Full wwPDB EM Validation Report ⓘ

Jul 31, 2024 – 11:15 AM JST

PDB ID	:	8I0S
EMDB ID	:	EMD-35108
Title	:	The cryo-EM structure of human Bact-II complex
Authors	:	Zhan, X.; Lu, Y.; Shi, Y.
Deposited on	:	2023-01-11
Resolution	:	4.20 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:

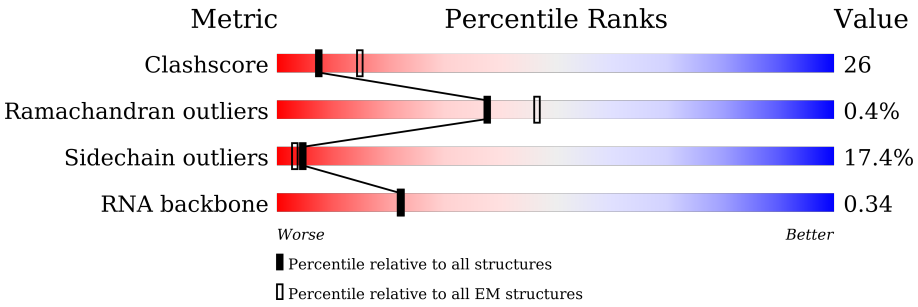
EMDB validation analysis	:	0.0.1.dev92
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance

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

The reported resolution of this entry is 4.20 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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	A	2335	16% 54% 34% 8%
2	B	117	6% 22% 43% 17% 16%
3	C	972	37% 41% 10% 12%
4	D	2136	72% 74% 6% 19%
5	E	357	36% 29% 46% 9% 16%
6	F	107	7% 10% 37% 35% 8% 9%
7	G	220	14% 12% 67%

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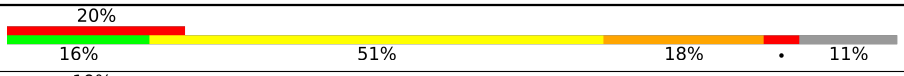
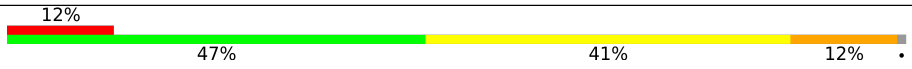
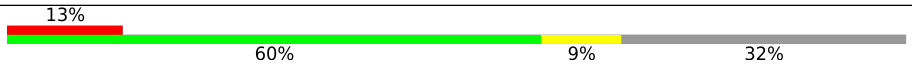
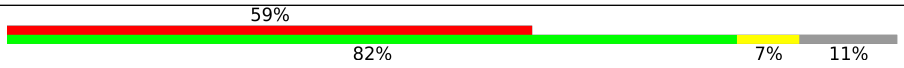
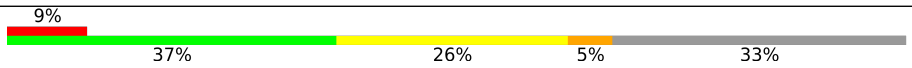
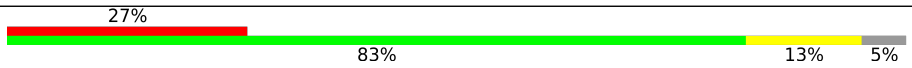
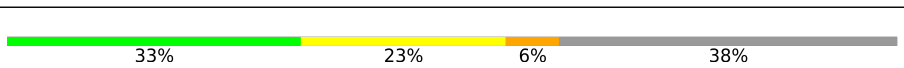
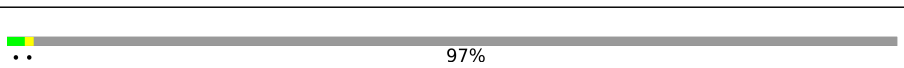
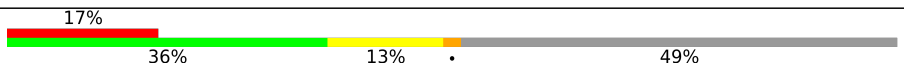
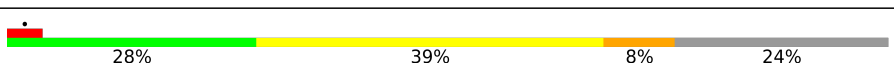
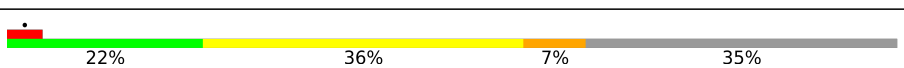
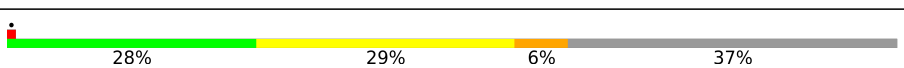
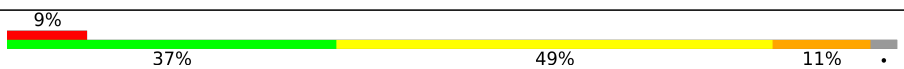
Mol	Chain	Length	Quality of chain
8	H	188	
9	I	855	
10	J	848	
11	K	343	
12	L	802	
13	N	144	
14	O	420	
15	P	229	
16	Q	1485	
17	R	536	
18	S	166	
19	T	514	
20	U	2752	
21	V	908	
22	X	1041	
23	Y	492	
24	1	1304	
25	3	1217	
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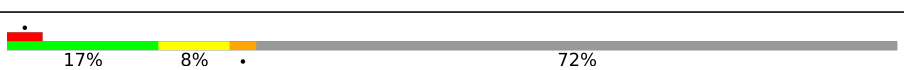
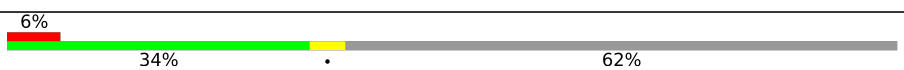
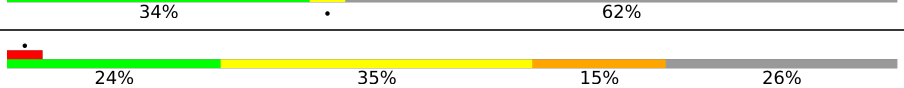
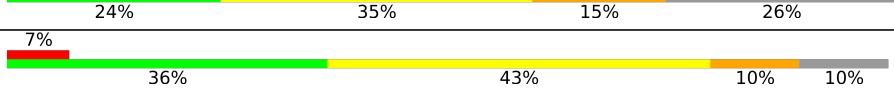
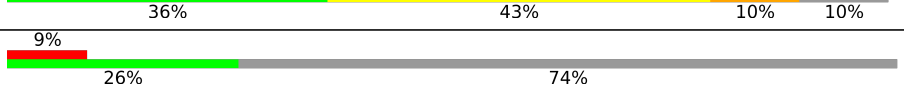
27	w	501	
28	2	895	
29	4	424	
30	7	110	
31	5	86	
32	y	301	

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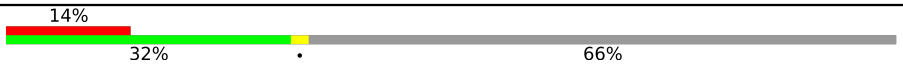
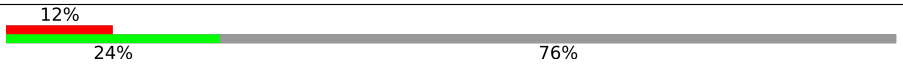
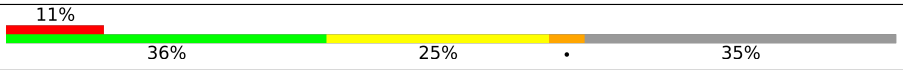
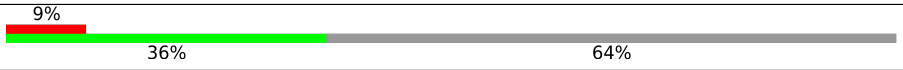
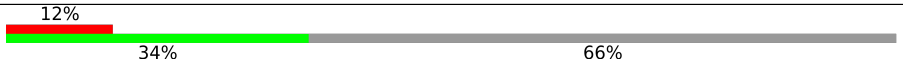
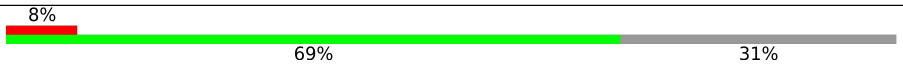
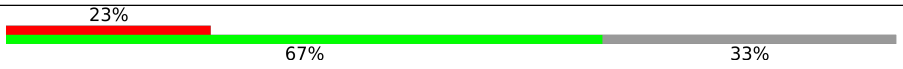
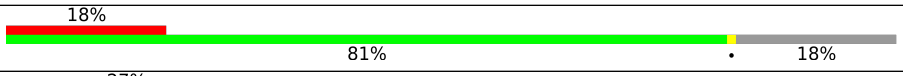
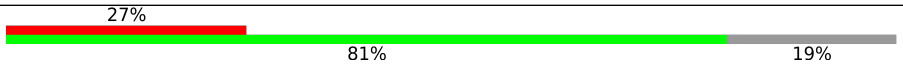
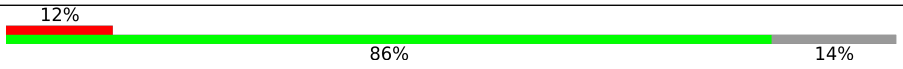
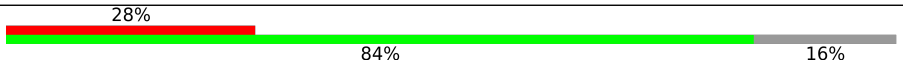
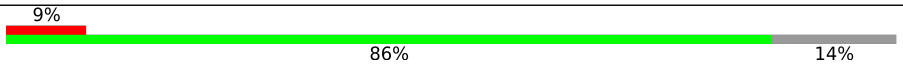
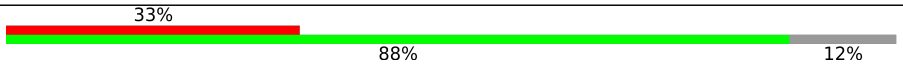
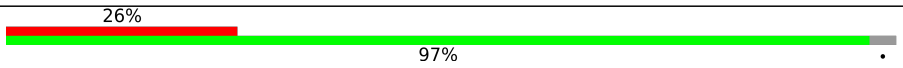
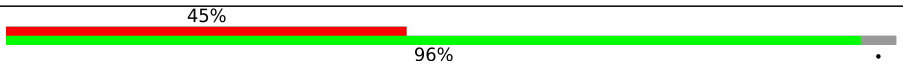
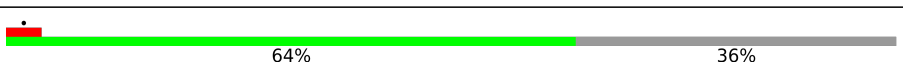
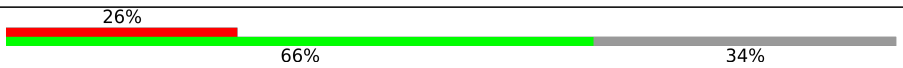
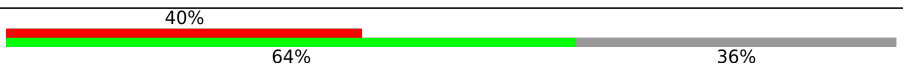
Mol	Chain	Length	Quality of chain
33	v	464	
34	u	793	
35	9	520	
36	a	240	
36	m	240	
37	b	119	
37	n	119	
38	c	118	
38	h	118	
39	d	86	
39	i	86	
40	e	92	
40	j	92	
41	f	76	
41	k	76	
42	g	126	
42	l	126	
43	o	255	

2 Entry composition

There are 47 unique types of molecules in this entry. The entry contains 112874 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 Pre-mRNA-processing-splicing factor 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	2230	17607	11288	3122	3129	68	0	0

- Molecule 2 is a RNA chain called U5 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B	98	2066	925	347	696	98	0	0

- Molecule 3 is a protein called 116 kDa U5 small nuclear ribonucleoprotein component.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	860	6724	4298	1122	1272	32	0	0

- Molecule 4 is a protein called U5 small nuclear ribonucleoprotein 200 kDa helicase.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
4	D	1722	8528	5084	1722	1722	0	0

- Molecule 5 is a protein called U5 small nuclear ribonucleoprotein 40 kDa protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	299	2338	1470	410	445	13	0	0

- Molecule 6 is a RNA chain called U6 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	F	97	2075	928	381	669	97	0	0

- Molecule 7 is a RNA chain called pre-mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	72	Total	C	N	O	P	0	0
			1503	673	248	510	72		

- Molecule 8 is a RNA chain called U2 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	167	Total	C	N	O	P	0	0
			3539	1581	607	1184	167		

- Molecule 9 is a protein called Pre-mRNA-splicing factor SYF1.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	I	571	Total	C	N	O	0	0
			2880	1738	571	571		

- Molecule 10 is a protein called Crooked neck-like protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	249	Total	C	N	O	S	0	0
			2116	1355	380	375	6		

- Molecule 11 is a protein called RING finger protein 113A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	46	Total	C	N	O	S	0	0
			392	246	67	76	3		

- Molecule 12 is a protein called Cell division cycle 5-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	169	Total	C	N	O	S	0	0
			1403	890	262	247	4		

- Molecule 13 is a protein called Protein BUD31 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	N	143	Total	C	N	O	S	0	0
			1174	740	213	209	12		

- Molecule 14 is a protein called Pre-mRNA-splicing factor RBM22.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	O	287	Total 1432	C 853	N 289	O 290	0	0

- Molecule 15 is a protein called Spliceosome-associated protein CWC15 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	P	101	Total 876	C 537	N 175	O 162	S 2	0	0

- Molecule 16 is a protein called RNA helicase aquarius.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	Q	1329	Total 6730	C 4072	N 1329	O 1329	0	0

- Molecule 17 is a protein called SNW domain-containing protein 1.

Mol	Chain	Residues	Atoms						AltConf	Trace
17	R	361	Total 2760	C 1694	N 524	O 529	P 1	S 12	0	0

- Molecule 18 is a protein called Peptidyl-prolyl cis-trans isomerase-like 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	S	158	Total 770	C 454	N 158	O 158	0	0

- Molecule 19 is a protein called Pleiotropic regulator 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	T	320	Total 2507	C 1582	N 456	O 462	S 7	0	0

- Molecule 20 is a protein called Serine/arginine repetitive matrix protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	U	72	Total 422	C 257	N 82	O 82	S 1	0	0

- Molecule 21 is a protein called Pre-mRNA-splicing factor CWC22 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	V	462	Total	C	N	O	S	0	0
			2959	1842	537	567	13		

- Molecule 22 is a protein called Pre-mRNA-splicing factor ATP-dependent RNA helicase DHX16.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	X	786	Total	C	N	O	S	0	0
			6357	4010	1133	1184	30		

- Molecule 23 is a protein called Peptidyl-prolyl cis-trans isomerase-like 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Y	320	Total	C	N	O	S	0	0
			2556	1616	420	508	12		

- Molecule 24 is a protein called Splicing factor 3B subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	1	816	Total	C	N	O	S	0	0
			6468	4154	1110	1165	39		

- Molecule 25 is a protein called Splicing factor 3B subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	3	1177	Total	C	N	O	S	0	0
			9210	5849	1563	1753	45		

- Molecule 26 is a protein called U2 small nuclear ribonucleoprotein B".

Mol	Chain	Residues	Atoms				AltConf	Trace
26	p	167	Total	C	N	O	0	0
			841	507	167	167		

- Molecule 27 is a protein called Splicing factor 3A subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	w	434	Total	C	N	O	S	0	0
			2275	1287	491	493	4		

- Molecule 28 is a protein called Splicing factor 3B subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	2	250	Total	C	N	O	S	0	0
			1803	1132	340	324	7		

- Molecule 29 is a protein called Splicing factor 3B subunit 4.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	4	161	Total	C	N	O	0	0
			792	470	161	161		

- Molecule 30 is a protein called PHD finger-like domain-containing protein 5A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	7	81	Total	C	N	O	S	0	0
			613	376	109	115	13		

- Molecule 31 is a protein called Splicing factor 3B subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	5	77	Total	C	N	O	S	0	0
			635	403	110	117	5		

- Molecule 32 is a protein called Peptidyl-prolyl cis-trans isomerase E.

Mol	Chain	Residues	Atoms				AltConf	Trace
32	y	79	Total	C	N	O	0	0
			390	232	79	79		

- Molecule 33 is a protein called Splicing factor 3A subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	v	158	Total	C	N	O	S	0	0
			964	558	203	200	3		

- Molecule 34 is a protein called Splicing factor 3A subunit 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
34	u	187	Total	C	N	O	0	0
			834	460	187	187		

- Molecule 35 is a protein called RING-type E3 ubiquitin-protein ligase PPIL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	9	338	Total	C	N	O	S	0	0
			2307	1429	420	450	8		

- Molecule 36 is a protein called Small nuclear ribonucleoprotein-associated proteins B and B'.

Mol	Chain	Residues	Atoms				AltConf	Trace
36	a	86	Total	C	N	O	0	0
			344	172	86	86		
36	m	82	Total	C	N	O	0	0
			413	249	82	82		

- Molecule 37 is a protein called Small nuclear ribonucleoprotein Sm D1.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	b	82	Total	C	N	O	0	0
			328	164	82	82		
37	n	80	Total	C	N	O	0	0
			402	242	80	80		

- Molecule 38 is a protein called Small nuclear ribonucleoprotein Sm D2.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	c	97	Total	C	N	O	0	0
			388	194	97	97		
38	h	95	Total	C	N	O	0	0
			482	292	95	95		

- Molecule 39 is a protein called Small nuclear ribonucleoprotein F.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	d	74	Total	C	N	O	0	0
			296	148	74	74		
39	i	72	Total	C	N	O	0	0
			359	215	72	72		

- Molecule 40 is a protein called Small nuclear ribonucleoprotein E.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	e	79	Total	C	N	O	0	0
			316	158	79	79		
40	j	81	Total	C	N	O	0	0
			403	241	81	81		

- Molecule 41 is a protein called Small nuclear ribonucleoprotein G.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	f	74	Total	C	N	O	0	0
			296	148	74	74		
41	k	73	Total	C	N	O	0	0
			364	218	73	73		

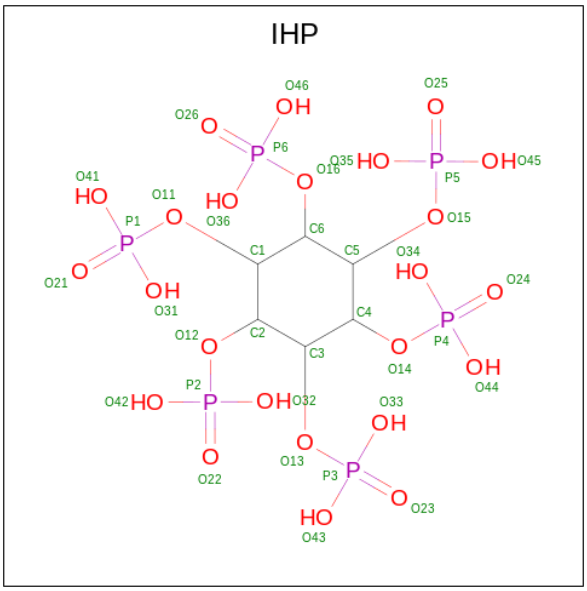
- Molecule 42 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms				AltConf	Trace
42	g	81	Total	C	N	O	0	0
			324	162	81	81		
42	l	83	Total	C	N	O	0	0
			415	249	83	83		

- Molecule 43 is a protein called U2 small nuclear ribonucleoprotein A'.

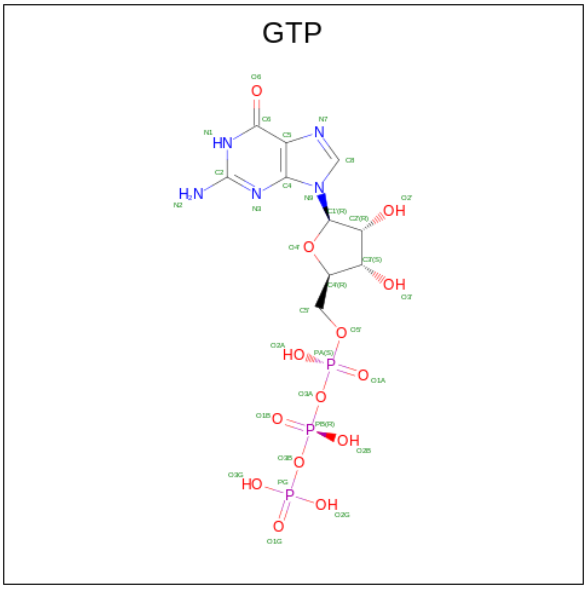
Mol	Chain	Residues	Atoms				AltConf	Trace
43	o	162	Total	C	N	O	0	0
			816	492	162	162		

- Molecule 44 is INOSITOL HEXAKISPHOSPHATE (three-letter code: IHP) (formula: $C_6H_{18}O_{24}P_6$).



Mol	Chain	Residues	Atoms				AltConf
44	A	1	Total	C	O	P	0
			36	6	24	6	

- Molecule 45 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					AltConf
45	C	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 46 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
46	C	1	Total	Mg	0
			1	1	
46	F	6	Total	Mg	0
			6	6	

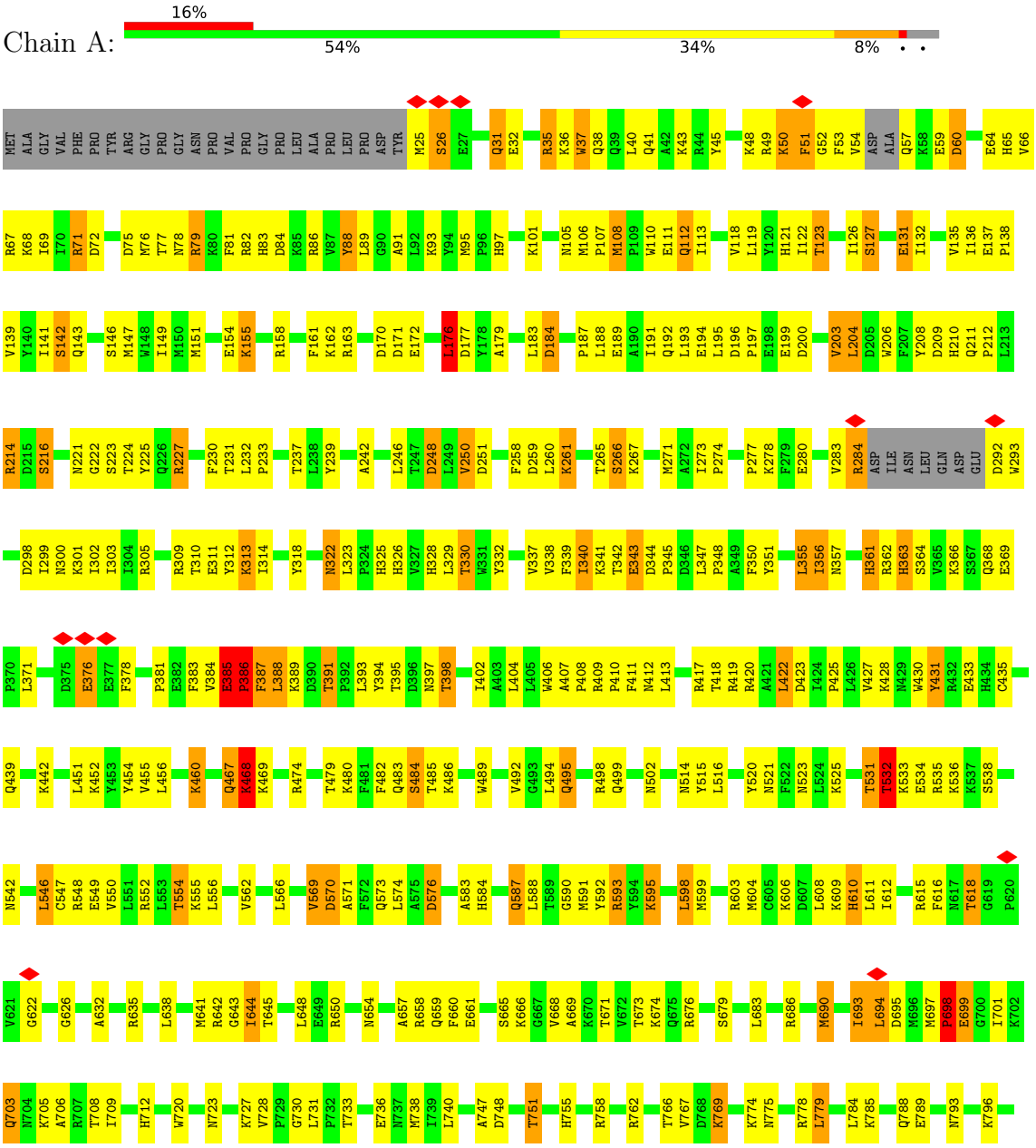
- Molecule 47 is ZINC ION (three-letter code: ZN) (formula: Zn).

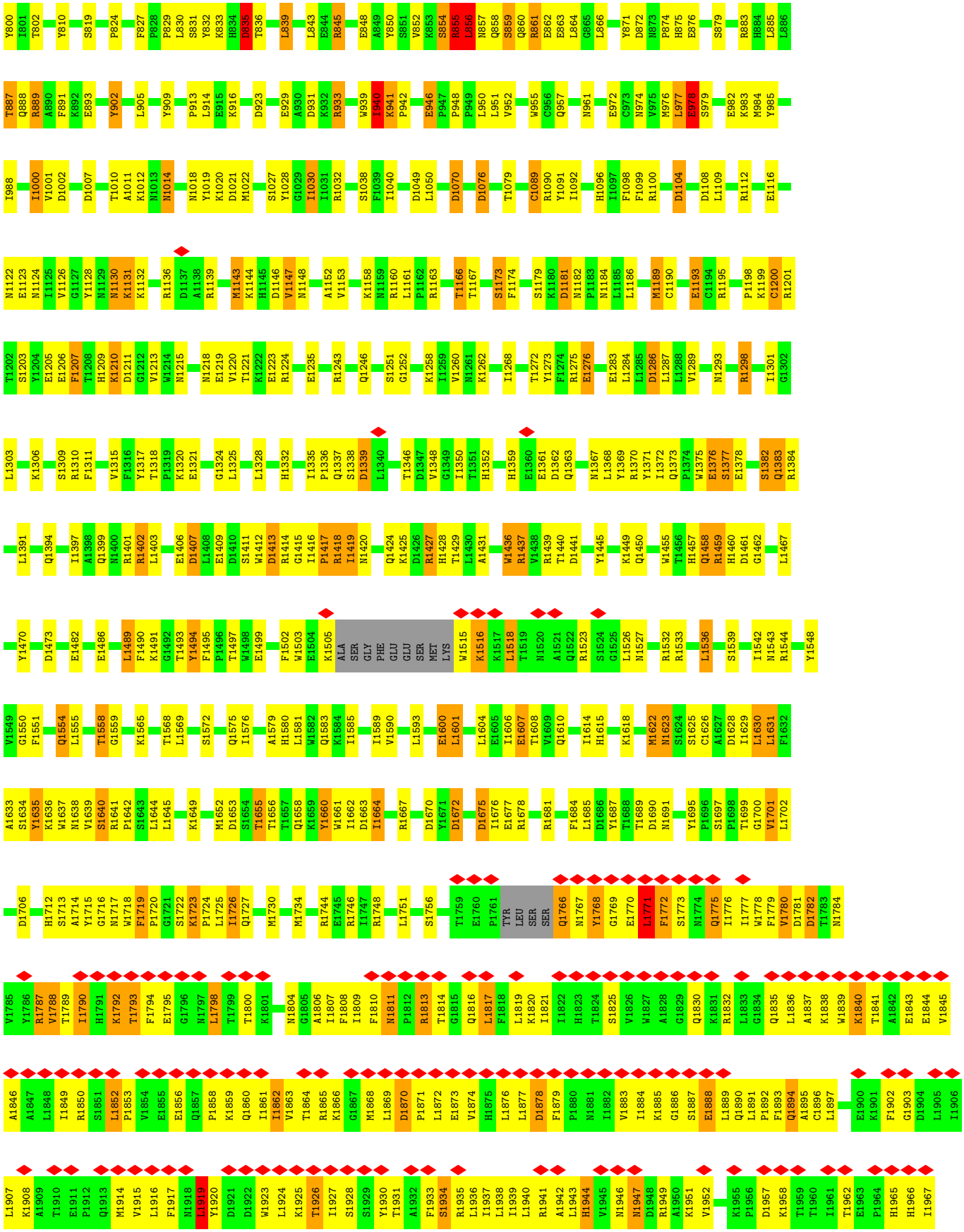
Mol	Chain	Residues	Atoms		AltConf
47	K	1	Total	Zn	0
			1	1	
47	N	3	Total	Zn	0
			3	3	
47	7	3	Total	Zn	0
			3	3	

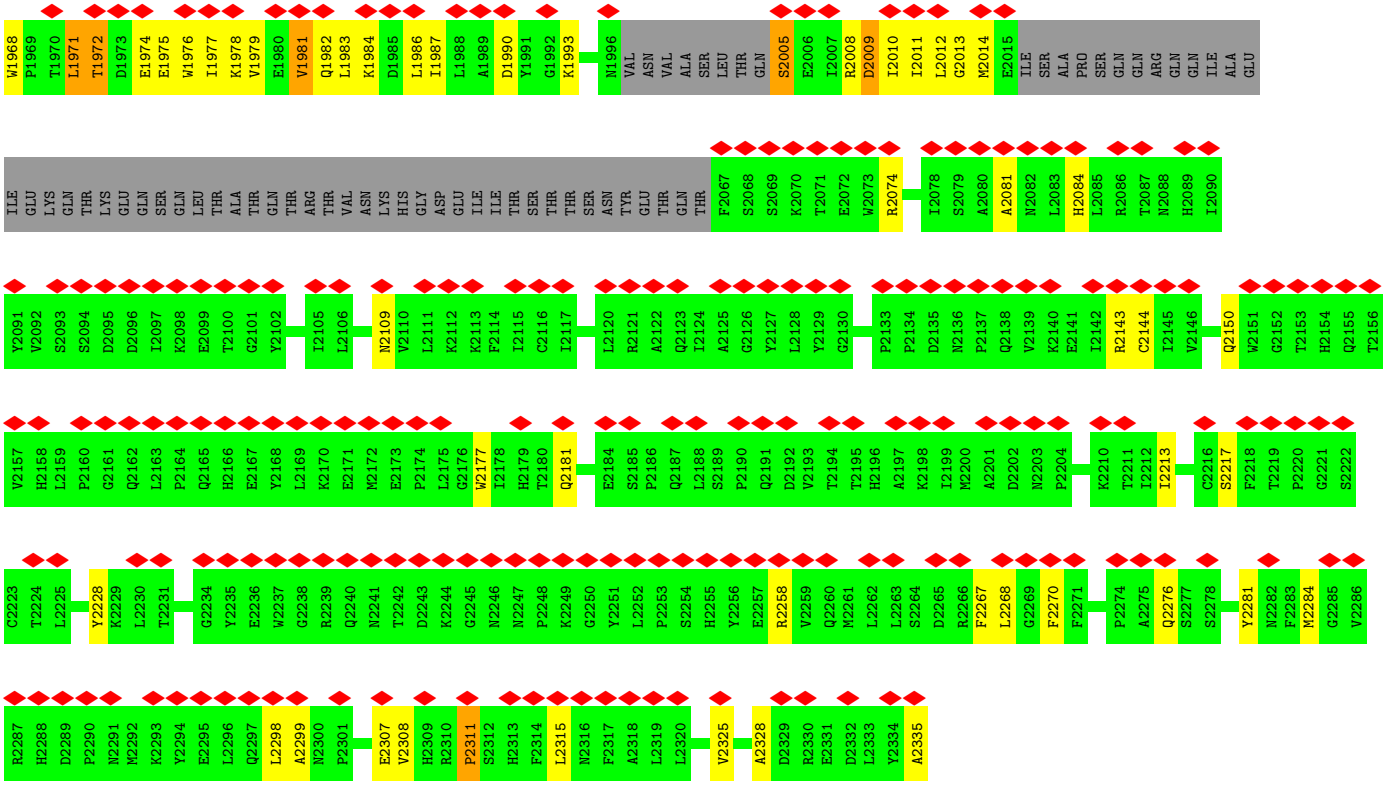
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Pre-mRNA-processing-splicing factor 8

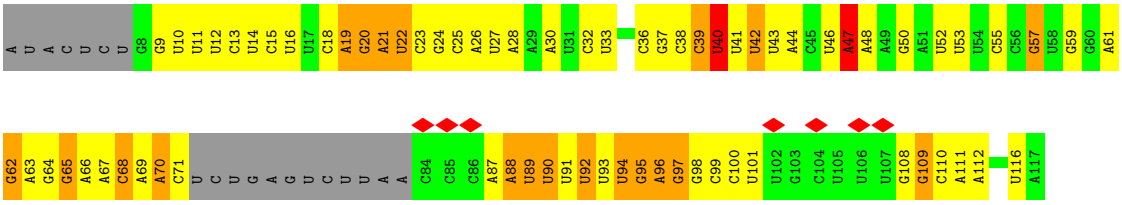






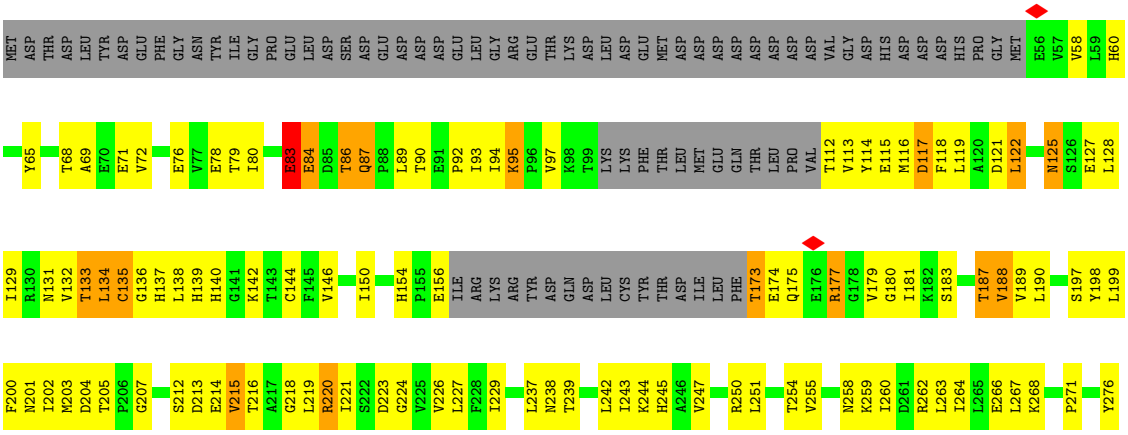
• Molecule 2: U5 snRNA

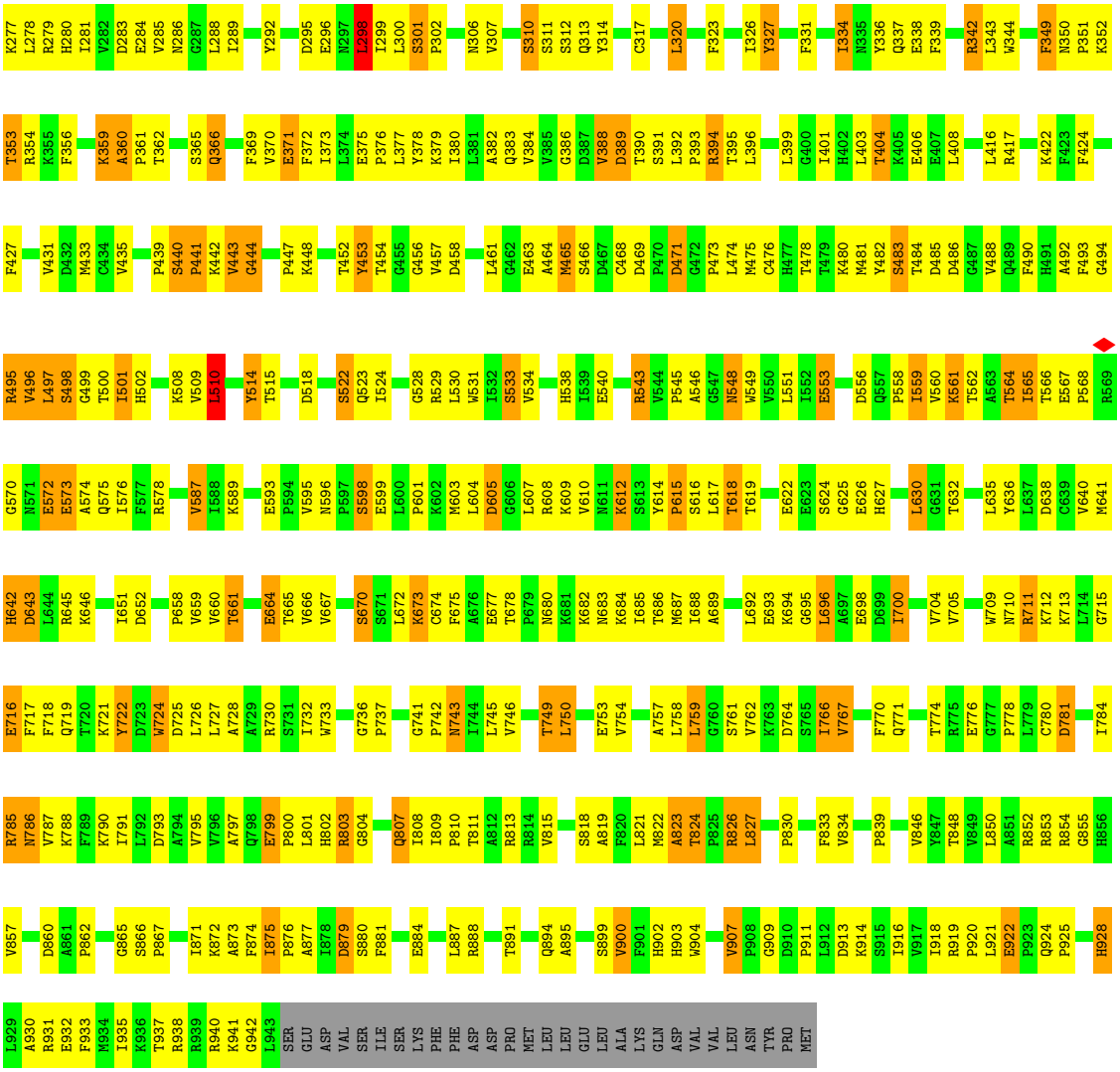
Chain B:



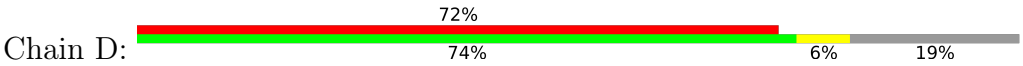
• Molecule 3: 116 kDa U5 small nuclear ribonucleoprotein component

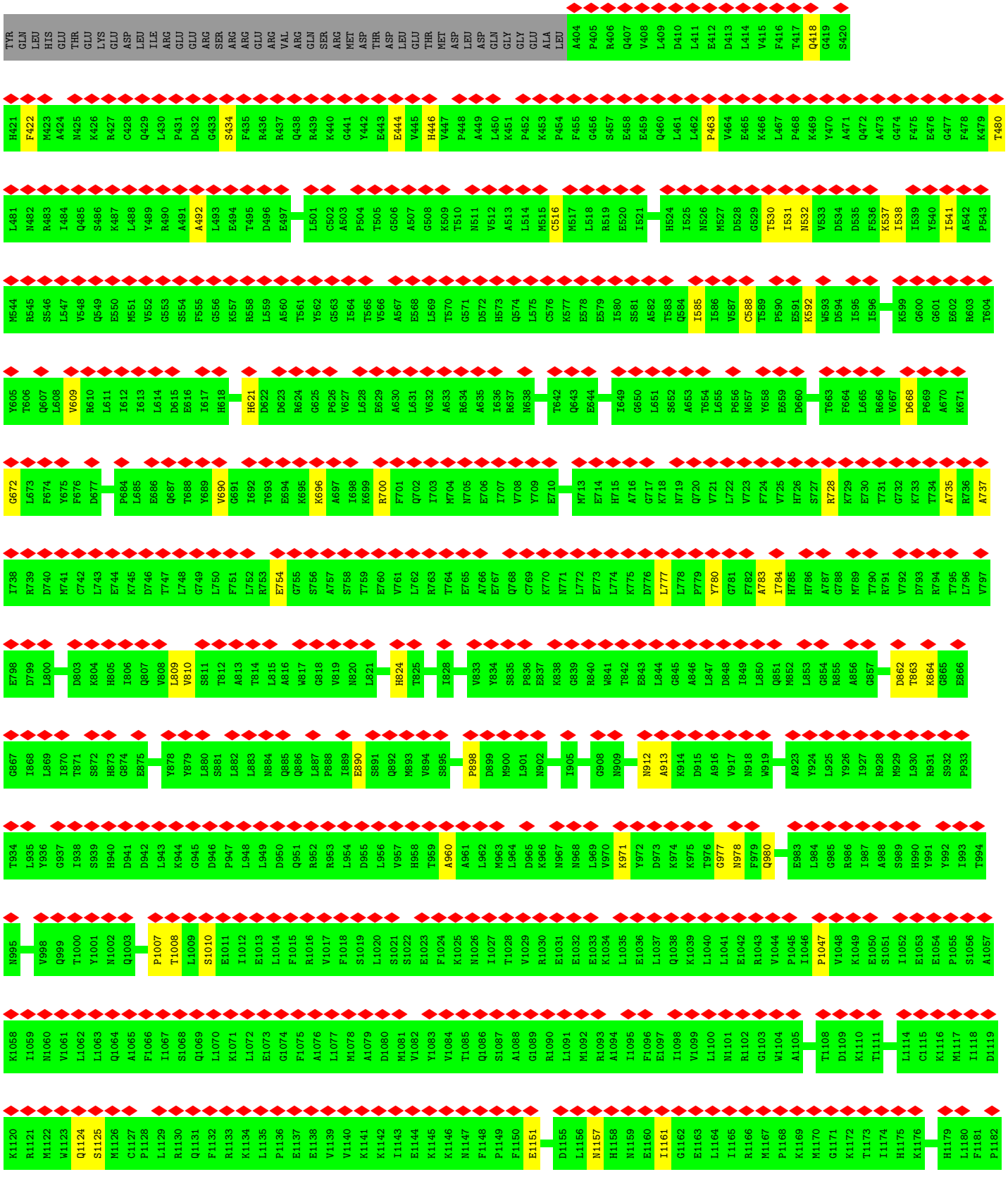
Chain C:





• Molecule 4: U5 small nuclear ribonucleoprotein 200 kDa helicase

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A404 P405 R406 Q407 V408 L409 D410 L411 E412 D413 L414 V415 F416 T417 Q418 G419 S420
H421 F422 M423 A424 N425 K426 R427 C428 Q429 L430 P431 D432 G433 S434 F435 R436 R437 Q438 R439 K440 G441 Y442 E443 E444 V445 H446 V447 P448 A449 L450 K451 P452 K453 P454 F455 G456 S457 E458 E459 Q460 L461 L462 P463 V464 E465 K466 L467 P468 K469 Y470 A471 Q472 A473 G474 F475 E476 G477 F478 K479 T480
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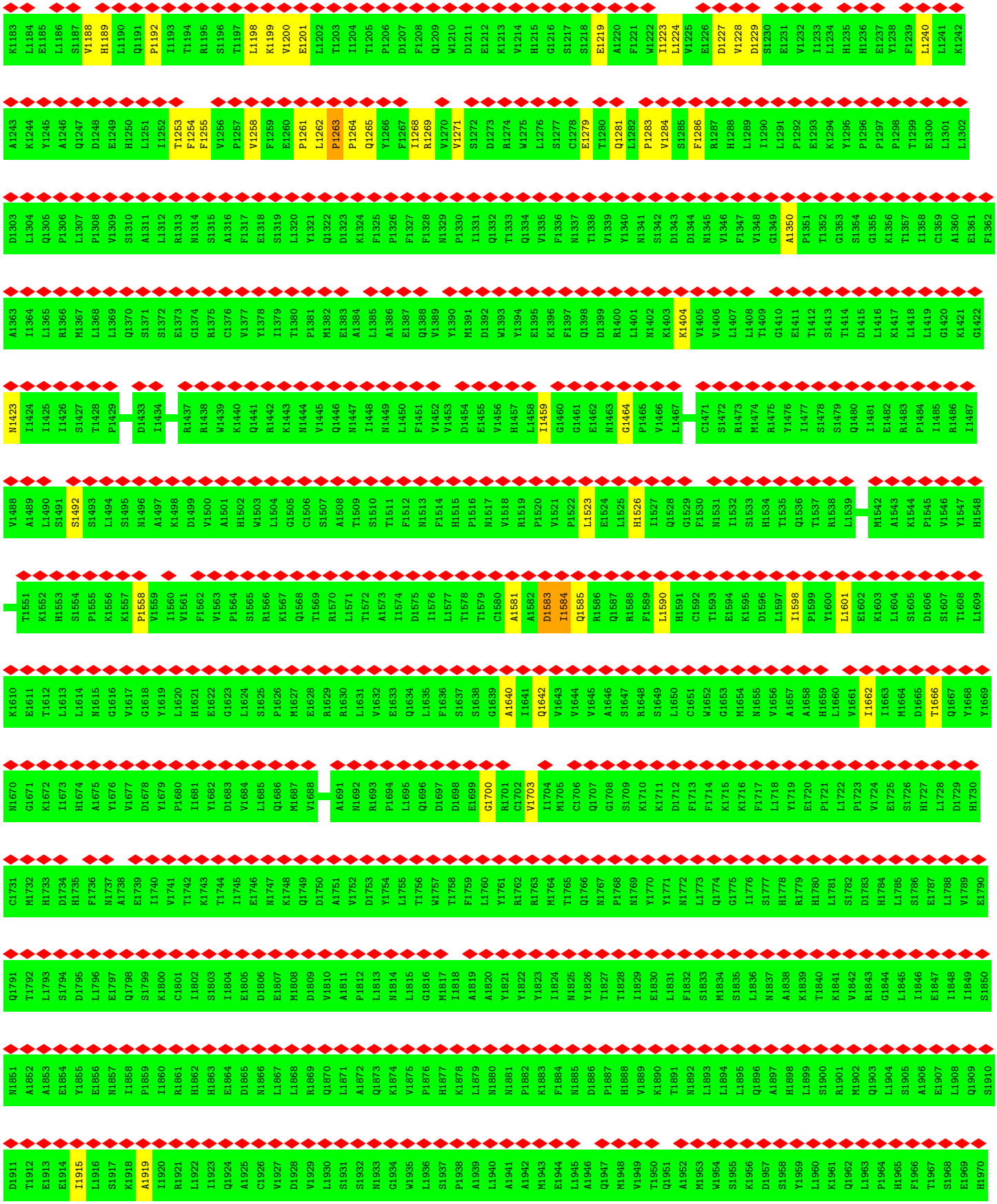
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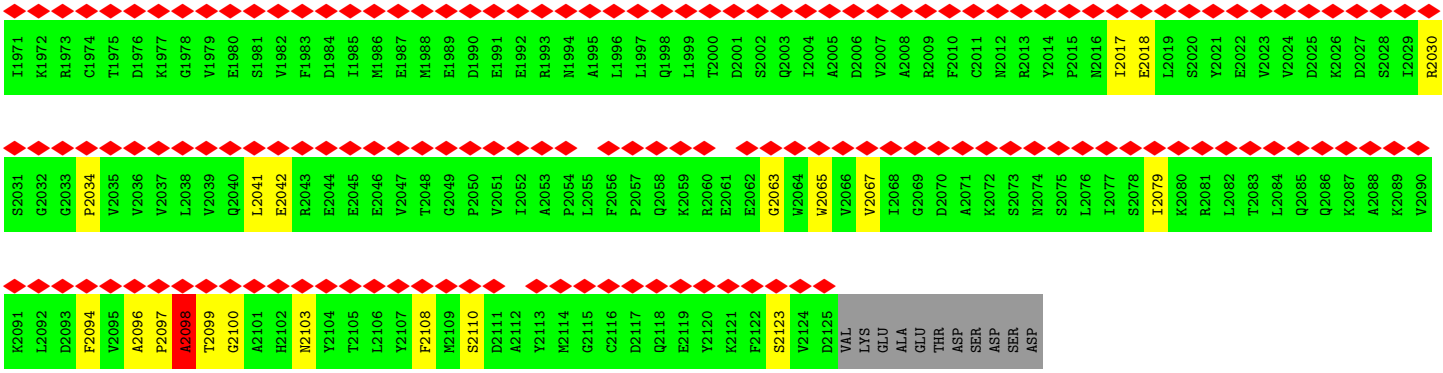
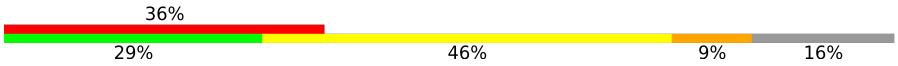
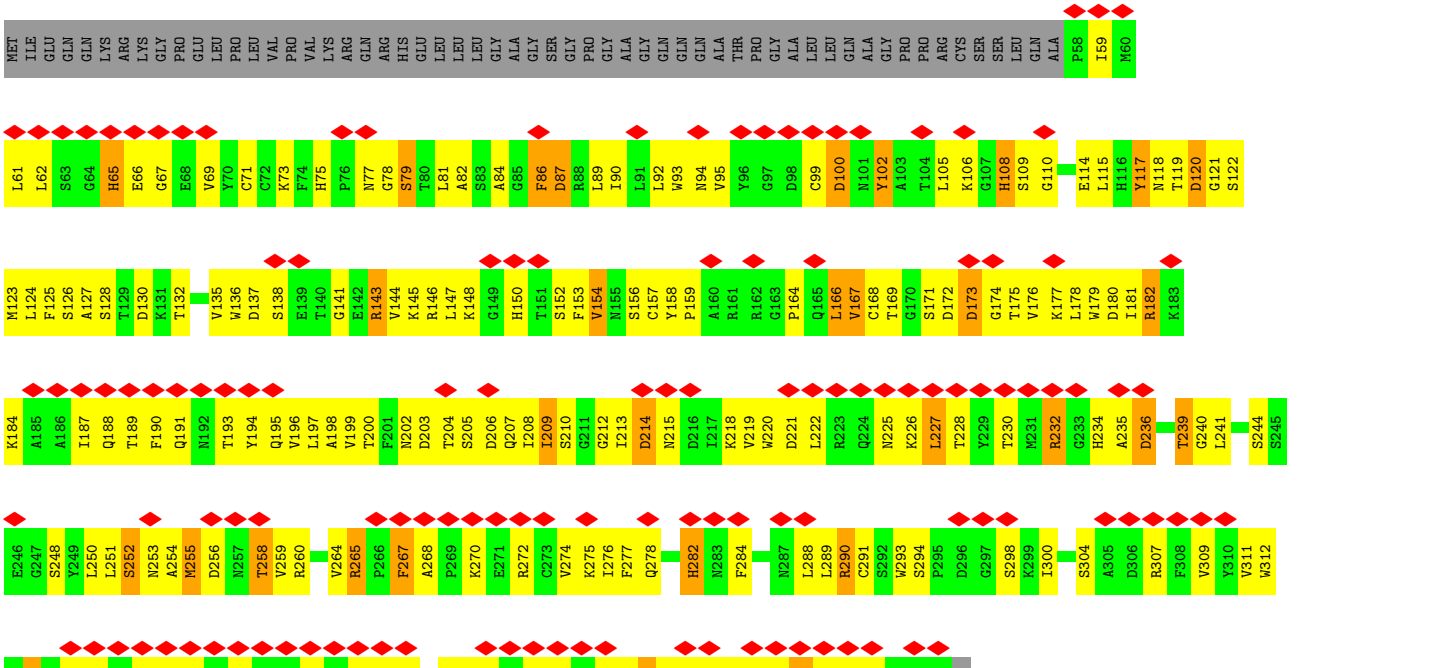


• Molecule 5: U5 small nuclear ribonucleoprotein 40 kDa protein

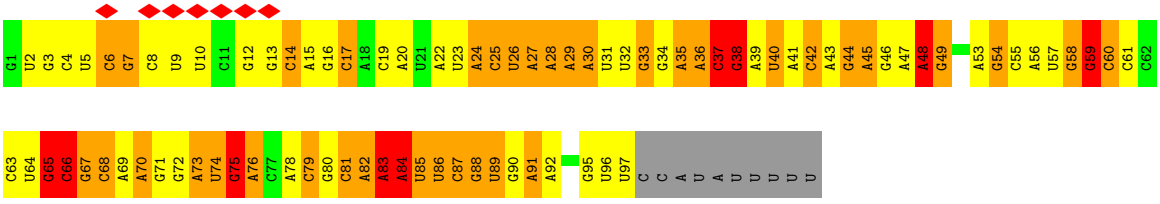
Chain E:





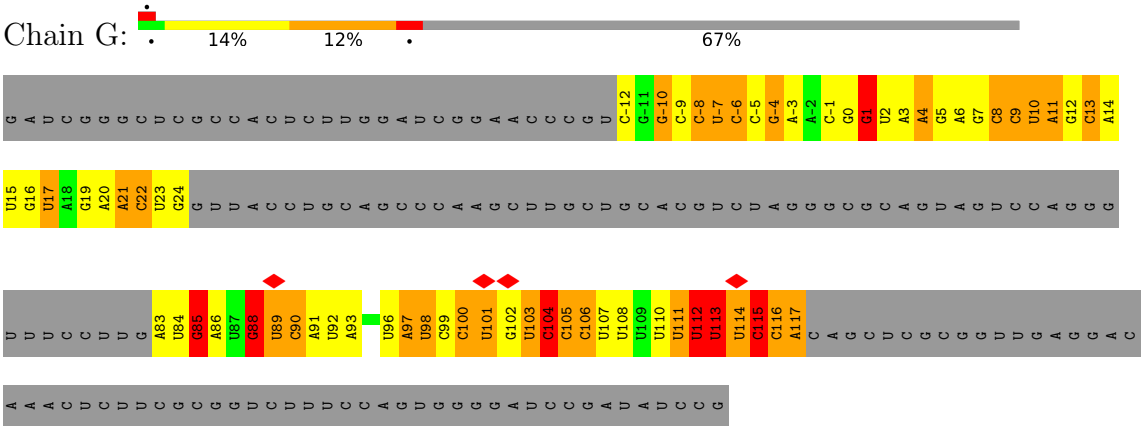
• Molecule 6: U6 snRNA

Chain F:



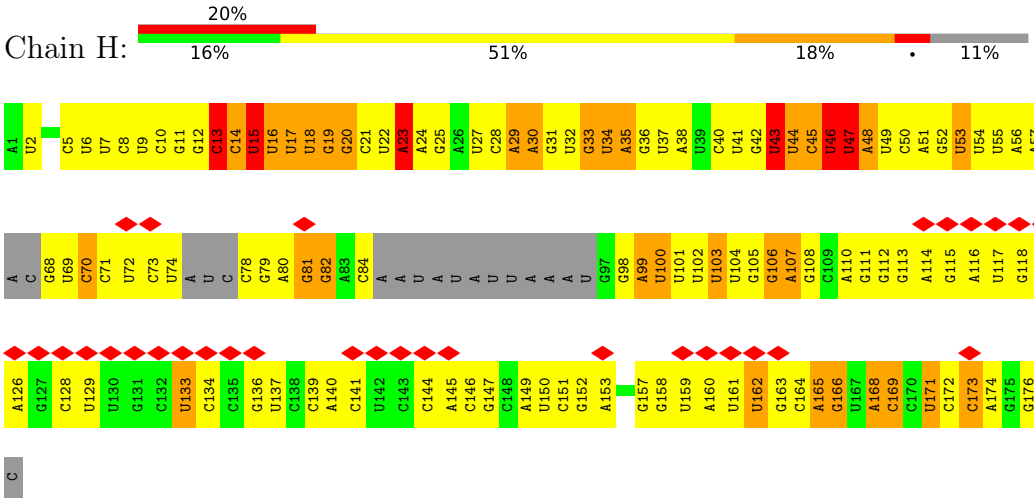
• Molecule 7: pre-mRNA

Chain G:



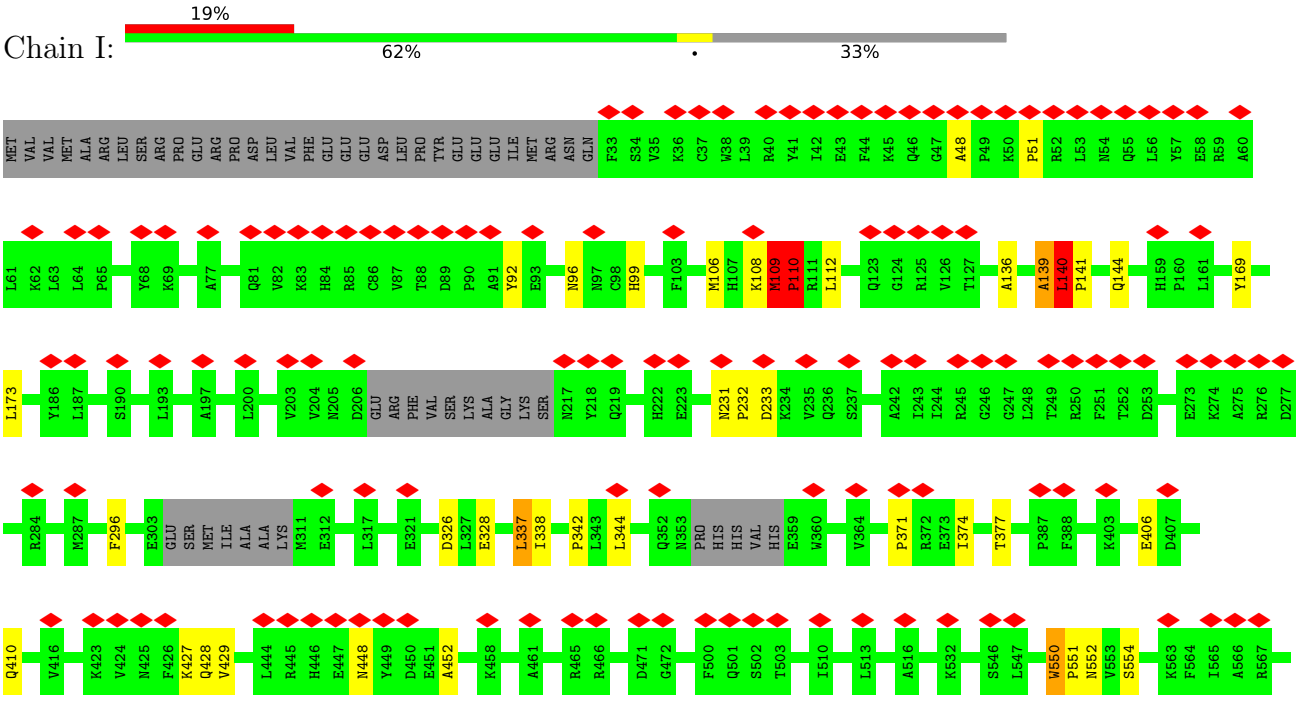
• Molecule 8: U2 snRNA

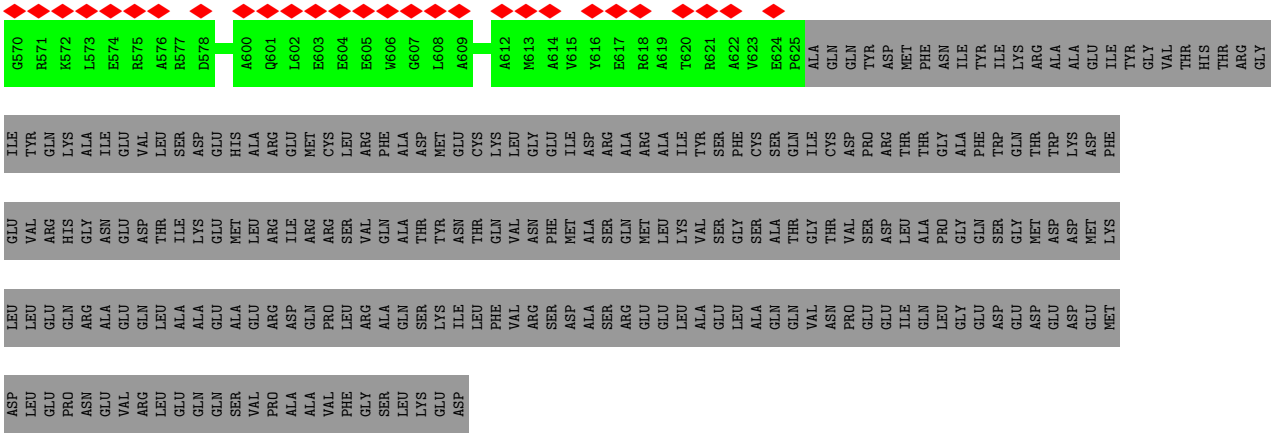
Chain H:



• Molecule 9: Pre-mRNA-splicing factor SYF1

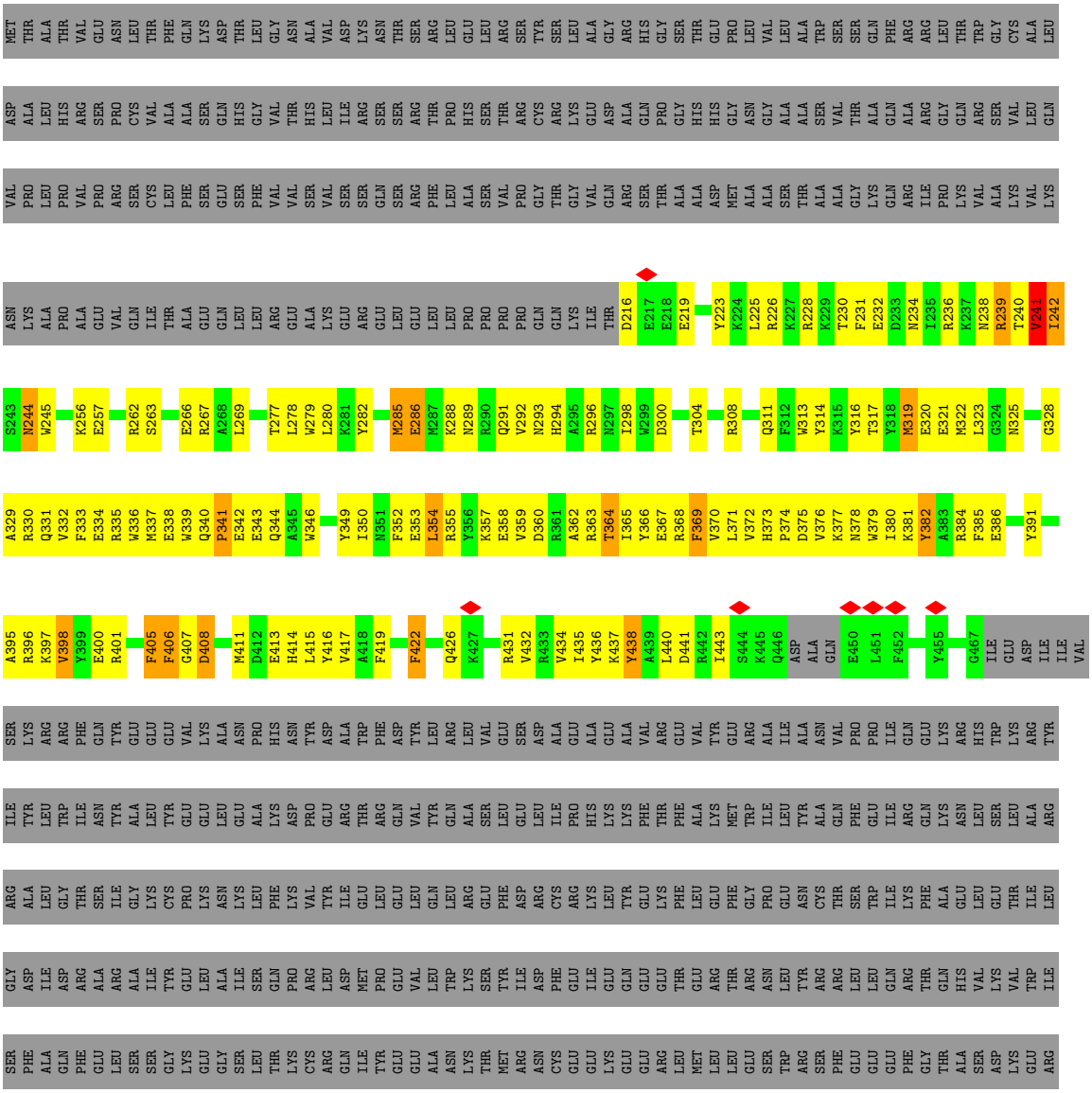
Chain I:

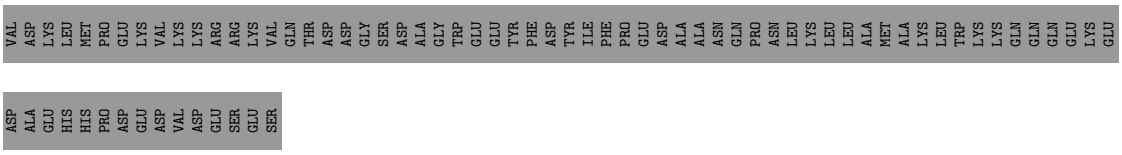




• Molecule 10: Crooked neck-like protein 1

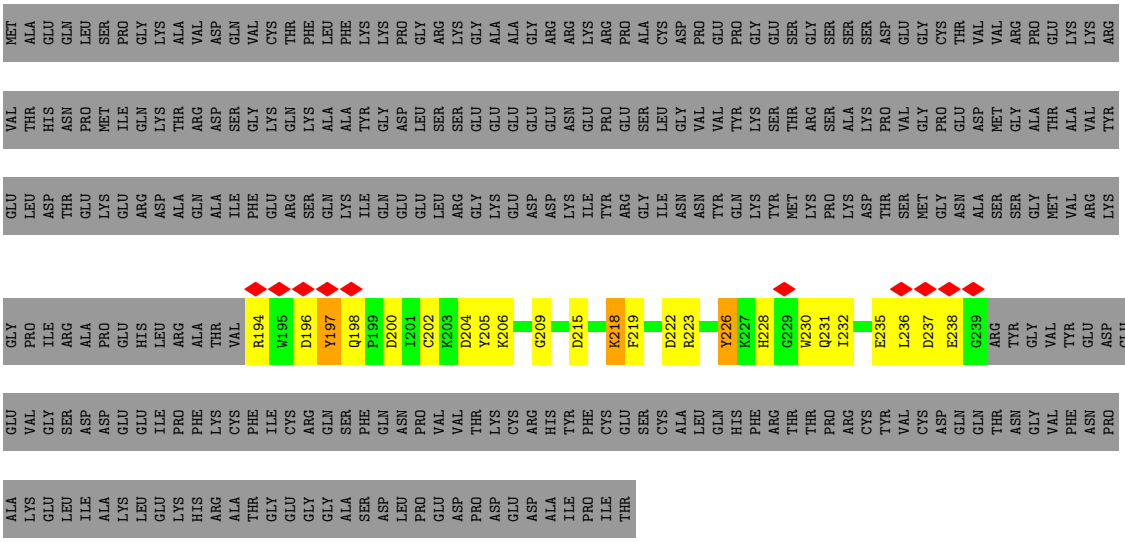
Chain J:





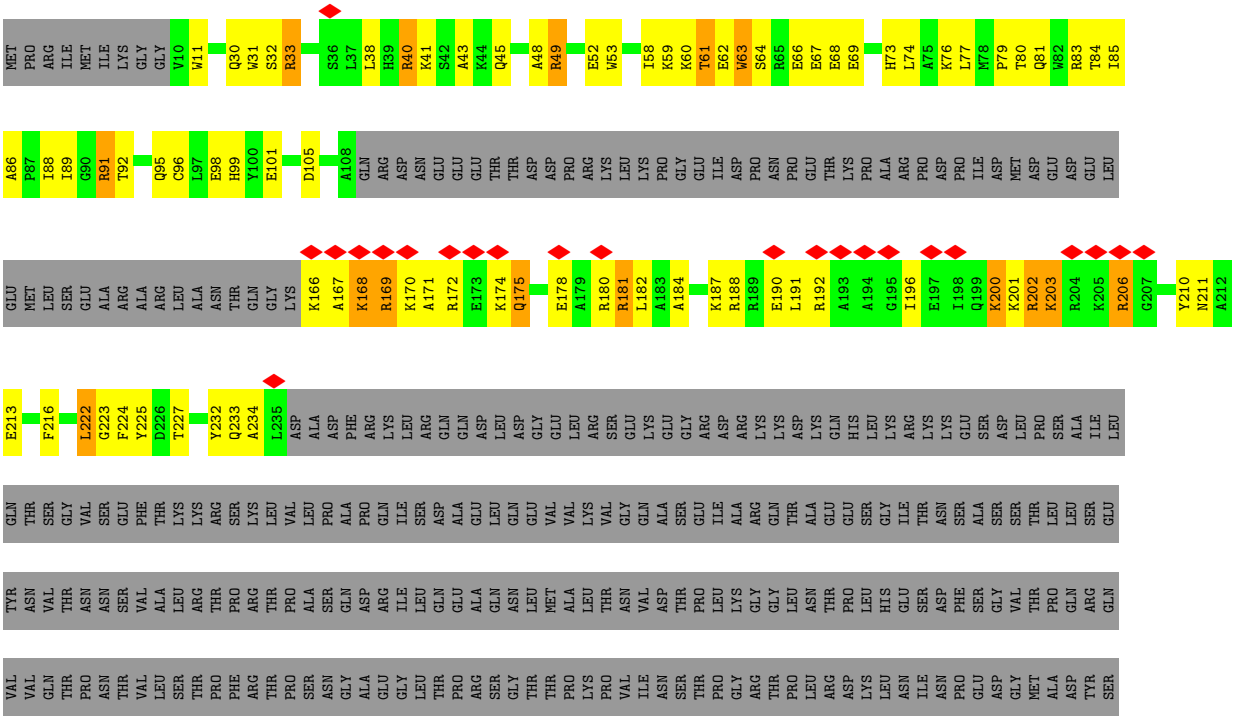
• Molecule 11: RING finger protein 113A

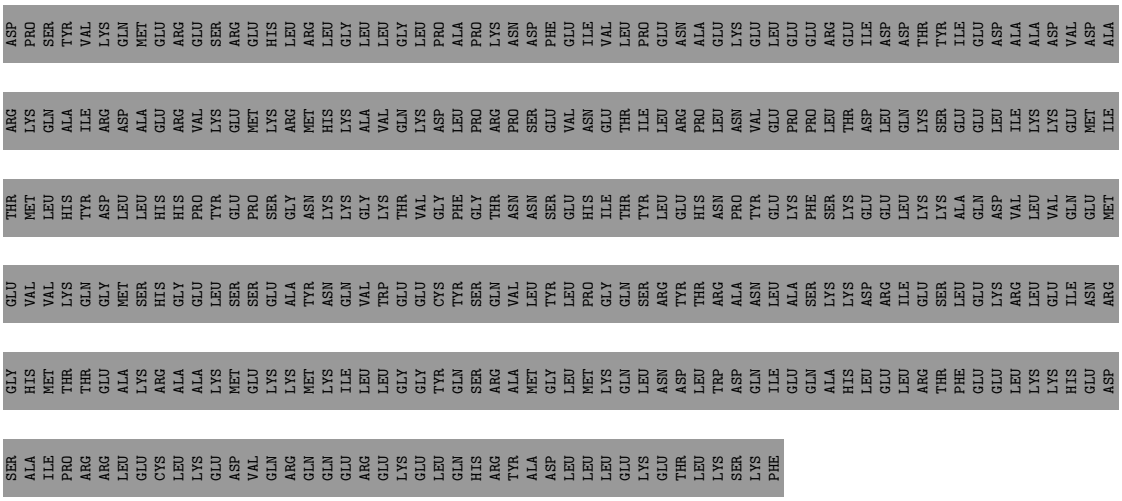
Chain K:



• Molecule 12: Cell division cycle 5-like protein

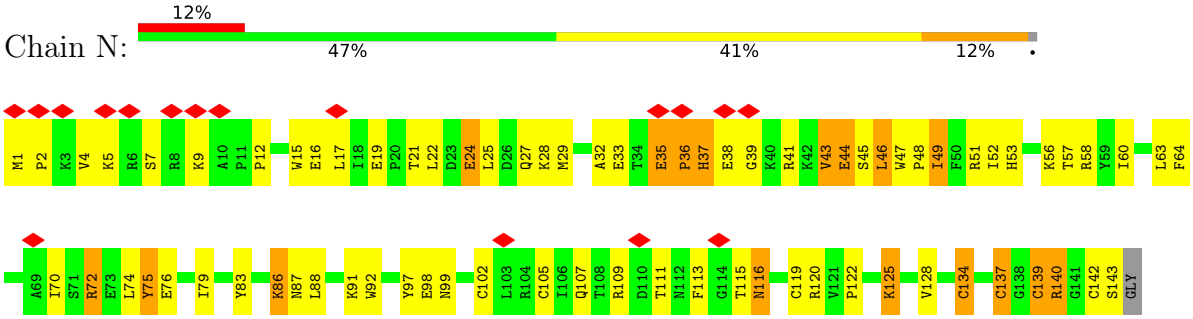
Chain L:





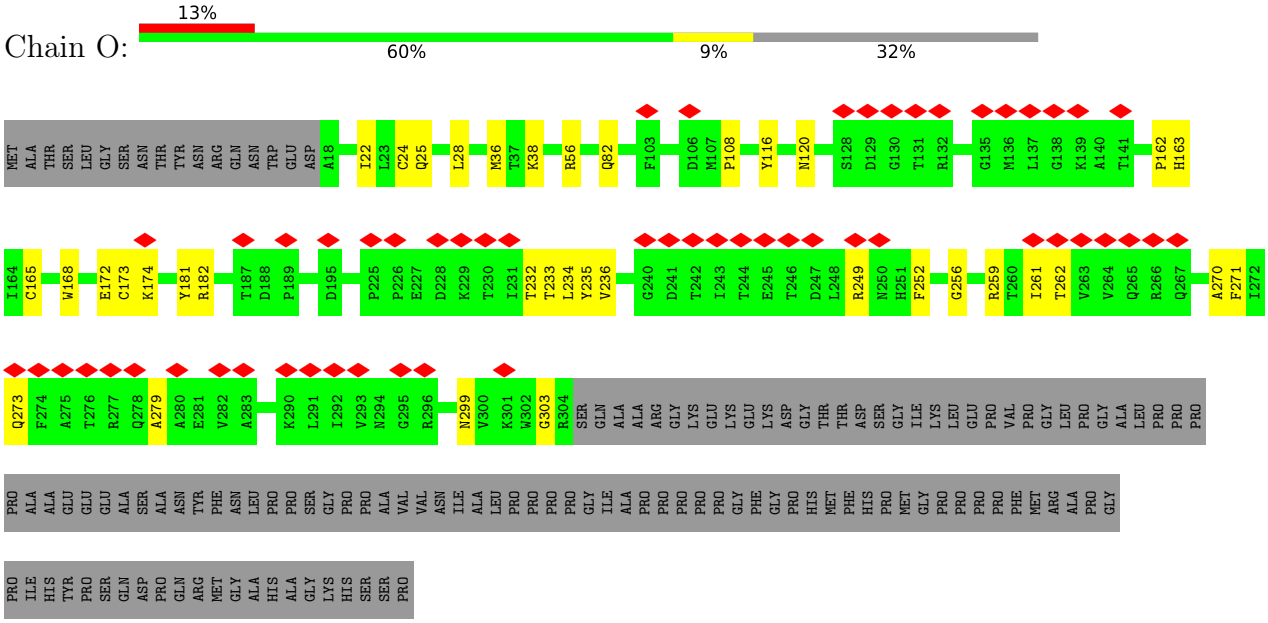
• Molecule 13: Protein BUD31 homolog

Chain N:



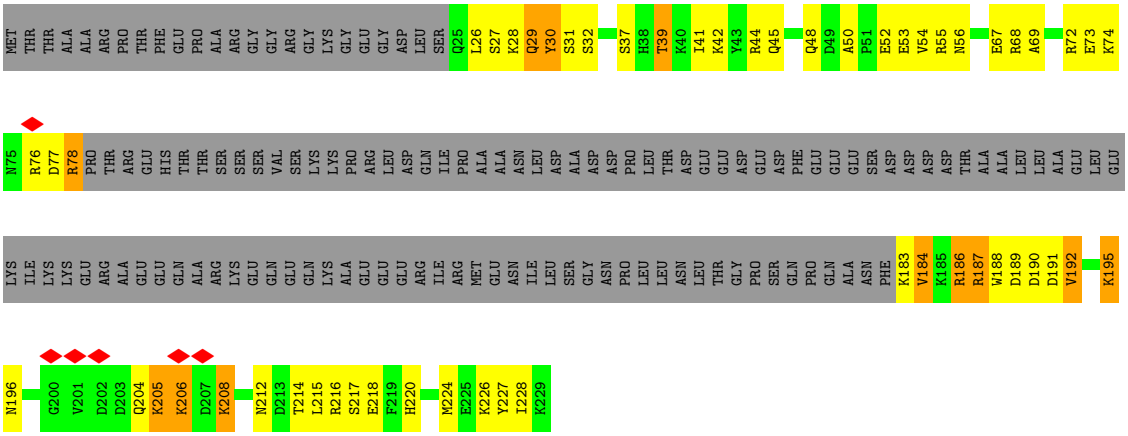
• Molecule 14: Pre-mRNA-splicing factor RBM22

Chain O:



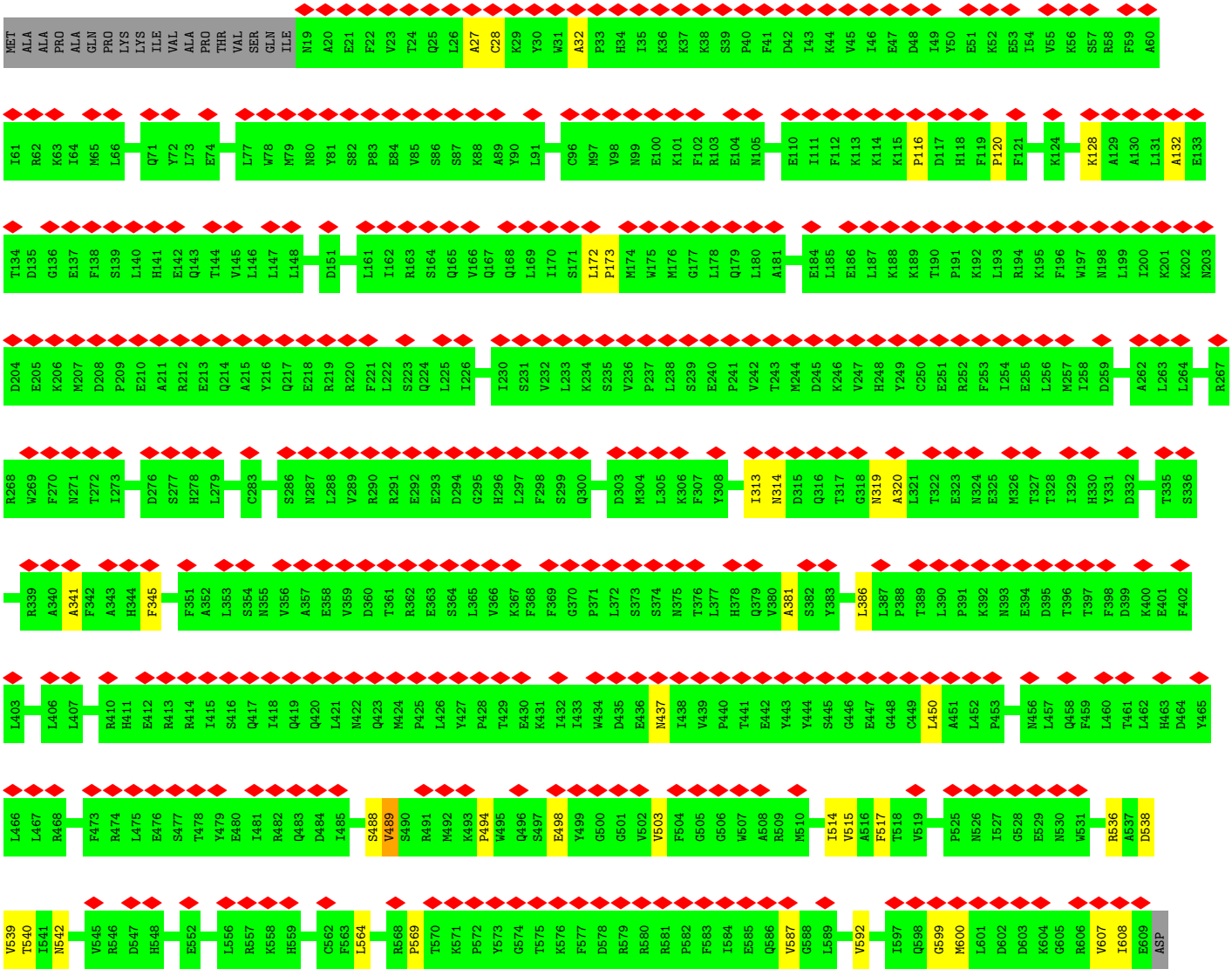
• Molecule 15: Spliceosome-associated protein CWC15 homolog

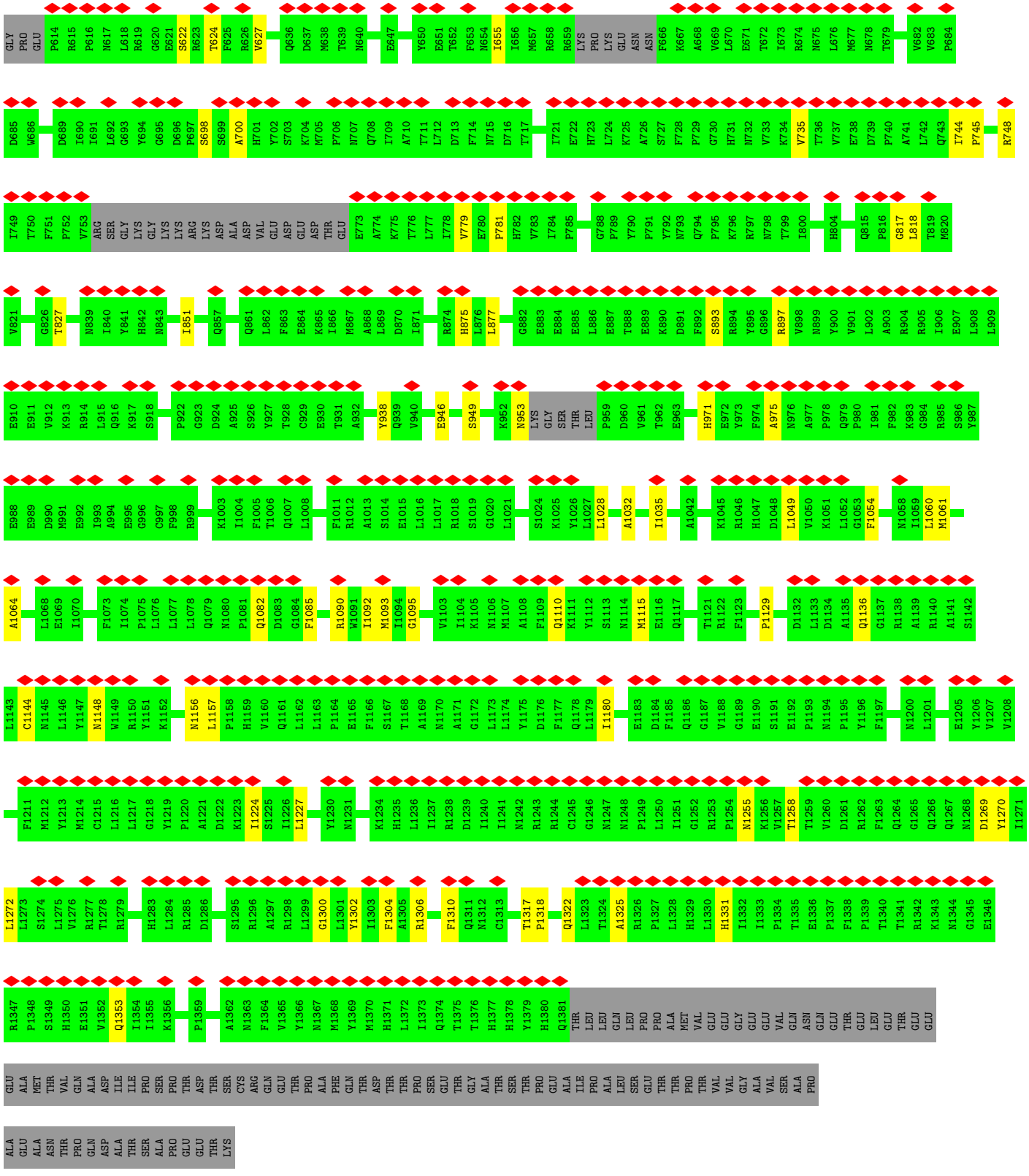
Chain P:



• Molecule 16: RNA helicase aquarius

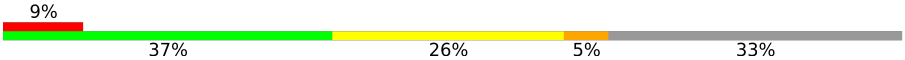
Chain Q:

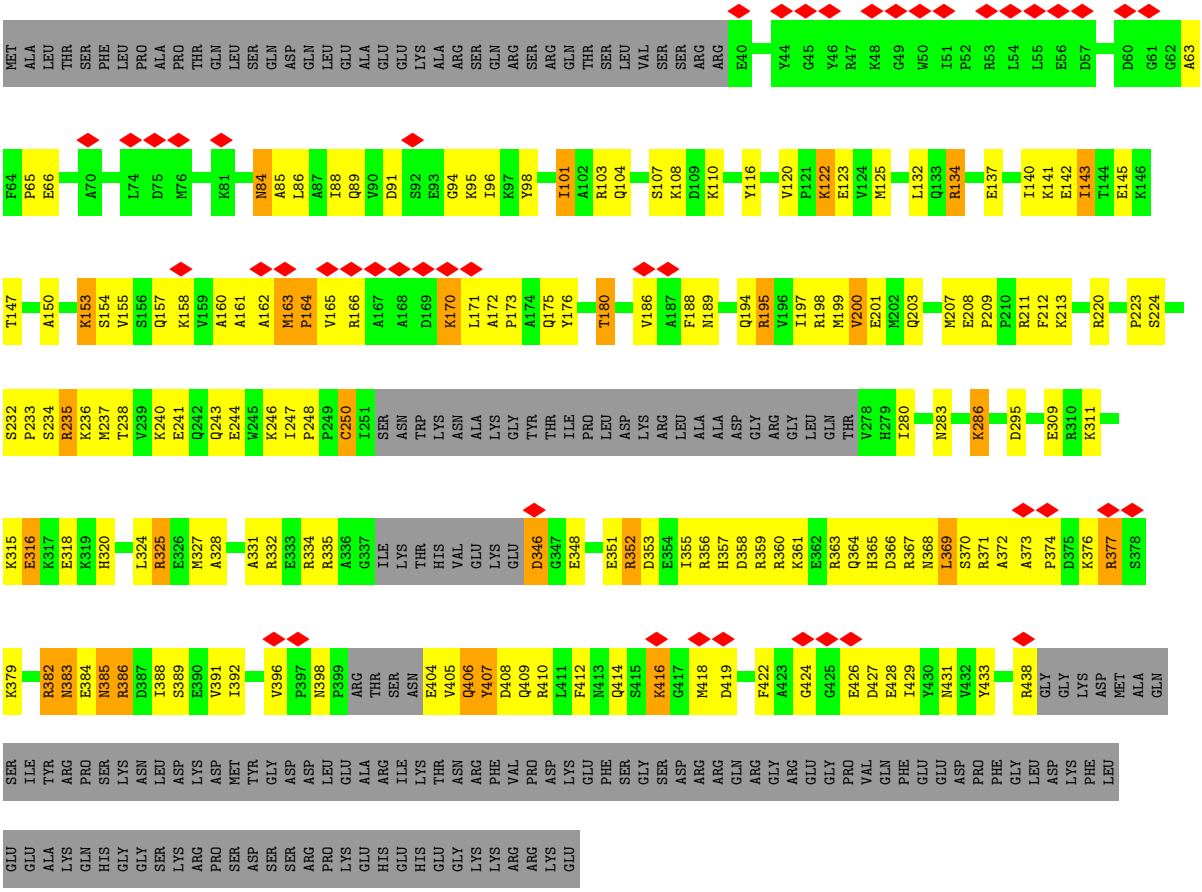




• Molecule 17: SNW domain-containing protein 1

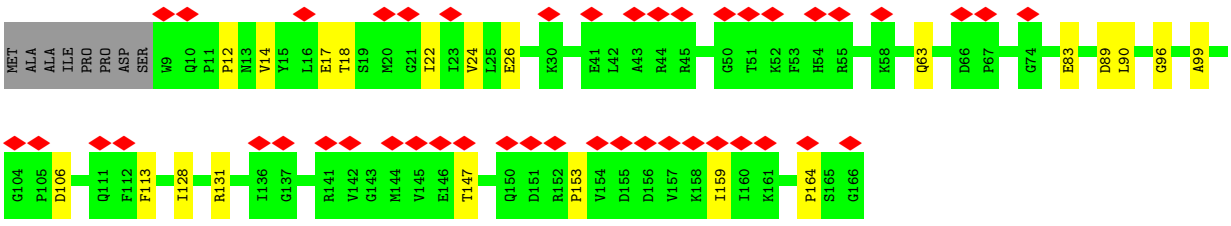
Chain R:





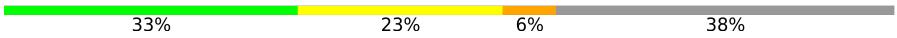
• Molecule 18: Peptidyl-prolyl cis-trans isomerase-like 1

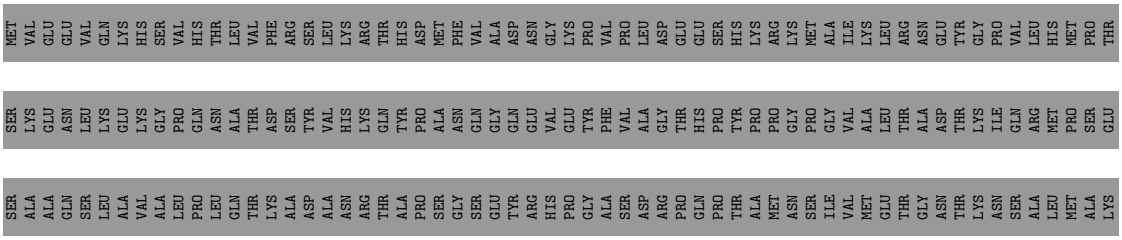
Chain S:

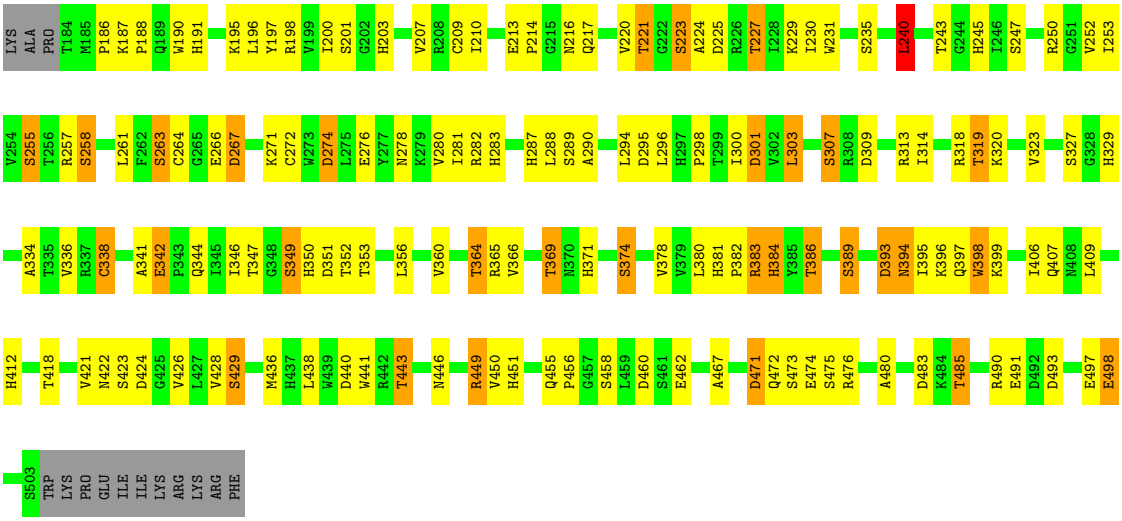


• Molecule 19: Pleiotropic regulator 1

Chain T:

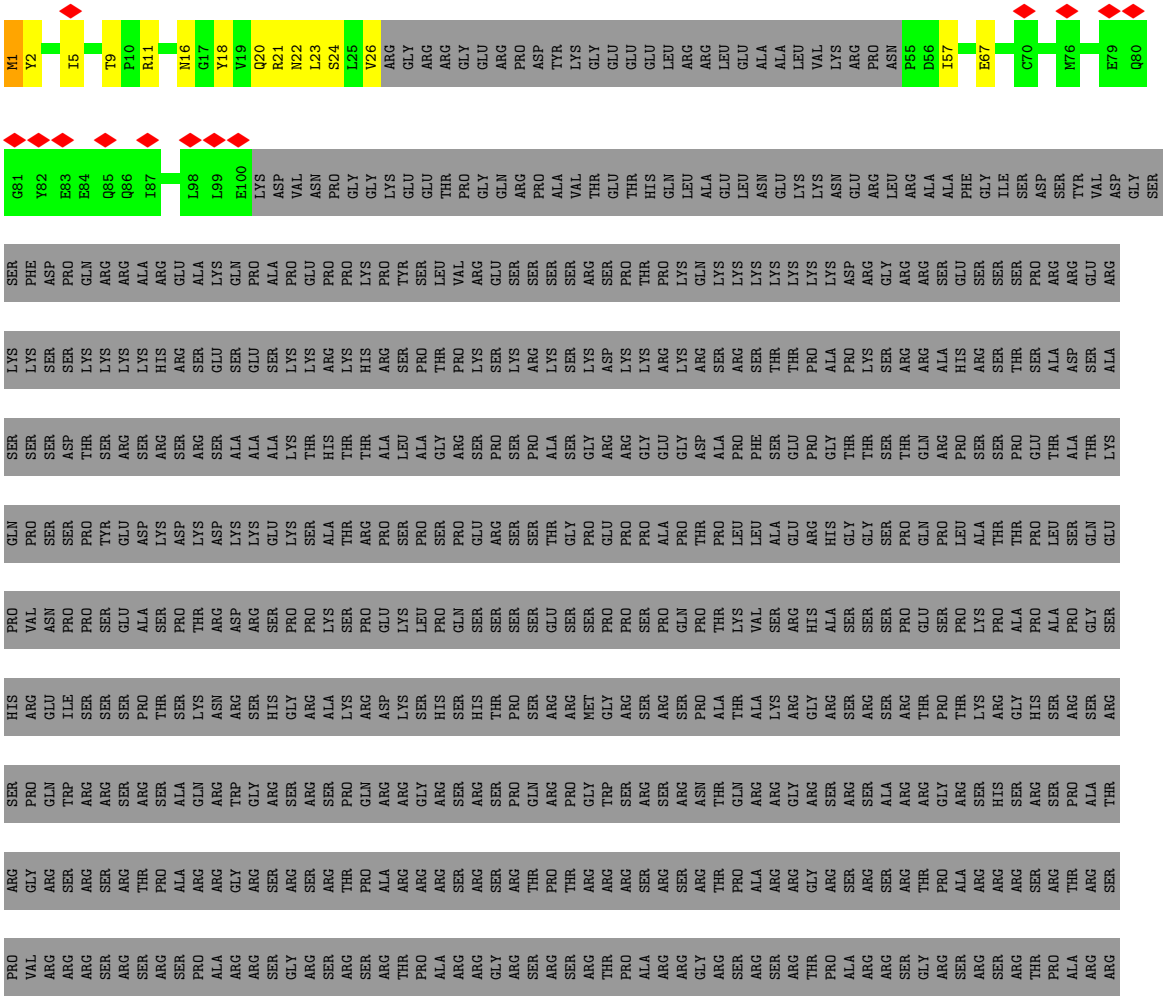






• Molecule 20: Serine/arginine repetitive matrix protein 2

Chain U: 97%



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THR PRO PRO ARG ARG SER ARG SER SER SER SER PRO PRO PRO LYS GLN LYS SER LYS THR PRO SER ARG GLN SER HIS SER SER SER SER PRO HIS PRO LYS VAL LYS SER GLY THR PRO PRO ARG GLN GLY SER ILE THR SER PRO GLN ALA ASN GLU GLN SER VAL THR PRO GLN ARG

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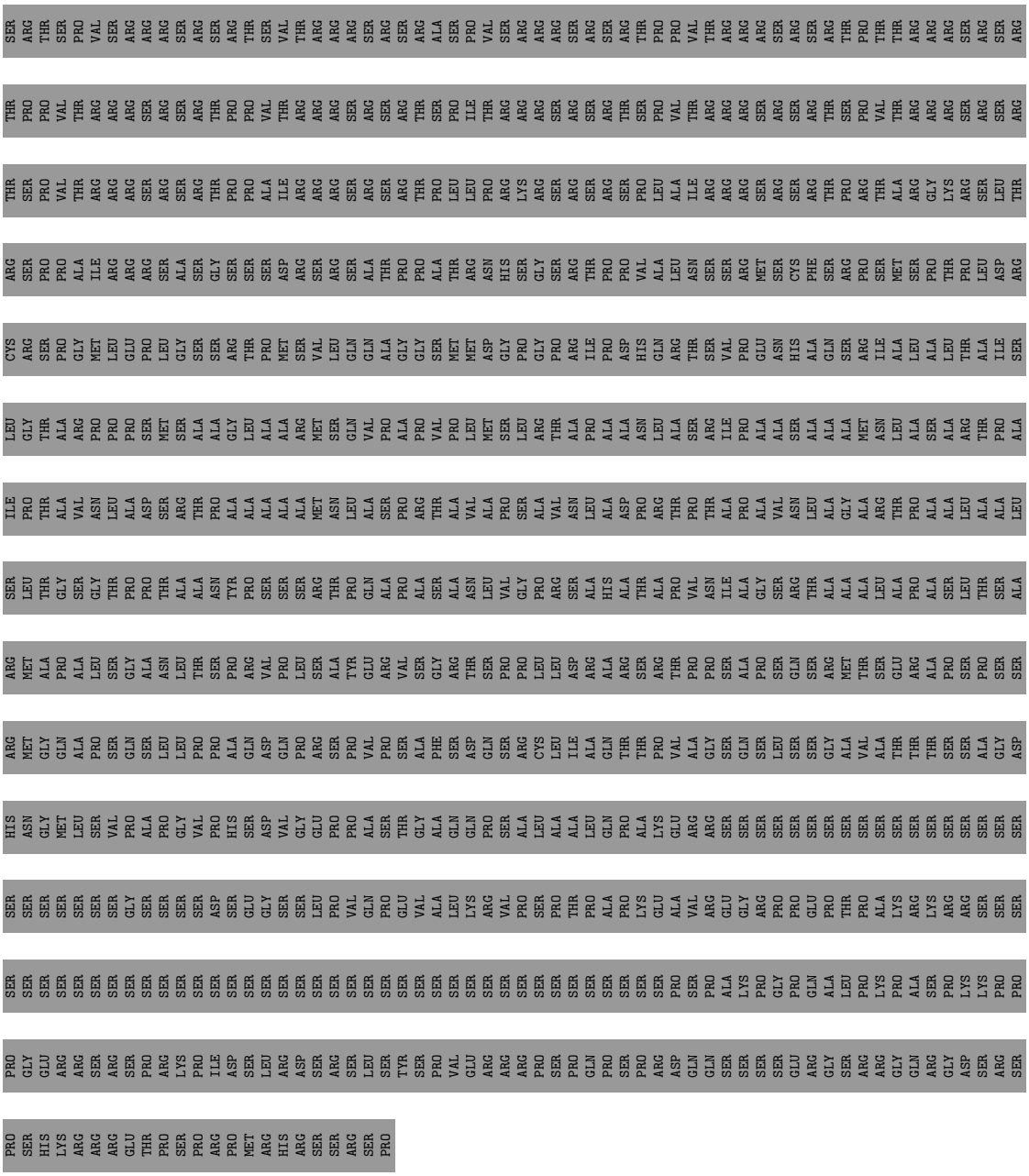
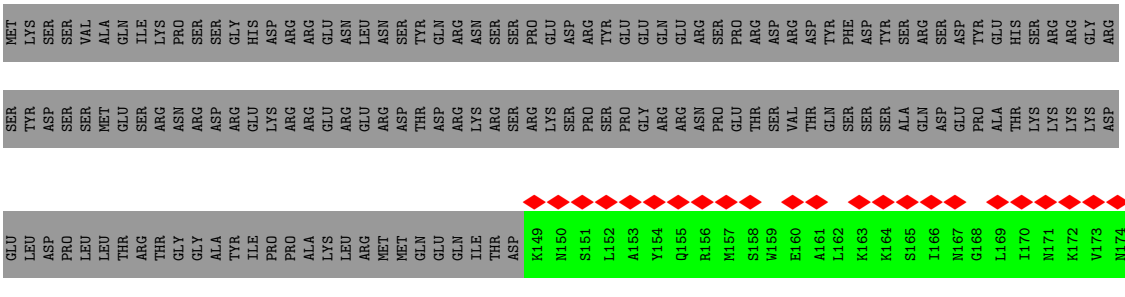
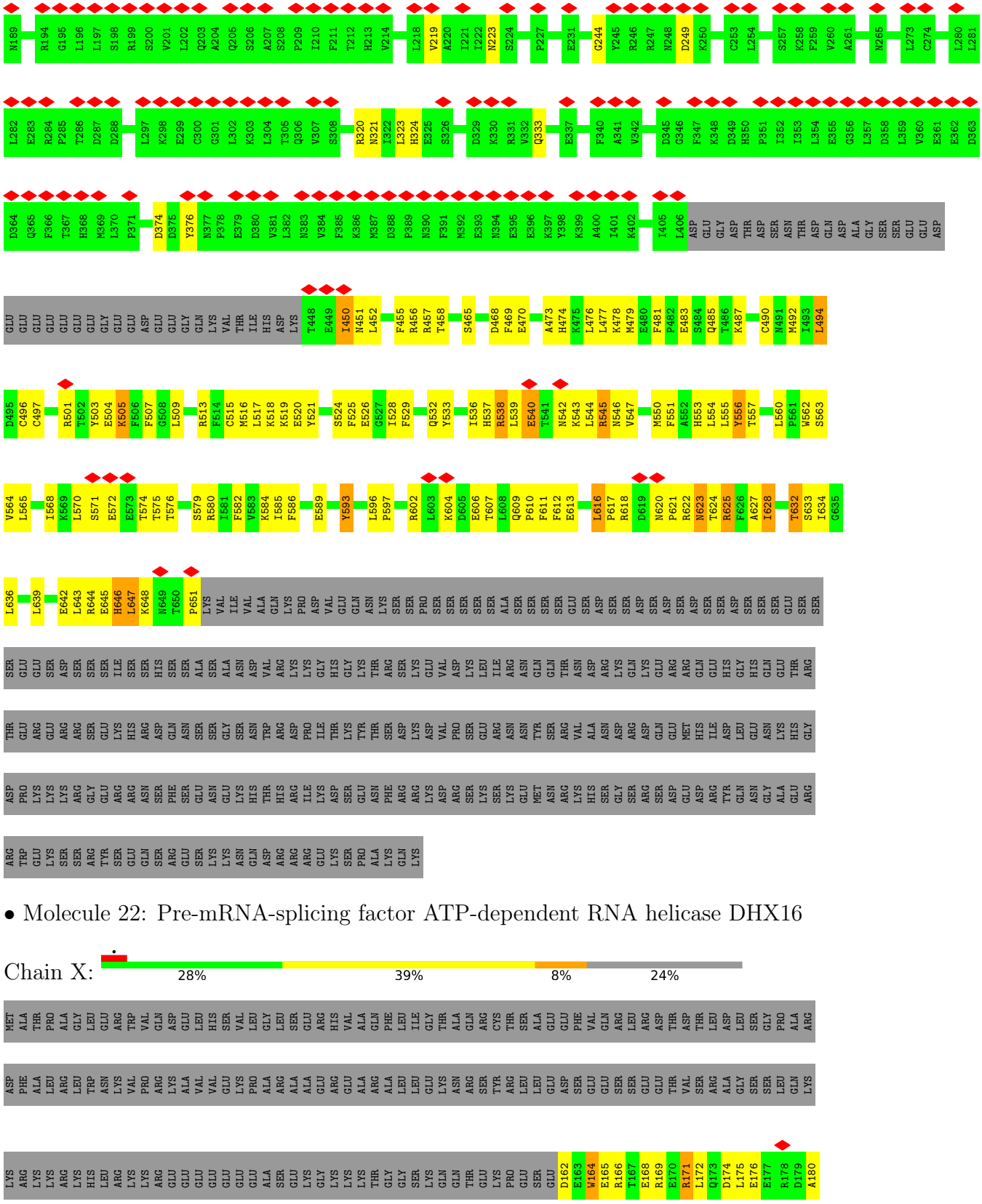


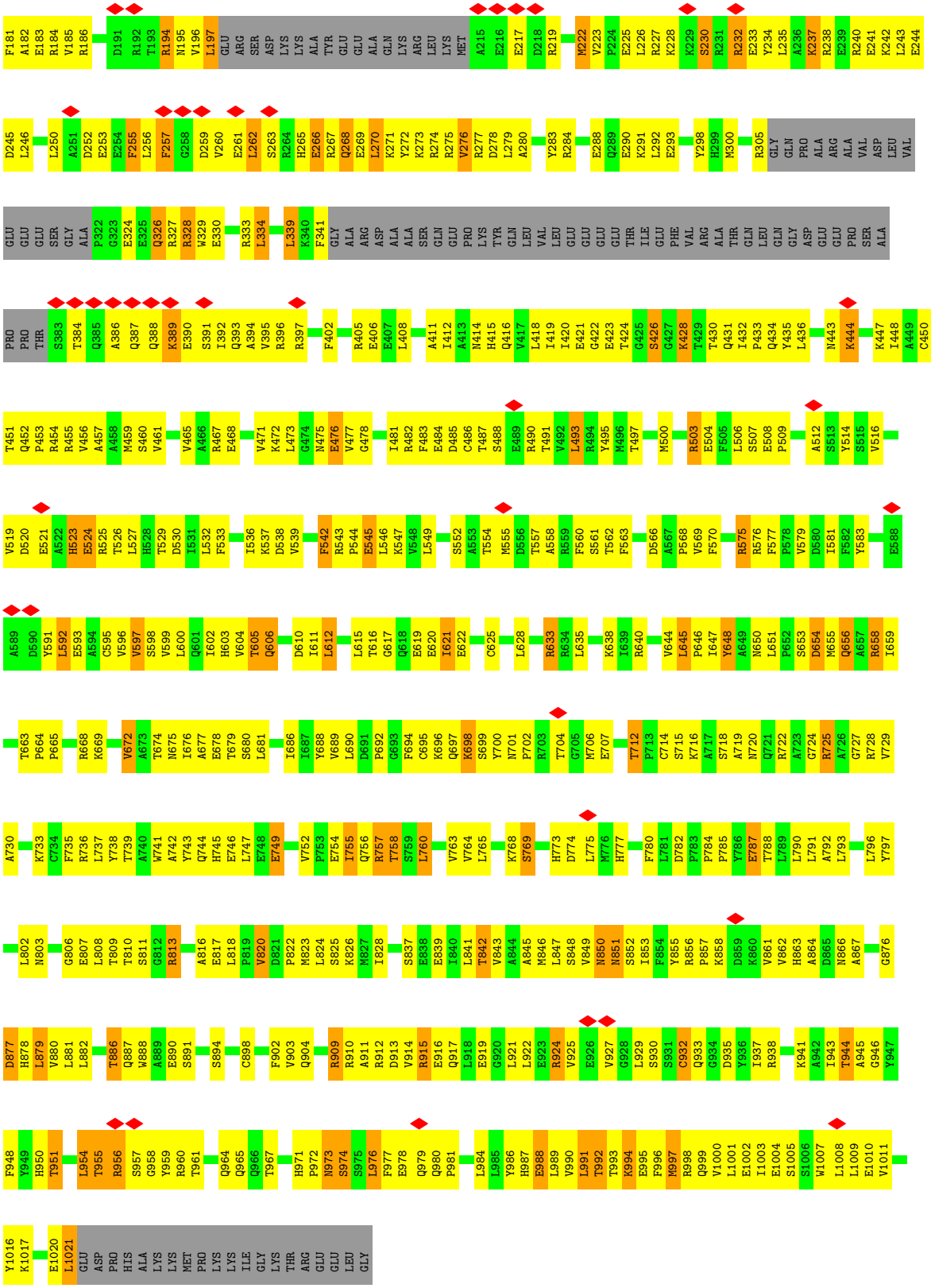
• Molecule 21: Pre-mRNA-splicing factor CWC22 homolog

Chain V:



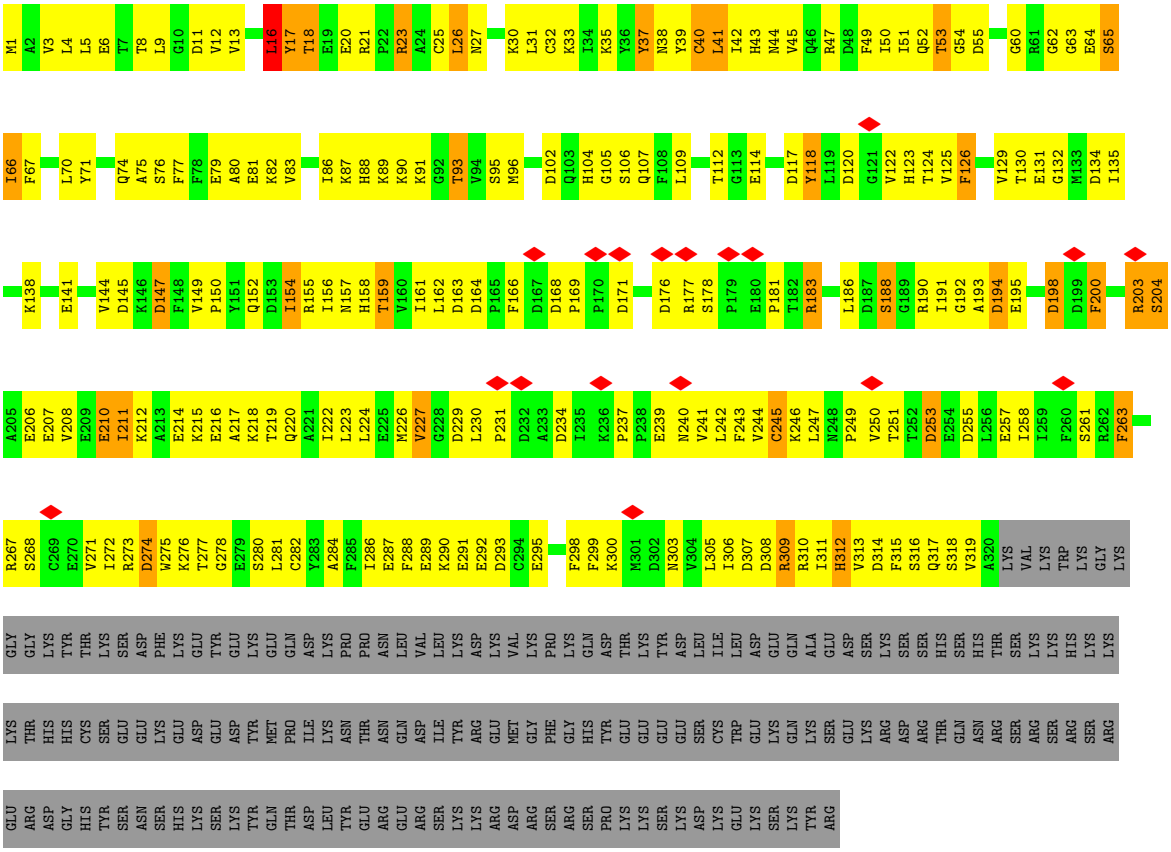


• Molecule 22: Pre-mRNA-splicing factor ATP-dependent RNA helicase DHX16



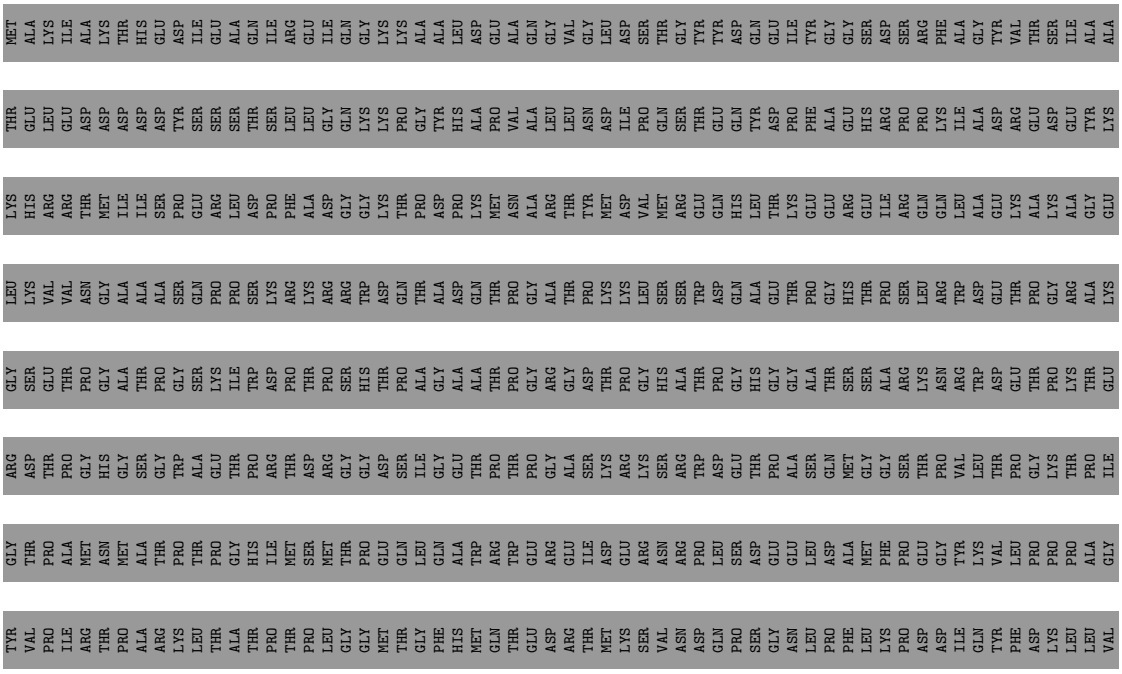
• Molecule 23: Peptidyl-prolyl cis-trans isomerase-like 4

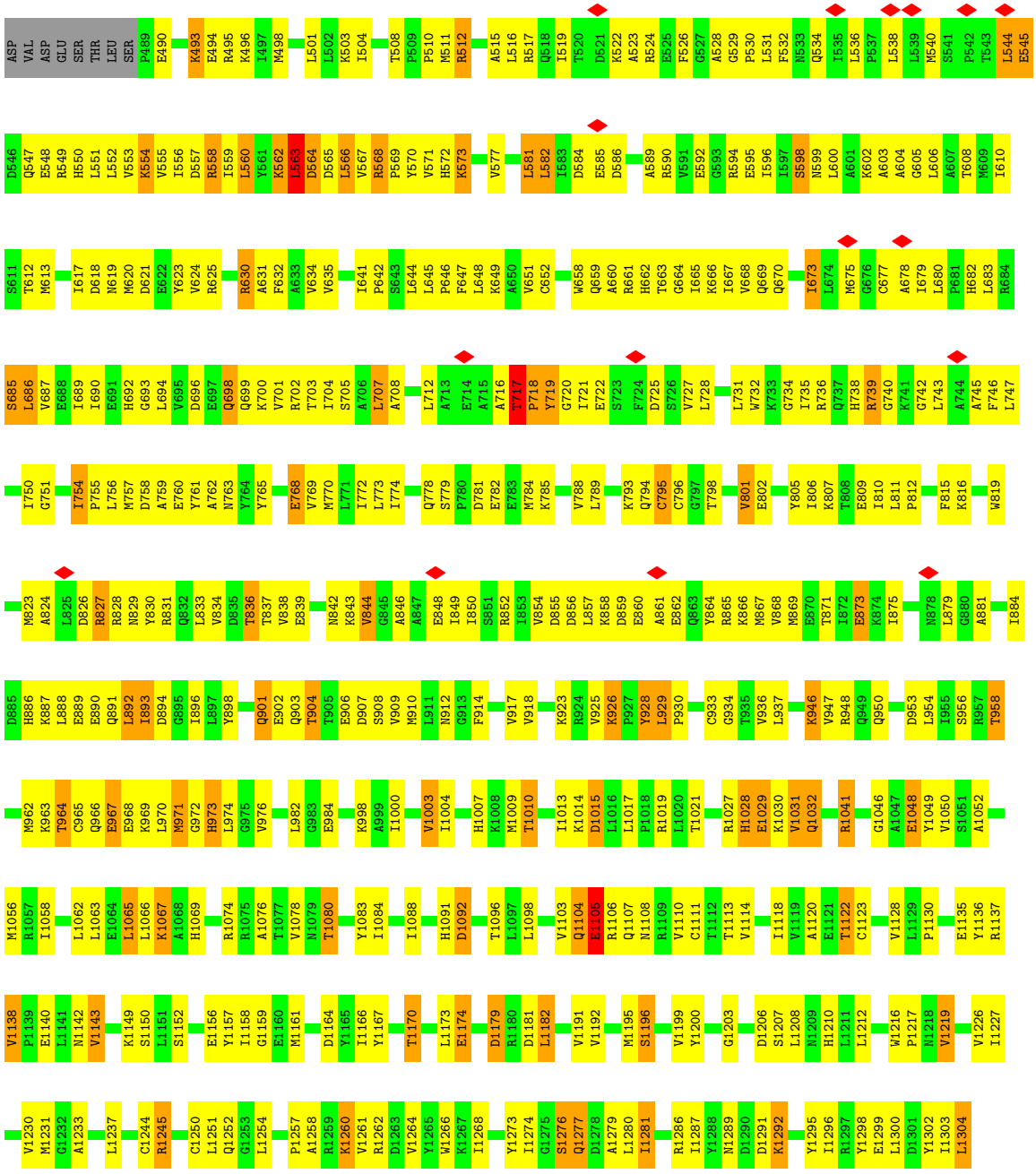
Chain Y:



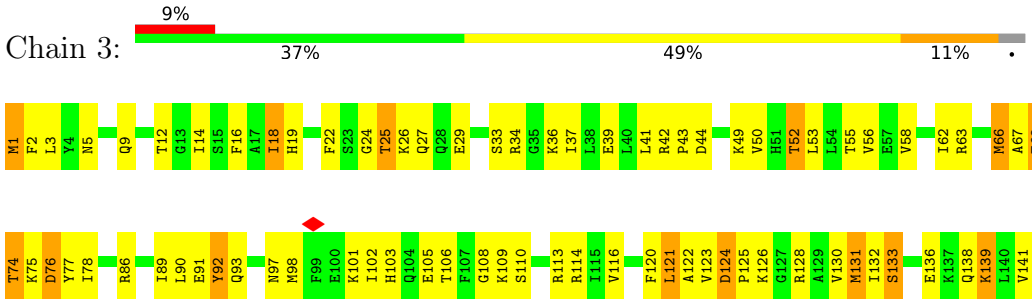
• Molecule 24: Splicing factor 3B subunit 1

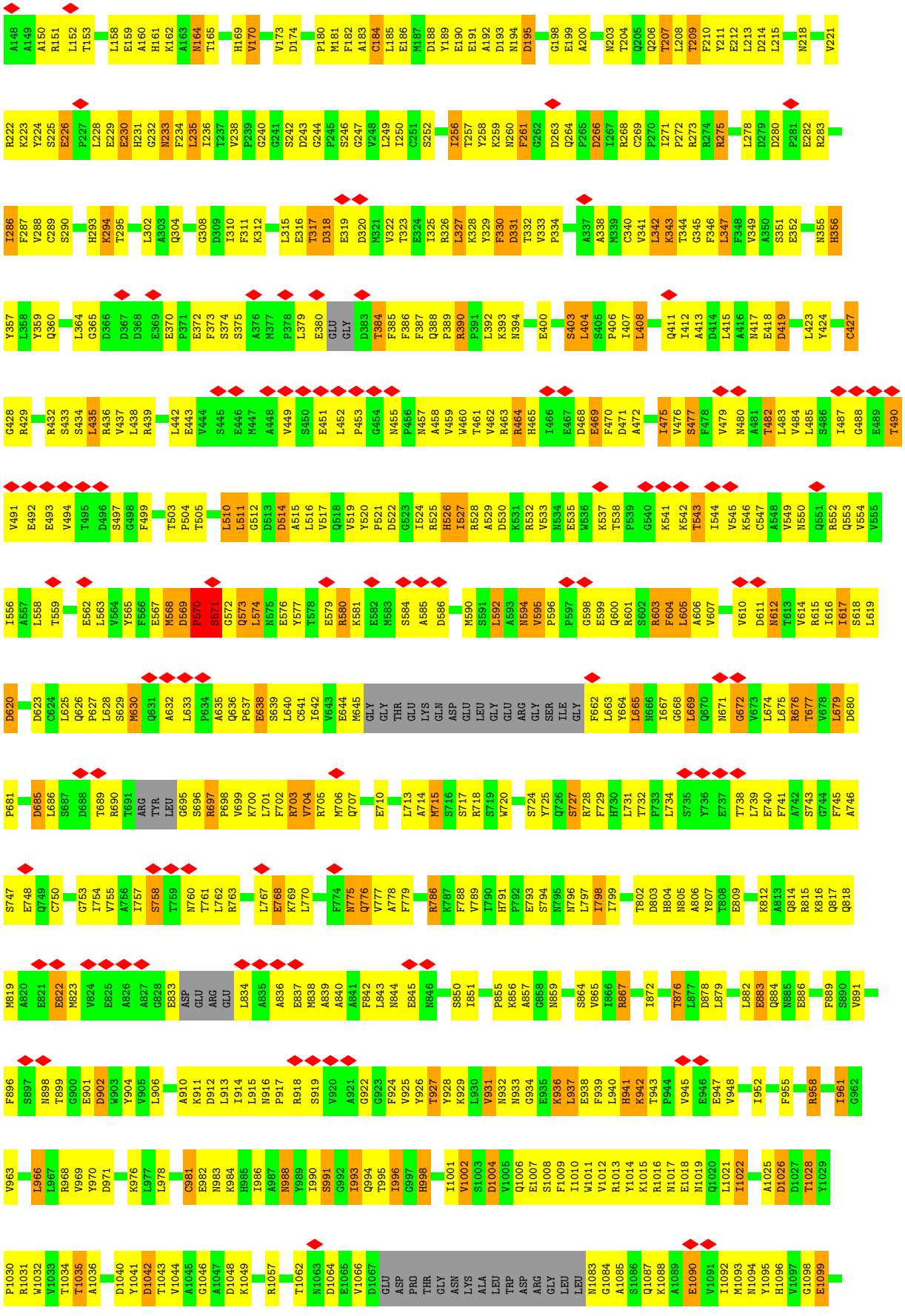
Chain 1:

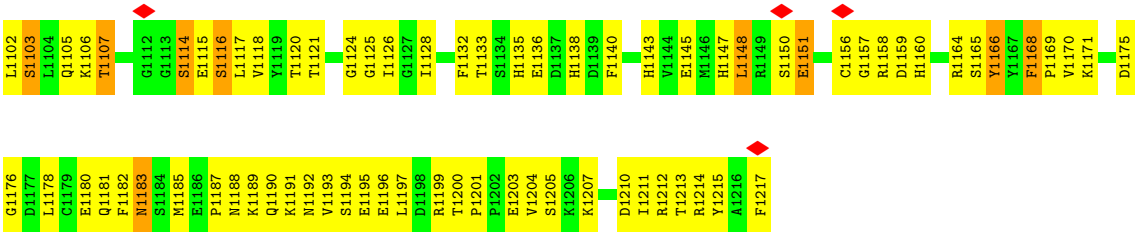




• Molecule 25: Splicing factor 3B subunit 3

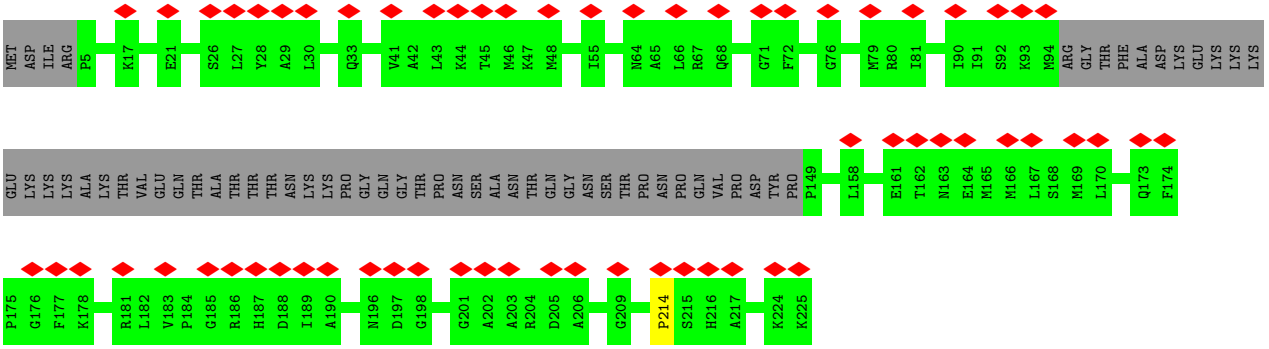






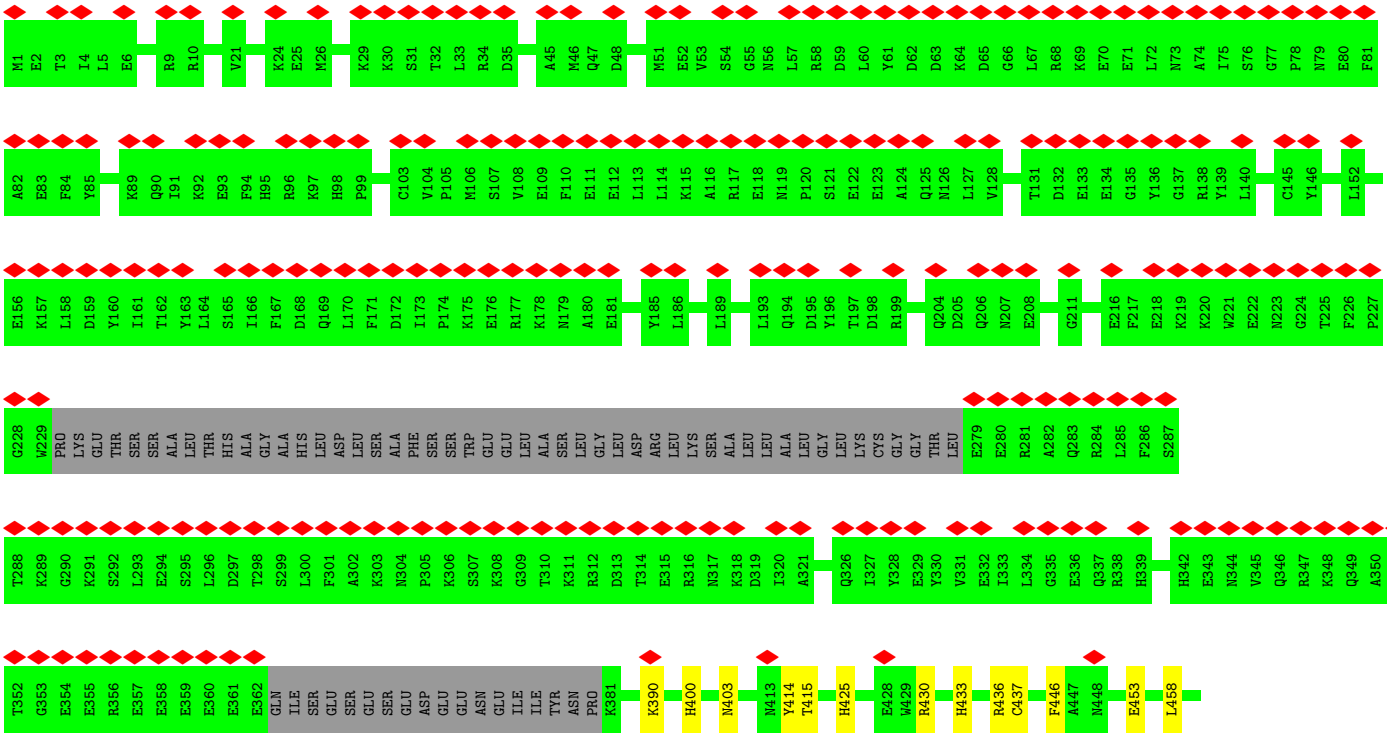
• Molecule 26: U2 small nuclear ribonucleoprotein B"

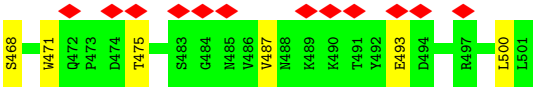
Chain p:



• Molecule 27: Splicing factor 3A subunit 3

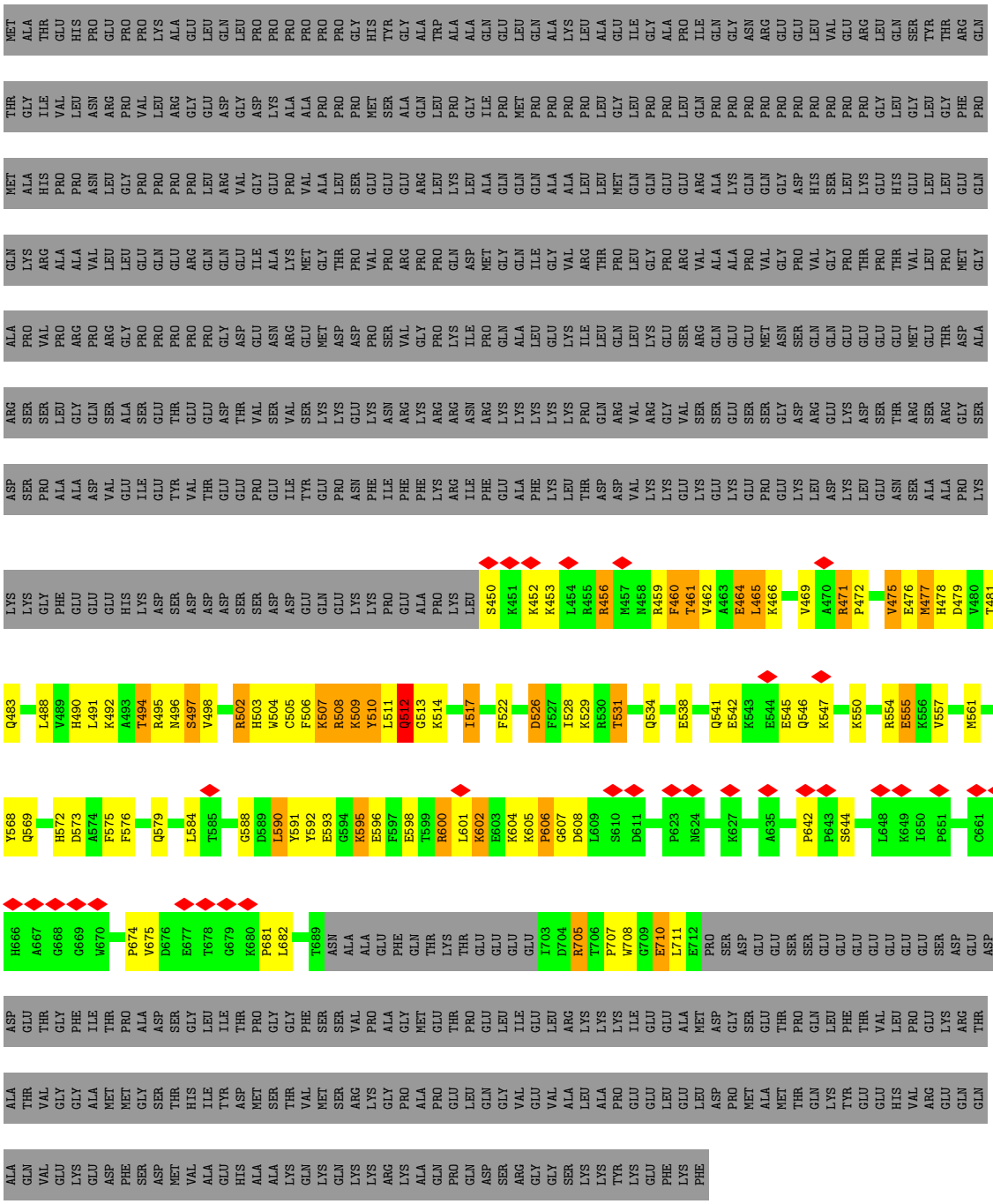
Chain w:





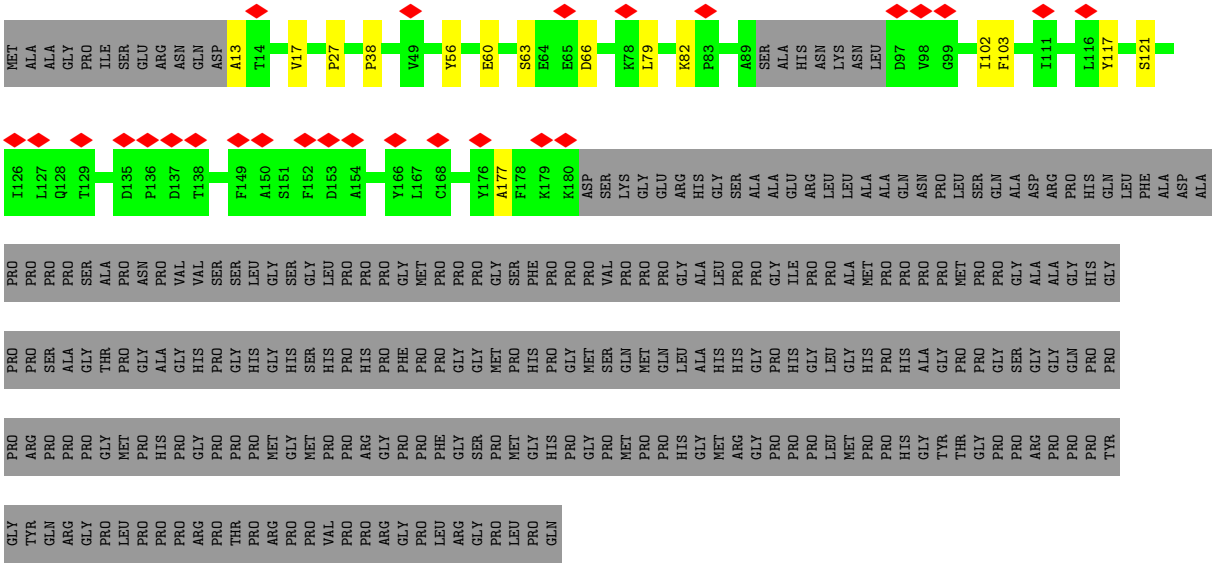
• Molecule 28: Splicing factor 3B subunit 2

Chain 2:



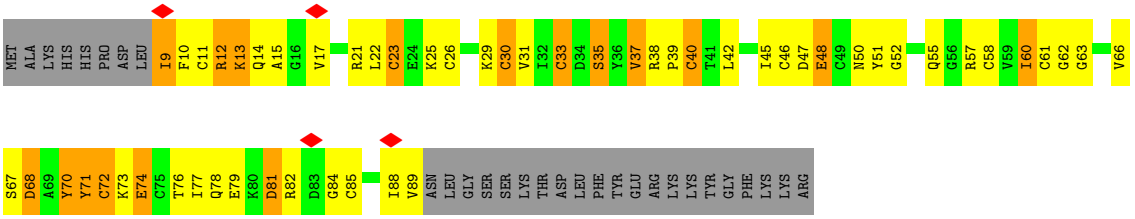
• Molecule 29: Splicing factor 3B subunit 4

Chain 4:



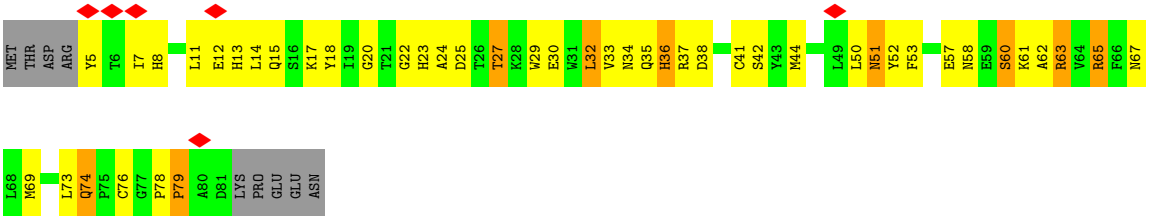
• Molecule 30: PHD finger-like domain-containing protein 5A

Chain 7:



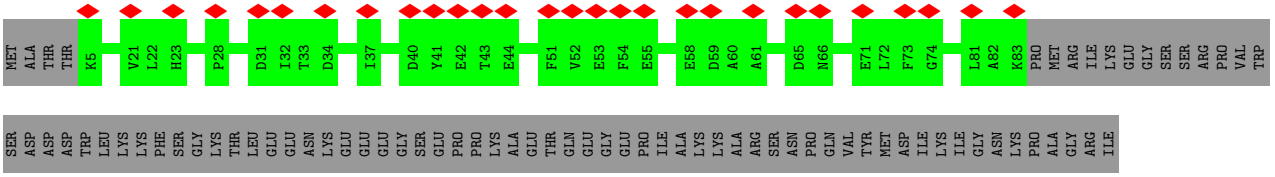
• Molecule 31: Splicing factor 3B subunit 5

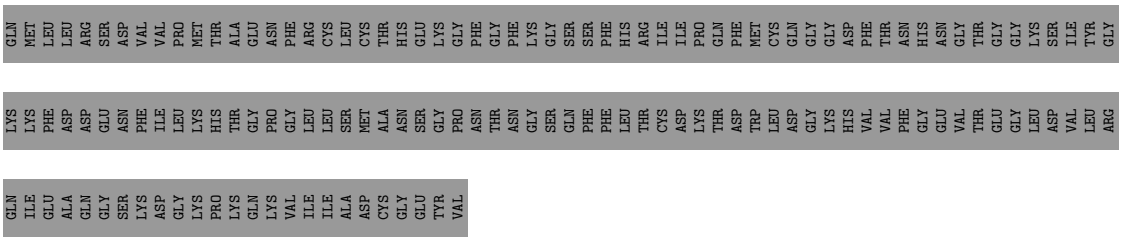
Chain 5:



• Molecule 32: Peptidyl-prolyl cis-trans isomerase E

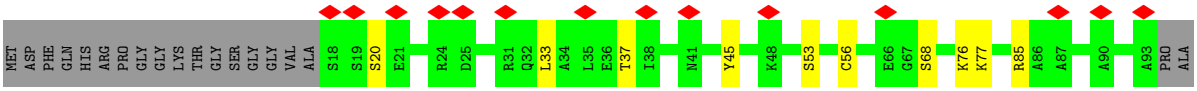
Chain y:

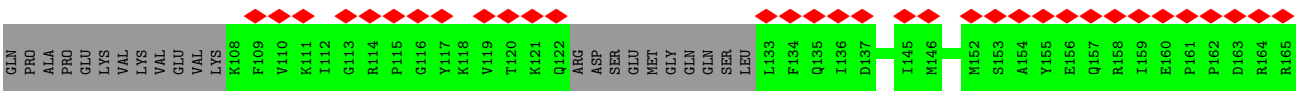


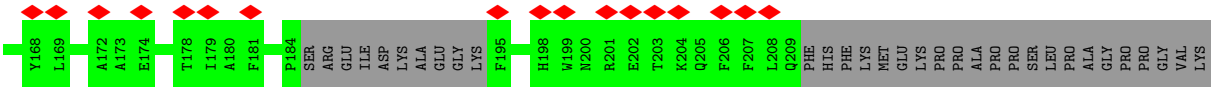


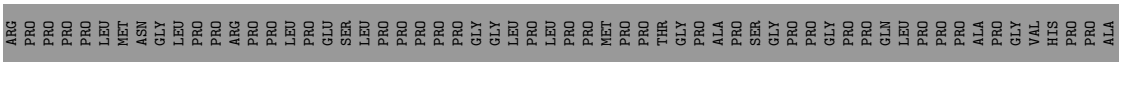
• Molecule 33: Splicing factor 3A subunit 2

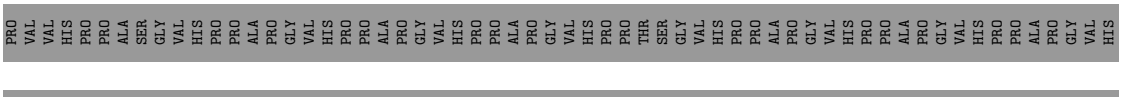
Chain v:

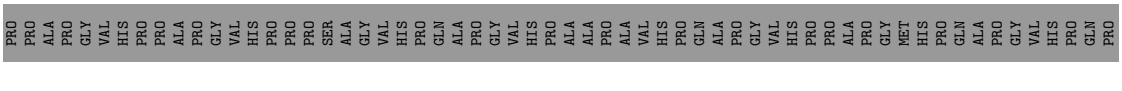






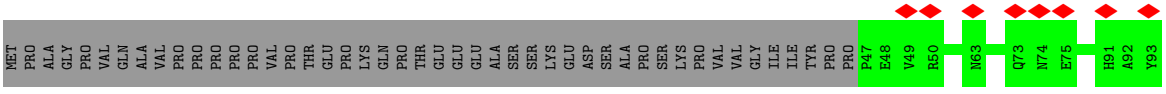


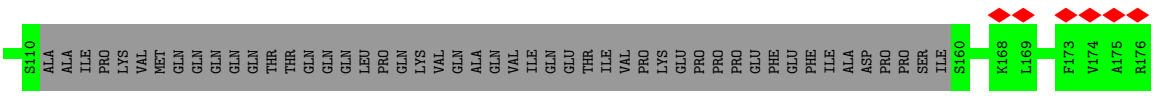


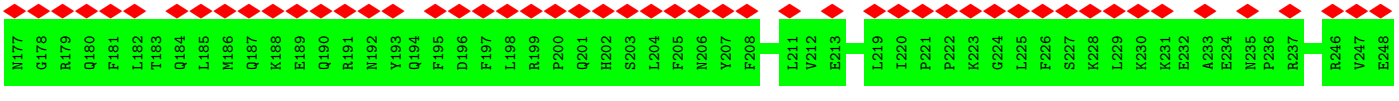


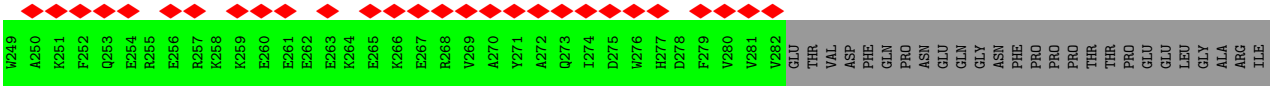
• Molecule 34: Splicing factor 3A subunit 1

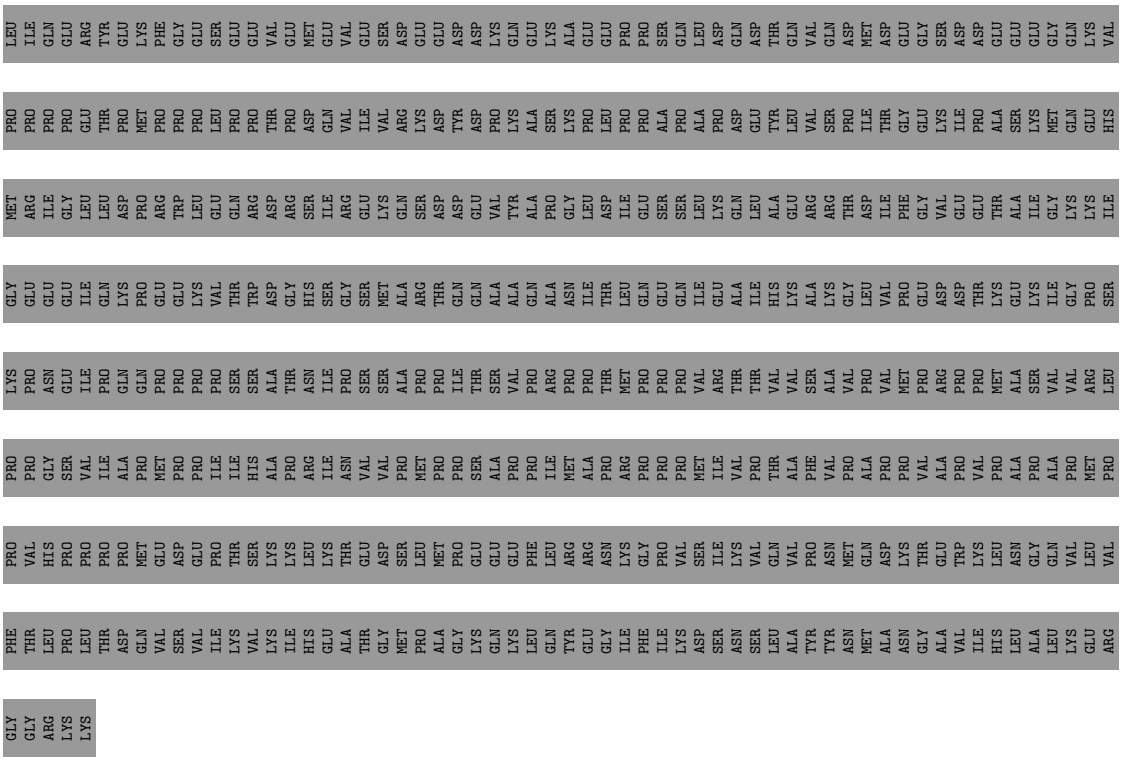
Chain u:





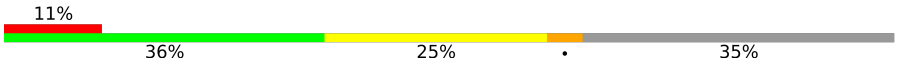


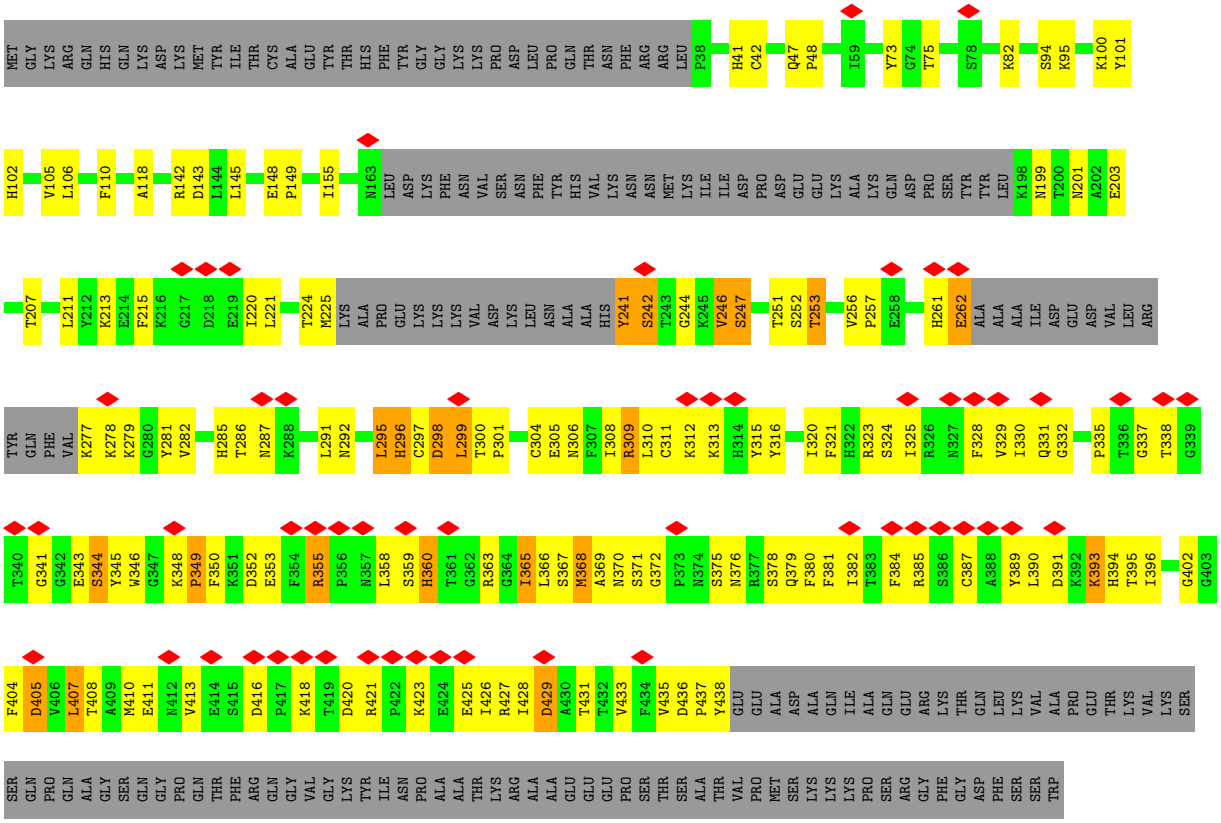




• Molecule 35: RING-type E3 ubiquitin-protein ligase PPIL2

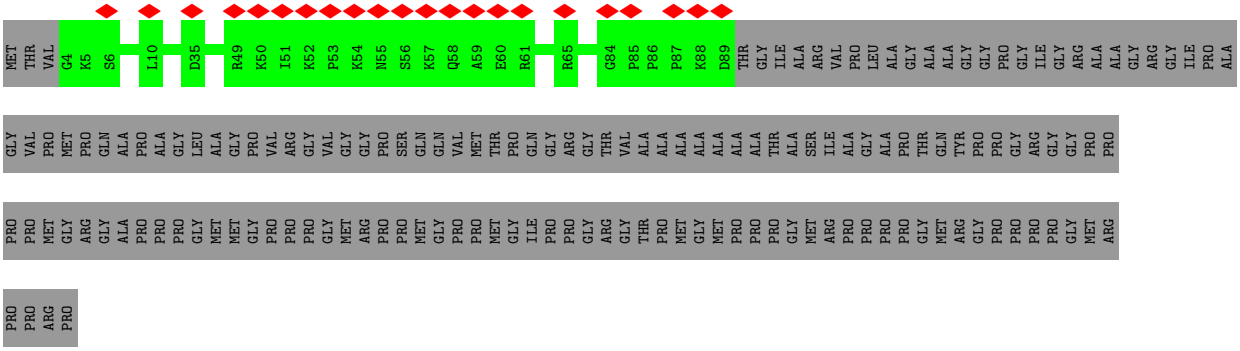
Chain 9:





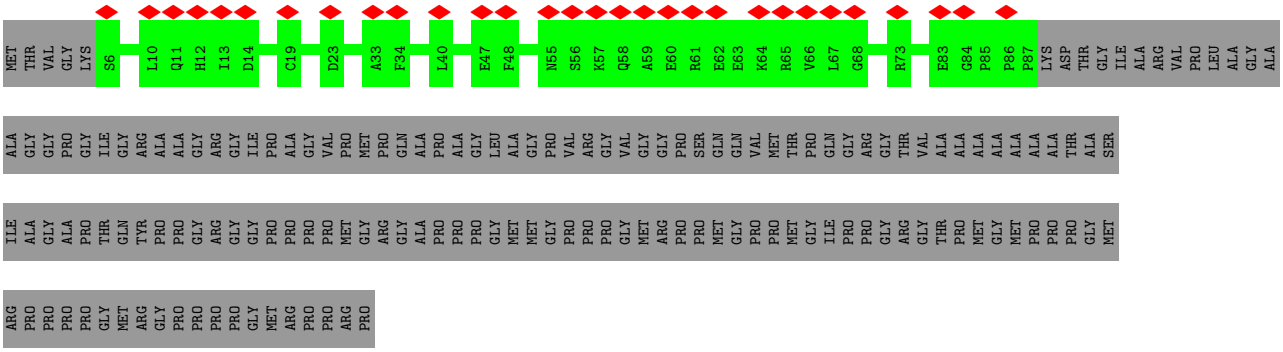
• Molecule 36: Small nuclear ribonucleoprotein-associated proteins B and B'

Chain a:



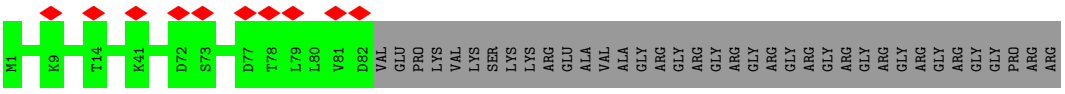
• Molecule 36: Small nuclear ribonucleoprotein-associated proteins B and B'

Chain m:



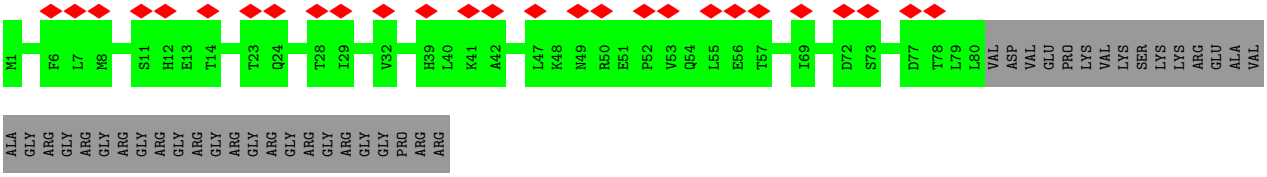
• Molecule 37: Small nuclear ribonucleoprotein Sm D1

Chain b:



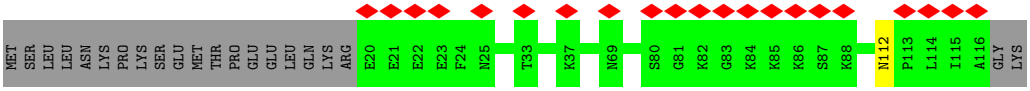
• Molecule 37: Small nuclear ribonucleoprotein Sm D1

Chain n:

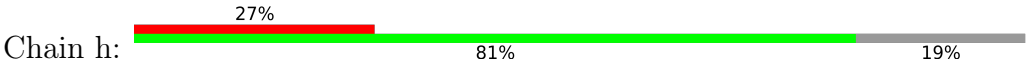


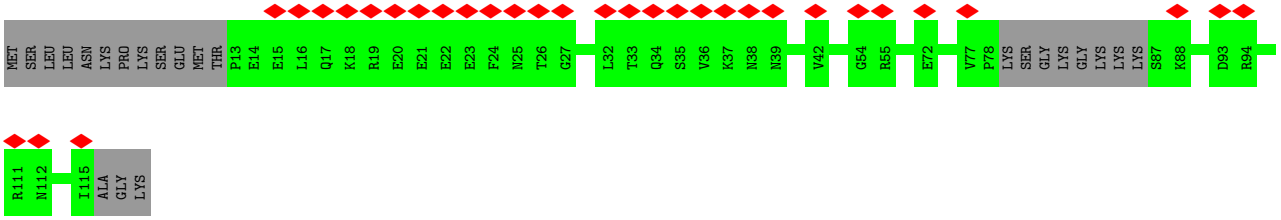
• Molecule 38: Small nuclear ribonucleoprotein Sm D2

Chain c:

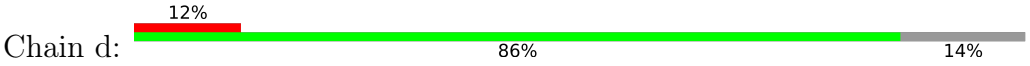


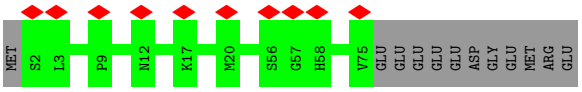
• Molecule 38: Small nuclear ribonucleoprotein Sm D2



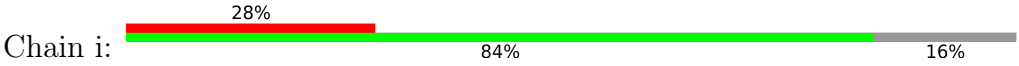


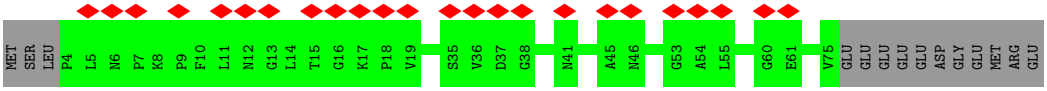
• Molecule 39: Small nuclear ribonucleoprotein F



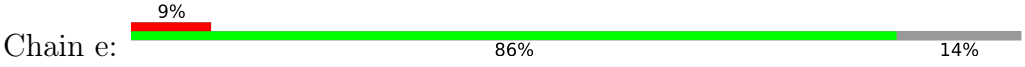


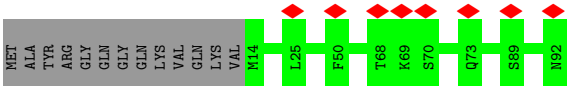
• Molecule 39: Small nuclear ribonucleoprotein F



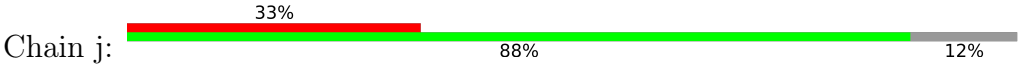


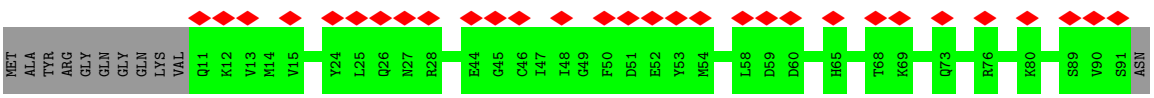
• Molecule 40: Small nuclear ribonucleoprotein E



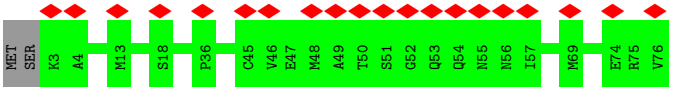


• Molecule 40: Small nuclear ribonucleoprotein E



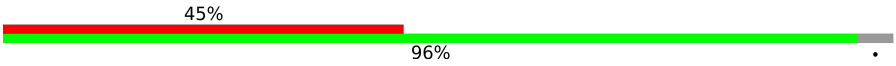


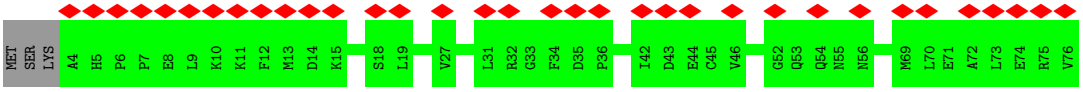
• Molecule 41: Small nuclear ribonucleoprotein G



• Molecule 41: Small nuclear ribonucleoprotein G

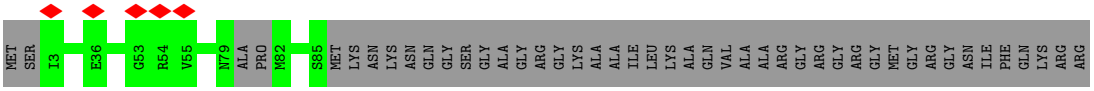
Chain k:





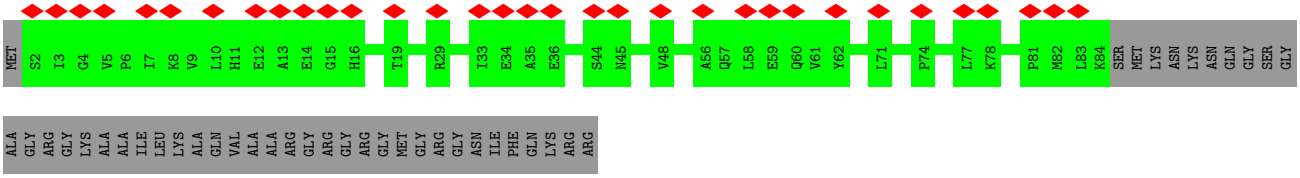
• Molecule 42: Small nuclear ribonucleoprotein Sm D3

Chain g:



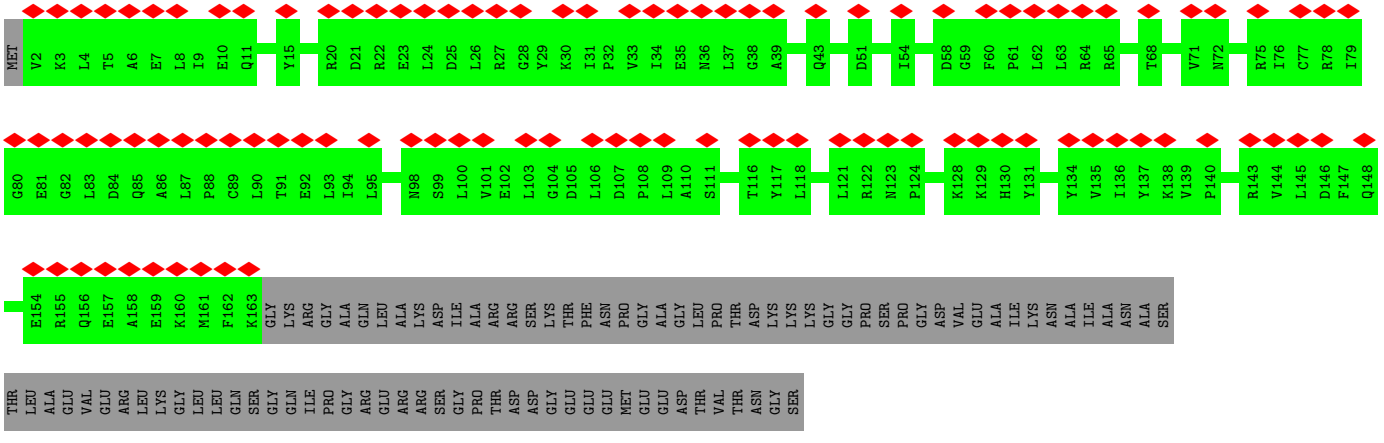
• Molecule 42: Small nuclear ribonucleoprotein Sm D3

Chain l:



• Molecule 43: U2 small nuclear ribonucleoprotein A'

Chain o:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	13372	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1400	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.423	Depositor
Minimum map value	-0.641	Depositor
Average map value	0.007	Depositor
Map value standard deviation	0.057	Depositor
Recommended contour level	0.23	Depositor
Map size (Å)	516.96, 516.96, 516.96	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.077, 1.077, 1.077	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: GTP, MG, ZN, SEP, IHP

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.94	25/18048 (0.1%)	0.71	14/24520 (0.1%)
2	B	1.13	8/2303 (0.3%)	1.10	7/3579 (0.2%)
3	C	0.39	0/6873	0.59	3/9346 (0.0%)
4	D	0.26	0/8527	0.46	0/11887
5	E	0.32	0/2392	0.60	1/3242 (0.0%)
6	F	1.51	34/2323 (1.5%)	1.32	19/3619 (0.5%)
7	G	0.96	4/1673 (0.2%)	1.28	18/2597 (0.7%)
8	H	0.80	15/3947 (0.4%)	1.12	14/6138 (0.2%)
9	I	0.43	3/2898 (0.1%)	0.51	1/4057 (0.0%)
10	J	0.44	0/2171	0.55	0/2929
11	K	0.60	0/404	0.60	0/541
12	L	0.58	1/1430 (0.1%)	0.63	0/1915
13	N	0.61	2/1200 (0.2%)	0.64	1/1611 (0.1%)
14	O	0.27	0/1432	0.49	0/1992
15	P	0.77	2/888 (0.2%)	0.60	0/1177
16	Q	0.25	0/6796	0.45	0/9527
17	R	0.52	0/2789	0.57	0/3747
18	S	0.27	0/769	0.52	0/1063
19	T	0.86	0/2574	0.71	2/3511 (0.1%)
20	U	0.56	0/424	0.49	0/582
21	V	0.42	0/2993	0.55	1/4088 (0.0%)
22	X	0.42	1/6479 (0.0%)	0.61	1/8747 (0.0%)
23	Y	0.38	0/2605	0.60	2/3522 (0.1%)
24	1	0.62	0/6591	0.64	3/8926 (0.0%)
25	3	0.55	2/9398 (0.0%)	0.69	6/12755 (0.0%)
26	p	0.26	0/847	0.48	0/1181
27	w	0.31	0/2311	0.49	0/3008
28	2	0.50	0/1833	0.63	0/2468
29	4	0.27	0/790	0.48	0/1095
30	7	0.56	0/621	0.61	0/833
31	5	0.72	0/654	0.64	0/885
32	y	0.26	0/389	0.49	0/540

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	v	0.39	0/976	0.57	0/1282
34	u	0.25	0/842	0.42	0/1110
35	9	0.32	0/2342	0.55	0/3182
36	a	0.51	0/343	0.69	0/427
36	m	0.26	0/416	0.54	0/581
37	b	0.56	0/327	0.67	0/407
37	n	0.24	0/404	0.50	0/564
38	c	0.69	0/387	0.72	0/482
38	h	0.24	0/485	0.48	0/677
39	d	0.78	0/295	0.76	0/367
39	i	0.27	0/362	0.53	0/502
40	e	0.65	0/315	0.75	0/392
40	j	0.25	0/403	0.46	0/561
41	f	0.54	0/295	0.61	0/367
41	k	0.26	0/366	0.53	0/509
42	g	0.47	0/322	0.56	0/399
42	l	0.26	0/417	0.51	0/581
43	o	0.24	0/821	0.48	0/1149
All	All	0.63	97/115490 (0.1%)	0.68	93/159167 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	15
3	C	0	6
4	D	0	2
9	I	0	4
10	J	0	3
11	K	0	1
12	L	0	2
13	N	0	1
15	P	0	2
16	Q	0	2
17	R	0	1
18	S	0	1
22	X	0	1
23	Y	0	3
24	1	0	3
25	3	0	5

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Mol	Chain	#Chirality outliers	#Planarity outliers
28	2	0	1
30	7	0	1
31	5	0	1
35	9	0	2
38	c	0	1
All	All	0	58

All (97) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	N	36	PRO	N-CA	14.04	1.71	1.47
9	I	110	PRO	N-CA	13.43	1.70	1.47
25	3	570	PRO	N-CA	10.41	1.65	1.47
1	A	385	GLU	C-N	8.98	1.51	1.34
9	I	140	LEU	C-N	8.80	1.50	1.34
6	F	67	G	C5-C4	-7.60	1.33	1.38
8	H	22	U	N1-C2	-7.46	1.31	1.38
8	H	25	G	C5-C4	-7.21	1.33	1.38
6	F	65	G	C5-C4	-7.16	1.33	1.38
6	F	65	G	N9-C8	-6.82	1.33	1.37
6	F	75	G	N7-C5	-6.61	1.35	1.39
6	F	67	G	N9-C4	-6.59	1.32	1.38
8	H	22	U	C2-N3	-6.48	1.33	1.37
1	A	1028	TYR	CD1-CE1	-6.40	1.29	1.39
1	A	1273	TYR	CE2-CZ	-6.31	1.30	1.38
6	F	65	G	N1-C2	-6.31	1.32	1.37
6	F	66	C	N3-C4	-6.27	1.29	1.33
6	F	65	G	C6-N1	-6.19	1.35	1.39
25	3	569	ASP	C-N	6.18	1.46	1.34
8	H	21	C	N1-C6	-6.15	1.33	1.37
13	N	35	GLU	C-N	6.13	1.45	1.34
9	I	109	MET	C-N	6.12	1.45	1.34
8	H	23	A	C5-C4	-6.10	1.34	1.38
6	F	55	C	C4-C5	-6.10	1.38	1.43
6	F	69	A	C5-C4	-6.08	1.34	1.38
6	F	71	G	N9-C8	-6.05	1.33	1.37
6	F	72	G	C5-C4	-6.04	1.34	1.38
2	B	42	U	N1-C2	-6.02	1.33	1.38
6	F	71	G	C5-C4	-6.00	1.34	1.38
6	F	71	G	N7-C5	-6.00	1.35	1.39
8	H	22	U	C4-C5	-5.98	1.38	1.43
6	F	55	C	N1-C6	-5.88	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	F	56	A	C5-C4	-5.85	1.34	1.38
6	F	70	A	C5-C4	-5.85	1.34	1.38
8	H	23	A	N7-C5	-5.82	1.35	1.39
1	A	1470	TYR	CD1-CE1	-5.82	1.30	1.39
6	F	56	A	N9-C4	-5.81	1.34	1.37
12	L	81	GLN	CA-CB	-5.76	1.41	1.53
1	A	1317	TYR	CD1-CE1	-5.67	1.30	1.39
1	A	902	TYR	CD2-CE2	-5.66	1.30	1.39
6	F	74	U	C2-N3	-5.65	1.33	1.37
1	A	909	TYR	CD1-CE1	-5.65	1.30	1.39
1	A	1503	TRP	CB-CG	-5.63	1.40	1.50
1	A	1470	TYR	CE1-CZ	-5.62	1.31	1.38
8	H	21	C	C4-C5	-5.60	1.38	1.43
6	F	53	A	C6-N1	-5.59	1.31	1.35
2	B	42	U	C4-C5	-5.56	1.38	1.43
2	B	43	U	C2-N3	-5.55	1.33	1.37
8	H	22	U	N3-C4	-5.55	1.33	1.38
1	A	1193	GLU	CB-CG	-5.55	1.41	1.52
8	H	21	C	N3-C4	-5.54	1.30	1.33
6	F	54	G	C5-C4	-5.49	1.34	1.38
6	F	53	A	C5-C4	-5.45	1.34	1.38
15	P	227	TYR	CE1-CZ	-5.45	1.31	1.38
1	A	810	TYR	CD1-CE1	-5.44	1.31	1.39
8	H	25	G	N3-C4	-5.39	1.31	1.35
6	F	67	G	N3-C4	-5.39	1.31	1.35
7	G	-4	G	C6-N1	-5.37	1.35	1.39
6	F	69	A	C6-N1	-5.37	1.31	1.35
6	F	70	A	C6-N1	-5.37	1.31	1.35
6	F	65	G	N7-C5	-5.33	1.36	1.39
7	G	-3	A	C6-N1	-5.32	1.31	1.35
6	F	64	U	C2-N3	-5.31	1.34	1.37
15	P	227	TYR	CD1-CE1	-5.31	1.31	1.39
1	A	1371	TYR	CD1-CE1	-5.29	1.31	1.39
6	F	63	C	N1-C6	-5.29	1.33	1.37
8	H	25	G	C2-N3	-5.28	1.28	1.32
1	A	1371	TYR	CE2-CZ	-5.26	1.31	1.38
1	A	1315	VAL	CB-CG2	-5.25	1.41	1.52
1	A	902	TYR	CD1-CE1	-5.24	1.31	1.39
1	A	1153	VAL	CB-CG1	-5.23	1.41	1.52
2	B	32	C	N1-C6	-5.22	1.34	1.37
2	B	50	G	C5-C4	-5.21	1.34	1.38
6	F	75	G	N9-C8	-5.18	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	F	54	G	N7-C5	-5.16	1.36	1.39
8	H	25	G	N9-C4	-5.16	1.33	1.38
6	F	55	C	N3-C4	-5.15	1.30	1.33
6	F	53	A	N9-C4	-5.14	1.34	1.37
1	A	1371	TYR	CD2-CE2	-5.14	1.31	1.39
6	F	56	A	N7-C5	-5.13	1.36	1.39
8	H	20	G	C5-C4	-5.13	1.34	1.38
1	A	1260	VAL	CB-CG1	-5.12	1.42	1.52
8	H	46	U	O3'-P	5.12	1.67	1.61
1	A	800	TYR	CD1-CE1	-5.12	1.31	1.39
2	B	33	U	C2-N3	-5.12	1.34	1.37
1	A	1445	TYR	CD2-CE2	-5.11	1.31	1.39
1	A	1470	TYR	CD2-CE2	-5.08	1.31	1.39
1	A	978	GLU	CB-CG	-5.08	1.42	1.52
7	G	-4	G	C5-C4	-5.05	1.34	1.38
2	B	47	A	C6-N1	-5.05	1.32	1.35
6	F	76	A	N3-C4	-5.04	1.31	1.34
2	B	26	A	N9-C4	-5.03	1.34	1.37
1	A	1099	PHE	CD1-CE1	-5.03	1.29	1.39
1	A	1436	TRP	CB-CG	-5.02	1.41	1.50
22	X	605	THR	C-N	-5.01	1.22	1.34
1	A	1470	TYR	CE2-CZ	-5.00	1.32	1.38
7	G	-3	A	C5-C4	-5.00	1.35	1.38

All (93) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	3	570	PRO	N-CA-C	-12.58	79.40	112.10
25	3	570	PRO	CA-N-CD	-10.49	96.81	111.50
9	I	110	PRO	CA-N-CD	-10.42	96.91	111.50
8	H	47	U	P-O3'-C3'	9.41	131.00	119.70
7	G	104	C	N1-C2-O2	9.23	124.44	118.90
19	T	186	PRO	C-N-CA	-8.89	99.47	121.70
8	H	46	U	O4'-C1'-N1	8.81	115.25	108.20
1	A	1771	LEU	CA-CB-CG	8.79	135.51	115.30
8	H	46	U	C3'-C2'-O2'	8.28	137.31	113.30
13	N	36	PRO	CA-N-CD	-8.11	100.15	111.50
7	G	104	C	N3-C2-O2	-8.06	116.25	121.90
8	H	47	U	C4'-C3'-O3'	7.89	128.78	113.00
7	G	103	U	C2-N1-C1'	7.75	127.00	117.70
7	G	104	C	C2-N1-C1'	7.75	127.33	118.80
1	A	386	PRO	CB-CA-C	7.73	131.32	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	3	570	PRO	C-N-CA	7.55	140.57	121.70
7	G	-1	C	C2-N3-C4	-7.52	116.14	119.90
1	A	176	LEU	CA-CB-CG	7.10	131.64	115.30
7	G	103	U	N1-C2-O2	7.04	127.72	122.80
3	C	94	ILE	C-N-CA	-6.88	104.51	121.70
2	B	40	U	C2-N1-C1'	6.73	125.77	117.70
8	H	47	U	N1-C1'-C2'	6.59	122.57	114.00
6	F	48	A	C8-N9-C4	-6.56	103.18	105.80
6	F	14	C	C6-N1-C2	-6.35	117.76	120.30
6	F	95	G	N3-C4-N9	-6.25	122.25	126.00
7	G	112	U	N1-C2-O2	6.17	127.12	122.80
25	3	569	ASP	O-C-N	6.10	132.69	121.10
8	H	173	C	N1-C2-O2	6.04	122.52	118.90
8	H	15	U	C2-N1-C1'	-5.99	110.51	117.70
7	G	1	G	N9-C1'-C2'	-5.98	105.42	112.00
7	G	115	C	N1-C2-O2	5.94	122.47	118.90
6	F	14	C	N3-C2-O2	-5.93	117.75	121.90
25	3	571	SER	C-N-CA	5.92	134.73	122.30
7	G	103	U	N3-C2-O2	-5.90	118.07	122.20
6	F	76	A	N9-C4-C5	5.82	108.13	105.80
6	F	38	G	N7-C8-N9	5.81	116.01	113.10
6	F	36	A	N7-C8-N9	5.80	116.70	113.80
8	H	64	A	C5-C6-N6	-5.80	119.06	123.70
23	Y	16	LEU	CA-CB-CG	5.80	128.65	115.30
6	F	67	G	N3-C4-C5	5.79	131.50	128.60
1	A	1751	LEU	CB-CG-CD2	-5.78	101.17	111.00
2	B	40	U	N1-C2-O2	5.76	126.83	122.80
2	B	40	U	C5-C6-N1	5.75	125.58	122.70
2	B	47	A	O4'-C1'-N9	5.71	112.77	108.20
7	G	113	U	P-O3'-C3'	5.68	126.52	119.70
7	G	104	C	C6-N1-C1'	-5.66	114.01	120.80
8	H	20	G	C4-C5-N7	5.65	113.06	110.80
2	B	19	A	N9-C4-C5	-5.64	103.54	105.80
6	F	68	C	N1-C2-O2	-5.59	115.54	118.90
19	T	240	LEU	CA-CB-CG	5.58	128.14	115.30
1	A	598	LEU	CB-CG-CD2	-5.54	101.58	111.00
1	A	532	THR	CA-CB-OG1	-5.54	97.37	109.00
6	F	83	A	N1-C6-N6	5.53	121.92	118.60
7	G	112	U	N3-C2-O2	-5.50	118.35	122.20
1	A	835	ASP	CB-CG-OD1	-5.50	113.35	118.30
6	F	37	C	N1-C2-O2	5.49	122.19	118.90
6	F	59	G	C5-N7-C8	-5.48	101.56	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	F	95	G	N3-C4-C5	5.46	131.33	128.60
8	H	46	U	C4'-C3'-O3'	-5.44	97.98	109.40
25	3	235	LEU	CA-CB-CG	5.38	127.69	115.30
6	F	83	A	C5-C6-N6	-5.37	119.41	123.70
5	E	227	LEU	CA-CB-CG	5.36	127.62	115.30
6	F	36	A	C5-N7-C8	-5.34	101.23	103.90
1	A	1601	LEU	CA-CB-CG	5.31	127.51	115.30
8	H	13	C	P-O3'-C3'	5.31	126.07	119.70
7	G	85	G	C4-N9-C1'	-5.31	119.60	126.50
21	V	494	LEU	CA-CB-CG	5.28	127.45	115.30
1	A	1252	GLY	N-CA-C	-5.27	99.92	113.10
7	G	103	U	C6-N1-C1'	-5.26	113.83	121.20
7	G	88	G	OP1-P-O3'	5.26	116.77	105.20
8	H	43	U	N1-C2-O2	-5.26	119.12	122.80
6	F	57	U	C2-N1-C1'	5.25	124.00	117.70
24	1	929	LEU	CA-CB-CG	-5.22	103.29	115.30
24	1	563	LEU	CA-CB-CG	5.22	127.30	115.30
6	F	37	C	C2-N1-C1'	5.22	124.54	118.80
2	B	40	U	C6-N1-C1'	-5.20	113.92	121.20
3	C	510	LEU	CA-CB-CG	5.18	127.23	115.30
6	F	84	A	N3-C4-N9	-5.18	123.25	127.40
1	A	1919	LEU	CA-CB-CG	5.17	127.20	115.30
8	H	43	U	C2-N3-C4	-5.17	123.90	127.00
8	H	46	U	C2-N1-C1'	-5.11	111.56	117.70
6	F	59	G	N7-C8-N9	5.10	115.65	113.10
23	Y	26	LEU	CA-CB-CG	5.10	127.04	115.30
22	X	592	LEU	CA-CB-CG	5.10	127.03	115.30
7	G	-1	C	N3-C4-C5	5.09	123.94	121.90
24	1	1280	LEU	CB-CG-CD2	-5.09	102.34	111.00
2	B	37	G	N9-C4-C5	5.09	107.43	105.40
1	A	1328	LEU	CA-CB-CG	5.07	126.97	115.30
1	A	779	LEU	CB-CG-CD1	-5.07	102.38	111.00
7	G	112	U	C2-N1-C1'	5.06	123.77	117.70
1	A	386	PRO	N-CA-CB	5.04	109.35	103.30
1	A	951	LEU	CB-CG-CD2	-5.04	102.44	111.00
3	C	298	LEU	CB-CG-CD2	-5.03	102.46	111.00

There are no chirality outliers.

All (58) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
24	1	1105	GLU	Mainchain

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Mol	Chain	Res	Type	Group
24	1	1179	ASP	Peptide
24	1	717	THR	Peptide
28	2	502	ARG	Peptide
25	3	268	ARG	Peptide
25	3	342	LEU	Peptide
25	3	490	THR	Peptide
25	3	916	ASN	Peptide
25	3	971	ASP	Peptide
31	5	79	PRO	Peptide
30	7	13	LYS	Peptide
35	9	329	VAL	Peptide
35	9	349	PRO	Peptide
1	A	108	MET	Peptide
1	A	1338	SER	Peptide
1	A	1416	ILE	Peptide
1	A	187	PRO	Peptide
1	A	203	VAL	Peptide
1	A	2150	GLN	Peptide
1	A	376	GLU	Peptide
1	A	467	GLN	Peptide
1	A	468	LYS	Peptide
1	A	698	PRO	Peptide
1	A	703	GLN	Peptide
1	A	855	ARG	Peptide
1	A	940	ILE	Peptide
1	A	941	LYS	Peptide
1	A	982	GLU	Peptide
3	C	360	ALA	Peptide
3	C	427	PHE	Peptide
3	C	443	VAL	Peptide
3	C	533	SER	Peptide
3	C	534	VAL	Peptide
3	C	823	ALA	Peptide
4	D	1583	ASP	Peptide
4	D	2098	ALA	Peptide
9	I	109	MET	Mainchain
9	I	337	LEU	Peptide
9	I	338	ILE	Peptide
9	I	550	TRP	Peptide
10	J	241	VAL	Peptide
10	J	354	LEU	Peptide
10	J	413	GLU	Peptide

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Mol	Chain	Res	Type	Group
11	K	196	ASP	Peptide
12	L	200	LYS	Peptide
12	L	202	ARG	Peptide
13	N	12	PRO	Peptide
15	P	29	GLN	Peptide
15	P	56	ASN	Peptide
16	Q	488	SER	Peptide
16	Q	489	VAL	Peptide
17	R	163	MET	Peptide
18	S	164	PRO	Peptide
22	X	326	GLN	Peptide
23	Y	204	SER	Peptide
23	Y	274	ASP	Peptide
23	Y	37	TYR	Peptide
38	c	112	ASN	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	A	17607	0	16789	923	0
2	B	2066	0	1047	73	0
3	C	6724	0	6697	481	0
4	D	8528	0	3745	121	0
5	E	2338	0	2275	167	0
6	F	2075	0	1048	133	0
7	G	1503	0	766	156	0
8	H	3539	0	1791	178	0
9	I	2880	0	1411	39	0
10	J	2116	0	1977	121	0
11	K	392	0	343	49	0
12	L	1403	0	1431	93	0
13	N	1174	0	1168	100	0
14	O	1432	0	632	25	0
15	P	876	0	875	59	0
16	Q	6730	0	3268	68	0
17	R	2760	0	2639	288	0
18	S	770	0	356	20	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	T	2507	0	2451	113	0
20	U	422	0	291	30	0
21	V	2959	0	2237	126	0
22	X	6357	0	6349	559	0
23	Y	2556	0	2492	263	0
24	1	6468	0	6657	402	0
25	3	9210	0	9124	688	0
26	p	841	0	420	0	0
27	w	2275	0	1347	0	0
28	2	1803	0	1618	204	0
29	4	792	0	367	15	0
30	7	613	0	597	51	0
31	5	635	0	595	49	0
32	y	390	0	190	0	0
33	v	964	0	735	0	0
34	u	834	0	325	0	0
35	9	2307	0	1898	149	0
36	a	344	0	93	0	0
36	m	413	0	194	0	0
37	b	328	0	89	0	0
37	n	402	0	184	0	0
38	c	388	0	102	0	0
38	h	482	0	220	0	0
39	d	296	0	87	0	0
39	i	359	0	179	0	0
40	e	316	0	85	0	0
40	j	403	0	173	0	0
41	f	296	0	84	0	0
41	k	364	0	176	0	0
42	g	324	0	89	0	0
42	l	415	0	198	0	0
43	o	816	0	386	0	0
44	A	36	0	6	8	0
45	C	32	0	12	8	0
46	C	1	0	0	0	0
46	F	6	0	0	0	0
47	7	3	0	0	0	0
47	K	1	0	0	0	0
47	N	3	0	0	0	0
All	All	112874	0	88308	4869	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 26.

All (4869) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2084:HIS:CB	4:D:1008:THR:CB	1.79	1.56
13:N:37:HIS:HB2	13:N:41:ARG:CB	1.10	1.52
1:A:2335:ALA:HA	4:D:592:LYS:CB	1.44	1.45
1:A:1889:LEU:HD12	1:A:2014:MET:N	1.21	1.44
15:P:184:VAL:HG11	23:Y:50:ILE:CD1	1.43	1.43
13:N:37:HIS:CB	13:N:41:ARG:CB	1.97	1.42
25:3:1115:GLU:HG2	28:2:708:TRP:NE1	1.24	1.41
9:I:136:ALA:HB1	9:I:144:GLN:CB	1.51	1.40
25:3:1115:GLU:CG	28:2:708:TRP:HE1	1.34	1.40
9:I:110:PRO:N	9:I:110:PRO:CA	1.70	1.40
22:X:246:LEU:CD1	23:Y:227:VAL:HG11	1.49	1.40
17:R:360:ARG:HD2	23:Y:275:TRP:CD1	1.57	1.38
13:N:36:PRO:N	13:N:36:PRO:CA	1.71	1.37
17:R:348:GLU:HG3	22:X:262:LEU:CB	1.55	1.33
1:A:2268:LEU:H	4:D:1263:PRO:CB	1.42	1.31
15:P:184:VAL:HG21	23:Y:52:GLN:OE1	1.12	1.30
8:H:56:A:H4’	28:2:481:THR:OG1	1.19	1.29
1:A:442:LYS:HG3	1:A:610:HIS:NE2	1.42	1.29
6:F:79:C:O2’	12:L:170:LYS:HD2	1.23	1.28
25:3:1133:THR:C	28:2:711:LEU:HD22	1.51	1.27
17:R:65:PRO:C	18:S:90:LEU:HA	1.55	1.26
8:H:53:U:H5”	28:2:450:SER:CB	1.66	1.26
1:A:2074:ARG:CB	4:D:1047:PRO:CB	2.12	1.25
1:A:2268:LEU:N	4:D:1263:PRO:CB	1.99	1.25
3:C:673:LYS:HE2	20:U:57:ILE:CB	1.66	1.25
17:R:65:PRO:O	18:S:90:LEU:HA	1.17	1.25
8:H:56:A:O2’	28:2:478:HIS:HB3	1.24	1.24
25:3:1133:THR:CA	28:2:711:LEU:CD2	2.16	1.24
17:R:348:GLU:CG	22:X:262:LEU:HB2	1.67	1.23
25:3:1116:SER:N	28:2:708:TRP:CZ2	2.05	1.22
15:P:184:VAL:CG1	23:Y:50:ILE:HD13	1.68	1.22
25:3:1133:THR:HA	28:2:711:LEU:CD2	1.70	1.22
1:A:2081:ALA:HA	4:D:1010:SER:CB	1.68	1.21
1:A:2298:LEU:O	4:D:1281:GLN:CB	1.88	1.20
17:R:360:ARG:CD	23:Y:275:TRP:CD1	2.23	1.20
22:X:164:TRP:CE3	22:X:542:PHE:CD1	2.30	1.20
15:P:184:VAL:CG2	23:Y:52:GLN:OE1	1.90	1.18
17:R:360:ARG:NH1	23:Y:276:LYS:H	1.39	1.18
22:X:226:LEU:HD22	23:Y:315:PHE:CE2	1.78	1.17
22:X:242:LYS:CG	23:Y:227:VAL:HG21	1.74	1.17

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:503:HIS:CD2	28:2:510:TYR:HB2	1.80	1.17
1:A:2143:ARG:CB	4:D:1264:PRO:CB	2.23	1.16
25:3:1116:SER:N	28:2:708:TRP:HZ2	1.43	1.15
17:R:360:ARG:HD3	23:Y:275:TRP:NE1	1.60	1.14
9:I:109:MET:N	9:I:110:PRO:HD3	1.61	1.13
8:H:53:U:H5"	28:2:450:SER:HB2	1.15	1.13
4:D:863:THR:H	25:3:599:GLU:HA	1.08	1.12
21:V:532:GLN:O	21:V:536:ILE:HB	1.47	1.13
22:X:242:LYS:HG3	23:Y:227:VAL:HG21	1.30	1.12
1:A:533:LYS:NZ	7:G:5:G:OP2	1.80	1.12
20:U:26:VAL:HB	21:V:517:LEU:HD21	1.29	1.12
25:3:1133:THR:HA	28:2:711:LEU:HD23	1.17	1.12
20:U:23:LEU:HD12	21:V:478:LYS:HB2	1.33	1.11
8:H:56:A:O2'	28:2:478:HIS:CB	1.99	1.11
25:3:1115:GLU:HB3	28:2:708:TRP:CZ2	1.85	1.11
17:R:355:ILE:HD11	22:X:266:GLU:OE2	1.51	1.10
1:A:48:LYS:HD3	1:A:53:PHE:CE1	1.87	1.09
25:3:1133:THR:C	28:2:711:LEU:CD2	2.21	1.09
22:X:164:TRP:CE3	22:X:542:PHE:CE1	2.40	1.09
1:A:442:LYS:CG	1:A:610:HIS:NE2	2.16	1.08
25:3:1041:TYR:CD2	28:2:705:ARG:HG3	1.88	1.08
22:X:238:ARG:HH22	23:Y:230:LEU:HG	0.98	1.08
22:X:226:LEU:HD22	23:Y:315:PHE:HE2	0.93	1.08
1:A:1889:LEU:CD1	1:A:2014:MET:N	2.16	1.08
22:X:246:LEU:HD12	23:Y:227:VAL:HG11	1.32	1.08
1:A:2298:LEU:CB	4:D:1283:PRO:CB	2.32	1.07
22:X:238:ARG:NH2	23:Y:230:LEU:HG	1.67	1.07
22:X:242:LYS:O	22:X:246:LEU:HB2	1.53	1.07
25:3:616:ILE:HB	25:3:629:SER:O	1.54	1.07
25:3:1115:GLU:CG	28:2:708:TRP:NE1	2.01	1.07
6:F:79:C:O2'	12:L:170:LYS:CD	2.01	1.07
7:G:99:C:N4	8:H:32:U:H3	1.50	1.06
1:A:2328:ALA:HB2	4:D:728:ARG:CB	1.84	1.06
25:3:114:ARG:NH1	31:5:38:ASP:OD1	1.87	1.06
25:3:1041:TYR:HD2	28:2:705:ARG:HG3	1.20	1.06
1:A:731:LEU:O	35:9:241:TYR:HB3	1.55	1.05
17:R:360:ARG:CD	23:Y:275:TRP:NE1	2.19	1.05
17:R:360:ARG:NH1	23:Y:275:TRP:CD1	2.23	1.05
17:R:355:ILE:HG23	22:X:252:ASP:OD2	1.55	1.04
23:Y:246:LYS:HE3	23:Y:312:HIS:HB2	1.36	1.04
4:D:863:THR:N	25:3:599:GLU:HA	1.73	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:225:LEU:HB2	12:L:211:ASN:HD21	1.21	1.04
1:A:2328:ALA:CB	4:D:728:ARG:CB	2.36	1.03
17:R:65:PRO:O	18:S:90:LEU:CA	2.06	1.03
1:A:2335:ALA:CA	4:D:592:LYS:CB	2.37	1.03
15:P:184:VAL:HG11	23:Y:50:ILE:HD11	1.38	1.03
16:Q:1331:HIS:HA	16:Q:1353:GLN:O	1.59	1.02
1:A:1941:ARG:NH1	1:A:2010:ILE:O	1.90	1.02
15:P:186:ARG:HB2	15:P:186:ARG:HH11	1.20	1.02
17:R:351:GLU:HG3	22:X:260:VAL:HG21	1.41	1.02
9:I:136:ALA:CB	9:I:144:GLN:CB	2.38	1.02
8:H:48:A:C6	8:H:78:C:OP1	2.12	1.01
22:X:164:TRP:CD2	22:X:542:PHE:CD1	2.47	1.01
1:A:525:LYS:HB3	11:K:197:TYR:CE2	1.95	1.01
28:2:505:CYS:O	28:2:507:LYS:HE3	1.61	1.01
1:A:2267:PHE:CB	4:D:1262:LEU:O	2.08	1.01
1:A:2268:LEU:O	4:D:1263:PRO:CB	2.09	1.01
13:N:44:GLU:HA	13:N:47:TRP:CD1	1.96	1.01
4:D:754:GLU:HA	25:3:662:PHE:CD1	1.94	1.01
8:H:56:A:C4'	28:2:481:THR:OG1	2.10	1.00
1:A:1889:LEU:CD1	1:A:2014:MET:O	2.08	1.00
10:J:228:ARG:HG2	12:L:210:TYR:HB3	1.42	1.00
6:F:38:G:H2'	6:F:39:A:H8	1.25	0.99
17:R:358:ASP:OD2	22:X:255:PHE:HZ	1.45	0.99
1:A:48:LYS:CD	1:A:53:PHE:CE1	2.44	0.99
7:G:2:U:C4	11:K:219:PHE:CE2	2.51	0.99
15:P:184:VAL:CG1	23:Y:50:ILE:CD1	2.33	0.99
1:A:184:ASP:HB2	13:N:1:MET:N	1.78	0.98
25:3:477:SER:HB2	25:3:505:THR:H	1.28	0.98
15:P:184:VAL:HG11	23:Y:50:ILE:HD13	1.00	0.98
31:5:36:HIS:HD1	31:5:76:CYS:HG	1.06	0.98
25:3:1115:GLU:HB3	28:2:708:TRP:CE2	1.99	0.98
1:A:523:ASN:HB3	11:K:194:ARG:HD3	1.44	0.98
22:X:242:LYS:HG3	23:Y:227:VAL:CG2	1.93	0.98
25:3:1115:GLU:CB	28:2:708:TRP:CZ2	2.47	0.98
1:A:48:LYS:HD3	1:A:53:PHE:HE1	1.28	0.97
1:A:1402:ARG:HB2	17:R:407:TYR:HA	1.45	0.97
22:X:165:GLU:HB2	22:X:542:PHE:CZ	1.98	0.97
28:2:642:PRO:CB	29:4:66:ASP:CB	2.42	0.97
1:A:789:GLU:HB2	35:9:253:THR:HB	1.47	0.97
6:F:59:G:N2	6:F:76:A:N1	2.12	0.97
7:G:117:A:C2'	23:Y:245:CYS:HG	1.78	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1889:LEU:HD12	1:A:2013:GLY:C	1.84	0.97
3:C:255:VAL:O	3:C:307:VAL:HA	1.65	0.97
17:R:352:ARG:NH1	22:X:265:HIS:HB3	1.80	0.97
9:I:109:MET:N	9:I:110:PRO:CD	2.25	0.96
22:X:246:LEU:CD1	23:Y:227:VAL:CG1	2.43	0.96
6:F:36:A:H3'	6:F:37:C:H5"	1.44	0.96
17:R:358:ASP:OD2	22:X:255:PHE:CZ	2.18	0.96
28:2:644:SER:CB	29:4:63:SER:CB	2.44	0.96
1:A:35:ARG:HB3	1:A:35:ARG:HH11	1.29	0.96
1:A:184:ASP:HB2	13:N:1:MET:H1	1.25	0.96
1:A:1768:TYR:HA	1:A:1771:LEU:HB3	1.43	0.96
9:I:109:MET:H	9:I:110:PRO:HD3	1.25	0.96
20:U:22:ASN:HA	21:V:474:HIS:HD2	1.30	0.96
1:A:435:CYS:HG	7:G:-10:G:H1	1.14	0.95
13:N:46:LEU:H	13:N:46:LEU:HD22	1.30	0.95
1:A:2081:ALA:CA	4:D:1010:SER:CB	2.43	0.95
7:G:115:C:H1'	23:Y:309:ARG:HH21	1.31	0.95
7:G:1:G:C5	11:K:218:LYS:HD2	2.02	0.95
25:3:1116:SER:N	28:2:708:TRP:CH2	2.34	0.94
22:X:164:TRP:CZ3	22:X:542:PHE:CD1	2.55	0.94
1:A:83:HIS:NE2	7:G:16:G:O6	2.01	0.94
6:F:59:G:H1	6:F:76:A:N6	1.64	0.94
25:3:1116:SER:H	28:2:708:TRP:HZ2	1.05	0.94
25:3:1132:PHE:O	28:2:711:LEU:CD2	2.14	0.94
25:3:108:GLY:O	30:7:82:ARG:NH1	2.00	0.94
17:R:348:GLU:HB2	22:X:263:SER:H	1.33	0.94
17:R:360:ARG:HD3	23:Y:275:TRP:HE1	1.13	0.94
25:3:1116:SER:CA	28:2:708:TRP:HH2	1.80	0.94
1:A:2308:VAL:HA	4:D:1125:SER:N	1.84	0.93
25:3:1041:TYR:HD2	28:2:705:ARG:CG	1.80	0.93
1:A:525:LYS:HD2	11:K:197:TYR:CE2	2.04	0.93
1:A:1889:LEU:HA	1:A:2014:MET:H	1.32	0.93
20:U:23:LEU:CD1	21:V:478:LYS:HB2	1.98	0.93
24:1:1302:TYR:CE1	25:3:915:LEU:HB3	2.04	0.93
22:X:226:LEU:CD2	23:Y:315:PHE:HE2	1.82	0.93
15:P:186:ARG:HB2	15:P:186:ARG:NH1	1.83	0.93
17:R:355:ILE:HD11	22:X:266:GLU:CD	1.89	0.93
7:G:99:C:H42	8:H:32:U:H3	0.95	0.92
7:G:1:G:C4	11:K:218:LYS:HD2	2.05	0.92
25:3:516:LEU:O	25:3:527:ILE:HB	1.70	0.92
28:2:452:LYS:HE3	28:2:456:ARG:HB2	1.50	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:525:LYS:CD	11:K:197:TYR:HE2	1.82	0.92
4:D:1224:LEU:O	4:D:1268:ILE:HA	1.69	0.92
19:T:257:ARG:NH2	19:T:301:ASP:OD1	2.03	0.92
8:H:48:A:C5	8:H:78:C:OP1	2.23	0.91
17:R:360:ARG:HH12	23:Y:276:LYS:H	1.09	0.91
1:A:48:LYS:HD2	1:A:53:PHE:CZ	2.05	0.91
8:H:56:A:O3'	28:2:481:THR:HG21	1.71	0.91
1:A:82:ARG:NH1	7:G:15:U:O4	2.02	0.91
25:3:1041:TYR:CD2	28:2:705:ARG:NE	2.38	0.91
23:Y:35:LYS:NZ	23:Y:159:THR:O	2.04	0.91
16:Q:851:ILE:HA	16:Q:1060:LEU:O	1.70	0.91
1:A:1889:LEU:HD12	1:A:2014:MET:H	1.26	0.91
1:A:388:LEU:HD11	3:C:395:THR:CG2	2.01	0.90
1:A:1768:TYR:CE2	1:A:2012:LEU:HD22	2.06	0.90
25:3:1116:SER:CA	28:2:708:TRP:CH2	2.53	0.90
1:A:385:GLU:OE1	1:A:386:PRO:HD2	1.72	0.90
25:3:1041:TYR:CE2	28:2:705:ARG:CZ	2.53	0.90
17:R:371:ARG:NH1	23:Y:282:CYS:HB2	1.86	0.90
22:X:182:ALA:HB2	22:X:924:ARG:HH11	1.36	0.90
12:L:225:TYR:O	17:R:85:ALA:HB2	1.71	0.90
1:A:523:ASN:HB3	11:K:194:ARG:CD	2.00	0.90
4:D:754:GLU:CB	25:3:662:PHE:HB2	2.02	0.90
6:F:85:U:H3	8:H:14:C:H42	1.20	0.90
8:H:56:A:H4'	28:2:481:THR:HG1	1.36	0.90
8:H:57:A:P	28:2:481:THR:HG21	2.10	0.90
22:X:246:LEU:HD13	23:Y:227:VAL:HG11	1.53	0.90
22:X:768:LYS:HE3	22:X:773:HIS:HA	1.53	0.90
25:3:459:VAL:HG21	25:3:757:ILE:HG21	1.51	0.90
17:R:360:ARG:HH11	23:Y:275:TRP:HD1	1.18	0.89
1:A:1219:GLU:HG3	22:X:341:PHE:HD1	1.37	0.89
2:B:95:G:H21	2:B:96:A:H5"	1.36	0.89
17:R:280:ILE:H	35:9:225:MET:HG3	1.37	0.89
1:A:2308:VAL:O	4:D:1125:SER:CA	2.20	0.89
8:H:57:A:OP1	28:2:481:THR:HG21	1.73	0.89
7:G:97:A:O4'	24:1:1110:VAL:HG11	1.73	0.89
24:1:564:ASP:O	24:1:568:ARG:NH2	2.06	0.89
25:3:463:ARG:H	25:3:510:LEU:HD22	1.36	0.89
8:H:56:A:C2'	28:2:478:HIS:HB3	2.03	0.88
10:J:225:LEU:HB2	12:L:211:ASN:ND2	1.87	0.88
25:3:1115:GLU:CG	28:2:708:TRP:CE2	2.56	0.88
30:7:33:CYS:HG	30:7:35:SER:HG	0.95	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:1132:PHE:C	28:2:711:LEU:HD21	1.93	0.88
1:A:2328:ALA:N	4:D:728:ARG:CB	2.37	0.88
2:B:18:C:N3	2:B:59:G:N1	2.20	0.88
35:9:321:PHE:HA	35:9:332:GLY:HA3	1.54	0.88
17:R:348:GLU:O	17:R:352:ARG:HB2	1.74	0.88
8:H:53:U:C5'	28:2:450:SER:HB2	2.02	0.88
1:A:163:ARG:NH2	1:A:576:ASP:OD1	2.07	0.88
25:3:1008:SER:OG	25:3:1009:PHE:N	2.07	0.88
22:X:171:ARG:HG2	22:X:509:PRO:HG3	1.55	0.87
8:H:56:A:H1'	28:2:478:HIS:CB	2.05	0.87
22:X:650:ASN:O	22:X:904:GLN:NE2	2.07	0.87
25:3:668:GLY:HA3	25:3:699:VAL:HG11	1.57	0.87
8:H:53:U:H5"	28:2:450:SER:HB3	1.53	0.87
1:A:35:ARG:HB3	1:A:35:ARG:NH1	1.89	0.87
1:A:1889:LEU:HG	1:A:2013:GLY:HA3	1.54	0.87
13:N:44:GLU:HA	13:N:47:TRP:CG	2.08	0.87
1:A:1637:TRP:O	1:A:1656:THR:HA	1.73	0.87
24:1:1262:ARG:HD2	31:5:24:ALA:O	1.73	0.87
7:G:2:U:C4	11:K:219:PHE:CZ	2.62	0.87
25:3:1116:SER:HA	28:2:708:TRP:HH2	1.36	0.87
17:R:66:GLU:HA	18:S:89:ASP:C	1.95	0.87
17:R:147:THR:HG23	19:T:360:VAL:HG22	1.57	0.87
17:R:360:ARG:NH1	23:Y:276:LYS:N	2.22	0.87
25:3:139:LYS:HG3	25:3:160:ALA:HB3	1.57	0.87
28:2:595:LYS:HE2	28:2:595:LYS:O	1.74	0.87
2:B:40:U:O4	7:G:0:G:N2	2.07	0.86
8:H:19:G:N2	8:H:20:G:O6	2.08	0.86
13:N:58:ARG:NH2	13:N:98:GLU:O	2.08	0.86
24:1:1262:ARG:NH1	31:5:24:ALA:O	2.07	0.86
35:9:352:ASP:OD1	35:9:376:ASN:ND2	2.07	0.86
24:1:1110:VAL:O	24:1:1114:VAL:HG23	1.74	0.86
28:2:509:LYS:N	28:2:509:LYS:HE3	1.90	0.86
1:A:1011:ALA:HB2	12:L:80:THR:HB	1.58	0.86
22:X:165:GLU:HB2	22:X:542:PHE:HZ	1.38	0.86
25:3:1133:THR:O	28:2:711:LEU:HD22	1.74	0.86
3:C:480:LYS:HB2	3:C:493:PHE:HB3	1.58	0.86
17:R:331:ALA:HA	22:X:275:ARG:HH12	1.40	0.86
8:H:56:A:C1'	28:2:478:HIS:HB3	2.06	0.86
18:S:18:THR:HA	18:S:159:ILE:HA	1.56	0.86
22:X:238:ARG:HH22	23:Y:230:LEU:CG	1.86	0.86
24:1:1157:TYR:CE2	30:7:37:VAL:HG11	2.09	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:452:LYS:CE	28:2:456:ARG:HB2	2.05	0.86
1:A:1431:ALA:HA	22:X:329:TRP:CD1	2.11	0.86
4:D:1558:PRO:HA	4:D:1642:GLN:O	1.75	0.86
25:3:806:ALA:HA	25:3:856:LYS:HB3	1.58	0.85
14:O:236:VAL:HA	14:O:299:ASN:O	1.76	0.85
22:X:725:ARG:HD3	22:X:728:ARG:HH12	1.42	0.85
17:R:360:ARG:HH12	23:Y:276:LYS:N	1.72	0.85
1:A:325:HIS:HD2	1:A:326:HIS:HD2	1.25	0.85
7:G:117:A:C2'	23:Y:245:CYS:SG	2.64	0.85
7:G:117:A:OP2	23:Y:246:LYS:HD3	1.75	0.85
17:R:360:ARG:HD2	23:Y:275:TRP:HD1	1.04	0.85
24:1:1292:LYS:NZ	31:5:79:PRO:O	2.09	0.85
1:A:957:GLN:O	1:A:961:ASN:ND2	2.08	0.85
19:T:483:ASP:OD2	19:T:485:THR:OG1	1.95	0.85
22:X:164:TRP:CZ3	22:X:542:PHE:CE1	2.65	0.85
1:A:2308:VAL:HA	4:D:1124:GLN:C	1.97	0.85
3:C:673:LYS:CE	20:U:57:ILE:CB	2.53	0.85
1:A:1581:LEU:HD22	1:A:1746:ARG:HH11	1.41	0.84
3:C:605:ASP:HA	3:C:608:ARG:HD2	1.59	0.84
17:R:359:ARG:HB3	17:R:363:ARG:HH21	1.42	0.84
1:A:362:ARG:HD2	21:V:333:GLN:CB	2.06	0.84
13:N:49:ILE:O	13:N:49:ILE:HD12	1.77	0.84
17:R:103:ARG:NH1	17:R:110:LYS:O	2.11	0.84
22:X:878:HIS:HA	22:X:881:LEU:HD12	1.60	0.84
24:1:1203:GLY:HA2	25:3:1171:LYS:HG3	1.59	0.84
30:7:40:CYS:SG	30:7:73:LYS:NZ	2.50	0.84
1:A:1889:LEU:CD1	1:A:2013:GLY:C	2.45	0.84
22:X:246:LEU:HD12	23:Y:227:VAL:CG1	2.06	0.84
25:3:1106:LYS:HD2	28:2:708:TRP:CD1	2.13	0.84
1:A:888:GLN:O	1:A:889:ARG:NH1	2.10	0.84
12:L:227:THR:OG1	17:R:84:ASN:HB2	1.78	0.84
35:9:305:GLU:OE1	35:9:309:ARG:NH1	2.11	0.84
1:A:2328:ALA:H	4:D:728:ARG:CB	1.90	0.84
3:C:135:CYS:HA	3:C:205:THR:OG1	1.78	0.84
23:Y:245:CYS:SG	23:Y:246:LYS:N	2.51	0.84
1:A:171:ASP:OD1	1:A:521:ASN:ND2	2.10	0.83
10:J:431:ARG:HA	10:J:434:VAL:HG12	1.60	0.83
22:X:238:ARG:CG	23:Y:224:LEU:HG	2.07	0.83
25:3:280:ASP:HB3	25:3:283:ARG:HG3	1.60	0.83
25:3:585:ALA:HB1	25:3:610:VAL:HG12	1.59	0.83
24:1:734:GLY:O	24:1:738:HIS:HB2	1.77	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:529:ARG:HH22	3:C:540:GLU:HB2	1.42	0.83
7:G:117:A:H2'	23:Y:245:CYS:SG	2.19	0.83
13:N:43:VAL:O	13:N:47:TRP:NE1	2.11	0.83
17:R:386:ARG:HG2	22:X:909:ARG:HH22	1.44	0.83
23:Y:246:LYS:HB2	23:Y:311:ILE:HA	1.60	0.83
25:3:1132:PHE:O	28:2:711:LEU:HD21	1.78	0.83
3:C:301:SER:H	3:C:306:ASN:HD22	1.27	0.83
15:P:30:TYR:CE2	17:R:162:ALA:O	2.31	0.83
22:X:238:ARG:HE	23:Y:224:LEU:HD12	1.44	0.83
25:3:568:MET:HB3	25:3:574:LEU:HD12	1.60	0.83
2:B:18:C:N4	2:B:59:G:O6	2.10	0.82
17:R:175:GLN:HB2	17:R:199:MET:HB2	1.62	0.82
25:3:352:GLU:OE2	25:3:429:ARG:NH1	2.12	0.82
1:A:730:GLY:O	17:R:248:PRO:HG2	1.79	0.82
3:C:670:SER:HA	3:C:823:ALA:HB3	1.60	0.82
20:U:26:VAL:CB	21:V:517:LEU:HD21	2.08	0.82
24:1:725:ASP:HA	24:1:728:LEU:HG	1.61	0.82
1:A:214:ARG:NH2	1:A:223:SER:O	2.11	0.82
1:A:858:GLN:OE1	1:A:861:ARG:NH1	2.13	0.82
24:1:665:ILE:HD13	24:1:705:SER:HB2	1.61	0.82
5:E:61:LEU:HD21	5:E:350:ARG:HD3	1.62	0.82
6:F:91:A:H2'	6:F:92:A:H8	1.43	0.82
15:P:44:ARG:NH2	19:T:255:SER:O	2.12	0.82
1:A:946:GLU:HB3	1:A:950:LEU:HD23	1.62	0.82
21:V:624:THR:HG21	21:V:647:LEU:HD13	1.61	0.81
1:A:135:VAL:O	1:A:418:THR:OG1	1.96	0.81
1:A:361:HIS:HB2	3:C:280:HIS:ND1	1.96	0.81
1:A:1819:LEU:HB3	1:A:1915:VAL:HG23	1.62	0.81
13:N:113:PHE:HD1	17:R:198:ARG:HH11	1.25	0.81
20:U:26:VAL:HB	21:V:517:LEU:CD2	2.09	0.81
17:R:360:ARG:CD	23:Y:275:TRP:HE1	1.84	0.81
14:O:234:LEU:O	14:O:271:PHE:HA	1.81	0.81
12:L:77:LEU:HD21	35:9:221:LEU:HD22	1.62	0.81
22:X:238:ARG:NH2	23:Y:230:LEU:CG	2.43	0.81
13:N:15:TRP:HZ3	13:N:22:LEU:HD12	1.46	0.81
24:1:652:CYS:HB2	24:1:692:HIS:HE1	1.46	0.81
25:3:412:ILE:HG12	25:3:423:LEU:HD22	1.63	0.81
25:3:1041:TYR:CE2	28:2:705:ARG:NH2	2.48	0.81
31:5:36:HIS:ND1	31:5:76:CYS:SG	2.49	0.81
1:A:1889:LEU:HD12	1:A:2014:MET:CA	2.11	0.81
7:G:105:C:O2'	22:X:619:GLU:OE2	1.98	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:N:29:MET:SD	13:N:49:ILE:HD13	2.21	0.81
1:A:1962:THR:HG23	1:A:1966:HIS:HB2	1.61	0.80
1:A:1518:LEU:O	1:A:1523:ARG:NH1	2.12	0.80
5:E:239:THR:HG23	5:E:254:ALA:HA	1.63	0.80
5:E:240:GLY:O	5:E:252:SER:HA	1.80	0.80
6:F:85:U:H3	8:H:14:C:N4	1.78	0.80
17:R:233:PRO:O	17:R:235:ARG:NH2	2.13	0.80
22:X:234:TYR:OH	22:X:238:ARG:NH1	2.15	0.80
1:A:740:LEU:HD21	35:9:247:SER:HB3	1.64	0.80
20:U:22:ASN:HA	21:V:474:HIS:CD2	2.16	0.80
25:3:29:GLU:HG3	25:3:42:ARG:HG3	1.63	0.80
1:A:119:LEU:HD11	1:A:482:PHE:HB3	1.63	0.80
1:A:2308:VAL:HA	4:D:1125:SER:CA	2.11	0.80
3:C:561:LYS:NZ	3:C:614:TYR:O	2.15	0.80
15:P:67:GLU:OE2	19:T:476:ARG:NH2	2.15	0.80
17:R:357:HIS:HD2	23:Y:276:LYS:NZ	1.79	0.80
22:X:235:LEU:HA	23:Y:220:GLN:OE1	1.81	0.80
4:D:863:THR:CB	25:3:599:GLU:C	2.50	0.80
17:R:369:LEU:HA	17:R:376:LYS:HE3	1.64	0.80
1:A:361:HIS:HE1	21:V:324:HIS:CB	1.95	0.80
7:G:97:A:O4'	24:1:1110:VAL:CG1	2.29	0.80
12:L:223:GLY:HA2	17:R:86:LEU:HD21	1.64	0.80
21:V:521:TYR:HA	21:V:524:SER:HB2	1.63	0.80
25:3:162:LYS:HE3	25:3:165:THR:HG21	1.62	0.80
6:F:41:A:N1	7:G:6:A:N6	2.29	0.80
19:T:245:HIS:HE2	19:T:263:SER:HG	1.27	0.80
22:X:238:ARG:HG3	23:Y:224:LEU:HG	1.62	0.80
24:1:963:LYS:O	24:1:966:GLN:N	2.14	0.80
1:A:658:ARG:NH1	6:F:67:G:OP2	2.14	0.79
19:T:191:HIS:NE2	19:T:440:ASP:OD1	2.15	0.79
25:3:412:ILE:HD12	25:3:1107:THR:HG21	1.64	0.79
1:A:155:LYS:HG3	1:A:626:GLY:HA3	1.64	0.79
1:A:310:THR:HA	1:A:313:LYS:HG3	1.64	0.79
3:C:495:ARG:HD2	3:C:497:LEU:HG	1.62	0.79
1:A:388:LEU:HD11	3:C:395:THR:HG23	1.63	0.79
1:A:1768:TYR:CE2	1:A:2012:LEU:CD2	2.65	0.79
3:C:488:VAL:HG13	3:C:609:LYS:HD3	1.64	0.79
1:A:525:LYS:CD	11:K:197:TYR:CE2	2.64	0.79
3:C:464:ALA:HB1	3:C:473:PRO:HG3	1.65	0.79
25:3:170:VAL:HG23	25:3:184:CYS:HB3	1.64	0.79
3:C:255:VAL:HB	3:C:307:VAL:HG12	1.65	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:246:LEU:HD11	23:Y:227:VAL:HG11	1.61	0.79
23:Y:135:ILE:HA	23:Y:138:LYS:HD2	1.63	0.79
24:1:598:SER:O	24:1:602:LYS:HB2	1.83	0.79
1:A:712:HIS:ND1	17:R:250:CYS:SG	2.55	0.79
2:B:94:U:H1'	2:B:95:G:OP1	1.82	0.79
3:C:396:LEU:HD21	3:C:403:LEU:HB2	1.63	0.79
1:A:1412:TRP:O	1:A:1420:ASN:ND2	2.14	0.79
3:C:686:THR:HB	3:C:793:ASP:HB3	1.64	0.79
1:A:54:VAL:HB	13:N:109:ARG:HH22	1.45	0.79
13:N:120:ARG:NH1	13:N:142:CYS:SG	2.55	0.79
22:X:961:THR:O	22:X:965:GLN:NE2	2.15	0.79
25:3:136:GLU:OE2	25:3:189:TYR:OH	2.00	0.79
6:F:38:G:H2'	6:F:39:A:C8	2.16	0.79
10:J:266:GLU:OE2	10:J:282:TYR:OH	2.00	0.79
17:R:331:ALA:HA	22:X:275:ARG:NH1	1.98	0.79
22:X:324:GLU:OE1	22:X:327:ARG:NH2	2.16	0.79
24:1:805:TYR:O	24:1:809:GLU:HB2	1.82	0.79
25:3:1115:GLU:C	28:2:708:TRP:CZ2	2.56	0.79
6:F:59:G:H1	6:F:76:A:H61	0.84	0.78
19:T:307:SER:OG	19:T:309:ASP:OD1	2.00	0.78
22:X:263:SER:O	22:X:267:ARG:HB2	1.83	0.78
1:A:1320:LYS:NZ	1:A:1325:LEU:O	2.15	0.78
1:A:305:ARG:NH1	3:C:924:GLN:O	2.16	0.78
1:A:357:ASN:HD22	3:C:862:PRO:HB3	1.48	0.78
1:A:384:VAL:HG22	3:C:331:PHE:HB3	1.63	0.78
1:A:1889:LEU:HG	1:A:2013:GLY:CA	2.13	0.78
1:A:1889:LEU:HD11	1:A:2014:MET:O	1.80	0.78
12:L:73:HIS:CD2	35:9:220:ILE:HB	2.18	0.78
22:X:653:SER:HA	22:X:656:GLN:HG3	1.65	0.78
24:1:544:LEU:HD21	24:1:549:ARG:HG3	1.64	0.78
24:1:757:MET:HB3	24:1:762:ALA:HB2	1.64	0.78
3:C:300:LEU:HD23	3:C:306:ASN:HB3	1.64	0.78
16:Q:1272:LEU:HA	16:Q:1302:TYR:O	1.84	0.78
3:C:510:LEU:HB2	3:C:564:THR:O	1.82	0.78
3:C:677:GLU:HA	3:C:683:ASN:O	1.83	0.78
10:J:256:LYS:HE2	12:L:232:TYR:CE1	2.19	0.78
24:1:834:VAL:HG22	24:1:871:THR:HG23	1.65	0.78
1:A:54:VAL:HB	13:N:109:ARG:NH2	1.99	0.78
1:A:2276:GLN:CB	4:D:1151:GLU:CB	2.62	0.78
22:X:882:LEU:O	22:X:886:THR:OG1	2.01	0.78
25:3:929:LYS:HE3	25:3:938:GLU:HB2	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:674:CYS:HB3	3:C:818:SER:HB2	1.66	0.78
1:A:588:LEU:O	1:A:1551:PHE:HE2	1.68	0.77
11:K:206:LYS:O	11:K:223:ARG:NH1	2.16	0.77
19:T:267:ASP:N	19:T:267:ASP:OD1	2.17	0.77
19:T:349:SER:OG	19:T:351:ASP:OD1	1.99	0.77
20:U:26:VAL:CG1	21:V:517:LEU:HD23	2.14	0.77
22:X:610:ASP:HB3	22:X:686:ILE:HD13	1.67	0.77
24:1:1295:TYR:HH	31:5:29:TRP:HD1	1.31	0.77
25:3:1115:GLU:CB	28:2:708:TRP:CE2	2.65	0.77
1:A:891:PHE:O	12:L:83:ARG:NH2	2.17	0.77
1:A:1014:ASN:ND2	1:A:1014:ASN:O	2.17	0.77
10:J:293:ASN:HA	10:J:296:ARG:HD2	1.64	0.77
22:X:526:THR:HG23	22:X:529:THR:H	1.46	0.77
25:3:1115:GLU:CG	28:2:708:TRP:CZ2	2.68	0.77
3:C:117:ASP:N	3:C:117:ASP:OD1	2.14	0.77
21:V:518:LYS:HD3	21:V:519:LYS:H	1.49	0.77
12:L:223:GLY:HA2	17:R:86:LEU:CD2	2.15	0.77
22:X:617:GLY:O	22:X:621:ILE:HB	1.84	0.77
7:G:1:G:C8	11:K:218:LYS:HD2	2.19	0.77
9:I:92:TYR:CB	16:Q:953:ASN:HA	2.14	0.77
12:L:77:LEU:HD21	35:9:221:LEU:CD2	2.15	0.77
22:X:263:SER:HA	22:X:267:ARG:HH21	1.49	0.77
1:A:1631:LEU:HB2	1:A:1660:TYR:HB3	1.67	0.77
3:C:852:ARG:HD2	7:G:-12:C:H5'	1.65	0.77
1:A:325:HIS:CD2	1:A:326:HIS:HD2	2.02	0.77
1:A:1497:THR:OG1	1:A:1499:GLU:OE1	2.02	0.77
5:E:255:MET:HB2	5:E:282:HIS:HB3	1.67	0.77
9:I:106:MET:O	9:I:110:PRO:HG2	1.84	0.77
19:T:406:ILE:HG22	19:T:407:GLN:HG2	1.67	0.77
8:H:56:A:H1'	28:2:478:HIS:HB3	1.62	0.77
17:R:386:ARG:CG	22:X:909:ARG:HH22	1.97	0.77
6:F:84:A:H1'	6:F:85:U:H5'	1.67	0.77
17:R:348:GLU:CB	22:X:263:SER:H	1.98	0.77
22:X:434:GLN:NE2	22:X:468:GLU:OE2	2.18	0.77
25:3:228:LEU:HD21	25:3:250:ILE:HG21	1.66	0.77
25:3:878:ASP:OD1	25:3:879:LEU:N	2.18	0.77
10:J:354:LEU:HD21	10:J:362:ALA:HB2	1.67	0.76
23:Y:145:ASP:OD2	23:Y:190:ARG:NH2	2.18	0.76
25:3:592:LEU:HD22	25:3:605:LEU:HD13	1.65	0.76
6:F:31:U:O4	7:G:15:U:N3	2.17	0.76
6:F:36:A:N1	7:G:10:U:N3	2.32	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:741:TRP:HE1	24:1:781:ASP:CG	1.89	0.76
24:1:565:ASP:HA	24:1:568:ARG:HE	1.51	0.76
5:E:90:ILE:HD12	5:E:105:LEU:HD22	1.68	0.76
6:F:23:U:OP1	13:N:115:THR:OG1	2.02	0.76
24:1:524:ARG:NH1	24:1:562:LYS:O	2.18	0.76
24:1:972:GLY:HA2	24:1:1010:THR:HG21	1.64	0.76
1:A:361:HIS:CE1	21:V:324:HIS:CB	2.68	0.76
1:A:2325:VAL:O	4:D:728:ARG:CB	2.33	0.76
15:P:42:LYS:NZ	19:T:276:GLU:OE1	2.19	0.76
25:3:464:ARG:HG2	25:3:516:LEU:HD11	1.67	0.76
25:3:1013:ARG:NH2	25:3:1064:ASP:OD1	2.19	0.76
22:X:164:TRP:HE1	22:X:539:VAL:HA	1.49	0.76
22:X:605:THR:OG1	22:X:606:GLN:NE2	2.19	0.76
24:1:1273:TYR:OH	31:5:38:ASP:OD2	2.04	0.76
1:A:523:ASN:CB	11:K:194:ARG:HD3	2.16	0.76
24:1:554:LYS:HA	24:1:558:ARG:HH21	1.50	0.76
25:3:1133:THR:CA	28:2:711:LEU:HD21	2.12	0.76
24:1:793:LYS:HE2	24:1:839:GLU:HG3	1.67	0.76
25:3:1026:ASP:OD1	25:3:1026:ASP:N	2.18	0.76
30:7:22:LEU:N	30:7:67:SER:O	2.18	0.76
1:A:435:CYS:SG	7:G:-10:G:N1	2.52	0.76
25:3:89:ILE:HD12	25:3:103:HIS:HB2	1.67	0.76
25:3:351:SER:H	25:3:356:HIS:HB3	1.51	0.76
25:3:1041:TYR:CD2	28:2:705:ARG:CG	2.61	0.76
1:A:1407:ASP:OD1	1:A:1407:ASP:N	2.18	0.76
1:A:1784:ASN:HD21	1:A:1894:GLN:HB2	1.51	0.76
25:3:902:ASP:OD1	25:3:902:ASP:N	2.19	0.76
6:F:28:A:O2'	13:N:39:GLY:HA2	1.86	0.75
17:R:160:ALA:HA	17:R:163:MET:HG2	1.68	0.75
24:1:861:ALA:O	24:1:864:TYR:N	2.17	0.75
25:3:525:ARG:HG3	25:3:533:VAL:HG13	1.67	0.75
4:D:754:GLU:HA	25:3:662:PHE:HD1	1.49	0.75
22:X:620:GLU:OE1	22:X:696:LYS:NZ	2.19	0.75
17:R:371:ARG:HH12	23:Y:282:CYS:HB2	1.50	0.75
35:9:298:ASP:N	35:9:298:ASP:OD1	2.19	0.75
1:A:79:ARG:HH11	1:A:82:ARG:HH21	1.35	0.75
1:A:1403:LEU:O	17:R:407:TYR:HB2	1.85	0.75
13:N:32:ALA:HA	13:N:35:GLU:HG3	1.67	0.75
35:9:390:LEU:HD22	35:9:393:LYS:HE2	1.68	0.75
1:A:593:ARG:NH1	1:A:1565:LYS:NZ	2.33	0.75
1:A:1892:PRO:HG2	1:A:1940:LEU:HB2	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:154:HIS:HB3	3:C:156:GLU:HB3	1.66	0.75
1:A:972:GLU:N	1:A:972:GLU:OE1	2.19	0.75
8:H:56:A:HO2'	28:2:478:HIS:CB	1.99	0.75
8:H:56:A:N3	28:2:478:HIS:CE1	2.55	0.75
16:Q:1136:GLN:H	16:Q:1156:ASN:HA	1.50	0.75
21:V:589:GLU:O	21:V:593:TYR:HB2	1.86	0.75
22:X:164:TRP:CD1	22:X:542:PHE:HB2	2.20	0.75
22:X:741:TRP:NE1	24:1:781:ASP:OD2	2.20	0.75
25:3:459:VAL:HG22	25:3:476:VAL:HA	1.68	0.75
3:C:135:CYS:SG	3:C:242:LEU:HD13	2.26	0.75
21:V:490:CYS:HB2	21:V:525:PHE:HE2	1.51	0.75
20:U:26:VAL:HG12	21:V:517:LEU:HD23	1.68	0.74
1:A:318:TYR:O	3:C:645:ARG:NH2	2.20	0.74
1:A:658:ARG:NH2	6:F:65:G:OP2	2.19	0.74
1:A:2109:ASN:CB	4:D:1228:VAL:CB	2.64	0.74
22:X:164:TRP:CD2	22:X:542:PHE:CG	2.74	0.74
3:C:392:LEU:O	3:C:396:LEU:HB2	1.87	0.74
25:3:463:ARG:HB2	25:3:510:LEU:HD13	1.66	0.74
5:E:87:ASP:N	5:E:87:ASP:OD1	2.19	0.74
24:1:838:VAL:HG13	24:1:875:ILE:HG12	1.67	0.74
25:3:969:VAL:HB	25:3:981:CYS:HB2	1.69	0.74
11:K:200:ASP:HB3	11:K:219:PHE:HD1	1.53	0.74
23:Y:12:VAL:HG22	23:Y:132:GLY:HA3	1.68	0.74
28:2:507:LYS:H	28:2:507:LYS:HD2	1.51	0.74
17:R:386:ARG:O	22:X:909:ARG:NH1	2.20	0.74
22:X:164:TRP:NE1	22:X:539:VAL:HA	2.02	0.74
25:3:412:ILE:H	25:3:1105:GLN:HE22	1.34	0.74
28:2:491:LEU:O	28:2:494:THR:OG1	2.06	0.74
1:A:105:ASN:O	1:A:489:TRP:NE1	2.21	0.74
1:A:1201:ARG:O	1:A:1203:SER:N	2.20	0.74
3:C:177:ARG:NH2	3:C:638:ASP:OD2	2.20	0.74
3:C:277:LYS:HD2	3:C:865:GLY:HA3	1.70	0.74
17:R:348:GLU:HG3	22:X:262:LEU:HB2	0.80	0.74
22:X:288:GLU:HA	22:X:291:LYS:HD3	1.70	0.74
25:3:487:ILE:HA	25:3:491:VAL:HG13	1.69	0.74
3:C:349:PHE:HE1	3:C:354:ARG:HA	1.53	0.74
6:F:91:A:H2'	6:F:92:A:C8	2.22	0.74
1:A:419:ARG:NH2	1:A:423:ASP:O	2.20	0.74
7:G:115:C:H3'	7:G:116:C:H4'	1.70	0.74
1:A:835:ASP:N	1:A:835:ASP:OD1	2.19	0.74
1:A:2328:ALA:H	4:D:728:ARG:N	1.85	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:265:THR:OG1	1:A:328:HIS:O	2.06	0.73
1:A:525:LYS:CB	11:K:197:TYR:CE2	2.70	0.73
1:A:1429:THR:HG21	17:R:418:MET:SD	2.28	0.73
6:F:42:C:H2'	6:F:43:A:O4'	1.88	0.73
9:I:140:LEU:N	9:I:141:PRO:HD3	2.03	0.73
10:J:232:GLU:HG3	12:L:210:TYR:CE1	2.22	0.73
25:3:932:ASN:HB2	25:3:936:LYS:HE3	1.69	0.73
6:F:90:G:H2'	6:F:91:A:C8	2.22	0.73
8:H:12:G:O2'	8:H:13:C:O4'	2.05	0.73
22:X:197:LEU:HD21	23:Y:299:PHE:O	1.87	0.73
24:1:1179:ASP:HB2	28:2:511:LEU:HD13	1.70	0.73
3:C:183:SER:HB3	3:C:205:THR:HA	1.70	0.73
8:H:43:U:O2'	8:H:44:U:O5'	2.04	0.73
25:3:325:ILE:N	25:3:375:SER:OG	2.20	0.73
1:A:498:ARG:O	1:A:502:ASN:ND2	2.21	0.73
1:A:1713:SER:OG	1:A:1714:ALA:N	2.21	0.73
3:C:476:CYS:HB2	3:C:565:ILE:HB	1.71	0.73
10:J:414:HIS:HA	10:J:417:VAL:HG22	1.71	0.73
13:N:46:LEU:HD22	13:N:46:LEU:N	2.02	0.73
17:R:65:PRO:C	18:S:90:LEU:CA	2.48	0.73
21:V:616:LEU:HB2	21:V:643:LEU:HD12	1.71	0.73
22:X:850:ASN:O	22:X:852:SER:N	2.21	0.73
25:3:511:LEU:HD23	25:3:512:GLY:H	1.52	0.73
30:7:73:LYS:O	30:7:77:ILE:HG13	1.88	0.73
22:X:242:LYS:HB2	23:Y:224:LEU:HD23	1.70	0.73
25:3:228:LEU:HD12	25:3:229:GLU:H	1.52	0.73
28:2:526:ASP:OD1	28:2:526:ASP:N	2.17	0.73
16:Q:515:VAL:N	16:Q:540:THR:O	2.21	0.73
17:R:161:ALA:HA	17:R:166:ARG:HH22	1.52	0.73
1:A:428:LYS:NZ	2:B:27:U:OP2	2.21	0.73
1:A:1219:GLU:HG3	22:X:341:PHE:CD1	2.23	0.73
1:A:1458:GLN:HG3	17:R:422:PHE:CZ	2.23	0.73
17:R:315:LYS:HZ3	23:Y:191:ILE:HG12	1.53	0.73
1:A:1638:ASN:HA	1:A:1655:THR:O	1.89	0.73
28:2:642:PRO:CB	29:4:66:ASP:HA	2.17	0.73
1:A:1778:TRP:HH2	1:A:1852:LEU:HD21	1.52	0.73
3:C:262:ARG:NH2	3:C:266:GLU:OE2	2.21	0.73
21:V:622:ARG:HA	21:V:625:ARG:HH21	1.54	0.73
28:2:509:LYS:HB2	28:2:512:GLN:HB2	1.71	0.73
30:7:21:ARG:NH1	30:7:68:ASP:OD1	2.22	0.73
22:X:715:SER:OG	22:X:749:GLU:O	2.07	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:1132:PHE:O	28:2:711:LEU:HD23	1.89	0.73
1:A:588:LEU:O	1:A:1551:PHE:CE2	2.42	0.72
1:A:2328:ALA:HB3	4:D:728:ARG:HA	1.70	0.72
7:G:97:A:C4'	24:1:1110:VAL:HG11	2.19	0.72
15:P:30:TYR:CD1	17:R:164:PRO:HD2	2.24	0.72
25:3:208:LEU:HD13	25:3:250:ILE:HD11	1.71	0.72
1:A:2109:ASN:O	4:D:1229:ASP:CB	2.36	0.72
19:T:349:SER:OG	19:T:350:HIS:N	2.17	0.72
5:E:172:ASP:HA	5:E:195:GLN:HB3	1.70	0.72
1:A:57:GLN:O	13:N:107:GLN:NE2	2.22	0.72
22:X:182:ALA:CB	22:X:924:ARG:HH11	2.03	0.72
23:Y:40:CYS:O	23:Y:155:ARG:HA	1.90	0.72
25:3:565:TYR:HE1	25:3:619:LEU:HB2	1.54	0.72
25:3:1133:THR:N	28:2:711:LEU:HD21	2.04	0.72
3:C:131:ASN:ND2	3:C:495:ARG:HH12	1.88	0.72
15:P:208:LYS:O	15:P:208:LYS:NZ	2.20	0.72
17:R:414:GLN:HG2	22:X:633:ARG:HH12	1.55	0.72
24:1:1300:LEU:HB3	25:3:1032:TRP:CZ3	2.24	0.72
25:3:805:ASN:HB3	31:5:58:ASN:HB3	1.69	0.72
25:3:1040:ASP:OD2	25:3:1043:THR:N	2.20	0.72
1:A:2299:ALA:HB2	4:D:1281:GLN:CB	2.19	0.72
6:F:30:A:H61	7:G:16:G:H1'	1.54	0.72
7:G:115:C:H1'	23:Y:309:ARG:NH2	2.03	0.72
28:2:642:PRO:CB	29:4:66:ASP:CA	2.67	0.72
24:1:600:LEU:O	24:1:604:ALA:HB2	1.90	0.72
1:A:784:LEU:O	1:A:788:GLN:HG3	1.89	0.72
1:A:1104:ASP:OD1	1:A:1104:ASP:N	2.22	0.72
25:3:206:GLN:HG3	25:3:231:HIS:HD2	1.52	0.72
25:3:581:LYS:HD2	25:3:625:LEU:HD22	1.71	0.72
7:G:110:U:H5"	22:X:455:ARG:HG3	1.71	0.72
17:R:163:MET:O	17:R:165:VAL:N	2.23	0.72
25:3:384:THR:OG1	25:3:385:PHE:O	2.08	0.72
2:B:96:A:H4'	2:B:97:G:H5"	1.72	0.71
3:C:137:HIS:CD2	3:C:238:ASN:HB2	2.25	0.71
8:H:43:U:H2'	8:H:44:U:C6	2.25	0.71
12:L:188:ARG:HA	12:L:191:LEU:HB2	1.71	0.71
17:R:373:ALA:HB3	17:R:376:LYS:HB2	1.71	0.71
19:T:201:SER:OG	19:T:455:GLN:NE2	2.23	0.71
22:X:171:ARG:HG2	22:X:509:PRO:CG	2.19	0.71
24:1:553:VAL:HA	24:1:556:ILE:HG22	1.72	0.71
24:1:1299:GLU:HA	24:1:1302:TYR:HE2	1.56	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:9:300:THR:HG1	35:9:304:CYS:HG	1.20	0.71
24:1:498:MET:HE1	24:1:530:PRO:HB2	1.72	0.71
24:1:717:THR:HB	24:1:718:PRO:HD3	1.72	0.71
1:A:442:LYS:HG3	1:A:610:HIS:CE1	2.22	0.71
1:A:1835:GLN:HA	1:A:1838:LYS:HG3	1.72	0.71
3:C:642:HIS:O	3:C:646:LYS:HB2	1.91	0.71
17:R:331:ALA:HB2	22:X:275:ARG:CZ	2.20	0.71
22:X:232:ARG:HA	22:X:235:LEU:HG	1.73	0.71
22:X:242:LYS:HG2	23:Y:227:VAL:HG21	1.70	0.71
25:3:565:TYR:HB3	25:3:577:TYR:HB3	1.72	0.71
31:5:62:ALA:HA	31:5:65:ARG:HH12	1.55	0.71
3:C:313:GLN:O	3:C:417:ARG:NE	2.22	0.71
5:E:153:PHE:HB2	5:E:172:ASP:HB2	1.72	0.71
17:R:357:HIS:CD2	23:Y:276:LYS:NZ	2.59	0.71
23:Y:122:VAL:HB	23:Y:123:HIS:HD2	1.55	0.71
24:1:802:GLU:HB2	24:1:805:TYR:H	1.55	0.71
7:G:2:U:N3	11:K:219:PHE:CD2	2.58	0.71
1:A:979:SER:HB3	1:A:1173:SER:HB2	1.70	0.71
1:A:1660:TYR:OH	1:A:1717:ASN:O	2.06	0.71
3:C:496:VAL:HB	3:C:546:ALA:HA	1.71	0.71
10:J:350:ILE:HD11	10:J:365:ILE:HB	1.72	0.71
16:Q:971:HIS:O	16:Q:975:ALA:HB2	1.90	0.71
22:X:646:PRO:HA	22:X:672:VAL:HG12	1.71	0.71
22:X:991:LEU:HA	22:X:995:GLU:HA	1.72	0.71
28:2:675:VAL:HA	28:2:681:PRO:HA	1.73	0.71
1:A:64:GLU:N	1:A:64:GLU:OE1	2.22	0.71
1:A:1459:ARG:NE	17:R:419:ASP:O	2.16	0.71
22:X:164:TRP:HD1	22:X:538:ASP:C	1.94	0.71
24:1:503:LYS:HE2	24:1:511:MET:HG2	1.72	0.71
24:1:528:ALA:HA	24:1:531:LEU:HB2	1.72	0.71
28:2:595:LYS:HE2	28:2:595:LYS:C	2.11	0.71
1:A:391:THR:O	3:C:379:LYS:NZ	2.19	0.71
6:F:86:U:N3	8:H:12:G:O6	2.23	0.71
13:N:120:ARG:O	13:N:143:SER:OG	2.09	0.71
19:T:342:GLU:OE1	19:T:365:ARG:NH1	2.20	0.71
22:X:257:PHE:HA	22:X:262:LEU:HD21	1.72	0.71
25:3:22:PHE:O	25:3:75:LYS:NZ	2.19	0.71
25:3:642:ILE:O	25:3:703:ARG:NE	2.24	0.71
1:A:2276:GLN:HA	4:D:1151:GLU:CB	2.21	0.71
22:X:862:VAL:O	22:X:866:ASN:ND2	2.24	0.71
23:Y:6:GLU:O	23:Y:157:ASN:N	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Y:71:TYR:O	23:Y:74:GLN:NE2	2.23	0.71
1:A:531:THR:OG1	1:A:534:GLU:OE1	2.04	0.71
1:A:2268:LEU:C	4:D:1263:PRO:CB	2.59	0.71
3:C:711:ARG:NH2	3:C:732:ILE:O	2.23	0.71
16:Q:536:ARG:HA	16:Q:627:VAL:O	1.91	0.71
6:F:81:C:H1'	6:F:82:A:C5	2.25	0.70
17:R:348:GLU:CG	22:X:262:LEU:CB	2.46	0.70
17:R:367:ARG:HD3	17:R:371:ARG:HD2	1.71	0.70
19:T:471:ASP:OD2	19:T:472:GLN:N	2.23	0.70
25:3:487:ILE:HG13	25:3:491:VAL:HG22	1.73	0.70
1:A:1130:ASN:OD1	1:A:1130:ASN:N	2.22	0.70
1:A:1640:SER:OG	1:A:1641:ARG:N	2.21	0.70
35:9:300:THR:HA	35:9:353:GLU:HG2	1.72	0.70
1:A:1431:ALA:HB2	22:X:329:TRP:HB2	1.73	0.70
1:A:1838:LYS:HD3	1:A:1868:MET:HG3	1.73	0.70
2:B:87:A:N6	2:B:92:U:P	2.64	0.70
3:C:129:ILE:HG22	3:C:199:LEU:HB3	1.70	0.70
3:C:810:PRO:HB3	35:9:105:VAL:O	1.90	0.70
17:R:280:ILE:O	35:9:225:MET:HG3	1.90	0.70
22:X:846:MET:HG3	22:X:881:LEU:HB3	1.72	0.70
24:1:582:LEU:HG	24:1:634:VAL:HG21	1.72	0.70
1:A:1558:THR:OG1	1:A:1559:GLY:N	2.21	0.70
2:B:94:U:C1'	2:B:95:G:OP1	2.39	0.70
22:X:246:LEU:HG	22:X:277:ARG:HE	1.56	0.70
22:X:423:GLU:O	22:X:426:SER:OG	2.08	0.70
24:1:1103:VAL:HG11	24:1:1108:ASN:ND2	2.05	0.70
30:7:71:TYR:CE2	30:7:81:ASP:HB2	2.25	0.70
1:A:442:LYS:CG	1:A:610:HIS:CE1	2.75	0.70
1:A:1070:ASP:OD1	1:A:1070:ASP:N	2.25	0.70
1:A:1132:LYS:HG3	1:A:1139:ARG:HH21	1.56	0.70
22:X:839:GLU:N	22:X:839:GLU:OE2	2.22	0.70
24:1:1181:ASP:OD1	24:1:1182:LEU:N	2.24	0.70
28:2:511:LEU:O	28:2:514:LYS:N	2.20	0.70
16:Q:875:HIS:HA	16:Q:1032:ALA:HA	1.72	0.70
22:X:283:TYR:CZ	23:Y:222:ILE:CG2	2.74	0.70
24:1:1056:MET:HE2	24:1:1096:THR:HG21	1.73	0.70
25:3:1048:ASP:OD1	25:3:1049:LYS:N	2.24	0.70
1:A:525:LYS:HB3	11:K:197:TYR:HE2	1.56	0.70
1:A:2307:GLU:O	4:D:1125:SER:N	2.24	0.70
8:H:28:C:O2'	8:H:29:A:N3	2.25	0.70
13:N:107:GLN:OE1	13:N:109:ARG:NH1	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1:699:GLN:HE22	24:1:738:HIS:HE1	1.40	0.70
1:A:1807:ILE:HD11	1:A:1841:THR:HG22	1.74	0.70
3:C:394:ARG:NH1	3:C:395:THR:OG1	2.25	0.70
6:F:38:G:OP1	6:F:38:G:H8	1.74	0.70
6:F:48:A:O3'	12:L:33:ARG:NH1	2.24	0.70
19:T:455:GLN:HG2	19:T:456:PRO:HD2	1.74	0.70
22:X:785:PRO:O	22:X:788:THR:OG1	2.09	0.70
23:Y:53:THR:OG1	23:Y:54:GLY:N	2.24	0.70
24:1:630:ARG:HE	24:1:670:GLN:CD	1.95	0.70
1:A:1618:LYS:NZ	1:A:1663:ASP:OD1	2.24	0.70
3:C:509:VAL:O	3:C:522:SER:OG	2.07	0.70
3:C:818:SER:O	3:C:822:MET:HB2	1.92	0.70
19:T:371:HIS:NE2	19:T:389:SER:OG	2.23	0.70
22:X:701:ASN:ND2	22:X:704:THR:OG1	2.24	0.70
24:1:586:ASP:OD1	24:1:589:ALA:N	2.24	0.70
1:A:494:LEU:HD21	1:A:562:VAL:HG21	1.74	0.70
7:G:2:U:O2'	11:K:204:ASP:OD1	2.08	0.70
24:1:1103:VAL:CG1	24:1:1108:ASN:ND2	2.55	0.69
1:A:857:ASN:ND2	1:A:860:GLN:OE1	2.25	0.69
6:F:41:A:H2'	6:F:42:C:C6	2.28	0.69
15:P:205:LYS:HB2	15:P:208:LYS:HB3	1.73	0.69
17:R:315:LYS:NZ	23:Y:191:ILE:HG12	2.07	0.69
22:X:695:CYS:HB3	22:X:722:ARG:HH22	1.58	0.69
1:A:1146:ASP:OD2	1:A:1182:ASN:ND2	2.25	0.69
1:A:1402:ARG:HD2	22:X:664:PRO:CB	2.23	0.69
1:A:1771:LEU:HD21	1:A:1779:PHE:HZ	1.54	0.69
3:C:667:VAL:HG22	3:C:824:THR:HG21	1.74	0.69
3:C:933:PHE:O	3:C:937:THR:OG1	2.07	0.69
8:H:48:A:C4	8:H:78:C:OP1	2.46	0.69
1:A:1181:ASP:OD1	1:A:1181:ASP:N	2.24	0.69
3:C:122:LEU:HD21	3:C:197:SER:OG	1.92	0.69
22:X:1009:LEU:HD23	22:X:1021:LEU:HD11	1.73	0.69
25:3:109:LYS:HA	30:7:82:ARG:NH1	2.07	0.69
25:3:1194:SER:OG	25:3:1199:ARG:O	2.10	0.69
2:B:12:U:O2	2:B:65:G:N2	2.19	0.69
3:C:852:ARG:HD2	7:G:-12:C:C5'	2.21	0.69
3:C:854:ARG:NH1	3:C:879:ASP:OD2	2.25	0.69
22:X:225:GLU:HA	22:X:228:LYS:HG2	1.73	0.69
22:X:654:ASP:OD1	22:X:654:ASP:N	2.25	0.69
24:1:948:ARG:NH2	24:1:984:GLU:OE2	2.25	0.69
2:B:66:A:H2'	2:B:67:A:C8	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:274:VAL:HG12	5:E:275:LYS:HG3	1.73	0.69
8:H:56:A:H1'	28:2:478:HIS:CG	2.26	0.69
19:T:188:PRO:HB3	19:T:443:THR:HG21	1.74	0.69
25:3:1182:PHE:O	25:3:1190:GLN:NE2	2.24	0.69
1:A:1864:THR:HG22	1:A:1890:GLN:CD	2.12	0.69
17:R:348:GLU:HG3	22:X:262:LEU:HB3	1.70	0.69
23:Y:251:THR:OG1	23:Y:307:ASP:OD2	2.08	0.69
1:A:35:ARG:HH11	1:A:35:ARG:CB	2.04	0.69
1:A:402:ILE:HG21	3:C:268:LYS:HE3	1.74	0.69
1:A:525:LYS:CG	11:K:197:TYR:HE2	2.05	0.69
1:A:712:HIS:CE1	17:R:250:CYS:HB2	2.28	0.69
1:A:1397:ILE:HG13	17:R:405:VAL:HG22	1.75	0.69
1:A:1431:ALA:CA	22:X:329:TRP:CD1	2.76	0.69
5:E:158:TYR:CE1	5:E:200:THR:HG22	2.28	0.69
16:Q:1028:LEU:HA	16:Q:1032:ALA:HB3	1.74	0.69
17:R:348:GLU:HB2	22:X:263:SER:N	2.05	0.69
22:X:238:ARG:NH1	23:Y:319:VAL:HG23	2.08	0.69
24:1:621:ASP:HB3	24:1:624:VAL:HG22	1.75	0.69
30:7:46:CYS:H	30:7:85:CYS:HB2	1.58	0.69
3:C:737:PRO:HD2	3:C:741:GLY:HA3	1.74	0.69
6:F:36:A:C3'	6:F:37:C:H5"	2.21	0.69
6:F:81:C:H1'	6:F:82:A:C4	2.27	0.69
8:H:48:A:N1	8:H:78:C:OP1	2.26	0.69
14:O:165:CYS:O	14:O:168:TRP:N	2.26	0.69
22:X:516:VAL:HG22	22:X:547:LYS:HB2	1.75	0.69
22:X:554:THR:HG22	22:X:555:MET:H	1.58	0.69
25:3:812:LYS:HD2	25:3:856:LYS:HE3	1.74	0.69
31:5:62:ALA:HA	31:5:65:ARG:NH1	2.07	0.69
1:A:1676:ILE:HD12	1:A:1706:ASP:HB2	1.74	0.69
19:T:423:SER:OG	19:T:424:ASP:OD1	2.09	0.69
35:9:323:ARG:HB3	35:9:331:GLN:HB3	1.75	0.69
22:X:765:LEU:O	22:X:769:SER:OG	2.10	0.68
25:3:968:ARG:HB2	25:3:970:TYR:HE2	1.57	0.68
30:7:33:CYS:SG	30:7:35:SER:OG	2.31	0.68
30:7:37:VAL:HB	30:7:38:ARG:HG3	1.75	0.68
1:A:50:LYS:HB2	1:A:50:LYS:NZ	2.08	0.68
1:A:1427:ARG:HB3	22:X:329:TRP:CZ3	2.29	0.68
1:A:1516:LYS:H	1:A:1516:LYS:HD3	1.57	0.68
7:G:115:C:C1'	23:Y:309:ARG:HH21	2.04	0.68
17:R:382:ARG:HH21	17:R:385:ASN:HD22	1.40	0.68
20:U:26:VAL:CG1	21:V:517:LEU:CD2	2.71	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:775:ASN:HD22	25:3:775:ASN:H	1.40	0.68
5:E:202:ASN:ND2	5:E:204:THR:OG1	2.26	0.68
5:E:209:ILE:HG12	5:E:219:VAL:HG22	1.75	0.68
23:Y:30:LYS:HE3	23:Y:168:ASP:HA	1.74	0.68
24:1:680:LEU:HA	24:1:683:LEU:HB2	1.75	0.68
28:2:452:LYS:O	28:2:452:LYS:HD3	1.92	0.68
1:A:83:HIS:NE2	7:G:16:G:C6	2.56	0.68
4:D:913:ALA:N	4:D:977:GLY:O	2.23	0.68
6:F:26:U:H5'	6:F:27:A:H8	1.59	0.68
10:J:330:ARG:NE	10:J:353:GLU:OE2	2.25	0.68
12:L:225:TYR:C	17:R:85:ALA:HB2	2.14	0.68
22:X:387:GLN:NE2	22:X:390:GLU:OE2	2.26	0.68
22:X:595:CYS:O	22:X:598:SER:OG	2.12	0.68
28:2:596:GLU:OE2	28:2:596:GLU:N	2.21	0.68
4:D:971:LYS:O	4:D:980:GLN:N	2.26	0.68
5:E:209:ILE:HG21	5:E:250:LEU:HD11	1.75	0.68
6:F:30:A:H2'	6:F:31:U:O4'	1.94	0.68
24:1:734:GLY:O	24:1:738:HIS:CB	2.40	0.68
25:3:328:LYS:NZ	25:3:370:GLU:OE2	2.26	0.68
2:B:87:A:N6	2:B:92:U:OP2	2.26	0.68
3:C:188:VAL:HG23	3:C:190:LEU:HD11	1.75	0.68
3:C:495:ARG:HB2	3:C:495:ARG:HH11	1.58	0.68
8:H:173:C:H2'	8:H:174:A:C8	2.28	0.68
17:R:331:ALA:CB	22:X:275:ARG:CZ	2.71	0.68
22:X:845:ALA:HB2	22:X:915:ARG:HB2	1.76	0.68
25:3:833:GLU:O	25:3:836:ALA:N	2.23	0.68
25:3:981:CYS:SG	25:3:1019:ASN:ND2	2.66	0.68
10:J:285:MET:O	10:J:289:ASN:ND2	2.26	0.68
17:R:360:ARG:HH11	23:Y:276:LYS:H	1.36	0.68
22:X:659:ILE:O	22:X:669:LYS:NZ	2.27	0.68
1:A:385:GLU:OE1	1:A:386:PRO:CD	2.42	0.68
3:C:480:LYS:NZ	3:C:482:TYR:OH	2.26	0.68
10:J:267:ARG:HD3	12:L:216:PHE:O	1.94	0.68
21:V:604:LYS:HZ2	21:V:639:LEU:HD23	1.59	0.68
7:G:117:A:HO2'	23:Y:245:CYS:HG	0.88	0.68
24:1:1276:SER:O	24:1:1276:SER:OG	2.07	0.68
25:3:449:VAL:HG13	25:3:763:ARG:HG2	1.76	0.68
25:3:1115:GLU:HG3	28:2:708:TRP:CZ2	2.28	0.68
35:9:143:ASP:N	35:9:148:GLU:O	2.23	0.68
4:D:1265:GLN:CB	4:D:1284:VAL:O	2.41	0.67
13:N:37:HIS:CG	13:N:41:ARG:CB	2.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:197:LEU:C	22:X:197:LEU:HD12	2.14	0.67
24:1:732:TRP:NE1	24:1:768:GLU:OE2	2.27	0.67
25:3:427:CYS:SG	25:3:428:GLY:N	2.66	0.67
35:9:286:THR:HG22	35:9:428:ILE:HD13	1.76	0.67
3:C:604:LEU:HA	3:C:607:LEU:HG	1.74	0.67
22:X:422:GLY:O	22:X:428:LYS:NZ	2.22	0.67
25:3:485:LEU:HD23	25:3:491:VAL:HG12	1.76	0.67
25:3:697:ARG:NH2	25:3:717:SER:OG	2.28	0.67
25:3:745:PHE:HB2	25:3:755:VAL:HG23	1.75	0.67
1:A:720:TRP:HA	35:9:251:THR:HB	1.75	0.67
5:E:202:ASN:ND2	5:E:207:GLN:OE1	2.26	0.67
7:G:117:A:O2'	23:Y:245:CYS:SG	2.20	0.67
8:H:125:G:H2'	8:H:126:A:C8	2.30	0.67
25:3:215:LEU:H	25:3:215:LEU:HD12	1.59	0.67
25:3:840:ALA:O	25:3:844:ASN:ND2	2.27	0.67
25:3:1132:PHE:C	28:2:711:LEU:CD2	2.62	0.67
1:A:1719:PHE:HB2	1:A:1720:PRO:HD2	1.75	0.67
7:G:2:U:C5	11:K:219:PHE:CE2	2.82	0.67
9:I:108:LYS:O	9:I:112:LEU:CB	2.42	0.67
14:O:25:GLN:CB	17:R:188:PHE:HB3	2.23	0.67
21:V:609:GLN:HE22	21:V:616:LEU:HD21	1.58	0.67
25:3:603:ARG:HG3	25:3:604:PHE:CE1	2.29	0.67
1:A:2268:LEU:CA	4:D:1263:PRO:CB	2.72	0.67
25:3:288:VAL:HG23	25:3:289:CYS:H	1.59	0.67
1:A:1792:LYS:HA	1:A:1798:LEU:HA	1.75	0.67
5:E:188:GLN:NE2	5:E:189:THR:H	1.91	0.67
8:H:48:A:C2	8:H:78:C:P	2.88	0.67
12:L:89:ILE:HD11	12:L:96:CYS:SG	2.34	0.67
21:V:636:LEU:HB3	21:V:639:LEU:HD12	1.77	0.67
25:3:700:LYS:HB3	25:3:702:PHE:CZ	2.30	0.67
25:3:983:ASN:ND2	25:3:1021:LEU:O	2.25	0.67
24:1:758:ASP:O	24:1:762:ALA:N	2.15	0.67
24:1:1052:ALA:HA	24:1:1088:ILE:HD11	1.75	0.67
1:A:142:SER:HA	1:A:242:ALA:HB2	1.76	0.67
2:B:97:G:H1	2:B:116:U:H3	1.41	0.67
3:C:673:LYS:HE2	20:U:57:ILE:CA	2.25	0.67
16:Q:517:PHE:HA	16:Q:538:ASP:O	1.94	0.67
25:3:705:ARG:HA	25:3:710:GLU:HA	1.76	0.67
1:A:727:LYS:HG3	35:9:244:GLY:HA3	1.75	0.67
1:A:2081:ALA:O	4:D:1010:SER:CB	2.43	0.67
2:B:95:G:H21	2:B:96:A:C5'	2.07	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:1041:TYR:HB3	28:2:705:ARG:HG3	1.75	0.67
1:A:155:LYS:NZ	1:A:622:GLY:O	2.27	0.67
1:A:525:LYS:CG	11:K:197:TYR:CE2	2.78	0.67
3:C:810:PRO:CB	35:9:105:VAL:O	2.42	0.67
25:3:521:PRO:O	25:3:543:THR:OG1	2.12	0.67
25:3:1160:HIS:NE2	25:3:1175:ASP:OD2	2.20	0.67
1:A:1790:ILE:HG23	1:A:1800:THR:HB	1.77	0.66
3:C:129:ILE:HA	3:C:199:LEU:O	1.95	0.66
3:C:221:ILE:HD13	3:C:493:PHE:HE1	1.59	0.66
5:E:135:VAL:O	5:E:144:VAL:N	2.28	0.66
5:E:146:ARG:HD2	5:E:148:LYS:HE2	1.76	0.66
8:H:57:A:OP1	28:2:481:THR:CG2	2.43	0.66
18:S:83:GLU:HA	18:S:106:ASP:HA	1.74	0.66
19:T:203:HIS:CE1	19:T:229:LYS:HG3	2.29	0.66
25:3:39:GLU:OE2	25:3:55:THR:OG1	2.12	0.66
35:9:142:ARG:HA	35:9:149:PRO:HA	1.77	0.66
1:A:184:ASP:CB	13:N:1:MET:N	2.55	0.66
1:A:593:ARG:HH12	1:A:1565:LYS:NZ	1.93	0.66
1:A:730:GLY:O	17:R:248:PRO:CG	2.43	0.66
1:A:1622:MET:O	1:A:1687:TYR:OH	2.12	0.66
3:C:774:THR:HG22	3:C:784:ILE:HD11	1.78	0.66
9:I:448:ASN:O	9:I:452:ALA:CB	2.42	0.66
12:L:79:PRO:O	12:L:80:THR:OG1	2.13	0.66
19:T:336:VAL:HG23	19:T:347:THR:HG22	1.77	0.66
22:X:957:SER:OG	22:X:960:ARG:NH2	2.28	0.66
25:3:620:ASP:N	25:3:620:ASP:OD1	2.27	0.66
35:9:341:GLY:O	35:9:379:GLN:NE2	2.28	0.66
1:A:1286:ASP:OD1	1:A:1286:ASP:N	2.26	0.66
3:C:887:LEU:O	3:C:891:THR:HG22	1.95	0.66
20:U:23:LEU:HD12	21:V:478:LYS:CB	2.20	0.66
22:X:238:ARG:HG2	23:Y:224:LEU:HG	1.77	0.66
1:A:712:HIS:CE1	17:R:250:CYS:CB	2.79	0.66
1:A:1866:LYS:HG3	1:A:1886:GLY:HA3	1.76	0.66
1:A:1984:LYS:HG2	1:A:2011:ILE:HD11	1.77	0.66
4:D:2065:TRP:O	4:D:2108:PHE:HA	1.95	0.66
22:X:164:TRP:CH2	22:X:542:PHE:HD1	2.13	0.66
22:X:774:ASP:CG	22:X:777:HIS:HD1	1.99	0.66
23:Y:42:ILE:HB	23:Y:154:ILE:HD12	1.76	0.66
25:3:434:SER:OG	25:3:436:ARG:NE	2.25	0.66
1:A:184:ASP:CB	13:N:1:MET:HA	2.25	0.66
22:X:592:LEU:HD12	22:X:593:GLU:H	1.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:147:ASP:OD1	25:3:151:ARG:N	2.28	0.66
25:3:665:LEU:HD11	25:3:667:ILE:HG13	1.77	0.66
1:A:762:ARG:HH12	15:P:226:LYS:HZ1	1.41	0.66
3:C:713:LYS:HA	3:C:716:GLU:CD	2.15	0.66
8:H:48:A:C2	8:H:78:C:OP1	2.48	0.66
25:3:777:VAL:HG22	25:3:779:PHE:HE1	1.61	0.66
7:G:99:C:N4	8:H:32:U:N3	2.25	0.66
22:X:164:TRP:CZ3	22:X:542:PHE:HD1	2.13	0.66
24:1:923:LYS:HG2	24:1:926:LYS:HE3	1.78	0.66
24:1:1299:GLU:HA	24:1:1302:TYR:CE2	2.30	0.66
25:3:169:HIS:ND1	25:3:234:PHE:HB2	2.10	0.66
25:3:191:GLU:HA	25:3:194:ASN:HD22	1.59	0.66
1:A:660:PHE:CD2	17:R:209:PRO:HB2	2.31	0.66
1:A:2281:TYR:O	1:A:2284:MET:N	2.24	0.66
3:C:146:VAL:O	3:C:150:ILE:HG13	1.94	0.66
4:D:2098:ALA:O	4:D:2100:GLY:N	2.29	0.66
13:N:29:MET:HB2	13:N:52:ILE:HG21	1.78	0.66
25:3:926:TYR:HB3	25:3:928:TYR:HE2	1.60	0.66
35:9:118:ALA:O	35:9:155:ILE:HA	1.96	0.66
10:J:434:VAL:O	10:J:438:TYR:HB3	1.95	0.66
22:X:238:ARG:HH12	23:Y:319:VAL:HG23	1.58	0.66
25:3:511:LEU:HD21	25:3:517:VAL:HG23	1.78	0.66
1:A:1403:LEU:HB2	17:R:407:TYR:HD1	1.61	0.66
2:B:63:A:H2'	2:B:64:G:C8	2.31	0.66
5:E:312:TRP:HD1	5:E:319:ILE:HA	1.60	0.66
25:3:169:HIS:HD2	25:3:170:VAL:H	1.44	0.66
25:3:499:PHE:HZ	25:3:516:LEU:HD22	1.57	0.66
25:3:1188:ASN:OD1	25:3:1189:LYS:N	2.28	0.66
28:2:476:GLU:HG2	28:2:477:MET:H	1.61	0.66
3:C:515:THR:HG22	3:C:518:ASP:HB2	1.77	0.65
14:O:36:MET:O	17:R:199:MET:HE1	1.95	0.65
24:1:1252:GLN:NE2	28:2:492:LYS:HA	2.11	0.65
25:3:1117:LEU:O	25:3:1128:ILE:HA	1.96	0.65
3:C:778:PRO:HB2	3:C:821:LEU:HD21	1.78	0.65
5:E:120:ASP:OD1	5:E:120:ASP:N	2.28	0.65
23:Y:17:TYR:HB3	23:Y:20:GLU:HG3	1.79	0.65
24:1:796:CYS:HA	24:1:801:VAL:HG11	1.78	0.65
24:1:1203:GLY:HA2	25:3:1171:LYS:CG	2.25	0.65
25:3:586:ASP:HB3	25:3:610:VAL:HB	1.77	0.65
1:A:1251:SER:O	1:A:1251:SER:OG	2.07	0.65
14:O:36:MET:HA	14:O:56:ARG:O	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Y:183:ARG:HA	23:Y:183:ARG:HE	1.61	0.65
25:3:206:GLN:HG3	25:3:231:HIS:CD2	2.31	0.65
28:2:452:LYS:HE3	28:2:456:ARG:CB	2.27	0.65
30:7:26:CYS:SG	30:7:61:CYS:HB2	2.35	0.65
1:A:176:LEU:H	1:A:176:LEU:HD23	1.61	0.65
1:A:850:TYR:OH	1:A:863:GLU:OE1	2.13	0.65
5:E:75:HIS:HB3	5:E:78:GLY:H	1.60	0.65
5:E:135:VAL:HG21	5:E:181:ILE:HD13	1.77	0.65
15:P:30:TYR:CE1	17:R:164:PRO:HD2	2.31	0.65
17:R:386:ARG:HG2	22:X:909:ARG:NH2	2.10	0.65
23:Y:39:TYR:N	23:Y:156:ILE:O	2.29	0.65
24:1:862:GLU:OE1	24:1:904:THR:OG1	2.14	0.65
24:1:1302:TYR:HE1	25:3:915:LEU:HB3	1.57	0.65
28:2:505:CYS:O	28:2:507:LYS:CE	2.42	0.65
1:A:325:HIS:HD2	1:A:326:HIS:CD2	2.12	0.65
1:A:384:VAL:CG1	3:C:327:TYR:CE2	2.80	0.65
1:A:606:LYS:NZ	44:A:3000:IHP:O26	2.26	0.65
1:A:1780:VAL:HB	1:A:1863:VAL:HG23	1.77	0.65
7:G:98:U:O4	8:H:33:G:N1	2.25	0.65
23:Y:87:LYS:NZ	23:Y:120:ASP:OD2	2.30	0.65
24:1:694:LEU:HD12	24:1:694:LEU:H	1.59	0.65
24:1:712:LEU:O	24:1:716:ALA:HB3	1.97	0.65
24:1:1174:GLU:OE2	24:1:1210:HIS:NE2	2.26	0.65
3:C:709:TRP:HB3	3:C:713:LYS:HB2	1.78	0.65
17:R:348:GLU:OE1	22:X:263:SER:O	2.13	0.65
19:T:329:HIS:HE2	19:T:347:THR:HG1	1.45	0.65
24:1:696:ASP:O	24:1:702:ARG:NH1	2.29	0.65
1:A:955:TRP:HE1	1:A:976:MET:HE1	1.62	0.65
1:A:1383:GLN:OE1	22:X:339:LEU:HB3	1.97	0.65
1:A:1889:LEU:HA	1:A:2014:MET:N	2.10	0.65
6:F:35:A:H8	7:G:12:G:C6	2.15	0.65
8:H:12:G:H2'	8:H:13:C:C6	2.31	0.65
10:J:300:ASP:O	10:J:304:THR:OG1	2.15	0.65
10:J:334:GLU:OE2	10:J:349:TYR:OH	2.11	0.65
25:3:185:LEU:HG	25:3:235:LEU:HD11	1.76	0.65
1:A:525:LYS:CB	11:K:197:TYR:HE2	2.10	0.65
9:I:448:ASN:O	9:I:452:ALA:HB2	1.96	0.65
14:O:232:THR:O	14:O:273:GLN:HA	1.97	0.65
23:Y:244:VAL:HG12	23:Y:247:LEU:HD21	1.77	0.65
35:9:416:ASP:O	35:9:420:ASP:N	2.28	0.65
1:A:139:VAL:O	1:A:143:GLN:HG3	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1431:ALA:HB2	22:X:329:TRP:CD1	2.32	0.65
1:A:1782:ASP:OD2	1:A:1782:ASP:N	2.28	0.65
5:E:105:LEU:HD11	5:E:136:TRP:CD2	2.32	0.65
6:F:60:C:C2	10:J:236:ARG:NH2	2.64	0.65
22:X:850:ASN:O	22:X:853:ILE:HG13	1.97	0.65
24:1:1157:TYR:CD2	30:7:37:VAL:HG11	2.32	0.65
1:A:1768:TYR:HA	1:A:1771:LEU:CB	2.23	0.65
22:X:164:TRP:CE2	22:X:542:PHE:CD1	2.84	0.65
22:X:698:LYS:HZ1	22:X:758:THR:HA	1.62	0.65
25:3:911:LYS:HB3	25:3:922:GLY:O	1.96	0.65
25:3:1009:PHE:HE1	25:3:1036:ALA:HB2	1.61	0.65
35:9:360:HIS:HB2	35:9:387:CYS:O	1.97	0.65
3:C:759:LEU:HA	3:C:762:VAL:HG12	1.79	0.64
3:C:813:ARG:HH21	35:9:106:LEU:HA	1.62	0.64
8:H:119:G:H8	8:H:119:G:O5'	1.80	0.64
18:S:17:GLU:HA	18:S:22:ILE:HA	1.79	0.64
25:3:734:LEU:HD12	25:3:767:LEU:HD22	1.79	0.64
7:G:88:G:O2'	7:G:89:U:H5'	1.98	0.64
17:R:65:PRO:CB	18:S:90:LEU:CB	2.75	0.64
22:X:483:PHE:CE1	22:X:917:GLN:HG3	2.32	0.64
24:1:662:HIS:CE1	24:1:700:LYS:HB3	2.32	0.64
3:C:492:ALA:O	3:C:551:LEU:HA	1.97	0.64
17:R:280:ILE:N	35:9:225:MET:HG3	2.09	0.64
22:X:523:HIS:O	22:X:525:ARG:HG2	1.97	0.64
24:1:662:HIS:CD2	24:1:704:ILE:HG21	2.33	0.64
24:1:843:LYS:HB3	24:1:844:VAL:HG22	1.80	0.64
25:3:121:LEU:HB2	25:3:132:ILE:HD12	1.78	0.64
25:3:805:ASN:HB3	31:5:58:ASN:CB	2.26	0.64
1:A:857:ASN:OD1	1:A:860:GLN:N	2.24	0.64
1:A:1937:ILE:CG2	1:A:2011:ILE:O	2.46	0.64
3:C:227:LEU:HD11	3:C:239:THR:HG22	1.80	0.64
7:G:107:U:OP1	22:X:696:LYS:NZ	2.22	0.64
9:I:406:GLU:HA	9:I:410:GLN:HA	1.79	0.64
17:R:357:HIS:CD2	23:Y:276:LYS:HZ2	2.16	0.64
24:1:717:THR:O	24:1:719:TYR:N	2.30	0.64
25:3:568:MET:HA	25:3:574:LEU:HA	1.79	0.64
25:3:1017:ASN:OD1	25:3:1018:GLU:N	2.31	0.64
17:R:408:ASP:OD1	17:R:409:GLN:N	2.30	0.64
1:A:767:VAL:HG21	2:B:39:C:O2'	1.98	0.64
1:A:1431:ALA:CB	22:X:329:TRP:CD1	2.81	0.64
4:D:1264:PRO:O	4:D:1286:PHE:N	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:171:ARG:O	22:X:174:ASP:HB3	1.98	0.64
28:2:452:LYS:HD3	28:2:452:LYS:C	2.17	0.64
1:A:221:ASN:O	2:B:11:U:H5"	1.97	0.64
1:A:1581:LEU:HD22	1:A:1746:ARG:NH1	2.13	0.64
25:3:512:GLY:HA3	25:3:515:ALA:HB3	1.80	0.64
25:3:545:VAL:HG12	25:3:546:LYS:HG2	1.79	0.64
1:A:248:ASP:OD1	1:A:248:ASP:N	2.27	0.64
1:A:2143:ARG:O	4:D:1264:PRO:CB	2.46	0.64
2:B:89:U:H2'	2:B:90:U:H5"	1.79	0.64
3:C:137:HIS:HB3	3:C:140:HIS:CE1	2.33	0.64
3:C:223:ASP:OD1	3:C:495:ARG:NH2	2.31	0.64
24:1:1120:ALA:HB2	24:1:1128:VAL:HG21	1.80	0.64
25:3:1004:ASP:OD1	25:3:1006:GLN:N	2.28	0.64
25:3:1115:GLU:CB	28:2:708:TRP:NE1	2.61	0.64
1:A:60:ASP:OD1	1:A:60:ASP:N	2.30	0.64
1:A:1607:GLU:HB3	1:A:1633:ALA:O	1.98	0.64
8:H:18:U:O2'	8:H:19:G:O5'	2.16	0.64
13:N:116:ASN:OD1	13:N:116:ASN:N	2.31	0.64
24:1:568:ARG:NH1	24:1:605:GLY:H	1.96	0.64
25:3:1031:ARG:HG2	25:3:1031:ARG:HH11	1.63	0.64
1:A:393:LEU:HD12	3:C:379:LYS:HE2	1.80	0.64
1:A:1544:ARG:NE	1:A:1672:ASP:OD2	2.31	0.64
3:C:138:LEU:HA	3:C:207:GLY:HA3	1.80	0.64
3:C:877:ALA:O	3:C:880:SER:OG	2.16	0.64
16:Q:700:ALA:O	16:Q:818:LEU:N	2.31	0.64
23:Y:268:SER:OG	23:Y:287:GLU:OE2	2.16	0.64
2:B:12:U:H2'	2:B:13:C:C6	2.33	0.63
3:C:925:PRO:HG2	3:C:928:HIS:CE1	2.33	0.63
5:E:69:VAL:HG11	5:E:351:LEU:HD21	1.80	0.63
19:T:351:ASP:O	19:T:352:THR:OG1	2.15	0.63
21:V:509:LEU:HG	21:V:553:HIS:HE1	1.62	0.63
25:3:1010:ILE:HG12	25:3:1026:ASP:HB3	1.80	0.63
30:7:10:PHE:HB3	30:7:12:ARG:HG2	1.79	0.63
1:A:731:LEU:C	35:9:241:TYR:HB3	2.19	0.63
22:X:937:ILE:HG22	22:X:941:LYS:HD2	1.80	0.63
24:1:826:ASP:OD1	24:1:827:ARG:N	2.31	0.63
25:3:260:ASN:OD1	25:3:261:PHE:N	2.30	0.63
25:3:794:SER:O	25:3:796:ASN:ND2	2.31	0.63
25:3:958:ARG:NH2	25:3:1014:TYR:OH	2.31	0.63
25:3:1201:PRO:HA	25:3:1204:VAL:HG22	1.80	0.63
35:9:211:LEU:O	35:9:215:PHE:HB3	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:386:PRO:HG3	3:C:372:PHE:CE1	2.33	0.63
5:E:153:PHE:O	5:E:172:ASP:N	2.30	0.63
5:E:321:TYR:HB3	5:E:323:LEU:HG	1.79	0.63
13:N:49:ILE:HD12	13:N:49:ILE:C	2.17	0.63
22:X:625:CYS:HA	22:X:628:LEU:HD12	1.80	0.63
22:X:878:HIS:CE1	22:X:1001:LEU:HB2	2.33	0.63
28:2:592:TYR:H	28:2:595:LYS:HB2	1.61	0.63
1:A:223:SER:N	2:B:12:U:OP1	2.31	0.63
3:C:173:THR:O	3:C:177:ARG:HB2	1.98	0.63
7:G:108:U:H5"	22:X:676:ILE:HB	1.80	0.63
21:V:525:PHE:HB3	21:V:560:LEU:HD21	1.81	0.63
24:1:1302:TYR:HD1	25:3:915:LEU:HD13	1.62	0.63
25:3:1136:GLU:OE1	25:3:1136:GLU:N	2.27	0.63
1:A:442:LYS:HG3	1:A:610:HIS:CD2	2.29	0.63
1:A:615:ARG:O	1:A:618:THR:OG1	2.16	0.63
1:A:1402:ARG:HA	17:R:406:GLN:O	1.98	0.63
21:V:621:PRO:O	21:V:625:ARG:NE	2.32	0.63
22:X:194:ARG:O	22:X:194:ARG:HD3	1.99	0.63
24:1:625:ARG:NH1	24:1:659:GLN:OE1	2.31	0.63
24:1:699:GLN:HE22	24:1:738:HIS:CE1	2.15	0.63
25:3:105:GLU:OE1	30:7:17:VAL:HG12	1.98	0.63
25:3:635:ALA:HB3	25:3:669:LEU:HD13	1.78	0.63
1:A:988:ILE:HD12	1:A:1030:ILE:HD12	1.81	0.63
4:D:1583:ASP:O	4:D:1585:GLN:N	2.31	0.63
6:F:24:A:OP2	13:N:111:THR:OG1	2.15	0.63
7:G:2:U:C5	11:K:219:PHE:CZ	2.87	0.63
21:V:490:CYS:HB2	21:V:525:PHE:CE2	2.32	0.63
22:X:715:SER:O	22:X:718:SER:OG	2.10	0.63
24:1:967:GLU:HG3	24:1:970:LEU:HB3	1.81	0.63
25:3:452:LEU:HD12	25:3:453:PRO:HD2	1.80	0.63
25:3:884:GLN:NE2	25:3:884:GLN:O	2.32	0.63
12:L:61:THR:OG1	12:L:62:GLU:N	2.31	0.63
17:R:170:LYS:H	17:R:170:LYS:HD2	1.64	0.63
25:3:207:THR:O	25:3:209:THR:HG22	1.99	0.63
30:7:39:PRO:HB2	30:7:70:TYR:HD1	1.63	0.63
35:9:75:THR:HA	35:9:82:LYS:HA	1.79	0.63
1:A:68:LYS:O	1:A:72:ASP:HB2	1.98	0.63
3:C:286:ASN:HD21	3:C:300:LEU:H	1.45	0.63
5:E:260:ARG:HD3	5:E:276:ILE:HG12	1.79	0.63
3:C:604:LEU:HD23	3:C:607:LEU:HD21	1.80	0.63
3:C:685:ILE:HD11	3:C:808:ILE:HD11	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:V:620:ASN:ND2	21:V:623:ASN:OD1	2.31	0.63
22:X:164:TRP:CE2	22:X:542:PHE:CB	2.82	0.63
23:Y:62:GLY:O	23:Y:107:GLN:NE2	2.30	0.63
25:3:233:ASN:ND2	25:3:233:ASN:H	1.95	0.63
25:3:747:SER:N	25:3:750:CYS:O	2.31	0.63
25:3:966:LEU:HB2	25:3:968:ARG:HD2	1.81	0.63
30:7:30:CYS:SG	30:7:31:VAL:N	2.72	0.63
30:7:52:GLY:H	30:7:55:GLN:HE21	1.47	0.63
1:A:332:TYR:O	3:C:888:ARG:NH2	2.31	0.62
1:A:858:GLN:O	1:A:862:GLU:HG3	1.98	0.62
1:A:1892:PRO:HG3	1:A:1941:ARG:HE	1.64	0.62
2:B:88:A:H2'	2:B:88:A:N3	2.14	0.62
10:J:339:TRP:HA	17:R:116:TYR:CD2	2.33	0.62
17:R:315:LYS:O	17:R:318:GLU:HG3	1.99	0.62
19:T:195:LYS:NZ	19:T:490:ARG:HH21	1.96	0.62
22:X:741:TRP:CH2	24:1:782:GLU:HB3	2.34	0.62
22:X:784:PRO:HB2	22:X:788:THR:OG1	1.98	0.62
23:Y:244:VAL:HG13	23:Y:313:VAL:HG22	1.80	0.62
25:3:70:LEU:HD11	25:3:152:LEU:HD13	1.80	0.62
4:D:1192:PRO:HA	4:D:1198:LEU:HA	1.81	0.62
15:P:212:ASN:ND2	19:T:458:SER:OG	2.32	0.62
22:X:615:LEU:HB2	22:X:621:ILE:HG13	1.81	0.62
23:Y:230:LEU:HD13	23:Y:231:PRO:HD2	1.81	0.62
24:1:1066:LEU:HD22	24:1:1111:CYS:HB3	1.80	0.62
30:7:33:CYS:HB3	30:7:72:CYS:SG	2.39	0.62
4:D:912:ASN:HA	4:D:978:ASN:HA	1.81	0.62
22:X:164:TRP:CE2	22:X:542:PHE:HB3	2.34	0.62
22:X:230:SER:O	22:X:234:TYR:HB2	1.99	0.62
22:X:648:TYR:CE2	22:X:651:LEU:HB3	2.34	0.62
24:1:742:GLY:O	24:1:746:PHE:HB2	2.00	0.62
24:1:859:ASP:O	24:1:865:ARG:NE	2.27	0.62
24:1:1013:ILE:HD11	24:1:1049:TYR:CD2	2.34	0.62
25:3:105:GLU:OE1	30:7:17:VAL:CG1	2.48	0.62
25:3:1041:TYR:CB	28:2:705:ARG:HG3	2.29	0.62
28:2:469:VAL:HG12	28:2:471:ARG:H	1.62	0.62
1:A:246:LEU:HD11	1:A:411:PHE:HE1	1.63	0.62
1:A:381:PRO:HG2	3:C:334:ILE:HG22	1.81	0.62
1:A:1681:ARG:NH1	1:A:1681:ARG:HB3	2.14	0.62
10:J:375:ASP:OD2	10:J:378:ASN:ND2	2.31	0.62
17:R:388:ILE:HG21	22:X:653:SER:HB3	1.81	0.62
22:X:419:ILE:HG22	22:X:569:VAL:HG13	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:1193:VAL:HA	25:3:1196:GLU:HG2	1.81	0.62
1:A:171:ASP:O	1:A:520:TYR:HB2	1.99	0.62
3:C:112:THR:HB	3:C:115:GLU:HB2	1.81	0.62
3:C:201:ASN:HB3	3:C:549:TRP:CZ3	2.33	0.62
7:G:115:C:H5"	17:R:371:ARG:O	1.99	0.62
17:R:352:ARG:CZ	22:X:265:HIS:HB3	2.30	0.62
23:Y:244:VAL:HG22	23:Y:313:VAL:HG13	1.82	0.62
25:3:434:SER:HG	25:3:436:ARG:HE	1.46	0.62
30:7:46:CYS:O	30:7:50:ASN:HB2	1.99	0.62
1:A:340:ILE:HG22	1:A:355:LEU:HD13	1.81	0.62
1:A:348:PRO:HG2	1:A:351:TYR:HB2	1.80	0.62
1:A:361:HIS:O	1:A:362:ARG:NH1	2.32	0.62
3:C:510:LEU:HD13	3:C:514:TYR:CE2	2.34	0.62
3:C:665:THR:OG1	3:C:666:VAL:N	2.33	0.62
22:X:645:LEU:HD11	22:X:669:LYS:HD2	1.81	0.62
24:1:1217:PRO:HD3	28:2:590:LEU:HD13	1.79	0.62
25:3:565:TYR:CE1	25:3:619:LEU:HB2	2.33	0.62
1:A:1878:ASP:OD1	1:A:1878:ASP:N	2.21	0.62
3:C:384:VAL:HA	3:C:392:LEU:HD11	1.82	0.62
10:J:328:GLY:O	10:J:332:VAL:HG13	2.00	0.62
12:L:192:ARG:HA	12:L:196:ILE:O	1.99	0.62
22:X:765:LEU:HD22	22:X:822:PRO:HG3	1.82	0.62
24:1:617:ILE:HD12	24:1:660:ALA:HB1	1.81	0.62
28:2:674:PRO:O	28:2:682:LEU:N	2.24	0.62
1:A:246:LEU:HD11	1:A:411:PHE:CE1	2.34	0.62
1:A:889:ARG:HD2	12:L:80:THR:HG22	1.81	0.62
5:E:176:VAL:HG22	5:E:196:VAL:HG21	1.80	0.62
17:R:348:GLU:OE2	22:X:267:ARG:N	2.32	0.62
22:X:250:LEU:HA	22:X:253:GLU:HG2	1.82	0.62
1:A:1494:TYR:HB2	1:A:1744:ARG:HD3	1.82	0.62
1:A:1889:LEU:CG	1:A:2013:GLY:HA3	2.27	0.62
3:C:281:ILE:O	3:C:285:VAL:HG12	1.99	0.62
21:V:544:LEU:HD21	21:V:582:PHE:HB2	1.82	0.62
22:X:846:MET:HB3	22:X:881:LEU:HD22	1.82	0.62
24:1:550:HIS:HD2	24:1:551:LEU:HD22	1.64	0.62
24:1:1212:LEU:HD13	24:1:1237:LEU:HD13	1.81	0.62
25:3:318:ASP:OD1	25:3:319:GLU:N	2.33	0.62
25:3:325:ILE:O	25:3:374:SER:HA	2.00	0.62
25:3:1009:PHE:HZ	25:3:1046:GLY:HA3	1.64	0.62
35:9:306:ASN:HD21	35:9:344:SER:HA	1.65	0.62
3:C:807:GLN:NE2	35:9:145:LEU:C	2.52	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:28:CYS:HA	16:Q:32:ALA:HB3	1.80	0.62
22:X:164:TRP:CD1	22:X:539:VAL:HA	2.35	0.62
22:X:283:TYR:CZ	23:Y:222:ILE:HG22	2.35	0.62
25:3:639:SER:OG	25:3:699:VAL:O	2.14	0.62
25:3:1133:THR:N	28:2:711:LEU:CD2	2.62	0.62
35:9:221:LEU:HA	35:9:224:THR:HB	1.82	0.62
1:A:1160:ARG:HD3	15:P:192:VAL:HG21	1.82	0.61
1:A:1428:HIS:HE1	22:X:326:GLN:HB2	1.64	0.61
17:R:147:THR:HG23	19:T:360:VAL:CG2	2.30	0.61
23:Y:21:ARG:NH1	23:Y:83:VAL:O	2.33	0.61
35:9:349:PRO:HB2	35:9:375:SER:HA	1.82	0.61
1:A:1000:ILE:HG22	1:A:1001:VAL:HG13	1.82	0.61
1:A:2328:ALA:HB3	4:D:728:ARG:CA	2.29	0.61
3:C:614:TYR:OH	3:C:643:ASP:OD2	2.17	0.61
5:E:114:GLU:OE2	5:E:290:ARG:NH2	2.32	0.61
5:E:300:ILE:HD11	5:E:314:THR:HG23	1.82	0.61
24:1:1295:TYR:OH	31:5:29:TRP:HD1	1.82	0.61
25:3:928:TYR:HB3	25:3:937:LEU:HB3	1.81	0.61
1:A:712:HIS:ND1	17:R:250:CYS:HB2	2.15	0.61
1:A:1143:MET:O	1:A:1147:VAL:HG13	1.99	0.61
1:A:1346:THR:O	1:A:1346:THR:OG1	2.15	0.61
1:A:1352:HIS:CD2	20:U:5:ILE:HG13	2.35	0.61
1:A:1428:HIS:CE1	22:X:326:GLN:HB2	2.35	0.61
3:C:116:MET:HA	3:C:119:LEU:HG	1.82	0.61
3:C:216:THR:HG22	3:C:245:HIS:HE1	1.65	0.61
4:D:1223:ILE:HA	4:D:1269:ARG:O	2.00	0.61
22:X:525:ARG:NH1	22:X:530:ASP:OD1	2.33	0.61
1:A:343:GLU:HG3	1:A:344:ASP:H	1.62	0.61
3:C:609:LYS:HA	3:C:612:LYS:HD2	1.82	0.61
22:X:810:THR:HA	22:X:813:ARG:HE	1.65	0.61
24:1:490:GLU:O	24:1:494:GLU:HG2	1.98	0.61
24:1:743:LEU:O	24:1:747:LEU:HB2	2.01	0.61
25:3:1041:TYR:CE2	28:2:705:ARG:NE	2.63	0.61
25:3:1041:TYR:CG	28:2:705:ARG:HG3	2.35	0.61
1:A:595:LYS:NZ	2:B:30:A:OP1	2.33	0.61
1:A:1403:LEU:N	17:R:407:TYR:HB3	2.15	0.61
14:O:256:GLY:HA3	14:O:279:ALA:HB1	1.82	0.61
17:R:63:ALA:H	18:S:131:ARG:CB	2.14	0.61
22:X:557:THR:HA	22:X:560:PHE:HB2	1.82	0.61
24:1:669:GLN:HB2	24:1:708:ALA:HA	1.83	0.61
24:1:953:ASP:O	24:1:956:SER:OG	2.18	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:384:THR:OG1	25:3:385:PHE:N	2.31	0.61
35:9:358:LEU:HD22	35:9:396:ILE:HB	1.83	0.61
1:A:1427:ARG:NE	22:X:326:GLN:OE1	2.33	0.61
3:C:811:THR:O	3:C:815:VAL:HG23	1.99	0.61
6:F:90:G:H2'	6:F:91:A:H8	1.65	0.61
6:F:96:U:H2'	6:F:97:U:C6	2.36	0.61
17:R:367:ARG:NH2	23:Y:274:ASP:OD2	2.33	0.61
21:V:606:GLU:OE2	21:V:609:GLN:HG3	1.99	0.61
22:X:197:LEU:HD12	22:X:197:LEU:O	2.00	0.61
25:3:883:GLU:OE2	25:3:884:GLN:N	2.33	0.61
35:9:279:LYS:HA	35:9:295:LEU:O	2.00	0.61
1:A:48:LYS:CD	1:A:53:PHE:HE1	2.00	0.61
1:A:1554:GLN:NE2	1:A:1558:THR:O	2.34	0.61
44:A:3000:IHP:H2	44:A:3000:IHP:O21	1.94	0.61
3:C:855:GLY:HA2	3:C:875:ILE:HD12	1.83	0.61
17:R:331:ALA:HB2	22:X:275:ARG:NH2	2.16	0.61
24:1:495:ARG:HH21	24:1:530:PRO:HB3	1.66	0.61
25:3:139:LYS:NZ	25:3:160:ALA:O	2.34	0.61
25:3:293:HIS:NE2	25:3:295:THR:HB	2.15	0.61
1:A:362:ARG:HD2	21:V:333:GLN:CA	2.31	0.61
1:A:641:MET:O	1:A:645:THR:HG23	2.01	0.61
1:A:1298:ARG:HH11	1:A:1298:ARG:HB2	1.65	0.61
2:B:95:G:H2'	2:B:95:G:N3	2.15	0.61
4:D:2063:GLY:O	4:D:2110:SER:HA	1.99	0.61
13:N:43:VAL:CG2	13:N:47:TRP:CZ2	2.83	0.61
1:A:1610:GLN:HB3	1:A:1630:LEU:HB3	1.83	0.61
1:A:1766:GLN:NE2	1:A:2009:ASP:OD1	2.34	0.61
3:C:137:HIS:CD2	3:C:138:LEU:H	2.18	0.61
4:D:1662:ILE:HA	4:D:1703:VAL:O	2.01	0.61
15:P:206:LYS:O	15:P:218:GLU:HG3	2.01	0.61
19:T:250:ARG:HD2	19:T:266:GLU:HG3	1.81	0.61
22:X:488:SER:O	22:X:491:THR:OG1	2.10	0.61
24:1:834:VAL:O	24:1:838:VAL:HG23	2.01	0.61
25:3:207:THR:O	25:3:207:THR:OG1	2.15	0.61
25:3:330:PHE:O	25:3:390:ARG:NH2	2.32	0.61
1:A:1949:ARG:HA	1:A:1952:VAL:HG12	1.83	0.61
3:C:476:CYS:O	3:C:564:THR:HA	2.01	0.61
4:D:1201:GLU:HA	4:D:1253:THR:HA	1.83	0.61
16:Q:27:ALA:O	16:Q:32:ALA:N	2.28	0.61
16:Q:313:ILE:HA	16:Q:320:ALA:HA	1.82	0.61
17:R:137:GLU:HA	17:R:140:ILE:HB	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:371:ARG:NH1	23:Y:282:CYS:CB	2.63	0.61
21:V:620:ASN:HB3	21:V:623:ASN:HD21	1.64	0.61
22:X:619:GLU:HA	22:X:622:GLU:OE1	2.01	0.61
25:3:25:THR:OG1	25:3:27:GLN:N	2.31	0.61
25:3:138:GLN:HG2	25:3:161:HIS:CE1	2.36	0.61
25:3:387:PHE:HE1	25:3:389:PRO:HG3	1.64	0.61
25:3:680:ASP:CG	25:3:681:PRO:HD2	2.21	0.61
1:A:2267:PHE:CB	4:D:1262:LEU:C	2.69	0.60
3:C:560:VAL:HG12	3:C:561:LYS:H	1.65	0.60
4:D:1404:LYS:O	4:D:1423:ASN:N	2.33	0.60
5:E:208:ILE:O	5:E:219:VAL:HA	2.01	0.60
22:X:803:ASN:OD1	22:X:806:GLY:N	2.32	0.60
23:Y:30:LYS:NZ	23:Y:168:ASP:OD1	2.29	0.60
24:1:595:GLU:O	24:1:599:ASN:ND2	2.33	0.60
25:3:12:THR:O	25:3:34:ARG:NH1	2.34	0.60
25:3:947:GLU:HB3	25:3:963:VAL:HG13	1.82	0.60
30:7:13:LYS:NZ	30:7:48:GLU:OE1	2.26	0.60
7:G:2:U:N3	11:K:219:PHE:CE2	2.69	0.60
10:J:262:ARG:O	10:J:266:GLU:HG2	2.01	0.60
19:T:295:ASP:OD1	19:T:296:LEU:N	2.31	0.60
22:X:418:LEU:HD13	22:X:568:PRO:HG2	1.82	0.60
22:X:621:ILE:HG12	22:X:672:VAL:HG13	1.82	0.60
25:3:1041:TYR:CZ	28:2:705:ARG:NH2	2.68	0.60
1:A:1089:CYS:SG	1:A:1096:HIS:HD2	2.24	0.60
1:A:1431:ALA:HB2	22:X:329:TRP:CG	2.36	0.60
1:A:1935:ARG:O	1:A:1939:ILE:HG13	2.01	0.60
3:C:712:LYS:O	3:C:716:GLU:HG3	2.01	0.60
24:1:1028:HIS:O	24:1:1032:GLN:HB2	2.01	0.60
25:3:71:THR:O	25:3:146:ARG:NH2	2.34	0.60
4:D:668:ASP:O	4:D:672:GLY:N	2.34	0.60
4:D:1219:GLU:O	4:D:1240:LEU:HA	2.02	0.60
5:E:277:PHE:CE2	5:E:300:ILE:HG13	2.36	0.60
6:F:36:A:N6	7:G:10:U:O4	2.33	0.60
8:H:56:A:O3'	28:2:481:THR:CG2	2.48	0.60
12:L:105:ASP:OD1	22:X:305:ARG:NH1	2.35	0.60
13:N:43:VAL:O	13:N:47:TRP:CD1	2.54	0.60
13:N:43:VAL:HG22	13:N:47:TRP:CZ2	2.36	0.60
17:R:328:ALA:HB2	22:X:279:LEU:HD13	1.83	0.60
19:T:356:LEU:HD13	19:T:366:VAL:HB	1.82	0.60
22:X:754:GLU:HA	22:X:757:ARG:NH2	2.16	0.60
25:3:807:TYR:H	25:3:856:LYS:HD2	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:36:A:H3'	6:F:37:C:C5'	2.28	0.60
8:H:99:A:O2'	8:H:100:U:OP2	2.18	0.60
17:R:382:ARG:NH2	17:R:385:ASN:HD22	1.99	0.60
17:R:408:ASP:OD1	17:R:410:ARG:N	2.24	0.60
23:Y:207:GLU:HA	23:Y:210:GLU:HB3	1.82	0.60
24:1:508:THR:HB	24:1:510:PRO:HD2	1.84	0.60
25:3:1115:GLU:CB	28:2:708:TRP:HZ2	2.07	0.60
29:4:17:VAL:O	29:4:56:TYR:HA	2.01	0.60
35:9:315:TYR:CE1	35:9:335:PRO:HG2	2.36	0.60
1:A:51:PHE:O	1:A:53:PHE:N	2.33	0.60
3:C:444:GLY:O	3:C:447:PRO:HD2	2.01	0.60
3:C:687:MET:HE2	3:C:791:ILE:HG12	1.84	0.60
8:H:16:U:H1'	8:H:17:U:H5'	1.83	0.60
24:1:1166:ILE:O	24:1:1170:THR:HG22	2.01	0.60
25:3:615:ARG:NH2	25:3:630:MET:HB3	2.17	0.60
1:A:1457:HIS:ND1	1:A:1460:HIS:HD2	2.00	0.60
5:E:264:VAL:HA	5:E:272:ARG:NH1	2.16	0.60
7:G:-8:C:O4'	20:U:18:TYR:HB2	2.00	0.60
17:R:66:GLU:O	18:S:89:ASP:CB	2.50	0.60
24:1:664:GLY:HA2	24:1:667:ILE:HD12	1.82	0.60
28:2:477:MET:SD	28:2:478:HIS:ND1	2.75	0.60
35:9:330:ILE:HD13	35:9:410:MET:HB3	1.84	0.60
1:A:361:HIS:HB2	3:C:280:HIS:CE1	2.36	0.60
8:H:29:A:N6	12:L:32:SER:OG	2.34	0.60
12:L:227:THR:HG1	17:R:84:ASN:HB2	1.66	0.60
14:O:233:THR:O	14:O:303:GLY:N	2.29	0.60
17:R:280:ILE:H	35:9:225:MET:CG	2.12	0.60
19:T:446:ASN:HD21	19:T:449:ARG:HE	1.49	0.60
23:Y:192:GLY:N	23:Y:195:GLU:OE2	2.35	0.60
24:1:1192:VAL:O	24:1:1196:SER:OG	2.20	0.60
35:9:316:TYR:HE1	35:9:378:SER:HB2	1.66	0.60
3:C:724:TRP:HE1	3:C:732:ILE:HD11	1.66	0.60
16:Q:489:VAL:O	16:Q:494:PRO:HD3	2.02	0.60
17:R:86:LEU:HD23	17:R:86:LEU:H	1.66	0.60
22:X:837:SER:O	22:X:841:LEU:HG	2.02	0.60
24:1:617:ILE:HD13	24:1:651:VAL:HB	1.83	0.60
24:1:1252:GLN:NE2	28:2:497:SER:OG	2.34	0.60
28:2:507:LYS:HD2	28:2:507:LYS:N	2.16	0.60
1:A:570:ASP:OD1	1:A:571:ALA:N	2.34	0.60
1:A:1644:LEU:HD23	1:A:1715:TYR:HD1	1.67	0.60
18:S:147:THR:HA	18:S:153:PRO:HA	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:191:GLU:O	25:3:194:ASN:N	2.26	0.60
1:A:467:GLN:HE21	1:A:469:LYS:HG2	1.67	0.59
1:A:1303:LEU:HD12	1:A:1311:PHE:CE1	2.37	0.59
7:G:1:G:N9	11:K:218:LYS:HD2	2.16	0.59
24:1:590:ARG:O	24:1:594:ARG:HB2	2.02	0.59
25:3:910:ALA:HB1	25:3:913:LEU:HD11	1.83	0.59
1:A:1124:ASN:ND2	1:A:1148:ASN:OD1	2.32	0.59
1:A:1189:MET:CG	1:A:1190:CYS:H	2.14	0.59
1:A:1581:LEU:O	1:A:1585:ILE:HG13	2.03	0.59
2:B:95:G:N2	2:B:96:A:H5"	2.13	0.59
3:C:630:LEU:HD21	3:C:661:THR:HG21	1.84	0.59
5:E:330:ILE:HA	5:E:346:SER:HA	1.83	0.59
17:R:66:GLU:HA	18:S:90:LEU:N	2.17	0.59
17:R:137:GLU:OE1	17:R:137:GLU:N	2.31	0.59
24:1:619:ASN:OD1	24:1:620:MET:N	2.32	0.59
25:3:212:GLU:HB2	25:3:223:LYS:HG3	1.84	0.59
1:A:875:HIS:HE1	22:X:866:ASN:HB3	1.66	0.59
4:D:754:GLU:CA	25:3:662:PHE:HD1	2.13	0.59
12:L:69:GLU:OE1	35:9:220:ILE:HD11	2.03	0.59
20:U:26:VAL:O	21:V:513:ARG:NH1	2.35	0.59
22:X:424:THR:HG21	22:X:728:ARG:HH21	1.67	0.59
24:1:605:GLY:O	24:1:608:THR:OG1	2.16	0.59
24:1:677:CYS:O	24:1:680:LEU:HD12	2.01	0.59
25:3:329:TYR:CE2	25:3:389:PRO:HA	2.37	0.59
25:3:1008:SER:HG	25:3:1009:PHE:N	1.99	0.59
31:5:65:ARG:HB3	31:5:65:ARG:CZ	2.32	0.59
35:9:371:SER:HG	35:9:375:SER:HG	1.50	0.59
1:A:184:ASP:HB2	13:N:1:MET:CA	2.31	0.59
1:A:848:GLU:OE1	17:R:424:GLY:HA2	2.02	0.59
2:B:87:A:N6	2:B:91:U:O3'	2.36	0.59
13:N:44:GLU:HA	13:N:47:TRP:CD2	2.37	0.59
14:O:116:TYR:O	14:O:120:ASN:ND2	2.35	0.59
17:R:150:ALA:O	17:R:153:LYS:HG3	2.02	0.59
22:X:405:ARG:HG3	22:X:435:TYR:CE2	2.37	0.59
1:A:388:LEU:HG	3:C:399:LEU:HD21	1.84	0.59
3:C:531:TRP:CE3	3:C:540:GLU:HB3	2.37	0.59
5:E:180:ASP:HB2	5:E:187:ILE:HD11	1.84	0.59
22:X:537:LYS:HD2	22:X:563:PHE:CE1	2.38	0.59
24:1:630:ARG:HG3	24:1:670:GLN:HG3	1.83	0.59
25:3:435:LEU:HD13	25:3:799:ILE:HD11	1.84	0.59
25:3:680:ASP:OD2	25:3:681:PRO:HD2	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:525:LYS:HB3	11:K:197:TYR:CD2	2.35	0.59
1:A:1211:ASP:O	1:A:1213:VAL:N	2.36	0.59
1:A:1870:ASP:OD1	1:A:1870:ASP:N	2.26	0.59
5:E:174:GLY:HA2	5:E:194:TYR:C	2.23	0.59
6:F:85:U:O2	8:H:14:C:N3	2.36	0.59
22:X:877:ASP:OD1	22:X:877:ASP:N	2.36	0.59
1:A:179:ALA:HA	1:A:183:LEU:HB2	1.84	0.59
1:A:693:ILE:O	1:A:695:ASP:N	2.34	0.59
3:C:133:THR:OG1	3:C:203:MET:HB3	2.02	0.59
16:Q:1306:ARG:O	16:Q:1310:PHE:CB	2.51	0.59
17:R:367:ARG:NH1	23:Y:281:LEU:HD23	2.18	0.59
21:V:613:GLU:OE1	21:V:618:ARG:NH2	2.36	0.59
22:X:182:ALA:N	22:X:924:ARG:NH1	2.50	0.59
23:Y:3:VAL:HG23	23:Y:16:LEU:HD21	1.85	0.59
24:1:1258:ALA:HB3	24:1:1261:VAL:HG13	1.83	0.59
35:9:42:CYS:N	35:9:47:GLN:O	2.33	0.59
35:9:366:LEU:HD11	35:9:380:PHE:HB2	1.84	0.59
1:A:1502:PHE:HZ	1:A:1505:LYS:HB2	1.68	0.59
1:A:1837:ALA:O	1:A:1841:THR:HG23	2.02	0.59
1:A:1888:GLU:O	1:A:2014:MET:HB2	2.02	0.59
1:A:2328:ALA:H	4:D:728:ARG:CA	2.15	0.59
9:I:106:MET:O	9:I:110:PRO:CG	2.50	0.59
23:Y:33:LYS:HG3	23:Y:161:ILE:HG13	1.85	0.59
25:3:214:ASP:O	25:3:218:ASN:N	2.33	0.59
25:3:758:SER:N	25:3:761:THR:O	2.25	0.59
1:A:2276:GLN:CA	4:D:1151:GLU:CB	2.81	0.59
6:F:41:A:H2	7:G:6:A:N1	2.01	0.59
14:O:38:LYS:N	17:R:200:VAL:O	2.27	0.59
16:Q:1322:GLN:HA	16:Q:1325:ALA:HB2	1.85	0.59
19:T:255:SER:OG	19:T:258:SER:O	2.19	0.59
22:X:698:LYS:NZ	22:X:758:THR:HA	2.17	0.59
22:X:741:TRP:NE1	24:1:781:ASP:HA	2.17	0.59
24:1:1137:ARG:NH1	28:2:522:PHE:O	2.36	0.59
25:3:69:ARG:NH1	25:3:74:THR:HA	2.18	0.59
25:3:700:LYS:HE2	25:3:715:MET:HB3	1.84	0.59
25:3:706:MET:HG3	25:3:707:GLN:HG2	1.83	0.59
1:A:712:HIS:CE1	17:R:250:CYS:SG	2.96	0.59
3:C:500:THR:HG22	3:C:545:PRO:HA	1.83	0.59
5:E:345:ALA:HA	5:E:351:LEU:HD23	1.84	0.59
6:F:43:A:H2	7:G:4:A:H61	1.50	0.59
8:H:48:A:C2	8:H:65:U:H2'	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:91:ASP:OD1	17:R:94:GLY:N	2.36	0.59
17:R:240:LYS:O	17:R:244:GLU:HG3	2.03	0.59
19:T:383:ARG:O	19:T:384:HIS:ND1	2.31	0.59
1:A:1937:ILE:HG21	1:A:2012:LEU:HA	1.84	0.58
3:C:493:PHE:HD2	3:C:551:LEU:HG	1.67	0.58
21:V:542:ASN:OD1	21:V:545:ARG:NH2	2.35	0.58
22:X:960:ARG:HG3	22:X:967:THR:HA	1.84	0.58
24:1:747:LEU:HA	24:1:750:ILE:HG12	1.85	0.58
24:1:854:VAL:HG23	24:1:855:ASP:H	1.68	0.58
25:3:876:THR:O	25:3:876:THR:OG1	2.12	0.58
1:A:41:GLN:HG3	1:A:45:TYR:HB3	1.85	0.58
1:A:385:GLU:CD	1:A:386:PRO:HD2	2.22	0.58
1:A:442:LYS:HG2	1:A:610:HIS:NE2	2.14	0.58
6:F:89:U:H2'	6:F:90:G:O4'	2.03	0.58
20:U:26:VAL:CB	21:V:517:LEU:CD2	2.77	0.58
22:X:171:ARG:HD3	22:X:509:PRO:HB3	1.84	0.58
23:Y:51:ILE:O	23:Y:109:LEU:HA	2.02	0.58
24:1:898:TYR:OH	24:1:902:GLU:HG2	2.04	0.58
25:3:387:PHE:CE1	25:3:389:PRO:HG3	2.38	0.58
1:A:138:PRO:O	1:A:142:SER:OG	2.14	0.58
1:A:1209:HIS:CG	1:A:1210:LYS:N	2.71	0.58
1:A:2267:PHE:CB	4:D:1263:PRO:HA	2.33	0.58
3:C:80:ILE:HD11	19:T:198:ARG:HD3	1.84	0.58
7:G:85:G:H2'	7:G:86:A:C8	2.38	0.58
8:H:13:C:H1'	8:H:14:C:H5'	1.84	0.58
11:K:218:LYS:HE2	11:K:218:LYS:O	2.03	0.58
17:R:371:ARG:HH12	23:Y:282:CYS:CB	2.15	0.58
22:X:591:TYR:HD2	22:X:692:PRO:HB2	1.68	0.58
24:1:698:GLN:HB3	24:1:701:VAL:HG12	1.84	0.58
24:1:759:ALA:O	24:1:763:ASN:N	2.35	0.58
24:1:815:PHE:HZ	24:1:849:ILE:HG23	1.67	0.58
24:1:1074:ARG:NE	24:1:1107:GLN:HE22	2.00	0.58
25:3:246:SER:OG	25:3:247:GLY:N	2.35	0.58
1:A:1817:LEU:HD11	1:A:1819:LEU:HD13	1.84	0.58
3:C:125:ASN:OD1	3:C:128:LEU:N	2.25	0.58
3:C:379:LYS:O	3:C:383:GLN:HG2	2.04	0.58
5:E:108:HIS:CD2	5:E:128:SER:HB3	2.38	0.58
7:G:7:G:C5	7:G:8:C:C4	2.92	0.58
22:X:219:ARG:HA	22:X:222:MET:SD	2.43	0.58
22:X:524:GLU:OE2	22:X:529:THR:OG1	2.20	0.58
23:Y:118:TYR:N	23:Y:118:TYR:CD1	2.72	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:642:ILE:H	25:3:703:ARG:HE	1.52	0.58
28:2:542:GLU:O	28:2:546:GLN:HG2	2.03	0.58
35:9:375:SER:O	35:9:375:SER:OG	2.22	0.58
1:A:361:HIS:HB2	3:C:280:HIS:CG	2.37	0.58
3:C:352:LYS:HE2	3:C:352:LYS:H	1.67	0.58
8:H:6:U:H2'	8:H:7:U:C6	2.38	0.58
13:N:63:LEU:HB3	13:N:70:ILE:HD12	1.85	0.58
24:1:850:ILE:O	24:1:854:VAL:HG13	2.04	0.58
25:3:195:ASP:OD2	25:3:198:GLY:N	2.36	0.58
1:A:1184:ASN:OD1	1:A:1195:ARG:NH1	2.36	0.58
1:A:2308:VAL:CA	4:D:1125:SER:CA	2.80	0.58
6:F:22:A:C5'	13:N:115:THR:HB	2.33	0.58
8:H:125:G:H2'	8:H:126:A:H8	1.67	0.58
17:R:369:LEU:HD23	17:R:377:ARG:HA	1.85	0.58
22:X:797:TYR:HA	22:X:802:LEU:HB2	1.84	0.58
22:X:1004:GLU:HB2	22:X:1007:TRP:CD2	2.38	0.58
24:1:512:ARG:O	24:1:516:LEU:HB2	2.04	0.58
24:1:1104:GLN:O	24:1:1105:GLU:HB3	2.03	0.58
25:3:25:THR:OG1	25:3:26:LYS:N	2.35	0.58
25:3:528:ARG:HG2	25:3:532:ARG:HH21	1.67	0.58
25:3:1147:HIS:O	25:3:1151:GLU:HG3	2.03	0.58
1:A:1889:LEU:HD13	1:A:2014:MET:O	1.97	0.58
2:B:20:G:O6	2:B:57:G:N2	2.37	0.58
3:C:115:GLU:OE1	3:C:115:GLU:N	2.37	0.58
3:C:441:PRO:HA	3:C:444:GLY:HA3	1.86	0.58
5:E:334:ALA:HB3	5:E:343:ILE:HG23	1.85	0.58
7:G:1:G:N7	11:K:218:LYS:HD2	2.17	0.58
10:J:408:ASP:OD1	10:J:408:ASP:N	2.36	0.58
13:N:72:ARG:O	13:N:76:GLU:HG3	2.02	0.58
22:X:694:PHE:O	22:X:722:ARG:NH1	2.26	0.58
22:X:987:HIS:HB3	22:X:999:GLN:HB2	1.85	0.58
23:Y:42:ILE:HG21	23:Y:51:ILE:HG22	1.84	0.58
24:1:1066:LEU:HD22	24:1:1111:CYS:CB	2.34	0.58
25:3:982:GLU:HG2	25:3:984:LYS:HE3	1.84	0.58
28:2:509:LYS:HE3	28:2:509:LYS:CA	2.34	0.58
1:A:1251:SER:OG	1:A:1298:ARG:HD3	2.04	0.58
5:E:206:ASP:C	5:E:222:LEU:HG	2.24	0.58
5:E:208:ILE:HG13	5:E:222:LEU:HD21	1.86	0.58
7:G:2:U:O4	11:K:219:PHE:CE1	2.57	0.58
8:H:50:C:H2'	8:H:51:A:C8	2.38	0.58
8:H:180:G:H2'	8:H:181:G:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:205:TYR:O	11:K:209:GLY:N	2.37	0.58
21:V:456:ARG:NE	21:V:492:MET:SD	2.76	0.58
23:Y:5:LEU:HD22	23:Y:156:ILE:HG23	1.85	0.58
23:Y:90:LYS:HB2	23:Y:93:THR:HG23	1.84	0.58
24:1:675:MET:HB3	24:1:678:ALA:HB3	1.84	0.58
25:3:449:VAL:HG22	25:3:763:ARG:HB3	1.85	0.58
1:A:1819:LEU:HD22	1:A:1902:PHE:HD1	1.67	0.58
24:1:1074:ARG:O	24:1:1078:VAL:HG23	2.03	0.58
25:3:538:THR:OG1	25:3:542:LYS:O	2.22	0.58
35:9:366:LEU:HD13	35:9:382:ILE:HG13	1.86	0.58
1:A:1502:PHE:CZ	1:A:1505:LYS:HB2	2.37	0.58
3:C:543:ARG:CZ	3:C:543:ARG:HB2	2.34	0.58
7:G:88:G:H4'	7:G:89:U:OP1	2.04	0.58
17:R:65:PRO:O	18:S:89:ASP:O	2.21	0.58
22:X:451:THR:HG22	22:X:519:VAL:HA	1.86	0.58
22:X:543:ARG:NE	22:X:545:GLU:OE1	2.34	0.58
25:3:345:GLY:O	25:3:360:GLN:HG3	2.04	0.58
25:3:365:GLY:HA2	25:3:394:ASN:ND2	2.19	0.58
28:2:602:LYS:HE3	28:2:602:LYS:O	2.04	0.58
3:C:925:PRO:O	3:C:928:HIS:ND1	2.36	0.57
6:F:37:C:H4'	6:F:38:G:OP2	2.00	0.57
7:G:2:U:C4	11:K:219:PHE:CD2	2.92	0.57
17:R:348:GLU:OE1	22:X:263:SER:C	2.43	0.57
22:X:583:TYR:HB3	22:X:739:THR:HA	1.86	0.57
22:X:948:PHE:O	22:X:1016:TYR:OH	2.21	0.57
25:3:310:ILE:O	25:3:311:PHE:HD2	1.87	0.57
30:7:33:CYS:HB2	30:7:74:GLU:OE1	2.04	0.57
35:9:360:HIS:HB3	35:9:365:ILE:HG21	1.85	0.57
3:C:803:ARG:O	3:C:807:GLN:HG2	2.04	0.57
8:H:68:G:H2'	8:H:69:U:C6	2.39	0.57
23:Y:30:LYS:HE3	23:Y:169:PRO:HD2	1.86	0.57
23:Y:263:PHE:CE1	23:Y:300:LYS:HD2	2.40	0.57
1:A:361:HIS:CB	3:C:280:HIS:CG	2.87	0.57
3:C:439:PRO:O	3:C:443:VAL:HB	2.04	0.57
6:F:82:A:H1'	6:F:83:A:H2'	1.85	0.57
23:Y:152:GLN:NE2	23:Y:193:ALA:HA	2.19	0.57
24:1:703:THR:HG22	24:1:745:ALA:HB3	1.87	0.57
25:3:329:TYR:HE2	25:3:389:PRO:HA	1.69	0.57
25:3:462:VAL:O	25:3:472:ALA:N	2.30	0.57
25:3:638:GLU:OE2	25:3:698:PRO:HB3	2.04	0.57
25:3:1148:LEU:HA	25:3:1151:GLU:OE2	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:1180:GLU:CD	25:3:1212:ARG:HH21	2.08	0.57
35:9:363:ARG:HG3	35:9:384:PHE:HA	1.86	0.57
1:A:38:GLN:OE1	1:A:38:GLN:HA	2.02	0.57
1:A:1220:VAL:HG23	1:A:1221:THR:HG23	1.87	0.57
2:B:63:A:H2'	2:B:64:G:H8	1.67	0.57
12:L:213:GLU:OE1	14:O:108:PRO:HA	2.04	0.57
19:T:450:VAL:C	19:T:451:HIS:HD1	2.06	0.57
21:V:515:CYS:HA	21:V:521:TYR:HB2	1.84	0.57
22:X:182:ALA:CA	22:X:924:ARG:HH11	2.17	0.57
22:X:257:PHE:CZ	22:X:270:LEU:HB2	2.39	0.57
22:X:910:ARG:O	22:X:914:VAL:HG13	2.03	0.57
24:1:1266:TRP:CZ3	31:5:22:GLY:HA3	2.39	0.57
25:3:477:SER:CB	25:3:505:THR:H	2.11	0.57
25:3:479:VAL:HG23	25:3:480:ASN:ND2	2.20	0.57
28:2:498:VAL:CG2	28:2:588:GLY:HA2	2.34	0.57
1:A:1403:LEU:H	17:R:407:TYR:HB3	1.69	0.57
1:A:1639:VAL:HG22	1:A:1719:PHE:HB3	1.86	0.57
1:A:1861:ILE:HG23	1:A:1884:ILE:HG23	1.86	0.57
1:A:2005:SER:HB2	1:A:2008:ARG:HH22	1.70	0.57
5:E:102:TYR:HD1	5:E:102:TYR:H	1.51	0.57
8:H:70:C:H2'	8:H:71:C:C6	2.39	0.57
17:R:352:ARG:HH12	22:X:265:HIS:HB3	1.68	0.57
17:R:371:ARG:CZ	23:Y:282:CYS:HB2	2.34	0.57
22:X:521:GLU:HB3	22:X:523:HIS:CE1	2.38	0.57
23:Y:8:THR:HG23	23:Y:155:ARG:HB2	1.86	0.57
25:3:616:ILE:HG22	25:3:628:LEU:HB3	1.86	0.57
31:5:7:ILE:HG13	31:5:8:HIS:N	2.18	0.57
4:D:668:ASP:O	4:D:672:GLY:CA	2.53	0.57
5:E:259:VAL:HG22	5:E:277:PHE:HB2	1.85	0.57
6:F:22:A:O5'	13:N:115:THR:HB	2.04	0.57
15:P:184:VAL:HG13	23:Y:50:ILE:HD13	1.77	0.57
15:P:216:ARG:NH1	35:9:257:PRO:HG3	2.20	0.57
21:V:609:GLN:HA	21:V:612:PHE:HB2	1.85	0.57
24:1:1078:VAL:HG12	24:1:1118:ILE:HD12	1.85	0.57
30:7:68:ASP:OD1	30:7:68:ASP:N	2.38	0.57
35:9:308:ILE:HA	35:9:311:CYS:HB2	1.87	0.57
35:9:316:TYR:CE1	35:9:378:SER:HB2	2.39	0.57
1:A:1275:ARG:O	1:A:1369:TYR:HE1	1.88	0.57
3:C:670:SER:HB2	3:C:689:ALA:H	1.70	0.57
5:E:81:LEU:O	5:E:92:LEU:HA	2.04	0.57
10:J:406:PHE:HD1	10:J:411:MET:HA	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:238:ARG:HE	23:Y:224:LEU:CD1	2.17	0.57
25:3:552:ARG:HH21	25:3:567:GLU:HB3	1.69	0.57
1:A:2307:GLU:O	4:D:1125:SER:CA	2.53	0.57
3:C:78:GLU:HG3	3:C:79:THR:N	2.18	0.57
10:J:333:PHE:O	10:J:337:MET:HG2	2.05	0.57
22:X:238:ARG:HH12	23:Y:319:VAL:CG2	2.17	0.57
22:X:283:TYR:CE2	23:Y:222:ILE:HG21	2.39	0.57
24:1:631:ALA:O	24:1:635:VAL:HG13	2.05	0.57
25:3:607:VAL:HB	25:3:615:ARG:HB2	1.85	0.57
25:3:1140:PHE:HE1	25:3:1197:LEU:HD13	1.67	0.57
31:5:14:LEU:HA	31:5:17:LYS:HB2	1.86	0.57
1:A:123:THR:O	1:A:123:THR:OG1	2.23	0.57
1:A:357:ASN:ND2	3:C:862:PRO:HB3	2.16	0.57
1:A:1978:LYS:O	1:A:1981:VAL:HG12	2.05	0.57
1:A:2228:TYR:HA	1:A:2258:ARG:HA	1.86	0.57
3:C:216:THR:HG22	3:C:245:HIS:CE1	2.40	0.57
3:C:704:VAL:HG12	3:C:717:PHE:HE1	1.68	0.57
5:E:75:HIS:ND1	5:E:77:ASN:HB2	2.19	0.57
5:E:197:LEU:HD21	5:E:213:ILE:HD11	1.87	0.57
10:J:300:ASP:OD2	17:R:101:ILE:CD1	2.53	0.57
10:J:360:ASP:O	10:J:364:THR:OG1	2.22	0.57
17:R:389:SER:HA	17:R:392:ILE:HD12	1.87	0.57
22:X:707:GLU:O	22:X:990:VAL:HA	2.05	0.57
25:3:1200:THR:O	25:3:1203:GLU:N	2.37	0.57
1:A:250:VAL:HG23	1:A:251:ASP:OD2	2.05	0.57
1:A:362:ARG:HD2	21:V:333:GLN:HA	1.87	0.57
1:A:827:PHE:HB2	1:A:1002:ASP:OD2	2.04	0.57
1:A:872:ASP:O	1:A:874:PRO:HD3	2.04	0.57
1:A:1771:LEU:HD13	1:A:1777:ILE:HD12	1.86	0.57
1:A:1836:LEU:HA	1:A:1839:TRP:HD1	1.70	0.57
1:A:1862:ILE:HG23	1:A:1885:LYS:HB3	1.86	0.57
3:C:560:VAL:HG12	3:C:561:LYS:HG2	1.87	0.57
7:G:111:U:P	22:X:482:ARG:HB2	2.45	0.57
13:N:97:TYR:HD1	13:N:120:ARG:HH21	1.53	0.57
17:R:367:ARG:CZ	23:Y:281:LEU:HD23	2.35	0.57
21:V:576:THR:O	21:V:579:SER:OG	2.16	0.57
22:X:265:HIS:O	22:X:268:GLN:HG2	2.04	0.57
23:Y:263:PHE:HE1	23:Y:300:LYS:HD2	1.69	0.57
24:1:716:ALA:O	24:1:756:LEU:HD21	2.05	0.57
24:1:1304:LEU:HD23	25:3:786:ARG:NH2	2.20	0.57
35:9:321:PHE:N	35:9:426:ILE:O	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1116:GLU:OE1	15:P:196:ASN:ND2	2.37	0.56
1:A:1403:LEU:HB2	17:R:407:TYR:CD1	2.40	0.56
1:A:1923:TRP:HB3	1:A:1927:ILE:HD11	1.87	0.56
7:G:116:C:C6	17:R:370:SER:O	2.58	0.56
8:H:41:U:H2'	8:H:42:G:C8	2.39	0.56
12:L:38:LEU:HB3	12:L:41:LYS:HB2	1.87	0.56
15:P:39:THR:O	19:T:318:ARG:HD3	2.05	0.56
23:Y:67:PHE:HB2	23:Y:75:ALA:O	2.05	0.56
24:1:784:MET:O	24:1:788:VAL:HG12	2.05	0.56
1:A:1889:LEU:HA	1:A:2014:MET:HB2	1.86	0.56
1:A:1937:ILE:HG22	1:A:2011:ILE:O	2.05	0.56
1:A:1971:LEU:HD22	1:A:1972:THR:H	1.70	0.56
2:B:53:U:OP1	15:P:39:THR:OG1	2.23	0.56
3:C:928:HIS:ND1	3:C:928:HIS:N	2.53	0.56
8:H:56:A:O2'	28:2:478:HIS:CA	2.53	0.56
23:Y:55:ASP:OD2	23:Y:60:GLY:N	2.37	0.56
24:1:557:ASP:HB2	24:1:558:ARG:NH2	2.20	0.56
24:1:954:LEU:O	24:1:958:THR:HG22	2.05	0.56
25:3:141:VAL:HB	25:3:158:LEU:HD12	1.86	0.56
25:3:169:HIS:CD2	25:3:170:VAL:H	2.23	0.56
25:3:326:ARG:NE	25:3:372:GLU:OE2	2.19	0.56
1:A:532:THR:HG23	1:A:536:LYS:HE3	1.86	0.56
1:A:731:LEU:O	35:9:241:TYR:CB	2.43	0.56
1:A:1402:ARG:HD2	22:X:664:PRO:HB2	1.87	0.56
2:B:87:A:C6	2:B:92:U:OP2	2.59	0.56
4:D:434:SER:HA	4:D:446:HIS:O	2.06	0.56
4:D:530:THR:C	4:D:532:ASN:H	2.09	0.56
6:F:87:C:C2	6:F:88:G:C8	2.94	0.56
6:F:89:U:H3	8:H:9:U:H3	1.52	0.56
9:I:92:TYR:CB	16:Q:953:ASN:CB	2.83	0.56
13:N:97:TYR:HA	13:N:120:ARG:HH21	1.71	0.56
21:V:570:LEU:HD13	21:V:627:ALA:HB1	1.87	0.56
22:X:596:VAL:O	22:X:600:LEU:HG	2.05	0.56
22:X:598:SER:O	22:X:602:ILE:HG13	2.05	0.56
22:X:716:LYS:N	22:X:747:LEU:HD12	2.20	0.56
25:3:525:ARG:HD3	25:3:533:VAL:HG22	1.85	0.56
25:3:717:SER:HB2	25:3:718:ARG:NH1	2.21	0.56
29:4:13:ALA:O	29:4:60:GLU:HA	2.06	0.56
35:9:278:LYS:HG2	35:9:279:LYS:H	1.69	0.56
1:A:170:ASP:OD1	1:A:171:ASP:N	2.38	0.56
1:A:587:GLN:HB3	1:A:1550:GLY:O	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1359:HIS:HD2	1:A:1361:GLU:O	1.89	0.56
1:A:1670:ASP:N	1:A:1670:ASP:OD1	2.37	0.56
3:C:258:ASN:OD1	3:C:259:LYS:N	2.38	0.56
3:C:510:LEU:HB2	3:C:564:THR:HG23	1.87	0.56
8:H:165:A:O2'	8:H:166:G:O5'	2.24	0.56
10:J:342:GLU:OE2	10:J:344:GLN:N	2.37	0.56
12:L:187:LYS:O	12:L:191:LEU:N	2.35	0.56
17:R:372:ALA:HB3	17:R:376:LYS:HE2	1.87	0.56
19:T:381:HIS:HD2	19:T:441:TRP:CE2	2.23	0.56
21:V:604:LYS:NZ	21:V:639:LEU:HD23	2.21	0.56
23:Y:257:GLU:O	23:Y:261:SER:HB3	2.06	0.56
23:Y:272:ILE:HG22	23:Y:281:LEU:HD12	1.86	0.56
24:1:720:GLY:HA2	24:1:756:LEU:HD23	1.85	0.56
25:3:791:HIS:HD2	25:3:794:SER:OG	1.87	0.56
1:A:875:HIS:CE1	22:X:866:ASN:HB3	2.40	0.56
1:A:1629:ILE:HB	1:A:1662:ILE:HB	1.88	0.56
2:B:110:C:H2'	2:B:111:A:H8	1.70	0.56
3:C:68:THR:OG1	3:C:69:ALA:N	2.37	0.56
3:C:129:ILE:HB	3:C:199:LEU:HD23	1.86	0.56
3:C:380:ILE:O	3:C:384:VAL:HG23	2.05	0.56
5:E:214:ASP:N	5:E:214:ASP:OD1	2.39	0.56
8:H:72:U:H2'	8:H:73:C:C6	2.41	0.56
24:1:739:ARG:HA	24:1:743:LEU:HD22	1.88	0.56
25:3:206:GLN:NE2	25:3:231:HIS:HA	2.21	0.56
1:A:1813:ARG:HE	1:A:1814:THR:HG23	1.71	0.56
1:A:1926:THR:O	1:A:1926:THR:OG1	2.24	0.56
5:E:150:HIS:NE2	5:E:169:THR:OG1	2.32	0.56
17:R:180:THR:HG23	17:R:194:GLN:HE21	1.71	0.56
22:X:681:LEU:H	22:X:725:ARG:HH22	1.52	0.56
23:Y:267:ARG:N	23:Y:287:GLU:O	2.34	0.56
1:A:525:LYS:HB2	1:A:525:LYS:HZ3	1.71	0.56
1:A:693:ILE:HB	1:A:738:MET:SD	2.46	0.56
1:A:1482:GLU:O	1:A:1486:GLU:HG2	2.05	0.56
1:A:1655:THR:OG1	1:A:1656:THR:N	2.38	0.56
3:C:463:GLU:H	3:C:463:GLU:CD	2.08	0.56
5:E:251:LEU:HD21	5:E:300:ILE:HG23	1.87	0.56
7:G:116:C:C4	17:R:370:SER:HB3	2.40	0.56
10:J:296:ARG:HD3	12:L:225:TYR:CE1	2.40	0.56
10:J:416:TYR:HE2	10:J:443:ILE:HD13	1.70	0.56
13:N:44:GLU:HA	13:N:47:TRP:NE1	2.20	0.56
17:R:353:ASP:O	17:R:357:HIS:HB2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:T:227:THR:HG22	19:T:243:THR:HG22	1.88	0.56
19:T:247:SER:OG	19:T:267:ASP:OD1	2.20	0.56
20:U:23:LEU:H	21:V:474:HIS:CD2	2.23	0.56
22:X:457:ALA:O	22:X:460:SER:OG	2.21	0.56
23:Y:87:LYS:O	23:Y:89:LYS:N	2.36	0.56
23:Y:253:ASP:OD1	23:Y:253:ASP:N	2.30	0.56
25:3:86:ARG:NH1	25:3:1157:GLY:O	2.38	0.56
25:3:804:HIS:O	31:5:58:ASN:ND2	2.38	0.56
25:3:1116:SER:C	28:2:708:TRP:CH2	2.79	0.56
1:A:1773:SER:HB2	1:A:1775:GLN:HG3	1.87	0.56
3:C:350:ASN:ND2	3:C:353:THR:OG1	2.38	0.56
19:T:272:CYS:HB3	19:T:282:ARG:HB3	1.86	0.56
21:V:532:GLN:O	21:V:536:ILE:CB	2.39	0.56
22:X:741:TRP:CD1	24:1:781:ASP:HA	2.40	0.56
23:Y:217:ALA:O	23:Y:220:GLN:HG3	2.05	0.56
24:1:754:ILE:HG22	24:1:755:PRO:HD3	1.88	0.56
25:3:703:ARG:HH11	25:3:703:ARG:HB2	1.70	0.56
28:2:503:HIS:CD2	28:2:510:TYR:CB	2.71	0.56
28:2:601:LEU:CD1	29:4:27:PRO:HA	2.36	0.56
35:9:301:PRO:O	35:9:305:GLU:HB2	2.06	0.56
1:A:184:ASP:CB	13:N:1:MET:CA	2.83	0.56
1:A:939:TRP:NE1	1:A:1049:ASP:OD2	2.33	0.56
1:A:2328:ALA:HB3	4:D:728:ARG:CB	2.31	0.56
2:B:13:C:H2'	2:B:14:U:O4'	2.05	0.56
3:C:587:VAL:HG11	3:C:830:PRO:HG3	1.87	0.56
3:C:694:LYS:HA	3:C:786:ASN:OD1	2.06	0.56
10:J:262:ARG:HH22	10:J:291:GLN:HG2	1.70	0.56
17:R:172:ALA:HB1	17:R:173:PRO:HD2	1.86	0.56
17:R:352:ARG:NH2	22:X:265:HIS:ND1	2.54	0.56
22:X:164:TRP:CH2	22:X:542:PHE:CD1	2.93	0.56
24:1:495:ARG:HA	24:1:498:MET:HE3	1.88	0.56
24:1:970:LEU:O	24:1:973:HIS:HB2	2.06	0.56
25:3:69:ARG:HH12	25:3:74:THR:HA	1.71	0.56
1:A:48:LYS:O	1:A:53:PHE:CD1	2.59	0.56
1:A:940:ILE:HD13	1:A:1090:ARG:HH12	1.71	0.56
1:A:1336:PRO:HB2	1:A:1350:ILE:HG12	1.88	0.56
3:C:286:ASN:HD21	3:C:300:LEU:N	2.02	0.56
3:C:461:LEU:HA	3:C:464:ALA:HB3	1.86	0.56
3:C:746:VAL:O	3:C:791:ILE:HG13	2.06	0.56
3:C:759:LEU:O	3:C:762:VAL:N	2.39	0.56
3:C:875:ILE:HG13	3:C:876:PRO:HD2	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:197:LEU:HD11	5:E:213:ILE:HD13	1.87	0.56
17:R:414:GLN:HG2	22:X:633:ARG:NH1	2.19	0.56
22:X:405:ARG:NH1	22:X:406:GLU:OE1	2.39	0.56
24:1:807:LYS:HG3	24:1:844:VAL:HG11	1.88	0.56
25:3:68:PHE:CE2	25:3:77:TYR:HB2	2.41	0.56
25:3:510:LEU:HD23	25:3:510:LEU:H	1.70	0.56
25:3:1145:GLU:HA	25:3:1148:LEU:HB2	1.88	0.56
35:9:323:ARG:HB3	35:9:331:GLN:HE21	1.70	0.56
1:A:591:MET:HB3	1:A:598:LEU:HD21	1.87	0.55
1:A:1782:ASP:HB3	1:A:1807:ILE:HD13	1.88	0.55
1:A:2308:VAL:CA	4:D:1125:SER:N	2.65	0.55
3:C:478:THR:HA	3:C:494:GLY:HA3	1.87	0.55
13:N:16:GLU:CD	13:N:16:GLU:H	2.09	0.55
13:N:21:THR:O	13:N:24:GLU:HG3	2.06	0.55
22:X:283:TYR:CZ	23:Y:222:ILE:HG21	2.41	0.55
23:Y:181:PRO:HB2	23:Y:186:LEU:HG	1.88	0.55
25:3:226:GLU:OE1	25:3:259:LYS:HD3	2.07	0.55
25:3:418:GLU:OE1	25:3:419:ASP:N	2.28	0.55
25:3:592:LEU:HD11	25:3:619:LEU:HD21	1.87	0.55
25:3:1083:ASN:OD1	25:3:1084:GLY:N	2.39	0.55
31:5:27:THR:HG23	31:5:30:GLU:HG3	1.88	0.55
1:A:82:ARG:CZ	7:G:15:U:O4	2.55	0.55
1:A:876:GLU:O	1:A:879:SER:OG	2.23	0.55
2:B:12:U:H2'	2:B:13:C:H6	1.70	0.55
3:C:827:LEU:HD12	3:C:911:PRO:HB3	1.88	0.55
3:C:913:ASP:O	3:C:931:ARG:NE	2.39	0.55
6:F:83:A:N6	8:H:16:U:C4	2.74	0.55
7:G:85:G:H1	8:H:45:C:H42	1.53	0.55
7:G:85:G:N2	8:H:45:C:N3	2.51	0.55
10:J:339:TRP:HE3	17:R:116:TYR:CD2	2.24	0.55
10:J:376:VAL:HA	10:J:379:TRP:HD1	1.71	0.55
13:N:48:PRO:O	13:N:51:ARG:HB2	2.06	0.55
17:R:143:ILE:O	17:R:147:THR:OG1	2.18	0.55
22:X:227:ARG:HH21	23:Y:239:GLU:HG2	1.72	0.55
22:X:388:GLN:O	22:X:392:ILE:HG13	2.06	0.55
25:3:1191:LYS:O	25:3:1195:GLU:HG3	2.06	0.55
35:9:297:CYS:SG	35:9:437:PRO:HG3	2.46	0.55
1:A:848:GLU:OE1	17:R:424:GLY:CA	2.55	0.55
1:A:1787:ARG:NH1	1:A:1788:VAL:O	2.39	0.55
3:C:189:VAL:HA	3:C:198:TYR:O	2.06	0.55
8:H:28:C:O2'	8:H:29:A:O5'	2.25	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:107:A:H2'	8:H:108:G:C8	2.42	0.55
13:N:46:LEU:N	13:N:46:LEU:HD13	2.20	0.55
21:V:518:LYS:HD2	21:V:520:GLU:OE1	2.06	0.55
25:3:233:ASN:HD21	25:3:286:ILE:CG2	2.19	0.55
25:3:926:TYR:HB3	25:3:928:TYR:CE2	2.41	0.55
1:A:84:ASP:O	1:A:88:TYR:HB2	2.07	0.55
1:A:172:GLU:OE1	1:A:172:GLU:N	2.39	0.55
1:A:398:THR:CG2	3:C:382:ALA:HB1	2.36	0.55
1:A:1131:LYS:HG2	1:A:1193:GLU:OE2	2.06	0.55
1:A:1339:ASP:OD1	1:A:1339:ASP:N	2.38	0.55
1:A:1787:ARG:HD3	1:A:1788:VAL:H	1.71	0.55
3:C:144:CYS:SG	3:C:312:SER:OG	2.65	0.55
5:E:255:MET:HB2	5:E:282:HIS:CB	2.35	0.55
5:E:326:HIS:CE1	5:E:344:SER:HG	2.21	0.55
13:N:46:LEU:H	13:N:46:LEU:CD2	2.13	0.55
23:Y:91:LYS:HG3	23:Y:114:GLU:HG3	1.88	0.55
24:1:549:ARG:NH2	24:1:592:GLU:OE1	2.30	0.55
24:1:1098:LEU:HD12	24:1:1135:GLU:HG2	1.87	0.55
25:3:342:LEU:HB3	25:3:343:LYS:O	2.06	0.55
1:A:155:LYS:HE3	1:A:626:GLY:O	2.06	0.55
1:A:341:LYS:HA	1:A:341:LYS:HE2	1.87	0.55
1:A:1984:LYS:HA	1:A:1987:ILE:HD12	1.88	0.55
3:C:375:GLU:O	3:C:379:LYS:HG3	2.06	0.55
5:E:62:LEU:HB2	5:E:351:LEU:HB2	1.89	0.55
8:H:78:C:H2'	8:H:79:G:H8	1.72	0.55
9:I:169:TYR:O	9:I:173:LEU:CB	2.54	0.55
12:L:48:ALA:O	12:L:52:GLU:HG2	2.07	0.55
16:Q:514:ILE:H	16:Q:655:ILE:HA	1.71	0.55
17:R:110:LYS:NZ	19:T:364:THR:O	2.38	0.55
17:R:122:LYS:HE2	19:T:399:LYS:NZ	2.21	0.55
19:T:220:VAL:HG23	19:T:230:ILE:HG12	1.87	0.55
21:V:543:LYS:HA	21:V:546:ASN:ND2	2.22	0.55
21:V:553:HIS:CD2	21:V:556:TYR:HE1	2.25	0.55
28:2:452:LYS:CD	28:2:456:ARG:HB2	2.36	0.55
35:9:382:ILE:HG21	35:9:407:LEU:HD12	1.88	0.55
1:A:292:ASP:CG	1:A:293:TRP:H	2.10	0.55
1:A:322:ASN:N	1:A:322:ASN:OD1	2.38	0.55
1:A:1889:LEU:CD2	1:A:2012:LEU:HG	2.36	0.55
1:A:1925:LYS:HD3	21:V:457:ARG:NH2	2.22	0.55
8:H:56:A:C4'	28:2:481:THR:HG1	2.05	0.55
10:J:339:TRP:HA	17:R:116:TYR:HD2	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:V:618:ARG:HB3	21:V:646:HIS:CE1	2.42	0.55
22:X:837:SER:HB3	22:X:930:SER:H	1.71	0.55
24:1:826:ASP:HB3	24:1:829:ASN:HB2	1.86	0.55
25:3:791:HIS:NE2	25:3:934:GLY:HA3	2.22	0.55
25:3:1015:LYS:O	25:3:1019:ASN:N	2.40	0.55
1:A:608:LEU:HD13	1:A:632:ALA:HB1	1.89	0.55
1:A:1579:ALA:HB2	11:K:226:TYR:CE2	2.41	0.55
3:C:465:MET:O	3:C:468:CYS:N	2.37	0.55
6:F:16:G:H2'	6:F:17:C:C6	2.41	0.55
6:F:35:A:OP1	12:L:203:LYS:NZ	2.38	0.55
10:J:226:ARG:O	10:J:230:THR:HG23	2.06	0.55
12:L:222:LEU:O	17:R:86:LEU:HD22	2.07	0.55
14:O:249:ARG:O	14:O:252:PHE:N	2.39	0.55
19:T:274:ASP:HB2	19:T:281:ILE:HD13	1.88	0.55
21:V:497:CYS:HB2	21:V:507:PHE:CB	2.36	0.55
21:V:622:ARG:CA	21:V:625:ARG:HH21	2.20	0.55
22:X:593:GLU:O	22:X:597:VAL:HG22	2.06	0.55
24:1:1203:GLY:CA	25:3:1171:LYS:HG3	2.34	0.55
25:3:373:PHE:HE1	25:3:385:PHE:HB3	1.70	0.55
1:A:2328:ALA:CA	4:D:728:ARG:CB	2.84	0.55
3:C:131:ASN:HD22	3:C:495:ARG:HH12	1.54	0.55
6:F:45:A:OP2	28:2:554:ARG:NH1	2.40	0.55
7:G:90:C:O5'	7:G:90:C:H6	1.89	0.55
8:H:50:C:H2'	8:H:51:A:H8	1.71	0.55
16:Q:1136:GLN:N	16:Q:1156:ASN:HA	2.21	0.55
21:V:529:PHE:CE1	21:V:564:VAL:HB	2.42	0.55
22:X:165:GLU:HB2	22:X:542:PHE:CE1	2.42	0.55
22:X:284:ARG:HD3	23:Y:223:LEU:HD21	1.88	0.55
25:3:994:GLN:HE22	25:3:1036:ALA:C	2.10	0.55
25:3:1143:HIS:O	25:3:1147:HIS:ND1	2.39	0.55
1:A:176:LEU:H	1:A:176:LEU:CD2	2.20	0.55
1:A:762:ARG:HH22	15:P:226:LYS:HZ3	1.55	0.55
1:A:1771:LEU:HD21	1:A:1779:PHE:CZ	2.40	0.55
5:E:197:LEU:HG	5:E:212:GLY:HA2	1.89	0.55
6:F:22:A:H5"	13:N:116:ASN:O	2.07	0.55
8:H:36:G:H2'	8:H:37:U:C6	2.42	0.55
10:J:230:THR:OG1	10:J:231:PHE:N	2.38	0.55
10:J:368:ARG:HA	10:J:368:ARG:NE	2.22	0.55
19:T:223:SER:OG	19:T:224:ALA:N	2.38	0.55
23:Y:147:ASP:OD2	23:Y:147:ASP:N	2.40	0.55
24:1:735:ILE:HD12	24:1:747:LEU:HD12	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:9:324:SER:O	35:9:420:ASP:HB3	2.06	0.55
1:A:81:PHE:O	1:A:83:HIS:N	2.39	0.55
1:A:378:PHE:HE2	3:C:338:GLU:HB3	1.72	0.55
1:A:1303:LEU:HD12	1:A:1311:PHE:HE1	1.72	0.55
1:A:1787:ARG:HD3	1:A:1788:VAL:N	2.22	0.55
3:C:276:TYR:OH	21:V:321:ASN:CB	2.55	0.55
10:J:238:ASN:C	10:J:240:THR:H	2.11	0.55
10:J:407:GLY:O	10:J:411:MET:HB3	2.07	0.55
13:N:120:ARG:CZ	13:N:143:SER:HB3	2.37	0.55
21:V:244:GLY:O	21:V:249:ASP:N	2.30	0.55
22:X:280:ALA:HB2	23:Y:227:VAL:HG13	1.89	0.55
22:X:475:ASN:HB3	22:X:490:ARG:HD3	1.89	0.55
22:X:561:SER:O	22:X:566:ASP:N	2.32	0.55
22:X:600:LEU:O	22:X:604:VAL:HG23	2.06	0.55
22:X:992:THR:HG1	22:X:996:PHE:HD2	1.53	0.55
24:1:819:TRP:HZ2	24:1:837:THR:HG21	1.71	0.55
25:3:747:SER:OG	25:3:748:GLU:N	2.40	0.55
25:3:883:GLU:HB3	25:3:886:GLU:HG3	1.89	0.55
35:9:306:ASN:OD1	35:9:345:TYR:N	2.27	0.55
35:9:368:MET:O	35:9:394:HIS:ND1	2.40	0.55
1:A:1777:ILE:HG23	1:A:1860:GLN:HG3	1.89	0.54
1:A:1947:ASN:O	1:A:1951:LYS:HG3	2.07	0.54
3:C:134:LEU:HB3	3:C:204:ASP:HA	1.89	0.54
3:C:719:GLN:HG3	3:C:724:TRP:O	2.06	0.54
5:E:221:ASP:HB2	5:E:228:THR:OG1	2.06	0.54
5:E:227:LEU:O	5:E:227:LEU:HD12	2.07	0.54
5:E:268:ALA:O	5:E:270:LYS:HD2	2.07	0.54
14:O:261:ILE:HA	14:O:271:PHE:O	2.07	0.54
23:Y:21:ARG:NH2	23:Y:81:GLU:O	2.41	0.54
25:3:234:PHE:CE1	25:3:236:ILE:HG12	2.42	0.54
25:3:527:ILE:HG12	25:3:532:ARG:O	2.06	0.54
25:3:718:ARG:HB2	25:3:720:TRP:NE1	2.21	0.54
30:7:57:ARG:NH1	30:7:62:GLY:O	2.39	0.54
1:A:705:LYS:O	1:A:708:THR:HG22	2.07	0.54
1:A:1979:VAL:HA	1:A:1982:GLN:HB2	1.89	0.54
3:C:215:VAL:HG11	3:C:242:LEU:HD21	1.89	0.54
3:C:260:ILE:HG13	3:C:310:SER:O	2.05	0.54
3:C:390:THR:O	3:C:393:PRO:HD2	2.07	0.54
3:C:404:THR:O	3:C:408:LEU:HD12	2.08	0.54
4:D:418:GLN:O	4:D:422:PHE:N	2.40	0.54
7:G:85:G:N1	8:H:44:U:N3	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:56:A:HO2'	28:2:478:HIS:CG	2.23	0.54
11:K:200:ASP:HB3	11:K:219:PHE:CD1	2.40	0.54
13:N:122:PRO:HG2	13:N:125:LYS:HE2	1.90	0.54
15:P:30:TYR:CZ	17:R:162:ALA:O	2.60	0.54
22:X:741:TRP:HE1	24:1:781:ASP:CB	2.20	0.54
24:1:769:VAL:HA	24:1:772:ILE:HD13	1.89	0.54
24:1:1206:ASP:OD1	24:1:1207:SER:N	2.41	0.54
25:3:18:ILE:HG21	25:3:67:ALA:H	1.72	0.54
1:A:233:PRO:O	1:A:237:THR:HG23	2.07	0.54
1:A:1224:ARG:HG3	1:A:1224:ARG:HH11	1.73	0.54
11:K:209:GLY:HA2	11:K:223:ARG:HD3	1.90	0.54
16:Q:564:LEU:O	16:Q:592:VAL:HA	2.07	0.54
16:Q:1049:LEU:O	16:Q:1054:PHE:N	2.39	0.54
22:X:597:VAL:HA	22:X:600:LEU:HD12	1.89	0.54
25:3:526:HIS:CG	25:3:573:GLN:HE21	2.25	0.54
3:C:118:PHE:O	3:C:122:LEU:HD12	2.07	0.54
3:C:224:GLY:HA2	3:C:251:LEU:HB3	1.89	0.54
3:C:441:PRO:O	3:C:444:GLY:HA3	2.07	0.54
3:C:857:VAL:HA	3:C:873:ALA:HB2	1.89	0.54
9:I:92:TYR:CB	16:Q:953:ASN:CA	2.85	0.54
17:R:357:HIS:HD2	23:Y:276:LYS:HZ2	1.52	0.54
19:T:243:THR:O	19:T:243:THR:OG1	2.24	0.54
22:X:164:TRP:NE1	22:X:542:PHE:HB2	2.23	0.54
22:X:769:SER:OG	22:X:816:ALA:HB1	2.08	0.54
24:1:1266:TRP:CE3	31:5:22:GLY:HA3	2.42	0.54
25:3:542:LYS:HB2	25:3:558:LEU:HD11	1.88	0.54
35:9:300:THR:OG1	35:9:304:CYS:SG	2.39	0.54
1:A:176:LEU:HD11	1:A:566:LEU:HD11	1.88	0.54
1:A:1793:THR:HB	1:A:1795:GLU:H	1.73	0.54
2:B:110:C:H2'	2:B:111:A:C8	2.41	0.54
3:C:891:THR:HG21	3:C:895:ALA:HB3	1.90	0.54
5:E:78:GLY:HA3	5:E:336:HIS:CE1	2.42	0.54
6:F:89:U:H2'	6:F:90:G:C8	2.42	0.54
8:H:56:A:OP1	24:1:1258:ALA:HA	2.08	0.54
22:X:454:ARG:NH1	22:X:680:SER:OG	2.40	0.54
22:X:809:THR:O	22:X:813:ARG:HG2	2.06	0.54
24:1:728:LEU:HB3	24:1:765:TYR:OH	2.08	0.54
1:A:657:ALA:O	1:A:661:GLU:HG3	2.08	0.54
3:C:131:ASN:HB3	3:C:549:TRP:CZ2	2.42	0.54
3:C:715:GLY:HA2	3:C:719:GLN:HE22	1.73	0.54
5:E:253:ASN:ND2	5:E:291:CYS:HB3	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:330:ILE:H	5:E:330:ILE:HD12	1.72	0.54
8:H:151:C:H2'	8:H:152:G:C8	2.43	0.54
24:1:1062:LEU:HA	24:1:1065:LEU:HD12	1.88	0.54
31:5:14:LEU:HD23	31:5:17:LYS:HD2	1.88	0.54
1:A:224:THR:N	2:B:12:U:OP1	2.39	0.54
1:A:593:ARG:NH1	1:A:1565:LYS:HZ3	2.05	0.54
1:A:854:SER:OG	1:A:855:ARG:N	2.39	0.54
1:A:1536:LEU:HG	1:A:1572:SER:HB3	1.89	0.54
1:A:2268:LEU:CB	4:D:1228:VAL:CB	2.86	0.54
5:E:75:HIS:CE1	5:E:121:GLY:HA3	2.43	0.54
9:I:550:TRP:O	9:I:552:ASN:N	2.32	0.54
10:J:296:ARG:HD3	12:L:225:TYR:CZ	2.42	0.54
22:X:481:ILE:HD11	22:X:484:GLU:HB3	1.90	0.54
24:1:778:GLN:N	24:1:778:GLN:OE1	2.41	0.54
24:1:1122:THR:OG1	24:1:1123:CYS:N	2.41	0.54
24:1:1157:TYR:CE2	30:7:37:VAL:CG1	2.89	0.54
25:3:943:THR:HG23	25:3:976:LYS:HB3	1.89	0.54
28:2:531:THR:O	28:2:531:THR:OG1	2.25	0.54
1:A:606:LYS:HZ2	44:A:3000:IHP:P6	2.30	0.54
1:A:1427:ARG:HE	22:X:326:GLN:CD	2.11	0.54
3:C:692:LEU:HB2	3:C:786:ASN:ND2	2.23	0.54
3:C:719:GLN:NE2	3:C:726:LEU:HA	2.23	0.54
3:C:884:GLU:O	3:C:888:ARG:HG3	2.07	0.54
7:G:7:G:H2'	7:G:8:C:C6	2.42	0.54
12:L:74:LEU:O	12:L:77:LEU:N	2.41	0.54
17:R:91:ASP:OD1	17:R:95:LYS:N	2.26	0.54
17:R:351:GLU:OE2	22:X:256:LEU:HA	2.08	0.54
19:T:213:GLU:OE1	19:T:217:GLN:N	2.30	0.54
23:Y:271:VAL:HG22	23:Y:284:ALA:HB2	1.88	0.54
24:1:652:CYS:SG	24:1:689:ILE:HG23	2.48	0.54
25:3:266:ASP:OD1	25:3:266:ASP:N	2.40	0.54
25:3:530:ASP:O	25:3:532:ARG:N	2.40	0.54
25:3:642:ILE:N	25:3:703:ARG:HE	2.06	0.54
25:3:911:LYS:CB	25:3:922:GLY:O	2.55	0.54
29:4:79:LEU:N	29:4:82:LYS:O	2.41	0.54
3:C:132:VAL:HG11	3:C:226:VAL:HG23	1.90	0.54
3:C:298:LEU:HD21	3:C:300:LEU:HG	1.89	0.54
6:F:38:G:H8	6:F:38:G:P	2.31	0.54
6:F:84:A:C1'	6:F:85:U:H5'	2.37	0.54
7:G:100:C:H4'	7:G:101:U:C6	2.42	0.54
13:N:44:GLU:H	13:N:44:GLU:CD	2.11	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Y:21:ARG:HH12	23:Y:83:VAL:N	2.06	0.54
24:1:565:ASP:OD1	24:1:566:LEU:N	2.40	0.54
24:1:785:LYS:O	24:1:789:LEU:HD12	2.07	0.54
24:1:933:CYS:O	24:1:936:VAL:N	2.41	0.54
24:1:1092:ASP:O	24:1:1096:THR:HG23	2.08	0.54
25:3:406:PRO:HG2	25:3:408:LEU:HD11	1.89	0.54
31:5:8:HIS:NE2	31:5:12:GLU:OE2	2.37	0.54
1:A:357:ASN:HD22	3:C:862:PRO:CB	2.17	0.54
1:A:703:GLN:O	1:A:705:LYS:N	2.41	0.54
15:P:186:ARG:HD2	15:P:190:ASP:HB3	1.90	0.54
22:X:932:CYS:HB2	22:X:938:ARG:HD2	1.90	0.54
24:1:1108:ASN:N	24:1:1108:ASN:OD1	2.39	0.54
28:2:601:LEU:HD11	29:4:27:PRO:CB	2.38	0.54
1:A:852:VAL:HB	17:R:426:GLU:OE1	2.08	0.53
1:A:1431:ALA:HB2	22:X:329:TRP:CB	2.38	0.53
1:A:1889:LEU:HD11	1:A:2009:ASP:OD2	2.07	0.53
3:C:658:PRO:HB2	3:C:881:PHE:CZ	2.43	0.53
12:L:11:TRP:CD2	12:L:49:ARG:HD3	2.43	0.53
19:T:329:HIS:CE1	19:T:349:SER:HB3	2.43	0.53
25:3:623:ASP:OD2	25:3:626:GLN:NE2	2.41	0.53
1:A:299:ILE:HD12	3:C:920:PRO:HB2	1.90	0.53
1:A:1983:LEU:O	1:A:1987:ILE:HG13	2.08	0.53
3:C:320:LEU:HD22	3:C:343:LEU:HB2	1.90	0.53
6:F:49:G:N7	12:L:33:ARG:HB3	2.23	0.53
7:G:111:U:H4'	7:G:112:U:OP2	2.06	0.53
7:G:111:U:H2'	22:X:482:ARG:HD2	1.89	0.53
9:I:139:ALA:HA	16:Q:938:TYR:CB	2.38	0.53
21:V:505:LYS:NZ	21:V:593:TYR:OH	2.35	0.53
23:Y:70:LEU:HD23	23:Y:171:ASP:HB2	1.89	0.53
25:3:642:ILE:HB	25:3:703:ARG:HH21	1.73	0.53
25:3:940:LEU:HB3	25:3:941:HIS:CE1	2.43	0.53
30:7:46:CYS:N	30:7:85:CYS:HB2	2.23	0.53
31:5:63:ARG:O	31:5:67:ASN:ND2	2.42	0.53
1:A:1768:TYR:CZ	1:A:2012:LEU:HD22	2.42	0.53
3:C:604:LEU:HD21	3:C:627:HIS:HE1	1.73	0.53
3:C:928:HIS:N	3:C:928:HIS:HD1	2.07	0.53
5:E:334:ALA:HB3	5:E:343:ILE:CG2	2.38	0.53
8:H:56:A:C4'	24:1:1257:PRO:HB3	2.38	0.53
17:R:427:ASP:OD1	17:R:428:GLU:N	2.41	0.53
19:T:245:HIS:NE2	19:T:263:SER:OG	2.23	0.53
21:V:555:LEU:HG	21:V:586:PHE:HZ	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Y:210:GLU:O	23:Y:214:GLU:HG3	2.08	0.53
24:1:806:ILE:HG23	24:1:810:ILE:HB	1.90	0.53
24:1:933:CYS:SG	24:1:970:LEU:HD21	2.48	0.53
25:3:34:ARG:HB2	25:3:37:ILE:HB	1.91	0.53
25:3:1115:GLU:C	28:2:708:TRP:HZ2	1.99	0.53
28:2:509:LYS:CA	28:2:509:LYS:CE	2.87	0.53
1:A:75:ASP:O	1:A:77:THR:N	2.41	0.53
1:A:222:GLY:HA3	2:B:11:U:O3'	2.09	0.53
1:A:1661:TRP:HH2	1:A:1684:PHE:HE1	1.56	0.53
1:A:1780:VAL:HA	1:A:1808:PHE:O	2.09	0.53
7:G:88:G:O6	8:H:40:C:N4	2.41	0.53
8:H:36:G:H2'	8:H:37:U:H6	1.73	0.53
8:H:118:G:H2'	8:H:119:G:C8	2.43	0.53
23:Y:9:LEU:O	23:Y:135:ILE:HD13	2.08	0.53
25:3:289:CYS:SG	25:3:338:ALA:HA	2.48	0.53
28:2:601:LEU:HD11	29:4:27:PRO:HA	1.90	0.53
1:A:550:VAL:O	1:A:554:THR:HG23	2.09	0.53
3:C:323:PHE:CE2	3:C:373:ILE:HG12	2.44	0.53
3:C:558:PRO:HG2	3:C:559:ILE:HG23	1.91	0.53
4:D:2018:GLU:O	4:D:2041:LEU:HA	2.09	0.53
5:E:312:TRP:CD1	5:E:319:ILE:HA	2.42	0.53
7:G:-10:G:H8	20:U:1:MET:CE	2.21	0.53
17:R:137:GLU:HB2	17:R:141:LYS:HE3	1.89	0.53
22:X:234:TYR:CD2	23:Y:317:GLN:HB3	2.43	0.53
22:X:741:TRP:NE1	24:1:781:ASP:CG	2.61	0.53
22:X:803:ASN:OD1	22:X:807:GLU:N	2.37	0.53
23:Y:198:ASP:HA	23:Y:200:PHE:CE2	2.43	0.53
24:1:515:ALA:O	24:1:519:ILE:HG22	2.09	0.53
24:1:896:ILE:HD12	24:1:917:VAL:HG11	1.90	0.53
25:3:164:ASN:HA	25:3:189:TYR:CZ	2.43	0.53
1:A:378:PHE:CE2	3:C:338:GLU:HB3	2.43	0.53
1:A:384:VAL:CG1	3:C:327:TYR:HE2	2.21	0.53
1:A:699:GLU:OE1	1:A:699:GLU:HA	2.08	0.53
3:C:711:ARG:HB3	3:C:730:ARG:HH22	1.74	0.53
4:D:1157:ASN:O	4:D:1161:ILE:N	2.31	0.53
5:E:294:SER:HB2	5:E:298:SER:H	1.73	0.53
7:G:116:C:H3'	7:G:117:A:H8	1.73	0.53
9:I:374:ILE:O	9:I:377:THR:N	2.42	0.53
10:J:377:LYS:NZ	10:J:381:LYS:HE3	2.23	0.53
13:N:139:CYS:SG	13:N:140:ARG:N	2.82	0.53
17:R:331:ALA:CA	22:X:275:ARG:NH1	2.71	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:180:ALA:O	22:X:184:ARG:HG3	2.09	0.53
22:X:235:LEU:HD22	23:Y:220:GLN:CD	2.28	0.53
23:Y:255:ASP:O	23:Y:258:ILE:HB	2.09	0.53
24:1:1136:TYR:HD2	28:2:522:PHE:CD1	2.26	0.53
25:3:769:LYS:HD3	25:3:769:LYS:N	2.24	0.53
28:2:604:LYS:HE2	29:4:38:PRO:HA	1.91	0.53
1:A:2311:PRO:O	1:A:2315:LEU:N	2.37	0.53
7:G:2:U:O4	11:K:219:PHE:CZ	2.62	0.53
12:L:68:GLU:OE2	12:L:99:HIS:NE2	2.38	0.53
22:X:238:ARG:NH2	23:Y:230:LEU:CD2	2.71	0.53
22:X:810:THR:HA	22:X:813:ARG:NE	2.24	0.53
24:1:1058:ILE:O	24:1:1062:LEU:HG	2.08	0.53
25:3:777:VAL:HG22	25:3:779:PHE:CE1	2.43	0.53
25:3:1083:ASN:HB3	28:2:496:ASN:H	1.74	0.53
25:3:1168:PHE:N	25:3:1168:PHE:CD2	2.77	0.53
28:2:460:PHE:HB3	28:2:464:GLU:HG2	1.91	0.53
1:A:48:LYS:CD	1:A:53:PHE:CZ	2.75	0.53
1:A:697:MET:N	1:A:698:PRO:HD3	2.24	0.53
1:A:1811:ASN:HB3	1:A:1814:THR:OG1	2.09	0.53
3:C:442:LYS:HZ3	3:C:469:ASP:HA	1.73	0.53
3:C:682:LYS:HB3	3:C:797:ALA:HB2	1.90	0.53
3:C:852:ARG:HD2	7:G:-12:C:O5'	2.08	0.53
5:E:239:THR:OG1	5:E:289:LEU:HB3	2.09	0.53
16:Q:748:ARG:O	16:Q:779:VAL:HA	2.08	0.53
17:R:134:ARG:NH1	19:T:382:PRO:O	2.36	0.53
19:T:207:VAL:HG12	19:T:480:ALA:HB1	1.90	0.53
19:T:223:SER:OG	19:T:225:ASP:OD2	2.09	0.53
22:X:219:ARG:NH1	23:Y:292:GLU:OE2	2.41	0.53
24:1:731:LEU:O	24:1:735:ILE:HG12	2.08	0.53
1:A:393:LEU:HA	3:C:379:LYS:HG2	1.91	0.53
1:A:712:HIS:ND1	17:R:250:CYS:CB	2.71	0.53
1:A:1108:ASP:O	1:A:1112:ARG:HG3	2.09	0.53
2:B:99:C:H2'	2:B:100:C:C6	2.43	0.53
3:C:622:GLU:O	3:C:625:GLY:N	2.41	0.53
5:E:65:HIS:CE1	5:E:84:ALA:HA	2.44	0.53
7:G:15:U:H3'	7:G:16:G:H8	1.73	0.53
12:L:73:HIS:HD2	35:9:220:ILE:CG2	2.22	0.53
16:Q:735:VAL:HA	16:Q:779:VAL:O	2.08	0.53
17:R:335:ARG:CB	22:X:272:TYR:HB2	2.39	0.53
22:X:913:ASP:O	22:X:916:GLU:HG3	2.09	0.53
23:Y:126:PHE:C	23:Y:126:PHE:CD2	2.82	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:269:CYS:SG	25:3:327:LEU:HD11	2.48	0.53
25:3:939:PHE:CZ	25:3:942:LYS:HG2	2.44	0.53
1:A:283:VAL:HG13	1:A:284:ARG:H	1.74	0.53
1:A:1436:TRP:O	1:A:1440:THR:HG23	2.08	0.53
2:B:108:G:H3'	2:B:109:G:H8	1.73	0.53
13:N:57:THR:HG21	13:N:88:LEU:HD23	1.91	0.53
24:1:833:LEU:O	24:1:837:THR:OG1	2.23	0.53
25:3:695:GLY:O	25:3:697:ARG:NE	2.30	0.53
1:A:261:LYS:HB2	1:A:330:THR:HB	1.92	0.52
1:A:1767:ASN:O	1:A:1770:GLU:HB3	2.09	0.52
1:A:1941:ARG:HH22	1:A:2012:LEU:C	2.13	0.52
3:C:314:TYR:CD2	3:C:416:LEU:HD22	2.44	0.52
3:C:490:PHE:HB2	3:C:556:ASP:HB3	1.91	0.52
3:C:879:ASP:OD1	3:C:879:ASP:N	2.41	0.52
4:D:2103:ASN:HA	4:D:2123:SER:HA	1.91	0.52
5:E:191:GLN:HE21	5:E:193:THR:HA	1.74	0.52
8:H:172:C:N4	8:H:173:C:H41	2.07	0.52
10:J:292:VAL:HG12	10:J:296:ARG:HE	1.75	0.52
16:Q:599:GLY:HA3	16:Q:608:ILE:H	1.74	0.52
17:R:346:ASP:OD2	22:X:261:GLU:OE1	2.27	0.52
19:T:423:SER:HB3	19:T:474:GLU:OE1	2.09	0.52
23:Y:3:VAL:HG11	23:Y:32:CYS:SG	2.49	0.52
24:1:693:GLY:HA2	24:1:696:ASP:HB2	1.90	0.52
24:1:815:PHE:HA	24:1:819:TRP:CD1	2.43	0.52
25:3:312:LYS:HB2	25:3:330:PHE:HD1	1.72	0.52
25:3:442:LEU:HD13	25:3:770:LEU:HD23	1.91	0.52
28:2:495:ARG:O	28:2:497:SER:N	2.41	0.52
35:9:296:HIS:H	35:9:296:HIS:CD2	2.26	0.52
35:9:360:HIS:ND1	35:9:396:ILE:HD11	2.23	0.52
1:A:31:GLN:HA	1:A:31:GLN:OE1	2.09	0.52
1:A:857:ASN:OD1	1:A:859:SER:N	2.42	0.52
3:C:529:ARG:NH2	3:C:540:GLU:HB2	2.19	0.52
3:C:572:GLU:CD	3:C:573:GLU:H	2.11	0.52
6:F:13:G:H2'	6:F:14:C:C6	2.44	0.52
7:G:8:C:H2'	7:G:9:C:C6	2.45	0.52
13:N:113:PHE:HD1	17:R:198:ARG:NH1	2.02	0.52
17:R:383:ASN:HA	17:R:386:ARG:NH1	2.23	0.52
22:X:235:LEU:HD22	23:Y:220:GLN:CG	2.39	0.52
22:X:954:LEU:HG	22:X:956:ARG:NH1	2.24	0.52
23:Y:74:GLN:CD	23:Y:74:GLN:H	2.13	0.52
24:1:846:ALA:HB1	24:1:850:ILE:HG12	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:803:ASP:OD1	25:3:804:HIS:N	2.41	0.52
1:A:650:ARG:O	1:A:654:ASN:ND2	2.40	0.52
2:B:87:A:H61	2:B:92:U:P	2.32	0.52
4:D:2017:ILE:HA	4:D:2042:GLU:O	2.10	0.52
8:H:56:A:O4'	24:1:1257:PRO:CB	2.57	0.52
17:R:361:LYS:HA	17:R:364:GLN:HG3	1.90	0.52
17:R:369:LEU:HD12	17:R:376:LYS:NZ	2.24	0.52
21:V:642:GLU:O	21:V:645:GLU:HB3	2.10	0.52
22:X:234:TYR:CE1	23:Y:317:GLN:O	2.63	0.52
22:X:476:GLU:HA	22:X:491:THR:HA	1.90	0.52
22:X:558:ALA:O	22:X:562:THR:OG1	2.21	0.52
22:X:879:LEU:HD23	22:X:879:LEU:H	1.73	0.52
22:X:957:SER:OG	22:X:957:SER:O	2.19	0.52
23:Y:203:ARG:HH21	23:Y:203:ARG:HA	1.74	0.52
25:3:120:PHE:HB2	25:3:133:SER:OG	2.09	0.52
25:3:390:ARG:HD3	25:3:393:LYS:HE3	1.91	0.52
25:3:605:LEU:O	25:3:617:ILE:N	2.42	0.52
25:3:1025:ALA:HA	25:3:1087:GLN:O	2.09	0.52
1:A:65:HIS:O	1:A:69:ILE:HG13	2.10	0.52
1:A:1437:ARG:NH1	1:A:1455:TRP:O	2.43	0.52
1:A:1889:LEU:CA	1:A:2014:MET:H	2.16	0.52
3:C:311:SER:OG	3:C:314:TYR:HB2	2.10	0.52
5:E:171:SER:OG	5:E:173:ASP:OD2	2.25	0.52
8:H:56:A:O2'	28:2:478:HIS:CG	2.62	0.52
17:R:280:ILE:O	35:9:225:MET:CG	2.57	0.52
17:R:348:GLU:HG2	22:X:266:GLU:OE1	2.08	0.52
19:T:418:THR:HG21	19:T:467:ALA:HA	1.90	0.52
25:3:229:GLU:HB2	25:3:230:GLU:OE1	2.09	0.52
25:3:700:LYS:HB3	25:3:702:PHE:HZ	1.74	0.52
25:3:872:ILE:HD12	25:3:872:ILE:H	1.75	0.52
35:9:94:SER:O	35:9:101:TYR:HA	2.09	0.52
35:9:413:VAL:HG11	35:9:426:ILE:HD11	1.91	0.52
3:C:480:LYS:HB3	3:C:482:TYR:CE1	2.44	0.52
3:C:693:GLU:HB3	3:C:696:LEU:HD21	1.92	0.52
6:F:31:U:H3'	6:F:32:U:H6	1.74	0.52
7:G:85:G:O6	8:H:44:U:O4	2.28	0.52
10:J:328:GLY:HA2	10:J:331:GLN:HE21	1.74	0.52
14:O:172:GLU:O	14:O:174:LYS:N	2.42	0.52
17:R:320:HIS:NE2	17:R:324:LEU:HD11	2.24	0.52
22:X:743:TYR:O	22:X:747:LEU:HB2	2.08	0.52
24:1:842:ASN:OD1	24:1:879:LEU:HD11	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1:1260:LYS:O	24:1:1264:VAL:HG22	2.10	0.52
25:3:181:MET:HB3	25:3:212:GLU:HA	1.92	0.52
25:3:233:ASN:HD21	25:3:286:ILE:HG22	1.75	0.52
25:3:519:VAL:HB	25:3:524:ILE:HG23	1.92	0.52
1:A:212:PRO:HD2	1:A:225:TYR:OH	2.10	0.52
1:A:712:HIS:CE1	17:R:250:CYS:HG	2.26	0.52
1:A:1189:MET:HG3	1:A:1190:CYS:H	1.75	0.52
1:A:1838:LYS:HA	1:A:1868:MET:SD	2.49	0.52
1:A:2181:GLN:O	1:A:2217:SER:HA	2.09	0.52
3:C:223:ASP:HA	3:C:448:LYS:NZ	2.25	0.52
6:F:22:A:OP1	13:N:116:ASN:OD1	2.27	0.52
8:H:56:A:C3'	28:2:481:THR:HG1	2.22	0.52
10:J:314:TYR:CE1	10:J:336:TRP:HH2	2.28	0.52
15:P:205:LYS:CB	15:P:208:LYS:HB3	2.39	0.52
22:X:171:ARG:HG2	22:X:509:PRO:CB	2.39	0.52
22:X:257:PHE:CE1	22:X:270:LEU:HB2	2.44	0.52
22:X:991:LEU:HB2	22:X:995:GLU:OE1	2.10	0.52
24:1:886:HIS:HD2	24:1:887:LYS:HD3	1.74	0.52
28:2:507:LYS:N	28:2:507:LYS:CD	2.72	0.52
35:9:296:HIS:HE1	35:9:358:LEU:HD21	1.74	0.52
1:A:1895:ALA:HB1	1:A:1943:LEU:HB2	1.92	0.52
3:C:227:LEU:HD21	3:C:229:ILE:HD11	1.91	0.52
3:C:724:TRP:HA	3:C:724:TRP:CE3	2.45	0.52
10:J:289:ASN:HB3	12:L:232:TYR:CE2	2.45	0.52
10:J:376:VAL:HG13	10:J:415:LEU:HB2	1.92	0.52
12:L:175:GLN:O	12:L:178:GLU:N	2.42	0.52
17:R:352:ARG:HG3	17:R:355:ILE:HD12	1.90	0.52
22:X:240:ARG:O	22:X:243:LEU:HB3	2.10	0.52
22:X:760:LEU:O	22:X:764:VAL:HG23	2.10	0.52
24:1:740:GLY:H	24:1:743:LEU:HD22	1.74	0.52
24:1:1007:HIS:HB3	24:1:1049:TYR:OH	2.10	0.52
25:3:550:ASN:HD22	25:3:553:GLN:HB2	1.75	0.52
25:3:991:SER:O	25:3:991:SER:OG	2.28	0.52
30:7:58:CYS:HB3	30:7:62:GLY:N	2.25	0.52
1:A:362:ARG:HA	1:A:362:ARG:HH11	1.74	0.52
5:E:117:TYR:HB3	5:E:118:ASN:O	2.09	0.52
6:F:87:C:H2'	6:F:88:G:O4'	2.08	0.52
16:Q:827:THR:HA	16:Q:1136:GLN:HA	1.92	0.52
17:R:355:ILE:HG12	22:X:256:LEU:CD1	2.39	0.52
19:T:371:HIS:CE1	19:T:396:LYS:HG3	2.45	0.52
22:X:164:TRP:NE1	22:X:542:PHE:CB	2.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1:1210:HIS:ND1	28:2:584:LEU:HA	2.25	0.52
25:3:632:ALA:O	25:3:633:LEU:HD23	2.09	0.52
1:A:417:ARG:HB3	1:A:417:ARG:NH1	2.24	0.52
1:A:1957:ASP:OD1	1:A:1958:LYS:N	2.43	0.52
3:C:125:ASN:OD1	3:C:127:GLU:N	2.39	0.52
7:G:116:C:C5	17:R:370:SER:HB3	2.45	0.52
8:H:56:A:C2	28:2:478:HIS:CE1	2.98	0.52
10:J:357:LYS:O	10:J:359:VAL:N	2.43	0.52
12:L:178:GLU:O	12:L:181:ARG:HG3	2.09	0.52
13:N:44:GLU:HA	13:N:47:TRP:CE2	2.44	0.52
15:P:183:LYS:O	15:P:183:LYS:HG2	2.09	0.52
16:Q:1136:GLN:O	16:Q:1157:LEU:N	2.42	0.52
17:R:331:ALA:HA	22:X:275:ARG:CZ	2.40	0.52
17:R:369:LEU:HG	17:R:376:LYS:HG2	1.91	0.52
22:X:973:ASN:OD1	22:X:973:ASN:N	2.42	0.52
24:1:1257:PRO:HD3	28:2:482:ALA:HB2	1.91	0.52
25:3:91:GLU:HG2	25:3:92:TYR:N	2.25	0.52
25:3:92:TYR:OH	25:3:97:ASN:OD1	2.18	0.52
25:3:515:ALA:HB2	25:3:528:ARG:CZ	2.40	0.52
28:2:506:PHE:HB3	28:2:508:ARG:HG3	1.92	0.52
35:9:320:ILE:HD11	35:9:337:GLY:O	2.10	0.52
1:A:209:ASP:HB2	1:A:212:PRO:HA	1.92	0.52
2:B:95:G:N3	2:B:95:G:C2'	2.73	0.52
3:C:742:PRO:HG2	3:C:785:ARG:HA	1.92	0.52
5:E:191:GLN:NE2	5:E:193:THR:HA	2.24	0.52
13:N:43:VAL:CG2	13:N:47:TRP:HZ2	2.23	0.52
17:R:160:ALA:O	17:R:166:ARG:NH1	2.43	0.52
22:X:263:SER:HA	22:X:267:ARG:NH2	2.22	0.52
22:X:504:GLU:O	22:X:507:SER:OG	2.21	0.52
22:X:603:HIS:HA	22:X:668:ARG:CZ	2.40	0.52
24:1:648:LEU:HA	24:1:651:VAL:HG22	1.92	0.52
24:1:1080:THR:HA	24:1:1083:TYR:HD2	1.74	0.52
25:3:695:GLY:HA3	25:3:717:SER:OG	2.10	0.52
35:9:282:VAL:HG22	35:9:433:VAL:HG13	1.90	0.52
1:A:273:ILE:HD11	1:A:314:ILE:HG21	1.92	0.51
1:A:1590:VAL:HG12	1:A:1664:ILE:HG13	1.92	0.51
3:C:673:LYS:HZ2	3:C:688:ILE:HG21	1.74	0.51
7:G:106:C:OP2	22:X:998:ARG:NH2	2.43	0.51
21:V:555:LEU:HD22	21:V:560:LEU:HB2	1.91	0.51
22:X:164:TRP:HB2	22:X:538:ASP:HB3	1.92	0.51
22:X:164:TRP:HE3	22:X:165:GLU:HA	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:242:LYS:HD2	22:X:246:LEU:HD22	1.92	0.51
22:X:242:LYS:CD	23:Y:227:VAL:HG21	2.36	0.51
22:X:257:PHE:CZ	22:X:267:ARG:HA	2.45	0.51
22:X:257:PHE:HZ	22:X:267:ARG:HA	1.74	0.51
22:X:527:LEU:N	22:X:754:GLU:OE2	2.38	0.51
22:X:714:CYS:SG	22:X:722:ARG:NH1	2.84	0.51
24:1:661:ARG:HG2	24:1:692:HIS:NE2	2.25	0.51
24:1:1289:ASN:HB3	24:1:1295:TYR:H	1.75	0.51
25:3:206:GLN:NE2	25:3:232:GLY:H	2.07	0.51
35:9:370:ASN:HB2	35:9:375:SER:O	2.10	0.51
1:A:758:ARG:HH21	1:A:775:ASN:HD22	1.58	0.51
1:A:1211:ASP:C	1:A:1213:VAL:H	2.14	0.51
1:A:1580:HIS:HD2	1:A:1583:GLN:NE2	2.08	0.51
1:A:1814:THR:OG1	1:A:1816:GLN:HB2	2.11	0.51
2:B:65:G:H2'	2:B:66:A:H8	1.75	0.51
7:G:85:G:H2'	7:G:86:A:N9	2.25	0.51
10:J:431:ARG:HH11	10:J:434:VAL:HG11	1.76	0.51
17:R:348:GLU:CD	22:X:263:SER:N	2.64	0.51
21:V:539:LEU:HB3	21:V:543:LYS:HB2	1.91	0.51
22:X:171:ARG:HG2	22:X:509:PRO:HB3	1.91	0.51
22:X:182:ALA:CA	22:X:924:ARG:NH1	2.73	0.51
22:X:430:THR:O	22:X:433:PRO:HD2	2.10	0.51
23:Y:21:ARG:HH12	23:Y:83:VAL:H	1.58	0.51
25:3:317:THR:HB	25:3:322:VAL:HA	1.92	0.51
35:9:95:LYS:HA	35:9:100:LYS:O	2.11	0.51
1:A:32:GLU:HG2	1:A:36:LYS:HE2	1.93	0.51
1:A:599:MET:O	1:A:603:ARG:HG3	2.10	0.51
1:A:1209:HIS:CG	1:A:1210:LYS:H	2.28	0.51
3:C:750:LEU:O	3:C:754:VAL:HG23	2.10	0.51
5:E:166:LEU:HD12	5:E:178:LEU:HD11	1.91	0.51
5:E:190:PHE:HE1	5:E:225:ASN:HA	1.75	0.51
6:F:35:A:C8	7:G:12:G:C6	2.97	0.51
10:J:286:GLU:HG2	10:J:298:ILE:HD12	1.91	0.51
10:J:431:ARG:HD2	10:J:434:VAL:HG11	1.93	0.51
17:R:243:GLN:HA	17:R:243:GLN:OE1	2.11	0.51
17:R:357:HIS:HD2	23:Y:276:LYS:HZ1	1.59	0.51
21:V:628:ILE:O	21:V:632:THR:OG1	2.27	0.51
22:X:411:ALA:HA	22:X:414:ASN:HD22	1.75	0.51
22:X:790:LEU:HA	22:X:793:LEU:HD12	1.92	0.51
23:Y:23:ARG:O	23:Y:26:LEU:HG	2.09	0.51
25:3:147:ASP:OD1	25:3:150:ALA:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:606:ALA:HA	25:3:616:ILE:HA	1.92	0.51
25:3:1115:GLU:HG3	28:2:708:TRP:HZ2	1.72	0.51
1:A:984:MET:O	1:A:988:ILE:HG13	2.11	0.51
1:A:1179:SER:O	1:A:1201:ARG:NH1	2.29	0.51
1:A:1401:ARG:HB2	1:A:1401:ARG:NH1	2.25	0.51
1:A:1406:GLU:N	1:A:1406:GLU:OE1	2.43	0.51
1:A:1778:TRP:CH2	1:A:1852:LEU:HD21	2.40	0.51
4:D:1523:LEU:HA	4:D:1700:GLY:O	2.10	0.51
6:F:2:U:H5'	13:N:98:GLU:HG2	1.92	0.51
6:F:36:A:H5"	6:F:37:C:OP2	2.10	0.51
7:G:6:A:C6	7:G:7:G:C5	2.98	0.51
8:H:41:U:H2'	8:H:42:G:H8	1.75	0.51
8:H:56:A:O4'	24:1:1257:PRO:HB2	2.10	0.51
11:K:228:HIS:HB2	11:K:231:GLN:NE2	2.25	0.51
13:N:37:HIS:HB3	13:N:41:ARG:CB	2.23	0.51
16:Q:1180:ILE:O	16:Q:1304:PHE:HA	2.10	0.51
17:R:352:ARG:HD2	22:X:266:GLU:HB3	1.93	0.51
19:T:396:LYS:HB2	19:T:398:TRP:HE1	1.76	0.51
22:X:168:GLU:O	22:X:172:LEU:HG	2.11	0.51
22:X:194:ARG:CD	22:X:194:ARG:H	2.23	0.51
24:1:687:VAL:O	24:1:690:ILE:HG13	2.11	0.51
24:1:1274:ILE:O	25:3:113:ARG:NH1	2.44	0.51
1:A:79:ARG:HD2	1:A:82:ARG:HE	1.76	0.51
1:A:154:GLU:OE2	1:A:158:ARG:NE	2.32	0.51
1:A:1645:LEU:HD13	1:A:1718:TRP:CH2	2.46	0.51
9:I:139:ALA:HA	16:Q:938:TYR:HA	1.92	0.51
20:U:20:GLN:HG2	20:U:21:ARG:H	1.75	0.51
22:X:611:ILE:HG12	22:X:688:TYR:HB2	1.92	0.51
24:1:906:GLU:N	24:1:906:GLU:OE1	2.44	0.51
25:3:356:HIS:CD2	25:3:403:SER:HG	2.27	0.51
25:3:607:VAL:N	25:3:615:ARG:O	2.29	0.51
3:C:396:LEU:HG	3:C:401:ILE:O	2.11	0.51
3:C:737:PRO:HD3	3:C:743:ASN:ND2	2.26	0.51
10:J:336:TRP:CD1	10:J:341:PRO:HG3	2.45	0.51
17:R:367:ARG:O	17:R:371:ARG:HG3	2.10	0.51
22:X:272:TYR:O	22:X:276:VAL:HB	2.11	0.51
22:X:635:LEU:O	22:X:638:LYS:HB2	2.11	0.51
24:1:641:ILE:N	24:1:642:PRO:HD2	2.26	0.51
24:1:1302:TYR:CD1	25:3:915:LEU:HD13	2.44	0.51
25:3:1114:SER:HB2	25:3:1215:TYR:CE1	2.46	0.51
30:7:71:TYR:CD2	30:7:81:ASP:HB2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:348:PRO:HB3	1:A:394:TYR:CZ	2.45	0.51
1:A:474:ARG:HH21	1:A:474:ARG:HB2	1.76	0.51
1:A:1268:ILE:O	1:A:1272:THR:OG1	2.25	0.51
1:A:1284:LEU:O	1:A:1287:LEU:N	2.43	0.51
8:H:151:C:H2'	8:H:152:G:H8	1.76	0.51
8:H:181:G:H2'	8:H:182:U:C6	2.46	0.51
12:L:30:GLN:HB3	12:L:33:ARG:HD2	1.92	0.51
22:X:911:ALA:O	22:X:914:VAL:HG22	2.10	0.51
24:1:1291:ASP:OD1	24:1:1292:LYS:N	2.43	0.51
25:3:413:ALA:HB1	25:3:415:LEU:HD13	1.92	0.51
25:3:644:GLU:HG2	25:3:645:MET:N	2.25	0.51
25:3:663:LEU:HD23	25:3:679:LEU:HB3	1.92	0.51
29:4:117:TYR:O	29:4:121:SER:CB	2.58	0.51
5:E:122:SER:O	5:E:138:SER:OG	2.29	0.51
10:J:377:LYS:HA	10:J:380:ILE:HB	1.92	0.51
19:T:213:GLU:HG2	19:T:214:PRO:N	2.26	0.51
19:T:429:SER:O	19:T:429:SER:OG	2.29	0.51
22:X:242:LYS:HG3	23:Y:227:VAL:HG23	1.88	0.51
24:1:545:GLU:HG2	24:1:548:GLU:HG3	1.91	0.51
24:1:547:GLN:HA	24:1:550:HIS:HB3	1.92	0.51
25:3:43:PRO:HB3	25:3:50:VAL:HG22	1.93	0.51
25:3:628:LEU:HD21	25:3:681:PRO:HA	1.92	0.51
25:3:819:MET:HA	25:3:822:GLU:CD	2.31	0.51
25:3:819:MET:HA	25:3:822:GLU:OE1	2.10	0.51
25:3:929:LYS:HG3	25:3:931:VAL:HG22	1.93	0.51
1:A:83:HIS:CE1	7:G:16:G:C6	2.99	0.51
1:A:731:LEU:N	35:9:241:TYR:CD1	2.79	0.51
1:A:1661:TRP:CE3	1:A:1700:GLY:HA3	2.45	0.51
3:C:510:LEU:HD12	3:C:576:ILE:HG22	1.92	0.51
16:Q:128:LYS:O	16:Q:132:ALA:HB2	2.10	0.51
16:Q:1061:MET:O	16:Q:1093:MET:HA	2.11	0.51
21:V:620:ASN:HB3	21:V:623:ASN:ND2	2.25	0.51
22:X:764:VAL:HG21	22:X:792:ALA:HB1	1.92	0.51
22:X:818:LEU:HB3	22:X:820:VAL:HG13	1.92	0.51
24:1:663:THR:HA	24:1:666:LYS:HE3	1.93	0.51
24:1:731:LEU:HD23	24:1:746:PHE:CD1	2.46	0.51
24:1:1103:VAL:HG13	24:1:1108:ASN:ND2	2.24	0.51
25:3:451:GLU:HA	25:3:761:THR:HG22	1.92	0.51
35:9:292:ASN:HB2	35:9:402:GLY:H	1.75	0.51
1:A:1579:ALA:CB	11:K:226:TYR:CE2	2.94	0.51
1:A:2267:PHE:CB	4:D:1263:PRO:CA	2.88	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:129:ILE:HG22	3:C:199:LEU:CB	2.39	0.51
3:C:134:LEU:N	3:C:203:MET:O	2.42	0.51
3:C:187:THR:HA	3:C:200:PHE:O	2.11	0.51
3:C:285:VAL:O	3:C:289:ILE:HG13	2.10	0.51
3:C:440:SER:O	3:C:442:LYS:N	2.44	0.51
3:C:694:LYS:O	3:C:698:GLU:HG2	2.11	0.51
5:E:328:GLY:N	5:E:348:ASP:HB3	2.26	0.51
6:F:73:A:OP1	6:F:75:G:O2'	2.28	0.51
7:G:12:G:H3'	7:G:13:C:C6	2.46	0.51
15:P:187:ARG:HG2	15:P:188:TRP:O	2.11	0.51
17:R:328:ALA:CB	22:X:279:LEU:HD13	2.41	0.51
19:T:386:THR:HG22	19:T:398:TRP:O	2.11	0.51
23:Y:306:ILE:HD12	23:Y:311:ILE:HD11	1.93	0.51
24:1:560:LEU:HD23	24:1:603:ALA:HB3	1.92	0.51
25:3:42:ARG:HB2	25:3:53:LEU:HD11	1.93	0.51
25:3:233:ASN:ND2	25:3:233:ASN:N	2.59	0.51
25:3:424:TYR:CD1	25:3:437:VAL:HG22	2.46	0.51
25:3:932:ASN:O	25:3:933:ASN:ND2	2.44	0.51
25:3:940:LEU:HB3	25:3:941:HIS:ND1	2.26	0.51
35:9:405:ASP:OD1	35:9:405:ASP:N	2.38	0.51
1:A:25:MET:SD	1:A:26:SER:N	2.85	0.50
1:A:136:ILE:HG22	1:A:138:PRO:HD2	1.93	0.50
1:A:762:ARG:NH1	15:P:226:LYS:HZ1	2.08	0.50
1:A:2081:ALA:C	4:D:1010:SER:CB	2.79	0.50
2:B:66:A:H2'	2:B:67:A:H8	1.73	0.50
3:C:369:PHE:CE1	3:C:373:ILE:HD12	2.46	0.50
3:C:854:ARG:NH1	3:C:876:PRO:HG2	2.26	0.50
4:D:863:THR:H	25:3:599:GLU:CA	2.01	0.50
6:F:31:U:H3'	6:F:32:U:C6	2.46	0.50
13:N:119:CYS:HB2	13:N:134:CYS:HB3	1.93	0.50
15:P:73:GLU:HG2	15:P:76:ARG:HH21	1.76	0.50
22:X:386:ALA:O	22:X:390:GLU:HG3	2.11	0.50
23:Y:44:ASN:HD22	23:Y:52:GLN:CB	2.24	0.50
24:1:573:LYS:H	24:1:573:LYS:HD2	1.76	0.50
24:1:618:ASP:HA	24:1:660:ALA:HB2	1.92	0.50
24:1:831:ARG:O	24:1:834:VAL:HB	2.10	0.50
24:1:908:SER:OG	24:1:912:ASN:OD1	2.28	0.50
25:3:720:TRP:CE3	25:3:731:LEU:HG	2.45	0.50
30:7:39:PRO:HB2	30:7:70:TYR:CD1	2.45	0.50
1:A:451:LEU:O	1:A:455:VAL:HG23	2.11	0.50
1:A:1942:ALA:HB2	1:A:1983:LEU:HD23	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:100:C:H2'	2:B:101:U:C6	2.46	0.50
3:C:559:ILE:HD12	3:C:560:VAL:O	2.10	0.50
4:D:863:THR:CB	25:3:600:GLN:N	2.74	0.50
5:E:218:LYS:HG3	5:E:230:THR:HG22	1.92	0.50
5:E:248:SER:OG	5:E:265:ARG:NH2	2.44	0.50
10:J:339:TRP:CE3	17:R:116:TYR:CD2	2.99	0.50
10:J:386:GLU:O	10:J:391:TYR:N	2.40	0.50
16:Q:893:SER:O	16:Q:897:ARG:CB	2.59	0.50
19:T:203:HIS:HE1	19:T:229:LYS:HG3	1.73	0.50
22:X:397:ARG:HA	22:X:402:PHE:CG	2.47	0.50
22:X:454:ARG:HH12	22:X:679:THR:CB	2.25	0.50
23:Y:18:THR:HB	23:Y:166:PHE:CE2	2.46	0.50
23:Y:117:ASP:N	23:Y:117:ASP:OD1	2.44	0.50
25:3:614:VAL:HG23	25:3:633:LEU:HD11	1.93	0.50
25:3:677:THR:HA	25:3:685:ASP:O	2.12	0.50
28:2:498:VAL:HG11	28:2:590:LEU:HD21	1.92	0.50
1:A:948:PRO:O	1:A:952:VAL:HG23	2.12	0.50
1:A:1858:PRO:C	1:A:1859:LYS:HD2	2.31	0.50
3:C:692:LEU:HB2	3:C:786:ASN:HD22	1.77	0.50
3:C:918:ILE:HG22	3:C:920:PRO:HA	1.93	0.50
5:E:118:ASN:ND2	5:E:121:GLY:H	2.09	0.50
6:F:81:C:H4'	6:F:82:A:H5'	1.92	0.50
7:G:104:C:O2'	7:G:105:C:OP2	2.26	0.50
10:J:313:TRP:HB3	10:J:336:TRP:CZ3	2.46	0.50
17:R:237:MET:HE3	17:R:241:GLU:HB3	1.94	0.50
22:X:472:LYS:HB3	22:X:475:ASN:ND2	2.26	0.50
23:Y:27:ASN:OD1	23:Y:66:ILE:N	2.28	0.50
23:Y:247:LEU:HB2	23:Y:282:CYS:C	2.32	0.50
24:1:699:GLN:NE2	24:1:738:HIS:HE1	2.08	0.50
24:1:712:LEU:O	24:1:716:ALA:CB	2.58	0.50
1:A:146:SER:HA	1:A:149:ILE:HD12	1.94	0.50
1:A:266:SER:OG	1:A:267:LYS:N	2.42	0.50
1:A:298:ASP:CG	1:A:300:ASN:HD22	2.15	0.50
1:A:516:LEU:HD11	1:A:538:SER:HB2	1.92	0.50
1:A:570:ASP:HB3	1:A:573:GLN:HB2	1.93	0.50
1:A:1275:ARG:C	1:A:1276:GLU:HG3	2.32	0.50
1:A:1864:THR:HG22	1:A:1890:GLN:OE1	2.10	0.50
3:C:243:ILE:HD11	3:C:288:LEU:HB3	1.93	0.50
3:C:283:ASP:OD2	3:C:284:GLU:N	2.45	0.50
3:C:508:LYS:HB2	3:C:524:ILE:HD13	1.93	0.50
3:C:810:PRO:HA	3:C:813:ARG:HG2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:66:GLU:N	5:E:87:ASP:OD2	2.44	0.50
5:E:203:ASP:N	5:E:203:ASP:OD1	2.43	0.50
5:E:346:SER:HB3	5:E:348:ASP:OD1	2.12	0.50
8:H:133:U:H2'	8:H:134:C:C6	2.46	0.50
10:J:314:TYR:CD1	10:J:336:TRP:HH2	2.30	0.50
15:P:216:ARG:HH12	35:9:257:PRO:HG3	1.76	0.50
16:Q:1060:LEU:HA	16:Q:1092:ILE:O	2.12	0.50
17:R:331:ALA:CA	22:X:275:ARG:NH2	2.74	0.50
24:1:824:ALA:HB3	24:1:864:TYR:HD1	1.76	0.50
25:3:185:LEU:HD13	25:3:206:GLN:OE1	2.11	0.50
25:3:259:LYS:HE2	25:3:266:ASP:HB3	1.93	0.50
25:3:642:ILE:H	25:3:703:ARG:NE	2.09	0.50
25:3:757:ILE:HA	25:3:762:LEU:HA	1.94	0.50
25:3:1011:TRP:HB2	25:3:1025:ALA:O	2.11	0.50
35:9:312:LYS:NZ	35:9:436:ASP:OD2	2.37	0.50
1:A:196:ASP:OD2	1:A:199:GLU:N	2.29	0.50
1:A:378:PHE:CG	3:C:342:ARG:HD2	2.47	0.50
1:A:1889:LEU:CD1	1:A:2014:MET:C	2.79	0.50
2:B:98:G:H2'	2:B:99:C:C6	2.46	0.50
3:C:377:LEU:HA	3:C:380:ILE:HB	1.94	0.50
5:E:167:VAL:O	5:E:178:LEU:HD12	2.12	0.50
6:F:58:G:O2'	6:F:59:G:H5'	2.11	0.50
7:G:85:G:H2'	7:G:86:A:C4	2.47	0.50
8:H:152:G:H2'	8:H:153:A:C8	2.47	0.50
10:J:374:PRO:HB3	10:J:405:PHE:HZ	1.76	0.50
19:T:190:TRP:CG	19:T:497:GLU:HG3	2.46	0.50
19:T:428:VAL:HG22	19:T:438:LEU:HD22	1.92	0.50
22:X:745:HIS:HB2	22:X:746:GLU:OE2	2.11	0.50
23:Y:64:GLU:HB3	23:Y:76:SER:HB2	1.93	0.50
24:1:652:CYS:HB2	24:1:692:HIS:CE1	2.35	0.50
24:1:898:TYR:CZ	24:1:902:GLU:HG2	2.47	0.50
24:1:972:GLY:O	24:1:976:VAL:HG12	2.10	0.50
24:1:1003:VAL:HG22	24:1:1004:ILE:N	2.27	0.50
25:3:805:ASN:CB	31:5:58:ASN:CB	2.90	0.50
1:A:1091:TYR:O	1:A:1092:ILE:C	2.48	0.50
1:A:1493:THR:O	1:A:1748:ARG:NE	2.45	0.50
1:A:1628:ASP:OD2	1:A:1663:ASP:HA	2.12	0.50
1:A:2308:VAL:C	4:D:1125:SER:CA	2.79	0.50
3:C:531:TRP:CZ3	3:C:540:GLU:HB3	2.47	0.50
5:E:219:VAL:O	5:E:228:THR:N	2.42	0.50
12:L:222:LEU:H	12:L:222:LEU:HD22	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Y:126:PHE:C	23:Y:126:PHE:HD2	2.14	0.50
25:3:2:PHE:C	25:3:3:LEU:HD23	2.32	0.50
25:3:458:ALA:HB1	25:3:460:TRP:HZ3	1.75	0.50
25:3:700:LYS:O	25:3:714:ALA:HA	2.11	0.50
35:9:350:PHE:CE1	35:9:376:ASN:HB3	2.46	0.50
1:A:386:PRO:HG3	3:C:372:PHE:HE1	1.75	0.50
3:C:135:CYS:HA	3:C:205:THR:HG1	1.77	0.50
3:C:203:MET:HG3	3:C:221:ILE:HD11	1.92	0.50
5:E:268:ALA:O	5:E:270:LYS:N	2.44	0.50
10:J:411:MET:CE	10:J:415:LEU:HB3	2.41	0.50
21:V:617:PRO:HB3	21:V:623:ASN:HD22	1.77	0.50
23:Y:305:LEU:HD21	23:Y:308:ASP:HA	1.93	0.50
24:1:830:TYR:O	24:1:834:VAL:HG23	2.11	0.50
25:3:713:LEU:HD13	25:3:714:ALA:N	2.27	0.50
25:3:1040:ASP:OD2	25:3:1042:ASP:N	2.45	0.50
1:A:1946:ASN:HD22	1:A:1949:ARG:HB2	1.76	0.50
3:C:300:LEU:HA	3:C:306:ASN:ND2	2.27	0.50
5:E:236:ASP:HB2	5:E:256:ASP:HB3	1.94	0.50
6:F:7:G:C6	6:F:15:A:C6	3.00	0.50
6:F:41:A:C2	7:G:7:G:N1	2.80	0.50
16:Q:1269:ASP:O	16:Q:1300:GLY:N	2.45	0.50
17:R:408:ASP:OD2	17:R:410:ARG:NH1	2.44	0.50
22:X:612:LEU:HD23	22:X:686:ILE:HG13	1.94	0.50
22:X:752:VAL:O	22:X:757:ARG:NH2	2.44	0.50
22:X:1005:SER:HA	22:X:1008:LEU:HG	1.94	0.50
25:3:275:ARG:HB3	25:3:275:ARG:HH21	1.75	0.50
25:3:665:LEU:HD21	25:3:667:ILE:HD11	1.94	0.50
25:3:776:GLN:HG2	25:3:777:VAL:N	2.27	0.50
35:9:323:ARG:HE	35:9:325:ILE:HD11	1.76	0.50
1:A:246:LEU:HD22	1:A:408:PRO:HG2	1.93	0.50
3:C:474:LEU:O	3:C:566:THR:HA	2.12	0.50
3:C:823:ALA:O	3:C:824:THR:OG1	2.26	0.50
5:E:202:ASN:HD21	5:E:204:THR:HG1	1.59	0.50
6:F:88:G:C2	8:H:11:G:C2	3.00	0.50
10:J:382:TYR:O	10:J:386:GLU:HG2	2.11	0.50
16:Q:817:GLY:O	16:Q:1090:ARG:HA	2.12	0.50
17:R:351:GLU:O	17:R:355:ILE:HG13	2.11	0.50
19:T:399:LYS:HB2	19:T:406:ILE:HD11	1.94	0.50
20:U:26:VAL:HG12	21:V:517:LEU:CD2	2.38	0.50
22:X:768:LYS:HZ2	22:X:775:LEU:HG	1.76	0.50
25:3:22:PHE:N	25:3:29:GLU:OE1	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:379:LEU:HD12	25:3:380:GLU:H	1.76	0.50
35:9:281:TYR:H	35:9:435:VAL:HG22	1.77	0.50
1:A:216:SER:O	1:A:216:SER:OG	2.24	0.49
1:A:303:ILE:HG12	3:C:932:GLU:OE2	2.11	0.49
1:A:514:ASN:ND2	6:F:36:A:O2'	2.39	0.49
1:A:1868:MET:O	1:A:1871:PRO:HD2	2.11	0.49
1:A:1874:VAL:O	1:A:1877:LEU:HG	2.12	0.49
3:C:137:HIS:HA	3:C:238:ASN:HB3	1.94	0.49
3:C:301:SER:H	3:C:306:ASN:ND2	2.04	0.49
8:H:103:U:H4'	8:H:104:U:H5'	1.92	0.49
12:L:77:LEU:CD2	35:9:221:LEU:HD22	2.39	0.49
22:X:592:LEU:HD12	22:X:593:GLU:N	2.27	0.49
25:3:706:MET:HG2	25:3:770:LEU:HD12	1.94	0.49
25:3:823:MET:SD	25:3:838:MET:HG3	2.52	0.49
25:3:1187:PRO:O	25:3:1191:LYS:HG3	2.12	0.49
28:2:534:GLN:O	28:2:538:GLU:HG3	2.11	0.49
1:A:137:GLU:O	1:A:141:ILE:HG13	2.12	0.49
1:A:542:ASN:O	1:A:546:LEU:HB2	2.11	0.49
1:A:1218:ASN:OD1	1:A:1220:VAL:HG22	2.12	0.49
1:A:1817:LEU:HD22	1:A:1917:PHE:HB2	1.93	0.49
3:C:709:TRP:HZ3	3:C:717:PHE:HB2	1.76	0.49
4:D:538:ILE:O	4:D:585:ILE:HA	2.12	0.49
8:H:165:A:O2'	8:H:166:G:O4'	2.29	0.49
12:L:222:LEU:O	17:R:86:LEU:CD2	2.60	0.49
14:O:259:ARG:O	16:Q:498:GLU:CB	2.60	0.49
22:X:162:ASP:O	22:X:165:GLU:N	2.45	0.49
22:X:284:ARG:HD3	23:Y:223:LEU:CD2	2.43	0.49
22:X:651:LEU:HD13	22:X:655:MET:HB2	1.94	0.49
24:1:522:LYS:HD3	24:1:526:PHE:CE2	2.48	0.49
35:9:102:HIS:HA	35:9:110:PHE:H	1.77	0.49
35:9:323:ARG:HD2	35:9:324:SER:H	1.77	0.49
1:A:122:ILE:HD13	1:A:483:GLN:HG2	1.94	0.49
1:A:389:LYS:HA	3:C:379:LYS:NZ	2.27	0.49
1:A:727:LYS:CG	35:9:244:GLY:HA3	2.42	0.49
1:A:845:ARG:HH12	1:A:1440:THR:HG22	1.77	0.49
2:B:21:A:H2'	2:B:21:A:N3	2.26	0.49
3:C:180:GLY:HA3	45:C:1500:GTP:O3G	2.12	0.49
5:E:118:ASN:HD21	5:E:122:SER:H	1.61	0.49
7:G:97:A:H4'	24:1:1110:VAL:HG11	1.95	0.49
10:J:313:TRP:HB3	10:J:336:TRP:CE3	2.47	0.49
17:R:348:GLU:CG	22:X:263:SER:H	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:T:221:THR:OG1	19:T:231:TRP:NE1	2.36	0.49
19:T:422:ASN:OD1	19:T:474:GLU:HB3	2.11	0.49
22:X:443:ASN:O	22:X:444:LYS:HB2	2.12	0.49
22:X:736:ARG:HB3	22:X:738:TYR:CE1	2.48	0.49
1:A:1089:CYS:SG	1:A:1096:HIS:CD2	3.05	0.49
1:A:1850:ARG:HG2	1:A:1879:PHE:HE2	1.77	0.49
1:A:1902:PHE:CE2	1:A:1967:ILE:HD12	2.47	0.49
1:A:1902:PHE:HE2	1:A:1967:ILE:HD12	1.77	0.49
3:C:302:PRO:HG2	3:C:320:LEU:HD11	1.94	0.49
3:C:670:SER:OG	3:C:819:ALA:O	2.31	0.49
3:C:813:ARG:NH2	35:9:106:LEU:HA	2.24	0.49
6:F:22:A:H5"	13:N:115:THR:HB	1.93	0.49
7:G:7:G:O2'	7:G:8:C:H5'	2.13	0.49
17:R:243:GLN:OE1	17:R:246:LYS:HD2	2.11	0.49
17:R:376:LYS:HA	17:R:379:LYS:HB2	1.94	0.49
21:V:490:CYS:SG	21:V:524:SER:HB3	2.51	0.49
25:3:238:VAL:HB	25:3:247:GLY:O	2.12	0.49
25:3:316:GLU:O	25:3:323:THR:OG1	2.29	0.49
25:3:616:ILE:O	25:3:628:LEU:N	2.45	0.49
28:2:510:TYR:C	28:2:510:TYR:CD2	2.85	0.49
1:A:1382:SER:HB2	1:A:1415:GLY:HA2	1.93	0.49
1:A:1817:LEU:HD23	1:A:1917:PHE:H	1.77	0.49
3:C:850:LEU:O	3:C:855:GLY:N	2.45	0.49
5:E:126:SER:OG	5:E:136:TRP:NE1	2.46	0.49
7:G:117:A:H2'	23:Y:245:CYS:HG	1.56	0.49
17:R:355:ILE:HG13	22:X:256:LEU:HD13	1.94	0.49
19:T:319:THR:O	19:T:319:THR:OG1	2.30	0.49
22:X:478:GLY:HA3	22:X:487:THR:HG22	1.94	0.49
23:Y:13:VAL:HB	23:Y:131:GLU:HG3	1.95	0.49
24:1:563:LEU:HB2	24:1:567:VAL:HG13	1.95	0.49
25:3:18:ILE:HD12	25:3:67:ALA:HB2	1.95	0.49
25:3:146:ARG:HB3	25:3:150:ALA:HA	1.93	0.49
25:3:234:PHE:C	25:3:235:LEU:HD12	2.33	0.49
25:3:1207:LYS:O	25:3:1211:ILE:HG12	2.12	0.49
28:2:498:VAL:HG22	28:2:588:GLY:HA2	1.95	0.49
35:9:323:ARG:O	35:9:331:GLN:N	2.36	0.49
1:A:347:LEU:HD22	1:A:351:TYR:CZ	2.48	0.49
1:A:384:VAL:HA	3:C:331:PHE:HD2	1.78	0.49
1:A:671:THR:O	1:A:676:ARG:NH1	2.46	0.49
1:A:723:ASN:OD1	35:9:252:SER:HA	2.13	0.49
2:B:14:U:H2'	2:B:15:C:H6	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:92:U:H3'	2:B:92:U:H6	1.77	0.49
3:C:807:GLN:NE2	35:9:145:LEU:O	2.46	0.49
7:G:116:C:C2	17:R:374:PRO:HA	2.48	0.49
8:H:7:U:H2'	8:H:8:C:C6	2.47	0.49
8:H:33:G:C6	8:H:34:U:C4	3.01	0.49
10:J:366:TYR:O	10:J:370:VAL:HG23	2.13	0.49
12:L:227:THR:OG1	17:R:84:ASN:CB	2.56	0.49
17:R:351:GLU:OE2	22:X:256:LEU:O	2.30	0.49
22:X:234:TYR:CG	23:Y:317:GLN:HB3	2.47	0.49
22:X:416:GLN:NE2	22:X:546:LEU:O	2.28	0.49
22:X:842:THR:HB	22:X:882:LEU:HD12	1.94	0.49
23:Y:74:GLN:OE1	23:Y:74:GLN:N	2.45	0.49
24:1:569:PRO:HD2	24:1:570:TYR:CE2	2.48	0.49
24:1:663:THR:HA	24:1:666:LYS:CE	2.43	0.49
25:3:209:THR:OG1	25:3:210:PHE:N	2.45	0.49
25:3:463:ARG:HD3	25:3:468:ASP:HB3	1.94	0.49
25:3:642:ILE:H	25:3:703:ARG:HH21	1.61	0.49
25:3:740:GLU:HB2	25:3:758:SER:HA	1.95	0.49
28:2:462:VAL:O	28:2:466:LYS:HG3	2.12	0.49
1:A:1635:TYR:O	1:A:1636:LYS:HG3	2.12	0.49
2:B:98:G:H2'	2:B:99:C:H6	1.77	0.49
3:C:528:GLY:HA3	3:C:553:GLU:HG2	1.95	0.49
3:C:530:LEU:O	3:C:540:GLU:HA	2.12	0.49
5:E:137:ASP:O	5:E:141:GLY:N	2.26	0.49
7:G:100:C:C5	24:1:1069:HIS:CD2	2.99	0.49
8:H:182:U:H2'	8:H:183:G:C8	2.48	0.49
16:Q:341:ALA:O	16:Q:345:PHE:N	2.36	0.49
21:V:620:ASN:HD22	21:V:623:ASN:H	1.60	0.49
22:X:655:MET:O	22:X:658:ARG:HG2	2.12	0.49
25:3:469:GLU:HG2	25:3:470:PHE:CD1	2.47	0.49
25:3:1041:TYR:CB	28:2:705:ARG:HA	2.42	0.49
25:3:1165:SER:HB2	25:3:1169:PRO:HA	1.94	0.49
28:2:511:LEU:C	28:2:513:GLY:N	2.65	0.49
1:A:197:PRO:HA	1:A:204:LEU:HD13	1.94	0.49
1:A:590:GLY:HA2	1:A:592:TYR:CE2	2.47	0.49
1:A:1076:ASP:N	1:A:1076:ASP:OD2	2.43	0.49
3:C:496:VAL:HG13	3:C:501:ILE:HD11	1.94	0.49
3:C:500:THR:HB	3:C:502:HIS:CE1	2.48	0.49
6:F:86:U:C4	8:H:12:G:O6	2.66	0.49
8:H:54:U:H2'	8:H:55:U:C6	2.48	0.49
12:L:52:GLU:O	12:L:58:ILE:HD13	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:485:ASP:OD1	22:X:487:THR:OG1	2.24	0.49
24:1:581:LEU:O	24:1:584:ASP:HB3	2.12	0.49
25:3:388:GLN:NE2	25:3:845:GLU:OE1	2.46	0.49
28:2:705:ARG:N	28:2:705:ARG:HD2	2.28	0.49
30:7:73:LYS:HA	30:7:76:THR:HG22	1.95	0.49
1:A:498:ARG:HG2	1:A:502:ASN:HD21	1.77	0.49
1:A:1642:PRO:HA	1:A:1716:GLY:O	2.13	0.49
1:A:1860:GLN:HA	1:A:1883:VAL:O	2.13	0.49
1:A:1984:LYS:HG2	1:A:2011:ILE:CD1	2.43	0.49
3:C:259:LYS:HE3	45:C:1500:GTP:H1'	1.95	0.49
3:C:693:GLU:OE1	3:C:695:GLY:N	2.45	0.49
4:D:537:LYS:O	4:D:609:VAL:HA	2.13	0.49
6:F:19:C:H2'	6:F:20:A:C8	2.47	0.49
8:H:64:A:H2'	8:H:65:U:C6	2.48	0.49
8:H:139:C:H2'	8:H:140:A:H8	1.78	0.49
10:J:320:GLU:OE1	10:J:325:ASN:HB3	2.12	0.49
17:R:154:SER:O	17:R:157:GLN:HG2	2.12	0.49
22:X:716:LYS:O	22:X:720:ASN:ND2	2.46	0.49
22:X:932:CYS:HA	22:X:938:ARG:HH11	1.77	0.49
24:1:523:ALA:C	24:1:563:LEU:HD11	2.33	0.49
30:7:42:LEU:HG	30:7:70:TYR:CE2	2.47	0.49
1:A:1199:LYS:HE2	1:A:1206:GLU:CD	2.34	0.49
1:A:1845:VAL:O	1:A:1849:ILE:HG13	2.13	0.49
1:A:1894:GLN:HE21	1:A:1944:HIS:CE1	2.31	0.49
3:C:89:LEU:HD12	19:T:240:LEU:HD11	1.94	0.49
10:J:269:LEU:HD21	10:J:279:TRP:CZ3	2.47	0.49
12:L:224:PHE:CD1	17:R:88:ILE:HG12	2.48	0.49
13:N:70:ILE:HG23	13:N:74:LEU:HD23	1.94	0.49
15:P:68:ARG:HB3	15:P:68:ARG:HH11	1.77	0.49
17:R:348:GLU:CD	22:X:263:SER:H	2.16	0.49
19:T:395:ILE:HD12	19:T:395:ILE:H	1.78	0.49
21:V:320:ARG:O	21:V:324:HIS:CB	2.61	0.49
24:1:862:GLU:HA	24:1:865:ARG:NH1	2.27	0.49
24:1:1076:ALA:O	24:1:1080:THR:HG23	2.12	0.49
25:3:249:LEU:HA	25:3:257:THR:O	2.12	0.49
25:3:294:LYS:HZ2	25:3:294:LYS:C	2.16	0.49
25:3:952:ILE:HG12	25:3:961:ILE:HG12	1.95	0.49
1:A:214:ARG:NH2	1:A:223:SER:OG	2.46	0.48
1:A:1131:LYS:HE2	1:A:1174:PHE:CE2	2.48	0.48
3:C:711:ARG:HH22	3:C:733:TRP:HA	1.78	0.48
4:D:1188:VAL:HA	4:D:1201:GLU:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:48:A:O2'	12:L:33:ARG:NH1	2.39	0.48
10:J:346:TRP:CD1	10:J:369:PHE:HD1	2.30	0.48
13:N:53:HIS:O	13:N:57:THR:HG22	2.13	0.48
22:X:194:ARG:H	22:X:194:ARG:HD2	1.78	0.48
22:X:283:TYR:OH	23:Y:222:ILE:HB	2.12	0.48
22:X:715:SER:OG	22:X:716:LYS:N	2.45	0.48
22:X:855:TYR:CE2	22:X:857:PRO:HG3	2.48	0.48
22:X:932:CYS:SG	22:X:935:ASP:N	2.86	0.48
22:X:955:THR:OG1	22:X:958:GLY:O	2.15	0.48
24:1:796:CYS:HA	24:1:801:VAL:HG21	1.94	0.48
25:3:484:VAL:O	25:3:485:LEU:HD12	2.13	0.48
25:3:945:VAL:HG21	25:3:963:VAL:HG21	1.93	0.48
1:A:369:GLU:HB2	1:A:371:LEU:HD13	1.95	0.48
1:A:1637:TRP:O	1:A:1656:THR:CA	2.56	0.48
1:A:1925:LYS:HD3	21:V:457:ARG:HH22	1.77	0.48
3:C:201:ASN:HB3	3:C:549:TRP:CE3	2.48	0.48
3:C:475:MET:HA	3:C:565:ILE:O	2.12	0.48
3:C:938:ARG:HG2	3:C:942:GLY:HA3	1.95	0.48
6:F:5:U:H5'	6:F:6:C:H4'	1.94	0.48
8:H:56:A:C5	28:2:504:TRP:HZ3	2.31	0.48
9:I:136:ALA:C	9:I:144:GLN:CB	2.82	0.48
10:J:352:PHE:HA	10:J:355:ARG:NE	2.27	0.48
10:J:364:THR:O	10:J:367:GLU:HB3	2.13	0.48
24:1:796:CYS:HB3	24:1:806:ILE:HG12	1.95	0.48
25:3:477:SER:HA	25:3:482:THR:HG23	1.95	0.48
25:3:603:ARG:HD2	25:3:603:ARG:O	2.13	0.48
25:3:698:PRO:O	25:3:700:LYS:NZ	2.34	0.48
25:3:914:ILE:HD12	25:3:919:SER:HB3	1.95	0.48
28:2:591:TYR:HA	28:2:595:LYS:HG3	1.95	0.48
30:7:15:ALA:HB2	30:7:84:GLY:HA2	1.94	0.48
1:A:1413:ASP:O	1:A:1414:ARG:HG3	2.13	0.48
6:F:23:U:H5'	13:N:116:ASN:O	2.14	0.48
10:J:406:PHE:HB3	10:J:411:MET:SD	2.54	0.48
17:R:331:ALA:HA	22:X:275:ARG:NH2	2.29	0.48
19:T:257:ARG:HD3	19:T:298:PRO:O	2.13	0.48
21:V:551:PHE:O	21:V:555:LEU:HD23	2.14	0.48
21:V:616:LEU:HD12	21:V:616:LEU:O	2.13	0.48
21:V:647:LEU:O	21:V:651:PRO:HD3	2.14	0.48
24:1:795:CYS:O	24:1:798:THR:HG23	2.13	0.48
24:1:1074:ARG:NE	24:1:1107:GLN:NE2	2.61	0.48
25:3:181:MET:HB2	25:3:211:TYR:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:7:30:CYS:SG	30:7:33:CYS:HB3	2.54	0.48
31:5:60:SER:O	31:5:63:ARG:N	2.46	0.48
35:9:203:GLU:O	35:9:207:THR:OG1	2.12	0.48
1:A:385:GLU:OE1	1:A:389:LYS:HG3	2.13	0.48
1:A:693:ILE:HG22	1:A:694:LEU:HD23	1.94	0.48
1:A:1019:TYR:O	1:A:1020:LYS:C	2.51	0.48
1:A:1258:LYS:O	1:A:1262:LYS:HG3	2.13	0.48
1:A:1384:ARG:HH22	1:A:1414:ARG:NH1	2.11	0.48
1:A:1431:ALA:HA	22:X:329:TRP:HD1	1.68	0.48
1:A:1788:VAL:HB	1:A:1800:THR:OG1	2.14	0.48
1:A:2328:ALA:CB	4:D:728:ARG:CA	2.89	0.48
3:C:250:ARG:NH1	3:C:447:PRO:O	2.46	0.48
3:C:366:GLN:HG3	3:C:371:GLU:HG3	1.96	0.48
3:C:495:ARG:HB2	3:C:495:ARG:NH1	2.27	0.48
3:C:938:ARG:HA	3:C:942:GLY:H	1.76	0.48
4:D:754:GLU:CA	25:3:662:PHE:CD1	2.79	0.48
5:E:136:TRP:CZ3	5:E:143:ARG:HB3	2.48	0.48
7:G:111:U:C2'	22:X:482:ARG:HD2	2.43	0.48
8:H:106:G:N3	8:H:107:A:C6	2.81	0.48
19:T:497:GLU:OE1	19:T:497:GLU:N	2.29	0.48
22:X:164:TRP:CZ2	22:X:542:PHE:HD1	2.31	0.48
23:Y:37:TYR:OH	23:Y:106:SER:HB3	2.13	0.48
23:Y:224:LEU:HD11	23:Y:229:ASP:HB2	1.94	0.48
24:1:717:THR:HB	24:1:718:PRO:CD	2.41	0.48
24:1:815:PHE:O	24:1:819:TRP:HB2	2.13	0.48
24:1:889:GLU:OE2	24:1:928:TYR:OH	2.31	0.48
24:1:933:CYS:SG	24:1:970:LEU:HD11	2.52	0.48
25:3:968:ARG:HG2	25:3:982:GLU:OE1	2.12	0.48
1:A:91:ALA:HA	17:R:207:MET:HB3	1.96	0.48
1:A:420:ARG:NH2	1:A:423:ASP:OD1	2.47	0.48
1:A:427:VAL:HG12	1:A:430:TRP:CE3	2.49	0.48
1:A:485:THR:HG22	1:A:486:LYS:N	2.27	0.48
3:C:509:VAL:HG22	3:C:523:GLN:O	2.14	0.48
3:C:561:LYS:NZ	3:C:615:PRO:O	2.41	0.48
3:C:807:GLN:NE2	35:9:145:LEU:CA	2.76	0.48
5:E:176:VAL:O	5:E:189:THR:HA	2.14	0.48
5:E:202:ASN:OD1	5:E:207:GLN:N	2.38	0.48
6:F:15:A:H2'	6:F:16:G:C8	2.48	0.48
6:F:39:A:C5	6:F:40:U:C5	3.02	0.48
7:G:116:C:C2	17:R:370:SER:O	2.67	0.48
17:R:162:ALA:C	17:R:164:PRO:HD3	2.33	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:V:451:ASN:O	21:V:455:PHE:HB2	2.13	0.48
22:X:235:LEU:HB3	23:Y:220:GLN:HG2	1.95	0.48
24:1:517:ARG:HB3	24:1:517:ARG:CZ	2.43	0.48
24:1:970:LEU:O	24:1:974:LEU:HG	2.13	0.48
25:3:143:ILE:H	25:3:143:ILE:HD12	1.79	0.48
25:3:357:TYR:HE1	25:3:400:GLU:HG3	1.77	0.48
25:3:503:THR:HG22	25:3:504:PRO:HD2	1.95	0.48
25:3:804:HIS:NE2	25:3:859:ASN:O	2.46	0.48
1:A:929:GLU:OE1	1:A:933:ARG:NH2	2.40	0.48
1:A:976:MET:HE2	1:A:1098:PHE:HD1	1.79	0.48
1:A:1809:ILE:O	1:A:1817:LEU:HA	2.13	0.48
1:A:1819:LEU:HB3	1:A:1915:VAL:CG2	2.37	0.48
3:C:183:SER:OG	3:C:214:GLU:OE1	2.31	0.48
3:C:286:ASN:ND2	3:C:300:LEU:O	2.46	0.48
9:I:108:LYS:C	9:I:110:PRO:CD	2.81	0.48
13:N:120:ARG:HA	13:N:120:ARG:HD2	1.51	0.48
15:P:45:GLN:HA	15:P:45:GLN:HE21	1.79	0.48
16:Q:600:MET:O	16:Q:607:VAL:HA	2.13	0.48
17:R:66:GLU:HA	18:S:89:ASP:O	2.14	0.48
17:R:325:ARG:NH1	23:Y:226:MET:HE2	2.29	0.48
18:S:96:GLY:O	18:S:131:ARG:HA	2.14	0.48
19:T:369:THR:O	19:T:369:THR:OG1	2.27	0.48
21:V:505:LYS:HE3	21:V:553:HIS:NE2	2.28	0.48
22:X:450:CYS:HB2	22:X:495:TYR:CD1	2.48	0.48
22:X:592:LEU:O	22:X:595:CYS:HB2	2.14	0.48
23:Y:1:MET:HG2	23:Y:163:ASP:OD2	2.13	0.48
23:Y:246:LYS:HD2	23:Y:310:ARG:O	2.14	0.48
25:3:1095:TYR:CE1	25:3:1164:ARG:HD2	2.48	0.48
1:A:523:ASN:OD1	1:A:552:ARG:NH1	2.43	0.48
1:A:643:GLY:HA3	2:B:28:A:O2'	2.13	0.48
1:A:1289:VAL:HG21	1:A:1335:ILE:HD11	1.95	0.48
1:A:1375:TRP:O	1:A:1378:GLU:N	2.46	0.48
1:A:1768:TYR:CA	1:A:1771:LEU:HB3	2.31	0.48
3:C:313:GLN:HG3	3:C:417:ARG:HH21	1.78	0.48
3:C:666:VAL:HG12	3:C:667:VAL:N	2.29	0.48
4:D:463:PRO:HA	4:D:480:THR:HA	1.95	0.48
8:H:107:A:C6	8:H:108:G:C6	3.02	0.48
12:L:178:GLU:HB3	12:L:181:ARG:HH11	1.79	0.48
17:R:201:GLU:H	17:R:201:GLU:CD	2.16	0.48
17:R:283:ASN:N	17:R:283:ASN:OD1	2.44	0.48
17:R:346:ASP:N	22:X:261:GLU:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:V:584:LYS:HG3	21:V:634:ILE:HG22	1.96	0.48
22:X:411:ALA:HA	22:X:414:ASN:ND2	2.28	0.48
22:X:487:THR:HG22	22:X:491:THR:HG21	1.95	0.48
22:X:606:GLN:HB2	22:X:668:ARG:HH22	1.79	0.48
22:X:813:ARG:O	22:X:816:ALA:N	2.46	0.48
23:Y:291:GLU:O	23:Y:295:GLU:HG3	2.14	0.48
24:1:770:MET:HA	24:1:773:LEU:HG	1.95	0.48
24:1:796:CYS:C	24:1:801:VAL:HG21	2.34	0.48
24:1:914:PHE:O	24:1:918:VAL:HG23	2.14	0.48
25:3:605:LEU:HD23	25:3:617:ILE:HG22	1.95	0.48
35:9:365:ILE:HG23	35:9:396:ILE:HD13	1.95	0.48
1:A:723:ASN:HD22	1:A:788:GLN:NE2	2.12	0.48
1:A:1209:HIS:ND1	1:A:1210:LYS:HE2	2.29	0.48
1:A:2307:GLU:CB	4:D:1124:GLN:H	2.27	0.48
3:C:69:ALA:HA	3:C:72:VAL:HG12	1.95	0.48
3:C:618:THR:HG23	3:C:630:LEU:HB3	1.94	0.48
3:C:624:SER:HB2	3:C:626:GLU:HG2	1.96	0.48
3:C:799:GLU:O	3:C:801:LEU:N	2.46	0.48
4:D:1199:LYS:HA	4:D:1255:PHE:HA	1.95	0.48
6:F:23:U:H2'	6:F:24:A:O4'	2.14	0.48
6:F:82:A:H2'	6:F:82:A:OP2	2.14	0.48
8:H:106:G:H1'	8:H:107:A:N7	2.29	0.48
10:J:257:GLU:OE1	10:J:257:GLU:N	2.47	0.48
14:O:162:PRO:CB	14:O:181:TYR:HA	2.43	0.48
17:R:348:GLU:OE2	22:X:266:GLU:HG2	2.13	0.48
19:T:195:LYS:HZ1	19:T:490:ARG:HH21	1.61	0.48
19:T:271:LYS:HG2	19:T:280:VAL:HG11	1.96	0.48
21:V:496:CYS:HG	21:V:507:PHE:HE1	1.61	0.48
22:X:391:SER:O	22:X:395:VAL:HG23	2.13	0.48
23:Y:195:GLU:H	23:Y:195:GLU:HG3	1.43	0.48
24:1:495:ARG:HA	24:1:498:MET:HB3	1.95	0.48
24:1:524:ARG:HD3	24:1:563:LEU:HD12	1.96	0.48
24:1:823:MET:O	24:1:829:ASN:HB2	2.14	0.48
24:1:967:GLU:CG	24:1:970:LEU:HB3	2.43	0.48
24:1:972:GLY:CA	24:1:1010:THR:HG21	2.40	0.48
24:1:1159:GLY:O	24:1:1161:MET:N	2.46	0.48
25:3:415:LEU:HB2	25:3:424:TYR:CE2	2.49	0.48
25:3:449:VAL:HG11	25:3:763:ARG:NH1	2.29	0.48
25:3:745:PHE:CB	25:3:755:VAL:HG23	2.43	0.48
25:3:833:GLU:C	25:3:836:ALA:H	2.14	0.48
1:A:121:HIS:HD2	1:A:482:PHE:CE1	2.31	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:612:ILE:O	1:A:616:PHE:HB2	2.13	0.48
3:C:212:SER:O	3:C:216:THR:HG23	2.13	0.48
3:C:213:ASP:OD2	3:C:616:SER:OG	2.17	0.48
3:C:483:SER:HA	3:C:490:PHE:HA	1.96	0.48
3:C:850:LEU:HB3	3:C:855:GLY:HA3	1.95	0.48
4:D:898:PRO:HA	4:D:960:ALA:HB1	1.96	0.48
5:E:75:HIS:O	5:E:78:GLY:N	2.46	0.48
5:E:164:PRO:O	5:E:166:LEU:HD23	2.14	0.48
6:F:22:A:H5"	13:N:116:ASN:H	1.79	0.48
7:G:5:G:N1	7:G:6:A:N6	2.62	0.48
7:G:90:C:H42	8:H:40:C:H42	1.60	0.48
8:H:176:G:H8	8:H:176:G:O5'	1.97	0.48
10:J:396:ARG:HH22	10:J:426:GLN:HG3	1.79	0.48
21:V:529:PHE:CD1	21:V:564:VAL:HB	2.49	0.48
21:V:537:HIS:CE1	21:V:538:ARG:HG2	2.49	0.48
25:3:563:LEU:O	25:3:580:ARG:HB3	2.14	0.48
25:3:604:PHE:HA	25:3:618:SER:HA	1.96	0.48
25:3:926:TYR:CZ	25:3:942:LYS:HD2	2.48	0.48
1:A:1846:ALA:O	1:A:1850:ARG:HG3	2.13	0.48
1:A:1939:ILE:HG21	1:A:1968:TRP:CE2	2.49	0.48
2:B:111:A:H2'	2:B:112:A:C8	2.49	0.48
3:C:607:LEU:HA	3:C:610:VAL:HG22	1.96	0.48
5:E:168:CYS:SG	5:E:199:VAL:HG21	2.54	0.48
7:G:7:G:C2	7:G:8:C:C2	3.02	0.48
7:G:9:C:O2'	7:G:10:U:O4'	2.12	0.48
7:G:111:U:OP1	22:X:482:ARG:HB2	2.14	0.48
17:R:122:LYS:HE2	19:T:399:LYS:HZ3	1.78	0.48
17:R:213:LYS:HB3	17:R:213:LYS:HE3	1.63	0.48
17:R:280:ILE:C	35:9:225:MET:HG3	2.33	0.48
22:X:689:VAL:C	22:X:690:LEU:HD23	2.34	0.48
23:Y:214:GLU:O	23:Y:218:LYS:HG3	2.13	0.48
24:1:770:MET:O	24:1:774:ILE:HG12	2.14	0.48
25:3:581:LYS:HB2	25:3:625:LEU:HD22	1.94	0.48
25:3:612:ASN:HA	25:3:636:GLN:HA	1.95	0.48
25:3:805:ASN:CB	31:5:58:ASN:HB3	2.40	0.48
25:3:839:ALA:O	25:3:843:LEU:HD12	2.14	0.48
25:3:1034:THR:HG22	25:3:1049:LYS:HG3	1.96	0.48
29:4:102:ILE:C	29:4:177:ALA:HB2	2.33	0.48
1:A:332:TYR:O	3:C:888:ARG:NH1	2.45	0.47
1:A:1014:ASN:OD1	12:L:84:THR:OG1	2.26	0.47
1:A:1019:TYR:O	1:A:1021:ASP:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1382:SER:HA	1:A:1415:GLY:HA2	1.96	0.47
1:A:1473:ASP:OD1	1:A:1473:ASP:N	2.46	0.47
1:A:1490:PHE:O	1:A:1493:THR:OG1	2.30	0.47
1:A:2311:PRO:CB	4:D:1125:SER:O	2.62	0.47
3:C:389:ASP:OD2	3:C:389:ASP:N	2.29	0.47
3:C:749:THR:O	3:C:753:GLU:HB2	2.13	0.47
6:F:49:G:H8	6:F:49:G:OP1	1.97	0.47
7:G:85:G:N2	8:H:45:C:C2	2.80	0.47
9:I:99:HIS:CB	16:Q:946:GLU:HA	2.43	0.47
20:U:24:SER:O	20:U:24:SER:OG	2.28	0.47
22:X:961:THR:HG21	22:X:964:GLN:NE2	2.29	0.47
23:Y:9:LEU:HD23	23:Y:138:LYS:HD3	1.95	0.47
24:1:570:TYR:HA	24:1:573:LYS:HD3	1.96	0.47
24:1:625:ARG:HH21	24:1:662:HIS:HB3	1.78	0.47
24:1:789:LEU:HB3	24:1:836:THR:HG21	1.96	0.47
25:3:19:HIS:ND1	25:3:19:HIS:O	2.46	0.47
25:3:594:ASN:OD1	25:3:594:ASN:N	2.46	0.47
30:7:52:GLY:N	30:7:55:GLN:HE21	2.10	0.47
30:7:58:CYS:HB3	30:7:62:GLY:H	1.79	0.47
35:9:73:TYR:O	35:9:75:THR:N	2.47	0.47
1:A:1019:TYR:CG	1:A:1020:LYS:N	2.79	0.47
3:C:725:ASP:HB3	3:C:728:ALA:H	1.79	0.47
3:C:891:THR:O	3:C:894:GLN:HG2	2.14	0.47
4:D:1459:ILE:HA	4:D:1464:GLY:HA3	1.96	0.47
8:H:34:U:H2'	8:H:35:A:C8	2.49	0.47
13:N:24:GLU:HB2	13:N:28:LYS:HE2	1.95	0.47
13:N:102:CYS:SG	13:N:137:CYS:HB2	2.54	0.47
17:R:331:ALA:CB	22:X:275:ARG:NH1	2.77	0.47
17:R:335:ARG:HA	22:X:271:LYS:HZ1	1.79	0.47
19:T:412:HIS:ND1	19:T:429:SER:OG	2.44	0.47
23:Y:211:ILE:O	23:Y:215:LYS:HG2	2.15	0.47
24:1:529:GLY:HA2	24:1:570:TYR:CZ	2.49	0.47
24:1:632:PHE:O	24:1:635:VAL:HG22	2.13	0.47
24:1:1091:HIS:HE2	28:2:568:TYR:HE1	1.62	0.47
25:3:407:ILE:HD11	25:3:1124:GLY:CA	2.44	0.47
25:3:477:SER:HB2	25:3:505:THR:N	2.11	0.47
25:3:757:ILE:HG22	25:3:762:LEU:HG	1.94	0.47
28:2:461:THR:OG1	28:2:464:GLU:N	2.26	0.47
31:5:51:ASN:OD1	31:5:51:ASN:N	2.46	0.47
1:A:1865:ARG:NH2	1:A:1865:ARG:HA	2.29	0.47
3:C:384:VAL:HG11	3:C:416:LEU:HG	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:589:LYS:HB3	3:C:659:VAL:HG23	1.96	0.47
7:G:-10:G:H8	20:U:1:MET:HE1	1.78	0.47
12:L:86:ALA:HB1	12:L:91:ARG:O	2.14	0.47
15:P:217:SER:OG	15:P:218:GLU:N	2.47	0.47
17:R:391:VAL:HG13	17:R:396:VAL:HB	1.96	0.47
22:X:431:GLN:HA	22:X:434:GLN:NE2	2.30	0.47
22:X:864:ALA:HA	22:X:902:PHE:CD2	2.48	0.47
24:1:720:GLY:HA2	24:1:756:LEU:HB3	1.97	0.47
24:1:854:VAL:HG11	24:1:891:GLN:HE21	1.79	0.47
24:1:1140:GLU:HB2	24:1:1143:VAL:CG1	2.44	0.47
25:3:169:HIS:HD2	25:3:170:VAL:N	2.09	0.47
25:3:412:ILE:H	25:3:1105:GLN:NE2	2.09	0.47
25:3:484:VAL:C	25:3:485:LEU:HD12	2.34	0.47
30:7:13:LYS:HD2	30:7:48:GLU:OE2	2.14	0.47
30:7:23:CYS:N	30:7:58:CYS:SG	2.73	0.47
35:9:246:VAL:HG21	35:9:261:HIS:CG	2.50	0.47
1:A:121:HIS:ND1	1:A:123:THR:HG23	2.30	0.47
1:A:363:HIS:NE2	3:C:283:ASP:O	2.45	0.47
1:A:425:PRO:HB3	1:A:635:ARG:NH1	2.30	0.47
1:A:1361:GLU:OE1	1:A:1361:GLU:HA	2.14	0.47
1:A:1645:LEU:HD13	1:A:1718:TRP:HH2	1.80	0.47
1:A:1869:LEU:O	1:A:1873:GLU:HB2	2.14	0.47
3:C:129:ILE:CG2	3:C:199:LEU:HB3	2.42	0.47
3:C:441:PRO:C	3:C:444:GLY:HA3	2.35	0.47
3:C:719:GLN:OE1	3:C:724:TRP:HB3	2.13	0.47
5:E:178:LEU:HB3	5:E:187:ILE:HB	1.96	0.47
5:E:244:SER:HB2	5:E:293:TRP:CE2	2.49	0.47
5:E:312:TRP:HE1	5:E:319:ILE:HG12	1.80	0.47
6:F:29:A:H2'	6:F:30:A:C8	2.49	0.47
16:Q:314:ASN:N	16:Q:319:ASN:O	2.43	0.47
17:R:357:HIS:CD2	23:Y:276:LYS:HZ1	2.29	0.47
17:R:367:ARG:CD	17:R:371:ARG:HD2	2.42	0.47
21:V:617:PRO:HG2	21:V:623:ASN:O	2.14	0.47
22:X:516:VAL:HG13	22:X:549:LEU:HD13	1.95	0.47
22:X:919:GLU:O	22:X:922:LEU:HB2	2.14	0.47
22:X:929:LEU:H	22:X:929:LEU:HD12	1.78	0.47
23:Y:45:VAL:HG22	23:Y:51:ILE:HG23	1.95	0.47
23:Y:224:LEU:CD1	23:Y:229:ASP:HB2	2.45	0.47
25:3:22:PHE:HA	25:3:76:ASP:HB2	1.94	0.47
25:3:664:TYR:CG	25:3:729:PHE:HZ	2.32	0.47
1:A:67:ARG:HD2	13:N:33:GLU:OE2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:110:TRP:O	1:A:192:GLN:NE2	2.47	0.47
1:A:119:LEU:HD12	1:A:483:GLN:O	2.14	0.47
1:A:386:PRO:CG	1:A:389:LYS:HD2	2.44	0.47
1:A:1131:LYS:NZ	1:A:1193:GLU:OE2	2.29	0.47
1:A:1332:HIS:CE1	1:A:1359:HIS:HB3	2.49	0.47
6:F:41:A:C2	7:G:7:G:C2	3.03	0.47
6:F:84:A:H4'	6:F:85:U:OP1	2.13	0.47
8:H:166:G:N3	8:H:166:G:H2'	2.29	0.47
8:H:171:U:N3	8:H:172:C:C4	2.83	0.47
10:J:406:PHE:HB3	10:J:411:MET:HB2	1.97	0.47
11:K:218:LYS:HD3	11:K:219:PHE:CE2	2.49	0.47
12:L:233:GLN:HG3	12:L:234:ALA:H	1.79	0.47
21:V:452:LEU:O	21:V:456:ARG:HG3	2.14	0.47
22:X:702:PRO:HB2	22:X:791:LEU:HD13	1.96	0.47
24:1:647:PHE:O	24:1:651:VAL:HG13	2.15	0.47
24:1:998:LYS:HZ1	24:1:1041:ARG:NH1	2.12	0.47
25:3:70:LEU:HD13	25:3:146:ARG:HG2	1.96	0.47
25:3:302:LEU:HA	25:3:311:PHE:O	2.14	0.47
25:3:346:PHE:HA	25:3:360:GLN:HA	1.95	0.47
25:3:457:ASN:ND2	25:3:479:VAL:HG12	2.29	0.47
35:9:300:THR:HA	35:9:353:GLU:CG	2.43	0.47
1:A:902:TYR:HE2	1:A:1246:GLN:HB3	1.79	0.47
1:A:1427:ARG:HB3	22:X:329:TRP:CE3	2.50	0.47
1:A:1862:ILE:HG21	1:A:1885:LYS:HE2	1.95	0.47
3:C:238:ASN:O	3:C:242:LEU:HB2	2.15	0.47
6:F:36:A:N6	6:F:38:G:O6	2.48	0.47
12:L:202:ARG:O	12:L:203:LYS:HE3	2.14	0.47
21:V:473:ALA:O	21:V:477:LEU:HG	2.15	0.47
21:V:563:SER:HA	21:V:611:PHE:CD2	2.50	0.47
22:X:238:ARG:NH1	23:Y:319:VAL:CG2	2.76	0.47
22:X:754:GLU:HA	22:X:757:ARG:HH22	1.78	0.47
22:X:842:THR:HA	22:X:915:ARG:HD2	1.97	0.47
22:X:981:PRO:HB3	22:X:1002:GLU:OE1	2.14	0.47
23:Y:43:HIS:O	23:Y:149:VAL:HG22	2.13	0.47
23:Y:214:GLU:HB3	23:Y:218:LYS:NZ	2.29	0.47
24:1:1233:ALA:O	24:1:1237:LEU:HB2	2.15	0.47
25:3:333:VAL:HG21	25:3:349:VAL:HG21	1.97	0.47
25:3:436:ARG:HD3	25:3:776:GLN:OE1	2.14	0.47
25:3:636:GLN:HG2	25:3:637:PRO:HD2	1.96	0.47
25:3:665:LEU:CB	25:3:679:LEU:HD23	2.45	0.47
25:3:1125:GLY:C	25:3:1126:ILE:HG13	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:529:LYS:HB2	28:2:529:LYS:HE2	1.61	0.47
31:5:13:HIS:ND1	31:5:17:LYS:HE3	2.30	0.47
1:A:79:ARG:HH11	1:A:82:ARG:NH2	2.09	0.47
1:A:309:ARG:HD3	1:A:311:GLU:OE1	2.15	0.47
1:A:361:HIS:CD2	3:C:280:HIS:HB2	2.48	0.47
1:A:381:PRO:HD2	3:C:334:ILE:CG2	2.44	0.47
1:A:1283:GLU:OE1	1:A:1283:GLU:N	2.48	0.47
1:A:1352:HIS:HD2	20:U:5:ILE:HG13	1.78	0.47
1:A:1401:ARG:HB2	1:A:1401:ARG:CZ	2.44	0.47
1:A:1425:LYS:HD2	17:R:416:LYS:HB2	1.96	0.47
1:A:1429:THR:CG2	17:R:418:MET:SD	3.02	0.47
1:A:1768:TYR:CE2	1:A:2012:LEU:HD21	2.48	0.47
1:A:1860:GLN:HB3	1:A:1883:VAL:HB	1.97	0.47
1:A:1928:SER:HB2	1:A:1931:THR:H	1.80	0.47
2:B:64:G:C4	2:B:65:G:C8	3.02	0.47
3:C:133:THR:OG1	3:C:218:GLY:HA3	2.15	0.47
3:C:139:HIS:O	45:C:1500:GTP:O1A	2.33	0.47
3:C:514:TYR:CE2	3:C:522:SER:HB2	2.49	0.47
3:C:595:VAL:HG13	3:C:652:ASP:O	2.15	0.47
3:C:636:TYR:O	3:C:640:VAL:HG23	2.15	0.47
8:H:14:C:H1'	8:H:15:U:H5'	1.97	0.47
8:H:48:A:N3	8:H:78:C:P	2.88	0.47
10:J:376:VAL:O	10:J:379:TRP:HB2	2.15	0.47
19:T:253:ILE:O	19:T:261:LEU:HD12	2.15	0.47
23:Y:38:ASN:OD1	23:Y:158:HIS:HA	2.14	0.47
24:1:582:LEU:HA	24:1:590:ARG:HA	1.97	0.47
24:1:1299:GLU:O	24:1:1302:TYR:HD2	1.97	0.47
25:3:75:LYS:HE3	25:3:76:ASP:H	1.79	0.47
25:3:373:PHE:CE1	25:3:385:PHE:HB3	2.48	0.47
25:3:442:LEU:HD23	25:3:442:LEU:HA	1.71	0.47
25:3:569:ASP:C	25:3:571:SER:N	2.65	0.47
25:3:617:ILE:HG12	25:3:627:PRO:HA	1.95	0.47
25:3:867:ARG:NH1	25:3:879:LEU:HD13	2.30	0.47
28:2:466:LYS:HG2	28:2:475:VAL:HG21	1.97	0.47
1:A:184:ASP:HB2	13:N:1:MET:HA	1.96	0.47
1:A:211:GLN:HB3	1:A:225:TYR:CE1	2.49	0.47
1:A:397:ASN:HB3	3:C:386:GLY:O	2.15	0.47
1:A:1373:GLN:NE2	1:A:1377:SER:OG	2.48	0.47
2:B:21:A:O3'	2:B:22:U:H4'	2.15	0.47
3:C:142:LYS:NZ	45:C:1500:GTP:O1G	2.48	0.47
5:E:100:ASP:N	5:E:100:ASP:OD1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:110:GLY:H	5:E:130:ASP:CG	2.15	0.47
5:E:177:LYS:HB3	5:E:179:TRP:NE1	2.30	0.47
5:E:180:ASP:OD1	5:E:182:ARG:N	2.24	0.47
7:G:15:U:H3'	7:G:16:G:C8	2.49	0.47
8:H:173:C:H2'	8:H:174:A:H8	1.76	0.47
9:I:136:ALA:CA	9:I:144:GLN:CB	2.92	0.47
9:I:231:ASN:O	9:I:233:ASP:N	2.47	0.47
10:J:328:GLY:HA2	10:J:331:GLN:NE2	2.30	0.47
15:P:26:LEU:HD12	15:P:26:LEU:HA	1.62	0.47
16:Q:1082:GLN:N	16:Q:1085:PHE:O	2.29	0.47
22:X:787:GLU:O	22:X:791:LEU:HD12	2.15	0.47
23:Y:9:LEU:CD2	23:Y:138:LYS:HD3	2.45	0.47
23:Y:30:LYS:CE	23:Y:169:PRO:HD2	2.45	0.47
23:Y:215:LYS:O	23:Y:218:LYS:N	2.48	0.47
24:1:573:LYS:O	24:1:577:VAL:HG23	2.15	0.47
24:1:860:GLU:O	24:1:865:ARG:NH2	2.48	0.47
24:1:1135:GLU:HG3	24:1:1135:GLU:O	2.15	0.47
24:1:1279:ALA:O	24:1:1281:ILE:N	2.48	0.47
25:3:164:ASN:HA	25:3:189:TYR:OH	2.15	0.47
25:3:565:TYR:HE1	25:3:619:LEU:HD12	1.80	0.47
1:A:112:GLN:O	1:A:113:ILE:HG13	2.15	0.47
1:A:523:ASN:CG	11:K:194:ARG:HD3	2.35	0.47
1:A:569:VAL:O	1:A:570:ASP:HB2	2.14	0.47
1:A:1661:TRP:HH2	1:A:1684:PHE:CE1	2.33	0.47
1:A:1685:LEU:O	1:A:1689:THR:HG23	2.14	0.47
1:A:1768:TYR:HE2	1:A:2012:LEU:CD2	2.23	0.47
1:A:1771:LEU:HD11	1:A:1779:PHE:CE2	2.49	0.47
3:C:302:PRO:HD2	3:C:344:TRP:CD1	2.50	0.47
4:D:1598:ILE:O	4:D:1601:LEU:N	2.46	0.47
5:E:193:THR:HG23	5:E:194:TYR:CG	2.50	0.47
5:E:198:ALA:O	5:E:210:SER:HA	2.14	0.47
5:E:288:LEU:HD21	5:E:290:ARG:HE	1.80	0.47
13:N:41:ARG:HA	13:N:45:SER:HB2	1.95	0.47
13:N:47:TRP:HB2	13:N:48:PRO:HD3	1.97	0.47
16:Q:542:ASN:HA	16:Q:622:SER:HA	1.96	0.47
16:Q:1224:ILE:O	16:Q:1255:ASN:N	2.46	0.47
23:Y:298:PHE:CE2	23:Y:314:ASP:HA	2.50	0.47
24:1:666:LYS:HB3	24:1:704:ILE:HD13	1.96	0.47
25:3:272:PRO:HD3	25:3:327:LEU:HD13	1.97	0.47
25:3:503:THR:OG1	25:3:522:ASP:OD2	2.21	0.47
25:3:864:SER:O	25:3:865:VAL:HG23	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:4:103:PHE:N	29:4:177:ALA:HB2	2.29	0.47
1:A:747:ALA:O	1:A:751:THR:OG1	2.29	0.47
1:A:1206:GLU:HG2	1:A:1207:PHE:N	2.28	0.47
3:C:86:THR:OG1	3:C:87:GLN:N	2.47	0.47
3:C:350:ASN:ND2	3:C:353:THR:H	2.13	0.47
6:F:88:G:H2'	6:F:89:U:H5'	1.96	0.47
10:J:289:ASN:O	10:J:291:GLN:NE2	2.48	0.47
13:N:15:TRP:NE1	13:N:19:GLU:OE1	2.47	0.47
13:N:57:THR:HG23	13:N:92:TRP:CH2	2.50	0.47
17:R:383:ASN:N	17:R:383:ASN:OD1	2.48	0.47
21:V:550:MET:O	21:V:554:LEU:HG	2.15	0.47
22:X:172:LEU:O	22:X:175:LEU:HG	2.15	0.47
22:X:976:LEU:HD12	22:X:1000:VAL:HG23	1.96	0.47
24:1:929:LEU:N	24:1:930:PRO:HD2	2.30	0.47
25:3:24:GLY:HA2	25:3:74:THR:O	2.14	0.47
25:3:69:ARG:HG3	25:3:75:LYS:O	2.15	0.47
25:3:347:LEU:CD2	25:3:359:TYR:HB2	2.44	0.47
25:3:674:LEU:C	25:3:675:LEU:HD12	2.34	0.47
25:3:1181:GLN:O	25:3:1185:MET:HG3	2.14	0.47
30:7:21:ARG:NH1	30:7:66:VAL:O	2.27	0.47
1:A:196:ASP:HB3	1:A:199:GLU:HB2	1.97	0.46
1:A:344:ASP:OD2	1:A:347:LEU:HD12	2.15	0.46
1:A:644:ILE:HD12	1:A:644:ILE:HA	1.73	0.46
1:A:1675:ASP:OD1	1:A:1678:ARG:N	2.41	0.46
3:C:510:LEU:HD13	3:C:514:TYR:CD2	2.50	0.46
3:C:601:PRO:HA	3:C:604:LEU:HD12	1.97	0.46
4:D:777:LEU:O	4:D:780:TYR:N	2.40	0.46
13:N:91:LYS:HA	13:N:91:LYS:HD3	1.72	0.46
17:R:348:GLU:CD	22:X:263:SER:O	2.53	0.46
22:X:162:ASP:N	22:X:542:PHE:CE2	2.82	0.46
22:X:273:LYS:HA	22:X:276:VAL:HG12	1.96	0.46
22:X:394:ALA:HA	22:X:397:ARG:HD2	1.96	0.46
22:X:452:GLN:O	22:X:497:THR:HA	2.15	0.46
22:X:576:ARG:HA	22:X:576:ARG:NH2	2.30	0.46
24:1:864:TYR:O	24:1:868:VAL:HG13	2.15	0.46
25:3:169:HIS:CD2	25:3:170:VAL:N	2.82	0.46
25:3:511:LEU:HD21	25:3:517:VAL:CG2	2.44	0.46
30:7:12:ARG:NH1	30:7:84:GLY:O	2.48	0.46
35:9:325:ILE:HD13	35:9:328:PHE:HD1	1.79	0.46
1:A:191:ILE:HG12	1:A:571:ALA:HB1	1.97	0.46
1:A:1411:SER:O	1:A:1419:ILE:HG12	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1852:LEU:HD23	1:A:1858:PRO:HD3	1.96	0.46
1:A:1974:GLU:O	1:A:1978:LYS:HG3	2.15	0.46
3:C:122:LEU:O	3:C:125:ASN:HB3	2.15	0.46
3:C:226:VAL:HG22	3:C:254:THR:HB	1.98	0.46
3:C:377:LEU:HD12	3:C:380:ILE:HD12	1.97	0.46
3:C:826:ARG:HA	3:C:911:PRO:HG3	1.97	0.46
8:H:13:C:H1'	8:H:14:C:OP2	2.15	0.46
8:H:53:U:C5'	28:2:450:SER:HB3	2.37	0.46
10:J:411:MET:SD	10:J:415:LEU:HD23	2.56	0.46
12:L:92:THR:OG1	12:L:95:GLN:HG3	2.15	0.46
13:N:47:TRP:N	13:N:48:PRO:CD	2.78	0.46
15:P:184:VAL:HG23	23:Y:52:GLN:OE1	2.02	0.46
22:X:575:ARG:HH22	22:X:724:GLY:HA2	1.79	0.46
22:X:876:GLY:O	22:X:880:VAL:HG23	2.16	0.46
24:1:503:LYS:HE2	24:1:511:MET:CG	2.44	0.46
24:1:568:ARG:HG3	24:1:568:ARG:HH11	1.79	0.46
24:1:854:VAL:HG12	24:1:892:LEU:CD2	2.45	0.46
25:3:312:LYS:HB2	25:3:330:PHE:CD1	2.50	0.46
25:3:558:LEU:HG	25:3:559:THR:N	2.29	0.46
25:3:817:GLN:HG3	25:3:818:GLN:OE1	2.15	0.46
25:3:1199:ARG:HH21	25:3:1207:LYS:HD3	1.80	0.46
31:5:50:LEU:HD12	31:5:50:LEU:HA	1.54	0.46
1:A:409:ARG:N	1:A:410:PRO:HD2	2.30	0.46
1:A:1885:LYS:HG2	1:A:1886:GLY:N	2.30	0.46
2:B:38:C:C5	2:B:39:C:C4	3.03	0.46
10:J:300:ASP:OD2	17:R:101:ILE:HD11	2.14	0.46
12:L:166:LYS:HB3	12:L:167:ALA:H	1.59	0.46
13:N:37:HIS:CG	13:N:37:HIS:O	2.69	0.46
17:R:352:ARG:NH1	22:X:265:HIS:CB	2.67	0.46
19:T:266:GLU:HG2	19:T:290:ALA:HB1	1.98	0.46
21:V:543:LYS:HA	21:V:546:ASN:HD21	1.81	0.46
22:X:503:ARG:O	22:X:506:LEU:HB2	2.16	0.46
23:Y:17:TYR:HD1	23:Y:17:TYR:HA	1.67	0.46
23:Y:31:LEU:HG	23:Y:66:ILE:HB	1.98	0.46
23:Y:33:LYS:NZ	23:Y:168:ASP:OD1	2.29	0.46
24:1:746:PHE:O	24:1:750:ILE:HG23	2.15	0.46
24:1:848:GLU:O	24:1:852:ARG:HG3	2.15	0.46
24:1:967:GLU:HB3	24:1:970:LEU:HB3	1.98	0.46
24:1:1277:GLN:NE2	24:1:1277:GLN:O	2.48	0.46
25:3:159:GLU:CD	25:3:161:HIS:H	2.19	0.46
25:3:515:ALA:HA	25:3:528:ARG:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:592:LEU:HD11	25:3:619:LEU:HD11	1.97	0.46
1:A:1417:PRO:O	1:A:1461:ASP:O	2.33	0.46
3:C:175:GLN:OE1	3:C:175:GLN:N	2.47	0.46
3:C:678:THR:OG1	3:C:680:ASN:O	2.19	0.46
3:C:721:LYS:HD3	3:C:722:TYR:CZ	2.50	0.46
5:E:125:PHE:N	5:E:125:PHE:CD2	2.83	0.46
5:E:135:VAL:HG21	5:E:181:ILE:CD1	2.45	0.46
5:E:251:LEU:HB2	5:E:293:TRP:NE1	2.31	0.46
9:I:326:ASP:C	9:I:328:GLU:H	2.17	0.46
10:J:411:MET:HE3	10:J:415:LEU:HB3	1.98	0.46
17:R:331:ALA:HA	22:X:275:ARG:HH22	1.81	0.46
19:T:210:ILE:HG22	19:T:467:ALA:HB1	1.98	0.46
19:T:301:ASP:OD1	19:T:301:ASP:N	2.48	0.46
22:X:415:HIS:CD2	22:X:568:PRO:HG3	2.50	0.46
22:X:508:GLU:OE1	22:X:512:ALA:N	2.48	0.46
22:X:675:ASN:O	22:X:678:GLU:HB2	2.16	0.46
23:Y:242:LEU:HD23	23:Y:315:PHE:HA	1.96	0.46
24:1:554:LYS:HD2	24:1:558:ARG:HE	1.80	0.46
24:1:881:ALA:HB1	24:1:884:ILE:HG12	1.97	0.46
24:1:903:GLN:HG2	24:1:910:MET:HG3	1.98	0.46
24:1:1067:LYS:HB3	24:1:1067:LYS:HE2	1.67	0.46
25:3:524:ILE:O	25:3:535:GLU:HA	2.15	0.46
25:3:809:GLU:O	25:3:812:LYS:HB2	2.15	0.46
1:A:549:GLU:HB2	1:A:591:MET:HG3	1.97	0.46
1:A:1908:LYS:HA	1:A:1908:LYS:HD3	1.69	0.46
1:A:1920:TYR:HD2	1:A:1924:LEU:HD11	1.80	0.46
3:C:242:LEU:HD23	3:C:242:LEU:HA	1.50	0.46
4:D:2034:PRO:HA	4:D:2094:PHE:O	2.14	0.46
8:H:51:A:H2'	8:H:52:G:O4'	2.15	0.46
12:L:168:LYS:HD3	12:L:171:ALA:HB3	1.96	0.46
17:R:315:LYS:HG2	17:R:316:GLU:N	2.31	0.46
19:T:287:HIS:CE1	19:T:313:ARG:HG3	2.50	0.46
22:X:164:TRP:CE2	22:X:542:PHE:CG	3.04	0.46
22:X:454:ARG:HH12	22:X:679:THR:HB	1.81	0.46
22:X:612:LEU:HB2	22:X:686:ILE:HG21	1.97	0.46
22:X:700:TYR:HB3	22:X:757:ARG:O	2.15	0.46
22:X:727:GLY:HA2	22:X:730:ALA:O	2.15	0.46
24:1:869:MET:O	24:1:873:GLU:HB3	2.15	0.46
24:1:898:TYR:HA	24:1:901:GLN:OE1	2.15	0.46
25:3:528:ARG:NH1	25:3:572:GLY:O	2.49	0.46
25:3:745:PHE:CG	25:3:755:VAL:HG23	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:1158:ARG:HG3	25:3:1159:ASP:H	1.79	0.46
25:3:1210:ASP:HA	25:3:1213:THR:OG1	2.15	0.46
35:9:323:ARG:HD2	35:9:420:ASP:HB2	1.97	0.46
1:A:83:HIS:CE1	7:G:16:G:O6	2.67	0.46
1:A:105:ASN:O	1:A:489:TRP:CD1	2.69	0.46
1:A:1275:ARG:NH1	1:A:1373:GLN:O	2.43	0.46
1:A:1889:LEU:HD23	1:A:2012:LEU:HG	1.98	0.46
4:D:492:ALA:O	4:D:516:CYS:HA	2.16	0.46
4:D:621:HIS:HA	4:D:890:GLU:O	2.16	0.46
6:F:29:A:H61	7:G:17:U:P	2.39	0.46
7:G:116:C:O4'	17:R:371:ARG:HA	2.14	0.46
10:J:256:LYS:HE2	12:L:232:TYR:HE1	1.74	0.46
10:J:395:ALA:O	10:J:398:VAL:HG12	2.16	0.46
17:R:170:LYS:H	17:R:170:LYS:CD	2.21	0.46
22:X:164:TRP:CZ3	22:X:542:PHE:HE1	2.31	0.46
22:X:389:LYS:HE2	22:X:389:LYS:O	2.16	0.46
22:X:676:ILE:HG12	22:X:681:LEU:HD11	1.97	0.46
24:1:830:TYR:CG	24:1:867:MET:HG3	2.51	0.46
24:1:871:THR:O	24:1:875:ILE:HG13	2.15	0.46
24:1:1135:GLU:O	24:1:1138:VAL:HG12	2.16	0.46
25:3:451:GLU:HG3	25:3:760:ASN:O	2.16	0.46
25:3:604:PHE:CE1	25:3:681:PRO:HD3	2.51	0.46
25:3:676:ARG:HD2	25:3:729:PHE:CD2	2.51	0.46
30:7:12:ARG:HD2	30:7:12:ARG:HA	1.68	0.46
35:9:369:ALA:HA	35:9:394:HIS:CE1	2.51	0.46
1:A:108:MET:O	1:A:110:TRP:N	2.48	0.46
1:A:310:THR:O	1:A:314:ILE:HG22	2.16	0.46
1:A:411:PHE:C	1:A:413:LEU:H	2.19	0.46
2:B:69:A:H3'	2:B:70:A:C8	2.51	0.46
3:C:118:PHE:CE2	3:C:122:LEU:HD11	2.51	0.46
3:C:220:ARG:HA	3:C:220:ARG:HE	1.81	0.46
3:C:366:GLN:H	3:C:366:GLN:HG2	1.37	0.46
9:I:551:PRO:HB3	9:I:554:SER:CB	2.46	0.46
10:J:432:VAL:O	10:J:435:ILE:HG13	2.16	0.46
12:L:40:ARG:O	12:L:40:ARG:HG2	2.16	0.46
17:R:286:LYS:NZ	35:9:211:LEU:HD21	2.31	0.46
22:X:223:VAL:O	22:X:227:ARG:HG3	2.16	0.46
25:3:1204:VAL:HG23	25:3:1205:SER:N	2.30	0.46
30:7:47:ASP:HA	30:7:50:ASN:HB3	1.97	0.46
31:5:8:HIS:HA	31:5:11:LEU:HB2	1.97	0.46
1:A:660:PHE:CE2	17:R:209:PRO:CB	2.99	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1580:HIS:CD2	1:A:1583:GLN:NE2	2.84	0.46
1:A:1614:ILE:H	1:A:1614:ILE:HG13	1.60	0.46
1:A:1889:LEU:HG	1:A:2013:GLY:N	2.31	0.46
2:B:99:C:H2'	2:B:100:C:H6	1.80	0.46
3:C:857:VAL:HA	3:C:873:ALA:CB	2.46	0.46
5:E:342:ILE:O	5:E:353:MET:HA	2.16	0.46
8:H:14:C:OP2	8:H:14:C:H2'	2.16	0.46
12:L:11:TRP:CZ2	12:L:41:LYS:HD2	2.51	0.46
12:L:73:HIS:CD2	35:9:220:ILE:CB	2.96	0.46
12:L:188:ARG:HD2	12:L:191:LEU:HD12	1.98	0.46
13:N:64:PHE:CZ	13:N:72:ARG:HD2	2.51	0.46
22:X:456:VAL:HA	22:X:459:MET:HG3	1.97	0.46
24:1:536:LEU:O	24:1:540:MET:HG2	2.16	0.46
24:1:1216:TRP:O	24:1:1219:VAL:HB	2.16	0.46
25:3:185:LEU:O	25:3:186:GLU:HG3	2.16	0.46
25:3:304:GLN:HE21	25:3:308:GLY:HA2	1.80	0.46
25:3:642:ILE:H	25:3:703:ARG:NH2	2.13	0.46
25:3:945:VAL:HG23	25:3:968:ARG:HH12	1.80	0.46
25:3:1085:ALA:HB3	25:3:1088:LYS:HE2	1.97	0.46
35:9:311:CYS:HG	35:9:316:TYR:HD2	1.63	0.46
35:9:363:ARG:HB3	35:9:363:ARG:CZ	2.45	0.46
1:A:79:ARG:HD2	1:A:82:ARG:NE	2.31	0.46
1:A:1489:LEU:HD12	1:A:1536:LEU:HD22	1.98	0.46
1:A:1784:ASN:ND2	1:A:1894:GLN:HB2	2.27	0.46
3:C:442:LYS:CD	3:C:468:CYS:HB3	2.46	0.46
5:E:105:LEU:HD11	5:E:136:TRP:CE3	2.50	0.46
8:H:15:U:O2'	8:H:16:U:OP2	2.26	0.46
10:J:367:GLU:O	10:J:371:LEU:HG	2.16	0.46
12:L:227:THR:OG1	17:R:84:ASN:ND2	2.49	0.46
21:V:540:GLU:H	21:V:540:GLU:HG3	1.51	0.46
22:X:725:ARG:HD3	22:X:728:ARG:NH1	2.21	0.46
22:X:858:LYS:O	22:X:861:VAL:HG23	2.16	0.46
28:2:601:LEU:HD11	29:4:27:PRO:CA	2.46	0.46
1:A:93:LYS:NZ	17:R:165:VAL:HG22	2.30	0.46
1:A:278:LYS:NZ	7:G:-8:C:OP1	2.47	0.46
1:A:340:ILE:H	1:A:340:ILE:HG12	1.37	0.46
1:A:361:HIS:HB3	3:C:280:HIS:CG	2.52	0.46
1:A:796:LYS:HB3	1:A:796:LYS:HE3	1.76	0.46
1:A:977:LEU:HG	1:A:978:GLU:N	2.30	0.46
1:A:1189:MET:HG3	1:A:1190:CYS:N	2.31	0.46
1:A:1310:ARG:HD3	1:A:1542:ILE:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1634:SER:OG	1:A:1635:TYR:N	2.50	0.46
1:A:1914:MET:HE1	1:A:1916:LEU:HB2	1.97	0.46
2:B:65:G:H2'	2:B:66:A:C8	2.51	0.46
3:C:360:ALA:H	3:C:361:PRO:HD3	1.81	0.46
3:C:388:VAL:HA	3:C:392:LEU:CD1	2.46	0.46
3:C:700:ILE:HG13	3:C:705:VAL:HG11	1.98	0.46
3:C:921:LEU:HD23	3:C:921:LEU:HA	1.68	0.46
3:C:938:ARG:O	3:C:942:GLY:N	2.49	0.46
15:P:27:SER:HB2	15:P:29:GLN:OE1	2.15	0.46
16:Q:116:PRO:O	16:Q:120:PRO:HD2	2.16	0.46
17:R:189:ASN:ND2	17:R:195:ARG:HG2	2.30	0.46
19:T:334:ALA:HB2	19:T:350:HIS:CE1	2.51	0.46
19:T:394:ASN:N	19:T:394:ASN:OD1	2.48	0.46
22:X:182:ALA:N	22:X:924:ARG:HH12	2.12	0.46
22:X:867:ALA:HB3	22:X:902:PHE:HD2	1.80	0.46
23:Y:188:SER:HB2	23:Y:190:ARG:HB2	1.98	0.46
23:Y:204:SER:OG	23:Y:206:GLU:N	2.49	0.46
23:Y:241:VAL:HA	23:Y:286:ILE:O	2.16	0.46
24:1:662:HIS:HB2	24:1:701:VAL:HB	1.99	0.46
24:1:1000:ILE:O	24:1:1003:VAL:HG13	2.16	0.46
24:1:1015:ASP:OD1	24:1:1015:ASP:N	2.49	0.46
25:3:5:ASN:O	25:3:1176:GLY:HA3	2.16	0.46
25:3:52:THR:OG1	25:3:52:THR:O	2.34	0.46
25:3:565:TYR:CE1	25:3:619:LEU:HD12	2.51	0.46
25:3:633:LEU:HD12	25:3:637:PRO:HG3	1.97	0.46
25:3:725:TYR:O	25:3:728:ARG:HB2	2.16	0.46
25:3:1041:TYR:CD2	28:2:705:ARG:CD	2.99	0.46
28:2:542:GLU:HA	28:2:545:GLU:HG2	1.98	0.46
28:2:604:LYS:O	28:2:604:LYS:HD3	2.15	0.46
35:9:282:VAL:HG13	35:9:433:VAL:HG22	1.98	0.46
35:9:370:ASN:ND2	35:9:372:GLY:O	2.45	0.46
1:A:593:ARG:HH12	1:A:1565:LYS:HZ2	1.64	0.45
1:A:1030:ILE:HD11	1:A:1040:ILE:HG21	1.98	0.45
6:F:36:A:C6	6:F:38:G:C6	3.04	0.45
6:F:88:G:C2	6:F:89:U:C6	3.04	0.45
7:G:9:C:H2'	7:G:10:U:C2	2.51	0.45
9:I:342:PRO:C	9:I:344:LEU:H	2.20	0.45
16:Q:172:LEU:N	16:Q:173:PRO:HD2	2.31	0.45
17:R:355:ILE:CG1	22:X:256:LEU:HD13	2.46	0.45
21:V:646:HIS:C	21:V:646:HIS:ND1	2.69	0.45
22:X:290:GLU:O	22:X:293:GLU:HG3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:436:LEU:CD2	22:X:516:VAL:HG11	2.46	0.45
23:Y:65:SER:N	23:Y:76:SER:O	2.33	0.45
23:Y:144:VAL:HA	23:Y:150:PRO:HA	1.98	0.45
24:1:586:ASP:O	24:1:590:ARG:HG3	2.16	0.45
25:3:49:LYS:HD3	25:3:49:LYS:HA	1.59	0.45
25:3:226:GLU:HB3	25:3:261:PHE:CE2	2.51	0.45
25:3:569:ASP:O	25:3:572:GLY:N	2.45	0.45
1:A:184:ASP:HB3	13:N:1:MET:HA	1.96	0.45
1:A:758:ARG:HD3	1:A:779:LEU:HD11	1.97	0.45
1:A:1836:LEU:HA	1:A:1839:TRP:CD1	2.48	0.45
3:C:114:TYR:N	3:C:115:GLU:OE1	2.49	0.45
3:C:237:LEU:HD21	3:C:900:VAL:HG13	1.98	0.45
3:C:724:TRP:HA	3:C:724:TRP:HE3	1.80	0.45
5:E:171:SER:O	5:E:196:VAL:N	2.44	0.45
5:E:270:LYS:HA	5:E:270:LYS:HE3	1.98	0.45
5:E:311:VAL:HB	5:E:321:TYR:HB2	1.97	0.45
6:F:38:G:C4	6:F:39:A:N7	2.84	0.45
7:G:5:G:H2'	7:G:5:G:N3	2.31	0.45
7:G:99:C:N4	8:H:32:U:C4	2.84	0.45
8:H:53:U:C5'	28:2:450:SER:CB	2.62	0.45
12:L:63:TRP:HB3	12:L:68:GLU:HG3	1.99	0.45
13:N:64:PHE:HZ	13:N:72:ARG:HD2	1.81	0.45
17:R:334:ARG:O	22:X:271:LYS:NZ	2.49	0.45
23:Y:88:HIS:CE1	23:Y:125:VAL:HG22	2.51	0.45
24:1:516:LEU:HD12	24:1:516:LEU:HA	1.69	0.45
24:1:572:HIS:NE2	24:1:613:MET:HE3	2.31	0.45
24:1:893:ILE:HD13	24:1:893:ILE:HA	1.68	0.45
24:1:1302:TYR:CD1	25:3:915:LEU:HB3	2.49	0.45
25:3:232:GLY:HA3	25:3:252:SER:HA	1.97	0.45
25:3:696:SER:O	25:3:696:SER:OG	2.32	0.45
25:3:788:PHE:HB2	25:3:799:ILE:HA	1.98	0.45
25:3:1117:LEU:HD12	25:3:1117:LEU:HA	1.60	0.45
25:3:1159:ASP:OD1	25:3:1160:HIS:N	2.50	0.45
28:2:452:LYS:HD3	28:2:456:ARG:HB2	1.98	0.45
35:9:295:LEU:HD13	35:9:308:ILE:HD11	1.99	0.45
1:A:531:THR:O	1:A:535:ARG:HB2	2.16	0.45
1:A:693:ILE:C	1:A:695:ASP:N	2.70	0.45
1:A:1934:SER:O	1:A:1938:LEU:HG	2.17	0.45
3:C:118:PHE:CZ	3:C:122:LEU:HD11	2.51	0.45
3:C:711:ARG:HB3	3:C:730:ARG:NH2	2.31	0.45
3:C:718:PHE:HB3	3:C:724:TRP:CD1	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:902:HIS:ND1	3:C:903:HIS:HD2	2.14	0.45
3:C:914:LYS:HA	3:C:914:LYS:HD2	1.89	0.45
5:E:156:SER:OG	5:E:197:LEU:O	2.33	0.45
6:F:22:A:H3'	13:N:115:THR:HG21	1.98	0.45
6:F:85:U:H1'	6:F:86:U:C6	2.51	0.45
7:G:111:U:OP2	22:X:482:ARG:HD3	2.15	0.45
8:H:43:U:H2'	8:H:44:U:C5	2.51	0.45
10:J:334:GLU:O	10:J:338:GLU:HG3	2.16	0.45
23:Y:186:LEU:HD23	23:Y:186:LEU:HA	1.79	0.45
23:Y:276:LYS:HB3	23:Y:276:LYS:HE2	1.75	0.45
24:1:769:VAL:HG13	24:1:773:LEU:HD21	1.99	0.45
24:1:1142:ASN:H	24:1:1142:ASN:HD22	1.64	0.45
24:1:1226:VAL:O	24:1:1230:VAL:HG23	2.17	0.45
25:3:14:ILE:HD11	25:3:356:HIS:CD2	2.51	0.45
25:3:93:GLN:O	25:3:97:ASN:N	2.50	0.45
25:3:278:LEU:HD21	25:3:816:LYS:NZ	2.32	0.45
25:3:528:ARG:HG3	25:3:529:ALA:N	2.32	0.45
1:A:259:ASP:OD1	1:A:259:ASP:N	2.39	0.45
1:A:260:LEU:HD21	1:A:454:TYR:CZ	2.52	0.45
1:A:774:LYS:HE3	8:H:23:A:OP1	2.15	0.45
1:A:1108:ASP:OD1	1:A:1108:ASP:N	2.49	0.45
1:A:1644:LEU:HD23	1:A:1644:LEU:HA	1.71	0.45
1:A:1719:PHE:CD1	1:A:1719:PHE:C	2.90	0.45
1:A:1841:THR:OG1	1:A:1868:MET:SD	2.64	0.45
3:C:453:TYR:CE2	3:C:575:GLN:HB2	2.52	0.45
3:C:574:ALA:O	3:C:575:GLN:NE2	2.46	0.45
3:C:651:ILE:HG22	3:C:652:ASP:N	2.31	0.45
3:C:776:GLU:O	3:C:781:ASP:HA	2.16	0.45
3:C:827:LEU:O	3:C:907:VAL:HG23	2.17	0.45
4:D:668:ASP:O	4:D:672:GLY:HA3	2.16	0.45
5:E:145:LYS:HD2	5:E:184:LYS:HE2	1.98	0.45
12:L:178:GLU:HB3	12:L:181:ARG:NH1	2.32	0.45
17:R:364:GLN:O	17:R:368:ASN:ND2	2.50	0.45
17:R:376:LYS:HE3	17:R:376:LYS:HB3	1.75	0.45
19:T:498:GLU:H	19:T:498:GLU:HG3	1.42	0.45
21:V:562:TRP:CD2	21:V:602:ARG:HD3	2.51	0.45
23:Y:104:HIS:NE2	23:Y:124:THR:OG1	2.29	0.45
24:1:644:LEU:HB3	24:1:648:LEU:CD1	2.46	0.45
24:1:854:VAL:HG11	24:1:891:GLN:HG3	1.97	0.45
24:1:856:ASP:HB3	24:1:864:TYR:CE2	2.51	0.45
35:9:325:ILE:HB	35:9:328:PHE:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1418:ARG:HB2	1:A:1462:GLY:HA3	1.98	0.45
1:A:1625:SER:OG	1:A:1687:TYR:HD2	1.99	0.45
3:C:113:VAL:HG23	3:C:114:TYR:H	1.82	0.45
3:C:684:LYS:HB3	3:C:795:VAL:HB	1.98	0.45
4:D:783:ALA:O	4:D:809:LEU:HA	2.17	0.45
5:E:329:SER:N	5:E:347:SER:OG	2.49	0.45
8:H:99:A:HO2'	8:H:100:U:P	2.38	0.45
11:K:218:LYS:HB2	11:K:218:LYS:HE3	1.36	0.45
16:Q:1144:CYS:O	16:Q:1148:ASN:N	2.47	0.45
17:R:158:LYS:O	17:R:161:ALA:HB3	2.17	0.45
17:R:171:LEU:HD11	17:R:203:GLN:OE1	2.16	0.45
21:V:533:TYR:CE2	21:V:568:ILE:HG23	2.52	0.45
22:X:447:LYS:HB2	22:X:514:TYR:CD1	2.51	0.45
22:X:1017:LYS:HB2	22:X:1020:GLU:OE2	2.17	0.45
23:Y:70:LEU:HD22	23:Y:169:PRO:HB2	1.98	0.45
24:1:612:THR:HB	24:1:613:MET:HE2	1.98	0.45
24:1:974:LEU:HG	24:1:974:LEU:H	1.46	0.45
24:1:1298:TYR:CD1	25:3:918:ARG:HB2	2.51	0.45
25:3:488:GLY:C	25:3:490:THR:H	2.20	0.45
28:2:541:GLN:O	28:2:545:GLU:HG2	2.17	0.45
30:7:48:GLU:H	30:7:48:GLU:HG3	1.32	0.45
35:9:370:ASN:ND2	35:9:375:SER:H	2.15	0.45
1:A:642:ARG:NH2	2:B:55:C:N3	2.60	0.45
1:A:929:GLU:O	1:A:933:ARG:HG3	2.17	0.45
1:A:1778:TRP:C	1:A:1779:PHE:HD2	2.19	0.45
1:A:1781:ASP:HB2	1:A:1808:PHE:HB3	1.99	0.45
1:A:1903:GLY:O	1:A:1907:LEU:HG	2.16	0.45
2:B:14:U:H2'	2:B:15:C:C6	2.51	0.45
3:C:339:PHE:HE1	3:C:356:PHE:HZ	1.62	0.45
5:E:71:CYS:HB2	5:E:115:LEU:HG	1.99	0.45
5:E:94:ASN:N	5:E:100:ASP:O	2.40	0.45
5:E:343:ILE:HA	5:E:352:TYR:O	2.17	0.45
7:G:-7:U:H5'	7:G:-6:C:OP2	2.17	0.45
7:G:90:C:H42	8:H:40:C:N4	2.14	0.45
8:H:105:G:N2	8:H:107:A:H5'	2.31	0.45
9:I:427:LYS:O	9:I:429:VAL:N	2.48	0.45
10:J:262:ARG:NH2	10:J:291:GLN:HG2	2.32	0.45
12:L:201:LYS:HD2	12:L:201:LYS:HA	1.61	0.45
15:P:30:TYR:CG	17:R:164:PRO:HD2	2.51	0.45
21:V:450:ILE:HD12	21:V:450:ILE:HA	1.83	0.45
22:X:396:ARG:NE	22:X:431:GLN:HE22	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:845:ALA:CB	22:X:915:ARG:HB2	2.46	0.45
23:Y:80:ALA:HB2	23:Y:102:ASP:O	2.16	0.45
24:1:560:LEU:HD11	24:1:600:LEU:HD12	1.99	0.45
25:3:334:PRO:HB3	25:3:432:ARG:NH1	2.30	0.45
25:3:404:LEU:HB3	25:3:407:ILE:HG12	1.99	0.45
25:3:996:ILE:HG21	25:3:1041:TYR:CD1	2.52	0.45
35:9:285:HIS:O	35:9:429:ASP:HB2	2.16	0.45
35:9:315:TYR:CZ	35:9:335:PRO:HG2	2.52	0.45
35:9:437:PRO:HG2	35:9:438:TYR:CE2	2.52	0.45
1:A:126:ILE:HA	1:A:499:GLN:OE1	2.17	0.45
1:A:273:ILE:HG23	1:A:274:PRO:HD2	1.99	0.45
1:A:1536:LEU:HD11	1:A:1576:ILE:HD11	1.97	0.45
3:C:121:ASP:OD1	3:C:122:LEU:N	2.50	0.45
3:C:510:LEU:CB	3:C:564:THR:HG23	2.47	0.45
3:C:568:PRO:C	3:C:570:GLY:H	2.20	0.45
5:E:146:ARG:HD2	5:E:148:LYS:CE	2.47	0.45
6:F:40:U:H2'	6:F:41:A:C8	2.51	0.45
6:F:83:A:H1'	6:F:84:A:C8	2.52	0.45
7:G:105:C:H5'	7:G:105:C:O2	2.17	0.45
8:H:150:U:H3	8:H:181:G:H22	1.64	0.45
14:O:256:GLY:HA3	14:O:279:ALA:CB	2.47	0.45
17:R:351:GLU:OE2	22:X:256:LEU:CA	2.64	0.45
21:V:596:LEU:N	21:V:597:PRO:HD2	2.32	0.45
22:X:263:SER:O	22:X:267:ARG:CB	2.60	0.45
22:X:444:LYS:N	22:X:444:LYS:HD2	2.32	0.45
22:X:698:LYS:HD3	22:X:707:GLU:HB2	1.99	0.45
24:1:1195:MET:O	24:1:1199:VAL:HG23	2.16	0.45
25:3:185:LEU:HD23	25:3:185:LEU:HA	1.69	0.45
25:3:193:ASP:OD2	31:5:37:ARG:NH2	2.46	0.45
25:3:458:ALA:O	25:3:459:VAL:HG23	2.16	0.45
25:3:592:LEU:HA	25:3:592:LEU:HD13	1.64	0.45
25:3:704:VAL:C	25:3:710:GLU:HG3	2.37	0.45
25:3:739:LEU:HD23	25:3:739:LEU:HA	1.70	0.45
28:2:595:LYS:NZ	28:2:596:GLU:HA	2.32	0.45
30:7:9:ILE:O	30:7:88:ILE:HG22	2.17	0.45
35:9:242:SER:HB2	35:9:262:GLU:C	2.37	0.45
1:A:1007:ASP:HB3	12:L:80:THR:HG21	1.98	0.45
1:A:1712:HIS:ND1	1:A:1734:MET:HG3	2.32	0.45
1:A:1971:LEU:HD23	1:A:1971:LEU:HA	1.82	0.45
3:C:247:VAL:HG11	3:C:292:TYR:HB3	1.98	0.45
3:C:686:THR:CB	3:C:793:ASP:HB3	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:853:ARG:HD3	3:C:879:ASP:O	2.17	0.45
6:F:25:C:H4'	6:F:26:U:OP2	2.17	0.45
6:F:39:A:C2'	6:F:40:U:H5'	2.47	0.45
8:H:47:U:C6	8:H:47:U:OP1	2.70	0.45
8:H:158:G:H2'	8:H:159:U:O4'	2.16	0.45
9:I:296:PHE:CB	9:I:337:LEU:HA	2.46	0.45
13:N:15:TRP:CZ3	13:N:22:LEU:HD12	2.38	0.45
14:O:235:TYR:HA	14:O:270:ALA:O	2.17	0.45
16:Q:437:ASN:O	16:Q:450:LEU:HA	2.16	0.45
17:R:331:ALA:CA	22:X:275:ARG:HH22	2.30	0.45
17:R:355:ILE:CG1	22:X:256:LEU:CD1	2.95	0.45
19:T:422:ASN:HB2	19:T:426:VAL:HB	1.97	0.45
21:V:553:HIS:CD2	21:V:556:TYR:CE1	3.05	0.45
22:X:257:PHE:O	22:X:259:ASP:N	2.49	0.45
22:X:525:ARG:O	22:X:754:GLU:HB2	2.16	0.45
22:X:826:LYS:HA	22:X:826:LYS:HD2	1.68	0.45
24:1:907:ASP:OD2	24:1:909:VAL:HB	2.16	0.45
24:1:1130:PRO:HD3	28:2:575:PHE:CE2	2.52	0.45
25:3:124:ASP:OD2	25:3:128:ARG:HG3	2.17	0.45
25:3:325:ILE:HB	25:3:375:SER:HB3	1.99	0.45
25:3:1188:ASN:HA	25:3:1191:LYS:HZ2	1.82	0.45
28:2:506:PHE:HB3	28:2:508:ARG:CG	2.46	0.45
1:A:839:LEU:O	1:A:843:LEU:HG	2.17	0.45
1:A:1301:ILE:HA	1:A:1301:ILE:HD13	1.67	0.45
3:C:137:HIS:HB3	3:C:140:HIS:ND1	2.32	0.45
3:C:267:LEU:HD23	3:C:267:LEU:HA	1.74	0.45
3:C:349:PHE:CZ	3:C:351:PRO:HA	2.52	0.45
4:D:1581:ALA:O	4:D:1584:ILE:HA	2.17	0.45
6:F:65:G:H5"	6:F:66:C:OP2	2.17	0.45
6:F:84:A:O2'	6:F:85:U:H2'	2.17	0.45
8:H:160:A:C2	8:H:171:U:C2	3.05	0.45
10:J:231:PHE:HA	10:J:234:ASN:HD22	1.82	0.45
16:Q:599:GLY:HA3	16:Q:608:ILE:N	2.31	0.45
17:R:328:ALA:HA	22:X:279:LEU:CD1	2.47	0.45
21:V:374:ASP:O	21:V:376:TYR:N	2.45	0.45
21:V:570:LEU:HD23	21:V:575:THR:HG21	1.98	0.45
24:1:857:LEU:HA	24:1:865:ARG:HB3	1.99	0.45
24:1:1017:LEU:HD22	24:1:1050:VAL:HG11	1.98	0.45
25:3:331:ASP:CG	25:3:390:ARG:HH21	2.20	0.45
35:9:41:HIS:HA	35:9:48:PRO:HA	1.99	0.45
1:A:37:TRP:CE3	1:A:37:TRP:O	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:364:SER:O	1:A:366:LYS:HD3	2.17	0.45
1:A:1362:ASP:CG	1:A:1363:GLN:H	2.17	0.45
2:B:18:C:O2	2:B:59:G:N2	2.33	0.45
3:C:259:LYS:HE3	45:C:1500:GTP:C1'	2.47	0.45
7:G:99:C:N3	8:H:33:G:C4	2.84	0.45
8:H:48:A:C4	8:H:78:C:P	3.10	0.45
8:H:106:G:N3	8:H:107:A:N6	2.65	0.45
10:J:381:LYS:O	10:J:384:ARG:HB3	2.17	0.45
16:Q:494:PRO:HB2	16:Q:503:VAL:O	2.17	0.45
17:R:429:ILE:CD1	17:R:431:ASN:HD22	2.30	0.45
21:V:219:VAL:O	21:V:223:ASN:CB	2.65	0.45
22:X:181:PHE:O	22:X:185:VAL:HG23	2.16	0.45
25:3:147:ASP:OD2	25:3:151:ARG:HG2	2.16	0.45
25:3:184:CYS:SG	25:3:211:TYR:HE1	2.40	0.45
25:3:407:ILE:HD11	25:3:1124:GLY:HA2	1.99	0.45
25:3:485:LEU:CD2	25:3:491:VAL:HG12	2.46	0.45
25:3:543:THR:O	25:3:558:LEU:HD12	2.17	0.45
25:3:1098:GLY:C	25:3:1099:GLU:HG3	2.38	0.45
1:A:232:LEU:N	1:A:233:PRO:HD2	2.32	0.44
1:A:406:TRP:CZ2	3:C:266:GLU:HG3	2.52	0.44
1:A:974:ASN:OD1	1:A:1100:ARG:NH1	2.50	0.44
1:A:1318:THR:HB	1:A:1324:GLY:HA3	1.99	0.44
1:A:1361:GLU:HG3	1:A:1362:ASP:OD2	2.17	0.44
1:A:1645:LEU:HD11	1:A:1727:GLN:HG3	1.99	0.44
1:A:1681:ARG:HB3	1:A:1681:ARG:HH11	1.82	0.44
1:A:1687:TYR:HA	1:A:1690:ASP:OD2	2.17	0.44
1:A:2307:GLU:C	4:D:1125:SER:N	2.70	0.44
5:E:75:HIS:HB3	5:E:79:SER:H	1.82	0.44
6:F:81:C:N4	8:H:17:U:H3	2.15	0.44
7:G:6:A:H2'	7:G:7:G:C8	2.53	0.44
7:G:12:G:H3'	7:G:13:C:C5	2.51	0.44
7:G:110:U:H5"	22:X:455:ARG:H	1.83	0.44
15:P:50:ALA:O	15:P:54:VAL:HG23	2.17	0.44
15:P:52:GLU:HB2	15:P:53:GLU:OE1	2.17	0.44
17:R:153:LYS:HD2	17:R:154:SER:N	2.32	0.44
17:R:325:ARG:HH11	23:Y:222:ILE:HG23	1.82	0.44
22:X:246:LEU:HG	22:X:277:ARG:NE	2.27	0.44
22:X:421:GLU:HB2	22:X:557:THR:HG21	1.99	0.44
22:X:644:VAL:O	22:X:645:LEU:HD23	2.18	0.44
22:X:988:GLU:CB	22:X:998:ARG:HB2	2.48	0.44
23:Y:298:PHE:HE2	23:Y:314:ASP:HA	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1:581:LEU:HD13	24:1:589:ALA:HB1	1.98	0.44
25:3:27:GLN:OE1	25:3:42:ARG:NH1	2.50	0.44
25:3:114:ARG:HD2	31:5:41:CYS:SG	2.57	0.44
25:3:243:ASP:OD1	25:3:244:GLY:N	2.50	0.44
25:3:595:VAL:HG22	25:3:596:PRO:O	2.17	0.44
25:3:910:ALA:HB2	25:3:948:VAL:HG23	1.98	0.44
25:3:988:ASN:ND2	25:3:1004:ASP:OD1	2.50	0.44
25:3:1102:LEU:HD12	25:3:1102:LEU:HA	1.66	0.44
28:2:477:MET:SD	28:2:478:HIS:CE1	3.10	0.44
28:2:517:ILE:H	28:2:517:ILE:HG13	1.27	0.44
28:2:569:GLN:O	28:2:573:ASP:HB2	2.17	0.44
28:2:600:ARG:H	28:2:600:ARG:HG2	1.61	0.44
1:A:246:LEU:HA	1:A:246:LEU:HD23	1.68	0.44
1:A:350:PHE:HE1	3:C:264:ILE:HG23	1.82	0.44
1:A:362:ARG:NH2	21:V:323:LEU:C	2.71	0.44
1:A:363:HIS:HB2	1:A:366:LYS:NZ	2.31	0.44
1:A:599:MET:H	1:A:599:MET:HG2	1.54	0.44
1:A:1723:LYS:HB3	1:A:1724:PRO:HD3	1.98	0.44
1:A:1866:LYS:HE2	1:A:1866:LYS:HB2	1.84	0.44
4:D:864:LYS:N	25:3:598:GLY:O	2.46	0.44
6:F:28:A:H61	14:O:173:CYS:HA	1.82	0.44
6:F:40:U:H3	7:G:7:G:H1	1.65	0.44
8:H:161:U:H2'	8:H:163:G:N2	2.32	0.44
10:J:285:MET:HE3	10:J:286:GLU:OE2	2.17	0.44
13:N:75:TYR:O	13:N:79:ILE:HD12	2.18	0.44
15:P:74:LYS:HA	15:P:77:ASP:HB3	1.99	0.44
15:P:186:ARG:CD	15:P:190:ASP:HB3	2.47	0.44
16:Q:698:SER:HA	16:Q:1129:PRO:HD3	1.98	0.44
17:R:211:ARG:HB2	17:R:212:PHE:CE2	2.52	0.44
19:T:195:LYS:HZ3	19:T:490:ARG:HH21	1.62	0.44
22:X:242:LYS:HE3	22:X:242:LYS:HB3	1.48	0.44
22:X:419:ILE:O	22:X:569:VAL:HA	2.17	0.44
24:1:781:ASP:O	24:1:785:LYS:HG3	2.17	0.44
24:1:1017:LEU:HD21	24:1:1058:ILE:HD11	1.99	0.44
25:3:101:LYS:HE3	25:3:101:LYS:HB2	1.65	0.44
25:3:275:ARG:HH21	25:3:275:ARG:CB	2.31	0.44
25:3:499:PHE:CZ	25:3:516:LEU:HD22	2.46	0.44
28:2:452:LYS:HE3	28:2:456:ARG:CG	2.46	0.44
28:2:526:ASP:O	28:2:528:ILE:N	2.50	0.44
31:5:33:VAL:CG2	31:5:76:CYS:HB2	2.47	0.44
1:A:67:ARG:HE	1:A:67:ARG:HB2	1.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:485:THR:HG22	1:A:486:LYS:H	1.83	0.44
1:A:864:LEU:HD12	1:A:864:LEU:HA	1.52	0.44
1:A:1309:SER:O	1:A:1544:ARG:HD3	2.17	0.44
1:A:1893:PHE:O	1:A:1896:CYS:HB2	2.17	0.44
3:C:95:LYS:HE2	3:C:95:LYS:HB2	1.58	0.44
3:C:403:LEU:HD23	3:C:403:LEU:HA	1.87	0.44
3:C:788:LYS:HE2	3:C:790:LYS:HE3	1.98	0.44
5:E:188:GLN:CD	5:E:189:THR:H	2.21	0.44
6:F:5:U:N3	6:F:7:G:N7	2.65	0.44
6:F:7:G:H2'	6:F:8:C:C6	2.52	0.44
7:G:99:C:C4	8:H:33:G:C5	3.05	0.44
12:L:225:TYR:N	17:R:85:ALA:CB	2.80	0.44
22:X:448:ILE:HB	22:X:493:LEU:HD22	1.98	0.44
22:X:898:CYS:SG	22:X:903:VAL:HB	2.57	0.44
23:Y:44:ASN:HD22	23:Y:52:GLN:HB3	1.82	0.44
23:Y:64:GLU:HG2	23:Y:77:PHE:CE1	2.52	0.44
24:1:658:TRP:CZ3	24:1:698:GLN:HG2	2.52	0.44
24:1:1149:LYS:O	24:1:1152:SER:HB3	2.17	0.44
25:3:288:VAL:HG23	25:3:289:CYS:N	2.30	0.44
1:A:298:ASP:HB3	1:A:301:LYS:HD3	1.99	0.44
1:A:325:HIS:CD2	1:A:326:HIS:CD2	2.93	0.44
1:A:407:ALA:O	1:A:412:ASN:HB3	2.17	0.44
1:A:591:MET:HB3	1:A:598:LEU:CD2	2.48	0.44
1:A:779:LEU:HD12	1:A:905:LEU:HD11	2.00	0.44
1:A:1000:ILE:HA	1:A:1000:ILE:HD12	1.58	0.44
1:A:1210:LYS:HE2	1:A:1210:LYS:HB2	1.75	0.44
1:A:1725:LEU:HD12	1:A:1725:LEU:HA	1.75	0.44
44:A:3000:IHP:O45	44:A:3000:IHP:H6	2.16	0.44
3:C:142:LYS:HZ1	3:C:207:GLY:CA	2.30	0.44
3:C:296:GLU:H	3:C:296:GLU:CD	2.21	0.44
3:C:474:LEU:HD11	3:C:501:ILE:HG23	1.99	0.44
3:C:742:PRO:CG	3:C:785:ARG:HG2	2.48	0.44
3:C:802:HIS:CE1	3:C:803:ARG:HH11	2.36	0.44
3:C:909:GLY:HA3	3:C:930:ALA:HB3	1.99	0.44
4:D:1526:HIS:O	4:D:1703:VAL:HA	2.18	0.44
5:E:326:HIS:CE1	5:E:346:SER:HB2	2.53	0.44
7:G:99:C:N3	8:H:33:G:C5	2.85	0.44
8:H:56:A:C4	28:2:504:TRP:CZ3	3.06	0.44
10:J:225:LEU:CB	12:L:211:ASN:ND2	2.70	0.44
11:K:232:ILE:O	11:K:236:LEU:HG	2.18	0.44
15:P:28:LYS:HD2	17:R:164:PRO:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:P:45:GLN:HA	15:P:45:GLN:NE2	2.33	0.44
19:T:203:HIS:CD2	19:T:207:VAL:HG22	2.52	0.44
19:T:295:ASP:O	19:T:303:LEU:HD23	2.18	0.44
21:V:593:TYR:HD1	21:V:593:TYR:HA	1.73	0.44
22:X:497:THR:H	22:X:500:MET:HB2	1.81	0.44
22:X:620:GLU:H	22:X:620:GLU:CD	2.17	0.44
24:1:781:ASP:HB3	24:1:784:MET:HB2	2.00	0.44
24:1:946:LYS:O	24:1:950:GLN:HG3	2.17	0.44
24:1:963:LYS:O	24:1:965:CYS:N	2.50	0.44
25:3:109:LYS:NZ	30:7:79:GLU:O	2.50	0.44
25:3:249:LEU:HD23	25:3:256:ILE:HD11	1.98	0.44
25:3:424:TYR:HD1	25:3:437:VAL:HG22	1.82	0.44
25:3:485:LEU:HA	25:3:494:VAL:HB	1.98	0.44
25:3:741:PHE:HB3	25:3:757:ILE:HG13	1.99	0.44
25:3:753:GLY:O	25:3:754:ILE:HD13	2.17	0.44
35:9:315:TYR:OH	35:9:343:GLU:OE1	2.26	0.44
35:9:366:LEU:HD11	35:9:380:PHE:CD2	2.52	0.44
1:A:533:LYS:HE2	7:G:4:A:H5”	1.99	0.44
1:A:863:GLU:HG3	1:A:913:PRO:HB3	2.00	0.44
1:A:1660:TYR:CE1	1:A:1699:THR:HG22	2.53	0.44
3:C:69:ALA:O	3:C:72:VAL:N	2.45	0.44
3:C:485:ASP:OD1	3:C:486:ASP:N	2.51	0.44
3:C:766:ILE:HD12	3:C:766:ILE:HA	1.87	0.44
4:D:824:HIS:HA	4:D:862:ASP:CB	2.47	0.44
5:E:125:PHE:CE2	5:E:135:VAL:HG13	2.52	0.44
6:F:82:A:O2’	6:F:83:A:H2’	2.17	0.44
6:F:83:A:H1’	6:F:84:A:C4	2.53	0.44
7:G:88:G:H1’	8:H:42:G:N2	2.33	0.44
8:H:30:A:H2’	8:H:30:A:N3	2.32	0.44
8:H:114:A:H2’	8:H:115:G:C8	2.53	0.44
9:I:96:ASN:N	16:Q:949:SER:CB	2.81	0.44
10:J:339:TRP:CE3	17:R:116:TYR:HD2	2.36	0.44
10:J:346:TRP:CG	10:J:369:PHE:HD1	2.35	0.44
13:N:1:MET:H3	13:N:2:PRO:HD2	1.82	0.44
14:O:163:HIS:O	14:O:182:ARG:N	2.51	0.44
19:T:341:ALA:O	19:T:344:GLN:HG3	2.17	0.44
24:1:761:TYR:O	24:1:765:TYR:HB2	2.17	0.44
25:3:341:VAL:HG12	25:3:347:LEU:HB2	2.00	0.44
25:3:1151:GLU:OE2	25:3:1193:VAL:HG21	2.18	0.44
28:2:510:TYR:CD2	28:2:510:TYR:O	2.71	0.44
28:2:512:GLN:N	28:2:512:GLN:OE1	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:528:ILE:O	28:2:531:THR:HG23	2.18	0.44
28:2:707:PRO:HG2	28:2:710:GLU:HG2	2.00	0.44
31:5:63:ARG:HD3	31:5:63:ARG:HA	1.77	0.44
1:A:50:LYS:HB2	1:A:50:LYS:HZ2	1.81	0.44
1:A:384:VAL:HG12	3:C:327:TYR:CE2	2.53	0.44
1:A:384:VAL:HG13	3:C:331:PHE:CD2	2.53	0.44
1:A:758:ARG:HA	1:A:758:ARG:HD2	1.78	0.44
1:A:872:ASP:C	1:A:874:PRO:HD3	2.38	0.44
1:A:1368:LEU:HA	1:A:1368:LEU:HD23	1.56	0.44
1:A:1457:HIS:CE1	1:A:1460:HIS:HD2	2.35	0.44
1:A:1838:LYS:HB3	1:A:1868:MET:HG3	1.99	0.44
1:A:1891:LEU:O	1:A:1893:PHE:N	2.47	0.44
1:A:1933:PHE:O	1:A:1937:ILE:HG13	2.17	0.44
2:B:64:G:C6	2:B:65:G:C5	3.05	0.44
3:C:530:LEU:HD23	3:C:530:LEU:HA	1.67	0.44
3:C:743:ASN:HB3	3:C:787:VAL:HG13	2.00	0.44
5:E:81:LEU:HB2	5:E:95:VAL:HG22	1.99	0.44
5:E:259:VAL:CG2	5:E:277:PHE:HB2	2.48	0.44
6:F:28:A:N6	14:O:173:CYS:HA	2.33	0.44
6:F:43:A:N6	6:F:44:G:O6	2.50	0.44
21:V:525:PHE:HA	21:V:528:ILE:HB	1.99	0.44
22:X:408:LEU:HB2	22:X:570:PHE:CZ	2.52	0.44
22:X:591:TYR:CD2	22:X:692:PRO:HB2	2.50	0.44
22:X:620:GLU:OE2	22:X:620:GLU:N	2.44	0.44
23:Y:47:ARG:NH2	23:Y:141:GLU:O	2.51	0.44
25:3:249:LEU:HD12	25:3:249:LEU:N	2.33	0.44
35:9:423:LYS:HE3	35:9:423:LYS:HB3	1.67	0.44
1:A:858:GLN:OE1	1:A:858:GLN:HA	2.17	0.44
1:A:1391:LEU:HD23	1:A:1391:LEU:HA	1.73	0.44
3:C:83:GLU:H	3:C:83:GLU:HG2	1.34	0.44
3:C:471:ASP:O	3:C:499:GLY:HA2	2.18	0.44
3:C:745:LEU:HB2	3:C:770:PHE:CD2	2.53	0.44
5:E:235:ALA:HB3	5:E:256:ASP:HB2	1.99	0.44
5:E:316:SER:O	5:E:317:ARG:HG3	2.18	0.44
6:F:60:C:O2	12:L:206:ARG:HG2	2.17	0.44
7:G:99:C:C4	8:H:33:G:C6	3.05	0.44
16:Q:569:PRO:HA	16:Q:587:VAL:O	2.18	0.44
18:S:12:PRO:O	18:S:26:GLU:HA	2.18	0.44
18:S:99:ALA:HB2	18:S:128:ILE:HA	1.99	0.44
22:X:581:ILE:HG21	22:X:736:ARG:NH1	2.33	0.44
22:X:992:THR:O	22:X:994:LYS:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:1003:ILE:HD12	22:X:1008:LEU:HD21	1.99	0.44
23:Y:37:TYR:CE1	23:Y:106:SER:HB3	2.52	0.44
23:Y:303:ASN:HA	23:Y:311:ILE:O	2.18	0.44
24:1:750:ILE:HG13	24:1:751:GLY:N	2.32	0.44
25:3:554:VAL:HG12	25:3:556:ILE:HG23	2.00	0.44
25:3:910:ALA:CB	25:3:913:LEU:HD11	2.45	0.44
28:2:498:VAL:HG21	28:2:588:GLY:HA2	1.99	0.44
35:9:300:THR:O	35:9:304:CYS:HB2	2.17	0.44
1:A:388:LEU:HD23	1:A:388:LEU:HA	1.66	0.44
1:A:1661:TRP:CH2	1:A:1684:PHE:HE1	2.36	0.44
1:A:1935:ARG:HA	1:A:1938:LEU:HD12	2.00	0.44
3:C:502:HIS:CE1	3:C:543:ARG:HH12	2.35	0.44
3:C:608:ARG:HB3	3:C:612:LYS:HE3	2.00	0.44
5:E:114:GLU:O	5:E:126:SER:HA	2.18	0.44
5:E:150:HIS:CE1	5:E:177:LYS:HD2	2.53	0.44
8:H:5:C:H2'	8:H:6:U:C6	2.53	0.44
10:J:436:TYR:O	10:J:440:LEU:HD23	2.18	0.44
12:L:76:LYS:NZ	12:L:76:LYS:HB3	2.31	0.44
21:V:572:GLU:OE1	21:V:580:ARG:NH2	2.51	0.44
21:V:628:ILE:HG21	21:V:644:ARG:HD2	1.98	0.44
22:X:279:LEU:HB3	23:Y:226:MET:SD	2.58	0.44
22:X:327:ARG:NH1	22:X:327:ARG:HB3	2.32	0.44
22:X:972:PRO:HA	22:X:977:PHE:CD2	2.52	0.44
23:Y:8:THR:CG2	23:Y:155:ARG:HB2	2.47	0.44
24:1:532:PHE:HD2	24:1:570:TYR:CD2	2.35	0.44
24:1:967:GLU:HB3	24:1:971:MET:H	1.83	0.44
25:3:164:ASN:HD22	25:3:190:GLU:HG2	1.82	0.44
25:3:569:ASP:HA	25:3:570:PRO:HD2	1.49	0.44
25:3:769:LYS:HD3	25:3:769:LYS:H	1.81	0.44
1:A:694:LEU:HD22	1:A:709:ILE:HD12	2.00	0.44
1:A:785:LYS:HE3	1:A:785:LYS:HB3	1.56	0.44
1:A:984:MET:HG3	1:A:985:TYR:CD1	2.53	0.44
1:A:1623:ASN:HD22	1:A:1623:ASN:C	2.19	0.44
1:A:1853:PRO:HD2	1:A:1856:GLU:OE2	2.17	0.44
1:A:1917:PHE:HD1	1:A:1967:ILE:HD11	1.83	0.44
2:B:36:C:O2	20:U:11:ARG:NH2	2.51	0.44
3:C:203:MET:CG	3:C:221:ILE:HD11	2.48	0.44
3:C:219:LEU:HD22	3:C:251:LEU:HG	2.00	0.44
3:C:243:ILE:HG13	3:C:244:LYS:N	2.32	0.44
3:C:259:LYS:CE	45:C:1500:GTP:O2'	2.66	0.44
4:D:1915:ILE:O	4:D:1919:ALA:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:342:GLU:O	10:J:346:TRP:CD1	2.71	0.44
12:L:62:GLU:N	12:L:62:GLU:OE1	2.51	0.44
21:V:571:SER:HB3	21:V:574:THR:OG1	2.17	0.44
21:V:609:GLN:N	21:V:610:PRO:HD2	2.33	0.44
21:V:636:LEU:HD23	21:V:636:LEU:HA	1.57	0.44
22:X:416:GLN:NE2	22:X:544:PRO:HA	2.32	0.44
22:X:482:ARG:NH2	22:X:914:VAL:HG12	2.33	0.44
22:X:576:ARG:HB3	22:X:577:PHE:CD2	2.53	0.44
22:X:808:LEU:HD21	22:X:813:ARG:HB3	2.00	0.44
23:Y:27:ASN:HD21	23:Y:65:SER:HA	1.83	0.44
23:Y:246:LYS:O	23:Y:311:ILE:HG22	2.17	0.44
24:1:694:LEU:HD13	24:1:727:VAL:HG21	2.00	0.44
24:1:1158:ILE:HG13	24:1:1159:GLY:N	2.32	0.44
25:3:1211:ILE:HD12	25:3:1214:ARG:HE	1.82	0.44
31:5:44:MET:HE2	31:5:44:MET:HB2	1.81	0.44
35:9:241:TYR:HB2	35:9:242:SER:H	1.61	0.44
1:A:983:LYS:HE2	1:A:983:LYS:HB2	1.53	0.43
1:A:1109:LEU:HG	1:A:1152:ALA:HB1	2.00	0.43
1:A:1224:ARG:HG3	1:A:1224:ARG:NH1	2.33	0.43
1:A:1276:GLU:OE1	1:A:1375:TRP:N	2.37	0.43
1:A:1375:TRP:O	1:A:1377:SER:N	2.51	0.43
1:A:1978:LYS:HE2	1:A:1978:LYS:HB3	1.76	0.43
2:B:61:A:H2'	2:B:62:G:O4'	2.18	0.43
3:C:280:HIS:HA	3:C:283:ASP:OD1	2.17	0.43
3:C:839:PRO:HG2	3:C:894:GLN:HB3	1.99	0.43
5:E:84:ALA:HB2	5:E:90:ILE:HG12	1.99	0.43
7:G:1:G:H8	7:G:1:G:H2'	1.59	0.43
7:G:6:A:C4	7:G:7:G:C8	3.06	0.43
7:G:88:G:H2'	7:G:88:G:N3	2.33	0.43
7:G:116:C:N1	17:R:370:SER:O	2.51	0.43
8:H:162:U:H4'	8:H:163:G:O4'	2.18	0.43
9:I:140:LEU:N	9:I:141:PRO:CD	2.80	0.43
10:J:241:VAL:O	10:J:244:ASN:ND2	2.51	0.43
10:J:291:GLN:HB3	10:J:294:HIS:ND1	2.33	0.43
16:Q:1317:THR:N	16:Q:1318:PRO:HD2	2.33	0.43
19:T:467:ALA:HB3	19:T:480:ALA:HB3	2.00	0.43
22:X:697:GLN:HB2	22:X:712:THR:HG21	1.99	0.43
23:Y:21:ARG:O	23:Y:25:CYS:HB2	2.18	0.43
24:1:806:ILE:HA	24:1:810:ILE:HD12	2.00	0.43
24:1:969:LYS:HD2	24:1:969:LYS:H	1.83	0.43
24:1:1080:THR:HA	24:1:1083:TYR:CD2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1:1136:TYR:HD2	28:2:522:PHE:HD1	1.66	0.43
25:3:373:PHE:HD1	25:3:385:PHE:CD2	2.36	0.43
25:3:404:LEU:HD12	25:3:404:LEU:HA	1.77	0.43
25:3:462:VAL:HG11	25:3:516:LEU:HD23	2.00	0.43
25:3:543:THR:C	25:3:558:LEU:HD12	2.38	0.43
25:3:1031:ARG:HG2	25:3:1031:ARG:NH1	2.26	0.43
25:3:1115:GLU:CG	28:2:708:TRP:HZ2	2.22	0.43
25:3:1156:CYS:O	25:3:1158:ARG:N	2.50	0.43
28:2:452:LYS:C	28:2:452:LYS:CD	2.86	0.43
1:A:75:ASP:O	1:A:77:THR:HG22	2.18	0.43
1:A:736:GLU:OE2	35:9:247:SER:OG	2.29	0.43
1:A:923:ASP:OD2	1:A:1439:ARG:NH1	2.49	0.43
1:A:1769:GLY:HA2	1:A:1772:PHE:CE1	2.53	0.43
1:A:1777:ILE:HA	1:A:1860:GLN:O	2.18	0.43
3:C:502:HIS:CE1	3:C:543:ARG:NH1	2.86	0.43
3:C:750:LEU:HD11	20:U:67:GLU:CB	2.48	0.43
3:C:848:THR:O	3:C:852:ARG:HG3	2.18	0.43
5:E:110:GLY:N	5:E:130:ASP:OD1	2.35	0.43
6:F:36:A:N6	6:F:38:G:C6	2.86	0.43
8:H:10:C:H2'	8:H:11:G:C8	2.52	0.43
8:H:48:A:N3	8:H:78:C:OP2	2.51	0.43
10:J:375:ASP:HB2	10:J:378:ASN:CG	2.38	0.43
12:L:200:LYS:O	12:L:201:LYS:HB2	2.18	0.43
16:Q:381:ALA:O	16:Q:386:LEU:N	2.30	0.43
17:R:369:LEU:HD12	17:R:376:LYS:HZ2	1.83	0.43
21:V:537:HIS:CE1	21:V:538:ARG:HE	2.36	0.43
22:X:269:GLU:HA	22:X:272:TYR:HB3	2.00	0.43
22:X:849:VAL:O	22:X:851:ASN:N	2.51	0.43
22:X:950:HIS:CG	22:X:986:TYR:CE2	3.06	0.43
23:Y:240:ASN:ND2	23:Y:289:GLU:O	2.51	0.43
23:Y:275:TRP:CG	23:Y:276:LYS:N	2.86	0.43
24:1:645:LEU:HD13	24:1:682:HIS:CD2	2.52	0.43
25:3:549:VAL:HG12	25:3:550:ASN:O	2.18	0.43
25:3:803:ASP:OD2	31:5:58:ASN:ND2	2.51	0.43
25:3:1183:ASN:OD1	25:3:1183:ASN:N	2.51	0.43
1:A:71:ARG:HG3	1:A:71:ARG:HH11	1.83	0.43
1:A:75:ASP:OD1	1:A:75:ASP:N	2.52	0.43
1:A:118:VAL:O	1:A:484:SER:HA	2.18	0.43
1:A:593:ARG:CZ	1:A:1565:LYS:HZ3	2.31	0.43
1:A:1337:GLN:HA	1:A:1337:GLN:HE21	1.82	0.43
1:A:1889:LEU:CG	1:A:2013:GLY:CA	2.88	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:328:GLY:O	5:E:346:SER:OG	2.37	0.43
8:H:70:C:H2'	8:H:71:C:H6	1.80	0.43
19:T:288:LEU:O	19:T:289:SER:OG	2.31	0.43
19:T:320:LYS:HE2	19:T:320:LYS:HB2	1.72	0.43
21:V:451:ASN:OD1	21:V:452:LEU:N	2.51	0.43
22:X:164:TRP:CE3	22:X:165:GLU:HA	2.53	0.43
23:Y:177:ARG:HG2	23:Y:178:SER:H	1.83	0.43
24:1:685:SER:O	24:1:689:ILE:HG12	2.17	0.43
24:1:770:MET:HE3	24:1:770:MET:HB2	1.74	0.43
25:3:329:TYR:HB3	25:3:370:GLU:CD	2.39	0.43
25:3:568:MET:H	25:3:568:MET:HG2	1.58	0.43
25:3:705:ARG:NH2	25:3:746:ALA:HB2	2.34	0.43
25:3:779:PHE:N	25:3:779:PHE:CD1	2.86	0.43
25:3:798:ILE:H	25:3:798:ILE:HG12	1.47	0.43
25:3:986:ILE:HG21	25:3:990:ILE:HG12	1.99	0.43
28:2:465:LEU:HB3	28:2:475:VAL:HG11	2.00	0.43
28:2:511:LEU:O	28:2:513:GLY:N	2.51	0.43
1:A:606:LYS:HD2	44:A:3000:IHP:O26	2.18	0.43
1:A:1012:LYS:O	1:A:1012:LYS:HG3	2.19	0.43
1:A:1050:LEU:HA	1:A:1050:LEU:HD23	1.80	0.43
1:A:1726:ILE:O	1:A:1727:GLN:C	2.54	0.43
2:B:63:A:C2	2:B:64:G:C5	3.06	0.43
3:C:219:LEU:HD23	3:C:219:LEU:HA	1.67	0.43
3:C:366:GLN:HB2	3:C:370:VAL:HB	1.99	0.43
5:E:125:PHE:N	5:E:125:PHE:HD2	2.16	0.43
5:E:258:THR:HG23	5:E:278:GLN:HE22	1.84	0.43
7:G:90:C:H2'	7:G:91:A:C8	2.53	0.43
8:H:7:U:H2'	8:H:8:C:O4'	2.18	0.43
21:V:497:CYS:HG	21:V:503:TYR:HE2	1.63	0.43
22:X:482:ARG:HH21	22:X:914:VAL:HG12	1.83	0.43
22:X:809:THR:HG22	22:X:810:THR:N	2.34	0.43
22:X:877:ASP:O	22:X:880:VAL:HB	2.19	0.43
22:X:921:LEU:O	22:X:925:VAL:HG22	2.17	0.43
23:Y:26:LEU:HB3	23:Y:166:PHE:CE1	2.53	0.43
24:1:1286:ARG:O	28:2:490:HIS:NE2	2.50	0.43
25:3:192:ALA:CB	31:5:73:LEU:HD11	2.49	0.43
25:3:925:VAL:O	25:3:942:LYS:HA	2.18	0.43
28:2:510:TYR:CE1	28:2:511:LEU:HG	2.53	0.43
31:5:20:GLY:HA2	31:5:34:ASN:ND2	2.33	0.43
35:9:292:ASN:HB2	35:9:402:GLY:N	2.33	0.43
3:C:453:TYR:HB3	3:C:456:GLY:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:632:THR:H	3:C:636:TYR:HD2	1.66	0.43
4:D:1189:HIS:O	4:D:1200:VAL:HA	2.18	0.43
5:E:75:HIS:HB3	5:E:78:GLY:N	2.29	0.43
7:G:6:A:C6	7:G:7:G:C6	3.06	0.43
11:K:198:GLN:NE2	11:K:198:GLN:HA	2.34	0.43
17:R:335:ARG:HA	22:X:271:LYS:NZ	2.34	0.43
17:R:360:ARG:CZ	23:Y:275:TRP:CD1	2.97	0.43
22:X:269:GLU:HA	22:X:269:GLU:OE2	2.18	0.43
22:X:888:TRP:O	22:X:891:SER:OG	2.25	0.43
23:Y:26:LEU:HB3	23:Y:166:PHE:CD1	2.53	0.43
23:Y:223:LEU:O	23:Y:226:MET:HB3	2.18	0.43
24:1:551:LEU:O	24:1:555:VAL:HG23	2.18	0.43
24:1:630:ARG:O	24:1:634:VAL:HG23	2.18	0.43
24:1:666:LYS:HB3	24:1:704:ILE:CD1	2.48	0.43
25:3:123:VAL:HG22	25:3:124:ASP:H	1.84	0.43
25:3:125:PRO:HG2	25:3:174:ASP:HA	1.98	0.43
25:3:558:LEU:HD23	25:3:562:GLU:HB3	1.99	0.43
25:3:590:MET:HB2	25:3:606:ALA:O	2.18	0.43
25:3:679:LEU:HD22	25:3:679:LEU:HA	1.78	0.43
1:A:312:TYR:N	1:A:312:TYR:CD1	2.83	0.43
1:A:1636:LYS:HG3	1:A:1658:GLN:HE21	1.84	0.43
1:A:1975:GLU:O	1:A:1979:VAL:HG22	2.19	0.43
3:C:643:ASP:N	3:C:643:ASP:OD1	2.52	0.43
3:C:664:GLU:HG3	3:C:784:ILE:HG22	1.99	0.43
3:C:721:LYS:HB2	3:C:722:TYR:CE2	2.54	0.43
3:C:801:LEU:HD23	3:C:801:LEU:HA	1.76	0.43
3:C:807:GLN:HE21	35:9:145:LEU:HA	1.83	0.43
3:C:914:LYS:HD2	3:C:931:ARG:NH2	2.33	0.43
5:E:177:LYS:HB3	5:E:179:TRP:HE1	1.83	0.43
5:E:343:ILE:HD11	5:E:351:LEU:HD13	2.01	0.43
6:F:58:G:HO2'	6:F:59:G:P	2.40	0.43
7:G:104:C:O2	7:G:104:C:H2'	2.18	0.43
10:J:242:ILE:HA	10:J:245:TRP:HD1	1.83	0.43
10:J:339:TRP:HA	17:R:116:TYR:CE2	2.53	0.43
17:R:386:ARG:HG3	22:X:909:ARG:HH22	1.77	0.43
21:V:497:CYS:HB2	21:V:507:PHE:HB2	1.99	0.43
22:X:226:LEU:CD2	23:Y:315:PHE:CE2	2.70	0.43
22:X:412:ILE:HB	22:X:418:LEU:HD23	2.01	0.43
22:X:516:VAL:HG22	22:X:547:LYS:CB	2.47	0.43
22:X:529:THR:O	22:X:532:LEU:HG	2.19	0.43
22:X:792:ALA:O	22:X:796:LEU:HG	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1:830:TYR:HA	24:1:867:MET:SD	2.57	0.43
24:1:963:LYS:HG3	24:1:964:THR:N	2.33	0.43
24:1:1156:GLU:O	30:7:38:ARG:NH1	2.51	0.43
24:1:1292:LYS:O	31:5:78:PRO:HD2	2.18	0.43
25:3:234:PHE:CD1	25:3:235:LEU:N	2.86	0.43
25:3:604:PHE:CZ	25:3:681:PRO:HD3	2.53	0.43
25:3:611:ASP:O	25:3:612:ASN:HB2	2.17	0.43
25:3:955:PHE:HZ	25:3:1014:TYR:CD2	2.36	0.43
25:3:993:ILE:HG23	25:3:1002:VAL:HG23	1.99	0.43
25:3:1041:TYR:HB3	28:2:705:ARG:HA	1.99	0.43
25:3:1158:ARG:HG3	25:3:1159:ASP:N	2.34	0.43
28:2:509:LYS:N	28:2:509:LYS:CE	2.73	0.43
30:7:74:GLU:O	30:7:78:GLN:HG3	2.18	0.43
35:9:285:HIS:N	35:9:285:HIS:CD2	2.87	0.43
35:9:300:THR:OG1	35:9:300:THR:O	2.37	0.43
35:9:370:ASN:HD22	35:9:375:SER:H	1.66	0.43
1:A:888:GLN:C	1:A:889:ARG:HG2	2.39	0.43
1:A:1593:LEU:HD23	1:A:1593:LEU:HA	1.55	0.43
1:A:1889:LEU:CD1	1:A:2013:GLY:CA	2.96	0.43
3:C:259:LYS:H	3:C:311:SER:HA	1.83	0.43
3:C:710:ASN:OD1	3:C:713:LYS:HG3	2.19	0.43
3:C:833:PHE:CZ	3:C:872:LYS:HB3	2.54	0.43
3:C:909:GLY:HA3	3:C:930:ALA:H	1.83	0.43
5:E:67:GLY:C	5:E:349:LYS:HG2	2.39	0.43
5:E:125:PHE:CD1	5:E:159:PRO:HG3	2.54	0.43
5:E:267:PHE:HD2	5:E:268:ALA:N	2.16	0.43
7:G:90:C:N4	8:H:40:C:H42	2.16	0.43
8:H:56:A:C5	28:2:504:TRP:CZ3	3.07	0.43
8:H:118:G:C6	8:H:140:A:N6	2.87	0.43
10:J:363:ARG:HB2	10:J:382:TYR:OH	2.18	0.43
10:J:372:VAL:HG12	10:J:373:HIS:CE1	2.53	0.43
15:P:74:LYS:O	15:P:77:ASP:HB3	2.18	0.43
17:R:369:LEU:HA	17:R:376:LYS:CE	2.41	0.43
19:T:473:SER:OG	19:T:475:SER:HB3	2.18	0.43
21:V:563:SER:O	21:V:565:LEU:N	2.52	0.43
21:V:643:LEU:HD23	21:V:643:LEU:HA	1.48	0.43
22:X:647:ILE:HA	22:X:651:LEU:HD21	2.01	0.43
23:Y:208:VAL:O	23:Y:212:LYS:HG3	2.18	0.43
35:9:321:PHE:HB2	35:9:426:ILE:HB	2.00	0.43
1:A:191:ILE:CG1	1:A:571:ALA:HB1	2.49	0.43
1:A:408:PRO:C	1:A:410:PRO:HD2	2.38	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:456:LEU:O	1:A:460:LYS:HG2	2.18	0.43
1:A:755:HIS:HE1	15:P:220:HIS:CE1	2.35	0.43
1:A:1189:MET:CG	1:A:1190:CYS:N	2.80	0.43
1:A:1402:ARG:NH1	17:R:406:GLN:HE21	2.17	0.43
1:A:1840:LYS:O	1:A:1844:GLU:HG2	2.19	0.43
1:A:1990:ASP:HA	1:A:1993:LYS:HD3	2.01	0.43
4:D:1590:LEU:HA	4:D:1640:ALA:O	2.19	0.43
7:G:-8:C:C4'	20:U:18:TYR:HB2	2.49	0.43
7:G:21:A:H4'	7:G:22:C:OP1	2.18	0.43
7:G:86:A:H2	8:H:44:U:O2	2.02	0.43
7:G:100:C:H3'	7:G:100:C:OP2	2.19	0.43
8:H:105:G:O2'	8:H:107:A:OP1	2.23	0.43
17:R:155:VAL:HG22	19:T:323:VAL:HG12	2.00	0.43
21:V:555:LEU:HG	21:V:586:PHE:CZ	2.53	0.43
21:V:571:SER:HA	21:V:623:ASN:HB3	2.01	0.43
22:X:390:GLU:O	22:X:393:GLN:HG3	2.18	0.43
22:X:974:SER:HB3	22:X:977:PHE:HB2	1.99	0.43
24:1:666:LYS:O	24:1:670:GLN:HG2	2.19	0.43
24:1:668:VAL:HG22	24:1:686:LEU:HD23	1.99	0.43
25:3:182:PHE:O	25:3:210:PHE:HA	2.19	0.43
25:3:526:HIS:HB2	25:3:574:LEU:CD2	2.48	0.43
25:3:822:GLU:H	25:3:822:GLU:HG3	1.64	0.43
25:3:838:MET:H	25:3:838:MET:HG2	1.73	0.43
25:3:924:PHE:HA	25:3:943:THR:O	2.18	0.43
25:3:1191:LYS:O	25:3:1192:ASN:C	2.57	0.43
28:2:534:GLN:HG2	28:2:538:GLU:OE1	2.18	0.43
1:A:206:TRP:HA	1:A:209:ASP:OD2	2.19	0.43
1:A:1489:LEU:HD23	1:A:1489:LEU:HA	1.85	0.43
1:A:1719:PHE:C	1:A:1719:PHE:HD1	2.22	0.43
1:A:1781:ASP:OD2	1:A:1893:PHE:HB2	2.18	0.43
2:B:40:U:H5'	2:B:41:U:OP2	2.19	0.43
3:C:226:VAL:HG13	3:C:254:THR:HG22	2.00	0.43
3:C:745:LEU:HD22	3:C:770:PHE:HB2	1.99	0.43
3:C:834:VAL:HG22	3:C:899:SER:HB2	2.01	0.43
3:C:846:VAL:HG11	3:C:871:ILE:HD12	1.99	0.43
4:D:735:ALA:C	4:D:737:ALA:H	2.22	0.43
5:E:154:VAL:HG13	5:E:171:SER:HB3	2.00	0.43
5:E:207:GLN:HB3	5:E:219:VAL:HG12	2.01	0.43
5:E:215:ASN:HB2	5:E:232:ARG:NH1	2.34	0.43
8:H:63:G:N1	8:H:64:A:N6	2.67	0.43
13:N:56:LYS:HD2	13:N:83:TYR:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:P:68:ARG:HB3	15:P:68:ARG:NH1	2.33	0.43
17:R:335:ARG:O	22:X:268:GLN:HB2	2.19	0.43
19:T:300:ILE:H	19:T:300:ILE:HG13	1.65	0.43
19:T:346:ILE:HD13	19:T:380:LEU:HD21	1.99	0.43
19:T:462:GLU:O	19:T:483:ASP:HB3	2.18	0.43
22:X:283:TYR:CE2	23:Y:222:ILE:CG2	2.99	0.43
24:1:823:MET:SD	24:1:829:ASN:ND2	2.92	0.43
24:1:1287:ILE:HB	31:5:32:LEU:HD11	2.00	0.43
25:3:436:ARG:HG2	25:3:778:ALA:CB	2.49	0.43
25:3:483:LEU:HD11	25:3:493:GLU:OE2	2.19	0.43
25:3:565:TYR:HB3	25:3:577:TYR:CB	2.46	0.43
25:3:791:HIS:NE2	25:3:793:GLU:HB2	2.34	0.43
25:3:1022:ILE:HD13	25:3:1022:ILE:HA	1.77	0.43
35:9:312:LYS:HE2	35:9:312:LYS:HB2	1.76	0.43
1:A:101:LYS:HD3	1:A:101:LYS:HA	1.65	0.43
1:A:131:GLU:HG3	1:A:132:ILE:N	2.33	0.43
1:A:277:PRO:HD3	1:A:451:LEU:HB3	2.01	0.43
1:A:356:ILE:H	1:A:356:ILE:HG13	1.19	0.43
1:A:1585:ILE:O	1:A:1589:ILE:HD12	2.18	0.43
1:A:1784:ASN:CG	1:A:1897:LEU:HD11	2.39	0.43
4:D:1271:VAL:HA	4:D:1279:GLU:HA	2.00	0.43
7:G:13:C:H2'	7:G:14:A:O4'	2.19	0.43
7:G:105:C:H5"	22:X:972:PRO:HG2	2.01	0.43
10:J:397:LYS:O	10:J:401:ARG:HD3	2.19	0.43
17:R:371:ARG:NH1	23:Y:282:CYS:SG	2.92	0.43
17:R:382:ARG:HH12	17:R:386:ARG:NE	2.16	0.43
22:X:164:TRP:CD1	22:X:542:PHE:CB	2.98	0.43
22:X:733:LYS:HB3	22:X:735:PHE:HE2	1.84	0.43
22:X:737:LEU:O	22:X:737:LEU:HD23	2.18	0.43
24:1:508:THR:HB	24:1:510:PRO:CD	2.46	0.43
24:1:936:VAL:HG12	24:1:937:LEU:HD12	2.01	0.43
24:1:1227:ILE:O	24:1:1231:MET:HG2	2.19	0.43
24:1:1273:TYR:O	24:1:1277:GLN:HB3	2.19	0.43
25:3:16:PHE:HE2	25:3:63:ARG:C	2.22	0.43
25:3:66:MET:HE1	25:3:122:ALA:HA	2.01	0.43
25:3:514:ASP:OD1	25:3:514:ASP:N	2.52	0.43
25:3:665:LEU:HB2	25:3:679:LEU:HD23	2.00	0.43
25:3:690:ARG:HH12	25:3:696:SER:H	1.67	0.43
28:2:483:GLN:OE1	28:2:483:GLN:N	2.51	0.43
30:7:58:CYS:N	30:7:63:GLY:O	2.52	0.43
35:9:320:ILE:HG13	35:9:337:GLY:HA2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:9:331:GLN:HG3	35:9:381:PHE:HB3	2.00	0.43
1:A:407:ALA:HB1	1:A:411:PHE:HB2	2.01	0.42
1:A:793:ASN:HD22	3:C:60:HIS:CE1	2.36	0.42
1:A:1457:HIS:ND1	1:A:1460:HIS:CD2	2.84	0.42
1:A:2144:CYS:HA	1:A:2270:PHE:O	2.19	0.42
2:B:67:A:H2'	2:B:68:C:O4'	2.19	0.42
3:C:263:LEU:HA	3:C:267:LEU:HB2	1.99	0.42
3:C:298:LEU:O	3:C:299:ILE:HD13	2.19	0.42
3:C:312:SER:OG	45:C:1500:GTP:N7	2.52	0.42
3:C:349:PHE:CE1	3:C:354:ARG:HA	2.43	0.42
3:C:351:PRO:O	3:C:354:ARG:HD3	2.19	0.42
3:C:474:LEU:HA	3:C:498:SER:O	2.19	0.42
3:C:493:PHE:HB2	3:C:551:LEU:HD23	2.01	0.42
4:D:784:ILE:HA	4:D:810:VAL:O	2.19	0.42
5:E:145:LYS:CD	5:E:184:LYS:HE2	2.49	0.42
5:E:178:LEU:HD12	5:E:178:LEU:HA	1.89	0.42
5:E:244:SER:HB2	5:E:293:TRP:CD2	2.54	0.42
6:F:36:A:C8	6:F:36:A:O5'	2.72	0.42
7:G:11:A:H2'	7:G:12:G:O4'	2.19	0.42
7:G:90:C:H2'	7:G:91:A:C4	2.54	0.42
8:H:8:C:H2'	8:H:9:U:C6	2.54	0.42
13:N:46:LEU:HA	13:N:49:ILE:HG22	2.01	0.42
17:R:367:ARG:NH2	23:Y:281:LEU:HD23	2.34	0.42
19:T:221:THR:HG1	19:T:231:TRP:HE1	1.59	0.42
19:T:423:SER:N	19:T:474:GLU:OE2	2.52	0.42
22:X:164:TRP:CD1	22:X:538:ASP:O	2.71	0.42
22:X:234:TYR:CZ	23:Y:317:GLN:O	2.72	0.42
22:X:482:ARG:HE	22:X:483:PHE:HE2	1.65	0.42
22:X:823:MET:HE3	22:X:823:MET:HB2	1.91	0.42
23:Y:21:ARG:HH22	23:Y:82:LYS:C	2.21	0.42
24:1:493:LYS:O	24:1:496:LYS:N	2.52	0.42
24:1:679:ILE:O	24:1:682:HIS:N	2.46	0.42
25:3:58:VAL:HG21	25:3:62:ILE:CD1	2.49	0.42
25:3:1021:LEU:HD23	25:3:1021:LEU:HA	1.77	0.42
28:2:472:PRO:O	28:2:475:VAL:HG23	2.19	0.42
28:2:514:LYS:N	28:2:593:GLU:OE2	2.52	0.42
28:2:711:LEU:HD23	28:2:711:LEU:HA	1.80	0.42
31:5:11:LEU:O	31:5:14:LEU:HB2	2.19	0.42
1:A:106:MET:HA	1:A:107:PRO:HD3	1.77	0.42
1:A:298:ASP:O	1:A:302:ILE:HG12	2.19	0.42
1:A:355:LEU:O	3:C:867:PRO:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:463:GLU:HA	3:C:466:SER:HB3	2.01	0.42
3:C:692:LEU:CD2	3:C:788:LYS:HB2	2.50	0.42
3:C:757:ALA:O	3:C:761:SER:HB2	2.19	0.42
4:D:444:GLU:HA	4:D:690:VAL:HA	2.02	0.42
5:E:90:ILE:HB	5:E:105:LEU:HB3	2.01	0.42
5:E:94:ASN:O	5:E:99:CYS:HA	2.19	0.42
5:E:175:THR:HB	5:E:189:THR:CG2	2.49	0.42
8:H:43:U:HO2'	8:H:44:U:P	2.38	0.42
15:P:69:ALA:HA	15:P:72:ARG:NH1	2.34	0.42
16:Q:1224:ILE:HA	16:Q:1270:TYR:O	2.19	0.42
21:V:468:ASP:OD1	21:V:468:ASP:N	2.52	0.42
22:X:527:LEU:HD21	22:X:755:ILE:HA	2.01	0.42
22:X:948:PHE:O	22:X:951:THR:OG1	2.35	0.42
22:X:1004:GLU:HG3	22:X:1007:TRP:CZ2	2.54	0.42
23:Y:4:LEU:HD11	23:Y:11:ASP:HB3	2.01	0.42
23:Y:96:MET:HE1	23:Y:105:GLY:O	2.19	0.42
24:1:548:GLU:O	24:1:552:LEU:HG	2.18	0.42
24:1:1262:ARG:HB3	31:5:24:ALA:HB1	2.01	0.42
25:3:131:MET:HB2	25:3:141:VAL:HG22	2.01	0.42
25:3:234:PHE:HE1	25:3:236:ILE:HG12	1.81	0.42
25:3:641:CYS:H	25:3:701:LEU:HD23	1.83	0.42
25:3:715:MET:HE3	25:3:739:LEU:H	1.84	0.42
25:3:768:GLU:HB3	25:3:769:LYS:H	1.63	0.42
35:9:299:LEU:H	35:9:299:LEU:HD23	1.85	0.42
35:9:355:ARG:HB3	35:9:358:LEU:HD12	1.99	0.42
1:A:79:ARG:NH1	1:A:82:ARG:HH21	2.11	0.42
1:A:371:LEU:HD12	1:A:371:LEU:HA	1.81	0.42
1:A:386:PRO:HD2	1:A:389:LYS:HD2	2.01	0.42
1:A:1779:PHE:HB3	1:A:1893:PHE:HE2	1.84	0.42
3:C:125:ASN:CG	3:C:127:GLU:H	2.23	0.42
3:C:131:ASN:HD22	3:C:495:ARG:HH22	1.67	0.42
3:C:481:MET:HB3	3:C:490:PHE:CD2	2.55	0.42
3:C:678:THR:HG21	3:C:683:ASN:HD22	1.84	0.42
6:F:39:A:C4	6:F:40:U:C6	3.07	0.42
6:F:43:A:C2	7:G:5:G:C6	3.06	0.42
8:H:46:U:O2	8:H:46:U:O2'	2.27	0.42
8:H:152:G:C6	8:H:153:A:N6	2.87	0.42
13:N:25:LEU:HD23	13:N:25:LEU:HA	1.84	0.42
17:R:365:HIS:O	17:R:369:LEU:HD13	2.20	0.42
21:V:476:LEU:HD23	21:V:476:LEU:HA	1.77	0.42
21:V:585:ILE:H	21:V:585:ILE:HG13	1.71	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:162:ASP:N	22:X:542:PHE:HE2	2.16	0.42
22:X:234:TYR:HB2	23:Y:317:GLN:HG2	2.00	0.42
22:X:546:LEU:HD12	22:X:546:LEU:HA	1.87	0.42
22:X:577:PHE:HB2	22:X:727:GLY:O	2.19	0.42
22:X:959:TYR:OH	22:X:980:GLN:O	2.37	0.42
23:Y:12:VAL:HG13	23:Y:131:GLU:O	2.20	0.42
23:Y:290:LYS:HB2	23:Y:293:ASP:OD2	2.19	0.42
24:1:1254:LEU:O	24:1:1262:ARG:HG2	2.19	0.42
25:3:192:ALA:HA	25:3:200:ALA:HB3	2.01	0.42
25:3:477:SER:O	25:3:477:SER:OG	2.32	0.42
25:3:595:VAL:HG21	25:3:600:GLN:C	2.39	0.42
25:3:671:ASN:HB3	25:3:696:SER:HA	2.01	0.42
25:3:966:LEU:H	25:3:966:LEU:HG	1.72	0.42
1:A:127:SER:HG	1:A:499:GLN:HE22	1.61	0.42
1:A:435:CYS:HA	7:G:-10:G:H22	1.84	0.42
1:A:549:GLU:CB	1:A:591:MET:HG3	2.50	0.42
1:A:690:MET:SD	1:A:706:ALA:HB1	2.59	0.42
1:A:858:GLN:HA	1:A:861:ARG:NH1	2.34	0.42
1:A:940:ILE:HD13	1:A:1090:ARG:NH1	2.34	0.42
1:A:1384:ARG:NH1	1:A:1384:ARG:HB2	2.35	0.42
1:A:1600:GLU:OE1	1:A:1604:LEU:HG	2.19	0.42
1:A:1695:TYR:HD1	1:A:1695:TYR:HA	1.71	0.42
1:A:1891:LEU:CD2	1:A:2012:LEU:O	2.67	0.42
1:A:1939:ILE:HG21	1:A:1968:TRP:NE1	2.35	0.42
3:C:461:LEU:HB3	3:C:465:MET:HE1	2.01	0.42
3:C:508:LYS:O	3:C:566:THR:HG22	2.19	0.42
5:E:226:LYS:HD3	5:E:226:LYS:HA	1.87	0.42
5:E:251:LEU:HB2	5:E:293:TRP:CE2	2.54	0.42
6:F:6:C:O2'	6:F:7:G:OP1	2.34	0.42
10:J:292:VAL:HG12	10:J:296:ARG:NE	2.35	0.42
10:J:317:THR:O	10:J:320:GLU:N	2.52	0.42
10:J:416:TYR:CE2	10:J:443:ILE:HD13	2.52	0.42
12:L:169:ARG:HE	12:L:169:ARG:HB2	1.58	0.42
12:L:169:ARG:O	12:L:172:ARG:N	2.48	0.42
20:U:24:SER:HA	21:V:477:LEU:HD12	2.01	0.42
21:V:556:TYR:CE1	21:V:557:THR:HG23	2.54	0.42
22:X:327:ARG:HH12	22:X:328:ARG:NH2	2.17	0.42
22:X:408:LEU:HD13	22:X:570:PHE:CD2	2.55	0.42
22:X:428:LYS:H	22:X:428:LYS:HG3	1.58	0.42
22:X:664:PRO:HA	22:X:665:PRO:HD2	1.91	0.42
24:1:551:LEU:O	24:1:554:LYS:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1:933:CYS:O	24:1:934:GLY:C	2.58	0.42
24:1:962:MET:O	24:1:967:GLU:HB2	2.18	0.42
24:1:1046:GLY:O	24:1:1048:GLU:N	2.50	0.42
24:1:1199:VAL:HG12	24:1:1199:VAL:O	2.19	0.42
25:3:169:HIS:HD2	25:3:170:VAL:O	2.02	0.42
25:3:675:LEU:HB3	25:3:686:LEU:HD12	2.02	0.42
25:3:896:PHE:H	25:3:896:PHE:HD2	1.68	0.42
28:2:526:ASP:HA	28:2:529:LYS:NZ	2.35	0.42
1:A:525:LYS:CB	11:K:197:TYR:CD2	2.99	0.42
1:A:1198:PRO:HG2	1:A:1201:ARG:HB2	2.00	0.42
1:A:1215:ASN:HB3	1:A:1224:ARG:NH1	2.34	0.42
1:A:1298:ARG:O	1:A:1298:ARG:HG3	2.20	0.42
1:A:1839:TRP:CE3	1:A:1871:PRO:HB3	2.53	0.42
44:A:3000:IHP:P3	44:A:3000:IHP:O42	2.77	0.42
3:C:529:ARG:O	3:C:530:LEU:HD23	2.19	0.42
3:C:561:LYS:H	3:C:561:LYS:HG2	1.48	0.42
3:C:680:ASN:O	3:C:682:LYS:N	2.53	0.42
3:C:830:PRO:HA	3:C:904:TRP:HA	2.00	0.42
5:E:176:VAL:HG21	5:E:220:TRP:HE1	1.83	0.42
6:F:22:A:H3'	13:N:115:THR:CB	2.49	0.42
8:H:35:A:H3'	8:H:36:G:H8	1.83	0.42
10:J:319:MET:HG3	10:J:320:GLU:N	2.33	0.42
10:J:396:ARG:NH2	10:J:426:GLN:HG3	2.35	0.42
13:N:86:LYS:HG3	13:N:87:ASN:N	2.33	0.42
17:R:384:GLU:HG3	22:X:484:GLU:OE1	2.19	0.42
19:T:393:ASP:OD2	19:T:393:ASP:N	2.53	0.42
22:X:164:TRP:CG	22:X:542:PHE:CG	3.06	0.42
22:X:610:ASP:OD2	22:X:669:LYS:HB3	2.19	0.42
22:X:718:SER:OG	22:X:719:ALA:N	2.52	0.42
22:X:976:LEU:HD11	22:X:1001:LEU:HA	2.01	0.42
24:1:592:GLU:O	24:1:596:ILE:HG23	2.19	0.42
24:1:826:ASP:OD1	24:1:828:ARG:N	2.42	0.42
24:1:1251:LEU:HD23	24:1:1251:LEU:HA	1.68	0.42
25:3:212:GLU:HG2	25:3:213:LEU:N	2.35	0.42
25:3:1115:GLU:HG2	28:2:708:TRP:HE1	0.42	0.42
1:A:71:ARG:HG3	1:A:71:ARG:NH1	2.35	0.42
1:A:147:MET:O	1:A:151:MET:HG2	2.19	0.42
1:A:193:LEU:HG	1:A:194:GLU:N	2.35	0.42
1:A:1189:MET:HE2	1:A:1189:MET:HB2	1.73	0.42
2:B:15:C:H2'	2:B:16:U:H6	1.83	0.42
3:C:137:HIS:CD2	3:C:238:ASN:CB	3.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:336:TYR:CE1	3:C:337:GLN:HG2	2.54	0.42
3:C:604:LEU:HD21	3:C:627:HIS:CE1	2.53	0.42
3:C:660:VAL:HG22	3:C:661:THR:O	2.20	0.42
3:C:928:HIS:HD1	3:C:928:HIS:H	1.67	0.42
5:E:241:LEU:HA	5:E:251:LEU:O	2.19	0.42
6:F:32:U:H2'	6:F:33:G:C8	2.54	0.42
6:F:83:A:C5	6:F:84:A:C6	3.08	0.42
6:F:88:G:H2'	6:F:89:U:C5'	2.50	0.42
8:H:12:G:H2'	8:H:13:C:N1	2.34	0.42
9:I:99:HIS:CB	16:Q:946:GLU:CA	2.98	0.42
10:J:285:MET:HE3	10:J:285:MET:HB3	1.98	0.42
17:R:331:ALA:CB	22:X:275:ARG:NH2	2.80	0.42
17:R:407:TYR:HE2	17:R:412:PHE:HZ	1.66	0.42
22:X:477:VAL:HG22	22:X:493:LEU:HB2	2.01	0.42
22:X:677:ALA:O	22:X:725:ARG:NE	2.53	0.42
22:X:809:THR:HG22	22:X:811:SER:H	1.85	0.42
23:Y:249:PRO:HA	23:Y:280:SER:HB2	2.01	0.42
24:1:903:GLN:OE1	24:1:910:MET:HB2	2.19	0.42
25:3:212:GLU:CB	25:3:223:LYS:HG3	2.49	0.42
25:3:717:SER:HB2	25:3:718:ARG:HH12	1.82	0.42
31:5:61:LYS:HB3	31:5:65:ARG:HH22	1.83	0.42
35:9:350:PHE:O	35:9:376:ASN:HB2	2.20	0.42
1:A:227:ARG:HE	1:A:227:ARG:HB2	1.70	0.42
1:A:344:ASP:HB2	1:A:345:PRO:HD2	2.01	0.42
1:A:727:LYS:HE2	1:A:727:LYS:HB3	1.74	0.42
1:A:1014:ASN:ND2	1:A:1014:ASN:C	2.73	0.42
1:A:1200:CYS:SG	1:A:1201:ARG:N	2.92	0.42
1:A:1287:LEU:HD12	1:A:1287:LEU:HA	1.83	0.42
1:A:1337:GLN:HA	1:A:1337:GLN:NE2	2.35	0.42
1:A:1424:GLN:O	1:A:1427:ARG:NH2	2.45	0.42
1:A:1832:ARG:O	1:A:1836:LEU:HD13	2.20	0.42
1:A:1891:LEU:HD21	1:A:2012:LEU:O	2.18	0.42
2:B:46:U:C2'	2:B:47:A:H5'	2.49	0.42
3:C:481:MET:CE	3:C:612:LYS:HB3	2.50	0.42
3:C:567:GLU:HG3	3:C:570:GLY:O	2.19	0.42
3:C:860:ASP:OD1	3:C:860:ASP:N	2.53	0.42
6:F:38:G:C4	6:F:39:A:C8	3.08	0.42
8:H:27:U:O2'	8:H:28:C:H5'	2.20	0.42
11:K:228:HIS:HD2	11:K:230:TRP:CE2	2.37	0.42
12:L:225:TYR:N	17:R:85:ALA:HB2	2.35	0.42
13:N:44:GLU:CD	13:N:44:GLU:N	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:V:543:LYS:O	21:V:547:VAL:HG23	2.20	0.42
22:X:430:THR:O	22:X:434:GLN:HG3	2.19	0.42
22:X:543:ARG:NH2	22:X:546:LEU:HD13	2.35	0.42
24:1:606:LEU:HA	24:1:606:LEU:HD12	1.76	0.42
24:1:1245:ARG:HH22	25:3:1028:THR:HB	1.84	0.42
25:3:164:ASN:ND2	25:3:190:GLU:HG2	2.35	0.42
25:3:199:GLU:OE2	25:3:199:GLU:HA	2.19	0.42
25:3:459:VAL:CG2	25:3:476:VAL:HA	2.45	0.42
25:3:484:VAL:O	25:3:494:VAL:HB	2.19	0.42
25:3:595:VAL:HG21	25:3:601:ARG:N	2.34	0.42
25:3:610:VAL:HA	25:3:636:GLN:HE21	1.85	0.42
25:3:789:VAL:HG13	25:3:891:VAL:HG13	2.01	0.42
25:3:791:HIS:CB	25:3:796:ASN:O	2.68	0.42
35:9:323:ARG:CB	35:9:331:GLN:HE21	2.32	0.42
35:9:360:HIS:CE1	35:9:391:ASP:HB2	2.55	0.42
1:A:210:HIS:CE1	1:A:211:GLN:HG3	2.55	0.42
1:A:615:ARG:HE	1:A:615:ARG:HB2	1.62	0.42
1:A:659:GLN:O	1:A:659:GLN:NE2	2.53	0.42
1:A:1402:ARG:NH1	17:R:406:GLN:NE2	2.68	0.42
1:A:1810:PHE:CE1	1:A:1919:LEU:HG	2.55	0.42
3:C:131:ASN:HA	3:C:201:ASN:HB2	2.00	0.42
3:C:311:SER:OG	3:C:311:SER:O	2.32	0.42
3:C:366:GLN:HG3	3:C:371:GLU:CG	2.50	0.42
3:C:767:VAL:O	3:C:771:GLN:HG3	2.19	0.42
5:E:118:ASN:ND2	5:E:122:SER:H	2.17	0.42
6:F:3:G:H2'	6:F:4:C:C6	2.55	0.42
6:F:82:A:C4	6:F:83:A:C8	3.07	0.42
9:I:139:ALA:HA	16:Q:938:TYR:CA	2.50	0.42
10:J:329:ALA:O	10:J:332:VAL:HG22	2.19	0.42
10:J:335:ARG:NE	17:R:98:TYR:CE2	2.87	0.42
16:Q:1227:LEU:HA	16:Q:1258:THR:O	2.20	0.42
17:R:352:ARG:HG2	17:R:356:ARG:HH21	1.85	0.42
22:X:393:GLN:O	22:X:397:ARG:HG3	2.19	0.42
22:X:485:ASP:OD1	22:X:486:CYS:N	2.53	0.42
22:X:648:TYR:O	22:X:656:GLN:NE2	2.51	0.42
22:X:743:TYR:CD1	22:X:744:GLN:HG3	2.55	0.42
24:1:632:PHE:HA	24:1:635:VAL:HG22	2.02	0.42
25:3:206:GLN:HE22	25:3:232:GLY:H	1.66	0.42
25:3:469:GLU:OE1	25:3:469:GLU:N	2.53	0.42
25:3:996:ILE:O	25:3:998:HIS:N	2.53	0.42
25:3:1015:LYS:HZ2	25:3:1016:ARG:N	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:1035:THR:HG21	25:3:1103:SER:HA	2.01	0.42
25:3:1049:LYS:HE3	31:5:52:TYR:CZ	2.55	0.42
28:2:547:LYS:NZ	28:2:555:GLU:HG2	2.35	0.42
28:2:592:TYR:CD1	28:2:595:LYS:HB2	2.55	0.42
31:5:12:GLU:HA	31:5:15:GLN:HB3	2.01	0.42
1:A:106:MET:HE2	1:A:106:MET:HB2	1.86	0.42
1:A:193:LEU:HB3	1:A:208:TYR:OH	2.20	0.42
1:A:203:VAL:HG12	1:A:206:TRP:CZ2	2.55	0.42
1:A:694:LEU:HD23	1:A:694:LEU:N	2.34	0.42
1:A:720:TRP:CA	35:9:251:THR:HB	2.48	0.42
1:A:1649:LYS:HA	1:A:1649:LYS:HD2	1.58	0.42
3:C:369:PHE:HE1	3:C:373:ILE:HD12	1.84	0.42
3:C:598:SER:OG	3:C:599:GLU:HG2	2.20	0.42
4:D:1200:VAL:N	4:D:1254:PHE:O	2.45	0.42
12:L:225:TYR:O	17:R:85:ALA:CB	2.54	0.42
17:R:141:LYS:O	17:R:145:GLU:HG2	2.20	0.42
21:V:542:ASN:HA	21:V:545:ARG:NH2	2.34	0.42
21:V:617:PRO:HB2	21:V:624:THR:HA	2.02	0.42
22:X:165:GLU:HG2	22:X:169:ARG:NH2	2.35	0.42
22:X:228:LYS:HE3	22:X:232:ARG:NH2	2.35	0.42
22:X:742:ALA:O	22:X:747:LEU:HD23	2.20	0.42
23:Y:274:ASP:O	23:Y:278:GLY:N	2.41	0.42
24:1:722:GLU:OE1	24:1:722:GLU:N	2.37	0.42
24:1:1041:ARG:HA	24:1:1041:ARG:HD2	1.48	0.42
25:3:275:ARG:HB3	25:3:386:PHE:HB3	2.02	0.42
25:3:898:ASN:OD1	25:3:899:THR:N	2.52	0.42
25:3:1015:LYS:NZ	25:3:1016:ARG:H	2.18	0.42
1:A:54:VAL:HB	1:A:57:GLN:OE1	2.19	0.42
1:A:532:THR:CG2	1:A:536:LYS:HE3	2.49	0.42
1:A:1352:HIS:HD2	20:U:5:ILE:CD1	2.33	0.42
1:A:2177:TRP:O	1:A:2213:ILE:HA	2.20	0.42
3:C:136:GLY:O	3:C:238:ASN:ND2	2.53	0.42
3:C:453:TYR:CZ	3:C:575:GLN:HB2	2.55	0.42
3:C:833:PHE:HD1	3:C:874:PHE:CE1	2.38	0.42
5:E:124:LEU:HD21	5:E:138:SER:HB3	2.01	0.42
6:F:13:G:H8	6:F:13:G:O5'	2.03	0.42
9:I:48:ALA:O	9:I:51:PRO:HD2	2.20	0.42
10:J:256:LYS:HE2	12:L:232:TYR:CZ	2.53	0.42
10:J:377:LYS:HZ1	10:J:381:LYS:HE3	1.85	0.42
12:L:168:LYS:HA	12:L:168:LYS:HE3	2.01	0.42
12:L:188:ARG:O	12:L:192:ARG:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:P:186:ARG:O	15:P:186:ARG:HG3	2.17	0.42
16:Q:539:VAL:O	16:Q:624:THR:HA	2.20	0.42
22:X:164:TRP:HE3	22:X:165:GLU:CA	2.33	0.42
22:X:330:GLU:O	22:X:334:LEU:HD12	2.19	0.42
22:X:768:LYS:HD3	22:X:768:LYS:HA	1.80	0.42
22:X:774:ASP:OD2	22:X:777:HIS:ND1	2.45	0.42
24:1:534:GLN:O	24:1:538:LEU:HD12	2.20	0.42
25:3:855:PRO:O	25:3:856:LYS:HD3	2.20	0.42
25:3:914:ILE:HG22	25:3:917:PRO:HD2	2.02	0.42
28:2:456:ARG:HA	28:2:459:ARG:HB2	2.02	0.42
35:9:408:THR:O	35:9:411:GLU:HB3	2.20	0.42
1:A:748:ASP:OD1	15:P:214:THR:HB	2.20	0.41
1:A:883:ARG:O	1:A:887:THR:HG23	2.20	0.41
3:C:139:HIS:C	45:C:1500:GTP:O1A	2.58	0.41
6:F:79:C:C2'	12:L:170:LYS:HD2	2.35	0.41
7:G:116:C:N4	17:R:370:SER:HB3	2.34	0.41
8:H:47:U:O2	8:H:47:U:C2'	2.68	0.41
12:L:31:TRP:HB3	12:L:43:ALA:HB1	2.02	0.41
12:L:66:GLU:HA	12:L:69:GLU:HG3	2.02	0.41
17:R:388:ILE:HD12	17:R:388:ILE:HA	1.76	0.41
19:T:209:CYS:SG	19:T:252:VAL:HG13	2.60	0.41
22:X:233:GLU:O	22:X:237:LYS:HB3	2.19	0.41
22:X:621:ILE:HG12	22:X:672:VAL:CG1	2.50	0.41
24:1:555:VAL:HG12	24:1:559:ILE:HD13	2.02	0.41
24:1:802:GLU:HG2	24:1:805:TYR:HB2	2.02	0.41
25:3:311:PHE:HZ	25:3:387:PHE:CE2	2.38	0.41
25:3:576:GLU:OE1	25:3:580:ARG:NH2	2.52	0.41
25:3:605:LEU:HB3	25:3:619:LEU:HD22	2.02	0.41
25:3:947:GLU:HG3	25:3:948:VAL:H	1.84	0.41
35:9:418:LYS:HA	35:9:418:LYS:HD2	1.89	0.41
1:A:196:ASP:N	1:A:200:ASP:OD2	2.50	0.41
1:A:388:LEU:CD1	3:C:395:THR:CG2	2.87	0.41
1:A:1403:LEU:O	17:R:407:TYR:CB	2.63	0.41
3:C:198:TYR:CZ	3:C:435:VAL:HG11	2.55	0.41
3:C:258:ASN:HD21	3:C:312:SER:HB3	1.85	0.41
3:C:624:SER:HG	3:C:941:LYS:HA	1.85	0.41
3:C:919:ARG:HB2	3:C:922:GLU:HG2	2.03	0.41
5:E:199:VAL:HA	5:E:209:ILE:O	2.20	0.41
5:E:339:GLU:HB3	5:E:341:ILE:HG13	2.02	0.41
7:G:113:U:H1'	7:G:114:U:OP2	2.19	0.41
9:I:231:ASN:HA	9:I:232:PRO:HD3	1.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:321:GLU:OE1	10:J:329:ALA:HB2	2.21	0.41
10:J:331:GLN:HA	10:J:334:GLU:HG2	2.02	0.41
10:J:362:ALA:O	10:J:366:TYR:HD2	2.03	0.41
14:O:262:THR:O	14:O:270:ALA:HA	2.21	0.41
16:Q:1064:ALA:HB3	16:Q:1095:GLY:HA3	2.02	0.41
17:R:241:GLU:HA	17:R:244:GLU:OE2	2.21	0.41
17:R:404:GLU:HG3	17:R:405:VAL:N	2.34	0.41
22:X:242:LYS:HG2	22:X:246:LEU:HD13	2.01	0.41
22:X:756:GLN:NE2	22:X:782:ASP:OD2	2.53	0.41
22:X:1007:TRP:HA	22:X:1010:GLU:HB2	2.02	0.41
24:1:816:LYS:HB3	24:1:816:LYS:HE3	1.82	0.41
25:3:228:LEU:HD12	25:3:229:GLU:N	2.28	0.41
25:3:638:GLU:O	25:3:638:GLU:HG3	2.19	0.41
25:3:1001:ILE:HD12	25:3:1011:TRP:NE1	2.36	0.41
25:3:1115:GLU:CA	28:2:708:TRP:CZ2	3.03	0.41
28:2:550:LYS:HG2	28:2:554:ARG:HH21	1.84	0.41
35:9:306:ASN:CG	35:9:345:TYR:H	2.17	0.41
35:9:437:PRO:HG2	35:9:438:TYR:CD2	2.55	0.41
1:A:283:VAL:O	1:A:284:ARG:HG2	2.20	0.41
1:A:368:GLN:OE1	1:A:368:GLN:HA	2.21	0.41
1:A:468:LYS:HD3	1:A:468:LYS:HA	1.53	0.41
1:A:668:VAL:HG23	1:A:669:ALA:H	1.84	0.41
1:A:1166:THR:HG23	1:A:1167:THR:N	2.35	0.41
1:A:1362:ASP:OD1	1:A:1363:GLN:N	2.34	0.41
1:A:1677:GLU:HA	1:A:1677:GLU:OE2	2.19	0.41
1:A:1850:ARG:NH1	1:A:1878:ASP:OD2	2.54	0.41
1:A:1938:LEU:HD22	1:A:1984:LYS:HG3	2.02	0.41
3:C:78:GLU:HG3	3:C:79:THR:H	1.83	0.41
3:C:92:PRO:HA	19:T:278:ASN:HD21	1.85	0.41
3:C:334:ILE:HD11	3:C:339:PHE:CD2	2.55	0.41
4:D:696:LYS:O	4:D:700:ARG:CB	2.69	0.41
5:E:147:LEU:HD21	5:E:179:TRP:HB3	2.01	0.41
5:E:193:THR:HG23	5:E:194:TYR:CD2	2.55	0.41
7:G:104:C:HO2'	7:G:105:C:P	2.42	0.41
9:I:139:ALA:CA	16:Q:938:TYR:HA	2.49	0.41
12:L:184:ALA:O	12:L:188:ARG:HB2	2.20	0.41
18:S:14:VAL:O	18:S:24:VAL:HA	2.20	0.41
19:T:352:THR:HG22	19:T:374:SER:N	2.35	0.41
22:X:416:GLN:HE22	22:X:544:PRO:HA	1.86	0.41
22:X:754:GLU:HG3	22:X:757:ARG:HH12	1.84	0.41
22:X:994:LYS:HD2	22:X:996:PHE:CZ	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Y:63:GLY:O	23:Y:105:GLY:HA3	2.19	0.41
23:Y:96:MET:HE3	23:Y:96:MET:HB3	1.98	0.41
23:Y:242:LEU:HD13	23:Y:313:VAL:HG11	2.01	0.41
23:Y:290:LYS:HB2	23:Y:293:ASP:CG	2.40	0.41
24:1:1142:ASN:HD22	24:1:1142:ASN:N	2.19	0.41
24:1:1212:LEU:HD12	24:1:1212:LEU:HA	1.75	0.41
25:3:70:LEU:HA	25:3:70:LEU:HD23	1.78	0.41
25:3:408:LEU:HD12	25:3:427:CYS:HA	2.02	0.41
25:3:528:ARG:HG3	25:3:529:ALA:H	1.83	0.41
31:5:74:GLN:NE2	31:5:78:PRO:HA	2.36	0.41
1:A:520:TYR:O	1:A:555:LYS:NZ	2.26	0.41
1:A:694:LEU:HD22	1:A:709:ILE:CD1	2.50	0.41
1:A:769:LYS:HA	1:A:769:LYS:HD2	1.44	0.41
1:A:789:GLU:CB	35:9:253:THR:HB	2.34	0.41
1:A:1235:GLU:O	1:A:1235:GLU:HG2	2.19	0.41
1:A:1661:TRP:CD2	1:A:1700:GLY:HA3	2.55	0.41
1:A:1806:ALA:HA	1:A:1821:ILE:HA	2.01	0.41
3:C:716:GLU:HG3	3:C:716:GLU:H	1.72	0.41
4:D:2030:ARG:O	4:D:2096:ALA:HB3	2.20	0.41
5:E:168:CYS:SG	5:E:208:ILE:HD13	2.60	0.41
7:G:12:G:H8	7:G:12:G:O5'	2.03	0.41
8:H:42:G:C6	8:H:43:U:C4	3.09	0.41
8:H:44:U:OP2	8:H:44:U:H6	2.02	0.41
8:H:168:A:H5"	8:H:169:C:C6	2.56	0.41
10:J:289:ASN:HB2	10:J:291:GLN:OE1	2.20	0.41
12:L:63:TRP:HD1	12:L:67:GLU:HB3	1.85	0.41
13:N:27:GLN:OE1	13:N:27:GLN:HA	2.21	0.41
16:Q:877:LEU:O	16:Q:1035:ILE:HA	2.21	0.41
22:X:408:LEU:HD13	22:X:570:PHE:CG	2.55	0.41
22:X:497:THR:HG23	22:X:500:MET:HG3	2.01	0.41
22:X:563:PHE:HE2	22:X:780:PHE:O	2.04	0.41
23:Y:134:ASP:O	23:Y:138:LYS:HG3	2.20	0.41
25:3:289:CYS:SG	25:3:290:SER:N	2.94	0.41
25:3:577:TYR:HE2	25:3:579:GLU:HB3	1.85	0.41
35:9:296:HIS:CD2	35:9:296:HIS:N	2.89	0.41
35:9:404:PHE:O	35:9:407:LEU:HD23	2.19	0.41
1:A:76:MET:HE1	1:A:84:ASP:HB2	2.03	0.41
1:A:280:GLU:OE2	2:B:47:A:H1'	2.20	0.41
1:A:387:PHE:CE1	3:C:327:TYR:HA	2.56	0.41
1:A:495:GLN:HE21	1:A:495:GLN:HB2	1.62	0.41
1:A:856:LEU:H	1:A:856:LEU:HG	1.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1579:ALA:HB1	11:K:226:TYR:CZ	2.55	0.41
1:A:1610:GLN:HB3	1:A:1630:LEU:CB	2.51	0.41
1:A:1701:VAL:HA	1:A:1716:GLY:HA3	2.02	0.41
1:A:1872:LEU:HD12	1:A:1884:ILE:HD13	2.02	0.41
1:A:1889:LEU:HD11	1:A:2013:GLY:C	2.37	0.41
3:C:221:ILE:O	3:C:549:TRP:NE1	2.53	0.41
3:C:372:PHE:O	3:C:376:PRO:HG3	2.20	0.41
3:C:695:GLY:O	3:C:698:GLU:HB2	2.20	0.41
3:C:700:ILE:HG21	3:C:742:PRO:HA	2.02	0.41
3:C:758:LEU:HD22	3:C:800:PRO:HD3	2.02	0.41
6:F:88:G:N3	8:H:11:G:C2	2.88	0.41
7:G:93:A:C2	8:H:38:A:C2	3.08	0.41
9:I:448:ASN:O	9:I:452:ALA:HB3	2.18	0.41
13:N:37:HIS:CD2	13:N:41:ARG:CB	3.04	0.41
14:O:24:CYS:O	14:O:28:LEU:CB	2.68	0.41
17:R:160:ALA:O	17:R:163:MET:HB2	2.21	0.41
17:R:331:ALA:CA	22:X:275:ARG:CZ	2.97	0.41
22:X:268:GLN:HE21	22:X:268:GLN:HB3	1.67	0.41
24:1:769:VAL:O	24:1:772:ILE:HB	2.21	0.41
24:1:892:LEU:HD22	24:1:892:LEU:HA	1.70	0.41
24:1:914:PHE:O	24:1:917:VAL:HG12	2.21	0.41
24:1:1029:GLU:H	24:1:1029:GLU:HG3	1.73	0.41
24:1:1063:LEU:HD23	24:1:1063:LEU:HA	1.64	0.41
24:1:1276:SER:H	25:3:113:ARG:NH2	2.18	0.41
25:3:637:PRO:HB3	25:3:640:LEU:HD21	2.03	0.41
25:3:1004:ASP:OD2	25:3:1007:GLU:HB2	2.21	0.41
1:A:41:GLN:C	1:A:43:LYS:H	2.23	0.41
1:A:384:VAL:HA	3:C:331:PHE:CD2	2.55	0.41
1:A:1173:SER:OG	1:A:1174:PHE:N	2.52	0.41
1:A:1543:ASN:HB2	1:A:1569:LEU:HD21	2.02	0.41
1:A:1949:ARG:NH2	1:A:1986:LEU:HD21	2.36	0.41
3:C:666:VAL:HG12	3:C:667:VAL:H	1.84	0.41
3:C:736:GLY:O	3:C:771:GLN:HG2	2.21	0.41
3:C:940:ARG:HG2	3:C:941:LYS:HG3	2.01	0.41
7:G:7:G:C6	7:G:8:C:N3	2.88	0.41
8:H:41:U:C2	8:H:42:G:C8	3.08	0.41
8:H:56:A:O2'	28:2:478:HIS:HA	2.21	0.41
11:K:232:ILE:H	11:K:232:ILE:HG13	1.74	0.41
13:N:63:LEU:O	13:N:70:ILE:HB	2.21	0.41
22:X:275:ARG:O	22:X:279:LEU:HG	2.21	0.41
22:X:453:PRO:HB3	22:X:524:GLU:CD	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Y:27:ASN:ND2	23:Y:65:SER:HB2	2.36	0.41
24:1:504:ILE:HG13	24:1:515:ALA:HB3	2.02	0.41
24:1:550:HIS:CD2	24:1:551:LEU:HD22	2.49	0.41
24:1:703:THR:HG23	24:1:742:GLY:HA2	2.03	0.41
24:1:1244:CYS:SG	25:3:1030:PRO:HD2	2.60	0.41
25:3:1115:GLU:C	28:2:708:TRP:CH2	2.88	0.41
25:3:1199:ARG:HH21	25:3:1207:LYS:NZ	2.18	0.41
30:7:26:CYS:SG	30:7:60:ILE:HG13	2.61	0.41
35:9:323:ARG:CD	35:9:420:ASP:HB2	2.51	0.41
1:A:824:PRO:HG3	22:X:298:TYR:HE2	1.86	0.41
1:A:845:ARG:HH12	1:A:1440:THR:CG2	2.32	0.41
1:A:1220:VAL:HG23	1:A:1221:THR:N	2.36	0.41
1:A:1936:LEU:HG	1:A:1940:LEU:HD21	2.02	0.41
2:B:42:U:H1'	6:F:70:A:H4'	2.02	0.41
3:C:69:ALA:O	3:C:72:VAL:HG12	2.20	0.41
3:C:93:ILE:HD11	19:T:230:ILE:HG21	2.02	0.41
5:E:86:PHE:HD2	5:E:86:PHE:O	2.04	0.41
6:F:44:G:O2'	28:2:554:ARG:NH1	2.53	0.41
8:H:81:G:H2'	8:H:82:G:O4'	2.21	0.41
10:J:280:LEU:HD23	10:J:280:LEU:HA	1.75	0.41
10:J:342:GLU:CD	10:J:343:GLU:N	2.74	0.41
11:K:230:TRP:CZ3	11:K:231:GLN:HG3	2.55	0.41
13:N:22:LEU:HD23	13:N:22:LEU:HA	1.78	0.41
19:T:350:HIS:HA	19:T:374:SER:HB3	2.03	0.41
19:T:424:ASP:OD1	19:T:424:ASP:N	2.53	0.41
23:Y:96:MET:HE2	23:Y:104:HIS:HB3	2.02	0.41
24:1:556:ILE:O	24:1:560:LEU:HB2	2.21	0.41
25:3:91:GLU:OE1	25:3:102:ILE:HD11	2.20	0.41
25:3:128:ARG:HH21	25:3:180:PRO:HG3	1.85	0.41
25:3:459:VAL:HA	25:3:475:ILE:O	2.21	0.41
25:3:615:ARG:C	25:3:616:ILE:HD12	2.41	0.41
25:3:1001:ILE:HG21	25:3:1044:VAL:HG21	2.02	0.41
25:3:1133:THR:C	28:2:711:LEU:HD21	2.28	0.41
25:3:1140:PHE:CE1	25:3:1197:LEU:HD13	2.53	0.41
28:2:471:ARG:HE	28:2:471:ARG:HB3	1.49	0.41
1:A:1284:LEU:HD23	1:A:1284:LEU:HA	1.77	0.41
2:B:89:U:C2'	2:B:90:U:H5"	2.47	0.41
3:C:496:VAL:HG23	3:C:548:ASN:H	1.86	0.41
3:C:727:LEU:HA	3:C:730:ARG:HG2	2.03	0.41
3:C:764:ASP:OD2	3:C:764:ASP:N	2.48	0.41
3:C:810:PRO:HG3	3:C:813:ARG:HH22	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:932:GLU:HA	3:C:935:ILE:HD12	2.03	0.41
4:D:541:ILE:HA	4:D:588:CYS:O	2.21	0.41
4:D:2067:VAL:HA	4:D:2079:ILE:HA	2.02	0.41
7:G:96:U:H5"	7:G:97:A:OP2	2.21	0.41
8:H:55:U:H2'	8:H:57:A:OP2	2.21	0.41
15:P:41:ILE:HG13	19:T:318:ARG:HG3	2.02	0.41
15:P:195:LYS:O	15:P:196:ASN:C	2.59	0.41
16:Q:745:PRO:HG2	16:Q:781:PRO:HA	2.03	0.41
17:R:360:ARG:HH22	23:Y:277:THR:HG23	1.85	0.41
17:R:367:ARG:HH12	23:Y:281:LEU:HA	1.85	0.41
22:X:716:LYS:HG3	22:X:747:LEU:HB3	2.03	0.41
22:X:887:GLN:O	22:X:890:GLU:HB3	2.20	0.41
22:X:989:LEU:HD12	22:X:989:LEU:HA	1.84	0.41
23:Y:64:GLU:HG2	23:Y:77:PHE:CZ	2.56	0.41
24:1:641:ILE:H	24:1:641:ILE:HG13	1.56	0.41
24:1:673:ILE:HD13	24:1:673:ILE:HA	1.76	0.41
24:1:862:GLU:O	24:1:866:LYS:HB2	2.21	0.41
25:3:43:PRO:HA	25:3:50:VAL:HA	2.01	0.41
25:3:280:ASP:H	25:3:857:ALA:CB	2.33	0.41
25:3:969:VAL:HB	25:3:981:CYS:CB	2.45	0.41
25:3:1096:HIS:ND1	25:3:1166:TYR:HB2	2.36	0.41
31:5:53:PHE:O	31:5:57:GLU:HG2	2.21	0.41
1:A:59:GLU:HA	1:A:59:GLU:OE2	2.20	0.41
1:A:136:ILE:HG13	1:A:225:TYR:HE2	1.85	0.41
1:A:583:ALA:HB3	1:A:584:HIS:HD2	1.85	0.41
1:A:778:ARG:HH11	1:A:778:ARG:HD2	1.65	0.41
1:A:1161:LEU:HD22	1:A:1166:THR:HG22	2.03	0.41
1:A:1268:ILE:HD13	1:A:1268:ILE:HG21	1.77	0.41
1:A:1638:ASN:O	1:A:1652:MET:HB3	2.21	0.41
44:A:3000:IHP:O41	44:A:3000:IHP:P2	2.79	0.41
3:C:174:GLU:CD	3:C:180:GLY:HA2	2.41	0.41
3:C:930:ALA:HA	3:C:933:PHE:HB2	2.02	0.41
5:E:81:LEU:HD12	5:E:95:VAL:HG22	2.03	0.41
5:E:348:ASP:OD1	5:E:350:ARG:HG3	2.20	0.41
7:G:85:G:H1	8:H:45:C:N4	2.18	0.41
7:G:90:C:N3	8:H:40:C:N3	2.68	0.41
8:H:5:C:O2'	8:H:6:U:H5'	2.20	0.41
8:H:160:A:H2'	8:H:161:U:O4'	2.20	0.41
10:J:239:ARG:O	10:J:239:ARG:HG2	2.21	0.41
10:J:328:GLY:O	10:J:331:GLN:HG2	2.21	0.41
11:K:237:ASP:OD1	11:K:238:GLU:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:N:9:LYS:HA	13:N:9:LYS:HD3	1.91	0.41
13:N:58:ARG:HA	13:N:58:ARG:HD3	1.78	0.41
15:P:208:LYS:HA	15:P:208:LYS:HD2	1.52	0.41
17:R:348:GLU:OE1	22:X:263:SER:N	2.54	0.41
19:T:213:GLU:OE1	19:T:216:ASN:N	2.54	0.41
19:T:342:GLU:CD	19:T:365:ARG:HH12	2.16	0.41
21:V:562:TRP:CE2	21:V:602:ARG:HD3	2.55	0.41
22:X:227:ARG:HH12	23:Y:237:PRO:HD2	1.85	0.41
22:X:431:GLN:HA	22:X:434:GLN:HE21	1.86	0.41
22:X:606:GLN:HG3	22:X:688:TYR:CE1	2.56	0.41
22:X:826:LYS:HB3	22:X:946:GLY:HA2	2.02	0.41
22:X:843:VAL:HG23	22:X:882:LEU:HD13	2.02	0.41
22:X:1007:TRP:HA	22:X:1010:GLU:OE2	2.20	0.41
23:Y:41:LEU:HB3	23:Y:155:ARG:NH1	2.36	0.41
23:Y:49:PHE:N	23:Y:112:THR:OG1	2.54	0.41
23:Y:194:ASP:OD2	23:Y:194:ASP:N	2.53	0.41
23:Y:242:LEU:HD12	23:Y:288:PHE:CZ	2.56	0.41
24:1:686:LEU:HA	24:1:689:ILE:HG12	2.03	0.41
25:3:77:TYR:HE2	25:3:152:LEU:HD22	1.85	0.41
25:3:180:PRO:HD2	25:3:215:LEU:HD11	2.03	0.41
25:3:224:TYR:HB3	25:3:261:PHE:CD1	2.56	0.41
25:3:259:LYS:HE3	25:3:259:LYS:HB2	1.68	0.41
25:3:334:PRO:HG2	25:3:357:TYR:CD2	2.56	0.41
25:3:497:SER:OG	25:3:499:PHE:HB2	2.21	0.41
25:3:615:ARG:O	25:3:616:ILE:HD12	2.21	0.41
25:3:724:SER:HB2	25:3:727:SER:HA	2.01	0.41
25:3:998:HIS:HE1	25:3:1041:TYR:OH	2.04	0.41
25:3:1175:ASP:OD1	25:3:1178:LEU:N	2.52	0.41
28:2:506:PHE:N	28:2:506:PHE:CD1	2.88	0.41
28:2:511:LEU:C	28:2:513:GLY:H	2.24	0.41
28:2:572:HIS:O	28:2:576:PHE:HB2	2.20	0.41
28:2:596:GLU:H	28:2:596:GLU:CD	2.16	0.41
1:A:431:TYR:HB3	1:A:611:LEU:HD21	2.02	0.41
1:A:547:CYS:O	1:A:548:ARG:C	2.58	0.41
1:A:648:LEU:HD23	1:A:648:LEU:HA	1.86	0.41
1:A:1495:PHE:HD1	1:A:1495:PHE:HA	1.74	0.41
3:C:271:PRO:HG3	3:C:378:TYR:CD2	2.56	0.41
3:C:336:TYR:CZ	3:C:337:GLN:HG2	2.56	0.41
3:C:678:THR:HG23	3:C:683:ASN:HB2	2.03	0.41
3:C:718:PHE:HB3	3:C:724:TRP:HD1	1.86	0.41
7:G:115:C:H1'	23:Y:309:ARG:HE	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:34:U:H2'	8:H:35:A:C1'	2.51	0.41
8:H:139:C:H2'	8:H:140:A:C8	2.56	0.41
11:K:232:ILE:HA	11:K:235:GLU:HG2	2.03	0.41
17:R:116:TYR:HD1	17:R:120:VAL:HG13	1.86	0.41
19:T:314:ILE:O	19:T:323:VAL:HG22	2.21	0.41
21:V:469:PHE:CE1	21:V:509:LEU:HD13	2.56	0.41
22:X:482:ARG:O	22:X:483:PHE:HB2	2.21	0.41
22:X:616:THR:HB	22:X:696:LYS:HE2	2.03	0.41
22:X:856:ARG:CZ	22:X:856:ARG:HB3	2.51	0.41
23:Y:183:ARG:HH21	23:Y:186:LEU:HB3	1.85	0.41
23:Y:267:ARG:HB3	23:Y:287:GLU:HG2	2.02	0.41
24:1:1208:LEU:HB3	24:1:1237:LEU:HD21	2.03	0.41
25:3:164:ASN:OD1	25:3:164:ASN:N	2.53	0.41
25:3:184:CYS:HG	25:3:211:TYR:HE1	1.69	0.41
25:3:672:GLY:H	25:3:696:SER:CA	2.34	0.41
25:3:805:ASN:CB	31:5:58:ASN:HB2	2.50	0.41
28:2:592:TYR:CZ	28:2:595:LYS:HA	2.56	0.41
30:7:51:TYR:CG	30:7:52:GLY:N	2.89	0.41
35:9:324:SER:HA	35:9:330:ILE:HA	2.03	0.41
1:A:184:ASP:HB3	13:N:1:MET:CA	2.51	0.40
1:A:674:LYS:HB3	1:A:674:LYS:HE3	1.75	0.40
1:A:701:ILE:HD11	17:R:237:MET:HE2	2.03	0.40
1:A:1136:ARG:HG2	1:A:1139:ARG:NH1	2.36	0.40
1:A:1376:GLU:O	1:A:1376:GLU:HG3	2.14	0.40
1:A:1839:TRP:CZ3	1:A:1871:PRO:HB3	2.56	0.40
3:C:258:ASN:HA	3:C:310:SER:O	2.21	0.40
3:C:286:ASN:OD1	3:C:300:LEU:HD12	2.22	0.40
3:C:366:GLN:NE2	3:C:375:GLU:OE1	2.53	0.40
3:C:556:ASP:OD1	3:C:556:ASP:N	2.54	0.40
4:D:1350:ALA:O	4:D:1492:SER:HA	2.21	0.40
5:E:124:LEU:C	5:E:125:PHE:HD2	2.24	0.40
6:F:40:U:H3'	6:F:41:A:C8	2.56	0.40
6:F:84:A:C4	6:F:85:U:C6	3.09	0.40
7:G:110:U:HO2'	7:G:111:U:P	2.44	0.40
8:H:28:C:N4	12:L:32:SER:OG	2.54	0.40
10:J:319:MET:O	10:J:323:LEU:HD13	2.20	0.40
19:T:338:CYS:HA	19:T:344:GLN:O	2.20	0.40
21:V:501:ARG:HH11	21:V:501:ARG:HB2	1.86	0.40
22:X:747:LEU:HA	22:X:747:LEU:HD13	1.86	0.40
22:X:941:LYS:HE2	22:X:1007:TRP:NE1	2.37	0.40
22:X:941:LYS:HA	22:X:944:THR:OG1	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:X:978:GLU:OE1	22:X:978:GLU:HA	2.21	0.40
22:X:997:MET:C	22:X:998:ARG:HD2	2.42	0.40
24:1:646:PRO:O	24:1:649:LYS:HB2	2.20	0.40
24:1:664:GLY:O	24:1:668:VAL:HG23	2.20	0.40
24:1:953:ASP:O	24:1:956:SER:N	2.55	0.40
24:1:1028:HIS:HB3	24:1:1031:VAL:HG13	2.02	0.40
24:1:1080:THR:O	24:1:1084:ILE:HG13	2.21	0.40
25:3:1:MET:HG3	25:3:1092:ILE:HD12	2.02	0.40
25:3:258:TYR:CG	25:3:259:LYS:N	2.90	0.40
25:3:343:LYS:C	25:3:345:GLY:H	2.24	0.40
25:3:423:LEU:HB2	25:3:438:LEU:HB2	2.02	0.40
25:3:706:MET:HG2	25:3:770:LEU:CD1	2.51	0.40
25:3:1114:SER:HB2	25:3:1215:TYR:HE1	1.83	0.40
35:9:350:PHE:CZ	35:9:376:ASN:HB3	2.55	0.40
1:A:303:ILE:HG22	1:A:305:ARG:HG2	2.03	0.40
1:A:1936:LEU:O	1:A:1940:LEU:HG	2.21	0.40
2:B:14:U:C2	2:B:15:C:C5	3.10	0.40
7:G:7:G:C5	7:G:8:C:N4	2.90	0.40
14:O:22:ILE:O	14:O:82:GLN:N	2.43	0.40
15:P:74:LYS:HA	15:P:77:ASP:CB	2.51	0.40
19:T:309:ASP:OD1	19:T:309:ASP:N	2.54	0.40
21:V:636:LEU:HD13	21:V:639:LEU:HD11	2.03	0.40
22:X:532:LEU:O	22:X:536:ILE:HG13	2.21	0.40
22:X:760:LEU:O	22:X:763:VAL:HG22	2.20	0.40
22:X:887:GLN:HA	22:X:890:GLU:HB3	2.03	0.40
24:1:501:LEU:HD23	24:1:501:LEU:HA	1.72	0.40
24:1:850:ILE:HG22	24:1:888:LEU:HD11	2.02	0.40
24:1:926:LYS:HE2	24:1:965:CYS:HA	2.03	0.40
24:1:1216:TRP:CH2	24:1:1268:ILE:HD13	2.56	0.40
25:3:610:VAL:HG23	25:3:636:GLN:NE2	2.36	0.40
25:3:927:THR:HG23	25:3:940:LEU:HB2	2.04	0.40
28:2:606:PRO:C	28:2:608:ASP:H	2.23	0.40
35:9:367:SER:HA	35:9:395:THR:O	2.21	0.40
1:A:40:LEU:HD12	1:A:40:LEU:HA	1.86	0.40
1:A:162:LYS:HA	1:A:162:LYS:HD2	1.73	0.40
1:A:162:LYS:HE2	1:A:163:ARG:O	2.21	0.40
1:A:660:PHE:CD2	17:R:209:PRO:CB	3.03	0.40
1:A:829:PRO:HD2	1:A:832:TYR:CG	2.56	0.40
1:A:1518:LEU:HD23	1:A:1518:LEU:N	2.36	0.40
1:A:1618:LYS:HG3	1:A:1626:CYS:HB2	2.02	0.40
1:A:1889:LEU:HD12	1:A:1889:LEU:HA	1.80	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:A:3000:IHP:O45	44:A:3000:IHP:C6	2.69	0.40
3:C:83:GLU:HB2	3:C:84:GLU:H	1.75	0.40
3:C:223:ASP:HA	3:C:448:LYS:HZ1	1.86	0.40
3:C:804:GLY:O	3:C:808:ILE:HB	2.22	0.40
5:E:309:VAL:HG22	5:E:330:ILE:HG12	2.04	0.40
10:J:278:LEU:HD12	10:J:278:LEU:HA	1.83	0.40
10:J:291:GLN:O	10:J:294:HIS:N	2.54	0.40
10:J:308:ARG:NH2	17:R:233:PRO:HD3	2.37	0.40
16:Q:1110:GLN:HA	16:Q:1115:MET:H	1.85	0.40
19:T:280:VAL:H	19:T:280:VAL:HG23	1.68	0.40
19:T:395:ILE:HB	19:T:409:LEU:HB2	2.03	0.40
22:X:461:VAL:O	22:X:465:VAL:HG23	2.22	0.40
23:Y:95:SER:OG	23:Y:109:LEU:HD21	2.20	0.40
23:Y:161:ILE:HG21	23:Y:164:ASP:HB2	2.03	0.40
24:1:669:GLN:NE2	24:1:707:LEU:HD22	2.37	0.40
24:1:893:ILE:HG22	24:1:894:ASP:OD2	2.22	0.40
24:1:1027:ARG:HD3	24:1:1027:ARG:HA	1.83	0.40
24:1:1167:TYR:HB2	28:2:579:GLN:HE21	1.86	0.40
24:1:1173:LEU:HD21	24:1:1191:VAL:HG11	2.03	0.40
25:3:174:ASP:HB3	25:3:240:GLY:H	1.86	0.40
25:3:664:TYR:HA	25:3:677:THR:O	2.21	0.40
25:3:775:ASN:HD22	25:3:775:ASN:N	2.11	0.40
25:3:804:HIS:ND1	31:5:57:GLU:HA	2.37	0.40
25:3:889:PHE:HD1	25:3:889:PHE:HA	1.74	0.40
25:3:911:LYS:HG3	25:3:912:ASP:CG	2.42	0.40
25:3:1014:TYR:OH	25:3:1019:ASN:OD1	2.25	0.40
28:2:459:ARG:HD2	28:2:481:THR:HA	2.03	0.40
1:A:467:GLN:HG2	2:B:19:A:H62	1.87	0.40
1:A:1838:LYS:HD3	1:A:1868:MET:CG	2.48	0.40
1:A:2308:VAL:HA	4:D:1124:GLN:O	2.19	0.40
2:B:20:G:O6	2:B:57:G:C2	2.74	0.40
2:B:38:C:H2'	2:B:39:C:H5'	2.02	0.40
3:C:807:GLN:HE21	35:9:145:LEU:C	2.25	0.40
5:E:62:LEU:HD22	5:E:93:TRP:CZ3	2.57	0.40
10:J:396:ARG:HG3	10:J:422:PHE:HZ	1.87	0.40
12:L:98:GLU:O	12:L:101:GLU:HG3	2.21	0.40
13:N:75:TYR:CZ	13:N:79:ILE:HD11	2.57	0.40
22:X:432:ILE:HB	22:X:433:PRO:HD3	2.02	0.40
22:X:796:LEU:HB2	22:X:802:LEU:CD1	2.51	0.40
22:X:945:ALA:HA	22:X:1011:VAL:HG11	2.04	0.40
23:Y:30:LYS:C	23:Y:66:ILE:HD13	2.42	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1:517:ARG:HB3	24:1:517:ARG:NH1	2.37	0.40
24:1:549:ARG:O	24:1:553:VAL:HG22	2.22	0.40
24:1:811:LEU:HB2	24:1:812:PRO:HD3	2.03	0.40
24:1:834:VAL:HG22	24:1:871:THR:CG2	2.44	0.40
25:3:183:ALA:HA	25:3:209:THR:O	2.22	0.40
25:3:226:GLU:HG3	25:3:226:GLU:O	2.22	0.40
25:3:1057:ARG:O	25:3:1090:GLU:HG3	2.22	0.40
1:A:278:LYS:O	1:A:452:LYS:HE2	2.21	0.40
1:A:422:LEU:HD22	1:A:638:LEU:HD13	2.02	0.40
1:A:1937:ILE:HG21	1:A:2011:ILE:O	2.21	0.40
5:E:82:ALA:HA	5:E:92:LEU:HD23	2.02	0.40
5:E:127:ALA:HB2	5:E:157:CYS:HB2	2.03	0.40
6:F:85:U:C2	8:H:14:C:N3	2.89	0.40
7:G:8:C:OP1	12:L:201:LYS:HB2	2.21	0.40
12:L:85:ILE:O	12:L:88:ILE:HG13	2.22	0.40
15:P:77:ASP:O	15:P:78:ARG:HG2	2.21	0.40
16:Q:744:ILE:N	16:Q:745:PRO:HD3	2.36	0.40
17:R:374:PRO:HD2	17:R:379:LYS:NZ	2.37	0.40
18:S:63:GLN:HA	18:S:113:PHE:HA	2.03	0.40
21:V:503:TYR:OH	21:V:550:MET:HA	2.21	0.40
21:V:616:LEU:HB2	21:V:643:LEU:CD1	2.48	0.40
21:V:618:ARG:HE	21:V:618:ARG:HB2	1.78	0.40
22:X:222:MET:CE	23:Y:299:PHE:CZ	3.05	0.40
22:X:326:GLN:O	22:X:326:GLN:HG2	2.21	0.40
22:X:328:ARG:HA	22:X:328:ARG:HD3	1.88	0.40
22:X:971:HIS:HA	22:X:996:PHE:CE1	2.56	0.40
22:X:984:LEU:HD23	22:X:984:LEU:HA	1.96	0.40
22:X:988:GLU:HB2	22:X:998:ARG:HB2	2.02	0.40
25:3:526:HIS:HB2	25:3:574:LEU:HD21	2.03	0.40
25:3:1115:GLU:CA	28:2:708:TRP:HZ2	2.35	0.40
25:3:1135:HIS:HA	25:3:1138:HIS:HB3	2.03	0.40
35:9:425:GLU:HB3	35:9:427:ARG:NH1	2.37	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	A	2216/2335 (95%)	1957 (88%)	246 (11%)	13 (1%)	25	64
3	C	854/972 (88%)	737 (86%)	110 (13%)	7 (1%)	19	60
4	D	1720/2136 (80%)	1585 (92%)	124 (7%)	11 (1%)	25	64
5	E	297/357 (83%)	271 (91%)	26 (9%)	0	100	100
9	I	563/855 (66%)	479 (85%)	79 (14%)	5 (1%)	17	56
10	J	245/848 (29%)	214 (87%)	28 (11%)	3 (1%)	13	50
11	K	44/343 (13%)	39 (89%)	5 (11%)	0	100	100
12	L	165/802 (21%)	142 (86%)	23 (14%)	0	100	100
13	N	141/144 (98%)	124 (88%)	17 (12%)	0	100	100
14	O	285/420 (68%)	239 (84%)	46 (16%)	0	100	100
15	P	97/229 (42%)	86 (89%)	9 (9%)	2 (2%)	7	39
16	Q	1319/1485 (89%)	1208 (92%)	111 (8%)	0	100	100
17	R	352/536 (66%)	314 (89%)	36 (10%)	2 (1%)	25	64
18	S	156/166 (94%)	147 (94%)	9 (6%)	0	100	100
19	T	318/514 (62%)	289 (91%)	29 (9%)	0	100	100
20	U	68/2752 (2%)	62 (91%)	6 (9%)	0	100	100
21	V	458/908 (50%)	430 (94%)	28 (6%)	0	100	100
22	X	778/1041 (75%)	692 (89%)	82 (10%)	4 (0%)	29	68
23	Y	318/492 (65%)	277 (87%)	41 (13%)	0	100	100
24	1	814/1304 (62%)	706 (87%)	104 (13%)	4 (0%)	29	68
25	3	1165/1217 (96%)	991 (85%)	172 (15%)	2 (0%)	47	80
26	p	163/225 (72%)	147 (90%)	15 (9%)	1 (1%)	25	64
27	w	428/501 (85%)	381 (89%)	47 (11%)	0	100	100
28	2	246/895 (28%)	210 (85%)	31 (13%)	5 (2%)	7	40
29	4	157/424 (37%)	138 (88%)	19 (12%)	0	100	100
30	7	79/110 (72%)	65 (82%)	14 (18%)	0	100	100
31	5	75/86 (87%)	64 (85%)	11 (15%)	0	100	100
32	y	77/301 (26%)	64 (83%)	13 (17%)	0	100	100
33	v	150/464 (32%)	134 (89%)	16 (11%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	u	183/793 (23%)	170 (93%)	13 (7%)	0	100	100
35	9	330/520 (64%)	292 (88%)	38 (12%)	0	100	100
36	a	84/240 (35%)	82 (98%)	2 (2%)	0	100	100
36	m	80/240 (33%)	72 (90%)	8 (10%)	0	100	100
37	b	80/119 (67%)	77 (96%)	3 (4%)	0	100	100
37	n	78/119 (66%)	67 (86%)	11 (14%)	0	100	100
38	c	95/118 (80%)	91 (96%)	4 (4%)	0	100	100
38	h	91/118 (77%)	82 (90%)	9 (10%)	0	100	100
39	d	72/86 (84%)	69 (96%)	3 (4%)	0	100	100
39	i	70/86 (81%)	64 (91%)	6 (9%)	0	100	100
40	e	77/92 (84%)	76 (99%)	1 (1%)	0	100	100
40	j	79/92 (86%)	73 (92%)	6 (8%)	0	100	100
41	f	72/76 (95%)	70 (97%)	2 (3%)	0	100	100
41	k	71/76 (93%)	63 (89%)	8 (11%)	0	100	100
42	g	77/126 (61%)	76 (99%)	1 (1%)	0	100	100
42	l	81/126 (64%)	70 (86%)	11 (14%)	0	100	100
43	o	160/255 (63%)	136 (85%)	24 (15%)	0	100	100
All	All	15528/26144 (59%)	13822 (89%)	1647 (11%)	59 (0%)	38	72

All (59) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	D	1258	VAL
9	I	139	ALA
17	R	164	PRO
17	R	223	PRO
24	1	1106	ARG
25	3	570	PRO
28	2	605	LYS
28	2	606	PRO
1	A	51	PHE
1	A	699	GLU
1	A	1417	PRO
3	C	83	GLU
3	C	824	THR
4	D	2098	ALA

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Mol	Chain	Res	Type
4	D	2099	THR
10	J	241	VAL
22	X	851	ASN
28	2	512	GLN
28	2	607	GLY
1	A	698	PRO
1	A	856	LEU
1	A	1548	TYR
3	C	359	LYS
4	D	1261	PRO
4	D	1263	PRO
4	D	1584	ILE
9	I	110	PRO
9	I	371	PRO
22	X	993	THR
24	1	717	THR
24	1	718	PRO
1	A	1418	ARG
4	D	1007	PRO
10	J	358	GLU
22	X	523	HIS
22	X	992	THR
24	1	1105	GLU
28	2	453	LYS
1	A	570	ASP
1	A	942	PRO
3	C	440	SER
4	D	1227	ASP
4	D	1666	THR
9	I	428	GLN
15	P	184	VAL
1	A	189	GLU
3	C	441	PRO
15	P	48	GLN
26	p	214	PRO
3	C	444	GLY
9	I	140	LEU
1	A	386	PRO
4	D	2097	PRO
10	J	341	PRO
25	3	672	GLY
1	A	52	GLY

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Mol	Chain	Res	Type
4	D	531	ILE
1	A	2311	PRO
3	C	615	PRO

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	A	1762/2108 (84%)	1465 (83%)	297 (17%)	2 14
3	C	747/866 (86%)	611 (82%)	136 (18%)	1 11
5	E	256/300 (85%)	209 (82%)	47 (18%)	1 11
9	I	22/749 (3%)	22 (100%)	0	100 100
10	J	205/751 (27%)	175 (85%)	30 (15%)	3 18
11	K	41/294 (14%)	35 (85%)	6 (15%)	3 18
12	L	141/709 (20%)	119 (84%)	22 (16%)	2 16
13	N	128/130 (98%)	104 (81%)	24 (19%)	1 10
14	O	3/361 (1%)	3 (100%)	0	100 100
15	P	95/203 (47%)	75 (79%)	20 (21%)	1 7
16	Q	71/1336 (5%)	71 (100%)	0	100 100
17	R	268/458 (58%)	214 (80%)	54 (20%)	1 8
19	T	273/441 (62%)	224 (82%)	49 (18%)	2 12
20	U	21/2432 (1%)	17 (81%)	4 (19%)	1 10
21	V	188/838 (22%)	159 (85%)	29 (15%)	2 16
22	X	682/897 (76%)	564 (83%)	118 (17%)	2 13
23	Y	286/451 (63%)	243 (85%)	43 (15%)	3 17
24	1	697/1104 (63%)	597 (86%)	100 (14%)	3 18
25	3	1016/1051 (97%)	804 (79%)	212 (21%)	1 7
26	p	8/195 (4%)	8 (100%)	0	100 100
27	w	112/446 (25%)	93 (83%)	19 (17%)	2 13

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
28	2	151/776 (20%)	120 (80%)	31 (20%)	1 7
30	7	69/95 (73%)	47 (68%)	22 (32%)	0 2
31	5	68/77 (88%)	53 (78%)	15 (22%)	1 6
33	v	73/382 (19%)	63 (86%)	10 (14%)	3 20
34	u	10/709 (1%)	10 (100%)	0	100 100
35	9	185/456 (41%)	148 (80%)	37 (20%)	1 8
36	m	4/177 (2%)	4 (100%)	0	100 100
37	n	3/101 (3%)	3 (100%)	0	100 100
38	h	5/110 (4%)	5 (100%)	0	100 100
39	i	4/74 (5%)	4 (100%)	0	100 100
40	j	1/84 (1%)	1 (100%)	0	100 100
41	k	3/66 (4%)	3 (100%)	0	100 100
42	l	3/101 (3%)	3 (100%)	0	100 100
43	o	6/218 (3%)	6 (100%)	0	100 100
All	All	7607/19546 (39%)	6282 (83%)	1325 (17%)	4 12

All (1325) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	26	SER
1	A	31	GLN
1	A	35	ARG
1	A	37	TRP
1	A	49	ARG
1	A	50	LYS
1	A	60	ASP
1	A	66	VAL
1	A	71	ARG
1	A	78	ASN
1	A	79	ARG
1	A	86	ARG
1	A	88	TYR
1	A	89	LEU
1	A	95	MET
1	A	97	HIS
1	A	111	GLU
1	A	112	GLN

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Mol	Chain	Res	Type
1	A	123	THR
1	A	127	SER
1	A	131	GLU
1	A	142	SER
1	A	155	LYS
1	A	161	PHE
1	A	176	LEU
1	A	177	ASP
1	A	184	ASP
1	A	188	LEU
1	A	195	LEU
1	A	204	LEU
1	A	214	ARG
1	A	216	SER
1	A	227	ARG
1	A	230	PHE
1	A	231	THR
1	A	239	TYR
1	A	248	ASP
1	A	250	VAL
1	A	258	PHE
1	A	261	LYS
1	A	266	SER
1	A	271	MET
1	A	284	ARG
1	A	313	LYS
1	A	322	ASN
1	A	323	LEU
1	A	329	LEU
1	A	330	THR
1	A	337	VAL
1	A	338	VAL
1	A	339	PHE
1	A	340	ILE
1	A	342	THR
1	A	343	GLU
1	A	355	LEU
1	A	356	ILE
1	A	361	HIS
1	A	363	HIS
1	A	376	GLU
1	A	383	PHE

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Mol	Chain	Res	Type
1	A	385	GLU
1	A	387	PHE
1	A	388	LEU
1	A	391	THR
1	A	395	THR
1	A	398	THR
1	A	404	LEU
1	A	422	LEU
1	A	431	TYR
1	A	433	GLU
1	A	439	GLN
1	A	460	LYS
1	A	468	LYS
1	A	479	THR
1	A	480	LYS
1	A	484	SER
1	A	492	VAL
1	A	495	GLN
1	A	515	TYR
1	A	531	THR
1	A	532	THR
1	A	546	LEU
1	A	554	THR
1	A	556	LEU
1	A	569	VAL
1	A	574	LEU
1	A	576	ASP
1	A	587	GLN
1	A	593	ARG
1	A	595	LYS
1	A	604	MET
1	A	609	LYS
1	A	610	HIS
1	A	618	THR
1	A	644	ILE
1	A	665	SER
1	A	666	LYS
1	A	673	THR
1	A	679	SER
1	A	683	LEU
1	A	686	ARG
1	A	690	MET

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Mol	Chain	Res	Type
1	A	693	ILE
1	A	694	LEU
1	A	728	VAL
1	A	733	THR
1	A	751	THR
1	A	766	THR
1	A	769	LYS
1	A	802	THR
1	A	819	SER
1	A	830	LEU
1	A	831	SER
1	A	833	LYS
1	A	835	ASP
1	A	836	THR
1	A	839	LEU
1	A	845	ARG
1	A	854	SER
1	A	855	ARG
1	A	856	LEU
1	A	859	SER
1	A	861	ARG
1	A	866	LEU
1	A	871	TYR
1	A	885	LEU
1	A	887	THR
1	A	889	ARG
1	A	893	GLU
1	A	914	LEU
1	A	916	LYS
1	A	931	ASP
1	A	933	ARG
1	A	940	ILE
1	A	941	LYS
1	A	946	GLU
1	A	977	LEU
1	A	978	GLU
1	A	1000	ILE
1	A	1010	THR
1	A	1014	ASN
1	A	1018	ASN
1	A	1022	MET
1	A	1027	SER

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Mol	Chain	Res	Type
1	A	1030	ILE
1	A	1032	ARG
1	A	1038	SER
1	A	1070	ASP
1	A	1076	ASP
1	A	1079	THR
1	A	1089	CYS
1	A	1104	ASP
1	A	1122	ASN
1	A	1123	GLU
1	A	1126	VAL
1	A	1128	TYR
1	A	1130	ASN
1	A	1131	LYS
1	A	1143	MET
1	A	1144	LYS
1	A	1147	VAL
1	A	1158	LYS
1	A	1163	ARG
1	A	1166	THR
1	A	1173	SER
1	A	1181	ASP
1	A	1186	LEU
1	A	1189	MET
1	A	1200	CYS
1	A	1205	GLU
1	A	1207	PHE
1	A	1210	LYS
1	A	1223	GLU
1	A	1243	ARG
1	A	1276	GLU
1	A	1286	ASP
1	A	1293	ASN
1	A	1298	ARG
1	A	1306	LYS
1	A	1321	GLU
1	A	1339	ASP
1	A	1348	VAL
1	A	1367	ASN
1	A	1370	ARG
1	A	1372	ILE
1	A	1376	GLU

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Mol	Chain	Res	Type
1	A	1377	SER
1	A	1382	SER
1	A	1383	GLN
1	A	1394	GLN
1	A	1399	GLN
1	A	1402	ARG
1	A	1407	ASP
1	A	1409	GLU
1	A	1413	ASP
1	A	1419	ILE
1	A	1427	ARG
1	A	1437	ARG
1	A	1441	ASP
1	A	1449	LYS
1	A	1450	GLN
1	A	1458	GLN
1	A	1459	ARG
1	A	1467	LEU
1	A	1489	LEU
1	A	1491	LYS
1	A	1494	TYR
1	A	1515	TRP
1	A	1516	LYS
1	A	1518	LEU
1	A	1526	LEU
1	A	1527	ASN
1	A	1532	ARG
1	A	1533	ARG
1	A	1536	LEU
1	A	1539	SER
1	A	1554	GLN
1	A	1555	LEU
1	A	1558	THR
1	A	1568	THR
1	A	1575	GLN
1	A	1600	GLU
1	A	1601	LEU
1	A	1606	ILE
1	A	1607	GLU
1	A	1608	THR
1	A	1615	HIS
1	A	1622	MET

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Mol	Chain	Res	Type
1	A	1623	ASN
1	A	1630	LEU
1	A	1631	LEU
1	A	1635	TYR
1	A	1640	SER
1	A	1653	ASP
1	A	1655	THR
1	A	1660	TYR
1	A	1664	ILE
1	A	1667	ARG
1	A	1672	ASP
1	A	1675	ASP
1	A	1691	ASN
1	A	1697	SER
1	A	1701	VAL
1	A	1702	LEU
1	A	1719	PHE
1	A	1722	SER
1	A	1723	LYS
1	A	1726	ILE
1	A	1730	MET
1	A	1756	SER
1	A	1766	GLN
1	A	1768	TYR
1	A	1771	LEU
1	A	1772	PHE
1	A	1775	GLN
1	A	1776	ILE
1	A	1780	VAL
1	A	1782	ASP
1	A	1787	ARG
1	A	1788	VAL
1	A	1789	THR
1	A	1790	ILE
1	A	1792	LYS
1	A	1793	THR
1	A	1794	PHE
1	A	1798	LEU
1	A	1804	ASN
1	A	1811	ASN
1	A	1813	ARG
1	A	1817	LEU

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Mol	Chain	Res	Type
1	A	1820	LYS
1	A	1825	SER
1	A	1830	GLN
1	A	1840	LYS
1	A	1843	GLU
1	A	1852	LEU
1	A	1862	ILE
1	A	1870	ASP
1	A	1876	LEU
1	A	1878	ASP
1	A	1887	SER
1	A	1888	GLU
1	A	1894	GLN
1	A	1919	LEU
1	A	1926	THR
1	A	1930	TYR
1	A	1934	SER
1	A	1944	HIS
1	A	1947	ASN
1	A	1965	HIS
1	A	1971	LEU
1	A	1972	THR
1	A	1976	TRP
1	A	1977	ILE
1	A	1981	VAL
1	A	2005	SER
1	A	2009	ASP
3	C	58	VAL
3	C	65	TYR
3	C	71	GLU
3	C	76	GLU
3	C	83	GLU
3	C	84	GLU
3	C	86	THR
3	C	87	GLN
3	C	90	THR
3	C	95	LYS
3	C	97	VAL
3	C	117	ASP
3	C	122	LEU
3	C	125	ASN
3	C	133	THR

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Mol	Chain	Res	Type
3	C	134	LEU
3	C	135	CYS
3	C	173	THR
3	C	177	ARG
3	C	179	VAL
3	C	181	ILE
3	C	187	THR
3	C	188	VAL
3	C	202	ILE
3	C	215	VAL
3	C	220	ARG
3	C	278	LEU
3	C	279	ARG
3	C	295	ASP
3	C	298	LEU
3	C	301	SER
3	C	310	SER
3	C	317	CYS
3	C	320	LEU
3	C	326	ILE
3	C	327	TYR
3	C	334	ILE
3	C	342	ARG
3	C	349	PHE
3	C	353	THR
3	C	359	LYS
3	C	362	THR
3	C	365	SER
3	C	366	GLN
3	C	371	GLU
3	C	388	VAL
3	C	389	ASP
3	C	391	SER
3	C	394	ARG
3	C	404	THR
3	C	406	GLU
3	C	422	LYS
3	C	424	PHE
3	C	431	VAL
3	C	433	MET
3	C	452	THR
3	C	453	TYR

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Mol	Chain	Res	Type
3	C	454	THR
3	C	457	VAL
3	C	458	ASP
3	C	465	MET
3	C	471	ASP
3	C	483	SER
3	C	484	THR
3	C	495	ARG
3	C	496	VAL
3	C	497	LEU
3	C	498	SER
3	C	501	ILE
3	C	510	LEU
3	C	514	TYR
3	C	522	SER
3	C	533	SER
3	C	538	HIS
3	C	543	ARG
3	C	548	ASN
3	C	553	GLU
3	C	559	ILE
3	C	561	LYS
3	C	562	THR
3	C	564	THR
3	C	565	ILE
3	C	572	GLU
3	C	573	GLU
3	C	578	ARG
3	C	587	VAL
3	C	593	GLU
3	C	596	ASN
3	C	598	SER
3	C	603	MET
3	C	605	ASP
3	C	612	LYS
3	C	617	LEU
3	C	618	THR
3	C	619	THR
3	C	630	LEU
3	C	635	LEU
3	C	641	MET
3	C	642	HIS

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Mol	Chain	Res	Type
3	C	643	ASP
3	C	661	THR
3	C	664	GLU
3	C	670	SER
3	C	672	LEU
3	C	673	LYS
3	C	675	PHE
3	C	696	LEU
3	C	700	ILE
3	C	711	ARG
3	C	716	GLU
3	C	722	TYR
3	C	724	TRP
3	C	743	ASN
3	C	749	THR
3	C	750	LEU
3	C	759	LEU
3	C	766	ILE
3	C	767	VAL
3	C	780	CYS
3	C	781	ASP
3	C	785	ARG
3	C	786	ASN
3	C	799	GLU
3	C	803	ARG
3	C	807	GLN
3	C	809	ILE
3	C	826	ARG
3	C	827	LEU
3	C	866	SER
3	C	875	ILE
3	C	879	ASP
3	C	900	VAL
3	C	907	VAL
3	C	916	ILE
3	C	922	GLU
3	C	928	HIS
5	E	59	ILE
5	E	65	HIS
5	E	73	LYS
5	E	79	SER
5	E	86	PHE

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Mol	Chain	Res	Type
5	E	87	ASP
5	E	89	LEU
5	E	100	ASP
5	E	102	TYR
5	E	106	LYS
5	E	108	HIS
5	E	109	SER
5	E	117	TYR
5	E	119	THR
5	E	120	ASP
5	E	123	MET
5	E	132	THR
5	E	143	ARG
5	E	152	SER
5	E	154	VAL
5	E	166	LEU
5	E	167	VAL
5	E	173	ASP
5	E	182	ARG
5	E	205	SER
5	E	209	ILE
5	E	214	ASP
5	E	232	ARG
5	E	234	HIS
5	E	236	ASP
5	E	239	THR
5	E	252	SER
5	E	255	MET
5	E	258	THR
5	E	265	ARG
5	E	267	PHE
5	E	282	HIS
5	E	284	PHE
5	E	290	ARG
5	E	304	SER
5	E	307	ARG
5	E	314	THR
5	E	320	LEU
5	E	335	PHE
5	E	338	ASP
5	E	343	ILE
5	E	350	ARG

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Mol	Chain	Res	Type
10	J	216	ASP
10	J	219	GLU
10	J	223	TYR
10	J	239	ARG
10	J	242	ILE
10	J	244	ASN
10	J	263	SER
10	J	277	THR
10	J	285	MET
10	J	286	GLU
10	J	288	LYS
10	J	311	GLN
10	J	316	TYR
10	J	319	MET
10	J	322	MET
10	J	340	GLN
10	J	364	THR
10	J	369	PHE
10	J	382	TYR
10	J	385	PHE
10	J	398	VAL
10	J	400	GLU
10	J	405	PHE
10	J	406	PHE
10	J	408	ASP
10	J	419	PHE
10	J	422	PHE
10	J	437	LYS
10	J	438	TYR
10	J	441	ASP
11	K	197	TYR
11	K	202	CYS
11	K	215	ASP
11	K	218	LYS
11	K	222	ASP
11	K	226	TYR
12	L	33	ARG
12	L	40	ARG
12	L	45	GLN
12	L	49	ARG
12	L	53	TRP
12	L	59	LYS

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Mol	Chain	Res	Type
12	L	60	LYS
12	L	61	THR
12	L	63	TRP
12	L	64	SER
12	L	91	ARG
12	L	168	LYS
12	L	169	ARG
12	L	174	LYS
12	L	175	GLN
12	L	180	ARG
12	L	181	ARG
12	L	182	LEU
12	L	190	GLU
12	L	203	LYS
12	L	206	ARG
12	L	222	LEU
13	N	4	VAL
13	N	5	LYS
13	N	7	SER
13	N	17	LEU
13	N	24	GLU
13	N	37	HIS
13	N	38	GLU
13	N	43	VAL
13	N	44	GLU
13	N	46	LEU
13	N	49	ILE
13	N	60	ILE
13	N	72	ARG
13	N	75	TYR
13	N	86	LYS
13	N	99	ASN
13	N	105	CYS
13	N	116	ASN
13	N	125	LYS
13	N	128	VAL
13	N	134	CYS
13	N	137	CYS
13	N	139	CYS
13	N	140	ARG
15	P	30	TYR
15	P	31	SER

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Mol	Chain	Res	Type
15	P	32	SER
15	P	37	SER
15	P	39	THR
15	P	55	ARG
15	P	78	ARG
15	P	186	ARG
15	P	187	ARG
15	P	189	ASP
15	P	191	ASP
15	P	192	VAL
15	P	195	LYS
15	P	204	GLN
15	P	205	LYS
15	P	206	LYS
15	P	208	LYS
15	P	215	LEU
15	P	224	MET
15	P	228	ILE
17	R	84	ASN
17	R	89	GLN
17	R	96	ILE
17	R	101	ILE
17	R	104	GLN
17	R	107	SER
17	R	108	LYS
17	R	122	LYS
17	R	123	GLU
17	R	125	MET
17	R	132	LEU
17	R	134	ARG
17	R	142	GLU
17	R	143	ILE
17	R	153	LYS
17	R	170	LYS
17	R	176	TYR
17	R	180	THR
17	R	186	VAL
17	R	195	ARG
17	R	197	ILE
17	R	200	VAL
17	R	208	GLU
17	R	220	ARG

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Mol	Chain	Res	Type
17	R	232	SER
17	R	234	SER
17	R	235	ARG
17	R	236	LYS
17	R	238	THR
17	R	247	ILE
17	R	250	CYS
17	R	286	LYS
17	R	295	ASP
17	R	309	GLU
17	R	311	LYS
17	R	316	GLU
17	R	325	ARG
17	R	327	MET
17	R	332	ARG
17	R	346	ASP
17	R	352	ARG
17	R	366	ASP
17	R	369	LEU
17	R	377	ARG
17	R	382	ARG
17	R	383	ASN
17	R	385	ASN
17	R	386	ARG
17	R	398	ASN
17	R	406	GLN
17	R	407	TYR
17	R	416	LYS
17	R	433	TYR
17	R	438	ARG
19	T	187	LYS
19	T	196	LEU
19	T	197	TYR
19	T	200	ILE
19	T	221	THR
19	T	223	SER
19	T	227	THR
19	T	235	SER
19	T	240	LEU
19	T	255	SER
19	T	258	SER
19	T	263	SER

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Mol	Chain	Res	Type
19	T	264	CYS
19	T	267	ASP
19	T	274	ASP
19	T	283	HIS
19	T	294	LEU
19	T	301	ASP
19	T	303	LEU
19	T	307	SER
19	T	319	THR
19	T	327	SER
19	T	338	CYS
19	T	342	GLU
19	T	349	SER
19	T	353	THR
19	T	364	THR
19	T	369	THR
19	T	374	SER
19	T	378	VAL
19	T	383	ARG
19	T	384	HIS
19	T	386	THR
19	T	389	SER
19	T	393	ASP
19	T	394	ASN
19	T	397	GLN
19	T	398	TRP
19	T	421	VAL
19	T	429	SER
19	T	436	MET
19	T	443	THR
19	T	449	ARG
19	T	460	ASP
19	T	471	ASP
19	T	485	THR
19	T	491	GLU
19	T	493	ASP
19	T	498	GLU
20	U	1	MET
20	U	2	TYR
20	U	9	THR
20	U	16	ASN
21	V	450	ILE

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Mol	Chain	Res	Type
21	V	458	THR
21	V	465	SER
21	V	470	GLU
21	V	479	MET
21	V	481	PHE
21	V	483	GLU
21	V	485	GLN
21	V	487	LYS
21	V	494	LEU
21	V	504	GLU
21	V	505	LYS
21	V	516	MET
21	V	526	GLU
21	V	538	ARG
21	V	540	GLU
21	V	545	ARG
21	V	556	TYR
21	V	593	TYR
21	V	607	THR
21	V	616	LEU
21	V	623	ASN
21	V	625	ARG
21	V	628	ILE
21	V	632	THR
21	V	633	SER
21	V	646	HIS
21	V	647	LEU
21	V	648	LYS
22	X	164	TRP
22	X	166	ARG
22	X	171	ARG
22	X	176	GLU
22	X	183	GLU
22	X	186	ARG
22	X	194	ARG
22	X	195	ASN
22	X	196	VAL
22	X	197	LEU
22	X	217	GLU
22	X	222	MET
22	X	230	SER
22	X	232	ARG

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Mol	Chain	Res	Type
22	X	237	LYS
22	X	241	GLU
22	X	244	GLU
22	X	245	ASP
22	X	255	PHE
22	X	257	PHE
22	X	262	LEU
22	X	266	GLU
22	X	268	GLN
22	X	270	LEU
22	X	274	ARG
22	X	276	VAL
22	X	278	ASP
22	X	292	LEU
22	X	300	MET
22	X	328	ARG
22	X	333	ARG
22	X	334	LEU
22	X	339	LEU
22	X	384	THR
22	X	389	LYS
22	X	420	ILE
22	X	426	SER
22	X	428	LYS
22	X	444	LYS
22	X	467	ARG
22	X	471	VAL
22	X	473	LEU
22	X	476	GLU
22	X	493	LEU
22	X	503	ARG
22	X	520	ASP
22	X	524	GLU
22	X	533	PHE
22	X	542	PHE
22	X	545	GLU
22	X	552	SER
22	X	575	ARG
22	X	579	VAL
22	X	597	VAL
22	X	599	VAL
22	X	606	GLN

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Mol	Chain	Res	Type
22	X	612	LEU
22	X	621	ILE
22	X	633	ARG
22	X	640	ARG
22	X	645	LEU
22	X	648	TYR
22	X	654	ASP
22	X	656	GLN
22	X	658	ARG
22	X	663	THR
22	X	672	VAL
22	X	674	THR
22	X	698	LYS
22	X	699	SER
22	X	706	MET
22	X	712	THR
22	X	725	ARG
22	X	729	VAL
22	X	749	GLU
22	X	755	ILE
22	X	757	ARG
22	X	758	THR
22	X	760	LEU
22	X	769	SER
22	X	787	GLU
22	X	813	ARG
22	X	817	GLU
22	X	820	VAL
22	X	824	LEU
22	X	825	SER
22	X	828	ILE
22	X	842	THR
22	X	847	LEU
22	X	848	SER
22	X	850	ASN
22	X	863	HIS
22	X	877	ASP
22	X	879	LEU
22	X	886	THR
22	X	894	SER
22	X	909	ARG
22	X	912	ARG

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Mol	Chain	Res	Type
22	X	915	ARG
22	X	924	ARG
22	X	927	VAL
22	X	932	CYS
22	X	933	GLN
22	X	943	ILE
22	X	944	THR
22	X	951	THR
22	X	954	LEU
22	X	955	THR
22	X	956	ARG
22	X	973	ASN
22	X	974	SER
22	X	976	LEU
22	X	979	GLN
22	X	988	GLU
22	X	991	LEU
22	X	994	LYS
22	X	997	MET
22	X	1021	LEU
23	Y	16	LEU
23	Y	17	TYR
23	Y	18	THR
23	Y	23	ARG
23	Y	40	CYS
23	Y	41	LEU
23	Y	53	THR
23	Y	65	SER
23	Y	66	ILE
23	Y	79	GLU
23	Y	86	ILE
23	Y	93	THR
23	Y	118	TYR
23	Y	126	PHE
23	Y	129	VAL
23	Y	130	THR
23	Y	147	ASP
23	Y	154	ILE
23	Y	159	THR
23	Y	162	LEU
23	Y	176	ASP
23	Y	183	ARG

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Mol	Chain	Res	Type
23	Y	188	SER
23	Y	194	ASP
23	Y	198	ASP
23	Y	200	PHE
23	Y	203	ARG
23	Y	210	GLU
23	Y	211	ILE
23	Y	216	GLU
23	Y	219	THR
23	Y	227	VAL
23	Y	234	ASP
23	Y	243	PHE
23	Y	245	CYS
23	Y	250	VAL
23	Y	253	ASP
23	Y	263	PHE
23	Y	273	ARG
23	Y	309	ARG
23	Y	312	HIS
23	Y	316	SER
23	Y	318	SER
24	1	493	LYS
24	1	512	ARG
24	1	544	LEU
24	1	545	GLU
24	1	554	LYS
24	1	558	ARG
24	1	560	LEU
24	1	562	LYS
24	1	563	LEU
24	1	564	ASP
24	1	566	LEU
24	1	568	ARG
24	1	571	VAL
24	1	573	LYS
24	1	581	LEU
24	1	582	LEU
24	1	585	GLU
24	1	598	SER
24	1	610	ILE
24	1	623	TYR
24	1	630	ARG

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Mol	Chain	Res	Type
24	1	673	ILE
24	1	685	SER
24	1	686	LEU
24	1	698	GLN
24	1	707	LEU
24	1	719	TYR
24	1	721	ILE
24	1	736	ARG
24	1	739	ARG
24	1	754	ILE
24	1	760	GLU
24	1	768	GLU
24	1	779	SER
24	1	794	GLN
24	1	795	CYS
24	1	801	VAL
24	1	827	ARG
24	1	836	THR
24	1	844	VAL
24	1	858	LYS
24	1	873	GLU
24	1	890	GLU
24	1	892	LEU
24	1	893	ILE
24	1	901	GLN
24	1	904	THR
24	1	925	VAL
24	1	926	LYS
24	1	928	TYR
24	1	946	LYS
24	1	947	VAL
24	1	958	THR
24	1	964	THR
24	1	967	GLU
24	1	968	GLU
24	1	971	MET
24	1	973	HIS
24	1	982	LEU
24	1	1003	VAL
24	1	1009	MET
24	1	1010	THR
24	1	1014	LYS

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Mol	Chain	Res	Type
24	1	1015	ASP
24	1	1019	ARG
24	1	1021	THR
24	1	1028	HIS
24	1	1029	GLU
24	1	1030	LYS
24	1	1031	VAL
24	1	1032	GLN
24	1	1041	ARG
24	1	1048	GLU
24	1	1065	LEU
24	1	1067	LYS
24	1	1080	THR
24	1	1092	ASP
24	1	1104	GLN
24	1	1113	THR
24	1	1122	THR
24	1	1138	VAL
24	1	1143	VAL
24	1	1150	SER
24	1	1164	ASP
24	1	1170	THR
24	1	1174	GLU
24	1	1182	LEU
24	1	1196	SER
24	1	1200	TYR
24	1	1219	VAL
24	1	1245	ARG
24	1	1250	CYS
24	1	1260	LYS
24	1	1276	SER
24	1	1277	GLN
24	1	1281	ILE
24	1	1292	LYS
24	1	1296	ILE
24	1	1303	ILE
24	1	1304	LEU
25	3	1	MET
25	3	9	GLN
25	3	18	ILE
25	3	25	THR
25	3	33	SER

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Mol	Chain	Res	Type
25	3	36	LYS
25	3	41	LEU
25	3	44	ASP
25	3	52	THR
25	3	56	VAL
25	3	66	MET
25	3	68	PHE
25	3	74	THR
25	3	76	ASP
25	3	78	ILE
25	3	90	LEU
25	3	92	TYR
25	3	98	MET
25	3	106	THR
25	3	110	SER
25	3	116	VAL
25	3	121	LEU
25	3	124	ASP
25	3	126	LYS
25	3	130	VAL
25	3	131	MET
25	3	133	SER
25	3	139	LYS
25	3	143	ILE
25	3	153	THR
25	3	164	ASN
25	3	170	VAL
25	3	173	VAL
25	3	184	CYS
25	3	188	ASP
25	3	195	ASP
25	3	203	ASN
25	3	204	THR
25	3	207	THR
25	3	209	THR
25	3	221	VAL
25	3	222	ARG
25	3	225	SER
25	3	226	GLU
25	3	230	GLU
25	3	233	ASN
25	3	242	SER

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Mol	Chain	Res	Type
25	3	256	ILE
25	3	261	PHE
25	3	263	ASP
25	3	264	GLN
25	3	266	ASP
25	3	271	ILE
25	3	273	ARG
25	3	275	ARG
25	3	282	GLU
25	3	286	ILE
25	3	287	PHE
25	3	294	LYS
25	3	315	LEU
25	3	317	THR
25	3	318	ASP
25	3	320	ASP
25	3	327	LEU
25	3	330	PHE
25	3	331	ASP
25	3	332	THR
25	3	340	CYS
25	3	343	LYS
25	3	344	THR
25	3	347	LEU
25	3	355	ASN
25	3	356	HIS
25	3	364	LEU
25	3	384	THR
25	3	390	ARG
25	3	392	LEU
25	3	403	SER
25	3	404	LEU
25	3	408	LEU
25	3	411	GLN
25	3	417	ASN
25	3	419	ASP
25	3	427	CYS
25	3	433	SER
25	3	435	LEU
25	3	439	ARG
25	3	443	GLU
25	3	455	ASN

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Mol	Chain	Res	Type
25	3	461	THR
25	3	464	ARG
25	3	465	HIS
25	3	469	GLU
25	3	471	ASP
25	3	475	ILE
25	3	477	SER
25	3	482	THR
25	3	492	GLU
25	3	510	LEU
25	3	511	LEU
25	3	514	ASP
25	3	520	TYR
25	3	526	HIS
25	3	527	ILE
25	3	537	LYS
25	3	541	LYS
25	3	543	THR
25	3	544	ILE
25	3	547	CYS
25	3	568	MET
25	3	570	PRO
25	3	571	SER
25	3	573	GLN
25	3	574	LEU
25	3	580	ARG
25	3	584	SER
25	3	592	LEU
25	3	594	ASN
25	3	595	VAL
25	3	603	ARG
25	3	604	PHE
25	3	605	LEU
25	3	612	ASN
25	3	617	ILE
25	3	620	ASP
25	3	630	MET
25	3	638	GLU
25	3	665	LEU
25	3	669	LEU
25	3	676	ARG
25	3	677	THR

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Mol	Chain	Res	Type
25	3	679	LEU
25	3	685	ASP
25	3	689	THR
25	3	697	ARG
25	3	703	ARG
25	3	704	VAL
25	3	715	MET
25	3	727	SER
25	3	732	THR
25	3	738	THR
25	3	743	SER
25	3	758	SER
25	3	768	GLU
25	3	775	ASN
25	3	776	GLN
25	3	786	ARG
25	3	797	LEU
25	3	798	ILE
25	3	802	THR
25	3	814	GLN
25	3	815	ARG
25	3	822	GLU
25	3	834	LEU
25	3	837	GLU
25	3	842	PHE
25	3	850	SER
25	3	851	ILE
25	3	867	ARG
25	3	876	THR
25	3	882	LEU
25	3	883	GLU
25	3	901	GLU
25	3	902	ASP
25	3	904	TYR
25	3	906	LEU
25	3	927	THR
25	3	931	VAL
25	3	936	LYS
25	3	937	LEU
25	3	941	HIS
25	3	942	LYS
25	3	958	ARG

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Mol	Chain	Res	Type
25	3	961	ILE
25	3	966	LEU
25	3	978	LEU
25	3	981	CYS
25	3	988	ASN
25	3	991	SER
25	3	993	ILE
25	3	995	THR
25	3	996	ILE
25	3	998	HIS
25	3	1002	VAL
25	3	1004	ASP
25	3	1012	VAL
25	3	1022	ILE
25	3	1026	ASP
25	3	1028	THR
25	3	1035	THR
25	3	1042	ASP
25	3	1062	THR
25	3	1066	VAL
25	3	1090	GLU
25	3	1093	MET
25	3	1094	ASN
25	3	1099	GLU
25	3	1103	SER
25	3	1107	THR
25	3	1114	SER
25	3	1116	SER
25	3	1118	VAL
25	3	1120	THR
25	3	1121	THR
25	3	1148	LEU
25	3	1150	SER
25	3	1151	GLU
25	3	1166	TYR
25	3	1168	PHE
25	3	1170	VAL
25	3	1183	ASN
25	3	1217	PHE
27	w	390	LYS
27	w	400	HIS
27	w	403	ASN

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Mol	Chain	Res	Type
27	w	414	TYR
27	w	415	THR
27	w	425	HIS
27	w	430	ARG
27	w	433	HIS
27	w	436	ARG
27	w	437	CYS
27	w	446	PHE
27	w	453	GLU
27	w	458	LEU
27	w	468	SER
27	w	471	TRP
27	w	475	THR
27	w	487	VAL
27	w	493	GLU
27	w	500	LEU
28	2	456	ARG
28	2	460	PHE
28	2	461	THR
28	2	464	GLU
28	2	465	LEU
28	2	471	ARG
28	2	475	VAL
28	2	477	MET
28	2	479	ASP
28	2	488	LEU
28	2	494	THR
28	2	497	SER
28	2	502	ARG
28	2	507	LYS
28	2	508	ARG
28	2	509	LYS
28	2	510	TYR
28	2	512	GLN
28	2	517	ILE
28	2	526	ASP
28	2	531	THR
28	2	555	GLU
28	2	557	VAL
28	2	561	MET
28	2	590	LEU
28	2	595	LYS

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Mol	Chain	Res	Type
28	2	598	GLU
28	2	600	ARG
28	2	602	LYS
28	2	705	ARG
28	2	710	GLU
30	7	9	ILE
30	7	11	CYS
30	7	12	ARG
30	7	14	GLN
30	7	23	CYS
30	7	25	LYS
30	7	29	LYS
30	7	30	CYS
30	7	33	CYS
30	7	35	SER
30	7	37	VAL
30	7	40	CYS
30	7	45	ILE
30	7	48	GLU
30	7	60	ILE
30	7	68	ASP
30	7	70	TYR
30	7	71	TYR
30	7	72	CYS
30	7	74	GLU
30	7	81	ASP
30	7	89	VAL
31	5	5	TYR
31	5	18	TYR
31	5	23	HIS
31	5	25	ASP
31	5	27	THR
31	5	32	LEU
31	5	35	GLN
31	5	36	HIS
31	5	42	SER
31	5	51	ASN
31	5	60	SER
31	5	63	ARG
31	5	65	ARG
31	5	69	MET
31	5	74	GLN

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Mol	Chain	Res	Type
33	v	20	SER
33	v	33	LEU
33	v	37	THR
33	v	45	TYR
33	v	53	SER
33	v	56	CYS
33	v	68	SER
33	v	76	LYS
33	v	77	LYS
33	v	85	ARG
35	9	199	ASN
35	9	201	ASN
35	9	213	LYS
35	9	241	TYR
35	9	242	SER
35	9	246	VAL
35	9	247	SER
35	9	253	THR
35	9	256	VAL
35	9	262	GLU
35	9	277	LYS
35	9	287	ASN
35	9	291	LEU
35	9	295	LEU
35	9	296	HIS
35	9	298	ASP
35	9	299	LEU
35	9	309	ARG
35	9	310	LEU
35	9	313	LYS
35	9	338	THR
35	9	344	SER
35	9	346	TRP
35	9	348	LYS
35	9	355	ARG
35	9	359	SER
35	9	360	HIS
35	9	365	ILE
35	9	368	MET
35	9	385	ARG
35	9	389	TYR
35	9	393	LYS

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Mol	Chain	Res	Type
35	9	405	ASP
35	9	407	LEU
35	9	421	ARG
35	9	429	ASP
35	9	431	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (164) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	39	GLN
1	A	41	GLN
1	A	78	ASN
1	A	121	HIS
1	A	210	HIS
1	A	270	ASN
1	A	300	ASN
1	A	325	HIS
1	A	326	HIS
1	A	328	HIS
1	A	357	ASN
1	A	361	HIS
1	A	439	GLN
1	A	467	GLN
1	A	495	GLN
1	A	502	ASN
1	A	584	HIS
1	A	659	GLN
1	A	675	GLN
1	A	755	HIS
1	A	775	ASN
1	A	788	GLN
1	A	1096	HIS
1	A	1293	ASN
1	A	1337	GLN
1	A	1345	GLN
1	A	1352	HIS
1	A	1428	HIS
1	A	1460	HIS
1	A	1527	ASN
1	A	1552	GLN
1	A	1580	HIS
1	A	1583	GLN

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Mol	Chain	Res	Type
1	A	1623	ASN
1	A	1658	GLN
1	A	1766	GLN
1	A	1784	ASN
1	A	1811	ASN
1	A	1830	GLN
1	A	1965	HIS
3	C	82	GLN
3	C	131	ASN
3	C	137	HIS
3	C	139	HIS
3	C	210	ASN
3	C	245	HIS
3	C	286	ASN
3	C	306	ASN
3	C	313	GLN
3	C	350	ASN
3	C	627	HIS
3	C	706	GLN
3	C	743	ASN
3	C	802	HIS
3	C	807	GLN
5	E	116	HIS
5	E	188	GLN
5	E	287	ASN
10	J	234	ASN
10	J	238	ASN
10	J	244	ASN
10	J	331	GLN
10	J	347	HIS
11	K	198	GLN
11	K	228	HIS
12	L	29	ASN
12	L	45	GLN
12	L	73	HIS
12	L	175	GLN
15	P	45	GLN
15	P	204	GLN
15	P	212	ASN
17	R	104	GLN
17	R	175	GLN
17	R	184	GLN

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Mol	Chain	Res	Type
17	R	279	HIS
17	R	357	HIS
17	R	385	ASN
17	R	398	ASN
17	R	431	ASN
19	T	203	HIS
19	T	269	GLN
19	T	381	HIS
19	T	407	GLN
19	T	446	ASN
19	T	455	GLN
20	U	20	GLN
21	V	474	HIS
21	V	491	ASN
21	V	499	GLN
21	V	553	HIS
21	V	609	GLN
21	V	620	ASN
22	X	414	ASN
22	X	475	ASN
22	X	606	GLN
22	X	656	GLN
22	X	701	ASN
22	X	720	ASN
22	X	745	HIS
22	X	866	ASN
22	X	870	ASN
22	X	904	GLN
22	X	964	GLN
22	X	971	HIS
22	X	979	GLN
22	X	987	HIS
23	Y	44	ASN
23	Y	123	HIS
23	Y	158	HIS
24	1	534	GLN
24	1	550	HIS
24	1	599	ASN
24	1	682	HIS
24	1	692	HIS
24	1	763	ASN
24	1	817	HIS

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Mol	Chain	Res	Type
24	1	829	ASN
24	1	886	HIS
24	1	1028	HIS
24	1	1032	GLN
24	1	1069	HIS
24	1	1142	ASN
24	1	1225	HIS
24	1	1252	GLN
24	1	1277	GLN
25	3	5	ASN
25	3	19	HIS
25	3	145	ASN
25	3	169	HIS
25	3	179	ASN
25	3	194	ASN
25	3	205	GLN
25	3	206	GLN
25	3	231	HIS
25	3	233	ASN
25	3	264	GLN
25	3	411	GLN
25	3	480	ASN
25	3	550	ASN
25	3	573	GLN
25	3	612	ASN
25	3	636	GLN
25	3	709	GLN
25	3	730	HIS
25	3	775	ASN
25	3	791	HIS
25	3	796	ASN
25	3	817	GLN
25	3	844	ASN
25	3	861	GLN
25	3	994	GLN
25	3	1019	ASN
25	3	1052	ASN
25	3	1105	GLN
25	3	1172	ASN
27	w	413	ASN
27	w	485	ASN
28	2	546	GLN

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Mol	Chain	Res	Type
28	2	579	GLN
30	7	14	GLN
30	7	55	GLN
35	9	331	GLN
35	9	412	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	B	96/117 (82%)	29 (30%)	3 (3%)
6	F	96/107 (89%)	48 (50%)	4 (4%)
7	G	71/220 (32%)	44 (61%)	9 (12%)
8	H	163/188 (86%)	73 (44%)	6 (3%)
All	All	426/632 (67%)	194 (45%)	22 (5%)

All (194) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	B	9	G
2	B	10	U
2	B	20	G
2	B	21	A
2	B	22	U
2	B	23	C
2	B	24	G
2	B	25	C
2	B	40	U
2	B	44	A
2	B	47	A
2	B	48	A
2	B	52	U
2	B	57	G
2	B	62	G
2	B	65	G
2	B	68	C
2	B	70	A
2	B	71	C
2	B	88	A
2	B	89	U
2	B	90	U
2	B	92	U

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Mol	Chain	Res	Type
2	B	93	U
2	B	94	U
2	B	95	G
2	B	96	A
2	B	97	G
2	B	109	G
6	F	6	C
6	F	7	G
6	F	9	U
6	F	10	U
6	F	12	G
6	F	17	C
6	F	24	A
6	F	25	C
6	F	26	U
6	F	27	A
6	F	28	A
6	F	29	A
6	F	30	A
6	F	33	G
6	F	34	G
6	F	35	A
6	F	37	C
6	F	38	G
6	F	40	U
6	F	42	C
6	F	44	G
6	F	45	A
6	F	46	G
6	F	48	A
6	F	49	G
6	F	54	G
6	F	59	G
6	F	60	C
6	F	61	C
6	F	65	G
6	F	66	C
6	F	68	C
6	F	73	A
6	F	74	U
6	F	75	G
6	F	78	A

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Mol	Chain	Res	Type
6	F	79	C
6	F	80	G
6	F	81	C
6	F	82	A
6	F	83	A
6	F	84	A
6	F	85	U
6	F	86	U
6	F	87	C
6	F	88	G
6	F	89	U
6	F	91	A
7	G	-10	G
7	G	-9	C
7	G	-8	C
7	G	-7	U
7	G	-6	C
7	G	-5	C
7	G	-4	G
7	G	1	G
7	G	3	A
7	G	4	A
7	G	8	C
7	G	9	C
7	G	10	U
7	G	11	A
7	G	13	C
7	G	17	U
7	G	19	G
7	G	20	A
7	G	21	A
7	G	22	C
7	G	23	U
7	G	24	G
7	G	84	U
7	G	85	G
7	G	88	G
7	G	89	U
7	G	90	C
7	G	92	U
7	G	97	A
7	G	98	U

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Mol	Chain	Res	Type
7	G	100	C
7	G	101	U
7	G	102	G
7	G	103	U
7	G	104	C
7	G	105	C
7	G	106	C
7	G	111	U
7	G	112	U
7	G	113	U
7	G	114	U
7	G	115	C
7	G	116	C
7	G	117	A
8	H	2	U
8	H	13	C
8	H	14	C
8	H	15	U
8	H	16	U
8	H	17	U
8	H	18	U
8	H	19	G
8	H	23	A
8	H	24	A
8	H	29	A
8	H	30	A
8	H	31	G
8	H	33	G
8	H	34	U
8	H	35	A
8	H	44	U
8	H	45	C
8	H	46	U
8	H	47	U
8	H	48	A
8	H	49	U
8	H	53	U
8	H	63	G
8	H	64	A
8	H	65	U
8	H	70	C
8	H	74	U

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Mol	Chain	Res	Type
8	H	80	A
8	H	81	G
8	H	82	G
8	H	84	C
8	H	98	G
8	H	99	A
8	H	100	U
8	H	101	U
8	H	102	U
8	H	103	U
8	H	106	G
8	H	107	A
8	H	110	A
8	H	111	G
8	H	112	G
8	H	113	G
8	H	116	A
8	H	117	U
8	H	121	A
8	H	122	U
8	H	123	A
8	H	124	G
8	H	128	C
8	H	129	U
8	H	133	U
8	H	136	G
8	H	137	U
8	H	141	C
8	H	144	C
8	H	145	A
8	H	146	C
8	H	147	G
8	H	149	A
8	H	157	G
8	H	162	U
8	H	164	C
8	H	165	A
8	H	166	G
8	H	168	A
8	H	169	C
8	H	171	U
8	H	177	A

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Mol	Chain	Res	Type
8	H	178	A
8	H	179	C
8	H	180	G

All (22) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	B	39	C
2	B	94	U
2	B	96	A
6	F	37	C
6	F	47	A
6	F	48	A
6	F	58	G
7	G	21	A
7	G	83	A
7	G	84	U
7	G	88	G
7	G	89	U
7	G	101	U
7	G	105	C
7	G	111	U
7	G	113	U
8	H	13	C
8	H	18	U
8	H	43	U
8	H	46	U
8	H	47	U
8	H	165	A

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	$\#\|Z\|>2$
17	SEP	R	224	17	8,9,10	1.41	1 (12%)	8,12,14	2.09	2 (25%)

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
17	SEP	R	224	17	-	0/5/8/10	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	R	224	SEP	P-O1P	3.11	1.60	1.50

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	R	224	SEP	P-OG-CB	-4.46	106.00	118.30
17	R	224	SEP	OG-CB-CA	3.45	111.50	108.14

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 16 ligands modelled in this entry, 14 are monoatomic - leaving 2 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	$\#\|Z\| > 2$
45	GTP	C	1500	46	26,34,34	1.14	1 (3%)	32,54,54	1.90	7 (21%)
44	IHP	A	3000	-	36,36,36	0.93	0	54,60,60	1.52	10 (18%)

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
45	GTP	C	1500	46	-	4/18/38/38	0/3/3/3
44	IHP	A	3000	-	-	9/30/54/54	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	C	1500	GTP	C5-C6	-4.12	1.39	1.47

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
45	C	1500	GTP	PA-O3A-PB	-5.11	115.28	132.83
45	C	1500	GTP	PB-O3B-PG	-5.08	115.38	132.83
44	A	3000	IHP	C6-C5-C4	3.76	118.65	110.41
44	A	3000	IHP	C5-C4-C3	3.70	118.52	110.41
45	C	1500	GTP	C5-C6-N1	3.42	119.99	113.95
45	C	1500	GTP	C3'-C2'-C1'	3.29	105.93	100.98
44	A	3000	IHP	O11-C1-C2	-3.21	101.13	108.69
44	A	3000	IHP	O13-C3-C4	3.12	116.05	108.69
45	C	1500	GTP	C2-N1-C6	-3.12	119.36	125.10
45	C	1500	GTP	C8-N7-C5	2.99	108.69	102.99
44	A	3000	IHP	O12-C2-C1	2.63	114.88	108.69
44	A	3000	IHP	O45-P5-O35	2.60	117.58	107.64
45	C	1500	GTP	O6-C6-C5	-2.28	119.93	124.37
44	A	3000	IHP	O42-P2-O32	2.26	116.27	107.64
44	A	3000	IHP	O44-P4-O34	2.18	115.98	107.64
44	A	3000	IHP	O16-C6-C5	2.15	113.75	108.69
44	A	3000	IHP	O14-C4-C5	2.05	113.52	108.69

There are no chirality outliers.

All (13) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
44	A	3000	IHP	C2-C1-O11-P1
44	A	3000	IHP	C4-C5-O15-P5
44	A	3000	IHP	C6-C5-O15-P5
45	C	1500	GTP	C4'-C5'-O5'-PA
45	C	1500	GTP	C3'-C4'-C5'-O5'
45	C	1500	GTP	O4'-C4'-C5'-O5'
44	A	3000	IHP	C6-O16-P6-O26
44	A	3000	IHP	C6-C1-O11-P1
44	A	3000	IHP	C4-O14-P4-O34
44	A	3000	IHP	C1-C6-O16-P6
44	A	3000	IHP	C4-O14-P4-O44
44	A	3000	IHP	C6-O16-P6-O46
45	C	1500	GTP	C5'-O5'-PA-O1A

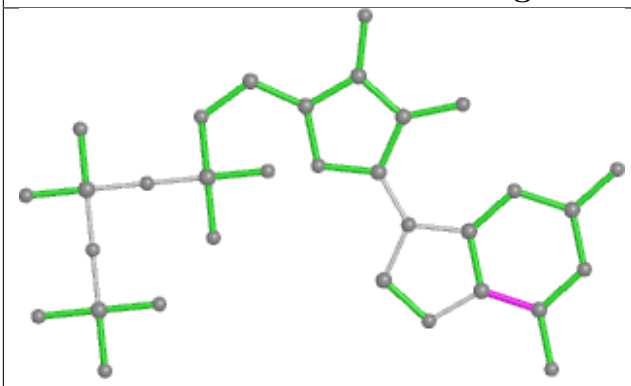
There are no ring outliers.

2 monomers are involved in 16 short contacts:

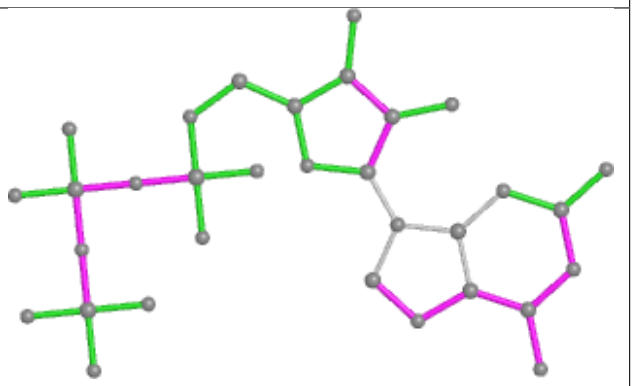
Mol	Chain	Res	Type	Clashes	Symm-Clashes
45	C	1500	GTP	8	0
44	A	3000	IHP	8	0

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.

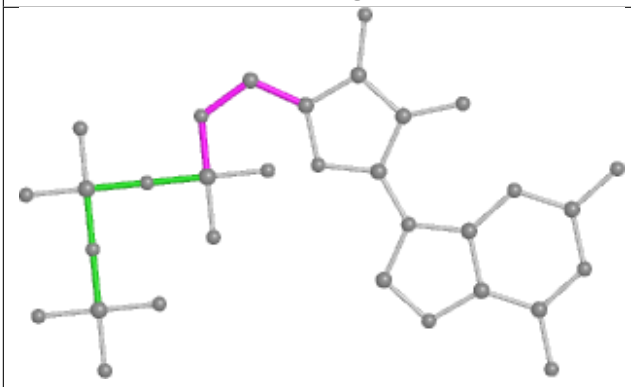
Ligand GTP C 1500



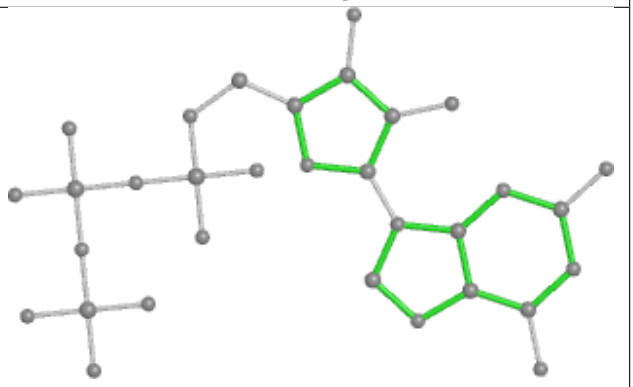
Bond lengths



Bond angles

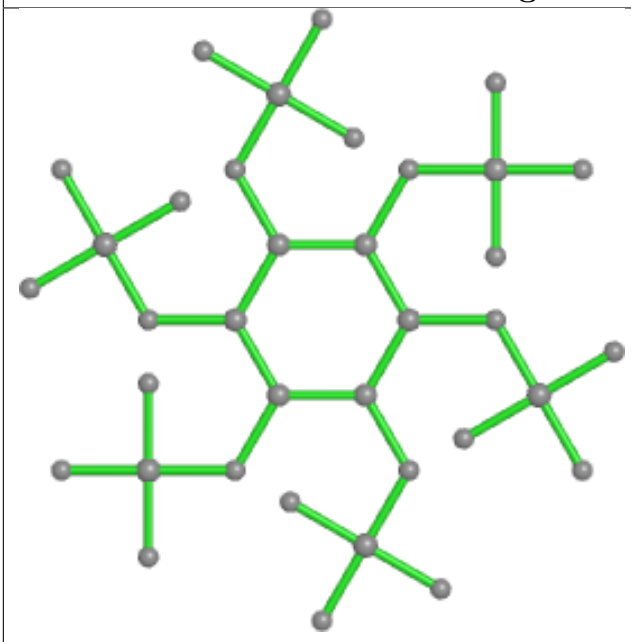


Torsions

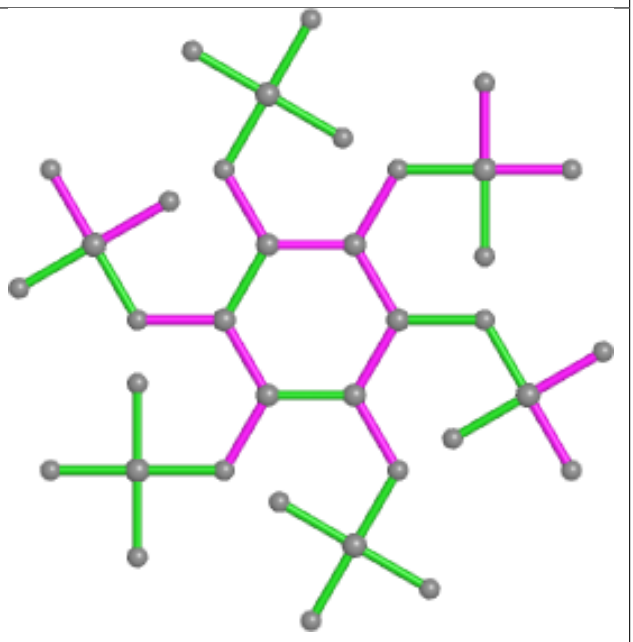


Rings

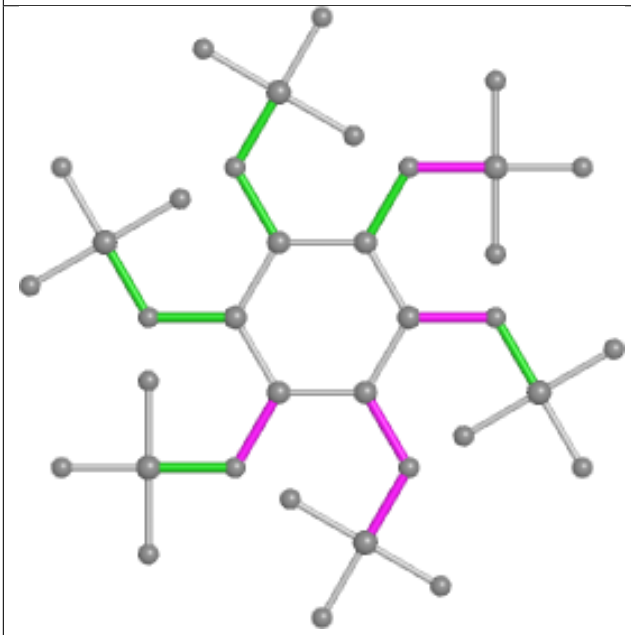
Ligand IHP A 3000



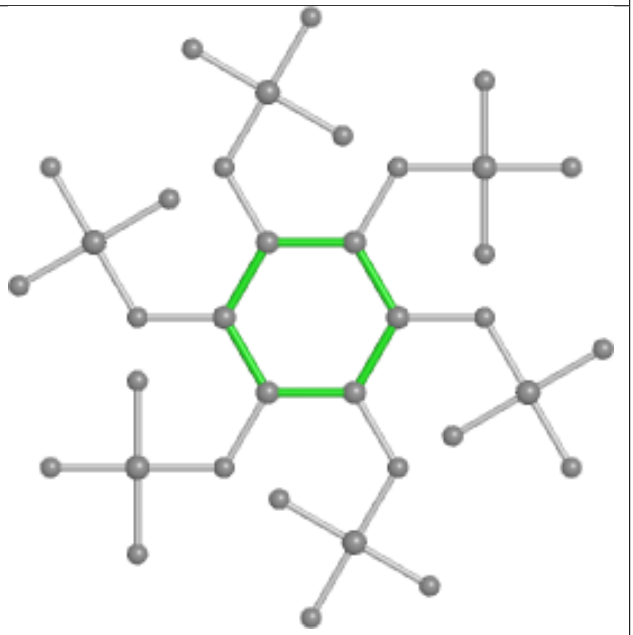
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

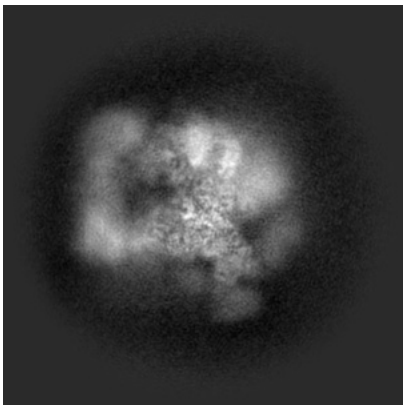
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-35108. These allow visual inspection of the internal detail of the map and identification of artifacts.

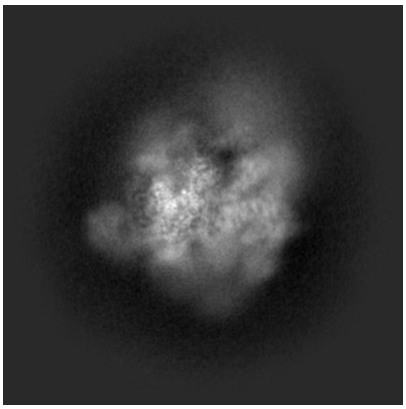
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

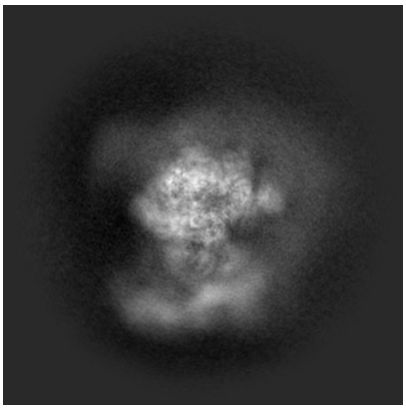
6.1.1 Primary map



X

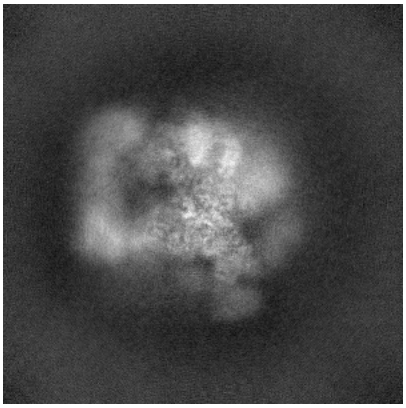


Y

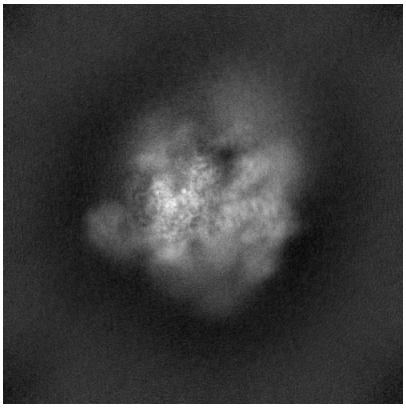


Z

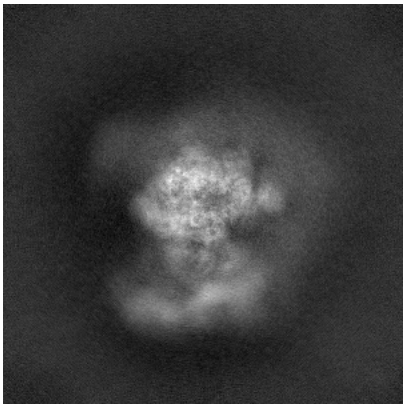
6.1.2 Raw map



X



Y

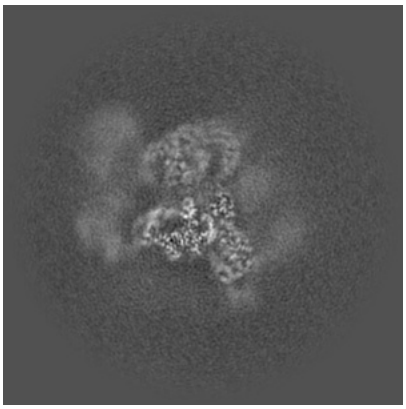


Z

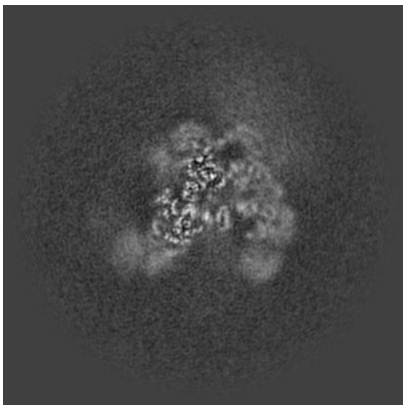
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

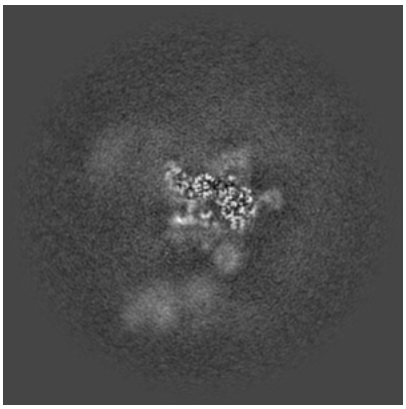
6.2.1 Primary map



X Index: 240

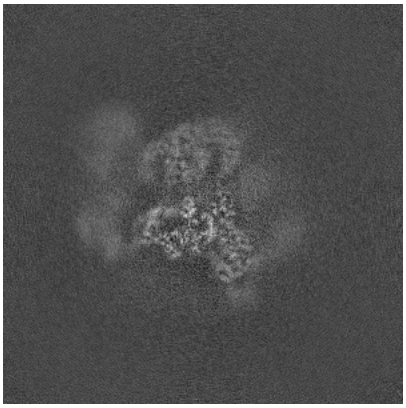


Y Index: 240

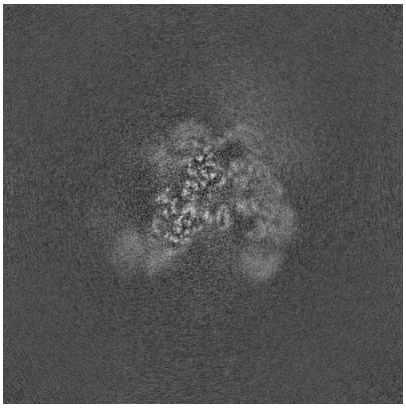


Z Index: 240

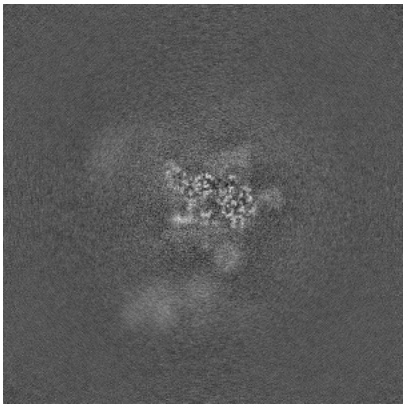
6.2.2 Raw map



X Index: 240



Y Index: 240

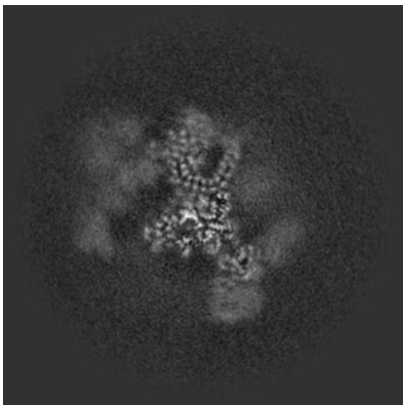


Z Index: 240

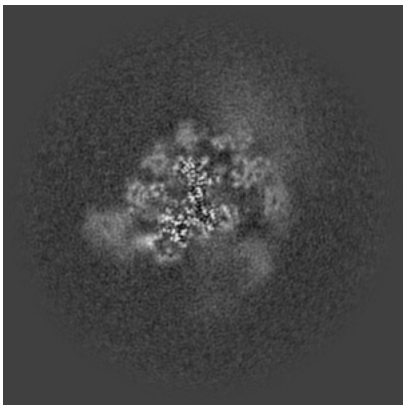
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

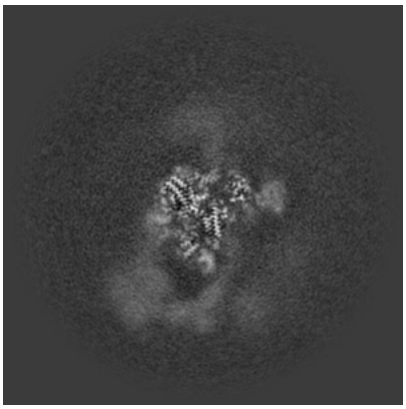
6.3.1 Primary map



X Index: 226

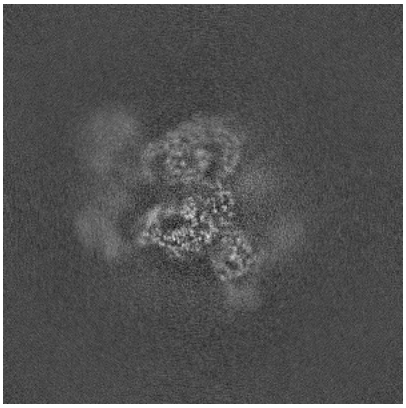


Y Index: 258

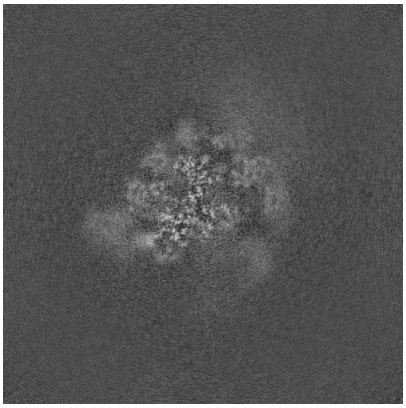


Z Index: 216

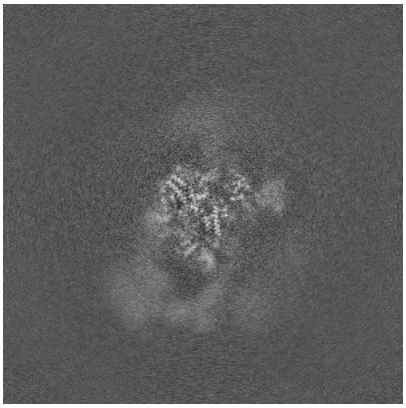
6.3.2 Raw map



X Index: 238



Y Index: 258

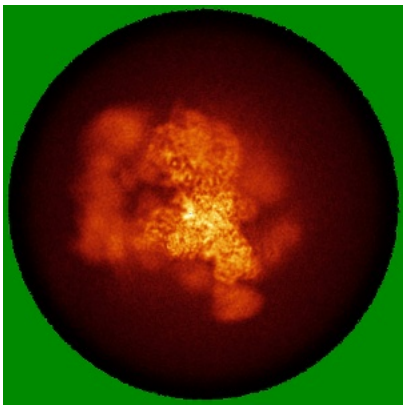


Z Index: 216

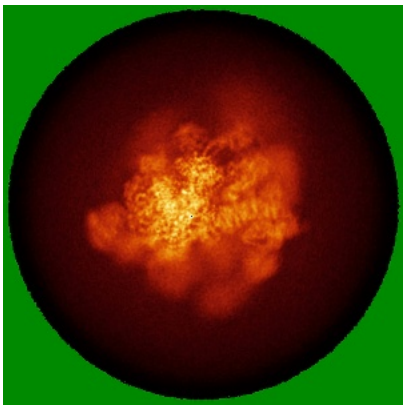
The images above show the largest variance slices of the map in three orthogonal directions.

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

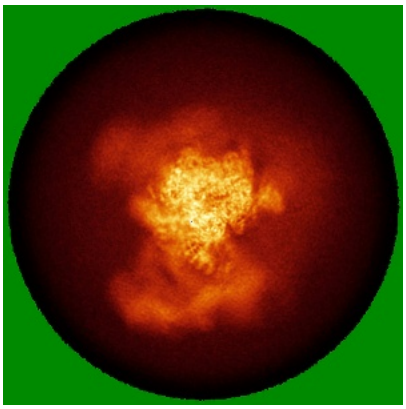
6.4.1 Primary map



X

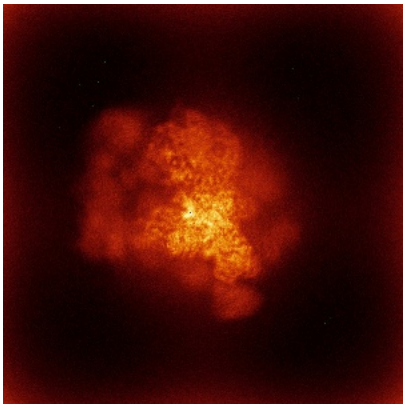


Y

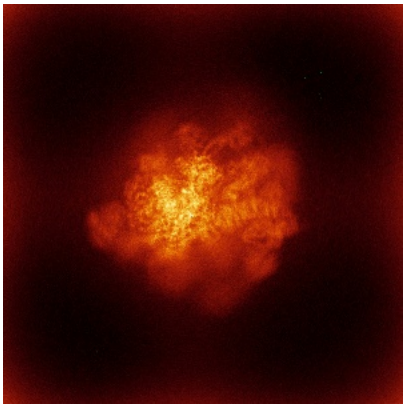


Z

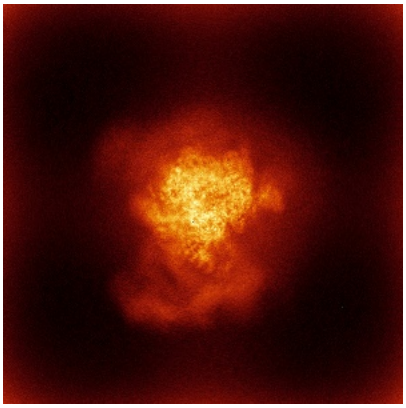
6.4.2 Raw map



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.

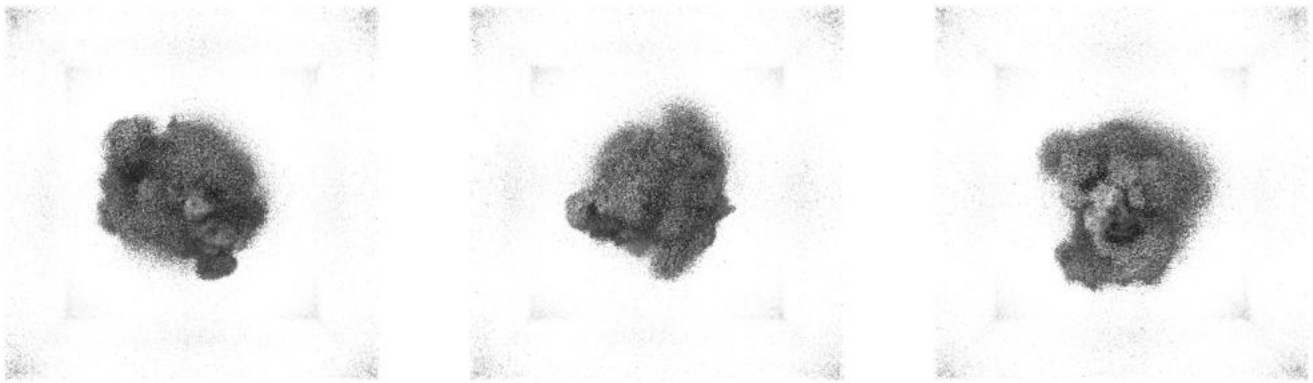
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.23. 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.

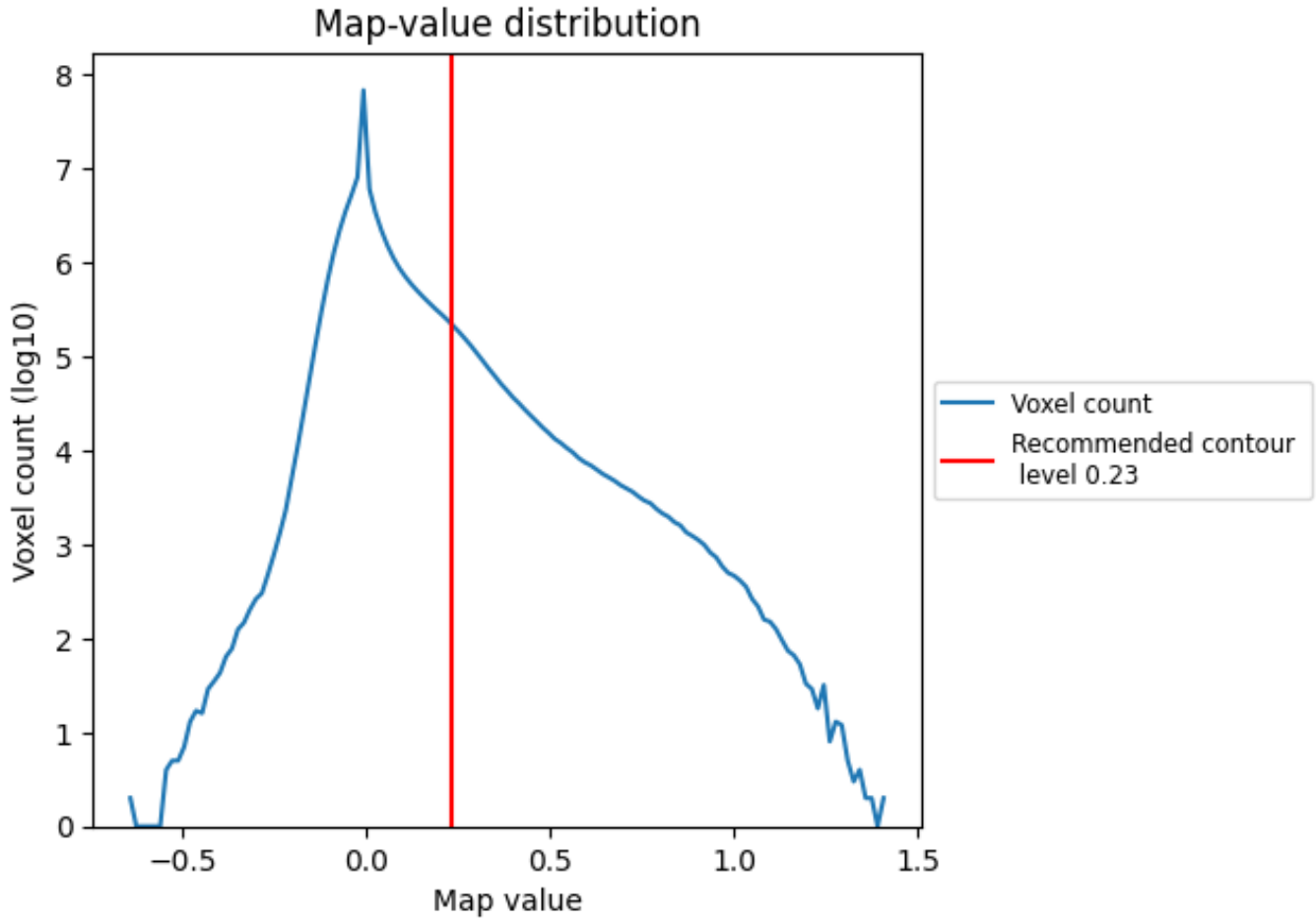
6.6 Mask visualisation (i)

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

7 Map analysis

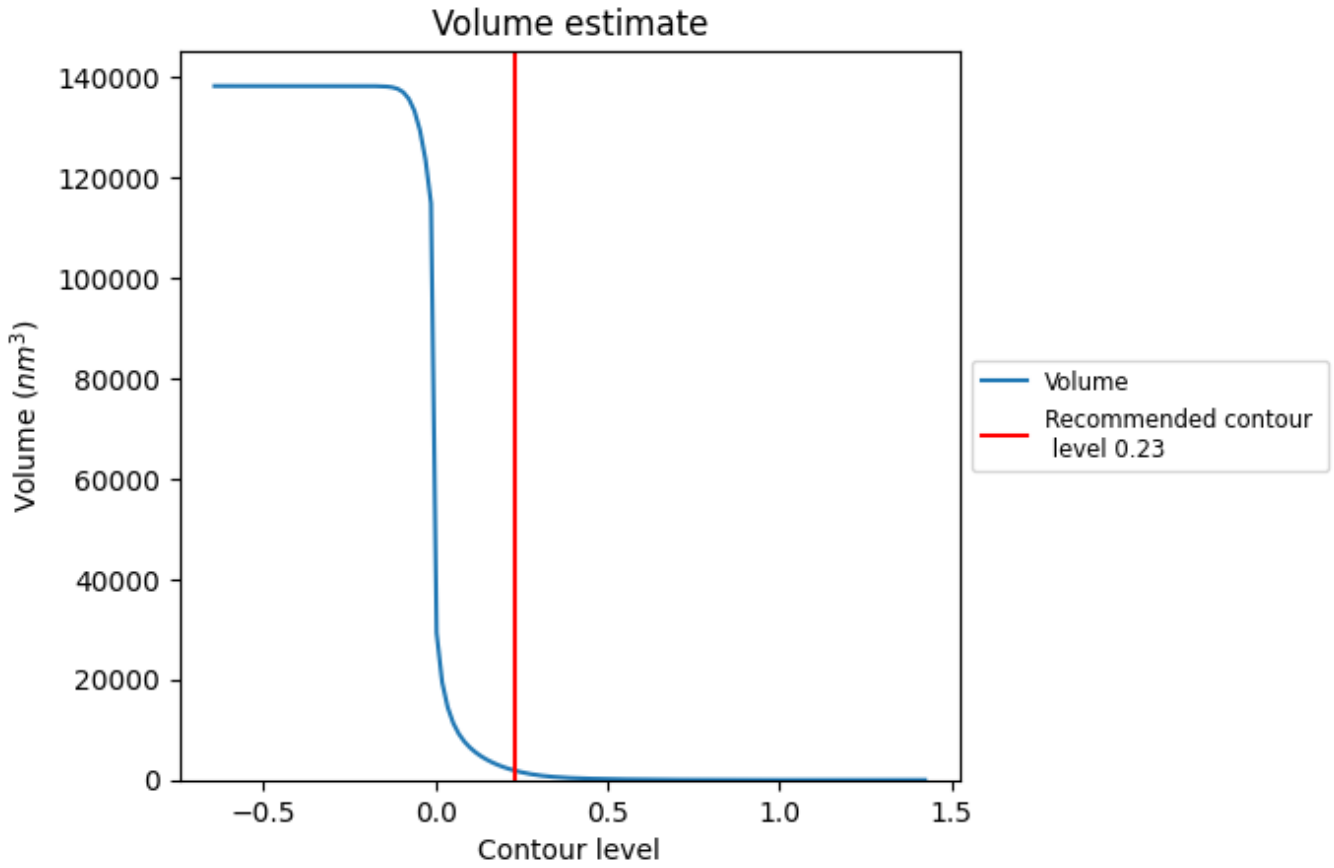
This section contains the results of statistical analysis of the map.

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.

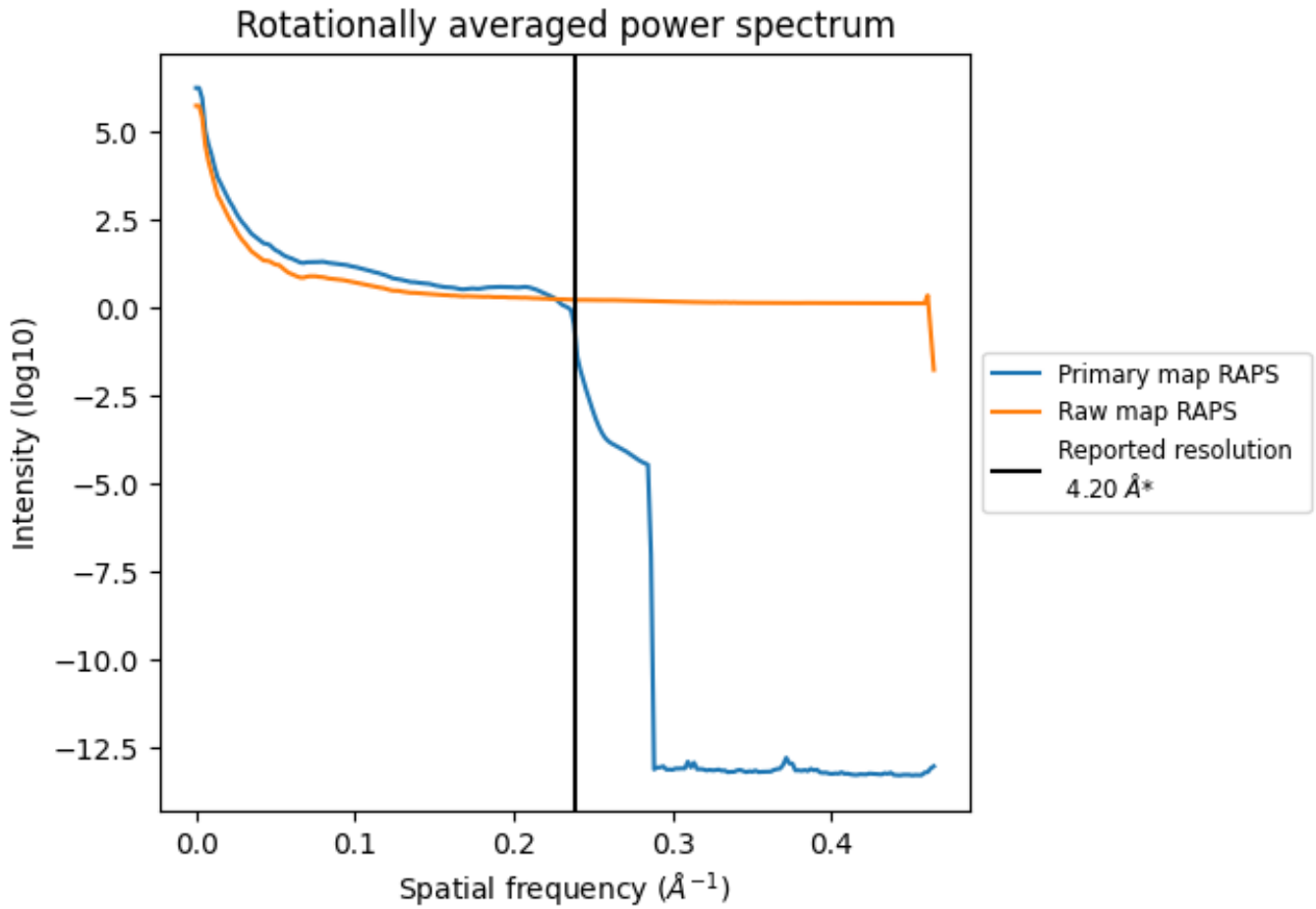
7.2 Volume estimate



The volume at the recommended contour level is 1882 nm^3; this corresponds to an approximate mass of 1700 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)

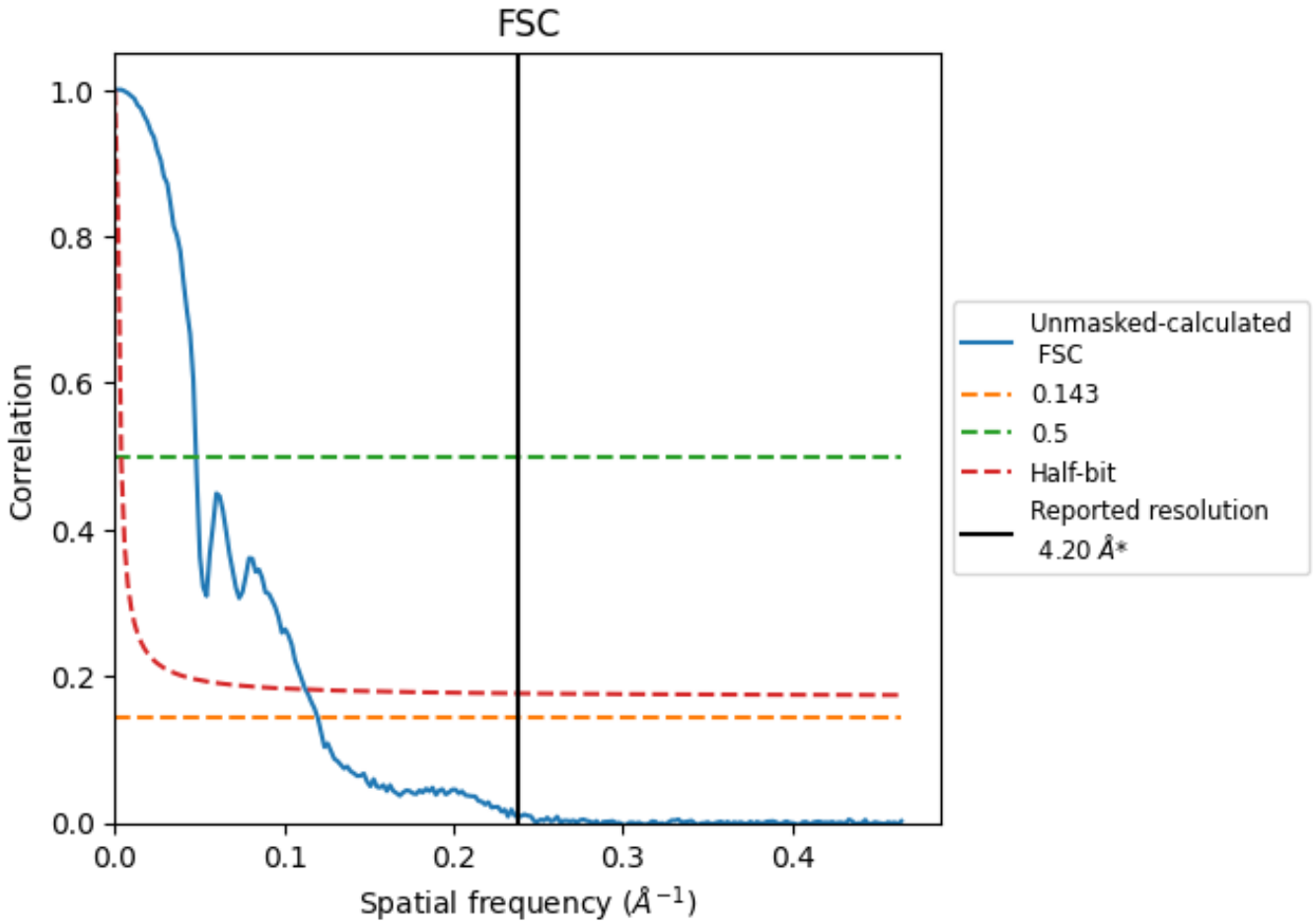


*Reported resolution corresponds to spatial frequency of 0.238 $Å^{-1}$

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 0.238 Å^{-1}

8.2 Resolution estimates (i)

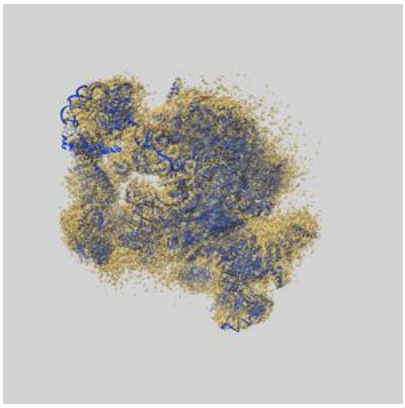
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.20	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	8.35	20.83	8.88

*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 8.35 differs from the reported value 4.2 by more than 10 %

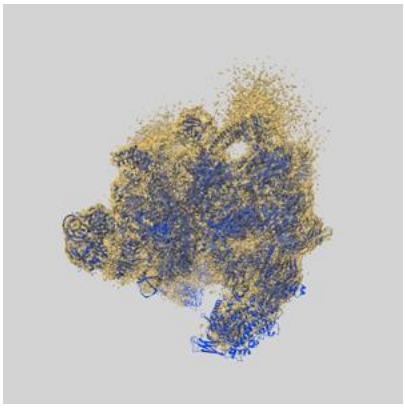
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-35108 and PDB model 8I0S. Per-residue inclusion information can be found in section 3 on page 13.

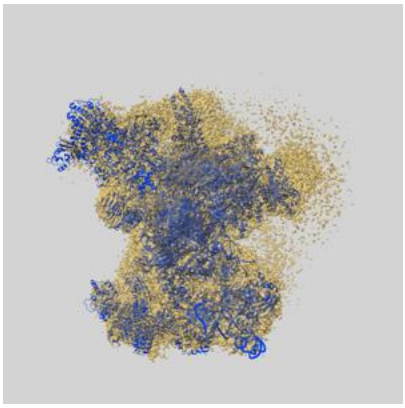
9.1 Map-model overlay



X



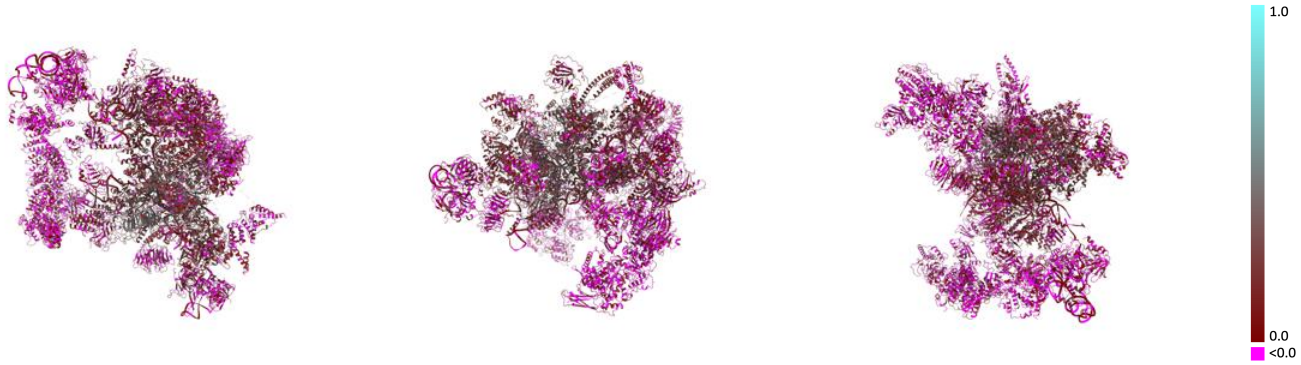
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.23 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.

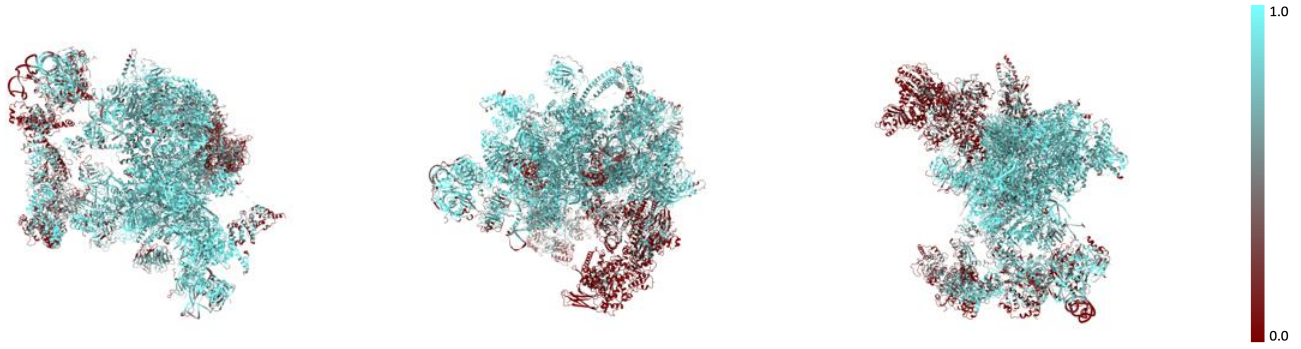
9.2 Q-score mapped to coordinate model (i)



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.

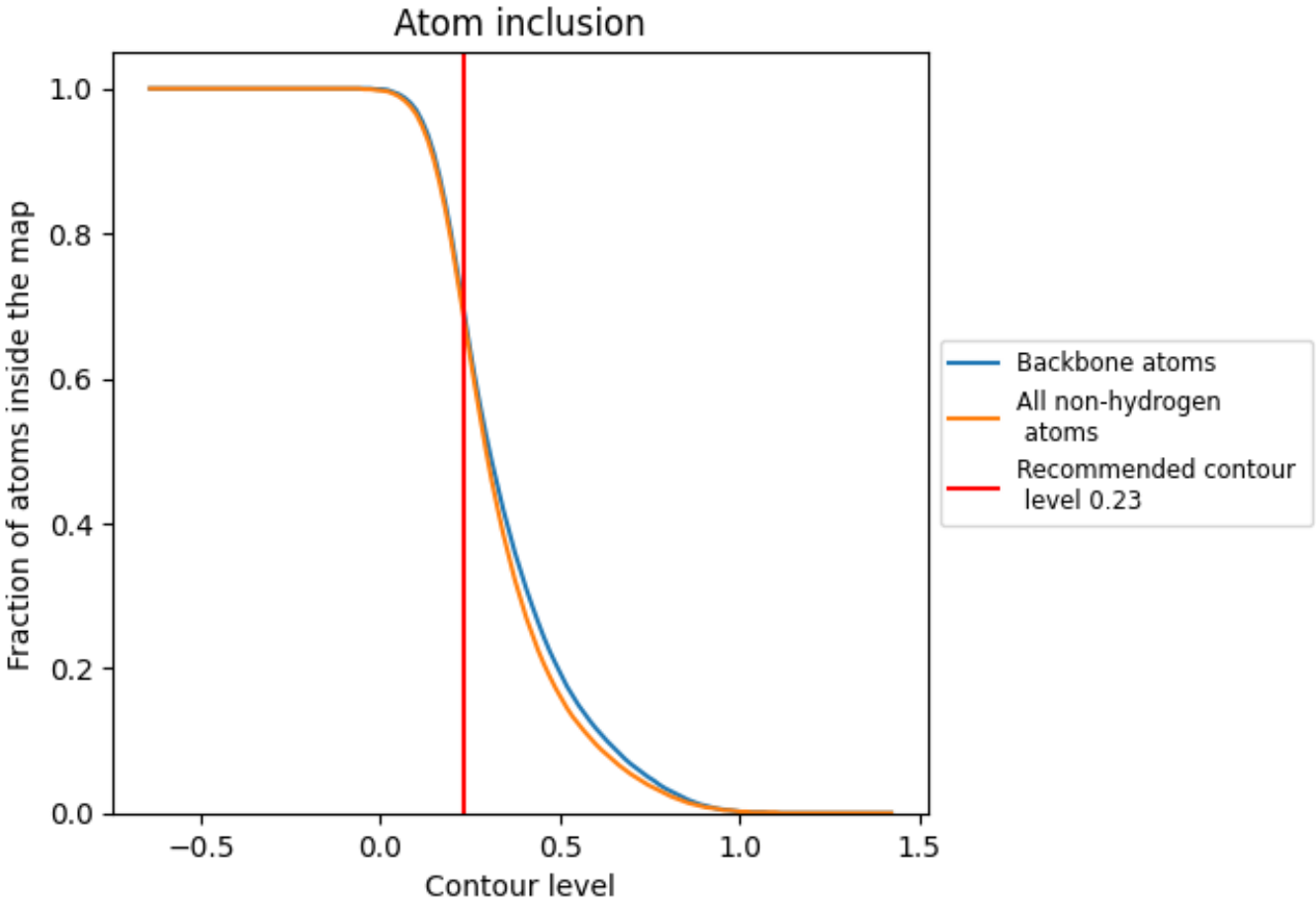
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.23).

9.4 Atom inclusion (i)



At the recommended contour level, 70% of all backbone atoms, 69% 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 (0.23) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6910	0.1500
1	0.8260	0.1670
2	0.7660	0.1690
3	0.8130	0.1010
4	0.7950	0.1090
5	0.7970	0.1510
7	0.8350	0.1360
9	0.7080	0.1070
A	0.7710	0.2800
B	0.8870	0.2130
C	0.8870	0.2460
D	0.1440	0.0090
E	0.5050	0.0060
F	0.8820	0.2120
G	0.8800	0.1740
H	0.6840	0.0940
I	0.6980	0.0410
J	0.8680	0.2330
K	0.7200	0.1860
L	0.7620	0.2020
N	0.7390	0.1910
O	0.7870	0.1710
P	0.8120	0.2930
Q	0.3560	0.0320
R	0.7710	0.2270
S	0.6420	0.0810
T	0.9300	0.4050
U	0.7620	0.2050
V	0.6430	0.1150
X	0.8030	0.1600
Y	0.8260	0.1320
a	0.7090	0.0930
b	0.8480	0.0790
c	0.7290	0.0670
d	0.7740	0.0580

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Chain	Atom inclusion	Q-score
e	0.8290	0.0740
f	0.6990	0.0610
g	0.8270	0.0670
h	0.6390	0.0150
i	0.6320	0.0050
j	0.6280	0.0460
k	0.5190	0.0200
l	0.5660	0.0070
m	0.5810	0.0300
n	0.6140	-0.0020
o	0.3680	0.0010
p	0.5760	0.0540
u	0.4830	0.0420
v	0.5610	0.1100
w	0.4710	0.0410
y	0.6460	0.0790