Full wwPDB EM Validation Report ⓘ

Nov 7, 2022 – 03:24 PM JST

PDB ID	:	5XJC
EMDB ID	:	EMD-6721
Title	:	Cryo-EM structure of the human spliceosome just prior to exon ligation at 3.6 angstrom
Authors	:	Zhang, X.; Yan, C.; Hang, J.; Finci, I.L.; Lei, J.; Shi, Y.
Deposited on	:	2017-04-30
Resolution	:	3.60 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:

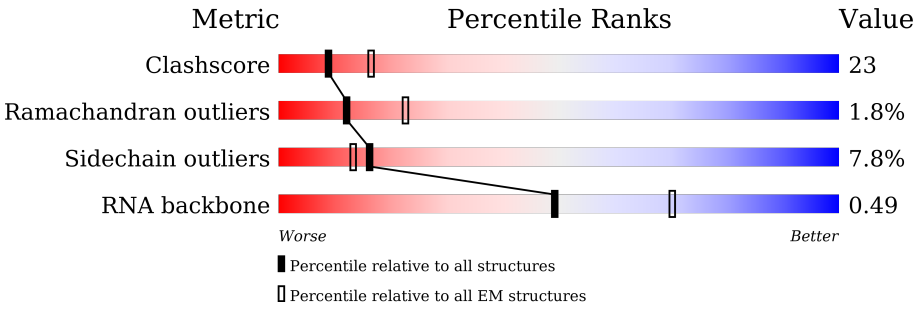
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

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 3.60 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	22% 70% 22%
2	B	117	24% 36% 24% 10% 28%
3	C	972	26% 55% 26% 8% 11%
4	D	2136	81% 52% 25% 19%
5	E	357	42% 62% 18% 16%
6	F	107	28% 32% 24% 34% 9%
7	G	275	20% 10% 16% 69%

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Mol	Chain	Length	Quality of chain
8	H	188	59% 14% 20% 38% 26%
9	I	855	66% 60% 5% 34%
10	J	848	42% 57% 7% 33%
11	K	225	68% 53% 12% 32%
12	L	802	35% 39% 14% 43%
13	M	243	20% 16% 27% 10% 47%
14	N	144	11% 62% 32% 6%
15	O	420	32% 33% 33% 32%
16	P	229	20% 25% 16% 6% 52%
17	Q	1485	89% 81% 8% 11%
18	R	536	19% 19% 20% 8% 51%
19	S	166	68% 61% 28% 5%
20	T	514	38% 19% 39%
21	U	2752	99%
22	V	908	45% 30% 17% 50%
23	W	579	33% 27% 40% 17% 14%
24	X	184	37% 36% 12% 50%
25	Y	1220	57% 54% 42%
26	Z	586	18% 21% 18% 59%
27	a	126	64% 64% 36%
27	h	126	64% 64% 36%
28	b	231	37% 36% 63%
28	i	231	37% 36% 63%
29	c	119	69% 67% 31%
29	j	119	68% 67% 31%

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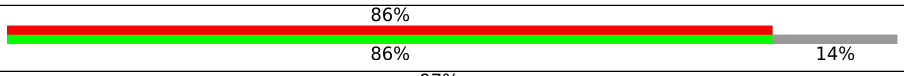
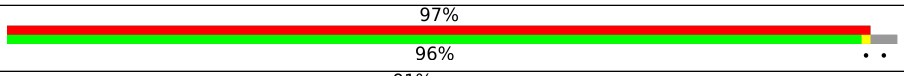
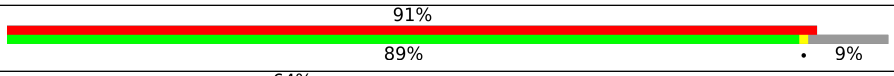
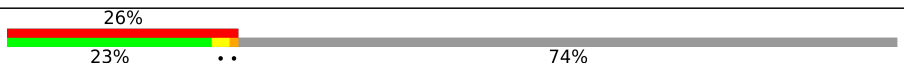
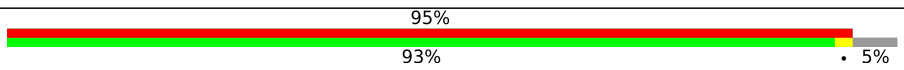
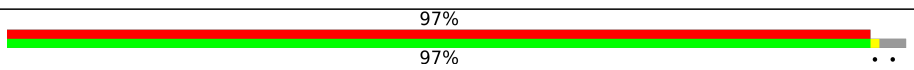
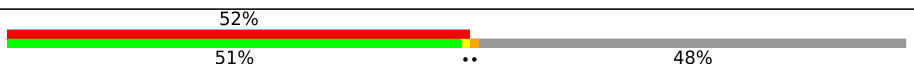
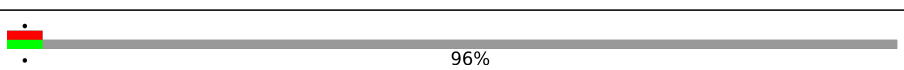
Mol	Chain	Length	Quality of chain
30	d	118	
30	k	118	
31	f	86	
31	m	86	
32	e	92	
32	l	92	
33	g	76	
33	n	76	
34	o	255	
35	p	225	
36	q	504	
36	r	504	
36	s	504	
36	t	504	
37	u	411	
38	v	148	
39	w	174	
40	x	703	

2 Entry composition

There are 46 unique types of molecules in this entry. The entry contains 116421 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	2253	18633	11997	3253	3302	81	0	0

- Molecule 2 is a RNA chain called U5 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B	84	1768	792	295	597	84	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	862	6798	4347	1138	1281	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	S		
4	D	1722	13846	8848	2369	2557	72	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	84	Total	C	N	O	P	0	0
			1551	686	222	560	83		

- Molecule 8 is a RNA chain called Homo sapiens small nuclear RNA (U2) gene.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	140	Total	C	N	O	P	0	0
			2966	1326	510	990	140		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
9	I	566	Total	C	N	O	0	0
			2792	1660	566	566		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	571	Total	C	N	O	S	0	0
			3829	2385	720	718	6		

- Molecule 11 is a protein called Pre-mRNA-splicing factor SPF27.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	152	Total	C	N	O	S	0	0
			980	612	177	189	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	454	Total	C	N	O	S	0	0
			3205	2001	604	594	6		

- Molecule 13 is a protein called Pre-mRNA-splicing factor SYF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	130	Total	C	N	O	S	0	0
			1098	684	204	208	2		

- Molecule 14 is a protein called Protein BUD31 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	143	Total	C	N	O	S	0	0
			1184	746	217	209	12		

- Molecule 15 is a protein called Pre-mRNA-splicing factor RBM22.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	285	Total	C	N	O	S	0	0
			2296	1442	408	426	20		

- Molecule 16 is a protein called Spliceosome-associated protein CWC15 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	110	Total	C	N	O	S	0	0
			929	569	182	176	2		

- Molecule 17 is a protein called Intron-binding protein aquarius.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	1322	Total	C	N	O	S	4	0
			10885	6989	1879	1963	54		

- Molecule 18 is a protein called SNW domain-containing protein 1.

Mol	Chain	Residues	Atoms						AltConf	Trace
18	R	261	Total	C	N	O	P	S	0	0
			2073	1300	373	386	2	12		

- Molecule 19 is a protein called Peptidyl-prolyl cis-trans isomerase-like 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	159	Total	C	N	O	S	0	0
			1236	787	215	227	7		

- Molecule 20 is a protein called Pleiotropic regulator 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	313	Total	C	N	O	S	0	0
			2461	1554	447	452	8		

- Molecule 21 is a protein called Serine/arginine repetitive matrix protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	26	Total	C	N	O	S	0	0
			193	120	36	36	1		

- Molecule 22 is a protein called Pre-mRNA-splicing factor CWC22 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	452	Total	C	N	O	S	0	0
			3419	2198	593	613	15		

- Molecule 23 is a protein called Pre-mRNA-processing factor 17.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	496	Total	C	N	O	S	0	0
			4023	2560	697	742	24		

- Molecule 24 is a protein called PRKR-interacting protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	92	Total	C	N	O	S	0	0
			701	432	133	132	4		

- Molecule 25 is a protein called ATP-dependent RNA helicase DHX8.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	713	Total	C	N	O	S	0	0
			2995	1538	722	734	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Y	420	THR	ASP	conflict	UNP Q14562

- Molecule 26 is a protein called Pre-mRNA-splicing factor SLU7.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	242	Total	C	N	O	S	0	0
			1999	1260	357	374	8		

- Molecule 27 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	a	81	Total	C	N	O	S	0	0
			640	401	113	120	6		
27	h	81	Total	C	N	O	S	0	0
			633	397	112	118	6		

- Molecule 28 is a protein called Small nuclear ribonucleoprotein-associated proteins B and B'.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	b	86	Total	C	N	O	S	0	0
			690	434	126	123	7		
28	i	86	Total	C	N	O	S	0	0
			690	434	126	123	7		

- Molecule 29 is a protein called Small nuclear ribonucleoprotein Sm D1.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	c	82	Total	C	N	O	S	0	0
			649	413	113	119	4		
29	j	82	Total	C	N	O	S	0	0
			649	413	113	119	4		

- Molecule 30 is a protein called Small nuclear ribonucleoprotein Sm D2.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	d	97	Total	C	N	O	S	0	0
			776	488	143	140	5		
30	k	85	Total	C	N	O	S	0	0
			688	432	125	126	5		

- Molecule 31 is a protein called Small nuclear ribonucleoprotein F.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	f	74	Total	C	N	O	S	0	0
			576	373	95	103	5		
31	m	74	Total	C	N	O	S	0	0
			576	373	95	103	5		

- Molecule 32 is a protein called Small nuclear ribonucleoprotein E.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	e	79	Total	C	N	O	S	0	0
			652	412	116	119	5		

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Mol	Chain	Residues	Atoms					AltConf	Trace
32	l	79	Total 652	C 412	N 116	O 119	S 5	0	0

- Molecule 33 is a protein called Small nuclear ribonucleoprotein G.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	g	74	Total 577	C 364	N 104	O 103	S 6	0	0
33	n	69	Total 542	C 345	N 97	O 94	S 6	0	0

- Molecule 34 is a protein called U2 small nuclear ribonucleoprotein A'.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	o	162	Total 1282	C 820	N 219	O 240	S 3	0	0

- Molecule 35 is a protein called U2 small nuclear ribonucleoprotein B".

Mol	Chain	Residues	Atoms					AltConf	Trace
35	p	94	Total 760	C 488	N 135	O 132	S 5	0	0

- Molecule 36 is a protein called Pre-mRNA-processing factor 19.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	q	132	Total 918	C 581	N 156	O 178	S 3	0	0
36	r	131	Total 901	C 572	N 149	O 177	S 3	0	0
36	s	132	Total 917	C 581	N 156	O 177	S 3	0	0
36	t	131	Total 906	C 575	N 152	O 176	S 3	0	0

- Molecule 37 is a protein called Eukaryotic initiation factor 4A-III.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	u	390	Total 3130	C 1976	N 546	O 589	S 19	0	0

- Molecule 38 is a protein called Protein mago nashi homolog 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	v	144	Total	C	N	O	S	0	0
			1196	772	200	221	3		

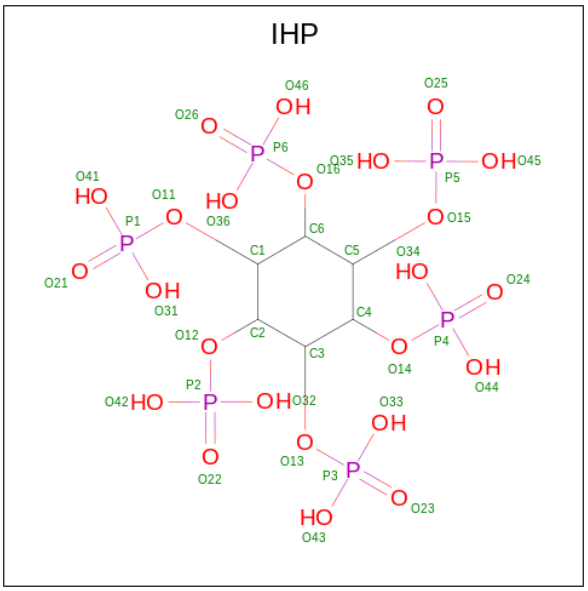
- Molecule 39 is a protein called RNA-binding protein 8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	w	91	Total	C	N	O	S	0	0
			730	463	122	142	3		

- Molecule 40 is a protein called Protein CASC3.

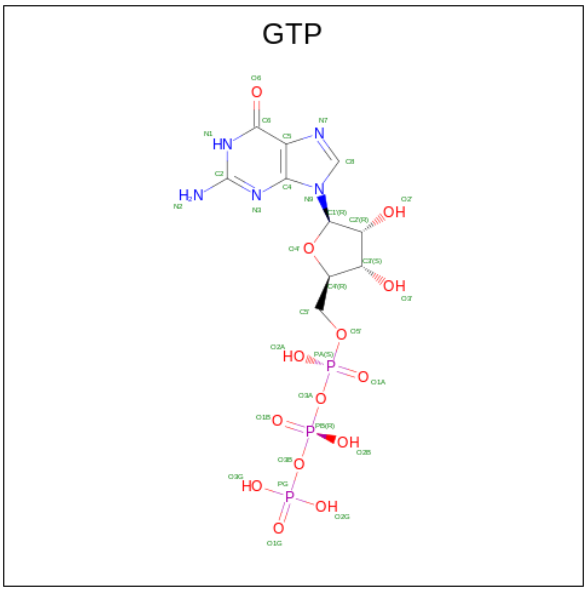
Mol	Chain	Residues	Atoms				AltConf	Trace
40	x	25	Total	C	N	O	0	0
			216	136	39	41		

- Molecule 41 is INOSITOL HEXAKISPHOSPHATE (three-letter code: IHP) (formula: $C_6H_{18}O_{24}P_6$).



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

- Molecule 42 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).

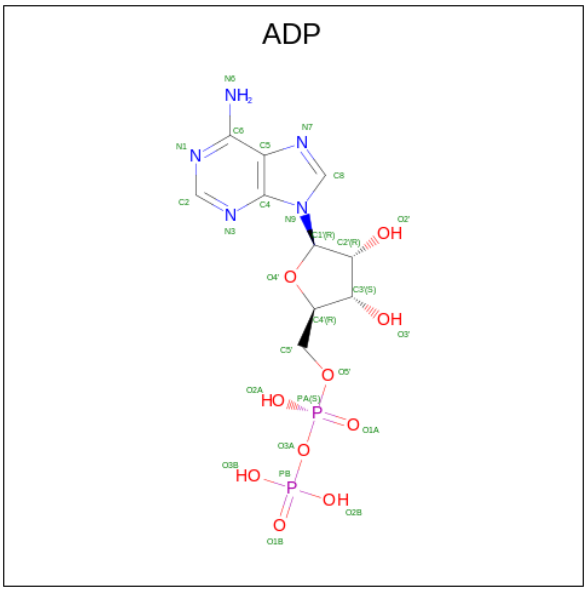


Mol	Chain	Residues	Atoms					AltConf
42	C	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 43 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
43	C	1	Total	Mg	0
			1	1	
43	D	1	Total	Mg	0
			1	1	
43	F	6	Total	Mg	0
			6	6	
43	Q	2	Total	Mg	0
			2	2	
43	u	1	Total	Mg	0
			1	1	

- Molecule 44 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).

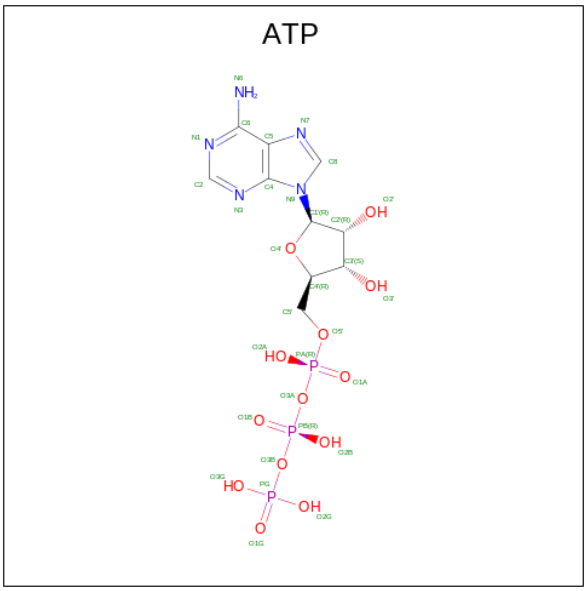


Mol	Chain	Residues	Atoms					AltConf
44	D	1	Total	C	N	O	P	0
			54	20	10	20	4	
44	D	1	Total	C	N	O	P	0
			54	20	10	20	4	

- Molecule 45 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
45	N	3	Total	Zn	0
			3	3	
45	O	3	Total	Zn	0
			3	3	
45	Z	1	Total	Zn	0
			1	1	

- Molecule 46 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



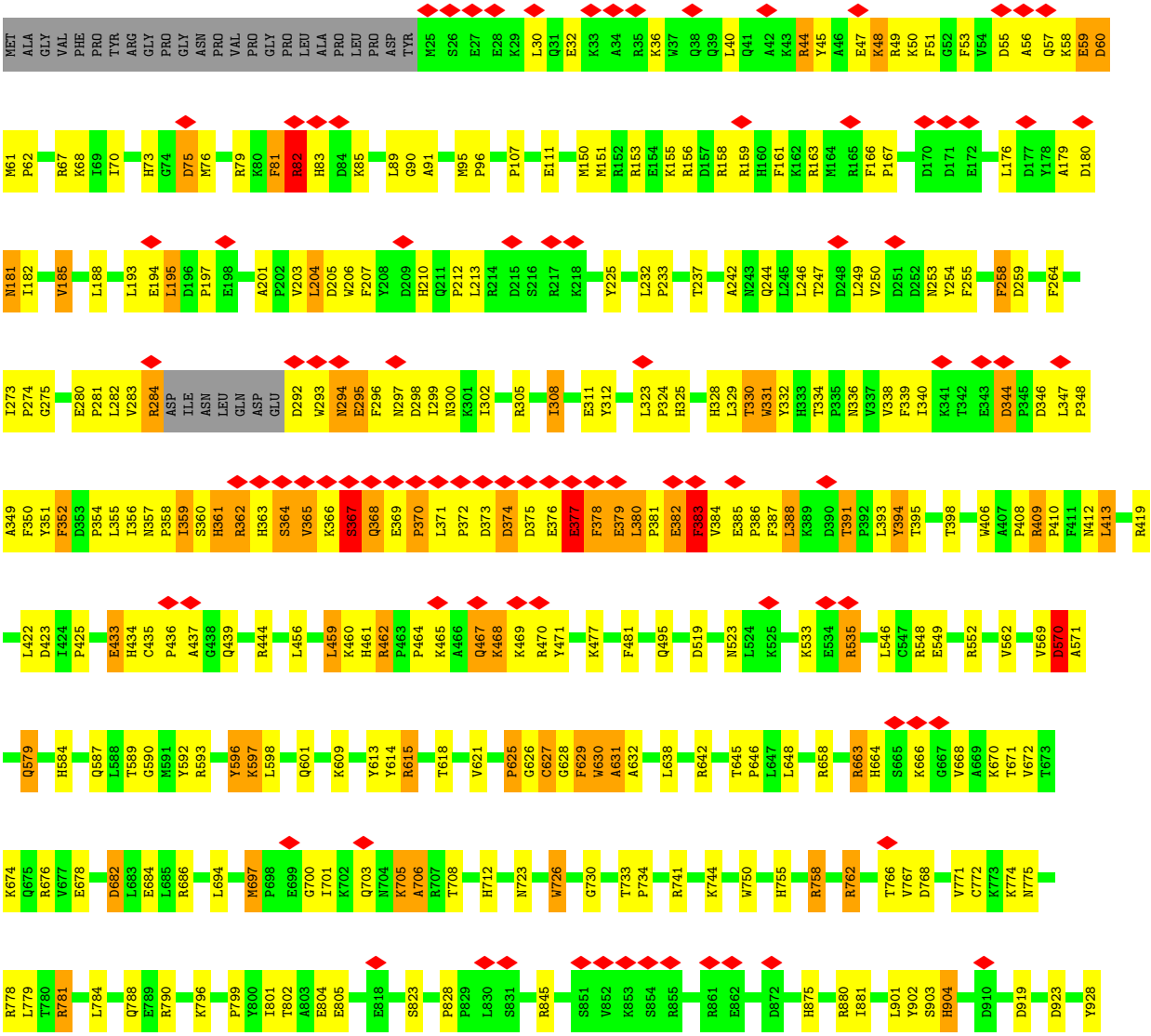
Mol	Chain	Residues	Atoms					AltConf
46	Q	1	Total	C	N	O	P	0
			31	10	5	13	3	
46	u	1	Total	C	N	O	P	0
			31	10	5	13	3	

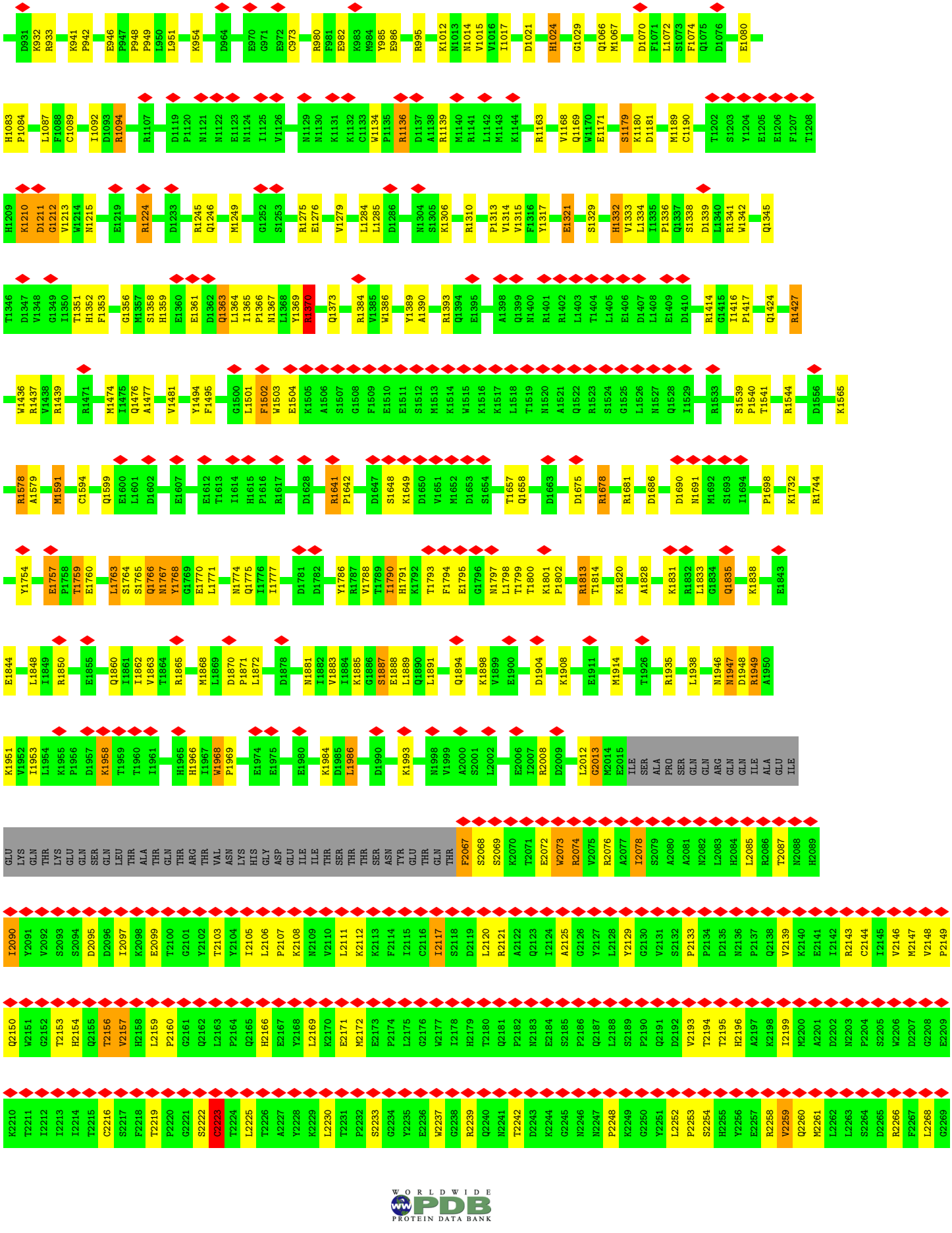
3 Residue-property plots (i)

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

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

Chain A:




D931 K932 R933 K941 P942 E946 P947 P948 P949 L950 L951 K954 D964 E970 G971 E972 G973 R980 F981 E982 K983 M984 Y985 E986 R995 K1012 N1013 N1014 V1015 V1016 I1017 D1021 H1024 G1029 Q1066 M1067 D1070 F1071 L1072 S1073 F1074 Q1075 D1076 E1080
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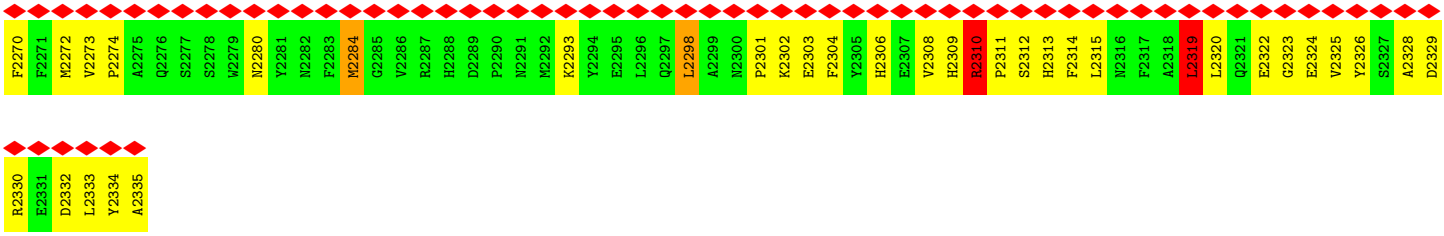

• Molecule 2: U5 snRNA

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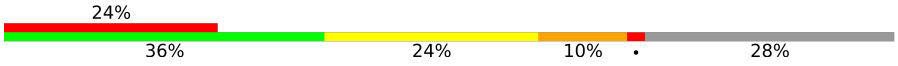

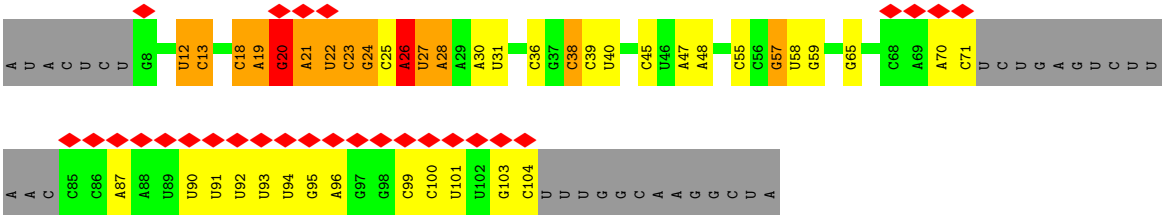

• Molecule 3: 116 kDa U5 small nuclear ribonucleoprotein component

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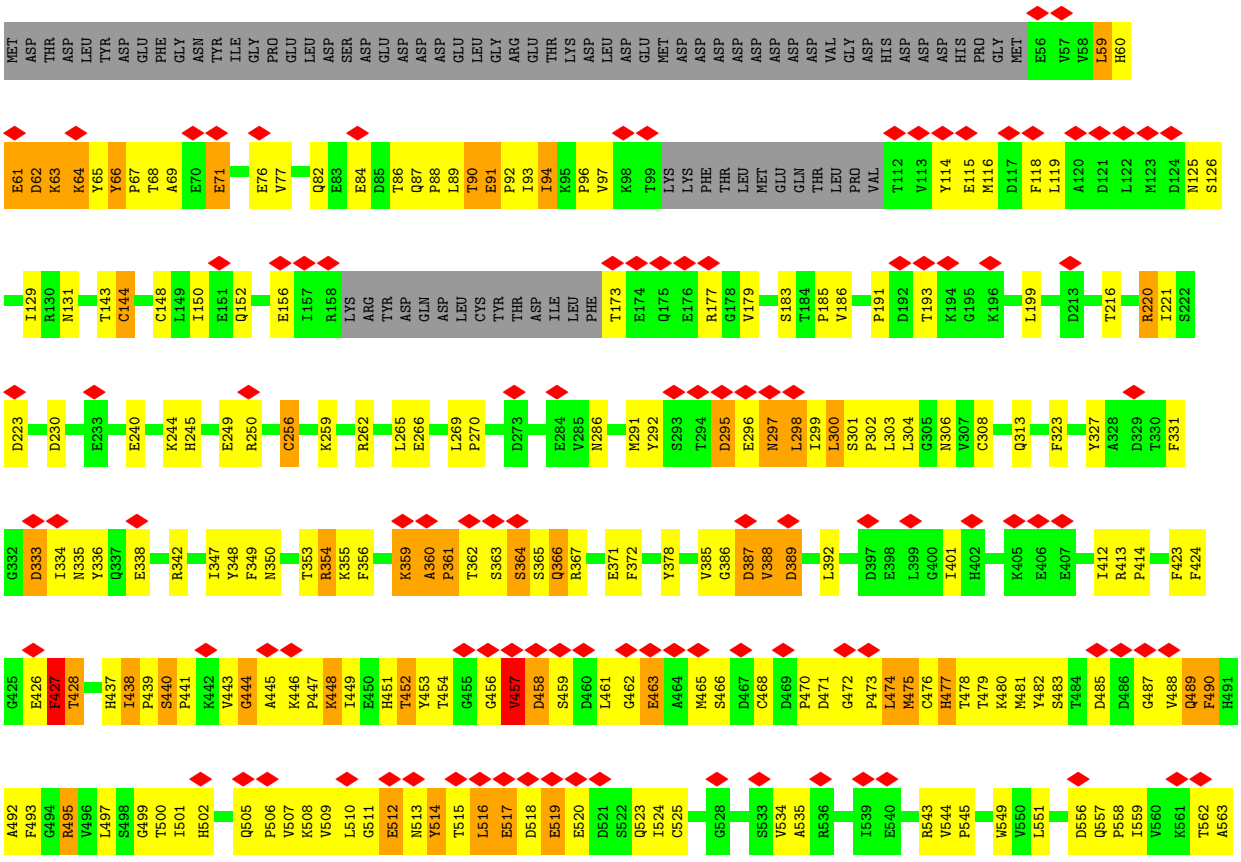

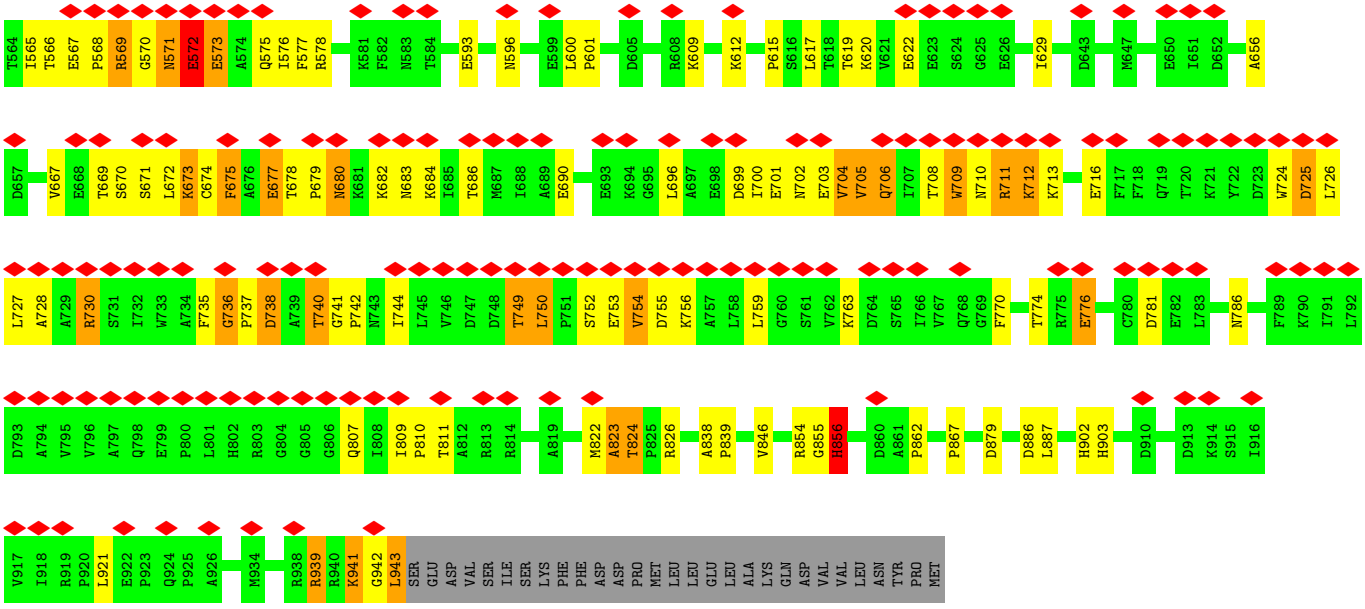

• Molecule 4: U5 small nuclear ribonucleoprotein 200 kDa helicase

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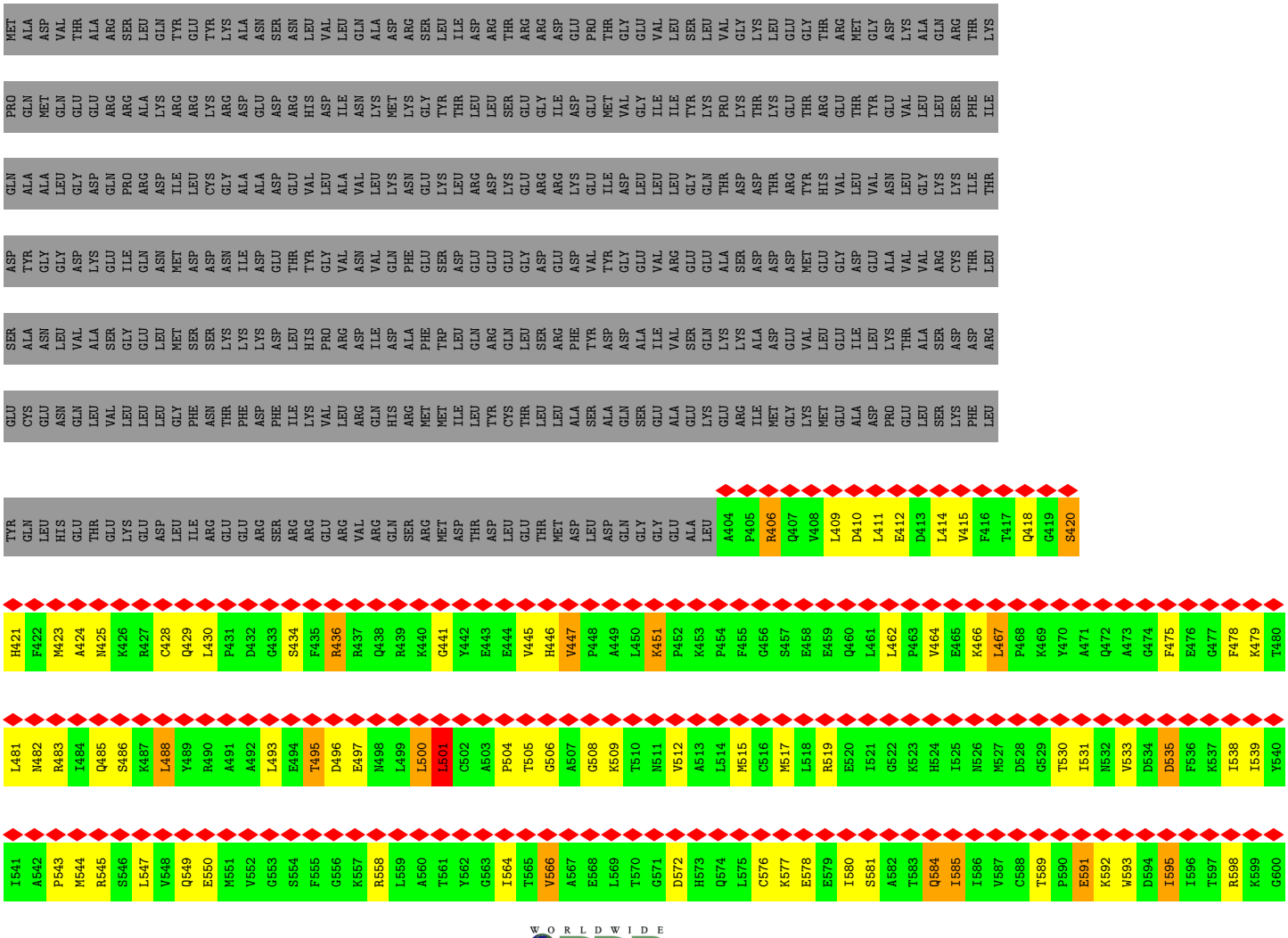

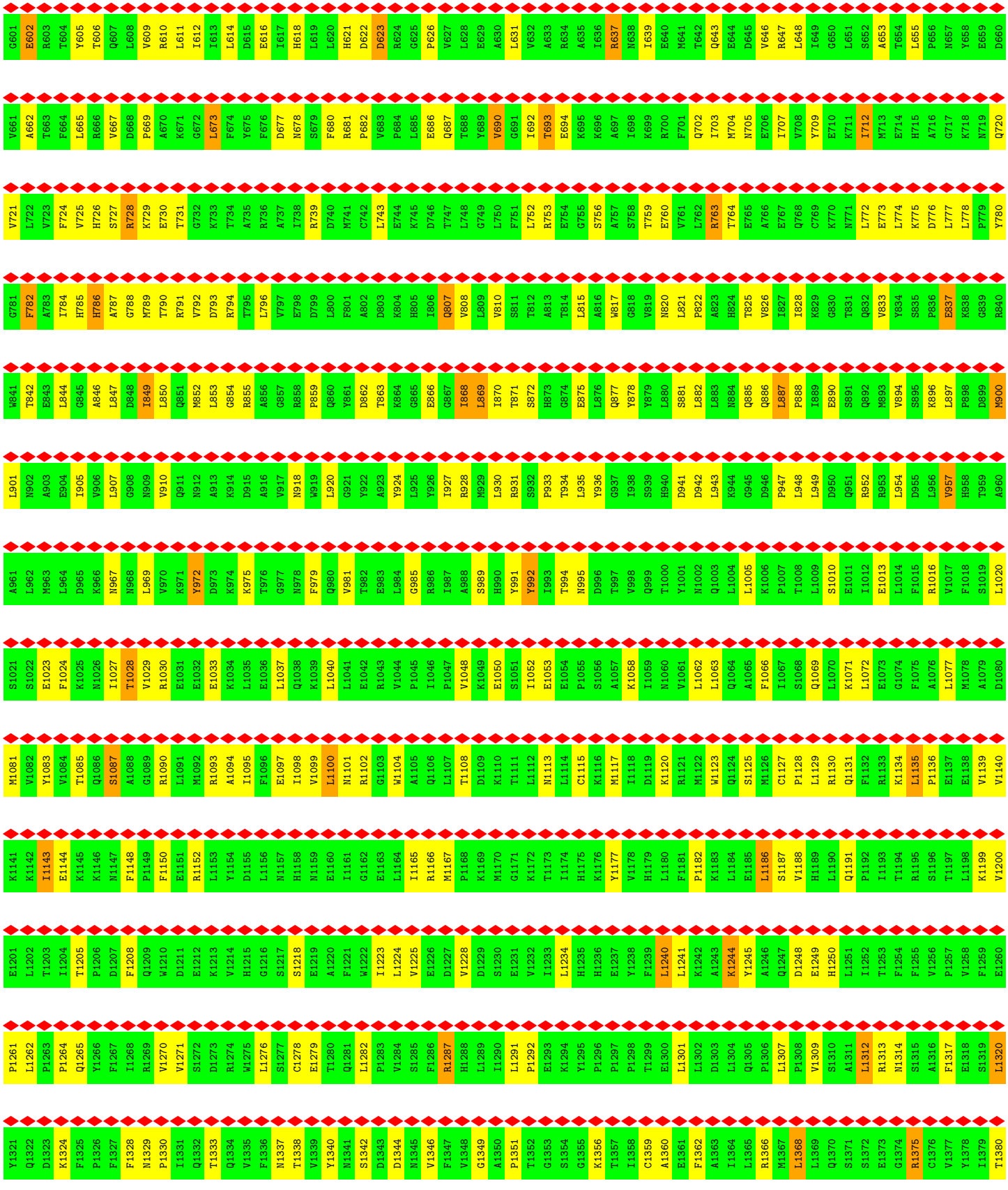
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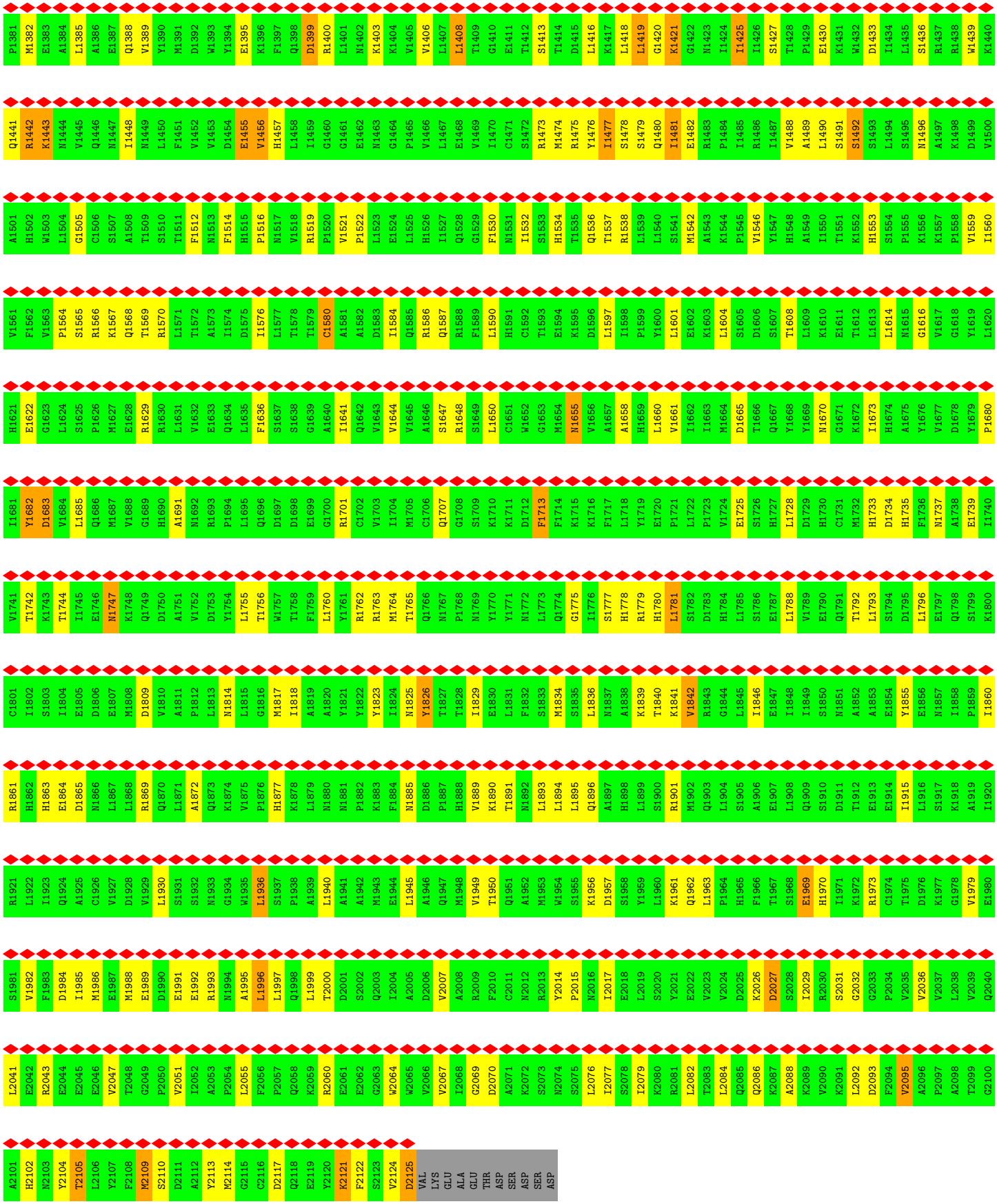
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• Molecule 5: U5 small nuclear ribonucleoprotein 40 kDa protein

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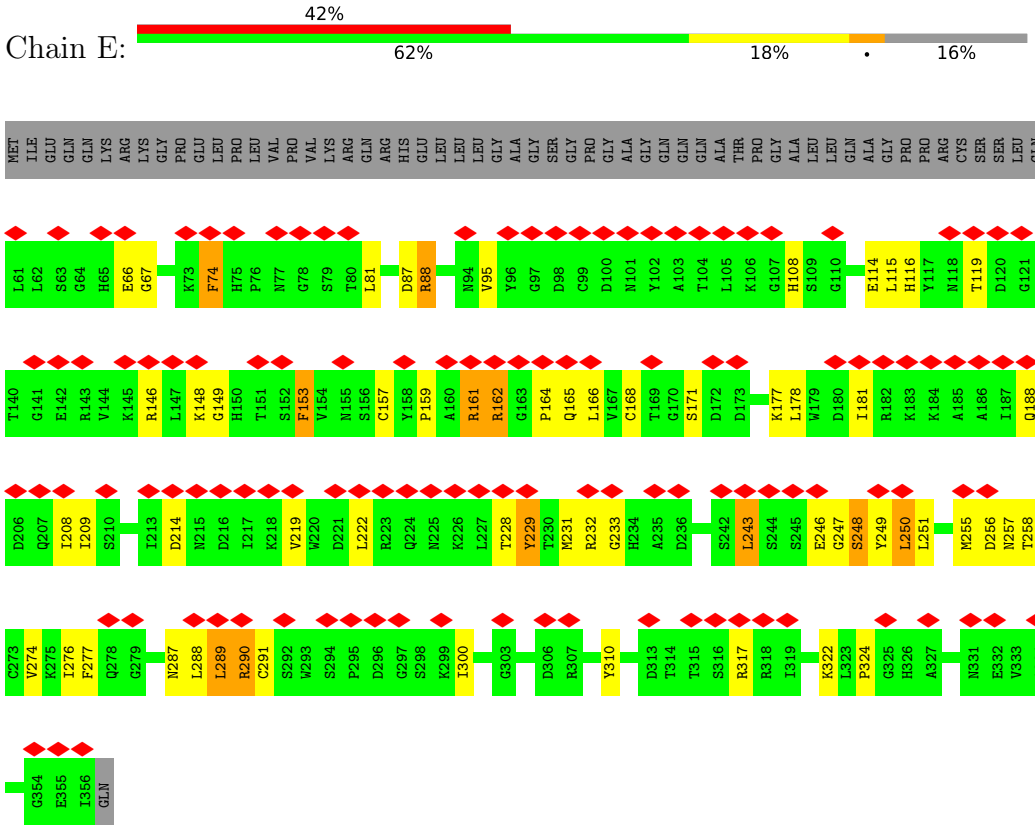

• Molecule 6: U6 snRNA

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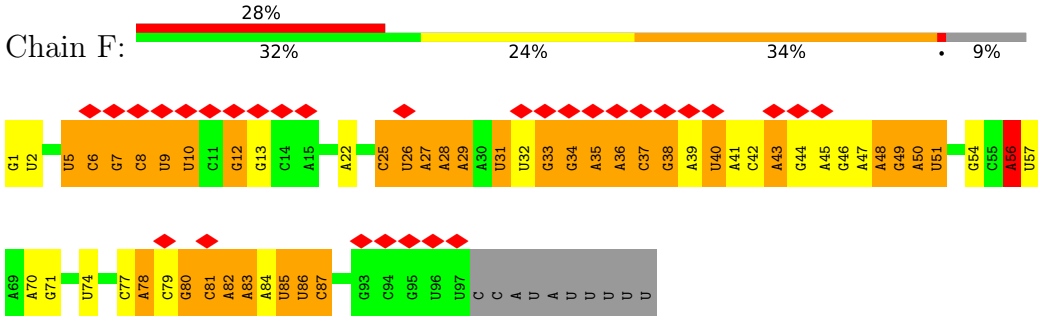

• Molecule 7: pre-mRNA

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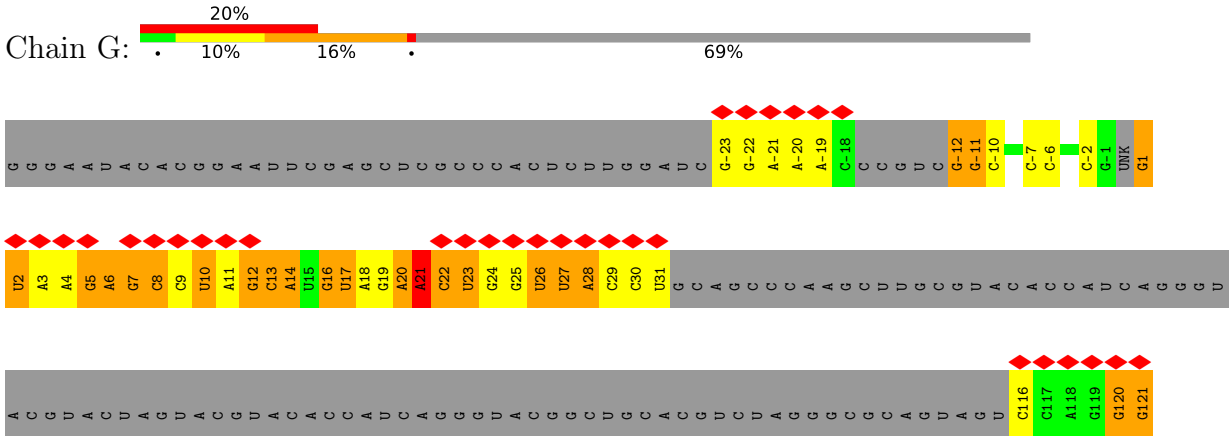
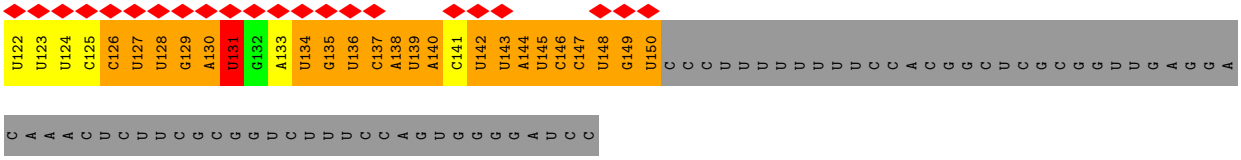
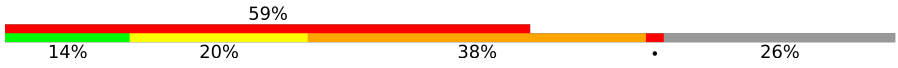
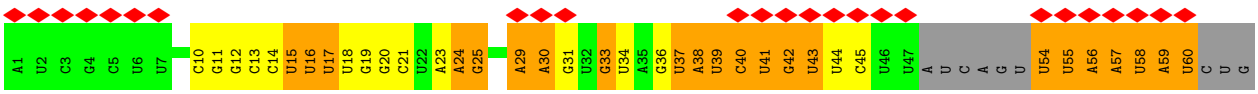


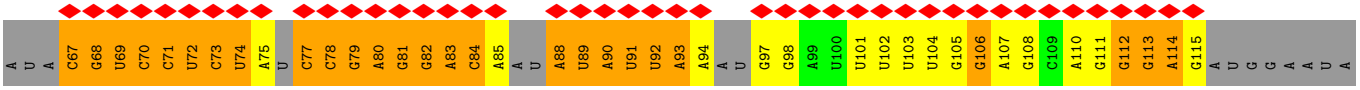


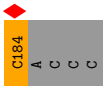
• Molecule 8: Homo sapiens small nuclear RNA (U2) gene

Chain H:



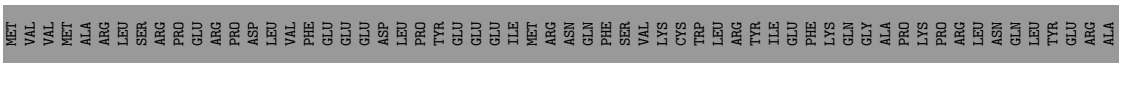


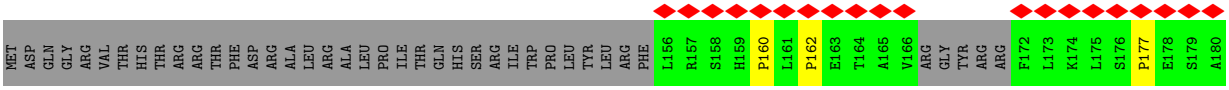


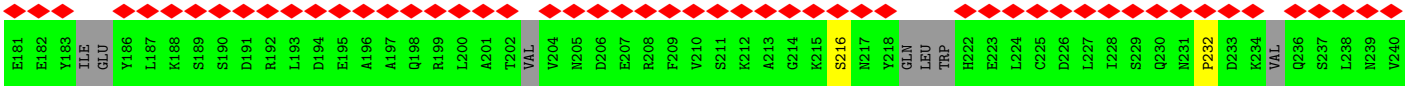


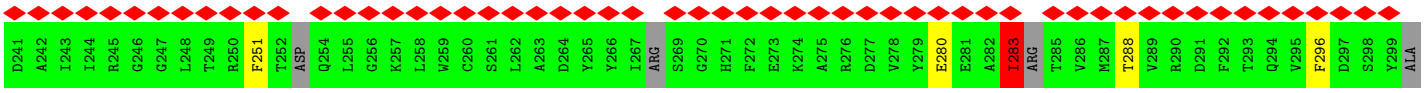
• Molecule 9: Pre-mRNA-splicing factor SYF1

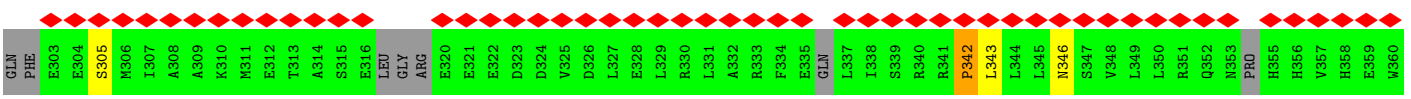
Chain I:

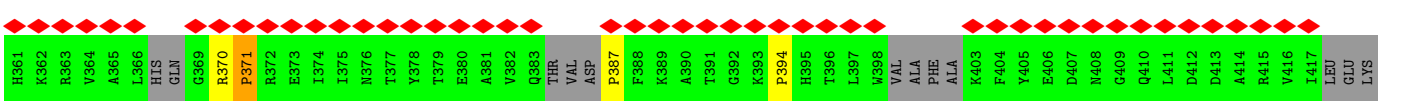


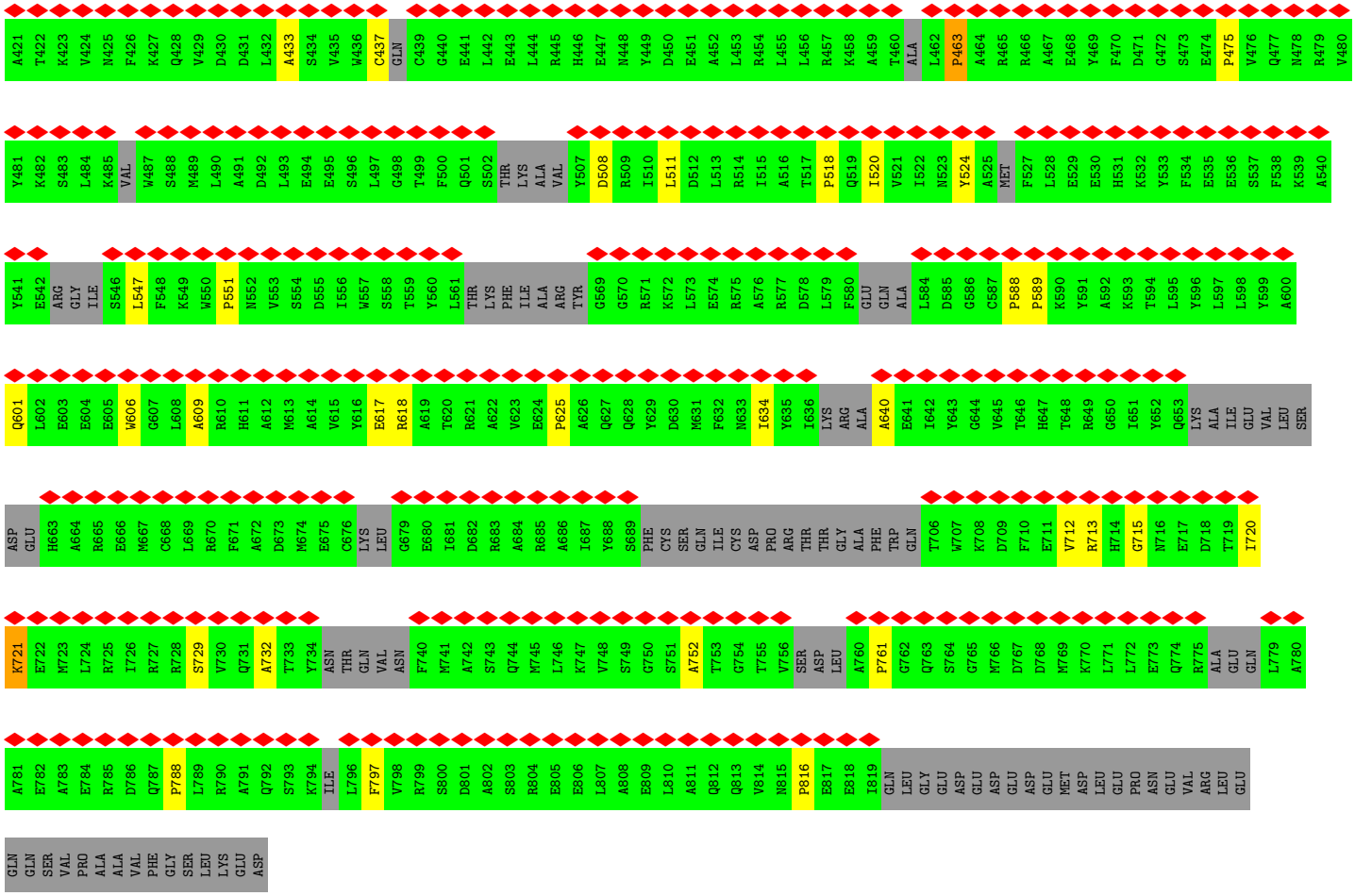




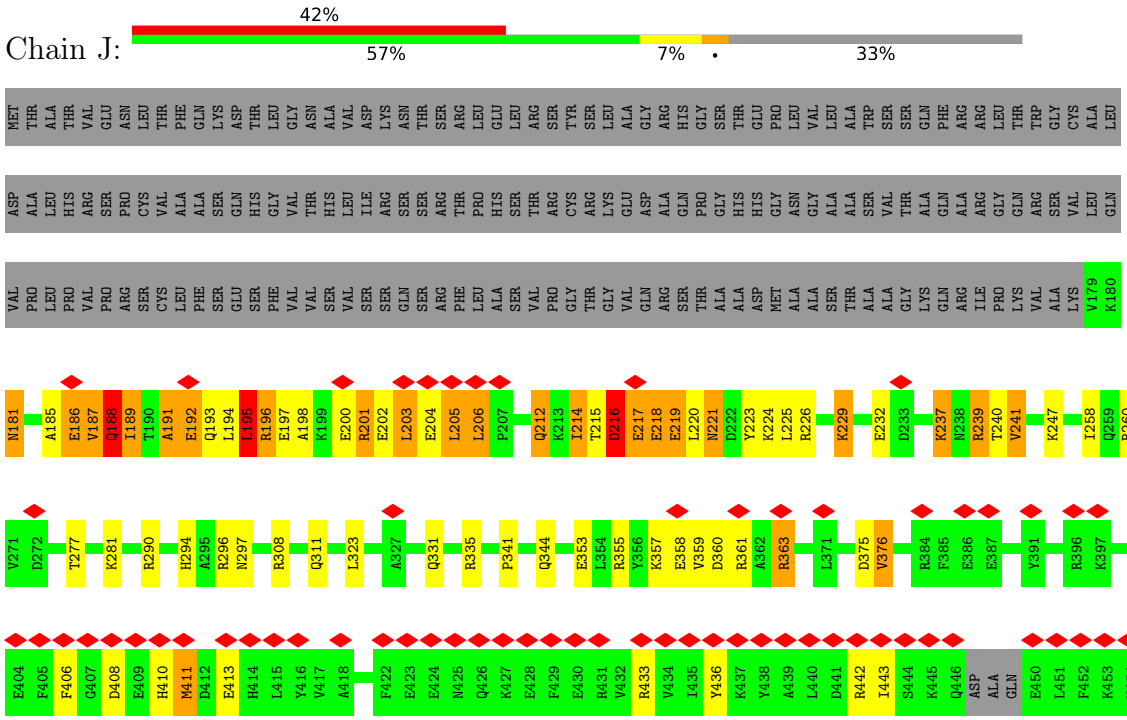


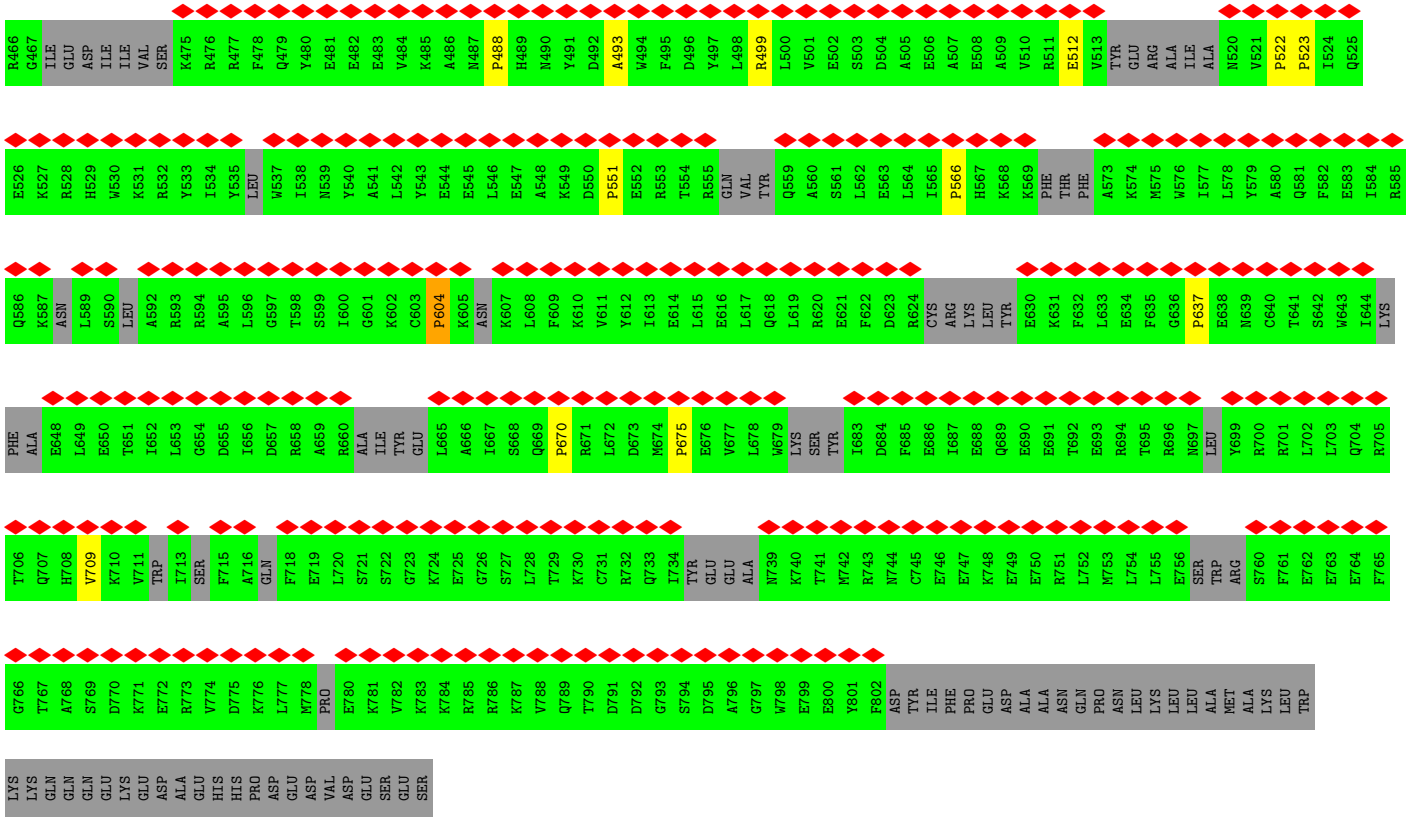






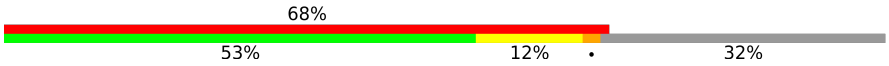
• Molecule 10: Crooked neck-like protein 1

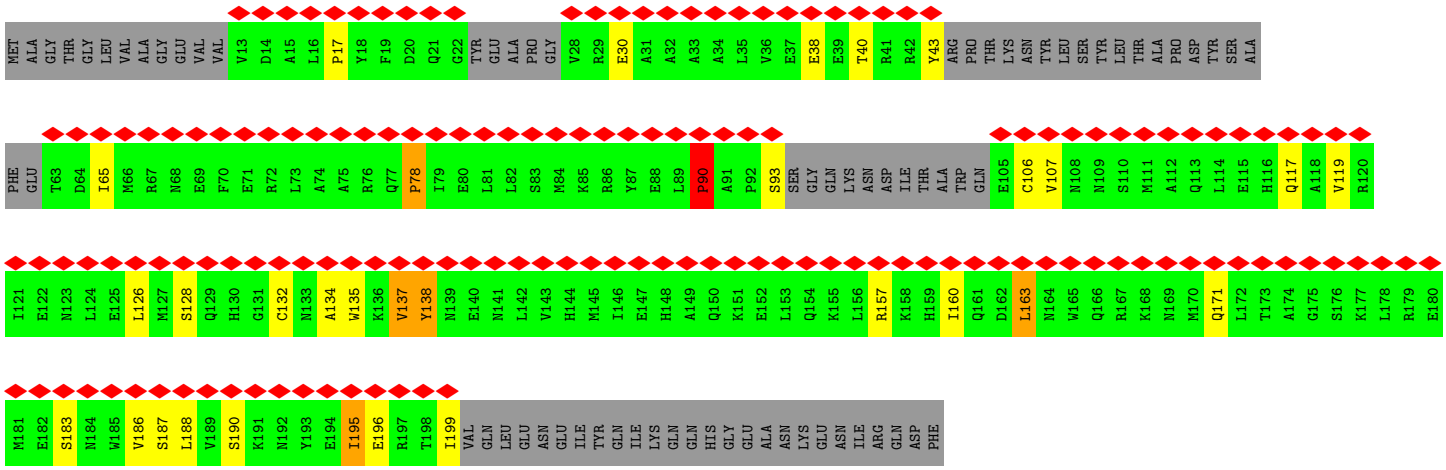




• Molecule 11: Pre-mRNA-splicing factor SPF27

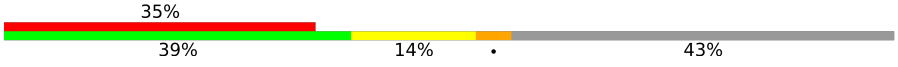
Chain K:

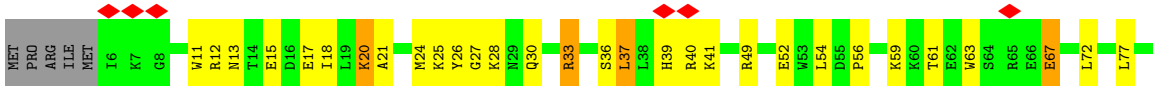


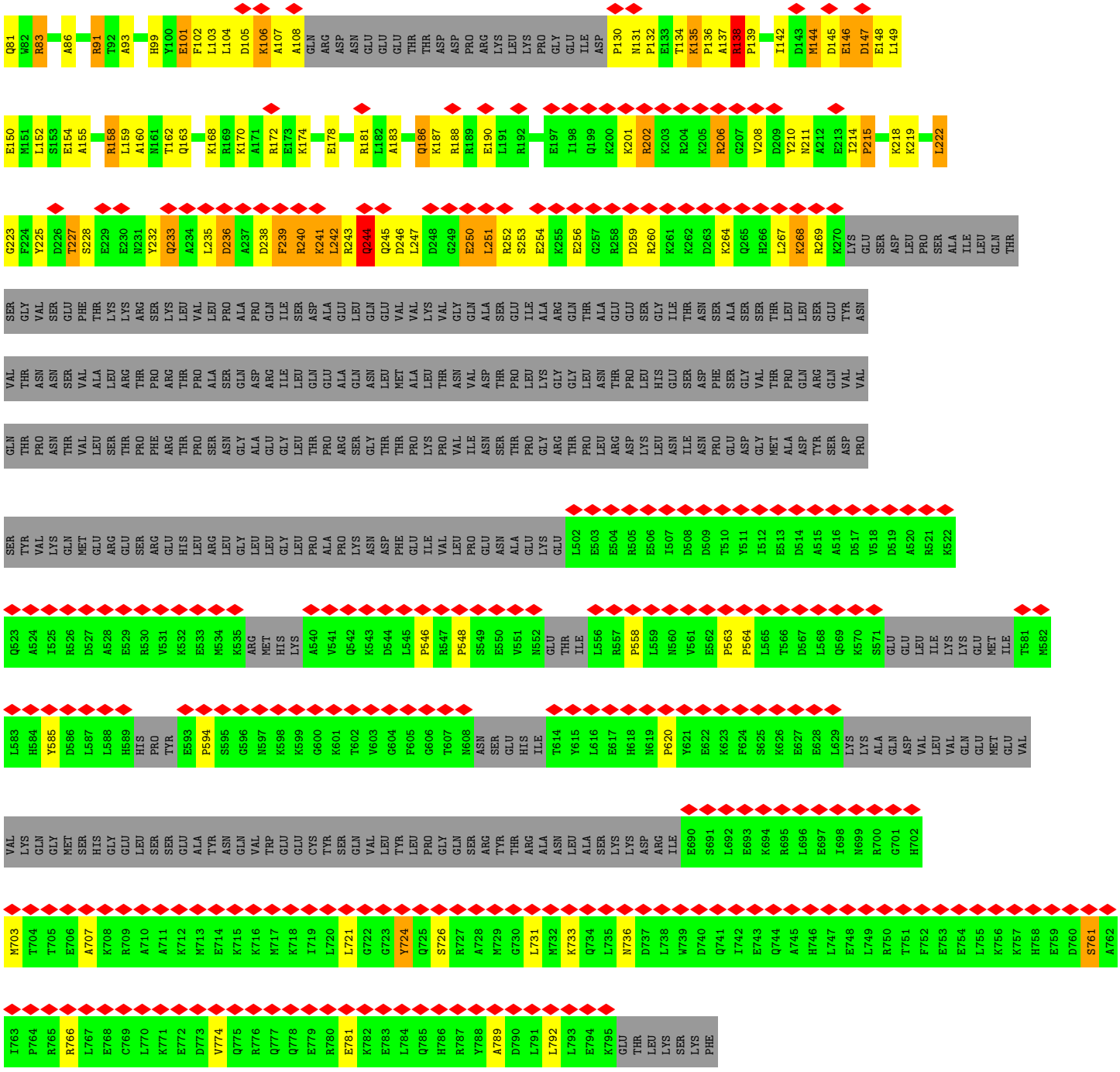


• Molecule 12: Cell division cycle 5-like protein

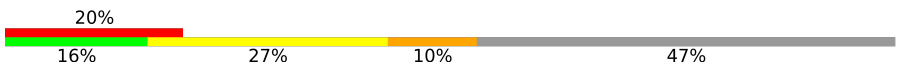
Chain L:

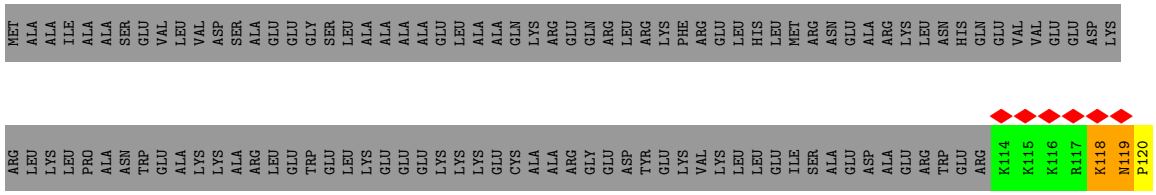


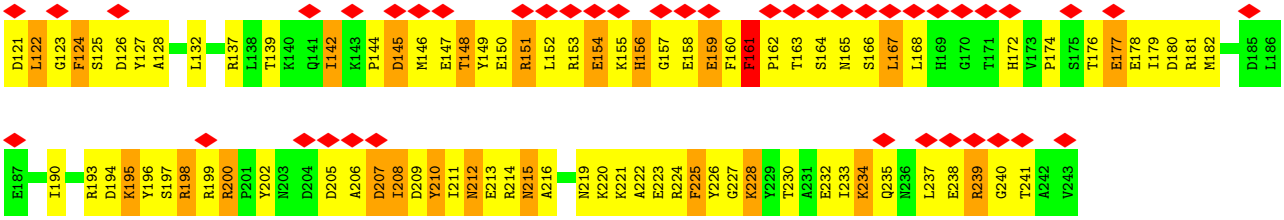




• Molecule 13: Pre-mRNA-splicing factor SYF2

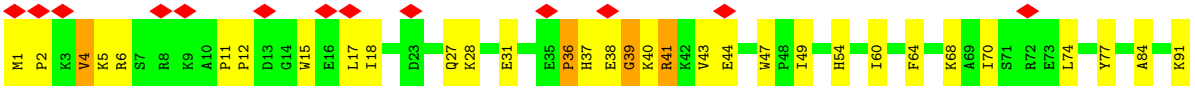






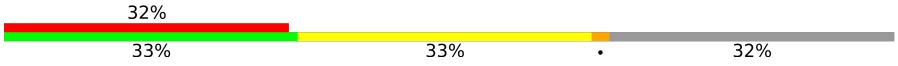
• Molecule 14: Protein BUD31 homolog

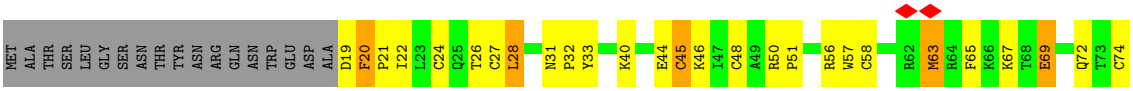
Chain N:

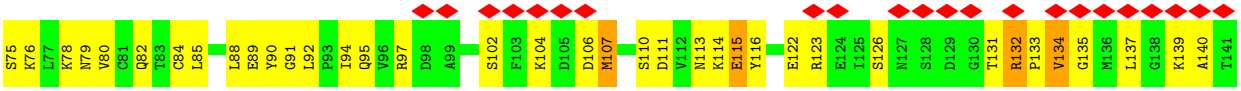


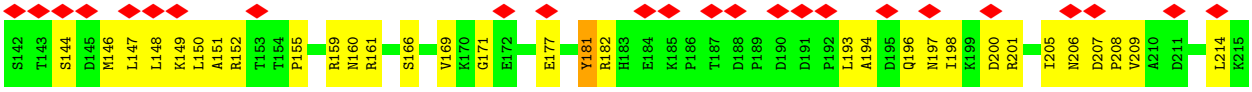
• Molecule 15: Pre-mRNA-splicing factor RBM22

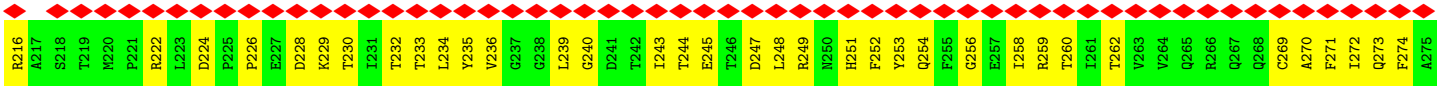
Chain O:

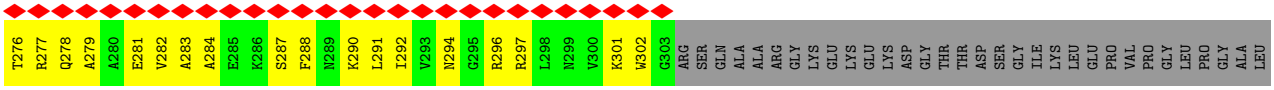


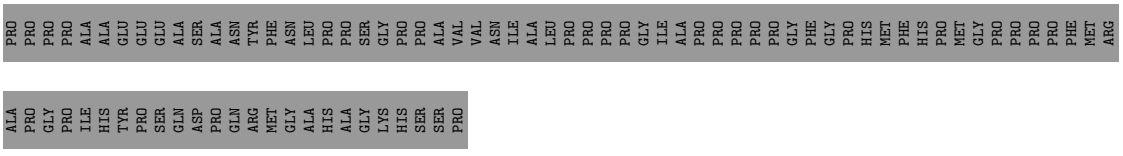






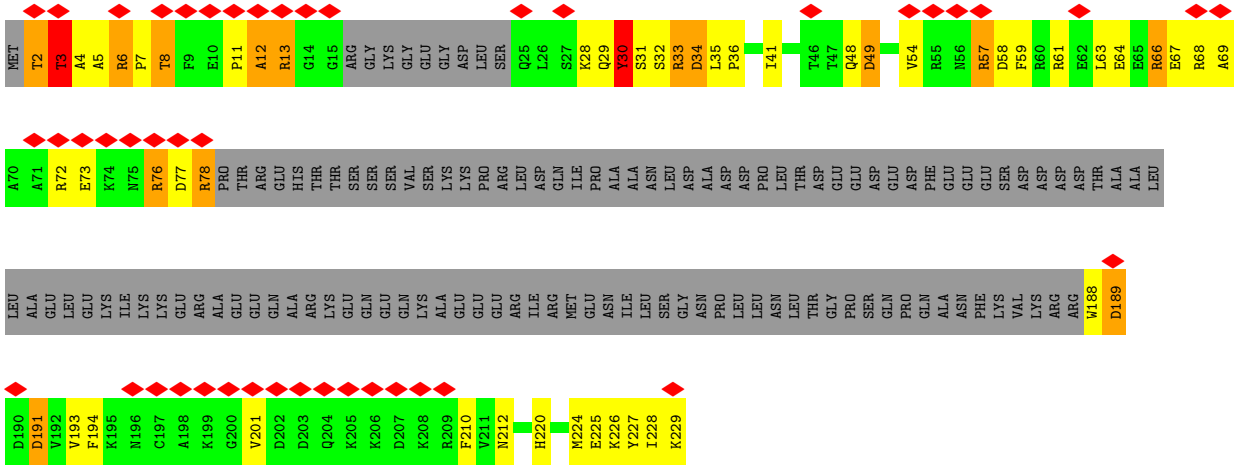






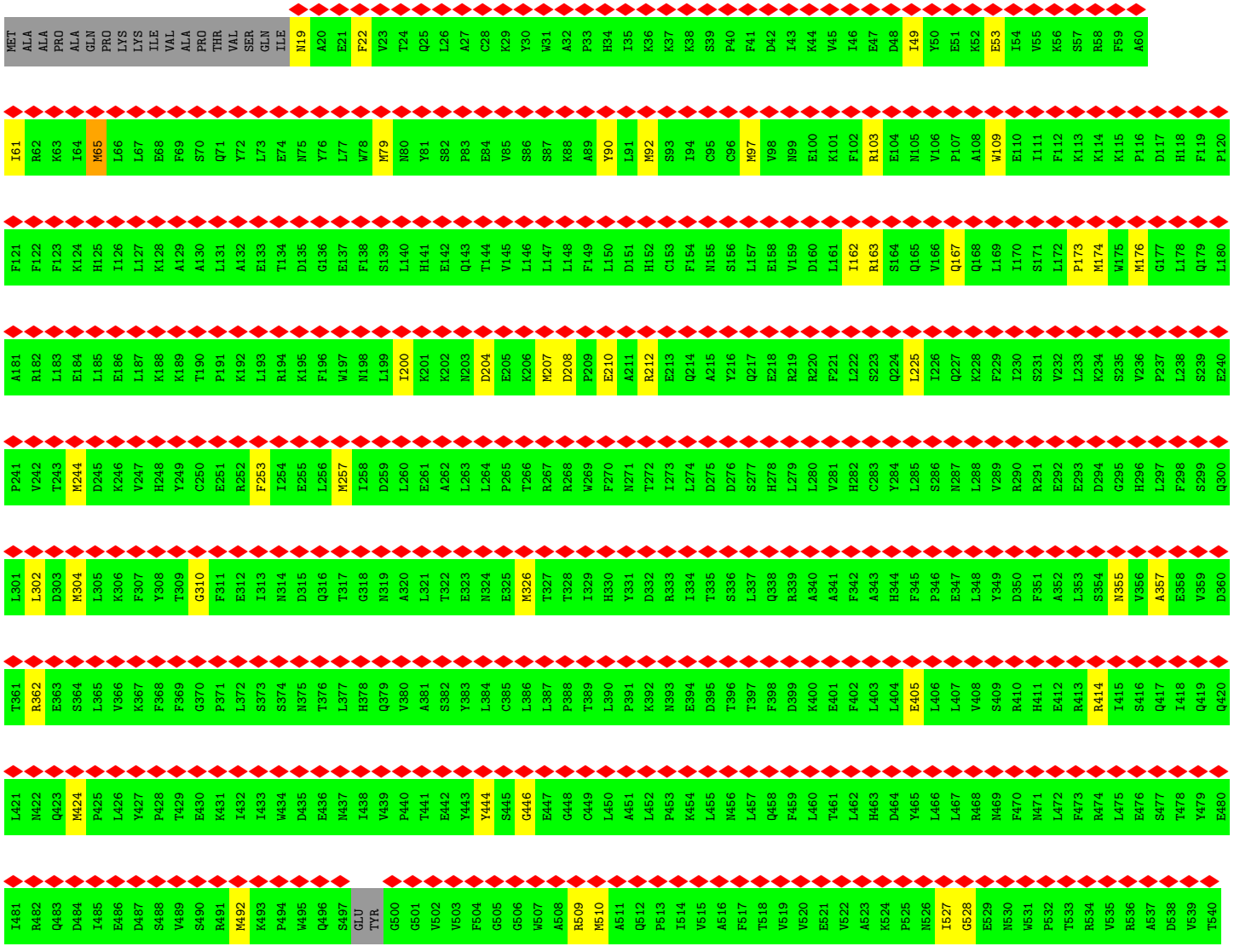
• Molecule 16: Spliceosome-associated protein CWC15 homolog

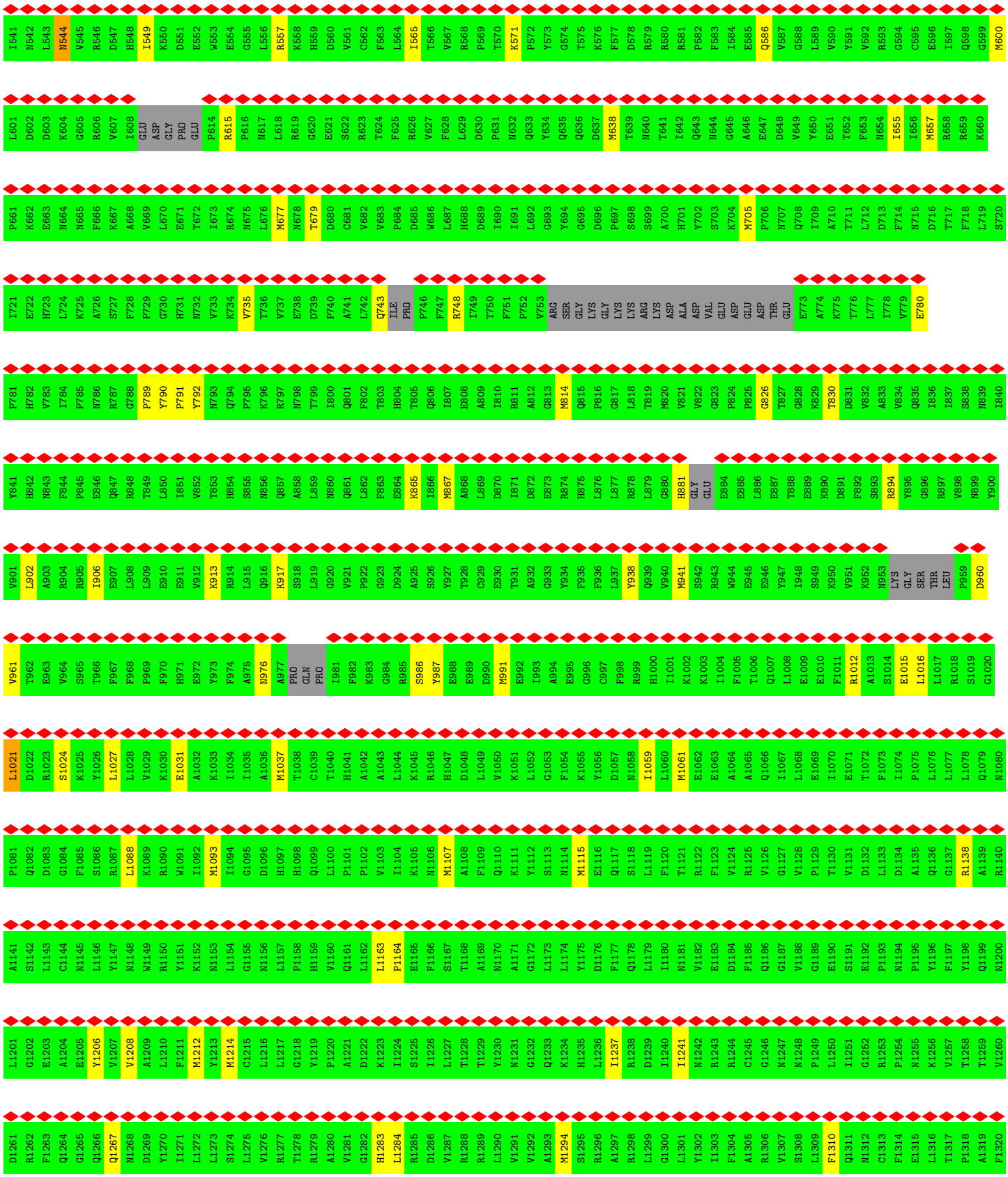
Chain P:



• Molecule 17: Intron-binding protein aquarius

Chain Q:

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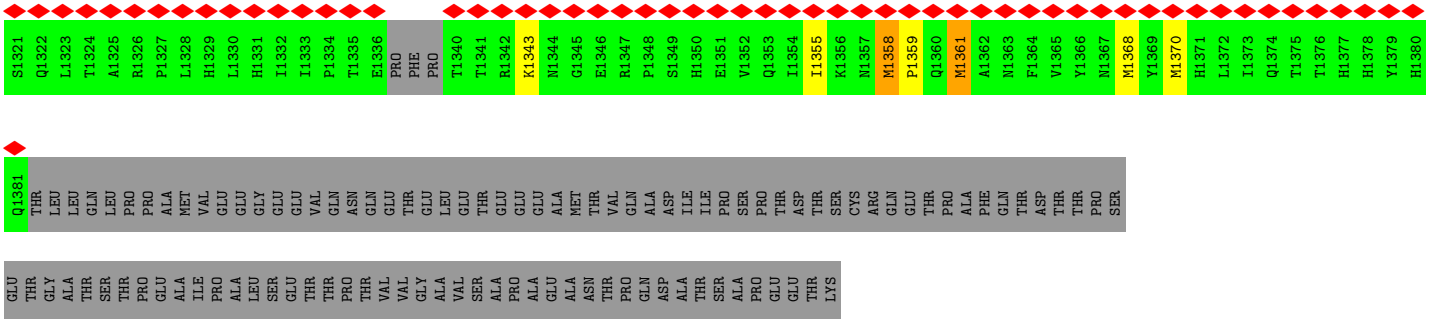
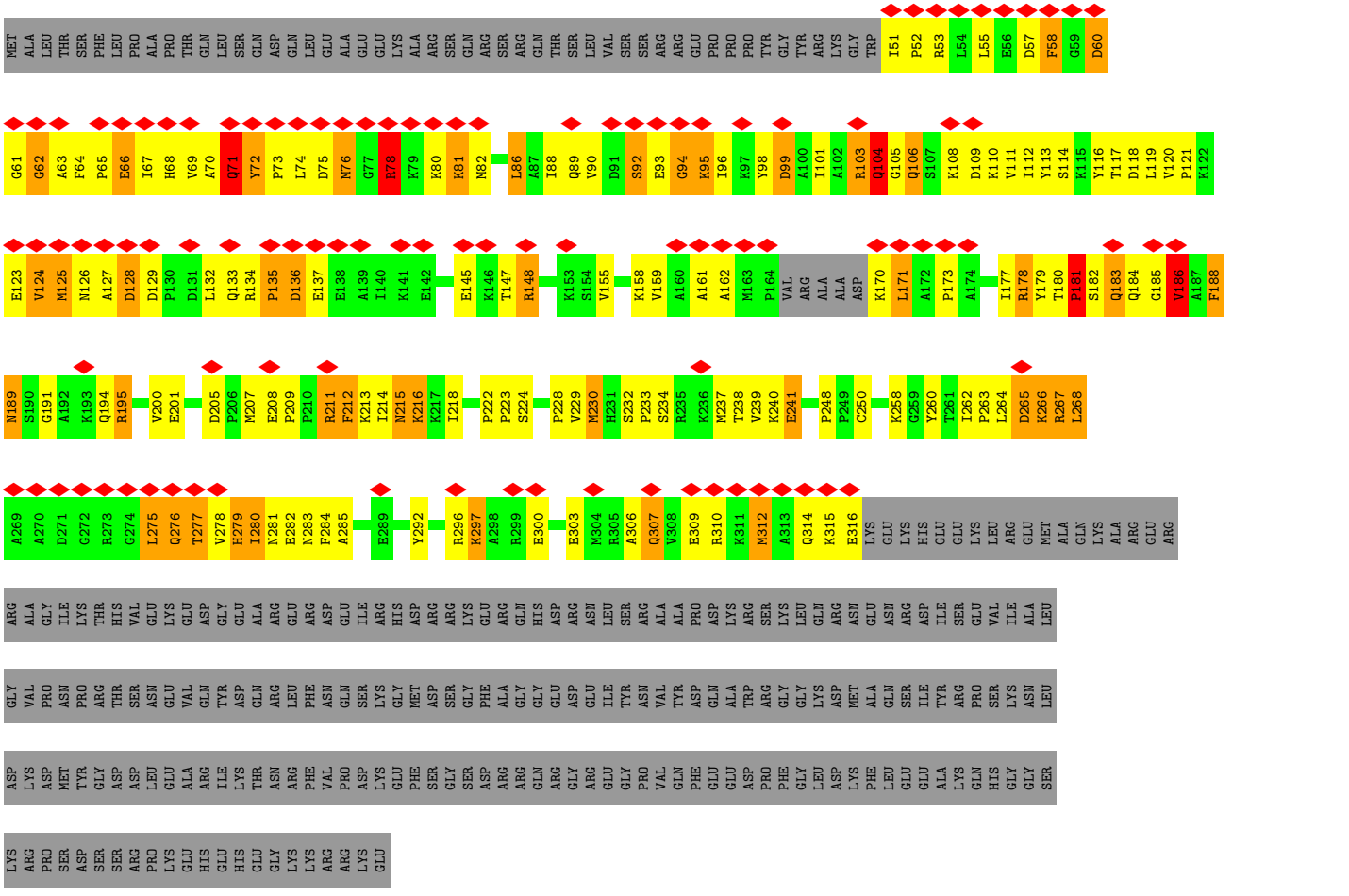
L601 D602 D603 K604 G605 R606 V607 I608 GLU ASP GLY PRO GLU P614 R615 P616 N617 L618 R619 G620 E621 S622 R623 T624 F625 R626 V627 F628 L629 D630 P631 N632 Q633 Y634 Q635 Q636 D637 M638 T639 N640 T641 I642 Q643 N644 G645 A646 E647 D648 V649 Y650 E661 T652 F653 N654 I655 I656 M657 R658 R659 K660
P661 K662 E663 N664 N665 F666 K667 A668 V669 L670 E671 T672 I673 R674 N675 L676 M677 N678 T679 D680 C681 V682 V683 P684 D685 W686 L687 H688 D689 I690 I691 L692 G693 Y694 G695 D696 P697 S698 S699 A700 H701 Y702 S703 K704 M705 P706 N707 Q708 I709 A710 T711 L712 D713 F714 N715 D716 T717 F718 L719 S720
I721 E722 H723 L724 K725 A726 S727 F728 P729 G730 H731 N732 V733 K734 V735 T736 V737 E738 D739 P740 A741 L742 Q743 ILE PRO P746 F747 R748 I749 T750 F751 P752 V753 ARG SER GLY LYS GLY LYS LYS ARG LYS ASP ALA ASP VAL GLU ASP GLU ASP THR GLU E773 A774 K775 T776 L777 I778 V779 E780
P781 H782 V783 I784 P785 N786 R787 G788 P789 Y790 P791 Y792 N793 Q794 P795 K796 R797 N798 T799 I800 Q801 F802 T803 H804 T805 Q806 I807 E808 A809 I810 R811 A812 G813 M814 Q815 P816 G817 L818 T819 M820 V821 V822 G823 P824 P825 G826 T827 G828 K829 T830 D831 V832 A833 V834 Q835 I836 I837 S838 N839 I840
Y841 H842 N843 F844 P845 E846 Q847 R848 T849 L850 I851 V852 T853 H854 S855 N856 Q857 A858 L859 N860 Q861 L862 F863 E864 K865 I866 M867 A868 L869 D870 I871 D872 E873 R874 H875 L876 L877 R878 L879 G880 H881 GLY GLU E884 E885 L886 E887 T888 E889 K890 D891 F892 S893 R894 Y895 G896 R897 V898 N899 Y900
V901 L902 A903 R904 R905 I906 E907 L908 L909 E910 E911 V912 K913 R914 L915 Q916 K917 S918 L919 G920 V921 P922 G923 D924 A925 S926 Y927 T928 C929 E930 T931 A932 G933 Y934 F935 F936 L937 Y938 Q939 V940 M941 S942 R943 W944 E945 E946 Y947 I948 S949 K950 V951 K952 N953 LYS GLY SER THR LEU P959 D960
V961 T962 E963 V964 S965 T966 F967 F968 P969 F970 H971 E972 Y973 F974 A975 N976 A977 PRO GLN PRO I981 F982 K983 G984 R985 S986 Y987 E988 E989 D990 M991 E992 I993 A994 E995 G996 C997 F998 R999 H1000 I1001 K1002 K1003 I1004 F1005 T1006 Q1007 L1008 E1009 E1010 F1011 R1012 A1013 S1014 E1015 L1016 L1017 R1018 S1019 G1020
L1021 D1022 R1023 S1024 K1025 Y1026 L1027 L1028 V1029 K1030 E1031 A1032 K1033 I1034 I1035 A1036 M1037 T1038 C1039 T1040 H1041 A1042 A1043 L1044 K1045 R1046 H1047 D1048 L1049 V1050 K1051 L1052 G1053 F1054 K1055 Y1056 D1057 N1058 I1059 L1060 M1061 E1062 E1063 A1064 A1065 Q1066 Q1067 L1068 E1069 I1070 E1071 T1072 F1073 I1074 P1075 L1076 L1077 L1078 Q1079 N1080
P1081 Q1082 D1083 G1084 F1085 S1086 R1087 L1088 K1089 R1090 W1091 I1092 M1093 I1094 G1095 D1096 H1097 H1098 Q1099 L1100 P1101 P1102 V1103 I1104 K1105 N1106 M1107 A1108 F1109 Q1110 K1111 Y1112 S1113 N1114 M1115 E1116 Q1117 S1118 L1119 F1120 T1121 R1122 F1123 V1124 A1125 R1126 G1127 V1128 P1129 T1130 V1131 D1132 L1133 D1134 A1135 Q1136 G1137 R1138 A1139 R1140
A1141 S1142 L1143 C1144 N1145 L1146 Y1147 N1148 W1149 R1150 Y1151 K1152 N1153 L1154 G1155 N1156 L1157 P1158 H1159 V1160 Q1161 L1162 L1163 P1164 E1165 F1166 S1167 T1168 A1169 N1170 A1171 G1172 L1173 L1174 Y1175 D1176 F1177 Q1178 L1179 I1180 N1181 V1182 E1183 D1184 F1185 Q1186 G1187 V1188 G1189 E1190 S1191 E1192 P1193 N1194 P1195 Y1196 F1197 Y1198 Q1199 N1200
L1201 G1202 E1203 A1204 E1205 Y1206 Y1207 V1208 A1209 L1210 F1211 M1212 Y1213 M1214 C1215 L1216 L1217 G1218 Y1219 P1220 A1221 D1222 K1223 I1224 S1225 I1226 L1227 T1228 T1229 Y1230 N1231 G1232 Q1233 K1234 H1235 L1236 I1237 R1238 D1239 I1240 I1241 N1242 R1243 R1244 C1245 G1246 N1247 N1248 P1249 L1250 I1251 G1252 R1253 P1254 N1255 K1256 V1257 T1258 T1259 V1260
D1261 R1262 F1263 Q1264 G1265 Q1266 Q1267 N1268 D1269 Y1270 I1271 L1272 L1273 S1274 L1275 V1276 R1277 T1278 R1279 A1280 V1281 G1282 H1283 L1284 R1285 D1286 V1287 R1288 R1289 L1290 V1291 V1292 A1293 M1294 S1295 R1296 A1297 R1298 L1299 G1300 L1301 Y1302 I1303 F1304 A1305 R1306 V1307 S1308 L1309 F1310 Q1311 N1312 C1313 F1314 E1315 L1316 T1317 P1318 A1319 F1320



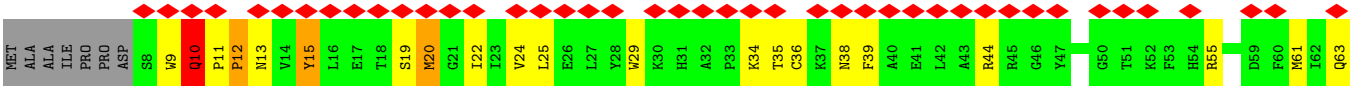
• Molecule 18: SNW domain-containing protein 1

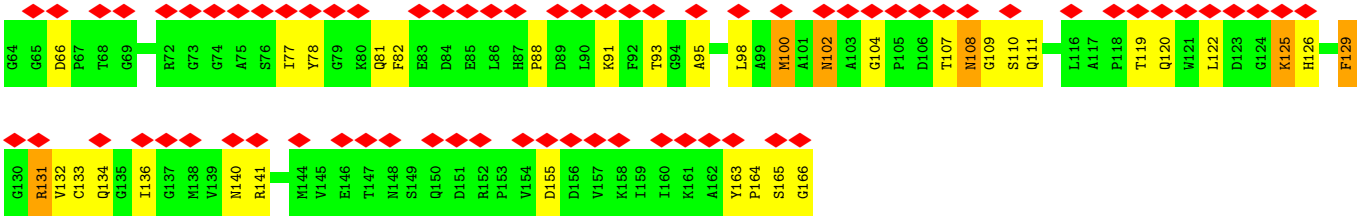
Chain R:



• Molecule 19: Peptidyl-prolyl cis-trans isomerase-like 1

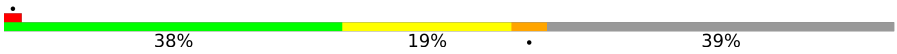
Chain S:

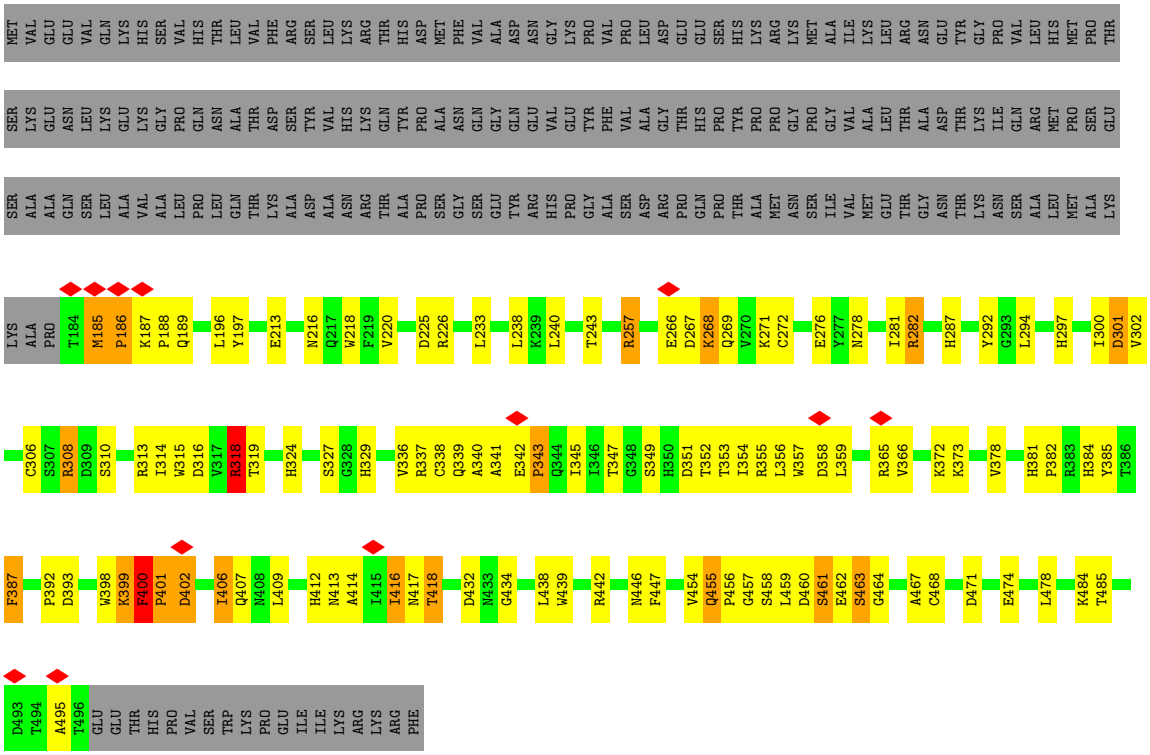




• Molecule 20: Pleiotropic regulator 1

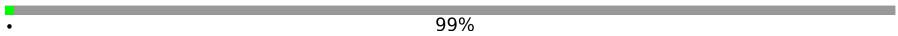
Chain T:

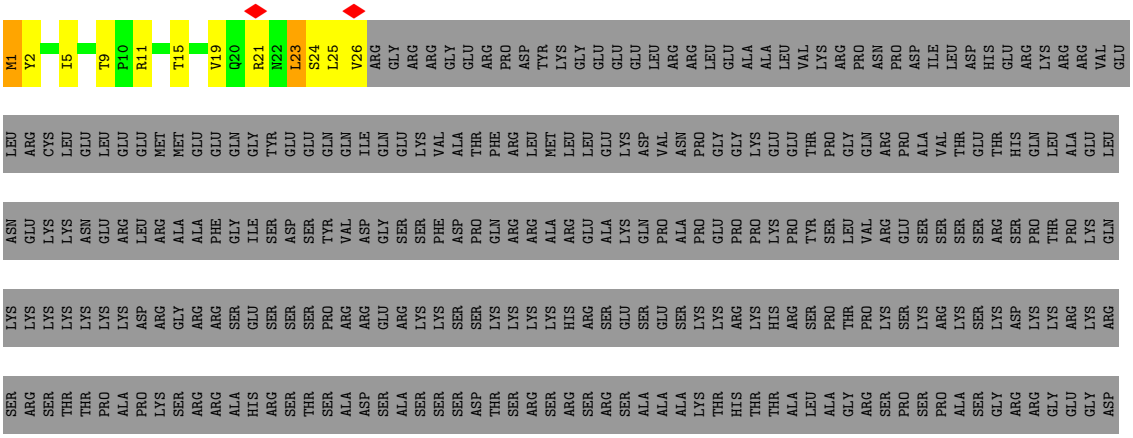


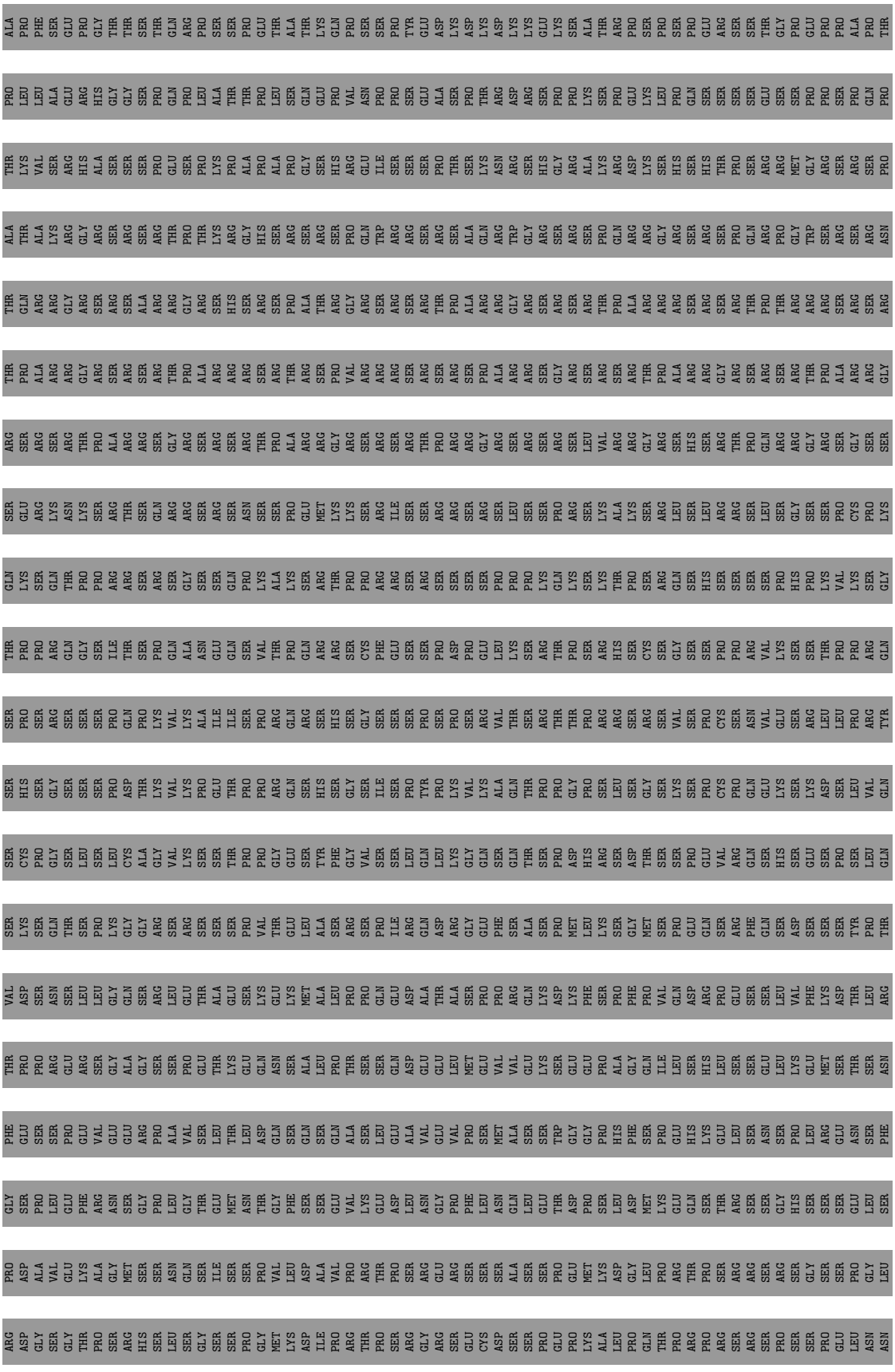


• Molecule 21: Serine/arginine repetitive matrix protein 2

Chain U:

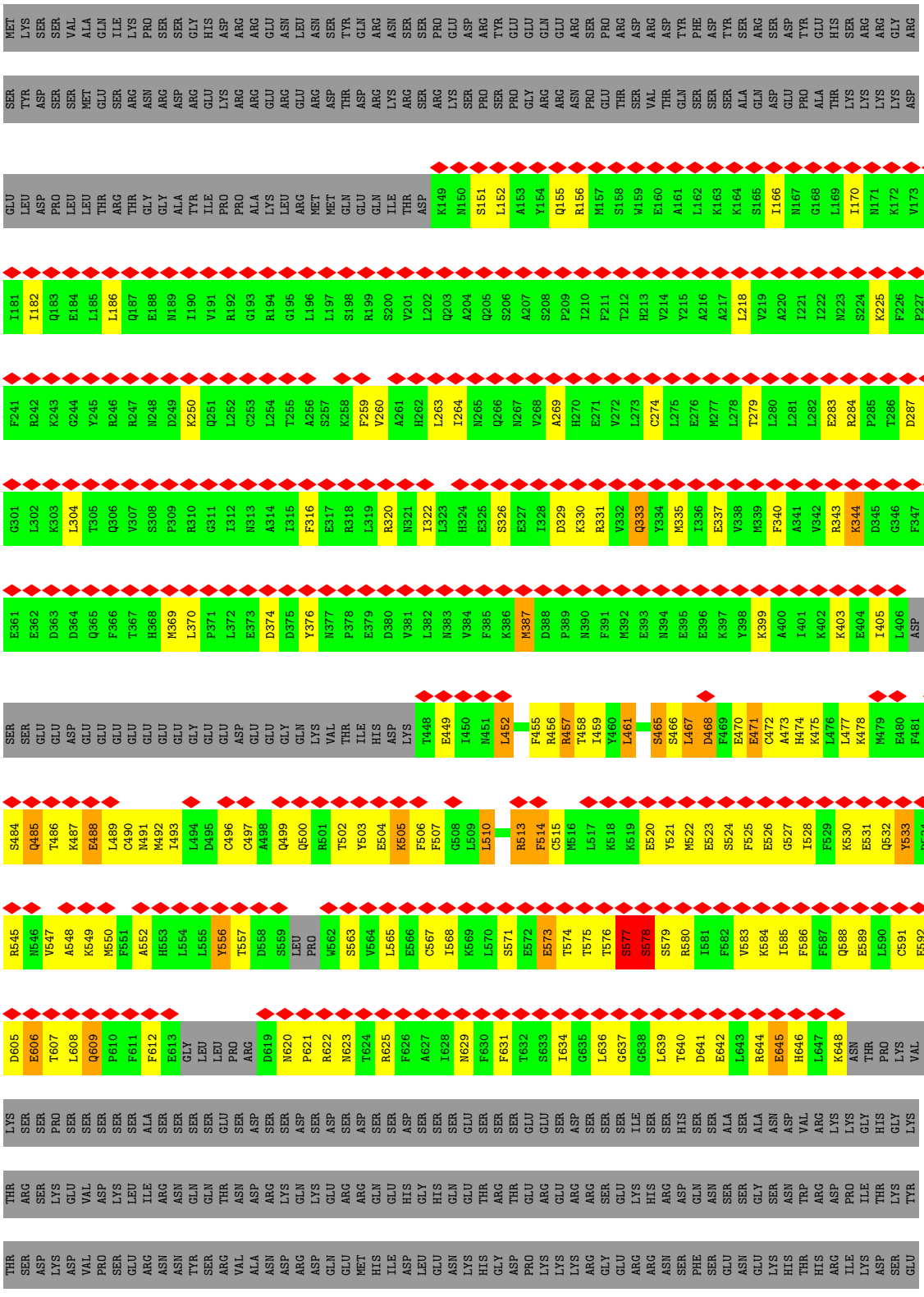


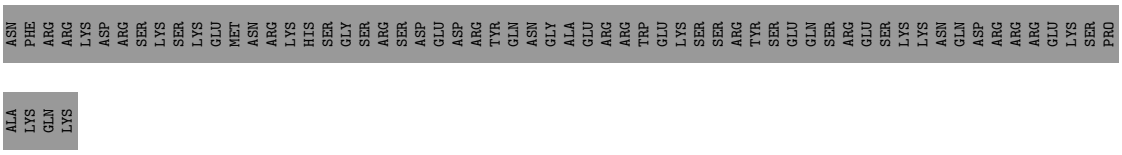




• Molecule 22: Pre-mRNA-splicing factor CWC22 homolog

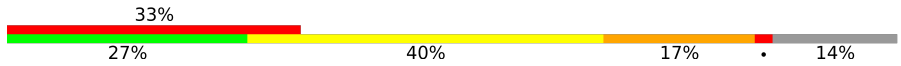
Chain V:

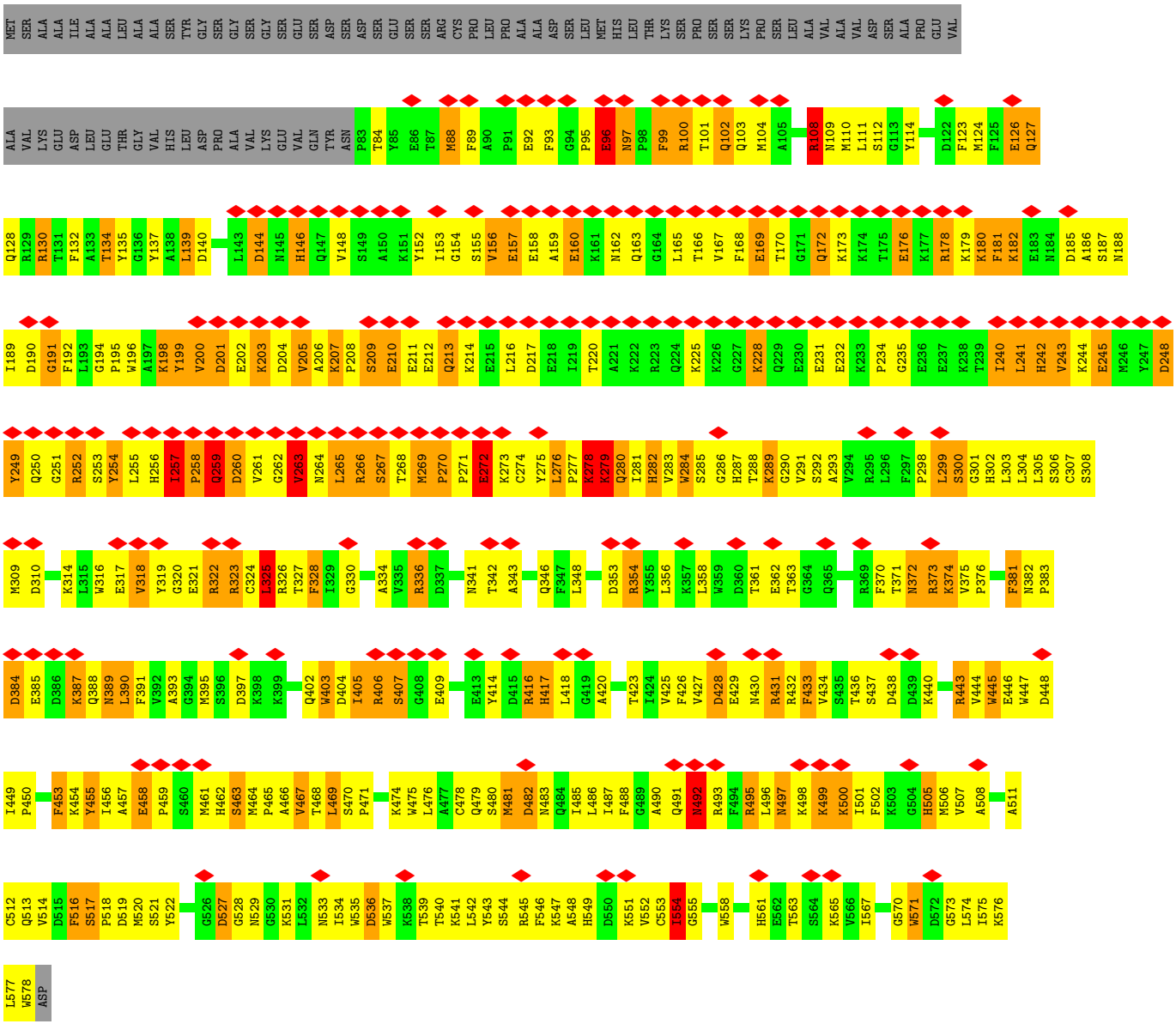




• Molecule 23: Pre-mRNA-processing factor 17

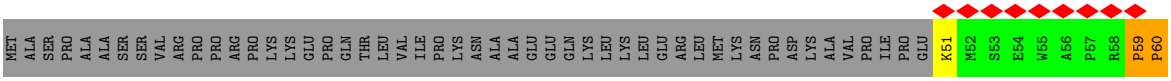
Chain W:

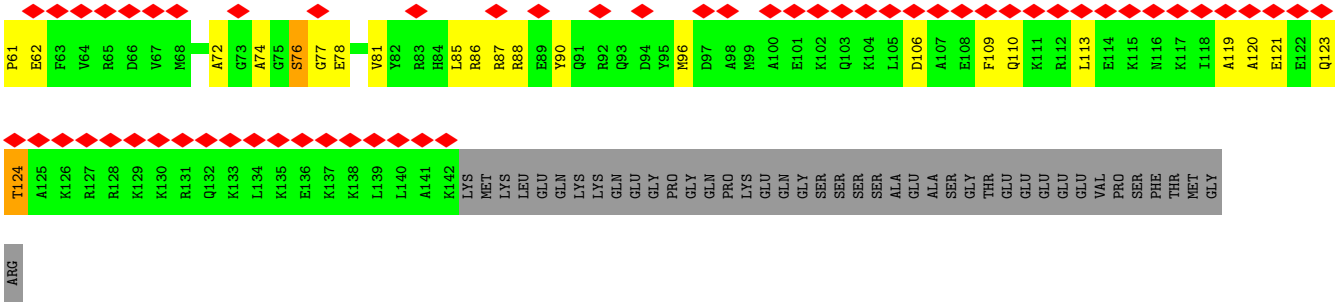




• Molecule 24: PRKR-interacting protein 1

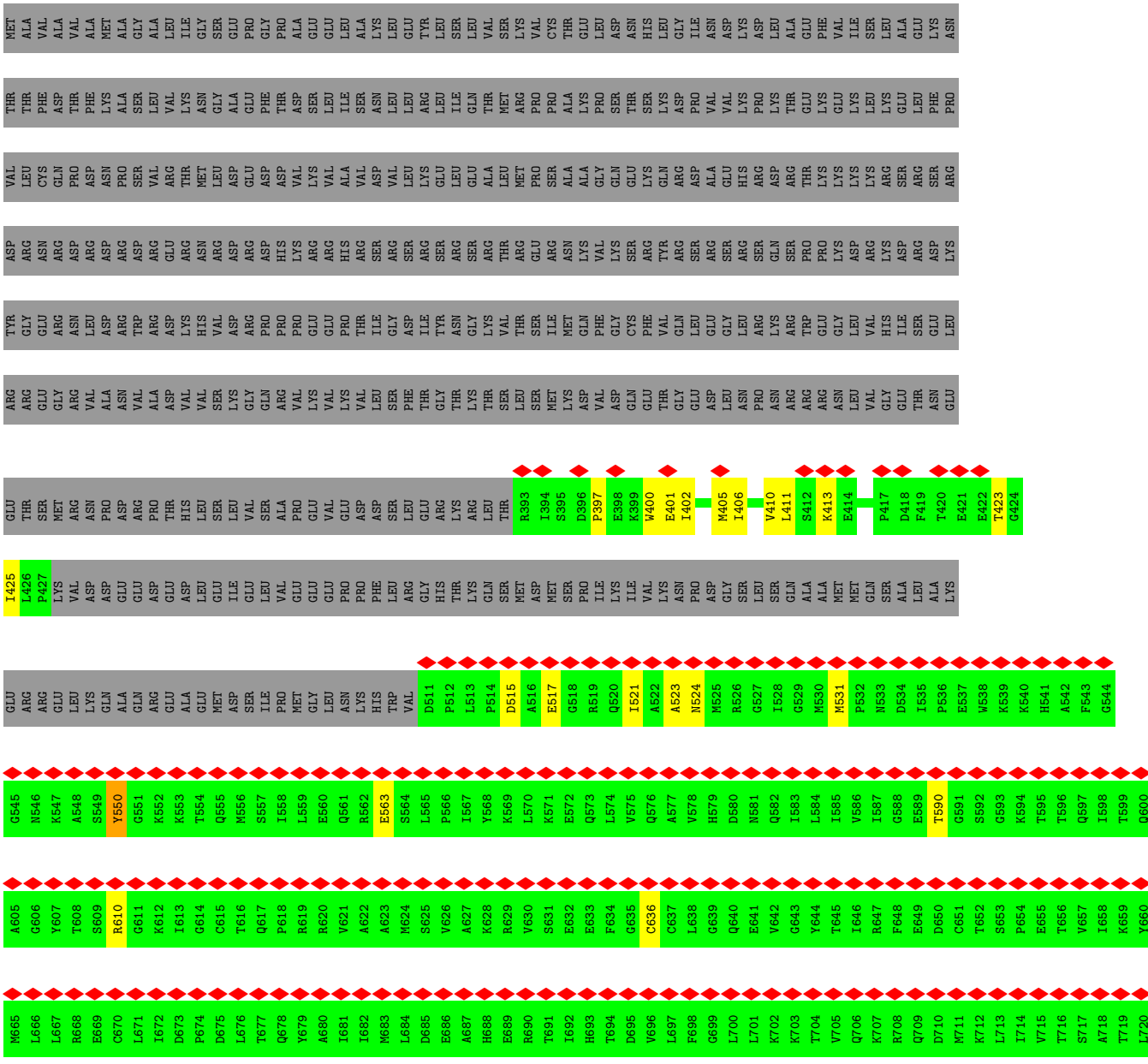
Chain X:

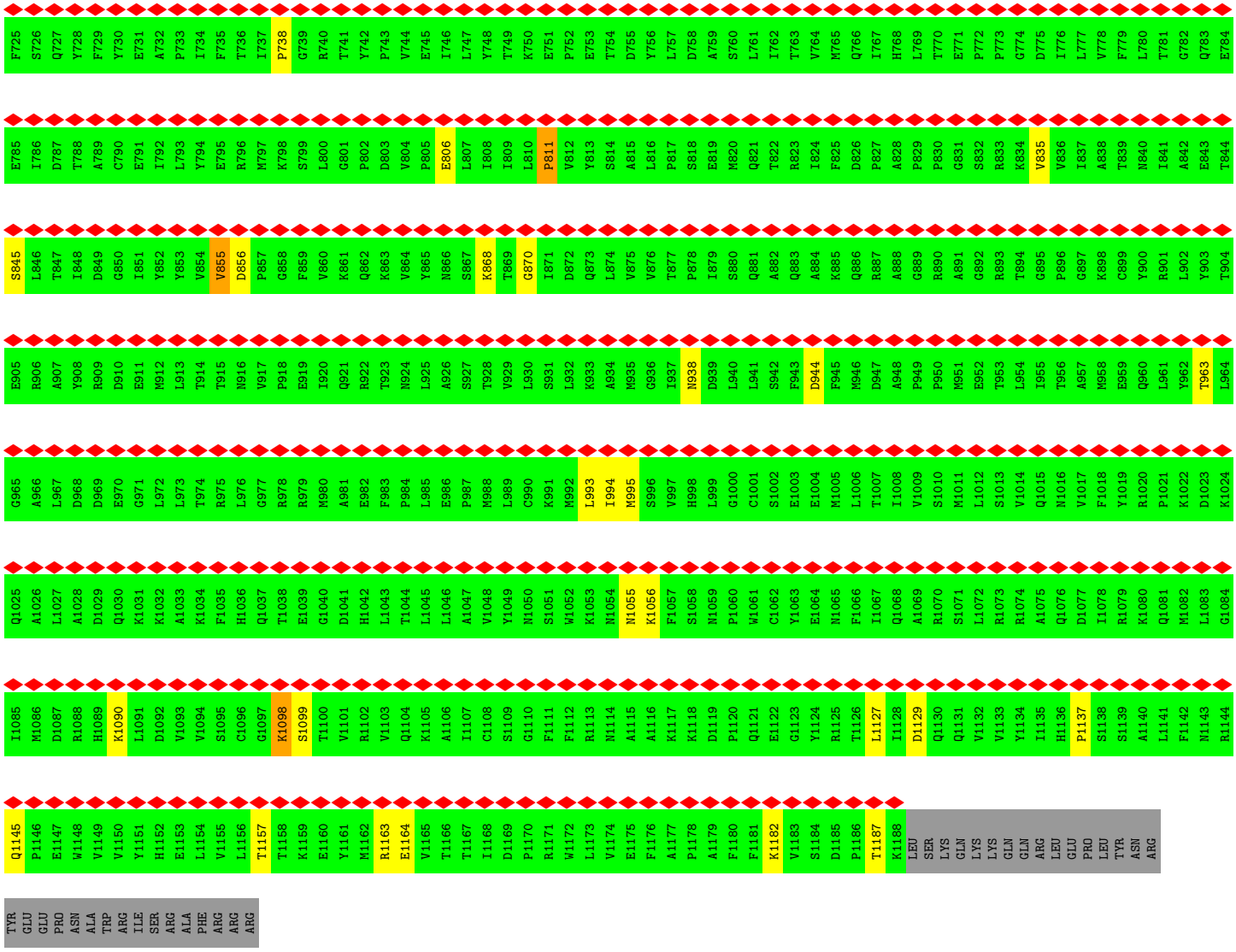




• Molecule 25: ATP-dependent RNA helicase DHX8

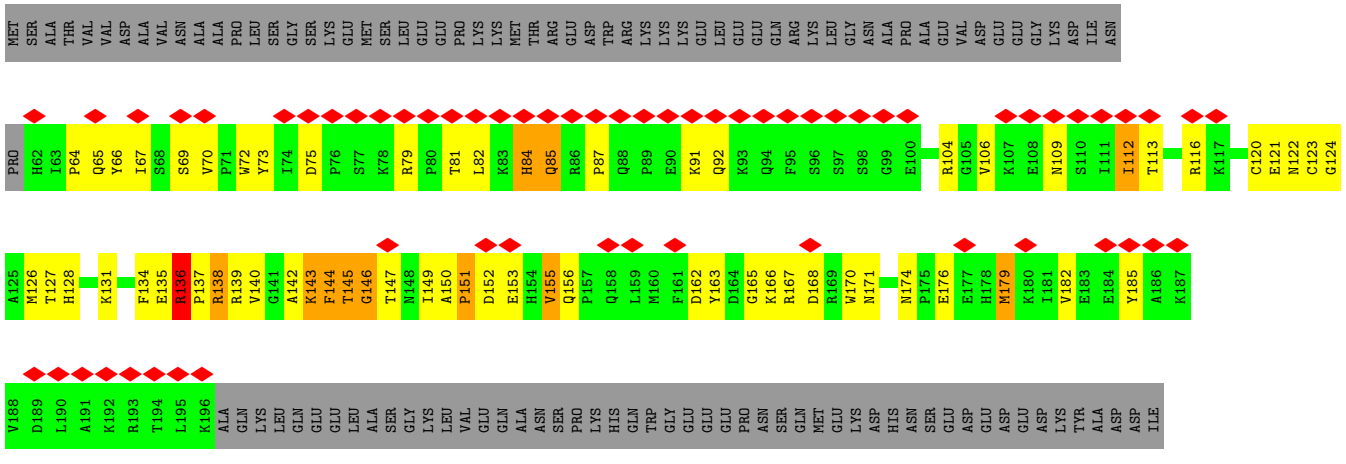
Chain Y:

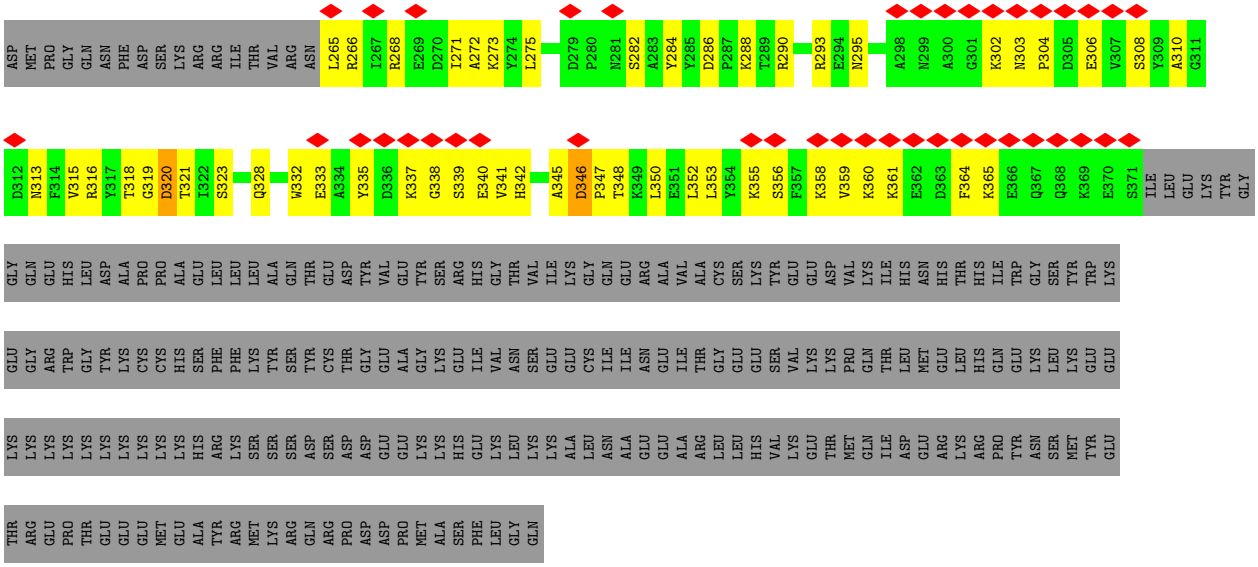




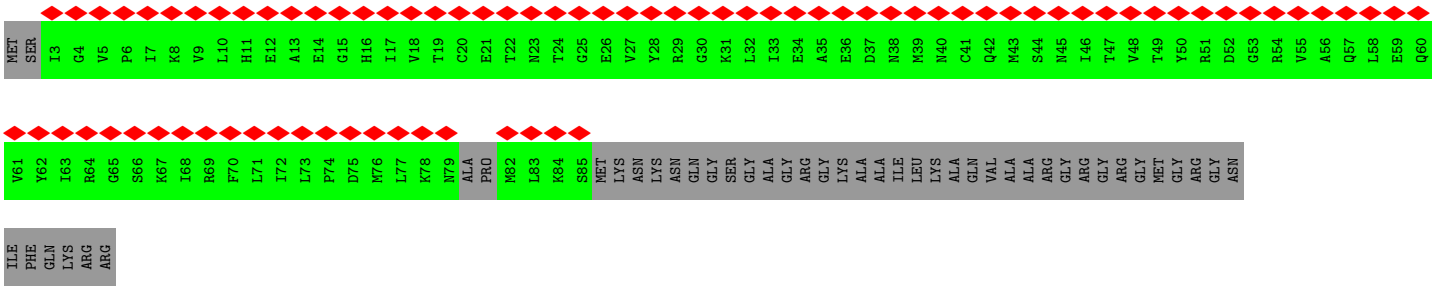
• Molecule 26: Pre-mRNA-splicing factor SLU7

Chain Z:

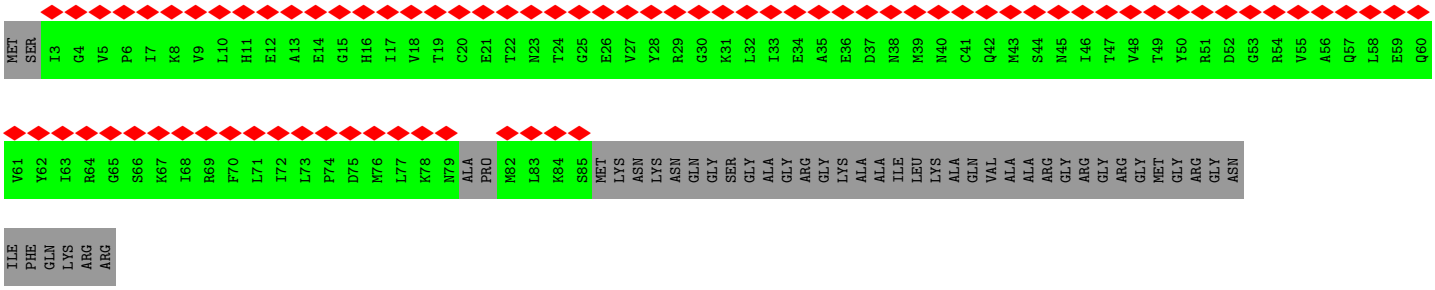




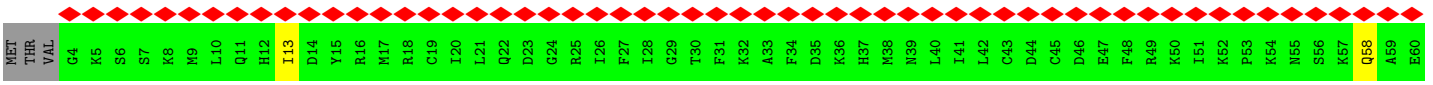
• Molecule 27: Small nuclear ribonucleoprotein Sm D3

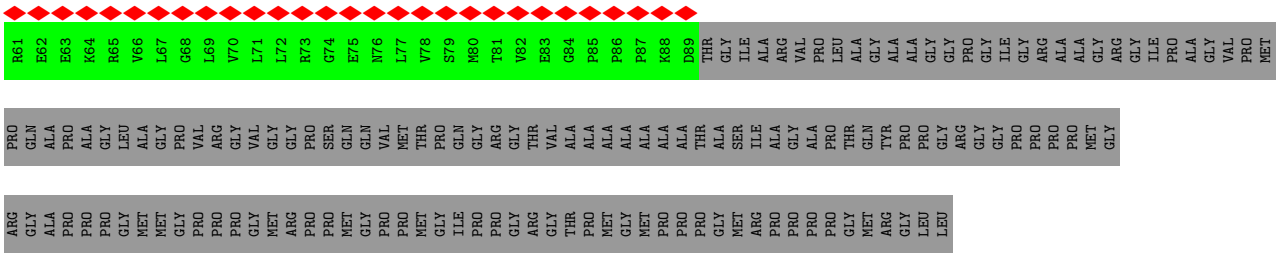


• Molecule 27: Small nuclear ribonucleoprotein Sm D3



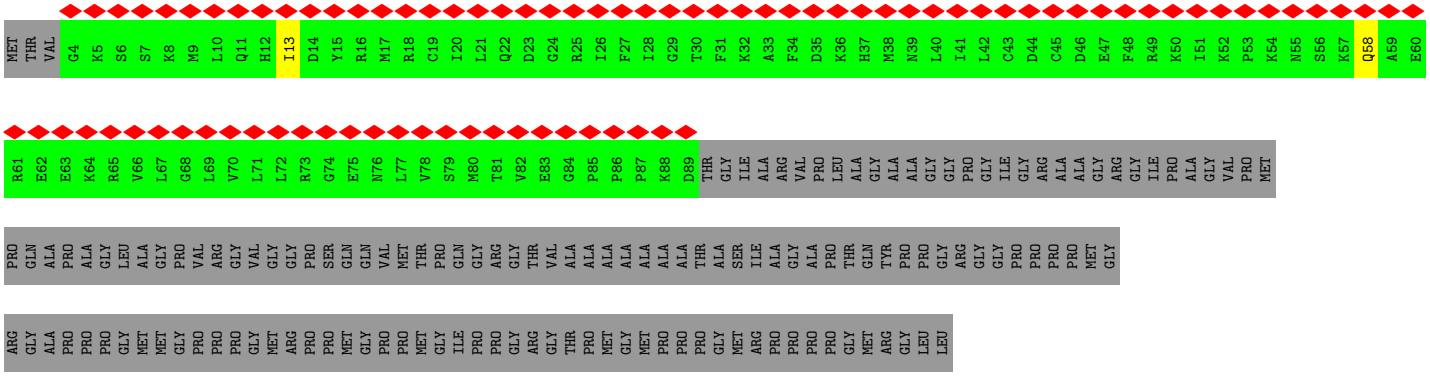
• Molecule 28: Small nuclear ribonucleoprotein-associated proteins B and B'





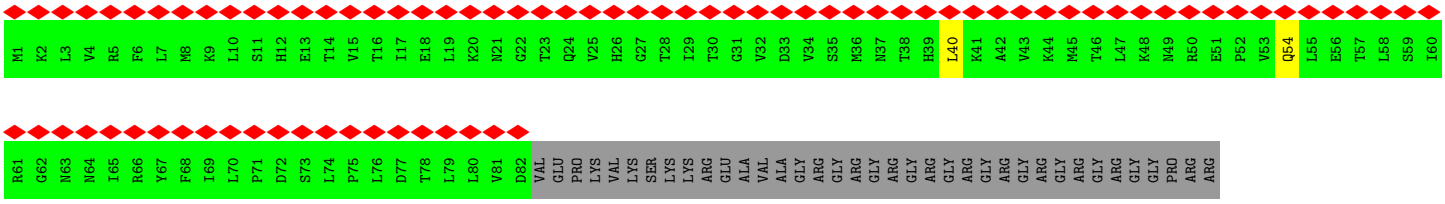
• Molecule 28: Small nuclear ribonucleoprotein-associated proteins B and B'

Chain i:



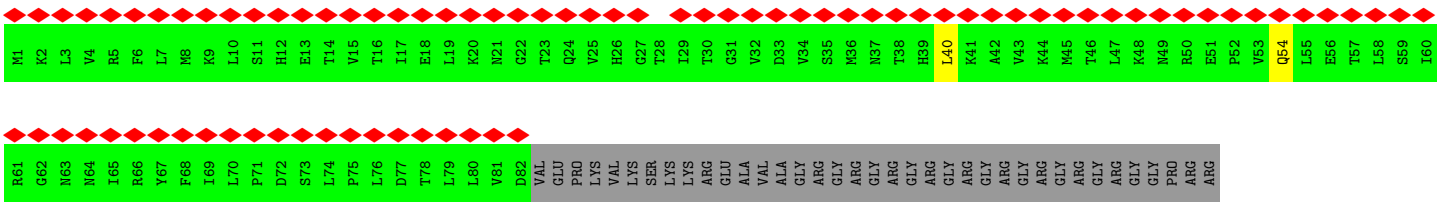
• Molecule 29: Small nuclear ribonucleoprotein Sm D1

Chain c:



• Molecule 29: Small nuclear ribonucleoprotein Sm D1

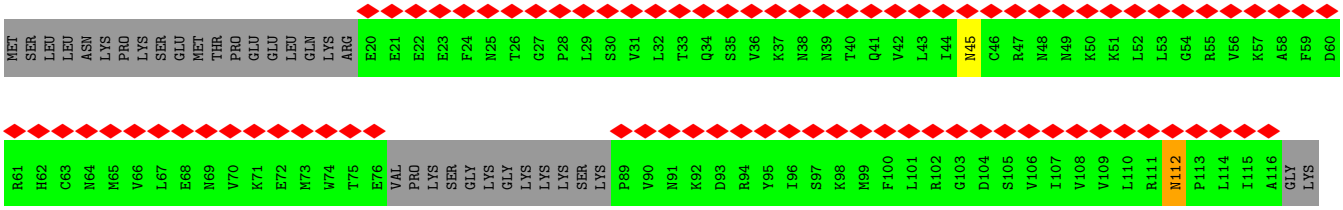
Chain j:



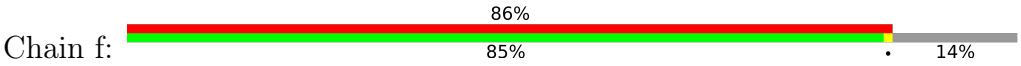
• Molecule 30: Small nuclear ribonucleoprotein Sm D2

Chain d:

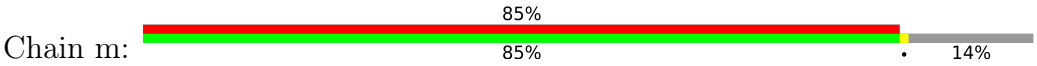
• Molecule 30: Small nuclear ribonucleoprotein Sm D2



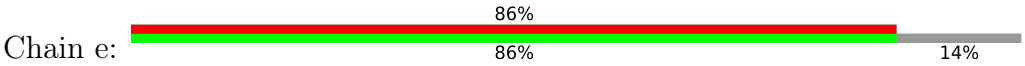
• Molecule 31: Small nuclear ribonucleoprotein F

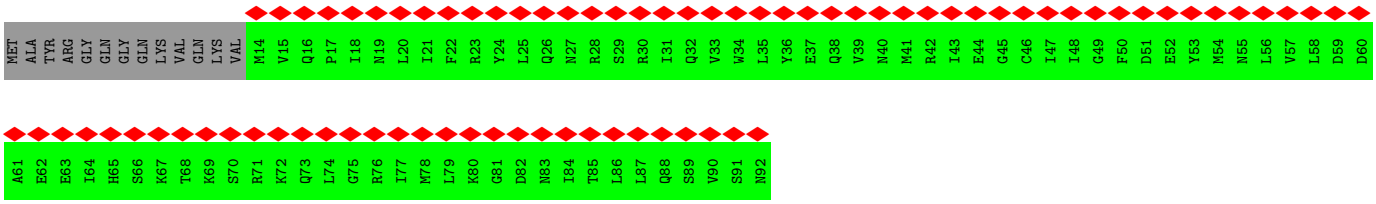


• Molecule 31: Small nuclear ribonucleoprotein F



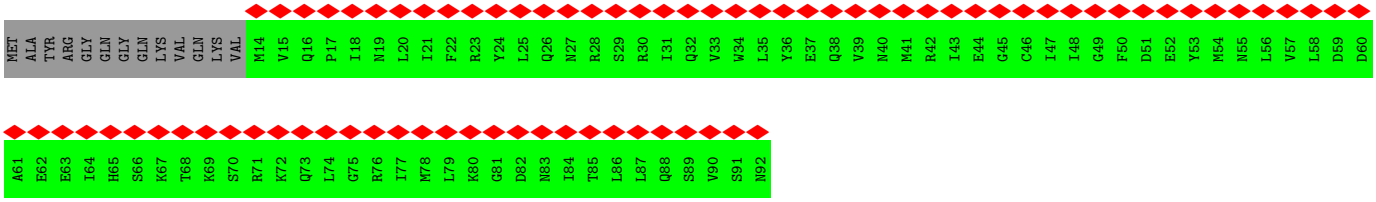
• Molecule 32: Small nuclear ribonucleoprotein E





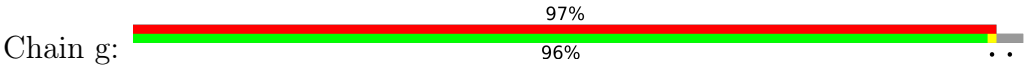
• Molecule 32: Small nuclear ribonucleoprotein E

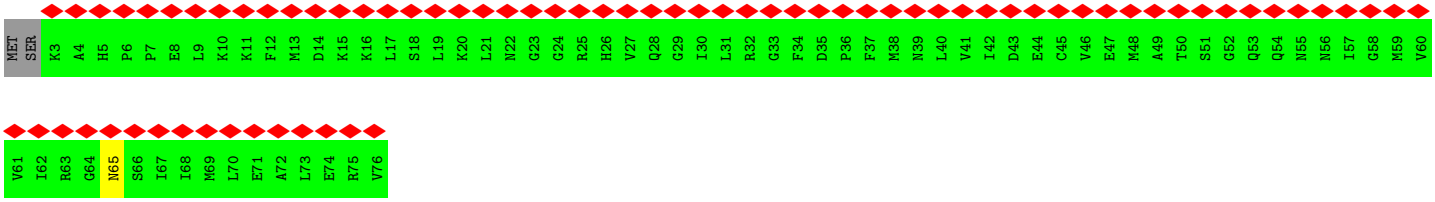
Chain l:



• Molecule 33: Small nuclear ribonucleoprotein G

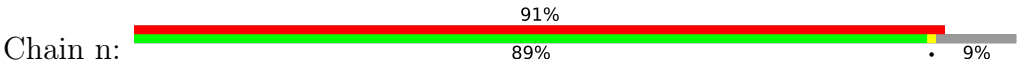
Chain g:

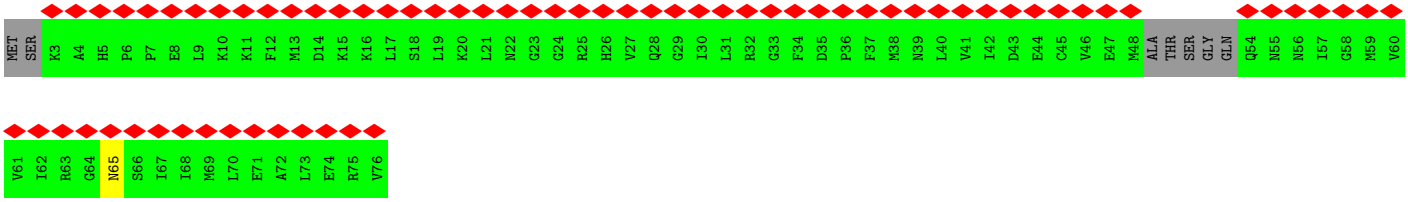




• Molecule 33: Small nuclear ribonucleoprotein G

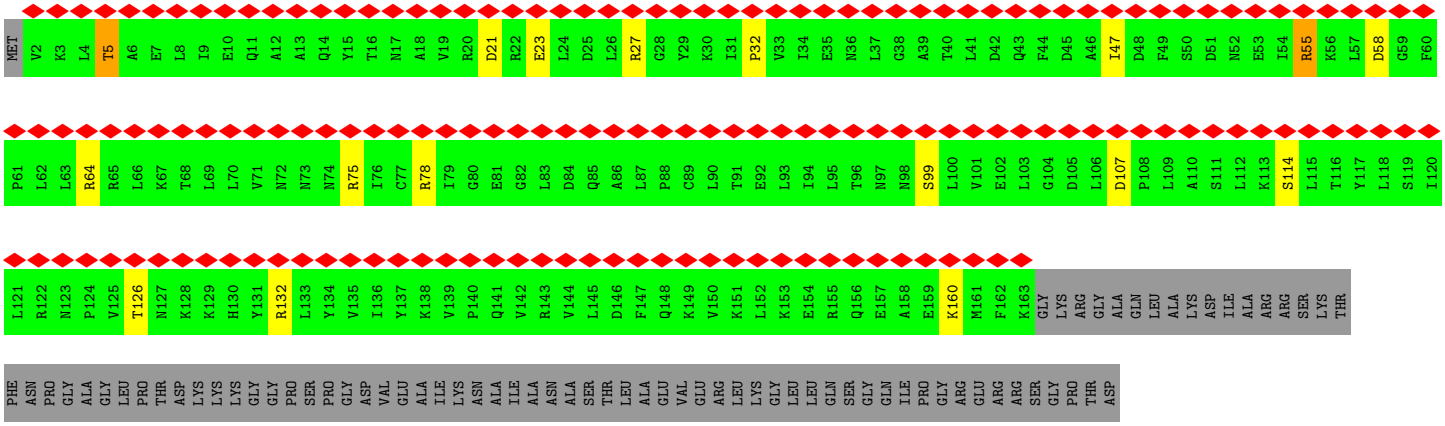
Chain n:

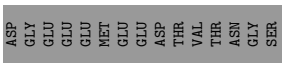




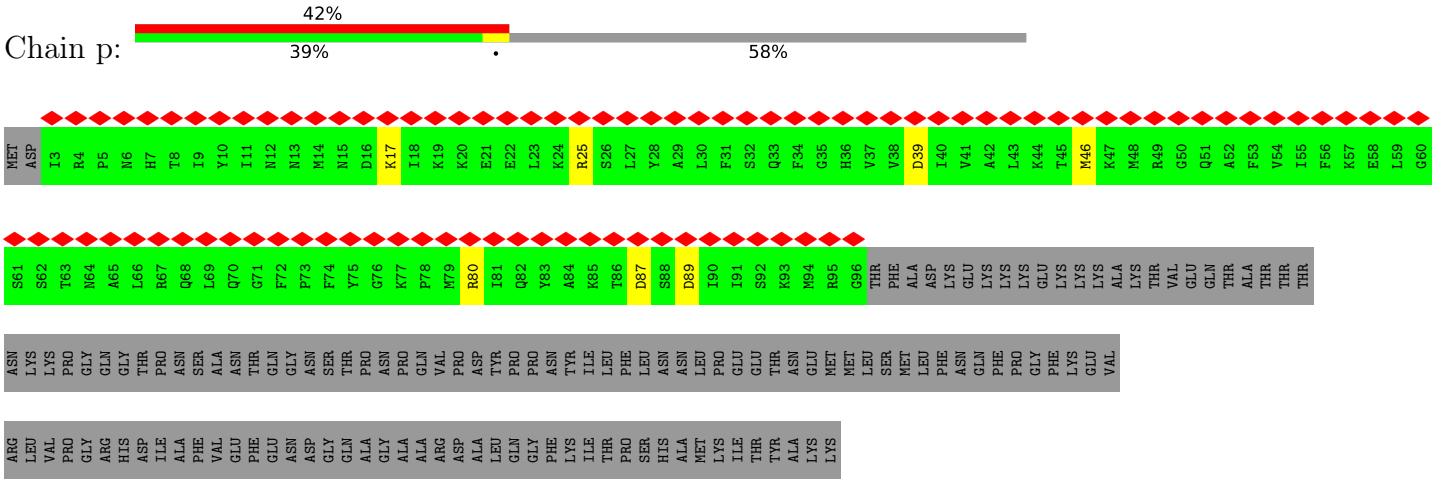
• Molecule 34: U2 small nuclear ribonucleoprotein A'

Chain o:

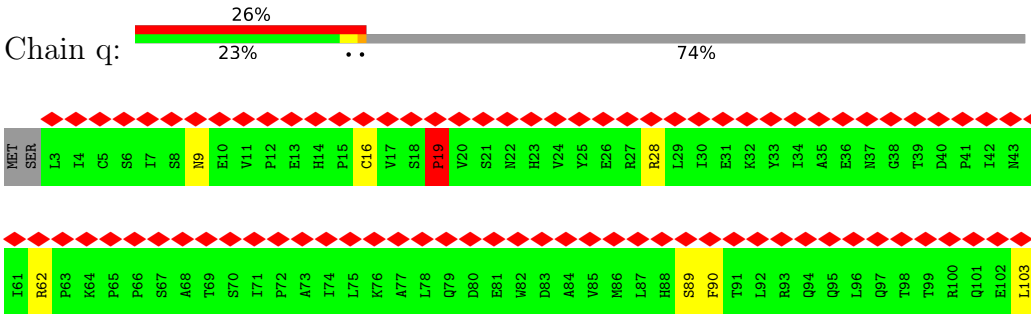




• Molecule 35: U2 small nuclear ribonucleoprotein B"

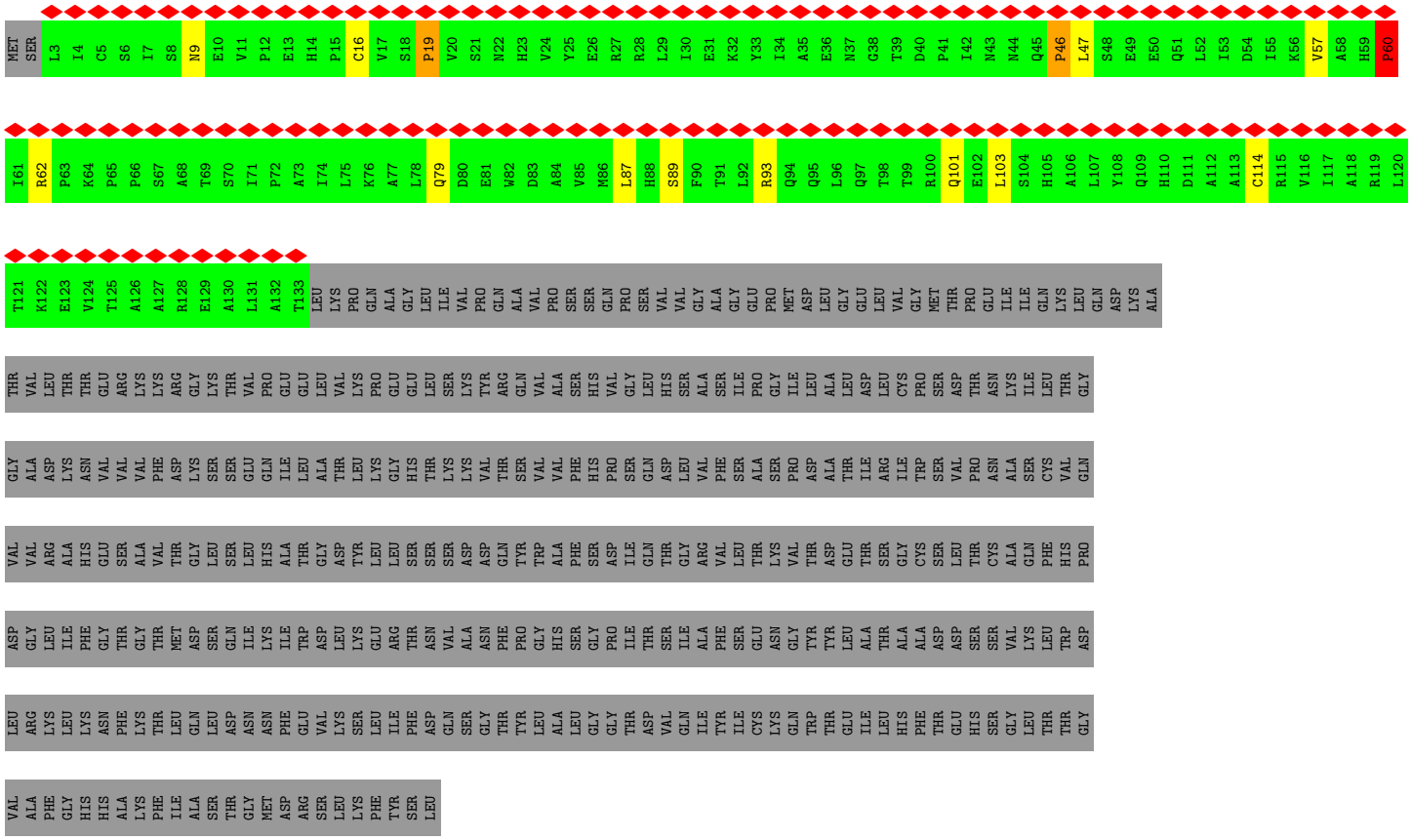


• Molecule 36: Pre-mRNA-processing factor 19



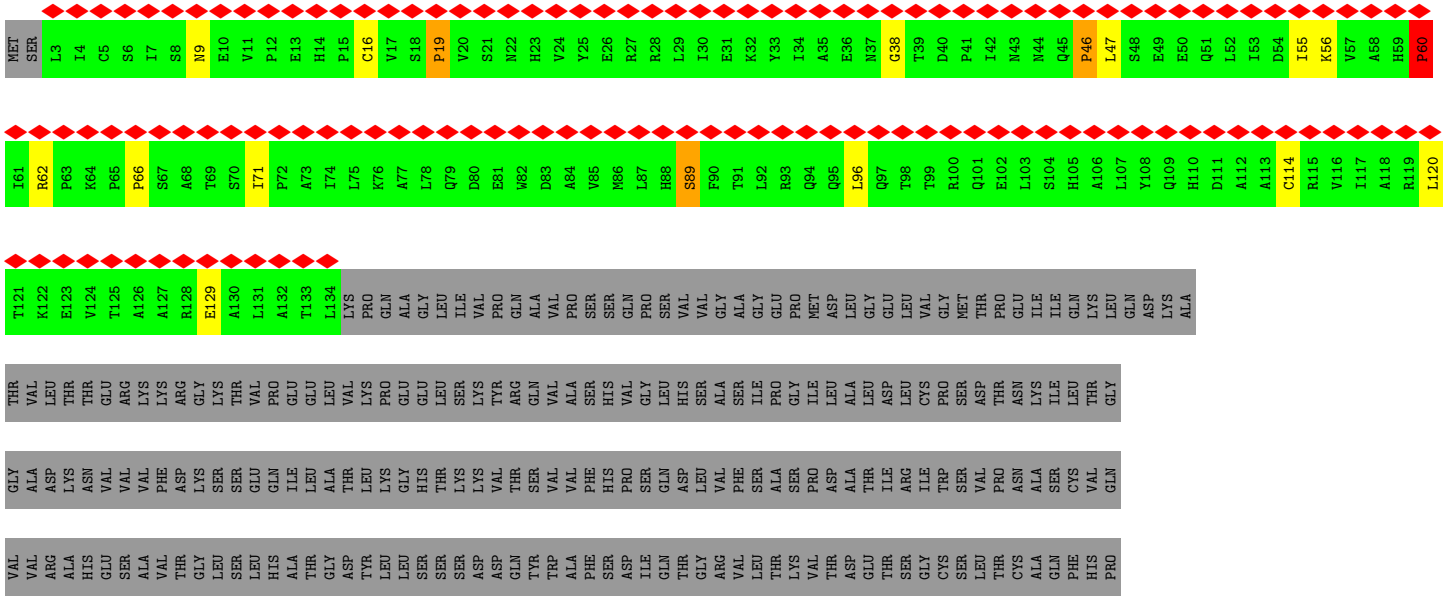
• Molecule 36: Pre-mRNA-processing factor 19

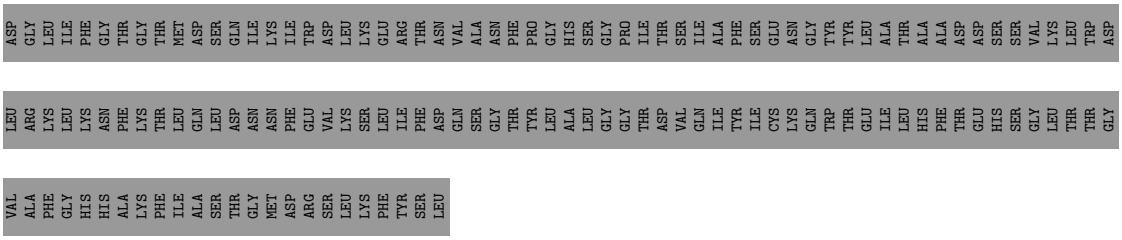
Chain r:



• Molecule 36: Pre-mRNA-processing factor 19

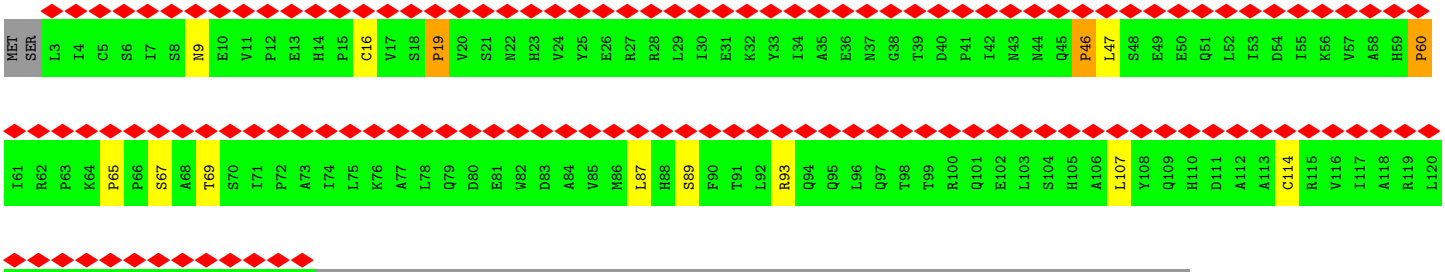
Chain s:





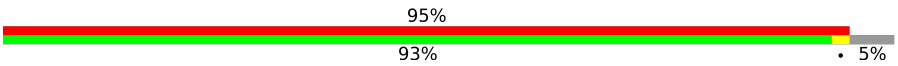
• Molecule 36: Pre-mRNA-processing factor 19

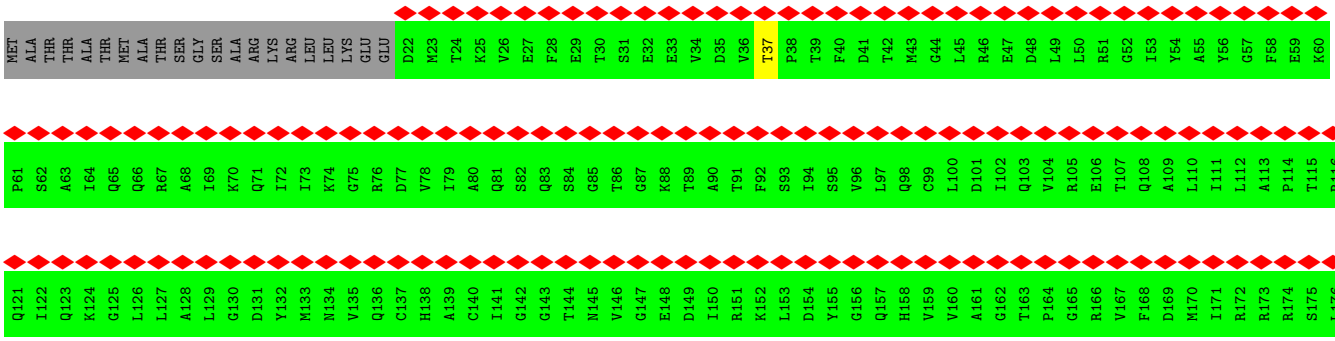
Chain t:

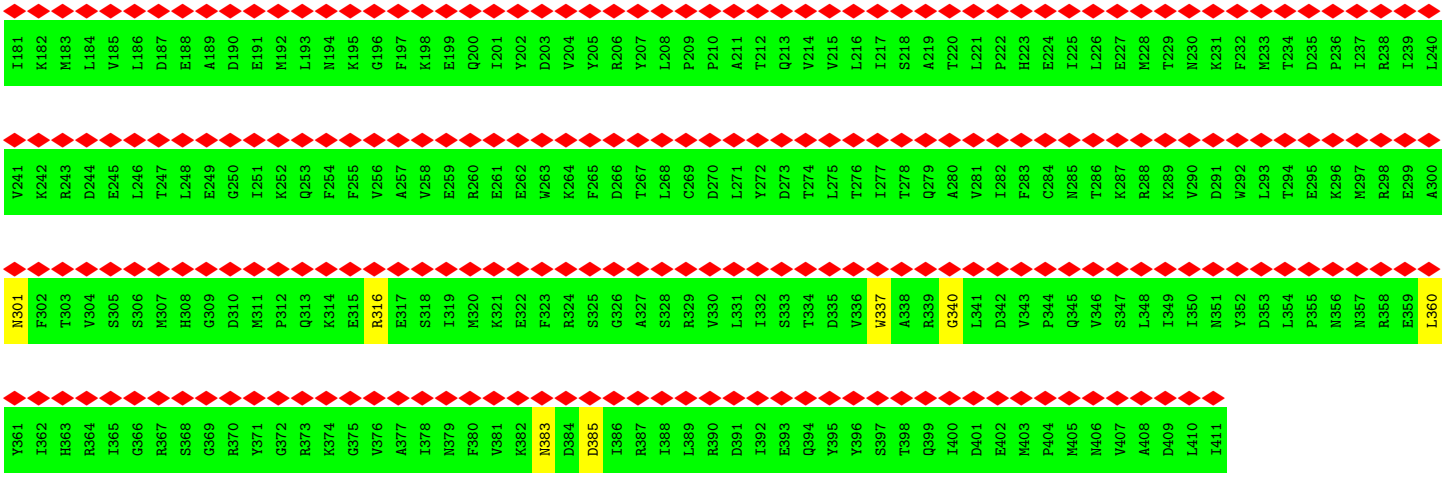


• Molecule 37: Eukaryotic initiation factor 4A-III

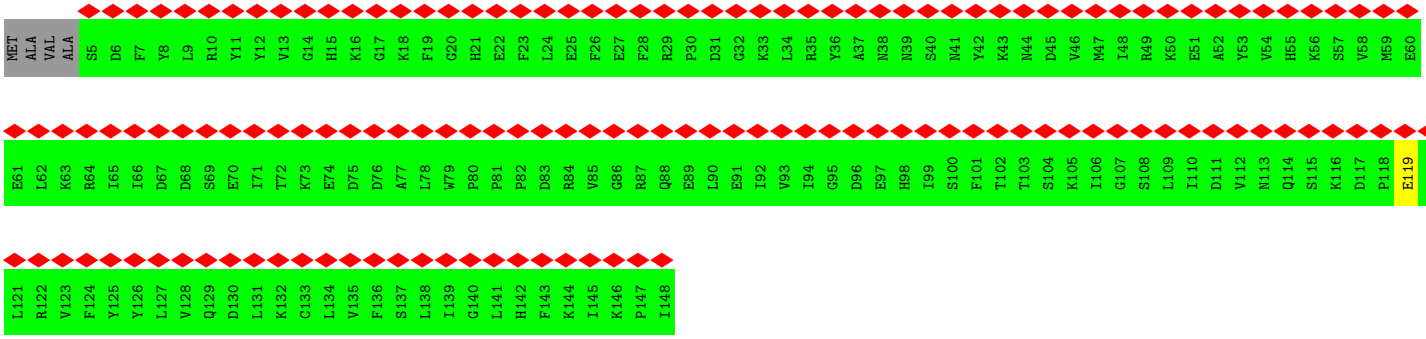
Chain u:



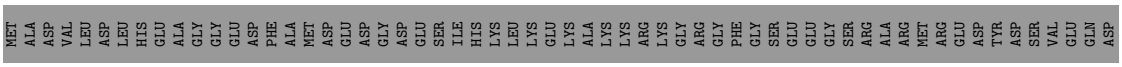


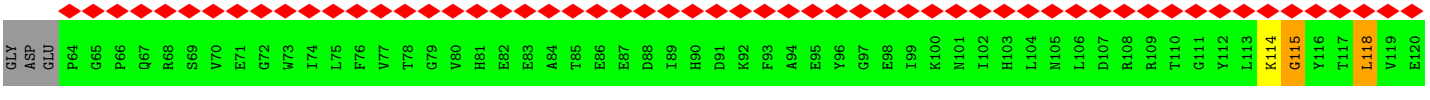


• Molecule 38: Protein mago nashi homolog 2

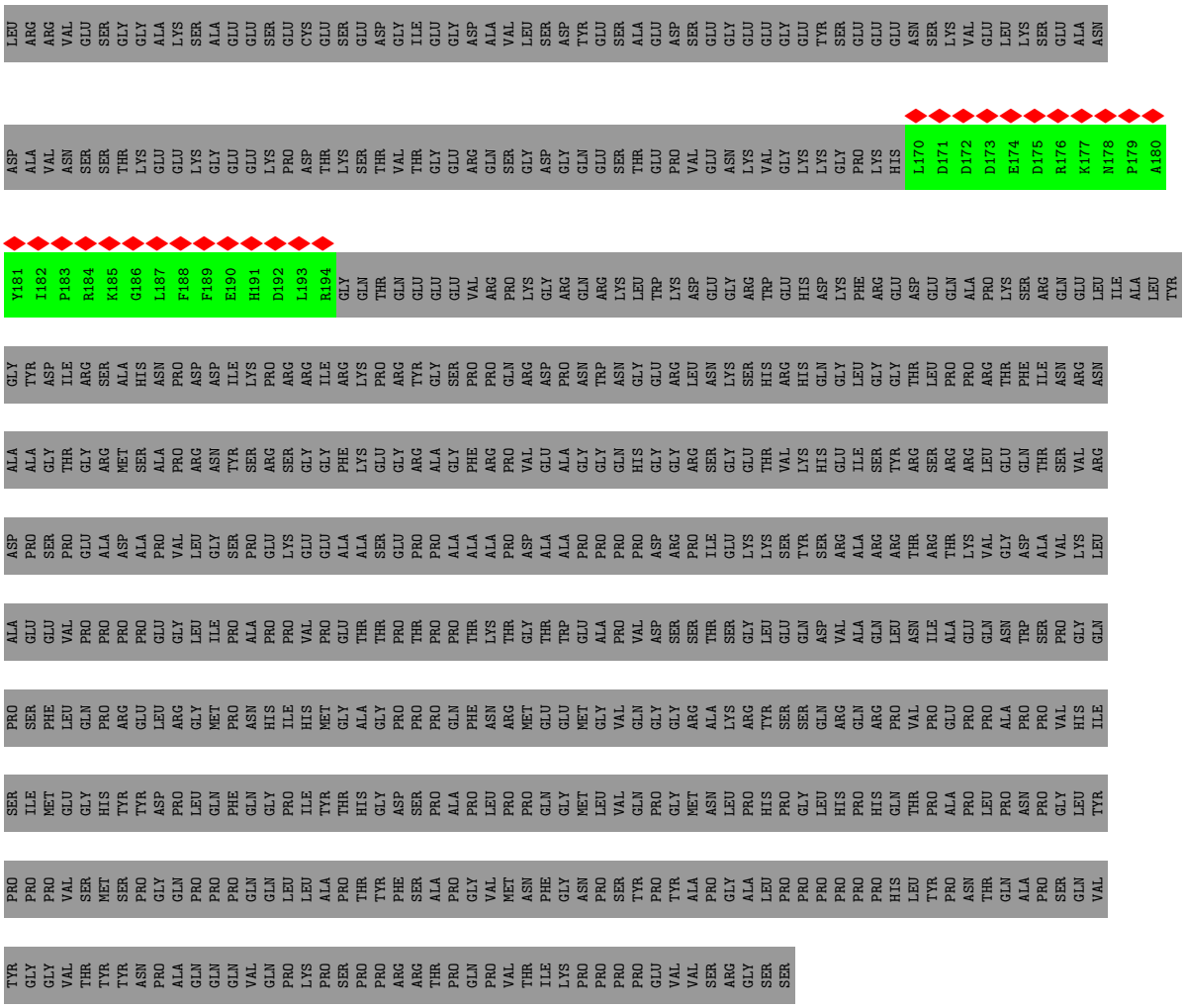


• Molecule 39: RNA-binding protein 8A





• Molecule 40: Protein CASC3


LEU ARG ARG VAL GLU SER GLY GLY ALA LYS SER ALA GLU GLU SER GLU CYS GLU SER GLU ASP GLY ILE GLU GLY ASP ALA VAL LEU SER ASP TYR GLU SER ALA GLU ASP SER GLU GLY GLU GLU GLY GLU TYR SER GLU GLU GLU ASN SER LYS VAL GLU LEU LYS SER GLU ALA ASN
ASP ALA VAL ASN SER SER THR LYS GLU GLU LYS GLY GLU GLU LYS PRO ASP THR LYS SER THR VAL THR GLY GLU ARG GLN SER GLY ASP GLY GLN GLU SER THR GLU PRO VAL GLU ASN LYS VAL GLY LYS LYS GLY PRO LYS HIS L170 D171 D172 D173 E174 D175 R176 K177 N178 P179 A180
Y181 I182 P183 R184 K185 G186 L187 F188 F189 E190 H191 D192 L193 R194 GLY GLN THR GLN GLU GLU GLU VAL ARG PRO LYS GLY ARG GLN ARG LYS LEU TRP LYS ASP GLU GLY ARG TRP GLU HIS ASP LYS PHE ARG GLU ASP GLU GLN ALA PRO LYS SER ARG GLN GLU LEU ILE ALA LEU TYR
GLY TYR ASP ILE ARG SER ALA HIS ASN PRO ASP ASP ILE LYS PRO ARG ARG ILE ARG LYS PRO ARG TYR GLY SER PRO PRO GLN ARG ASP PRO ASN TRP ASN GLY GLU ARG LEU ASN LYS SER HIS ARG HIS GLN GLY LEU GLY GLY THR LEU PRO PRO ARG THR PHE ILE ASN ARG ASN
ALA ALA GLY THR GLY ARG MET SER ALA PRO ARG ASN TYR SER ARG SER GLY GLY PHE LYS GLU GLY GLY ARG PRO VAL GLU ALA GLY GLY GLN HIS GLY GLY ARG SER GLY GLU THR VAL LYS HIS GLU ILE SER TYR ARG SER ARG ARG LEU GLU GLN THR SER VAL ARG
ASP PRO SER PRO GLU ALA ASP ALA PRO VAL LEU GLY SER PRO GLU LYS GLU GLU ALA ALA SER GLU PRO PRO PRO ALA ALA ALA PRO ASP ALA ALA PRO PRO PRO ASP ARG PRO PRO ARG THR LYS VAL GLY ASP ALA VAL LEU
ALA GLU GLU VAL PRO PRO PRO PRO GLU GLY LEU ILE PRO ALA PRO PRO VAL PRO GLU THR THR PRO THR PRO PRO THR THR LYS THR GLY THR TRP GLU ALA PRO VAL ASP SER SER THR SER GLY LEU GLU GLN ASP VAL ALA GLN LEU ASN ILE ALA GLU GLN ASN TRP SER PRO GLY GLN
PRO SER PHE LEU GLN PRO ARG GLU LEU ARG GLY MET PRO ASN HIS ILE HIS MET GLY ALA GLY PRO PRO PRO GLN PHE ASN ARG MET GLU GLU MET GLY VAL GLN GLY GLY ARG ALA LYS ARG TYR SER SER GLN ARG GLN ARG PRO VAL PRO GLU PRO PRO ALA ALA PRO PRO VAL HIS ILE
SER ILE MET GLU GLY HIS TYR TYR ASP PRO LEU GLN PHE GLN GLY PRO ILE TYR THR HIS GLY ASP SER PRO ALA PRO LEU PRO PRO GLN GLY MET LEU VAL GLN PRO GLY MET ASN LEU PRO HIS PRO GLY LEU HIS PRO HIS GLN THR PRO ALA PRO LEU PRO ASN PRO GLY LEU TYR
PRO PRO PRO VAL SER MET SER PRO GLY GLN PRO PRO PRO GLN GLN LEU LEU ALA PRO THR TYR PHE SER ALA PRO GLY VAL MET ASN PHE GLY ASN PRO SER TYR PRO TYR ALA PRO GLY ALA LEU PRO PRO PRO PRO PRO HIS LEU TYR PRO ASN THR GLN ALA PRO SER GLN VAL
TYR GLY GLY VAL THR TYR TYR ASN PRO ALA GLN GLN GLN VAL GLN PRO LYS PRO SER PRO PRO PRO ARG ARG THR PRO GLN PRO VAL THR ILE LYS PRO PRO PRO PRO GLU VAL VAL SER ARG GLY SER SER

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	100085	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.260	Depositor
Minimum map value	-0.149	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	535.2, 535.2, 535.2	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.338, 1.338, 1.338	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.71	1/19149 (0.0%)	0.82	12/25983 (0.0%)
2	B	0.61	1/1970 (0.1%)	0.84	4/3060 (0.1%)
3	C	0.58	0/6950	0.80	7/9443 (0.1%)
4	D	0.37	0/14140	0.58	2/19159 (0.0%)
5	E	0.47	0/2392	0.67	0/3242
6	F	0.48	0/2323	0.76	1/3619 (0.0%)
7	G	0.59	6/1720 (0.3%)	0.82	3/2664 (0.1%)
8	H	0.94	26/3305 (0.8%)	1.62	111/5130 (2.2%)
9	I	1.12	1/2760 (0.0%)	0.63	20/3790 (0.5%)
10	J	0.56	0/3870	0.71	12/5252 (0.2%)
11	K	1.35	16/982 (1.6%)	0.69	5/1318 (0.4%)
12	L	0.62	3/3236 (0.1%)	0.75	8/4346 (0.2%)
13	M	0.55	0/1119	0.77	1/1497 (0.1%)
14	N	0.59	0/1210	0.73	1/1622 (0.1%)
15	O	0.62	0/2344	0.76	2/3163 (0.1%)
16	P	0.63	1/943 (0.1%)	0.90	0/1255
17	Q	0.42	35/11155 (0.3%)	0.41	0/15095
18	R	0.60	0/2091	0.86	3/2809 (0.1%)
19	S	0.46	0/1268	0.70	0/1714
20	T	0.82	0/2526	0.91	2/3443 (0.1%)
21	U	0.78	0/196	0.92	0/265
22	V	0.69	10/3462 (0.3%)	0.63	4/4651 (0.1%)
23	W	0.55	0/4128	0.77	6/5572 (0.1%)
24	X	0.46	0/714	0.72	1/959 (0.1%)
25	Y	0.47	0/3000	0.92	0/3777
26	Z	0.58	0/2049	0.73	0/2757
27	a	0.47	0/646	0.68	0/867
27	h	0.47	0/639	0.68	0/857
28	b	0.53	0/700	0.82	0/933
28	i	0.53	0/700	0.82	0/933
29	c	0.56	0/657	0.77	0/888
29	j	0.56	0/657	0.77	0/888

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
30	d	0.69	0/786	0.86	0/1053
30	k	0.69	0/696	0.86	0/935
31	f	0.81	0/588	0.84	0/795
31	m	0.81	0/588	0.84	0/795
32	e	0.61	0/660	0.83	0/886
32	l	0.61	0/660	0.83	0/886
33	g	0.52	0/584	0.78	0/779
33	n	0.53	0/548	0.80	0/729
34	o	0.59	0/1299	1.63	17/1761 (1.0%)
35	p	0.56	0/774	1.35	6/1035 (0.6%)
36	q	1.07	4/929 (0.4%)	0.70	3/1260 (0.2%)
36	r	1.08	4/912 (0.4%)	0.71	3/1239 (0.2%)
36	s	1.06	4/928 (0.4%)	0.72	4/1258 (0.3%)
36	t	1.08	4/917 (0.4%)	0.69	4/1245 (0.3%)
37	u	0.38	0/3179	0.65	0/4291
38	v	0.38	0/1225	0.60	0/1648
39	w	0.36	0/748	0.71	3/1012 (0.3%)
40	x	0.43	0/221	0.66	0/296
All	All	0.63	116/119243 (0.1%)	0.79	245/162854 (0.2%)

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	3
3	C	0	4
4	D	0	1
9	I	0	2
12	L	0	2
14	N	0	2
15	O	0	1
18	R	0	1
20	T	0	2
24	X	0	2
25	Y	0	15
26	Z	0	2
30	d	0	1
30	k	0	1
All	All	0	39

All (116) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	I	283	ILE	C-N	-55.29	0.06	1.34
11	K	106	CYS	CB-SG	-23.17	1.42	1.82
22	V	591	CYS	CB-SG	-18.62	1.50	1.82
11	K	132	CYS	CB-SG	-17.43	1.52	1.82
36	q	16	CYS	CB-SG	-17.41	1.52	1.82
36	s	16	CYS	CB-SG	-17.34	1.52	1.82
36	t	16	CYS	CB-SG	-17.32	1.52	1.82
36	r	16	CYS	CB-SG	-17.19	1.53	1.82
36	r	114	CYS	CB-SG	-16.94	1.53	1.82
22	V	567	CYS	CB-SG	-16.82	1.53	1.82
36	t	114	CYS	CB-SG	-16.70	1.53	1.82
36	q	114	CYS	CB-SG	-16.54	1.54	1.82
36	s	114	CYS	CB-SG	-16.29	1.54	1.82
36	q	47	LEU	CB-CG	10.00	1.81	1.52
36	s	47	LEU	CB-CG	9.96	1.81	1.52
36	r	47	LEU	CB-CG	9.94	1.81	1.52
36	t	47	LEU	CB-CG	9.90	1.81	1.52
11	K	163	LEU	CB-CG	9.81	1.80	1.52
11	K	195	ILE	CB-CG1	9.62	1.80	1.54
12	L	761	SER	CB-OG	8.94	1.53	1.42
11	K	128	SER	CB-OG	8.42	1.53	1.42
7	G	21	A	O3'-P	-8.38	1.51	1.61
11	K	183	SER	CB-OG	8.28	1.53	1.42
36	t	89	SER	CB-OG	8.24	1.52	1.42
36	s	89	SER	CB-OG	8.19	1.52	1.42
36	r	89	SER	CB-OG	8.15	1.52	1.42
11	K	187	SER	CB-OG	8.07	1.52	1.42
36	q	89	SER	CB-OG	8.04	1.52	1.42
11	K	190	SER	CB-OG	7.99	1.52	1.42
12	L	726	SER	CB-OG	7.93	1.52	1.42
8	H	142	C	C1'-N1	7.46	1.59	1.48
8	H	77	C	C1'-N1	7.44	1.59	1.48
22	V	563	SER	CB-OG	6.96	1.51	1.42
2	B	103	G	C1'-N9	-6.95	1.37	1.46
8	H	55	U	C1'-N1	6.94	1.59	1.48
8	H	89	U	C1'-N1	6.92	1.59	1.48
7	G	-22	G	C1'-N9	-6.91	1.37	1.46
8	H	54	U	C1'-N1	6.88	1.59	1.48
8	H	72	U	C1'-N1	6.88	1.59	1.48
8	H	69	U	C1'-N1	6.88	1.59	1.48
8	H	92	U	C1'-N1	6.86	1.59	1.48
8	H	74	U	C1'-N1	6.86	1.59	1.48
8	H	60	U	C1'-N1	6.85	1.59	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	H	91	U	C1'-N1	6.84	1.59	1.48
8	H	150	U	C1'-N1	6.84	1.59	1.48
8	H	182	U	C1'-N1	6.83	1.58	1.48
22	V	556	TYR	CB-CG	-6.81	1.41	1.51
8	H	58	U	C1'-N1	6.80	1.58	1.48
1	A	2223	CYS	CB-SG	-6.73	1.70	1.82
7	G	-23	G	C1'-N9	-6.53	1.37	1.46
12	L	724	TYR	CB-CG	-6.51	1.41	1.51
8	H	97	G	C1'-N9	-6.40	1.37	1.46
8	H	151	C	C1'-N1	6.39	1.58	1.48
11	K	138	TYR	CB-CG	-6.39	1.42	1.51
8	H	141	C	C1'-N1	6.37	1.58	1.48
8	H	184	C	C1'-N1	6.36	1.58	1.48
8	H	73	C	C1'-N1	6.31	1.58	1.48
11	K	93	SER	CB-OG	6.30	1.50	1.42
11	K	43	TYR	CB-CG	-6.30	1.42	1.51
8	H	84	C	C1'-N1	6.30	1.58	1.48
8	H	148	C	C1'-N1	6.29	1.58	1.48
8	H	71	C	C1'-N1	6.26	1.58	1.48
8	H	67	C	C1'-N1	6.25	1.58	1.48
7	G	-20	A	C1'-N9	-6.20	1.38	1.46
8	H	70	C	C1'-N1	6.20	1.58	1.48
7	G	-19	A	C1'-N9	-6.19	1.38	1.46
8	H	78	C	C1'-N1	6.17	1.58	1.48
7	G	-21	A	C1'-N9	-5.80	1.38	1.46
17	Q	991	MET	CG-SD	5.76	1.96	1.81
17	Q	1358	MET	CG-SD	5.76	1.96	1.81
17	Q	244	MET	CG-SD	5.76	1.96	1.81
17	Q	79	MET	CG-SD	5.75	1.96	1.81
17	Q	1107	MET	CG-SD	5.74	1.96	1.81
17	Q	176	MET	CG-SD	5.72	1.96	1.81
17	Q	1294	MET	CG-SD	5.72	1.96	1.81
17	Q	424	MET	CG-SD	5.71	1.96	1.81
17	Q	705	MET	CG-SD	5.68	1.96	1.81
22	V	606	GLU	CB-CG	-5.66	1.41	1.52
22	V	488	GLU	CB-CG	-5.65	1.41	1.52
17	Q	510	MET	CG-SD	5.61	1.95	1.81
17	Q	941	MET	CG-SD	5.61	1.95	1.81
22	V	578	SER	CB-OG	5.60	1.49	1.42
11	K	40	THR	CB-OG1	5.59	1.54	1.43
17	Q	207	MET	CG-SD	5.58	1.95	1.81
17	Q	1368	MET	CG-SD	5.58	1.95	1.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	Q	638	MET	CG-SD	5.57	1.95	1.81
17	Q	257	MET	CG-SD	5.56	1.95	1.81
17	Q	1214	MET	CG-SD	5.56	1.95	1.81
17	Q	1370	MET	CG-SD	5.50	1.95	1.81
17	Q	600	MET	CG-SD	5.50	1.95	1.81
17	Q	1212	MET	CG-SD	5.49	1.95	1.81
17	Q	174	MET	CG-SD	5.48	1.95	1.81
17	Q	657	MET	CG-SD	5.46	1.95	1.81
17	Q	677	MET	CG-SD	5.45	1.95	1.81
17	Q	1361	MET	CG-SD	5.44	1.95	1.81
22	V	645	GLU	CB-CG	-5.39	1.42	1.52
17	Q	92	MET	CG-SD	5.38	1.95	1.81
17	Q	1037	MET	CG-SD	5.32	1.95	1.81
22	V	607	THR	CB-OG1	5.29	1.53	1.43
17	Q	492	MET	CG-SD	5.29	1.94	1.81
11	K	30	GLU	CB-CG	-5.28	1.42	1.52
17	Q	97	MET	CG-SD	5.27	1.94	1.81
17	Q	304	MET	CG-SD	5.26	1.94	1.81
17	Q	1061	MET	CG-SD	5.21	1.94	1.81
17	Q	326	MET	CG-SD	5.20	1.94	1.81
17	Q	1093	MET	CG-SD	5.19	1.94	1.81
11	K	186	VAL	CA-CB	-5.17	1.43	1.54
17	Q	65	MET	CG-SD	5.17	1.94	1.81
11	K	137	VAL	CB-CG1	-5.15	1.42	1.52
17	Q	814	MET	CG-SD	5.15	1.94	1.81
16	P	30	TYR	CB-CG	-5.14	1.44	1.51
8	H	110	A	C1'-N9	-5.14	1.39	1.46
17	Q	1115	MET	CG-SD	5.12	1.94	1.81
11	K	119	VAL	CB-CG1	-5.11	1.42	1.52
22	V	605	ASP	CB-CG	-5.08	1.41	1.51
17	Q	867	MET	CG-SD	5.04	1.94	1.81

All (245) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	I	283	ILE	C-N-CA	-16.67	80.03	121.70
34	o	55	ARG	NE-CZ-NH1	15.06	127.83	120.30
34	o	55	ARG	CD-NE-CZ	13.76	142.86	123.60
3	C	939	ARG	NE-CZ-NH1	13.01	126.80	120.30
8	H	167	U	C5-C4-O4	11.89	133.03	125.90
34	o	55	ARG	NE-CZ-NH2	-11.43	114.58	120.30
34	o	75	ARG	NE-CZ-NH1	-11.38	114.61	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	H	164	C	N1-C2-O2	-10.16	112.81	118.90
6	F	56	A	O5'-P-OP1	-8.94	97.65	105.70
8	H	162	U	N3-C2-O2	-8.90	115.97	122.20
35	p	80	ARG	CD-NE-CZ	8.90	136.07	123.60
35	p	25	ARG	NE-CZ-NH1	8.86	124.73	120.30
11	K	90	PRO	CA-CB-CG	8.68	121.29	104.80
2	B	20	G	N9-C1'-C2'	8.50	125.05	114.00
3	C	939	ARG	NE-CZ-NH2	-8.41	116.09	120.30
10	J	195	LEU	CB-CG-CD2	-8.39	96.74	111.00
8	H	164	C	C5'-C4'-O4'	-8.31	99.12	109.10
8	H	169	C	P-O3'-C3'	8.20	129.53	119.70
8	H	166	G	O4'-C1'-N9	7.97	114.58	108.20
8	H	167	U	N3-C4-O4	-7.96	113.82	119.40
18	R	180	THR	C-N-CD	-7.94	103.13	120.60
23	W	257	ILE	C-N-CD	-7.63	103.82	120.60
34	o	107	ASP	CB-CG-OD1	7.60	125.14	118.30
8	H	164	C	P-O3'-C3'	7.52	128.73	119.70
1	A	663	ARG	NE-CZ-NH1	-7.51	116.54	120.30
8	H	164	C	N3-C2-O2	7.46	127.12	121.90
8	H	167	U	N1-C2-O2	7.45	128.02	122.80
34	o	27	ARG	NE-CZ-NH2	-7.39	116.60	120.30
1	A	682	ASP	CB-CG-OD2	7.35	124.92	118.30
23	W	278	LYS	CB-CA-C	-7.25	95.90	110.40
8	H	77	C	OP2-P-O3'	7.25	121.14	105.20
8	H	114	A	OP2-P-O3'	7.24	121.12	105.20
8	H	57	A	OP2-P-O3'	7.24	121.12	105.20
8	H	141	C	OP2-P-O3'	7.24	121.12	105.20
8	H	149	A	OP2-P-O3'	7.23	121.11	105.20
8	H	54	U	OP2-P-O3'	7.23	121.11	105.20
8	H	59	A	OP2-P-O3'	7.23	121.10	105.20
8	H	180	G	OP2-P-O3'	7.23	121.10	105.20
8	H	148	C	OP2-P-O3'	7.22	121.09	105.20
8	H	70	C	OP2-P-O3'	7.22	121.09	105.20
8	H	89	U	OP2-P-O3'	7.22	121.08	105.20
8	H	73	C	OP2-P-O3'	7.22	121.08	105.20
8	H	92	U	OP2-P-O3'	7.22	121.08	105.20
8	H	88	A	OP2-P-O3'	7.21	121.07	105.20
8	H	91	U	OP2-P-O3'	7.21	121.07	105.20
8	H	71	C	OP2-P-O3'	7.21	121.06	105.20
8	H	113	G	OP2-P-O3'	7.21	121.06	105.20
8	H	82	G	OP2-P-O3'	7.21	121.06	105.20
8	H	183	G	OP2-P-O3'	7.21	121.06	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	H	69	U	OP2-P-O3'	7.21	121.06	105.20
8	H	72	U	OP2-P-O3'	7.21	121.06	105.20
8	H	81	G	OP2-P-O3'	7.21	121.05	105.20
8	H	150	U	OP2-P-O3'	7.20	121.05	105.20
8	H	68	G	OP2-P-O3'	7.20	121.03	105.20
8	H	84	C	OP2-P-O3'	7.20	121.04	105.20
8	H	90	A	OP2-P-O3'	7.20	121.04	105.20
8	H	182	U	OP2-P-O3'	7.20	121.03	105.20
8	H	80	A	OP2-P-O3'	7.20	121.03	105.20
8	H	67	C	OP2-P-O3'	7.20	121.03	105.20
8	H	74	U	OP2-P-O3'	7.20	121.03	105.20
8	H	56	A	OP2-P-O3'	7.19	121.03	105.20
8	H	83	A	OP2-P-O3'	7.19	121.02	105.20
8	H	78	C	OP2-P-O3'	7.19	121.02	105.20
8	H	93	A	OP2-P-O3'	7.19	121.02	105.20
8	H	55	U	OP2-P-O3'	7.19	121.01	105.20
8	H	58	U	OP2-P-O3'	7.18	121.00	105.20
8	H	181	G	OP2-P-O3'	7.18	120.99	105.20
8	H	79	G	OP2-P-O3'	7.15	120.94	105.20
8	H	168	A	P-O5'-C5'	-7.10	109.53	120.90
36	s	60	PRO	N-CA-CB	7.09	111.81	103.30
8	H	167	U	N3-C2-O2	-6.96	117.33	122.20
1	A	1310	ARG	NE-CZ-NH2	-6.94	116.83	120.30
8	H	82	G	O3'-P-O5'	-6.82	91.04	104.00
8	H	181	G	O3'-P-O5'	-6.80	91.07	104.00
8	H	80	A	O3'-P-O5'	-6.80	91.08	104.00
8	H	59	A	O3'-P-O5'	-6.80	91.08	104.00
8	H	180	G	O3'-P-O5'	-6.80	91.09	104.00
8	H	150	U	O3'-P-O5'	-6.79	91.09	104.00
2	B	104	C	C2'-C3'-O3'	-6.79	94.55	109.50
8	H	55	U	O3'-P-O5'	-6.79	91.09	104.00
8	H	78	C	O3'-P-O5'	-6.79	91.09	104.00
8	H	88	A	O3'-P-O5'	-6.79	91.09	104.00
8	H	183	G	O3'-P-O5'	-6.79	91.09	104.00
8	H	149	A	O3'-P-O5'	-6.79	91.11	104.00
8	H	68	G	O3'-P-O5'	-6.79	91.11	104.00
8	H	73	C	O3'-P-O5'	-6.79	91.11	104.00
8	H	81	G	O3'-P-O5'	-6.79	91.11	104.00
8	H	83	A	O3'-P-O5'	-6.79	91.11	104.00
8	H	92	U	O3'-P-O5'	-6.79	91.11	104.00
8	H	56	A	O3'-P-O5'	-6.78	91.11	104.00
8	H	72	U	O3'-P-O5'	-6.78	91.11	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	H	141	C	O3'-P-O5'	-6.78	91.11	104.00
8	H	77	C	O3'-P-O5'	-6.78	91.12	104.00
8	H	84	C	O3'-P-O5'	-6.78	91.11	104.00
8	H	93	A	O3'-P-O5'	-6.78	91.12	104.00
8	H	89	U	O3'-P-O5'	-6.78	91.12	104.00
8	H	54	U	O3'-P-O5'	-6.78	91.12	104.00
8	H	182	U	O3'-P-O5'	-6.78	91.13	104.00
8	H	91	U	O3'-P-O5'	-6.77	91.13	104.00
8	H	70	C	O3'-P-O5'	-6.77	91.14	104.00
8	H	57	A	O3'-P-O5'	-6.77	91.14	104.00
8	H	67	C	O3'-P-O5'	-6.77	91.14	104.00
8	H	79	G	O3'-P-O5'	-6.77	91.14	104.00
8	H	90	A	O3'-P-O5'	-6.77	91.14	104.00
8	H	113	G	O3'-P-O5'	-6.77	91.14	104.00
8	H	69	U	O3'-P-O5'	-6.77	91.14	104.00
8	H	74	U	O3'-P-O5'	-6.76	91.15	104.00
10	J	188	GLN	N-CA-C	-6.76	92.76	111.00
8	H	148	C	O3'-P-O5'	-6.75	91.17	104.00
8	H	71	C	O3'-P-O5'	-6.75	91.18	104.00
34	o	23	GLU	OE1-CD-OE2	-6.75	115.20	123.30
8	H	58	U	O3'-P-O5'	-6.74	91.19	104.00
8	H	114	A	O3'-P-O5'	-6.74	91.20	104.00
8	H	155	C	P-O3'-C3'	6.73	127.77	119.70
35	p	89	ASP	CB-CG-OD1	6.69	124.32	118.30
8	H	166	G	C8-N9-C4	-6.66	103.74	106.40
36	t	60	PRO	N-CA-CB	6.65	111.28	103.30
36	q	46	PRO	N-CA-CB	6.64	111.27	103.30
3	C	776	GLU	N-CA-C	6.62	128.89	111.00
1	A	1370	ARG	NE-CZ-NH1	-6.60	117.00	120.30
23	W	279	LYS	N-CA-C	-6.57	93.26	111.00
11	K	90	PRO	N-CA-CB	6.55	111.16	103.30
36	s	46	PRO	N-CA-CB	6.53	111.14	103.30
36	r	46	PRO	N-CA-CB	6.51	111.12	103.30
10	J	188	GLN	N-CA-CB	6.48	122.27	110.60
3	C	91	GLU	C-N-CD	-6.47	106.36	120.60
36	q	60	PRO	N-CA-CB	6.47	111.07	103.30
23	W	251	GLY	N-CA-C	-6.45	96.97	113.10
39	w	114	LYS	N-CA-C	-6.43	93.65	111.00
7	G	131	U	C2'-C3'-O3'	-6.34	95.55	109.50
3	C	262	ARG	NE-CZ-NH2	-6.33	117.13	120.30
8	H	166	G	N9-C4-C5	6.31	107.92	105.40
11	K	78	PRO	N-CA-CB	6.31	110.87	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	I	589	PRO	N-CA-CB	6.30	110.87	103.30
34	o	5	THR	N-CA-CB	-6.30	98.33	110.30
8	H	165	A	O4'-C1'-N9	-6.29	103.17	108.20
9	I	475	PRO	N-CA-CB	6.29	110.85	103.30
23	W	108	ARG	NE-CZ-NH2	-6.28	117.16	120.30
39	w	118	LEU	CA-CB-CG	6.26	129.71	115.30
11	K	107	VAL	CA-CB-CG1	6.22	120.23	110.90
9	I	551	PRO	N-CA-CB	6.17	110.71	103.30
4	D	1276	LEU	CA-CB-CG	6.17	129.49	115.30
3	C	144	CYS	N-CA-CB	6.14	121.66	110.60
12	L	546	PRO	N-CA-CB	6.14	110.66	103.30
9	I	162	PRO	N-CA-CB	6.13	110.66	103.30
7	G	21	A	O3'-P-O5'	6.13	115.65	104.00
8	H	166	G	N3-C4-C5	-6.13	125.53	128.60
9	I	232	PRO	N-CA-CB	6.10	110.62	103.30
9	I	788	PRO	N-CA-CB	6.09	110.61	103.30
12	L	558	PRO	N-CA-CB	6.07	110.58	103.30
8	H	162	U	N1-C2-O2	6.07	127.05	122.80
9	I	177	PRO	N-CA-CB	6.05	110.56	103.30
34	o	132	ARG	CD-NE-CZ	6.02	132.03	123.60
9	I	394	PRO	N-CA-CB	6.01	110.51	103.30
9	I	371	PRO	N-CA-CB	6.00	110.50	103.30
9	I	816	PRO	N-CA-CB	5.99	110.48	103.30
35	p	25	ARG	CD-NE-CZ	5.97	131.96	123.60
10	J	523	PRO	N-CA-CB	5.97	110.46	103.30
9	I	160	PRO	N-CA-CB	5.96	110.45	103.30
34	o	21	ASP	CB-CG-OD1	5.94	123.65	118.30
12	L	563	PRO	N-CA-CB	5.93	110.41	103.30
13	M	119	ASN	C-N-CD	-5.92	107.56	120.60
36	t	46	PRO	N-CA-CB	5.92	110.40	103.30
18	R	178	ARG	NE-CZ-NH1	5.91	123.26	120.30
10	J	670	PRO	N-CA-CB	5.91	110.39	103.30
10	J	637	PRO	N-CA-CB	5.91	110.39	103.30
10	J	488	PRO	N-CA-CB	5.90	110.38	103.30
10	J	675	PRO	N-CA-CB	5.89	110.37	103.30
9	I	387	PRO	N-CA-CB	5.88	110.36	103.30
10	J	604	PRO	N-CA-CB	5.88	110.36	103.30
9	I	342	PRO	N-CA-CB	5.86	110.33	103.30
8	H	168	A	C5'-C4'-C3'	-5.86	106.63	116.00
34	o	27	ARG	CB-CA-C	-5.85	98.70	110.40
24	X	59	PRO	C-N-CD	-5.84	107.76	120.60
36	q	19	PRO	N-CA-CB	5.84	110.31	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	V	621	PRO	N-CA-CB	5.83	110.30	103.30
2	B	26	A	P-O5'-C5'	-5.83	111.58	120.90
7	G	21	A	P-O3'-C3'	-5.83	112.71	119.70
8	H	172	C	P-O3'-C3'	5.82	126.69	119.70
12	L	564	PRO	N-CA-CB	5.79	110.25	103.30
8	H	164	C	C5-C4-N4	-5.79	116.14	120.20
12	L	548	PRO	N-CA-CB	5.79	110.25	103.30
9	I	518	PRO	N-CA-CB	5.78	110.23	103.30
9	I	283	ILE	CA-C-N	-5.77	104.50	117.20
12	L	620	PRO	N-CA-CB	5.77	110.22	103.30
10	J	566	PRO	N-CA-CB	5.75	110.20	103.30
34	o	78	ARG	NE-CZ-NH2	-5.75	117.43	120.30
1	A	570	ASP	CB-CG-OD1	5.74	123.47	118.30
10	J	551	PRO	N-CA-CB	5.74	110.19	103.30
34	o	64	ARG	NE-CZ-NH1	5.74	123.17	120.30
36	r	19	PRO	N-CA-CB	5.74	110.19	103.30
8	H	156	U	P-O3'-C3'	-5.73	112.83	119.70
8	H	167	U	O3'-P-O5'	-5.72	93.12	104.00
12	L	594	PRO	N-CA-CB	5.72	110.16	103.30
36	t	19	PRO	N-CA-CB	5.71	110.15	103.30
9	I	588	PRO	N-CA-CB	5.70	110.14	103.30
34	o	75	ARG	NH1-CZ-NH2	5.70	125.67	119.40
10	J	522	PRO	N-CA-CB	5.66	110.10	103.30
8	H	166	G	C6-N1-C2	-5.64	121.72	125.10
22	V	636	LEU	CA-CB-CG	5.63	128.26	115.30
11	K	93	SER	N-CA-CB	-5.62	102.07	110.50
15	O	28	LEU	CB-CG-CD1	5.62	120.55	111.00
34	o	58	ASP	N-CA-CB	-5.58	100.56	110.60
36	s	19	PRO	N-CA-CB	5.56	109.97	103.30
9	I	463	PRO	N-CA-CB	5.56	109.97	103.30
20	T	318	ARG	NE-CZ-NH1	5.56	123.08	120.30
12	L	774	VAL	CA-CB-CG2	5.51	119.17	110.90
1	A	1190	CYS	CB-CA-C	5.51	121.41	110.40
3	C	776	GLU	CB-CA-C	-5.50	99.41	110.40
1	A	781	ARG	NE-CZ-NH2	-5.48	117.56	120.30
36	r	60	PRO	N-CA-CB	5.47	109.86	103.30
9	I	625	PRO	N-CA-CB	5.47	109.86	103.30
9	I	761	PRO	N-CA-CB	5.46	109.85	103.30
1	A	2310	ARG	CG-CD-NE	5.40	123.14	111.80
8	H	156	U	OP2-P-O3'	5.36	117.00	105.20
2	B	20	G	O4'-C1'-N9	5.36	112.48	108.20
1	A	1190	CYS	CA-CB-SG	-5.35	104.38	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	H	157	G	O4'-C1'-N9	-5.34	103.93	108.20
18	R	267	ARG	N-CA-C	5.34	125.42	111.00
8	H	106	G	O5'-P-OP1	5.33	117.09	110.70
34	o	47	ILE	N-CA-CB	5.33	123.05	110.80
35	p	39	ASP	CB-CG-OD2	-5.29	113.54	118.30
8	H	170	C	N3-C4-C5	-5.26	119.80	121.90
4	D	501	LEU	CA-CB-CG	5.24	127.36	115.30
15	O	181	TYR	CG-CD2-CE2	-5.24	117.11	121.30
39	w	115	GLY	N-CA-C	5.22	126.15	113.10
35	p	39	ASP	CB-CG-OD1	5.17	122.95	118.30
20	T	220	VAL	CB-CA-C	-5.17	101.58	111.40
8	H	157	G	P-O5'-C5'	-5.17	112.63	120.90
8	H	162	U	C2-N3-C4	-5.17	123.90	127.00
8	H	160	A	P-O5'-C5'	-5.17	112.64	120.90
1	A	1189	MET	CB-CG-SD	5.16	127.89	112.40
8	H	160	A	C4'-C3'-C2'	-5.16	97.44	102.60
22	V	485	GLN	CA-CB-CG	-5.15	102.08	113.40
8	H	156	U	C4'-C3'-C2'	5.13	107.73	102.60
14	N	101	CYS	CB-CA-C	-5.11	100.19	110.40
8	H	176	G	OP1-P-OP2	-5.08	111.98	119.60
23	W	279	LYS	N-CA-CB	5.08	119.74	110.60
8	H	170	C	O4'-C1'-C2'	-5.07	100.73	105.80
1	A	686	ARG	NE-CZ-NH2	-5.06	117.77	120.30
1	A	2319	LEU	CB-CG-CD2	5.03	119.56	111.00
22	V	577	SER	N-CA-CB	-5.03	102.96	110.50
34	o	99	SER	N-CA-CB	-5.03	102.96	110.50
36	t	46	PRO	CA-CB-CG	5.02	114.33	104.80
36	s	60	PRO	CA-CB-CG	5.00	114.31	104.80

There are no chirality outliers.

All (39) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	166	PHE	Peptide
1	A	81	PHE	Peptide
1	A	941	LYS	Peptide
3	C	622	GLU	Peptide
3	C	736	GLY	Peptide
3	C	823	ALA	Peptide
3	C	88	PRO	Peptide
4	D	430	LEU	Peptide
9	I	283	ILE	Mainchain,Peptide

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Mol	Chain	Res	Type	Group
12	L	130	PRO	Peptide
12	L	201	LYS	Peptide
14	N	101	CYS	Peptide
14	N	36	PRO	Peptide
15	O	63	MET	Peptide
18	R	94	GLY	Peptide
20	T	400	PHE	Mainchain,Peptide
24	X	59	PRO	Mainchain,Peptide
25	Y	1098	LYS	Peptide
25	Y	1127	LEU	Peptide
25	Y	1163	ARG	Peptide
25	Y	1187	THR	Peptide
25	Y	515	ASP	Peptide
25	Y	550	TYR	Peptide
25	Y	563	GLU	Peptide
25	Y	636	CYS	Peptide
25	Y	662	THR	Peptide
25	Y	811	PRO	Peptide
25	Y	855	VAL	Peptide
25	Y	868	LYS	Peptide
25	Y	938	ASN	Peptide
25	Y	963	THR	Peptide
25	Y	993	LEU	Peptide
26	Z	151	PRO	Peptide
26	Z	155	VAL	Peptide
30	d	112	ASN	Peptide
30	k	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	18633	0	18480	806	0
2	B	1768	0	897	43	0
3	C	6798	0	6815	569	0
4	D	13846	0	13985	360	0
5	E	2338	0	2272	148	0
6	F	2075	0	1048	159	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	G	1551	0	785	173	0
8	H	2966	0	1505	231	0
9	I	2792	0	1249	41	0
10	J	3829	0	2906	138	0
11	K	980	0	741	10	0
12	L	3205	0	2777	206	0
13	M	1098	0	1080	168	0
14	N	1184	0	1189	61	0
15	O	2296	0	2283	187	0
16	P	929	0	910	97	0
17	Q	10885	0	10852	69	0
18	R	2073	0	2115	274	0
19	S	1236	0	1208	131	0
20	T	2461	0	2420	156	0
21	U	193	0	194	17	0
22	V	3419	0	3300	241	0
23	W	4023	0	3938	825	0
24	X	701	0	631	28	0
25	Y	2995	0	992	14	0
26	Z	1999	0	1951	138	0
27	a	640	0	657	0	0
27	h	633	0	645	0	0
28	b	690	0	712	0	0
28	i	690	0	712	0	0
29	c	649	0	693	0	0
29	j	649	0	693	0	0
30	d	776	0	819	0	0
30	k	688	0	709	0	0
31	f	576	0	589	0	0
31	m	576	0	589	0	0
32	e	652	0	668	0	0
32	l	652	0	668	0	0
33	g	577	0	603	0	0
33	n	542	0	568	0	0
34	o	1282	0	1305	0	0
35	p	760	0	783	0	0
36	q	918	0	801	0	0
36	r	901	0	777	0	0
36	s	917	0	798	0	0
36	t	906	0	785	0	0
37	u	3130	0	3172	0	0
38	v	1196	0	1182	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
39	w	730	0	690	0	0
40	x	216	0	202	0	0
41	A	36	0	6	4	0
42	C	32	0	12	4	0
43	C	1	0	0	0	0
43	D	1	0	0	0	0
43	F	6	0	0	0	0
43	Q	2	0	0	0	0
43	u	1	0	0	0	0
44	D	54	0	24	3	0
45	N	3	0	0	0	0
45	O	3	0	0	0	0
45	Z	1	0	0	0	0
46	Q	31	0	12	0	0
46	u	31	0	12	0	0
All	All	116421	0	106409	4719	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 23.

All (4719) 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:264:PHE:CE1	1:A:459:LEU:HD13	1.13	1.65
1:A:264:PHE:CE1	1:A:459:LEU:CD1	1.79	1.64
11:K:163:LEU:CB	11:K:163:LEU:CG	1.81	1.57
9:I:371:PRO:CB	17:Q:357:ALA:CB	1.81	1.53
9:I:511:LEU:CB	9:I:547:LEU:CB	1.80	1.53
11:K:195:ILE:CB	11:K:195:ILE:CG1	1.81	1.53
9:I:343:LEU:HA	17:Q:527:ILE:CB	1.36	1.53
9:I:371:PRO:CB	17:Q:357:ALA:HB2	1.35	1.51
23:W:536:ASP:HB2	23:W:543:TYR:CE2	1.47	1.50
12:L:144:MET:CE	12:L:149:LEU:HD23	1.40	1.50
5:E:146:ARG:NH1	5:E:148:LYS:CE	1.75	1.49
23:W:536:ASP:CB	23:W:543:TYR:CE2	1.95	1.49
23:W:528:GLY:HA2	23:W:552:VAL:CG2	1.46	1.46
23:W:536:ASP:HB2	23:W:543:TYR:CD2	1.52	1.44
5:E:146:ARG:NH1	5:E:148:LYS:HE3	1.24	1.43
1:A:47:GLU:O	1:A:50:LYS:CG	1.67	1.42
23:W:488:PHE:CE1	23:W:496:LEU:HB3	1.52	1.42
3:C:680:ASN:OD1	3:C:682:LYS:CG	1.65	1.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:39:PHE:CB	19:S:129:PHE:CZ	2.02	1.40
19:S:39:PHE:HB2	19:S:129:PHE:CZ	1.55	1.40
19:S:39:PHE:CG	19:S:129:PHE:HE2	1.40	1.39
3:C:670:SER:HA	3:C:823:ALA:CB	1.52	1.37
6:F:57:U:O2'	16:P:8:THR:HG21	1.18	1.34
9:I:370:ARG:CB	17:Q:355:ASN:HB3	1.57	1.33
3:C:679:PRO:HB2	3:C:807:GLN:OE1	1.19	1.32
9:I:370:ARG:CB	17:Q:355:ASN:CG	1.98	1.32
10:J:191:ALA:O	10:J:193:GLN:N	1.61	1.31
23:W:162:ASN:HD22	23:W:165:LEU:CD2	1.41	1.31
22:V:536:ILE:CG2	22:V:579:SER:CB	2.10	1.30
9:I:370:ARG:CB	17:Q:355:ASN:CB	2.08	1.29
9:I:280:GLU:C	9:I:288:THR:CB	2.00	1.29
9:I:280:GLU:CB	9:I:288:THR:CB	2.08	1.29
19:S:39:PHE:CG	19:S:129:PHE:CE2	2.19	1.29
3:C:449:ILE:CD1	3:C:466:SER:OG	1.80	1.28
23:W:265:LEU:CD1	23:W:300:SER:HB2	1.63	1.27
3:C:230:ASP:OD2	3:C:259:LYS:CE	1.81	1.27
23:W:126:GLU:CG	23:W:130:ARG:NH1	1.96	1.27
23:W:528:GLY:CA	23:W:552:VAL:HG23	1.65	1.27
23:W:536:ASP:CG	23:W:543:TYR:HE2	1.38	1.27
5:E:74:PHE:CE1	5:E:81:LEU:HD21	1.69	1.26
19:S:39:PHE:CB	19:S:129:PHE:HZ	1.39	1.26
23:W:374:LYS:HD3	23:W:397:ASP:CB	1.66	1.26
7:G:120:G:O2'	7:G:121:G:O4'	1.54	1.25
1:A:264:PHE:CZ	1:A:459:LEU:CD1	2.21	1.24
22:V:540:GLU:OE1	22:V:541:THR:HG23	1.35	1.24
3:C:387:ASP:O	3:C:388:VAL:HG12	1.07	1.24
22:V:320:ARG:NH1	22:V:340:PHE:CE1	2.02	1.24
23:W:252:ARG:NH1	23:W:257:ILE:CD1	2.00	1.24
19:S:131:ARG:HD3	19:S:132:VAL:O	1.19	1.23
23:W:536:ASP:CG	23:W:543:TYR:CE2	2.10	1.23
3:C:497:LEU:CD1	3:C:577:PHE:CZ	2.20	1.23
1:A:1370:ARG:NH1	22:V:506:PHE:CG	2.07	1.23
23:W:342:THR:HB	23:W:388:GLN:NE2	1.52	1.23
1:A:300:ASN:O	3:C:939:ARG:NH2	1.72	1.23
3:C:679:PRO:CB	3:C:807:GLN:OE1	1.86	1.23
18:R:171:LEU:HD12	18:R:201:GLU:OE1	1.40	1.22
3:C:497:LEU:HD13	3:C:577:PHE:CZ	1.74	1.22
7:G:17:U:O2	15:O:198:ILE:HD11	1.40	1.22
23:W:501:ILE:O	23:W:502:PHE:HD1	1.21	1.22

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:144:MET:HE2	12:L:149:LEU:CD2	1.69	1.21
13:M:153:ARG:HA	13:M:160:PHE:CE2	1.74	1.21
23:W:126:GLU:HG3	23:W:130:ARG:NH1	1.51	1.21
23:W:243:VAL:CG1	23:W:323:ARG:CZ	2.19	1.20
22:V:496:CYS:O	22:V:500:GLN:HG3	1.40	1.20
23:W:243:VAL:HG11	23:W:323:ARG:CZ	1.70	1.20
12:L:144:MET:CE	12:L:149:LEU:CD2	2.19	1.20
19:S:131:ARG:CD	19:S:132:VAL:O	1.89	1.19
3:C:449:ILE:HD13	3:C:466:SER:OG	1.40	1.18
3:C:680:ASN:OD1	3:C:682:LYS:HG2	1.15	1.18
9:I:280:GLU:O	9:I:288:THR:CB	1.90	1.18
1:A:339:PHE:CE1	1:A:406:TRP:CE3	2.32	1.18
3:C:449:ILE:CG2	3:C:457:VAL:CG1	2.21	1.18
23:W:210:GLU:HA	23:W:213:GLN:OE1	1.42	1.18
1:A:439:GLN:NE2	1:A:614:TYR:CZ	2.11	1.17
23:W:417:HIS:CE1	23:W:437:SER:HB3	1.78	1.17
3:C:221:ILE:HD11	3:C:479:THR:OG1	1.45	1.16
7:G:21:A:O2'	7:G:22:C:O5'	1.64	1.16
22:V:520:GLU:O	22:V:523:GLU:CG	1.92	1.16
23:W:140:ASP:HB3	23:W:153:ILE:CG2	1.74	1.16
23:W:304:LEU:CB	23:W:318:VAL:HG22	1.76	1.15
1:A:264:PHE:CD1	1:A:459:LEU:CD1	2.27	1.15
3:C:449:ILE:CG2	3:C:457:VAL:HG11	1.73	1.15
23:W:245:GLU:HG3	23:W:323:ARG:HH21	1.11	1.14
3:C:349:PHE:CD1	3:C:356:PHE:CE1	2.35	1.14
14:N:40:LYS:O	14:N:41:ARG:HG3	1.46	1.14
16:P:193:VAL:HG23	16:P:194:PHE:CD2	1.80	1.14
22:V:455:PHE:HZ	22:V:489:LEU:HB2	1.05	1.13
18:R:64:PHE:CB	18:R:67:ILE:HD11	1.77	1.13
20:T:399:LYS:CG	20:T:406:ILE:HD11	1.79	1.13
1:A:264:PHE:CD1	1:A:459:LEU:HD11	1.84	1.12
3:C:387:ASP:O	3:C:388:VAL:CG1	1.97	1.12
23:W:162:ASN:ND2	23:W:165:LEU:HD21	1.61	1.13
24:X:120:ALA:O	24:X:124:THR:OG1	1.66	1.12
1:A:901:LEU:HD12	1:A:904:HIS:CE1	1.83	1.12
8:H:36:G:H2'	8:H:37:U:H5'	1.30	1.12
6:F:34:G:H2'	6:F:35:A:H5"	1.29	1.12
23:W:358:LEU:HD22	23:W:405:ILE:HD11	1.30	1.12
23:W:548:ALA:CB	23:W:578:TRP:CH2	2.31	1.12
3:C:507:VAL:HG11	3:C:565:ILE:HG23	1.28	1.12
18:R:101:ILE:O	18:R:104:GLN:HG3	1.50	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:262:ILE:HG21	18:R:267:ARG:NH1	1.65	1.12
22:V:493:ILE:HD13	22:V:510:LEU:HD23	1.26	1.12
7:G:129:G:H4'	23:W:541:LYS:NZ	1.65	1.12
13:M:126:ASP:OD2	13:M:128:ALA:HB3	1.49	1.12
19:S:11:PRO:HB3	19:S:166:GLY:HA3	1.26	1.11
23:W:252:ARG:HH11	23:W:257:ILE:CD1	1.56	1.11
23:W:390:LEU:HD12	23:W:447:TRP:CZ2	1.84	1.11
18:R:64:PHE:HB2	18:R:67:ILE:CG1	1.79	1.11
1:A:1791:HIS:CE1	1:A:1799:THR:HG23	1.85	1.11
3:C:445:ALA:HB1	3:C:449:ILE:HG13	1.20	1.11
5:E:119:THR:CG2	5:E:161:ARG:HB3	1.80	1.11
6:F:57:U:O2'	16:P:8:THR:CG2	1.99	1.10
13:M:153:ARG:HA	13:M:160:PHE:CZ	1.85	1.10
13:M:194:ASP:O	13:M:196:TYR:N	1.83	1.10
23:W:252:ARG:NH1	23:W:257:ILE:HD13	1.64	1.10
23:W:258:PRO:HB3	23:W:302:HIS:ND1	1.66	1.10
23:W:374:LYS:HE3	23:W:397:ASP:OD2	1.47	1.10
1:A:339:PHE:CE1	1:A:406:TRP:CZ3	2.40	1.10
9:I:296:PHE:HA	9:I:305:SER:CB	1.80	1.10
1:A:369:GLU:O	1:A:371:LEU:N	1.83	1.09
3:C:445:ALA:HB1	3:C:449:ILE:CG1	1.81	1.09
6:F:27:A:N3	15:O:181:TYR:CE2	2.19	1.09
3:C:465:MET:HE1	3:C:475:MET:HG3	1.12	1.09
9:I:371:PRO:CA	17:Q:357:ALA:HB3	1.82	1.09
18:R:178:ARG:HD3	18:R:194:GLN:NE2	1.67	1.09
8:H:36:G:C2'	8:H:37:U:H5'	1.83	1.09
13:M:153:ARG:HG3	13:M:160:PHE:CE2	1.87	1.09
23:W:390:LEU:HD12	23:W:447:TRP:HZ2	0.98	1.09
1:A:203:VAL:HG21	1:A:237:THR:CG2	1.83	1.09
5:E:146:ARG:HH11	5:E:148:LYS:HE2	1.01	1.09
23:W:304:LEU:HB2	23:W:318:VAL:HG22	1.22	1.09
23:W:501:ILE:O	23:W:502:PHE:CD1	2.06	1.09
26:Z:140:VAL:HG11	26:Z:145:THR:HG21	1.35	1.09
1:A:805:GLU:OE2	16:P:194:PHE:CZ	2.05	1.09
23:W:374:LYS:HD3	23:W:397:ASP:HB3	1.17	1.09
1:A:1793:THR:HG21	6:F:43:A:H5'	1.32	1.08
16:P:3:THR:OG1	16:P:6:ARG:NH2	1.87	1.08
20:T:434:GLY:HA2	20:T:464:GLY:HA2	1.35	1.08
3:C:670:SER:HA	3:C:823:ALA:HB1	1.24	1.08
10:J:214:ILE:HG22	10:J:219:GLU:HB3	1.09	1.08
18:R:64:PHE:HB2	18:R:67:ILE:CD1	1.83	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:515:CYS:HA	22:V:521:TYR:HB2	1.36	1.08
23:W:300:SER:HB3	23:W:561:HIS:CE1	1.87	1.08
3:C:449:ILE:HG21	3:C:457:VAL:HG11	1.11	1.08
3:C:465:MET:CE	3:C:475:MET:HG3	1.83	1.08
7:G:128:U:OP1	23:W:545:ARG:NH2	1.86	1.08
10:J:192:GLU:HA	10:J:195:LEU:CD1	1.82	1.08
3:C:679:PRO:HD2	3:C:807:GLN:HB3	1.12	1.08
18:R:178:ARG:HD3	18:R:194:GLN:HE22	0.97	1.08
3:C:470:PRO:HB3	3:C:500:THR:HG23	1.30	1.08
9:I:371:PRO:CB	17:Q:357:ALA:HB3	1.76	1.08
19:S:39:PHE:CB	19:S:129:PHE:CE2	2.32	1.08
23:W:536:ASP:CB	23:W:543:TYR:HE2	1.47	1.08
7:G:129:G:C5'	23:W:541:LYS:NZ	2.17	1.07
8:H:156:U:H6	8:H:156:U:H5"	1.10	1.07
10:J:192:GLU:HA	10:J:195:LEU:HD13	1.35	1.07
10:J:406:PHE:CD2	10:J:411:MET:HE3	1.89	1.07
6:F:39:A:C2'	6:F:40:U:H5'	1.82	1.07
9:I:280:GLU:CA	9:I:288:THR:CB	2.32	1.07
23:W:162:ASN:HB3	23:W:165:LEU:HD23	1.10	1.07
3:C:776:GLU:O	3:C:781:ASP:OD1	1.73	1.07
1:A:980:ARG:HG2	1:A:1094:ARG:HD2	1.36	1.06
5:E:243:LEU:CD1	5:E:247:GLY:HA2	1.84	1.06
9:I:343:LEU:CA	17:Q:527:ILE:CB	2.32	1.06
12:L:251:LEU:HD11	12:L:254:GLU:HB2	1.32	1.06
3:C:452:THR:CG2	3:C:577:PHE:HD2	1.68	1.06
3:C:511:GLY:O	3:C:576:ILE:CD1	2.03	1.06
19:S:34:LYS:HE3	19:S:78:TYR:CE2	1.90	1.06
23:W:252:ARG:HH11	23:W:257:ILE:HD13	0.93	1.06
8:H:105:G:H2'	8:H:106:G:H5"	1.37	1.06
13:M:153:ARG:CA	13:M:160:PHE:CE2	2.38	1.06
23:W:358:LEU:CD2	23:W:405:ILE:HD11	1.84	1.06
15:O:253:TYR:CE1	19:S:93:THR:OG1	2.09	1.06
19:S:39:PHE:HB3	19:S:129:PHE:CZ	1.81	1.06
23:W:488:PHE:CE1	23:W:496:LEU:CB	2.39	1.06
1:A:339:PHE:HE1	1:A:406:TRP:CZ3	1.73	1.05
10:J:201:ARG:NE	10:J:201:ARG:O	1.89	1.05
19:S:100:MET:HG2	19:S:108:ASN:OD1	1.55	1.05
23:W:417:HIS:CE1	23:W:437:SER:CB	2.39	1.05
3:C:306:ASN:OD1	3:C:437:HIS:CE1	2.09	1.05
19:S:131:ARG:NH1	19:S:133:CYS:HA	1.70	1.05
20:T:352:THR:HG22	20:T:373:LYS:O	1.57	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:448:LYS:O	3:C:452:THR:OG1	1.74	1.05
10:J:203:LEU:HD13	10:J:204:GLU:N	1.68	1.05
23:W:162:ASN:HB3	23:W:165:LEU:CD2	1.85	1.05
6:F:57:U:C2'	16:P:8:THR:HG21	1.87	1.04
22:V:489:LEU:O	22:V:492:MET:HB2	1.56	1.04
22:V:497:CYS:CB	22:V:507:PHE:CG	2.39	1.04
3:C:711:ARG:NH2	3:C:730:ARG:O	1.90	1.04
23:W:548:ALA:HB1	23:W:578:TRP:CH2	1.92	1.04
3:C:700:ILE:HG23	3:C:735:PHE:CD2	1.92	1.04
23:W:536:ASP:CB	23:W:543:TYR:CD2	2.30	1.04
7:G:129:G:C4'	23:W:541:LYS:NZ	2.21	1.04
22:V:449:GLU:HB3	22:V:452:LEU:HG	1.35	1.04
12:L:144:MET:HE1	12:L:149:LEU:HD23	1.30	1.03
1:A:369:GLU:OE2	1:A:369:GLU:N	1.91	1.03
23:W:162:ASN:HD22	23:W:165:LEU:HD21	0.93	1.03
13:M:162:PRO:HB3	13:M:167:LEU:HB2	1.39	1.03
23:W:317:GLU:HG2	23:W:321:GLU:HG3	1.41	1.03
1:A:264:PHE:CD1	1:A:459:LEU:HD13	1.93	1.03
7:G:147:C:H2'	7:G:148:U:C6	1.93	1.03
23:W:162:ASN:ND2	23:W:165:LEU:CD2	2.20	1.03
3:C:670:SER:HA	3:C:823:ALA:HB3	1.33	1.03
5:E:146:ARG:HH11	5:E:148:LYS:CE	1.50	1.03
20:T:399:LYS:HG3	20:T:406:ILE:HD11	1.37	1.03
23:W:548:ALA:HB2	23:W:578:TRP:CH2	1.93	1.03
7:G:116:C:OP1	17:Q:615:ARG:HD3	1.59	1.02
23:W:257:ILE:O	23:W:302:HIS:CE1	2.11	1.02
3:C:670:SER:CA	3:C:823:ALA:HB3	1.88	1.02
3:C:670:SER:CB	3:C:823:ALA:HB3	1.88	1.02
9:I:371:PRO:HA	17:Q:357:ALA:HB3	1.35	1.02
23:W:158:GLU:OE1	23:W:158:GLU:N	1.91	1.02
3:C:115:GLU:O	3:C:118:PHE:N	1.91	1.02
3:C:216:THR:HG22	3:C:245:HIS:CE1	1.92	1.02
6:F:8:C:H6	6:F:8:C:H5"	1.22	1.02
10:J:192:GLU:CA	10:J:195:LEU:CD1	2.37	1.02
22:V:320:ARG:NH1	22:V:340:PHE:CZ	2.28	1.02
3:C:76:GLU:OE1	3:C:76:GLU:N	1.93	1.02
9:I:251:PHE:CB	17:Q:1016:LEU:HD22	1.90	1.02
7:G:129:G:C5'	23:W:541:LYS:HZ1	1.73	1.02
22:V:493:ILE:CD1	22:V:510:LEU:HD23	1.87	1.02
23:W:342:THR:CB	23:W:388:GLN:HE22	1.72	1.02
1:A:264:PHE:CZ	1:A:459:LEU:HD12	1.93	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:449:GLU:HB3	22:V:452:LEU:CG	1.89	1.01
3:C:670:SER:CA	3:C:823:ALA:CB	2.38	1.01
3:C:703:GLU:OE2	3:C:740:THR:HG21	1.60	1.01
3:C:230:ASP:OD2	3:C:259:LYS:HE2	1.58	1.01
8:H:39:U:H6	8:H:39:U:H5"	1.23	1.01
23:W:420:ALA:O	23:W:438:ASP:N	1.93	1.01
3:C:349:PHE:HD1	3:C:356:PHE:CD1	1.76	1.01
3:C:445:ALA:CB	3:C:449:ILE:HG13	1.90	1.01
3:C:449:ILE:HD11	3:C:466:SER:OG	1.60	1.01
3:C:680:ASN:OD1	3:C:682:LYS:CB	2.08	1.01
6:F:86:U:O2'	6:F:87:C:O5'	1.78	1.01
22:V:548:ALA:CB	22:V:585:ILE:CB	2.39	1.01
23:W:126:GLU:HG3	23:W:130:ARG:HH11	1.20	1.01
23:W:203:LYS:HA	23:W:203:LYS:HE3	1.43	1.01
23:W:287:HIS:CD2	23:W:308:SER:HB2	1.95	1.01
3:C:678:THR:CG2	3:C:683:ASN:HB2	1.90	1.01
7:G:138:A:C2	8:H:39:U:O2	2.14	1.01
23:W:300:SER:HB3	23:W:561:HIS:NE2	1.76	1.01
23:W:529:ASN:HD22	23:W:531:LYS:HE3	1.25	1.01
8:H:40:C:H4'	8:H:41:U:OP1	1.56	1.00
1:A:548:ARG:NH2	1:A:549:GLU:OE2	1.94	1.00
3:C:674:CYS:SG	3:C:822:MET:SD	2.59	1.00
23:W:209:SER:HB2	23:W:212:GLU:HG3	1.44	1.00
3:C:507:VAL:CA	3:C:568:PRO:HB3	1.91	1.00
3:C:855:GLY:O	3:C:856:HIS:HB3	1.59	1.00
18:R:303:GLU:OE2	18:R:307:GLN:NE2	1.93	1.00
19:S:11:PRO:CB	19:S:165:SER:O	2.10	1.00
22:V:536:ILE:HG21	22:V:579:SER:CB	1.86	1.00
1:A:203:VAL:CG2	1:A:237:THR:CG2	2.39	1.00
12:L:144:MET:HE2	12:L:149:LEU:HD23	1.01	1.00
1:A:1341:ARG:NH2	1:A:1342:TRP:CZ2	2.29	0.99
18:R:64:PHE:HB2	18:R:67:ILE:HD11	1.35	0.99
18:R:263:PRO:HB2	18:R:266:LYS:HG2	1.42	0.99
12:L:59:LYS:CD	12:L:91:ARG:NH1	2.26	0.99
23:W:548:ALA:HB1	23:W:578:TRP:CZ2	1.97	0.99
22:V:455:PHE:CZ	22:V:489:LEU:HB2	1.96	0.99
7:G:129:G:H4'	23:W:541:LYS:CE	1.91	0.99
22:V:497:CYS:HB3	22:V:507:PHE:CG	1.98	0.99
1:A:1793:THR:HG21	6:F:43:A:C5'	1.93	0.99
23:W:243:VAL:HG13	23:W:323:ARG:NH1	1.75	0.99
23:W:242:HIS:CB	23:W:325:LEU:O	2.10	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:168:A:H5"	8:H:168:A:C8	1.98	0.98
20:T:306:CYS:SG	20:T:336:VAL:HB	2.03	0.98
23:W:433:PHE:HE1	23:W:445:TRP:HB2	1.26	0.98
19:S:11:PRO:HB2	19:S:165:SER:O	1.62	0.98
22:V:602:ARG:O	22:V:606:GLU:CG	2.12	0.98
23:W:245:GLU:CG	23:W:323:ARG:NH2	2.26	0.98
23:W:267:SER:HB3	23:W:561:HIS:HD2	1.27	0.98
23:W:374:LYS:CE	23:W:397:ASP:OD2	2.11	0.98
3:C:507:VAL:HG11	3:C:565:ILE:CG2	1.93	0.98
14:N:128:VAL:HG13	14:N:130:ARG:H	1.25	0.98
3:C:711:ARG:HD3	3:C:730:ARG:NH1	1.78	0.98
6:F:41:A:N1	7:G:6:A:N1	2.11	0.98
18:R:113:TYR:OH	20:T:402:ASP:O	1.80	0.98
23:W:242:HIS:HB2	23:W:325:LEU:O	1.62	0.98
5:E:243:LEU:HD11	5:E:247:GLY:HA2	1.45	0.98
23:W:261:VAL:HG11	23:W:319:TYR:CZ	1.98	0.98
8:H:40:C:O2'	8:H:41:U:H5"	1.64	0.98
12:L:37:LEU:HD21	12:L:155:ALA:CB	1.93	0.98
3:C:449:ILE:HD11	3:C:466:SER:CB	1.93	0.97
1:A:293:TRP:HB2	1:A:1136:ARG:NH2	1.77	0.97
23:W:303:LEU:C	23:W:318:VAL:HG21	1.83	0.97
6:F:34:G:C2'	6:F:35:A:H5"	1.94	0.97
18:R:297:LYS:HE3	18:R:300:GLU:OE1	1.63	0.97
23:W:245:GLU:HG3	23:W:323:ARG:NH2	1.79	0.97
18:R:101:ILE:O	18:R:104:GLN:CG	2.11	0.97
18:R:292:TYR:CE2	18:R:296:ARG:NH2	2.31	0.97
26:Z:142:ALA:O	26:Z:144:PHE:N	1.97	0.97
23:W:265:LEU:HD13	23:W:300:SER:CB	1.94	0.97
23:W:265:LEU:HD13	23:W:300:SER:HB2	0.99	0.97
3:C:700:ILE:HG23	3:C:735:PHE:CE2	2.00	0.97
3:C:482:TYR:HE2	3:C:493:PHE:CG	1.82	0.97
3:C:711:ARG:HD3	3:C:730:ARG:HH11	1.26	0.97
1:A:203:VAL:HG21	1:A:237:THR:HG22	1.45	0.97
1:A:980:ARG:HG2	1:A:1094:ARG:CD	1.93	0.96
21:U:24:SER:HB2	22:V:477:LEU:CD1	1.95	0.96
23:W:128:GLN:OE1	23:W:139:LEU:CD1	2.13	0.96
1:A:264:PHE:CE1	1:A:459:LEU:HD11	1.95	0.96
1:A:300:ASN:C	3:C:939:ARG:NH2	2.18	0.96
3:C:476:CYS:HB3	3:C:565:ILE:HB	1.47	0.96
6:F:39:A:H2'	6:F:40:U:H5'	1.46	0.96
7:G:18:A:H5'	15:O:69:GLU:OE1	1.64	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:21:A:H4'	7:G:22:C:OP1	1.60	0.96
12:L:251:LEU:CD1	12:L:254:GLU:CB	2.43	0.96
5:E:310:TYR:CE1	5:E:322:LYS:HD2	2.00	0.96
21:U:24:SER:HB2	22:V:477:LEU:HD12	1.48	0.96
23:W:284:TRP:CD1	23:W:316:TRP:CE3	2.54	0.96
23:W:465:PRO:HG2	23:W:481:MET:HE1	1.48	0.96
20:T:352:THR:HG22	20:T:373:LYS:C	1.85	0.96
23:W:483:ASN:OD1	23:W:505:HIS:O	1.84	0.96
1:A:357:ASN:OD1	22:V:344:LYS:NZ	1.98	0.96
1:A:666:LYS:HB3	1:A:668:VAL:HG23	1.47	0.96
1:A:1370:ARG:NH1	22:V:506:PHE:CD1	2.33	0.96
21:U:1:MET:N	21:U:1:MET:SD	2.38	0.95
23:W:140:ASP:HB3	23:W:153:ILE:HG23	1.42	0.95
12:L:251:LEU:CD1	12:L:254:GLU:HB2	1.95	0.95
23:W:443:ARG:NH2	23:W:455:TYR:CE2	2.34	0.95
1:A:47:GLU:O	1:A:50:LYS:HG3	0.78	0.95
1:A:533:LYS:HE2	6:F:37:C:N3	1.81	0.95
7:G:27:U:O2'	7:G:28:A:O5'	1.84	0.95
19:S:131:ARG:NH1	19:S:132:VAL:O	1.98	0.95
23:W:253:SER:OG	23:W:255:LEU:HG	1.64	0.95
3:C:523:GLN:OE1	3:C:524:ILE:N	1.98	0.95
23:W:140:ASP:HB2	23:W:153:ILE:HD13	1.49	0.95
23:W:268:THR:HG22	23:W:270:PRO:HD2	1.47	0.95
1:A:305:ARG:HA	1:A:305:ARG:HH11	1.30	0.95
1:A:419:ARG:NH2	1:A:423:ASP:O	2.00	0.95
3:C:452:THR:HG22	3:C:577:PHE:HD2	1.31	0.95
8:H:156:U:H5"	8:H:156:U:C6	2.02	0.95
22:V:645:GLU:O	22:V:648:LYS:CG	2.13	0.95
23:W:500:LYS:NZ	23:W:537:TRP:CD1	2.35	0.95
23:W:322:ARG:HH11	23:W:322:ARG:H	1.13	0.95
5:E:74:PHE:CE1	5:E:81:LEU:CD2	2.50	0.94
15:O:256:GLY:HA2	18:R:70:ALA:CB	1.97	0.94
3:C:306:ASN:OD1	3:C:437:HIS:ND1	2.00	0.94
3:C:680:ASN:CG	3:C:682:LYS:HG2	1.87	0.94
5:E:119:THR:HG21	5:E:161:ARG:HB3	1.45	0.94
15:O:253:TYR:HE1	19:S:93:THR:OG1	1.47	0.94
21:U:23:LEU:H	22:V:474:HIS:HD2	1.02	0.94
23:W:210:GLU:OE1	23:W:211:GLU:N	2.01	0.94
23:W:374:LYS:CD	23:W:397:ASP:CB	2.45	0.94
3:C:152:GLN:NE2	3:C:426:GLU:O	1.99	0.94
1:A:433:GLU:OE1	1:A:436:PRO:HB3	1.67	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:153:ARG:CG	13:M:160:PHE:HE2	1.80	0.94
22:V:537:HIS:HA	22:V:578:SER:HB2	1.47	0.94
23:W:140:ASP:HA	23:W:153:ILE:CD1	1.97	0.94
3:C:221:ILE:CD1	3:C:479:THR:OG1	2.14	0.94
1:A:247:THR:HG22	1:A:249:LEU:H	1.32	0.94
13:M:153:ARG:CB	13:M:160:PHE:CE2	2.50	0.94
14:N:124:SER:O	14:N:127:GLU:HG2	1.68	0.94
19:S:11:PRO:HB3	19:S:166:GLY:CA	1.97	0.94
21:U:23:LEU:H	22:V:474:HIS:CD2	1.85	0.94
22:V:642:GLU:O	22:V:645:GLU:CG	2.16	0.94
23:W:317:GLU:HG3	23:W:319:TYR:H	1.28	0.94
7:G:147:C:H2'	7:G:148:U:H6	1.29	0.94
15:O:234:LEU:O	15:O:271:PHE:HA	1.67	0.94
23:W:162:ASN:CB	23:W:165:LEU:HD23	1.96	0.94
1:A:805:GLU:OE2	16:P:194:PHE:HZ	1.42	0.94
19:S:39:PHE:HB2	19:S:129:PHE:CE2	2.02	0.94
23:W:326:ARG:NH2	23:W:363:THR:HA	1.83	0.94
3:C:678:THR:OG1	3:C:680:ASN:O	1.86	0.93
3:C:516:LEU:HD12	3:C:517:GLU:HG3	1.50	0.93
23:W:322:ARG:HD2	23:W:323:ARG:N	1.83	0.93
23:W:443:ARG:NH2	23:W:455:TYR:CD2	2.36	0.93
1:A:297:ASN:HB3	1:A:1345:GLN:HE22	1.32	0.93
7:G:129:G:O5'	23:W:541:LYS:NZ	1.99	0.93
13:M:153:ARG:CG	13:M:160:PHE:CE2	2.50	0.93
18:R:135:PRO:O	18:R:136:ASP:OD1	1.86	0.93
1:A:193:LEU:HD12	1:A:194:GLU:H	1.32	0.93
1:A:203:VAL:CG2	1:A:237:THR:HG21	1.98	0.93
3:C:679:PRO:CG	3:C:807:GLN:OE1	2.15	0.93
23:W:137:TYR:CD1	23:W:158:GLU:HB2	2.04	0.93
3:C:230:ASP:CG	3:C:259:LYS:HE2	1.88	0.93
3:C:711:ARG:HD3	3:C:730:ARG:HE	1.32	0.93
7:G:22:C:H5"	15:O:216:ARG:NH1	1.83	0.93
8:H:40:C:O2'	8:H:41:U:C5'	2.16	0.93
26:Z:174:ASN:OD1	26:Z:176:GLU:N	2.01	0.93
10:J:193:GLN:O	10:J:197:GLU:N	2.01	0.93
18:R:103:ARG:HB3	18:R:103:ARG:HH11	1.34	0.93
3:C:500:THR:HG22	3:C:545:PRO:HA	1.51	0.92
12:L:250:GLU:N	12:L:250:GLU:OE2	2.02	0.92
13:M:153:ARG:CA	13:M:160:PHE:HE2	1.79	0.92
23:W:126:GLU:HG2	23:W:130:ARG:NH1	1.85	0.92
3:C:445:ALA:HB3	3:C:466:SER:HA	1.51	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:40:C:O2'	8:H:41:U:O4'	1.87	0.92
12:L:59:LYS:CG	12:L:91:ARG:NH1	2.33	0.92
3:C:488:VAL:HG13	3:C:609:LYS:CE	2.00	0.92
26:Z:145:THR:O	26:Z:147:THR:N	2.02	0.92
1:A:1791:HIS:HE1	1:A:1799:THR:HG23	1.25	0.92
22:V:457:ARG:HH21	22:V:457:ARG:HG3	1.34	0.92
22:V:536:ILE:O	22:V:578:SER:HB3	1.70	0.92
23:W:317:GLU:HG2	23:W:321:GLU:CG	1.99	0.92
3:C:482:TYR:HE2	3:C:493:PHE:CB	1.83	0.92
7:G:27:U:C2'	7:G:28:A:O5'	2.15	0.92
23:W:453:PHE:CE1	23:W:454:LYS:HB2	2.05	0.92
1:A:203:VAL:HG23	1:A:237:THR:HG21	1.52	0.92
18:R:292:TYR:HE2	18:R:296:ARG:HH22	0.96	0.92
23:W:167:VAL:HG23	23:W:168:PHE:CD1	2.05	0.92
3:C:701:GLU:HA	3:C:740:THR:OG1	1.70	0.92
12:L:59:LYS:HG2	12:L:91:ARG:NH1	1.83	0.92
18:R:315:LYS:HE2	18:R:315:LYS:N	1.85	0.92
23:W:130:ARG:HB3	23:W:167:VAL:HG11	1.50	0.92
23:W:252:ARG:NH1	23:W:257:ILE:HD11	1.84	0.92
3:C:711:ARG:HD3	3:C:730:ARG:NE	1.84	0.91
16:P:66:ARG:HB2	16:P:66:ARG:HH11	1.35	0.91
23:W:188:ASN:HD22	23:W:191:GLY:HA3	1.31	0.91
23:W:374:LYS:HG2	23:W:397:ASP:HB2	1.52	0.91
5:E:74:PHE:CZ	5:E:81:LEU:HD21	2.04	0.91
23:W:402:GLN:NE2	23:W:447:TRP:CZ3	2.37	0.91
1:A:264:PHE:HE1	1:A:459:LEU:HD13	1.10	0.91
1:A:300:ASN:HB3	3:C:939:ARG:NH2	1.85	0.91
5:E:162:ARG:NH2	5:E:203:ASP:O	2.04	0.91
23:W:342:THR:HB	23:W:388:GLN:HE22	1.11	0.91
22:V:497:CYS:HB2	22:V:507:PHE:CG	2.03	0.91
23:W:243:VAL:HG11	23:W:323:ARG:NE	1.85	0.91
3:C:488:VAL:HG13	3:C:609:LYS:HE2	1.52	0.91
10:J:323:LEU:O	13:M:178:GLU:HG2	1.71	0.91
19:S:35:THR:O	19:S:129:PHE:CE1	2.24	0.91
23:W:245:GLU:CG	23:W:323:ARG:HH21	1.84	0.91
23:W:390:LEU:CD1	23:W:447:TRP:HZ2	1.84	0.91
12:L:144:MET:HG3	12:L:149:LEU:HG	1.50	0.91
1:A:364:SER:O	1:A:365:VAL:O	1.87	0.91
5:E:146:ARG:HH12	5:E:148:LYS:HE3	1.11	0.91
3:C:216:THR:HG22	3:C:245:HIS:HE1	1.34	0.90
26:Z:116:ARG:HH11	26:Z:126:MET:HG2	1.36	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:224:SEP:O3P	20:T:355:ARG:NH1	2.03	0.90
19:S:34:LYS:HE3	19:S:78:TYR:HE2	1.26	0.90
1:A:360:SER:CB	22:V:337:GLU:OE2	2.18	0.90
19:S:39:PHE:CD1	19:S:129:PHE:HE2	1.90	0.90
23:W:210:GLU:CA	23:W:213:GLN:OE1	2.18	0.90
23:W:488:PHE:HE1	23:W:496:LEU:HB3	0.89	0.90
3:C:482:TYR:CE2	3:C:493:PHE:HB2	2.05	0.90
23:W:465:PRO:HG2	23:W:481:MET:CE	2.01	0.90
3:C:470:PRO:HA	3:C:499:GLY:HA2	1.54	0.90
3:C:677:GLU:OE2	3:C:684:LYS:HG2	1.72	0.90
20:T:417:ASN:OD1	20:T:432:ASP:OD1	1.88	0.90
23:W:135:TYR:CE2	23:W:165:LEU:HD11	2.06	0.90
23:W:258:PRO:O	23:W:260:ASP:N	2.03	0.90
23:W:420:ALA:N	23:W:438:ASP:HB3	1.86	0.90
3:C:670:SER:HB3	3:C:823:ALA:HB3	1.53	0.90
8:H:39:U:O2'	8:H:40:C:OP1	1.87	0.90
3:C:244:LYS:HB2	3:C:292:TYR:HE2	1.36	0.90
8:H:168:A:H5"	8:H:168:A:H8	1.37	0.90
12:L:163:GLN:O	12:L:168:LYS:HE3	1.71	0.90
23:W:423:THR:HG21	23:W:467:VAL:HG12	1.51	0.90
22:V:537:HIS:O	22:V:578:SER:OG	1.87	0.90
5:E:269:PRO:O	5:E:270:LYS:HB3	1.72	0.89
6:F:27:A:N3	15:O:181:TYR:HE2	1.67	0.89
7:G:18:A:C2	15:O:196:GLN:O	2.25	0.89
7:G:142:U:H2'	7:G:143:U:C5	2.07	0.89
20:T:434:GLY:HA2	20:T:464:GLY:CA	2.02	0.89
1:A:664:HIS:NE2	1:A:666:LYS:HD3	1.87	0.89
3:C:497:LEU:HD13	3:C:577:PHE:HZ	1.07	0.89
8:H:39:U:H5"	8:H:39:U:C6	2.07	0.89
13:M:209:ASP:OD1	13:M:219:ASN:ND2	2.04	0.89
1:A:456:LEU:O	1:A:460:LYS:HG2	1.72	0.89
7:G:129:G:H4'	23:W:541:LYS:HZ3	1.23	0.89
18:R:171:LEU:CD1	18:R:201:GLU:OE1	2.20	0.89
1:A:901:LEU:CD1	1:A:904:HIS:CE1	2.55	0.89
3:C:230:ASP:OD2	3:C:259:LYS:NZ	2.03	0.89
23:W:304:LEU:HB2	23:W:318:VAL:CG2	2.03	0.89
1:A:1791:HIS:CE1	1:A:1799:THR:CG2	2.55	0.89
7:G:20:A:O2'	7:G:21:A:OP2	1.91	0.89
9:I:342:PRO:CB	17:Q:528:GLY:CA	2.50	0.89
23:W:284:TRP:HE1	23:W:316:TRP:HB3	1.34	0.89
23:W:289:LYS:HD3	23:W:310:ASP:OD1	1.71	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:465:PRO:HD2	23:W:479:GLN:O	1.71	0.89
3:C:711:ARG:HD3	3:C:730:ARG:CZ	2.03	0.89
23:W:317:GLU:HG2	23:W:321:GLU:CB	2.02	0.89
1:A:1083:HIS:NE2	16:P:189:ASP:OD1	2.06	0.89
3:C:508:LYS:HE3	3:C:566:THR:HG21	1.53	0.89
12:L:59:LYS:HD3	12:L:91:ARG:NH1	1.88	0.89
23:W:276:LEU:H	23:W:276:LEU:HD12	1.35	0.89
3:C:507:VAL:HA	3:C:568:PRO:HB3	1.52	0.89
20:T:267:ASP:O	20:T:268:LYS:HG3	1.72	0.89
15:O:235:TYR:HD2	15:O:301:LYS:HB2	1.38	0.89
12:L:59:LYS:HD3	12:L:91:ARG:HH11	1.38	0.89
19:S:39:PHE:CD2	19:S:129:PHE:CE2	2.60	0.89
23:W:179:LYS:O	23:W:200:VAL:HG22	1.72	0.88
13:M:152:LEU:CD2	13:M:160:PHE:CZ	2.56	0.88
1:A:1678:ARG:HG2	1:A:1678:ARG:HH11	1.37	0.88
3:C:516:LEU:CD1	3:C:517:GLU:HG3	2.04	0.88
7:G:147:C:C2	7:G:148:U:C5	2.61	0.88
19:S:35:THR:O	19:S:129:PHE:HE1	1.54	0.88
23:W:268:THR:HG22	23:W:270:PRO:CD	2.02	0.88
23:W:300:SER:HA	23:W:561:HIS:CE1	2.08	0.88
23:W:528:GLY:HA2	23:W:552:VAL:HG21	1.54	0.88
6:F:27:A:N9	15:O:181:TYR:OH	2.07	0.88
13:M:163:THR:OG1	13:M:166:SER:HB2	1.73	0.88
23:W:128:GLN:OE1	23:W:139:LEU:HD12	1.73	0.88
3:C:507:VAL:CG1	3:C:565:ILE:HG23	2.04	0.88
22:V:320:ARG:HH12	22:V:340:PHE:HE1	0.91	0.88
23:W:317:GLU:HG2	23:W:321:GLU:HB2	1.52	0.88
12:L:222:LEU:H	12:L:222:LEU:HD22	1.39	0.88
23:W:475:TRP:CE3	23:W:537:TRP:CZ2	2.62	0.88
3:C:221:ILE:HD11	3:C:479:THR:HG1	1.33	0.87
23:W:265:LEU:O	23:W:561:HIS:NE2	2.07	0.87
23:W:322:ARG:HD2	23:W:323:ARG:H	1.40	0.87
23:W:384:ASP:OD2	23:W:430:ASN:HB2	1.74	0.87
5:E:258:THR:HG22	5:E:260:ARG:HG2	1.55	0.87
3:C:497:LEU:HD11	3:C:577:PHE:CZ	2.08	0.87
3:C:700:ILE:HA	3:C:705:VAL:HG23	1.57	0.87
20:T:387:PHE:CE1	20:T:398:TRP:CD1	2.62	0.87
3:C:449:ILE:HG21	3:C:457:VAL:CG1	1.92	0.87
23:W:321:GLU:OE1	23:W:322:ARG:NH2	2.07	0.87
1:A:44:ARG:HD2	1:A:45:TYR:CE2	2.09	0.87
9:I:370:ARG:CB	17:Q:355:ASN:ND2	2.37	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:219:ASN:O	13:M:223:GLU:HG2	1.75	0.87
18:R:292:TYR:HE2	18:R:296:ARG:NH2	1.54	0.87
23:W:140:ASP:CB	23:W:153:ILE:CG2	2.53	0.87
15:O:155:PRO:HG3	18:R:188:PHE:HD1	1.39	0.87
1:A:1414:ARG:NH1	22:V:545:ARG:HD2	1.90	0.87
3:C:725:ASP:OD1	3:C:727:LEU:N	2.07	0.87
5:E:277:PHE:HE2	5:E:300:ILE:CD1	1.87	0.87
7:G:22:C:O2'	7:G:23:U:OP1	1.91	0.87
16:P:3:THR:CB	16:P:6:ARG:HH21	1.88	0.87
23:W:261:VAL:HG11	23:W:319:TYR:CE1	2.10	0.87
1:A:1414:ARG:HH12	22:V:545:ARG:HD2	1.40	0.87
8:H:154:C:O2	8:H:176:G:N2	2.07	0.87
12:L:59:LYS:HG2	12:L:91:ARG:HH12	1.38	0.87
19:S:35:THR:C	19:S:129:PHE:HE1	1.79	0.87
23:W:137:TYR:CE1	23:W:158:GLU:HB3	2.10	0.87
23:W:358:LEU:HD22	23:W:405:ILE:CD1	2.04	0.87
3:C:216:THR:CG2	3:C:245:HIS:HE1	1.87	0.86
7:G:17:U:O2	15:O:198:ILE:CD1	2.23	0.86
3:C:711:ARG:CD	3:C:730:ARG:HE	1.89	0.86
8:H:156:U:H6	8:H:156:U:C5'	1.88	0.86
10:J:361:ARG:HD3	13:M:161:PHE:CD2	2.10	0.86
13:M:153:ARG:CB	13:M:160:PHE:HE2	1.84	0.86
1:A:253:ASN:OD1	1:A:334:THR:OG1	1.92	0.86
1:A:523:ASN:OD1	1:A:552:ARG:NH2	2.06	0.86
6:F:78:A:H4'	10:J:237:LYS:HE2	1.58	0.86
22:V:536:ILE:HG22	22:V:579:SER:CB	2.06	0.86
23:W:135:TYR:CZ	23:W:165:LEU:HD11	2.10	0.86
3:C:488:VAL:CG1	3:C:609:LYS:HE2	2.06	0.86
18:R:65:PRO:HG2	18:R:66:GLU:OE2	1.76	0.86
18:R:280:ILE:HD12	18:R:281:ASN:N	1.90	0.86
23:W:374:LYS:CD	23:W:397:ASP:HB3	2.05	0.86
14:N:111:THR:HG21	14:N:115:THR:O	1.75	0.86
23:W:265:LEU:O	23:W:561:HIS:CD2	2.27	0.86
18:R:134:ARG:O	18:R:136:ASP:N	2.09	0.86
1:A:439:GLN:O	1:A:444:ARG:NH1	2.09	0.86
3:C:824:THR:HG23	3:C:824:THR:O	1.75	0.86
18:R:262:ILE:HG13	18:R:263:PRO:CD	2.06	0.86
23:W:101:THR:CG2	23:W:104:MET:HG2	2.05	0.86
3:C:449:ILE:HG22	3:C:457:VAL:CG1	2.06	0.86
3:C:452:THR:CG2	3:C:577:PHE:CD2	2.58	0.86
5:E:74:PHE:CD1	5:E:81:LEU:CD2	2.59	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:140:ASP:CB	23:W:153:ILE:HD13	2.05	0.86
1:A:367:SER:O	1:A:369:GLU:N	2.08	0.85
5:E:265:ARG:H	5:E:272:ARG:NH2	1.74	0.85
12:L:190:GLU:OE2	23:W:336:ARG:NH2	2.08	0.85
23:W:209:SER:CB	23:W:212:GLU:HG3	2.06	0.85
5:E:119:THR:HG21	5:E:161:ARG:CB	2.06	0.85
1:A:73:HIS:HB3	1:A:76:MET:CE	2.07	0.85
3:C:348:TYR:CD1	3:C:359:LYS:HB3	2.10	0.85
22:V:496:CYS:HA	26:Z:72:TRP:HH2	1.40	0.85
5:E:251:LEU:HG	5:E:291:CYS:SG	2.17	0.85
3:C:510:LEU:HD22	3:C:514:TYR:CE2	2.12	0.85
6:F:33:G:H5”	6:F:33:G:H8	1.41	0.85
12:L:59:LYS:CD	12:L:91:ARG:HH12	1.88	0.85
13:M:194:ASP:C	13:M:196:TYR:H	1.77	0.85
23:W:257:ILE:O	23:W:302:HIS:HE1	1.58	0.85
3:C:220:ARG:NH1	3:C:578:ARG:O	2.09	0.85
22:V:291:GLU:HG3	22:V:335:MET:SD	2.16	0.85
1:A:1764:SER:HB3	1:A:1767:ASN:OD1	1.76	0.85
6:F:8:C:H5”	6:F:8:C:C6	2.11	0.85
3:C:678:THR:HG21	3:C:683:ASN:HB2	1.59	0.85
3:C:680:ASN:CG	3:C:682:LYS:CG	2.41	0.85
3:C:244:LYS:HA	3:C:292:TYR:HD2	1.39	0.84
3:C:349:PHE:CD1	3:C:356:PHE:HE1	1.88	0.84
7:G:146:C:H2’	7:G:147:C:H5”	1.57	0.84
22:V:515:CYS:SG	22:V:522:MET:HA	2.16	0.84
23:W:109:ASN:HB2	23:W:114:TYR:CD1	2.12	0.84
23:W:146:HIS:ND1	23:W:146:HIS:O	2.10	0.84
23:W:417:HIS:NE2	23:W:437:SER:HB3	1.91	0.84
1:A:156:ARG:NH1	26:Z:153:GLU:OE2	2.10	0.84
1:A:584:HIS:HE1	41:A:3000:IHP:O26	1.58	0.84
5:E:74:PHE:CE2	5:E:343:ILE:HG12	2.11	0.84
12:L:146:GLU:OE1	12:L:146:GLU:N	2.10	0.84
22:V:473:ALA:O	22:V:477:LEU:HG	1.77	0.84
2:B:95:G:H4’	2:B:96:A:O4’	1.76	0.84
23:W:126:GLU:CG	23:W:130:ARG:HH12	1.86	0.84
23:W:370:PHE:HE2	23:W:391:PHE:CE2	1.95	0.84
15:O:89:GLU:OE1	23:W:103:GLN:HB2	1.78	0.84
15:O:292:ILE:HG12	15:O:297:ARG:HA	1.59	0.84
18:R:307:GLN:OE1	18:R:307:GLN:N	2.10	0.84
13:M:165:ASN:HB2	18:R:95:LYS:HA	1.58	0.84
23:W:264:ASN:O	23:W:267:SER:HB2	1.76	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:300:SER:CB	23:W:561:HIS:CE1	2.60	0.84
26:Z:142:ALA:C	26:Z:144:PHE:H	1.81	0.84
23:W:182:LYS:O	23:W:182:LYS:HD3	1.76	0.84
23:W:242:HIS:CD2	23:W:324:CYS:SG	2.70	0.84
23:W:304:LEU:CB	23:W:318:VAL:CG2	2.56	0.84
9:I:342:PRO:CB	17:Q:528:GLY:HA3	2.07	0.84
23:W:500:LYS:NZ	23:W:537:TRP:NE1	2.26	0.84
23:W:137:TYR:HA	23:W:154:GLY:HA3	1.59	0.84
23:W:531:LYS:HB3	23:W:546:PHE:O	1.78	0.84
1:A:615:ARG:O	1:A:618:THR:OG1	1.93	0.84
4:D:782:PHE:HB3	4:D:808:VAL:HB	1.60	0.84
5:E:165:GLN:O	5:E:166:LEU:HD23	1.77	0.84
1:A:1504:GLU:HG3	1:A:1754:TYR:OH	1.78	0.83
18:R:262:ILE:HG13	18:R:263:PRO:HD2	1.57	0.83
1:A:1504:GLU:HB2	1:A:1754:TYR:CE2	2.13	0.83
23:W:140:ASP:CA	23:W:153:ILE:HG12	2.08	0.83
23:W:156:VAL:HG12	23:W:160:GLU:CD	1.99	0.83
23:W:326:ARG:NH2	23:W:362:GLU:O	2.11	0.83
8:H:152:G:N2	8:H:153:A:N7	2.26	0.83
13:M:152:LEU:HD23	13:M:160:PHE:CZ	2.14	0.83
23:W:188:ASN:ND2	23:W:191:GLY:HA3	1.93	0.83
1:A:462:ARG:HD2	1:A:462:ARG:N	1.92	0.83
3:C:449:ILE:HD11	3:C:466:SER:CA	2.07	0.83
13:M:153:ARG:HG3	13:M:160:PHE:HE2	1.28	0.83
23:W:210:GLU:HA	23:W:213:GLN:HB2	1.58	0.83
23:W:528:GLY:HA2	23:W:552:VAL:HG23	0.87	0.83
3:C:230:ASP:OD2	3:C:259:LYS:HE3	1.76	0.83
12:L:208:VAL:HG23	15:O:110:SER:HB2	1.57	0.83
23:W:425:VAL:O	23:W:433:PHE:HB2	1.78	0.83
7:G:129:G:C5'	23:W:541:LYS:HZ3	1.90	0.83
10:J:406:PHE:CD2	10:J:411:MET:CE	2.61	0.83
23:W:304:LEU:N	23:W:318:VAL:CG2	2.40	0.83
23:W:501:ILE:C	23:W:502:PHE:CD1	2.51	0.83
3:C:465:MET:HE1	3:C:475:MET:CG	2.03	0.83
6:F:27:A:C4	15:O:181:TYR:CE2	2.66	0.83
10:J:203:LEU:HD13	10:J:204:GLU:H	1.43	0.83
12:L:59:LYS:CG	12:L:91:ARG:HH12	1.90	0.83
1:A:1767:ASN:O	1:A:1770:GLU:HG2	1.76	0.83
1:A:1953:ILE:HD11	1:A:1986:LEU:HD11	1.59	0.83
10:J:192:GLU:O	10:J:196:ARG:HB2	1.79	0.83
1:A:805:GLU:CD	16:P:194:PHE:CZ	2.52	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1538:ARG:NH1	4:D:1665:ASP:OD1	2.10	0.83
23:W:160:GLU:N	23:W:160:GLU:OE1	2.11	0.83
23:W:370:PHE:CE2	23:W:391:PHE:CE2	2.67	0.83
23:W:420:ALA:HB3	23:W:438:ASP:HB2	1.59	0.83
1:A:331:TRP:CZ3	3:C:179:VAL:HG21	2.14	0.83
2:B:18:C:O2'	2:B:19:A:O5'	1.96	0.83
3:C:470:PRO:HB3	3:C:500:THR:CG2	2.08	0.83
4:D:1218:SER:HB3	4:D:1240:LEU:HD21	1.61	0.83
13:M:210:TYR:HD2	13:M:216:ALA:HA	1.42	0.83
16:P:193:VAL:CG2	16:P:194:PHE:CD2	2.60	0.83
22:V:496:CYS:HA	26:Z:72:TRP:CH2	2.12	0.83
1:A:377:GLU:O	1:A:378:PHE:HB3	1.78	0.82
1:A:1935:ARG:NH2	26:Z:348:THR:HG21	1.93	0.82
22:V:548:ALA:HB1	22:V:586:PHE:N	1.93	0.82
23:W:265:LEU:HD21	23:W:319:TYR:OH	1.79	0.82
23:W:479:GLN:OE1	23:W:512:CYS:HB2	1.79	0.82
3:C:489:GLN:O	3:C:489:GLN:NE2	2.11	0.82
9:I:346:ASN:CB	17:Q:527:ILE:HA	2.09	0.82
19:S:119:THR:OG1	19:S:122:LEU:HD12	1.78	0.82
1:A:354:PRO:O	22:V:344:LYS:HB2	1.80	0.82
3:C:678:THR:HG21	3:C:683:ASN:HD22	1.42	0.82
13:M:153:ARG:CA	13:M:160:PHE:CZ	2.57	0.82
3:C:131:ASN:ND2	3:C:495:ARG:HH12	1.77	0.82
7:G:22:C:H5"	15:O:216:ARG:HH11	1.44	0.82
8:H:105:G:C2'	8:H:106:G:H5"	2.10	0.82
19:S:11:PRO:CB	19:S:166:GLY:HA3	2.07	0.82
22:V:536:ILE:HG23	22:V:579:SER:CB	2.09	0.82
1:A:362:ARG:O	1:A:362:ARG:NE	2.12	0.82
3:C:365:SER:OG	3:C:371:GLU:OE2	1.95	0.82
4:D:425:ASN:ND2	4:D:886:GLN:O	2.13	0.82
19:S:9:TRP:HE3	19:S:11:PRO:HD3	1.44	0.82
23:W:261:VAL:HG21	23:W:319:TYR:CE1	2.15	0.82
1:A:73:HIS:HD2	1:A:81:PHE:CE2	1.97	0.82
1:A:380:LEU:HD23	3:C:349:PHE:CE1	2.14	0.82
7:G:127:U:O5'	23:W:547:LYS:NZ	2.13	0.82
18:R:67:ILE:HG22	18:R:69:VAL:HG23	1.61	0.82
1:A:339:PHE:HE1	1:A:406:TRP:HZ3	1.24	0.82
1:A:366:LYS:O	1:A:368:GLN:N	2.12	0.82
3:C:244:LYS:HA	3:C:292:TYR:CD2	2.15	0.82
8:H:40:C:O2'	8:H:41:U:C6	2.33	0.82
8:H:40:C:C4'	8:H:41:U:OP1	2.27	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:449:GLU:HB3	22:V:452:LEU:CD1	2.09	0.82
23:W:284:TRP:HD1	23:W:316:TRP:CE3	1.96	0.82
12:L:215:PRO:O	15:O:113:ASN:OD1	1.97	0.82
18:R:117:THR:O	18:R:120:VAL:HG12	1.79	0.82
19:S:10:GLN:OE1	19:S:10:GLN:N	2.13	0.82
1:A:684:GLU:OE1	20:T:266:GLU:HB3	1.80	0.82
3:C:482:TYR:CE2	3:C:493:PHE:CB	2.62	0.82
3:C:711:ARG:CD	3:C:730:ARG:HH11	1.92	0.82
6:F:57:U:HO2'	16:P:8:THR:HG21	1.42	0.82
1:A:70:ILE:HD13	1:A:495:GLN:HG3	1.60	0.82
3:C:244:LYS:HB2	3:C:292:TYR:CE2	2.14	0.82
12:L:178:GLU:O	12:L:181:ARG:HG3	1.78	0.82
20:T:399:LYS:HG2	20:T:406:ILE:HD11	1.57	0.82
23:W:209:SER:O	23:W:213:GLN:N	2.13	0.82
23:W:252:ARG:HH12	23:W:257:ILE:CD1	1.91	0.82
3:C:348:TYR:CE1	3:C:359:LYS:HB3	2.15	0.81
23:W:155:SER:C	23:W:156:VAL:HG23	2.00	0.81
3:C:511:GLY:O	3:C:576:ILE:HD13	1.80	0.81
6:F:27:A:OP1	14:N:41:ARG:NH2	2.12	0.81
23:W:274:CYS:SG	23:W:518:PRO:O	2.37	0.81
23:W:404:ASP:OD1	23:W:406:ARG:HG2	1.81	0.81
1:A:805:GLU:CD	16:P:194:PHE:HZ	1.82	0.81
1:A:1341:ARG:HH21	1:A:1342:TRP:HZ2	1.23	0.81
3:C:91:GLU:O	20:T:278:ASN:ND2	2.13	0.81
3:C:483:SER:HA	3:C:490:PHE:HB3	1.60	0.81
6:F:28:A:O2'	14:N:39:GLY:HA2	1.79	0.81
12:L:26:TYR:OH	12:L:158:ARG:NH1	2.13	0.81
15:O:256:GLY:HA2	18:R:70:ALA:HB2	1.60	0.81
18:R:64:PHE:O	18:R:67:ILE:HG12	1.81	0.81
23:W:277:PRO:HB3	23:W:578:TRP:O	1.80	0.81
3:C:250:ARG:HE	3:C:451:HIS:CD2	1.98	0.81
15:O:253:TYR:CD1	19:S:93:THR:OG1	2.34	0.81
1:A:2333:LEU:HB3	4:D:591:GLU:HG3	1.61	0.81
3:C:96:PRO:HB3	20:T:276:GLU:OE2	1.81	0.81
5:E:74:PHE:HE2	5:E:343:ILE:HG12	1.44	0.81
13:M:121:ASP:O	13:M:122:LEU:HD13	1.81	0.81
19:S:39:PHE:CD2	19:S:129:PHE:HE2	1.98	0.81
1:A:980:ARG:CG	1:A:1094:ARG:HD2	2.11	0.81
1:A:1384:ARG:NH2	1:A:1414:ARG:HH11	1.77	0.81
3:C:349:PHE:HD1	3:C:356:PHE:CE1	1.85	0.81
6:F:86:U:HO2'	6:F:87:C:P	2.03	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:269:MET:HA	23:W:269:MET:CE	2.11	0.81
23:W:488:PHE:CD1	23:W:496:LEU:HB3	2.16	0.81
23:W:499:LYS:HA	23:W:499:LYS:NZ	1.95	0.81
1:A:283:VAL:O	1:A:284:ARG:NE	2.14	0.81
1:A:371:LEU:CD1	3:C:347:ILE:HD11	2.11	0.81
10:J:220:LEU:HD11	10:J:224:LYS:HE3	1.62	0.81
12:L:251:LEU:CD1	12:L:254:GLU:HB3	2.10	0.81
20:T:366:VAL:HG21	20:T:402:ASP:HA	1.61	0.81
23:W:465:PRO:HG3	23:W:481:MET:SD	2.19	0.81
8:H:152:G:H5"	8:H:153:A:OP2	1.80	0.81
20:T:267:ASP:HB3	20:T:269:GLN:HG2	1.60	0.81
20:T:292:TYR:CZ	20:T:308:ARG:HG3	2.16	0.81
5:E:162:ARG:NH2	5:E:204:THR:HA	1.94	0.81
5:E:231:MET:HB3	5:E:262:TRP:CZ3	2.16	0.81
6:F:80:G:H5"	6:F:81:C:OP2	1.81	0.81
8:H:39:U:H3'	8:H:40:C:C5	2.16	0.81
18:R:88:ILE:CG2	18:R:96:ILE:HG23	2.10	0.81
18:R:195:ARG:HB3	18:R:195:ARG:HH11	1.44	0.81
23:W:212:GLU:O	23:W:214:LYS:N	2.14	0.81
3:C:738:ASP:HB2	3:C:740:THR:O	1.80	0.81
12:L:238:ASP:OD2	12:L:241:LYS:HB2	1.82	0.81
19:S:11:PRO:HB3	19:S:165:SER:O	1.80	0.81
23:W:479:GLN:HE21	23:W:514:VAL:HG12	1.45	0.81
1:A:1889:LEU:HD11	1:A:2012:LEU:HG	1.61	0.80
3:C:572:GLU:HG3	3:C:573:GLU:H	1.45	0.80
8:H:40:C:H2'	8:H:41:U:C6	2.16	0.80
22:V:528:ILE:HA	22:V:531:GLU:CG	2.11	0.80
23:W:267:SER:HB3	23:W:561:HIS:CD2	2.16	0.80
1:A:150:MET:SD	1:A:153:ARG:NH2	2.54	0.80
7:G:130:A:O2'	7:G:131:U:OP2	1.99	0.80
7:G:129:G:C4'	23:W:541:LYS:HZ3	1.86	0.80
1:A:47:GLU:C	1:A:50:LYS:HG3	1.95	0.80
1:A:293:TRP:CZ3	1:A:295:GLU:OE1	2.34	0.80
1:A:468:LYS:HD3	1:A:469:LYS:N	1.96	0.80
4:D:593:TRP:HD1	4:D:631:LEU:HD22	1.46	0.80
22:V:455:PHE:HZ	22:V:489:LEU:CB	1.92	0.80
23:W:140:ASP:HA	23:W:153:ILE:HD11	1.61	0.80
23:W:154:GLY:O	23:W:156:VAL:HG23	1.82	0.80
3:C:488:VAL:HG13	3:C:609:LYS:NZ	1.96	0.80
23:W:417:HIS:CE1	23:W:437:SER:OG	2.35	0.80
3:C:471:ASP:H	3:C:499:GLY:HA2	1.46	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:749:THR:OG1	3:C:752:SER:HB2	1.82	0.80
16:P:188:TRP:CE3	16:P:189:ASP:HB2	2.16	0.80
23:W:137:TYR:HE1	23:W:158:GLU:HB3	1.44	0.80
3:C:481:MET:SD	3:C:492:ALA:HB2	2.22	0.80
23:W:137:TYR:CE1	23:W:158:GLU:CB	2.65	0.80
5:E:66:GLU:HB2	5:E:87:ASP:OD2	1.82	0.80
22:V:152:LEU:HA	22:V:387:MET:HE1	1.63	0.80
6:F:27:A:C4	15:O:181:TYR:CZ	2.69	0.80
10:J:181:ASN:HD22	10:J:181:ASN:H	1.30	0.80
1:A:1790:ILE:HG23	1:A:1800:THR:HG22	1.62	0.80
3:C:471:ASP:OD1	3:C:472:GLY:N	2.15	0.80
20:T:459:LEU:HD12	20:T:460:ASP:H	1.47	0.79
22:V:549:LYS:O	22:V:552:ALA:HB3	1.82	0.79
1:A:1495:PHE:CD2	1:A:1501:LEU:HD11	2.17	0.79
3:C:567:GLU:HG2	3:C:572:GLU:OE2	1.81	0.79
18:R:129:ASP:HB2	18:R:132:LEU:CD2	2.13	0.79
23:W:384:ASP:CG	23:W:430:ASN:HB2	2.02	0.79
1:A:658:ARG:HD2	1:A:663:ARG:NH2	1.97	0.79
3:C:726:LEU:HD12	3:C:726:LEU:O	1.82	0.79
19:S:9:TRP:O	19:S:11:PRO:HD3	1.80	0.79
23:W:300:SER:HA	23:W:561:HIS:HE1	1.46	0.79
3:C:750:LEU:O	3:C:754:VAL:HG23	1.83	0.79
5:E:277:PHE:HE2	5:E:300:ILE:HD12	1.45	0.79
12:L:238:ASP:OD1	12:L:240:ARG:HD3	1.82	0.79
13:M:162:PRO:HB3	13:M:167:LEU:CB	2.13	0.79
18:R:178:ARG:CD	18:R:194:GLN:HE22	1.90	0.79
23:W:242:HIS:HB3	23:W:325:LEU:O	1.82	0.79
23:W:243:VAL:CG1	23:W:323:ARG:NH1	2.40	0.79
1:A:1953:ILE:HD11	1:A:1986:LEU:CD1	2.11	0.79
10:J:214:ILE:HD13	12:L:242:LEU:HB3	1.64	0.79
23:W:552:VAL:CG1	23:W:571:TRP:CD1	2.66	0.79
20:T:352:THR:CG2	20:T:373:LYS:C	2.51	0.79
22:V:477:LEU:CD2	22:V:514:PHE:HE1	1.96	0.79
23:W:488:PHE:HE1	23:W:496:LEU:CB	1.85	0.79
1:A:176:LEU:HD13	1:A:181:ASN:ND2	1.98	0.79
3:C:452:THR:HG22	3:C:577:PHE:CD2	2.17	0.79
5:E:74:PHE:CE2	5:E:343:ILE:CG1	2.66	0.79
8:H:153:A:H2'	8:H:154:C:H5'	1.65	0.79
12:L:135:LYS:NZ	12:L:136:PRO:HD2	1.98	0.79
19:S:10:GLN:HA	19:S:29:TRP:CZ2	2.18	0.79
22:V:514:PHE:O	22:V:521:TYR:CG	2.36	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:339:PHE:CE1	1:A:406:TRP:HE3	1.97	0.79
18:R:88:ILE:H	18:R:88:ILE:HD12	1.48	0.79
23:W:140:ASP:HB3	23:W:153:ILE:CG1	2.13	0.79
23:W:528:GLY:CA	23:W:552:VAL:CG2	2.41	0.79
5:E:243:LEU:HD12	5:E:247:GLY:HA2	1.64	0.78
8:H:101:U:H5"	8:H:102:U:H5'	1.64	0.78
1:A:928:TYR:OH	1:A:932:LYS:NZ	2.12	0.78
23:W:277:PRO:CB	23:W:578:TRP:C	2.51	0.78
3:C:679:PRO:HD2	3:C:807:GLN:CB	2.06	0.78
6:F:29:A:N6	7:G:16:G:O2'	2.16	0.78
7:G:19:G:N2	15:O:194:ALA:O	2.16	0.78
1:A:107:PRO:O	1:A:111:GLU:OE1	2.01	0.78
2:B:90:U:H5"	2:B:91:U:H5'	1.64	0.78
14:N:40:LYS:C	14:N:41:ARG:HG3	2.03	0.78
15:O:256:GLY:CA	18:R:70:ALA:HB2	2.14	0.78
22:V:536:ILE:O	22:V:578:SER:CB	2.32	0.78
1:A:1365:ILE:O	22:V:465:SER:HB2	1.82	0.78
13:M:152:LEU:CD2	13:M:160:PHE:CE1	2.66	0.78
18:R:82:MET:HA	18:R:82:MET:CE	2.14	0.78
23:W:101:THR:HG22	23:W:104:MET:HG2	1.66	0.78
23:W:264:ASN:OD1	23:W:267:SER:N	2.15	0.78
23:W:342:THR:CB	23:W:388:GLN:NE2	2.38	0.78
1:A:1094:ARG:HH11	1:A:1094:ARG:HB2	1.47	0.78
3:C:457:VAL:CB	3:C:462:GLY:HA3	2.14	0.78
6:F:43:A:H2	7:G:4:A:H61	1.31	0.78
20:T:455:GLN:HG2	20:T:456:PRO:HD3	1.66	0.78
23:W:554:ILE:HD13	23:W:571:TRP:CZ3	2.18	0.78
18:R:67:ILE:HG22	18:R:69:VAL:CG2	2.14	0.78
3:C:457:VAL:HB	3:C:462:GLY:HA3	1.66	0.78
7:G:17:U:C2	15:O:198:ILE:HD11	2.18	0.78
18:R:148:ARG:HG3	18:R:148:ARG:HH11	1.49	0.78
23:W:166:THR:OG1	23:W:169:GLU:HB3	1.84	0.78
1:A:1370:ARG:NH1	22:V:506:PHE:CD2	2.51	0.78
5:E:264:VAL:HA	5:E:272:ARG:HH21	1.48	0.78
19:S:34:LYS:CE	19:S:78:TYR:CE2	2.67	0.78
1:A:339:PHE:CD1	1:A:406:TRP:CE3	2.72	0.77
1:A:468:LYS:HD3	1:A:469:LYS:H	1.50	0.77
3:C:515:THR:O	3:C:517:GLU:N	2.17	0.77
8:H:177:A:H5"	8:H:178:A:OP1	1.84	0.77
10:J:214:ILE:H	10:J:214:ILE:HD12	1.49	0.77
23:W:389:ASN:ND2	23:W:406:ARG:NH2	2.32	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:666:LYS:CB	1:A:668:VAL:HG23	2.14	0.77
1:A:1993:LYS:HD2	1:A:1993:LYS:O	1.84	0.77
4:D:790:THR:HG21	4:D:793:ASP:HB2	1.64	0.77
4:D:1380:THR:HG21	4:D:1385:LEU:HB3	1.65	0.77
12:L:37:LEU:HD21	12:L:155:ALA:HB1	1.64	0.77
1:A:1211:ASP:OD1	22:V:505:LYS:HB2	1.84	0.77
18:R:61:GLY:HA2	19:S:136:ILE:HB	1.66	0.77
18:R:64:PHE:HB2	18:R:67:ILE:HG12	1.64	0.77
1:A:630:TRP:O	1:A:632:ALA:N	2.18	0.77
3:C:482:TYR:CE2	3:C:493:PHE:CD2	2.71	0.77
6:F:36:A:H2'	6:F:37:C:O5'	1.85	0.77
12:L:37:LEU:HD12	12:L:158:ARG:CZ	2.14	0.77
22:V:515:CYS:HA	22:V:521:TYR:CB	2.14	0.77
23:W:265:LEU:CD1	23:W:300:SER:CB	2.55	0.77
14:N:117:CYS:SG	14:N:119:CYS:HB3	2.23	0.77
1:A:768:ASP:O	1:A:771:VAL:HG12	1.85	0.77
6:F:27:A:C8	15:O:181:TYR:OH	2.36	0.77
22:V:449:GLU:CG	22:V:452:LEU:HD12	2.15	0.77
23:W:464:MET:SD	23:W:478:CYS:CB	2.72	0.77
1:A:264:PHE:CG	1:A:459:LEU:HD11	2.19	0.77
3:C:221:ILE:CG1	3:C:479:THR:OG1	2.33	0.77
13:M:210:TYR:CD2	13:M:216:ALA:HA	2.20	0.77
1:A:467:GLN:HE21	2:B:19:A:N6	1.83	0.77
1:A:658:ARG:NH1	6:F:67:G:OP1	2.17	0.77
5:E:108:HIS:CE1	5:E:128:SER:HB2	2.20	0.77
7:G:147:C:C2'	7:G:148:U:H6	1.98	0.77
19:S:131:ARG:HH12	19:S:133:CYS:HA	1.49	0.77
26:Z:140:VAL:HG11	26:Z:145:THR:CG2	2.14	0.77
23:W:389:ASN:HB3	23:W:405:ILE:HG22	1.66	0.77
23:W:479:GLN:HE21	23:W:514:VAL:CG1	1.98	0.77
1:A:434:HIS:ND1	1:A:435:CYS:SG	2.58	0.76
5:E:248:SER:HB2	5:E:249:TYR:CD1	2.20	0.76
7:G:116:C:OP2	17:Q:557:ARG:HD2	1.85	0.76
15:O:131:THR:CG2	23:W:108:ARG:HD3	2.15	0.76
15:O:256:GLY:HA2	18:R:70:ALA:HB3	1.67	0.76
18:R:262:ILE:HG21	18:R:267:ARG:HH11	1.50	0.76
1:A:1949:ARG:HD2	1:A:1986:LEU:HD21	1.66	0.76
3:C:749:THR:HG1	3:C:752:SER:HB2	1.50	0.76
4:D:424:ALA:HB3	4:D:888:PRO:HG2	1.66	0.76
6:F:27:A:C2	15:O:181:TYR:CE2	2.72	0.76
13:M:210:TYR:CD2	13:M:216:ALA:CB	2.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:178:ARG:HD2	23:W:199:TYR:CD1	2.20	0.76
8:H:143:A:H3'	8:H:143:A:N3	2.00	0.76
18:R:64:PHE:HB3	18:R:67:ILE:HD11	1.62	0.76
22:V:514:PHE:O	22:V:521:TYR:CB	2.34	0.76
1:A:1341:ARG:NH2	1:A:1342:TRP:CH2	2.53	0.76
8:H:39:U:H2'	8:H:40:C:C6	2.21	0.76
1:A:176:LEU:HD13	1:A:181:ASN:HD22	1.50	0.76
5:E:74:PHE:CD1	5:E:81:LEU:HD23	2.21	0.76
18:R:103:ARG:HH11	18:R:103:ARG:CB	1.98	0.76
18:R:262:ILE:CG2	18:R:267:ARG:NH1	2.47	0.76
18:R:306:ALA:O	18:R:310:ARG:HG3	1.84	0.76
22:V:584:LYS:HG3	22:V:634:ILE:HG12	1.67	0.76
1:A:767:VAL:HB	1:A:771:VAL:HG11	1.66	0.76
1:A:919:ASP:OD2	1:A:1012:LYS:HE3	1.85	0.76
4:D:539:ILE:HB	4:D:612:ILE:HG22	1.65	0.76
6:F:5:U:H3'	6:F:7:G:H5"	1.68	0.76
19:S:131:ARG:NH1	19:S:133:CYS:CA	2.47	0.76
23:W:203:LYS:HE3	23:W:204:ASP:H	1.49	0.76
26:Z:361:LYS:O	26:Z:365:LYS:HG2	1.84	0.76
7:G:20:A:HO2'	7:G:21:A:P	2.08	0.76
13:M:126:ASP:OD2	13:M:128:ALA:CB	2.33	0.76
18:R:132:LEU:HD23	18:R:132:LEU:H	1.50	0.76
23:W:255:LEU:HD12	23:W:256:HIS:HA	1.66	0.76
18:R:124:VAL:HG23	20:T:185:MET:SD	2.26	0.76
18:R:233:PRO:O	18:R:234:SER:OG	2.03	0.76
23:W:137:TYR:HD1	23:W:158:GLU:HB2	1.51	0.76
23:W:178:ARG:CG	23:W:199:TYR:HE1	1.98	0.76
23:W:474:LYS:HG2	23:W:491:GLN:HE22	1.50	0.76
23:W:499:LYS:HA	23:W:499:LYS:HZ3	1.51	0.76
13:M:205:ASP:OD1	13:M:206:ALA:N	2.19	0.76
1:A:758:ARG:NH2	1:A:775:ASN:ND2	2.34	0.76
3:C:706:GLN:HE21	3:C:708:THR:H	1.33	0.76
22:V:264:ILE:HG13	22:V:274:CYS:SG	2.25	0.76
23:W:479:GLN:OE1	23:W:512:CYS:CB	2.34	0.76
1:A:1641:ARG:HH11	1:A:1641:ARG:HG3	1.49	0.75
22:V:487:LYS:NZ	22:V:491:ASN:CG	2.40	0.75
3:C:482:TYR:CD2	3:C:493:PHE:HB2	2.20	0.75
23:W:203:LYS:HE3	23:W:203:LYS:CA	2.16	0.75
26:Z:112:ILE:HG23	26:Z:113:THR:HG23	1.67	0.75
15:O:247:ASP:OD2	15:O:294:ASN:ND2	2.19	0.75
19:S:88:PRO:O	19:S:91:LYS:HE3	1.86	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:255:LEU:HD12	23:W:256:HIS:N	2.01	0.75
23:W:278:LYS:HD2	23:W:278:LYS:C	2.06	0.75
1:A:1953:ILE:CD1	1:A:1986:LEU:CD1	2.64	0.75
20:T:351:ASP:O	20:T:352:THR:OG1	2.03	0.75
12:L:59:LYS:HE2	12:L:91:ARG:HH12	1.52	0.75
23:W:179:LYS:O	23:W:200:VAL:CG2	2.33	0.75
23:W:465:PRO:CG	23:W:481:MET:CE	2.63	0.75
1:A:378:PHE:CD1	1:A:379:GLU:N	2.54	0.75
1:A:1356:GLY:O	21:U:15:THR:HG22	1.86	0.75
12:L:12:ARG:HE	12:L:138:ARG:NH2	1.85	0.75
15:O:177:GLU:OE1	15:O:177:GLU:N	2.18	0.75
18:R:312:MET:HA	18:R:312:MET:CE	2.16	0.75
22:V:620:ASN:HB3	22:V:623:ASN:HB2	1.67	0.75
23:W:304:LEU:N	23:W:318:VAL:HG21	2.01	0.75
23:W:304:LEU:HB3	23:W:318:VAL:HG22	1.69	0.75
1:A:73:HIS:HB3	1:A:76:MET:HE3	1.68	0.75
1:A:805:GLU:OE1	16:P:194:PHE:CE1	2.40	0.75
6:F:27:A:C4	15:O:181:TYR:OH	2.39	0.75
22:V:468:ASP:O	22:V:506:PHE:HE2	1.69	0.75
22:V:540:GLU:OE1	22:V:541:THR:N	2.20	0.75
3:C:680:ASN:OD1	3:C:682:LYS:HB2	1.86	0.75
4:D:1205:THR:HG22	4:D:1249:GLU:HB3	1.68	0.75
23:W:198:LYS:O	23:W:199:TYR:O	2.04	0.75
1:A:305:ARG:HA	1:A:305:ARG:NH1	2.01	0.75
1:A:778:ARG:NH1	8:H:23:A:OP1	2.19	0.75
3:C:572:GLU:HG3	3:C:573:GLU:N	2.02	0.75
16:P:66:ARG:HH11	16:P:66:ARG:CB	2.00	0.75
9:I:720:ILE:O	9:I:721:LYS:CB	2.34	0.74
12:L:178:GLU:HA	12:L:181:ARG:HG2	1.69	0.74
1:A:2073:TRP:CD1	1:A:2074:ARG:HD2	2.22	0.74
1:A:384:VAL:HG12	3:C:331:PHE:CD2	2.22	0.74
13:M:152:LEU:O	13:M:156:HIS:CD2	2.40	0.74
22:V:471:GLU:OE2	22:V:475:LYS:HE3	1.86	0.74
8:H:40:C:C2'	8:H:41:U:C6	2.71	0.74
8:H:153:A:C2'	8:H:154:C:H5'	2.17	0.74
10:J:214:ILE:CD1	12:L:242:LEU:HB3	2.17	0.74
4:D:686:GLU:HB2	4:D:866:GLU:HG2	1.69	0.74
10:J:232:GLU:HG3	12:L:210:TYR:HE1	1.50	0.74
16:P:57:ARG:HG3	16:P:57:ARG:HH11	1.52	0.74
19:S:81:GLN:HA	19:S:108:ASN:O	1.87	0.74
23:W:517:SER:OG	23:W:522:TYR:N	2.19	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:536:ASP:CG	23:W:543:TYR:CD2	2.59	0.74
1:A:258:PHE:HZ	1:A:275:GLY:O	1.69	0.74
5:E:178:LEU:HD21	5:E:208:ILE:CD1	2.18	0.74
7:G:27:U:H2'	7:G:28:A:O5'	1.86	0.74
23:W:140:ASP:N	23:W:153:ILE:HG12	2.02	0.74
23:W:154:GLY:O	23:W:156:VAL:CG2	2.36	0.74
23:W:374:LYS:CG	23:W:397:ASP:HB2	2.18	0.74
23:W:501:ILE:C	23:W:502:PHE:HD1	1.90	0.74
10:J:493:ALA:HB1	10:J:499:ARG:CB	2.18	0.74
12:L:12:ARG:NE	12:L:138:ARG:NH2	2.36	0.74
14:N:40:LYS:O	14:N:41:ARG:CG	2.33	0.74
23:W:101:THR:HG23	23:W:104:MET:H	1.52	0.74
1:A:1868:MET:HE2	1:A:1872:LEU:HD11	1.70	0.74
3:C:349:PHE:CD1	3:C:356:PHE:CD1	2.64	0.74
10:J:353:GLU:OE1	10:J:358:GLU:CB	2.36	0.74
12:L:59:LYS:CE	12:L:91:ARG:HH12	2.00	0.74
13:M:160:PHE:HB3	13:M:161:PHE:CD1	2.23	0.74
19:S:13:ASN:HA	19:S:25:LEU:O	1.88	0.74
22:V:477:LEU:HD23	22:V:514:PHE:HE1	1.52	0.74
23:W:135:TYR:CE2	23:W:165:LEU:CD1	2.70	0.74
1:A:766:THR:HG21	2:B:39:C:N3	2.02	0.74
5:E:108:HIS:CE1	5:E:128:SER:CB	2.70	0.74
7:G:147:C:H5'	7:G:147:C:H6	1.53	0.74
8:H:106:G:H4'	8:H:107:A:O4'	1.88	0.74
10:J:203:LEU:CD1	10:J:204:GLU:N	2.51	0.74
12:L:144:MET:HE2	12:L:149:LEU:CG	2.18	0.74
12:L:251:LEU:HD13	12:L:254:GLU:H	1.52	0.74
23:W:88:MET:CE	23:W:89:PHE:HD2	2.00	0.74
3:C:679:PRO:HG2	3:C:807:GLN:OE1	1.87	0.74
3:C:736:GLY:CA	3:C:770:PHE:HE2	2.01	0.73
7:G:13:C:H2'	7:G:14:A:C8	2.23	0.73
8:H:179:C:H2'	8:H:180:G:H8	1.53	0.73
15:O:155:PRO:HG3	18:R:188:PHE:CD1	2.22	0.73
16:P:30:TYR:OH	18:R:162:ALA:O	2.04	0.73
2:B:19:A:O2'	2:B:20:G:OP1	2.04	0.73
3:C:736:GLY:CA	3:C:770:PHE:CE2	2.71	0.73
12:L:36:SER:OG	12:L:158:ARG:NH2	2.21	0.73
13:M:234:LYS:O	13:M:238:GLU:HG2	1.87	0.73
23:W:322:ARG:HH11	23:W:322:ARG:HG3	1.52	0.73
23:W:358:LEU:HD21	23:W:405:ILE:HD11	1.71	0.73
18:R:119:LEU:O	18:R:119:LEU:HD13	1.89	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:213:GLU:HG3	20:T:218:TRP:CE2	2.22	0.73
23:W:317:GLU:CG	23:W:321:GLU:HB2	2.17	0.73
7:G:129:G:H4'	23:W:541:LYS:HE2	1.71	0.73
13:M:162:PRO:CB	13:M:167:LEU:HB2	2.18	0.73
18:R:189:ASN:HD21	18:R:195:ARG:NH2	1.86	0.73
23:W:137:TYR:CB	23:W:159:ALA:HB2	2.17	0.73
5:E:178:LEU:HD11	5:E:222:LEU:CD2	2.18	0.73
7:G:26:U:H2'	7:G:27:U:H5"	1.69	0.73
15:O:240:GLY:HA3	15:O:296:ARG:HH12	1.51	0.73
24:X:60:PRO:HB2	24:X:61:PRO:HD2	1.69	0.73
3:C:482:TYR:HE2	3:C:493:PHE:CD2	2.06	0.73
7:G:146:C:C2'	7:G:147:C:H5"	2.19	0.73
7:G:149:G:H2'	7:G:150:U:H5'	1.70	0.73
8:H:18:U:OP2	13:M:221:LYS:NZ	2.17	0.73
10:J:186:GLU:HA	10:J:186:GLU:OE2	1.87	0.73
12:L:12:ARG:HE	12:L:138:ARG:HH22	1.35	0.73
13:M:163:THR:N	13:M:166:SER:HB3	2.04	0.73
13:M:211:ILE:HD12	13:M:212:ASN:N	2.04	0.73
18:R:66:GLU:OE2	18:R:66:GLU:N	2.21	0.73
18:R:263:PRO:CB	18:R:266:LYS:HG2	2.17	0.73
23:W:436:THR:HG21	23:W:464:MET:HB2	1.69	0.73
7:G:149:G:C2'	7:G:150:U:H5'	2.19	0.73
15:O:256:GLY:N	18:R:70:ALA:HB2	2.03	0.73
1:A:36:LYS:NZ	23:W:163:GLN:O	2.21	0.73
1:A:712:HIS:CE1	18:R:250:CYS:HB2	2.24	0.73
1:A:1384:ARG:HH21	1:A:1414:ARG:HH11	1.33	0.73
3:C:519:GLU:N	3:C:519:GLU:OE2	2.21	0.73
4:D:731:THR:HG22	4:D:784:ILE:HB	1.71	0.73
5:E:250:LEU:HD23	5:E:250:LEU:O	1.88	0.73
7:G:129:G:C4'	23:W:541:LYS:CE	2.63	0.73
15:O:20:PHE:CE1	18:R:177:ILE:HD11	2.24	0.73
18:R:58:PHE:CE1	18:R:73:PRO:HA	2.24	0.73
18:R:82:MET:HA	18:R:82:MET:HE3	1.68	0.73
23:W:253:SER:CB	23:W:255:LEU:HG	2.18	0.73
1:A:439:GLN:NE2	1:A:614:TYR:OH	2.22	0.73
3:C:671:SER:O	3:C:672:LEU:HD13	1.88	0.73
22:V:452:LEU:N	22:V:452:LEU:HD23	2.04	0.73
23:W:261:VAL:HG21	23:W:319:TYR:CD1	2.22	0.73
6:F:59:G:O2'	6:F:60:C:OP1	2.07	0.73
7:G:145:U:HO2'	7:G:146:C:H6	1.31	0.73
18:R:113:TYR:OH	20:T:402:ASP:OD1	2.06	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:271:PRO:CG	23:W:563:THR:CG2	2.67	0.73
23:W:533:ASN:HB2	23:W:535:TRP:CH2	2.24	0.73
1:A:2156:THR:OG1	1:A:2157:VAL:N	2.21	0.72
3:C:125:ASN:O	3:C:126:SER:OG	2.04	0.72
5:E:178:LEU:CD1	5:E:222:LEU:CD2	2.66	0.72
23:W:240:ILE:C	23:W:241:LEU:HD23	2.10	0.72
26:Z:116:ARG:NH1	26:Z:126:MET:HG2	2.03	0.72
3:C:93:ILE:HD11	20:T:240:LEU:HD23	1.71	0.72
5:E:209:ILE:HG21	5:E:250:LEU:CD1	2.19	0.72
1:A:381:PRO:HD2	3:C:334:ILE:HG22	1.71	0.72
3:C:452:THR:O	3:C:577:PHE:HA	1.88	0.72
3:C:510:LEU:HD22	3:C:514:TYR:CD2	2.24	0.72
4:D:1739:GLU:HG3	4:D:1744:THR:HB	1.71	0.72
23:W:245:GLU:HG2	23:W:323:ARG:NH2	2.04	0.72
1:A:181:ASN:O	1:A:185:VAL:HG22	1.89	0.72
1:A:845:ARG:HH22	1:A:1439:ARG:HB3	1.54	0.72
9:I:371:PRO:CA	17:Q:357:ALA:CB	2.51	0.72
23:W:140:ASP:CB	23:W:153:ILE:CD1	2.67	0.72
3:C:669:THR:CG2	3:C:690:GLU:OE1	2.37	0.72
6:F:34:G:C5'	6:F:34:G:H8	2.03	0.72
6:F:85:U:C5	13:M:127:TYR:CE2	2.78	0.72
7:G:137:C:C5	7:G:137:C:OP2	2.43	0.72
9:I:296:PHE:CA	9:I:305:SER:CB	2.66	0.72
10:J:406:PHE:CE2	10:J:411:MET:CE	2.72	0.72
20:T:314:ILE:HD12	20:T:324:HIS:HB2	1.70	0.72
23:W:300:SER:CA	23:W:561:HIS:CE1	2.73	0.72
1:A:298:ASP:O	1:A:302:ILE:HG12	1.90	0.72
1:A:344:ASP:OD1	1:A:347:LEU:HD12	1.89	0.72
6:F:28:A:H1'	14:N:39:GLY:O	1.87	0.72
7:G:7:G:O2'	7:G:8:C:H5'	1.90	0.72
16:P:72:ARG:NH1	16:P:72:ARG:HB2	2.05	0.72
22:V:547:VAL:O	22:V:550:MET:N	2.22	0.72
23:W:101:THR:O	23:W:104:MET:N	2.22	0.72
23:W:140:ASP:CB	23:W:153:ILE:CG1	2.68	0.72
23:W:140:ASP:CA	23:W:153:ILE:CD1	2.66	0.72
23:W:284:TRP:HE1	23:W:316:TRP:CB	2.02	0.72
1:A:1211:ASP:OD1	22:V:505:LYS:CB	2.37	0.72
1:A:1791:HIS:HE1	1:A:1799:THR:CG2	1.98	0.72
6:F:31:U:C2'	6:F:32:U:H5'	2.19	0.72
6:F:41:A:C2	7:G:6:A:C2	2.78	0.72
12:L:144:MET:HE3	12:L:152:LEU:HD12	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:100:MET:CG	19:S:108:ASN:OD1	2.36	0.72
23:W:258:PRO:CB	23:W:302:HIS:ND1	2.51	0.72
3:C:452:THR:HB	3:C:577:PHE:CD2	2.24	0.72
6:F:35:A:C5'	6:F:35:A:H8	2.03	0.72
8:H:153:A:H2'	8:H:154:C:C5'	2.19	0.72
10:J:192:GLU:N	10:J:195:LEU:HD11	2.03	0.72
12:L:61:THR:CG2	12:L:91:ARG:HH22	2.02	0.72
16:P:188:TRP:CZ3	16:P:189:ASP:HB2	2.25	0.72
19:S:13:ASN:HD22	19:S:24:VAL:HG11	1.54	0.72
22:V:330:LYS:O	22:V:333:GLN:HG3	1.89	0.72
22:V:637:GLY:O	22:V:644:ARG:NH2	2.22	0.72
23:W:245:GLU:HG2	23:W:323:ARG:HH22	1.55	0.72
23:W:491:GLN:O	23:W:493:ARG:N	2.23	0.72
20:T:318:ARG:HG3	20:T:319:THR:HG23	1.72	0.72
22:V:603:LEU:HD12	22:V:639:LEU:HD13	1.72	0.72
23:W:506:MET:HG3	23:W:506:MET:O	1.89	0.72
1:A:158:ARG:NH2	1:A:570:ASP:OD2	2.22	0.71
3:C:220:ARG:HG2	3:C:479:THR:HG21	1.72	0.71
3:C:350:ASN:CG	3:C:353:THR:HG23	2.10	0.71
23:W:155:SER:O	23:W:156:VAL:HG23	1.90	0.71
23:W:407:SER:OG	23:W:409:GLU:HB2	1.90	0.71
1:A:805:GLU:OE1	16:P:194:PHE:CZ	2.43	0.71
5:E:246:GLU:HB2	5:E:248:SER:OG	1.90	0.71
13:M:239:ARG:HG2	13:M:239:ARG:HH11	1.55	0.71
15:O:197:ASN:OD1	15:O:198:ILE:N	2.22	0.71
23:W:162:ASN:HD22	23:W:165:LEU:HD22	1.49	0.71
23:W:423:THR:CG2	23:W:467:VAL:HG12	2.18	0.71
1:A:684:GLU:OE2	20:T:266:GLU:O	2.09	0.71
3:C:490:PHE:CZ	3:C:612:LYS:HD2	2.24	0.71
3:C:507:VAL:C	3:C:568:PRO:HB3	2.10	0.71
4:D:1901:ARG:HH11	4:D:1961:LYS:HE2	1.54	0.71
5:E:243:LEU:CD1	5:E:247:GLY:CA	2.68	0.71
15:O:262:THR:HB	15:O:271:PHE:HB2	1.72	0.71
1:A:57:GLN:NE2	2:B:13:C:O2'	2.19	0.71
1:A:533:LYS:HE2	6:F:37:C:C4	2.25	0.71
1:A:2324:GLU:HG2	1:A:2330:ARG:HH12	1.54	0.71
3:C:675:PHE:HD1	3:C:675:PHE:H	1.38	0.71
3:C:749:THR:O	3:C:753:GLU:N	2.22	0.71
7:G:129:G:C4'	23:W:541:LYS:HE2	2.21	0.71
23:W:255:LEU:HD12	23:W:256:HIS:CA	2.20	0.71
26:Z:121:GLU:HG2	26:Z:143:LYS:HD2	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:264:VAL:HA	5:E:272:ARG:NH2	2.04	0.71
20:T:292:TYR:CE2	20:T:308:ARG:HG3	2.25	0.71
23:W:162:ASN:CB	23:W:165:LEU:CD2	2.63	0.71
1:A:772:CYS:SG	1:A:1249:MET:SD	2.89	0.71
3:C:240:GLU:OE2	3:C:292:TYR:OH	2.06	0.71
3:C:250:ARG:NE	3:C:451:HIS:NE2	2.39	0.71
12:L:243:ARG:O	12:L:246:ASP:N	2.22	0.71
15:O:235:TYR:HD1	15:O:271:PHE:HE1	1.38	0.71
18:R:70:ALA:O	18:R:71:GLN:O	2.07	0.71
23:W:140:ASP:CB	23:W:153:ILE:HG21	2.19	0.71
9:I:342:PRO:CB	17:Q:528:GLY:HA2	2.20	0.71
18:R:135:PRO:O	18:R:136:ASP:CG	2.28	0.71
20:T:455:GLN:HG2	20:T:456:PRO:CD	2.20	0.71
23:W:513:GLN:HB2	23:W:555:GLY:HA2	1.73	0.71
1:A:344:ASP:OD1	1:A:347:LEU:CD1	2.39	0.71
7:G:21:A:N6	15:O:91:GLY:O	2.24	0.71
7:G:138:A:H2	8:H:39:U:O2	1.71	0.71
12:L:135:LYS:HZ3	12:L:136:PRO:HD2	1.53	0.71
23:W:277:PRO:HB2	23:W:578:TRP:C	2.10	0.71
23:W:292:SER:OG	23:W:307:CYS:HB2	1.89	0.71
1:A:293:TRP:HB2	1:A:1136:ARG:CZ	2.21	0.71
3:C:678:THR:CG2	3:C:683:ASN:CB	2.66	0.71
5:E:287:ASN:O	5:E:289:LEU:HD23	1.91	0.71
13:M:211:ILE:CD1	13:M:212:ASN:HB2	2.20	0.71
1:A:377:GLU:O	1:A:378:PHE:CB	2.38	0.71
8:H:106:G:H21	8:H:107:A:N6	1.87	0.71
10:J:353:GLU:OE1	10:J:358:GLU:HB3	1.90	0.71
20:T:439:TRP:CZ3	20:T:446:ASN:HB2	2.25	0.71
5:E:87:ASP:O	5:E:88:ARG:HG3	1.91	0.70
10:J:221:ASN:HD21	12:L:211:ASN:CG	1.94	0.70
10:J:360:ASP:O	10:J:363:ARG:HG3	1.90	0.70
15:O:137:LEU:HD12	15:O:140:ALA:HB3	1.73	0.70
15:O:226:PRO:HB2	15:O:277:ARG:HH21	1.55	0.70
23:W:277:PRO:CB	23:W:578:TRP:O	2.39	0.70
26:Z:140:VAL:CG1	26:Z:145:THR:HG21	2.16	0.70
3:C:244:LYS:CB	3:C:292:TYR:CE2	2.73	0.70
6:F:36:A:C2'	6:F:37:C:O5'	2.39	0.70
23:W:269:MET:HA	23:W:269:MET:HE1	1.72	0.70
1:A:1384:ARG:NH2	1:A:1414:ARG:NH1	2.39	0.70
4:D:1737:ASN:HB2	4:D:1796:LEU:HD21	1.73	0.70
17:Q:1059:ILE:HG13	17:Q:1088:LEU:HD11	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:193:LEU:HD12	1:A:194:GLU:N	2.06	0.70
1:A:293:TRP:HB2	1:A:1136:ARG:HH21	1.56	0.70
1:A:1641:ARG:HG3	1:A:1641:ARG:NH1	2.06	0.70
12:L:268:LYS:HE2	12:L:268:LYS:HA	1.73	0.70
18:R:129:ASP:HB2	18:R:132:LEU:HD21	1.72	0.70
3:C:445:ALA:C	3:C:449:ILE:HG13	2.11	0.70
3:C:508:LYS:HE3	3:C:566:THR:CG2	2.21	0.70
18:R:171:LEU:CD1	18:R:201:GLU:CD	2.59	0.70
23:W:139:LEU:HD12	23:W:139:LEU:H	1.55	0.70
23:W:257:ILE:HD12	23:W:257:ILE:N	2.05	0.70
23:W:374:LYS:HD3	23:W:397:ASP:CG	2.11	0.70
23:W:433:PHE:CE1	23:W:445:TRP:HB2	2.18	0.70
1:A:772:CYS:HG	1:A:1249:MET:CE	2.04	0.70
3:C:680:ASN:ND2	3:C:682:LYS:HG3	2.07	0.70
7:G:137:C:O2'	7:G:138:A:OP1	2.10	0.70
7:G:142:U:O2'	7:G:143:U:OP1	2.09	0.70
15:O:20:PHE:CD1	18:R:177:ILE:HD11	2.27	0.70
15:O:26:THR:OG1	15:O:159:ARG:NH2	2.23	0.70
23:W:140:ASP:HB3	23:W:153:ILE:HG21	1.74	0.70
23:W:242:HIS:HD2	23:W:324:CYS:SG	2.10	0.70
1:A:1938:LEU:HD11	26:Z:345:ALA:O	1.92	0.70
7:G:137:C:H6	7:G:137:C:C5'	2.04	0.70
15:O:78:LYS:O	15:O:97:ARG:NH2	2.24	0.70
16:P:2:THR:O	16:P:4:ALA:N	2.24	0.70
18:R:124:VAL:HG22	18:R:125:MET:N	2.05	0.70
23:W:443:ARG:NH2	23:W:455:TYR:HD2	1.87	0.70
19:S:61:MET:SD	23:W:95:PRO:HG3	2.31	0.70
22:V:457:ARG:HG3	22:V:457:ARG:NH2	2.04	0.70
23:W:443:ARG:NH2	23:W:455:TYR:HE2	1.85	0.70
1:A:384:VAL:HG12	3:C:331:PHE:HB3	1.73	0.70
4:D:509:LYS:NZ	44:D:2201:ADP:O1A	2.16	0.70
7:G:137:C:O2'	7:G:138:A:P	2.50	0.70
10:J:353:GLU:OE2	10:J:361:ARG:NH2	2.25	0.70
23:W:317:GLU:OE2	23:W:319:TYR:HB2	1.92	0.70
3:C:678:THR:HG21	3:C:683:ASN:ND2	2.06	0.69
5:E:243:LEU:HD11	5:E:247:GLY:CA	2.20	0.69
10:J:192:GLU:C	10:J:195:LEU:HD12	2.12	0.69
13:M:145:ASP:HB2	13:M:148:THR:OG1	1.92	0.69
22:V:470:GLU:OE2	22:V:513:ARG:NH1	2.25	0.69
23:W:123:PHE:CZ	23:W:168:PHE:CD2	2.80	0.69
23:W:126:GLU:CD	23:W:130:ARG:HH12	1.94	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:445:ALA:CB	3:C:466:SER:HA	2.21	0.69
6:F:57:U:O2'	16:P:8:THR:CB	2.39	0.69
18:R:90:VAL:CG1	18:R:94:GLY:O	2.40	0.69
1:A:253:ASN:CG	1:A:334:THR:HG1	1.95	0.69
1:A:300:ASN:C	3:C:939:ARG:HH21	1.95	0.69
1:A:1211:ASP:O	1:A:1213:VAL:N	2.25	0.69
3:C:387:ASP:C	3:C:388:VAL:HG12	2.08	0.69
5:E:263:ASP:HB3	5:E:274:VAL:HG21	1.74	0.69
7:G:-12:G:H4'	7:G:-11:G:OP1	1.91	0.69
8:H:11:G:N7	13:M:198:ARG:NH1	2.40	0.69
8:H:154:C:H2'	8:H:155:C:C6	2.27	0.69
20:T:434:GLY:CA	20:T:464:GLY:HA2	2.16	0.69
22:V:565:LEU:HD22	22:V:608:LEU:HD13	1.75	0.69
23:W:140:ASP:HB3	23:W:153:ILE:HG12	1.75	0.69
1:A:282:LEU:O	1:A:282:LEU:HD23	1.91	0.69
2:B:21:A:O3'	2:B:22:U:H4'	1.92	0.69
3:C:710:ASN:O	3:C:713:LYS:N	2.26	0.69
13:M:124:PHE:O	13:M:125:SER:OG	2.08	0.69
19:S:9:TRP:CZ2	19:S:44:ARG:HD3	2.27	0.69
22:V:449:GLU:HB3	22:V:452:LEU:HD12	1.74	0.69
22:V:548:ALA:HB1	22:V:585:ILE:CB	2.23	0.69
23:W:499:LYS:HE2	23:W:499:LYS:N	2.08	0.69
1:A:44:ARG:CG	1:A:45:TYR:CD2	2.74	0.69
15:O:144:SER:HA	15:O:148:LEU:HD13	1.72	0.69
20:T:185:MET:HB3	20:T:186:PRO:HD3	1.74	0.69
23:W:256:HIS:HB3	23:W:257:ILE:HD12	1.74	0.69
23:W:433:PHE:HE1	23:W:445:TRP:CB	2.04	0.69
1:A:1813:ARG:HB3	1:A:1813:ARG:CZ	2.21	0.69
6:F:31:U:O2'	6:F:32:U:H5'	1.92	0.69
7:G:18:A:N1	15:O:196:GLN:O	2.25	0.69
8:H:40:C:HO2'	8:H:41:U:H6	1.37	0.69
19:S:102:ASN:ND2	19:S:104:GLY:O	2.25	0.69
23:W:101:THR:O	23:W:102:GLN:C	2.30	0.69
23:W:140:ASP:HB3	23:W:153:ILE:CB	2.21	0.69
23:W:243:VAL:HG13	23:W:323:ARG:CZ	2.06	0.69
8:H:150:U:H3	8:H:181:G:H1	1.41	0.69
12:L:241:LYS:HZ3	12:L:241:LYS:HA	1.58	0.69
23:W:178:ARG:CG	23:W:199:TYR:CE1	2.76	0.69
1:A:293:TRP:HZ3	1:A:295:GLU:OE1	1.76	0.69
1:A:1953:ILE:CD1	1:A:1986:LEU:HD13	2.23	0.69
1:A:2146:VAL:HG22	1:A:2272:MET:HB2	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:790:THR:O	4:D:794:ARG:NH1	2.25	0.69
6:F:41:A:H2	7:G:6:A:H2	1.38	0.69
7:G:16:G:O2'	7:G:17:U:OP2	2.10	0.69
13:M:151:ARG:HH11	13:M:151:ARG:HG2	1.56	0.69
15:O:20:PHE:CD1	18:R:177:ILE:CD1	2.75	0.69
18:R:314:GLN:HA	18:R:314:GLN:NE2	2.06	0.69
20:T:385:TYR:O	20:T:400:PHE:HB2	1.92	0.69
23:W:348:LEU:HD12	23:W:391:PHE:CE2	2.27	0.69
1:A:360:SER:HB3	22:V:337:GLU:OE2	1.91	0.69
6:F:22:A:OP2	23:W:130:ARG:NH2	2.24	0.69
10:J:214:ILE:HD12	10:J:214:ILE:N	2.08	0.69
18:R:171:LEU:HD23	18:R:171:LEU:O	1.92	0.69
23:W:317:GLU:CB	23:W:321:GLU:HB2	2.23	0.69
23:W:404:ASP:OD2	23:W:407:SER:HB3	1.93	0.69
3:C:700:ILE:CG2	3:C:735:PHE:CD2	2.74	0.69
4:D:2041:LEU:HB2	4:D:2088:ALA:HB3	1.74	0.69
6:F:22:A:H5"	14:N:116:ASN:O	1.92	0.69
13:M:235:GLN:O	13:M:238:GLU:HG3	1.93	0.69
15:O:276:THR:HG23	15:O:279:ALA:H	1.57	0.69
20:T:306:CYS:SG	20:T:336:VAL:CB	2.79	0.69
3:C:363:SER:O	3:C:364:SER:OG	2.08	0.68
4:D:637:ARG:NH1	4:D:918:ASN:OD1	2.27	0.68
8:H:153:A:N6	8:H:177:A:C2	2.60	0.68
10:J:192:GLU:CA	10:J:195:LEU:HD11	2.22	0.68
12:L:241:LYS:O	12:L:241:LYS:NZ	2.21	0.68
15:O:80:VAL:HG11	15:O:94:ILE:HD11	1.74	0.68
20:T:318:ARG:HH11	20:T:319:THR:HG23	1.57	0.68
22:V:468:ASP:O	22:V:506:PHE:CE2	2.46	0.68
23:W:212:GLU:C	23:W:214:LYS:H	1.97	0.68
26:Z:316:ARG:O	26:Z:321:THR:HG21	1.92	0.68
1:A:44:ARG:HG3	1:A:45:TYR:CD2	2.27	0.68
3:C:452:THR:CB	3:C:577:PHE:HD2	2.06	0.68
3:C:511:GLY:O	3:C:576:ILE:HD12	1.90	0.68
6:F:7:G:H5'	6:F:7:G:H8	1.58	0.68
6:F:39:A:O2'	6:F:40:U:H5'	1.93	0.68
16:P:31:SER:N	16:P:34:ASP:OD2	2.27	0.68
22:V:489:LEU:O	22:V:492:MET:CB	2.37	0.68
23:W:466:ALA:CB	23:W:512:CYS:O	2.41	0.68
1:A:712:HIS:ND1	18:R:250:CYS:HB2	2.08	0.68
3:C:669:THR:HG22	3:C:690:GLU:OE1	1.93	0.68
3:C:680:ASN:OD1	3:C:682:LYS:HG3	1.86	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:152:LEU:O	13:M:156:HIS:HD2	1.75	0.68
18:R:123:GLU:OE1	18:R:124:VAL:N	2.24	0.68
23:W:241:LEU:HD23	23:W:241:LEU:N	2.08	0.68
23:W:322:ARG:H	23:W:322:ARG:NH1	1.88	0.68
23:W:462:HIS:ND1	23:W:482:ASP:HB3	2.07	0.68
1:A:880:ARG:HG3	1:A:881:ILE:N	2.08	0.68
1:A:1868:MET:HE3	1:A:1872:LEU:HG	1.75	0.68
7:G:-11:G:H5'	7:G:-10:C:C5	2.29	0.68
1:A:300:ASN:CB	3:C:939:ARG:NH2	2.57	0.68
3:C:453:TYR:CZ	3:C:575:GLN:HB2	2.29	0.68
6:F:83:A:OP2	10:J:247:LYS:NZ	2.26	0.68
18:R:88:ILE:CG2	18:R:96:ILE:CG2	2.72	0.68
18:R:171:LEU:HD12	18:R:201:GLU:CD	2.13	0.68
1:A:1390:ALA:HB2	25:Y:410:VAL:HG11	1.76	0.68
3:C:96:PRO:CB	20:T:276:GLU:OE2	2.41	0.68
3:C:389:ASP:OD1	3:C:389:ASP:N	2.26	0.68
5:E:146:ARG:HH12	5:E:148:LYS:CE	1.71	0.68
10:J:203:LEU:CD1	10:J:204:GLU:H	2.06	0.68
18:R:62:GLY:H	19:S:132:VAL:HG23	1.58	0.68
23:W:463:SER:HB3	23:W:481:MET:HG2	1.74	0.68
1:A:368:GLN:OE1	1:A:368:GLN:HA	1.92	0.68
5:E:265:ARG:H	5:E:272:ARG:HH21	1.42	0.68
6:F:42:C:H3'	6:F:43:A:C8	2.28	0.68
8:H:40:C:H2'	8:H:41:U:C5	2.29	0.68
18:R:178:ARG:CD	18:R:194:GLN:NE2	2.51	0.68
1:A:1017:ILE:HD12	1:A:1024:HIS:NE2	2.08	0.68
3:C:350:ASN:HB3	3:C:353:THR:HG23	1.74	0.68
3:C:470:PRO:HA	3:C:499:GLY:CA	2.23	0.68
3:C:478:THR:OG1	3:C:563:ALA:O	2.12	0.68
3:C:725:ASP:OD1	3:C:728:ALA:N	2.23	0.68
7:G:1:G:H4'	7:G:2:U:OP1	1.94	0.68
7:G:18:A:H2	15:O:196:GLN:O	1.77	0.68
22:V:477:LEU:CD2	22:V:514:PHE:CE1	2.76	0.68
23:W:464:MET:SD	23:W:478:CYS:HB3	2.34	0.68
4:D:2043:ARG:HB3	4:D:2086:GLN:HA	1.76	0.68
8:H:152:G:O3'	8:H:153:A:O4'	2.11	0.68
12:L:251:LEU:HD13	12:L:254:GLU:CB	2.24	0.68
15:O:196:GLN:HE21	15:O:208:PRO:HG2	1.59	0.68
23:W:88:MET:SD	23:W:89:PHE:HB2	2.33	0.68
23:W:156:VAL:HG12	23:W:160:GLU:OE1	1.94	0.68
23:W:317:GLU:CG	23:W:321:GLU:HG3	2.22	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:102:PHE:CE1	12:L:106:LYS:HG2	2.28	0.68
15:O:31:ASN:OD1	15:O:33:TYR:N	2.27	0.68
15:O:147:LEU:O	15:O:151:ALA:N	2.27	0.68
15:O:243:ILE:HG12	15:O:294:ASN:HD22	1.59	0.68
23:W:140:ASP:CB	23:W:153:ILE:HG12	2.24	0.68
1:A:348:PRO:HB3	1:A:394:TYR:CE2	2.29	0.67
1:A:2328:ALA:HB3	4:D:728:ARG:NE	2.09	0.67
3:C:700:ILE:HG21	3:C:741:GLY:O	1.94	0.67
8:H:143:A:H2'	8:H:144:C:H6	1.59	0.67
10:J:212:GLN:HB3	23:W:508:ALA:HB1	1.76	0.67
14:N:128:VAL:HG13	14:N:130:ARG:N	2.05	0.67
15:O:283:ALA:O	15:O:287:SER:OG	2.12	0.67
22:V:329:ASP:O	22:V:333:GLN:HG2	1.95	0.67
23:W:139:LEU:HD12	23:W:139:LEU:N	2.08	0.67
23:W:488:PHE:CD1	23:W:496:LEU:CB	2.74	0.67
23:W:517:SER:HB3	23:W:558:TRP:CZ3	2.28	0.67
1:A:628:GLY:O	1:A:629:PHE:HB2	1.94	0.67
1:A:1352:HIS:CD2	21:U:5:ILE:CD1	2.76	0.67
3:C:510:LEU:HD22	3:C:514:TYR:HE2	1.59	0.67
4:D:1963:LEU:HD22	4:D:2007:VAL:HG13	1.76	0.67
6:F:85:U:H3'	6:F:86:U:H5'	1.74	0.67
10:J:191:ALA:O	10:J:192:GLU:C	2.32	0.67
13:M:118:LYS:HA	13:M:118:LYS:HZ3	1.59	0.67
13:M:210:TYR:CD2	13:M:216:ALA:HB2	2.30	0.67
20:T:399:LYS:HG2	20:T:406:ILE:CD1	2.23	0.67
22:V:483:GLU:O	22:V:486:THR:CB	2.42	0.67
22:V:622:ARG:HA	22:V:625:ARG:HH11	1.58	0.67
23:W:265:LEU:HD12	23:W:300:SER:HB2	1.73	0.67
1:A:280:GLU:OE1	21:U:9:THR:HG21	1.95	0.67
1:A:312:TYR:OH	3:C:886:ASP:OD2	2.13	0.67
1:A:1764:SER:OG	1:A:1765:SER:N	2.26	0.67
1:A:1774:ASN:H	26:Z:318:THR:HG21	1.60	0.67
3:C:256:CYS:SG	3:C:308:CYS:CB	2.82	0.67
3:C:256:CYS:SG	3:C:308:CYS:HB2	2.34	0.67
12:L:241:LYS:HA	12:L:241:LYS:NZ	2.09	0.67
19:S:39:PHE:HB3	19:S:129:PHE:HZ	1.22	0.67
23:W:391:PHE:CZ	23:W:405:ILE:HD12	2.29	0.67
23:W:518:PRO:O	23:W:519:ASP:HB3	1.94	0.67
3:C:449:ILE:HD11	3:C:466:SER:HA	1.76	0.67
5:E:116:HIS:O	5:E:124:LEU:HD12	1.93	0.67
19:S:77:ILE:HG13	19:S:78:TYR:HD1	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:499:GLN:OE1	26:Z:72:TRP:CE3	2.47	0.67
23:W:283:VAL:CG1	23:W:574:LEU:HD22	2.24	0.67
23:W:474:LYS:HA	23:W:490:ALA:HB3	1.75	0.67
25:Y:413:LYS:HG3	25:Y:425:ILE:HD11	1.76	0.67
1:A:1224:ARG:NH1	22:V:592:GLU:O	2.27	0.67
6:F:1:G:O2'	14:N:99:ASN:ND2	2.27	0.67
7:G:26:U:H2'	7:G:27:U:C5'	2.24	0.67
22:V:548:ALA:HB3	22:V:585:ILE:CB	2.22	0.67
23:W:101:THR:HG22	23:W:104:MET:CG	2.24	0.67
23:W:123:PHE:CE1	23:W:168:PHE:CE2	2.83	0.67
23:W:252:ARG:HB3	23:W:252:ARG:CZ	2.25	0.67
23:W:391:PHE:CE1	23:W:405:ILE:HD12	2.29	0.67
1:A:2306:HIS:CD2	1:A:2308:VAL:H	2.13	0.67
1:A:439:GLN:NE2	1:A:614:TYR:CE2	2.48	0.67
1:A:766:THR:HG21	2:B:39:C:C2	2.30	0.67
1:A:1134:TRP:O	1:A:1139:ARG:NH1	2.26	0.67
3:C:223:ASP:OD1	3:C:495:ARG:NH2	2.28	0.67
3:C:824:THR:O	3:C:824:THR:CG2	2.43	0.67
4:D:739:ARG:NH2	4:D:776:ASP:OD2	2.27	0.67
7:G:137:C:OP2	7:G:137:C:H5	1.78	0.67
7:G:142:U:H2'	7:G:143:U:C6	2.30	0.67
8:H:151:C:H2'	8:H:152:G:H8	1.60	0.67
26:Z:116:ARG:HH11	26:Z:126:MET:CG	2.06	0.67
1:A:344:ASP:OD1	1:A:344:ASP:N	2.27	0.67
1:A:700:GLY:C	1:A:701:ILE:HD13	2.14	0.67
3:C:301:SER:O	3:C:304:LEU:N	2.22	0.67
3:C:465:MET:CE	3:C:475:MET:CG	2.66	0.67
6:F:28:A:O2'	14:N:39:GLY:CA	2.43	0.67
20:T:267:ASP:O	20:T:268:LYS:CG	2.43	0.67
23:W:128:GLN:OE1	23:W:139:LEU:HD11	1.94	0.67
26:Z:121:GLU:CG	26:Z:143:LYS:HD2	2.23	0.67
1:A:609:LYS:HE2	41:A:3000:IHP:O31	1.95	0.67
1:A:1352:HIS:CD2	21:U:5:ILE:HD13	2.30	0.67
7:G:138:A:N1	8:H:39:U:O2	2.27	0.67
7:G:148:U:O2	7:G:148:U:H2'	1.95	0.67
10:J:203:LEU:HD13	10:J:204:GLU:CB	2.25	0.67
10:J:212:GLN:CB	23:W:508:ALA:HB1	2.24	0.67
23:W:241:LEU:HD22	23:W:326:ARG:HD2	1.76	0.67
3:C:473:PRO:O	3:C:474:LEU:HB3	1.95	0.66
4:D:1338:THR:O	4:D:1342:SER:OG	2.12	0.66
8:H:40:C:O2'	8:H:41:U:H6	1.73	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:151:C:O2	8:H:152:G:C8	2.48	0.66
22:V:549:LYS:O	22:V:552:ALA:N	2.28	0.66
23:W:384:ASP:OD2	23:W:430:ASN:CB	2.43	0.66
23:W:536:ASP:HB3	23:W:543:TYR:CE2	2.23	0.66
26:Z:140:VAL:CG1	26:Z:145:THR:CG2	2.73	0.66
6:F:33:G:H5"	6:F:33:G:C8	2.28	0.66
15:O:171:GLY:HA2	23:W:208:PRO:CD	2.25	0.66
12:L:28:LYS:HE3	18:R:268:LEU:HD23	1.76	0.66
12:L:37:LEU:CD2	12:L:155:ALA:CB	2.70	0.66
18:R:185:GLY:O	18:R:186:VAL:HG22	1.95	0.66
20:T:399:LYS:CG	20:T:406:ILE:CD1	2.67	0.66
23:W:303:LEU:C	23:W:318:VAL:CG2	2.61	0.66
1:A:758:ARG:NH2	1:A:775:ASN:HD22	1.92	0.66
9:I:371:PRO:CB	17:Q:357:ALA:HB1	2.17	0.66
15:O:228:ASP:OD2	17:Q:544:ASN:HB3	1.95	0.66
23:W:453:PHE:CD1	23:W:454:LYS:HB2	2.30	0.66
1:A:44:ARG:CD	1:A:45:TYR:CE2	2.78	0.66
1:A:380:LEU:HD23	3:C:349:PHE:HE1	1.59	0.66
3:C:678:THR:HG21	3:C:683:ASN:CB	2.23	0.66
23:W:534:ILE:HD12	23:W:544:SER:CB	2.26	0.66
1:A:406:TRP:CZ3	3:C:265:LEU:O	2.49	0.66
1:A:1775:GLN:HE21	26:Z:315:VAL:HG11	1.60	0.66
3:C:62:ASP:OD1	3:C:62:ASP:N	2.26	0.66
4:D:1590:LEU:HD11	4:D:1597:LEU:HD11	1.78	0.66
5:E:310:TYR:CE1	5:E:322:LYS:CD	2.78	0.66
8:H:114:A:H61	8:H:142:C:H42	1.44	0.66
8:H:151:C:C2	8:H:152:G:C8	2.83	0.66
10:J:195:LEU:HD21	12:L:24:MET:HE1	1.77	0.66
23:W:354:ARG:HG2	23:W:354:ARG:HH11	1.60	0.66
23:W:534:ILE:HD12	23:W:544:SER:HB3	1.76	0.66
1:A:360:SER:OG	22:V:337:GLU:OE2	2.13	0.66
8:H:75:A:H61	8:H:77:C:H42	1.43	0.66
10:J:196:ARG:HA	13:M:208:ILE:CD1	2.25	0.66
16:P:72:ARG:HB2	16:P:72:ARG:HH11	1.59	0.66
18:R:181:PRO:O	18:R:182:SER:HB2	1.94	0.66
19:S:131:ARG:HH11	19:S:132:VAL:C	1.99	0.66
20:T:302:VAL:HG23	20:T:315:TRP:O	1.95	0.66
23:W:322:ARG:HG3	23:W:322:ARG:NH1	2.10	0.66
10:J:192:GLU:C	10:J:195:LEU:CD1	2.64	0.66
10:J:195:LEU:HD21	12:L:24:MET:CE	2.26	0.66
23:W:390:LEU:HD23	23:W:390:LEU:N	2.10	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:417:HIS:CD2	23:W:443:ARG:HG3	2.31	0.66
4:D:1052:ILE:HG12	4:D:1053:GLU:H	1.60	0.66
7:G:-11:G:H5'	7:G:-10:C:H5	1.60	0.66
8:H:40:C:O2'	8:H:41:U:C4'	2.44	0.66
8:H:41:U:H5"	8:H:41:U:H6	1.59	0.66
12:L:202:ARG:O	12:L:202:ARG:HG3	1.95	0.66
15:O:133:PRO:HD2	15:O:137:LEU:HD22	1.78	0.66
22:V:279:THR:O	22:V:283:GLU:HG3	1.96	0.66
23:W:140:ASP:CA	23:W:153:ILE:CG1	2.74	0.66
23:W:291:VAL:HG21	23:W:575:ILE:HD11	1.76	0.66
23:W:317:GLU:HG3	23:W:319:TYR:N	2.06	0.66
1:A:1795:GLU:OE1	12:L:172:ARG:NH2	2.29	0.66
8:H:168:A:C8	8:H:168:A:C5'	2.75	0.66
12:L:233:GLN:OE1	12:L:233:GLN:HA	1.96	0.66
13:M:152:LEU:HD21	13:M:160:PHE:CE1	2.31	0.66
18:R:72:TYR:CZ	18:R:78:ARG:HD2	2.31	0.66
18:R:88:ILE:HG23	18:R:96:ILE:CG2	2.26	0.66
22:V:497:CYS:O	22:V:500:GLN:HB2	1.95	0.66
23:W:495:ARG:O	23:W:495:ARG:HG2	1.95	0.66
3:C:471:ASP:N	3:C:499:GLY:HA2	2.11	0.65
3:C:706:GLN:NE2	3:C:708:THR:H	1.94	0.65
8:H:153:A:C3'	8:H:154:C:H5'	2.25	0.65
10:J:198:ALA:HB1	12:L:160:ALA:HB2	1.79	0.65
16:P:7:PRO:C	16:P:8:THR:HG23	2.16	0.65
22:V:330:LYS:HA	22:V:333:GLN:CG	2.25	0.65
23:W:216:LEU:O	23:W:220:THR:HG23	1.95	0.65
23:W:252:ARG:NH1	23:W:257:ILE:CG1	2.59	0.65
1:A:676:ARG:NH2	6:F:70:A:OP2	2.28	0.65
1:A:919:ASP:OD2	1:A:1012:LYS:CE	2.45	0.65
3:C:680:ASN:HD21	3:C:682:LYS:HG3	1.59	0.65
9:I:346:ASN:CB	17:Q:527:ILE:CA	2.75	0.65
13:M:211:ILE:HD12	13:M:212:ASN:HB2	1.77	0.65
18:R:67:ILE:HD13	18:R:67:ILE:N	2.11	0.65
23:W:217:ASP:O	23:W:220:THR:OG1	2.13	0.65
5:E:153:PHE:O	5:E:171:SER:HB2	1.96	0.65
7:G:143:U:H2'	7:G:145:U:C5	2.31	0.65
16:P:2:THR:C	16:P:4:ALA:H	1.98	0.65
23:W:281:ILE:N	23:W:281:ILE:HD12	2.11	0.65
23:W:533:ASN:CB	23:W:535:TRP:CH2	2.79	0.65
1:A:1949:ARG:CD	1:A:1986:LEU:HD21	2.26	0.65
2:B:23:C:O2'	2:B:24:G:O5'	2.15	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:85:U:H3'	6:F:86:U:C5'	2.25	0.65
8:H:67:C:H42	8:H:85:A:H61	1.44	0.65
23:W:420:ALA:N	23:W:438:ASP:CB	2.57	0.65
1:A:982:GLU:CD	1:A:1169:GLN:HG3	2.16	0.65
4:D:1130:ARG:NH1	4:D:1144:GLU:OE1	2.29	0.65
5:E:108:HIS:ND1	5:E:128:SER:HB2	2.12	0.65
7:G:138:A:N1	8:H:39:U:C2	2.64	0.65
18:R:297:LYS:CE	18:R:300:GLU:OE1	2.42	0.65
23:W:178:ARG:HD2	23:W:199:TYR:HD1	1.62	0.65
23:W:253:SER:OG	23:W:255:LEU:CG	2.44	0.65
1:A:663:ARG:NH1	6:F:64:U:OP2	2.29	0.65
1:A:1868:MET:CE	1:A:1872:LEU:HD11	2.26	0.65
3:C:679:PRO:HD3	3:C:811:THR:OG1	1.97	0.65
12:L:56:PRO:HB3	13:M:237:LEU:CD2	2.27	0.65
12:L:61:THR:HG23	12:L:91:ARG:HH22	1.59	0.65
22:V:488:GLU:HA	22:V:491:ASN:HB2	1.78	0.65
23:W:137:TYR:HB2	23:W:159:ALA:HB2	1.79	0.65
1:A:232:LEU:HD11	3:C:412:ILE:HD11	1.79	0.65
1:A:2319:LEU:HG	1:A:2320:LEU:N	2.11	0.65
3:C:89:LEU:HD23	3:C:89:LEU:C	2.17	0.65
4:D:947:PRO:HG2	4:D:948:LEU:HD12	1.78	0.65
4:D:1765:THR:HG23	4:D:1781:LEU:HD13	1.79	0.65
5:E:108:HIS:CE1	5:E:128:SER:HB3	2.32	0.65
20:T:458:SER:OG	20:T:459:LEU:N	2.25	0.65
23:W:481:MET:HE2	23:W:481:MET:HA	1.79	0.65
1:A:44:ARG:CG	1:A:45:TYR:CE2	2.79	0.65
1:A:381:PRO:CD	3:C:334:ILE:HG22	2.26	0.65
3:C:298:LEU:HD13	3:C:298:LEU:N	2.12	0.65
3:C:360:ALA:N	3:C:361:PRO:HD3	2.12	0.65
4:D:1565:SER:HB3	4:D:1568:GLN:HB2	1.77	0.65
6:F:6:C:OP2	6:F:6:C:H4'	1.95	0.65
15:O:131:THR:HG21	23:W:108:ARG:HG3	1.77	0.65
23:W:201:ASP:N	23:W:201:ASP:OD1	2.28	0.65
23:W:493:ARG:HB3	23:W:495:ARG:HD2	1.78	0.65
3:C:449:ILE:HG22	3:C:457:VAL:HG13	1.77	0.65
5:E:277:PHE:CE2	5:E:300:ILE:HD12	2.28	0.65
12:L:77:LEU:HD22	18:R:285:ALA:HA	1.79	0.65
14:N:38:GLU:HG2	14:N:39:GLY:H	1.61	0.65
22:V:603:LEU:HA	22:V:606:GLU:CG	2.27	0.65
23:W:97:ASN:OD1	23:W:99:PHE:HB2	1.97	0.65
1:A:82:ARG:NH2	7:G:14:A:OP2	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1835:GLN:OE1	1:A:1835:GLN:HA	1.96	0.65
3:C:474:LEU:HD23	3:C:474:LEU:C	2.17	0.65
5:E:178:LEU:HD21	5:E:208:ILE:HD13	1.79	0.65
5:E:251:LEU:CG	5:E:291:CYS:SG	2.85	0.65
18:R:61:GLY:CA	19:S:136:ILE:HB	2.25	0.65
19:S:34:LYS:HE3	19:S:78:TYR:CD2	2.32	0.65
23:W:440:LYS:CD	23:W:440:LYS:H	2.10	0.65
23:W:539:THR:CB	23:W:543:TYR:HH	2.10	0.65
26:Z:318:THR:HG23	26:Z:319:GLY:N	2.11	0.65
1:A:1436:TRP:CH2	1:A:1437:ARG:NH2	2.65	0.64
3:C:679:PRO:CD	3:C:807:GLN:HB3	2.07	0.64
4:D:1456:VAL:HG11	4:D:1489:ALA:HB1	1.79	0.64
15:O:22:ILE:HD13	23:W:111:LEU:HD23	1.79	0.64
20:T:455:GLN:NE2	20:T:456:PRO:HD2	2.12	0.64
3:C:706:GLN:NE2	3:C:708:THR:OG1	2.30	0.64
15:O:235:TYR:CD2	15:O:301:LYS:HB2	2.27	0.64
19:S:9:TRP:HE3	19:S:11:PRO:CD	2.11	0.64
3:C:350:ASN:CB	3:C:353:THR:HG23	2.27	0.64
3:C:463:GLU:OE1	3:C:463:GLU:N	2.29	0.64
3:C:482:TYR:CE2	3:C:493:PHE:CG	2.73	0.64
15:O:224:ASP:O	15:O:302:TRP:NE1	2.30	0.64
15:O:233:THR:HA	15:O:272:ILE:O	1.97	0.64
16:P:76:ARG:HG3	16:P:77:ASP:N	2.13	0.64
19:S:131:ARG:HH11	19:S:133:CYS:HA	1.46	0.64
20:T:455:GLN:HE21	20:T:456:PRO:HD2	1.63	0.64
23:W:210:GLU:OE1	23:W:210:GLU:N	2.31	0.64
3:C:186:VAL:HG22	3:C:535:ALA:HA	1.78	0.64
3:C:507:VAL:HA	3:C:568:PRO:CB	2.28	0.64
3:C:701:GLU:HA	3:C:740:THR:HG1	1.62	0.64
4:D:538:ILE:HB	4:D:585:ILE:HG12	1.79	0.64
4:D:589:THR:H	4:D:592:LYS:HE2	1.62	0.64
4:D:1433:ASP:OD1	4:D:1473:ARG:NH2	2.29	0.64
8:H:156:U:C6	8:H:156:U:C5'	2.72	0.64
10:J:214:ILE:HG22	10:J:219:GLU:CB	2.05	0.64
16:P:63:LEU:O	16:P:63:LEU:HD23	1.97	0.64
18:R:312:MET:HA	18:R:312:MET:HE2	1.76	0.64
20:T:185:MET:CB	20:T:186:PRO:HD3	2.27	0.64
23:W:123:PHE:CZ	23:W:168:PHE:CE2	2.84	0.64
3:C:93:ILE:HD11	20:T:240:LEU:CD2	2.27	0.64
7:G:147:C:C2	7:G:148:U:C6	2.86	0.64
15:O:19:ASP:OD1	15:O:20:PHE:N	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:203:LYS:HE3	23:W:204:ASP:N	2.12	0.64
23:W:388:GLN:OE1	23:W:388:GLN:HA	1.97	0.64
1:A:254:TYR:OH	1:A:434:HIS:HB3	1.98	0.64
3:C:77:VAL:HG11	20:T:196:LEU:HG	1.79	0.64
3:C:449:ILE:CD1	3:C:466:SER:CB	2.62	0.64
4:D:1973:ARG:HD2	4:D:1997:LEU:HD11	1.80	0.64
8:H:39:U:H2'	8:H:40:C:C5	2.32	0.64
18:R:64:PHE:CB	18:R:67:ILE:CD1	2.53	0.64
21:U:23:LEU:O	21:U:23:LEU:HD13	1.98	0.64
3:C:350:ASN:ND2	3:C:353:THR:HG23	2.13	0.64
8:H:41:U:H2'	8:H:42:G:C8	2.33	0.64
8:H:153:A:H3'	8:H:154:C:H5'	1.79	0.64
18:R:106:GLN:HG2	18:R:110:LYS:HE2	1.78	0.64
22:V:449:GLU:CB	22:V:452:LEU:HG	2.22	0.64
23:W:374:LYS:CD	23:W:397:ASP:OD2	2.45	0.64
26:Z:303:ASN:HB2	26:Z:304:PRO:HD3	1.79	0.64
1:A:48:LYS:O	1:A:53:PHE:CD2	2.50	0.64
1:A:203:VAL:CG2	1:A:237:THR:HB	2.26	0.64
1:A:464:PRO:O	1:A:465:LYS:HB3	1.97	0.64
1:A:1321:GLU:HB2	26:Z:66:TYR:OH	1.96	0.64
3:C:495:ARG:HD2	3:C:497:LEU:HD23	1.79	0.64
4:D:1104:TRP:O	4:D:1108:THR:HG23	1.97	0.64
4:D:1553:HIS:HB3	4:D:1701:ARG:HD2	1.79	0.64
5:E:233:GLY:O	5:E:260:ARG:NH2	2.29	0.64
16:P:3:THR:HB	16:P:6:ARG:HH21	1.62	0.64
1:A:203:VAL:CG2	1:A:237:THR:CB	2.76	0.64
1:A:1801:LYS:HD3	1:A:1802:PRO:HD2	1.79	0.64
3:C:439:PRO:HB2	3:C:443:VAL:HB	1.80	0.64
8:H:10:C:C4	13:M:198:ARG:NH1	2.66	0.64
10:J:408:ASP:OD1	10:J:442:ARG:HG2	1.98	0.64
1:A:381:PRO:HD2	3:C:334:ILE:CG2	2.26	0.64
1:A:1675:ASP:OD2	1:A:1678:ARG:HD2	1.97	0.64
3:C:220:ARG:O	3:C:448:LYS:HE3	1.98	0.64
3:C:333:ASP:OD1	3:C:333:ASP:N	2.31	0.64
8:H:147:G:H2'	8:H:148:C:H6	1.62	0.64
18:R:101:ILE:O	18:R:104:GLN:HG2	1.97	0.64
20:T:185:MET:SD	20:T:442:ARG:NH2	2.70	0.64
26:Z:112:ILE:HG13	26:Z:113:THR:H	1.63	0.64
1:A:297:ASN:HB3	1:A:1345:GLN:NE2	2.11	0.63
1:A:339:PHE:CD1	1:A:406:TRP:CZ3	2.86	0.63
3:C:295:ASP:OD1	3:C:297:ASN:N	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:359:LYS:HE3	3:C:359:LYS:O	1.97	0.63
23:W:176:GLU:HA	23:W:176:GLU:OE2	1.97	0.63
23:W:243:VAL:HG11	23:W:323:ARG:NH2	2.13	0.63
1:A:48:LYS:O	1:A:53:PHE:CG	2.51	0.63
3:C:669:THR:HG22	3:C:690:GLU:HB3	1.79	0.63
3:C:941:LYS:HG2	3:C:942:GLY:N	2.13	0.63
8:H:154:C:H2'	8:H:155:C:H6	1.63	0.63
14:N:116:ASN:OD1	14:N:116:ASN:N	2.30	0.63
15:O:171:GLY:HA2	23:W:208:PRO:CG	2.27	0.63
23:W:203:LYS:HA	23:W:203:LYS:CE	2.21	0.63
23:W:262:GLY:O	23:W:263:VAL:HG22	1.98	0.63
23:W:463:SER:O	23:W:480:SER:HA	1.98	0.63
1:A:901:LEU:CD1	1:A:904:HIS:HE1	2.08	0.63
1:A:1757:GLU:HB3	1:A:1759:THR:OG1	1.99	0.63
3:C:456:GLY:O	3:C:457:VAL:HG22	1.98	0.63
9:I:216:SER:O	17:Q:938:TYR:CD1	2.51	0.63
18:R:315:LYS:HE2	18:R:315:LYS:CA	2.29	0.63
19:S:12:PRO:CD	19:S:166:GLY:HA2	2.29	0.63
1:A:1889:LEU:CD1	1:A:2012:LEU:HG	2.28	0.63
4:D:447:VAL:HG22	4:D:687:GLN:HB2	1.80	0.63
4:D:1936:LEU:HD22	4:D:1940:LEU:HD11	1.81	0.63
5:E:277:PHE:HE2	5:E:300:ILE:HD13	1.62	0.63
15:O:245:GLU:O	15:O:248:LEU:N	2.31	0.63
23:W:137:TYR:CD1	23:W:158:GLU:CB	2.79	0.63
4:D:728:ARG:NH2	4:D:787:ALA:H	1.96	0.63
6:F:42:C:H5"	6:F:43:A:OP2	1.97	0.63
16:P:193:VAL:HG23	16:P:194:PHE:HD2	1.55	0.63
19:S:20:MET:CE	19:S:141:ARG:HD3	2.29	0.63
23:W:257:ILE:C	23:W:302:HIS:CE1	2.72	0.63
1:A:70:ILE:CD1	1:A:495:GLN:HG3	2.28	0.63
1:A:283:VAL:HG13	1:A:284:ARG:H	1.64	0.63
1:A:744:LYS:HD3	20:T:462:GLU:OE2	1.98	0.63
1:A:1504:GLU:HG3	1:A:1754:TYR:CZ	2.33	0.63
4:D:1992:GLU:HA	4:D:1995:ALA:HB3	1.80	0.63
10:J:192:GLU:OE2	10:J:196:ARG:NH1	2.32	0.63
12:L:102:PHE:CE1	12:L:106:LYS:CG	2.82	0.63
23:W:264:ASN:O	23:W:267:SER:CB	2.46	0.63
23:W:548:ALA:HB2	23:W:578:TRP:CZ3	2.33	0.63
4:D:1950:THR:OG1	4:D:2060:ARG:NH2	2.30	0.63
13:M:118:LYS:HG3	13:M:119:ASN:N	2.14	0.63
13:M:153:ARG:CB	13:M:160:PHE:CZ	2.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:154:GLU:HG3	13:M:155:LYS:N	2.13	0.63
16:P:54:VAL:HG13	16:P:59:PHE:HZ	1.64	0.63
22:V:449:GLU:CB	22:V:452:LEU:HD12	2.29	0.63
23:W:284:TRP:NE1	23:W:316:TRP:HB3	2.11	0.63
1:A:579:GLN:NE2	1:A:613:TYR:CE1	2.67	0.63
1:A:1790:ILE:CD1	24:X:76:SER:HB2	2.29	0.63
1:A:2105:ILE:HD13	1:A:2266:ARG:HH22	1.64	0.63
4:D:508:GLY:HA3	44:D:2201:ADP:H8	1.64	0.63
8:H:39:U:H6	8:H:39:U:C5'	2.07	0.63
10:J:226:ARG:NH1	12:L:181:ARG:HH12	1.97	0.63
10:J:297:ASN:OD1	12:L:223:GLY:O	2.15	0.63
15:O:102:SER:OG	15:O:139:LYS:NZ	2.22	0.63
20:T:185:MET:SD	20:T:442:ARG:NH1	2.72	0.63
22:V:540:GLU:OE1	22:V:541:THR:CG2	2.28	0.63
23:W:356:LEU:HD22	23:W:370:PHE:CD2	2.34	0.63
26:Z:122:ASN:OD1	26:Z:138:ARG:HG3	1.98	0.63
1:A:1332:HIS:ND1	1:A:1359:HIS:CE1	2.67	0.63
1:A:1494:TYR:CD2	1:A:1494:TYR:O	2.52	0.63
1:A:1502:PHE:HD1	1:A:1502:PHE:H	1.47	0.63
6:F:57:U:C1'	16:P:8:THR:HG21	2.28	0.63
7:G:120:G:C2'	7:G:121:G:O4'	2.46	0.63
8:H:164:C:H6	8:H:164:C:H5'	1.63	0.63
1:A:371:LEU:HD13	3:C:347:ILE:HD11	1.80	0.62
1:A:671:THR:O	1:A:676:ARG:NH1	2.32	0.62
1:A:980:ARG:HG2	1:A:1094:ARG:HD3	1.81	0.62
3:C:943:LEU:HD23	3:C:943:LEU:N	2.14	0.62
5:E:277:PHE:CE2	5:E:300:ILE:CD1	2.77	0.62
7:G:1:G:H1'	7:G:2:U:O5'	2.00	0.62
16:P:3:THR:O	16:P:6:ARG:NE	2.32	0.62
18:R:303:GLU:O	18:R:307:GLN:CD	2.37	0.62
23:W:271:PRO:HG2	23:W:563:THR:CG2	2.29	0.62
1:A:462:ARG:HD2	1:A:462:ARG:H	1.59	0.62
3:C:508:LYS:CE	3:C:566:THR:HG21	2.27	0.62
4:D:772:LEU:HB2	4:D:774:LEU:HG	1.81	0.62
4:D:2067:VAL:HG22	4:D:2079:ILE:HG13	1.81	0.62
10:J:221:ASN:ND2	12:L:211:ASN:OD1	2.18	0.62
23:W:255:LEU:HD12	23:W:255:LEU:C	2.18	0.62
1:A:587:GLN:O	1:A:587:GLN:HG2	1.98	0.62
2:B:19:A:H2'	2:B:20:G:H5"	1.81	0.62
3:C:456:GLY:C	3:C:457:VAL:HG13	2.19	0.62
3:C:567:GLU:OE2	3:C:570:GLY:HA3	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:260:ARG:NH1	5:E:276:ILE:HD11	2.14	0.62
7:G:147:C:H6	7:G:147:C:C5'	2.12	0.62
9:I:342:PRO:O	17:Q:528:GLY:N	2.32	0.62
1:A:701:ILE:HD13	1:A:701:ILE:N	2.14	0.62
8:H:20:G:N7	16:P:5:ALA:HB1	2.13	0.62
10:J:225:LEU:HD21	12:L:211:ASN:HB2	1.80	0.62
12:L:15:GLU:OE1	12:L:41:LYS:NZ	2.32	0.62
22:V:264:ILE:HD13	22:V:269:ALA:HB3	1.79	0.62
1:A:82:ARG:HB3	1:A:83:HIS:ND1	2.14	0.62
6:F:43:A:O5'	6:F:43:A:H8	1.82	0.62
10:J:408:ASP:OD1	10:J:443:ILE:HG22	1.98	0.62
18:R:95:LYS:HD3	18:R:95:LYS:N	2.15	0.62
20:T:455:GLN:HG3	20:T:485:THR:HG21	1.81	0.62
22:V:533:TYR:HA	22:V:536:ILE:HG13	1.80	0.62
23:W:126:GLU:HG2	23:W:130:ARG:CZ	2.30	0.62
1:A:2068:SER:HB2	1:A:2072:GLU:HB2	1.82	0.62
7:G:5:G:O5'	7:G:5:G:H8	1.81	0.62
18:R:110:LYS:HD2	18:R:110:LYS:C	2.19	0.62
18:R:303:GLU:O	18:R:307:GLN:HG2	1.99	0.62
1:A:163:ARG:NH2	1:A:625:PRO:O	2.32	0.62
1:A:371:LEU:HD11	3:C:347:ILE:HD11	1.81	0.62
6:F:27:A:O2'	6:F:28:A:C8	2.51	0.62
8:H:15:U:C2'	8:H:16:U:OP2	2.48	0.62
13:M:198:ARG:HG3	13:M:198:ARG:O	1.99	0.62
18:R:51:ILE:N	18:R:67:ILE:CG2	2.63	0.62
23:W:257:ILE:HG21	23:W:259:GLN:NE2	2.15	0.62
23:W:420:ALA:H	23:W:438:ASP:HB3	1.65	0.62
1:A:203:VAL:HG23	1:A:237:THR:CG2	2.18	0.62
1:A:682:ASP:OD2	8:H:21:C:H4'	2.00	0.62
3:C:452:THR:CB	3:C:577:PHE:CD2	2.81	0.62
3:C:534:VAL:HG12	3:C:535:ALA:H	1.65	0.62
13:M:210:TYR:CD2	13:M:216:ALA:CA	2.83	0.62
15:O:147:LEU:HA	15:O:150:LEU:HG	1.82	0.62
18:R:124:VAL:HG13	18:R:125:MET:H	1.65	0.62
20:T:318:ARG:HG3	20:T:318:ARG:HH11	1.62	0.62
22:V:549:LYS:HG2	22:V:589:GLU:HB2	1.81	0.62
23:W:252:ARG:HH12	23:W:257:ILE:CG1	2.12	0.62
23:W:284:TRP:CD1	23:W:316:TRP:CD2	2.87	0.62
1:A:1599:GLN:NE2	26:Z:271:ILE:HD11	2.15	0.62
3:C:476:CYS:CB	3:C:565:ILE:HB	2.26	0.62
3:C:737:PRO:HG3	3:C:774:THR:OG1	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:157:G:H5”	8:H:157:G:H8	1.65	0.62
13:M:210:TYR:CE2	13:M:216:ALA:CB	2.82	0.62
23:W:135:TYR:HB3	23:W:137:TYR:CE1	2.35	0.62
23:W:256:HIS:ND1	23:W:257:ILE:HG13	2.15	0.62
20:T:318:ARG:NH1	20:T:319:THR:CG2	2.63	0.62
23:W:402:GLN:NE2	23:W:447:TRP:CH2	2.67	0.62
1:A:1951:LYS:NZ	24:X:85:LEU:HD21	2.15	0.61
8:H:112:G:H2’	8:H:113:G:H8	1.65	0.61
8:H:152:G:C2	8:H:153:A:C5	2.87	0.61
23:W:257:ILE:HG21	23:W:259:GLN:HE21	1.64	0.61
25:Y:401:GLU:O	25:Y:405:MET:HG2	2.00	0.61
26:Z:155:VAL:HG12	26:Z:156:GLN:H	1.63	0.61
3:C:680:ASN:ND2	3:C:682:LYS:CG	2.63	0.61
8:H:143:A:H2’	8:H:144:C:C6	2.35	0.61
13:M:210:TYR:HD1	13:M:210:TYR:O	1.83	0.61
15:O:240:GLY:HA3	15:O:296:ARG:HH22	1.66	0.61
19:S:13:ASN:HD22	19:S:24:VAL:CG1	2.12	0.61
22:V:483:GLU:O	22:V:486:THR:N	2.30	0.61
3:C:680:ASN:CG	3:C:682:LYS:HG3	2.19	0.61
5:E:229:TYR:CE2	5:E:272:ARG:NH1	2.69	0.61
22:V:609:GLN:O	22:V:612:PHE:N	2.32	0.61
23:W:109:ASN:HB2	23:W:114:TYR:HD1	1.63	0.61
23:W:204:ASP:OD1	23:W:205:VAL:N	2.33	0.61
23:W:242:HIS:C	23:W:243:VAL:HG23	2.21	0.61
23:W:280:GLN:HA	23:W:577:LEU:O	2.00	0.61
26:Z:79:ARG:O	26:Z:81:THR:N	2.33	0.61
26:Z:91:LYS:HG3	26:Z:92:GLN:N	2.15	0.61
26:Z:179:MET:O	26:Z:182:VAL:HB	1.99	0.61
1:A:1793:THR:HG21	6:F:43:A:H5”	1.80	0.61
3:C:572:GLU:O	3:C:573:GLU:HB2	2.00	0.61
5:E:178:LEU:CD1	5:E:222:LEU:HD22	2.31	0.61
8:H:153:A:N6	8:H:177:A:H2	1.98	0.61
12:L:21:ALA:HA	12:L:24:MET:HE2	1.83	0.61
12:L:37:LEU:HD21	12:L:155:ALA:CA	2.30	0.61
12:L:101:GLU:O	12:L:105:ASP:HB2	2.00	0.61
14:N:40:LYS:C	14:N:41:ARG:CG	2.67	0.61
15:O:50:ARG:NH1	15:O:122:GLU:OE1	2.33	0.61
15:O:232:THR:HG22	15:O:277:ARG:HA	1.82	0.61
18:R:52:PRO:O	18:R:53:ARG:HB2	1.99	0.61
23:W:389:ASN:HB3	23:W:405:ILE:CG2	2.31	0.61
23:W:487:ILE:HD12	23:W:537:TRP:CH2	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:529:ASN:HD22	23:W:531:LYS:CE	2.08	0.61
1:A:60:ASP:OD1	1:A:60:ASP:N	2.34	0.61
1:A:300:ASN:C	3:C:939:ARG:HH22	1.89	0.61
3:C:350:ASN:HB3	3:C:353:THR:CG2	2.30	0.61
5:E:114:GLU:CD	5:E:116:HIS:HE2	2.03	0.61
5:E:232:ARG:O	5:E:262:TRP:HH2	1.83	0.61
8:H:33:G:H2'	8:H:34:U:C6	2.35	0.61
13:M:190:ILE:HG12	13:M:193:ARG:NH2	2.15	0.61
19:S:10:GLN:HA	19:S:29:TRP:CH2	2.35	0.61
20:T:347:THR:O	20:T:354:ILE:HG23	2.00	0.61
23:W:180:LYS:HB3	23:W:199:TYR:HA	1.83	0.61
23:W:203:LYS:CE	23:W:204:ASP:H	2.13	0.61
23:W:210:GLU:CA	23:W:213:GLN:HB2	2.28	0.61
23:W:261:VAL:HG11	23:W:319:TYR:OH	2.01	0.61
23:W:414:TYR:HD2	23:W:445:TRP:CZ3	2.18	0.61
2:B:12:U:O2'	2:B:13:C:O5'	2.18	0.61
3:C:508:LYS:CE	3:C:566:THR:CG2	2.79	0.61
6:F:41:A:H2	7:G:6:A:C2	2.16	0.61
12:L:20:LYS:HE3	12:L:54:LEU:HD11	1.83	0.61
13:M:152:LEU:HD23	13:M:152:LEU:C	2.20	0.61
20:T:459:LEU:HD12	20:T:460:ASP:N	2.14	0.61
23:W:317:GLU:CD	23:W:319:TYR:HD2	2.04	0.61
1:A:678:GLU:OE2	1:A:774:LYS:NZ	2.33	0.61
1:A:986:GLU:O	1:A:1029:GLY:HA2	2.01	0.61
3:C:470:PRO:CA	3:C:499:GLY:HA2	2.30	0.61
5:E:119:THR:HG23	5:E:161:ARG:HB3	1.78	0.61
7:G:13:C:H2'	7:G:14:A:H8	1.64	0.61
16:P:2:THR:C	16:P:4:ALA:N	2.54	0.61
23:W:290:GLY:CA	23:W:571:TRP:O	2.49	0.61
1:A:1502:PHE:HE1	1:A:1754:TYR:HB2	1.66	0.61
5:E:250:LEU:CD2	5:E:262:TRP:HB2	2.30	0.61
10:J:355:ARG:NH2	13:M:139:THR:HG23	2.15	0.61
1:A:549:GLU:OE1	1:A:552:ARG:NH1	2.33	0.61
19:S:39:PHE:HB2	19:S:129:PHE:HZ	1.04	0.61
22:V:225:LYS:HG2	22:V:405:ILE:HG12	1.82	0.61
22:V:472:CYS:CB	22:V:510:LEU:HD11	2.31	0.61
23:W:374:LYS:HD3	23:W:397:ASP:OD2	2.00	0.61
1:A:75:ASP:OD1	1:A:75:ASP:N	2.33	0.61
3:C:750:LEU:C	3:C:750:LEU:HD12	2.21	0.61
13:M:153:ARG:HG3	13:M:160:PHE:CD2	2.34	0.61
18:R:282:GLU:O	18:R:284:PHE:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:257:ARG:HD3	20:T:301:ASP:OD1	2.01	0.61
20:T:454:VAL:CG2	20:T:463:SER:OG	2.49	0.61
22:V:515:CYS:SG	22:V:522:MET:CA	2.89	0.61
23:W:253:SER:HB3	23:W:256:HIS:HB2	1.81	0.61
23:W:517:SER:HG	23:W:522:TYR:N	1.97	0.61
1:A:338:VAL:O	3:C:266:GLU:HG2	2.01	0.60
1:A:684:GLU:CD	20:T:266:GLU:HB3	2.21	0.60
8:H:142:C:C2'	8:H:143:A:H5'	2.30	0.60
12:L:144:MET:CE	12:L:152:LEU:HD12	2.30	0.60
13:M:163:THR:H	13:M:166:SER:CB	2.14	0.60
13:M:193:ARG:O	13:M:196:TYR:HB2	2.01	0.60
23:W:430:ASN:O	23:W:447:TRP:HB2	2.01	0.60
23:W:481:MET:CE	23:W:481:MET:HA	2.31	0.60
1:A:253:ASN:CG	1:A:334:THR:OG1	2.38	0.60
1:A:1504:GLU:CB	1:A:1754:TYR:CE2	2.84	0.60
3:C:250:ARG:NE	3:C:451:HIS:CD2	2.68	0.60
3:C:456:GLY:O	3:C:457:VAL:HG13	2.01	0.60
6:F:35:A:H5"	6:F:35:A:H8	1.64	0.60
7:G:130:A:O2'	7:G:131:U:P	2.59	0.60
10:J:220:LEU:HD13	10:J:220:LEU:C	2.22	0.60
22:V:250:LYS:HD3	22:V:288:ASP:CG	2.21	0.60
23:W:146:HIS:HB3	23:W:148:VAL:O	2.01	0.60
3:C:700:ILE:HA	3:C:705:VAL:CG2	2.30	0.60
12:L:72:LEU:HD21	12:L:103:LEU:HD12	1.83	0.60
19:S:131:ARG:HH11	19:S:133:CYS:CA	2.12	0.60
22:V:536:ILE:HG23	22:V:579:SER:CA	2.30	0.60
1:A:2073:TRP:CZ3	1:A:2310:ARG:HG2	2.36	0.60
3:C:445:ALA:CA	3:C:449:ILE:HG13	2.30	0.60
4:D:905:ILE:HG22	4:D:981:VAL:HG22	1.83	0.60
4:D:2124:VAL:O	4:D:2125:ASP:HB2	2.01	0.60
10:J:181:ASN:HD22	10:J:181:ASN:N	1.99	0.60
22:V:532:GLN:CG	22:V:536:ILE:HG12	2.31	0.60
23:W:140:ASP:CB	23:W:153:ILE:HG23	2.23	0.60
23:W:257:ILE:CG2	23:W:259:GLN:HE21	2.15	0.60
1:A:666:LYS:HB3	1:A:668:VAL:CG2	2.27	0.60
14:N:54:HIS:CD2	23:W:196:TRP:HZ3	2.20	0.60
22:V:152:LEU:HA	22:V:387:MET:CE	2.30	0.60
23:W:248:ASP:OD1	23:W:248:ASP:N	2.34	0.60
1:A:434:HIS:CE1	1:A:435:CYS:SG	2.94	0.60
3:C:736:GLY:HA2	3:C:770:PHE:CE2	2.36	0.60
4:D:1135:LEU:HD22	4:D:1140:VAL:HG23	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:108:HIS:ND1	5:E:128:SER:CB	2.64	0.60
12:L:146:GLU:HG2	12:L:147:ASP:OD1	2.02	0.60
20:T:318:ARG:HH11	20:T:319:THR:CG2	2.14	0.60
1:A:1334:LEU:HB2	22:V:471:GLU:HG3	1.84	0.60
3:C:619:THR:C	3:C:620:LYS:HG3	2.22	0.60
3:C:678:THR:HG23	3:C:683:ASN:H	1.67	0.60
12:L:208:VAL:CG2	15:O:110:SER:HB2	2.30	0.60
20:T:355:ARG:C	20:T:356:LEU:HD12	2.21	0.60
23:W:417:HIS:NE2	23:W:443:ARG:HG3	2.17	0.60
13:M:152:LEU:HD23	13:M:160:PHE:HZ	1.65	0.60
1:A:283:VAL:HG13	1:A:284:ARG:N	2.16	0.60
1:A:758:ARG:HD2	1:A:779:LEU:HD11	1.83	0.60
1:A:2106:LEU:HD12	1:A:2107:PRO:HD2	1.83	0.60
7:G:6:A:H2'	7:G:7:G:C8	2.37	0.60
13:M:223:GLU:O	13:M:227:GLY:HA3	2.02	0.60
13:M:239:ARG:HG2	13:M:239:ARG:NH1	2.16	0.60
20:T:213:GLU:HB2	20:T:218:TRP:O	2.02	0.60
20:T:327:SER:O	20:T:357:TRP:CH2	2.55	0.60
23:W:252:ARG:HH12	23:W:257:ILE:HG12	1.66	0.60
23:W:291:VAL:O	23:W:554:ILE:HD11	2.02	0.60
23:W:465:PRO:CG	23:W:481:MET:SD	2.89	0.60
25:Y:413:LYS:HE3	25:Y:425:ILE:HG13	1.84	0.60
1:A:406:TRP:CH2	3:C:265:LEU:O	2.55	0.60
15:O:132:ARG:HG3	15:O:137:LEU:HD23	1.84	0.60
18:R:237:MET:SD	18:R:241:GLU:CD	2.80	0.60
23:W:290:GLY:HA3	23:W:571:TRP:HA	1.84	0.60
5:E:146:ARG:NH1	5:E:148:LYS:NZ	2.50	0.59
10:J:196:ARG:HA	13:M:208:ILE:HD11	1.84	0.59
18:R:181:PRO:O	23:W:112:SER:O	2.20	0.59
22:V:530:LYS:O	22:V:532:GLN:N	2.35	0.59
3:C:449:ILE:CG2	3:C:457:VAL:HG12	2.25	0.59
6:F:85:U:O2'	6:F:86:U:H5"	2.02	0.59
7:G:18:A:C5'	15:O:69:GLU:OE1	2.44	0.59
12:L:243:ARG:O	12:L:245:GLN:N	2.35	0.59
15:O:89:GLU:CD	23:W:103:GLN:HB2	2.21	0.59
23:W:274:CYS:HB2	23:W:521:SER:OG	2.02	0.59
1:A:181:ASN:N	1:A:181:ASN:OD1	2.35	0.59
3:C:699:ASP:C	3:C:705:VAL:CG2	2.71	0.59
5:E:310:TYR:CZ	5:E:322:LYS:HD2	2.36	0.59
7:G:21:A:O2'	7:G:22:C:P	2.59	0.59
10:J:203:LEU:HD13	10:J:204:GLU:CA	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:359:VAL:O	10:J:363:ARG:HG2	2.02	0.59
12:L:37:LEU:CD2	12:L:155:ALA:HB2	2.33	0.59
13:M:118:LYS:HA	13:M:118:LYS:NZ	2.15	0.59
19:S:34:LYS:CE	19:S:78:TYR:CD2	2.85	0.59
23:W:144:ASP:N	23:W:144:ASP:OD1	2.36	0.59
26:Z:320:ASP:N	26:Z:320:ASP:OD1	2.35	0.59
1:A:358:PRO:HG3	22:V:340:PHE:HB2	1.82	0.59
1:A:1793:THR:CG2	6:F:43:A:H5'	2.21	0.59
1:A:1865:ARG:NH2	24:X:72:ALA:O	2.35	0.59
5:E:114:GLU:HG2	5:E:116:HIS:HD2	1.68	0.59
7:G:21:A:H61	15:O:92:LEU:HD23	1.66	0.59
13:M:160:PHE:C	13:M:162:PRO:HD3	2.23	0.59
1:A:1094:ARG:HH11	1:A:1094:ARG:CB	2.15	0.59
1:A:1770:GLU:OE1	26:Z:316:ARG:HB3	2.03	0.59
4:D:844:LEU:HD11	4:D:849:ILE:HG23	1.83	0.59
7:G:-12:G:O2'	7:G:-11:G:P	2.60	0.59
10:J:239:ARG:NH1	10:J:239:ARG:HG2	2.16	0.59
13:M:163:THR:N	13:M:166:SER:CB	2.66	0.59
13:M:168:LEU:HD23	13:M:168:LEU:H	1.67	0.59
19:S:11:PRO:HB3	19:S:165:SER:C	2.22	0.59
3:C:490:PHE:HZ	3:C:612:LYS:HD2	1.67	0.59
4:D:451:LYS:H	4:D:451:LYS:HE2	1.66	0.59
4:D:1777:SER:OG	4:D:1778:HIS:N	2.34	0.59
10:J:201:ARG:O	10:J:203:LEU:N	2.35	0.59
18:R:195:ARG:HH11	18:R:195:ARG:CB	2.14	0.59
20:T:342:GLU:HB3	20:T:343:PRO:HD3	1.84	0.59
20:T:356:LEU:HD12	20:T:356:LEU:N	2.18	0.59
23:W:382:ASN:CG	23:W:383:PRO:HD2	2.23	0.59
23:W:531:LYS:CB	23:W:546:PHE:O	2.50	0.59
1:A:1790:ILE:CG2	1:A:1798:LEU:HB3	2.33	0.59
3:C:445:ALA:CB	3:C:449:ILE:CG1	2.62	0.59
4:D:704:MET:HG3	4:D:870:ILE:HG21	1.83	0.59
12:L:144:MET:CE	12:L:149:LEU:HD21	2.30	0.59
14:N:128:VAL:HG11	14:N:130:ARG:HB3	1.83	0.59
14:N:128:VAL:CG1	14:N:130:ARG:HB3	2.32	0.59
17:Q:362:ARG:NH2	17:Q:405:GLU:OE1	2.35	0.59
18:R:119:LEU:HD13	18:R:119:LEU:C	2.23	0.59
19:S:77:ILE:HG13	19:S:78:TYR:CD1	2.37	0.59
22:V:536:ILE:CG2	22:V:579:SER:CA	2.79	0.59
1:A:1591:MET:HG3	26:Z:266:ARG:HD2	1.84	0.59
1:A:1678:ARG:HH11	1:A:1678:ARG:CG	2.10	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:166:SER:O	13:M:167:LEU:HD13	2.02	0.59
15:O:243:ILE:HG22	15:O:244:THR:O	2.03	0.59
20:T:318:ARG:HH11	20:T:318:ARG:CG	2.15	0.59
22:V:225:LYS:HE3	22:V:405:ILE:CG1	2.33	0.59
22:V:537:HIS:HA	22:V:578:SER:CB	2.26	0.59
1:A:762:ARG:HH22	16:P:226:LYS:HE2	1.68	0.59
1:A:1801:LYS:HE3	6:F:42:C:OP1	2.02	0.59
6:F:34:G:C5'	6:F:34:G:C8	2.85	0.59
7:G:22:C:O2	7:G:22:C:H2'	2.02	0.59
7:G:137:C:H6	7:G:137:C:O5'	1.85	0.59
8:H:40:C:HO2'	8:H:41:U:C1'	2.15	0.59
8:H:106:G:N2	8:H:107:A:C6	2.67	0.59
5:E:74:PHE:HE1	5:E:95:VAL:HG22	1.68	0.59
5:E:87:ASP:O	5:E:88:ARG:CB	2.50	0.59
6:F:27:A:O2'	6:F:28:A:N7	2.35	0.59
7:G:134:U:C5	7:G:135:G:N2	2.71	0.59
18:R:81:LYS:HZ1	18:R:81:LYS:HA	1.68	0.59
20:T:339:GLN:NE2	20:T:342:GLU:O	2.36	0.59
20:T:384:HIS:O	20:T:385:TYR:CB	2.48	0.59
23:W:552:VAL:HG13	23:W:571:TRP:CD1	2.36	0.59
3:C:259:LYS:HG3	42:C:1500:GTP:C6	2.37	0.58
4:D:545:ARG:O	4:D:549:GLN:HG2	2.03	0.58
7:G:134:U:C5'	7:G:135:G:OP2	2.51	0.58
13:M:211:ILE:HD12	13:M:211:ILE:C	2.24	0.58
18:R:60:ASP:N	18:R:60:ASP:OD1	2.36	0.58
23:W:276:LEU:HD12	23:W:276:LEU:N	2.09	0.58
23:W:536:ASP:OD1	23:W:543:TYR:CD2	2.55	0.58
1:A:182:ILE:HD11	1:A:562:VAL:HG13	1.84	0.58
3:C:89:LEU:O	3:C:91:GLU:N	2.36	0.58
3:C:444:GLY:O	3:C:447:PRO:HD2	2.02	0.58
4:D:728:ARG:HH21	4:D:787:ALA:H	1.51	0.58
4:D:1120:LYS:HG2	4:D:1131:GLN:HG2	1.86	0.58
4:D:1360:ALA:HB2	4:D:1490:LEU:HD11	1.85	0.58
6:F:39:A:H2'	6:F:40:U:C5'	2.29	0.58
12:L:253:SER:O	12:L:256:GLU:HB3	2.02	0.58
13:M:152:LEU:CD2	13:M:160:PHE:HZ	2.15	0.58
13:M:235:GLN:O	13:M:239:ARG:HB2	2.03	0.58
20:T:342:GLU:HB3	20:T:343:PRO:CD	2.34	0.58
23:W:374:LYS:HG2	23:W:397:ASP:CB	2.31	0.58
1:A:465:LYS:HG3	1:A:465:LYS:O	2.01	0.58
1:A:535:ARG:HG3	1:A:535:ARG:HH11	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:185:PRO:HG3	3:C:482:TYR:CZ	2.38	0.58
3:C:516:LEU:HD13	3:C:516:LEU:C	2.24	0.58
3:C:703:GLU:OE2	3:C:740:THR:CG2	2.45	0.58
7:G:1:G:N3	7:G:1:G:H2'	2.18	0.58
7:G:21:A:HO2'	7:G:22:C:P	2.26	0.58
12:L:144:MET:HE3	12:L:152:LEU:CD1	2.34	0.58
15:O:283:ALA:O	15:O:287:SER:CB	2.51	0.58
16:P:33:ARG:CG	16:P:33:ARG:HH11	2.16	0.58
23:W:156:VAL:HG12	23:W:160:GLU:OE2	2.03	0.58
23:W:262:GLY:O	23:W:263:VAL:HG13	2.02	0.58
23:W:317:GLU:CD	23:W:319:TYR:HB2	2.23	0.58
23:W:348:LEU:CD1	23:W:391:PHE:CD2	2.85	0.58
1:A:73:HIS:CD2	1:A:81:PHE:CE2	2.86	0.58
3:C:671:SER:C	3:C:672:LEU:HD22	2.24	0.58
10:J:218:GLU:HG3	10:J:219:GLU:OE2	2.03	0.58
13:M:233:ILE:HG21	18:R:265:ASP:HA	1.86	0.58
13:M:235:GLN:HA	13:M:238:GLU:CG	2.32	0.58
22:V:330:LYS:HA	22:V:333:GLN:CD	2.24	0.58
23:W:485:ILE:HB	23:W:502:PHE:HB2	1.84	0.58
23:W:548:ALA:CB	23:W:578:TRP:CZ2	2.72	0.58
1:A:44:ARG:HD2	1:A:45:TYR:CZ	2.37	0.58
3:C:327:TYR:O	3:C:331:PHE:HB2	2.03	0.58
3:C:509:VAL:O	3:C:510:LEU:HD23	2.03	0.58
3:C:510:LEU:HB3	3:C:576:ILE:HD11	1.85	0.58
6:F:77:C:H2'	6:F:78:A:H5'	1.86	0.58
6:F:85:U:C4	13:M:127:TYR:CE2	2.92	0.58
7:G:1:G:H1'	7:G:2:U:C5'	2.34	0.58
12:L:158:ARG:HB3	12:L:158:ARG:HH11	1.68	0.58
18:R:148:ARG:HG3	18:R:148:ARG:NH1	2.13	0.58
23:W:95:PRO:O	23:W:96:GLU:HB3	2.02	0.58
1:A:204:LEU:HD23	1:A:205:ASP:OD1	2.03	0.58
1:A:569:VAL:O	1:A:570:ASP:CB	2.51	0.58
1:A:1774:ASN:H	26:Z:318:THR:CG2	2.16	0.58
4:D:887:LEU:HD23	4:D:888:PRO:HD2	1.86	0.58
18:R:135:PRO:O	18:R:136:ASP:CB	2.52	0.58
19:S:119:THR:CB	19:S:122:LEU:HD12	2.33	0.58
3:C:677:GLU:HA	3:C:683:ASN:O	2.02	0.58
4:D:1570:ARG:NH2	4:D:1608:THR:HG21	2.18	0.58
6:F:35:A:C5'	6:F:35:A:C8	2.85	0.58
6:F:80:G:OP1	12:L:174:LYS:NZ	2.36	0.58
7:G:23:U:C6	7:G:23:U:H5"	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:149:LYS:HD2	15:O:290:LYS:NZ	2.18	0.58
16:P:63:LEU:HD23	16:P:63:LEU:C	2.24	0.58
18:R:124:VAL:HG22	18:R:125:MET:H	1.68	0.58
23:W:265:LEU:HB3	23:W:300:SER:OG	2.03	0.58
23:W:445:TRP:CD1	23:W:445:TRP:N	2.71	0.58
26:Z:144:PHE:O	26:Z:146:GLY:N	2.33	0.58
1:A:348:PRO:O	1:A:350:PHE:N	2.37	0.58
1:A:712:HIS:CE1	18:R:250:CYS:CB	2.86	0.58
1:A:1210:LYS:O	1:A:1212:GLY:N	2.37	0.58
12:L:260:ARG:NE	13:M:202:TYR:HD2	2.01	0.58
13:M:210:TYR:CE2	13:M:216:ALA:HB1	2.38	0.58
22:V:483:GLU:O	22:V:486:THR:OG1	2.21	0.58
23:W:225:LYS:O	23:W:228:LYS:HG2	2.04	0.58
1:A:980:ARG:O	1:A:1168:VAL:HG13	2.03	0.58
1:A:1578:ARG:O	1:A:1579:ALA:HB3	2.03	0.58
6:F:39:A:C3'	6:F:40:U:H5'	2.34	0.58
6:F:57:U:H1'	16:P:8:THR:HG21	1.85	0.58
8:H:36:G:O2'	8:H:37:U:H5'	2.04	0.58
16:P:3:THR:CB	16:P:6:ARG:NH2	2.56	0.58
23:W:318:VAL:HG12	23:W:318:VAL:O	2.03	0.58
1:A:283:VAL:HG22	1:A:284:ARG:HG2	1.86	0.58
3:C:115:GLU:HB3	3:C:118:PHE:HB3	1.85	0.58
3:C:173:THR:O	3:C:177:ARG:HG3	2.04	0.58
3:C:440:SER:HB3	3:C:441:PRO:HD2	1.86	0.58
5:E:263:ASP:OD1	5:E:272:ARG:HB3	2.04	0.58
6:F:85:U:O2'	6:F:86:U:OP1	2.20	0.58
7:G:12:G:H2'	7:G:13:C:C5	2.38	0.58
7:G:22:C:HO2'	7:G:23:U:P	2.27	0.58
21:U:23:LEU:N	22:V:474:HIS:HD2	1.87	0.58
22:V:225:LYS:HE3	22:V:405:ILE:HG12	1.86	0.58
22:V:497:CYS:SG	22:V:504:GLU:CG	2.91	0.58
22:V:548:ALA:HB2	22:V:585:ILE:CB	2.33	0.58
22:V:641:ASP:O	22:V:644:ARG:N	2.36	0.58
23:W:167:VAL:CG2	23:W:168:PHE:CD1	2.85	0.58
23:W:284:TRP:HD1	23:W:316:TRP:CZ3	2.22	0.58
1:A:300:ASN:CA	3:C:939:ARG:NH2	2.67	0.57
1:A:371:LEU:HD12	1:A:372:PRO:HD2	1.86	0.57
3:C:354:ARG:HG3	3:C:354:ARG:NH1	2.19	0.57
5:E:178:LEU:CD2	5:E:208:ILE:CD1	2.81	0.57
23:W:348:LEU:HD11	23:W:391:PHE:CD2	2.39	0.57
23:W:517:SER:HG	23:W:522:TYR:H	1.48	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:378:PHE:O	1:A:379:GLU:HG2	2.04	0.57
1:A:2073:TRP:CD1	1:A:2074:ARG:N	2.71	0.57
10:J:195:LEU:HD12	10:J:195:LEU:H	1.69	0.57
10:J:433:ARG:HH12	10:J:461:LYS:CB	2.17	0.57
18:R:106:GLN:CG	18:R:110:LYS:HE2	2.35	0.57
19:S:9:TRP:HZ2	19:S:44:ARG:HD3	1.67	0.57
1:A:1386:TRP:HB3	25:Y:410:VAL:HG21	1.86	0.57
1:A:2073:TRP:HD1	1:A:2074:ARG:HD2	1.68	0.57
1:A:2095:ASP:OD2	1:A:2258:ARG:NE	2.36	0.57
3:C:66:TYR:CD2	20:T:457:GLY:HA2	2.39	0.57
3:C:392:LEU:HD12	3:C:392:LEU:O	2.04	0.57
8:H:154:C:O2'	8:H:155:C:H5'	2.04	0.57
10:J:205:LEU:O	10:J:206:LEU:HG	2.04	0.57
10:J:239:ARG:HG2	10:J:239:ARG:HH11	1.69	0.57
20:T:287:HIS:CE1	20:T:313:ARG:HG3	2.40	0.57
1:A:73:HIS:HB3	1:A:76:MET:HE2	1.87	0.57
1:A:280:GLU:OE2	1:A:281:PRO:HD2	2.04	0.57
1:A:344:ASP:HB3	26:Z:144:PHE:CE2	2.40	0.57
1:A:1935:ARG:HH21	26:Z:348:THR:HG21	1.68	0.57
10:J:204:GLU:HG3	10:J:204:GLU:O	2.04	0.57
13:M:124:PHE:HE2	13:M:127:TYR:CE1	2.23	0.57
23:W:99:PHE:O	23:W:99:PHE:HD1	1.86	0.57
23:W:284:TRP:NE1	23:W:316:TRP:CE3	2.72	0.57
3:C:300:LEU:HD13	3:C:300:LEU:N	2.18	0.57
3:C:445:ALA:HA	3:C:448:LYS:HB3	1.85	0.57
4:D:482:ASN:HB3	4:D:485:GLN:CD	2.24	0.57
6:F:81:C:C5	12:L:252:ARG:HD3	2.39	0.57
8:H:39:U:C3'	8:H:40:C:C5	2.87	0.57
12:L:259:ASP:OD2	13:M:199:ARG:NE	2.37	0.57
14:N:139:CYS:SG	14:N:140:ARG:N	2.77	0.57
1:A:176:LEU:HB3	1:A:181:ASN:HD21	1.70	0.57
1:A:347:LEU:HD13	1:A:351:TYR:OH	2.04	0.57
1:A:533:LYS:NZ	6:F:37:C:C2	2.70	0.57
1:A:2153:THR:HG22	1:A:2154:HIS:H	1.70	0.57
3:C:185:PRO:HD3	3:C:482:TYR:CE1	2.38	0.57
3:C:220:ARG:O	3:C:448:LYS:CE	2.52	0.57
3:C:573:GLU:N	3:C:573:GLU:OE1	2.36	0.57
4:D:1670:ASN:ND2	4:D:1673:ILE:HG12	2.20	0.57
5:E:153:PHE:HD1	5:E:153:PHE:H	1.51	0.57
22:V:625:ARG:O	22:V:629:ASN:HB3	2.05	0.57
26:Z:142:ALA:C	26:Z:144:PHE:N	2.48	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:487:GLY:HA3	3:C:489:GLN:OE1	2.04	0.57
3:C:567:GLU:OE1	3:C:572:GLU:HB3	2.04	0.57
8:H:152:G:N2	8:H:153:A:C5	2.73	0.57
10:J:290:ARG:CZ	13:M:179:ILE:HD11	2.35	0.57
15:O:134:VAL:HG12	15:O:135:GLY:H	1.70	0.57
19:S:10:GLN:CB	19:S:29:TRP:CD2	2.87	0.57
20:T:306:CYS:SG	20:T:336:VAL:CG1	2.92	0.57
23:W:268:THR:HG22	23:W:270:PRO:HD3	1.86	0.57
1:A:282:LEU:HD23	1:A:282:LEU:C	2.24	0.57
3:C:230:ASP:CG	3:C:259:LYS:CE	2.56	0.57
3:C:750:LEU:O	3:C:750:LEU:HD12	2.04	0.57
4:D:681:ARG:HH21	4:D:854:GLY:HA2	1.69	0.57
4:D:1661:VAL:HG23	4:D:1691:ALA:HB2	1.86	0.57
8:H:40:C:H5”	8:H:41:U:OP1	2.05	0.57
8:H:73:C:H2’	8:H:74:U:H6	1.70	0.57
13:M:194:ASP:C	13:M:196:TYR:N	2.42	0.57
14:N:131:ILE:HG21	15:O:177:GLU:HG2	1.87	0.57
23:W:130:ARG:O	23:W:134:THR:OG1	2.21	0.57
23:W:140:ASP:HA	23:W:153:ILE:CG1	2.35	0.57
23:W:272:GLU:HA	23:W:272:GLU:OE2	2.04	0.57
1:A:436:PRO:O	1:A:437:ALA:HB3	2.05	0.57
1:A:799:PRO:HD3	18:R:284:PHE:CD2	2.40	0.57
1:A:1386:TRP:HB3	25:Y:410:VAL:CG2	2.35	0.57
1:A:1495:PHE:HD2	1:A:1501:LEU:HD11	1.63	0.57
3:C:481:MET:SD	3:C:492:ALA:CB	2.93	0.57
3:C:673:LYS:HD3	3:C:673:LYS:H	1.70	0.57
12:L:268:LYS:HA	12:L:268:LYS:CE	2.35	0.57
13:M:151:ARG:NE	13:M:151:ARG:HA	2.18	0.57
13:M:153:ARG:HB2	13:M:160:PHE:CZ	2.40	0.57
20:T:351:ASP:C	20:T:352:THR:OG1	2.43	0.57
22:V:573:GLU:OE1	22:V:574:THR:N	2.38	0.57
23:W:496:LEU:O	23:W:498:LYS:NZ	2.37	0.57
26:Z:122:ASN:OD1	26:Z:138:ARG:CG	2.52	0.57
1:A:378:PHE:C	1:A:379:GLU:HG2	2.24	0.57
1:A:1021:ASP:OD1	8:H:24:A:C2	2.58	0.57
3:C:360:ALA:H	3:C:361:PRO:HD3	1.68	0.57
3:C:678:THR:HG23	3:C:683:ASN:CA	2.34	0.57
4:D:690:VAL:HG21	4:D:707:ILE:HD13	1.87	0.57
12:L:49:ARG:HD3	12:L:49:ARG:O	2.04	0.57
16:P:193:VAL:HG23	16:P:194:PHE:CE2	2.37	0.57
24:X:86:ARG:HH11	24:X:90:TYR:HE2	1.53	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1494:TYR:HB3	1:A:1744:ARG:HD3	1.85	0.56
1:A:1889:LEU:HD21	1:A:1891:LEU:HD21	1.87	0.56
3:C:244:LYS:HG3	3:C:292:TYR:CD2	2.39	0.56
3:C:401:ILE:HD11	3:C:423:PHE:HB2	1.86	0.56
4:D:1307:LEU:H	4:D:1333:THR:HG21	1.69	0.56
6:F:38:G:H2'	6:F:39:A:C8	2.40	0.56
7:G:20:A:O2'	7:G:21:A:P	2.59	0.56
8:H:90:A:H2'	8:H:91:U:H6	1.70	0.56
15:O:106:ASP:CG	15:O:107:MET:H	2.08	0.56
18:R:171:LEU:HD11	18:R:201:GLU:CD	2.26	0.56
22:V:549:LYS:O	22:V:552:ALA:CB	2.52	0.56
23:W:109:ASN:HB2	23:W:114:TYR:CE1	2.39	0.56
23:W:516:PHE:N	23:W:516:PHE:CD1	2.73	0.56
3:C:354:ARG:HH11	3:C:354:ARG:CG	2.18	0.56
8:H:149:A:H2'	8:H:150:U:H6	1.71	0.56
15:O:131:THR:HG22	23:W:108:ARG:HD3	1.85	0.56
26:Z:284:TYR:CE2	26:Z:286:ASP:HB3	2.40	0.56
1:A:30:LEU:HD21	5:E:214:ASP:HA	1.86	0.56
1:A:254:TYR:CZ	1:A:434:HIS:HB3	2.40	0.56
1:A:340:ILE:HD13	1:A:340:ILE:N	2.20	0.56
1:A:569:VAL:O	1:A:570:ASP:HB2	2.05	0.56
1:A:1317:TYR:CE1	1:A:1329:SER:HB2	2.39	0.56
1:A:2310:ARG:NH1	1:A:2314:PHE:HE1	2.02	0.56
3:C:193:THR:HG22	3:C:428:THR:HG21	1.85	0.56
3:C:481:MET:SD	3:C:559:ILE:HD11	2.46	0.56
4:D:1040:LEU:HD11	4:D:1072:LEU:HD22	1.86	0.56
4:D:1861:ARG:HD2	4:D:1864:GLU:OE2	2.05	0.56
4:D:1989:GLU:HG2	4:D:1991:GLU:H	1.70	0.56
7:G:129:G:H5'	23:W:541:LYS:HZ3	1.71	0.56
8:H:24:A:H3'	8:H:25:G:H5"	1.86	0.56
8:H:88:A:H2'	8:H:89:U:H6	1.70	0.56
8:H:91:U:H2'	8:H:92:U:H6	1.71	0.56
12:L:37:LEU:HD21	12:L:155:ALA:HA	1.87	0.56
12:L:243:ARG:O	12:L:244:GLN:C	2.42	0.56
13:M:164:SER:O	18:R:98:TYR:OH	2.12	0.56
15:O:110:SER:OG	15:O:113:ASN:ND2	2.35	0.56
15:O:228:ASP:O	15:O:277:ARG:NH2	2.38	0.56
18:R:76:MET:N	18:R:76:MET:SD	2.78	0.56
18:R:103:ARG:NH2	18:R:110:LYS:O	2.38	0.56
22:V:556:TYR:CG	22:V:557:THR:N	2.73	0.56
23:W:101:THR:O	23:W:103:GLN:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:178:ARG:HH12	23:W:202:GLU:HG2	1.70	0.56
23:W:255:LEU:O	23:W:302:HIS:CD2	2.58	0.56
26:Z:144:PHE:N	26:Z:144:PHE:CD1	2.73	0.56
1:A:790:ARG:HG3	3:C:60:HIS:HD2	1.71	0.56
1:A:982:GLU:OE2	1:A:1169:GLN:HG3	2.06	0.56
3:C:474:LEU:HD11	3:C:501:ILE:HG12	1.86	0.56
4:D:1985:ILE:O	4:D:1993:ARG:NH1	2.39	0.56
8:H:54:U:H2'	8:H:55:U:H6	1.71	0.56
8:H:71:C:C2	8:H:72:U:C5	2.94	0.56
8:H:141:C:C2	8:H:142:C:C5	2.94	0.56
8:H:183:G:H2'	8:H:184:C:H6	1.71	0.56
12:L:238:ASP:O	12:L:242:LEU:HB2	2.06	0.56
18:R:74:LEU:HD23	18:R:75:ASP:OD1	2.06	0.56
23:W:135:TYR:CZ	23:W:165:LEU:CD1	2.85	0.56
23:W:243:VAL:CG1	23:W:323:ARG:NH2	2.65	0.56
23:W:370:PHE:HE2	23:W:391:PHE:CZ	2.23	0.56
3:C:702:ASN:O	3:C:703:GLU:HB2	2.05	0.56
4:D:1586:ARG:HG2	4:D:1587:GLN:HG3	1.85	0.56
4:D:1777:SER:HB3	4:D:1780:HIS:ND1	2.21	0.56
6:F:22:A:C5'	14:N:116:ASN:O	2.53	0.56
7:G:136:U:OP2	7:G:136:U:H6	1.88	0.56
8:H:69:U:C2	8:H:70:C:C5	2.94	0.56
8:H:70:C:H2'	8:H:71:C:H6	1.71	0.56
8:H:71:C:H2'	8:H:72:U:H6	1.71	0.56
12:L:12:ARG:NH2	12:L:138:ARG:HH21	2.04	0.56
12:L:13:ASN:ND2	12:L:139:PRO:HA	2.21	0.56
12:L:240:ARG:H	12:L:240:ARG:CD	2.18	0.56
13:M:176:THR:O	13:M:179:ILE:N	2.39	0.56
1:A:2073:TRP:HD1	1:A:2074:ARG:N	2.04	0.56
2:B:47:A:O2'	2:B:48:A:H5"	2.06	0.56
4:D:2014:TYR:OH	4:D:2114:MET:O	2.23	0.56
8:H:150:U:H2'	8:H:151:C:H6	1.71	0.56
8:H:179:C:H2'	8:H:180:G:C8	2.38	0.56
13:M:160:PHE:HB3	13:M:161:PHE:HD1	1.71	0.56
15:O:106:ASP:OD1	15:O:107:MET:N	2.34	0.56
20:T:297:HIS:HD2	20:T:338:CYS:SG	2.28	0.56
1:A:1416:ILE:HB	1:A:1417:PRO:HD3	1.87	0.56
1:A:1599:GLN:CD	26:Z:271:ILE:HD11	2.26	0.56
1:A:2129:TYR:HB3	1:A:2172:MET:HE3	1.87	0.56
3:C:493:PHE:HD2	3:C:551:LEU:HD21	1.71	0.56
4:D:828:ILE:HD12	4:D:869:LEU:HD12	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:57:A:H2'	8:H:58:U:H6	1.71	0.56
8:H:181:G:H2'	8:H:182:U:H6	1.71	0.56
10:J:218:GLU:HG3	10:J:219:GLU:N	2.20	0.56
14:N:27:GLN:NE2	14:N:31:GLU:OE2	2.38	0.56
19:S:88:PRO:O	19:S:91:LYS:CE	2.53	0.56
22:V:374:ASP:HB2	22:V:376:TYR:CZ	2.41	0.56
22:V:455:PHE:O	22:V:459:ILE:HG12	2.06	0.56
23:W:135:TYR:HB3	23:W:137:TYR:HE1	1.71	0.56
23:W:256:HIS:HB3	23:W:257:ILE:CD1	2.36	0.56
23:W:433:PHE:CE1	23:W:445:TRP:CG	2.94	0.56
1:A:59:GLU:HB3	14:N:103:LEU:HD13	1.87	0.56
1:A:384:VAL:HG12	3:C:331:PHE:CB	2.35	0.56
1:A:1481:VAL:HG23	26:Z:85:GLN:NE2	2.21	0.56
3:C:426:GLU:O	3:C:427:PHE:HB2	2.05	0.56
9:I:508:ASP:O	9:I:547:LEU:CB	2.54	0.56
10:J:192:GLU:O	10:J:196:ARG:CB	2.52	0.56
22:V:575:THR:O	22:V:580:ARG:NH1	2.39	0.56
23:W:420:ALA:CB	23:W:438:ASP:HB2	2.34	0.56
23:W:440:LYS:H	23:W:440:LYS:HD2	1.69	0.56
1:A:293:TRP:HD1	1:A:1136:ARG:NE	2.04	0.56
1:A:533:LYS:CE	6:F:37:C:N3	2.65	0.56
3:C:77:VAL:HG12	20:T:197:TYR:C	2.26	0.56
3:C:297:ASN:HD22	3:C:298:LEU:CD1	2.19	0.56
4:D:1223:ILE:HG22	4:D:1270:VAL:HG22	1.87	0.56
4:D:1877:HIS:HB2	4:D:1896:GLN:NE2	2.21	0.56
5:E:162:ARG:CZ	5:E:203:ASP:O	2.54	0.56
5:E:258:THR:HG22	5:E:260:ARG:CG	2.32	0.56
6:F:25:C:H4'	6:F:26:U:O5'	2.05	0.56
8:H:150:U:C2	8:H:151:C:C5	2.94	0.56
10:J:187:VAL:HG12	10:J:188:GLN:N	2.21	0.56
10:J:189:ILE:HG23	10:J:189:ILE:O	2.06	0.56
22:V:497:CYS:HA	22:V:500:GLN:OE1	2.06	0.56
23:W:128:GLN:CD	23:W:139:LEU:CD1	2.74	0.56
23:W:178:ARG:CD	23:W:199:TYR:CD1	2.88	0.56
1:A:58:LYS:NZ	1:A:477:LYS:O	2.39	0.56
4:D:727:SER:HB3	4:D:730:GLU:HB3	1.88	0.56
7:G:21:A:N6	15:O:92:LEU:HD23	2.21	0.56
8:H:69:U:H2'	8:H:70:C:H6	1.71	0.56
8:H:77:C:H2'	8:H:78:C:H6	1.70	0.56
8:H:77:C:C2	8:H:78:C:C5	2.93	0.56
18:R:103:ARG:HH11	18:R:103:ARG:CG	2.19	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:36:CYS:HA	19:S:129:PHE:CE1	2.41	0.56
23:W:185:ASP:O	23:W:186:ALA:HB3	2.06	0.56
23:W:271:PRO:HG3	23:W:563:THR:CG2	2.35	0.56
23:W:287:HIS:NE2	23:W:314:LYS:HD2	2.21	0.56
23:W:374:LYS:CD	23:W:397:ASP:HB2	2.27	0.56
23:W:528:GLY:O	23:W:552:VAL:HB	2.06	0.56
1:A:161:PHE:CD2	1:A:626:GLY:HA3	2.42	0.55
1:A:359:ILE:O	1:A:360:SER:HB3	2.05	0.55
1:A:1067:MET:HG3	25:Y:413:LYS:HD2	1.88	0.55
1:A:1767:ASN:O	1:A:1770:GLU:CG	2.53	0.55
3:C:291:MET:CG	3:C:292:TYR:CE1	2.88	0.55
3:C:354:ARG:HG3	3:C:354:ARG:HH11	1.71	0.55
3:C:499:GLY:O	3:C:500:THR:CG2	2.54	0.55
5:E:114:GLU:HG2	5:E:116:HIS:CD2	2.42	0.55
6:F:41:A:C2	7:G:6:A:H2	2.16	0.55
16:P:54:VAL:HG13	16:P:59:PHE:CZ	2.40	0.55
18:R:275:LEU:O	18:R:277:THR:HG23	2.07	0.55
22:V:525:PHE:O	22:V:528:ILE:N	2.39	0.55
23:W:327:THR:C	23:W:328:PHE:HD1	2.10	0.55
23:W:554:ILE:CD1	23:W:571:TRP:CZ3	2.88	0.55
3:C:150:ILE:HD11	3:C:535:ALA:HB2	1.88	0.55
3:C:457:VAL:HG12	3:C:462:GLY:CA	2.37	0.55
5:E:251:LEU:CD2	5:E:291:CYS:SG	2.94	0.55
6:F:81:C:H4'	6:F:82:A:OP2	2.06	0.55
8:H:72:U:H2'	8:H:73:C:H6	1.71	0.55
8:H:73:C:C2	8:H:74:U:C5	2.94	0.55
8:H:147:G:C4	8:H:148:C:C5	2.94	0.55
8:H:183:G:C4	8:H:184:C:C5	2.94	0.55
10:J:214:ILE:CG2	10:J:219:GLU:HB3	2.06	0.55
12:L:168:LYS:O	12:L:172:ARG:HG3	2.06	0.55
13:M:179:ILE:HG13	13:M:180:ASP:N	2.20	0.55
19:S:131:ARG:HD2	19:S:132:VAL:O	2.01	0.55
20:T:327:SER:O	20:T:357:TRP:HH2	1.89	0.55
22:V:316:PHE:CE2	22:V:343:ARG:HD3	2.40	0.55
1:A:254:TYR:CZ	1:A:434:HIS:CB	2.89	0.55
1:A:630:TRP:O	1:A:631:ALA:C	2.43	0.55
2:B:94:U:H2'	2:B:95:G:H5"	1.89	0.55
3:C:115:GLU:O	3:C:116:MET:C	2.41	0.55
6:F:58:G:O2'	6:F:59:G:OP1	2.20	0.55
8:H:72:U:C2	8:H:73:C:C5	2.94	0.55
8:H:152:G:N2	8:H:153:A:C8	2.73	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:236:ASP:OD1	12:L:236:ASP:N	2.40	0.55
18:R:90:VAL:HG11	18:R:94:GLY:O	2.04	0.55
20:T:356:LEU:N	20:T:356:LEU:CD1	2.68	0.55
22:V:287:ASP:HB3	22:V:331:ARG:CZ	2.35	0.55
22:V:525:PHE:O	22:V:528:ILE:CG1	2.54	0.55
22:V:571:SER:HB2	22:V:573:GLU:HB3	1.87	0.55
23:W:539:THR:OG1	23:W:543:TYR:CZ	2.59	0.55
26:Z:293:ARG:NE	26:Z:316:ARG:NH2	2.54	0.55
1:A:1333:VAL:HG11	1:A:1367:ASN:ND2	2.21	0.55
1:A:1504:GLU:CG	1:A:1754:TYR:CE2	2.89	0.55
1:A:1813:ARG:NH2	1:A:1814:THR:HG22	2.21	0.55
4:D:602:GLU:HG2	4:D:606:THR:HG23	1.88	0.55
8:H:59:A:H2'	8:H:60:U:H6	1.71	0.55
8:H:70:C:C2	8:H:71:C:C5	2.93	0.55
8:H:141:C:H2'	8:H:142:C:H6	1.71	0.55
13:M:211:ILE:HD11	13:M:212:ASN:HB2	1.88	0.55
14:N:38:GLU:C	14:N:40:LYS:H	2.10	0.55
23:W:207:LYS:HG3	23:W:208:PRO:O	2.06	0.55
1:A:1021:ASP:OD1	8:H:24:A:N3	2.40	0.55
1:A:1678:ARG:HG2	1:A:1678:ARG:NH1	2.16	0.55
1:A:1953:ILE:CD1	1:A:1986:LEU:HD11	2.28	0.55
3:C:69:ALA:HA	20:T:456:PRO:HG3	1.88	0.55
4:D:1564:PRO:O	4:D:1648:ARG:NH2	2.40	0.55
5:E:260:ARG:CD	5:E:276:ILE:HG12	2.36	0.55
8:H:68:G:H2'	8:H:69:U:H6	1.70	0.55
13:M:123:GLY:O	18:R:239:VAL:HG22	2.07	0.55
13:M:160:PHE:CB	13:M:161:PHE:CD1	2.90	0.55
14:N:70:ILE:HG23	14:N:74:LEU:HB3	1.88	0.55
18:R:88:ILE:H	18:R:88:ILE:CD1	2.19	0.55
20:T:267:ASP:O	20:T:268:LYS:CB	2.55	0.55
23:W:178:ARG:HG3	23:W:199:TYR:HE1	1.69	0.55
1:A:364:SER:O	1:A:365:VAL:C	2.44	0.55
3:C:678:THR:HG23	3:C:683:ASN:N	2.22	0.55
4:D:752:LEU:O	4:D:807:GLN:NE2	2.40	0.55
4:D:927:ILE:HB	4:D:931:ARG:HH21	1.71	0.55
8:H:17:U:O2'	13:M:221:LYS:NZ	2.35	0.55
8:H:83:A:H2'	8:H:84:C:H6	1.71	0.55
15:O:149:LYS:HD2	15:O:290:LYS:HZ3	1.72	0.55
15:O:235:TYR:HD1	15:O:271:PHE:CE1	2.23	0.55
15:O:240:GLY:HA3	15:O:296:ARG:NH1	2.21	0.55
16:P:193:VAL:CG2	16:P:194:PHE:CE2	2.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:9:TRP:CE3	19:S:11:PRO:CG	2.89	0.55
23:W:278:LYS:HD2	23:W:279:LYS:N	2.20	0.55
26:Z:123:CYS:HB3	26:Z:150:ALA:HB3	1.89	0.55
5:E:87:ASP:O	5:E:88:ARG:CG	2.54	0.55
6:F:41:A:N1	7:G:6:A:C2	2.75	0.55
6:F:48:A:N6	12:L:30:GLN:HE22	2.04	0.55
8:H:83:A:C4	8:H:84:C:C5	2.95	0.55
8:H:88:A:C4	8:H:89:U:C5	2.95	0.55
8:H:149:A:C4	8:H:150:U:C5	2.95	0.55
10:J:360:ASP:HA	10:J:363:ARG:HD2	1.88	0.55
10:J:361:ARG:HD3	13:M:161:PHE:CE2	2.41	0.55
15:O:236:VAL:O	15:O:269:CYS:HA	2.06	0.55
23:W:463:SER:HB3	23:W:481:MET:CG	2.37	0.55
1:A:1384:ARG:HD2	22:V:545:ARG:NH2	2.22	0.55
1:A:1935:ARG:NH2	26:Z:348:THR:CG2	2.68	0.55
3:C:349:PHE:CG	3:C:356:PHE:HE1	2.23	0.55
3:C:855:GLY:O	3:C:856:HIS:CB	2.41	0.55
4:D:871:THR:OG1	4:D:872:SER:N	2.39	0.55
6:F:34:G:H8	6:F:34:G:H5"	1.70	0.55
10:J:192:GLU:CA	10:J:195:LEU:HD13	2.13	0.55
20:T:439:TRP:CE3	20:T:446:ASN:HB2	2.41	0.55
23:W:155:SER:C	23:W:156:VAL:CG2	2.72	0.55
23:W:316:TRP:CE3	23:W:324:CYS:HB2	2.42	0.55
23:W:353:ASP:O	23:W:354:ARG:HB2	2.07	0.55
23:W:382:ASN:HB3	23:W:387:LYS:O	2.06	0.55
1:A:805:GLU:OE1	16:P:194:PHE:HE1	1.88	0.55
3:C:221:ILE:O	3:C:448:LYS:NZ	2.40	0.55
3:C:301:SER:O	3:C:303:LEU:N	2.40	0.55
3:C:452:THR:O	3:C:577:PHE:CA	2.55	0.55
4:D:991:TYR:O	4:D:1090:ARG:HD2	2.07	0.55
5:E:269:PRO:O	5:E:270:LYS:CB	2.51	0.55
8:H:68:G:C4	8:H:69:U:C5	2.95	0.55
10:J:191:ALA:O	10:J:193:GLN:CA	2.52	0.55
13:M:163:THR:CB	13:M:166:SER:HB2	2.37	0.55
14:N:27:GLN:HE21	14:N:31:GLU:HG2	1.71	0.55
16:P:6:ARG:O	16:P:8:THR:HG23	2.07	0.55
18:R:99:ASP:OD2	18:R:114:SER:HB3	2.07	0.55
18:R:309:GLU:OE1	18:R:309:GLU:HA	2.06	0.55
6:F:34:G:H8	6:F:34:G:O5'	1.89	0.55
12:L:144:MET:HE1	12:L:149:LEU:CD2	2.07	0.55
12:L:178:GLU:O	12:L:181:ARG:CG	2.51	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:17:LEU:HD12	14:N:18:ILE:HG23	1.89	0.55
23:W:88:MET:HE1	23:W:89:PHE:HD2	1.70	0.55
23:W:135:TYR:CB	23:W:137:TYR:CE1	2.89	0.55
23:W:268:THR:CG2	23:W:270:PRO:HD2	2.30	0.55
23:W:531:LYS:HA	23:W:546:PHE:O	2.07	0.55
1:A:296:PHE:CE2	3:C:593:GLU:HB3	2.43	0.54
1:A:1790:ILE:HG22	1:A:1798:LEU:HB3	1.88	0.54
1:A:2117:ILE:O	1:A:2304:PHE:HB2	2.07	0.54
4:D:793:ASP:HA	4:D:796:LEU:HB2	1.89	0.54
4:D:1093:ARG:HD2	4:D:1115:CYS:SG	2.47	0.54
5:E:161:ARG:NH1	5:E:203:ASP:OD1	2.40	0.54
8:H:90:A:C4	8:H:91:U:C5	2.95	0.54
8:H:181:G:C4	8:H:182:U:C5	2.95	0.54
11:K:135:TRP:O	11:K:138:TYR:CG	2.60	0.54
14:N:54:HIS:HD2	23:W:196:TRP:HZ3	1.54	0.54
18:R:88:ILE:HD12	18:R:88:ILE:N	2.20	0.54
23:W:137:TYR:CE1	23:W:158:GLU:HB2	2.33	0.54
23:W:198:LYS:O	23:W:199:TYR:C	2.45	0.54
23:W:370:PHE:CE2	23:W:391:PHE:CZ	2.95	0.54
1:A:356:ILE:HG22	1:A:357:ASN:H	1.71	0.54
1:A:409:ARG:N	1:A:410:PRO:HD2	2.23	0.54
1:A:1321:GLU:CB	26:Z:66:TYR:OH	2.54	0.54
1:A:1504:GLU:HG3	1:A:1754:TYR:CE2	2.43	0.54
3:C:516:LEU:HD13	3:C:517:GLU:HG3	1.88	0.54
5:E:265:ARG:N	5:E:272:ARG:HH21	2.04	0.54
14:N:113:PHE:CD1	18:R:200:VAL:HG21	2.43	0.54
19:S:10:GLN:HB3	19:S:29:TRP:CE3	2.41	0.54
20:T:454:VAL:HG12	20:T:455:GLN:N	2.22	0.54
20:T:459:LEU:HB3	20:T:462:GLU:HG3	1.90	0.54
25:Y:402:ILE:O	25:Y:406:ILE:HD12	2.07	0.54
2:B:27:U:O2'	2:B:28:A:O5'	2.25	0.54
3:C:64:LYS:HE2	3:C:64:LYS:HA	1.89	0.54
3:C:809:ILE:HB	3:C:810:PRO:HD3	1.87	0.54
8:H:91:U:C2	8:H:92:U:C5	2.94	0.54
10:J:191:ALA:C	10:J:193:GLN:N	2.48	0.54
16:P:41:ILE:HD11	20:T:318:ARG:HB2	1.88	0.54
18:R:60:ASP:O	19:S:133:CYS:O	2.25	0.54
18:R:86:LEU:O	18:R:86:LEU:HD12	2.08	0.54
22:V:523:GLU:CG	22:V:524:SER:N	2.70	0.54
23:W:381:PHE:HE1	23:W:391:PHE:CE1	2.25	0.54
1:A:255:PHE:O	1:A:332:TYR:OH	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:570:ASP:OD1	1:A:571:ALA:N	2.41	0.54
1:A:1370:ARG:NH1	22:V:506:PHE:CB	2.69	0.54
1:A:1949:ARG:NH2	24:X:62:GLU:OE1	2.40	0.54
3:C:359:LYS:HD3	3:C:359:LYS:H	1.72	0.54
6:F:36:A:HO2'	6:F:37:C:P	2.30	0.54
7:G:22:C:O2'	7:G:23:U:P	2.65	0.54
10:J:212:GLN:HB3	23:W:508:ALA:CB	2.37	0.54
12:L:18:ILE:HG23	12:L:37:LEU:CD2	2.37	0.54
12:L:260:ARG:HE	13:M:202:TYR:HD2	1.54	0.54
12:L:721:LEU:HA	12:L:724:TYR:CG	2.41	0.54
13:M:223:GLU:OE1	18:R:266:LYS:CE	2.55	0.54
18:R:281:ASN:OD1	18:R:282:GLU:N	2.41	0.54
20:T:345:ILE:HB	20:T:357:TRP:HB2	1.88	0.54
22:V:600:ASN:HA	22:V:639:LEU:HD21	1.90	0.54
23:W:381:PHE:CE1	23:W:391:PHE:CE1	2.94	0.54
1:A:107:PRO:O	1:A:111:GLU:CD	2.45	0.54
1:A:338:VAL:HG21	3:C:867:PRO:CG	2.37	0.54
4:D:2105:THR:HG23	4:D:2121:LYS:HG3	1.90	0.54
5:E:74:PHE:HE1	5:E:95:VAL:CG2	2.20	0.54
5:E:228:THR:HG22	5:E:229:TYR:HD1	1.71	0.54
8:H:29:A:O4'	8:H:30:A:OP1	2.25	0.54
13:M:212:ASN:O	13:M:215:ASN:HB3	2.08	0.54
17:Q:571:LYS:HD2	17:Q:586:GLN:O	2.07	0.54
1:A:2323:GLY:HA3	4:D:1071:LYS:HB2	1.90	0.54
3:C:699:ASP:O	3:C:705:VAL:HG22	2.08	0.54
4:D:1005:LEU:HD11	4:D:1095:ILE:HG23	1.90	0.54
8:H:54:U:C2	8:H:55:U:C5	2.94	0.54
13:M:207:ASP:OD1	13:M:207:ASP:N	2.39	0.54
23:W:167:VAL:HG23	23:W:168:PHE:HD1	1.68	0.54
23:W:433:PHE:CE1	23:W:445:TRP:CD1	2.96	0.54
23:W:522:TYR:CE1	23:W:536:ASP:OD1	2.61	0.54
23:W:534:ILE:CD1	23:W:544:SER:HB3	2.38	0.54
3:C:152:GLN:CD	3:C:426:GLU:O	2.45	0.54
4:D:606:THR:HA	4:D:609:VAL:HG22	1.90	0.54
4:D:1048:VAL:O	4:D:1050:GLU:N	2.40	0.54
7:G:21:A:O2'	7:G:22:C:C5'	2.55	0.54
11:K:195:ILE:CG1	11:K:195:ILE:CA	2.81	0.54
12:L:59:LYS:HE2	12:L:91:ARG:NH1	2.20	0.54
13:M:160:PHE:CB	13:M:161:PHE:HD1	2.20	0.54
15:O:89:GLU:OE2	23:W:102:GLN:OE1	2.25	0.54
16:P:30:TYR:HE1	18:R:161:ALA:O	1.91	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:291:GLU:OE1	22:V:331:ARG:NH2	2.41	0.54
23:W:128:GLN:CD	23:W:139:LEU:HD11	2.28	0.54
1:A:388:LEU:HB3	1:A:391:THR:OG1	2.08	0.54
1:A:1848:LEU:HD22	1:A:1914:MET:CE	2.38	0.54
1:A:2320:LEU:HD23	1:A:2322:GLU:H	1.71	0.54
4:D:425:ASN:ND2	4:D:888:PRO:HD3	2.23	0.54
7:G:127:U:P	23:W:547:LYS:NZ	2.81	0.54
9:I:640:ALA:HA	10:J:512:GLU:CB	2.38	0.54
16:P:61:ARG:HG2	16:P:61:ARG:HH11	1.73	0.54
20:T:393:ASP:O	20:T:413:ASN:ND2	2.41	0.54
22:V:625:ARG:O	22:V:629:ASN:CB	2.55	0.54
26:Z:70:VAL:HG11	26:Z:79:ARG:H	1.72	0.54
1:A:2326:TYR:CE2	4:D:729:LYS:HD3	2.43	0.54
3:C:150:ILE:CD1	3:C:535:ALA:HB2	2.38	0.54
4:D:785:HIS:CE1	4:D:815:LEU:HD23	2.43	0.54
4:D:2069:GLY:HA2	4:D:2077:ILE:HB	1.89	0.54
6:F:49:G:O4'	12:L:158:ARG:HD2	2.08	0.54
8:H:59:A:C4	8:H:60:U:C5	2.95	0.54
10:J:220:LEU:HD13	10:J:220:LEU:O	2.08	0.54
14:N:43:VAL:O	14:N:47:TRP:NE1	2.41	0.54
16:P:191:ASP:N	16:P:191:ASP:OD1	2.40	0.54
18:R:104:GLN:NE2	18:R:105:GLY:N	2.55	0.54
19:S:10:GLN:HA	19:S:29:TRP:CE2	2.43	0.54
20:T:347:THR:CG2	20:T:357:TRP:HE1	2.21	0.54
23:W:137:TYR:CG	23:W:159:ALA:HB2	2.42	0.54
23:W:481:MET:O	23:W:483:ASN:N	2.41	0.54
1:A:412:ASN:OD1	1:A:413:LEU:HD23	2.08	0.54
3:C:385:VAL:HG23	3:C:386:GLY:N	2.22	0.54
4:D:1028:THR:O	4:D:1058:LYS:NZ	2.31	0.54
5:E:161:ARG:HH11	5:E:161:ARG:CG	2.21	0.54
8:H:57:A:C4	8:H:58:U:C5	2.95	0.54
16:P:13:ARG:NH1	20:T:310:SER:HB2	2.23	0.54
23:W:328:PHE:HD1	23:W:328:PHE:N	2.06	0.54
23:W:474:LYS:CA	23:W:490:ALA:HB3	2.37	0.54
1:A:2325:VAL:HG13	4:D:788:GLY:HA3	1.89	0.53
4:D:791:ARG:HH21	4:D:794:ARG:HH12	1.55	0.53
7:G:5:G:H2'	7:G:6:A:C8	2.43	0.53
8:H:153:A:H3'	8:H:154:C:C5'	2.38	0.53
12:L:241:LYS:HA	12:L:241:LYS:CE	2.38	0.53
13:M:230:THR:HG22	13:M:230:THR:O	2.08	0.53
17:Q:913:LYS:HD2	17:Q:917:LYS:HE2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:12:PRO:HD3	19:S:166:GLY:HA2	1.90	0.53
20:T:281:ILE:HD12	20:T:282:ARG:HG2	1.89	0.53
20:T:384:HIS:O	20:T:385:TYR:HB3	2.08	0.53
20:T:416:ILE:O	20:T:416:ILE:HD13	2.08	0.53
21:U:24:SER:HB2	22:V:477:LEU:HD11	1.87	0.53
22:V:608:LEU:O	22:V:612:PHE:HB2	2.08	0.53
23:W:100:ARG:NH1	23:W:100:ARG:HG2	2.22	0.53
23:W:317:GLU:CG	23:W:319:TYR:HB2	2.38	0.53
23:W:328:PHE:N	23:W:328:PHE:CD1	2.76	0.53
3:C:488:VAL:HG12	3:C:609:LYS:HE2	1.88	0.53
4:D:764:THR:OG1	4:D:778:LEU:O	2.18	0.53
4:D:1842:VAL:O	4:D:1846:ILE:HG12	2.08	0.53
6:F:26:U:O2'	6:F:27:A:P	2.67	0.53
6:F:83:A:OP2	10:J:247:LYS:CE	2.56	0.53
8:H:40:C:C5'	8:H:41:U:OP1	2.56	0.53
8:H:153:A:C3'	8:H:154:C:C5'	2.86	0.53
12:L:59:LYS:CE	12:L:91:ARG:NH1	2.64	0.53
12:L:251:LEU:HD13	12:L:254:GLU:HB3	1.85	0.53
3:C:334:ILE:HD12	3:C:334:ILE:O	2.08	0.53
3:C:457:VAL:CG1	3:C:462:GLY:HA3	2.38	0.53
6:F:80:G:H5"	6:F:81:C:P	2.47	0.53
7:G:145:U:O2'	7:G:146:C:H6	1.88	0.53
8:H:15:U:H2'	8:H:16:U:OP2	2.07	0.53
12:L:239:PHE:N	12:L:239:PHE:CD1	2.75	0.53
13:M:235:GLN:O	13:M:239:ARG:N	2.37	0.53
23:W:271:PRO:HG3	23:W:563:THR:HG22	1.90	0.53
23:W:314:LYS:HB2	23:W:316:TRP:CZ2	2.43	0.53
23:W:420:ALA:H	23:W:438:ASP:CB	2.17	0.53
1:A:156:ARG:HH11	26:Z:153:GLU:CD	2.10	0.53
1:A:296:PHE:HE2	3:C:593:GLU:HB3	1.73	0.53
1:A:299:ILE:HD11	3:C:921:LEU:HD13	1.90	0.53
1:A:356:ILE:HG22	1:A:357:ASN:N	2.24	0.53
1:A:1951:LYS:HZ1	24:X:85:LEU:HD21	1.73	0.53
6:F:50:A:O2'	6:F:51:U:OP1	2.27	0.53
12:L:52:GLU:OE2	12:L:134:THR:N	2.40	0.53
13:M:151:ARG:HG2	13:M:151:ARG:NH1	2.22	0.53
17:Q:310:GLY:O	17:Q:414:ARG:NH2	2.38	0.53
19:S:35:THR:O	19:S:129:PHE:CZ	2.60	0.53
23:W:135:TYR:O	23:W:158:GLU:HG2	2.08	0.53
1:A:339:PHE:C	1:A:340:ILE:HD13	2.29	0.53
1:A:593:ARG:NH1	1:A:1565:LYS:HE3	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:697:MET:SD	1:A:705:LYS:HD2	2.49	0.53
1:A:1641:ARG:HH11	1:A:1641:ARG:CG	2.21	0.53
1:A:1949:ARG:HD3	1:A:1986:LEU:HD11	1.91	0.53
3:C:90:THR:O	3:C:92:PRO:HD3	2.09	0.53
4:D:1134:LYS:HE2	4:D:1177:TYR:CE1	2.43	0.53
6:F:58:G:O2'	6:F:59:G:P	2.66	0.53
7:G:21:A:C8	15:O:152:ARG:NH2	2.76	0.53
14:N:119:CYS:SG	14:N:134:CYS:HB2	2.48	0.53
18:R:303:GLU:O	18:R:307:GLN:CG	2.57	0.53
22:V:477:LEU:HD23	22:V:514:PHE:CE1	2.39	0.53
23:W:253:SER:HB3	23:W:255:LEU:HG	1.91	0.53
23:W:262:GLY:C	23:W:263:VAL:HG13	2.29	0.53
23:W:498:LYS:HB2	23:W:499:LYS:HE2	1.89	0.53
1:A:44:ARG:HG2	1:A:45:TYR:CD2	2.43	0.53
1:A:1948:ASP:OD2	24:X:88:ARG:NH1	2.42	0.53
1:A:2073:TRP:CH2	1:A:2310:ARG:HG2	2.44	0.53
3:C:514:TYR:CD1	3:C:515:THR:N	2.76	0.53
5:E:162:ARG:HH22	5:E:204:THR:HA	1.71	0.53
12:L:26:TYR:CE1	12:L:33:ARG:HG2	2.44	0.53
13:M:163:THR:H	13:M:166:SER:HB3	1.71	0.53
18:R:215:ASN:HD22	18:R:216:LYS:N	2.05	0.53
18:R:316:GLU:HG3	18:R:316:GLU:O	2.09	0.53
22:V:466:SER:HB2	22:V:471:GLU:OE1	2.09	0.53
22:V:487:LYS:HZ1	22:V:491:ASN:CG	2.10	0.53
23:W:178:ARG:HG3	23:W:199:TYR:CE1	2.43	0.53
23:W:292:SER:OG	23:W:307:CYS:CB	2.55	0.53
3:C:114:TYR:HD1	3:C:115:GLU:HG3	1.74	0.53
4:D:1375:ARG:CZ	4:D:1420:GLY:HA2	2.39	0.53
8:H:39:U:C4	8:H:40:C:N4	2.77	0.53
10:J:344:GLN:HG2	13:M:132:LEU:HD21	1.90	0.53
12:L:146:GLU:O	12:L:149:LEU:N	2.41	0.53
18:R:112:ILE:HD11	18:R:228:PRO:HD2	1.91	0.53
23:W:275:TYR:O	23:W:558:TRP:CZ2	2.62	0.53
1:A:73:HIS:HD2	1:A:81:PHE:CD2	2.26	0.53
1:A:758:ARG:HH21	1:A:775:ASN:ND2	2.05	0.53
1:A:2095:ASP:OD1	1:A:2095:ASP:N	2.41	0.53
3:C:508:LYS:HB3	3:C:566:THR:CG2	2.38	0.53
3:C:679:PRO:HD3	3:C:811:THR:HG1	1.73	0.53
3:C:749:THR:O	3:C:753:GLU:HB2	2.09	0.53
6:F:40:U:H2'	6:F:41:A:C8	2.44	0.53
8:H:164:C:H5'	8:H:164:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:225:LEU:CD2	12:L:211:ASN:HB2	2.39	0.53
12:L:103:LEU:O	12:L:107:ALA:HB2	2.09	0.53
18:R:52:PRO:HB3	18:R:57:ASP:OD2	2.08	0.53
20:T:454:VAL:HG22	20:T:463:SER:OG	2.09	0.53
21:U:9:THR:HG23	21:U:9:THR:O	2.07	0.53
22:V:493:ILE:HD11	22:V:510:LEU:HD23	1.82	0.53
23:W:511:ALA:O	23:W:512:CYS:SG	2.67	0.53
1:A:2067:PHE:CE2	1:A:2069:SER:HA	2.43	0.53
3:C:711:ARG:CZ	3:C:730:ARG:O	2.56	0.53
5:E:178:LEU:N	5:E:178:LEU:HD23	2.22	0.53
7:G:126:C:O3'	23:W:547:LYS:NZ	2.42	0.53
13:M:156:HIS:CD2	13:M:156:HIS:N	2.77	0.53
13:M:215:ASN:C	13:M:215:ASN:HD22	2.13	0.53
15:O:28:LEU:HD23	18:R:195:ARG:HE	1.74	0.53
16:P:57:ARG:HG3	16:P:57:ARG:NH1	2.23	0.53
20:T:387:PHE:CZ	20:T:398:TRP:CD1	2.96	0.53
23:W:244:LYS:HD2	23:W:244:LYS:O	2.08	0.53
1:A:55:ASP:OD1	1:A:55:ASP:N	2.40	0.53
1:A:1775:GLN:HG3	26:Z:315:VAL:HG11	1.90	0.53
3:C:259:LYS:CG	42:C:1500:GTP:C6	2.92	0.53
3:C:709:TRP:N	3:C:709:TRP:CD1	2.77	0.53
4:D:1601:LEU:HD23	4:D:1604:LEU:HD12	1.91	0.53
5:E:132:THR:HG21	5:E:146:ARG:HG2	1.91	0.53
5:E:153:PHE:N	5:E:153:PHE:CD1	2.77	0.53
7:G:147:C:N1	7:G:148:U:C5	2.77	0.53
19:S:81:GLN:HB3	19:S:108:ASN:N	2.24	0.53
19:S:82:PHE:H	19:S:108:ASN:H	1.57	0.53
23:W:188:ASN:ND2	23:W:191:GLY:CA	2.68	0.53
23:W:284:TRP:NE1	23:W:316:TRP:CD2	2.77	0.53
24:X:76:SER:OG	24:X:77:GLY:N	2.42	0.53
1:A:352:PHE:CE1	3:C:269:LEU:HD22	2.44	0.52
1:A:2306:HIS:HD2	1:A:2308:VAL:H	1.54	0.52
5:E:146:ARG:HH12	5:E:148:LYS:NZ	2.07	0.52
5:E:162:ARG:HH21	5:E:204:THR:HA	1.71	0.52
5:E:260:ARG:CZ	5:E:276:ILE:HD11	2.39	0.52
12:L:18:ILE:CG2	12:L:37:LEU:CD2	2.87	0.52
15:O:196:GLN:NE2	15:O:209:VAL:HG23	2.24	0.52
15:O:230:THR:H	15:O:277:ARG:CZ	2.22	0.52
22:V:548:ALA:HB1	22:V:585:ILE:C	2.29	0.52
23:W:181:PHE:N	23:W:181:PHE:CD1	2.76	0.52
23:W:443:ARG:HH21	23:W:455:TYR:HE2	1.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:536:ASP:O	23:W:540:THR:N	2.41	0.52
26:Z:124:GLY:HA3	26:Z:149:ILE:HG23	1.91	0.52
1:A:1791:HIS:ND1	1:A:1799:THR:CG2	2.72	0.52
1:A:2310:ARG:HH12	1:A:2314:PHE:HE1	1.56	0.52
3:C:441:PRO:O	3:C:444:GLY:HA3	2.09	0.52
5:E:260:ARG:HD2	5:E:276:ILE:HG12	1.91	0.52
6:F:58:G:HO2'	6:F:59:G:P	2.32	0.52
10:J:203:LEU:HD13	10:J:204:GLU:HB3	1.91	0.52
18:R:95:LYS:HD3	18:R:95:LYS:H	1.74	0.52
23:W:178:ARG:HG2	23:W:199:TYR:HE1	1.74	0.52
23:W:517:SER:HB3	23:W:558:TRP:CH2	2.44	0.52
1:A:48:LYS:HG2	1:A:49:ARG:N	2.24	0.52
1:A:338:VAL:O	3:C:266:GLU:CG	2.58	0.52
1:A:1066:GLN:OE1	25:Y:423:THR:O	2.27	0.52
3:C:360:ALA:N	3:C:361:PRO:CD	2.72	0.52
3:C:488:VAL:HG13	3:C:609:LYS:HZ3	1.74	0.52
3:C:571:ASN:O	3:C:572:GLU:HB3	2.09	0.52
4:D:1134:LYS:HE2	4:D:1177:TYR:HE1	1.74	0.52
5:E:146:ARG:CZ	5:E:148:LYS:HE3	2.21	0.52
7:G:136:U:OP2	7:G:136:U:C6	2.62	0.52
9:I:729:SER:O	9:I:732:ALA:HB3	2.09	0.52
10:J:406:PHE:CG	10:J:411:MET:HE3	2.43	0.52
15:O:235:TYR:CD1	15:O:271:PHE:HE1	2.23	0.52
17:Q:1027:LEU:HA	17:Q:1031:GLU:HB3	1.90	0.52
18:R:60:ASP:HB2	19:S:134:GLN:HA	1.90	0.52
23:W:182:LYS:HD3	23:W:182:LYS:C	2.28	0.52
23:W:212:GLU:C	23:W:214:LYS:N	2.61	0.52
23:W:287:HIS:CD2	23:W:314:LYS:HE3	2.44	0.52
1:A:299:ILE:CD1	3:C:921:LEU:HD13	2.39	0.52
1:A:584:HIS:CE1	41:A:3000:IHP:O26	2.50	0.52
1:A:762:ARG:HH22	16:P:226:LYS:CE	2.23	0.52
3:C:91:GLU:OE1	3:C:91:GLU:HA	2.10	0.52
12:L:11:TRP:CE2	12:L:41:LYS:HE2	2.44	0.52
13:M:215:ASN:ND2	13:M:215:ASN:O	2.43	0.52
22:V:493:ILE:HD13	22:V:510:LEU:CD2	2.19	0.52
1:A:242:ALA:O	1:A:246:LEU:HD12	2.09	0.52
1:A:409:ARG:HD2	1:A:409:ARG:O	2.09	0.52
1:A:901:LEU:HD12	1:A:904:HIS:ND1	2.21	0.52
1:A:1364:LEU:O	1:A:1365:ILE:HD13	2.09	0.52
1:A:1436:TRP:CZ2	1:A:1437:ARG:NH2	2.78	0.52
1:A:1947:ASN:HD21	24:X:85:LEU:CD1	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:457:VAL:HG12	3:C:462:GLY:HA3	1.92	0.52
4:D:1380:THR:HG22	4:D:1382:MET:H	1.74	0.52
6:F:77:C:C2'	6:F:78:A:H5'	2.40	0.52
12:L:144:MET:HG3	12:L:149:LEU:CG	2.30	0.52
20:T:339:GLN:HG2	20:T:340:ALA:N	2.24	0.52
23:W:242:HIS:CD2	23:W:324:CYS:HG	2.27	0.52
23:W:529:ASN:ND2	23:W:531:LYS:HE3	2.09	0.52
26:Z:342:HIS:HB3	26:Z:345:ALA:HB3	1.92	0.52
1:A:901:LEU:HD13	1:A:904:HIS:HE1	1.74	0.52
3:C:143:THR:HB	42:C:1500:GTP:O1A	2.09	0.52
3:C:387:ASP:O	3:C:389:ASP:OD1	2.28	0.52
8:H:33:G:H3'	8:H:33:G:OP2	2.10	0.52
10:J:212:GLN:CB	23:W:508:ALA:CB	2.87	0.52
13:M:168:LEU:HD23	13:M:168:LEU:N	2.24	0.52
14:N:37:HIS:CD2	14:N:37:HIS:O	2.63	0.52
18:R:64:PHE:HB2	18:R:67:ILE:HG13	1.84	0.52
18:R:265:ASP:OD2	18:R:266:LYS:HD3	2.10	0.52
20:T:434:GLY:HA2	20:T:464:GLY:N	2.24	0.52
23:W:457:ALA:O	23:W:458:GLU:OE1	2.27	0.52
1:A:47:GLU:OE1	1:A:47:GLU:N	2.37	0.52
1:A:645:THR:HB	1:A:646:PRO:HD3	1.92	0.52
1:A:1012:LYS:O	1:A:1015:VAL:HG13	2.10	0.52
1:A:1424:GLN:O	1:A:1427:ARG:HG2	2.10	0.52
1:A:1848:LEU:HD22	1:A:1914:MET:HE3	1.92	0.52
1:A:2090:ILE:HA	1:A:2223:CYS:O	2.10	0.52
4:D:1443:LYS:HD3	4:D:1443:LYS:H	1.73	0.52
4:D:1979:VAL:HG11	4:D:1985:ILE:HG23	1.92	0.52
4:D:2026:LYS:NZ	4:D:2027:ASP:OD2	2.42	0.52
5:E:67:GLY:H	5:E:87:ASP:CG	2.13	0.52
5:E:232:ARG:O	5:E:262:TRP:CH2	2.62	0.52
6:F:5:U:H5'	6:F:6:C:OP2	2.10	0.52
6:F:42:C:H2'	6:F:43:A:C1'	2.39	0.52
13:M:225:PHE:N	13:M:225:PHE:CD1	2.76	0.52
15:O:131:THR:O	15:O:132:ARG:HB2	2.09	0.52
16:P:58:ASP:OD2	16:P:61:ARG:HB2	2.08	0.52
18:R:51:ILE:N	18:R:52:PRO:CD	2.73	0.52
23:W:178:ARG:CD	23:W:199:TYR:CE1	2.92	0.52
23:W:280:GLN:HE21	23:W:280:GLN:C	2.12	0.52
23:W:374:LYS:CG	23:W:397:ASP:CB	2.83	0.52
23:W:578:TRP:CD1	23:W:578:TRP:N	2.76	0.52
1:A:597:LYS:HE3	2:B:30:A:OP2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1881:ASN:OD1	26:Z:273:LYS:HG3	2.09	0.52
2:B:22:U:O2	2:B:22:U:H2'	2.09	0.52
4:D:1228:VAL:CG1	4:D:1264:PRO:HD2	2.40	0.52
4:D:1636:PHE:CE1	4:D:1644:VAL:HG22	2.45	0.52
23:W:255:LEU:HA	23:W:303:LEU:HD11	1.92	0.52
23:W:341:ASN:OD1	23:W:343:ALA:N	2.43	0.52
1:A:1163:ARG:HH12	16:P:201:VAL:HG11	1.75	0.52
1:A:1594:CYS:SG	26:Z:268:ARG:NH1	2.82	0.52
1:A:2133:PRO:HD2	1:A:2139:VAL:HG13	1.92	0.52
3:C:93:ILE:O	3:C:94:ILE:HB	2.10	0.52
8:H:147:G:H2'	8:H:148:C:C6	2.43	0.52
12:L:104:LEU:HA	12:L:107:ALA:HB3	1.91	0.52
13:M:240:GLY:O	13:M:241:THR:OG1	2.26	0.52
20:T:392:PRO:HA	20:T:414:ALA:O	2.09	0.52
23:W:137:TYR:HE1	23:W:158:GLU:CB	2.14	0.52
23:W:274:CYS:O	23:W:275:TYR:HD1	1.92	0.52
23:W:281:ILE:HD13	23:W:577:LEU:HD22	1.91	0.52
26:Z:145:THR:O	26:Z:147:THR:HG23	2.10	0.52
1:A:90:GLY:HA3	18:R:209:PRO:HD3	1.92	0.52
1:A:2298:LEU:HD11	4:D:1287:ARG:NH1	2.24	0.52
7:G:116:C:OP2	17:Q:557:ARG:CD	2.55	0.52
8:H:39:U:H3'	8:H:40:C:H5	1.72	0.52
12:L:12:ARG:CZ	12:L:138:ARG:NH2	2.73	0.52
18:R:125:MET:HG3	18:R:129:ASP:OD2	2.09	0.52
18:R:126:ASN:HD22	18:R:128:ASP:H	1.58	0.52
1:A:712:HIS:CG	18:R:250:CYS:HB2	2.44	0.51
1:A:1477:ALA:HA	22:V:461:LEU:HD21	1.92	0.51
3:C:710:ASN:O	3:C:712:LYS:N	2.43	0.51
4:D:1135:LEU:HD23	4:D:1136:PRO:HD2	1.92	0.51
5:E:231:MET:SD	5:E:262:TRP:CE3	3.03	0.51
5:E:277:PHE:CE2	5:E:300:ILE:HD13	2.44	0.51
7:G:147:C:C6	7:G:148:U:H5	2.28	0.51
15:O:166:SER:HA	15:O:169:VAL:HG12	1.92	0.51
23:W:240:ILE:HD12	23:W:241:LEU:N	2.25	0.51
1:A:176:LEU:HB3	1:A:181:ASN:ND2	2.25	0.51
1:A:197:PRO:HA	1:A:204:LEU:HD13	1.91	0.51
1:A:384:VAL:O	1:A:385:GLU:HG2	2.10	0.51
3:C:736:GLY:N	3:C:770:PHE:HE2	2.06	0.51
4:D:544:MET:HG3	4:D:817:TRP:CE2	2.45	0.51
6:F:78:A:OP1	12:L:170:LYS:HD3	2.09	0.51
10:J:192:GLU:N	10:J:195:LEU:CD1	2.65	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:154:GLU:O	12:L:158:ARG:HG2	2.11	0.51
15:O:44:GLU:HA	15:O:50:ARG:O	2.10	0.51
15:O:254:GLN:NE2	19:S:120:GLN:OE1	2.42	0.51
23:W:499:LYS:CA	23:W:499:LYS:CE	2.89	0.51
23:W:531:LYS:CA	23:W:546:PHE:O	2.58	0.51
26:Z:293:ARG:NH2	26:Z:316:ARG:HH22	2.08	0.51
3:C:736:GLY:HA3	3:C:770:PHE:CE2	2.44	0.51
4:D:792:VAL:HG12	4:D:796:LEU:HD13	1.92	0.51
4:D:1182:PRO:HA	4:D:1208:PHE:CG	2.45	0.51
4:D:1271:VAL:HG12	4:D:1279:GLU:HB2	1.92	0.51
10:J:192:GLU:HA	10:J:195:LEU:HD11	1.77	0.51
10:J:203:LEU:CD1	10:J:204:GLU:HG2	2.40	0.51
15:O:171:GLY:HA2	23:W:208:PRO:HG2	1.92	0.51
19:S:39:PHE:CD1	19:S:129:PHE:CE2	2.79	0.51
19:S:110:SER:O	19:S:111:GLN:C	2.49	0.51
23:W:385:GLU:OE1	23:W:385:GLU:HA	2.09	0.51
23:W:507:VAL:HG23	23:W:507:VAL:O	2.08	0.51
1:A:433:GLU:OE1	1:A:436:PRO:CB	2.49	0.51
1:A:1363:GLN:O	1:A:1364:LEU:HG	2.10	0.51
12:L:20:LYS:CE	12:L:54:LEU:HD11	2.40	0.51
12:L:144:MET:CG	12:L:149:LEU:HG	2.33	0.51
12:L:251:LEU:HD12	12:L:251:LEU:N	2.26	0.51
13:M:153:ARG:CA	13:M:160:PHE:HZ	2.19	0.51
22:V:466:SER:HB2	22:V:471:GLU:HB3	1.92	0.51
23:W:181:PHE:H	23:W:200:VAL:HG13	1.75	0.51
23:W:252:ARG:NH1	23:W:257:ILE:HG12	2.25	0.51
1:A:73:HIS:CD2	1:A:81:PHE:CZ	2.99	0.51
1:A:380:LEU:H	1:A:380:LEU:HD22	1.76	0.51
1:A:1775:GLN:NE2	26:Z:315:VAL:HG11	2.25	0.51
3:C:216:THR:HG21	3:C:245:HIS:HE1	1.73	0.51
3:C:520:GLU:OE2	3:C:520:GLU:N	2.21	0.51
22:V:234:LEU:HB3	22:V:370:LEU:HD12	1.92	0.51
23:W:189:ILE:O	23:W:189:ILE:HG13	2.11	0.51
1:A:1949:ARG:HD2	1:A:1986:LEU:CD2	2.37	0.51
2:B:18:C:C2'	2:B:19:A:O5'	2.58	0.51
3:C:66:TYR:N	3:C:66:TYR:CD1	2.77	0.51
4:D:1982:VAL:O	4:D:1986:MET:HG2	2.11	0.51
5:E:146:ARG:NH1	5:E:148:LYS:HE2	1.69	0.51
6:F:43:A:C6	6:F:44:G:O6	2.64	0.51
11:K:196:GLU:O	11:K:199:ILE:CG1	2.59	0.51
15:O:229:LYS:HA	15:O:277:ARG:HH12	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:280:ILE:HD12	18:R:280:ILE:C	2.27	0.51
19:S:20:MET:HE2	19:S:141:ARG:HD3	1.92	0.51
3:C:115:GLU:O	3:C:118:PHE:HB3	2.11	0.51
4:D:930:LEU:HD23	4:D:949:LEU:HD23	1.91	0.51
4:D:1099:VAL:HG13	4:D:1108:THR:HG22	1.91	0.51
5:E:251:LEU:HD23	5:E:291:CYS:SG	2.51	0.51
6:F:48:A:H61	12:L:30:GLN:HE22	1.59	0.51
7:G:145:U:O2'	7:G:146:C:C6	2.52	0.51
18:R:185:GLY:C	18:R:186:VAL:HG13	2.31	0.51
23:W:153:ILE:O	23:W:153:ILE:HG13	2.11	0.51
1:A:394:TYR:H	1:A:394:TYR:HD1	1.58	0.51
1:A:1868:MET:CE	1:A:1872:LEU:CD1	2.88	0.51
3:C:96:PRO:CD	20:T:276:GLU:OE2	2.59	0.51
3:C:497:LEU:CD1	3:C:577:PHE:CE1	2.89	0.51
3:C:512:GLU:HG3	3:C:562:THR:O	2.10	0.51
4:D:1127:CYS:SG	4:D:1129:LEU:HB2	2.51	0.51
4:D:1519:ARG:NH1	4:D:1521:VAL:O	2.44	0.51
5:E:87:ASP:O	5:E:88:ARG:HB2	2.11	0.51
6:F:43:A:N6	6:F:44:G:O6	2.44	0.51
6:F:58:G:H2'	6:F:59:G:C8	2.44	0.51
10:J:192:GLU:O	10:J:196:ARG:N	2.43	0.51
10:J:331:GLN:NE2	13:M:164:SER:O	2.44	0.51
12:L:20:LYS:NZ	12:L:54:LEU:HD11	2.26	0.51
12:L:202:ARG:O	12:L:202:ARG:CG	2.58	0.51
20:T:399:LYS:HG3	20:T:406:ILE:CD1	2.25	0.51
23:W:317:GLU:O	23:W:318:VAL:HB	2.11	0.51
23:W:389:ASN:HD21	23:W:406:ARG:NH2	2.06	0.51
23:W:417:HIS:ND1	23:W:437:SER:CB	2.72	0.51
23:W:488:PHE:HD1	23:W:496:LEU:CA	2.23	0.51
3:C:115:GLU:O	3:C:118:PHE:CA	2.58	0.51
4:D:406:ARG:HG2	4:D:954:LEU:HG	1.93	0.51
4:D:424:ALA:HB1	4:D:935:LEU:HD11	1.93	0.51
4:D:1891:THR:O	4:D:1895:LEU:HB2	2.11	0.51
6:F:81:C:H5	12:L:252:ARG:HD3	1.76	0.51
8:H:111:G:O3'	8:H:112:G:O4'	2.29	0.51
20:T:342:GLU:CB	20:T:343:PRO:CD	2.88	0.51
22:V:484:SER:C	22:V:486:THR:H	2.15	0.51
23:W:88:MET:CE	23:W:89:PHE:CD2	2.90	0.51
23:W:166:THR:OG1	23:W:169:GLU:CB	2.56	0.51
23:W:283:VAL:HG13	23:W:574:LEU:HD22	1.92	0.51
23:W:488:PHE:CD1	23:W:496:LEU:CA	2.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:497:ASN:HD21	23:W:500:LYS:H	1.59	0.51
23:W:498:LYS:HZ3	23:W:498:LYS:N	2.09	0.51
1:A:394:TYR:HD1	1:A:394:TYR:N	2.09	0.51
3:C:502:HIS:HE1	3:C:543:ARG:CD	2.24	0.51
4:D:1418:LEU:O	4:D:1421:LYS:HG2	2.11	0.51
4:D:1496:ASN:HD22	4:D:1763:ARG:NH1	2.09	0.51
19:S:131:ARG:HD2	19:S:131:ARG:C	2.30	0.51
20:T:385:TYR:CE2	20:T:400:PHE:HB3	2.45	0.51
22:V:576:THR:O	22:V:579:SER:N	2.44	0.51
23:W:370:PHE:HE2	23:W:391:PHE:CD2	2.27	0.51
23:W:497:ASN:HD22	23:W:499:LYS:H	1.59	0.51
23:W:536:ASP:HB3	23:W:539:THR:OG1	2.10	0.51
24:X:109:PHE:HD2	24:X:110:GLN:HG3	1.76	0.51
1:A:394:TYR:N	1:A:394:TYR:CD1	2.79	0.50
1:A:425:PRO:HG3	2:B:26:A:H5”	1.93	0.50
1:A:1332:HIS:CE1	1:A:1358:SER:O	2.64	0.50
3:C:216:THR:CG2	3:C:245:HIS:CE1	2.68	0.50
4:D:1872:ALA:HB2	4:D:1893:LEU:HD13	1.93	0.50
6:F:50:A:O2’	6:F:51:U:P	2.69	0.50
10:J:185:ALA:HA	12:L:142:ILE:HD13	1.92	0.50
10:J:360:ASP:HA	10:J:363:ARG:CD	2.41	0.50
18:R:280:ILE:HD12	18:R:281:ASN:H	1.70	0.50
20:T:185:MET:CB	20:T:186:PRO:CD	2.89	0.50
22:V:166:ILE:O	22:V:170:ILE:HG12	2.11	0.50
23:W:140:ASP:HB2	23:W:153:ILE:HG21	1.93	0.50
23:W:263:VAL:HG23	23:W:264:ASN:N	2.26	0.50
23:W:283:VAL:HG12	23:W:574:LEU:HD22	1.92	0.50
23:W:436:THR:CG2	23:W:464:MET:HB2	2.40	0.50
23:W:474:LYS:C	23:W:490:ALA:CB	2.80	0.50
1:A:1958:LYS:HG3	24:X:96:MET:HB3	1.93	0.50
1:A:2147:MET:O	1:A:2274:PRO:HD3	2.10	0.50
6:F:85:U:C3’	6:F:86:U:C5’	2.90	0.50
14:N:60:ILE:HD12	14:N:84:ALA:HB2	1.93	0.50
17:Q:225:LEU:HG	17:Q:253:PHE:HE1	1.74	0.50
18:R:303:GLU:O	18:R:307:GLN:OE1	2.28	0.50
23:W:162:ASN:CG	23:W:165:LEU:CD2	2.78	0.50
23:W:453:PHE:CD1	23:W:453:PHE:C	2.84	0.50
23:W:464:MET:SD	23:W:478:CYS:HB2	2.48	0.50
23:W:533:ASN:HB2	23:W:535:TRP:CZ3	2.45	0.50
1:A:182:ILE:HA	1:A:185:VAL:CG2	2.41	0.50
1:A:1476:GLN:HG3	26:Z:73:TYR:OH	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:301:SER:C	3:C:303:LEU:N	2.65	0.50
3:C:711:ARG:NE	3:C:730:ARG:HE	2.09	0.50
4:D:833:VAL:CG1	4:D:844:LEU:HB3	2.42	0.50
4:D:1081:MET:O	4:D:1085:THR:HG23	2.11	0.50
4:D:1309:VAL:HA	4:D:1328:PHE:HE2	1.77	0.50
4:D:1890:LYS:NZ	4:D:1894:LEU:HD11	2.26	0.50
4:D:2064:TRP:CZ3	4:D:2110:SER:HB2	2.46	0.50
7:G:7:G:OP2	7:G:7:G:H8	1.94	0.50
7:G:7:G:H2'	7:G:8:C:C6	2.46	0.50
8:H:107:A:C6	8:H:108:G:C5	2.99	0.50
11:K:163:LEU:CG	11:K:163:LEU:CA	2.80	0.50
12:L:12:ARG:NH2	12:L:138:ARG:NH2	2.58	0.50
14:N:128:VAL:CG1	14:N:130:ARG:HG2	2.41	0.50
15:O:226:PRO:HG3	15:O:302:TRP:CH2	2.46	0.50
17:Q:204:ASP:O	17:Q:212:ARG:NH1	2.45	0.50
23:W:304:LEU:HD11	23:W:567:ILE:HG21	1.93	0.50
26:Z:134:PHE:HE2	26:Z:153:GLU:OE1	1.95	0.50
1:A:344:ASP:OD1	1:A:347:LEU:HD11	2.12	0.50
1:A:1757:GLU:HG3	1:A:1759:THR:OG1	2.11	0.50
3:C:619:THR:O	3:C:620:LYS:HG3	2.11	0.50
4:D:725:VAL:HG12	4:D:727:SER:H	1.77	0.50
6:F:27:A:C1'	15:O:181:TYR:OH	2.60	0.50
13:M:160:PHE:HB3	13:M:161:PHE:CE1	2.47	0.50
23:W:271:PRO:CG	23:W:563:THR:HG22	2.40	0.50
1:A:384:VAL:HA	3:C:331:PHE:CD2	2.47	0.50
1:A:672:VAL:HB	20:T:267:ASP:OD1	2.11	0.50
1:A:1210:LYS:NZ	1:A:1369:TYR:OH	2.31	0.50
1:A:1352:HIS:ND1	21:U:21:ARG:HA	2.26	0.50
1:A:1862:ILE:CG2	1:A:1887:SER:OG	2.59	0.50
1:A:1868:MET:O	1:A:1871:PRO:HD2	2.11	0.50
1:A:1935:ARG:HH22	26:Z:348:THR:HG21	1.73	0.50
1:A:2073:TRP:HH2	1:A:2310:ARG:NH1	2.09	0.50
3:C:499:GLY:C	3:C:500:THR:HG23	2.32	0.50
4:D:787:ALA:HA	4:D:794:ARG:HD3	1.94	0.50
4:D:1478:SER:HA	4:D:1481:ILE:HG22	1.93	0.50
7:G:1:G:N3	7:G:1:G:C2'	2.73	0.50
8:H:153:A:C2'	8:H:154:C:C5'	2.86	0.50
10:J:361:ARG:HD3	13:M:161:PHE:HD2	1.69	0.50
15:O:234:LEU:HB2	15:O:272:ILE:HB	1.94	0.50
18:R:125:MET:O	18:R:126:ASN:HB3	2.11	0.50
19:S:125:LYS:HE3	19:S:125:LYS:N	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:329:HIS:CE1	20:T:355:ARG:HG3	2.46	0.50
22:V:457:ARG:NH2	22:V:457:ARG:CG	2.73	0.50
23:W:287:HIS:HE1	23:W:306:SER:OG	1.94	0.50
23:W:290:GLY:HA2	23:W:573:GLY:HA2	1.94	0.50
26:Z:109:ASN:ND2	26:Z:112:ILE:HD13	2.26	0.50
1:A:254:TYR:OH	1:A:434:HIS:CB	2.60	0.50
1:A:642:ARG:NE	2:B:55:C:O2	2.44	0.50
1:A:772:CYS:SG	1:A:1249:MET:CE	3.00	0.50
2:B:100:C:H2'	2:B:101:U:C6	2.47	0.50
3:C:335:ASN:OD1	3:C:336:TYR:N	2.44	0.50
3:C:514:TYR:HD1	3:C:515:THR:N	2.10	0.50
4:D:420:SER:HA	4:D:621:HIS:CD2	2.47	0.50
4:D:593:TRP:CD1	4:D:631:LEU:HD22	2.37	0.50
4:D:1100:LEU:HA	4:D:1108:THR:HG21	1.94	0.50
4:D:1534:HIS:CE1	4:D:1536:GLN:HB2	2.47	0.50
18:R:134:ARG:O	18:R:135:PRO:C	2.49	0.50
19:S:9:TRP:CE3	19:S:11:PRO:CD	2.94	0.50
23:W:88:MET:SD	23:W:89:PHE:CB	2.98	0.50
23:W:348:LEU:CD1	23:W:391:PHE:CE2	2.95	0.50
23:W:576:LYS:HB2	23:W:578:TRP:HE1	1.75	0.50
1:A:384:VAL:HG12	3:C:331:PHE:CG	2.46	0.50
2:B:23:C:O2'	2:B:24:G:H3'	2.11	0.50
3:C:699:ASP:C	3:C:705:VAL:HG22	2.31	0.50
12:L:144:MET:SD	12:L:149:LEU:HD21	2.52	0.50
12:L:260:ARG:NE	13:M:202:TYR:CD2	2.80	0.50
15:O:113:ASN:O	15:O:116:TYR:N	2.44	0.50
19:S:61:MET:CE	23:W:95:PRO:HG3	2.41	0.50
20:T:272:CYS:HB3	20:T:282:ARG:HG3	1.94	0.50
22:V:218:LEU:HD23	22:V:218:LEU:C	2.31	0.50
23:W:255:LEU:HD23	23:W:362:GLU:HG3	1.93	0.50
1:A:273:ILE:CG2	1:A:274:PRO:HD2	2.42	0.50
1:A:312:TYR:N	1:A:312:TYR:CD1	2.80	0.50
1:A:370:PRO:HG3	3:C:304:LEU:HD21	1.94	0.50
7:G:137:C:C5'	7:G:137:C:C6	2.90	0.50
10:J:232:GLU:HG3	12:L:210:TYR:CE1	2.39	0.50
15:O:115:GLU:HB3	18:R:218:ILE:HG21	1.93	0.50
18:R:238:THR:HG22	18:R:239:VAL:N	2.26	0.50
20:T:459:LEU:HG	20:T:461:SER:OG	2.12	0.50
23:W:548:ALA:CB	23:W:578:TRP:HH2	2.16	0.50
26:Z:144:PHE:C	26:Z:146:GLY:H	2.15	0.50
1:A:95:MET:N	1:A:96:PRO:HD2	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1332:HIS:HE1	1:A:1358:SER:O	1.94	0.50
2:B:20:G:OP1	2:B:20:G:H4'	2.12	0.50
5:E:178:LEU:CD1	5:E:222:LEU:HD21	2.41	0.50
5:E:250:LEU:HD22	5:E:262:TRP:HB2	1.93	0.50
12:L:135:LYS:HZ2	12:L:136:PRO:HD2	1.77	0.50
22:V:532:GLN:O	22:V:536:ILE:HG13	2.11	0.50
23:W:393:ALA:HB3	23:W:403:TRP:HZ3	1.77	0.50
23:W:528:GLY:C	23:W:552:VAL:HG23	2.30	0.50
26:Z:116:ARG:NH1	26:Z:152:ASP:OD1	2.29	0.50
26:Z:302:LYS:HG3	26:Z:306:GLU:CG	2.42	0.50
1:A:589:THR:OG1	1:A:590:GLY:N	2.44	0.49
1:A:1678:ARG:CG	1:A:1678:ARG:NH1	2.73	0.49
1:A:1763:LEU:O	1:A:1767:ASN:HB2	2.12	0.49
5:E:178:LEU:CD2	5:E:208:ILE:HD11	2.42	0.49
7:G:8:C:H2'	7:G:9:C:C6	2.46	0.49
7:G:128:U:O2'	7:G:129:G:OP2	2.24	0.49
10:J:216:ASP:O	10:J:219:GLU:N	2.45	0.49
12:L:61:THR:HG22	12:L:91:ARG:HH22	1.77	0.49
15:O:45:CYS:SG	15:O:48:CYS:N	2.85	0.49
23:W:430:ASN:O	23:W:447:TRP:CB	2.59	0.49
23:W:518:PRO:O	23:W:519:ASP:CB	2.57	0.49
1:A:76:MET:O	1:A:85:LYS:HE2	2.12	0.49
1:A:758:ARG:HH21	1:A:779:LEU:HD12	1.77	0.49
1:A:1790:ILE:CD1	24:X:76:SER:CB	2.90	0.49
3:C:313:GLN:HB2	42:C:1500:GTP:C6	2.47	0.49
8:H:29:A:C4'	8:H:30:A:OP1	2.60	0.49
8:H:33:G:O2'	8:H:34:U:O4'	2.23	0.49
10:J:406:PHE:CG	10:J:411:MET:CE	2.94	0.49
13:M:124:PHE:CD1	13:M:125:SER:N	2.80	0.49
13:M:222:ALA:O	13:M:226:TYR:HB2	2.13	0.49
15:O:75:SER:O	15:O:79:ASN:N	2.43	0.49
1:A:1904:ASP:O	1:A:1908:LYS:HG2	2.12	0.49
1:A:1984:LYS:HE2	26:Z:346:ASP:OD1	2.13	0.49
1:A:2097:ILE:HD12	1:A:2099:GLU:HB2	1.94	0.49
3:C:499:GLY:O	3:C:500:THR:HG23	2.12	0.49
16:P:64:GLU:OE2	16:P:68:ARG:NE	2.45	0.49
18:R:81:LYS:HZ1	18:R:81:LYS:CA	2.24	0.49
22:V:294:ILE:HG22	22:V:298:LYS:HE3	1.94	0.49
23:W:189:ILE:O	23:W:190:ASP:HB2	2.13	0.49
23:W:192:PHE:CD1	23:W:192:PHE:C	2.86	0.49
23:W:241:LEU:HD22	23:W:326:ARG:HH11	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:487:ILE:HG13	23:W:500:LYS:HB3	1.94	0.49
1:A:2325:VAL:HG22	4:D:788:GLY:O	2.12	0.49
3:C:559:ILE:C	3:C:559:ILE:HD12	2.32	0.49
5:E:74:PHE:CE2	5:E:343:ILE:HG13	2.45	0.49
7:G:128:U:P	23:W:545:ARG:HH22	2.23	0.49
13:M:156:HIS:CD2	13:M:156:HIS:H	2.30	0.49
18:R:67:ILE:HG22	18:R:69:VAL:HG21	1.94	0.49
19:S:81:GLN:HB3	19:S:108:ASN:H	1.77	0.49
20:T:418:THR:HG21	20:T:468:CYS:N	2.28	0.49
23:W:505:HIS:CB	23:W:533:ASN:OD1	2.60	0.49
26:Z:304:PRO:HD2	26:Z:304:PRO:O	2.13	0.49
1:A:47:GLU:O	1:A:50:LYS:HG2	1.94	0.49
1:A:469:LYS:NZ	2:B:59:G:N7	2.60	0.49
3:C:297:ASN:HB3	3:C:298:LEU:HD13	1.94	0.49
3:C:489:GLN:HB2	3:C:556:ASP:OD2	2.13	0.49
4:D:772:LEU:HD23	4:D:789:MET:HB2	1.95	0.49
4:D:1725:GLU:OE1	4:D:1763:ARG:NE	2.46	0.49
5:E:165:GLN:HG3	5:E:181:ILE:HD11	1.94	0.49
6:F:37:C:H3'	6:F:37:C:H6	1.78	0.49
7:G:147:C:C2	7:G:148:U:H5	2.22	0.49
9:I:346:ASN:CB	17:Q:527:ILE:CB	2.90	0.49
13:M:121:ASP:OD1	13:M:122:LEU:N	2.46	0.49
13:M:161:PHE:CD1	13:M:161:PHE:N	2.80	0.49
16:P:210:PHE:HD2	20:T:455:GLN:HE22	1.59	0.49
17:Q:19:ASN:HB3	17:Q:22:PHE:HB3	1.94	0.49
18:R:69:VAL:O	19:S:93:THR:HG21	2.13	0.49
23:W:110:MET:HG3	23:W:110:MET:O	2.12	0.49
25:Y:397:PRO:O	25:Y:400:TRP:HB3	2.13	0.49
1:A:45:TYR:HB2	5:E:153:PHE:HE2	1.77	0.49
1:A:47:GLU:C	1:A:50:LYS:CG	2.67	0.49
1:A:67:ARG:HD3	1:A:179:ALA:HB2	1.93	0.49
1:A:2073:TRP:CH2	1:A:2310:ARG:NH1	2.80	0.49
4:D:724:PHE:CG	4:D:852:MET:HE2	2.48	0.49
13:M:223:GLU:OE1	13:M:223:GLU:HA	2.12	0.49
19:S:12:PRO:HD2	19:S:166:GLY:HA2	1.93	0.49
22:V:152:LEU:HA	22:V:387:MET:SD	2.53	0.49
22:V:536:ILE:HG23	22:V:579:SER:HA	1.95	0.49
26:Z:350:LEU:O	26:Z:353:LEU:HB2	2.12	0.49
1:A:79:ARG:O	1:A:82:ARG:HD2	2.12	0.49
1:A:258:PHE:CZ	1:A:275:GLY:O	2.59	0.49
1:A:385:GLU:OE1	1:A:386:PRO:HD2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:502:HIS:ND1	3:C:543:ARG:HB3	2.27	0.49
3:C:678:THR:HG22	3:C:683:ASN:HB2	1.88	0.49
5:E:161:ARG:HH11	5:E:161:ARG:HG2	1.77	0.49
7:G:147:C:N1	7:G:148:U:H5	2.10	0.49
22:V:260:VAL:O	22:V:264:ILE:HG12	2.13	0.49
22:V:577:SER:HA	22:V:580:ARG:HD2	1.95	0.49
22:V:612:PHE:HZ	22:V:631:PHE:HE2	1.61	0.49
23:W:499:LYS:N	23:W:499:LYS:CE	2.74	0.49
24:X:121:GLU:HA	24:X:124:THR:OG1	2.12	0.49
1:A:378:PHE:CE2	3:C:338:GLU:HB2	2.48	0.49
1:A:387:PHE:HE1	3:C:327:TYR:CD1	2.31	0.49
4:D:1512:PHE:HB3	4:D:1514:PHE:CE2	2.48	0.49
10:J:201:ARG:NE	10:J:203:LEU:HA	2.27	0.49
18:R:282:GLU:C	18:R:284:PHE:N	2.65	0.49
19:S:119:THR:HB	19:S:122:LEU:CD1	2.42	0.49
22:V:466:SER:HB2	22:V:471:GLU:CD	2.33	0.49
22:V:514:PHE:O	22:V:521:TYR:HB3	2.09	0.49
23:W:109:ASN:CB	23:W:114:TYR:HD1	2.23	0.49
23:W:254:TYR:OH	23:W:362:GLU:HA	2.12	0.49
26:Z:121:GLU:OE1	26:Z:121:GLU:N	2.27	0.49
1:A:382:GLU:HA	3:C:354:ARG:NH1	2.28	0.49
1:A:406:TRP:HZ3	3:C:265:LEU:O	1.93	0.49
1:A:758:ARG:HG2	16:P:227:TYR:CD2	2.47	0.49
1:A:1341:ARG:CZ	1:A:1342:TRP:CZ2	2.92	0.49
1:A:1763:LEU:HG	1:A:1862:ILE:HD13	1.94	0.49
1:A:2149:PRO:O	1:A:2160:PRO:HD3	2.13	0.49
3:C:742:PRO:HB2	3:C:786:ASN:H	1.78	0.49
5:E:67:GLY:N	5:E:87:ASP:OD1	2.38	0.49
6:F:42:C:H2'	6:F:43:A:H1'	1.94	0.49
7:G:129:G:C4'	23:W:541:LYS:HZ1	2.07	0.49
7:G:147:C:C2'	7:G:148:U:C6	2.77	0.49
8:H:107:A:C2	8:H:108:G:C4	3.01	0.49
15:O:56:ARG:HG2	15:O:67:LYS:HB3	1.94	0.49
15:O:146:MET:O	15:O:149:LYS:N	2.40	0.49
15:O:294:ASN:O	15:O:296:ARG:HG3	2.12	0.49
18:R:93:GLU:HG3	19:S:19:SER:O	2.13	0.49
20:T:418:THR:HG21	20:T:468:CYS:H	1.77	0.49
23:W:207:LYS:HB2	23:W:207:LYS:NZ	2.27	0.49
23:W:474:LYS:C	23:W:490:ALA:HB3	2.33	0.49
26:Z:318:THR:HG23	26:Z:319:GLY:H	1.77	0.49
26:Z:341:VAL:HG23	26:Z:350:LEU:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1747:ASN:HB2	4:D:1809:ASP:HA	1.95	0.49
8:H:20:G:O4'	16:P:7:PRO:HB3	2.13	0.49
8:H:39:U:C2'	8:H:40:C:C6	2.92	0.49
12:L:39:HIS:O	12:L:40:ARG:HB2	2.13	0.49
15:O:20:PHE:HD1	18:R:177:ILE:CD1	2.24	0.49
15:O:229:LYS:HA	15:O:277:ARG:NH1	2.28	0.49
22:V:294:ILE:HD13	22:V:335:MET:O	2.13	0.49
22:V:352:ILE:HG22	22:V:353:ILE:HG13	1.95	0.49
22:V:369:MET:O	22:V:369:MET:HE3	2.13	0.49
23:W:88:MET:SD	23:W:89:PHE:N	2.86	0.49
23:W:527:ASP:OD1	23:W:529:ASN:N	2.46	0.49
1:A:344:ASP:HB3	26:Z:144:PHE:CD2	2.48	0.48
1:A:1757:GLU:CG	1:A:1759:THR:OG1	2.60	0.48
4:D:1359:CYS:HA	4:D:1362:PHE:CD2	2.48	0.48
6:F:39:A:H61	7:G:8:C:H42	1.59	0.48
7:G:1:G:C6	7:G:144:A:C6	3.01	0.48
12:L:28:LYS:HE3	18:R:268:LEU:CD2	2.43	0.48
16:P:48:GLN:O	16:P:49:ASP:HB2	2.13	0.48
18:R:70:ALA:O	18:R:71:GLN:C	2.51	0.48
23:W:127:GLN:HG3	23:W:168:PHE:CE2	2.48	0.48
23:W:210:GLU:CB	23:W:213:GLN:OE1	2.61	0.48
23:W:423:THR:CG2	23:W:467:VAL:CG1	2.89	0.48
1:A:259:ASP:C	1:A:259:ASP:OD1	2.51	0.48
1:A:1366:PRO:HD2	1:A:1474:MET:CE	2.42	0.48
1:A:1935:ARG:HH21	26:Z:348:THR:CG2	2.25	0.48
3:C:449:ILE:HG23	3:C:457:VAL:CG1	2.33	0.48
5:E:209:ILE:HG21	5:E:250:LEU:HD13	1.92	0.48
6:F:57:U:H1'	16:P:8:THR:CG2	2.42	0.48
6:F:85:U:C2	10:J:277:THR:HG22	2.48	0.48
7:G:20:A:H1'	15:O:193:LEU:CD2	2.42	0.48
7:G:133:A:OP1	23:W:500:LYS:HE3	2.13	0.48
7:G:137:C:OP2	7:G:137:C:C6	2.66	0.48
15:O:256:GLY:CA	18:R:70:ALA:CB	2.75	0.48
20:T:213:GLU:HG3	20:T:218:TRP:NE1	2.28	0.48
23:W:240:ILE:C	23:W:240:ILE:HD12	2.33	0.48
23:W:252:ARG:CZ	23:W:252:ARG:CB	2.90	0.48
26:Z:134:PHE:HD2	26:Z:153:GLU:OE2	1.96	0.48
26:Z:135:GLU:O	26:Z:136:ARG:O	2.31	0.48
1:A:351:TYR:HA	3:C:270:PRO:HG3	1.94	0.48
1:A:1775:GLN:CG	26:Z:315:VAL:HG11	2.43	0.48
1:A:1850:ARG:NH1	26:Z:265:LEU:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:57:G:H2'	2:B:58:U:H5'	1.95	0.48
3:C:507:VAL:HG13	3:C:566:THR:O	2.13	0.48
4:D:1839:LYS:O	4:D:1841:LYS:HE3	2.13	0.48
10:J:225:LEU:HD21	12:L:211:ASN:CB	2.43	0.48
12:L:222:LEU:HD23	12:L:222:LEU:O	2.13	0.48
23:W:497:ASN:HD22	23:W:499:LYS:N	2.10	0.48
23:W:528:GLY:O	23:W:552:VAL:CB	2.62	0.48
26:Z:355:LYS:O	26:Z:358:LYS:N	2.47	0.48
1:A:32:GLU:OE1	1:A:32:GLU:HA	2.12	0.48
1:A:155:LYS:HD3	1:A:621:VAL:CG2	2.43	0.48
1:A:247:THR:HG23	1:A:249:LEU:HD12	1.96	0.48
1:A:802:THR:HG21	1:A:804:GLU:OE2	2.13	0.48
1:A:1336:PRO:HB3	1:A:1353:PHE:CE1	2.48	0.48
3:C:82:GLN:HG3	20:T:238:LEU:H	1.78	0.48
3:C:221:ILE:HG13	3:C:479:THR:OG1	2.11	0.48
4:D:1476:TYR:O	4:D:1479:SER:HB3	2.13	0.48
4:D:1566:ARG:O	4:D:1569:THR:HG22	2.13	0.48
5:E:276:ILE:C	5:E:277:PHE:CD1	2.87	0.48
15:O:134:VAL:HG12	15:O:135:GLY:N	2.28	0.48
22:V:151:SER:O	22:V:155:GLN:HG3	2.13	0.48
22:V:585:ILE:O	22:V:588:GLN:N	2.46	0.48
26:Z:271:ILE:HG22	26:Z:272:ALA:O	2.14	0.48
1:A:378:PHE:HD1	1:A:379:GLU:N	2.09	0.48
2:B:20:G:H1'	2:B:21:A:OP1	2.14	0.48
4:D:720:GLN:HG2	4:D:807:GLN:HA	1.95	0.48
4:D:837:GLU:HG2	4:D:1083:TYR:CZ	2.48	0.48
4:D:1329:ASN:O	4:D:1333:THR:HG23	2.12	0.48
6:F:56:A:N1	16:P:5:ALA:O	2.47	0.48
7:G:129:G:O4'	23:W:541:LYS:HE2	2.14	0.48
10:J:229:LYS:HD2	12:L:206:ARG:HH22	1.79	0.48
10:J:296:ARG:HD2	12:L:225:TYR:CZ	2.49	0.48
12:L:251:LEU:HD13	12:L:254:GLU:N	2.27	0.48
13:M:211:ILE:HD12	13:M:212:ASN:CB	2.42	0.48
17:Q:830:THR:HG22	17:Q:865:LYS:HD2	1.94	0.48
23:W:126:GLU:CD	23:W:130:ARG:NH1	2.57	0.48
23:W:554:ILE:HG12	23:W:570:GLY:HA2	1.96	0.48
1:A:1211:ASP:C	1:A:1213:VAL:N	2.67	0.48
3:C:514:TYR:CD1	3:C:514:TYR:C	2.86	0.48
3:C:725:ASP:OD1	3:C:727:LEU:CA	2.60	0.48
4:D:1113:ASN:O	4:D:1117:MET:HG3	2.14	0.48
12:L:104:LEU:O	12:L:108:ALA:N	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:38:GLU:O	14:N:40:LYS:N	2.47	0.48
18:R:229:VAL:HG23	18:R:230:MET:N	2.28	0.48
23:W:291:VAL:HG12	23:W:293:ALA:H	1.79	0.48
23:W:571:TRP:HA	23:W:571:TRP:CE3	2.49	0.48
1:A:300:ASN:CA	3:C:939:ARG:HH22	2.25	0.48
1:A:823:SER:OG	1:A:933:ARG:NH1	2.47	0.48
1:A:1908:LYS:HD2	23:W:448:ASP:OD1	2.14	0.48
3:C:65:TYR:C	3:C:66:TYR:CG	2.86	0.48
4:D:1616:GLY:HA2	4:D:1641:ILE:HG22	1.95	0.48
8:H:39:U:C2'	8:H:40:C:C5	2.97	0.48
9:I:342:PRO:CA	17:Q:528:GLY:HA2	2.43	0.48
15:O:123:ARG:O	15:O:126:SER:OG	2.21	0.48
15:O:196:GLN:NE2	15:O:208:PRO:HG2	2.27	0.48
20:T:318:ARG:NH1	20:T:318:ARG:CG	2.74	0.48
20:T:358:ASP:HB2	20:T:365:ARG:HD2	1.96	0.48
23:W:487:ILE:CD1	23:W:537:TRP:CH2	2.97	0.48
23:W:499:LYS:HA	23:W:499:LYS:CE	2.43	0.48
26:Z:75:ASP:N	26:Z:75:ASP:OD1	2.46	0.48
1:A:91:ALA:HA	18:R:207:MET:HE3	1.95	0.48
1:A:1686:ASP:OD1	26:Z:170:TRP:NE1	2.44	0.48
3:C:507:VAL:HG12	3:C:508:LYS:N	2.28	0.48
4:D:495:THR:HG22	4:D:497:GLU:H	1.77	0.48
4:D:500:LEU:HD23	4:D:662:ALA:HA	1.95	0.48
4:D:1559:VAL:HG22	4:D:1660:LEU:HB3	1.95	0.48
12:L:77:LEU:CD2	18:R:285:ALA:HA	2.42	0.48
12:L:102:PHE:CE1	12:L:106:LYS:HG3	2.49	0.48
15:O:236:VAL:HB	15:O:270:ALA:O	2.14	0.48
15:O:258:ILE:HG22	15:O:260:THR:N	2.28	0.48
23:W:100:ARG:HB3	23:W:104:MET:HB3	1.95	0.48
23:W:429:GLU:O	23:W:430:ASN:HB3	2.13	0.48
23:W:464:MET:CE	23:W:486:LEU:HD12	2.43	0.48
1:A:1790:ILE:HD11	24:X:76:SER:HA	1.96	0.48
1:A:1863:VAL:HG11	1:A:1868:MET:HB2	1.96	0.48
3:C:483:SER:HA	3:C:490:PHE:CB	2.37	0.48
4:D:1066:PHE:CG	4:D:1085:THR:HG21	2.49	0.48
10:J:311:GLN:OE1	10:J:311:GLN:N	2.39	0.48
12:L:186:GLN:HG3	12:L:187:LYS:N	2.28	0.48
12:L:240:ARG:HD3	12:L:240:ARG:H	1.79	0.48
15:O:75:SER:OG	15:O:76:LYS:N	2.46	0.48
16:P:193:VAL:CG2	16:P:194:PHE:HD2	2.19	0.48
17:Q:1355:ILE:HG21	17:Q:1361:MET:HB2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:110:LYS:HD3	18:R:111:VAL:O	2.12	0.48
18:R:132:LEU:HD23	18:R:132:LEU:N	2.22	0.48
19:S:125:LYS:HB3	19:S:126:HIS:CE1	2.48	0.48
19:S:131:ARG:CZ	19:S:132:VAL:O	2.59	0.48
22:V:234:LEU:HD21	22:V:263:LEU:HD13	1.96	0.48
23:W:271:PRO:CG	23:W:563:THR:HG23	2.44	0.48
1:A:299:ILE:HD11	3:C:921:LEU:CD1	2.44	0.48
1:A:802:THR:HG22	1:A:804:GLU:HG2	1.95	0.48
3:C:152:GLN:OE1	3:C:426:GLU:O	2.31	0.48
3:C:671:SER:OG	3:C:672:LEU:HD22	2.14	0.48
4:D:728:ARG:HA	4:D:728:ARG:HD2	1.59	0.48
4:D:828:ILE:HD13	4:D:849:ILE:HG22	1.96	0.48
4:D:1314:ASN:OD1	4:D:1317:PHE:N	2.47	0.48
7:G:-12:G:C4’	7:G:-11:G:OP1	2.62	0.48
20:T:387:PHE:CD1	20:T:387:PHE:C	2.87	0.48
22:V:484:SER:C	22:V:486:THR:N	2.66	0.48
23:W:137:TYR:OH	23:W:165:LEU:HG	2.14	0.48
23:W:402:GLN:NE2	23:W:447:TRP:CE3	2.82	0.48
26:Z:338:GLY:O	26:Z:339:SER:OG	2.30	0.48
1:A:705:LYS:O	1:A:708:THR:N	2.43	0.47
1:A:1334:LEU:HB2	22:V:471:GLU:CG	2.44	0.47
3:C:84:GLU:O	20:T:238:LEU:HD23	2.14	0.47
3:C:336:TYR:CD1	3:C:336:TYR:C	2.86	0.47
3:C:753:GLU:O	3:C:755:ASP:N	2.46	0.47
4:D:538:ILE:HG12	4:D:611:LEU:HB3	1.96	0.47
4:D:1265:GLN:O	4:D:1265:GLN:HG2	2.13	0.47
4:D:1356:LYS:O	4:D:1359:CYS:HB2	2.13	0.47
4:D:1408:LEU:HD22	4:D:1425:ILE:HG22	1.95	0.47
4:D:1962:GLN:HE22	4:D:2014:TYR:HE1	1.61	0.47
5:E:248:SER:HB2	5:E:249:TYR:HD1	1.72	0.47
6:F:31:U:H2’	6:F:32:U:H5’	1.95	0.47
6:F:34:G:C8	6:F:34:G:H5”	2.47	0.47
8:H:44:U:H2’	8:H:45:C:C6	2.48	0.47
12:L:101:GLU:OE2	12:L:101:GLU:HA	2.14	0.47
15:O:133:PRO:HD2	15:O:137:LEU:HB2	1.96	0.47
18:R:124:VAL:HG22	18:R:126:ASN:H	1.79	0.47
19:S:11:PRO:HB3	19:S:166:GLY:N	2.29	0.47
26:Z:155:VAL:CG1	26:Z:156:GLN:H	2.27	0.47
26:Z:286:ASP:OD1	26:Z:286:ASP:N	2.46	0.47
3:C:507:VAL:CG1	3:C:565:ILE:CG2	2.74	0.47
4:D:420:SER:O	4:D:878:TYR:OH	2.26	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:517:MET:HB2	4:D:517:MET:HE3	1.84	0.47
4:D:972:TYR:HB2	4:D:979:PHE:HD1	1.79	0.47
4:D:1982:VAL:HG13	4:D:1985:ILE:HD11	1.95	0.47
4:D:2076:LEU:HD21	4:D:2079:ILE:HB	1.96	0.47
8:H:39:U:C3'	8:H:40:C:C6	2.97	0.47
12:L:733:LYS:O	12:L:736:ASN:CG	2.52	0.47
23:W:284:TRP:NE1	23:W:316:TRP:CG	2.82	0.47
23:W:316:TRP:O	23:W:318:VAL:HG23	2.13	0.47
23:W:433:PHE:HD1	23:W:433:PHE:N	2.12	0.47
1:A:161:PHE:CD2	1:A:626:GLY:CA	2.97	0.47
1:A:1790:ILE:HD13	24:X:76:SER:HB2	1.96	0.47
1:A:1860:GLN:HG2	1:A:1883:VAL:HB	1.94	0.47
1:A:2148:VAL:O	1:A:2150:GLN:HG2	2.14	0.47
3:C:60:HIS:ND1	3:C:60:HIS:O	2.48	0.47
8:H:42:G:H8	8:H:42:G:O5'	1.98	0.47
23:W:127:GLN:CG	23:W:168:PHE:CE2	2.97	0.47
23:W:256:HIS:CB	23:W:257:ILE:HD12	2.44	0.47
23:W:281:ILE:HD13	23:W:577:LEU:CD2	2.44	0.47
23:W:454:LYS:HZ3	23:W:456:ILE:HD11	1.80	0.47
23:W:571:TRP:HA	23:W:571:TRP:HE3	1.79	0.47
26:Z:84:HIS:CD2	26:Z:84:HIS:H	2.32	0.47
26:Z:138:ARG:O	26:Z:140:VAL:N	2.47	0.47
1:A:210:HIS:C	1:A:210:HIS:CD2	2.88	0.47
1:A:733:THR:N	1:A:734:PRO:CD	2.78	0.47
1:A:758:ARG:HD2	1:A:779:LEU:CD1	2.44	0.47
1:A:2272:MET:HE3	1:A:2272:MET:HB3	1.65	0.47
3:C:559:ILE:HD12	3:C:559:ILE:O	2.14	0.47
3:C:700:ILE:CG2	3:C:741:GLY:O	2.61	0.47
4:D:1139:VAL:O	4:D:1143:ILE:HG23	2.14	0.47
5:E:276:ILE:O	5:E:277:PHE:HD1	1.96	0.47
7:G:130:A:HO2'	7:G:131:U:P	2.34	0.47
8:H:72:U:H2'	8:H:73:C:C6	2.50	0.47
8:H:77:C:H2'	8:H:78:C:C6	2.49	0.47
10:J:221:ASN:ND2	12:L:211:ASN:CG	2.66	0.47
10:J:226:ARG:NH1	12:L:181:ARG:NH1	2.62	0.47
15:O:197:ASN:O	15:O:201:ARG:HG3	2.14	0.47
22:V:456:ARG:HG2	26:Z:73:TYR:O	2.15	0.47
23:W:100:ARG:HG2	23:W:100:ARG:HH11	1.78	0.47
23:W:159:ALA:HB3	23:W:160:GLU:OE1	2.14	0.47
23:W:433:PHE:HD1	23:W:433:PHE:H	1.60	0.47
1:A:254:TYR:CZ	1:A:434:HIS:HB2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1074:PHE:CD1	1:A:1080:GLU:HG2	2.50	0.47
3:C:116:MET:O	3:C:119:LEU:HB3	2.14	0.47
4:D:1713:PHE:N	4:D:1713:PHE:CD1	2.82	0.47
8:H:17:U:C4	13:M:214:ARG:HG3	2.49	0.47
8:H:153:A:C8	8:H:154:C:H5'	2.50	0.47
13:M:210:TYR:HB3	13:M:215:ASN:ND2	2.30	0.47
14:N:128:VAL:CG1	14:N:130:ARG:CB	2.92	0.47
16:P:66:ARG:HH11	16:P:66:ARG:CG	2.27	0.47
17:Q:1237:ILE:O	17:Q:1241:ILE:HG12	2.15	0.47
18:R:109:ASP:OD1	18:R:110:LYS:N	2.48	0.47
19:S:10:GLN:CA	19:S:29:TRP:CE2	2.97	0.47
22:V:515:CYS:SG	22:V:522:MET:N	2.87	0.47
23:W:316:TRP:CE3	23:W:324:CYS:CB	2.97	0.47
23:W:443:ARG:CZ	23:W:455:TYR:HD2	2.28	0.47
26:Z:136:ARG:HA	26:Z:137:PRO:HD3	1.56	0.47
4:D:618:HIS:CD2	4:D:847:LEU:HD22	2.50	0.47
6:F:25:C:O4'	6:F:26:U:OP2	2.33	0.47
10:J:436:TYR:OH	10:J:458:PHE:HA	2.15	0.47
15:O:58:CYS:HB2	15:O:65:PHE:CE1	2.49	0.47
15:O:84:CYS:O	15:O:85:LEU:HB2	2.14	0.47
15:O:230:THR:H	15:O:277:ARG:NH1	2.13	0.47
20:T:297:HIS:CD2	20:T:338:CYS:SG	3.06	0.47
23:W:155:SER:O	23:W:156:VAL:CG2	2.61	0.47
23:W:167:VAL:CG2	23:W:168:PHE:CE1	2.98	0.47
23:W:316:TRP:CZ3	23:W:324:CYS:CB	2.98	0.47
1:A:357:ASN:OD1	22:V:344:LYS:CE	2.63	0.47
1:A:369:GLU:HB2	1:A:370:PRO:HD2	1.97	0.47
1:A:384:VAL:HA	3:C:331:PHE:CE2	2.50	0.47
1:A:579:GLN:HG2	1:A:627:CYS:O	2.14	0.47
1:A:2310:ARG:HH11	1:A:2310:ARG:CG	2.27	0.47
3:C:334:ILE:HD12	3:C:334:ILE:C	2.34	0.47
3:C:490:PHE:CD1	3:C:490:PHE:N	2.83	0.47
3:C:495:ARG:HG3	3:C:495:ARG:O	2.15	0.47
3:C:502:HIS:HE1	3:C:543:ARG:HD2	1.80	0.47
3:C:680:ASN:HD21	3:C:682:LYS:CG	2.25	0.47
3:C:706:GLN:HE21	3:C:708:THR:N	2.08	0.47
4:D:493:LEU:HD11	4:D:515:MET:HB3	1.96	0.47
4:D:1408:LEU:HD23	4:D:1427:SER:HB2	1.95	0.47
4:D:1560:ILE:HG13	4:D:1658:ALA:HB2	1.96	0.47
4:D:2104:TYR:HB2	4:D:2122:PHE:CZ	2.50	0.47
5:E:276:ILE:C	5:E:277:PHE:HD1	2.17	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:43:A:C6	6:F:44:G:C6	3.02	0.47
7:G:12:G:H2'	7:G:13:C:C6	2.49	0.47
8:H:91:U:H2'	8:H:92:U:C6	2.50	0.47
8:H:149:A:H2'	8:H:150:U:C6	2.50	0.47
18:R:60:ASP:HB2	19:S:133:CYS:O	2.15	0.47
18:R:114:SER:HA	18:R:230:MET:HE1	1.95	0.47
19:S:13:ASN:ND2	19:S:24:VAL:CG1	2.77	0.47
20:T:358:ASP:HB2	20:T:365:ARG:CD	2.45	0.47
22:V:568:ILE:HG21	22:V:583:VAL:HG11	1.97	0.47
23:W:123:PHE:CZ	23:W:168:PHE:HD2	2.29	0.47
23:W:252:ARG:HH12	23:W:257:ILE:HD11	1.64	0.47
23:W:284:TRP:NE1	23:W:316:TRP:CB	2.76	0.47
23:W:356:LEU:HD23	23:W:356:LEU:C	2.35	0.47
23:W:454:LYS:NZ	23:W:456:ILE:HD11	2.30	0.47
23:W:455:TYR:C	23:W:455:TYR:CD1	2.88	0.47
23:W:462:HIS:O	23:W:463:SER:HB2	2.15	0.47
23:W:536:ASP:OD2	23:W:543:TYR:HE2	1.87	0.47
26:Z:168:ASP:HB3	26:Z:171:ASN:OD1	2.15	0.47
1:A:293:TRP:HD1	1:A:1136:ARG:CD	2.27	0.47
3:C:445:ALA:CB	3:C:449:ILE:CD1	2.93	0.47
3:C:596:ASN:HD22	3:C:596:ASN:N	2.13	0.47
4:D:512:VAL:HA	4:D:515:MET:HE2	1.96	0.47
4:D:669:PRO:HA	4:D:673:LEU:HB2	1.97	0.47
4:D:1228:VAL:HG11	4:D:1264:PRO:HD2	1.97	0.47
18:R:64:PHE:O	18:R:71:GLN:OE1	2.33	0.47
18:R:113:TYR:CG	18:R:118:ASP:OD2	2.68	0.47
19:S:10:GLN:HB3	19:S:29:TRP:CD2	2.50	0.47
19:S:20:MET:HE2	19:S:141:ARG:HB3	1.97	0.47
22:V:228:GLN:HG2	22:V:229:ILE:N	2.29	0.47
23:W:204:ASP:O	23:W:205:VAL:HB	2.14	0.47
24:X:119:ALA:O	24:X:123:GLN:HG2	2.14	0.47
26:Z:127:THR:HG21	26:Z:153:GLU:O	2.15	0.47
1:A:44:ARG:NH2	23:W:124:MET:SD	2.88	0.47
1:A:365:VAL:HG12	1:A:366:LYS:N	2.30	0.47
1:A:437:ALA:O	1:A:439:GLN:HG2	2.14	0.47
1:A:1786:TYR:CE1	1:A:1833:LEU:HB3	2.50	0.47
1:A:1946:ASN:ND2	1:A:1949:ARG:HE	2.13	0.47
3:C:507:VAL:CA	3:C:568:PRO:CB	2.80	0.47
3:C:736:GLY:HA2	3:C:770:PHE:CD2	2.50	0.47
4:D:772:LEU:HD12	4:D:772:LEU:H	1.79	0.47
4:D:1024:PHE:HB3	4:D:1027:ILE:HD12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:54:U:H2'	8:H:55:U:C6	2.50	0.47
8:H:71:C:H2'	8:H:72:U:C6	2.50	0.47
8:H:151:C:C2	8:H:152:G:N7	2.82	0.47
12:L:253:SER:O	12:L:256:GLU:N	2.48	0.47
18:R:266:LYS:CD	18:R:266:LYS:N	2.76	0.47
19:S:20:MET:CE	19:S:141:ARG:CD	2.92	0.47
19:S:61:MET:SD	23:W:95:PRO:CG	3.03	0.47
23:W:384:ASP:OD2	23:W:430:ASN:CG	2.53	0.47
23:W:534:ILE:HD11	23:W:546:PHE:CE2	2.50	0.47
23:W:539:THR:O	23:W:540:THR:OG1	2.30	0.47
1:A:206:TRP:CD1	1:A:213:LEU:HD21	2.50	0.47
1:A:1868:MET:HE3	1:A:1872:LEU:CG	2.42	0.47
3:C:446:LYS:HB3	3:C:447:PRO:HD3	1.97	0.47
4:D:969:LEU:HD12	4:D:985:GLY:HA2	1.96	0.47
4:D:1532:ILE:HG21	4:D:1537:THR:HB	1.97	0.47
4:D:1760:LEU:O	4:D:1764:MET:HG3	2.15	0.47
5:E:157:CYS:HA	5:E:168:CYS:O	2.15	0.47
8:H:59:A:H2'	8:H:60:U:C6	2.50	0.47
10:J:360:ASP:HA	10:J:363:ARG:CG	2.45	0.47
16:P:54:VAL:CG1	16:P:59:PHE:HZ	2.26	0.47
23:W:252:ARG:NH1	23:W:252:ARG:CB	2.78	0.47
23:W:440:LYS:CD	23:W:440:LYS:N	2.78	0.47
26:Z:353:LEU:O	26:Z:356:SER:N	2.48	0.47
26:Z:360:LYS:O	26:Z:364:PHE:HB2	2.15	0.47
1:A:384:VAL:HG12	3:C:331:PHE:HD2	1.78	0.46
1:A:1094:ARG:HH11	1:A:1094:ARG:CG	2.27	0.46
1:A:1313:PRO:CG	1:A:1363:GLN:HE22	2.26	0.46
1:A:1984:LYS:CD	26:Z:345:ALA:HB1	2.45	0.46
4:D:591:GLU:H	4:D:591:GLU:HG2	1.42	0.46
12:L:24:MET:HG3	18:R:262:ILE:O	2.14	0.46
22:V:631:PHE:HB2	22:V:640:THR:HG21	1.96	0.46
23:W:326:ARG:HH22	23:W:363:THR:HA	1.73	0.46
23:W:342:THR:HB	23:W:388:GLN:HE21	1.65	0.46
23:W:417:HIS:CE1	23:W:437:SER:HG	2.29	0.46
26:Z:155:VAL:HG12	26:Z:156:GLN:N	2.29	0.46
1:A:358:PRO:HG3	22:V:340:PHE:CB	2.45	0.46
1:A:378:PHE:CD1	1:A:378:PHE:C	2.89	0.46
1:A:422:LEU:HD21	1:A:638:LEU:HD12	1.95	0.46
1:A:519:ASP:C	1:A:519:ASP:OD1	2.54	0.46
1:A:1904:ASP:OD1	24:X:86:ARG:NH2	2.48	0.46
3:C:244:LYS:CG	3:C:292:TYR:CE2	2.99	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:297:ASN:HD22	3:C:298:LEU:HD12	1.79	0.46
3:C:513:ASN:O	3:C:513:ASN:ND2	2.48	0.46
4:D:418:GLN:HE22	4:D:842:THR:HG22	1.80	0.46
4:D:791:ARG:HH21	4:D:794:ARG:NH1	2.13	0.46
4:D:969:LEU:CD1	4:D:985:GLY:HA2	2.45	0.46
4:D:1375:ARG:HG2	4:D:1448:ILE:HG22	1.97	0.46
8:H:68:G:H2'	8:H:69:U:C6	2.50	0.46
15:O:283:ALA:O	15:O:287:SER:HB3	2.15	0.46
18:R:189:ASN:HD22	18:R:189:ASN:HA	1.50	0.46
22:V:449:GLU:CB	22:V:452:LEU:CD1	2.85	0.46
22:V:527:GLY:O	22:V:530:LYS:N	2.48	0.46
23:W:241:LEU:HD13	23:W:326:ARG:NH1	2.30	0.46
23:W:304:LEU:CA	23:W:318:VAL:CG2	2.93	0.46
26:Z:121:GLU:HG3	26:Z:143:LYS:HD2	1.97	0.46
2:B:19:A:HO2'	2:B:20:G:P	2.36	0.46
3:C:221:ILE:HG23	3:C:495:ARG:HB3	1.97	0.46
3:C:388:VAL:HA	3:C:392:LEU:HB2	1.97	0.46
3:C:534:VAL:HG12	3:C:535:ALA:N	2.28	0.46
7:G:134:U:H5"	7:G:135:G:OP2	2.15	0.46
8:H:69:U:H2'	8:H:70:C:C6	2.49	0.46
8:H:81:G:H2'	8:H:82:G:H8	1.81	0.46
8:H:183:G:H2'	8:H:184:C:C6	2.50	0.46
10:J:191:ALA:N	12:L:17:GLU:OE1	2.47	0.46
12:L:63:TRP:CD1	12:L:67:GLU:HG2	2.50	0.46
15:O:161:ARG:NH2	15:O:182:ARG:HD2	2.29	0.46
17:Q:790:TYR:OH	17:Q:976:ASN:ND2	2.47	0.46
23:W:210:GLU:HB3	23:W:213:GLN:OE1	2.15	0.46
23:W:427:VAL:HG13	23:W:428:ASP:N	2.31	0.46
1:A:470:ARG:CZ	1:A:470:ARG:HB2	2.46	0.46
1:A:481:PHE:CE2	18:R:205:ASP:HA	2.50	0.46
3:C:557:GLN:N	3:C:558:PRO:HD2	2.30	0.46
3:C:753:GLU:C	3:C:755:ASP:H	2.18	0.46
4:D:994:THR:HG22	4:D:1023:GLU:OE1	2.14	0.46
4:D:1328:PHE:HB2	4:D:1333:THR:HG22	1.97	0.46
6:F:50:A:HO2'	6:F:51:U:P	2.38	0.46
7:G:17:U:H1'	15:O:46:LYS:NZ	2.30	0.46
7:G:27:U:HO2'	7:G:28:A:C4'	2.27	0.46
8:H:80:A:H2'	8:H:81:G:H8	1.81	0.46
8:H:143:A:N3	8:H:143:A:C3'	2.73	0.46
10:J:195:LEU:CD2	12:L:24:MET:HE3	2.45	0.46
11:K:188:LEU:C	11:K:188:LEU:HD13	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:128:VAL:HG13	14:N:130:ARG:CB	2.45	0.46
15:O:57:TRP:CD1	15:O:57:TRP:C	2.89	0.46
18:R:178:ARG:HH11	18:R:194:GLN:NE2	2.14	0.46
22:V:387:MET:HE2	22:V:387:MET:HA	1.97	0.46
22:V:477:LEU:HD21	22:V:514:PHE:CE1	2.49	0.46
23:W:132:PHE:CD1	23:W:132:PHE:C	2.88	0.46
23:W:162:ASN:CG	23:W:165:LEU:HD21	2.31	0.46
23:W:275:TYR:O	23:W:558:TRP:HZ2	1.99	0.46
23:W:481:MET:C	23:W:483:ASN:H	2.18	0.46
1:A:331:TRP:CE3	1:A:331:TRP:C	2.89	0.46
1:A:1504:GLU:CG	1:A:1754:TYR:HE2	2.28	0.46
1:A:2252:LEU:HD23	1:A:2253:PRO:HD2	1.96	0.46
4:D:1264:PRO:HB2	4:D:1265:GLN:OE1	2.15	0.46
4:D:1395:GLU:HA	4:D:1399:ASP:HB2	1.98	0.46
5:E:277:PHE:CE1	5:E:317:ARG:HG2	2.51	0.46
6:F:8:C:C6	6:F:8:C:C5'	2.91	0.46
8:H:39:U:N3	8:H:40:C:N4	2.63	0.46
8:H:78:C:H2'	8:H:79:G:H8	1.81	0.46
10:J:212:GLN:HB2	23:W:508:ALA:HB1	1.95	0.46
12:L:102:PHE:CD1	12:L:102:PHE:C	2.89	0.46
13:M:210:TYR:CE2	13:M:216:ALA:HB2	2.50	0.46
14:N:1:MET:HB3	14:N:2:PRO:HD3	1.97	0.46
17:Q:444:TYR:CZ	17:Q:446:GLY:HA2	2.51	0.46
17:Q:1284:LEU:HD23	17:Q:1310:PHE:CE1	2.51	0.46
18:R:314:GLN:CA	18:R:314:GLN:HE21	2.29	0.46
23:W:282:HIS:HB3	23:W:284:TRP:CE3	2.51	0.46
23:W:433:PHE:N	23:W:433:PHE:CD1	2.83	0.46
23:W:492:ASN:C	23:W:492:ASN:HD22	2.19	0.46
1:A:1502:PHE:CE1	1:A:1754:TYR:HB2	2.49	0.46
1:A:2196:HIS:HB3	1:A:2230:LEU:HD11	1.98	0.46
3:C:471:ASP:H	3:C:499:GLY:CA	2.23	0.46
3:C:516:LEU:HB2	3:C:575:GLN:HE22	1.78	0.46
3:C:600:LEU:N	3:C:601:PRO:HD2	2.31	0.46
4:D:1320:LEU:HA	4:D:1400:ARG:NH1	2.30	0.46
4:D:1324:LYS:NZ	4:D:1400:ARG:HH12	2.14	0.46
8:H:150:U:H2'	8:H:151:C:C6	2.50	0.46
8:H:181:G:H2'	8:H:182:U:C6	2.50	0.46
8:H:182:U:H2'	8:H:183:G:H8	1.81	0.46
10:J:335:ARG:NH2	18:R:98:TYR:HB3	2.31	0.46
12:L:163:GLN:O	12:L:168:LYS:CE	2.54	0.46
12:L:789:ALA:O	12:L:792:LEU:CG	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:142:ILE:HG13	13:M:142:ILE:O	2.15	0.46
16:P:69:ALA:HA	16:P:72:ARG:HH12	1.81	0.46
20:T:399:LYS:HG2	20:T:406:ILE:CG1	2.45	0.46
26:Z:67:ILE:HG23	26:Z:85:GLN:HE21	1.81	0.46
1:A:76:MET:O	1:A:85:LYS:CE	2.64	0.46
1:A:373:ASP:OD1	1:A:374:ASP:N	2.49	0.46
1:A:609:LYS:O	1:A:613:TYR:HB2	2.15	0.46
3:C:674:CYS:SG	3:C:822:MET:CE	3.04	0.46
7:G:120:G:O2'	7:G:121:G:C1'	2.59	0.46
7:G:141:C:H2'	7:G:142:U:C6	2.51	0.46
8:H:107:A:C6	8:H:108:G:C6	3.04	0.46
8:H:141:C:H2'	8:H:142:C:C6	2.50	0.46
12:L:12:ARG:HH21	12:L:138:ARG:NH2	2.13	0.46
15:O:240:GLY:HA3	15:O:296:ARG:NH2	2.31	0.46
18:R:106:GLN:CA	18:R:106:GLN:NE2	2.78	0.46
20:T:281:ILE:CD1	20:T:282:ARG:HG2	2.46	0.46
20:T:329:HIS:CE1	20:T:353:THR:O	2.69	0.46
20:T:455:GLN:HG3	20:T:485:THR:CG2	2.46	0.46
23:W:434:VAL:HG22	23:W:444:VAL:HG22	1.98	0.46
1:A:596:TYR:O	1:A:597:LYS:C	2.50	0.46
1:A:1870:ASP:HB2	1:A:1871:PRO:HD3	1.98	0.46
3:C:457:VAL:HA	3:C:462:GLY:HA3	1.97	0.46
3:C:667:VAL:HG22	3:C:824:THR:HG23	1.97	0.46
4:D:1349:GLY:HA2	4:D:1491:SER:O	2.16	0.46
6:F:58:G:OP1	16:P:12:ALA:HB2	2.16	0.46
7:G:146:C:C4'	24:X:74:ALA:O	2.63	0.46
8:H:83:A:H2'	8:H:84:C:C6	2.49	0.46
12:L:222:LEU:H	12:L:222:LEU:CD2	2.19	0.46
13:M:158:GLU:OE1	13:M:158:GLU:HA	2.15	0.46
13:M:202:TYR:CD1	13:M:202:TYR:C	2.88	0.46
15:O:20:PHE:CG	15:O:21:PRO:HD2	2.51	0.46
19:S:9:TRP:CH2	19:S:44:ARG:HD3	2.51	0.46
19:S:119:THR:CB	19:S:122:LEU:CD1	2.93	0.46
22:V:234:LEU:CD2	22:V:263:LEU:HD13	2.46	0.46
23:W:137:TYR:CD2	23:W:137:TYR:O	2.69	0.46
23:W:241:LEU:HA	23:W:326:ARG:CD	2.46	0.46
23:W:354:ARG:HH11	23:W:354:ARG:CG	2.26	0.46
26:Z:137:PRO:C	26:Z:138:ARG:HG2	2.35	0.46
1:A:1285:LEU:HD23	1:A:1285:LEU:HA	1.84	0.46
2:B:12:U:H3	2:B:65:G:H1	1.63	0.46
3:C:77:VAL:CG1	20:T:196:LEU:O	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:461:LEU:HD23	3:C:461:LEU:HA	1.75	0.46
4:D:420:SER:HB3	4:D:622:ASP:HA	1.97	0.46
4:D:598:ARG:HA	4:D:907:LEU:HD21	1.98	0.46
4:D:833:VAL:HG11	4:D:844:LEU:HB3	1.98	0.46
4:D:1313:ARG:HD2	4:D:1313:ARG:HA	1.68	0.46
5:E:265:ARG:H	5:E:272:ARG:HH22	1.60	0.46
8:H:88:A:H2'	8:H:89:U:C6	2.50	0.46
8:H:152:G:O2'	8:H:153:A:H1'	2.16	0.46
13:M:176:THR:O	13:M:177:GLU:C	2.54	0.46
16:P:72:ARG:NH1	16:P:72:ARG:CB	2.76	0.46
17:Q:509:ARG:HG3	17:Q:549:ILE:HD12	1.97	0.46
17:Q:790:TYR:HB3	17:Q:792:TYR:CE2	2.51	0.46
23:W:265:LEU:O	23:W:300:SER:HB3	2.16	0.46
23:W:304:LEU:N	23:W:318:VAL:HG23	2.27	0.46
1:A:331:TRP:CZ3	3:C:179:VAL:CG2	2.93	0.46
1:A:535:ARG:HH11	1:A:535:ARG:CG	2.28	0.46
1:A:758:ARG:HG2	16:P:227:TYR:CE2	2.51	0.46
1:A:1389:TYR:CE2	25:Y:405:MET:SD	3.09	0.46
1:A:2121:ARG:O	1:A:2154:HIS:HA	2.15	0.46
3:C:323:PHE:CE1	3:C:424:PHE:HE1	2.33	0.46
4:D:728:ARG:NH2	4:D:786:HIS:HB2	2.31	0.46
4:D:1969:GLU:H	4:D:1969:GLU:HG3	1.58	0.46
8:H:74:U:H2'	8:H:75:A:H8	1.81	0.46
8:H:90:A:H2'	8:H:91:U:C6	2.50	0.46
13:M:235:GLN:HA	13:M:238:GLU:HG2	1.97	0.46
14:N:15:TRP:HE3	14:N:74:LEU:HD11	1.81	0.46
15:O:22:ILE:HG23	23:W:112:SER:HB3	1.97	0.46
18:R:314:GLN:C	18:R:315:LYS:HE2	2.35	0.46
19:S:38:ASN:HD22	19:S:100:MET:CE	2.29	0.46
23:W:243:VAL:HG21	23:W:323:ARG:CG	2.46	0.46
23:W:282:HIS:NE2	23:W:320:GLY:O	2.49	0.46
23:W:291:VAL:HG12	23:W:293:ALA:N	2.31	0.46
23:W:381:PHE:HE1	23:W:391:PHE:CD1	2.34	0.46
23:W:516:PHE:HA	23:W:522:TYR:O	2.16	0.46
1:A:161:PHE:CE2	1:A:626:GLY:CA	3.00	0.45
3:C:493:PHE:CZ	3:C:549:TRP:HB3	2.50	0.45
4:D:530:THR:C	4:D:531:ILE:HG13	2.36	0.45
4:D:826:VAL:O	4:D:868:ILE:HD12	2.16	0.45
5:E:264:VAL:CA	5:E:272:ARG:HH21	2.24	0.45
5:E:277:PHE:CD1	5:E:277:PHE:N	2.83	0.45
7:G:7:G:H2'	7:G:8:C:H6	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:168:LYS:O	12:L:172:ARG:CG	2.64	0.45
16:P:227:TYR:N	16:P:227:TYR:CD1	2.84	0.45
20:T:269:GLN:NE2	20:T:271:LYS:HE3	2.31	0.45
20:T:454:VAL:CG1	20:T:455:GLN:N	2.78	0.45
22:V:399:LYS:O	22:V:403:LYS:HG3	2.16	0.45
23:W:254:TYR:CG	23:W:325:LEU:HD12	2.51	0.45
23:W:426:PHE:CD1	23:W:433:PHE:HB3	2.51	0.45
23:W:471:PRO:HD2	23:W:520:MET:SD	2.56	0.45
1:A:195:LEU:H	1:A:195:LEU:HD12	1.81	0.45
1:A:678:GLU:OE1	1:A:774:LYS:NZ	2.48	0.45
1:A:755:HIS:CE1	16:P:220:HIS:ND1	2.84	0.45
1:A:2112:LYS:HE2	1:A:2112:LYS:HB3	1.67	0.45
4:D:506:GLY:O	4:D:682:PRO:HG3	2.15	0.45
4:D:1775:GLY:HA3	4:D:1780:HIS:CD2	2.51	0.45
5:E:132:THR:OG1	5:E:148:LYS:HD3	2.16	0.45
6:F:57:U:HO2'	16:P:8:THR:CG2	2.08	0.45
9:I:712:VAL:O	9:I:715:GLY:N	2.49	0.45
15:O:24:CYS:HB3	15:O:26:THR:H	1.81	0.45
16:P:13:ARG:HA	16:P:13:ARG:HD2	1.67	0.45
18:R:78:ARG:NE	18:R:78:ARG:N	2.64	0.45
18:R:179:TYR:CE2	18:R:181:PRO:HG3	2.50	0.45
22:V:515:CYS:SG	22:V:521:TYR:C	2.94	0.45
23:W:100:ARG:HB3	23:W:104:MET:CB	2.47	0.45
23:W:476:LEU:O	23:W:487:ILE:HA	2.16	0.45
1:A:439:GLN:NE2	1:A:614:TYR:CE1	2.81	0.45
1:A:678:GLU:CD	1:A:774:LYS:NZ	2.70	0.45
1:A:801:ILE:O	1:A:802:THR:HB	2.15	0.45
4:D:612:ILE:HD11	4:D:648:LEU:HG	1.98	0.45
4:D:967:ASN:ND2	4:D:995:ASN:O	2.48	0.45
7:G:1:G:O5'	7:G:144:A:H1'	2.16	0.45
7:G:137:C:O2'	7:G:138:A:O5'	2.35	0.45
12:L:18:ILE:CG2	12:L:37:LEU:HD22	2.47	0.45
12:L:183:ALA:O	12:L:187:LYS:HG2	2.15	0.45
18:R:76:MET:CE	19:S:140:ASN:OD1	2.65	0.45
23:W:537:TRP:CD1	23:W:537:TRP:C	2.90	0.45
24:X:109:PHE:O	24:X:113:LEU:HG	2.16	0.45
1:A:549:GLU:OE2	1:A:552:ARG:NH1	2.49	0.45
1:A:1333:VAL:CG1	1:A:1367:ASN:HD22	2.30	0.45
1:A:1363:GLN:O	1:A:1364:LEU:HD23	2.17	0.45
3:C:350:ASN:ND2	3:C:353:THR:CG2	2.78	0.45
3:C:477:HIS:HD1	3:C:478:THR:N	2.14	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:148:C:H2'	8:H:149:A:H8	1.82	0.45
13:M:152:LEU:HD23	13:M:153:ARG:N	2.31	0.45
13:M:177:GLU:H	13:M:177:GLU:HG3	1.64	0.45
14:N:128:VAL:CG1	14:N:130:ARG:CG	2.94	0.45
15:O:214:LEU:HD23	15:O:214:LEU:HA	1.80	0.45
15:O:259:ARG:HD2	15:O:273:GLN:HG2	1.99	0.45
1:A:150:MET:SD	1:A:193:LEU:HD13	2.56	0.45
1:A:384:VAL:CG1	3:C:331:PHE:HB3	2.45	0.45
1:A:469:LYS:O	1:A:471:TYR:CD2	2.70	0.45
1:A:1338:SER:OG	1:A:1351:THR:N	2.34	0.45
1:A:1798:LEU:CD1	1:A:1798:LEU:N	2.79	0.45
1:A:2074:ARG:O	1:A:2078:ILE:HD13	2.17	0.45
1:A:2303:GLU:CD	1:A:2303:GLU:H	2.19	0.45
4:D:1128:PRO:HG2	4:D:1150:PHE:CD2	2.52	0.45
4:D:1530:PHE:CD1	4:D:1542:MET:HE2	2.52	0.45
6:F:41:A:C2	7:G:6:A:N1	2.79	0.45
8:H:70:C:H2'	8:H:71:C:C6	2.50	0.45
12:L:18:ILE:HG23	12:L:37:LEU:HD22	1.98	0.45
12:L:243:ARG:C	12:L:245:GLN:N	2.68	0.45
15:O:72:GLN:HA	15:O:82:GLN:HE21	1.80	0.45
16:P:33:ARG:CG	16:P:33:ARG:NH1	2.76	0.45
22:V:294:ILE:CD1	22:V:335:MET:HB3	2.47	0.45
22:V:639:LEU:HA	22:V:639:LEU:HD23	1.75	0.45
23:W:317:GLU:CD	23:W:319:TYR:CD2	2.88	0.45
26:Z:121:GLU:H	26:Z:121:GLU:CD	2.11	0.45
26:Z:361:LYS:HA	26:Z:364:PHE:HB3	1.98	0.45
1:A:244:GLN:OE1	26:Z:131:LYS:O	2.34	0.45
1:A:273:ILE:HG23	1:A:274:PRO:HD2	1.99	0.45
1:A:666:LYS:CB	1:A:668:VAL:CG2	2.91	0.45
4:D:791:ARG:HE	4:D:794:ARG:HH22	1.64	0.45
4:D:1534:HIS:HE1	4:D:1536:GLN:HB2	1.81	0.45
8:H:114:A:H2'	8:H:115:G:H8	1.81	0.45
8:H:142:C:H2'	8:H:143:A:H5'	1.98	0.45
10:J:194:LEU:HD21	12:L:152:LEU:HD22	1.99	0.45
10:J:196:ARG:HA	13:M:208:ILE:HD13	1.97	0.45
16:P:11:PRO:O	16:P:12:ALA:HB2	2.16	0.45
22:V:492:MET:O	22:V:496:CYS:HB2	2.16	0.45
22:V:571:SER:CB	22:V:573:GLU:HB3	2.46	0.45
22:V:612:PHE:CZ	22:V:631:PHE:HE2	2.35	0.45
23:W:101:THR:N	23:W:104:MET:HB2	2.31	0.45
23:W:242:HIS:O	23:W:243:VAL:HG23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:255:LEU:CD2	23:W:362:GLU:HG3	2.47	0.45
23:W:322:ARG:HH11	23:W:322:ARG:CG	2.23	0.45
23:W:576:LYS:CB	23:W:578:TRP:HE1	2.29	0.45
26:Z:149:ILE:HG22	26:Z:150:ALA:N	2.31	0.45
26:Z:318:THR:CG2	26:Z:319:GLY:N	2.80	0.45
1:A:68:LYS:HD3	14:N:49:ILE:HD11	1.98	0.45
1:A:469:LYS:O	1:A:471:TYR:CE2	2.69	0.45
1:A:1502:PHE:O	1:A:1503:TRP:HB2	2.16	0.45
1:A:1768:TYR:CD1	1:A:1768:TYR:C	2.90	0.45
1:A:1862:ILE:HG22	1:A:1887:SER:OG	2.16	0.45
6:F:40:U:O4	6:F:41:A:N6	2.50	0.45
8:H:56:A:H2'	8:H:57:A:H8	1.82	0.45
8:H:89:U:H2'	8:H:90:A:H8	1.82	0.45
13:M:122:LEU:N	13:M:122:LEU:HD22	2.31	0.45
16:P:57:ARG:NH1	16:P:57:ARG:CG	2.80	0.45
17:Q:894:ARG:HE	17:Q:1024:SER:HB2	1.82	0.45
23:W:488:PHE:HD1	23:W:496:LEU:HA	1.81	0.45
23:W:533:ASN:HB3	23:W:535:TRP:CH2	2.50	0.45
1:A:161:PHE:CE2	1:A:626:GLY:HA2	2.52	0.45
1:A:308:ILE:HG22	1:A:308:ILE:O	2.16	0.45
1:A:995:ARG:HA	1:A:995:ARG:HD2	1.79	0.45
1:A:1306:LYS:NZ	2:B:38:C:O2'	2.50	0.45
4:D:881:SER:HA	4:D:886:GLN:HB2	1.99	0.45
4:D:1368:LEU:HD13	4:D:1368:LEU:HA	1.87	0.45
4:D:1439:TRP:CD2	4:D:1477:ILE:HD13	2.52	0.45
4:D:1889:VAL:O	4:D:1893:LEU:HG	2.17	0.45
5:E:162:ARG:NE	5:E:203:ASP:O	2.50	0.45
5:E:255:MET:C	5:E:257:ASN:H	2.20	0.45
6:F:7:G:H5'	6:F:7:G:C8	2.45	0.45
8:H:73:C:H2'	8:H:74:U:C6	2.50	0.45
8:H:180:G:H2'	8:H:181:G:H8	1.81	0.45
13:M:239:ARG:HH11	13:M:239:ARG:CG	2.28	0.45
15:O:32:PRO:HA	18:R:195:ARG:NH1	2.31	0.45
16:P:7:PRO:O	16:P:8:THR:HG23	2.17	0.45
20:T:294:LEU:N	20:T:294:LEU:HD23	2.31	0.45
20:T:349:SER:OG	20:T:351:ASP:OD1	2.34	0.45
20:T:455:GLN:CG	20:T:456:PRO:CD	2.92	0.45
22:V:497:CYS:HA	22:V:500:GLN:CD	2.37	0.45
23:W:140:ASP:CA	23:W:153:ILE:HD13	2.39	0.45
23:W:449:ILE:HD11	24:X:86:ARG:NH2	2.32	0.45
23:W:497:ASN:ND2	23:W:500:LYS:H	2.13	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:536:ASP:OD1	23:W:543:TYR:CE2	2.63	0.45
26:Z:295:ASN:HB3	26:Z:310:ALA:O	2.17	0.45
1:A:293:TRP:CD1	1:A:1136:ARG:NE	2.85	0.45
1:A:1211:ASP:HB2	1:A:1276:GLU:HG2	1.99	0.45
1:A:2222:SER:OG	1:A:2223:CYS:N	2.50	0.45
1:A:2237:TRP:HZ2	1:A:2248:PRO:HB2	1.81	0.45
3:C:65:TYR:O	3:C:66:TYR:CB	2.65	0.45
3:C:710:ASN:O	3:C:711:ARG:C	2.55	0.45
4:D:531:ILE:HD12	4:D:531:ILE:O	2.16	0.45
7:G:27:U:HO2'	7:G:28:A:C5'	2.26	0.45
8:H:12:G:N2	13:M:196:TYR:CE1	2.85	0.45
8:H:57:A:H2'	8:H:58:U:C6	2.50	0.45
8:H:82:G:H2'	8:H:83:A:H8	1.81	0.45
12:L:56:PRO:HB3	13:M:237:LEU:HD21	1.99	0.45
13:M:200:ARG:HG2	13:M:200:ARG:HH11	1.82	0.45
16:P:33:ARG:NH1	16:P:33:ARG:HG2	2.31	0.45
18:R:74:LEU:CD2	18:R:75:ASP:N	2.80	0.45
22:V:489:LEU:O	22:V:492:MET:N	2.50	0.45
22:V:502:THR:HG22	22:V:503:TYR:N	2.32	0.45
23:W:498:LYS:NZ	23:W:498:LYS:N	2.65	0.45
1:A:790:ARG:NH2	1:A:986:GLU:HG2	2.32	0.45
3:C:388:VAL:O	3:C:388:VAL:HG22	2.17	0.45
3:C:413:ARG:HB2	3:C:414:PRO:HD3	1.98	0.45
3:C:675:PHE:CD1	3:C:675:PHE:N	2.82	0.45
4:D:1028:THR:OG1	4:D:1029:VAL:N	2.49	0.45
4:D:1735:HIS:O	4:D:1739:GLU:HB2	2.17	0.45
6:F:12:G:H2'	6:F:13:G:O4'	2.17	0.45
6:F:22:A:H3'	14:N:115:THR:HG21	1.99	0.45
8:H:93:A:H2'	8:H:94:A:H8	1.82	0.45
10:J:323:LEU:O	13:M:178:GLU:CG	2.53	0.45
11:K:134:ALA:O	11:K:137:VAL:HG12	2.17	0.45
13:M:161:PHE:HD1	13:M:161:PHE:N	2.14	0.45
13:M:166:SER:O	13:M:167:LEU:CD1	2.65	0.45
13:M:228:LYS:O	13:M:228:LYS:HE3	2.17	0.45
23:W:426:PHE:HA	23:W:433:PHE:HA	1.99	0.45
1:A:332:TYR:C	1:A:332:TYR:CD1	2.90	0.44
1:A:387:PHE:CE1	3:C:327:TYR:CD1	3.04	0.44
1:A:2169:LEU:HD21	1:A:2272:MET:HG3	1.98	0.44
1:A:2335:ALA:H	4:D:592:LYS:HG3	1.82	0.44
3:C:61:GLU:OE1	3:C:62:ASP:N	2.51	0.44
4:D:421:HIS:NE2	4:D:875:GLU:OE1	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:721:VAL:HA	4:D:825:THR:O	2.18	0.44
5:E:164:PRO:O	5:E:166:LEU:HG	2.17	0.44
8:H:92:U:H2'	8:H:93:A:H8	1.82	0.44
10:J:239:ARG:C	10:J:239:ARG:HD3	2.38	0.44
12:L:18:ILE:CG2	12:L:37:LEU:HD23	2.48	0.44
18:R:64:PHE:CG	18:R:67:ILE:HD11	2.47	0.44
18:R:120:VAL:CG2	18:R:121:PRO:HD2	2.47	0.44
18:R:124:VAL:CG2	20:T:185:MET:SD	3.03	0.44
19:S:82:PHE:N	19:S:108:ASN:H	2.15	0.44
22:V:631:PHE:CD1	22:V:634:ILE:HD12	2.52	0.44
23:W:241:LEU:HA	23:W:326:ARG:HD3	1.98	0.44
1:A:393:LEU:HD11	3:C:378:TYR:CB	2.48	0.44
1:A:393:LEU:HD11	3:C:378:TYR:HB3	1.99	0.44
1:A:1798:LEU:N	1:A:1798:LEU:HD12	2.31	0.44
1:A:2073:TRP:CZ3	1:A:2313:HIS:CE1	3.05	0.44
3:C:115:GLU:O	3:C:118:PHE:CB	2.66	0.44
3:C:674:CYS:HG	3:C:822:MET:CE	2.25	0.44
3:C:699:ASP:O	3:C:705:VAL:CG2	2.65	0.44
4:D:1083:TYR:O	4:D:1087:SER:OG	2.35	0.44
4:D:1733:HIS:CD2	4:D:1792:THR:HG23	2.52	0.44
8:H:143:A:OP2	8:H:143:A:C2	2.71	0.44
15:O:249:ARG:HH21	18:R:68:HIS:HE1	1.65	0.44
18:R:90:VAL:HG13	18:R:95:LYS:O	2.17	0.44
19:S:25:LEU:HD12	19:S:25:LEU:N	2.32	0.44
20:T:225:ASP:C	20:T:226:ARG:HG3	2.38	0.44
22:V:533:TYR:CA	22:V:536:ILE:HG13	2.47	0.44
22:V:645:GLU:CG	22:V:646:HIS:N	2.79	0.44
23:W:265:LEU:CD2	23:W:319:TYR:OH	2.60	0.44
23:W:305:LEU:HD23	23:W:305:LEU:C	2.38	0.44
1:A:232:LEU:N	1:A:233:PRO:CD	2.81	0.44
1:A:469:LYS:HG2	1:A:471:TYR:CE2	2.53	0.44
1:A:1373:GLN:NE2	22:V:502:THR:HG21	2.32	0.44
1:A:1541:THR:O	1:A:1544:ARG:CG	2.65	0.44
1:A:1698:PRO:HG3	26:Z:185:TYR:HB2	1.99	0.44
1:A:2280:ASN:HB3	1:A:2309:HIS:CD2	2.53	0.44
3:C:712:LYS:O	3:C:716:GLU:HG3	2.17	0.44
4:D:441:GLY:O	4:D:693:THR:N	2.36	0.44
4:D:846:ALA:O	4:D:849:ILE:HG13	2.17	0.44
4:D:1475:ARG:HH12	4:D:1505:GLY:HA3	1.82	0.44
8:H:29:A:H1'	8:H:30:A:O5'	2.16	0.44
8:H:113:G:H2'	8:H:114:A:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:230:THR:HG21	18:R:265:ASP:O	2.16	0.44
15:O:259:ARG:HB2	15:O:273:GLN:HG2	1.99	0.44
23:W:317:GLU:HB3	23:W:321:GLU:HB2	2.00	0.44
1:A:374:ASP:O	1:A:375:ASP:HB3	2.18	0.44
1:A:973:CYS:HG	1:A:1179:SER:HG	1.65	0.44
1:A:1210:LYS:O	1:A:1211:ASP:C	2.55	0.44
3:C:89:LEU:HD23	3:C:90:THR:N	2.32	0.44
4:D:535:ASP:N	4:D:535:ASP:OD1	2.50	0.44
4:D:1191:GLN:HE21	4:D:1199:LYS:HE2	1.82	0.44
6:F:26:U:H4'	6:F:27:A:OP2	2.18	0.44
6:F:85:U:N1	10:J:277:THR:HG22	2.33	0.44
8:H:39:U:C6	8:H:39:U:C5'	2.90	0.44
8:H:67:C:H2'	8:H:68:G:H8	1.81	0.44
8:H:112:G:H2'	8:H:113:G:C8	2.50	0.44
10:J:358:GLU:OE2	13:M:149:TYR:OH	2.29	0.44
13:M:215:ASN:C	13:M:215:ASN:ND2	2.71	0.44
15:O:63:MET:SD	15:O:160:ASN:HB2	2.58	0.44
18:R:232:SEP:HB3	20:T:372:LYS:HE3	1.98	0.44
22:V:514:PHE:HD1	22:V:514:PHE:HA	1.69	0.44
23:W:88:MET:SD	23:W:88:MET:C	2.95	0.44
23:W:285:SER:OG	23:W:286:GLY:N	2.48	0.44
1:A:703:GLN:NE2	1:A:703:GLN:HA	2.32	0.44
1:A:2125:ALA:O	1:A:2150:GLN:NE2	2.50	0.44
3:C:93:ILE:O	3:C:94:ILE:CB	2.66	0.44
4:D:592:LYS:HA	4:D:595:ILE:HD11	2.00	0.44
6:F:36:A:O2'	6:F:37:C:P	2.74	0.44
7:G:7:G:C8	7:G:7:G:OP2	2.71	0.44
8:H:142:C:O2'	8:H:143:A:H5'	2.18	0.44
12:L:86:ALA:HB1	12:L:91:ARG:O	2.17	0.44
12:L:144:MET:HB2	12:L:148:GLU:HB2	1.98	0.44
12:L:268:LYS:HE2	12:L:268:LYS:CA	2.44	0.44
12:L:703:MET:O	12:L:707:ALA:HB3	2.18	0.44
15:O:24:CYS:HB2	15:O:27:CYS:SG	2.57	0.44
15:O:104:LYS:HG3	15:O:139:LYS:HZ1	1.81	0.44
18:R:81:LYS:CA	18:R:81:LYS:NZ	2.80	0.44
18:R:263:PRO:CG	18:R:266:LYS:HG2	2.47	0.44
19:S:34:LYS:HE2	19:S:78:TYR:CD2	2.52	0.44
22:V:294:ILE:HD12	22:V:335:MET:HB3	1.98	0.44
22:V:577:SER:N	22:V:580:ARG:HH11	2.15	0.44
1:A:61:MET:HB3	1:A:62:PRO:HD2	1.99	0.44
1:A:201:ALA:HA	1:A:204:LEU:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:298:ASP:OD1	1:A:300:ASN:N	2.50	0.44
1:A:902:TYR:HB3	1:A:1245:ARG:NH2	2.33	0.44
1:A:1591:MET:HE1	26:Z:268:ARG:HD2	1.99	0.44
1:A:1657:THR:OG1	1:A:1658:GLN:N	2.50	0.44
1:A:1788:VAL:HG22	1:A:1800:THR:HB	1.99	0.44
3:C:300:LEU:N	3:C:300:LEU:CD1	2.80	0.44
3:C:385:VAL:CG2	3:C:386:GLY:N	2.80	0.44
3:C:738:ASP:OD1	3:C:738:ASP:N	2.50	0.44
4:D:464:VAL:HG21	4:D:478:PHE:O	2.18	0.44
4:D:665:LEU:HB2	4:D:667:VAL:HG23	1.99	0.44
4:D:728:ARG:HH21	4:D:787:ALA:N	2.13	0.44
4:D:1945:LEU:O	4:D:1949:VAL:HG23	2.18	0.44
8:H:37:U:O2'	8:H:38:A:O5'	2.36	0.44
8:H:79:G:H2'	8:H:80:A:H8	1.82	0.44
8:H:154:C:O2'	8:H:155:C:C5'	2.66	0.44
9:I:433:ALA:O	9:I:437:CYS:N	2.50	0.44
13:M:210:TYR:O	13:M:210:TYR:CD1	2.66	0.44
15:O:226:PRO:HD3	15:O:281:GLU:HG2	2.00	0.44
18:R:184:GLN:O	18:R:188:PHE:HB2	2.18	0.44
19:S:100:MET:HE3	19:S:109:GLY:O	2.18	0.44
20:T:347:THR:HG21	20:T:357:TRP:HE1	1.83	0.44
20:T:434:GLY:CA	20:T:464:GLY:CA	2.84	0.44
23:W:89:PHE:CD1	23:W:89:PHE:O	2.71	0.44
23:W:126:GLU:O	23:W:130:ARG:HD3	2.18	0.44
23:W:210:GLU:HA	23:W:213:GLN:CD	2.27	0.44
23:W:481:MET:CE	23:W:481:MET:CA	2.95	0.44
26:Z:135:GLU:O	26:Z:135:GLU:HG2	2.16	0.44
26:Z:162:ASP:HB2	26:Z:165:GLY:H	1.83	0.44
26:Z:304:PRO:O	26:Z:304:PRO:CD	2.65	0.44
1:A:283:VAL:CG1	1:A:284:ARG:H	2.29	0.44
1:A:658:ARG:CD	1:A:663:ARG:NH2	2.77	0.44
1:A:2073:TRP:CD1	1:A:2073:TRP:C	2.91	0.44
1:A:2326:TYR:HE2	4:D:729:LYS:HD3	1.82	0.44
2:B:23:C:HO2'	2:B:24:G:P	2.40	0.44
4:D:544:MET:HG3	4:D:817:TRP:CD2	2.53	0.44
4:D:1329:ASN:HB2	4:D:1330:PRO:HD2	1.98	0.44
12:L:99:HIS:O	12:L:102:PHE:HB3	2.17	0.44
13:M:200:ARG:H	13:M:200:ARG:HD2	1.81	0.44
14:N:91:LYS:HD3	14:N:91:LYS:HA	1.83	0.44
15:O:147:LEU:HD12	15:O:148:LEU:N	2.33	0.44
18:R:123:GLU:CD	18:R:124:VAL:H	2.20	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:309:MET:HA	23:W:334:ALA:HB1	2.00	0.44
23:W:316:TRP:CZ3	23:W:324:CYS:HB3	2.52	0.44
23:W:468:THR:HG22	23:W:516:PHE:HE1	1.83	0.44
23:W:517:SER:HB3	23:W:558:TRP:CE3	2.52	0.44
23:W:552:VAL:HG12	23:W:571:TRP:CD1	2.52	0.44
26:Z:333:GLU:O	26:Z:337:LYS:HG3	2.17	0.44
1:A:45:TYR:HB2	5:E:153:PHE:CE2	2.53	0.44
1:A:357:ASN:ND2	3:C:862:PRO:HB2	2.33	0.44
1:A:1215:ASN:HB3	1:A:1224:ARG:CD	2.48	0.44
1:A:1279:VAL:HG23	22:V:467:LEU:HD23	1.99	0.44
1:A:2314:PHE:HD2	4:D:1123:TRP:CG	2.36	0.44
4:D:1368:LEU:HD11	4:D:1403:LYS:HG3	2.00	0.44
4:D:1416:LEU:O	4:D:1419:LEU:HD23	2.18	0.44
6:F:25:C:C4’	6:F:26:U:OP2	2.65	0.44
8:H:84:C:H2’	8:H:85:A:H8	1.82	0.44
13:M:125:SER:HB2	18:R:237:MET:O	2.17	0.44
14:N:113:PHE:HD1	18:R:200:VAL:HG21	1.81	0.44
18:R:52:PRO:HB3	18:R:57:ASP:CB	2.48	0.44
19:S:15:TYR:CE2	19:S:22:ILE:HG21	2.52	0.44
19:S:102:ASN:OD1	19:S:107:THR:O	2.35	0.44
23:W:389:ASN:ND2	23:W:406:ARG:HH21	2.12	0.44
1:A:264:PHE:CE2	1:A:459:LEU:CD1	2.92	0.44
1:A:784:LEU:HD23	1:A:784:LEU:HA	1.90	0.44
7:G:19:G:H21	15:O:196:GLN:HB2	1.82	0.44
7:G:139:U:H2’	7:G:140:A:O4’	2.18	0.44
16:P:30:TYR:CE1	18:R:162:ALA:HA	2.53	0.44
18:R:67:ILE:CG1	18:R:71:GLN:OE1	2.66	0.44
19:S:10:GLN:HB2	19:S:29:TRP:CG	2.53	0.44
23:W:101:THR:CG2	23:W:104:MET:CG	2.85	0.44
23:W:181:PHE:N	23:W:181:PHE:HD1	2.15	0.44
23:W:373:ARG:HA	23:W:373:ARG:HD3	1.86	0.44
1:A:434:HIS:C	1:A:434:HIS:HD1	2.21	0.43
1:A:1771:LEU:O	1:A:1777:ILE:HD12	2.17	0.43
1:A:1947:ASN:HD21	24:X:85:LEU:HD11	1.82	0.43
3:C:445:ALA:HB3	3:C:449:ILE:HD11	1.99	0.43
5:E:178:LEU:HG	5:E:188:GLN:HB2	2.00	0.43
7:G:5:G:C5’	7:G:5:G:C8	3.01	0.43
7:G:23:U:H5”	7:G:23:U:H6	1.82	0.43
12:L:83:ARG:HH11	12:L:93:ALA:HB3	1.82	0.43
12:L:178:GLU:CA	12:L:181:ARG:HG2	2.43	0.43
14:N:125:LYS:HD2	23:W:167:VAL:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:77:ASP:O	16:P:78:ARG:HD2	2.18	0.43
17:Q:748:ARG:NH1	17:Q:780:GLU:OE1	2.43	0.43
20:T:418:THR:CG2	20:T:467:ALA:HA	2.48	0.43
22:V:536:ILE:O	22:V:578:SER:HB2	2.15	0.43
23:W:348:LEU:HD23	23:W:348:LEU:C	2.38	0.43
26:Z:315:VAL:O	26:Z:318:THR:HB	2.18	0.43
1:A:246:LEU:HD22	1:A:408:PRO:HG2	2.00	0.43
1:A:1384:ARG:CZ	22:V:545:ARG:HD3	2.48	0.43
1:A:1427:ARG:HH21	1:A:1427:ARG:CG	2.31	0.43
1:A:1813:ARG:HH22	1:A:1814:THR:HG22	1.83	0.43
1:A:1949:ARG:CD	1:A:1986:LEU:CD2	2.96	0.43
1:A:1984:LYS:HD2	26:Z:345:ALA:HB1	2.00	0.43
1:A:2072:GLU:O	1:A:2076:ARG:HG3	2.19	0.43
3:C:59:LEU:CD2	3:C:59:LEU:N	2.80	0.43
3:C:497:LEU:HD11	3:C:577:PHE:CE2	2.53	0.43
4:D:412:GLU:O	4:D:415:VAL:HG22	2.17	0.43
4:D:479:LYS:HA	4:D:479:LYS:HD3	1.92	0.43
4:D:496:ASP:CG	4:D:519:ARG:HH11	2.22	0.43
4:D:1340:TYR:O	4:D:1366:ARG:HD2	2.18	0.43
8:H:55:U:H2'	8:H:56:A:H8	1.82	0.43
8:H:178:A:N3	8:H:178:A:H2'	2.33	0.43
10:J:220:LEU:O	10:J:223:TYR:HB3	2.18	0.43
14:N:12:PRO:HG2	14:N:74:LEU:HA	2.00	0.43
22:V:330:LYS:C	22:V:333:GLN:HG3	2.38	0.43
23:W:266:ARG:O	23:W:267:SER:O	2.35	0.43
26:Z:166:LYS:HB2	26:Z:166:LYS:HE3	1.79	0.43
26:Z:356:SER:O	26:Z:359:VAL:HB	2.19	0.43
1:A:283:VAL:C	1:A:284:ARG:HG2	2.38	0.43
1:A:293:TRP:CE3	1:A:293:TRP:C	2.91	0.43
1:A:371:LEU:HD11	3:C:347:ILE:CD1	2.47	0.43
2:B:40:U:H6	2:B:40:U:O5'	2.01	0.43
4:D:411:LEU:O	4:D:415:VAL:HG13	2.18	0.43
4:D:890:GLU:OE1	4:D:936:TYR:OH	2.31	0.43
4:D:1244:LYS:HE2	4:D:1245:TYR:CE2	2.54	0.43
8:H:157:G:H2'	8:H:158:G:O4'	2.19	0.43
10:J:220:LEU:CD1	10:J:224:LYS:HE3	2.40	0.43
12:L:11:TRP:O	12:L:137:ALA:HB1	2.17	0.43
18:R:106:GLN:NE2	18:R:106:GLN:N	2.66	0.43
18:R:113:TYR:CD2	18:R:118:ASP:OD2	2.71	0.43
18:R:124:VAL:CG2	18:R:125:MET:N	2.75	0.43
22:V:525:PHE:O	22:V:526:GLU:C	2.56	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:382:ASN:HA	23:W:383:PRO:HD3	1.82	0.43
23:W:498:LYS:C	23:W:499:LYS:HE2	2.38	0.43
24:X:78:GLU:O	24:X:81:VAL:HB	2.18	0.43
26:Z:140:VAL:CG1	26:Z:145:THR:HG23	2.49	0.43
1:A:331:TRP:C	1:A:331:TRP:HE3	2.22	0.43
1:A:338:VAL:O	1:A:338:VAL:HG13	2.18	0.43
1:A:362:ARG:C	1:A:362:ARG:CD	2.87	0.43
1:A:1795:GLU:OE1	1:A:1795:GLU:HA	2.17	0.43
1:A:1820:LYS:NZ	1:A:1844:GLU:OE1	2.48	0.43
1:A:1889:LEU:HD12	1:A:2013:GLY:HA3	2.01	0.43
1:A:2067:PHE:HB2	1:A:2072:GLU:HG2	2.00	0.43
1:A:2314:PHE:HD2	4:D:1123:TRP:HB3	1.83	0.43
2:B:31:U:H5"	16:P:32:SER:OG	2.18	0.43
3:C:89:LEU:C	3:C:91:GLU:N	2.71	0.43
3:C:244:LYS:HG3	3:C:292:TYR:CE2	2.53	0.43
3:C:292:TYR:N	3:C:292:TYR:CD1	2.85	0.43
3:C:617:LEU:HD11	3:C:629:ILE:HG23	1.99	0.43
3:C:678:THR:HG23	3:C:683:ASN:O	2.18	0.43
3:C:846:VAL:HG22	3:C:887:LEU:HD11	2.00	0.43
4:D:760:GLU:HB3	4:D:763:ARG:HB2	2.01	0.43
4:D:807:GLN:H	4:D:807:GLN:HG2	1.67	0.43
4:D:1380:THR:HG21	4:D:1385:LEU:HD22	2.01	0.43
8:H:58:U:H2'	8:H:59:A:H8	1.82	0.43
9:I:712:VAL:O	9:I:713:ARG:C	2.57	0.43
12:L:146:GLU:CG	12:L:147:ASP:OD1	2.66	0.43
15:O:51:PRO:HG3	18:R:212:PHE:CE1	2.53	0.43
15:O:197:ASN:HB3	15:O:200:ASP:HB3	2.00	0.43
15:O:235:TYR:HA	15:O:271:PHE:CD1	2.54	0.43
18:R:276:GLN:NE2	18:R:277:THR:N	2.65	0.43
19:S:98:LEU:HD21	19:S:129:PHE:HD2	1.83	0.43
22:V:294:ILE:HD13	22:V:335:MET:C	2.37	0.43
23:W:336:ARG:C	23:W:336:ARG:HD3	2.39	0.43
23:W:517:SER:OG	23:W:522:TYR:HB2	2.17	0.43
26:Z:163:TYR:CE1	26:Z:167:ARG:CZ	3.02	0.43
26:Z:293:ARG:CZ	26:Z:316:ARG:HH22	2.31	0.43
1:A:750:TRP:CZ2	1:A:778:ARG:HG2	2.53	0.43
1:A:1757:GLU:CB	1:A:1759:THR:OG1	2.66	0.43
3:C:298:LEU:O	3:C:298:LEU:HD22	2.19	0.43
4:D:822:PRO:HG2	4:D:859:PRO:HD3	1.99	0.43
4:D:1033:GLU:HB3	4:D:1077:LEU:HD11	2.01	0.43
4:D:1455:GLU:HG3	4:D:1457:HIS:CE1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1457:HIS:CE1	4:D:1492:SER:HB3	2.53	0.43
4:D:1475:ARG:NH1	4:D:1505:GLY:HA3	2.32	0.43
6:F:71:G:O2'	7:G:-2:C:O2'	2.33	0.43
8:H:98:G:H5'	8:H:104:U:OP2	2.19	0.43
13:M:211:ILE:HD12	13:M:212:ASN:CA	2.48	0.43
14:N:5:LYS:HD2	14:N:77:TYR:OH	2.17	0.43
15:O:177:GLU:HB3	23:W:202:GLU:OE1	2.19	0.43
16:P:59:PHE:HB3	20:T:216:ASN:ND2	2.33	0.43
18:R:123:GLU:C	18:R:124:VAL:HG12	2.39	0.43
18:R:179:TYR:HD2	18:R:195:ARG:HD2	1.83	0.43
18:R:238:THR:HG22	18:R:240:LYS:H	1.82	0.43
20:T:409:LEU:HD12	20:T:409:LEU:N	2.34	0.43
23:W:249:TYR:HB3	23:W:250:GLN:H	1.62	0.43
23:W:254:TYR:CD1	23:W:255:LEU:N	2.86	0.43
23:W:491:GLN:O	23:W:492:ASN:C	2.57	0.43
23:W:505:HIS:HB3	23:W:533:ASN:OD1	2.19	0.43
1:A:1314:VAL:HG13	1:A:1315:VAL:N	2.32	0.43
1:A:1494:TYR:O	1:A:1494:TYR:CG	2.71	0.43
1:A:2073:TRP:CH2	1:A:2313:HIS:CG	3.06	0.43
3:C:941:LYS:O	3:C:943:LEU:HG	2.18	0.43
4:D:726:HIS:CG	4:D:833:VAL:HG12	2.54	0.43
4:D:1359:CYS:HA	4:D:1362:PHE:HD2	1.82	0.43
6:F:39:A:H2'	6:F:40:U:O4'	2.19	0.43
10:J:195:LEU:HD21	12:L:24:MET:HE3	2.00	0.43
13:M:154:GLU:HG3	13:M:155:LYS:HG3	2.00	0.43
16:P:188:TRP:CG	16:P:189:ASP:N	2.86	0.43
20:T:233:LEU:HD23	20:T:233:LEU:C	2.39	0.43
22:V:231:GLU:O	22:V:235:LYS:HG3	2.19	0.43
22:V:530:LYS:C	22:V:532:GLN:N	2.72	0.43
23:W:172:GLN:HG3	23:W:173:LYS:N	2.33	0.43
23:W:468:THR:HG22	23:W:469:LEU:N	2.33	0.43
26:Z:112:ILE:HG23	26:Z:113:THR:N	2.34	0.43
26:Z:275:LEU:HA	26:Z:275:LEU:HD23	1.69	0.43
1:A:293:TRP:CH2	1:A:295:GLU:OE1	2.71	0.43
1:A:767:VAL:HB	1:A:771:VAL:CG1	2.42	0.43
1:A:781:ARG:NH2	8:H:24:A:H5'	2.34	0.43
2:B:27:U:HO2'	2:B:28:A:P	2.42	0.43
3:C:144:CYS:SG	3:C:148:CYS:SG	3.13	0.43
3:C:567:GLU:CD	3:C:572:GLU:HG2	2.39	0.43
3:C:696:LEU:O	3:C:700:ILE:HG13	2.19	0.43
8:H:153:A:H62	8:H:177:A:H2	1.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:215:ASN:OD1	18:R:260:TYR:HA	2.19	0.43
15:O:51:PRO:HG3	18:R:212:PHE:CD1	2.54	0.43
15:O:284:ALA:O	15:O:288:PHE:N	2.38	0.43
18:R:88:ILE:HG22	18:R:96:ILE:HG23	1.94	0.43
22:V:155:GLN:HB2	22:V:387:MET:HE1	2.01	0.43
23:W:154:GLY:O	23:W:156:VAL:HG22	2.17	0.43
23:W:167:VAL:HG23	23:W:168:PHE:N	2.32	0.43
23:W:205:VAL:HG12	23:W:206:ALA:N	2.33	0.43
23:W:258:PRO:CG	23:W:265:LEU:HG	2.49	0.43
23:W:265:LEU:HD12	23:W:300:SER:CB	2.39	0.43
23:W:354:ARG:CZ	23:W:375:VAL:HG23	2.48	0.43
1:A:151:MET:SD	1:A:628:GLY:O	2.77	0.43
1:A:2268:LEU:HD21	4:D:1261:PRO:HB2	2.01	0.43
1:A:2284:MET:HE1	1:A:2311:PRO:HG3	2.01	0.43
1:A:2315:LEU:HD13	1:A:2315:LEU:HA	1.82	0.43
2:B:94:U:O2'	2:B:95:G:H3'	2.18	0.43
3:C:363:SER:O	3:C:364:SER:CB	2.66	0.43
3:C:366:GLN:H	3:C:366:GLN:HG2	1.48	0.43
3:C:438:ILE:CD1	3:C:438:ILE:N	2.81	0.43
4:D:462:LEU:HD21	4:D:467:LEU:HB3	2.01	0.43
4:D:639:ILE:HD11	4:D:646:VAL:HB	2.01	0.43
4:D:1566:ARG:HG3	4:D:1622:GLU:HG2	2.00	0.43
5:E:209:ILE:HG21	5:E:250:LEU:HD11	2.00	0.43
15:O:248:LEU:O	15:O:252:PHE:HD2	2.02	0.43
18:R:81:LYS:NZ	18:R:81:LYS:N	2.65	0.43
19:S:12:PRO:HB2	19:S:13:ASN:H	1.69	0.43
23:W:277:PRO:CG	23:W:578:TRP:C	2.87	0.43
23:W:445:TRP:CZ3	23:W:450:PRO:O	2.72	0.43
2:B:99:C:H2'	2:B:100:C:C6	2.53	0.43
3:C:191:PRO:HG2	3:C:426:GLU:OE1	2.19	0.43
3:C:569:ARG:O	3:C:569:ARG:HG2	2.19	0.43
4:D:1148:PHE:CE2	4:D:1152:ARG:HB3	2.54	0.43
5:E:161:ARG:NH1	5:E:161:ARG:CG	2.80	0.43
12:L:267:LEU:HD23	12:L:267:LEU:HA	1.81	0.43
14:N:4:VAL:O	14:N:6:ARG:NH1	2.52	0.43
14:N:117:CYS:C	14:N:119:CYS:N	2.71	0.43
15:O:155:PRO:CG	18:R:188:PHE:HD1	2.19	0.43
15:O:254:GLN:HG2	19:S:120:GLN:HB2	1.59	0.43
18:R:74:LEU:HD12	19:S:136:ILE:CG2	2.49	0.43
18:R:106:GLN:HG2	18:R:110:LYS:CE	2.45	0.43
20:T:454:VAL:CG1	20:T:455:GLN:H	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:284:ARG:HG3	22:V:284:ARG:O	2.19	0.43
1:A:30:LEU:CD2	5:E:214:ASP:HA	2.47	0.43
1:A:664:HIS:CE1	1:A:666:LYS:HD3	2.51	0.43
3:C:185:PRO:HD3	3:C:482:TYR:CZ	2.54	0.43
3:C:700:ILE:HD11	3:C:744:ILE:HD11	2.01	0.43
4:D:646:VAL:HG12	4:D:647:ARG:O	2.19	0.43
4:D:681:ARG:NH2	4:D:854:GLY:HA2	2.34	0.43
4:D:837:GLU:HG2	4:D:1083:TYR:CE1	2.54	0.43
4:D:991:TYR:CE2	4:D:1097:GLU:HG3	2.54	0.43
4:D:1996:LEU:HD12	4:D:1997:LEU:HD23	2.00	0.43
5:E:114:GLU:CD	5:E:116:HIS:NE2	2.70	0.43
5:E:219:VAL:HB	5:E:229:TYR:HB2	1.99	0.43
6:F:22:A:C8	23:W:130:ARG:NE	2.87	0.43
7:G:19:G:N2	15:O:196:GLN:HB2	2.34	0.43
8:H:33:G:OP2	8:H:33:G:H8	2.01	0.43
10:J:260:ARG:HH12	12:L:215:PRO:HD3	1.84	0.43
10:J:294:HIS:CE1	12:L:227:THR:HG1	2.37	0.43
16:P:69:ALA:HA	16:P:72:ARG:NH1	2.33	0.43
17:Q:961:VAL:HG12	17:Q:987:TYR:N	2.34	0.43
18:R:282:GLU:O	18:R:285:ALA:N	2.34	0.43
22:V:484:SER:O	22:V:486:THR:N	2.52	0.43
23:W:101:THR:HG23	23:W:104:MET:N	2.25	0.43
23:W:254:TYR:OH	23:W:361:THR:O	2.14	0.43
23:W:466:ALA:HB2	23:W:512:CYS:O	2.17	0.43
23:W:571:TRP:O	23:W:573:GLY:N	2.52	0.43
1:A:89:LEU:HA	1:A:89:LEU:HD23	1.87	0.42
1:A:292:ASP:O	1:A:294:ASN:ND2	2.52	0.42
1:A:361:HIS:ND1	1:A:361:HIS:N	2.65	0.42
1:A:629:PHE:CD2	1:A:629:PHE:O	2.71	0.42
1:A:1591:MET:CG	26:Z:266:ARG:HD2	2.48	0.42
1:A:2302:LYS:HD2	1:A:2306:HIS:CE1	2.54	0.42
3:C:297:ASN:ND2	3:C:298:LEU:HD12	2.33	0.42
3:C:452:THR:HB	3:C:577:PHE:CE2	2.53	0.42
4:D:862:ASP:OD1	4:D:863:THR:N	2.52	0.42
4:D:1351:PRO:HG3	4:D:1516:PRO:HA	2.01	0.42
4:D:1855:TYR:CE1	4:D:1915:ILE:HG23	2.54	0.42
6:F:34:G:C3'	6:F:35:A:H5"	2.46	0.42
6:F:43:A:O2'	6:F:44:G:H5'	2.19	0.42
7:G:134:U:H3'	7:G:135:G:H21	1.84	0.42
10:J:258:ILE:HD11	12:L:232:TYR:CG	2.54	0.42
17:Q:61:ILE:O	17:Q:65:MET:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:74:LEU:HD23	18:R:74:LEU:C	2.39	0.42
18:R:75:ASP:C	18:R:76:MET:SD	2.97	0.42
18:R:94:GLY:HA3	18:R:95:LYS:HD3	2.01	0.42
18:R:103:ARG:CG	18:R:103:ARG:NH1	2.77	0.42
18:R:279:HIS:ND1	18:R:279:HIS:N	2.66	0.42
20:T:300:ILE:O	20:T:301:ASP:HB2	2.19	0.42
20:T:342:GLU:O	20:T:343:PRO:C	2.56	0.42
22:V:182:ILE:O	22:V:186:LEU:HG	2.18	0.42
22:V:487:LYS:HZ3	22:V:491:ASN:CG	2.17	0.42
22:V:520:GLU:C	22:V:523:GLU:CG	2.79	0.42
23:W:298:PRO:O	23:W:299:LEU:HB3	2.19	0.42
23:W:427:VAL:CG1	23:W:428:ASP:N	2.82	0.42
1:A:379:GLU:HB3	3:C:355:LYS:HB2	2.02	0.42
1:A:596:TYR:O	1:A:598:LEU:N	2.52	0.42
1:A:609:LYS:CE	41:A:3000:IHP:O31	2.64	0.42
1:A:1370:ARG:HA	1:A:1370:ARG:HD2	1.69	0.42
1:A:1675:ASP:C	1:A:1675:ASP:OD1	2.57	0.42
1:A:1763:LEU:CD2	1:A:1768:TYR:HA	2.49	0.42
1:A:2121:ARG:HD2	1:A:2121:ARG:HA	1.55	0.42
1:A:2216:CYS:HA	1:A:2225:LEU:HB3	2.01	0.42
3:C:452:THR:HG21	3:C:577:PHE:CD2	2.52	0.42
4:D:1094:ALA:O	4:D:1098:ILE:HG13	2.18	0.42
4:D:1291:LEU:HA	4:D:1292:PRO:HD3	1.88	0.42
4:D:2109:MET:HG3	4:D:2117:ASP:CG	2.39	0.42
5:E:119:THR:HG21	5:E:161:ARG:HB2	1.96	0.42
7:G:1:G:C6	7:G:144:A:N1	2.87	0.42
7:G:14:A:C8	7:G:14:A:OP2	2.72	0.42
8:H:43:U:H2'	8:H:44:U:C6	2.53	0.42
15:O:20:PHE:CD2	15:O:21:PRO:HD2	2.54	0.42
17:Q:1208:VAL:HG13	17:Q:1241:ILE:HD13	2.00	0.42
18:R:263:PRO:HB2	18:R:266:LYS:CG	2.31	0.42
18:R:276:GLN:HE22	18:R:278:VAL:N	2.17	0.42
20:T:438:LEU:HB3	20:T:447:PHE:CZ	2.55	0.42
23:W:155:SER:O	23:W:156:VAL:CB	2.67	0.42
23:W:243:VAL:CG1	23:W:323:ARG:NE	2.61	0.42
23:W:316:TRP:CZ3	23:W:324:CYS:HB2	2.54	0.42
23:W:354:ARG:NH1	23:W:373:ARG:O	2.52	0.42
1:A:159:ARG:NH1	26:Z:104:ARG:O	2.52	0.42
1:A:254:TYR:CE2	1:A:434:HIS:HB2	2.54	0.42
1:A:381:PRO:O	1:A:383:PHE:N	2.52	0.42
1:A:730:GLY:O	18:R:248:PRO:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:87:A:H5'	2:B:93:U:OP2	2.19	0.42
3:C:445:ALA:O	3:C:449:ILE:HG13	2.20	0.42
3:C:449:ILE:HG23	3:C:457:VAL:HG12	1.95	0.42
3:C:508:LYS:HE2	3:C:566:THR:HG23	2.01	0.42
4:D:1542:MET:O	4:D:1546:VAL:HG23	2.19	0.42
4:D:1713:PHE:N	4:D:1713:PHE:HD1	2.17	0.42
5:E:322:LYS:HB3	23:W:88:MET:HE2	2.01	0.42
6:F:2:U:H4'	14:N:98:GLU:OE1	2.18	0.42
8:H:157:G:H5"	8:H:157:G:C8	2.50	0.42
15:O:259:ARG:HG3	15:O:274:PHE:C	2.39	0.42
18:R:71:GLN:HE21	18:R:71:GLN:HB2	1.60	0.42
23:W:431:ARG:O	23:W:446:GLU:HA	2.20	0.42
1:A:293:TRP:CB	1:A:1136:ARG:NH2	2.67	0.42
1:A:330:THR:O	1:A:331:TRP:CB	2.67	0.42
1:A:2310:ARG:HH11	1:A:2310:ARG:HB3	1.83	0.42
3:C:245:HIS:O	3:C:249:GLU:HG2	2.20	0.42
3:C:445:ALA:HB1	3:C:449:ILE:HG12	1.88	0.42
3:C:490:PHE:CE1	3:C:612:LYS:HD2	2.52	0.42
3:C:524:ILE:O	3:C:525:CYS:SG	2.73	0.42
4:D:623:ASP:O	4:D:626:PRO:HD2	2.19	0.42
4:D:692:ILE:HG22	4:D:694:GLU:H	1.83	0.42
4:D:1680:PRO:O	4:D:1683:ASP:HB2	2.20	0.42
5:E:255:MET:O	5:E:257:ASN:N	2.52	0.42
12:L:36:SER:HG	12:L:158:ARG:NH2	2.14	0.42
12:L:163:GLN:HB3	12:L:168:LYS:HG3	2.01	0.42
14:N:54:HIS:CE1	14:N:92:TRP:CZ2	3.07	0.42
16:P:72:ARG:CB	16:P:72:ARG:CZ	2.97	0.42
17:Q:735:VAL:HG11	17:Q:743:GLN:HG2	2.02	0.42
22:V:322:ILE:O	22:V:326:SER:HB2	2.19	0.42
23:W:101:THR:HG23	23:W:104:MET:HG2	1.97	0.42
23:W:341:ASN:HB2	23:W:346:GLN:HB2	2.00	0.42
23:W:416:ARG:CG	23:W:416:ARG:HH11	2.33	0.42
1:A:533:LYS:CE	6:F:37:C:C2	3.02	0.42
1:A:646:PRO:HG3	2:B:55:C:H4'	2.00	0.42
1:A:726:TRP:CE3	1:A:726:TRP:O	2.73	0.42
1:A:1641:ARG:HA	1:A:1642:PRO:HD3	1.90	0.42
1:A:2008:ARG:O	1:A:2012:LEU:HB3	2.20	0.42
1:A:2310:ARG:HG2	1:A:2310:ARG:HH11	1.84	0.42
3:C:183:SER:OG	3:C:480:LYS:NZ	2.52	0.42
3:C:493:PHE:HZ	3:C:549:TRP:CE3	2.36	0.42
4:D:739:ARG:HD3	4:D:780:TYR:CE2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:933:PRO:HG3	4:D:943:LEU:HD22	2.02	0.42
5:E:87:ASP:C	5:E:88:ARG:HG3	2.40	0.42
5:E:243:LEU:HD22	5:E:243:LEU:HA	1.82	0.42
7:G:26:U:C2'	7:G:27:U:H5"	2.44	0.42
8:H:107:A:N1	8:H:108:G:C5	2.88	0.42
10:J:201:ARG:HE	10:J:203:LEU:HA	1.84	0.42
13:M:211:ILE:CD1	13:M:212:ASN:N	2.80	0.42
18:R:195:ARG:HH11	18:R:195:ARG:CG	2.32	0.42
25:Y:405:MET:HB3	25:Y:411:LEU:HG	2.00	0.42
1:A:1760:GLU:HG3	26:Z:293:ARG:NH2	2.34	0.42
1:A:1949:ARG:HD3	1:A:1986:LEU:CG	2.50	0.42
2:B:24:G:O2'	2:B:26:A:C5	2.73	0.42
2:B:57:G:C2'	2:B:58:U:H5'	2.49	0.42
3:C:502:HIS:ND1	3:C:543:ARG:CB	2.83	0.42
3:C:704:VAL:O	3:C:709:TRP:CZ2	2.73	0.42
4:D:828:ILE:HD11	4:D:853:LEU:HD13	2.00	0.42
4:D:1385:LEU:O	4:D:1389:VAL:HG23	2.19	0.42
4:D:2014:TYR:HA	4:D:2015:PRO:HD3	1.87	0.42
4:D:2051:VAL:HG13	4:D:2113:TYR:CZ	2.54	0.42
7:G:145:U:O2'	7:G:146:C:P	2.77	0.42
12:L:77:LEU:HD22	18:R:285:ALA:CA	2.48	0.42
13:M:200:ARG:HH11	13:M:200:ARG:CG	2.31	0.42
18:R:61:GLY:N	19:S:136:ILE:HB	2.34	0.42
18:R:76:MET:HE3	19:S:140:ASN:OD1	2.20	0.42
18:R:171:LEU:H	18:R:171:LEU:CD2	2.33	0.42
18:R:211:ARG:HB3	18:R:212:PHE:CD2	2.55	0.42
19:S:10:GLN:HB2	19:S:29:TRP:CD2	2.54	0.42
20:T:225:ASP:O	20:T:226:ARG:CB	2.67	0.42
22:V:576:THR:O	22:V:580:ARG:N	2.37	0.42
22:V:622:ARG:HA	22:V:625:ARG:NH1	2.30	0.42
23:W:240:ILE:HG13	23:W:327:THR:HB	2.02	0.42
23:W:254:TYR:HD1	23:W:255:LEU:N	2.18	0.42
23:W:261:VAL:CG2	23:W:319:TYR:CE1	2.97	0.42
23:W:470:SER:HB2	23:W:520:MET:SD	2.60	0.42
23:W:534:ILE:O	23:W:542:LEU:HD12	2.18	0.42
26:Z:286:ASP:O	26:Z:288:LYS:N	2.52	0.42
1:A:329:LEU:HD13	3:C:177:ARG:HE	1.84	0.42
1:A:684:GLU:OE2	20:T:266:GLU:HB3	2.20	0.42
1:A:2117:ILE:H	1:A:2117:ILE:HG12	1.64	0.42
4:D:564:ILE:HG13	4:D:584:GLN:HG3	2.02	0.42
4:D:1825:ASN:OD1	4:D:1826:TYR:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:42:C:C5'	6:F:43:A:OP2	2.65	0.42
7:G:20:A:C1'	15:O:193:LEU:HD21	2.49	0.42
8:H:155:C:H2'	8:H:156:U:H5"	2.02	0.42
10:J:196:ARG:CA	13:M:208:ILE:HD11	2.49	0.42
12:L:37:LEU:HD23	12:L:155:ALA:HB2	2.00	0.42
13:M:200:ARG:HD2	13:M:200:ARG:N	2.35	0.42
16:P:48:GLN:O	16:P:49:ASP:CB	2.68	0.42
18:R:106:GLN:HE21	18:R:106:GLN:HA	1.85	0.42
18:R:116:TYR:CD1	18:R:116:TYR:C	2.93	0.42
21:U:19:VAL:O	21:U:19:VAL:HG12	2.18	0.42
22:V:330:LYS:HA	22:V:333:GLN:OE1	2.20	0.42
22:V:387:MET:CE	22:V:387:MET:HA	2.50	0.42
23:W:314:LYS:CB	23:W:316:TRP:CZ2	3.01	0.42
23:W:317:GLU:OE1	23:W:319:TYR:HD2	2.02	0.42
23:W:554:ILE:HD13	23:W:571:TRP:CH2	2.53	0.42
26:Z:137:PRO:C	26:Z:138:ARG:CG	2.88	0.42
1:A:298:ASP:O	1:A:302:ILE:CG1	2.63	0.42
1:A:378:PHE:HB3	3:C:342:ARG:HH12	1.85	0.42
1:A:1067:MET:HB2	25:Y:413:LYS:HZ2	1.84	0.42
1:A:1070:ASP:C	1:A:1070:ASP:OD1	2.57	0.42
1:A:1083:HIS:HA	1:A:1084:PRO:HD3	1.88	0.42
1:A:1179:SER:O	1:A:1181:ASP:N	2.52	0.42
1:A:1690:ASP:OD1	1:A:1691:ASN:N	2.52	0.42
1:A:1813:ARG:HB3	1:A:1813:ARG:NH1	2.35	0.42
1:A:2328:ALA:H	4:D:728:ARG:HG2	1.85	0.42
3:C:65:TYR:O	3:C:66:TYR:CG	2.72	0.42
3:C:291:MET:HG2	3:C:292:TYR:CE1	2.54	0.42
4:D:598:ARG:CZ	4:D:992:TYR:CE1	3.03	0.42
4:D:1010:SER:OG	4:D:1013:GLU:OE2	2.33	0.42
4:D:1023:GLU:H	4:D:1023:GLU:HG2	1.65	0.42
4:D:1836:LEU:HB3	4:D:1930:LEU:HD21	2.01	0.42
5:E:178:LEU:CD2	5:E:208:ILE:HD13	2.44	0.42
14:N:125:LYS:HA	14:N:125:LYS:HD3	1.76	0.42
15:O:32:PRO:HG2	15:O:33:TYR:CD2	2.55	0.42
15:O:193:LEU:HD23	15:O:193:LEU:O	2.20	0.42
17:Q:1088:LEU:HD12	17:Q:1088:LEU:HA	1.93	0.42
18:R:78:ARG:NE	18:R:78:ARG:H	2.18	0.42
18:R:126:ASN:ND2	18:R:127:ALA:N	2.67	0.42
23:W:182:LYS:N	23:W:182:LYS:CD	2.82	0.42
23:W:374:LYS:CE	23:W:397:ASP:CG	2.87	0.42
24:X:86:ARG:HG3	24:X:87:ARG:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:335:TYR:HD1	26:Z:340:GLU:HA	1.85	0.42
1:A:264:PHE:CD2	1:A:459:LEU:HD11	2.55	0.42
1:A:296:PHE:CD1	3:C:656:ALA:HB2	2.55	0.42
1:A:422:LEU:HD23	1:A:422:LEU:HA	1.76	0.42
1:A:436:PRO:HG2	1:A:439:GLN:HG3	2.02	0.42
1:A:712:HIS:ND1	18:R:250:CYS:CB	2.79	0.42
3:C:129:ILE:HG22	3:C:199:LEU:HB3	2.02	0.42
3:C:144:CYS:HG	3:C:148:CYS:HG	1.59	0.42
3:C:366:GLN:O	3:C:367:ARG:C	2.56	0.42
3:C:457:VAL:CA	3:C:462:GLY:HA3	2.49	0.42
4:D:423:MET:HB2	4:D:878:TYR:HD1	1.85	0.42
4:D:1346:VAL:HG23	4:D:1488:VAL:HG13	2.00	0.42
4:D:2032:GLY:HA2	4:D:2095:VAL:HG23	2.00	0.42
5:E:260:ARG:HD3	5:E:276:ILE:HG12	2.01	0.42
8:H:154:C:N3	8:H:176:G:N1	2.61	0.42
10:J:191:ALA:O	10:J:194:LEU:N	2.49	0.42
14:N:64:PHE:O	14:N:68:LYS:HD3	2.19	0.42
17:Q:61:ILE:HD11	17:Q:103:ARG:NE	2.35	0.42
17:Q:163:ARG:O	17:Q:167:GLN:HG2	2.19	0.42
17:Q:565:ILE:HB	17:Q:655:ILE:HB	2.02	0.42
18:R:183:GLN:HB3	18:R:188:PHE:CD2	2.55	0.42
19:S:66:ASP:OD1	19:S:66:ASP:C	2.58	0.42
22:V:631:PHE:CE1	22:V:634:ILE:HD12	2.55	0.42
23:W:97:ASN:OD1	23:W:99:PHE:CB	2.65	0.42
26:Z:122:ASN:ND2	26:Z:136:ARG:O	2.49	0.42
1:A:55:ASP:O	1:A:56:ALA:HB3	2.20	0.42
1:A:323:LEU:N	1:A:324:PRO:CD	2.82	0.42
1:A:344:ASP:CG	1:A:347:LEU:CD1	2.88	0.42
1:A:355:LEU:O	3:C:867:PRO:HB3	2.20	0.42
1:A:592:TYR:CD1	1:A:592:TYR:C	2.93	0.42
1:A:946:GLU:OE2	1:A:954:LYS:HE3	2.19	0.42
1:A:1014:ASN:HD22	12:L:81:GLN:HA	1.85	0.42
3:C:323:PHE:HE1	3:C:424:PHE:CE1	2.37	0.42
4:D:509:LYS:HE2	44:D:2201:ADP:O2B	2.20	0.42
4:D:598:ARG:HD3	4:D:989:SER:OG	2.19	0.42
4:D:924:TYR:O	4:D:927:ILE:HG13	2.19	0.42
4:D:1388:GLN:HG3	4:D:1655:ASN:OD1	2.19	0.42
6:F:78:A:C2	16:P:6:ARG:HG3	2.55	0.42
7:G:19:G:H21	15:O:196:GLN:HG3	1.85	0.42
15:O:88:LEU:HD23	15:O:88:LEU:HA	1.83	0.42
15:O:196:GLN:HE22	15:O:209:VAL:HG23	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:215:ASN:ND2	18:R:216:LYS:N	2.67	0.42
18:R:237:MET:HE2	18:R:237:MET:HA	2.01	0.42
22:V:552:ALA:HB3	22:V:589:GLU:HG2	2.02	0.42
1:A:628:GLY:O	1:A:629:PHE:CB	2.65	0.41
1:A:723:ASN:HD22	1:A:788:GLN:CD	2.24	0.41
1:A:904:HIS:HA	16:P:227:TYR:O	2.20	0.41
3:C:508:LYS:HB3	3:C:566:THR:HG23	2.01	0.41
3:C:508:LYS:HE2	3:C:566:THR:CG2	2.49	0.41
4:D:462:LEU:HD11	4:D:466:LYS:HB2	2.01	0.41
4:D:752:LEU:HB3	4:D:807:GLN:HE21	1.85	0.41
4:D:2109:MET:HG3	4:D:2117:ASP:OD1	2.20	0.41
7:G:147:C:N3	7:G:148:U:C5	2.88	0.41
10:J:195:LEU:C	13:M:208:ILE:HD11	2.40	0.41
10:J:406:PHE:CE2	10:J:411:MET:HE3	2.36	0.41
11:K:157:ARG:O	11:K:160:ILE:CG1	2.67	0.41
14:N:2:PRO:HG2	14:N:4:VAL:H	1.84	0.41
15:O:27:CYS:O	15:O:28:LEU:C	2.58	0.41
16:P:32:SER:O	16:P:35:LEU:HD12	2.20	0.41
18:R:96:ILE:HB	18:R:98:TYR:CZ	2.55	0.41
19:S:133:CYS:SG	19:S:134:GLN:N	2.93	0.41
22:V:497:CYS:HA	22:V:500:GLN:CG	2.50	0.41
22:V:542:ASN:O	22:V:544:LEU:N	2.52	0.41
23:W:168:PHE:CD1	23:W:168:PHE:N	2.87	0.41
23:W:268:THR:HG22	23:W:269:MET:N	2.35	0.41
23:W:374:LYS:HB2	23:W:395:MET:HE2	2.00	0.41
1:A:67:ARG:HE	1:A:67:ARG:HB2	1.66	0.41
1:A:371:LEU:HD12	1:A:372:PRO:CD	2.49	0.41
1:A:387:PHE:CD1	3:C:327:TYR:CE1	3.08	0.41
1:A:694:LEU:HD23	1:A:694:LEU:HA	1.87	0.41
1:A:1790:ILE:CG2	1:A:1800:THR:HG22	2.40	0.41
1:A:1868:MET:HE3	1:A:1872:LEU:CD1	2.50	0.41
1:A:2268:LEU:CD2	4:D:1261:PRO:HB2	2.51	0.41
3:C:439:PRO:O	3:C:440:SER:CB	2.68	0.41
3:C:756:LYS:O	3:C:759:LEU:HB3	2.20	0.41
4:D:1814:ASN:O	4:D:1818:ILE:HG13	2.20	0.41
4:D:1860:ILE:HG13	4:D:1885:ASN:O	2.19	0.41
10:J:294:HIS:CE1	12:L:227:THR:OG1	2.74	0.41
12:L:37:LEU:HD11	12:L:158:ARG:HB2	2.02	0.41
14:N:124:SER:OG	14:N:125:LYS:HE3	2.20	0.41
15:O:90:TYR:HB3	15:O:92:LEU:HD12	2.01	0.41
17:Q:302:LEU:HD12	17:Q:302:LEU:HA	1.91	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:95:LYS:H	18:R:95:LYS:CD	2.31	0.41
20:T:337:ARG:HG2	20:T:378:VAL:HG23	2.03	0.41
21:U:26:VAL:O	21:U:26:VAL:HG12	2.19	0.41
22:V:585:ILE:O	22:V:586:PHE:C	2.58	0.41
22:V:597:PRO:O	22:V:600:ASN:HB2	2.20	0.41
23:W:128:GLN:NE2	23:W:139:LEU:HD11	2.35	0.41
26:Z:120:CYS:HB3	26:Z:128:HIS:O	2.19	0.41
1:A:1171:GLU:OE1	1:A:1171:GLU:N	2.45	0.41
1:A:1968:TRP:HB3	1:A:1969:PRO:HD2	2.02	0.41
3:C:514:TYR:HD1	3:C:518:ASP:HB3	1.85	0.41
4:D:618:HIS:CE1	4:D:653:ALA:H	2.38	0.41
4:D:991:TYR:HE2	4:D:1097:GLU:HG3	1.85	0.41
4:D:1077:LEU:H	4:D:1077:LEU:HD12	1.85	0.41
4:D:1576:ILE:O	4:D:1580:CYS:HB2	2.21	0.41
6:F:37:C:C3'	6:F:37:C:C6	3.03	0.41
8:H:36:G:C3'	8:H:37:U:H5'	2.48	0.41
8:H:103:U:C3'	8:H:104:U:H5'	2.50	0.41
10:J:240:THR:O	10:J:241:VAL:HB	2.20	0.41
12:L:214:ILE:HA	12:L:215:PRO:HD3	1.93	0.41
12:L:241:LYS:O	12:L:241:LYS:HD3	2.20	0.41
15:O:161:ARG:CZ	15:O:182:ARG:HH11	2.34	0.41
18:R:315:LYS:HE2	18:R:315:LYS:HA	2.02	0.41
20:T:314:ILE:HD12	20:T:324:HIS:CB	2.44	0.41
23:W:317:GLU:OE2	23:W:319:TYR:CD2	2.73	0.41
23:W:356:LEU:HD22	23:W:370:PHE:HD2	1.83	0.41
23:W:458:GLU:O	23:W:459:PRO:C	2.58	0.41
1:A:648:LEU:HD23	1:A:648:LEU:HA	1.85	0.41
1:A:1215:ASN:CG	1:A:1224:ARG:HD3	2.40	0.41
1:A:1284:LEU:HD23	1:A:1284:LEU:HA	1.94	0.41
1:A:1578:ARG:O	1:A:1579:ALA:CB	2.68	0.41
3:C:69:ALA:HA	20:T:456:PRO:CG	2.49	0.41
3:C:671:SER:CB	3:C:672:LEU:HD22	2.50	0.41
4:D:1186:LEU:HD13	4:D:1282:LEU:HB2	2.02	0.41
4:D:1793:LEU:HD23	4:D:1793:LEU:HA	1.90	0.41
4:D:2027:ASP:OD1	4:D:2027:ASP:N	2.49	0.41
5:E:177:LYS:C	5:E:178:LEU:HD23	2.40	0.41
7:G:146:C:H4'	24:X:74:ALA:O	2.19	0.41
13:M:153:ARG:HB2	13:M:160:PHE:CE2	2.48	0.41
13:M:159:GLU:HA	13:M:167:LEU:HD23	2.02	0.41
14:N:40:LYS:O	14:N:44:GLU:HB3	2.20	0.41
15:O:205:ILE:O	15:O:207:ASP:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:232:THR:OG1	15:O:273:GLN:HG3	2.20	0.41
17:Q:173:PRO:HG3	17:Q:200:ILE:HD13	2.01	0.41
17:Q:1358:MET:HB3	17:Q:1359:PRO:HD3	2.01	0.41
18:R:312:MET:N	18:R:312:MET:SD	2.93	0.41
19:S:38:ASN:ND2	19:S:100:MET:CE	2.84	0.41
20:T:400:PHE:HA	20:T:401:PRO:HA	1.76	0.41
22:V:461:LEU:HD12	22:V:461:LEU:HA	1.85	0.41
23:W:266:ARG:H	23:W:266:ARG:HG2	1.51	0.41
23:W:290:GLY:HA2	23:W:571:TRP:O	2.19	0.41
23:W:425:VAL:O	23:W:433:PHE:CB	2.59	0.41
1:A:203:VAL:HG12	1:A:207:PHE:CD1	2.54	0.41
1:A:300:ASN:HB3	3:C:939:ARG:HH21	1.78	0.41
1:A:2073:TRP:CZ3	1:A:2313:HIS:CG	3.09	0.41
2:B:92:U:C3'	2:B:93:U:H5'	2.50	0.41
3:C:673:LYS:CD	3:C:673:LYS:N	2.84	0.41
3:C:673:LYS:HG3	3:C:686:THR:CG2	2.50	0.41
4:D:655:LEU:HD21	4:D:882:LEU:HD23	2.01	0.41
4:D:777:LEU:HB3	4:D:782:PHE:O	2.21	0.41
8:H:33:G:OP2	8:H:33:G:C8	2.73	0.41
11:K:134:ALA:C	11:K:137:VAL:HG12	2.40	0.41
12:L:83:ARG:NH1	12:L:93:ALA:HB3	2.36	0.41
13:M:152:LEU:HD22	13:M:160:PHE:CE1	2.53	0.41
15:O:95:GLN:OE1	15:O:207:ASP:HB3	2.20	0.41
15:O:239:LEU:HG	15:O:240:GLY:O	2.19	0.41
17:Q:902:LEU:O	17:Q:906:ILE:HG12	2.21	0.41
22:V:603:LEU:HA	22:V:603:LEU:HD23	1.84	0.41
23:W:265:LEU:CD1	23:W:300:SER:C	2.89	0.41
23:W:498:LYS:HA	23:W:498:LYS:HD3	1.84	0.41
26:Z:328:GLN:NE2	26:Z:332:TRP:CZ2	2.89	0.41
1:A:461:HIS:NE2	2:B:23:C:C6	2.88	0.41
1:A:705:LYS:O	1:A:706:ALA:C	2.59	0.41
1:A:1414:ARG:NH1	22:V:545:ARG:CD	2.73	0.41
1:A:1648:SER:OG	1:A:1649:LYS:N	2.53	0.41
3:C:451:HIS:O	3:C:578:ARG:HD2	2.21	0.41
3:C:511:GLY:O	3:C:576:ILE:HD11	2.12	0.41
4:D:406:ARG:HD2	4:D:406:ARG:H	1.85	0.41
4:D:481:LEU:HD23	4:D:486:SER:HA	2.02	0.41
4:D:703:ILE:O	4:D:707:ILE:HG13	2.21	0.41
4:D:791:ARG:HE	4:D:794:ARG:HH12	1.68	0.41
4:D:1344:ASP:OD1	4:D:1344:ASP:N	2.49	0.41
5:E:115:LEU:O	5:E:116:HIS:CD2	2.74	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:7:G:C2'	7:G:8:C:H5'	2.50	0.41
8:H:171:U:H2'	8:H:172:C:O4'	2.21	0.41
9:I:606:TRP:O	9:I:609:ALA:HB3	2.21	0.41
12:L:145:ASP:O	12:L:147:ASP:N	2.54	0.41
17:Q:1138:ARG:NE	17:Q:1267:GLN:OE1	2.48	0.41
22:V:492:MET:O	22:V:496:CYS:N	2.48	0.41
23:W:100:ARG:HH11	23:W:100:ARG:CG	2.33	0.41
23:W:185:ASP:N	23:W:185:ASP:OD1	2.52	0.41
23:W:391:PHE:HE1	23:W:405:ILE:HD12	1.81	0.41
1:A:151:MET:CE	1:A:628:GLY:O	2.68	0.41
1:A:225:TYR:CD2	1:A:225:TYR:O	2.74	0.41
1:A:663:ARG:NH2	6:F:65:G:N7	2.69	0.41
1:A:986:GLU:O	1:A:1029:GLY:CA	2.68	0.41
1:A:1072:LEU:HD22	1:A:1087:LEU:HD22	2.01	0.41
4:D:434:SER:HB3	4:D:447:VAL:HG12	2.03	0.41
4:D:577:LYS:O	4:D:581:SER:N	2.54	0.41
4:D:1037:LEU:HD23	4:D:1037:LEU:HA	1.87	0.41
6:F:43:A:N1	6:F:44:G:C6	2.89	0.41
8:H:152:G:N3	8:H:152:G:H2'	2.36	0.41
10:J:203:LEU:HD12	10:J:204:GLU:HG2	2.03	0.41
10:J:375:ASP:O	10:J:376:VAL:C	2.59	0.41
15:O:288:PHE:HD1	15:O:288:PHE:HA	1.78	0.41
17:Q:826:GLY:HA3	17:Q:1138:ARG:HG2	2.02	0.41
17:Q:1163:LEU:HA	17:Q:1164:PRO:HD3	1.96	0.41
18:R:81:LYS:N	18:R:81:LYS:HZ2	2.18	0.41
19:S:132:VAL:H	19:S:132:VAL:HG22	1.68	0.41
22:V:548:ALA:O	22:V:586:PHE:HA	2.21	0.41
23:W:123:PHE:HZ	23:W:168:PHE:HD2	1.68	0.41
23:W:482:ASP:O	23:W:483:ASN:HB3	2.21	0.41
1:A:2320:LEU:HD21	1:A:2322:GLU:CD	2.41	0.41
2:B:20:G:C1'	2:B:21:A:OP1	2.69	0.41
3:C:67:PRO:HB2	3:C:71:GLU:HG3	2.02	0.41
3:C:838:ALA:HA	3:C:839:PRO:HD3	1.95	0.41
4:D:504:PRO:HG3	4:D:678:ASN:HA	2.03	0.41
4:D:566:VAL:HG23	4:D:585:ILE:O	2.20	0.41
4:D:709:TYR:O	4:D:712:ILE:HG22	2.20	0.41
4:D:752:LEU:HB3	4:D:807:GLN:NE2	2.36	0.41
4:D:1521:VAL:HA	4:D:1522:PRO:HD3	1.94	0.41
4:D:1647:SER:HB3	4:D:1650:LEU:HD13	2.01	0.41
4:D:1755:LEU:HD23	4:D:1755:LEU:HA	1.88	0.41
4:D:1936:LEU:HA	4:D:1936:LEU:HD23	1.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:2036:VAL:HG22	4:D:2093:ASP:HB3	2.02	0.41
5:E:260:ARG:HD3	5:E:276:ILE:HD13	2.02	0.41
6:F:85:U:C6	13:M:127:TYR:CE2	3.09	0.41
7:G:5:G:H8	7:G:5:G:C5'	2.34	0.41
8:H:40:C:C2'	8:H:41:U:H5"	2.47	0.41
9:I:296:PHE:CB	9:I:305:SER:O	2.68	0.41
10:J:239:ARG:HH11	10:J:239:ARG:CG	2.31	0.41
14:N:118:ILE:HD12	14:N:132:ILE:HD12	2.03	0.41
15:O:245:GLU:O	15:O:248:LEU:HB2	2.21	0.41
16:P:73:GLU:O	16:P:76:ARG:HG2	2.21	0.41
17:Q:789:PRO:O	17:Q:791:PRO:HD3	2.21	0.41
22:V:304:LEU:HD23	22:V:304:LEU:HA	1.76	0.41
23:W:162:ASN:CB	23:W:165:LEU:HD21	2.49	0.41
23:W:390:LEU:CD1	23:W:447:TRP:CZ2	2.72	0.41
23:W:416:ARG:CG	23:W:416:ARG:NH1	2.84	0.41
23:W:462:HIS:CG	23:W:482:ASP:HB3	2.55	0.41
23:W:497:ASN:ND2	23:W:497:ASN:C	2.74	0.41
26:Z:87:PRO:HB2	26:Z:91:LYS:HD3	2.02	0.41
1:A:283:VAL:O	1:A:284:ARG:CZ	2.68	0.41
1:A:923:ASP:OD2	1:A:1439:ARG:HD3	2.21	0.41
1:A:948:PRO:N	1:A:949:PRO:HD2	2.35	0.41
1:A:1539:SER:N	1:A:1540:PRO:CD	2.84	0.41
1:A:1791:HIS:ND1	1:A:1799:THR:HG22	2.36	0.41
1:A:2120:LEU:H	1:A:2120:LEU:HD12	1.86	0.41
1:A:2195:THR:O	1:A:2199:ILE:HG12	2.21	0.41
1:A:2259:VAL:HG22	1:A:2260:GLN:H	1.86	0.41
2:B:12:U:O2'	2:B:13:C:P	2.79	0.41
3:C:185:PRO:CD	3:C:482:TYR:CE1	3.04	0.41
3:C:291:MET:CG	3:C:292:TYR:HE1	2.32	0.41
3:C:348:TYR:CD1	3:C:359:LYS:CB	2.93	0.41
3:C:489:GLN:CB	3:C:556:ASP:OD2	2.68	0.41
3:C:518:ASP:N	3:C:519:GLU:OE2	2.54	0.41
4:D:436:ARG:HG3	4:D:445:VAL:HG22	2.03	0.41
4:D:538:ILE:O	4:D:585:ILE:HA	2.21	0.41
4:D:729:LYS:HA	4:D:729:LYS:HD2	1.72	0.41
6:F:8:C:H6	6:F:8:C:C5'	2.08	0.41
6:F:22:A:N7	23:W:130:ARG:NE	2.69	0.41
6:F:27:A:C2	15:O:181:TYR:CD2	3.08	0.41
7:G:142:U:O2'	7:G:143:U:P	2.79	0.41
8:H:39:U:H3'	8:H:40:C:C6	2.56	0.41
8:H:43:U:C6	8:H:43:U:OP2	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:520:ILE:O	9:I:524:TYR:N	2.54	0.41
12:L:49:ARG:HD3	12:L:49:ARG:C	2.41	0.41
12:L:144:MET:CG	12:L:149:LEU:CD2	2.98	0.41
15:O:113:ASN:O	15:O:114:LYS:C	2.59	0.41
15:O:235:TYR:HA	15:O:271:PHE:HD1	1.86	0.41
15:O:251:HIS:NE2	15:O:291:LEU:HD22	2.36	0.41
17:Q:49:ILE:O	17:Q:53:GLU:HB2	2.21	0.41
17:Q:208:ASP:OD1	17:Q:210:GLU:HG2	2.20	0.41
18:R:63:ALA:CB	19:S:95:ALA:O	2.69	0.41
18:R:103:ARG:O	18:R:106:GLN:N	2.47	0.41
18:R:147:THR:HG21	20:T:359:LEU:HD23	2.03	0.41
18:R:189:ASN:HD21	18:R:195:ARG:HH22	1.65	0.41
18:R:222:PRO:HA	18:R:223:PRO:HD2	1.87	0.41
20:T:187:LYS:N	20:T:188:PRO:CD	2.84	0.41
20:T:381:HIS:HA	20:T:382:PRO:HD3	1.90	0.41
20:T:471:ASP:OD1	20:T:474:GLU:N	2.54	0.41
22:V:449:GLU:CG	22:V:452:LEU:CD1	2.92	0.41
23:W:127:GLN:HG2	23:W:168:PHE:CE2	2.56	0.41
23:W:269:MET:CE	23:W:269:MET:CA	2.91	0.41
23:W:389:ASN:CB	23:W:405:ILE:HG22	2.46	0.41
23:W:453:PHE:CD1	23:W:454:LYS:N	2.89	0.41
23:W:492:ASN:C	23:W:492:ASN:ND2	2.74	0.41
23:W:505:HIS:HB2	23:W:533:ASN:OD1	2.20	0.41
23:W:528:GLY:O	23:W:552:VAL:HA	2.21	0.41
26:Z:293:ARG:HD2	26:Z:313:ASN:OD1	2.21	0.41
26:Z:302:LYS:HG3	26:Z:306:GLU:HG2	2.03	0.41
1:A:328:HIS:C	1:A:329:LEU:HD23	2.41	0.41
1:A:2111:LEU:HD21	1:A:2225:LEU:HD21	2.03	0.41
3:C:223:ASP:CG	3:C:495:ARG:HH22	2.23	0.41
3:C:291:MET:HG2	3:C:292:TYR:HE1	1.85	0.41
4:D:882:LEU:HD23	4:D:882:LEU:HA	1.79	0.41
6:F:33:G:O2'	6:F:34:G:P	2.79	0.41
8:H:88:A:C6	8:H:89:U:C4	3.09	0.41
10:J:360:ASP:C	10:J:363:ARG:HG3	2.40	0.41
12:L:27:GLY:HA2	18:R:267:ARG:HE	1.86	0.41
12:L:61:THR:O	12:L:91:ARG:NH2	2.47	0.41
12:L:135:LYS:HG3	12:L:136:PRO:N	2.36	0.41
14:N:11:PRO:HA	14:N:12:PRO:HD3	1.97	0.41
15:O:51:PRO:CG	18:R:212:PHE:CE1	3.04	0.41
16:P:31:SER:HB3	16:P:34:ASP:OD2	2.21	0.41
18:R:282:GLU:O	18:R:283:ASN:C	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:9:TRP:O	19:S:9:TRP:CE3	2.74	0.41
23:W:277:PRO:HG2	23:W:578:TRP:C	2.41	0.41
23:W:371:THR:O	23:W:372:ASN:CB	2.68	0.41
26:Z:134:PHE:CE2	26:Z:153:GLU:OE1	2.73	0.41
1:A:40:LEU:HD11	23:W:124:MET:SD	2.62	0.40
1:A:311:GLU:OE2	21:U:1:MET:HG3	2.21	0.40
1:A:1799:THR:HG23	1:A:1799:THR:O	2.21	0.40
3:C:854:ARG:NH1	3:C:879:ASP:OD2	2.54	0.40
4:D:543:PRO:HG3	4:D:616:GLU:HB2	2.03	0.40
4:D:612:ILE:HD12	4:D:612:ILE:O	2.21	0.40
4:D:1139:VAL:HA	4:D:1167:MET:HE1	2.03	0.40
4:D:1442:ARG:H	4:D:1442:ARG:HG2	1.68	0.40
6:F:9:U:H2'	6:F:10:U:C6	2.57	0.40
8:H:57:A:C6	8:H:58:U:C4	3.10	0.40
16:P:212:ASN:ND2	20:T:484:LYS:HD2	2.36	0.40
17:Q:109:TRP:CD2	17:Q:162:ILE:HD11	2.56	0.40
17:Q:1021:LEU:HD22	17:Q:1021:LEU:HA	1.84	0.40
18:R:70:ALA:HA	19:S:93:THR:HG21	2.03	0.40
18:R:92:SER:HB2	18:R:93:GLU:H	1.67	0.40
18:R:208:GLU:OE2	18:R:211:ARG:NH1	2.54	0.40
19:S:15:TYR:HB2	19:S:163:TYR:HB2	2.03	0.40
20:T:471:ASP:OD1	20:T:471:ASP:C	2.60	0.40
22:V:520:GLU:HA	22:V:523:GLU:CG	2.51	0.40
23:W:156:VAL:O	23:W:160:GLU:HG2	2.21	0.40
26:Z:352:LEU:O	26:Z:355:LYS:HB3	2.21	0.40
1:A:280:GLU:CD	1:A:281:PRO:HD2	2.41	0.40
1:A:365:VAL:CG1	1:A:366:LYS:N	2.85	0.40
1:A:395:THR:N	1:A:398:THR:OG1	2.48	0.40
1:A:951:LEU:HD23	1:A:951:LEU:HA	1.89	0.40
1:A:1094:ARG:CG	1:A:1094:ARG:NH1	2.84	0.40
1:A:2090:ILE:HD13	1:A:2090:ILE:H	1.86	0.40
1:A:2117:ILE:HG21	1:A:2301:PRO:HB2	2.02	0.40
3:C:327:TYR:HE2	3:C:372:PHE:CD1	2.39	0.40
3:C:544:VAL:HA	3:C:545:PRO:HD2	1.95	0.40
3:C:902:HIS:ND1	3:C:903:HIS:HB2	2.35	0.40
4:D:702:GLN:O	4:D:705:ASN:HB2	2.21	0.40
4:D:753:ARG:NE	4:D:756:SER:O	2.52	0.40
4:D:821:LEU:HA	4:D:822:PRO:HD3	1.82	0.40
4:D:896:LYS:O	4:D:900:MET:HG2	2.21	0.40
4:D:1005:LEU:HD23	4:D:1005:LEU:HA	1.89	0.40
4:D:1188:VAL:HG23	4:D:1200:VAL:HG13	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1869:ARG:HE	4:D:1869:ARG:HB2	1.71	0.40
4:D:1979:VAL:HG13	4:D:1984:ASP:HB2	2.02	0.40
5:E:161:ARG:HG2	5:E:161:ARG:H	1.60	0.40
5:E:243:LEU:HD11	5:E:247:GLY:C	2.42	0.40
6:F:7:G:H4'	6:F:7:G:OP1	2.20	0.40
7:G:9:C:H2'	7:G:10:U:C6	2.57	0.40
7:G:21:A:OP2	15:O:193:LEU:HD21	2.22	0.40
8:H:152:G:H2'	8:H:153:A:C1'	2.51	0.40
8:H:153:A:C8	8:H:154:C:O4'	2.75	0.40
8:H:183:G:C6	8:H:184:C:N4	2.89	0.40
10:J:192:GLU:O	10:J:195:LEU:HD12	2.20	0.40
10:J:493:ALA:CB	10:J:499:ARG:CB	2.96	0.40
12:L:18:ILE:HG21	12:L:37:LEU:HD23	2.03	0.40
15:O:40:LYS:HA	15:O:40:LYS:HD3	1.84	0.40
15:O:131:THR:CG2	23:W:108:ARG:CD	2.95	0.40
18:R:155:VAL:O	18:R:159:VAL:HG23	2.21	0.40
18:R:258:LYS:HB3	18:R:260:TYR:CE1	2.57	0.40
18:R:312:MET:CE	18:R:312:MET:CA	2.93	0.40
19:S:55:ARG:HB2	19:S:63:GLN:HB3	2.03	0.40
23:W:123:PHE:HZ	23:W:168:PHE:CD2	2.38	0.40
23:W:200:VAL:HG23	23:W:201:ASP:OD1	2.19	0.40
23:W:210:GLU:O	23:W:213:GLN:HB2	2.20	0.40
1:A:338:VAL:CG2	3:C:867:PRO:HG3	2.51	0.40
1:A:378:PHE:O	1:A:379:GLU:CB	2.69	0.40
1:A:378:PHE:HE2	3:C:338:GLU:HB2	1.86	0.40
1:A:533:LYS:HE2	6:F:37:C:C2	2.51	0.40
1:A:762:ARG:NH2	16:P:226:LYS:HE2	2.33	0.40
1:A:1539:SER:OG	1:A:1540:PRO:HD3	2.21	0.40
1:A:2144:CYS:HB2	1:A:2270:PHE:CE1	2.57	0.40
1:A:2319:LEU:HD13	4:D:1069:GLN:C	2.41	0.40
3:C:286:ASN:ND2	3:C:299:ILE:HG22	2.37	0.40
3:C:505:GLN:HG2	3:C:506:PRO:HD2	2.02	0.40
3:C:506:PRO:HD2	3:C:506:PRO:O	2.21	0.40
3:C:507:VAL:CG1	3:C:508:LYS:N	2.85	0.40
4:D:580:ILE:HB	4:D:605:TYR:OH	2.20	0.40
4:D:1481:ILE:O	4:D:1481:ILE:HG12	2.20	0.40
4:D:1590:LEU:HD22	4:D:1614:LEU:O	2.20	0.40
4:D:1682:TYR:HA	4:D:1685:LEU:HD12	2.03	0.40
5:E:74:PHE:CE1	5:E:95:VAL:HG22	2.53	0.40
6:F:34:G:H2'	6:F:35:A:C8	2.56	0.40
7:G:21:A:OP2	15:O:193:LEU:CD2	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:193:VAL:HG21	16:P:194:PHE:CE2	2.55	0.40
18:R:145:GLU:OE1	18:R:145:GLU:HA	2.20	0.40
19:S:131:ARG:NH1	19:S:133:CYS:CB	2.85	0.40
22:V:287:ASP:HB3	22:V:331:ARG:NH1	2.36	0.40
23:W:194:GLY:HA3	23:W:195:PRO:HD2	1.77	0.40
24:X:106:ASP:O	24:X:109:PHE:HB3	2.21	0.40
25:Y:402:ILE:O	25:Y:405:MET:HB2	2.22	0.40
26:Z:65:GLN:O	26:Z:69:SER:HB3	2.21	0.40
26:Z:85:GLN:OE1	26:Z:85:GLN:CA	2.69	0.40
1:A:434:HIS:ND1	1:A:434:HIS:C	2.74	0.40
1:A:1502:PHE:CD1	1:A:1502:PHE:N	2.86	0.40
1:A:1766:GLN:OE1	1:A:1766:GLN:CA	2.70	0.40
1:A:2166:HIS:CD2	1:A:2272:MET:CE	3.05	0.40
1:A:2332:ASP:O	1:A:2334:TYR:N	2.54	0.40
3:C:675:PHE:CD1	3:C:675:PHE:O	2.74	0.40
4:D:428:CYS:SG	4:D:429:GLN:N	2.93	0.40
4:D:483:ARG:NH2	4:D:680:PHE:HE1	2.20	0.40
4:D:488:LEU:HD21	4:D:501:LEU:HD23	2.02	0.40
4:D:928:ARG:HD2	4:D:928:ARG:HA	1.90	0.40
5:E:288:LEU:HD12	5:E:290:ARG:HH21	1.86	0.40
6:F:87:C:OP1	13:M:137:ARG:NH2	2.54	0.40
7:G:-12:G:O2'	7:G:-11:G:OP1	2.27	0.40
7:G:9:C:H2'	7:G:10:U:O4'	2.22	0.40
8:H:149:A:C6	8:H:150:U:C4	3.09	0.40
10:J:195:LEU:CD1	10:J:195:LEU:H	2.31	0.40
12:L:144:MET:SD	12:L:149:LEU:CD2	3.03	0.40
12:L:150:GLU:OE1	12:L:150:GLU:HA	2.21	0.40
15:O:278:GLN:O	15:O:282:VAL:HG23	2.22	0.40
16:P:6:ARG:HA	16:P:6:ARG:HD3	1.91	0.40
18:R:92:SER:N	19:S:155:ASP:OD2	2.55	0.40
18:R:119:LEU:C	18:R:119:LEU:CD1	2.90	0.40
23:W:258:PRO:CA	23:W:302:HIS:CE1	3.04	0.40
23:W:264:ASN:OD1	23:W:267:SER:CA	2.69	0.40
23:W:276:LEU:HA	23:W:277:PRO:HD3	1.85	0.40
23:W:280:GLN:C	23:W:280:GLN:NE2	2.75	0.40
23:W:298:PRO:O	23:W:299:LEU:CB	2.68	0.40
26:Z:64:PRO:HD2	26:Z:67:ILE:HD12	2.04	0.40
1:A:47:GLU:HA	1:A:50:LYS:HG2	2.02	0.40
1:A:312:TYR:HE1	3:C:886:ASP:OD1	2.04	0.40
1:A:338:VAL:HG21	3:C:867:PRO:HG3	2.04	0.40
1:A:419:ARG:HH21	1:A:423:ASP:HB3	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1211:ASP:O	1:A:1212:GLY:C	2.60	0.40
1:A:1313:PRO:HG2	1:A:1363:GLN:HE22	1.85	0.40
1:A:1801:LYS:HD3	1:A:1801:LYS:HA	1.73	0.40
1:A:2120:LEU:HD12	1:A:2120:LEU:N	2.35	0.40
3:C:96:PRO:CG	20:T:276:GLU:OE2	2.69	0.40
3:C:507:VAL:N	3:C:568:PRO:HB3	2.29	0.40
3:C:709:TRP:HB3	3:C:713:LYS:CD	2.52	0.40
4:D:420:SER:CB	4:D:622:ASP:HA	2.52	0.40
4:D:928:ARG:HB3	4:D:936:TYR:CE1	2.57	0.40
4:D:1312:LEU:HD12	4:D:1312:LEU:H	1.85	0.40
4:D:1890:LYS:HZ2	4:D:1894:LEU:HD11	1.86	0.40
7:G:146:C:H5'	24:X:74:ALA:O	2.21	0.40
9:I:342:PRO:HA	17:Q:528:GLY:HA2	2.03	0.40
13:M:168:LEU:N	13:M:168:LEU:CD2	2.85	0.40
14:N:28:LYS:HZ1	23:W:190:ASP:N	2.19	0.40
16:P:228:ILE:N	16:P:228:ILE:HD12	2.36	0.40
17:Q:1012:ARG:NH1	17:Q:1015:GLU:OE1	2.43	0.40
18:R:129:ASP:HB2	18:R:132:LEU:HD23	2.00	0.40
20:T:316:ASP:OD1	20:T:316:ASP:C	2.60	0.40
20:T:406:ILE:HG22	20:T:407:GLN:N	2.37	0.40
20:T:438:LEU:HD12	20:T:447:PHE:CE1	2.56	0.40
20:T:454:VAL:HG12	20:T:455:GLN:H	1.86	0.40
22:V:523:GLU:CG	22:V:524:SER:H	2.33	0.40
22:V:597:PRO:O	22:V:600:ASN:N	2.55	0.40
23:W:157:GLU:HB3	23:W:158:GLU:OE1	2.21	0.40
23:W:348:LEU:HD12	23:W:391:PHE:CD2	2.54	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	2247/2335 (96%)	2104 (94%)	107 (5%)	36 (2%)	9 46
3	C	856/972 (88%)	787 (92%)	48 (6%)	21 (2%)	5 36
4	D	1720/2136 (80%)	1632 (95%)	85 (5%)	3 (0%)	47 79
5	E	297/357 (83%)	273 (92%)	17 (6%)	7 (2%)	6 37
9	I	502/855 (59%)	482 (96%)	11 (2%)	9 (2%)	8 43
10	J	530/848 (62%)	482 (91%)	30 (6%)	18 (3%)	3 31
11	K	144/225 (64%)	134 (93%)	6 (4%)	4 (3%)	5 34
12	L	436/802 (54%)	409 (94%)	20 (5%)	7 (2%)	9 46
13	M	128/243 (53%)	118 (92%)	4 (3%)	6 (5%)	2 22
14	N	141/144 (98%)	124 (88%)	13 (9%)	4 (3%)	5 34
15	O	283/420 (67%)	255 (90%)	22 (8%)	6 (2%)	7 40
16	P	104/229 (45%)	91 (88%)	8 (8%)	5 (5%)	2 22
17	Q	1308/1485 (88%)	1283 (98%)	25 (2%)	0	100 100
18	R	255/536 (48%)	229 (90%)	14 (6%)	12 (5%)	2 22
19	S	157/166 (95%)	146 (93%)	8 (5%)	3 (2%)	8 42
20	T	311/514 (60%)	280 (90%)	22 (7%)	9 (3%)	4 33
21	U	24/2752 (1%)	20 (83%)	3 (12%)	1 (4%)	3 25
22	V	444/908 (49%)	418 (94%)	20 (4%)	6 (1%)	11 48
23	W	494/579 (85%)	434 (88%)	31 (6%)	29 (6%)	1 18
24	X	90/184 (49%)	81 (90%)	8 (9%)	1 (1%)	14 53
25	Y	709/1220 (58%)	617 (87%)	60 (8%)	32 (4%)	2 23
26	Z	238/586 (41%)	197 (83%)	30 (13%)	11 (5%)	2 23
27	a	77/126 (61%)	76 (99%)	1 (1%)	0	100 100
27	h	77/126 (61%)	76 (99%)	1 (1%)	0	100 100
28	b	84/231 (36%)	82 (98%)	2 (2%)	0	100 100
28	i	84/231 (36%)	82 (98%)	2 (2%)	0	100 100
29	c	80/119 (67%)	77 (96%)	3 (4%)	0	100 100
29	j	80/119 (67%)	77 (96%)	3 (4%)	0	100 100
30	d	95/118 (80%)	91 (96%)	4 (4%)	0	100 100
30	k	81/118 (69%)	78 (96%)	3 (4%)	0	100 100
31	f	72/86 (84%)	69 (96%)	3 (4%)	0	100 100
31	m	72/86 (84%)	68 (94%)	4 (6%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
32	e	77/92 (84%)	76 (99%)	1 (1%)	0	100 100
32	l	77/92 (84%)	76 (99%)	1 (1%)	0	100 100
33	g	72/76 (95%)	70 (97%)	2 (3%)	0	100 100
33	n	65/76 (86%)	63 (97%)	2 (3%)	0	100 100
34	o	160/255 (63%)	146 (91%)	12 (8%)	2 (1%)	12 50
35	p	92/225 (41%)	90 (98%)	2 (2%)	0	100 100
36	q	130/504 (26%)	119 (92%)	7 (5%)	4 (3%)	4 32
36	r	129/504 (26%)	118 (92%)	9 (7%)	2 (2%)	9 46
36	s	130/504 (26%)	116 (89%)	7 (5%)	7 (5%)	2 19
36	t	129/504 (26%)	116 (90%)	9 (7%)	4 (3%)	4 32
37	u	388/411 (94%)	376 (97%)	9 (2%)	3 (1%)	19 59
38	v	142/148 (96%)	138 (97%)	4 (3%)	0	100 100
39	w	89/174 (51%)	87 (98%)	1 (1%)	1 (1%)	14 53
40	x	23/703 (3%)	22 (96%)	1 (4%)	0	100 100
All	All	13923/24124 (58%)	12985 (93%)	685 (5%)	253 (2%)	12 43

All (253) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	82	ARG
1	A	308	ILE
1	A	331	TRP
1	A	346	ASP
1	A	365	VAL
1	A	367	SER
1	A	368	GLN
1	A	570	ASP
1	A	629	PHE
1	A	631	ALA
1	A	706	ALA
1	A	1828	ALA
3	C	388	VAL
3	C	427	PHE
3	C	444	GLY
3	C	457	VAL
3	C	458	ASP
3	C	516	LEU

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Mol	Chain	Res	Type
3	C	572	GLU
3	C	824	THR
4	D	957	VAL
4	D	1584	ILE
5	E	193	THR
9	I	463	PRO
9	I	721	LYS
9	I	797	PHE
10	J	188	GLN
10	J	191	ALA
10	J	192	GLU
10	J	202	GLU
10	J	203	LEU
10	J	206	LEU
10	J	216	ASP
10	J	341	PRO
10	J	376	VAL
10	J	413	GLU
11	K	78	PRO
11	K	90	PRO
12	L	138	ARG
12	L	146	GLU
12	L	202	ARG
13	M	157	GLY
13	M	195	LYS
15	O	132	ARG
16	P	3	THR
16	P	12	ALA
16	P	49	ASP
18	R	71	GLN
18	R	78	ARG
18	R	135	PRO
18	R	136	ASP
18	R	186	VAL
19	S	164	PRO
20	T	186	PRO
20	T	268	LYS
20	T	343	PRO
20	T	495	ALA
22	V	485	GLN
22	V	596	LEU
22	V	597	PRO

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Mol	Chain	Res	Type
23	W	156	VAL
23	W	199	TYR
23	W	213	GLN
23	W	234	PRO
23	W	243	VAL
23	W	258	PRO
23	W	259	GLN
23	W	263	VAL
23	W	267	SER
23	W	279	LYS
23	W	299	LEU
23	W	325	LEU
23	W	372	ASN
23	W	492	ASN
25	Y	531	MET
25	Y	610	ARG
25	Y	855	VAL
25	Y	944	ASP
25	Y	995	MET
25	Y	1090	LYS
25	Y	1098	LYS
25	Y	1099	SER
25	Y	1129	ASP
25	Y	1145	GLN
25	Y	1164	GLU
26	Z	136	ARG
26	Z	143	LYS
26	Z	146	GLY
36	q	59	HIS
36	q	60	PRO
36	s	9	ASN
36	s	55	ILE
36	s	60	PRO
36	s	66	PRO
36	s	71	ILE
36	t	9	ASN
36	t	69	THR
37	u	383	ASN
1	A	51	PHE
1	A	167	PRO
1	A	188	LEU
1	A	349	ALA

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Mol	Chain	Res	Type
1	A	370	PRO
1	A	374	ASP
1	A	382	GLU
1	A	383	PHE
1	A	942	PRO
1	A	1092	ILE
1	A	1212	GLY
3	C	90	THR
3	C	364	SER
5	E	88	ARG
9	I	618	ARG
9	I	634	ILE
10	J	205	LEU
10	J	709	VAL
12	L	244	GLN
13	M	120	PRO
14	N	36	PRO
16	P	8	THR
18	R	62	GLY
19	S	12	PRO
20	T	341	ALA
21	U	2	TYR
23	W	191	GLY
23	W	205	VAL
23	W	318	VAL
23	W	482	ASP
25	Y	517	GLU
25	Y	845	SER
25	Y	870	GLY
25	Y	1182	LYS
26	Z	106	VAL
26	Z	139	ARG
34	o	160	LYS
36	q	9	ASN
37	u	340	GLY
37	u	385	ASP
39	w	115	GLY
1	A	212	PRO
1	A	377	GLU
1	A	379	GLU
1	A	1947	ASN
3	C	63	LYS

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Mol	Chain	Res	Type
3	C	615	PRO
3	C	711	ARG
5	E	256	ASP
9	I	283	ILE
9	I	601	GLN
9	I	752	ALA
10	J	217	GLU
10	J	357	LYS
14	N	39	GLY
15	O	111	ASP
15	O	134	VAL
15	O	206	ASN
18	R	173	PRO
18	R	277	THR
19	S	10	GLN
20	T	301	ASP
20	T	406	ILE
23	W	97	ASN
23	W	102	GLN
25	Y	524	ASN
25	Y	550	TYR
25	Y	806	GLU
25	Y	994	ILE
25	Y	1055	ASN
25	Y	1056	LYS
26	Z	112	ILE
26	Z	145	THR
26	Z	282	SER
36	q	19	PRO
36	r	9	ASN
36	t	67	SER
1	A	363	HIS
1	A	378	PHE
1	A	903	SER
1	A	1180	LYS
3	C	754	VAL
3	C	856	HIS
5	E	159	PRO
5	E	162	ARG
9	I	617	GLU
10	J	189	ILE
10	J	604	PRO

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Mol	Chain	Res	Type
11	K	65	ILE
12	L	132	PRO
12	L	585	TYR
15	O	107	MET
18	R	124	VAL
23	W	96	GLU
23	W	272	GLU
23	W	554	ILE
25	Y	590	THR
25	Y	663	ASP
25	Y	722	ALA
25	Y	835	VAL
26	Z	151	PRO
26	Z	347	PRO
34	o	32	PRO
36	t	65	PRO
1	A	359	ILE
1	A	1339	ASP
3	C	94	ILE
3	C	156	GLU
5	E	149	GLY
12	L	215	PRO
13	M	144	PRO
15	O	20	PHE
16	P	36	PRO
18	R	104	GLN
18	R	191	GLY
20	T	185	MET
20	T	189	GLN
23	W	301	GLY
23	W	330	GLY
25	Y	811	PRO
25	Y	1157	THR
26	Z	308	SER
36	s	62	ARG
1	A	1275	ARG
1	A	2013	GLY
10	J	187	VAL
13	M	161	PHE
18	R	181	PRO
22	V	573	GLU
22	V	578	SER

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Mol	Chain	Res	Type
22	V	609	GLN
23	W	376	PRO
23	W	549	HIS
24	X	76	SER
25	Y	523	ALA
25	Y	856	ASP
3	C	302	PRO
3	C	361	PRO
10	J	241	VAL
13	M	174	PRO
25	Y	738	PRO
3	C	360	ALA
11	K	17	PRO
25	Y	1137	PRO
3	C	440	SER
14	N	118	ILE
23	W	235	GLY
23	W	270	PRO
25	Y	521	ILE
36	s	38	GLY
1	A	828	PRO
4	D	585	ILE
5	E	324	PRO
36	r	60	PRO
14	N	4	VAL

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	2021/2108 (96%)	1881 (93%)	140 (7%)	15 49
3	C	761/866 (88%)	689 (90%)	72 (10%)	8 37
4	D	1541/1908 (81%)	1363 (88%)	178 (12%)	5 29
5	E	256/300 (85%)	244 (95%)	12 (5%)	26 61
10	J	241/751 (32%)	219 (91%)	22 (9%)	9 39

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
11	K	56/196 (29%)	51 (91%)	5 (9%)	9 40
12	L	229/709 (32%)	186 (81%)	43 (19%)	1 9
13	M	117/209 (56%)	81 (69%)	36 (31%)	0 2
14	N	130/130 (100%)	127 (98%)	3 (2%)	50 76
15	O	255/361 (71%)	250 (98%)	5 (2%)	55 79
16	P	99/203 (49%)	80 (81%)	19 (19%)	1 9
17	Q	1202/1336 (90%)	1193 (99%)	9 (1%)	84 93
18	R	219/457 (48%)	167 (76%)	52 (24%)	1 5
19	S	129/134 (96%)	120 (93%)	9 (7%)	15 48
20	T	269/441 (61%)	252 (94%)	17 (6%)	18 53
21	U	21/2432 (1%)	17 (81%)	4 (19%)	1 9
22	V	327/838 (39%)	303 (93%)	24 (7%)	14 46
23	W	436/502 (87%)	324 (74%)	112 (26%)	0 4
24	X	62/157 (40%)	59 (95%)	3 (5%)	25 60
25	Y	31/1085 (3%)	31 (100%)	0	100 100
26	Z	214/520 (41%)	203 (95%)	11 (5%)	24 58
27	a	72/101 (71%)	72 (100%)	0	100 100
27	h	70/101 (69%)	70 (100%)	0	100 100
28	b	77/169 (46%)	75 (97%)	2 (3%)	46 74
28	i	77/169 (46%)	75 (97%)	2 (3%)	46 74
29	c	77/101 (76%)	75 (97%)	2 (3%)	46 74
29	j	77/101 (76%)	75 (97%)	2 (3%)	46 74
30	d	90/110 (82%)	88 (98%)	2 (2%)	52 77
30	k	80/110 (73%)	78 (98%)	2 (2%)	47 75
31	f	63/74 (85%)	62 (98%)	1 (2%)	62 83
31	m	63/74 (85%)	62 (98%)	1 (2%)	62 83
32	e	74/84 (88%)	74 (100%)	0	100 100
32	l	74/84 (88%)	74 (100%)	0	100 100
33	g	64/66 (97%)	63 (98%)	1 (2%)	62 83
33	n	60/66 (91%)	59 (98%)	1 (2%)	60 82
34	o	139/218 (64%)	135 (97%)	4 (3%)	42 72

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
35	p	82/195 (42%)	79 (96%)	3 (4%)	34 66
36	q	79/435 (18%)	70 (89%)	9 (11%)	5 29
36	r	77/435 (18%)	67 (87%)	10 (13%)	4 24
36	s	77/435 (18%)	69 (90%)	8 (10%)	7 33
36	t	77/435 (18%)	71 (92%)	6 (8%)	12 44
37	u	345/361 (96%)	340 (99%)	5 (1%)	67 85
38	v	132/134 (98%)	131 (99%)	1 (1%)	81 91
39	w	76/143 (53%)	75 (99%)	1 (1%)	69 86
40	x	23/581 (4%)	23 (100%)	0	100 100
All	All	10741/20425 (53%)	9902 (92%)	839 (8%)	16 44

All (839) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	44	ARG
1	A	48	LYS
1	A	59	GLU
1	A	60	ASP
1	A	75	ASP
1	A	82	ARG
1	A	180	ASP
1	A	181	ASN
1	A	185	VAL
1	A	195	LEU
1	A	204	LEU
1	A	250	VAL
1	A	258	PHE
1	A	284	ARG
1	A	294	ASN
1	A	295	GLU
1	A	325	HIS
1	A	330	THR
1	A	336	ASN
1	A	344	ASP
1	A	352	PHE
1	A	361	HIS
1	A	362	ARG
1	A	364	SER
1	A	367	SER

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Mol	Chain	Res	Type
1	A	376	GLU
1	A	377	GLU
1	A	380	LEU
1	A	383	PHE
1	A	388	LEU
1	A	391	THR
1	A	394	TYR
1	A	409	ARG
1	A	413	LEU
1	A	433	GLU
1	A	459	LEU
1	A	462	ARG
1	A	467	GLN
1	A	468	LYS
1	A	535	ARG
1	A	546	LEU
1	A	579	GLN
1	A	596	TYR
1	A	597	LYS
1	A	601	GLN
1	A	615	ARG
1	A	625	PRO
1	A	627	CYS
1	A	630	TRP
1	A	670	LYS
1	A	674	LYS
1	A	697	MET
1	A	705	LYS
1	A	726	TRP
1	A	741	ARG
1	A	758	ARG
1	A	762	ARG
1	A	796	LYS
1	A	875	HIS
1	A	904	HIS
1	A	985	TYR
1	A	1024	HIS
1	A	1089	CYS
1	A	1094	ARG
1	A	1136	ARG
1	A	1179	SER
1	A	1210	LYS

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Mol	Chain	Res	Type
1	A	1211	ASP
1	A	1224	ARG
1	A	1246	GLN
1	A	1321	GLU
1	A	1332	HIS
1	A	1361	GLU
1	A	1363	GLN
1	A	1370	ARG
1	A	1393	ARG
1	A	1427	ARG
1	A	1502	PHE
1	A	1578	ARG
1	A	1591	MET
1	A	1641	ARG
1	A	1678	ARG
1	A	1681	ARG
1	A	1732	LYS
1	A	1757	GLU
1	A	1759	THR
1	A	1763	LEU
1	A	1766	GLN
1	A	1767	ASN
1	A	1768	TYR
1	A	1790	ILE
1	A	1794	PHE
1	A	1797	ASN
1	A	1813	ARG
1	A	1831	LYS
1	A	1835	GLN
1	A	1838	LYS
1	A	1885	LYS
1	A	1887	SER
1	A	1888	GLU
1	A	1894	GLN
1	A	1898	LYS
1	A	1949	ARG
1	A	1958	LYS
1	A	1966	HIS
1	A	1968	TRP
1	A	1986	LEU
1	A	2067	PHE
1	A	2073	TRP

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Mol	Chain	Res	Type
1	A	2074	ARG
1	A	2078	ILE
1	A	2085	LEU
1	A	2087	THR
1	A	2090	ILE
1	A	2103	THR
1	A	2108	LYS
1	A	2117	ILE
1	A	2143	ARG
1	A	2156	THR
1	A	2157	VAL
1	A	2159	LEU
1	A	2171	GLU
1	A	2193	VAL
1	A	2194	THR
1	A	2219	THR
1	A	2223	CYS
1	A	2233	SER
1	A	2239	ARG
1	A	2242	THR
1	A	2254	SER
1	A	2259	VAL
1	A	2261	MET
1	A	2273	VAL
1	A	2284	MET
1	A	2293	LYS
1	A	2298	LEU
1	A	2310	ARG
1	A	2312	SER
1	A	2319	LEU
1	A	2329	ASP
3	C	59	LEU
3	C	61	GLU
3	C	62	ASP
3	C	63	LYS
3	C	64	LYS
3	C	66	TYR
3	C	68	THR
3	C	71	GLU
3	C	86	THR
3	C	87	GLN
3	C	97	VAL

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Mol	Chain	Res	Type
3	C	220	ARG
3	C	256	CYS
3	C	295	ASP
3	C	296	GLU
3	C	297	ASN
3	C	298	LEU
3	C	300	LEU
3	C	333	ASP
3	C	354	ARG
3	C	359	LYS
3	C	362	THR
3	C	366	GLN
3	C	387	ASP
3	C	389	ASP
3	C	427	PHE
3	C	428	THR
3	C	438	ILE
3	C	448	LYS
3	C	452	THR
3	C	454	THR
3	C	457	VAL
3	C	458	ASP
3	C	459	SER
3	C	463	GLU
3	C	468	CYS
3	C	474	LEU
3	C	475	MET
3	C	477	HIS
3	C	485	ASP
3	C	489	GLN
3	C	490	PHE
3	C	495	ARG
3	C	512	GLU
3	C	514	TYR
3	C	517	GLU
3	C	519	GLU
3	C	569	ARG
3	C	571	ASN
3	C	572	GLU
3	C	573	GLU
3	C	673	LYS
3	C	675	PHE

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Mol	Chain	Res	Type
3	C	677	GLU
3	C	680	ASN
3	C	704	VAL
3	C	705	VAL
3	C	706	GLN
3	C	709	TRP
3	C	712	LYS
3	C	724	TRP
3	C	725	ASP
3	C	730	ARG
3	C	738	ASP
3	C	740	THR
3	C	749	THR
3	C	750	LEU
3	C	763	LYS
3	C	826	ARG
3	C	856	HIS
3	C	941	LYS
3	C	943	LEU
4	D	406	ARG
4	D	409	LEU
4	D	410	ASP
4	D	414	LEU
4	D	420	SER
4	D	436	ARG
4	D	446	HIS
4	D	447	VAL
4	D	451	LYS
4	D	467	LEU
4	D	475	PHE
4	D	488	LEU
4	D	495	THR
4	D	500	LEU
4	D	501	LEU
4	D	505	THR
4	D	533	VAL
4	D	535	ASP
4	D	547	LEU
4	D	550	GLU
4	D	558	ARG
4	D	566	VAL
4	D	572	ASP

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Mol	Chain	Res	Type
4	D	576	CYS
4	D	578	GLU
4	D	584	GLN
4	D	591	GLU
4	D	595	ILE
4	D	602	GLU
4	D	610	ARG
4	D	614	LEU
4	D	623	ASP
4	D	637	ARG
4	D	643	GLN
4	D	673	LEU
4	D	677	ASP
4	D	690	VAL
4	D	693	THR
4	D	712	ILE
4	D	728	ARG
4	D	743	LEU
4	D	759	THR
4	D	763	ARG
4	D	773	GLU
4	D	775	LYS
4	D	782	PHE
4	D	786	HIS
4	D	807	GLN
4	D	810	VAL
4	D	820	ASN
4	D	837	GLU
4	D	849	ILE
4	D	850	LEU
4	D	855	ARG
4	D	868	ILE
4	D	869	LEU
4	D	877	GLN
4	D	885	GLN
4	D	887	LEU
4	D	894	VAL
4	D	897	LEU
4	D	900	MET
4	D	901	LEU
4	D	910	VAL
4	D	920	LEU

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Mol	Chain	Res	Type
4	D	934	THR
4	D	941	ASP
4	D	942	ASP
4	D	952	ARG
4	D	957	VAL
4	D	972	TYR
4	D	975	LYS
4	D	992	TYR
4	D	1016	ARG
4	D	1020	LEU
4	D	1028	THR
4	D	1030	ARG
4	D	1062	LEU
4	D	1063	LEU
4	D	1087	SER
4	D	1100	LEU
4	D	1101	ASN
4	D	1102	ARG
4	D	1125	SER
4	D	1135	LEU
4	D	1143	ILE
4	D	1165	ILE
4	D	1166	ARG
4	D	1186	LEU
4	D	1187	SER
4	D	1224	LEU
4	D	1225	VAL
4	D	1234	LEU
4	D	1240	LEU
4	D	1241	LEU
4	D	1244	LYS
4	D	1248	ASP
4	D	1250	HIS
4	D	1262	LEU
4	D	1278	CYS
4	D	1287	ARG
4	D	1301	LEU
4	D	1312	LEU
4	D	1320	LEU
4	D	1337	ASN
4	D	1368	LEU
4	D	1375	ARG

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Mol	Chain	Res	Type
4	D	1399	ASP
4	D	1406	VAL
4	D	1408	LEU
4	D	1413	SER
4	D	1419	LEU
4	D	1421	LYS
4	D	1425	ILE
4	D	1430	GLU
4	D	1436	SER
4	D	1441	GLN
4	D	1442	ARG
4	D	1443	LYS
4	D	1455	GLU
4	D	1456	VAL
4	D	1474	MET
4	D	1477	ILE
4	D	1480	GLN
4	D	1481	ILE
4	D	1482	GLU
4	D	1492	SER
4	D	1567	LYS
4	D	1580	CYS
4	D	1629	ARG
4	D	1655	ASN
4	D	1682	TYR
4	D	1683	ASP
4	D	1707	GLN
4	D	1713	PHE
4	D	1728	LEU
4	D	1734	ASP
4	D	1742	THR
4	D	1747	ASN
4	D	1756	THR
4	D	1762	ARG
4	D	1779	ARG
4	D	1781	LEU
4	D	1788	LEU
4	D	1817	MET
4	D	1823	TYR
4	D	1826	TYR
4	D	1829	ILE
4	D	1834	MET

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Mol	Chain	Res	Type
4	D	1840	THR
4	D	1842	VAL
4	D	1863	HIS
4	D	1865	ASP
4	D	1936	LEU
4	D	1956	LYS
4	D	1957	ASP
4	D	1969	GLU
4	D	1970	HIS
4	D	1988	MET
4	D	1996	LEU
4	D	1999	LEU
4	D	2000	THR
4	D	2017	ILE
4	D	2027	ASP
4	D	2029	ILE
4	D	2031	SER
4	D	2047	VAL
4	D	2055	LEU
4	D	2070	ASP
4	D	2082	LEU
4	D	2084	LEU
4	D	2092	LEU
4	D	2095	VAL
4	D	2102	HIS
4	D	2105	THR
4	D	2109	MET
4	D	2121	LYS
4	D	2125	ASP
5	E	74	PHE
5	E	153	PHE
5	E	161	ARG
5	E	229	TYR
5	E	243	LEU
5	E	248	SER
5	E	250	LEU
5	E	265	ARG
5	E	270	LYS
5	E	271	GLU
5	E	289	LEU
5	E	290	ARG
10	J	181	ASN

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Mol	Chain	Res	Type
10	J	186	GLU
10	J	195	LEU
10	J	196	ARG
10	J	200	GLU
10	J	201	ARG
10	J	212	GLN
10	J	214	ILE
10	J	215	THR
10	J	216	ASP
10	J	217	GLU
10	J	218	GLU
10	J	219	GLU
10	J	221	ASN
10	J	229	LYS
10	J	237	LYS
10	J	239	ARG
10	J	281	LYS
10	J	308	ARG
10	J	363	ARG
10	J	410	HIS
10	J	411	MET
11	K	38	GLU
11	K	90	PRO
11	K	117	GLN
11	K	126	LEU
11	K	171	GLN
12	L	20	LYS
12	L	25	LYS
12	L	33	ARG
12	L	37	LEU
12	L	67	GLU
12	L	83	ARG
12	L	91	ARG
12	L	101	GLU
12	L	106	LYS
12	L	131	ASN
12	L	135	LYS
12	L	138	ARG
12	L	144	MET
12	L	147	ASP
12	L	158	ARG
12	L	159	LEU

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Mol	Chain	Res	Type
12	L	162	THR
12	L	186	GLN
12	L	188	ARG
12	L	206	ARG
12	L	218	LYS
12	L	219	LYS
12	L	222	LEU
12	L	227	THR
12	L	228	SER
12	L	233	GLN
12	L	235	LEU
12	L	236	ASP
12	L	239	PHE
12	L	240	ARG
12	L	241	LYS
12	L	242	LEU
12	L	244	GLN
12	L	247	LEU
12	L	250	GLU
12	L	251	LEU
12	L	264	LYS
12	L	268	LYS
12	L	269	ARG
12	L	731	LEU
12	L	761	SER
12	L	766	ARG
12	L	781	GLU
13	M	118	LYS
13	M	122	LEU
13	M	124	PHE
13	M	142	ILE
13	M	145	ASP
13	M	146	MET
13	M	147	GLU
13	M	148	THR
13	M	150	GLU
13	M	151	ARG
13	M	154	GLU
13	M	156	HIS
13	M	159	GLU
13	M	161	PHE
13	M	167	LEU

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Mol	Chain	Res	Type
13	M	172	HIS
13	M	177	GLU
13	M	181	ARG
13	M	182	MET
13	M	195	LYS
13	M	197	SER
13	M	198	ARG
13	M	200	ARG
13	M	207	ASP
13	M	208	ILE
13	M	210	TYR
13	M	212	ASN
13	M	213	GLU
13	M	215	ASN
13	M	220	LYS
13	M	224	ARG
13	M	225	PHE
13	M	228	LYS
13	M	232	GLU
13	M	234	LYS
13	M	239	ARG
14	N	41	ARG
14	N	116	ASN
14	N	125	LYS
15	O	45	CYS
15	O	69	GLU
15	O	74	CYS
15	O	115	GLU
15	O	222	ARG
16	P	2	THR
16	P	3	THR
16	P	6	ARG
16	P	13	ARG
16	P	28	LYS
16	P	29	GLN
16	P	30	TYR
16	P	33	ARG
16	P	34	ASP
16	P	57	ARG
16	P	66	ARG
16	P	67	GLU
16	P	76	ARG

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Mol	Chain	Res	Type
16	P	78	ARG
16	P	189	ASP
16	P	191	ASP
16	P	224	MET
16	P	225	GLU
16	P	229	LYS
17	Q	90	TYR
17	Q	544	ASN
17	Q	881	HIS
17	Q	960	ASP
17	Q	986	SER
17	Q	1021	LEU
17	Q	1206	TYR
17	Q	1283	HIS
17	Q	1343	LYS
18	R	55	LEU
18	R	58	PHE
18	R	60	ASP
18	R	66	GLU
18	R	71	GLN
18	R	72	TYR
18	R	76	MET
18	R	78	ARG
18	R	80	LYS
18	R	81	LYS
18	R	86	LEU
18	R	89	GLN
18	R	92	SER
18	R	95	LYS
18	R	99	ASP
18	R	103	ARG
18	R	104	GLN
18	R	106	GLN
18	R	108	LYS
18	R	125	MET
18	R	128	ASP
18	R	133	GLN
18	R	137	GLU
18	R	148	ARG
18	R	158	LYS
18	R	170	LYS
18	R	171	LEU

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Mol	Chain	Res	Type
18	R	181	PRO
18	R	183	GLN
18	R	186	VAL
18	R	188	PHE
18	R	189	ASN
18	R	195	ARG
18	R	211	ARG
18	R	212	PHE
18	R	213	LYS
18	R	214	ILE
18	R	215	ASN
18	R	216	LYS
18	R	230	MET
18	R	241	GLU
18	R	264	LEU
18	R	265	ASP
18	R	266	LYS
18	R	268	LEU
18	R	275	LEU
18	R	276	GLN
18	R	279	HIS
18	R	280	ILE
18	R	297	LYS
18	R	307	GLN
18	R	312	MET
19	S	10	GLN
19	S	15	TYR
19	S	20	MET
19	S	100	MET
19	S	102	ASN
19	S	108	ASN
19	S	125	LYS
19	S	129	PHE
19	S	131	ARG
20	T	243	THR
20	T	257	ARG
20	T	282	ARG
20	T	308	ARG
20	T	318	ARG
20	T	387	PHE
20	T	399	LYS
20	T	400	PHE

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Mol	Chain	Res	Type
20	T	401	PRO
20	T	402	ASP
20	T	412	HIS
20	T	416	ILE
20	T	418	THR
20	T	455	GLN
20	T	461	SER
20	T	463	SER
20	T	478	LEU
21	U	1	MET
21	U	11	ARG
21	U	23	LEU
21	U	25	LEU
22	V	156	ARG
22	V	259	PHE
22	V	333	GLN
22	V	344	LYS
22	V	387	MET
22	V	452	LEU
22	V	457	ARG
22	V	458	THR
22	V	461	LEU
22	V	465	SER
22	V	467	LEU
22	V	468	ASP
22	V	471	GLU
22	V	478	LYS
22	V	490	CYS
22	V	505	LYS
22	V	510	LEU
22	V	513	ARG
22	V	514	PHE
22	V	533	TYR
22	V	535	THR
22	V	540	GLU
22	V	577	SER
22	V	597	PRO
23	W	84	THR
23	W	88	MET
23	W	92	GLU
23	W	93	PHE
23	W	96	GLU

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Mol	Chain	Res	Type
23	W	99	PHE
23	W	100	ARG
23	W	108	ARG
23	W	126	GLU
23	W	127	GLN
23	W	130	ARG
23	W	134	THR
23	W	139	LEU
23	W	144	ASP
23	W	146	HIS
23	W	152	TYR
23	W	157	GLU
23	W	160	GLU
23	W	169	GLU
23	W	170	THR
23	W	172	GLN
23	W	176	GLU
23	W	178	ARG
23	W	180	LYS
23	W	181	PHE
23	W	182	LYS
23	W	187	SER
23	W	198	LYS
23	W	200	VAL
23	W	201	ASP
23	W	203	LYS
23	W	207	LYS
23	W	209	SER
23	W	210	GLU
23	W	228	LYS
23	W	231	GLU
23	W	232	GLU
23	W	240	ILE
23	W	241	LEU
23	W	242	HIS
23	W	245	GLU
23	W	248	ASP
23	W	249	TYR
23	W	252	ARG
23	W	254	TYR
23	W	257	ILE
23	W	259	GLN

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Mol	Chain	Res	Type
23	W	260	ASP
23	W	263	VAL
23	W	265	LEU
23	W	266	ARG
23	W	269	MET
23	W	272	GLU
23	W	273	LYS
23	W	276	LEU
23	W	278	LYS
23	W	279	LYS
23	W	280	GLN
23	W	282	HIS
23	W	284	TRP
23	W	288	THR
23	W	289	LYS
23	W	300	SER
23	W	322	ARG
23	W	323	ARG
23	W	325	LEU
23	W	328	PHE
23	W	336	ARG
23	W	354	ARG
23	W	373	ARG
23	W	374	LYS
23	W	381	PHE
23	W	384	ASP
23	W	387	LYS
23	W	389	ASN
23	W	390	LEU
23	W	403	TRP
23	W	405	ILE
23	W	406	ARG
23	W	407	SER
23	W	416	ARG
23	W	417	HIS
23	W	418	LEU
23	W	428	ASP
23	W	431	ARG
23	W	432	ARG
23	W	433	PHE
23	W	443	ARG
23	W	445	TRP

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Mol	Chain	Res	Type
23	W	453	PHE
23	W	455	TYR
23	W	458	GLU
23	W	461	MET
23	W	463	SER
23	W	467	VAL
23	W	469	LEU
23	W	481	MET
23	W	492	ASN
23	W	495	ARG
23	W	497	ASN
23	W	499	LYS
23	W	500	LYS
23	W	505	HIS
23	W	516	PHE
23	W	517	SER
23	W	527	ASP
23	W	536	ASP
23	W	551	LYS
23	W	553	CYS
23	W	554	ILE
23	W	565	LYS
23	W	571	TRP
24	X	51	LYS
24	X	60	PRO
24	X	124	THR
26	Z	82	LEU
26	Z	84	HIS
26	Z	85	GLN
26	Z	136	ARG
26	Z	138	ARG
26	Z	144	PHE
26	Z	179	MET
26	Z	290	ARG
26	Z	320	ASP
26	Z	323	SER
26	Z	346	ASP
28	b	13	ILE
28	b	58	GLN
29	c	40	LEU
29	c	54	GLN
30	d	45	ASN

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Mol	Chain	Res	Type
30	d	112	ASN
31	f	55	LEU
33	g	65	ASN
28	i	13	ILE
28	i	58	GLN
29	j	40	LEU
29	j	54	GLN
30	k	45	ASN
30	k	112	ASN
31	m	55	LEU
33	n	65	ASN
34	o	5	THR
34	o	55	ARG
34	o	114	SER
34	o	126	THR
35	p	17	LYS
35	p	46	MET
35	p	87	ASP
36	q	19	PRO
36	q	28	ARG
36	q	46	PRO
36	q	56	LYS
36	q	62	ARG
36	q	90	PHE
36	q	103	LEU
36	q	107	LEU
36	q	114	CYS
36	r	19	PRO
36	r	46	PRO
36	r	57	VAL
36	r	60	PRO
36	r	62	ARG
36	r	79	GLN
36	r	87	LEU
36	r	93	ARG
36	r	101	GLN
36	r	103	LEU
36	s	19	PRO
36	s	46	PRO
36	s	56	LYS
36	s	60	PRO
36	s	89	SER

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Mol	Chain	Res	Type
36	s	96	LEU
36	s	120	LEU
36	s	129	GLU
36	t	19	PRO
36	t	46	PRO
36	t	60	PRO
36	t	87	LEU
36	t	93	ARG
36	t	107	LEU
37	u	37	THR
37	u	301	ASN
37	u	316	ARG
37	u	337	TRP
37	u	360	LEU
38	v	119	GLU
39	w	118	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (121) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	57	GLN
1	A	73	HIS
1	A	160	HIS
1	A	210	HIS
1	A	297	ASN
1	A	321	ASN
1	A	467	GLN
1	A	495	GLN
1	A	584	HIS
1	A	601	GLN
1	A	703	GLN
1	A	755	HIS
1	A	775	ASN
1	A	792	HIS
1	A	1066	GLN
1	A	1345	GLN
1	A	1359	HIS
1	A	1476	GLN
1	A	1599	GLN
1	A	1717	ASN
1	A	1774	ASN
1	A	1784	ASN

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Mol	Chain	Res	Type
1	A	1946	ASN
1	A	1947	ASN
1	A	2123	GLN
1	A	2306	HIS
3	C	60	HIS
3	C	245	HIS
3	C	297	ASN
3	C	513	ASN
3	C	575	GLN
3	C	583	ASN
3	C	596	ASN
3	C	706	GLN
3	C	743	ASN
3	C	905	GLN
3	C	924	GLN
4	D	425	ASN
5	E	165	GLN
10	J	181	ASN
10	J	212	GLN
11	K	117	GLN
11	K	171	GLN
12	L	13	ASN
12	L	163	GLN
13	M	119	ASN
13	M	134	GLN
13	M	156	HIS
13	M	172	HIS
14	N	27	GLN
14	N	37	HIS
14	N	54	HIS
14	N	99	ASN
14	N	136	HIS
15	O	196	GLN
15	O	268	GLN
15	O	294	ASN
17	Q	393	ASN
18	R	68	HIS
18	R	71	GLN
18	R	89	GLN
18	R	104	GLN
18	R	106	GLN
18	R	126	ASN

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Mol	Chain	Res	Type
18	R	133	GLN
18	R	189	ASN
18	R	194	GLN
18	R	215	ASN
18	R	242	GLN
18	R	276	GLN
18	R	314	GLN
19	S	13	ASN
20	T	217	GLN
20	T	297	HIS
20	T	413	ASN
20	T	417	ASN
20	T	446	ASN
20	T	451	HIS
20	T	455	GLN
22	V	171	ASN
22	V	474	HIS
22	V	499	GLN
23	W	102	GLN
23	W	119	HIS
23	W	147	GLN
23	W	162	ASN
23	W	172	GLN
23	W	188	ASN
23	W	242	HIS
23	W	280	GLN
23	W	287	HIS
23	W	388	GLN
23	W	402	GLN
23	W	417	HIS
23	W	479	GLN
23	W	483	ASN
23	W	484	GLN
23	W	491	GLN
23	W	492	ASN
23	W	497	ASN
23	W	505	HIS
23	W	513	GLN
27	a	60	GLN
28	b	22	GLN
28	b	76	ASN
29	c	64	ASN

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Mol	Chain	Res	Type
30	d	69	ASN
31	f	58	HIS
33	g	65	ASN
27	h	60	GLN
28	i	22	GLN
28	i	76	ASN
29	j	64	ASN
30	k	69	ASN
31	m	58	HIS
33	n	65	ASN
34	o	130	HIS
35	p	7	HIS
37	u	301	ASN
37	u	356	ASN
37	u	394	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	B	82/117 (70%)	17 (20%)	4 (4%)
6	F	96/107 (89%)	44 (45%)	14 (14%)
7	G	82/275 (29%)	53 (64%)	10 (12%)
8	H	133/188 (70%)	33 (24%)	8 (6%)
All	All	393/687 (57%)	147 (37%)	36 (9%)

All (147) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	B	12	U
2	B	13	C
2	B	19	A
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	26	A
2	B	28	A
2	B	36	C
2	B	38	C

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Mol	Chain	Res	Type
2	B	45	C
2	B	57	G
2	B	70	A
2	B	71	C
6	F	6	C
6	F	7	G
6	F	8	C
6	F	9	U
6	F	10	U
6	F	12	G
6	F	25	C
6	F	26	U
6	F	27	A
6	F	28	A
6	F	29	A
6	F	31	U
6	F	33	G
6	F	34	G
6	F	35	A
6	F	36	A
6	F	37	C
6	F	38	G
6	F	40	U
6	F	43	A
6	F	45	A
6	F	46	G
6	F	47	A
6	F	48	A
6	F	49	G
6	F	51	U
6	F	54	G
6	F	56	A
6	F	59	G
6	F	60	C
6	F	61	C
6	F	62	C
6	F	68	C
6	F	74	U
6	F	78	A
6	F	79	C
6	F	80	G
6	F	81	C

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Mol	Chain	Res	Type
6	F	82	A
6	F	83	A
6	F	84	A
6	F	85	U
6	F	86	U
6	F	87	C
7	G	-11	G
7	G	-7	C
7	G	-6	C
7	G	2	U
7	G	3	A
7	G	5	G
7	G	6	A
7	G	7	G
7	G	8	C
7	G	10	U
7	G	11	A
7	G	12	G
7	G	13	C
7	G	14	A
7	G	17	U
7	G	21	A
7	G	22	C
7	G	23	U
7	G	24	G
7	G	25	G
7	G	26	U
7	G	27	U
7	G	28	A
7	G	29	C
7	G	30	C
7	G	31	U
7	G	120	G
7	G	121	G
7	G	122	U
7	G	123	U
7	G	124	U
7	G	125	C
7	G	126	C
7	G	127	U
7	G	128	U
7	G	129	G

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Mol	Chain	Res	Type
7	G	130	A
7	G	131	U
7	G	134	U
7	G	135	G
7	G	136	U
7	G	137	C
7	G	138	A
7	G	139	U
7	G	140	A
7	G	143	U
7	G	144	A
7	G	145	U
7	G	146	C
7	G	147	C
7	G	148	U
7	G	149	G
7	G	150	U
8	H	13	C
8	H	14	C
8	H	15	U
8	H	16	U
8	H	17	U
8	H	19	G
8	H	24	A
8	H	25	G
8	H	29	A
8	H	30	A
8	H	31	G
8	H	33	G
8	H	37	U
8	H	39	U
8	H	40	C
8	H	41	U
8	H	42	G
8	H	43	U
8	H	112	G
8	H	143	A
8	H	147	G
8	H	152	G
8	H	153	A
8	H	154	C
8	H	156	U

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Mol	Chain	Res	Type
8	H	157	G
8	H	164	C
8	H	165	A
8	H	168	A
8	H	169	C
8	H	177	A
8	H	178	A
8	H	179	C

All (36) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	B	18	C
2	B	19	A
2	B	20	G
2	B	27	U
6	F	5	U
6	F	7	G
6	F	25	C
6	F	26	U
6	F	33	G
6	F	34	G
6	F	35	A
6	F	36	A
6	F	50	A
6	F	58	G
6	F	59	G
6	F	81	C
6	F	84	A
6	F	86	U
7	G	-12	G
7	G	1	G
7	G	16	G
7	G	20	A
7	G	21	A
7	G	22	C
7	G	23	U
7	G	137	C
7	G	142	U
7	G	147	C
8	H	15	U
8	H	29	A

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Mol	Chain	Res	Type
8	H	38	A
8	H	39	U
8	H	40	C
8	H	156	U
8	H	164	C
8	H	168	A

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

2 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
18	SEP	R	232	18	8,9,10	0.83	0	8,12,14	1.16	0
18	SEP	R	224	18	8,9,10	0.69	0	8,12,14	1.19	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
18	SEP	R	232	18	-	1/5/8/10	-
18	SEP	R	224	18	-	0/5/8/10	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
18	R	232	SEP	N-CA-CB-OG

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
18	R	232	SEP	1	0
18	R	224	SEP	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 24 ligands modelled in this entry, 18 are monoatomic - leaving 6 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
44	ADP	D	2201	-	24,29,29	0.97	1 (4%)	29,45,45	1.34	4 (13%)
42	GTP	C	1500	43	26,34,34	1.09	1 (3%)	32,54,54	1.85	7 (21%)
46	ATP	Q	1501	43	26,33,33	1.73	8 (30%)	31,52,52	1.86	10 (32%)
41	IHP	A	3000	-	36,36,36	0.79	0	54,60,60	1.31	6 (11%)
46	ATP	u	702	43	26,33,33	0.92	1 (3%)	31,52,52	1.55	5 (16%)
44	ADP	D	2202	43	24,29,29	0.95	1 (4%)	29,45,45	1.46	4 (13%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
44	ADP	D	2201	-	-	8/12/32/32	0/3/3/3
42	GTP	C	1500	43	-	6/18/38/38	0/3/3/3
46	ATP	Q	1501	43	-	4/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	IHP	A	3000	-	-	9/30/54/54	0/1/1/1
46	ATP	u	702	43	-	0/18/38/38	0/3/3/3
44	ADP	D	2202	43	-	2/12/32/32	0/3/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	Q	1501	ATP	C2'-C1'	-3.69	1.48	1.53
42	C	1500	GTP	C6-N1	-3.56	1.32	1.37
46	Q	1501	ATP	C4-N3	3.49	1.40	1.35
46	Q	1501	ATP	C6-N6	3.32	1.46	1.34
46	Q	1501	ATP	C2'-C3'	-2.76	1.45	1.53
44	D	2201	ADP	C5-C4	2.50	1.47	1.40
44	D	2202	ADP	C5-C4	2.31	1.47	1.40
46	Q	1501	ATP	O2'-C2'	-2.25	1.37	1.43
46	Q	1501	ATP	C3'-C4'	-2.19	1.47	1.53
46	Q	1501	ATP	O3'-C3'	-2.13	1.38	1.43
46	Q	1501	ATP	C2-N3	2.07	1.35	1.32
46	u	702	ATP	O4'-C1'	2.05	1.43	1.41

All (36) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	Q	1501	ATP	PB-O3B-PG	-5.47	114.04	132.83
46	u	702	ATP	PB-O3B-PG	-4.34	117.95	132.83
46	Q	1501	ATP	N3-C2-N1	-4.19	122.13	128.68
42	C	1500	GTP	C5-C6-N1	4.16	121.30	113.95
46	u	702	ATP	N3-C2-N1	-4.10	122.28	128.68
42	C	1500	GTP	O6-C6-C5	-4.07	116.42	124.37
44	D	2202	ADP	PA-O3A-PB	-4.02	119.02	132.83
42	C	1500	GTP	PA-O3A-PB	-3.91	119.42	132.83
42	C	1500	GTP	PB-O3B-PG	-3.63	120.36	132.83
46	u	702	ATP	C4-C5-N7	-3.29	105.97	109.40
44	D	2201	ADP	N3-C2-N1	-3.20	123.68	128.68
44	D	2202	ADP	C3'-C2'-C1'	3.12	105.67	100.98
41	A	3000	IHP	C6-C1-C2	-3.05	103.74	110.41
41	A	3000	IHP	C5-C4-C3	3.03	117.03	110.41
44	D	2202	ADP	N3-C2-N1	-2.96	124.06	128.68
42	C	1500	GTP	C2-N1-C6	-2.95	119.66	125.10
44	D	2202	ADP	C4-C5-N7	-2.83	106.45	109.40
44	D	2201	ADP	C3'-C2'-C1'	2.75	105.12	100.98
41	A	3000	IHP	C5-C6-C1	-2.74	104.42	110.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	u	702	ATP	PA-O3A-PB	-2.73	123.47	132.83
42	C	1500	GTP	C3'-C2'-C1'	2.66	104.99	100.98
46	Q	1501	ATP	PA-O3A-PB	-2.59	123.93	132.83
41	A	3000	IHP	O11-C1-C6	2.57	114.74	108.69
41	A	3000	IHP	O16-C6-C1	2.52	114.62	108.69
46	Q	1501	ATP	C1'-N9-C4	-2.50	122.26	126.64
44	D	2201	ADP	PA-O3A-PB	-2.46	124.39	132.83
42	C	1500	GTP	O2G-PG-O3B	2.45	112.85	104.64
46	Q	1501	ATP	O2G-PG-O1G	-2.40	101.28	110.68
46	Q	1501	ATP	O2A-PA-O1A	-2.35	100.63	112.24
44	D	2201	ADP	C4-C5-N7	-2.33	106.97	109.40
46	u	702	ATP	O4'-C1'-C2'	-2.30	103.56	106.93
46	Q	1501	ATP	O2G-PG-O3B	2.26	112.20	104.64
41	A	3000	IHP	O15-P5-O25	-2.10	101.28	109.39
46	Q	1501	ATP	O5'-C5'-C4'	2.09	116.19	108.99
46	Q	1501	ATP	O2B-PB-O1B	-2.07	101.98	112.24
46	Q	1501	ATP	O3G-PG-O3B	2.06	111.54	104.64

There are no chirality outliers.

All (29) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
41	A	3000	IHP	C4-C5-O15-P5
41	A	3000	IHP	C6-C5-O15-P5
41	A	3000	IHP	C2-O12-P2-O42
42	C	1500	GTP	C5'-O5'-PA-O3A
42	C	1500	GTP	C5'-O5'-PA-O1A
42	C	1500	GTP	C5'-O5'-PA-O2A
42	C	1500	GTP	O4'-C4'-C5'-O5'
44	D	2201	ADP	PA-O3A-PB-O2B
44	D	2201	ADP	C5'-O5'-PA-O1A
44	D	2201	ADP	C5'-O5'-PA-O2A
44	D	2201	ADP	C3'-C4'-C5'-O5'
46	Q	1501	ATP	C5'-O5'-PA-O1A
46	Q	1501	ATP	C5'-O5'-PA-O2A
42	C	1500	GTP	C3'-C4'-C5'-O5'
44	D	2201	ADP	O4'-C4'-C5'-O5'
44	D	2202	ADP	C3'-C4'-C5'-O5'
44	D	2202	ADP	O4'-C4'-C5'-O5'
41	A	3000	IHP	C1-O11-P1-O21
41	A	3000	IHP	C2-O12-P2-O22
42	C	1500	GTP	PB-O3B-PG-O3G

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Mol	Chain	Res	Type	Atoms
46	Q	1501	ATP	PB-O3A-PA-O2A
41	A	3000	IHP	C3-O13-P3-O23
41	A	3000	IHP	C5-O15-P5-O25
44	D	2201	ADP	PA-O3A-PB-O1B
44	D	2201	ADP	PA-O3A-PB-O3B
41	A	3000	IHP	C1-O11-P1-O31
41	A	3000	IHP	C5-O15-P5-O45
44	D	2201	ADP	C5'-O5'-PA-O3A
46	Q	1501	ATP	C5'-O5'-PA-O3A

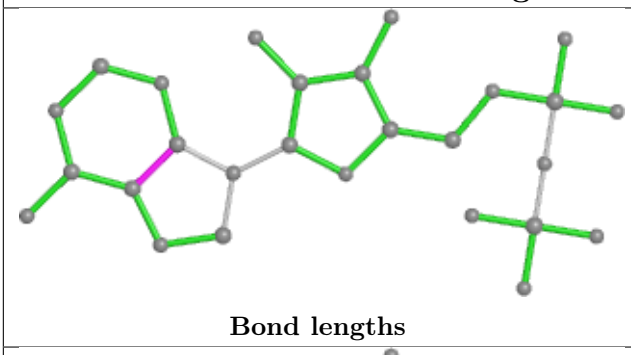
There are no ring outliers.

3 monomers are involved in 11 short contacts:

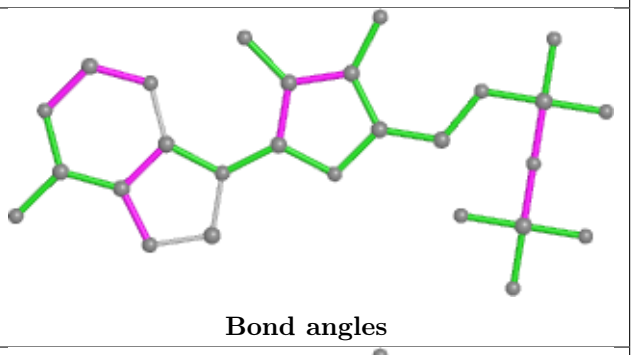
Mol	Chain	Res	Type	Clashes	Symm-Clashes
44	D	2201	ADP	3	0
42	C	1500	GTP	4	0
41	A	3000	IHP	4	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

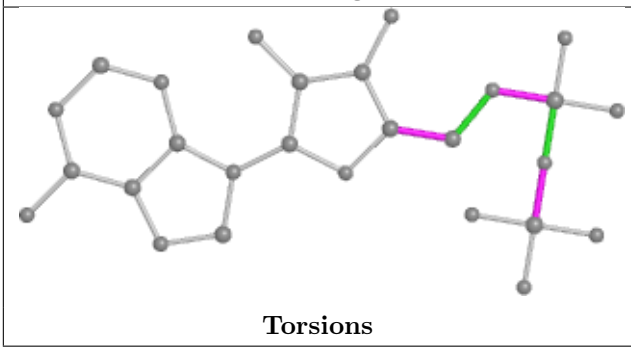
Ligand ADP D 2201



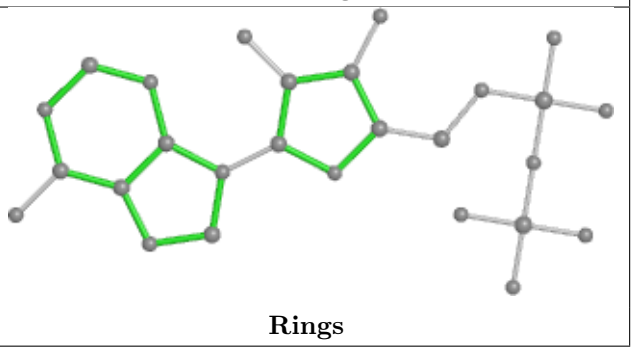
Bond lengths



Bond angles

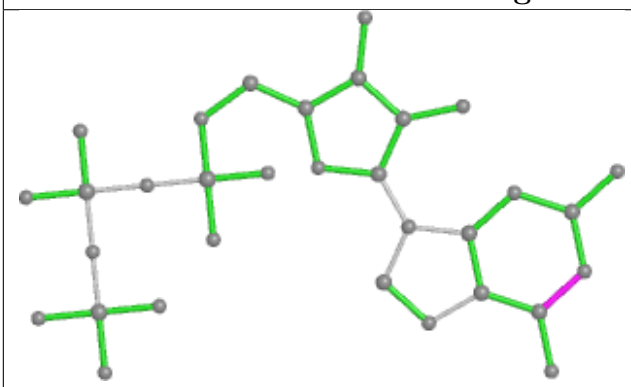


Torsions

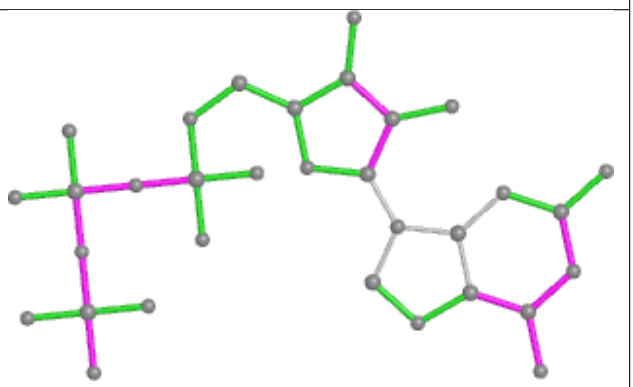


Rings

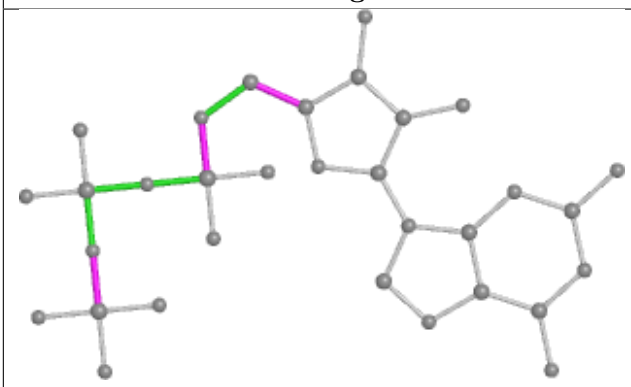
Ligand GTP C 1500



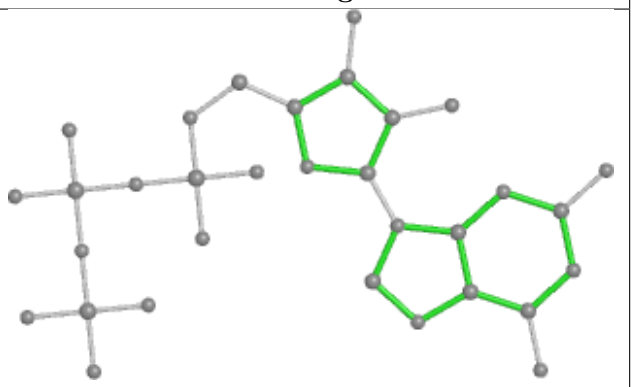
Bond lengths



Bond angles

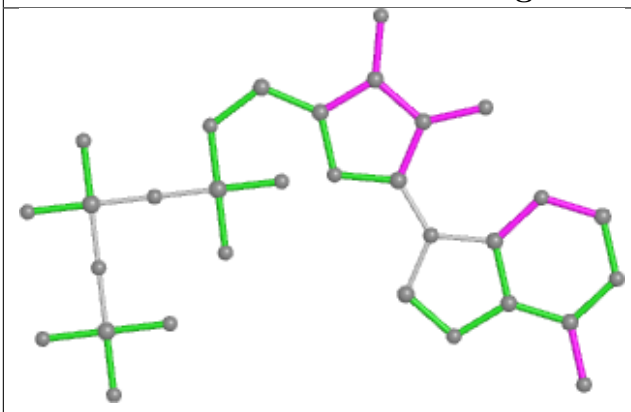


Torsions

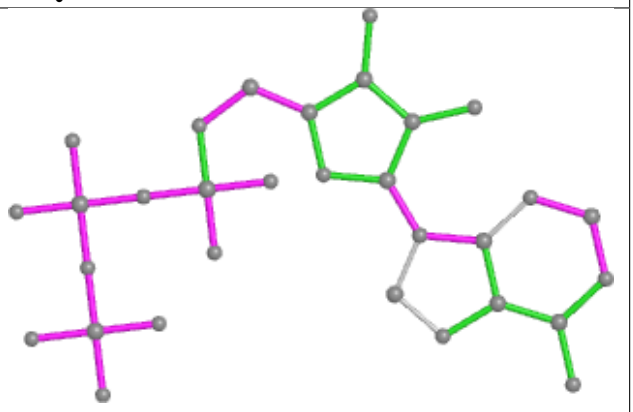


Rings

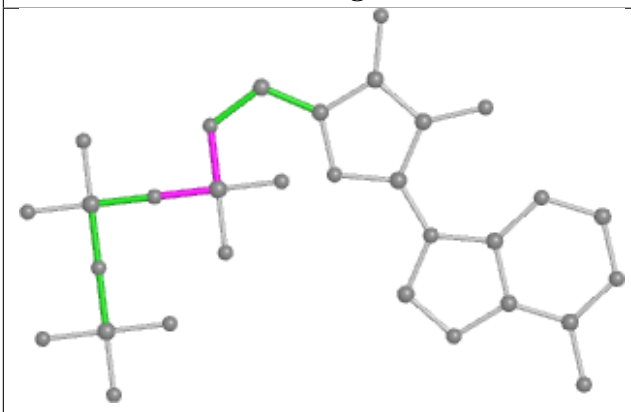
Ligand ATP Q 1501



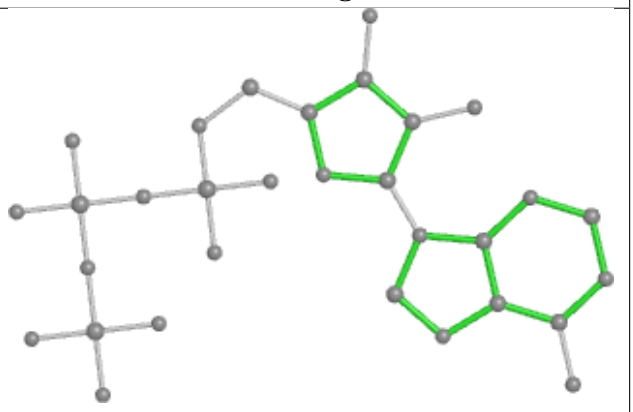
Bond lengths



Bond angles

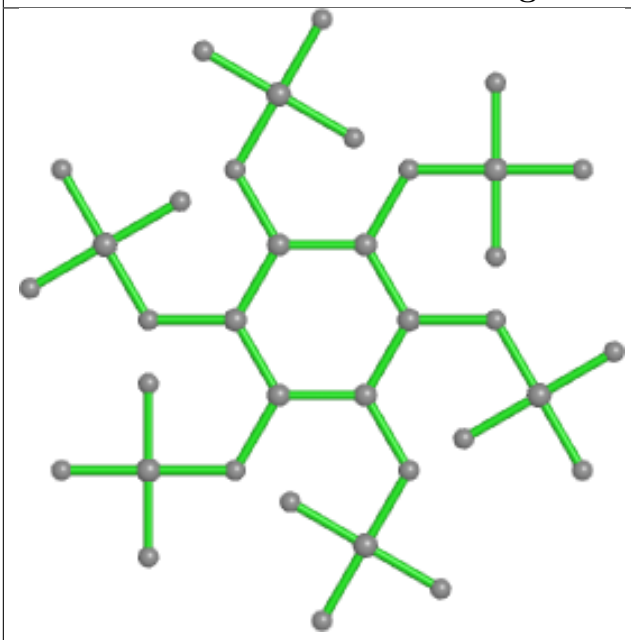


Torsions

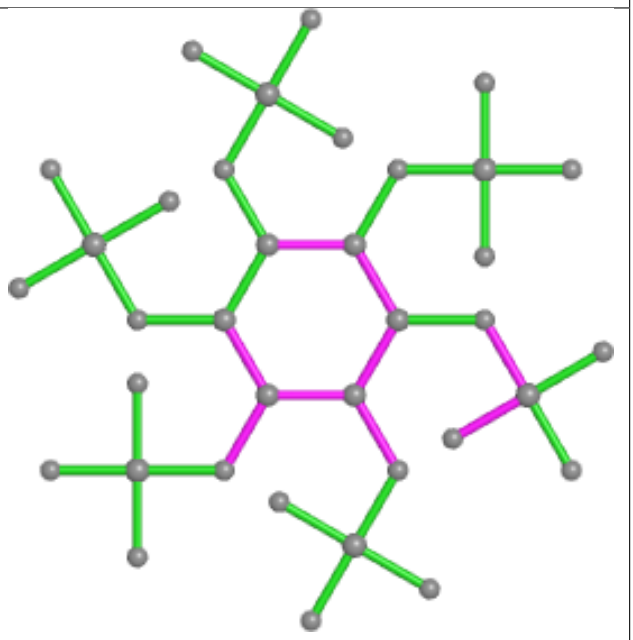


Rings

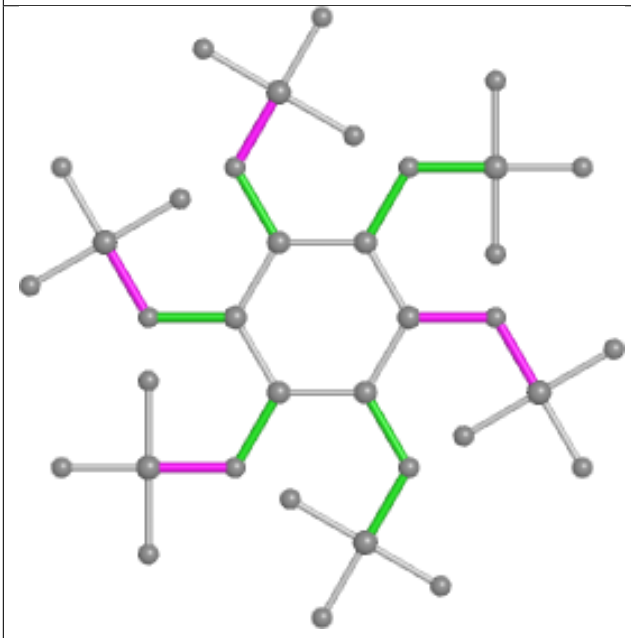
Ligand IHP A 3000



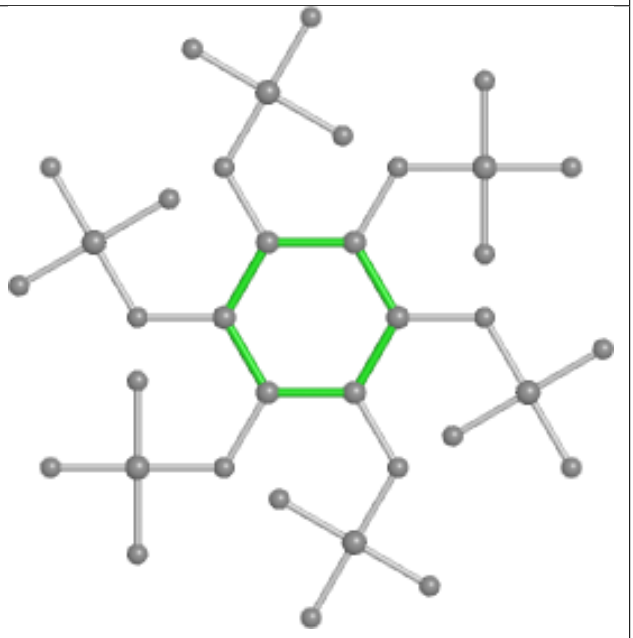
Bond lengths



Bond angles

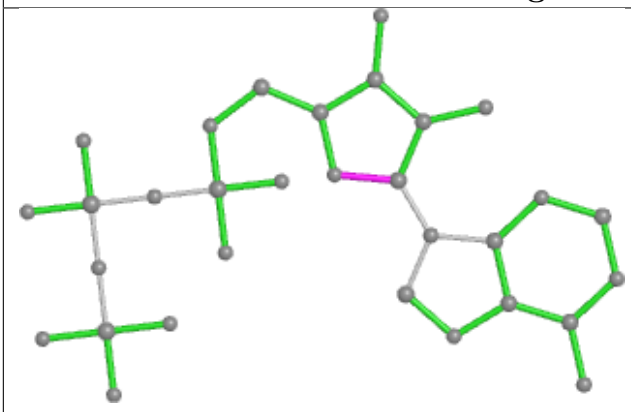


Torsions

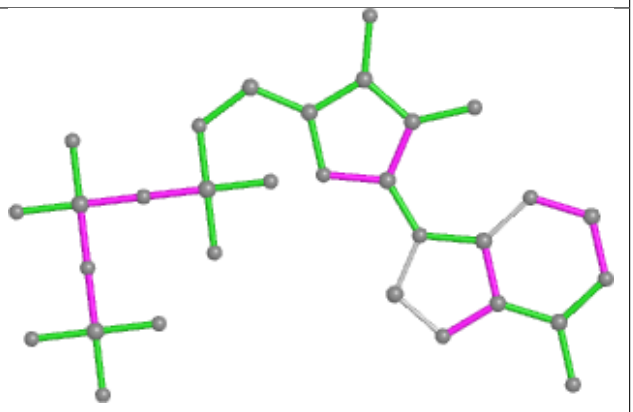


Rings

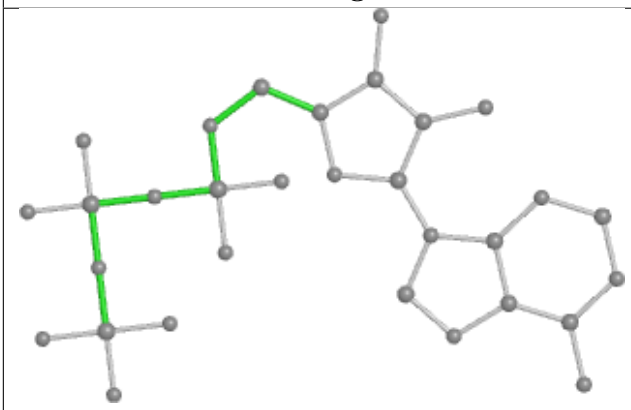
Ligand ATP u 702



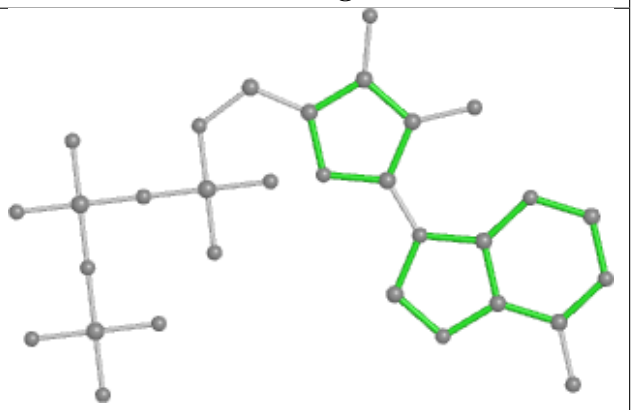
Bond lengths



Bond angles

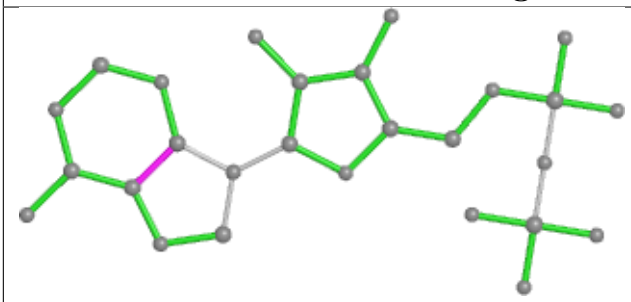


Torsions

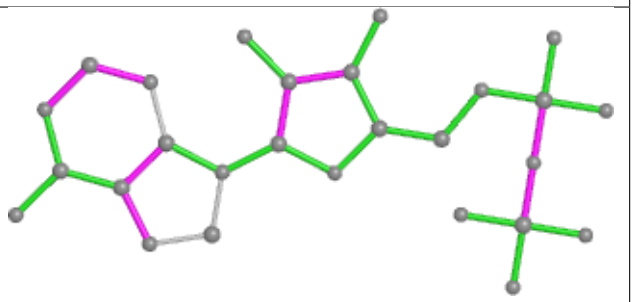


Rings

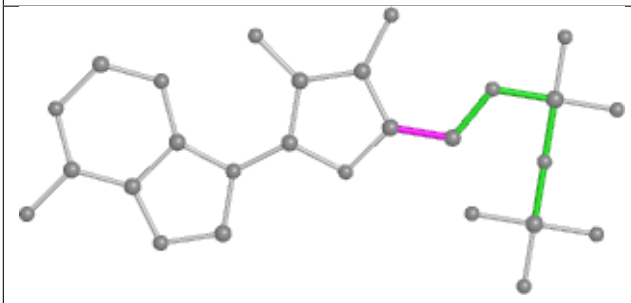
Ligand ADP D 2202



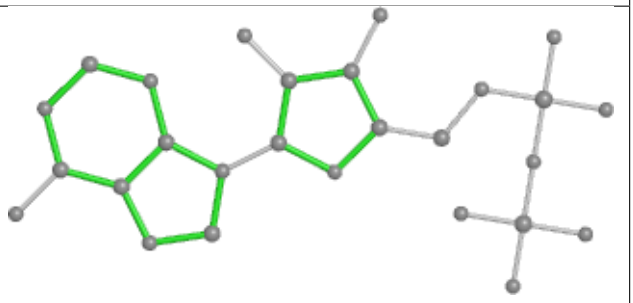
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

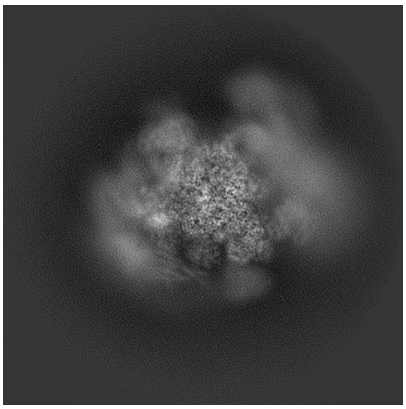
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-6721. These allow visual inspection of the internal detail of the map and identification of artifacts.

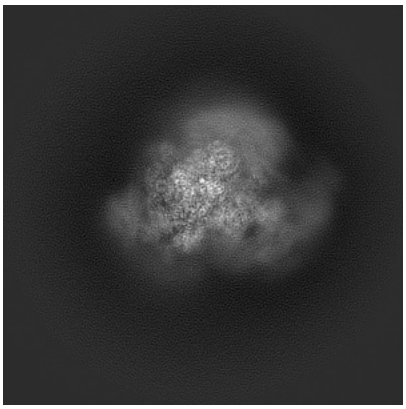
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

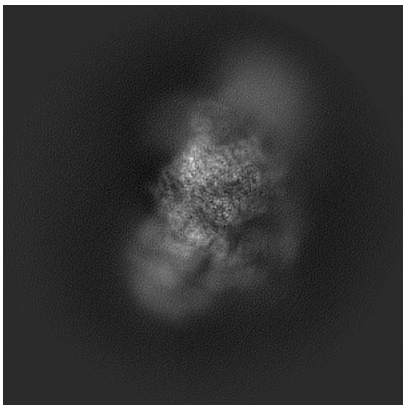
6.1.1 Primary map



X

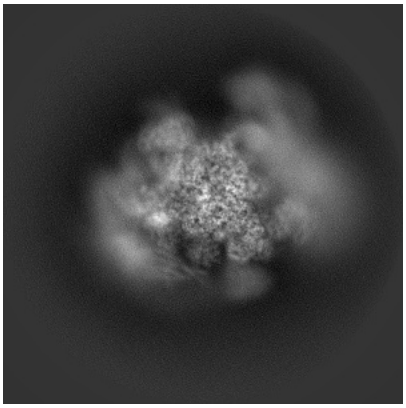


Y

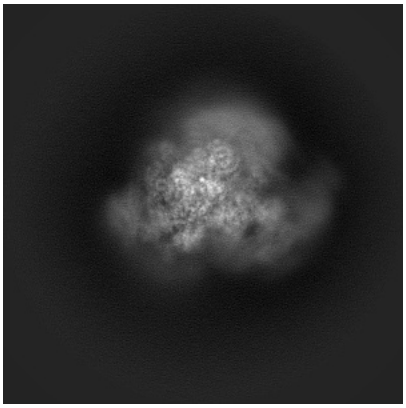


Z

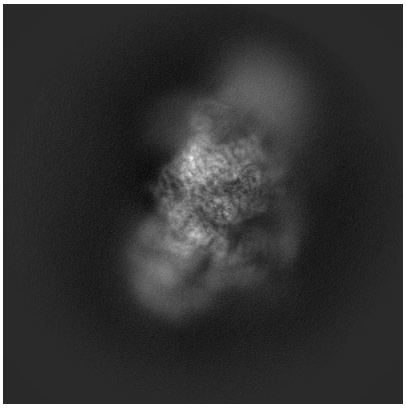
6.1.2 Raw map



X



Y

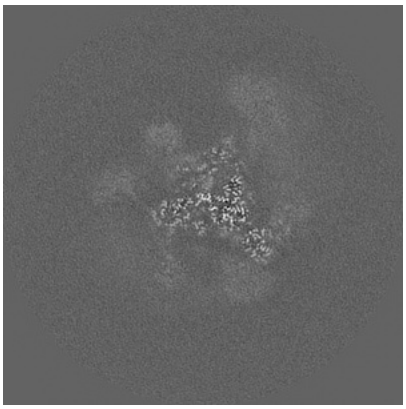


Z

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

6.2 Central slices (i)

6.2.1 Primary map



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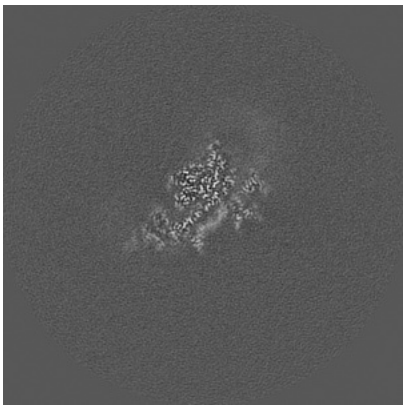
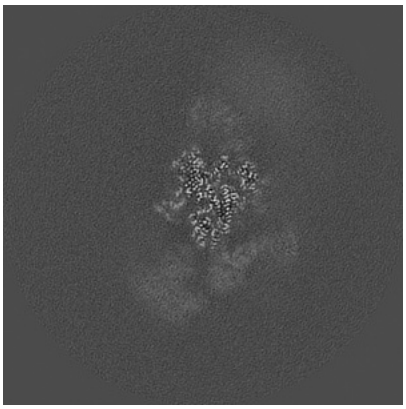
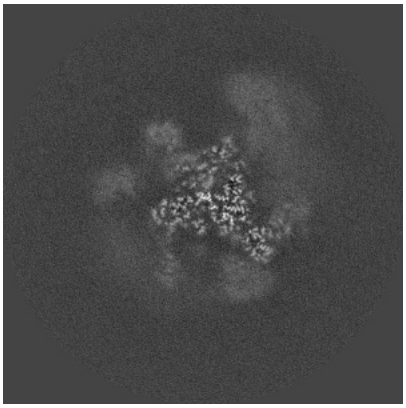


Y Index: 200



Z Index: 200

6.2.2 Raw map



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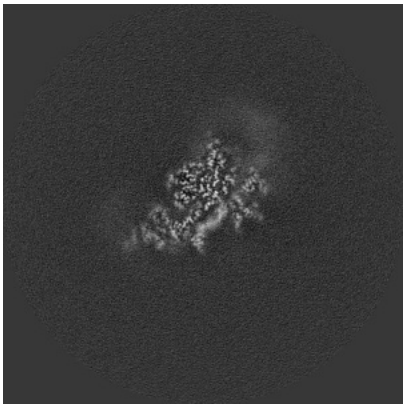
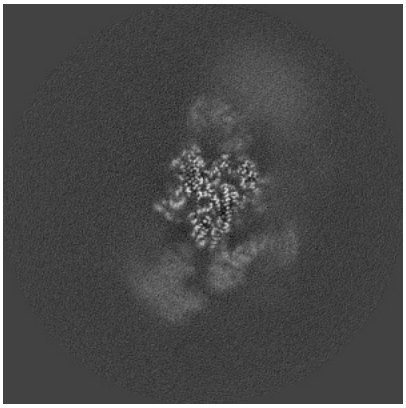


Y Index: 200

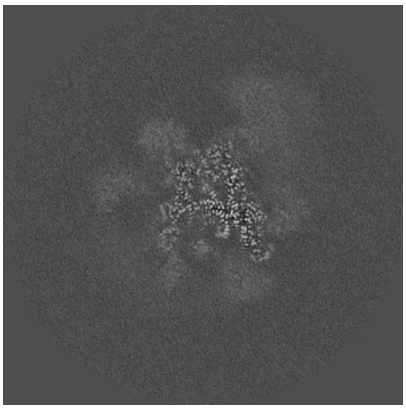


Z Index: 200

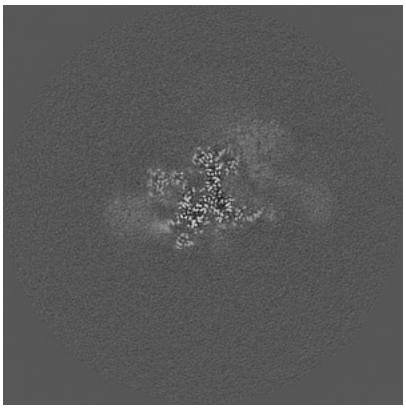
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

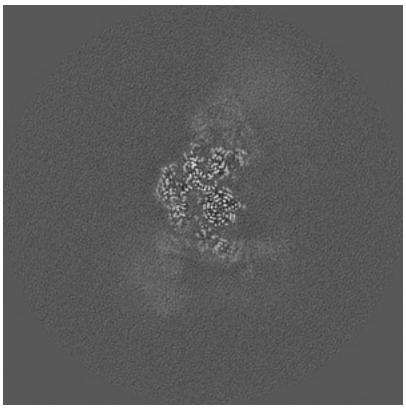
6.3.1 Primary map



X Index: 194

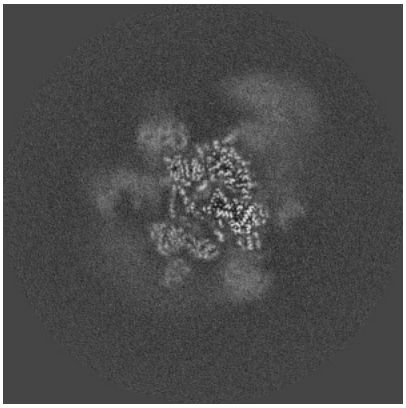


Y Index: 229

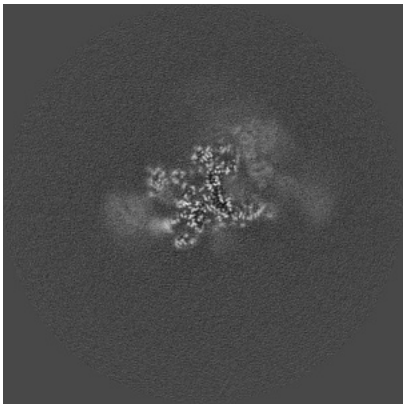


Z Index: 182

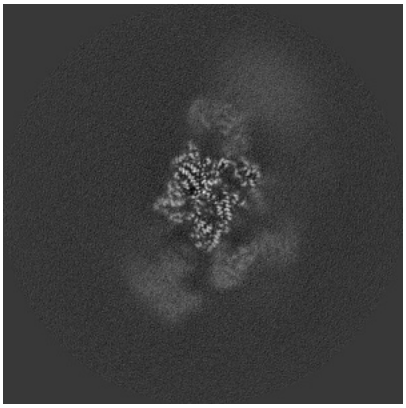
6.3.2 Raw map



X Index: 188



Y Index: 228



Z Index: 197

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

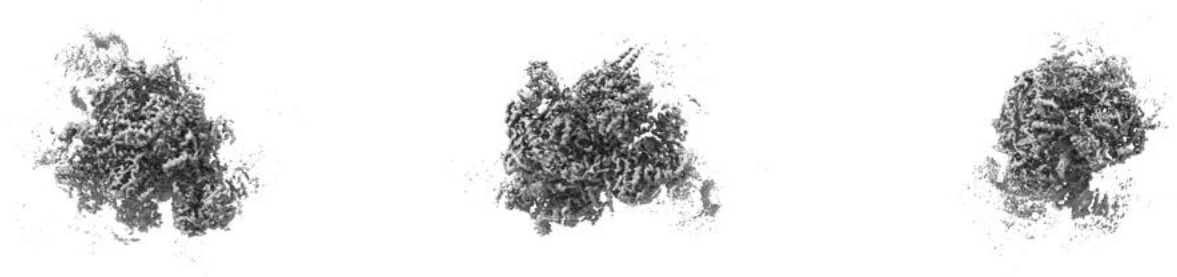
6.4 Orthogonal surface views (i)

6.4.1 Primary map

X Y Z

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

6.4.2 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.

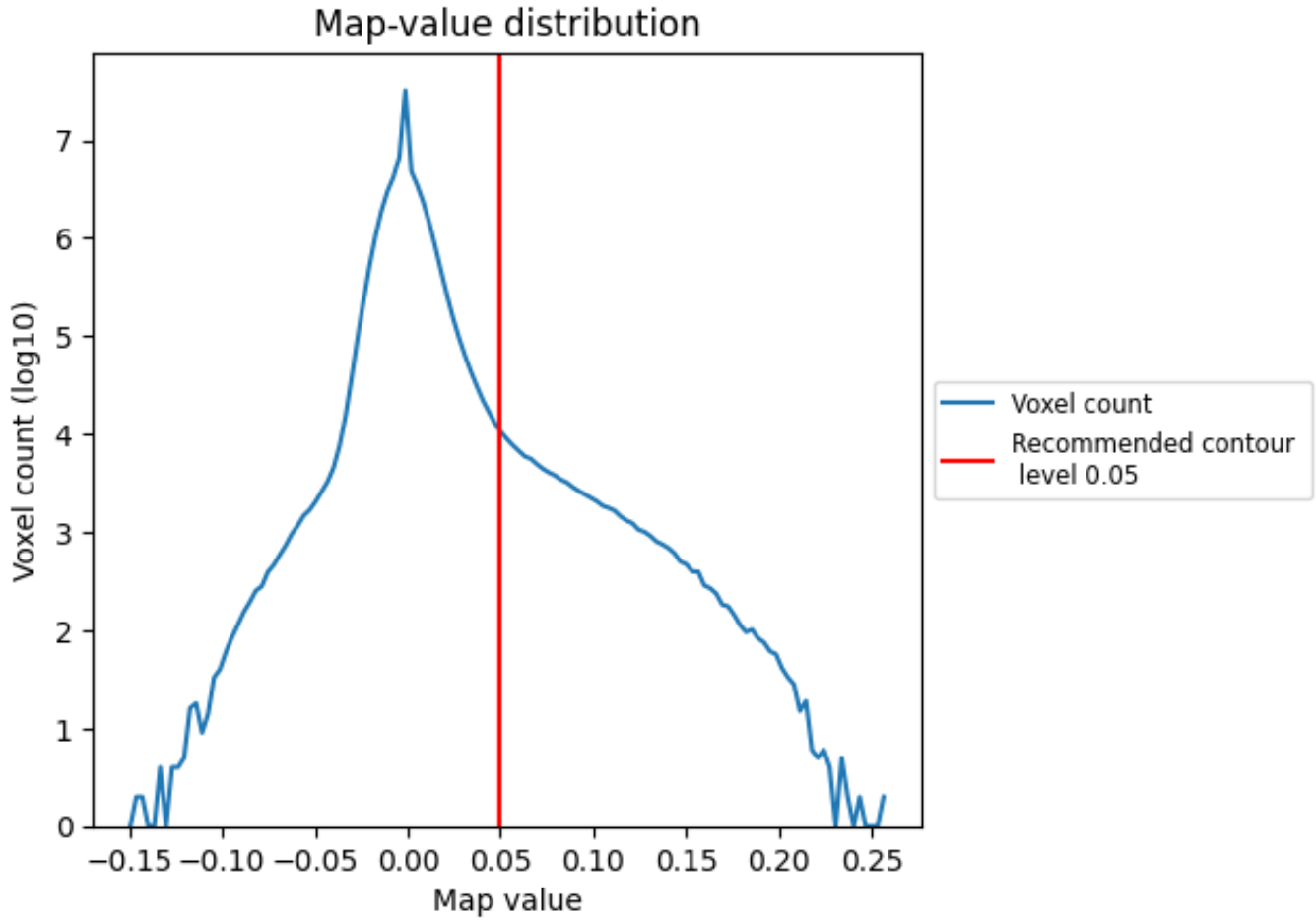
6.5 Mask visualisation (i)

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

7 Map analysis

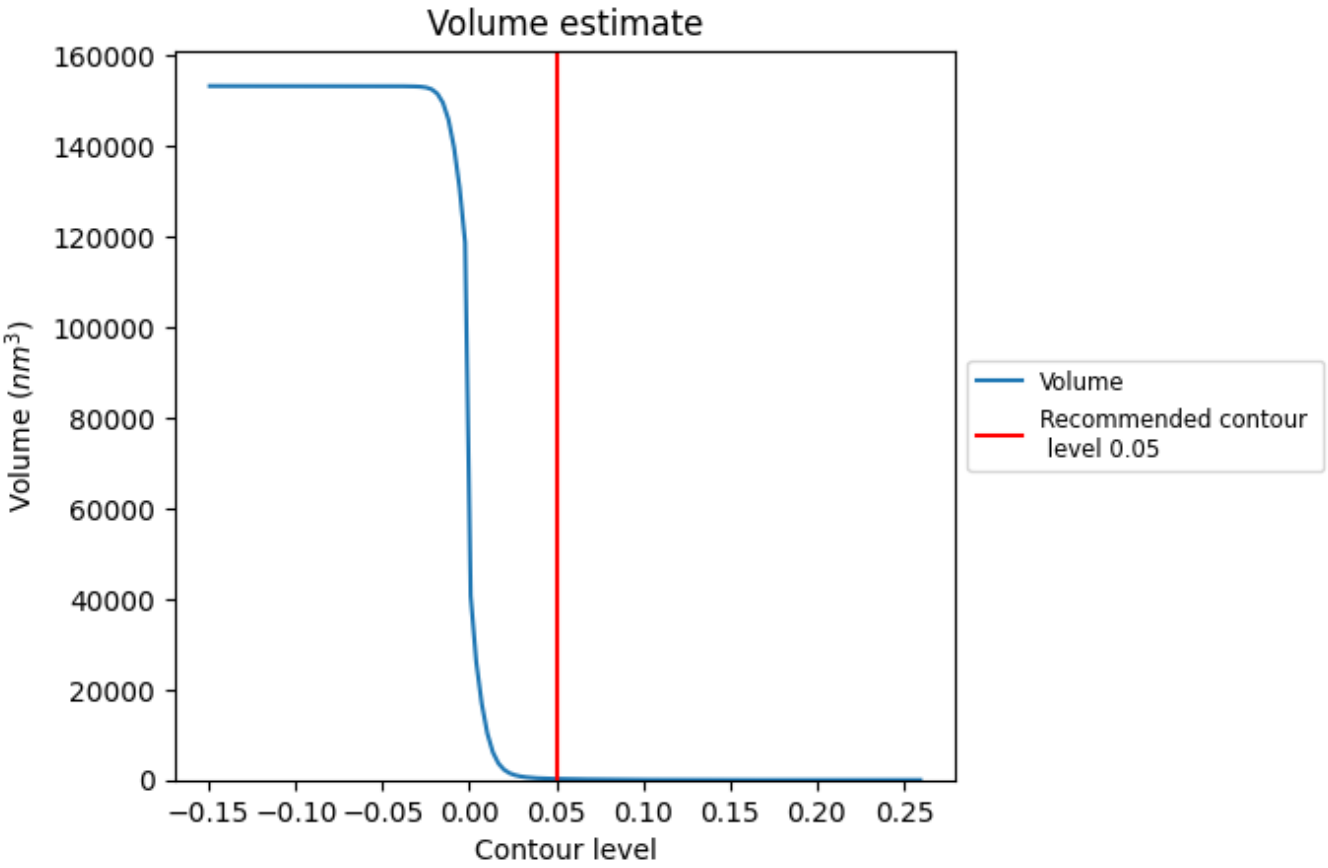
This section contains the results of statistical analysis of the map.

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.

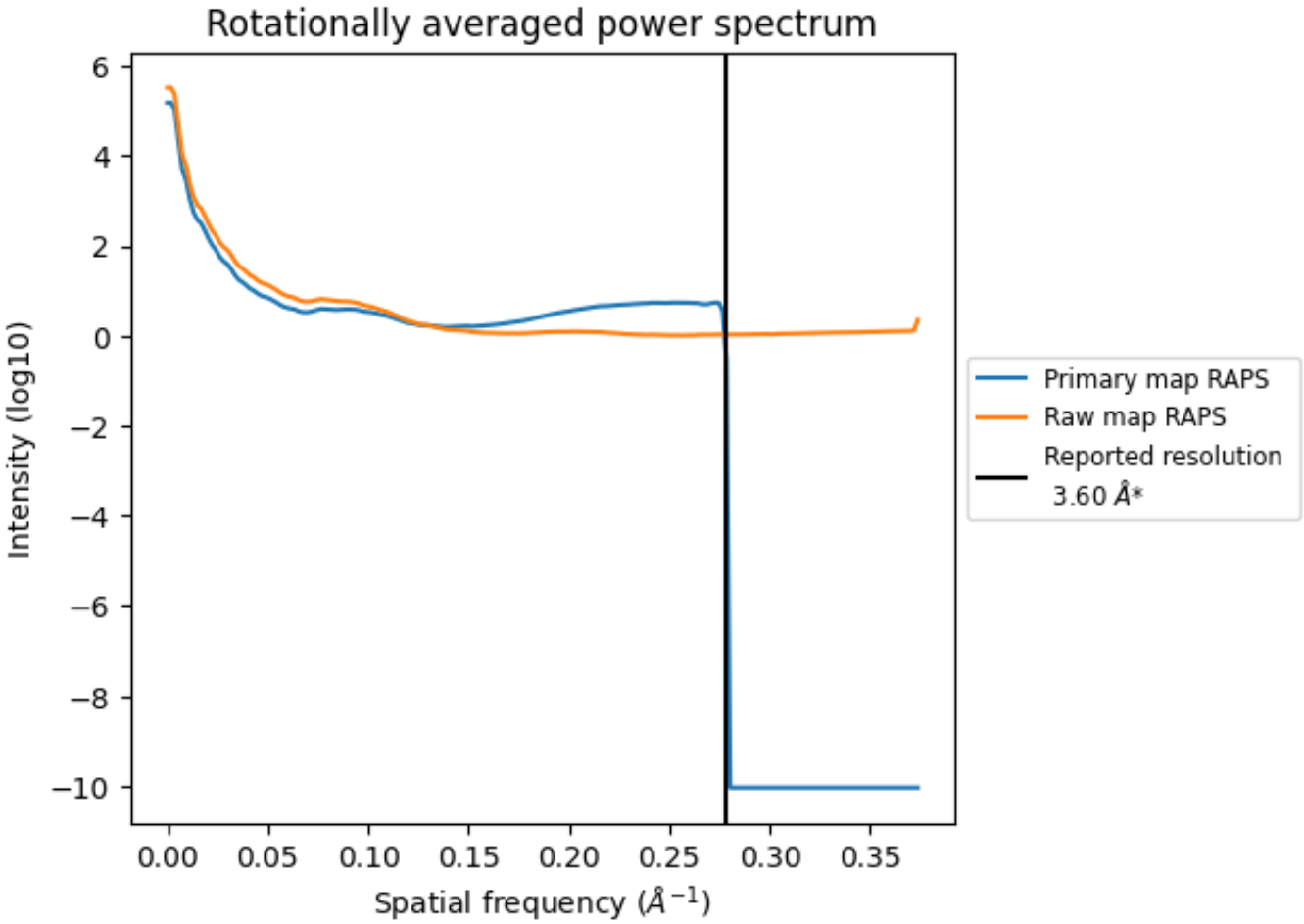
7.2 Volume estimate



The volume at the recommended contour level is 243 nm^3; this corresponds to an approximate mass of 220 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)

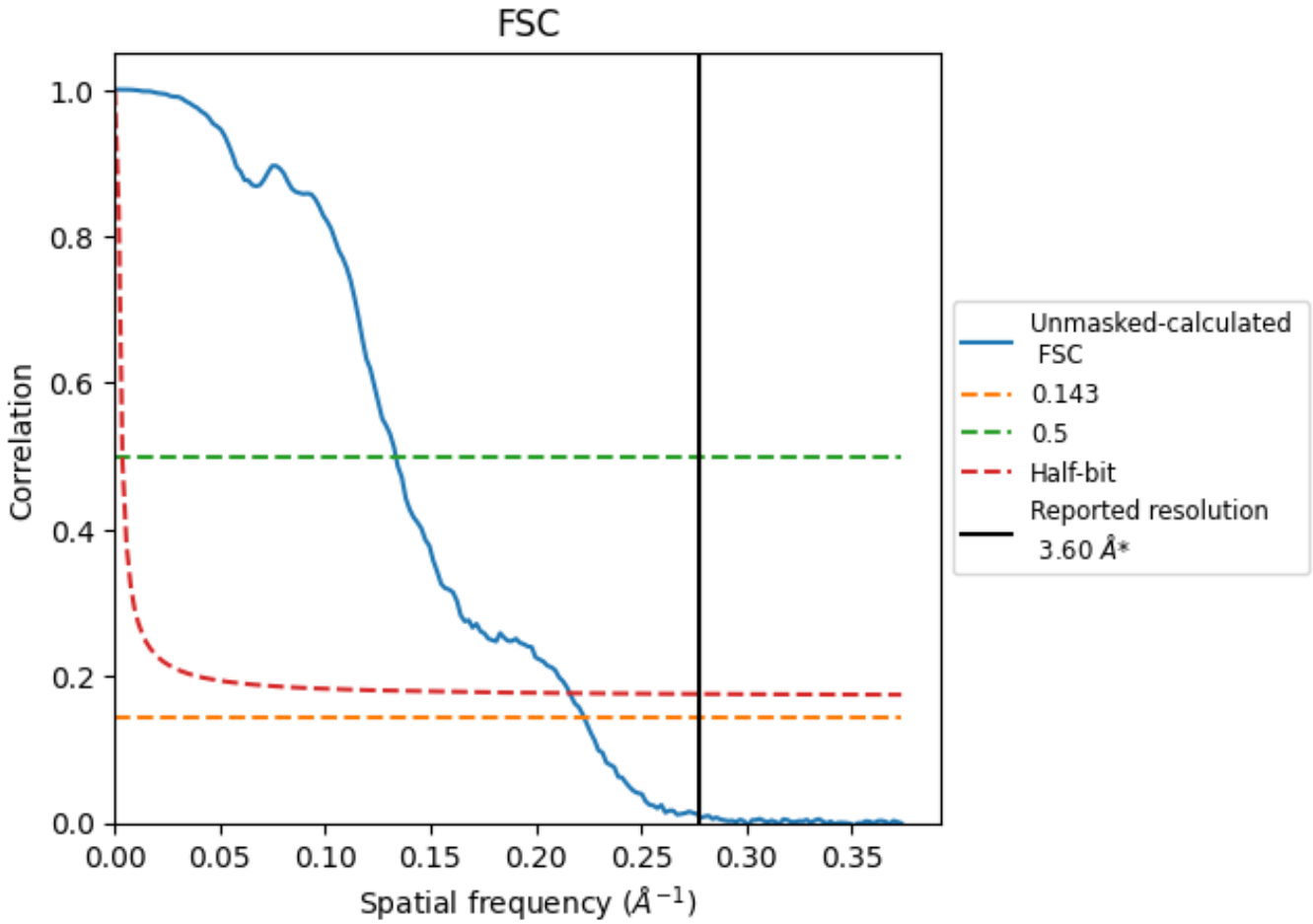


*Reported resolution corresponds to spatial frequency of 0.278 Å^{-1}

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 0.278 Å^{-1}

8.2 Resolution estimates (i)

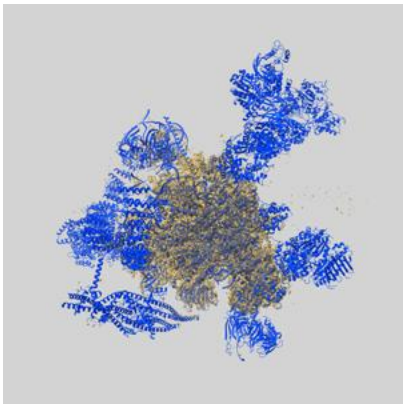
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.48	7.49	4.63

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.48 differs from the reported value 3.6 by more than 10 %

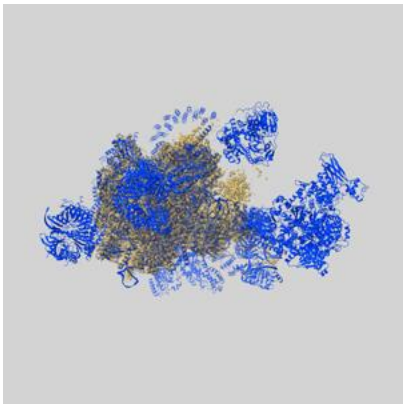
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-6721 and PDB model 5XJC. Per-residue inclusion information can be found in section 3 on page 15.

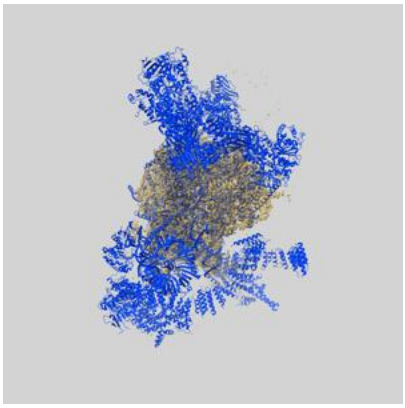
9.1 Map-model overlay



X



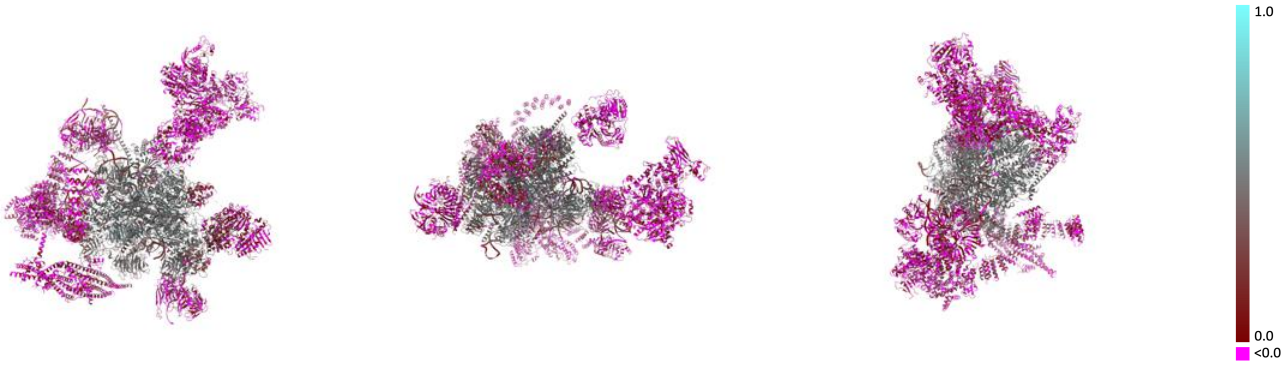
Y



Z

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

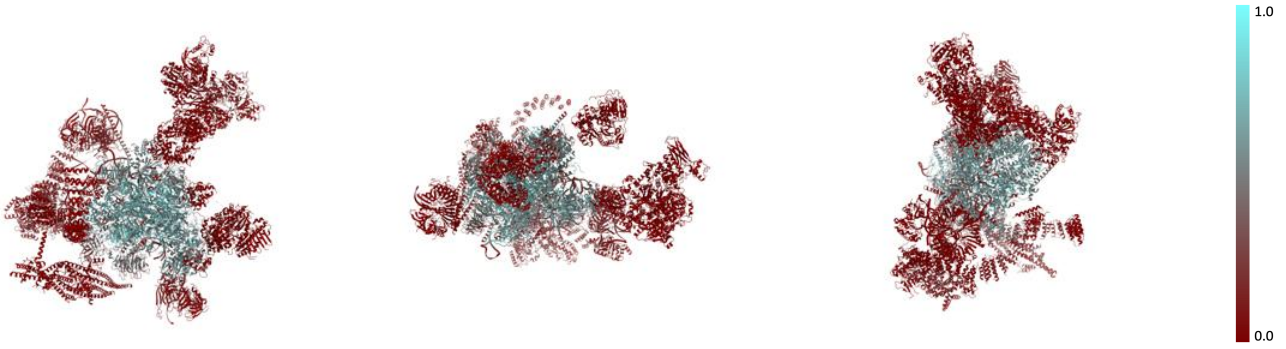
9.2 Q-score mapped to coordinate model



X Y Z

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

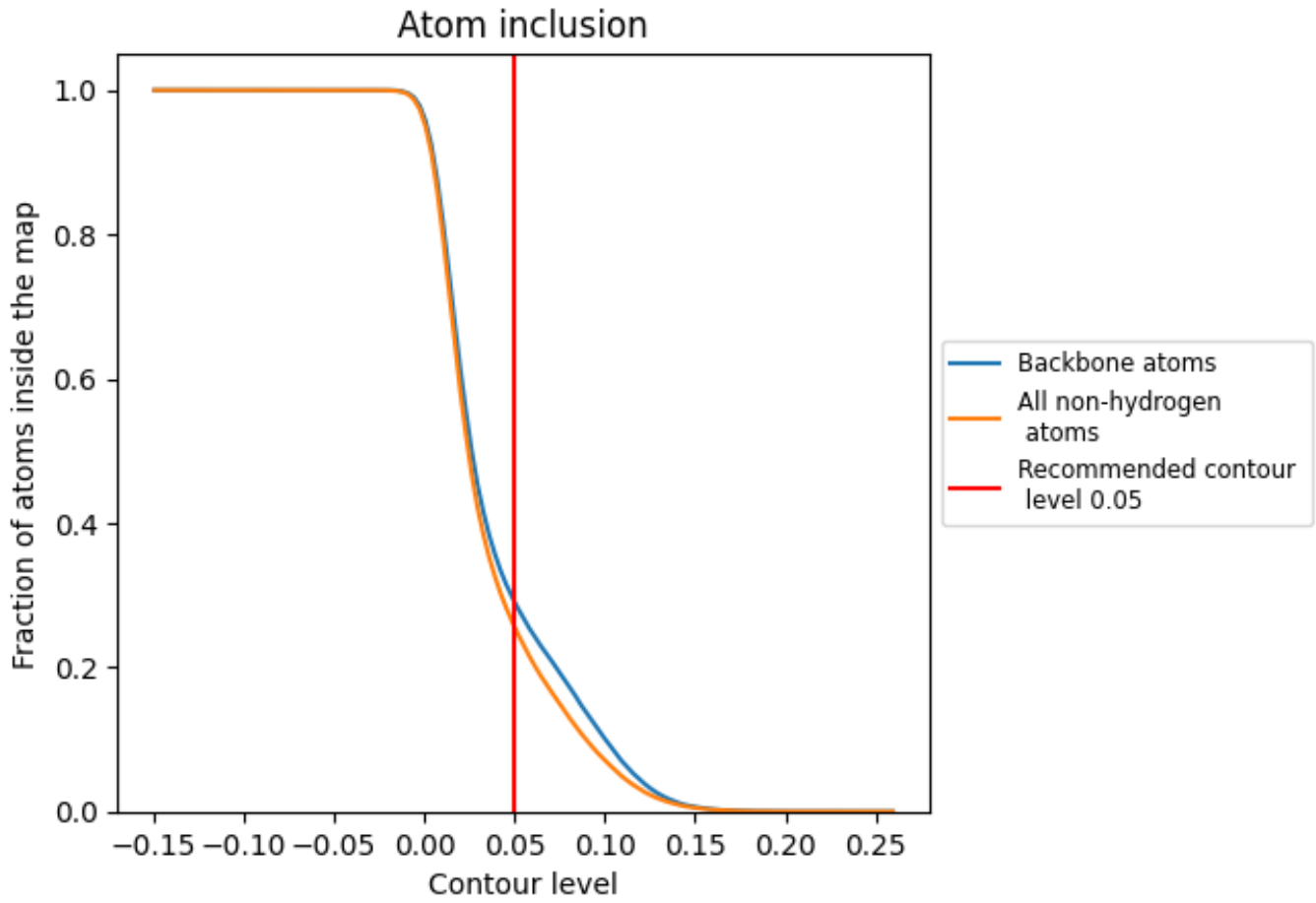
9.3 Atom inclusion mapped to coordinate model



X Y Z

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

9.4 Atom inclusion (i)



At the recommended contour level, 29% of all backbone atoms, 26% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

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

Chain	Atom inclusion	Q-score
All	0.2560	0.2200
A	0.5640	0.4190
B	0.5243	0.3110
C	0.5117	0.4170
D	0.0001	0.0040
E	0.3881	0.4040
F	0.6060	0.3820
G	0.3404	0.2520
H	0.2003	0.1500
I	0.0064	0.0560
J	0.3380	0.2840
K	0.0031	0.1110
L	0.3252	0.2780
M	0.4906	0.4280
N	0.6467	0.4810
O	0.4254	0.4380
P	0.4335	0.4200
Q	0.0002	0.0010
R	0.4731	0.4290
S	0.2877	0.3640
T	0.7078	0.5000
U	0.7005	0.5090
V	0.0963	0.1920
W	0.4497	0.4070
X	0.2423	0.3880
Y	0.0401	0.0400
Z	0.4243	0.4540
a	0.0000	0.0300
b	0.0000	0.0130
c	0.0000	-0.0140
d	0.0000	0.0020
e	0.0000	0.0320
f	0.0000	0.0120
g	0.0000	0.0170
h	0.0113	0.0680

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Chain	Atom inclusion	Q-score
i	0.0044	0.0110
j	0.0094	-0.0050
k	0.0045	0.0070
l	0.0047	-0.0070
m	0.0159	0.0990
n	0.0187	0.0720
o	0.0008	0.0030
p	0.0013	0.0030
q	0.0000	-0.0090
r	0.0000	0.0390
s	0.0000	0.0600
t	0.0000	0.0090
u	0.0058	0.1250
v	0.0009	0.0320
w	0.0000	0.0570
x	0.0000	0.0030