



Full wwPDB EM Validation Report ⓘ

Mar 19, 2024 – 04:56 PM JST

PDB ID : 5ZWO
EMDB ID : EMD-6974
Title : Cryo-EM structure of the yeast B complex at average resolution of 3.9 angstrom
Authors : Bai, R.; Wan, R.; Yan, C.; Shi, Y.
Deposited on : 2018-05-16
Resolution : 3.90 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.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

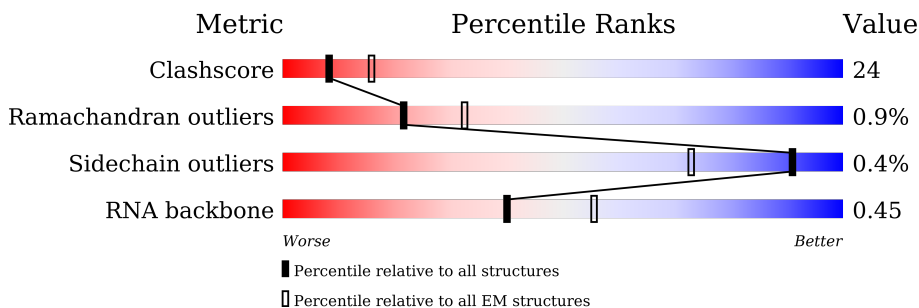
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.90 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 $\leq 5\%$. 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	2413	42% 45% 10%
2	K	465	35% 55% 8%
3	L	494	41% 43% 16%
4	N	899	9% 49% 31% 19%
5	J	469	32% 32% 34%
6	E	143	38% 58%
7	M	126	54% 44%

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Mol	Chain	Length	Quality of chain
8	C	1008	
9	z	109	
10	q	95	
11	r	89	
12	x	86	
13	t	93	
14	y	115	
15	s	187	
16	F	112	
17	B	214	
18	O	587	
19	S	101	
19	d	101	
19	l	101	
20	P	196	
20	a	196	
20	h	196	
21	Q	146	
21	b	146	
21	m	146	
22	R	110	
22	c	110	
22	n	110	
23	T	94	
23	e	94	

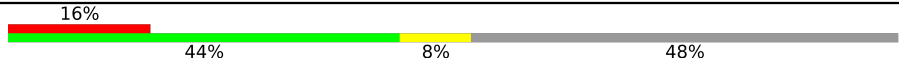


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Mol	Chain	Length	Quality of chain
23	i	94	80% 80% 20%
24	U	86	13% 79% 6% 15%
24	f	86	15% 79% 19%
24	j	86	81% 80% 19%
25	V	77	57% 90% 8%
25	g	77	47% 91% 9%
25	k	77	90% 88% 10%
26	I	161	5% 35% 25% 32%
27	D	2163	17% 76% 21%
28	G	60	68% 22% 32% 37% 10%
29	1	971	57% 80% 16%
30	2	436	40% 45% 52%
31	3	1361	60% 81% 5% 13%
32	4	213	79% 77% 5% 18%
33	5	107	31% 94%
34	6	85	39% 96%
35	X	148	86% 81% 5% 14%
36	Y	266	33% 30% 67%
37	Z	204	11% 10% 89%
38	H	1175	11% 5% 87%
39	o	238	57% 52% 43%
40	p	111	66% 65% 34%
41	u	530	86% 87% 13%
42	w	280	45% 45% 55%
43	v	266	60% 64% 35%

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Mol	Chain	Length	Quality of chain
44	W	194	
45	0	242	
46	9	291	

2 Entry composition [i](#)

There are 48 unique types of molecules in this entry. The entry contains 91261 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-splicing factor 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	2172	17092	10927	2976	3131	58	0	0

- Molecule 2 is a protein called U4/U6 small nuclear ribonucleoprotein PRP4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	K	429	3375	2101	610	650	14	0	0

- Molecule 3 is a protein called Pre-mRNA-processing factor 31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	L	416	3171	2001	573	585	12	0	0

- Molecule 4 is a protein called Pre-mRNA-splicing factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	N	725	4882	3036	902	930	14	0	0

- Molecule 5 is a protein called U4/U6 small nuclear ribonucleoprotein PRP3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	J	308	2467	1557	451	445	14	0	0

- Molecule 6 is a protein called Spliceosomal protein DIB1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	E	138	1135	719	195	210	11	0	0

- Molecule 7 is a protein called 13 kDa ribonucleoprotein-associated protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	M	126	950	605	163	177	5	0	0

- Molecule 8 is a protein called Pre-mRNA-splicing factor SNU114.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	C	843	6732	4350	1119	1235	28	0	0

- Molecule 9 is a protein called U6 snRNA-associated Sm-like protein LSm8.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
9	z	65	260	130	65	65	0	0

- Molecule 10 is a protein called U6 snRNA-associated Sm-like protein LSm2.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
10	q	92	368	184	92	92	0	0

- Molecule 11 is a protein called U6 snRNA-associated Sm-like protein LSm3.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
11	r	77	308	154	77	77	0	0

- Molecule 12 is a protein called U6 snRNA-associated Sm-like protein LSm6.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
12	x	74	296	148	74	74	0	0

- Molecule 13 is a protein called U6 snRNA-associated Sm-like protein LSm5.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
13	t	77	308	154	77	77	0	0

- Molecule 14 is a protein called U6 snRNA-associated Sm-like protein LSm7.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	y	66	Total	C	N	O	0	0
			264	132	66	66		

- Molecule 15 is a protein called U6 snRNA-associated Sm-like protein LSm4.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	s	77	Total	C	N	O	0	0
			308	154	77	77		

- Molecule 16 is a RNA chain called U6 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	F	99	Total	C	N	O	P	0	0
			2043	913	341	690	99		

- Molecule 17 is a RNA chain called U5 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	B	175	Total	C	N	O	P	0	0
			3677	1644	634	1225	174		

- Molecule 18 is a protein called 66 kDa U4/U6.U5 small nuclear ribonucleoprotein component.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	O	75	Total	C	N	O	S	0	0
			568	347	103	117	1		

- Molecule 19 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms				AltConf	Trace
19	d	79	Total	C	N	O	0	0
			316	158	79	79		
19	S	82	Total	C	N	O	0	0
			404	240	82	82		
19	l	76	Total	C	N	O	0	0
			375	223	76	76		

- Molecule 20 is a protein called Small nuclear ribonucleoprotein-associated protein B.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	a	73	Total	C	N	O	0	0
			292	146	73	73		

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Mol	Chain	Residues	Atoms				AltConf	Trace
20	P	70	Total	C	N	O	0	0
			346	206	70	70		
20	h	76	Total	C	N	O	0	0
			376	224	76	76		

- Molecule 21 is a protein called Small nuclear ribonucleoprotein Sm D1.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	b	77	Total	C	N	O	0	0
			308	154	77	77		
21	Q	99	Total	C	N	O	0	0
			491	293	99	99		
21	m	82	Total	C	N	O	0	0
			407	243	82	82		

- Molecule 22 is a protein called Small nuclear ribonucleoprotein Sm D2.

Mol	Chain	Residues	Atoms				AltConf	Trace
22	c	90	Total	C	N	O	0	0
			360	180	90	90		
22	R	92	Total	C	N	O	0	0
			457	273	92	92		
22	n	65	Total	C	N	O	0	0
			323	193	65	65		

- Molecule 23 is a protein called Small nuclear ribonucleoprotein E.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	e	72	Total	C	N	O	0	0
			288	144	72	72		
23	T	77	Total	C	N	O	0	0
			379	225	77	77		
23	i	75	Total	C	N	O	0	0
			369	219	75	75		

- Molecule 24 is a protein called Small nuclear ribonucleoprotein F.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	f	70	Total	C	N	O	0	0
			280	140	70	70		
24	U	73	Total	C	N	O	0	0
			359	213	73	73		

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Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
24	j	70	344	204	70	70	0	0

- Molecule 25 is a protein called Small nuclear ribonucleoprotein G.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
25	g	70	280	140	70	70	0	0
25	V	75	369	219	75	75	0	0
25	k	69	340	202	69	69	0	0

- Molecule 26 is a RNA chain called U4 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
26	I	110	2334	1044	399	781	110	0	0

- Molecule 27 is a protein called Pre-mRNA-splicing helicase BRR2.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
27	D	1699	8422	5024	1699	1699	1	0

- Molecule 28 is a RNA chain called Pre-mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
28	G	60	1264	571	217	416	60	0	0

- Molecule 29 is a protein called U2 snRNP component HSH155.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
29	1	816	4044	2412	816	816	0	0

- Molecule 30 is a protein called Cold sensitive U2 snRNA suppressor 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
30	2	211	1042	620	211	211	0	0

- Molecule 31 is a protein called Pre-mRNA-splicing factor RSE1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
31	3	1180	5852	3492	1180	1180	0	0

- Molecule 32 is a protein called Protein HSH49.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
32	4	174	862	514	174	174	0	0

- Molecule 33 is a protein called Pre-mRNA-splicing factor RDS3.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
33	5	103	507	301	103	103	0	0

- Molecule 34 is a protein called RDS3 complex subunit 10.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
34	6	84	415	247	84	84	0	0

- Molecule 35 is a protein called U2 snRNP component IST3.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
35	X	128	631	375	128	128	0	0

- Molecule 36 is a protein called Pre-mRNA-splicing factor CWC26.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
36	Y	89	439	261	89	89	0	0

- Molecule 37 is a protein called Pre-mRNA leakage protein 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
37	Z	22	109	65	22	22	0	0

- Molecule 38 is a RNA chain called U2 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
38	H	150	3169	1416	531	1072	150	0	0

- Molecule 39 is a protein called U2 small nuclear ribonucleoprotein A'.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
39	o	135	673	403	135	135	0	0

- Molecule 40 is a protein called U2 small nuclear ribonucleoprotein B'.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
40	p	73	361	215	73	73	0	0

- Molecule 41 is a protein called Pre-mRNA-splicing factor PRP9.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
41	u	462	2298	1374	462	462	0	0

- Molecule 42 is a protein called Pre-mRNA-splicing factor PRP21.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
42	w	127	633	379	127	127	0	0

- Molecule 43 is a protein called Pre-mRNA-splicing factor PRP11.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
43	v	174	859	511	174	174	0	0

- Molecule 44 is a protein called 23 kDa U4/U6.U5 small nuclear ribonucleoprotein component.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
44	W	100	497	297	100	100	0	0

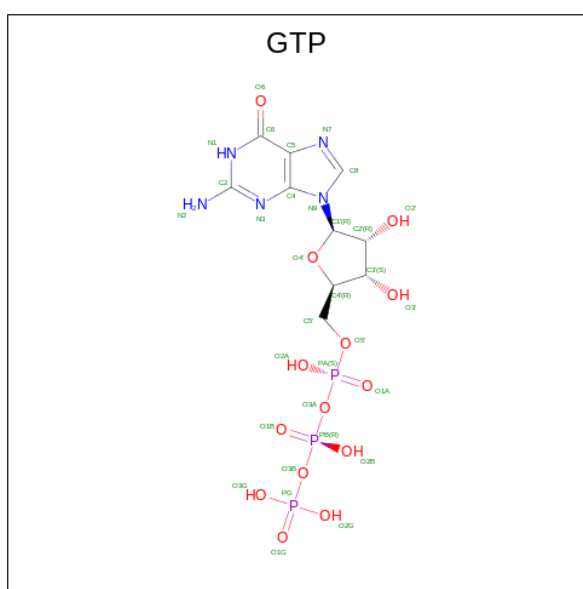
- Molecule 45 is a protein called Pre-mRNA-splicing factor 38.

Mol	Chain	Residues	Atoms			AltConf	Trace	
			Total	C	N			O
45	0	167	830	496	167	167	0	0

- Molecule 46 is a protein called Pre-mRNA-splicing factor SPP381.

Mol	Chain	Residues	Atoms			AltConf	Trace	
			Total	C	N			O
46	9	64	320	192	64	64	0	0

- Molecule 47 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



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

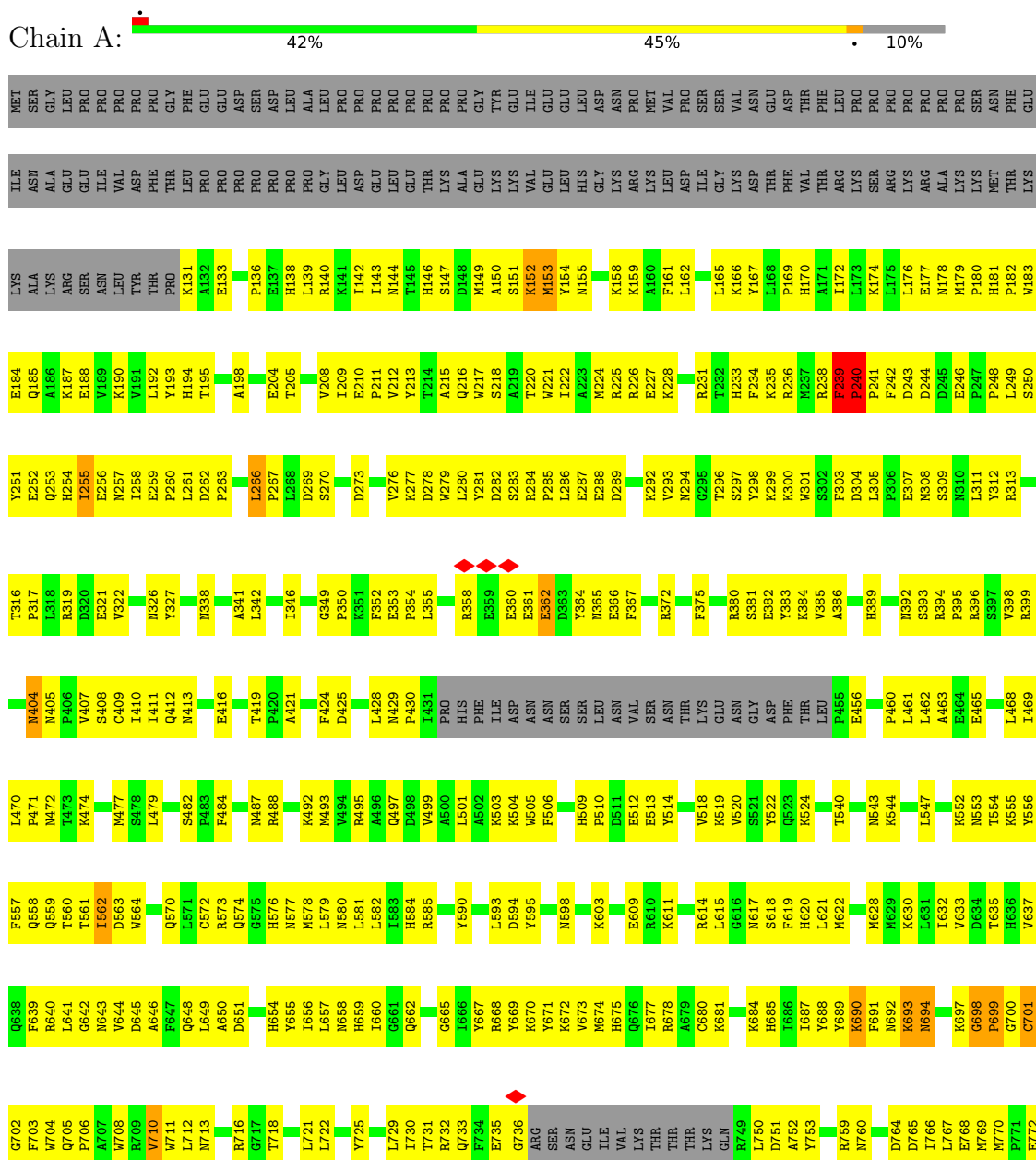
- Molecule 48 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
48	C	1	1	1	0

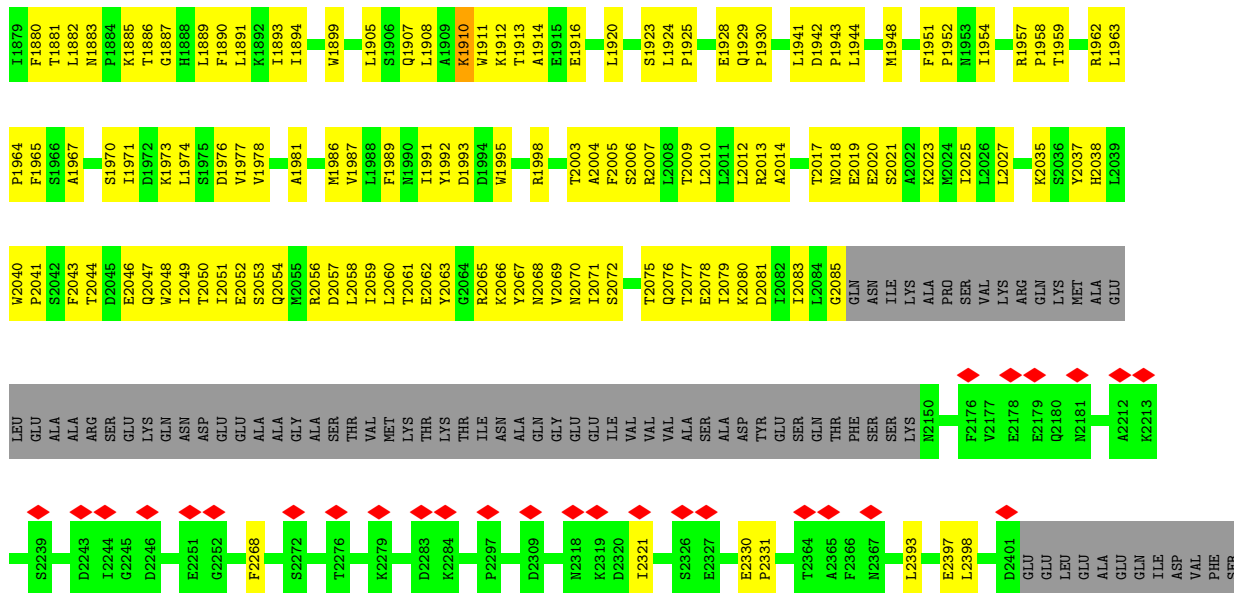
3 Residue-property plots

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.

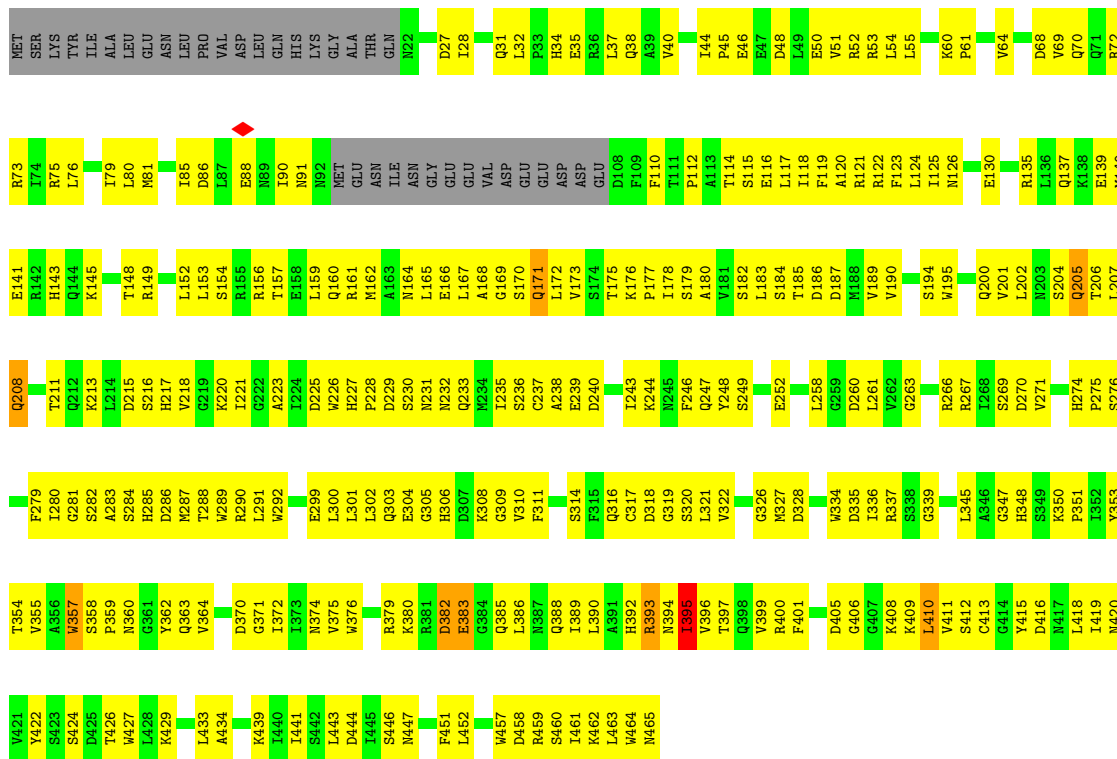
• Molecule 1: Pre-mRNA-splicing factor 8



V1814	D1744	L1869	E1448	V1361	R1292	L1215	F1144	R1071	P896	V927	G850	S773
L1815	S1745	D1670	N1449	K1362	T1289	I1216	M145	L1072	Q897	R928	R851	I774
R1817	I1748	L1676	F1606	G1363	K1294	R1217	Q1146	I073	R998	L929	L852	R775
R1818	Q1677	T1607	F1451	T1298	A1297	Q1218	F1147	V1074	L999	N930	T853	Q776
R1819	L1608	L1608	D1452	T1297	A1298	D1219	K1148	D1075	E1002	R932	R854	R777
R1820	W1609	W1609	S1454	T1301	A1299	V1220	S1149	A931	E1005	S933	K778	K778
K1821	S1680	S1680	Q1485	Y1301	Y1301	M1221	K1148	I1078	Q1005	E933	K858	T781
G1822	S1681	L1536	W1456	L1302	L1302	G1223	E1153	A1079	Q1006	R934	K858	T781
L1823	T1682	M1537	V1457	L1303	L1303	L1222	E1153	D1080	E935	E935	K858	T781
Q1824	T1613	M1538	W1458	V1371	K1303	A1225	H1156	Y1081	E936	E936	Q861	L783
L1825	R1616	L1539	A1459	L1373	V1304	A1225	H1156	K1085	E937	E937	E862	Q784
Y1826	R1616	L1539	E1460	L1374	K1304	V1226	I1158	M1085	E938	A938	R863	H785
Q1827	P1688	Y1461	A1461	L1375	E1307	F1227	R1158	K1086	L939	A939	Q864	H786
S1828	R1689	Y1462	A1462	L1375	E1308	M1228	R1158	M1087	I940	I940	S787	S787
S1829	K1690	T1544	T1463	S1377	I1309	R1233	Y1161	V1088	Y944	Y944	E788	E788
Q1830	S1691	D1545	K1464	M1378	K1310	R1233	Y1161	V1088	Q868	Q868	A789	A789
Q1831	S1765	G1622	K1465	K1379	K1311	T1236	R1162	I1090	I874	I874	W790	W790
F1832	M1766	F1623	Q1466	P1380	F1312	S1237	R1163	M1091	T875	T875	R791	R791
F1833	M1767	L1624	Q1466	T1381	D1313	L1238	Y1164	P1022	I874	I874	R791	R791
P1834	P1768	E1554	T1469	R1382	I1316	L1238	L1185	L1023	E878	E878	K794	K794
L1835	S1769	I1555	Q1470	R1317	T1317	A1246	Y1168	L1024	E878	E878	A795	A795
M1836	P1770	I1556	Q1470	G1318	G1318	F1247	Y1169	V1025	N952	N952	N796	N796
M1839	T1771	E1558	R1473	F1383	I1319	F1247	M1170	W1028	R953	R953	V801	V801
V1773	V1773	T1560	L1475	P1384	L1320	S1249	L1171	W1029	I954	I954	R882	R882
M1774	M1774	L1561	L1475	Y1389	M1321	V1250	F1172	K1100	K955	K955	R882	R882
L1843	S1697	F1562	A1477	Y1389	A1322	K1253	H1173	Q1031	K956	K956	S884	S884
F1844	M1703	K1563	E1478	I1392	G1324	K1253	E1175	I1032	Y957	Y957	P805	P805
D1847	E1704	K1563	E1478	R1392	G1324	P1256	E1175	I1032	L958	L958	A806	A806
L1848	S1705	G1564	E1479	E1393	E1176	P1256	E1176	M1033	L959	L959	P807	P807
K1849	W1706	T1565	L1480	L1394	D1177	M1257	D1177	I0808	T960	T960	P807	P807
L1850	H1707	G1566	E1481	G1395	E1178	M1257	E1178	W869	Q961	Q961	W869	W869
F1851	E1709	F1567	W1484	G1395	E1178	F1260	E1178	L890	R962	R962	L890	L890
D1853	Y1781	Y1638	I1488	L1397	A1333	S1261	E1180	I811	V963	V963	I811	I811
M1856	A1786	P1639	I1488	L1397	K1334	M1262	E1180	R893	F964	F964	I812	I812
Y1857	Y1787	V1711	P1489	I1400	W1335	M1262	E1180	S894	P964	P964	I812	I812
Y1858	G1788	S1712	R1490	S1401	M1336	V1267	D1184	F895	F966	F966	E813	E813
Y1859	Y1790	L1491	R1490	A1402	M1336	R1268	E1184	R814	S866	S866	R14	R14
V1861	K1795	L1645	I1491	S1403	T1337	I1269	E1186	I1113	R887	R887	Y815	Y815
V1862	K1796	L1645	L1494	S1403	S1338	I1269	Y1186	F1114	P897	P897	I816	I816
H1863	L1797	L1646	L1494	L1406	L1340	P1271	L1187	Q1045	I898	I898	K817	K817
T1865	I1798	Q1647	L1494	L1406	I1340	R1272	L1187	S1046	P899	P899	S818	S818
F1866	M1800	I1648	F1495	L1412	S1341	R1272	L1187	A1047	F900	F900	K819	K819
E1867	S1801	F1649	F1495	S1413	I1342	Q1273	M1190	V1048	P901	P901	A820	A820
G1868	M1802	R1650	R1499	W1414	F1343	I1273	F1195	L1048	P902	P902	P902	P902
M1869	R1803	A1651	R1499	W1414	F1343	M1276	E1196	L1048	Y975	Y975	W823	W823
V1870	I1805	G1507	H1500	W1414	T1344	M1276	E1196	L1048	Q976	Q976	Y905	Y905
A1871	I1805	G1507	H1500	I1437	Y1346	E1276	M1197	L1060	N977	N977	K906	K906
T1871	I1805	G1507	H1500	I1437	Y1346	E1276	M1197	L1060	N977	N977	N830	N830
A1872	I1805	G1507	H1500	I1437	Y1346	E1276	M1197	L1060	N977	N977	N907	N907
K1873	A1808	D1654	R1510	I1440	F1347	V1278	S1198	T1053	P880	P880	R831	R831
A1874	M1809	R1511	R1511	I1440	F1347	V1278	S1198	T1053	P908	P908	R831	R831
M1875	P1810	E1513	E1513	R1442	E1440	L1288	D1210	L1054	T909	T909	E832	E832
N1876	L1875	F1514	F1514	R1442	E1440	L1288	D1210	L1054	Y981	Y981	K910	K910
G1877	C1878	I1601	I1601	T1446	T1446	V1289	S1211	A1068	Y982	Y982	K910	K910
C1878	C1878	I1602	Y1517	W1447	W1447	D1291	R1214	F1063	S983	S983	L912	L912

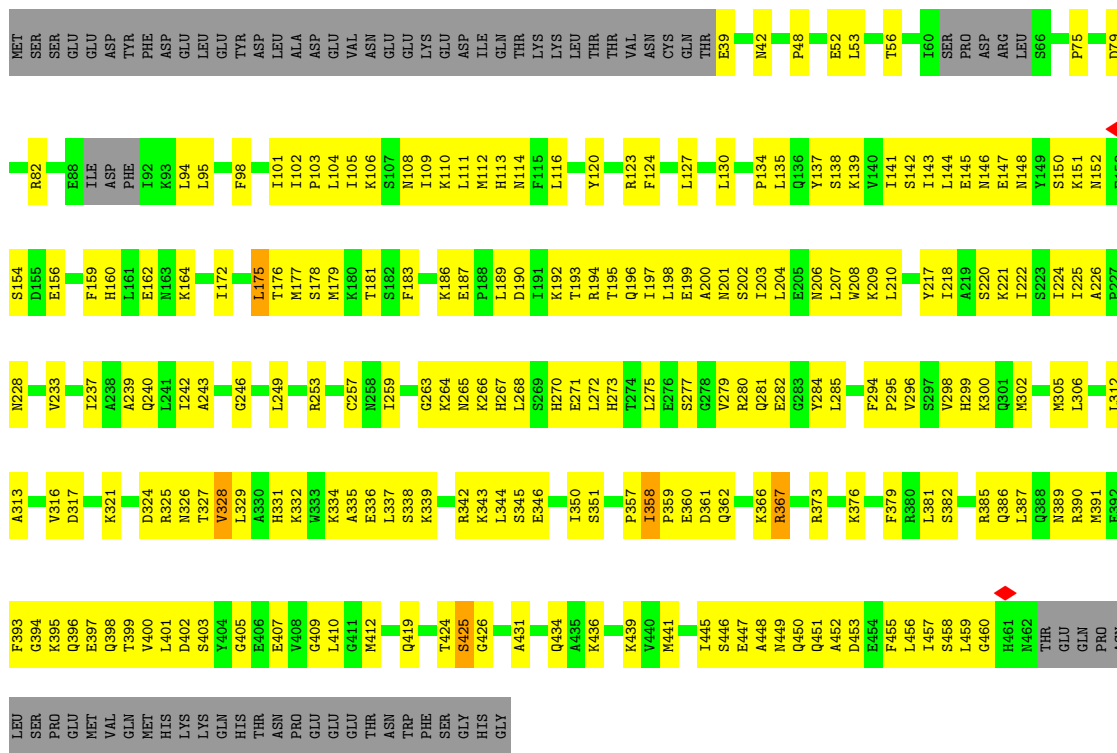


• Molecule 2: U4/U6 small nuclear ribonucleoprotein PRP4

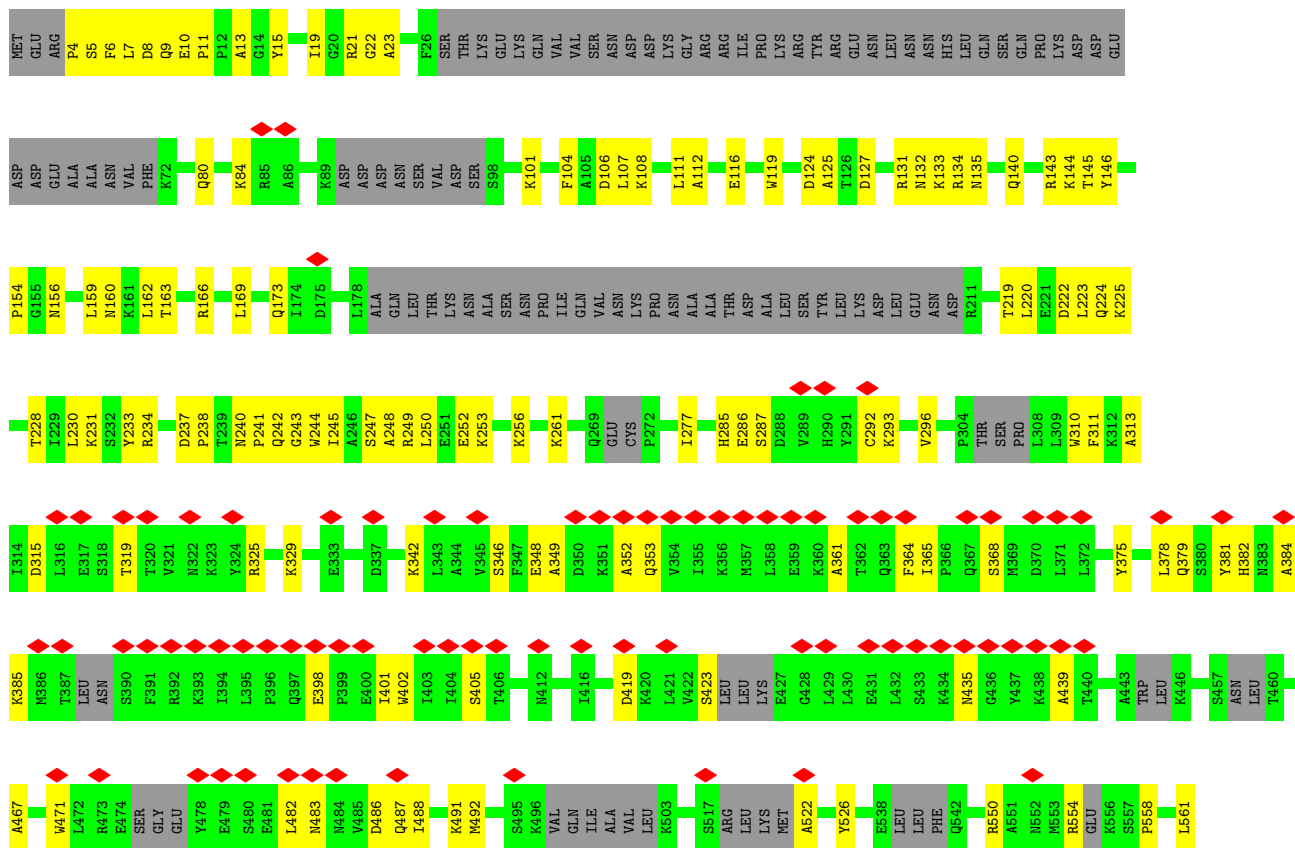


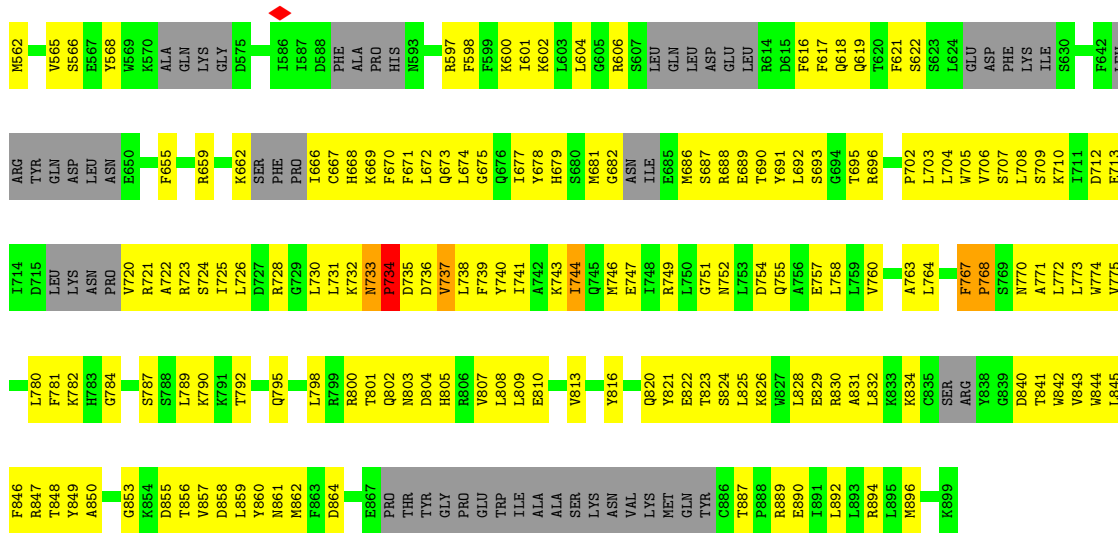
• Molecule 3: Pre-mRNA-processing factor 31



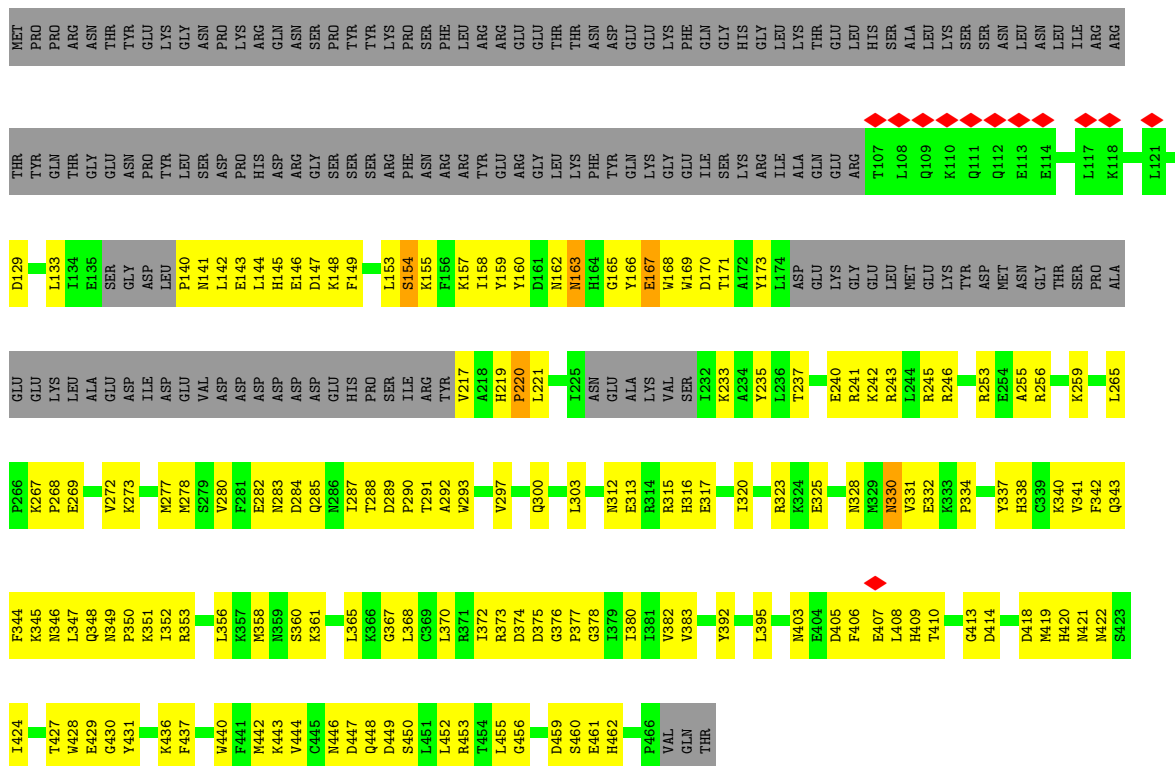


• Molecule 4: Pre-mRNA-splicing factor 6



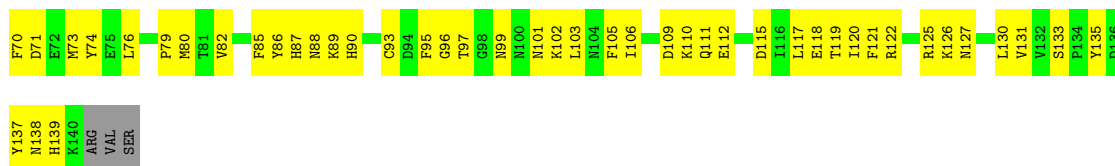


- Molecule 5: U4/U6 small nuclear ribonucleoprotein PRP3

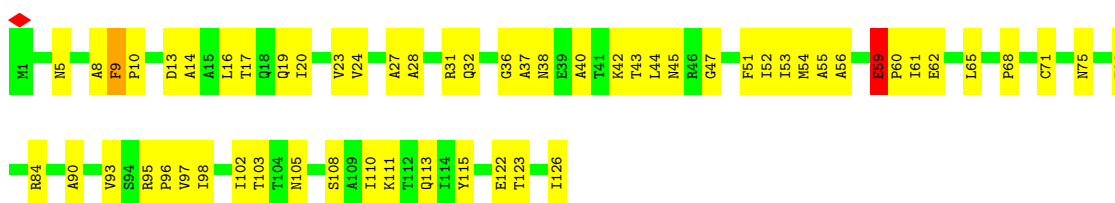


- Molecule 6: Spliceosomal protein DIB1

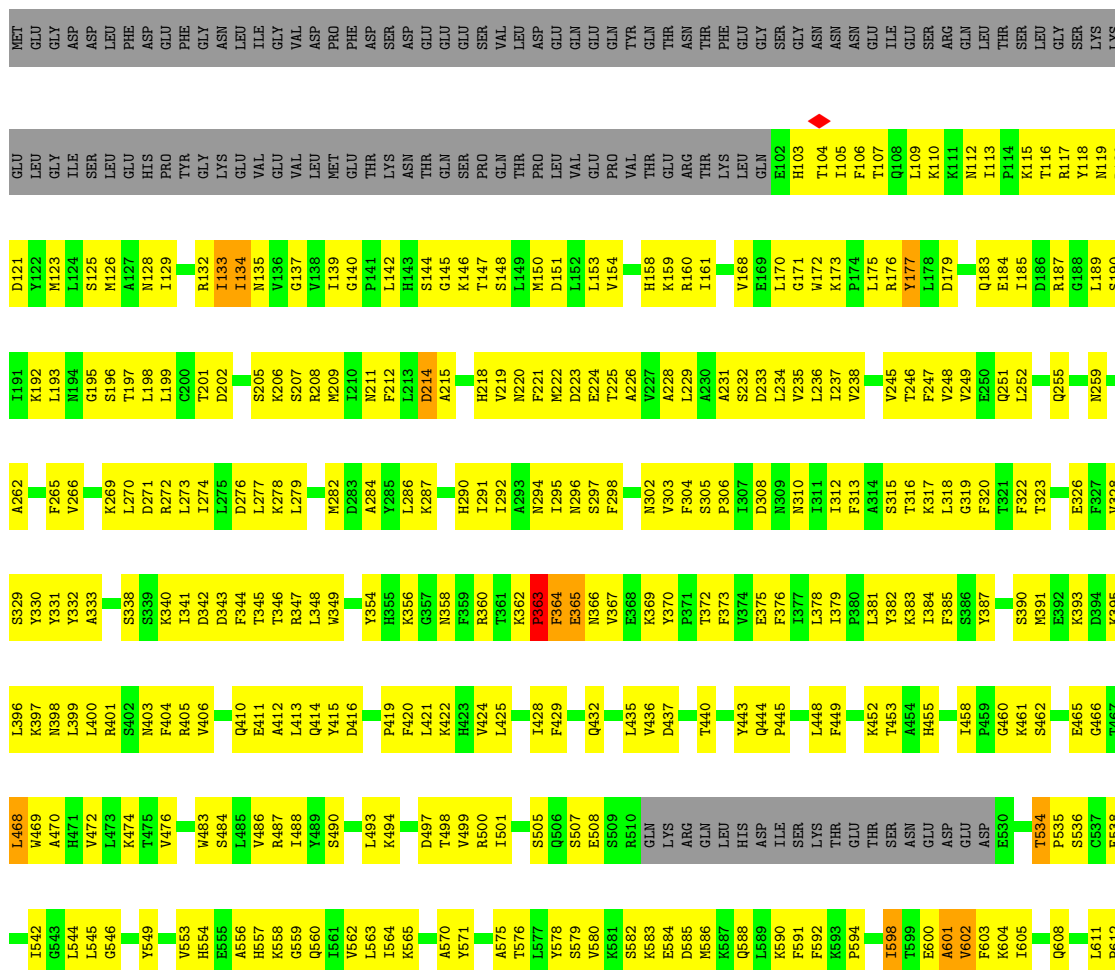
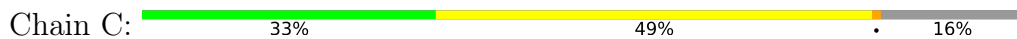


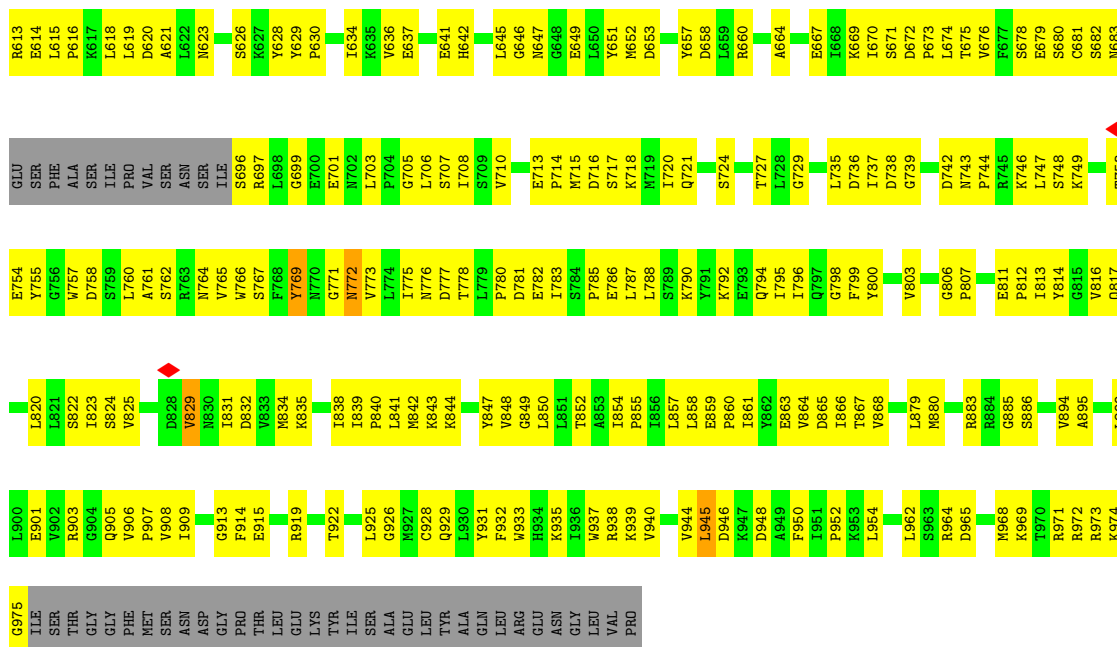


● Molecule 7: 13 kDa ribonucleoprotein-associated protein



● Molecule 8: Pre-mRNA-splicing factor SNU114

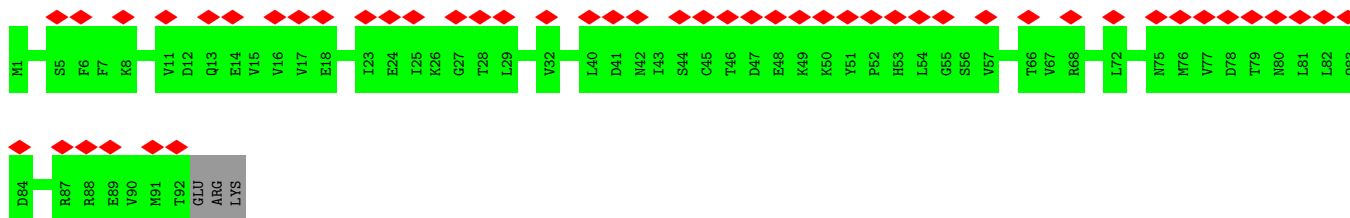




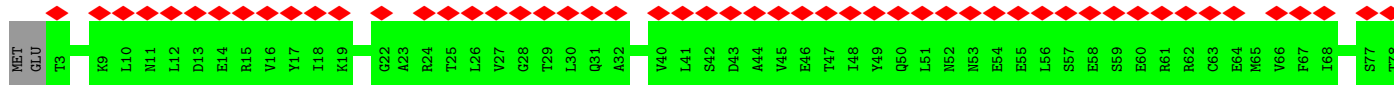
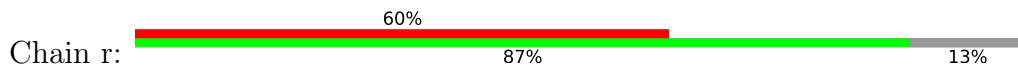
• Molecule 9: U6 snRNA-associated Sm-like protein LSm8

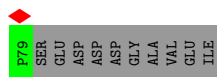


• Molecule 10: U6 snRNA-associated Sm-like protein LSm2

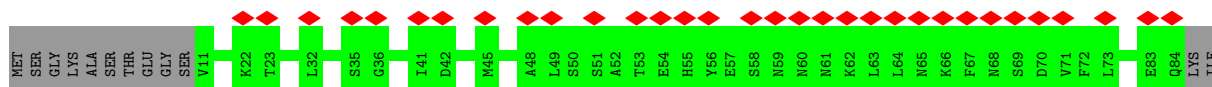
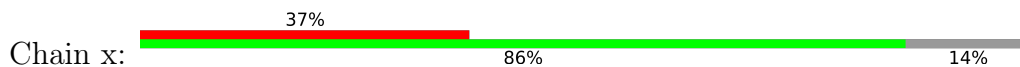


• Molecule 11: U6 snRNA-associated Sm-like protein LSm3

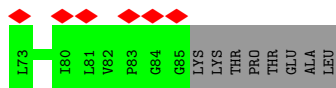
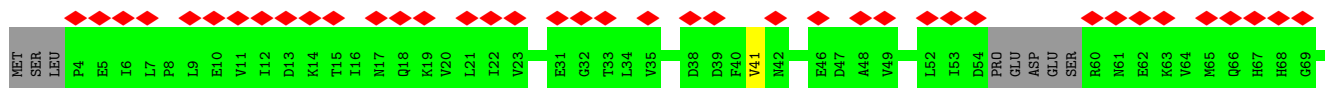
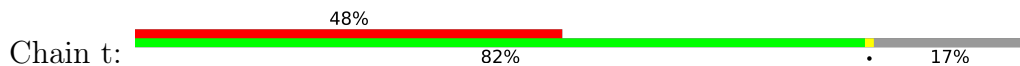




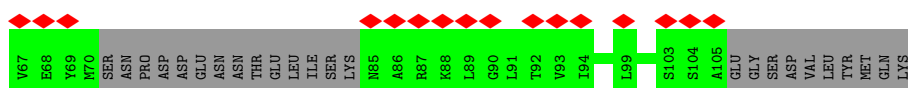
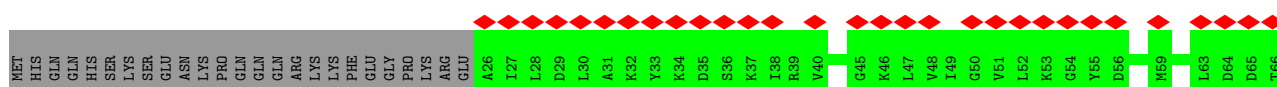
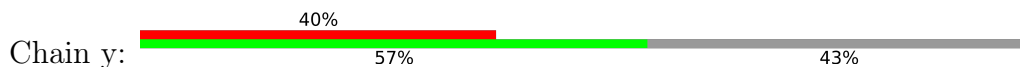
• Molecule 12: U6 snRNA-associated Sm-like protein LSm6



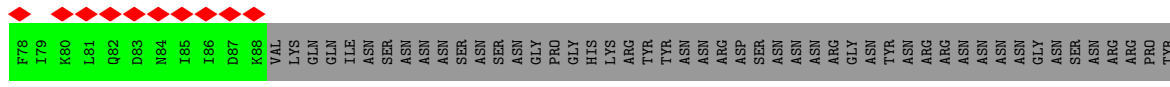
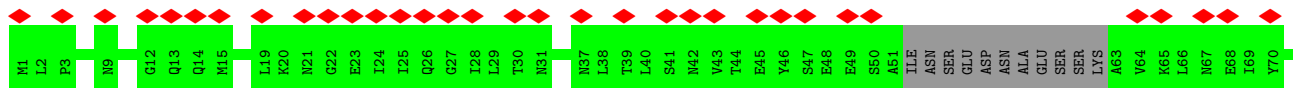
• Molecule 13: U6 snRNA-associated Sm-like protein LSm5



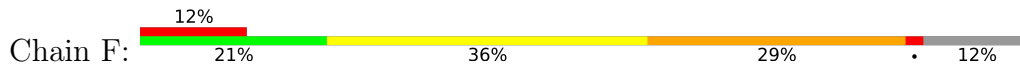
• Molecule 14: U6 snRNA-associated Sm-like protein LSm7

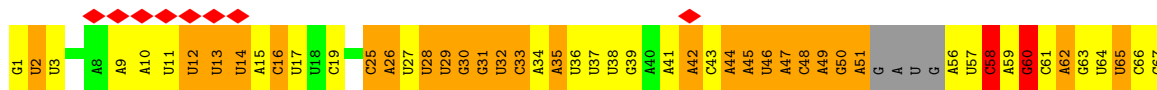


• Molecule 15: U6 snRNA-associated Sm-like protein LSm4

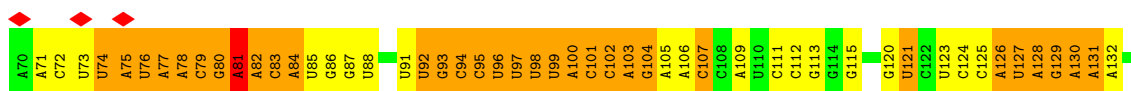
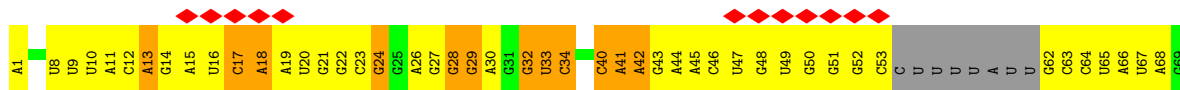
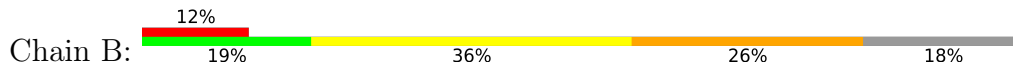


• Molecule 16: U6 snRNA

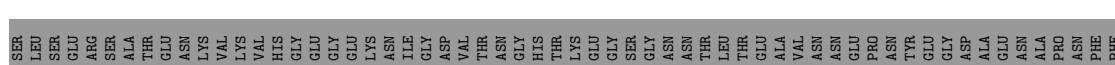
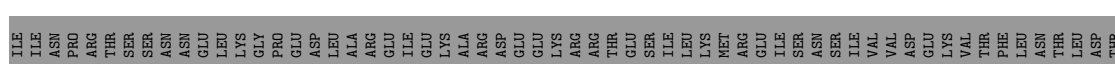
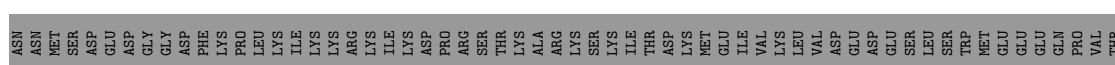
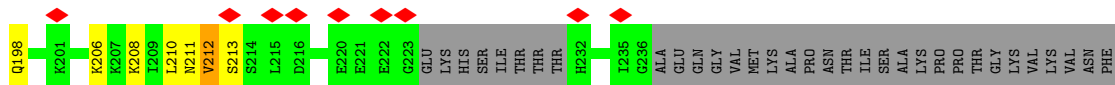
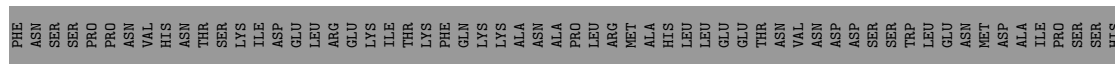


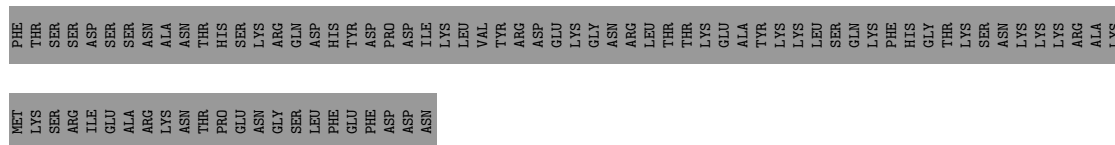


• Molecule 17: U5 snRNA

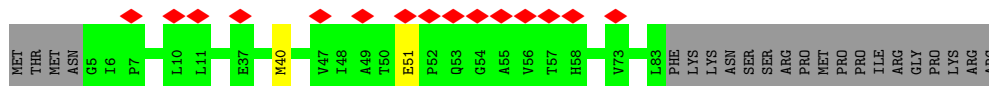
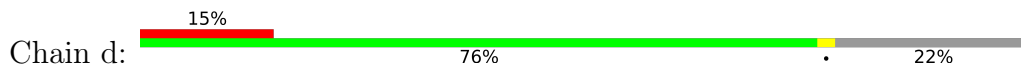


• Molecule 18: 66 kDa U4/U6.U5 small nuclear ribonucleoprotein component

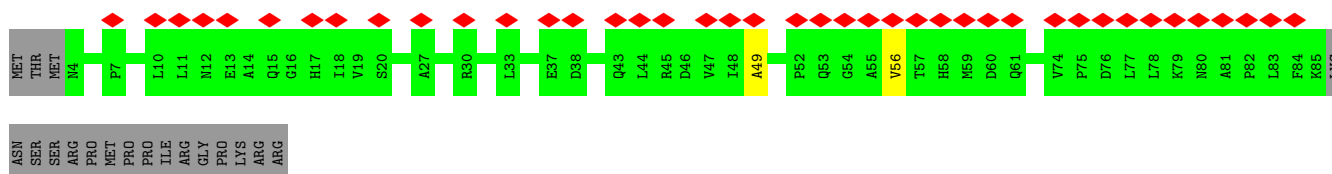
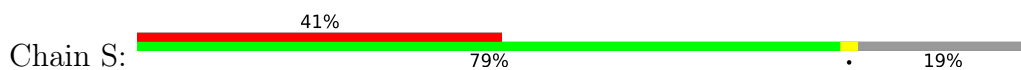




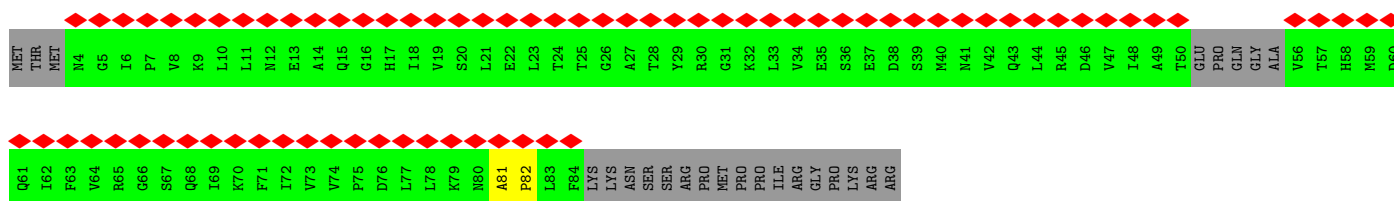
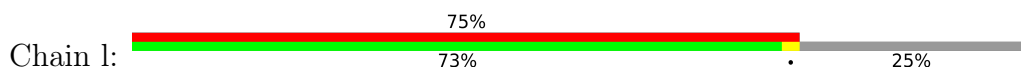
● Molecule 19: Small nuclear ribonucleoprotein Sm D3



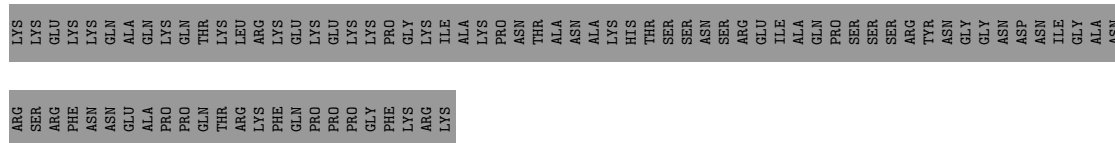
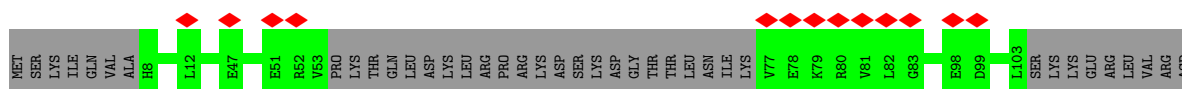
● Molecule 19: Small nuclear ribonucleoprotein Sm D3



● Molecule 19: Small nuclear ribonucleoprotein Sm D3

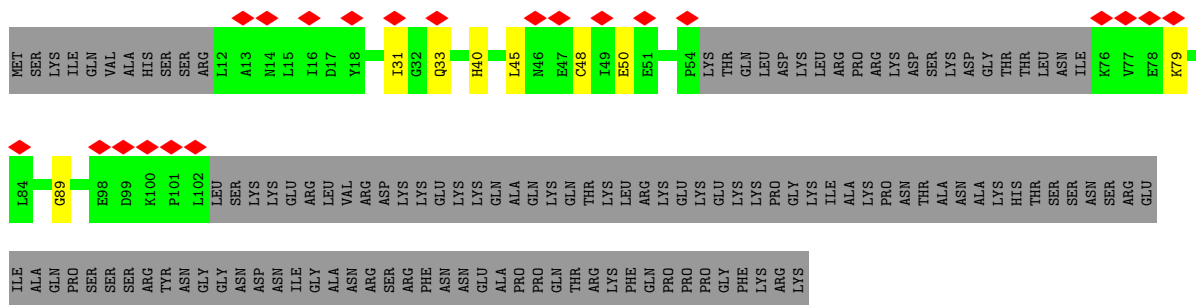


● Molecule 20: Small nuclear ribonucleoprotein-associated protein B

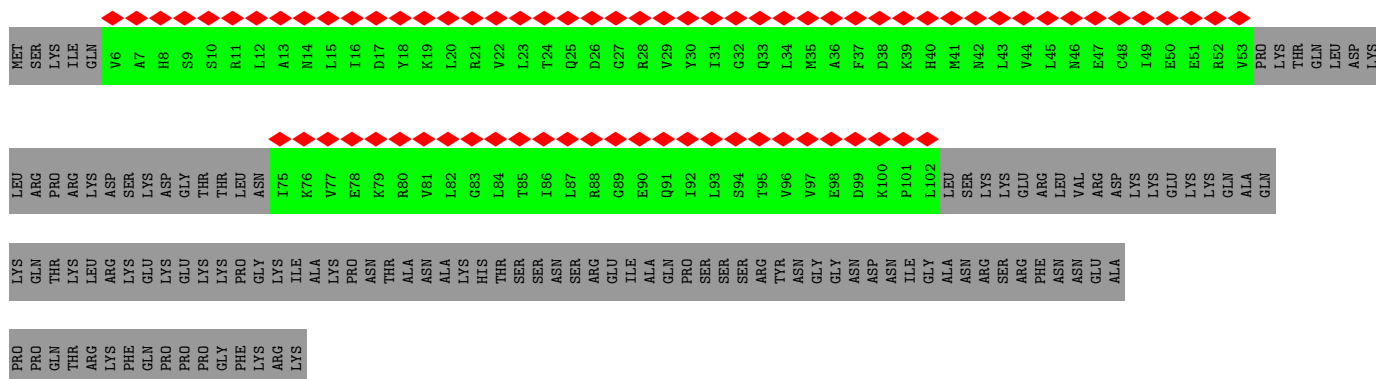


● Molecule 20: Small nuclear ribonucleoprotein-associated protein B

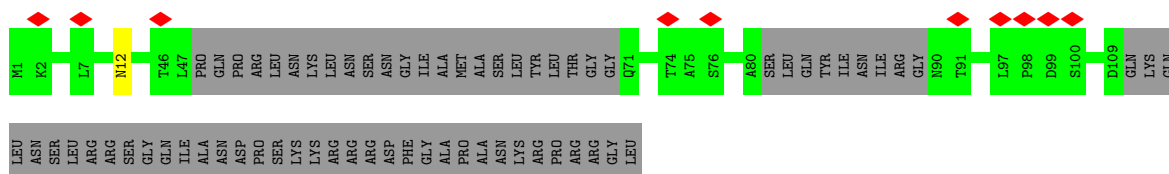




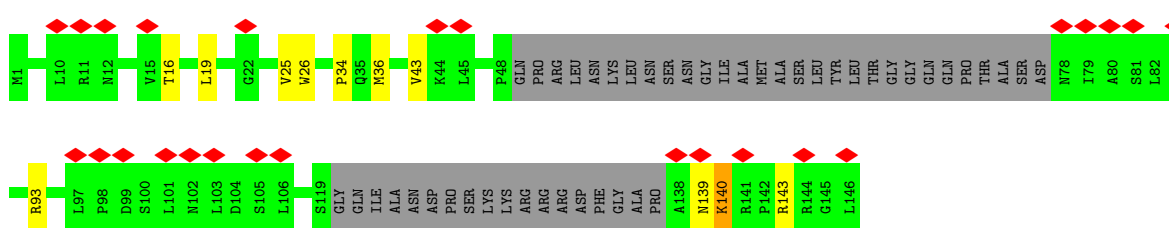
• Molecule 20: Small nuclear ribonucleoprotein-associated protein B



• Molecule 21: Small nuclear ribonucleoprotein Sm D1

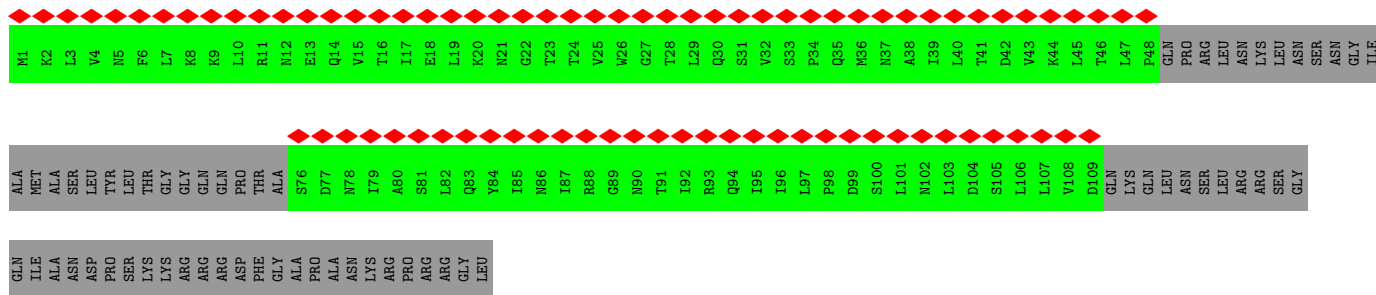


• Molecule 21: Small nuclear ribonucleoprotein Sm D1

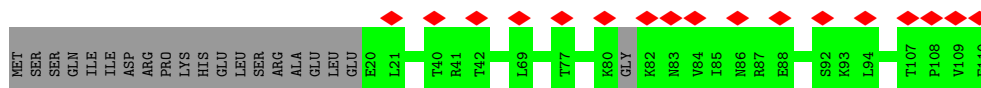
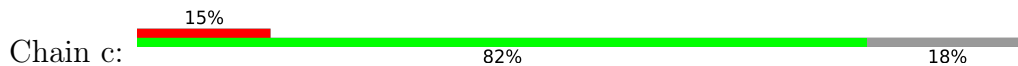


• Molecule 21: Small nuclear ribonucleoprotein Sm D1

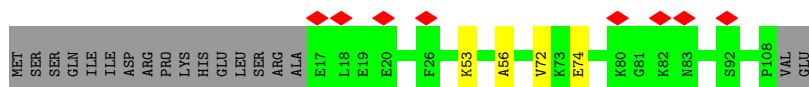
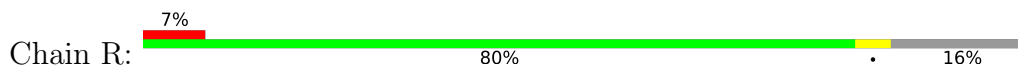




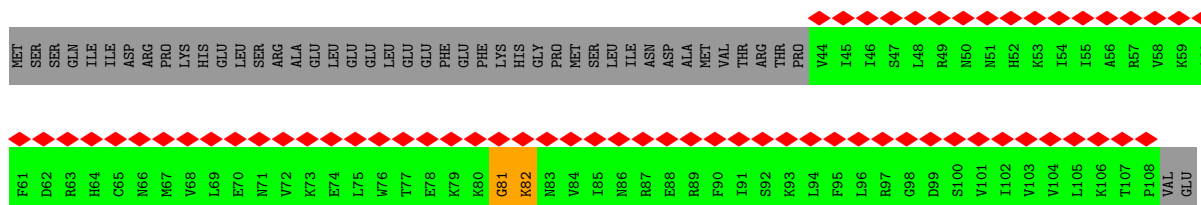
• Molecule 22: Small nuclear ribonucleoprotein Sm D2



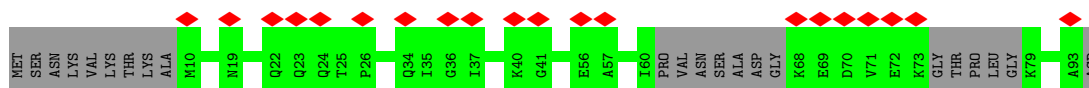
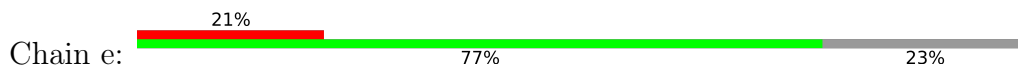
• Molecule 22: Small nuclear ribonucleoprotein Sm D2



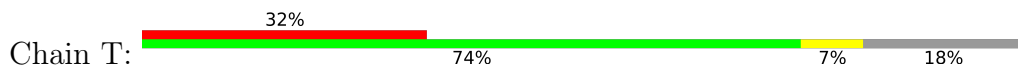
• Molecule 22: Small nuclear ribonucleoprotein Sm D2



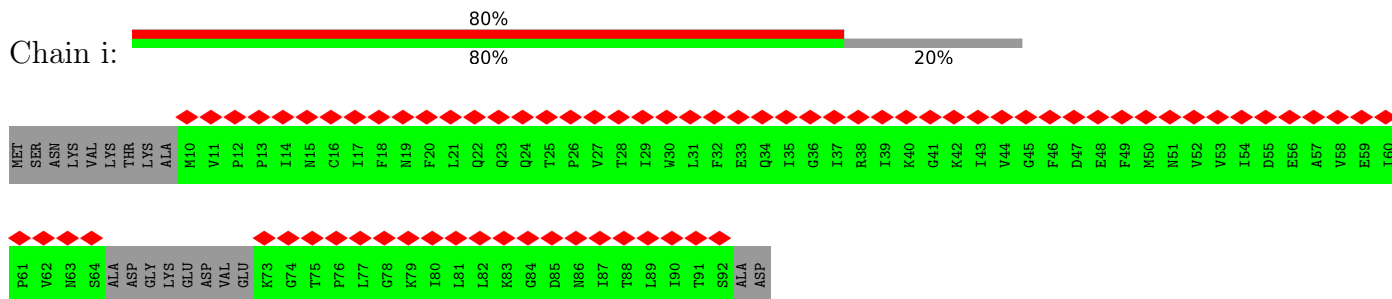
• Molecule 23: Small nuclear ribonucleoprotein E



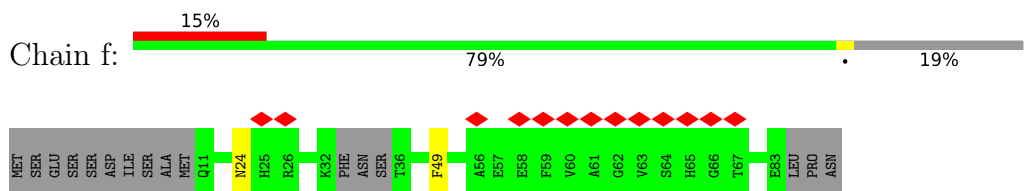
• Molecule 23: Small nuclear ribonucleoprotein E



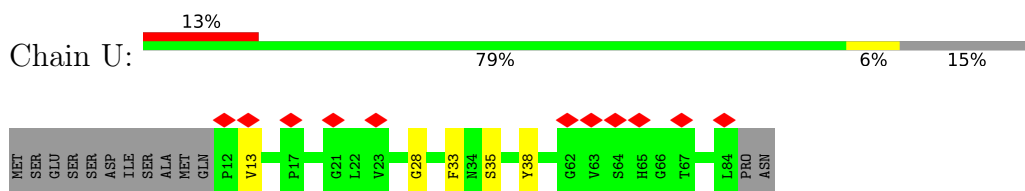
• Molecule 23: Small nuclear ribonucleoprotein E



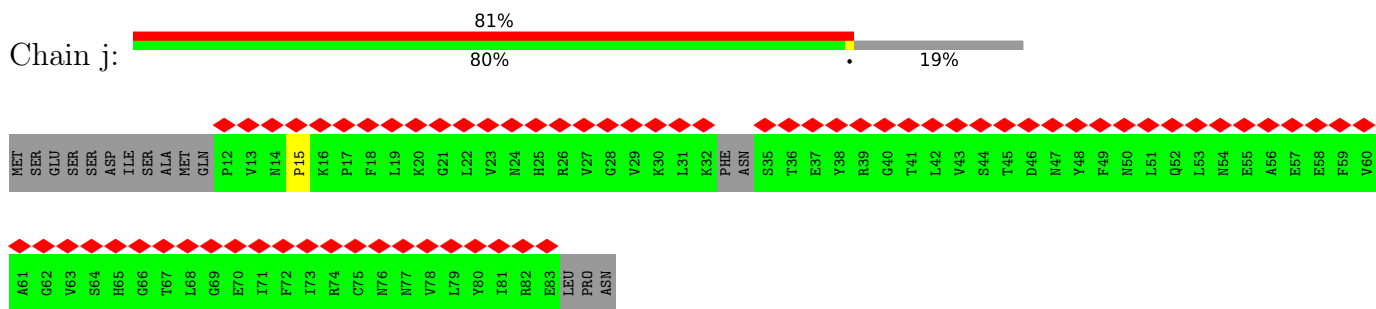
• Molecule 24: Small nuclear ribonucleoprotein F



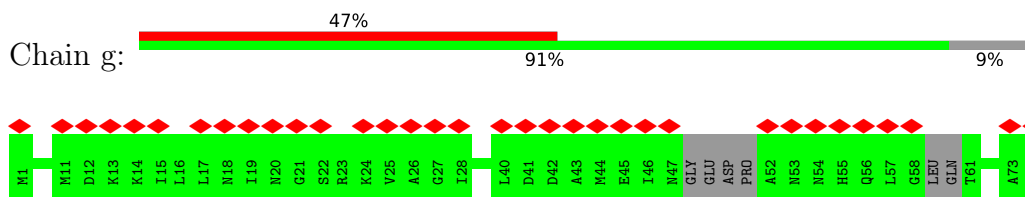
• Molecule 24: Small nuclear ribonucleoprotein F



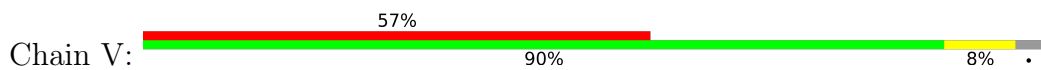
• Molecule 24: Small nuclear ribonucleoprotein F

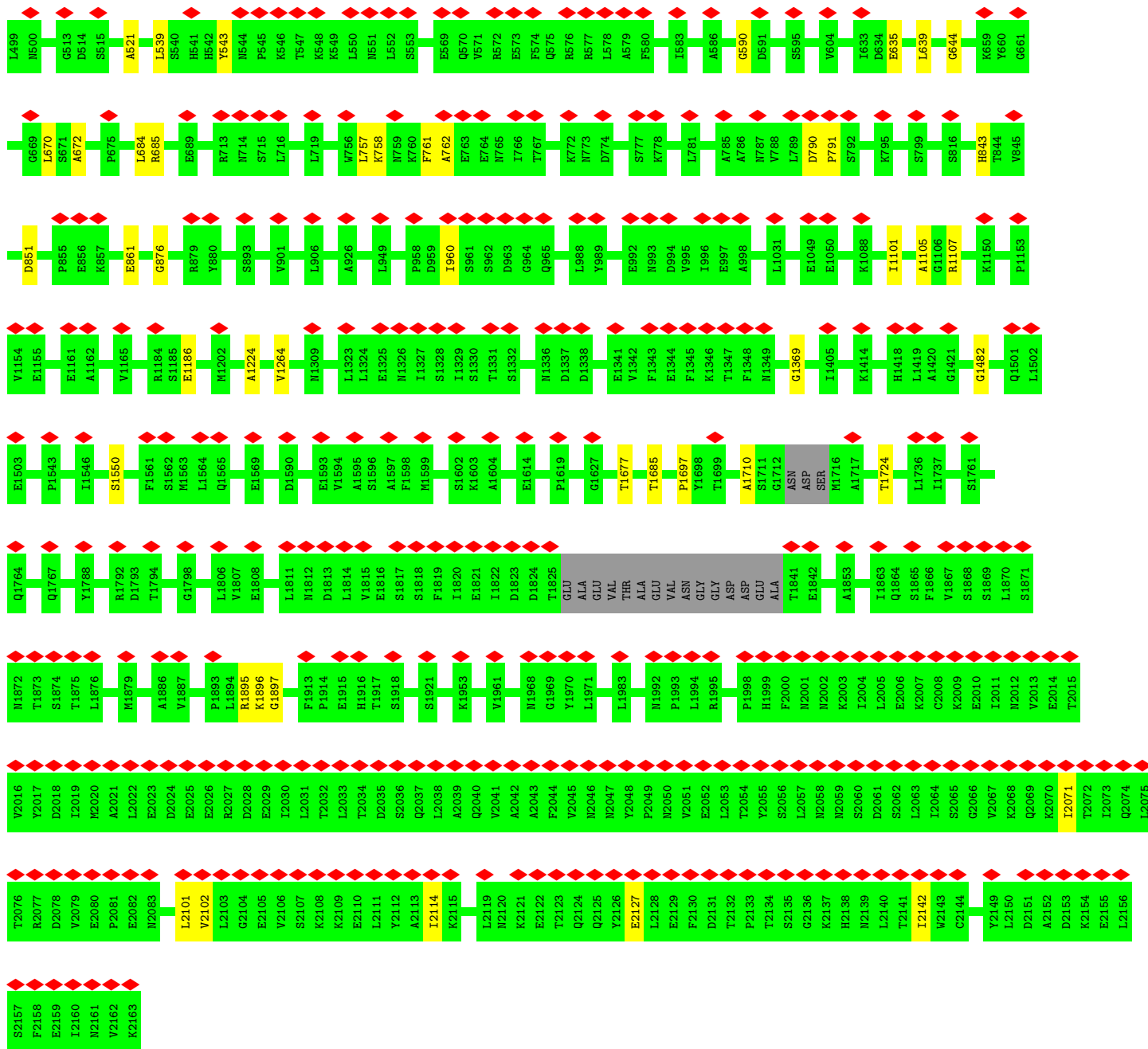


• Molecule 25: Small nuclear ribonucleoprotein G

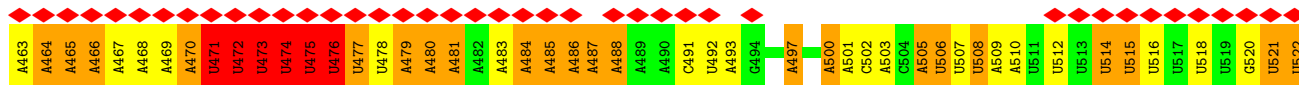
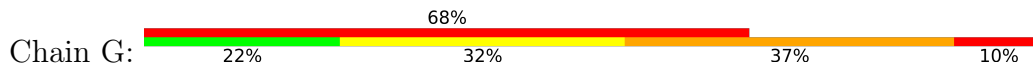


• Molecule 25: Small nuclear ribonucleoprotein G

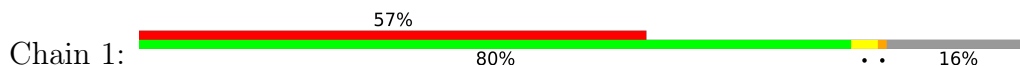


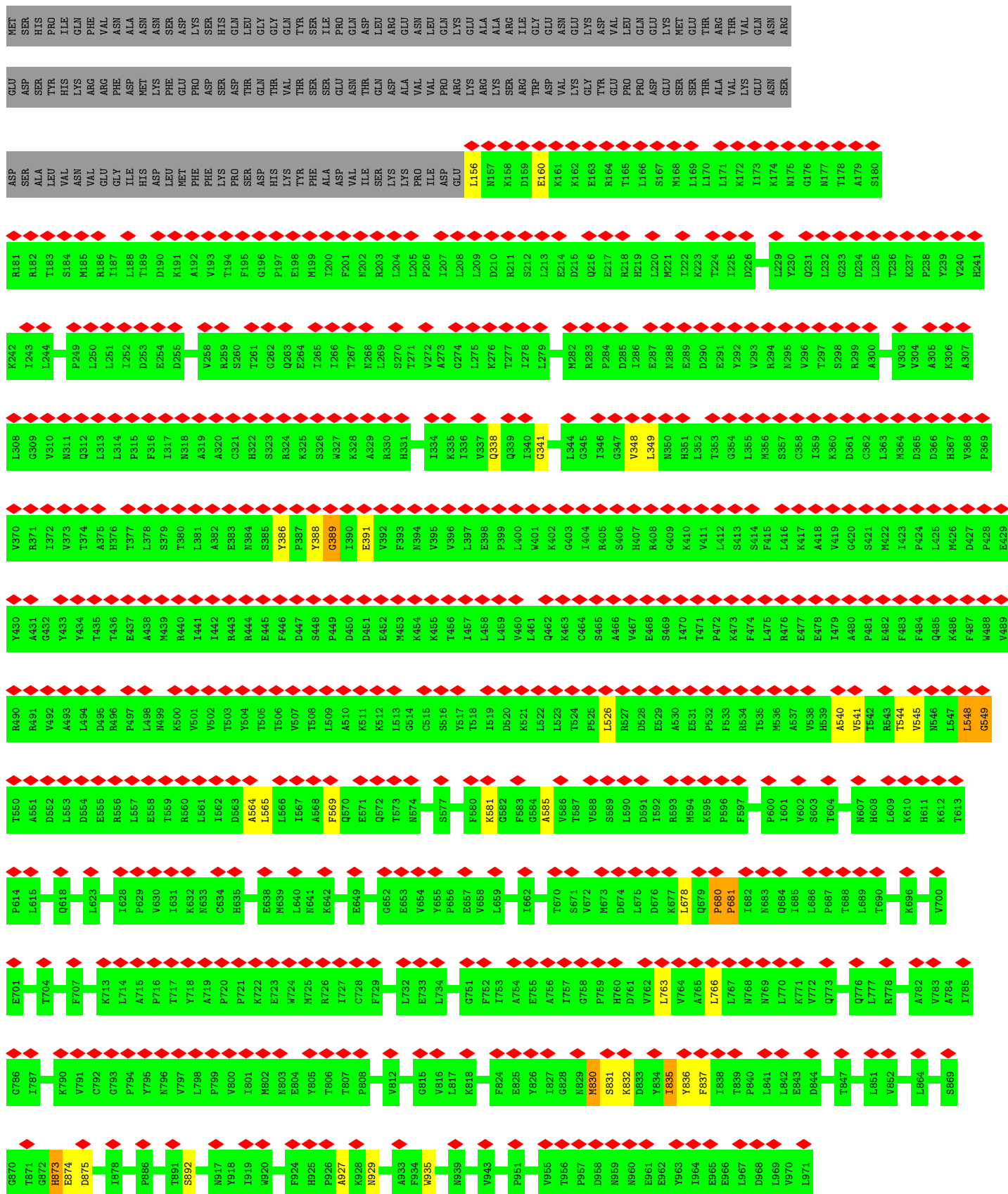


• Molecule 28: Pre-mRNA

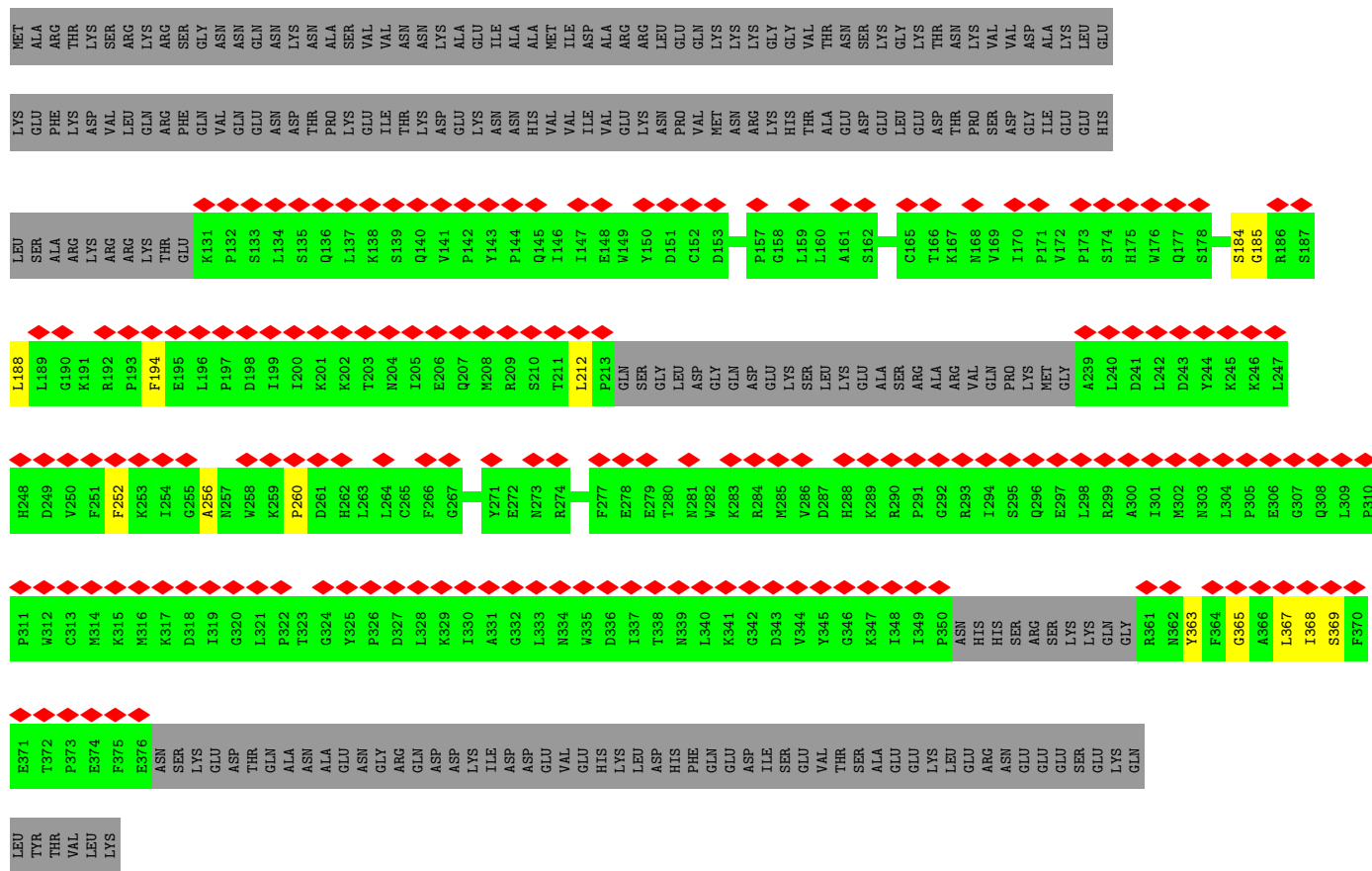
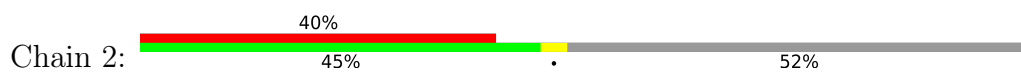


• Molecule 29: U2 snRNP component HSH155

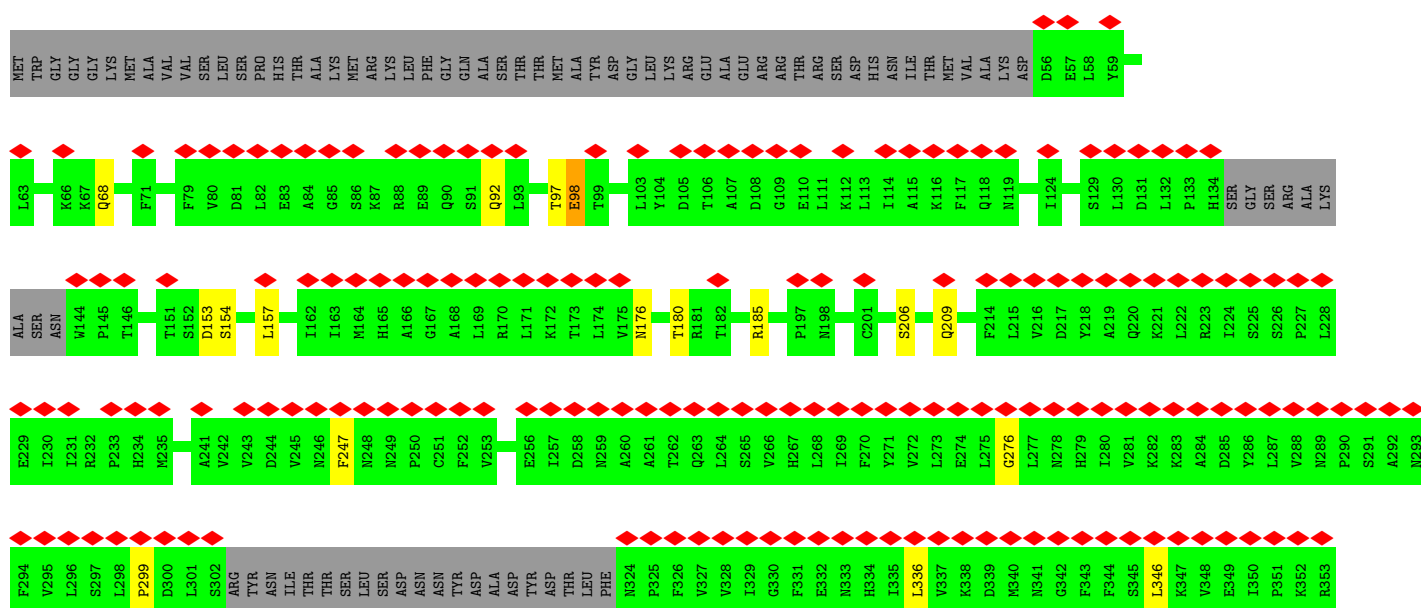
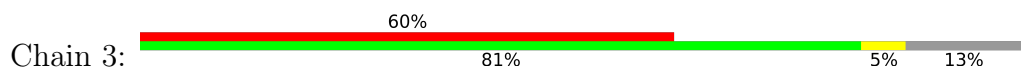


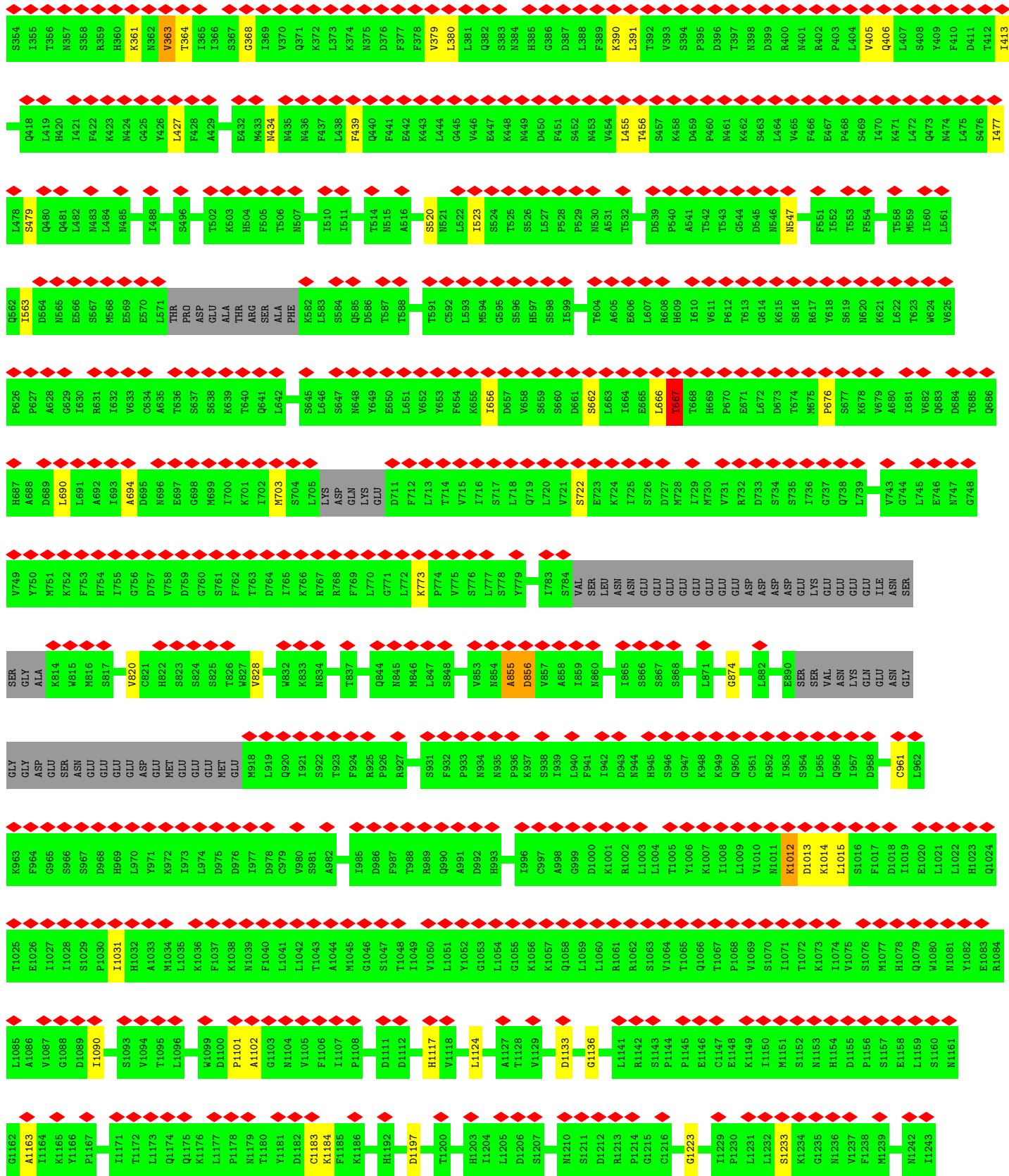


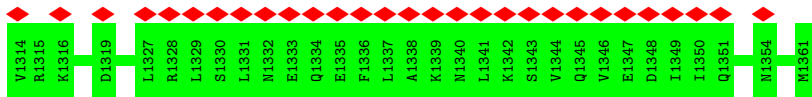
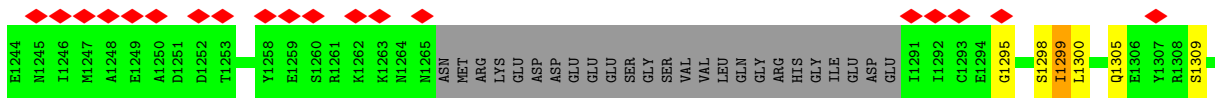
● Molecule 30: Cold sensitive U2 snRNA suppressor 1



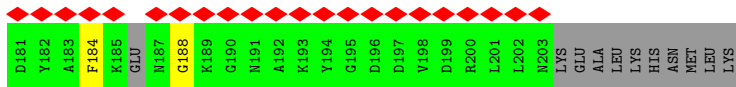
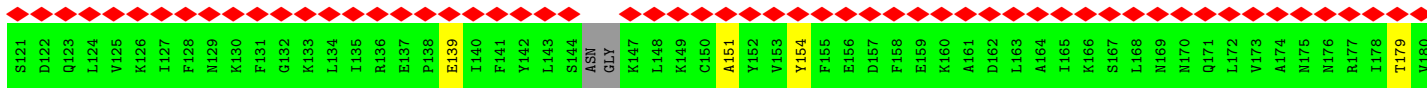
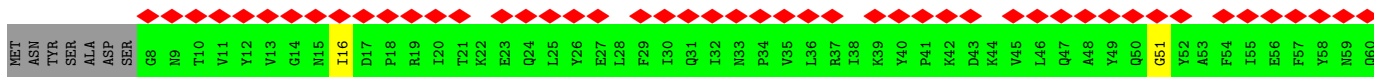
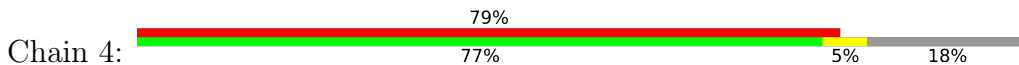
• Molecule 31: Pre-mRNA-splicing factor RSE1



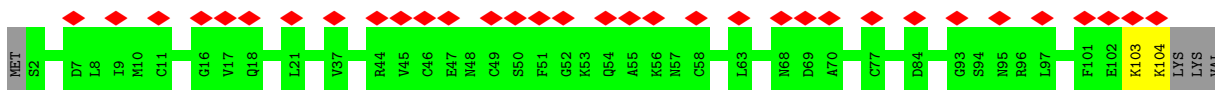
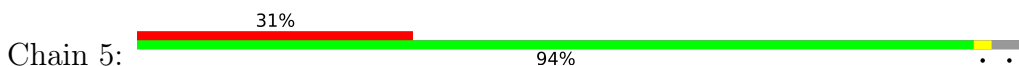




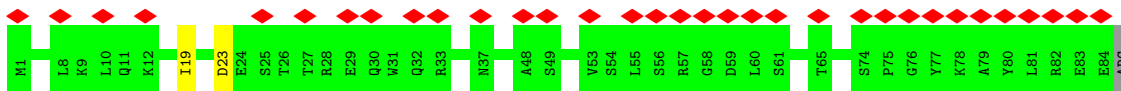
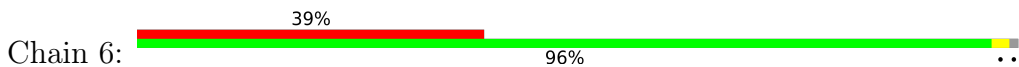
• Molecule 32: Protein HSH49



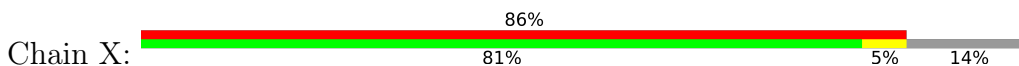
• Molecule 33: Pre-mRNA-splicing factor RDS3

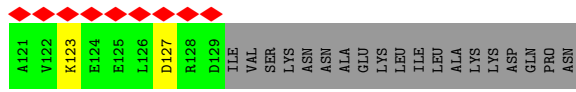
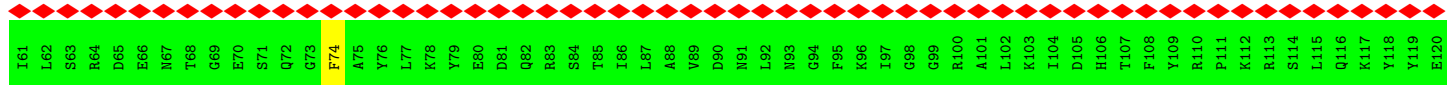


• Molecule 34: RDS3 complex subunit 10

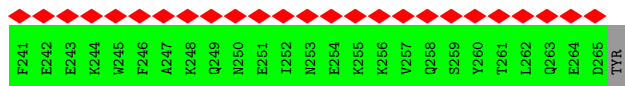
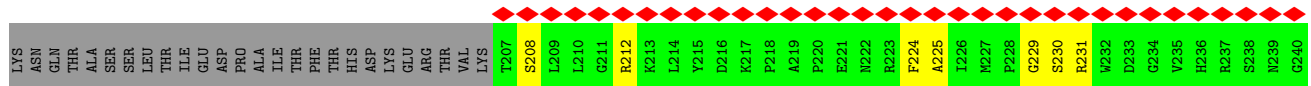
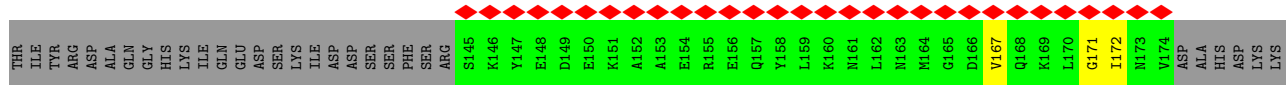
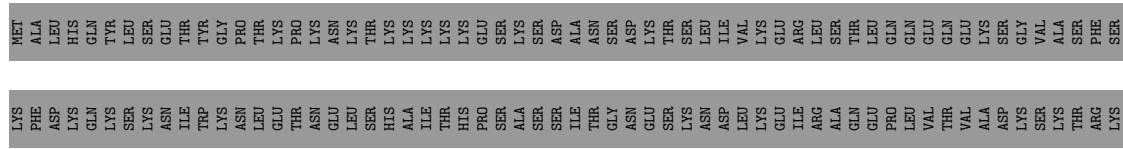


• Molecule 35: U2 snRNP component IST3

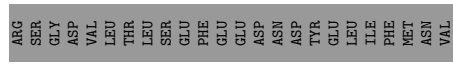




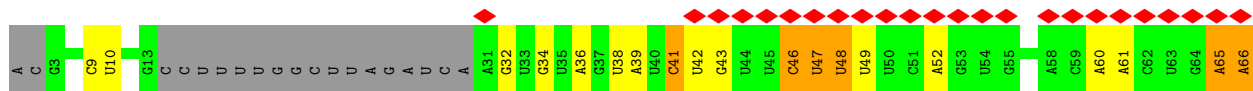
• Molecule 36: Pre-mRNA-splicing factor CWC26

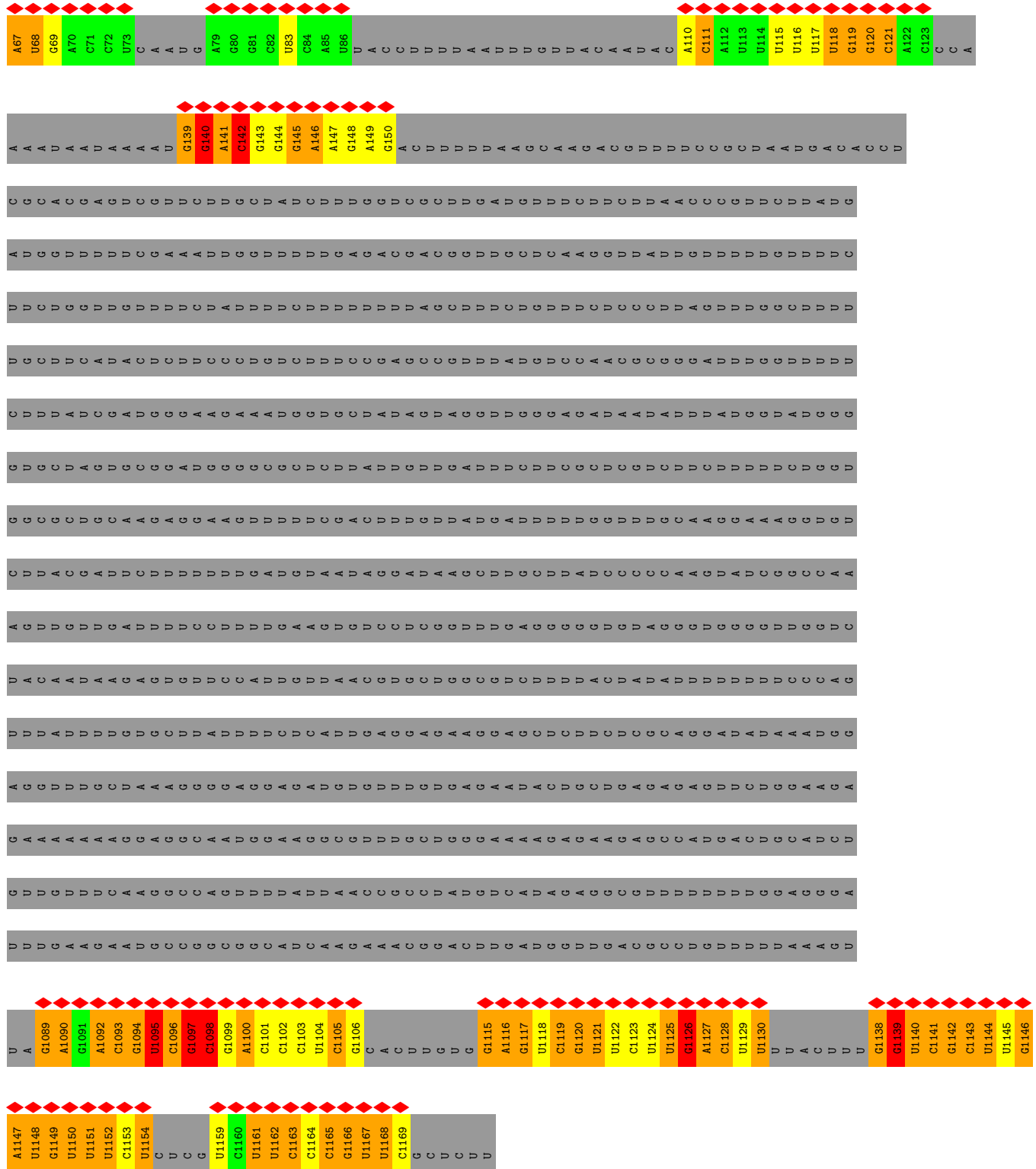


• Molecule 37: Pre-mRNA leakage protein 1



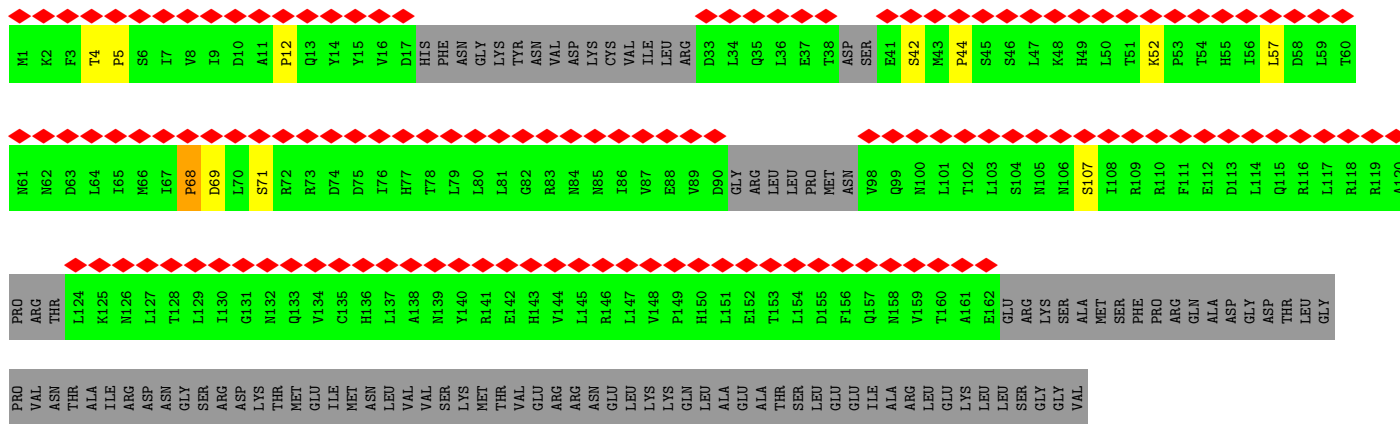
• Molecule 38: U2 snRNA



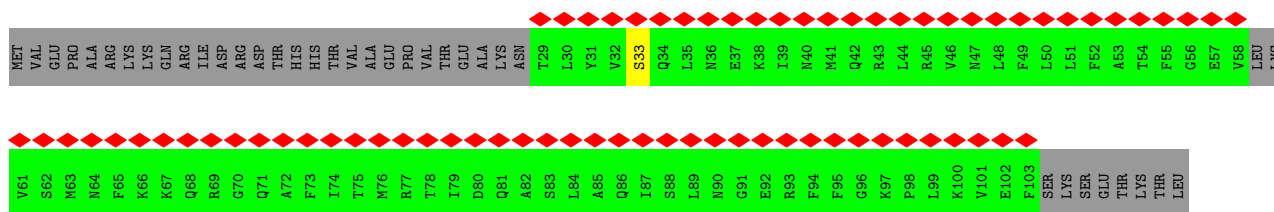


● Molecule 39: U2 small nuclear ribonucleoprotein A'

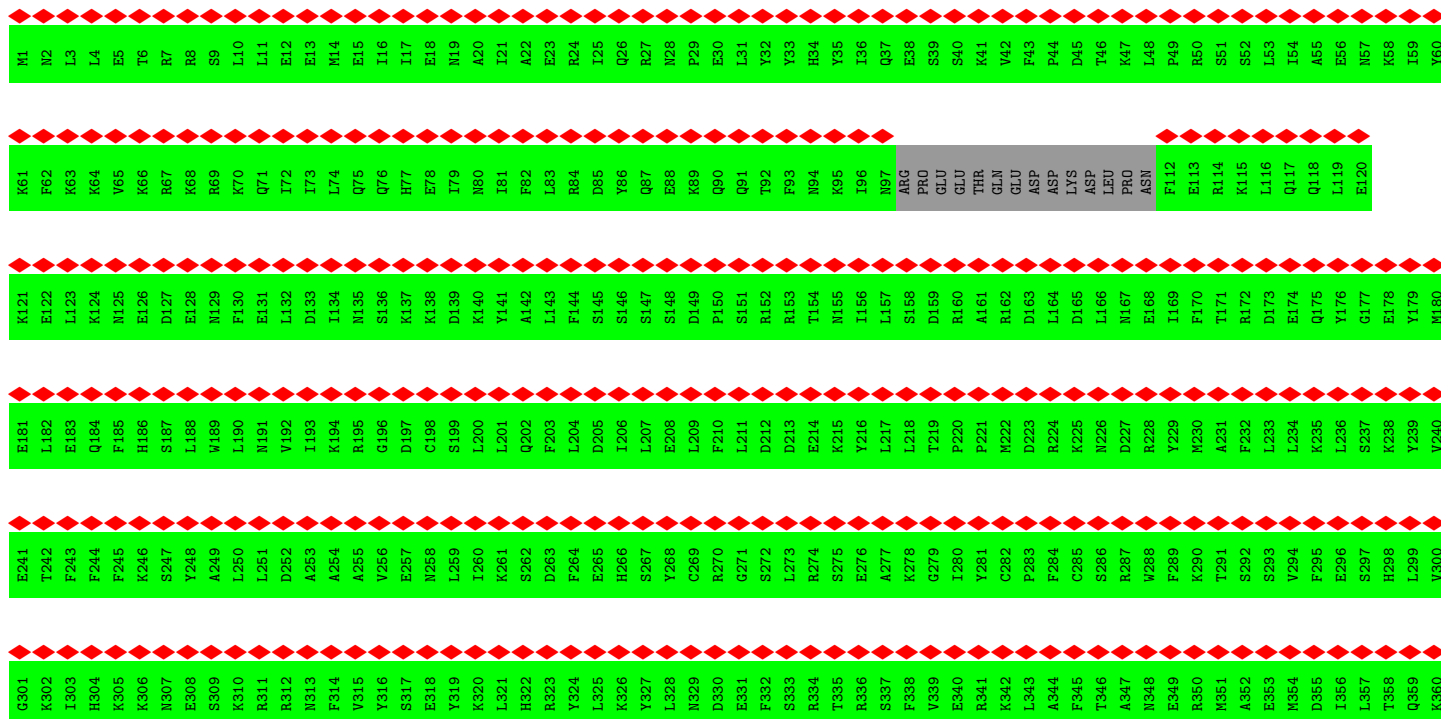
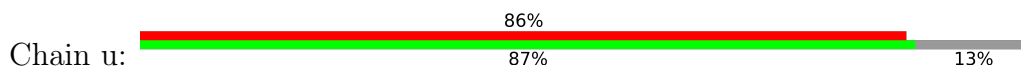


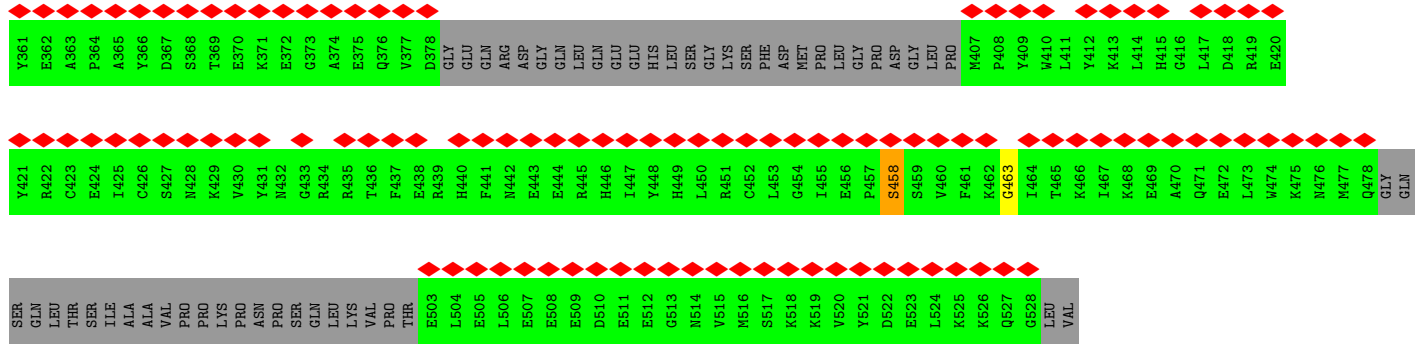


• Molecule 40: U2 small nuclear ribonucleoprotein B”

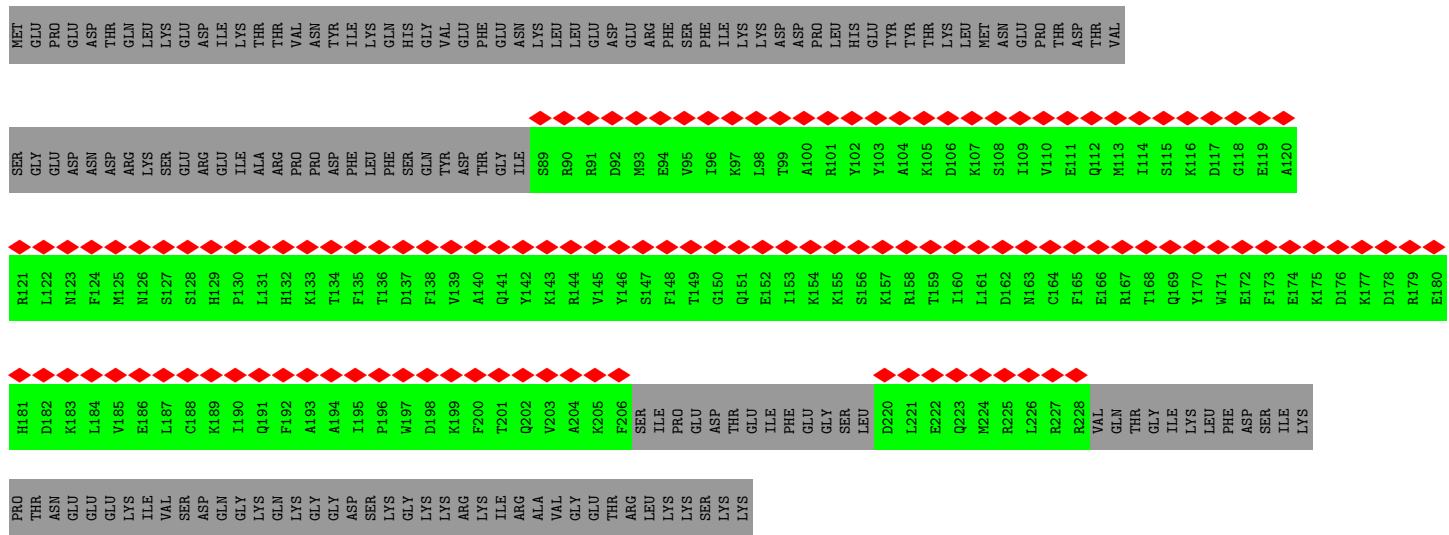


• Molecule 41: Pre-mRNA-splicing factor PRP9

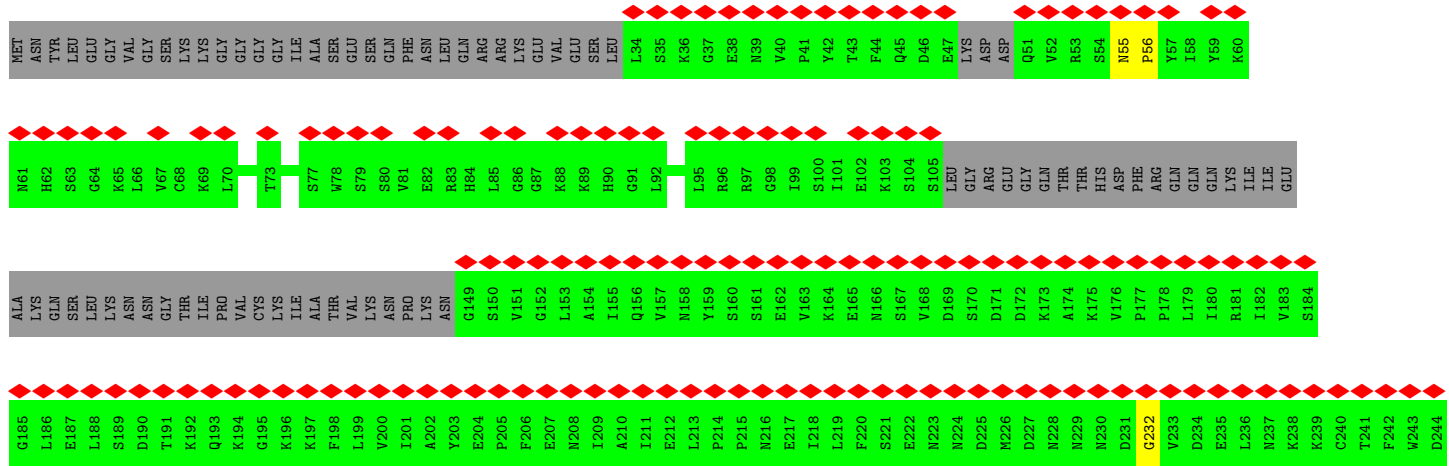




• Molecule 42: Pre-mRNA-splicing factor PRP21



• Molecule 43: Pre-mRNA-splicing factor PRP11



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	342588	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	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	0.249	Depositor
Minimum map value	-0.136	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.022	Depositor
Map size (\AA)	535.2, 535.2, 535.2	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	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: MG, GTP

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	0.78	12/17497 (0.1%)	0.73	18/23758 (0.1%)
2	K	0.60	0/3431	0.73	3/4631 (0.1%)
3	L	0.65	0/3219	0.71	1/4332 (0.0%)
4	N	0.44	0/4922	0.56	0/6683
5	J	0.50	0/2513	0.59	0/3374
6	E	0.72	0/1156	0.69	0/1557
7	M	0.80	0/963	0.78	0/1310
8	C	0.55	1/6874 (0.0%)	0.66	1/9305 (0.0%)
9	z	0.53	0/259	0.64	0/322
10	q	0.40	0/367	0.57	0/457
11	r	0.43	0/307	0.58	0/382
12	x	0.40	0/295	0.56	0/367
13	t	0.38	0/306	0.58	0/379
14	y	0.37	0/262	0.60	0/324
15	s	0.36	0/306	0.59	0/379
16	F	0.77	1/2277 (0.0%)	0.89	3/3534 (0.1%)
17	B	0.39	0/4106	0.78	2/6391 (0.0%)
18	O	0.58	0/567	0.65	0/757
19	S	0.27	0/403	0.53	0/559
19	d	0.46	0/315	0.52	0/392
19	l	0.42	0/373	0.70	0/516
20	P	0.28	0/344	0.54	0/476
20	a	0.42	0/290	0.47	0/359
20	h	0.36	0/374	0.57	0/518
21	Q	0.29	0/488	0.59	0/676
21	b	0.39	0/305	0.50	0/376
21	m	0.43	0/405	0.59	0/562
22	R	0.28	0/456	0.53	0/635
22	c	0.38	0/358	0.49	0/444
22	n	0.45	0/322	0.71	2/448 (0.4%)
23	T	0.28	0/377	0.55	0/521
23	e	0.40	0/285	0.48	0/351

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
23	i	0.43	0/367	0.61	0/507
24	U	0.29	0/358	0.58	0/496
24	f	0.42	0/278	0.46	0/344
24	j	0.42	0/342	0.63	0/472
25	V	0.28	0/368	0.61	0/510
25	g	0.38	0/277	0.49	0/341
25	k	0.38	0/338	0.61	0/467
26	I	1.17	9/2604 (0.3%)	1.25	19/4046 (0.5%)
27	D	0.29	0/8422	0.56	0/11741
28	G	0.61	7/1414 (0.5%)	0.83	0/2195
29	1	0.77	1/4043 (0.0%)	0.78	2/5637 (0.0%)
30	2	0.75	0/1039	0.78	0/1442
31	3	0.92	1/5844 (0.0%)	0.88	3/8140 (0.0%)
32	4	0.49	0/858	0.58	0/1190
33	5	0.91	0/506	0.79	0/702
34	6	0.97	0/414	0.84	0/575
35	X	0.47	0/630	0.60	0/875
36	Y	0.50	0/437	0.66	0/605
37	Z	0.47	0/108	0.55	0/149
38	H	1.06	30/3526 (0.9%)	1.42	76/5468 (1.4%)
39	o	0.76	1/668 (0.1%)	1.60	9/926 (1.0%)
40	p	0.63	0/359	1.32	1/497 (0.2%)
41	u	0.31	0/2294	0.45	0/3198
42	w	0.21	0/631	0.37	0/879
43	v	0.50	0/856	0.57	0/1187
44	W	0.24	0/494	0.46	0/685
45	0	0.24	0/825	0.44	0/1144
46	9	0.23	0/318	0.28	0/442
All	All	0.66	63/93340 (0.1%)	0.77	140/129935 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	10
2	K	0	6
3	L	0	3
4	N	0	4
5	J	0	3
7	M	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
8	C	0	6
19	l	0	2
22	n	0	2
25	V	0	1
25	k	0	1
27	D	0	4
29	1	0	2
30	2	0	3
31	3	0	15
41	u	0	1
45	0	0	2
All	All	0	67

All (63) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	H	1161	U	O3'-P	-15.67	1.42	1.61
38	H	1092	A	O3'-P	-14.82	1.43	1.61
38	H	1116	A	O3'-P	-11.49	1.47	1.61
38	H	1163	C	O5'-C5'	9.10	1.59	1.44
38	H	1116	A	C3'-O3'	-9.03	1.29	1.42
38	H	1127	A	O3'-P	-8.64	1.50	1.61
38	H	1167	U	O3'-P	8.57	1.71	1.61
38	H	1164	C	O3'-P	-8.12	1.51	1.61
26	I	142	G	N7-C5	-7.86	1.34	1.39
38	H	1162	U	P-O5'	7.58	1.67	1.59
38	H	1163	C	P-O5'	7.53	1.67	1.59
38	H	1117	G	P-O5'	7.19	1.67	1.59
38	H	1154	U	C1'-N1	7.06	1.59	1.48
39	o	69	ASP	CA-CB	-7.03	1.38	1.53
38	H	1096	C	O3'-P	7.00	1.69	1.61
38	H	1128	C	C5'-C4'	-6.97	1.43	1.51
38	H	1140	U	C1'-N1	6.90	1.59	1.48
1	A	266	LEU	C-N	6.57	1.46	1.34
38	H	1169	C	C1'-N1	6.55	1.58	1.48
38	H	1095	U	O3'-P	6.51	1.69	1.61
38	H	1117	G	C5'-C4'	6.33	1.58	1.51
38	H	1168	U	C5'-C4'	-6.25	1.43	1.51
38	H	1162	U	O3'-P	6.20	1.68	1.61
1	A	1609	TRP	CB-CG	-6.19	1.39	1.50
38	H	1162	U	O5'-C5'	6.09	1.54	1.44
26	I	142	G	C2-N2	-6.08	1.28	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
26	I	73	A	C1'-N9	-5.98	1.38	1.46
38	H	1165	C	O5'-C5'	5.96	1.53	1.44
1	A	1028	TRP	CB-CG	-5.95	1.39	1.50
38	H	1163	C	O3'-P	5.90	1.68	1.61
38	H	1151	U	O5'-C5'	-5.90	1.33	1.42
38	H	1162	U	C2-N3	5.89	1.41	1.37
38	H	1097	G	O3'-P	5.84	1.68	1.61
1	A	1169	TYR	CD2-CE2	-5.80	1.30	1.39
1	A	923	TYR	CD1-CE1	-5.79	1.30	1.39
38	H	1161	U	C3'-O3'	-5.76	1.34	1.42
8	C	214	ASP	C-N	-5.75	1.20	1.34
38	H	121	C	C1'-N1	5.73	1.57	1.48
26	I	26	A	N9-C4	-5.71	1.34	1.37
38	H	1162	U	C3'-C2'	-5.69	1.46	1.52
26	I	43	C	N1-C6	-5.66	1.33	1.37
26	I	74	U	C1'-N1	5.56	1.57	1.48
26	I	45	A	N7-C5	-5.55	1.35	1.39
1	A	923	TYR	CD2-CE2	-5.47	1.31	1.39
1	A	1610	TRP	CB-CG	-5.44	1.40	1.50
1	A	699	PRO	N-CD	5.30	1.55	1.47
1	A	1526	TRP	CB-CG	-5.29	1.40	1.50
1	A	899	PRO	N-CD	5.27	1.55	1.47
38	H	147	A	O3'-P	-5.26	1.54	1.61
16	F	16	C	P-OP1	-5.23	1.40	1.49
26	I	36	A	N9-C4	-5.23	1.34	1.37
29	1	548	LEU	CA-C	5.19	1.66	1.52
28	G	475	U	C1'-N1	5.19	1.56	1.48
28	G	477	U	C1'-N1	5.18	1.56	1.48
28	G	473	U	C1'-N1	5.17	1.56	1.48
28	G	476	U	C1'-N1	5.14	1.56	1.48
28	G	471	U	C1'-N1	5.13	1.56	1.48
28	G	472	U	C1'-N1	5.12	1.56	1.48
28	G	474	U	C1'-N1	5.10	1.56	1.48
1	A	1331	VAL	CB-CG1	-5.08	1.42	1.52
26	I	32	G	C5-C4	-5.07	1.34	1.38
31	3	1124	LEU	N-CA	-5.06	1.36	1.46
1	A	1345	TYR	CE2-CZ	-5.02	1.32	1.38

All (140) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	B	81	A	P-O3'-C3'	-15.08	101.61	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	H	1162	U	C5'-C4'-O4'	14.88	126.96	109.10
38	H	1093	C	P-O5'-C5'	14.75	144.50	120.90
38	H	1147	A	C5'-C4'-C3'	-14.15	93.36	116.00
38	H	1092	A	C2'-C3'-O3'	14.10	140.51	109.50
38	H	1098	C	N1-C1'-C2'	-13.34	96.66	114.00
29	1	548	LEU	CA-C-N	12.71	141.61	116.20
38	H	1151	U	C4'-C3'-O3'	-12.57	83.01	109.40
38	H	1151	U	P-O5'-C5'	11.64	139.52	120.90
38	H	1117	G	C5'-C4'-O4'	11.43	122.82	109.10
38	H	1117	G	C5'-C4'-C3'	-10.90	98.55	116.00
38	H	1163	C	C5'-C4'-O4'	10.53	121.74	109.10
29	1	548	LEU	O-C-N	-10.53	105.30	123.20
38	H	1126	G	N9-C1'-C2'	-10.01	100.99	114.00
26	I	142	G	N1-C6-O6	-9.86	113.98	119.90
38	H	1139	G	N9-C1'-C2'	-9.76	101.26	112.00
38	H	1163	C	C5'-C4'-C3'	-9.71	100.47	116.00
38	H	1147	A	P-O5'-C5'	9.63	136.31	120.90
1	A	1339	LEU	CB-CG-CD2	-9.46	94.91	111.00
38	H	1162	U	C5'-C4'-C3'	-9.16	101.34	116.00
38	H	1168	U	C4'-C3'-O3'	-9.00	90.51	109.40
39	o	44	PRO	N-CA-CB	8.81	113.87	103.30
38	H	142	C	N1-C1'-C2'	-8.79	102.33	112.00
26	I	142	G	C5-C6-O6	8.78	133.87	128.60
38	H	1152	U	P-O5'-C5'	8.71	134.83	120.90
38	H	1151	U	O4'-C1'-N1	8.62	115.10	108.20
38	H	1092	A	P-O5'-C5'	8.58	134.63	120.90
38	H	1148	U	C4'-C3'-O3'	-8.53	91.48	109.40
38	H	1165	C	C5'-C4'-C3'	-8.28	102.76	116.00
38	H	148	G	C5'-C4'-C3'	-8.26	102.78	116.00
26	I	142	G	N1-C2-N3	8.15	128.79	123.90
38	H	1151	U	C5'-C4'-O4'	8.04	118.75	109.10
38	H	1168	U	P-O5'-C5'	-7.92	108.22	120.90
38	H	1167	U	C2'-C3'-O3'	7.88	126.84	109.50
38	H	1092	A	C4'-C3'-O3'	-7.87	92.88	109.40
38	H	1165	C	C5'-C4'-O4'	7.86	118.53	109.10
26	I	71	U	C2-N1-C1'	7.84	127.11	117.70
38	H	1093	C	C5'-C4'-C3'	-7.75	103.59	116.00
38	H	1147	A	C4'-C3'-O3'	7.75	128.50	113.00
38	H	1161	U	C5'-C4'-C3'	-7.73	103.63	116.00
38	H	1169	C	P-O5'-C5'	-7.65	108.66	120.90
38	H	1097	G	C3'-C2'-O2'	7.62	135.39	113.30
38	H	1165	C	C4'-C3'-O3'	7.57	128.14	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	H	1115	G	O5'-P-OP1	-7.33	99.10	105.70
38	H	1168	U	C2'-C3'-O3'	7.29	125.53	109.50
39	o	5	PRO	N-CA-CB	7.27	112.03	103.30
38	H	1089	G	C4'-C3'-O3'	7.25	127.51	113.00
38	H	1128	C	C5'-C4'-O4'	7.25	117.79	109.10
39	o	42	SER	N-CA-CB	-7.24	99.63	110.50
38	H	1159	U	O5'-P-OP1	-7.19	99.23	105.70
26	I	71	U	N1-C2-O2	7.18	127.83	122.80
38	H	1089	G	O5'-P-OP1	-7.16	99.25	105.70
38	H	1159	U	O5'-P-OP2	-7.16	99.26	105.70
1	A	1539	LEU	CA-CB-CG	-7.15	98.85	115.30
1	A	1054	LEU	CA-CB-CG	-7.14	98.88	115.30
38	H	139	G	O5'-P-OP2	-7.11	99.31	105.70
38	H	139	G	O5'-P-OP1	-7.10	99.31	105.70
38	H	1089	G	O5'-P-OP2	-7.09	99.32	105.70
38	H	1115	G	C4'-C3'-O3'	7.04	127.07	113.00
38	H	1115	G	O5'-P-OP2	-6.98	99.42	105.70
39	o	12	PRO	N-CA-CB	6.77	111.42	103.30
38	H	1096	C	C1'-C2'-O2'	-6.68	90.56	110.60
26	I	4	C	N1-C2-O2	6.67	122.91	118.90
38	H	1129	U	C5'-C4'-O4'	6.64	117.07	109.10
26	I	32	G	C8-N9-C4	6.64	109.06	106.40
26	I	42	C	N3-C2-O2	-6.63	117.26	121.90
1	A	1557	LEU	CA-CB-CG	-6.58	100.17	115.30
38	H	140	G	N9-C1'-C2'	-6.52	104.83	112.00
38	H	148	G	C5'-C4'-O4'	6.49	116.89	109.10
1	A	1054	LEU	CB-CG-CD2	-6.47	99.99	111.00
26	I	142	G	C6-N1-C2	-6.47	121.22	125.10
26	I	59	C	N3-C4-C5	6.36	124.44	121.90
39	o	57	LEU	N-CA-CB	6.36	123.11	110.40
39	o	4	THR	N-CA-CB	-6.32	98.29	110.30
38	H	1092	A	N9-C1'-C2'	6.29	122.18	114.00
26	I	71	U	N3-C2-O2	-6.26	117.82	122.20
16	F	60	G	C8-N9-C4	6.25	108.90	106.40
38	H	1096	C	C4'-C3'-O3'	6.13	125.25	113.00
38	H	1152	U	C5'-C4'-C3'	-6.09	106.25	116.00
1	A	1123	LEU	CA-CB-CG	-6.09	101.30	115.30
38	H	1167	U	P-O3'-C3'	-6.04	112.46	119.70
38	H	1151	U	O3'-P-O5'	-6.01	92.58	104.00
1	A	916	LEU	CA-CB-CG	-5.97	101.56	115.30
38	H	1162	U	C4'-C3'-O3'	5.95	124.90	113.00
38	H	1167	U	C5'-C4'-O4'	-5.92	102.00	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	K	410	LEU	CA-CB-CG	-5.91	101.72	115.30
1	A	1125	LEU	CA-CB-CG	-5.91	101.72	115.30
17	B	81	A	O3'-P-O5'	5.89	115.19	104.00
38	H	1148	U	C5'-C4'-O4'	5.89	116.16	109.10
26	I	32	G	N9-C4-C5	-5.87	103.05	105.40
16	F	58	C	N1-C2-O2	5.84	122.40	118.90
38	H	1115	G	P-O3'-C3'	5.78	126.63	119.70
38	H	1162	U	C2'-C3'-O3'	-5.75	96.84	109.50
1	A	698	GLY	C-N-CD	5.75	140.48	128.40
26	I	4	C	N3-C2-O2	-5.73	117.89	121.90
1	A	898	ILE	C-N-CD	5.71	140.38	128.40
2	K	395	ILE	CG1-CB-CG2	-5.69	98.87	111.40
39	o	68	PRO	N-CA-CB	5.67	110.10	103.30
38	H	1162	U	P-O3'-C3'	5.62	126.45	119.70
26	I	142	G	C8-N9-C4	-5.62	104.15	106.40
26	I	71	U	C6-N1-C1'	-5.58	113.39	121.20
38	H	1167	U	C5'-C4'-C3'	5.57	124.91	116.00
22	n	81	GLY	CA-C-N	-5.56	104.97	117.20
8	C	598	ILE	CG1-CB-CG2	-5.55	99.20	111.40
38	H	1097	G	C2'-C3'-O3'	-5.54	97.31	109.50
38	H	1105	C	C4'-C3'-O3'	-5.49	97.87	109.40
38	H	1162	U	C4'-C3'-C2'	5.46	108.06	102.60
38	H	1168	U	C4'-C3'-C2'	-5.46	97.14	102.60
1	A	1412	LEU	CA-CB-CG	-5.41	102.86	115.30
38	H	1151	U	N1-C1'-C2'	5.39	121.01	114.00
1	A	1050	LEU	CA-CB-CG	5.38	127.68	115.30
38	H	1168	U	O3'-P-O5'	-5.36	93.82	104.00
26	I	36	A	C2-N3-C4	-5.34	107.93	110.60
38	H	1152	U	O4'-C4'-C3'	5.33	110.36	106.10
26	I	90	C	C2-N3-C4	5.31	122.55	119.90
31	3	1015	LEU	N-CA-C	5.28	125.27	111.00
1	A	1536	LEU	CA-CB-CG	-5.27	103.19	115.30
39	o	71	SER	N-CA-CB	-5.26	102.61	110.50
16	F	58	C	N3-C4-C5	5.26	124.00	121.90
1	A	1342	LEU	CB-CG-CD2	-5.24	102.09	111.00
31	3	856	ASP	N-CA-C	-5.22	96.90	111.00
31	3	667	THR	N-CA-CB	5.18	120.15	110.30
26	I	61	G	N9-C4-C5	-5.18	103.33	105.40
1	A	939	LEU	CB-CG-CD2	-5.16	102.23	111.00
38	H	1148	U	P-O5'-C5'	5.15	129.13	120.90
40	p	33	SER	N-CA-CB	5.12	118.19	110.50
39	o	107	SER	N-CA-CB	-5.12	102.83	110.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	H	1163	C	C4'-C3'-O3'	5.11	123.23	113.00
22	n	82	LYS	N-CA-C	5.11	124.81	111.00
3	L	367	ARG	NE-CZ-NH2	-5.11	117.75	120.30
38	H	1161	U	C5'-C4'-O4'	5.10	115.22	109.10
2	K	357	TRP	C-N-CA	-5.09	108.97	121.70
1	A	1122	ASP	CB-CG-OD1	-5.07	113.73	118.30
26	I	60	U	N3-C2-O2	-5.07	118.65	122.20
38	H	1147	A	O5'-C5'-C4'	5.06	121.31	111.70
38	H	146	A	C5'-C4'-C3'	-5.05	107.92	116.00
38	H	1169	C	O5'-C5'-C4'	-5.05	102.11	111.70
1	A	404	ASN	C-N-CA	-5.04	109.09	121.70
38	H	146	A	C5'-C4'-O4'	5.02	115.12	109.10
1	A	855	LEU	CA-CB-CG	-5.00	103.80	115.30

There are no chirality outliers.

All (67) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
45	0	15	LYS	Peptide
45	0	18	ASN	Peptide
29	1	389	GLY	Peptide
29	1	680	PRO	Mainchain
30	2	184	SER	Peptide
30	2	212	LEU	Peptide,Mainchain
31	3	1012	LYS	Peptide,Mainchain
31	3	1014	LYS	Peptide,Mainchain
31	3	1163	ALA	Peptide
31	3	1183	CYS	Peptide,Mainchain
31	3	185	ARG	Peptide
31	3	206	SER	Peptide
31	3	209	GLN	Peptide
31	3	666	LEU	Peptide
31	3	667	THR	Peptide,Mainchain
31	3	855	ALA	Peptide,Mainchain
1	A	1014	LYS	Peptide
1	A	1050	LEU	Peptide
1	A	1275	MET	Peptide
1	A	1346	PHE	Peptide
1	A	1352	ALA	Peptide
1	A	1388	PHE	Peptide
1	A	1528	THR	Peptide
1	A	239	PHE	Peptide

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Mol	Chain	Res	Type	Group
1	A	240	PRO	Peptide
1	A	255	ILE	Peptide
8	C	170	LEU	Peptide
8	C	171	GLY	Peptide
8	C	177	TYR	Peptide
8	C	363	PRO	Peptide
8	C	365	GLU	Peptide
8	C	534	THR	Peptide
27	D	1369	GLY	Peptide
27	D	684	LEU	Peptide
27	D	685	ARG	Peptide
27	D	790	ASP	Peptide
5	J	163	ASN	Peptide
5	J	283	ASN	Peptide
5	J	330	ASN	Peptide
2	K	205	GLN	Peptide
2	K	208	GLN	Peptide
2	K	382	ASP	Peptide
2	K	383	GLU	Peptide
2	K	393	ARG	Peptide
2	K	64	VAL	Peptide
3	L	345	SER	Peptide
3	L	397	GLU	Peptide
3	L	425	SER	Peptide
7	M	59	GLU	Peptide
7	M	9	PHE	Peptide
4	N	733	ASN	Peptide
4	N	734	PRO	Peptide
4	N	767	PHE	Peptide
4	N	802	GLN	Peptide
25	V	50	ASP	Peptide
25	k	41	ASP	Peptide
19	l	81	ALA	Peptide,Mainchain
22	n	81	GLY	Peptide,Mainchain
41	u	458	SER	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	17092	0	16374	1323	0
2	K	3375	0	3343	293	0
3	L	3171	0	3140	204	0
4	N	4882	0	3988	259	0
5	J	2467	0	2365	181	0
6	E	1135	0	1120	91	0
7	M	950	0	1004	56	0
8	C	6732	0	6904	495	0
9	z	260	0	72	0	0
10	q	368	0	99	0	0
11	r	308	0	80	0	0
12	x	296	0	83	0	0
13	t	308	0	85	0	0
14	y	264	0	76	0	0
15	s	308	0	85	0	0
16	F	2043	0	1033	275	0
17	B	3677	0	1859	272	0
18	O	568	0	537	56	0
19	S	404	0	180	1	0
19	d	316	0	86	0	0
19	l	375	0	164	0	0
20	P	346	0	146	4	0
20	a	292	0	78	0	0
20	h	376	0	162	0	0
21	Q	491	0	207	6	0
21	b	308	0	78	0	0
21	m	407	0	171	0	0
22	R	457	0	192	2	0
22	c	360	0	89	0	0
22	n	323	0	136	0	0
23	T	379	0	159	6	0
23	e	288	0	74	0	0
23	i	369	0	152	0	0
24	U	359	0	155	3	0
24	f	280	0	77	0	0
24	j	344	0	148	0	0
25	V	369	0	168	3	0
25	g	280	0	79	0	0
25	k	340	0	152	0	0
26	I	2334	0	1173	184	0
27	D	8422	0	3689	23	0
28	G	1264	0	636	69	0
29	l	4044	0	1793	21	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	2	1042	0	435	4	0
31	3	5852	0	2487	30	0
32	4	862	0	384	5	0
33	5	507	0	215	1	0
34	6	415	0	183	1	0
35	X	631	0	276	3	0
36	Y	439	0	194	5	0
37	Z	109	0	42	1	0
38	H	3169	0	1608	155	0
39	o	673	0	276	0	0
40	p	361	0	159	0	0
41	u	2298	0	979	0	0
42	w	633	0	273	0	0
43	v	859	0	364	0	0
44	W	497	0	204	11	0
45	0	830	0	341	6	0
46	9	320	0	141	0	0
47	C	32	0	12	7	0
48	C	1	0	0	0	0
All	All	91261	0	60964	3655	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 24.

All (3655) 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:1861:THR:CG2	18:O:161:ILE:HG12	1.34	1.56
1:A:1652:HIS:HE1	16:F:48:C:C6	1.21	1.53
5:J:350:PRO:CB	16:F:83:A:C8	1.94	1.51
1:A:1652:HIS:CE1	16:F:48:C:C6	1.95	1.50
5:J:350:PRO:HB2	16:F:83:A:C8	1.00	1.50
1:A:1650:ARG:HB2	16:F:49:A:C5'	1.52	1.38
1:A:1861:THR:HG22	18:O:161:ILE:CB	1.53	1.37
1:A:1861:THR:HG21	18:O:161:ILE:CG1	1.56	1.33
1:A:1861:THR:CG2	18:O:161:ILE:CG1	2.06	1.32
1:A:1861:THR:HG22	18:O:161:ILE:CG2	1.58	1.31
5:J:350:PRO:CG	16:F:84:C:H5	1.45	1.29
1:A:1861:THR:CG2	18:O:161:ILE:HG23	1.62	1.29
1:A:146:HIS:CD2	1:A:149:MET:HG3	1.67	1.28
1:A:146:HIS:HD2	1:A:149:MET:CG	1.45	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:B:73:U:C2'	17:B:74:U:H5'	1.64	1.27
1:A:1650:ARG:CB	16:F:49:A:C5'	2.13	1.26
16:F:31:G:H1'	16:F:32:U:OP1	1.36	1.25
1:A:654:HIS:CD2	1:A:701:CYS:SG	2.28	1.24
1:A:668:ARG:HB3	16:F:27:U:C1'	1.65	1.24
1:A:1664:ASP:OD1	18:O:213:SER:HB3	1.20	1.24
16:F:34:A:N6	16:F:47:A:N7	1.83	1.23
5:J:350:PRO:HB2	16:F:83:A:N7	1.53	1.22
1:A:668:ARG:HG2	16:F:27:U:O4'	1.07	1.22
1:A:667:TYR:HE1	16:F:26:A:O2'	1.20	1.21
1:A:1664:ASP:OD1	18:O:213:SER:CB	1.91	1.18
1:A:146:HIS:HD2	1:A:149:MET:CB	1.55	1.18
1:A:668:ARG:CG	16:F:27:U:O4'	1.91	1.18
1:A:614:ARG:CZ	16:F:29:U:OP1	1.92	1.17
1:A:1650:ARG:CB	16:F:49:A:H5'	1.70	1.17
16:F:29:U:O2'	16:F:30:G:H5'	1.45	1.16
28:G:487:A:H2'	28:G:488:A:H5'	1.27	1.15
38:H:1099:G:O2'	38:H:1100:A:H5'	1.42	1.15
5:J:350:PRO:CG	16:F:84:C:C5	2.29	1.15
8:C:472:VAL:HB	8:C:575:ALA:O	1.45	1.14
1:A:716:ARG:NH2	17:B:111:C:O2	1.82	1.13
1:A:1652:HIS:HE1	16:F:48:C:C5	1.65	1.12
1:A:1861:THR:CG2	18:O:161:ILE:CG2	2.23	1.12
1:A:153:MET:HE3	1:A:153:MET:H	1.15	1.11
17:B:74:U:H3'	17:B:75:A:H5'	1.18	1.11
1:A:668:ARG:CB	16:F:27:U:H1'	1.80	1.10
16:F:15:A:C6	16:F:16:C:N4	2.20	1.10
17:B:92:U:C5	17:B:93:G:N7	2.20	1.10
38:H:47:U:H2'	38:H:48:U:H5''	1.32	1.10
1:A:1651:ALA:N	16:F:49:A:OP2	1.84	1.10
1:A:146:HIS:CD2	1:A:149:MET:CG	2.29	1.09
5:J:350:PRO:HB3	16:F:84:C:C6	1.87	1.09
16:F:15:A:C4	16:F:16:C:C5	2.39	1.09
1:A:668:ARG:HE	16:F:27:U:H4'	1.12	1.08
17:B:44:A:H2'	17:B:45:A:C8	1.88	1.08
17:B:98:U:C2'	17:B:99:U:H5'	1.84	1.08
5:J:350:PRO:HG3	16:F:84:C:C5	1.86	1.08
17:B:44:A:H2'	17:B:45:A:H8	1.03	1.08
1:A:234:PHE:CZ	1:A:651:ASP:OD2	2.08	1.07
16:F:81:G:H2'	16:F:82:A:H5''	1.16	1.07
4:N:780:LEU:O	4:N:784:GLY:HA3	1.55	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:B:99:U:C5	17:B:100:A:H1'	1.90	1.06
1:A:1861:THR:CG2	18:O:161:ILE:CB	2.31	1.06
5:J:158:ILE:O	5:J:162:ASN:HB2	1.56	1.05
17:B:102:C:C4	17:B:103:A:N7	2.25	1.05
1:A:1861:THR:HG22	18:O:161:ILE:CA	1.86	1.04
1:A:701:CYS:SG	1:A:702:GLY:N	2.22	1.04
2:K:218:VAL:HG21	2:K:238:ALA:HB1	1.35	1.04
1:A:1862:VAL:O	18:O:160:THR:N	1.90	1.04
16:F:29:U:C2'	16:F:30:G:H5'	1.87	1.04
38:H:48:U:C5	38:H:49:U:C6	2.46	1.04
1:A:976:GLN:HE22	1:A:1310:LYS:HB3	1.15	1.04
28:G:514:U:H4'	28:G:515:U:H5'	1.40	1.04
1:A:146:HIS:CD2	1:A:149:MET:CB	2.40	1.03
1:A:1861:THR:HG22	18:O:161:ILE:HG23	1.22	1.02
16:F:31:G:C1'	16:F:32:U:OP1	2.08	1.02
17:B:41:A:H5'	17:B:41:A:H8	1.23	1.02
38:H:110:A:H4'	38:H:111:C:C5'	1.89	1.02
1:A:1862:VAL:N	18:O:160:THR:O	1.93	1.02
1:A:1907:GLN:NE2	18:O:169:ILE:O	1.93	1.02
8:C:867:THR:O	8:C:926:GLY:HA2	1.58	1.02
1:A:665:GLY:HA3	1:A:668:ARG:NH1	1.74	1.01
1:A:1652:HIS:NE2	16:F:48:C:H2'	1.75	1.01
38:H:110:A:C4'	38:H:111:C:H5'	1.91	0.99
1:A:1664:ASP:CG	18:O:213:SER:HB3	1.82	0.99
1:A:146:HIS:CD2	1:A:149:MET:HB2	1.95	0.99
17:B:74:U:H3'	17:B:75:A:C5'	1.92	0.99
1:A:1650:ARG:HB2	16:F:49:A:H5'	1.02	0.99
17:B:162:G:H3'	17:B:163:C:H4'	1.45	0.99
4:N:675:GLY:O	4:N:679:HIS:HB2	1.63	0.98
17:B:73:U:H2'	17:B:74:U:H5'	0.99	0.98
16:F:36:U:H6	16:F:36:U:H5''	1.28	0.97
26:I:91:U:O2	26:I:142:G:N2	1.95	0.97
17:B:43:G:H2'	17:B:44:A:C8	1.98	0.97
17:B:41:A:H5'	17:B:41:A:C8	1.99	0.96
1:A:149:MET:SD	1:A:154:TYR:CE2	2.58	0.96
8:C:133:ILE:HA	8:C:209:MET:O	1.64	0.96
1:A:667:TYR:CE1	16:F:26:A:O2'	2.05	0.96
17:B:73:U:C2'	17:B:74:U:C5'	2.44	0.96
1:A:789:ALA:HB1	1:A:816:ILE:HD11	1.47	0.96
2:K:232:ASN:HB3	2:K:247:GLN:HE22	1.30	0.96
4:N:826:LYS:O	4:N:830:ARG:HB2	1.63	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:F:46:U:C4	16:F:47:A:C2	2.54	0.96
1:A:152:LYS:HA	1:A:155:ASN:HB2	1.48	0.95
44:W:116:LEU:O	45:O:50:ARG:HA	1.65	0.95
28:G:479:A:H2'	28:G:480:A:C8	2.01	0.95
8:C:218:HIS:HE1	8:C:220:ASN:HD22	1.13	0.95
17:B:43:G:H2'	17:B:44:A:H8	1.28	0.95
16:F:27:U:H2'	16:F:28:U:O4'	1.66	0.94
1:A:900:PHE:CD2	1:A:901:PRO:HD2	2.02	0.94
17:B:98:U:H2'	17:B:99:U:H5'	1.49	0.94
1:A:603:LYS:NZ	16:F:43:C:C5'	2.31	0.94
1:A:1646:ILE:HD13	16:F:49:A:C6	2.02	0.94
26:I:91:U:H3	26:I:142:G:H1	0.94	0.94
8:C:603:PHE:HB3	8:C:646:GLY:O	1.68	0.94
38:H:1099:G:C2'	38:H:1100:A:H5'	1.97	0.94
17:B:96:U:H2'	17:B:97:U:C6	2.03	0.93
28:G:487:A:O2'	28:G:488:A:OP1	1.85	0.93
1:A:1710:GLU:HG2	1:A:1728:ILE:HG12	1.50	0.93
38:H:41:C:H6	38:H:41:C:H5''	1.33	0.93
1:A:1650:ARG:HB3	16:F:49:A:C5'	1.98	0.92
5:J:350:PRO:HB3	16:F:84:C:C5	2.04	0.92
17:B:74:U:C3'	17:B:75:A:H5'	1.98	0.92
38:H:110:A:H4'	38:H:111:C:H5'	0.95	0.92
1:A:668:ARG:HG2	16:F:27:U:C4'	1.99	0.92
38:H:1165:C:H2'	38:H:1166:G:H8	1.32	0.92
17:B:73:U:H2'	17:B:74:U:C5'	1.94	0.92
38:H:47:U:C2'	38:H:48:U:H5''	1.99	0.92
1:A:2398:LEU:O	44:W:60:ARG:HA	1.70	0.92
1:A:668:ARG:CB	16:F:27:U:C1'	2.43	0.92
17:B:44:A:C2'	17:B:45:A:H8	1.83	0.91
28:G:483:A:O2'	28:G:484:A:OP2	1.88	0.91
1:A:689:TYR:CE1	1:A:693:LYS:HG3	2.05	0.91
5:J:159:TYR:HH	5:J:168:TRP:HD1	1.18	0.91
1:A:1861:THR:HG23	18:O:161:ILE:HG23	1.49	0.91
16:F:11:U:H2'	16:F:12:U:H5''	1.50	0.91
28:G:487:A:N3	28:G:488:A:H4'	1.85	0.91
5:J:408:LEU:O	5:J:414:ASP:HA	1.71	0.91
17:B:22:G:H1	17:B:149:U:H3	0.98	0.91
1:A:603:LYS:NZ	16:F:43:C:H5'	1.86	0.91
38:H:1165:C:H2'	38:H:1166:G:C8	2.06	0.90
1:A:146:HIS:HA	1:A:149:MET:HG2	1.52	0.90
1:A:668:ARG:NE	16:F:27:U:H4'	1.85	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:350:PRO:CB	16:F:83:A:N7	2.20	0.90
1:A:1861:THR:CB	18:O:161:ILE:HG12	2.01	0.90
16:F:47:A:H3'	16:F:48:C:H5'	1.54	0.90
5:J:350:PRO:CG	16:F:83:A:N7	2.35	0.90
1:A:2067:TYR:HB3	18:O:194:LEU:HD22	1.50	0.90
5:J:350:PRO:HB3	16:F:84:C:H6	1.34	0.90
17:B:92:U:C5	17:B:93:G:C8	2.59	0.90
17:B:45:A:C2	17:B:46:C:C5	2.60	0.90
1:A:665:GLY:HA3	1:A:668:ARG:HH11	1.33	0.90
8:C:707:SER:O	8:C:823:ILE:HA	1.71	0.89
16:F:15:A:C4	16:F:16:C:H5	1.83	0.89
5:J:350:PRO:CB	16:F:84:C:C5	2.54	0.89
16:F:15:A:C2	16:F:16:C:C5	2.60	0.89
16:F:46:U:C5	16:F:47:A:C2	2.61	0.89
38:H:48:U:C5	38:H:49:U:N1	2.41	0.89
17:B:94:C:H3'	17:B:95:C:H5''	1.55	0.88
1:A:1689:ARG:NH2	16:F:45:A:H5'	1.89	0.88
1:A:900:PHE:CE1	1:A:959:LEU:CD1	2.57	0.88
1:A:1860:VAL:HA	1:A:1873:LYS:O	1.73	0.88
1:A:1652:HIS:NE2	16:F:48:C:OP2	2.06	0.88
29:1:830:MET:O	29:1:832:LYS:N	2.06	0.88
1:A:1701:ILE:O	1:A:1733:TRP:HA	1.74	0.88
4:N:780:LEU:O	4:N:784:GLY:CA	2.21	0.88
31:3:690:LEU:HA	31:3:703:MET:O	1.73	0.88
31:3:656:ILE:HA	31:3:662:SER:O	1.72	0.88
1:A:900:PHE:CE1	1:A:959:LEU:HD11	2.08	0.88
16:F:11:U:O4	16:F:15:A:N6	2.06	0.88
1:A:681:LYS:O	1:A:684:LYS:HB3	1.74	0.87
17:B:98:U:C4	17:B:99:U:C4	2.62	0.87
1:A:234:PHE:HZ	1:A:651:ASP:OD2	1.52	0.87
1:A:1652:HIS:CE1	16:F:48:C:H6	1.68	0.87
1:A:149:MET:SD	1:A:154:TYR:HE2	1.98	0.87
1:A:1774:MET:O	1:A:1786:ALA:HA	1.73	0.87
17:B:175:G:N2	17:B:176:A:H62	1.70	0.87
1:A:1704:GLU:HA	1:A:1731:LYS:HG2	1.57	0.87
1:A:1650:ARG:HB3	16:F:49:A:H5''	1.54	0.87
3:L:366:LYS:O	16:F:59:A:N6	2.07	0.87
16:F:81:G:C2'	16:F:82:A:H5''	2.05	0.86
1:A:353:GLU:HG2	17:B:104:G:OP1	1.75	0.86
1:A:1689:ARG:HH22	16:F:45:A:H5'	1.40	0.86
16:F:10:A:N6	16:F:11:U:O4	2.08	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:G:487:A:C2'	28:G:488:A:H5'	2.05	0.86
44:W:116:LEU:O	45:O:50:ARG:CA	2.24	0.86
5:J:158:ILE:O	5:J:162:ASN:CB	2.23	0.86
5:J:350:PRO:HB2	16:F:83:A:H8	1.07	0.86
16:F:15:A:N3	16:F:16:C:C5	2.43	0.86
16:F:83:A:O2'	16:F:84:C:OP2	1.92	0.86
2:K:439:LYS:NZ	7:M:122:GLU:OE1	2.09	0.86
1:A:934:ARG:HH21	3:L:436:LYS:H	1.23	0.86
26:I:97:U:H3	26:I:135:A:H61	1.23	0.86
1:A:614:ARG:NH2	16:F:29:U:OP1	2.08	0.86
26:I:146:U:H5''	26:I:147:U:H5'	1.56	0.86
5:J:442:MET:O	16:F:86:G:OP1	1.94	0.85
8:C:458:ILE:HB	8:C:590:LYS:HE2	1.58	0.85
8:C:316:THR:OG1	47:C:1500:GTP:N7	2.10	0.85
1:A:654:HIS:NE2	1:A:701:CYS:SG	2.45	0.85
1:A:1861:THR:HG22	18:O:161:ILE:HA	1.58	0.85
17:B:175:G:N2	17:B:176:A:N6	2.22	0.85
29:1:544:THR:O	29:1:548:LEU:N	2.07	0.85
1:A:668:ARG:HB3	16:F:27:U:H1'	0.86	0.85
28:G:514:U:O2'	28:G:515:U:OP2	1.93	0.85
1:A:964:PHE:CD2	1:A:1085:LYS:HD2	2.11	0.85
5:J:315:ARG:NH2	16:F:72:C:O2	2.10	0.85
1:A:1063:PHE:O	1:A:1066:LEU:N	2.10	0.85
17:B:92:U:C6	17:B:93:G:C8	2.65	0.85
28:G:487:A:C2	28:G:488:A:H4'	2.12	0.85
17:B:98:U:O2'	17:B:99:U:H5'	1.76	0.85
2:K:220:LYS:HB3	2:K:239:GLU:HB3	1.56	0.85
1:A:140:ARG:NH2	1:A:252:GLU:OE1	2.10	0.85
1:A:963:VAL:O	1:A:964:PHE:CD1	2.30	0.84
4:N:21:ARG:NH2	6:E:74:TYR:OH	2.09	0.84
1:A:603:LYS:HZ2	16:F:43:C:C5'	1.87	0.84
26:I:63:U:H2'	26:I:64:U:C5'	2.07	0.84
28:G:487:A:H2'	28:G:488:A:C5'	2.07	0.84
1:A:1088:VAL:HG12	1:A:1089:VAL:H	1.42	0.84
1:A:1911:TRP:CZ2	18:O:169:ILE:HD13	2.12	0.84
17:B:74:U:C3'	17:B:75:A:C5'	2.55	0.84
1:A:928:ARG:NH1	1:A:1586:GLN:OE1	2.10	0.84
28:G:479:A:O2'	28:G:480:A:H5'	1.76	0.84
1:A:581:LEU:O	1:A:585:ARG:HB2	1.77	0.84
1:A:1650:ARG:HB2	16:F:49:A:O5'	1.78	0.84
1:A:1916:GLU:O	1:A:1920:LEU:HB2	1.78	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:350:PRO:HG2	16:F:84:C:H5	1.42	0.84
1:A:900:PHE:CZ	1:A:959:LEU:HD11	2.12	0.84
8:C:765:VAL:HA	8:C:775:ILE:HG12	1.58	0.84
1:A:1214:ARG:HH12	1:A:1256:PRO:HD2	1.43	0.83
8:C:121:ASP:O	8:C:125:SER:HB2	1.77	0.83
1:A:152:LYS:O	1:A:155:ASN:HB3	1.79	0.83
16:F:36:U:H5''	16:F:36:U:C6	2.12	0.83
16:F:46:U:C5	16:F:47:A:H2	1.96	0.83
1:A:1378:LYS:NZ	16:F:30:G:N7	2.26	0.83
5:J:140:PRO:HA	5:J:146:GLU:HB2	1.59	0.83
8:C:501:ILE:HG21	8:C:570:ALA:HB1	1.59	0.83
1:A:1646:ILE:CD1	16:F:49:A:C6	2.61	0.83
2:K:116:GLU:O	2:K:119:PHE:HB3	1.78	0.83
1:A:150:ALA:HB3	1:A:153:MET:SD	2.19	0.82
5:J:167:GLU:HB3	5:J:169:TRP:HE3	1.42	0.82
1:A:1628:ASP:OD2	16:F:48:C:O2	1.96	0.82
3:L:147:GLU:HA	3:L:150:SER:HB2	1.60	0.82
5:J:350:PRO:HG2	16:F:83:A:N7	1.91	0.82
16:F:81:G:H2''	16:F:82:A:C5''	2.06	0.82
38:H:1099:G:O2''	38:H:1100:A:C5''	2.24	0.82
17:B:102:C:H42	17:B:103:A:H62	1.27	0.82
1:A:614:ARG:NH1	16:F:29:U:OP1	2.11	0.82
3:L:456:LEU:O	3:L:459:LEU:N	2.12	0.82
8:C:915:GLU:HG2	8:C:928:CYS:HB3	1.60	0.82
17:B:92:U:H2''	17:B:93:G:H5''	1.60	0.82
26:I:6:U:H2''	26:I:7:A:C8	2.15	0.82
16:F:15:A:C5	16:F:16:C:C5	2.68	0.82
3:L:160:HIS:O	3:L:164:LYS:HB3	1.79	0.81
5:J:350:PRO:CB	16:F:84:C:H5	1.91	0.81
17:B:102:C:N4	17:B:103:A:H62	1.78	0.81
8:C:220:ASN:O	8:C:647:ASN:ND2	2.12	0.81
26:I:134:U:H2''	26:I:135:A:H8	1.46	0.81
1:A:296:THR:HB	17:B:33:U:OP2	1.80	0.81
1:A:152:LYS:O	1:A:155:ASN:CB	2.28	0.81
1:A:1629:LEU:HD22	1:A:1652:HIS:ND1	1.95	0.81
3:L:376:LYS:NZ	26:I:55:U:O2''	2.13	0.81
3:L:281:GLN:NE2	26:I:37:U:O4	2.13	0.81
1:A:716:ARG:HE	17:B:112:C:H1''	1.46	0.81
2:K:395:ILE:HG22	2:K:396:VAL:H	1.45	0.81
8:C:274:ILE:HD13	8:C:385:PHE:HD2	1.46	0.80
1:A:1861:THR:HG21	18:O:161:ILE:HG12	0.82	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:153:MET:H	1:A:153:MET:CE	1.94	0.80
5:J:340:LYS:NZ	5:J:429:GLU:OE1	2.13	0.80
5:J:372:ILE:HB	5:J:376:GLY:HA3	1.63	0.80
1:A:1748:ILE:O	1:A:1751:TYR:N	2.14	0.80
2:K:213:LYS:NZ	2:K:215:ASP:OD1	2.13	0.80
17:B:8:U:H3	17:B:157:G:H1	1.30	0.80
38:H:1149:G:H5''	38:H:1149:G:C8	2.16	0.80
1:A:923:TYR:OH	1:A:936:GLU:OE1	1.99	0.80
2:K:316:GLN:NE2	2:K:320:SER:OG	2.15	0.80
1:A:1652:HIS:NE2	16:F:48:C:H6	1.80	0.80
29:1:835:ILE:O	29:1:837:PHE:N	2.15	0.80
1:A:299:LYS:HE3	17:B:115:G:OP1	1.82	0.80
1:A:900:PHE:CZ	1:A:959:LEU:CD1	2.64	0.80
8:C:605:ILE:HG13	8:C:652:MET:HE1	1.64	0.80
1:A:355:LEU:HD13	17:B:105:A:H5''	1.63	0.80
1:A:897:PRO:O	1:A:1006:ARG:NH1	2.14	0.80
1:A:1863:HIS:ND1	1:A:1864:LYS:N	2.29	0.80
1:A:900:PHE:CD2	1:A:901:PRO:CD	2.65	0.79
1:A:1652:HIS:CE1	16:F:48:C:H2'	2.16	0.79
2:K:121:ARG:HD3	2:K:337:ARG:O	1.81	0.79
16:F:46:U:H6	16:F:46:U:H5''	1.44	0.79
8:C:142:LEU:HD12	8:C:929:GLN:HE21	1.48	0.79
17:B:33:U:H6	17:B:33:U:H3'	1.47	0.79
1:A:699:PRO:HB2	16:F:1:G:P	2.22	0.79
4:N:792:THR:O	4:N:795:GLN:HB2	1.81	0.79
8:C:185:ILE:HD13	17:B:75:A:OP1	1.82	0.79
8:C:465:GLU:CD	8:C:466:GLY:H	1.85	0.79
27:D:539:LEU:O	27:D:543:TYR:CB	2.31	0.79
28:G:485:A:C2	28:G:486:A:C8	2.70	0.79
1:A:1651:ALA:H	16:F:49:A:P	2.06	0.79
8:C:603:PHE:O	8:C:645:LEU:HA	1.82	0.79
8:C:742:ASP:HB3	8:C:746:LYS:HD3	1.65	0.79
26:I:21:C:H2'	26:I:22:G:O4'	1.83	0.79
38:H:49:U:O4	38:H:66:A:N6	2.16	0.79
1:A:1836:ASN:H	1:A:1839:ASN:HB3	1.46	0.79
4:N:845:LEU:O	4:N:848:THR:OG1	1.99	0.79
16:F:11:U:H2'	16:F:12:U:C5'	2.13	0.79
28:G:505:A:O4'	28:G:505:A:OP1	2.00	0.79
2:K:460:SER:OG	2:K:462:LYS:NZ	2.15	0.78
8:C:107:THR:HA	8:C:110:LYS:HG2	1.66	0.78
2:K:177:PRO:O	2:K:194:SER:OG	2.02	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:G:486:A:H3'	28:G:486:A:N3	1.98	0.78
1:A:1511:ARG:O	1:A:1514:PHE:N	2.17	0.78
2:K:321:LEU:HD11	5:J:169:TRP:HE1	1.47	0.78
2:K:410:LEU:HB2	2:K:422:TYR:HB2	1.66	0.78
17:B:158:G:N2	17:B:160:U:O4	2.16	0.78
8:C:187:ARG:NH1	8:C:653:ASP:OD2	2.17	0.78
26:I:12:C:H2'	26:I:13:G:H8	1.48	0.78
26:I:30:G:OP1	26:I:31:U:O2'	1.99	0.78
8:C:219:VAL:HG21	8:C:931:TYR:HB3	1.63	0.78
8:C:236:LEU:HD21	8:C:435:LEU:HD11	1.64	0.78
8:C:727:THR:H	8:C:736:ASP:HB2	1.49	0.78
1:A:1689:ARG:HH22	16:F:45:A:C5'	1.97	0.78
17:B:33:U:O2'	17:B:34:C:OP2	2.00	0.78
8:C:132:ARG:NH2	8:C:207:SER:O	2.17	0.78
1:A:791:ARG:O	1:A:794:LYS:N	2.16	0.78
1:A:243:ASP:HB3	1:A:246:GLU:HB2	1.66	0.78
1:A:681:LYS:HE2	16:F:25:C:H42	1.49	0.77
4:N:522:ALA:O	4:N:526:TYR:CB	2.32	0.77
16:F:29:U:O2'	16:F:30:G:C5'	2.31	0.77
1:A:693:LYS:HA	1:A:693:LYS:HZ2	1.49	0.77
1:A:1134:LEU:O	1:A:1142:ASN:ND2	2.17	0.77
8:C:218:HIS:CE1	8:C:220:ASN:HD22	2.02	0.77
38:H:48:U:C6	38:H:49:U:C6	2.73	0.77
1:A:855:LEU:O	1:A:858:LYS:N	2.17	0.77
1:A:1800:ASN:O	1:A:1804:THR:HG23	1.85	0.77
1:A:713:ASN:HB3	17:B:84:A:H5'	1.67	0.77
1:A:770:MET:O	1:A:775:ARG:NH2	2.14	0.77
2:K:243:ILE:HB	2:K:261:LEU:HB2	1.65	0.77
17:B:166:U:O2'	17:B:167:A:OP1	2.00	0.77
8:C:273:LEU:HD11	8:C:279:LEU:HD22	1.65	0.77
1:A:358:ARG:NE	1:A:361:GLU:OE2	2.14	0.77
1:A:654:HIS:CE1	1:A:701:CYS:HG	2.02	0.77
5:J:345:LYS:HA	5:J:377:PRO:HB3	1.67	0.77
1:A:238:ARG:NH2	1:A:241:PRO:O	2.18	0.77
2:K:112:PRO:HA	5:J:217:VAL:N	2.00	0.77
26:I:98:G:H1	26:I:134:U:H3	1.31	0.76
2:K:44:ILE:HG13	2:K:45:PRO:HD2	1.67	0.76
4:N:598:PHE:O	4:N:602:LYS:CB	2.33	0.76
4:N:678:TYR:O	4:N:682:GLY:N	2.17	0.76
16:F:15:A:N1	16:F:16:C:C4	2.52	0.76
8:C:223:ASP:O	8:C:226:ALA:HB3	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:292:ILE:O	8:C:296:ASN:ND2	2.19	0.76
4:N:746:MET:HG2	4:N:749:ARG:HH22	1.50	0.76
5:J:242:LYS:O	5:J:245:ARG:N	2.18	0.76
6:E:30:ARG:HH21	6:E:61:LEU:HD13	1.50	0.76
8:C:193:LEU:HD23	8:C:224:GLU:HB3	1.67	0.76
8:C:233:ASP:OD1	8:C:487:ARG:NH2	2.19	0.76
1:A:1682:THR:HG1	1:A:1702:THR:HG1	1.28	0.76
2:K:44:ILE:O	2:K:73:ARG:NH2	2.18	0.76
8:C:452:LYS:HZ1	8:C:487:ARG:HH22	1.30	0.76
17:B:175:G:H21	17:B:176:A:H62	1.31	0.76
16:F:15:A:C5	16:F:16:C:H5	2.02	0.75
1:A:225:ARG:HH21	1:A:694:ASN:CG	1.87	0.75
28:G:485:A:C2	28:G:486:A:H8	2.04	0.75
1:A:1130:ARG:HH22	1:A:1153:GLU:HA	1.51	0.75
17:B:94:C:H2'	17:B:96:U:OP1	1.87	0.75
1:A:1709:TRP:N	1:A:1729:THR:O	2.20	0.75
1:A:2050:THR:O	1:A:2053:SER:OG	2.03	0.75
1:A:225:ARG:HG2	1:A:691:PHE:HB2	1.68	0.75
1:A:900:PHE:N	1:A:1075:ASP:OD2	2.18	0.75
1:A:1907:GLN:HA	1:A:1910:LYS:HD2	1.68	0.75
4:N:230:LEU:HD13	4:N:247:SER:HA	1.66	0.75
5:J:157:LYS:O	5:J:160:TYR:N	2.20	0.75
8:C:931:TYR:CD1	8:C:933:TRP:HD1	2.04	0.75
16:F:10:A:H61	16:F:16:C:H42	1.33	0.75
28:G:514:U:H4'	28:G:515:U:C5'	2.16	0.75
1:A:146:HIS:O	1:A:149:MET:N	2.19	0.75
1:A:1889:LEU:HD12	1:A:1989:PHE:HB2	1.68	0.75
17:B:162:G:H3'	17:B:163:C:C4'	2.16	0.75
1:A:1652:HIS:CE1	16:F:48:C:C5	2.53	0.75
8:C:328:VAL:HG13	8:C:332:TYR:HB2	1.66	0.75
8:C:603:PHE:CB	8:C:646:GLY:O	2.34	0.75
4:N:286:GLU:HG3	4:N:287:SER:H	1.52	0.75
17:B:96:U:H3'	17:B:97:U:H6	1.52	0.75
29:1:680:PRO:N	29:1:681:PRO:HA	2.00	0.75
1:A:1330:LYS:O	1:A:1333:ALA:N	2.20	0.75
28:G:500:A:H5'	28:G:500:A:C8	2.22	0.75
1:A:1376:ASN:OD1	1:A:1377:SER:N	2.20	0.74
4:N:401:ILE:O	4:N:405:SER:N	2.20	0.74
26:I:5:U:H2'	26:I:6:U:H6	1.52	0.74
1:A:694:ASN:ND2	1:A:694:ASN:H	1.85	0.74
1:A:1910:LYS:O	1:A:1913:THR:OG1	2.04	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:193:THR:O	3:L:196:GLN:N	2.20	0.74
6:E:51:GLU:OE1	6:E:51:GLU:N	2.19	0.74
17:B:83:C:O2'	17:B:84:A:O5'	2.05	0.74
44:W:131:PHE:O	44:W:135:TYR:CB	2.35	0.74
1:A:1861:THR:O	1:A:1872:THR:HA	1.85	0.74
1:A:1681:VAL:HA	1:A:1702:THR:O	1.87	0.74
6:E:138:ASN:OD1	6:E:139:HIS:N	2.20	0.74
16:F:15:A:H2'	16:F:16:C:H6	1.52	0.74
38:H:1138:G:P	38:H:1138:G:O4'	2.45	0.74
1:A:881:THR:O	1:A:884:SER:OG	2.06	0.74
8:C:484:SER:O	8:C:563:LEU:HA	1.88	0.74
1:A:146:HIS:HD2	1:A:149:MET:HB2	1.34	0.74
1:A:152:LYS:C	1:A:155:ASN:H	1.90	0.74
1:A:346:ILE:HD11	1:A:385:VAL:HG21	1.70	0.74
4:N:15:TYR:HE2	6:E:13:TRP:HD1	1.33	0.74
16:F:15:A:N6	16:F:16:C:N4	2.36	0.74
17:B:103:A:O2'	17:B:104:G:O5'	2.05	0.74
1:A:1356:LEU:O	1:A:1359:ILE:N	2.20	0.74
1:A:2069:VAL:HG22	18:O:198:GLN:NE2	2.02	0.74
16:F:46:U:H6	16:F:46:U:C5'	2.00	0.74
17:B:93:G:O3'	17:B:94:C:O4'	2.05	0.74
26:I:134:U:H2'	26:I:135:A:C8	2.23	0.74
28:G:487:A:HO2'	28:G:488:A:P	2.09	0.74
1:A:1717:LEU:O	1:A:1799:GLN:NE2	2.20	0.74
26:I:46:G:H2'	26:I:47:A:H8	1.53	0.74
1:A:1490:ARG:NH1	1:A:1535:LYS:O	2.20	0.74
8:C:636:VAL:HG22	8:C:642:HIS:HD1	1.52	0.74
16:F:15:A:C6	16:F:16:C:C4	2.75	0.74
1:A:146:HIS:O	1:A:149:MET:HB2	1.88	0.73
1:A:961:GLN:HG3	1:A:964:PHE:CE1	2.23	0.73
1:A:1087:ASN:HD21	3:L:272:LEU:HG	1.52	0.73
17:B:33:U:H4'	17:B:34:C:O5'	1.88	0.73
1:A:1883:ASN:ND2	1:A:1886:THR:OG1	2.20	0.73
2:K:119:PHE:O	2:K:122:ARG:HB2	1.88	0.73
5:J:344:PHE:O	5:J:377:PRO:HA	1.88	0.73
16:F:33:C:H42	16:F:51:A:H61	1.36	0.73
17:B:92:U:H2'	17:B:93:G:O4'	1.88	0.73
2:K:309:GLY:H	2:K:327:MET:HE2	1.50	0.73
8:C:445:PRO:O	8:C:449:PHE:HB2	1.88	0.73
16:F:15:A:N6	16:F:16:C:H41	1.85	0.73
1:A:1861:THR:HA	18:O:161:ILE:HA	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:327:THR:HG22	3:L:328:VAL:H	1.54	0.73
4:N:311:PHE:O	4:N:315:ASP:CB	2.36	0.73
1:A:900:PHE:CE1	1:A:959:LEU:HD12	2.23	0.73
16:F:15:A:C2	16:F:16:C:C4	2.76	0.73
1:A:1068:ARG:O	1:A:1071:ARG:N	2.21	0.73
1:A:1907:GLN:O	1:A:1910:LYS:HG2	1.88	0.73
17:B:32:G:H4'	17:B:33:U:OP2	1.88	0.73
38:H:48:U:H5	38:H:49:U:C6	2.02	0.73
1:A:1652:HIS:CD2	16:F:48:C:OP2	2.42	0.73
3:L:455:PHE:O	3:L:458:SER:OG	2.06	0.73
4:N:325:ARG:O	4:N:329:LYS:CB	2.36	0.73
1:A:1952:PRO:HB2	3:L:426:GLY:H	1.52	0.73
38:H:142:C:H2'	38:H:143:G:H8	1.52	0.73
1:A:1002:GLU:O	1:A:1005:GLN:N	2.22	0.72
1:A:1020:ILE:HG22	1:A:1022:PRO:HD2	1.71	0.72
1:A:1447:TRP:HB3	1:A:1451:PHE:CE2	2.23	0.72
17:B:80:G:C2	17:B:82:A:C2	2.77	0.72
2:K:446:SER:OG	2:K:451:PHE:HB2	1.90	0.72
17:B:92:U:C4	17:B:93:G:C5	2.76	0.72
1:A:787:SER:O	1:A:790:TRP:N	2.23	0.72
2:K:154:SER:O	2:K:157:THR:OG1	2.07	0.72
16:F:72:C:H2'	16:F:73:A:H8	1.53	0.72
2:K:271:VAL:HA	2:K:281:GLY:O	1.89	0.72
3:L:221:LYS:HA	3:L:224:ILE:HD12	1.71	0.72
1:A:228:LYS:NZ	1:A:698:GLY:HA3	2.05	0.72
2:K:395:ILE:HD11	7:M:123:THR:HA	1.70	0.72
38:H:1093:C:H2'	38:H:1094:G:O4'	1.90	0.72
1:A:603:LYS:HZ2	16:F:43:C:H5''	1.53	0.72
4:N:15:TYR:CE2	6:E:13:TRP:HD1	2.08	0.72
26:I:76:A:OP2	27:D:590:GLY:HA3	1.89	0.72
38:H:48:U:C2'	38:H:49:U:H5'	2.19	0.72
3:L:335:ALA:O	3:L:338:SER:OG	2.06	0.72
4:N:695:THR:HG22	4:N:704:LEU:HB3	1.72	0.72
31:3:547:ASN:HA	31:3:563:ILE:O	1.90	0.72
38:H:140:G:H1	38:H:1168:U:H3	1.37	0.72
38:H:142:C:H2'	38:H:143:G:C8	2.24	0.72
1:A:570:GLN:O	1:A:574:GLN:HB2	1.89	0.71
1:A:964:PHE:CE2	1:A:1085:LYS:HD2	2.24	0.71
28:G:500:A:H5'	28:G:500:A:H8	1.54	0.71
38:H:68:U:C4	38:H:69:G:N7	2.58	0.71
1:A:689:TYR:CE1	1:A:693:LYS:CG	2.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2398:LEU:O	44:W:59:LYS:O	2.06	0.71
17:B:162:G:O3'	17:B:164:C:OP1	2.08	0.71
1:A:1762:ASP:OD1	1:A:1763:ASN:N	2.24	0.71
2:K:223:ALA:N	2:K:237:CYS:SG	2.63	0.71
8:C:306:PRO:HG2	8:C:349:TRP:CD2	2.25	0.71
17:B:44:A:C4	17:B:45:A:C8	2.79	0.71
17:B:102:C:H2'	17:B:103:A:H5'	1.71	0.71
1:A:151:SER:OG	1:A:152:LYS:HG3	1.90	0.71
1:A:1277:GLU:OE1	1:A:1277:GLU:N	2.24	0.71
5:J:368:LEU:HD23	5:J:437:PHE:HE1	1.55	0.71
1:A:2046:GLU:HA	1:A:2049:ILE:HD12	1.72	0.71
17:B:92:U:C4	17:B:93:G:N7	2.57	0.71
1:A:152:LYS:O	1:A:155:ASN:N	2.23	0.71
1:A:319:ARG:HH22	1:A:504:LYS:HE2	1.55	0.71
3:L:120:TYR:CZ	3:L:141:ILE:HG21	2.25	0.71
1:A:693:LYS:HA	1:A:693:LYS:NZ	2.05	0.71
3:L:359:PRO:O	6:E:122:ARG:NH1	2.23	0.71
38:H:119:G:H4'	38:H:119:G:OP1	1.90	0.71
1:A:372:ARG:HB3	8:C:973:ARG:HE	1.56	0.71
1:A:1145:MET:O	1:A:1146:GLN:HG3	1.90	0.70
17:B:98:U:C5	17:B:99:U:C5	2.79	0.70
1:A:654:HIS:CG	1:A:701:CYS:SG	2.84	0.70
1:A:776:GLN:N	1:A:776:GLN:OE1	2.24	0.70
4:N:562:MET:O	4:N:566:SER:CB	2.39	0.70
8:C:452:LYS:HZ2	8:C:487:ARG:HH12	1.40	0.70
1:A:252:GLU:HG2	1:A:253:GLN:HG3	1.73	0.70
1:A:1507:GLY:O	1:A:1511:ARG:NH2	2.24	0.70
1:A:1585:MET:SD	1:A:1588:LYS:NZ	2.63	0.70
1:A:1862:VAL:HG22	1:A:1872:THR:HG22	1.74	0.70
38:H:48:U:H2'	38:H:49:U:O4'	1.90	0.70
1:A:338:ASN:ND2	1:A:399:ARG:O	2.18	0.70
1:A:1861:THR:HG21	18:O:161:ILE:CD1	2.20	0.70
1:A:2268:PHE:CB	1:A:2331:PRO:CB	2.69	0.70
4:N:781:PHE:HA	4:N:784:GLY:HA3	1.73	0.70
1:A:1737:GLN:O	1:A:1776:GLY:HA2	1.91	0.70
2:K:375:VAL:O	2:K:386:LEU:HA	1.92	0.70
17:B:93:G:H5'	17:B:94:C:OP2	1.92	0.70
4:N:821:TYR:O	4:N:824:SER:OG	2.08	0.70
5:J:436:LYS:NZ	5:J:459:ASP:OD2	2.25	0.70
8:C:274:ILE:HD12	8:C:382:TYR:HD1	1.56	0.70
38:H:1138:G:HO2'	38:H:1139:G:H8	1.36	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:185:GLN:HG2	1:A:263:PRO:HD3	1.71	0.70
1:A:863:ARG:HG3	1:A:864:GLN:N	2.07	0.70
8:C:341:ILE:O	8:C:344:PHE:N	2.23	0.70
8:C:544:LEU:HG	8:C:553:VAL:HG21	1.74	0.70
17:B:83:C:H4'	17:B:84:A:OP1	1.91	0.70
17:B:163:C:H4'	17:B:164:C:OP1	1.91	0.70
26:I:12:C:H2'	26:I:13:G:C8	2.27	0.70
1:A:174:LYS:O	1:A:178:ASN:ND2	2.21	0.70
5:J:259:LYS:HB3	5:J:265:LEU:HD13	1.73	0.70
8:C:499:VAL:HG13	8:C:579:SER:HB2	1.74	0.70
26:I:97:U:H2'	26:I:98:G:C8	2.26	0.70
1:A:153:MET:HE3	1:A:153:MET:N	1.99	0.70
8:C:365:GLU:HG3	8:C:366:ASN:H	1.56	0.70
16:F:33:C:O2'	16:F:34:A:O5'	2.09	0.70
38:H:118:U:H4'	38:H:119:G:OP1	1.91	0.70
1:A:1339:LEU:HD21	1:A:1440:ILE:HD11	1.73	0.70
4:N:602:LYS:O	4:N:606:ARG:N	2.24	0.70
4:N:826:LYS:O	4:N:830:ARG:CB	2.40	0.70
27:D:1895:ARG:O	27:D:1897:GLY:N	2.16	0.70
1:A:934:ARG:NH2	3:L:436:LYS:H	1.90	0.69
1:A:1951:PHE:HB3	1:A:1954:ILE:HD12	1.74	0.69
4:N:238:PRO:O	4:N:244:TRP:NE1	2.25	0.69
17:B:91:U:H2'	17:B:92:U:H5''	1.73	0.69
1:A:639:PHE:HA	1:A:644:VAL:HB	1.73	0.69
1:A:956:LYS:HD3	3:L:452:ALA:HA	1.73	0.69
1:A:1323:SER:O	1:A:1370:ARG:NH2	2.24	0.69
4:N:124:ASP:OD1	4:N:125:ALA:N	2.25	0.69
16:F:28:U:H2'	16:F:29:U:H5'	1.75	0.69
38:H:48:U:H5	38:H:49:U:C5	2.10	0.69
1:A:1125:LEU:O	1:A:1233:ARG:NH1	2.26	0.69
1:A:1739:ARG:NH2	1:A:1745:SER:OG	2.25	0.69
4:N:9:GLN:HB3	4:N:11:PRO:HD3	1.74	0.69
8:C:133:ILE:CA	8:C:209:MET:O	2.39	0.69
8:C:142:LEU:HD11	8:C:218:HIS:CD2	2.27	0.69
8:C:223:ASP:HB3	8:C:630:PRO:HG2	1.75	0.69
26:I:91:U:O2'	26:I:92:C:OP1	2.08	0.69
1:A:395:PRO:HB2	1:A:398:VAL:HG21	1.74	0.69
1:A:1011:ASN:ND2	1:A:1143:GLU:O	2.25	0.69
1:A:2069:VAL:CG2	18:O:198:GLN:HE21	2.05	0.69
4:N:690:THR:O	4:N:693:SER:OG	2.07	0.69
1:A:2006:SER:O	1:A:2009:THR:OG1	2.09	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1101:ILE:O	27:D:1105:ALA:HB2	1.92	0.69
23:T:40:LYS:O	23:T:57:ALA:HA	1.93	0.69
1:A:194:HIS:HA	1:A:557:PHE:HD1	1.58	0.69
1:A:796:ASN:ND2	1:A:861:GLN:OE1	2.24	0.69
1:A:1341:SER:HA	1:A:1525:PHE:HE1	1.58	0.69
1:A:1446:THR:OG1	1:A:1449:ASN:ND2	2.25	0.69
4:N:482:LEU:O	4:N:486:ASP:CB	2.40	0.69
5:J:443:LYS:HG2	5:J:444:VAL:H	1.58	0.69
7:M:56:ALA:HB2	7:M:80:PHE:HB3	1.73	0.69
16:F:47:A:C3'	16:F:48:C:H5'	2.22	0.69
17:B:75:A:H3'	17:B:77:A:OP2	1.93	0.69
1:A:886:MET:O	1:A:889:TRP:N	2.26	0.69
1:A:1286:TRP:HA	1:A:1448:GLU:OE2	1.93	0.69
3:L:192:LYS:O	3:L:195:THR:OG1	2.11	0.69
4:N:10:GLU:HG2	6:E:14:HIS:CE1	2.28	0.69
8:C:718:LYS:NZ	8:C:754:GLU:O	2.26	0.69
1:A:668:ARG:CG	16:F:27:U:C1'	2.71	0.69
4:N:706:VAL:O	4:N:710:LYS:HB2	1.93	0.69
7:M:24:VAL:O	7:M:27:ALA:N	2.22	0.69
8:C:266:VAL:HG22	8:C:312:ILE:HB	1.75	0.69
17:B:95:C:O3'	17:B:96:U:O4'	2.11	0.69
26:I:99:G:H4'	27:D:1186:GLU:CB	2.23	0.69
29:1:541:VAL:O	29:1:545:VAL:N	2.26	0.69
1:A:1347:ARG:NH1	1:A:1450:GLU:OE2	2.26	0.68
1:A:1861:THR:CG2	18:O:161:ILE:HA	2.23	0.68
8:C:794:GLN:HG2	8:C:835:LYS:HG2	1.74	0.68
17:B:95:C:H1'	17:B:96:U:O4'	1.92	0.68
17:B:95:C:H4'	17:B:96:U:OP1	1.91	0.68
38:H:1149:G:H2'	38:H:1150:U:H6	1.58	0.68
2:K:137:GLN:O	2:K:140:MET:HB3	1.93	0.68
4:N:666:ILE:HG22	4:N:667:CYS:H	1.58	0.68
4:N:842:TRP:HA	4:N:845:LEU:HD12	1.74	0.68
8:C:400:LEU:HB3	8:C:406:VAL:HB	1.73	0.68
2:K:232:ASN:O	2:K:247:GLN:NE2	2.26	0.68
8:C:222:MET:O	8:C:225:THR:OG1	2.11	0.68
8:C:748:SER:HB2	8:C:762:SER:HB2	1.75	0.68
17:B:73:U:O2'	17:B:74:U:C5'	2.41	0.68
38:H:1092:A:H3'	38:H:1093:C:H6	1.58	0.68
1:A:497:GLN:OE1	1:A:497:GLN:N	2.22	0.68
1:A:1118:GLY:HA3	1:A:1163:ARG:HH12	1.58	0.68
1:A:1447:TRP:HB3	1:A:1451:PHE:HE2	1.59	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:400:ARG:NH1	2:K:444:ASP:OD1	2.25	0.68
4:N:80:GLN:O	4:N:84:LYS:CB	2.41	0.68
4:N:809:LEU:HD12	4:N:841:THR:HG22	1.74	0.68
27:D:757:LEU:O	27:D:761:PHE:CB	2.41	0.68
1:A:353:GLU:CG	17:B:104:G:OP1	2.40	0.68
1:A:1819:ILE:O	1:A:1822:GLY:N	2.26	0.68
4:N:116:GLU:HA	4:N:119:TRP:HD1	1.59	0.68
4:N:668:HIS:HA	4:N:671:PHE:HD2	1.58	0.68
8:C:843:LYS:HG2	8:C:847:TYR:CE2	2.29	0.68
27:D:639:LEU:HA	27:D:644:GLY:HA3	1.74	0.68
1:A:1043:ARG:O	1:A:1045:GLN:N	2.26	0.68
1:A:1666:CYS:O	1:A:1670:ASP:HB2	1.91	0.68
1:A:1094:ASP:OD1	4:N:134:ARG:NH1	2.26	0.68
1:A:1303:LYS:HG2	1:A:1304:VAL:H	1.59	0.68
1:A:1711:VAL:HG13	1:A:1789:ASN:HB3	1.75	0.68
4:N:813:VAL:O	4:N:816:TYR:N	2.27	0.68
8:C:341:ILE:HG13	8:C:342:ASP:H	1.58	0.68
8:C:398:ASN:OD1	8:C:401:ARG:NH2	2.26	0.68
26:I:46:G:H2'	26:I:47:A:C8	2.28	0.68
1:A:1384:PRO:HG2	1:A:1387:VAL:HG23	1.75	0.68
1:A:2069:VAL:CG2	18:O:198:GLN:NE2	2.57	0.68
8:C:234:LEU:HB3	8:C:262:ALA:HB3	1.76	0.68
8:C:493:LEU:HB2	8:C:556:ALA:HB3	1.74	0.68
28:G:485:A:N3	28:G:486:A:H8	1.91	0.68
16:F:50:G:H4'	16:F:51:A:OP2	1.92	0.67
1:A:327:TYR:HH	1:A:509:HIS:HD1	1.41	0.67
8:C:769:TYR:HA	8:C:800:TYR:HE1	1.58	0.67
8:C:850:LEU:HG	8:C:855:PRO:HB3	1.74	0.67
2:K:120:ALA:O	2:K:123:PHE:HB3	1.94	0.67
4:N:293:LYS:HA	4:N:296:VAL:HB	1.75	0.67
8:C:761:ALA:O	8:C:765:VAL:N	2.26	0.67
17:B:147:C:H2'	17:B:148:G:H8	1.56	0.67
38:H:41:C:H6	38:H:41:C:C5'	2.03	0.67
1:A:217:TRP:HE1	1:A:703:PHE:HD1	1.41	0.67
5:J:344:PHE:HB3	5:J:424:ILE:HD13	1.77	0.67
8:C:637:GLU:OE1	8:C:974:LYS:NZ	2.28	0.67
26:I:77:U:C2	27:D:1107:ARG:HA	2.28	0.67
28:G:485:A:N3	28:G:486:A:C8	2.62	0.67
1:A:861:GLN:HE21	1:A:1097:HIS:HB3	1.58	0.67
3:L:361:ASP:OD1	3:L:362:GLN:N	2.27	0.67
16:F:15:A:N1	16:F:16:C:N4	2.42	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Z:40:LEU:O	37:Z:43:ASN:O	2.12	0.67
8:C:185:ILE:HG21	17:B:75:A:OP1	1.93	0.67
8:C:697:ARG:CZ	8:C:849:GLY:HA2	2.25	0.67
17:B:100:A:H5'	17:B:101:C:OP2	1.95	0.67
30:2:185:GLY:O	30:2:188:LEU:N	2.27	0.67
1:A:251:TYR:O	1:A:256:GLU:N	2.26	0.67
2:K:314:SER:OG	2:K:355:VAL:O	2.12	0.67
1:A:1876:ASN:ND2	1:A:1981:ALA:O	2.28	0.67
5:J:246:ARG:HH22	26:I:23:C:P	2.18	0.67
1:A:594:ASP:OD1	1:A:598:ASN:N	2.27	0.67
1:A:1118:GLY:HA3	1:A:1163:ARG:NH1	2.10	0.67
1:A:1420:THR:O	1:A:1718:HIS:ND1	2.27	0.67
1:A:1798:ILE:O	1:A:1801:SER:OG	2.06	0.67
2:K:170:SER:O	2:K:171:GLN:HB2	1.93	0.67
8:C:775:ILE:HD12	8:C:817:GLN:HE21	1.58	0.67
26:I:47:A:H2'	26:I:48:U:H6	1.58	0.67
16:F:69:C:H2'	16:F:70:U:C6	2.30	0.67
28:G:479:A:O2'	28:G:480:A:C5'	2.43	0.67
3:L:237:ILE:O	3:L:240:GLN:N	2.28	0.66
8:C:193:LEU:N	8:C:224:GLU:OE1	2.25	0.66
1:A:1694:MET:O	1:A:1759:TYR:OH	2.12	0.66
1:A:1816:ARG:O	1:A:1820:ARG:NE	2.21	0.66
2:K:60:LYS:HG3	2:K:79:ILE:HD13	1.77	0.66
2:K:269:SER:OG	2:K:311:PHE:O	2.13	0.66
3:L:112:MET:HB2	3:L:204:LEU:HD21	1.77	0.66
3:L:357:PRO:O	3:L:358:ILE:HG13	1.94	0.66
4:N:127:ASP:OD2	4:N:131:ARG:N	2.26	0.66
1:A:195:THR:N	1:A:556:TYR:O	2.22	0.66
1:A:482:SER:OG	1:A:487:ASN:N	2.28	0.66
5:J:167:GLU:HB3	5:J:169:TRP:CE3	2.29	0.66
8:C:629:TYR:OH	8:C:658:ASP:OD2	2.13	0.66
1:A:1078:ILE:O	1:A:1081:TYR:N	2.28	0.66
2:K:175:THR:O	2:K:176:LYS:HG2	1.95	0.66
3:L:358:ILE:HG22	3:L:360:GLU:H	1.58	0.66
4:N:361:ALA:O	4:N:365:ILE:CB	2.43	0.66
8:C:500:ARG:HB3	8:C:534:THR:HG21	1.77	0.66
4:N:342:LYS:O	4:N:346:SER:CB	2.44	0.66
6:E:96:GLY:O	16:F:31:G:OP2	2.13	0.66
8:C:137:GLY:O	8:C:235:VAL:HA	1.96	0.66
17:B:147:C:H2'	17:B:148:G:C8	2.30	0.66
26:I:141:G:C2'	26:I:142:G:H5'	2.25	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:116:GLU:OE1	2:K:116:GLU:N	2.29	0.66
2:K:360:ASN:HB3	2:K:362:TYR:CE2	2.31	0.66
1:A:1616:ARG:NE	1:A:1744:ASP:OD1	2.27	0.66
4:N:713:GLU:HA	4:N:720:VAL:HG11	1.78	0.66
8:C:302:ASN:OD1	8:C:303:VAL:N	2.27	0.66
8:C:316:THR:O	8:C:319:GLY:N	2.28	0.66
1:A:304:ASP:OD1	1:A:305:LEU:N	2.25	0.66
1:A:1090:ILE:O	1:A:1096:SER:HA	1.96	0.66
1:A:1561:LEU:O	1:A:1564:GLY:N	2.24	0.66
1:A:1590:LEU:HB2	1:A:1595:ARG:HH21	1.60	0.66
1:A:2069:VAL:HG22	18:O:198:GLN:HE21	1.60	0.66
7:M:62:GLU:O	7:M:65:LEU:N	2.26	0.66
8:C:697:ARG:NH2	8:C:852:THR:OG1	2.28	0.66
17:B:126:A:H5'	17:B:127:U:OP2	1.96	0.66
1:A:632:ILE:O	1:A:635:THR:OG1	2.11	0.66
2:K:420:ASN:ND2	2:K:422:TYR:OH	2.29	0.66
3:L:120:TYR:O	3:L:123:ARG:N	2.29	0.66
3:L:124:PHE:CD2	3:L:127:LEU:HB2	2.31	0.66
1:A:193:TYR:O	1:A:557:PHE:HA	1.94	0.66
1:A:326:ASN:HB2	1:A:405:ASN:HB2	1.77	0.66
1:A:976:GLN:NE2	1:A:1310:LYS:HB3	2.00	0.66
1:A:1830:VAL:HG12	1:A:1832:GLU:H	1.61	0.66
2:K:270:ASP:OD1	2:K:271:VAL:N	2.28	0.66
38:H:1115:G:H1	38:H:1130:U:H3	1.43	0.66
3:L:124:PHE:CE2	3:L:127:LEU:HB2	2.31	0.65
17:B:95:C:O2	17:B:95:C:O2'	2.12	0.65
38:H:1149:G:H5''	38:H:1149:G:H8	1.56	0.65
45:O:194:TRP:O	45:O:198:GLN:CB	2.44	0.65
1:A:764:ASP:HA	1:A:767:LEU:HD12	1.78	0.65
1:A:805:PRO:HG2	1:A:808:ILE:HD12	1.79	0.65
1:A:1554:GLU:OE1	1:A:1554:GLU:N	2.24	0.65
2:K:135:ARG:NH1	2:K:139:GLU:OE2	2.29	0.65
8:C:342:ASP:O	8:C:345:THR:OG1	2.14	0.65
1:A:152:LYS:CA	1:A:155:ASN:HB2	2.24	0.65
3:L:113:HIS:CD2	3:L:134:PRO:HB3	2.31	0.65
4:N:241:PRO:HG3	4:N:277:ILE:HD11	1.78	0.65
1:A:1023:LEU:HB2	1:A:1451:PHE:HE1	1.60	0.65
1:A:1286:TRP:NE1	1:A:1348:GLU:OE1	2.24	0.65
5:J:233:LYS:HE2	5:J:235:TYR:HE1	1.60	0.65
8:C:397:LYS:HE3	8:C:413:LEU:HD21	1.77	0.65
38:H:1120:G:H2'	38:H:1121:U:H6	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:342:LEU:HD13	1:A:392:ASN:HD22	1.61	0.65
1:A:674:MET:HA	1:A:677:ILE:HD12	1.78	0.65
1:A:939:LEU:HD11	3:L:441:MET:HE2	1.79	0.65
1:A:1071:ARG:NH2	1:A:1080:ASP:OD1	2.29	0.65
1:A:1339:LEU:HD21	1:A:1440:ILE:CD1	2.25	0.65
7:M:71:CYS:O	7:M:75:ASN:N	2.29	0.65
1:A:970:THR:O	1:A:981:VAL:HB	1.97	0.65
1:A:1207:TRP:HB3	1:A:1211:SER:OG	1.97	0.65
1:A:1418:THR:OG1	1:A:1421:GLY:O	2.09	0.65
1:A:1450:GLU:O	1:A:1453:ASP:N	2.30	0.65
2:K:115:SER:O	2:K:118:ILE:N	2.25	0.65
3:L:350:ILE:HG13	3:L:351:SER:H	1.62	0.65
38:H:66:A:H2'	38:H:66:A:N3	2.10	0.65
1:A:1313:ASP:O	1:A:1316:ILE:N	2.29	0.65
1:A:1733:TRP:NE1	1:A:1769:SER:O	2.21	0.65
4:N:789:LEU:HD11	7:M:45:ASN:HB3	1.79	0.65
17:B:92:U:H2'	17:B:93:G:C5'	2.25	0.65
38:H:1138:G:O2'	38:H:1139:G:H8	1.79	0.65
1:A:1070:LEU:O	1:A:1073:ILE:N	2.29	0.65
1:A:1498:ASP:HA	4:N:160:ASN:HB2	1.77	0.65
3:L:187:GLU:OE1	3:L:187:GLU:N	2.30	0.65
4:N:825:LEU:HA	4:N:828:LEU:HD12	1.77	0.65
8:C:271:ASP:OD1	8:C:272:ARG:N	2.29	0.65
8:C:308:ASP:HB3	8:C:310:ASN:HD22	1.62	0.65
17:B:102:C:H42	17:B:103:A:N6	1.95	0.65
1:A:151:SER:OG	1:A:152:LYS:N	2.29	0.65
1:A:900:PHE:HE1	1:A:959:LEU:HD12	1.60	0.65
1:A:1834:PHE:HB3	1:A:1959:THR:HA	1.77	0.65
8:C:867:THR:O	8:C:926:GLY:CA	2.43	0.65
1:A:308:MET:O	1:A:311:LEU:N	2.29	0.65
1:A:900:PHE:HD2	1:A:901:PRO:N	1.95	0.65
1:A:1458:TRP:HE1	1:A:1489:PRO:HD2	1.61	0.65
3:L:98:PHE:HA	3:L:101:ILE:HG22	1.78	0.65
3:L:302:MET:O	3:L:306:LEU:N	2.24	0.65
4:N:550:ARG:O	4:N:554:ARG:N	2.29	0.65
1:A:1253:LYS:O	1:A:1274:ARG:NH2	2.22	0.64
1:A:1272:ARG:N	1:A:1297:THR:O	2.29	0.64
2:K:322:VAL:HG13	2:K:334:TRP:HB2	1.79	0.64
16:F:36:U:H6	16:F:36:U:C5'	2.05	0.64
26:I:151:G:H4'	26:I:152:A:O4'	1.97	0.64
45:0:191:LEU:O	45:0:195:LEU:CB	2.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:236:ARG:HH21	1:A:699:PRO:HG2	1.63	0.64
1:A:300:LYS:HA	1:A:492:LYS:HA	1.78	0.64
1:A:1646:ILE:HD13	16:F:49:A:C5	2.31	0.64
4:N:234:ARG:HD2	4:N:244:TRP:CE3	2.33	0.64
8:C:139:ILE:O	8:C:237:ILE:HA	1.97	0.64
17:B:50:G:H1	17:B:65:U:H3	1.44	0.64
38:H:48:U:H2'	38:H:49:U:C4'	2.27	0.64
3:L:159:PHE:O	3:L:162:GLU:N	2.31	0.64
3:L:439:LYS:HE3	26:I:21:C:P	2.38	0.64
6:E:95:PHE:HE2	6:E:103:LEU:HD13	1.63	0.64
8:C:251:GLN:HG2	8:C:933:TRP:CE2	2.33	0.64
8:C:393:LYS:NZ	8:C:413:LEU:O	2.27	0.64
16:F:29:U:H2'	16:F:30:G:H5'	1.79	0.64
17:B:102:C:N4	17:B:103:A:N7	2.44	0.64
2:K:247:GLN:NE2	2:K:248:TYR:O	2.30	0.64
4:N:233:TYR:CE2	4:N:243:GLY:HA2	2.33	0.64
16:F:29:U:C4	17:B:98:U:N3	2.66	0.64
28:G:475:U:O3'	28:G:476:U:O4'	2.15	0.64
1:A:667:TYR:HE1	16:F:26:A:HO2'	0.78	0.64
1:A:1414:TRP:CD1	1:A:1555:THR:HG22	2.32	0.64
3:L:424:THR:HG21	4:N:156:ASN:HA	1.79	0.64
8:C:697:ARG:HH11	8:C:848:VAL:HG12	1.62	0.64
16:F:15:A:N3	16:F:16:C:C6	2.65	0.64
18:O:149:TYR:HD2	18:O:178:VAL:HG12	1.61	0.64
1:A:716:ARG:NH2	17:B:111:C:C2	2.63	0.64
8:C:534:THR:OG1	8:C:578:TYR:OH	2.13	0.64
8:C:583:LYS:HA	8:C:586:MET:HB3	1.80	0.64
17:B:99:U:H3'	17:B:100:A:H4'	1.79	0.64
28:G:486:A:C6	28:G:487:A:N7	2.66	0.64
38:H:1098:C:H2'	38:H:1099:G:H8	1.63	0.64
1:A:162:LEU:HG	1:A:730:ILE:HG21	1.77	0.64
1:A:923:TYR:O	1:A:926:LYS:N	2.29	0.64
1:A:1907:GLN:O	1:A:1910:LYS:CG	2.45	0.64
2:K:35:GLU:O	2:K:38:GLN:N	2.30	0.64
29:1:388:TYR:O	31:3:276:GLY:O	2.16	0.64
38:H:1097:G:C2	38:H:1146:G:C4	2.86	0.64
1:A:1863:HIS:HA	18:O:159:ASP:N	2.12	0.64
2:K:291:LEU:HB3	2:K:301:LEU:HB3	1.79	0.64
8:C:618:LEU:O	8:C:621:ALA:HB3	1.98	0.64
17:B:94:C:H3'	17:B:94:C:H6	1.63	0.64
2:K:112:PRO:HB3	5:J:217:VAL:N	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:316:GLN:HE21	2:K:320:SER:H	1.46	0.64
26:I:52:G:C6	26:I:53:U:O4	2.51	0.64
1:A:972:MET:HG2	1:A:981:VAL:HG21	1.80	0.64
1:A:1794:LEU:O	1:A:1798:ILE:N	2.24	0.64
4:N:734:PRO:O	4:N:736:ASP:N	2.31	0.64
8:C:398:ASN:HA	8:C:401:ARG:HH21	1.63	0.64
8:C:761:ALA:HA	8:C:764:ASN:HB2	1.78	0.64
8:C:880:MET:HB3	8:C:886:SER:HA	1.80	0.64
8:C:931:TYR:HD1	8:C:933:TRP:HD1	1.46	0.64
17:B:99:U:H3'	17:B:100:A:C4'	2.27	0.64
2:K:194:SER:H	2:K:221:ILE:HD12	1.63	0.63
2:K:232:ASN:HB3	2:K:247:GLN:NE2	2.08	0.63
6:E:26:LEU:HD23	6:E:86:TYR:HB2	1.80	0.63
16:F:86:G:C5'	16:F:86:G:H8	2.10	0.63
1:A:572:CYS:O	1:A:576:HIS:HB2	1.99	0.63
1:A:611:LYS:HE2	16:F:32:U:C5	2.33	0.63
1:A:620:HIS:HB3	1:A:669:TYR:CZ	2.33	0.63
1:A:785:HIS:NE2	4:N:124:ASP:O	2.31	0.63
8:C:778:THR:HG23	8:C:781:ASP:H	1.64	0.63
1:A:1811:ALA:O	1:A:1814:VAL:N	2.28	0.63
3:L:398:GLN:NE2	3:L:419:GLN:HG3	2.14	0.63
3:L:450:GLN:HG3	3:L:451:GLN:N	2.13	0.63
4:N:675:GLY:O	4:N:679:HIS:CB	2.41	0.63
8:C:232:SER:OG	8:C:234:LEU:O	2.17	0.63
17:B:98:U:C4	17:B:99:U:C5	2.86	0.63
1:A:1041:VAL:HG11	1:A:1253:LYS:HA	1.79	0.63
1:A:1603:ASN:O	1:A:1606:PHE:N	2.31	0.63
1:A:1790:TRP:CD2	1:A:1795:LYS:HE3	2.34	0.63
2:K:274:HIS:ND1	2:K:275:PRO:HD2	2.14	0.63
8:C:425:LEU:HA	8:C:428:ILE:HG22	1.81	0.63
17:B:73:U:O2'	17:B:74:U:H5'	1.98	0.63
1:A:552:LYS:NZ	1:A:559:GLN:OE1	2.32	0.63
1:A:934:ARG:NH2	3:L:436:LYS:O	2.32	0.63
1:A:1033:ASN:ND2	1:A:1288:LEU:HB3	2.14	0.63
2:K:261:LEU:HB3	2:K:292:TRP:CZ3	2.33	0.63
3:L:228:ASN:ND2	3:L:317:ASP:OD1	2.32	0.63
4:N:488:ILE:O	4:N:492:MET:CB	2.46	0.63
5:J:141:ASN:HB3	5:J:144:LEU:HB2	1.78	0.63
17:B:48:G:H1	17:B:67:U:H3	1.44	0.63
26:I:20:A:H2'	26:I:21:C:O4'	1.96	0.63
1:A:382:GLU:OE1	1:A:382:GLU:N	2.24	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1773:VAL:HG22	1:A:1788:GLY:HA3	1.81	0.63
3:L:218:ILE:O	3:L:221:LYS:N	2.31	0.63
5:J:129:ASP:O	5:J:133:LEU:CB	2.46	0.63
6:E:112:GLU:HG2	6:E:135:TYR:CE2	2.34	0.63
8:C:701:GLU:HG2	8:C:703:LEU:H	1.62	0.63
1:A:1195:PHE:HB3	1:A:1217:ARG:HE	1.64	0.63
8:C:717:SER:HA	8:C:720:ILE:HD12	1.81	0.63
38:H:48:U:H2'	38:H:49:U:H5'	1.79	0.63
1:A:194:HIS:HA	1:A:557:PHE:CD1	2.34	0.63
1:A:899:PRO:HD3	1:A:1006:ARG:HH22	1.64	0.63
1:A:1861:THR:CB	18:O:161:ILE:HA	2.29	0.63
2:K:260:ASP:OD1	2:K:261:LEU:N	2.32	0.63
7:M:44:LEU:O	7:M:47:GLY:N	2.32	0.63
8:C:697:ARG:NH1	8:C:848:VAL:O	2.30	0.63
26:I:22:G:C6	26:I:23:C:C4	2.86	0.63
4:N:704:LEU:O	4:N:707:SER:OG	2.16	0.63
4:N:861:ASN:OD1	4:N:862:MET:N	2.31	0.63
4:N:771:ALA:O	4:N:774:TRP:N	2.32	0.62
17:B:33:U:H3'	17:B:33:U:C6	2.32	0.62
28:G:492:U:O2	38:H:43:G:N2	2.32	0.62
38:H:1099:G:H2'	38:H:1100:A:H5'	1.80	0.62
1:A:1714:PRO:HA	1:A:1788:GLY:O	1.98	0.62
3:L:402:ASP:OD1	3:L:403:SER:N	2.30	0.62
8:C:576:THR:HG22	8:C:592:PHE:HD2	1.64	0.62
38:H:49:U:H3	38:H:66:A:N6	1.97	0.62
1:A:1583:ASP:O	1:A:1586:GLN:N	2.28	0.62
1:A:1861:THR:CG2	18:O:161:ILE:CA	2.72	0.62
1:A:2047:GLN:O	1:A:2050:THR:OG1	2.15	0.62
26:I:63:U:H2'	26:I:64:U:H5''	1.78	0.62
1:A:617:ASN:ND2	17:B:99:U:O2'	2.32	0.62
2:K:311:PHE:H	2:K:326:GLY:HA2	1.64	0.62
2:K:317:CYS:SG	2:K:359:PRO:HA	2.39	0.62
38:H:65:A:C5	38:H:66:A:N7	2.67	0.62
38:H:1149:G:H2'	38:H:1150:U:C6	2.34	0.62
3:L:257:CYS:SG	26:I:42:C:N4	2.72	0.62
6:E:30:ARG:HE	6:E:61:LEU:HD22	1.65	0.62
8:C:715:MET:SD	8:C:772:ASN:HB3	2.39	0.62
16:F:92:C:H2'	16:F:93:A:H8	1.63	0.62
26:I:63:U:H2'	26:I:64:U:H5'	1.81	0.62
28:G:471:U:O2	28:G:471:U:C2'	2.45	0.62
1:A:961:GLN:HG3	1:A:964:PHE:HE1	1.62	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1144:PHE:CZ	1:A:1162:THR:HG21	2.34	0.62
1:A:1697:SER:OG	1:A:1767:TYR:OH	2.16	0.62
1:A:1881:THR:OG1	1:A:1890:PHE:HB2	2.00	0.62
1:A:2007:ARG:NH2	5:J:291:THR:OG1	2.32	0.62
8:C:412:ALA:HA	8:C:415:TYR:CE2	2.34	0.62
16:F:69:C:N4	26:I:12:C:H42	1.98	0.62
17:B:102:C:C5	17:B:103:A:N7	2.68	0.62
26:I:33:A:C5	26:I:45:A:N7	2.68	0.62
8:C:766:TRP:HB2	8:C:776:ASN:ND2	2.15	0.62
26:I:6:U:H2'	26:I:7:A:H8	1.60	0.62
26:I:141:G:O2'	26:I:142:G:H5'	1.99	0.62
1:A:1043:ARG:O	1:A:1043:ARG:HG3	2.00	0.62
2:K:452:LEU:HB3	2:K:464:TRP:HB2	1.82	0.62
8:C:269:LYS:HG2	47:C:1500:GTP:C6	2.35	0.62
8:C:699:GLY:N	8:C:708:ILE:O	2.32	0.62
1:A:900:PHE:CE2	1:A:901:PRO:HD2	2.35	0.62
3:L:75:PRO:O	3:L:79:ASP:N	2.24	0.62
6:E:105:PHE:CE2	6:E:137:TYR:CZ	2.87	0.62
17:B:44:A:N3	17:B:45:A:C8	2.68	0.62
17:B:98:U:HO2'	17:B:99:U:H5'	1.62	0.62
26:I:142:G:H5''	26:I:143:A:OP2	1.99	0.62
28:G:470:A:H2'	28:G:470:A:N3	2.13	0.62
1:A:815:TYR:O	1:A:818:SER:OG	2.13	0.62
4:N:131:ARG:O	4:N:135:ASN:HB2	2.00	0.62
8:C:400:LEU:O	8:C:405:ARG:N	2.33	0.62
1:A:413:ASN:ND2	1:A:419:THR:OG1	2.32	0.61
1:A:1043:ARG:O	1:A:1045:GLN:HG3	1.99	0.61
1:A:1458:TRP:HZ2	1:A:1489:PRO:HB2	1.65	0.61
1:A:1775:ILE:HG12	1:A:1786:ALA:HB2	1.80	0.61
5:J:346:ASN:N	5:J:422:ASN:OD1	2.29	0.61
8:C:429:PHE:HB3	8:C:432:GLN:HE22	1.64	0.61
16:F:10:A:N6	16:F:11:U:C4	2.68	0.61
1:A:185:GLN:NE2	1:A:262:ASP:OD1	2.33	0.61
1:A:1733:TRP:CD2	1:A:1772:GLY:HA3	2.35	0.61
3:L:139:LYS:O	3:L:142:SER:OG	2.13	0.61
8:C:860:PRO:HG2	8:C:908:VAL:HG11	1.81	0.61
17:B:102:C:C2'	17:B:103:A:H5'	2.30	0.61
28:G:487:A:H2'	28:G:487:A:N3	2.13	0.61
38:H:1098:C:O5'	38:H:1098:C:H6	1.82	0.61
1:A:289:ASP:O	1:A:292:LYS:N	2.33	0.61
1:A:1942:ASP:OD2	18:O:170:PHE:HE2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:10:GLU:HG2	6:E:14:HIS:HE1	1.64	0.61
5:J:406:PHE:HE1	5:J:408:LEU:HB2	1.65	0.61
8:C:468:LEU:HA	8:C:490:SER:O	2.00	0.61
16:F:48:C:H2'	16:F:48:C:OP2	2.00	0.61
1:A:153:MET:HG2	1:A:154:TYR:H	1.65	0.61
1:A:609:GLU:OE2	16:F:43:C:OP1	2.18	0.61
1:A:1650:ARG:CB	16:F:49:A:O5'	2.42	0.61
3:L:264:LYS:NZ	26:I:39:C:O2	2.28	0.61
4:N:703:LEU:HA	4:N:706:VAL:HB	1.81	0.61
1:A:304:ASP:N	1:A:307:GLU:OE1	2.24	0.61
3:L:146:ASN:HD21	3:L:148:ASN:HB2	1.64	0.61
5:J:350:PRO:CB	16:F:84:C:C6	2.72	0.61
8:C:246:THR:HG23	8:C:248:VAL:HG12	1.83	0.61
44:W:46:TYR:O	44:W:50:ILE:N	2.31	0.61
1:A:236:ARG:HH21	1:A:699:PRO:CG	2.13	0.61
1:A:276:VAL:HA	1:A:279:TRP:CZ2	2.36	0.61
1:A:1752:VAL:O	1:A:1755:LYS:N	2.32	0.61
1:A:1389:TYR:CE2	1:A:1437:ILE:HD13	2.35	0.61
3:L:410:LEU:O	3:L:410:LEU:HD12	2.00	0.61
4:N:381:TYR:HA	4:N:384:ALA:HB3	1.83	0.61
31:3:368:GLY:HA2	31:3:380:LEU:O	2.01	0.61
1:A:144:ASN:O	1:A:147:SER:OG	2.18	0.61
1:A:1348:GLU:OE2	1:A:1447:TRP:N	2.34	0.61
2:K:347:GLY:HA3	2:K:374:ASN:ND2	2.15	0.61
3:L:207:LEU:O	3:L:210:LEU:N	2.34	0.61
4:N:11:PRO:HD2	6:E:13:TRP:CH2	2.35	0.61
5:J:159:TYR:O	5:J:163:ASN:ND2	2.33	0.61
8:C:247:PHE:HB2	8:C:903:ARG:CZ	2.31	0.61
28:G:471:U:O2	28:G:471:U:H2'	2.01	0.61
28:G:514:U:H5''	28:G:515:U:H5''	1.83	0.61
38:H:1161:U:O2'	38:H:1162:U:H5'	2.01	0.61
1:A:218:SER:O	1:A:221:TRP:HB3	2.00	0.61
1:A:503:LYS:HA	1:A:506:PHE:CE2	2.35	0.61
1:A:710:VAL:O	1:A:713:ASN:N	2.34	0.61
1:A:1554:GLU:H	1:A:1554:GLU:CD	2.04	0.61
1:A:1730:ASN:HB3	1:A:1731:LYS:HG3	1.82	0.61
1:A:1882:LEU:HB3	1:A:1889:LEU:HD23	1.82	0.61
4:N:667:CYS:HA	4:N:670:PHE:HD2	1.66	0.61
8:C:744:PRO:O	8:C:748:SER:OG	2.13	0.61
16:F:86:G:H8	16:F:86:G:O5'	1.83	0.61
17:B:162:G:C3'	17:B:163:C:H4'	2.26	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1208:PRO:O	1:A:1211:SER:OG	2.19	0.60
1:A:1851:PHE:O	1:A:1881:THR:HA	2.01	0.60
2:K:168:ALA:O	4:N:724:SER:OG	2.17	0.60
4:N:764:LEU:HD12	4:N:768:PRO:HA	1.81	0.60
5:J:146:GLU:HA	5:J:149:PHE:HD2	1.66	0.60
17:B:80:G:N1	17:B:82:A:C2	2.69	0.60
1:A:689:TYR:CZ	1:A:693:LYS:HG3	2.36	0.60
1:A:1657:ILE:O	1:A:1661:ILE:HD12	2.01	0.60
1:A:1916:GLU:O	1:A:1920:LEU:CB	2.49	0.60
2:K:458:ASP:OD1	2:K:458:ASP:N	2.32	0.60
17:B:94:C:H2'	17:B:95:C:H4'	1.83	0.60
26:I:26:A:O2'	26:I:27:U:O4'	2.18	0.60
32:4:184:PHE:HA	32:4:188:GLY:HA2	1.81	0.60
1:A:689:TYR:CD1	1:A:693:LYS:CG	2.84	0.60
1:A:699:PRO:CB	16:F:1:G:P	2.89	0.60
2:K:280:ILE:O	2:K:291:LEU:HD12	2.00	0.60
2:K:345:LEU:HD13	2:K:376:TRP:CD2	2.36	0.60
8:C:104:THR:O	8:C:107:THR:OG1	2.12	0.60
8:C:671:SER:OG	8:C:672:ASP:N	2.33	0.60
17:B:92:U:C2'	17:B:93:G:H5''	2.31	0.60
1:A:934:ARG:HH21	3:L:436:LYS:N	1.98	0.60
1:A:1962:ARG:O	1:A:2013:ARG:NH2	2.26	0.60
3:L:106:LYS:HA	3:L:109:ILE:HD12	1.81	0.60
3:L:296:VAL:HA	3:L:299:HIS:CE1	2.36	0.60
8:C:121:ASP:O	8:C:125:SER:CB	2.48	0.60
16:F:63:G:C2	26:I:57:U:C4	2.89	0.60
26:I:25:U:C3'	26:I:26:A:H5''	2.31	0.60
38:H:48:U:C5	38:H:49:U:C2	2.88	0.60
38:H:143:G:H2'	38:H:144:G:H8	1.65	0.60
1:A:136:PRO:O	1:A:140:ARG:HG3	2.01	0.60
1:A:400:ILE:HG22	8:C:187:ARG:HE	1.67	0.60
1:A:482:SER:O	1:A:487:ASN:ND2	2.34	0.60
1:A:1014:LYS:HE3	1:A:1144:PHE:CD1	2.35	0.60
2:K:141:GLU:OE2	2:K:145:LYS:NZ	2.29	0.60
2:K:316:GLN:HG3	2:K:319:GLY:N	2.16	0.60
17:B:28:G:H2'	17:B:29:G:C5'	2.31	0.60
1:A:169:PRO:HA	1:A:172:ILE:HD12	1.83	0.60
1:A:180:PRO:HA	1:A:187:LYS:HD2	1.83	0.60
1:A:1021:PRO:O	1:A:1024:LEU:HB3	2.01	0.60
1:A:1377:SER:OG	16:F:31:G:OP1	2.17	0.60
3:L:400:VAL:O	3:L:407:GLU:HA	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:289:ASP:HB3	5:J:292:ALA:HB3	1.83	0.60
8:C:176:ARG:HB3	8:C:179:ASP:HB2	1.82	0.60
16:F:59:A:O2'	16:F:60:G:H5'	2.02	0.60
38:H:1139:G:H2'	38:H:1140:U:C6	2.36	0.60
1:A:217:TRP:O	1:A:220:THR:OG1	2.19	0.60
1:A:900:PHE:CD2	1:A:901:PRO:N	2.69	0.60
2:K:112:PRO:CA	5:J:217:VAL:N	2.64	0.60
2:K:392:HIS:HD2	2:K:396:VAL:HG22	1.67	0.60
8:C:251:GLN:NE2	8:C:255:GLN:HE21	1.99	0.60
8:C:580:VAL:HG22	8:C:582:SER:H	1.66	0.60
17:B:127:U:H1'	17:B:128:A:C8	2.36	0.60
17:B:136:G:O2'	17:B:137:U:O4'	2.19	0.60
18:O:183:LYS:O	18:O:187:GLU:HB2	2.02	0.60
35:X:123:LYS:O	35:X:127:ASP:N	2.34	0.60
1:A:753:TYR:CE1	6:E:37:ARG:HB3	2.36	0.60
2:K:170:SER:O	2:K:207:LEU:HD13	2.02	0.60
2:K:316:GLN:HG3	2:K:319:GLY:H	1.66	0.60
6:E:120:ILE:HA	6:E:131:VAL:HG21	1.82	0.60
8:C:678:SER:O	8:C:858:LEU:N	2.27	0.60
8:C:922:THR:OG1	8:C:925:LEU:O	2.08	0.60
38:H:47:U:C3'	38:H:48:U:H5''	2.31	0.60
1:A:149:MET:SD	1:A:154:TYR:CD2	2.94	0.60
1:A:621:LEU:HD23	1:A:722:LEU:HD21	1.84	0.60
5:J:350:PRO:HB3	16:F:83:A:C8	2.28	0.60
16:F:10:A:C6	16:F:11:U:C4	2.90	0.60
1:A:1414:TRP:HB2	1:A:1558:GLU:HG3	1.84	0.60
4:N:558:PRO:O	4:N:562:MET:N	2.35	0.60
5:J:407:GLU:HG2	5:J:414:ASP:HB3	1.83	0.60
8:C:811:GLU:HB3	8:C:812:PRO:HD2	1.83	0.60
16:F:63:G:C2	16:F:64:U:C6	2.90	0.60
16:F:72:C:H2'	16:F:73:A:C8	2.36	0.60
17:B:19:A:N6	17:B:151:A:N1	2.48	0.60
28:G:488:A:O5'	28:G:488:A:H8	1.85	0.60
1:A:365:ASN:OD1	1:A:366:GLU:N	2.34	0.59
1:A:693:LYS:N	1:A:693:LYS:HZ3	1.99	0.59
1:A:694:ASN:H	1:A:694:ASN:HD22	1.49	0.59
1:A:1600:GLN:O	1:A:1603:ASN:N	2.29	0.59
17:B:103:A:O2'	17:B:104:G:O4'	2.20	0.59
26:I:5:U:H2'	26:I:6:U:C6	2.36	0.59
38:H:1149:G:C8	38:H:1149:G:C5'	2.85	0.59
1:A:477:MET:HE2	8:C:278:LYS:HE2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1307:GLU:O	1:A:1310:LYS:N	2.35	0.59
2:K:305:GLY:HA2	5:J:221:LEU:O	2.01	0.59
4:N:805:HIS:HA	4:N:808:LEU:HD12	1.84	0.59
8:C:142:LEU:HD12	8:C:929:GLN:NE2	2.16	0.59
17:B:96:U:C2'	17:B:97:U:C6	2.80	0.59
2:K:140:MET:HA	2:K:143:HIS:HD2	1.68	0.59
2:K:345:LEU:HD13	2:K:376:TRP:CG	2.37	0.59
8:C:415:TYR:HB2	8:C:420:PHE:HB2	1.85	0.59
17:B:32:G:C4'	17:B:33:U:OP2	2.51	0.59
28:G:473:U:C2'	28:G:473:U:O2	2.50	0.59
1:A:689:TYR:CD1	1:A:693:LYS:HG2	2.37	0.59
1:A:1285:VAL:HG22	1:A:1301:TYR:CD1	2.38	0.59
2:K:283:ALA:HB1	2:K:310:VAL:HG12	1.85	0.59
24:U:28:GLY:HA2	24:U:38:TYR:O	2.02	0.59
38:H:1149:G:H8	38:H:1149:G:C5'	2.15	0.59
1:A:367:PHE:HB2	8:C:608:GLN:NE2	2.17	0.59
1:A:581:LEU:O	1:A:585:ARG:CB	2.48	0.59
1:A:1667:GLN:NE2	18:O:211:ASN:OD1	2.36	0.59
1:A:2081:ASP:O	1:A:2085:GLY:N	2.35	0.59
7:M:62:GLU:HA	7:M:65:LEU:HD12	1.83	0.59
8:C:168:VAL:HG12	8:C:173:LYS:HG3	1.84	0.59
8:C:208:ARG:NH1	8:C:440:THR:O	2.36	0.59
16:F:34:A:N6	16:F:47:A:C5	2.66	0.59
16:F:74:U:H2'	16:F:75:A:C8	2.37	0.59
26:I:96:A:H2'	26:I:97:U:O4'	2.02	0.59
38:H:1140:U:C2	38:H:1141:C:C5	2.91	0.59
44:W:116:LEU:O	45:O:50:ARG:C	2.40	0.59
4:N:600:LYS:O	4:N:604:LEU:CB	2.50	0.59
8:C:274:ILE:HD12	8:C:382:TYR:CD1	2.37	0.59
8:C:410:GLN:HA	8:C:413:LEU:HD12	1.84	0.59
17:B:33:U:C6	17:B:33:U:C3'	2.86	0.59
38:H:68:U:C5	38:H:69:G:N7	2.70	0.59
38:H:1141:C:H2'	38:H:1142:G:H8	1.67	0.59
1:A:620:HIS:HB3	1:A:669:TYR:CE2	2.37	0.59
1:A:668:ARG:HE	16:F:27:U:C4'	2.01	0.59
2:K:117:LEU:HD22	2:K:300:LEU:O	2.03	0.59
3:L:424:THR:HG22	3:L:425:SER:H	1.67	0.59
4:N:116:GLU:HA	4:N:119:TRP:CD1	2.37	0.59
5:J:342:PHE:HB2	5:J:380:ILE:HB	1.84	0.59
8:C:933:TRP:C	8:C:935:LYS:H	2.06	0.59
17:B:1:A:H61	17:B:164:C:N4	2.00	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:619:PHE:O	1:A:622:MET:N	2.35	0.59
1:A:681:LYS:HE2	16:F:25:C:N4	2.17	0.59
1:A:1161:TYR:HD1	1:A:1170:MET:HG2	1.68	0.59
1:A:1389:TYR:CD2	1:A:1437:ILE:HG21	2.37	0.59
1:A:1473:ARG:HH11	1:A:1474:ARG:H	1.51	0.59
2:K:316:GLN:NE2	2:K:318:ASP:HB2	2.18	0.59
3:L:439:LYS:HE2	26:I:20:A:H5'	1.83	0.59
8:C:270:LEU:HD11	8:C:313:PHE:HB3	1.85	0.59
16:F:46:U:H2'	16:F:47:A:H1'	1.84	0.59
26:I:57:U:H2'	26:I:58:G:H8	1.68	0.59
38:H:48:U:H2'	38:H:49:U:C5'	2.33	0.59
38:H:49:U:H3	38:H:66:A:H61	1.49	0.59
1:A:654:HIS:HE2	1:A:688:TYR:HE1	1.49	0.59
1:A:1091:ASN:HA	1:A:1095:MET:O	2.03	0.59
1:A:1646:ILE:HD11	16:F:49:A:C6	2.38	0.59
1:A:1889:LEU:HD11	1:A:1991:ILE:HG13	1.85	0.59
4:N:795:GLN:O	4:N:798:LEU:HB2	2.03	0.59
8:C:697:ARG:NH1	8:C:848:VAL:HG12	2.17	0.59
38:H:1152:U:H2'	38:H:1153:C:C6	2.38	0.59
1:A:184:GLU:OE1	1:A:283:SER:OG	2.20	0.59
1:A:1666:CYS:O	1:A:1670:ASP:CB	2.51	0.59
2:K:112:PRO:CB	5:J:217:VAL:N	2.66	0.59
5:J:272:VAL:HG22	5:J:280:VAL:HG21	1.84	0.59
6:E:95:PHE:HB3	6:E:137:TYR:CE2	2.37	0.59
8:C:135:ASN:OD1	8:C:211:ASN:ND2	2.33	0.59
8:C:452:LYS:NZ	8:C:487:ARG:HH12	2.00	0.59
8:C:835:LYS:HB3	8:C:839:ILE:HD12	1.83	0.59
16:F:46:U:H2'	16:F:47:A:C1'	2.32	0.59
28:G:465:A:O5'	28:G:465:A:H8	1.83	0.59
1:A:808:ILE:HA	1:A:811:ILE:HD12	1.85	0.58
1:A:905:TYR:OH	1:A:1002:GLU:OE2	2.16	0.58
1:A:964:PHE:CE2	1:A:1085:LYS:CD	2.85	0.58
1:A:1652:HIS:CE1	16:F:48:C:C2'	2.84	0.58
4:N:13:ALA:HB3	4:N:15:TYR:HD2	1.68	0.58
38:H:65:A:H8	38:H:65:A:O5'	1.86	0.58
1:A:1853:ASP:OD2	1:A:1965:PHE:HB2	2.02	0.58
2:K:227:HIS:CG	2:K:228:PRO:HD2	2.39	0.58
2:K:372:ILE:HD11	5:J:428:TRP:HH2	1.67	0.58
3:L:189:LEU:H	3:L:194:ARG:HH22	1.50	0.58
4:N:655:PHE:O	4:N:659:ARG:CB	2.51	0.58
8:C:132:ARG:O	8:C:133:ILE:HG12	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:244:ASP:O	1:A:595:TYR:N	2.20	0.58
1:A:1890:PHE:HB3	1:A:1986:MET:HE1	1.85	0.58
2:K:459:ARG:CZ	4:N:758:LEU:HD21	2.33	0.58
8:C:803:VAL:HG13	8:C:813:ILE:HB	1.84	0.58
1:A:657:LEU:HD23	1:A:660:ILE:HD11	1.86	0.58
1:A:1575:TRP:HB2	3:L:391:MET:HB3	1.86	0.58
2:K:370:ASP:OD1	2:K:371:GLY:N	2.36	0.58
4:N:230:LEU:O	4:N:234:ARG:HG3	2.03	0.58
4:N:832:LEU:HD21	4:N:845:LEU:HD11	1.85	0.58
5:J:345:LYS:NZ	5:J:421:ASN:OD1	2.31	0.58
8:C:140:GLY:H	8:C:146:LYS:HD3	1.69	0.58
8:C:474:LYS:NZ	8:C:628:TYR:O	2.28	0.58
8:C:840:PRO:O	8:C:843:LYS:HB3	2.03	0.58
31:3:427:LEU:N	31:3:439:PHE:O	2.25	0.58
44:W:130:GLU:O	44:W:134:CYS:CB	2.51	0.58
1:A:404:ASN:ND2	8:C:142:LEU:HD13	2.19	0.58
1:A:671:TYR:CD2	17:B:101:C:O2'	2.56	0.58
1:A:716:ARG:CZ	17:B:111:C:O2	2.50	0.58
3:L:367:ARG:HG3	3:L:367:ARG:O	2.04	0.58
8:C:272:ARG:HG3	8:C:276:ASP:OD2	2.03	0.58
8:C:494:LYS:N	8:C:497:ASP:OD2	2.36	0.58
1:A:2020:GLU:O	1:A:2023:LYS:N	2.37	0.58
3:L:135:LEU:O	3:L:138:SER:OG	2.19	0.58
4:N:375:TYR:O	4:N:379:GLN:CB	2.51	0.58
5:J:418:ASP:OD1	5:J:420:HIS:ND1	2.32	0.58
8:C:120:ARG:O	8:C:123:MET:N	2.37	0.58
8:C:474:LYS:HZ3	8:C:630:PRO:HD3	1.69	0.58
26:I:57:U:H2'	26:I:58:G:C8	2.38	0.58
29:1:548:LEU:O	29:1:549:GLY:O	2.21	0.58
1:A:138:HIS:O	1:A:142:ILE:HG12	2.03	0.58
1:A:250:SER:OG	1:A:253:GLN:HB2	2.04	0.58
1:A:296:THR:CB	17:B:33:U:OP2	2.51	0.58
1:A:1400:ILE:HG23	1:A:1542:TYR:CZ	2.39	0.58
1:A:1861:THR:CA	18:O:161:ILE:HA	2.34	0.58
3:L:199:GLU:O	3:L:202:SER:HB3	2.04	0.58
8:C:387:TYR:O	8:C:390:SER:N	2.37	0.58
8:C:682:SER:O	8:C:854:ILE:HB	2.03	0.58
28:G:463:A:H2'	28:G:464:A:C8	2.38	0.58
1:A:181:HIS:HA	1:A:704:TRP:CZ2	2.38	0.58
1:A:617:ASN:ND2	1:A:669:TYR:O	2.30	0.58
1:A:997:GLN:OE1	1:A:1511:ARG:NH1	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:285:HIS:O	2:K:287:MET:N	2.37	0.58
8:C:608:GLN:HE21	8:C:641:GLU:HG2	1.67	0.58
1:A:751:ASP:OD1	1:A:752:ALA:N	2.34	0.58
1:A:1556:ILE:O	1:A:1559:HIS:N	2.17	0.58
1:A:1689:ARG:HH12	16:F:45:A:P	2.27	0.58
1:A:2043:PHE:HB3	1:A:2047:GLN:HB2	1.86	0.58
8:C:201:THR:HG22	8:C:207:SER:HB3	1.84	0.58
8:C:598:ILE:HG22	8:C:933:TRP:CZ3	2.39	0.58
8:C:678:SER:HB2	8:C:858:LEU:HB2	1.84	0.58
26:I:22:G:C6	26:I:52:G:C6	2.92	0.58
27:D:2102:VAL:O	27:D:2142:ILE:HA	2.03	0.58
1:A:140:ARG:NH2	1:A:252:GLU:HB3	2.19	0.57
1:A:1830:VAL:HG21	1:A:1941:LEU:HD13	1.85	0.57
1:A:1880:PHE:CE2	1:A:1965:PHE:HB3	2.39	0.57
4:N:702:PRO:HB3	4:N:739:PHE:CE1	2.38	0.57
7:M:9:PHE:CD2	7:M:10:PRO:HD3	2.39	0.57
8:C:348:LEU:HD12	8:C:372:THR:HG22	1.86	0.57
8:C:437:ASP:O	8:C:440:THR:HB	2.02	0.57
2:K:288:THR:HA	2:K:303:GLN:O	2.04	0.57
8:C:385:PHE:HE1	8:C:425:LEU:HD11	1.68	0.57
17:B:44:A:C4	17:B:45:A:N7	2.72	0.57
1:A:140:ARG:HH22	1:A:252:GLU:HB3	1.69	0.57
1:A:898:ILE:HD12	1:A:1002:GLU:HB2	1.85	0.57
1:A:1066:LEU:O	1:A:1069:LEU:N	2.37	0.57
2:K:32:LEU:HD23	2:K:34:HIS:H	1.70	0.57
16:F:57:U:H3	26:I:62:G:H22	1.52	0.57
17:B:99:U:C6	17:B:100:A:H1'	2.36	0.57
1:A:1023:LEU:HD13	1:A:1451:PHE:CD1	2.39	0.57
1:A:1156:HIS:CG	1:A:1157:PRO:HD2	2.39	0.57
1:A:1834:PHE:O	1:A:1839:ASN:ND2	2.36	0.57
4:N:250:LEU:HA	4:N:253:LYS:HE2	1.86	0.57
5:J:341:VAL:HA	5:J:380:ILE:O	2.04	0.57
38:H:1097:G:H1'	38:H:1146:G:N2	2.20	0.57
1:A:1149:SER:OG	1:A:1152:VAL:HG23	2.04	0.57
1:A:1360:LEU:O	1:A:1363:GLY:N	2.37	0.57
1:A:1369:ASN:O	1:A:1372:LYS:N	2.37	0.57
1:A:1703:MET:HB2	1:A:1732:MET:HB2	1.87	0.57
1:A:2062:GLU:HG3	1:A:2065:ARG:HH21	1.70	0.57
2:K:285:HIS:C	2:K:287:MET:H	2.08	0.57
2:K:419:ILE:HD11	2:K:443:LEU:CD1	2.34	0.57
5:J:349:ASN:HB3	5:J:352:ILE:HD12	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:626:SER:HB2	8:C:634:ILE:HD13	1.86	0.57
29:1:935:TRP:CB	34:6:23:ASP:O	2.53	0.57
1:A:153:MET:HG2	1:A:154:TYR:N	2.18	0.57
1:A:341:ALA:HA	1:A:355:LEU:HD23	1.86	0.57
1:A:940:ILE:O	1:A:944:TYR:HB2	2.04	0.57
2:K:185:THR:OG1	2:K:231:ASN:ND2	2.37	0.57
5:J:360:SER:HA	5:J:365:LEU:HD12	1.86	0.57
8:C:313:PHE:HB2	8:C:322:PHE:HB2	1.86	0.57
8:C:706:LEU:HA	8:C:824:SER:O	2.04	0.57
1:A:691:PHE:CD1	1:A:692:ASN:N	2.73	0.57
1:A:1847:ASP:O	1:A:1885:LYS:NZ	2.37	0.57
2:K:422:TYR:CD1	2:K:429:LYS:HA	2.40	0.57
5:J:409:HIS:HB2	16:F:83:A:H61	1.69	0.57
8:C:315:SER:HB3	8:C:320:PHE:CE2	2.39	0.57
8:C:329:SER:HA	8:C:333:ALA:HB2	1.86	0.57
28:G:480:A:O2'	28:G:481:A:H8	1.87	0.57
1:A:410:ILE:HG13	8:C:276:ASP:CG	2.25	0.57
4:N:688:ARG:HE	4:N:712:ASP:HB2	1.70	0.57
16:F:9:A:H2'	16:F:10:A:H8	1.70	0.57
17:B:96:U:C3'	17:B:97:U:H6	2.17	0.57
1:A:266:LEU:HG	1:A:267:PRO:HD2	1.87	0.57
1:A:654:HIS:CD2	1:A:701:CYS:HG	1.89	0.57
2:K:359:PRO:HB2	2:K:406:GLY:HA2	1.87	0.57
2:K:415:TYR:HD1	2:K:439:LYS:HD3	1.69	0.57
3:L:376:LYS:NZ	26:I:55:U:HO2'	2.02	0.57
6:E:105:PHE:H	6:E:105:PHE:HD2	1.53	0.57
1:A:287:GLU:OE1	1:A:287:GLU:N	2.38	0.57
1:A:413:ASN:HD21	1:A:474:LYS:HE3	1.69	0.57
1:A:425:ASP:HB3	1:A:428:LEU:HG	1.86	0.57
1:A:699:PRO:CB	16:F:1:G:OP1	2.53	0.57
1:A:907:ASN:O	1:A:911:ILE:N	2.38	0.57
1:A:1501:THR:HG21	4:N:163:THR:HG21	1.87	0.57
3:L:120:TYR:OH	3:L:141:ILE:HG21	2.05	0.57
3:L:366:LYS:HD3	16:F:58:C:H41	1.68	0.57
6:E:8:GLN:HG2	6:E:61:LEU:HB2	1.87	0.57
8:C:938:ARG:HG2	8:C:939:LYS:N	2.20	0.57
20:P:40:HIS:O	20:P:89:GLY:HA3	2.05	0.57
1:A:961:GLN:O	1:A:962:ARG:NH1	2.33	0.56
6:E:11:THR:N	6:E:14:HIS:HD2	2.03	0.56
27:D:1101:ILE:O	27:D:1105:ALA:CB	2.53	0.56
1:A:1815:LEU:O	1:A:1818:ARG:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:206:THR:OG1	2:K:207:LEU:N	2.38	0.56
2:K:218:VAL:HG22	2:K:239:GLU:HG2	1.86	0.56
5:J:146:GLU:HA	5:J:149:PHE:CD2	2.40	0.56
8:C:185:ILE:HD13	17:B:75:A:P	2.46	0.56
16:F:51:A:H5'	16:F:51:A:C8	2.40	0.56
36:Y:229:GLY:O	36:Y:231:ARG:N	2.38	0.56
1:A:250:SER:OG	1:A:254:HIS:ND1	2.29	0.56
1:A:294:ASN:ND2	17:B:32:G:OP1	2.38	0.56
1:A:360:GLU:O	1:A:362:GLU:HG2	2.06	0.56
1:A:468:LEU:HB3	8:C:383:LYS:HG2	1.86	0.56
5:J:353:ARG:HH21	16:F:84:C:H1'	1.69	0.56
16:F:27:U:O5'	16:F:27:U:H6	1.86	0.56
1:A:519:LYS:HA	1:A:522:TYR:HD2	1.70	0.56
6:E:95:PHE:CE2	6:E:103:LEU:HD13	2.40	0.56
8:C:133:ILE:O	8:C:134:ILE:HG23	2.04	0.56
8:C:224:GLU:O	8:C:228:ALA:N	2.33	0.56
16:F:50:G:OP2	16:F:51:A:H2'	2.05	0.56
1:A:1214:ARG:NH1	1:A:1256:PRO:HD2	2.19	0.56
1:A:1353:THR:O	1:A:1353:THR:OG1	2.24	0.56
2:K:227:HIS:CD2	2:K:228:PRO:HD2	2.41	0.56
2:K:261:LEU:HD22	2:K:292:TRP:CE3	2.41	0.56
2:K:287:MET:HA	2:K:310:VAL:HG23	1.87	0.56
8:C:251:GLN:HE21	8:C:255:GLN:HE21	1.51	0.56
2:K:263:GLY:O	2:K:290:ARG:NH2	2.37	0.56
5:J:259:LYS:HE2	5:J:265:LEU:HD11	1.87	0.56
6:E:22:GLU:OE1	6:E:27:VAL:HG22	2.06	0.56
8:C:273:LEU:HD12	8:C:277:LEU:HD12	1.87	0.56
17:B:14:G:C2	17:B:15:A:C8	2.93	0.56
17:B:45:A:C2	17:B:46:C:C4	2.94	0.56
18:O:194:LEU:HD13	18:O:197:ARG:NH1	2.20	0.56
26:I:23:C:O2'	26:I:24:A:H5'	2.04	0.56
26:I:37:U:O2'	26:I:38:U:H2'	2.06	0.56
1:A:816:ILE:O	1:A:820:ALA:HB2	2.05	0.56
1:A:1414:TRP:CB	1:A:1558:GLU:HG3	2.36	0.56
2:K:415:TYR:OH	7:M:126:ILE:O	2.18	0.56
6:E:39:CYS:SG	6:E:80:MET:HB3	2.46	0.56
1:A:1585:MET:HA	1:A:1588:LYS:HZ3	1.70	0.56
5:J:350:PRO:HG2	16:F:83:A:C5	2.40	0.56
8:C:119:ASN:OD1	8:C:120:ARG:N	2.38	0.56
8:C:362:LYS:HG3	8:C:363:PRO:HD2	1.87	0.56
8:C:472:VAL:CB	8:C:575:ALA:O	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:865:ASP:HB2	8:C:931:TYR:HE2	1.71	0.56
16:F:15:A:C6	16:F:16:C:C5	2.93	0.56
17:B:80:G:C6	17:B:82:A:C6	2.94	0.56
38:H:1126:G:O2'	38:H:1127:A:C5'	2.54	0.56
38:H:1146:G:O2'	38:H:1147:A:O5'	2.15	0.56
1:A:161:PHE:O	1:A:165:LEU:HB2	2.06	0.56
1:A:1739:ARG:HH22	1:A:1745:SER:HG	1.52	0.56
2:K:176:LYS:O	2:K:459:ARG:HG2	2.06	0.56
17:B:28:G:H2'	17:B:29:G:H5'	1.88	0.56
26:I:47:A:H2'	26:I:48:U:C6	2.39	0.56
26:I:77:U:H2'	26:I:78:A:C8	2.41	0.56
1:A:672:LYS:NZ	17:B:86:G:OP2	2.39	0.56
1:A:716:ARG:NH1	17:B:84:A:C4	2.74	0.56
1:A:1755:LYS:HE3	1:A:1759:TYR:CE2	2.41	0.56
2:K:190:VAL:O	2:K:201:VAL:HA	2.06	0.56
2:K:239:GLU:HA	2:K:267:ARG:HG3	1.88	0.56
2:K:415:TYR:CD1	2:K:439:LYS:HB3	2.41	0.56
5:J:405:ASP:OD1	5:J:419:MET:N	2.34	0.56
8:C:312:ILE:HG12	8:C:323:THR:HG22	1.88	0.56
8:C:792:LYS:HD2	8:C:795:ILE:HD12	1.88	0.56
17:B:44:A:N1	17:B:71:A:N1	2.54	0.56
1:A:861:GLN:HG2	1:A:1097:HIS:HB3	1.88	0.55
1:A:940:ILE:O	1:A:944:TYR:CB	2.54	0.55
1:A:1748:ILE:HG22	1:A:1752:VAL:HG23	1.87	0.55
1:A:1963:LEU:HB3	1:A:1965:PHE:CE2	2.41	0.55
38:H:143:G:H2'	38:H:144:G:C8	2.41	0.55
1:A:1616:ARG:HB2	1:A:1744:ASP:OD2	2.05	0.55
2:K:360:ASN:HB3	2:K:362:TYR:CD2	2.40	0.55
6:E:53:VAL:HG13	6:E:56:PHE:CZ	2.41	0.55
8:C:696:SER:OG	8:C:697:ARG:N	2.40	0.55
16:F:56:A:H2'	16:F:57:U:C6	2.40	0.55
36:Y:208:SER:CB	36:Y:212:ARG:O	2.54	0.55
1:A:465:GLU:OE1	8:C:387:TYR:OH	2.24	0.55
1:A:829:TYR:OH	1:A:833:ARG:NH1	2.40	0.55
1:A:1339:LEU:HD23	1:A:1340:ILE:N	2.22	0.55
1:A:1680:SER:N	1:A:1704:GLU:OE1	2.40	0.55
1:A:1734:PHE:HD1	1:A:1773:VAL:HB	1.71	0.55
3:L:366:LYS:HD3	16:F:58:C:N4	2.21	0.55
3:L:367:ARG:NH2	26:I:57:U:C4	2.71	0.55
4:N:798:LEU:O	4:N:801:THR:HG22	2.06	0.55
4:N:887:THR:O	4:N:890:GLU:HB3	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:M:93:VAL:HG12	7:M:95:ARG:H	1.71	0.55
8:C:233:ASP:HB3	8:C:443:TYR:CE1	2.41	0.55
8:C:452:LYS:HZ1	8:C:487:ARG:NH2	2.03	0.55
17:B:73:U:O2'	17:B:74:U:H5''	2.05	0.55
1:A:413:ASN:ND2	1:A:416:GLU:O	2.39	0.55
1:A:1169:TYR:CZ	1:A:1262:MET:HG2	2.41	0.55
1:A:1225:ALA:O	1:A:1228:TRP:N	2.38	0.55
1:A:1341:SER:OG	1:A:1342:LEU:N	2.38	0.55
1:A:1400:ILE:HG22	1:A:1401:SER:H	1.70	0.55
1:A:1619:VAL:HG12	1:A:1620:TYR:CD2	2.40	0.55
1:A:1690:LYS:HA	1:A:1693:LYS:HG2	1.89	0.55
1:A:2044:THR:N	1:A:2047:GLN:OE1	2.31	0.55
4:N:398:GLU:O	4:N:402:TRP:CB	2.54	0.55
8:C:738:ASP:OD1	8:C:739:GLY:N	2.40	0.55
8:C:772:ASN:CG	8:C:816:VAL:H	2.09	0.55
16:F:83:A:O2'	16:F:84:C:P	2.65	0.55
17:B:149:U:H2'	17:B:150:U:O4'	2.07	0.55
26:I:26:A:H5'	26:I:26:A:H8	1.71	0.55
1:A:553:ASN:OD1	1:A:554:THR:N	2.38	0.55
1:A:731:THR:O	1:A:735:GLU:N	2.39	0.55
1:A:1608:LEU:O	1:A:1611:SER:N	2.23	0.55
1:A:1759:TYR:O	1:A:1765:SER:OG	2.24	0.55
1:A:1834:PHE:CE1	1:A:1958:PRO:HG2	2.41	0.55
4:N:286:GLU:HB2	4:N:292:CYS:SG	2.47	0.55
4:N:487:GLN:O	4:N:491:LYS:CB	2.54	0.55
7:M:111:LYS:HG2	7:M:115:TYR:CE2	2.42	0.55
8:C:287:LYS:HE2	8:C:895:ALA:O	2.06	0.55
8:C:778:THR:OG1	8:C:780:PRO:HD2	2.05	0.55
17:B:161:U:H2'	17:B:162:G:C8	2.41	0.55
26:I:36:A:H2	26:I:42:C:C2	2.24	0.55
1:A:146:HIS:O	1:A:149:MET:CB	2.54	0.55
1:A:250:SER:OG	1:A:254:HIS:N	2.37	0.55
1:A:252:GLU:HG2	1:A:253:GLN:N	2.22	0.55
1:A:618:SER:O	1:A:621:LEU:HB3	2.07	0.55
1:A:917:GLU:CD	4:N:159:LEU:HD21	2.27	0.55
1:A:1563:LYS:HD2	1:A:1781:TYR:HD1	1.72	0.55
1:A:1640:THR:OG1	1:A:1641:LEU:N	2.40	0.55
1:A:1709:TRP:HD1	1:A:1730:ASN:O	1.90	0.55
3:L:367:ARG:NH1	26:I:58:G:N7	2.55	0.55
7:M:105:ASN:HB3	7:M:108:SER:HB2	1.87	0.55
17:B:125:C:H2'	17:B:126:A:O4'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:255:ILE:O	1:A:257:ASN:N	2.40	0.55
1:A:656:ILE:O	1:A:660:ILE:HG13	2.07	0.55
1:A:868:GLN:OE1	1:A:1100:LYS:NZ	2.39	0.55
1:A:1051:GLU:HG2	1:A:1169:TYR:CD1	2.42	0.55
1:A:1054:LEU:HD21	1:A:1168:ILE:HD11	1.88	0.55
1:A:1087:ASN:ND2	3:L:272:LEU:HG	2.22	0.55
1:A:1680:SER:H	1:A:1704:GLU:HB2	1.71	0.55
1:A:1699:ALA:HA	1:A:1735:ASP:OD1	2.06	0.55
1:A:1759:TYR:HB3	1:A:1767:TYR:CE2	2.42	0.55
2:K:170:SER:OG	2:K:171:GLN:N	2.40	0.55
2:K:408:LYS:O	2:K:424:SER:HB3	2.07	0.55
8:C:231:ALA:O	8:C:487:ARG:NH1	2.39	0.55
8:C:265:PHE:CD2	8:C:295:ILE:HD12	2.42	0.55
16:F:83:A:H2'	16:F:83:A:N3	2.22	0.55
1:A:961:GLN:OE1	1:A:963:VAL:N	2.29	0.55
1:A:1859:ARG:NH2	1:A:1876:ASN:O	2.34	0.55
2:K:121:ARG:HA	2:K:124:LEU:HD12	1.89	0.55
3:L:146:ASN:O	3:L:150:SER:N	2.40	0.55
3:L:266:LYS:HG2	3:L:267:HIS:H	1.71	0.55
4:N:730:LEU:O	4:N:732:LYS:N	2.40	0.55
5:J:153:LEU:O	5:J:157:LYS:HB3	2.07	0.55
8:C:938:ARG:HG2	8:C:939:LYS:H	1.71	0.55
32:4:139:GLU:O	32:4:151:ALA:HA	2.07	0.55
1:A:297:SER:HB3	17:B:32:G:OP1	2.06	0.55
1:A:1268:ARG:HD3	1:A:1301:TYR:HB2	1.89	0.55
1:A:1275:MET:O	1:A:1277:GLU:N	2.39	0.55
1:A:1419:ASP:HB3	1:A:1803:ARG:NH2	2.22	0.55
1:A:1646:ILE:HD13	16:F:49:A:N1	2.22	0.55
4:N:669:LYS:HA	4:N:672:LEU:HD12	1.88	0.55
8:C:356:LYS:N	8:C:358:ASN:OD1	2.39	0.55
8:C:362:LYS:O	8:C:364:PHE:N	2.39	0.55
8:C:421:LEU:O	8:C:424:VAL:HB	2.05	0.55
8:C:483:TRP:HB3	8:C:563:LEU:HB3	1.88	0.55
8:C:735:LEU:HD21	8:C:739:GLY:HA3	1.89	0.55
16:F:51:A:C5'	16:F:51:A:H8	2.19	0.55
17:B:10:U:H2'	17:B:11:A:N7	2.22	0.55
17:B:98:U:C6	17:B:99:U:C5	2.94	0.55
26:I:14:G:H2'	26:I:15:G:H8	1.70	0.55
19:S:49:ALA:O	19:S:56:VAL:HA	2.07	0.55
38:H:1139:G:C4	38:H:1140:U:C5	2.94	0.55
38:H:1139:G:C5	38:H:1140:U:C5	2.94	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:W:80:PHE:O	44:W:88:THR:HA	2.07	0.55
1:A:225:ARG:NH2	1:A:694:ASN:CG	2.60	0.55
1:A:350:PRO:HG2	1:A:352:PHE:HE2	1.72	0.55
1:A:667:TYR:O	16:F:26:A:H2	1.90	0.55
1:A:852:LEU:O	1:A:855:LEU:N	2.37	0.55
1:A:1574:PHE:HE1	1:A:1826:TYR:HD2	1.55	0.55
1:A:1992:TYR:CD1	1:A:2004:ALA:HB1	2.42	0.55
2:K:140:MET:HE1	5:J:153:LEU:HD22	1.88	0.55
3:L:154:SER:HB2	3:L:156:GLU:HB2	1.89	0.55
5:J:347:LEU:HD21	5:J:442:MET:SD	2.47	0.55
1:A:150:ALA:CB	1:A:153:MET:SD	2.94	0.54
1:A:355:LEU:HD13	17:B:105:A:C5'	2.34	0.54
2:K:119:PHE:HA	2:K:122:ARG:HD3	1.88	0.54
4:N:702:PRO:HB3	4:N:739:PHE:HE1	1.71	0.54
5:J:358:MET:O	5:J:361:LYS:N	2.39	0.54
8:C:133:ILE:HG22	8:C:209:MET:HB3	1.89	0.54
28:G:505:A:OP1	28:G:505:A:C4'	2.55	0.54
1:A:1014:LYS:HE3	1:A:1144:PHE:CE1	2.43	0.54
2:K:401:PHE:CE1	2:K:410:LEU:HD21	2.41	0.54
5:J:382:VAL:HG11	5:J:392:TYR:CE2	2.42	0.54
8:C:265:PHE:N	8:C:310:ASN:O	2.33	0.54
1:A:228:LYS:HZ1	1:A:698:GLY:HA3	1.72	0.54
1:A:228:LYS:HZ3	1:A:698:GLY:C	2.11	0.54
1:A:408:SER:HB3	1:A:410:ILE:HD12	1.89	0.54
1:A:767:LEU:HD22	1:A:775:ARG:HD3	1.88	0.54
1:A:1088:VAL:HG12	1:A:1089:VAL:N	2.17	0.54
1:A:1394:LEU:HD21	3:L:394:GLY:HA2	1.90	0.54
1:A:2041:PRO:HG2	1:A:2043:PHE:HE2	1.72	0.54
2:K:284:SER:OG	2:K:285:HIS:N	2.36	0.54
4:N:808:LEU:HD11	4:N:834:LYS:HZ2	1.72	0.54
8:C:148:SER:O	8:C:151:ASP:HB3	2.08	0.54
8:C:620:ASP:HA	8:C:623:ASN:ND2	2.21	0.54
16:F:86:G:C5'	16:F:86:G:C8	2.90	0.54
26:I:20:A:N1	26:I:54:U:O2	2.40	0.54
1:A:234:PHE:CZ	1:A:648:GLN:HG2	2.42	0.54
1:A:338:ASN:OD1	1:A:399:ARG:N	2.34	0.54
6:E:70:PHE:HA	6:E:73:MET:HG2	1.89	0.54
38:H:1139:G:HO2'	38:H:1140:U:H6	1.54	0.54
7:M:14:ALA:O	7:M:17:THR:N	2.39	0.54
16:F:56:A:H2'	16:F:57:U:H6	1.72	0.54
1:A:194:HIS:HB3	1:A:198:ALA:H	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:412:GLN:OE1	1:A:412:GLN:N	2.41	0.54
1:A:893:ARG:O	1:A:894:SER:OG	2.26	0.54
1:A:1144:PHE:HD2	1:A:1145:MET:HG2	1.72	0.54
1:A:1650:ARG:HD2	16:F:49:A:H5'	1.89	0.54
1:A:1712:SER:HA	1:A:1723:SER:O	2.07	0.54
5:J:452:LEU:O	5:J:461:GLU:HG2	2.08	0.54
8:C:835:LYS:O	8:C:839:ILE:HB	2.07	0.54
1:A:603:LYS:NZ	16:F:43:C:H5''	2.12	0.54
1:A:965:LYS:HG3	1:A:985:ASP:OD2	2.08	0.54
1:A:1180:GLU:HA	1:A:1183:THR:HG22	1.89	0.54
1:A:1657:ILE:HG12	1:A:1811:ALA:HB1	1.90	0.54
1:A:2070:ASN:ND2	1:A:2072:SER:OG	2.41	0.54
2:K:51:VAL:HG13	2:K:76:LEU:HD11	1.89	0.54
2:K:441:ILE:HD11	2:K:457:TRP:HE1	1.73	0.54
3:L:273:HIS:ND1	3:L:273:HIS:O	2.41	0.54
4:N:349:ALA:O	4:N:353:GLN:CB	2.56	0.54
8:C:775:ILE:HD12	8:C:817:GLN:NE2	2.23	0.54
28:G:500:A:C2	38:H:36:A:C2	2.95	0.54
38:H:41:C:C5'	38:H:41:C:C6	2.89	0.54
38:H:1097:G:C5	38:H:1146:G:C6	2.96	0.54
44:W:93:LEU:O	44:W:97:ASP:CB	2.56	0.54
1:A:784:GLN:O	1:A:787:SER:N	2.41	0.54
1:A:1169:TYR:CE2	1:A:1262:MET:HG2	2.41	0.54
1:A:1869:ASN:CG	1:A:1870:VAL:HG22	2.27	0.54
4:N:237:ASP:OD2	4:N:240:ASN:ND2	2.38	0.54
6:E:95:PHE:HD2	6:E:137:TYR:HH	1.55	0.54
7:M:9:PHE:HD2	7:M:10:PRO:HD3	1.72	0.54
7:M:113:GLN:HE21	16:F:77:G:H4'	1.73	0.54
8:C:118:TYR:CZ	8:C:199:LEU:HB3	2.43	0.54
8:C:140:GLY:N	8:C:146:LYS:HD3	2.23	0.54
8:C:470:ALA:HB1	8:C:487:ARG:O	2.08	0.54
16:F:29:U:N3	17:B:98:U:C2	2.76	0.54
38:H:1126:G:O2'	38:H:1127:A:O5'	2.24	0.54
1:A:188:GLU:HA	1:A:562:ILE:O	2.08	0.54
1:A:297:SER:HB2	17:B:32:G:H5'	1.90	0.54
1:A:503:LYS:NZ	17:B:83:C:OP1	2.36	0.54
1:A:2075:THR:O	1:A:2079:ILE:HD12	2.08	0.54
8:C:794:GLN:HG2	8:C:835:LYS:CG	2.37	0.54
16:F:51:A:C8	16:F:51:A:C5'	2.90	0.54
33:5:103:LYS:O	33:5:104:LYS:CB	2.56	0.54
1:A:1020:ILE:O	1:A:1023:LEU:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1582:GLU:OE1	1:A:1583:ASP:N	2.41	0.54
1:A:1878:CYS:HB2	1:A:1891:LEU:HD22	1.88	0.54
2:K:46:GLU:HB2	2:K:73:ARG:NH1	2.23	0.54
2:K:200:GLN:HB3	2:K:213:LYS:HA	1.90	0.54
3:L:280:ARG:HH21	26:I:37:U:H5	1.56	0.54
4:N:688:ARG:HA	4:N:691:TYR:HD2	1.73	0.54
4:N:807:VAL:O	4:N:810:GLU:N	2.40	0.54
4:N:840:ASP:N	4:N:840:ASP:OD1	2.40	0.54
7:M:37:ALA:HB2	7:M:98:ILE:HD11	1.90	0.54
7:M:40:ALA:O	7:M:43:THR:OG1	2.21	0.54
8:C:249:VAL:HA	8:C:252:LEU:HD12	1.89	0.54
8:C:488:ILE:HG22	8:C:558:LYS:HA	1.90	0.54
8:C:542:ILE:HG22	8:C:553:VAL:HB	1.88	0.54
17:B:41:A:C8	17:B:41:A:C5'	2.85	0.54
1:A:1389:TYR:HD2	1:A:1437:ILE:HG21	1.71	0.53
1:A:1925:PRO:O	1:A:1928:GLU:N	2.38	0.53
2:K:218:VAL:CG2	2:K:239:GLU:HG2	2.37	0.53
4:N:310:TRP:O	4:N:313:ALA:N	2.41	0.53
4:N:738:LEU:O	4:N:741:ILE:N	2.41	0.53
5:J:392:TYR:O	5:J:395:LEU:HB3	2.08	0.53
6:E:32:GLY:HA3	6:E:39:CYS:SG	2.48	0.53
8:C:287:LYS:NZ	8:C:291:ILE:HD11	2.23	0.53
17:B:74:U:H5'	17:B:74:U:H6	1.73	0.53
1:A:750:LEU:HG	1:A:751:ASP:H	1.73	0.53
1:A:1908:LEU:O	1:A:1912:LYS:HG2	2.08	0.53
3:L:79:ASP:O	3:L:82:ARG:N	2.42	0.53
8:C:234:LEU:HA	8:C:262:ALA:O	2.09	0.53
8:C:326:GLU:HG2	8:C:330:TYR:CE2	2.43	0.53
1:A:346:ILE:HB	1:A:349:GLY:HA3	1.90	0.53
1:A:499:VAL:HG12	1:A:501:LEU:HD12	1.89	0.53
1:A:769:MET:HG3	4:N:111:LEU:HB2	1.90	0.53
1:A:1690:LYS:O	1:A:1693:LYS:HG2	2.08	0.53
2:K:247:GLN:HE21	2:K:248:TYR:C	2.12	0.53
3:L:105:ILE:O	3:L:109:ILE:HG13	2.09	0.53
4:N:687:SER:O	4:N:690:THR:HG22	2.08	0.53
4:N:692:LEU:HD23	4:N:708:LEU:HD11	1.90	0.53
4:N:702:PRO:HA	4:N:705:TRP:CE3	2.43	0.53
8:C:445:PRO:O	8:C:449:PHE:CB	2.56	0.53
17:B:28:G:C6	17:B:126:A:C2	2.96	0.53
31:3:153:ASP:O	31:3:154:SER:CB	2.56	0.53
1:A:495:ARG:HH12	17:B:112:C:C2'	2.21	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:693:SER:O	4:N:696:ARG:HG2	2.08	0.53
23:T:59:GLU:O	23:T:74:GLY:HA2	2.08	0.53
1:A:930:ASN:HB3	1:A:933:GLU:OE1	2.07	0.53
2:K:112:PRO:HB3	5:J:217:VAL:CA	2.38	0.53
2:K:383:GLU:HA	2:K:385:GLN:HG2	1.91	0.53
8:C:201:THR:HA	8:C:207:SER:HA	1.90	0.53
8:C:296:ASN:OD1	8:C:304:PHE:N	2.36	0.53
29:1:526:LEU:CB	29:1:564:ALA:HB1	2.38	0.53
31:3:520:SER:O	31:3:874:GLY:HA2	2.09	0.53
38:H:1089:G:H2'	38:H:1090:A:O5'	2.09	0.53
45:0:190:GLU:O	45:0:194:TRP:CB	2.57	0.53
1:A:321:GLU:OE1	1:A:321:GLU:N	2.42	0.53
1:A:645:ASP:CG	1:A:646:ALA:H	2.11	0.53
1:A:844:MET:O	1:A:848:ASN:HB2	2.09	0.53
1:A:1041:VAL:O	1:A:1041:VAL:HG12	2.09	0.53
1:A:1332:ALA:HB2	1:A:1397:LEU:HB3	1.90	0.53
1:A:1379:MET:SD	1:A:1380:PRO:HD2	2.49	0.53
4:N:616:PHE:O	4:N:619:GLN:N	2.40	0.53
5:J:269:GLU:OE1	5:J:269:GLU:N	2.42	0.53
38:H:47:U:H3'	38:H:48:U:C5'	2.37	0.53
38:H:1098:C:H2'	38:H:1099:G:C8	2.41	0.53
1:A:327:TYR:OH	1:A:509:HIS:ND1	2.32	0.53
1:A:1156:HIS:ND1	1:A:1157:PRO:HD2	2.23	0.53
3:L:239:ALA:O	3:L:243:ALA:CB	2.55	0.53
4:N:828:LEU:HB3	4:N:845:LEU:HD21	1.91	0.53
5:J:166:TYR:CE1	5:J:171:THR:HA	2.43	0.53
8:C:265:PHE:CE2	8:C:295:ILE:HD12	2.44	0.53
29:1:927:ALA:C	29:1:929:ASN:H	2.12	0.53
38:H:1126:G:HO2'	38:H:1127:A:H8	1.56	0.53
1:A:269:ASP:OD1	1:A:270:SER:N	2.42	0.53
1:A:1574:PHE:HD2	1:A:1828:SER:HG	1.55	0.53
2:K:274:HIS:HD2	2:K:276:SER:CB	2.22	0.53
2:K:327:MET:HA	2:K:351:PRO:HB3	1.91	0.53
4:N:242:GLN:HA	4:N:245:ILE:HD12	1.90	0.53
5:J:145:HIS:HB3	5:J:148:LYS:NZ	2.24	0.53
6:E:30:ARG:NE	6:E:61:LEU:HD22	2.24	0.53
6:E:32:GLY:HA2	6:E:79:PRO:O	2.08	0.53
8:C:323:THR:OG1	8:C:326:GLU:HB3	2.09	0.53
8:C:505:SER:O	8:C:508:GLU:N	2.41	0.53
28:G:483:A:O3'	28:G:484:A:H4'	2.07	0.53
31:3:855:ALA:HA	31:3:856:ASP:C	2.29	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:381:SER:O	1:A:384:LYS:N	2.42	0.53
1:A:404:ASN:HA	8:C:919:ARG:HH12	1.73	0.53
1:A:482:SER:HG	1:A:487:ASN:H	1.55	0.53
1:A:833:ARG:HG3	1:A:838:ALA:HB3	1.90	0.53
1:A:1158:ILE:HG12	1:A:1172:PHE:CE1	2.43	0.53
1:A:1372:LYS:HG2	1:A:1383:PHE:CE2	2.44	0.53
1:A:1574:PHE:CE1	1:A:1826:TYR:HD2	2.27	0.53
4:N:15:TYR:HE2	6:E:13:TRP:CD1	2.22	0.53
4:N:261:LYS:HE2	4:N:285:HIS:HA	1.90	0.53
5:J:315:ARG:HH21	16:F:72:C:H1'	1.73	0.53
8:C:341:ILE:HG13	8:C:342:ASP:N	2.22	0.53
8:C:396:LEU:O	8:C:400:LEU:HG	2.09	0.53
1:A:165:LEU:HG	1:A:578:MET:SD	2.49	0.53
1:A:225:ARG:HH21	1:A:694:ASN:ND2	2.07	0.53
1:A:671:TYR:HD2	17:B:101:C:HO2'	1.55	0.53
1:A:947:PRO:O	1:A:950:THR:HG22	2.09	0.53
1:A:1378:LYS:O	1:A:1379:MET:HB3	2.08	0.53
1:A:1491:ILE:O	1:A:1494:LEU:N	2.42	0.53
1:A:1623:PHE:CE2	16:F:31:G:C6	2.96	0.53
2:K:227:HIS:CE1	2:K:230:SER:H	2.27	0.53
3:L:265:ASN:O	3:L:266:LYS:HB2	2.08	0.53
16:F:46:U:H5'	16:F:47:A:OP2	2.09	0.53
26:I:9:G:H2'	26:I:10:C:C6	2.44	0.53
38:H:1148:U:H2'	38:H:1149:G:C8	2.43	0.53
1:A:248:PRO:HG3	1:A:573:ARG:HD2	1.91	0.52
1:A:772:GLU:HG2	1:A:775:ARG:CZ	2.40	0.52
3:L:48:PRO:O	3:L:52:GLU:CB	2.57	0.52
1:A:971:MET:SD	1:A:980:PRO:HA	2.48	0.52
1:A:1303:LYS:HG2	1:A:1304:VAL:N	2.23	0.52
6:E:118:GLU:OE2	6:E:122:ARG:NH2	2.41	0.52
6:E:121:PHE:HZ	6:E:125:ARG:HH21	1.57	0.52
8:C:713:GLU:N	8:C:817:GLN:O	2.41	0.52
17:B:28:G:H2'	17:B:29:G:H5''	1.92	0.52
17:B:72:C:H2'	17:B:73:U:H6	1.74	0.52
17:B:102:C:H2'	17:B:103:A:C5'	2.38	0.52
28:G:485:A:H2'	28:G:486:A:OP2	2.09	0.52
1:A:1458:TRP:CZ2	1:A:1489:PRO:HB2	2.44	0.52
1:A:2018:ASN:ND2	1:A:2058:LEU:HB3	2.23	0.52
3:L:294:PHE:HB3	3:L:295:PRO:HD2	1.92	0.52
3:L:366:LYS:CD	16:F:58:C:H41	2.22	0.52
4:N:668:HIS:CE1	4:N:669:LYS:HG3	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:757:TRP:HZ2	8:C:775:ILE:HD11	1.74	0.52
8:C:776:ASN:OD1	8:C:792:LYS:NZ	2.43	0.52
16:F:81:G:H22	26:I:1:A:H1'	1.73	0.52
1:A:231:ARG:NE	1:A:233:HIS:O	2.41	0.52
1:A:1201:TYR:HB2	1:A:1224:ARG:HH21	1.75	0.52
2:K:207:LEU:HD11	2:K:463:LEU:HB2	1.91	0.52
4:N:617:PHE:O	4:N:621:PHE:CB	2.57	0.52
6:E:44:GLU:O	6:E:47:SER:OG	2.18	0.52
17:B:16:U:O2'	17:B:18:A:N7	2.42	0.52
17:B:91:U:C2'	17:B:92:U:H5''	2.37	0.52
26:I:140:G:H2'	26:I:141:G:O4'	2.09	0.52
38:H:68:U:H2'	38:H:69:G:O4'	2.10	0.52
38:H:1127:A:O2'	38:H:1128:C:H5'	2.08	0.52
1:A:769:MET:HG3	4:N:111:LEU:CB	2.40	0.52
1:A:1575:TRP:NE1	3:L:393:PHE:HD1	2.07	0.52
1:A:2041:PRO:HG2	1:A:2043:PHE:CE2	2.45	0.52
3:L:321:LYS:HG3	3:L:324:ASP:H	1.74	0.52
4:N:726:LEU:HD21	4:N:746:MET:SD	2.49	0.52
5:J:320:ILE:O	5:J:323:ARG:HB2	2.09	0.52
5:J:343:GLN:HA	5:J:378:GLY:O	2.08	0.52
26:I:92:C:H2'	26:I:93:C:H6	1.75	0.52
22:R:56:ALA:HB2	22:R:72:VAL:HA	1.90	0.52
28:G:470:A:N3	28:G:470:A:C2'	2.73	0.52
31:3:68:GLN:HA	31:3:1223:GLY:O	2.09	0.52
1:A:133:GLU:HG3	1:A:560:THR:HA	1.92	0.52
1:A:654:HIS:CD2	1:A:701:CYS:CB	2.92	0.52
1:A:693:LYS:NZ	1:A:693:LYS:CA	2.73	0.52
4:N:755:GLN:HA	4:N:758:LEU:HD13	1.92	0.52
8:C:410:GLN:OE1	8:C:410:GLN:N	2.35	0.52
8:C:755:TYR:HB2	8:C:757:TRP:HB2	1.92	0.52
8:C:780:PRO:HA	8:C:783:ILE:HD12	1.92	0.52
16:F:13:U:H3'	16:F:14:U:C5	2.45	0.52
16:F:47:A:H2'	16:F:48:C:C5'	2.40	0.52
17:B:29:G:H2'	17:B:30:A:O4'	2.09	0.52
38:H:1140:U:H2'	38:H:1141:C:H6	1.75	0.52
1:A:643:ASN:OD1	1:A:643:ASN:N	2.38	0.52
1:A:1661:ILE:HG13	1:A:1809:ASN:ND2	2.24	0.52
1:A:1973:LYS:O	1:A:1976:ASP:HB2	2.10	0.52
2:K:76:LEU:O	2:K:79:ILE:N	2.42	0.52
2:K:347:GLY:HA3	2:K:374:ASN:HD21	1.73	0.52
2:K:412:SER:OG	2:K:420:ASN:HB2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:108:ASN:HA	3:L:111:LEU:HD12	1.90	0.52
4:N:890:GLU:O	4:N:894:ARG:HB2	2.09	0.52
6:E:42:MET:HE1	6:E:106:ILE:HA	1.92	0.52
7:M:38:ASN:HB2	26:I:32:G:O6	2.10	0.52
17:B:96:U:O5'	17:B:96:U:H6	1.92	0.52
27:D:851:ASP:HA	27:D:861:GLU:O	2.10	0.52
38:H:139:G:H2'	38:H:140:G:O5'	2.09	0.52
1:A:228:LYS:HZ3	1:A:698:GLY:CA	2.23	0.52
1:A:840:VAL:HG11	1:A:845:VAL:HG23	1.92	0.52
1:A:1014:LYS:HD2	1:A:1144:PHE:HE1	1.74	0.52
1:A:1478:GLU:O	1:A:1481:GLU:HB2	2.10	0.52
1:A:1575:TRP:NE1	3:L:393:PHE:CD1	2.78	0.52
1:A:1857:VAL:HG13	1:A:1894:ILE:HD12	1.91	0.52
1:A:1877:GLY:O	1:A:1893:ILE:HA	2.09	0.52
2:K:166:GLU:H	2:K:465:ASN:HB2	1.73	0.52
2:K:176:LYS:HB3	2:K:195:TRP:HB2	1.91	0.52
2:K:274:HIS:HB3	2:K:279:PHE:HB2	1.92	0.52
7:M:42:LYS:HZ3	26:I:43:C:H5	1.57	0.52
8:C:115:LYS:O	8:C:116:THR:OG1	2.23	0.52
8:C:197:THR:H	8:C:545:LEU:HD12	1.75	0.52
8:C:798:GLY:HA2	8:C:839:ILE:HG23	1.91	0.52
17:B:33:U:O2'	17:B:34:C:P	2.66	0.52
17:B:33:U:HO2'	17:B:34:C:P	2.30	0.52
26:I:35:G:N2	26:I:36:A:N3	2.58	0.52
28:G:471:U:O2'	28:G:472:U:C5	2.63	0.52
1:A:409:CYS:SG	8:C:272:ARG:NH2	2.80	0.52
1:A:1844:PHE:HB2	5:J:278:MET:SD	2.49	0.52
2:K:70:GLN:CD	2:K:70:GLN:H	2.12	0.52
3:L:379:PHE:N	3:L:379:PHE:CD1	2.77	0.52
4:N:15:TYR:OH	6:E:13:TRP:HA	2.09	0.52
5:J:410:THR:OG1	5:J:413:GLY:O	2.17	0.52
8:C:362:LYS:CG	8:C:363:PRO:HD2	2.39	0.52
17:B:94:C:C3'	17:B:94:C:C6	2.93	0.52
28:G:491:C:H2'	28:G:492:U:O4'	2.10	0.52
1:A:139:LEU:O	1:A:142:ILE:N	2.43	0.52
1:A:143:ILE:HD13	1:A:570:GLN:HE21	1.74	0.52
1:A:1038:ILE:HD11	1:A:1039:TRP:CE2	2.45	0.52
1:A:1144:PHE:HZ	1:A:1162:THR:HG21	1.72	0.52
1:A:1771:THR:HA	1:A:1789:ASN:ND2	2.24	0.52
2:K:160:GLN:O	2:K:164:ASN:N	2.38	0.52
2:K:206:THR:HB	2:K:208:GLN:OE1	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:362:TYR:CD1	2:K:363:GLN:HG3	2.45	0.52
3:L:200:ALA:O	3:L:203:ILE:N	2.43	0.52
4:N:737:VAL:HA	4:N:767:PHE:CE2	2.45	0.52
8:C:501:ILE:HB	8:C:535:PRO:O	2.10	0.52
8:C:546:GLY:HA3	8:C:549:TYR:CE1	2.45	0.52
16:F:83:A:N3	16:F:83:A:C2'	2.73	0.52
17:B:84:A:H2'	17:B:85:U:C6	2.45	0.52
38:H:1097:G:C2	38:H:1146:G:C5	2.98	0.52
1:A:814:ARG:NH2	4:N:107:LEU:HD13	2.25	0.51
1:A:1835:LEU:HD11	1:A:1843:LEU:HD21	1.91	0.51
1:A:1887:GLY:HA3	1:A:1992:TYR:HD2	1.74	0.51
3:L:206:ASN:HA	3:L:209:LYS:HE2	1.92	0.51
3:L:239:ALA:O	3:L:243:ALA:HB2	2.09	0.51
3:L:390:ARG:O	3:L:412:MET:HG2	2.10	0.51
4:N:169:LEU:O	4:N:173:GLN:HG3	2.11	0.51
6:E:36:ASP:HB2	6:E:39:CYS:HB2	1.92	0.51
8:C:601:ALA:HB1	8:C:645:LEU:HB3	1.92	0.51
17:B:80:G:C6	17:B:82:A:N1	2.78	0.51
17:B:91:U:H3'	17:B:92:U:C5'	2.39	0.51
26:I:49:U:H2'	26:I:50:G:C8	2.44	0.51
38:H:1139:G:HO2'	38:H:1140:U:C5'	2.23	0.51
1:A:282:ASP:HB3	1:A:284:ARG:O	2.10	0.51
1:A:389:HIS:NE2	8:C:657:TYR:HD1	2.09	0.51
1:A:1649:PHE:HE1	1:A:1815:LEU:HD21	1.75	0.51
1:A:2019:GLU:O	1:A:2023:LYS:HG3	2.10	0.51
2:K:230:SER:OG	2:K:233:GLN:OE1	2.21	0.51
3:L:339:LYS:O	3:L:342:ARG:N	2.43	0.51
8:C:436:VAL:O	8:C:440:THR:N	2.35	0.51
8:C:649:GLU:OE2	8:C:913:GLY:N	2.39	0.51
16:F:69:C:C4	16:F:70:U:C4	2.98	0.51
28:G:486:A:N3	28:G:486:A:C3'	2.73	0.51
28:G:506:U:O2	28:G:506:U:H3'	2.11	0.51
1:A:936:GLU:O	1:A:939:LEU:N	2.43	0.51
1:A:960:THR:O	1:A:962:ARG:HG2	2.10	0.51
1:A:961:GLN:CG	1:A:964:PHE:HE1	2.22	0.51
1:A:1342:LEU:HD23	1:A:1343:PHE:CD1	2.45	0.51
1:A:1650:ARG:HB2	16:F:49:A:P	2.49	0.51
1:A:1857:VAL:O	1:A:1877:GLY:HA3	2.11	0.51
1:A:2025:ILE:HD12	1:A:2058:LEU:HD11	1.91	0.51
2:K:176:LYS:H	2:K:459:ARG:HD3	1.75	0.51
8:C:814:TYR:HB3	8:C:858:LEU:HD12	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:I:91:U:H2'	26:I:92:C:C6	2.45	0.51
31:3:1117:HIS:O	31:3:1133:ASP:HA	2.09	0.51
38:H:1125:U:O2'	38:H:1126:G:C8	2.57	0.51
1:A:152:LYS:HE3	1:A:584:HIS:CD2	2.45	0.51
1:A:394:ARG:HB2	8:C:667:GLU:OE2	2.11	0.51
1:A:1050:LEU:HD23	1:A:1248:VAL:HG22	1.92	0.51
1:A:1184:ASP:O	1:A:1187:LEU:N	2.43	0.51
2:K:270:ASP:O	2:K:282:SER:HA	2.10	0.51
3:L:101:ILE:HA	3:L:104:LEU:HD12	1.93	0.51
3:L:108:ASN:O	3:L:111:LEU:HB2	2.10	0.51
8:C:202:ASP:OD1	8:C:205:SER:N	2.43	0.51
8:C:248:VAL:O	8:C:252:LEU:HG	2.11	0.51
8:C:675:THR:HG22	8:C:909:ILE:HD13	1.91	0.51
16:F:81:G:H22	26:I:1:A:C1'	2.23	0.51
17:B:1:A:H61	17:B:164:C:H42	1.56	0.51
17:B:74:U:C5'	17:B:74:U:H6	2.24	0.51
1:A:984:VAL:HB	1:A:989:LYS:HG3	1.92	0.51
1:A:1044:GLY:HA3	1:A:1176:GLU:OE2	2.11	0.51
1:A:1664:ASP:OD2	18:O:213:SER:HB3	2.10	0.51
1:A:1705:SER:HA	1:A:1709:TRP:HE1	1.75	0.51
1:A:1734:PHE:CD1	1:A:1773:VAL:HB	2.46	0.51
1:A:1858:TYR:HD2	18:O:164:LEU:HG	1.74	0.51
1:A:1911:TRP:HZ2	18:O:169:ILE:HD13	1.69	0.51
1:A:2062:GLU:HG3	1:A:2065:ARG:NH2	2.26	0.51
2:K:308:LYS:HD2	2:K:328:ASP:HA	1.92	0.51
3:L:137:TYR:O	3:L:141:ILE:HG13	2.11	0.51
5:J:409:HIS:CB	16:F:83:A:H61	2.23	0.51
16:F:32:U:O2	16:F:32:U:O2'	2.21	0.51
26:I:19:U:O2'	26:I:20:A:OP2	2.26	0.51
26:I:50:G:C6	26:I:51:U:C4	2.99	0.51
36:Y:224:PHE:O	36:Y:225:ALA:HB3	2.11	0.51
1:A:668:ARG:NE	16:F:27:U:C4'	2.67	0.51
1:A:1907:GLN:HA	1:A:1910:LYS:CD	2.38	0.51
2:K:358:SER:HB3	2:K:360:ASN:HD22	1.75	0.51
3:L:445:ILE:O	3:L:449:ASN:ND2	2.44	0.51
5:J:141:ASN:CG	5:J:142:LEU:H	2.14	0.51
8:C:508:GLU:OE2	8:C:594:PRO:HG2	2.11	0.51
8:C:681:CYS:SG	8:C:816:VAL:HG22	2.51	0.51
26:I:2:U:H2'	26:I:3:C:H6	1.75	0.51
31:3:477:ILE:O	31:3:479:SER:N	2.41	0.51
1:A:287:GLU:CG	1:A:288:GLU:H	2.24	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1014:LYS:HG3	1:A:1016:SER:H	1.75	0.51
2:K:44:ILE:HG22	2:K:73:ARG:HE	1.76	0.51
3:L:144:LEU:HD21	3:L:183:PHE:CE1	2.46	0.51
5:J:345:LYS:HB2	5:J:422:ASN:OD1	2.11	0.51
38:H:41:C:H5'	38:H:41:C:C6	2.26	0.51
38:H:47:U:C3'	38:H:48:U:C5'	2.89	0.51
1:A:1267:VAL:HG22	1:A:1302:LEU:HD23	1.93	0.51
3:L:177:MET:O	3:L:181:THR:HG23	2.11	0.51
4:N:286:GLU:HG3	4:N:287:SER:N	2.24	0.51
5:J:163:ASN:HB2	5:J:165:GLY:H	1.75	0.51
5:J:280:VAL:HG12	5:J:282:GLU:H	1.76	0.51
26:I:43:C:H2'	26:I:44:G:H5'	1.91	0.51
38:H:1125:U:HO2'	38:H:1126:G:H8	1.49	0.51
1:A:170:HIS:CD2	1:A:547:LEU:HD23	2.46	0.51
1:A:520:VAL:HG12	1:A:524:LYS:HE2	1.93	0.51
1:A:540:THR:CG2	17:B:40:C:N4	2.74	0.51
1:A:1463:THR:O	1:A:1466:GLN:N	2.44	0.51
2:K:232:ASN:CB	2:K:247:GLN:HE22	2.12	0.51
3:L:457:ILE:C	3:L:460:GLY:H	2.14	0.51
4:N:828:LEU:HD11	4:N:848:THR:HG21	1.93	0.51
5:J:141:ASN:OD1	5:J:142:LEU:N	2.43	0.51
8:C:133:ILE:HG13	8:C:134:ILE:N	2.26	0.51
8:C:340:LYS:O	8:C:343:ASP:HB3	2.11	0.51
8:C:613:ARG:NH1	8:C:614:GLU:OE2	2.44	0.51
16:F:57:U:H3	26:I:62:G:H1	1.58	0.51
28:G:475:U:H2'	28:G:476:U:C2	2.45	0.51
1:A:240:PRO:O	1:A:242:PHE:N	2.44	0.51
1:A:639:PHE:O	1:A:642:GLY:N	2.43	0.51
1:A:964:PHE:CZ	1:A:1081:TYR:HE1	2.29	0.51
1:A:1609:TRP:HE3	1:A:1823:LEU:HD13	1.76	0.51
1:A:1821:LYS:O	1:A:1824:GLN:N	2.41	0.51
4:N:597:ARG:O	4:N:601:ILE:CB	2.59	0.51
5:J:373:ARG:NH1	5:J:446:ASN:O	2.44	0.51
5:J:406:PHE:CE1	5:J:408:LEU:HB2	2.46	0.51
6:E:7:PRO:HG2	6:E:60:TYR:CD1	2.46	0.51
7:M:8:ALA:HA	7:M:80:PHE:HE2	1.75	0.51
8:C:326:GLU:HG2	8:C:330:TYR:CD2	2.46	0.51
8:C:713:GLU:HB2	8:C:817:GLN:HB3	1.92	0.51
8:C:772:ASN:ND2	8:C:816:VAL:H	2.09	0.51
16:F:47:A:C3'	16:F:48:C:C5'	2.89	0.51
27:D:2071:ILE:O	27:D:2127:GLU:HA	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:577:ASN:O	1:A:580:ASN:N	2.44	0.50
2:K:388:GLN:HB2	5:J:462:HIS:NE2	2.26	0.50
5:J:351:LYS:N	16:F:83:A:H8	2.09	0.50
7:M:52:ILE:HG22	7:M:53:ILE:N	2.26	0.50
8:C:175:LEU:HD23	8:C:176:ARG:N	2.26	0.50
8:C:192:LYS:HA	8:C:224:GLU:OE2	2.11	0.50
8:C:570:ALA:HB3	8:C:571:TYR:HD2	1.75	0.50
17:B:91:U:OP2	17:B:91:U:H6	1.94	0.50
1:A:181:HIS:HA	1:A:704:TRP:HZ2	1.76	0.50
1:A:665:GLY:HA2	1:A:667:TYR:CE2	2.47	0.50
2:K:266:ARG:HB3	2:K:285:HIS:HB2	1.93	0.50
4:N:659:ARG:O	4:N:662:LYS:N	2.43	0.50
7:M:95:ARG:O	7:M:97:VAL:HG23	2.12	0.50
8:C:360:ARG:CZ	8:C:362:LYS:HD3	2.41	0.50
8:C:474:LYS:HG3	8:C:476:VAL:HG22	1.92	0.50
16:F:65:U:H2'	16:F:66:C:C6	2.46	0.50
38:H:142:C:O2'	38:H:143:G:O4'	2.29	0.50
1:A:543:ASN:OD1	1:A:544:LYS:N	2.43	0.50
1:A:1063:PHE:HE2	1:A:1100:LYS:O	1.94	0.50
1:A:1121:ILE:O	1:A:1124:LEU:HB2	2.10	0.50
1:A:1952:PRO:HB2	3:L:426:GLY:N	2.25	0.50
1:A:1971:ILE:HB	1:A:1974:LEU:HD12	1.94	0.50
1:A:2067:TYR:HB3	18:O:194:LEU:CD2	2.34	0.50
2:K:110:PHE:HA	5:J:219:HIS:HA	1.93	0.50
2:K:247:GLN:HB2	2:K:258:LEU:HD21	1.93	0.50
3:L:313:ALA:O	3:L:316:VAL:HB	2.11	0.50
5:J:159:TYR:OH	5:J:168:TRP:N	2.44	0.50
6:E:32:GLY:O	6:E:63:ASP:HA	2.11	0.50
6:E:42:MET:CE	6:E:106:ILE:HA	2.40	0.50
8:C:117:ARG:NH1	8:C:158:HIS:O	2.43	0.50
8:C:703:LEU:O	8:C:705:GLY:N	2.38	0.50
17:B:99:U:C4	17:B:100:A:H1'	2.45	0.50
28:G:485:A:H2	28:G:486:A:C8	2.28	0.50
28:G:515:U:O2	28:G:515:U:H2'	2.11	0.50
31:3:1136:GLY:HA2	31:3:1197:ASP:O	2.11	0.50
38:H:1097:G:C2	38:H:1098:C:C4	3.00	0.50
1:A:644:VAL:O	1:A:648:GLN:HB2	2.12	0.50
1:A:899:PRO:O	1:A:998:TYR:OH	2.29	0.50
1:A:1559:HIS:ND1	1:A:1613:THR:HG21	2.26	0.50
1:A:1708:GLU:HG2	1:A:1730:ASN:OD1	2.12	0.50
1:A:1860:VAL:HG22	1:A:1874:ALA:HA	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:274:HIS:CB	2:K:279:PHE:HB2	2.42	0.50
2:K:348:HIS:ND1	2:K:370:ASP:OD2	2.40	0.50
2:K:439:LYS:HB2	2:K:457:TRP:CD1	2.46	0.50
4:N:804:ASP:OD1	4:N:805:HIS:N	2.43	0.50
6:E:103:LEU:HD11	6:E:105:PHE:CE2	2.47	0.50
7:M:16:LEU:O	7:M:19:GLN:N	2.44	0.50
8:C:410:GLN:HA	8:C:413:LEU:HB2	1.93	0.50
8:C:429:PHE:HB3	8:C:432:GLN:NE2	2.27	0.50
1:A:1197:ASN:ND2	1:A:1221:ASN:OD1	2.44	0.50
1:A:1474:ARG:HH22	1:A:1499:ARG:NH1	2.10	0.50
1:A:1560:THR:O	1:A:1612:PRO:HG3	2.11	0.50
2:K:311:PHE:CZ	2:K:353:TYR:HD1	2.30	0.50
4:N:159:LEU:O	4:N:162:LEU:HB3	2.12	0.50
4:N:731:LEU:O	4:N:734:PRO:HD3	2.12	0.50
6:E:38:GLN:HB3	6:E:80:MET:SD	2.51	0.50
8:C:425:LEU:O	8:C:428:ILE:HG22	2.12	0.50
16:F:30:G:H1	17:B:96:U:H3	1.59	0.50
16:F:65:U:H2'	16:F:66:C:H6	1.76	0.50
17:B:96:U:H5''	17:B:97:U:C5	2.46	0.50
1:A:1033:ASN:HD21	1:A:1288:LEU:HB3	1.77	0.50
1:A:1058:ALA:HB2	1:A:1114:PHE:HE1	1.76	0.50
1:A:1477:PHE:O	1:A:1481:GLU:HG3	2.12	0.50
1:A:1805:ILE:O	1:A:1808:ALA:N	2.40	0.50
4:N:315:ASP:O	4:N:319:THR:N	2.45	0.50
6:E:6:LEU:HD11	6:E:47:SER:HA	1.94	0.50
8:C:608:GLN:HB2	8:C:669:LYS:HE3	1.92	0.50
38:H:1151:U:H2'	38:H:1152:U:C6	2.46	0.50
1:A:840:VAL:HG22	1:A:844:MET:HB2	1.92	0.50
1:A:861:GLN:NE2	1:A:1097:HIS:HB3	2.26	0.50
1:A:967:VAL:HG13	1:A:983:SER:O	2.11	0.50
1:A:1118:GLY:HA3	1:A:1163:ARG:CZ	2.42	0.50
1:A:1627:LEU:HD13	1:A:1632:ILE:HB	1.94	0.50
1:A:1665:ILE:O	1:A:1668:ILE:N	2.42	0.50
1:A:1944:LEU:O	1:A:1948:MET:N	2.43	0.50
2:K:395:ILE:HD12	2:K:415:TYR:CD2	2.47	0.50
3:L:268:LEU:HD13	3:L:270:HIS:CE1	2.46	0.50
8:C:564:ILE:HG22	8:C:565:LYS:H	1.77	0.50
26:I:10:C:H2'	26:I:11:A:O4'	2.11	0.50
28:G:475:U:H5'	28:G:476:U:OP1	2.11	0.50
1:A:816:ILE:O	1:A:820:ALA:CB	2.60	0.50
1:A:1186:TYR:HE1	1:A:1190:ASN:HD22	1.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1646:ILE:CD1	16:F:49:A:N1	2.74	0.50
2:K:274:HIS:HD2	2:K:276:SER:HB3	1.77	0.50
3:L:110:LYS:HG2	3:L:114:ASN:ND2	2.27	0.50
3:L:189:LEU:HB2	3:L:194:ARG:NH2	2.27	0.50
7:M:111:LYS:HG2	7:M:115:TYR:HE2	1.76	0.50
17:B:32:G:H5'	17:B:33:U:OP2	2.12	0.50
17:B:64:C:C2	17:B:65:U:C5	3.00	0.50
24:U:33:PHE:C	24:U:35:SER:H	2.16	0.50
38:H:142:C:C2'	38:H:143:G:H8	2.23	0.50
1:A:456:GLU:HG3	8:C:356:LYS:O	2.12	0.50
1:A:1069:LEU:O	1:A:1072:LEU:HB2	2.11	0.50
1:A:1256:PRO:HB3	1:A:1274:ARG:HE	1.77	0.50
2:K:285:HIS:C	2:K:287:MET:N	2.65	0.50
6:E:93:CYS:HG	6:E:95:PHE:HE1	1.60	0.50
8:C:428:ILE:HG23	8:C:429:PHE:CD1	2.47	0.50
8:C:764:ASN:HB3	8:C:775:ILE:HG23	1.93	0.50
16:F:15:A:H2'	16:F:16:C:C6	2.41	0.50
17:B:62:G:H2'	17:B:63:C:H6	1.77	0.50
32:4:112:ILE:HA	32:4:179:THR:O	2.12	0.50
1:A:190:LYS:N	1:A:204:GLU:OE2	2.42	0.49
1:A:901:PRO:HG3	1:A:998:TYR:CZ	2.47	0.49
1:A:947:PRO:O	1:A:950:THR:N	2.45	0.49
1:A:1758:ASP:O	1:A:1762:ASP:N	2.45	0.49
2:K:379:ARG:HD3	5:J:159:TYR:CZ	2.47	0.49
3:L:146:ASN:ND2	3:L:148:ASN:HB2	2.27	0.49
3:L:381:LEU:HD22	3:L:385:ARG:HG2	1.94	0.49
8:C:274:ILE:HD13	8:C:385:PHE:CD2	2.36	0.49
17:B:128:A:H2'	17:B:129:G:H2'	1.94	0.49
31:3:391:LEU:HA	31:3:406:GLN:O	2.12	0.49
1:A:659:HIS:O	1:A:662:GLN:N	2.45	0.49
1:A:905:TYR:CE2	1:A:907:ASN:HB2	2.47	0.49
2:K:44:ILE:CG1	2:K:45:PRO:HD2	2.40	0.49
2:K:173:VAL:HG13	2:K:200:GLN:NE2	2.27	0.49
4:N:702:PRO:HA	4:N:705:TRP:HE3	1.75	0.49
8:C:894:VAL:HB	8:C:899:LEU:HB2	1.93	0.49
26:I:151:G:H21	26:I:152:A:N6	2.10	0.49
38:H:1089:G:C2'	38:H:1090:A:O5'	2.60	0.49
1:A:354:PRO:O	1:A:355:LEU:HB3	2.11	0.49
1:A:380:ARG:HB3	1:A:382:GLU:OE1	2.12	0.49
1:A:421:ALA:HB3	1:A:469:ILE:HG12	1.94	0.49
1:A:997:GLN:HE22	1:A:1511:ARG:HH12	1.61	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1065:LEU:HD23	1:A:1069:LEU:HD13	1.95	0.49
1:A:1565:THR:HG1	1:A:1567:PHE:HD2	1.58	0.49
1:A:1759:TYR:HB3	1:A:1767:TYR:HE2	1.76	0.49
1:A:1998:ARG:NH1	1:A:2043:PHE:O	2.45	0.49
2:K:375:VAL:HG11	2:K:427:TRP:CZ2	2.47	0.49
2:K:397:THR:N	2:K:413:CYS:O	2.30	0.49
5:J:320:ILE:HA	5:J:323:ARG:HD3	1.94	0.49
6:E:9:LEU:HD22	6:E:14:HIS:HB3	1.93	0.49
8:C:218:HIS:HE1	8:C:220:ASN:ND2	1.95	0.49
8:C:379:ILE:HA	8:C:382:TYR:HD2	1.77	0.49
16:F:83:A:HO2'	16:F:84:C:P	2.26	0.49
26:I:46:G:C2	26:I:47:A:C5	3.00	0.49
1:A:244:ASP:HB3	1:A:594:ASP:HB2	1.93	0.49
1:A:350:PRO:HG2	1:A:352:PHE:CE2	2.48	0.49
1:A:1051:GLU:HG2	1:A:1169:TYR:HD1	1.77	0.49
1:A:1286:TRP:CE2	1:A:1302:LEU:HD11	2.48	0.49
1:A:1736:VAL:HA	1:A:1775:ILE:O	2.13	0.49
1:A:1779:LEU:HD22	1:A:1815:LEU:HD11	1.95	0.49
2:K:415:TYR:CD1	2:K:439:LYS:HD3	2.47	0.49
2:K:426:THR:HG22	5:J:145:HIS:HB2	1.94	0.49
8:C:611:LEU:O	8:C:614:GLU:N	2.30	0.49
16:F:83:A:O2'	16:F:84:C:H5'	2.12	0.49
26:I:11:A:H2'	26:I:12:C:C6	2.47	0.49
1:A:154:TYR:HB3	1:A:161:PHE:HE2	1.77	0.49
1:A:215:ALA:O	1:A:218:SER:OG	2.22	0.49
1:A:287:GLU:HG2	1:A:288:GLU:OE1	2.12	0.49
1:A:326:ASN:ND2	1:A:405:ASN:O	2.46	0.49
1:A:628:MET:SD	1:A:660:ILE:HD13	2.51	0.49
1:A:1677:GLN:HB3	1:A:1706:VAL:HG21	1.95	0.49
1:A:1678:ILE:HG23	1:A:1704:GLU:H	1.77	0.49
1:A:1709:TRP:O	1:A:1729:THR:N	2.34	0.49
1:A:1853:ASP:HB2	1:A:1880:PHE:HB3	1.95	0.49
1:A:1859:ARG:HG2	18:O:163:THR:HG22	1.93	0.49
2:K:235:ILE:HA	2:K:244:LYS:O	2.12	0.49
8:C:660:ARG:HH22	8:C:670:ILE:HD12	1.78	0.49
17:B:64:C:H2'	17:B:65:U:H6	1.77	0.49
17:B:72:C:C2	17:B:73:U:C5	3.00	0.49
26:I:150:G:N2	26:I:152:A:H5'	2.28	0.49
1:A:1145:MET:SD	1:A:1160:LEU:HD13	2.53	0.49
2:K:171:GLN:NE2	2:K:207:LEU:O	2.46	0.49
2:K:382:ASP:OD1	2:K:383:GLU:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:427:THR:OG1	5:J:428:TRP:N	2.46	0.49
8:C:498:THR:HA	8:C:538:GLU:HA	1.94	0.49
16:F:73:A:C6	26:I:9:G:C6	3.00	0.49
17:B:102:C:N4	17:B:103:A:N6	2.56	0.49
29:1:156:LEU:O	29:1:160:GLU:N	2.42	0.49
31:3:406:GLN:HA	31:3:455:LEU:O	2.13	0.49
31:3:1090:ILE:O	31:3:1117:HIS:HA	2.12	0.49
38:H:46:C:H4'	38:H:47:U:OP2	2.13	0.49
38:H:1139:G:H2'	38:H:1140:U:H6	1.76	0.49
1:A:505:TRP:CZ3	1:A:690:LYS:HG3	2.47	0.49
1:A:590:TYR:OH	16:F:42:A:O3'	2.31	0.49
1:A:765:ASP:O	1:A:768:GLU:N	2.46	0.49
1:A:814:ARG:HH22	4:N:106:ASP:CG	2.16	0.49
1:A:1052:THR:HG22	1:A:1246:ALA:HB2	1.95	0.49
1:A:1118:GLY:HA3	1:A:1163:ARG:NH2	2.27	0.49
1:A:1650:ARG:CG	16:F:49:A:H5'	2.40	0.49
2:K:115:SER:O	2:K:117:LEU:N	2.46	0.49
2:K:216:SER:OG	2:K:217:HIS:N	2.46	0.49
2:K:285:HIS:O	2:K:309:GLY:HA2	2.12	0.49
8:C:859:GLU:O	8:C:937:TRP:HA	2.13	0.49
17:B:99:U:C3'	17:B:100:A:H4'	2.43	0.49
26:I:49:U:H2'	26:I:50:G:H8	1.77	0.49
29:1:338:GLN:O	29:1:341:GLY:N	2.45	0.49
1:A:411:ILE:O	8:C:278:LYS:NZ	2.32	0.49
1:A:514:TYR:HE1	1:A:689:TYR:CE2	2.30	0.49
1:A:813:GLU:OE1	1:A:817:LYS:NZ	2.46	0.49
1:A:923:TYR:O	1:A:925:SER:N	2.46	0.49
1:A:1058:ALA:HB2	1:A:1114:PHE:CE1	2.48	0.49
1:A:1650:ARG:CD	16:F:49:A:H5'	2.42	0.49
1:A:1887:GLY:HA3	1:A:1992:TYR:CD2	2.47	0.49
2:K:401:PHE:CD1	2:K:410:LEU:HD21	2.48	0.49
3:L:447:GLU:OE1	3:L:448:ALA:N	2.45	0.49
4:N:106:ASP:OD1	4:N:107:LEU:N	2.45	0.49
4:N:231:LYS:HA	4:N:234:ARG:CZ	2.43	0.49
4:N:733:ASN:HB2	4:N:734:PRO:HA	1.94	0.49
4:N:849:TYR:HB3	4:N:853:GLY:HA2	1.95	0.49
5:J:253:ARG:HA	5:J:256:ARG:HH21	1.78	0.49
5:J:443:LYS:HG2	5:J:444:VAL:N	2.26	0.49
8:C:147:THR:HA	8:C:214:ASP:OD2	2.13	0.49
8:C:226:ALA:HB2	8:C:598:ILE:HG13	1.95	0.49
8:C:494:LYS:HA	8:C:554:HIS:O	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:B:63:C:C2	17:B:64:C:C5	3.01	0.49
26:I:7:A:H2'	26:I:8:U:H6	1.77	0.49
26:I:101:C:H2'	26:I:102:A:H8	1.77	0.49
31:3:157:LEU:O	31:3:176:ASN:HA	2.13	0.49
1:A:650:ALA:HB1	1:A:702:GLY:HA3	1.95	0.49
1:A:1058:ALA:HB1	1:A:1103:LEU:HD23	1.94	0.49
1:A:1512:ARG:HD2	1:A:1529:ASN:OD1	2.13	0.49
1:A:1606:PHE:O	1:A:1609:TRP:N	2.46	0.49
1:A:1891:LEU:O	1:A:1986:MET:HA	2.12	0.49
2:K:28:ILE:HA	2:K:31:GLN:HB3	1.95	0.49
3:L:259:ILE:HG22	3:L:285:LEU:HD11	1.93	0.49
3:L:305:MET:HG2	3:L:337:LEU:HD22	1.94	0.49
4:N:721:ARG:O	4:N:725:ILE:HD12	2.12	0.49
8:C:360:ARG:NE	8:C:362:LYS:HD3	2.28	0.49
26:I:14:G:H2'	26:I:15:G:C8	2.47	0.49
26:I:63:U:C2'	26:I:64:U:C5'	2.86	0.49
38:H:48:U:C4	38:H:49:U:C2	3.00	0.49
1:A:651:ASP:HA	1:A:700:GLY:O	2.13	0.49
1:A:964:PHE:HZ	1:A:1081:TYR:HE1	1.60	0.49
6:E:95:PHE:CD1	6:E:133:SER:HB2	2.47	0.49
8:C:246:THR:HG1	8:C:901:GLU:CD	2.16	0.49
8:C:410:GLN:O	8:C:413:LEU:HB2	2.12	0.49
8:C:965:ASP:O	8:C:969:LYS:HG2	2.12	0.49
17:B:10:U:O2	17:B:156:G:N1	2.46	0.49
17:B:80:G:N1	17:B:82:A:N1	2.61	0.49
31:3:97:THR:O	31:3:98:GLU:C	2.51	0.49
1:A:166:LYS:HE3	1:A:167:TYR:CE1	2.48	0.48
1:A:287:GLU:HG2	1:A:288:GLU:H	1.77	0.48
1:A:382:GLU:H	1:A:382:GLU:CD	2.10	0.48
1:A:964:PHE:HZ	1:A:1081:TYR:CE1	2.30	0.48
1:A:1289:VAL:HG12	1:A:1290:ASP:O	2.13	0.48
1:A:1637:LYS:HG3	1:A:1639:PRO:HD3	1.94	0.48
1:A:1998:ARG:NH2	1:A:2043:PHE:O	2.46	0.48
2:K:52:ARG:HA	2:K:55:LEU:HD12	1.95	0.48
2:K:194:SER:OG	2:K:195:TRP:N	2.43	0.48
2:K:337:ARG:NH1	5:J:170:ASP:OD1	2.45	0.48
4:N:101:LYS:CE	4:N:108:LYS:HZ3	2.25	0.48
4:N:234:ARG:HD3	4:N:247:SER:OG	2.13	0.48
4:N:747:GLU:OE2	4:N:752:ASN:HB3	2.13	0.48
5:J:143:GLU:H	5:J:143:GLU:CD	2.15	0.48
8:C:202:ASP:OD1	8:C:206:LYS:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:608:GLN:NE2	8:C:641:GLU:OE2	2.47	0.48
16:F:84:C:H1'	16:F:85:C:C5	2.48	0.48
18:O:150:ASN:OD1	18:O:151:ILE:N	2.46	0.48
23:T:59:GLU:O	23:T:74:GLY:CA	2.59	0.48
38:H:68:U:H3'	38:H:68:U:H6	1.78	0.48
1:A:226:ARG:HH12	1:A:267:PRO:HG2	1.77	0.48
1:A:353:GLU:HG2	17:B:104:G:P	2.53	0.48
1:A:729:LEU:O	1:A:733:GLN:HB2	2.13	0.48
1:A:900:PHE:CD2	1:A:900:PHE:C	2.85	0.48
1:A:1144:PHE:CD2	1:A:1145:MET:HG2	2.48	0.48
1:A:1603:ASN:O	1:A:1606:PHE:HB3	2.13	0.48
2:K:27:ASP:O	2:K:31:GLN:N	2.36	0.48
4:N:286:GLU:CG	4:N:287:SER:H	2.25	0.48
5:J:345:LYS:HB2	5:J:422:ASN:HA	1.95	0.48
6:E:103:LEU:HD11	6:E:105:PHE:HE2	1.79	0.48
8:C:109:LEU:HA	8:C:112:ASN:OD1	2.13	0.48
8:C:379:ILE:HA	8:C:382:TYR:CD2	2.48	0.48
8:C:387:TYR:HB3	8:C:396:LEU:HD21	1.95	0.48
8:C:679:GLU:OE1	8:C:806:GLY:HA3	2.13	0.48
8:C:721:GLN:O	8:C:724:SER:OG	2.26	0.48
17:B:62:G:C4	17:B:63:C:C5	3.01	0.48
38:H:1097:G:H2'	38:H:1098:C:H5	1.78	0.48
38:H:1138:G:O2'	38:H:1139:G:C8	2.50	0.48
1:A:131:LYS:NZ	1:A:553:ASN:HA	2.28	0.48
1:A:133:GLU:HG3	1:A:559:GLN:O	2.13	0.48
1:A:658:ASN:ND2	1:A:688:TYR:OH	2.46	0.48
1:A:674:MET:O	1:A:677:ILE:HB	2.14	0.48
1:A:911:ILE:O	1:A:912:LEU:C	2.52	0.48
1:A:1474:ARG:HH22	1:A:1499:ARG:HH12	1.60	0.48
1:A:1557:LEU:HA	1:A:1557:LEU:HD23	1.60	0.48
1:A:1646:ILE:HD11	16:F:49:A:N6	2.28	0.48
1:A:1815:LEU:O	1:A:1817:GLU:N	2.46	0.48
4:N:286:GLU:HB2	4:N:292:CYS:HA	1.94	0.48
8:C:397:LYS:NZ	8:C:413:LEU:HD11	2.28	0.48
17:B:97:U:O2	17:B:97:U:H2'	2.14	0.48
29:1:763:LEU:O	29:1:766:LEU:N	2.46	0.48
38:H:1116:A:O2'	38:H:1117:G:H5'	2.13	0.48
38:H:1120:G:H2'	38:H:1121:U:C6	2.45	0.48
1:A:300:LYS:H	1:A:493:MET:HG2	1.78	0.48
1:A:362:GLU:HB3	1:A:1209:LYS:HE2	1.96	0.48
1:A:540:THR:HG21	17:B:40:C:C4	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:646:ALA:O	1:A:649:LEU:N	2.46	0.48
1:A:773:SER:OG	1:A:774:ILE:HD12	2.14	0.48
1:A:965:LYS:HZ3	1:A:965:LYS:HB3	1.79	0.48
1:A:992:ASP:OD2	1:A:1085:LYS:NZ	2.46	0.48
1:A:1111:SER:OG	1:A:1112:PHE:N	2.47	0.48
1:A:1216:ILE:H	1:A:1220:VAL:HG23	1.77	0.48
1:A:1339:LEU:O	1:A:1342:LEU:N	2.47	0.48
1:A:1861:THR:HG22	18:O:161:ILE:CG1	1.93	0.48
1:A:1964:PRO:HD3	1:A:2013:ARG:NH2	2.27	0.48
2:K:182:SER:O	2:K:190:VAL:HA	2.13	0.48
2:K:227:HIS:HE1	2:K:229:ASP:HB3	1.77	0.48
3:L:102:ILE:HA	3:L:105:ILE:HD12	1.94	0.48
4:N:252:GLU:HG2	4:N:256:LYS:HB2	1.94	0.48
38:H:145:G:H2'	38:H:146:A:H8	1.77	0.48
1:A:1393:GLU:OE1	1:A:1393:GLU:N	2.36	0.48
6:E:97:THR:HG23	6:E:99:ASN:H	1.79	0.48
8:C:142:LEU:HD11	8:C:218:HIS:HD2	1.76	0.48
8:C:354:TYR:HA	8:C:358:ASN:O	2.12	0.48
8:C:452:LYS:O	8:C:455:HIS:N	2.45	0.48
8:C:781:ASP:HA	8:C:788:LEU:HD11	1.95	0.48
16:F:46:U:C5'	16:F:46:U:C6	2.90	0.48
16:F:78:G:H2'	16:F:78:G:N3	2.28	0.48
26:I:36:A:C2	26:I:42:C:C2	3.00	0.48
27:D:635:GLU:N	27:D:670:LEU:O	2.47	0.48
38:H:1166:G:H8	38:H:1166:G:O5'	1.96	0.48
1:A:210:GLU:N	1:A:211:PRO:HD2	2.28	0.48
1:A:252:GLU:HA	1:A:256:GLU:HB2	1.95	0.48
1:A:461:LEU:HD23	8:C:403:ASN:HB3	1.96	0.48
1:A:930:ASN:CG	1:A:931:ALA:H	2.16	0.48
1:A:992:ASP:O	1:A:995:LEU:N	2.47	0.48
1:A:1197:ASN:O	1:A:1224:ARG:NH2	2.47	0.48
1:A:2018:ASN:O	1:A:2021:SER:OG	2.26	0.48
3:L:110:LYS:HG2	3:L:114:ASN:HD21	1.78	0.48
3:L:294:PHE:HE1	3:L:342:ARG:HH12	1.61	0.48
3:L:366:LYS:NZ	16:F:58:C:H41	2.12	0.48
4:N:673:GLN:O	4:N:677:ILE:HG13	2.12	0.48
5:J:235:TYR:HD2	7:M:90:ALA:HA	1.78	0.48
16:F:96:G:H2'	16:F:97:A:H8	1.78	0.48
26:I:62:G:H8	26:I:62:G:O5'	1.96	0.48
1:A:193:TYR:CZ	1:A:558:GLN:HB2	2.48	0.48
1:A:460:PRO:HB2	1:A:463:ALA:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:372:ILE:HD11	5:J:428:TRP:CH2	2.48	0.48
3:L:450:GLN:O	3:L:453:ASP:N	2.44	0.48
4:N:101:LYS:HE2	4:N:108:LYS:HZ3	1.78	0.48
5:J:448:GLN:HE21	5:J:452:LEU:HD11	1.79	0.48
8:C:245:VAL:HG11	8:C:295:ILE:HG22	1.95	0.48
8:C:338:SER:O	8:C:341:ILE:HG12	2.14	0.48
16:F:28:U:H2'	16:F:29:U:C5'	2.42	0.48
17:B:94:C:H3'	17:B:95:C:C5'	2.35	0.48
17:B:106:A:H2'	17:B:107:C:O4'	2.13	0.48
1:A:513:GLU:OE1	1:A:513:GLU:N	2.42	0.48
1:A:1574:PHE:CE1	1:A:1826:TYR:HB2	2.48	0.48
1:A:1629:LEU:HD22	1:A:1652:HIS:CE1	2.49	0.48
1:A:1661:ILE:O	1:A:1664:ASP:N	2.47	0.48
2:K:153:LEU:O	2:K:157:THR:HG23	2.14	0.48
2:K:390:LEU:HD22	5:J:428:TRP:HE1	1.79	0.48
3:L:431:ALA:HA	3:L:434:GLN:HG2	1.96	0.48
5:J:144:LEU:HB3	5:J:146:GLU:OE2	2.13	0.48
6:E:6:LEU:CD1	6:E:47:SER:HA	2.44	0.48
7:M:8:ALA:HA	7:M:80:PHE:CE2	2.48	0.48
8:C:183:GLN:HE21	8:C:187:ARG:HG3	1.78	0.48
38:H:1162:U:O2'	38:H:1163:C:H5'	2.14	0.48
1:A:221:TRP:NE1	1:A:225:ARG:HD2	2.28	0.48
1:A:555:LYS:O	1:A:557:PHE:N	2.47	0.48
1:A:823:TRP:HE1	1:A:851:ARG:HD2	1.78	0.48
1:A:898:ILE:HD13	1:A:1002:GLU:HB3	1.96	0.48
1:A:1028:TRP:CG	1:A:1262:MET:HE1	2.48	0.48
1:A:1899:TRP:HZ3	1:A:1905:LEU:HB3	1.79	0.48
2:K:51:VAL:HG13	2:K:76:LEU:CD1	2.43	0.48
2:K:177:PRO:HB2	2:K:195:TRP:CD1	2.49	0.48
2:K:382:ASP:CG	2:K:383:GLU:H	2.17	0.48
4:N:709:SER:O	4:N:712:ASP:N	2.46	0.48
6:E:112:GLU:O	6:E:115:ASP:N	2.46	0.48
8:C:683:ASN:H	8:C:714:PRO:HG2	1.79	0.48
17:B:92:U:C4	17:B:93:G:C8	3.01	0.48
17:B:98:U:H2'	17:B:99:U:C5'	2.31	0.48
26:I:91:U:C2	26:I:142:G:N2	2.78	0.48
28:G:473:U:O2	28:G:473:U:H2'	2.13	0.48
1:A:269:ASP:N	1:A:273:ASP:OD2	2.47	0.48
1:A:293:VAL:HG22	1:A:294:ASN:H	1.77	0.48
1:A:618:SER:HB2	1:A:725:TYR:CE1	2.49	0.48
1:A:823:TRP:HE1	1:A:851:ARG:HH11	1.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:890:LEU:HD23	1:A:890:LEU:HA	1.65	0.48
1:A:958:LEU:HD21	1:A:995:LEU:HD12	1.95	0.48
1:A:963:VAL:HG21	3:L:280:ARG:HH12	1.79	0.48
1:A:1125:LEU:HD23	1:A:1125:LEU:HA	1.48	0.48
2:K:249:SER:HB3	2:K:252:GLU:HB2	1.95	0.48
2:K:316:GLN:NE2	2:K:320:SER:H	2.09	0.48
3:L:279:VAL:HG22	3:L:300:LYS:HA	1.95	0.48
4:N:245:ILE:O	4:N:248:ALA:HB3	2.14	0.48
4:N:892:LEU:O	4:N:896:MET:HG2	2.14	0.48
8:C:219:VAL:O	8:C:222:MET:HG2	2.14	0.48
8:C:460:GLY:HA3	8:C:461:LYS:HA	1.57	0.48
28:G:463:A:H2'	28:G:464:A:H8	1.78	0.48
1:A:654:HIS:CD2	1:A:658:ASN:HD21	2.31	0.47
1:A:898:ILE:CD1	1:A:1002:GLU:HB2	2.44	0.47
1:A:1052:THR:HG22	1:A:1246:ALA:CB	2.44	0.47
2:K:169:GLY:HA2	4:N:724:SER:OG	2.14	0.47
2:K:292:TRP:N	2:K:292:TRP:CD1	2.82	0.47
2:K:299:GLU:OE2	2:K:302:LEU:HB2	2.13	0.47
2:K:304:GLU:HB3	5:J:220:PRO:CB	2.44	0.47
2:K:336:ILE:O	2:K:339:GLY:N	2.41	0.47
5:J:145:HIS:O	5:J:147:ASP:N	2.46	0.47
16:F:57:U:H3	26:I:62:G:N2	2.10	0.47
17:B:41:A:H2'	17:B:42:A:H8	1.77	0.47
17:B:73:U:H2'	17:B:74:U:H6	1.79	0.47
26:I:24:A:C6	26:I:26:A:N6	2.81	0.47
26:I:24:A:H2'	26:I:26:A:C8	2.49	0.47
21:Q:34:PRO:C	21:Q:36:MET:H	2.17	0.47
28:G:475:U:H3'	28:G:475:U:H6	1.78	0.47
29:1:565:LEU:O	29:1:569:PHE:N	2.47	0.47
1:A:176:LEU:HD23	1:A:708:TRP:HE1	1.79	0.47
1:A:235:LYS:HB3	1:A:648:GLN:NE2	2.28	0.47
1:A:252:GLU:HG2	1:A:253:GLN:H	1.78	0.47
1:A:518:VAL:HG12	1:A:685:HIS:HB3	1.95	0.47
1:A:785:HIS:CD2	4:N:124:ASP:O	2.67	0.47
1:A:1389:TYR:HE2	1:A:1437:ILE:HD13	1.77	0.47
3:L:281:GLN:HE22	26:I:36:A:N6	2.12	0.47
3:L:336:GLU:O	3:L:339:LYS:N	2.46	0.47
6:E:10:ARG:H	6:E:14:HIS:CD2	2.31	0.47
7:M:59:GLU:O	7:M:60:PRO:C	2.52	0.47
8:C:154:VAL:HG21	8:C:177:TYR:HD2	1.79	0.47
8:C:780:PRO:HA	8:C:783:ILE:HB	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:B:96:U:H2'	17:B:97:U:N1	2.27	0.47
17:B:130:A:H4'	17:B:131:A:O5'	2.13	0.47
26:I:19:U:O2'	26:I:20:A:P	2.73	0.47
26:I:52:G:H2'	26:I:53:U:C6	2.48	0.47
38:H:1093:C:C2	38:H:1094:G:C8	3.02	0.47
3:L:268:LEU:HD12	3:L:271:GLU:N	2.29	0.47
5:J:147:ASP:N	5:J:147:ASP:OD1	2.47	0.47
5:J:409:HIS:HA	5:J:414:ASP:OD1	2.14	0.47
8:C:320:PHE:HB2	8:C:429:PHE:HD2	1.80	0.47
8:C:761:ALA:O	8:C:765:VAL:HG23	2.14	0.47
8:C:857:LEU:HD23	8:C:940:VAL:HG21	1.96	0.47
17:B:52:G:C4	17:B:53:C:C5	3.03	0.47
26:I:22:G:C5	26:I:23:C:C5	3.01	0.47
38:H:139:G:C2'	38:H:140:G:O5'	2.62	0.47
1:A:514:TYR:HB3	1:A:518:VAL:CG2	2.45	0.47
1:A:814:ARG:NH2	4:N:106:ASP:OD1	2.43	0.47
1:A:1048:VAL:HG22	1:A:1250:VAL:HG22	1.97	0.47
1:A:1069:LEU:HB3	1:A:1116:TYR:OH	2.14	0.47
1:A:1536:LEU:HD23	1:A:1536:LEU:HA	1.59	0.47
1:A:1748:ILE:O	1:A:1749:SER:C	2.52	0.47
1:A:1769:SER:C	1:A:1771:THR:H	2.18	0.47
1:A:1862:VAL:HA	1:A:1871:ALA:O	2.15	0.47
3:L:298:VAL:HG12	3:L:302:MET:HG2	1.96	0.47
4:N:23:ALA:HB1	6:E:73:MET:HE1	1.96	0.47
4:N:733:ASN:HB2	4:N:734:PRO:O	2.14	0.47
7:M:65:LEU:HD23	7:M:65:LEU:HA	1.68	0.47
8:C:234:LEU:HD23	8:C:443:TYR:HB2	1.96	0.47
8:C:269:LYS:HG2	47:C:1500:GTP:N1	2.29	0.47
8:C:271:ASP:OD2	47:C:1500:GTP:N1	2.44	0.47
8:C:861:ILE:HG21	8:C:905:GLN:HB3	1.96	0.47
17:B:166:U:O2'	17:B:167:A:P	2.72	0.47
26:I:17:A:H2'	26:I:18:A:O4'	2.15	0.47
1:A:684:LYS:HG3	1:A:688:TYR:CE2	2.50	0.47
1:A:960:THR:O	1:A:962:ARG:NH1	2.47	0.47
1:A:1624:LEU:HD21	1:A:1635:HIS:CE1	2.49	0.47
1:A:1861:THR:HB	18:O:161:ILE:HG12	1.93	0.47
1:A:2056:ARG:HE	5:J:288:THR:HB	1.79	0.47
3:L:225:ILE:HG13	3:L:226:ALA:N	2.29	0.47
5:J:348:GLN:HG2	5:J:374:ASP:OD1	2.15	0.47
7:M:20:ILE:O	7:M:23:VAL:N	2.47	0.47
8:C:103:HIS:O	8:C:106:PHE:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:F:57:U:C2	26:I:62:G:N2	2.83	0.47
26:I:33:A:C4	26:I:45:A:C8	3.03	0.47
1:A:611:LYS:HE2	16:F:32:U:H5	1.78	0.47
1:A:630:LYS:O	1:A:633:VAL:N	2.48	0.47
1:A:687:ILE:HG21	1:A:703:PHE:HD2	1.80	0.47
1:A:954:ILE:O	1:A:957:TYR:N	2.47	0.47
1:A:1539:LEU:HD23	1:A:1539:LEU:HA	1.39	0.47
1:A:1705:SER:HB3	1:A:1709:TRP:CD1	2.49	0.47
2:K:376:TRP:CH2	2:K:386:LEU:HD23	2.49	0.47
5:J:285:GLN:HG2	5:J:293:TRP:HB2	1.96	0.47
5:J:353:ARG:HG3	5:J:442:MET:SD	2.54	0.47
8:C:486:VAL:CG1	8:C:564:ILE:HD11	2.44	0.47
8:C:507:SER:HB2	8:C:591:PHE:HB3	1.97	0.47
8:C:769:TYR:CE1	8:C:799:PHE:CE2	3.03	0.47
16:F:46:U:C6	16:F:46:U:C4'	2.98	0.47
17:B:63:C:H2'	17:B:64:C:H6	1.79	0.47
27:D:843:HIS:HA	27:D:876:GLY:HA2	1.96	0.47
28:G:485:A:C2'	28:G:486:A:OP2	2.63	0.47
29:1:873:HIS:O	29:1:875:ASP:N	2.43	0.47
38:H:65:A:C4	38:H:66:A:C8	3.03	0.47
38:H:1097:G:C6	38:H:1146:G:C6	3.02	0.47
1:A:143:ILE:HG13	1:A:144:ASN:N	2.29	0.47
1:A:307:GLU:O	1:A:311:LEU:HG	2.15	0.47
1:A:520:VAL:O	1:A:524:LYS:HG2	2.14	0.47
1:A:668:ARG:CG	16:F:27:U:C4'	2.79	0.47
1:A:1058:ALA:HB3	1:A:1105:ARG:HH21	1.79	0.47
1:A:1126:LEU:HD13	1:A:1134:LEU:HD12	1.97	0.47
1:A:1361:VAL:HG22	1:A:1403:SER:HB3	1.95	0.47
1:A:1462:ALA:O	1:A:1465:ARG:HB3	2.14	0.47
1:A:1682:THR:OG1	1:A:1702:THR:OG1	2.10	0.47
1:A:1710:GLU:HB3	1:A:1724:PHE:HB3	1.96	0.47
2:K:117:LEU:O	2:K:120:ALA:HB3	2.15	0.47
2:K:289:TRP:HB3	2:K:310:VAL:HG11	1.97	0.47
3:L:196:GLN:O	3:L:199:GLU:HB2	2.15	0.47
3:L:332:LYS:O	3:L:335:ALA:N	2.47	0.47
3:L:351:SER:HB2	4:N:132:ASN:HD21	1.80	0.47
4:N:5:SER:O	4:N:8:ASP:N	2.48	0.47
4:N:467:ALA:O	4:N:471:TRP:N	2.46	0.47
4:N:770:ASN:HB3	4:N:773:LEU:HD12	1.96	0.47
4:N:820:GLN:O	4:N:823:THR:OG1	2.13	0.47
5:J:428:TRP:HZ3	5:J:430:GLY:HA3	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:105:PHE:CD2	6:E:105:PHE:N	2.80	0.47
8:C:142:LEU:HD23	8:C:142:LEU:HA	1.64	0.47
8:C:505:SER:O	8:C:508:GLU:HB2	2.14	0.47
17:B:8:U:O4	17:B:157:G:O6	2.32	0.47
17:B:28:G:C2'	17:B:29:G:H5''	2.45	0.47
17:B:73:U:C3'	17:B:74:U:C5'	2.90	0.47
17:B:96:U:OP1	17:B:96:U:H4'	2.15	0.47
26:I:26:A:H2'	26:I:27:U:C6	2.50	0.47
26:I:43:C:C2'	26:I:44:G:H5'	2.45	0.47
22:R:53:LYS:O	22:R:74:GLU:HA	2.15	0.47
28:G:472:U:O2	28:G:472:U:C2'	2.63	0.47
36:Y:167:VAL:O	36:Y:171:GLY:N	2.46	0.47
38:H:1094:G:C6	38:H:1149:G:C6	3.02	0.47
38:H:1165:C:C2	38:H:1166:G:N7	2.83	0.47
1:A:593:LEU:HA	1:A:593:LEU:HD23	1.74	0.47
1:A:898:ILE:CD1	1:A:1002:GLU:CB	2.93	0.47
1:A:899:PRO:CD	1:A:1006:ARG:HH22	2.27	0.47
1:A:953:ARG:HG2	1:A:957:TYR:CE2	2.50	0.47
1:A:1211:SER:HA	1:A:1257:ASN:HD21	1.79	0.47
1:A:1655:GLN:O	1:A:1658:HIS:N	2.48	0.47
1:A:1802:MET:O	1:A:1805:ILE:N	2.47	0.47
3:L:350:ILE:HG13	3:L:351:SER:N	2.29	0.47
4:N:737:VAL:HA	4:N:767:PHE:HE2	1.79	0.47
5:J:144:LEU:HB3	5:J:146:GLU:HG2	1.95	0.47
5:J:368:LEU:HD13	5:J:370:LEU:HG	1.97	0.47
8:C:195:GLY:HA3	8:C:212:PHE:O	2.14	0.47
8:C:199:LEU:HD12	8:C:208:ARG:O	2.15	0.47
8:C:600:GLU:OE1	8:C:935:LYS:HE3	2.15	0.47
26:I:62:G:N2	26:I:63:U:C2	2.83	0.47
27:D:1685:THR:O	27:D:1697:PRO:HA	2.15	0.47
28:G:473:U:H4'	28:G:474:U:OP1	2.14	0.47
29:1:389:GLY:O	29:1:391:GLU:N	2.48	0.47
38:H:1126:G:O2'	38:H:1127:A:H8	1.97	0.47
1:A:221:TRP:CZ2	1:A:691:PHE:HB3	2.50	0.47
1:A:974:ASN:HD22	1:A:977:ASN:HB2	1.79	0.47
1:A:1048:VAL:O	1:A:1171:LEU:HD12	2.15	0.47
1:A:1580:GLY:HA3	3:L:389:ASN:ND2	2.30	0.47
1:A:1630:THR:HB	1:A:1654:TRP:CE3	2.50	0.47
1:A:1762:ASP:HB3	1:A:1765:SER:OG	2.15	0.47
1:A:1863:HIS:CE1	1:A:1864:LYS:O	2.68	0.47
3:L:399:THR:HB	3:L:407:GLU:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:483:ASN:O	4:N:487:GLN:CB	2.63	0.47
6:E:80:MET:HG3	6:E:80:MET:O	2.15	0.47
16:F:84:C:H1'	16:F:85:C:H5	1.79	0.47
17:B:48:G:C4	17:B:49:U:C5	3.03	0.47
17:B:95:C:O2'	17:B:96:U:H1'	2.14	0.47
26:I:7:A:H2'	26:I:8:U:C6	2.50	0.47
26:I:8:U:H2'	26:I:9:G:H8	1.80	0.47
28:G:505:A:O3'	28:G:506:U:O4'	2.33	0.47
28:G:506:U:OP1	28:G:506:U:H4'	2.15	0.47
1:A:255:ILE:HG23	1:A:640:ARG:HG2	1.97	0.47
1:A:280:LEU:HD23	1:A:281:TYR:CE2	2.50	0.47
1:A:488:ARG:NH1	17:B:81:A:N6	2.63	0.47
1:A:759:ARG:HG3	1:A:760:ASN:N	2.29	0.47
1:A:1070:LEU:HA	1:A:1073:ILE:HG22	1.95	0.47
2:K:225:ASP:OD1	2:K:226:TRP:N	2.48	0.47
2:K:266:ARG:CB	2:K:285:HIS:HB2	2.44	0.47
2:K:287:MET:HG2	2:K:308:LYS:O	2.15	0.47
2:K:320:SER:CB	2:K:337:ARG:HH22	2.28	0.47
3:L:225:ILE:HG13	3:L:226:ALA:H	1.80	0.47
4:N:844:TRP:O	4:N:848:THR:HG23	2.15	0.47
5:J:348:GLN:NE2	5:J:375:ASP:HA	2.30	0.47
8:C:137:GLY:N	8:C:232:SER:OG	2.45	0.47
17:B:164:C:O2	17:B:164:C:H2'	2.14	0.47
1:A:190:LYS:H	1:A:204:GLU:CD	2.18	0.46
1:A:300:LYS:N	1:A:493:MET:HG2	2.30	0.46
1:A:396:ARG:NH1	8:C:667:GLU:OE2	2.48	0.46
1:A:603:LYS:HZ1	16:F:43:C:H5'	1.72	0.46
1:A:651:ASP:HB3	1:A:700:GLY:CA	2.45	0.46
1:A:895:PHE:HE2	1:A:1073:ILE:HG13	1.80	0.46
1:A:900:PHE:HD2	1:A:900:PHE:C	2.18	0.46
1:A:1421:GLY:HA2	1:A:1718:HIS:CD2	2.50	0.46
1:A:1474:ARG:NH2	1:A:1499:ARG:HH12	2.13	0.46
1:A:1553:ILE:O	1:A:1556:ILE:N	2.46	0.46
1:A:1621:VAL:HG12	1:A:1622:GLY:N	2.31	0.46
1:A:2393:LEU:O	1:A:2397:GLU:CB	2.63	0.46
3:L:379:PHE:CZ	4:N:144:LYS:HD3	2.50	0.46
4:N:764:LEU:HD21	4:N:774:TRP:CH2	2.50	0.46
6:E:71:ASP:HA	6:E:76:LEU:HD13	1.96	0.46
7:M:8:ALA:HB1	7:M:80:PHE:HD2	1.80	0.46
8:C:387:TYR:O	8:C:391:MET:N	2.48	0.46
8:C:544:LEU:HD23	8:C:562:VAL:HG12	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:885:GLY:CA	8:C:907:PRO:HD3	2.45	0.46
31:3:1295:GLY:O	31:3:1299:ILE:N	2.47	0.46
1:A:131:LYS:HZ3	1:A:553:ASN:HA	1.78	0.46
1:A:472:ASN:HB2	8:C:390:SER:OG	2.16	0.46
1:A:671:TYR:HD2	17:B:101:C:O2'	1.96	0.46
1:A:982:TYR:HD2	1:A:1106:GLY:HA3	1.81	0.46
1:A:1176:GLU:O	1:A:1179:GLY:N	2.48	0.46
2:K:236:SER:OG	2:K:244:LYS:HB2	2.16	0.46
2:K:274:HIS:CD2	2:K:276:SER:H	2.34	0.46
2:K:327:MET:O	2:K:351:PRO:HG3	2.14	0.46
3:L:225:ILE:O	3:L:325:ARG:NH1	2.41	0.46
3:L:329:LEU:HA	3:L:329:LEU:HD23	1.65	0.46
4:N:864:ASP:OD1	4:N:889:ARG:NH2	2.48	0.46
5:J:352:ILE:O	5:J:356:LEU:HG	2.15	0.46
8:C:220:ASN:HB3	8:C:651:TYR:HB2	1.97	0.46
8:C:598:ILE:HG22	8:C:933:TRP:HZ3	1.80	0.46
8:C:727:THR:HG23	8:C:729:GLY:H	1.79	0.46
8:C:792:LYS:O	8:C:796:ILE:HG22	2.15	0.46
16:F:10:A:H61	16:F:16:C:N4	2.06	0.46
17:B:29:G:C6	17:B:30:A:C6	3.03	0.46
17:B:44:A:C2'	17:B:45:A:C8	2.71	0.46
17:B:48:G:H2'	17:B:49:U:H6	1.79	0.46
17:B:66:A:C4	17:B:67:U:C5	3.03	0.46
26:I:3:C:H2'	26:I:4:C:C6	2.51	0.46
26:I:35:G:N1	26:I:36:A:C2	2.82	0.46
38:H:1143:C:H4'	38:H:1144:U:H2'	1.96	0.46
1:A:177:GLU:HA	1:A:708:TRP:HZ2	1.81	0.46
1:A:1211:SER:HA	1:A:1257:ASN:ND2	2.30	0.46
1:A:1889:LEU:HD21	1:A:1991:ILE:HD12	1.98	0.46
2:K:316:GLN:CD	2:K:321:LEU:H	2.18	0.46
6:E:63:ASP:HB2	6:E:66:GLU:HG2	1.98	0.46
17:B:76:U:O2'	17:B:78:A:H5'	2.15	0.46
26:I:150:G:O2'	26:I:152:A:OP1	2.32	0.46
20:P:50:GLU:O	20:P:79:LYS:HA	2.14	0.46
38:H:1098:C:HO2'	38:H:1099:G:C5'	2.28	0.46
1:A:924:ALA:O	4:N:154:PRO:HG3	2.14	0.46
1:A:1041:VAL:HG11	1:A:1253:LYS:CA	2.45	0.46
1:A:1608:LEU:O	1:A:1609:TRP:C	2.54	0.46
1:A:1967:ALA:O	1:A:1970:SER:OG	2.17	0.46
2:K:167:LEU:O	4:N:728:ARG:NH2	2.48	0.46
2:K:390:LEU:HB2	5:J:428:TRP:CE2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:441:ILE:HD11	2:K:457:TRP:NE1	2.30	0.46
4:N:381:TYR:O	4:N:385:LYS:CB	2.63	0.46
4:N:730:LEU:HA	4:N:739:PHE:CD2	2.50	0.46
4:N:829:GLU:HA	4:N:832:LEU:HD12	1.97	0.46
7:M:61:ILE:O	7:M:65:LEU:HG	2.16	0.46
17:B:46:C:C2	17:B:47:U:C5	3.03	0.46
1:A:867:ILE:HG21	1:A:1101:TYR:CD1	2.50	0.46
1:A:1204:ARG:HH21	1:A:1260:PHE:HA	1.80	0.46
1:A:1308:GLU:OE1	1:A:1346:PHE:HZ	1.98	0.46
1:A:1368:GLN:NE2	1:A:1389:TYR:OH	2.49	0.46
1:A:1458:TRP:NE1	1:A:1489:PRO:HD2	2.30	0.46
1:A:2065:ARG:NH2	1:A:2066:LYS:HE2	2.31	0.46
2:K:205:GLN:HB2	2:K:206:THR:HG23	1.98	0.46
4:N:133:LYS:NZ	26:I:49:U:OP1	2.41	0.46
6:E:23:THR:OG1	6:E:24:LYS:HG3	2.15	0.46
8:C:602:VAL:HG21	8:C:932:PHE:CD2	2.50	0.46
26:I:63:U:C2'	26:I:64:U:H5''	2.44	0.46
38:H:120:G:H4'	38:H:121:C:O4'	2.15	0.46
1:A:239:PHE:CZ	1:A:655:TYR:CD2	3.04	0.46
1:A:383:TYR:O	1:A:386:ALA:N	2.40	0.46
1:A:1015:PRO:HG2	1:A:1510:ILE:HG12	1.96	0.46
1:A:1068:ARG:O	1:A:1069:LEU:C	2.54	0.46
1:A:1890:PHE:CD1	1:A:1920:LEU:HD11	2.51	0.46
1:A:1944:LEU:HA	1:A:1944:LEU:HD23	1.71	0.46
2:K:244:LYS:HB3	2:K:246:PHE:CE2	2.50	0.46
2:K:269:SER:H	2:K:284:SER:HA	1.80	0.46
3:L:294:PHE:HE1	3:L:342:ARG:NH1	2.13	0.46
4:N:688:ARG:NE	4:N:712:ASP:HB2	2.29	0.46
4:N:723:ARG:O	4:N:726:LEU:N	2.49	0.46
5:J:375:ASP:OD1	5:J:376:GLY:N	2.49	0.46
8:C:144:SER:OG	8:C:146:LYS:HG3	2.14	0.46
8:C:680:SER:OG	8:C:681:CYS:N	2.49	0.46
8:C:968:MET:O	8:C:972:ARG:HG3	2.16	0.46
26:I:1:A:C2	26:I:2:U:C2	3.04	0.46
26:I:1:A:N3	26:I:1:A:H2'	2.30	0.46
29:1:581:LYS:O	29:1:585:ALA:N	2.47	0.46
32:4:108:ALA:O	32:4:154:TYR:HA	2.16	0.46
1:A:510:PRO:HB3	1:A:514:TYR:HD2	1.79	0.46
1:A:785:HIS:CE1	4:N:125:ALA:HA	2.51	0.46
1:A:1267:VAL:HG22	1:A:1302:LEU:CD2	2.45	0.46
1:A:1309:ILE:O	1:A:1312:PHE:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:197:ILE:O	3:L:201:ASN:ND2	2.49	0.46
3:L:268:LEU:O	3:L:271:GLU:N	2.24	0.46
8:C:189:LEU:HD12	8:C:189:LEU:O	2.16	0.46
8:C:286:LEU:O	8:C:290:HIS:HB2	2.15	0.46
8:C:291:ILE:O	8:C:295:ILE:HG23	2.16	0.46
17:B:43:G:C2	17:B:44:A:C5	3.03	0.46
27:D:1482:GLY:HA3	21:Q:143:ARG:O	2.15	0.46
27:D:1677:THR:O	27:D:1710:ALA:HA	2.15	0.46
23:T:11:VAL:O	25:V:31:GLY:HA3	2.15	0.46
1:A:228:LYS:NZ	1:A:698:GLY:CA	2.76	0.46
1:A:309:SER:HA	1:A:479:LEU:HD11	1.98	0.46
1:A:487:ASN:OD1	1:A:488:ARG:N	2.49	0.46
1:A:603:LYS:HZ2	16:F:43:C:C4'	2.29	0.46
1:A:1029:THR:HG22	1:A:1260:PHE:HZ	1.81	0.46
1:A:1118:GLY:HA3	1:A:1163:ARG:HH22	1.81	0.46
1:A:1440:ILE:O	1:A:1442:ARG:N	2.49	0.46
1:A:1739:ARG:HD2	1:A:1751:TYR:CG	2.50	0.46
6:E:95:PHE:C	6:E:97:THR:H	2.19	0.46
8:C:294:ASN:O	8:C:297:SER:OG	2.31	0.46
8:C:462:SER:CB	8:C:588:GLN:HB3	2.45	0.46
8:C:576:THR:HG21	8:C:592:PHE:H	1.81	0.46
8:C:605:ILE:HD11	8:C:673:PRO:HA	1.97	0.46
26:I:141:G:H2'	26:I:142:G:H5'	1.97	0.46
1:A:152:LYS:HG2	1:A:584:HIS:CD2	2.50	0.46
1:A:1123:LEU:HD23	1:A:1123:LEU:HA	1.51	0.46
1:A:1400:ILE:HG22	1:A:1401:SER:N	2.31	0.46
2:K:413:CYS:SG	2:K:443:LEU:HD13	2.56	0.46
8:C:449:PHE:CE2	8:C:453:THR:HG21	2.51	0.46
8:C:706:LEU:HD23	8:C:825:VAL:HA	1.98	0.46
16:F:46:U:C4	16:F:47:A:N1	2.83	0.46
26:I:33:A:C6	26:I:45:A:C8	3.04	0.46
21:Q:16:THR:HA	21:Q:25:VAL:O	2.16	0.46
1:A:574:GLN:O	1:A:577:ASN:HB2	2.15	0.46
1:A:795:ALA:O	1:A:796:ASN:HB2	2.16	0.46
1:A:1023:LEU:HD13	1:A:1451:PHE:CE1	2.50	0.46
1:A:1271:PRO:HA	1:A:1298:ALA:HB2	1.98	0.46
1:A:1625:VAL:O	1:A:1633:PHE:HA	2.16	0.46
2:K:290:ARG:CB	2:K:292:TRP:HE1	2.29	0.46
2:K:364:VAL:HG13	2:K:376:TRP:HB2	1.98	0.46
4:N:798:LEU:HB3	4:N:803:ASN:ND2	2.31	0.46
8:C:395:LYS:O	8:C:399:LEU:HG	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:716:ASP:OD2	8:C:718:LYS:HB3	2.16	0.46
8:C:834:MET:O	8:C:838:ILE:HG22	2.15	0.46
17:B:46:C:H2'	17:B:47:U:H6	1.80	0.46
18:O:212:VAL:HG23	18:O:213:SER:H	1.80	0.46
26:I:36:A:C2	26:I:42:C:N3	2.84	0.46
26:I:64:U:H3'	26:I:64:U:H6	1.81	0.46
1:A:1679:GLU:OE2	1:A:1706:VAL:HA	2.16	0.45
2:K:179:SER:HA	2:K:441:ILE:HG21	1.96	0.45
4:N:4:PRO:O	4:N:7:LEU:HB2	2.16	0.45
4:N:104:PHE:O	4:N:108:LYS:HG2	2.16	0.45
4:N:249:ARG:O	4:N:253:LYS:HG3	2.16	0.45
8:C:287:LYS:HZ2	8:C:291:ILE:HD11	1.81	0.45
8:C:458:ILE:O	8:C:590:LYS:HG3	2.15	0.45
8:C:950:PHE:CE2	8:C:952:PRO:HA	2.52	0.45
17:B:73:U:C2	17:B:74:U:C5	3.05	0.45
26:I:6:U:C2	26:I:7:A:N7	2.84	0.45
26:I:22:G:C5	26:I:52:G:N1	2.84	0.45
31:3:379:VAL:O	31:3:390:LYS:HA	2.16	0.45
38:H:1140:U:H2'	38:H:1141:C:C6	2.50	0.45
1:A:182:PRO:HD3	1:A:704:TRP:CZ2	2.52	0.45
1:A:814:ARG:HH21	4:N:107:LEU:HD13	1.81	0.45
1:A:1104:ILE:HG22	1:A:1107:LEU:HG	1.98	0.45
1:A:1848:ILE:HB	1:A:1930:PRO:HA	1.97	0.45
1:A:1863:HIS:CB	18:O:159:ASP:N	2.79	0.45
2:K:388:GLN:HB2	5:J:462:HIS:CD2	2.51	0.45
3:L:268:LEU:HG	3:L:271:GLU:OE1	2.17	0.45
3:L:376:LYS:HA	3:L:376:LYS:HD2	1.70	0.45
4:N:144:LYS:O	4:N:145:THR:OG1	2.25	0.45
5:J:273:LYS:NZ	26:I:14:G:OP2	2.40	0.45
5:J:447:ASP:OD1	5:J:450:SER:N	2.49	0.45
8:C:501:ILE:HD13	8:C:570:ALA:HB2	1.98	0.45
8:C:925:LEU:HA	8:C:925:LEU:HD23	1.74	0.45
8:C:962:LEU:O	8:C:965:ASP:N	2.48	0.45
16:F:71:G:H2'	16:F:72:C:C6	2.51	0.45
17:B:71:A:H2'	17:B:72:C:H6	1.81	0.45
17:B:93:G:H2'	17:B:94:C:H1'	1.97	0.45
17:B:96:U:C3'	17:B:97:U:C6	2.98	0.45
26:I:33:A:C5	26:I:45:A:C8	3.04	0.45
26:I:33:A:H2'	26:I:34:G:O4'	2.15	0.45
31:3:820:VAL:HA	31:3:828:VAL:HA	1.98	0.45
1:A:208:VAL:HG11	1:A:213:TYR:CD1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:286:LEU:HD21	1:A:289:ASP:HB3	1.98	0.45
1:A:794:LYS:HB3	1:A:854:ARG:NH1	2.31	0.45
1:A:1066:LEU:O	1:A:1067:ASN:C	2.54	0.45
1:A:1450:GLU:O	1:A:1451:PHE:C	2.54	0.45
1:A:1502:LEU:HA	1:A:1502:LEU:HD23	1.73	0.45
1:A:1645:LEU:HD23	1:A:1648:ILE:HD12	1.98	0.45
4:N:667:CYS:HA	4:N:670:PHE:CD2	2.49	0.45
4:N:686:MET:O	4:N:689:GLU:HB3	2.15	0.45
4:N:691:TYR:HB3	4:N:708:LEU:HD12	1.99	0.45
4:N:723:ARG:HA	4:N:726:LEU:HD12	1.99	0.45
6:E:40:MET:O	6:E:43:ASP:HB3	2.16	0.45
6:E:85:PHE:HE1	6:E:90:HIS:HD1	1.64	0.45
7:M:110:ILE:O	7:M:113:GLN:N	2.50	0.45
8:C:106:PHE:O	8:C:109:LEU:HB2	2.16	0.45
8:C:179:ASP:HA	8:C:184:GLU:OE1	2.17	0.45
8:C:366:ASN:OD1	8:C:367:VAL:HG23	2.15	0.45
8:C:760:LEU:O	8:C:764:ASN:N	2.47	0.45
8:C:775:ILE:HG22	8:C:777:ASP:HB2	1.98	0.45
8:C:787:LEU:HD11	8:C:825:VAL:HG11	1.98	0.45
8:C:971:ARG:HA	8:C:974:LYS:HB2	1.99	0.45
16:F:35:A:N1	16:F:46:U:O2	2.49	0.45
17:B:91:U:C3'	17:B:92:U:C5'	2.95	0.45
28:G:508:U:H3'	28:G:508:U:OP2	2.15	0.45
1:A:770:MET:HE1	1:A:775:ARG:HA	1.98	0.45
1:A:883:PHE:O	1:A:887:VAL:HG23	2.17	0.45
1:A:963:VAL:O	1:A:964:PHE:HD1	1.93	0.45
1:A:1676:LEU:O	1:A:1709:TRP:CH2	2.69	0.45
3:L:446:SER:HA	3:L:449:ASN:HD22	1.81	0.45
5:J:348:GLN:NE2	5:J:374:ASP:OD2	2.49	0.45
7:M:5:ASN:HD21	7:M:61:ILE:HG21	1.81	0.45
17:B:101:C:C2'	17:B:102:C:H5'	2.46	0.45
36:Y:167:VAL:O	36:Y:171:GLY:HA2	2.17	0.45
38:H:1139:G:C6	38:H:1140:U:C4	3.04	0.45
1:A:681:LYS:HE2	16:F:1:G:O6	2.17	0.45
1:A:753:TYR:CZ	6:E:37:ARG:HD3	2.51	0.45
1:A:886:MET:O	1:A:887:VAL:C	2.53	0.45
1:A:916:LEU:HD23	1:A:916:LEU:HA	1.61	0.45
1:A:1590:LEU:CB	1:A:1595:ARG:HH21	2.29	0.45
1:A:1912:LYS:O	1:A:1916:GLU:HG2	2.15	0.45
1:A:1995:TRP:CE3	1:A:2007:ARG:HD2	2.52	0.45
1:A:2080:LYS:HA	1:A:2083:ILE:HD12	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:203:ILE:O	3:L:206:ASN:N	2.50	0.45
3:L:206:ASN:O	3:L:209:LYS:HB3	2.16	0.45
3:L:424:THR:HG22	3:L:425:SER:N	2.32	0.45
4:N:733:ASN:HB2	4:N:734:PRO:CA	2.46	0.45
8:C:292:ILE:HG22	8:C:296:ASN:HD21	1.81	0.45
27:D:2101:LEU:O	27:D:2114:ILE:HA	2.16	0.45
1:A:1316:ILE:O	1:A:1317:ARG:C	2.54	0.45
2:K:118:ILE:HA	2:K:121:ARG:HD2	1.99	0.45
3:L:195:THR:O	3:L:198:LEU:HB3	2.16	0.45
3:L:344:LEU:HD23	3:L:344:LEU:HA	1.82	0.45
8:C:616:PRO:O	8:C:619:LEU:HB2	2.17	0.45
16:F:11:U:C2'	16:F:12:U:C5'	2.92	0.45
16:F:66:C:H2'	16:F:67:C:C6	2.52	0.45
17:B:71:A:C4	17:B:72:C:C5	3.04	0.45
26:I:48:U:H2'	26:I:49:U:H6	1.81	0.45
1:A:249:LEU:HD13	1:A:254:HIS:HB2	1.98	0.45
1:A:668:ARG:CD	16:F:27:U:H4'	2.45	0.45
1:A:1651:ALA:CA	16:F:49:A:OP2	2.63	0.45
1:A:1907:GLN:HG2	18:O:169:ILE:HA	1.98	0.45
2:K:135:ARG:NH2	2:K:318:ASP:OD2	2.47	0.45
2:K:267:ARG:O	2:K:284:SER:HB2	2.16	0.45
2:K:316:GLN:HA	2:K:357:TRP:NE1	2.31	0.45
2:K:392:HIS:HB3	2:K:416:ASP:HB2	1.98	0.45
3:L:399:THR:HG22	3:L:409:GLY:HA2	1.98	0.45
8:C:315:SER:OG	47:C:1500:GTP:O6	2.34	0.45
8:C:584:GLU:O	8:C:588:GLN:HG2	2.17	0.45
16:F:43:C:O2'	16:F:44:A:H8	2.00	0.45
17:B:135:G:N1	17:B:136:G:N2	2.65	0.45
26:I:150:G:H2'	26:I:151:G:H5''	1.98	0.45
1:A:152:LYS:HE3	1:A:584:HIS:NE2	2.31	0.45
1:A:194:HIS:HB3	1:A:198:ALA:N	2.31	0.45
1:A:657:LEU:HA	1:A:660:ILE:CD1	2.47	0.45
1:A:1033:ASN:O	1:A:1035:LEU:N	2.50	0.45
1:A:1652:HIS:CD2	16:F:48:C:H2'	2.48	0.45
2:K:161:ARG:O	2:K:164:ASN:HB3	2.17	0.45
2:K:173:VAL:HG21	2:K:461:ILE:HD12	1.99	0.45
3:L:264:LYS:HA	3:L:282:GLU:O	2.17	0.45
6:E:118:GLU:OE2	6:E:122:ARG:NE	2.50	0.45
8:C:116:THR:HG22	8:C:117:ARG:N	2.32	0.45
8:C:128:ASN:HB3	8:C:557:HIS:CE1	2.52	0.45
8:C:397:LYS:O	8:C:400:LEU:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:B:98:U:C5	17:B:99:U:C4	3.01	0.45
20:P:33:GLN:O	20:P:45:LEU:HA	2.16	0.45
1:A:850:GLY:O	1:A:852:LEU:N	2.50	0.45
1:A:933:GLU:O	1:A:936:GLU:N	2.49	0.45
1:A:1014:LYS:HE3	1:A:1144:PHE:HD1	1.79	0.45
1:A:1177:ASP:N	1:A:1177:ASP:OD1	2.49	0.45
1:A:1198:SER:HB2	1:A:1215:LEU:HD13	1.99	0.45
1:A:1371:VAL:O	1:A:1374:GLY:N	2.50	0.45
1:A:2035:LYS:HD2	1:A:2038:HIS:CD2	2.52	0.45
2:K:204:SER:C	2:K:206:THR:H	2.20	0.45
3:L:240:GLN:O	3:L:243:ALA:HB3	2.17	0.45
4:N:755:GLN:O	4:N:758:LEU:N	2.50	0.45
5:J:237:THR:OG1	5:J:240:GLU:HG2	2.17	0.45
5:J:408:LEU:HD11	16:F:84:C:N4	2.31	0.45
6:E:41:ILE:O	6:E:44:GLU:N	2.50	0.45
8:C:196:SER:O	8:C:212:PHE:HB2	2.17	0.45
8:C:469:TRP:H	8:C:490:SER:HB2	1.80	0.45
8:C:841:LEU:O	8:C:844:LYS:N	2.50	0.45
17:B:22:G:O6	17:B:149:U:O4	2.35	0.45
38:H:1139:G:H2'	38:H:1140:U:C5	2.51	0.45
38:H:1152:U:H2'	38:H:1153:C:H6	1.80	0.45
1:A:681:LYS:HG2	1:A:685:HIS:NE2	2.32	0.45
1:A:964:PHE:CZ	1:A:1081:TYR:CE1	3.05	0.45
1:A:1201:TYR:HB2	1:A:1224:ARG:NH2	2.30	0.45
1:A:1236:THR:OG1	1:A:1237:SER:N	2.50	0.45
1:A:1458:TRP:O	1:A:1461:TYR:HB3	2.17	0.45
1:A:1795:LYS:N	1:A:1796:PRO:HD2	2.32	0.45
1:A:1992:TYR:HD1	1:A:2004:ALA:HB1	1.82	0.45
1:A:1993:ASP:OD2	1:A:2040:TRP:N	2.49	0.45
2:K:48:ASP:O	2:K:52:ARG:CB	2.65	0.45
2:K:68:ASP:OD1	2:K:69:VAL:N	2.45	0.45
2:K:397:THR:OG1	2:K:413:CYS:O	2.13	0.45
3:L:373:ARG:O	3:L:376:LYS:N	2.43	0.45
3:L:395:LYS:HE2	4:N:222:ASP:OD1	2.17	0.45
4:N:159:LEU:HD23	4:N:159:LEU:HA	1.66	0.45
4:N:666:ILE:HG22	4:N:667:CYS:N	2.28	0.45
4:N:678:TYR:HA	4:N:681:MET:HB2	1.99	0.45
4:N:723:ARG:O	4:N:726:LEU:HB2	2.17	0.45
8:C:769:TYR:CE2	8:C:772:ASN:HB2	2.52	0.45
8:C:769:TYR:HB2	8:C:771:GLY:N	2.32	0.45
8:C:865:ASP:HB2	8:C:931:TYR:CE2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:945:LEU:HD12	8:C:945:LEU:O	2.17	0.45
16:F:81:G:N2	26:I:1:A:N3	2.65	0.45
16:F:82:A:O2'	16:F:83:A:OP2	2.32	0.45
26:I:11:A:C4	26:I:12:C:C5	3.05	0.45
1:A:143:ILE:HD13	1:A:570:GLN:NE2	2.32	0.44
1:A:1567:PHE:HE1	1:A:1827:GLN:HG3	1.82	0.44
1:A:1817:GLU:O	1:A:1820:ARG:N	2.50	0.44
2:K:232:ASN:O	2:K:248:TYR:N	2.40	0.44
2:K:410:LEU:HA	2:K:410:LEU:HD23	1.39	0.44
3:L:249:LEU:O	3:L:253:ARG:HG2	2.17	0.44
5:J:141:ASN:HB2	5:J:144:LEU:HD12	1.98	0.44
5:J:330:ASN:O	5:J:332:GLU:N	2.32	0.44
8:C:879:LEU:O	8:C:883:ARG:HG2	2.17	0.44
8:C:944:VAL:HG23	8:C:945:LEU:HG	1.98	0.44
17:B:17:C:O2'	17:B:18:A:OP2	2.31	0.44
17:B:32:G:C5'	17:B:33:U:OP2	2.65	0.44
17:B:98:U:H2'	17:B:99:U:H6	1.81	0.44
26:I:47:A:C4	26:I:48:U:C5	3.04	0.44
1:A:158:LYS:HG3	1:A:159:LYS:N	2.32	0.44
1:A:259:GLU:HG3	1:A:260:PRO:HD2	1.99	0.44
1:A:939:LEU:HA	1:A:939:LEU:HD23	1.78	0.44
1:A:1144:PHE:CE2	1:A:1145:MET:HE2	2.52	0.44
1:A:1312:PHE:CD1	1:A:1342:LEU:HD13	2.52	0.44
1:A:2003:THR:OG1	1:A:2004:ALA:N	2.51	0.44
2:K:44:ILE:CG2	2:K:73:ARG:HE	2.30	0.44
2:K:68:ASP:HB2	16:F:74:U:H4'	1.99	0.44
3:L:217:TYR:O	3:L:220:SER:OG	2.16	0.44
6:E:53:VAL:O	6:E:55:ASN:N	2.49	0.44
7:M:65:LEU:O	7:M:68:PRO:HD2	2.17	0.44
8:C:176:ARG:HD3	8:C:179:ASP:OD2	2.17	0.44
8:C:292:ILE:O	8:C:295:ILE:HG12	2.17	0.44
26:I:52:G:C2	26:I:53:U:C4	3.05	0.44
23:T:10:MET:HA	25:V:30:ARG:C	2.38	0.44
38:H:141:A:H2'	38:H:142:C:C6	2.52	0.44
1:A:140:ARG:O	1:A:143:ILE:HG12	2.17	0.44
1:A:375:PHE:CE2	8:C:954:LEU:HD23	2.52	0.44
1:A:750:LEU:HG	1:A:751:ASP:N	2.31	0.44
1:A:958:LEU:HD23	1:A:958:LEU:HA	1.61	0.44
1:A:1621:VAL:HG12	1:A:1622:GLY:H	1.82	0.44
1:A:1709:TRP:O	1:A:1728:ILE:HA	2.17	0.44
1:A:1893:ILE:HD13	1:A:1978:VAL:HA	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:201:VAL:C	2:K:202:LEU:HD12	2.37	0.44
4:N:162:LEU:O	4:N:166:ARG:HG2	2.18	0.44
4:N:364:PHE:O	4:N:368:SER:N	2.51	0.44
4:N:730:LEU:HD12	4:N:739:PHE:HD2	1.82	0.44
4:N:747:GLU:HG3	4:N:751:GLY:O	2.17	0.44
5:J:300:GLN:O	5:J:303:LEU:HB3	2.17	0.44
8:C:113:ILE:HG12	8:C:549:TYR:CD1	2.52	0.44
8:C:271:ASP:HB3	8:C:318:LEU:HD12	2.00	0.44
8:C:282:MET:HB2	8:C:370:TYR:HE1	1.83	0.44
16:F:46:U:C6	16:F:46:U:C3'	2.99	0.44
17:B:28:G:C2'	17:B:29:G:C5'	2.95	0.44
26:I:15:G:C2	26:I:16:A:C8	3.06	0.44
27:D:521:ALA:O	27:D:672:ALA:HA	2.17	0.44
1:A:251:TYR:O	1:A:255:ILE:HB	2.18	0.44
1:A:576:HIS:HE1	1:A:594:ASP:O	2.00	0.44
1:A:844:MET:O	1:A:848:ASN:CB	2.66	0.44
1:A:1464:LYS:C	1:A:1475:LEU:HD21	2.37	0.44
1:A:1907:GLN:HA	1:A:1910:LYS:CG	2.47	0.44
1:A:2007:ARG:HA	1:A:2010:LEU:HD12	2.00	0.44
2:K:121:ARG:O	2:K:125:ILE:HG13	2.18	0.44
4:N:166:ARG:HA	4:N:166:ARG:HD3	1.78	0.44
8:C:145:GLY:N	47:C:1500:GTP:O1B	2.35	0.44
8:C:158:HIS:HB2	8:C:161:ILE:HG13	1.98	0.44
8:C:674:LEU:HA	8:C:674:LEU:HD23	1.78	0.44
8:C:715:MET:CE	8:C:773:VAL:HG12	2.48	0.44
8:C:743:ASN:O	8:C:747:LEU:N	2.34	0.44
1:A:158:LYS:HG3	1:A:159:LYS:H	1.83	0.44
1:A:316:THR:N	1:A:317:PRO:HD2	2.33	0.44
1:A:783:LEU:O	1:A:786:LEU:HB2	2.18	0.44
1:A:936:GLU:HG2	1:A:986:PRO:HB3	1.98	0.44
1:A:1348:GLU:HG2	1:A:1446:THR:HB	2.00	0.44
1:A:1502:LEU:O	1:A:1505:ASP:N	2.41	0.44
1:A:1910:LYS:HG2	1:A:1910:LYS:H	1.54	0.44
2:K:173:VAL:HB	2:K:178:ILE:HD11	1.98	0.44
2:K:335:ASP:OD1	2:K:336:ILE:N	2.50	0.44
2:K:380:LYS:O	2:K:382:ASP:N	2.51	0.44
2:K:422:TYR:HD1	2:K:429:LYS:HA	1.79	0.44
8:C:119:ASN:CG	8:C:120:ARG:H	2.21	0.44
8:C:621:ALA:HB2	8:C:664:ALA:HB2	1.98	0.44
8:C:681:CYS:HB3	8:C:850:LEU:CD1	2.48	0.44
16:F:2:U:H2'	16:F:3:U:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:F:33:C:N3	16:F:51:A:N1	2.65	0.44
16:F:51:A:OP2	16:F:51:A:O3'	2.21	0.44
17:B:45:A:H2'	17:B:45:A:N3	2.32	0.44
17:B:166:U:H4'	17:B:167:A:OP1	2.17	0.44
26:I:58:G:C2	26:I:59:C:C2	3.06	0.44
38:H:1150:U:C6	38:H:1150:U:OP2	2.70	0.44
1:A:807:PRO:HB2	4:N:111:LEU:HD23	2.00	0.44
1:A:901:PRO:HG3	1:A:998:TYR:CE2	2.53	0.44
1:A:1054:LEU:HA	1:A:1054:LEU:HD23	1.52	0.44
1:A:1067:ASN:HD22	3:L:270:HIS:HB3	1.81	0.44
1:A:1601:ILE:N	1:A:1602:PRO:HD2	2.33	0.44
1:A:1711:VAL:HG12	1:A:1712:SER:N	2.32	0.44
4:N:10:GLU:CG	6:E:14:HIS:HE1	2.30	0.44
4:N:828:LEU:HB3	4:N:845:LEU:CD2	2.48	0.44
5:J:154:SER:OG	5:J:155:LYS:N	2.49	0.44
8:C:208:ARG:CZ	8:C:440:THR:HG23	2.48	0.44
8:C:736:ASP:OD1	8:C:737:ILE:N	2.50	0.44
16:F:61:C:C2	16:F:62:A:C8	3.05	0.44
26:I:15:G:N1	26:I:16:A:C5	2.86	0.44
1:A:1335:TRP:O	1:A:1336:ASN:C	2.56	0.44
1:A:1466:GLN:O	1:A:1470:GLN:HB2	2.18	0.44
1:A:1829:SER:OG	1:A:1830:VAL:N	2.50	0.44
2:K:309:GLY:O	2:K:327:MET:N	2.41	0.44
4:N:242:GLN:HA	4:N:245:ILE:HB	2.00	0.44
4:N:435:ASN:O	4:N:439:ALA:N	2.51	0.44
5:J:242:LYS:O	5:J:243:ARG:C	2.55	0.44
5:J:334:PRO:HG2	5:J:337:TYR:CE1	2.53	0.44
6:E:87:HIS:O	6:E:89:LYS:HG3	2.18	0.44
8:C:284:ALA:O	8:C:287:LYS:HB3	2.17	0.44
8:C:295:ILE:O	8:C:298:PHE:N	2.51	0.44
8:C:422:LYS:O	8:C:425:LEU:N	2.50	0.44
8:C:914:PHE:HE2	8:C:928:CYS:HG	1.65	0.44
16:F:46:U:H5''	16:F:46:U:C6	2.36	0.44
23:T:45:GLY:HA3	24:U:13:VAL:O	2.18	0.44
28:G:487:A:C2	28:G:488:A:O3'	2.71	0.44
1:A:563:ASP:OD1	1:A:564:TRP:N	2.51	0.44
1:A:1068:ARG:HD3	1:A:1068:ARG:HA	1.39	0.44
1:A:1356:LEU:O	1:A:1357:LEU:C	2.56	0.44
1:A:1412:LEU:HD23	1:A:1412:LEU:HA	1.61	0.44
1:A:1645:LEU:HD23	1:A:1645:LEU:HA	1.78	0.44
1:A:1715:SER:O	1:A:1787:TYR:HA	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:177:PRO:O	2:K:195:TRP:HD1	2.01	0.44
2:K:415:TYR:HD1	2:K:439:LYS:HB3	1.82	0.44
3:L:94:LEU:HD23	3:L:94:LEU:O	2.18	0.44
3:L:387:LEU:HA	3:L:387:LEU:HD23	1.72	0.44
5:J:365:LEU:O	5:J:440:TRP:HB2	2.17	0.44
8:C:135:ASN:HB2	8:C:233:ASP:CG	2.38	0.44
8:C:710:VAL:HG22	8:C:820:LEU:HD12	1.99	0.44
16:F:69:C:H42	26:I:12:C:N4	2.15	0.44
17:B:1:A:N6	17:B:164:C:H42	2.15	0.44
17:B:13:A:C2	17:B:14:G:H1'	2.52	0.44
17:B:92:U:O4	17:B:93:G:C6	2.71	0.44
26:I:22:G:H1	26:I:51:U:H3	1.66	0.44
26:I:30:G:N3	26:I:30:G:H5''	2.33	0.44
27:D:1550:SER:HA	27:D:1724:THR:O	2.18	0.44
28:G:480:A:O2'	28:G:481:A:H2'	2.18	0.44
38:H:60:A:H2'	38:H:61:A:O4'	2.18	0.44
1:A:699:PRO:HB2	16:F:1:G:OP1	2.18	0.44
1:A:1112:PHE:O	1:A:1113:ILE:C	2.55	0.44
1:A:1321:MET:HB3	1:A:1321:MET:HE3	1.91	0.44
1:A:1608:LEU:O	1:A:1610:TRP:N	2.50	0.44
2:K:180:ALA:CB	2:K:223:ALA:HA	2.48	0.44
2:K:287:MET:HG2	2:K:308:LYS:C	2.38	0.44
2:K:304:GLU:HG2	2:K:305:GLY:H	1.83	0.44
2:K:415:TYR:OH	7:M:126:ILE:C	2.57	0.44
3:L:328:VAL:HA	3:L:331:HIS:HD2	1.82	0.44
4:N:787:SER:O	4:N:790:LYS:HG2	2.18	0.44
5:J:312:ASN:ND2	16:F:71:G:O2'	2.51	0.44
6:E:42:MET:HG2	6:E:80:MET:HE3	1.99	0.44
16:F:29:U:H2'	16:F:30:G:O4'	2.18	0.44
17:B:80:G:C5	17:B:82:A:C6	3.06	0.44
26:I:51:U:H2'	26:I:52:G:C8	2.53	0.44
28:G:497:A:C2	38:H:39:A:N3	2.86	0.44
29:1:927:ALA:O	29:1:929:ASN:N	2.51	0.44
1:A:220:THR:O	1:A:224:MET:HG2	2.17	0.43
1:A:1393:GLU:OE2	3:L:396:GLN:HA	2.18	0.43
1:A:1591:THR:HB	1:A:1594:GLN:HG2	1.99	0.43
1:A:1814:VAL:O	1:A:1814:VAL:HG12	2.17	0.43
2:K:61:PRO:HG2	2:K:75:ARG:HH12	1.83	0.43
2:K:389:ILE:HD11	2:K:427:TRP:HB3	2.00	0.43
2:K:395:ILE:HG21	2:K:395:ILE:HD13	1.77	0.43
3:L:327:THR:O	3:L:328:VAL:HB	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:348:GLU:O	4:N:352:ALA:CB	2.66	0.43
4:N:808:LEU:HB2	4:N:831:ALA:HB2	2.00	0.43
6:E:117:LEU:HD23	6:E:117:LEU:HA	1.69	0.43
8:C:118:TYR:CE1	8:C:199:LEU:HB3	2.53	0.43
8:C:195:GLY:C	8:C:545:LEU:HD13	2.38	0.43
8:C:251:GLN:HG2	8:C:933:TRP:CZ2	2.53	0.43
8:C:363:PRO:O	8:C:364:PHE:CD2	2.70	0.43
8:C:864:VAL:HG12	8:C:866:ILE:HG13	2.00	0.43
17:B:32:G:C6	17:B:34:C:C4	3.06	0.43
17:B:106:A:H2'	17:B:107:C:C6	2.52	0.43
18:O:210:LEU:HB3	18:O:212:VAL:HG13	1.99	0.43
26:I:53:U:H2'	26:I:54:U:O4'	2.19	0.43
1:A:244:ASP:HB3	1:A:594:ASP:CB	2.49	0.43
1:A:276:VAL:O	1:A:280:LEU:HB2	2.18	0.43
1:A:460:PRO:HG3	8:C:376:PHE:CE1	2.53	0.43
1:A:692:ASN:HB3	1:A:693:LYS:HZ3	1.83	0.43
1:A:2058:LEU:O	1:A:2061:THR:N	2.51	0.43
1:A:2059:ILE:O	1:A:2063:TYR:CB	2.66	0.43
1:A:2060:LEU:HD13	1:A:2071:ILE:HD11	1.99	0.43
1:A:2076:GLN:HE22	5:J:288:THR:HG21	1.83	0.43
3:L:178:SER:O	3:L:181:THR:N	2.51	0.43
4:N:804:ASP:O	4:N:808:LEU:HG	2.18	0.43
8:C:195:GLY:CA	8:C:212:PHE:O	2.66	0.43
8:C:857:LEU:O	8:C:940:VAL:HG23	2.18	0.43
17:B:67:U:H2'	17:B:68:A:H8	1.83	0.43
35:X:35:ILE:O	35:X:74:PHE:HA	2.18	0.43
38:H:1099:G:H2'	38:H:1100:A:H8	1.82	0.43
38:H:1138:G:C6	38:H:1139:G:O6	2.71	0.43
1:A:889:TRP:HA	1:A:1128:GLN:HE22	1.83	0.43
1:A:997:GLN:NE2	1:A:1511:ARG:HH12	2.16	0.43
1:A:999:LEU:HD23	1:A:999:LEU:HA	1.78	0.43
1:A:1144:PHE:HE2	1:A:1145:MET:HE2	1.82	0.43
1:A:1320:LEU:HD21	1:A:1367:ILE:HG12	1.99	0.43
1:A:1578:ALA:CB	1:A:1602:PRO:HB3	2.49	0.43
1:A:1676:LEU:O	1:A:1709:TRP:HH2	2.01	0.43
1:A:1819:ILE:O	1:A:1821:LYS:N	2.51	0.43
2:K:117:LEU:O	2:K:121:ARG:HG3	2.18	0.43
3:L:401:LEU:HB3	3:L:405:GLY:HA2	2.00	0.43
4:N:740:TYR:O	4:N:743:LYS:N	2.51	0.43
5:J:285:GLN:HB2	5:J:289:ASP:HB2	2.00	0.43
7:M:28:ALA:O	7:M:31:ARG:N	2.42	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:M:102:ILE:HG23	7:M:102:ILE:HD12	1.68	0.43
8:C:318:LEU:HA	8:C:422:LYS:HG2	2.00	0.43
8:C:545:LEU:HD12	8:C:545:LEU:O	2.17	0.43
16:F:82:A:HO2'	16:F:83:A:P	2.42	0.43
16:F:87:U:H3'	16:F:87:U:H6	1.83	0.43
17:B:9:U:H2'	17:B:10:U:O4'	2.19	0.43
17:B:92:U:O4	17:B:93:G:C5	2.70	0.43
17:B:162:G:OP1	17:B:163:C:C6	2.71	0.43
27:D:1224:ALA:HB3	27:D:1264:VAL:HA	2.00	0.43
1:A:579:LEU:HD23	1:A:579:LEU:HA	1.90	0.43
1:A:694:ASN:ND2	1:A:694:ASN:N	2.60	0.43
1:A:769:MET:HE1	4:N:112:ALA:HA	1.99	0.43
1:A:1593:ALA:HB2	6:E:115:ASP:OD1	2.18	0.43
1:A:1710:GLU:HA	1:A:1728:ILE:HA	1.99	0.43
1:A:1920:LEU:O	1:A:1923:SER:OG	2.28	0.43
3:L:95:LEU:HD23	3:L:98:PHE:HD2	1.84	0.43
3:L:142:SER:O	3:L:145:GLU:N	2.49	0.43
3:L:209:LYS:HE2	3:L:209:LYS:HB3	1.82	0.43
5:J:237:THR:O	5:J:241:ARG:NH1	2.51	0.43
5:J:242:LYS:HD3	5:J:242:LYS:HA	1.80	0.43
6:E:11:THR:N	6:E:14:HIS:CD2	2.84	0.43
6:E:13:TRP:CZ2	6:E:17:GLN:OE1	2.71	0.43
8:C:229:LEU:HD13	8:C:259:ASN:HD22	1.84	0.43
8:C:948:ASP:O	8:C:950:PHE:N	2.51	0.43
17:B:10:U:O2	17:B:11:A:N6	2.51	0.43
26:I:2:U:H2'	26:I:3:C:C6	2.52	0.43
26:I:77:U:H2'	26:I:78:A:H8	1.83	0.43
29:1:540:ALA:O	29:1:544:THR:CB	2.66	0.43
38:H:149:A:H2'	38:H:150:G:H8	1.82	0.43
1:A:1048:VAL:HG21	1:A:1222:LEU:CD2	2.48	0.43
1:A:1480:LEU:HD12	1:A:1495:PHE:HZ	1.82	0.43
1:A:1689:ARG:HH22	16:F:45:A:H5''	1.81	0.43
2:K:50:GLU:O	2:K:54:LEU:HG	2.19	0.43
2:K:167:LEU:HD11	4:N:728:ARG:HB2	2.00	0.43
3:L:156:GLU:HB3	3:L:160:HIS:NE2	2.33	0.43
4:N:722:ALA:O	4:N:725:ILE:HB	2.18	0.43
6:E:23:THR:OG1	6:E:24:LYS:N	2.50	0.43
8:C:113:ILE:HG21	8:C:120:ARG:HH21	1.84	0.43
17:B:72:C:H2'	17:B:73:U:C6	2.54	0.43
17:B:126:A:C5	17:B:127:U:O4	2.72	0.43
17:B:166:U:C6	17:B:166:U:OP1	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:I:33:A:C2	26:I:45:A:C8	3.07	0.43
26:I:60:U:H2'	26:I:61:G:O4'	2.19	0.43
38:H:1094:G:H2'	38:H:1095:U:H6	1.83	0.43
1:A:462:LEU:HD21	8:C:404:PHE:HE2	1.83	0.43
1:A:674:MET:O	1:A:678:ARG:HG2	2.19	0.43
1:A:691:PHE:CD1	1:A:691:PHE:C	2.92	0.43
1:A:878:GLU:O	1:A:881:THR:OG1	2.29	0.43
1:A:1049:LEU:HD23	1:A:1050:LEU:O	2.18	0.43
1:A:1217:ARG:O	1:A:1221:ASN:HB2	2.18	0.43
1:A:1338:SER:O	1:A:1341:SER:OG	2.32	0.43
1:A:1601:ILE:O	1:A:1604:ARG:N	2.51	0.43
1:A:1616:ARG:HB2	1:A:1744:ASP:CG	2.37	0.43
1:A:1830:VAL:HG12	1:A:1832:GLU:N	2.28	0.43
1:A:1858:TYR:CD2	18:O:164:LEU:HG	2.52	0.43
2:K:443:LEU:HG	2:K:444:ASP:N	2.34	0.43
3:L:95:LEU:HD23	3:L:98:PHE:CD2	2.54	0.43
6:E:109:ASP:OD1	6:E:111:GLN:N	2.51	0.43
7:M:36:GLY:HA2	26:I:30:G:O2'	2.18	0.43
8:C:761:ALA:HB1	8:C:775:ILE:HD13	2.00	0.43
8:C:769:TYR:HA	8:C:800:TYR:CE1	2.47	0.43
26:I:33:A:C4	26:I:45:A:N7	2.86	0.43
26:I:145:U:H3	25:V:35:PHE:CB	2.32	0.43
1:A:153:MET:HE2	1:A:153:MET:HB3	1.76	0.43
1:A:205:THR:CG2	17:B:33:U:O2	2.67	0.43
1:A:393:SER:OG	1:A:394:ARG:N	2.50	0.43
1:A:424:PHE:CZ	1:A:428:LEU:HB2	2.54	0.43
1:A:963:VAL:HG21	3:L:280:ARG:NH1	2.34	0.43
1:A:1440:ILE:HD13	1:A:1440:ILE:HG21	1.75	0.43
1:A:1488:ILE:C	1:A:1490:ARG:H	2.21	0.43
1:A:1573:LEU:HD12	1:A:1573:LEU:N	2.34	0.43
1:A:2051:ILE:O	1:A:2054:GLN:N	2.51	0.43
2:K:204:SER:O	2:K:206:THR:N	2.52	0.43
3:L:386:GLN:O	3:L:389:ASN:N	2.52	0.43
4:N:419:ASP:O	4:N:423:SER:N	2.51	0.43
8:C:197:THR:HG21	8:C:544:LEU:HD22	2.00	0.43
8:C:769:TYR:C	8:C:771:GLY:H	2.21	0.43
17:B:50:G:H2'	17:B:51:G:H8	1.83	0.43
17:B:52:G:H2'	17:B:53:C:H6	1.83	0.43
30:2:363:TYR:C	30:2:365:GLY:H	2.22	0.43
38:H:67:A:O2'	38:H:68:U:C6	2.71	0.43
1:A:400:ILE:HD12	1:A:400:ILE:HG23	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:781:THR:HA	1:A:784:GLN:OE1	2.17	0.43
1:A:1490:ARG:HA	1:A:1490:ARG:HD3	1.85	0.43
1:A:2077:THR:OG1	1:A:2078:GLU:N	2.51	0.43
2:K:88:GLU:O	2:K:91:ASN:HB3	2.19	0.43
3:L:395:LYS:HG3	4:N:219:THR:HG21	2.01	0.43
4:N:772:LEU:O	4:N:775:VAL:N	2.51	0.43
5:J:284:ASP:HB2	5:J:293:TRP:CZ3	2.54	0.43
7:M:62:GLU:HA	7:M:65:LEU:HB2	2.01	0.43
8:C:133:ILE:C	8:C:209:MET:O	2.57	0.43
17:B:96:U:O5'	17:B:96:U:C6	2.70	0.43
17:B:164:C:OP2	17:B:165:A:OP1	2.36	0.43
17:B:175:G:H4'	17:B:176:A:O4'	2.18	0.43
18:O:149:TYR:CD2	18:O:178:VAL:HG12	2.48	0.43
38:H:1094:G:H2'	38:H:1095:U:C6	2.54	0.43
1:A:409:CYS:H	8:C:272:ARG:HH21	1.67	0.43
1:A:495:ARG:HH12	17:B:112:C:H2'	1.84	0.43
1:A:801:VAL:HG12	1:A:802:PRO:O	2.19	0.43
1:A:898:ILE:HA	1:A:1006:ARG:NH1	2.34	0.43
1:A:1110:ALA:O	1:A:1111:SER:C	2.56	0.43
1:A:2006:SER:OG	1:A:2007:ARG:N	2.51	0.43
2:K:263:GLY:HA3	2:K:290:ARG:HH12	1.84	0.43
2:K:457:TRP:O	2:K:459:ARG:HG3	2.19	0.43
3:L:53:LEU:O	3:L:56:THR:N	2.51	0.43
3:L:264:LYS:HZ3	3:L:281:GLN:HG2	1.84	0.43
4:N:841:THR:O	4:N:844:TRP:N	2.52	0.43
6:E:126:LYS:O	6:E:127:ASN:HB2	2.19	0.43
8:C:221:PHE:O	8:C:223:ASP:N	2.51	0.43
8:C:305:SER:O	8:C:308:ASP:N	2.52	0.43
8:C:306:PRO:HG2	8:C:349:TRP:CE3	2.54	0.43
8:C:729:GLY:HA3	8:C:735:LEU:HD13	1.99	0.43
8:C:838:ILE:HD12	8:C:841:LEU:HD23	2.01	0.43
16:F:9:A:H2'	16:F:10:A:C8	2.53	0.43
16:F:10:A:N6	16:F:16:C:H42	2.08	0.43
26:I:14:G:C2	26:I:15:G:C4	3.07	0.43
27:D:758:LYS:O	27:D:762:ALA:HB3	2.18	0.43
38:H:1148:U:H2'	38:H:1149:G:H8	1.83	0.43
1:A:194:HIS:CD2	1:A:557:PHE:HE1	2.36	0.43
1:A:654:HIS:CE1	1:A:701:CYS:SG	3.06	0.43
1:A:902:PRO:HG2	1:A:905:TYR:HB2	2.00	0.43
1:A:917:GLU:OE2	4:N:159:LEU:HD21	2.18	0.43
1:A:1277:GLU:O	1:A:1279:VAL:HG23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1393:GLU:O	1:A:1395:GLY:N	2.52	0.43
1:A:1591:THR:HG22	1:A:1593:ALA:H	1.84	0.43
1:A:1819:ILE:HG22	1:A:1820:ARG:N	2.34	0.43
1:A:1907:GLN:O	1:A:1910:LYS:HG3	2.18	0.43
8:C:767:SER:OG	8:C:796:ILE:HD13	2.19	0.43
16:F:59:A:C2	26:I:61:G:C4	3.07	0.43
16:F:70:U:C2	16:F:71:G:C8	3.07	0.43
27:D:758:LYS:O	27:D:762:ALA:CB	2.67	0.43
28:G:465:A:H4'	28:G:466:A:OP1	2.19	0.43
35:X:27:TYR:O	35:X:29:ASP:N	2.48	0.43
38:H:1153:C:H2'	38:H:1154:U:H6	1.84	0.43
1:A:190:LYS:HD3	1:A:559:GLN:HE21	1.84	0.42
1:A:222:ILE:HD11	1:A:317:PRO:HG3	2.00	0.42
1:A:266:LEU:HD23	1:A:267:PRO:C	2.38	0.42
1:A:312:TYR:O	1:A:316:THR:HG23	2.18	0.42
1:A:705:GLN:HB3	1:A:706:PRO:HD3	2.01	0.42
1:A:954:ILE:O	1:A:955:LYS:C	2.57	0.42
1:A:1048:VAL:HG21	1:A:1222:LEU:HD22	2.02	0.42
1:A:1147:PHE:CD2	1:A:1153:GLU:HG2	2.54	0.42
1:A:1292:ARG:O	1:A:1294:LYS:HG3	2.19	0.42
1:A:1847:ASP:O	1:A:1849:LYS:NZ	2.47	0.42
1:A:2035:LYS:HD3	1:A:2037:TYR:HD2	1.84	0.42
2:K:233:GLN:OE1	2:K:233:GLN:N	2.51	0.42
2:K:249:SER:O	2:K:252:GLU:N	2.51	0.42
3:L:267:HIS:CE1	3:L:273:HIS:NE2	2.86	0.42
4:N:825:LEU:HD23	4:N:828:LEU:HD12	2.01	0.42
4:N:843:VAL:O	4:N:847:ARG:HG3	2.19	0.42
4:N:846:PHE:HE1	4:N:859:LEU:HD23	1.84	0.42
8:C:153:LEU:HD23	8:C:153:LEU:HA	1.71	0.42
8:C:616:PRO:HA	8:C:619:LEU:HD12	2.01	0.42
8:C:777:ASP:O	8:C:778:THR:HB	2.19	0.42
8:C:863:GLU:HB3	8:C:931:TYR:CE1	2.53	0.42
8:C:946:ASP:O	8:C:964:ARG:HG2	2.19	0.42
16:F:47:A:H2'	16:F:48:C:H5''	2.01	0.42
17:B:92:U:H2'	17:B:93:G:C4'	2.49	0.42
26:I:24:A:C6	26:I:50:G:C6	3.07	0.42
38:H:1097:G:C4	38:H:1146:G:C2	3.07	0.42
1:A:1023:LEU:HB2	1:A:1451:PHE:CE1	2.48	0.42
1:A:1392:LYS:O	1:A:1393:GLU:C	2.58	0.42
1:A:1406:LEU:HB3	1:A:1436:LEU:CD2	2.49	0.42
1:A:1543:ARG:CZ	3:L:396:GLN:HB3	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1848:ILE:HG22	1:A:1930:PRO:HB3	2.00	0.42
1:A:1870:VAL:O	1:A:1872:THR:HG23	2.19	0.42
2:K:172:LEU:HD13	4:N:723:ARG:NE	2.34	0.42
3:L:176:THR:O	3:L:179:MET:HB3	2.19	0.42
3:L:189:LEU:N	3:L:194:ARG:HH22	2.15	0.42
5:J:313:GLU:O	5:J:317:GLU:HG2	2.20	0.42
8:C:681:CYS:HB3	8:C:850:LEU:HD12	2.00	0.42
16:F:64:U:C2	16:F:65:U:C5	3.08	0.42
17:B:21:G:H2'	17:B:22:G:C8	2.54	0.42
17:B:93:G:C4	17:B:94:C:O2	2.72	0.42
26:I:61:G:H2'	26:I:61:G:N3	2.33	0.42
38:H:48:U:C3'	38:H:49:U:H5'	2.48	0.42
38:H:1143:C:H4'	38:H:1144:U:H3'	2.01	0.42
1:A:651:ASP:OD1	1:A:701:CYS:O	2.36	0.42
1:A:1499:ARG:HG3	1:A:1500:HIS:CD2	2.54	0.42
1:A:1611:SER:N	1:A:1612:PRO:HD2	2.33	0.42
1:A:1790:TRP:CE2	1:A:1795:LYS:HE3	2.54	0.42
1:A:1964:PRO:O	1:A:2012:LEU:HB3	2.19	0.42
2:K:189:VAL:HA	2:K:202:LEU:O	2.19	0.42
2:K:354:THR:HG21	2:K:399:VAL:HG23	2.01	0.42
3:L:312:LEU:HD23	3:L:312:LEU:HA	1.83	0.42
4:N:140:GLN:HE22	4:N:143:ARG:NH2	2.17	0.42
4:N:348:GLU:O	4:N:352:ALA:HB3	2.20	0.42
4:N:378:LEU:O	4:N:382:HIS:CB	2.68	0.42
4:N:822:GLU:HA	4:N:825:LEU:HG	2.00	0.42
5:J:267:LYS:HD2	5:J:268:PRO:HD2	2.01	0.42
16:F:33:C:N4	16:F:51:A:H61	2.08	0.42
16:F:70:U:H2'	16:F:71:G:H8	1.84	0.42
16:F:92:C:H2'	16:F:93:A:C8	2.48	0.42
31:3:520:SER:O	31:3:874:GLY:CA	2.68	0.42
1:A:654:HIS:CD2	1:A:701:CYS:HB3	2.54	0.42
1:A:732:ARG:O	1:A:736:GLY:N	2.53	0.42
1:A:1078:ILE:O	1:A:1081:TYR:HB3	2.19	0.42
1:A:1452:LEU:HD23	1:A:1452:LEU:HA	1.82	0.42
1:A:1456:ARG:O	1:A:1459:ALA:N	2.53	0.42
1:A:1714:PRO:HB2	1:A:1787:TYR:CE2	2.53	0.42
1:A:1788:GLY:O	1:A:1790:TRP:NE1	2.51	0.42
1:A:2043:PHE:HB2	1:A:2048:TRP:NE1	2.34	0.42
2:K:434:ALA:HB1	4:N:731:LEU:HD13	2.01	0.42
3:L:175:LEU:O	3:L:176:THR:C	2.56	0.42
3:L:190:ASP:O	3:L:193:THR:OG1	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:266:LYS:HG2	3:L:267:HIS:N	2.33	0.42
4:N:618:GLN:O	4:N:622:SER:CB	2.66	0.42
5:J:255:ALA:O	5:J:259:LYS:HB2	2.19	0.42
5:J:373:ARG:HA	5:J:444:VAL:HG11	2.01	0.42
5:J:447:ASP:CG	5:J:450:SER:H	2.21	0.42
8:C:425:LEU:O	8:C:428:ILE:N	2.52	0.42
8:C:675:THR:OG1	8:C:676:VAL:N	2.52	0.42
26:I:12:C:C2	26:I:13:G:C8	3.07	0.42
28:G:479:A:C5	28:G:480:A:C6	3.08	0.42
1:A:140:ARG:HA	1:A:143:ILE:HG12	2.01	0.42
1:A:287:GLU:HG2	1:A:288:GLU:N	2.35	0.42
1:A:540:THR:HA	17:B:79:C:H41	1.84	0.42
1:A:635:THR:HG21	1:A:656:ILE:HD11	2.01	0.42
1:A:699:PRO:HB3	16:F:1:G:OP1	2.18	0.42
1:A:712:LEU:HD12	1:A:712:LEU:HA	1.75	0.42
1:A:718:THR:HA	1:A:721:LEU:HD12	2.02	0.42
1:A:965:LYS:HB3	1:A:965:LYS:NZ	2.34	0.42
1:A:1130:ARG:O	1:A:1133:ASP:HB2	2.19	0.42
1:A:1172:PHE:CE2	1:A:1226:VAL:HG11	2.54	0.42
1:A:1481:GLU:HA	1:A:1484:TRP:NE1	2.34	0.42
1:A:1527:TRP:CD1	1:A:1527:TRP:N	2.88	0.42
1:A:1711:VAL:O	1:A:1724:PHE:HA	2.20	0.42
1:A:2014:ALA:O	1:A:2017:THR:N	2.30	0.42
1:A:2057:ASP:O	1:A:2061:THR:HG23	2.20	0.42
2:K:244:LYS:HA	2:K:244:LYS:HD2	1.89	0.42
2:K:316:GLN:HA	2:K:357:TRP:CD1	2.55	0.42
5:J:316:HIS:NE2	5:J:320:ILE:HD11	2.35	0.42
6:E:115:ASP:O	6:E:119:THR:OG1	2.18	0.42
7:M:32:GLN:O	7:M:103:THR:OG1	2.26	0.42
8:C:715:MET:HG2	8:C:817:GLN:HB2	2.01	0.42
16:F:29:U:C2	17:B:98:U:C2	3.08	0.42
17:B:66:A:H2'	17:B:67:U:H6	1.83	0.42
26:I:8:U:C2	26:I:9:G:C8	3.07	0.42
26:I:77:U:C2	26:I:78:A:N7	2.87	0.42
26:I:91:U:HO2'	26:I:92:C:P	2.35	0.42
1:A:140:ARG:HH22	1:A:252:GLU:N	2.18	0.42
1:A:227:GLU:OE2	1:A:231:ARG:NH1	2.51	0.42
1:A:470:LEU:HB3	1:A:471:PRO:HD2	2.00	0.42
1:A:681:LYS:NZ	16:F:1:G:O6	2.49	0.42
1:A:693:LYS:NZ	1:A:693:LYS:N	2.66	0.42
1:A:1070:LEU:O	1:A:1074:VAL:N	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1686:VAL:HG12	1:A:1687:HIS:O	2.19	0.42
1:A:1748:ILE:HD13	1:A:1748:ILE:HG21	1.84	0.42
2:K:239:GLU:HG3	2:K:240:ASP:OD1	2.20	0.42
2:K:393:ARG:O	2:K:394:ASN:C	2.58	0.42
4:N:261:LYS:HB3	4:N:285:HIS:HD2	1.84	0.42
4:N:561:LEU:O	4:N:565:VAL:CB	2.68	0.42
5:J:170:ASP:O	5:J:173:TYR:HD2	2.01	0.42
5:J:325:GLU:HG2	5:J:328:ASN:ND2	2.34	0.42
6:E:26:LEU:HB2	6:E:57:ALA:HB2	2.01	0.42
8:C:198:LEU:HA	8:C:198:LEU:HD12	1.85	0.42
8:C:749:LYS:O	8:C:753:THR:CB	2.68	0.42
8:C:835:LYS:HB3	8:C:839:ILE:CD1	2.50	0.42
8:C:933:TRP:C	8:C:935:LYS:N	2.71	0.42
17:B:80:G:C2	17:B:82:A:N3	2.87	0.42
17:B:98:U:C2	17:B:99:U:C6	3.07	0.42
17:B:174:G:C2	17:B:176:A:H4'	2.55	0.42
38:H:1097:G:N1	38:H:1146:G:C5	2.88	0.42
1:A:301:TRP:HD1	1:A:493:MET:SD	2.43	0.42
1:A:408:SER:HB3	1:A:410:ILE:CD1	2.49	0.42
1:A:460:PRO:HG3	8:C:375:GLU:HG3	2.00	0.42
1:A:468:LEU:HD12	1:A:469:ILE:N	2.35	0.42
1:A:963:VAL:C	1:A:964:PHE:CD1	2.93	0.42
1:A:1400:ILE:HG23	1:A:1542:TYR:CE2	2.55	0.42
1:A:1466:GLN:HA	1:A:1469:ILE:HB	2.01	0.42
1:A:1717:LEU:HD21	1:A:1786:ALA:HB3	2.02	0.42
1:A:1882:LEU:HD21	1:A:1965:PHE:CE1	2.55	0.42
2:K:399:VAL:HA	2:K:411:VAL:O	2.20	0.42
3:L:120:TYR:OH	3:L:197:ILE:HD13	2.19	0.42
3:L:233:VAL:CG1	3:L:237:ILE:HB	2.50	0.42
5:J:145:HIS:C	5:J:147:ASP:H	2.23	0.42
5:J:367:GLY:O	5:J:440:TRP:HA	2.20	0.42
6:E:95:PHE:HD1	6:E:133:SER:HB2	1.84	0.42
8:C:343:ASP:O	8:C:346:THR:OG1	2.25	0.42
8:C:365:GLU:CG	8:C:366:ASN:H	2.29	0.42
8:C:500:ARG:HG2	8:C:536:SER:OG	2.20	0.42
8:C:883:ARG:NH2	8:C:914:PHE:HB2	2.35	0.42
16:F:45:A:N3	16:F:45:A:H2'	2.35	0.42
16:F:59:A:C2'	16:F:60:G:H5'	2.50	0.42
17:B:47:U:H2'	17:B:48:G:H8	1.85	0.42
26:I:25:U:H3'	26:I:26:A:H5''	2.01	0.42
26:I:135:A:C6	26:I:136:U:C4	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:H:1146:G:H2'	38:H:1147:A:H8	1.84	0.42
1:A:293:VAL:HG22	1:A:294:ASN:N	2.35	0.42
1:A:484:PHE:CE1	1:A:488:ARG:HD2	2.54	0.42
1:A:641:LEU:HB2	1:A:643:ASN:OD1	2.20	0.42
1:A:770:MET:HE1	1:A:778:LYS:HB2	2.01	0.42
1:A:1222:LEU:O	1:A:1225:ALA:HB3	2.19	0.42
1:A:1282:ASP:HB2	1:A:1284:GLY:H	1.85	0.42
1:A:1544:THR:OG1	1:A:1545:ASP:N	2.52	0.42
1:A:1843:LEU:HD23	1:A:1843:LEU:HA	1.80	0.42
1:A:1850:LEU:HA	1:A:1882:LEU:O	2.20	0.42
1:A:1856:ASN:HB2	1:A:1878:CYS:SG	2.60	0.42
2:K:135:ARG:HE	2:K:318:ASP:CG	2.23	0.42
2:K:418:LEU:HD23	2:K:418:LEU:HA	1.85	0.42
4:N:21:ARG:NH2	6:E:74:TYR:HH	2.12	0.42
4:N:225:LYS:HE3	4:N:225:LYS:HB3	1.85	0.42
5:J:338:HIS:O	5:J:383:VAL:HA	2.20	0.42
8:C:861:ILE:HG23	8:C:906:VAL:O	2.20	0.42
17:B:150:U:H4'	17:B:151:A:OP1	2.19	0.42
1:A:766:ILE:O	1:A:770:MET:HG3	2.20	0.42
1:A:770:MET:HB3	1:A:770:MET:HE2	1.93	0.42
1:A:788:GLU:OE2	1:A:791:ARG:HD2	2.20	0.42
1:A:1035:LEU:O	1:A:1035:LEU:HD12	2.19	0.42
1:A:1319:ILE:HD11	1:A:1334:LYS:HB3	2.02	0.42
1:A:1681:VAL:HG22	1:A:1703:MET:SD	2.60	0.42
2:K:422:TYR:HE1	2:K:429:LYS:HG3	1.85	0.42
3:L:116:LEU:HD23	3:L:116:LEU:HA	1.86	0.42
3:L:147:GLU:OE1	3:L:147:GLU:N	2.43	0.42
3:L:172:ILE:O	3:L:176:THR:HG23	2.20	0.42
4:N:725:ILE:HA	4:N:728:ARG:NH1	2.34	0.42
4:N:847:ARG:O	4:N:850:ALA:HB3	2.20	0.42
5:J:277:MET:HG3	5:J:293:TRP:HE1	1.85	0.42
8:C:971:ARG:O	8:C:975:GLY:N	2.53	0.42
16:F:28:U:C2'	16:F:29:U:H5'	2.46	0.42
26:I:6:U:C2	26:I:7:A:C8	3.07	0.42
1:A:285:PRO:HD2	1:A:298:TYR:OH	2.20	0.42
1:A:404:ASN:HA	8:C:919:ARG:NH1	2.35	0.42
1:A:603:LYS:HZ3	16:F:43:C:H5'	1.76	0.42
1:A:637:VAL:O	1:A:640:ARG:N	2.53	0.42
1:A:654:HIS:CE1	1:A:658:ASN:HD21	2.36	0.42
1:A:1022:PRO:O	1:A:1025:VAL:N	2.53	0.42
1:A:1028:TRP:CD2	1:A:1262:MET:HE1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1270:LEU:HD23	1:A:1270:LEU:HA	1.59	0.42
1:A:1330:LYS:O	1:A:1331:VAL:C	2.58	0.42
1:A:1658:HIS:HD1	1:A:1691:SER:HG	0.56	0.42
2:K:289:TRP:CH2	2:K:322:VAL:HG11	2.54	0.42
2:K:306:HIS:CD2	2:K:310:VAL:HG22	2.55	0.42
3:L:329:LEU:O	3:L:332:LYS:N	2.53	0.42
7:M:52:ILE:HG23	7:M:52:ILE:HD12	1.77	0.42
7:M:55:ALA:HB1	7:M:84:ARG:HB3	2.00	0.42
7:M:95:ARG:CG	7:M:96:PRO:HD2	2.50	0.42
8:C:331:TYR:OH	8:C:428:ILE:O	2.38	0.42
8:C:488:ILE:O	8:C:559:GLY:N	2.50	0.42
8:C:885:GLY:HA3	8:C:906:VAL:HG23	2.02	0.42
17:B:10:U:H1'	17:B:156:G:N2	2.35	0.42
26:I:4:C:H2'	26:I:5:U:C6	2.54	0.42
26:I:135:A:C4	26:I:136:U:C5	3.08	0.42
20:P:31:ILE:O	20:P:48:CYS:HA	2.20	0.42
31:3:676:PRO:HA	31:3:694:ALA:O	2.20	0.42
1:A:152:LYS:HG2	1:A:584:HIS:HD2	1.84	0.41
1:A:234:PHE:CE2	1:A:651:ASP:OD2	2.68	0.41
1:A:572:CYS:O	1:A:576:HIS:CB	2.66	0.41
1:A:768:GLU:CD	4:N:108:LYS:HZ1	2.23	0.41
1:A:1478:GLU:HA	1:A:1481:GLU:OE1	2.20	0.41
1:A:1498:ASP:HB2	4:N:159:LEU:HB2	2.01	0.41
1:A:1567:PHE:CZ	1:A:1820:ARG:NH1	2.88	0.41
1:A:1600:GLN:O	1:A:1601:ILE:C	2.58	0.41
1:A:1890:PHE:HB3	1:A:1986:MET:CE	2.49	0.41
2:K:61:PRO:HG2	2:K:75:ARG:NH1	2.34	0.41
3:L:137:TYR:CZ	3:L:141:ILE:HD11	2.55	0.41
3:L:192:LYS:HE2	3:L:192:LYS:HB3	1.67	0.41
4:N:740:TYR:CD1	4:N:763:ALA:HB2	2.55	0.41
4:N:804:ASP:OD1	4:N:805:HIS:ND1	2.52	0.41
5:J:409:HIS:H	16:F:83:A:N6	2.18	0.41
5:J:453:ARG:O	5:J:456:GLY:N	2.53	0.41
5:J:456:GLY:C	5:J:459:ASP:H	2.22	0.41
7:M:42:LYS:NZ	26:I:43:C:H5	2.18	0.41
7:M:44:LEU:HA	7:M:44:LEU:HD23	1.72	0.41
7:M:108:SER:O	7:M:111:LYS:HB2	2.20	0.41
8:C:126:MET:SD	8:C:132:ARG:HG3	2.59	0.41
8:C:159:LYS:HG3	8:C:160:ARG:N	2.35	0.41
8:C:247:PHE:HB2	8:C:903:ARG:NH2	2.34	0.41
8:C:251:GLN:HG2	8:C:933:TRP:CD2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:295:ILE:HG13	8:C:296:ASN:N	2.34	0.41
8:C:590:LYS:HA	8:C:590:LYS:HD2	1.71	0.41
8:C:708:ILE:HA	8:C:822:SER:O	2.20	0.41
17:B:10:U:H2'	17:B:11:A:C8	2.55	0.41
17:B:44:A:H61	17:B:71:A:H61	1.67	0.41
17:B:159:C:O2'	17:B:161:U:OP2	2.20	0.41
18:O:206:LYS:HB2	18:O:208:LYS:NZ	2.35	0.41
21:Q:19:LEU:HA	21:Q:93:ARG:H	1.85	0.41
31:3:1298:SER:C	31:3:1300:LEU:H	2.23	0.41
1:A:209:ILE:HG21	1:A:303:PHE:HE2	1.85	0.41
1:A:367:PHE:HB2	8:C:608:GLN:HE22	1.84	0.41
1:A:776:GLN:HG2	1:A:777:LYS:N	2.35	0.41
1:A:1899:TRP:CZ3	1:A:1905:LEU:HB3	2.56	0.41
1:A:1907:GLN:O	1:A:1911:TRP:HD1	2.03	0.41
1:A:2052:GLU:OE1	5:J:290:PRO:HG2	2.19	0.41
3:L:130:LEU:HA	3:L:130:LEU:HD23	1.84	0.41
3:L:193:THR:O	3:L:194:ARG:C	2.59	0.41
3:L:207:LEU:O	3:L:210:LEU:HB3	2.20	0.41
3:L:221:LYS:O	3:L:225:ILE:HG12	2.20	0.41
3:L:324:ASP:OD1	3:L:326:ASN:HB2	2.20	0.41
4:N:741:ILE:H	4:N:741:ILE:HD12	1.84	0.41
5:J:297:VAL:O	5:J:300:GLN:HB3	2.19	0.41
6:E:130:LEU:HA	6:E:130:LEU:HD23	1.79	0.41
8:C:381:LEU:O	8:C:384:ILE:N	2.53	0.41
8:C:868:VAL:HA	8:C:926:GLY:HA2	2.02	0.41
17:B:23:C:N4	17:B:24:G:O6	2.54	0.41
26:I:152:A:H2'	26:I:153:A:H8	1.85	0.41
26:I:152:A:H2'	26:I:153:A:C8	2.54	0.41
28:G:497:A:C2	38:H:39:A:C2	3.08	0.41
28:G:503:A:C2	38:H:34:G:C4	3.08	0.41
38:H:142:C:HO2'	38:H:143:G:H8	1.65	0.41
1:A:150:ALA:O	1:A:153:MET:SD	2.79	0.41
1:A:153:MET:CE	1:A:153:MET:N	2.73	0.41
1:A:255:ILE:O	1:A:258:ILE:N	2.42	0.41
1:A:298:TYR:O	1:A:493:MET:HG3	2.20	0.41
1:A:384:LYS:HB3	1:A:392:ASN:HB2	2.03	0.41
1:A:488:ARG:HG2	8:C:416:ASP:OD2	2.20	0.41
1:A:514:TYR:HB3	1:A:518:VAL:HG23	2.02	0.41
1:A:553:ASN:O	1:A:554:THR:OG1	2.28	0.41
1:A:615:LEU:HA	1:A:615:LEU:HD12	1.72	0.41
1:A:769:MET:HE2	4:N:111:LEU:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1464:LYS:HD3	1:A:1479:GLU:OE1	2.21	0.41
1:A:1863:HIS:HB2	18:O:159:ASP:HA	2.03	0.41
4:N:132:ASN:O	4:N:133:LYS:C	2.58	0.41
4:N:754:ASP:O	4:N:757:GLU:HB2	2.21	0.41
7:M:95:ARG:NE	26:I:30:G:OP2	2.42	0.41
8:C:381:LEU:HD12	8:C:384:ILE:HD12	2.03	0.41
8:C:444:GLN:O	8:C:448:LEU:HG	2.21	0.41
16:F:56:A:H2	26:I:63:U:O2	2.02	0.41
30:2:252:PHE:O	30:2:256:ALA:HB2	2.20	0.41
31:3:361:LYS:C	31:3:363:VAL:H	2.24	0.41
31:3:1012:LYS:HA	31:3:1013:ASP:HA	1.70	0.41
1:A:192:LEU:HD22	1:A:552:LYS:HB3	2.03	0.41
1:A:809:LYS:O	1:A:813:GLU:HG2	2.20	0.41
1:A:1014:LYS:NZ	1:A:1016:SER:OG	2.44	0.41
1:A:1406:LEU:HB3	1:A:1436:LEU:HD23	2.03	0.41
1:A:1600:GLN:HA	1:A:1603:ASN:HD22	1.85	0.41
1:A:1834:PHE:CZ	1:A:1958:PRO:HG2	2.56	0.41
1:A:1849:LYS:HE2	1:A:1849:LYS:HB2	1.84	0.41
1:A:1870:VAL:O	1:A:1870:VAL:HG23	2.21	0.41
2:K:350:LYS:NZ	5:J:431:TYR:CZ	2.86	0.41
3:L:450:GLN:CG	3:L:451:GLN:N	2.82	0.41
4:N:19:ILE:C	4:N:22:GLY:H	2.23	0.41
6:E:101:ASN:C	6:E:102:LYS:HG2	2.41	0.41
8:C:274:ILE:HG21	8:C:385:PHE:CE2	2.56	0.41
8:C:317:LYS:N	47:C:1500:GTP:O6	2.53	0.41
16:F:10:A:C6	16:F:11:U:C5	3.08	0.41
38:H:1098:C:O5'	38:H:1098:C:C6	2.69	0.41
1:A:680:CYS:HG	1:A:711:TRP:HE1	1.66	0.41
1:A:692:ASN:C	1:A:693:LYS:HZ3	2.23	0.41
1:A:850:GLY:C	1:A:852:LEU:N	2.74	0.41
1:A:951:LEU:HA	1:A:951:LEU:HD23	1.73	0.41
1:A:981:VAL:HG13	1:A:1517:TYR:O	2.21	0.41
1:A:1388:PHE:HB2	1:A:1389:TYR:CD1	2.56	0.41
1:A:1652:HIS:HE2	16:F:48:C:H6	1.61	0.41
1:A:1790:TRP:CG	1:A:1795:LYS:HE3	2.55	0.41
1:A:2035:LYS:HD2	1:A:2038:HIS:HD2	1.85	0.41
2:K:50:GLU:O	2:K:53:ARG:HB3	2.21	0.41
2:K:69:VAL:O	2:K:72:ARG:N	2.53	0.41
2:K:149:ARG:HA	2:K:152:LEU:HD12	2.02	0.41
2:K:172:LEU:HD21	4:N:755:GLN:OE1	2.21	0.41
2:K:175:THR:HA	2:K:459:ARG:HD3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:242:ILE:O	3:L:246:GLY:N	2.42	0.41
3:L:373:ARG:NH1	16:F:60:G:OP1	2.54	0.41
4:N:108:LYS:HB2	4:N:108:LYS:HE3	1.81	0.41
4:N:145:THR:O	4:N:146:TYR:CG	2.74	0.41
4:N:774:TRP:CZ2	4:N:800:ARG:HD2	2.55	0.41
8:C:715:MET:CG	8:C:817:GLN:HB2	2.50	0.41
8:C:829:VAL:HA	8:C:832:ASP:HB2	2.02	0.41
16:F:11:U:O2	16:F:12:U:H5	2.03	0.41
17:B:26:A:N6	17:B:141:G:H8	2.17	0.41
17:B:91:U:C3'	17:B:92:U:H5''	2.50	0.41
29:1:835:ILE:C	29:1:837:PHE:H	2.23	0.41
38:H:42:U:H2'	38:H:43:G:H8	1.85	0.41
1:A:252:GLU:OE1	1:A:252:GLU:N	2.39	0.41
1:A:429:ASN:HB3	1:A:430:PRO:HD2	2.01	0.41
1:A:1028:TRP:O	1:A:1031:GLY:N	2.54	0.41
1:A:1219:ASP:HB3	1:A:1250:VAL:HG11	2.02	0.41
1:A:1311:LYS:O	1:A:1312:PHE:C	2.58	0.41
1:A:1344:THR:HG21	1:A:1537:TRP:CE3	2.56	0.41
1:A:1677:GLN:HB3	1:A:1706:VAL:CG2	2.49	0.41
1:A:1703:MET:CB	1:A:1732:MET:HB2	2.51	0.41
1:A:1735:ASP:HB2	1:A:1774:MET:SD	2.59	0.41
2:K:182:SER:OG	2:K:183:LEU:N	2.53	0.41
3:L:124:PHE:CE1	3:L:183:PHE:HB2	2.56	0.41
3:L:275:LEU:HB2	3:L:277:SER:HB2	2.02	0.41
4:N:671:PHE:HA	4:N:674:LEU:HD12	2.01	0.41
5:J:284:ASP:OD1	5:J:284:ASP:N	2.53	0.41
5:J:447:ASP:OD2	5:J:449:ASP:HB2	2.20	0.41
6:E:61:LEU:HA	6:E:61:LEU:HD23	1.73	0.41
7:M:62:GLU:H	7:M:62:GLU:CD	2.19	0.41
8:C:105:ILE:O	8:C:109:LEU:HG	2.21	0.41
8:C:172:TRP:CZ2	8:C:419:PRO:HD3	2.56	0.41
8:C:193:LEU:HB3	8:C:215:ALA:HA	2.02	0.41
8:C:238:VAL:HA	8:C:266:VAL:O	2.21	0.41
8:C:411:GLU:O	8:C:414:GLN:N	2.52	0.41
8:C:931:TYR:CD1	8:C:933:TRP:CD1	2.95	0.41
17:B:143:U:H2'	17:B:144:G:H8	1.85	0.41
18:O:194:LEU:HD13	18:O:197:ARG:HH11	1.86	0.41
38:H:66:A:O2'	38:H:67:A:OP1	2.27	0.41
38:H:1146:G:HO2'	38:H:1147:A:P	2.37	0.41
1:A:155:ASN:OD1	1:A:585:ARG:NH2	2.54	0.41
1:A:561:THR:O	1:A:562:ILE:HB	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:582:LEU:O	1:A:585:ARG:HB3	2.21	0.41
1:A:831:ARG:HD2	1:A:831:ARG:HA	1.74	0.41
1:A:1165:LEU:HA	1:A:1165:LEU:HD23	1.88	0.41
1:A:1353:THR:H	1:A:1353:THR:HG23	1.54	0.41
1:A:1585:MET:HA	1:A:1588:LYS:NZ	2.34	0.41
1:A:1802:MET:O	1:A:1803:ARG:C	2.58	0.41
1:A:2065:ARG:O	1:A:2068:ASN:ND2	2.53	0.41
1:A:2076:GLN:HE22	5:J:288:THR:CG2	2.34	0.41
2:K:37:LEU:O	2:K:40:VAL:N	2.54	0.41
2:K:70:GLN:OE1	2:K:70:GLN:N	2.43	0.41
2:K:86:ASP:HB3	2:K:90:ILE:HD12	2.01	0.41
3:L:382:SER:HG	3:L:385:ARG:H	1.61	0.41
4:N:277:ILE:H	4:N:277:ILE:HD12	1.86	0.41
4:N:671:PHE:O	4:N:674:LEU:HB2	2.20	0.41
4:N:861:ASN:OD1	4:N:862:MET:HG2	2.21	0.41
5:J:160:TYR:HA	5:J:163:ASN:ND2	2.36	0.41
5:J:342:PHE:HB3	5:J:424:ILE:HD11	2.01	0.41
6:E:9:LEU:HD13	6:E:15:VAL:HG22	2.02	0.41
6:E:109:ASP:OD1	6:E:110:LYS:N	2.54	0.41
7:M:54:MET:HB2	7:M:80:PHE:CD1	2.56	0.41
8:C:411:GLU:H	8:C:411:GLU:CD	2.22	0.41
16:F:64:U:H2'	16:F:65:U:C6	2.55	0.41
17:B:14:G:N3	17:B:14:G:H2'	2.36	0.41
17:B:62:G:H2'	17:B:63:C:C6	2.55	0.41
26:I:40:G:N3	26:I:40:G:H3'	2.36	0.41
26:I:47:A:C5	26:I:48:U:C5	3.09	0.41
38:H:68:U:H3'	38:H:68:U:C6	2.56	0.41
38:H:1149:G:C4	38:H:1150:U:C5	3.08	0.41
1:A:212:VAL:O	1:A:216:GLN:HG3	2.21	0.41
1:A:221:TRP:HH2	1:A:690:LYS:HB2	1.86	0.41
1:A:512:GLU:O	1:A:514:TYR:N	2.54	0.41
1:A:729:LEU:O	1:A:733:GLN:CB	2.69	0.41
1:A:935:GLU:O	1:A:938:ALA:HB3	2.21	0.41
1:A:940:ILE:O	1:A:944:TYR:HB3	2.21	0.41
1:A:947:PRO:HA	1:A:950:THR:HG22	2.03	0.41
1:A:1046:SER:OG	1:A:1174:PHE:HB2	2.21	0.41
1:A:1085:LYS:O	1:A:1085:LYS:HG3	2.21	0.41
1:A:1257:ASN:OD1	1:A:1270:LEU:HD21	2.21	0.41
1:A:1360:LEU:HA	1:A:1360:LEU:HD23	1.78	0.41
1:A:1839:ASN:HD21	1:A:1957:ARG:NH1	2.19	0.41
2:K:44:ILE:HD12	2:K:44:ILE:HA	1.95	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:126:ASN:O	2:K:130:GLU:HG2	2.21	0.41
2:K:187:ASP:OD2	2:K:447:ASN:N	2.54	0.41
2:K:419:ILE:CG2	2:K:433:LEU:HB2	2.50	0.41
4:N:220:LEU:O	4:N:223:LEU:HB3	2.21	0.41
4:N:224:GLN:O	4:N:228:THR:HG23	2.21	0.41
4:N:706:VAL:O	4:N:710:LYS:CB	2.67	0.41
5:J:153:LEU:O	5:J:157:LYS:CB	2.68	0.41
5:J:287:ILE:HA	5:J:287:ILE:HD13	1.83	0.41
5:J:373:ARG:CZ	5:J:446:ASN:HB3	2.51	0.41
5:J:403:ASN:HA	5:J:419:MET:O	2.20	0.41
6:E:82:VAL:HB	6:E:103:LEU:HD23	2.02	0.41
8:C:128:ASN:OD1	8:C:129:ILE:HD12	2.20	0.41
8:C:378:LEU:HD23	8:C:378:LEU:HA	1.92	0.41
8:C:706:LEU:HD23	8:C:824:SER:O	2.20	0.41
8:C:746:LYS:O	8:C:749:LYS:HB3	2.21	0.41
8:C:792:LYS:HD2	8:C:792:LYS:HA	1.88	0.41
16:F:36:U:C6	16:F:36:U:C5'	2.91	0.41
17:B:120:G:H2'	17:B:121:U:O4'	2.20	0.41
17:B:123:U:H2'	17:B:124:C:C6	2.56	0.41
18:O:168:SER:O	18:O:172:ASP:CB	2.69	0.41
26:I:11:A:C6	26:I:12:C:N4	2.89	0.41
26:I:24:A:C4	26:I:26:A:N7	2.89	0.41
38:H:65:A:O5'	38:H:65:A:C8	2.71	0.41
1:A:176:LEU:O	1:A:179:MET:HG3	2.21	0.41
1:A:260:PRO:O	1:A:261:LEU:HB3	2.21	0.41
1:A:309:SER:O	1:A:313:ARG:HG3	2.20	0.41
1:A:462:LEU:HD23	8:C:403:ASN:HD22	1.86	0.41
1:A:681:LYS:HE3	1:A:685:HIS:NE2	2.36	0.41
1:A:796:ASN:OD1	1:A:858:LYS:HE2	2.21	0.41
1:A:861:GLN:HG2	1:A:1097:HIS:CB	2.49	0.41
1:A:890:LEU:O	1:A:893:ARG:N	2.54	0.41
1:A:923:TYR:CD2	1:A:937:LEU:HD12	2.55	0.41
1:A:1041:VAL:O	1:A:1042:SER:C	2.58	0.41
1:A:1063:PHE:O	1:A:1066:LEU:HB2	2.21	0.41
1:A:1087:ASN:O	1:A:1099:ASN:HB3	2.21	0.41
1:A:1203:ASN:OD1	1:A:1203:ASN:N	2.49	0.41
1:A:1271:PRO:HA	1:A:1298:ALA:CB	2.51	0.41
1:A:1346:PHE:O	1:A:1347:ARG:C	2.59	0.41
1:A:1366:ARG:O	1:A:1369:ASN:HB2	2.21	0.41
1:A:1451:PHE:O	1:A:1454:SER:N	2.53	0.41
1:A:1488:ILE:HD13	1:A:1488:ILE:HA	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1690:LYS:HA	1:A:1693:LYS:CD	2.50	0.41
1:A:1701:ILE:HB	1:A:1734:PHE:HD2	1.86	0.41
1:A:1732:MET:SD	1:A:1771:THR:HB	2.61	0.41
1:A:1801:SER:O	1:A:1805:ILE:HG13	2.20	0.41
1:A:2060:LEU:HA	1:A:2060:LEU:HD23	1.88	0.41
2:K:40:VAL:HG21	2:K:81:MET:SD	2.60	0.41
2:K:52:ARG:O	2:K:55:LEU:HB2	2.21	0.41
2:K:85:ILE:HG12	2:K:86:ASP:O	2.21	0.41
2:K:290:ARG:HB2	2:K:292:TRP:HE1	1.86	0.41
2:K:386:LEU:HD12	2:K:386:LEU:C	2.41	0.41
3:L:186:LYS:HB3	3:L:187:GLU:OE1	2.20	0.41
4:N:6:PHE:HB3	6:E:17:GLN:NE2	2.36	0.41
4:N:803:ASN:O	4:N:834:LYS:NZ	2.53	0.41
4:N:856:THR:HG22	4:N:860:TYR:CE2	2.55	0.41
5:J:346:ASN:O	5:J:422:ASN:ND2	2.54	0.41
5:J:428:TRP:CZ3	5:J:430:GLY:HA3	2.56	0.41
5:J:455:LEU:HB3	5:J:460:SER:C	2.41	0.41
6:E:7:PRO:HG2	6:E:60:TYR:HD1	1.86	0.41
6:E:20:VAL:HA	6:E:88:ASN:OD1	2.21	0.41
7:M:13:ASP:O	7:M:17:THR:OG1	2.30	0.41
7:M:16:LEU:HD12	7:M:16:LEU:HA	1.85	0.41
8:C:570:ALA:HB3	8:C:571:TYR:CD2	2.56	0.41
8:C:576:THR:HG22	8:C:592:PHE:CD2	2.50	0.41
8:C:612:PRO:O	8:C:615:LEU:HB2	2.21	0.41
8:C:758:ASP:HB3	8:C:761:ALA:HB3	2.02	0.41
8:C:769:TYR:CG	8:C:772:ASN:O	2.74	0.41
8:C:931:TYR:HD1	8:C:933:TRP:CD1	2.32	0.41
16:F:14:U:C6	16:F:15:A:C8	3.09	0.41
16:F:60:G:O2'	16:F:61:C:O5'	2.32	0.41
16:F:67:C:N3	26:I:15:G:N1	2.69	0.41
16:F:96:G:H2'	16:F:97:A:C8	2.55	0.41
17:B:10:U:H1'	17:B:156:G:H22	1.85	0.41
17:B:87:G:H2'	17:B:88:U:C6	2.55	0.41
26:I:28:C:C4	26:I:29:A:N7	2.89	0.41
26:I:92:C:H2'	26:I:93:C:C6	2.56	0.41
26:I:96:A:C6	26:I:137:G:C6	3.09	0.41
28:G:476:U:H6	28:G:476:U:H5''	1.86	0.41
28:G:488:A:O5'	28:G:488:A:C8	2.70	0.41
28:G:522:U:H3'	28:G:522:U:H6	1.86	0.41
30:2:367:LEU:C	30:2:369:SER:H	2.24	0.41
32:4:16:ILE:O	32:4:51:GLY:HA2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:H:9:C:H2'	38:H:10:U:H6	1.86	0.41
38:H:1125:U:O2'	38:H:1126:G:H8	2.00	0.41
38:H:1139:G:O2'	38:H:1140:U:O5'	2.33	0.41
1:A:131:LYS:NZ	1:A:552:LYS:O	2.53	0.41
1:A:342:LEU:HB3	1:A:392:ASN:ND2	2.35	0.41
1:A:1104:ILE:HG21	1:A:1104:ILE:HD13	1.82	0.41
1:A:1134:LEU:HA	1:A:1134:LEU:HD23	1.89	0.41
1:A:1324:GLY:O	1:A:1370:ARG:NH2	2.54	0.41
1:A:1348:GLU:HG2	1:A:1446:THR:CB	2.51	0.41
1:A:1714:PRO:HB2	1:A:1787:TYR:CZ	2.56	0.41
1:A:1739:ARG:HD2	1:A:1751:TYR:CD2	2.56	0.41
1:A:1914:ALA:HB2	1:A:1943:PRO:HB2	2.04	0.41
1:A:1977:VAL:HG11	1:A:1987:VAL:HG21	2.03	0.41
1:A:2027:LEU:HD23	1:A:2027:LEU:HA	1.87	0.41
2:K:114:THR:O	2:K:117:LEU:HG	2.21	0.41
2:K:165:LEU:HD23	2:K:165:LEU:HA	1.80	0.41
2:K:281:GLY:HA2	2:K:290:ARG:O	2.20	0.41
2:K:405:ASP:OD1	2:K:408:LYS:HE2	2.20	0.41
2:K:419:ILE:HG21	2:K:419:ILE:HD13	1.81	0.41
3:L:102:ILE:HB	3:L:103:PRO:HD3	2.02	0.41
3:L:263:GLY:HA3	3:L:284:TYR:N	2.36	0.41
7:M:51:PHE:CE2	7:M:102:ILE:HG13	2.56	0.41
8:C:150:MET:O	8:C:154:VAL:HG23	2.21	0.41
8:C:252:LEU:O	8:C:255:GLN:N	2.54	0.41
8:C:331:TYR:OH	8:C:428:ILE:HG12	2.21	0.41
8:C:364:PHE:HB2	8:C:369:LYS:HB3	2.02	0.41
8:C:786:GLU:O	8:C:790:LYS:HG3	2.20	0.41
8:C:831:ILE:HD12	8:C:831:ILE:HG23	1.87	0.41
17:B:16:U:H2'	17:B:17:C:O4'	2.21	0.41
26:I:47:A:C6	26:I:48:U:C4	3.09	0.41
26:I:58:G:C4	26:I:59:C:C6	3.10	0.41
26:I:133:C:H2'	26:I:134:U:C6	2.56	0.41
21:Q:26:TRP:O	21:Q:43:VAL:HA	2.21	0.41
21:Q:139:ASN:O	21:Q:140:LYS:CB	2.69	0.41
28:G:514:U:O4'	28:G:515:U:C5	2.74	0.41
28:G:521:U:O5'	28:G:521:U:H6	2.03	0.41
31:3:405:VAL:O	31:3:456:THR:HA	2.21	0.41
38:H:68:U:O2'	38:H:69:G:H5'	2.21	0.41
38:H:1166:G:H2'	38:H:1167:U:C6	2.56	0.41
1:A:221:TRP:HE1	1:A:225:ARG:HD2	1.86	0.40
1:A:322:VAL:HG11	1:A:327:TYR:CG	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:560:THR:OG1	1:A:561:THR:N	2.54	0.40
1:A:670:LYS:O	1:A:673:VAL:HG12	2.21	0.40
1:A:874:ILE:HG22	1:A:875:THR:O	2.21	0.40
1:A:1288:LEU:HD23	1:A:1288:LEU:HA	1.75	0.40
1:A:1748:ILE:HD11	1:A:1778:ASP:N	2.36	0.40
1:A:1834:PHE:CD1	1:A:1834:PHE:N	2.87	0.40
2:K:148:THR:OG1	2:K:149:ARG:N	2.54	0.40
2:K:211:THR:HG21	2:K:248:TYR:OH	2.21	0.40
2:K:400:ARG:HD3	2:K:400:ARG:HA	1.87	0.40
3:L:265:ASN:OD1	3:L:265:ASN:N	2.54	0.40
3:L:343:LYS:HG2	3:L:346:GLU:OE1	2.21	0.40
4:N:841:THR:OG1	4:N:842:TRP:N	2.55	0.40
4:N:860:TYR:HB3	4:N:889:ARG:NH2	2.37	0.40
5:J:233:LYS:O	5:J:233:LYS:HG3	2.21	0.40
5:J:350:PRO:C	16:F:83:A:H8	2.25	0.40
8:C:348:LEU:HD11	8:C:373:PHE:HA	2.04	0.40
8:C:604:LYS:O	8:C:674:LEU:HB2	2.21	0.40
8:C:782:GLU:O	8:C:785:PRO:HD3	2.22	0.40
8:C:885:GLY:HA3	8:C:907:PRO:HD3	2.03	0.40
17:B:48:G:H2'	17:B:49:U:C6	2.56	0.40
38:H:142:C:C2'	38:H:143:G:C8	3.00	0.40
38:H:1118:U:H2'	38:H:1119:C:H6	1.86	0.40
38:H:1139:G:O2'	38:H:1140:U:H6	2.04	0.40
1:A:277:LYS:NZ	1:A:278:ASP:OD1	2.36	0.40
1:A:929:LEU:HD23	1:A:929:LEU:HA	1.77	0.40
1:A:1111:SER:O	1:A:1112:PHE:C	2.59	0.40
1:A:1204:ARG:NH2	1:A:1260:PHE:HA	2.36	0.40
1:A:1381:THR:O	1:A:1382:ARG:HB3	2.21	0.40
1:A:1910:LYS:HE2	1:A:1910:LYS:HB3	1.82	0.40
1:A:1924:LEU:HB2	1:A:1929:GLN:HG2	2.03	0.40
2:K:60:LYS:HA	2:K:60:LYS:HD2	1.88	0.40
2:K:135:ARG:NH1	2:K:360:ASN:O	2.53	0.40
3:L:39:GLU:HA	3:L:42:ASN:CB	2.51	0.40
4:N:744:ILE:O	4:N:747:GLU:N	2.54	0.40
4:N:808:LEU:HD11	4:N:834:LYS:NZ	2.36	0.40
5:J:344:PHE:O	5:J:377:PRO:CA	2.63	0.40
8:C:197:THR:N	8:C:545:LEU:HD12	2.37	0.40
8:C:251:GLN:O	8:C:255:GLN:HG2	2.21	0.40
8:C:344:PHE:HA	8:C:347:ARG:HB2	2.03	0.40
8:C:715:MET:HE1	8:C:773:VAL:HG12	2.02	0.40
8:C:962:LEU:O	8:C:965:ASP:HB3	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:I:19:U:HO2'	26:I:20:A:P	2.42	0.40
31:3:1101:PRO:O	31:3:1102:ALA:HB3	2.20	0.40
38:H:1166:G:C8	38:H:1166:G:O5'	2.75	0.40
1:A:183:TRP:HE3	1:A:220:THR:HG21	1.85	0.40
1:A:209:ILE:HG21	1:A:303:PHE:CE2	2.56	0.40
1:A:1690:LYS:HA	1:A:1693:LYS:HD3	2.02	0.40
1:A:1791:PHE:H	1:A:1794:LEU:HD12	1.86	0.40
1:A:1863:HIS:O	1:A:1870:VAL:HA	2.21	0.40
1:A:1899:TRP:HE3	1:A:1905:LEU:HD22	1.85	0.40
1:A:2005:PHE:O	1:A:2009:THR:HG23	2.21	0.40
2:K:200:GLN:NE2	2:K:202:LEU:HD11	2.36	0.40
3:L:189:LEU:H	3:L:194:ARG:NH2	2.18	0.40
3:L:296:VAL:HA	3:L:299:HIS:NE2	2.36	0.40
4:N:706:VAL:HA	4:N:746:MET:HE3	2.03	0.40
4:N:849:TYR:CE1	4:N:855:ASP:HB2	2.56	0.40
7:M:102:ILE:HG22	7:M:103:THR:N	2.37	0.40
8:C:582:SER:HB2	8:C:585:ASP:HB2	2.03	0.40
16:F:63:G:N1	26:I:57:U:O4	2.54	0.40
17:B:79:C:H3'	17:B:79:C:O2	2.22	0.40
26:I:12:C:C2	26:I:13:G:N7	2.90	0.40
26:I:26:A:H5'	26:I:26:A:C8	2.54	0.40
26:I:33:A:C8	26:I:34:G:C8	3.09	0.40
1:A:174:LYS:HD2	1:A:177:GLU:OE2	2.21	0.40
1:A:1034:ASN:ND2	1:A:1291:GLU:HB2	2.37	0.40
1:A:1268:ARG:HH21	1:A:1270:LEU:HD11	1.87	0.40
1:A:1382:ARG:O	1:A:1619:VAL:HG13	2.21	0.40
1:A:1559:HIS:HB3	1:A:1613:THR:HG21	2.02	0.40
2:K:80:LEU:HD22	2:K:85:ILE:HG21	2.04	0.40
2:K:156:ARG:HA	2:K:159:LEU:HD12	2.04	0.40
2:K:390:LEU:HD22	5:J:428:TRP:NE1	2.36	0.40
2:K:393:ARG:O	2:K:395:ILE:O	2.40	0.40
3:L:142:SER:OG	3:L:143:ILE:N	2.54	0.40
4:N:6:PHE:CZ	6:E:18:ALA:HA	2.57	0.40
4:N:826:LYS:HE2	4:N:826:LYS:HB2	1.91	0.40
4:N:857:VAL:HG23	4:N:858:ASP:N	2.36	0.40
5:J:145:HIS:C	5:J:147:ASP:N	2.75	0.40
6:E:86:TYR:CE2	6:E:87:HIS:HD2	2.39	0.40
8:C:123:MET:SD	8:C:199:LEU:HB2	2.61	0.40
8:C:710:VAL:HG21	8:C:842:MET:SD	2.62	0.40
16:F:63:G:H1	26:I:18:A:H61	1.68	0.40
17:B:29:G:H2'	17:B:30:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:I:48:U:H2'	26:I:49:U:C6	2.56	0.40
26:I:94:U:C4	26:I:95:C:C4	3.09	0.40
29:1:678:LEU:O	29:1:681:PRO:CB	2.69	0.40
38:H:48:U:C6	38:H:49:U:O4'	2.74	0.40
38:H:1139:G:C2'	38:H:1140:U:H6	2.34	0.40
1:A:645:ASP:OD1	1:A:646:ALA:N	2.54	0.40
1:A:681:LYS:NZ	16:F:1:G:N7	2.70	0.40
1:A:840:VAL:HG22	1:A:840:VAL:O	2.21	0.40
1:A:909:THR:HG23	1:A:910:LYS:N	2.36	0.40
1:A:1014:LYS:HB2	1:A:1014:LYS:HE2	1.86	0.40
1:A:1350:ILE:O	1:A:1352:ALA:N	2.54	0.40
1:A:1421:GLY:HA2	1:A:1718:HIS:CE1	2.57	0.40
2:K:162:MET:SD	2:K:409:LYS:HD2	2.62	0.40
2:K:184:SER:OG	2:K:186:ASP:OD1	2.37	0.40
2:K:274:HIS:CG	2:K:275:PRO:HD2	2.55	0.40
3:L:135:LEU:HD12	3:L:208:TRP:CG	2.57	0.40
3:L:334:LYS:HE3	3:L:334:LYS:HB3	1.89	0.40
4:N:285:HIS:O	4:N:285:HIS:ND1	2.54	0.40
5:J:373:ARG:NH2	5:J:446:ASN:HB3	2.37	0.40
6:E:49:ILE:HG22	6:E:49:ILE:O	2.22	0.40
7:M:51:PHE:O	7:M:52:ILE:HD13	2.21	0.40
8:C:142:LEU:HD21	8:C:218:HIS:HB2	2.03	0.40
8:C:557:HIS:H	8:C:560:GLN:HE21	1.69	0.40
8:C:679:GLU:OE1	8:C:807:PRO:HD2	2.21	0.40
16:F:36:U:C6	16:F:36:U:C4'	3.04	0.40
16:F:67:C:C2	26:I:15:G:C2	3.09	0.40
17:B:91:U:H2'	17:B:92:U:C5'	2.48	0.40
26:I:11:A:C6	26:I:12:C:C4	3.09	0.40
26:I:24:A:O2'	26:I:26:A:H5'	2.22	0.40
26:I:64:U:C3'	26:I:64:U:C6	3.05	0.40
31:3:336:LEU:HA	31:3:346:LEU:O	2.22	0.40
31:3:1305:GLN:O	31:3:1309:SER:CB	2.70	0.40
44:W:127:PRO:C	44:W:129:GLU:H	2.24	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	2164/2413 (90%)	1843 (85%)	298 (14%)	23 (1%)	14	51
2	K	425/465 (91%)	354 (83%)	68 (16%)	3 (1%)	22	60
3	L	410/494 (83%)	349 (85%)	55 (13%)	6 (2%)	10	45
4	N	675/899 (75%)	558 (83%)	109 (16%)	8 (1%)	13	49
5	J	300/469 (64%)	260 (87%)	36 (12%)	4 (1%)	12	48
6	E	136/143 (95%)	116 (85%)	19 (14%)	1 (1%)	22	60
7	M	124/126 (98%)	108 (87%)	15 (12%)	1 (1%)	19	57
8	C	837/1008 (83%)	727 (87%)	102 (12%)	8 (1%)	15	52
9	z	63/109 (58%)	61 (97%)	2 (3%)	0	100	100
10	q	90/95 (95%)	83 (92%)	7 (8%)	0	100	100
11	r	75/89 (84%)	71 (95%)	4 (5%)	0	100	100
12	x	72/86 (84%)	70 (97%)	2 (3%)	0	100	100
13	t	73/93 (78%)	68 (93%)	4 (6%)	1 (1%)	11	46
14	y	62/115 (54%)	62 (100%)	0	0	100	100
15	s	73/187 (39%)	72 (99%)	1 (1%)	0	100	100
18	O	69/587 (12%)	65 (94%)	2 (3%)	2 (3%)	4	33
19	S	80/101 (79%)	77 (96%)	3 (4%)	0	100	100
19	d	77/101 (76%)	71 (92%)	4 (5%)	2 (3%)	5	35
19	l	72/101 (71%)	63 (88%)	8 (11%)	1 (1%)	11	46
20	P	66/196 (34%)	62 (94%)	4 (6%)	0	100	100
20	a	69/196 (35%)	63 (91%)	6 (9%)	0	100	100
20	h	72/196 (37%)	65 (90%)	7 (10%)	0	100	100
21	Q	93/146 (64%)	89 (96%)	3 (3%)	1 (1%)	14	51
21	b	71/146 (49%)	66 (93%)	4 (6%)	1 (1%)	11	46
21	m	78/146 (53%)	74 (95%)	4 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	R	90/110 (82%)	89 (99%)	1 (1%)	0	100	100
22	c	86/110 (78%)	81 (94%)	5 (6%)	0	100	100
22	n	63/110 (57%)	58 (92%)	4 (6%)	1 (2%)	9	44
23	T	73/94 (78%)	72 (99%)	1 (1%)	0	100	100
23	e	66/94 (70%)	61 (92%)	5 (8%)	0	100	100
23	i	71/94 (76%)	65 (92%)	6 (8%)	0	100	100
24	U	71/86 (83%)	68 (96%)	3 (4%)	0	100	100
24	f	66/86 (77%)	60 (91%)	4 (6%)	2 (3%)	4	33
24	j	66/86 (77%)	61 (92%)	4 (6%)	1 (2%)	10	45
25	V	73/77 (95%)	66 (90%)	5 (7%)	2 (3%)	5	35
25	g	64/77 (83%)	56 (88%)	8 (12%)	0	100	100
25	k	65/77 (84%)	64 (98%)	1 (2%)	0	100	100
27	D	1694/2163 (78%)	1631 (96%)	60 (4%)	3 (0%)	47	79
29	1	814/971 (84%)	770 (95%)	32 (4%)	12 (2%)	10	45
30	2	205/436 (47%)	192 (94%)	10 (5%)	3 (2%)	10	45
31	3	1164/1361 (86%)	1039 (89%)	107 (9%)	18 (2%)	10	45
32	4	166/213 (78%)	166 (100%)	0	0	100	100
33	5	101/107 (94%)	87 (86%)	14 (14%)	0	100	100
34	6	82/85 (96%)	77 (94%)	4 (5%)	1 (1%)	13	49
35	X	126/148 (85%)	117 (93%)	7 (6%)	2 (2%)	9	44
36	Y	85/266 (32%)	80 (94%)	3 (4%)	2 (2%)	6	37
37	Z	20/204 (10%)	14 (70%)	6 (30%)	0	100	100
39	o	125/238 (52%)	111 (89%)	12 (10%)	2 (2%)	9	44
40	p	69/111 (62%)	67 (97%)	2 (3%)	0	100	100
41	u	454/530 (86%)	417 (92%)	35 (8%)	2 (0%)	34	71
42	w	123/280 (44%)	112 (91%)	11 (9%)	0	100	100
43	v	168/266 (63%)	142 (84%)	23 (14%)	3 (2%)	8	42
44	W	94/194 (48%)	87 (93%)	7 (7%)	0	100	100
45	0	157/242 (65%)	135 (86%)	22 (14%)	0	100	100
46	9	60/291 (21%)	59 (98%)	1 (2%)	0	100	100
All	All	12887/17914 (72%)	11601 (90%)	1170 (9%)	116 (1%)	21	54

All (116) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	240	PRO
2	K	171	GLN
2	K	395	ILE
3	L	328	VAL
4	N	735	ASP
8	C	364	PHE
8	C	602	VAL
21	b	12	ASN
29	1	386	TYR
29	1	549	GLY
29	1	830	MET
29	1	831	SER
29	1	836	TYR
30	2	368	ILE
31	3	363	VAL
31	3	413	ILE
31	3	961	CYS
31	3	1233	SER
31	3	1299	ILE
35	X	17	LEU
39	o	68	PRO
43	v	55	ASN
43	v	56	PRO
1	A	1044	GLY
1	A	1088	VAL
2	K	286	ASP
3	L	151	LYS
5	J	167	GLU
5	J	220	PRO
5	J	331	VAL
8	C	133	ILE
8	C	134	ILE
19	d	40	MET
24	f	24	ASN
24	f	49	PHE
21	Q	140	LYS
29	1	835	ILE
31	3	773	LYS
36	Y	172	ILE
36	Y	230	SER
41	u	463	GLY
1	A	690	LYS

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Mol	Chain	Res	Type
1	A	1816	ARG
1	A	1869	ASN
3	L	152	ASN
4	N	768	PRO
27	D	791	PRO
27	D	1896	LYS
25	V	60	GLN
30	2	260	PRO
31	3	98	GLU
31	3	180	THR
31	3	247	PHE
31	3	667	THR
34	6	19	ILE
1	A	1313	ASP
1	A	1621	VAL
1	A	1628	ASP
1	A	2321	ILE
3	L	222	ILE
4	N	734	PRO
8	C	772	ASN
18	O	212	VAL
27	D	960	ILE
29	1	874	GLU
30	2	194	PHE
31	3	92	GLN
31	3	364	THR
31	3	434	ASN
31	3	1184	LYS
19	l	82	PRO
22	n	82	LYS
1	A	239	PHE
1	A	775	ARG
1	A	1015	PRO
1	A	1184	ASP
1	A	2330	GLU
3	L	175	LEU
4	N	782	LYS
5	J	154	SER
6	E	66	GLU
25	V	49	GLU
29	1	349	LEU
29	1	873	HIS

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Mol	Chain	Res	Type
29	1	892	SER
35	X	18	SER
43	v	232	GLY
1	A	992	ASP
1	A	1238	LEU
1	A	1870	VAL
4	N	568	TYR
4	N	737	VAL
8	C	601	ALA
31	3	722	SER
41	u	458	SER
1	A	562	ILE
1	A	875	THR
8	C	829	VAL
19	d	51	GLU
29	1	681	PRO
24	j	15	PRO
39	o	52	LYS
1	A	407	VAL
4	N	760	VAL
7	M	59	GLU
13	t	41	VAL
29	1	348	VAL
31	3	299	PRO
31	3	523	ILE
1	A	1752	VAL
1	A	710	VAL
3	L	358	ILE
8	C	363	PRO
18	O	169	ILE
31	3	1031	ILE
4	N	744	ILE

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	1743/2182 (80%)	1729 (99%)	14 (1%)	81	89
2	K	373/410 (91%)	373 (100%)	0	100	100
3	L	327/445 (74%)	327 (100%)	0	100	100
4	N	361/813 (44%)	361 (100%)	0	100	100
5	J	252/436 (58%)	252 (100%)	0	100	100
6	E	128/132 (97%)	128 (100%)	0	100	100
7	M	104/104 (100%)	104 (100%)	0	100	100
8	C	757/910 (83%)	753 (100%)	4 (0%)	88	93
18	O	57/534 (11%)	57 (100%)	0	100	100
All	All	4102/5966 (69%)	4084 (100%)	18 (0%)	91	94

All (18) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	152	LYS
1	A	153	MET
1	A	362	GLU
1	A	364	TYR
1	A	675	HIS
1	A	693	LYS
1	A	694	ASN
1	A	697	LYS
1	A	701	CYS
1	A	900	PHE
1	A	965	LYS
1	A	1177	ASP
1	A	1863	HIS
1	A	1910	LYS
8	C	190	SER
8	C	468	LEU
8	C	769	TYR
8	C	945	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (75) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	146	HIS
1	A	294	ASN
1	A	326	ASN

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Mol	Chain	Res	Type
1	A	344	ASN
1	A	368	ASN
1	A	392	ASN
1	A	429	ASN
1	A	584	HIS
1	A	592	HIS
1	A	617	ASN
1	A	648	GLN
1	A	658	ASN
1	A	659	HIS
1	A	694	ASN
1	A	974	ASN
1	A	976	GLN
1	A	1011	ASN
1	A	1045	GLN
1	A	1202	ASN
1	A	1368	GLN
1	A	1424	HIS
1	A	1449	ASN
1	A	1594	GLN
1	A	1603	ASN
1	A	1635	HIS
1	A	1652	HIS
1	A	1839	ASN
1	A	1888	HIS
1	A	2018	ASN
1	A	2068	ASN
1	A	2076	GLN
2	K	31	GLN
2	K	144	GLN
2	K	212	GLN
2	K	232	ASN
2	K	247	GLN
2	K	274	HIS
2	K	316	GLN
2	K	360	ASN
2	K	392	HIS
2	K	420	ASN
2	K	450	HIS
2	K	465	ASN
3	L	113	HIS
3	L	152	ASN

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Mol	Chain	Res	Type
3	L	185	ASN
3	L	228	ASN
3	L	331	HIS
3	L	449	ASN
4	N	132	ASN
4	N	140	GLN
4	N	770	ASN
4	N	783	HIS
4	N	803	ASN
5	J	145	HIS
5	J	163	ASN
5	J	247	ASN
5	J	433	GLN
5	J	448	GLN
6	E	14	HIS
6	E	87	HIS
6	E	111	GLN
7	M	45	ASN
7	M	113	GLN
8	C	183	GLN
8	C	218	HIS
8	C	251	GLN
8	C	260	ASN
8	C	432	GLN
8	C	623	ASN
8	C	721	GLN
8	C	817	GLN
8	C	837	GLN
8	C	929	GLN
18	O	198	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
16	F	95/112 (84%)	44 (46%)	3 (3%)
17	B	173/214 (80%)	66 (38%)	14 (8%)
26	I	106/161 (65%)	44 (41%)	6 (5%)
28	G	59/60 (98%)	39 (66%)	7 (11%)
38	H	142/1175 (12%)	54 (38%)	23 (16%)
All	All	575/1722 (33%)	247 (42%)	53 (9%)

All (247) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
16	F	2	U
16	F	12	U
16	F	13	U
16	F	14	U
16	F	17	U
16	F	19	C
16	F	25	C
16	F	26	A
16	F	28	U
16	F	29	U
16	F	30	G
16	F	31	G
16	F	32	U
16	F	33	C
16	F	35	A
16	F	37	U
16	F	38	U
16	F	39	G
16	F	41	A
16	F	42	A
16	F	44	A
16	F	45	A
16	F	46	U
16	F	47	A
16	F	48	C
16	F	49	A
16	F	50	G
16	F	51	A
16	F	58	C
16	F	60	G
16	F	62	A
16	F	65	U
16	F	68	C
16	F	76	A
16	F	77	G
16	F	78	G
16	F	81	G
16	F	82	A
16	F	83	A
16	F	84	C
16	F	86	G
16	F	87	U
16	F	109	U

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Mol	Chain	Res	Type
16	F	111	U
17	B	12	C
17	B	13	A
17	B	18	A
17	B	20	U
17	B	24	G
17	B	27	G
17	B	28	G
17	B	29	G
17	B	33	U
17	B	34	C
17	B	40	C
17	B	41	A
17	B	42	A
17	B	74	U
17	B	75	A
17	B	76	U
17	B	77	A
17	B	78	A
17	B	79	C
17	B	80	G
17	B	81	A
17	B	82	A
17	B	84	A
17	B	92	U
17	B	93	G
17	B	94	C
17	B	95	C
17	B	96	U
17	B	97	U
17	B	98	U
17	B	99	U
17	B	100	A
17	B	101	C
17	B	102	C
17	B	103	A
17	B	104	G
17	B	107	C
17	B	109	A
17	B	113	G
17	B	121	U
17	B	126	A

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Mol	Chain	Res	Type
17	B	127	U
17	B	128	A
17	B	129	G
17	B	131	A
17	B	132	A
17	B	139	A
17	B	140	A
17	B	141	G
17	B	142	C
17	B	151	A
17	B	160	U
17	B	162	G
17	B	163	C
17	B	164	C
17	B	165	A
17	B	166	U
17	B	167	A
17	B	168	U
17	B	169	U
17	B	170	U
17	B	171	U
17	B	172	U
17	B	173	U
17	B	174	G
17	B	175	G
26	I	6	U
26	I	11	A
26	I	18	A
26	I	19	U
26	I	20	A
26	I	22	G
26	I	24	A
26	I	25	U
26	I	26	A
26	I	27	U
26	I	28	C
26	I	29	A
26	I	30	G
26	I	31	U
26	I	32	G
26	I	33	A
26	I	35	G

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Mol	Chain	Res	Type
26	I	39	C
26	I	40	G
26	I	45	A
26	I	49	U
26	I	55	U
26	I	56	U
26	I	57	U
26	I	61	G
26	I	62	G
26	I	63	U
26	I	64	U
26	I	74	U
26	I	75	U
26	I	76	A
26	I	77	U
26	I	78	A
26	I	79	A
26	I	92	C
26	I	98	G
26	I	134	U
26	I	135	A
26	I	138	U
26	I	139	A
26	I	143	A
26	I	144	A
26	I	145	U
26	I	151	G
28	G	464	A
28	G	465	A
28	G	466	A
28	G	467	A
28	G	468	A
28	G	469	A
28	G	470	A
28	G	471	U
28	G	472	U
28	G	473	U
28	G	474	U
28	G	475	U
28	G	476	U
28	G	477	U
28	G	478	U

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Mol	Chain	Res	Type
28	G	479	A
28	G	481	A
28	G	484	A
28	G	485	A
28	G	486	A
28	G	487	A
28	G	488	A
28	G	493	A
28	G	497	A
28	G	501	A
28	G	502	C
28	G	505	A
28	G	506	U
28	G	507	U
28	G	508	U
28	G	509	A
28	G	510	A
28	G	512	U
28	G	515	U
28	G	516	U
28	G	518	U
28	G	520	G
28	G	521	U
28	G	522	U
38	H	32	G
38	H	38	U
38	H	41	C
38	H	46	C
38	H	47	U
38	H	48	U
38	H	52	A
38	H	65	A
38	H	66	A
38	H	67	A
38	H	68	U
38	H	83	U
38	H	111	C
38	H	115	U
38	H	116	U
38	H	117	U
38	H	118	U
38	H	119	G

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Mol	Chain	Res	Type
38	H	120	G
38	H	140	G
38	H	141	A
38	H	142	C
38	H	145	G
38	H	1090	A
38	H	1094	G
38	H	1095	U
38	H	1096	C
38	H	1097	G
38	H	1098	C
38	H	1100	A
38	H	1101	C
38	H	1102	C
38	H	1103	C
38	H	1104	U
38	H	1105	C
38	H	1106	G
38	H	1119	C
38	H	1120	G
38	H	1121	U
38	H	1122	U
38	H	1123	C
38	H	1124	U
38	H	1125	U
38	H	1126	G
38	H	1130	U
38	H	1139	G
38	H	1141	C
38	H	1142	G
38	H	1143	C
38	H	1144	U
38	H	1145	U
38	H	1146	G
38	H	1150	U
38	H	1166	G

All (53) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
16	F	31	G
16	F	82	A

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Mol	Chain	Res	Type
16	F	86	G
17	B	17	C
17	B	32	G
17	B	33	U
17	B	41	A
17	B	81	A
17	B	83	C
17	B	95	C
17	B	96	U
17	B	128	A
17	B	130	A
17	B	150	U
17	B	166	U
17	B	168	U
17	B	172	U
26	I	18	A
26	I	19	U
26	I	24	A
26	I	91	U
26	I	134	U
26	I	142	G
28	G	472	U
28	G	473	U
28	G	480	A
28	G	487	A
28	G	500	A
28	G	514	U
28	G	515	U
38	H	46	C
38	H	67	A
38	H	117	U
38	H	1095	U
38	H	1096	C
38	H	1097	G
38	H	1100	A
38	H	1101	C
38	H	1102	C
38	H	1105	C
38	H	1119	C
38	H	1120	G
38	H	1121	U
38	H	1122	U

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Mol	Chain	Res	Type
38	H	1123	C
38	H	1124	U
38	H	1125	U
38	H	1138	G
38	H	1141	C
38	H	1142	G
38	H	1144	U
38	H	1145	U
38	H	1149	G

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 2 ligands modelled in this entry, 1 is monoatomic - leaving 1 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
47	GTP	C	1500	48	26,34,34	1.50	4 (15%)	32,54,54	2.11	7 (21%)

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
47	GTP	C	1500	48	-	7/18/38/38	0/3/3/3

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	C	1500	GTP	C5-C6	-4.99	1.37	1.47
47	C	1500	GTP	C5-C4	-2.32	1.37	1.43
47	C	1500	GTP	C2'-C1'	-2.26	1.50	1.53
47	C	1500	GTP	O4'-C4'	-2.12	1.40	1.45

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	C	1500	GTP	PB-O3B-PG	-7.36	107.56	132.83
47	C	1500	GTP	PA-O3A-PB	-5.25	114.81	132.83
47	C	1500	GTP	C2-N1-C6	-3.09	119.40	125.10
47	C	1500	GTP	C5-C6-N1	2.93	119.12	113.95
47	C	1500	GTP	C8-N7-C5	2.87	108.46	102.99
47	C	1500	GTP	O6-C6-C5	-2.63	119.23	124.37
47	C	1500	GTP	O3'-C3'-C2'	-2.11	104.99	111.82

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
47	C	1500	GTP	PB-O3A-PA-O5'
47	C	1500	GTP	C5'-O5'-PA-O1A
47	C	1500	GTP	C5'-O5'-PA-O2A
47	C	1500	GTP	C3'-C4'-C5'-O5'
47	C	1500	GTP	O4'-C4'-C5'-O5'
47	C	1500	GTP	PA-O3A-PB-O1B
47	C	1500	GTP	C5'-O5'-PA-O3A

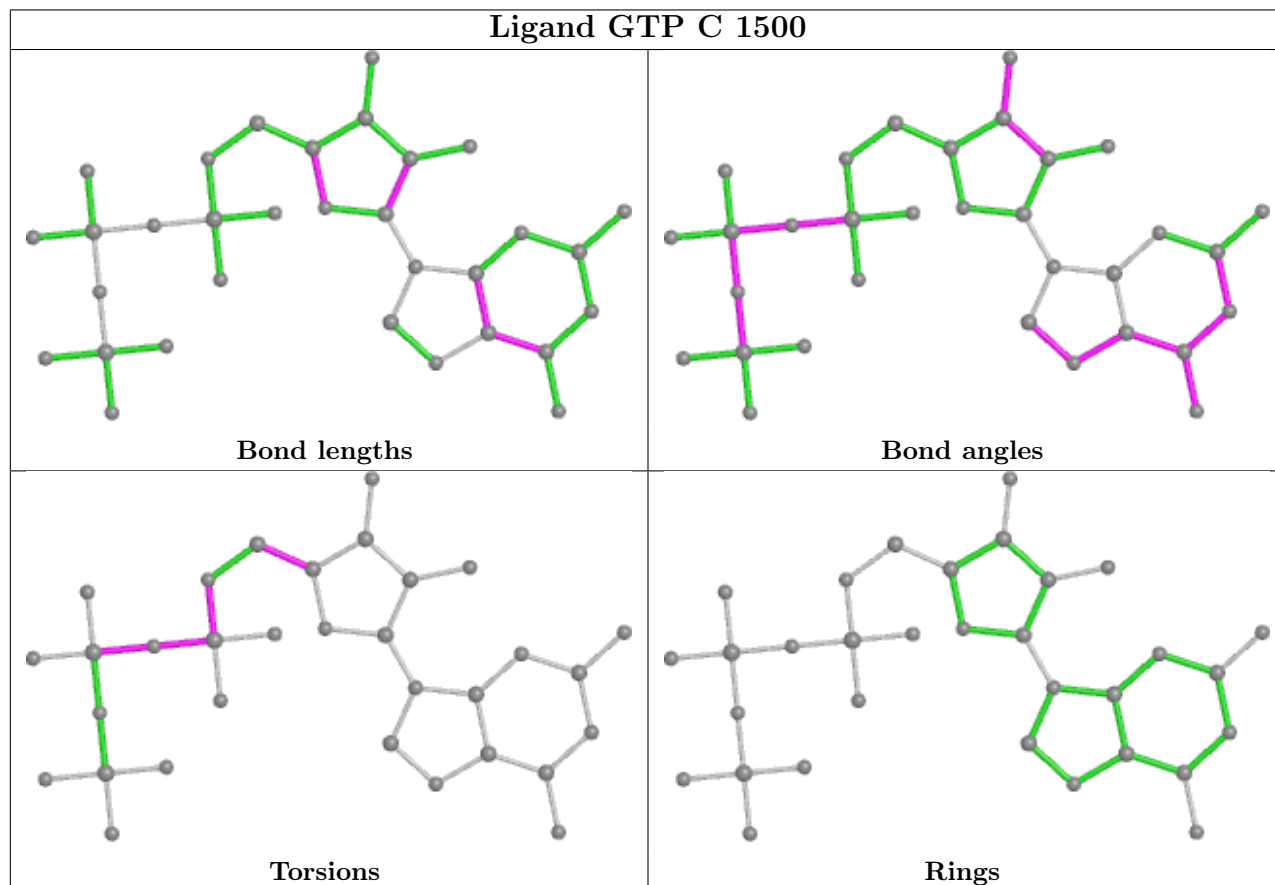
There are no ring outliers.

1 monomer is involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
47	C	1500	GTP	7	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 than 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.



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.

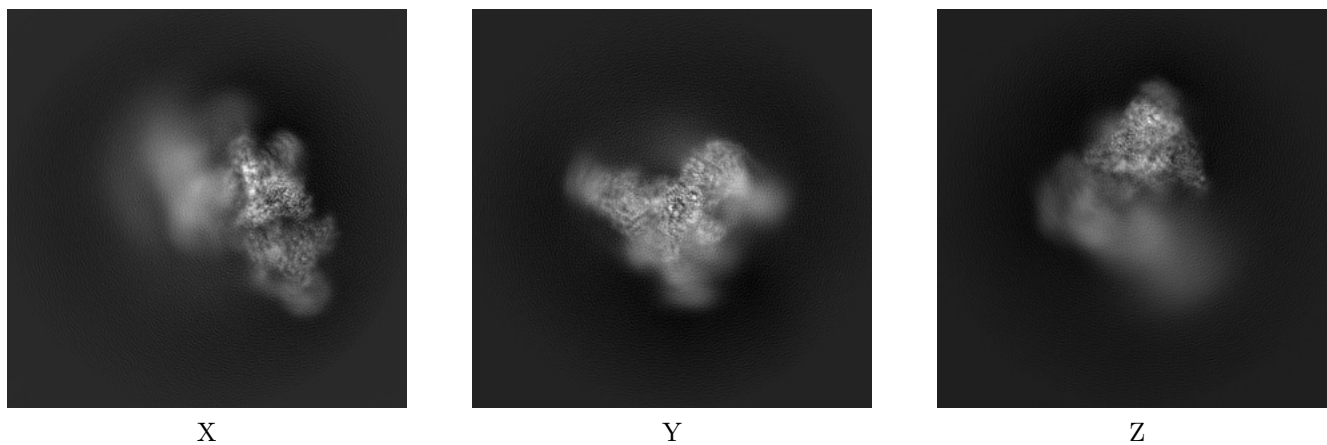
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-6974. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections [i](#)

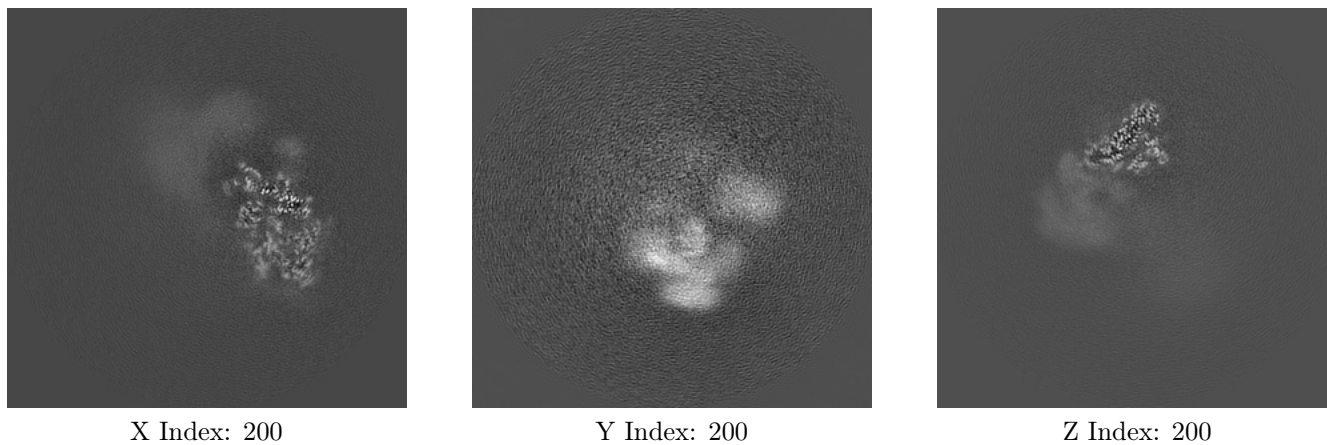
6.1.1 Primary map



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

6.2 Central slices [i](#)

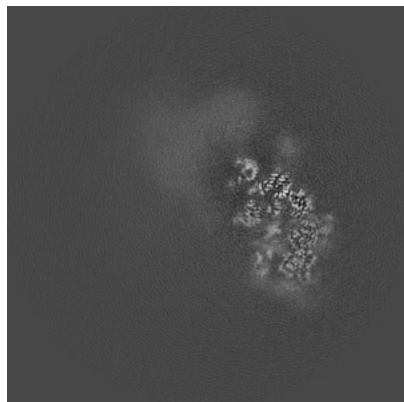
6.2.1 Primary map



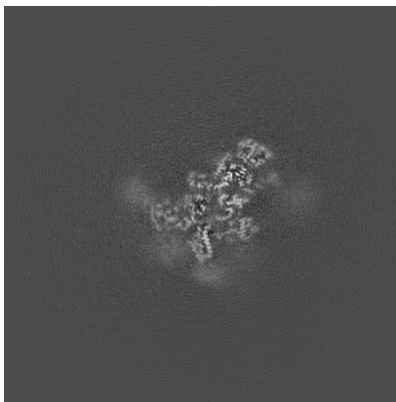
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

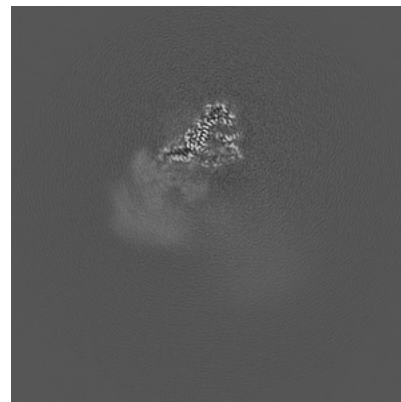
6.3.1 Primary map



X Index: 206



Y Index: 247

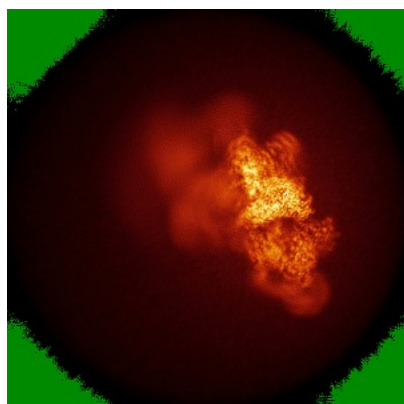


Z Index: 202

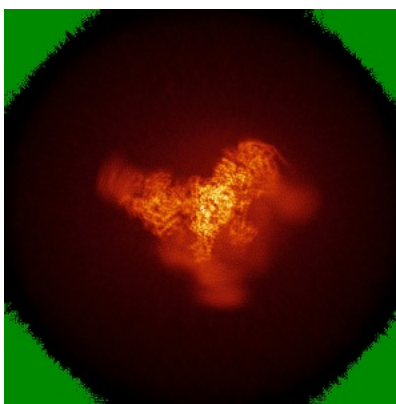
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

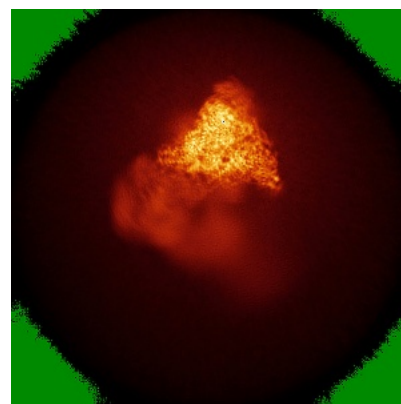
6.4.1 Primary map



X



Y

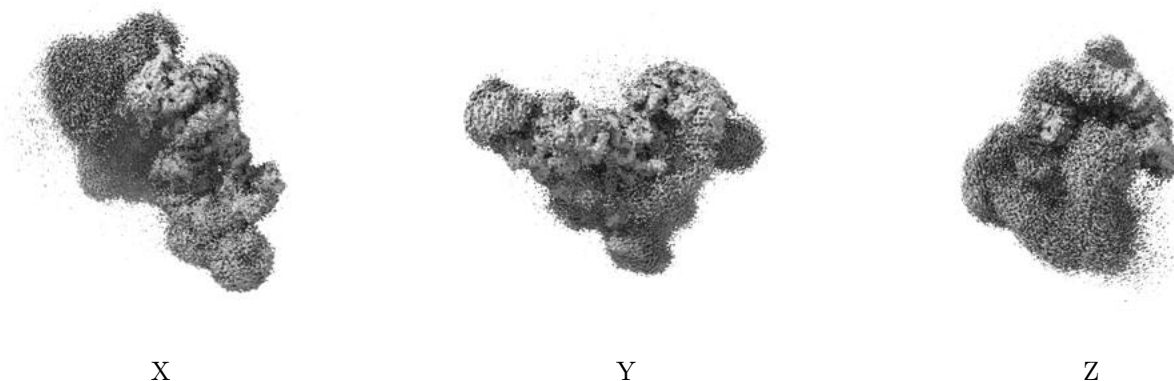


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.022. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

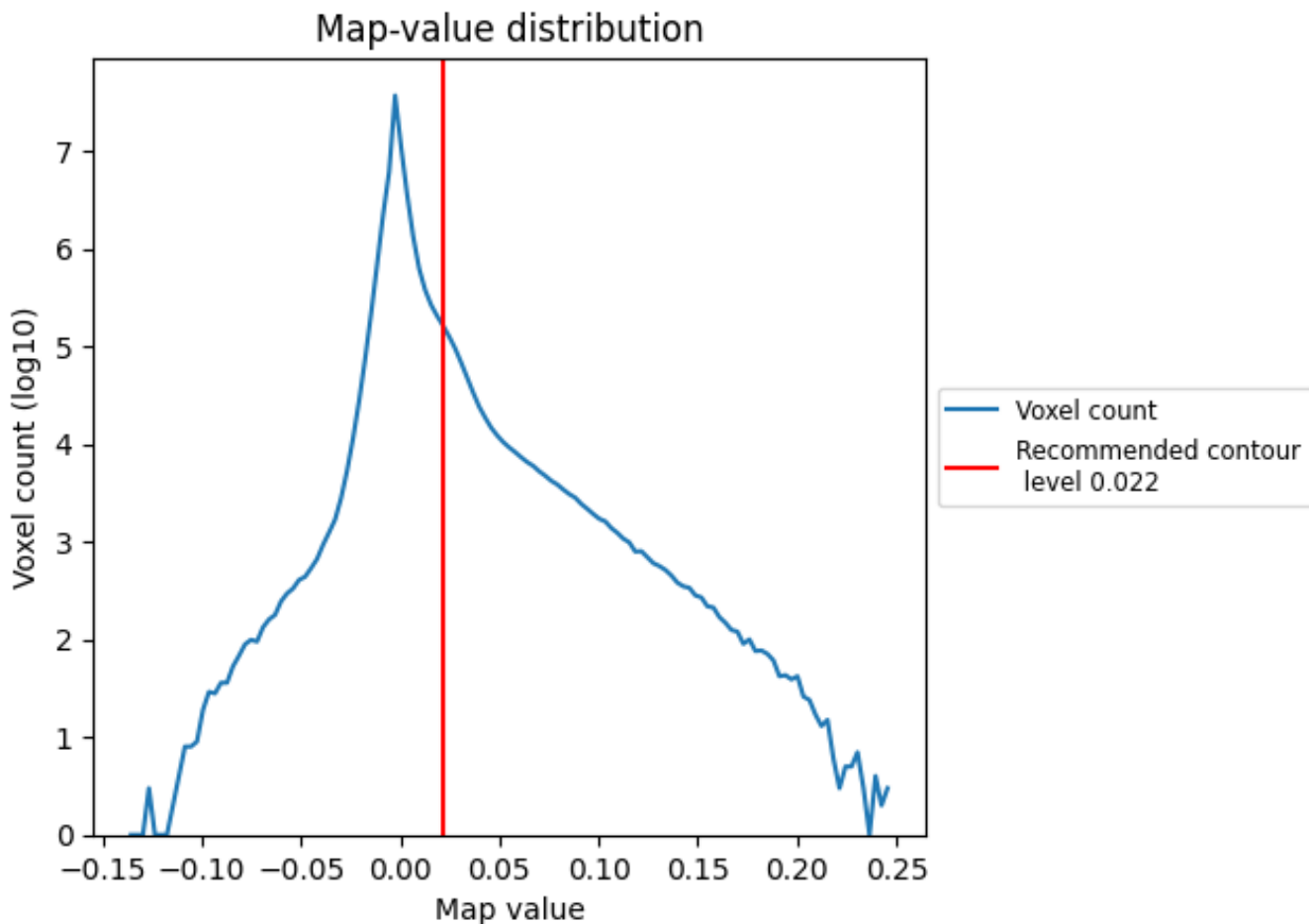
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

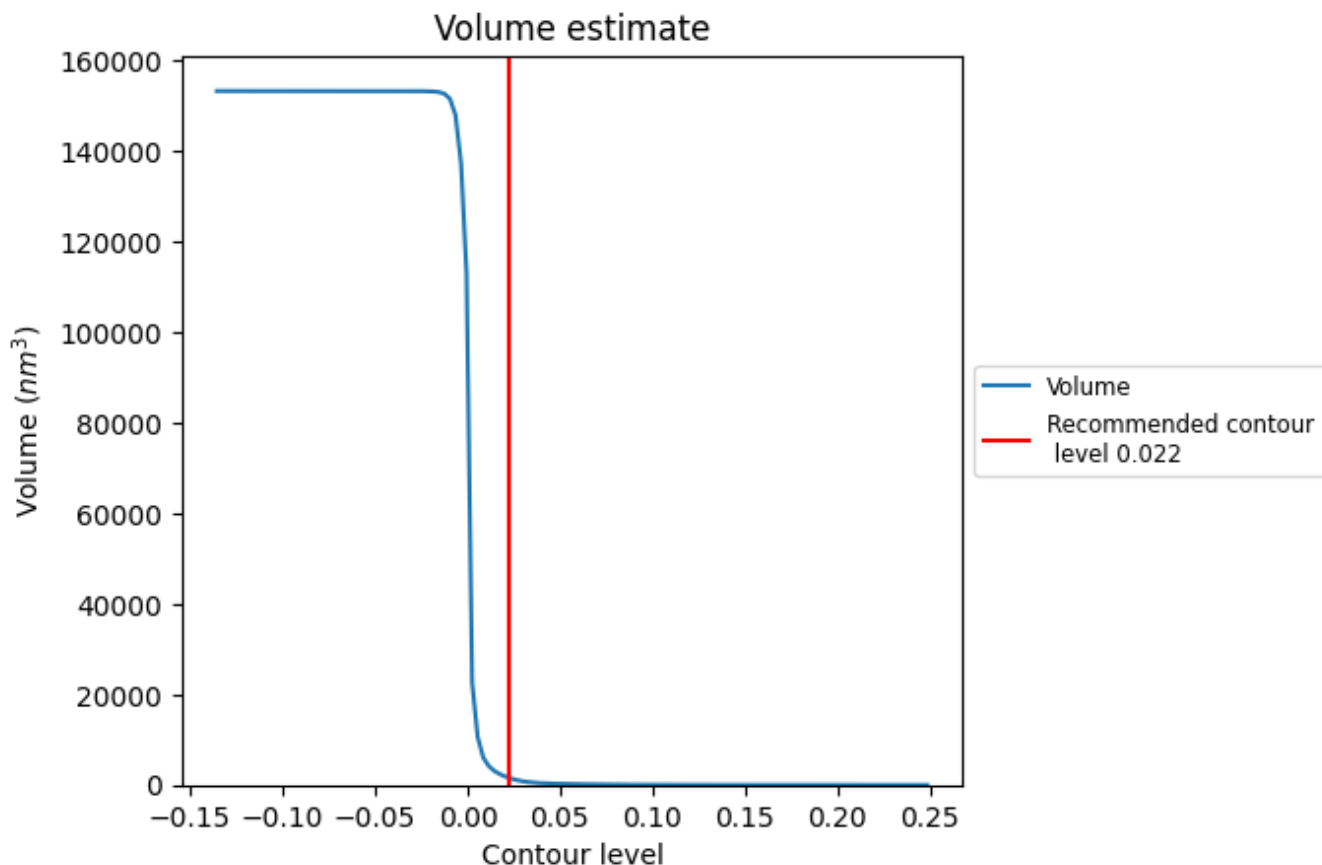
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

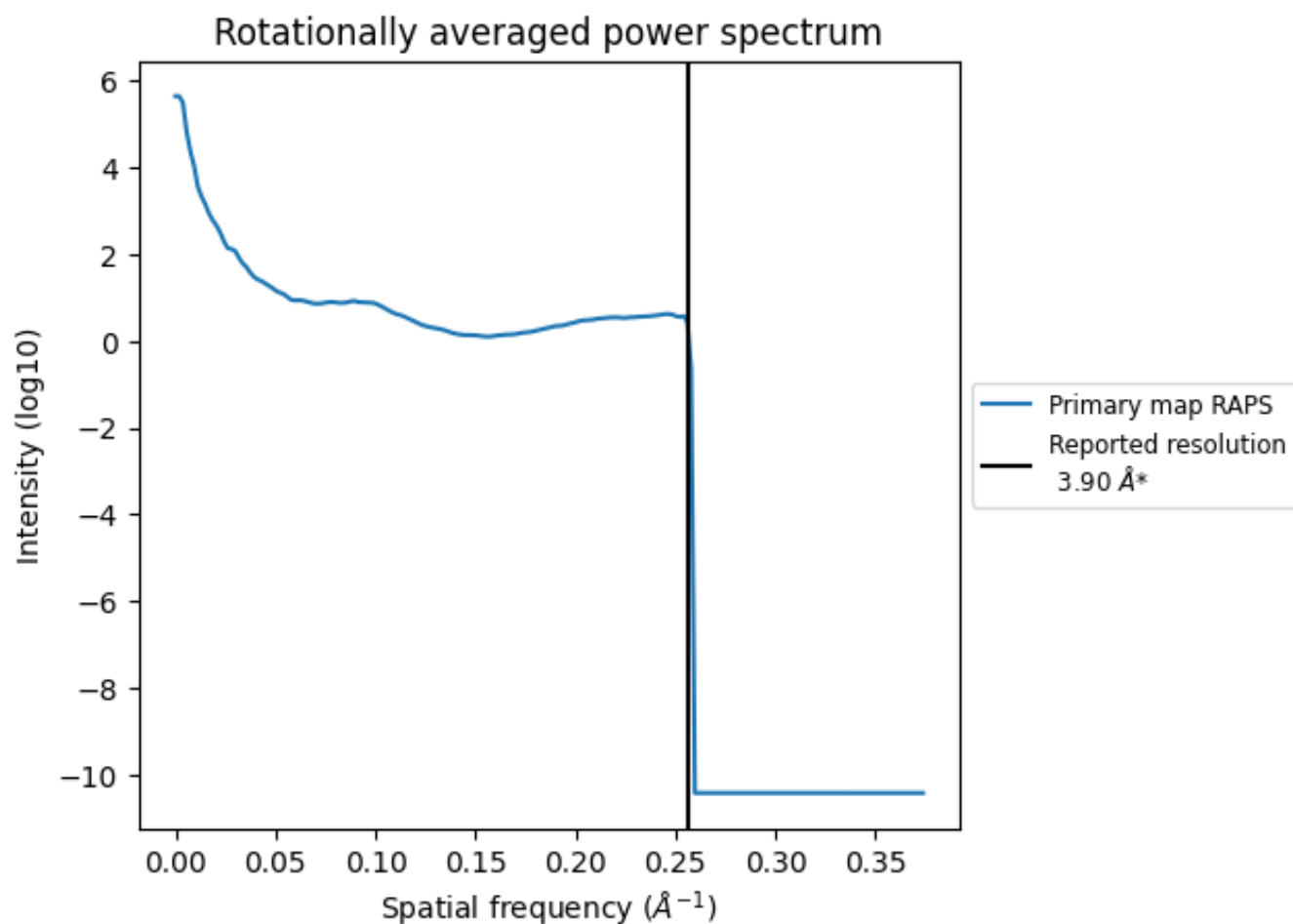
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1643 nm^3 ; this corresponds to an approximate mass of 1484 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 0.256 Å⁻¹

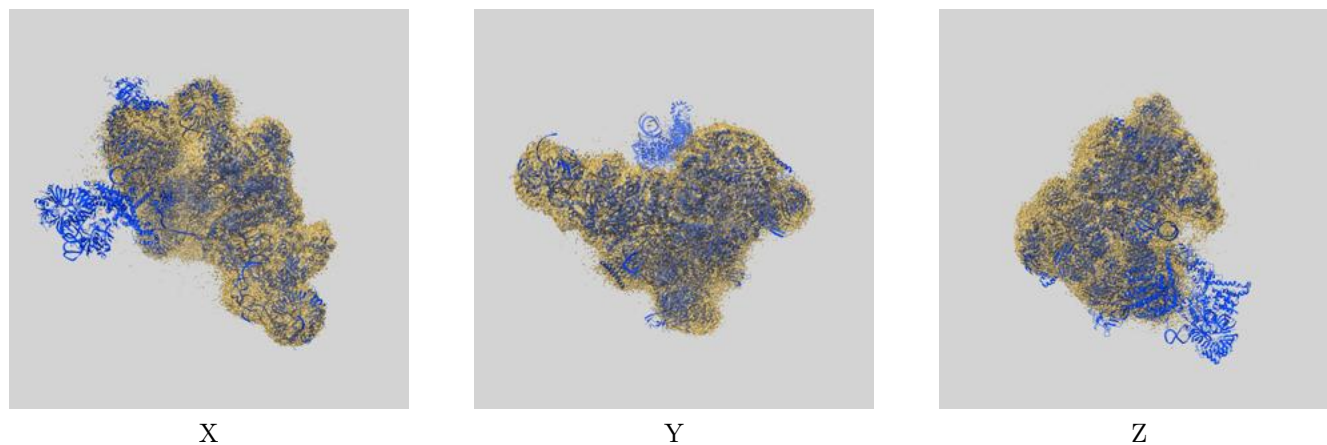
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

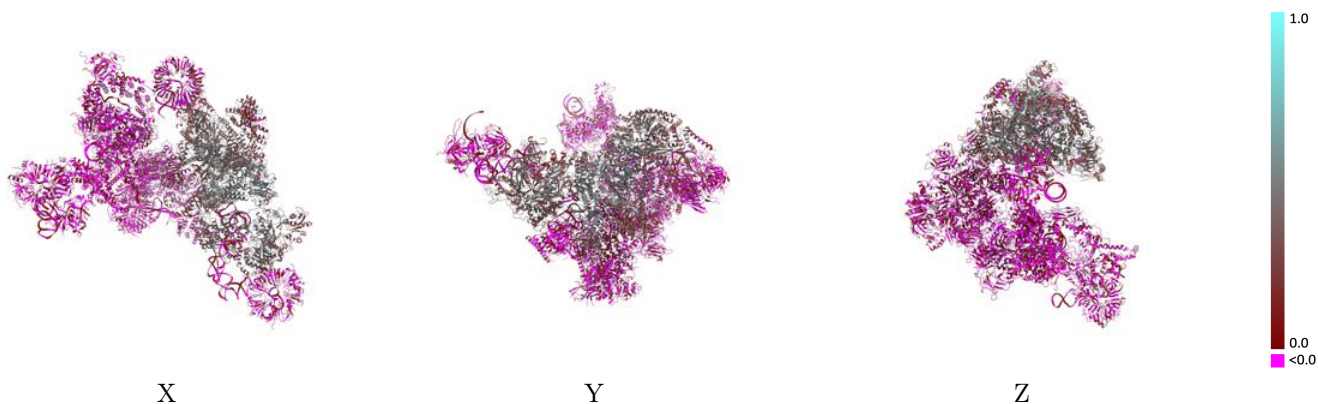
This section contains information regarding the fit between EMDB map EMD-6974 and PDB model 5ZWO. Per-residue inclusion information can be found in section [3](#) on page [14](#).

9.1 Map-model overlay [i](#)



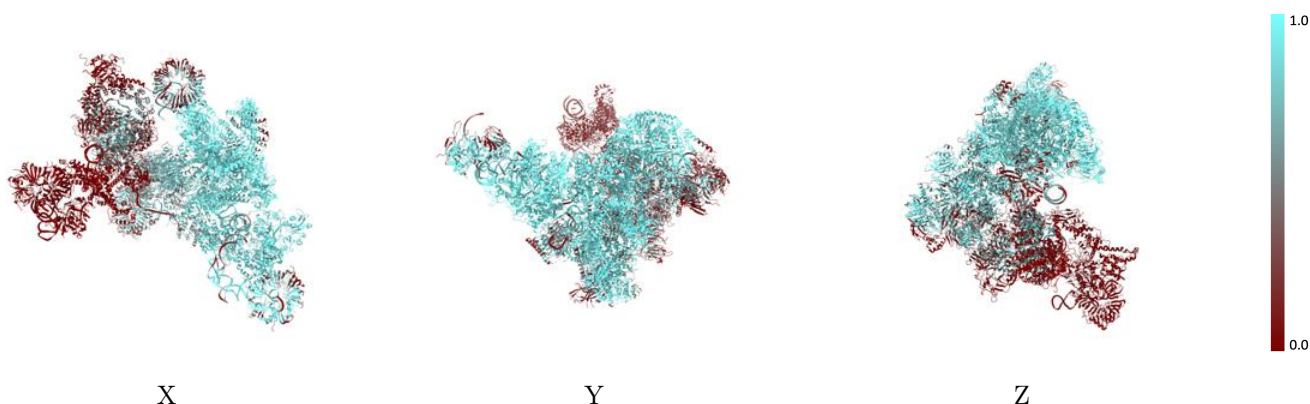
The images above show the 3D surface view of the map at the recommended contour level 0.022 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



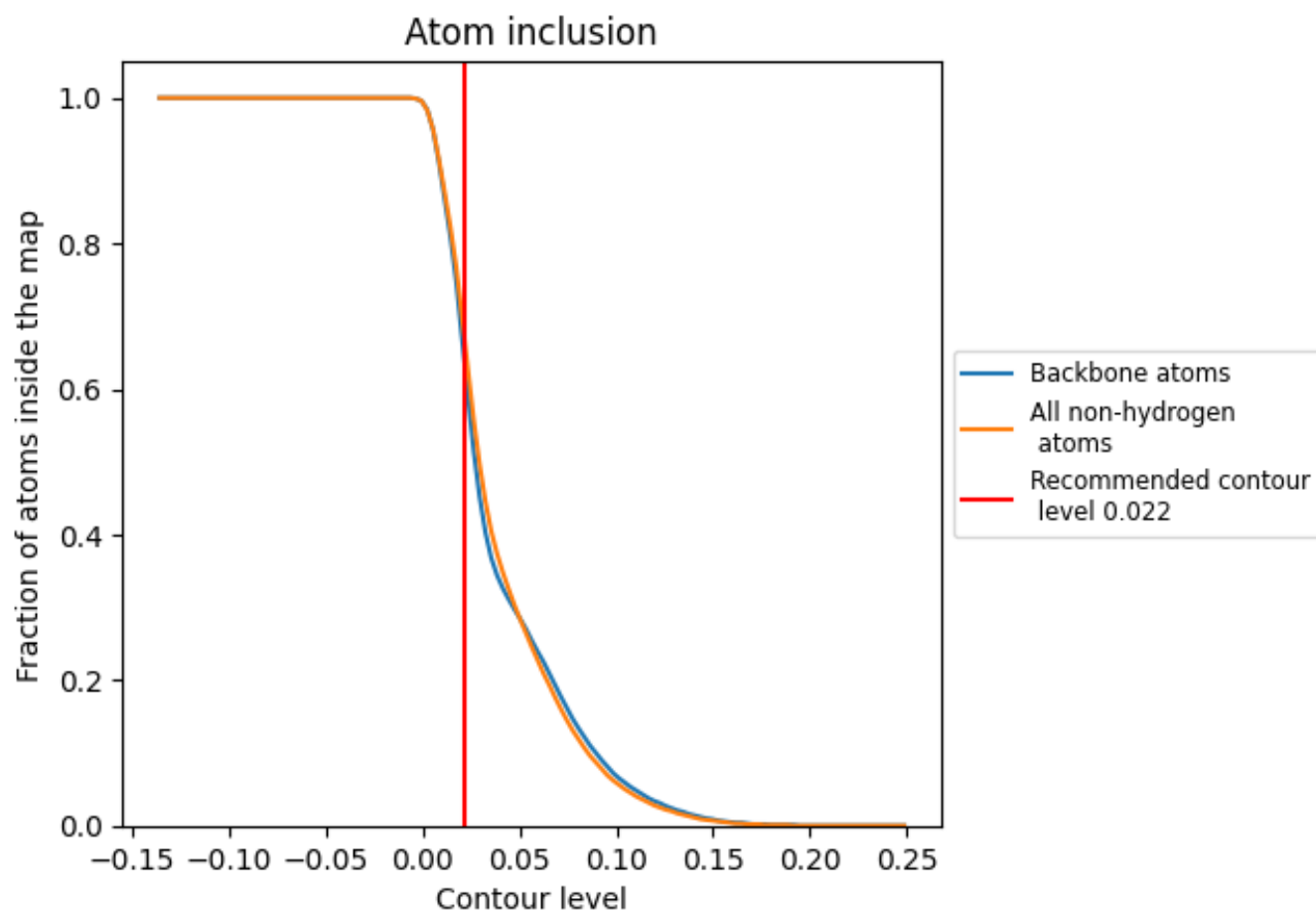
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



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 (0.022).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 63% of all backbone atoms, 66% 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 (0.022) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6620	 0.1910
0	 0.6450	 0.0150
1	 0.3480	 0.0000
2	 0.2220	 0.0270
3	 0.3130	 -0.0030
4	 0.0700	 -0.0010
5	 0.6370	 -0.0140
6	 0.5570	 0.0050
9	 0.3160	 0.0410
A	 0.9460	 0.3990
B	 0.7990	 0.1080
C	 0.9410	 0.3770
D	 0.7400	 0.0420
E	 0.9330	 0.4360
F	 0.7880	 0.1650
G	 0.3080	 0.0070
H	 0.1280	 0.0120
I	 0.9670	 0.2600
J	 0.9200	 0.3510
K	 0.9360	 0.3910
L	 0.9430	 0.4200
M	 0.9560	 0.4810
N	 0.8600	 0.3180
O	 0.6500	 0.1870
P	 0.6970	 0.0150
Q	 0.7250	 0.0060
R	 0.8770	 0.0420
S	 0.5000	 0.0060
T	 0.5540	 0.0130
U	 0.8190	 0.0140
V	 0.4440	 0.0190
W	 0.6520	 0.0170
X	 0.0060	 0.0000
Y	 0.0000	 -0.0170
Z	 0.0000	 0.0380



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Chain	Atom inclusion	Q-score
a	 0.7670	 0.0500
b	 0.7820	 0.0160
c	 0.7580	 0.0350
d	 0.7280	 0.0790
e	 0.7010	 0.0630
f	 0.7290	 -0.0160
g	 0.4070	 -0.0160
h	 0.0000	 -0.0320
i	 0.0000	 0.0350
j	 0.0000	 -0.0450
k	 0.0000	 -0.0280
l	 0.0000	 0.0300
m	 0.0030	 0.0080
n	 0.0000	 0.0290
o	 0.0000	 -0.0170
p	 0.0000	 -0.0010
q	 0.3720	 0.0020
r	 0.2370	 -0.0630
s	 0.3600	 -0.0040
t	 0.3410	 -0.0020
u	 0.0190	 0.0050
v	 0.1060	 0.0160
w	 0.0050	 -0.0040
x	 0.4730	 0.0370
y	 0.2800	 0.0050
z	 0.5080	 0.0170