



Full wwPDB EM Validation Report ⓘ

Nov 8, 2022 – 11:38 AM JST

PDB ID : 5ZWM
EMDB ID : EMD-6972
Title : Cryo-EM structure of the yeast pre-B complex at an average resolution of 3.4 4.6 angstrom (tri-snRNP and U2 snRNP Part)
Authors : Bai, R.; Wan, R.; Yan, C.; Lei, J.; Shi, Y.
Deposited on : 2018-05-16
Resolution : 3.40 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

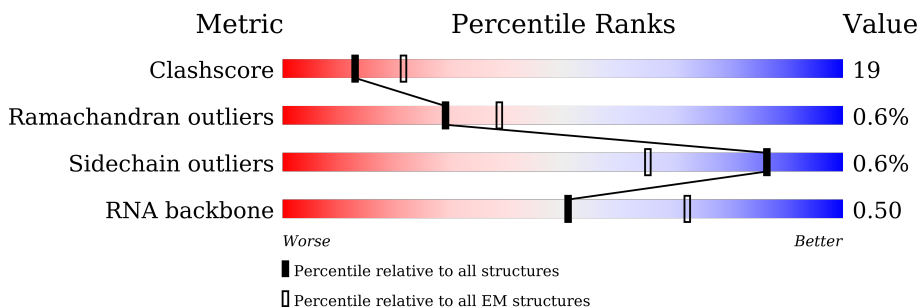
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry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

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.40 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	<div style="display: flex; align-items: center;"> <div style="width: 8%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 60%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 29%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 10%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">8% 60% 29% 10%</p>
2	K	465	<div style="display: flex; align-items: center;"> <div style="width: 53%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 38%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 8%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">53% 38% 8%</p>
3	L	494	<div style="display: flex; align-items: center;"> <div style="width: 58%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 26%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 16%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">58% 26% 16%</p>
4	N	899	<div style="display: flex; align-items: center;"> <div style="width: 65%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 16%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 19%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">65% 16% 19%</p>
5	J	469	<div style="display: flex; align-items: center;"> <div style="width: 50%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 14%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 35%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">50% 14% 35%</p>
6	E	143	<div style="display: flex; align-items: center;"> <div style="width: 71%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 27%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">71% 27%</p>
7	M	126	<div style="display: flex; align-items: center;"> <div style="width: 75%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 25%; height: 10px; background-color: yellow; margin-right: 5px;"></div> </div> <p style="text-align: center;">75% 25%</p>

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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	I	160	
18	B	214	
19	O	587	
20	S	101	
20	d	101	
20	l	101	
21	P	196	
21	a	196	
21	h	196	
22	Q	146	
22	b	146	
22	m	146	
23	R	110	
23	c	110	
23	n	110	
24	T	94	

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Mol	Chain	Length	Quality of chain
24	e	94	77% 23%
24	i	94	80% 74% 5% 20%
25	U	86	64% 44% 41% 15%
25	f	86	5% 78% 19%
25	j	86	81% 78% 19%
26	V	77	70% 57% 39% ..
26	g	77	6% 91% 9%
26	k	77	90% 86% 10%
27	D	2163	54% 50% 28% 21%
28	G	44	91% 18% 48% 32% .
29	H	1175	16% 9% 82%
30	o	238	57% 48% 7% 43%
31	p	111	66% 61% 5% 34%
32	1	971	73% 54% 29% 16%
33	2	436	43% 31% 17% 52%
34	3	1361	76% 51% 35% 13%
35	4	213	80% 53% 28% 19%
36	5	107	71% 67% 28% ..
37	6	85	67% 71% 28% .
38	X	148	86% 48% 37% 14%
39	Y	266	33% 19% 11% 67%
40	Z	204	11% 5% 89%
41	u	530	86% 85% 13%
42	w	280	45% 43% 55%
43	v	266	59% 64% 35%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
46	ZN	5	201	-	-	X	-

2 Entry composition i

There are 46 unique types of molecules in this entry. The entry contains 111041 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	2177	17877	11496	3054	3263	64	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	728	4897	3045	905	933	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	304	2439	1545	445	435	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	139	1146	725	199	211	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 U4 snRNA.

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

- Molecule 18 is a RNA chain called U5 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	B	175	Total	C	N	O	P	0	0
			3715	1663	651	1227	174		

- Molecule 19 is a protein called 66 kDa U4/U6.U5 small nuclear ribonucleoprotein component.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	O	74	Total	C	N	O	S	0	0
			574	350	103	120	1		

- Molecule 20 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	d	79	Total	C	N	O	0	0	
			316	158	79	79			
20	S	82	Total	C	N	O	S	0	0
			632	402	109	119	2		
20	l	81	Total	C	N	O	S	0	0
			611	390	106	113	2		

- Molecule 21 is a protein called Small nuclear ribonucleoprotein-associated protein B.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	a	73	Total	C	N	O			
			292	146	73	73	0	0	
21	P	70	Total	C	N	O	S		
			563	360	98	102	3	0	
21	h	78	Total	C	N	O	S		
			610	389	110	108	3	0	

- Molecule 22 is a protein called Small nuclear ribonucleoprotein Sm D1.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	b	77	Total	C	N	O			
			308	154	77	77	0	0	
22	Q	99	Total	C	N	O	S		
			751	475	137	137	2	0	
22	m	82	Total	C	N	O	S		
			644	409	110	123	2	0	

- Molecule 23 is a protein called Small nuclear ribonucleoprotein Sm D2.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	c	90	Total	C	N	O			
			360	180	90	90	0	0	
23	R	92	Total	C	N	O	S		
			752	481	136	131	4	0	
23	n	65	Total	C	N	O	S		
			528	340	102	84	2	0	

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

Mol	Chain	Residues	Atoms					AltConf	Trace
24	e	72	Total	C	N	O			
			288	144	72	72	0	0	
24	T	77	Total	C	N	O	S		
			602	396	95	108	3	0	
24	i	75	Total	C	N	O	S		
			575	379	92	101	3	0	

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

Mol	Chain	Residues	Atoms					AltConf	Trace
25	f	70	Total	C	N	O		0	0
			280	140	70	70			
25	U	73	Total	C	N	O	S	0	0
			585	376	102	106	1		
25	j	70	Total	C	N	O	S	0	0
			554	355	98	100	1		

- Molecule 26 is a protein called Small nuclear ribonucleoprotein G.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	g	70	Total	C	N	O		0	0
			280	140	70	70			
26	V	75	Total	C	N	O	S	0	0
			577	363	100	112	2		
26	k	69	Total	C	N	O	S	0	0
			529	337	93	97	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
27	D	1699	Total	C	N	O	S	1	0
			13601	8717	2266	2564	54		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
28	G	44	Total	C	N	O	P	0	0
			928	419	161	304	44		

- Molecule 29 is a RNA chain called U2 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	H	206	Total	C	N	O	P	0	0
			4345	1940	722	1477	206		

- Molecule 30 is a protein called U2 small nuclear ribonucleoprotein A'.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	o	135	Total	C	N	O	0	0
			841	538	142	161		

- Molecule 31 is a protein called U2 small nuclear ribonucleoprotein B''.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	p	73	Total	C	N	O	0	0
			466	304	81	81		

- Molecule 32 is a protein called U2 snRNP component HSH155.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	1	816	Total	C	N	O	S	0	0
			6472	4165	1101	1166	40		

- Molecule 33 is a protein called Cold sensitive U2 snRNA suppressor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	2	211	Total	C	N	O	S	0	0
			1726	1121	292	304	9		

- Molecule 34 is a protein called Pre-mRNA-splicing factor RSE1.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	3	1180	Total	C	N	O	S	0	0
			9380	5996	1580	1753	51		

- Molecule 35 is a protein called Protein HSH49.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	4	173	Total	C	N	O	S	0	0
			1429	930	239	258	2		

- Molecule 36 is a protein called Pre-mRNA-splicing factor RDS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	5	103	Total	C	N	O	S	0	0
			814	503	154	143	14		

- Molecule 37 is a protein called RDS3 complex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	6	84	Total	C	N	O	S	0	0
			693	429	130	132	2		

- Molecule 38 is a protein called U2 snRNP component IST3.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	X	128	Total	C	N	O	0	0
			1051	662	181	208		

- Molecule 39 is a protein called Pre-mRNA-splicing factor CWC26.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Y	89	Total	C	N	O	S	0	0
			730	458	130	140	2		

- Molecule 40 is a protein called Pre-mRNA leakage protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Z	22	Total	C	N	O	S	0	0
			173	110	25	37	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
41	u	461	Total	C	N	O	S	0	0
			3895	2475	675	730	15		

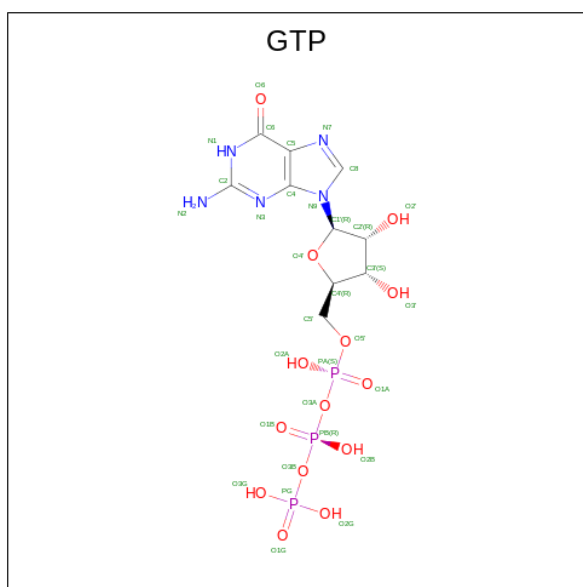
- Molecule 42 is a protein called Pre-mRNA-splicing factor PRP21.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	w	127	Total	C	N	O	S	0	0
			1084	689	193	196	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
43	v	174	Total	C	N	O	S	0	0
			1372	862	235	269	6		

- Molecule 44 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: C₁₀H₁₆N₅O₁₄P₃).



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

- Molecule 45 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

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

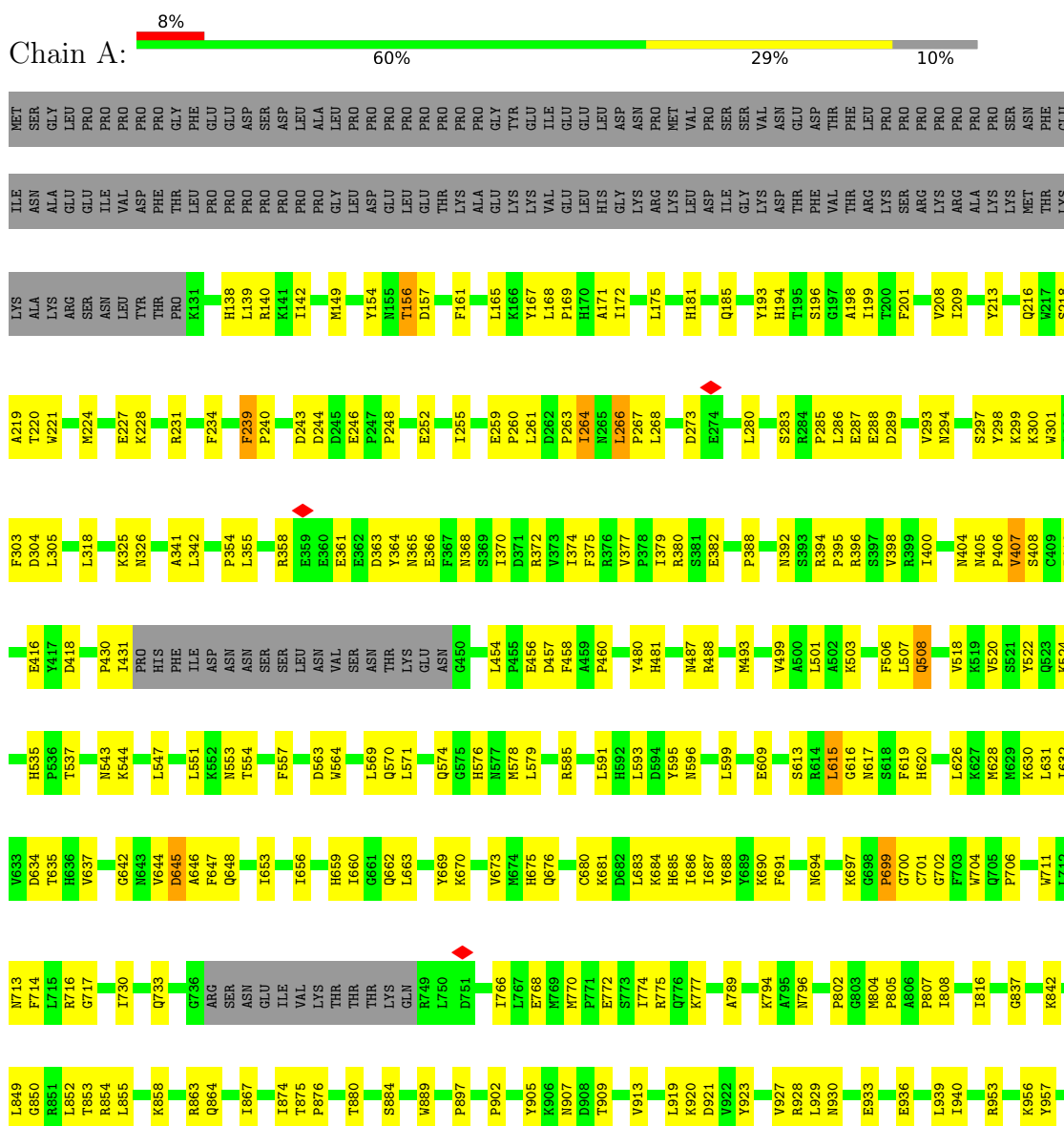
- Molecule 46 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
46	5	3	Total	Zn	0
			3	3	
46	u	2	Total	Zn	0
			2	2	
46	v	1	Total	Zn	0
			1	1	

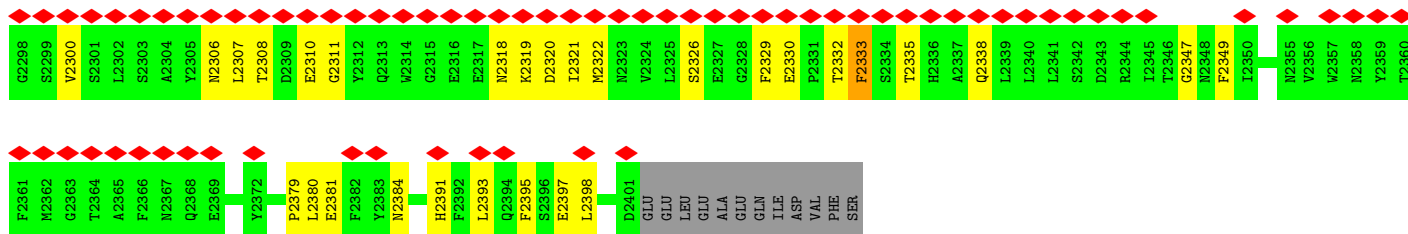
3 Residue-property plots

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.

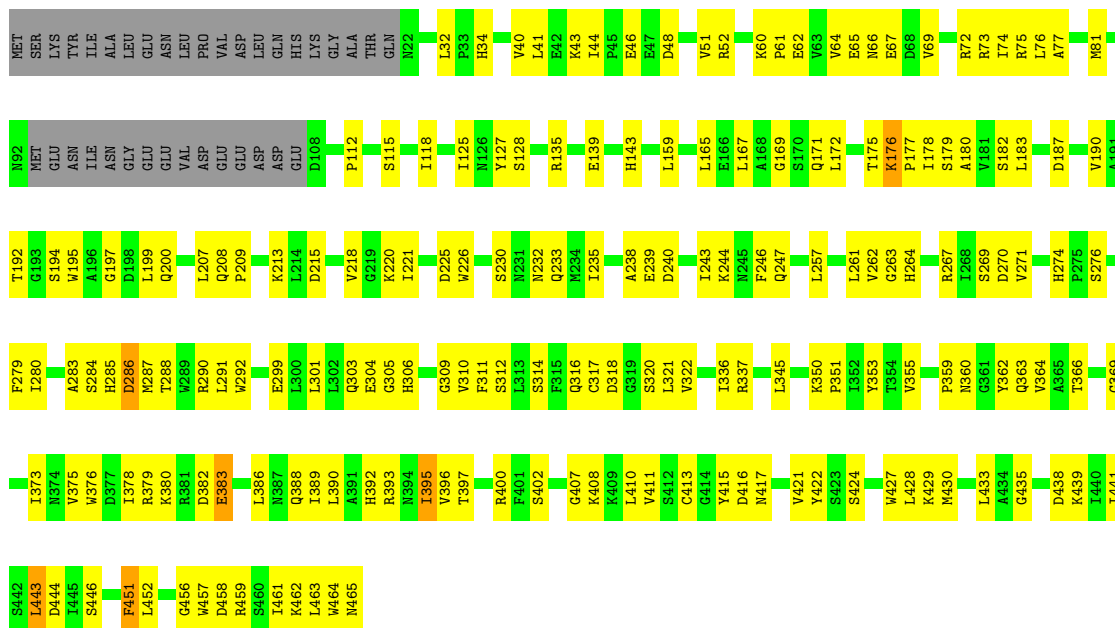
• Molecule 1: Pre-mRNA-splicing factor 8



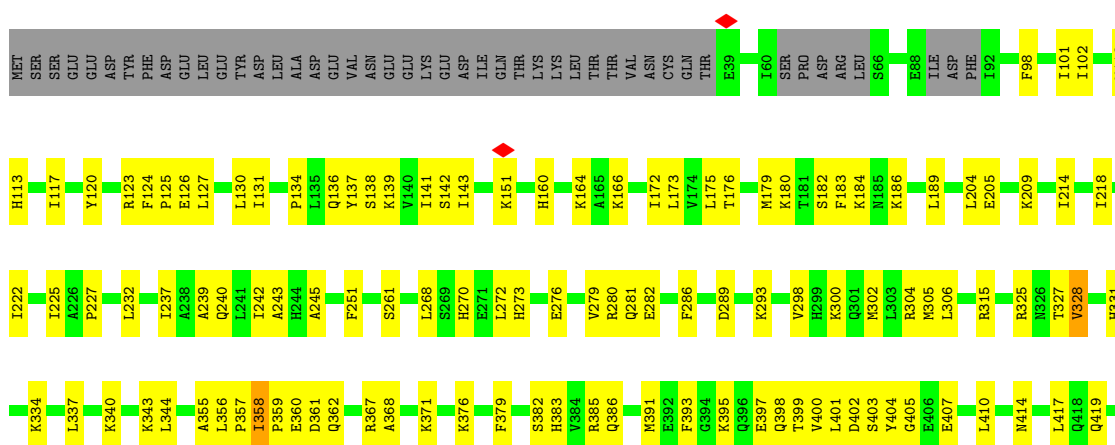
Q2237	V2177	ALA	H1819	L1717	M1617	R1609	F1383	D1287	E1174	D1062	T960
I2238	E2178	SER	R1820	K1731	M1618	R1510	P1391	L1288	E1175	F1063	Y963
S2239	E2179	THR	S1829	M1732	V1621	R1512	K1392	A1298	M1197	L1066	P966
N2240	Q2180	MET	E1832	M1733	L1624	R1512	E1393	Y1301	S1198	L1070	P967
I2241	N2181	LYS	F1834	F1734	L1624	Y1517	L1394	L1302	I1199	I1073	H972
F2242	Q2054	THR	P1833	D1735	I1632	R1521	M1399	K1303	G1200	V1074	E973
D2243	H2055	LYS	F1835	R1739	F1633	R1521	I1401	K1303	Y1201	I1078	H974
	H2058	ILE	M1836	S1745	H1635	P1524	A1409	E1306	C1206	I1078	Y975
D2246	L2059	ASN	L1645	I1748	H1635	F1525	A1409	E1307	P1207	K1085	Y976
L2247	L2060	ALA	I1648	Y1751	Q1647	M1527	W1414	E1308	W1207	M1086	Y981
P2248	T2061	GLN	F1649	K1755	F1648	M1529	Q1417	I1308	P1208	M1087	Y982
D2249	E2062	GLY	R1650	Y1759	I1648	M1529	G1428	K1310	K1209	V1088	Y983
T2250	T2063	GLU	Q1655	F1756	Q1655	D1533	G1428	F1312	D1210	W1088	Y984
L2251	G2064	ILE	K1656	K1756	K1656	D1533	H1431	D1313	S1211	I1090	D985
L2252	L2067	VAL	T1855	F1756	I1657	K1535	E1432	D1313	R1212	I1090	D985
L2253	L2068	VAL	V1857	M1763	H1658	L1536	D1433	D1313	R1213	I1090	D985
E2254	H2069	VAL	R1859	Y1772	E1659	E1542	D1433	S1314	M1213	I1090	D985
L2255	M2070	ALA	R1860	G1772	S1660	D1545	I1440	R1317	R1214	P986	P986
L2256	N2070	ALA	T1861	I1773	Q1667	Q1548	Y1443	L1320	N1221	H1097	D992
L2257	T2075	SER	H1862	M1774	Q1667	Q1548	Y1443	M1320	I1230	V1098	L995
G2258	T2079	ASP	V1863	I1776	I1668	T1555	W1447	M1321	Q1231	M1099	L995
I2259	I2079	THR	K1864	I1777	L1673	E1558	E1448	K1100	K1100	K1100	L1006
H2260	L2083	GLN	F1866	M1782	D1674	E1558	E1450	R1233	S1232	Y1101	R1006
T2261	L2084	ASN	M1869	M1783	I1678	F1562	S1454	P1234	R1233	R1105	N1011
Q2262	G2085	ILE	V1870	Y1784	V1681	K1563	S1454	Y1234	P1234	G1106	N1011
T2263	GLN	THR	A1871	D1785	T1682	G1564	W1447	L1339	L1339	L1107	K1014
T2264	VAL	THR	I1879	A1786	T1682	T1565	E1448	S1341	T1239	K1107	P1015
L2265	VAL	THR	F1880	G1788	P1688	G1566	E1450	L1342	S1240	K1107	S1016
L2266	ALA	SER	M1881	M1789	R1689	W1570	F1451	L1343	I1241	D1122	I1020
G2267	THR	SER	L1882	F1791	K1690	W1575	Q1470	L1344	I1241	L1125	P1021
T2268	ASN	SER	M1883	L1794	M1694	W1575	Q1470	L1344	I1241	L1126	P1022
E2269	ILE	SER	T1886	I1798	N1695	A1578	R1473	L1356	A1246	G1127	L1023
Q2270	ALA	LYS	G1887	S1798	S1696	F1581	R1474	L1356	F1247	Q1127	L1023
L2271	LEU	LYS	H1888	S1801	A1699	M1585	F1477	I3359	N1257	Q1146	L1024
L2272	GLU	ALA	L1889	T1804	M1703	Q1586	E1461	L1366	L1258	E1143	M1033
L2273	ALA	ALA	L1891	L1805	M1703	Q1586	E1461	T1366	L1258	F1144	M1034
L2274	ARG	ARG	K1892	L1805	E1704	R1595	W1494	R1366	L1289	M1145	M1034
L2275	GLU	SER	W1899	L1805	S1705	R1595	W1494	I1367	I1289	H1156	V1048
L2276	GLN	GLU	M1899	M1809	S1705	L1598	I1488	Q1368	I1289	P1157	L1049
L2277	ASN	GLN	L1905	P1810	E1709	L1598	I1488	M1369	M1262	L1160	E1051
L2278	ASP	ASN	K1910	A1811	M1711	L1601	R1490	R1370	M1262	Y1161	E1051
L2279	GLU	GLU	F2043	V1814	S1712	P1602	R1490	R1370	E1277	I1168	L1054
L2280	ALA	ALA	T1913	L1815	K1713	M1603	L1494	K1372	V1267	Y1169	M1057
L2281	GLY	ALA	L1920	R1816	P1714	T1607	D1498	L1375	V1279	M1170	A1058
L2282	GLY	ALA	L1920	R1818	L1716	R1616	H1500	S1377	V1285	L1171	E1059
L2283	ALA	GLY	Q2047	L1818	L1716	R1616	H1500	S1377	V1285	F1172	K1060
L2284	ALA	GLY	Q2047	L1818	L1716	R1616	H1500	S1377	V1285	H1173	I1061
L2285	ALA	GLY	Q2047	L1818	L1716	R1616	H1500	S1377	V1285	H1173	I1061
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L2290	ALA	GLY	Q2047	L1818	L1716	R1616	H1500	S1377	V1285	H1173	I1061
L2291	ALA	GLY	Q2047	L1818	L1716	R1616	H1500	S1377	V1285	H1173	I1061
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L2294	ALA	GLY	Q2047	L1818	L1716	R1616	H1500	S1377	V1285	H1173	I1061
L2295	ALA	GLY	Q2047	L1818	L1716	R1616	H1500	S1377	V1285	H1173	I1061
L2296	ALA	GLY	Q2047	L1818	L1716	R1616	H1500	S1377	V1285	H1173	I1061
L2297	ALA	GLY	Q2047	L1818	L1716	R1616	H1500	S1377	V1285	H1173	I1061



• Molecule 2: U4/U6 small nuclear ribonucleoprotein PRP4



• Molecule 3: Pre-mRNA-processing factor 31

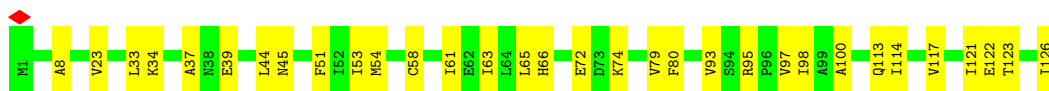




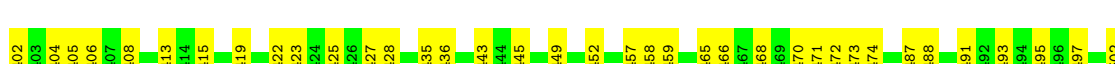
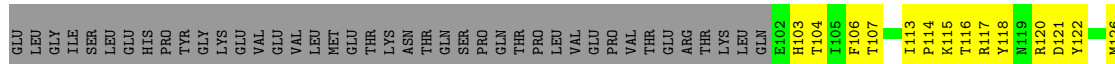
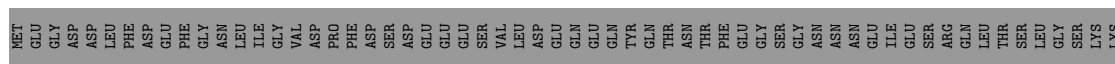
• Molecule 6: Spliceosomal protein DIB1

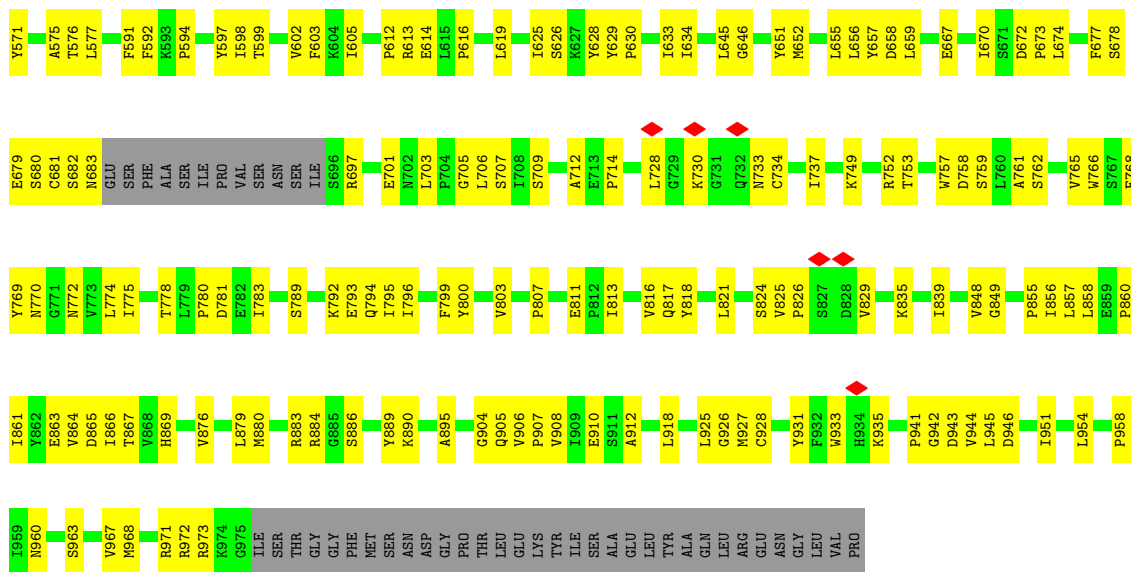


• Molecule 7: 13 kDa ribonucleoprotein-associated protein

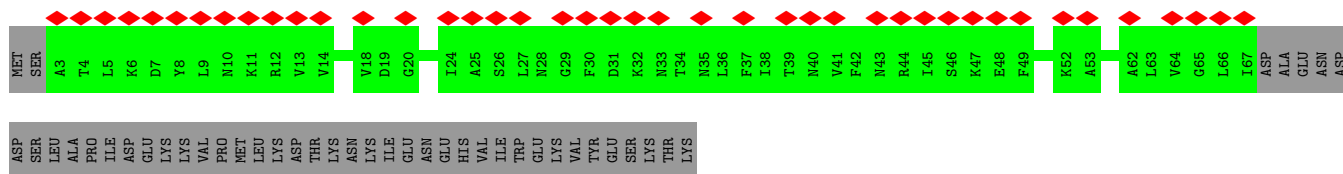
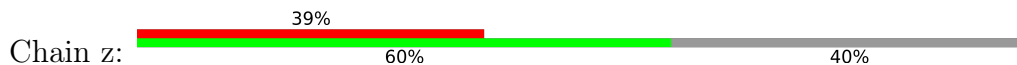


• Molecule 8: Pre-mRNA-splicing factor SNU114

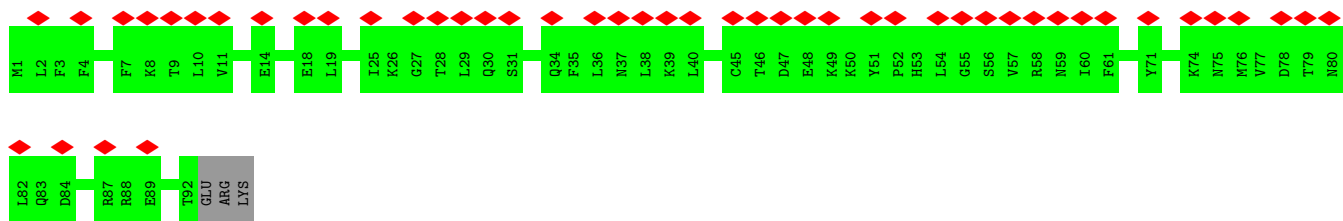




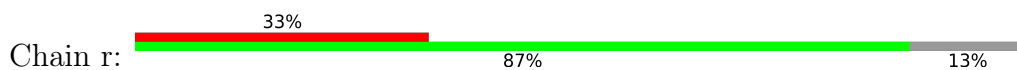
• Molecule 9: U6 snRNA-associated Sm-like protein LSm8



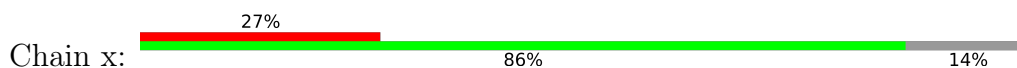
• Molecule 10: U6 snRNA-associated Sm-like protein LSm2

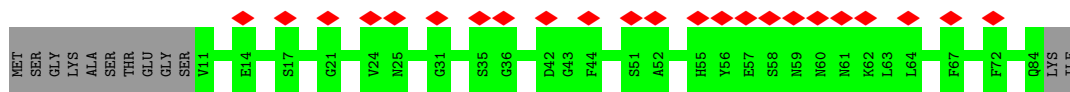


• Molecule 11: U6 snRNA-associated Sm-like protein LSm3

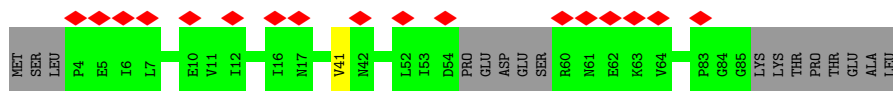
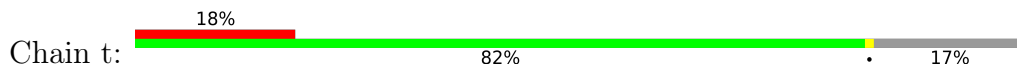


• Molecule 12: U6 snRNA-associated Sm-like protein LSm6

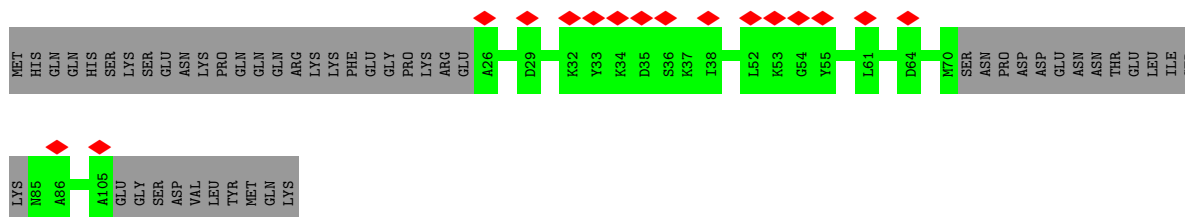




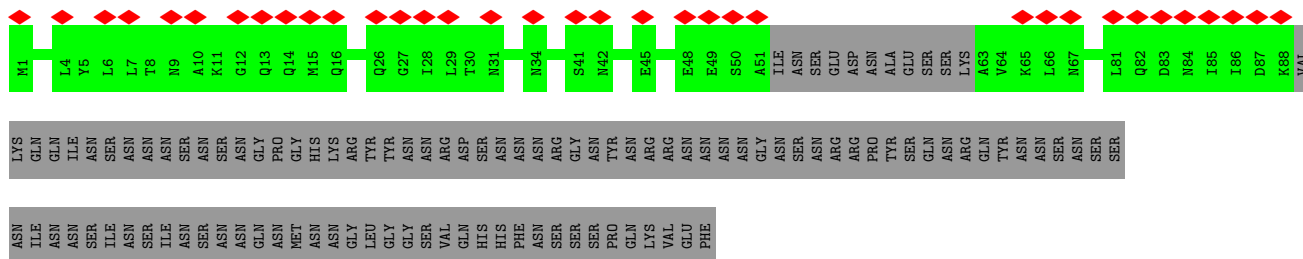
• Molecule 13: U6 snRNA-associated Sm-like protein LSm5



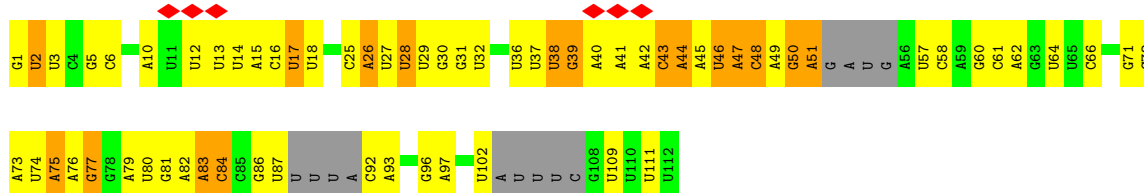
• Molecule 14: U6 snRNA-associated Sm-like protein LSm7



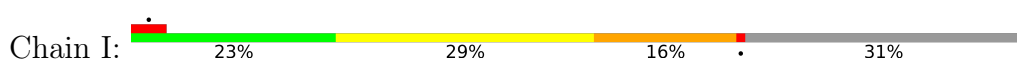
• Molecule 15: U6 snRNA-associated Sm-like protein LSm4

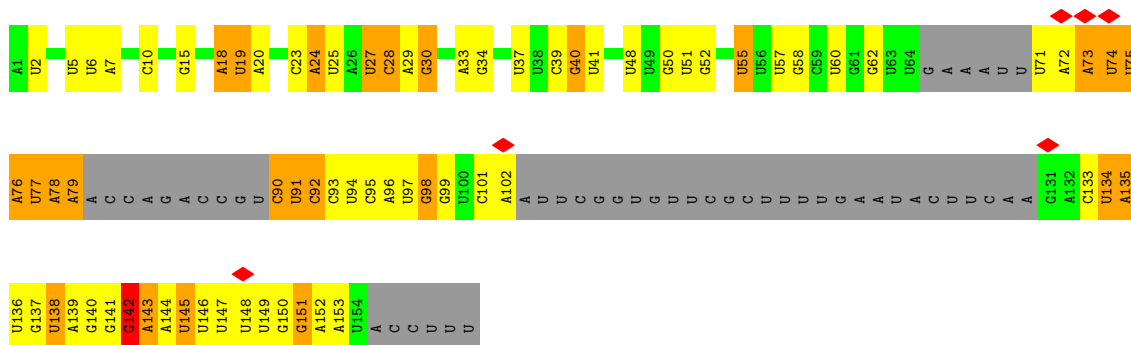


• Molecule 16: U6 snRNA

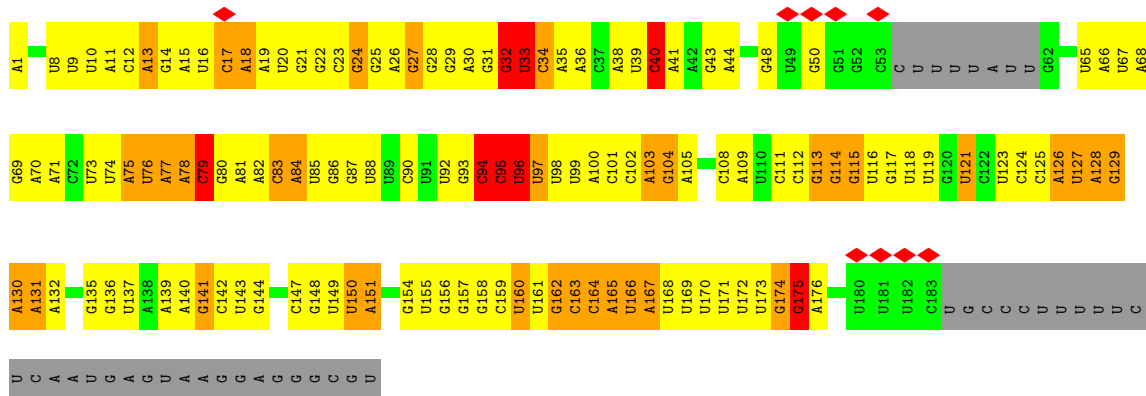
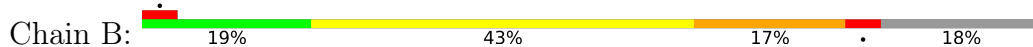


• Molecule 17: U4 snRNA

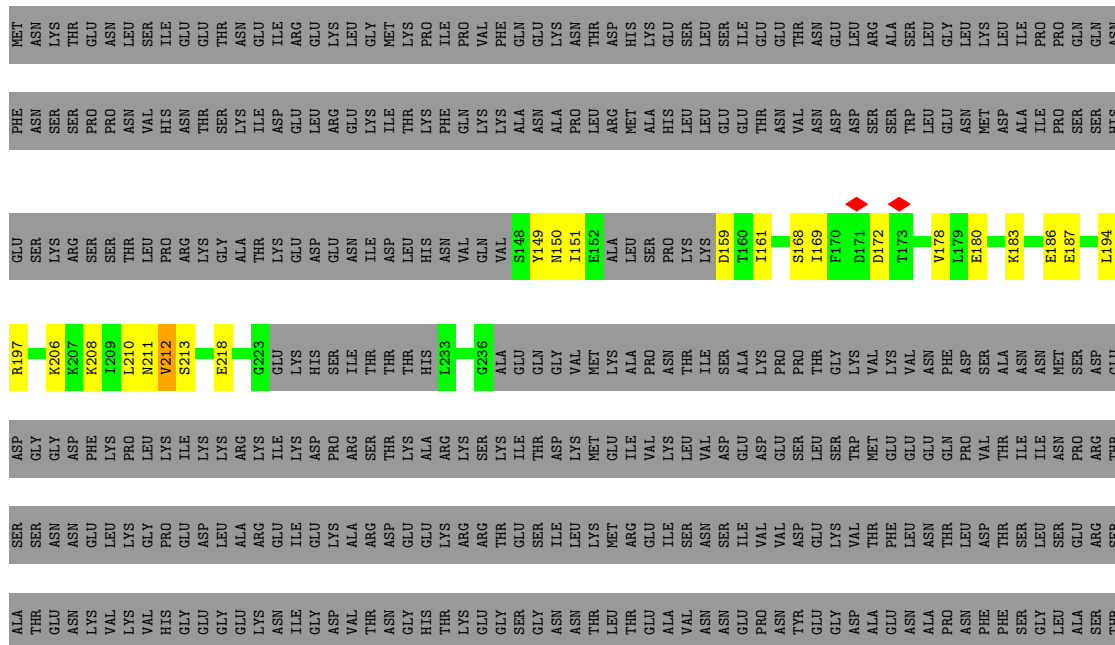


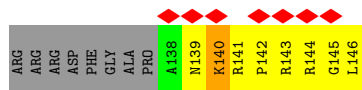


• Molecule 18: U5 snRNA

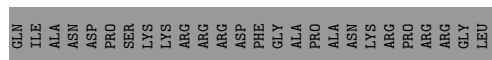
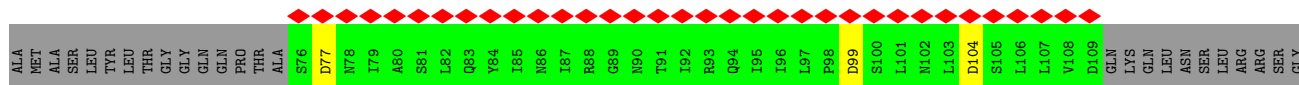
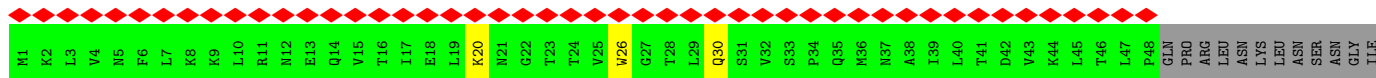


• Molecule 19: 66 kDa U4/U6.U5 small nuclear ribonucleoprotein component

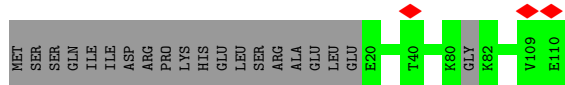
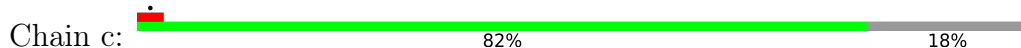




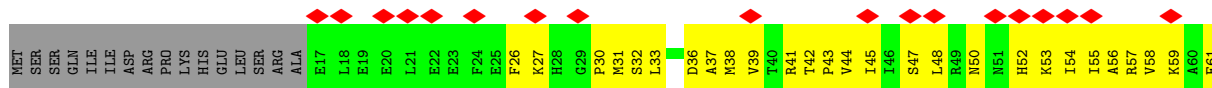
• Molecule 22: Small nuclear ribonucleoprotein Sm D1



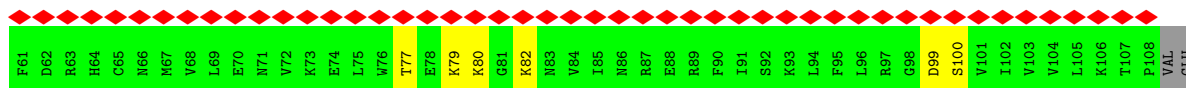
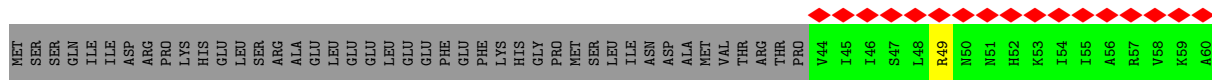
• Molecule 23: Small nuclear ribonucleoprotein Sm D2



• Molecule 23: Small nuclear ribonucleoprotein Sm D2

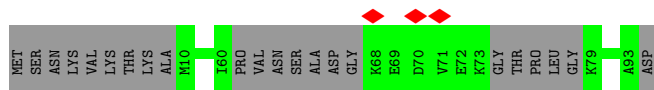


• Molecule 23: Small nuclear ribonucleoprotein Sm D2

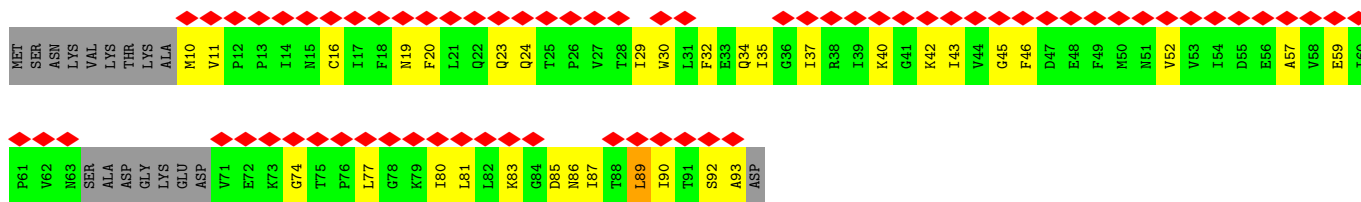
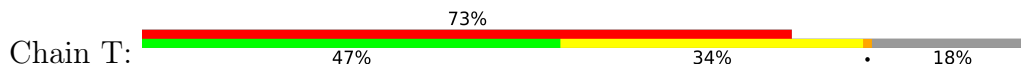


• Molecule 24: Small nuclear ribonucleoprotein E

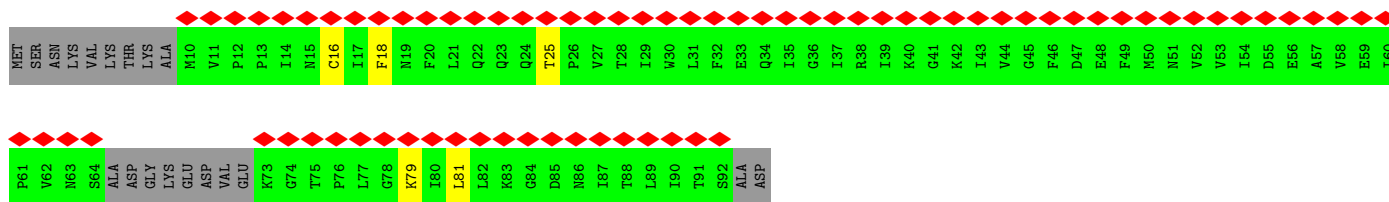
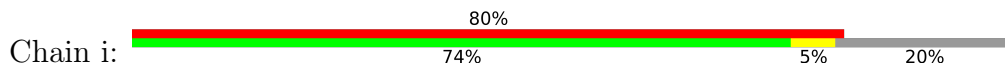




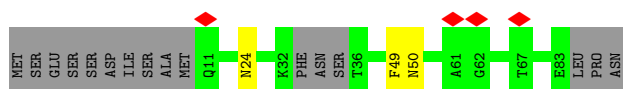
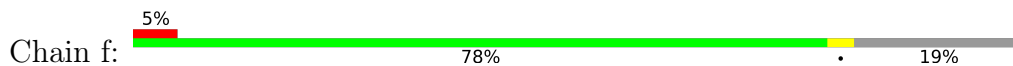
• Molecule 24: Small nuclear ribonucleoprotein E



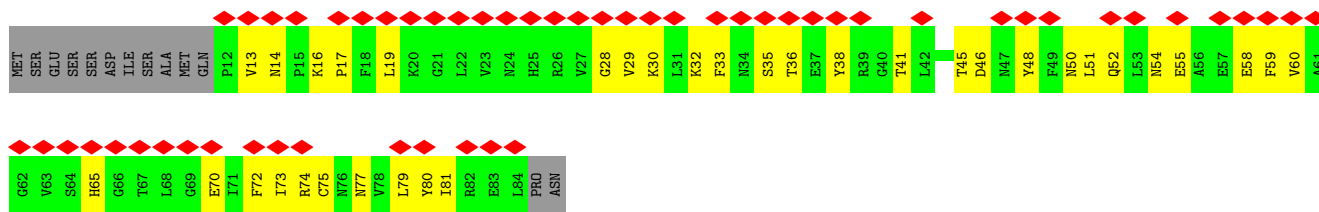
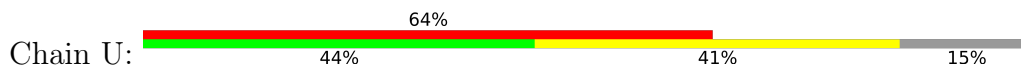
• Molecule 24: Small nuclear ribonucleoprotein E



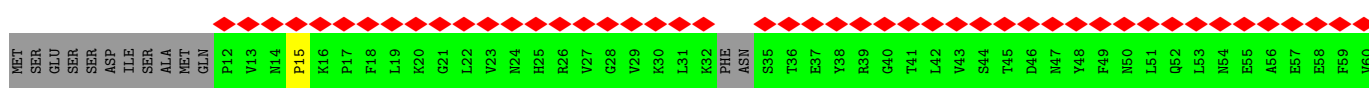
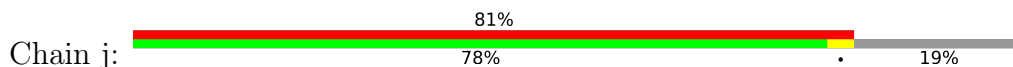
• Molecule 25: Small nuclear ribonucleoprotein F

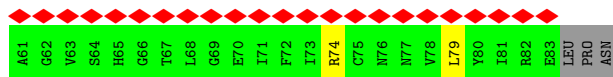


• Molecule 25: Small nuclear ribonucleoprotein F

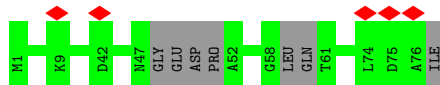


• Molecule 25: Small nuclear ribonucleoprotein F

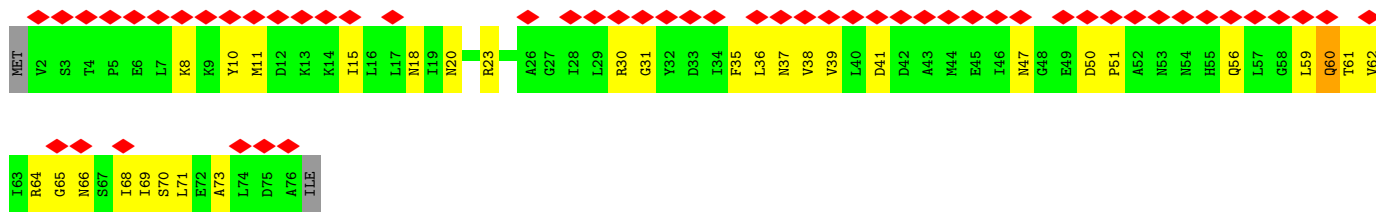




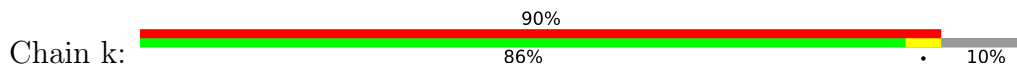
● Molecule 26: Small nuclear ribonucleoprotein G



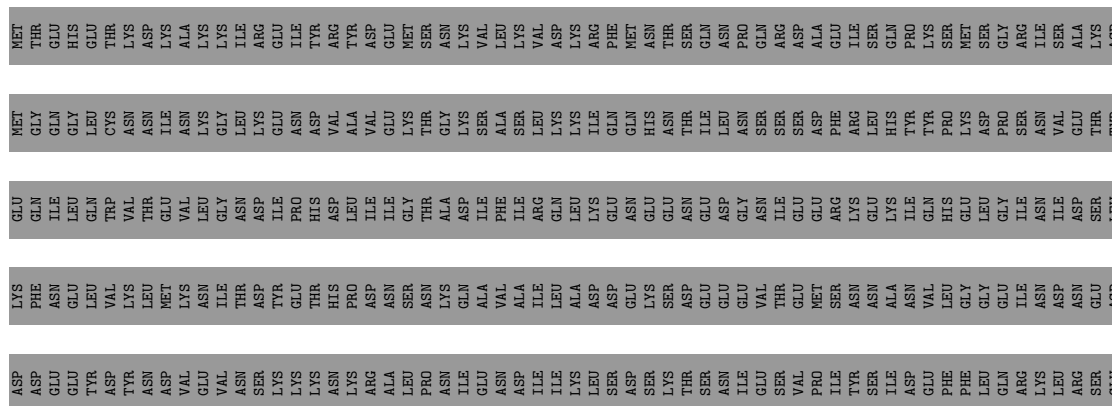
● Molecule 26: Small nuclear ribonucleoprotein G



● Molecule 26: Small nuclear ribonucleoprotein G



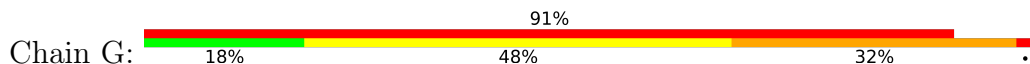
● Molecule 27: Pre-mRNA-splicing helicase BRR2



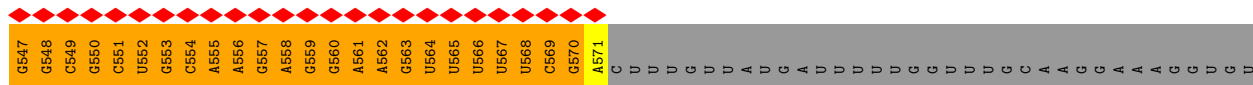
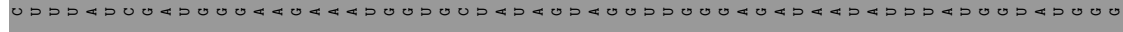
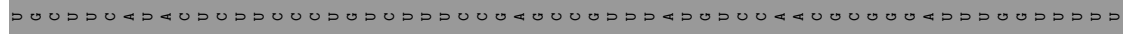
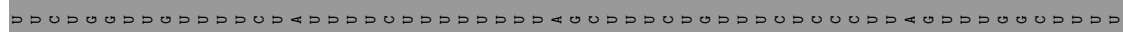
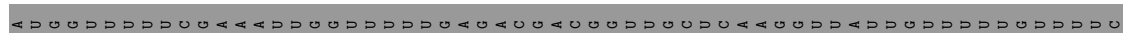
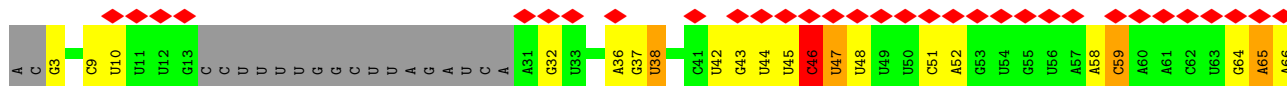
A1967	N1968	G1969	Y1970	L1971	A1972	T1973	T1974	A1975	M1976	M1977	D1978	M1982	V1987	M1992	P1993	H1916	T1917	L1994	R1995	Q1996	H1999	F2000	N2001	K2002	K2003	L2004	L1928	K2007	C2008	Q1931	A1932	Y1933	R1936	L1937	E1938	L1939	P1940	V1941	D1942	F1943	Q1944	N1945	D1946	I1960	L1951	E1952	K1953	V1954	V1960	V1961	V1962	V1963	L1964	L1965	S1966	D1889	R1889	A1900	L1901	L1902	L1905	S1906	K1907	L1908	L1909	P1910	L1911	R1912	F1913	P1914	E1915	H1916	T1917	L1994	R1995	Q1996	H1999	F2000	N2001	K2002	K2003	L2004	L1928	K2007	C2008	Q1931	A1932	Y1933	R1936	L1937	E1938	L1939	P1940	V1941	D1942	F1943	Q1944	N1945	D1946	I1960	L1951	E1952	K1953	V1954	V1960	V1961	V1962	V1963	L1964	L1965	S1966	D1475	A1476	H1477	E1478	L1479	S1480	Q1481	G1482	V1483	Y1484	G1485	A1486	Y1487	Y1488	E1489	T1490	L1491	L1492	S1493	R1494	M1495	L1496	F1497	I1498	A1499	M1500	Q1501	L1502	E1503	K1504	K1505	I1506	R1507	F1508	V1509	C1510	L1511	S1512	M1513	C1514	L1515	A1516	M1517	A1518	R1519	D1520	Q1461	R1462	E1463	M1464	I1465	Q1466	L1468	K1529	S1530	M1531	I1532	Y1533	M1534	F1535	S1536	P1537	S1538	E1539	R1540	I1541	E1542	P1543	L1544	E1545	I1546	M1547	L1548	Q1549	S1550	F1551	D1552	D1553	V1554	E1555	H1556	I1557	S1558	F1559	M1560	F1561	S1562	M1563	L1564	Q1565	M1566	F1567	H1568	R1569	A1570	S1571	A1572	A1573	A1574	A1575	G1576	M1577	N1578	M1579	S1580	S1581	S1582	S1583	F1584	L1585	P1586	S1587	M1588	L1589	D1590	C1591	E1592	M1593	V1594	A1595	S1596	A1597	F1598	M1599	K1600	F1601	S1602	K1603	A1604	I1605	E1606	V1607	D1608	M1609	L1610	M1611	V1612	E1613	E1614	E1615	Q1616	I1617	V1618	I1621	E1622	K1623	L1624	D1625	G1627	H1628	L1629	R1630	A1631	P1632	L1633	K1634	H1635	G1636	V1637	G1638	I1639	L1640	Y1641	K1642	G1643	A1645	S1646	M1647	D1648	E1649	R1650	I1651	V1652	K1653	R1654	Y1655	Y1656	E1657	Y1658	G1659	V1661	S1662	V1663	L1664	L1665	I1666	S1667	K1668	S1671	A1672	F1673	A1674	C1675	K1676	T1677	D1678	E1679	V1680	I1681	L1682	L1683	G1684	T1685	M1686	Y1687	Y1688	D1689	G1690	A1691	E1692	H1693	K1694	Y1695	M1696	P1697	Y1698	T1699	I1700	M1701	E1702	L1703	L1704	E1705	M1706	G1707	G1708	L1709	A1710	S1711	G1712	ASN	ASP	SER	M1716	A1717	G1718	K1719	V1720	L1721	I1722	L1723	T1724	S1725	H1726	M1727	M1728	K1729	A1730	Y1731	Y1732	K1733	K1734	F1735	L1736	I1737	E1738	P1739	L1740	P1741	L1742	L1743	S1744	Y1745	L1746	Q1747	Y1748	I1749	I1750	H1751	D1752	L1753	L1754	N1755	M1756	E1757	I1758	A1759	M1760	S1761	I1762	L1763	Q1764	S1765	K1766	Q1767	D1768	C1769	V1770	D1771	M1772	F1773	T1774	Y1775	S1776	Y1777	F1778	Y1779	R1780	R1781	I1782	H1783	V1784	M1785	P1786	S1787	Y1788	G1790	V1791	A1792	D1793	T1794	S1795	T1796	V1797	H1798	G1799	S1800	V1801	F1802	L1803	S1804	M1805	L1806	V1807	E1808	T1809	C1810	L1811	M1812	L1813	L1814	V1815	E1816	S1817	S1818	F1819	I1820	E1821	I1822	D1823	D1824	GLU	ALA	VAL	THR	ALA	GLU	VAL	ASN	ASP	SER	L1841	E1842	I1843	I1844	S1845	L1847	S1848	M1849	L1851	I1852	A1853	S1854	H1855	Y1856	G1857	V1858	F1859	F1860	L1861	T1862	I1863	Q1864	F1866	V1867	S1868	L1869	L1870	S1871	L1872	T1873	S1874	T1875	L1876	K1877	N1878	M1879	L1880	Y1881	L1882	L1883	S1884	T1885	A1886	V1887	F1888	E1889	L1894	R1895	K1896	G1897	D1899	R1899	A1900	L1901	L1902	L1905	S1906	K1907	L1908	L1909	P1910	L1911	R1912	F1913	P1914	E1915	H1916	T1917	L1994	R1995	Q1996	H1999	F2000	N2001	K2002	K2003	L2004	L1928	K2007	C2008	Q1931	A1932	Y1933	R1936	L1937	E1938	L1939	P1940	V1941	D1942	F1943	Q1944	N1945	D1946	I1960	L1951	E1952	K1953	V1954	V1960	V1961	V1962	V1963	L1964	L1965	S1966	D1212	R1213	S1214	V1215	M1216	R1217	F1218	M1219	I1220	E1221	I1222	A1223	M1224	M1226	I1227	M1228	L1240	L1241	M1242	L1243	E1244	D1245	T1246	D1247	G1248	D1249	S1250	I1251	L1252	V1253	D1255	V1256	I1257	F1258	P1261	D1262	I1263	V1264	G1265	H1266	F1272	E1275	L1276	K1277	Q1278	H1279	M1280	Q1281	M1282	M1283	F1288	F1289	L1292	E1295	M1296	W1297	W1298	H1299	M1300	E1301	I1304	S1307	F1308	M1309	G1310	F1311	K1312	L1313	P1314	K1315	K1316	F1317	P1318	P1319	P1320	T1321	P1322	L1323	L1324	E1325	N1326	I1327	I1329	W1330	T1331	S1332	E1333	G1335	N1336	D1337	D1338	F1339	S1340	E1341	V1342	F1343	E1344	F1345	K1346	D1406	F1407	L1408	N1349	K1350	I1351	Q1352	S1353	Q1354	V1355	F1356	E1357	S1358	L1359	Y1360	M1361	S1362	M1363	D1364	S1365	V1366	F1367	Y1368	G1369	S1370	G1371	K1372	G1373	T1374	G1375	K1376	T1377	A1378	M1379	L1382	L1383	L1384	L1385	M1386	H1387	W1388	W1389	V1450	M1390	M1391	K1392	G1393	L1394	A1395	A1396	V1397	Y1397	I1398	M1399	P1400	S1401	G1402	E1403	K1404	I1405	D1406	F1407	L1408	N1349	K1350	I1351	Q1352	S1353	Q1354	R1415	F1416	S1417	H1418	L1419	A1420	G1421	G1422	I1423	I1424	I1425	M1426	K1427	L1428	G1429	M1430	D1431	P1432	S1433	L1434	M1435	L1436	K1437	F1438	L1439	A1440	K1441	H1442	H1443	V1444	L1445	L1446	A1447	T1448	P1449	V1450	C1510	L1511	S1512	M1513	C1514	L1515	A1516	M1517	A1518	R1519	D1520	Q1461	R1462	E1463	M1464	I1465	Q1466	L1468	K1529	S1530	M1531	I1532	Y1533	M1534	F1535	S1536	P1537	S1538	E1539	R1540	I1541	E1542	P1543	L1544	E1545	I1546	M1547	L1548	Q1549	S1550	F1551	D1552	D1553	V1554	E1555	H1556	I1557	S1558	F1559	M1560	F1561	S1562	M1563	L1564	Q1565	M1566	F1567	H1568	R1569	A1570	S1571	A1572	A1573	A1574	A157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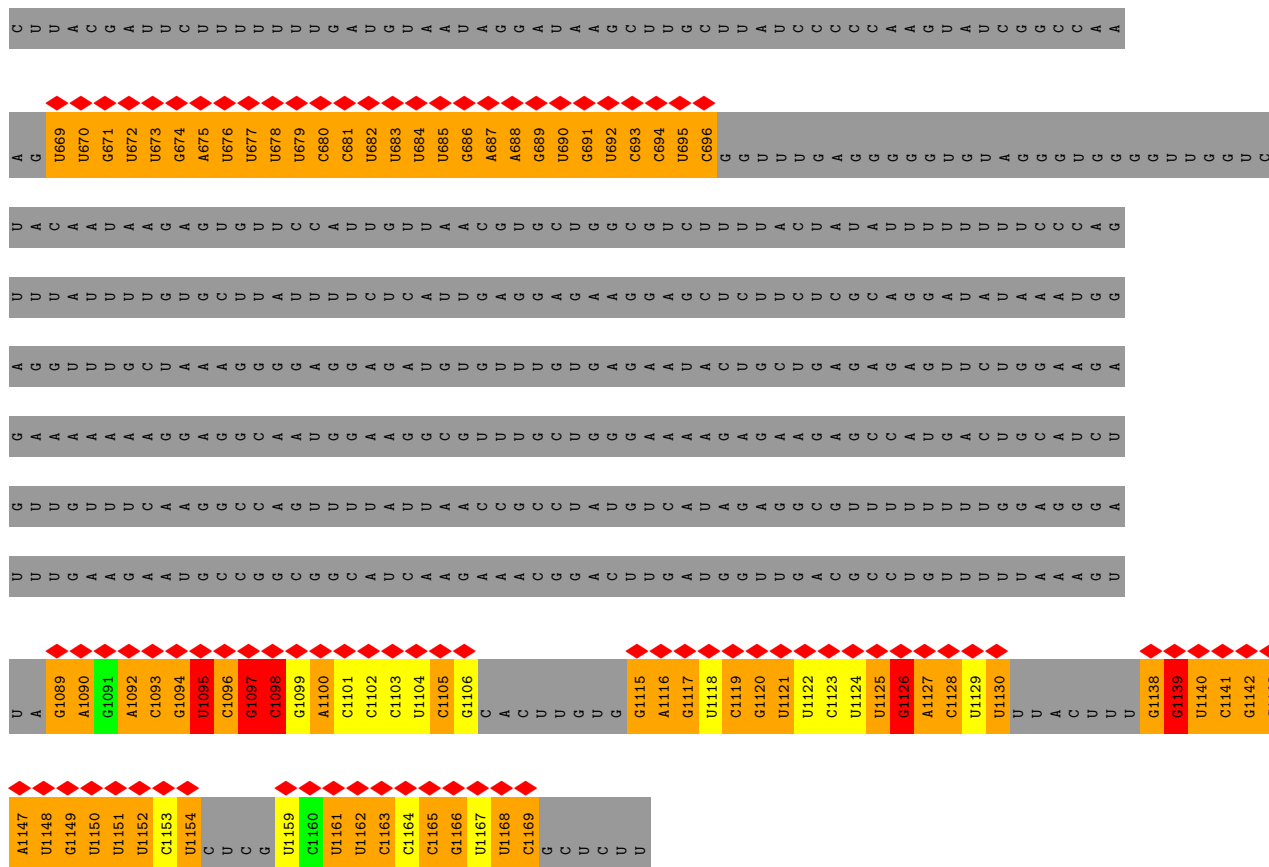


• Molecule 28: Pre-mRNA-BPS

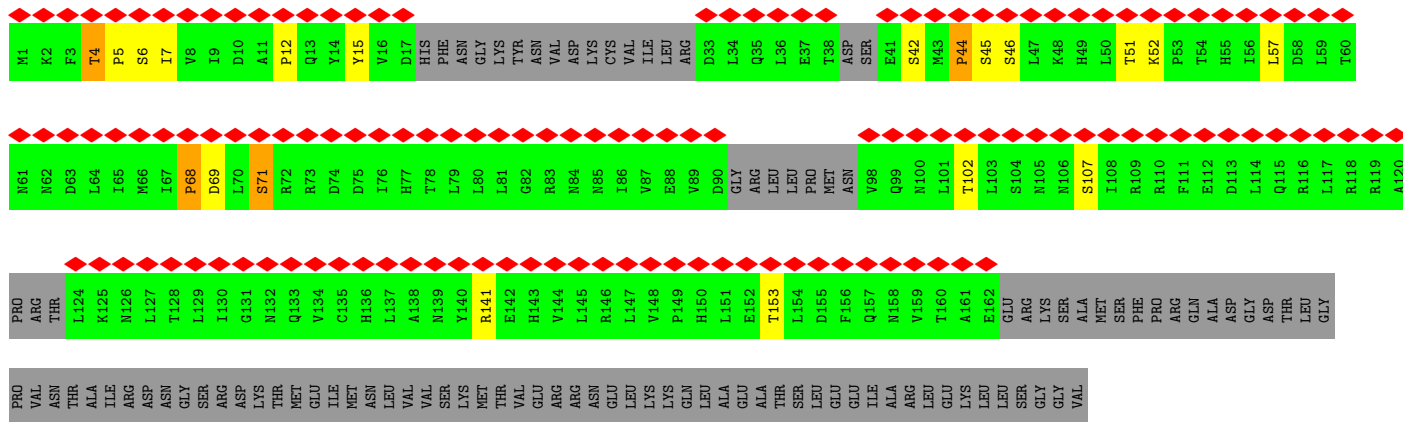


• Molecule 29: U2 snRNA





• Molecule 30: U2 small nuclear ribonucleoprotein A'

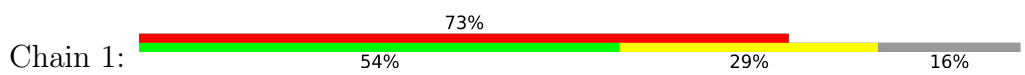


• Molecule 31: U2 small nuclear ribonucleoprotein B''



V61	S62	M63	M64	F65	K66	K67	Q68	R69	G70	Q71	A72	F73	I74	T75	M76	R77	T78	I79	D80	Q81	A82	S83	L84	A85	Q86	I87	S88	L89	N90	G91	E92	R93	F94	F95	G96	K97	P98	L99	K100	V101	E102	F103	SER	LYS	SER	GLU	THR	LYS	THR	LEU
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• Molecule 32: U2 snRNP component HSH155



MET	SER	HIS	PRO	ILE	GLN	PHE	VAL	PHE	ASN	ALA	ASP	ALA	ASN	ASN	ASN	ASP	ASP	ASP	GLN	GLN	THR	LEU	GLY	GLY	GLN	VAL	TYR	TYR	SER	ILE	PRO	Q81	ASN	GLM	GLM	GLN	LYS	LYS	ALA	ALA	ARG	ILE	ARG	TRP	GLY	GLU	ASP	ASN	VAL	D215	K161	K162	E163	R164	T165	L166	S167	M168	L169	L170	L171	K172	I173	K174	M175	G176	M177	L178	L229	G231	L232	G233	D234	L235	T236	K237	P238	Y239	V240	H241
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ASP	SER	ALA	LEU	VAL	ASN	VAL	GLY	GLY	ILE	HIS	ASP	LEU	MET	PHE	PHE	LYS	PRO	SER	ASP	HIS	ASP	ASP	GLN	THR	GLN	VAL	TYR	PHE	F201	ALA	ASP	VAL	ASP	GLU	GLU	GLU	GLY	ARG	ALA	LYS	LYS	ARG	ILE	TRP	ASP	ASP	VAL	D216	Q216	E217	R218	H219	L220	M221	I222	K223	T224	L225	D226	K172	I173	M175	G176	M177	L178	L229	G231	L232	G233	D234	L235	T236	K237	P238	Y239	V240	H241
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K243	I243	L244	V245	V246	A247	A248	P249	L250	L251	I252	D253	E254	D255	P256	M257	V258	R259	S260	T261	H262	G263	Q263	E264	I265	I266	T267	H268	L269	S270	T271	V272	A273	G274	L275	K276	T277	I278	L279	T280	V281	H282	R283	P284	D285	I286	E287	M288	E289	D290	E291	V292	V293	R294	M295	T296	K297	S298	R299	A300	A301
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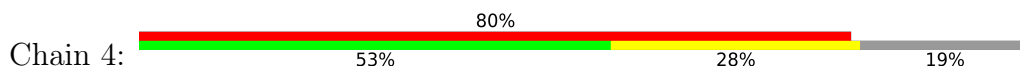
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F422	K423	M424	G425	Y426	F427	A428	A429	L430	S431	E432	M433	M434	M435	M436	F437	L438	F439	Q440	F441	E442	K443	L444	G445	V446	E447	K448	M449	D450	S451	S452	M453	V454	L455	V456	K458	D459	P460	M461	K462	S463	L464	V465	F466	E467	P468	S469	L470	K471	L472	Q473	M474	L475	S476	L477	L478	S479	Q480	Q481			
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I783	S784	VAL	SER	LEU	ASN	ASN	GLU	GLU	GLU	GLU	GLU	GLU	ASP	ASP	ASP	ASP	LYS	GLU	GLU	GLU	ILE	ASN	SER	SER	GLY	ALA	K614	M815	M816	S817	C818	R819	V820	C821	H822	S823	S824	S825	T826	W827	S828	S829	W828	Y830	T831	W832	K833	M834	W835	W836	R839	Q840	L841	R842	L843	D843					
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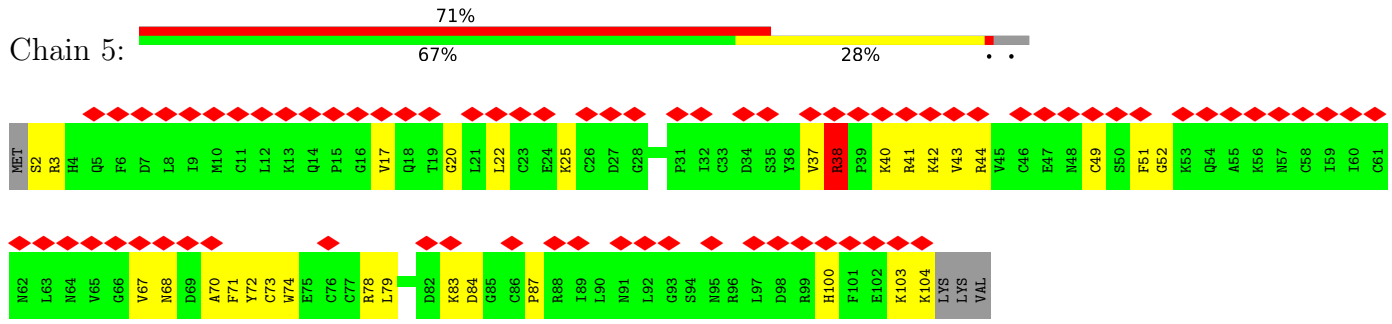
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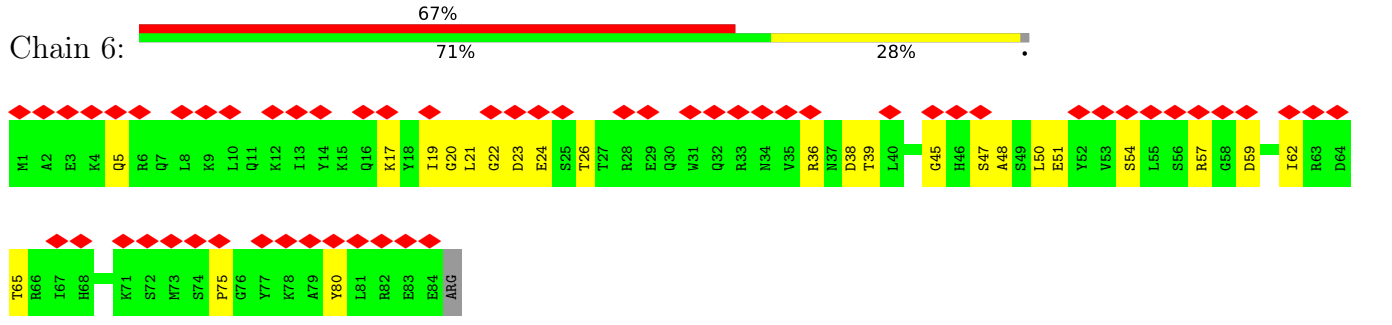


MET	ASN	TYR	SER	ALA	ASP	SER	GLY	N9	T10	V11	Y12	V13	G14	N15	I16	D17	P18	R19	I20	T21	K22	E23	Q24	L25	V26	Q85	Y86	THR	ASN	F28	L28	SER	THR	THR	GLY	I32	N33	ASN	P34	V35	L36	R37	I38	K39	Y40	P41	K42	D43	K44	V45	L46	Q47	A48	Y49	Q50	G51	Y52	A53	F54	I55	E56	F57	Y58	N59	Q60		
G61	D62	A63	Q64	Y65	A66	I67	K68	I69	M70	N71	N72	T73	V74	R75	L76	Y77	D78	R79	L80	I81	K82	V83	R84	Q85	Y86	THR	ASN	F28	L28	SER	THR	THR	GLY	I32	N33	ASN	P34	V35	L36	R37	I38	K39	Y40	P41	K42	D43	K44	V45	L46	Q47	A48	Y49	Q50	G51	Y52	A53	F54	I55	E56	F57	Y58	N59	Q60				
S121	D122	Q123	L124	V125	K126	I127	F128	M129	K130	F131	G132	K133	L134	I135	R136	E137	P138	E139	I140	F141	Y142	L143	S144	ASN	GLY	K147	L148	L149	K149	C150	A151	Y152	V153	Y154	F155	E156	D157	F158	E159	K160	A161	D162	L163	A164	I165	K166	S167	L168	N169	M170	Q171	L172	V173	A174	M175	N176	R177	I178	T179	V180							
D181	Y182	A183	F184	K185	GLU	N187	G188	K189	G190	N191	A192	K193	Y194	G195	D196	D197	V198	D199	R200	L201	L202	N203	LYS	GLU	ALA	LEU	LEU	LYS	HIS	ASN	MET	LEU	LYS	K147	L148	L149	C150	A151	Y152	V153	Y154	F155	E156	D157	F158	E159	K160	A161	D162	L163	A164	I165	K166	S167	L168	N169	M170	Q171	L172	V173	A174	M175	N176	R177	I178	T179	V180

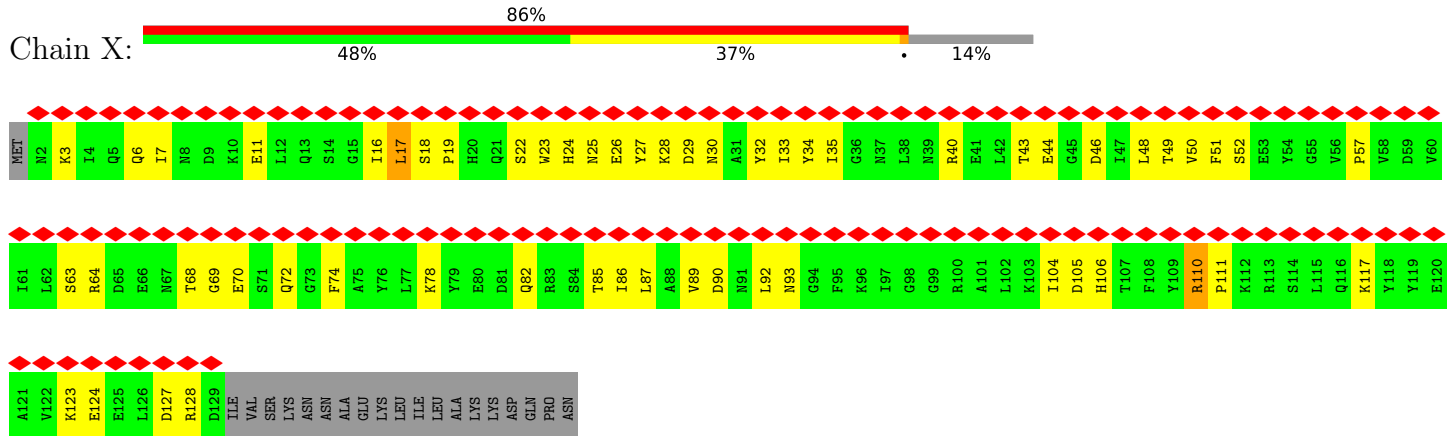
• Molecule 36: Pre-mRNA-splicing factor RDS3



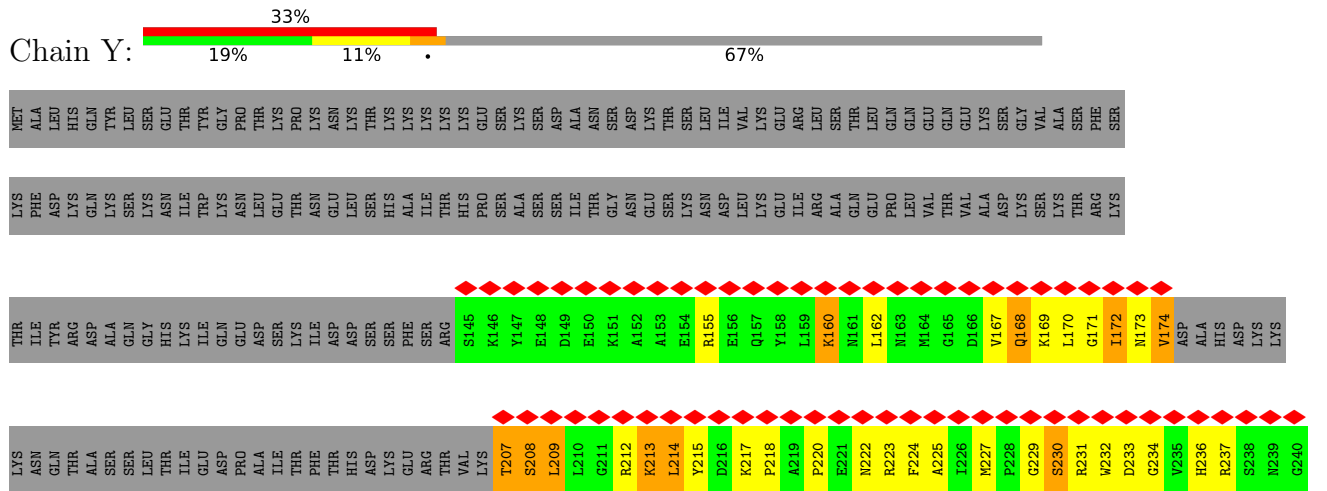
• Molecule 37: RDS3 complex subunit 10

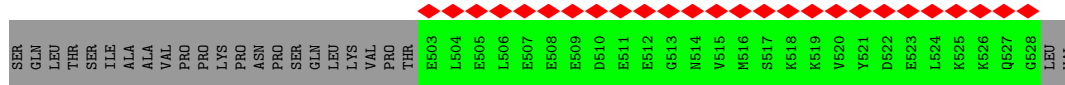


• Molecule 38: U2 snRNP component IST3

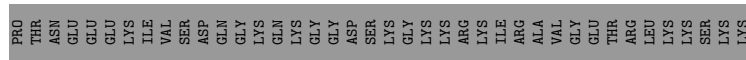
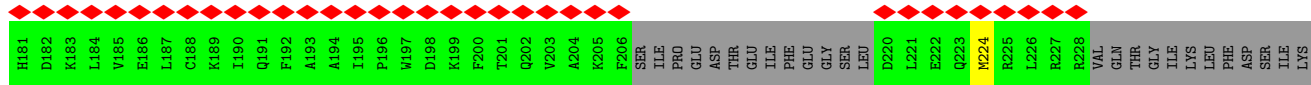
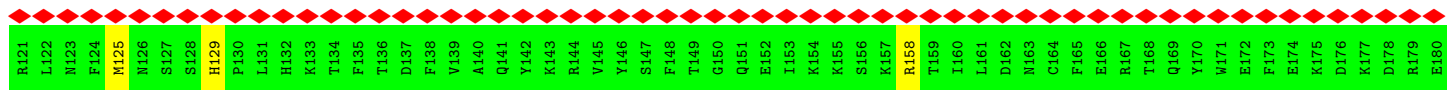
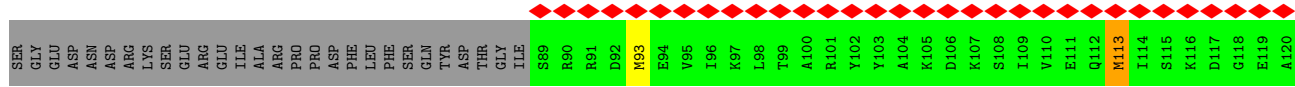
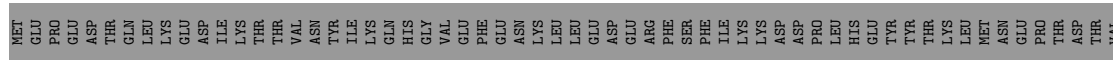
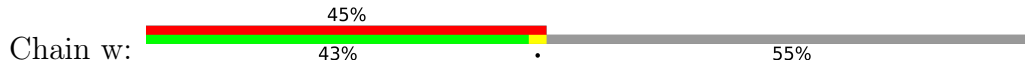


• Molecule 39: Pre-mRNA-splicing factor CWC26

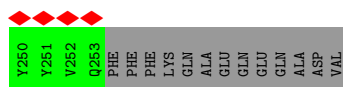
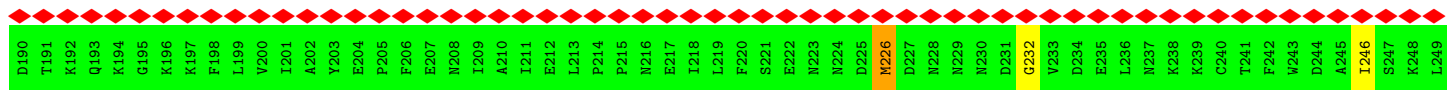
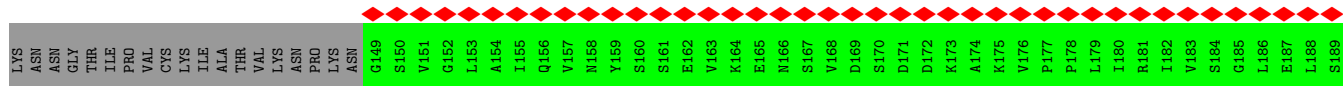
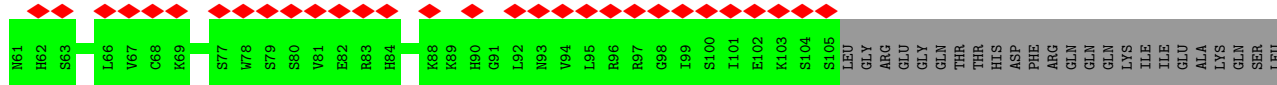




• Molecule 42: Pre-mRNA-splicing factor PRP21



• Molecule 43: Pre-mRNA-splicing factor PRP11



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	500657	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	0.386	Depositor
Minimum map value	-0.170	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.023	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, ZN, 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	0.33	2/18332 (0.0%)	0.51	1/24851 (0.0%)
2	K	0.33	0/3431	0.59	0/4631
3	L	0.31	0/3219	0.48	0/4332
4	N	0.28	0/4937	0.47	0/6704
5	J	0.30	0/2485	0.46	0/3333
6	E	0.34	0/1167	0.50	0/1571
7	M	0.31	0/963	0.51	0/1310
8	C	0.32	0/6874	0.52	0/9305
9	z	0.49	0/259	0.70	0/322
10	q	0.49	0/367	0.65	0/457
11	r	0.59	0/307	0.75	0/382
12	x	0.48	0/295	0.68	0/367
13	t	0.50	0/306	0.71	0/379
14	y	0.49	0/262	0.71	0/324
15	s	0.47	0/306	0.68	0/379
16	F	0.38	0/2277	0.90	0/3534
17	I	0.53	4/2604 (0.2%)	0.99	10/4046 (0.2%)
18	B	0.36	1/4151 (0.0%)	0.97	18/6462 (0.3%)
19	O	0.25	0/573	0.42	0/763
20	S	0.41	0/641	0.65	2/868 (0.2%)
20	d	0.29	0/315	0.46	0/392
20	l	0.45	1/620 (0.2%)	0.68	1/841 (0.1%)
21	P	0.41	0/567	0.61	0/762
21	a	0.28	0/290	0.46	0/359
21	h	0.37	0/615	0.61	0/829
22	Q	0.39	0/756	0.69	1/1023 (0.1%)
22	b	0.27	0/305	0.47	0/376
22	m	0.42	0/649	0.61	0/880
23	R	0.38	0/764	0.57	0/1026
23	c	0.25	0/358	0.45	0/444
23	n	0.41	0/535	0.57	0/717
24	T	0.38	0/612	0.59	1/830 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
24	e	0.29	0/285	0.43	0/351
24	i	0.43	0/585	0.62	0/795
25	U	0.39	0/597	0.62	0/807
25	f	0.30	0/278	0.45	0/344
25	j	0.44	0/564	0.66	2/761 (0.3%)
26	V	0.41	0/582	0.67	1/785 (0.1%)
26	g	0.25	0/277	0.46	0/341
26	k	0.37	0/532	0.60	0/715
27	D	0.40	1/13899 (0.0%)	0.62	6/18845 (0.0%)
28	G	0.26	0/1038	0.87	3/1611 (0.2%)
29	H	1.10	61/4835 (1.3%)	1.70	185/7502 (2.5%)
30	o	1.03	9/839 (1.1%)	1.65	11/1127 (1.0%)
31	p	0.81	3/467 (0.6%)	1.35	2/623 (0.3%)
32	1	0.28	0/6600	0.48	1/8962 (0.0%)
33	2	0.26	0/1775	0.45	0/2402
34	3	0.30	0/9564	0.57	1/12963 (0.0%)
35	4	0.26	0/1453	0.43	0/1954
36	5	0.28	0/827	0.46	0/1105
37	6	0.28	0/702	0.44	0/939
38	X	0.49	0/1071	0.65	0/1445
39	Y	0.52	0/743	0.70	0/994
40	Z	0.51	0/176	0.59	0/237
41	u	0.35	5/3972 (0.1%)	0.41	0/5322
42	w	0.45	4/1105 (0.4%)	0.37	0/1475
43	v	0.29	1/1396 (0.1%)	0.41	0/1881
All	All	0.42	92/114304 (0.1%)	0.71	246/157085 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
2	K	0	2
3	L	0	1
4	N	0	2
8	C	0	2
27	D	0	4
32	1	0	4
34	3	0	1
41	u	0	2
All	All	0	19

All (92) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	H	1161	U	O3'-P	-15.59	1.42	1.61
29	H	1092	A	O3'-P	-14.82	1.43	1.61
29	H	1116	A	O3'-P	-11.52	1.47	1.61
29	H	1163	C	O5'-C5'	9.10	1.59	1.44
29	H	1116	A	C3'-O3'	-8.99	1.29	1.42
29	H	1127	A	O3'-P	-8.68	1.50	1.61
29	H	1167	U	O3'-P	8.59	1.71	1.61
1	A	266	LEU	C-N	8.15	1.49	1.34
29	H	1164	C	O3'-P	-8.13	1.51	1.61
17	I	142	G	N7-C5	-7.95	1.34	1.39
29	H	1162	U	P-O5'	7.58	1.67	1.59
29	H	1163	C	P-O5'	7.54	1.67	1.59
30	o	46	SER	CB-OG	7.47	1.51	1.42
29	H	1117	G	P-O5'	7.21	1.67	1.59
30	o	45	SER	CB-OG	7.17	1.51	1.42
31	p	33	SER	CB-OG	7.11	1.51	1.42
30	o	69	ASP	CA-CB	-7.06	1.38	1.53
29	H	1154	U	C1'-N1	7.04	1.59	1.48
29	H	1128	C	C5'-C4'	-7.02	1.43	1.51
29	H	1096	C	O3'-P	7.00	1.69	1.61
30	o	6	SER	CB-OG	6.96	1.51	1.42
18	B	175	G	C1'-N9	-6.96	1.37	1.46
29	H	546	U	C1'-N1	6.93	1.59	1.48
29	H	1140	U	C1'-N1	6.91	1.59	1.48
29	H	564	U	C1'-N1	6.88	1.59	1.48
29	H	684	U	C1'-N1	6.86	1.59	1.48
29	H	679	U	C1'-N1	6.85	1.59	1.48
29	H	673	U	C1'-N1	6.84	1.59	1.48
29	H	566	U	C1'-N1	6.83	1.58	1.48
29	H	682	U	C1'-N1	6.82	1.58	1.48
29	H	685	U	C1'-N1	6.82	1.58	1.48
29	H	669	U	C1'-N1	6.81	1.58	1.48
29	H	567	U	C1'-N1	6.81	1.58	1.48
29	H	552	U	C1'-N1	6.81	1.58	1.48
29	H	678	U	C1'-N1	6.81	1.58	1.48
29	H	565	U	C1'-N1	6.80	1.58	1.48
29	H	672	U	C1'-N1	6.78	1.58	1.48
29	H	568	U	C1'-N1	6.78	1.58	1.48
29	H	676	U	C1'-N1	6.76	1.58	1.48
29	H	1095	U	O3'-P	6.51	1.69	1.61
29	H	1169	C	C1'-N1	6.51	1.58	1.48
29	H	696	C	C1'-N1	6.37	1.58	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	H	693	C	C1'-N1	6.34	1.58	1.48
29	H	554	C	C1'-N1	6.30	1.58	1.48
29	H	694	C	C1'-N1	6.30	1.58	1.48
29	H	1117	G	C5'-C4'	6.29	1.58	1.51
29	H	680	C	C1'-N1	6.29	1.58	1.48
29	H	549	C	C1'-N1	6.29	1.58	1.48
29	H	551	C	C1'-N1	6.27	1.58	1.48
29	H	681	C	C1'-N1	6.27	1.58	1.48
29	H	1168	U	C5'-C4'	-6.25	1.43	1.51
29	H	569	C	C1'-N1	6.24	1.58	1.48
29	H	1162	U	O3'-P	6.19	1.68	1.61
29	H	1162	U	O5'-C5'	6.09	1.54	1.44
17	I	142	G	C2-N2	-6.06	1.28	1.34
41	u	180	MET	CG-SD	6.00	1.96	1.81
17	I	73	A	C1'-N9	-5.99	1.38	1.46
29	H	1165	C	O5'-C5'	5.98	1.54	1.44
29	H	1151	U	O5'-C5'	-5.90	1.33	1.42
29	H	1163	C	O3'-P	5.87	1.68	1.61
29	H	1097	G	O3'-P	5.81	1.68	1.61
29	H	1162	U	C2-N3	5.79	1.41	1.37
30	o	42	SER	CB-OG	5.79	1.49	1.42
30	o	102	THR	CB-OG1	5.79	1.54	1.43
29	H	690	U	C1'-N1	5.75	1.57	1.48
29	H	1161	U	C3'-O3'	-5.74	1.34	1.42
29	H	695	U	C1'-N1	5.74	1.57	1.48
29	H	1162	U	C3'-C2'	-5.73	1.46	1.52
29	H	692	U	C1'-N1	5.71	1.57	1.48
29	H	683	U	C1'-N1	5.70	1.57	1.48
42	w	113	MET	CG-SD	5.70	1.96	1.81
29	H	121	C	C1'-N1	5.67	1.57	1.48
29	H	677	U	C1'-N1	5.62	1.57	1.48
29	H	670	U	C1'-N1	5.62	1.57	1.48
17	I	74	U	C1'-N1	5.59	1.57	1.48
30	o	15	TYR	CB-CG	-5.58	1.43	1.51
41	u	14	MET	CG-SD	5.55	1.95	1.81
43	v	226	MET	CG-SD	5.55	1.95	1.81
30	o	51	THR	CB-OG1	5.52	1.54	1.43
42	w	224	MET	CG-SD	5.51	1.95	1.81
42	w	93	MET	CG-SD	5.46	1.95	1.81
41	u	230	MET	CG-SD	5.45	1.95	1.81
41	u	351	MET	CG-SD	5.42	1.95	1.81
42	w	125	MET	CG-SD	5.40	1.95	1.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1014	LYS	C-N	-5.29	1.24	1.34
29	H	147	A	O3'-P	-5.22	1.54	1.61
31	p	75	THR	CB-OG1	5.20	1.53	1.43
41	u	222	MET	CG-SD	5.18	1.94	1.81
20	l	82	PRO	N-CD	5.16	1.55	1.47
30	o	153	THR	CB-OG1	5.09	1.53	1.43
31	p	65	PHE	CB-CG	-5.06	1.42	1.51
27	D	1695	TYR	CE1-CZ	-5.06	1.31	1.38

All (246) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	H	1162	U	C5'-C4'-O4'	14.85	126.92	109.10
29	H	1093	C	P-O5'-C5'	14.77	144.53	120.90
29	H	1147	A	C5'-C4'-C3'	-14.16	93.34	116.00
29	H	1092	A	C2'-C3'-O3'	14.09	140.49	109.50
29	H	1098	C	N1-C1'-C2'	-13.36	96.64	114.00
29	H	1151	U	C4'-C3'-O3'	-12.56	83.02	109.40
27	D	1213	ARG	NE-CZ-NH2	-12.13	114.23	120.30
18	B	96	U	O5'-P-OP1	-11.67	95.20	105.70
29	H	1151	U	P-O5'-C5'	11.65	139.54	120.90
29	H	1117	G	C5'-C4'-O4'	11.48	122.87	109.10
29	H	1117	G	C5'-C4'-C3'	-10.91	98.54	116.00
29	H	1163	C	C5'-C4'-O4'	10.55	121.77	109.10
29	H	1126	G	N9-C1'-C2'	-10.00	101.00	112.00
17	I	142	G	N1-C6-O6	-9.88	113.97	119.90
29	H	1139	G	N9-C1'-C2'	-9.75	101.27	112.00
29	H	1163	C	C5'-C4'-C3'	-9.72	100.44	116.00
29	H	1147	A	P-O5'-C5'	9.62	136.28	120.90
29	H	1162	U	C5'-C4'-C3'	-9.16	101.34	116.00
29	H	1168	U	C4'-C3'-O3'	-9.00	90.50	109.40
29	H	142	C	N1-C1'-C2'	-8.82	102.30	112.00
30	o	44	PRO	N-CA-CB	8.81	113.87	103.30
17	I	142	G	C5-C6-O6	8.75	133.85	128.60
29	H	1152	U	P-O5'-C5'	8.71	134.83	120.90
29	H	1151	U	O4'-C1'-N1	8.60	115.08	108.20
29	H	1092	A	P-O5'-C5'	8.56	134.60	120.90
29	H	1148	U	C4'-C3'-O3'	-8.53	91.50	109.40
29	H	148	G	C5'-C4'-C3'	-8.27	102.76	116.00
29	H	1165	C	C5'-C4'-C3'	-8.26	102.78	116.00
17	I	142	G	N1-C2-N3	8.21	128.83	123.90
29	H	1151	U	C5'-C4'-O4'	8.05	118.77	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	H	1168	U	P-O5'-C5'	-7.95	108.19	120.90
29	H	1167	U	C2'-C3'-O3'	7.88	126.85	109.50
29	H	1092	A	C4'-C3'-O3'	-7.86	92.90	109.40
17	I	71	U	C2-N1-C1'	7.82	127.09	117.70
29	H	1165	C	C5'-C4'-O4'	7.82	118.48	109.10
29	H	1147	A	C4'-C3'-O3'	7.75	128.51	113.00
29	H	1161	U	C5'-C4'-C3'	-7.75	103.60	116.00
29	H	1093	C	C5'-C4'-C3'	-7.73	103.63	116.00
29	H	1169	C	P-O5'-C5'	-7.65	108.67	120.90
18	B	33	U	P-O3'-C3'	7.63	128.86	119.70
29	H	1097	G	C3'-C2'-O2'	7.62	135.38	113.30
29	H	1165	C	C4'-C3'-O3'	7.56	128.12	113.00
18	B	40	C	C2-N3-C4	-7.45	116.18	119.90
29	H	1115	G	O5'-P-OP1	-7.29	99.14	105.70
29	H	1168	U	C2'-C3'-O3'	7.29	125.53	109.50
30	o	5	PRO	N-CA-CB	7.25	112.00	103.30
29	H	1089	G	C4'-C3'-O3'	7.24	127.49	113.00
30	o	42	SER	N-CA-CB	-7.24	99.64	110.50
29	H	1128	C	C5'-C4'-O4'	7.24	117.79	109.10
29	H	547	G	OP2-P-O3'	7.24	121.13	105.20
29	H	551	C	OP2-P-O3'	7.24	121.13	105.20
29	H	546	U	OP2-P-O3'	7.24	121.12	105.20
29	H	545	G	OP2-P-O3'	7.24	121.12	105.20
29	H	681	C	OP2-P-O3'	7.24	121.12	105.20
29	H	552	U	OP2-P-O3'	7.23	121.11	105.20
29	H	557	G	OP2-P-O3'	7.23	121.11	105.20
29	H	561	A	OP2-P-O3'	7.23	121.11	105.20
29	H	671	G	OP2-P-O3'	7.23	121.10	105.20
29	H	556	A	OP2-P-O3'	7.22	121.09	105.20
29	H	564	U	OP2-P-O3'	7.22	121.09	105.20
29	H	567	U	OP2-P-O3'	7.22	121.09	105.20
29	H	670	U	OP2-P-O3'	7.22	121.09	105.20
29	H	695	U	OP2-P-O3'	7.22	121.09	105.20
29	H	569	C	OP2-P-O3'	7.22	121.09	105.20
29	H	687	A	OP2-P-O3'	7.22	121.08	105.20
29	H	691	G	OP2-P-O3'	7.22	121.08	105.20
29	H	562	A	OP2-P-O3'	7.22	121.08	105.20
29	H	544	G	OP2-P-O3'	7.22	121.08	105.20
29	H	566	U	OP2-P-O3'	7.22	121.08	105.20
29	H	669	U	OP2-P-O3'	7.22	121.08	105.20
29	H	550	G	OP2-P-O3'	7.21	121.07	105.20
29	H	684	U	OP2-P-O3'	7.21	121.07	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	H	560	G	OP2-P-O3'	7.21	121.07	105.20
29	H	568	U	OP2-P-O3'	7.21	121.07	105.20
29	H	553	G	OP2-P-O3'	7.21	121.06	105.20
29	H	554	C	OP2-P-O3'	7.21	121.07	105.20
29	H	570	G	OP2-P-O3'	7.21	121.06	105.20
29	H	694	C	OP2-P-O3'	7.21	121.07	105.20
29	H	555	A	OP2-P-O3'	7.21	121.06	105.20
29	H	673	U	OP2-P-O3'	7.21	121.06	105.20
29	H	682	U	OP2-P-O3'	7.21	121.06	105.20
29	H	677	U	OP2-P-O3'	7.21	121.06	105.20
29	H	692	U	OP2-P-O3'	7.21	121.06	105.20
29	H	549	C	OP2-P-O3'	7.21	121.05	105.20
29	H	565	U	OP2-P-O3'	7.20	121.04	105.20
29	H	683	U	OP2-P-O3'	7.20	121.04	105.20
29	H	685	U	OP2-P-O3'	7.20	121.04	105.20
29	H	686	G	OP2-P-O3'	7.20	121.04	105.20
29	H	548	G	OP2-P-O3'	7.20	121.04	105.20
29	H	672	U	OP2-P-O3'	7.20	121.03	105.20
29	H	559	G	OP2-P-O3'	7.20	121.03	105.20
17	I	71	U	N1-C2-O2	7.19	127.83	122.80
29	H	680	C	OP2-P-O3'	7.19	121.02	105.20
29	H	693	C	OP2-P-O3'	7.19	121.02	105.20
29	H	689	G	OP2-P-O3'	7.19	121.02	105.20
29	H	558	A	OP2-P-O3'	7.19	121.01	105.20
29	H	674	G	OP2-P-O3'	7.19	121.01	105.20
29	H	676	U	OP2-P-O3'	7.19	121.01	105.20
29	H	679	U	OP2-P-O3'	7.19	121.01	105.20
29	H	690	U	OP2-P-O3'	7.19	121.01	105.20
29	H	563	G	OP2-P-O3'	7.19	121.01	105.20
29	H	678	U	OP2-P-O3'	7.18	121.01	105.20
29	H	675	A	OP2-P-O3'	7.18	121.00	105.20
29	H	1159	U	O5'-P-OP1	-7.18	99.24	105.70
29	H	688	A	OP2-P-O3'	7.18	120.99	105.20
29	H	1089	G	O5'-P-OP1	-7.13	99.28	105.70
29	H	1159	U	O5'-P-OP2	-7.12	99.30	105.70
29	H	139	G	O5'-P-OP2	-7.11	99.30	105.70
29	H	139	G	O5'-P-OP1	-7.09	99.32	105.70
29	H	1089	G	O5'-P-OP2	-7.08	99.33	105.70
29	H	1115	G	C4'-C3'-O3'	7.05	127.10	113.00
28	G	506	U	C2-N1-C1'	7.01	126.12	117.70
29	H	1115	G	O5'-P-OP2	-7.00	99.40	105.70
29	H	674	G	O3'-P-O5'	-6.82	91.04	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	H	558	A	O3'-P-O5'	-6.81	91.06	104.00
29	H	570	G	O3'-P-O5'	-6.81	91.06	104.00
29	H	683	U	O3'-P-O5'	-6.81	91.06	104.00
29	H	559	G	O3'-P-O5'	-6.80	91.08	104.00
29	H	567	U	O3'-P-O5'	-6.80	91.09	104.00
29	H	547	G	O3'-P-O5'	-6.79	91.09	104.00
29	H	679	U	O3'-P-O5'	-6.79	91.09	104.00
29	H	688	A	O3'-P-O5'	-6.79	91.10	104.00
29	H	545	G	O3'-P-O5'	-6.79	91.10	104.00
29	H	565	U	O3'-P-O5'	-6.79	91.10	104.00
29	H	686	G	O3'-P-O5'	-6.79	91.10	104.00
29	H	671	G	O3'-P-O5'	-6.79	91.10	104.00
29	H	684	U	O3'-P-O5'	-6.79	91.10	104.00
29	H	552	U	O3'-P-O5'	-6.79	91.11	104.00
29	H	563	G	O3'-P-O5'	-6.78	91.11	104.00
29	H	681	C	O3'-P-O5'	-6.78	91.11	104.00
29	H	693	C	O3'-P-O5'	-6.78	91.11	104.00
29	H	554	C	O3'-P-O5'	-6.78	91.12	104.00
29	H	560	G	O3'-P-O5'	-6.78	91.12	104.00
29	H	678	U	O3'-P-O5'	-6.78	91.12	104.00
29	H	676	U	O3'-P-O5'	-6.78	91.12	104.00
29	H	569	C	O3'-P-O5'	-6.78	91.12	104.00
29	H	675	A	O3'-P-O5'	-6.78	91.12	104.00
29	H	682	U	O3'-P-O5'	-6.78	91.13	104.00
29	H	548	G	O3'-P-O5'	-6.77	91.13	104.00
29	H	551	C	O3'-P-O5'	-6.77	91.13	104.00
29	H	553	G	O3'-P-O5'	-6.77	91.13	104.00
29	H	670	U	O3'-P-O5'	-6.77	91.13	104.00
29	H	550	G	O3'-P-O5'	-6.77	91.14	104.00
29	H	556	A	O3'-P-O5'	-6.77	91.14	104.00
29	H	672	U	O3'-P-O5'	-6.77	91.14	104.00
29	H	677	U	O3'-P-O5'	-6.77	91.14	104.00
29	H	692	U	O3'-P-O5'	-6.77	91.14	104.00
29	H	546	U	O3'-P-O5'	-6.77	91.14	104.00
29	H	564	U	O3'-P-O5'	-6.76	91.15	104.00
29	H	557	G	O3'-P-O5'	-6.76	91.15	104.00
29	H	561	A	O3'-P-O5'	-6.76	91.15	104.00
29	H	669	U	O3'-P-O5'	-6.76	91.15	104.00
29	H	691	G	O3'-P-O5'	-6.76	91.15	104.00
29	H	544	G	O3'-P-O5'	-6.76	91.15	104.00
29	H	566	U	O3'-P-O5'	-6.76	91.16	104.00
29	H	673	U	O3'-P-O5'	-6.76	91.16	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	H	562	A	O3'-P-O5'	-6.76	91.16	104.00
29	H	685	U	O3'-P-O5'	-6.76	91.16	104.00
29	H	694	C	O3'-P-O5'	-6.76	91.16	104.00
29	H	549	C	O3'-P-O5'	-6.75	91.17	104.00
29	H	689	G	O3'-P-O5'	-6.75	91.17	104.00
29	H	690	U	O3'-P-O5'	-6.75	91.17	104.00
29	H	695	U	O3'-P-O5'	-6.75	91.17	104.00
29	H	568	U	O3'-P-O5'	-6.75	91.18	104.00
18	B	114	G	N1-C6-O6	-6.75	115.85	119.90
29	H	680	C	O3'-P-O5'	-6.75	91.18	104.00
29	H	555	A	O3'-P-O5'	-6.74	91.19	104.00
29	H	687	A	O3'-P-O5'	-6.74	91.20	104.00
30	o	12	PRO	N-CA-CB	6.74	111.39	103.30
29	H	1096	C	C1'-C2'-O2'	-6.69	90.53	110.60
29	H	1129	U	C5'-C4'-O4'	6.66	117.09	109.10
22	Q	93	ARG	CG-CD-NE	-6.62	97.89	111.80
20	S	45	ARG	NE-CZ-NH1	-6.60	117.00	120.30
17	I	142	G	C6-N1-C2	-6.55	121.17	125.10
18	B	40	C	N1-C2-N3	6.52	123.76	119.20
29	H	140	G	N9-C1'-C2'	-6.50	104.86	112.00
29	H	148	G	C5'-C4'-O4'	6.49	116.89	109.10
30	o	57	LEU	N-CA-CB	6.35	123.10	110.40
30	o	4	THR	N-CA-CB	-6.32	98.30	110.30
29	H	1092	A	N9-C1'-C2'	6.29	122.18	114.00
17	I	71	U	N3-C2-O2	-6.27	117.81	122.20
18	B	79	C	C2-N1-C1'	6.25	125.68	118.80
18	B	96	U	C2-N1-C1'	6.22	125.17	117.70
29	H	1096	C	C4'-C3'-O3'	6.14	125.27	113.00
29	H	1152	U	C5'-C4'-C3'	-6.10	106.24	116.00
27	D	1213	ARG	NE-CZ-NH1	6.08	123.34	120.30
30	o	141	ARG	CD-NE-CZ	6.03	132.05	123.60
28	G	506	U	N1-C2-O2	6.03	127.02	122.80
29	H	1167	U	P-O3'-C3'	-6.03	112.47	119.70
28	G	506	U	N3-C2-O2	-6.01	117.99	122.20
29	H	1151	U	O3'-P-O5'	-5.99	92.61	104.00
34	3	962	LEU	CA-CB-CG	5.95	128.98	115.30
29	H	1162	U	C4'-C3'-O3'	5.93	124.87	113.00
18	B	115	G	N1-C2-N3	5.93	127.46	123.90
30	o	7	ILE	CA-CB-CG1	5.92	122.25	111.00
29	H	1167	U	C5'-C4'-O4'	-5.92	102.00	109.10
18	B	40	C	C6-N1-C1'	5.91	127.90	120.80
18	B	115	G	N3-C4-N9	-5.87	122.48	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	H	1148	U	C5'-C4'-O4'	5.86	116.13	109.10
26	V	50	ASP	C-N-CD	5.81	140.60	128.40
29	H	1115	G	P-O3'-C3'	5.80	126.66	119.70
18	B	32	G	OP2-P-O3'	5.76	117.87	105.20
29	H	1162	U	C2'-C3'-O3'	-5.74	96.88	109.50
30	o	68	PRO	N-CA-CB	5.70	110.14	103.30
24	T	89	LEU	CA-CB-CG	5.63	128.25	115.30
17	I	142	G	C8-N9-C4	-5.61	104.15	106.40
29	H	1162	U	P-O3'-C3'	5.60	126.42	119.70
29	H	1167	U	C5'-C4'-C3'	5.58	124.93	116.00
17	I	71	U	C6-N1-C1'	-5.58	113.39	121.20
25	j	74	ARG	NE-CZ-NH1	5.55	123.08	120.30
29	H	1097	G	C2'-C3'-O3'	-5.55	97.30	109.50
18	B	115	G	N3-C2-N2	-5.53	116.03	119.90
29	H	46	C	OP2-P-O3'	5.49	117.28	105.20
29	H	1162	U	C4'-C3'-C2'	5.48	108.08	102.60
29	H	1105	C	C4'-C3'-O3'	-5.47	97.90	109.40
27	D	789	LEU	CA-CB-CG	5.46	127.86	115.30
29	H	1168	U	C4'-C3'-C2'	-5.46	97.14	102.60
18	B	79	C	C2-N3-C4	5.46	122.63	119.90
20	S	23	LEU	CA-CB-CG	5.42	127.76	115.30
29	H	1151	U	N1-C1'-C2'	5.41	121.03	114.00
18	B	40	C	C2-N1-C1'	-5.40	112.86	118.80
29	H	1168	U	O3'-P-O5'	-5.36	93.81	104.00
29	H	1152	U	O4'-C4'-C3'	5.28	110.33	106.10
17	I	90	C	C2-N3-C4	5.26	122.53	119.90
1	A	615	LEU	CA-CB-CG	5.26	127.40	115.30
30	o	71	SER	N-CA-CB	-5.26	102.61	110.50
29	H	46	C	P-O3'-C3'	5.22	125.96	119.70
27	D	813	ARG	CG-CD-NE	5.21	122.74	111.80
18	B	79	C	C5-C6-N1	5.20	123.60	121.00
20	l	81	ALA	C-N-CD	5.20	139.31	128.40
32	1	321	CYS	CA-CB-SG	5.18	123.32	114.00
18	B	95	C	OP1-P-O3'	5.16	116.54	105.20
18	B	94	C	P-O3'-C3'	5.15	125.88	119.70
29	H	1148	U	P-O5'-C5'	5.14	129.13	120.90
29	H	1163	C	C4'-C3'-O3'	5.14	123.27	113.00
27	D	793	LEU	CA-CB-CG	5.12	127.07	115.30
29	H	1161	U	C5'-C4'-O4'	5.11	115.24	109.10
30	o	107	SER	N-CA-CB	-5.11	102.83	110.50
18	B	115	G	N9-C4-C5	5.11	107.44	105.40
31	p	33	SER	N-CA-CB	5.10	118.16	110.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
27	D	1894	LEU	CA-CB-CG	5.10	127.03	115.30
25	j	74	ARG	NE-CZ-NH2	-5.10	117.75	120.30
29	H	1169	C	O5'-C5'-C4'	-5.06	102.09	111.70
29	H	1147	A	O5'-C5'-C4'	5.05	121.29	111.70
31	p	46	VAL	CA-CB-CG2	5.05	118.47	110.90
29	H	146	A	C5'-C4'-C3'	-5.03	107.95	116.00

There are no chirality outliers.

All (19) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
32	1	386	TYR	Peptide
32	1	830	MET	Peptide
32	1	835	ILE	Peptide
32	1	926	PRO	Peptide
34	3	208	GLU	Peptide
1	A	239	PHE	Peptide
8	C	363	PRO	Peptide
8	C	770	ASN	Peptide
27	D	1369	GLY	Peptide
27	D	684	LEU	Peptide
27	D	685	ARG	Peptide
27	D	790	ASP	Peptide
2	K	208	GLN	Peptide
2	K	383	GLU	Peptide
3	L	397	GLU	Peptide
4	N	11	PRO	Peptide
4	N	802	GLN	Peptide
41	u	462	LYS	Peptide
41	u	463	GLY	Peptide

5.2 Too-close contacts [\(i\)](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	17877	0	17800	639	0
2	K	3375	0	3343	176	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	L	3171	0	3140	127	0
4	N	4897	0	3994	115	0
5	J	2439	0	2341	62	0
6	E	1146	0	1133	29	0
7	M	950	0	1004	24	0
8	C	6732	0	6904	274	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	49	0
17	I	2334	0	1173	108	0
18	B	3715	0	1878	150	0
19	O	574	0	552	31	0
20	S	632	0	653	26	0
20	d	316	0	86	0	0
20	l	611	0	627	0	0
21	P	563	0	600	40	0
21	a	292	0	78	0	0
21	h	610	0	640	0	0
22	Q	751	0	776	65	0
22	b	308	0	78	0	0
22	m	644	0	686	0	0
23	R	752	0	786	50	0
23	c	360	0	89	0	0
23	n	528	0	573	0	0
24	T	602	0	631	37	0
24	e	288	0	74	0	0
24	i	575	0	597	0	0
25	U	585	0	587	39	0
25	f	280	0	77	0	0
25	j	554	0	556	0	0
26	V	577	0	595	37	0
26	g	280	0	79	0	0
26	k	529	0	557	0	0
27	D	13601	0	13596	641	0
28	G	928	0	468	48	0
29	H	4345	0	2199	249	0
30	o	841	0	614	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
31	p	466	0	373	0	0
32	1	6472	0	6702	243	0
33	2	1726	0	1734	62	0
34	3	9380	0	9482	399	0
35	4	1429	0	1458	44	0
36	5	814	0	811	30	0
37	6	693	0	705	25	0
38	X	1051	0	1015	100	0
39	Y	730	0	710	52	0
40	Z	173	0	165	7	0
41	u	3895	0	3824	0	0
42	w	1084	0	1081	0	0
43	v	1372	0	1345	0	0
44	C	32	0	12	6	0
45	C	1	0	0	0	0
46	5	3	0	0	3	0
46	u	2	0	0	0	0
46	v	1	0	0	0	0
All	All	111041	0	100594	3508	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 19.

All (3508) 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:2310:GLU:CB	1:A:2333:PHE:CZ	1.85	1.52
1:A:2398:LEU:HD13	27:D:1060:LYS:CD	1.36	1.51
1:A:2310:GLU:CB	1:A:2333:PHE:HZ	1.19	1.44
1:A:2398:LEU:HD13	27:D:1060:LYS:CE	1.48	1.42
1:A:2310:GLU:HB2	1:A:2333:PHE:CZ	0.89	1.41
32:1:494:LEU:HD13	38:X:7:ILE:CG2	1.49	1.41
1:A:2398:LEU:CD1	27:D:1060:LYS:HD2	1.53	1.38
1:A:2310:GLU:HB2	1:A:2333:PHE:CE1	1.58	1.38
1:A:2152:TRP:CH2	27:D:1061:ALA:O	1.83	1.31
39:Y:207:THR:O	39:Y:214:LEU:CD1	1.79	1.28
38:X:63:SER:CB	38:X:74:PHE:CE1	2.16	1.27
1:A:2395:PHE:CD1	27:D:1062:PRO:HD3	1.72	1.23
1:A:2398:LEU:CG	27:D:1060:LYS:HD2	1.72	1.17
29:H:1099:G:O2'	29:H:1100:A:H5'	1.42	1.16
32:1:494:LEU:HD13	38:X:7:ILE:HG21	1.18	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:539:LEU:O	27:D:543:TYR:HB3	1.44	1.14
32:1:494:LEU:HD11	38:X:23:TRP:CD1	1.83	1.13
32:1:494:LEU:CD1	38:X:7:ILE:HG21	1.79	1.12
1:A:547:LEU:O	1:A:551:LEU:HB2	1.51	1.08
27:D:804:HIS:CE1	27:D:813:ARG:HG3	1.89	1.07
1:A:2398:LEU:CD1	27:D:1060:LYS:CE	2.33	1.06
17:I:99:G:H4'	27:D:1186:GLU:HB3	1.31	1.06
8:C:867:THR:O	8:C:926:GLY:HA2	1.55	1.06
32:1:494:LEU:CD1	38:X:7:ILE:CG2	2.34	1.05
38:X:63:SER:HB2	38:X:74:PHE:CE1	1.84	1.05
17:I:75:U:C5	27:D:1100:PHE:HE1	1.73	1.05
1:A:1667:GLN:NE2	19:O:211:ASN:OD1	1.90	1.04
2:K:446:SER:OG	2:K:451:PHE:CE1	2.11	1.03
24:T:59:GLU:HG3	24:T:77:LEU:HD11	1.40	1.03
1:A:2183:TYR:HE2	1:A:2289:ILE:HG12	1.20	1.03
18:B:162:G:H3'	18:B:163:C:H4'	1.41	1.03
1:A:2398:LEU:HD13	27:D:1060:LYS:HD2	1.03	1.02
19:O:206:LYS:HD3	27:D:1051:LYS:HE3	1.39	1.02
39:Y:207:THR:O	39:Y:214:LEU:HD13	0.85	1.02
1:A:2395:PHE:CD1	27:D:1061:ALA:HA	1.95	1.01
24:T:83:LYS:NZ	25:U:75:CYS:O	1.93	1.01
29:H:110:A:H4'	29:H:111:C:C5'	1.89	1.01
17:I:91:U:O2	17:I:142:G:N2	1.95	1.00
27:D:757:LEU:O	27:D:761:PHE:HB3	1.62	0.99
1:A:2398:LEU:HD22	27:D:1060:LYS:HB2	1.41	0.99
1:A:2395:PHE:CE1	27:D:1061:ALA:HA	1.96	0.99
29:H:110:A:C4'	29:H:111:C:H5'	1.91	0.99
21:P:88:ARG:NH2	20:S:66:GLY:O	1.97	0.98
1:A:2395:PHE:CG	27:D:1062:PRO:HD3	1.97	0.98
1:A:1674:ASP:OD2	1:A:2200:LYS:HD3	1.62	0.97
1:A:2067:TYR:CB	19:O:194:LEU:HD22	1.94	0.97
1:A:2398:LEU:CD1	27:D:1060:LYS:NZ	2.28	0.96
1:A:2311:GLY:N	1:A:2333:PHE:HE1	1.64	0.96
32:1:494:LEU:HD13	38:X:7:ILE:HG23	1.44	0.96
2:K:187:ASP:HB3	2:K:451:PHE:HZ	1.28	0.95
29:H:1099:G:C2'	29:H:1100:A:H5'	1.97	0.95
27:D:556:LYS:NZ	27:D:602:THR:O	1.98	0.95
36:5:49:CYS:HG	46:5:201:ZN:ZN	0.64	0.95
1:A:2152:TRP:HH2	27:D:1061:ALA:O	1.32	0.95
27:D:527:LYS:HE3	27:D:670:LEU:HB3	1.46	0.95
1:A:1962:ARG:HD3	19:O:186:GLU:OE2	1.66	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:G:520:G:C6	38:X:34:TYR:CE2	2.56	0.94
1:A:2152:TRP:CZ2	27:D:1061:ALA:O	2.21	0.94
27:D:912:PHE:HB3	27:D:944:LEU:HD23	1.47	0.94
27:D:869:LEU:HD13	27:D:904:GLN:HE21	1.32	0.93
24:T:87:ILE:O	26:V:64:ARG:NE	2.02	0.93
32:1:494:LEU:HB2	38:X:7:ILE:HG12	1.50	0.93
17:I:150:G:OP2	25:U:74:ARG:NH2	2.00	0.93
17:I:91:U:H3	17:I:142:G:H1	0.94	0.93
29:H:1165:C:H2'	29:H:1166:G:H8	1.32	0.93
1:A:2311:GLY:N	1:A:2333:PHE:CE1	2.36	0.93
1:A:2310:GLU:CG	1:A:2333:PHE:HZ	1.81	0.93
32:1:494:LEU:CD1	38:X:23:TRP:CD1	2.51	0.93
39:Y:208:SER:HB2	39:Y:212:ARG:O	1.68	0.93
18:B:175:G:N2	18:B:176:A:N6	2.16	0.92
16:F:102:U:H3	29:H:3:G:H1	1.17	0.92
18:B:175:G:N2	18:B:176:A:H62	1.65	0.92
22:Q:144:ARG:NH1	22:Q:145:GLY:O	2.03	0.92
32:1:490:ARG:NH2	38:X:25:ASN:HB3	1.86	0.91
21:P:88:ARG:NH1	20:S:67:SER:O	2.02	0.91
17:I:78:A:C2	27:D:1110:ARG:NE	2.38	0.91
27:D:781:LEU:HD21	27:D:798:GLU:HA	1.52	0.91
27:D:1086:GLN:NE2	27:D:1138:LYS:O	2.03	0.91
18:B:32:G:H1	18:B:121:U:H3	1.16	0.91
1:A:2398:LEU:HD12	27:D:1060:LYS:NZ	1.84	0.90
18:B:22:G:H1	18:B:149:U:H3	0.95	0.90
29:H:1165:C:H2'	29:H:1166:G:C8	2.06	0.90
16:F:30:G:H1	18:B:96:U:H3	1.15	0.90
29:H:110:A:H4'	29:H:111:C:H5'	0.95	0.90
2:K:446:SER:OG	2:K:451:PHE:CZ	2.24	0.90
2:K:232:ASN:HB3	2:K:247:GLN:HE22	1.34	0.90
2:K:395:ILE:HG22	2:K:396:VAL:H	1.35	0.90
27:D:1387:HIS:HB2	27:D:1470:LEU:HD13	1.52	0.90
1:A:2398:LEU:HB2	27:D:1060:LYS:CD	2.02	0.90
18:B:1:A:H61	18:B:164:C:H42	1.11	0.89
17:I:72:A:OP2	27:D:1047:ARG:NH1	2.05	0.89
18:B:114:G:H2'	18:B:115:G:C8	2.08	0.89
39:Y:213:LYS:HB3	39:Y:230:SER:OG	1.72	0.89
1:A:1861:THR:HG22	19:O:161:ILE:HG12	1.55	0.88
1:A:2398:LEU:CD1	27:D:1060:LYS:CD	2.22	0.88
22:Q:35:GLN:OE1	22:Q:37:ASN:ND2	2.06	0.88
1:A:609:GLU:O	1:A:613:SER:HB2	1.73	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2310:GLU:CB	1:A:2333:PHE:CE1	2.32	0.88
17:I:145:U:H3	26:V:35:PHE:HB3	1.39	0.88
27:D:1687:LEU:HB2	27:D:1698:TYR:HE1	1.36	0.88
17:I:75:U:C5	27:D:1100:PHE:CE1	2.62	0.87
17:I:146:U:H5''	17:I:147:U:H5'	1.56	0.87
8:C:542:ILE:O	8:C:553:VAL:HB	1.72	0.87
27:D:1085:SER:HG	27:D:1140:TRP:HE1	1.17	0.87
1:A:2398:LEU:CB	27:D:1060:LYS:HD2	2.04	0.87
27:D:2049:PRO:HB2	27:D:2051:VAL:HG13	1.55	0.87
1:A:1087:ASN:HD21	3:L:272:LEU:HG	1.40	0.86
27:D:804:HIS:HE1	27:D:813:ARG:HG3	1.38	0.86
22:Q:36:MET:SD	23:R:97:ARG:NH1	2.48	0.86
1:A:617:ASN:ND2	18:B:99:U:O2'	2.09	0.86
1:A:2310:GLU:C	1:A:2333:PHE:HE1	1.80	0.86
1:A:716:ARG:HE	18:B:112:C:H1'	1.42	0.85
27:D:636:ILE:HG22	27:D:671:SER:HB2	1.58	0.85
1:A:2183:TYR:CE2	1:A:2289:ILE:HG12	2.11	0.85
39:Y:207:THR:C	39:Y:214:LEU:HD13	1.94	0.85
39:Y:214:LEU:HD21	39:Y:227:MET:HB2	1.58	0.85
1:A:976:GLN:HE22	1:A:1310:LYS:HB3	1.41	0.85
1:A:1565:THR:O	1:A:1820:ARG:NH2	2.10	0.85
27:D:1524:TRP:HD1	27:D:1780:ARG:CZ	1.89	0.85
27:D:1524:TRP:HB2	27:D:1780:ARG:HG3	1.58	0.85
27:D:1609:MET:HG2	27:D:1611:ASN:H	1.42	0.85
29:H:1099:G:O2'	29:H:1100:A:C5'	2.24	0.85
32:1:390:ILE:HD12	32:1:426:MET:HA	1.59	0.85
1:A:1088:VAL:HG12	1:A:1089:VAL:H	1.42	0.84
2:K:167:LEU:O	4:N:728:ARG:NH2	2.10	0.84
34:3:393:VAL:HA	34:3:404:LEU:O	1.76	0.84
27:D:1213:ARG:HH22	27:D:1316:LYS:CG	1.90	0.84
1:A:2067:TYR:O	19:O:194:LEU:HD21	1.78	0.84
38:X:63:SER:HB3	38:X:74:PHE:CE1	2.11	0.84
38:X:48:LEU:O	39:Y:231:ARG:NH1	2.11	0.84
1:A:1862:VAL:O	19:O:159:ASP:N	2.10	0.83
27:D:784:GLU:HG3	27:D:819:LEU:HD21	1.58	0.83
38:X:63:SER:OG	38:X:74:PHE:CZ	2.31	0.83
4:N:746:MET:HG2	4:N:749:ARG:HH12	1.44	0.83
8:C:603:PHE:HB3	8:C:646:GLY:O	1.78	0.83
27:D:1216:MET:HG3	27:D:1218:PHE:HE1	1.42	0.83
17:I:97:U:H3	17:I:135:A:H61	1.22	0.83
1:A:1575:TRP:HB2	3:L:391:MET:HB3	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:B:8:U:H3	18:B:157:G:H1	1.27	0.83
32:1:494:LEU:CB	38:X:7:ILE:HG12	2.09	0.83
34:3:363:VAL:HG12	34:3:364:THR:H	1.42	0.82
1:A:2152:TRP:CZ3	27:D:1064:PRO:HG3	2.14	0.82
34:3:130:LEU:HB3	34:3:195:ILE:HD13	1.61	0.82
3:L:120:TYR:HE2	3:L:141:ILE:HG12	1.45	0.82
18:B:166:U:O2'	18:B:167:A:OP1	1.97	0.82
2:K:169:GLY:HA2	4:N:724:SER:HB3	1.59	0.82
17:I:145:U:H1'	26:V:66:ASN:HB2	1.62	0.82
28:G:520:G:N1	38:X:34:TYR:CD2	2.48	0.82
32:1:830:MET:O	32:1:832:LYS:N	2.11	0.82
38:X:63:SER:HB2	38:X:74:PHE:HE1	1.38	0.82
1:A:165:LEU:HD22	1:A:730:ILE:HD11	1.62	0.82
32:1:494:LEU:HB3	38:X:7:ILE:HG23	1.61	0.81
1:A:547:LEU:O	1:A:551:LEU:CB	2.27	0.81
2:K:410:LEU:HB2	2:K:422:TYR:HB2	1.62	0.81
18:B:175:G:H21	18:B:176:A:H62	1.23	0.81
27:D:462:GLU:OE1	27:D:729:LYS:NZ	2.13	0.81
27:D:2134:THR:O	27:D:2138:HIS:NE2	2.13	0.81
34:3:105:ASP:HB2	34:3:114:ILE:HD11	1.61	0.81
27:D:1213:ARG:HH22	27:D:1316:LYS:HG2	1.43	0.81
17:I:134:U:H2'	17:I:135:A:H8	1.46	0.81
27:D:589:THR:HA	27:D:611:LYS:HG2	1.62	0.81
25:U:19:LEU:HD21	25:U:45:THR:HG21	1.63	0.81
34:3:71:PHE:HA	34:3:97:THR:HG22	1.63	0.81
38:X:63:SER:OG	38:X:74:PHE:CE1	2.32	0.81
1:A:1910:LYS:HD2	19:O:169:ILE:HG12	1.63	0.81
8:C:133:ILE:HA	8:C:209:MET:O	1.79	0.80
1:A:2398:LEU:HD13	27:D:1060:LYS:HE3	1.61	0.80
27:D:2103:LEU:HD11	27:D:2140:LEU:HB3	1.64	0.80
29:H:1149:G:H5''	29:H:1149:G:C8	2.16	0.80
17:I:142:G:N2	21:P:39:LYS:NZ	2.29	0.80
27:D:563:LEU:HD21	27:D:836:TRP:CD1	2.16	0.80
1:A:287:GLU:HG2	1:A:288:GLU:H	1.46	0.80
1:A:690:LYS:O	1:A:694:ASN:ND2	2.15	0.80
27:D:1277:LYS:O	27:D:1281:GLN:HB2	1.81	0.80
27:D:766:ILE:O	27:D:769:LYS:NZ	2.14	0.80
23:R:74:GLU:OE2	23:R:89:ARG:NE	2.15	0.80
34:3:157:LEU:O	34:3:176:ASN:HA	1.81	0.80
2:K:177:PRO:HB3	2:K:457:TRP:HA	1.64	0.80
8:C:133:ILE:HG22	8:C:209:MET:HB3	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1688:TYR:HD1	27:D:1695:TYR:CD1	2.00	0.79
1:A:880:THR:O	3:L:180:LYS:NZ	2.16	0.79
1:A:1851:PHE:O	1:A:1881:THR:HA	1.83	0.79
2:K:135:ARG:NH2	5:J:167:GLU:OE2	2.15	0.79
18:B:162:G:H3'	18:B:163:C:C4'	2.12	0.79
32:1:294:ARG:HB3	32:1:332:THR:HG21	1.64	0.79
24:T:30:TRP:HB3	26:V:23:ARG:HH12	1.47	0.79
17:I:98:G:H1	17:I:134:U:H3	1.31	0.79
3:L:327:THR:HG22	3:L:328:VAL:H	1.47	0.79
1:A:2398:LEU:HD12	27:D:1060:LYS:HZ1	1.45	0.79
22:Q:3:LEU:HD23	23:R:95:PHE:HE1	1.48	0.79
1:A:2398:LEU:CD2	27:D:1060:LYS:HD2	2.13	0.78
18:B:126:A:H5'	18:B:127:U:OP2	1.83	0.78
27:D:1887:VAL:HG21	22:Q:140:LYS:HD2	1.65	0.78
2:K:452:LEU:HB3	2:K:464:TRP:HB2	1.64	0.78
27:D:1557:ILE:HA	27:D:1695:TYR:HE2	1.46	0.78
8:C:706:LEU:HA	8:C:824:SER:O	1.82	0.78
34:3:365:ILE:HG21	34:3:381:LEU:HG	1.63	0.78
8:C:315:SER:OG	44:C:1500:GTP:O6	2.00	0.78
1:A:1014:LYS:O	1:A:1016:SER:N	2.15	0.78
34:3:364:THR:OG1	34:3:384:ASN:ND2	2.16	0.78
18:B:158:G:N2	18:B:160:U:O4	2.17	0.78
1:A:789:ALA:HB1	1:A:816:ILE:HD11	1.64	0.77
27:D:1895:ARG:O	27:D:1897:GLY:N	2.16	0.77
3:L:376:LYS:NZ	17:I:55:U:O2'	2.17	0.77
27:D:1515:LEU:HB2	27:D:1518:ALA:HB2	1.65	0.77
32:1:222:ILE:HG23	32:1:265:ILE:HD11	1.65	0.77
25:U:32:LYS:HA	25:U:79:LEU:HD12	1.66	0.77
1:A:2398:LEU:HB2	27:D:1060:LYS:HD3	1.62	0.77
34:3:118:GLN:HE22	34:3:171:LEU:HB3	1.49	0.77
27:D:677:TYR:HD2	27:D:691:LEU:HD21	1.47	0.77
21:P:88:ARG:HG2	21:P:90:GLU:H	1.47	0.77
32:1:490:ARG:HH22	38:X:25:ASN:HD22	1.33	0.77
8:C:605:ILE:HG13	8:C:652:MET:HE1	1.66	0.77
2:K:230:SER:HB2	2:K:232:ASN:HD22	1.50	0.77
1:A:2249:ASP:OD1	27:D:1309:ASN:ND2	2.18	0.76
27:D:1777:TYR:OH	27:D:1781:ARG:NH1	2.17	0.76
32:1:386:TYR:CD2	32:1:387:PRO:HD3	2.20	0.76
1:A:2398:LEU:HD22	27:D:1060:LYS:CB	2.15	0.76
4:N:21:ARG:NH2	6:E:74:TYR:OH	2.17	0.76
27:D:1772:TRP:HZ3	27:D:1773:PHE:CE1	2.02	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:446:SER:OG	2:K:451:PHE:CD1	2.38	0.76
4:N:743:LYS:O	4:N:747:GLU:HB2	1.85	0.76
17:I:76:A:N7	27:D:1107:ARG:NH2	2.33	0.76
18:B:1:A:H61	18:B:164:C:N4	1.82	0.76
18:B:32:G:H4'	18:B:33:U:OP2	1.83	0.76
27:D:708:CYS:SG	27:D:889:ILE:HA	2.25	0.76
24:T:37:ILE:HD11	24:T:59:GLU:HB3	1.66	0.76
39:Y:209:LEU:O	39:Y:209:LEU:HD12	1.85	0.76
17:I:78:A:C2	27:D:1110:ARG:NH2	2.54	0.76
27:D:841:PRO:HG2	27:D:877:ARG:HG2	1.68	0.76
28:G:520:G:C2	38:X:34:TYR:CG	2.74	0.76
1:A:261:LEU:HD22	1:A:642:GLY:HA2	1.67	0.75
17:I:142:G:N2	21:P:39:LYS:HZ3	1.82	0.75
1:A:687:ILE:HD11	1:A:706:PRO:HG2	1.67	0.75
32:1:835:ILE:O	32:1:837:PHE:N	2.19	0.75
1:A:796:ASN:HD21	1:A:858:LYS:HG2	1.51	0.75
1:A:181:HIS:HA	1:A:704:TRP:HZ2	1.51	0.75
32:1:348:VAL:HG13	32:1:349:LEU:H	1.52	0.75
34:3:639:LYS:HB3	34:3:686:GLN:HA	1.66	0.75
2:K:438:ASP:OD2	4:N:762:GLN:NE2	2.20	0.75
27:D:1620:TYR:HD2	27:D:1655:LEU:HD21	1.50	0.75
32:1:490:ARG:HH22	38:X:25:ASN:HB3	1.51	0.75
2:K:187:ASP:HB3	2:K:451:PHE:CZ	2.19	0.75
17:I:78:A:C2	27:D:1110:ARG:CZ	2.69	0.75
34:3:783:ILE:HG13	34:3:784:SER:H	1.51	0.75
1:A:2157:ILE:HG23	27:D:1066:ARG:HG2	1.67	0.75
8:C:769:TYR:HE1	8:C:774:LEU:HB2	1.52	0.75
1:A:1252:SER:O	1:A:1274:ARG:NH1	2.20	0.75
1:A:1320:LEU:HD21	1:A:1367:ILE:HG12	1.67	0.75
18:B:29:G:H2'	18:B:30:A:H8	1.52	0.75
27:D:515:SER:HB2	27:D:687:PRO:HG3	1.68	0.75
26:V:64:ARG:HH11	26:V:66:ASN:HB3	1.49	0.75
18:B:48:G:H1	18:B:67:U:H3	1.32	0.74
32:1:566:LEU:HD21	32:1:601:ILE:HG12	1.69	0.74
8:C:493:LEU:HB2	8:C:556:ALA:HB3	1.67	0.74
39:Y:214:LEU:HD21	39:Y:227:MET:CB	2.17	0.74
27:D:1524:TRP:HD1	27:D:1780:ARG:NE	1.85	0.74
27:D:761:PHE:HE2	27:D:769:LYS:HD3	1.53	0.74
26:V:56:GLN:NE2	26:V:60:GLN:O	2.20	0.74
29:H:142:C:H2'	29:H:143:G:H8	1.52	0.74
34:3:239:ASP:OD2	34:3:295:VAL:N	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1962:ARG:HD3	19:O:186:GLU:CD	2.07	0.74
1:A:2398:LEU:HD21	27:D:1056:GLN:O	1.88	0.74
27:D:1688:TYR:HD1	27:D:1695:TYR:HD1	1.34	0.74
3:L:112:MET:HB2	3:L:204:LEU:HD21	1.69	0.74
17:I:79:A:H61	27:D:593:ARG:HG3	1.50	0.74
34:3:179:LEU:HD23	34:3:189:PRO:HG2	1.69	0.74
1:A:1674:ASP:OD2	1:A:2200:LYS:CD	2.35	0.74
1:A:1458:TRP:HZ2	1:A:1489:PRO:HB2	1.53	0.74
1:A:1673:LEU:HD12	1:A:2150:ASN:OD1	1.86	0.74
2:K:159:LEU:HD22	2:K:430:MET:HG3	1.68	0.74
17:I:134:U:H2'	17:I:135:A:C8	2.23	0.74
29:H:1138:G:P	29:H:1138:G:O4'	2.45	0.74
8:C:951:ILE:HG12	8:C:958:PRO:HD3	1.70	0.73
40:Z:36:GLY:O	40:Z:40:LEU:HB2	1.87	0.73
1:A:923:TYR:OH	1:A:936:GLU:OE1	2.04	0.73
34:3:384:ASN:O	34:3:415:ASN:ND2	2.18	0.73
37:6:57:ARG:NH1	37:6:59:ASP:OD2	2.20	0.73
1:A:1309:ILE:HG12	1:A:1356:LEU:HD12	1.70	0.73
27:D:516:ASN:HD22	27:D:685:ARG:HB3	1.53	0.73
8:C:884:ARG:HB2	8:C:910:GLU:HG3	1.70	0.73
32:1:790:LYS:HD2	32:1:826:TYR:HB3	1.70	0.73
34:3:822:HIS:ND1	34:3:846:MET:O	2.21	0.73
3:L:401:LEU:H	4:N:214:SER:HB3	1.54	0.73
28:G:513:U:OP2	32:1:259:ARG:NH1	2.21	0.73
27:D:539:LEU:O	27:D:543:TYR:CB	2.31	0.73
1:A:1964:PRO:HA	1:A:2016:LYS:HE3	1.71	0.73
32:1:198:GLU:O	32:1:202:ASN:HB2	1.88	0.73
8:C:765:VAL:HA	8:C:775:ILE:HG12	1.69	0.73
24:T:20:PHE:HE1	24:T:92:SER:HB2	1.52	0.73
32:1:542:THR:HG22	32:1:582:GLY:HA3	1.68	0.73
34:3:186:ARG:NH2	37:6:38:ASP:OD1	2.22	0.73
2:K:321:LEU:HD11	5:J:169:TRP:HE1	1.52	0.73
18:B:162:G:O3'	18:B:164:C:OP1	2.07	0.73
29:H:140:G:H1	29:H:1168:U:H3	1.37	0.73
34:3:927:ARG:HG3	34:3:928:THR:HG23	1.69	0.73
1:A:1943:PRO:HD3	19:O:169:ILE:CD1	2.19	0.72
17:I:76:A:OP2	27:D:590:GLY:HA3	1.89	0.72
27:D:511:PHE:CE1	27:D:537:LYS:HB2	2.23	0.72
32:1:581:LYS:O	32:1:585:ALA:N	2.20	0.72
27:D:1680:VAL:HG23	27:D:1710:ALA:HB2	1.72	0.72
32:1:778:ARG:NH1	32:1:811:ASN:OD1	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:397:THR:OG1	2:K:413:CYS:O	2.07	0.72
32:1:213:LEU:HD13	32:1:218:ARG:HB2	1.69	0.72
8:C:160:ARG:NH1	8:C:161:ILE:O	2.23	0.72
27:D:523:THR:HG23	27:D:527:LYS:HD3	1.70	0.72
34:3:157:LEU:HD12	34:3:204:LEU:HD11	1.72	0.72
34:3:732:ARG:NH1	34:3:757:ASP:OD1	2.22	0.72
27:D:1392:LYS:HD2	27:D:1469:GLU:OE1	1.90	0.72
27:D:1822:ILE:HG12	27:D:1844:ILE:HG12	1.70	0.72
29:H:119:G:H4'	29:H:119:G:OP1	1.90	0.72
27:D:535:VAL:HG13	27:D:557:ILE:HD13	1.72	0.72
32:1:686:LEU:HD21	32:1:727:ILE:HD11	1.72	0.72
34:3:396:ASP:HB2	34:3:404:LEU:HG	1.72	0.72
34:3:1096:LEU:HD13	34:3:1187:PHE:HZ	1.54	0.72
1:A:2067:TYR:O	19:O:194:LEU:CD2	2.38	0.71
8:C:219:VAL:HG21	8:C:931:TYR:HB3	1.70	0.71
29:H:142:C:H2'	29:H:143:G:C8	2.24	0.71
32:1:443:ARG:NH1	32:1:478:GLU:OE2	2.23	0.71
34:3:250:PRO:HG2	34:3:273:LEU:HB3	1.71	0.71
32:1:490:ARG:HH22	38:X:25:ASN:ND2	1.87	0.71
4:N:803:ASN:OD1	4:N:834:LYS:NZ	2.23	0.71
18:B:163:C:H4'	18:B:164:C:OP1	1.88	0.71
27:D:589:THR:HG21	27:D:608:THR:HG23	1.71	0.71
34:3:102:GLU:OE2	34:3:116:LYS:NZ	2.23	0.71
34:3:641:GLN:HE21	34:3:653:TYR:HE1	1.38	0.71
27:D:1396:VAL:HG13	27:D:1445:LEU:HD11	1.73	0.71
34:3:65:LEU:HB2	34:3:1225:VAL:HG23	1.71	0.71
1:A:975:TYR:HB2	1:A:1314:SER:HB3	1.70	0.71
1:A:1015:PRO:HB2	1:A:1510:ILE:HG12	1.72	0.71
1:A:1020:ILE:HG22	1:A:1022:PRO:HD2	1.72	0.71
34:3:369:ILE:HD13	34:3:421:ILE:HD11	1.72	0.71
1:A:244:ASP:OD1	1:A:596:ASN:ND2	2.22	0.71
5:J:340:LYS:NZ	5:J:429:GLU:OE1	2.22	0.71
21:P:88:ARG:HH12	20:S:67:SER:C	1.93	0.71
1:A:2398:LEU:HB2	27:D:1060:LYS:HD2	1.67	0.71
17:I:91:U:O2'	17:I:92:C:OP1	2.08	0.71
8:C:968:MET:HB3	8:C:972:ARG:HH12	1.54	0.71
27:D:1367:PHE:HD2	27:D:1532:ILE:HG23	1.53	0.71
32:1:805:TYR:HB2	32:1:816:VAL:HG11	1.73	0.71
34:3:153:ASP:OD2	34:3:1302:ARG:NH1	2.24	0.71
1:A:1201:TYR:OH	1:A:1248:VAL:O	2.08	0.70
1:A:341:ALA:HA	1:A:355:LEU:HD23	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:44:ILE:HG12	2:K:76:LEU:HD13	1.73	0.70
27:D:454:LYS:HG3	27:D:463:ILE:HG22	1.73	0.70
27:D:2051:VAL:HG12	27:D:2077:ARG:HA	1.71	0.70
29:H:1093:C:H2'	29:H:1094:G:O4'	1.90	0.70
32:1:835:ILE:HG12	32:1:864:LEU:HD11	1.73	0.70
1:A:956:LYS:O	1:A:960:THR:OG1	2.04	0.70
1:A:2398:LEU:CD1	27:D:1060:LYS:HZ1	2.01	0.70
2:K:411:VAL:HG11	2:K:452:LEU:HD11	1.73	0.70
17:I:97:U:H2'	17:I:98:G:C8	2.26	0.70
34:3:291:SER:OG	37:6:80:TYR:OH	2.09	0.70
34:3:886:PHE:HE2	34:3:1225:VAL:HG21	1.56	0.70
1:A:2395:PHE:HD1	27:D:1060:LYS:O	1.74	0.70
18:B:29:G:H2'	18:B:30:A:C8	2.26	0.70
32:1:618:GLN:HG3	32:1:658:VAL:HG22	1.73	0.70
3:L:441:MET:SD	3:L:444:ARG:NH2	2.64	0.70
34:3:611:VAL:HG21	34:3:621:LYS:HE2	1.74	0.70
18:B:147:C:H2'	18:B:148:G:H8	1.54	0.70
39:Y:215:TYR:CE2	39:Y:232:TRP:CE3	2.79	0.70
1:A:2152:TRP:CE3	27:D:1064:PRO:HG3	2.26	0.70
8:C:232:SER:OG	8:C:234:LEU:O	2.08	0.70
32:1:489:VAL:HG11	38:X:26:GLU:HG2	1.74	0.70
18:B:74:U:O2'	18:B:77:A:OP2	2.07	0.70
27:D:1456:SER:HA	27:D:1465:ILE:HD13	1.73	0.70
27:D:1629:LEU:HD13	27:D:1639:ILE:HB	1.73	0.70
27:D:639:LEU:HA	27:D:644:GLY:HA3	1.74	0.70
29:H:1149:G:H5''	29:H:1149:G:H8	1.56	0.70
34:3:638:SER:HB3	34:3:641:GLN:HB3	1.74	0.70
38:X:63:SER:CB	38:X:74:PHE:CD1	2.75	0.70
1:A:864:GLN:NE2	1:A:1099:ASN:OD1	2.24	0.70
8:C:857:LEU:HD22	8:C:967:VAL:HG23	1.71	0.70
34:3:104:TYR:OH	34:3:481:GLN:NE2	2.25	0.70
2:K:171:GLN:HG2	2:K:172:LEU:H	1.57	0.69
17:I:145:U:N3	26:V:35:PHE:HB3	2.05	0.69
27:D:626:GLU:OE2	27:D:658:SER:OG	2.06	0.69
27:D:1101:ILE:O	27:D:1105:ALA:HB2	1.92	0.69
27:D:1517:ASN:HB3	27:D:1781:ARG:HH12	1.55	0.69
38:X:46:ASP:OD1	40:Z:38:LEU:HD22	1.92	0.69
1:A:1347:ARG:NH1	1:A:1450:GLU:OE2	2.26	0.69
18:B:116:U:H2'	18:B:117:G:H8	1.56	0.69
34:3:181:ARG:NH1	36:5:84:ASP:OD1	2.25	0.69
39:Y:215:TYR:CE2	39:Y:232:TRP:HE3	2.09	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:3:1198:ILE:HG13	37:6:48:ALA:HB1	1.72	0.69
1:A:1624:LEU:HD22	1:A:1633:PHE:HB3	1.74	0.69
27:D:450:GLU:O	27:D:466:PRO:HD2	1.93	0.69
27:D:667:ILE:HG21	27:D:684:LEU:HD11	1.73	0.69
38:X:57:PRO:HG2	39:Y:231:ARG:HH21	1.58	0.69
24:T:40:LYS:O	24:T:57:ALA:HA	1.93	0.69
1:A:1952:PRO:HB2	3:L:426:GLY:H	1.58	0.69
2:K:400:ARG:NH2	2:K:444:ASP:OD1	2.25	0.69
5:J:159:TYR:O	5:J:163:ASN:ND2	2.26	0.69
8:C:126:MET:SD	8:C:132:ARG:NH1	2.66	0.69
16:F:30:G:N2	18:B:96:U:O2	2.22	0.69
29:H:557:G:H1	29:H:683:U:H3	1.41	0.69
35:4:17:ASP:HB3	35:4:20:ILE:HG12	1.74	0.69
6:E:95:PHE:HB3	6:E:137:TYR:CE2	2.28	0.69
8:C:397:LYS:HE3	8:C:413:LEU:HD11	1.74	0.69
27:D:578:LEU:HB3	27:D:583:ILE:HD12	1.74	0.69
23:R:72:VAL:HB	23:R:91:ILE:O	1.93	0.69
1:A:2152:TRP:CZ3	27:D:1062:PRO:O	2.46	0.69
2:K:395:ILE:HD11	7:M:123:THR:HA	1.75	0.69
39:Y:170:LEU:O	39:Y:172:ILE:HG12	1.92	0.68
1:A:1733:TRP:CE2	1:A:1772:GLY:HA3	2.29	0.68
17:I:150:G:C8	23:R:99:ASP:HB3	2.29	0.68
27:D:589:THR:OG1	27:D:608:THR:OG1	2.06	0.68
3:L:124:PHE:CE2	3:L:127:LEU:HB2	2.28	0.68
3:L:261:SER:OG	3:L:281:GLN:OE1	2.10	0.68
8:C:393:LYS:HB3	8:C:413:LEU:HD22	1.75	0.68
27:D:765:ASN:HB3	27:D:768:HIS:HD2	1.57	0.68
21:P:39:LYS:HE3	22:Q:35:GLN:HE21	1.59	0.68
20:S:65:ARG:HE	20:S:67:SER:HB3	1.58	0.68
17:I:77:U:C2	27:D:1107:ARG:HA	2.29	0.68
29:H:545:G:H1	29:H:695:U:H3	1.41	0.68
29:H:118:U:H4'	29:H:119:G:OP1	1.92	0.68
32:1:458:LEU:O	32:1:462:GLN:HB2	1.93	0.68
1:A:216:GLN:NE2	1:A:280:LEU:O	2.24	0.68
8:C:398:ASN:OD1	8:C:401:ARG:NH2	2.26	0.68
18:B:27:G:C2	18:B:131:A:N3	2.61	0.68
32:1:489:VAL:HG13	38:X:26:GLU:CD	2.14	0.68
22:Q:7:LEU:HB3	22:Q:32:VAL:HG11	1.76	0.68
33:2:371:GLU:H	34:3:1234:LYS:HB3	1.56	0.68
1:A:1197:ASN:ND2	1:A:1221:ASN:OD1	2.26	0.68
8:C:867:THR:O	8:C:926:GLY:CA	2.38	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:33:LEU:HD12	25:U:72:PHE:HB2	1.75	0.68
24:T:30:TRP:HB3	26:V:23:ARG:NH1	2.09	0.68
34:3:594:MET:O	34:3:598:SER:OG	2.11	0.68
37:6:54:SER:HA	37:6:65:THR:HG21	1.76	0.68
34:3:704:SER:OG	34:3:712:PHE:O	2.10	0.68
1:A:956:LYS:HD3	3:L:452:ALA:HA	1.74	0.68
27:D:1213:ARG:NH2	27:D:1316:LYS:HG2	2.08	0.68
29:H:550:G:H1	29:H:690:U:H3	1.41	0.68
34:3:126:SER:HB2	34:3:151:THR:HG22	1.75	0.68
34:3:630:ILE:HG21	34:3:646:LEU:HB2	1.76	0.68
34:3:1124:LEU:HB2	34:3:1130:ILE:HD12	1.76	0.68
8:C:269:LYS:HG2	44:C:1500:GTP:C5	2.28	0.67
8:C:445:PRO:O	8:C:449:PHE:HB3	1.94	0.67
27:D:1640:LEU:HD23	27:D:1666:ILE:HG12	1.76	0.67
29:H:563:G:H1	29:H:677:U:H3	1.41	0.67
1:A:2380:LEU:HB3	1:A:2384:ASN:HD22	1.59	0.67
2:K:369:GLY:HA2	2:K:395:ILE:HG23	1.76	0.67
17:I:141:G:C2'	17:I:142:G:H5'	2.25	0.67
29:H:1092:A:H3'	29:H:1093:C:H6	1.58	0.67
1:A:963:VAL:HG21	3:L:280:ARG:HH12	1.59	0.67
1:A:1286:TRP:NE1	1:A:1348:GLU:OE1	2.27	0.67
8:C:307:ILE:HA	8:C:324:ILE:HD11	1.76	0.67
27:D:1890:GLU:HB3	22:Q:143:ARG:HE	1.59	0.67
24:T:24:GLN:HB3	24:T:42:LYS:HD2	1.75	0.67
1:A:1063:PHE:HE1	1:A:1086:ASN:HD22	1.40	0.67
8:C:633:ILE:HB	8:C:645:LEU:HB2	1.77	0.67
16:F:28:U:H3	18:B:98:U:H3	1.42	0.67
18:B:147:C:H2'	18:B:148:G:C8	2.29	0.67
29:H:1149:G:H2'	29:H:1150:U:H6	1.58	0.67
40:Z:40:LEU:O	40:Z:43:ASN:O	2.12	0.67
5:J:395:LEU:HA	5:J:399:ARG:HD3	1.77	0.67
8:C:598:ILE:HG23	8:C:933:TRP:CZ2	2.29	0.67
18:B:40:C:O2	18:B:115:G:N2	2.27	0.67
29:H:566:U:H3	29:H:674:G:H1	1.40	0.67
32:1:494:LEU:CD1	38:X:7:ILE:HG23	2.14	0.67
33:2:176:TRP:O	33:2:177:GLN:HG2	1.93	0.67
34:3:369:ILE:HD11	34:3:380:LEU:HB2	1.77	0.67
1:A:1943:PRO:HD3	19:O:169:ILE:HD11	1.77	0.67
2:K:446:SER:CB	2:K:451:PHE:CE1	2.76	0.67
27:D:556:LYS:HB2	27:D:628:VAL:HA	1.77	0.67
27:D:1756:ASN:HA	27:D:1854:SER:OG	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:570:G:H1	29:H:670:U:H3	1.41	0.67
33:2:293:ARG:HG2	33:2:344:VAL:HG22	1.76	0.67
34:3:211:LYS:HD2	34:3:230:ILE:HD11	1.76	0.67
1:A:2018:ASN:HD22	1:A:2058:LEU:HD22	1.58	0.67
2:K:439:LYS:NZ	7:M:122:GLU:OE1	2.23	0.67
3:L:424:THR:HG22	3:L:425:SER:H	1.59	0.67
17:I:75:U:H5	27:D:1100:PHE:CE1	2.12	0.67
27:D:677:TYR:CD2	27:D:691:LEU:HD21	2.30	0.67
27:D:1971:LEU:HA	27:D:2111:LEU:HB2	1.77	0.67
8:C:865:ASP:HB2	8:C:931:TYR:HE2	1.60	0.66
2:K:292:TRP:CD1	2:K:299:GLU:HA	2.30	0.66
27:D:1890:GLU:O	22:Q:143:ARG:NE	2.28	0.66
34:3:363:VAL:O	34:3:364:THR:HG23	1.95	0.66
34:3:886:PHE:CE2	34:3:1225:VAL:HG21	2.30	0.66
36:5:73:CYS:SG	46:5:203:ZN:ZN	1.84	0.66
1:A:967:VAL:HG23	1:A:1088:VAL:HG11	1.77	0.66
17:I:143:A:C6	25:U:48:TYR:HD2	2.13	0.66
27:D:2077:ARG:NH1	27:D:2119:LEU:O	2.28	0.66
29:H:548:G:H1	29:H:692:U:H3	1.41	0.66
34:3:153:ASP:OD1	34:3:154:SER:N	2.28	0.66
37:6:50:LEU:HD21	37:6:62:ILE:HG23	1.77	0.66
4:N:304:PRO:O	4:N:308:LEU:N	2.28	0.66
34:3:380:LEU:HD23	34:3:388:LEU:HD21	1.76	0.66
1:A:1490:ARG:NH1	1:A:1535:LYS:O	2.27	0.66
8:C:274:ILE:HD13	8:C:385:PHE:HD2	1.60	0.66
8:C:354:TYR:HA	8:C:359:PHE:HA	1.76	0.66
18:B:127:U:H1'	18:B:128:A:C8	2.31	0.66
27:D:542:HIS:CD2	27:D:555:PHE:HB3	2.31	0.66
27:D:757:LEU:O	27:D:761:PHE:CB	2.41	0.66
23:R:102:ILE:HG22	23:R:103:VAL:HG23	1.77	0.66
35:4:184:PHE:HA	35:4:188:GLY:HA2	1.77	0.66
38:X:63:SER:HB3	38:X:74:PHE:CD1	2.30	0.66
1:A:920:LYS:HD3	1:A:940:ILE:HG21	1.78	0.66
2:K:171:GLN:HA	4:N:723:ARG:HH21	1.58	0.66
8:C:942:GLY:HA3	8:C:963:SER:H	1.61	0.66
19:O:149:TYR:HD2	19:O:178:VAL:HG12	1.60	0.66
27:D:1077:ASN:O	27:D:1081:GLN:HG3	1.96	0.66
27:D:1620:TYR:CD2	27:D:1655:LEU:HD21	2.30	0.66
27:D:2137:LYS:HB2	27:D:2159:GLU:OE2	1.94	0.66
1:A:928:ARG:NH1	1:A:1586:GLN:OE1	2.29	0.66
22:Q:107:LEU:HD11	23:R:59:LYS:HG3	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:1:198:GLU:O	32:1:202:ASN:CB	2.43	0.66
32:1:386:TYR:O	32:1:388:TYR:N	2.29	0.66
33:2:146:ILE:HD11	34:3:1178:PRO:HG2	1.78	0.66
1:A:1050:LEU:HD23	1:A:1248:VAL:HG22	1.77	0.66
28:G:522:U:H3	39:Y:155:ARG:NH2	1.94	0.66
27:D:1493:SER:HA	27:D:1524:TRP:HH2	1.60	0.66
34:3:493:VAL:HA	34:3:937:LYS:HG2	1.77	0.66
1:A:1756:PHE:HD1	1:A:1774:MET:HG2	1.60	0.66
34:3:77:GLY:HA3	34:3:146:THR:HG21	1.77	0.66
1:A:2259:ILE:HD11	1:A:2293:ILE:HD11	1.77	0.65
27:D:571:VAL:HG21	27:D:587:GLU:HG2	1.78	0.65
32:1:491:ARG:NH1	38:X:27:TYR:OH	2.29	0.65
32:1:695:ASN:HD22	32:1:700:VAL:HG11	1.60	0.65
32:1:966:GLU:HA	32:1:969:LEU:HD13	1.78	0.65
34:3:527:LEU:HD12	34:3:528:PRO:HD2	1.78	0.65
1:A:2310:GLU:C	1:A:2333:PHE:CE1	2.67	0.65
32:1:678:LEU:HD12	32:1:682:ILE:HD11	1.78	0.65
32:1:489:VAL:CG1	38:X:26:GLU:HG2	2.26	0.65
28:G:520:G:N2	38:X:34:TYR:CG	2.65	0.65
33:2:336:ASP:OD2	33:2:338:THR:OG1	2.14	0.65
16:F:92:C:H2'	16:F:93:A:H8	1.61	0.65
21:P:21:ARG:HH11	21:P:29:VAL:HG11	1.62	0.65
21:P:21:ARG:NH1	21:P:51:GLU:OE2	2.30	0.65
22:Q:26:TRP:CE3	22:Q:44:LYS:HG2	2.31	0.65
33:2:323:THR:OG1	35:4:62:ASP:OD1	2.14	0.65
18:B:50:G:H1	18:B:65:U:H3	1.45	0.65
29:H:1115:G:H1	29:H:1130:U:H3	1.43	0.65
32:1:337:VAL:HG11	32:1:359:ILE:HD11	1.79	0.65
32:1:494:LEU:CB	38:X:7:ILE:HG23	2.26	0.65
1:A:404:ASN:ND2	8:C:142:LEU:HD13	2.11	0.65
1:A:2018:ASN:HB3	1:A:2021:SER:OG	1.97	0.65
1:A:2067:TYR:CB	19:O:194:LEU:CD2	2.73	0.65
18:B:95:C:H1'	18:B:96:U:H4'	1.79	0.65
19:O:194:LEU:HD13	19:O:197:ARG:NH1	2.12	0.65
32:1:507:VAL:HG21	32:1:543:ARG:HD2	1.77	0.65
1:A:394:ARG:HB2	8:C:667:GLU:OE2	1.97	0.65
1:A:2398:LEU:CB	27:D:1060:LYS:CD	2.69	0.65
27:D:1585:LEU:HD21	27:D:1683:LEU:HD23	1.79	0.65
33:2:200:ILE:O	33:2:203:THR:OG1	2.12	0.65
8:C:222:MET:O	8:C:225:THR:OG1	2.13	0.65
18:B:1:A:N6	18:B:164:C:H42	1.90	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1704:GLU:HG2	1:A:1731:LYS:HD3	1.77	0.64
1:A:1832:GLU:OE1	3:L:428:ARG:NH1	2.26	0.64
2:K:415:TYR:CD1	2:K:439:LYS:HB3	2.32	0.64
8:C:318:LEU:HA	8:C:422:LYS:HG2	1.80	0.64
8:C:860:PRO:HG2	8:C:908:VAL:HG11	1.79	0.64
27:D:1487:VAL:O	27:D:1490:THR:OG1	2.13	0.64
27:D:1489:GLU:OE2	27:D:1744:SER:OG	2.11	0.64
28:G:520:G:N1	38:X:34:TYR:CE2	2.65	0.64
8:C:510:ARG:NH2	8:C:533:GLU:OE1	2.30	0.64
17:I:151:G:H4'	17:I:152:A:O4'	1.97	0.64
18:B:36:A:H61	18:B:118:U:H3	1.45	0.64
23:R:54:ILE:HG23	23:R:72:VAL:HG13	1.78	0.64
29:H:1098:C:H2'	29:H:1099:G:H8	1.63	0.64
32:1:651:LEU:HD21	32:1:692:ILE:HD11	1.79	0.64
32:1:881:MET:HG2	32:1:885:ILE:HD11	1.77	0.64
34:3:994:LEU:HB3	34:3:1006:TYR:HB2	1.79	0.64
39:Y:171:GLY:C	39:Y:172:ILE:HG12	2.16	0.64
1:A:1400:ILE:HG22	1:A:1401:SER:H	1.63	0.64
1:A:1563:LYS:O	1:A:1782:ASN:ND2	2.30	0.64
1:A:2310:GLU:OE1	1:A:2333:PHE:CZ	2.49	0.64
7:M:113:GLN:HE21	16:F:77:G:H4'	1.62	0.64
8:C:705:GLY:HA3	8:C:826:PRO:HG3	1.79	0.64
27:D:453:PHE:HE2	27:D:455:ARG:HE	1.45	0.64
27:D:1216:MET:HG3	27:D:1218:PHE:CE1	2.30	0.64
3:L:136:GLN:NE2	3:L:166:LYS:O	2.31	0.64
8:C:539:VAL:HG13	8:C:564:ILE:HG23	1.79	0.64
8:C:780:PRO:HA	8:C:783:ILE:HB	1.78	0.64
27:D:747:ARG:NH1	27:D:1047:ARG:HG3	2.12	0.64
27:D:804:HIS:CD2	27:D:834:LEU:HD11	2.33	0.64
1:A:140:ARG:HH21	1:A:252:GLU:HB2	1.61	0.64
1:A:1805:ILE:HG23	1:A:1809:ASN:HD21	1.62	0.64
18:B:95:C:H4'	18:B:96:U:OP1	1.96	0.64
18:B:162:G:C3'	18:B:163:C:H4'	2.22	0.64
29:H:1138:G:O2'	29:H:1139:G:C8	2.50	0.64
27:D:1688:TYR:HD2	27:D:1895:ARG:HA	1.63	0.64
21:P:86:ILE:HG22	20:S:72:ILE:HG22	1.77	0.64
29:H:37:G:OP1	32:1:186:ARG:NH2	2.31	0.64
29:H:1097:G:C2	29:H:1146:G:C4	2.86	0.64
1:A:1624:LEU:HD21	1:A:1635:HIS:CE1	2.32	0.64
3:L:98:PHE:HA	3:L:101:ILE:HG22	1.80	0.64
3:L:124:PHE:HB2	3:L:183:PHE:HD1	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1524:TRP:CD1	27:D:1780:ARG:CZ	2.79	0.64
24:T:85:ASP:OD2	25:U:32:LYS:NZ	2.27	0.64
29:H:1099:G:H2'	29:H:1100:A:H5'	1.80	0.64
29:H:1138:G:O2'	29:H:1139:G:H8	1.79	0.64
2:K:179:SER:H	2:K:194:SER:HA	1.63	0.64
3:L:298:VAL:HG12	3:L:302:MET:HG2	1.80	0.64
27:D:677:TYR:HB2	27:D:691:LEU:HD11	1.78	0.64
29:H:1120:G:H2'	29:H:1121:U:H6	1.62	0.64
32:1:494:LEU:HD11	38:X:23:TRP:CG	2.31	0.64
33:2:145:GLN:HE21	34:3:1178:PRO:HG3	1.62	0.64
34:3:130:LEU:HD23	34:3:149:ALA:HB2	1.77	0.64
1:A:243:ASP:HB3	1:A:246:GLU:HB2	1.79	0.64
1:A:1258:LEU:HD22	1:A:1269:ILE:HD12	1.79	0.64
3:L:120:TYR:HD1	3:L:123:ARG:HB3	1.61	0.64
3:L:227:PRO:HG3	3:L:325:ARG:HB3	1.80	0.64
21:P:39:LYS:HE3	22:Q:35:GLN:NE2	2.13	0.64
33:2:336:ASP:HB3	33:2:339:ASN:HD22	1.62	0.64
34:3:156:ASN:HD22	34:3:178:PRO:HA	1.63	0.64
8:C:182:LYS:NZ	8:C:186:ASP:OD2	2.24	0.64
8:C:236:LEU:HD21	8:C:435:LEU:HD11	1.80	0.64
1:A:1365:THR:O	1:A:1369:ASN:ND2	2.31	0.63
2:K:316:GLN:OE1	2:K:320:SER:OG	2.17	0.63
3:L:328:VAL:HA	3:L:331:HIS:HD2	1.62	0.63
5:J:344:PHE:CE1	5:J:347:LEU:HB2	2.33	0.63
27:D:1700:ILE:O	27:D:1704:LEU:HG	1.98	0.63
34:3:1036:LYS:NZ	34:3:1082:TYR:OH	2.31	0.63
1:A:1267:VAL:HG22	1:A:1302:LEU:HD23	1.81	0.63
34:3:884:ASN:OD1	34:3:885:TRP:N	2.23	0.63
35:4:114:ASN:ND2	35:4:177:ARG:O	2.32	0.63
1:A:976:GLN:NE2	1:A:1310:LYS:HB3	2.12	0.63
8:C:757:TRP:HD1	8:C:762:SER:HB3	1.64	0.63
27:D:610:GLU:HG2	27:D:643:ARG:NH2	2.14	0.63
1:A:681:LYS:O	1:A:684:LYS:HB3	1.99	0.63
8:C:445:PRO:O	8:C:449:PHE:CB	2.47	0.63
18:B:27:G:H8	18:B:27:G:OP2	1.81	0.63
27:D:1372:LYS:HD3	27:D:1708:GLY:HA3	1.80	0.63
1:A:408:SER:HB3	1:A:410:ILE:HD12	1.80	0.63
8:C:405:ARG:HH22	18:B:1:A:H8	1.47	0.63
27:D:1688:TYR:CD1	27:D:1695:TYR:CD1	2.85	0.63
27:D:1917:THR:HG22	27:D:1918:SER:H	1.64	0.63
32:1:945:TYR:HB3	32:1:948:ALA:HB3	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:4:43:ASP:HB2	35:4:50:GLN:HE21	1.63	0.63
1:A:1632:ILE:HG21	1:A:1645:LEU:HD13	1.81	0.63
8:C:603:PHE:CB	8:C:646:GLY:O	2.46	0.63
17:I:141:G:O2'	17:I:142:G:H5'	1.99	0.63
27:D:520:CYS:HB3	27:D:673:THR:HA	1.78	0.63
27:D:568:GLN:HA	27:D:587:GLU:OE2	1.99	0.63
34:3:128:LYS:NZ	34:3:193:MET:O	2.32	0.63
1:A:456:GLU:HG3	8:C:357:GLY:HA3	1.80	0.63
1:A:992:ASP:OD2	1:A:1085:LYS:NZ	2.30	0.63
1:A:1058:ALA:HB3	1:A:1105:ARG:HH21	1.63	0.63
3:L:357:PRO:O	3:L:358:ILE:HG13	1.99	0.63
28:G:520:G:C2	38:X:34:TYR:CD1	2.86	0.63
32:1:510:ALA:HA	32:1:518:THR:HG21	1.80	0.63
17:I:142:G:H5''	17:I:143:A:OP2	1.99	0.63
22:Q:44:LYS:HB2	22:Q:79:ILE:HG21	1.81	0.63
32:1:484:PHE:HA	32:1:488:TRP:HD1	1.64	0.63
34:3:961:CYS:O	34:3:962:LEU:HD12	1.99	0.63
1:A:1790:TRP:HZ3	1:A:1798:ILE:HD12	1.63	0.62
8:C:274:ILE:HD12	8:C:382:TYR:CD1	2.34	0.62
32:1:542:THR:O	32:1:546:ASN:ND2	2.31	0.62
1:A:1481:GLU:HA	1:A:1484:TRP:NE1	2.14	0.62
34:3:97:THR:OG1	34:3:97:THR:O	2.17	0.62
1:A:656:ILE:O	1:A:660:ILE:HG13	2.00	0.62
8:C:652:MET:HG3	8:C:655:LEU:HD12	1.80	0.62
27:D:1668:LYS:HE3	27:D:1702:GLU:HG3	1.80	0.62
22:Q:3:LEU:HD13	23:R:62:ASP:HB2	1.81	0.62
32:1:334:ILE:HD11	32:1:362:CYS:HB3	1.80	0.62
1:A:1073:ILE:HG23	1:A:1074:VAL:HG23	1.79	0.62
1:A:1208:PRO:O	1:A:1212:ARG:HG3	1.98	0.62
1:A:1376:ASN:OD1	1:A:1377:SER:N	2.32	0.62
1:A:2398:LEU:HD22	27:D:1060:LYS:HD2	1.81	0.62
16:F:43:C:O2'	16:F:44:A:O5'	2.14	0.62
32:1:494:LEU:HD12	38:X:7:ILE:HG21	1.77	0.62
1:A:1172:PHE:HZ	1:A:1230:ILE:HD11	1.64	0.62
34:3:394:SER:HB3	34:3:404:LEU:HB2	1.80	0.62
34:3:1124:LEU:HB3	34:3:1128:THR:HG23	1.82	0.62
36:5:49:CYS:SG	46:5:201:ZN:ZN	1.78	0.62
3:L:401:LEU:N	4:N:214:SER:HB3	2.15	0.62
8:C:130:PRO:HB3	8:C:558:LYS:NZ	2.15	0.62
8:C:703:LEU:O	8:C:705:GLY:N	2.33	0.62
38:X:72:GLN:HA	38:X:72:GLN:OE1	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:175:LEU:O	3:L:179:MET:HB2	2.00	0.62
27:D:781:LEU:HD21	27:D:798:GLU:HG2	1.80	0.62
27:D:1541:ILE:HD12	27:D:1542:GLU:HG2	1.82	0.62
27:D:1996:GLN:NE2	27:D:2150:LEU:H	1.97	0.62
24:T:35:ILE:HA	26:V:23:ARG:HH21	1.64	0.62
32:1:494:LEU:HB3	38:X:7:ILE:CG2	2.29	0.62
34:3:629:GLY:O	34:3:630:ILE:HG13	1.99	0.62
34:3:987:PHE:CD2	34:3:1054:LEU:HB2	2.34	0.62
4:N:849:TYR:O	4:N:853:GLY:N	2.20	0.62
27:D:1148:GLN:HE22	27:D:1297:TRP:HA	1.64	0.62
1:A:2189:LEU:HD13	1:A:2224:VAL:HG23	1.81	0.62
27:D:1772:TRP:CZ3	27:D:1773:PHE:CE1	2.86	0.62
29:H:1098:C:O5'	29:H:1098:C:H6	1.82	0.62
33:2:167:LYS:NZ	34:3:1111:ASP:OD2	2.21	0.62
34:3:253:VAL:HG21	34:3:327:VAL:HG11	1.82	0.62
37:6:23:ASP:OD1	37:6:24:GLU:N	2.29	0.62
1:A:1014:LYS:HE2	1:A:1024:LEU:HD13	1.82	0.62
3:L:239:ALA:O	3:L:243:ALA:HB2	2.00	0.62
24:T:90:ILE:HB	26:V:62:VAL:HG13	1.81	0.62
29:H:143:G:H2'	29:H:144:G:H8	1.65	0.62
34:3:379:VAL:O	34:3:390:LYS:HA	1.99	0.62
34:3:699:MET:HA	34:3:719:GLN:O	1.99	0.62
1:A:1145:MET:SD	1:A:1160:LEU:HD22	2.40	0.61
1:A:2349:PHE:CD2	1:A:2379:PRO:HG3	2.35	0.61
1:A:2395:PHE:CD1	27:D:1062:PRO:CD	2.67	0.61
2:K:392:HIS:HD2	2:K:396:VAL:HG22	1.65	0.61
8:C:220:ASN:HB3	8:C:651:TYR:HB2	1.80	0.61
1:A:1501:THR:HG21	4:N:163:THR:HG21	1.82	0.61
8:C:468:LEU:HD11	8:C:493:LEU:HD23	1.81	0.61
16:F:74:U:H2'	16:F:75:A:C8	2.35	0.61
26:V:30:ARG:HE	26:V:41:ASP:HB3	1.65	0.61
32:1:531:GLU:OE1	32:1:534:ARG:NH2	2.33	0.61
32:1:763:LEU:HD11	32:1:797:VAL:HG22	1.81	0.61
3:L:222:ILE:HA	3:L:225:ILE:HG12	1.82	0.61
27:D:1731:TYR:OH	22:Q:146:LEU:O	2.15	0.61
27:D:1925:LYS:NZ	27:D:1946:ASP:OD2	2.25	0.61
1:A:304:ASP:OD1	1:A:305:LEU:N	2.32	0.61
27:D:1220:ILE:HD11	27:D:1272:PHE:HE2	1.65	0.61
32:1:820:MET:HA	32:1:823:MET:HG2	1.81	0.61
34:3:768:ARG:NH2	34:3:1359:ASN:O	2.32	0.61
2:K:179:SER:HA	2:K:441:ILE:HG21	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:271:ASP:O	8:C:275:LEU:HB2	1.99	0.61
27:D:1370:SER:OG	27:D:1535:PHE:HB2	2.00	0.61
34:3:128:LYS:NZ	34:3:194:GLU:OE1	2.29	0.61
34:3:154:SER:HB3	34:3:1302:ARG:HD2	1.83	0.61
2:K:395:ILE:HG22	2:K:396:VAL:N	2.12	0.61
4:N:261:LYS:HB3	4:N:285:HIS:CD2	2.35	0.61
5:J:443:LYS:HG2	5:J:444:VAL:H	1.65	0.61
27:D:571:VAL:HG21	27:D:587:GLU:CG	2.31	0.61
21:P:49:ILE:HG22	21:P:81:VAL:HA	1.82	0.61
29:H:1161:U:O2'	29:H:1162:U:H5'	2.01	0.61
32:1:739:ASN:OD1	32:1:740:LYS:N	2.32	0.61
2:K:286:ASP:O	2:K:287:MET:HG2	1.99	0.61
18:B:136:G:O2'	18:B:137:U:O4'	2.19	0.61
27:D:1367:PHE:HE2	27:D:1518:ALA:HB1	1.64	0.61
27:D:1550:SER:C	27:D:1551:PHE:HD1	2.03	0.61
34:3:638:SER:HA	34:3:683:GLN:HA	1.83	0.61
34:3:642:LEU:HD21	34:3:644:ILE:HG23	1.81	0.61
8:C:598:ILE:HG22	8:C:599:THR:HG23	1.82	0.61
18:B:19:A:N6	18:B:151:A:N1	2.47	0.61
27:D:960:ILE:HG23	27:D:961:SER:H	1.65	0.61
29:H:1149:G:H2'	29:H:1150:U:C6	2.34	0.61
34:3:205:SER:HB2	34:3:211:LYS:HG2	1.82	0.61
38:X:78:LYS:NZ	39:Y:162:LEU:O	2.34	0.61
1:A:406:PRO:HG2	44:C:1500:GTP:O2'	2.01	0.61
1:A:609:GLU:O	1:A:613:SER:CB	2.47	0.61
1:A:2157:ILE:CG2	27:D:1066:ARG:HG2	2.31	0.61
4:N:101:LYS:O	4:N:105:ALA:HB2	2.00	0.61
7:M:93:VAL:HG12	7:M:95:ARG:H	1.64	0.61
8:C:176:ARG:NH1	8:C:184:GLU:O	2.34	0.61
8:C:415:TYR:HB3	8:C:419:PRO:HG2	1.83	0.61
22:Q:7:LEU:HD11	23:R:95:PHE:CE2	2.36	0.61
32:1:494:LEU:HB3	38:X:7:ILE:CG1	2.31	0.61
1:A:768:GLU:OE1	4:N:108:LYS:NZ	2.34	0.60
1:A:1313:ASP:OD1	1:A:1359:ILE:HG21	2.01	0.60
2:K:292:TRP:HE1	2:K:299:GLU:HG3	1.66	0.60
2:K:312:SER:HB2	2:K:353:TYR:O	2.01	0.60
17:I:146:U:O4'	20:S:67:SER:HB2	2.01	0.60
28:G:520:G:C5	38:X:34:TYR:CZ	2.88	0.60
29:H:1126:G:HO2'	29:H:1127:A:H8	1.50	0.60
34:3:640:THR:OG1	34:3:686:GLN:O	2.20	0.60
34:3:1216:CYS:SG	34:3:1228:PHE:HB2	2.41	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:M:51:PHE:HE2	7:M:114:ILE:HG23	1.66	0.60
8:C:504:THR:O	8:C:507:SER:OG	2.15	0.60
8:C:918:LEU:HD23	8:C:928:CYS:HB2	1.83	0.60
27:D:1524:TRP:CD1	27:D:1780:ARG:NE	2.69	0.60
27:D:1688:TYR:CZ	27:D:1896:LYS:HE2	2.36	0.60
34:3:994:LEU:HB2	34:3:1008:ILE:HD11	1.83	0.60
1:A:1161:TYR:HD1	1:A:1170:MET:HG2	1.67	0.60
2:K:261:LEU:HB3	2:K:292:TRP:CZ3	2.37	0.60
29:H:1139:G:H2'	29:H:1140:U:C6	2.36	0.60
32:1:516:SER:O	32:1:520:ASP:HB2	2.01	0.60
32:1:767:LEU:HD22	32:1:804:GLU:HG2	1.82	0.60
1:A:683:LEU:HD13	1:A:706:PRO:HB2	1.82	0.60
16:F:2:U:H2'	16:F:3:U:C6	2.36	0.60
17:I:77:U:H1'	27:D:1107:ARG:HG3	1.84	0.60
28:G:514:U:H4'	28:G:515:U:H5'	1.83	0.60
32:1:177:ASN:OD1	32:1:178:THR:N	2.34	0.60
34:3:493:VAL:O	34:3:499:SER:OG	2.13	0.60
34:3:1037:PHE:HB2	34:3:1042:LEU:HB2	1.82	0.60
6:E:42:MET:HE1	6:E:107:VAL:H	1.65	0.60
18:B:27:G:OP1	18:B:141:G:O5'	2.19	0.60
18:B:27:G:N2	18:B:131:A:N3	2.48	0.60
34:3:184:LEU:HD21	37:6:45:GLY:HA3	1.83	0.60
34:3:379:VAL:HG22	34:3:391:LEU:HB2	1.83	0.60
39:Y:173:ASN:O	39:Y:174:VAL:HG12	2.02	0.60
1:A:1147:PHE:CD2	1:A:1153:GLU:HG2	2.37	0.60
1:A:1682:THR:OG1	1:A:1702:THR:OG1	2.20	0.60
1:A:2310:GLU:CA	1:A:2333:PHE:CE1	2.85	0.60
5:J:167:GLU:HB3	5:J:169:TRP:HE3	1.66	0.60
8:C:737:ILE:HG12	8:C:768:PHE:HB3	1.83	0.60
17:I:62:G:OP1	27:D:714:ASN:HB3	2.02	0.60
27:D:1409:LEU:HD22	27:D:1427:LYS:HB2	1.84	0.60
27:D:2104:GLY:HA2	27:D:2112:TYR:HD2	1.66	0.60
34:3:335:ILE:HD12	34:3:407:LEU:HD11	1.83	0.60
34:3:547:ASN:HA	34:3:563:ILE:O	2.00	0.60
1:A:1213:MET:HG2	1:A:1259:LEU:HD12	1.82	0.60
1:A:1777:ILE:HG12	1:A:1784:TYR:HB3	1.82	0.60
1:A:1910:LYS:CD	19:O:169:ILE:HG12	2.30	0.60
2:K:65:GLU:HG3	2:K:66:ASN:H	1.66	0.60
8:C:116:THR:OG1	8:C:120:ARG:NH1	2.34	0.60
27:D:707:PHE:HD2	27:D:895:VAL:HG13	1.67	0.60
1:A:902:PRO:HG2	1:A:905:TYR:HB2	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1154:VAL:O	27:D:1157:ILE:HG13	2.02	0.60
27:D:1772:TRP:HZ3	27:D:1773:PHE:CZ	2.20	0.60
27:D:2013:VAL:HG13	27:D:2018:ASP:HB2	1.83	0.60
1:A:431:ILE:HA	8:C:895:ALA:HB1	1.84	0.60
1:A:982:TYR:HB2	1:A:1106:GLY:HA3	1.82	0.60
1:A:2310:GLU:CG	1:A:2333:PHE:CZ	2.66	0.60
7:M:34:LYS:HB3	7:M:39:GLU:HG2	1.83	0.60
27:D:683:PHE:HA	27:D:946:VAL:HG21	1.83	0.60
32:1:494:LEU:CB	38:X:7:ILE:CG1	2.78	0.60
34:3:854:ASN:OD1	34:3:855:ALA:N	2.35	0.60
1:A:976:GLN:HE22	1:A:1310:LYS:CB	2.13	0.59
2:K:135:ARG:NH1	2:K:360:ASN:O	2.33	0.59
4:N:842:TRP:HA	4:N:845:LEU:HD12	1.82	0.59
16:F:36:U:H3	16:F:45:A:H61	1.50	0.59
17:I:96:A:H2'	17:I:97:U:O4'	2.02	0.59
27:D:490:ALA:C	27:D:491:PHE:HD1	2.05	0.59
27:D:781:LEU:CD2	27:D:798:GLU:HA	2.29	0.59
27:D:2008:CYS:SG	27:D:2013:VAL:HB	2.42	0.59
25:U:28:GLY:HA2	25:U:38:TYR:O	2.02	0.59
29:H:1149:G:H8	29:H:1149:G:C5'	2.15	0.59
34:3:236:VAL:HG13	34:3:257:ILE:HG23	1.84	0.59
5:J:346:ASN:O	5:J:422:ASN:ND2	2.35	0.59
34:3:412:THR:O	34:3:413:ILE:HG23	2.03	0.59
34:3:831:THR:HA	34:3:836:TRP:HA	1.83	0.59
34:3:924:PHE:CD2	34:3:952:ARG:HD2	2.37	0.59
38:X:90:ASP:OD2	39:Y:223:ARG:NH2	2.35	0.59
1:A:161:PHE:O	1:A:165:LEU:HB2	2.02	0.59
1:A:430:PRO:O	1:A:431:ILE:HG22	2.03	0.59
2:K:355:VAL:HG22	2:K:366:THR:HG22	1.84	0.59
3:L:225:ILE:O	3:L:325:ARG:NH1	2.35	0.59
20:S:65:ARG:NH1	26:V:65:GLY:O	2.35	0.59
1:A:675:HIS:NE2	18:B:102:C:OP1	2.36	0.59
2:K:165:LEU:HD22	2:K:465:ASN:HB3	1.83	0.59
27:D:1428:LEU:HD11	27:D:1445:LEU:HB2	1.85	0.59
27:D:1779:TYR:CE1	27:D:1783:HIS:HE1	2.21	0.59
33:2:296:GLN:NE2	33:2:306:GLU:OE2	2.35	0.59
38:X:48:LEU:O	39:Y:231:ARG:CZ	2.49	0.59
38:X:89:VAL:HG22	38:X:104:ILE:HG22	1.85	0.59
1:A:794:LYS:HB3	1:A:854:ARG:NH1	2.16	0.59
2:K:285:HIS:O	2:K:309:GLY:HA2	2.03	0.59
4:N:241:PRO:HB3	4:N:277:ILE:HD11	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:I:90:C:N3	22:Q:34:PRO:HD2	2.17	0.59
27:D:563:LEU:HD11	27:D:836:TRP:CE2	2.38	0.59
29:H:1149:G:C8	29:H:1149:G:C5'	2.85	0.59
29:H:1152:U:H2'	29:H:1153:C:C6	2.38	0.59
34:3:433:MET:O	34:3:485:ASN:HB3	2.02	0.59
34:3:1090:ILE:O	34:3:1117:HIS:HA	2.01	0.59
1:A:1202:ASN:ND2	1:A:1246:ALA:O	2.34	0.59
1:A:1308:GLU:HG2	1:A:1311:LYS:HD2	1.84	0.59
2:K:66:ASN:ND2	16:F:74:U:O2	2.35	0.59
8:C:803:VAL:HG13	8:C:813:ILE:HB	1.84	0.59
28:G:521:U:OP2	32:1:408:ARG:NH2	2.34	0.59
28:G:522:U:H3	39:Y:155:ARG:CZ	2.16	0.59
38:X:11:GLU:HG2	38:X:16:ILE:HG21	1.84	0.59
1:A:1414:TRP:CD1	1:A:1555:THR:HG22	2.37	0.59
1:A:2310:GLU:CA	1:A:2333:PHE:CZ	2.82	0.59
4:N:809:LEU:HD12	4:N:841:THR:HG22	1.85	0.59
27:D:568:GLN:NE2	27:D:587:GLU:OE1	2.36	0.59
32:1:696:LYS:HG2	32:1:697:HIS:H	1.68	0.59
38:X:123:LYS:O	38:X:127:ASP:N	2.34	0.59
1:A:897:PRO:O	1:A:1006:ARG:NH1	2.36	0.59
5:J:265:LEU:HD12	5:J:266:PRO:HD2	1.85	0.59
19:O:183:LYS:O	19:O:187:GLU:HB2	2.02	0.59
32:1:698:ARG:HE	32:1:739:ASN:HD22	1.51	0.59
34:3:1199:ILE:HA	34:3:1220:GLY:HA2	1.84	0.59
8:C:968:MET:HB3	8:C:972:ARG:NH1	2.18	0.59
18:B:161:U:H2'	18:B:162:G:C8	2.38	0.59
29:H:1140:U:C2	29:H:1141:C:C5	2.91	0.59
29:H:1146:G:O2'	29:H:1147:A:O5'	2.15	0.59
32:1:327:TRP:HZ2	32:1:369:PRO:HG2	1.68	0.59
34:3:599:ILE:HB	34:3:610:ILE:HB	1.85	0.59
1:A:1755:LYS:HE3	1:A:1759:TYR:CE2	2.38	0.59
18:B:43:G:H2'	18:B:44:A:C8	2.38	0.59
27:D:765:ASN:CB	27:D:768:HIS:HD2	2.16	0.59
23:R:27:LYS:O	23:R:32:SER:OG	2.20	0.59
34:3:180:THR:O	36:5:83:LYS:HB3	2.03	0.59
34:3:736:ILE:HG23	34:3:738:GLN:H	1.68	0.59
1:A:1674:ASP:OD2	1:A:2200:LYS:NZ	2.33	0.58
27:D:1372:LYS:HA	27:D:1376:LYS:NZ	2.18	0.58
21:P:18:TYR:HD1	21:P:101:PRO:HG3	1.67	0.58
32:1:442:ILE:HG23	32:1:457:ILE:HG23	1.83	0.58
32:1:632:LYS:HD2	32:1:672:VAL:HG13	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:3:208:GLU:HG3	34:3:209:GLN:H	1.67	0.58
38:X:40:ARG:NH1	38:X:72:GLN:O	2.36	0.58
1:A:867:ILE:HD13	1:A:1101:TYR:CG	2.38	0.58
1:A:927:VAL:HG13	3:L:385:ARG:HD2	1.83	0.58
27:D:1779:TYR:CE1	27:D:1783:HIS:CE1	2.91	0.58
27:D:1781:ARG:HG3	27:D:1789:TYR:HE2	1.66	0.58
33:2:292:GLY:N	35:4:31:GLN:OE1	2.30	0.58
34:3:382:GLN:NE2	34:3:416:SER:OG	2.36	0.58
1:A:365:ASN:OD1	1:A:366:GLU:N	2.36	0.58
1:A:1207:TRP:HB3	1:A:1211:SER:OG	2.03	0.58
1:A:1391:PRO:HD2	1:A:1394:LEU:HD12	1.85	0.58
4:N:401:ILE:O	4:N:405:SER:N	2.34	0.58
8:C:597:TYR:CE1	8:C:630:PRO:HB2	2.38	0.58
8:C:794:GLN:HG2	8:C:835:LYS:HG2	1.84	0.58
18:B:67:U:H2'	18:B:68:A:H8	1.68	0.58
32:1:538:VAL:O	32:1:542:THR:HG23	2.03	0.58
1:A:551:LEU:HG	1:A:557:PHE:HE2	1.69	0.58
8:C:348:LEU:HD12	8:C:372:THR:HG22	1.84	0.58
27:D:789:LEU:O	27:D:794:ARG:NE	2.32	0.58
34:3:232:ARG:HE	34:3:235:MET:HG3	1.68	0.58
34:3:387:ASP:HA	34:3:412:THR:HG22	1.84	0.58
34:3:1191:ASN:ND2	34:3:1316:LYS:HB2	2.18	0.58
2:K:197:GLY:HA2	2:K:221:ILE:HG13	1.85	0.58
6:E:137:TYR:O	6:E:139:HIS:N	2.37	0.58
8:C:706:LEU:HD23	8:C:825:VAL:HA	1.85	0.58
27:D:645:PRO:HA	27:D:648:GLU:OE2	2.03	0.58
27:D:1367:PHE:CE2	27:D:1518:ALA:HB1	2.39	0.58
23:R:72:VAL:HG21	23:R:94:LEU:HB3	1.85	0.58
1:A:325:LYS:HB2	1:A:405:ASN:HD22	1.68	0.58
2:K:171:GLN:NE2	2:K:209:PRO:O	2.36	0.58
8:C:138:VAL:HG12	8:C:146:LYS:HG2	1.85	0.58
18:B:32:G:O2'	18:B:34:C:H5''	2.03	0.58
27:D:1898:ASP:O	27:D:1902:LEU:HG	2.03	0.58
24:T:59:GLU:OE2	25:U:30:LYS:NZ	2.20	0.58
34:3:328:VAL:HG22	34:3:337:VAL:HG12	1.86	0.58
34:3:515:ASN:HB2	34:3:886:PHE:HE1	1.68	0.58
1:A:874:ILE:O	1:A:875:THR:OG1	2.21	0.58
1:A:956:LYS:NZ	3:L:451:GLN:HG3	2.19	0.58
27:D:794:ARG:O	27:D:798:GLU:HG3	2.04	0.58
27:D:1748:TYR:CE2	22:Q:142:PRO:HD2	2.39	0.58
26:V:8:LYS:HA	26:V:11:MET:HG2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:3:1116:ARG:HH22	34:3:1141:LEU:HD21	1.69	0.58
36:5:74:TRP:HZ2	36:5:78:ARG:HH21	1.50	0.58
1:A:377:VAL:HG12	1:A:379:ILE:H	1.68	0.58
5:J:319:ALA:O	5:J:323:ARG:HG2	2.03	0.58
16:F:38:U:O2'	16:F:39:G:OP2	2.20	0.58
27:D:2053:LEU:HD21	27:D:2142:ILE:HG22	1.86	0.58
25:U:46:ASP:OD1	25:U:50:ASN:N	2.33	0.58
1:A:2159:ASN:HA	1:A:2162:LEU:HD13	1.86	0.58
27:D:978:LEU:HD23	27:D:981:LEU:HD12	1.86	0.58
27:D:1700:ILE:HD11	27:D:1740:LEU:HD13	1.84	0.58
22:Q:3:LEU:HD23	23:R:95:PHE:CE1	2.35	0.58
32:1:601:ILE:O	32:1:604:THR:OG1	2.16	0.58
34:3:766:LYS:HD3	34:3:836:TRP:CE2	2.38	0.58
2:K:175:THR:O	2:K:176:LYS:HG2	2.04	0.57
4:N:286:GLU:HG3	4:N:287:SER:H	1.68	0.57
4:N:760:VAL:O	4:N:764:LEU:CB	2.52	0.57
18:B:77:A:H4'	18:B:78:A:OP1	2.03	0.57
27:D:1488:TYR:O	27:D:1492:ILE:HG12	2.03	0.57
34:3:1222:GLN:HE22	37:6:48:ALA:HB2	1.68	0.57
1:A:585:ARG:HD3	1:A:733:GLN:HG2	1.86	0.57
1:A:1253:LYS:O	1:A:1274:ARG:NH2	2.36	0.57
1:A:1694:MET:O	1:A:1759:TYR:OH	2.22	0.57
8:C:869:HIS:HD2	8:C:925:LEU:HB3	1.69	0.57
17:I:149:U:O4	23:R:66:ASN:ND2	2.32	0.57
27:D:848:LYS:HA	27:D:889:ILE:HB	1.86	0.57
27:D:1246:THR:O	27:D:1289:PHE:HE2	1.87	0.57
27:D:1434:LEU:HB2	27:D:2096:LEU:HG	1.84	0.57
29:H:1141:C:H2'	29:H:1142:G:H8	1.68	0.57
32:1:257:MET:HG3	36:5:100:HIS:ND1	2.18	0.57
34:3:367:SER:HB2	34:3:382:GLN:HG2	1.84	0.57
1:A:181:HIS:HA	1:A:704:TRP:CZ2	2.36	0.57
1:A:194:HIS:HB3	1:A:198:ALA:H	1.68	0.57
3:L:184:LYS:HE2	3:L:186:LYS:HB2	1.86	0.57
3:L:462:ASN:HA	4:N:830:ARG:HD2	1.87	0.57
8:C:625:ILE:HD11	8:C:659:LEU:HD13	1.86	0.57
32:1:882:ASN:ND2	33:2:268:ASP:O	2.37	0.57
34:3:432:GLU:O	34:3:485:ASN:ND2	2.37	0.57
35:4:136:ARG:HB2	35:4:154:TYR:HD2	1.69	0.57
1:A:1704:GLU:HA	1:A:1731:LYS:HG2	1.86	0.57
2:K:285:HIS:C	2:K:287:MET:H	2.06	0.57
8:C:709:SER:O	8:C:821:LEU:N	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:752:ARG:HA	8:C:757:TRP:H	1.70	0.57
28:G:505:A:H1'	28:G:506:U:H6	1.68	0.57
29:H:1097:G:H1'	29:H:1146:G:N2	2.20	0.57
34:3:189:PRO:HA	34:3:206:SER:HB3	1.86	0.57
34:3:783:ILE:HG13	34:3:784:SER:N	2.18	0.57
1:A:662:GLN:NE2	16:F:1:G:N3	2.52	0.57
8:C:562:VAL:HG23	8:C:564:ILE:HD11	1.86	0.57
27:D:1216:MET:CG	27:D:1218:PHE:HE1	2.14	0.57
27:D:1396:VAL:HG11	27:D:1452:PHE:CE2	2.38	0.57
29:H:36:A:N7	32:1:182:ARG:NH2	2.52	0.57
34:3:365:ILE:HD13	34:3:381:LEU:HG	1.87	0.57
1:A:2064:GLY:O	1:A:2068:ASN:N	2.37	0.57
18:B:10:U:H2'	18:B:11:A:N7	2.20	0.57
27:D:505:LYS:HA	27:D:508:HIS:NE2	2.19	0.57
27:D:1217:ARG:NH2	27:D:1788:TYR:OH	2.37	0.57
27:D:2102:VAL:O	27:D:2142:ILE:HA	2.03	0.57
21:P:21:ARG:NH1	21:P:29:VAL:HG11	2.19	0.57
25:U:74:ARG:HB3	25:U:77:ASN:HD22	1.70	0.57
33:2:183:LEU:HD22	33:2:188:LEU:HD11	1.87	0.57
40:Z:37:LEU:O	40:Z:41:GLU:HG2	2.05	0.57
1:A:1277:GLU:O	1:A:1279:VAL:HG23	2.05	0.57
2:K:451:PHE:CD1	2:K:451:PHE:N	2.73	0.57
8:C:143:HIS:HA	44:C:1500:GTP:O3B	2.04	0.57
8:C:245:VAL:HG11	8:C:295:ILE:HG22	1.86	0.57
34:3:159:ILE:HD12	34:3:224:ILE:HD11	1.87	0.57
34:3:390:LYS:HD2	34:3:410:PHE:CZ	2.39	0.57
27:D:648:GLU:OE1	27:D:943:TYR:HB3	2.04	0.57
27:D:801:ILE:HG22	27:D:827:VAL:HB	1.86	0.57
22:Q:43:VAL:HG11	22:Q:85:ILE:HD12	1.87	0.57
20:S:68:GLN:HG3	26:V:69:ILE:HA	1.86	0.57
24:T:10:MET:HG3	26:V:30:ARG:O	2.04	0.57
33:2:265:CYS:SG	33:2:266:PHE:N	2.78	0.57
35:4:139:GLU:O	35:4:151:ALA:HA	2.04	0.57
2:K:32:LEU:HD23	2:K:34:HIS:H	1.70	0.57
27:D:1415:ARG:HA	27:D:1418:HIS:CE1	2.40	0.57
22:Q:30:GLN:HE22	22:Q:84:TYR:HE1	1.53	0.57
1:A:1865:THR:HG22	1:A:1866:PHE:H	1.69	0.57
4:N:285:HIS:ND1	4:N:285:HIS:O	2.38	0.57
8:C:240:ASP:HB2	8:C:243:GLU:HB3	1.87	0.57
8:C:472:VAL:HB	8:C:575:ALA:HB3	1.87	0.57
8:C:883:ARG:NH2	8:C:912:ALA:O	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1008:PHE:N	27:D:1008:PHE:HD1	2.02	0.57
27:D:1370:SER:HB2	27:D:1514:CYS:SG	2.45	0.57
27:D:1513:ASN:OD1	27:D:1514:CYS:N	2.31	0.57
29:H:677:U:H2'	29:H:678:U:H6	1.70	0.57
29:H:678:U:H2'	29:H:679:U:H6	1.70	0.57
32:1:256:PRO:HA	32:1:259:ARG:HD2	1.86	0.57
34:3:190:ILE:O	34:3:191:SER:OG	2.20	0.57
34:3:269:ILE:HD11	34:3:282:LYS:HG3	1.86	0.57
34:3:540:PRO:HB2	34:3:612:PRO:HG3	1.86	0.57
1:A:1836:ASN:H	1:A:1839:ASN:HB3	1.70	0.56
8:C:701:GLU:HB2	8:C:706:LEU:HB2	1.87	0.56
16:F:72:C:H2'	16:F:73:A:H8	1.70	0.56
27:D:1101:ILE:O	27:D:1105:ALA:CB	2.53	0.56
29:H:669:U:H2'	29:H:670:U:H6	1.70	0.56
29:H:671:G:H2'	29:H:672:U:H6	1.70	0.56
29:H:689:G:H2'	29:H:690:U:H6	1.71	0.56
32:1:675:LEU:HD11	32:1:714:LEU:HB3	1.86	0.56
32:1:874:GLU:HB3	34:3:1315:ARG:HH22	1.70	0.56
33:2:329:LYS:HG3	33:2:349:ILE:HD12	1.86	0.56
34:3:162:ILE:HG22	34:3:171:LEU:HD12	1.87	0.56
34:3:600:ILE:HD13	34:3:642:LEU:HD13	1.86	0.56
1:A:358:ARG:NE	1:A:361:GLU:OE2	2.34	0.56
1:A:1231:GLN:NE2	1:A:1241:ILE:O	2.35	0.56
1:A:1668:ILE:HD13	1:A:1801:SER:HB2	1.85	0.56
1:A:1883:ASN:ND2	1:A:1886:THR:OG1	2.35	0.56
3:L:367:ARG:NH1	17:I:58:G:N7	2.53	0.56
21:P:40:HIS:O	21:P:89:GLY:HA3	2.05	0.56
25:U:16:LYS:HB2	25:U:17:PRO:HD3	1.87	0.56
29:H:682:U:H2'	29:H:683:U:H6	1.70	0.56
34:3:147:PHE:CD1	34:3:147:PHE:N	2.73	0.56
1:A:535:HIS:HE2	18:B:105:A:P	2.28	0.56
1:A:1498:ASP:HB2	4:N:159:LEU:HD12	1.86	0.56
1:A:1512:ARG:NH1	1:A:1529:ASN:OD1	2.38	0.56
1:A:2310:GLU:CD	1:A:2333:PHE:HZ	2.08	0.56
2:K:410:LEU:O	2:K:421:VAL:HA	2.04	0.56
2:K:439:LYS:HB2	2:K:457:TRP:CD1	2.39	0.56
3:L:400:VAL:HG21	4:N:154:PRO:HG2	1.85	0.56
5:J:330:ASN:OD1	5:J:331:VAL:HG23	2.04	0.56
8:C:106:PHE:HE2	8:C:554:HIS:CE1	2.23	0.56
8:C:133:ILE:CA	8:C:209:MET:O	2.52	0.56
27:D:1688:TYR:CD1	27:D:1695:TYR:CE1	2.93	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:565:U:H2'	29:H:566:U:H6	1.70	0.56
29:H:672:U:H2'	29:H:673:U:H6	1.70	0.56
29:H:684:U:H2'	29:H:685:U:H6	1.70	0.56
29:H:691:G:H2'	29:H:692:U:H6	1.71	0.56
29:H:694:C:H2'	29:H:695:U:H6	1.70	0.56
32:1:598:LEU:HD11	32:1:631:ILE:HG12	1.87	0.56
36:5:22:LEU:HG	36:5:70:ALA:HB2	1.87	0.56
39:Y:229:GLY:O	39:Y:231:ARG:N	2.38	0.56
1:A:579:LEU:HD22	1:A:619:PHE:CE1	2.40	0.56
1:A:1711:VAL:HG13	1:A:1789:ASN:HB3	1.86	0.56
2:K:192:THR:O	2:K:199:LEU:HA	2.05	0.56
2:K:230:SER:OG	2:K:233:GLN:OE1	2.22	0.56
18:B:114:G:H2'	18:B:115:G:H8	1.68	0.56
18:B:149:U:H2'	18:B:150:U:O4'	2.06	0.56
27:D:562:PRO:HG3	27:D:635:GLU:OE1	2.05	0.56
27:D:790:ASP:OD1	27:D:794:ARG:NH2	2.38	0.56
29:H:680:C:H2'	29:H:681:C:H6	1.71	0.56
29:H:683:U:H2'	29:H:684:U:H6	1.71	0.56
29:H:693:C:H2'	29:H:694:C:H6	1.71	0.56
29:H:693:C:C2	29:H:694:C:C5	2.93	0.56
34:3:1122:LYS:NZ	34:3:1202:PHE:O	2.38	0.56
1:A:1810:PRO:O	1:A:1814:VAL:HG23	2.05	0.56
3:L:359:PRO:HB3	6:E:118:GLU:HG2	1.88	0.56
5:J:363:LEU:HD11	5:J:391:PHE:HD2	1.70	0.56
8:C:884:ARG:HB3	8:C:907:PRO:HG2	1.85	0.56
27:D:1008:PHE:N	27:D:1008:PHE:CD1	2.72	0.56
29:H:143:G:H2'	29:H:144:G:C8	2.41	0.56
29:H:568:U:H2'	29:H:569:C:H6	1.71	0.56
34:3:207:VAL:HB	34:3:236:VAL:HG23	1.88	0.56
34:3:517:VAL:HG21	34:3:828:VAL:HG21	1.87	0.56
1:A:1060:LYS:HA	1:A:1101:TYR:CE2	2.41	0.56
1:A:1335:TRP:CD1	1:A:1367:ILE:HD12	2.41	0.56
1:A:1473:ARG:HH11	1:A:1474:ARG:H	1.52	0.56
4:N:144:LYS:NZ	17:I:55:U:O5'	2.39	0.56
4:N:668:HIS:CE1	4:N:669:LYS:HG3	2.41	0.56
27:D:1213:ARG:HE	27:D:1281:GLN:NE2	2.03	0.56
27:D:1779:TYR:O	27:D:1782:ILE:HG22	2.06	0.56
27:D:2058:ASN:ND2	27:D:2070:LYS:O	2.38	0.56
20:S:23:LEU:HD21	26:V:69:ILE:HG23	1.87	0.56
29:H:551:C:H2'	29:H:552:U:H6	1.70	0.56
29:H:694:C:C2	29:H:695:U:C5	2.94	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1739:ARG:NH2	1:A:1745:SER:OG	2.39	0.56
1:A:2177:VAL:HG12	1:A:2179:GLU:H	1.70	0.56
2:K:314:SER:OG	2:K:355:VAL:O	2.23	0.56
2:K:441:ILE:H	2:K:456:GLY:HA2	1.71	0.56
27:D:478:LYS:HB2	27:D:504:SER:HB2	1.88	0.56
27:D:901:VAL:HA	27:D:906:LEU:HD13	1.87	0.56
27:D:1771:ASP:O	27:D:1774:THR:OG1	2.18	0.56
29:H:681:C:H2'	29:H:682:U:H6	1.70	0.56
34:3:187:VAL:HG23	34:3:209:GLN:HG2	1.86	0.56
3:L:123:ARG:NH1	3:L:184:LYS:O	2.39	0.56
17:I:77:U:H2'	17:I:78:A:C8	2.41	0.56
18:B:14:G:C2	18:B:15:A:C8	2.93	0.56
27:D:1125:THR:HG21	27:D:1251:ILE:HD11	1.87	0.56
28:G:509:A:H2	32:1:503:THR:HG21	1.71	0.56
29:H:681:C:C2	29:H:682:U:C5	2.94	0.56
29:H:695:U:C2	29:H:696:C:C5	2.94	0.56
29:H:695:U:H2'	29:H:696:C:H6	1.71	0.56
29:H:1126:G:O2'	29:H:1127:A:C5'	2.54	0.56
33:2:194:PHE:HE2	33:2:196:LEU:HD23	1.71	0.56
34:3:545:ASP:OD1	34:3:546:ASN:N	2.37	0.56
38:X:27:TYR:HD2	38:X:30:ASN:HD22	1.54	0.56
3:L:124:PHE:CD1	3:L:183:PHE:HB2	2.41	0.56
8:C:626:SER:HB2	8:C:634:ILE:HD13	1.88	0.56
17:I:5:U:H2'	17:I:6:U:H6	1.71	0.56
27:D:617:ARG:HH12	27:D:1009:TYR:HD1	1.53	0.56
29:H:551:C:C2	29:H:552:U:C5	2.94	0.56
29:H:676:U:H2'	29:H:677:U:H6	1.70	0.56
29:H:684:U:C2	29:H:685:U:C5	2.94	0.56
29:H:1139:G:C5	29:H:1140:U:C5	2.94	0.56
34:3:699:MET:HB3	34:3:720:LEU:HD23	1.88	0.56
35:4:40:TYR:HD1	35:4:53:ALA:HB2	1.71	0.56
1:A:520:VAL:O	1:A:524:LYS:HG2	2.06	0.56
1:A:551:LEU:HG	1:A:557:PHE:CE2	2.41	0.56
1:A:1899:TRP:HE3	1:A:1905:LEU:HD22	1.71	0.56
4:N:237:ASP:OD2	4:N:240:ASN:ND2	2.35	0.56
4:N:832:LEU:HD21	4:N:845:LEU:HD11	1.87	0.56
7:M:79:VAL:HG13	7:M:121:ILE:HG23	1.87	0.56
27:D:1497:PHE:HD1	27:D:1775:TYR:CD2	2.24	0.56
27:D:1740:LEU:HD11	22:Q:146:LEU:HD12	1.88	0.56
27:D:1996:GLN:HE22	27:D:2150:LEU:N	2.03	0.56
29:H:565:U:C2	29:H:566:U:C5	2.94	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:680:C:C2	29:H:681:C:C5	2.94	0.56
29:H:1126:G:O2'	29:H:1127:A:O5'	2.24	0.56
29:H:1139:G:C4	29:H:1140:U:C5	2.94	0.56
29:H:1139:G:HO2'	29:H:1140:U:H6	1.53	0.56
27:D:898:TYR:HA	27:D:901:VAL:HG22	1.88	0.55
27:D:1579:ASN:OD1	27:D:1678:ASP:HB3	2.06	0.55
29:H:567:U:H2'	29:H:568:U:H6	1.70	0.55
29:H:567:U:C2	29:H:568:U:C5	2.94	0.55
29:H:682:U:C2	29:H:683:U:C5	2.94	0.55
29:H:692:U:H2'	29:H:693:C:H6	1.71	0.55
1:A:1125:LEU:HD22	1:A:1230:ILE:HG23	1.88	0.55
2:K:389:ILE:HD11	2:K:427:TRP:HB3	1.86	0.55
3:L:402:ASP:OD1	3:L:403:SER:N	2.40	0.55
16:F:2:U:H2'	16:F:3:U:H6	1.70	0.55
27:D:1165:VAL:HG11	27:D:1170:TYR:CE1	2.40	0.55
27:D:1213:ARG:HH22	27:D:1316:LYS:HG3	1.71	0.55
27:D:1902:LEU:HD22	27:D:1928:LEU:HD12	1.87	0.55
29:H:672:U:C2	29:H:673:U:C5	2.94	0.55
29:H:692:U:C2	29:H:693:C:C5	2.94	0.55
29:H:1125:U:O2'	29:H:1126:G:C8	2.57	0.55
32:1:494:LEU:CG	38:X:7:ILE:HG23	2.36	0.55
34:3:975:ASP:O	34:3:977:ILE:HD12	2.07	0.55
34:3:1097:PHE:HE1	34:3:1108:PRO:HB3	1.70	0.55
2:K:316:GLN:HG2	2:K:318:ASP:H	1.70	0.55
2:K:458:ASP:OD2	2:K:462:LYS:NZ	2.39	0.55
3:L:160:HIS:O	3:L:164:LYS:HB3	2.06	0.55
17:I:147:U:H3	21:P:42:ASN:HD21	1.54	0.55
18:B:116:U:H2'	18:B:117:G:C8	2.39	0.55
29:H:545:G:H2'	29:H:546:U:H6	1.70	0.55
29:H:553:G:C4	29:H:554:C:C5	2.94	0.55
29:H:564:U:H2'	29:H:565:U:H6	1.70	0.55
29:H:1098:C:H2'	29:H:1099:G:C8	2.41	0.55
1:A:363:ASP:O	1:A:368:ASN:ND2	2.39	0.55
2:K:177:PRO:O	2:K:194:SER:OG	2.15	0.55
4:N:695:THR:HG22	4:N:704:LEU:HB3	1.89	0.55
5:J:301:VAL:HG22	5:J:304:ARG:HH21	1.70	0.55
17:I:73:A:H3'	27:D:833:THR:HG22	1.88	0.55
27:D:809:THR:HA	27:D:1092:PHE:CD1	2.41	0.55
27:D:1208:ALA:O	27:D:1209:GLN:HG3	2.06	0.55
29:H:545:G:C4	29:H:546:U:C5	2.95	0.55
29:H:564:U:C2	29:H:565:U:C5	2.94	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:679:U:C2	29:H:680:C:C5	2.94	0.55
29:H:683:U:C2	29:H:684:U:C5	2.95	0.55
34:3:351:PRO:HD3	34:3:407:LEU:HD13	1.89	0.55
34:3:839:ARG:HG3	34:3:880:PRO:HG2	1.87	0.55
35:4:119:ILE:O	35:4:149:LYS:NZ	2.38	0.55
1:A:2308:THR:OG1	1:A:2333:PHE:CE2	2.60	0.55
2:K:167:LEU:HA	2:K:464:TRP:HA	1.89	0.55
2:K:395:ILE:CG2	2:K:396:VAL:H	2.12	0.55
2:K:413:CYS:SG	2:K:443:LEU:HD13	2.47	0.55
27:D:1458:ARG:HH22	27:D:1462:ARG:NH1	2.03	0.55
27:D:1781:ARG:HG3	27:D:1789:TYR:CE2	2.40	0.55
29:H:691:G:C4	29:H:692:U:C5	2.95	0.55
1:A:342:LEU:HD22	1:A:392:ASN:ND2	2.21	0.55
4:N:720:VAL:HG12	4:N:722:ALA:H	1.72	0.55
8:C:889:TYR:CD2	8:C:890:LYS:HG2	2.41	0.55
29:H:548:G:C4	29:H:549:C:C5	2.94	0.55
29:H:550:G:H2'	29:H:551:C:H6	1.71	0.55
29:H:566:U:C2	29:H:567:U:C5	2.94	0.55
29:H:675:A:H2'	29:H:676:U:H6	1.70	0.55
1:A:884:SER:HB3	3:L:180:LYS:HZ3	1.72	0.55
1:A:1303:LYS:HG3	1:A:1353:THR:HG22	1.89	0.55
2:K:239:GLU:HA	2:K:267:ARG:HB2	1.89	0.55
8:C:185:ILE:HG21	18:B:75:A:OP2	2.07	0.55
26:V:64:ARG:NH1	26:V:66:ASN:HB3	2.21	0.55
29:H:553:G:H2'	29:H:554:C:H6	1.71	0.55
29:H:563:G:H2'	29:H:564:U:H6	1.70	0.55
29:H:568:U:C2	29:H:569:C:C5	2.94	0.55
29:H:671:G:C4	29:H:672:U:C5	2.95	0.55
29:H:676:U:C2	29:H:677:U:C5	2.94	0.55
32:1:386:TYR:CG	32:1:387:PRO:HD3	2.42	0.55
32:1:916:MET:HB3	32:1:920:TRP:NE1	2.21	0.55
34:3:182:THR:O	34:3:183:THR:HG23	2.06	0.55
1:A:963:VAL:HG21	3:L:280:ARG:NH1	2.20	0.55
1:A:1393:GLU:HG2	3:L:395:LYS:O	2.06	0.55
2:K:115:SER:HA	2:K:118:ILE:HD12	1.89	0.55
4:N:105:ALA:HA	4:N:108:LYS:HG2	1.89	0.55
8:C:292:ILE:O	8:C:296:ASN:ND2	2.38	0.55
27:D:535:VAL:HG13	27:D:557:ILE:CD1	2.37	0.55
27:D:766:ILE:HG23	27:D:767:THR:HG23	1.89	0.55
27:D:1628:HIS:O	27:D:1632:PRO:HD2	2.06	0.55
32:1:864:LEU:O	32:1:868:CYS:HB2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:3:416:SER:HA	34:3:431:SER:HA	1.89	0.55
34:3:432:GLU:HB2	37:6:62:ILE:HD12	1.88	0.55
34:3:650:GLU:HA	34:3:671:GLU:HA	1.87	0.55
39:Y:264:GLU:HG3	39:Y:265:ASP:H	1.72	0.55
1:A:1586:GLN:HE21	1:A:1595:ARG:HD2	1.72	0.55
3:L:218:ILE:O	3:L:222:ILE:HB	2.07	0.55
8:C:133:ILE:O	8:C:134:ILE:HG23	2.07	0.55
8:C:158:HIS:CE1	8:C:549:TYR:HE2	2.25	0.55
27:D:516:ASN:HD22	27:D:685:ARG:CB	2.18	0.55
27:D:1431:ASP:HB2	27:D:1434:LEU:HB3	1.89	0.55
27:D:1583:VAL:HG22	27:D:1681:ILE:HB	1.89	0.55
27:D:1609:MET:SD	27:D:1611:ASN:ND2	2.79	0.55
29:H:566:U:H2'	29:H:567:U:H6	1.70	0.55
32:1:252:ILE:HD13	32:1:296:VAL:HG22	1.89	0.55
32:1:490:ARG:HH22	38:X:25:ASN:CB	2.19	0.55
34:3:770:LEU:HB2	34:3:827:TRP:NE1	2.22	0.55
34:3:957:ILE:HG22	34:3:962:LEU:HD11	1.89	0.55
1:A:794:LYS:HB3	1:A:854:ARG:HH12	1.70	0.55
1:A:1509:ARG:NH2	1:A:1533:ASP:OD1	2.40	0.55
1:A:1714:PRO:HB2	1:A:1787:TYR:CE2	2.42	0.55
1:A:1790:TRP:CZ3	1:A:1798:ILE:HD12	2.42	0.55
1:A:1889:LEU:HD12	1:A:1989:PHE:HB2	1.89	0.55
27:D:1220:ILE:HG22	27:D:1222:ILE:HG13	1.88	0.55
27:D:1245:ASP:HA	27:D:1288:PHE:HD1	1.71	0.55
27:D:1779:TYR:CZ	27:D:1783:HIS:CE1	2.95	0.55
29:H:679:U:H2'	29:H:680:C:H6	1.70	0.55
32:1:824:PHE:HZ	32:1:838:ILE:HD13	1.72	0.55
33:2:329:LYS:HB3	33:2:335:TRP:HB2	1.88	0.55
34:3:1096:LEU:HD13	34:3:1187:PHE:CZ	2.39	0.55
34:3:1117:HIS:O	34:3:1133:ASP:HA	2.07	0.55
34:3:1243:ILE:HG21	34:3:1353:ILE:HD11	1.87	0.55
38:X:63:SER:HB2	38:X:74:PHE:CD1	2.40	0.55
1:A:2189:LEU:HD21	1:A:2347:GLY:C	2.28	0.54
3:L:268:LEU:HD13	3:L:270:HIS:CE1	2.41	0.54
8:C:656:LEU:HD13	8:C:670:ILE:HD13	1.89	0.54
18:B:114:G:N2	18:B:115:G:C2	2.75	0.54
27:D:465:ILE:HB	27:D:705:GLN:HB2	1.89	0.54
27:D:1489:GLU:OE2	27:D:1746:LEU:HG	2.06	0.54
20:S:49:ALA:O	20:S:56:VAL:HA	2.07	0.54
29:H:669:U:C2	29:H:670:U:C5	2.94	0.54
29:H:689:G:C4	29:H:690:U:C5	2.95	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1458:TRP:CZ2	1:A:1489:PRO:HB2	2.40	0.54
8:C:273:LEU:HD11	8:C:279:LEU:HD22	1.88	0.54
27:D:639:LEU:HD23	27:D:943:TYR:CD2	2.42	0.54
27:D:1194:ASP:HB3	27:D:1198:ARG:HH12	1.72	0.54
27:D:2138:HIS:O	27:D:2159:GLU:HG3	2.08	0.54
24:T:43:ILE:HD12	24:T:52:VAL:HG11	1.90	0.54
28:G:513:U:O3'	32:1:299:ARG:NH2	2.40	0.54
29:H:675:A:C4	29:H:676:U:C5	2.95	0.54
29:H:678:U:C2	29:H:679:U:C5	2.94	0.54
34:3:125:THR:HG22	34:3:191:SER:HA	1.89	0.54
39:Y:213:LYS:HB3	39:Y:230:SER:CB	2.38	0.54
1:A:570:GLN:O	1:A:574:GLN:HG2	2.08	0.54
1:A:1458:TRP:HE1	1:A:1489:PRO:HD2	1.71	0.54
1:A:2157:ILE:CG1	27:D:1064:PRO:HB2	2.37	0.54
1:A:2398:LEU:HD22	27:D:1060:LYS:CG	2.38	0.54
2:K:125:ILE:HG12	2:K:337:ARG:HD3	1.90	0.54
27:D:642:ASP:O	27:D:645:PRO:HG2	2.06	0.54
27:D:1368:VAL:HB	27:D:1511:LEU:HD23	1.90	0.54
29:H:548:G:H2'	29:H:549:C:H6	1.71	0.54
29:H:550:G:C4	29:H:551:C:C5	2.94	0.54
29:H:677:U:C2	29:H:678:U:C5	2.95	0.54
29:H:1097:G:C5	29:H:1146:G:C6	2.96	0.54
34:3:165:HIS:HB3	34:3:170:ARG:HD3	1.89	0.54
27:D:1757:GLU:HB3	27:D:1763:ILE:HD12	1.90	0.54
29:H:563:G:C4	29:H:564:U:C5	2.95	0.54
2:K:139:GLU:OE1	2:K:379:ARG:NH2	2.35	0.54
3:L:279:VAL:HG21	3:L:286:PHE:CE1	2.43	0.54
3:L:417:LEU:HD21	4:N:229:ILE:HD12	1.90	0.54
27:D:614:ILE:HD11	27:D:1009:TYR:CG	2.42	0.54
24:T:30:TRP:CE2	24:T:89:LEU:HD22	2.42	0.54
34:3:381:LEU:O	34:3:389:PHE:HB2	2.08	0.54
27:D:789:LEU:HD11	27:D:797:ILE:HG13	1.88	0.54
27:D:1624:LEU:HD12	27:D:1630:ARG:HD2	1.88	0.54
23:R:80:LYS:HE3	23:R:82:LYS:HG3	1.90	0.54
34:3:96:ALA:HB2	34:3:101:LEU:HD13	1.90	0.54
1:A:1268:ARG:HD3	1:A:1301:TYR:HD2	1.73	0.54
2:K:317:CYS:SG	2:K:359:PRO:HA	2.48	0.54
3:L:113:HIS:CD2	3:L:134:PRO:HA	2.42	0.54
27:D:1489:GLU:CD	27:D:1746:LEU:HG	2.28	0.54
27:D:1629:LEU:HD23	27:D:1648:ASP:OD2	2.08	0.54
29:H:67:A:O2'	29:H:68:U:OP2	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:1127:A:O2'	29:H:1128:C:H5'	2.08	0.54
29:H:1148:U:H2'	29:H:1149:G:C8	2.43	0.54
32:1:605:ILE:HG21	32:1:624:CYS:SG	2.47	0.54
34:3:632:ILE:HA	34:3:646:LEU:HA	1.88	0.54
34:3:839:ARG:NH1	34:3:1357:ARG:O	2.41	0.54
1:A:579:LEU:HD11	1:A:626:LEU:HD12	1.90	0.54
1:A:2189:LEU:HD22	1:A:2349:PHE:CE1	2.42	0.54
3:L:175:LEU:O	3:L:179:MET:CB	2.55	0.54
3:L:371:LYS:HD3	17:I:18:A:H61	1.72	0.54
3:L:398:GLN:OE1	3:L:414:ASN:ND2	2.34	0.54
4:N:140:GLN:NE2	17:I:19:U:O2	2.41	0.54
4:N:286:GLU:HB2	4:N:292:CYS:SG	2.47	0.54
8:C:769:TYR:CE1	8:C:774:LEU:HB2	2.37	0.54
17:I:18:A:H5''	17:I:19:U:O5'	2.08	0.54
27:D:491:PHE:HE1	27:D:533:LEU:HD21	1.73	0.54
27:D:516:ASN:O	27:D:687:PRO:HD2	2.08	0.54
27:D:793:LEU:HD13	27:D:808:LEU:HD13	1.88	0.54
28:G:520:G:H4'	38:X:74:PHE:CE2	2.43	0.54
29:H:46:C:H4'	29:H:47:U:H5''	1.89	0.54
34:3:76:ILE:HD11	34:3:422:PHE:CE1	2.43	0.54
34:3:1223:GLY:O	34:3:1224:THR:OG1	2.24	0.54
1:A:2041:PRO:HG2	1:A:2043:PHE:CE2	2.43	0.54
18:B:111:C:H2'	18:B:112:C:C6	2.43	0.54
27:D:455:ARG:HB2	27:D:462:GLU:HG3	1.90	0.54
27:D:706:GLN:C	27:D:707:PHE:HD1	2.10	0.54
27:D:1814:LEU:HB3	27:D:1820:ILE:HG12	1.90	0.54
24:T:59:GLU:O	24:T:74:GLY:HA2	2.08	0.54
1:A:480:TYR:CE2	8:C:275:LEU:HD23	2.43	0.54
1:A:933:GLU:OE1	1:A:933:GLU:N	2.38	0.54
1:A:1696:SER:HA	1:A:1759:TYR:HE1	1.73	0.54
1:A:1732:MET:HG3	1:A:1791:PHE:HE2	1.72	0.54
2:K:220:LYS:HB3	2:K:239:GLU:HB3	1.90	0.54
3:L:125:PRO:HD2	3:L:182:SER:HB2	1.89	0.54
4:N:708:LEU:HD22	4:N:725:ILE:HG21	1.90	0.54
5:J:406:PHE:HE1	5:J:408:LEU:HB2	1.73	0.54
17:I:6:U:H2'	17:I:7:A:H8	1.71	0.54
18:B:127:U:O2'	18:B:128:A:N7	2.23	0.54
34:3:208:GLU:H	34:3:236:VAL:HA	1.72	0.54
2:K:207:LEU:HD11	2:K:463:LEU:HB2	1.88	0.53
5:J:341:VAL:HG22	5:J:381:ILE:HG12	1.91	0.53
8:C:161:ILE:HD12	8:C:162:PRO:HD2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:338:SER:O	8:C:341:ILE:HG12	2.08	0.53
27:D:1748:TYR:HB3	22:Q:140:LYS:N	2.23	0.53
33:2:248:HIS:CE1	33:2:375:PHE:HB2	2.43	0.53
33:2:367:LEU:HB2	33:2:370:PHE:HE1	1.71	0.53
34:3:764:ASP:OD2	34:3:766:LYS:HE2	2.08	0.53
38:X:64:ARG:NH2	38:X:69:GLY:O	2.41	0.53
1:A:2189:LEU:HD22	1:A:2349:PHE:HE1	1.73	0.53
8:C:347:ARG:O	8:C:352:VAL:HG11	2.08	0.53
18:B:130:A:H4'	18:B:131:A:O5'	2.08	0.53
19:O:151:ILE:HB	19:O:180:GLU:HG2	1.90	0.53
27:D:614:ILE:HD11	27:D:1009:TYR:CD1	2.43	0.53
27:D:945:TYR:CE2	27:D:949:LEU:HD11	2.43	0.53
27:D:1312:LYS:N	27:D:1787:SER:OG	2.39	0.53
23:R:56:ALA:HB2	23:R:72:VAL:HA	1.90	0.53
20:S:34:VAL:CG2	20:S:45:ARG:HG3	2.39	0.53
34:3:943:ASP:HB2	34:3:952:ARG:HG2	1.91	0.53
1:A:1888:HIS:HE1	1:A:1988:LEU:HD22	1.74	0.53
1:A:2165:ARG:HB3	1:A:2300:VAL:HG13	1.89	0.53
2:K:270:ASP:OD1	2:K:271:VAL:N	2.40	0.53
3:L:102:ILE:HD11	3:L:214:ILE:HG21	1.89	0.53
3:L:139:LYS:O	3:L:142:SER:OG	2.17	0.53
18:B:128:A:H2'	18:B:129:G:H2'	1.90	0.53
22:Q:7:LEU:HD11	23:R:95:PHE:CZ	2.44	0.53
32:1:689:LEU:HA	32:1:692:ILE:HD12	1.89	0.53
34:3:299:PRO:HD2	34:3:377:PHE:CE1	2.44	0.53
34:3:547:ASN:ND2	34:3:564:ASP:HB2	2.24	0.53
34:3:655:LYS:HE2	34:3:664:ILE:HD11	1.89	0.53
1:A:1350:ILE:HG23	1:A:1356:LEU:HD22	1.90	0.53
1:A:2310:GLU:CD	1:A:2333:PHE:CZ	2.82	0.53
8:C:292:ILE:HG12	8:C:311:ILE:HD13	1.91	0.53
8:C:855:PRO:O	8:C:944:VAL:HG11	2.09	0.53
18:B:84:A:H2'	18:B:85:U:H6	1.73	0.53
18:B:111:C:H2'	18:B:112:C:H6	1.73	0.53
34:3:712:PHE:CE2	34:3:713:LEU:HD23	2.43	0.53
1:A:259:GLU:HG3	1:A:260:PRO:HD2	1.89	0.53
1:A:1156:HIS:ND1	1:A:1157:PRO:HD2	2.24	0.53
2:K:176:LYS:HZ2	7:M:72:GLU:HB2	1.74	0.53
8:C:474:LYS:NZ	8:C:628:TYR:O	2.40	0.53
16:F:74:U:H2'	16:F:75:A:H8	1.72	0.53
27:D:563:LEU:HD11	27:D:836:TRP:NE1	2.24	0.53
27:D:1380:ALA:HB2	27:D:1511:LEU:HD11	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:1:904:GLU:O	32:1:907:SER:OG	2.22	0.53
33:2:162:SER:O	33:2:166:THR:OG1	2.24	0.53
34:3:211:LYS:HB2	34:3:230:ILE:HG13	1.91	0.53
34:3:441:PHE:HB3	34:3:475:LEU:HD23	1.88	0.53
36:5:41:ARG:HH12	36:5:83:LYS:NZ	2.05	0.53
1:A:1257:ASN:OD1	1:A:1268:ARG:NH2	2.41	0.53
1:A:1943:PRO:HD3	19:O:169:ILE:HD12	1.91	0.53
1:A:2070:ASN:HB3	27:D:858:GLY:O	2.08	0.53
1:A:2183:TYR:CD1	1:A:2219:LYS:HB2	2.44	0.53
3:L:434:GLN:HA	4:N:149:PRO:HB3	1.90	0.53
4:N:757:GLU:HG2	4:N:780:LEU:HD11	1.90	0.53
27:D:759:ASN:O	27:D:763:GLU:HG3	2.09	0.53
27:D:1213:ARG:NH2	27:D:1316:LYS:CG	2.67	0.53
27:D:1476:ALA:HB3	27:D:1512:SER:HB2	1.91	0.53
33:2:366:ALA:O	34:3:1232:LEU:HD22	2.09	0.53
39:Y:214:LEU:N	39:Y:230:SER:OG	2.42	0.53
1:A:620:HIS:HB3	1:A:669:TYR:CE2	2.44	0.53
1:A:1834:PHE:CD1	1:A:1958:PRO:HG2	2.43	0.53
2:K:171:GLN:HG2	2:K:172:LEU:N	2.22	0.53
5:J:370:LEU:HD13	5:J:451:LEU:HG	1.89	0.53
8:C:163:ASP:OD2	8:C:548:ARG:NH1	2.41	0.53
27:D:1436:LEU:HD22	27:D:1462:ARG:CZ	2.37	0.53
1:A:1674:ASP:OD2	1:A:2200:LYS:CE	2.56	0.53
17:I:72:A:OP2	27:D:1047:ARG:CZ	2.56	0.53
27:D:924:VAL:HG12	27:D:998:ALA:HB2	1.90	0.53
27:D:1679:GLU:HG2	27:D:1719:LYS:HB3	1.91	0.53
32:1:536:MET:HA	32:1:539:HIS:HD2	1.74	0.53
34:3:65:LEU:HD11	34:3:1227:CYS:SG	2.48	0.53
34:3:612:PRO:HA	34:3:618:TYR:HD1	1.74	0.53
38:X:35:ILE:HD13	38:X:51:PHE:CE2	2.43	0.53
1:A:1268:ARG:CG	1:A:1301:TYR:HB2	2.39	0.53
4:N:742:ALA:O	4:N:746:MET:HB2	2.09	0.53
27:D:567:VAL:HG13	27:D:606:VAL:HG12	1.89	0.53
27:D:781:LEU:HD21	27:D:798:GLU:CA	2.33	0.53
27:D:1457:ARG:NH1	27:D:1854:SER:O	2.42	0.53
24:T:20:PHE:CE1	24:T:92:SER:HB2	2.40	0.53
29:H:1089:G:H2'	29:H:1090:A:O5'	2.09	0.53
32:1:361:ASP:OD1	32:1:362:CYS:N	2.42	0.53
32:1:614:PRO:HA	32:1:617:ARG:HE	1.74	0.53
34:3:1023:HIS:HB3	34:3:1058:GLN:HA	1.91	0.53
1:A:297:SER:HB3	18:B:32:G:OP1	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1804:THR:HG21	19:O:218:GLU:OE1	2.10	0.53
1:A:2046:GLU:HA	1:A:2049:ILE:HD12	1.91	0.53
1:A:2208:TYR:HE1	1:A:2255:LEU:HD13	1.74	0.53
2:K:376:TRP:CH2	2:K:386:LEU:HD23	2.44	0.53
2:K:390:LEU:HD13	5:J:428:TRP:CD1	2.43	0.53
2:K:459:ARG:NH2	7:M:72:GLU:O	2.42	0.53
3:L:239:ALA:O	3:L:243:ALA:CB	2.57	0.53
5:J:372:ILE:O	5:J:376:GLY:HA3	2.08	0.53
8:C:274:ILE:HD12	8:C:382:TYR:HD1	1.73	0.53
27:D:1399:ASN:O	27:D:1405:ILE:HD11	2.09	0.53
22:Q:95:ILE:HG23	23:R:95:PHE:HB3	1.90	0.53
32:1:580:PHE:HZ	32:1:619:HIS:HD1	1.57	0.53
39:Y:208:SER:HA	39:Y:214:LEU:CD1	2.39	0.53
1:A:1335:TRP:CZ2	1:A:1339:LEU:HD13	2.44	0.52
8:C:880:MET:HB3	8:C:886:SER:HA	1.91	0.52
32:1:208:LEU:HD21	32:1:221:MET:HB2	1.91	0.52
1:A:701:CYS:SG	1:A:702:GLY:N	2.81	0.52
1:A:1633:PHE:HZ	1:A:1694:MET:HG3	1.74	0.52
4:N:760:VAL:O	4:N:764:LEU:HB2	2.08	0.52
8:C:682:SER:HA	8:C:714:PRO:HG3	1.92	0.52
17:I:140:G:H2'	17:I:141:G:O4'	2.09	0.52
27:D:781:LEU:HD11	27:D:798:GLU:HA	1.90	0.52
27:D:1898:ASP:HA	27:D:1943:PHE:CZ	2.45	0.52
26:V:30:ARG:HE	26:V:41:ASP:CB	2.21	0.52
32:1:569:PHE:HD1	32:1:579:ILE:HG21	1.72	0.52
34:3:257:ILE:HD11	34:3:264:LEU:HD11	1.91	0.52
34:3:1112:ASP:OD1	34:3:1113:SER:N	2.41	0.52
1:A:394:ARG:HE	1:A:396:ARG:HH12	1.57	0.52
1:A:1775:ILE:HG12	1:A:1786:ALA:HB2	1.91	0.52
2:K:288:THR:HA	2:K:303:GLN:O	2.09	0.52
4:N:746:MET:HG2	4:N:749:ARG:NH1	2.20	0.52
8:C:458:ILE:HG23	8:C:459:PRO:HD2	1.91	0.52
17:I:143:A:N7	25:U:48:TYR:HE2	2.08	0.52
27:D:1783:HIS:CE1	27:D:1799:ILE:HG21	2.44	0.52
23:R:37:ALA:HA	23:R:42:THR:HG22	1.92	0.52
28:G:498:C:H2'	28:G:499:U:H6	1.75	0.52
36:5:67:VAL:HG23	36:5:68:ASN:H	1.74	0.52
1:A:1490:ARG:NH1	1:A:1536:LEU:HA	2.25	0.52
1:A:2174:ASP:OD1	1:A:2175:ASP:N	2.42	0.52
4:N:849:TYR:CD1	4:N:855:ASP:HB2	2.45	0.52
28:G:500:A:OP1	32:1:818:LYS:NZ	2.28	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:G:520:G:C2	38:X:34:TYR:CD2	2.95	0.52
32:1:532:PRO:O	32:1:535:THR:OG1	2.26	0.52
36:5:42:LYS:HG2	36:5:71:PHE:HE1	1.75	0.52
1:A:921:ASP:HB3	3:L:403:SER:HB2	1.91	0.52
1:A:1161:TYR:CD1	1:A:1170:MET:HG2	2.44	0.52
3:L:379:PHE:CZ	4:N:144:LYS:HD3	2.43	0.52
4:N:269:GLN:O	4:N:272:PRO:HG3	2.10	0.52
4:N:691:TYR:HB3	4:N:708:LEU:HD12	1.90	0.52
18:B:75:A:O2'	18:B:76:U:H3'	2.09	0.52
27:D:645:PRO:HG3	27:D:911:GLN:O	2.10	0.52
27:D:851:ASP:HA	27:D:861:GLU:O	2.10	0.52
27:D:2077:ARG:HH12	27:D:2081:PRO:HG3	1.73	0.52
34:3:1178:PRO:O	34:3:1182:ASP:HB2	2.10	0.52
1:A:1562:PHE:O	1:A:1565:THR:OG1	2.17	0.52
6:E:98:GLY:HA3	16:F:30:G:H4'	1.92	0.52
8:C:942:GLY:HA2	8:C:960:ASN:O	2.09	0.52
27:D:1763:ILE:HG21	27:D:1769:CYS:HB3	1.91	0.52
23:R:26:PHE:CE1	23:R:31:MET:HB3	2.45	0.52
20:S:10:LEU:HB2	20:S:83:LEU:HD11	1.90	0.52
25:U:14:ASN:HB2	25:U:17:PRO:HD2	1.92	0.52
32:1:338:GLN:HG3	32:1:377:THR:HG22	1.91	0.52
1:A:1817:GLU:HA	1:A:1820:ARG:HG2	1.91	0.52
3:L:120:TYR:CE2	3:L:141:ILE:HG12	2.34	0.52
3:L:343:LYS:HD3	17:I:27:U:O2'	2.09	0.52
8:C:933:TRP:C	8:C:935:LYS:H	2.13	0.52
32:1:410:LYS:O	32:1:413:SER:OG	2.27	0.52
34:3:104:TYR:HD1	34:3:113:LEU:HA	1.75	0.52
34:3:691:LEU:HB3	34:3:703:MET:HB2	1.92	0.52
1:A:185:GLN:HG2	1:A:263:PRO:HD3	1.91	0.52
3:L:98:PHE:O	3:L:102:ILE:HG12	2.09	0.52
8:C:616:PRO:O	8:C:619:LEU:HB2	2.10	0.52
16:F:17:U:H2'	16:F:18:U:C6	2.44	0.52
17:I:6:U:H2'	17:I:7:A:C8	2.44	0.52
17:I:91:U:H2'	17:I:92:C:C6	2.45	0.52
18:B:27:G:N3	18:B:131:A:N3	2.58	0.52
27:D:656:TRP:HH2	27:D:929:ILE:HG13	1.73	0.52
27:D:1557:ILE:HA	27:D:1695:TYR:CE2	2.36	0.52
27:D:1924:PHE:CZ	27:D:1928:LEU:HD11	2.45	0.52
27:D:1933:TYR:HE1	27:D:2090:LYS:O	1.93	0.52
34:3:332:GLU:HG2	34:3:333:ASN:N	2.24	0.52
34:3:511:ILE:HG23	34:3:888:VAL:HG13	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:3:1006:TYR:HD1	34:3:1021:LEU:HA	1.73	0.52
34:3:1159:LEU:HD23	34:3:1164:ILE:HD13	1.92	0.52
1:A:1320:LEU:HD22	1:A:1370:ARG:HD2	1.92	0.52
1:A:1494:LEU:O	1:A:1499:ARG:NH2	2.43	0.52
2:K:172:LEU:HD23	4:N:752:ASN:HD22	1.75	0.52
2:K:213:LYS:NZ	2:K:215:ASP:OD1	2.41	0.52
4:N:256:LYS:HG2	4:N:257:PHE:H	1.75	0.52
16:F:96:G:H2'	16:F:97:A:H8	1.75	0.52
17:I:75:U:O2	27:D:643:ARG:NH1	2.42	0.52
18:B:164:C:O2	18:B:164:C:H2'	2.09	0.52
27:D:765:ASN:CB	27:D:768:HIS:CD2	2.93	0.52
27:D:1513:ASN:ND2	27:D:1704:LEU:HD13	2.25	0.52
27:D:1938:GLU:OE1	27:D:1938:GLU:N	2.40	0.52
34:3:125:THR:H	34:3:152:SER:HA	1.75	0.52
36:5:40:LYS:HG3	36:5:41:ARG:HG3	1.91	0.52
4:N:212:VAL:HG12	4:N:215:LEU:HD23	1.92	0.52
18:B:127:U:H1'	18:B:128:A:N7	2.25	0.52
27:D:1426:ASN:HD22	27:D:1442:SER:HB2	1.73	0.52
24:T:35:ILE:HG22	26:V:23:ARG:HE	1.74	0.52
26:V:10:TYR:CE2	26:V:71:LEU:HD11	2.45	0.52
34:3:294:PHE:HZ	34:3:381:LEU:HD11	1.74	0.52
34:3:983:ALA:O	34:3:995:ILE:HB	2.10	0.52
8:C:423:HIS:O	8:C:427:LEU:HB2	2.09	0.51
8:C:616:PRO:HA	8:C:619:LEU:HD12	1.92	0.51
8:C:869:HIS:NE2	8:C:925:LEU:HD22	2.24	0.51
19:O:210:LEU:HB3	19:O:212:VAL:HG13	1.92	0.51
27:D:804:HIS:HE1	27:D:813:ARG:CG	2.18	0.51
27:D:1387:HIS:CE1	27:D:1392:LYS:HB3	2.46	0.51
23:R:50:ASN:ND2	23:R:52:HIS:CD2	2.78	0.51
23:R:50:ASN:ND2	23:R:52:HIS:HD2	2.09	0.51
29:H:1097:G:C2	29:H:1146:G:C5	2.98	0.51
32:1:244:LEU:O	32:1:248:ALA:CB	2.58	0.51
32:1:580:PHE:CZ	32:1:619:HIS:HA	2.46	0.51
34:3:486:PRO:HG2	34:3:505:PHE:HB2	1.91	0.51
1:A:1488:ILE:HB	1:A:1489:PRO:HD3	1.93	0.51
1:A:1850:LEU:HD23	1:A:1883:ASN:HB3	1.92	0.51
3:L:359:PRO:O	6:E:122:ARG:NH2	2.43	0.51
5:J:283:ASN:OD1	5:J:284:ASP:N	2.43	0.51
8:C:697:ARG:HH21	8:C:849:GLY:HA2	1.75	0.51
16:F:10:A:H61	16:F:16:C:H42	1.57	0.51
18:B:16:U:O2'	18:B:18:A:N7	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1115:ILE:O	27:D:1119:ARG:HG2	2.11	0.51
27:D:1853:ALA:HB1	27:D:1863:ILE:HG13	1.93	0.51
29:H:139:G:H2'	29:H:140:G:O5'	2.09	0.51
29:H:1140:U:H2'	29:H:1141:C:H6	1.75	0.51
32:1:927:ALA:O	32:1:929:ASN:N	2.43	0.51
34:3:607:LEU:HB2	34:3:624:TRP:HB3	1.92	0.51
39:Y:224:PHE:O	39:Y:225:ALA:HB3	2.11	0.51
1:A:1045:GLN:HG2	1:A:1175:GLU:HG2	1.92	0.51
1:A:1855:THR:HA	1:A:1937:ARG:NH2	2.25	0.51
2:K:46:GLU:HB2	2:K:73:ARG:NH1	2.26	0.51
2:K:177:PRO:HB2	2:K:195:TRP:NE1	2.25	0.51
3:L:358:ILE:HG22	3:L:360:GLU:H	1.74	0.51
8:C:269:LYS:HG2	44:C:1500:GTP:C4	2.46	0.51
27:D:1751:HIS:HA	27:D:1810:CYS:SG	2.50	0.51
29:H:1139:G:HO2'	29:H:1140:U:C5'	2.24	0.51
32:1:539:HIS:ND1	32:1:578:ILE:HG12	2.25	0.51
33:2:131:LYS:NZ	33:2:153:ASP:OD1	2.44	0.51
34:3:102:GLU:HG2	34:3:116:LYS:HG2	1.92	0.51
34:3:294:PHE:HE2	34:3:365:ILE:HB	1.76	0.51
1:A:165:LEU:HG	1:A:578:MET:SD	2.50	0.51
1:A:1051:GLU:O	1:A:1246:ALA:HA	2.09	0.51
1:A:1578:ALA:HB1	1:A:1602:PRO:HB3	1.92	0.51
8:C:883:ARG:NH2	8:C:910:GLU:O	2.41	0.51
8:C:889:TYR:H	8:C:904:GLY:HA2	1.76	0.51
16:F:61:C:H2'	16:F:62:A:O4'	2.10	0.51
18:B:114:G:N2	18:B:115:G:N3	2.58	0.51
27:D:505:LYS:HA	27:D:508:HIS:CD2	2.45	0.51
27:D:724:ASP:HA	27:D:760:LYS:NZ	2.25	0.51
27:D:1936:ARG:HD3	27:D:2090:LYS:HE3	1.92	0.51
22:Q:141:ARG:HB2	22:Q:142:PRO:HD3	1.92	0.51
32:1:539:HIS:O	32:1:542:THR:OG1	2.23	0.51
34:3:217:ASP:OD1	34:3:218:TYR:N	2.43	0.51
34:3:242:VAL:HG22	34:3:252:PHE:HB2	1.92	0.51
1:A:849:LEU:HD12	1:A:973:GLU:HB3	1.91	0.51
2:K:287:MET:HA	2:K:310:VAL:HG23	1.92	0.51
4:N:789:LEU:HD11	7:M:45:ASN:HB3	1.91	0.51
8:C:176:ARG:HH22	8:C:188:GLY:HA2	1.75	0.51
8:C:253:ILE:HD11	8:C:298:PHE:HB2	1.93	0.51
8:C:470:ALA:HB3	8:C:577:LEU:HD22	1.93	0.51
27:D:648:GLU:OE2	27:D:912:PHE:HD1	1.93	0.51
27:D:1395:ALA:HB3	27:D:1444:VAL:HG22	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1563:MET:HE1	27:D:1684:GLY:HA2	1.92	0.51
26:V:56:GLN:HG3	26:V:61:THR:HB	1.93	0.51
33:2:325:TYR:HB3	33:2:328:LEU:HB2	1.92	0.51
1:A:1585:MET:HB3	1:A:1598:LEU:HD13	1.92	0.51
5:J:381:ILE:HD13	5:J:463:PHE:HD2	1.75	0.51
8:C:701:GLU:HG2	8:C:703:LEU:H	1.75	0.51
27:D:1217:ARG:C	27:D:1218:PHE:HD1	2.14	0.51
32:1:955:VAL:HA	32:1:959:ASN:HD22	1.75	0.51
34:3:59:TYR:CE1	34:3:1316:LYS:HD2	2.46	0.51
34:3:105:ASP:OD1	34:3:106:THR:N	2.41	0.51
34:3:292:ALA:HA	34:3:331:PHE:CD1	2.45	0.51
34:3:1073:LYS:HD2	34:3:1090:ILE:HD11	1.92	0.51
34:3:1298:SER:C	34:3:1300:LEU:H	2.14	0.51
35:4:164:ALA:O	35:4:168:LEU:HB2	2.11	0.51
38:X:49:THR:HG23	39:Y:233:ASP:HB2	1.92	0.51
1:A:287:GLU:HG2	1:A:288:GLU:N	2.22	0.51
1:A:1835:LEU:HD21	1:A:1843:LEU:HD21	1.93	0.51
8:C:326:GLU:HG2	8:C:330:TYR:HE2	1.75	0.51
18:B:27:G:OP1	18:B:141:G:C5'	2.58	0.51
27:D:683:PHE:CD1	27:D:943:TYR:HA	2.46	0.51
27:D:1032:PHE:HB3	27:D:1077:ASN:HB2	1.92	0.51
27:D:1890:GLU:HB3	22:Q:143:ARG:NE	2.26	0.51
27:D:1913:PHE:HE2	27:D:1917:THR:HB	1.76	0.51
28:G:487:A:H2'	28:G:488:A:H5'	1.92	0.51
32:1:579:ILE:O	32:1:583:PHE:N	2.38	0.51
33:2:329:LYS:O	33:2:346:GLY:HA2	2.10	0.51
38:X:105:ASP:OD1	38:X:106:HIS:N	2.43	0.51
2:K:64:VAL:HG12	2:K:65:GLU:H	1.76	0.51
2:K:177:PRO:HB2	2:K:195:TRP:CD1	2.44	0.51
3:L:356:LEU:HD13	6:E:52:ARG:HB3	1.91	0.51
4:N:148:ALA:HB1	4:N:152:LEU:HD12	1.92	0.51
8:C:270:LEU:HD11	8:C:313:PHE:HB3	1.93	0.51
8:C:326:GLU:HG2	8:C:330:TYR:CE2	2.45	0.51
16:F:79:A:H2'	16:F:80:U:C6	2.46	0.51
27:D:1213:ARG:HE	27:D:1281:GLN:HE21	1.58	0.51
27:D:1748:TYR:CE2	22:Q:142:PRO:CD	2.94	0.51
27:D:2071:ILE:O	27:D:2127:GLU:HA	2.11	0.51
27:D:2071:ILE:HG22	27:D:2128:LEU:HB2	1.92	0.51
29:H:1139:G:H2'	29:H:1140:U:H6	1.76	0.51
32:1:363:LEU:HA	32:1:374:THR:HG21	1.93	0.51
32:1:399:PRO:HA	32:1:402:LYS:HG2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:2:203:THR:HG22	33:2:250:VAL:HG21	1.91	0.51
34:3:293:ASN:HD22	34:3:364:THR:HB	1.76	0.51
1:A:1791:PHE:H	1:A:1794:LEU:HD12	1.76	0.51
1:A:2207:ILE:HD12	1:A:2256:LEU:HB2	1.93	0.51
8:C:542:ILE:HA	8:C:563:LEU:O	2.11	0.51
8:C:680:SER:HB2	8:C:858:LEU:HD11	1.92	0.51
27:D:536:LEU:HD21	27:D:578:LEU:CD2	2.41	0.51
27:D:1457:ARG:O	27:D:1760:ASN:ND2	2.44	0.51
27:D:1687:LEU:HB2	27:D:1698:TYR:CE1	2.29	0.51
27:D:1750:ILE:HD13	27:D:1806:LEU:HG	1.93	0.51
27:D:1996:GLN:HE22	27:D:2150:LEU:H	1.59	0.51
32:1:685:ILE:O	32:1:688:THR:OG1	2.25	0.51
32:1:689:LEU:HD21	32:1:707:PHE:CD2	2.45	0.51
32:1:887:ASN:HB3	32:1:899:ILE:HD13	1.92	0.51
34:3:410:PHE:HE1	34:3:445:GLY:HA3	1.76	0.51
34:3:496:SER:HB3	34:3:497:PRO:HD3	1.92	0.51
34:3:1048:THR:OG1	34:3:1065:THR:O	2.26	0.51
1:A:2183:TYR:HE1	1:A:2219:LYS:HG3	1.76	0.51
3:L:315:ARG:HD3	7:M:66:HIS:CE1	2.46	0.51
8:C:353:TYR:HD1	8:C:371:PRO:HA	1.74	0.51
27:D:789:LEU:HB2	27:D:794:ARG:HG2	1.93	0.51
27:D:1424:ILE:H	27:D:1443:HIS:CD2	2.29	0.51
20:S:10:LEU:HD12	20:S:83:LEU:HD12	1.93	0.51
32:1:264:GLU:HA	32:1:267:THR:HG22	1.93	0.51
32:1:418:ALA:O	32:1:422:MET:HG2	2.11	0.51
34:3:332:GLU:HG2	34:3:333:ASN:H	1.76	0.51
35:4:67:ILE:HD13	35:4:85:GLN:HB3	1.92	0.51
1:A:487:ASN:OD1	1:A:488:ARG:HG3	2.11	0.50
2:K:218:VAL:HG21	2:K:238:ALA:HB3	1.92	0.50
3:L:355:ALA:HB2	6:E:54:ARG:NH1	2.27	0.50
5:J:338:HIS:O	5:J:383:VAL:HA	2.11	0.50
8:C:115:LYS:O	8:C:116:THR:OG1	2.24	0.50
8:C:121:ASP:OD1	8:C:122:TYR:N	2.44	0.50
18:B:94:C:H5'	18:B:95:C:OP2	2.11	0.50
27:D:682:ARG:NH2	27:D:946:VAL:HG13	2.26	0.50
29:H:1120:G:H2'	29:H:1121:U:C6	2.45	0.50
32:1:832:LYS:HB2	32:1:871:THR:HG21	1.93	0.50
34:3:1002:ARG:NH2	34:3:1004:LEU:HD11	2.26	0.50
34:3:1166:TYR:CZ	34:3:1184:LYS:HE3	2.46	0.50
35:4:170:ASN:ND2	35:4:179:THR:HG22	2.25	0.50
1:A:138:HIS:O	1:A:142:ILE:HG12	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:301:TRP:HD1	1:A:493:MET:SD	2.34	0.50
1:A:1647:GLN:O	1:A:1650:ARG:NH1	2.44	0.50
1:A:1840:TYR:HH	1:A:2005:PHE:HE2	1.60	0.50
1:A:2051:ILE:O	1:A:2055:MET:HG2	2.11	0.50
2:K:177:PRO:HB2	2:K:195:TRP:HE1	1.75	0.50
5:J:245:ARG:O	5:J:249:ARG:HG2	2.11	0.50
8:C:281:PRO:HG3	8:C:382:TYR:CD2	2.46	0.50
18:B:123:U:H2'	18:B:124:C:C6	2.46	0.50
27:D:639:LEU:HD23	27:D:943:TYR:CE2	2.46	0.50
27:D:810:ARG:HH11	27:D:813:ARG:HE	1.57	0.50
28:G:520:G:N2	38:X:34:TYR:CB	2.73	0.50
32:1:288:ASN:OD1	32:1:289:GLU:N	2.43	0.50
37:6:22:GLY:HA2	37:6:26:THR:HG21	1.94	0.50
1:A:1888:HIS:CE1	1:A:1988:LEU:HD22	2.46	0.50
3:L:399:THR:HB	3:L:407:GLU:HB3	1.93	0.50
27:D:1493:SER:HA	27:D:1524:TRP:CH2	2.43	0.50
27:D:1861:PHE:CD2	22:Q:140:LYS:HD3	2.46	0.50
21:P:86:ILE:O	20:S:71:PHE:HB2	2.12	0.50
22:Q:139:ASN:O	22:Q:140:LYS:HB3	2.10	0.50
23:R:76:TRP:NE1	23:R:87:ARG:HB2	2.27	0.50
24:T:59:GLU:O	24:T:74:GLY:CA	2.59	0.50
33:2:159:LEU:O	33:2:162:SER:OG	2.29	0.50
34:3:63:LEU:HB2	34:3:1227:CYS:SG	2.51	0.50
1:A:863:ARG:HH12	1:A:1059:GLU:HB3	1.76	0.50
2:K:60:LYS:HB3	2:K:61:PRO:HD2	1.94	0.50
27:D:2073:ILE:HD11	27:D:2142:ILE:HD13	1.92	0.50
29:H:64:G:H2'	29:H:65:A:C8	2.46	0.50
32:1:739:ASN:HB3	32:1:742:ILE:HD12	1.94	0.50
34:3:936:PRO:O	34:3:937:LYS:HD2	2.12	0.50
34:3:994:LEU:HD22	34:3:1006:TYR:HD2	1.77	0.50
34:3:1087:VAL:O	34:3:1094:VAL:HA	2.12	0.50
1:A:175:LEU:HD22	1:A:571:LEU:HD23	1.93	0.50
1:A:905:TYR:CE2	1:A:907:ASN:HB2	2.47	0.50
2:K:69:VAL:HB	5:J:322:ARG:NH1	2.26	0.50
2:K:243:ILE:HB	2:K:261:LEU:HB2	1.93	0.50
4:N:678:TYR:O	4:N:682:GLY:N	2.26	0.50
4:N:706:VAL:HA	4:N:746:MET:HE1	1.93	0.50
6:E:85:PHE:HD1	6:E:90:HIS:HA	1.76	0.50
17:I:151:G:N7	25:U:32:LYS:HD3	2.27	0.50
18:B:166:U:O2'	18:B:167:A:P	2.70	0.50
27:D:1387:HIS:CB	27:D:1470:LEU:HD13	2.32	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:U:41:THR:HG23	25:U:55:GLU:OE2	2.12	0.50
28:G:505:A:H1'	28:G:506:U:C6	2.46	0.50
34:3:432:GLU:OE1	37:6:62:ILE:HB	2.11	0.50
36:5:51:PHE:HD1	36:5:52:GLY:H	1.59	0.50
1:A:169:PRO:HA	1:A:172:ILE:HD12	1.93	0.50
1:A:1011:ASN:ND2	1:A:1143:GLU:O	2.45	0.50
1:A:1512:ARG:HD2	1:A:1529:ASN:OD1	2.12	0.50
1:A:1863:HIS:HA	19:O:159:ASP:N	2.26	0.50
2:K:283:ALA:HB1	2:K:310:VAL:HG12	1.93	0.50
3:L:361:ASP:OD1	3:L:362:GLN:N	2.45	0.50
6:E:97:THR:HG23	6:E:99:ASN:H	1.77	0.50
17:I:92:C:H2'	17:I:93:C:H6	1.75	0.50
27:D:453:PHE:CE2	27:D:455:ARG:HG3	2.46	0.50
27:D:1168:GLY:O	27:D:1172:GLN:HG3	2.11	0.50
27:D:1913:PHE:CE2	27:D:1917:THR:HB	2.47	0.50
24:T:40:LYS:NZ	24:T:93:ALA:HB3	2.26	0.50
29:H:44:U:C2	29:H:45:U:C5	3.00	0.50
29:H:145:G:H2'	29:H:146:A:H8	1.77	0.50
32:1:580:PHE:HZ	32:1:619:HIS:HA	1.76	0.50
33:2:367:LEU:O	33:2:368:ILE:HG22	2.12	0.50
34:3:766:LYS:HD3	34:3:836:TRP:CZ2	2.47	0.50
34:3:1097:PHE:HB3	34:3:1106:PHE:HB3	1.93	0.50
1:A:2206:PHE:HE2	1:A:2241:ILE:HA	1.76	0.50
8:C:130:PRO:HB3	8:C:558:LYS:HZ2	1.75	0.50
27:D:1252:LEU:HD11	27:D:1288:PHE:CE1	2.46	0.50
26:V:20:ASN:ND2	26:V:69:ILE:HD11	2.27	0.50
28:G:492:U:H2'	28:G:493:A:C8	2.47	0.50
32:1:252:ILE:HD11	32:1:296:VAL:HA	1.93	0.50
34:3:493:VAL:HG13	34:3:499:SER:OG	2.11	0.50
34:3:503:LYS:HD3	34:3:941:PHE:CD1	2.46	0.50
4:N:161:LYS:O	4:N:165:GLU:CB	2.60	0.50
8:C:789:SER:HA	8:C:792:LYS:HG2	1.92	0.50
27:D:464:HIS:CE1	27:D:706:GLN:NE2	2.80	0.50
27:D:985:GLU:HG3	27:D:1001:LEU:HD22	1.93	0.50
27:D:1320:PRO:HB2	27:D:1534:ASN:O	2.12	0.50
21:P:19:LYS:HD2	21:P:99:ASP:HB2	1.93	0.50
32:1:927:ALA:C	32:1:929:ASN:H	2.14	0.50
34:3:630:ILE:HD13	34:3:646:LEU:HD13	1.94	0.50
1:A:1156:HIS:CG	1:A:1157:PRO:HD2	2.47	0.50
1:A:1400:ILE:HG22	1:A:1401:SER:N	2.25	0.50
1:A:1705:SER:HB3	1:A:1709:TRP:NE1	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2255:LEU:HD11	1:A:2281:PHE:HE1	1.77	0.50
2:K:178:ILE:HD13	2:K:461:ILE:HG13	1.94	0.50
4:N:251:GLU:OE2	4:N:255:ARG:HB3	2.12	0.50
4:N:890:GLU:O	4:N:894:ARG:HG2	2.12	0.50
27:D:1209:GLN:NE2	27:D:1788:TYR:O	2.45	0.50
27:D:1387:HIS:CE1	27:D:1470:LEU:HB2	2.47	0.50
27:D:1624:LEU:O	27:D:1624:LEU:HD23	2.12	0.50
27:D:1629:LEU:HD23	27:D:1648:ASP:CG	2.32	0.50
28:G:491:C:H2'	28:G:492:U:C6	2.47	0.50
34:3:643:ILE:HG21	34:3:691:LEU:HD11	1.94	0.50
39:Y:170:LEU:HD22	39:Y:170:LEU:N	2.27	0.50
1:A:837:GLY:O	1:A:1317:ARG:NH1	2.30	0.49
5:J:335:THR:HG23	5:J:336:VAL:HG22	1.94	0.49
8:C:104:THR:O	8:C:107:THR:OG1	2.20	0.49
18:B:113:G:C2	18:B:114:G:C8	3.00	0.49
27:D:1461:GLN:OE1	27:D:1461:GLN:N	2.44	0.49
29:H:142:C:O2'	29:H:143:G:O4'	2.29	0.49
32:1:743:ARG:HD2	32:1:780:CYS:SG	2.52	0.49
33:2:294:ILE:HG23	33:2:298:LEU:HD23	1.93	0.49
34:3:215:LEU:HB3	34:3:225:SER:HB3	1.94	0.49
34:3:673:ASP:OD1	34:3:674:THR:N	2.45	0.49
1:A:653:ILE:HA	1:A:656:ILE:HD12	1.95	0.49
1:A:1285:VAL:HG22	1:A:1301:TYR:CE1	2.47	0.49
1:A:1447:TRP:HB3	1:A:1451:PHE:CE2	2.47	0.49
1:A:1578:ALA:HA	1:A:1581:PHE:HB3	1.94	0.49
1:A:1751:TYR:O	1:A:1755:LYS:HG2	2.11	0.49
1:A:2075:THR:O	1:A:2079:ILE:HD12	2.12	0.49
5:J:331:VAL:HG12	5:J:333:LYS:N	2.27	0.49
27:D:656:TRP:CH2	27:D:929:ILE:HG13	2.47	0.49
27:D:1035:PHE:CD2	27:D:1080:LEU:HD22	2.47	0.49
34:3:106:THR:HG21	34:3:422:PHE:CE2	2.47	0.49
34:3:339:ASP:OD1	34:3:340:MET:N	2.45	0.49
35:4:165:ILE:HG12	35:4:180:VAL:HG12	1.94	0.49
1:A:285:PRO:HD2	1:A:298:TYR:OH	2.12	0.49
1:A:1070:LEU:HA	1:A:1073:ILE:HG22	1.94	0.49
1:A:1089:VAL:HG22	1:A:1098:VAL:HG22	1.94	0.49
1:A:1882:LEU:HB3	1:A:1889:LEU:HD23	1.93	0.49
1:A:2381:GLU:HB3	1:A:2384:ASN:HB2	1.94	0.49
2:K:233:GLN:HA	2:K:246:PHE:O	2.13	0.49
27:D:467:ALA:HB1	27:D:702:PRO:HB2	1.95	0.49
27:D:747:ARG:HH12	27:D:1047:ARG:HG3	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1584:PHE:HZ	27:D:1709:LEU:HD22	1.77	0.49
24:T:43:ILE:HG23	24:T:52:VAL:HG13	1.94	0.49
32:1:931:ARG:NE	37:6:24:GLU:OE2	2.44	0.49
34:3:59:TYR:HE1	34:3:1316:LYS:HD2	1.76	0.49
34:3:353:ARG:NH2	34:3:387:ASP:OD1	2.44	0.49
34:3:712:PHE:HE2	34:3:713:LEU:HD23	1.76	0.49
34:3:1192:HIS:CE1	34:3:1312:ALA:HB3	2.47	0.49
1:A:1286:TRP:HA	1:A:1448:GLU:OE2	2.12	0.49
1:A:1586:GLN:HG2	1:A:1595:ARG:HH11	1.77	0.49
1:A:2157:ILE:HG13	27:D:1064:PRO:HB2	1.94	0.49
1:A:2306:ASN:HB2	1:A:2335:THR:OG1	2.12	0.49
2:K:225:ASP:OD1	2:K:226:TRP:N	2.45	0.49
2:K:285:HIS:O	2:K:287:MET:N	2.45	0.49
3:L:398:GLN:NE2	3:L:419:GLN:HG3	2.28	0.49
4:N:846:PHE:HE1	4:N:859:LEU:HD23	1.77	0.49
8:C:183:GLN:HE21	8:C:657:TYR:HD2	1.60	0.49
16:F:38:U:H4'	16:F:39:G:O5'	2.12	0.49
27:D:820:PHE:CD2	27:D:828:LEU:HD22	2.48	0.49
27:D:2007:LYS:HB3	27:D:2030:ILE:HD12	1.93	0.49
28:G:520:G:C6	38:X:34:TYR:CZ	3.00	0.49
29:H:1151:U:H2'	29:H:1152:U:C6	2.46	0.49
32:1:517:TYR:OH	32:1:521:LYS:NZ	2.42	0.49
32:1:872:GLY:HA2	34:3:1315:ARG:HG3	1.95	0.49
33:2:299:ARG:NH2	33:2:343:ASP:O	2.40	0.49
34:3:379:VAL:CG2	34:3:391:LEU:HB2	2.41	0.49
36:5:20:GLY:H	36:5:43:VAL:HG23	1.77	0.49
1:A:1717:LEU:HG	1:A:1786:ALA:HB3	1.93	0.49
1:A:1739:ARG:HD2	1:A:1751:TYR:CE2	2.47	0.49
1:A:2177:VAL:H	1:A:2338:GLN:HE22	1.58	0.49
3:L:273:HIS:ND1	3:L:273:HIS:O	2.45	0.49
4:N:161:LYS:O	4:N:165:GLU:HB2	2.11	0.49
8:C:343:ASP:O	8:C:346:THR:OG1	2.28	0.49
8:C:544:LEU:HG	8:C:553:VAL:HG21	1.94	0.49
8:C:864:VAL:HG12	8:C:866:ILE:HG13	1.95	0.49
17:I:78:A:H2	27:D:1110:ARG:NH2	2.08	0.49
27:D:835:ALA:HA	27:D:874:ARG:HD3	1.94	0.49
27:D:1431:ASP:OD2	27:D:2095:LYS:HD2	2.13	0.49
21:P:96:VAL:HG12	22:Q:85:ILE:HG12	1.95	0.49
22:Q:96:ILE:HG13	23:R:94:LEU:HD13	1.94	0.49
29:H:1089:G:C2'	29:H:1090:A:O5'	2.60	0.49
32:1:925:HIS:CG	32:1:926:PRO:HD2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:3:98:GLU:OE2	37:6:47:SER:OG	2.27	0.49
1:A:1400:ILE:HG21	1:A:1440:ILE:HD11	1.94	0.49
1:A:1709:TRP:HB3	1:A:1791:PHE:CE1	2.47	0.49
2:K:77:ALA:O	2:K:81:MET:HG2	2.13	0.49
3:L:127:LEU:HD11	3:L:131:ILE:HD12	1.93	0.49
6:E:53:VAL:HG12	6:E:57:ALA:HB3	1.93	0.49
17:I:150:G:N2	17:I:152:A:H5'	2.28	0.49
27:D:588:LEU:HD11	27:D:599:ILE:HD11	1.94	0.49
27:D:1095:ASN:O	27:D:1099:VAL:HG23	2.12	0.49
27:D:1852:ILE:O	27:D:1856:TYR:HD2	1.96	0.49
29:H:1097:G:C2	29:H:1098:C:C4	3.00	0.49
32:1:715:ALA:HB1	32:1:718:TYR:CD2	2.47	0.49
32:1:827:ILE:HG13	32:1:827:ILE:O	2.12	0.49
34:3:266:VAL:HG12	34:3:290:PRO:HA	1.94	0.49
34:3:455:LEU:HD11	34:3:464:LEU:HB3	1.93	0.49
34:3:636:THR:HB	34:3:679:VAL:HG23	1.93	0.49
1:A:139:LEU:HD13	1:A:193:TYR:CG	2.48	0.49
1:A:388:PRO:HB2	1:A:398:VAL:HG11	1.94	0.49
1:A:1578:ALA:CB	1:A:1602:PRO:HB3	2.43	0.49
2:K:435:GLY:N	2:K:464:TRP:HH2	2.11	0.49
2:K:438:ASP:HB3	2:K:457:TRP:HB2	1.95	0.49
6:E:38:GLN:HA	6:E:106:ILE:HD11	1.93	0.49
8:C:775:ILE:HD12	8:C:817:GLN:HE21	1.76	0.49
18:B:8:U:O4	18:B:157:G:O6	2.31	0.49
18:B:74:U:H3'	18:B:75:A:H5''	1.94	0.49
27:D:1524:TRP:CD1	27:D:1780:ARG:NH2	2.80	0.49
27:D:2051:VAL:CG1	27:D:2077:ARG:HG2	2.43	0.49
26:V:65:GLY:HA2	26:V:68:ILE:HD12	1.95	0.49
32:1:600:PRO:O	32:1:603:SER:OG	2.19	0.49
34:3:324:ASN:OD1	34:3:341:ASN:ND2	2.43	0.49
1:A:286:LEU:HD21	1:A:289:ASP:HB2	1.93	0.49
1:A:852:LEU:HD23	1:A:855:LEU:HD12	1.94	0.49
1:A:1481:GLU:HA	1:A:1484:TRP:HE1	1.75	0.49
4:N:13:ALA:HB3	4:N:15:TYR:CE2	2.47	0.49
4:N:772:LEU:O	4:N:775:VAL:N	2.46	0.49
5:J:349:ASN:HB3	5:J:352:ILE:HD12	1.95	0.49
17:I:101:C:H2'	17:I:102:A:H8	1.77	0.49
17:I:151:G:H21	17:I:152:A:N6	2.10	0.49
18:B:78:A:H3'	18:B:78:A:OP2	2.13	0.49
19:O:150:ASN:OD1	19:O:151:ILE:N	2.45	0.49
21:P:29:VAL:HB	21:P:51:GLU:HG3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:U:51:LEU:HB2	25:U:73:ILE:HB	1.94	0.49
28:G:481:A:H5'	35:4:52:TYR:CD2	2.48	0.49
32:1:494:LEU:CD1	38:X:23:TRP:CG	2.93	0.49
32:1:583:PHE:O	32:1:587:THR:HG23	2.12	0.49
33:2:262:HIS:HB2	33:2:280:THR:HG22	1.95	0.49
38:X:19:PRO:HA	38:X:22:SER:OG	2.13	0.49
1:A:481:HIS:NE2	8:C:276:ASP:OD1	2.46	0.49
7:M:44:LEU:O	7:M:74:LYS:NZ	2.43	0.49
8:C:967:VAL:O	8:C:971:ARG:HG2	2.13	0.49
17:I:91:U:C2	17:I:142:G:N2	2.78	0.49
27:D:1740:LEU:HD11	22:Q:146:LEU:CD1	2.42	0.49
27:D:1950:ILE:O	27:D:1954:VAL:HG13	2.12	0.49
32:1:733:GLU:HG2	32:1:736:LYS:HZ1	1.78	0.49
1:A:395:PRO:HB2	1:A:398:VAL:HG21	1.95	0.49
1:A:2183:TYR:HE2	1:A:2289:ILE:CG1	2.08	0.49
2:K:382:ASP:OD1	2:K:383:GLU:N	2.46	0.49
8:C:353:TYR:CD1	8:C:371:PRO:HA	2.48	0.49
18:B:10:U:O2	18:B:156:G:N1	2.46	0.49
27:D:945:TYR:O	27:D:949:LEU:HG	2.13	0.49
27:D:1016:ASP:OD1	27:D:1017:VAL:N	2.46	0.49
27:D:1095:ASN:O	27:D:1098:ILE:HG22	2.12	0.49
22:Q:4:VAL:HG11	22:Q:34:PRO:HA	1.95	0.49
34:3:118:GLN:HE21	34:3:1299:ILE:HD13	1.78	0.49
1:A:255:ILE:HD11	1:A:637:VAL:HG13	1.94	0.48
1:A:503:LYS:HA	1:A:506:PHE:CE2	2.47	0.48
1:A:688:TYR:HA	1:A:691:PHE:CE2	2.47	0.48
1:A:884:SER:HB3	3:L:180:LYS:NZ	2.27	0.48
1:A:1952:PRO:HB2	3:L:426:GLY:N	2.26	0.48
4:N:9:GLN:HB3	4:N:11:PRO:HD3	1.95	0.48
4:N:464:ILE:O	4:N:467:ALA:HB3	2.14	0.48
8:C:793:GLU:HA	8:C:796:ILE:HG22	1.95	0.48
27:D:1228:TRP:CE2	27:D:1261:PRO:HG3	2.48	0.48
27:D:1241:LEU:HA	27:D:1292:LEU:HD23	1.95	0.48
23:R:47:SER:OG	23:R:103:VAL:HB	2.12	0.48
25:U:60:VAL:HG12	25:U:65:HIS:HB2	1.95	0.48
26:V:47:ASN:HD21	26:V:51:PRO:HB2	1.78	0.48
29:H:1099:G:HO2'	29:H:1100:A:H5'	1.66	0.48
32:1:341:GLY:O	32:1:384:ASN:ND2	2.46	0.48
32:1:950:VAL:HG13	37:6:39:THR:HG22	1.95	0.48
34:3:607:LEU:HD13	34:3:624:TRP:HD1	1.78	0.48
39:Y:167:VAL:O	39:Y:171:GLY:N	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:209:ILE:HG21	1:A:303:PHE:HE2	1.78	0.48
1:A:219:ALA:HB1	1:A:266:LEU:HD13	1.94	0.48
1:A:1525:PHE:HD2	3:L:405:GLY:HA3	1.78	0.48
2:K:73:ARG:O	2:K:76:LEU:HB2	2.13	0.48
8:C:406:VAL:HG11	8:C:427:LEU:HD21	1.95	0.48
27:D:1320:PRO:HB2	27:D:1535:PHE:HA	1.94	0.48
25:U:33:PHE:C	25:U:35:SER:H	2.16	0.48
32:1:161:LYS:O	32:1:165:THR:HG23	2.12	0.48
32:1:491:ARG:HD2	38:X:27:TYR:OH	2.13	0.48
32:1:960:ASN:HD21	32:1:963:TYR:HA	1.78	0.48
34:3:1133:ASP:OD2	34:3:1137:ASN:HB2	2.13	0.48
1:A:220:THR:O	1:A:224:MET:HG2	2.12	0.48
1:A:400:ILE:HB	8:C:186:ASP:HB3	1.95	0.48
1:A:972:MET:HG2	1:A:981:VAL:HG21	1.95	0.48
1:A:1033:ASN:HD21	1:A:1298:ALA:HB3	1.78	0.48
1:A:1087:ASN:ND2	3:L:272:LEU:HG	2.19	0.48
1:A:1963:LEU:HD13	1:A:1965:PHE:HE2	1.77	0.48
2:K:378:ILE:HG22	5:J:168:TRP:HE1	1.78	0.48
3:L:280:ARG:NH2	17:I:37:U:OP2	2.46	0.48
4:N:721:ARG:O	4:N:725:ILE:HD12	2.12	0.48
8:C:856:ILE:HA	8:C:944:VAL:HG11	1.94	0.48
16:F:47:A:H3'	16:F:48:C:H5'	1.94	0.48
18:B:86:G:H2'	18:B:87:G:H8	1.76	0.48
27:D:1908:ARG:HD3	23:R:39:VAL:HG23	1.95	0.48
22:Q:88:ARG:NH1	22:Q:90:ASN:HB3	2.28	0.48
32:1:494:LEU:CB	38:X:7:ILE:CG2	2.89	0.48
32:1:801:ILE:HG22	32:1:816:VAL:HG13	1.95	0.48
39:Y:217:LYS:HB3	39:Y:218:PRO:HD2	1.95	0.48
1:A:645:ASP:OD1	1:A:646:ALA:N	2.46	0.48
1:A:842:LYS:HE2	1:A:1322:ALA:HA	1.94	0.48
1:A:1090:ILE:O	1:A:1096:SER:HA	2.13	0.48
1:A:1211:SER:HA	1:A:1257:ASN:ND2	2.28	0.48
1:A:2152:TRP:HZ3	27:D:1064:PRO:HG3	1.75	0.48
4:N:655:PHE:O	4:N:659:ARG:CB	2.62	0.48
7:M:33:LEU:HD11	7:M:100:ALA:HB1	1.95	0.48
8:C:143:HIS:HA	44:C:1500:GTP:PB	2.54	0.48
8:C:362:LYS:CG	8:C:363:PRO:HD2	2.43	0.48
8:C:652:MET:HA	8:C:655:LEU:HD12	1.96	0.48
8:C:678:SER:HB2	8:C:858:LEU:HB2	1.94	0.48
17:I:136:U:O2'	27:D:1194:ASP:OD2	2.26	0.48
27:D:675:PRO:HG3	27:D:905:GLN:C	2.34	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1459:TRP:NE1	27:D:1762:ILE:HD11	2.28	0.48
21:P:50:GLU:O	21:P:79:LYS:HA	2.14	0.48
33:2:367:LEU:C	33:2:369:SER:H	2.16	0.48
1:A:299:LYS:HA	1:A:493:MET:HG3	1.95	0.48
1:A:930:ASN:HB3	1:A:933:GLU:OE1	2.14	0.48
1:A:995:LEU:HD11	1:A:1078:ILE:HG23	1.95	0.48
1:A:2166:LEU:HD11	1:A:2194:ILE:HG13	1.95	0.48
1:A:2395:PHE:CG	27:D:1062:PRO:CD	2.82	0.48
3:L:282:GLU:HG3	3:L:286:PHE:CD2	2.49	0.48
8:C:707:SER:HB3	8:C:824:SER:HB3	1.96	0.48
18:B:76:U:O2'	18:B:78:A:OP1	2.30	0.48
18:B:143:U:H2'	18:B:144:G:H8	1.78	0.48
27:D:828:LEU:HG	27:D:830:CYS:SG	2.53	0.48
27:D:1804:SER:HA	27:D:1807:VAL:HG22	1.96	0.48
22:Q:29:LEU:HD23	22:Q:40:LEU:HG	1.94	0.48
28:G:504:C:OP1	36:5:25:LYS:NZ	2.21	0.48
29:H:1116:A:O2'	29:H:1117:G:H5'	2.13	0.48
32:1:327:TRP:HD1	32:1:330:ARG:HH21	1.61	0.48
32:1:830:MET:O	32:1:832:LYS:HG2	2.13	0.48
34:3:74:SER:OG	34:3:95:VAL:HG22	2.13	0.48
34:3:586:ASP:OD1	34:3:587:THR:N	2.47	0.48
34:3:1136:GLY:HA2	34:3:1197:ASP:O	2.14	0.48
35:4:136:ARG:HB2	35:4:154:TYR:CD2	2.49	0.48
1:A:772:GLU:HA	1:A:775:ARG:HB2	1.96	0.48
1:A:1964:PRO:HB3	1:A:2013:ARG:HD2	1.95	0.48
2:K:195:TRP:CZ3	2:K:220:LYS:HE3	2.49	0.48
4:N:212:VAL:HG13	4:N:215:LEU:H	1.78	0.48
27:D:2011:ILE:HD12	27:D:2030:ILE:HD11	1.96	0.48
22:Q:31:SER:HB2	22:Q:39:ILE:HD11	1.95	0.48
23:R:38:MET:SD	23:R:61:PHE:HE2	2.36	0.48
28:G:499:U:H2'	28:G:500:A:C8	2.49	0.48
29:H:45:U:H2'	29:H:46:C:C6	2.49	0.48
33:2:322:PRO:HA	35:4:65:TYR:CE2	2.49	0.48
34:3:414:GLN:NE2	34:3:434:ASN:O	2.47	0.48
34:3:533:LYS:HA	34:3:848:SER:OG	2.14	0.48
34:3:1043:THR:HG21	34:3:1052:TYR:HE2	1.79	0.48
35:4:110:LEU:HD12	35:4:155:PHE:HE2	1.77	0.48
37:6:50:LEU:CD2	37:6:62:ILE:HG23	2.43	0.48
1:A:1169:TYR:OH	1:A:1262:MET:HA	2.14	0.48
1:A:1414:TRP:HB2	1:A:1558:GLU:HG3	1.94	0.48
1:A:1748:ILE:HG22	1:A:1785:ASP:HB2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:205:GLU:O	3:L:209:LYS:HG2	2.13	0.48
4:N:787:SER:O	17:I:40:G:O2'	2.31	0.48
8:C:152:LEU:O	8:C:155:ILE:HG13	2.13	0.48
8:C:227:VAL:HG11	8:C:474:LYS:HB2	1.94	0.48
27:D:1688:TYR:CD2	27:D:1895:ARG:HA	2.44	0.48
27:D:1847:LEU:O	27:D:1851:LEU:HD13	2.13	0.48
23:R:79:LYS:HD3	23:R:84:VAL:HG22	1.95	0.48
32:1:401:TRP:CZ2	32:1:434:TYR:HD1	2.31	0.48
32:1:550:THR:HG23	32:1:553:LEU:HD22	1.96	0.48
33:2:134:LEU:HD13	33:2:138:LYS:HE2	1.96	0.48
34:3:1037:PHE:CE2	34:3:1038:LYS:HG2	2.49	0.48
35:4:108:ALA:HA	35:4:194:TYR:OH	2.14	0.48
1:A:717:GLY:HA3	18:B:84:A:O2'	2.14	0.48
2:K:200:GLN:HB3	2:K:213:LYS:HG3	1.96	0.48
2:K:267:ARG:HG3	2:K:285:HIS:CD2	2.49	0.48
3:L:120:TYR:CD1	3:L:123:ARG:HB3	2.46	0.48
3:L:367:ARG:NH2	17:I:57:U:C4	2.81	0.48
4:N:261:LYS:HE2	4:N:285:HIS:HA	1.94	0.48
8:C:250:GLU:HG2	8:C:298:PHE:CE2	2.48	0.48
8:C:766:TRP:CZ2	8:C:792:LYS:HB3	2.49	0.48
27:D:836:TRP:HE3	27:D:870:GLN:HE22	1.62	0.48
27:D:1515:LEU:O	27:D:1534:ASN:ND2	2.44	0.48
27:D:1682:ILE:HD12	27:D:1722:ILE:HG12	1.95	0.48
27:D:2103:LEU:HD13	27:D:2142:ILE:HG13	1.96	0.48
34:3:71:PHE:O	34:3:430:LEU:HD21	2.13	0.48
1:A:644:VAL:O	1:A:645:ASP:HB2	2.14	0.48
1:A:1447:TRP:HB3	1:A:1451:PHE:HE2	1.78	0.48
1:A:1673:LEU:HD21	1:A:1681:VAL:HG23	1.96	0.48
4:N:726:LEU:HD21	4:N:746:MET:HE1	1.96	0.48
8:C:237:ILE:HD12	8:C:265:PHE:HE1	1.78	0.48
8:C:769:TYR:N	8:C:772:ASN:O	2.45	0.48
21:P:15:LEU:HB3	21:P:20:LEU:HD11	1.95	0.48
22:Q:8:LYS:HE3	22:Q:34:PRO:HG3	1.96	0.48
29:H:42:U:C2	29:H:43:G:C8	3.02	0.48
29:H:1093:C:C2	29:H:1094:G:C8	3.02	0.48
29:H:1162:U:O2'	29:H:1163:C:H5'	2.14	0.48
29:H:1166:G:H8	29:H:1166:G:O5'	1.96	0.48
32:1:606:LEU:HD21	32:1:643:LEU:HD23	1.96	0.48
32:1:928:LYS:HD2	37:6:24:GLU:OE2	2.14	0.48
34:3:551:PHE:HD2	34:3:591:THR:HG21	1.79	0.48
34:3:1193:PHE:CE1	34:3:1308:ARG:HD2	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:543:ASN:OD1	1:A:544:LYS:N	2.47	0.48
1:A:635:THR:HG21	1:A:656:ILE:HD11	1.96	0.48
1:A:966:PRO:HA	1:A:1088:VAL:HG12	1.95	0.48
4:N:692:LEU:HD23	4:N:708:LEU:HD11	1.96	0.48
8:C:292:ILE:HD13	8:C:306:PRO:HD3	1.95	0.48
27:D:1032:PHE:HE2	27:D:1081:GLN:HG2	1.79	0.48
27:D:1255:ASP:N	27:D:1255:ASP:OD1	2.47	0.48
21:P:53:VAL:HB	21:P:54:PRO:HD3	1.96	0.48
29:H:1097:G:H2'	29:H:1098:C:H5	1.78	0.48
34:3:60:LEU:HB2	34:3:1317:VAL:HG22	1.94	0.48
1:A:863:ARG:NH1	1:A:1059:GLU:HB3	2.29	0.47
2:K:290:ARG:HA	2:K:301:LEU:O	2.13	0.47
5:J:342:PHE:HB2	5:J:380:ILE:HB	1.95	0.47
17:I:143:A:C5	25:U:48:TYR:HD2	2.31	0.47
27:D:542:HIS:O	27:D:551:ASN:HB3	2.14	0.47
27:D:1621:ILE:HD12	27:D:1630:ARG:HG3	1.96	0.47
21:P:28:ARG:HD3	21:P:50:GLU:OE2	2.14	0.47
29:H:142:C:C2'	29:H:143:G:H8	2.23	0.47
29:H:679:U:H2'	29:H:680:C:C6	2.49	0.47
32:1:954:PRO:O	32:1:959:ASN:ND2	2.47	0.47
34:3:294:PHE:CE2	34:3:330:GLY:HA3	2.49	0.47
1:A:460:PRO:HG3	8:C:376:PHE:CD1	2.49	0.47
1:A:691:PHE:CZ	1:A:701:CYS:HB2	2.49	0.47
1:A:1451:PHE:O	1:A:1454:SER:N	2.45	0.47
1:A:1649:PHE:CE1	1:A:1815:LEU:HD21	2.49	0.47
6:E:53:VAL:HG13	6:E:56:PHE:CZ	2.49	0.47
8:C:835:LYS:HB3	8:C:839:ILE:HD12	1.95	0.47
8:C:879:LEU:O	8:C:883:ARG:HG2	2.14	0.47
27:D:843:HIS:HA	27:D:876:GLY:HA2	1.96	0.47
27:D:1987:VAL:HG23	27:D:2150:LEU:HD22	1.95	0.47
24:T:46:PHE:O	25:U:14:ASN:ND2	2.47	0.47
29:H:1094:G:C6	29:H:1149:G:C6	3.03	0.47
34:3:208:GLU:HG3	34:3:209:GLN:N	2.29	0.47
34:3:380:LEU:HB3	34:3:388:LEU:HD11	1.96	0.47
38:X:49:THR:CG2	39:Y:233:ASP:HB2	2.45	0.47
1:A:1268:ARG:HG2	1:A:1301:TYR:HB2	1.95	0.47
1:A:2398:LEU:HD12	27:D:1060:LYS:HZ2	1.72	0.47
2:K:446:SER:OG	2:K:451:PHE:CE2	2.60	0.47
17:I:143:A:C5	25:U:48:TYR:CD2	3.02	0.47
27:D:585:VAL:HG22	27:D:604:VAL:HB	1.97	0.47
24:T:85:ASP:OD1	24:T:86:ASN:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:U:58:GLU:C	25:U:59:PHE:HD1	2.17	0.47
34:3:94:CYS:SG	34:3:101:LEU:HD11	2.54	0.47
34:3:211:LYS:NZ	34:3:256:GLU:OE2	2.38	0.47
34:3:750:TYR:HE1	34:3:777:LEU:HD21	1.79	0.47
34:3:1107:ILE:HD12	34:3:1108:PRO:HD2	1.96	0.47
35:4:138:PRO:HA	35:4:152:TYR:O	2.14	0.47
1:A:713:ASN:HB3	18:B:84:A:H5'	1.96	0.47
1:A:796:ASN:OD1	1:A:858:LYS:HE2	2.14	0.47
2:K:428:LEU:HD11	5:J:466:PRO:HD2	1.96	0.47
18:B:67:U:H2'	18:B:68:A:C8	2.47	0.47
21:P:76:LYS:HD3	21:P:79:LYS:HD3	1.96	0.47
24:T:90:ILE:HB	26:V:62:VAL:CG1	2.44	0.47
32:1:850:ASP:OD1	32:1:853:HIS:HD2	1.98	0.47
33:2:363:TYR:HA	34:3:1125:ASP:OD2	2.14	0.47
34:3:503:LYS:HG2	34:3:929:ILE:HD11	1.97	0.47
1:A:228:LYS:HD2	1:A:701:CYS:H	1.77	0.47
1:A:374:ILE:HD12	8:C:674:LEU:HD22	1.97	0.47
1:A:1863:HIS:HB2	1:A:1871:ALA:HB3	1.95	0.47
3:L:113:HIS:HD2	3:L:134:PRO:HA	1.80	0.47
8:C:835:LYS:O	8:C:839:ILE:HB	2.15	0.47
17:I:141:G:H2'	17:I:142:G:H5'	1.97	0.47
27:D:587:GLU:O	27:D:594:LEU:HG	2.15	0.47
27:D:1252:LEU:HD11	27:D:1288:PHE:CD1	2.49	0.47
29:H:1143:C:H4'	29:H:1144:U:H2'	1.96	0.47
32:1:169:LEU:O	32:1:173:ILE:HD12	2.13	0.47
32:1:935:TRP:CE3	37:6:22:GLY:HA3	2.49	0.47
38:X:33:ILE:HG22	38:X:85:THR:HG23	1.95	0.47
1:A:984:VAL:HG12	1:A:985:ASP:N	2.30	0.47
1:A:1169:TYR:CZ	1:A:1262:MET:HG2	2.50	0.47
1:A:1616:ARG:HH21	1:A:1618:ASN:HD22	1.63	0.47
1:A:2017:THR:HB	1:A:2062:GLU:OE1	2.13	0.47
1:A:2177:VAL:N	1:A:2338:GLN:HE22	2.12	0.47
2:K:353:TYR:CE1	7:M:126:ILE:HG12	2.48	0.47
2:K:362:TYR:HB2	2:K:379:ARG:HG3	1.95	0.47
16:F:50:G:H4'	16:F:51:A:OP2	2.15	0.47
17:I:138:U:H5	27:D:1227:ILE:HG12	1.79	0.47
18:B:32:G:HO2'	18:B:34:C:H6	1.59	0.47
27:D:491:PHE:N	27:D:491:PHE:CD1	2.82	0.47
27:D:574:PHE:HB2	27:D:585:VAL:HG11	1.97	0.47
27:D:1685:THR:O	27:D:1697:PRO:HA	2.15	0.47
27:D:1724:THR:HG22	27:D:1725:SER:N	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:2051:VAL:HG12	27:D:2077:ARG:HG2	1.97	0.47
22:Q:23:THR:HA	22:Q:48:PRO:HD3	1.96	0.47
26:V:31:GLY:H	26:V:39:VAL:HB	1.78	0.47
28:G:506:U:O2	28:G:507:U:H5''	2.14	0.47
38:X:52:SER:HB3	39:Y:231:ARG:CZ	2.44	0.47
1:A:364:TYR:CE2	1:A:1209:LYS:HB3	2.50	0.47
1:A:676:GLN:HG2	1:A:714:PHE:HB2	1.96	0.47
1:A:688:TYR:HD1	1:A:691:PHE:CZ	2.32	0.47
1:A:876:PRO:HB3	3:L:172:ILE:HG22	1.95	0.47
1:A:1054:LEU:O	1:A:1239:THR:HB	2.14	0.47
1:A:1126:LEU:HD11	1:A:1161:TYR:CD2	2.50	0.47
1:A:1286:TRP:CZ2	1:A:1302:LEU:HD11	2.50	0.47
1:A:1562:PHE:CZ	1:A:1570:TRP:HB3	2.50	0.47
1:A:1777:ILE:HG12	1:A:1784:TYR:CB	2.45	0.47
1:A:2398:LEU:HD22	27:D:1060:LYS:CD	2.43	0.47
2:K:244:LYS:HE3	2:K:257:LEU:HD22	1.96	0.47
3:L:137:TYR:O	3:L:141:ILE:HG13	2.15	0.47
3:L:222:ILE:HD11	3:L:242:ILE:HD12	1.97	0.47
3:L:410:LEU:O	3:L:410:LEU:HD12	2.15	0.47
5:J:335:THR:HG23	5:J:336:VAL:H	1.79	0.47
6:E:9:LEU:HD13	6:E:15:VAL:HA	1.97	0.47
8:C:116:THR:HG22	8:C:118:TYR:H	1.80	0.47
8:C:233:ASP:OD1	8:C:487:ARG:NH2	2.47	0.47
8:C:423:HIS:O	8:C:427:LEU:CB	2.63	0.47
17:I:137:G:H5''	27:D:1198:ARG:NH2	2.29	0.47
18:B:166:U:H4'	18:B:167:A:OP1	2.14	0.47
27:D:686:VAL:HG12	27:D:687:PRO:O	2.14	0.47
27:D:781:LEU:HD23	27:D:781:LEU:C	2.35	0.47
27:D:1640:LEU:HB2	27:D:1664:LEU:HD11	1.97	0.47
23:R:53:LYS:O	23:R:74:GLU:HA	2.15	0.47
24:T:24:GLN:CB	24:T:42:LYS:HD2	2.44	0.47
28:G:501:A:C6	32:1:783:VAL:HG11	2.49	0.47
29:H:565:U:H2'	29:H:566:U:C6	2.50	0.47
29:H:566:U:H2'	29:H:567:U:C6	2.50	0.47
29:H:689:G:H2'	29:H:690:U:C6	2.50	0.47
32:1:611:HIS:CD2	32:1:612:LYS:H	2.31	0.47
32:1:683:ASN:OD1	32:1:684:GLN:N	2.46	0.47
33:2:311:PRO:HG2	35:4:74:VAL:HG22	1.96	0.47
33:2:322:PRO:HB3	35:4:32:ILE:O	2.14	0.47
34:3:832:TRP:HB3	34:3:835:VAL:HG23	1.97	0.47
34:3:1003:LEU:HD23	34:3:1059:LEU:HD11	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:3:1193:PHE:CZ	34:3:1308:ARG:HD2	2.49	0.47
2:K:171:GLN:O	2:K:172:LEU:HD12	2.15	0.47
7:M:61:ILE:O	7:M:65:LEU:HG	2.15	0.47
8:C:132:ARG:O	8:C:133:ILE:HG12	2.14	0.47
27:D:635:GLU:N	27:D:670:LEU:O	2.47	0.47
29:H:139:G:C2'	29:H:140:G:O5'	2.62	0.47
29:H:551:C:H2'	29:H:552:U:C6	2.50	0.47
29:H:678:U:H2'	29:H:679:U:C6	2.50	0.47
29:H:693:C:H2'	29:H:694:C:C6	2.50	0.47
29:H:1140:U:H2'	29:H:1141:C:C6	2.50	0.47
34:3:337:VAL:HG22	34:3:346:LEU:HB2	1.97	0.47
1:A:227:GLU:OE2	1:A:231:ARG:NH1	2.28	0.47
1:A:325:LYS:HB2	1:A:405:ASN:ND2	2.28	0.47
1:A:2032:ILE:HD13	1:A:2043:PHE:CE1	2.50	0.47
1:A:2393:LEU:O	1:A:2397:GLU:CB	2.63	0.47
4:N:887:THR:HB	4:N:890:GLU:HB3	1.96	0.47
8:C:943:ASP:OD2	8:C:946:ASP:HB2	2.15	0.47
16:F:29:U:H2'	16:F:30:G:C8	2.50	0.47
17:I:151:G:HO2'	24:T:32:PHE:HE2	1.60	0.47
22:Q:34:PRO:C	22:Q:36:MET:H	2.17	0.47
28:G:514:U:C4'	28:G:515:U:H5'	2.45	0.47
29:H:671:G:H2'	29:H:672:U:C6	2.50	0.47
29:H:682:U:H2'	29:H:683:U:C6	2.50	0.47
29:H:695:U:H2'	29:H:696:C:C6	2.50	0.47
29:H:1097:G:C6	29:H:1146:G:C6	3.02	0.47
32:1:258:VAL:HA	32:1:261:THR:HG22	1.97	0.47
32:1:963:TYR:CG	32:1:964:ILE:N	2.83	0.47
35:4:108:ALA:HB3	35:4:155:PHE:O	2.15	0.47
1:A:2395:PHE:CD1	27:D:1061:ALA:CA	2.84	0.47
2:K:388:GLN:HE21	5:J:462:HIS:CE1	2.32	0.47
2:K:408:LYS:O	2:K:424:SER:HB3	2.15	0.47
2:K:443:LEU:HG	2:K:444:ASP:N	2.30	0.47
5:J:280:VAL:O	5:J:286:ASN:ND2	2.48	0.47
8:C:148:SER:O	8:C:151:ASP:HB3	2.15	0.47
8:C:465:GLU:CD	8:C:466:GLY:H	2.19	0.47
8:C:697:ARG:HG3	8:C:709:SER:HA	1.97	0.47
17:I:150:G:O2'	17:I:152:A:OP1	2.32	0.47
18:B:21:G:H2'	18:B:22:G:C8	2.50	0.47
24:T:11:VAL:O	26:V:31:GLY:HA3	2.15	0.47
33:2:185:GLY:O	33:2:189:LEU:HG	2.14	0.47
34:3:259:ASN:O	37:6:75:PRO:HD3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:300:LYS:H	1:A:493:MET:HG2	1.80	0.46
1:A:1213:MET:HE1	1:A:1250:VAL:HB	1.97	0.46
1:A:1313:ASP:OD1	1:A:1359:ILE:HD13	2.15	0.46
1:A:1498:ASP:HB2	4:N:159:LEU:HB2	1.96	0.46
1:A:1527:TRP:CE3	1:A:1528:THR:HG23	2.49	0.46
1:A:2395:PHE:CD1	27:D:1060:LYS:O	2.63	0.46
4:N:13:ALA:HB3	4:N:15:TYR:CD2	2.50	0.46
4:N:652:ALA:O	4:N:656:LEU:CB	2.63	0.46
16:F:5:G:H2'	16:F:6:C:C6	2.49	0.46
17:I:5:U:H2'	17:I:6:U:C6	2.50	0.46
17:I:150:G:H2'	17:I:151:G:H5''	1.97	0.46
27:D:783:THR:O	27:D:787:ASN:ND2	2.48	0.46
27:D:1372:LYS:CD	27:D:1708:GLY:HA3	2.45	0.46
20:S:23:LEU:HD23	20:S:24:THR:H	1.80	0.46
32:1:823:MET:O	32:1:827:ILE:HG12	2.15	0.46
34:3:370:VAL:HG23	34:3:379:VAL:HG12	1.98	0.46
34:3:964:PHE:CZ	34:3:972:LYS:HD3	2.50	0.46
1:A:364:TYR:CB	1:A:1214:ARG:HG2	2.45	0.46
1:A:1889:LEU:HB2	1:A:1989:PHE:HB2	1.97	0.46
2:K:366:THR:O	2:K:373:ILE:HA	2.16	0.46
5:J:406:PHE:CE1	5:J:408:LEU:HB2	2.50	0.46
6:E:53:VAL:CG1	6:E:57:ALA:HB3	2.46	0.46
8:C:139:ILE:HD12	8:C:252:LEU:HD22	1.96	0.46
27:D:699:ARG:HH21	27:D:875:ALA:HB3	1.81	0.46
27:D:1213:ARG:HG3	27:D:1313:LEU:HB3	1.96	0.46
27:D:1629:LEU:HD21	27:D:1652:VAL:CG2	2.45	0.46
22:Q:43:VAL:CG1	22:Q:85:ILE:HD12	2.44	0.46
29:H:677:U:H2'	29:H:678:U:C6	2.50	0.46
32:1:523:LEU:HD23	32:1:526:LEU:HD12	1.97	0.46
34:3:411:ASP:OD2	34:3:472:LEU:HG	2.14	0.46
34:3:952:ARG:HA	34:3:972:LYS:O	2.14	0.46
34:3:1306:GLU:HG3	36:5:78:ARG:NH1	2.30	0.46
39:Y:160:LYS:HB2	39:Y:160:LYS:NZ	2.30	0.46
3:L:232:LEU:HD23	3:L:334:LYS:HG3	1.97	0.46
8:C:197:THR:HG23	8:C:545:LEU:HD12	1.97	0.46
8:C:468:LEU:HA	8:C:491:GLY:HA3	1.97	0.46
8:C:576:THR:HG21	8:C:591:PHE:HB3	1.96	0.46
32:1:232:LEU:HD12	32:1:233:GLY:N	2.30	0.46
38:X:124:GLU:O	38:X:128:ARG:HG2	2.16	0.46
1:A:1545:ASP:HA	1:A:1548:GLN:HG2	1.97	0.46
2:K:180:ALA:O	2:K:192:THR:HA	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:219:THR:HG22	4:N:221:GLU:HG2	1.97	0.46
6:E:85:PHE:CD1	6:E:90:HIS:HA	2.50	0.46
16:F:83:A:H1'	16:F:84:C:H5'	1.97	0.46
27:D:986:LEU:HD21	27:D:1015:MET:HG2	1.97	0.46
20:S:23:LEU:HD23	20:S:24:THR:N	2.30	0.46
33:2:252:PHE:O	33:2:256:ALA:HB2	2.15	0.46
34:3:88:ARG:HH12	34:3:144:TRP:N	2.14	0.46
34:3:1046:GLY:O	34:3:1073:LYS:HA	2.16	0.46
34:3:1171:ILE:O	34:3:1174:GLN:N	2.48	0.46
36:5:41:ARG:HH12	36:5:83:LYS:HZ2	1.62	0.46
1:A:774:ILE:HG23	1:A:777:LYS:HD3	1.97	0.46
2:K:290:ARG:HB3	2:K:292:TRP:NE1	2.29	0.46
18:B:114:G:C2	18:B:115:G:C4	3.03	0.46
27:D:633:ILE:HG21	27:D:636:ILE:HD13	1.98	0.46
27:D:1351:ILE:HB	27:D:1374:THR:HG21	1.97	0.46
27:D:1459:TRP:HE1	27:D:1762:ILE:HD11	1.81	0.46
27:D:1902:LEU:HB3	27:D:1928:LEU:HD12	1.98	0.46
28:G:490:A:H2'	28:G:491:C:C6	2.51	0.46
29:H:120:G:H4'	29:H:121:C:O4'	2.15	0.46
29:H:680:C:H2'	29:H:681:C:C6	2.49	0.46
29:H:690:U:H2'	29:H:691:G:H8	1.81	0.46
32:1:565:LEU:O	32:1:569:PHE:CB	2.63	0.46
32:1:624:CYS:O	32:1:628:ILE:HG12	2.15	0.46
32:1:935:TRP:CZ3	37:6:22:GLY:HA3	2.51	0.46
33:2:163:ILE:O	33:2:169:VAL:HG21	2.14	0.46
34:3:186:ARG:HB2	34:3:207:VAL:HG23	1.97	0.46
34:3:678:LYS:H	34:3:694:ALA:HB3	1.80	0.46
34:3:1116:ARG:HH12	34:3:1189:LEU:HD13	1.79	0.46
1:A:354:PRO:O	1:A:355:LEU:HB3	2.16	0.46
1:A:1014:LYS:HD3	1:A:1144:PHE:CE1	2.51	0.46
3:L:131:ILE:HD11	3:L:175:LEU:HD11	1.98	0.46
5:J:408:LEU:O	5:J:415:ILE:N	2.48	0.46
17:I:90:C:N3	22:Q:34:PRO:CD	2.78	0.46
27:D:496:THR:O	27:D:497:THR:OG1	2.30	0.46
27:D:809:THR:HA	27:D:1092:PHE:CG	2.50	0.46
27:D:1194:ASP:HB3	27:D:1198:ARG:NH1	2.30	0.46
27:D:1496:ILE:HD12	27:D:1524:TRP:CZ3	2.50	0.46
21:P:33:GLN:O	21:P:45:LEU:HA	2.16	0.46
22:Q:18:GLU:O	22:Q:93:ARG:HB3	2.15	0.46
28:G:488:A:H2'	28:G:489:A:H8	1.80	0.46
29:H:544:G:H2'	29:H:545:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:559:G:H2'	29:H:560:G:H8	1.81	0.46
29:H:567:U:H2'	29:H:568:U:C6	2.50	0.46
29:H:669:U:H2'	29:H:670:U:C6	2.49	0.46
29:H:691:G:H2'	29:H:692:U:C6	2.50	0.46
34:3:68:GLN:HE21	34:3:1222:GLN:HG2	1.79	0.46
34:3:1118:VAL:HG12	34:3:1139:TRP:HZ2	1.81	0.46
34:3:1124:LEU:HB2	34:3:1130:ILE:CD1	2.45	0.46
38:X:32:TYR:CE1	38:X:78:LYS:HD3	2.50	0.46
1:A:563:ASP:OD1	1:A:564:TRP:N	2.49	0.46
1:A:928:ARG:NH2	4:N:145:THR:OG1	2.44	0.46
1:A:2319:LYS:HG3	1:A:2320:ASP:H	1.79	0.46
7:M:51:PHE:CE1	7:M:53:ILE:HD11	2.51	0.46
8:C:292:ILE:HA	8:C:295:ILE:HG12	1.97	0.46
8:C:331:TYR:CE1	8:C:404:PHE:HD1	2.34	0.46
16:F:15:A:H2'	16:F:16:C:H6	1.81	0.46
27:D:1631:ALA:HB3	27:D:1632:PRO:HD3	1.98	0.46
29:H:562:A:H2'	29:H:563:G:H8	1.81	0.46
29:H:688:A:H2'	29:H:689:G:H8	1.81	0.46
29:H:1152:U:H2'	29:H:1153:C:H6	1.80	0.46
32:1:327:TRP:CZ2	32:1:369:PRO:HG2	2.49	0.46
32:1:565:LEU:O	32:1:569:PHE:HB2	2.16	0.46
32:1:806:THR:HB	33:2:211:THR:HG21	1.98	0.46
33:2:271:TYR:CZ	33:2:274:ARG:HB2	2.51	0.46
34:3:71:PHE:HD1	34:3:97:THR:CG2	2.28	0.46
1:A:318:LEU:HD23	1:A:501:LEU:HD23	1.98	0.46
1:A:616:GLY:O	1:A:619:PHE:HB3	2.15	0.46
2:K:322:VAL:HB	2:K:336:ILE:HD11	1.98	0.46
4:N:778:ILE:HG23	4:N:794:PHE:HE1	1.81	0.46
8:C:605:ILE:HD11	8:C:673:PRO:HA	1.98	0.46
28:G:481:A:H61	35:4:86:VAL:HB	1.80	0.46
32:1:195:PHE:HB2	32:1:200:ILE:HD11	1.98	0.46
32:1:286:ILE:HG23	32:1:332:THR:OG1	2.16	0.46
32:1:439:MET:HA	32:1:442:ILE:HD12	1.98	0.46
32:1:698:ARG:HG3	32:1:699:LYS:N	2.31	0.46
34:3:78:HIS:O	34:3:146:THR:HG22	2.16	0.46
38:X:82:GLN:HB3	39:Y:168:GLN:NE2	2.31	0.46
39:Y:223:ARG:HG3	39:Y:242:GLU:OE2	2.16	0.46
2:K:64:VAL:HG12	2:K:65:GLU:N	2.31	0.46
2:K:395:ILE:HD11	7:M:123:THR:HG23	1.98	0.46
8:C:272:ARG:HG3	8:C:276:ASP:OD2	2.16	0.46
8:C:471:HIS:HB2	8:C:592:PHE:CE2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:772:ASN:ND2	8:C:816:VAL:H	2.14	0.46
19:O:212:VAL:HG23	19:O:213:SER:H	1.80	0.46
27:D:1217:ARG:HH12	22:Q:146:LEU:HD23	1.80	0.46
27:D:1564:LEU:HD21	27:D:1597:ALA:HB1	1.98	0.46
27:D:1587:SER:HB3	27:D:1895:ARG:CZ	2.45	0.46
26:V:15:ILE:HG22	26:V:73:ALA:HA	1.97	0.46
29:H:1139:G:C6	29:H:1140:U:C4	3.04	0.46
32:1:484:PHE:HA	32:1:488:TRP:CD1	2.48	0.46
34:3:732:ARG:NH2	34:3:737:GLY:O	2.49	0.46
39:Y:209:LEU:HD12	39:Y:209:LEU:C	2.36	0.46
1:A:248:PRO:HD3	1:A:595:TYR:CE1	2.50	0.46
1:A:460:PRO:HD3	8:C:354:TYR:OH	2.16	0.46
1:A:1711:VAL:HG12	1:A:1712:SER:N	2.30	0.46
1:A:1762:ASP:OD1	1:A:1763:ASN:N	2.49	0.46
2:K:291:LEU:HB3	2:K:301:LEU:HB3	1.97	0.46
3:L:289:ASP:HB3	3:L:293:LYS:HE3	1.98	0.46
8:C:315:SER:HB3	8:C:320:PHE:CE2	2.51	0.46
8:C:474:LYS:HZ3	8:C:630:PRO:HD3	1.81	0.46
16:F:26:A:H2'	16:F:27:U:H6	1.80	0.46
17:I:99:G:H4'	27:D:1186:GLU:CB	2.23	0.46
27:D:1999:HIS:ND1	27:D:1999:HIS:O	2.49	0.46
27:D:2055:TYR:CE2	27:D:2158:PHE:CD2	3.04	0.46
22:Q:46:THR:OG1	22:Q:79:ILE:HG12	2.16	0.46
29:H:545:G:H2'	29:H:546:U:C6	2.50	0.46
29:H:553:G:H2'	29:H:554:C:C6	2.50	0.46
29:H:673:U:H2'	29:H:674:G:H8	1.81	0.46
29:H:1165:C:C2	29:H:1166:G:N7	2.83	0.46
32:1:430:TYR:HB3	32:1:434:TYR:CE2	2.50	0.46
34:3:156:ASN:ND2	34:3:178:PRO:HA	2.29	0.46
34:3:369:ILE:HG23	34:3:419:LEU:HB2	1.98	0.46
1:A:171:ALA:HB2	1:A:201:PHE:CD1	2.51	0.45
1:A:867:ILE:HD13	1:A:1101:TYR:CD1	2.51	0.45
1:A:1050:LEU:CD2	1:A:1248:VAL:HG22	2.44	0.45
1:A:1733:TRP:CZ2	1:A:1772:GLY:HA3	2.51	0.45
2:K:393:ARG:HB2	5:J:429:GLU:HG2	1.98	0.45
7:M:113:GLN:NE2	16:F:77:G:H4'	2.29	0.45
8:C:331:TYR:OH	8:C:428:ILE:O	2.34	0.45
8:C:613:ARG:NH1	8:C:614:GLU:OE2	2.49	0.45
16:F:15:A:H2'	16:F:16:C:C6	2.51	0.45
16:F:92:C:H2'	16:F:93:A:C8	2.45	0.45
17:I:78:A:N1	27:D:1110:ARG:NE	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:B:22:G:O6	18:B:149:U:O4	2.34	0.45
18:B:75:A:N6	18:B:77:A:N1	2.65	0.45
18:B:135:G:N1	18:B:136:G:N2	2.64	0.45
27:D:929:ILE:HD13	27:D:935:ALA:HA	1.99	0.45
27:D:1371:GLY:O	27:D:1376:LYS:NZ	2.40	0.45
27:D:1888:GLU:HB3	27:D:1953:LYS:HG2	1.97	0.45
28:G:502:C:OP2	32:1:775:ARG:NH1	2.31	0.45
29:H:555:A:H2'	29:H:556:A:H8	1.82	0.45
29:H:1126:G:O2'	29:H:1127:A:H8	1.97	0.45
32:1:760:HIS:HB3	33:2:240:LEU:HD12	1.97	0.45
32:1:866:LEU:HD21	36:5:79:LEU:HD21	1.98	0.45
34:3:1097:PHE:CE1	34:3:1108:PRO:HB3	2.48	0.45
34:3:1356:VAL:HA	34:3:1360:TYR:CD2	2.51	0.45
39:Y:208:SER:CB	39:Y:214:LEU:HD12	2.45	0.45
1:A:2199:VAL:HG23	1:A:2200:LYS:HG3	1.98	0.45
8:C:866:ILE:HG23	8:C:918:LEU:HD21	1.98	0.45
27:D:610:GLU:OE2	27:D:646:VAL:HG21	2.17	0.45
27:D:765:ASN:HB2	27:D:768:HIS:CD2	2.51	0.45
27:D:1482:GLY:HA3	22:Q:143:ARG:O	2.15	0.45
27:D:1677:THR:O	27:D:1710:ALA:HA	2.15	0.45
27:D:1722:ILE:HG22	27:D:1724:THR:OG1	2.16	0.45
27:D:1757:GLU:CB	27:D:1763:ILE:HD12	2.46	0.45
27:D:1772:TRP:CZ3	27:D:1773:PHE:CZ	3.03	0.45
23:R:66:ASN:OD1	23:R:98:GLY:N	2.50	0.45
20:S:22:GLU:HG2	20:S:70:LYS:HD2	1.97	0.45
29:H:548:G:H2'	29:H:549:C:C6	2.50	0.45
29:H:564:U:H2'	29:H:565:U:C6	2.50	0.45
29:H:570:G:H2'	29:H:571:A:H8	1.82	0.45
29:H:670:U:H2'	29:H:671:G:H8	1.81	0.45
29:H:685:U:H2'	29:H:686:G:H8	1.81	0.45
32:1:221:MET:O	32:1:224:THR:OG1	2.24	0.45
32:1:843:GLU:OE1	32:1:879:HIS:NE2	2.49	0.45
34:3:153:ASP:O	34:3:154:SER:OG	2.21	0.45
34:3:333:ASN:O	34:3:350:ILE:HG22	2.17	0.45
38:X:11:GLU:HG2	38:X:16:ILE:CG2	2.46	0.45
1:A:2162:LEU:HD23	1:A:2194:ILE:O	2.16	0.45
4:N:771:ALA:HB3	4:N:806:ARG:HH21	1.81	0.45
5:J:443:LYS:HG2	5:J:444:VAL:N	2.30	0.45
6:E:112:GLU:HG2	6:E:135:TYR:CE2	2.51	0.45
8:C:869:HIS:CD2	8:C:925:LEU:HB3	2.51	0.45
18:B:94:C:H3'	18:B:95:C:H4'	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1165:VAL:HG13	27:D:1166:PRO:HD2	1.98	0.45
27:D:1625:THR:OG1	27:D:1648:ASP:HB2	2.17	0.45
27:D:2011:ILE:CD1	27:D:2030:ILE:HD11	2.46	0.45
21:P:21:ARG:HB2	21:P:98:GLU:OE1	2.16	0.45
20:S:20:SER:OG	20:S:73:VAL:HB	2.16	0.45
29:H:554:C:H2'	29:H:555:A:H8	1.82	0.45
29:H:672:U:H2'	29:H:673:U:C6	2.50	0.45
29:H:694:C:H2'	29:H:695:U:C6	2.50	0.45
32:1:489:VAL:CG1	38:X:26:GLU:CG	2.94	0.45
34:3:294:PHE:CE2	34:3:365:ILE:HB	2.51	0.45
34:3:932:PHE:HA	34:3:984:ILE:HD11	1.98	0.45
34:3:977:ILE:HG12	34:3:1004:LEU:HD22	1.99	0.45
1:A:620:HIS:HB3	1:A:669:TYR:CD2	2.51	0.45
1:A:1014:LYS:HD2	1:A:1014:LYS:HA	1.58	0.45
1:A:1049:LEU:HB2	1:A:1249:SER:OG	2.16	0.45
1:A:1105:ARG:HD2	1:A:1517:TYR:CE1	2.51	0.45
1:A:1169:TYR:CE2	1:A:1262:MET:HG2	2.52	0.45
4:N:144:LYS:O	4:N:145:THR:OG1	2.30	0.45
8:C:251:GLN:HE22	8:C:254:LYS:HD3	1.81	0.45
8:C:605:ILE:HG13	8:C:652:MET:CE	2.42	0.45
8:C:769:TYR:HA	8:C:800:TYR:HE1	1.80	0.45
16:F:16:C:O2'	16:F:17:U:O5'	2.35	0.45
23:R:38:MET:HG3	23:R:39:VAL:N	2.30	0.45
29:H:568:U:H2'	29:H:569:C:C6	2.50	0.45
29:H:683:U:H2'	29:H:684:U:C6	2.50	0.45
29:H:692:U:H2'	29:H:693:C:C6	2.50	0.45
32:1:591:ASP:OD1	32:1:592:ILE:HD12	2.17	0.45
33:2:166:THR:HG22	33:2:167:LYS:H	1.82	0.45
1:A:234:PHE:HD2	1:A:699:PRO:HB2	1.81	0.45
1:A:454:LEU:HD11	8:C:340:LYS:HG3	1.98	0.45
1:A:537:THR:HG21	18:B:84:A:H62	1.82	0.45
1:A:939:LEU:HD21	3:L:441:MET:HE2	1.98	0.45
1:A:1317:ARG:HE	1:A:1366:ARG:NH1	2.15	0.45
18:B:75:A:N6	18:B:77:A:C6	2.85	0.45
27:D:1436:LEU:HD22	27:D:1462:ARG:NH2	2.31	0.45
27:D:1453:GLU:OE2	27:D:1494:ARG:NH2	2.42	0.45
21:P:28:ARG:NH1	20:S:22:GLU:OE2	2.48	0.45
22:Q:4:VAL:HG12	22:Q:8:LYS:HZ2	1.80	0.45
26:V:47:ASN:OD1	26:V:51:PRO:HD2	2.17	0.45
26:V:59:LEU:O	26:V:60:GLN:HG2	2.16	0.45
28:G:520:G:C4	38:X:34:TYR:CZ	3.03	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:1139:G:H2'	29:H:1140:U:C5	2.51	0.45
32:1:835:ILE:O	32:1:838:ILE:N	2.32	0.45
34:3:641:GLN:NE2	34:3:705:LEU:HD23	2.31	0.45
34:3:1198:ILE:O	34:3:1221:LEU:N	2.50	0.45
35:4:171:GLN:O	35:4:178:ILE:HG12	2.17	0.45
1:A:221:TRP:CB	1:A:318:LEU:HD11	2.46	0.45
1:A:283:SER:O	1:A:285:PRO:HD3	2.17	0.45
1:A:2183:TYR:CE1	1:A:2219:LYS:HG3	2.51	0.45
1:A:2189:LEU:HD11	1:A:2347:GLY:HA3	1.99	0.45
4:N:256:LYS:HG2	4:N:257:PHE:N	2.32	0.45
4:N:760:VAL:O	4:N:764:LEU:HB3	2.16	0.45
8:C:183:GLN:HE21	8:C:657:TYR:HB3	1.80	0.45
27:D:766:ILE:HD12	27:D:769:LYS:HZ1	1.81	0.45
27:D:1880:LEU:HD21	27:D:1931:GLN:HE21	1.81	0.45
27:D:2101:LEU:O	27:D:2114:ILE:HA	2.16	0.45
24:T:80:ILE:HG23	25:U:80:TYR:HB2	1.98	0.45
32:1:590:LEU:HD11	32:1:594:MET:HE1	1.97	0.45
34:3:487:SER:O	34:3:1200:THR:HG21	2.16	0.45
34:3:600:ILE:HG13	34:3:608:ARG:O	2.16	0.45
34:3:1302:ARG:NH2	34:3:1307:TYR:HA	2.32	0.45
35:4:13:VAL:HG21	35:4:55:ILE:HD12	1.98	0.45
37:6:47:SER:O	37:6:51:GLU:HG2	2.17	0.45
38:X:89:VAL:HG21	38:X:106:HIS:CD2	2.51	0.45
1:A:140:ARG:NH2	1:A:252:GLU:HB2	2.29	0.45
1:A:364:TYR:HB2	1:A:1214:ARG:HG2	1.99	0.45
1:A:518:VAL:HG12	1:A:685:HIS:HB3	1.99	0.45
1:A:660:ILE:HD12	1:A:711:TRP:CE2	2.52	0.45
1:A:1047:ALA:HA	1:A:1172:PHE:O	2.17	0.45
1:A:1667:GLN:CD	19:O:211:ASN:OD1	2.52	0.45
1:A:2003:THR:HA	1:A:2006:SER:OG	2.16	0.45
4:N:124:ASP:OD1	4:N:125:ALA:N	2.48	0.45
8:C:193:LEU:HD23	8:C:224:GLU:HB3	1.98	0.45
16:F:96:G:H2'	16:F:97:A:C8	2.51	0.45
18:B:73:U:H2'	18:B:74:U:C6	2.51	0.45
27:D:452:SER:HB2	27:D:466:PRO:HG3	1.99	0.45
27:D:766:ILE:HD12	27:D:769:LYS:NZ	2.31	0.45
27:D:1933:TYR:OH	27:D:2091:TYR:HB2	2.16	0.45
22:Q:107:LEU:HD12	23:R:59:LYS:HE3	1.99	0.45
29:H:546:U:H2'	29:H:547:G:H8	1.81	0.45
29:H:549:C:H2'	29:H:550:G:H8	1.81	0.45
29:H:681:C:H2'	29:H:682:U:C6	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:1:835:ILE:HG23	32:1:864:LEU:HD21	1.99	0.45
1:A:796:ASN:ND2	1:A:858:LYS:HG2	2.26	0.45
1:A:1575:TRP:N	3:L:391:MET:O	2.28	0.45
1:A:2192:LYS:HE3	1:A:2379:PRO:HG2	1.97	0.45
4:N:277:ILE:H	4:N:277:ILE:HD12	1.82	0.45
4:N:815:PHE:HB2	4:N:824:SER:HB3	1.99	0.45
8:C:452:LYS:HZ2	8:C:487:ARG:HH12	1.65	0.45
8:C:778:THR:OG1	8:C:780:PRO:HD2	2.16	0.45
17:I:33:A:H2'	17:I:34:G:O4'	2.17	0.45
18:B:65:U:H2'	18:B:66:A:H8	1.81	0.45
18:B:83:C:H4'	18:B:84:A:OP1	2.16	0.45
18:B:164:C:OP2	18:B:165:A:OP1	2.34	0.45
27:D:820:PHE:HB2	27:D:825:LEU:HD12	1.99	0.45
27:D:1163:SER:HB2	27:D:1184:ARG:HH22	1.82	0.45
22:Q:9:LYS:HD3	22:Q:106:LEU:HD22	1.99	0.45
22:Q:16:THR:HA	22:Q:25:VAL:O	2.16	0.45
29:H:563:G:H2'	29:H:564:U:C6	2.50	0.45
29:H:569:C:H2'	29:H:570:G:H8	1.81	0.45
29:H:674:G:H2'	29:H:675:A:H8	1.81	0.45
32:1:346:ILE:O	32:1:349:LEU:HG	2.16	0.45
32:1:462:GLN:HE21	32:1:504:TYR:HE2	1.63	0.45
39:Y:167:VAL:O	39:Y:171:GLY:HA2	2.17	0.45
39:Y:213:LYS:C	39:Y:230:SER:OG	2.55	0.45
39:Y:220:PRO:HG3	39:Y:236:HIS:CE1	2.51	0.45
1:A:218:SER:HA	1:A:318:LEU:HD13	1.99	0.45
1:A:700:GLY:O	1:A:701:CYS:HB3	2.17	0.45
1:A:939:LEU:HD11	3:L:441:MET:HE2	1.97	0.45
1:A:984:VAL:HG12	1:A:985:ASP:H	1.82	0.45
1:A:1126:LEU:HD13	1:A:1134:LEU:HD12	1.98	0.45
1:A:1345:TYR:HD2	1:A:1346:PHE:CE1	2.34	0.45
1:A:1699:ALA:HB1	1:A:1733:TRP:HB2	1.98	0.45
1:A:1715:SER:O	1:A:1787:TYR:HA	2.16	0.45
1:A:1962:ARG:CD	19:O:186:GLU:CD	2.82	0.45
2:K:128:SER:CB	2:K:337:ARG:HH21	2.29	0.45
2:K:373:ILE:HB	2:K:389:ILE:HB	1.99	0.45
5:J:347:LEU:HD23	5:J:371:ARG:NH2	2.31	0.45
8:C:171:GLY:HA3	8:C:422:LYS:NZ	2.32	0.45
8:C:866:ILE:HA	8:C:927:MET:O	2.16	0.45
8:C:876:VAL:HA	8:C:879:LEU:HD12	1.99	0.45
18:B:10:U:H1'	18:B:156:G:H22	1.82	0.45
27:D:508:HIS:O	27:D:512:GLU:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1014:SER:OG	27:D:1039:GLU:HB3	2.16	0.45
22:Q:44:LYS:HB2	22:Q:79:ILE:CG2	2.46	0.45
29:H:558:A:H2'	29:H:559:G:H8	1.81	0.45
29:H:675:A:H2'	29:H:676:U:C6	2.50	0.45
34:3:162:ILE:HG22	34:3:171:LEU:CD1	2.46	0.45
34:3:582:LYS:N	34:3:601:GLN:OE1	2.50	0.45
1:A:416:GLU:HG2	1:A:418:ASP:H	1.82	0.45
1:A:535:HIS:NE2	18:B:105:A:OP1	2.43	0.45
1:A:1098:VAL:HG23	3:L:276:GLU:OE1	2.17	0.45
1:A:1833:PRO:HD3	3:L:383:HIS:CE1	2.52	0.45
1:A:2310:GLU:OE1	1:A:2333:PHE:HZ	1.94	0.45
1:A:2398:LEU:CD2	27:D:1060:LYS:HB2	2.28	0.45
3:L:124:PHE:CD2	3:L:127:LEU:HB2	2.51	0.45
4:N:244:TRP:CE3	4:N:267:GLY:HA3	2.52	0.45
4:N:762:GLN:O	4:N:765:GLN:HG2	2.17	0.45
6:E:95:PHE:HB3	6:E:137:TYR:HE2	1.80	0.45
6:E:103:LEU:HD11	6:E:105:PHE:CE2	2.52	0.45
8:C:681:CYS:HA	8:C:855:PRO:HA	1.99	0.45
8:C:856:ILE:HA	8:C:944:VAL:CG1	2.47	0.45
17:I:143:A:N7	25:U:48:TYR:CE2	2.85	0.45
18:B:93:G:H5'	18:B:94:C:OP2	2.17	0.45
27:D:1403:GLU:HG2	27:D:1642:LYS:NZ	2.32	0.45
27:D:1411:ASP:O	27:D:1415:ARG:HG2	2.17	0.45
27:D:2063:LEU:HD13	27:D:2160:ILE:HB	1.99	0.45
23:R:48:LEU:HD11	23:R:54:ILE:HD12	1.98	0.45
23:R:67:MET:HE2	23:R:69:LEU:HD21	1.98	0.45
29:H:547:G:H2'	29:H:548:G:H8	1.81	0.45
29:H:550:G:H2'	29:H:551:C:C6	2.50	0.45
29:H:556:A:H2'	29:H:557:G:H8	1.81	0.45
29:H:1150:U:C6	29:H:1150:U:OP2	2.70	0.45
34:3:119:ASN:HB2	34:3:1325:ASN:HD21	1.82	0.45
34:3:854:ASN:HB3	34:3:857:VAL:H	1.82	0.45
34:3:1294:GLU:HG3	36:5:41:ARG:HG2	1.98	0.45
38:X:16:ILE:CG2	38:X:17:LEU:N	2.80	0.45
38:X:57:PRO:HG2	39:Y:231:ARG:NH2	2.27	0.45
1:A:1088:VAL:HG12	1:A:1089:VAL:N	2.22	0.44
1:A:1657:ILE:HG12	1:A:1811:ALA:HB1	1.99	0.44
3:L:447:GLU:O	3:L:450:GLN:HG2	2.17	0.44
4:N:241:PRO:HA	4:N:244:TRP:HD1	1.81	0.44
5:J:249:ARG:HD3	17:I:10:C:OP1	2.17	0.44
7:M:54:MET:HB2	7:M:80:PHE:CD1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:402:SER:O	8:C:405:ARG:NH1	2.50	0.44
18:B:79:C:N4	18:B:114:G:O6	2.50	0.44
18:B:162:G:OP1	18:B:163:C:C6	2.70	0.44
18:B:166:U:C6	18:B:166:U:OP1	2.70	0.44
27:D:981:LEU:HD23	27:D:986:LEU:HD12	1.99	0.44
27:D:1000:ASP:N	27:D:1000:ASP:OD1	2.50	0.44
21:P:39:LYS:HD2	21:P:39:LYS:HA	1.48	0.44
23:R:44:VAL:O	23:R:55:ILE:HD12	2.17	0.44
24:T:29:ILE:HD11	24:T:87:ILE:HA	1.98	0.44
29:H:676:U:H2'	29:H:677:U:C6	2.50	0.44
32:1:244:LEU:O	32:1:248:ALA:HB2	2.18	0.44
34:3:508:ASN:ND2	34:3:924:PHE:O	2.48	0.44
34:3:528:PRO:HG2	34:3:554:PHE:CZ	2.51	0.44
1:A:208:VAL:HB	1:A:213:TYR:HB2	1.99	0.44
1:A:209:ILE:HG21	1:A:303:PHE:CE2	2.53	0.44
1:A:1774:MET:O	1:A:1786:ALA:HA	2.16	0.44
1:A:1794:LEU:O	1:A:1798:ILE:N	2.36	0.44
1:A:2010:LEU:HD21	1:A:2083:ILE:HD13	1.98	0.44
1:A:2395:PHE:HD1	27:D:1060:LYS:C	2.20	0.44
2:K:393:ARG:O	2:K:416:ASP:HB2	2.16	0.44
3:L:343:LYS:NZ	17:I:28:C:OP1	2.50	0.44
8:C:861:ILE:HG23	8:C:906:VAL:O	2.17	0.44
17:I:76:A:C8	27:D:1107:ARG:CZ	3.00	0.44
27:D:491:PHE:HD1	27:D:491:PHE:N	2.16	0.44
27:D:529:ASN:O	27:D:533:LEU:HG	2.17	0.44
27:D:676:ASN:HD22	27:D:907:PRO:HB3	1.82	0.44
27:D:1218:PHE:N	27:D:1218:PHE:CD1	2.85	0.44
27:D:1610:LEU:HD23	27:D:1612:VAL:HB	1.99	0.44
24:T:34:GLN:O	26:V:23:ARG:NH2	2.51	0.44
28:G:489:A:H2'	28:G:490:A:C8	2.52	0.44
32:1:567:ILE:O	32:1:570:GLN:HG2	2.17	0.44
34:3:61:TYR:CE2	34:3:63:LEU:HD11	2.52	0.44
34:3:177:GLN:HE22	36:5:44:ARG:HD3	1.83	0.44
34:3:523:ILE:HD11	34:3:873:ILE:HG13	1.98	0.44
34:3:564:ASP:OD1	34:3:565:ASN:N	2.48	0.44
1:A:326:ASN:ND2	1:A:407:VAL:HG22	2.32	0.44
1:A:802:PRO:O	1:A:804:MET:HG2	2.17	0.44
1:A:1336:ASN:HD21	1:A:1399:MET:HA	1.82	0.44
1:A:1859:ARG:NH2	19:O:161:ILE:HD13	2.32	0.44
1:A:2241:ILE:HD12	1:A:2284:LYS:HD3	1.98	0.44
1:A:2398:LEU:CD1	27:D:1060:LYS:HZ2	2.26	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:182:SER:HA	2:K:444:ASP:OD2	2.18	0.44
2:K:220:LYS:O	2:K:239:GLU:N	2.51	0.44
2:K:393:ARG:NH1	5:J:427:THR:O	2.50	0.44
3:L:120:TYR:OH	3:L:141:ILE:HG23	2.18	0.44
3:L:143:ILE:HD11	3:L:164:LYS:HD2	1.99	0.44
4:N:286:GLU:CG	4:N:287:SER:H	2.30	0.44
8:C:507:SER:HB2	8:C:591:PHE:HB2	2.00	0.44
8:C:697:ARG:HH22	8:C:848:VAL:HG12	1.83	0.44
18:B:97:U:H2'	18:B:98:U:H6	1.82	0.44
27:D:602:THR:HG22	27:D:603:GLN:N	2.33	0.44
27:D:1120:GLY:HA2	27:D:1251:ILE:HB	1.98	0.44
27:D:1537:PRO:O	27:D:1540:ARG:NH1	2.50	0.44
23:R:30:PRO:HA	25:U:52:GLN:HB2	1.99	0.44
29:H:51:C:H2'	29:H:52:A:H8	1.83	0.44
29:H:149:A:H2'	29:H:150:G:H8	1.82	0.44
29:H:557:G:H2'	29:H:558:A:H8	1.82	0.44
29:H:560:G:H2'	29:H:561:A:H8	1.82	0.44
29:H:561:A:H2'	29:H:562:A:H8	1.81	0.44
29:H:687:A:H2'	29:H:688:A:H8	1.82	0.44
34:3:1085:LEU:HB2	34:3:1097:PHE:HB2	1.99	0.44
1:A:372:ARG:O	8:C:973:ARG:NH2	2.50	0.44
1:A:553:ASN:OD1	1:A:554:THR:N	2.47	0.44
1:A:632:ILE:O	1:A:635:THR:OG1	2.26	0.44
1:A:1393:GLU:HG3	3:L:391:MET:SD	2.57	0.44
4:N:290:HIS:O	4:N:294:THR:HG23	2.18	0.44
8:C:318:LEU:HB3	8:C:425:LEU:HD12	1.98	0.44
8:C:508:GLU:OE2	8:C:594:PRO:HG2	2.18	0.44
18:B:10:U:H1'	18:B:156:G:N2	2.33	0.44
19:O:194:LEU:HD13	19:O:197:ARG:HH11	1.78	0.44
27:D:499:LEU:HD23	27:D:503:GLN:HB3	2.00	0.44
27:D:644:GLY:N	27:D:645:PRO:HD2	2.33	0.44
27:D:845:VAL:HG21	27:D:874:ARG:O	2.16	0.44
27:D:1377:THR:O	27:D:1381:GLU:HG3	2.17	0.44
21:P:89:GLY:O	21:P:92:ILE:HG22	2.17	0.44
34:3:75:CYS:SG	34:3:94:CYS:HB3	2.57	0.44
34:3:704:SER:HB3	34:3:716:ILE:HD11	2.00	0.44
38:X:110:ARG:HE	38:X:110:ARG:HB3	1.61	0.44
1:A:342:LEU:HD22	1:A:392:ASN:HD21	1.83	0.44
1:A:2318:ASN:HB3	1:A:2322:MET:HG3	1.99	0.44
3:L:113:HIS:CE1	3:L:117:ILE:HD11	2.52	0.44
8:C:218:HIS:HB3	8:C:221:PHE:HD2	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:251:GLN:NE2	8:C:254:LYS:HD3	2.32	0.44
18:B:17:C:O2'	18:B:18:A:OP2	2.29	0.44
27:D:536:LEU:HD23	27:D:536:LEU:HA	1.69	0.44
27:D:617:ARG:HD3	27:D:1006:SER:OG	2.18	0.44
27:D:723:ASN:HB3	27:D:756:TRP:NE1	2.33	0.44
27:D:1541:ILE:H	27:D:1541:ILE:HG13	1.65	0.44
28:G:506:U:P	32:1:698:ARG:HD3	2.58	0.44
29:H:141:A:H2'	29:H:142:C:C6	2.52	0.44
32:1:489:VAL:HG13	38:X:26:GLU:CG	2.48	0.44
32:1:531:GLU:HA	32:1:534:ARG:HE	1.82	0.44
34:3:75:CYS:HB2	34:3:129:SER:OG	2.18	0.44
34:3:175:VAL:HG11	34:3:224:ILE:HD12	1.99	0.44
1:A:591:LEU:HB3	1:A:599:LEU:HD11	2.00	0.44
1:A:953:ARG:HG2	1:A:957:TYR:CE2	2.52	0.44
1:A:1414:TRP:CB	1:A:1558:GLU:HG3	2.48	0.44
1:A:1490:ARG:HA	1:A:1490:ARG:HD3	1.83	0.44
2:K:304:GLU:HG2	2:K:305:GLY:H	1.83	0.44
8:C:683:ASN:ND2	8:C:712:ALA:O	2.39	0.44
17:I:23:C:H2'	17:I:24:A:C8	2.53	0.44
27:D:1751:HIS:NE2	27:D:1813:ASP:OD2	2.50	0.44
27:D:2054:THR:OG1	27:D:2074:GLN:HB3	2.16	0.44
28:G:488:A:H2'	28:G:489:A:C8	2.52	0.44
32:1:198:GLU:HG2	32:1:239:TYR:OH	2.18	0.44
32:1:728:CYS:SG	32:1:753:ILE:HG21	2.57	0.44
34:3:477:ILE:O	34:3:479:SER:N	2.50	0.44
1:A:670:LYS:O	1:A:673:VAL:HG12	2.18	0.44
1:A:1317:ARG:HE	1:A:1366:ARG:HH12	1.65	0.44
1:A:1440:ILE:O	1:A:1443:TYR:N	2.45	0.44
1:A:1477:PHE:O	1:A:1481:GLU:N	2.51	0.44
1:A:1603:ASN:O	1:A:1607:THR:HG23	2.17	0.44
1:A:2349:PHE:CE2	1:A:2379:PRO:HG3	2.52	0.44
2:K:433:LEU:HB3	2:K:464:TRP:CZ3	2.52	0.44
8:C:385:PHE:HE1	8:C:425:LEU:HD11	1.83	0.44
8:C:497:ASP:O	8:C:538:GLU:HA	2.18	0.44
18:B:84:A:H2'	18:B:85:U:C6	2.51	0.44
27:D:758:LYS:O	27:D:762:ALA:HB3	2.18	0.44
27:D:1163:SER:HB3	27:D:1184:ARG:HH12	1.83	0.44
27:D:1912:ARG:HA	27:D:1912:ARG:HD2	1.67	0.44
28:G:514:U:H4'	28:G:515:U:OP2	2.18	0.44
29:H:9:C:H2'	29:H:10:U:H6	1.83	0.44
32:1:442:ILE:HD11	32:1:460:VAL:CG1	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:1:873:HIS:O	32:1:875:ASP:N	2.46	0.44
32:1:889:PHE:CE2	33:2:176:TRP:HB3	2.53	0.44
32:1:962:GLU:HG3	37:6:36:ARG:HD2	1.99	0.44
35:4:171:GLN:HA	35:4:177:ARG:HH11	1.83	0.44
1:A:770:MET:HG2	4:N:119:TRP:CZ3	2.53	0.44
1:A:889:TRP:HA	1:A:1128:GLN:HE22	1.83	0.44
1:A:1678:ILE:HG23	1:A:1704:GLU:O	2.17	0.44
2:K:48:ASP:OD1	2:K:69:VAL:HG21	2.18	0.44
2:K:167:LEU:HD23	2:K:435:GLY:HA3	1.99	0.44
2:K:345:LEU:HD13	2:K:376:TRP:CG	2.53	0.44
5:J:368:LEU:HD13	5:J:370:LEU:HG	1.99	0.44
6:E:43:ASP:O	6:E:47:SER:HB3	2.18	0.44
8:C:312:ILE:HG12	8:C:323:THR:HG22	1.99	0.44
8:C:336:ILE:HB	8:C:337:PRO:HD2	2.00	0.44
16:F:43:C:O2'	16:F:44:A:H8	2.00	0.44
16:F:79:A:H2'	16:F:80:U:H6	1.82	0.44
17:I:76:A:OP1	27:D:608:THR:OG1	2.27	0.44
27:D:1008:PHE:HE2	27:D:1110:ARG:HG3	1.83	0.44
27:D:1473:TYR:CE2	27:D:1492:ILE:HD12	2.52	0.44
27:D:1763:ILE:HD13	27:D:1769:CYS:HA	2.00	0.44
27:D:2007:LYS:O	27:D:2010:GLU:HB3	2.18	0.44
29:H:1099:G:H2'	29:H:1100:A:H8	1.83	0.44
34:3:1258:TYR:CZ	34:3:1262:LYS:HD2	2.53	0.44
1:A:628:MET:SD	1:A:660:ILE:HD13	2.58	0.44
1:A:1023:LEU:HD13	1:A:1451:PHE:CE1	2.53	0.44
1:A:1655:GLN:NE2	1:A:1688:PRO:O	2.50	0.44
1:A:1857:VAL:HG21	1:A:1913:THR:HG21	1.99	0.44
2:K:41:LEU:HD11	2:K:74:ILE:HG12	2.00	0.44
2:K:345:LEU:HD22	2:K:376:TRP:CE3	2.52	0.44
3:L:382:SER:O	3:L:386:GLN:HG3	2.18	0.44
4:N:98:SER:OG	4:N:99:ASN:N	2.48	0.44
8:C:246:THR:HG23	8:C:248:VAL:HG12	1.99	0.44
8:C:799:PHE:HZ	8:C:818:TYR:HD2	1.66	0.44
18:B:43:G:H2'	18:B:44:A:H8	1.81	0.44
27:D:1263:ILE:HD11	27:D:1693:HIS:O	2.18	0.44
27:D:1431:ASP:OD2	27:D:2096:LEU:N	2.37	0.44
22:Q:26:TRP:HE3	22:Q:44:LYS:HG2	1.82	0.44
24:T:10:MET:HA	26:V:30:ARG:C	2.38	0.44
24:T:45:GLY:HA3	25:U:13:VAL:O	2.18	0.44
29:H:684:U:H2'	29:H:685:U:C6	2.50	0.44
29:H:1146:G:HO2'	29:H:1147:A:P	2.37	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:3:331:PHE:HD2	34:3:334:HIS:NE2	2.15	0.44
34:3:387:ASP:HA	34:3:412:THR:CG2	2.48	0.44
1:A:850:GLY:O	1:A:854:ARG:HG2	2.19	0.43
1:A:909:THR:HG21	4:N:167:GLU:HB3	1.99	0.43
1:A:2398:LEU:HA	27:D:1060:LYS:HZ2	1.82	0.43
2:K:52:ARG:HG3	2:K:62:GLU:HG3	2.00	0.43
3:L:237:ILE:O	3:L:240:GLN:N	2.51	0.43
18:B:14:G:N3	18:B:14:G:H2'	2.33	0.43
18:B:34:C:OP1	18:B:34:C:H4'	2.18	0.43
27:D:578:LEU:HD23	27:D:578:LEU:HA	1.71	0.43
27:D:1220:ILE:HD13	27:D:1241:LEU:HD11	2.00	0.43
27:D:1224:ALA:HB1	27:D:1226:TRP:CZ3	2.53	0.43
27:D:1459:TRP:CZ3	27:D:1502:LEU:HD11	2.53	0.43
27:D:1887:VAL:HG21	22:Q:140:LYS:CD	2.43	0.43
27:D:1897:GLY:O	27:D:1901:LEU:HB2	2.18	0.43
22:Q:30:GLN:NE2	22:Q:84:TYR:HE1	2.16	0.43
20:S:64:VAL:HG23	26:V:70:SER:HB2	2.00	0.43
24:T:81:LEU:HB3	25:U:81:ILE:HG22	1.99	0.43
28:G:483:A:N1	35:4:10:THR:HG21	2.32	0.43
28:G:489:A:H2'	28:G:490:A:H8	1.82	0.43
29:H:68:U:H2'	29:H:69:G:H8	1.82	0.43
34:3:1071:ILE:HG12	34:3:1089:ASP:OD2	2.18	0.43
38:X:33:ILE:CG2	38:X:85:THR:HG23	2.48	0.43
38:X:46:ASP:OD2	40:Z:35:SER:OG	2.34	0.43
38:X:51:PHE:CE1	38:X:92:LEU:HD23	2.53	0.43
38:X:87:LEU:HD21	39:Y:222:ASN:HD21	1.82	0.43
1:A:807:PRO:HB2	4:N:111:LEU:HD23	2.00	0.43
1:A:1169:TYR:CE2	1:A:1262:MET:HE3	2.52	0.43
1:A:1791:PHE:HD2	1:A:1794:LEU:HD11	1.82	0.43
1:A:2029:ASP:HB2	1:A:2032:ILE:HD12	2.00	0.43
3:L:445:ILE:O	3:L:449:ASN:ND2	2.51	0.43
4:N:251:GLU:OE1	4:N:260:ALA:HB2	2.17	0.43
18:B:16:U:H2'	18:B:17:C:O4'	2.18	0.43
27:D:457:LYS:HE3	27:D:462:GLU:OE2	2.17	0.43
29:H:552:U:H2'	29:H:553:G:H8	1.81	0.43
32:1:157:ASN:O	32:1:161:LYS:HG3	2.18	0.43
33:2:141:VAL:HG12	33:2:143:TYR:H	1.83	0.43
34:3:180:THR:HG21	34:3:188:SER:HB2	2.00	0.43
34:3:365:ILE:HG23	34:3:382:GLN:O	2.18	0.43
34:3:770:LEU:HD12	34:3:770:LEU:O	2.18	0.43
39:Y:232:TRP:CZ3	39:Y:234:GLY:HA2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:364:VAL:O	2:K:375:VAL:HA	2.19	0.43
5:J:335:THR:HG23	5:J:336:VAL:N	2.33	0.43
8:C:495:ARG:HG3	8:C:540:GLU:O	2.19	0.43
8:C:677:PHE:HB2	8:C:811:GLU:OE1	2.18	0.43
17:I:51:U:H2'	17:I:52:G:H8	1.83	0.43
18:B:10:U:H2'	18:B:11:A:C8	2.53	0.43
18:B:159:C:O2'	18:B:161:U:OP2	2.19	0.43
27:D:683:PHE:CA	27:D:946:VAL:HG21	2.48	0.43
27:D:707:PHE:CD2	27:D:895:VAL:HG13	2.50	0.43
27:D:1396:VAL:HG12	27:D:1398:ILE:HG13	2.00	0.43
27:D:1917:THR:HG22	27:D:1918:SER:N	2.32	0.43
27:D:1951:LEU:HA	27:D:1954:VAL:HG22	1.99	0.43
32:1:181:ARG:O	32:1:185:MET:HG2	2.19	0.43
32:1:241:HIS:O	32:1:245:VAL:HG23	2.18	0.43
32:1:786:GLY:HA2	32:1:823:MET:HB3	2.00	0.43
34:3:434:ASN:HD21	34:3:504:HIS:CE1	2.36	0.43
1:A:1206:CYS:SG	1:A:1306:GLU:HG3	2.58	0.43
1:A:1935:VAL:HG11	1:A:1940:MET:HB2	2.00	0.43
1:A:1962:ARG:HG3	1:A:2013:ARG:HH12	1.83	0.43
2:K:40:VAL:O	2:K:43:LYS:HG2	2.18	0.43
5:J:163:ASN:C	5:J:165:GLY:H	2.22	0.43
8:C:240:ASP:O	8:C:244:GLY:N	2.45	0.43
18:B:10:U:O2	18:B:11:A:N6	2.51	0.43
18:B:118:U:H2'	18:B:119:U:C6	2.53	0.43
27:D:521:ALA:O	27:D:672:ALA:HA	2.17	0.43
27:D:703:LEU:HD21	27:D:872:LEU:HD23	2.00	0.43
27:D:758:LYS:O	27:D:762:ALA:CB	2.67	0.43
27:D:1204:VAL:O	27:D:1304:ILE:HG21	2.18	0.43
27:D:1621:ILE:HG21	27:D:1633:LEU:HD22	2.01	0.43
27:D:1675:CYS:O	27:D:1677:THR:HG23	2.18	0.43
25:U:33:PHE:N	25:U:33:PHE:CD1	2.86	0.43
29:H:1094:G:H2'	29:H:1095:U:C6	2.54	0.43
32:1:279:LEU:O	32:1:283:ARG:HG3	2.18	0.43
32:1:292:TYR:O	32:1:296:VAL:HG23	2.18	0.43
32:1:698:ARG:HG3	32:1:699:LYS:H	1.82	0.43
32:1:881:MET:O	32:1:884:LEU:N	2.50	0.43
34:3:192:TYR:HB2	34:3:205:SER:OG	2.18	0.43
34:3:542:THR:OG1	34:3:547:ASN:HB2	2.18	0.43
34:3:551:PHE:CD1	34:3:560:ILE:HG12	2.54	0.43
39:Y:222:ASN:OD1	39:Y:223:ARG:N	2.51	0.43
1:A:1343:PHE:HD1	1:A:1350:ILE:HD13	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:218:VAL:HG23	2:K:240:ASP:CG	2.39	0.43
3:L:113:HIS:O	3:L:117:ILE:HD12	2.18	0.43
4:N:803:ASN:O	4:N:834:LYS:NZ	2.45	0.43
8:C:227:VAL:HG13	8:C:473:LEU:HB3	1.99	0.43
8:C:471:HIS:HB2	8:C:592:PHE:CZ	2.54	0.43
8:C:504:THR:HB	8:C:594:PRO:HG3	2.01	0.43
8:C:672:ASP:OD1	8:C:673:PRO:HD2	2.18	0.43
18:B:175:G:H4'	18:B:176:A:O4'	2.18	0.43
27:D:1392:LYS:HB3	27:D:1469:GLU:OE1	2.19	0.43
27:D:1519:ARG:O	27:D:1523:GLU:HG3	2.18	0.43
27:D:1633:LEU:CD1	27:D:1652:VAL:HG22	2.48	0.43
27:D:1694:LYS:HG2	27:D:1695:TYR:N	2.33	0.43
27:D:1992:ASN:HD21	27:D:1994:LEU:HB2	1.82	0.43
26:V:18:ASN:O	26:V:69:ILE:HB	2.19	0.43
29:H:1138:G:C6	29:H:1139:G:O6	2.71	0.43
32:1:191:LYS:HE3	32:1:194:THR:HG21	2.00	0.43
32:1:793:GLY:HA2	32:1:794:PRO:HD3	1.88	0.43
1:A:1063:PHE:O	1:A:1066:LEU:N	2.51	0.43
1:A:2006:SER:O	1:A:2009:THR:OG1	2.35	0.43
1:A:2050:THR:O	1:A:2053:SER:OG	2.31	0.43
4:N:826:LYS:O	4:N:830:ARG:HB2	2.19	0.43
8:C:103:HIS:O	8:C:107:THR:HG23	2.19	0.43
8:C:861:ILE:HG21	8:C:905:GLN:HB3	1.99	0.43
18:B:9:U:H2'	18:B:10:U:O4'	2.19	0.43
18:B:13:A:C2	18:B:14:G:H1'	2.53	0.43
18:B:175:G:C2	18:B:176:A:N6	2.84	0.43
27:D:468:PRO:HD2	27:D:702:PRO:HB2	2.01	0.43
27:D:682:ARG:CZ	27:D:946:VAL:HG13	2.49	0.43
27:D:1402:GLY:HA2	27:D:1405:ILE:HD12	2.00	0.43
27:D:1497:PHE:HD1	27:D:1775:TYR:CE2	2.36	0.43
27:D:2077:ARG:NH1	27:D:2081:PRO:HG3	2.34	0.43
20:S:34:VAL:HG23	20:S:45:ARG:HG3	2.01	0.43
29:H:1094:G:H2'	29:H:1095:U:H6	1.83	0.43
33:2:364:PHE:CE2	34:3:1124:LEU:HD11	2.54	0.43
34:3:519:TYR:CE1	34:3:874:GLY:HA3	2.53	0.43
34:3:945:HIS:CE1	34:3:947:GLY:HA3	2.54	0.43
34:3:1125:ASP:HB3	34:3:1128:THR:HG22	2.00	0.43
38:X:24:HIS:HB3	38:X:86:ILE:HG12	2.00	0.43
1:A:936:GLU:HG2	1:A:986:PRO:HB3	2.00	0.43
3:L:123:ARG:HD3	3:L:189:LEU:HD11	2.00	0.43
3:L:302:MET:O	3:L:306:LEU:N	2.41	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:31:PHE:O	6:E:80:MET:HA	2.18	0.43
7:M:37:ALA:HB2	7:M:98:ILE:HD11	2.00	0.43
7:M:58:CYS:SG	7:M:63:ILE:HD11	2.59	0.43
8:C:679:GLU:OE1	8:C:807:PRO:HD2	2.17	0.43
8:C:884:ARG:NH2	8:C:941:PRO:HD2	2.34	0.43
27:D:539:LEU:HG	27:D:555:PHE:CZ	2.54	0.43
27:D:1584:PHE:CD2	27:D:1706:MET:HG2	2.54	0.43
27:D:1668:LYS:HD3	27:D:1687:LEU:HD13	2.01	0.43
27:D:2143:TRP:HB3	27:D:2145:VAL:HG23	2.01	0.43
29:H:142:C:C2'	29:H:143:G:C8	3.00	0.43
33:2:367:LEU:O	33:2:369:SER:N	2.50	0.43
34:3:693:ILE:HG23	34:3:701:LYS:HB2	2.01	0.43
35:4:172:LEU:HD21	35:4:175:ASN:HA	2.01	0.43
38:X:117:LYS:HG2	40:Z:25:TYR:HB3	2.01	0.43
39:Y:167:VAL:HG11	39:Y:209:LEU:HD23	2.00	0.43
1:A:1014:LYS:HE2	1:A:1024:LEU:CD1	2.47	0.43
3:L:367:ARG:NH2	17:I:58:G:O6	2.52	0.43
5:J:331:VAL:HG12	5:J:332:GLU:N	2.33	0.43
8:C:863:GLU:HB3	8:C:931:TYR:CE1	2.54	0.43
17:I:143:A:C6	25:U:48:TYR:CD2	3.01	0.43
27:D:617:ARG:NH1	27:D:1009:TYR:HD1	2.16	0.43
27:D:1557:ILE:CA	27:D:1695:TYR:HE2	2.24	0.43
27:D:1748:TYR:HE2	22:Q:142:PRO:CD	2.32	0.43
29:H:43:G:C4	29:H:44:U:C5	3.06	0.43
38:X:28:LYS:HA	38:X:82:GLN:HE22	1.82	0.43
38:X:50:VAL:HG12	39:Y:237:ARG:CD	2.49	0.43
1:A:569:LEU:HD21	1:A:637:VAL:HG21	2.00	0.43
1:A:681:LYS:NZ	16:F:1:G:O6	2.41	0.43
1:A:1575:TRP:NE1	3:L:393:PHE:HD1	2.17	0.43
1:A:2333:PHE:HD2	1:A:2333:PHE:HA	1.72	0.43
2:K:69:VAL:HG22	2:K:72:ARG:HH12	1.84	0.43
8:C:374:VAL:HG22	8:C:378:LEU:HD12	2.00	0.43
8:C:488:ILE:CD1	8:C:556:ALA:HB1	2.49	0.43
8:C:869:HIS:CD2	8:C:925:LEU:HD13	2.54	0.43
16:F:1:G:C2	16:F:2:U:C5	3.06	0.43
17:I:77:U:C2	17:I:78:A:N7	2.87	0.43
17:I:148:U:O4	21:P:41:MET:HG3	2.19	0.43
18:B:174:G:C2	18:B:176:A:H4'	2.54	0.43
27:D:804:HIS:CG	27:D:834:LEU:HD11	2.54	0.43
27:D:1224:ALA:HB3	27:D:1264:VAL:HA	2.00	0.43
27:D:1355:VAL:HG11	27:D:1368:VAL:HG13	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1458:ARG:HB3	27:D:1461:GLN:HB2	2.01	0.43
27:D:1550:SER:HA	27:D:1724:THR:O	2.18	0.43
21:P:88:ARG:HH22	20:S:69:ILE:H	1.66	0.43
29:H:1098:C:HO2'	29:H:1099:G:C5'	2.31	0.43
29:H:1148:U:H2'	29:H:1149:G:H8	1.83	0.43
32:1:534:ARG:O	32:1:538:VAL:HG23	2.18	0.43
32:1:925:HIS:ND1	32:1:926:PRO:HD2	2.34	0.43
33:2:173:PRO:O	33:2:176:TRP:HD1	2.00	0.43
34:3:61:TYR:HB2	34:3:1231:LEU:HD11	2.00	0.43
34:3:770:LEU:HB2	34:3:827:TRP:CD1	2.54	0.43
34:3:1109:TYR:CD1	34:3:1110:VAL:HG23	2.54	0.43
34:3:1299:ILE:O	34:3:1300:LEU:HD12	2.19	0.43
38:X:35:ILE:O	38:X:74:PHE:HA	2.18	0.43
1:A:880:THR:HG23	3:L:180:LYS:HE3	2.00	0.43
1:A:1834:PHE:CE1	1:A:1958:PRO:HG2	2.54	0.43
3:L:300:LYS:NZ	3:L:304:ARG:HH22	2.17	0.43
4:N:25:GLY:O	4:N:26:PHE:HB2	2.18	0.43
4:N:264:ILE:O	4:N:268:CYS:HB2	2.19	0.43
18:B:23:C:N4	18:B:24:G:O6	2.52	0.43
18:B:154:G:H2'	18:B:155:U:C6	2.54	0.43
27:D:1688:TYR:CD1	27:D:1695:TYR:HD1	2.23	0.43
27:D:1689:ASP:N	27:D:1689:ASP:OD1	2.52	0.43
25:U:50:ASN:HB3	25:U:72:PHE:CE1	2.54	0.43
29:H:52:A:N6	29:H:64:G:O6	2.52	0.43
32:1:698:ARG:O	32:1:701:GLU:N	2.52	0.43
32:1:839:THR:HG21	32:1:876:ALA:HB1	2.00	0.43
32:1:912:PRO:HG2	32:1:952:PHE:HE2	1.84	0.43
33:2:319:ILE:HD13	35:4:68:LYS:HE2	2.00	0.43
34:3:649:TYR:O	34:3:672:LEU:N	2.51	0.43
34:3:950:GLN:HE21	34:3:973:ILE:CG2	2.32	0.43
35:4:111:PHE:HE2	35:4:113:LYS:HE3	1.84	0.43
36:5:103:LYS:HG3	36:5:104:LYS:H	1.84	0.43
38:X:19:PRO:O	38:X:25:ASN:HB2	2.19	0.43
1:A:1400:ILE:HG23	1:A:1542:TYR:CZ	2.54	0.42
1:A:1865:THR:HG22	1:A:1866:PHE:N	2.33	0.42
1:A:1880:PHE:HD1	1:A:1891:LEU:HD21	1.84	0.42
1:A:1920:LEU:O	1:A:1923:SER:OG	2.27	0.42
2:K:382:ASP:CG	2:K:383:GLU:H	2.22	0.42
2:K:402:SER:OG	2:K:407:GLY:HA2	2.19	0.42
2:K:415:TYR:HB3	2:K:439:LYS:HD3	2.00	0.42
2:K:416:ASP:O	2:K:417:ASN:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:B:124:C:H2'	18:B:125:C:O4'	2.18	0.42
23:R:58:VAL:HA	23:R:69:LEU:HD23	2.01	0.42
29:H:1153:C:H2'	29:H:1154:U:H6	1.84	0.42
34:3:930:LEU:HD13	34:3:984:ILE:HG23	2.01	0.42
39:Y:223:ARG:CG	39:Y:242:GLU:OE2	2.67	0.42
1:A:2041:PRO:HG2	1:A:2043:PHE:CZ	2.54	0.42
2:K:143:HIS:HA	5:J:151:LEU:HD13	2.01	0.42
3:L:245:ALA:HB3	3:L:251:PHE:HB2	2.01	0.42
3:L:447:GLU:O	3:L:451:GLN:HG2	2.19	0.42
4:N:864:ASP:CG	4:N:889:ARG:HH21	2.22	0.42
8:C:457:SER:O	8:C:458:ILE:HB	2.19	0.42
17:I:92:C:H1'	21:P:39:LYS:HD3	2.01	0.42
27:D:558:VAL:HB	27:D:631:LEU:HD12	2.01	0.42
27:D:766:ILE:CD1	27:D:769:LYS:HZ1	2.32	0.42
27:D:1700:ILE:CD1	27:D:1740:LEU:HD13	2.49	0.42
32:1:550:THR:HG21	32:1:590:LEU:HD23	2.01	0.42
34:3:60:LEU:HD12	34:3:1317:VAL:HG22	2.01	0.42
1:A:400:ILE:HG23	8:C:187:ARG:HE	1.85	0.42
1:A:850:GLY:HA2	1:A:853:THR:HG22	2.01	0.42
1:A:1342:LEU:HD21	1:A:1356:LEU:HD21	2.01	0.42
1:A:1566:GLY:HA3	1:A:1816:ARG:HD3	2.02	0.42
1:A:1633:PHE:CZ	1:A:1694:MET:HG3	2.54	0.42
2:K:390:LEU:HD13	5:J:428:TRP:HD1	1.82	0.42
17:I:92:C:C1'	21:P:39:LYS:HD3	2.50	0.42
18:B:22:G:N2	18:B:149:U:O2	2.34	0.42
18:B:26:A:N6	18:B:141:G:H8	2.16	0.42
23:R:73:LYS:HE3	23:R:88:GLU:HG3	2.01	0.42
20:S:24:THR:HA	20:S:70:LYS:HE3	2.00	0.42
32:1:213:LEU:HD12	32:1:213:LEU:O	2.19	0.42
32:1:240:VAL:HG13	32:1:269:LEU:HD21	2.01	0.42
32:1:353:THR:HG23	34:3:277:LEU:HD21	2.01	0.42
32:1:916:MET:HB3	32:1:920:TRP:HE1	1.82	0.42
32:1:956:THR:H	32:1:959:ASN:HB3	1.84	0.42
34:3:61:TYR:HB2	34:3:1231:LEU:CD1	2.49	0.42
34:3:228:LEU:HD12	34:3:273:LEU:HD11	2.01	0.42
34:3:1305:GLN:O	34:3:1309:SER:CB	2.67	0.42
39:Y:170:LEU:N	39:Y:170:LEU:CD2	2.82	0.42
39:Y:215:TYR:CE2	39:Y:232:TRP:CZ3	3.08	0.42
1:A:299:LYS:HA	1:A:493:MET:CG	2.49	0.42
1:A:1030:GLN:HG3	1:A:1034:ASN:ND2	2.34	0.42
1:A:2043:PHE:HB2	1:A:2048:TRP:CD1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:127:TYR:CE2	2:K:276:SER:HB2	2.54	0.42
2:K:262:VAL:HG12	2:K:263:GLY:N	2.34	0.42
4:N:770:ASN:ND2	4:N:772:LEU:HB2	2.34	0.42
17:I:145:U:O4	26:V:37:ASN:ND2	2.47	0.42
19:O:149:TYR:CD2	19:O:178:VAL:HG12	2.47	0.42
27:D:561:ALA:HB1	27:D:566:LEU:HD22	2.01	0.42
27:D:1095:ASN:HA	27:D:1098:ILE:HG22	2.01	0.42
27:D:1875:THR:O	27:D:1879:MET:HG3	2.20	0.42
27:D:2095:LYS:NZ	27:D:2147:ASP:OD2	2.46	0.42
23:R:41:ARG:O	23:R:57:ARG:HD2	2.20	0.42
20:S:41:ASN:HB3	20:S:63:PHE:CZ	2.55	0.42
34:3:927:ARG:HG2	34:3:979:CYS:SG	2.60	0.42
1:A:149:MET:HG2	1:A:154:TYR:CZ	2.54	0.42
1:A:919:LEU:HD21	1:A:1108:LYS:HE3	2.01	0.42
1:A:1656:LYS:O	1:A:1660:SER:HB2	2.20	0.42
1:A:1714:PRO:HA	1:A:1788:GLY:O	2.20	0.42
1:A:2060:LEU:HD21	1:A:2079:ILE:HG23	2.01	0.42
1:A:2395:PHE:HB2	27:D:1062:PRO:HG3	2.01	0.42
2:K:451:PHE:N	2:K:451:PHE:HD1	2.15	0.42
5:J:167:GLU:HB3	5:J:169:TRP:CE3	2.51	0.42
5:J:301:VAL:HG22	5:J:304:ARG:NH2	2.32	0.42
8:C:116:THR:HG22	8:C:117:ARG:N	2.35	0.42
18:B:166:U:C6	18:B:166:U:C3'	3.02	0.42
19:O:168:SER:O	19:O:172:ASP:CB	2.67	0.42
27:D:580:PHE:CE2	27:D:581:LEU:HG	2.54	0.42
27:D:907:PRO:HG2	27:D:947:ARG:NH2	2.34	0.42
27:D:2030:ILE:HG22	27:D:2031:LEU:HD12	2.02	0.42
27:D:2137:LYS:HE3	27:D:2159:GLU:OE2	2.20	0.42
22:Q:33:SER:HB3	22:Q:37:ASN:HB2	2.02	0.42
29:H:38:U:H4'	32:1:892:SER:OG	2.20	0.42
34:3:154:SER:HB3	34:3:1302:ARG:CD	2.48	0.42
34:3:155:GLY:O	34:3:179:LEU:N	2.44	0.42
34:3:419:LEU:HD23	34:3:429:ALA:HA	2.01	0.42
34:3:455:LEU:HD11	34:3:464:LEU:CB	2.49	0.42
1:A:805:PRO:HG2	1:A:808:ILE:HD12	2.00	0.42
1:A:1345:TYR:CD2	1:A:1346:PHE:CE1	3.07	0.42
1:A:1466:GLN:O	1:A:1470:GLN:HB2	2.20	0.42
4:N:257:PHE:CD2	4:N:258:SER:N	2.88	0.42
4:N:770:ASN:HD21	4:N:772:LEU:HB2	1.83	0.42
8:C:219:VAL:HA	8:C:222:MET:HG2	2.00	0.42
27:D:695:ASP:OD1	27:D:696:SER:N	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:956:LYS:O	27:D:958:PRO:HD3	2.20	0.42
27:D:1113:PHE:HZ	27:D:1240:LEU:HD13	1.84	0.42
27:D:1381:GLU:HG2	27:D:1416:PHE:CZ	2.54	0.42
27:D:1938:GLU:HG2	27:D:1938:GLU:O	2.20	0.42
28:G:496:U:H2'	28:G:497:A:H8	1.83	0.42
32:1:605:ILE:HD11	32:1:623:LEU:HD22	2.01	0.42
33:2:285:MET:HE2	35:4:23:GLU:HG3	2.00	0.42
34:3:542:THR:HB	34:3:545:ASP:HB3	2.01	0.42
34:3:642:LEU:HD22	34:3:654:PHE:HD2	1.84	0.42
34:3:738:GLN:NE2	34:3:740:ASN:OD1	2.53	0.42
39:Y:231:ARG:HG3	39:Y:231:ARG:HH11	1.85	0.42
1:A:680:CYS:HG	1:A:711:TRP:HE1	1.65	0.42
1:A:939:LEU:HD21	3:L:445:ILE:HD11	2.01	0.42
1:A:1199:ILE:HD11	8:C:612:PRO:HG2	2.01	0.42
1:A:1308:GLU:OE1	1:A:1346:PHE:HZ	2.03	0.42
1:A:1699:ALA:HA	1:A:1735:ASP:OD1	2.19	0.42
1:A:1964:PRO:O	1:A:2012:LEU:HB3	2.20	0.42
2:K:395:ILE:HD12	2:K:415:TYR:CD2	2.55	0.42
6:E:109:ASP:OD1	6:E:110:LYS:N	2.52	0.42
8:C:568:SER:HA	8:C:571:TYR:CE2	2.55	0.42
19:O:206:LYS:HB2	19:O:208:LYS:NZ	2.34	0.42
27:D:524:GLY:O	27:D:525:SER:HB3	2.19	0.42
27:D:557:ILE:HD12	27:D:604:VAL:HG22	2.00	0.42
27:D:708:CYS:SG	27:D:889:ILE:HG12	2.60	0.42
27:D:981:LEU:HB3	27:D:987:VAL:HG22	2.01	0.42
27:D:1412:TRP:CE2	27:D:1416:PHE:HE2	2.38	0.42
29:H:1097:G:C4	29:H:1146:G:C2	3.07	0.42
34:3:486:PRO:HG2	34:3:505:PHE:CB	2.50	0.42
34:3:542:THR:HG22	34:3:615:LYS:NZ	2.35	0.42
34:3:1065:THR:HG22	34:3:1105:VAL:HA	2.01	0.42
35:4:108:ALA:O	35:4:154:TYR:HA	2.19	0.42
35:4:125:VAL:HG12	35:4:129:ASN:HD21	1.84	0.42
1:A:1122:ASP:OD1	1:A:1161:TYR:OH	2.29	0.42
1:A:2152:TRP:CZ3	27:D:1064:PRO:CG	2.95	0.42
2:K:261:LEU:HD13	2:K:292:TRP:HE3	1.84	0.42
8:C:251:GLN:HG2	8:C:933:TRP:CE2	2.55	0.42
16:F:46:U:C4	16:F:47:A:C2	3.07	0.42
17:I:142:G:N2	21:P:39:LYS:CE	2.82	0.42
18:B:118:U:H2'	18:B:119:U:H6	1.84	0.42
27:D:830:CYS:SG	27:D:834:LEU:HD22	2.59	0.42
27:D:929:ILE:CD1	27:D:935:ALA:HA	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1415:ARG:HA	27:D:1418:HIS:HE1	1.83	0.42
27:D:2059:ASN:OD1	27:D:2059:ASN:N	2.53	0.42
28:G:520:G:N2	38:X:34:TYR:HB2	2.34	0.42
29:H:1098:C:O5'	29:H:1098:C:C6	2.69	0.42
32:1:368:VAL:N	32:1:369:PRO:HD2	2.35	0.42
32:1:889:PHE:CZ	32:1:930:VAL:HG22	2.54	0.42
32:1:955:VAL:HG12	32:1:963:TYR:HD1	1.83	0.42
34:3:61:TYR:HD1	34:3:1318:ILE:HD11	1.83	0.42
34:3:337:VAL:CG2	34:3:346:LEU:HB2	2.50	0.42
34:3:421:ILE:HG22	34:3:422:PHE:O	2.20	0.42
34:3:561:LEU:HG	34:3:569:GLU:O	2.20	0.42
34:3:929:ILE:HG12	34:3:941:PHE:CD1	2.55	0.42
1:A:1814:VAL:CG1	1:A:1818:ARG:HE	2.32	0.42
1:A:1892:LYS:HD2	1:A:1985:GLN:O	2.20	0.42
3:L:368:ALA:O	16:F:60:G:C8	2.73	0.42
6:E:86:TYR:CE2	6:E:87:HIS:HD2	2.38	0.42
7:M:23:VAL:HG21	7:M:117:VAL:HG21	2.01	0.42
8:C:200:CYS:HB3	8:C:436:VAL:HG21	2.02	0.42
8:C:251:GLN:HE21	8:C:255:GLN:HE21	1.67	0.42
8:C:305:SER:OG	8:C:307:ILE:HG22	2.20	0.42
17:I:135:A:C6	17:I:136:U:C4	3.07	0.42
27:D:1183:ILE:O	27:D:1183:ILE:HG22	2.19	0.42
27:D:1587:SER:HB3	27:D:1895:ARG:NE	2.35	0.42
27:D:1699:THR:HG22	22:Q:144:ARG:HD2	2.01	0.42
27:D:1781:ARG:HG2	27:D:1789:TYR:OH	2.20	0.42
27:D:1978:ASP:O	27:D:1982:MET:HG3	2.20	0.42
25:U:30:LYS:HE2	25:U:80:TYR:CE2	2.55	0.42
32:1:387:PRO:HA	32:1:425:LEU:HB3	2.02	0.42
32:1:900:LEU:O	32:1:904:GLU:HG2	2.20	0.42
33:2:340:LEU:HD13	33:2:345:TYR:HA	2.02	0.42
34:3:1043:THR:HG21	34:3:1052:TYR:CE2	2.55	0.42
34:3:1345:GLN:O	34:3:1349:ILE:HG12	2.20	0.42
38:X:89:VAL:O	38:X:93:ASN:HB2	2.20	0.42
1:A:617:ASN:HD21	18:B:99:U:HO2'	1.65	0.42
1:A:630:LYS:NZ	1:A:634:ASP:OD2	2.43	0.42
1:A:1033:ASN:HD22	1:A:1288:LEU:HB3	1.85	0.42
1:A:1057:MET:O	1:A:1061:ILE:HG13	2.19	0.42
1:A:1925:PRO:O	1:A:1929:GLN:HG3	2.19	0.42
1:A:1941:LEU:HD23	1:A:1941:LEU:HA	1.91	0.42
2:K:65:GLU:OE1	5:J:241:ARG:NH2	2.53	0.42
2:K:112:PRO:HA	5:J:217:VAL:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:232:ASN:O	2:K:247:GLN:NE2	2.53	0.42
2:K:390:LEU:HB2	5:J:428:TRP:CD1	2.55	0.42
4:N:150:ASP:O	4:N:153:ILE:HG12	2.19	0.42
5:J:342:PHE:HB3	5:J:424:ILE:HD11	2.01	0.42
8:C:234:LEU:HD23	8:C:443:TYR:HB2	2.00	0.42
16:F:5:G:H2'	16:F:6:C:H6	1.85	0.42
17:I:91:U:O2	21:P:39:LYS:NZ	2.37	0.42
17:I:135:A:C4	17:I:136:U:C5	3.08	0.42
17:I:152:A:H2'	17:I:153:A:C8	2.54	0.42
18:B:150:U:H4'	18:B:151:A:OP1	2.19	0.42
27:D:486:TRP:NE1	27:D:487:CYS:SG	2.90	0.42
27:D:589:THR:HB	27:D:608:THR:H	1.85	0.42
27:D:730:VAL:HG22	27:D:740:ILE:HD13	2.01	0.42
27:D:912:PHE:CD2	27:D:944:LEU:HD23	2.55	0.42
27:D:1412:TRP:CD1	27:D:1416:PHE:CE2	3.07	0.42
23:R:55:ILE:HG23	23:R:73:LYS:HB3	2.01	0.42
29:H:51:C:H2'	29:H:52:A:C8	2.55	0.42
32:1:290:ASP:OD1	32:1:291:GLU:N	2.53	0.42
34:3:493:VAL:HG23	34:3:937:LYS:HB3	2.02	0.42
34:3:1116:ARG:NH2	34:3:1141:LEU:HD21	2.35	0.42
34:3:1190:LEU:O	34:3:1315:ARG:HD3	2.19	0.42
34:3:1217:ILE:HA	34:3:1226:GLY:O	2.19	0.42
38:X:43:THR:OG1	38:X:44:GLU:OE1	2.38	0.42
40:Z:26:ILE:HG22	40:Z:28:ILE:H	1.84	0.42
1:A:266:LEU:HG	1:A:267:PRO:HD2	2.02	0.41
1:A:1372:LYS:HE2	1:A:1383:PHE:CB	2.50	0.41
2:K:350:LYS:HB3	2:K:351:PRO:HD2	2.01	0.41
3:L:138:SER:HA	3:L:141:ILE:HD12	2.01	0.41
3:L:173:LEU:O	3:L:176:THR:OG1	2.26	0.41
3:L:204:LEU:HD23	3:L:204:LEU:HA	1.82	0.41
5:J:346:ASN:N	5:J:422:ASN:OD1	2.46	0.41
5:J:386:GLU:HG2	5:J:390:LYS:HE2	2.01	0.41
8:C:120:ARG:NH2	8:C:549:TYR:OH	2.53	0.41
8:C:408:LEU:HD21	8:C:427:LEU:HD22	2.01	0.41
8:C:749:LYS:O	8:C:753:THR:OG1	2.25	0.41
27:D:484:PRO:O	27:D:488:GLN:HG3	2.20	0.41
27:D:945:TYR:CE1	27:D:970:ARG:HD3	2.55	0.41
27:D:1183:ILE:O	27:D:1184:ARG:HG2	2.20	0.41
21:P:39:LYS:CE	22:Q:35:GLN:NE2	2.83	0.41
28:G:509:A:O3'	32:1:543:ARG:NH2	2.53	0.41
28:G:520:G:C4	38:X:34:TYR:CE1	3.07	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:68:U:H2'	29:H:69:G:C8	2.54	0.41
32:1:807:THR:HG22	33:2:211:THR:HG23	2.02	0.41
34:3:188:SER:O	34:3:190:ILE:N	2.49	0.41
34:3:197:PRO:HG2	34:3:244:ASP:HB3	2.02	0.41
34:3:411:ASP:OD1	34:3:472:LEU:HA	2.19	0.41
34:3:1073:LYS:HD2	34:3:1090:ILE:CD1	2.48	0.41
35:4:197:ASP:OD1	35:4:198:VAL:N	2.53	0.41
4:N:741:ILE:O	4:N:745:GLN:HB3	2.20	0.41
7:M:97:VAL:HG22	17:I:30:G:H2'	2.02	0.41
8:C:195:GLY:C	8:C:545:LEU:HD13	2.39	0.41
8:C:557:HIS:O	8:C:560:GLN:HG2	2.20	0.41
17:I:149:U:C2	23:R:64:HIS:HB3	2.55	0.41
18:B:87:G:H2'	18:B:88:U:H6	1.85	0.41
27:D:1493:SER:CA	27:D:1524:TRP:HH2	2.28	0.41
21:P:18:TYR:CD1	21:P:101:PRO:HG3	2.53	0.41
21:P:31:ILE:O	21:P:48:CYS:HA	2.20	0.41
23:R:76:TRP:CZ3	23:R:89:ARG:HG2	2.56	0.41
25:U:36:THR:HG21	25:U:38:TYR:CZ	2.55	0.41
32:1:689:LEU:HD21	32:1:707:PHE:HD2	1.85	0.41
32:1:925:HIS:HA	33:2:160:LEU:HD11	2.02	0.41
1:A:644:VAL:HG12	1:A:648:GLN:HB2	2.03	0.41
1:A:939:LEU:HD23	1:A:939:LEU:HA	1.81	0.41
1:A:1341:SER:HB3	1:A:1524:PRO:HB2	2.02	0.41
5:J:271:LYS:HD3	16:F:62:A:H5''	2.02	0.41
18:B:103:A:O2'	18:B:104:G:O5'	2.30	0.41
18:B:114:G:C2	18:B:115:G:C5	3.08	0.41
27:D:648:GLU:CD	27:D:912:PHE:CD1	2.94	0.41
27:D:1141:PRO:HG3	27:D:1298:TRP:CZ3	2.55	0.41
27:D:1486:ALA:HA	27:D:1489:GLU:HG2	2.02	0.41
27:D:1933:TYR:CE1	27:D:2090:LYS:O	2.73	0.41
23:R:36:ASP:HA	23:R:39:VAL:HG12	2.02	0.41
29:H:1139:G:C2'	29:H:1140:U:H6	2.34	0.41
29:H:1146:G:H2'	29:H:1147:A:H8	1.84	0.41
29:H:1149:G:C4	29:H:1150:U:C5	3.08	0.41
32:1:828:GLY:HA3	36:5:38:ARG:NH2	2.36	0.41
33:2:246:LYS:O	33:2:250:VAL:HG23	2.21	0.41
34:3:118:GLN:HB2	34:3:1325:ASN:OD1	2.20	0.41
34:3:224:ILE:O	36:5:17:VAL:HG11	2.20	0.41
34:3:327:VAL:O	34:3:337:VAL:HA	2.21	0.41
34:3:759:ASP:OD1	34:3:760:GLY:N	2.53	0.41
34:3:1308:ARG:HD3	34:3:1308:ARG:HA	1.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:168:LEU:HA	1:A:199:ILE:HD11	2.03	0.41
1:A:268:LEU:HD13	1:A:273:ASP:HB2	2.01	0.41
1:A:297:SER:HB2	18:B:32:G:H5'	2.03	0.41
1:A:659:HIS:O	1:A:662:GLN:N	2.54	0.41
1:A:1144:PHE:CD2	1:A:1145:MET:HG2	2.56	0.41
1:A:1375:LEU:CD2	1:A:1607:THR:HG22	2.50	0.41
1:A:1477:PHE:O	1:A:1481:GLU:HG3	2.21	0.41
1:A:2152:TRP:HZ3	27:D:1064:PRO:CG	2.32	0.41
1:A:2307:LEU:HD11	1:A:2311:GLY:HA3	2.02	0.41
2:K:167:LEU:HD13	4:N:724:SER:HB2	2.01	0.41
2:K:235:ILE:HA	2:K:244:LYS:O	2.20	0.41
2:K:264:HIS:CE1	2:K:290:ARG:HH11	2.38	0.41
2:K:269:SER:OG	2:K:311:PHE:HA	2.20	0.41
2:K:279:PHE:HB3	2:K:291:LEU:HD11	2.02	0.41
4:N:144:LYS:HE3	17:I:19:U:OP1	2.20	0.41
4:N:863:PHE:CE2	4:N:888:PRO:HB2	2.55	0.41
5:J:350:PRO:HB2	16:F:83:A:N7	2.35	0.41
8:C:113:ILE:HD13	8:C:551:TYR:HD1	1.85	0.41
8:C:274:ILE:HD13	8:C:385:PHE:CD2	2.48	0.41
8:C:385:PHE:CE1	8:C:425:LEU:HD11	2.55	0.41
18:B:69:G:H2'	18:B:70:A:C8	2.55	0.41
18:B:70:A:H2'	18:B:71:A:C8	2.56	0.41
27:D:1312:LYS:H	27:D:1787:SER:HG	1.65	0.41
27:D:1439:LEU:HD21	27:D:1465:ILE:HG13	2.01	0.41
25:U:54:ASN:OD1	25:U:55:GLU:N	2.51	0.41
33:2:293:ARG:O	35:4:31:GLN:NE2	2.53	0.41
34:3:326:PHE:CD1	34:3:339:ASP:HA	2.55	0.41
34:3:453:ASN:HA	34:3:464:LEU:HD11	2.03	0.41
34:3:488:ILE:HG22	34:3:489:LYS:HG2	2.02	0.41
34:3:526:SER:HA	34:3:870:ARG:HG3	2.02	0.41
1:A:1814:VAL:HG12	1:A:1818:ARG:HE	1.85	0.41
1:A:2032:ILE:HG22	1:A:2041:PRO:HB2	2.02	0.41
2:K:306:HIS:CD2	2:K:310:VAL:HG22	2.55	0.41
2:K:337:ARG:HD2	5:J:173:TYR:CE2	2.55	0.41
8:C:309:ASN:HD21	8:C:325:LYS:HG3	1.85	0.41
8:C:502:LEU:HB3	8:C:576:THR:OG1	2.20	0.41
8:C:758:ASP:HB3	8:C:761:ALA:HB3	2.02	0.41
27:D:593:ARG:O	27:D:593:ARG:HG2	2.20	0.41
27:D:1668:LYS:CE	27:D:1702:GLU:HG3	2.47	0.41
27:D:1862:THR:OG1	27:D:1887:VAL:HG12	2.20	0.41
27:D:1905:LEU:HD11	27:D:1937:LEU:HD13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:76:TRP:HZ3	23:R:89:ARG:HG2	1.85	0.41
29:H:58:A:H2'	29:H:59:C:O4'	2.19	0.41
32:1:230:TYR:HE2	37:6:5:GLN:HG3	1.85	0.41
32:1:430:TYR:HB3	32:1:434:TYR:HE2	1.85	0.41
33:2:134:LEU:HA	33:2:137:LEU:HB3	2.02	0.41
34:3:157:LEU:HD11	34:3:202:ILE:HG21	2.01	0.41
34:3:180:THR:HG21	34:3:188:SER:CB	2.51	0.41
34:3:676:PRO:CB	34:3:693:ILE:HD11	2.50	0.41
34:3:1089:ASP:HB2	34:3:1092:GLU:O	2.20	0.41
34:3:1291:ILE:HA	34:3:1296:SER:HB2	2.03	0.41
36:5:72:TYR:OH	36:5:87:PRO:HG3	2.20	0.41
1:A:370:ILE:HB	1:A:375:PHE:HZ	1.85	0.41
1:A:375:PHE:CE2	8:C:954:LEU:HD23	2.56	0.41
1:A:1409:ALA:HB1	1:A:1428:GLY:HA3	2.03	0.41
1:A:1658:HIS:HE1	1:A:1690:LYS:NZ	2.19	0.41
2:K:51:VAL:HG13	2:K:76:LEU:HD11	2.01	0.41
3:L:358:ILE:CG2	3:L:360:GLU:H	2.33	0.41
4:N:273:ARG:O	4:N:303:ASN:ND2	2.47	0.41
4:N:666:ILE:HG22	4:N:667:CYS:N	2.36	0.41
4:N:674:LEU:O	4:N:678:TYR:HD2	2.03	0.41
6:E:105:PHE:CE2	6:E:137:TYR:CZ	3.09	0.41
8:C:366:ASN:OD1	8:C:367:VAL:HG23	2.20	0.41
8:C:778:THR:HG23	8:C:781:ASP:H	1.85	0.41
18:B:27:G:OP1	18:B:141:G:H5''	2.19	0.41
27:D:453:PHE:HE2	27:D:455:ARG:NE	2.14	0.41
27:D:587:GLU:O	27:D:592:SER:HB3	2.21	0.41
22:Q:4:VAL:HG11	22:Q:34:PRO:O	2.21	0.41
22:Q:4:VAL:CG1	22:Q:34:PRO:HA	2.50	0.41
25:U:59:PHE:N	25:U:59:PHE:CD1	2.88	0.41
29:H:1097:G:N1	29:H:1146:G:C5	2.88	0.41
29:H:1143:C:H4'	29:H:1144:U:H3'	2.01	0.41
32:1:843:GLU:OE1	32:1:883:LEU:HD11	2.21	0.41
33:2:248:HIS:ND1	33:2:375:PHE:HB2	2.35	0.41
34:3:187:VAL:HG21	37:6:17:LYS:O	2.20	0.41
34:3:333:ASN:OD1	34:3:334:HIS:ND1	2.44	0.41
34:3:951:CYS:SG	34:3:952:ARG:N	2.93	0.41
35:4:43:ASP:HB2	35:4:50:GLN:NE2	2.32	0.41
36:5:67:VAL:HG23	36:5:68:ASN:N	2.35	0.41
38:X:27:TYR:O	38:X:29:ASP:N	2.48	0.41
1:A:929:LEU:HG	4:N:148:ALA:HB2	2.03	0.41
1:A:1317:ARG:O	1:A:1321:MET:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:350:LYS:HB3	2:K:351:PRO:CD	2.49	0.41
2:K:390:LEU:HD22	5:J:428:TRP:NE1	2.35	0.41
3:L:328:VAL:HA	3:L:331:HIS:CD2	2.48	0.41
5:J:352:ILE:O	5:J:356:LEU:HG	2.20	0.41
8:C:175:LEU:HD23	8:C:176:ARG:N	2.35	0.41
8:C:629:TYR:OH	8:C:658:ASP:OD2	2.37	0.41
8:C:733:ASN:OD1	8:C:734:CYS:N	2.54	0.41
18:B:163:C:P	18:B:164:C:OP1	2.79	0.41
27:D:491:PHE:CE1	27:D:533:LEU:HD21	2.54	0.41
27:D:727:TYR:CD2	27:D:760:LYS:HE2	2.55	0.41
27:D:1821:GLU:CG	27:D:1845:SER:HB2	2.51	0.41
22:Q:26:TRP:O	22:Q:43:VAL:HA	2.21	0.41
29:H:142:C:HO2'	29:H:143:G:H8	1.66	0.41
32:1:874:GLU:HB3	34:3:1315:ARG:NH2	2.35	0.41
34:3:527:LEU:HD21	34:3:552:ILE:HG21	2.03	0.41
35:4:42:LYS:HB2	35:4:49:TYR:CE1	2.56	0.41
1:A:576:HIS:HE1	1:A:593:LEU:O	2.04	0.41
1:A:631:LEU:HD21	1:A:663:LEU:HD13	2.03	0.41
1:A:766:ILE:O	1:A:770:MET:HG3	2.20	0.41
1:A:1521:ARG:HD3	3:L:404:TYR:CE2	2.55	0.41
1:A:2152:TRP:HZ3	27:D:1064:PRO:CD	2.33	0.41
1:A:2326:SER:O	1:A:2329:PHE:HB3	2.21	0.41
2:K:422:TYR:HD1	2:K:429:LYS:HA	1.85	0.41
3:L:398:GLN:CD	3:L:419:GLN:HG3	2.41	0.41
18:B:30:A:H2'	18:B:31:G:H8	1.86	0.41
18:B:38:A:N1	18:B:117:G:C6	2.88	0.41
27:D:912:PHE:CB	27:D:944:LEU:HD23	2.33	0.41
27:D:1583:VAL:HB	27:D:1665:LEU:HD23	2.03	0.41
27:D:1640:LEU:CD1	27:D:1649:GLU:HG3	2.51	0.41
27:D:1890:GLU:C	22:Q:143:ARG:HE	2.23	0.41
23:R:80:LYS:HE3	23:R:82:LYS:CG	2.50	0.41
25:U:29:VAL:HG22	25:U:81:ILE:HG13	2.02	0.41
25:U:45:THR:HG23	25:U:50:ASN:O	2.20	0.41
32:1:173:ILE:HG12	32:1:185:MET:SD	2.61	0.41
34:3:97:THR:OG1	34:3:100:HIS:HB3	2.21	0.41
34:3:426:TYR:HA	34:3:439:PHE:O	2.20	0.41
34:3:690:LEU:HA	34:3:703:MET:O	2.21	0.41
38:X:3:LYS:O	38:X:7:ILE:HD12	2.21	0.41
38:X:68:THR:HG23	38:X:70:GLU:HG2	2.03	0.41
1:A:167:TYR:CD1	1:A:547:LEU:HD21	2.56	0.41
1:A:380:ARG:HB3	1:A:382:GLU:OE1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:408:SER:HA	8:C:272:ARG:NH2	2.36	0.41
1:A:522:TYR:CE1	1:A:686:ILE:HD12	2.55	0.41
1:A:1043:ARG:O	1:A:1045:GLN:HG3	2.21	0.41
1:A:1048:VAL:HA	1:A:1249:SER:O	2.20	0.41
1:A:1417:GLN:HB2	1:A:1783:MET:CE	2.51	0.41
1:A:2193:PHE:HA	1:A:2196:ILE:HG12	2.03	0.41
1:A:2249:ASP:OD1	27:D:1307:SER:OG	2.34	0.41
1:A:2319:LYS:HG3	1:A:2320:ASP:N	2.36	0.41
2:K:235:ILE:HD13	2:K:280:ILE:HG21	2.03	0.41
2:K:235:ILE:CD1	2:K:280:ILE:HD13	2.51	0.41
2:K:390:LEU:HD12	2:K:390:LEU:O	2.21	0.41
3:L:359:PRO:HD3	6:E:56:PHE:CD2	2.56	0.41
5:J:163:ASN:HB3	5:J:167:GLU:O	2.20	0.41
5:J:271:LYS:HE3	5:J:304:ARG:HH11	1.85	0.41
8:C:161:ILE:HG12	8:C:177:TYR:OH	2.21	0.41
8:C:365:GLU:HG3	8:C:366:ASN:H	1.86	0.41
8:C:625:ILE:HG23	8:C:629:TYR:HD2	1.85	0.41
8:C:728:LEU:HD12	8:C:730:LYS:HE3	2.02	0.41
8:C:752:ARG:HD3	8:C:759:SER:HA	2.01	0.41
8:C:884:ARG:CB	8:C:910:GLU:HG3	2.44	0.41
16:F:47:A:C3'	16:F:48:C:H5'	2.50	0.41
18:B:26:A:O4'	18:B:131:A:H5'	2.21	0.41
18:B:150:U:HO2'	18:B:151:A:P	2.44	0.41
27:D:594:LEU:HD22	27:D:598:GLN:OE1	2.21	0.41
27:D:707:PHE:N	27:D:707:PHE:CD1	2.89	0.41
27:D:778:LYS:O	27:D:782:LYS:HG2	2.21	0.41
27:D:944:LEU:O	27:D:948:MET:HG2	2.20	0.41
27:D:1647:ASN:O	27:D:1651:ILE:HG12	2.21	0.41
27:D:1861:PHE:CB	22:Q:140:LYS:HZ3	2.34	0.41
27:D:1898:ASP:HA	27:D:1943:PHE:HZ	1.86	0.41
27:D:1973:ALA:O	27:D:1977:MET:HG3	2.21	0.41
27:D:2139:ASN:ND2	27:D:2159:GLU:OE1	2.53	0.41
23:R:45:ILE:HG23	23:R:105:LEU:HB3	2.02	0.41
23:R:48:LEU:HD21	23:R:96:LEU:HD21	2.02	0.41
23:R:105:LEU:HD12	25:U:70:GLU:O	2.21	0.41
20:S:77:LEU:HD23	20:S:77:LEU:O	2.20	0.41
28:G:522:U:H5	38:X:111:PRO:O	2.04	0.41
29:H:548:G:C6	29:H:549:C:N4	2.89	0.41
29:H:1118:U:H2'	29:H:1119:C:H6	1.86	0.41
29:H:1139:G:O2'	29:H:1140:U:O5'	2.33	0.41
29:H:1144:U:O2	29:H:1144:U:C2'	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:1:198:GLU:O	32:1:202:ASN:HB3	2.20	0.41
32:1:467:VAL:HG12	32:1:469:SER:H	1.86	0.41
34:3:380:LEU:HA	34:3:389:PHE:O	2.21	0.41
34:3:390:LYS:O	34:3:407:LEU:HA	2.20	0.41
34:3:626:PRO:HB3	34:3:630:ILE:HB	2.02	0.41
34:3:643:ILE:HG23	34:3:651:LEU:HD21	2.02	0.41
34:3:643:ILE:HD11	34:3:653:TYR:HD1	1.85	0.41
34:3:693:ILE:CG2	34:3:701:LYS:HB2	2.51	0.41
34:3:832:TRP:CG	34:3:833:LYS:N	2.89	0.41
34:3:1129:VAL:O	34:3:1140:THR:HA	2.20	0.41
34:3:1135:TYR:HB3	34:3:1311:TYR:CE2	2.56	0.41
34:3:1189:LEU:HD21	34:3:1192:HIS:HB2	2.03	0.41
35:4:10:THR:HA	35:4:56:GLU:HA	2.03	0.41
36:5:41:ARG:NH1	36:5:83:LYS:HZ2	2.18	0.41
38:X:32:TYR:OH	39:Y:162:LEU:HD11	2.20	0.41
39:Y:208:SER:HB3	39:Y:212:ARG:N	2.36	0.41
1:A:293:VAL:HG22	1:A:294:ASN:N	2.36	0.41
1:A:499:VAL:HG12	1:A:501:LEU:HD12	2.02	0.41
1:A:507:LEU:O	1:A:508:GLN:HB2	2.21	0.41
1:A:615:LEU:HD21	1:A:619:PHE:CE2	2.56	0.41
1:A:1996:LEU:HA	1:A:1999:ILE:O	2.21	0.41
2:K:274:HIS:HD2	2:K:276:SER:HB3	1.86	0.41
4:N:771:ALA:O	4:N:775:VAL:HG23	2.21	0.41
8:C:133:ILE:HG13	8:C:134:ILE:N	2.36	0.41
18:B:24:G:H2'	18:B:25:G:C8	2.56	0.41
18:B:65:U:H2'	18:B:66:A:C8	2.57	0.41
27:D:777:SER:O	27:D:781:LEU:HB2	2.21	0.41
27:D:1699:THR:HG22	22:Q:144:ARG:CZ	2.50	0.41
24:T:86:ASN:HD21	25:U:79:LEU:HA	1.86	0.41
29:H:1092:A:H3'	29:H:1093:C:C6	2.47	0.41
32:1:297:THR:HA	32:1:300:ALA:HB3	2.03	0.41
32:1:348:VAL:HG13	32:1:349:LEU:N	2.29	0.41
34:3:76:ILE:HD11	34:3:422:PHE:CD1	2.56	0.41
34:3:242:VAL:HG22	34:3:252:PHE:CB	2.51	0.41
34:3:270:PHE:HD2	34:3:284:ALA:HB3	1.85	0.41
34:3:555:PRO:O	34:3:587:THR:HB	2.21	0.41
34:3:612:PRO:HA	34:3:618:TYR:CD1	2.54	0.41
34:3:1007:LYS:HE3	34:3:1009:LEU:HD21	2.03	0.41
1:A:194:HIS:CE1	1:A:196:SER:HG	2.38	0.40
1:A:1054:LEU:HD21	1:A:1168:ILE:HD11	2.03	0.40
1:A:1234:VAL:HG12	1:A:1235:PRO:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2043:PHE:HB3	1:A:2047:GLN:HB2	2.02	0.40
2:K:67:GLU:OE1	2:K:75:ARG:NE	2.45	0.40
2:K:183:LEU:HD23	2:K:190:VAL:HG22	2.02	0.40
4:N:793:ILE:HA	4:N:796:ASP:HB3	2.02	0.40
5:J:141:ASN:HD22	5:J:144:LEU:HG	1.85	0.40
8:C:795:ILE:O	8:C:799:PHE:HB2	2.21	0.40
18:B:117:G:H2'	18:B:118:U:C6	2.56	0.40
18:B:148:G:H2'	18:B:149:U:C6	2.56	0.40
27:D:1326:ASN:OD1	27:D:1326:ASN:N	2.54	0.40
27:D:1651:ILE:O	27:D:1655:LEU:HG	2.21	0.40
27:D:2104:GLY:HA2	27:D:2112:TYR:CD2	2.53	0.40
24:T:16:CYS:HA	24:T:19:ASN:ND2	2.36	0.40
28:G:499:U:H2'	28:G:500:A:H8	1.85	0.40
29:H:43:G:H2'	29:H:44:U:C6	2.56	0.40
32:1:335:LYS:O	32:1:338:GLN:HB2	2.21	0.40
34:3:542:THR:HG21	34:3:547:ASN:OD1	2.21	0.40
34:3:742:HIS:HE2	34:3:752:LYS:HE2	1.85	0.40
34:3:1179:ASN:OD1	34:3:1180:THR:N	2.54	0.40
36:5:37:VAL:C	36:5:38:ARG:HG2	2.42	0.40
36:5:43:VAL:HA	36:5:72:TYR:CE2	2.56	0.40
1:A:457:ASP:OD1	1:A:458:PHE:N	2.54	0.40
1:A:697:LYS:HA	1:A:697:LYS:HD2	1.90	0.40
1:A:1125:LEU:O	1:A:1233:ARG:NH1	2.54	0.40
1:A:1601:ILE:N	1:A:1602:PRO:HD2	2.36	0.40
1:A:1673:LEU:HA	1:A:1678:ILE:HB	2.02	0.40
1:A:1879:ILE:HG12	1:A:1913:THR:HG22	2.03	0.40
1:A:2395:PHE:HE1	27:D:1061:ALA:HA	1.74	0.40
3:L:340:LYS:O	3:L:344:LEU:HG	2.21	0.40
8:C:104:THR:O	8:C:107:THR:N	2.55	0.40
8:C:114:PRO:HB2	8:C:160:ARG:O	2.20	0.40
8:C:362:LYS:HG3	8:C:363:PRO:HD2	2.03	0.40
8:C:405:ARG:NH2	18:B:1:A:C8	2.86	0.40
8:C:869:HIS:CD2	8:C:925:LEU:HD22	2.56	0.40
8:C:945:LEU:HD12	8:C:945:LEU:O	2.22	0.40
16:F:80:U:H2'	16:F:81:G:H8	1.86	0.40
17:I:94:U:C4	17:I:95:C:C4	3.09	0.40
17:I:133:C:H2'	17:I:134:U:C6	2.56	0.40
27:D:502:ILE:HD11	27:D:522:PRO:HD2	2.02	0.40
27:D:610:GLU:OE1	27:D:1009:TYR:CE2	2.73	0.40
27:D:1092:PHE:CD1	27:D:1095:ASN:HB3	2.56	0.40
27:D:1331:THR:HG23	27:D:1346:LYS:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:1367:PHE:HB2	27:D:1527:MET:SD	2.62	0.40
27:D:1689:ASP:OD1	27:D:1692:GLU:HB3	2.21	0.40
27:D:1853:ALA:CB	27:D:1863:ILE:HG13	2.52	0.40
21:P:88:ARG:HG2	21:P:90:GLU:N	2.24	0.40
32:1:854:ARG:NH1	33:2:183:LEU:HD12	2.35	0.40
34:3:131:ASP:OD1	34:3:146:THR:OG1	2.34	0.40
34:3:270:PHE:CD2	34:3:284:ALA:HB3	2.56	0.40
34:3:820:VAL:HG12	34:3:828:VAL:HG12	2.03	0.40
34:3:1336:PHE:O	34:3:1339:LYS:HG2	2.21	0.40
1:A:156:THR:OG1	1:A:157:ASP:N	2.54	0.40
1:A:913:VAL:HG21	4:N:163:THR:HG22	2.03	0.40
1:A:1087:ASN:HA	1:A:1099:ASN:O	2.22	0.40
1:A:2177:VAL:HB	1:A:2338:GLN:HE22	1.87	0.40
1:A:2264:GLU:HG2	1:A:2266:LEU:HG	2.03	0.40
2:K:51:VAL:HG13	2:K:76:LEU:CD1	2.51	0.40
2:K:269:SER:H	2:K:284:SER:HA	1.85	0.40
3:L:172:ILE:O	3:L:176:THR:HG23	2.21	0.40
3:L:305:MET:HG2	3:L:337:LEU:CD2	2.52	0.40
4:N:832:LEU:HD11	4:N:845:LEU:HD11	2.03	0.40
17:I:96:A:C6	17:I:137:G:C6	3.09	0.40
18:B:85:U:C2	18:B:86:G:C8	3.09	0.40
27:D:619:SER:O	27:D:622:LEU:HG	2.21	0.40
27:D:1245:ASP:HA	27:D:1288:PHE:CD1	2.55	0.40
27:D:1387:HIS:CE1	27:D:1392:LYS:CB	3.04	0.40
27:D:1448:THR:HB	27:D:1449:PRO:HD2	2.02	0.40
27:D:1497:PHE:CE2	27:D:1762:ILE:HG21	2.55	0.40
22:Q:139:ASN:O	22:Q:140:LYS:CB	2.69	0.40
23:R:43:PRO:HA	23:R:56:ALA:O	2.22	0.40
34:3:118:GLN:HE21	34:3:1299:ILE:CD1	2.33	0.40
34:3:507:ASN:ND2	34:3:509:LYS:HE2	2.36	0.40
35:4:135:ILE:HB	35:4:156:GLU:HG2	2.04	0.40
1:A:264:ILE:HD12	1:A:647:PHE:CE1	2.57	0.40
1:A:2152:TRP:CD1	1:A:2391:HIS:CD2	3.09	0.40
2:K:362:TYR:CD1	2:K:363:GLN:HG3	2.56	0.40
2:K:380:LYS:O	2:K:382:ASP:N	2.53	0.40
3:L:441:MET:CE	3:L:444:ARG:HH21	2.34	0.40
6:E:63:ASP:HB2	6:E:66:GLU:HB2	2.01	0.40
7:M:8:ALA:HA	7:M:80:PHE:CE2	2.56	0.40
16:F:61:C:C2	16:F:62:A:C8	3.09	0.40
17:I:24:A:C2	17:I:50:G:C2	3.09	0.40
17:I:91:U:O2'	17:I:92:C:P	2.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:D:502:ILE:CD1	27:D:522:PRO:HD2	2.51	0.40
27:D:557:ILE:HG23	27:D:630:LEU:HD23	2.04	0.40
27:D:725:ALA:O	27:D:729:LYS:HG2	2.21	0.40
27:D:1486:ALA:HB1	27:D:1746:LEU:HD23	2.03	0.40
27:D:1585:LEU:CD1	27:D:1591:CYS:HA	2.52	0.40
27:D:1641:TYR:CZ	27:D:1644:MET:HG2	2.57	0.40
27:D:1895:ARG:O	27:D:1895:ARG:HG3	2.21	0.40
27:D:2086:VAL:HB	27:D:2095:LYS:HB3	2.03	0.40
24:T:19:ASN:O	24:T:23:GLN:HG3	2.22	0.40
29:H:43:G:H2'	29:H:44:U:H6	1.87	0.40
29:H:1145:U:O2	29:H:1145:U:C2'	2.69	0.40
32:1:215:ASP:OD1	32:1:216:GLN:N	2.53	0.40
32:1:737:SER:O	32:1:743:ARG:NH1	2.54	0.40
33:2:289:LYS:HB3	35:4:30:ILE:HD13	2.02	0.40
34:3:71:PHE:CD2	34:3:95:VAL:HG11	2.57	0.40
34:3:99:THR:O	34:3:120:LEU:HD12	2.21	0.40
34:3:115:ALA:HB2	34:3:169:LEU:HD12	2.02	0.40
34:3:513:LEU:HD21	34:3:886:PHE:CD2	2.56	0.40
34:3:782:GLU:O	34:3:816:MET:N	2.54	0.40
34:3:1029:SER:OG	34:3:1045:MET:HA	2.20	0.40
35:4:107:ILE:HD13	35:4:154:TYR:HB3	2.03	0.40
35:4:110:LEU:O	35:4:152:TYR:HA	2.22	0.40
36:5:2:SER:OG	36:5:3:ARG:N	2.54	0.40
37:6:20:GLY:O	37:6:21:LEU:HD12	2.22	0.40
1:A:1046:SER:O	1:A:1173:HIS:HD2	2.04	0.40
3:L:126:GLU:O	3:L:130:LEU:HG	2.21	0.40
4:N:15:TYR:OH	6:E:13:TRP:CD1	2.69	0.40
6:E:87:HIS:C	6:E:89:LYS:H	2.24	0.40
8:C:473:LEU:HD23	8:C:473:LEU:HA	1.95	0.40
8:C:775:ILE:HD12	8:C:817:GLN:NE2	2.37	0.40
16:F:26:A:H2'	16:F:27:U:C6	2.56	0.40
16:F:42:A:O2'	16:F:43:C:H5'	2.21	0.40
27:D:464:HIS:CE1	27:D:706:GLN:HE21	2.40	0.40
27:D:562:PRO:HA	27:D:609:PRO:CD	2.51	0.40
27:D:781:LEU:HD21	27:D:798:GLU:CG	2.49	0.40
27:D:1580:SER:H	27:D:1678:ASP:HB2	1.85	0.40
27:D:1688:TYR:CE1	27:D:1896:LYS:HE2	2.57	0.40
20:S:34:VAL:HG22	20:S:45:ARG:HD2	2.02	0.40
26:V:8:LYS:HD2	26:V:11:MET:HG3	2.02	0.40
26:V:36:LEU:O	26:V:38:VAL:HG23	2.21	0.40
29:H:145:G:O2'	29:H:146:A:H5'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:1161:U:H2'	29:H:1162:U:H6	1.86	0.40
29:H:1168:U:H2'	29:H:1169:C:C6	2.56	0.40
33:2:197:PRO:HB3	33:2:258:TRP:CH2	2.56	0.40
33:2:364:PHE:CD2	34:3:1124:LEU:HD21	2.57	0.40
34:3:1035:LEU:HD11	34:3:1042:LEU:HD23	2.03	0.40
34:3:1299:ILE:C	34:3:1300:LEU:HD12	2.42	0.40
35:4:13:VAL:HG12	35:4:16:ILE:HD11	2.03	0.40
36:5:37:VAL:O	36:5:38:ARG:HG2	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	2169/2413 (90%)	2040 (94%)	115 (5%)	14 (1%)	25	57
2	K	425/465 (91%)	388 (91%)	34 (8%)	3 (1%)	22	55
3	L	410/494 (83%)	392 (96%)	15 (4%)	3 (1%)	22	55
4	N	678/899 (75%)	626 (92%)	51 (8%)	1 (0%)	51	82
5	J	294/469 (63%)	281 (96%)	10 (3%)	3 (1%)	15	46
6	E	137/143 (96%)	128 (93%)	9 (7%)	0	100	100
7	M	124/126 (98%)	122 (98%)	2 (2%)	0	100	100
8	C	837/1008 (83%)	779 (93%)	53 (6%)	5 (1%)	25	57
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%)	70 (93%)	5 (7%)	0	100	100
12	x	72/86 (84%)	70 (97%)	2 (3%)	0	100	100
13	t	73/93 (78%)	69 (94%)	3 (4%)	1 (1%)	11	37

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	y	62/115 (54%)	62 (100%)	0	0	100	100
15	s	73/187 (39%)	72 (99%)	1 (1%)	0	100	100
19	O	68/587 (12%)	64 (94%)	3 (4%)	1 (2%)	10	36
20	S	80/101 (79%)	77 (96%)	3 (4%)	0	100	100
20	d	77/101 (76%)	69 (90%)	6 (8%)	2 (3%)	5	26
20	l	79/101 (78%)	70 (89%)	8 (10%)	1 (1%)	12	39
21	P	66/196 (34%)	62 (94%)	4 (6%)	0	100	100
21	a	69/196 (35%)	63 (91%)	6 (9%)	0	100	100
21	h	74/196 (38%)	67 (90%)	7 (10%)	0	100	100
22	Q	93/146 (64%)	89 (96%)	3 (3%)	1 (1%)	14	44
22	b	71/146 (49%)	66 (93%)	4 (6%)	1 (1%)	11	37
22	m	78/146 (53%)	74 (95%)	4 (5%)	0	100	100
23	R	90/110 (82%)	89 (99%)	1 (1%)	0	100	100
23	c	86/110 (78%)	83 (96%)	3 (4%)	0	100	100
23	n	63/110 (57%)	60 (95%)	3 (5%)	0	100	100
24	T	73/94 (78%)	72 (99%)	1 (1%)	0	100	100
24	e	66/94 (70%)	62 (94%)	4 (6%)	0	100	100
24	i	71/94 (76%)	65 (92%)	6 (8%)	0	100	100
25	U	71/86 (83%)	68 (96%)	3 (4%)	0	100	100
25	f	66/86 (77%)	59 (89%)	4 (6%)	3 (4%)	2	16
25	j	66/86 (77%)	61 (92%)	4 (6%)	1 (2%)	10	36
26	V	73/77 (95%)	66 (90%)	6 (8%)	1 (1%)	11	37
26	g	64/77 (83%)	58 (91%)	6 (9%)	0	100	100
26	k	65/77 (84%)	64 (98%)	1 (2%)	0	100	100
27	D	1694/2163 (78%)	1631 (96%)	60 (4%)	3 (0%)	47	78
30	o	125/238 (52%)	111 (89%)	12 (10%)	2 (2%)	9	34
31	p	69/111 (62%)	67 (97%)	2 (3%)	0	100	100
32	1	814/971 (84%)	762 (94%)	46 (6%)	6 (1%)	22	55
33	2	205/436 (47%)	192 (94%)	11 (5%)	2 (1%)	15	46
34	3	1164/1361 (86%)	1046 (90%)	109 (9%)	9 (1%)	19	51
35	4	165/213 (78%)	164 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	5	101/107 (94%)	87 (86%)	13 (13%)	1 (1%)	15	46
37	6	82/85 (96%)	78 (95%)	3 (4%)	1 (1%)	13	41
38	X	126/148 (85%)	117 (93%)	7 (6%)	2 (2%)	9	34
39	Y	85/266 (32%)	80 (94%)	3 (4%)	2 (2%)	6	28
40	Z	20/204 (10%)	14 (70%)	6 (30%)	0	100	100
41	u	453/530 (86%)	415 (92%)	38 (8%)	0	100	100
42	w	123/280 (44%)	112 (91%)	11 (9%)	0	100	100
43	v	168/266 (63%)	142 (84%)	25 (15%)	1 (1%)	25	57
All	All	12585/17187 (73%)	11769 (94%)	746 (6%)	70 (1%)	29	57

All (70) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	240	PRO
2	K	395	ILE
3	L	328	VAL
8	C	364	PHE
8	C	602	VAL
30	o	68	PRO
32	1	831	SER
32	1	836	TYR
33	2	368	ILE
34	3	363	VAL
34	3	413	ILE
34	3	1299	ILE
38	X	17	LEU
1	A	156	THR
1	A	1088	VAL
5	J	167	GLU
8	C	133	ILE
8	C	134	ILE
20	d	40	MET
22	b	12	ASN
25	f	24	ASN
25	f	49	PHE
22	Q	140	LYS
32	1	830	MET
32	1	835	ILE
39	Y	172	ILE

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Mol	Chain	Res	Type
39	Y	230	SER
5	J	331	VAL
27	D	791	PRO
27	D	1896	LYS
26	V	60	GLN
34	3	364	THR
1	A	508	GLN
1	A	1621	VAL
1	A	1869	ASN
1	A	2321	ILE
3	L	151	LYS
4	N	736	ASP
5	J	286	ASN
19	O	212	VAL
27	D	960	ILE
34	3	961	CYS
34	3	1233	SER
37	6	19	ILE
1	A	239	PHE
1	A	645	ASP
25	f	50	ASN
20	l	81	ALA
33	2	167	LYS
38	X	18	SER
43	v	232	GLY
2	K	286	ASP
20	d	51	GLU
36	5	38	ARG
1	A	1870	VAL
25	j	15	PRO
30	o	52	LYS
32	1	348	VAL
8	C	829	VAL
34	3	859	ILE
1	A	407	VAL
13	t	41	VAL
1	A	699	PRO
1	A	2330	GLU
2	K	176	LYS
3	L	358	ILE
32	1	386	TYR
34	3	523	ILE

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Mol	Chain	Res	Type
34	3	1031	ILE
1	A	264	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	1964/2182 (90%)	1962 (100%)	2 (0%)	93	98
2	K	373/410 (91%)	371 (100%)	2 (0%)	88	94
3	L	327/445 (74%)	327 (100%)	0	100	100
4	N	361/813 (44%)	361 (100%)	0	100	100
5	J	248/436 (57%)	248 (100%)	0	100	100
6	E	129/132 (98%)	129 (100%)	0	100	100
7	M	104/104 (100%)	104 (100%)	0	100	100
8	C	757/910 (83%)	757 (100%)	0	100	100
19	O	60/534 (11%)	60 (100%)	0	100	100
20	S	71/89 (80%)	71 (100%)	0	100	100
20	l	67/89 (75%)	64 (96%)	3 (4%)	27	58
21	P	64/176 (36%)	64 (100%)	0	100	100
21	h	67/176 (38%)	67 (100%)	0	100	100
22	Q	81/129 (63%)	81 (100%)	0	100	100
22	m	77/129 (60%)	71 (92%)	6 (8%)	12	39
23	R	85/103 (82%)	85 (100%)	0	100	100
23	n	59/103 (57%)	52 (88%)	7 (12%)	5	19
24	T	69/83 (83%)	69 (100%)	0	100	100
24	i	65/83 (78%)	60 (92%)	5 (8%)	13	40
25	U	65/77 (84%)	65 (100%)	0	100	100
25	j	61/77 (79%)	60 (98%)	1 (2%)	62	81
26	V	64/66 (97%)	64 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
26	k	58/66 (88%)	55 (95%)	3 (5%)	23	53
27	D	1524/1955 (78%)	1522 (100%)	2 (0%)	93	98
30	o	46/219 (21%)	43 (94%)	3 (6%)	17	46
31	p	23/100 (23%)	22 (96%)	1 (4%)	29	59
32	1	724/867 (84%)	724 (100%)	0	100	100
33	2	190/392 (48%)	190 (100%)	0	100	100
34	3	1088/1244 (88%)	1087 (100%)	1 (0%)	93	98
35	4	154/189 (82%)	154 (100%)	0	100	100
36	5	93/97 (96%)	92 (99%)	1 (1%)	73	86
37	6	76/77 (99%)	76 (100%)	0	100	100
38	X	114/132 (86%)	112 (98%)	2 (2%)	59	79
39	Y	77/240 (32%)	67 (87%)	10 (13%)	4	16
40	Z	21/186 (11%)	18 (86%)	3 (14%)	3	13
41	u	425/492 (86%)	420 (99%)	5 (1%)	71	85
42	w	118/259 (46%)	115 (98%)	3 (2%)	47	72
43	v	156/236 (66%)	154 (99%)	2 (1%)	69	84
All	All	10105/14097 (72%)	10043 (99%)	62 (1%)	86	94

All (62) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2332	THR
1	A	2333	PHE
2	K	443	LEU
2	K	451	PHE
27	D	491	PHE
27	D	1008	PHE
24	i	16	CYS
24	i	18	PHE
24	i	25	THR
24	i	79	LYS
24	i	81	LEU
25	j	79	LEU
26	k	18	ASN
26	k	41	ASP
26	k	71	LEU

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Mol	Chain	Res	Type
20	l	10	LEU
20	l	76	ASP
20	l	79	LYS
22	m	20	LYS
22	m	26	TRP
22	m	30	GLN
22	m	77	ASP
22	m	99	ASP
22	m	104	ASP
23	n	49	ARG
23	n	77	THR
23	n	79	LYS
23	n	80	LYS
23	n	82	LYS
23	n	99	ASP
23	n	100	SER
30	o	4	THR
30	o	44	PRO
30	o	71	SER
31	p	38	LYS
34	3	147	PHE
36	5	38	ARG
38	X	6	GLN
38	X	110	ARG
39	Y	160	LYS
39	Y	168	GLN
39	Y	169	LYS
39	Y	174	VAL
39	Y	207	THR
39	Y	208	SER
39	Y	209	LEU
39	Y	213	LYS
39	Y	214	LEU
39	Y	262	LEU
40	Z	38	LEU
40	Z	40	LEU
40	Z	42	SER
41	u	27	ARG
41	u	35	TYR
41	u	81	ILE
41	u	298	HIS
41	u	317	SER

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Mol	Chain	Res	Type
42	w	113	MET
42	w	129	HIS
42	w	158	ARG
43	v	226	MET
43	v	246	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (141) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	326	ASN
1	A	392	ASN
1	A	429	ASN
1	A	617	ASN
1	A	692	ASN
1	A	848	ASN
1	A	864	GLN
1	A	868	GLN
1	A	976	GLN
1	A	997	GLN
1	A	1033	ASN
1	A	1045	GLN
1	A	1087	ASN
1	A	1097	HIS
1	A	1099	ASN
1	A	1369	ASN
1	A	1532	HIS
1	A	1603	ASN
1	A	1618	ASN
1	A	1635	HIS
1	A	1809	ASN
1	A	1839	ASN
1	A	1947	HIS
1	A	2018	ASN
1	A	2306	ASN
1	A	2338	GLN
2	K	232	ASN
2	K	247	GLN
2	K	374	ASN
2	K	450	HIS
3	L	113	HIS
3	L	160	HIS
3	L	185	ASN

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Mol	Chain	Res	Type
3	L	201	ASN
3	L	331	HIS
4	N	213	ASN
4	N	770	ASN
5	J	141	ASN
5	J	276	ASN
5	J	409	HIS
6	E	14	HIS
6	E	87	HIS
8	C	158	HIS
8	C	183	GLN
8	C	251	GLN
8	C	554	HIS
8	C	721	GLN
8	C	776	ASN
8	C	817	GLN
8	C	869	HIS
8	C	929	GLN
27	D	516	ASN
27	D	568	GLN
27	D	621	ASN
27	D	676	ASN
27	D	706	GLN
27	D	739	GLN
27	D	768	HIS
27	D	804	HIS
27	D	894	ASN
27	D	904	GLN
27	D	921	ASN
27	D	1103	GLN
27	D	1148	GLN
27	D	1281	GLN
27	D	1349	ASN
27	D	1418	HIS
27	D	1443	HIS
27	D	1611	ASN
27	D	1726	HIS
27	D	1931	GLN
27	D	1968	ASN
27	D	1996	GLN
27	D	2069	GLN
27	D	2139	ASN

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Mol	Chain	Res	Type
21	P	33	GLN
22	Q	30	GLN
23	R	52	HIS
20	S	4	ASN
25	U	76	ASN
25	U	77	ASN
26	V	54	ASN
24	i	34	GLN
24	i	86	ASN
25	j	52	GLN
26	k	66	ASN
20	l	41	ASN
22	m	30	GLN
22	m	102	ASN
23	n	71	ASN
32	1	175	ASN
32	1	311	ASN
32	1	367	HIS
32	1	407	HIS
32	1	539	HIS
32	1	695	ASN
32	1	803	ASN
32	1	853	HIS
32	1	887	ASN
32	1	925	HIS
33	2	145	GLN
33	2	204	ASN
33	2	262	HIS
33	2	273	ASN
33	2	339	ASN
34	3	156	ASN
34	3	177	GLN
34	3	209	GLN
34	3	248	ASN
34	3	259	ASN
34	3	382	GLN
34	3	481	GLN
34	3	507	ASN
34	3	590	HIS
34	3	609	HIS
34	3	641	GLN
34	3	669	HIS

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Mol	Chain	Res	Type
34	3	719	GLN
34	3	738	GLN
34	3	920	GLN
34	3	945	HIS
34	3	950	GLN
34	3	1154	HIS
34	3	1192	HIS
34	3	1203	HIS
34	3	1359	ASN
35	4	50	GLN
35	4	170	ASN
35	4	187	ASN
36	5	14	GLN
38	X	25	ASN
38	X	106	HIS
39	Y	168	GLN
39	Y	173	ASN
39	Y	236	HIS
39	Y	239	ASN
41	u	34	HIS
41	u	91	GLN
41	u	167	ASN
41	u	202	GLN
43	v	93	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
16	F	95/112 (84%)	38 (40%)	1 (1%)
17	I	106/160 (66%)	31 (29%)	6 (5%)
18	B	173/214 (80%)	64 (36%)	13 (7%)
28	G	43/44 (97%)	22 (51%)	2 (4%)
29	H	196/1175 (16%)	52 (26%)	23 (11%)
All	All	613/1705 (35%)	207 (33%)	45 (7%)

All (207) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
16	F	2	U
16	F	12	U
16	F	13	U

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Mol	Chain	Res	Type
16	F	14	U
16	F	17	U
16	F	25	C
16	F	26	A
16	F	28	U
16	F	31	G
16	F	32	U
16	F	37	U
16	F	38	U
16	F	39	G
16	F	40	A
16	F	41	A
16	F	43	C
16	F	44	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	57	U
16	F	58	C
16	F	64	U
16	F	66	C
16	F	71	G
16	F	75	A
16	F	76	A
16	F	77	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
16	F	111	U
17	I	2	U
17	I	15	G
17	I	19	U
17	I	20	A
17	I	25	U
17	I	27	U
17	I	28	C

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Mol	Chain	Res	Type
17	I	29	A
17	I	30	G
17	I	39	C
17	I	40	G
17	I	41	U
17	I	48	U
17	I	55	U
17	I	60	U
17	I	74	U
17	I	75	U
17	I	76	A
17	I	77	U
17	I	78	A
17	I	79	A
17	I	92	C
17	I	98	G
17	I	134	U
17	I	135	A
17	I	138	U
17	I	139	A
17	I	143	A
17	I	144	A
17	I	145	U
17	I	151	G
18	B	12	C
18	B	13	A
18	B	18	A
18	B	20	U
18	B	24	G
18	B	27	G
18	B	28	G
18	B	32	G
18	B	33	U
18	B	34	C
18	B	35	A
18	B	39	U
18	B	40	C
18	B	41	A
18	B	75	A
18	B	76	U
18	B	77	A
18	B	78	A

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Mol	Chain	Res	Type
18	B	79	C
18	B	80	G
18	B	81	A
18	B	82	A
18	B	83	C
18	B	84	A
18	B	90	C
18	B	92	U
18	B	94	C
18	B	95	C
18	B	96	U
18	B	97	U
18	B	100	A
18	B	101	C
18	B	103	A
18	B	104	G
18	B	108	C
18	B	109	A
18	B	113	G
18	B	121	U
18	B	126	A
18	B	127	U
18	B	128	A
18	B	129	G
18	B	131	A
18	B	132	A
18	B	139	A
18	B	140	A
18	B	141	G
18	B	142	C
18	B	151	A
18	B	160	U
18	B	162	G
18	B	163	C
18	B	164	C
18	B	165	A
18	B	166	U
18	B	167	A
18	B	168	U
18	B	169	U
18	B	170	U
18	B	171	U

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Mol	Chain	Res	Type
18	B	172	U
18	B	173	U
18	B	174	G
18	B	175	G
28	G	481	A
28	G	482	A
28	G	483	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	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	518	U
28	G	521	U
28	G	522	U
29	H	32	G
29	H	38	U
29	H	47	U
29	H	48	U
29	H	59	C
29	H	65	A
29	H	66	A
29	H	67	A
29	H	68	U
29	H	83	U
29	H	111	C
29	H	115	U
29	H	116	U
29	H	117	U
29	H	118	U
29	H	119	G

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

All (45) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
16	F	50	G
17	I	18	A

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Mol	Chain	Res	Type
17	I	19	U
17	I	24	A
17	I	91	U
17	I	134	U
17	I	142	G
18	B	17	C
18	B	32	G
18	B	33	U
18	B	77	A
18	B	83	C
18	B	94	C
18	B	95	C
18	B	128	A
18	B	130	A
18	B	150	U
18	B	166	U
18	B	168	U
18	B	172	U
28	G	480	A
28	G	514	U
29	H	46	C
29	H	66	A
29	H	117	U
29	H	1095	U
29	H	1096	C
29	H	1097	G
29	H	1100	A
29	H	1101	C
29	H	1102	C
29	H	1105	C
29	H	1119	C
29	H	1120	G
29	H	1121	U
29	H	1122	U
29	H	1123	C
29	H	1124	U
29	H	1125	U
29	H	1138	G
29	H	1141	C
29	H	1142	G
29	H	1144	U
29	H	1145	U

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Mol	Chain	Res	Type
29	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 8 ligands modelled in this entry, 7 are 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
44	GTP	C	1500	45	26,34,34	0.94	1 (3%)	32,54,54	1.61	4 (12%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
44	GTP	C	1500	45	-	4/18/38/38	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	C	1500	GTP	C6-N1	-2.42	1.34	1.37

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	C	1500	GTP	PB-O3B-PG	-4.54	117.24	132.83
44	C	1500	GTP	PA-O3A-PB	-4.03	119.00	132.83
44	C	1500	GTP	C3'-C2'-C1'	3.35	106.02	100.98
44	C	1500	GTP	C8-N7-C5	2.49	107.74	102.99

There are no chirality outliers.

All (4) torsion outliers are listed below:

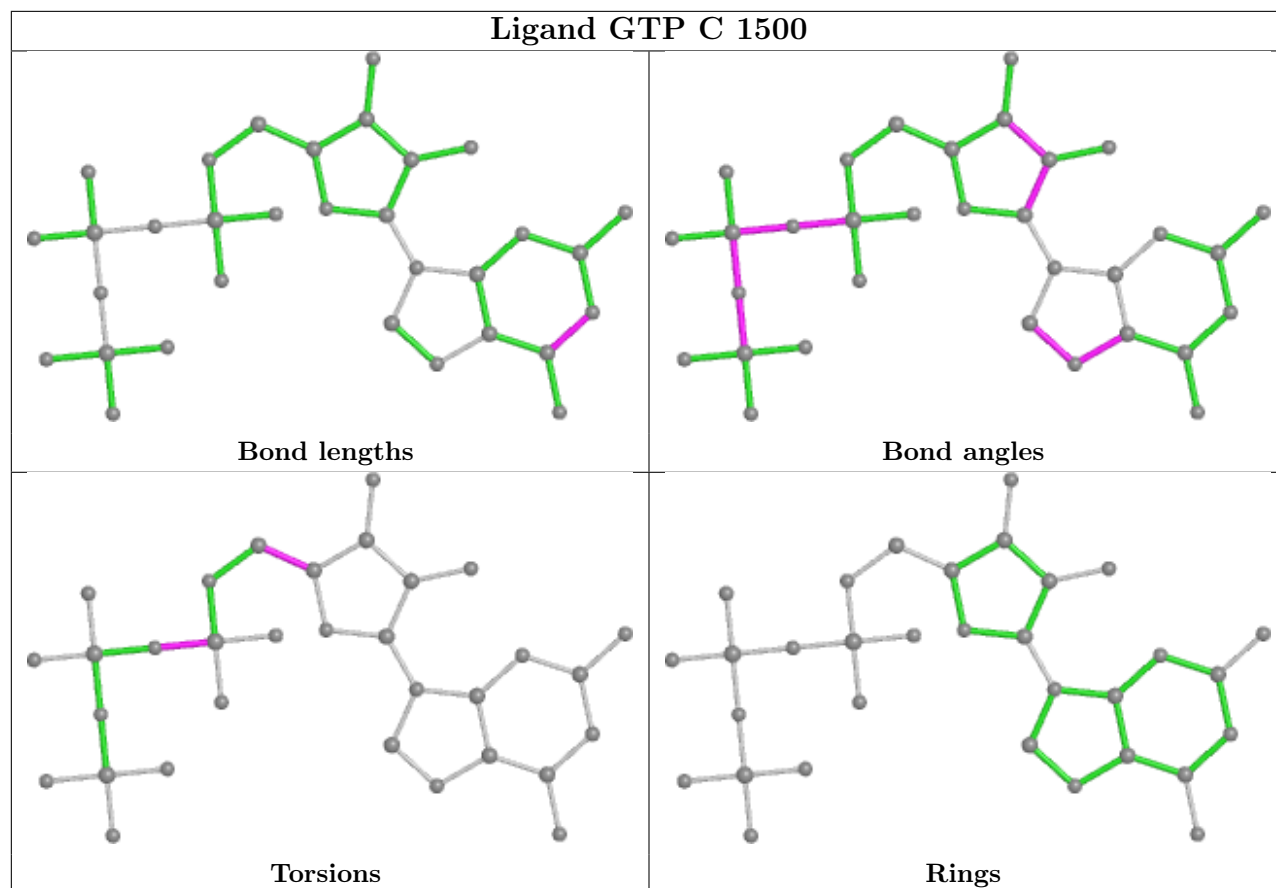
Mol	Chain	Res	Type	Atoms
44	C	1500	GTP	O4'-C4'-C5'-O5'
44	C	1500	GTP	C3'-C4'-C5'-O5'
44	C	1500	GTP	PB-O3A-PA-O2A
44	C	1500	GTP	PB-O3A-PA-O1A

There are no ring outliers.

1 monomer is involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
44	C	1500	GTP	6	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.

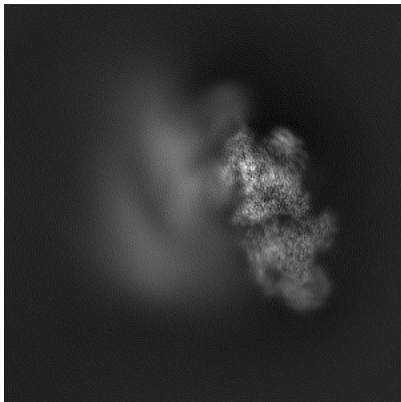
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-6972. These allow visual inspection of the internal detail of the map and identification of artifacts.

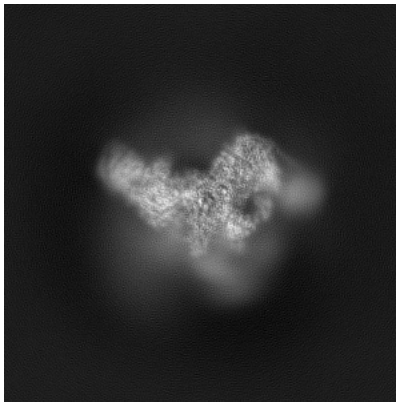
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

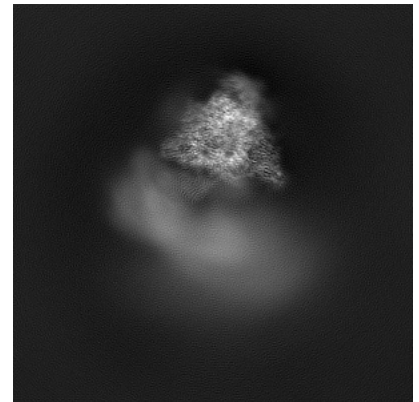
6.1.1 Primary map



X



Y

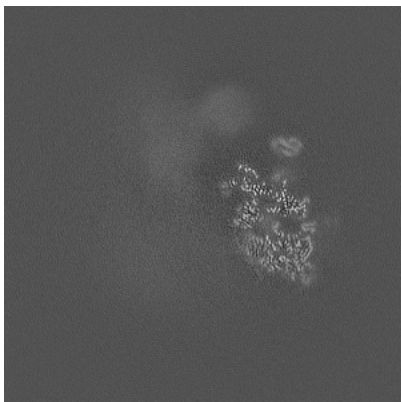


Z

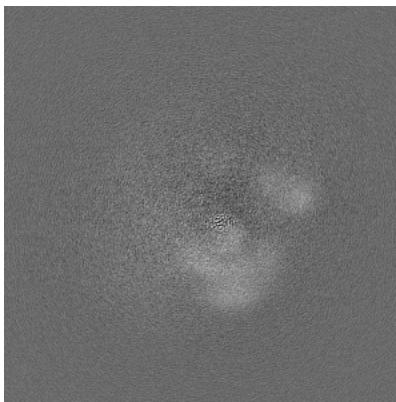
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

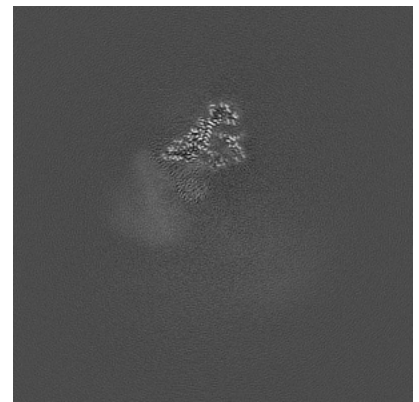
6.2.1 Primary map



X Index: 200



Y Index: 200

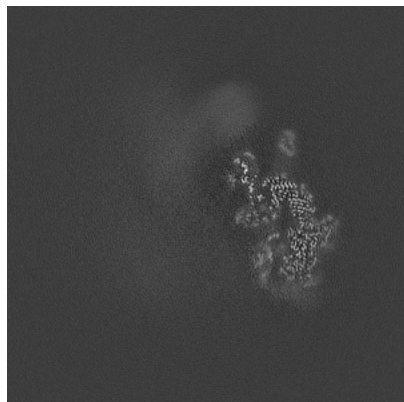


Z Index: 200

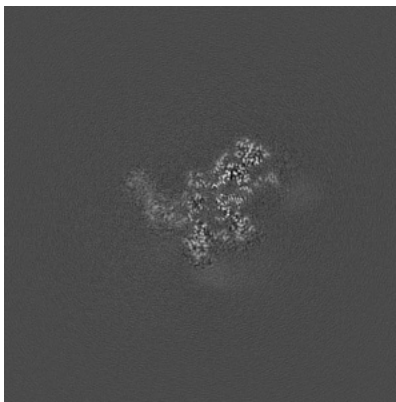
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

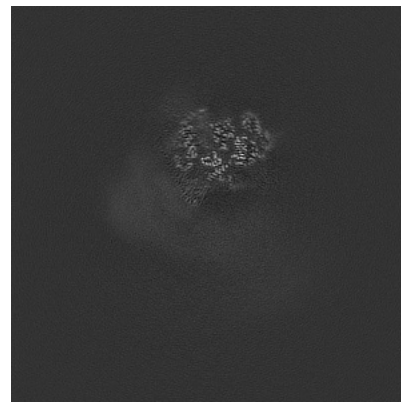
6.3.1 Primary map



X Index: 212



Y Index: 247



Z Index: 224

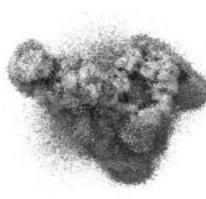
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.023. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

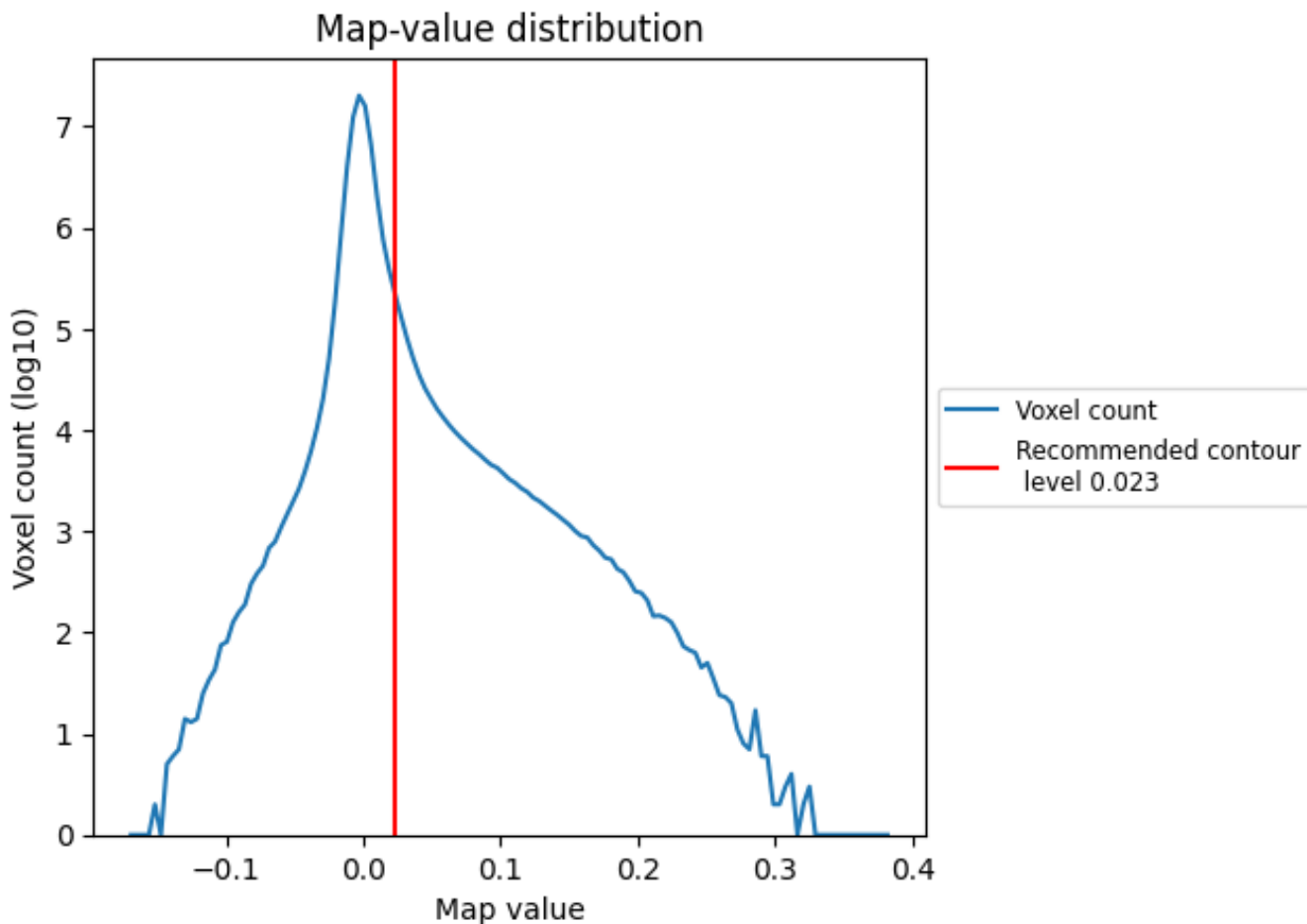
6.5 Mask visualisation

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

7 Map analysis [i](#)

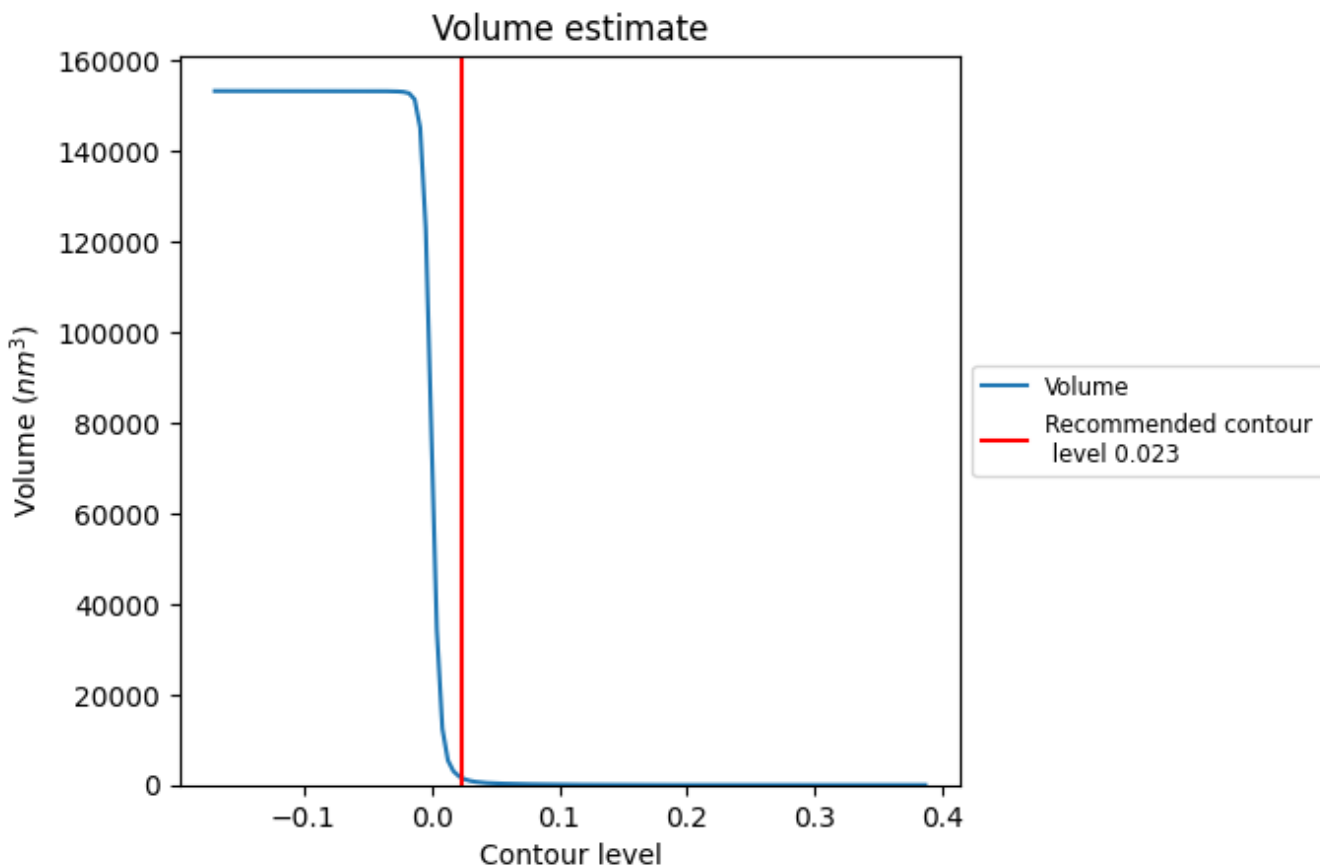
This section contains the results of statistical analysis of the map.

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.

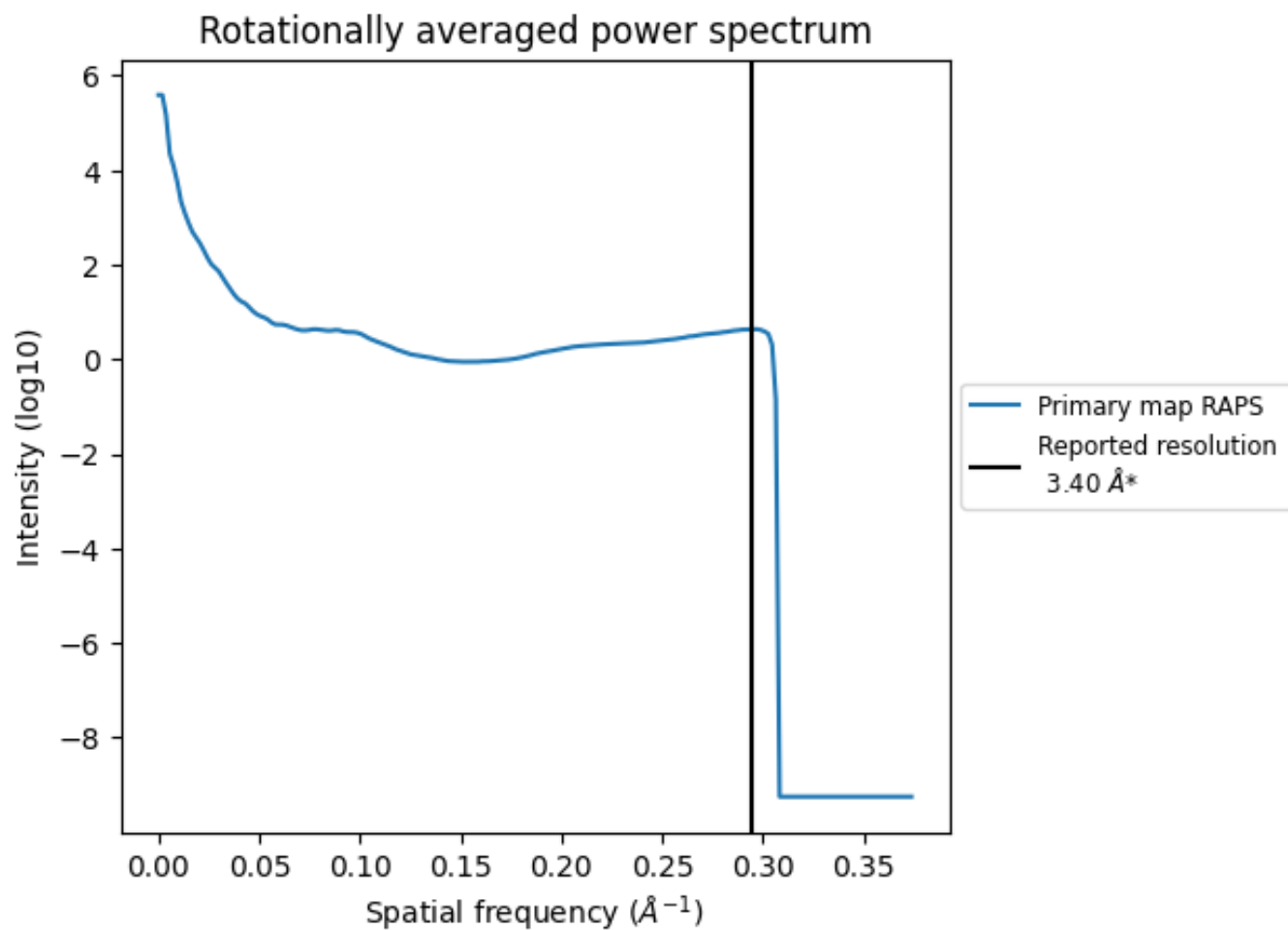
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1701 nm³; this corresponds to an approximate mass of 1536 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



*Reported resolution corresponds to spatial frequency of 0.294 Å⁻¹

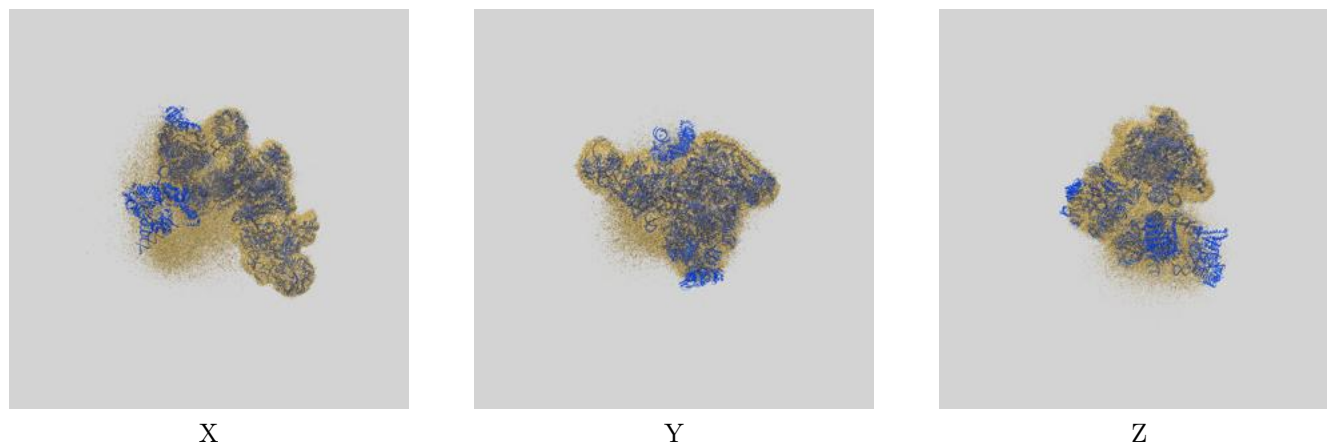
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

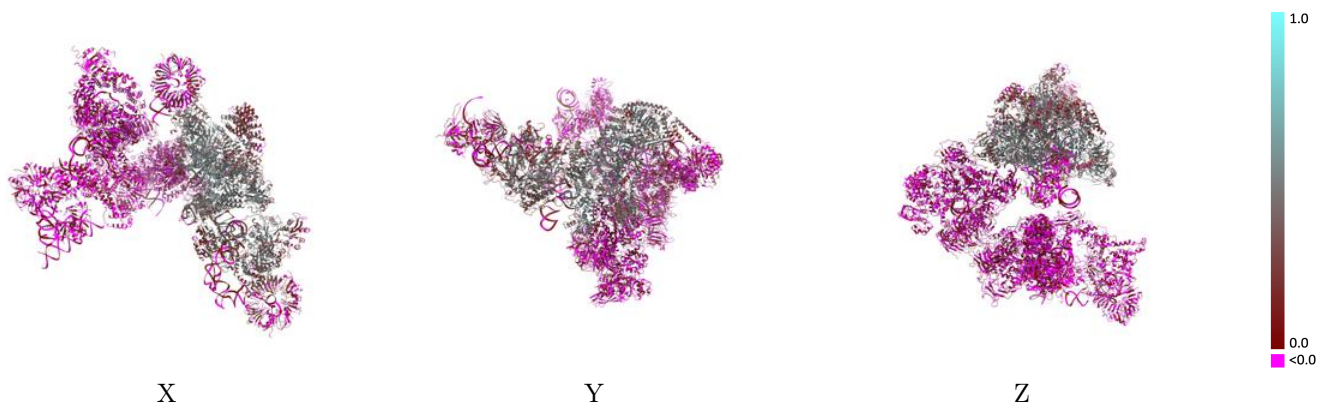
This section contains information regarding the fit between EMDB map EMD-6972 and PDB model 5ZWM. Per-residue inclusion information can be found in section 3 on page 14.

9.1 Map-model overlay [i](#)



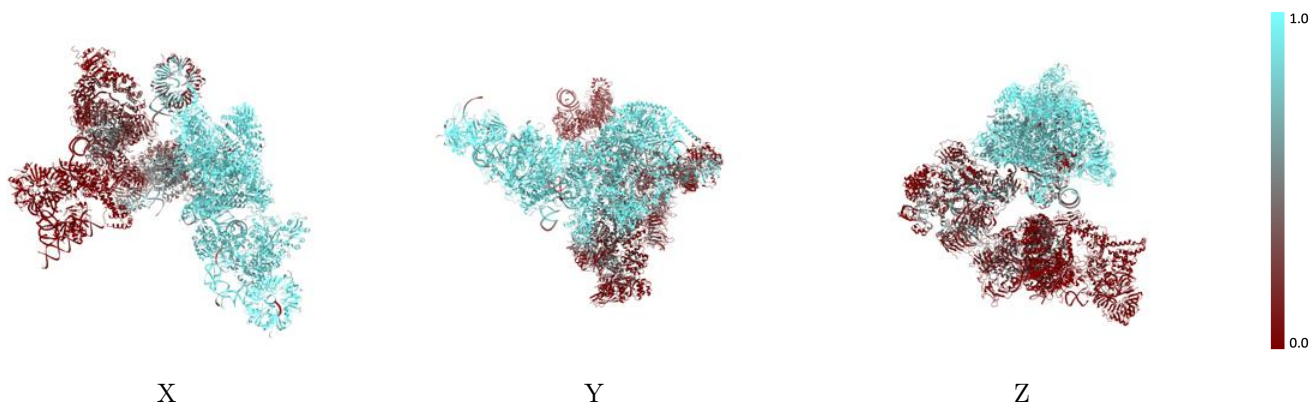
The images above show the 3D surface view of the map at the recommended contour level 0.023 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



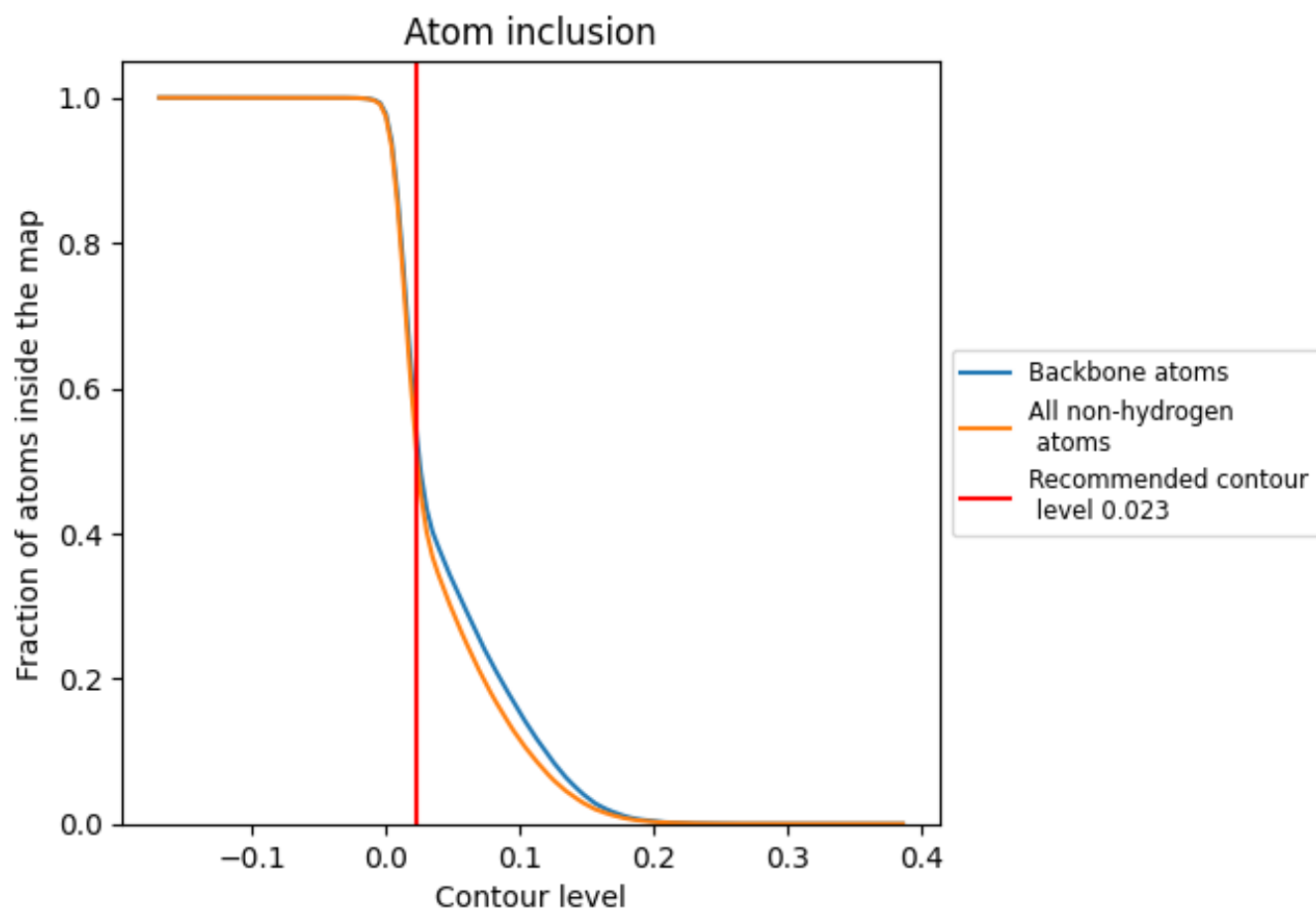
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.023).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 53% of all backbone atoms, 51% 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 (0.023) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5052	 0.1620
1	 0.1698	 0.0010
2	 0.1604	 0.0170
3	 0.1706	 0.0070
4	 0.0557	 -0.0180
5	 0.2769	 0.0070
6	 0.3174	 -0.0020
A	 0.8434	 0.3780
B	 0.8824	 0.1520
C	 0.9058	 0.3540
D	 0.2770	 -0.0020
E	 0.9179	 0.4420
F	 0.8233	 0.2670
G	 0.2004	 -0.0050
H	 0.0741	 0.0020
I	 0.8235	 0.3140
J	 0.9237	 0.4150
K	 0.9220	 0.4350
L	 0.9286	 0.4290
M	 0.9552	 0.5200
N	 0.9201	 0.3230
O	 0.7584	 0.2720
P	 0.5390	 -0.0080
Q	 0.3853	 -0.0020
R	 0.4288	 -0.0110
S	 0.5936	 0.0110
T	 0.1553	 -0.0060
U	 0.2718	 -0.0290
V	 0.2619	 0.0160
X	 0.0049	 0.0070
Y	 0.0014	 -0.0100
Z	 0.0058	 -0.0350
a	 0.9486	 0.2050
b	 0.9383	 0.1490
c	 0.9306	 0.0690



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Chain	Atom inclusion	Q-score
d	 0.9810	 0.2910
e	 0.9514	 0.0850
f	 0.9214	 0.1000
g	 0.8571	 0.0530
h	 0.0067	 0.0250
i	 0.0017	 0.0280
j	 0.0037	 -0.0190
k	 0.0038	 -0.0070
l	 0.0149	 0.0050
m	 0.0079	 0.0080
n	 0.0019	 0.0010
o	 0.0084	 0.0140
p	 0.0065	 0.0150
q	 0.4429	 0.0150
r	 0.5032	 0.0150
s	 0.4156	 0.0280
t	 0.6396	 0.0210
u	 0.0316	 -0.0030
v	 0.0982	 -0.0010
w	 0.0057	 -0.0230
x	 0.5507	 0.0480
y	 0.6174	 0.0200
z	 0.2923	 -0.0110