Full wwPDB EM Validation Report

May 18, 2025 – 03:07 AM EDT

PDB ID	:	9E8O / pdb_00009e8o
EMDB ID	:	EMD-47726
Title	:	Nub1/Fat10-processing human 26S proteasome bound to Txnl1 with Rpt2 at top of spiral staircase and partially unfolded Eos
Authors	:	Arkinson, C.; Gee, C.L.; Martin, A.
Deposited on	:	2024-11-05
Resolution	:	3.10 Å(reported)

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:

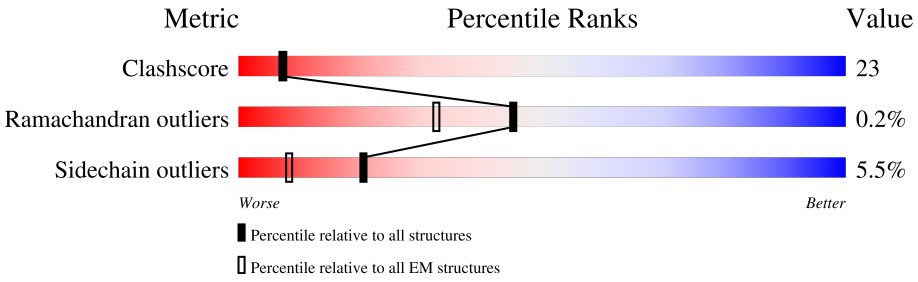
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

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 3.10 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)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	B	440	6% 52% 36% • 10%
2	C	406	55% 38% • 5%
3	D	418	• 54% 35% • 9%
4	c	424	• 35% 29% • 33%
5	G	246	15% 58% 38% • •
6	H	234	• 59% 38% • •
7	I	261	7% 56% 39% • 5%
8	J	248	17% 47% 47% • •

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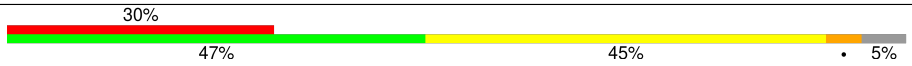
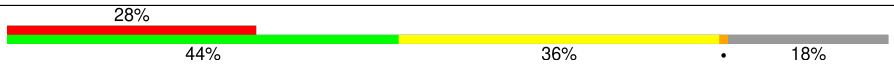
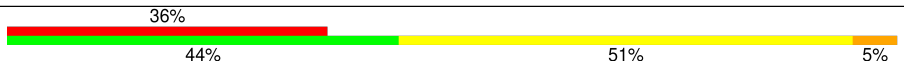
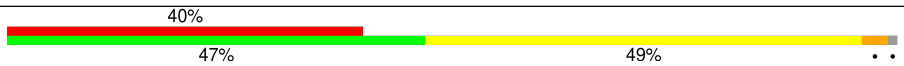
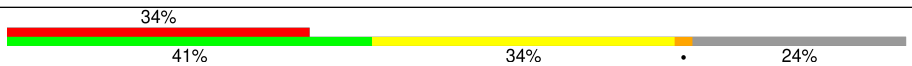
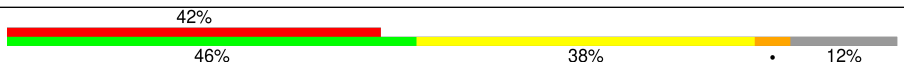
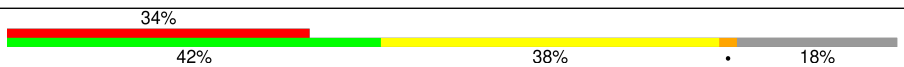
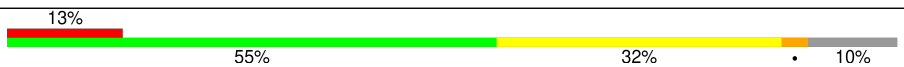
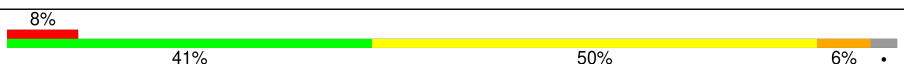
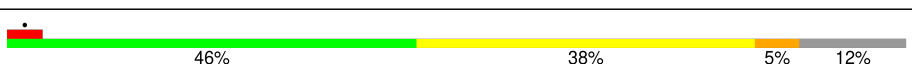
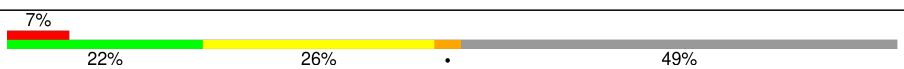
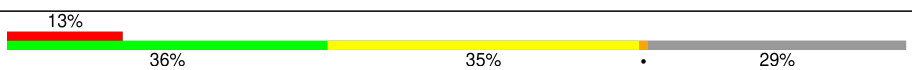
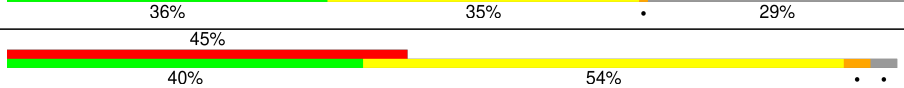
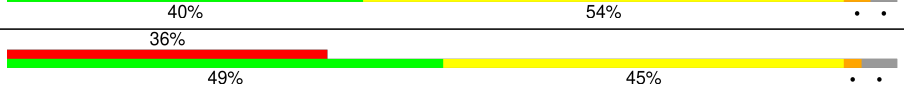
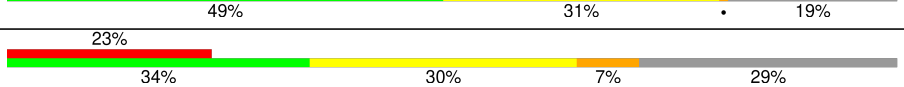
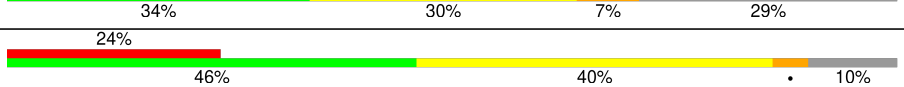
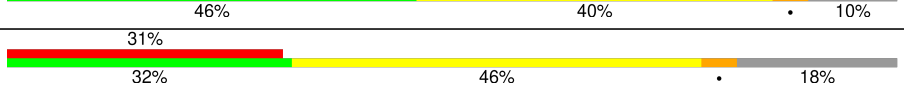
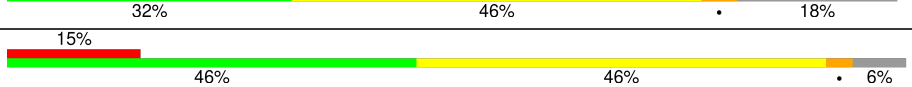
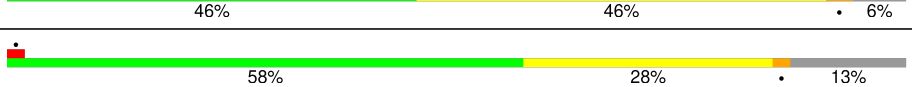
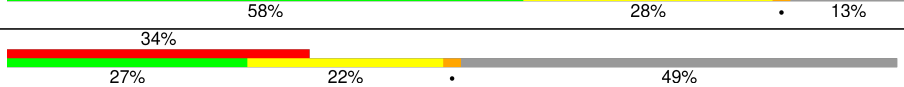
Mol	Chain	Length	Quality of chain
9	K	241	
10	L	263	
11	M	255	
12	N	239	
13	O	277	
14	P	205	
15	Q	201	
16	R	263	
17	S	241	
18	T	264	
19	X	422	
20	Y	389	
21	Z	324	
22	a	376	
23	b	377	
24	d	350	
25	f	908	
26	W	456	
27	V	534	
28	e	70	
29	A	433	
30	F	439	
31	E	389	
32	U	953	
33	g	390	

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Mol	Chain	Length	Quality of chain
34	u	300	

2 Entry composition (i)

There are 38 unique types of molecules in this entry. The entry contains 83155 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 protein called 26S proteasome regulatory subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	B	397	3124	1968	530	611	15	0	0

- Molecule 2 is a protein called 26S protease regulatory subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	386	3053	1921	547	567	18	0	0

- Molecule 3 is a protein called 26S proteasome regulatory subunit 6B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	D	380	3040	1923	524	580	13	0	0

- Molecule 4 is a protein called 26S proteasome non-ATPase regulatory subunit 14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	c	282	2220	1407	380	414	19	0	0

There are 114 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
c	311	LEU	-	expression tag	UNP O00487
c	312	ILE	-	expression tag	UNP O00487
c	313	ASN	-	expression tag	UNP O00487
c	314	HIS	-	expression tag	UNP O00487
c	315	HIS	-	expression tag	UNP O00487
c	316	HIS	-	expression tag	UNP O00487
c	317	HIS	-	expression tag	UNP O00487
c	318	HIS	-	expression tag	UNP O00487
c	319	HIS	-	expression tag	UNP O00487

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Chain	Residue	Modelled	Actual	Comment	Reference
c	320	ASP	-	expression tag	UNP O00487
c	321	TYR	-	expression tag	UNP O00487
c	322	ASP	-	expression tag	UNP O00487
c	323	ILE	-	expression tag	UNP O00487
c	324	PRO	-	expression tag	UNP O00487
c	325	THR	-	expression tag	UNP O00487
c	326	THR	-	expression tag	UNP O00487
c	327	ALA	-	expression tag	UNP O00487
c	328	SER	-	expression tag	UNP O00487
c	329	GLU	-	expression tag	UNP O00487
c	330	ASN	-	expression tag	UNP O00487
c	331	LEU	-	expression tag	UNP O00487
c	332	TYR	-	expression tag	UNP O00487
c	333	PHE	-	expression tag	UNP O00487
c	334	GLN	-	expression tag	UNP O00487
c	335	GLY	-	expression tag	UNP O00487
c	336	GLU	-	expression tag	UNP O00487
c	337	LEU	-	expression tag	UNP O00487
c	338	GLY	-	expression tag	UNP O00487
c	339	MET	-	expression tag	UNP O00487
c	340	ARG	-	expression tag	UNP O00487
c	341	GLY	-	expression tag	UNP O00487
c	342	SER	-	expression tag	UNP O00487
c	343	ALA	-	expression tag	UNP O00487
c	344	GLY	-	expression tag	UNP O00487
c	345	LYS	-	expression tag	UNP O00487
c	346	ALA	-	expression tag	UNP O00487
c	347	GLY	-	expression tag	UNP O00487
c	348	GLU	-	expression tag	UNP O00487
c	349	GLY	-	expression tag	UNP O00487
c	350	GLU	-	expression tag	UNP O00487
c	351	ILE	-	expression tag	UNP O00487
c	352	PRO	-	expression tag	UNP O00487
c	353	ALA	-	expression tag	UNP O00487
c	354	PRO	-	expression tag	UNP O00487
c	355	LEU	-	expression tag	UNP O00487
c	356	ALA	-	expression tag	UNP O00487
c	357	GLY	-	expression tag	UNP O00487
c	358	THR	-	expression tag	UNP O00487
c	359	VAL	-	expression tag	UNP O00487
c	360	SER	-	expression tag	UNP O00487
c	361	LYS	-	expression tag	UNP O00487

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Chain	Residue	Modelled	Actual	Comment	Reference
c	362	ILE	-	expression tag	UNP O00487
c	363	LEU	-	expression tag	UNP O00487
c	364	VAL	-	expression tag	UNP O00487
c	365	LYS	-	expression tag	UNP O00487
c	366	GLU	-	expression tag	UNP O00487
c	367	GLY	-	expression tag	UNP O00487
c	368	ASP	-	expression tag	UNP O00487
c	369	THR	-	expression tag	UNP O00487
c	370	VAL	-	expression tag	UNP O00487
c	371	LYS	-	expression tag	UNP O00487
c	372	ALA	-	expression tag	UNP O00487
c	373	GLY	-	expression tag	UNP O00487
c	374	GLN	-	expression tag	UNP O00487
c	375	THR	-	expression tag	UNP O00487
c	376	VAL	-	expression tag	UNP O00487
c	377	LEU	-	expression tag	UNP O00487
c	378	VAL	-	expression tag	UNP O00487
c	379	LEU	-	expression tag	UNP O00487
c	380	GLU	-	expression tag	UNP O00487
c	381	ALA	-	expression tag	UNP O00487
c	382	MET	-	expression tag	UNP O00487
c	383	LYS	-	expression tag	UNP O00487
c	384	MET	-	expression tag	UNP O00487
c	385	GLU	-	expression tag	UNP O00487
c	386	THR	-	expression tag	UNP O00487
c	387	GLU	-	expression tag	UNP O00487
c	388	ILE	-	expression tag	UNP O00487
c	389	ASN	-	expression tag	UNP O00487
c	390	ALA	-	expression tag	UNP O00487
c	391	PRO	-	expression tag	UNP O00487
c	392	THR	-	expression tag	UNP O00487
c	393	ASP	-	expression tag	UNP O00487
c	394	GLY	-	expression tag	UNP O00487
c	395	LYS	-	expression tag	UNP O00487
c	396	VAL	-	expression tag	UNP O00487
c	397	GLU	-	expression tag	UNP O00487
c	398	LYS	-	expression tag	UNP O00487
c	399	VAL	-	expression tag	UNP O00487
c	400	LEU	-	expression tag	UNP O00487
c	401	VAL	-	expression tag	UNP O00487
c	402	LYS	-	expression tag	UNP O00487
c	403	GLU	-	expression tag	UNP O00487

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Chain	Residue	Modelled	Actual	Comment	Reference
c	404	ARG	-	expression tag	UNP O00487
c	405	ASP	-	expression tag	UNP O00487
c	406	ALA	-	expression tag	UNP O00487
c	407	VAL	-	expression tag	UNP O00487
c	408	GLN	-	expression tag	UNP O00487
c	409	GLY	-	expression tag	UNP O00487
c	410	GLY	-	expression tag	UNP O00487
c	411	GLN	-	expression tag	UNP O00487
c	412	GLY	-	expression tag	UNP O00487
c	413	LEU	-	expression tag	UNP O00487
c	414	ILE	-	expression tag	UNP O00487
c	415	LYS	-	expression tag	UNP O00487
c	416	ILE	-	expression tag	UNP O00487
c	417	GLY	-	expression tag	UNP O00487
c	418	VAL	-	expression tag	UNP O00487
c	419	HIS	-	expression tag	UNP O00487
c	420	HIS	-	expression tag	UNP O00487
c	421	HIS	-	expression tag	UNP O00487
c	422	HIS	-	expression tag	UNP O00487
c	423	HIS	-	expression tag	UNP O00487
c	424	HIS	-	expression tag	UNP O00487

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	G	240	Total	C	N	O	S	0	0
			1867	1187	312	355	13		

- Molecule 6 is a protein called Proteasome subunit alpha type-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	H	232	Total	C	N	O	S	0	0
			1801	1149	304	342	6		

- Molecule 7 is a protein called Proteasome subunit alpha type-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	I	248	Total	C	N	O	S	0	0
			1933	1222	330	371	10		

- Molecule 8 is a protein called Proteasome subunit alpha type-7.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	J	239	Total	C	N	O	S	0	0
			1860	1166	327	362	5		

- Molecule 9 is a protein called Proteasome subunit alpha type-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	K	238	Total	C	N	O	S	0	0
			1817	1142	303	361	11		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	83	LYS	ALA	conflict	UNP P28066

- Molecule 10 is a protein called Proteasome subunit alpha type-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	L	240	Total	C	N	O	S	0	0
			1876	1175	338	352	11		

- Molecule 11 is a protein called Proteasome subunit alpha type-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	M	242	Total	C	N	O	S	0	0
			1890	1200	323	356	11		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
12	N	195	Total	C	N	O	S	0	0
			1462	913	250	287	12		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
13	O	220	Total	C	N	O	S	0	0
			1645	1035	278	320	12		

- Molecule 14 is a protein called Proteasome subunit beta type-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	P	204	Total	C	N	O	S	0	0
			1587	1010	264	294	19		

- Molecule 15 is a protein called Proteasome subunit beta type-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	Q	199	Total	C	N	O	S	0	0
			1588	1017	270	292	9		

- Molecule 16 is a protein called Proteasome subunit beta type-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	R	201	Total	C	N	O	S	0	0
			1559	982	274	294	9		

- Molecule 17 is a protein called Proteasome subunit beta type-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	S	213	Total	C	N	O	S	0	0
			1641	1041	281	309	10		

- Molecule 18 is a protein called Proteasome subunit beta type-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	T	216	Total	C	N	O	S	0	0
			1683	1062	291	318	12		

- Molecule 19 is a protein called 26S proteasome non-ATPase regulatory subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	X	379	Total	C	N	O	S	0	0
			3001	1914	508	567	12		

- Molecule 20 is a protein called 26S proteasome non-ATPase regulatory subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Y	378	Total	C	N	O	S	0	0
			3115	1987	533	578	17		

- Molecule 21 is a protein called 26S proteasome non-ATPase regulatory subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	Z	286	Total	C	N	O	S	0	0
			2281	1457	392	427	5		

- Molecule 22 is a protein called 26S proteasome non-ATPase regulatory subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	a	373	Total	C	N	O	S	0	0
			2995	1911	510	559	15		

- Molecule 23 is a protein called 26S proteasome non-ATPase regulatory subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	b	191	Total	C	N	O	S	0	0
			1458	910	261	279	8		

- Molecule 24 is a protein called 26S proteasome non-ATPase regulatory subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	d	250	Total	C	N	O	S	0	0
			2048	1331	335	373	9		

- Molecule 25 is a protein called 26S proteasome non-ATPase regulatory subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	f	884	Total	C	N	O	S	0	0
			6836	4298	1169	1323	46		

- Molecule 26 is a protein called 26S proteasome non-ATPase regulatory subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	W	437	Total	C	N	O	S	0	0
			3564	2258	609	674	23		

- Molecule 27 is a protein called 26S proteasome non-ATPase regulatory subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	V	432	Total	C	N	O	S	0	0
			3527	2252	628	634	13		

- Molecule 28 is a protein called 26S proteasome complex subunit SEM1.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	e	50	Total 425	C 260	N 65	O 100	0	0

- Molecule 29 is a protein called 26S proteasome regulatory subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	A	391	Total 3074	C 1936	N 541	O 580	S 17	0	0

- Molecule 30 is a protein called 26S proteasome regulatory subunit 6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	F	359	Total 2803	C 1774	N 483	O 529	S 17	0	0

- Molecule 31 is a protein called 26S protease regulatory subunit 10B.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	E	364	Total 2887	C 1814	N 515	O 542	S 16	0	0

- Molecule 32 is a protein called 26S proteasome non-ATPase regulatory subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	U	829	Total 6459	C 4098	N 1098	O 1218	S 45	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
U	320	ASN	ASP	conflict	UNP Q99460

- Molecule 33 is a protein called Ubiquitin,Green to red photoconvertible GFP-like protein EosFP.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	g	200	Total 1622	C 1044	N 274	O 292	S 12	0	0

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
g	176	LYS	ASN	conflict	UNP Q5S6Z9
g	228	CR8	HIS	conflict	UNP Q5S6Z9
g	?	-	TYR	deletion	UNP Q5S6Z9
g	?	-	GLY	deletion	UNP Q5S6Z9
g	235	LYS	GLU	conflict	UNP Q5S6Z9
g	239	ASN	HIS	conflict	UNP Q5S6Z9
g	267	ASN	ILE	conflict	UNP Q5S6Z9
g	286	TYR	HIS	conflict	UNP Q5S6Z9
g	288	THR	VAL	conflict	UNP Q5S6Z9
g	323	GLU	THR	conflict	UNP Q5S6Z9
g	354	ALA	TYR	conflict	UNP Q5S6Z9
g	392	TYR	-	expression tag	UNP Q5S6Z9

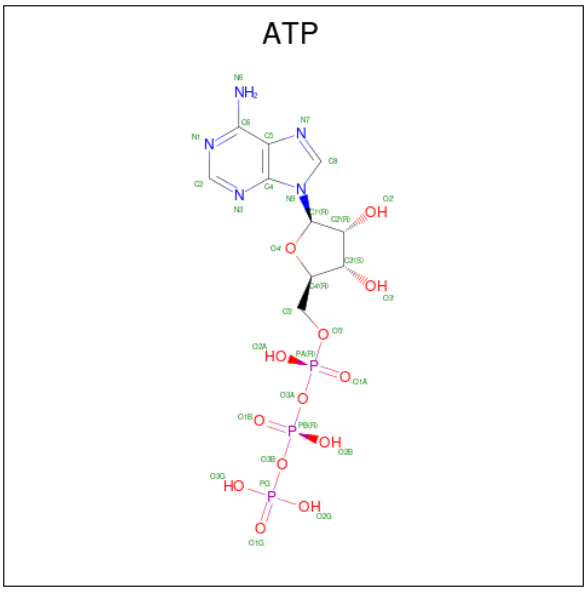
- Molecule 34 is a protein called Thioredoxin-like protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	u	155	Total	C	N	O	S	0	0
			1240	783	199	250	8		

There are 11 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
u	-10	GLY	-	expression tag	UNP O43396
u	-9	HIS	-	expression tag	UNP O43396
u	-8	MET	-	expression tag	UNP O43396
u	-7	ASP	-	expression tag	UNP O43396
u	-6	TYR	-	expression tag	UNP O43396
u	-5	LYS	-	expression tag	UNP O43396
u	-4	ASP	-	expression tag	UNP O43396
u	-3	ASP	-	expression tag	UNP O43396
u	-2	ASP	-	expression tag	UNP O43396
u	-1	ASP	-	expression tag	UNP O43396
u	0	LYS	-	expression tag	UNP O43396

- Molecule 35 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).

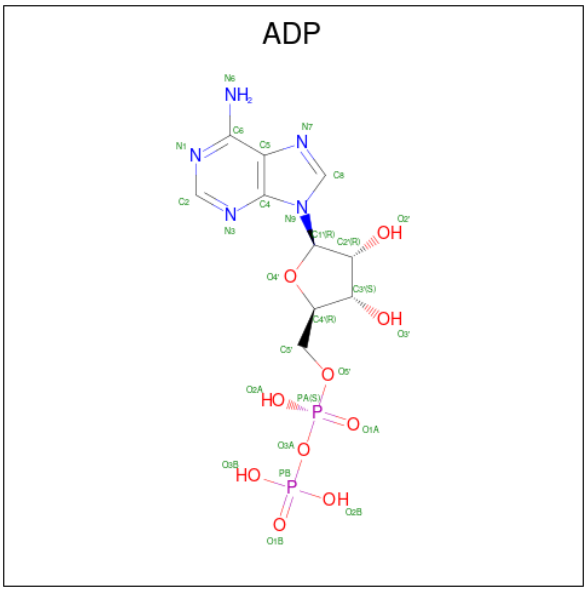


Mol	Chain	Residues	Atoms					AltConf
35	B	1	Total	C	N	O	P	0
			31	10	5	13	3	
35	C	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 36 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
36	B	1	Total	Mg	0
			1	1	
36	C	1	Total	Mg	0
			1	1	
36	D	1	Total	Mg	0
			1	1	

- Molecule 37 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
37	D	1	Total	C	N	O	P	0
			27	10	5	10	2	
37	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
37	F	1	Total	C	N	O	P	0
			27	10	5	10	2	
37	E	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 38 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

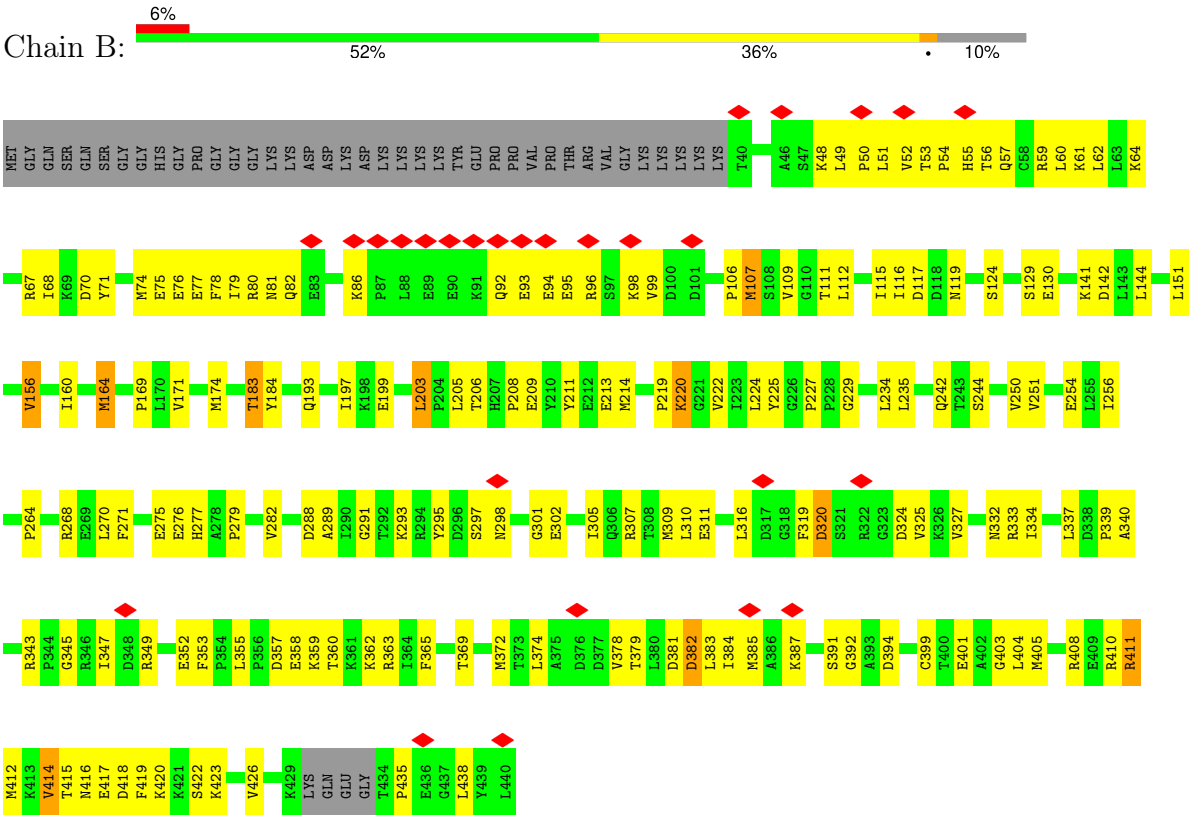
Mol	Chain	Residues	Atoms		AltConf
38	c	1	Total	Zn	0
			1	1	

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.

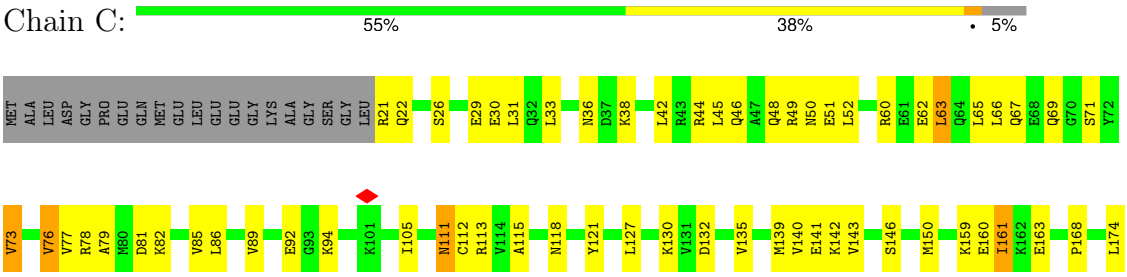
• Molecule 1: 26S proteasome regulatory subunit 4

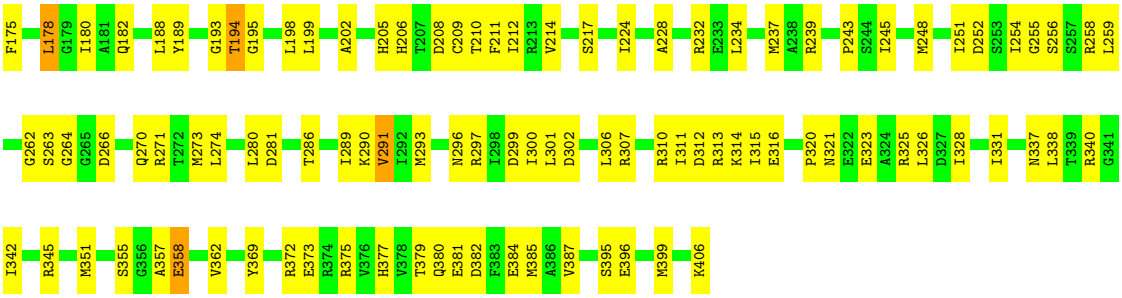
Chain B:



• Molecule 2: 26S protease regulatory subunit 8

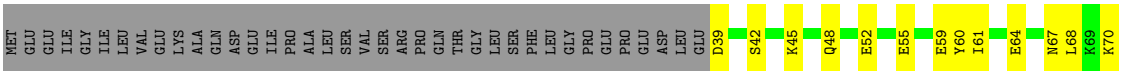
Chain C:

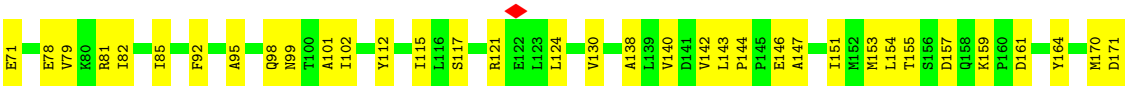


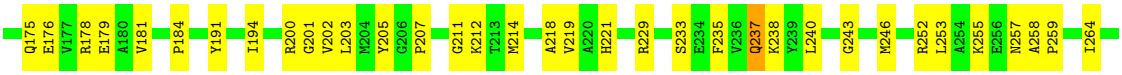


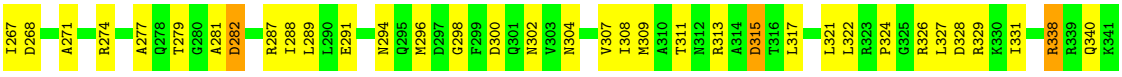
• Molecule 3: 26S proteasome regulatory subunit 6B

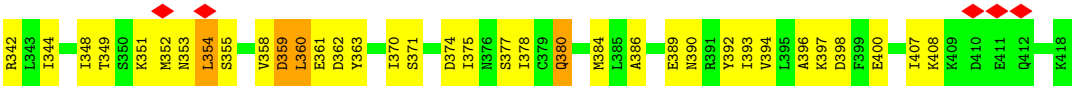
Chain D:





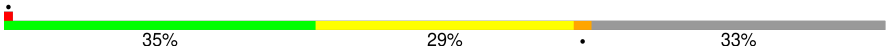


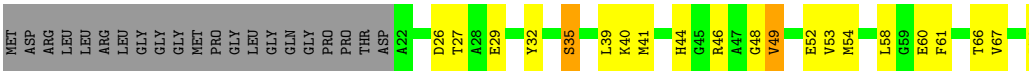




• Molecule 4: 26S proteasome non-ATPase regulatory subunit 14

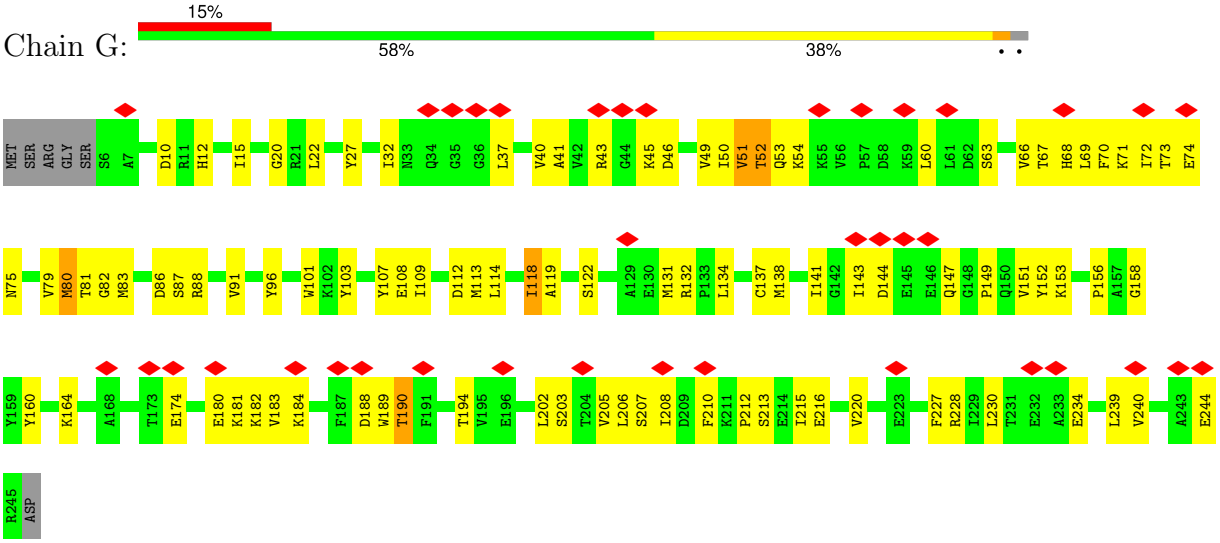
Chain c:





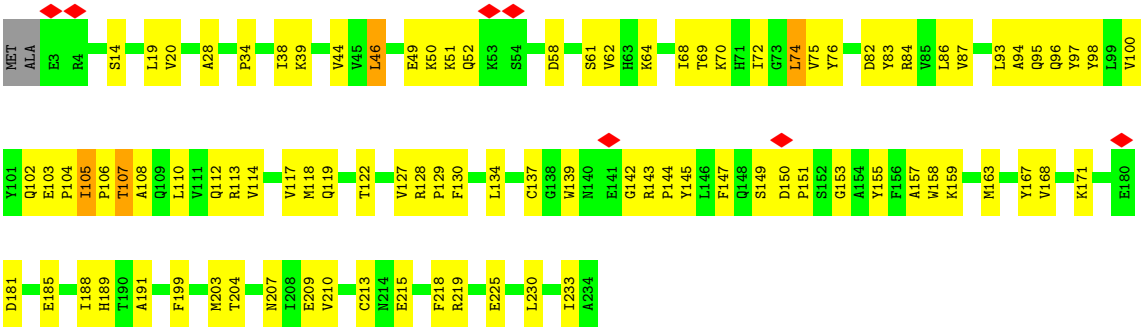
• Molecule 5: Proteasome subunit alpha type-6

Chain G:



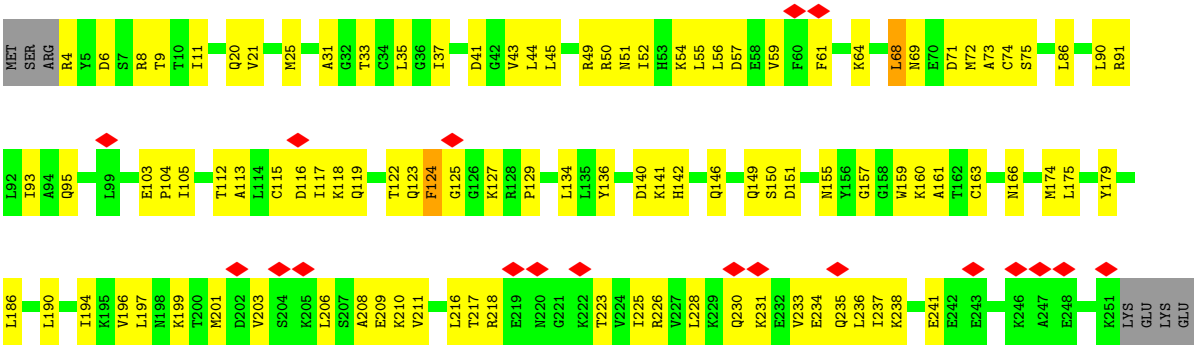
• Molecule 6: Proteasome subunit alpha type-2

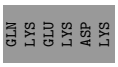
Chain H:



• Molecule 7: Proteasome subunit alpha type-4

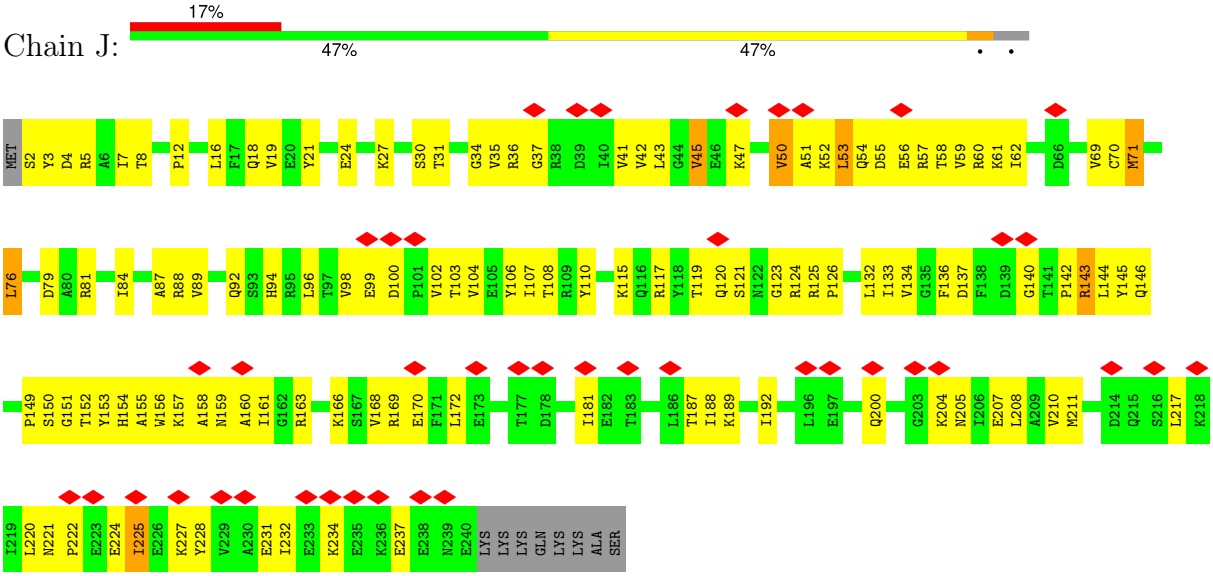
Chain I:





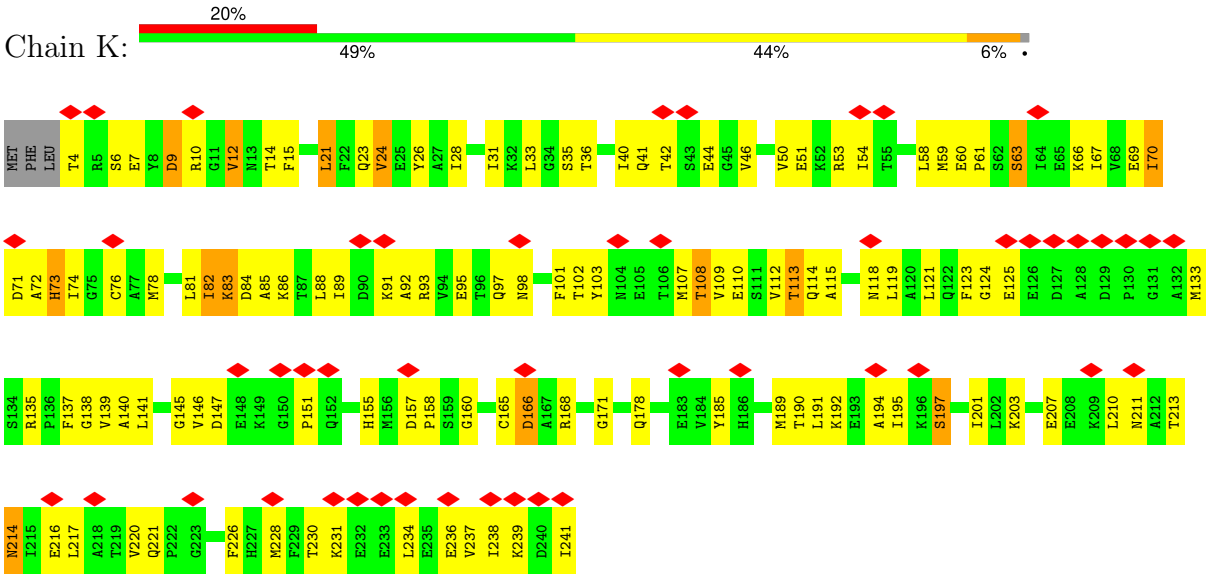
• Molecule 8: Proteasome subunit alpha type-7

Chain J:



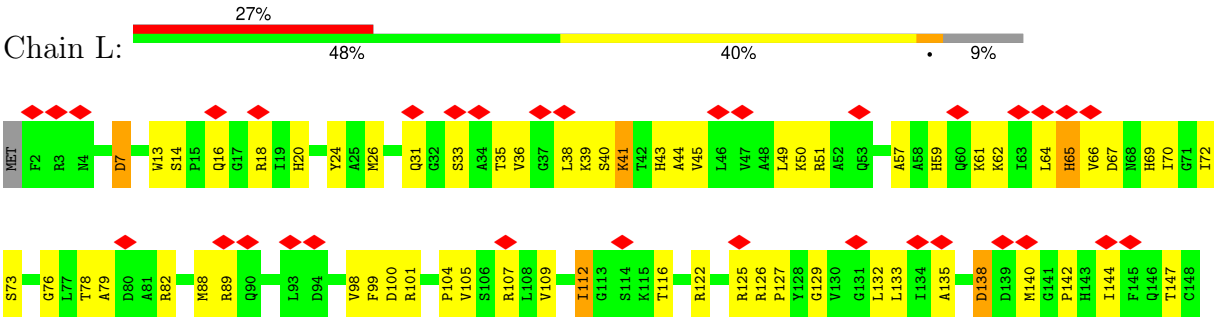
• Molecule 9: Proteasome subunit alpha type-5

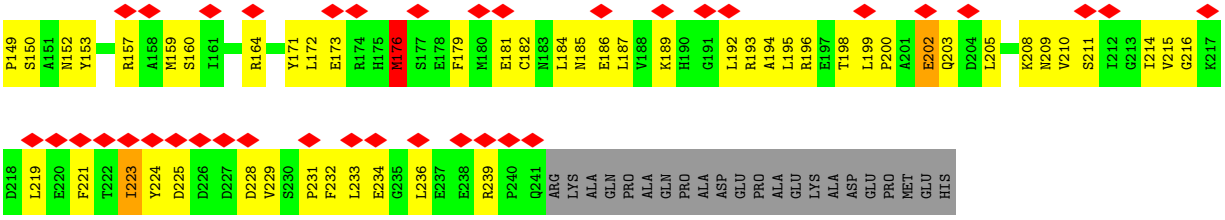
Chain K:



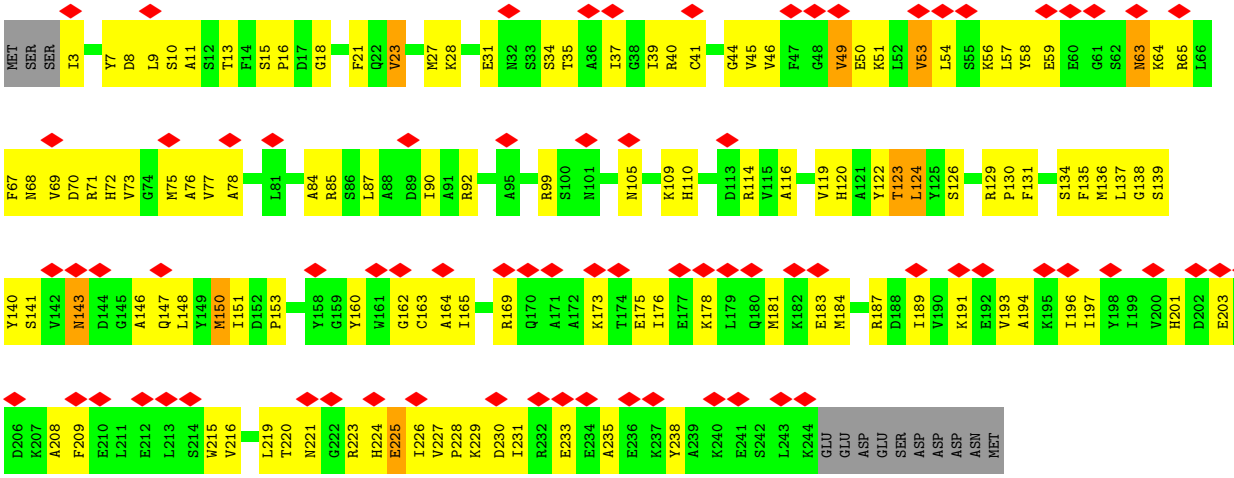
• Molecule 10: Proteasome subunit alpha type-1

Chain L:

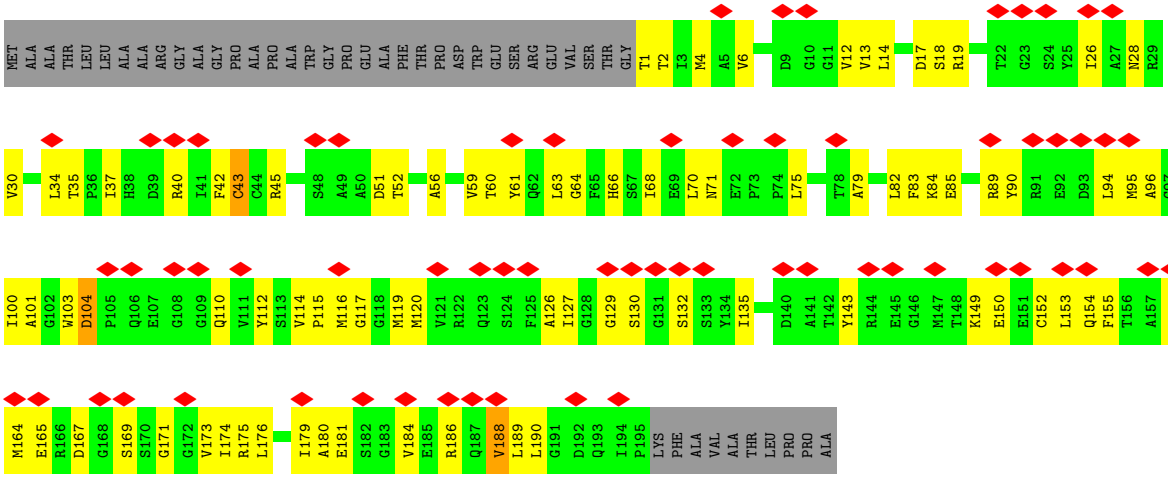




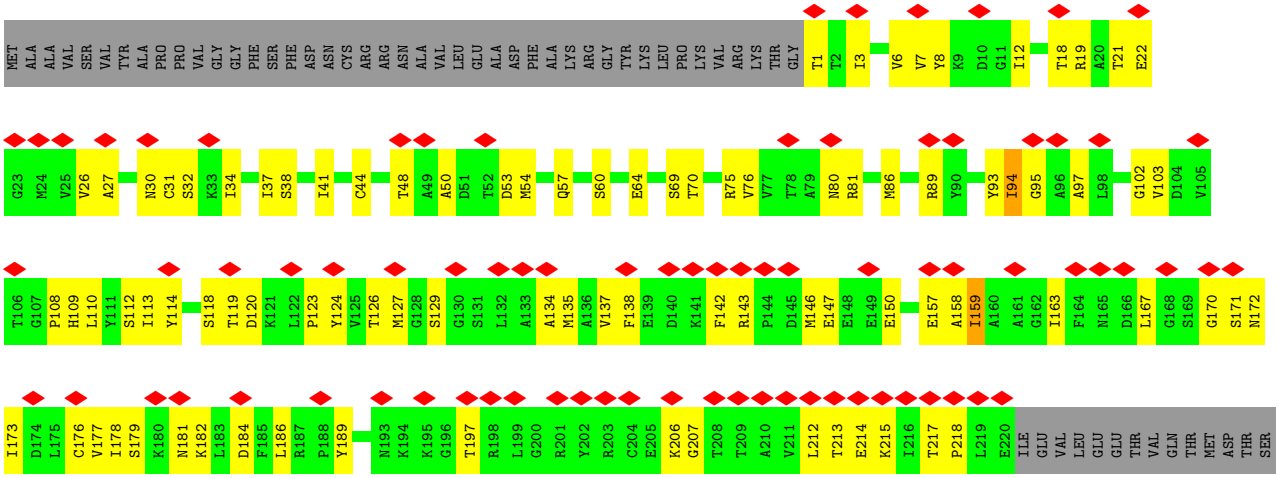
• Molecule 11: Proteasome subunit alpha type-3



• Molecule 12: Proteasome subunit beta type-6

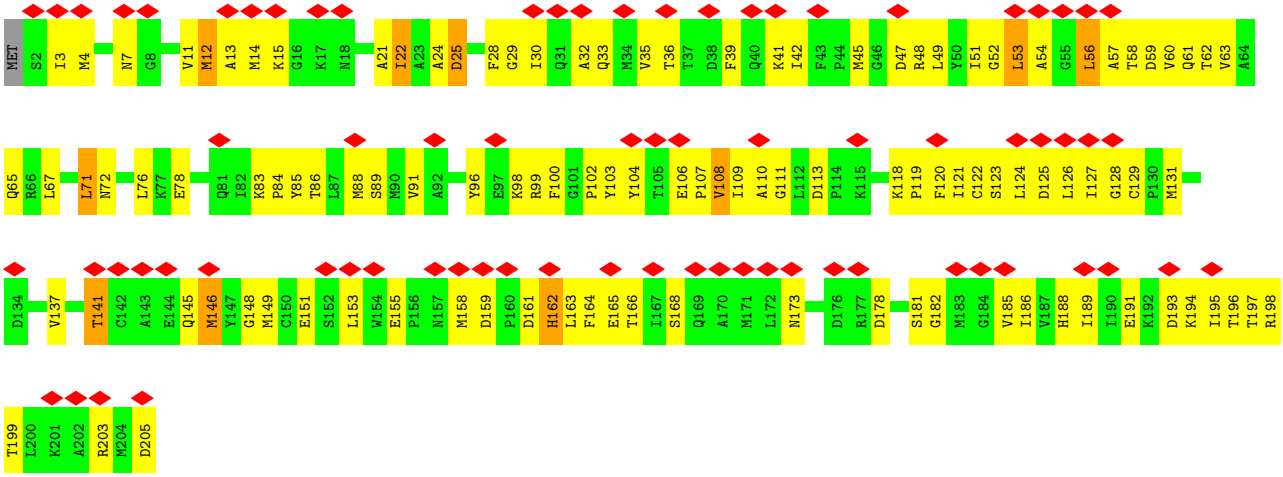


• Molecule 13: Proteasome subunit beta type-7



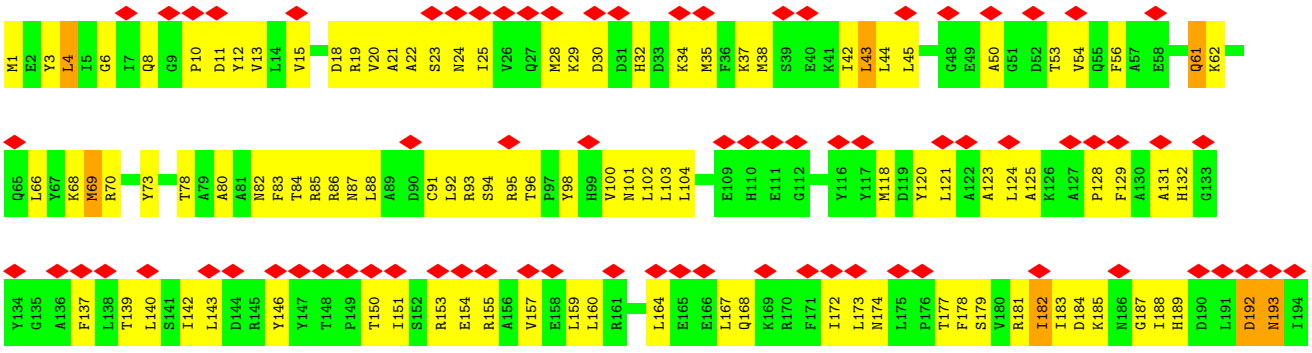
• Molecule 14: Proteasome subunit beta type-3

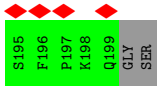
Chain P:



• Molecule 15: Proteasome subunit beta type-2

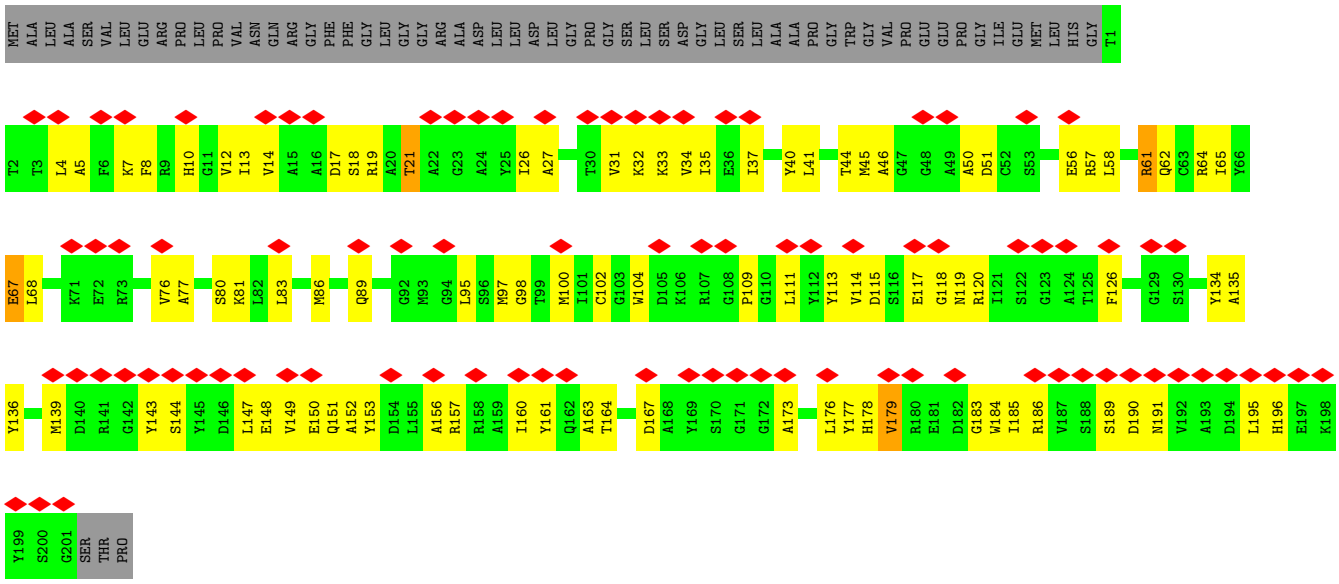
Chain Q:





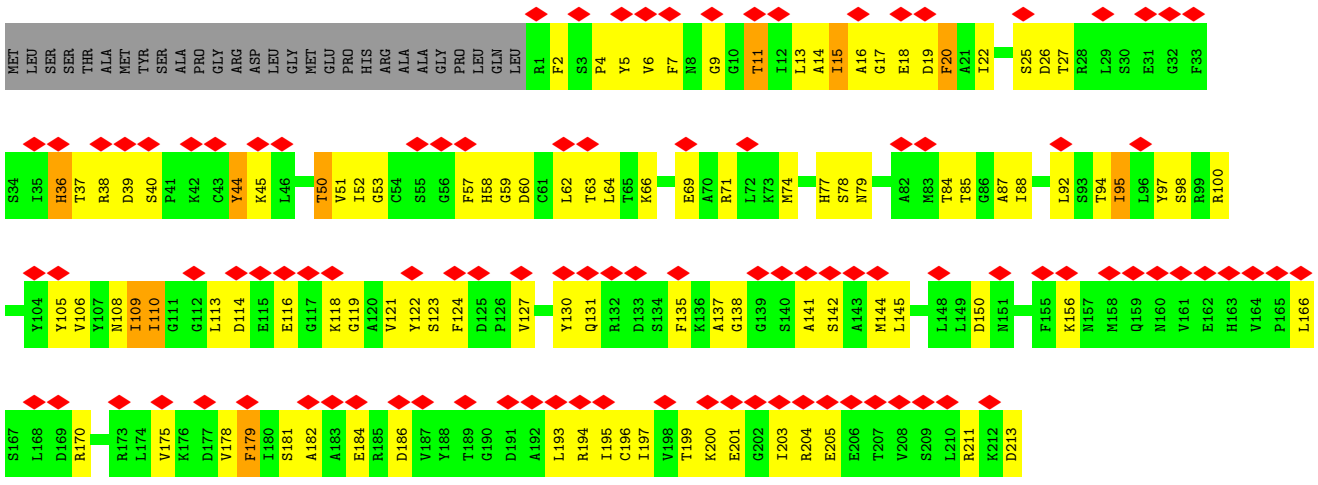
- Molecule 16: Proteasome subunit beta type-5

Chain R:



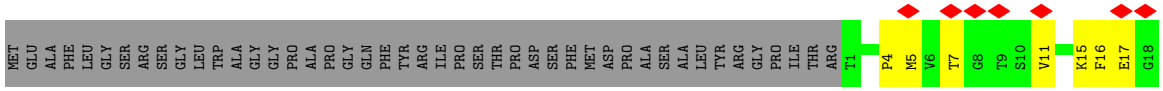
- Molecule 17: Proteasome subunit beta type-1

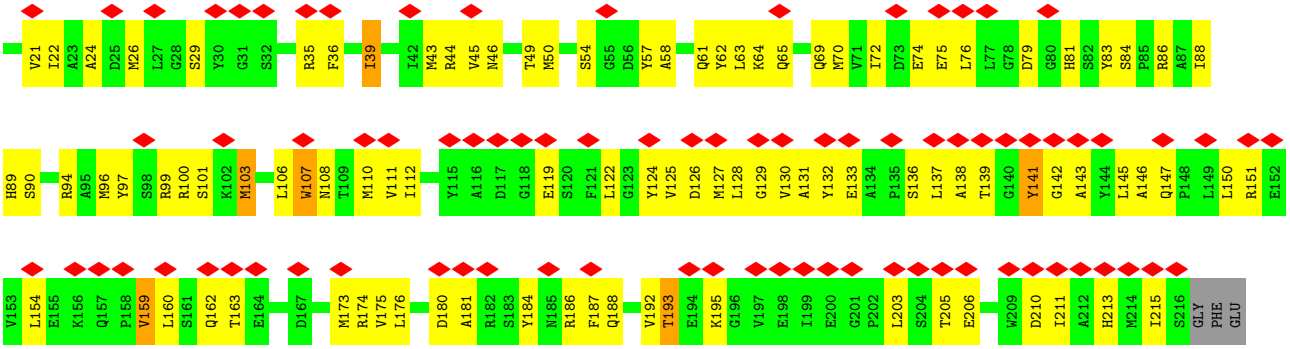
Chain S:



- Molecule 18: Proteasome subunit beta type-4

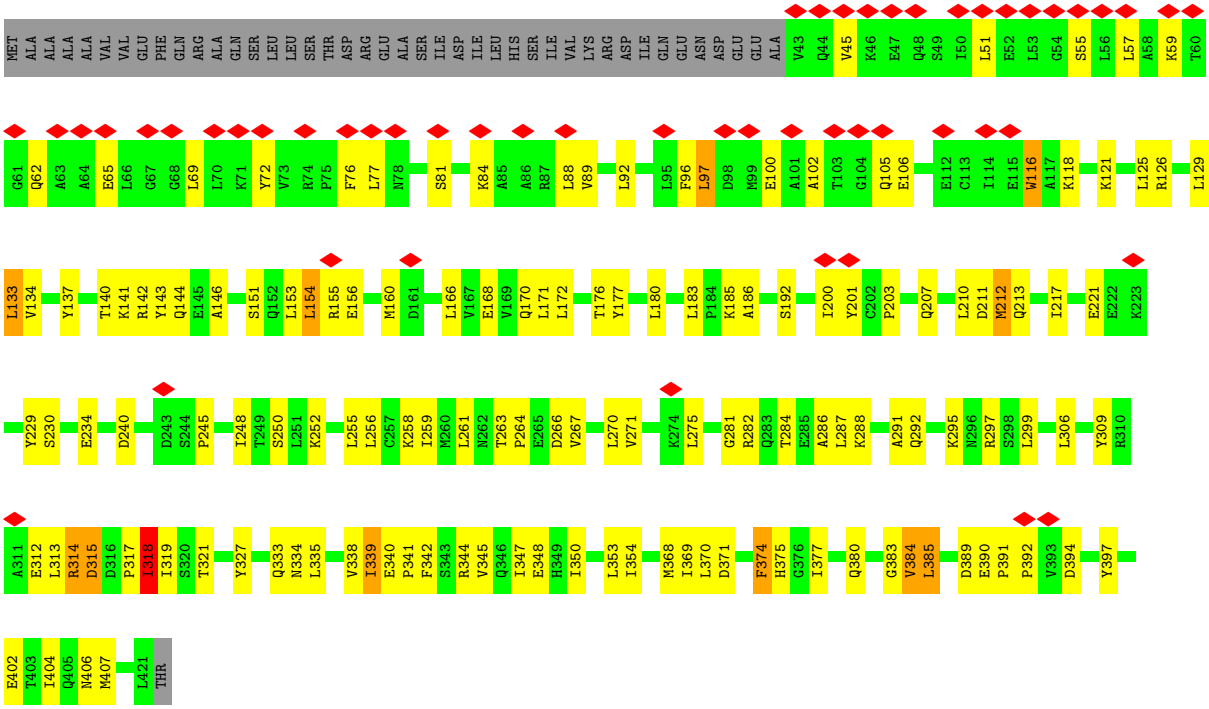
Chain T:





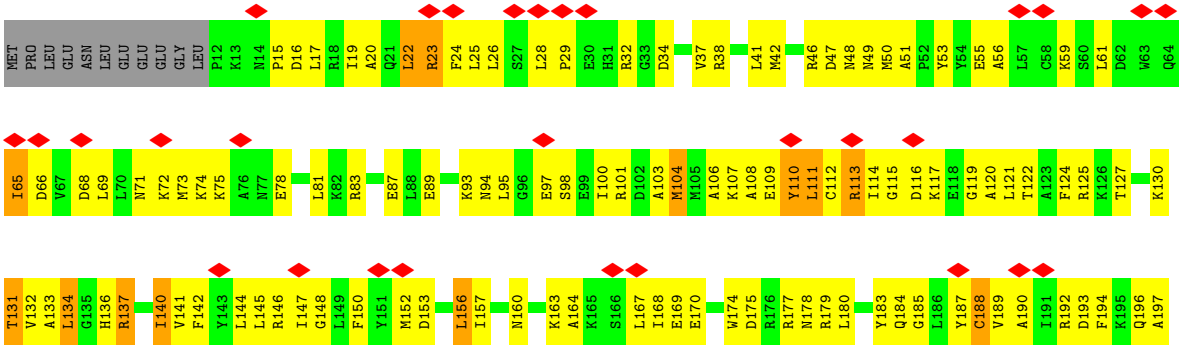
• Molecule 19: 26S proteasome non-ATPase regulatory subunit 11

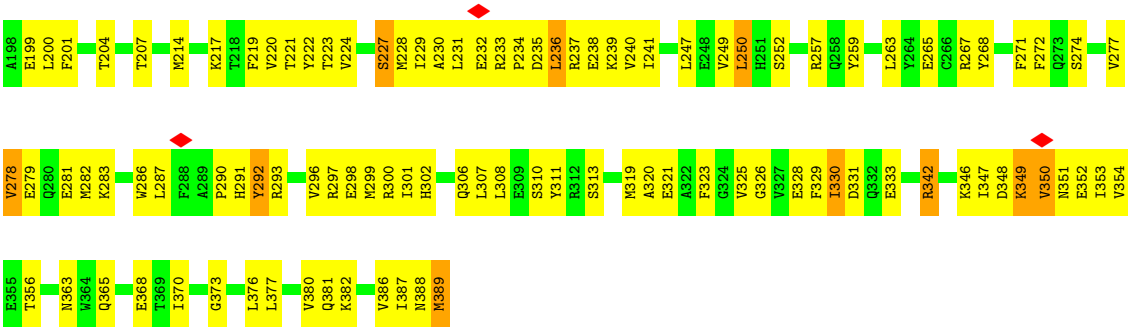
Chain X:



• Molecule 20: 26S proteasome non-ATPase regulatory subunit 6

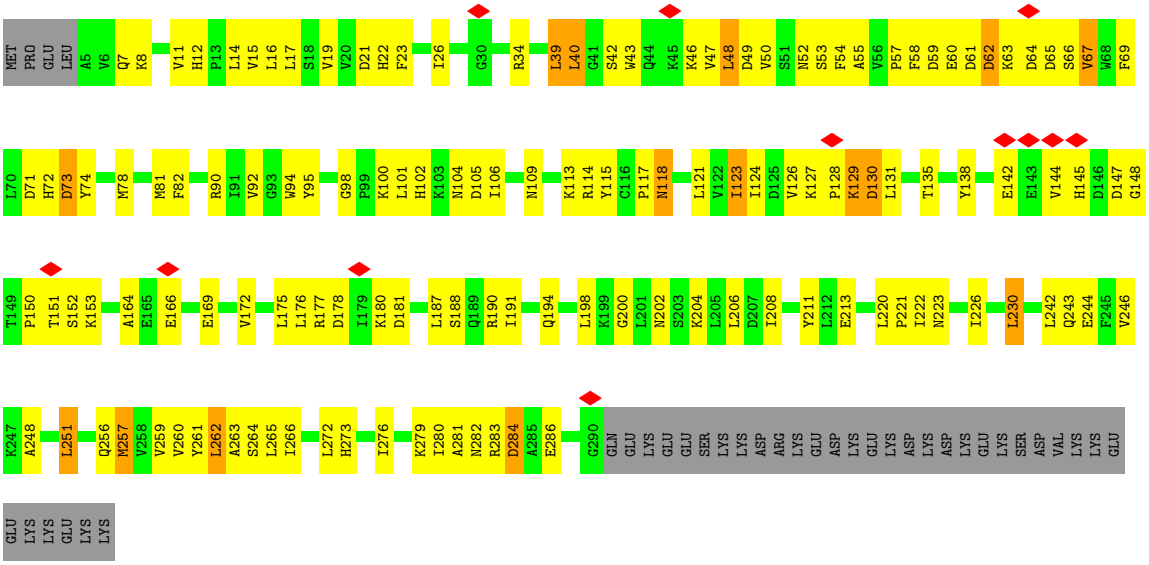
Chain Y:





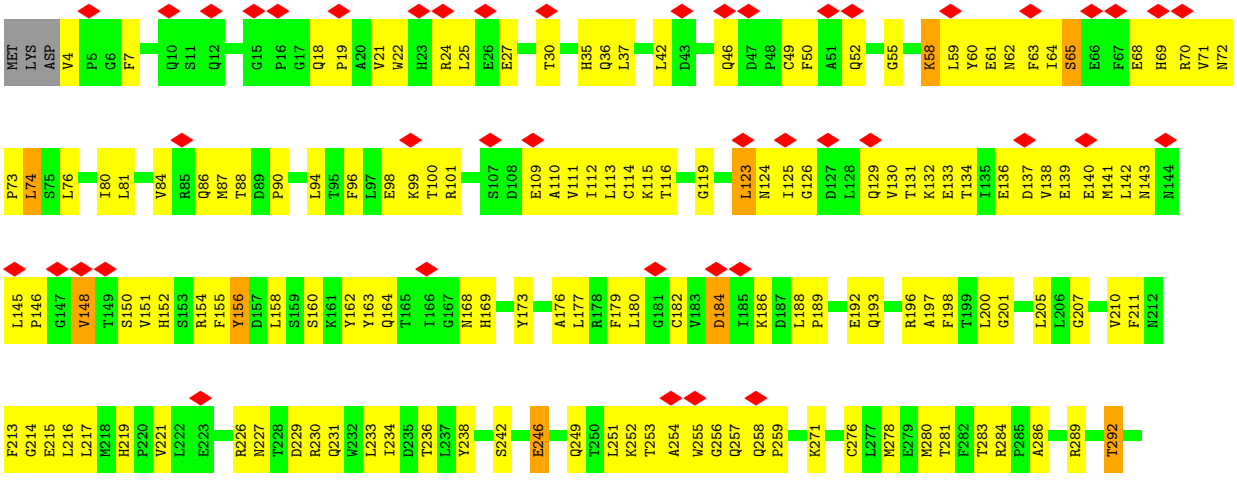
• Molecule 21: 26S proteasome non-ATPase regulatory subunit 7

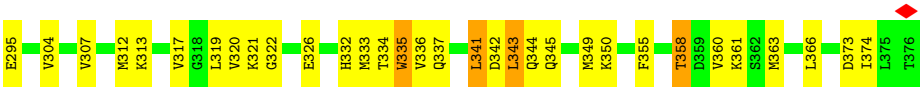
Chain Z:



• Molecule 22: 26S proteasome non-ATPase regulatory subunit 13

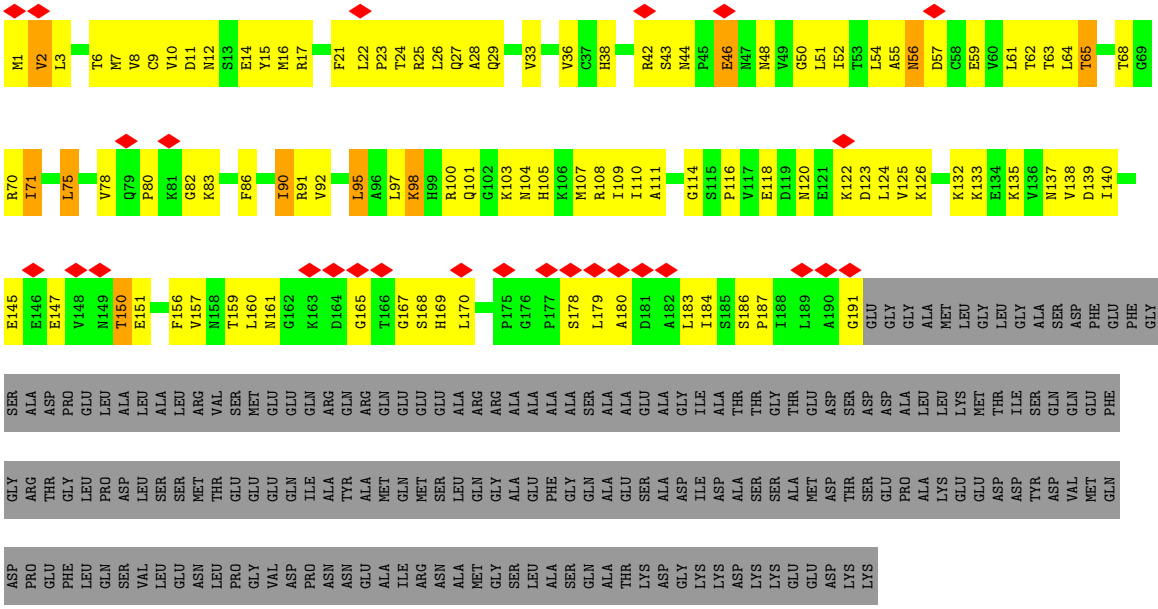
Chain a:





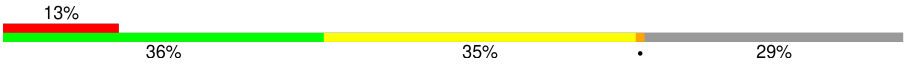
• Molecule 23: 26S proteasome non-ATPase regulatory subunit 4

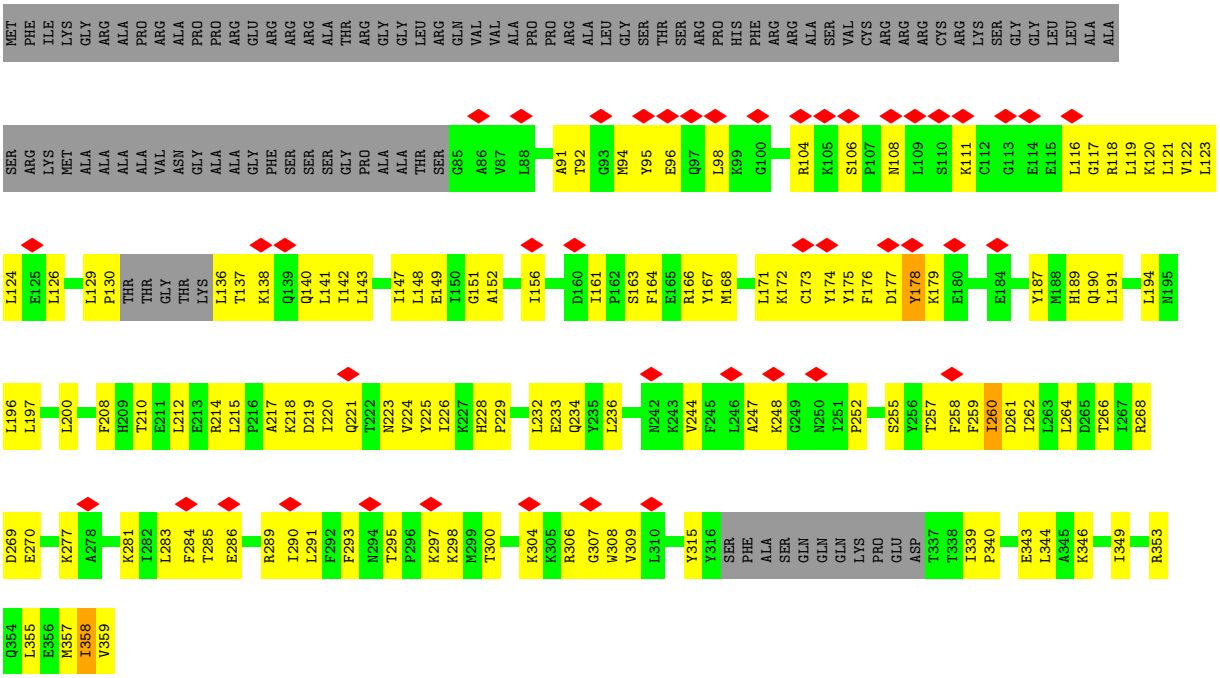
Chain b:



• Molecule 24: 26S proteasome non-ATPase regulatory subunit 8

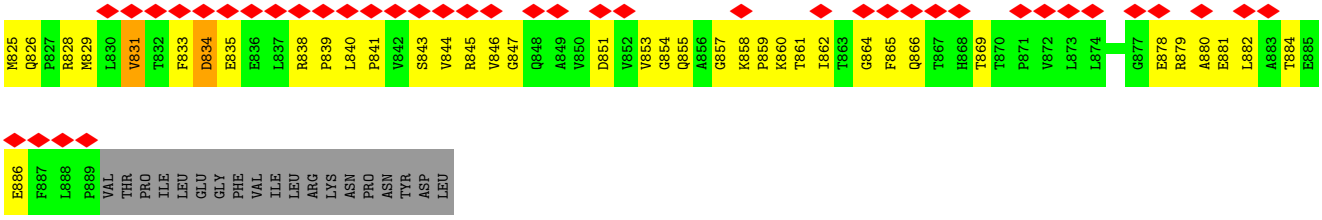
Chain d:





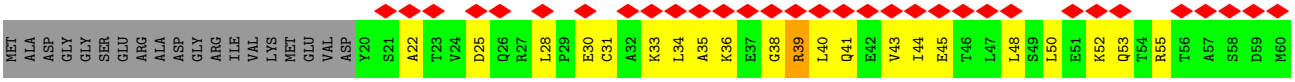
• Molecule 25: 26S proteasome non-ATPase regulatory subunit 2

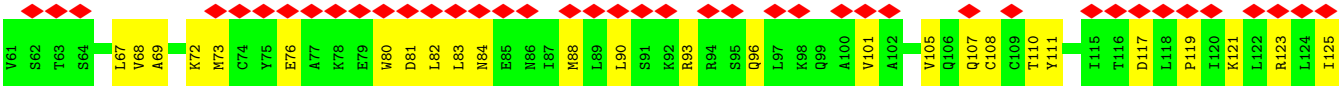
Chain f:

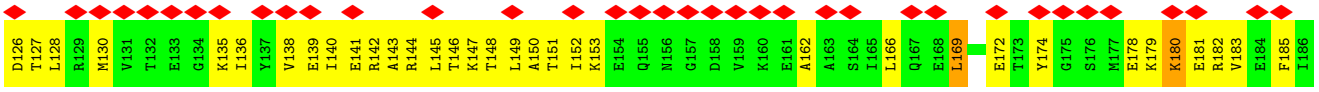


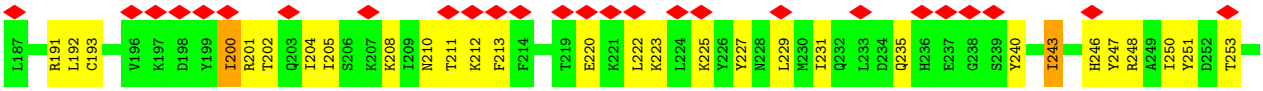
• Molecule 26: 26S proteasome non-ATPase regulatory subunit 12

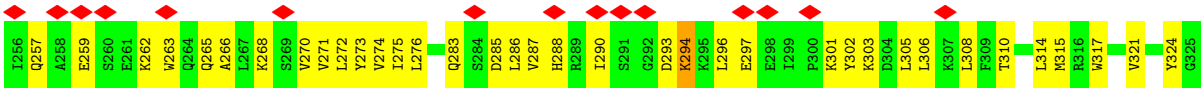
Chain W:

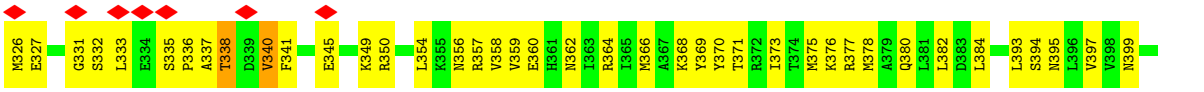


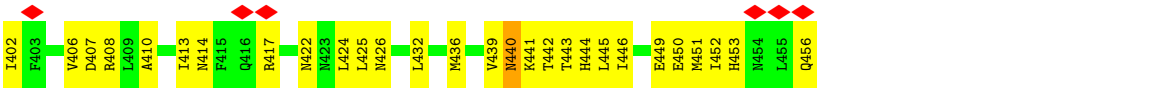


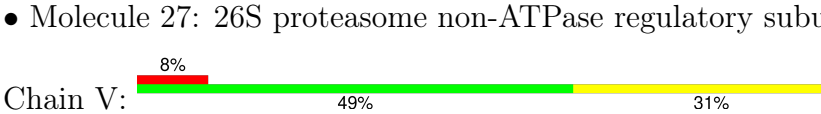






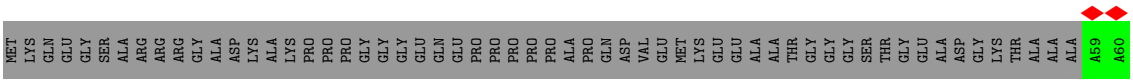


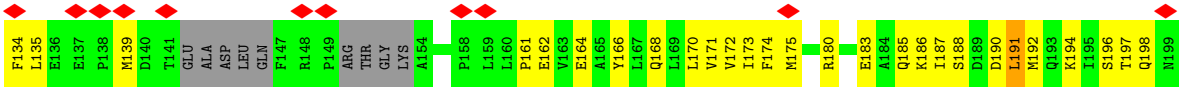


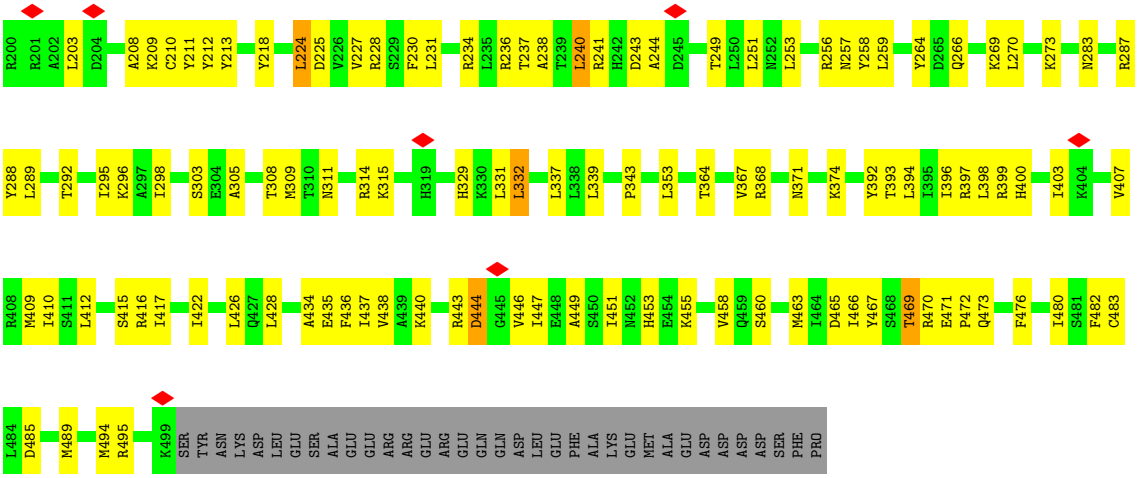


• Molecule 27: 26S proteasome non-ATPase regulatory subunit 3

Chain V:

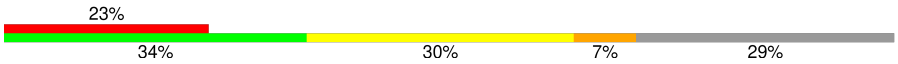






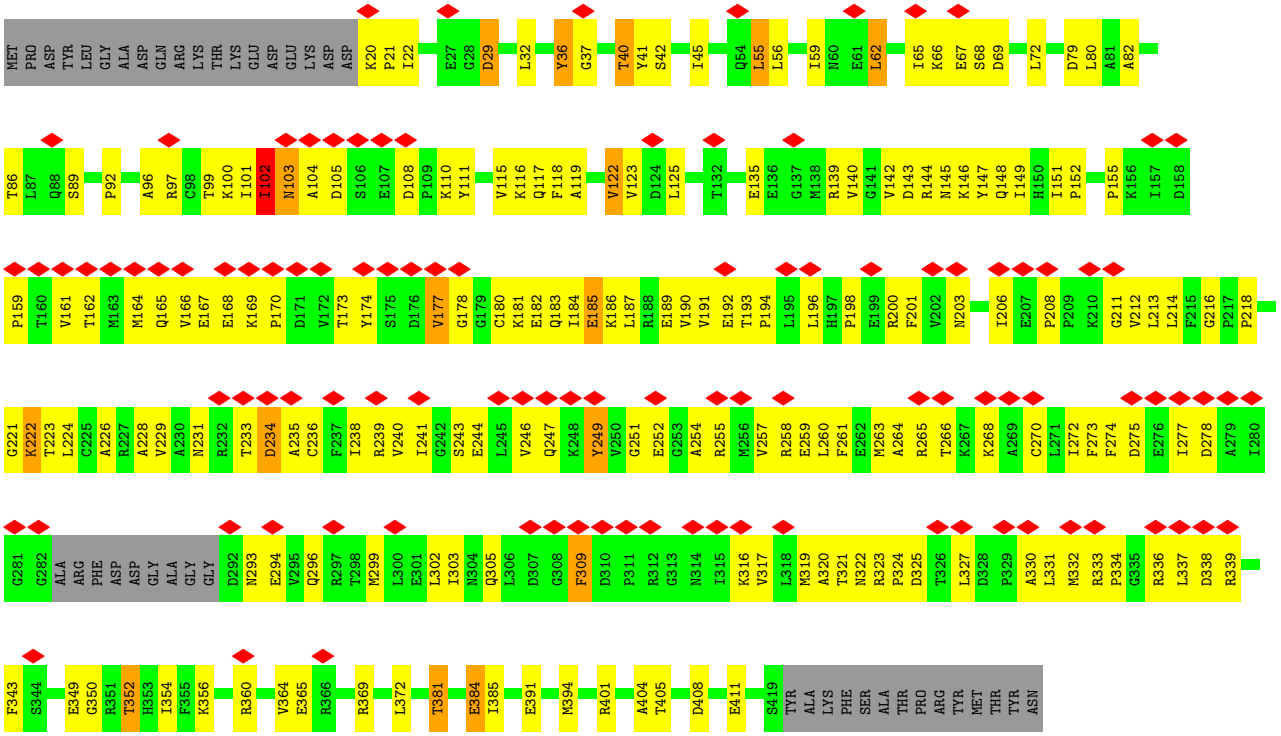
• Molecule 28: 26S proteasome complex subunit SEM1

Chain e:



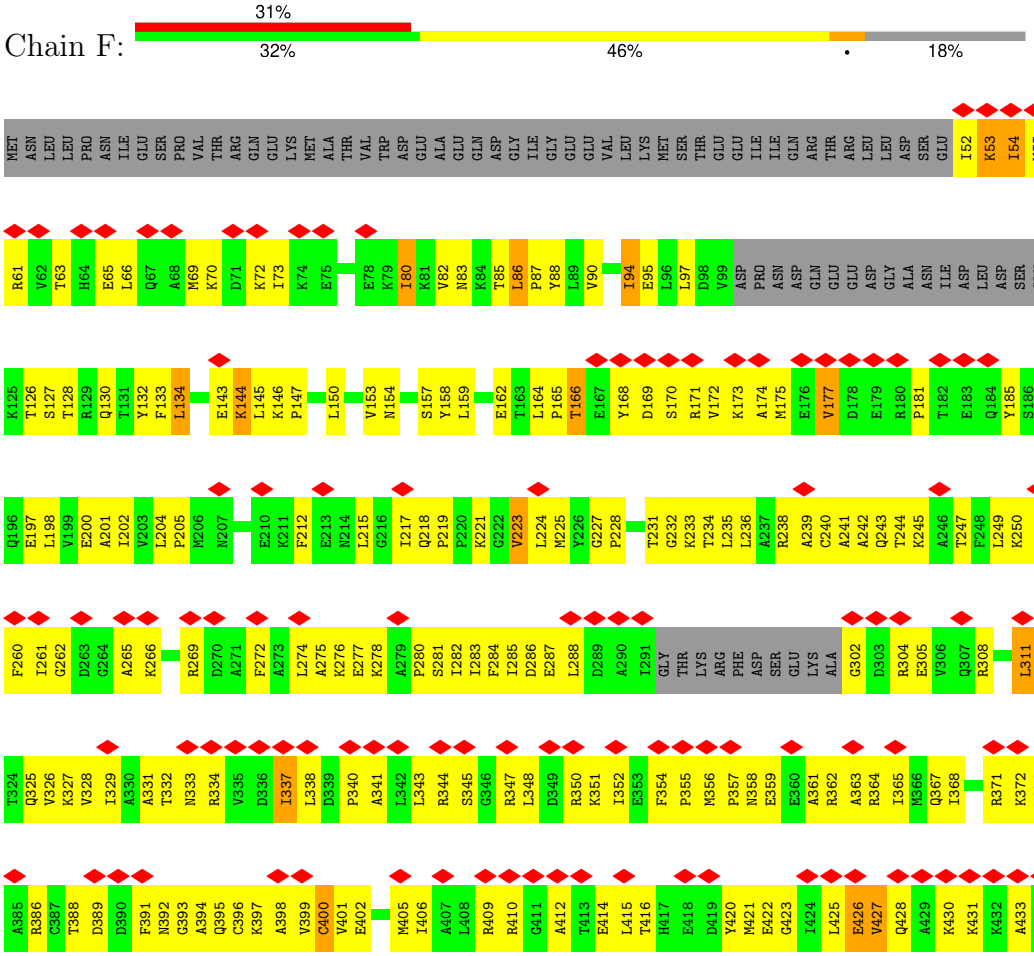
• Molecule 29: 26S proteasome regulatory subunit 7

Chain A:



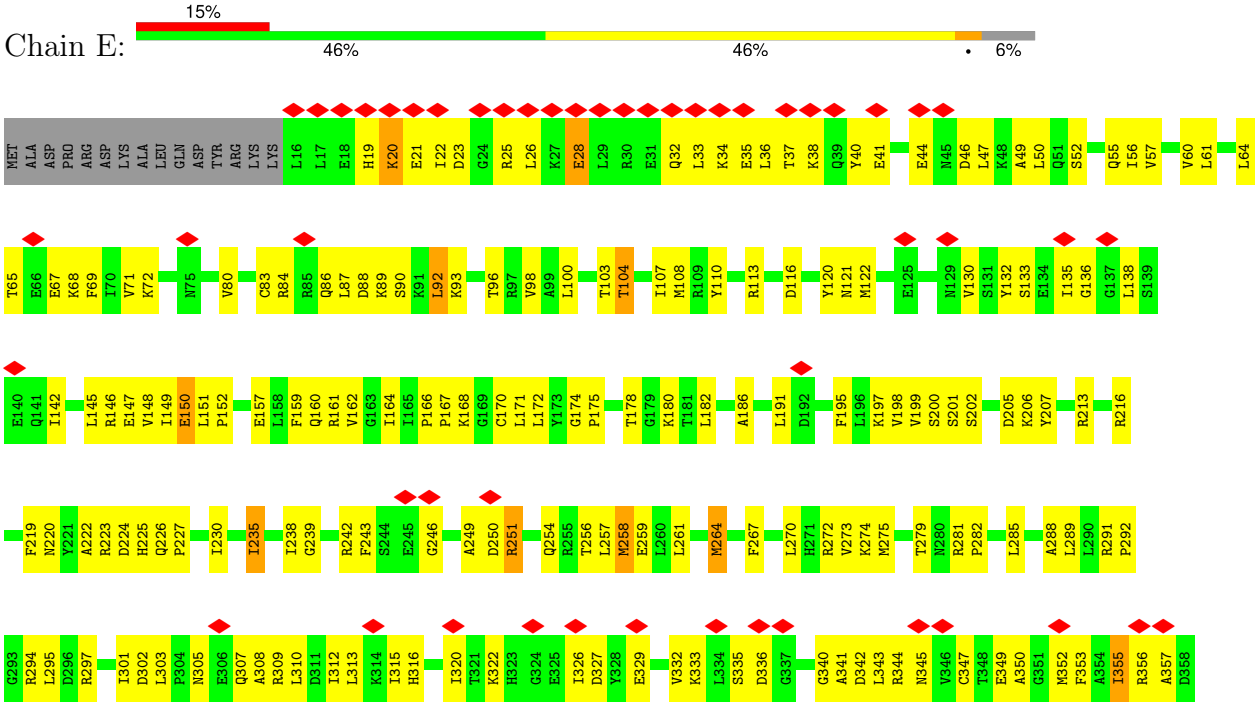
• Molecule 30: 26S proteasome regulatory subunit 6A

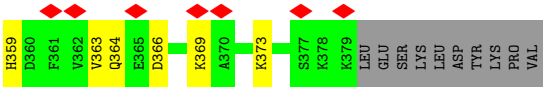
Chain F:



• Molecule 31: 26S protease regulatory subunit 10B

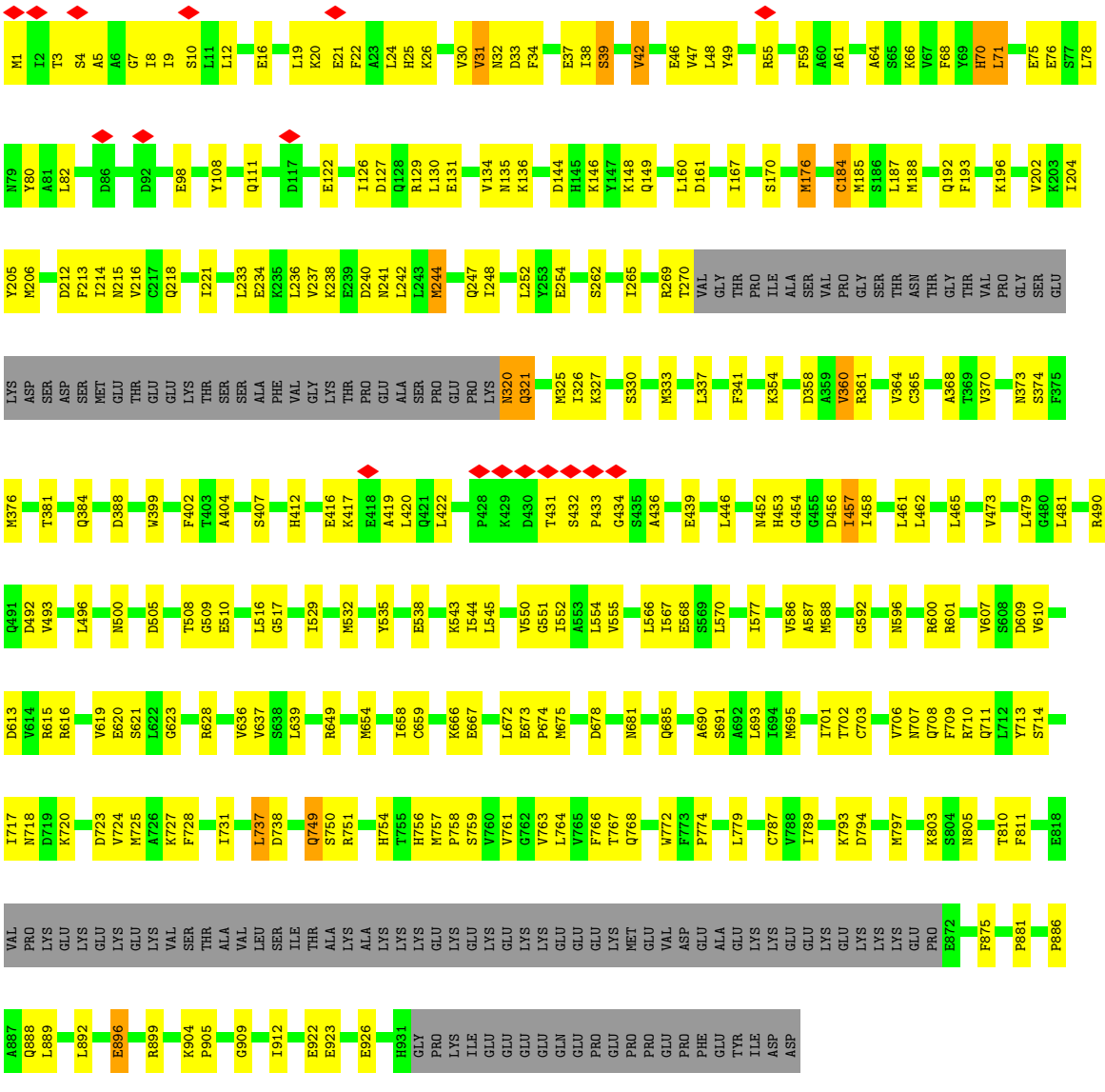
Chain E:





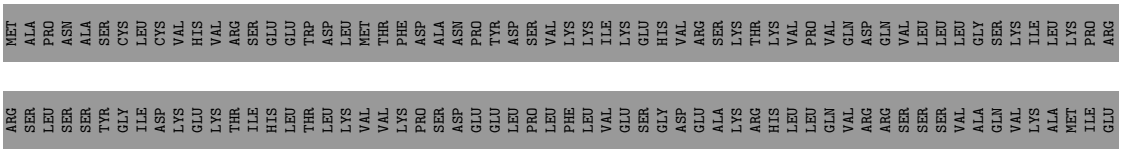
• Molecule 32: 26S proteasome non-ATPase regulatory subunit 1

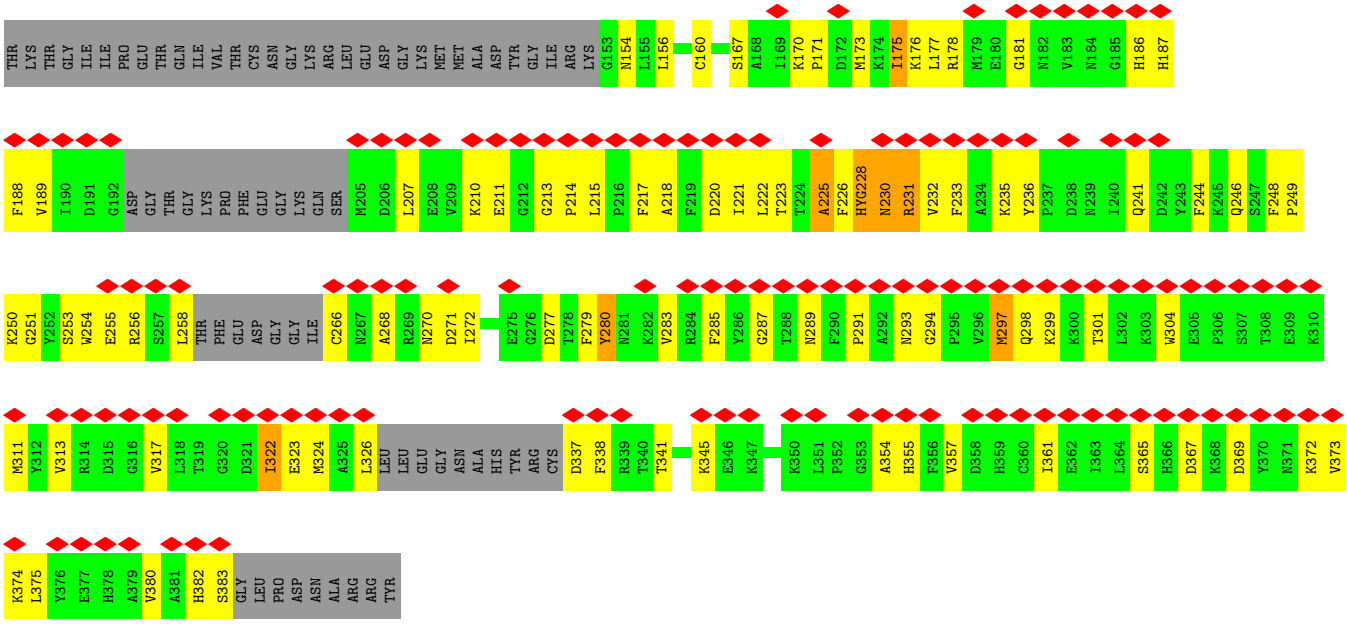
Chain U:



• Molecule 33: Ubiquitin,Green to red photoconvertible GFP-like protein EosFP

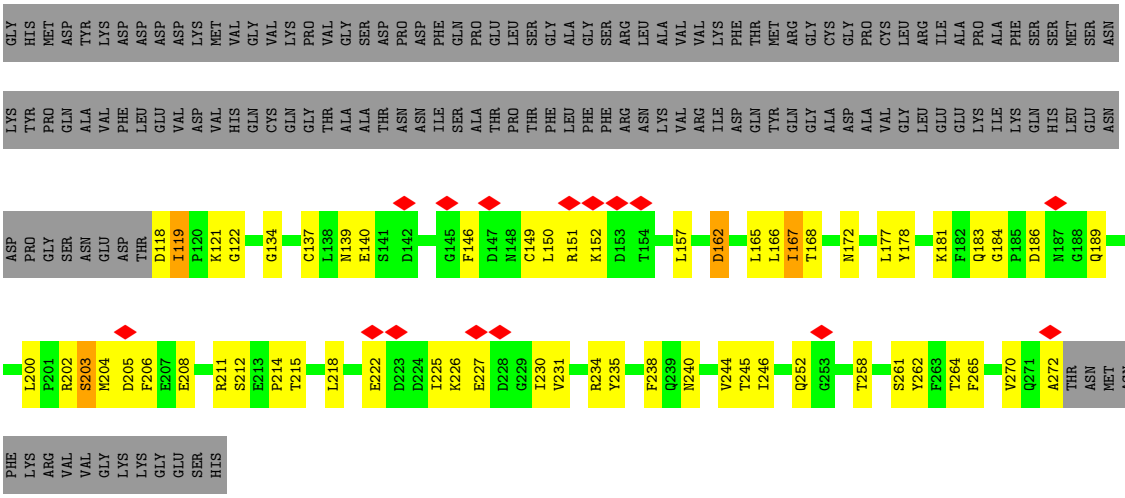
Chain g:





• Molecule 34: Thioredoxin-like protein 1

Chain u:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	73136	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 ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1700	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.216	Depositor
Minimum map value	-0.584	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.044	Depositor
Recommended contour level	0.17	Depositor
Map size (Å)	356.32, 356.32, 356.32	wwPDB
Map dimensions	340, 340, 340	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.048, 1.048, 1.048	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CR8, MG, ADP, ATP, ZN

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	B	0.19	0/3170	0.37	0/4278
2	C	0.21	0/3094	0.34	0/4158
3	D	0.25	0/3090	0.42	1/4168 (0.0%)
4	c	0.35	0/2262	0.52	0/3059
5	G	0.16	0/1901	0.37	0/2572
6	H	0.15	0/1840	0.33	0/2495
7	I	0.16	0/1963	0.36	0/2650
8	J	0.14	0/1886	0.37	0/2551
9	K	0.20	0/1845	0.43	0/2490
10	L	0.14	0/1911	0.37	1/2584 (0.0%)
11	M	0.14	0/1925	0.38	0/2592
12	N	0.16	0/1487	0.40	0/2013
13	O	0.14	0/1672	0.37	0/2267
14	P	0.17	0/1616	0.44	0/2180
15	Q	0.13	0/1621	0.36	0/2194
16	R	0.13	0/1590	0.35	0/2147
17	S	0.12	0/1671	0.34	0/2252
18	T	0.16	0/1716	0.43	0/2323
19	X	0.17	0/3045	0.36	0/4105
20	Y	0.24	0/3173	0.52	0/4273
21	Z	0.28	0/2323	0.49	0/3147
22	a	0.17	0/3053	0.42	0/4133
23	b	0.18	0/1478	0.43	0/2001
24	d	0.17	0/2090	0.46	0/2820
25	f	0.18	0/6948	0.49	1/9387 (0.0%)
26	W	0.17	0/3611	0.45	1/4855 (0.0%)
27	V	0.17	0/3595	0.35	1/4851 (0.0%)
28	e	0.22	0/437	0.60	1/595 (0.2%)
29	A	0.21	0/3121	0.46	0/4212
30	F	0.19	0/2840	0.50	0/3828
31	E	0.17	0/2930	0.36	0/3944
32	U	0.24	0/6574	0.38	1/8899 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	g	0.60	3/1635 (0.2%)	0.57	6/2197 (0.3%)
34	u	0.15	0/1265	0.33	0/1711
All	All	0.21	3/84378 (0.0%)	0.42	13/113931 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
4	c	0	1
20	Y	0	3
22	a	0	1
All	All	0	5

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	g	230	ASN	C-N	15.75	1.55	1.33
33	g	225	ALA	C-N	15.20	1.54	1.33
33	g	231	ARG	CA-C	8.85	1.64	1.52

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	g	225	ALA	O-C-N	10.99	136.04	122.63
33	g	232	VAL	N-CA-C	7.51	121.10	108.86
33	g	231	ARG	CA-C-O	6.72	130.12	120.51
33	g	232	VAL	N-CA-CB	-6.59	99.75	111.93
27	V	94	VAL	N-CA-C	-5.97	106.67	111.81
3	D	360	LEU	N-CA-C	-5.94	104.88	111.71
10	L	176	MET	CB-CG-SD	5.64	129.63	112.70
28	e	38	VAL	N-CA-C	-5.64	106.89	111.91
33	g	225	ALA	CA-C-N	-5.61	111.60	121.70
33	g	225	ALA	C-N-CA	-5.61	111.60	121.70
26	W	180	LYS	CB-CA-C	-5.56	109.17	115.79
32	U	244	MET	CB-CG-SD	5.42	128.97	112.70
25	f	666	ILE	N-CA-C	-5.21	108.76	113.71

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
20	Y	110	TYR	Peptide
20	Y	113	ARG	Peptide
20	Y	349	LYS	Peptide
22	a	341	LEU	Peptide
4	c	49	VAL	Peptide

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	B	3124	0	3187	145	0
2	C	3053	0	3173	141	0
3	D	3040	0	3075	128	0
4	c	2220	0	2230	113	0
5	G	1867	0	1867	87	0
6	H	1801	0	1773	70	0
7	I	1933	0	1923	81	0
8	J	1860	0	1846	103	0
9	K	1817	0	1804	117	0
10	L	1876	0	1856	111	0
11	M	1890	0	1880	102	0
12	N	1462	0	1428	71	0
13	O	1645	0	1648	68	0
14	P	1587	0	1598	104	0
15	Q	1588	0	1584	90	0
16	R	1559	0	1523	84	0
17	S	1641	0	1639	83	0
18	T	1683	0	1662	94	0
19	X	3001	0	3106	115	0
20	Y	3115	0	3120	227	0
21	Z	2281	0	2311	129	0
22	a	2995	0	3012	158	0
23	b	1458	0	1505	93	0
24	d	2048	0	2082	113	0
25	f	6836	0	6841	476	0
26	W	3564	0	3684	180	0
27	V	3527	0	3595	127	0
28	e	425	0	328	34	0
29	A	3074	0	3152	169	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	F	2803	0	2896	201	0
31	E	2887	0	2951	169	0
32	U	6459	0	6484	200	0
33	g	1622	0	1565	71	0
34	u	1240	0	1189	41	0
35	B	31	0	12	3	0
35	C	31	0	12	4	0
36	B	1	0	0	0	0
36	C	1	0	0	0	0
36	D	1	0	0	0	0
37	A	27	0	12	3	0
37	D	27	0	12	4	0
37	E	27	0	12	4	0
37	F	27	0	12	7	0
38	c	1	0	0	0	0
All	All	83155	0	83589	3861	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 23.

All (3861) 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)
8:J:152:THR:HB	9:K:83:LYS:HE2	1.23	1.16
3:D:359:ASP:HB3	3:D:362:ASP:HB3	1.36	1.06
32:U:265:ILE:HD11	32:U:326:ILE:HG23	1.38	1.05
9:K:82:ILE:HB	9:K:83:LYS:HE3	1.30	1.05
3:D:201:GLY:HA2	3:D:307:VAL:O	1.62	0.96
20:Y:111:LEU:HA	20:Y:114:ILE:HB	1.48	0.95
32:U:529:ILE:HD11	32:U:566:LEU:HD22	1.48	0.94
20:Y:141:VAL:HG22	20:Y:160:ASN:HB3	1.49	0.93
30:F:398:ALA:O	30:F:402:GLU:HB3	1.69	0.92
8:J:158:ALA:H	9:K:58:LEU:HD21	1.31	0.91
9:K:195:ILE:HD11	9:K:217:LEU:HD21	1.53	0.91
25:f:682:GLY:HA2	25:f:688:ARG:HH12	1.34	0.90
20:Y:180:LEU:HD13	20:Y:200:LEU:HB2	1.54	0.90
3:D:352:MET:HE1	31:E:164:ILE:HG22	1.54	0.88
34:u:168:THR:HG1	34:u:245:THR:HG1	1.21	0.88
29:A:274:PHE:HB2	29:A:319:MET:HE1	1.55	0.87
1:B:208:PRO:HD2	25:f:722:SER:HB2	1.54	0.87
29:A:115:VAL:HG23	29:A:118:PHE:HB3	1.57	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:689:ALA:O	25:f:693:ALA:HB3	1.75	0.86
3:D:355:SER:HB2	3:D:358:VAL:HB	1.58	0.85
29:A:162:THR:OG1	29:A:164:MET:SD	2.34	0.85
20:Y:73:MET:H	20:Y:73:MET:HE3	1.42	0.85
25:f:107:LYS:HE2	25:f:141:LYS:HG3	1.58	0.85
30:F:69:MET:HE1	31:E:36:LEU:HB3	1.58	0.85
32:U:509:GLY:HA3	32:U:544:ILE:HG12	1.59	0.84
4:c:307:VAL:HG11	22:a:363:MET:HE3	1.60	0.84
4:c:253:LYS:HG3	19:X:406:ASN:HD21	1.42	0.84
8:J:71:MET:HB2	8:J:133:ILE:HD12	1.58	0.84
25:f:771:LEU:HG	25:f:774:GLY:H	1.40	0.84
9:K:93:ARG:HD2	16:R:68:LEU:HD13	1.57	0.84
25:f:524:MET:HG3	25:f:776:LEU:HD13	1.58	0.84
25:f:672:LEU:HD22	25:f:708:ASP:HB2	1.61	0.83
30:F:198:LEU:HD21	30:F:240:CYS:HB2	1.61	0.83
1:B:305:ILE:HG13	2:C:224:ILE:HD11	1.60	0.82
4:c:266:THR:HB	4:c:267:PRO:HD2	1.60	0.82
1:B:130:GLU:HG2	29:A:116:LYS:HE2	1.59	0.82
8:J:99:GLU:HB3	16:R:81:LYS:HG3	1.62	0.82
21:Z:127:LYS:O	21:Z:129:LYS:NZ	2.13	0.82
17:S:63:THR:HA	18:T:94:ARG:HH22	1.44	0.81
20:Y:373:GLY:HA3	21:Z:261:TYR:HE2	1.43	0.81
1:B:75:GLU:HG2	25:f:654:VAL:HG23	1.63	0.81
1:B:156:VAL:HG23	29:A:92:PRO:HD3	1.63	0.81
9:K:166:ASP:OD1	9:K:166:ASP:N	2.14	0.80
5:G:50:ILE:HD12	5:G:79:VAL:HB	1.63	0.80
9:K:85:ALA:HB2	9:K:139:VAL:HG11	1.63	0.80
20:Y:53:TYR:HA	20:Y:56:ALA:HB3	1.63	0.80
3:D:354:LEU:H	3:D:354:LEU:HD22	1.46	0.80
25:f:706:ILE:HG22	25:f:745:LEU:HD12	1.62	0.80
26:W:371:THR:O	26:W:414:ASN:ND2	2.15	0.80
25:f:670:MET:O	25:f:673:ARG:NH1	2.14	0.80
25:f:789:SER:H	25:f:793:VAL:HB	1.46	0.80
11:M:71:ARG:HD3	18:T:72:ILE:HG23	1.63	0.80
26:W:150:ALA:HA	26:W:153:LYS:HE2	1.63	0.80
23:b:55:ALA:O	23:b:56:ASN:ND2	2.16	0.79
20:Y:188:CYS:SG	20:Y:291:HIS:ND1	2.55	0.79
3:D:203:LEU:HB2	3:D:327:LEU:HD13	1.64	0.79
1:B:129:SER:HA	29:A:116:LYS:HD2	1.64	0.79
20:Y:187:TYR:HB2	20:Y:192:ARG:HB2	1.64	0.79
18:T:72:ILE:O	18:T:76:LEU:HB2	1.81	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:b:11:ASP:O	23:b:29:GLN:NE2	2.14	0.79
31:E:71:VAL:HG21	31:E:107:ILE:HD11	1.65	0.79
33:g:228:CR8:C5	33:g:283:VAL:HG21	2.13	0.78
29:A:212:VAL:HG12	29:A:339:ARG:HB2	1.64	0.78
4:c:177:THR:HG21	32:U:364:VAL:HG22	1.63	0.78
22:a:186:LYS:HB3	22:a:193:GLN:HE22	1.48	0.78
30:F:200:GLU:OE1	30:F:350:ARG:NH2	2.16	0.78
25:f:486:GLY:HA2	25:f:525:ILE:HD11	1.65	0.78
26:W:247:TYR:HB3	26:W:270:VAL:HG22	1.64	0.78
25:f:637:LYS:HD2	25:f:678:LEU:HD22	1.65	0.78
32:U:756:HIS:HD1	32:U:759:SER:HG	1.28	0.78
8:J:71:MET:HE2	8:J:84:ILE:HD11	1.64	0.78
20:Y:106:ALA:O	20:Y:110:TYR:N	2.12	0.78
2:C:340:ARG:NH2	20:Y:175:ASP:OD1	2.17	0.77
3:D:144:PRO:HG2	3:D:147:ALA:HB2	1.66	0.77
21:Z:69:PHE:HB2	23:b:95:LEU:HD21	1.65	0.77
20:Y:144:LEU:HB3	20:Y:156:LEU:HD21	1.63	0.77
25:f:192:VAL:HG13	25:f:193:PRO:HD3	1.63	0.77
25:f:731:MET:HG3	25:f:746:ARG:HD2	1.66	0.77
12:N:119:MET:HA	18:T:61:GLN:HE22	1.49	0.77
20:Y:194:PHE:HB3	20:Y:229:ILE:HG23	1.66	0.76
22:a:74:LEU:HD11	22:a:109:GLU:HG2	1.66	0.76
24:d:166:ARG:HB2	32:U:10:SER:HB2	1.66	0.76
17:S:88:ILE:O	17:S:92:LEU:HD22	1.85	0.76
29:A:364:VAL:HG12	29:A:404:ALA:HB3	1.67	0.76
10:L:104:PRO:HB3	18:T:81:HIS:HD2	1.50	0.76
24:d:270:GLU:OE2	27:V:443:ARG:NH1	2.19	0.76
1:B:164:MET:N	1:B:164:MET:SD	2.59	0.76
28:e:54:ASN:ND2	28:e:55:GLN:OE1	2.19	0.76
7:I:119:GLN:NE2	8:J:79:ASP:OD1	2.18	0.76
19:X:143:TYR:CZ	19:X:144:GLN:HG2	2.20	0.76
24:d:163:SER:HB2	24:d:167:TYR:HE2	1.51	0.76
20:Y:300:ARG:NH1	20:Y:333:GLU:OE2	2.19	0.75
1:B:209:GLU:O	1:B:213:GLU:HB2	1.85	0.75
31:E:327:ASP:OD1	31:E:364:GLN:NE2	2.19	0.75
2:C:338:LEU:HD12	2:C:342:ILE:HG13	1.68	0.75
22:a:50:PHE:O	22:a:86:GLN:NE2	2.20	0.75
25:f:281:ILE:H	25:f:286:LYS:HZ1	1.31	0.75
9:K:83:LYS:H	9:K:83:LYS:HD2	1.51	0.75
15:Q:42:ILE:HD11	15:Q:104:LEU:HG	1.69	0.75
23:b:15:TYR:HD2	23:b:116:PRO:HD2	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:F:233:LYS:NZ	37:F:501:ADP:O1B	2.19	0.75
2:C:280:LEU:HD21	2:C:291:VAL:HG11	1.68	0.75
20:Y:196:GLN:HA	20:Y:199:GLU:HG2	1.69	0.75
20:Y:350:VAL:HG12	27:V:416:ARG:HH12	1.51	0.75
20:Y:188:CYS:HB3	28:e:39:TRP:HE1	1.51	0.75
22:a:129:GLN:HE21	22:a:130:VAL:HG12	1.51	0.75
25:f:672:LEU:HD11	25:f:707:LEU:HG	1.69	0.74
25:f:679:LEU:HB3	25:f:687:ARG:HD3	1.67	0.74
23:b:21:PHE:HB2	23:b:25:ARG:HH11	1.53	0.74
25:f:716:ASP:HA	25:f:719:PRO:HG3	1.69	0.74
33:g:256:ARG:HB3	33:g:268:ALA:HB3	1.67	0.74
19:X:338:VAL:HG13	19:X:339:ILE:HG23	1.69	0.74
22:a:113:LEU:HD13	22:a:154:ARG:HG3	1.68	0.74
23:b:9:CYS:HB2	23:b:111:ALA:HA	1.70	0.74
29:A:96:ALA:HB2	29:A:115:VAL:HG12	1.69	0.74
2:C:217:SER:OG	3:D:291:GLU:OE1	2.06	0.74
25:f:250:ARG:HG2	25:f:253:LEU:HG	1.70	0.74
1:B:382:ASP:HA	1:B:385:MET:HE2	1.68	0.74
22:a:321:LYS:HZ1	22:a:336:VAL:HG13	1.53	0.74
25:f:267:ARG:HG3	25:f:268:LEU:HD22	1.69	0.74
25:f:349:TYR:OH	25:f:751:TYR:O	2.06	0.74
29:A:211:GLY:O	29:A:338:ASP:N	2.19	0.74
23:b:3:LEU:HD22	23:b:44:ASN:HD21	1.53	0.74
25:f:834:ASP:H	25:f:839:PRO:HA	1.53	0.74
9:K:83:LYS:H	9:K:83:LYS:CD	1.96	0.74
1:B:401:GLU:OE2	2:C:313:ARG:NH1	2.19	0.73
10:L:208:LYS:HE2	10:L:208:LYS:HA	1.70	0.73
30:F:202:ILE:HD11	30:F:329:ILE:HD12	1.68	0.73
26:W:326:MET:SD	26:W:326:MET:N	2.59	0.73
24:d:117:GLY:HA2	24:d:120:LYS:HE2	1.70	0.73
26:W:105:VAL:HG21	26:W:138:VAL:HG11	1.68	0.73
26:W:148:THR:O	26:W:151:THR:OG1	2.06	0.73
24:d:306:ARG:HB2	24:d:308:TRP:HD1	1.54	0.73
25:f:228:LYS:HB3	25:f:233:LEU:HD11	1.70	0.73
30:F:356:MET:HE1	30:F:392:ASN:HB3	1.71	0.73
31:E:83:CYS:HA	31:E:107:ILE:HB	1.70	0.73
3:D:358:VAL:HG12	3:D:360:LEU:HD23	1.69	0.73
22:a:156:TYR:HB2	22:a:179:PHE:HB2	1.70	0.73
25:f:640:LYS:HE3	25:f:647:GLY:HA3	1.71	0.73
2:C:36:ASN:ND2	27:V:89:LYS:O	2.22	0.73
9:K:88:LEU:HD23	9:K:119:LEU:HD23	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:U:431:THR:HG23	32:U:433:PRO:HD2	1.70	0.73
20:Y:107:LYS:HD2	20:Y:111:LEU:HB2	1.70	0.73
26:W:285:ASP:HA	26:W:288:HIS:CE1	2.24	0.73
30:F:154:ASN:OD1	30:F:157:SER:N	2.22	0.73
20:Y:23:ARG:HH21	20:Y:55:GLU:HG2	1.53	0.72
2:C:78:ARG:HH22	29:A:68:SER:HB3	1.55	0.72
9:K:118:ASN:OD1	10:L:82:ARG:NH2	2.22	0.72
12:N:116:MET:HG3	18:T:5:MET:HE1	1.72	0.72
25:f:764:LEU:O	25:f:858:LYS:NZ	2.22	0.72
29:A:243:SER:HB2	29:A:247:GLN:HE22	1.52	0.72
4:c:264:LYS:O	4:c:265:MET:HG3	1.89	0.72
10:L:196:ARG:HD3	10:L:239:ARG:HD3	1.72	0.72
13:O:113:ILE:HD12	13:O:119:THR:HB	1.70	0.72
25:f:791:VAL:HG13	25:f:800:LEU:HD21	1.71	0.72
29:A:135:GLU:OE1	29:A:255:ARG:NH2	2.22	0.72
16:R:102:CYS:HB3	16:R:111:LEU:HD13	1.71	0.72
27:V:368:ARG:HG3	27:V:409:MET:HE1	1.72	0.72
5:G:45:LYS:HZ1	5:G:190:THR:HA	1.55	0.72
1:B:381:ASP:OD1	8:J:200:GLN:NE2	2.23	0.72
2:C:52:LEU:HD22	3:D:68:LEU:HB3	1.71	0.72
1:B:372:MET:HE1	1:B:399:CYS:HB3	1.70	0.72
29:A:165:GLN:HA	29:A:239:ARG:H	1.54	0.72
31:E:56:ILE:HB	31:E:100:LEU:HB2	1.71	0.72
4:c:131:GLN:CD	33:g:231:ARG:HH21	1.97	0.72
9:K:35:SER:HB3	9:K:66:LYS:HE3	1.72	0.72
31:E:250:ASP:O	31:E:254:GLN:HG2	1.90	0.71
33:g:228:CR8:N11	33:g:256:ARG:NH2	2.37	0.71
14:P:11:VAL:HG11	14:P:52:GLY:HA3	1.71	0.71
25:f:676:GLY:HA2	25:f:714:SER:HB3	1.72	0.71
11:M:44:GLY:HA2	11:M:140:TYR:HB2	1.71	0.71
19:X:252:LYS:HD2	19:X:313:LEU:HD22	1.71	0.71
25:f:826:GLN:HB2	25:f:865:PHE:HE1	1.55	0.71
10:L:189:LYS:NZ	10:L:232:PHE:O	2.23	0.71
19:X:81:SER:H	19:X:84:LYS:HE2	1.54	0.71
25:f:487:LEU:HD23	25:f:804:LEU:HD22	1.72	0.71
29:A:238:ILE:HB	29:A:272:ILE:HA	1.72	0.71
33:g:228:CR8:C4	33:g:283:VAL:HG21	2.20	0.71
25:f:450:ILE:HG13	25:f:804:LEU:HD21	1.72	0.71
24:d:178:TYR:OH	27:V:228:ARG:NH1	2.23	0.71
20:Y:389:MET:N	20:Y:389:MET:SD	2.64	0.71
34:u:218:LEU:HD21	34:u:231:VAL:HG11	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:W:34:LEU:HG	26:W:39:ARG:HD3	1.73	0.71
17:S:37:THR:HG22	17:S:39:ASP:H	1.56	0.70
25:f:477:MET:HA	25:f:477:MET:HE3	1.73	0.70
25:f:612:LEU:HG	25:f:632:LYS:HG2	1.73	0.70
30:F:344:ARG:HH22	31:E:344:ARG:HD2	1.56	0.70
5:G:183:VAL:HA	5:G:189:TRP:HH2	1.56	0.70
9:K:203:LYS:HB2	9:K:210:LEU:HD11	1.73	0.70
25:f:367:SER:OG	25:f:370:MET:SD	2.49	0.70
4:c:60:GLU:OE1	34:u:240:ASN:ND2	2.24	0.70
24:d:234:GLN:HB3	27:V:400:HIS:CD2	2.27	0.70
29:A:255:ARG:O	29:A:258:ARG:HB3	1.92	0.70
3:D:354:LEU:HB2	3:D:393:ILE:HD12	1.72	0.70
4:c:71:ASP:OD1	4:c:72:VAL:N	2.25	0.70
9:K:207:GLU:HA	29:A:372:LEU:HD11	1.73	0.70
10:L:205:LEU:HA	10:L:209:ASN:HD22	1.57	0.70
25:f:460:ASP:OD2	25:f:494:ARG:NH2	2.25	0.70
31:E:243:PHE:H	31:E:254:GLN:HE22	1.37	0.70
1:B:222:VAL:HG22	1:B:349:ARG:HB2	1.73	0.70
13:O:19:ARG:NH1	13:O:167:LEU:O	2.25	0.70
8:J:136:PHE:HB3	8:J:140:GLY:HA2	1.74	0.70
5:G:80:MET:HE2	5:G:138:MET:HB2	1.74	0.70
30:F:382:GLU:HB3	30:F:386:ARG:HH21	1.56	0.70
16:R:57:ARG:NH1	16:R:57:ARG:O	2.25	0.69
27:V:311:ASN:OD1	27:V:314:ARG:NH1	2.25	0.69
29:A:119:ALA:HB2	30:F:128:THR:HG23	1.73	0.69
20:Y:164:ALA:HA	20:Y:168:ILE:HB	1.74	0.69
25:f:721:VAL:HG11	25:f:754:LYS:HE3	1.74	0.69
26:W:40:LEU:O	26:W:44:ILE:HG12	1.91	0.69
14:P:25:ASP:HA	14:P:185:VAL:HG12	1.73	0.69
28:e:47:ASN:OD1	28:e:47:ASN:N	2.23	0.69
1:B:74:MET:HE1	25:f:609:VAL:HG13	1.73	0.69
6:H:93:LEU:HD22	6:H:113:ARG:HD3	1.74	0.69
25:f:633:GLU:OE2	25:f:673:ARG:NH2	2.25	0.69
33:g:311:MET:O	33:g:354:ALA:HA	1.93	0.69
9:K:84:ASP:CG	9:K:138:GLY:H	2.01	0.69
16:R:35:ILE:HD13	16:R:56:GLU:HG3	1.74	0.69
20:Y:180:LEU:HD21	20:Y:201:PHE:CE1	2.27	0.69
30:F:249:LEU:HB2	30:F:283:ILE:HA	1.73	0.69
31:E:349:GLU:HA	31:E:352:MET:HB2	1.74	0.69
3:D:371:SER:N	3:D:374:ASP:OD2	2.25	0.69
8:J:43:LEU:HD11	8:J:134:VAL:HG21	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:a:286:ALA:HA	22:a:289:ARG:HG2	1.75	0.69
22:a:317:VAL:HG23	22:a:319:LEU:HD13	1.74	0.69
25:f:520:LEU:HD13	25:f:779:CYS:HB3	1.74	0.69
20:Y:111:LEU:O	20:Y:116:ASP:N	2.25	0.69
22:a:68:GLU:HG3	22:a:69:HIS:H	1.56	0.69
22:a:188:LEU:HB2	22:a:193:GLN:HE21	1.56	0.69
25:f:731:MET:SD	25:f:750:GLN:NE2	2.66	0.69
29:A:241:ILE:HG22	29:A:244:GLU:H	1.58	0.69
31:E:34:LYS:O	31:E:37:THR:OG1	2.11	0.69
9:K:54:ILE:HD11	9:K:59:MET:HB3	1.74	0.69
11:M:76:ALA:HB3	11:M:136:MET:HB2	1.73	0.69
22:a:252:LYS:O	22:a:252:LYS:NZ	2.25	0.69
24:d:119:LEU:HD21	24:d:147:ILE:HD12	1.75	0.69
25:f:650:GLN:OE1	25:f:650:GLN:N	2.22	0.69
32:U:213:PHE:HB3	32:U:248:ILE:HD11	1.75	0.69
7:I:68:LEU:HD22	7:I:90:LEU:HB3	1.75	0.69
12:N:104:ASP:N	12:N:104:ASP:OD1	2.26	0.69
13:O:94:ILE:HA	14:P:99:ARG:HH12	1.56	0.69
26:W:373:ILE:HG12	26:W:378:MET:HB2	1.74	0.69
27:V:463:MET:HA	27:V:463:MET:HE2	1.73	0.69
30:F:276:LYS:HE2	30:F:320:PHE:HB2	1.75	0.69
31:E:37:THR:O	31:E:40:TYR:HB3	1.92	0.69
12:N:174:ILE:HB	12:N:189:LEU:HB2	1.75	0.68
18:T:15:LYS:NZ	18:T:133:GLU:OE2	2.26	0.68
20:Y:50:MET:HB2	20:Y:74:LYS:HE2	1.75	0.68
30:F:350:ARG:HH12	31:E:352:MET:HE2	1.59	0.68
31:E:136:GLY:HA3	31:E:312:ILE:HG13	1.75	0.68
33:g:181:GLY:O	33:g:187:HIS:HA	1.94	0.68
10:L:159:MET:HE3	10:L:160:SER:H	1.58	0.68
20:Y:107:LYS:HZ3	20:Y:111:LEU:HG	1.58	0.68
3:D:349:THR:HA	3:D:352:MET:HB2	1.75	0.68
10:L:182:CYS:HB2	10:L:187:LEU:HG	1.76	0.68
17:S:194:ARG:NH2	17:S:196:CYS:SG	2.65	0.68
26:W:296:LEU:HG	26:W:303:LYS:HG2	1.74	0.68
10:L:140:MET:SD	10:L:140:MET:N	2.66	0.68
24:d:171:LEU:HG	24:d:175:TYR:CE2	2.29	0.68
25:f:759:LEU:HB2	25:f:809:ILE:HD12	1.75	0.68
26:W:48:LEU:HD11	26:W:93:ARG:HH22	1.58	0.68
2:C:45:LEU:HB3	3:D:61:ILE:HG21	1.73	0.68
2:C:160:GLU:HA	2:C:313:ARG:HH21	1.59	0.68
14:P:113:ASP:HB3	14:P:118:LYS:H	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:X:256:LEU:HD22	19:X:319:ILE:HG13	1.74	0.68
31:E:122:MET:HE3	31:E:198:VAL:HG22	1.75	0.68
32:U:233:LEU:HD22	32:U:325:MET:HE3	1.75	0.68
32:U:399:TRP:O	32:U:402:PHE:HB3	1.93	0.68
19:X:137:TYR:HB3	19:X:146:ALA:HB2	1.75	0.68
25:f:857:GLY:H	25:f:860:LYS:HD2	1.59	0.68
26:W:294:LYS:H	26:W:294:LYS:HD2	1.58	0.68
8:J:150:SER:O	9:K:83:LYS:HD3	1.94	0.68
14:P:29:GLY:HA2	14:P:35:VAL:HG22	1.76	0.68
24:d:123:LEU:HD12	24:d:126:LEU:HB3	1.76	0.68
25:f:829:MET:HE1	25:f:859:PRO:HB2	1.76	0.68
30:F:375:VAL:HB	30:F:415:LEU:HD23	1.76	0.68
33:g:258:LEU:HB3	33:g:266:CYS:HB3	1.76	0.68
19:X:130:GLU:HB3	19:X:153:LEU:HD22	1.76	0.68
25:f:681:TYR:CE1	25:f:858:LYS:HB2	2.29	0.67
1:B:372:MET:HE2	2:C:180:ILE:HG22	1.76	0.67
1:B:382:ASP:OD1	1:B:382:ASP:N	2.21	0.67
8:J:42:VAL:HG12	8:J:210:VAL:HG12	1.76	0.67
10:L:16:GLN:HB2	10:L:18:ARG:HH22	1.59	0.67
20:Y:83:ARG:O	20:Y:87:GLU:HG3	1.93	0.67
31:E:309:ARG:NH2	31:E:332:VAL:O	2.24	0.67
26:W:407:ASP:OD1	26:W:408:ARG:N	2.28	0.67
32:U:247:GLN:HE21	32:U:904:LYS:HE3	1.60	0.67
7:I:194:ILE:HG13	7:I:236:LEU:HD21	1.76	0.67
11:M:184:MET:HE3	11:M:184:MET:H	1.59	0.67
19:X:255:LEU:HB2	19:X:287:LEU:HD13	1.77	0.67
25:f:3:GLU:HG3	25:f:6:ARG:HB2	1.75	0.67
29:A:142:VAL:HG12	29:A:149:ILE:HA	1.75	0.67
29:A:243:SER:HA	29:A:246:VAL:HG12	1.77	0.67
30:F:317:LEU:HD21	30:F:347:ARG:HA	1.75	0.67
27:V:337:LEU:HD21	27:V:364:THR:HG23	1.75	0.67
12:N:173:VAL:HG12	12:N:190:LEU:HD13	1.77	0.67
19:X:282:ARG:HE	19:X:312:GLU:HG2	1.60	0.67
20:Y:147:ILE:HA	20:Y:150:PHE:CD2	2.29	0.67
21:Z:121:LEU:HD21	21:Z:123:ILE:HG13	1.77	0.67
26:W:147:LYS:O	26:W:150:ALA:HB3	1.95	0.67
6:H:46:LEU:HD22	6:H:75:VAL:HG23	1.77	0.67
10:L:153:TYR:H	11:M:85:ARG:HH12	1.40	0.67
30:F:381:TYR:HA	30:F:384:LEU:HD12	1.76	0.67
7:I:49:ARG:NH1	7:I:209:GLU:O	2.27	0.67
16:R:186:ARG:HH21	16:R:189:SER:HB3	1.57	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:158:TYR:HA	25:f:161:HIS:CD2	2.30	0.67
29:A:331:LEU:HG	29:A:337:LEU:HD11	1.76	0.67
33:g:210:LYS:HG3	33:g:211:GLU:HG3	1.76	0.67
5:G:71:LYS:HD2	5:G:227:PHE:HB3	1.76	0.67
15:Q:37:LYS:O	15:Q:61:GLN:NE2	2.25	0.67
32:U:269:ARG:HG3	32:U:326:ILE:HD11	1.76	0.67
18:T:36:PHE:CE2	18:T:39:ILE:HG23	2.30	0.66
25:f:785:ARG:NE	25:f:785:ARG:O	2.28	0.66
30:F:236:LEU:HD13	30:F:354:PHE:CZ	2.30	0.66
30:F:406:ILE:O	30:F:410:ARG:N	2.28	0.66
4:c:311:LEU:O	4:c:312:ILE:C	2.37	0.66
22:a:312:MET:HE1	26:W:369:TYR:HD2	1.60	0.66
25:f:721:VAL:HG21	25:f:754:LYS:HZ1	1.59	0.66
29:A:251:GLY:HA2	29:A:294:GLU:HG2	1.77	0.66
17:S:27:THR:OG1	17:S:38:ARG:O	2.14	0.66
22:a:322:GLY:HA3	22:a:332:HIS:O	1.96	0.66
25:f:664:GLU:HG3	25:f:667:GLY:H	1.60	0.66
29:A:102:ILE:HG21	29:A:110:LYS:HG2	1.78	0.66
30:F:55:MET:HE1	31:E:23:ASP:OD2	1.95	0.66
30:F:393:GLY:O	30:F:396:CYS:N	2.25	0.66
33:g:241:GLN:NE2	33:g:246:GLN:OE1	2.29	0.66
2:C:351:MET:HE2	2:C:387:VAL:HG22	1.76	0.66
3:D:264:ILE:HB	3:D:309:MET:HG2	1.78	0.66
4:c:217:LEU:HD22	21:Z:172:VAL:HG22	1.78	0.66
6:H:95:GLN:NE2	13:O:64:GLU:OE1	2.29	0.66
1:B:75:GLU:O	1:B:79:ILE:HG13	1.96	0.66
6:H:204:THR:H	6:H:207:ASN:HB2	1.59	0.66
14:P:14:MET:HB3	14:P:21:ALA:HB3	1.76	0.66
21:Z:15:VAL:HG12	21:Z:53:SER:HB3	1.77	0.66
25:f:133:MET:O	25:f:137:ARG:HG2	1.94	0.66
26:W:308:LEU:HG	26:W:315:MET:HE2	1.77	0.66
3:D:353:ASN:OD1	31:E:162:VAL:HA	1.95	0.66
4:c:118:PHE:O	4:c:121:TRP:NE1	2.22	0.66
9:K:101:PHE:HA	16:R:57:ARG:HE	1.60	0.66
24:d:168:MET:O	24:d:172:LYS:HG2	1.96	0.66
26:W:69:ALA:O	26:W:73:MET:HG2	1.94	0.66
22:a:35:HIS:HB2	23:b:17:ARG:HB3	1.76	0.66
25:f:325:GLN:O	25:f:329:ASN:ND2	2.23	0.66
26:W:247:TYR:HA	26:W:250:ILE:HD12	1.76	0.66
28:e:45:ASP:OD1	28:e:45:ASP:N	2.29	0.66
10:L:225:ASP:H	10:L:228:ASP:HB2	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:M:71:ARG:NH1	18:T:75:GLU:OE2	2.29	0.66
17:S:22:ILE:HG13	17:S:197:ILE:HG23	1.76	0.66
27:V:256:ARG:NH2	28:e:21:GLU:O	2.29	0.66
16:R:135:ALA:HB2	16:R:163:ALA:HB2	1.76	0.65
24:d:197:LEU:HB3	24:d:259:PHE:HE2	1.60	0.65
25:f:122:ALA:HB1	25:f:130:ALA:HB3	1.78	0.65
30:F:278:LYS:O	30:F:281:SER:OG	2.14	0.65
31:E:83:CYS:SG	31:E:89:LYS:NZ	2.62	0.65
17:S:108:ASN:HB2	17:S:124:PHE:HB2	1.77	0.65
20:Y:26:LEU:HD23	20:Y:26:LEU:H	1.61	0.65
23:b:125:VAL:HG23	23:b:159:THR:HG21	1.78	0.65
27:V:259:LEU:HD21	27:V:295:ILE:HD11	1.77	0.65
30:F:272:PHE:O	30:F:276:LYS:HG2	1.96	0.65
2:C:375:ARG:NH2	2:C:382:ASP:OD2	2.29	0.65
3:D:355:SER:O	3:D:358:VAL:HG23	1.96	0.65
10:L:65:HIS:HB3	10:L:223:ILE:HD11	1.77	0.65
24:d:130:PRO:HG3	32:U:1:MET:HA	1.78	0.65
29:A:178:GLY:O	37:A:501:ADP:N6	2.30	0.65
30:F:288:LEU:HB2	30:F:333:ASN:H	1.61	0.65
32:U:370:VAL:HG11	32:U:404:ALA:HA	1.79	0.65
32:U:691:SER:HG	32:U:713:TYR:HH	1.36	0.65
1:B:383:LEU:O	1:B:423:LYS:NZ	2.29	0.65
13:O:163:ILE:HD12	13:O:170:GLY:HA2	1.78	0.65
15:Q:83:PHE:O	15:Q:87:ASN:ND2	2.29	0.65
25:f:757:ASN:HB3	25:f:810:ILE:HG22	1.79	0.65
27:V:470:ARG:NH1	27:V:473:GLN:OE1	2.29	0.65
24:d:143:LEU:O	24:d:147:ILE:HG12	1.97	0.65
25:f:234:THR:O	25:f:238:ASN:ND2	2.27	0.65
26:W:407:ASP:OD1	26:W:408:ARG:NH1	2.30	0.65
29:A:165:GLN:HB3	29:A:238:ILE:HA	1.77	0.65
32:U:673:GLU:OE2	32:U:708:GLN:NE2	2.29	0.65
5:G:45:LYS:HD3	5:G:188:ASP:HB2	1.79	0.65
5:G:80:MET:HB3	5:G:138:MET:HA	1.78	0.65
22:a:284:ARG:O	22:a:289:ARG:NH1	2.29	0.65
25:f:66:LYS:NZ	25:f:67:ASP:OD1	2.26	0.65
25:f:307:LEU:HG	25:f:309:GLU:H	1.61	0.65
2:C:280:LEU:HB3	2:C:310:ARG:HG2	1.77	0.65
6:H:159:LYS:HE2	7:I:55:LEU:HA	1.77	0.65
14:P:45:MET:HE2	14:P:67:LEU:HD23	1.78	0.65
14:P:107:PRO:HG2	14:P:124:LEU:HB3	1.77	0.65
23:b:120:ASN:HD21	23:b:122:LYS:HD3	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:212:TYR:HA	27:V:253:LEU:HD21	1.77	0.65
6:H:122:THR:HG22	6:H:129:PRO:HB3	1.77	0.65
7:I:43:VAL:HG23	7:I:216:LEU:HB3	1.79	0.65
9:K:121:LEU:HD23	9:K:160:GLY:HA3	1.78	0.65
11:M:71:ARG:HH12	18:T:75:GLU:HB3	1.60	0.65
17:S:118:LYS:NZ	17:S:119:GLY:O	2.30	0.65
25:f:213:GLN:O	25:f:217:LEU:HD12	1.96	0.65
25:f:438:ASP:OD1	25:f:476:THR:OG1	2.12	0.65
26:W:149:LEU:HD23	26:W:153:LYS:HD3	1.79	0.65
33:g:291:PRO:HG2	33:g:294:GLY:HA3	1.79	0.65
1:B:67:ARG:HG2	25:f:646:MET:HE1	1.78	0.65
4:c:89:PRO:HG3	33:g:250:LYS:HG3	1.79	0.65
15:Q:192:ASP:OD1	15:Q:192:ASP:N	2.28	0.65
28:e:51:ASP:CG	28:e:52:PHE:H	2.05	0.65
20:Y:42:MET:HB3	20:Y:46:ARG:HH21	1.60	0.64
20:Y:308:LEU:HD12	20:Y:356:THR:HG22	1.80	0.64
29:A:190:VAL:HG11	29:A:212:VAL:HG21	1.79	0.64
34:u:222:GLU:HA	34:u:225:ILE:HD12	1.80	0.64
2:C:163:GLU:OE1	2:C:313:ARG:NH2	2.31	0.64
3:D:354:LEU:HB2	3:D:393:ILE:CD1	2.27	0.64
11:M:45:VAL:HG21	11:M:138:GLY:HA3	1.80	0.64
13:O:38:SER:HB3	13:O:41:ILE:HG22	1.79	0.64
17:S:50:THR:HG22	17:S:110:ILE:HD12	1.78	0.64
19:X:183:LEU:HD21	19:X:221:GLU:HG2	1.79	0.64
20:Y:51:ALA:N	20:Y:114:ILE:O	2.30	0.64
20:Y:180:LEU:HD12	20:Y:197:ALA:HA	1.79	0.64
20:Y:290:PRO:HB2	20:Y:291:HIS:ND1	2.12	0.64
21:Z:8:LYS:HB3	21:Z:47:VAL:HG23	1.80	0.64
26:W:266:ALA:O	26:W:270:VAL:HG23	1.96	0.64
30:F:393:GLY:HA3	37:F:501:ADP:C8	2.33	0.64
32:U:33:ASP:HB3	32:U:34:PHE:HD1	1.62	0.64
3:D:389:GLU:OE1	3:D:397:LYS:NZ	2.27	0.64
9:K:71:ASP:OD1	9:K:72:ALA:N	2.30	0.64
33:g:170:LYS:HZ1	33:g:173:MET:HB3	1.62	0.64
14:P:186:ILE:HD12	14:P:199:THR:HB	1.79	0.64
25:f:471:LEU:HG	25:f:504:VAL:HG22	1.80	0.64
28:e:37:HIS:CG	28:e:39:TRP:HB2	2.31	0.64
29:A:333:ARG:NH2	29:A:334:PRO:O	2.30	0.64
32:U:545:LEU:HB3	32:U:577:ILE:HG21	1.80	0.64
10:L:199:LEU:HD12	10:L:200:PRO:HD2	1.80	0.64
14:P:14:MET:HE2	14:P:14:MET:HA	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Q:4:LEU:HB3	15:Q:45:LEU:HD22	1.78	0.64
24:d:94:MET:SD	24:d:118:ARG:NH1	2.71	0.64
26:W:48:LEU:HG	26:W:52:LYS:HD2	1.79	0.64
30:F:143:GLU:OE1	30:F:143:GLU:N	2.27	0.64
32:U:628:ARG:NH1	32:U:749:GLN:OE1	2.31	0.64
5:G:32:ILE:HD13	5:G:137:CYS:HB2	1.79	0.64
6:H:185:GLU:HA	6:H:188:ILE:HD12	1.80	0.64
14:P:159:ASP:O	14:P:163:LEU:N	2.29	0.64
26:W:331:GLY:HA2	26:W:337:ALA:HB2	1.79	0.64
32:U:750:SER:N	32:U:754:HIS:O	2.31	0.64
2:C:328:ILE:HA	2:C:331:ILE:HD12	1.78	0.64
3:D:101:ALA:HB2	3:D:115:ILE:HD11	1.80	0.64
4:c:249:LEU:HD11	19:X:402:GLU:HG2	1.80	0.64
8:J:98:VAL:HG23	8:J:100:ASP:H	1.62	0.64
23:b:15:TYR:CD2	23:b:116:PRO:HD2	2.33	0.64
25:f:369:ARG:HG3	25:f:740:ARG:HD3	1.80	0.64
32:U:16:GLU:HB3	32:U:19:LEU:HD12	1.80	0.64
12:N:84:LYS:HB2	12:N:120:MET:HB2	1.79	0.64
21:Z:65:ASP:O	21:Z:104:ASN:ND2	2.31	0.64
24:d:358:ILE:HG22	24:d:359:VAL:H	1.63	0.64
32:U:727:LYS:O	32:U:731:ILE:HG12	1.98	0.64
1:B:59:ARG:HB3	25:f:184:LEU:HD13	1.80	0.64
4:c:35:SER:HB3	21:Z:175:LEU:HD13	1.80	0.64
12:N:40:ARG:NH1	12:N:180:ALA:O	2.31	0.64
15:Q:85:ARG:HB2	15:Q:118:MET:HE3	1.80	0.64
1:B:74:MET:HE3	25:f:606:VAL:HG23	1.80	0.64
5:G:70:PHE:HD2	5:G:91:VAL:HG11	1.63	0.64
6:H:118:MET:SD	6:H:149:SER:OG	2.55	0.64
10:L:129:GLY:HA2	10:L:149:PRO:HB3	1.80	0.64
10:L:171:TYR:OH	10:L:193:ARG:NH1	2.31	0.64
11:M:3:ILE:HD13	30:F:337:ILE:HD13	1.79	0.64
14:P:41:LYS:HE3	14:P:60:VAL:HG11	1.80	0.64
19:X:130:GLU:HA	19:X:133:LEU:HD23	1.79	0.64
22:a:68:GLU:CD	22:a:71:VAL:HB	2.23	0.64
29:A:79:ASP:OD2	33:g:372:LYS:NZ	2.31	0.64
12:N:161:ALA:O	12:N:165:GLU:HG2	1.98	0.63
14:P:67:LEU:HD11	14:P:91:VAL:HG12	1.80	0.63
22:a:94:LEU:O	22:a:98:GLU:HG2	1.97	0.63
27:V:113:LEU:HD22	27:V:174:PHE:HD2	1.63	0.63
28:e:50:ASP:O	28:e:54:ASN:ND2	2.31	0.63
13:O:41:ILE:HD11	13:O:76:VAL:HG13	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A:102:ILE:O	29:A:103:ASN:ND2	2.31	0.63
7:I:8:ARG:HH12	7:I:11:ILE:HD13	1.63	0.63
17:S:123:SER:O	17:S:130:TYR:HA	1.97	0.63
25:f:343:LYS:HB3	25:f:390:LEU:HD21	1.79	0.63
27:V:166:TYR:O	27:V:170:LEU:HD12	1.98	0.63
35:B:501:ATP:O1G	2:C:310:ARG:NH2	2.25	0.63
6:H:189:HIS:HB3	6:H:233:ILE:HD11	1.79	0.63
11:M:187:ARG:O	11:M:191:LYS:NZ	2.31	0.63
21:Z:260:VAL:HG11	27:V:476:PHE:HB3	1.81	0.63
25:f:623:LYS:HG3	25:f:625:LYS:H	1.62	0.63
26:W:93:ARG:O	26:W:96:GLN:NE2	2.30	0.63
27:V:198:GLN:O	27:V:241:ARG:NH2	2.29	0.63
7:I:21:VAL:O	7:I:25:MET:HG2	1.98	0.63
13:O:159:ILE:HD13	13:O:173:ILE:HG23	1.81	0.63
23:b:9:CYS:HB3	23:b:54:LEU:HD11	1.81	0.63
27:V:190:ASP:O	27:V:194:LYS:NZ	2.31	0.63
32:U:505:ASP:HB3	32:U:508:THR:HG22	1.80	0.63
1:B:95:GLU:HA	1:B:98:LYS:HE2	1.81	0.63
6:H:203:MET:HG3	6:H:230:LEU:HD11	1.81	0.63
10:L:7:ASP:HB3	10:L:20:HIS:HB2	1.79	0.63
10:L:152:ASN:OD1	11:M:85:ARG:NH1	2.32	0.63
15:Q:43:LEU:HD11	15:Q:183:ILE:HD11	1.79	0.63
27:V:485:ASP:O	27:V:489:MET:HG3	1.98	0.63
34:u:184:GLY:HA2	34:u:261:SER:H	1.63	0.63
3:D:359:ASP:CB	3:D:362:ASP:HB3	2.23	0.63
19:X:317:PRO:C	19:X:319:ILE:H	2.06	0.63
21:Z:101:LEU:N	26:W:450:GLU:OE2	2.30	0.63
25:f:351:THR:O	25:f:357:ARG:NH2	2.32	0.63
26:W:382:LEU:HD13	26:W:384:LEU:HB2	1.80	0.63
29:A:240:VAL:O	29:A:275:ASP:N	2.29	0.63
33:g:177:LEU:HB3	33:g:228:CR8:C6	2.29	0.63
8:J:92:GLN:HG3	15:Q:66:LEU:HB2	1.80	0.63
24:d:177:ASP:HB2	32:U:3:THR:HB	1.81	0.63
1:B:289:ALA:O	2:C:271:ARG:NH1	2.29	0.62
7:I:44:LEU:HD22	7:I:190:LEU:HG	1.79	0.62
8:J:87:ALA:HB1	8:J:107:ILE:HD11	1.81	0.62
14:P:49:LEU:HD11	14:P:84:PRO:HB3	1.80	0.62
18:T:122:LEU:HB3	18:T:137:LEU:HD13	1.80	0.62
20:Y:66:ASP:HA	20:Y:69:LEU:HB3	1.81	0.62
20:Y:107:LYS:HZ1	20:Y:119:GLY:HA3	1.64	0.62
25:f:209:MET:SD	25:f:211:ILE:N	2.70	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:40:GLU:OE2	28:e:40:GLU:N	2.31	0.62
1:B:411:ARG:NH2	1:B:418:ASP:OD2	2.32	0.62
5:G:74:GLU:OE2	5:G:75:ASN:ND2	2.32	0.62
7:I:33:THR:OG1	7:I:166:ASN:O	2.17	0.62
9:K:59:MET:HA	9:K:59:MET:HE3	1.81	0.62
14:P:121:ILE:HD12	14:P:137:VAL:HG22	1.79	0.62
25:f:670:MET:H	25:f:670:MET:HE3	1.63	0.62
25:f:685:THR:H	25:f:689:ALA:HB3	1.64	0.62
26:W:121:LYS:O	26:W:125:ILE:HG12	1.99	0.62
30:F:239:ALA:O	30:F:243:GLN:NE2	2.32	0.62
3:D:315:ASP:OD1	3:D:315:ASP:N	2.31	0.62
8:J:152:THR:CB	9:K:83:LYS:HE2	2.16	0.62
11:M:70:ASP:HB3	11:M:73:VAL:HB	1.81	0.62
24:d:179:LYS:NZ	32:U:1:MET:O	2.29	0.62
30:F:362:ARG:NH1	30:F:388:THR:O	2.33	0.62
24:d:108:ASN:HB3	24:d:111:LYS:HB3	1.79	0.62
30:F:341:ALA:O	30:F:347:ARG:NH1	2.32	0.62
30:F:396:CYS:HA	30:F:399:VAL:HG12	1.81	0.62
31:E:21:GLU:HG2	31:E:22:ILE:H	1.64	0.62
3:D:407:ILE:HG13	3:D:407:ILE:O	2.00	0.62
10:L:164:ARG:NH1	10:L:198:THR:O	2.32	0.62
21:Z:113:LYS:NZ	21:Z:117:PRO:O	2.27	0.62
24:d:295:THR:HG22	24:d:298:LYS:H	1.65	0.62
26:W:202:THR:HA	26:W:205:ILE:HD12	1.81	0.62
30:F:391:PHE:HZ	30:F:427:VAL:HG21	1.64	0.62
32:U:616:ARG:O	32:U:620:GLU:HG3	1.99	0.62
33:g:355:HIS:HE1	33:g:357:VAL:HB	1.63	0.62
5:G:52:THR:HG21	5:G:68:HIS:HB2	1.81	0.62
11:M:229:LYS:NZ	11:M:229:LYS:O	2.32	0.62
13:O:41:ILE:HG13	13:O:102:GLY:HA3	1.81	0.62
22:a:35:HIS:HD1	23:b:15:TYR:HD1	1.47	0.62
14:P:118:LYS:NZ	14:P:119:PRO:O	2.32	0.62
8:J:150:SER:HB2	9:K:83:LYS:HZ3	1.65	0.62
16:R:21:THR:HB	16:R:26:ILE:HA	1.82	0.62
25:f:672:LEU:HD13	25:f:708:ASP:HA	1.81	0.62
26:W:101:VAL:O	26:W:105:VAL:HG22	1.99	0.62
26:W:166:LEU:HD21	26:W:192:LEU:HG	1.81	0.62
35:C:501:ATP:O1G	3:D:326:ARG:NH2	2.31	0.62
11:M:45:VAL:HG22	11:M:216:VAL:HG12	1.80	0.62
13:O:186:LEU:HD13	13:O:189:TYR:HD1	1.65	0.62
14:P:83:LYS:O	14:P:86:THR:OG1	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:d:234:GLN:HB3	27:V:400:HIS:HD2	1.64	0.62
26:W:251:TYR:O	26:W:257:GLN:NE2	2.33	0.62
30:F:265:ALA:O	30:F:269:ARG:NH2	2.32	0.62
32:U:161:ASP:OD1	32:U:161:ASP:N	2.33	0.62
3:D:52:GLU:OE2	32:U:596:ASN:ND2	2.32	0.62
10:L:66:VAL:HG21	10:L:88:MET:HB3	1.81	0.62
17:S:211:ARG:NH1	17:S:213:ASP:O	2.33	0.62
24:d:343:GLU:HA	24:d:346:LYS:HE2	1.82	0.62
25:f:670:MET:HG2	25:f:673:ARG:HH12	1.64	0.62
27:V:188:SER:O	27:V:192:MET:HG2	2.00	0.62
29:A:125:LEU:O	29:A:148:GLN:NE2	2.33	0.62
30:F:80:ILE:HD11	31:E:46:ASP:HB3	1.81	0.62
15:Q:95:ARG:HG3	15:Q:96:THR:HG23	1.81	0.61
20:Y:297:ARG:HG2	20:Y:300:ARG:HH21	1.65	0.61
25:f:681:TYR:HE1	25:f:858:LYS:HB2	1.64	0.61
26:W:407:ASP:HB3	26:W:410:ALA:HB3	1.82	0.61
30:F:191:LEU:HB3	30:F:194:GLN:HB2	1.82	0.61
31:E:22:ILE:HG13	31:E:26:LEU:HB3	1.81	0.61
2:C:49:ARG:NE	3:D:64:GLU:OE2	2.31	0.61
7:I:122:THR:O	8:J:125:ARG:NH1	2.33	0.61
11:M:75:MET:HE2	11:M:75:MET:HA	1.81	0.61
13:O:182:LYS:HD2	13:O:184:ASP:HB2	1.82	0.61
14:P:63:VAL:O	14:P:67:LEU:HB2	2.00	0.61
19:X:264:PRO:HG2	19:X:295:LYS:HB3	1.82	0.61
29:A:145:ASN:N	33:g:277:ASP:OD2	2.30	0.61
9:K:44:GLU:HB2	9:K:191:LEU:HG	1.80	0.61
11:M:35:THR:HA	11:M:165:ILE:O	2.00	0.61
13:O:34:ILE:HD13	13:O:176:CYS:HB2	1.82	0.61
20:Y:133:ALA:HB3	20:Y:136:HIS:CE1	2.36	0.61
20:Y:387:ILE:HG13	21:Z:276:ILE:CD1	2.28	0.61
21:Z:260:VAL:HG12	21:Z:261:TYR:HD1	1.64	0.61
22:a:226:ARG:HH21	22:a:230:ARG:HB2	1.64	0.61
25:f:115:PRO:HD2	25:f:118:ASN:HA	1.82	0.61
25:f:869:THR:HA	25:f:884:THR:HA	1.82	0.61
1:B:51:LEU:HD11	1:B:61:LYS:HG3	1.82	0.61
2:C:78:ARG:HH11	29:A:65:ILE:HD11	1.64	0.61
3:D:176:GLU:HB3	3:D:331:ILE:HD13	1.82	0.61
4:c:248:MET:HE3	21:Z:262:LEU:HD12	1.82	0.61
7:I:140:ASP:HB2	7:I:146:GLN:HE22	1.63	0.61
16:R:8:PHE:HE1	16:R:13:ILE:HG12	1.64	0.61
18:T:74:GLU:HB2	18:T:83:TYR:CZ	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:338:ASP:HB3	25:f:340:MET:HE1	1.81	0.61
27:V:343:PRO:O	28:e:43:TRP:NE1	2.29	0.61
31:E:168:LYS:O	31:E:274:LYS:N	2.33	0.61
5:G:113:MET:HE2	13:O:70:THR:HG22	1.82	0.61
8:J:7:ILE:HG23	8:J:8:THR:HG23	1.82	0.61
12:N:13:VAL:HG21	12:N:152:CYS:HB3	1.82	0.61
14:P:191:GLU:HG2	14:P:193:ASP:H	1.65	0.61
22:a:278:MET:HE1	22:a:337:GLN:HG2	1.82	0.61
22:a:335:TRP:CD1	22:a:337:GLN:H	2.18	0.61
4:c:101:GLN:OE1	23:b:101:GLN:NE2	2.34	0.61
20:Y:110:TYR:O	20:Y:113:ARG:N	2.34	0.61
20:Y:117:LYS:HB3	20:Y:147:ILE:HD13	1.82	0.61
1:B:244:SER:HB2	25:f:684:PRO:HB2	1.82	0.61
2:C:44:ARG:HH12	24:d:359:VAL:HG21	1.65	0.61
11:M:15:SER:OG	11:M:18:GLY:N	2.34	0.61
11:M:68:ASN:HB3	11:M:224:HIS:HD2	1.65	0.61
20:Y:237:ARG:HA	20:Y:241:ILE:HB	1.83	0.61
23:b:98:LYS:HG3	34:u:203:SER:HB2	1.82	0.61
25:f:42:GLU:HG2	25:f:92:VAL:HG11	1.81	0.61
25:f:670:MET:HG2	25:f:673:ARG:NH1	2.15	0.61
30:F:189:GLY:O	37:F:501:ADP:N6	2.34	0.61
5:G:70:PHE:CD2	5:G:91:VAL:HG11	2.35	0.61
9:K:125:GLU:OE2	10:L:125:ARG:NH2	2.34	0.61
15:Q:21:ALA:O	15:Q:28:MET:N	2.34	0.61
25:f:680:ARG:HB3	25:f:714:SER:HB2	1.81	0.61
1:B:225:TYR:CE1	1:B:352:GLU:HG2	2.36	0.61
9:K:74:ILE:HD12	9:K:109:VAL:HG12	1.83	0.61
25:f:826:GLN:HB2	25:f:865:PHE:CE1	2.35	0.61
32:U:681:ASN:ND2	32:U:723:ASP:OD2	2.34	0.61
3:D:59:GLU:OE1	32:U:600:ARG:NH1	2.34	0.61
16:R:86:MET:O	16:R:89:GLN:NE2	2.34	0.61
20:Y:16:ASP:H	20:Y:146:ARG:HH22	1.49	0.61
26:W:38:GLY:C	26:W:39:ARG:HE	2.09	0.61
1:B:79:ILE:HD12	29:A:62:LEU:HD21	1.82	0.60
7:I:201:MET:HB3	7:I:203:VAL:HG22	1.83	0.60
25:f:417:ILE:HG22	25:f:418:LEU:HD23	1.82	0.60
26:W:140:ILE:O	26:W:143:ALA:HB3	2.01	0.60
10:L:61:LYS:HE2	10:L:64:LEU:HD22	1.83	0.60
25:f:343:LYS:HA	25:f:387:GLN:HE22	1.66	0.60
32:U:265:ILE:HG13	32:U:326:ILE:HG12	1.83	0.60
5:G:54:LYS:NZ	5:G:213:SER:O	2.28	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Y:190:ALA:HB3	28:e:40:GLU:OE1	2.00	0.60
21:Z:12:HIS:ND1	21:Z:50:VAL:O	2.33	0.60
22:a:109:GLU:HA	22:a:112:ILE:HD13	1.81	0.60
27:V:139:MET:SD	27:V:139:MET:N	2.75	0.60
2:C:248:MET:HB2	2:C:293:MET:HG2	1.82	0.60
3:D:153:MET:SD	3:D:257:ASN:ND2	2.75	0.60
13:O:21:THR:HG22	13:O:26:VAL:HG23	1.84	0.60
17:S:181:SER:HA	17:S:184:GLU:HG2	1.83	0.60
20:Y:73:MET:HE3	20:Y:73:MET:N	2.16	0.60
22:a:249:GLN:O	22:a:253:THR:HG23	2.01	0.60
24:d:152:ALA:O	24:d:156:ILE:HG13	2.01	0.60
24:d:178:TYR:HB2	32:U:1:MET:HB2	1.84	0.60
25:f:327:ASN:HD22	25:f:420:TRP:HD1	1.49	0.60
29:A:117:GLN:OE1	29:A:117:GLN:N	2.32	0.60
31:E:151:LEU:HB3	31:E:159:PHE:HZ	1.67	0.60
8:J:45:VAL:HG23	8:J:207:GLU:HB2	1.82	0.60
18:T:70:MET:HG2	18:T:83:TYR:CE2	2.37	0.60
22:a:18:GLN:HG3	22:a:19:PRO:HD3	1.83	0.60
24:d:286:GLU:HG3	24:d:289:ARG:HH12	1.65	0.60
1:B:229:GLY:HA3	2:C:307:ARG:HD2	1.83	0.60
9:K:168:ARG:HA	9:K:178:GLN:HE22	1.64	0.60
25:f:134:SER:O	25:f:138:GLU:HG3	2.01	0.60
29:A:381:THR:HG23	29:A:384:GLU:HB2	1.83	0.60
34:u:146:PHE:HA	34:u:157:LEU:HD13	1.82	0.60
3:D:338:ARG:NH1	19:X:234:GLU:OE2	2.35	0.60
5:G:144:ASP:OD2	5:G:147:GLN:NE2	2.35	0.60
5:G:158:GLY:O	6:H:84:ARG:NH1	2.32	0.60
15:Q:182:ILE:HG12	15:Q:189:HIS:HB2	1.84	0.60
19:X:315:ASP:N	19:X:315:ASP:OD1	2.35	0.60
21:Z:260:VAL:HG13	27:V:480:ILE:HB	1.82	0.60
25:f:811:LEU:N	25:f:854:GLY:O	2.34	0.60
26:W:360:GLU:OE2	26:W:364:ARG:NH2	2.26	0.60
31:E:35:GLU:HA	31:E:38:LYS:HZ3	1.66	0.60
31:E:227:PRO:HB3	31:E:272:ARG:HD2	1.84	0.60
31:E:320:ILE:HD12	31:E:320:ILE:H	1.65	0.60
31:E:349:GLU:O	31:E:353:PHE:N	2.29	0.60
1:B:169:PRO:HD3	2:C:77:VAL:HG22	1.84	0.60
10:L:39:LYS:H	10:L:157:ARG:HH12	1.49	0.60
10:L:157:ARG:NH1	10:L:157:ARG:O	2.34	0.60
29:A:330:ALA:O	29:A:336:ARG:NH1	2.35	0.60
32:U:160:LEU:HD11	32:U:196:LYS:HB3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:M:67:PHE:HB2	11:M:75:MET:HB3	1.83	0.60
12:N:35:THR:OG1	12:N:43:CYS:SG	2.57	0.60
12:N:104:ASP:OD1	12:N:110:GLN:NE2	2.33	0.60
13:O:159:ILE:O	13:O:163:ILE:HG12	2.02	0.60
18:T:90:SER:O	18:T:94:ARG:HG2	2.02	0.60
25:f:169:GLU:HB3	25:f:173:LEU:HD23	1.83	0.60
25:f:766:GLN:NE2	25:f:769:THR:OG1	2.34	0.60
30:F:187:ASP:N	30:F:187:ASP:OD1	2.31	0.60
1:B:116:ILE:HG22	1:B:117:ASP:H	1.65	0.60
15:Q:11:ASP:N	15:Q:11:ASP:OD1	2.35	0.60
22:a:333:MET:HE2	22:a:333:MET:HA	1.84	0.60
25:f:14:GLN:HG2	25:f:63:LEU:HD22	1.84	0.60
30:F:281:SER:H	30:F:326:VAL:HG22	1.67	0.60
34:u:151:ARG:HH12	34:u:152:LYS:HZ2	1.46	0.60
10:L:104:PRO:HG2	10:L:107:ARG:HD2	1.84	0.59
11:M:46:VAL:HG12	11:M:215:TRP:HB3	1.83	0.59
15:Q:142:ILE:O	15:Q:146:TYR:HB2	2.02	0.59
19:X:271:VAL:HG21	19:X:288:LYS:HD2	1.84	0.59
21:Z:251:LEU:HD23	26:W:425:LEU:HD12	1.83	0.59
25:f:364:GLN:NE2	25:f:366:ASP:OD1	2.35	0.59
25:f:510:SER:HB2	25:f:514:VAL:HB	1.82	0.59
31:E:264:MET:HB2	31:E:275:MET:HE1	1.83	0.59
32:U:269:ARG:O	32:U:270:THR:C	2.45	0.59
7:I:25:MET:HE1	7:I:151:ASP:OD2	2.02	0.59
15:Q:3:TYR:OH	15:Q:139:THR:OG1	2.18	0.59
24:d:224:VAL:HG22	24:d:252:PRO:HB3	1.83	0.59
27:V:185:GLN:NE2	27:V:218:TYR:OH	2.35	0.59
2:C:369:TYR:HE2	2:C:385:MET:HB2	1.67	0.59
8:J:224:GLU:OE1	8:J:224:GLU:N	2.27	0.59
10:L:50:LYS:HB3	10:L:59:HIS:HB3	1.83	0.59
14:P:125:ASP:HB2	14:P:129:CYS:HB3	1.83	0.59
19:X:62:GLN:N	19:X:65:GLU:OE2	2.34	0.59
20:Y:192:ARG:NH1	20:Y:196:GLN:OE1	2.35	0.59
20:Y:387:ILE:HG13	21:Z:276:ILE:HD12	1.85	0.59
26:W:332:SER:OG	26:W:335:SER:O	2.19	0.59
30:F:391:PHE:HA	30:F:395:GLN:HG3	1.84	0.59
31:E:148:VAL:HG13	31:E:149:ILE:HD13	1.84	0.59
32:U:654:MET:HE2	32:U:767:THR:HG22	1.84	0.59
34:u:195:LYS:HB3	34:u:214:PRO:HB3	1.82	0.59
8:J:2:SER:OG	8:J:3:TYR:N	2.31	0.59
13:O:143:ARG:NH2	13:O:150:GLU:OE1	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:P:99:ARG:HD2	14:P:127:ILE:HD11	1.84	0.59
18:T:63:LEU:HD21	18:T:106:LEU:HD13	1.83	0.59
32:U:757:MET:HE3	32:U:758:PRO:HD3	1.84	0.59
33:g:218:ALA:HB2	33:g:299:LYS:HA	1.83	0.59
4:c:140:ALA:H	4:c:161:ARG:HE	1.49	0.59
4:c:255:TYR:OH	21:Z:273:HIS:ND1	2.28	0.59
8:J:208:LEU:HB3	8:J:220:LEU:HD23	1.85	0.59
13:O:108:PRO:O	13:O:109:HIS:ND1	2.35	0.59
13:O:212:LEU:HB2	14:P:199:THR:HG23	1.84	0.59
15:Q:21:ALA:HB2	15:Q:32:HIS:HB2	1.85	0.59
25:f:124:ASP:OD1	25:f:124:ASP:N	2.25	0.59
25:f:209:MET:SD	25:f:210:GLU:N	2.76	0.59
25:f:215:ASP:HA	25:f:218:GLU:HG3	1.84	0.59
26:W:123:ARG:O	26:W:127:THR:HG23	2.03	0.59
26:W:442:THR:O	26:W:445:LEU:HB3	2.03	0.59
27:V:287:ARG:NH1	28:e:21:GLU:OE2	2.36	0.59
9:K:234:LEU:HA	9:K:237:VAL:HG12	1.85	0.59
16:R:147:LEU:HG	16:R:151:GLN:HG3	1.84	0.59
19:X:118:LYS:O	19:X:118:LYS:NZ	2.36	0.59
19:X:309:TYR:CZ	19:X:313:LEU:HD12	2.38	0.59
19:X:317:PRO:O	19:X:319:ILE:N	2.35	0.59
25:f:236:CYS:O	25:f:240:VAL:HG23	2.02	0.59
30:F:311:LEU:HD11	31:E:199:VAL:HG11	1.85	0.59
30:F:391:PHE:HE2	30:F:427:VAL:HG11	1.68	0.59
31:E:135:ILE:O	37:E:501:ADP:N6	2.34	0.59
2:C:161:ILE:HD11	2:C:188:LEU:HD21	1.84	0.59
3:D:255:LYS:NZ	3:D:302:ASN:OD1	2.36	0.59
20:Y:16:ASP:N	20:Y:146:ARG:HH22	2.01	0.59
20:Y:19:ILE:HA	20:Y:22:LEU:HB2	1.83	0.59
20:Y:349:LYS:O	20:Y:352:GLU:N	2.24	0.59
30:F:396:CYS:O	30:F:399:VAL:N	2.35	0.59
31:E:243:PHE:H	31:E:254:GLN:NE2	1.98	0.59
8:J:146:GLN:OE1	8:J:159:ASN:ND2	2.35	0.59
15:Q:19:ARG:NH2	15:Q:193:ASN:OD1	2.34	0.59
25:f:169:GLU:HA	25:f:172:GLU:HG2	1.85	0.59
29:A:293:ASN:O	30:F:173:LYS:NZ	2.35	0.59
30:F:344:ARG:NH2	30:F:345:SER:OG	2.35	0.59
31:E:44:GLU:O	31:E:47:LEU:HB3	2.03	0.59
31:E:261:LEU:HD21	31:E:289:LEU:HB2	1.84	0.59
34:u:208:GLU:O	34:u:212:SER:N	2.31	0.59
5:G:109:ILE:HG12	5:G:114:LEU:HB2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:X:309:TYR:O	19:X:312:GLU:N	2.36	0.59
25:f:209:MET:HG3	25:f:212:GLU:H	1.68	0.59
26:W:150:ALA:O	26:W:153:LYS:HG2	2.03	0.59
2:C:81:ASP:OD1	2:C:82:LYS:N	2.35	0.59
2:C:168:PRO:HB3	2:C:182:GLN:HG2	1.85	0.59
4:c:146:ASP:OD2	4:c:149:GLN:NE2	2.34	0.59
10:L:45:VAL:HG23	10:L:214:ILE:HG13	1.85	0.59
18:T:107:TRP:HA	18:T:127:MET:HG2	1.85	0.59
24:d:190:GLN:NE2	24:d:255:SER:OG	2.33	0.59
25:f:610:GLN:O	25:f:614:HIS:HB2	2.03	0.59
25:f:647:GLY:HA2	25:f:650:GLN:NE2	2.17	0.59
30:F:201:ALA:HA	30:F:350:ARG:HE	1.67	0.59
32:U:221:ILE:HD11	32:U:252:LEU:HD13	1.84	0.59
6:H:83:TYR:O	6:H:87:VAL:HG23	2.02	0.58
10:L:200:PRO:O	10:L:239:ARG:NH2	2.35	0.58
14:P:146:MET:HE2	14:P:146:MET:HA	1.85	0.58
26:W:220:GLU:H	26:W:223:LYS:HE3	1.67	0.58
26:W:436:MET:O	26:W:439:VAL:HG12	2.03	0.58
31:E:135:ILE:HG13	31:E:136:GLY:H	1.67	0.58
1:B:209:GLU:HB3	25:f:722:SER:HB3	1.85	0.58
5:G:71:LYS:HE3	5:G:74:GLU:HA	1.84	0.58
8:J:57:ARG:O	8:J:60:ARG:NH2	2.36	0.58
14:P:145:GLN:O	14:P:149:MET:HG2	2.03	0.58
20:Y:349:LYS:O	20:Y:351:ASN:N	2.37	0.58
25:f:828:ARG:HD2	25:f:845:ARG:H	1.68	0.58
29:A:162:THR:HG22	29:A:249:TYR:CD1	2.38	0.58
29:A:206:ILE:HB	30:F:373:MET:HE1	1.85	0.58
30:F:172:VAL:HB	30:F:274:LEU:HD22	1.85	0.58
3:D:99:ASN:O	3:D:115:ILE:N	2.31	0.58
5:G:141:ILE:HG22	5:G:151:VAL:HG22	1.85	0.58
14:P:62:THR:HG23	15:Q:85:ARG:NH2	2.18	0.58
14:P:149:MET:HE1	14:P:173:ASN:HB3	1.85	0.58
15:Q:78:THR:O	15:Q:82:ASN:ND2	2.25	0.58
19:X:339:ILE:HD12	19:X:385:LEU:HD21	1.85	0.58
25:f:323:ASN:OD1	25:f:455:VAL:HA	2.03	0.58
25:f:562:LEU:HD21	25:f:577:LEU:HD22	1.86	0.58
27:V:114:TYR:HA	27:V:135:LEU:HD21	1.84	0.58
30:F:55:MET:HE3	30:F:56:LYS:N	2.18	0.58
1:B:74:MET:HB3	25:f:613:LEU:HD23	1.85	0.58
1:B:391:SER:H	1:B:394:ASP:HB2	1.68	0.58
2:C:60:ARG:NH1	3:D:71:GLU:OE1	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:P:13:ALA:HB3	14:P:137:VAL:HG23	1.84	0.58
15:Q:44:LEU:HD11	15:Q:102:LEU:HD11	1.83	0.58
22:a:246:GLU:HG3	22:a:249:GLN:HB3	1.86	0.58
25:f:119:LYS:HB3	25:f:123:ALA:H	1.67	0.58
25:f:215:ASP:N	25:f:215:ASP:OD1	2.34	0.58
25:f:721:VAL:O	25:f:725:SER:N	2.27	0.58
26:W:30:GLU:HA	26:W:33:LYS:HD3	1.85	0.58
32:U:568:GLU:OE1	32:U:601:ARG:NH2	2.36	0.58
8:J:51:ALA:H	8:J:54:GLN:HE22	1.50	0.58
14:P:109:ILE:HG12	14:P:122:CYS:HB3	1.84	0.58
18:T:142:GLY:O	18:T:146:ALA:N	2.36	0.58
20:Y:233:ARG:N	20:Y:234:PRO:HD3	2.18	0.58
25:f:317:LEU:O	25:f:321:MET:HG3	2.03	0.58
25:f:327:ASN:O	25:f:331:LEU:HG	2.03	0.58
32:U:212:ASP:OD2	32:U:215:ASN:ND2	2.36	0.58
32:U:247:GLN:NE2	32:U:904:LYS:HE3	2.19	0.58
3:D:45:LYS:HB3	32:U:187:LEU:HD12	1.86	0.58
18:T:11:VAL:HG13	18:T:24:ALA:HB2	1.84	0.58
18:T:126:ASP:OD1	18:T:130:VAL:N	2.33	0.58
20:Y:144:LEU:HA	20:Y:147:ILE:HB	1.86	0.58
20:Y:363:ASN:HD21	27:V:466:ILE:HG22	1.68	0.58
25:f:814:SER:OG	25:f:881:GLU:OE1	2.20	0.58
30:F:236:LEU:HD13	30:F:354:PHE:HZ	1.68	0.58
32:U:793:LYS:NZ	32:U:794:ASP:OD1	2.37	0.58
34:u:162:ASP:OD1	34:u:162:ASP:N	2.34	0.58
19:X:371:ASP:OD1	20:Y:233:ARG:NH1	2.36	0.58
20:Y:382:LYS:O	20:Y:386:VAL:HG23	2.04	0.58
21:Z:283:ARG:O	21:Z:284:ASP:C	2.46	0.58
25:f:182:GLU:H	25:f:182:GLU:CD	2.11	0.58
26:W:178:GLU:HG3	26:W:180:LYS:HG3	1.85	0.58
26:W:375:MET:HE3	26:W:375:MET:HA	1.84	0.58
28:e:51:ASP:OD1	28:e:52:PHE:N	2.36	0.58
1:B:70:ASP:O	1:B:74:MET:HG3	2.03	0.58
2:C:168:PRO:HB2	2:C:290:LYS:HE3	1.86	0.58
3:D:92:PHE:HZ	3:D:95:ALA:HB2	1.68	0.58
3:D:159:LYS:HD2	3:D:221:HIS:HD2	1.69	0.58
4:c:261:GLU:O	4:c:262:GLU:C	2.46	0.58
6:H:39:LYS:HA	6:H:44:VAL:HG12	1.85	0.58
11:M:51:LYS:NZ	11:M:63:ASN:O	2.24	0.58
12:N:45:ARG:HB3	12:N:52:THR:HB	1.85	0.58
20:Y:145:LEU:HA	20:Y:157:ILE:HG12	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Y:180:LEU:O	20:Y:183:TYR:N	2.37	0.58
24:d:189:HIS:HB3	24:d:223:ASN:ND2	2.18	0.58
25:f:474:SER:HB3	25:f:477:MET:HG2	1.86	0.58
27:V:403:ILE:O	27:V:407:VAL:HG23	2.04	0.58
3:D:79:VAL:O	3:D:82:ILE:HG22	2.04	0.58
9:K:121:LEU:HD22	10:L:79:ALA:HA	1.85	0.58
11:M:10:SER:HG	11:M:126:SER:HG	1.51	0.58
11:M:65:ARG:HH22	11:M:78:ALA:HA	1.69	0.58
11:M:72:HIS:ND1	11:M:139:SER:OG	2.34	0.58
25:f:267:ARG:HD2	25:f:271:MET:HB3	1.86	0.58
1:B:412:MET:HE3	2:C:178:LEU:HG	1.86	0.58
6:H:50:LYS:NZ	6:H:62:VAL:O	2.34	0.58
13:O:22:GLU:HG2	13:O:27:ALA:HB2	1.86	0.58
19:X:88:LEU:O	19:X:92:LEU:HG	2.03	0.58
20:Y:110:TYR:O	20:Y:112:CYS:N	2.37	0.58
20:Y:214:MET:HE2	20:Y:219:PHE:HA	1.86	0.58
21:Z:130:ASP:OD1	21:Z:130:ASP:N	2.28	0.58
24:d:91:ALA:HA	24:d:94:MET:HG2	1.86	0.58
25:f:461:PRO:O	25:f:465:LEU:HB2	2.03	0.58
25:f:869:THR:HB	25:f:882:LEU:HB3	1.86	0.58
32:U:127:ASP:OD2	32:U:130:LEU:N	2.31	0.58
32:U:265:ILE:CD1	32:U:326:ILE:HG23	2.24	0.58
32:U:701:ILE:HD12	32:U:810:THR:HA	1.85	0.58
10:L:138:ASP:OD1	10:L:138:ASP:N	2.35	0.57
18:T:151:ARG:HA	18:T:154:LEU:HG	1.86	0.57
20:Y:47:ASP:O	20:Y:49:ASN:ND2	2.37	0.57
23:b:14:GLU:N	23:b:82:GLY:O	2.35	0.57
25:f:43:GLN:O	25:f:47:GLU:HB2	2.04	0.57
27:V:168:GLN:HB3	27:V:191:LEU:HD23	1.85	0.57
28:e:60:LEU:HB3	28:e:65:TYR:HB2	1.86	0.57
30:F:305:GLU:O	30:F:308:ARG:HG2	2.04	0.57
32:U:185:MET:HA	32:U:185:MET:HE3	1.86	0.57
32:U:764:LEU:O	32:U:767:THR:OG1	2.20	0.57
34:u:184:GLY:H	34:u:225:ILE:HG23	1.68	0.57
5:G:10:ASP:HB2	5:G:27:TYR:HE2	1.67	0.57
7:I:91:ARG:HH11	14:P:76:LEU:HB3	1.69	0.57
10:L:104:PRO:HB3	18:T:81:HIS:CD2	2.36	0.57
16:R:178:HIS:HD2	16:R:185:ILE:HD11	1.69	0.57
21:Z:43:TRP:HZ2	21:Z:118:ASN:HB2	1.70	0.57
25:f:782:HIS:HD1	25:f:782:HIS:H	1.49	0.57
26:W:39:ARG:NH2	26:W:43:VAL:HG11	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:U:376:MET:HE2	32:U:738:ASP:HB2	1.86	0.57
1:B:111:THR:OG1	1:B:124:SER:OG	2.22	0.57
9:K:93:ARG:NH1	16:R:68:LEU:O	2.37	0.57
12:N:95:MET:HA	12:N:95:MET:HE3	1.85	0.57
20:Y:137:ARG:O	20:Y:141:VAL:HG23	2.04	0.57
23:b:21:PHE:CD1	23:b:23:PRO:HD2	2.39	0.57
29:A:110:LYS:HA	29:A:123:VAL:O	2.04	0.57
30:F:223:VAL:HG13	30:F:329:ILE:HG13	1.86	0.57
9:K:145:GLY:HA2	9:K:220:VAL:HG11	1.84	0.57
25:f:761:MET:SD	25:f:763:ARG:HB3	2.44	0.57
33:g:230:ASN:OD1	33:g:231:ARG:N	2.33	0.57
1:B:378:VAL:HA	1:B:416:ASN:HB2	1.87	0.57
5:G:220:VAL:HG22	5:G:227:PHE:HA	1.86	0.57
12:N:1:THR:OG1	12:N:2:THR:N	2.37	0.57
19:X:207:GLN:NE2	19:X:211:ASP:OD2	2.37	0.57
20:Y:272:PHE:CE1	20:Y:323:PHE:HE1	2.22	0.57
20:Y:307:LEU:HD23	20:Y:319:MET:HE3	1.86	0.57
25:f:478:ARG:O	25:f:482:ILE:HG12	2.03	0.57
26:W:84:ASN:O	26:W:88:MET:HG2	2.04	0.57
30:F:280:PRO:HB3	30:F:325:GLN:HE22	1.69	0.57
5:G:143:ILE:HG12	5:G:220:VAL:HG12	1.86	0.57
5:G:230:LEU:HG	5:G:234:GLU:HG3	1.86	0.57
7:I:103:GLU:HG3	7:I:104:PRO:HD2	1.86	0.57
20:Y:325:VAL:HG21	28:e:60:LEU:HB2	1.85	0.57
22:a:49:CYS:SG	22:a:50:PHE:N	2.78	0.57
23:b:100:ARG:NH1	23:b:105:HIS:O	2.38	0.57
23:b:161:ASN:HA	23:b:165:GLY:HA3	1.86	0.57
25:f:278:VAL:HG23	25:f:279:GLU:H	1.69	0.57
25:f:347:ASP:OD1	25:f:347:ASP:N	2.38	0.57
1:B:129:SER:OG	33:g:167:SER:OG	2.16	0.57
1:B:357:ASP:N	1:B:360:THR:OG1	2.37	0.57
2:C:369:TYR:CE2	2:C:385:MET:HB2	2.39	0.57
8:J:52:LYS:HB3	8:J:53:LEU:HD22	1.87	0.57
16:R:18:SER:HB3	16:R:173:ALA:H	1.70	0.57
17:S:57:PHE:HB3	17:S:60:ASP:HB2	1.85	0.57
25:f:343:LYS:HE2	25:f:390:LEU:HD11	1.85	0.57
29:A:55:LEU:O	29:A:59:ILE:HG12	2.04	0.57
30:F:250:LYS:HA	30:F:284:PHE:HB3	1.87	0.57
1:B:59:ARG:HA	1:B:62:LEU:HB2	1.87	0.57
1:B:235:LEU:HD22	1:B:353:PHE:HZ	1.69	0.57
11:M:54:LEU:HB2	11:M:58:TYR:HE2	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:S:58:HIS:CE1	18:T:131:ALA:H	2.22	0.57
24:d:129:LEU:N	24:d:174:TYR:OH	2.34	0.57
26:W:306:LEU:O	26:W:310:THR:HG23	2.04	0.57
30:F:391:PHE:CE2	30:F:427:VAL:HG11	2.40	0.57
32:U:70:HIS:CE1	32:U:71:LEU:HD22	2.40	0.57
14:P:203:ARG:NH1	14:P:205:ASP:OD2	2.38	0.57
18:T:126:ASP:OD1	18:T:129:GLY:N	2.38	0.57
23:b:3:LEU:HD11	23:b:46:GLU:HB2	1.87	0.57
31:E:222:ALA:HB2	31:E:230:ILE:HD11	1.85	0.57
1:B:340:ALA:HA	1:B:343:ARG:HG3	1.87	0.57
4:c:192:LEU:HA	4:c:196:LEU:HB3	1.87	0.57
12:N:19:ARG:HG3	12:N:26:ILE:HD13	1.87	0.57
30:F:260:PHE:HB2	31:E:206:LYS:HD3	1.87	0.57
31:E:291:ARG:NH1	31:E:292:PRO:O	2.38	0.57
32:U:269:ARG:HG3	32:U:326:ILE:CD1	2.35	0.57
33:g:217:PHE:HA	33:g:297:MET:HA	1.86	0.57
33:g:230:ASN:ND2	33:g:251:GLY:HA3	2.18	0.57
2:C:113:ARG:HD3	2:C:130:LYS:HB2	1.87	0.56
6:H:219:ARG:NH2	6:H:225:GLU:OE1	2.35	0.56
8:J:152:THR:HB	9:K:83:LYS:CE	2.15	0.56
11:M:220:THR:OG1	11:M:223:ARG:O	2.20	0.56
12:N:114:VAL:HG22	12:N:120:MET:HA	1.87	0.56
12:N:135:ILE:HD13	12:N:163:ALA:HB2	1.87	0.56
23:b:6:THR:HA	23:b:108:ARG:O	2.05	0.56
23:b:9:CYS:N	23:b:110:ILE:O	2.38	0.56
24:d:137:THR:HG22	24:d:140:GLN:H	1.70	0.56
25:f:224:ASN:HD21	25:f:238:ASN:CG	2.13	0.56
27:V:225:ASP:OD1	27:V:225:ASP:N	2.37	0.56
4:c:44:HIS:ND1	4:c:112:TYR:OH	2.29	0.56
7:I:69:ASN:HB3	7:I:72:MET:HB2	1.86	0.56
9:K:12:VAL:HG12	9:K:23:GLN:HG2	1.87	0.56
21:Z:257:MET:HE1	27:V:476:PHE:CE2	2.39	0.56
29:A:82:ALA:O	29:A:86:THR:HG23	2.05	0.56
1:B:297:SER:HB3	1:B:302:GLU:HG3	1.86	0.56
4:c:131:GLN:NE2	33:g:231:ARG:HH21	2.02	0.56
6:H:68:ILE:HG21	6:H:110:LEU:HD21	1.87	0.56
8:J:36:ARG:HD2	8:J:142:PRO:HB2	1.86	0.56
12:N:129:GLY:O	12:N:132:SER:OG	2.22	0.56
13:O:97:ALA:HB1	13:O:127:MET:HE2	1.86	0.56
14:P:33:GLN:HE22	14:P:35:VAL:HG13	1.70	0.56
15:Q:151:ILE:HG23	15:Q:155:ARG:HG3	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:R:104:TRP:HA	16:R:109:PRO:HA	1.86	0.56
19:X:317:PRO:O	19:X:318:ILE:HG12	2.05	0.56
20:Y:38:ARG:O	20:Y:42:MET:HG2	2.06	0.56
22:a:68:GLU:HG3	22:a:69:HIS:N	2.19	0.56
25:f:228:LYS:HG3	25:f:229:VAL:H	1.70	0.56
25:f:664:GLU:O	25:f:669:GLU:N	2.38	0.56
26:W:222:LEU:HD23	26:W:222:LEU:H	1.71	0.56
32:U:111:GLN:HG2	32:U:126:ILE:HG22	1.86	0.56
2:C:381:GLU:O	2:C:385:MET:HG3	2.05	0.56
7:I:37:ILE:HG22	7:I:44:LEU:HG	1.88	0.56
12:N:150:GLU:OE1	12:N:154:GLN:NE2	2.38	0.56
25:f:505:MET:O	25:f:540:GLN:NE2	2.39	0.56
25:f:703:ARG:HD3	25:f:785:ARG:HH22	1.70	0.56
26:W:248:ARG:HE	26:W:286:LEU:HD21	1.71	0.56
27:V:162:GLU:HG3	27:V:203:LEU:HD13	1.87	0.56
29:A:97:ARG:HE	29:A:139:ARG:HG3	1.70	0.56
30:F:221:LYS:HE3	30:F:320:PHE:HE1	1.69	0.56
1:B:254:GLU:HA	2:C:232:ARG:HH21	1.70	0.56
13:O:6:VAL:HG23	13:O:124:TYR:HB3	1.88	0.56
13:O:18:THR:HB	13:O:30:ASN:HA	1.88	0.56
15:Q:80:ALA:O	15:Q:84:THR:HG23	2.06	0.56
16:R:8:PHE:HE2	16:R:10:HIS:HB3	1.71	0.56
19:X:200:ILE:HG21	19:X:203:PRO:HG3	1.87	0.56
19:X:338:VAL:HG22	19:X:339:ILE:H	1.69	0.56
25:f:93:PRO:O	25:f:97:LYS:HB3	2.05	0.56
25:f:566:HIS:CE1	25:f:573:ILE:HG12	2.41	0.56
30:F:284:PHE:CZ	30:F:286:ASP:HB3	2.41	0.56
8:J:153:TYR:O	8:J:154:HIS:ND1	2.39	0.56
10:L:172:LEU:O	10:L:176:MET:HE2	2.06	0.56
14:P:103:TYR:HA	15:Q:93:ARG:HH22	1.70	0.56
19:X:338:VAL:C	19:X:340:GLU:H	2.12	0.56
20:Y:23:ARG:O	20:Y:32:ARG:NH1	2.38	0.56
21:Z:246:VAL:HA	24:d:339:ILE:HD11	1.86	0.56
22:a:109:GLU:OE1	22:a:109:GLU:N	2.37	0.56
25:f:12:GLN:HB2	25:f:13:PRO:HD3	1.86	0.56
25:f:335:ARG:NH2	25:f:336:GLU:OE2	2.38	0.56
25:f:835:GLU:CD	25:f:835:GLU:H	2.13	0.56
27:V:238:ALA:HB1	27:V:243:ASP:HB3	1.88	0.56
29:A:332:MET:N	29:A:332:MET:SD	2.78	0.56
2:C:252:ASP:OD2	2:C:297:ARG:NH1	2.38	0.56
7:I:35:LEU:HD13	7:I:196:VAL:HG11	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:P:155:GLU:HG3	14:P:158:MET:HB2	1.86	0.56
16:R:100:MET:HB3	16:R:111:LEU:HD11	1.86	0.56
20:Y:69:LEU:O	20:Y:73:MET:HE1	2.06	0.56
22:a:207:GLY:O	22:a:271:LYS:NZ	2.37	0.56
25:f:527:VAL:O	25:f:569:LYS:NZ	2.32	0.56
29:A:218:PRO:HB3	29:A:322:ASN:ND2	2.21	0.56
30:F:200:GLU:HA	30:F:204:LEU:HB3	1.86	0.56
32:U:262:SER:O	32:U:265:ILE:HG22	2.06	0.56
2:C:92:GLU:OE2	2:C:92:GLU:N	2.37	0.56
3:D:309:MET:HE2	3:D:327:LEU:HD21	1.87	0.56
11:M:109:LYS:NZ	12:N:71:ASN:OD1	2.39	0.56
14:P:65:GLN:OE1	15:Q:85:ARG:NH1	2.39	0.56
20:Y:122:THR:HA	20:Y:125:ARG:HE	1.71	0.56
22:a:342:ASP:O	22:a:345:GLN:N	2.32	0.56
25:f:757:ASN:HA	25:f:809:ILE:HG22	1.87	0.56
26:W:362:ASN:O	26:W:366:MET:HG3	2.06	0.56
3:D:98:GLN:O	3:D:121:ARG:NH2	2.39	0.56
8:J:76:LEU:HD23	8:J:76:LEU:H	1.69	0.56
13:O:18:THR:O	13:O:31:CYS:N	2.30	0.56
20:Y:101:ARG:CZ	20:Y:136:HIS:HB3	2.36	0.56
22:a:341:LEU:HD21	22:a:349:MET:HE3	1.88	0.56
23:b:16:MET:HE1	23:b:114:GLY:HA3	1.87	0.56
24:d:172:LYS:HD2	24:d:175:TYR:CD2	2.40	0.56
25:f:350:LYS:HA	25:f:751:TYR:HE2	1.70	0.56
25:f:807:ARG:NH2	25:f:878:GLU:OE1	2.39	0.56
30:F:54:ILE:HD12	30:F:55:MET:H	1.71	0.56
30:F:359:GLU:HA	30:F:362:ARG:HD2	1.87	0.56
2:C:320:PRO:O	2:C:325:ARG:NH1	2.39	0.56
4:c:288:VAL:HG22	21:Z:263:ALA:HA	1.87	0.56
6:H:86:LEU:HD21	6:H:130:PHE:CD2	2.41	0.56
9:K:157:ASP:OD2	30:F:436:GLN:NE2	2.39	0.56
14:P:30:ILE:HG23	14:P:32:ALA:H	1.71	0.56
16:R:51:ASP:OD1	17:S:97:TYR:OH	2.12	0.56
21:Z:72:HIS:NE2	23:b:61:LEU:O	2.34	0.56
23:b:135:LYS:HE3	34:u:140:GLU:HG2	1.87	0.56
26:W:136:ILE:HD11	26:W:142:ARG:HH22	1.71	0.56
27:V:175:MET:N	27:V:175:MET:SD	2.79	0.56
29:A:116:LYS:HG3	29:A:117:GLN:OE1	2.06	0.56
30:F:396:CYS:O	30:F:397:LYS:C	2.49	0.56
31:E:86:GLN:OE1	31:E:86:GLN:N	2.39	0.56
31:E:216:ARG:O	31:E:220:ASN:ND2	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:E:216:ARG:NH1	31:E:259:GLU:OE2	2.35	0.56
4:c:310:LYS:O	4:c:311:LEU:C	2.49	0.55
5:G:240:VAL:O	5:G:244:GLU:HG2	2.05	0.55
25:f:119:LYS:HB3	25:f:123:ALA:N	2.22	0.55
29:A:102:ILE:HD11	30:F:165:PRO:HD2	1.87	0.55
31:E:65:THR:HG22	31:E:68:LYS:HB2	1.87	0.55
2:C:135:VAL:HG21	2:C:234:LEU:HA	1.88	0.55
5:G:75:ASN:HD21	5:G:108:GLU:HG3	1.70	0.55
6:H:93:LEU:HD13	6:H:113:ARG:HB3	1.89	0.55
14:P:56:LEU:HD11	14:P:104:TYR:HB2	1.88	0.55
15:Q:1:MET:SD	15:Q:1:MET:N	2.74	0.55
19:X:334:ASN:HB3	19:X:354:ILE:HD11	1.87	0.55
19:X:407:MET:HE2	21:Z:266:ILE:HG23	1.88	0.55
31:E:135:ILE:HD13	31:E:142:ILE:HD12	1.87	0.55
34:u:166:LEU:HD21	34:u:204:MET:HB3	1.87	0.55
34:u:183:GLN:HE21	34:u:262:TYR:HB3	1.71	0.55
1:B:333:ARG:NH1	2:C:258:ARG:O	2.33	0.55
10:L:49:LEU:HB2	10:L:195:LEU:HD21	1.87	0.55
17:S:108:ASN:O	17:S:109:ILE:HD13	2.07	0.55
19:X:306:LEU:HD12	19:X:314:ARG:HH11	1.71	0.55
19:X:309:TYR:CD2	19:X:313:LEU:HB2	2.42	0.55
20:Y:122:THR:HG22	20:Y:125:ARG:HH21	1.71	0.55
25:f:91:SER:HA	25:f:94:LYS:HD3	1.88	0.55
27:V:289:LEU:HD22	27:V:308:THR:HG23	1.88	0.55
29:A:143:ASP:OD1	29:A:147:TYR:N	2.36	0.55
30:F:388:THR:O	30:F:391:PHE:HB2	2.06	0.55
17:S:78:SER:OG	17:S:79:ASN:OD1	2.24	0.55
21:Z:34:ARG:HH12	21:Z:102:HIS:HB3	1.70	0.55
21:Z:101:LEU:HD11	21:Z:138:TYR:HE2	1.72	0.55
25:f:747:GLN:O	25:f:751:TYR:HB2	2.06	0.55
33:g:253:SER:HA	33:g:270:ASN:HD21	1.71	0.55
2:C:263:SER:OG	2:C:264:GLY:N	2.36	0.55
11:M:119:VAL:HG23	11:M:131:PHE:HB2	1.88	0.55
12:N:42:PHE:HB2	12:N:179:ILE:HD11	1.87	0.55
21:Z:19:VAL:HG21	21:Z:124:ILE:HD12	1.88	0.55
21:Z:48:LEU:HD11	21:Z:92:VAL:HG13	1.89	0.55
25:f:282:PHE:HA	25:f:286:LYS:HB3	1.88	0.55
8:J:166:LYS:O	8:J:170:GLU:HG2	2.07	0.55
10:L:78:THR:HG22	30:F:439:ALA:HB2	1.87	0.55
12:N:12:VAL:HG11	12:N:101:ALA:HB1	1.87	0.55
12:N:149:LYS:O	12:N:149:LYS:NZ	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:X:177:TYR:CE2	19:X:185:LYS:HB3	2.41	0.55
22:a:321:LYS:NZ	22:a:334:THR:O	2.31	0.55
27:V:212:TYR:OH	28:e:21:GLU:OE1	2.22	0.55
29:A:186:LYS:O	29:A:190:VAL:HG23	2.07	0.55
1:B:271:PHE:O	1:B:275:GLU:HG2	2.07	0.55
2:C:139:MET:HE1	2:C:210:THR:HB	1.88	0.55
3:D:229:ARG:HD3	31:E:267:PHE:CD1	2.41	0.55
8:J:155:ALA:N	9:K:63:SER:OG	2.35	0.55
8:J:160:ALA:O	8:J:169:ARG:NH2	2.38	0.55
10:L:157:ARG:HE	10:L:179:PHE:HB3	1.72	0.55
13:O:37:ILE:HA	13:O:60:SER:HB3	1.89	0.55
19:X:69:LEU:HA	19:X:72:TYR:HB3	1.88	0.55
22:a:373:ASP:OD2	24:d:353:ARG:NH1	2.40	0.55
24:d:217:ALA:HA	24:d:220:ILE:HG13	1.89	0.55
25:f:131:MET:HB3	25:f:170:TRP:HE1	1.72	0.55
25:f:411:ALA:HB3	25:f:443:GLY:HA3	1.89	0.55
2:C:326:LEU:HD22	2:C:345:ARG:HE	1.70	0.55
9:K:33:LEU:O	9:K:53:ARG:NH2	2.40	0.55
10:L:182:CYS:HB3	10:L:186:GLU:HB2	1.89	0.55
11:M:50:GLU:HB2	11:M:197:ILE:HD11	1.88	0.55
26:W:301:LYS:HD2	26:W:327:GLU:HG3	1.88	0.55
32:U:374:SER:HB2	32:U:407:SER:HB2	1.89	0.55
2:C:189:TYR:CZ	2:C:316:GLU:HB2	2.41	0.55
10:L:76:GLY:O	30:F:439:ALA:N	2.36	0.55
24:d:163:SER:HB2	24:d:167:TYR:CE2	2.37	0.55
26:W:174:TYR:OH	26:W:182:ARG:NH2	2.40	0.55
26:W:297:GLU:OE1	26:W:297:GLU:N	2.39	0.55
30:F:302:GLY:O	30:F:304:ARG:NE	2.39	0.55
31:E:246:GLY:O	31:E:251:ARG:NH2	2.36	0.55
3:D:355:SER:CB	3:D:358:VAL:HB	2.32	0.55
4:c:256:ASN:O	4:c:260:GLU:HG2	2.07	0.55
5:G:107:TYR:CD1	13:O:75:ARG:HD2	2.42	0.55
9:K:91:LYS:HG2	9:K:119:LEU:HD22	1.89	0.55
12:N:19:ARG:HB2	12:N:171:GLY:H	1.72	0.55
14:P:178:ASP:OD2	14:P:181:SER:OG	2.22	0.55
15:Q:45:LEU:HD13	15:Q:103:LEU:HB2	1.89	0.55
20:Y:108:ALA:O	20:Y:112:CYS:HB2	2.06	0.55
20:Y:299:MET:HA	20:Y:299:MET:HE3	1.89	0.55
21:Z:164:ALA:HB3	21:Z:169:GLU:HG2	1.88	0.55
25:f:690:VAL:O	25:f:694:LEU:HG	2.07	0.55
33:g:170:LYS:HD2	33:g:171:PRO:HD2	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:g:367:ASP:OD1	33:g:367:ASP:N	2.38	0.55
11:M:143:ASN:OD1	11:M:143:ASN:N	2.38	0.54
13:O:53:ASP:O	13:O:57:GLN:HG2	2.06	0.54
18:T:22:ILE:HD11	18:T:122:LEU:HD21	1.90	0.54
22:a:60:TYR:O	22:a:64:ILE:HG12	2.07	0.54
22:a:335:TRP:NE1	22:a:337:GLN:O	2.39	0.54
23:b:16:MET:HA	23:b:16:MET:HE2	1.87	0.54
25:f:136:GLU:HB3	25:f:137:ARG:HH12	1.72	0.54
25:f:634:LYS:HA	25:f:674:THR:HG22	1.88	0.54
25:f:670:MET:H	25:f:670:MET:CE	2.20	0.54
25:f:825:MET:HE1	25:f:864:GLY:HA2	1.89	0.54
25:f:831:VAL:HG11	25:f:844:VAL:HB	1.88	0.54
26:W:81:ASP:N	26:W:81:ASP:OD1	2.36	0.54
27:V:227:VAL:HG12	27:V:231:LEU:HG	1.90	0.54
29:A:224:LEU:O	29:A:228:ALA:N	2.31	0.54
30:F:86:LEU:HG	30:F:87:PRO:HD3	1.88	0.54
30:F:251:LEU:HB2	30:F:285:ILE:HG13	1.89	0.54
32:U:432:SER:OG	32:U:433:PRO:HD3	2.07	0.54
1:B:59:ARG:HB2	29:A:41:TYR:CE2	2.42	0.54
4:c:292:MET:HE3	24:d:355:LEU:HD11	1.88	0.54
4:c:307:VAL:HG11	22:a:363:MET:CE	2.36	0.54
10:L:132:LEU:HB2	10:L:147:THR:OG1	2.06	0.54
11:M:34:SER:OG	11:M:65:ARG:NH1	2.41	0.54
21:Z:34:ARG:NH1	21:Z:102:HIS:HB3	2.21	0.54
23:b:100:ARG:NH2	23:b:103:LYS:O	2.36	0.54
24:d:264:LEU:O	24:d:268:ARG:HG3	2.07	0.54
25:f:689:ALA:O	25:f:693:ALA:CB	2.52	0.54
32:U:613:ASP:OD1	32:U:616:ARG:NH2	2.30	0.54
1:B:211:TYR:HE2	1:B:219:PRO:HD3	1.72	0.54
14:P:99:ARG:HG3	14:P:100:PHE:HD1	1.73	0.54
16:R:14:VAL:HG22	16:R:177:TYR:HB2	1.88	0.54
18:T:45:VAL:HG23	18:T:46:ASN:OD1	2.08	0.54
18:T:124:TYR:HB3	18:T:137:LEU:HD23	1.88	0.54
19:X:177:TYR:CD2	19:X:185:LYS:HB3	2.42	0.54
19:X:338:VAL:O	19:X:339:ILE:HG12	2.07	0.54
19:X:370:LEU:HD21	20:Y:306:GLN:HG2	1.89	0.54
20:Y:137:ARG:HB2	20:Y:163:LYS:HZ3	1.72	0.54
20:Y:232:GLU:CD	20:Y:302:HIS:HB3	2.32	0.54
21:Z:127:LYS:HB2	21:Z:128:PRO:HD3	1.90	0.54
30:F:288:LEU:HD22	30:F:334:ARG:HB2	1.89	0.54
31:E:135:ILE:C	37:E:501:ADP:HN61	2.14	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:U:899:ARG:NH2	32:U:923:GLU:OE1	2.39	0.54
2:C:251:ILE:HG12	2:C:293:MET:HE3	1.88	0.54
11:M:131:PHE:O	11:M:153:PRO:HB3	2.08	0.54
19:X:212:MET:HE1	19:X:250:SER:HA	1.88	0.54
20:Y:22:LEU:HD11	20:Y:37:VAL:HG13	1.89	0.54
22:a:70:ARG:CZ	23:b:17:ARG:HA	2.37	0.54
25:f:323:ASN:HA	25:f:326:LEU:HG	1.88	0.54
25:f:407:MET:HB2	25:f:439:TYR:HB3	1.89	0.54
26:W:276:LEU:HD23	26:W:341:PHE:HE1	1.73	0.54
27:V:161:PRO:HB2	27:V:203:LEU:HD22	1.90	0.54
28:e:53:SER:O	28:e:57:ARG:HG2	2.06	0.54
29:A:203:ASN:O	30:F:374:ASN:ND2	2.41	0.54
29:A:332:MET:HA	29:A:337:LEU:HD13	1.90	0.54
30:F:150:LEU:HB3	30:F:164:LEU:HD11	1.89	0.54
30:F:262:GLY:HA2	30:F:265:ALA:HB3	1.90	0.54
31:E:89:LYS:HA	31:E:92:LEU:HD23	1.88	0.54
31:E:282:PRO:HA	31:E:285:LEU:HD23	1.88	0.54
4:c:264:LYS:HD2	4:c:264:LYS:N	2.23	0.54
9:K:71:ASP:HB3	9:K:74:ILE:HG22	1.90	0.54
17:S:44:TYR:HD2	17:S:52:ILE:HG23	1.72	0.54
18:T:26:MET:SD	18:T:188:GLN:HG2	2.47	0.54
18:T:145:LEU:HD22	18:T:176:LEU:HG	1.89	0.54
25:f:505:MET:SD	25:f:536:SER:OG	2.63	0.54
26:W:135:LYS:HD2	26:W:139:GLU:HB2	1.89	0.54
28:e:60:LEU:HD23	28:e:65:TYR:CD2	2.42	0.54
29:A:151:ILE:HD12	29:A:152:PRO:HD2	1.90	0.54
31:E:353:PHE:HA	31:E:356:ARG:HE	1.72	0.54
1:B:220:LYS:NZ	1:B:345:GLY:O	2.40	0.54
3:D:390:ASN:HA	26:W:208:LYS:HE2	1.90	0.54
8:J:158:ALA:HB3	9:K:58:LEU:HD11	1.88	0.54
10:L:164:ARG:HD3	30:F:425:LEU:HD13	1.89	0.54
11:M:87:LEU:HD11	11:M:135:PHE:CE1	2.43	0.54
18:T:69:GLN:HA	18:T:72:ILE:HD12	1.89	0.54
21:Z:11:VAL:HA	21:Z:50:VAL:HG22	1.89	0.54
23:b:86:PHE:O	23:b:90:ILE:HG22	2.08	0.54
25:f:370:MET:SD	25:f:740:ARG:NH2	2.80	0.54
25:f:637:LYS:HB3	25:f:678:LEU:HD13	1.89	0.54
25:f:808:ASN:HB2	25:f:810:ILE:HG23	1.89	0.54
26:W:395:ASN:O	26:W:399:ASN:ND2	2.41	0.54
26:W:451:MET:SD	26:W:452:ILE:HG12	2.48	0.54
29:A:122:VAL:HG13	30:F:88:TYR:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:c:266:THR:O	4:c:267:PRO:C	2.51	0.54
4:c:304:LEU:HD13	21:Z:198:LEU:HD11	1.89	0.54
13:O:76:VAL:HG21	13:O:109:HIS:HB2	1.89	0.54
18:T:143:ALA:HA	18:T:147:GLN:HB2	1.89	0.54
20:Y:201:PHE:HD2	20:Y:223:THR:HA	1.73	0.54
27:V:449:ALA:HA	27:V:460:SER:HA	1.88	0.54
29:A:174:TYR:OH	29:A:192:GLU:OE2	2.22	0.54
29:A:229:VAL:HG22	29:A:233:THR:HG23	1.88	0.54
31:E:235:ILE:HG23	31:E:285:LEU:HD11	1.90	0.54
1:B:112:LEU:HD22	1:B:144:LEU:HD12	1.89	0.54
8:J:222:PRO:HA	8:J:225:ILE:HD11	1.89	0.54
16:R:8:PHE:CE1	16:R:13:ILE:HG12	2.42	0.54
16:R:8:PHE:CE2	16:R:10:HIS:HB3	2.43	0.54
19:X:344:ARG:HG3	19:X:384:VAL:HG11	1.89	0.54
20:Y:34:ASP:H	20:Y:37:VAL:HG23	1.72	0.54
26:W:143:ALA:O	26:W:147:LYS:NZ	2.39	0.54
1:B:301:GLY:HA3	33:g:160:CYS:HB2	1.89	0.54
4:c:282:ARG:O	4:c:285:GLU:N	2.41	0.54
7:I:179:TYR:O	8:J:52:LYS:NZ	2.39	0.54
8:J:136:PHE:H	8:J:211:MET:HE1	1.73	0.54
11:M:8:ASP:HB3	11:M:21:PHE:HB2	1.90	0.54
12:N:56:ALA:O	12:N:60:THR:OG1	2.21	0.54
15:Q:157:VAL:HA	15:Q:160:LEU:HG	1.89	0.54
19:X:292:GLN:HA	19:X:295:LYS:HG2	1.88	0.54
20:Y:111:LEU:C	20:Y:114:ILE:H	2.16	0.54
21:Z:73:ASP:OD1	21:Z:74:TYR:N	2.41	0.54
21:Z:204:LYS:HD2	26:W:442:THR:HG21	1.89	0.54
22:a:180:LEU:HD13	22:a:221:VAL:HG11	1.90	0.54
23:b:48:ASN:HB3	23:b:64:LEU:HD12	1.90	0.54
25:f:680:ARG:NE	25:f:714:SER:O	2.39	0.54
30:F:308:ARG:NH1	31:E:201:SER:O	2.41	0.54
32:U:695:MET:HE1	32:U:709:PHE:CD1	2.42	0.54
2:C:62:GLU:OE2	3:D:117:SER:N	2.39	0.54
3:D:155:THR:OG1	3:D:157:ASP:OD1	2.25	0.54
5:G:69:LEU:HB3	5:G:79:VAL:HG23	1.89	0.54
7:I:4:ARG:HH11	7:I:6:ASP:HB2	1.73	0.54
15:Q:151:ILE:HA	15:Q:155:ARG:HD3	1.90	0.54
19:X:125:LEU:O	19:X:129:LEU:HG	2.08	0.54
20:Y:192:ARG:C	20:Y:194:PHE:H	2.16	0.54
24:d:179:LYS:HD3	32:U:1:MET:H3	1.74	0.54
25:f:617:SER:OG	25:f:632:LYS:HD3	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:U:439:GLU:HB3	32:U:473:VAL:HG22	1.89	0.54
33:g:233:PHE:HB2	33:g:244:PHE:HB3	1.89	0.54
3:D:200:ARG:N	3:D:328:ASP:OD2	2.38	0.53
19:X:151:SER:OG	19:X:155:ARG:NH2	2.41	0.53
19:X:264:PRO:HB3	19:X:291:ALA:HB1	1.89	0.53
20:Y:23:ARG:HD2	20:Y:59:LYS:HD2	1.89	0.53
23:b:118:GLU:OE2	23:b:118:GLU:N	2.33	0.53
25:f:267:ARG:HE	25:f:299:GLY:HA2	1.74	0.53
25:f:808:ASN:OD1	25:f:808:ASN:N	2.41	0.53
30:F:421:MET:SD	30:F:422:GLU:N	2.81	0.53
3:D:39:ASP:N	3:D:42:SER:HG	2.05	0.53
5:G:103:TYR:O	13:O:81:ARG:NH1	2.37	0.53
6:H:34:PRO:HD2	6:H:49:GLU:HG2	1.90	0.53
8:J:146:GLN:O	8:J:153:TYR:HA	2.08	0.53
10:L:43:HIS:CE1	10:L:216:GLY:HA3	2.44	0.53
16:R:44:THR:HG1	16:R:100:MET:H	1.56	0.53
18:T:89:HIS:CE1	18:T:131:ALA:HB1	2.43	0.53
21:Z:144:VAL:HG23	21:Z:145:HIS:H	1.74	0.53
23:b:7:MET:HE1	23:b:63:THR:HA	1.91	0.53
23:b:167:GLY:O	23:b:169:HIS:ND1	2.41	0.53
25:f:87:THR:HB	25:f:109:ILE:O	2.07	0.53
25:f:381:VAL:HG22	25:f:754:LYS:HB2	1.89	0.53
25:f:647:GLY:HA2	25:f:650:GLN:HE22	1.73	0.53
26:W:200:ILE:O	26:W:204:ILE:HG12	2.08	0.53
30:F:198:LEU:HD22	30:F:236:LEU:HD21	1.89	0.53
31:E:363:VAL:HG23	31:E:366:ASP:H	1.73	0.53
32:U:490:ARG:HB2	32:U:493:VAL:HG12	1.91	0.53
10:L:43:HIS:CD2	10:L:184:LEU:HD21	2.43	0.53
11:M:49:VAL:HG21	11:M:65:ARG:HD3	1.89	0.53
12:N:34:LEU:HB3	12:N:42:PHE:CE1	2.43	0.53
17:S:92:LEU:HD23	17:S:124:PHE:CZ	2.44	0.53
20:Y:376:LEU:HD23	21:Z:265:LEU:HD21	1.90	0.53
21:Z:7:GLN:OE1	21:Z:7:GLN:N	2.35	0.53
24:d:306:ARG:HD3	24:d:308:TRP:CD1	2.42	0.53
25:f:258:LYS:HE3	25:f:766:GLN:HG3	1.90	0.53
25:f:350:LYS:HA	25:f:751:TYR:CE2	2.43	0.53
26:W:149:LEU:O	26:W:152:ILE:HG22	2.07	0.53
27:V:104:THR:HA	27:V:107:ARG:HH21	1.73	0.53
27:V:292:THR:O	27:V:296:LYS:HG3	2.09	0.53
32:U:713:TYR:HE2	32:U:737:LEU:HD12	1.73	0.53
9:K:124:GLY:O	10:L:125:ARG:NE	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Z:142:GLU:HG3	22:a:146:PRO:HG3	1.90	0.53
24:d:126:LEU:O	24:d:140:GLN:NE2	2.35	0.53
25:f:447:ALA:O	25:f:450:ILE:HG22	2.08	0.53
26:W:147:LYS:HE3	26:W:185:PHE:CE2	2.43	0.53
30:F:368:ILE:HG23	30:F:371:ARG:HH12	1.73	0.53
30:F:391:PHE:CZ	30:F:427:VAL:HG21	2.43	0.53
9:K:4:THR:OG1	9:K:7:GLU:OE2	2.26	0.53
10:L:43:HIS:HD2	10:L:184:LEU:HD21	1.74	0.53
20:Y:107:LYS:HA	20:Y:110:TYR:HB2	1.90	0.53
24:d:228:HIS:HB3	24:d:229:PRO:HD3	1.91	0.53
25:f:267:ARG:HH12	25:f:272:LEU:HD23	1.73	0.53
25:f:483:PHE:CZ	25:f:802:SER:HB3	2.43	0.53
26:W:265:GLN:NE2	26:W:336:PRO:O	2.41	0.53
31:E:136:GLY:HA2	31:E:315:ILE:HD12	1.91	0.53
8:J:31:THR:OG1	8:J:163:ARG:O	2.19	0.53
8:J:43:LEU:HD22	8:J:62:ILE:HD11	1.90	0.53
8:J:158:ALA:HB1	8:J:172:LEU:HD13	1.90	0.53
9:K:31:ILE:HD13	9:K:140:ALA:HB2	1.91	0.53
12:N:130:SER:OG	12:N:169:SER:OG	2.26	0.53
17:S:14:ALA:HA	17:S:22:ILE:O	2.09	0.53
25:f:696:LEU:HD21	25:f:731:MET:SD	2.49	0.53
29:A:180:CYS:HB3	29:A:183:GLN:HB2	1.91	0.53
3:D:392:TYR:CE2	31:E:161:ARG:HG2	2.43	0.53
4:c:189:ILE:O	4:c:193:ILE:HG12	2.08	0.53
5:G:131:MET:HE1	11:M:124:LEU:HG	1.90	0.53
14:P:24:ALA:HB2	14:P:42:ILE:HG12	1.89	0.53
14:P:36:THR:HG21	15:Q:125:ALA:HB1	1.89	0.53
17:S:57:PHE:HD1	17:S:60:ASP:H	1.56	0.53
21:Z:106:ILE:HG12	21:Z:153:LYS:HG3	1.90	0.53
22:a:50:PHE:HD2	22:a:52:GLN:HG2	1.72	0.53
24:d:257:THR:HA	24:d:260:ILE:HB	1.91	0.53
25:f:231:LEU:HG	25:f:234:THR:HB	1.90	0.53
25:f:665:GLU:HA	25:f:669:GLU:HB2	1.91	0.53
25:f:729:MET:HA	25:f:732:VAL:HG12	1.90	0.53
25:f:824:ALA:O	25:f:825:MET:HE2	2.09	0.53
29:A:99:THR:HG22	29:A:100:LYS:H	1.73	0.53
31:E:242:ARG:NH1	31:E:258:MET:SD	2.81	0.53
32:U:131:GLU:OE1	32:U:135:ASN:ND2	2.40	0.53
32:U:167:ILE:HG21	32:U:204:ILE:HD13	1.91	0.53
33:g:220:ASP:O	33:g:223:THR:HG22	2.09	0.53
2:C:132:ASP:OD1	2:C:135:VAL:HG12	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:256:SER:O	2:C:302:ASP:N	2.42	0.53
6:H:114:VAL:O	6:H:118:MET:HG2	2.09	0.53
7:I:235:GLN:O	7:I:238:LYS:HG2	2.08	0.53
9:K:4:THR:OG1	9:K:4:THR:O	2.26	0.53
19:X:170:GLN:OE1	19:X:192:SER:OG	2.21	0.53
19:X:347:ILE:HA	19:X:350:ILE:HG22	1.91	0.53
21:Z:242:LEU:O	21:Z:244:GLU:N	2.38	0.53
26:W:126:ASP:O	26:W:130:MET:HG2	2.09	0.53
26:W:179:LYS:HB3	26:W:212:LYS:HD2	1.90	0.53
33:g:323:GLU:OE1	33:g:323:GLU:N	2.30	0.53
2:C:399:MET:HE1	7:I:51:ASN:HB3	1.90	0.53
4:c:94:LYS:O	4:c:98:MET:HG3	2.09	0.53
4:c:303:MET:HE1	24:d:344:LEU:HD22	1.91	0.53
7:I:136:TYR:HE1	7:I:150:SER:HB3	1.74	0.53
8:J:34:GLY:O	8:J:158:ALA:HA	2.08	0.53
13:O:34:ILE:HG12	13:O:44:CYS:SG	2.49	0.53
20:Y:108:ALA:HA	20:Y:112:CYS:SG	2.49	0.53
20:Y:217:LYS:O	20:Y:221:THR:HG23	2.08	0.53
20:Y:220:VAL:HG21	20:Y:249:VAL:HG21	1.90	0.53
20:Y:268:TYR:HA	20:Y:271:PHE:HB3	1.91	0.53
25:f:102:HIS:CE1	25:f:137:ARG:HD2	2.44	0.53
30:F:344:ARG:NH2	31:E:344:ARG:HD2	2.23	0.53
31:E:138:LEU:HD11	31:E:301:ILE:HG23	1.90	0.53
32:U:419:ALA:O	32:U:422:LEU:HG	2.08	0.53
32:U:672:LEU:HD21	32:U:690:ALA:HB3	1.90	0.53
1:B:109:VAL:HG12	1:B:151:LEU:HD23	1.91	0.53
5:G:50:ILE:HG23	5:G:141:ILE:HD13	1.90	0.53
6:H:58:ASP:OD1	6:H:61:SER:N	2.41	0.53
25:f:194:TYR:HB2	25:f:198:HIS:NE2	2.24	0.53
27:V:121:PHE:CD2	27:V:128:ARG:HB2	2.44	0.53
29:A:296:GLN:HG2	30:F:174:ALA:HA	1.91	0.53
31:E:205:ASP:OD1	31:E:206:LYS:N	2.42	0.53
32:U:167:ILE:O	32:U:170:SER:OG	2.27	0.53
1:B:57:GLN:NE2	29:A:42:SER:HA	2.24	0.52
2:C:255:GLY:HA2	2:C:273:MET:HG3	1.91	0.52
16:R:134:TYR:HB2	16:R:163:ALA:HA	1.91	0.52
21:Z:190:ARG:O	21:Z:194:GLN:HG2	2.09	0.52
22:a:150:SER:O	22:a:154:ARG:HG2	2.09	0.52
22:a:196:ARG:HG2	22:a:196:ARG:HH11	1.74	0.52
24:d:161:ILE:HD12	24:d:161:ILE:H	1.74	0.52
25:f:402:ASN:HB2	25:f:406:GLY:HA3	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A:272:ILE:HG23	29:A:317:VAL:HA	1.91	0.52
31:E:46:ASP:HA	31:E:49:ALA:HB3	1.90	0.52
32:U:148:LYS:HE3	32:U:176:MET:HE1	1.90	0.52
20:Y:109:GLU:O	20:Y:113:ARG:HB2	2.08	0.52
23:b:116:PRO:HD3	23:b:145:GLU:HG2	1.90	0.52
25:f:169:GLU:O	25:f:173:LEU:N	2.39	0.52
25:f:315:GLU:O	25:f:319:GLU:HG3	2.09	0.52
7:I:136:TYR:CE1	7:I:150:SER:HB3	2.45	0.52
10:L:43:HIS:HE1	10:L:219:LEU:HB3	1.75	0.52
11:M:77:VAL:HG11	11:M:84:ALA:HB1	1.90	0.52
17:S:145:LEU:HD21	17:S:182:ALA:HB2	1.91	0.52
24:d:197:LEU:HD21	24:d:260:ILE:HG12	1.91	0.52
29:A:214:LEU:N	29:A:319:MET:O	2.42	0.52
30:F:397:LYS:O	30:F:401:VAL:HG22	2.08	0.52
31:E:249:ALA:HA	33:g:156:LEU:HD11	1.91	0.52
32:U:4:SER:OG	32:U:5:ALA:N	2.42	0.52
1:B:293:LYS:HD2	1:B:339:PRO:HD3	1.90	0.52
1:B:401:GLU:HB3	1:B:422:SER:OG	2.10	0.52
3:D:171:ASP:OD1	3:D:171:ASP:N	2.43	0.52
4:c:282:ARG:O	4:c:283:HIS:C	2.52	0.52
9:K:21:LEU:HD11	10:L:126:ARG:HH12	1.74	0.52
14:P:58:THR:O	15:Q:85:ARG:NH2	2.42	0.52
15:Q:8:GLN:HG2	15:Q:128:PRO:HA	1.90	0.52
19:X:281:GLY:H	19:X:284:THR:HG22	1.74	0.52
21:Z:63:LYS:O	21:Z:63:LYS:HD3	2.09	0.52
22:a:129:GLN:NE2	22:a:130:VAL:HG12	2.22	0.52
25:f:99:LEU:HG	25:f:100:ARG:H	1.73	0.52
25:f:180:GLN:HB3	25:f:181:ARG:HH21	1.74	0.52
25:f:189:LYS:HG3	25:f:190:GLU:HG3	1.90	0.52
25:f:382:ASN:HB2	25:f:417:ILE:HD12	1.90	0.52
29:A:319:MET:HE3	29:A:320:ALA:H	1.74	0.52
29:A:401:ARG:NH2	29:A:408:ASP:OD1	2.42	0.52
32:U:360:VAL:HG23	32:U:365:CYS:HB2	1.92	0.52
1:B:141:LYS:HA	1:B:144:LEU:HD23	1.91	0.52
3:D:151:ILE:HG23	3:D:253:LEU:HD12	1.91	0.52
6:H:64:LYS:N	6:H:209:GLU:OE1	2.42	0.52
10:L:147:THR:HG22	10:L:153:TYR:HB3	1.90	0.52
21:Z:39:LEU:HD23	21:Z:95:TYR:HB3	1.92	0.52
23:b:12:ASN:HB2	23:b:80:PRO:HA	1.91	0.52
24:d:232:LEU:HD12	24:d:244:VAL:HG13	1.90	0.52
25:f:66:LYS:HG3	25:f:67:ASP:N	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:236:CYS:SG	25:f:237:VAL:N	2.83	0.52
30:F:344:ARG:CZ	31:E:341:ALA:HB1	2.39	0.52
31:E:132:TYR:HE2	31:E:146:ARG:HH11	1.58	0.52
32:U:384:GLN:NE2	32:U:388:ASP:OD1	2.41	0.52
4:c:266:THR:HB	4:c:267:PRO:CD	2.37	0.52
12:N:186:ARG:HH21	12:N:188:VAL:HB	1.74	0.52
15:Q:37:LYS:HZ1	15:Q:188:ILE:HG21	1.75	0.52
20:Y:278:VAL:O	20:Y:282:MET:HB2	2.10	0.52
24:d:283:LEU:HD23	24:d:284:PHE:N	2.24	0.52
25:f:83:ARG:O	25:f:87:THR:HG23	2.10	0.52
25:f:298:LEU:HD11	25:f:492:SER:HA	1.92	0.52
30:F:132:TYR:CZ	30:F:158:TYR:HE2	2.28	0.52
31:E:145:LEU:HD13	31:E:172:LEU:HD11	1.91	0.52
32:U:5:ALA:HB2	32:U:34:PHE:CE2	2.44	0.52
3:D:386:ALA:HB2	3:D:394:VAL:HG12	1.91	0.52
8:J:89:VAL:HG22	15:Q:66:LEU:HD21	1.90	0.52
18:T:173:MET:HA	18:T:176:LEU:HD12	1.92	0.52
22:a:55:GLY:HA2	22:a:58:LYS:HE3	1.92	0.52
25:f:556:ARG:H	25:f:556:ARG:HD2	1.75	0.52
25:f:616:CYS:HB3	25:f:632:LYS:HG3	1.92	0.52
30:F:65:GLU:OE2	31:E:34:LYS:NZ	2.43	0.52
32:U:38:ILE:HD12	32:U:38:ILE:H	1.75	0.52
34:u:121:LYS:HD2	34:u:122:GLY:N	2.25	0.52
1:B:171:VAL:HA	1:B:174:MET:HG3	1.92	0.52
2:C:21:ARG:HD3	32:U:149:GLN:HE22	1.74	0.52
5:G:112:ASP:OD1	5:G:113:MET:N	2.43	0.52
13:O:50:ALA:HB3	14:P:127:ILE:HG23	1.92	0.52
25:f:514:VAL:O	25:f:518:THR:OG1	2.23	0.52
29:A:319:MET:HE3	29:A:319:MET:HA	1.91	0.52
30:F:225:MET:HE2	30:F:233:LYS:HB3	1.91	0.52
30:F:233:LYS:HE2	30:F:331:ALA:HB1	1.90	0.52
4:c:46:ARG:HH21	4:c:148:ILE:HA	1.74	0.52
6:H:159:LYS:NZ	7:I:56:LEU:O	2.43	0.52
10:L:40:SER:O	10:L:142:PRO:HG2	2.10	0.52
18:T:111:VAL:HG22	18:T:124:TYR:HB2	1.91	0.52
24:d:200:LEU:HD11	24:d:233:GLU:HB2	1.91	0.52
26:W:272:LEU:HD12	26:W:338:THR:HG21	1.90	0.52
29:A:144:ARG:HB2	33:g:170:LYS:HD3	1.92	0.52
32:U:649:ARG:NE	32:U:678:ASP:OD2	2.41	0.52
1:B:50:PRO:O	1:B:52:VAL:HG23	2.10	0.52
10:L:70:ILE:HD11	10:L:105:VAL:HG22	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Q:18:ASP:O	15:Q:34:LYS:NZ	2.30	0.52
17:S:58:HIS:CE1	17:S:62:LEU:HD23	2.45	0.52
18:T:22:ILE:HG12	18:T:50:MET:HE1	1.92	0.52
19:X:389:ASP:H	26:W:417:ARG:HH22	1.57	0.52
20:Y:68:ASP:HA	20:Y:71:ASN:HB2	1.91	0.52
20:Y:279:GLU:HB2	20:Y:296:VAL:HG11	1.91	0.52
20:Y:298:GLU:OE2	20:Y:342:ARG:NH1	2.29	0.52
21:Z:16:LEU:HD23	21:Z:124:ILE:HD13	1.92	0.52
24:d:212:LEU:HD22	24:d:220:ILE:HD13	1.92	0.52
25:f:76:GLU:HG3	25:f:83:ARG:HB2	1.91	0.52
25:f:441:LYS:O	25:f:445:LEU:HG	2.10	0.52
25:f:584:SER:HB2	25:f:588:ARG:HB3	1.92	0.52
25:f:720:GLU:O	25:f:722:SER:N	2.43	0.52
26:W:200:ILE:HD12	26:W:201:ARG:N	2.24	0.52
26:W:452:ILE:O	26:W:456:GLN:N	2.43	0.52
30:F:147:PRO:HG2	31:E:120:TYR:CE2	2.46	0.52
30:F:269:ARG:HA	30:F:316:GLN:OE1	2.09	0.52
31:E:226:GLN:HB3	31:E:272:ARG:HE	1.75	0.52
10:L:67:ASP:OD1	10:L:69:HIS:ND1	2.43	0.51
13:O:126:THR:HG21	13:O:134:ALA:HB3	1.92	0.51
13:O:135:MET:O	13:O:135:MET:HE3	2.09	0.51
20:Y:377:LEU:HA	20:Y:380:VAL:HG12	1.91	0.51
21:Z:223:ASN:HB3	21:Z:226:ILE:HB	1.92	0.51
22:a:320:VAL:HG12	22:a:335:TRP:HB2	1.91	0.51
25:f:35:ASP:HB3	25:f:85:SER:HB3	1.92	0.51
25:f:184:LEU:HD11	29:A:41:TYR:CE2	2.46	0.51
25:f:257:ARG:HE	25:f:261:ARG:HB2	1.75	0.51
27:V:183:GLU:O	27:V:187:ILE:HG13	2.09	0.51
31:E:347:CYS:O	31:E:350:ALA:HB3	2.10	0.51
32:U:567:ILE:HD13	32:U:586:VAL:HG22	1.92	0.51
32:U:886:PRO:HA	32:U:889:LEU:HD13	1.93	0.51
3:D:181:VAL:HG11	3:D:308:ILE:HD11	1.92	0.51
14:P:25:ASP:OD2	14:P:182:GLY:N	2.43	0.51
14:P:49:LEU:HD22	14:P:111:GLY:HA3	1.92	0.51
15:Q:164:LEU:HA	15:Q:167:LEU:HD12	1.91	0.51
18:T:110:MET:HE1	18:T:112:ILE:HB	1.92	0.51
20:Y:89:GLU:HG2	20:Y:100:ILE:HG12	1.92	0.51
20:Y:100:ILE:O	20:Y:104:MET:HG2	2.10	0.51
23:b:55:ALA:HB1	23:b:82:GLY:HA3	1.92	0.51
23:b:124:LEU:HD12	23:b:156:PHE:HB2	1.93	0.51
25:f:589:SER:O	25:f:593:THR:HG23	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:U:516:LEU:HB3	32:U:532:MET:SD	2.51	0.51
33:g:322:ILE:HG12	33:g:338:PHE:HB2	1.91	0.51
1:B:117:ASP:O	1:B:119:ASN:N	2.38	0.51
2:C:127:LEU:HD22	3:D:102:ILE:HD11	1.92	0.51
4:c:48:GLY:HA3	4:c:53:VAL:CG1	2.40	0.51
7:I:6:ASP:O	7:I:20:GLN:NE2	2.43	0.51
11:M:7:TYR:O	11:M:13:THR:OG1	2.27	0.51
17:S:205:GLU:OE1	17:S:205:GLU:N	2.43	0.51
21:Z:71:ASP:HB3	21:Z:74:TYR:HB3	1.92	0.51
22:a:139:GLU:HB3	22:a:155:PHE:CZ	2.46	0.51
29:A:187:LEU:O	29:A:191:VAL:HG12	2.09	0.51
29:A:235:ALA:HA	29:A:268:LYS:NZ	2.25	0.51
32:U:693:LEU:HD21	32:U:779:LEU:HD11	1.93	0.51
34:u:167:ILE:HG23	34:u:246:ILE:HB	1.92	0.51
5:G:183:VAL:HA	5:G:189:TRP:CH2	2.41	0.51
12:N:66:HIS:CE1	12:N:70:LEU:HD11	2.46	0.51
13:O:12:ILE:HB	13:O:178:ILE:HB	1.92	0.51
15:Q:19:ARG:HB2	15:Q:177:THR:HG23	1.91	0.51
21:Z:94:TRP:CZ2	21:Z:121:LEU:HD12	2.45	0.51
21:Z:187:LEU:O	21:Z:191:ILE:HG12	2.10	0.51
22:a:156:TYR:OH	22:a:196:ARG:NH2	2.43	0.51
23:b:97:LEU:HD13	23:b:107:MET:HB3	1.91	0.51
25:f:111:GLU:N	25:f:111:GLU:OE1	2.44	0.51
25:f:327:ASN:HD22	25:f:420:TRP:CD1	2.27	0.51
25:f:828:ARG:HB3	25:f:843:SER:HB2	1.92	0.51
32:U:337:LEU:HB3	32:U:789:ILE:HD13	1.92	0.51
32:U:609:ASP:OD1	32:U:610:VAL:N	2.44	0.51
5:G:72:ILE:HG22	5:G:73:THR:HG23	1.93	0.51
7:I:41:ASP:OD1	7:I:41:ASP:N	2.41	0.51
11:M:215:TRP:CZ2	11:M:228:PRO:HD2	2.46	0.51
16:R:51:ASP:OD2	17:S:100:ARG:NH2	2.43	0.51
19:X:166:LEU:HG	19:X:170:GLN:HE21	1.75	0.51
21:Z:257:MET:HE1	27:V:476:PHE:CD2	2.45	0.51
25:f:655:LEU:HD23	25:f:655:LEU:C	2.35	0.51
27:V:440:LYS:HE2	27:V:443:ARG:HH12	1.75	0.51
29:A:159:PRO:HB3	29:A:166:VAL:HG12	1.92	0.51
30:F:192:ASP:OD1	30:F:192:ASP:N	2.43	0.51
32:U:20:LYS:HB3	32:U:48:LEU:HD21	1.92	0.51
2:C:115:ALA:HB2	2:C:127:LEU:HD11	1.91	0.51
5:G:131:MET:SD	5:G:132:ARG:N	2.83	0.51
6:H:76:TYR:HB3	6:H:83:TYR:CD1	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:145:TYR:HB3	6:H:147:PHE:HE1	1.76	0.51
6:H:157:ALA:HB1	7:I:57:ASP:HB2	1.91	0.51
8:J:117:ARG:HA	8:J:120:GLN:CD	2.36	0.51
9:K:41:GLN:HA	9:K:46:VAL:HG12	1.93	0.51
15:Q:174:ASN:OD1	15:Q:174:ASN:N	2.43	0.51
17:S:45:LYS:HG3	17:S:203:ILE:HD13	1.92	0.51
20:Y:23:ARG:HA	20:Y:32:ARG:HG3	1.92	0.51
22:a:238:TYR:O	22:a:242:SER:HB3	2.10	0.51
22:a:252:LYS:O	22:a:256:GLY:N	2.44	0.51
25:f:195:ASN:HA	25:f:198:HIS:CD2	2.46	0.51
25:f:753:ALA:HB3	25:f:754:LYS:HZ2	1.75	0.51
26:W:268:LYS:HE3	26:W:302:TYR:OH	2.11	0.51
30:F:66:LEU:HD13	31:E:34:LYS:HZ2	1.75	0.51
30:F:193:LYS:NZ	30:F:197:GLU:OE1	2.38	0.51
31:E:206:LYS:O	33:g:156:LEU:HA	2.11	0.51
1:B:203:LEU:HA	1:B:206:THR:HG22	1.93	0.51
1:B:383:LEU:HD11	1:B:419:PHE:HB3	1.92	0.51
16:R:115:ASP:OD1	16:R:119:ASN:N	2.44	0.51
20:Y:185:GLY:HA2	20:Y:188:CYS:HB2	1.93	0.51
22:a:137:ASP:O	22:a:141:MET:HG3	2.10	0.51
24:d:306:ARG:HB2	24:d:308:TRP:CD1	2.41	0.51
25:f:91:SER:HB3	25:f:121:PHE:HZ	1.76	0.51
25:f:753:ALA:HB3	25:f:754:LYS:NZ	2.25	0.51
30:F:225:MET:HB2	30:F:352:ILE:HB	1.92	0.51
30:F:355:PRO:O	30:F:357:PRO:HD3	2.11	0.51
30:F:373:MET:HA	30:F:373:MET:HE3	1.91	0.51
1:B:288:ASP:OD1	1:B:288:ASP:N	2.44	0.51
3:D:354:LEU:O	3:D:393:ILE:HG13	2.10	0.51
4:c:311:LEU:HD21	22:a:286:ALA:O	2.11	0.51
5:G:212:PRO:HG3	5:G:239:LEU:HD11	1.93	0.51
7:I:218:ARG:NH2	7:I:223:THR:OG1	2.44	0.51
13:O:126:THR:HG22	13:O:135:MET:HG2	1.93	0.51
14:P:85:TYR:HA	14:P:88:MET:HG3	1.92	0.51
19:X:348:GLU:OE1	19:X:348:GLU:N	2.40	0.51
20:Y:178:ASN:OD1	20:Y:204:THR:HG21	2.10	0.51
22:a:152:HIS:HB2	22:a:182:CYS:SG	2.51	0.51
23:b:97:LEU:O	23:b:100:ARG:HD3	2.11	0.51
25:f:314:TYR:CZ	25:f:315:GLU:HB3	2.46	0.51
25:f:419:LEU:HD12	25:f:420:TRP:N	2.25	0.51
25:f:878:GLU:O	25:f:879:ARG:HD2	2.11	0.51
27:V:266:GLN:OE1	27:V:266:GLN:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:F:57:SER:O	30:F:60:LEU:HG	2.11	0.51
32:U:327:LYS:HD2	32:U:333:MET:HE2	1.91	0.51
2:C:195:GLY:O	2:C:199:LEU:N	2.29	0.51
4:c:292:MET:HE2	24:d:355:LEU:HD21	1.91	0.51
5:G:27:TYR:CE1	11:M:16:PRO:HA	2.46	0.51
9:K:165:CYS:HA	10:L:57:ALA:HA	1.93	0.51
12:N:110:GLN:HB3	12:N:112:TYR:HE1	1.76	0.51
15:Q:21:ALA:HB3	15:Q:29:LYS:HB3	1.91	0.51
15:Q:85:ARG:HG3	15:Q:124:LEU:HG	1.93	0.51
16:R:147:LEU:HD23	16:R:152:ALA:HA	1.93	0.51
20:Y:184:GLN:HE21	20:Y:291:HIS:HE1	1.57	0.51
21:Z:23:PHE:HD2	21:Z:126:VAL:HG11	1.73	0.51
25:f:382:ASN:OD1	25:f:382:ASN:N	2.44	0.51
25:f:606:VAL:O	25:f:610:GLN:N	2.43	0.51
25:f:673:ARG:H	25:f:673:ARG:HD3	1.76	0.51
25:f:794:ALA:HA	25:f:797:LEU:HD21	1.92	0.51
25:f:799:VAL:O	25:f:802:SER:OG	2.19	0.51
2:C:174:LEU:H	2:C:174:LEU:HD12	1.75	0.51
3:D:161:ASP:OD1	3:D:161:ASP:N	2.33	0.51
4:c:116:PRO:HA	4:c:147:PRO:HD2	1.93	0.51
4:c:235:SER:HA	26:W:422:ASN:HD21	1.75	0.51
7:I:161:ALA:HB1	7:I:175:LEU:HD21	1.93	0.51
9:K:42:THR:OG1	9:K:189:MET:O	2.26	0.51
15:Q:139:THR:O	15:Q:143:LEU:HG	2.10	0.51
17:S:166:LEU:HD13	17:S:170:ARG:HD3	1.93	0.51
17:S:201:GLU:OE2	17:S:204:ARG:NH1	2.44	0.51
18:T:44:ARG:HA	18:T:50:MET:HB3	1.93	0.51
21:Z:150:PRO:HB3	22:a:184:ASP:HB3	1.92	0.51
21:Z:188:SER:OG	22:a:374:ILE:O	2.29	0.51
22:a:255:TRP:O	22:a:258:GLN:NE2	2.44	0.51
25:f:131:MET:N	25:f:131:MET:SD	2.84	0.51
25:f:470:VAL:HG21	25:f:500:LEU:HD11	1.92	0.51
27:V:105:SER:HB2	27:V:173:ILE:HG21	1.92	0.51
29:A:20:LYS:HD2	29:A:21:PRO:HD2	1.93	0.51
29:A:167:GLU:OE2	29:A:168:GLU:N	2.44	0.51
30:F:55:MET:HE3	30:F:55:MET:C	2.36	0.51
6:H:213:CYS:HB2	6:H:218:PHE:HB2	1.92	0.50
8:J:94:HIS:HB2	8:J:106:TYR:HE2	1.75	0.50
11:M:72:HIS:NE2	11:M:105:ASN:HB2	2.26	0.50
12:N:4:MET:HB2	12:N:127:ILE:HD13	1.92	0.50
12:N:150:GLU:CD	12:N:154:GLN:HE21	2.20	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:N:167:ASP:OD1	12:N:169:SER:OG	2.28	0.50
13:O:217:THR:HG23	14:P:195:ILE:HB	1.93	0.50
14:P:149:MET:O	14:P:153:LEU:HB3	2.11	0.50
22:a:37:LEU:HD21	22:a:64:ILE:HD12	1.93	0.50
22:a:210:VAL:O	22:a:271:LYS:NZ	2.39	0.50
24:d:148:LEU:HD12	24:d:174:TYR:HD2	1.75	0.50
25:f:446:LEU:O	25:f:450:ILE:HB	2.12	0.50
26:W:144:ARG:HH11	26:W:185:PHE:HE2	1.59	0.50
26:W:179:LYS:HG3	26:W:183:VAL:HG23	1.93	0.50
26:W:268:LYS:HG3	26:W:302:TYR:CZ	2.46	0.50
27:V:399:ARG:HD2	27:V:400:HIS:CE1	2.46	0.50
30:F:235:LEU:HD13	37:F:501:ADP:H2'	1.92	0.50
4:c:279:ASP:C	4:c:281:LYS:H	2.20	0.50
6:H:82:ASP:O	6:H:86:LEU:HD23	2.11	0.50
10:L:173:GLU:HA	10:L:176:MET:CE	2.41	0.50
22:a:25:LEU:HD22	22:a:60:TYR:HE2	1.75	0.50
22:a:313:LYS:O	22:a:317:VAL:HG22	2.10	0.50
25:f:94:LYS:HB3	25:f:102:HIS:CD2	2.46	0.50
25:f:165:GLU:HA	25:f:168:LYS:HE2	1.92	0.50
25:f:866:GLN:O	25:f:866:GLN:HG2	2.10	0.50
26:W:231:ILE:HG13	26:W:247:TYR:CE1	2.47	0.50
28:e:19:PHE:HB3	28:e:22:PHE:HD2	1.76	0.50
31:E:23:ASP:O	31:E:25:ARG:HG2	2.11	0.50
31:E:329:GLU:OE1	31:E:329:GLU:N	2.42	0.50
33:g:289:ASN:ND2	33:g:289:ASN:O	2.44	0.50
2:C:50:ASN:HD21	32:U:639:LEU:HD11	1.77	0.50
3:D:342:ARG:NH2	19:X:234:GLU:OE2	2.39	0.50
3:D:380:GLN:HE22	31:E:167:PRO:HA	1.77	0.50
4:c:61:PHE:HD1	4:c:67:VAL:HG22	1.75	0.50
4:c:75:MET:SD	4:c:87:VAL:HA	2.52	0.50
13:O:171:SER:O	13:O:172:ASN:ND2	2.45	0.50
15:Q:23:SER:OG	15:Q:28:MET:SD	2.65	0.50
19:X:338:VAL:HG21	19:X:353:LEU:HD22	1.93	0.50
24:d:172:LYS:HD2	24:d:175:TYR:HD2	1.76	0.50
24:d:172:LYS:HA	24:d:175:TYR:HD2	1.76	0.50
25:f:42:GLU:OE1	25:f:56:LEU:HD22	2.11	0.50
25:f:258:LYS:HA	25:f:769:THR:HG21	1.94	0.50
25:f:263:PRO:O	25:f:264:GLU:HG2	2.12	0.50
25:f:540:GLN:HA	25:f:543:MET:HG3	1.93	0.50
25:f:741:LEU:HD12	25:f:792:ALA:HB1	1.92	0.50
28:e:60:LEU:HD23	28:e:65:TYR:CE2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:F:215:LEU:HD11	31:E:355:ILE:HD13	1.92	0.50
30:F:389:ASP:N	30:F:389:ASP:OD1	2.44	0.50
2:C:78:ARG:NH1	29:A:68:SER:OG	2.45	0.50
2:C:258:ARG:HD3	2:C:274:LEU:HD21	1.93	0.50
4:c:130:GLN:OE1	4:c:142:ALA:HB2	2.11	0.50
4:c:251:LEU:HB3	4:c:284:LEU:HD13	1.93	0.50
6:H:163:MET:HA	6:H:167:TYR:HB2	1.93	0.50
9:K:95:GLU:OE1	9:K:115:ALA:HB3	2.11	0.50
11:M:54:LEU:H	11:M:54:LEU:HD12	1.76	0.50
11:M:141:SER:OG	11:M:143:ASN:OD1	2.30	0.50
14:P:28:PHE:HB2	14:P:39:PHE:HB2	1.93	0.50
20:Y:320:ALA:HA	20:Y:330:ILE:HD12	1.94	0.50
24:d:95:TYR:HA	24:d:98:LEU:HB3	1.93	0.50
24:d:210:THR:O	24:d:214:ARG:HG2	2.12	0.50
24:d:223:ASN:HD21	24:d:225:TYR:HB2	1.76	0.50
25:f:452:ASN:O	25:f:488:ALA:HA	2.11	0.50
25:f:600:TYR:HB2	25:f:639:LYS:HB2	1.93	0.50
29:A:235:ALA:HA	29:A:268:LYS:HZ1	1.75	0.50
31:E:224:ASP:HB3	31:E:225:HIS:HD2	1.77	0.50
33:g:293:ASN:OD1	33:g:298:GLN:NE2	2.45	0.50
3:D:271:ALA:HA	3:D:289:LEU:HD13	1.93	0.50
16:R:80:SER:OG	16:R:120:ARG:NH2	2.28	0.50
16:R:148:GLU:OE2	16:R:151:GLN:N	2.42	0.50
21:Z:12:HIS:HE1	21:Z:49:ASP:HB2	1.77	0.50
22:a:138:VAL:O	22:a:142:LEU:HB2	2.12	0.50
25:f:496:ASP:OD1	25:f:497:VAL:N	2.44	0.50
25:f:605:ASN:HD21	25:f:608:LYS:HB2	1.75	0.50
27:V:131:LEU:HD22	27:V:171:VAL:HG21	1.93	0.50
29:A:356:LYS:O	29:A:360:ARG:HG3	2.10	0.50
30:F:338:LEU:HD22	30:F:343:LEU:HD21	1.93	0.50
3:D:179:GLU:O	3:D:191:TYR:OH	2.27	0.50
4:c:41:MET:HG2	4:c:112:TYR:CD2	2.47	0.50
4:c:121:TRP:HZ3	4:c:123:SER:HB3	1.77	0.50
4:c:279:ASP:OD1	4:c:279:ASP:N	2.44	0.50
9:K:185:TYR:HA	9:K:189:MET:HE1	1.94	0.50
10:L:73:SER:OG	10:L:133:LEU:HB2	2.10	0.50
11:M:223:ARG:NH2	18:T:75:GLU:OE1	2.45	0.50
12:N:2:THR:HG23	12:N:127:ILE:HD11	1.93	0.50
12:N:98:ILE:HG13	12:N:100:ILE:HG13	1.93	0.50
16:R:156:ALA:O	16:R:160:ILE:HG22	2.12	0.50
17:S:27:THR:HB	17:S:40:SER:H	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Y:232:GLU:N	20:Y:234:PRO:HD3	2.27	0.50
25:f:73:PRO:C	25:f:75:LEU:H	2.20	0.50
25:f:314:TYR:O	25:f:318:THR:OG1	2.30	0.50
25:f:493:ASN:OD1	25:f:493:ASN:N	2.44	0.50
32:U:68:PHE:HD2	32:U:76:GLU:HB3	1.77	0.50
6:H:134:LEU:HB2	6:H:149:SER:HB3	1.94	0.50
6:H:139:TRP:CD1	6:H:215:GLU:HA	2.47	0.50
22:a:71:VAL:HA	23:b:17:ARG:HD2	1.93	0.50
23:b:17:ARG:HG2	23:b:17:ARG:HH11	1.75	0.50
26:W:193:CYS:HB3	26:W:202:THR:HG22	1.94	0.50
27:V:303:SER:HA	27:V:339:LEU:HD11	1.92	0.50
30:F:218:GLN:OE1	30:F:219:PRO:HD2	2.12	0.50
6:H:69:THR:OG1	6:H:70:LYS:N	2.42	0.50
11:M:219:LEU:HG	11:M:220:THR:HG23	1.94	0.50
14:P:58:THR:HG21	15:Q:121:LEU:O	2.11	0.50
19:X:375:HIS:ND1	19:X:390:GLU:OE1	2.36	0.50
21:Z:57:PRO:HG2	21:Z:71:ASP:HB2	1.94	0.50
23:b:133:LYS:HG3	34:u:139:ASN:HD21	1.76	0.50
24:d:300:THR:O	24:d:304:LYS:HG2	2.11	0.50
25:f:9:ALA:O	25:f:13:PRO:HD2	2.11	0.50
32:U:21:GLU:OE1	32:U:55:ARG:NE	2.45	0.50
33:g:255:GLU:HB2	33:g:341:THR:OG1	2.11	0.50
1:B:81:ASN:HB2	25:f:618:GLU:HG3	1.92	0.50
1:B:124:SER:HA	1:B:130:GLU:HA	1.93	0.50
5:G:112:ASP:HB3	5:G:152:TYR:CZ	2.46	0.50
7:I:86:LEU:HD23	7:I:134:LEU:HD21	1.92	0.50
11:M:134:SER:HB3	11:M:150:MET:SD	2.52	0.50
14:P:13:ALA:HB3	14:P:137:VAL:CG2	2.42	0.50
14:P:121:ILE:HD12	14:P:137:VAL:HG13	1.92	0.50
23:b:1:MET:HE1	23:b:43:SER:HB2	1.93	0.50
26:W:35:ALA:HA	26:W:39:ARG:NH2	2.26	0.50
26:W:201:ARG:NH2	26:W:205:ILE:HG13	2.27	0.50
30:F:181:PRO:HG2	30:F:242:ALA:HB2	1.92	0.50
30:F:402:GLU:HA	30:F:405:MET:HE3	1.92	0.50
3:D:238:LYS:HG3	31:E:207:TYR:HD2	1.77	0.49
3:D:377:SER:OG	3:D:378:ILE:N	2.45	0.49
4:c:39:LEU:HD12	21:Z:17:LEU:HD22	1.94	0.49
6:H:103:GLU:HG2	6:H:104:PRO:HD2	1.94	0.49
7:I:57:ASP:HB2	7:I:59:VAL:HG12	1.93	0.49
8:J:228:TYR:O	8:J:232:ILE:HG12	2.12	0.49
9:K:97:GLN:HB3	16:R:61:ARG:HD2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:L:40:SER:OG	10:L:43:HIS:N	2.45	0.49
13:O:120:ASP:N	13:O:120:ASP:OD1	2.44	0.49
15:Q:181:ARG:HD2	15:Q:188:ILE:HD11	1.94	0.49
17:S:16:ALA:HB2	17:S:121:VAL:HG23	1.93	0.49
18:T:146:ALA:O	18:T:150:LEU:HG	2.12	0.49
19:X:77:LEU:HD22	19:X:116:TRP:HE1	1.76	0.49
19:X:97:LEU:HD23	19:X:132:ARG:HH21	1.77	0.49
19:X:286:ALA:HB1	19:X:309:TYR:CE1	2.46	0.49
20:Y:49:ASN:HB3	20:Y:113:ARG:O	2.12	0.49
20:Y:194:PHE:HB2	20:Y:230:ALA:HB2	1.93	0.49
22:a:119:GLY:O	22:a:123:LEU:HD23	2.12	0.49
22:a:148:VAL:HG22	22:a:150:SER:H	1.77	0.49
26:W:50:LEU:O	26:W:53:GLN:HG3	2.11	0.49
3:D:143:LEU:HD22	31:E:64:LEU:HD11	1.93	0.49
18:T:96:MET:C	18:T:96:MET:HE2	2.37	0.49
20:Y:73:MET:H	20:Y:73:MET:CE	2.21	0.49
20:Y:201:PHE:HE2	20:Y:222:TYR:HB3	1.75	0.49
20:Y:207:THR:O	20:Y:207:THR:OG1	2.26	0.49
25:f:206:ASP:HB2	25:f:248:LEU:HB3	1.94	0.49
25:f:778:LEU:O	25:f:782:HIS:ND1	2.41	0.49
26:W:36:LYS:HA	26:W:36:LYS:HE2	1.93	0.49
26:W:285:ASP:HA	26:W:288:HIS:HE1	1.76	0.49
27:V:62:HIS:O	27:V:66:GLU:HG2	2.12	0.49
30:F:426:GLU:O	30:F:430:LYS:N	2.45	0.49
31:E:357:ALA:HB3	31:E:359:HIS:NE2	2.27	0.49
1:B:320:ASP:OD1	1:B:320:ASP:N	2.44	0.49
2:C:44:ARG:HH22	24:d:359:VAL:HG21	1.77	0.49
6:H:51:LYS:HE2	6:H:207:ASN:HD21	1.77	0.49
7:I:50:ARG:HH22	7:I:166:ASN:ND2	2.09	0.49
12:N:164:MET:HE3	12:N:174:ILE:HG12	1.94	0.49
14:P:91:VAL:HG23	14:P:124:LEU:HD22	1.94	0.49
15:Q:155:ARG:O	15:Q:159:LEU:HG	2.13	0.49
17:S:85:THR:HA	17:S:88:ILE:HD12	1.93	0.49
20:Y:368:GLU:OE2	20:Y:368:GLU:HA	2.12	0.49
23:b:55:ALA:C	23:b:57:ASP:H	2.20	0.49
25:f:365:VAL:HB	25:f:370:MET:HE1	1.93	0.49
26:W:349:LYS:HD2	26:W:350:ARG:HH12	1.77	0.49
29:A:221:GLY:O	29:A:224:LEU:HD12	2.13	0.49
4:c:48:GLY:O	4:c:49:VAL:C	2.53	0.49
9:K:92:ALA:O	9:K:95:GLU:HG2	2.12	0.49
12:N:19:ARG:HB2	12:N:171:GLY:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:O:206:LYS:HA	14:P:165:GLU:HG3	1.94	0.49
14:P:62:THR:HG23	15:Q:85:ARG:HH22	1.76	0.49
14:P:88:MET:HA	14:P:91:VAL:HG22	1.94	0.49
20:Y:127:THR:O	20:Y:131:THR:OG1	2.20	0.49
20:Y:134:LEU:O	20:Y:137:ARG:HG2	2.12	0.49
25:f:45:LEU:HD22	25:f:56:LEU:HD12	1.94	0.49
25:f:336:GLU:HB2	25:f:337:LEU:HD23	1.94	0.49
25:f:828:ARG:HH21	25:f:847:GLY:HA2	1.77	0.49
26:W:283:GLN:O	26:W:287:VAL:HG23	2.12	0.49
30:F:202:ILE:HG23	30:F:327:LYS:HG3	1.94	0.49
30:F:401:VAL:O	30:F:405:MET:HE3	2.12	0.49
33:g:266:CYS:HA	33:g:287:GLY:HA2	1.94	0.49
34:u:225:ILE:HD11	34:u:252:GLN:NE2	2.27	0.49
3:D:282:ASP:OD1	3:D:282:ASP:N	2.45	0.49
8:J:132:LEU:HG	8:J:161:ILE:HD13	1.93	0.49
20:Y:325:VAL:HG13	28:e:59:GLU:HG3	1.94	0.49
21:Z:280:ILE:O	21:Z:281:ALA:C	2.55	0.49
23:b:51:LEU:HB3	23:b:62:THR:HB	1.94	0.49
25:f:826:GLN:HG3	25:f:846:VAL:HA	1.94	0.49
25:f:828:ARG:CZ	25:f:845:ARG:HB2	2.42	0.49
30:F:221:LYS:HE3	30:F:320:PHE:CE1	2.46	0.49
34:u:137:CYS:SG	34:u:140:GLU:HB3	2.51	0.49
5:G:132:ARG:HB3	11:M:124:LEU:HB2	1.93	0.49
7:I:141:LYS:HE2	7:I:142:HIS:NE2	2.27	0.49
10:L:215:VAL:HB	10:L:221:PHE:HD1	1.77	0.49
13:O:207:GLY:N	14:P:165:GLU:OE2	2.45	0.49
16:R:86:MET:HA	16:R:89:GLN:HE22	1.77	0.49
17:S:63:THR:HG21	18:T:97:TYR:CE2	2.46	0.49
18:T:145:LEU:HD21	18:T:175:VAL:HG13	1.95	0.49
20:Y:48:ASN:HB3	20:Y:74:LYS:HG3	1.94	0.49
20:Y:65:ILE:HD13	20:Y:65:ILE:H	1.76	0.49
20:Y:94:ASN:HB3	20:Y:98:SER:HB2	1.95	0.49
22:a:292:THR:HG23	22:a:295:GLU:HG3	1.94	0.49
31:E:152:PRO:HG3	31:E:167:PRO:HD2	1.95	0.49
32:U:658:ILE:HD11	32:U:767:THR:HG21	1.94	0.49
33:g:220:ASP:CG	33:g:304:TRP:HE1	2.20	0.49
1:B:349:ARG:NH1	29:A:391:GLU:OE1	2.45	0.49
4:c:120:CYS:SG	4:c:156:VAL:HG12	2.52	0.49
4:c:259:VAL:O	4:c:262:GLU:HB2	2.13	0.49
7:I:93:ILE:HD11	7:I:117:ILE:HD11	1.93	0.49
9:K:40:ILE:HD12	9:K:194:ALA:HB1	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:O:80:ASN:OD1	13:O:81:ARG:N	2.45	0.49
17:S:110:ILE:HB	17:S:122:TYR:HB2	1.93	0.49
18:T:193:THR:OG1	18:T:195:LYS:HG3	2.12	0.49
21:Z:260:VAL:HA	27:V:480:ILE:HD12	1.95	0.49
25:f:426:LEU:HA	25:f:429:ILE:HG22	1.94	0.49
25:f:489:TYR:HB2	25:f:525:ILE:HD12	1.95	0.49
25:f:840:LEU:HG	25:f:841:PRO:HD2	1.95	0.49
34:u:181:LYS:HG2	34:u:230:ILE:HG12	1.94	0.49
1:B:209:GLU:OE1	1:B:209:GLU:N	2.45	0.49
4:c:163:ILE:N	4:c:199:HIS:O	2.44	0.49
5:G:88:ARG:HA	5:G:91:VAL:HG22	1.95	0.49
10:L:7:ASP:N	10:L:7:ASP:OD1	2.46	0.49
11:M:28:LYS:HA	11:M:31:GLU:OE1	2.13	0.49
13:O:114:TYR:HA	13:O:127:MET:HE1	1.95	0.49
20:Y:217:LYS:HE3	20:Y:252:SER:OG	2.12	0.49
20:Y:301:ILE:HD13	20:Y:342:ARG:HD3	1.94	0.49
30:F:85:THR:HB	30:F:86:LEU:HD23	1.94	0.49
3:D:154:LEU:HD21	3:D:229:ARG:HE	1.76	0.49
4:c:32:TYR:HA	4:c:206:ASN:O	2.12	0.49
4:c:308:VAL:HB	22:a:360:VAL:HG22	1.94	0.49
5:G:182:LYS:HG3	5:G:189:TRP:HZ2	1.78	0.49
9:K:6:SER:O	9:K:10:ARG:NH1	2.45	0.49
12:N:37:ILE:HG12	12:N:43:CYS:HB3	1.94	0.49
19:X:143:TYR:CG	19:X:144:GLN:N	2.81	0.49
20:Y:265:GLU:OE1	20:Y:267:ARG:NH1	2.46	0.49
21:Z:61:ASP:HB3	21:Z:67:VAL:HG13	1.94	0.49
22:a:55:GLY:O	22:a:59:LEU:HG	2.13	0.49
25:f:482:ILE:HD11	25:f:517:VAL:HG13	1.95	0.49
26:W:22:ALA:HA	26:W:25:ASP:OD2	2.13	0.49
26:W:110:THR:HG23	26:W:111:TYR:HD1	1.77	0.49
29:A:260:LEU:O	29:A:263:MET:HG3	2.12	0.49
31:E:264:MET:SD	31:E:294:ARG:HB3	2.53	0.49
32:U:492:ASP:OD1	32:U:493:VAL:N	2.46	0.49
2:C:357:ALA:HB2	35:C:501:ATP:H5'2	1.95	0.49
4:c:278:GLN:HE21	4:c:283:HIS:CE1	2.30	0.49
9:K:41:GLN:HE22	9:K:151:PRO:HG2	1.78	0.49
10:L:16:GLN:HB2	10:L:18:ARG:HH12	1.77	0.49
11:M:216:VAL:HG23	11:M:223:ARG:C	2.38	0.49
19:X:116:TRP:CD1	19:X:116:TRP:C	2.91	0.49
20:Y:188:CYS:HG	20:Y:291:HIS:CE1	2.23	0.49
20:Y:351:ASN:H	27:V:416:ARG:NH2	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:a:132:LYS:O	22:a:136:GLU:HG2	2.12	0.49
22:a:211:PHE:CD2	22:a:319:LEU:HD21	2.48	0.49
23:b:14:GLU:OE1	23:b:17:ARG:NH1	2.46	0.49
24:d:218:LYS:HG3	24:d:219:ASP:OD1	2.13	0.49
26:W:144:ARG:NH1	26:W:185:PHE:HE2	2.11	0.49
26:W:178:GLU:O	26:W:182:ARG:NH2	2.46	0.49
26:W:231:ILE:HG13	26:W:247:TYR:HE1	1.78	0.49
31:E:329:GLU:O	31:E:333:LYS:HG2	2.11	0.49
1:B:199:GLU:O	1:B:211:TYR:OH	2.29	0.48
8:J:24:GLU:HA	8:J:27:LYS:HE3	1.94	0.48
9:K:83:LYS:HD2	9:K:83:LYS:N	2.23	0.48
14:P:188:HIS:HD2	14:P:197:THR:HB	1.76	0.48
17:S:179:PHE:CE2	17:S:193:LEU:HB2	2.48	0.48
20:Y:237:ARG:HG3	20:Y:238:GLU:OE1	2.13	0.48
23:b:26:LEU:HD12	23:b:29:GLN:HE21	1.78	0.48
23:b:123:ASP:HA	23:b:126:LYS:HG2	1.95	0.48
24:d:191:LEU:HA	24:d:194:LEU:HB2	1.94	0.48
25:f:288:VAL:HA	25:f:291:GLN:HB3	1.93	0.48
25:f:812:GLY:HA2	25:f:853:VAL:HB	1.94	0.48
26:W:210:ASN:OD1	26:W:211:THR:N	2.46	0.48
27:V:435:GLU:OE2	27:V:453:HIS:ND1	2.45	0.48
32:U:649:ARG:O	32:U:675:MET:HE1	2.12	0.48
32:U:666:LYS:NZ	32:U:702:THR:O	2.45	0.48
8:J:41:VAL:HG22	8:J:211:MET:HB3	1.94	0.48
14:P:47:ASP:OD1	14:P:48:ARG:N	2.46	0.48
14:P:59:ASP:OD2	15:Q:93:ARG:NH2	2.45	0.48
14:P:88:MET:SD	14:P:89:SER:N	2.86	0.48
15:Q:183:ILE:HD13	15:Q:188:ILE:HA	1.95	0.48
19:X:264:PRO:HA	19:X:267:VAL:HG23	1.94	0.48
20:Y:29:PRO:HG3	20:Y:283:LYS:HE2	1.96	0.48
20:Y:259:TYR:CE2	20:Y:278:VAL:HG21	2.48	0.48
22:a:137:ASP:O	22:a:140:GLU:HG3	2.13	0.48
22:a:163:TYR:HA	22:a:168:ASN:HB3	1.93	0.48
23:b:151:GLU:H	23:b:151:GLU:CD	2.21	0.48
25:f:146:GLY:HA2	25:f:150:GLU:HA	1.94	0.48
25:f:395:GLY:O	25:f:398:TRP:HB3	2.13	0.48
25:f:676:GLY:HA2	25:f:714:SER:CB	2.40	0.48
25:f:716:ASP:OD1	25:f:753:ALA:HB2	2.13	0.48
27:V:292:THR:HG23	27:V:308:THR:HG21	1.94	0.48
29:A:182:GLU:OE1	29:A:182:GLU:N	2.39	0.48
29:A:350:GLY:O	29:A:354:ILE:HG12	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:377:HIS:HB3	20:Y:174:TRP:CH2	2.47	0.48
3:D:67:ASN:ND2	32:U:607:VAL:O	2.38	0.48
4:c:29:GLU:OE2	4:c:161:ARG:NH1	2.31	0.48
7:I:206:LEU:HG	7:I:237:ILE:HD11	1.94	0.48
9:K:84:ASP:OD1	9:K:139:VAL:HG22	2.13	0.48
10:L:229:VAL:HG12	10:L:233:LEU:HD23	1.96	0.48
11:M:68:ASN:HB3	11:M:224:HIS:CD2	2.46	0.48
16:R:19:ARG:HE	16:R:21:THR:HG21	1.78	0.48
20:Y:326:GLY:HA3	20:Y:329:PHE:HB3	1.96	0.48
20:Y:346:LYS:NZ	27:V:412:LEU:O	2.46	0.48
22:a:112:ILE:HD11	22:a:141:MET:HE1	1.94	0.48
25:f:53:GLN:HA	29:A:32:LEU:HD23	1.94	0.48
25:f:106:LEU:HG	25:f:137:ARG:HG3	1.95	0.48
25:f:119:LYS:HE3	25:f:123:ALA:HB2	1.95	0.48
25:f:181:ARG:HD3	25:f:184:LEU:HD23	1.94	0.48
25:f:654:VAL:O	25:f:658:ALA:HB3	2.13	0.48
25:f:655:LEU:HD21	25:f:671:ALA:O	2.14	0.48
27:V:92:ARG:C	27:V:94:VAL:H	2.22	0.48
29:A:192:GLU:HG2	29:A:233:THR:HG22	1.96	0.48
30:F:126:THR:HG22	30:F:130:GLN:O	2.13	0.48
32:U:68:PHE:HA	32:U:71:LEU:HB2	1.94	0.48
33:g:250:LYS:HD2	33:g:345:LYS:HG3	1.94	0.48
33:g:365:SER:HB3	33:g:374:LYS:HB3	1.95	0.48
2:C:358:GLU:HA	3:D:324:PRO:HG2	1.94	0.48
6:H:119:GLN:HB3	6:H:153:GLY:HA3	1.95	0.48
8:J:103:THR:OG1	8:J:137:ASP:OD2	2.29	0.48
12:N:2:THR:N	12:N:17:ASP:OD2	2.44	0.48
16:R:40:TYR:HA	16:R:183:GLY:HA2	1.95	0.48
19:X:255:LEU:HD22	19:X:267:VAL:HG13	1.96	0.48
19:X:341:PRO:HG3	26:W:394:SER:HB3	1.94	0.48
21:Z:63:LYS:C	21:Z:65:ASP:H	2.21	0.48
24:d:179:LYS:HD3	32:U:1:MET:N	2.27	0.48
25:f:703:ARG:HA	25:f:706:ILE:HD12	1.95	0.48
25:f:773:LYS:NZ	25:f:805:ASP:HA	2.29	0.48
32:U:623:GLY:HA2	32:U:659:CYS:HB2	1.94	0.48
1:B:295:TYR:CE1	2:C:262:GLY:HA3	2.48	0.48
2:C:299:ASP:OD1	2:C:299:ASP:N	2.43	0.48
2:C:406:LYS:OXT	7:I:64:LYS:NZ	2.42	0.48
4:c:52:GLU:HG2	4:c:116:PRO:HD3	1.95	0.48
7:I:49:ARG:NH1	7:I:211:VAL:O	2.44	0.48
7:I:68:LEU:HD11	7:I:74:CYS:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:221:GLN:OE1	9:K:221:GLN:N	2.46	0.48
21:Z:204:LYS:O	21:Z:208:ILE:HG13	2.13	0.48
22:a:21:VAL:HG12	22:a:24:ARG:HH22	1.77	0.48
25:f:763:ARG:HG2	25:f:767:GLY:HA2	1.95	0.48
28:e:51:ASP:CG	28:e:52:PHE:N	2.71	0.48
30:F:421:MET:O	30:F:425:LEU:HG	2.13	0.48
31:E:88:ASP:OD1	31:E:90:SER:OG	2.24	0.48
32:U:192:GLN:HG2	32:U:193:PHE:N	2.29	0.48
34:u:194:VAL:HG13	34:u:246:ILE:HG23	1.95	0.48
1:B:435:PRO:HG2	1:B:438:LEU:HB2	1.94	0.48
3:D:390:ASN:ND2	26:W:172:GLU:OE1	2.45	0.48
4:c:98:MET:O	21:Z:74:TYR:OH	2.32	0.48
4:c:143:VAL:HA	4:c:159:ALA:HA	1.96	0.48
9:K:121:LEU:HA	9:K:123:PHE:CE2	2.47	0.48
12:N:98:ILE:HG23	12:N:114:VAL:HB	1.96	0.48
15:Q:92:LEU:HD11	15:Q:121:LEU:HD12	1.96	0.48
18:T:62:TYR:O	18:T:65:GLN:HG2	2.14	0.48
19:X:100:GLU:OE1	19:X:100:GLU:N	2.46	0.48
20:Y:98:SER:OG	20:Y:130:LYS:NZ	2.46	0.48
20:Y:389:MET:HG3	27:V:95:LEU:HD11	1.96	0.48
22:a:73:PRO:HB2	22:a:110:ALA:HB2	1.94	0.48
24:d:104:ARG:HH11	24:d:106:SER:H	1.62	0.48
25:f:157:GLU:N	25:f:157:GLU:OE1	2.46	0.48
25:f:398:TRP:HA	25:f:401:LYS:HG2	1.96	0.48
25:f:650:GLN:H	25:f:650:GLN:CD	2.17	0.48
26:W:117:ASP:OD1	26:W:119:PRO:HD2	2.13	0.48
27:V:124:ASN:CG	27:V:128:ARG:HE	2.21	0.48
27:V:305:ALA:O	27:V:309:MET:HG3	2.14	0.48
30:F:234:THR:HG22	30:F:238:ARG:HD2	1.95	0.48
32:U:82:LEU:C	32:U:129:ARG:HE	2.22	0.48
32:U:667:GLU:OE1	32:U:667:GLU:N	2.45	0.48
2:C:301:LEU:HD12	2:C:306:LEU:HD21	1.96	0.48
7:I:45:LEU:HD13	7:I:75:SER:HB3	1.96	0.48
9:K:72:ALA:O	9:K:226:PHE:N	2.31	0.48
11:M:39:ILE:HA	11:M:162:GLY:HA2	1.95	0.48
14:P:104:TYR:HA	14:P:126:LEU:HG	1.96	0.48
17:S:95:ILE:O	17:S:98:SER:OG	2.23	0.48
20:Y:71:ASN:HA	20:Y:74:LYS:HE3	1.96	0.48
22:a:201:GLY:HA3	22:a:233:LEU:HD21	1.95	0.48
25:f:94:LYS:HD2	25:f:106:LEU:CD2	2.43	0.48
25:f:799:VAL:HG23	25:f:800:LEU:HD12	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:243:ASP:OD1	27:V:244:ALA:N	2.47	0.48
29:A:277:ILE:HG22	29:A:321:THR:HB	1.96	0.48
30:F:224:LEU:O	30:F:351:LYS:HA	2.14	0.48
32:U:7:GLY:O	32:U:10:SER:OG	2.27	0.48
32:U:212:ASP:O	32:U:216:VAL:HG23	2.13	0.48
1:B:109:VAL:HG22	2:C:94:LYS:HB2	1.95	0.48
1:B:405:MET:SD	1:B:408:ARG:NH2	2.87	0.48
2:C:248:MET:HE2	2:C:248:MET:HB3	1.81	0.48
4:c:58:LEU:HD21	4:c:73:PHE:HE2	1.78	0.48
4:c:125:VAL:HG11	33:g:173:MET:HE2	1.96	0.48
4:c:125:VAL:O	4:c:129:THR:HG23	2.14	0.48
7:I:61:PHE:N	7:I:61:PHE:CD1	2.81	0.48
8:J:149:PRO:C	8:J:151:GLY:H	2.22	0.48
9:K:84:ASP:OD1	9:K:137:PHE:HD1	1.96	0.48
9:K:91:LYS:NZ	9:K:95:GLU:OE2	2.38	0.48
10:L:98:VAL:HA	18:T:94:ARG:HG3	1.95	0.48
17:S:45:LYS:HA	17:S:51:VAL:HG22	1.94	0.48
19:X:312:GLU:HB2	19:X:313:LEU:HG	1.96	0.48
20:Y:42:MET:HE2	20:Y:42:MET:N	2.29	0.48
21:Z:43:TRP:CD1	21:Z:48:LEU:HD12	2.48	0.48
21:Z:43:TRP:HB2	21:Z:90:ARG:HD2	1.95	0.48
25:f:634:LYS:HG3	25:f:635:LYS:HD3	1.96	0.48
26:W:227:TYR:O	26:W:231:ILE:HG12	2.14	0.48
30:F:170:SER:OG	30:F:171:ARG:N	2.44	0.48
30:F:247:THR:O	30:F:282:ILE:N	2.44	0.48
31:E:133:SER:O	31:E:315:ILE:HD13	2.14	0.48
33:g:207:LEU:HB2	33:g:373:VAL:HB	1.96	0.48
2:C:82:LYS:O	2:C:105:ILE:HG13	2.14	0.48
2:C:209:CYS:HB3	2:C:243:PRO:O	2.13	0.48
6:H:97:TYR:CE2	6:H:106:PRO:HD2	2.49	0.48
10:L:38:LEU:C	10:L:144:ILE:HD11	2.39	0.48
13:O:3:ILE:O	13:O:126:THR:OG1	2.18	0.48
14:P:47:ASP:OD1	14:P:48:ARG:HG3	2.14	0.48
16:R:21:THR:HA	16:R:27:ALA:H	1.79	0.48
20:Y:127:THR:O	20:Y:131:THR:N	2.47	0.48
20:Y:292:TYR:CZ	20:Y:293:ARG:HD3	2.49	0.48
22:a:68:GLU:C	22:a:70:ARG:H	2.22	0.48
22:a:72:ASN:H	23:b:17:ARG:NH1	2.11	0.48
23:b:161:ASN:HD21	23:b:168:SER:N	2.12	0.48
25:f:701:ASN:OD1	25:f:703:ARG:HG2	2.14	0.48
25:f:713:PHE:HA	25:f:716:ASP:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A:273:PHE:HE1	29:A:320:ALA:HB3	1.79	0.48
31:E:132:TYR:CE2	31:E:146:ARG:HD3	2.49	0.48
31:E:285:LEU:HD12	31:E:289:LEU:HD22	1.95	0.48
32:U:213:PHE:HB2	32:U:244:MET:SD	2.54	0.48
32:U:538:GLU:OE1	34:u:234:ARG:NH2	2.47	0.48
9:K:97:GLN:HB3	16:R:61:ARG:CD	2.44	0.48
10:L:99:PHE:HB3	10:L:101:ARG:HG2	1.96	0.48
12:N:43:CYS:HB2	12:N:98:ILE:HD11	1.94	0.48
16:R:148:GLU:HG3	16:R:151:GLN:HG2	1.95	0.48
20:Y:20:ALA:O	20:Y:25:LEU:HD23	2.14	0.48
20:Y:194:PHE:HB2	20:Y:230:ALA:CA	2.44	0.48
20:Y:363:ASN:ND2	27:V:465:ASP:OD1	2.47	0.48
21:Z:48:LEU:HD21	21:Z:92:VAL:HG11	1.96	0.48
22:a:61:GLU:O	22:a:65:SER:OG	2.27	0.48
23:b:103:LYS:HB2	34:u:134:GLY:HA2	1.94	0.48
24:d:266:THR:HA	24:d:269:ASP:OD2	2.13	0.48
24:d:281:LYS:HA	24:d:281:LYS:HD3	1.63	0.48
25:f:305:LEU:HA	25:f:314:TYR:HE2	1.79	0.48
25:f:535:THR:O	25:f:538:ILE:HG12	2.14	0.48
25:f:771:LEU:HG	25:f:774:GLY:N	2.17	0.48
27:V:228:ARG:HD3	27:V:258:TYR:CE1	2.49	0.48
29:A:146:LYS:HZ1	30:F:87:PRO:HD3	1.79	0.48
31:E:116:ASP:OD2	31:E:213:ARG:NH2	2.40	0.48
34:u:118:ASP:O	34:u:119:ILE:HG12	2.13	0.48
34:u:149:CYS:SG	34:u:150:LEU:N	2.87	0.48
6:H:94:ALA:HB1	6:H:105:ILE:HG21	1.96	0.47
7:I:149:GLN:NE2	7:I:151:ASP:OD1	2.47	0.47
8:J:158:ALA:N	9:K:58:LEU:HD21	2.13	0.47
11:M:173:LYS:HA	11:M:176:ILE:HG22	1.95	0.47
15:Q:22:ALA:HA	15:Q:28:MET:H	1.78	0.47
17:S:92:LEU:HA	17:S:95:ILE:HG22	1.96	0.47
20:Y:111:LEU:O	20:Y:115:GLY:N	2.47	0.47
20:Y:388:ASN:HA	21:Z:279:LYS:HE2	1.95	0.47
21:Z:176:LEU:O	21:Z:177:ARG:HB2	2.14	0.47
25:f:407:MET:N	25:f:407:MET:HE2	2.29	0.47
25:f:681:TYR:CZ	25:f:761:MET:HE1	2.49	0.47
25:f:727:PHE:O	25:f:731:MET:HG2	2.14	0.47
26:W:359:VAL:HG22	26:W:382:LEU:HB2	1.96	0.47
27:V:130:PHE:O	27:V:133:PRO:HD2	2.13	0.47
31:E:93:LYS:O	31:E:96:THR:OG1	2.23	0.47
31:E:147:GLU:HG3	31:E:151:LEU:HD12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:E:369:LYS:O	31:E:373:LYS:HG2	2.13	0.47
32:U:462:LEU:HD12	32:U:481:LEU:HD21	1.96	0.47
32:U:926:GLU:H	32:U:926:GLU:CD	2.22	0.47
1:B:279:PRO:HB3	1:B:324:ASP:HB2	1.97	0.47
2:C:38:LYS:HE2	3:D:55:GLU:HG2	1.95	0.47
3:D:281:ALA:HB2	33:g:156:LEU:O	2.14	0.47
3:D:392:TYR:HE2	31:E:161:ARG:HG2	1.78	0.47
5:G:132:ARG:O	5:G:134:LEU:N	2.40	0.47
18:T:4:PRO:HG3	18:T:107:TRP:CE2	2.49	0.47
20:Y:55:GLU:HB2	20:Y:59:LYS:HE2	1.96	0.47
21:Z:144:VAL:O	21:Z:152:SER:N	2.47	0.47
22:a:64:ILE:O	22:a:68:GLU:HG2	2.14	0.47
22:a:176:ALA:HB1	22:a:200:LEU:HD21	1.97	0.47
23:b:63:THR:OG1	23:b:64:LEU:N	2.45	0.47
25:f:466:LEU:O	25:f:470:VAL:HG13	2.14	0.47
25:f:828:ARG:HD3	25:f:844:VAL:HG12	1.97	0.47
30:F:406:ILE:HA	30:F:409:ARG:HB2	1.96	0.47
1:B:291:GLY:HA2	1:B:309:MET:CE	2.44	0.47
1:B:411:ARG:HH22	1:B:414:VAL:HA	1.78	0.47
8:J:69:VAL:HG12	8:J:104:VAL:HG12	1.97	0.47
11:M:27:MET:CE	11:M:153:PRO:HG2	2.45	0.47
21:Z:256:GLN:O	21:Z:260:VAL:N	2.30	0.47
22:a:96:PHE:HA	22:a:99:LYS:HE2	1.96	0.47
25:f:391:LEU:HD13	25:f:398:TRP:CE2	2.49	0.47
25:f:712:LYS:O	25:f:716:ASP:HB2	2.14	0.47
27:V:403:ILE:HG21	27:V:437:ILE:HD13	1.96	0.47
30:F:244:THR:O	30:F:245:LYS:HG2	2.14	0.47
31:E:68:LYS:C	31:E:69:PHE:HD1	2.22	0.47
32:U:354:LYS:NZ	32:U:358:ASP:OD1	2.48	0.47
32:U:552:ILE:HG21	32:U:570:LEU:HD11	1.96	0.47
13:O:8:TYR:HB2	13:O:146:MET:O	2.14	0.47
13:O:19:ARG:HG3	13:O:170:GLY:O	2.14	0.47
15:Q:153:ARG:O	15:Q:157:VAL:HG13	2.14	0.47
18:T:96:MET:HB3	18:T:106:LEU:HD12	1.95	0.47
18:T:97:TYR:O	18:T:101:SER:OG	2.25	0.47
19:X:51:LEU:HD12	19:X:76:PHE:HZ	1.79	0.47
19:X:297:ARG:NH2	19:X:334:ASN:OD1	2.47	0.47
20:Y:174:TRP:O	20:Y:177:ARG:NH2	2.47	0.47
20:Y:373:GLY:HA3	21:Z:261:TYR:CE2	2.34	0.47
22:a:55:GLY:O	22:a:58:LYS:HG2	2.14	0.47
22:a:280:MET:HA	22:a:283:THR:HG22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:242:GLU:OE1	25:f:242:GLU:N	2.47	0.47
26:W:393:LEU:O	26:W:397:VAL:HG12	2.14	0.47
27:V:98:LEU:HD12	27:V:209:LYS:HG3	1.96	0.47
27:V:410:ILE:HG21	27:V:422:ILE:HD13	1.96	0.47
28:e:49:GLU:CD	28:e:51:ASP:H	2.22	0.47
29:A:155:PRO:HG2	29:A:252:GLU:HB2	1.95	0.47
32:U:587:ALA:HB2	32:U:621:SER:HB3	1.96	0.47
1:B:417:GLU:HA	1:B:420:LYS:HE2	1.95	0.47
3:D:78:GLU:OE1	3:D:81:ARG:NH2	2.36	0.47
3:D:397:LYS:HG3	3:D:398:ASP:H	1.78	0.47
5:G:53:GLN:NE2	5:G:54:LYS:O	2.47	0.47
7:I:231:LYS:O	7:I:234:GLU:HG2	2.15	0.47
9:K:125:GLU:HA	10:L:125:ARG:HE	1.78	0.47
11:M:181:MET:O	11:M:183:GLU:N	2.47	0.47
12:N:119:MET:SD	18:T:57:TYR:HB3	2.54	0.47
17:S:141:ALA:HB1	17:S:145:LEU:HD23	1.95	0.47
19:X:255:LEU:HD21	19:X:270:LEU:HD22	1.97	0.47
20:Y:188:CYS:HB3	28:e:39:TRP:NE1	2.26	0.47
23:b:29:GLN:O	23:b:33:VAL:HG13	2.15	0.47
24:d:136:LEU:HD13	24:d:141:LEU:HD21	1.96	0.47
25:f:126:ILE:HG13	25:f:127:SER:OG	2.15	0.47
25:f:367:SER:OG	25:f:740:ARG:NH2	2.42	0.47
25:f:613:LEU:HA	25:f:617:SER:OG	2.15	0.47
27:V:72:LEU:O	27:V:76:LYS:HG2	2.14	0.47
30:F:364:ARG:HA	30:F:367:GLN:CD	2.39	0.47
31:E:307:GLN:O	31:E:310:LEU:HG	2.14	0.47
32:U:368:ALA:HB2	32:U:728:PHE:CD2	2.49	0.47
2:C:46:GLN:O	2:C:50:ASN:ND2	2.33	0.47
2:C:79:ALA:O	29:A:65:ILE:HG21	2.13	0.47
2:C:210:THR:O	2:C:210:THR:OG1	2.32	0.47
2:C:259:LEU:N	2:C:270:GLN:OE1	2.28	0.47
5:G:32:ILE:O	5:G:82:GLY:HA2	2.14	0.47
8:J:35:VAL:HG13	8:J:158:ALA:HB2	1.96	0.47
8:J:119:THR:HG22	8:J:126:PRO:HB3	1.96	0.47
9:K:236:GLU:O	9:K:239:LYS:HG2	2.14	0.47
12:N:30:VAL:O	12:N:175:ARG:NH2	2.48	0.47
13:O:215:LYS:HB3	14:P:197:THR:OG1	2.14	0.47
15:Q:154:GLU:O	15:Q:157:VAL:HG22	2.15	0.47
20:Y:180:LEU:HD21	20:Y:201:PHE:HE1	1.77	0.47
21:Z:58:PHE:CE2	21:Z:60:GLU:HB2	2.50	0.47
22:a:70:ARG:NH1	23:b:24:THR:HG23	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:158:TYR:HA	25:f:161:HIS:HD2	1.76	0.47
25:f:308:SER:O	25:f:308:SER:OG	2.31	0.47
25:f:545:LYS:HD3	25:f:545:LYS:HA	1.66	0.47
25:f:567:LEU:HA	25:f:599:ALA:HA	1.95	0.47
26:W:231:ILE:O	26:W:235:GLN:HG2	2.15	0.47
31:E:157:GLU:HA	31:E:160:GLN:HG2	1.95	0.47
32:U:20:LYS:O	32:U:24:LEU:HG	2.14	0.47
32:U:330:SER:O	32:U:453:HIS:NE2	2.47	0.47
1:B:57:GLN:HE21	29:A:45:ILE:HB	1.79	0.47
1:B:78:PHE:CD1	25:f:658:ALA:HB1	2.50	0.47
1:B:214:MET:N	1:B:214:MET:HE2	2.30	0.47
2:C:194:THR:N	35:C:501:ATP:O1B	2.30	0.47
6:H:119:GLN:O	6:H:122:THR:OG1	2.29	0.47
7:I:174:MET:SD	7:I:196:VAL:HG22	2.55	0.47
9:K:81:LEU:O	9:K:82:ILE:C	2.57	0.47
9:K:108:THR:O	9:K:112:VAL:HG23	2.15	0.47
10:L:185:ASN:O	10:L:189:LYS:HG2	2.15	0.47
11:M:41:CYS:HA	11:M:181:MET:HE1	1.97	0.47
13:O:108:PRO:C	13:O:109:HIS:HD1	2.23	0.47
17:S:20:PHE:HB3	17:S:199:THR:HB	1.97	0.47
18:T:49:THR:HG21	18:T:88:ILE:HD13	1.97	0.47
18:T:108:ASN:OD1	18:T:110:MET:HB2	2.14	0.47
18:T:176:LEU:O	18:T:180:ASP:N	2.48	0.47
19:X:171:LEU:HD23	19:X:171:LEU:HA	1.73	0.47
19:X:389:ASP:N	26:W:417:ARG:HH22	2.13	0.47
20:Y:232:GLU:HB2	20:Y:302:HIS:ND1	2.30	0.47
20:Y:348:ASP:OD1	20:Y:349:LYS:N	2.48	0.47
20:Y:387:ILE:HG23	21:Z:279:LYS:HD3	1.97	0.47
21:Z:15:VAL:HG21	21:Z:50:VAL:HG23	1.95	0.47
21:Z:19:VAL:HG22	21:Z:95:TYR:CE1	2.50	0.47
22:a:173:TYR:HE2	22:a:213:PHE:HD2	1.61	0.47
22:a:197:ALA:HB3	22:a:226:ARG:HD3	1.97	0.47
24:d:138:LYS:O	24:d:142:ILE:HG13	2.14	0.47
25:f:267:ARG:HE	25:f:299:GLY:CA	2.28	0.47
26:W:366:MET:O	26:W:370:TYR:N	2.37	0.47
27:V:392:TYR:O	27:V:396:ILE:HG12	2.15	0.47
30:F:66:LEU:O	30:F:70:LYS:HG3	2.14	0.47
32:U:550:VAL:HG21	32:U:768:GLN:HG3	1.97	0.47
1:B:392:GLY:HA3	35:B:501:ATP:C8	2.50	0.47
7:I:175:LEU:HD13	7:I:196:VAL:HG21	1.97	0.47
8:J:4:ASP:OD2	8:J:21:TYR:OH	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:M:56:LYS:H	11:M:56:LYS:HD2	1.79	0.47
20:Y:232:GLU:HB2	20:Y:302:HIS:HD1	1.79	0.47
20:Y:319:MET:HB3	20:Y:330:ILE:HD13	1.97	0.47
20:Y:346:LYS:HG2	27:V:415:SER:HB2	1.96	0.47
21:Z:65:ASP:C	21:Z:104:ASN:HD21	2.22	0.47
22:a:65:SER:HA	22:a:68:GLU:HG2	1.95	0.47
25:f:317:LEU:HA	25:f:320:ILE:HG12	1.97	0.47
32:U:636:VAL:HG13	32:U:637:VAL:HG23	1.96	0.47
32:U:797:MET:HE1	32:U:881:PRO:HG3	1.97	0.47
32:U:899:ARG:HH21	32:U:922:GLU:HA	1.80	0.47
1:B:98:LYS:HG3	29:A:80:LEU:HD22	1.95	0.47
3:D:392:TYR:OH	31:E:161:ARG:HB3	2.15	0.47
6:H:72:ILE:HG21	6:H:110:LEU:HD23	1.96	0.47
13:O:7:VAL:HG22	13:O:123:PRO:O	2.15	0.47
17:S:4:PRO:O	18:T:100:ARG:NH2	2.36	0.47
17:S:175:VAL:HA	17:S:178:VAL:HG22	1.97	0.47
18:T:39:ILE:HD12	18:T:39:ILE:O	2.15	0.47
20:Y:142:PHE:CB	20:Y:179:ARG:HE	2.28	0.47
22:a:334:THR:O	22:a:334:THR:OG1	2.30	0.47
24:d:149:GLU:HG2	24:d:171:LEU:HD21	1.97	0.47
24:d:353:ARG:O	24:d:357:MET:HG3	2.14	0.47
25:f:141:LYS:HD2	25:f:141:LYS:C	2.40	0.47
25:f:288:VAL:HG21	25:f:879:ARG:O	2.15	0.47
25:f:674:THR:O	25:f:678:LEU:N	2.38	0.47
25:f:774:GLY:O	25:f:777:THR:HG22	2.15	0.47
26:W:271:VAL:O	26:W:275:ILE:HG12	2.15	0.47
26:W:446:ILE:O	26:W:450:GLU:HB2	2.15	0.47
30:F:143:GLU:CD	30:F:144:LYS:HD2	2.39	0.47
31:E:166:PRO:HB2	31:E:274:LYS:NZ	2.30	0.47
31:E:174:GLY:O	31:E:180:LYS:NZ	2.48	0.47
31:E:182:LEU:HD22	37:E:501:ADP:C8	2.50	0.47
1:B:107:MET:HE2	1:B:151:LEU:HB3	1.97	0.47
1:B:275:GLU:OE2	1:B:319:PHE:HB3	2.14	0.47
2:C:245:ILE:HA	2:C:290:LYS:O	2.15	0.47
3:D:277:ALA:HB1	3:D:282:ASP:HB2	1.97	0.47
10:L:14:SER:N	10:L:18:ARG:O	2.39	0.47
13:O:1:THR:O	13:O:129:SER:N	2.47	0.47
20:Y:26:LEU:O	20:Y:29:PRO:HD2	2.15	0.47
20:Y:313:SER:HA	20:Y:354:VAL:O	2.15	0.47
25:f:47:GLU:HG3	25:f:124:ASP:HB2	1.95	0.47
25:f:110:TYR:CE1	25:f:118:ASN:HB2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:190:GLU:OE1	25:f:197:ALA:N	2.48	0.47
25:f:287:ASP:OD1	25:f:288:VAL:N	2.48	0.47
25:f:741:LEU:HD23	25:f:742:ALA:H	1.80	0.47
25:f:829:MET:HA	25:f:829:MET:HE3	1.96	0.47
26:W:235:GLN:O	26:W:350:ARG:NH2	2.48	0.47
29:A:226:ALA:O	29:A:229:VAL:HG12	2.15	0.47
30:F:228:PRO:O	30:F:231:THR:HG22	2.15	0.47
30:F:274:LEU:HA	30:F:277:GLU:OE2	2.14	0.47
31:E:200:SER:HB3	31:E:238:ILE:HG12	1.97	0.47
34:u:181:LYS:HD3	34:u:264:THR:CG2	2.45	0.47
3:D:296:MET:SD	3:D:307:VAL:HG21	2.55	0.46
9:K:9:ASP:OD2	9:K:26:TYR:OH	2.22	0.46
9:K:238:ILE:HG13	9:K:241:ILE:HD11	1.96	0.46
10:L:26:MET:HE2	10:L:150:SER:HB3	1.97	0.46
12:N:18:SER:O	12:N:18:SER:OG	2.32	0.46
16:R:4:LEU:HD12	16:R:5:ALA:H	1.79	0.46
20:Y:131:THR:HG22	20:Y:132:VAL:H	1.80	0.46
20:Y:193:ASP:OD1	20:Y:291:HIS:NE2	2.48	0.46
21:Z:22:HIS:CE1	21:Z:55:ALA:HB1	2.51	0.46
22:a:101:ARG:HB3	22:a:114:CYS:SG	2.55	0.46
22:a:276:CYS:O	22:a:280:MET:HG2	2.15	0.46
23:b:26:LEU:HD11	23:b:78:VAL:HG11	1.96	0.46
25:f:104:GLY:HA2	25:f:107:LYS:HD2	1.97	0.46
25:f:256:PHE:O	25:f:260:SER:N	2.48	0.46
25:f:721:VAL:HG22	25:f:725:SER:HB3	1.97	0.46
27:V:446:VAL:HG12	27:V:447:ILE:HG13	1.98	0.46
28:e:55:GLN:O	28:e:59:GLU:HG2	2.15	0.46
31:E:65:THR:HG23	31:E:67:GLU:H	1.80	0.46
32:U:49:TYR:CD1	32:U:61:ALA:HB2	2.50	0.46
32:U:247:GLN:HE22	32:U:912:ILE:HA	1.79	0.46
2:C:82:LYS:H	2:C:82:LYS:HZ3	1.64	0.46
4:c:26:ASP:OD1	4:c:27:THR:N	2.47	0.46
10:L:231:PRO:O	10:L:234:GLU:HG3	2.15	0.46
11:M:215:TRP:CH2	11:M:227:VAL:HG23	2.50	0.46
14:P:164:PHE:CE1	14:P:198:ARG:HD3	2.50	0.46
16:R:177:TYR:CE1	16:R:186:ARG:HD3	2.51	0.46
18:T:36:PHE:HE2	18:T:39:ILE:HG23	1.76	0.46
18:T:125:VAL:HG22	18:T:131:ALA:HB2	1.97	0.46
20:Y:111:LEU:HD13	20:Y:115:GLY:H	1.80	0.46
20:Y:137:ARG:HB2	20:Y:163:LYS:NZ	2.31	0.46
22:a:27:GLU:HA	22:a:30:THR:HG22	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:a:304:VAL:O	22:a:307:VAL:HG12	2.15	0.46
23:b:109:ILE:HG12	23:b:138:VAL:HA	1.97	0.46
25:f:119:LYS:HA	25:f:122:ALA:HB3	1.97	0.46
26:W:257:GLN:HA	26:W:263:TRP:NE1	2.30	0.46
29:A:164:MET:HE1	29:A:244:GLU:OE1	2.15	0.46
29:A:193:THR:OG1	29:A:194:PRO:HD3	2.15	0.46
33:g:324:MET:HE2	33:g:337:ASP:N	2.30	0.46
34:u:178:TYR:HB2	34:u:235:TYR:CE2	2.50	0.46
9:K:102:THR:HA	17:S:94:THR:HG21	1.97	0.46
14:P:124:LEU:HD11	14:P:128:GLY:HA2	1.98	0.46
14:P:153:LEU:HD21	14:P:166:THR:HB	1.97	0.46
20:Y:133:ALA:HB3	20:Y:136:HIS:HE1	1.80	0.46
21:Z:52:ASN:OD1	21:Z:53:SER:N	2.48	0.46
22:a:112:ILE:O	22:a:116:THR:HG22	2.16	0.46
22:a:116:THR:HA	22:a:158:LEU:HD22	1.98	0.46
22:a:214:GLY:C	22:a:216:LEU:H	2.24	0.46
25:f:278:VAL:HG23	25:f:279:GLU:N	2.30	0.46
25:f:494:ARG:NE	25:f:496:ASP:OD2	2.48	0.46
30:F:364:ARG:O	30:F:367:GLN:HG2	2.16	0.46
30:F:406:ILE:HG21	30:F:422:GLU:OE1	2.14	0.46
32:U:5:ALA:HB2	32:U:34:PHE:CD2	2.51	0.46
33:g:178:ARG:NE	33:g:280:TYR:OH	2.47	0.46
1:B:106:PRO:HG3	2:C:121:TYR:CD2	2.50	0.46
3:D:164:TYR:CD1	3:D:218:ALA:HB1	2.51	0.46
3:D:317:LEU:HD13	3:D:321:LEU:HD23	1.97	0.46
9:K:114:GLN:C	10:L:82:ARG:HH22	2.24	0.46
11:M:11:ALA:HB1	11:M:123:THR:O	2.16	0.46
14:P:45:MET:HB3	14:P:71:LEU:HD13	1.98	0.46
14:P:99:ARG:HA	14:P:127:ILE:HD11	1.97	0.46
16:R:7:LYS:HD3	16:R:109:PRO:HB2	1.98	0.46
20:Y:190:ALA:HB2	28:e:40:GLU:O	2.16	0.46
25:f:136:GLU:HA	25:f:139:CYS:SG	2.55	0.46
25:f:538:ILE:O	25:f:542:ILE:HG12	2.15	0.46
25:f:557:TRP:HH2	25:f:796:LEU:HD23	1.80	0.46
25:f:763:ARG:HE	25:f:767:GLY:CA	2.29	0.46
30:F:275:ALA:HB1	30:F:326:VAL:HG11	1.98	0.46
32:U:465:LEU:HB3	32:U:496:LEU:HD21	1.96	0.46
33:g:220:ASP:HA	33:g:223:THR:HG22	1.97	0.46
33:g:223:THR:O	33:g:226:PHE:HD2	1.99	0.46
1:B:92:GLN:NE2	1:B:95:GLU:OE1	2.48	0.46
1:B:193:GLN:NE2	1:B:352:GLU:O	2.42	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:323:GLU:CD	2:C:323:GLU:H	2.23	0.46
3:D:259:PRO:HB3	3:D:304:ASN:HB3	1.96	0.46
5:G:60:LEU:HD11	11:M:160:TYR:HB3	1.97	0.46
7:I:122:THR:HB	7:I:129:PRO:HB3	1.98	0.46
8:J:50:VAL:HG11	8:J:56:GLU:HG3	1.97	0.46
14:P:54:ALA:HB3	14:P:106:GLU:HG2	1.96	0.46
16:R:81:LYS:HG2	16:R:120:ARG:CZ	2.45	0.46
16:R:136:TYR:O	16:R:139:MET:HE3	2.16	0.46
17:S:11:THR:O	17:S:25:SER:HA	2.15	0.46
20:Y:349:LYS:HB2	27:V:417:ILE:HA	1.98	0.46
25:f:698:SER:O	25:f:698:SER:OG	2.23	0.46
26:W:200:ILE:HD12	26:W:201:ARG:H	1.80	0.46
26:W:271:VAL:O	26:W:274:VAL:HG12	2.16	0.46
27:V:180:ARG:NE	27:V:183:GLU:OE2	2.48	0.46
27:V:444:ASP:OD1	27:V:444:ASP:N	2.48	0.46
30:F:72:LYS:HE3	30:F:72:LYS:HB3	1.72	0.46
30:F:356:MET:CE	30:F:392:ASN:HB3	2.43	0.46
32:U:144:ASP:HB3	32:U:146:LYS:HE3	1.98	0.46
33:g:188:PHE:CE2	33:g:222:LEU:HD22	2.51	0.46
1:B:60:LEU:O	1:B:64:LYS:HG3	2.16	0.46
2:C:307:ARG:HH21	2:C:310:ARG:NH2	2.13	0.46
5:G:86:ASP:HA	11:M:120:HIS:HE1	1.80	0.46
6:H:52:GLN:N	6:H:52:GLN:OE1	2.49	0.46
6:H:68:ILE:HD11	6:H:74:LEU:HD22	1.97	0.46
7:I:238:LYS:O	7:I:241:GLU:HG2	2.15	0.46
11:M:67:PHE:HB3	11:M:92:ARG:NH2	2.31	0.46
11:M:215:TRP:HZ2	11:M:228:PRO:HD2	1.80	0.46
12:N:4:MET:HA	12:N:126:ALA:O	2.16	0.46
13:O:218:PRO:HA	14:P:194:LYS:HA	1.98	0.46
16:R:62:GLN:O	16:R:65:ILE:HG22	2.15	0.46
17:S:66:LYS:O	17:S:69:GLU:HG3	2.16	0.46
18:T:86:ARG:NH2	18:T:119:GLU:OE1	2.49	0.46
19:X:177:TYR:HB3	19:X:186:ALA:HB2	1.97	0.46
20:Y:292:TYR:O	20:Y:296:VAL:HG13	2.15	0.46
21:Z:211:TYR:HE1	26:W:449:GLU:HG3	1.80	0.46
22:a:251:LEU:HD12	22:a:254:ALA:HB3	1.97	0.46
25:f:512:MET:HE1	25:f:548:THR:C	2.40	0.46
25:f:775:THR:O	25:f:778:LEU:HD23	2.16	0.46
25:f:785:ARG:HG3	25:f:786:GLN:OE1	2.16	0.46
31:E:322:LYS:HD3	31:E:326:ILE:HB	1.97	0.46
32:U:510:GLU:HG3	32:U:543:LYS:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:49:LEU:H	1:B:49:LEU:HD12	1.80	0.46
1:B:64:LYS:O	1:B:68:ILE:HG13	2.16	0.46
2:C:78:ARG:NH2	29:A:68:SER:HB3	2.27	0.46
3:D:212:LYS:HE2	37:D:501:ADP:O1B	2.16	0.46
4:c:73:PHE:CD1	4:c:95:MET:HG2	2.51	0.46
4:c:94:LYS:HE3	21:Z:81:MET:SD	2.56	0.46
5:G:228:ARG:NH1	5:G:234:GLU:OE2	2.48	0.46
7:I:95:GLN:NE2	14:P:72:ASN:HB3	2.31	0.46
9:K:36:THR:N	9:K:51:GLU:OE1	2.38	0.46
11:M:163:CYS:HB2	11:M:173:LYS:HZ1	1.81	0.46
15:Q:185:LYS:HB3	15:Q:185:LYS:HE3	1.64	0.46
17:S:13:LEU:HG	17:S:137:ALA:HB2	1.97	0.46
17:S:138:GLY:HA2	17:S:142:SER:HB3	1.97	0.46
20:Y:75:LYS:HA	20:Y:78:GLU:HG3	1.97	0.46
20:Y:325:VAL:HG22	20:Y:326:GLY:H	1.81	0.46
22:a:35:HIS:CE1	23:b:14:GLU:HB3	2.51	0.46
23:b:179:LEU:O	23:b:183:LEU:HG	2.16	0.46
26:W:338:THR:HG22	26:W:340:VAL:H	1.80	0.46
30:F:315:ASN:OD1	30:F:316:GLN:N	2.49	0.46
32:U:615:ARG:O	32:U:619:VAL:HG23	2.16	0.46
2:C:193:GLY:O	2:C:355:SER:HB2	2.16	0.46
4:c:226:MET:HG2	26:W:436:MET:HG3	1.97	0.46
5:G:80:MET:SD	5:G:87:SER:HB3	2.55	0.46
5:G:210:PHE:CD2	5:G:215:ILE:HG13	2.51	0.46
13:O:179:SER:HB3	13:O:182:LYS:HB3	1.97	0.46
14:P:103:TYR:HA	15:Q:93:ARG:NH2	2.31	0.46
18:T:211:ILE:O	18:T:215:ILE:HG12	2.15	0.46
19:X:172:LEU:O	19:X:176:THR:HG23	2.15	0.46
21:Z:59:ASP:OD1	21:Z:60:GLU:N	2.49	0.46
21:Z:147:ASP:OD1	21:Z:148:GLY:N	2.47	0.46
23:b:1:MET:HG2	23:b:2:VAL:HG12	1.97	0.46
25:f:94:LYS:HD2	25:f:106:LEU:HD21	1.96	0.46
25:f:372:LEU:HD21	25:f:797:LEU:HD13	1.98	0.46
25:f:610:GLN:HG2	25:f:614:HIS:ND1	2.31	0.46
25:f:737:ASN:HA	25:f:746:ARG:HH22	1.80	0.46
25:f:858:LYS:HD2	25:f:858:LYS:HA	1.63	0.46
26:W:227:TYR:HB3	26:W:250:ILE:HD11	1.98	0.46
26:W:262:LYS:HA	26:W:262:LYS:HD2	1.59	0.46
27:V:209:LYS:O	27:V:213:TYR:HD1	1.99	0.46
29:A:115:VAL:HG23	29:A:115:VAL:O	2.16	0.46
31:E:28:GLU:HA	31:E:32:GLN:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:E:145:LEU:HA	31:E:148:VAL:HG12	1.98	0.46
32:U:756:HIS:CE1	32:U:758:PRO:HG2	2.51	0.46
3:D:243:GLY:HA3	3:D:288:ILE:HD11	1.97	0.46
4:c:261:GLU:O	4:c:264:LYS:N	2.48	0.46
8:J:70:CYS:SG	8:J:217:LEU:HD21	2.56	0.46
8:J:96:LEU:HG	15:Q:62:LYS:HD2	1.97	0.46
11:M:135:PHE:CE1	11:M:151:ILE:HB	2.50	0.46
14:P:61:GLN:HB2	15:Q:85:ARG:NH2	2.31	0.46
16:R:139:MET:O	16:R:143:TYR:N	2.49	0.46
19:X:394:ASP:N	19:X:394:ASP:OD1	2.48	0.46
20:Y:28:LEU:HB3	20:Y:29:PRO:HD3	1.98	0.46
22:a:76:LEU:O	22:a:80:ILE:HG12	2.15	0.46
24:d:268:ARG:HH21	24:d:293:PHE:HE1	1.62	0.46
25:f:183:PRO:O	25:f:187:LEU:HG	2.16	0.46
25:f:533:ASP:OD1	25:f:533:ASP:N	2.49	0.46
25:f:670:MET:HE3	25:f:670:MET:N	2.27	0.46
25:f:755:ASP:N	25:f:755:ASP:OD1	2.49	0.46
25:f:774:GLY:HA2	25:f:805:ASP:HB3	1.98	0.46
31:E:313:LEU:HD21	31:E:343:LEU:HD22	1.98	0.46
31:E:353:PHE:HB3	31:E:366:ASP:OD1	2.15	0.46
32:U:214:ILE:O	32:U:218:GLN:NE2	2.48	0.46
4:c:104:ARG:HH22	21:Z:21:ASP:CG	2.24	0.46
5:G:101:TRP:CD1	5:G:109:ILE:HB	2.51	0.46
5:G:244:GLU:OE1	26:W:52:LYS:HE3	2.16	0.46
9:K:15:PHE:HB3	10:L:24:TYR:HB3	1.97	0.46
10:L:31:GLN:HB2	30:F:438:TYR:CE2	2.51	0.46
10:L:41:LYS:HE2	10:L:41:LYS:HB2	1.72	0.46
12:N:51:ASP:OD1	12:N:51:ASP:N	2.48	0.46
18:T:58:ALA:HA	18:T:61:GLN:NE2	2.31	0.46
22:a:80:ILE:HG13	22:a:100:THR:HG21	1.98	0.46
22:a:226:ARG:NH2	22:a:230:ARG:HB2	2.31	0.46
24:d:104:ARG:HD3	24:d:106:SER:H	1.81	0.46
24:d:116:LEU:HD13	24:d:151:GLY:HA2	1.98	0.46
24:d:277:LYS:HD3	24:d:277:LYS:HA	1.80	0.46
25:f:136:GLU:HB3	25:f:137:ARG:NH1	2.31	0.46
25:f:289:VAL:HA	25:f:292:LYS:HG2	1.97	0.46
25:f:703:ARG:HD3	25:f:785:ARG:NH2	2.31	0.46
26:W:84:ASN:ND2	26:W:123:ARG:HH12	2.14	0.46
26:W:439:VAL:HA	26:W:442:THR:HG22	1.97	0.46
29:A:119:ALA:HB1	30:F:127:SER:OG	2.15	0.46
29:A:177:VAL:HA	37:A:501:ADP:N1	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:174:MET:HE3	1:B:270:LEU:HD13	1.98	0.45
1:B:276:GLU:HG2	1:B:277:HIS:ND1	2.31	0.45
5:G:72:ILE:HG21	5:G:114:LEU:HD21	1.98	0.45
7:I:11:ILE:HD11	8:J:5:ARG:HA	1.98	0.45
7:I:226:ARG:HH12	7:I:228:LEU:HA	1.81	0.45
8:J:168:VAL:O	8:J:172:LEU:HG	2.16	0.45
9:K:211:ASN:ND2	9:K:214:ASN:OD1	2.49	0.45
15:Q:56:PHE:CZ	15:Q:88:LEU:HG	2.51	0.45
18:T:50:MET:O	18:T:112:ILE:HD12	2.16	0.45
21:Z:211:TYR:CE2	21:Z:226:ILE:HG21	2.51	0.45
24:d:261:ASP:HA	24:d:264:LEU:HD12	1.99	0.45
25:f:135:GLY:HA2	25:f:138:GLU:OE2	2.15	0.45
25:f:521:ALA:O	25:f:525:ILE:HG12	2.16	0.45
25:f:564:LEU:HD22	25:f:776:LEU:HD23	1.98	0.45
25:f:815:HIS:O	25:f:817:VAL:HG22	2.17	0.45
30:F:198:LEU:HD11	30:F:240:CYS:SG	2.56	0.45
31:E:270:LEU:HD22	31:E:273:VAL:O	2.16	0.45
32:U:236:LEU:HD12	32:U:241:ASN:HB3	1.97	0.45
32:U:723:ASP:OD1	32:U:724:VAL:N	2.49	0.45
33:g:293:ASN:C	33:g:298:GLN:HE22	2.24	0.45
1:B:358:GLU:H	1:B:358:GLU:CD	2.25	0.45
2:C:239:ARG:HG2	2:C:239:ARG:HH11	1.80	0.45
4:c:95:MET:SD	21:Z:78:MET:HE1	2.57	0.45
4:c:134:GLU:OE2	4:c:162:LEU:HB2	2.16	0.45
5:G:132:ARG:HH21	11:M:124:LEU:HB3	1.82	0.45
6:H:114:VAL:HA	6:H:117:VAL:HG12	1.98	0.45
7:I:186:LEU:HD23	7:I:186:LEU:HA	1.82	0.45
8:J:47:LYS:HB2	8:J:207:GLU:HG3	1.98	0.45
8:J:58:THR:HG23	8:J:60:ARG:HH12	1.81	0.45
8:J:99:GLU:OE1	16:R:120:ARG:NH1	2.49	0.45
9:K:110:GLU:O	9:K:113:THR:HG22	2.16	0.45
11:M:23:VAL:O	11:M:27:MET:HG2	2.15	0.45
13:O:31:CYS:SG	13:O:32:SER:N	2.89	0.45
15:Q:4:LEU:HD22	15:Q:45:LEU:HB3	1.98	0.45
15:Q:100:VAL:O	15:Q:120:TYR:HA	2.17	0.45
15:Q:118:MET:SD	15:Q:124:LEU:HA	2.56	0.45
18:T:184:TYR:HE2	18:T:186:ARG:HD3	1.80	0.45
20:Y:250:LEU:HB3	20:Y:257:ARG:HB2	1.98	0.45
21:Z:34:ARG:NH2	21:Z:102:HIS:HB3	2.31	0.45
25:f:80:ARG:HH11	25:f:84:SER:HB2	1.81	0.45
25:f:809:ILE:HG23	25:f:855:GLN:HG2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:W:138:VAL:HG22	26:W:141:GLU:HB2	1.98	0.45
29:A:213:LEU:HB2	29:A:337:LEU:HD23	1.97	0.45
2:C:69:GLN:HG3	2:C:118:ASN:ND2	2.32	0.45
3:D:313:ARG:HH12	31:E:242:ARG:HD2	1.81	0.45
4:c:131:GLN:OE1	33:g:231:ARG:NH2	2.41	0.45
5:G:131:MET:HA	5:G:131:MET:HE2	1.99	0.45
8:J:211:MET:HB2	8:J:217:LEU:HD22	1.98	0.45
10:L:112:ILE:O	10:L:116:THR:HG22	2.16	0.45
13:O:146:MET:HG3	13:O:150:GLU:CD	2.41	0.45
13:O:147:GLU:HB3	13:O:150:GLU:HG2	1.99	0.45
19:X:96:PHE:HZ	19:X:105:GLN:HG3	1.80	0.45
20:Y:124:PHE:HA	20:Y:127:THR:HG22	1.97	0.45
20:Y:263:LEU:HB2	20:Y:271:PHE:CE1	2.51	0.45
20:Y:325:VAL:HG22	20:Y:326:GLY:N	2.32	0.45
22:a:342:ASP:O	22:a:344:GLN:N	2.49	0.45
24:d:172:LYS:HA	24:d:175:TYR:HB2	1.99	0.45
26:W:259:GLU:HG2	26:W:262:LYS:HB2	1.98	0.45
27:V:64:GLN:OE1	27:V:109:ASN:ND2	2.49	0.45
27:V:211:TYR:OH	27:V:234:ARG:NH2	2.37	0.45
30:F:224:LEU:N	30:F:348:LEU:HD12	2.31	0.45
30:F:225:MET:HG3	30:F:331:ALA:HA	1.98	0.45
31:E:132:TYR:HE2	31:E:146:ARG:HD3	1.81	0.45
31:E:178:THR:HG22	31:E:301:ILE:HG22	1.98	0.45
33:g:225:ALA:C	33:g:226:PHE:CD2	2.94	0.45
1:B:59:ARG:HA	1:B:62:LEU:CB	2.46	0.45
1:B:115:ILE:O	1:B:116:ILE:HD13	2.17	0.45
1:B:268:ARG:HB2	1:B:311:GLU:OE2	2.16	0.45
3:D:344:ILE:HG22	3:D:375:ILE:HG21	1.99	0.45
9:K:60:GLU:HG3	9:K:61:PRO:HD2	1.98	0.45
11:M:169:ARG:O	11:M:173:LYS:HG2	2.17	0.45
11:M:230:ASP:O	11:M:233:GLU:HG2	2.16	0.45
12:N:85:GLU:HB3	12:N:89:ARG:NH2	2.32	0.45
15:Q:13:VAL:HG12	15:Q:183:ILE:HB	1.96	0.45
16:R:113:TYR:O	16:R:120:ARG:HA	2.16	0.45
20:Y:352:GLU:O	20:Y:353:ILE:HD13	2.16	0.45
23:b:25:ARG:NH1	23:b:178:SER:OG	2.36	0.45
23:b:83:LYS:HD3	23:b:118:GLU:OE1	2.15	0.45
25:f:88:SER:OG	25:f:120:ARG:NH2	2.48	0.45
25:f:335:ARG:HG2	25:f:341:GLU:OE1	2.16	0.45
26:W:250:ILE:O	26:W:253:THR:HG22	2.17	0.45
26:W:368:LYS:HG2	26:W:369:TYR:CE1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:W:440:ASN:HA	26:W:443:THR:HG22	1.98	0.45
27:V:168:GLN:O	27:V:172:VAL:HG23	2.17	0.45
27:V:230:PHE:O	27:V:234:ARG:HG2	2.16	0.45
27:V:264:TYR:CE1	27:V:298:ILE:HD12	2.52	0.45
30:F:144:LYS:HG2	30:F:145:LEU:H	1.82	0.45
32:U:25:HIS:HA	32:U:59:PHE:HE2	1.82	0.45
4:c:233:ASP:OD1	26:W:426:ASN:ND2	2.32	0.45
4:c:255:TYR:HA	4:c:280:PRO:HB2	1.98	0.45
5:G:181:LYS:HA	5:G:184:LYS:HE3	1.98	0.45
13:O:138:PHE:O	13:O:142:PHE:HB3	2.17	0.45
18:T:173:MET:HE2	18:T:187:PHE:CE2	2.51	0.45
19:X:342:PHE:CD2	19:X:345:VAL:HB	2.52	0.45
20:Y:224:VAL:O	20:Y:228:MET:HG3	2.15	0.45
22:a:217:LEU:H	22:a:217:LEU:HD12	1.81	0.45
23:b:21:PHE:CG	23:b:28:ALA:HB2	2.52	0.45
25:f:179:VAL:HG11	25:f:212:GLU:HG3	1.98	0.45
25:f:255:VAL:HA	25:f:258:LYS:HD3	1.97	0.45
30:F:188:ILE:HD12	37:F:501:ADP:C6	2.52	0.45
31:E:21:GLU:OE1	31:E:21:GLU:N	2.49	0.45
31:E:147:GLU:O	31:E:151:LEU:HB2	2.17	0.45
31:E:238:ILE:HD12	31:E:256:THR:HG21	1.98	0.45
32:U:37:GLU:OE1	32:U:37:GLU:N	2.50	0.45
3:D:408:LYS:HD2	3:D:408:LYS:HA	1.86	0.45
4:c:104:ARG:HD3	4:c:106:GLU:OE1	2.16	0.45
10:L:193:ARG:HG2	10:L:196:ARG:NH2	2.31	0.45
11:M:40:ARG:NH1	11:M:146:ALA:O	2.42	0.45
13:O:146:MET:HG3	13:O:150:GLU:HG3	1.99	0.45
14:P:22:ILE:HD12	14:P:22:ILE:HA	1.86	0.45
14:P:56:LEU:H	14:P:56:LEU:HD12	1.82	0.45
16:R:161:TYR:CE2	16:R:195:LEU:HB3	2.52	0.45
17:S:18:GLU:O	17:S:118:LYS:HA	2.17	0.45
20:Y:220:VAL:HG11	20:Y:249:VAL:HB	1.97	0.45
22:a:59:LEU:O	22:a:63:PHE:CD1	2.70	0.45
22:a:84:VAL:O	22:a:87:MET:HG3	2.17	0.45
23:b:140:ILE:HG23	23:b:170:LEU:HD23	1.99	0.45
24:d:340:PRO:HG2	24:d:344:LEU:HD13	1.98	0.45
25:f:419:LEU:HD12	25:f:420:TRP:H	1.82	0.45
25:f:773:LYS:O	25:f:773:LYS:HD2	2.17	0.45
27:V:237:THR:HG22	27:V:241:ARG:HD2	1.98	0.45
29:A:243:SER:HB2	29:A:247:GLN:NE2	2.26	0.45
30:F:133:PHE:C	30:F:134:LEU:HD23	2.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:F:144:LYS:HE3	30:F:144:LYS:HB3	1.68	0.45
30:F:394:ALA:N	37:F:501:ADP:H1'	2.32	0.45
32:U:725:MET:HA	32:U:725:MET:HE3	1.98	0.45
1:B:51:LEU:CD1	1:B:52:VAL:H	2.29	0.45
1:B:129:SER:N	29:A:117:GLN:HE22	2.15	0.45
2:C:71:SER:O	3:D:112:TYR:N	2.30	0.45
3:D:130:VAL:HG12	3:D:142:VAL:HG12	1.99	0.45
8:J:92:GLN:HB3	15:Q:62:LYS:HB3	1.98	0.45
8:J:104:VAL:HG21	8:J:143:ARG:HG3	1.97	0.45
9:K:36:THR:HA	9:K:171:GLY:HA3	1.99	0.45
9:K:98:ASN:OD1	16:R:61:ARG:NH2	2.49	0.45
10:L:65:HIS:HB2	10:L:221:PHE:HD2	1.82	0.45
11:M:69:VAL:O	18:T:76:LEU:HD21	2.17	0.45
15:Q:19:ARG:HH21	15:Q:179:SER:HA	1.82	0.45
17:S:122:TYR:HA	17:S:131:GLN:O	2.17	0.45
17:S:194:ARG:HH21	17:S:205:GLU:HB2	1.81	0.45
19:X:57:LEU:HD21	19:X:65:GLU:C	2.42	0.45
19:X:335:LEU:HD23	19:X:335:LEU:HA	1.86	0.45
19:X:344:ARG:HG2	26:W:408:ARG:NH1	2.31	0.45
22:a:214:GLY:O	22:a:215:GLU:HB3	2.17	0.45
24:d:190:GLN:O	24:d:194:LEU:HD23	2.17	0.45
25:f:421:ASP:HB3	25:f:425:GLY:H	1.81	0.45
25:f:679:LEU:HD13	25:f:687:ARG:NH1	2.32	0.45
27:V:191:LEU:HD11	27:V:210:CYS:SG	2.56	0.45
30:F:362:ARG:O	30:F:363:ALA:C	2.60	0.45
30:F:431:LYS:HE3	30:F:433:ALA:HA	1.98	0.45
31:E:84:ARG:HD3	31:E:108:MET:HE1	1.99	0.45
32:U:772:TRP:CD1	32:U:774:PRO:HG2	2.52	0.45
4:c:32:TYR:HE1	4:c:206:ASN:HD22	1.65	0.45
5:G:101:TRP:NE1	5:G:107:TYR:O	2.50	0.45
6:H:97:TYR:OH	14:P:78:GLU:OE2	2.25	0.45
9:K:230:THR:HG22	9:K:231:LYS:H	1.82	0.45
10:L:36:VAL:HA	10:L:159:MET:O	2.17	0.45
14:P:51:ILE:HG13	14:P:108:VAL:O	2.17	0.45
14:P:84:PRO:HB2	14:P:120:PHE:CD2	2.51	0.45
14:P:158:MET:SD	14:P:163:LEU:HA	2.57	0.45
17:S:17:GLY:N	17:S:20:PHE:O	2.50	0.45
19:X:160:MET:N	19:X:160:MET:SD	2.90	0.45
20:Y:180:LEU:HD21	20:Y:201:PHE:CD1	2.52	0.45
20:Y:188:CYS:SG	20:Y:291:HIS:CG	3.10	0.45
23:b:12:ASN:OD1	23:b:12:ASN:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:19:ALA:HB3	25:f:34:ARG:HH12	1.81	0.45
25:f:41:LYS:HA	25:f:41:LYS:HD3	1.79	0.45
25:f:42:GLU:HG2	25:f:92:VAL:HG21	1.99	0.45
25:f:681:TYR:HD2	25:f:683:GLU:OE2	1.99	0.45
25:f:773:LYS:HD2	25:f:773:LYS:C	2.41	0.45
25:f:811:LEU:HD12	25:f:812:GLY:N	2.32	0.45
26:W:108:CYS:SG	26:W:128:LEU:HD21	2.57	0.45
26:W:139:GLU:HA	26:W:142:ARG:HH11	1.82	0.45
27:V:185:GLN:HG2	27:V:218:TYR:CE1	2.52	0.45
29:A:104:ALA:HA	29:A:108:ASP:O	2.17	0.45
30:F:60:LEU:HA	30:F:63:THR:HG22	1.99	0.45
31:E:103:THR:OG1	31:E:104:THR:N	2.50	0.45
31:E:305:ASN:N	31:E:308:ALA:HB3	2.31	0.45
32:U:341:PHE:CE2	32:U:787:CYS:HB3	2.52	0.45
32:U:456:ASP:OD1	32:U:457:ILE:N	2.50	0.45
3:D:214:MET:HE1	37:D:501:ADP:C4	2.52	0.45
3:D:396:ALA:O	3:D:400:GLU:HB3	2.17	0.45
5:G:122:SER:OG	5:G:156:PRO:O	2.34	0.45
7:I:73:ALA:HB2	7:I:225:ILE:HD13	1.99	0.45
9:K:70:ILE:H	9:K:70:ILE:HD12	1.81	0.45
10:L:164:ARG:NH1	10:L:200:PRO:HD3	2.31	0.45
11:M:40:ARG:HB2	11:M:148:LEU:HB2	1.99	0.45
11:M:150:MET:HB3	11:M:160:TYR:CE1	2.52	0.45
14:P:58:THR:HG22	15:Q:123:ALA:HB2	1.98	0.45
19:X:255:LEU:O	19:X:259:ILE:HG13	2.17	0.45
20:Y:111:LEU:HD22	20:Y:114:ILE:HB	1.99	0.45
24:d:92:THR:O	24:d:96:GLU:HG2	2.17	0.45
25:f:180:GLN:HB3	25:f:181:ARG:NH2	2.32	0.45
25:f:297:MET:SD	25:f:300:ARG:HB2	2.57	0.45
25:f:351:THR:HG23	25:f:356:ASN:HB3	1.99	0.45
25:f:754:LYS:HA	25:f:754:LYS:HD3	1.82	0.45
27:V:269:LYS:HD3	32:U:37:GLU:HG3	1.98	0.45
27:V:329:HIS:CE1	27:V:353:LEU:HD21	2.52	0.45
29:A:66:LYS:O	29:A:67:GLU:C	2.59	0.45
29:A:211:GLY:HA3	29:A:336:ARG:O	2.17	0.45
30:F:175:MET:HE1	30:F:250:LYS:HB3	1.99	0.45
32:U:265:ILE:CG1	32:U:326:ILE:HG12	2.47	0.45
1:B:142:ASP:OD1	1:B:142:ASP:N	2.47	0.45
3:D:60:TYR:CD1	3:D:60:TYR:C	2.95	0.45
6:H:38:ILE:HD12	6:H:191:ALA:HB2	1.99	0.45
6:H:44:VAL:HG21	6:H:137:CYS:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:J:189:LYS:HA	8:J:232:ILE:HD11	1.99	0.45
9:K:35:SER:OG	9:K:51:GLU:OE1	2.28	0.45
9:K:44:GLU:OE1	9:K:191:LEU:N	2.50	0.45
16:R:115:ASP:OD1	16:R:118:GLY:N	2.50	0.45
17:S:5:TYR:HA	17:S:57:PHE:CD2	2.51	0.45
20:Y:148:GLY:HA3	20:Y:153:ASP:HB3	1.99	0.45
21:Z:178:ASP:HB2	21:Z:180:LYS:HG2	1.99	0.45
21:Z:243:GLN:HA	21:Z:246:VAL:HB	1.99	0.45
22:a:177:LEU:HD23	22:a:177:LEU:HA	1.84	0.45
22:a:252:LYS:HA	22:a:255:TRP:CE2	2.51	0.45
25:f:100:ARG:C	25:f:102:HIS:H	2.25	0.45
25:f:285:CYS:O	25:f:288:VAL:HG12	2.17	0.45
26:W:144:ARG:HH12	26:W:183:VAL:HG12	1.81	0.45
29:A:68:SER:O	29:A:69:ASP:HB3	2.16	0.45
30:F:168:TYR:CG	30:F:173:LYS:HB2	2.51	0.45
30:F:232:GLY:HA2	37:F:501:ADP:H5'2	1.98	0.45
31:E:175:PRO:O	31:E:178:THR:OG1	2.23	0.45
32:U:108:TYR:CD2	32:U:134:VAL:HG11	2.52	0.45
1:B:82:GLN:O	1:B:86:LYS:HB2	2.17	0.44
5:G:12:HIS:HB2	5:G:15:ILE:HG12	1.99	0.44
9:K:83:LYS:O	9:K:84:ASP:C	2.60	0.44
11:M:50:GLU:HG3	11:M:209:PHE:CD2	2.52	0.44
12:N:34:LEU:HA	12:N:43:CYS:O	2.17	0.44
12:N:51:ASP:HB3	12:N:94:LEU:HD12	1.99	0.44
15:Q:12:TYR:OH	15:Q:151:ILE:O	2.28	0.44
17:S:135:PHE:CD1	17:S:135:PHE:C	2.95	0.44
19:X:55:SER:O	19:X:59:LYS:HG2	2.17	0.44
21:Z:78:MET:HE3	21:Z:82:PHE:HE1	1.82	0.44
22:a:90:PRO:O	22:a:94:LEU:HD23	2.17	0.44
22:a:278:MET:HA	22:a:281:THR:HG22	1.98	0.44
23:b:56:ASN:N	23:b:83:LYS:O	2.42	0.44
23:b:147:GLU:OE2	23:b:150:THR:HB	2.17	0.44
24:d:194:LEU:HD13	24:d:259:PHE:HZ	1.81	0.44
25:f:18:ALA:HA	25:f:67:ASP:OD2	2.18	0.44
25:f:77:GLU:HG2	25:f:78:LEU:HD12	1.98	0.44
25:f:626:GLU:H	25:f:626:GLU:CD	2.25	0.44
26:W:222:LEU:HA	26:W:225:LYS:HE2	1.98	0.44
26:W:240:TYR:HA	26:W:243:ILE:HG23	1.99	0.44
26:W:317:TRP:CE3	26:W:358:VAL:HG11	2.52	0.44
30:F:344:ARG:HD3	30:F:347:ARG:HD3	1.98	0.44
31:E:20:LYS:N	31:E:20:LYS:HZ2	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:E:309:ARG:NH1	31:E:336:ASP:HA	2.32	0.44
32:U:713:TYR:O	32:U:717:ILE:HG13	2.17	0.44
32:U:896:GLU:CD	32:U:896:GLU:H	2.24	0.44
2:C:143:VAL:HG22	2:C:205:HIS:HA	1.99	0.44
2:C:337:ASN:HB3	20:Y:174:TRP:HZ2	1.82	0.44
4:c:54:MET:HB3	4:c:82:VAL:HG12	1.98	0.44
7:I:166:ASN:N	7:I:166:ASN:OD1	2.48	0.44
10:L:229:VAL:HA	10:L:232:PHE:HD2	1.82	0.44
16:R:64:ARG:O	16:R:68:LEU:HG	2.17	0.44
17:S:2:PHE:HZ	18:T:128:LEU:HD11	1.83	0.44
17:S:19:ASP:C	17:S:113:LEU:HD21	2.43	0.44
18:T:17:GLU:OE1	18:T:159:VAL:HB	2.17	0.44
20:Y:24:PHE:HE1	20:Y:59:LYS:HE3	1.81	0.44
22:a:4:VAL:HA	22:a:7:PHE:CE2	2.53	0.44
22:a:198:PHE:HD1	22:a:226:ARG:HH22	1.65	0.44
24:d:223:ASN:HD22	24:d:226:ILE:HG12	1.82	0.44
25:f:545:LYS:O	25:f:548:THR:OG1	2.31	0.44
25:f:681:TYR:CE1	25:f:859:PRO:HD3	2.52	0.44
26:W:450:GLU:HA	26:W:453:HIS:CG	2.53	0.44
27:V:69:THR:O	27:V:73:GLU:HG2	2.17	0.44
27:V:83:GLU:O	27:V:86:VAL:HG12	2.18	0.44
29:A:161:VAL:HG13	29:A:162:THR:HG23	2.00	0.44
30:F:59:VAL:HG23	31:E:26:LEU:HD22	1.98	0.44
30:F:198:LEU:HD22	30:F:236:LEU:CD2	2.47	0.44
31:E:92:LEU:HD13	31:E:92:LEU:HA	1.88	0.44
32:U:33:ASP:HB3	32:U:34:PHE:CD1	2.49	0.44
32:U:361:ARG:HD3	32:U:720:LYS:HE3	1.99	0.44
32:U:588:MET:SD	32:U:764:LEU:HD22	2.56	0.44
34:u:189:GLN:HB3	34:u:258:THR:HA	1.98	0.44
1:B:48:LYS:NZ	29:A:56:LEU:HD22	2.32	0.44
1:B:404:LEU:HD23	2:C:313:ARG:HH12	1.81	0.44
2:C:281:ASP:HB3	2:C:310:ARG:HG3	1.98	0.44
5:G:46:ASP:HA	5:G:149:PRO:HD3	1.99	0.44
5:G:180:GLU:HA	5:G:183:VAL:HG12	1.99	0.44
9:K:83:LYS:CD	9:K:83:LYS:N	2.75	0.44
10:L:49:LEU:HD11	10:L:199:LEU:HD13	1.99	0.44
12:N:96:ALA:N	12:N:116:MET:HE1	2.32	0.44
13:O:48:THR:OG1	13:O:95:GLY:O	2.33	0.44
15:Q:172:ILE:HG22	15:Q:173:LEU:HD22	1.99	0.44
16:R:163:ALA:O	16:R:167:ASP:HB2	2.17	0.44
17:S:22:ILE:CG2	17:S:195:ILE:HD11	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:X:261:LEU:O	19:X:263:THR:HG23	2.18	0.44
20:Y:192:ARG:HD3	20:Y:192:ARG:HA	1.77	0.44
20:Y:377:LEU:HD11	27:V:483:CYS:SG	2.57	0.44
21:Z:248:ALA:HB2	26:W:425:LEU:HD21	1.99	0.44
25:f:125:ILE:HB	25:f:131:MET:HE1	2.00	0.44
25:f:162:LEU:O	25:f:165:GLU:HG2	2.17	0.44
26:W:41:GLN:O	26:W:45:GLU:HG2	2.18	0.44
26:W:80:TRP:HE3	26:W:83:LEU:HD21	1.81	0.44
30:F:428:GLN:OE1	30:F:428:GLN:N	2.36	0.44
32:U:517:GLY:HA3	32:U:551:GLY:HA2	1.99	0.44
1:B:197:ILE:HG21	1:B:235:LEU:HD11	2.00	0.44
1:B:234:LEU:HD22	35:B:501:ATP:H2'	1.99	0.44
2:C:76:VAL:HG12	2:C:112:CYS:O	2.17	0.44
6:H:98:TYR:O	6:H:102:GLN:N	2.45	0.44
12:N:64:GLY:O	12:N:68:ILE:HG12	2.18	0.44
14:P:12:MET:HE3	14:P:13:ALA:H	1.83	0.44
14:P:15:LYS:HE2	14:P:121:ILE:HG12	1.99	0.44
14:P:24:ALA:HB1	14:P:41:LYS:HB2	2.00	0.44
14:P:83:LYS:HG3	14:P:86:THR:H	1.82	0.44
17:S:19:ASP:O	17:S:200:LYS:NZ	2.51	0.44
21:Z:211:TYR:CG	26:W:445:LEU:HD11	2.52	0.44
23:b:59:GLU:H	23:b:59:GLU:CD	2.26	0.44
25:f:228:LYS:HG2	25:f:232:TYR:OH	2.17	0.44
25:f:230:CYS:HB3	25:f:232:TYR:CE1	2.53	0.44
26:W:200:ILE:H	26:W:200:ILE:HG13	1.55	0.44
27:V:132:LEU:HD23	27:V:135:LEU:HD23	1.99	0.44
31:E:273:VAL:HG23	31:E:274:LYS:HG2	1.99	0.44
32:U:78:LEU:O	32:U:82:LEU:HG	2.18	0.44
5:G:22:LEU:HD21	6:H:128:ARG:HE	1.83	0.44
7:I:54:LYS:NZ	19:X:201:TYR:OH	2.50	0.44
8:J:47:LYS:HE2	8:J:207:GLU:HG2	1.99	0.44
8:J:96:LEU:HD23	15:Q:62:LYS:HE3	1.99	0.44
9:K:78:MET:N	9:K:78:MET:SD	2.91	0.44
12:N:179:ILE:HG12	12:N:184:VAL:HG22	1.99	0.44
15:Q:154:GLU:OE1	15:Q:154:GLU:N	2.40	0.44
17:S:57:PHE:HB2	17:S:105:TYR:HD2	1.82	0.44
18:T:162:GLN:HG2	18:T:163:THR:N	2.32	0.44
18:T:174:ARG:NH1	18:T:206:GLU:O	2.47	0.44
19:X:97:LEU:HD23	19:X:132:ARG:NH2	2.33	0.44
22:a:111:VAL:HG22	22:a:115:LYS:HD2	1.99	0.44
22:a:156:TYR:O	22:a:160:SER:OG	2.22	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:d:92:THR:HA	24:d:95:TYR:CD1	2.53	0.44
24:d:297:LYS:HA	24:d:297:LYS:HD2	1.80	0.44
25:f:821:LEU:HD22	25:f:882:LEU:HB2	2.00	0.44
26:W:35:ALA:HA	26:W:39:ARG:CZ	2.46	0.44
26:W:212:LYS:O	26:W:213:PHE:HB2	2.17	0.44
27:V:92:ARG:HD3	27:V:95:LEU:HD22	1.99	0.44
27:V:185:GLN:HB3	27:V:186:LYS:HZ2	1.83	0.44
27:V:434:ALA:O	27:V:438:VAL:HG12	2.18	0.44
27:V:438:VAL:HG13	27:V:451:ILE:HD11	2.00	0.44
30:F:73:ILE:HD11	31:E:40:TYR:HA	1.99	0.44
30:F:388:THR:HB	30:F:391:PHE:HB2	1.99	0.44
34:u:264:THR:OG1	34:u:265:PHE:N	2.50	0.44
1:B:310:LEU:HD13	29:A:247:GLN:HE21	1.83	0.44
2:C:30:GLU:O	2:C:33:LEU:HG	2.17	0.44
2:C:71:SER:HB2	3:D:112:TYR:HB3	2.00	0.44
4:c:48:GLY:HA3	4:c:53:VAL:HG11	1.99	0.44
5:G:113:MET:HE2	13:O:70:THR:CG2	2.48	0.44
8:J:115:LYS:O	8:J:119:THR:HG23	2.18	0.44
9:K:70:ILE:HD11	9:K:76:CYS:HB2	2.00	0.44
12:N:150:GLU:O	12:N:154:GLN:HG2	2.18	0.44
13:O:54:MET:HG3	14:P:96:TYR:CD2	2.52	0.44
13:O:89:ARG:HD2	13:O:89:ARG:HA	1.71	0.44
15:Q:43:LEU:O	15:Q:104:LEU:HD12	2.17	0.44
19:X:317:PRO:C	19:X:319:ILE:N	2.73	0.44
20:Y:259:TYR:CD2	20:Y:278:VAL:HG21	2.53	0.44
21:Z:202:ASN:HD21	22:a:361:LYS:HB2	1.83	0.44
22:a:112:ILE:HG23	22:a:138:VAL:HG13	1.98	0.44
23:b:157:VAL:O	23:b:161:ASN:N	2.36	0.44
25:f:701:ASN:HD21	25:f:703:ARG:HH11	1.65	0.44
25:f:731:MET:HB3	25:f:731:MET:HE2	1.70	0.44
26:W:317:TRP:O	26:W:321:VAL:HG13	2.17	0.44
26:W:345:GLU:OE2	26:W:345:GLU:N	2.49	0.44
29:A:185:GLU:O	29:A:189:GLU:HG3	2.18	0.44
30:F:195:ILE:HD12	30:F:198:LEU:HD23	1.99	0.44
30:F:344:ARG:NH2	31:E:344:ARG:HH11	2.16	0.44
31:E:264:MET:HE2	31:E:275:MET:HE1	2.00	0.44
32:U:320:ASN:OD1	32:U:320:ASN:N	2.50	0.44
33:g:228:CR8:CA3	33:g:254:TRP:HE1	2.30	0.44
1:B:410:ARG:HB3	25:f:53:GLN:HB2	2.00	0.44
2:C:159:LYS:HB3	29:A:22:ILE:HD11	2.00	0.44
2:C:195:GLY:HA2	2:C:198:LEU:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:296:ASN:ND2	35:C:501:ATP:O3G	2.50	0.44
6:H:96:GLN:O	6:H:100:VAL:HG23	2.17	0.44
9:K:24:VAL:O	9:K:28:ILE:HG12	2.18	0.44
10:L:189:LYS:HD3	10:L:189:LYS:HA	1.80	0.44
16:R:161:TYR:HA	16:R:164:THR:HG22	1.99	0.44
17:S:199:THR:OG1	17:S:200:LYS:NZ	2.37	0.44
18:T:128:LEU:HD12	18:T:128:LEU:HA	1.75	0.44
19:X:62:GLN:HB2	19:X:65:GLU:HG3	2.00	0.44
20:Y:103:ALA:HB3	20:Y:104:MET:HE3	2.00	0.44
21:Z:211:TYR:CE1	26:W:449:GLU:HG3	2.52	0.44
22:a:126:GLY:C	22:a:129:GLN:HE22	2.26	0.44
24:d:212:LEU:HD23	24:d:215:LEU:HD11	2.00	0.44
29:A:164:MET:HA	29:A:164:MET:HE3	2.00	0.44
29:A:223:THR:HG23	29:A:273:PHE:HE2	1.83	0.44
29:A:278:ASP:OD2	29:A:321:THR:OG1	2.36	0.44
30:F:376:SER:N	30:F:414:GLU:OE2	2.50	0.44
31:E:55:GLN:OE1	31:E:108:MET:HG3	2.18	0.44
31:E:113:ARG:HH11	31:E:220:ASN:HB3	1.83	0.44
32:U:465:LEU:HG	32:U:500:ASN:HD21	1.82	0.44
32:U:703:CYS:O	32:U:706:VAL:HG12	2.17	0.44
32:U:904:LYS:HG3	32:U:905:PRO:HD2	1.99	0.44
33:g:175:ILE:HG13	33:g:279:PHE:O	2.18	0.44
33:g:317:VAL:HG21	33:g:341:THR:HB	2.00	0.44
2:C:79:ALA:HA	2:C:85:VAL:HG22	1.99	0.44
2:C:150:MET:HA	2:C:331:ILE:HG21	1.99	0.44
4:c:167:MET:SD	4:c:172:HIS:HB2	2.57	0.44
5:G:63:SER:HA	5:G:66:VAL:HG22	2.00	0.44
5:G:206:LEU:HB3	5:G:208:ILE:HG23	1.99	0.44
6:H:139:TRP:CZ2	6:H:142:GLY:HA2	2.53	0.44
8:J:8:THR:HB	9:K:135:ARG:HB3	2.00	0.44
8:J:30:SER:HB3	8:J:61:LYS:NZ	2.32	0.44
8:J:99:GLU:OE2	16:R:120:ARG:NH2	2.51	0.44
13:O:213:THR:OG1	13:O:214:GLU:N	2.51	0.44
19:X:380:GLN:HB2	20:Y:311:TYR:CE1	2.53	0.44
21:Z:127:LYS:HB2	21:Z:127:LYS:HE2	1.87	0.44
21:Z:260:VAL:HG11	27:V:476:PHE:CB	2.47	0.44
21:Z:262:LEU:O	21:Z:266:ILE:HG13	2.18	0.44
24:d:268:ARG:HD2	24:d:291:LEU:O	2.17	0.44
25:f:285:CYS:SG	25:f:881:GLU:HB2	2.58	0.44
25:f:539:LEU:O	25:f:543:MET:HG3	2.18	0.44
26:W:201:ARG:HH21	26:W:205:ILE:HG13	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:F:361:ALA:O	30:F:364:ARG:HG2	2.18	0.44
30:F:427:VAL:O	30:F:430:LYS:NZ	2.31	0.44
31:E:302:ASP:OD1	31:E:303:LEU:N	2.45	0.44
1:B:211:TYR:CE2	29:A:394:MET:HE1	2.53	0.44
2:C:337:ASN:HB3	20:Y:174:TRP:CZ2	2.53	0.44
3:D:146:GLU:HG3	3:D:252:ARG:HG2	2.00	0.44
4:c:257:LYS:HA	4:c:257:LYS:HD2	1.71	0.44
9:K:83:LYS:HA	9:K:86:LYS:HB2	1.99	0.44
10:L:33:SER:HB2	10:L:51:ARG:HE	1.82	0.44
10:L:62:LYS:NZ	30:F:439:ALA:O	2.45	0.44
10:L:98:VAL:HG13	10:L:99:PHE:CD1	2.52	0.44
11:M:227:VAL:HG22	11:M:228:PRO:O	2.17	0.44
14:P:15:LYS:CE	14:P:121:ILE:HG12	2.48	0.44
18:T:58:ALA:HA	18:T:61:GLN:HE21	1.82	0.44
19:X:213:GLN:NE2	19:X:217:ILE:HG12	2.32	0.44
20:Y:217:LYS:H	20:Y:217:LYS:HG2	1.59	0.44
22:a:132:LYS:HE3	22:a:132:LYS:HB3	1.77	0.44
24:d:236:LEU:O	27:V:440:LYS:HE3	2.18	0.44
26:W:359:VAL:HG13	26:W:382:LEU:HD22	2.00	0.44
27:V:371:ASN:HB3	27:V:374:LYS:HB2	2.00	0.44
29:A:234:ASP:O	29:A:268:LYS:NZ	2.50	0.44
31:E:98:VAL:HG12	31:E:110:TYR:HA	2.00	0.44
32:U:22:PHE:CZ	32:U:26:LYS:HE3	2.53	0.44
32:U:417:LYS:HA	32:U:417:LYS:HD3	1.79	0.44
32:U:516:LEU:HD23	32:U:532:MET:HG2	2.00	0.44
32:U:803:LYS:HG3	32:U:875:PHE:CD2	2.53	0.44
1:B:254:GLU:HA	2:C:232:ARG:NH2	2.33	0.43
4:c:39:LEU:HD23	4:c:39:LEU:HA	1.71	0.43
4:c:291:LEU:HA	4:c:291:LEU:HD23	1.68	0.43
5:G:153:LYS:O	5:G:160:TYR:HA	2.18	0.43
10:L:194:ALA:O	10:L:198:THR:HG23	2.18	0.43
15:Q:34:LYS:H	15:Q:34:LYS:HG2	1.71	0.43
15:Q:137:PHE:HA	15:Q:140:LEU:HD23	2.00	0.43
20:Y:55:GLU:H	20:Y:55:GLU:CD	2.26	0.43
20:Y:167:LEU:O	20:Y:170:GLU:HG2	2.18	0.43
22:a:229:ASP:OD1	22:a:230:ARG:N	2.51	0.43
23:b:92:VAL:HA	23:b:95:LEU:HD22	2.00	0.43
23:b:120:ASN:HB3	23:b:123:ASP:OD2	2.18	0.43
25:f:128:VAL:HG21	29:A:36:TYR:CE1	2.53	0.43
25:f:814:SER:O	25:f:881:GLU:HA	2.18	0.43
26:W:43:VAL:HG13	26:W:44:ILE:HD13	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:W:378:MET:O	26:W:382:LEU:HG	2.17	0.43
27:V:236:ARG:O	27:V:240:LEU:HD22	2.17	0.43
27:V:311:ASN:O	27:V:315:LYS:HG3	2.18	0.43
27:V:435:GLU:OE1	27:V:451:ILE:HD13	2.18	0.43
29:A:200:ARG:HE	30:F:412:ALA:HB2	1.83	0.43
30:F:362:ARG:O	30:F:365:ILE:N	2.51	0.43
31:E:219:PHE:O	31:E:223:ARG:HG3	2.17	0.43
31:E:257:LEU:O	31:E:261:LEU:HG	2.17	0.43
32:U:184:CYS:HA	32:U:188:MET:HG3	2.00	0.43
1:B:77:GLU:HA	1:B:80:ARG:HG2	1.99	0.43
2:C:228:ALA:O	2:C:232:ARG:HG3	2.18	0.43
3:D:268:ASP:OD1	3:D:268:ASP:N	2.50	0.43
4:c:61:PHE:CE1	4:c:109:VAL:HG13	2.53	0.43
7:I:160:LYS:HE2	7:I:160:LYS:HB3	1.90	0.43
9:K:69:GLU:HB3	9:K:226:PHE:CD1	2.54	0.43
9:K:155:HIS:HB3	9:K:165:CYS:SG	2.58	0.43
14:P:30:ILE:HD12	14:P:30:ILE:HA	1.84	0.43
15:Q:6:GLY:O	15:Q:129:PHE:HA	2.18	0.43
15:Q:24:ASN:OD1	15:Q:25:ILE:HG12	2.19	0.43
16:R:44:THR:HG21	16:R:100:MET:HE2	2.00	0.43
19:X:229:TYR:CE2	19:X:258:LYS:HE2	2.53	0.43
20:Y:228:MET:HE1	20:Y:259:TYR:CE2	2.53	0.43
21:Z:34:ARG:HH22	21:Z:102:HIS:HB3	1.83	0.43
23:b:187:PRO:HA	23:b:191:GLY:C	2.43	0.43
24:d:283:LEU:HB2	24:d:315:TYR:CE1	2.53	0.43
25:f:354:GLU:HA	25:f:357:ARG:HE	1.82	0.43
26:W:44:ILE:HG13	26:W:82:LEU:HD11	2.00	0.43
29:A:29:ASP:OD1	29:A:29:ASP:N	2.51	0.43
29:A:305:GLN:O	29:A:309:PHE:HB3	2.18	0.43
30:F:159:LEU:HD21	31:E:52:SER:HB2	2.00	0.43
30:F:371:ARG:NE	30:F:372:LYS:HZ1	2.15	0.43
32:U:31:VAL:HG11	32:U:66:LYS:HB3	2.00	0.43
32:U:193:PHE:HD1	32:U:196:LYS:HE3	1.83	0.43
32:U:554:LEU:HD22	32:U:761:VAL:HG22	2.00	0.43
1:B:59:ARG:HB2	29:A:41:TYR:HE2	1.80	0.43
2:C:141:GLU:HG2	2:C:142:LYS:N	2.32	0.43
2:C:373:GLU:OE1	2:C:375:ARG:NH1	2.52	0.43
3:D:70:LYS:HB2	3:D:70:LYS:HE3	1.73	0.43
3:D:92:PHE:CE2	3:D:124:LEU:HG	2.53	0.43
3:D:238:LYS:HG3	31:E:207:TYR:CD2	2.53	0.43
5:G:119:ALA:HB1	5:G:158:GLY:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:108:ALA:O	6:H:112:GLN:HG3	2.18	0.43
8:J:144:LEU:HB3	8:J:156:TRP:O	2.17	0.43
9:K:107:MET:HE3	9:K:112:VAL:HG22	2.00	0.43
11:M:193:VAL:O	11:M:196:ILE:HG22	2.19	0.43
12:N:4:MET:HE1	12:N:6:VAL:HB	1.99	0.43
12:N:42:PHE:HD1	12:N:43:CYS:H	1.65	0.43
15:Q:12:TYR:HB3	15:Q:184:ASP:OD1	2.18	0.43
16:R:150:GLU:HA	16:R:150:GLU:OE2	2.19	0.43
18:T:61:GLN:HA	18:T:64:LYS:HB3	1.99	0.43
20:Y:137:ARG:O	20:Y:140:ILE:HG23	2.17	0.43
20:Y:189:VAL:HG22	28:e:39:TRP:CD1	2.53	0.43
21:Z:63:LYS:HE3	23:b:91:ARG:NH2	2.34	0.43
24:d:173:CYS:HA	32:U:3:THR:OG1	2.18	0.43
24:d:286:GLU:OE1	24:d:286:GLU:N	2.43	0.43
25:f:126:ILE:HG23	25:f:127:SER:H	1.83	0.43
25:f:198:HIS:HB3	25:f:240:VAL:HG22	2.01	0.43
25:f:785:ARG:HE	25:f:785:ARG:C	2.26	0.43
25:f:828:ARG:HH21	25:f:847:GLY:CA	2.31	0.43
27:V:368:ARG:NH2	28:e:43:TRP:O	2.50	0.43
27:V:471:GLU:N	27:V:472:PRO:HD2	2.33	0.43
28:e:53:SER:HB2	28:e:57:ARG:NH1	2.32	0.43
31:E:38:LYS:O	31:E:41:GLU:HB3	2.18	0.43
32:U:420:LEU:HD23	32:U:446:LEU:HD21	2.00	0.43
1:B:220:LYS:HE3	1:B:220:LYS:HB3	1.59	0.43
2:C:82:LYS:HE2	2:C:82:LYS:HB2	1.91	0.43
5:G:96:TYR:O	5:G:96:TYR:HD1	2.01	0.43
6:H:74:LEU:HD12	6:H:134:LEU:HD13	2.01	0.43
7:I:90:LEU:HD23	7:I:90:LEU:HA	1.63	0.43
8:J:36:ARG:NH2	8:J:157:LYS:HG2	2.34	0.43
9:K:91:LYS:HE3	9:K:119:LEU:HB2	2.01	0.43
9:K:133:MET:HE2	9:K:133:MET:HA	2.00	0.43
10:L:214:ILE:HB	10:L:224:TYR:OH	2.18	0.43
15:Q:68:LYS:HA	15:Q:73:TYR:O	2.17	0.43
17:S:150:ASP:HB3	17:S:156:LYS:HB2	2.00	0.43
20:Y:235:ASP:OD1	20:Y:235:ASP:N	2.50	0.43
21:Z:202:ASN:HD21	22:a:361:LYS:HE2	1.84	0.43
21:Z:272:LEU:O	21:Z:276:ILE:HG12	2.18	0.43
21:Z:282:ASN:ND2	27:V:495:ARG:O	2.52	0.43
22:a:227:ASN:HA	22:a:231:GLN:OE1	2.18	0.43
24:d:164:PHE:CE1	24:d:168:MET:HE2	2.53	0.43
24:d:283:LEU:HD23	24:d:285:THR:H	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:138:GLU:OE1	25:f:185:LEU:HD11	2.19	0.43
25:f:271:MET:HE3	25:f:271:MET:O	2.18	0.43
26:W:272:LEU:HD23	26:W:272:LEU:HA	1.79	0.43
26:W:354:LEU:O	26:W:358:VAL:HG12	2.17	0.43
27:V:126:ALA:HA	27:V:129:ASP:HB2	2.00	0.43
29:A:41:TYR:CD1	29:A:41:TYR:N	2.85	0.43
29:A:41:TYR:N	29:A:41:TYR:HD1	2.16	0.43
29:A:101:ILE:HG23	29:A:111:TYR:CE1	2.53	0.43
30:F:94:ILE:H	30:F:124:ILE:HA	1.83	0.43
31:E:178:THR:HG21	31:E:301:ILE:O	2.18	0.43
32:U:811:PHE:CD2	32:U:888:GLN:HB2	2.53	0.43
33:g:181:GLY:HA2	33:g:285:PHE:O	2.18	0.43
33:g:218:ALA:O	33:g:221:ILE:HG22	2.18	0.43
1:B:438:LEU:HA	7:I:155:ASN:ND2	2.33	0.43
4:c:100:LYS:HG3	4:c:105:PRO:HB3	1.99	0.43
7:I:115:CYS:HB3	8:J:81:ARG:NH2	2.32	0.43
7:I:190:LEU:HB3	7:I:236:LEU:HD11	1.99	0.43
8:J:156:TRP:CD1	9:K:59:MET:HE1	2.52	0.43
10:L:157:ARG:N	11:M:59:GLU:HG2	2.33	0.43
10:L:196:ARG:NH1	10:L:239:ARG:HA	2.33	0.43
16:R:32:LYS:HE2	16:R:32:LYS:HB2	1.82	0.43
20:Y:180:LEU:HA	20:Y:183:TYR:HD1	1.84	0.43
20:Y:325:VAL:CG1	28:e:59:GLU:HG3	2.49	0.43
21:Z:222:ILE:HD11	22:a:343:LEU:HD21	2.00	0.43
25:f:93:PRO:HG2	25:f:97:LYS:NZ	2.33	0.43
25:f:99:LEU:HB3	25:f:101:PRO:HD2	2.00	0.43
25:f:157:GLU:HA	25:f:160:ARG:HB3	2.01	0.43
25:f:594:LEU:O	25:f:597:VAL:HG12	2.19	0.43
25:f:707:LEU:HD22	25:f:785:ARG:HA	2.00	0.43
26:W:142:ARG:HA	26:W:145:LEU:HG	2.01	0.43
27:V:161:PRO:HA	27:V:164:GLU:CD	2.43	0.43
27:V:208:ALA:HB1	27:V:249:THR:HG21	2.00	0.43
29:A:216:GLY:O	29:A:322:ASN:HA	2.19	0.43
30:F:175:MET:CE	30:F:250:LYS:HB3	2.49	0.43
30:F:185:TYR:CZ	30:F:195:ILE:HG21	2.54	0.43
30:F:261:ILE:HG12	31:E:206:LYS:HD3	2.00	0.43
31:E:195:PHE:CE2	31:E:197:LYS:HB2	2.54	0.43
31:E:281:ARG:HA	31:E:281:ARG:HE	1.83	0.43
33:g:175:ILE:HB	33:g:279:PHE:HB3	2.00	0.43
34:u:200:LEU:HD23	34:u:200:LEU:HA	1.88	0.43
1:B:71:TYR:O	1:B:75:GLU:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:297:ARG:NH1	3:D:274:ARG:HD2	2.33	0.43
5:G:103:TYR:HB2	12:N:61:TYR:HB2	2.01	0.43
6:H:112:GLN:HG2	6:H:155:TYR:CZ	2.54	0.43
8:J:188:ILE:HD13	8:J:188:ILE:HA	1.86	0.43
11:M:110:HIS:O	11:M:114:ARG:HG2	2.19	0.43
11:M:201:HIS:HD1	11:M:203:GLU:CD	2.27	0.43
12:N:14:LEU:HD11	12:N:42:PHE:HB3	2.00	0.43
14:P:57:ALA:O	14:P:61:GLN:HG2	2.18	0.43
16:R:17:ASP:O	16:R:33:LYS:HG3	2.19	0.43
17:S:7:PHE:HD1	17:S:9:GLY:H	1.64	0.43
20:Y:192:ARG:HD2	20:Y:196:GLN:HB3	1.99	0.43
21:Z:64:ASP:OD2	21:Z:66:SER:HB3	2.18	0.43
21:Z:213:GLU:OE2	22:a:350:LYS:NZ	2.30	0.43
22:a:59:LEU:O	22:a:62:ASN:HB3	2.19	0.43
22:a:186:LYS:O	22:a:188:LEU:HG	2.18	0.43
23:b:68:THR:O	23:b:71:ILE:HG23	2.18	0.43
24:d:307:GLY:O	24:d:309:VAL:HG13	2.18	0.43
25:f:47:GLU:CG	25:f:124:ASP:HB2	2.48	0.43
25:f:404:ASP:HB2	25:f:439:TYR:CE1	2.53	0.43
25:f:513:GLU:O	25:f:517:VAL:HG12	2.18	0.43
25:f:813:LYS:HA	25:f:880:ALA:O	2.18	0.43
29:A:272:ILE:HD11	29:A:274:PHE:CZ	2.53	0.43
30:F:177:VAL:HG21	30:F:274:LEU:HD21	1.99	0.43
32:U:337:LEU:HD13	32:U:789:ILE:HG21	2.01	0.43
32:U:707:ASN:O	32:U:711:GLN:HG2	2.19	0.43
33:g:230:ASN:ND2	33:g:250:LYS:O	2.51	0.43
1:B:362:LYS:HB3	1:B:384:ILE:HD13	1.99	0.43
5:G:51:VAL:HG22	5:G:202:LEU:HD12	2.01	0.43
5:G:203:SER:O	5:G:207:SER:N	2.51	0.43
6:H:150:ASP:OD1	6:H:151:PRO:HD2	2.19	0.43
9:K:110:GLU:O	9:K:114:GLN:HG2	2.19	0.43
12:N:79:ALA:HB1	12:N:83:PHE:HE1	1.84	0.43
12:N:90:TYR:O	12:N:94:LEU:N	2.51	0.43
13:O:112:SER:O	13:O:119:THR:HA	2.19	0.43
14:P:52:GLY:O	14:P:53:LEU:HD13	2.19	0.43
15:Q:50:ALA:HB3	16:R:117:GLU:HG3	2.00	0.43
15:Q:86:ARG:HA	15:Q:86:ARG:HD2	1.76	0.43
16:R:58:LEU:O	16:R:62:GLN:HG2	2.19	0.43
18:T:11:VAL:N	18:T:139:THR:OG1	2.44	0.43
18:T:72:ILE:HG22	18:T:76:LEU:HD22	2.01	0.43
19:X:299:LEU:HB2	19:X:327:TYR:HE1	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:X:347:ILE:HG12	19:X:383:GLY:O	2.19	0.43
21:Z:166:GLU:OE1	21:Z:166:GLU:HA	2.18	0.43
25:f:463:LEU:O	25:f:467:SER:OG	2.30	0.43
26:W:144:ARG:HA	26:W:147:LYS:HE2	2.01	0.43
26:W:191:ARG:HA	26:W:229:LEU:HD11	2.00	0.43
27:V:465:ASP:O	27:V:469:THR:OG1	2.36	0.43
29:A:263:MET:HA	29:A:266:THR:HG23	2.00	0.43
29:A:334:PRO:HG2	30:F:397:LYS:NZ	2.34	0.43
31:E:235:ILE:HD12	31:E:235:ILE:HA	1.84	0.43
34:u:177:LEU:HD12	34:u:238:PHE:CD2	2.53	0.43
2:C:254:ILE:HG13	2:C:255:GLY:N	2.33	0.43
4:c:132:SER:OG	33:g:249:PRO:O	2.35	0.43
6:H:185:GLU:OE1	6:H:185:GLU:N	2.43	0.43
9:K:70:ILE:HD13	9:K:74:ILE:HG12	2.01	0.43
10:L:50:LYS:HE2	10:L:59:HIS:HB2	2.01	0.43
12:N:83:PHE:CE1	12:N:100:ILE:HG12	2.53	0.43
15:Q:28:MET:HB3	16:R:126:PHE:HE1	1.83	0.43
16:R:50:ALA:HB2	17:S:127:VAL:HG13	2.01	0.43
16:R:119:ASN:N	16:R:119:ASN:OD1	2.51	0.43
16:R:161:TYR:CD2	16:R:195:LEU:HB3	2.53	0.43
20:Y:282:MET:HE2	20:Y:287:LEU:HD21	2.01	0.43
21:Z:72:HIS:HB2	21:Z:115:TYR:OH	2.18	0.43
23:b:75:LEU:HD13	23:b:75:LEU:HA	1.77	0.43
24:d:121:LEU:HA	24:d:124:LEU:HD12	1.99	0.43
24:d:196:LEU:HB3	24:d:208:PHE:HE1	1.84	0.43
25:f:456:ARG:HD3	25:f:492:SER:OG	2.19	0.43
25:f:591:ALA:O	25:f:595:VAL:HG12	2.19	0.43
25:f:828:ARG:CD	25:f:845:ARG:H	2.31	0.43
28:e:19:PHE:HD2	28:e:22:PHE:HE2	1.67	0.43
29:A:140:VAL:HB	29:A:149:ILE:HG23	2.00	0.43
30:F:396:CYS:C	30:F:400:CYS:SG	3.02	0.43
31:E:326:ILE:HD13	31:E:364:GLN:OE1	2.19	0.43
32:U:202:VAL:O	32:U:206:MET:HG2	2.19	0.43
32:U:658:ILE:HG23	32:U:763:VAL:HG11	2.00	0.43
2:C:26:SER:O	2:C:29:GLU:HG3	2.19	0.43
3:D:267:ILE:HG22	3:D:311:THR:HB	2.00	0.43
4:c:32:TYR:CD2	4:c:66:THR:HG23	2.53	0.43
4:c:311:LEU:HD12	4:c:311:LEU:HA	1.85	0.43
5:G:20:GLY:HA3	6:H:28:ALA:HB2	2.00	0.43
5:G:189:TRP:HB3	5:G:194:THR:HG23	2.00	0.43
6:H:143:ARG:HB3	6:H:145:TYR:HE1	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:J:234:LYS:O	8:J:237:GLU:HG3	2.19	0.43
11:M:37:ILE:HD13	11:M:196:ILE:HG21	2.00	0.43
15:Q:91:CYS:O	15:Q:94:SER:OG	2.37	0.43
16:R:97:MET:HE3	16:R:98:GLY:N	2.34	0.43
17:S:15:ILE:HD13	17:S:135:PHE:HB3	2.00	0.43
18:T:84:SER:O	18:T:88:ILE:HD12	2.19	0.43
18:T:187:PHE:HZ	18:T:203:LEU:HD23	1.84	0.43
20:Y:177:ARG:O	20:Y:180:LEU:HD22	2.19	0.43
24:d:196:LEU:HB3	24:d:208:PHE:CE1	2.53	0.43
25:f:79:ARG:HG3	25:f:80:ARG:H	1.83	0.43
25:f:718:ASP:OD2	25:f:809:ILE:HD13	2.19	0.43
25:f:813:LYS:HG3	25:f:882:LEU:HD11	2.01	0.43
26:W:305:LEU:HD12	26:W:324:TYR:CD2	2.54	0.43
27:V:258:TYR:HE2	27:V:270:LEU:HD13	1.83	0.43
27:V:394:LEU:HA	27:V:397:ARG:HD3	2.01	0.43
30:F:250:LYS:NZ	30:F:286:ASP:OD2	2.33	0.43
30:F:311:LEU:HD21	31:E:202:SER:HB3	2.00	0.43
31:E:61:LEU:HD13	31:E:72:LYS:HB3	2.00	0.43
31:E:150:GLU:HB2	31:E:191:LEU:HD21	2.01	0.43
1:B:82:GLN:HG2	1:B:86:LYS:HD2	2.00	0.43
1:B:130:GLU:O	29:A:116:LYS:NZ	2.46	0.43
2:C:69:GLN:HB2	2:C:118:ASN:HB2	2.01	0.43
4:c:115:HIS:HB3	4:c:118:PHE:HB2	2.00	0.43
6:H:130:PHE:O	6:H:151:PRO:HB3	2.19	0.43
7:I:199:LYS:HD3	7:I:199:LYS:HA	1.81	0.43
9:K:67:ILE:HD11	9:K:216:GLU:HB3	2.00	0.43
10:L:39:LYS:HD2	10:L:142:PRO:HB2	2.00	0.43
15:Q:183:ILE:HA	15:Q:187:GLY:O	2.19	0.43
16:R:18:SER:OG	16:R:31:VAL:N	2.52	0.43
17:S:199:THR:HG23	17:S:201:GLU:HG3	2.00	0.43
20:Y:121:LEU:O	20:Y:125:ARG:HG3	2.19	0.43
23:b:108:ARG:HB2	23:b:137:ASN:HB2	2.00	0.43
24:d:118:ARG:O	24:d:122:VAL:HG13	2.19	0.43
24:d:124:LEU:HD11	32:U:19:LEU:HD23	2.01	0.43
25:f:142:TYR:CE2	25:f:190:GLU:HG2	2.53	0.43
25:f:609:VAL:HA	25:f:612:LEU:HB2	2.00	0.43
27:V:251:LEU:HD11	27:V:270:LEU:HD21	2.01	0.43
27:V:393:THR:O	27:V:397:ARG:HD3	2.19	0.43
32:U:75:GLU:OE1	32:U:75:GLU:N	2.31	0.43
32:U:706:VAL:O	32:U:710:ARG:HG3	2.19	0.43
32:U:889:LEU:HD21	32:U:909:GLY:HA3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:g:189:VAL:HG22	33:g:211:GLU:HB2	2.01	0.43
1:B:316:LEU:HD11	1:B:347:ILE:HD11	2.01	0.42
4:c:180:ASN:ND2	32:U:685:GLN:OE1	2.39	0.42
4:c:242:GLU:OE2	4:c:246:LYS:NZ	2.52	0.42
5:G:114:LEU:O	5:G:118:ILE:HG12	2.19	0.42
11:M:64:LYS:HD2	11:M:64:LYS:HA	1.78	0.42
12:N:149:LYS:HZ1	12:N:153:LEU:HB2	1.83	0.42
16:R:10:HIS:CD2	16:R:149:VAL:HG22	2.54	0.42
20:Y:122:THR:HA	20:Y:125:ARG:NE	2.34	0.42
24:d:177:ASP:HB2	32:U:3:THR:CB	2.49	0.42
24:d:232:LEU:HD11	24:d:247:ALA:HB3	1.99	0.42
24:d:262:ILE:O	24:d:266:THR:OG1	2.29	0.42
25:f:10:PRO:HB3	25:f:59:LEU:HD22	1.99	0.42
25:f:136:GLU:HG3	25:f:137:ARG:HH22	1.83	0.42
25:f:266:LEU:HD23	25:f:266:LEU:HA	1.80	0.42
26:W:68:VAL:HG23	26:W:107:GLN:HG3	2.01	0.42
29:A:222:LYS:HA	29:A:343:PHE:CE2	2.53	0.42
29:A:255:ARG:HD3	29:A:259:GLU:HG3	2.01	0.42
30:F:66:LEU:HD21	31:E:33:LEU:HB3	2.01	0.42
33:g:248:PHE:HB3	33:g:249:PRO:HA	2.01	0.42
1:B:117:ASP:OD1	1:B:117:ASP:N	2.50	0.42
1:B:403:GLY:HA3	2:C:180:ILE:HG21	2.01	0.42
1:B:412:MET:SD	25:f:52:LEU:HD13	2.59	0.42
3:D:207:PRO:O	3:D:212:LYS:NZ	2.51	0.42
6:H:114:VAL:O	6:H:117:VAL:HG12	2.20	0.42
7:I:230:GLN:HA	7:I:233:VAL:HG12	2.01	0.42
8:J:16:LEU:HB3	8:J:19:VAL:HG23	2.01	0.42
11:M:123:THR:HA	11:M:130:PRO:HB3	2.00	0.42
13:O:37:ILE:HG23	13:O:60:SER:HA	2.00	0.42
13:O:93:TYR:O	14:P:99:ARG:NH2	2.46	0.42
14:P:98:LYS:HE3	14:P:98:LYS:HB2	1.79	0.42
15:Q:10:PRO:HD2	15:Q:12:TYR:CE1	2.54	0.42
19:X:140:THR:OG1	19:X:142:ARG:HG2	2.19	0.42
21:Z:11:VAL:HG13	21:Z:15:VAL:HG23	2.02	0.42
22:a:116:THR:HG21	22:a:154:ARG:HB2	2.00	0.42
25:f:253:LEU:HD23	25:f:253:LEU:HA	1.80	0.42
25:f:353:LEU:HG	25:f:355:ASN:H	1.84	0.42
25:f:441:LYS:HE2	25:f:441:LYS:HB2	1.81	0.42
26:W:436:MET:N	26:W:436:MET:SD	2.91	0.42
31:E:40:TYR:O	31:E:44:GLU:HG2	2.20	0.42
32:U:122:GLU:OE1	32:U:122:GLU:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:334:ILE:HD12	1:B:337:LEU:HD12	2.01	0.42
2:C:321:ASN:OD1	2:C:321:ASN:N	2.50	0.42
3:D:202:VAL:HG12	3:D:329:ARG:HB2	2.02	0.42
4:c:279:ASP:C	4:c:281:LYS:N	2.76	0.42
6:H:171:LYS:HB2	6:H:171:LYS:HE2	1.83	0.42
10:L:89:ARG:HD3	17:S:77:HIS:HB3	2.00	0.42
12:N:115:PRO:HD2	12:N:119:MET:HB3	2.01	0.42
14:P:99:ARG:HG3	14:P:100:PHE:CD1	2.53	0.42
14:P:148:GLY:O	14:P:151:GLU:HG2	2.18	0.42
15:Q:101:ASN:HB3	15:Q:132:HIS:CD2	2.54	0.42
16:R:149:VAL:HG12	16:R:153:TYR:CE2	2.54	0.42
18:T:39:ILE:H	18:T:39:ILE:HG13	1.71	0.42
18:T:43:MET:HE1	18:T:64:LYS:HB2	2.00	0.42
19:X:338:VAL:C	19:X:340:GLU:N	2.77	0.42
19:X:369:ILE:HB	20:Y:310:SER:HB2	2.00	0.42
20:Y:22:LEU:HD11	20:Y:37:VAL:HG22	2.01	0.42
20:Y:97:GLU:H	20:Y:97:GLU:HG2	1.58	0.42
20:Y:349:LYS:HD2	20:Y:349:LYS:HA	1.93	0.42
21:Z:283:ARG:O	21:Z:286:GLU:N	2.52	0.42
22:a:119:GLY:HA3	22:a:158:LEU:HD11	2.01	0.42
22:a:215:GLU:O	22:a:219:HIS:HB2	2.19	0.42
25:f:469:TYR:HA	25:f:472:HIS:HB3	2.01	0.42
25:f:640:LYS:HD2	25:f:640:LYS:HA	1.69	0.42
25:f:688:ARG:HG2	25:f:689:ALA:N	2.34	0.42
25:f:858:LYS:C	25:f:860:LYS:H	2.27	0.42
26:W:425:LEU:HD23	26:W:425:LEU:HA	1.68	0.42
27:V:197:THR:OG1	27:V:198:GLN:OE1	2.33	0.42
29:A:79:ASP:O	29:A:82:ALA:N	2.52	0.42
29:A:181:LYS:HA	29:A:184:ILE:HG22	2.01	0.42
29:A:264:ALA:HA	29:A:270:CYS:SG	2.59	0.42
30:F:150:LEU:HD23	30:F:150:LEU:HA	1.91	0.42
30:F:217:ILE:HD12	30:F:217:ILE:HA	1.93	0.42
30:F:414:GLU:O	30:F:416:THR:HG23	2.19	0.42
31:E:239:GLY:HA2	31:E:257:LEU:HD13	2.01	0.42
32:U:234:GLU:O	32:U:238:LYS:HD3	2.19	0.42
34:u:181:LYS:HD3	34:u:264:THR:HG23	2.01	0.42
2:C:31:LEU:HD11	3:D:48:GLN:HG3	2.00	0.42
2:C:146:SER:O	2:C:202:ALA:HA	2.20	0.42
2:C:212:ILE:HD13	2:C:237:MET:HE2	2.00	0.42
2:C:214:VAL:HG21	2:C:234:LEU:HD22	2.01	0.42
3:D:184:PRO:HG3	3:D:191:TYR:CZ	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:214:MET:HE1	37:D:501:ADP:N3	2.34	0.42
4:c:83:SER:C	4:c:85:GLU:H	2.27	0.42
4:c:118:PHE:N	4:c:118:PHE:CD1	2.87	0.42
7:I:208:ALA:HB1	7:I:233:VAL:HG13	2.02	0.42
9:K:101:PHE:CE2	16:R:57:ARG:HG3	2.54	0.42
10:L:61:LYS:HZ1	10:L:64:LEU:HA	1.84	0.42
11:M:137:LEU:O	11:M:148:LEU:HD12	2.19	0.42
11:M:220:THR:O	11:M:221:ASN:ND2	2.53	0.42
11:M:228:PRO:HG2	11:M:231:ILE:HG13	2.01	0.42
15:Q:168:GLN:HE21	15:Q:178:PHE:HZ	1.67	0.42
18:T:136:SER:C	18:T:137:LEU:HD12	2.44	0.42
21:Z:40:LEU:HD21	21:Z:54:PHE:CE2	2.54	0.42
21:Z:131:LEU:HD12	21:Z:200:GLY:HA2	2.02	0.42
21:Z:220:LEU:HD22	21:Z:221:PRO:HD2	1.99	0.42
22:a:22:TRP:HA	22:a:25:LEU:HD12	2.01	0.42
22:a:139:GLU:HB3	22:a:155:PHE:HZ	1.85	0.42
22:a:160:SER:O	22:a:163:TYR:HB3	2.19	0.42
22:a:189:PRO:HG2	22:a:192:GLU:HB2	2.00	0.42
22:a:215:GLU:O	22:a:215:GLU:HG2	2.20	0.42
25:f:72:ARG:HH12	25:f:83:ARG:HG3	1.83	0.42
25:f:529:SER:HA	25:f:566:HIS:CE1	2.55	0.42
25:f:672:LEU:HD12	25:f:673:ARG:N	2.34	0.42
26:W:72:LYS:O	26:W:76:GLU:HG2	2.19	0.42
26:W:169:LEU:HD13	26:W:169:LEU:HA	1.87	0.42
26:W:272:LEU:O	26:W:276:LEU:HG	2.19	0.42
30:F:423:GLY:O	30:F:427:VAL:HG13	2.19	0.42
31:E:342:ASP:O	31:E:345:ASN:HB3	2.19	0.42
32:U:479:LEU:HD23	32:U:479:LEU:HA	1.93	0.42
33:g:213:GLY:O	33:g:214:PRO:C	2.62	0.42
1:B:256:ILE:HD12	1:B:305:ILE:HG12	2.00	0.42
2:C:399:MET:HG2	6:H:158:TRP:HZ2	1.85	0.42
4:c:107:MET:HE1	34:u:272:ALA:HA	2.02	0.42
7:I:118:LYS:O	7:I:122:THR:HG22	2.20	0.42
8:J:204:LYS:HA	8:J:204:LYS:HD3	1.79	0.42
8:J:227:LYS:O	8:J:231:GLU:HG3	2.20	0.42
11:M:53:VAL:HG13	11:M:208:ALA:HB1	2.02	0.42
17:S:11:THR:N	17:S:26:ASP:OD1	2.52	0.42
22:a:156:TYR:CG	22:a:179:PHE:CG	3.07	0.42
23:b:161:ASN:HD21	23:b:168:SER:H	1.67	0.42
25:f:39:LYS:HZ3	25:f:120:ARG:HH22	1.67	0.42
25:f:144:LEU:O	25:f:148:GLN:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:351:THR:HG23	25:f:356:ASN:HD22	1.84	0.42
25:f:396:ASN:O	25:f:399:LEU:HB2	2.19	0.42
25:f:686:LEU:HB3	25:f:687:ARG:HE	1.84	0.42
26:W:378:MET:HE2	26:W:378:MET:HB3	1.73	0.42
29:A:168:GLU:O	29:A:236:CYS:HA	2.20	0.42
29:A:274:PHE:CZ	29:A:302:LEU:HD11	2.54	0.42
29:A:299:MET:O	29:A:303:ILE:HG12	2.19	0.42
30:F:383:GLU:O	30:F:386:ARG:HG2	2.19	0.42
32:U:434:GLY:C	32:U:436:ALA:H	2.26	0.42
1:B:183:THR:OG1	1:B:184:TYR:N	2.53	0.42
2:C:372:ARG:NE	3:D:179:GLU:OE2	2.48	0.42
2:C:399:MET:HG2	6:H:158:TRP:CZ2	2.54	0.42
3:D:258:ALA:HB1	3:D:259:PRO:HD2	2.02	0.42
3:D:294:ASN:O	3:D:298:GLY:HA3	2.19	0.42
4:c:267:PRO:O	4:c:268:GLU:HG3	2.19	0.42
5:G:81:THR:OG1	5:G:82:GLY:N	2.52	0.42
6:H:44:VAL:CG2	6:H:137:CYS:HB2	2.50	0.42
7:I:52:ILE:HD11	7:I:210:LYS:HG3	2.01	0.42
7:I:69:ASN:OD1	7:I:71:ASP:N	2.37	0.42
7:I:119:GLN:O	7:I:123:GLN:N	2.53	0.42
8:J:87:ALA:HA	8:J:110:TYR:HE2	1.84	0.42
9:K:137:PHE:O	9:K:158:PRO:HB3	2.19	0.42
11:M:87:LEU:O	11:M:90:ILE:HG22	2.20	0.42
16:R:4:LEU:HD12	16:R:5:ALA:N	2.34	0.42
20:Y:50:MET:HB2	20:Y:74:LYS:CE	2.48	0.42
22:a:80:ILE:HG21	22:a:100:THR:HG21	2.02	0.42
24:d:262:ILE:HD12	24:d:262:ILE:HA	1.93	0.42
25:f:702:PRO:O	25:f:706:ILE:HG13	2.19	0.42
25:f:886:GLU:H	25:f:886:GLU:CD	2.27	0.42
26:W:287:VAL:O	26:W:290:ILE:HG13	2.19	0.42
27:V:273:LYS:HE3	32:U:39:SER:HB2	2.02	0.42
30:F:83:ASN:HD22	31:E:50:LEU:HG	1.85	0.42
32:U:205:TYR:HB3	32:U:216:VAL:HG22	2.02	0.42
1:B:184:TYR:HE1	1:B:242:GLN:HB3	1.84	0.42
1:B:264:PRO:HG3	1:B:307:ARG:HH21	1.85	0.42
2:C:286:THR:HB	2:C:289:ILE:HG13	2.02	0.42
3:D:170:MET:H	3:D:340:GLN:HE22	1.67	0.42
3:D:317:LEU:HD12	3:D:322:LEU:HD21	2.01	0.42
5:G:189:TRP:HB3	5:G:194:THR:CG2	2.50	0.42
8:J:188:ILE:O	8:J:192:ILE:HG12	2.20	0.42
16:R:195:LEU:HA	16:R:195:LEU:HD23	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:S:71:ARG:HA	17:S:74:MET:HG3	2.01	0.42
21:Z:26:ILE:HD13	21:Z:26:ILE:HA	1.84	0.42
23:b:65:THR:HG21	23:b:70:ARG:HD2	2.02	0.42
23:b:104:ASN:OD1	23:b:104:ASN:N	2.43	0.42
25:f:257:ARG:HH11	25:f:293:GLN:HG2	1.84	0.42
26:W:356:ASN:HB2	26:W:357:ARG:NH1	2.34	0.42
27:V:288:TYR:O	27:V:292:THR:HG22	2.20	0.42
27:V:455:LYS:HE2	27:V:455:LYS:HB2	1.83	0.42
29:A:100:LYS:NZ	30:F:166:THR:O	2.51	0.42
29:A:142:VAL:HG23	29:A:143:ASP:O	2.20	0.42
30:F:53:LYS:HD3	30:F:53:LYS:H	1.83	0.42
30:F:362:ARG:O	30:F:365:ILE:HG22	2.19	0.42
31:E:305:ASN:H	31:E:308:ALA:HB3	1.85	0.42
31:E:352:MET:O	31:E:352:MET:HE3	2.19	0.42
1:B:96:ARG:O	1:B:99:VAL:HG12	2.20	0.42
2:C:118:ASN:OD1	2:C:118:ASN:C	2.62	0.42
2:C:301:LEU:HB2	2:C:306:LEU:HD11	2.02	0.42
5:G:40:VAL:HG13	5:G:51:VAL:HG13	2.02	0.42
5:G:212:PRO:HB3	5:G:239:LEU:HD21	2.01	0.42
6:H:158:TRP:N	7:I:57:ASP:OD2	2.52	0.42
8:J:94:HIS:CE1	8:J:98:VAL:HG21	2.54	0.42
8:J:134:VAL:HG12	8:J:144:LEU:HD12	2.02	0.42
10:L:35:THR:O	10:L:160:SER:HA	2.20	0.42
13:O:163:ILE:HD12	13:O:170:GLY:CA	2.46	0.42
16:R:97:MET:HE3	16:R:98:GLY:H	1.83	0.42
16:R:144:SER:HB2	16:R:147:LEU:HD13	2.02	0.42
16:R:184:TRP:CD1	16:R:184:TRP:H	2.38	0.42
18:T:174:ARG:HH22	18:T:206:GLU:H	1.68	0.42
21:Z:256:GLN:O	21:Z:257:MET:C	2.62	0.42
22:a:86:GLN:O	22:a:88:THR:HG23	2.20	0.42
22:a:109:GLU:H	22:a:109:GLU:CD	2.24	0.42
22:a:136:GLU:HA	22:a:139:GLU:HG3	2.01	0.42
22:a:188:LEU:HB2	22:a:193:GLN:NE2	2.30	0.42
25:f:136:GLU:HB2	29:A:40:THR:HB	2.01	0.42
25:f:384:ALA:HB2	25:f:419:LEU:HB3	2.02	0.42
25:f:642:ALA:HB3	25:f:770:HIS:NE2	2.34	0.42
26:W:162:ALA:O	26:W:166:LEU:HG	2.20	0.42
26:W:273:TYR:CE1	26:W:340:VAL:HG11	2.54	0.42
29:A:229:VAL:O	29:A:233:THR:N	2.52	0.42
32:U:206:MET:SD	32:U:216:VAL:HG11	2.59	0.42
1:B:227:PRO:HD2	1:B:353:PHE:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:332:ASN:HD22	2:C:258:ARG:HH12	1.67	0.42
2:C:49:ARG:HD2	32:U:639:LEU:HD23	2.01	0.42
2:C:63:LEU:O	2:C:67:GLN:HG2	2.20	0.42
4:c:40:LYS:HG2	21:Z:14:LEU:HD11	2.01	0.42
4:c:163:ILE:HD12	4:c:198:ARG:C	2.45	0.42
6:H:44:VAL:HG13	6:H:144:PRO:HB2	2.01	0.42
6:H:215:GLU:H	6:H:215:GLU:CD	2.26	0.42
9:K:15:PHE:HE2	10:L:127:PRO:HG2	1.85	0.42
9:K:236:GLU:HA	9:K:239:LYS:HE3	2.01	0.42
10:L:33:SER:OG	10:L:49:LEU:HB3	2.19	0.42
10:L:187:LEU:HD23	10:L:187:LEU:HA	1.77	0.42
12:N:59:VAL:HG21	12:N:83:PHE:CE2	2.55	0.42
12:N:115:PRO:HD2	12:N:119:MET:O	2.19	0.42
15:Q:56:PHE:HB2	15:Q:98:TYR:CD2	2.55	0.42
16:R:46:ALA:HB3	16:R:98:GLY:O	2.20	0.42
17:S:64:LEU:HG	17:S:106:VAL:HG21	2.01	0.42
18:T:103:MET:N	18:T:103:MET:SD	2.93	0.42
19:X:154:LEU:HD11	19:X:170:GLN:HG2	2.00	0.42
19:X:297:ARG:HH21	19:X:333:GLN:HG2	1.84	0.42
20:Y:350:VAL:O	20:Y:352:GLU:HG2	2.20	0.42
21:Z:98:GLY:O	21:Z:100:LYS:N	2.53	0.42
22:a:355:PHE:O	22:a:358:THR:HG22	2.20	0.42
23:b:170:LEU:HD23	23:b:170:LEU:HA	1.88	0.42
24:d:258:PHE:CD1	24:d:258:PHE:C	2.98	0.42
24:d:306:ARG:HD3	24:d:308:TRP:NE1	2.35	0.42
25:f:216:MET:N	25:f:216:MET:HE2	2.33	0.42
25:f:556:ARG:HE	25:f:786:GLN:HG3	1.84	0.42
25:f:611:GLN:HA	25:f:615:ILE:HD12	2.02	0.42
27:V:426:LEU:HB2	27:V:428:LEU:HG	2.02	0.42
28:e:51:ASP:HB3	28:e:54:ASN:HD21	1.84	0.42
29:A:369:ARG:HE	29:A:372:LEU:HD12	1.85	0.42
30:F:181:PRO:HB2	30:F:238:ARG:HB3	2.01	0.42
31:E:60:VAL:HG21	31:E:92:LEU:HD12	2.02	0.42
31:E:151:LEU:HB3	31:E:159:PHE:CZ	2.51	0.42
31:E:171:LEU:HD21	31:E:279:THR:HG22	2.02	0.42
31:E:206:LYS:HA	33:g:156:LEU:HD23	2.02	0.42
32:U:368:ALA:HB1	32:U:731:ILE:HB	2.02	0.42
32:U:535:TYR:HE1	32:U:544:ILE:HG21	1.85	0.42
1:B:49:LEU:HD13	1:B:68:ILE:HD13	2.01	0.42
2:C:111:ASN:OD1	2:C:111:ASN:N	2.52	0.42
3:D:98:GLN:OE1	3:D:98:GLN:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:c:278:GLN:HE21	4:c:283:HIS:HE1	1.68	0.42
5:G:41:ALA:HB2	5:G:50:ILE:HG22	2.01	0.42
6:H:199:PHE:CZ	6:H:207:ASN:HB3	2.55	0.42
8:J:181:ILE:HA	8:J:187:THR:HG22	2.01	0.42
11:M:116:ALA:HA	11:M:119:VAL:HG12	2.02	0.42
12:N:103:TRP:CZ2	12:N:181:GLU:HG2	2.55	0.42
15:Q:66:LEU:HA	15:Q:69:MET:SD	2.60	0.42
16:R:83:LEU:HD23	16:R:114:VAL:HG11	2.02	0.42
19:X:89:VAL:HG21	19:X:125:LEU:HD11	2.01	0.42
19:X:240:ASP:OD2	19:X:275:LEU:HD11	2.19	0.42
19:X:258:LYS:HB3	19:X:267:VAL:HG22	2.01	0.42
19:X:397:TYR:CD2	20:Y:365:GLN:HB3	2.55	0.42
20:Y:41:LEU:HD23	20:Y:41:LEU:HA	1.80	0.42
22:a:24:ARG:HA	22:a:27:GLU:HG2	2.02	0.42
25:f:316:ASP:O	25:f:320:ILE:HG23	2.20	0.42
25:f:331:LEU:O	25:f:335:ARG:HG3	2.20	0.42
25:f:390:LEU:C	25:f:391:LEU:HD23	2.45	0.42
25:f:773:LYS:HZ1	25:f:805:ASP:HA	1.85	0.42
26:W:301:LYS:HG2	26:W:324:TYR:CE2	2.55	0.42
29:A:101:ILE:O	29:A:102:ILE:HG22	2.20	0.42
30:F:95:GLU:HG3	30:F:97:LEU:HD21	2.02	0.42
30:F:153:VAL:HG23	30:F:159:LEU:C	2.45	0.42
32:U:592:GLY:O	32:U:628:ARG:HD2	2.20	0.42
32:U:714:SER:O	32:U:718:ASN:ND2	2.48	0.42
1:B:76:GLU:HB2	29:A:59:ILE:HD11	2.01	0.41
1:B:92:GLN:O	1:B:94:GLU:N	2.53	0.41
3:D:359:ASP:O	3:D:360:LEU:C	2.61	0.41
4:c:158:ASP:HB3	4:c:160:PHE:CZ	2.55	0.41
5:G:45:LYS:HG3	5:G:188:ASP:O	2.20	0.41
5:G:54:LYS:HB2	5:G:216:GLU:CD	2.45	0.41
9:K:21:LEU:HD11	10:L:126:ARG:NH1	2.35	0.41
9:K:108:THR:HA	9:K:147:ASP:OD2	2.20	0.41
10:L:41:LYS:H	10:L:41:LYS:HD3	1.85	0.41
14:P:67:LEU:HD21	14:P:91:VAL:HG12	2.01	0.41
14:P:164:PHE:O	14:P:168:SER:OG	2.27	0.41
19:X:126:ARG:NH2	19:X:156:GLU:OE2	2.53	0.41
20:Y:22:LEU:C	20:Y:24:PHE:H	2.27	0.41
21:Z:62:ASP:OD1	21:Z:62:ASP:N	2.34	0.41
21:Z:109:ASN:O	21:Z:113:LYS:HG3	2.19	0.41
22:a:162:TYR:C	22:a:168:ASN:HD22	2.28	0.41
25:f:72:ARG:HA	25:f:72:ARG:HD2	1.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:f:243:PRO:O	25:f:246:SER:OG	2.35	0.41
25:f:674:THR:OG1	25:f:675:PHE:N	2.53	0.41
25:f:803:PHE:C	25:f:805:ASP:H	2.28	0.41
26:W:432:LEU:HD23	26:W:432:LEU:HA	1.73	0.41
27:V:224:LEU:O	27:V:257:ASN:ND2	2.45	0.41
27:V:259:LEU:HD22	27:V:264:TYR:CE1	2.55	0.41
27:V:309:MET:SD	27:V:331:LEU:HD23	2.60	0.41
28:e:18:GLU:HB2	28:e:20:GLU:CD	2.45	0.41
29:A:218:PRO:HB3	29:A:322:ASN:HD21	1.84	0.41
29:A:221:GLY:O	29:A:222:LYS:C	2.62	0.41
29:A:254:ALA:O	29:A:257:VAL:HG22	2.20	0.41
29:A:309:PHE:HZ	29:A:316:LYS:HZ3	1.68	0.41
29:A:401:ARG:HH21	29:A:405:THR:HG23	1.84	0.41
31:E:171:LEU:HD12	31:E:295:LEU:HD13	2.02	0.41
34:u:183:GLN:OE1	34:u:227:GLU:HA	2.20	0.41
2:C:266:ASP:OD2	3:D:287:ARG:NH2	2.53	0.41
2:C:313:ARG:O	2:C:315:ILE:HG13	2.20	0.41
3:D:124:LEU:HD12	3:D:124:LEU:HA	1.83	0.41
3:D:176:GLU:HG2	3:D:329:ARG:HD3	2.02	0.41
4:c:26:ASP:OD2	4:c:178:THR:OG1	2.37	0.41
4:c:70:ILE:HD13	4:c:70:ILE:HA	1.97	0.41
6:H:107:THR:HG21	6:H:145:TYR:HB2	2.02	0.41
7:I:141:LYS:HG2	7:I:142:HIS:HD2	1.85	0.41
10:L:39:LYS:HB2	10:L:142:PRO:HB2	2.02	0.41
10:L:176:MET:HE1	11:M:57:LEU:HD13	2.02	0.41
12:N:143:TYR:HA	12:N:155:PHE:CE2	2.55	0.41
15:Q:38:MET:HE2	15:Q:38:MET:HA	2.02	0.41
17:S:144:MET:HG3	17:S:186:ASP:OD1	2.20	0.41
19:X:97:LEU:HA	19:X:106:GLU:OE1	2.20	0.41
19:X:171:LEU:HD11	19:X:210:LEU:HA	2.01	0.41
20:Y:16:ASP:HB2	20:Y:286:TRP:CE2	2.55	0.41
20:Y:101:ARG:NH2	20:Y:136:HIS:O	2.51	0.41
20:Y:134:LEU:HD12	20:Y:168:ILE:HD12	2.02	0.41
20:Y:236:LEU:O	20:Y:240:VAL:HG12	2.20	0.41
20:Y:287:LEU:HG	20:Y:291:HIS:CE1	2.55	0.41
22:a:196:ARG:HG2	22:a:196:ARG:NH1	2.34	0.41
25:f:87:THR:HG21	25:f:113:MET:HG2	2.02	0.41
25:f:94:LYS:HB3	25:f:102:HIS:NE2	2.35	0.41
26:W:180:LYS:HB3	26:W:181:GLU:H	1.64	0.41
29:A:196:LEU:C	29:A:198:PRO:HD3	2.46	0.41
29:A:365:GLU:OE1	29:A:405:THR:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:F:357:PRO:O	30:F:362:ARG:NH2	2.53	0.41
31:E:87:LEU:HD12	31:E:87:LEU:HA	1.79	0.41
31:E:130:VAL:HG23	31:E:186:ALA:HA	2.02	0.41
31:E:270:LEU:HD23	31:E:270:LEU:HA	1.81	0.41
32:U:803:LYS:HG3	32:U:875:PHE:HD2	1.83	0.41
2:C:42:LEU:O	2:C:46:GLN:HG3	2.20	0.41
4:c:224:SER:HB3	4:c:227:GLU:OE1	2.20	0.41
5:G:43:ARG:NH1	5:G:164:LYS:HA	2.35	0.41
5:G:45:LYS:HZ3	5:G:45:LYS:H	1.68	0.41
6:H:19:LEU:HD22	6:H:19:LEU:H	1.85	0.41
6:H:50:LYS:HE2	6:H:50:LYS:HB3	1.92	0.41
8:J:37:GLY:HA2	8:J:181:ILE:HB	2.02	0.41
8:J:103:THR:HG23	8:J:106:TYR:H	1.85	0.41
9:K:192:LYS:O	9:K:195:ILE:HG22	2.19	0.41
11:M:7:TYR:CZ	11:M:16:PRO:HD3	2.55	0.41
11:M:175:GLU:HB2	11:M:178:LYS:HE3	2.02	0.41
11:M:191:LYS:HB3	11:M:238:TYR:CE2	2.55	0.41
14:P:189:ILE:HB	14:P:196:THR:OG1	2.20	0.41
17:S:113:LEU:HD23	17:S:113:LEU:HA	1.82	0.41
19:X:245:PRO:O	19:X:248:ILE:HG22	2.20	0.41
21:Z:101:LEU:HB3	21:Z:105:ASP:OD2	2.20	0.41
23:b:24:THR:HG22	23:b:26:LEU:N	2.34	0.41
25:f:15:GLN:HA	25:f:18:ALA:HB3	2.02	0.41
25:f:822:VAL:O	25:f:851:ASP:HB3	2.20	0.41
26:W:149:LEU:HA	26:W:152:ILE:HG22	2.03	0.41
27:V:332:LEU:HD23	27:V:332:LEU:HA	1.88	0.41
29:A:143:ASP:OD2	29:A:148:GLN:N	2.52	0.41
29:A:170:PRO:O	29:A:231:ASN:ND2	2.51	0.41
30:F:144:LYS:HB2	30:F:146:LYS:NZ	2.35	0.41
30:F:260:PHE:HB2	30:F:261:ILE:H	1.59	0.41
30:F:348:LEU:HD13	30:F:348:LEU:HA	1.94	0.41
32:U:923:GLU:H	32:U:923:GLU:CD	2.27	0.41
33:g:268:ALA:HB2	33:g:285:PHE:CE1	2.56	0.41
34:u:226:LYS:HD2	34:u:226:LYS:N	2.35	0.41
3:D:259:PRO:HA	3:D:304:ASN:O	2.20	0.41
3:D:344:ILE:O	3:D:348:ILE:HG13	2.20	0.41
3:D:370:ILE:HG21	3:D:407:ILE:HG21	2.02	0.41
8:J:204:LYS:HG3	8:J:205:ASN:H	1.86	0.41
10:L:44:ALA:HB1	10:L:135:ALA:HB1	2.02	0.41
11:M:37:ILE:HD12	11:M:164:ALA:HB2	2.03	0.41
12:N:117:GLY:HA3	18:T:5:MET:HE2	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:P:4:MET:SD	14:P:141:THR:HG22	2.60	0.41
14:P:123:SER:OG	14:P:131:MET:HB3	2.20	0.41
16:R:64:ARG:NH1	16:R:67:GLU:OE2	2.53	0.41
17:S:17:GLY:HA3	17:S:20:PHE:CD1	2.56	0.41
17:S:116:GLU:OE1	17:S:116:GLU:N	2.50	0.41
18:T:15:LYS:HE3	18:T:122:LEU:HB2	2.03	0.41
19:X:340:GLU:N	19:X:341:PRO:HD2	2.35	0.41
20:Y:26:LEU:H	20:Y:26:LEU:CD2	2.31	0.41
20:Y:107:LYS:HG3	20:Y:120:ALA:HB2	2.02	0.41
21:Z:39:LEU:HD13	21:Z:50:VAL:HG11	2.01	0.41
23:b:132:LYS:HD2	23:b:160:LEU:O	2.21	0.41
24:d:340:PRO:HG2	24:d:344:LEU:CD1	2.50	0.41
25:f:179:VAL:O	25:f:216:MET:HE1	2.19	0.41
26:W:55:ARG:HH22	26:W:90:LEU:HB2	1.85	0.41
27:V:494:MET:HE3	27:V:494:MET:HB3	1.82	0.41
29:A:194:PRO:HB3	29:A:208:PRO:HB3	2.02	0.41
29:A:261:PHE:O	29:A:265:ARG:NE	2.44	0.41
31:E:288:ALA:O	31:E:291:ARG:HG2	2.21	0.41
32:U:454:GLY:O	32:U:458:ILE:HG12	2.20	0.41
1:B:53:THR:HB	1:B:54:PRO:HD3	2.02	0.41
1:B:355:LEU:HD23	1:B:355:LEU:HA	1.95	0.41
1:B:369:THR:HB	1:B:374:LEU:HD11	2.02	0.41
2:C:22:GLN:HG2	32:U:98:GLU:OE2	2.21	0.41
2:C:205:HIS:HD2	2:C:206:HIS:CD2	2.37	0.41
3:D:211:GLY:N	37:D:501:ADP:O1A	2.51	0.41
4:c:155:VAL:HG12	4:c:157:ILE:HG22	2.01	0.41
8:J:221:ASN:OD1	8:J:221:ASN:C	2.62	0.41
9:K:101:PHE:HB2	16:R:61:ARG:HE	1.86	0.41
14:P:99:ARG:O	14:P:102:PRO:HG3	2.21	0.41
17:S:57:PHE:HB2	17:S:105:TYR:CD2	2.55	0.41
18:T:210:ASP:HA	18:T:213:HIS:ND1	2.36	0.41
19:X:121:LYS:HE2	19:X:121:LYS:HB2	1.81	0.41
22:a:98:GLU:HA	22:a:101:ARG:HG2	2.03	0.41
23:b:52:ILE:HD13	23:b:59:GLU:O	2.20	0.41
25:f:811:LEU:O	25:f:853:VAL:HB	2.20	0.41
29:A:182:GLU:O	29:A:186:LYS:HG3	2.20	0.41
31:E:222:ALA:HB1	31:E:273:VAL:HG12	2.02	0.41
32:U:42:VAL:O	32:U:46:GLU:HG2	2.21	0.41
32:U:68:PHE:CE2	32:U:76:GLU:HG2	2.56	0.41
32:U:446:LEU:HD12	32:U:446:LEU:HA	1.83	0.41
4:c:83:SER:OG	4:c:84:VAL:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:J:121:SER:OG	8:J:124:ARG:HD3	2.21	0.41
11:M:70:ASP:CG	11:M:99:ARG:HH21	2.29	0.41
11:M:189:ILE:HD13	11:M:189:ILE:HA	1.89	0.41
15:Q:43:LEU:HD21	15:Q:188:ILE:HD12	2.01	0.41
16:R:34:VAL:HB	16:R:177:TYR:HE2	1.84	0.41
18:T:180:ASP:OD1	18:T:181:ALA:N	2.53	0.41
20:Y:15:PRO:C	20:Y:17:LEU:N	2.77	0.41
20:Y:148:GLY:O	20:Y:153:ASP:N	2.46	0.41
22:a:62:ASN:OD1	22:a:62:ASN:C	2.63	0.41
22:a:65:SER:HA	22:a:68:GLU:CD	2.45	0.41
23:b:24:THR:HG22	23:b:27:GLN:H	1.85	0.41
24:d:194:LEU:HD13	24:d:259:PHE:CZ	2.55	0.41
25:f:230:CYS:HB3	25:f:232:TYR:CD1	2.55	0.41
25:f:257:ARG:O	25:f:261:ARG:N	2.52	0.41
25:f:478:ARG:HH12	25:f:509:LYS:HE3	1.85	0.41
25:f:664:GLU:H	25:f:668:ALA:HB3	1.86	0.41
25:f:757:ASN:N	25:f:757:ASN:OD1	2.53	0.41
26:W:357:ARG:HD3	26:W:357:ARG:HA	1.75	0.41
29:A:167:GLU:OE2	29:A:169:LYS:N	2.54	0.41
31:E:335:SER:O	31:E:335:SER:OG	2.33	0.41
32:U:416:GLU:OE2	32:U:453:HIS:ND1	2.45	0.41
32:U:899:ARG:NH2	32:U:922:GLU:HA	2.36	0.41
34:u:208:GLU:HG2	34:u:211:ARG:HH21	1.86	0.41
1:B:224:LEU:HB3	1:B:353:PHE:CE1	2.55	0.41
1:B:374:LEU:HB3	1:B:378:VAL:HG11	2.01	0.41
4:c:83:SER:HA	4:c:129:THR:HG21	2.02	0.41
4:c:266:THR:O	4:c:268:GLU:N	2.54	0.41
6:H:181:ASP:OD1	6:H:181:ASP:N	2.33	0.41
7:I:124:PHE:HB2	8:J:123:GLY:O	2.20	0.41
8:J:108:THR:OG1	8:J:133:ILE:HG21	2.20	0.41
9:K:69:GLU:OE1	9:K:69:GLU:N	2.54	0.41
10:L:26:MET:HA	10:L:149:PRO:HG2	2.03	0.41
10:L:200:PRO:HG2	10:L:202:GLU:OE1	2.20	0.41
10:L:202:GLU:OE1	10:L:203:GLN:N	2.53	0.41
11:M:146:ALA:O	11:M:147:GLN:NE2	2.54	0.41
12:N:79:ALA:O	12:N:83:PHE:CD1	2.74	0.41
12:N:158:ASN:O	12:N:162:LEU:HG	2.21	0.41
17:S:15:ILE:HG23	17:S:22:ILE:HB	2.01	0.41
18:T:16:PHE:HB2	18:T:160:LEU:O	2.21	0.41
18:T:141:TYR:HD1	18:T:141:TYR:HA	1.74	0.41
20:Y:72:LYS:HG3	20:Y:73:MET:CE	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Y:223:THR:O	20:Y:227:SER:OG	2.31	0.41
21:Z:280:ILE:O	21:Z:283:ARG:N	2.54	0.41
22:a:36:GLN:CD	22:a:36:GLN:H	2.27	0.41
22:a:164:GLN:OE1	22:a:164:GLN:N	2.37	0.41
24:d:187:TYR:HB3	24:d:191:LEU:HD13	2.01	0.41
25:f:60:VAL:O	25:f:64:GLY:N	2.52	0.41
25:f:273:ASN:OD1	25:f:273:ASN:N	2.53	0.41
25:f:380:PHE:O	25:f:755:ASP:HB3	2.21	0.41
25:f:755:ASP:HB2	25:f:758:ASN:OD1	2.21	0.41
26:W:28:LEU:HA	26:W:31:CYS:SG	2.60	0.41
27:V:428:LEU:HD23	27:V:428:LEU:HA	1.82	0.41
29:A:89:SER:HB2	33:g:176:LYS:NZ	2.36	0.41
30:F:130:GLN:HB3	30:F:132:TYR:CE2	2.56	0.41
30:F:227:GLY:HA3	30:F:354:PHE:HB2	2.01	0.41
31:E:20:LYS:HB2	31:E:21:GLU:OE1	2.20	0.41
31:E:64:LEU:HD23	31:E:64:LEU:HA	1.85	0.41
31:E:349:GLU:OE2	31:E:373:LYS:HB2	2.20	0.41
33:g:215:LEU:HD12	33:g:215:LEU:H	1.85	0.41
34:u:149:CYS:HB3	34:u:157:LEU:HB2	2.02	0.41
2:C:78:ARG:HH12	29:A:68:SER:CB	2.34	0.41
3:D:358:VAL:O	3:D:360:LEU:N	2.49	0.41
3:D:358:VAL:CG1	3:D:360:LEU:HD23	2.46	0.41
10:L:50:LYS:HG3	10:L:211:SER:HB2	2.01	0.41
10:L:66:VAL:O	17:S:77:HIS:NE2	2.54	0.41
10:L:125:ARG:NH1	10:L:125:ARG:HB3	2.36	0.41
10:L:192:LEU:HD12	10:L:236:LEU:HD22	2.03	0.41
12:N:63:LEU:HD21	12:N:79:ALA:HA	2.03	0.41
18:T:29:SER:HA	18:T:35:ARG:H	1.85	0.41
20:Y:94:ASN:CG	20:Y:98:SER:HB2	2.46	0.41
20:Y:192:ARG:C	20:Y:194:PHE:N	2.74	0.41
21:Z:230:LEU:HD23	22:a:349:MET:SD	2.60	0.41
22:a:142:LEU:HD12	22:a:145:LEU:HD21	2.01	0.41
22:a:257:GLN:NE2	22:a:259:PRO:O	2.53	0.41
23:b:21:PHE:HB2	23:b:25:ARG:NH1	2.29	0.41
25:f:198:HIS:NE2	25:f:236:CYS:SG	2.93	0.41
25:f:320:ILE:HB	25:f:325:GLN:HG2	2.03	0.41
25:f:493:ASN:HA	25:f:525:ILE:HG22	2.02	0.41
25:f:632:LYS:HD2	25:f:633:GLU:N	2.36	0.41
26:W:140:ILE:HB	26:W:144:ARG:HH21	1.85	0.41
29:A:178:GLY:H	37:A:501:ADP:HN62	1.69	0.41
31:E:340:GLY:HA3	37:E:501:ADP:N3	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:365:PHE:O	1:B:369:THR:OG1	2.20	0.41
2:C:293:MET:SD	2:C:311:ILE:HD11	2.61	0.41
2:C:306:LEU:O	2:C:314:LYS:NZ	2.44	0.41
2:C:380:GLN:O	2:C:384:GLU:HG3	2.21	0.41
2:C:395:SER:OG	2:C:396:GLU:N	2.54	0.41
4:c:278:GLN:HB3	4:c:283:HIS:CE1	2.56	0.41
5:G:52:THR:HG22	5:G:216:GLU:OE1	2.21	0.41
5:G:54:LYS:HG3	5:G:68:HIS:HE1	1.86	0.41
5:G:113:MET:HE1	13:O:69:SER:OG	2.21	0.41
7:I:31:ALA:C	7:I:50:ARG:HH21	2.29	0.41
7:I:112:THR:O	7:I:116:ASP:OD1	2.38	0.41
7:I:113:ALA:O	7:I:117:ILE:HG13	2.21	0.41
7:I:141:LYS:HD3	7:I:141:LYS:H	1.86	0.41
8:J:88:ARG:NH1	15:Q:70:ARG:HA	2.35	0.41
8:J:104:VAL:HB	8:J:145:TYR:HE2	1.85	0.41
9:K:50:VAL:HG23	9:K:216:GLU:HB2	2.03	0.41
9:K:103:TYR:O	17:S:87:ALA:HA	2.21	0.41
10:L:100:ASP:OD1	17:S:66:LYS:NZ	2.53	0.41
10:L:181:GLU:N	10:L:181:GLU:OE1	2.54	0.41
11:M:72:HIS:CE1	11:M:73:VAL:HG23	2.56	0.41
11:M:194:ALA:HB2	11:M:235:ALA:HB1	2.02	0.41
11:M:220:THR:O	11:M:223:ARG:HB2	2.20	0.41
12:N:116:MET:HA	12:N:116:MET:HE2	2.03	0.41
13:O:137:VAL:HG21	13:O:158:ALA:HA	2.03	0.41
13:O:157:GLU:HG3	13:O:158:ALA:N	2.35	0.41
18:T:100:ARG:HG3	18:T:128:LEU:HD11	2.03	0.41
18:T:173:MET:SD	18:T:173:MET:C	3.04	0.41
19:X:102:ALA:O	19:X:105:GLN:HG2	2.21	0.41
19:X:176:THR:O	19:X:180:LEU:HG	2.21	0.41
19:X:338:VAL:O	19:X:340:GLU:N	2.51	0.41
19:X:394:ASP:HB2	20:Y:365:GLN:OE1	2.20	0.41
20:Y:72:LYS:H	20:Y:72:LYS:HG2	1.65	0.41
20:Y:381:GLN:HB2	27:V:482:PHE:HZ	1.85	0.41
21:Z:226:ILE:HD13	21:Z:226:ILE:HA	1.93	0.41
22:a:131:THR:O	22:a:134:THR:OG1	2.31	0.41
22:a:326:GLU:OE2	26:W:377:ARG:HG3	2.21	0.41
22:a:363:MET:SD	22:a:366:LEU:HD22	2.61	0.41
23:b:38:HIS:HB3	23:b:42:ARG:NH2	2.35	0.41
23:b:55:ALA:C	23:b:56:ASN:HD22	2.26	0.41
24:d:92:THR:HA	24:d:95:TYR:CE1	2.55	0.41
24:d:178:TYR:CD1	24:d:178:TYR:N	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:d:290:ILE:HB	27:V:436:PHE:HZ	1.85	0.41
24:d:349:ILE:O	24:d:353:ARG:HG3	2.21	0.41
25:f:57:GLU:OE1	25:f:57:GLU:N	2.54	0.41
25:f:297:MET:HG3	25:f:301:HIS:NE2	2.36	0.41
25:f:402:ASN:CB	25:f:406:GLY:HA3	2.51	0.41
25:f:466:LEU:HD13	25:f:481:SER:HA	2.03	0.41
25:f:640:LYS:CE	25:f:647:GLY:HA3	2.47	0.41
25:f:731:MET:HG3	25:f:746:ARG:CD	2.43	0.41
25:f:736:THR:N	25:f:746:ARG:HH12	2.19	0.41
26:W:293:ASP:OD1	26:W:293:ASP:C	2.64	0.41
26:W:402:ILE:HD13	26:W:402:ILE:HA	1.93	0.41
27:V:117:VAL:HG11	27:V:131:LEU:HD11	2.02	0.41
27:V:367:VAL:HG21	27:V:398:LEU:HD21	2.03	0.41
28:e:60:LEU:O	28:e:64:GLY:N	2.53	0.41
29:A:213:LEU:HA	29:A:319:MET:HB3	2.03	0.41
30:F:65:GLU:OE2	30:F:66:LEU:N	2.54	0.41
30:F:223:VAL:HA	30:F:350:ARG:HB2	2.02	0.41
30:F:365:ILE:HD12	30:F:365:ILE:HA	1.71	0.41
31:E:170:CYS:HB2	31:E:297:ARG:HB2	2.02	0.41
32:U:327:LYS:HD2	32:U:333:MET:CE	2.51	0.41
32:U:710:ARG:NH2	32:U:738:ASP:OD2	2.54	0.41
32:U:766:PHE:HB2	32:U:779:LEU:HB2	2.03	0.41
33:g:235:LYS:C	33:g:236:TYR:HD1	2.29	0.41
33:g:271:ASP:O	33:g:272:ILE:HD13	2.20	0.41
34:u:165:LEU:HD23	34:u:166:LEU:N	2.36	0.41
3:D:235:PHE:CD1	3:D:246:MET:HG2	2.56	0.41
3:D:274:ARG:HG3	3:D:289:LEU:HD23	2.03	0.41
3:D:351:LYS:HB2	3:D:351:LYS:HE3	1.60	0.41
7:I:157:GLY:O	7:I:159:TRP:HD1	2.04	0.41
8:J:96:LEU:HD23	8:J:96:LEU:HA	1.79	0.41
11:M:173:LYS:HA	11:M:173:LYS:HD3	1.91	0.41
17:S:36:HIS:CD2	18:T:132:TYR:HE2	2.39	0.41
19:X:335:LEU:HA	19:X:338:VAL:HG12	2.02	0.41
19:X:404:ILE:HD11	21:Z:261:TYR:HD2	1.85	0.41
20:Y:113:ARG:O	20:Y:114:ILE:HD13	2.20	0.41
20:Y:164:ALA:O	20:Y:169:GLU:HG2	2.21	0.41
22:a:143:ASN:OD1	22:a:143:ASN:N	2.54	0.41
25:f:72:ARG:O	25:f:83:ARG:NE	2.49	0.41
25:f:194:TYR:HB2	25:f:198:HIS:CE1	2.55	0.41
25:f:365:VAL:HG12	25:f:367:SER:H	1.86	0.41
25:f:536:SER:O	25:f:539:LEU:HG	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:U:381:THR:HA	32:U:412:HIS:ND1	2.36	0.41
32:U:763:VAL:O	32:U:767:THR:HG23	2.21	0.41
33:g:207:LEU:HD21	33:g:375:LEU:HD22	2.03	0.41
1:B:363:ARG:HH12	25:f:838:ARG:NH2	2.19	0.40
3:D:354:LEU:N	3:D:354:LEU:HD13	2.35	0.40
4:c:141:VAL:HG12	4:c:203:ILE:HD12	2.03	0.40
5:G:15:ILE:HD13	5:G:15:ILE:HA	1.86	0.40
8:J:7:ILE:HA	8:J:18:GLN:HB2	2.02	0.40
9:K:73:HIS:ND1	9:K:146:VAL:O	2.47	0.40
9:K:88:LEU:HD23	9:K:88:LEU:HA	1.90	0.40
10:L:13:TRP:CE2	11:M:129:ARG:HD2	2.56	0.40
10:L:16:GLN:HB2	10:L:18:ARG:NH2	2.31	0.40
14:P:3:ILE:HG21	14:P:104:TYR:CG	2.56	0.40
14:P:22:ILE:HD13	14:P:110:ALA:HB3	2.02	0.40
14:P:53:LEU:HD12	14:P:107:PRO:HB3	2.03	0.40
15:Q:4:LEU:O	15:Q:131:ALA:HA	2.21	0.40
17:S:36:HIS:O	18:T:151:ARG:NH2	2.54	0.40
18:T:173:MET:HE1	18:T:205:THR:HG22	2.03	0.40
19:X:391:PRO:HA	19:X:392:PRO:HD3	1.87	0.40
23:b:8:VAL:HG22	23:b:50:GLY:O	2.20	0.40
24:d:221:GLN:OE1	24:d:221:GLN:N	2.54	0.40
24:d:266:THR:H	24:d:266:THR:HG1	1.62	0.40
25:f:664:GLU:HG3	25:f:666:ILE:H	1.85	0.40
26:W:107:GLN:HA	26:W:110:THR:HG22	2.03	0.40
26:W:147:LYS:HE2	26:W:147:LYS:HB2	1.81	0.40
29:A:381:THR:O	29:A:385:ILE:HG13	2.21	0.40
31:E:21:GLU:HG2	31:E:22:ILE:N	2.33	0.40
31:E:135:ILE:HG13	31:E:136:GLY:N	2.36	0.40
31:E:350:ALA:O	31:E:353:PHE:HB2	2.20	0.40
32:U:64:ALA:HB3	32:U:80:TYR:HD2	1.86	0.40
32:U:333:MET:HE2	32:U:333:MET:HB2	1.85	0.40
34:u:204:MET:HE3	34:u:208:GLU:HB2	2.03	0.40
1:B:80:ARG:HG3	1:B:81:ASN:N	2.36	0.40
1:B:374:LEU:HD23	1:B:378:VAL:HG11	2.04	0.40
1:B:411:ARG:HG2	25:f:51:GLN:HA	2.02	0.40
2:C:44:ARG:O	2:C:48:GLN:HG3	2.21	0.40
2:C:168:PRO:O	2:C:182:GLN:NE2	2.54	0.40
3:D:300:ASP:N	3:D:300:ASP:OD1	2.47	0.40
5:G:107:TYR:CG	13:O:75:ARG:HD2	2.57	0.40
9:K:191:LEU:HD23	9:K:191:LEU:HA	1.84	0.40
9:K:239:LYS:HE2	9:K:239:LYS:HB3	1.78	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:L:192:LEU:HD13	10:L:205:LEU:HD22	2.03	0.40
15:Q:38:MET:HG3	15:Q:104:LEU:HD11	2.03	0.40
16:R:41:LEU:HD13	16:R:76:VAL:HG12	2.03	0.40
17:S:59:GLY:HA2	17:S:62:LEU:HG	2.03	0.40
17:S:84:THR:OG1	17:S:85:THR:N	2.54	0.40
18:T:184:TYR:HD2	18:T:186:ARG:HB2	1.86	0.40
23:b:10:VAL:HG21	23:b:75:LEU:HD11	2.02	0.40
23:b:33:VAL:HG21	23:b:75:LEU:HG	2.02	0.40
25:f:131:MET:HB3	25:f:170:TRP:NE1	2.35	0.40
25:f:416:MET:HE2	25:f:416:MET:HB2	1.97	0.40
25:f:450:ILE:HA	25:f:804:LEU:HD21	2.03	0.40
25:f:590:PHE:HD2	25:f:627:GLU:O	2.04	0.40
26:W:315:MET:HB3	26:W:358:VAL:HG23	2.03	0.40
26:W:376:LYS:O	26:W:380:GLN:HG2	2.21	0.40
29:A:201:PHE:HD1	29:A:206:ILE:HG23	1.86	0.40
29:A:324:PRO:O	29:A:327:LEU:HD23	2.21	0.40
30:F:53:LYS:H	30:F:53:LYS:CD	2.34	0.40
30:F:61:ARG:C	30:F:61:ARG:HD2	2.46	0.40
30:F:94:ILE:HD13	30:F:94:ILE:HA	1.82	0.40
32:U:240:ASP:O	32:U:242:LEU:N	2.53	0.40
32:U:673:GLU:HB3	32:U:674:PRO:HD3	2.03	0.40
2:C:77:VAL:HB	2:C:86:LEU:HD22	2.04	0.40
2:C:140:VAL:HG21	2:C:211:PHE:HD1	1.86	0.40
3:D:205:TYR:HA	3:D:311:THR:O	2.22	0.40
3:D:384:MET:HE2	31:E:147:GLU:OE2	2.22	0.40
4:c:226:MET:O	4:c:230:THR:HG23	2.21	0.40
7:I:25:MET:HE3	7:I:25:MET:HB3	1.77	0.40
8:J:99:GLU:OE2	16:R:77:ALA:HB1	2.21	0.40
15:Q:15:VAL:HG12	15:Q:181:ARG:HB2	2.04	0.40
15:Q:35:MET:HG2	15:Q:45:LEU:HG	2.03	0.40
16:R:34:VAL:HB	16:R:177:TYR:CE2	2.55	0.40
16:R:37:ILE:HD11	16:R:41:LEU:HG	2.02	0.40
19:X:368:MET:HG2	19:X:374:PHE:HB3	2.02	0.40
20:Y:152:MET:O	20:Y:152:MET:HG2	2.22	0.40
21:Z:178:ASP:C	21:Z:180:LYS:H	2.27	0.40
22:a:42:LEU:O	22:a:46:GLN:HG2	2.21	0.40
23:b:10:VAL:HG22	23:b:29:GLN:NE2	2.36	0.40
25:f:290:VAL:HG13	25:f:321:MET:HE3	2.04	0.40
25:f:633:GLU:OE1	25:f:674:THR:HG21	2.21	0.40
25:f:681:TYR:CE1	25:f:761:MET:HE1	2.57	0.40
25:f:861:THR:HG22	25:f:862:ILE:H	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:W:314:LEU:HD22	26:W:362:ASN:OD1	2.21	0.40
29:A:223:THR:HG21	29:A:239:ARG:HH21	1.86	0.40
30:F:52:ILE:HD11	31:E:19:HIS:HB2	2.03	0.40
30:F:205:PRO:HB3	30:F:212:PHE:CE2	2.56	0.40
30:F:288:LEU:HA	30:F:332:THR:HB	2.03	0.40
30:F:340:PRO:O	30:F:344:ARG:HB3	2.22	0.40
32:U:136:LYS:HE2	32:U:136:LYS:HB2	1.75	0.40
32:U:254:GLU:OE2	32:U:751:ARG:NE	2.43	0.40
33:g:223:THR:HA	33:g:226:PHE:HE2	1.86	0.40
1:B:359:LYS:HA	1:B:362:LYS:HG2	2.03	0.40
1:B:387:LYS:HD3	1:B:387:LYS:HA	1.79	0.40
1:B:404:LEU:HD11	2:C:175:PHE:CE2	2.56	0.40
2:C:73:VAL:HG11	3:D:102:ILE:HG23	2.03	0.40
3:D:237:GLN:HE21	3:D:237:GLN:HB3	1.65	0.40
3:D:342:ARG:NE	3:D:361:GLU:OE2	2.45	0.40
4:c:102:THR:HG21	21:Z:55:ALA:HB3	2.03	0.40
7:I:35:LEU:HB3	7:I:163:CYS:SG	2.62	0.40
7:I:35:LEU:H	7:I:35:LEU:HD23	1.87	0.40
7:I:125:GLY:HA3	7:I:127:LYS:HE2	2.03	0.40
7:I:160:LYS:H	7:I:160:LYS:HG2	1.66	0.40
8:J:12:PRO:HA	9:K:26:TYR:CD1	2.57	0.40
8:J:56:GLU:O	8:J:59:VAL:HG12	2.22	0.40
8:J:210:VAL:HG22	8:J:220:LEU:HD21	2.04	0.40
10:L:196:ARG:HB2	10:L:205:LEU:HD11	2.03	0.40
14:P:12:MET:HE3	14:P:13:ALA:N	2.36	0.40
14:P:158:MET:CG	14:P:162:HIS:HB3	2.51	0.40
16:R:153:TYR:HB3	16:R:157:ARG:NH1	2.37	0.40
17:S:110:ILE:HD13	17:S:110:ILE:HA	1.88	0.40
18:T:99:ARG:NH1	18:T:106:LEU:HG	2.36	0.40
19:X:377:ILE:HD11	20:Y:311:TYR:C	2.45	0.40
20:Y:72:LYS:HG3	20:Y:73:MET:HE3	2.03	0.40
20:Y:117:LYS:HD3	20:Y:147:ILE:HG21	2.04	0.40
20:Y:247:LEU:HA	20:Y:247:LEU:HD23	1.85	0.40
20:Y:259:TYR:HB2	20:Y:274:SER:HB3	2.03	0.40
23:b:8:VAL:HA	23:b:110:ILE:O	2.22	0.40
25:f:52:LEU:HD12	29:A:37:GLY:HA3	2.03	0.40
25:f:294:MET:O	25:f:294:MET:HG2	2.22	0.40
25:f:631:LYS:NZ	25:f:785:ARG:HG2	2.35	0.40
25:f:855:GLN:HE22	25:f:860:LYS:HE2	1.86	0.40
27:V:417:ILE:O	27:V:458:VAL:HG23	2.21	0.40
30:F:181:PRO:HG3	30:F:241:ALA:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:412:MET:HE2	1:B:412:MET:HB3	1.96	0.40
3:D:138:ALA:O	3:D:140:VAL:HG23	2.22	0.40
3:D:358:VAL:HG13	3:D:363:TYR:HE2	1.86	0.40
5:G:174:GLU:HB2	5:G:205:VAL:HG23	2.04	0.40
7:I:37:ILE:HG13	7:I:161:ALA:HB2	2.03	0.40
9:K:88:LEU:CD2	9:K:119:LEU:HD23	2.44	0.40
9:K:141:LEU:HD23	9:K:141:LEU:HA	1.87	0.40
9:K:197:SER:O	9:K:201:ILE:HG12	2.22	0.40
10:L:122:ARG:NH2	11:M:122:TYR:OH	2.54	0.40
11:M:225:GLU:HG2	11:M:226:ILE:O	2.21	0.40
16:R:12:VAL:H	16:R:179:VAL:HG22	1.86	0.40
17:S:6:VAL:HG22	17:S:57:PHE:CE2	2.57	0.40
17:S:52:ILE:HG13	17:S:53:GLY:N	2.37	0.40
18:T:46:ASN:OD1	18:T:49:THR:HB	2.21	0.40
18:T:138:ALA:N	18:T:147:GLN:OE1	2.54	0.40
20:Y:26:LEU:HD13	20:Y:32:ARG:CZ	2.52	0.40
20:Y:323:PHE:HB3	20:Y:330:ILE:HD11	2.03	0.40
21:Z:114:ARG:HE	21:Z:114:ARG:HB3	1.67	0.40
22:a:179:PHE:HE2	22:a:196:ARG:HH12	1.68	0.40
23:b:180:ALA:O	23:b:184:ILE:HG23	2.21	0.40
25:f:414:LEU:HD12	25:f:414:LEU:O	2.22	0.40
25:f:718:ASP:OD1	25:f:718:ASP:N	2.54	0.40
26:W:38:GLY:O	26:W:39:ARG:NE	2.40	0.40
29:A:67:GLU:H	29:A:67:GLU:HG2	1.70	0.40
29:A:349:GLU:O	29:A:352:THR:HG22	2.21	0.40
32:U:9:ILE:O	32:U:12:LEU:HB2	2.22	0.40
32:U:68:PHE:HE2	32:U:76:GLU:HG2	1.87	0.40
32:U:237:VAL:HG13	32:U:321:GLN:HG3	2.03	0.40
32:U:461:LEU:HD23	32:U:461:LEU:HA	1.88	0.40
34:u:205:ASP:OD1	34:u:206:PHE:N	2.55	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	
1	B	393/440 (89%)	352 (90%)	38 (10%)	3 (1%)	16	48
2	C	384/406 (95%)	356 (93%)	28 (7%)	0	100	100
3	D	378/418 (90%)	354 (94%)	22 (6%)	2 (0%)	25	58
4	c	278/424 (66%)	252 (91%)	24 (9%)	2 (1%)	19	51
5	G	238/246 (97%)	227 (95%)	11 (5%)	0	100	100
6	H	230/234 (98%)	215 (94%)	15 (6%)	0	100	100
7	I	246/261 (94%)	237 (96%)	9 (4%)	0	100	100
8	J	237/248 (96%)	221 (93%)	16 (7%)	0	100	100
9	K	236/241 (98%)	227 (96%)	8 (3%)	1 (0%)	30	63
10	L	238/263 (90%)	227 (95%)	11 (5%)	0	100	100
11	M	240/255 (94%)	232 (97%)	8 (3%)	0	100	100
12	N	193/239 (81%)	186 (96%)	7 (4%)	0	100	100
13	O	218/277 (79%)	211 (97%)	7 (3%)	0	100	100
14	P	202/205 (98%)	192 (95%)	10 (5%)	0	100	100
15	Q	197/201 (98%)	190 (96%)	7 (4%)	0	100	100
16	R	199/263 (76%)	196 (98%)	3 (2%)	0	100	100
17	S	211/241 (88%)	205 (97%)	6 (3%)	0	100	100
18	T	214/264 (81%)	203 (95%)	11 (5%)	0	100	100
19	X	377/422 (89%)	362 (96%)	13 (3%)	2 (0%)	25	58
20	Y	376/389 (97%)	325 (86%)	49 (13%)	2 (0%)	25	58
21	Z	283/324 (87%)	240 (85%)	42 (15%)	1 (0%)	30	63
22	a	371/376 (99%)	339 (91%)	31 (8%)	1 (0%)	37	68
23	b	189/377 (50%)	168 (89%)	21 (11%)	0	100	100
24	d	244/350 (70%)	223 (91%)	20 (8%)	1 (0%)	30	63
25	f	880/908 (97%)	753 (86%)	126 (14%)	1 (0%)	48	79
26	W	433/456 (95%)	404 (93%)	29 (7%)	0	100	100
27	V	426/534 (80%)	404 (95%)	22 (5%)	0	100	100
28	e	48/70 (69%)	36 (75%)	12 (25%)	0	100	100
29	A	387/433 (89%)	346 (89%)	37 (10%)	4 (1%)	13	42
30	F	353/439 (80%)	310 (88%)	39 (11%)	4 (1%)	12	39

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	E	360/389 (92%)	336 (93%)	24 (7%)	0	100	100
32	U	823/953 (86%)	797 (97%)	26 (3%)	0	100	100
33	g	189/390 (48%)	167 (88%)	22 (12%)	0	100	100
34	u	153/300 (51%)	146 (95%)	7 (5%)	0	100	100
All	All	10424/12236 (85%)	9639 (92%)	761 (7%)	24 (0%)	45	74

All (24) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
19	X	318	ILE
19	X	339	ILE
24	d	358	ILE
29	A	222	LYS
30	F	86	LEU
1	B	93	GLU
1	B	156	VAL
4	c	311	LEU
20	Y	111	LEU
29	A	102	ILE
29	A	103	ASN
30	F	427	VAL
3	D	338	ARG
21	Z	181	ASP
29	A	36	TYR
1	B	414	VAL
3	D	359	ASP
4	c	267	PRO
9	K	82	ILE
20	Y	350	VAL
22	a	343	LEU
25	f	834	ASP
30	F	177	VAL
30	F	287	GLU

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
1	B	351/385 (91%)	330 (94%)	21 (6%)	16 44
2	C	338/352 (96%)	320 (95%)	18 (5%)	19 48
3	D	333/366 (91%)	320 (96%)	13 (4%)	27 58
4	c	248/359 (69%)	235 (95%)	13 (5%)	19 48
5	G	202/210 (96%)	193 (96%)	9 (4%)	23 53
6	H	187/191 (98%)	178 (95%)	9 (5%)	21 51
7	I	202/221 (91%)	196 (97%)	6 (3%)	36 64
8	J	197/211 (93%)	188 (95%)	9 (5%)	23 52
9	K	198/204 (97%)	180 (91%)	18 (9%)	7 28
10	L	202/224 (90%)	191 (95%)	11 (5%)	18 47
11	M	198/212 (93%)	188 (95%)	10 (5%)	20 49
12	N	152/181 (84%)	145 (95%)	7 (5%)	23 52
13	O	178/228 (78%)	169 (95%)	9 (5%)	20 49
14	P	172/174 (99%)	160 (93%)	12 (7%)	12 39
15	Q	168/171 (98%)	156 (93%)	12 (7%)	12 39
16	R	156/202 (77%)	146 (94%)	10 (6%)	14 42
17	S	175/199 (88%)	164 (94%)	11 (6%)	15 42
18	T	178/215 (83%)	167 (94%)	11 (6%)	15 43
19	X	326/362 (90%)	308 (94%)	18 (6%)	18 47
20	Y	334/344 (97%)	303 (91%)	31 (9%)	7 27
21	Z	257/295 (87%)	235 (91%)	22 (9%)	8 31
22	a	333/336 (99%)	313 (94%)	20 (6%)	16 44
23	b	167/312 (54%)	153 (92%)	14 (8%)	9 32
24	d	221/294 (75%)	217 (98%)	4 (2%)	54 76
25	f	742/763 (97%)	701 (94%)	41 (6%)	18 47
26	W	402/416 (97%)	385 (96%)	17 (4%)	25 56
27	V	383/460 (83%)	371 (97%)	12 (3%)	35 63
28	e	44/63 (70%)	37 (84%)	7 (16%)	2 9
29	A	339/372 (91%)	319 (94%)	20 (6%)	16 44
30	F	306/379 (81%)	283 (92%)	23 (8%)	11 36
31	E	318/341 (93%)	304 (96%)	14 (4%)	24 54

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
32	U	705/816 (86%)	682 (97%)	23 (3%)	33 62
33	g	171/338 (51%)	157 (92%)	14 (8%)	9 33
34	u	141/263 (54%)	131 (93%)	10 (7%)	12 39
All	All	9024/10459 (86%)	8525 (94%)	499 (6%)	20 47

All (499) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	55	HIS
1	B	56	THR
1	B	107	MET
1	B	160	ILE
1	B	164	MET
1	B	183	THR
1	B	203	LEU
1	B	205	LEU
1	B	220	LYS
1	B	250	VAL
1	B	251	VAL
1	B	282	VAL
1	B	298	ASN
1	B	320	ASP
1	B	325	VAL
1	B	327	VAL
1	B	379	THR
1	B	382	ASP
1	B	411	ARG
1	B	415	THR
1	B	426	VAL
2	C	51	GLU
2	C	63	LEU
2	C	65	LEU
2	C	66	LEU
2	C	73	VAL
2	C	76	VAL
2	C	89	VAL
2	C	111	ASN
2	C	161	ILE
2	C	178	LEU
2	C	194	THR
2	C	208	ASP

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Mol	Chain	Res	Type
2	C	291	VAL
2	C	300	ILE
2	C	312	ASP
2	C	358	GLU
2	C	362	VAL
2	C	379	THR
3	D	85	ILE
3	D	175	GLN
3	D	178	ARG
3	D	194	ILE
3	D	219	VAL
3	D	233	SER
3	D	237	GLN
3	D	240	LEU
3	D	279	THR
3	D	282	ASP
3	D	315	ASP
3	D	354	LEU
3	D	380	GLN
4	c	35	SER
4	c	72	VAL
4	c	122	LEU
4	c	136	LEU
4	c	143	VAL
4	c	145	VAL
4	c	151	VAL
4	c	160	PHE
4	c	164	ASN
4	c	166	ASN
4	c	192	LEU
4	c	279	ASP
4	c	303	MET
5	G	37	LEU
5	G	49	VAL
5	G	51	VAL
5	G	52	THR
5	G	67	THR
5	G	80	MET
5	G	83	MET
5	G	118	ILE
5	G	190	THR
6	H	14	SER

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Mol	Chain	Res	Type
6	H	20	VAL
6	H	46	LEU
6	H	74	LEU
6	H	105	ILE
6	H	107	THR
6	H	127	VAL
6	H	168	VAL
6	H	210	VAL
7	I	9	THR
7	I	68	LEU
7	I	105	ILE
7	I	124	PHE
7	I	197	LEU
7	I	217	THR
8	J	45	VAL
8	J	50	VAL
8	J	53	LEU
8	J	55	ASP
8	J	71	MET
8	J	76	LEU
8	J	102	VAL
8	J	143	ARG
8	J	225	ILE
9	K	9	ASP
9	K	12	VAL
9	K	14	THR
9	K	21	LEU
9	K	24	VAL
9	K	63	SER
9	K	70	ILE
9	K	73	HIS
9	K	83	LYS
9	K	89	ILE
9	K	108	THR
9	K	113	THR
9	K	166	ASP
9	K	190	THR
9	K	197	SER
9	K	213	THR
9	K	214	ASN
9	K	228	MET
10	L	7	ASP

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Mol	Chain	Res	Type
10	L	41	LYS
10	L	65	HIS
10	L	72	ILE
10	L	109	VAL
10	L	112	ILE
10	L	138	ASP
10	L	176	MET
10	L	202	GLU
10	L	210	VAL
10	L	223	ILE
11	M	9	LEU
11	M	23	VAL
11	M	49	VAL
11	M	53	VAL
11	M	63	ASN
11	M	123	THR
11	M	124	LEU
11	M	143	ASN
11	M	150	MET
11	M	225	GLU
12	N	28	ASN
12	N	43	CYS
12	N	75	LEU
12	N	82	LEU
12	N	104	ASP
12	N	176	LEU
12	N	188	VAL
13	O	86	MET
13	O	94	ILE
13	O	103	VAL
13	O	110	LEU
13	O	118	SER
13	O	159	ILE
13	O	177	VAL
13	O	181	ASN
13	O	197	THR
14	P	7	ASN
14	P	12	MET
14	P	22	ILE
14	P	25	ASP
14	P	53	LEU
14	P	56	LEU

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Mol	Chain	Res	Type
14	P	71	LEU
14	P	108	VAL
14	P	141	THR
14	P	146	MET
14	P	161	ASP
14	P	162	HIS
15	Q	4	LEU
15	Q	20	VAL
15	Q	30	ASP
15	Q	43	LEU
15	Q	53	THR
15	Q	54	VAL
15	Q	61	GLN
15	Q	69	MET
15	Q	150	THR
15	Q	182	ILE
15	Q	192	ASP
15	Q	193	ASN
16	R	21	THR
16	R	45	MET
16	R	61	ARG
16	R	67	GLU
16	R	95	LEU
16	R	176	LEU
16	R	179	VAL
16	R	190	ASP
16	R	191	ASN
16	R	196	HIS
17	S	11	THR
17	S	15	ILE
17	S	20	PHE
17	S	36	HIS
17	S	44	TYR
17	S	50	THR
17	S	95	ILE
17	S	109	ILE
17	S	110	ILE
17	S	114	ASP
17	S	179	PHE
18	T	7	THR
18	T	21	VAL
18	T	39	ILE

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Mol	Chain	Res	Type
18	T	54	SER
18	T	79	ASP
18	T	103	MET
18	T	107	TRP
18	T	141	TYR
18	T	159	VAL
18	T	192	VAL
18	T	193	THR
19	X	45	VAL
19	X	97	LEU
19	X	116	TRP
19	X	133	LEU
19	X	134	VAL
19	X	141	LYS
19	X	154	LEU
19	X	168	GLU
19	X	212	MET
19	X	230	SER
19	X	266	ASP
19	X	314	ARG
19	X	315	ASP
19	X	318	ILE
19	X	321	THR
19	X	374	PHE
19	X	384	VAL
19	X	385	LEU
20	Y	22	LEU
20	Y	23	ARG
20	Y	61	LEU
20	Y	65	ILE
20	Y	81	LEU
20	Y	93	LYS
20	Y	95	LEU
20	Y	104	MET
20	Y	131	THR
20	Y	134	LEU
20	Y	137	ARG
20	Y	140	ILE
20	Y	156	LEU
20	Y	188	CYS
20	Y	227	SER
20	Y	231	LEU

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Mol	Chain	Res	Type
20	Y	236	LEU
20	Y	239	LYS
20	Y	250	LEU
20	Y	277	VAL
20	Y	278	VAL
20	Y	281	GLU
20	Y	292	TYR
20	Y	321	GLU
20	Y	328	GLU
20	Y	330	ILE
20	Y	331	ASP
20	Y	342	ARG
20	Y	347	ILE
20	Y	370	ILE
20	Y	389	MET
21	Z	39	LEU
21	Z	40	LEU
21	Z	42	SER
21	Z	46	LYS
21	Z	48	LEU
21	Z	62	ASP
21	Z	67	VAL
21	Z	73	ASP
21	Z	118	ASN
21	Z	123	ILE
21	Z	129	LYS
21	Z	130	ASP
21	Z	135	THR
21	Z	151	THR
21	Z	206	LEU
21	Z	230	LEU
21	Z	251	LEU
21	Z	257	MET
21	Z	259	VAL
21	Z	262	LEU
21	Z	264	SER
21	Z	284	ASP
22	a	58	LYS
22	a	65	SER
22	a	74	LEU
22	a	81	LEU
22	a	123	LEU

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Mol	Chain	Res	Type
22	a	124	ASN
22	a	125	ILE
22	a	133	GLU
22	a	148	VAL
22	a	151	VAL
22	a	156	TYR
22	a	169	HIS
22	a	184	ASP
22	a	205	LEU
22	a	234	ILE
22	a	236	THR
22	a	246	GLU
22	a	292	THR
22	a	335	TRP
22	a	358	THR
23	b	2	VAL
23	b	22	LEU
23	b	36	VAL
23	b	46	GLU
23	b	56	ASN
23	b	65	THR
23	b	71	ILE
23	b	75	LEU
23	b	90	ILE
23	b	95	LEU
23	b	98	LYS
23	b	139	ASP
23	b	150	THR
23	b	186	SER
24	d	176	PHE
24	d	178	TYR
24	d	248	LYS
24	d	260	ILE
25	f	27	LYS
25	f	63	LEU
25	f	82	ILE
25	f	108	GLU
25	f	111	GLU
25	f	117	GLU
25	f	124	ASP
25	f	172	GLU
25	f	192	VAL

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Mol	Chain	Res	Type
25	f	202	HIS
25	f	215	ASP
25	f	226	TYR
25	f	273	ASN
25	f	324	VAL
25	f	337	LEU
25	f	352	HIS
25	f	382	ASN
25	f	408	LEU
25	f	416	MET
25	f	423	ASP
25	f	448	CYS
25	f	493	ASN
25	f	501	LEU
25	f	514	VAL
25	f	533	ASP
25	f	567	LEU
25	f	587	PHE
25	f	606	VAL
25	f	639	LYS
25	f	654	VAL
25	f	674	THR
25	f	680	ARG
25	f	687	ARG
25	f	706	ILE
25	f	715	HIS
25	f	779	CYS
25	f	785	ARG
25	f	799	VAL
25	f	806	VAL
25	f	831	VAL
25	f	833	PHE
26	W	39	ARG
26	W	67	LEU
26	W	146	THR
26	W	169	LEU
26	W	200	ILE
26	W	243	ILE
26	W	246	HIS
26	W	294	LYS
26	W	333	LEU
26	W	338	THR

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Mol	Chain	Res	Type
26	W	340	VAL
26	W	406	VAL
26	W	413	ILE
26	W	424	LEU
26	W	440	ASN
26	W	441	LYS
26	W	444	HIS
27	V	94	VAL
27	V	103	SER
27	V	134	PHE
27	V	191	LEU
27	V	196	SER
27	V	224	LEU
27	V	240	LEU
27	V	283	ASN
27	V	332	LEU
27	V	444	ASP
27	V	467	TYR
27	V	469	THR
28	e	38	VAL
28	e	41	ASP
28	e	45	ASP
28	e	47	ASN
28	e	53	SER
28	e	54	ASN
28	e	56	LEU
29	A	29	ASP
29	A	40	THR
29	A	55	LEU
29	A	62	LEU
29	A	72	LEU
29	A	102	ILE
29	A	105	ASP
29	A	122	VAL
29	A	173	THR
29	A	177	VAL
29	A	185	GLU
29	A	234	ASP
29	A	249	TYR
29	A	309	PHE
29	A	323	ARG
29	A	325	ASP

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Mol	Chain	Res	Type
29	A	352	THR
29	A	381	THR
29	A	384	GLU
29	A	411	GLU
30	F	53	LYS
30	F	54	ILE
30	F	80	ILE
30	F	82	VAL
30	F	90	VAL
30	F	94	ILE
30	F	123	VAL
30	F	134	LEU
30	F	144	LYS
30	F	162	GLU
30	F	166	THR
30	F	169	ASP
30	F	187	ASP
30	F	192	ASP
30	F	223	VAL
30	F	266	LYS
30	F	311	LEU
30	F	328	VAL
30	F	337	ILE
30	F	358	ASN
30	F	400	CYS
30	F	420	TYR
30	F	426	GLU
31	E	20	LYS
31	E	28	GLU
31	E	57	VAL
31	E	80	VAL
31	E	92	LEU
31	E	104	THR
31	E	121	ASN
31	E	150	GLU
31	E	235	ILE
31	E	251	ARG
31	E	258	MET
31	E	264	MET
31	E	316	HIS
31	E	355	ILE
32	U	8	ILE

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Mol	Chain	Res	Type
32	U	30	VAL
32	U	31	VAL
32	U	32	ASN
32	U	39	SER
32	U	42	VAL
32	U	47	VAL
32	U	70	HIS
32	U	71	LEU
32	U	176	MET
32	U	184	CYS
32	U	320	ASN
32	U	321	GLN
32	U	360	VAL
32	U	373	ASN
32	U	452	ASN
32	U	457	ILE
32	U	555	VAL
32	U	737	LEU
32	U	749	GLN
32	U	805	ASN
32	U	892	LEU
32	U	896	GLU
33	g	154	ASN
33	g	175	ILE
33	g	186	HIS
33	g	280	TYR
33	g	297	MET
33	g	301	THR
33	g	313	VAL
33	g	322	ILE
33	g	326	LEU
33	g	361	ILE
33	g	369	ASP
33	g	380	VAL
33	g	382	HIS
33	g	383	SER
34	u	119	ILE
34	u	162	ASP
34	u	167	ILE
34	u	172	ASN
34	u	186	ASP
34	u	202	ARG

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Mol	Chain	Res	Type
34	u	203	SER
34	u	215	THR
34	u	244	VAL
34	u	270	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (83) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	57	GLN
1	B	92	GLN
1	B	425	ASN
2	C	205	HIS
3	D	57	GLN
3	D	193	GLN
3	D	222	HIS
3	D	380	GLN
4	c	115	HIS
4	c	237	HIS
4	c	241	ASN
4	c	278	GLN
5	G	75	ASN
6	H	112	GLN
7	I	155	ASN
9	K	104	ASN
9	K	114	GLN
9	K	204	GLN
9	K	224	GLN
10	L	16	GLN
10	L	53	GLN
10	L	209	ASN
11	M	221	ASN
11	M	224	HIS
12	N	110	GLN
13	O	57	GLN
13	O	62	ASN
13	O	193	ASN
14	P	33	GLN
14	P	93	ASN
15	Q	63	ASN
16	R	89	GLN
17	S	58	HIS
17	S	151	ASN

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Mol	Chain	Res	Type
18	T	61	GLN
19	X	144	GLN
19	X	152	GLN
20	Y	64	GLN
20	Y	160	ASN
20	Y	363	ASN
21	Z	102	HIS
21	Z	104	ASN
21	Z	202	ASN
22	a	129	GLN
22	a	193	GLN
22	a	212	ASN
23	b	34	ASN
23	b	56	ASN
24	d	97	GLN
24	d	181	GLN
24	d	223	ASN
25	f	161	HIS
25	f	402	ASN
25	f	405	HIS
25	f	566	HIS
25	f	826	GLN
26	W	106	GLN
26	W	156	ASN
26	W	189	GLN
26	W	235	GLN
26	W	456	GLN
27	V	400	HIS
29	A	47	GLN
29	A	103	ASN
29	A	231	ASN
29	A	247	GLN
29	A	304	ASN
30	F	67	GLN
30	F	83	ASN
30	F	130	GLN
31	E	55	GLN
31	E	225	HIS
31	E	254	GLN
32	U	267	ASN
32	U	320	ASN
32	U	347	ASN

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Mol	Chain	Res	Type
32	U	596	ASN
32	U	677	ASN
33	g	154	ASN
33	g	182	ASN
33	g	355	HIS
34	u	172	ASN
34	u	183	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
33	CR8	g	228	33	20,27,28	6.63	10 (50%)	15,37,39	4.18	7 (46%)

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
33	CR8	g	228	33	-	4/8/25/26	0/3/3/3

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	g	228	CR8	C4-C11	-17.95	1.01	1.46
33	g	228	CR8	C12-C11	-17.69	1.02	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	g	228	CR8	C5-C7	9.96	1.69	1.41
33	g	228	CR8	C6-C7	8.88	1.66	1.41
33	g	228	CR8	CA2-C2	-4.28	1.34	1.41
33	g	228	CR8	CA2-C8	3.42	1.55	1.41
33	g	228	CR8	O2-C2	2.91	1.40	1.32
33	g	228	CR8	C1-N2	2.71	1.38	1.34
33	g	228	CR8	CA3-C3	2.17	1.54	1.49
33	g	228	CR8	C1-CA1	2.15	1.54	1.50

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	g	228	CR8	C6-C7-C5	-9.93	94.19	115.81
33	g	228	CR8	C4-C11-C12	7.44	130.50	116.67
33	g	228	CR8	C6-C12-C11	5.81	129.13	121.25
33	g	228	CR8	O13-C11-C12	-4.30	114.63	121.56
33	g	228	CR8	C5-C4-C11	4.25	127.02	121.25
33	g	228	CR8	O13-C11-C4	-4.15	114.87	121.56
33	g	228	CR8	C12-C6-C7	-3.39	118.89	122.10

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
33	g	228	CR8	C7-C8-CA2-C2
33	g	228	CR8	C7-C8-CA2-N2
33	g	228	CR8	CA1-C20-C21-N22
33	g	228	CR8	CA1-C20-C21-C23

There are no ring outliers.

1 monomer is involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
33	g	228	CR8	5	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 10 ligands modelled in this entry, 4 are monoatomic - leaving 6 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
37	ADP	F	501	-	24,29,29	0.87	1 (4%)	29,45,45	1.21	3 (10%)
35	ATP	C	501	36	28,33,33	0.82	0	34,52,52	0.62	1 (2%)
37	ADP	A	501	-	24,29,29	0.89	0	29,45,45	1.18	2 (6%)
35	ATP	B	501	36	28,33,33	0.90	2 (7%)	34,52,52	0.63	1 (2%)
37	ADP	E	501	-	24,29,29	0.87	0	29,45,45	1.23	2 (6%)
37	ADP	D	501	36	24,29,29	0.84	0	29,45,45	1.32	3 (10%)

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
37	ADP	F	501	-	-	3/12/32/32	0/3/3/3
35	ATP	C	501	36	-	5/18/38/38	0/3/3/3
37	ADP	A	501	-	-	0/12/32/32	0/3/3/3
35	ATP	B	501	36	-	4/18/38/38	0/3/3/3
37	ADP	E	501	-	-	4/12/32/32	0/3/3/3
37	ADP	D	501	36	-	3/12/32/32	0/3/3/3

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	B	501	ATP	PB-O3B	-2.43	1.56	1.59
35	B	501	ATP	PA-O3A	-2.00	1.57	1.59
37	F	501	ADP	O4'-C1'	2.00	1.43	1.40

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
37	A	501	ADP	N3-C2-N1	-3.64	123.73	128.67
37	D	501	ADP	N3-C2-N1	-3.59	123.79	128.67
37	F	501	ADP	N3-C2-N1	-3.58	123.81	128.67
37	E	501	ADP	N3-C2-N1	-3.37	124.10	128.67
37	E	501	ADP	C4-C5-N7	-2.90	106.27	109.34
37	A	501	ADP	C4-C5-N7	-2.49	106.71	109.34
37	D	501	ADP	C4-C5-N7	-2.46	106.74	109.34
35	B	501	ATP	C5-C6-N6	2.35	123.88	120.31
37	D	501	ADP	C4'-O4'-C1'	2.33	112.06	109.92
35	C	501	ATP	C5-C6-N6	2.31	123.83	120.31
37	F	501	ADP	C4-C5-N7	-2.07	107.15	109.34
37	F	501	ADP	O4'-C1'-N9	2.06	111.48	108.75

There are no chirality outliers.

All (19) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
35	B	501	ATP	C5'-O5'-PA-O1A
35	B	501	ATP	C5'-O5'-PA-O3A
35	C	501	ATP	PB-O3B-PG-O2G
37	D	501	ADP	C5'-O5'-PA-O1A
37	D	501	ADP	C5'-O5'-PA-O2A
37	D	501	ADP	C5'-O5'-PA-O3A
37	F	501	ADP	C5'-O5'-PA-O1A
37	F	501	ADP	C5'-O5'-PA-O2A
37	F	501	ADP	C5'-O5'-PA-O3A
37	E	501	ADP	C5'-O5'-PA-O2A
37	E	501	ADP	C5'-O5'-PA-O3A
35	B	501	ATP	C5'-O5'-PA-O2A
35	C	501	ATP	C5'-O5'-PA-O1A
37	E	501	ADP	C4'-C5'-O5'-PA
35	C	501	ATP	PB-O3B-PG-O1G
37	E	501	ADP	PA-O3A-PB-O1B
35	C	501	ATP	PG-O3B-PB-O1B
35	C	501	ATP	PG-O3B-PB-O2B
35	B	501	ATP	PG-O3B-PB-O2B

There are no ring outliers.

6 monomers are involved in 25 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
37	F	501	ADP	7	0

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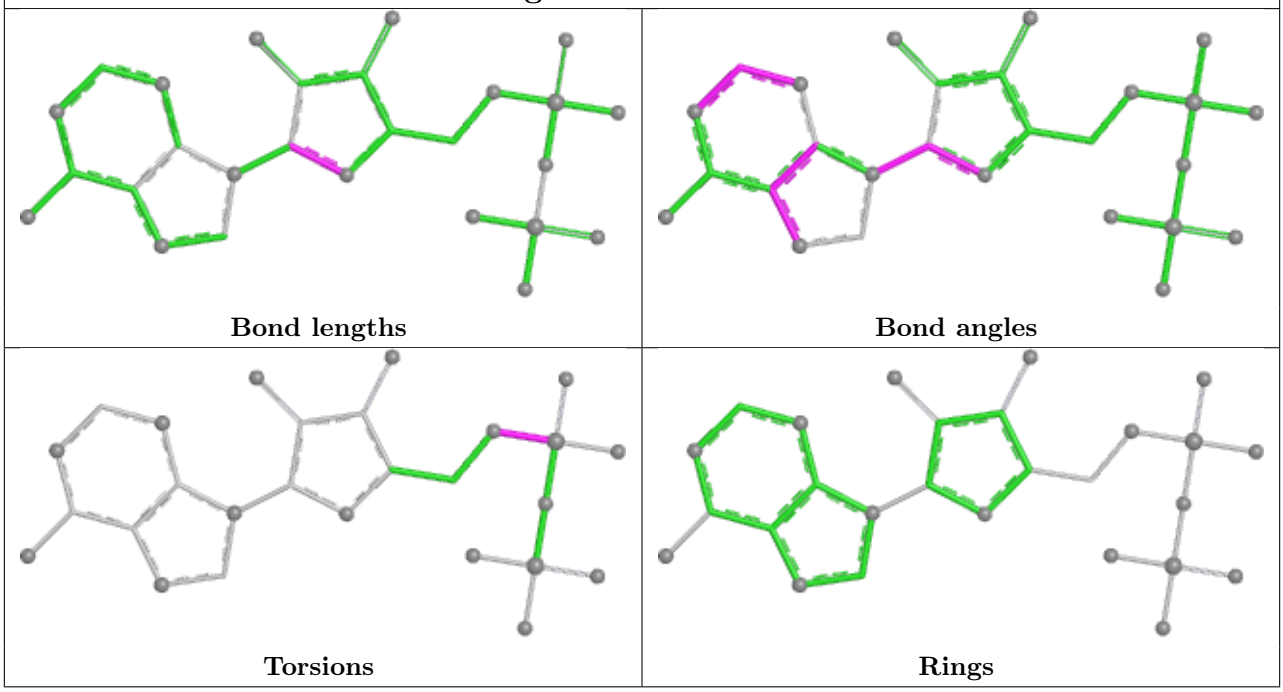
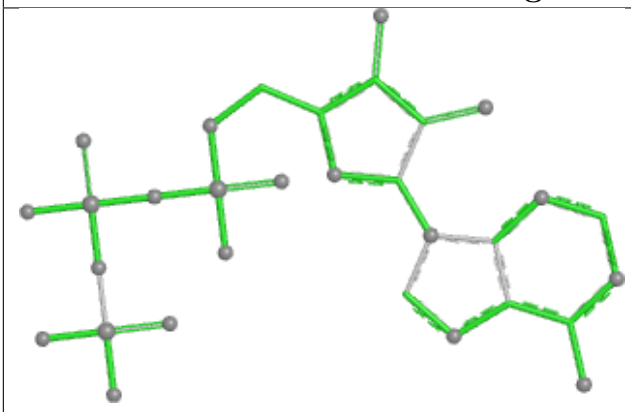
Mol	Chain	Res	Type	Clashes	Symm-Clashes
35	C	501	ATP	4	0
37	A	501	ADP	3	0
35	B	501	ATP	3	0
37	E	501	ADP	4	0
37	D	501	ADP	4	0

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.

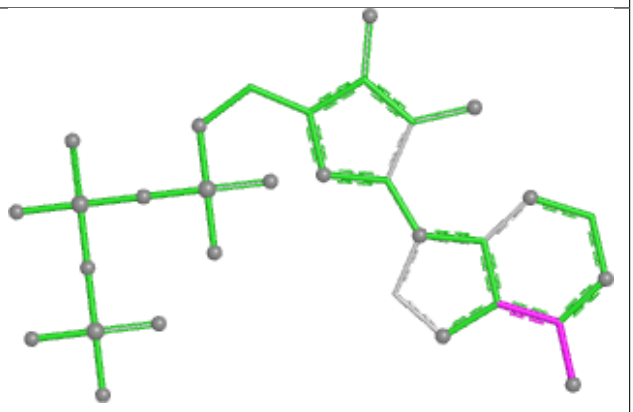
Ligand ADP F 501



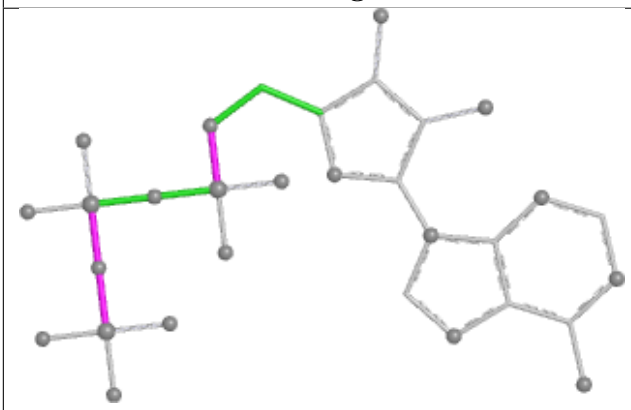
Ligand ATP C 501



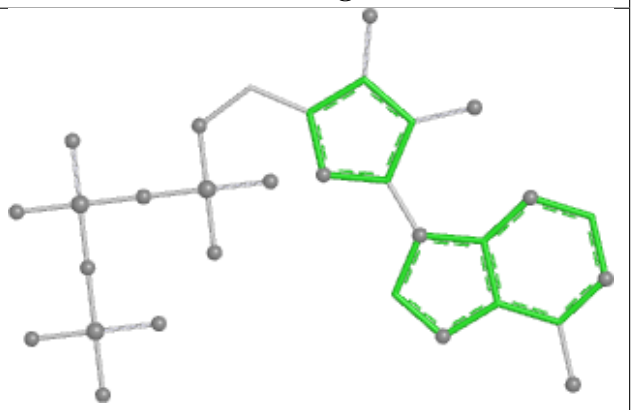
Bond lengths



Bond angles

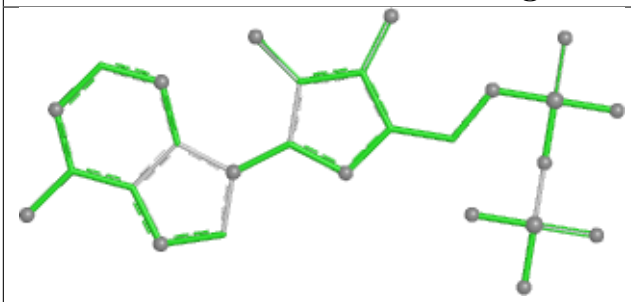


Torsions

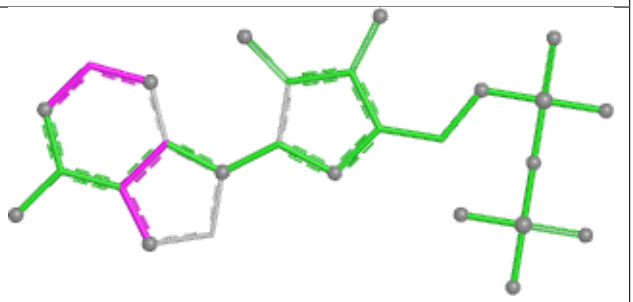


Rings

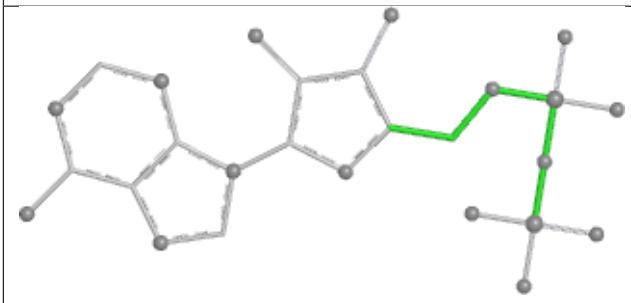
Ligand ADP A 501



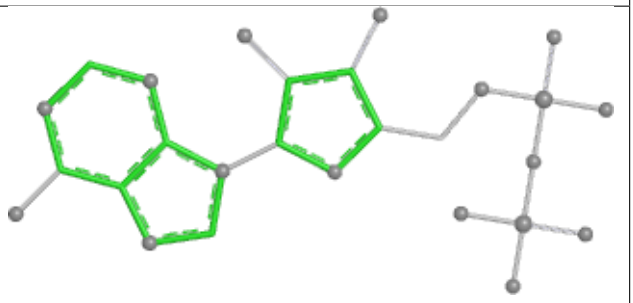
Bond lengths



Bond angles

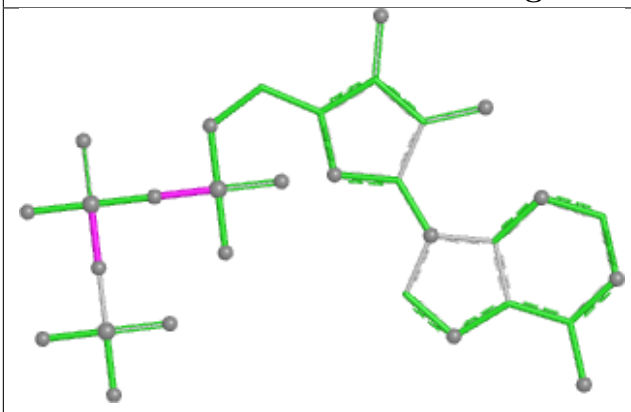


Torsions

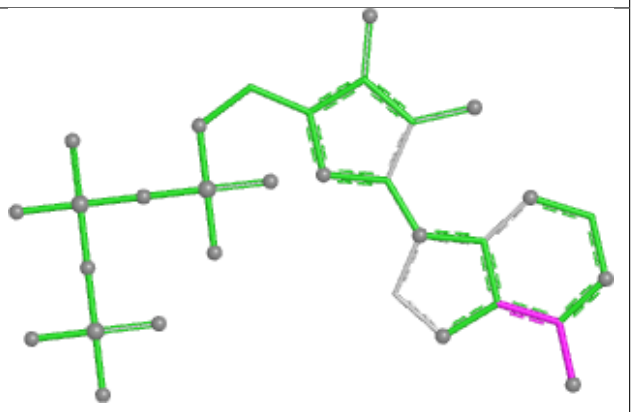


Rings

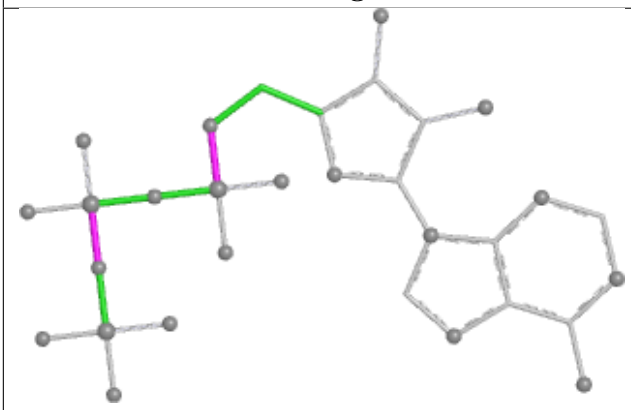
Ligand ATP B 501



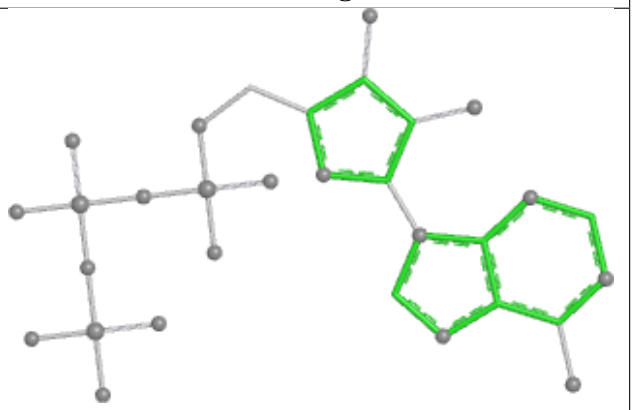
Bond lengths



Bond angles

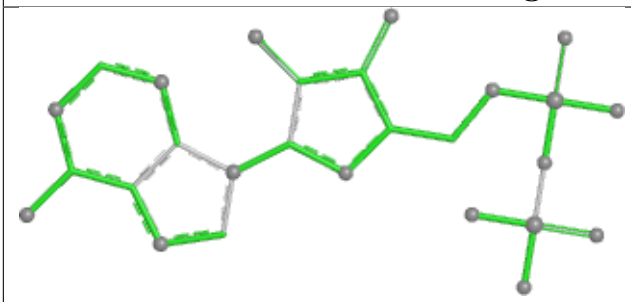


Torsions

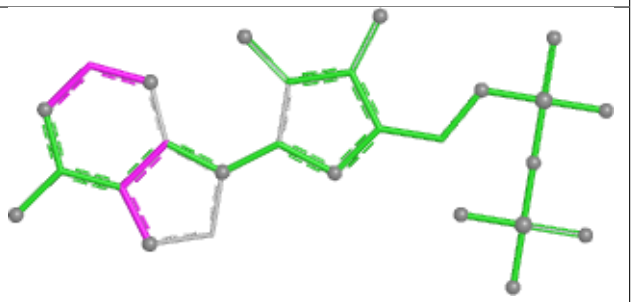


Rings

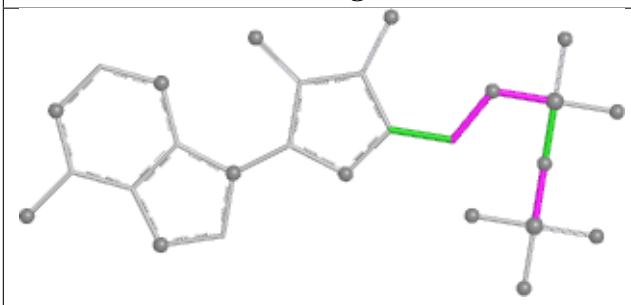
Ligand ADP E 501



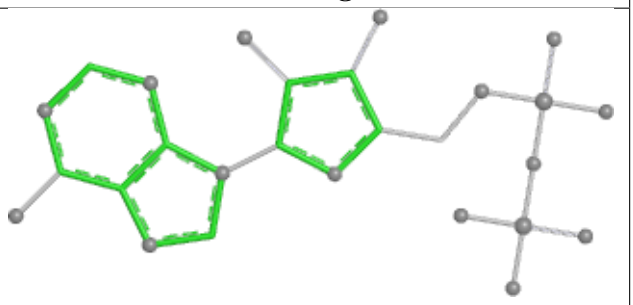
Bond lengths



Bond angles

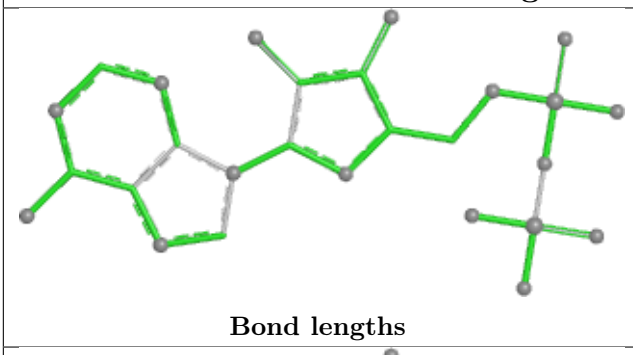


Torsions

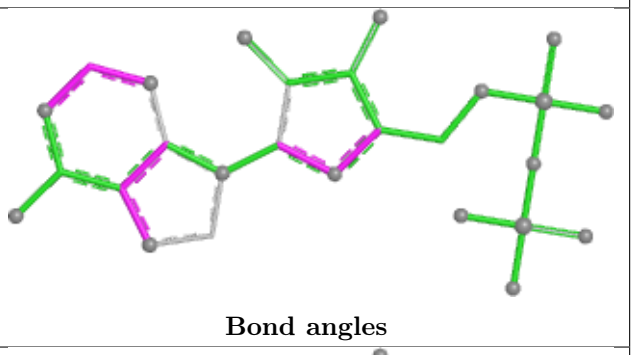


Rings

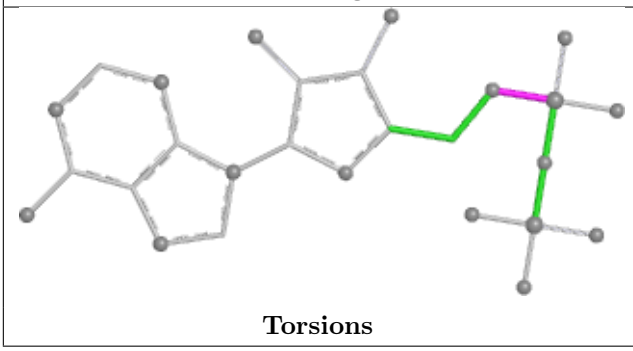
Ligand ADP D 501



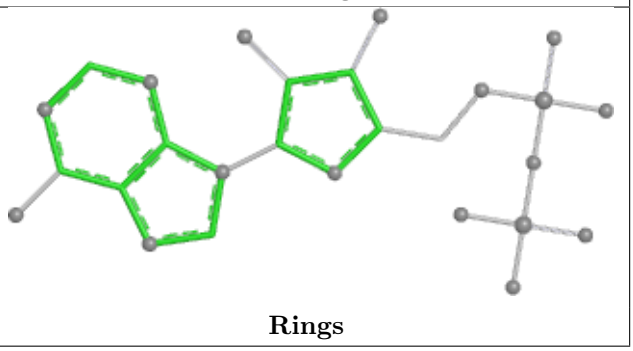
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
26	W	1
31	E	1
21	Z	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	W	416:GLN	C	417:ARG	N	6.76
1	E	273:VAL	C	274:LYS	N	5.62
1	Z	289:GLU	C	290:GLY	N	3.16

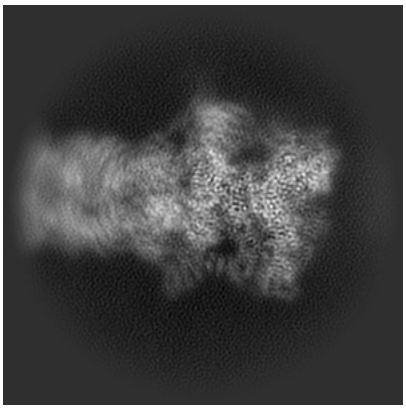
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-47726. These allow visual inspection of the internal detail of the map and identification of artifacts.

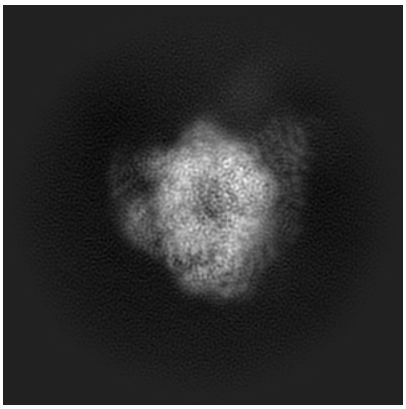
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

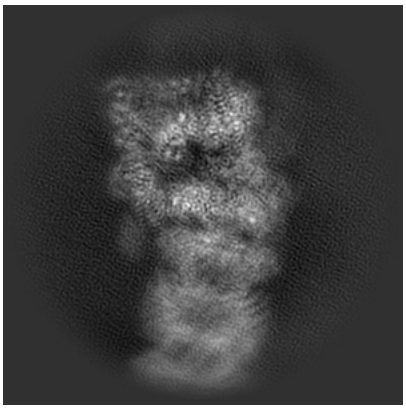
6.1.1 Primary map



X

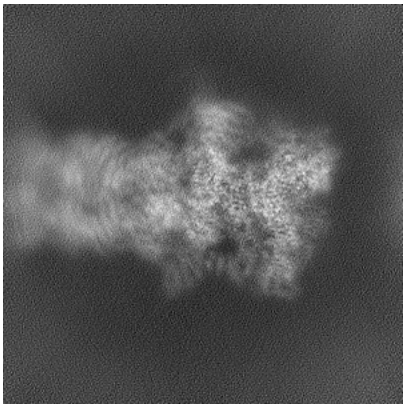


Y

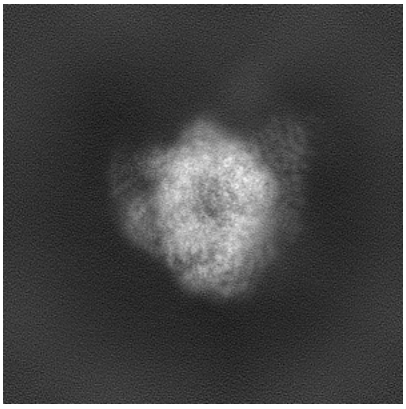


Z

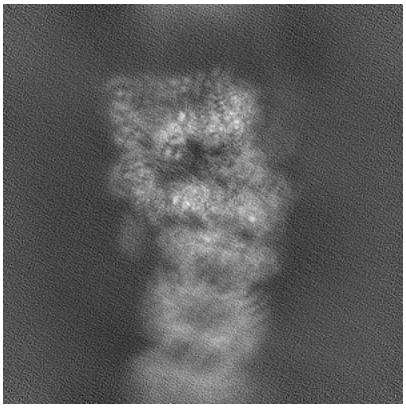
6.1.2 Raw map



X



Y

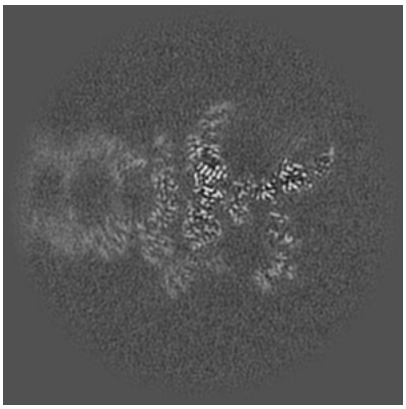


Z

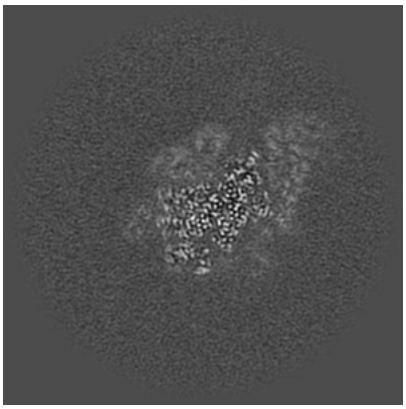
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

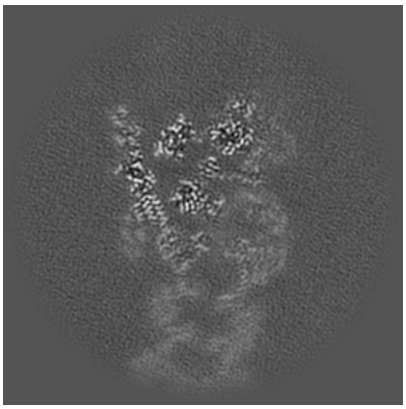
6.2.1 Primary map



X Index: 170

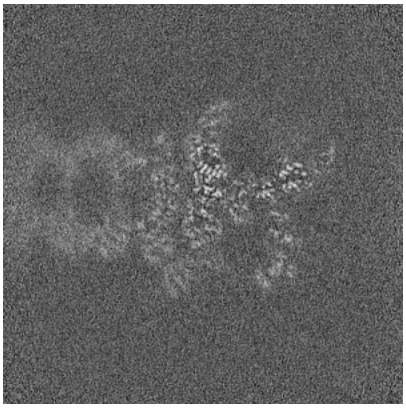


Y Index: 170

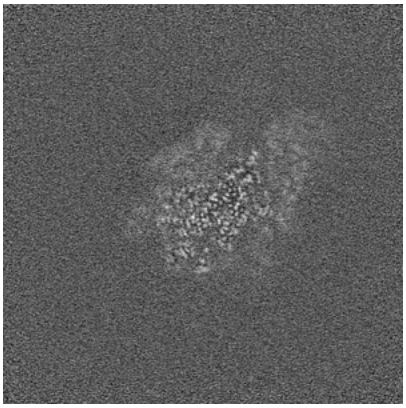


Z Index: 170

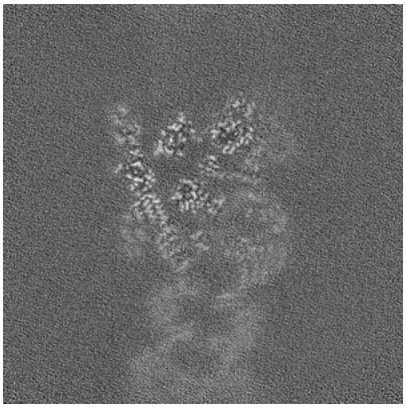
6.2.2 Raw map



X Index: 170



Y Index: 170

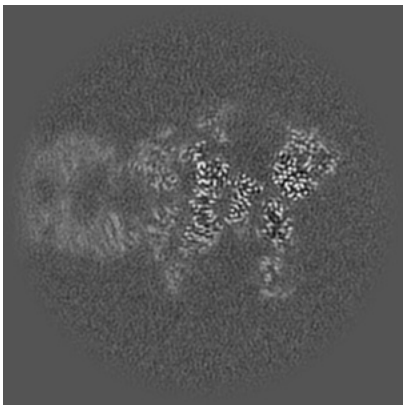


Z Index: 170

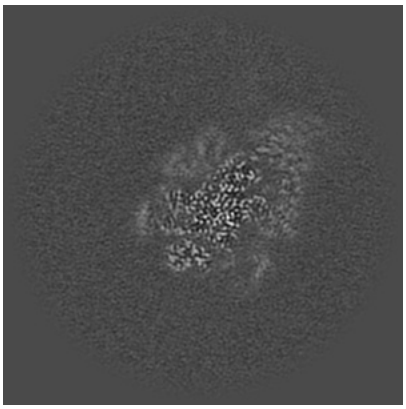
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

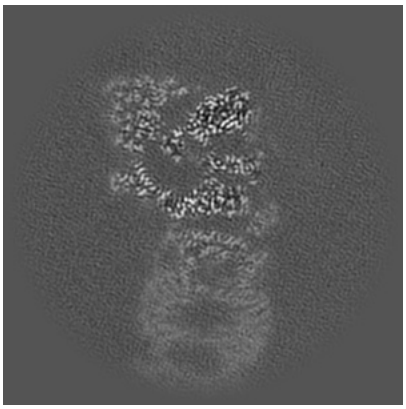
6.3.1 Primary map



X Index: 178

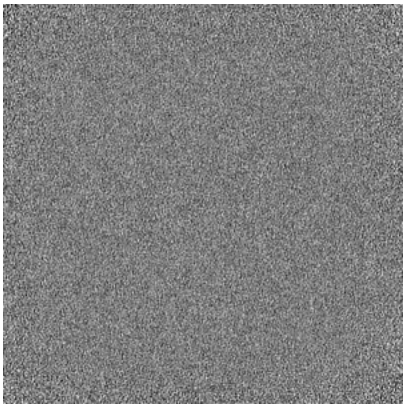


Y Index: 173

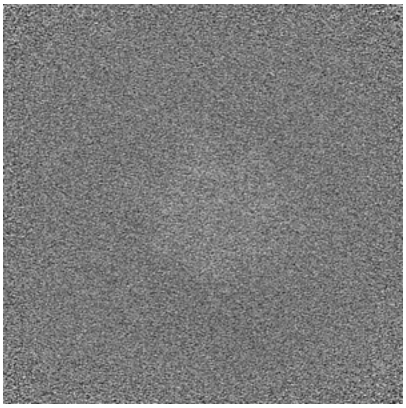


Z Index: 190

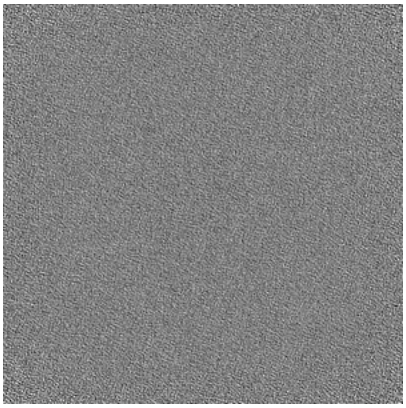
6.3.2 Raw map



X Index: 0



Y Index: 0

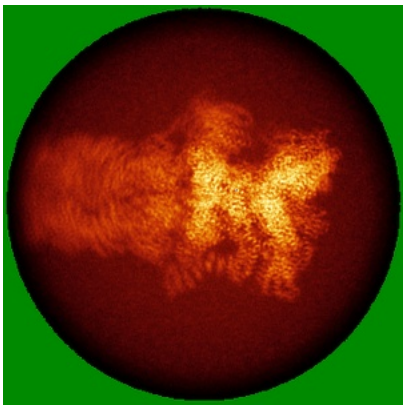


Z Index: 0

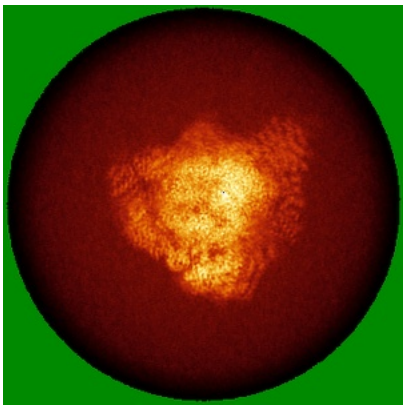
The images above show the largest variance slices of the map in three orthogonal directions.

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

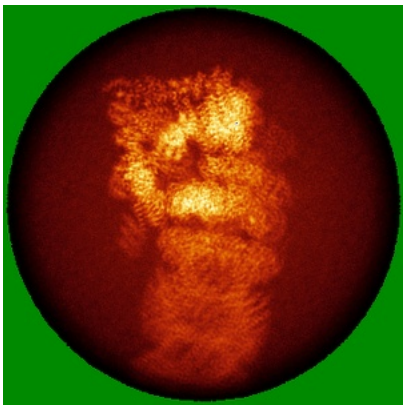
6.4.1 Primary map



X

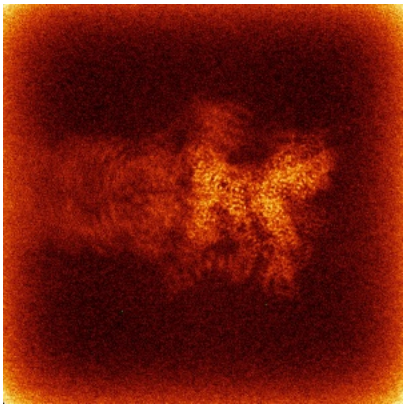


Y

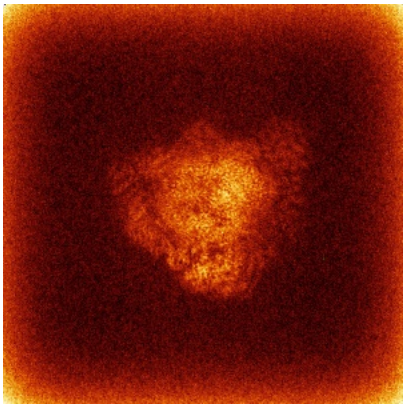


Z

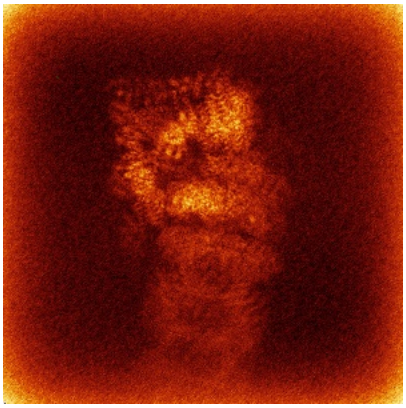
6.4.2 Raw map



X



Y

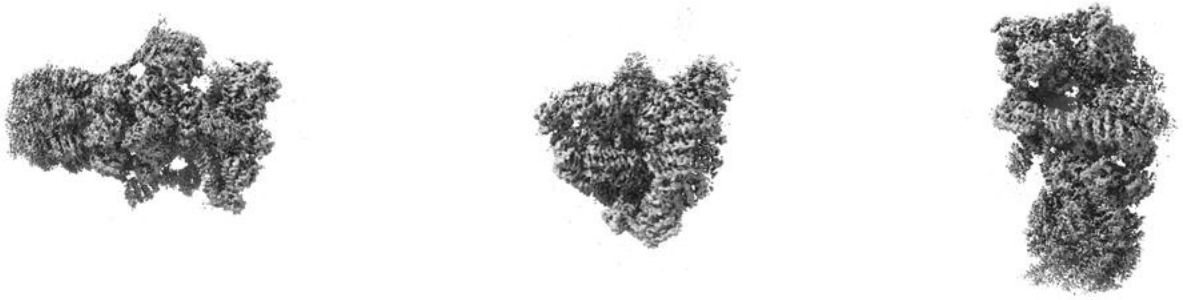


Z

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)

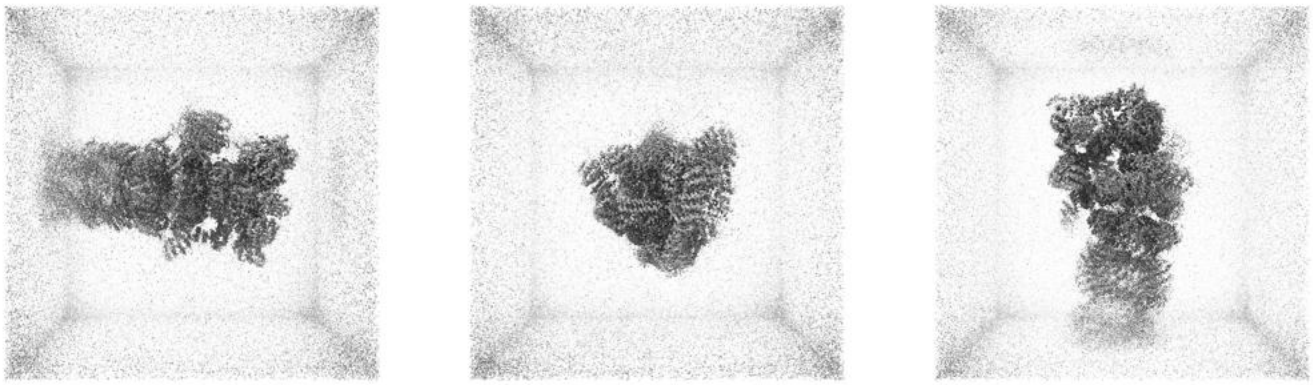
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.17. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

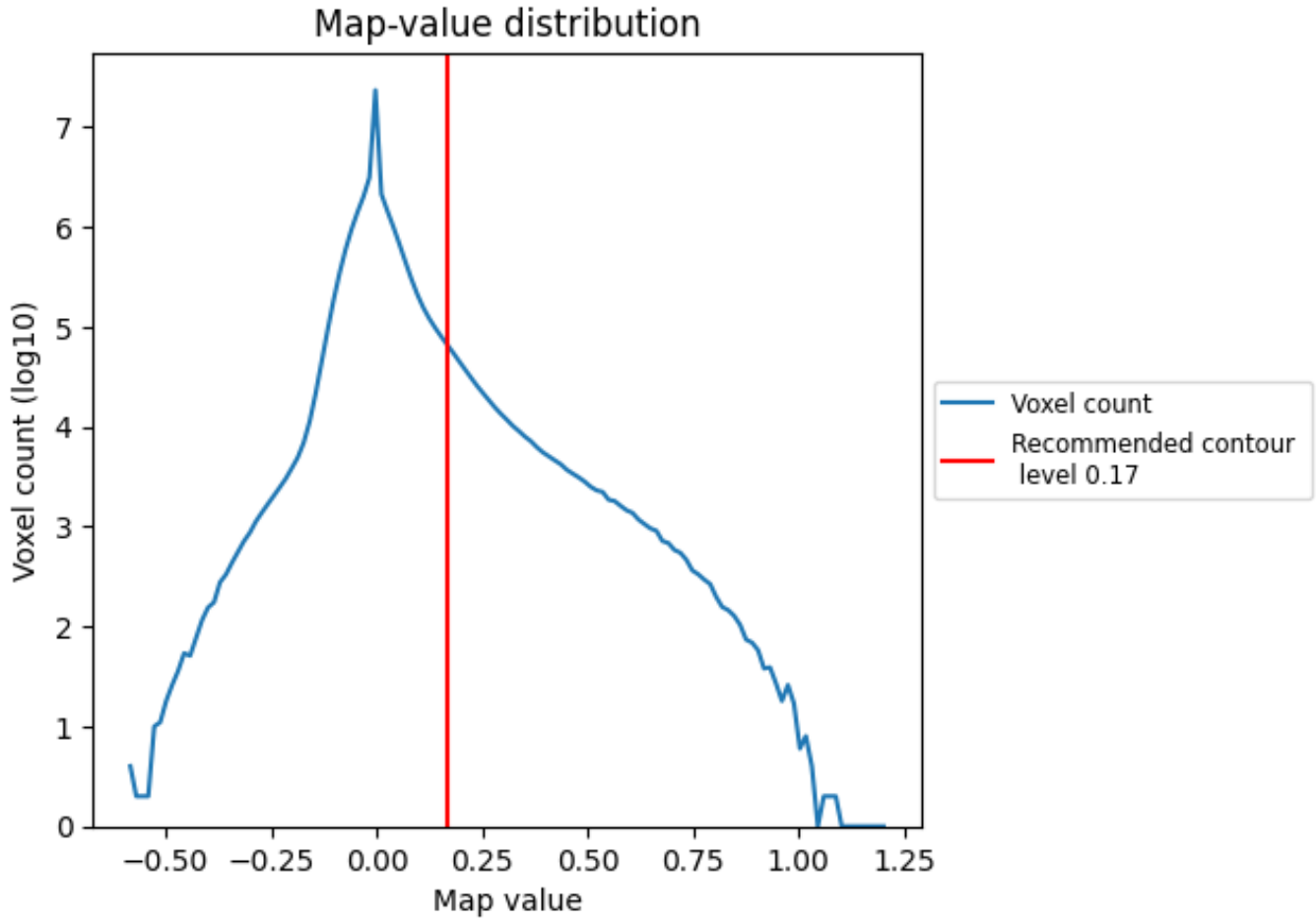
6.6 Mask visualisation (i)

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

7 Map analysis

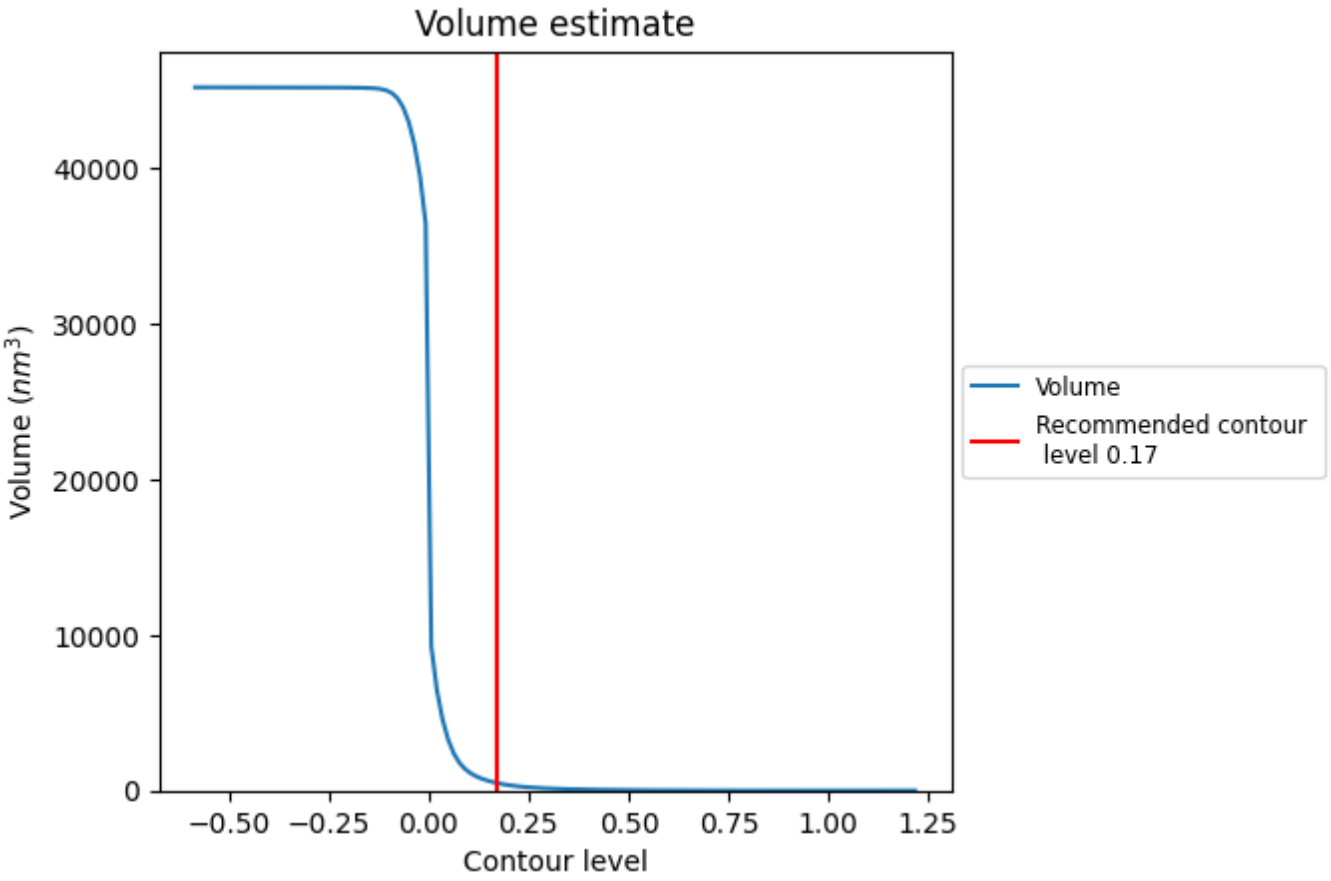
This section contains the results of statistical analysis of the map.

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.

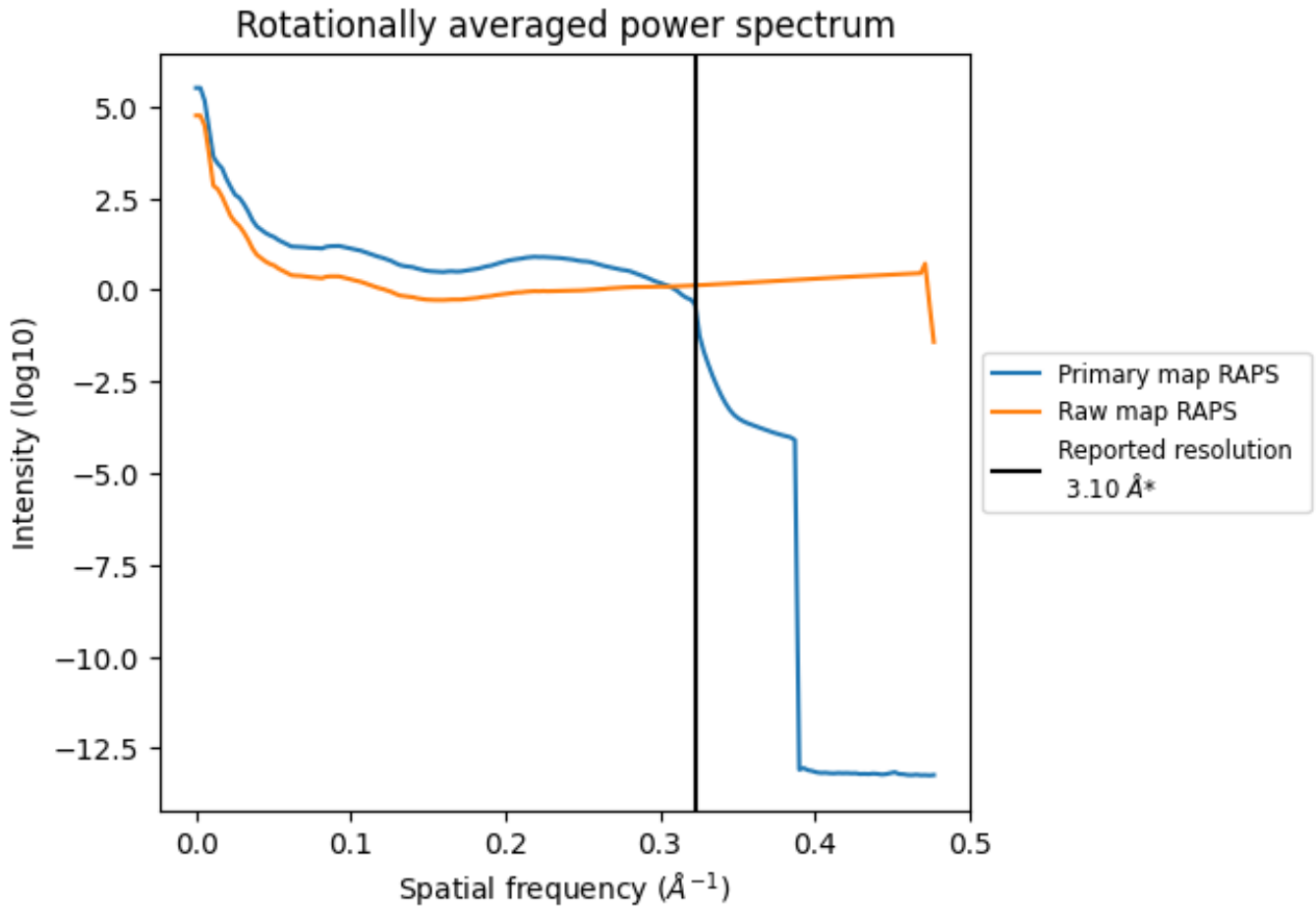
7.2 Volume estimate



The volume at the recommended contour level is 493 nm^3; this corresponds to an approximate mass of 445 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)

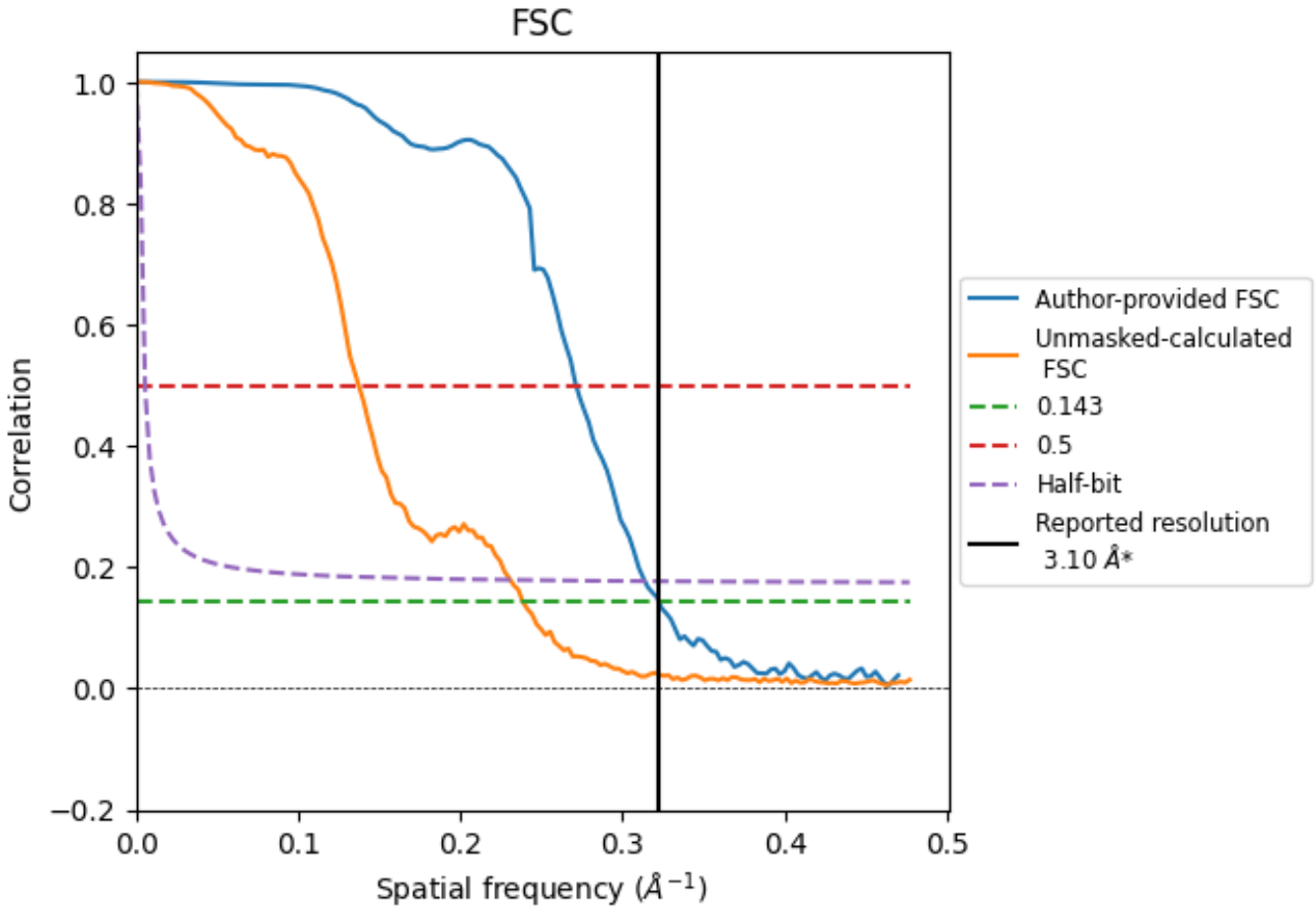


*Reported resolution corresponds to spatial frequency of 0.323 $Å^{-1}$

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.323 Å^{-1}

8.2 Resolution estimates (i)

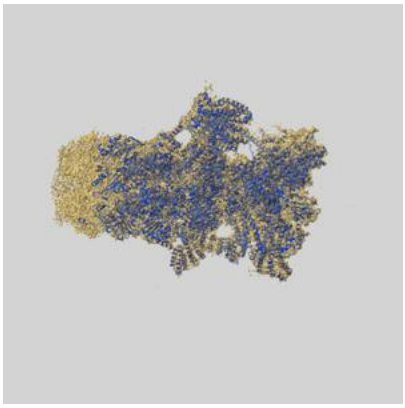
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.10	-	-
Author-provided FSC curve	3.10	3.68	3.19
Unmasked-calculated*	4.19	7.28	4.33

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.19 differs from the reported value 3.1 by more than 10 %

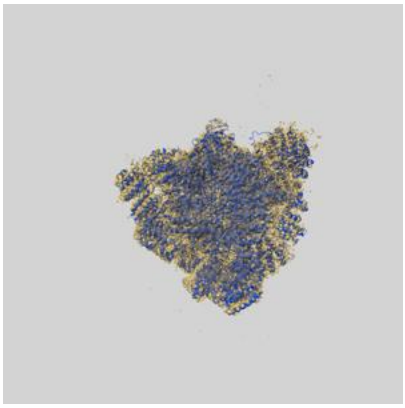
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-47726 and PDB model 9E8O. Per-residue inclusion information can be found in section 3 on page 16.

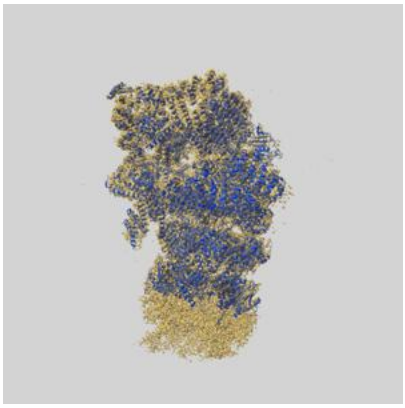
9.1 Map-model overlay



X



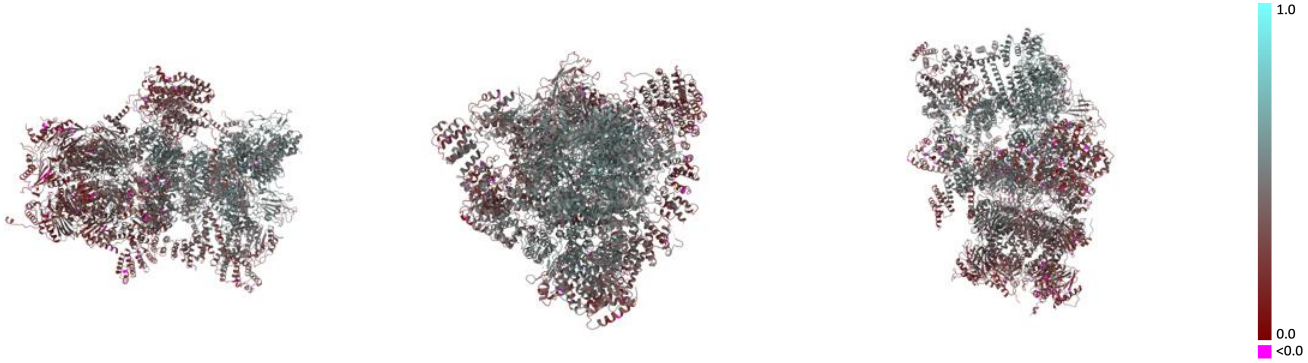
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.17 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.

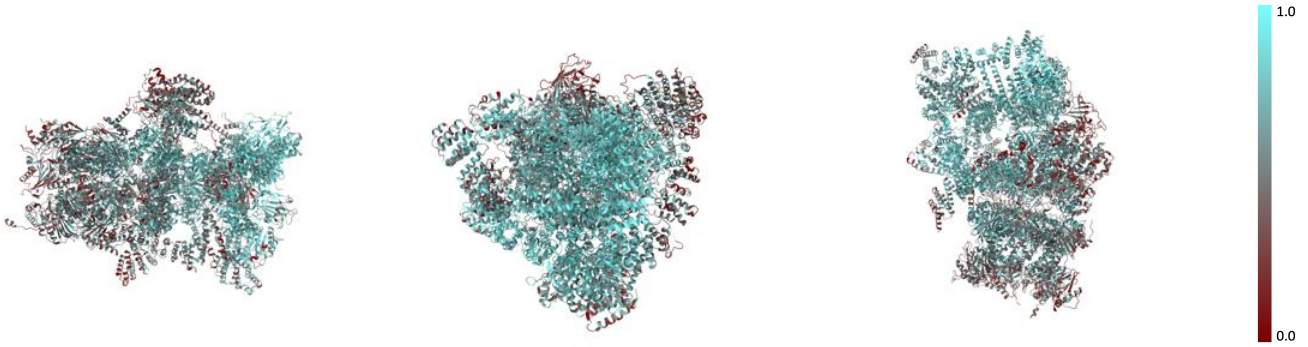
9.2 Q-score mapped to coordinate model (i)



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.

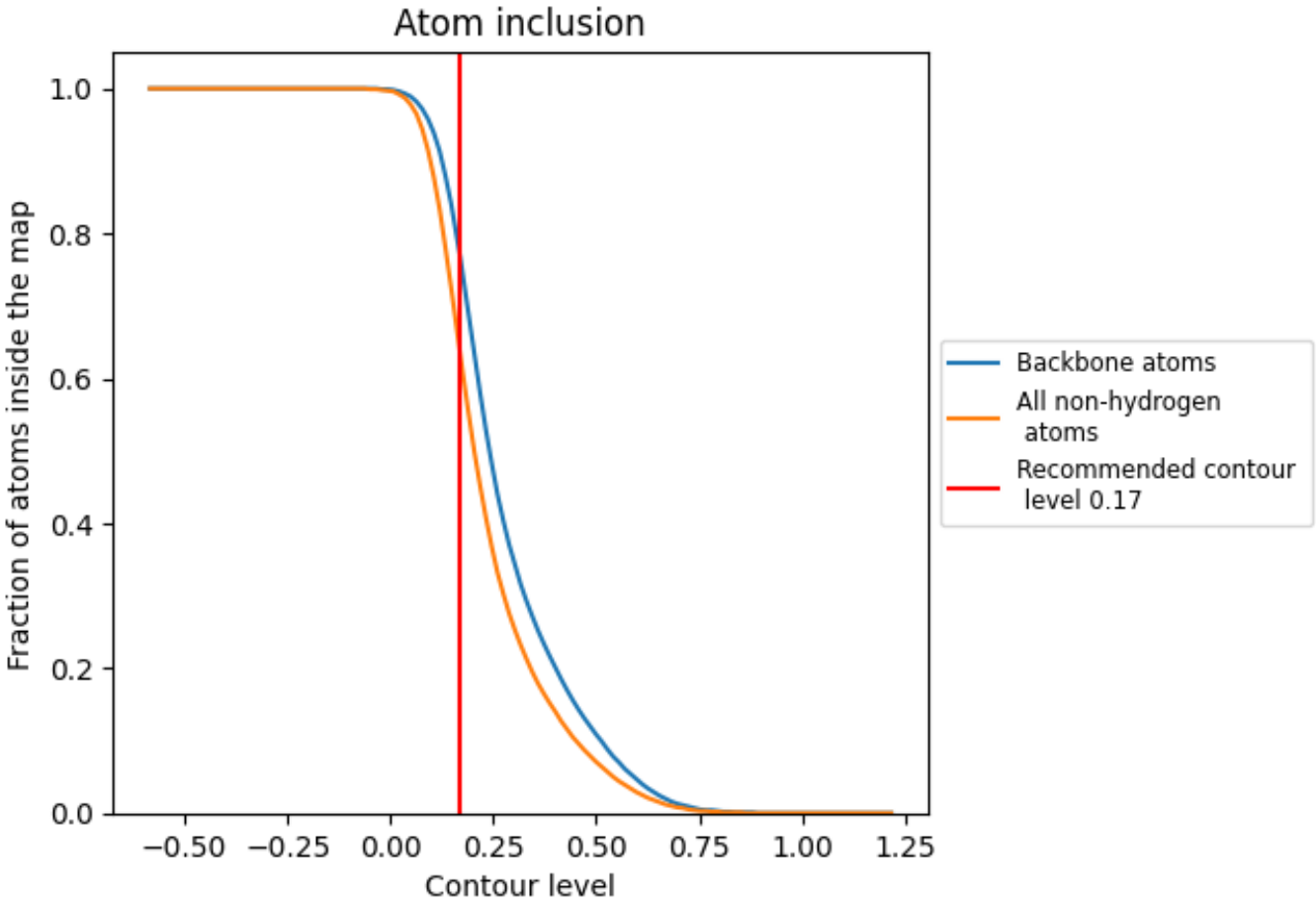
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.17).

9.4 Atom inclusion (i)



At the recommended contour level, 77% of all backbone atoms, 63% 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 (0.17) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6320	0.4010
A	0.5720	0.3890
B	0.7330	0.4860
C	0.8390	0.5360
D	0.8330	0.5250
E	0.6740	0.4320
F	0.4790	0.3320
G	0.6080	0.3840
H	0.7390	0.4610
I	0.6790	0.4310
J	0.6060	0.3930
K	0.5900	0.3820
L	0.5240	0.3390
M	0.5230	0.3310
N	0.5230	0.3090
O	0.5080	0.3290
P	0.4940	0.3140
Q	0.4660	0.2950
R	0.4560	0.2810
S	0.4210	0.2660
T	0.4690	0.2570
U	0.8200	0.5120
V	0.7070	0.4460
W	0.5220	0.3200
X	0.7150	0.4190
Y	0.7570	0.4110
Z	0.7930	0.4840
a	0.6840	0.3990
b	0.6800	0.4160
c	0.8400	0.5390
d	0.6170	0.3790
e	0.5800	0.3160
f	0.4330	0.2940
g	0.3200	0.4020
u	0.6860	0.4820