O:296:LYS:HB3	2.00	0.44
9:P:277:TYR:HD1	9:P:277:TYR:O	2.01	0.44
9:Q:39:ARG:HD2	9:Q:135:GLU:HA	1.99	0.44
10:b:532:CYS:HA	10:b:647:TRP:CZ2	2.52	0.44
10:b:760:ILE:O	10:b:762:ARG:N	2.51	0.44
6:G:153:ALA:HA	6:G:181:LYS:HD3	2.00	0.44
6:G:603:MET:HE1	6:G:679:ALA:HB2	2.00	0.44
7:H:175:GLU:HG3	7:H:177:TYR:CE1	2.53	0.44
9:M:7:ILE:HG13	9:M:11:LYS:NZ	2.33	0.44
9:P:143:GLN:HB2	9:P:179:TRP:NE1	2.33	0.44
10:b:393:ILE:HG21	10:b:407:ILE:HG12	2.00	0.44
10:b:517:LYS:HD2	10:b:530:TRP:CE3	2.53	0.44
10:b:549:SER:O	10:b:553:GLU:HG2	2.18	0.44
10:d:572:TRP:CD1	10:d:572:TRP:H	2.36	0.44
10:d:728:LEU:HD12	10:d:731:LEU:HD12	2.00	0.44
6:G:213:PRO:HB3	6:G:632:TYR:CE2	2.51	0.43
8:I:179:ILE:HD13	8:I:179:ILE:HA	1.84	0.43
9:M:162:LYS:HG3	9:M:189:TRP:CZ2	2.53	0.43
9:P:22:HIS:HB3	10:W:850:PHE:CD2	2.53	0.43
10:a:135:LEU:HD12	10:a:135:LEU:HA	1.79	0.43
10:b:753:GLU:O	10:b:756:THR:OG1	2.35	0.43
10:c:696:LEU:O	10:c:700:ARG:HG3	2.18	0.43
2:2:-42:DT:H2"	2:2:-41:DG:H8	1.83	0.43
2:2:-5:DA:C6	5:F:70:LEU:HD22	2.53	0.43
2:2:3:DT:H1'	2:2:4:DG:N7	2.32	0.43
2:5:-92:DT:H2'	2:5:-91:DT:C6	2.52	0.43
6:G:111:LEU:HB2	6:G:609:ILE:HD12	1.99	0.43
8:J:124:HIS:CE1	8:J:131:ASP:HB3	2.53	0.43
9:L:143:GLN:HA	9:L:180:ALA:HB2	2.00	0.43
9:N:147:GLU:HA	9:N:313:TYR:CE2	2.53	0.43
9:Q:22:HIS:CD2	9:Q:22:HIS:H	2.35	0.43
10:a:1:MET:HE2	10:a:1:MET:HB3	1.84	0.43
10:b:758:LYS:C	10:b:760:ILE:N	2.76	0.43
10:b:760:ILE:HG13	10:b:761:ASN:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:d:636:ASN:HB3	10:d:640:THR:HB	2.00	0.43
2:2:-98:DC:H4'	2:2:-97:DT:OP1	2.17	0.43
5:B:132:CYS:SG	5:B:187:LEU:HB3	2.58	0.43
5:C:3:LEU:HB2	5:C:343:LYS:HE3	2.00	0.43
5:E:252:ASN:HD21	5:F:37:ASN:HD21	1.65	0.43
8:I:75:MET:HE2	8:J:396:SER:HA	2.00	0.43
8:I:158:CYS:HB3	8:I:163:CYS:SG	2.58	0.43
9:L:270:ASN:O	9:L:274:ILE:HG13	2.19	0.43
9:L:293:ASN:O	9:L:297:GLN:HG3	2.18	0.43
9:N:195:ARG:HH12	9:O:279:LYS:HD3	1.84	0.43
9:O:15:PHE:HB2	9:O:223:PRO:HD3	1.99	0.43
10:a:555:ALA:HB1	10:a:671:MET:SD	2.58	0.43
10:a:698:ASP:HA	10:a:701:LYS:HG2	2.00	0.43
1:1:23:G:C6	5:C:70:LEU:HD13	2.53	0.43
3:7:75:DC:OP1	10:b:568:VAL:HG21	2.18	0.43
5:B:317:ILE:HD12	5:B:317:ILE:HA	1.87	0.43
5:F:286:ILE:HG13	5:F:290:ARG:NH2	2.30	0.43
6:G:473:ARG:HE	6:G:473:ARG:HB3	1.61	0.43
8:I:82:GLU:OE2	8:I:93:GLN:HG3	2.18	0.43
9:L:60:HIS:CG	12:L:401:ATP:H2'	2.53	0.43
9:L:79:THR:HG23	9:L:133:GLN:HB2	2.01	0.43
9:N:274:ILE:HG12	9:N:295:PHE:HB2	2.01	0.43
9:O:145:LEU:O	9:O:154:ARG:HG2	2.18	0.43
10:a:307:ASN:O	10:a:311:ILE:HG12	2.17	0.43
10:a:543:ASN:HB3	10:a:548:TRP:HE1	1.82	0.43
10:b:148:GLN:HB3	10:b:184:LEU:HD21	2.01	0.43
10:b:350:ASN:HA	10:b:353:MET:CE	2.49	0.43
1:1:-6:U:H3'	1:1:-4:A:H5'	2.01	0.43
3:3:46:DA:OP2	8:J:56:PRO:HG3	2.19	0.43
5:B:290:ARG:HA	5:B:290:ARG:HD3	1.78	0.43
9:L:146:ILE:HA	9:L:154:ARG:HH11	1.83	0.43
9:Q:11:LYS:HB3	9:Q:223:PRO:HG3	1.99	0.43
10:a:745:TYR:CZ	10:a:774:LEU:HB3	2.54	0.43
10:b:23:VAL:HG23	10:b:25:SER:H	1.84	0.43
10:b:469:ASP:OD1	10:b:820:THR:HB	2.18	0.43
10:b:684:PHE:CE2	10:b:726:VAL:HG11	2.53	0.43
10:c:482:LEU:HD13	10:c:494:PHE:HB3	2.01	0.43
10:c:727:TYR:HB2	10:c:734:TYR:CE1	2.53	0.43
2:5:-73:DG:H2'	2:5:-72:DG:H8	1.80	0.43
5:B:154:ILE:HG12	5:B:206:ILE:HG23	2.01	0.43
5:E:227:LYS:HE3	5:E:227:LYS:HB3	1.91	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:85:LYS:HB2	7:H:85:LYS:HE2	1.76	0.43
8:J:104:PHE:CZ	8:J:231:THR:HG23	2.53	0.43
9:K:80:MET:HE2	9:K:80:MET:HB2	1.78	0.43
9:N:104:LEU:HD21	9:N:134:VAL:HG21	2.00	0.43
10:b:269:LEU:HB3	10:d:733:SER:OG	2.19	0.43
10:b:678:THR:HG22	10:b:710:VAL:HG22	1.99	0.43
10:c:455:VAL:HG22	10:c:485:ASP:HB3	2.00	0.43
1:1:4:G:O4'	5:E:339:GLY:HA2	2.19	0.43
2:2:-56:DG:H1'	2:2:-55:DT:H5'	2.00	0.43
2:2:-24:DT:C2	5:C:69:ILE:HB	2.54	0.43
2:2:-2:DG:H2"	2:2:-1:DT:O4'	2.18	0.43
3:3:-3:DA:H2"	3:3:-2:DG:C8	2.53	0.43
3:3:62:DA:H2"	3:3:63:DA:H8	1.84	0.43
2:5:-83:DC:H2'	2:5:-82:DA:H1'	2.01	0.43
5:B:275:LEU:HD11	5:B:283:ASP:HB2	2.01	0.43
5:D:142:TRP:NE1	5:D:259:ALA:HB2	2.34	0.43
5:E:1:MET:H2	5:E:304:LYS:HA	1.84	0.43
6:G:296:GLU:HG2	6:G:326:GLU:OE2	2.19	0.43
6:G:554:LEU:HD22	6:G:581:LEU:HD11	2.00	0.43
8:J:56:PRO:HG2	8:J:61:ARG:HB2	1.99	0.43
9:L:45:GLN:OE1	9:L:45:GLN:N	2.50	0.43
9:L:137:LEU:HD11	9:L:172:ILE:HG12	2.01	0.43
9:N:327:ARG:HE	9:N:327:ARG:HB2	1.51	0.43
10:b:677:ARG:HE	10:b:686:TYR:HA	1.82	0.43
10:d:507:ALA:O	10:d:511:THR:HG23	2.19	0.43
2:5:-71:DA:H5'	2:5:-71:DA:C8	2.54	0.43
5:B:118:PHE:CZ	5:B:123:GLY:HA3	2.54	0.43
9:K:235:THR:HG22	9:K:239:LEU:HD11	2.00	0.43
9:M:165:SER:HB2	9:M:172:ILE:HD11	2.01	0.43
9:O:247:ASN:HB3	12:O:401:ATP:O4'	2.19	0.43
10:a:716:VAL:HG12	10:a:724:ILE:HB	2.01	0.43
10:b:721:ILE:HD11	10:b:751:ILE:HB	1.99	0.43
1:1:-4:A:H2'	1:1:-3:A:C4	2.54	0.43
1:1:37:C:O2	1:1:37:C:H2'	2.18	0.43
2:2:-64:DC:H2'	2:2:-63:DT:H71	2.01	0.43
5:B:84:ILE:HG12	5:B:212:ALA:HB2	2.01	0.43
5:B:114:LEU:HD22	5:B:306:THR:HG23	2.01	0.43
5:D:218:ILE:HD13	5:D:218:ILE:HA	1.87	0.43
9:N:306:GLU:HB3	9:N:332:VAL:HG21	2.01	0.43
9:Q:39:ARG:HG3	9:Q:169:LYS:O	2.19	0.43
10:b:161:ILE:HG21	10:b:166:ILE:HD11	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:b:450:ARG:HG2	10:b:654:TYR:CD2	2.53	0.43
10:b:466:LEU:O	10:b:475:ILE:HG22	2.19	0.43
3:3:65:DG:C8	3:3:66:DT:H72	2.54	0.43
6:G:464:VAL:HG22	6:G:562:PHE:CE1	2.53	0.43
9:M:167:GLU:HA	9:M:167:GLU:OE2	2.19	0.43
9:N:120:ASP:C	9:N:120:ASP:OD1	2.61	0.43
10:a:684:PHE:HB2	10:a:691:TYR:HB2	1.99	0.43
10:c:467:LEU:HD12	10:c:467:LEU:HA	1.91	0.43
10:c:657:LEU:HD12	10:c:657:LEU:H	1.84	0.43
10:d:641:ARG:HE	10:d:641:ARG:HB3	1.70	0.43
5:B:264:ASP:HB2	5:B:277:VAL:HG12	2.01	0.42
6:G:341:TRP:CZ2	6:G:367:LEU:HD11	2.54	0.42
8:I:172:CYS:C	8:I:174:ALA:N	2.77	0.42
8:I:266:PHE:O	8:I:269:GLU:HG2	2.19	0.42
8:I:404:MET:HE1	8:J:100:SER:HA	2.01	0.42
9:L:41:PHE:HZ	9:M:259:LYS:HD3	1.84	0.42
9:L:204:LEU:HD23	9:L:204:LEU:HA	1.91	0.42
9:L:282:PHE:HB3	9:L:283:PHE:H	1.60	0.42
9:M:139:ILE:HG22	9:M:142:PHE:HB2	2.01	0.42
10:a:666:ARG:O	10:a:670:LEU:HG	2.18	0.42
10:b:623:PHE:O	10:b:627:ILE:HG13	2.18	0.42
10:b:749:LEU:HD23	10:b:749:LEU:HA	1.83	0.42
2:2:-17:DC:H2"	2:2:-16:DC:O4'	2.19	0.42
5:A:94:ALA:HB1	5:A:97:LEU:HD23	2.02	0.42
5:C:90:LEU:HD22	5:C:135:ILE:HD11	2.01	0.42
7:H:19:LEU:O	7:H:23:ARG:HG2	2.19	0.42
9:M:50:LEU:O	9:M:175:VAL:HA	2.19	0.42
9:M:270:ASN:O	9:M:274:ILE:HG13	2.19	0.42
10:a:475:ILE:HD11	10:a:808:ALA:HB2	2.00	0.42
10:c:577:ILE:HD13	10:c:577:ILE:HA	1.84	0.42
5:A:132:CYS:SG	5:A:184:LEU:HD12	2.59	0.42
5:A:171:ALA:HB2	8:I:41:ARG:HH21	1.84	0.42
5:B:32:LEU:HD12	5:B:32:LEU:HA	1.92	0.42
5:D:140:TRP:H	5:D:140:TRP:CD1	2.37	0.42
6:G:152:LEU:HD12	6:G:152:LEU:HA	1.83	0.42
8:I:124:HIS:HE1	8:I:127:GLU:HG2	1.84	0.42
8:I:140:LEU:HD13	8:I:140:LEU:HA	1.90	0.42
9:K:143:GLN:HB2	9:K:179:TRP:NE1	2.34	0.42
9:K:147:GLU:HG3	9:K:313:TYR:CE2	2.54	0.42
10:a:163:LEU:HA	10:a:166:ILE:HD12	2.02	0.42
10:c:452:LEU:HD13	10:c:647:TRP:CE3	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:2:DC:H4'	2:2:3:DT:OP1	2.18	0.42
2:5:-89:DC:H2"	2:5:-88:DA:H8	1.83	0.42
5:A:304:LYS:HD2	5:B:54:PHE:CE2	2.54	0.42
5:C:164:ILE:HD13	5:C:164:ILE:HA	1.90	0.42
5:D:163:LEU:HD12	5:D:163:LEU:HA	1.88	0.42
5:F:131:TYR:CE1	5:F:263:ILE:HD13	2.55	0.42
6:G:147:TRP:NE1	6:G:149:ALA:HB3	2.34	0.42
9:K:66:LYS:O	9:K:70:LEU:HG	2.19	0.42
9:L:216:MET:HB3	10:S:849:ALA:HB2	2.01	0.42
10:a:353:MET:H	10:a:353:MET:HG2	1.53	0.42
10:b:608:PRO:O	10:b:612:ALA:HB2	2.19	0.42
10:d:468:ASP:HB3	10:d:472:LEU:N	2.34	0.42
10:d:502:SER:HB2	10:d:547:PHE:HB3	2.01	0.42
2:2:-86:DC:H2"	2:2:-85:DG:H8	1.82	0.42
4:4:15:DT:H2"	4:4:16:DA:C8	2.54	0.42
5:B:133:ARG:HG2	5:B:172:TRP:CE3	2.55	0.42
5:F:267:TRP:CE3	5:F:268:ASP:HB2	2.54	0.42
6:G:89:TYR:CE1	6:G:453:PRO:HB3	2.53	0.42
6:G:369:LEU:HD12	6:G:377:LEU:HD11	2.01	0.42
9:L:183:ILE:C	9:L:185:GLU:H	2.27	0.42
9:M:54:THR:HA	9:M:177:MET:HE1	2.00	0.42
9:N:194:VAL:HG21	9:O:252:HIS:CD2	2.53	0.42
9:P:216:MET:HE3	10:W:849:ALA:HB2	2.02	0.42
9:Q:94:ASP:O	9:Q:98:VAL:HG23	2.20	0.42
10:a:6:LEU:HD21	10:a:53:GLN:HE21	1.85	0.42
10:c:728:LEU:HD12	10:c:731:LEU:HD12	2.01	0.42
2:2:-59:DG:H3'	9:M:149:LYS:NZ	2.35	0.42
5:B:142:TRP:CE2	5:B:259:ALA:HB2	2.55	0.42
5:E:276:ARG:HH12	5:E:337:LYS:HE3	1.84	0.42
9:M:7:ILE:HG13	9:M:11:LYS:HZ2	1.85	0.42
9:Q:134:VAL:HG12	9:Q:170:VAL:HG21	2.01	0.42
10:a:281:PHE:HZ	10:a:350:ASN:ND2	2.17	0.42
10:b:679:LEU:HD21	10:b:700:ARG:HG2	2.02	0.42
1:1:7:G:H5"	5:F:40:ARG:HG3	2.02	0.42
5:A:20:PHE:O	5:A:32:LEU:HB2	2.20	0.42
5:A:307:GLU:HG2	5:A:308:TRP:N	2.34	0.42
5:F:91:ARG:HE	5:F:91:ARG:HB3	1.64	0.42
9:K:21:MET:HE3	9:K:21:MET:HA	2.02	0.42
9:N:45:GLN:HE21	9:N:169:LYS:HG2	1.85	0.42
9:N:156:GLN:HG3	9:O:89:ARG:HG3	2.01	0.42
10:a:162:LYS:O	10:a:166:ILE:HG13	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:a:259:THR:HG23	10:c:738:PRO:HG3	2.01	0.42
10:b:760:ILE:HG13	10:b:761:ASN:N	2.34	0.42
1:1:4:G:C2	5:E:340:MET:HG3	2.55	0.42
2:2:-29:DA:H2'	2:2:-28:DC:C6	2.55	0.42
4:6:-1:DT:H2"	4:6:0:DT:OP2	2.20	0.42
3:7:73:DC:H2"	3:7:74:DA:C8	2.55	0.42
5:A:87:ARG:HB2	5:A:207:THR:HG23	2.02	0.42
5:A:150:THR:HG22	5:A:210:ILE:HG23	2.02	0.42
5:C:280:PHE:CG	5:D:64:LEU:HD13	2.55	0.42
5:D:335:LEU:HD23	5:D:335:LEU:HA	1.89	0.42
8:I:154:TRP:CZ2	8:I:237:LEU:HD22	2.55	0.42
8:I:318:LEU:HD11	8:I:394:LYS:HE2	2.00	0.42
9:M:164:ILE:O	9:M:168:ALA:HB3	2.20	0.42
9:O:188:GLN:HE21	9:O:188:GLN:H	1.66	0.42
9:P:297:GLN:HB3	9:P:301:ASP:HB3	2.00	0.42
10:a:360:ILE:HG23	10:a:406:PRO:HG2	2.02	0.42
10:b:26:VAL:N	10:b:557:GLN:HG3	2.35	0.42
10:b:270:ILE:HB	10:d:734:TYR:HB2	2.02	0.42
10:c:499:LYS:HB3	10:c:752:TYR:CD1	2.54	0.42
10:c:645:LYS:HB3	10:c:645:LYS:HE2	1.74	0.42
10:d:492:LEU:HD22	10:d:492:LEU:H	1.85	0.42
10:d:584:MET:CE	10:d:587:TYR:HB2	2.49	0.42
2:2:-95:DT:H2"	2:2:-94:DG:H8	1.85	0.42
2:2:-83:DC:H2'	2:2:-82:DA:O4'	2.20	0.42
5:B:140:TRP:H	5:B:140:TRP:CD1	2.35	0.42
6:G:129:VAL:O	6:G:133:LYS:HG3	2.20	0.42
7:H:145:ASP:HB2	7:H:166:GLN:NE2	2.35	0.42
9:K:211:PHE:O	9:K:215:LEU:HG	2.19	0.42
9:O:149:LYS:HG3	9:O:153:GLU:HB3	2.01	0.42
9:P:39:ARG:HD2	9:P:135:GLU:HA	2.01	0.42
9:Q:209:LYS:NZ	10:X:847:LEU:HD23	2.28	0.42
10:a:570:LYS:HA	10:a:572:TRP:CZ3	2.55	0.42
10:b:34:GLU:HG2	10:b:86:TYR:CD2	2.54	0.42
3:3:48:DG:H2"	3:3:49:DA:H8	1.84	0.42
5:B:31:PRO:HB3	5:B:248:ALA:HB2	2.02	0.42
5:E:7:LEU:HD22	5:E:341:PHE:HB2	2.02	0.42
5:F:6:ILE:HG22	5:F:103:SER:HB3	2.02	0.42
8:J:349:LEU:HD23	8:J:349:LEU:HA	1.86	0.42
9:K:228:PRO:HB2	9:K:230:LEU:HD13	2.02	0.42
9:P:320:PRO:HA	9:P:323:MET:HG3	2.02	0.42
9:Q:22:HIS:HB2	9:Q:210:TYR:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:c:616:PHE:O	10:c:620:VAL:HG13	2.20	0.42
10:d:641:ARG:HB2	10:d:646:ARG:HH21	1.85	0.42
5:B:142:TRP:CD1	5:B:255:LYS:HZ2	2.38	0.41
5:E:19:VAL:HA	5:E:250:SER:HB3	2.02	0.41
8:I:209:LEU:HD12	8:I:252:LEU:HD23	2.02	0.41
8:J:62:LEU:O	8:J:62:LEU:HD12	2.20	0.41
9:L:68:ARG:HG2	9:L:68:ARG:NH1	2.35	0.41
9:M:104:LEU:HD11	9:M:129:LEU:HD23	2.01	0.41
9:N:143:GLN:HB2	9:N:179:TRP:NE1	2.35	0.41
9:O:112:ILE:HD13	9:O:112:ILE:HA	1.94	0.41
9:P:142:PHE:CZ	9:P:145:LEU:HD23	2.55	0.41
10:a:341:GLY:HA3	10:c:666:ARG:NH2	2.36	0.41
10:a:407:ILE:HD13	10:a:407:ILE:HA	1.81	0.41
10:b:257:THR:HG23	10:b:262:VAL:HG12	2.00	0.41
10:b:749:LEU:HD21	10:b:778:ARG:HE	1.85	0.41
10:d:537:GLU:HG2	10:d:538:ASN:OD1	2.20	0.41
3:3:-1:DC:H2”	3:3:0:DC:C6	2.55	0.41
5:B:302:ILE:HG23	5:B:309:TYR:CE2	2.55	0.41
5:F:221:SER:OG	5:F:255:LYS:HD3	2.20	0.41
9:K:292:LYS:HE3	9:K:292:LYS:HB3	1.86	0.41
9:M:45:GLN:H	9:M:45:GLN:HG2	1.67	0.41
9:Q:237:ILE:HG22	9:Q:302:ILE:HG21	2.02	0.41
10:b:282:LYS:O	10:b:286:LEU:HG	2.19	0.41
10:d:455:VAL:HG21	10:d:536:PHE:CD2	2.55	0.41
5:E:85:PHE:HA	5:E:208:ALA:O	2.20	0.41
6:G:484:ARG:HE	9:O:107:PHE:HE2	1.69	0.41
9:L:38:ASN:O	9:L:42:GLN:HB2	2.20	0.41
9:P:7:ILE:H	9:P:7:ILE:HG12	1.72	0.41
10:b:517:LYS:HD2	10:b:530:TRP:CD2	2.55	0.41
10:d:699:TYR:CD1	10:d:728:LEU:HD13	2.55	0.41
5:A:302:ILE:HG22	5:A:331:LEU:HD12	2.02	0.41
5:C:154:ILE:HB	5:C:162:TYR:HB2	2.02	0.41
6:G:88:LYS:HD2	6:G:123:SER:HB2	2.01	0.41
9:M:104:LEU:HD23	9:M:104:LEU:HA	1.87	0.41
9:M:188:GLN:H	9:M:188:GLN:HG2	1.68	0.41
9:M:227:PRO:HA	9:M:228:PRO:HD3	1.95	0.41
9:M:266:GLU:HG2	9:M:267:TYR:N	2.35	0.41
10:a:382:ILE:HG22	10:a:410:TYR:HE1	1.84	0.41
10:b:375:LEU:HD21	10:b:425:VAL:HG22	2.01	0.41
10:b:510:ILE:O	10:b:514:ILE:HG12	2.20	0.41
10:b:765:ILE:HG22	10:b:766:ARG:H	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:-29:DA:C8	2:2:-29:DA:H5'	2.54	0.41
3:3:73:DC:H2"	3:3:74:DA:C8	2.55	0.41
5:C:154:ILE:HD12	5:C:206:ILE:HG12	2.02	0.41
6:G:110:VAL:HG11	6:G:691:LEU:HD13	2.02	0.41
9:K:117:TYR:HD1	9:K:117:TYR:HA	1.69	0.41
9:O:184:ALA:O	9:O:190:ALA:HB2	2.20	0.41
9:Q:56:VAL:HG22	9:Q:201:TYR:CE1	2.56	0.41
10:c:504:VAL:HG21	10:c:718:PRO:HG3	2.02	0.41
10:c:642:ILE:HB	10:c:645:LYS:HD2	2.02	0.41
2:2:-32:DG:H2"	2:2:-31:DT:O4'	2.20	0.41
5:A:170:LEU:HD12	5:A:176:TRP:CE2	2.55	0.41
5:B:175:LYS:HE2	5:B:175:LYS:HB3	1.90	0.41
5:E:140:TRP:H	5:E:140:TRP:CD1	2.38	0.41
6:G:286:VAL:HG21	6:G:341:TRP:CZ3	2.56	0.41
9:N:96:THR:HG21	9:N:157:ILE:HD12	2.02	0.41
10:b:756:THR:O	10:b:757:ILE:C	2.62	0.41
10:c:765:ILE:HD13	10:c:765:ILE:HA	1.95	0.41
5:D:227:LYS:HD2	5:D:227:LYS:HA	1.77	0.41
8:I:20:TYR:O	8:I:24:VAL:HG23	2.21	0.41
8:I:311:HIS:HD2	8:I:313:ILE:HG13	1.84	0.41
8:J:21:LEU:HD21	8:J:33:TYR:CD1	2.56	0.41
9:L:24:GLN:O	9:L:28:ILE:HG12	2.21	0.41
9:L:163:PHE:CE1	9:L:167:GLU:HG3	2.54	0.41
10:a:798:LYS:HA	10:a:798:LYS:HD3	1.82	0.41
10:b:480:LEU:HD13	10:b:496:LEU:HD12	2.02	0.41
10:c:516:PRO:HA	10:c:533:PHE:HB3	2.02	0.41
10:c:684:PHE:CZ	10:c:726:VAL:HG21	2.55	0.41
2:2:-1:DT:H5'	2:2:0:DG:OP1	2.20	0.41
5:C:280:PHE:CD2	5:D:64:LEU:HD13	2.56	0.41
5:D:74:GLU:HB3	5:D:76:TYR:CE2	2.56	0.41
5:E:142:TRP:CE2	5:E:259:ALA:HB2	2.56	0.41
9:K:222:MET:SD	9:K:228:PRO:HG2	2.61	0.41
9:L:95:ALA:O	9:L:98:VAL:HG12	2.21	0.41
10:b:570:LYS:HA	10:b:572:TRP:CZ3	2.56	0.41
10:b:754:HIS:O	10:b:756:THR:N	2.53	0.41
10:b:811:ALA:O	10:b:812:ASP:C	2.64	0.41
10:c:659:MET:HG3	10:c:663:GLU:OE1	2.21	0.41
10:d:758:LYS:HB2	10:d:758:LYS:HE3	1.74	0.41
1:1:36:A:H62	7:H:18:ALA:HB3	1.85	0.41
2:2:-95:DT:H2"	2:2:-94:DG:C8	2.56	0.41
2:2:-72:DG:H2"	2:2:-71:DA:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:5:-82:DA:N3	10:a:571:PRO:HB2	2.36	0.41
2:5:-76:DC:H2'	2:5:-75:DG:H8	1.86	0.41
4:6:5:DG:OP2	10:a:636:ASN:HB2	2.21	0.41
5:A:222:GLN:HG2	5:A:237:PHE:CD1	2.56	0.41
5:B:226:ASP:OD2	5:B:227:LYS:HG3	2.21	0.41
5:F:261:GLN:O	5:F:277:VAL:HG23	2.21	0.41
9:M:142:PHE:HD2	9:M:180:ALA:HB1	1.86	0.41
9:O:29:PHE:HE1	9:O:61:THR:HG23	1.85	0.41
9:O:101:LEU:HD21	9:O:125:LEU:HA	2.03	0.41
9:O:186:GLU:OE2	9:O:188:GLN:NE2	2.53	0.41
9:Q:142:PHE:CE2	9:Q:174:LEU:HD13	2.56	0.41
10:a:813:VAL:HG23	10:a:819:SER:HA	2.03	0.41
10:b:370:ALA:HB2	10:b:389:TYR:HB2	2.02	0.41
10:c:464:LEU:HB2	10:c:612:ALA:O	2.21	0.41
10:c:793:ILE:HD13	10:c:793:ILE:HA	1.94	0.41
10:d:450:ARG:HG2	10:d:451:ILE:HG23	2.02	0.41
10:d:758:LYS:HA	10:d:761:ASN:ND2	2.36	0.41
2:2:-102:DC:H2"	2:2:-101:DA:C8	2.55	0.41
5:A:267:TRP:CD1	5:A:267:TRP:H	2.39	0.41
5:A:313:LEU:HD23	5:A:313:LEU:HA	1.94	0.41
5:B:111:LEU:HD13	5:B:111:LEU:HA	1.96	0.41
5:B:210:ILE:H	5:B:210:ILE:HG13	1.73	0.41
5:D:110:LEU:HD12	5:D:310:LEU:HD13	2.02	0.41
5:F:18:ALA:HA	5:F:88:PHE:HB3	2.02	0.41
6:G:633:MET:HE3	6:G:633:MET:HB3	1.89	0.41
9:L:209:LYS:NZ	10:S:847:LEU:CD2	2.83	0.41
9:M:19:ILE:HG23	9:M:21:MET:HE1	2.03	0.41
9:N:262:LEU:HD23	9:N:262:LEU:HA	1.96	0.41
9:O:215:LEU:HD23	9:O:215:LEU:HA	1.87	0.41
9:P:152:GLN:HA	9:Q:148:PHE:CD2	2.56	0.41
9:Q:316:ASN:ND2	10:a:682:ASN:HA	2.29	0.41
10:a:682:ASN:HB3	10:a:690:MET:HE1	2.03	0.41
10:c:568:VAL:HG23	10:c:570:LYS:HG2	2.03	0.41
10:c:581:PHE:HD1	10:c:588:PHE:HZ	1.68	0.41
10:d:758:LYS:HA	10:d:761:ASN:HD21	1.85	0.41
2:2:2:DC:H4'	6:G:125:ASN:HB2	2.02	0.40
5:F:32:LEU:HD12	5:F:32:LEU:HA	1.95	0.40
6:G:459:PRO:HG2	6:G:529:LEU:HD11	2.04	0.40
6:G:662:GLU:HG2	6:G:666:SER:OG	2.21	0.40
8:I:270:LEU:HB3	8:I:320:TYR:CE2	2.56	0.40
8:J:169:CYS:SG	8:J:189:CYS:CB	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:M:56:VAL:HG11	9:M:199:LEU:HB3	2.02	0.40
9:M:134:VAL:HG13	9:M:170:VAL:HG21	2.04	0.40
10:b:101:PHE:CZ	10:b:117:LEU:HB2	2.56	0.40
10:b:542:ASP:N	10:b:574:LYS:HZ1	2.19	0.40
10:b:691:TYR:HD1	10:b:739:CYS:HA	1.86	0.40
2:2:-83:DC:H2'	2:2:-82:DA:C1'	2.51	0.40
2:5:-93:DG:H2'	2:5:-92:DT:C6	2.56	0.40
5:C:309:TYR:HB3	5:C:328:ILE:HD11	2.04	0.40
5:D:228:VAL:HG21	5:D:234:SER:HA	2.03	0.40
5:F:171:ALA:HB3	5:F:174:SER:HB3	2.02	0.40
5:F:320:LYS:HA	5:F:320:LYS:HD3	1.92	0.40
9:M:282:PHE:HD1	9:M:282:PHE:HA	1.80	0.40
9:P:57:GLY:HA2	12:P:401:ATP:H5'1	2.03	0.40
9:Q:4:LEU:HD11	9:Q:259:LYS:HG3	2.02	0.40
10:c:473:ILE:HD12	10:c:473:ILE:HA	1.97	0.40
10:c:480:LEU:HD13	10:c:496:LEU:HB3	2.03	0.40
10:c:513:ALA:HA	10:c:517:LYS:HZ3	1.86	0.40
2:2:-30:DC:C2	5:B:69:ILE:HB	2.56	0.40
5:D:323:LYS:H	5:D:323:LYS:HG2	1.73	0.40
5:F:64:LEU:HD12	5:F:64:LEU:HA	1.83	0.40
6:G:96:LYS:HA	6:G:96:LYS:HD2	1.85	0.40
9:L:252:HIS:HB3	9:L:280:PHE:HE2	1.86	0.40
9:M:41:PHE:CE2	9:N:12:LEU:HD12	2.56	0.40
10:b:20:SER:OG	10:b:23:VAL:HG22	2.22	0.40
10:b:166:ILE:O	10:b:170:VAL:HG12	2.21	0.40
2:2:-67:DG:H2"	2:2:-66:DA:C8	2.56	0.40
6:G:265:ILE:HD12	6:G:599:GLY:HA2	2.03	0.40
9:K:8:GLN:HG2	9:K:262:LEU:HD23	2.02	0.40
9:M:279:LYS:HB2	9:M:279:LYS:HE2	1.78	0.40
9:M:313:TYR:HE1	9:M:315:PRO:HG3	1.86	0.40
9:O:62:ILE:HD11	9:O:175:VAL:HG21	2.03	0.40
9:O:211:PHE:CE2	9:O:240:PHE:HB2	2.57	0.40
10:a:391:ASP:OD2	10:d:778:ARG:HD2	2.21	0.40
10:c:451:ILE:HG22	10:c:654:TYR:CZ	2.56	0.40
10:d:476:GLY:HA3	10:d:752:TYR:HE2	1.87	0.40
5:D:7:LEU:HD12	5:D:7:LEU:HA	1.85	0.40
5:D:280:PHE:CD2	5:E:64:LEU:HD13	2.57	0.40
6:G:42:ILE:HG12	6:G:56:LEU:HB3	2.04	0.40
6:G:236:ASN:HB2	6:G:255:VAL:HG13	2.01	0.40
6:G:552:ASP:OD1	6:G:552:ASP:C	2.64	0.40
8:J:391:ILE:HD13	8:J:391:ILE:HA	1.91	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:50:LEU:O	9:K:175:VAL:HA	2.21	0.40
9:M:9:ILE:HG13	9:M:10:GLU:N	2.36	0.40
9:N:157:ILE:HD13	9:N:157:ILE:HA	1.90	0.40
9:N:201:TYR:CD2	9:N:307:VAL:HG21	2.56	0.40
10:b:388:TYR:CD1	10:c:779:MET:HE1	2.56	0.40
10:d:574:LYS:O	10:d:578:GLU:HG2	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	
5	A	317/350 (91%)	305 (96%)	12 (4%)	0	100	100
5	B	344/350 (98%)	335 (97%)	9 (3%)	0	100	100
5	C	344/350 (98%)	335 (97%)	9 (3%)	0	100	100
5	D	344/350 (98%)	336 (98%)	8 (2%)	0	100	100
5	E	344/350 (98%)	337 (98%)	7 (2%)	0	100	100
5	F	342/350 (98%)	335 (98%)	7 (2%)	0	100	100
6	G	680/695 (98%)	669 (98%)	11 (2%)	0	100	100
7	H	196/237 (83%)	190 (97%)	6 (3%)	0	100	100
8	I	406/432 (94%)	385 (95%)	21 (5%)	0	100	100
8	J	400/432 (93%)	391 (98%)	9 (2%)	0	100	100
9	K	323/333 (97%)	320 (99%)	3 (1%)	0	100	100
9	L	307/333 (92%)	296 (96%)	11 (4%)	0	100	100
9	M	305/333 (92%)	300 (98%)	5 (2%)	0	100	100
9	N	307/333 (92%)	300 (98%)	7 (2%)	0	100	100
9	O	313/333 (94%)	308 (98%)	5 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	P	308/333 (92%)	297 (96%)	11 (4%)	0	100	100
9	Q	313/333 (94%)	307 (98%)	6 (2%)	0	100	100
10	R	7/1258 (1%)	6 (86%)	1 (14%)	0	100	100
10	S	7/1258 (1%)	6 (86%)	1 (14%)	0	100	100
10	T	7/1258 (1%)	5 (71%)	2 (29%)	0	100	100
10	U	7/1258 (1%)	7 (100%)	0	0	100	100
10	V	7/1258 (1%)	7 (100%)	0	0	100	100
10	W	7/1258 (1%)	6 (86%)	1 (14%)	0	100	100
10	X	7/1258 (1%)	6 (86%)	1 (14%)	0	100	100
10	a	784/1258 (62%)	767 (98%)	17 (2%)	0	100	100
10	b	784/1258 (62%)	751 (96%)	33 (4%)	0	100	100
10	c	330/1258 (26%)	314 (95%)	16 (5%)	0	100	100
10	d	330/1258 (26%)	318 (96%)	12 (4%)	0	100	100
All	All	8170/20065 (41%)	7939 (97%)	231 (3%)	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 PDB entries followed by that with respect to all EM entries.

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	
5	A	282/307 (92%)	280 (99%)	2 (1%)	76	83
5	B	305/307 (99%)	303 (99%)	2 (1%)	76	83
5	C	305/307 (99%)	294 (96%)	11 (4%)	31	63
5	D	305/307 (99%)	297 (97%)	8 (3%)	40	69
5	E	305/307 (99%)	299 (98%)	6 (2%)	48	72
5	F	304/307 (99%)	299 (98%)	5 (2%)	55	75
6	G	603/614 (98%)	598 (99%)	5 (1%)	73	82
7	H	174/200 (87%)	171 (98%)	3 (2%)	53	75

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
8	I	363/383 (95%)	354 (98%)	9 (2%)	42 69
8	J	359/383 (94%)	353 (98%)	6 (2%)	53 75
9	K	295/301 (98%)	284 (96%)	11 (4%)	30 63
9	L	283/301 (94%)	275 (97%)	8 (3%)	38 68
9	M	281/301 (93%)	272 (97%)	9 (3%)	34 65
9	N	283/301 (94%)	276 (98%)	7 (2%)	42 69
9	O	287/301 (95%)	281 (98%)	6 (2%)	47 71
9	P	284/301 (94%)	278 (98%)	6 (2%)	47 71
9	Q	288/301 (96%)	283 (98%)	5 (2%)	53 75
10	R	8/1085 (1%)	8 (100%)	0	100 100
10	S	8/1085 (1%)	8 (100%)	0	100 100
10	T	8/1085 (1%)	7 (88%)	1 (12%)	4 21
10	U	8/1085 (1%)	7 (88%)	1 (12%)	4 21
10	V	8/1085 (1%)	8 (100%)	0	100 100
10	W	8/1085 (1%)	8 (100%)	0	100 100
10	X	8/1085 (1%)	8 (100%)	0	100 100
10	a	708/1085 (65%)	689 (97%)	19 (3%)	39 68
10	b	708/1085 (65%)	688 (97%)	20 (3%)	38 68
10	c	308/1085 (28%)	301 (98%)	7 (2%)	44 70
10	d	308/1085 (28%)	303 (98%)	5 (2%)	55 75
All	All	7394/17464 (42%)	7232 (98%)	162 (2%)	45 71

All (162) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	A	129	VAL
5	A	341	PHE
5	B	228	VAL
5	B	341	PHE
5	C	40	ARG
5	C	54	PHE
5	C	77	VAL
5	C	195	LEU
5	C	227	LYS
5	C	251	PHE

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Mol	Chain	Res	Type
5	C	260	LEU
5	C	276	ARG
5	C	303	PHE
5	C	340	MET
5	C	341	PHE
5	D	1	MET
5	D	9	TYR
5	D	47	THR
5	D	72	LEU
5	D	167	THR
5	D	275	LEU
5	D	279	GLU
5	D	303	PHE
5	E	1	MET
5	E	59	ILE
5	E	68	ASN
5	E	97	LEU
5	E	151	GLN
5	E	272	SER
5	F	84	ILE
5	F	144	ASN
5	F	150	THR
5	F	183	VAL
5	F	344	LYS
6	G	79	ILE
6	G	417	VAL
6	G	433	HIS
6	G	609	ILE
6	G	650	CYS
7	H	33	LEU
7	H	42	VAL
7	H	112	THR
8	I	31	ASP
8	I	47	LEU
8	I	140	LEU
8	I	176	ILE
8	I	218	ARG
8	I	285	PHE
8	I	318	LEU
8	I	326	GLU
8	I	404	MET
8	J	44	LEU

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Mol	Chain	Res	Type
8	J	48	ASP
8	J	122	ILE
8	J	155	VAL
8	J	202	ASN
8	J	304	THR
9	K	7	ILE
9	K	87	ILE
9	K	112	ILE
9	K	117	TYR
9	K	150	SER
9	K	153	GLU
9	K	256	GLU
9	K	292	LYS
9	K	299	ILE
9	K	318	LEU
9	K	325	THR
9	L	75	TYR
9	L	98	VAL
9	L	155	GLN
9	L	226	VAL
9	L	293	ASN
9	L	304	ILE
9	L	325	THR
9	L	328	VAL
9	M	24	GLN
9	M	204	LEU
9	M	225	ASP
9	M	237	ILE
9	M	246	GLU
9	M	262	LEU
9	M	270	ASN
9	M	278	ASP
9	M	302	ILE
9	N	4	LEU
9	N	86	ARG
9	N	96	THR
9	N	148	PHE
9	N	172	ILE
9	N	194	VAL
9	N	247	ASN
9	O	72	THR
9	O	93	LEU

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Mol	Chain	Res	Type
9	O	188	GLN
9	O	258	LEU
9	O	259	LYS
9	O	271	LYS
9	P	54	THR
9	P	84	VAL
9	P	143	GLN
9	P	172	ILE
9	P	182	LYS
9	P	284	ASN
9	Q	18	CYS
9	Q	172	ILE
9	Q	208	SER
9	Q	210	TYR
9	Q	258	LEU
10	T	847	LEU
10	U	844	ASP
10	a	66	LEU
10	a	184	LEU
10	a	269	LEU
10	a	353	MET
10	a	407	ILE
10	a	457	ILE
10	a	459	HIS
10	a	460	THR
10	a	484	ILE
10	a	536	PHE
10	a	601	LEU
10	a	613	ILE
10	a	682	ASN
10	a	692	ASP
10	a	721	ILE
10	a	726	VAL
10	a	763	GLU
10	a	768	SER
10	a	810	ILE
10	b	47	ILE
10	b	125	VAL
10	b	128	ILE
10	b	169	GLN
10	b	186	HIS
10	b	239	MET

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Mol	Chain	Res	Type
10	b	321	VAL
10	b	364	ASP
10	b	437	GLN
10	b	442	CYS
10	b	457	ILE
10	b	459	HIS
10	b	536	PHE
10	b	678	THR
10	b	714	ILE
10	b	755	LYS
10	b	765	ILE
10	b	770	ASP
10	b	792	PHE
10	b	809	GLN
10	c	464	LEU
10	c	500	SER
10	c	536	PHE
10	c	622	GLU
10	c	669	MET
10	c	670	LEU
10	c	787	GLN
10	d	565	TYR
10	d	707	LYS
10	d	716	VAL
10	d	743	THR
10	d	757	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
5	A	80	ASN
5	A	236	GLN
5	B	5	ASN
5	B	146	ASN
5	B	151	GLN
5	C	145	GLN
5	C	321	ASN
5	D	5	ASN
5	D	62	GLN
5	E	145	GLN
5	E	297	GLN
5	F	37	ASN

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Mol	Chain	Res	Type
5	F	83	HIS
5	F	199	ASN
5	F	261	GLN
6	G	64	GLN
6	G	97	GLN
6	G	586	ASN
6	G	607	HIS
7	H	2	GLN
7	H	9	HIS
7	H	16	ASN
8	I	105	ASN
8	I	168	ASN
8	I	181	ASN
8	I	253	ASN
8	J	105	ASN
8	J	112	ASN
8	J	202	ASN
8	J	307	GLN
8	J	375	ASN
9	L	24	GLN
9	L	188	GLN
9	L	284	ASN
9	M	99	GLN
9	M	213	GLN
9	N	42	GLN
9	N	46	GLN
9	N	60	HIS
9	N	152	GLN
9	N	159	ASN
9	N	234	ASN
9	O	73	GLN
9	O	99	GLN
9	O	213	GLN
9	O	297	GLN
9	P	45	GLN
9	P	73	GLN
9	Q	14	ASN
9	Q	42	GLN
9	Q	152	GLN
9	Q	252	HIS
9	Q	314	ASN
10	a	130	ASN

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Mol	Chain	Res	Type
10	a	136	HIS
10	a	430	HIS
10	a	445	HIS
10	a	557	GLN
10	a	562	ASN
10	a	564	GLN
10	a	566	ASN
10	a	682	ASN
10	a	705	GLN
10	b	12	ASN
10	b	130	ASN
10	b	244	ASN
10	b	287	GLN
10	b	355	ASN
10	b	414	ASN
10	b	437	GLN
10	b	445	HIS
10	b	538	ASN
10	b	687	GLN
10	b	807	GLN
10	c	528	ASN
10	c	564	GLN
10	c	585	ASN
10	d	564	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	59/93 (63%)	26 (44%)	1 (1%)

All (26) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	-6	U
1	1	-5	G
1	1	-2	A
1	1	0	U
1	1	1	A
1	1	4	G
1	1	6	G
1	1	7	G

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Mol	Chain	Res	Type
1	1	8	G
1	1	10	C
1	1	13	C
1	1	14	U
1	1	16	G
1	1	18	G
1	1	19	A
1	1	20	C
1	1	25	U
1	1	26	U
1	1	30	G
1	1	31	A
1	1	32	C
1	1	33	G
1	1	35	G
1	1	36	A
1	1	45	A
1	1	47	A

All (1) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	31	A

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 20 ligands modelled in this entry, 13 are monoatomic - leaving 7 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the

expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
12	ATP	P	401	11	29,33,33	0.30	0	44,52,52	0.50	1 (2%)
12	ATP	O	401	11	29,33,33	0.29	0	44,52,52	0.50	1 (2%)
12	ATP	M	401	11	29,33,33	0.30	0	44,52,52	0.50	1 (2%)
12	ATP	Q	401	11	29,33,33	0.31	0	44,52,52	0.52	1 (2%)
12	ATP	N	401	11	29,33,33	0.31	0	44,52,52	0.50	0
12	ATP	L	401	11	29,33,33	0.29	0	44,52,52	0.49	1 (2%)
12	ATP	K	401	11	29,33,33	0.31	0	44,52,52	0.53	1 (2%)

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
12	ATP	P	401	11	-	5/22/38/38	0/3/3/3
12	ATP	O	401	11	-	2/22/38/38	0/3/3/3
12	ATP	M	401	11	-	2/22/38/38	0/3/3/3
12	ATP	Q	401	11	-	2/22/38/38	0/3/3/3
12	ATP	N	401	11	-	2/22/38/38	0/3/3/3
12	ATP	L	401	11	-	2/22/38/38	0/3/3/3
12	ATP	K	401	11	-	6/22/38/38	0/3/3/3

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	P	401	ATP	PB-O3B-PG	2.05	139.86	132.83
12	M	401	ATP	PB-O3B-PG	2.04	139.84	132.83
12	K	401	ATP	PB-O3B-PG	2.04	139.83	132.83
12	O	401	ATP	PB-O3B-PG	2.04	139.81	132.83
12	Q	401	ATP	PB-O3B-PG	2.03	139.79	132.83
12	L	401	ATP	PB-O3B-PG	2.02	139.74	132.83

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
12	L	401	ATP	O4'-C4'-C5'-O5'
12	O	401	ATP	O4'-C4'-C5'-O5'
12	P	401	ATP	PB-O3B-PG-O2G
12	P	401	ATP	O4'-C4'-C5'-O5'
12	Q	401	ATP	O4'-C4'-C5'-O5'
12	K	401	ATP	O4'-C4'-C5'-O5'
12	M	401	ATP	O4'-C4'-C5'-O5'
12	N	401	ATP	O4'-C4'-C5'-O5'
12	K	401	ATP	C3'-C4'-C5'-O5'
12	M	401	ATP	C3'-C4'-C5'-O5'
12	N	401	ATP	C3'-C4'-C5'-O5'
12	Q	401	ATP	C3'-C4'-C5'-O5'
12	K	401	ATP	PB-O3B-PG-O1G
12	P	401	ATP	PB-O3B-PG-O1G
12	K	401	ATP	PB-O3B-PG-O2G
12	L	401	ATP	C3'-C4'-C5'-O5'
12	P	401	ATP	C3'-C4'-C5'-O5'
12	K	401	ATP	PB-O3A-PA-O1A
12	O	401	ATP	C3'-C4'-C5'-O5'
12	K	401	ATP	PB-O3A-PA-O2A
12	P	401	ATP	PB-O3A-PA-O1A

There are no ring outliers.

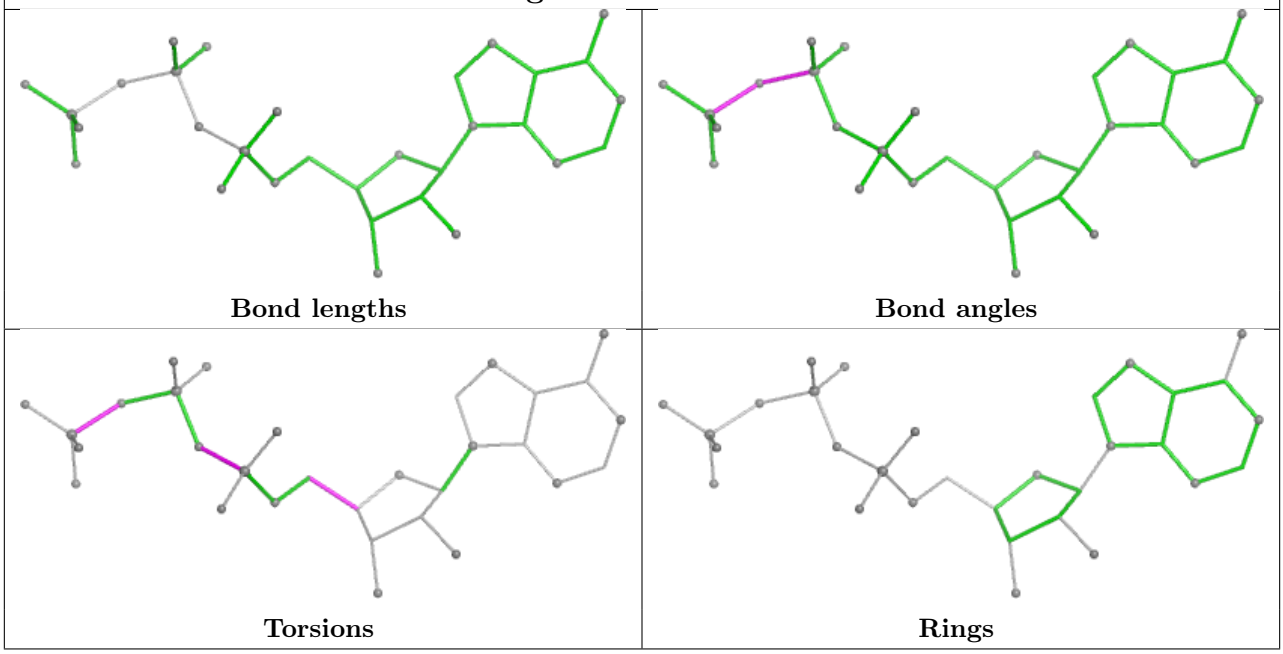
6 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
12	P	401	ATP	1	0
12	O	401	ATP	2	0
12	Q	401	ATP	1	0
12	N	401	ATP	1	0
12	L	401	ATP	3	0
12	K	401	ATP	1	0

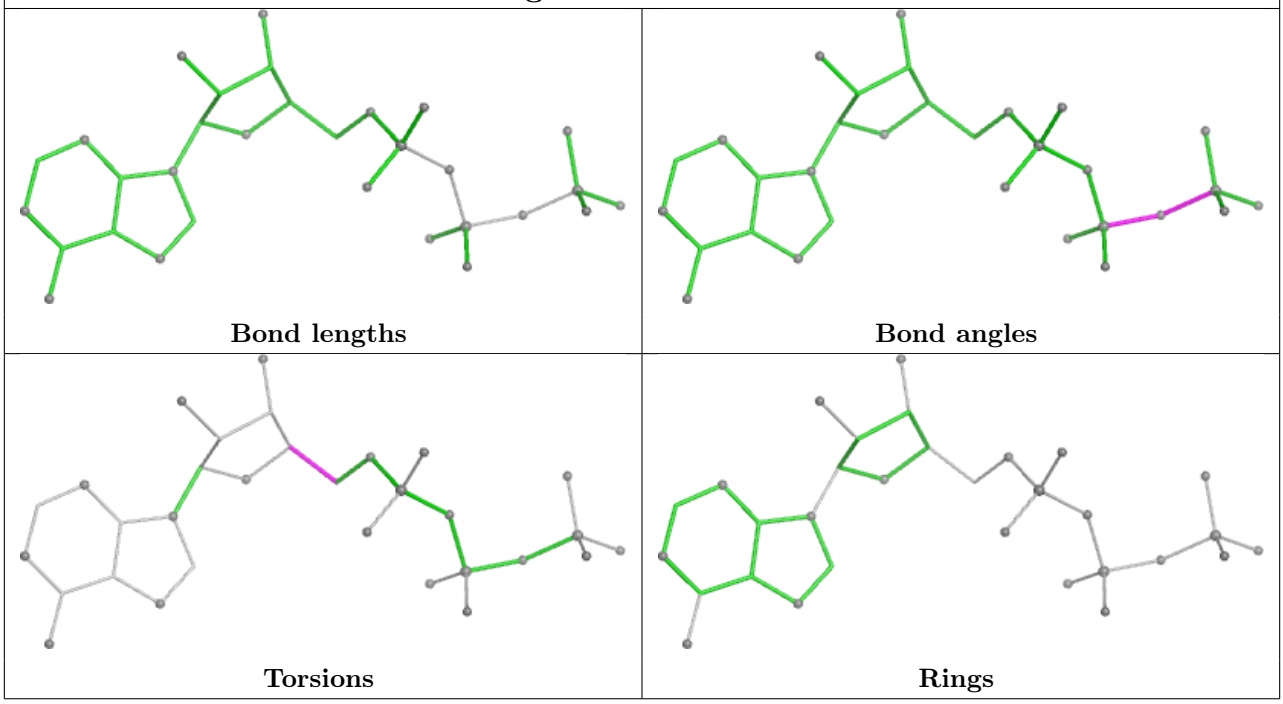
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier.

The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

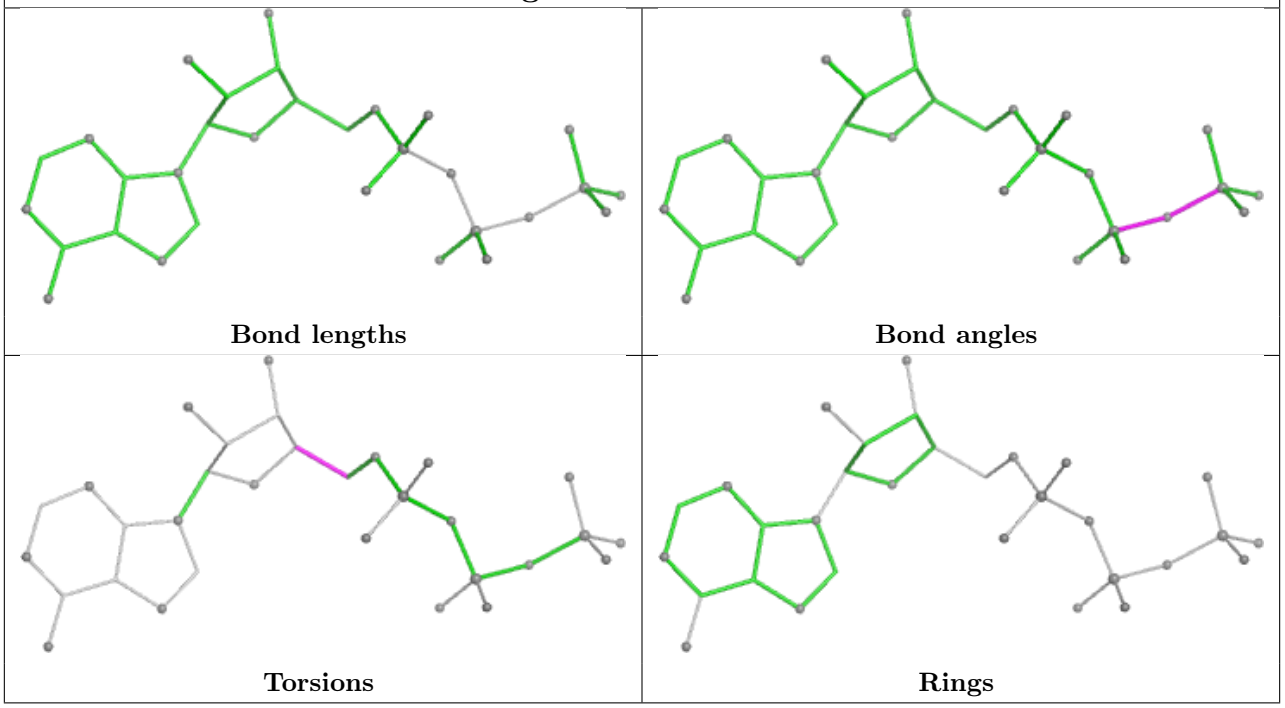
Ligand ATP P 401



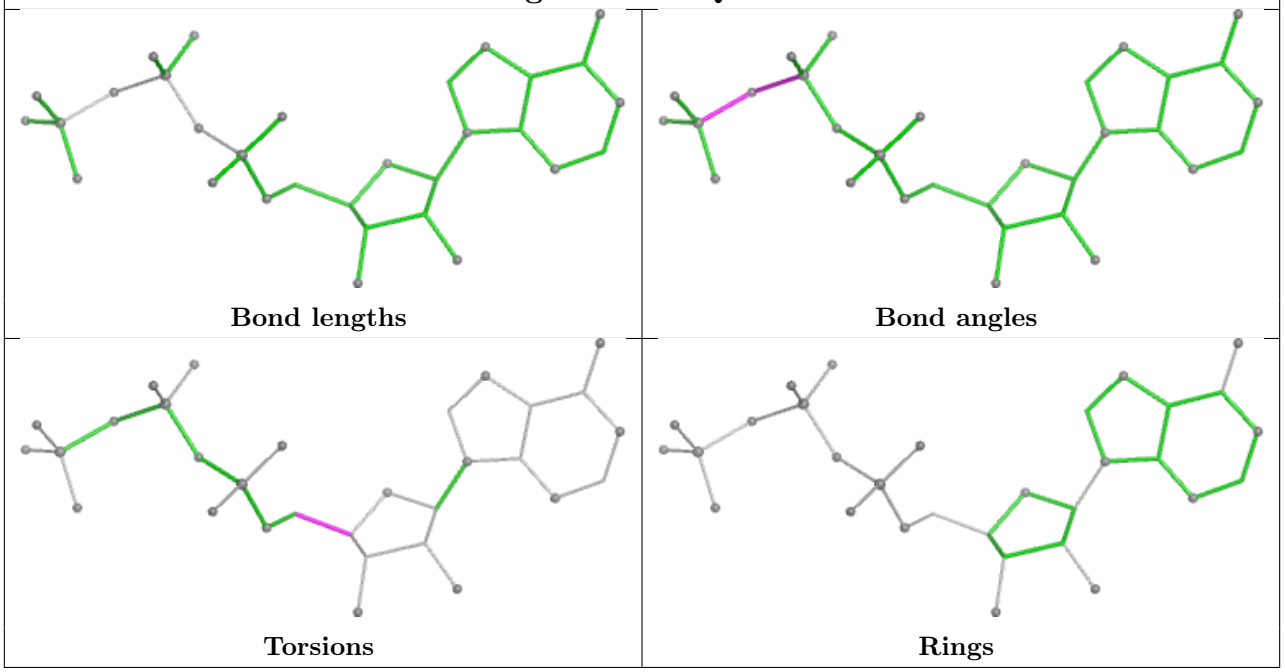
Ligand ATP O 401



Ligand ATP M 401



Ligand ATP Q 401



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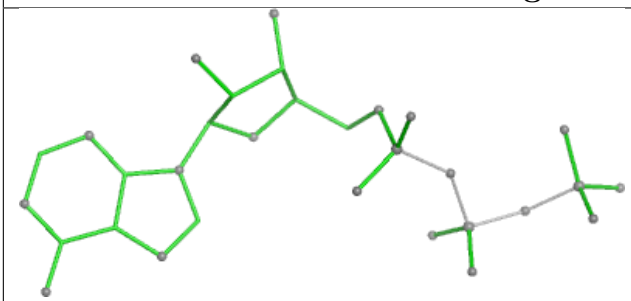
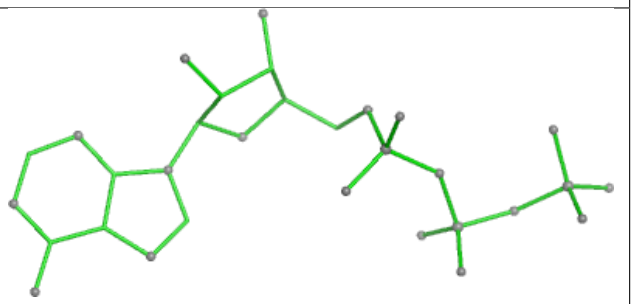
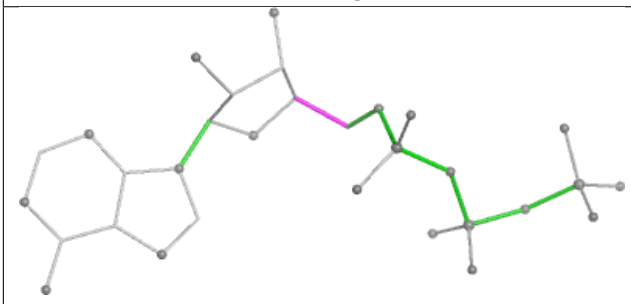


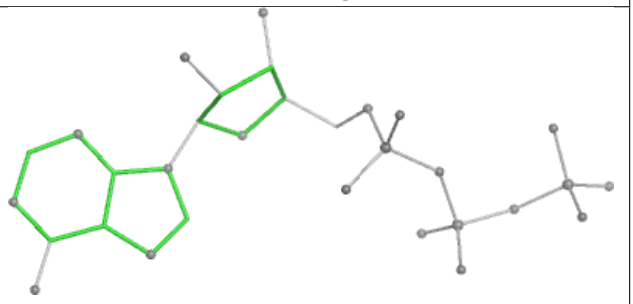
Bond lengths



Bond angles

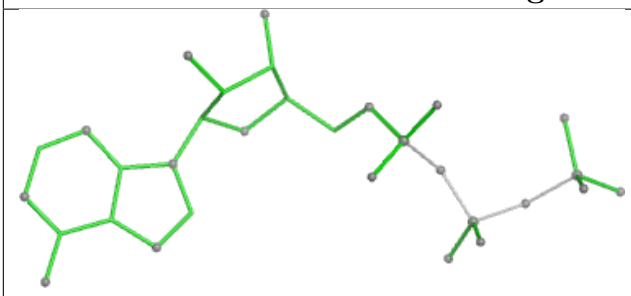


Torsions

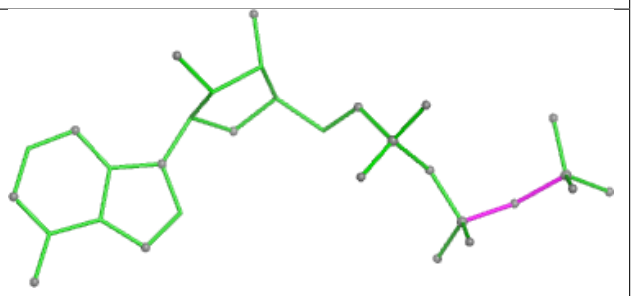


Rings

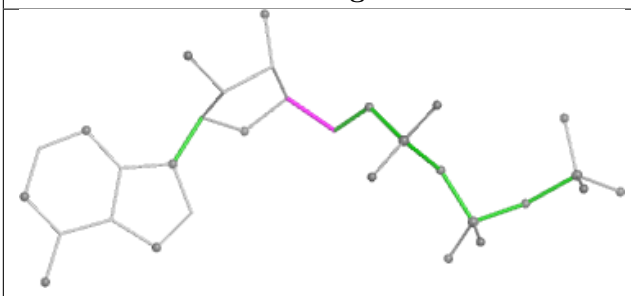
Ligand ATP L 401



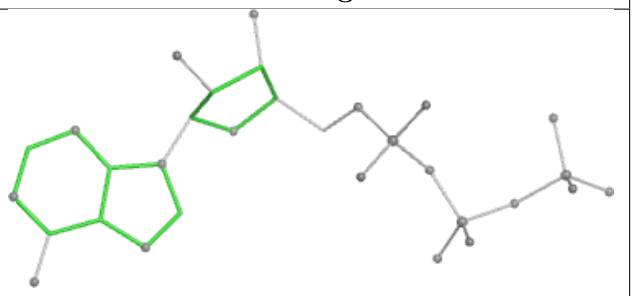
Bond lengths



Bond angles

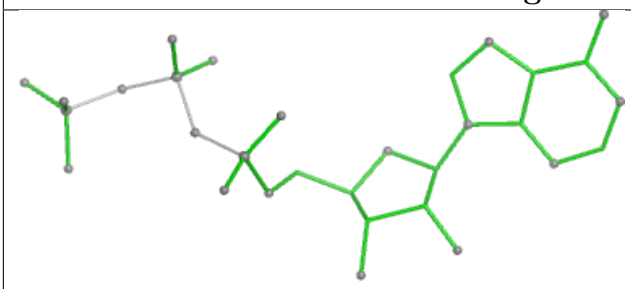


Torsions

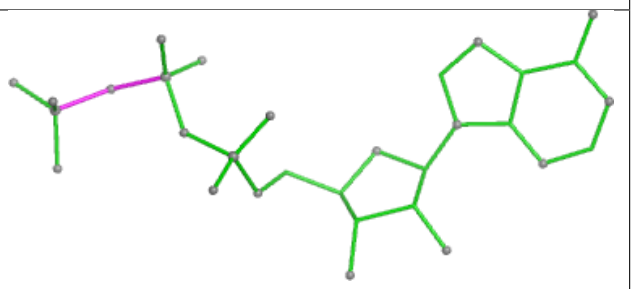


Rings

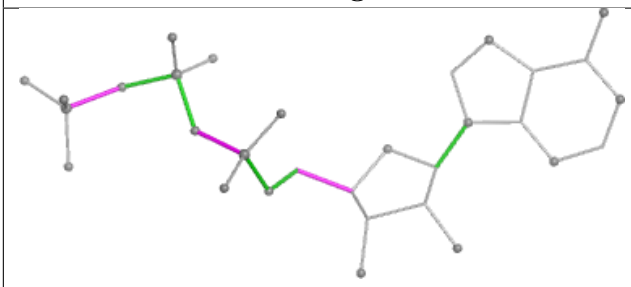
Ligand ATP K 401



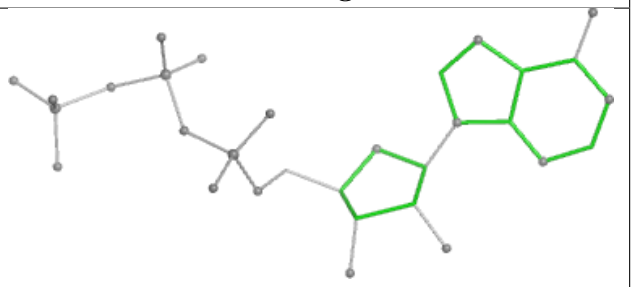
Bond lengths



Bond angles



Torsions



Rings

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.

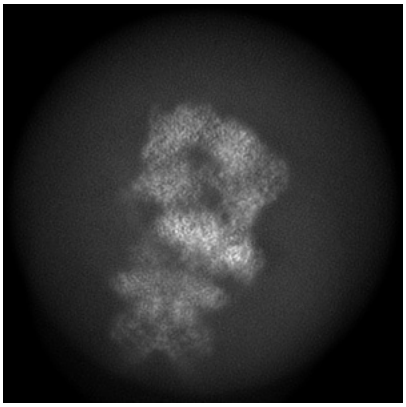
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-57736. These allow visual inspection of the internal detail of the map and identification of artifacts.

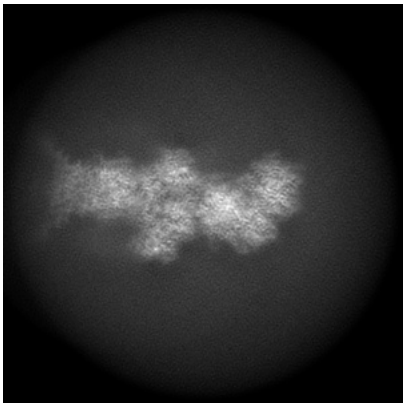
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

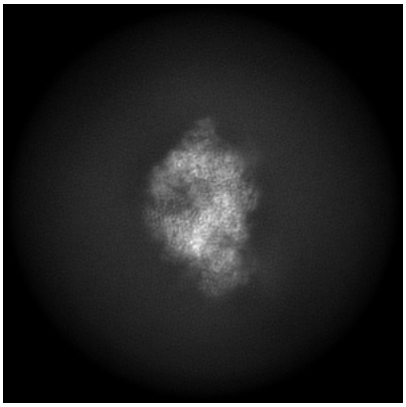
6.1.1 Primary map



X



Y

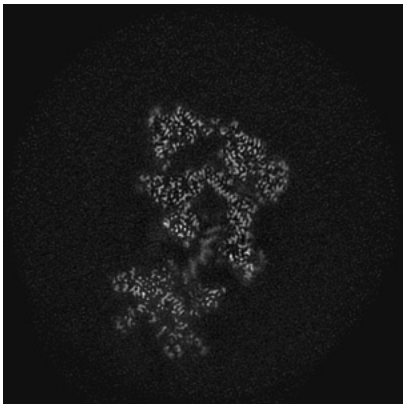


Z

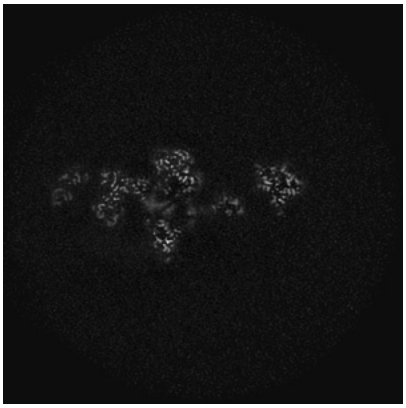
The images above show the map projected in three orthogonal directions.

6.2 Central slices

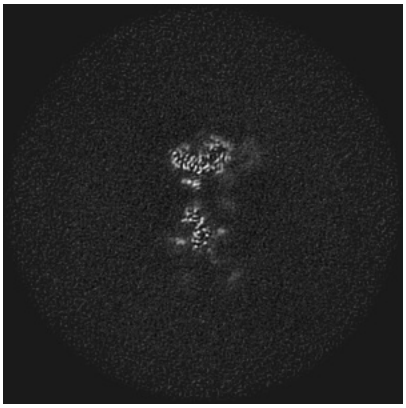
6.2.1 Primary map



X Index: 350



Y Index: 350

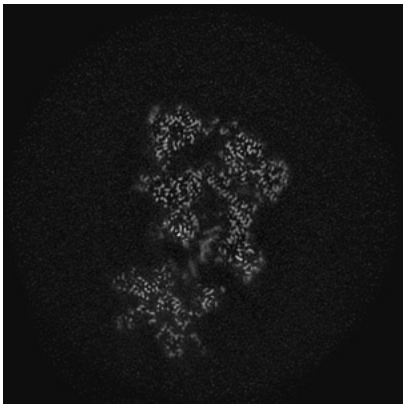


Z Index: 350

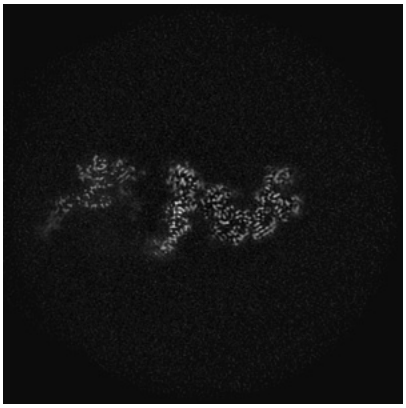
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

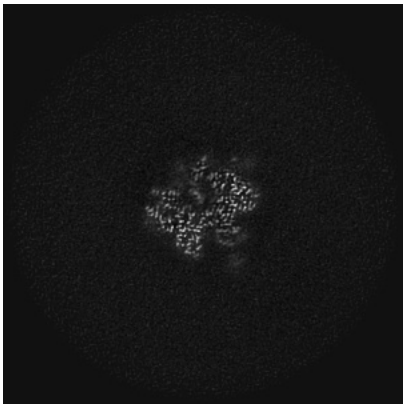
6.3.1 Primary map



X Index: 348



Y Index: 304

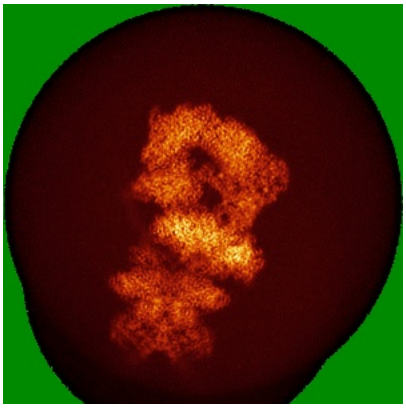


Z Index: 299

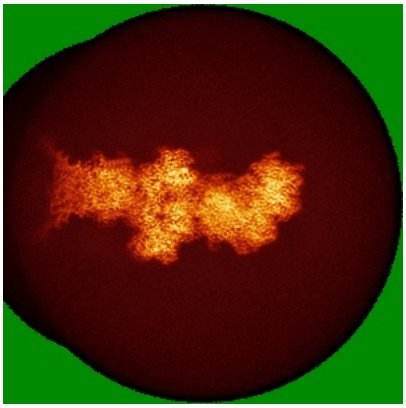
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

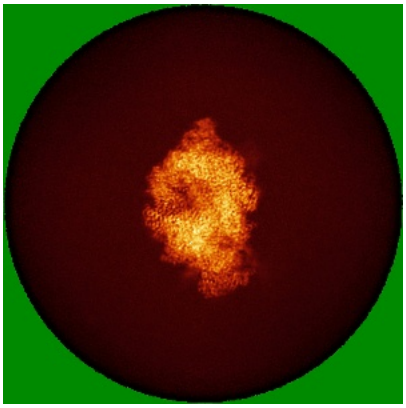
6.4.1 Primary map



X



Y

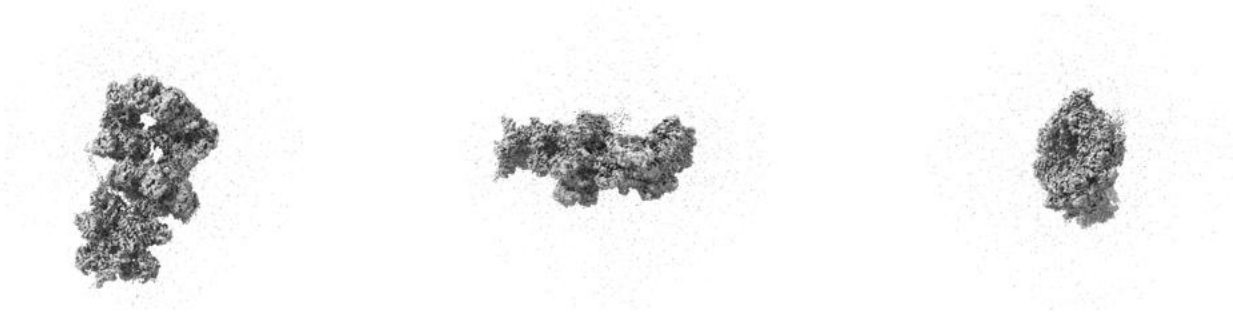


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

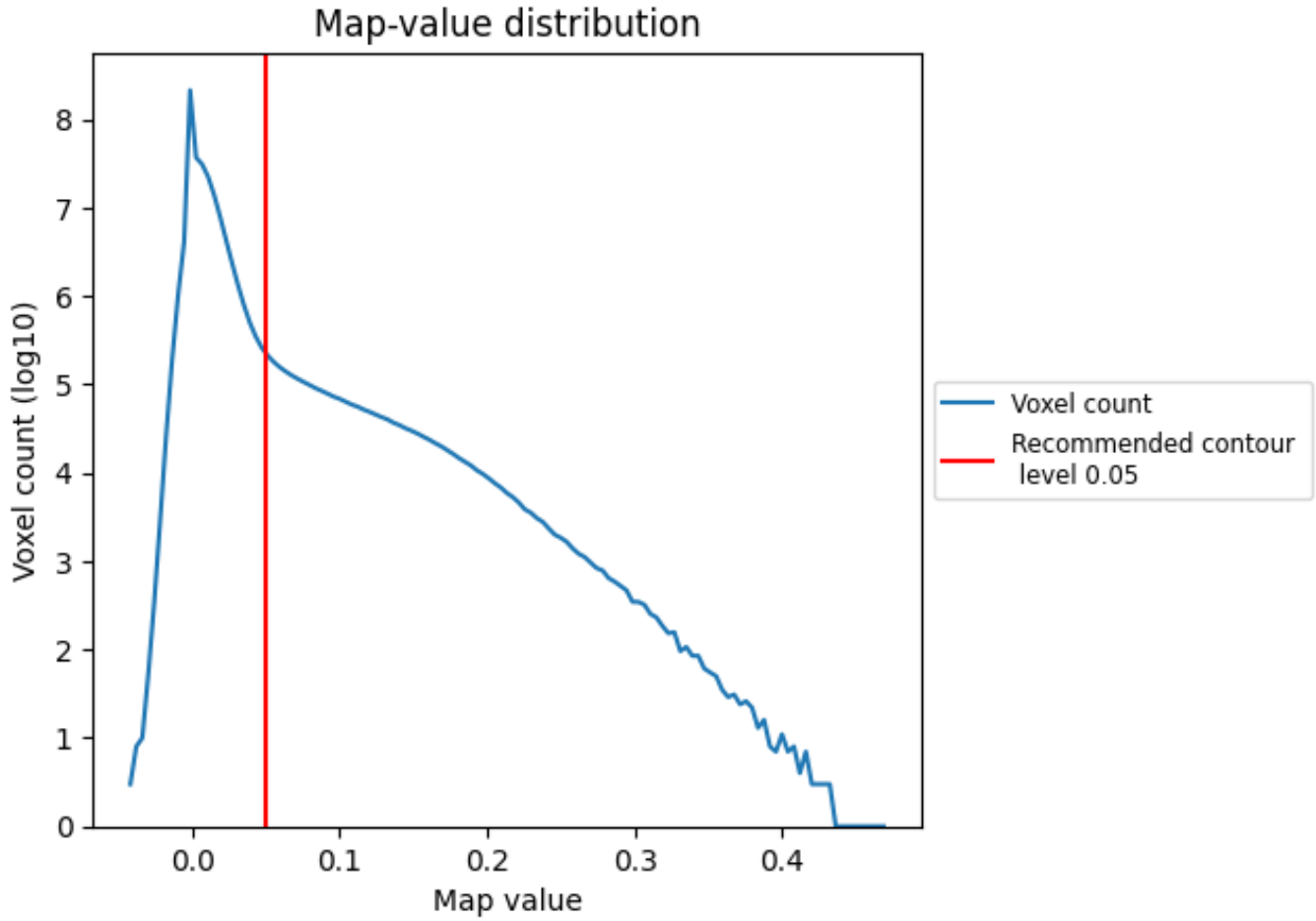
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

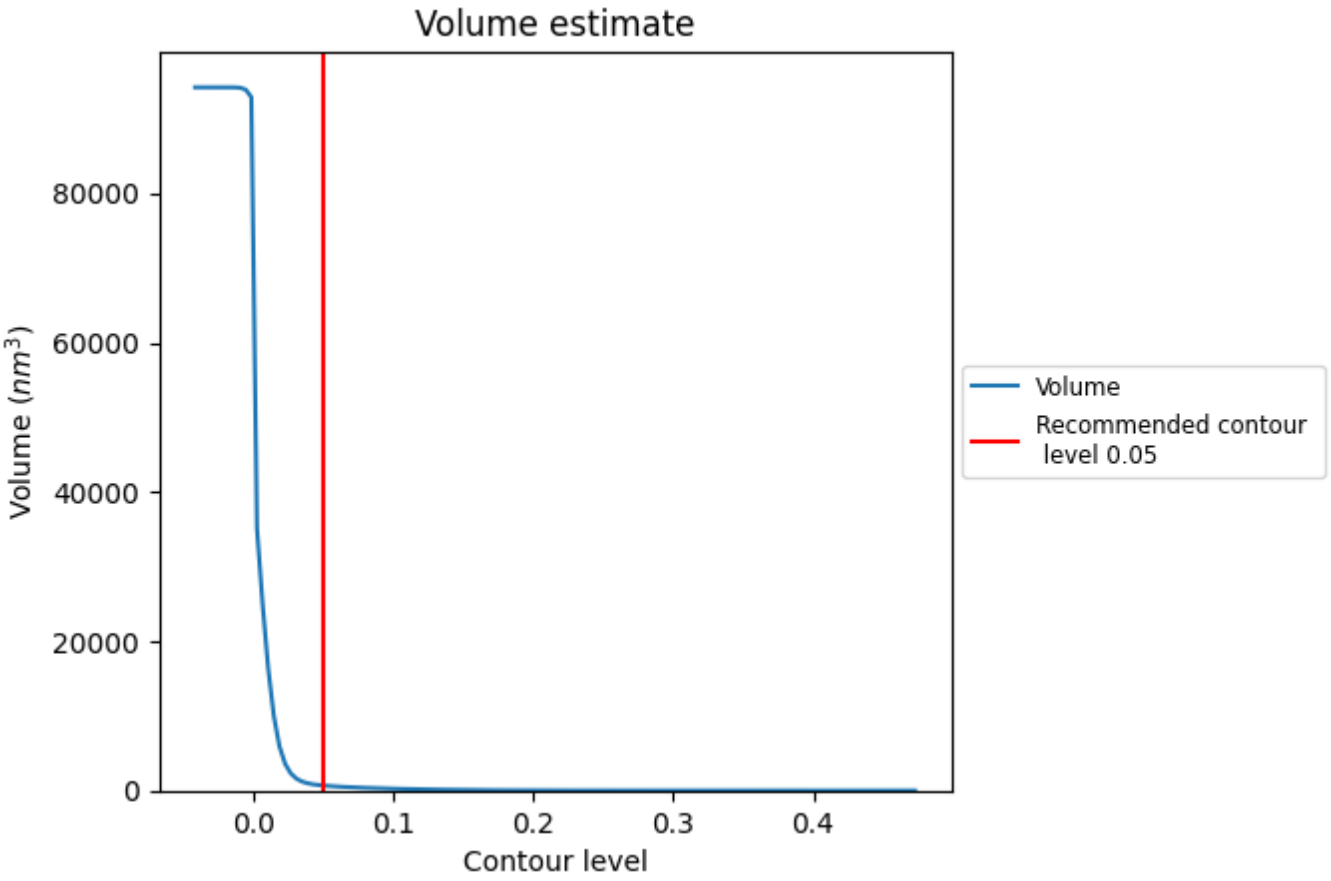
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

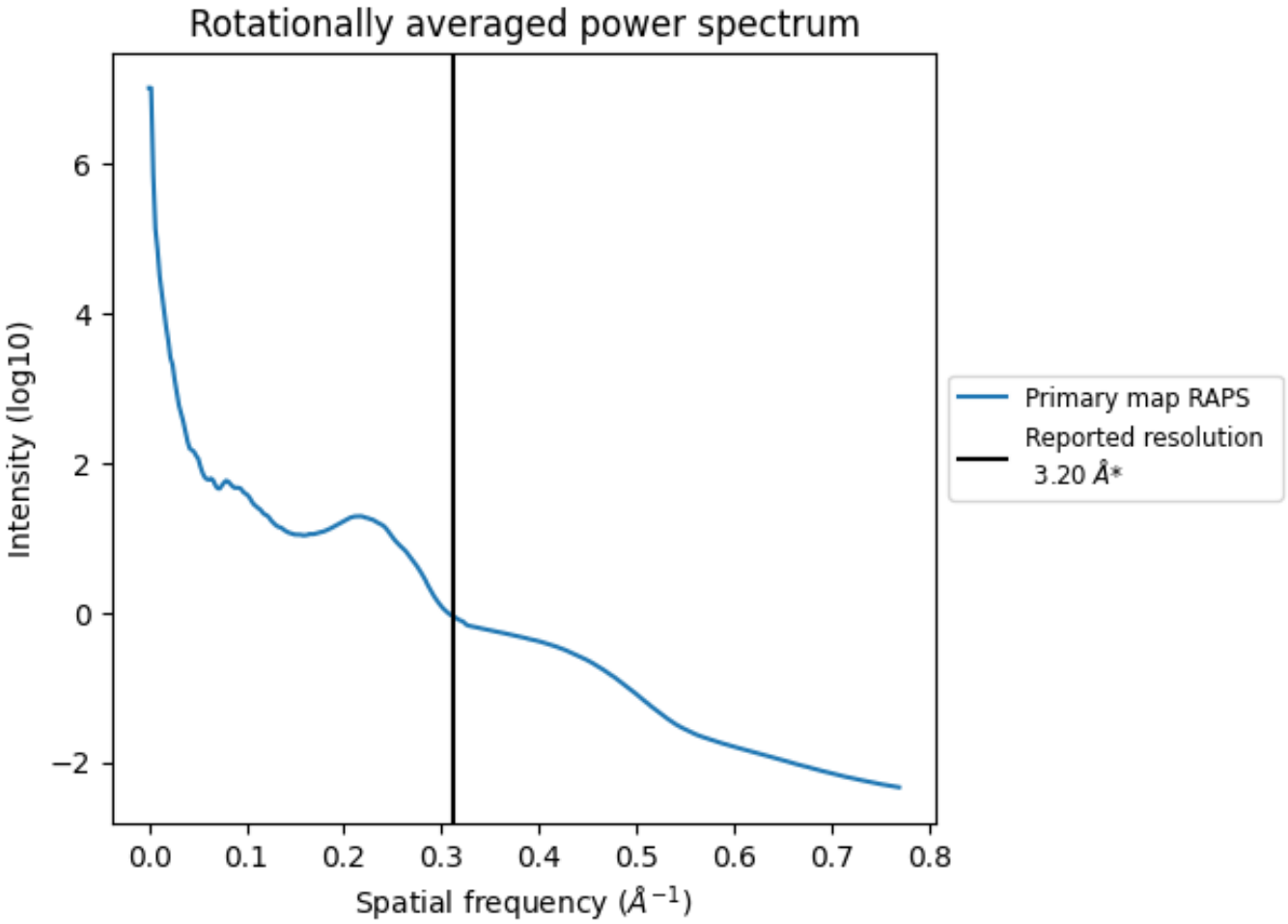
7.2 Volume estimate



The volume at the recommended contour level is 670 nm^3; this corresponds to an approximate mass of 605 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.312 Å^{-1}

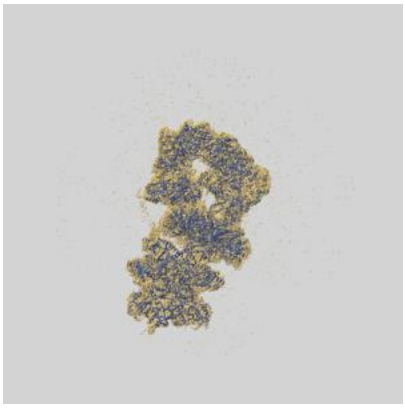
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

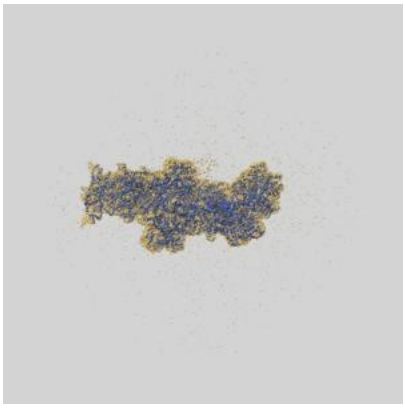
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-57736 and PDB model 30GA. Per-residue inclusion information can be found in section 3 on page 27.

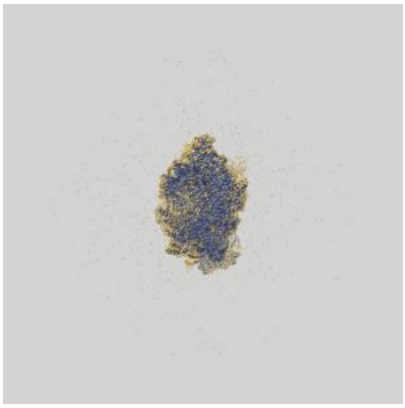
9.1 Map-model overlay



X



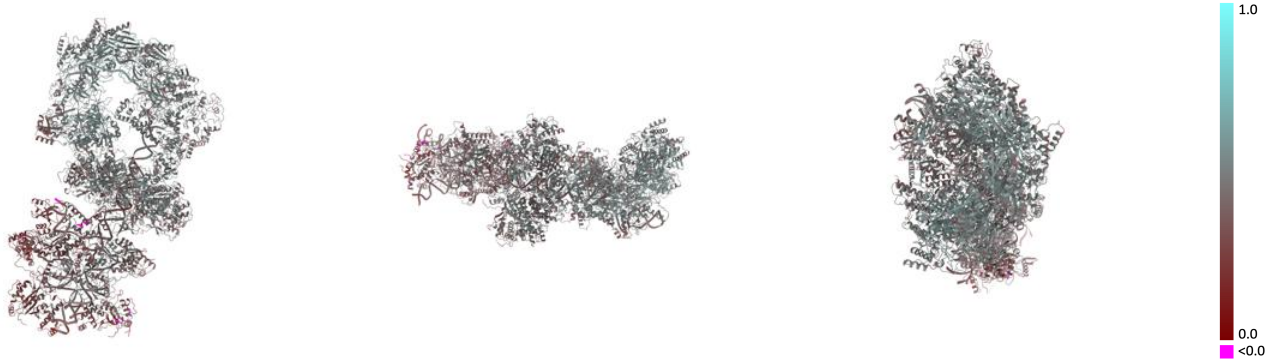
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

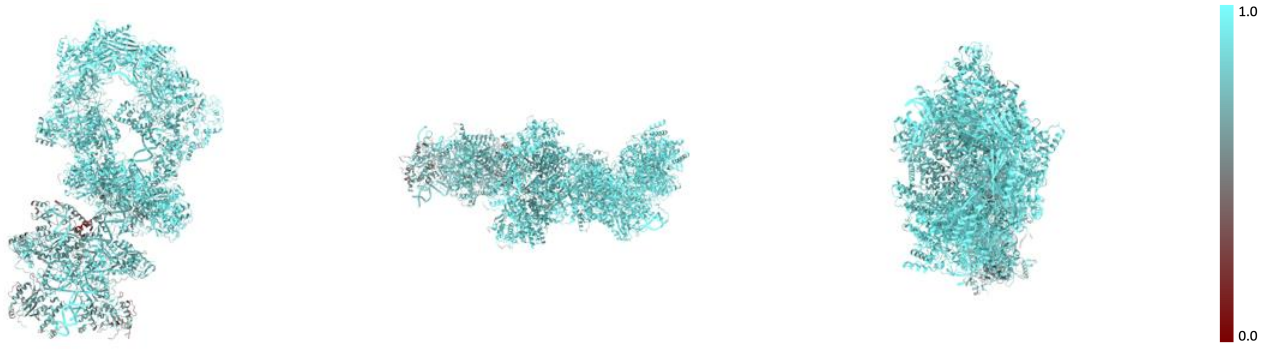
9.2 Q-score mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

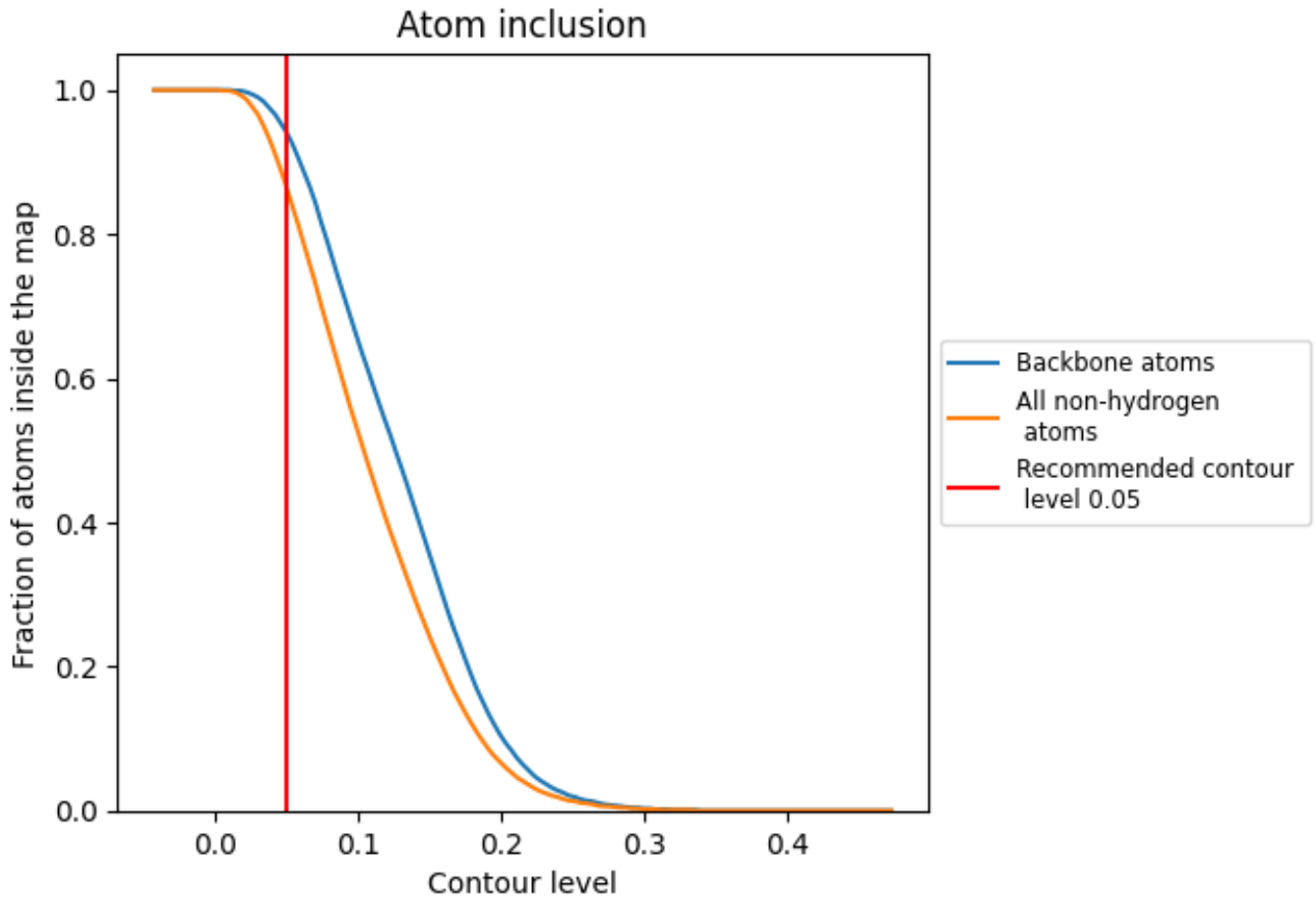
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.05).

9.4 Atom inclusion (i)



At the recommended contour level, 94% of all backbone atoms, 87% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8690	0.4440
1	0.9820	0.4850
2	0.9140	0.4080
3	0.9440	0.3960
4	0.8680	0.3550
5	0.8260	0.3640
6	0.8950	0.3960
7	0.8610	0.3550
A	0.9200	0.5110
B	0.9330	0.5160
C	0.9370	0.5160
D	0.9440	0.5170
E	0.9520	0.5220
F	0.9320	0.5130
G	0.9100	0.4960
H	0.9060	0.4440
I	0.8980	0.4590
J	0.9220	0.4910
K	0.9110	0.4760
L	0.8870	0.4440
M	0.8840	0.4390
N	0.9110	0.4660
O	0.9050	0.4620
P	0.9020	0.4560
Q	0.9070	0.4760
R	0.7470	0.2940
S	0.7720	0.3890
T	0.7220	0.3560
U	0.7470	0.3140
V	0.7220	0.3290
W	0.7470	0.3250
X	0.8350	0.4330
a	0.7810	0.4000
b	0.7230	0.3240
c	0.6900	0.3470
d	0.6750	0.3190