



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 09:52 AM UTC

PDB ID : 5XJC / pdb_00005xjc
EMDB ID : EMD-6721
Title : Cryo-EM structure of the human spliceosome just prior to exon ligation at 3.6 angstrom
Authors : Zhang, X.; Yan, C.; Hang, J.; Finci, I.L.; Lei, J.; Shi, Y.
Deposited on : 2017-04-30
Resolution : 3.60 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

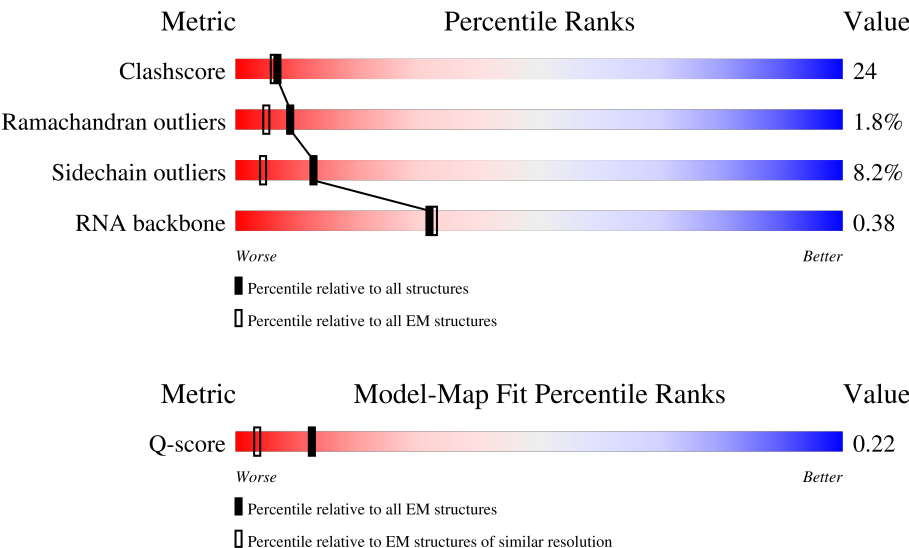
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

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 3.60 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	12797 (3.10 - 4.10)

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	2335	22% 67% 23% 6%
2	B	117	24% 35% 25% 9% 28%
3	C	972	26% 54% 27% 7% 11%

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Mol	Chain	Length	Quality of chain
4	D	2136	
5	E	357	
6	F	107	
7	G	275	
8	H	188	
9	I	855	
10	J	848	
11	K	225	
12	L	802	
13	M	243	
14	N	144	
15	O	420	
16	P	229	
17	Q	1485	
18	R	536	
19	S	166	
20	T	514	
21	U	2752	
22	V	908	
23	W	579	
24	X	184	
25	Y	1220	
26	Z	586	
27	a	126	
27	h	126	

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Mol	Chain	Length	Quality of chain
28	b	231	
28	i	231	
29	c	119	
29	j	119	
30	d	118	
30	k	118	
31	f	86	
31	m	86	
32	e	92	
32	l	92	
33	g	76	
33	n	76	
34	o	255	
35	p	225	
36	q	504	
36	r	504	
36	s	504	
36	t	504	
37	u	411	
38	v	148	
39	w	174	
40	x	703	

2 Entry composition

There are 46 unique types of molecules in this entry. The entry contains 116421 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Pre-mRNA-processing-splicing factor 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	2253	Total	C	N	O	S	0	0
			18633	11997	3253	3302	81		

- Molecule 2 is a RNA chain called U5 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	84	Total	C	N	O	P	0	0
			1768	792	295	597	84		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	862	Total	C	N	O	S	0	0
			6798	4347	1138	1281	32		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	1722	Total	C	N	O	S	0	0
			13846	8848	2369	2557	72		

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

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

- Molecule 6 is a RNA chain called U6 snRNA.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	84	Total	C	N	O	P	0	0
			1551	686	222	560	83		

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 14 is a protein called Protein BUD31 homolog.

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

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

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

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

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

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

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

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

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

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

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

- Molecule 20 is a protein called Pleiotropic regulator 1.

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

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

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

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

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

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

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

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

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

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

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

There is a discrepancy between the modelled and reference sequences:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

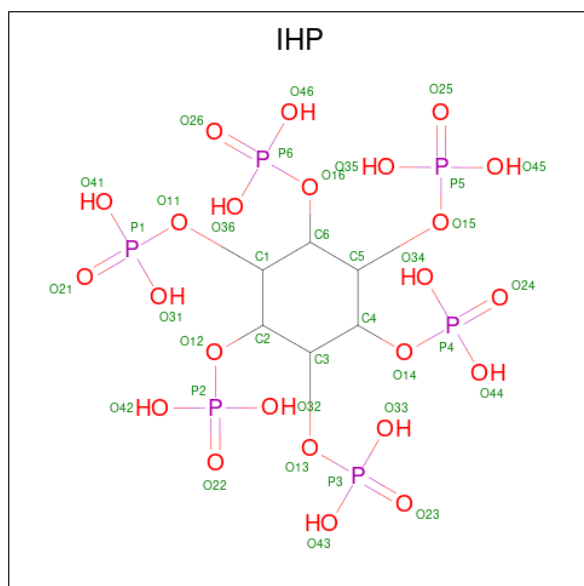
- Molecule 39 is a protein called RNA-binding protein 8A.

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

- Molecule 40 is a protein called Protein CASC3.

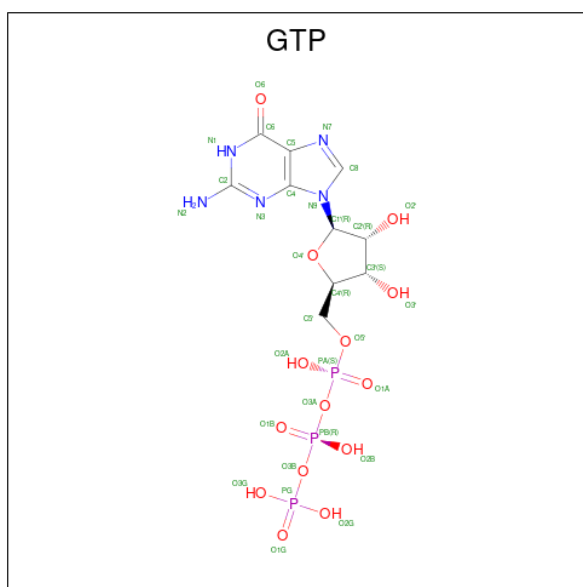
Mol	Chain	Residues	Atoms				AltConf	Trace
40	x	25	Total	C	N	O	0	0
			216	136	39	41		

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



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

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

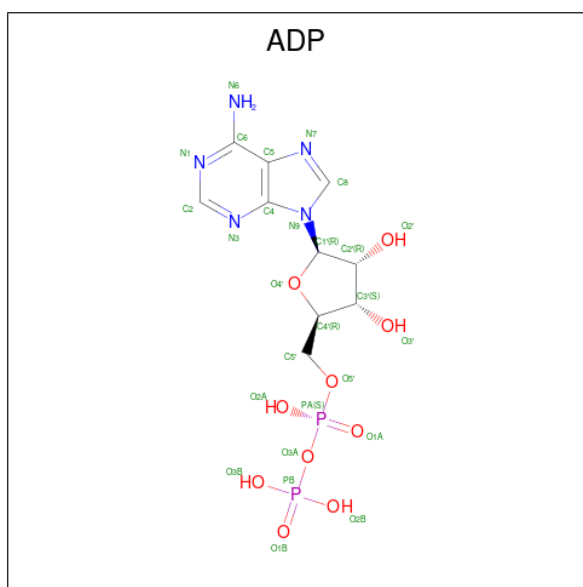


Mol	Chain	Residues	Atoms					AltConf
42	C	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 43 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

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

- Molecule 44 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: C₁₀H₁₅N₅O₁₀P₂).

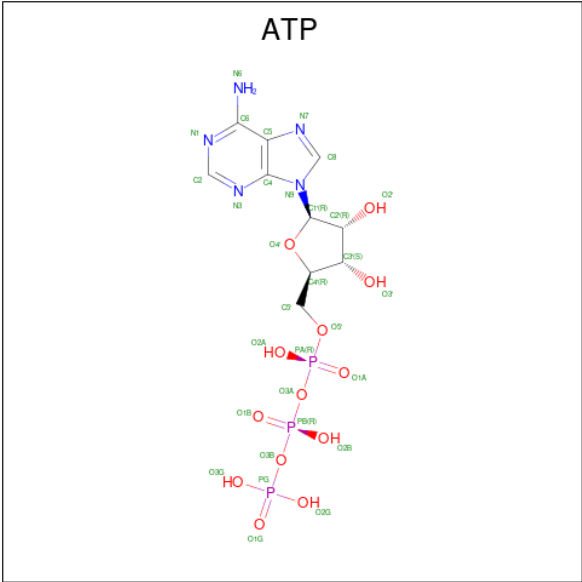


Mol	Chain	Residues	Atoms					AltConf
44	D	1	Total 27	C 10	N 5	O 10	P 2	0
44	D	1	Total 27	C 10	N 5	O 10	P 2	0

- Molecule 45 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

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



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

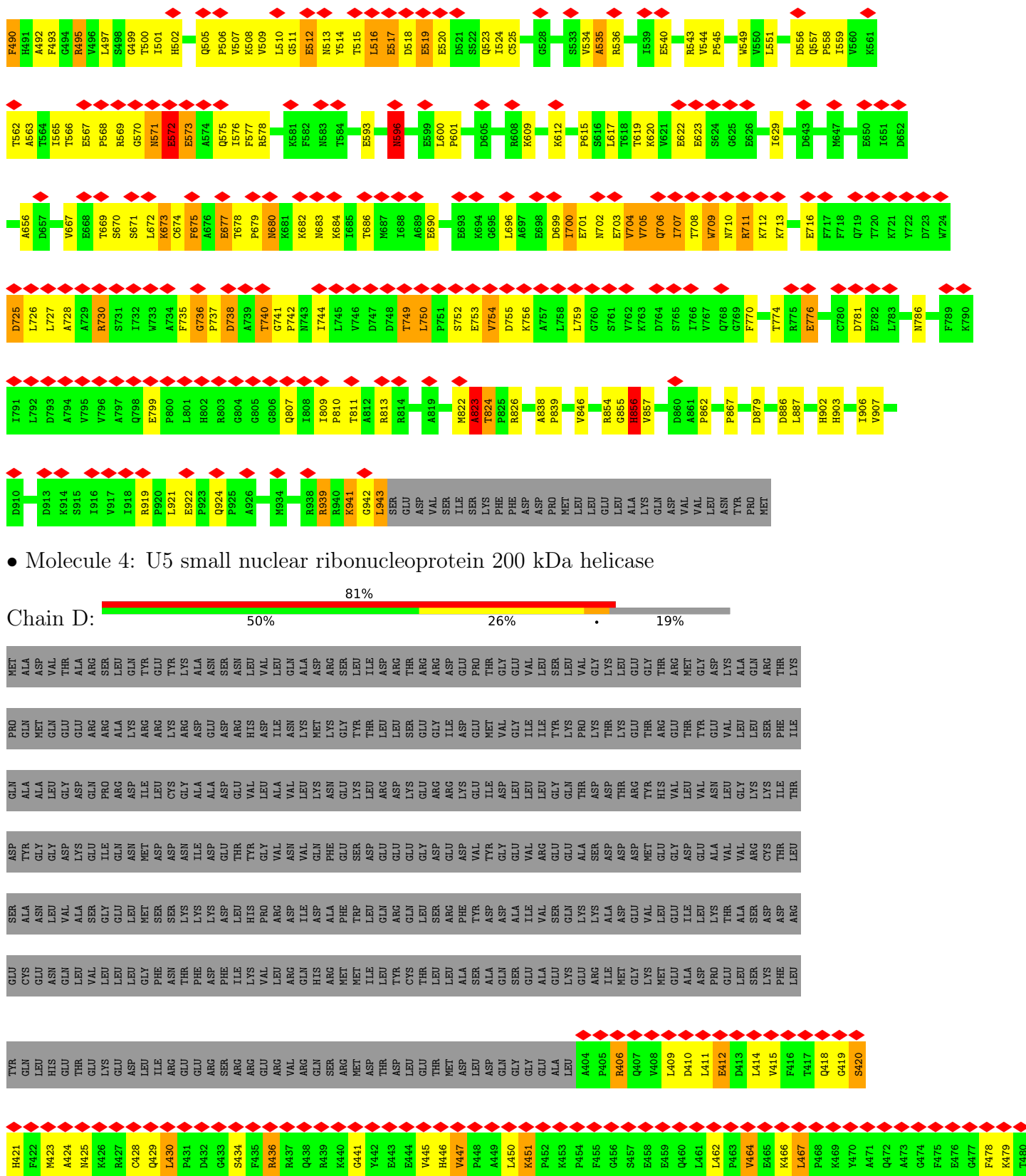
3 Residue-property plots

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

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

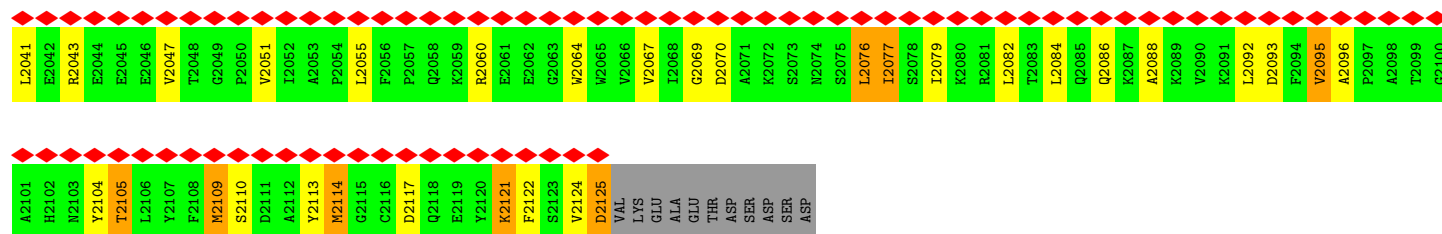


R2143	L2083	N1946	K1838	Y1754	M1591	Q1476	H1359	V1244	N1121	K983	V852
C2144	H2084	M1947	E1843	E1757	C1594	A1477	E1360	R1245	N1122	K984	V853
I2145	L2085	D1948	E1844	P1758	Q1599	V1481	E1361	Q1246	E1123	Y985	S854
V2146	R2086	A1950	L1848	E1759	E1600	L1489	Q1362	M1249	N1124	S855	L856
M2147	T2087	V1951	I1849	E1760	L1601	F1490	L1364	G1252	I1125	L856	L857
V2148	H2088	V1952	L1850	E1763	D1602	Y1494	L1365	S1253	V1126	R861	R861
P2149	H2089	L1953	R1850	S1764	D1607	F1495	I1366	R1275	N1129	E862	E862
Q2150	T2090	L1954	E1855	Q1766	E1607	G1500	L1368	E1276	N1130	D872	D872
W2151	Y2091	K1955	E1856	Q1767	E1612	L1501	Q1373	V1279	K1131	M873	M873
G2152	Y2092	K1956	E1857	Y1768	T1612	F1502	L1370	R1279	K1132	P874	P874
S2153	S2093	T1957	I1860	G1769	I1614	W1503	R1384	L1284	K1133	H875	H875
H2154	S2094	T1958	I1862	E1770	H1615	E1504	W1385	L1285	N1021	R880	R880
Q2155	D2095	L1960	V1863	L1771	H1616	K1505	W1386	D1286	N1022	I881	I881
T2156	D2096	T1962	L1772	E1617	R1617	A1506	Y1389	L1303	N1023	L901	L901
V2157	T2097	E1963	N1774	D1628	D1628	S1507	A1390	M1304	H1024	Y902	Y902
H2158	K2098	P1964	Q1775	D1641	P1642	G1508	E1395	S1305	N1029	S903	S903
L2159	E2099	H1965	I1776	P1642	E1510	F1509	A1398	M1307	I1040	H904	H904
P2160	T2100	H1966	I1777	E1511	E1512	E1510	Q1399	P1313	V1052	D910	D910
G2161	G2101	I1967	D1781	E1512	S1512	E1511	Q1399	V1314	V1052	V911	V911
Q2162	Y2102	H1968	D1782	S1648	K1513	E1511	Q1399	V1315	G1063	E912	E912
L2163	T2103	H1969	E1786	K1649	K1514	E1511	N1400	F1316	P1064	D919	D919
P2164	Y2104	E1975	R1787	K1649	K1514	E1511	N1400	F1317	P1065	D923	D923
Q2165	I2105	E1975	V1788	D1650	W1515	E1511	N1400	F1318	Q1066	Y928	Y928
H2166	L2106	E1980	T1789	V1651	W1516	E1511	N1400	E1321	Q1067	D331	D331
E2167	P2107	E1980	H1790	V1651	K1516	E1511	N1400	S1329	F1071	K932	K932
Y2168	K2108	K1984	K1792	M1652	K1517	E1511	N1400	H1332	S1073	R933	R933
L2169	N2109	D1985	T1793	M1653	L1518	E1511	N1400	V1333	F1074	P947	P947
K2170	V2110	L1986	F1794	D1654	T1519	E1511	N1400	I1334	Q1075	P949	P949
E2171	L2111	L1986	F1794	S1658	N1520	E1511	N1400	G1336	D1076	L951	L951
M2172	K2112	D1990	Q1796	Q1658	A1521	E1511	N1400	E1337	E1080	K954	K954
E2173	K2113	K1993	N1797	D1663	Q1522	E1511	N1400	G1337	H1083	D964	D964
P2174	F2114	N1998	L1798	D1675	S1524	E1511	N1400	S1338	I1092	E970	E970
L2175	I2115	V1999	T1799	D1678	G1526	E1511	N1400	D1339	P1093	G971	G971
G2176	C2116	A2000	K1801	R1678	L1526	E1511	N1400	R1341	R1094	R980	R980
W2177	I2117	S2001	P1802	R1681	N1527	E1511	N1400	W1342	R1107	F981	F981
I2178	S2118	L2002	N1811	D1686	Q1528	E1511	N1400	T1345	E1210	E982	E982
H2179	D2119	E2006	P1812	D1686	I1529	E1511	N1400	D1347	K1210		
T2180	L2120	E2007	R1813	D1686	L1533	E1511	N1400	V1347	D1211		
Q2181	R2121	I2007	T1814	D1686	L1536	E1511	N1400	G1349	D1212		
P2182	A2122	R2008	K1820	D1690	L1536	E1511	N1400	I1350	V1213		
D2183	Q2123	D2009	W1827	D1690	L1536	E1511	N1400	G1351	N1215		
E2184	I2124	L2012	A1828	D1690	L1536	E1511	N1400	H1352	E1219		
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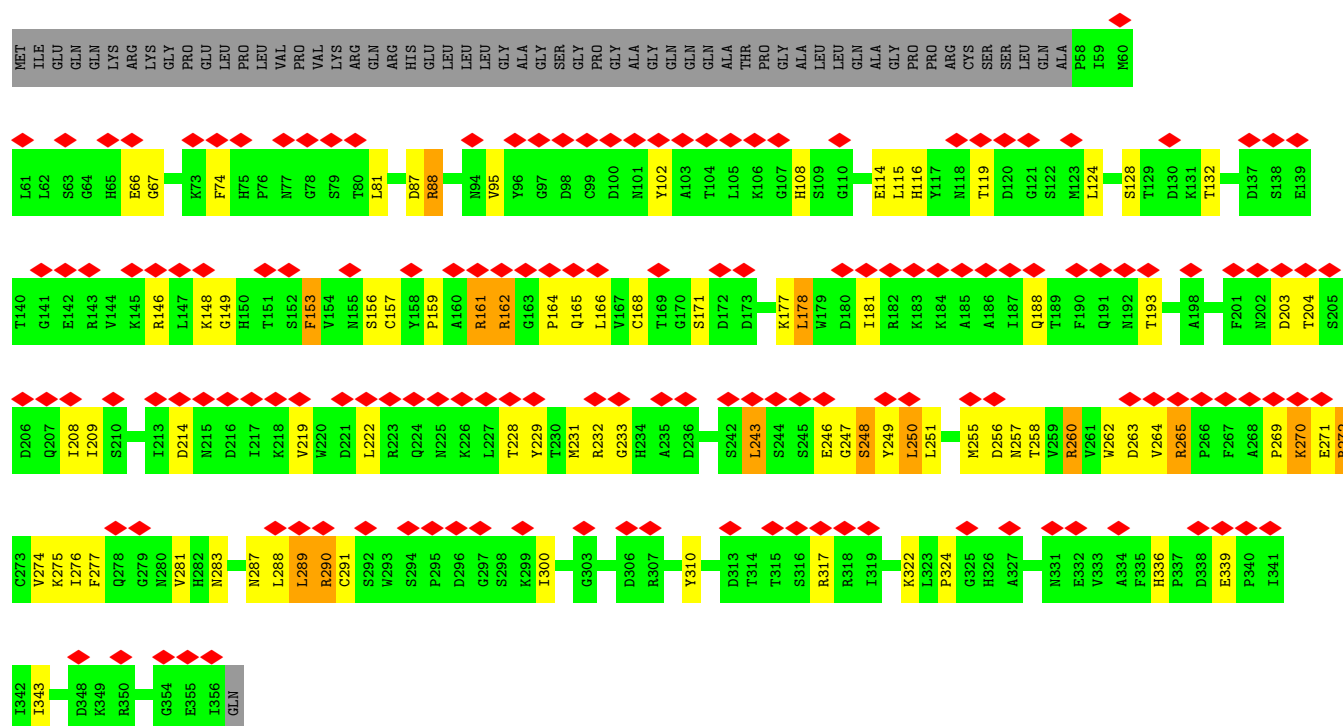
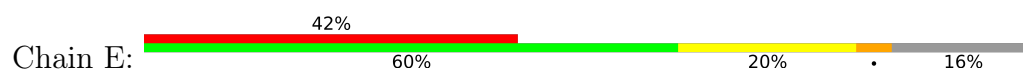


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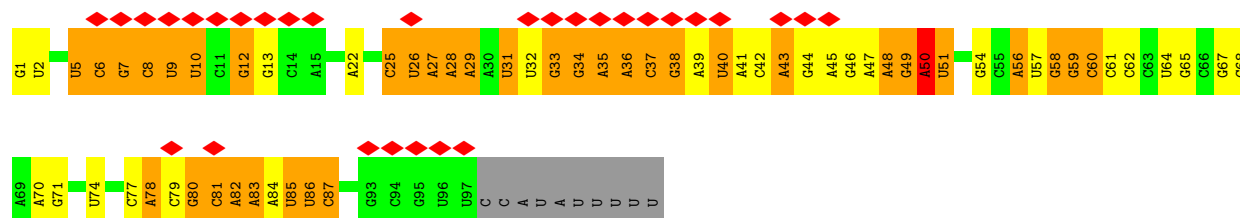
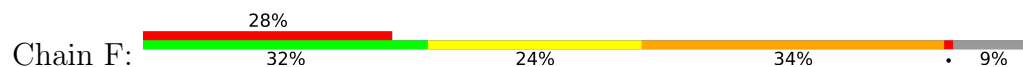
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• Molecule 5: U5 small nuclear ribonucleoprotein 40 kDa protein

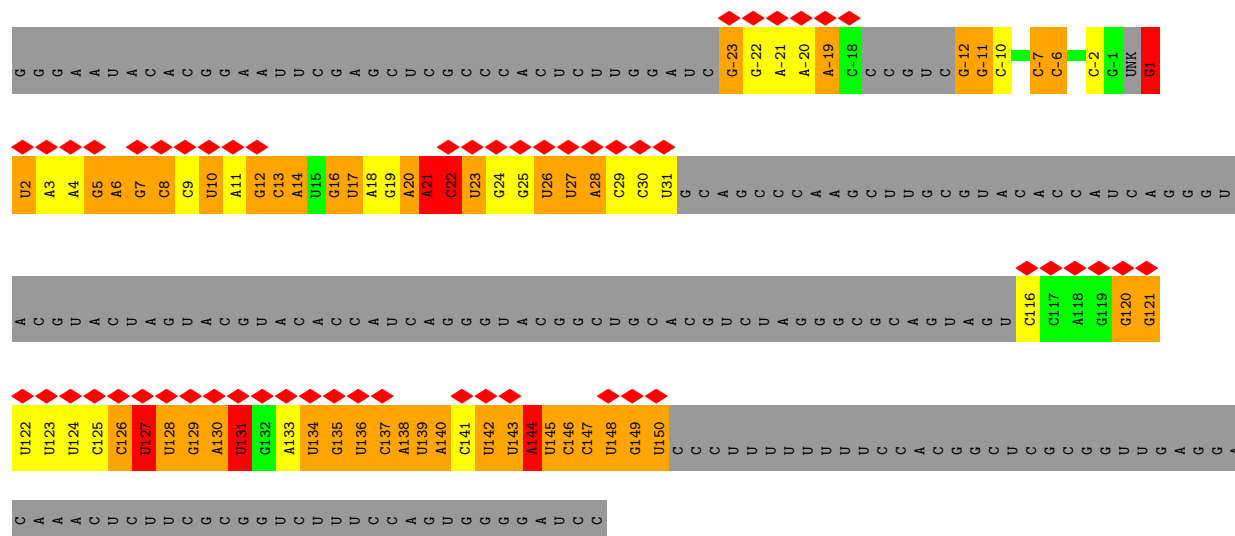


• Molecule 6: U6 snRNA

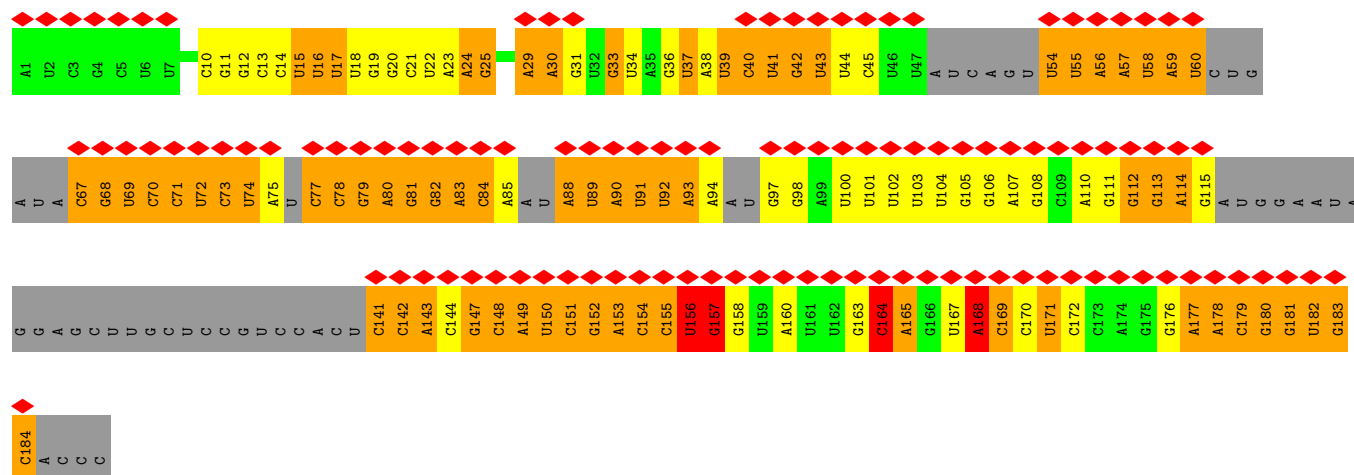


• Molecule 7: pre-mRNA

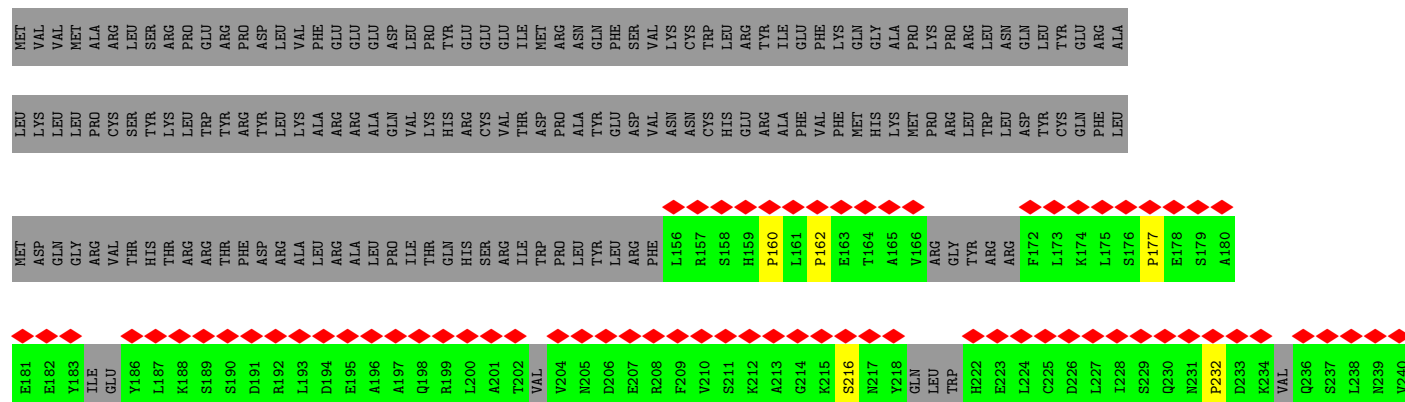


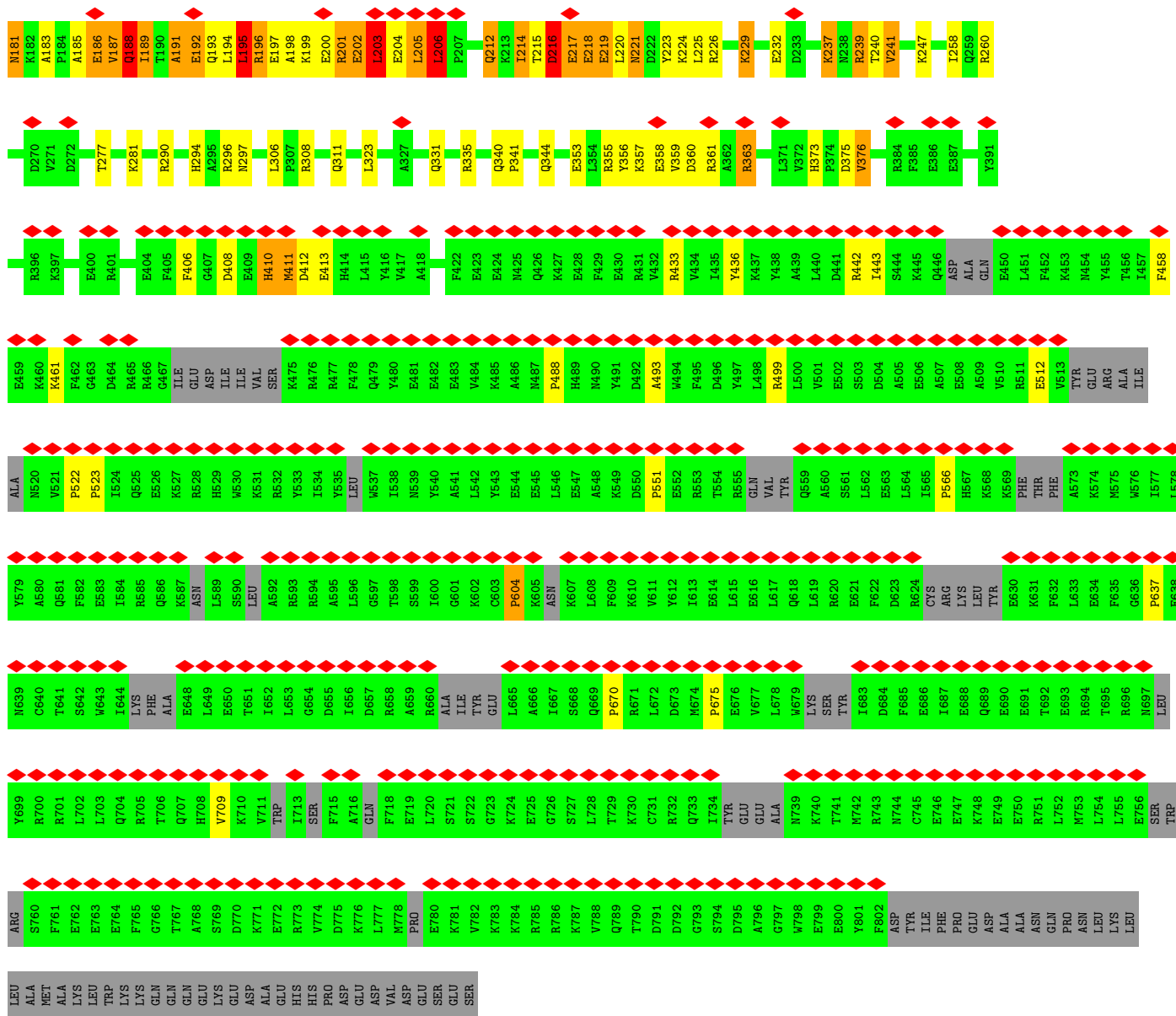


• Molecule 8: Homo sapiens small nuclear RNA (U2) gene

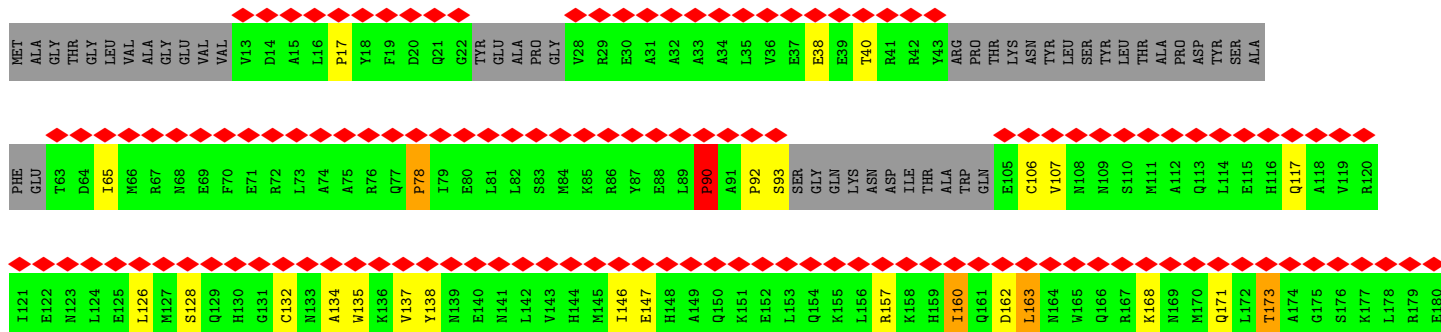


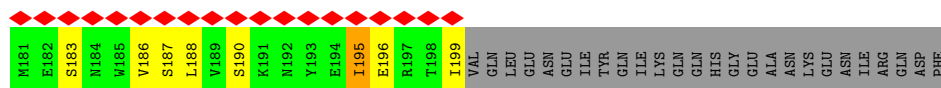
• Molecule 9: Pre-mRNA-splicing factor SYF1



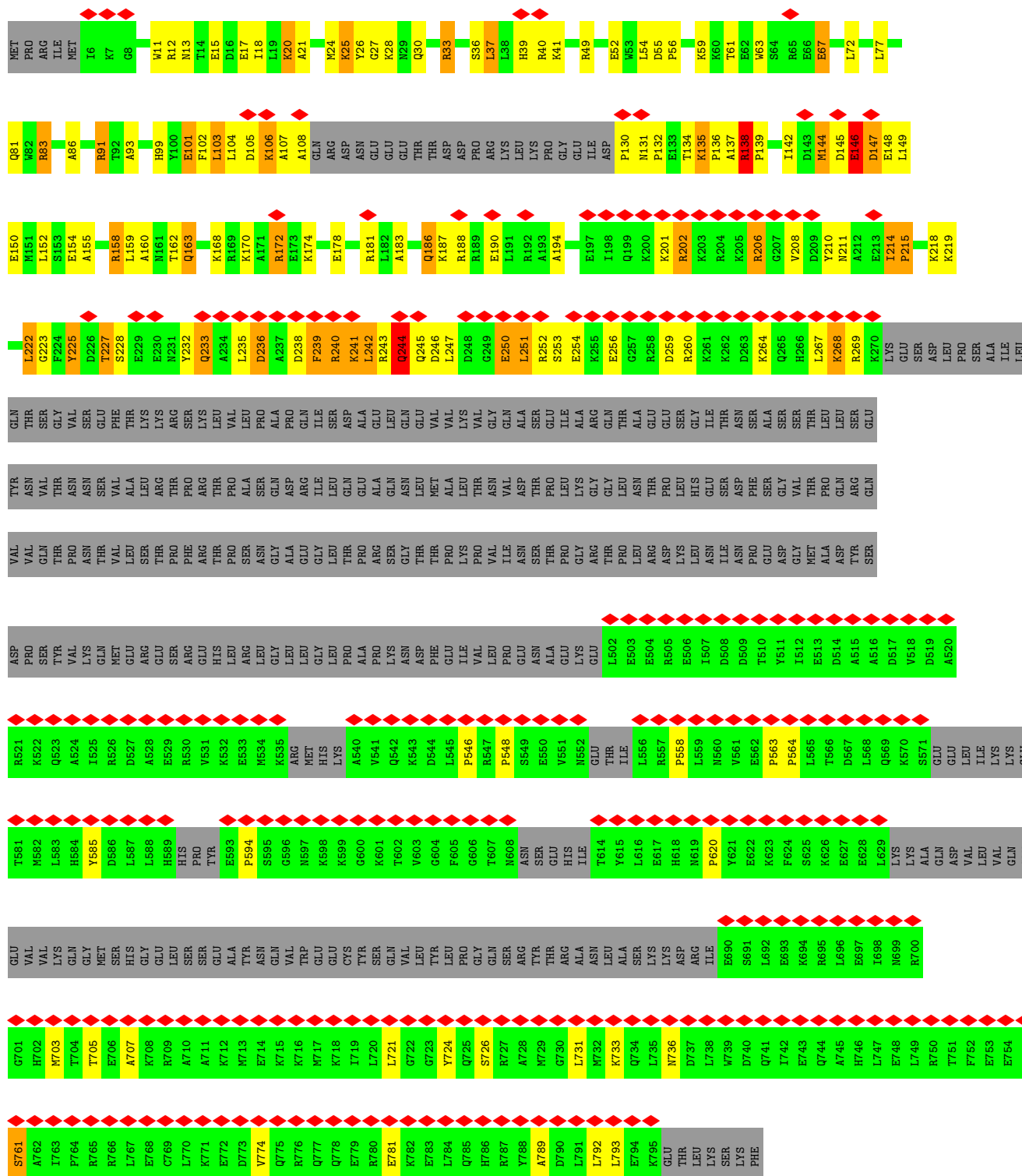
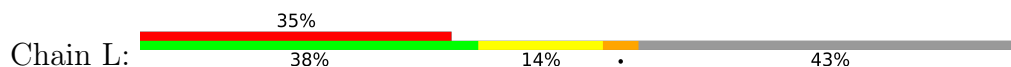


• Molecule 11: Pre-mRNA-splicing factor SPF27

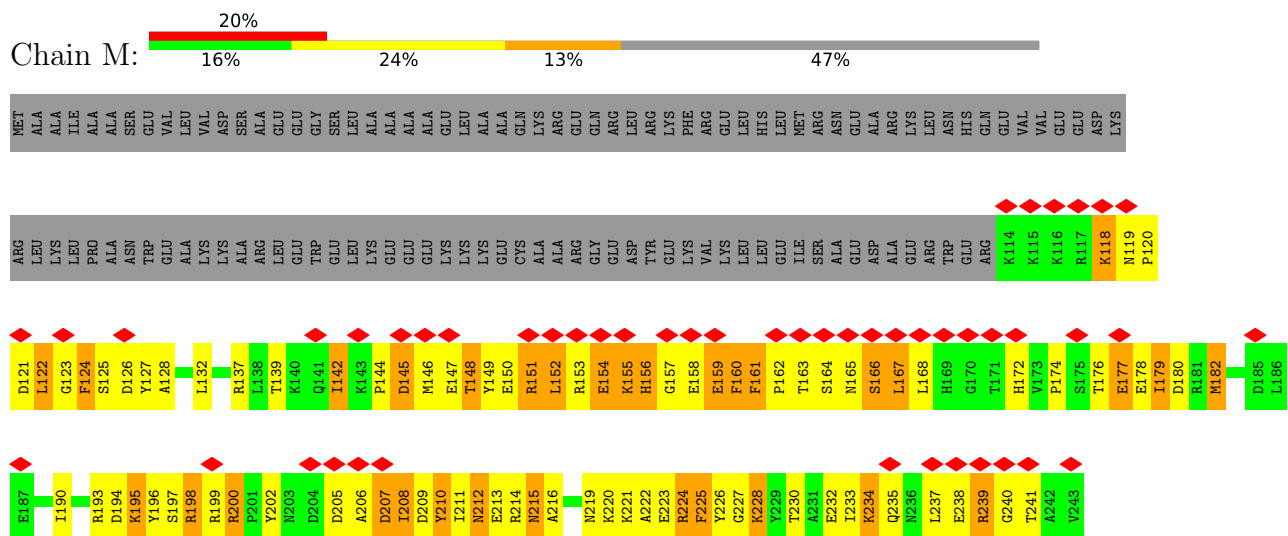




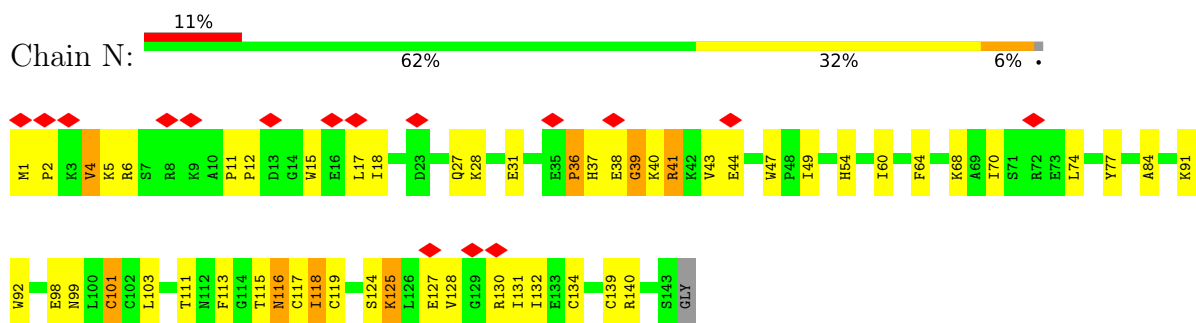
• Molecule 12: Cell division cycle 5-like protein



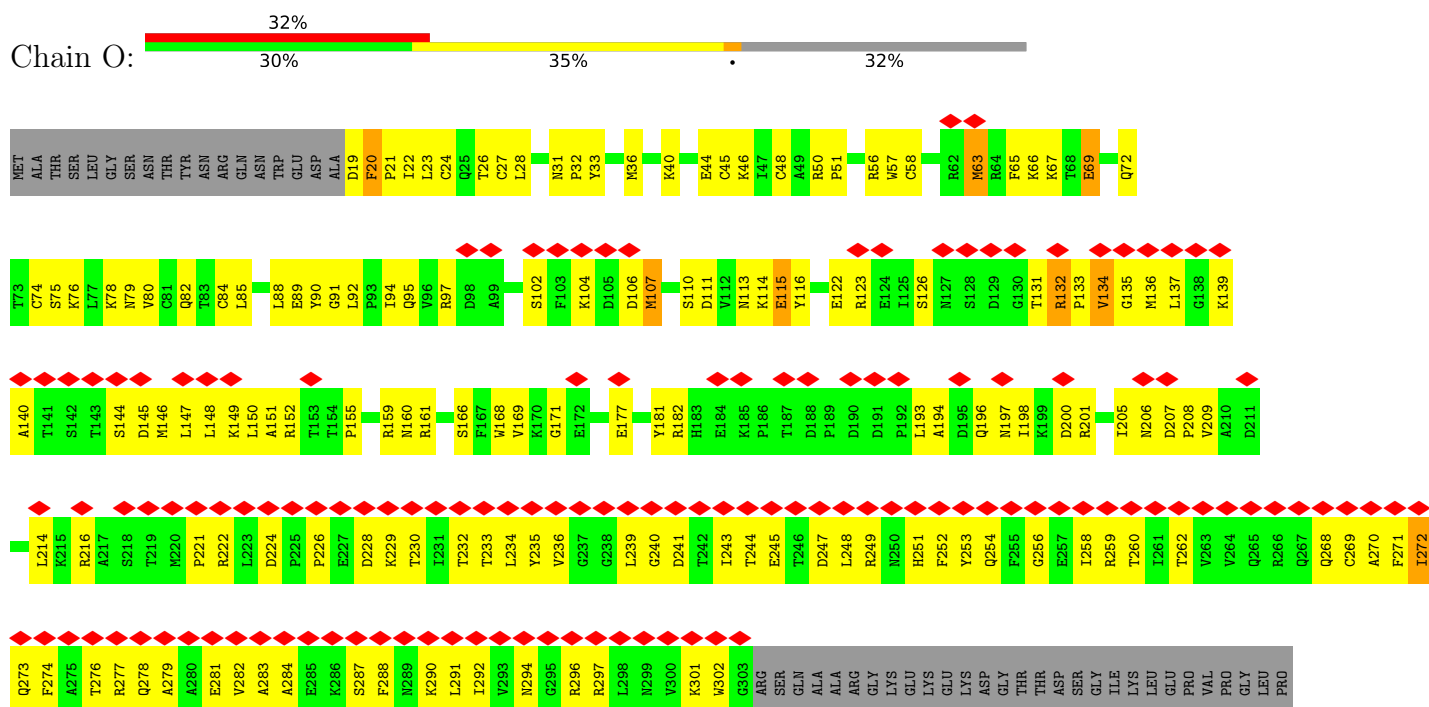
• Molecule 13: Pre-mRNA-splicing factor SYF2

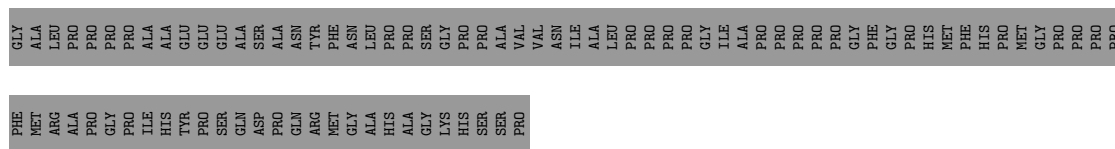


• Molecule 14: Protein BUD31 homolog

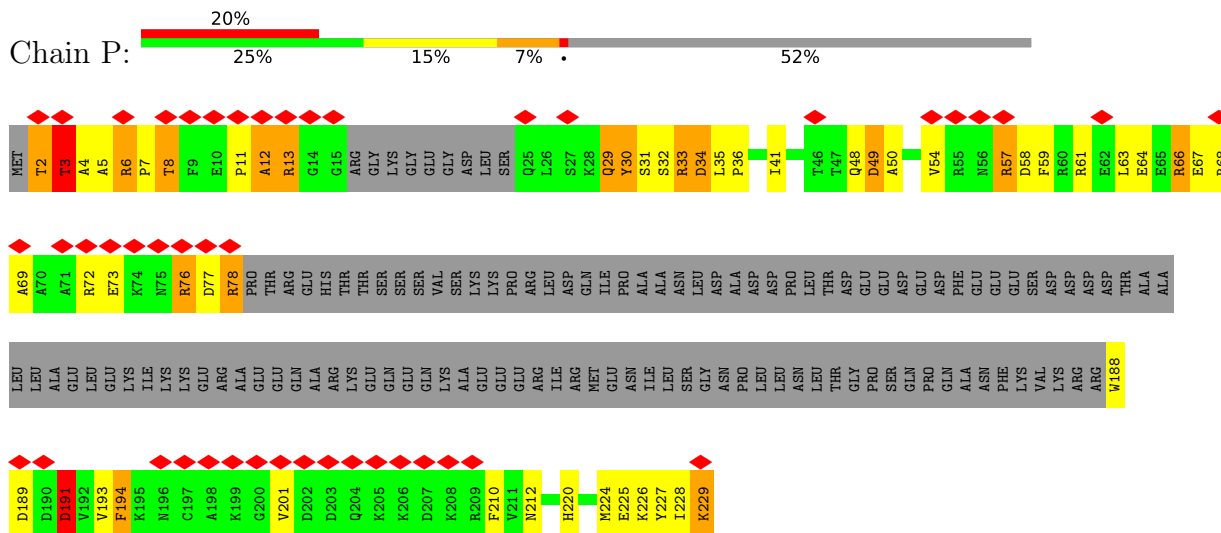


• Molecule 15: Pre-mRNA-splicing factor RBM22

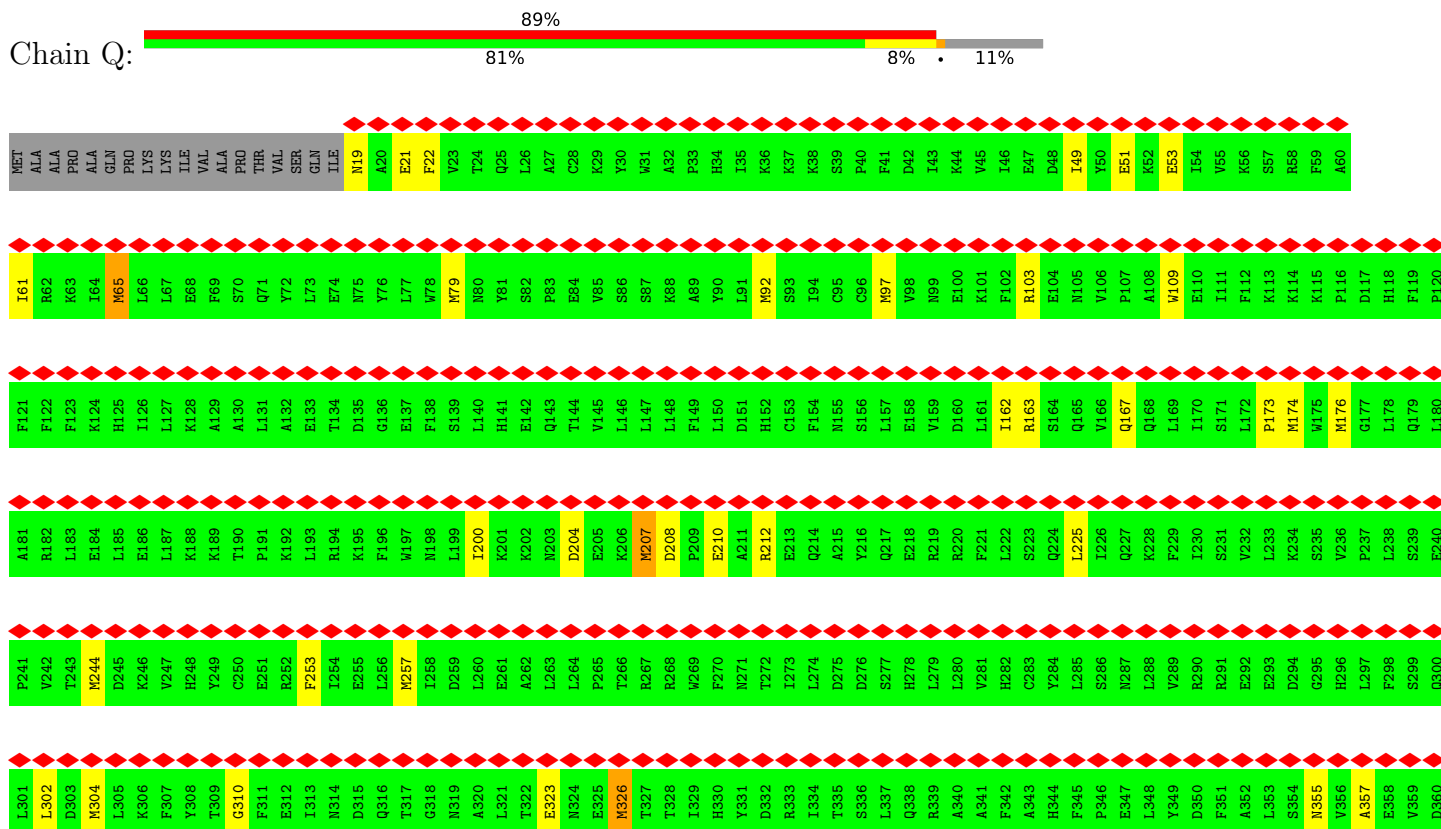




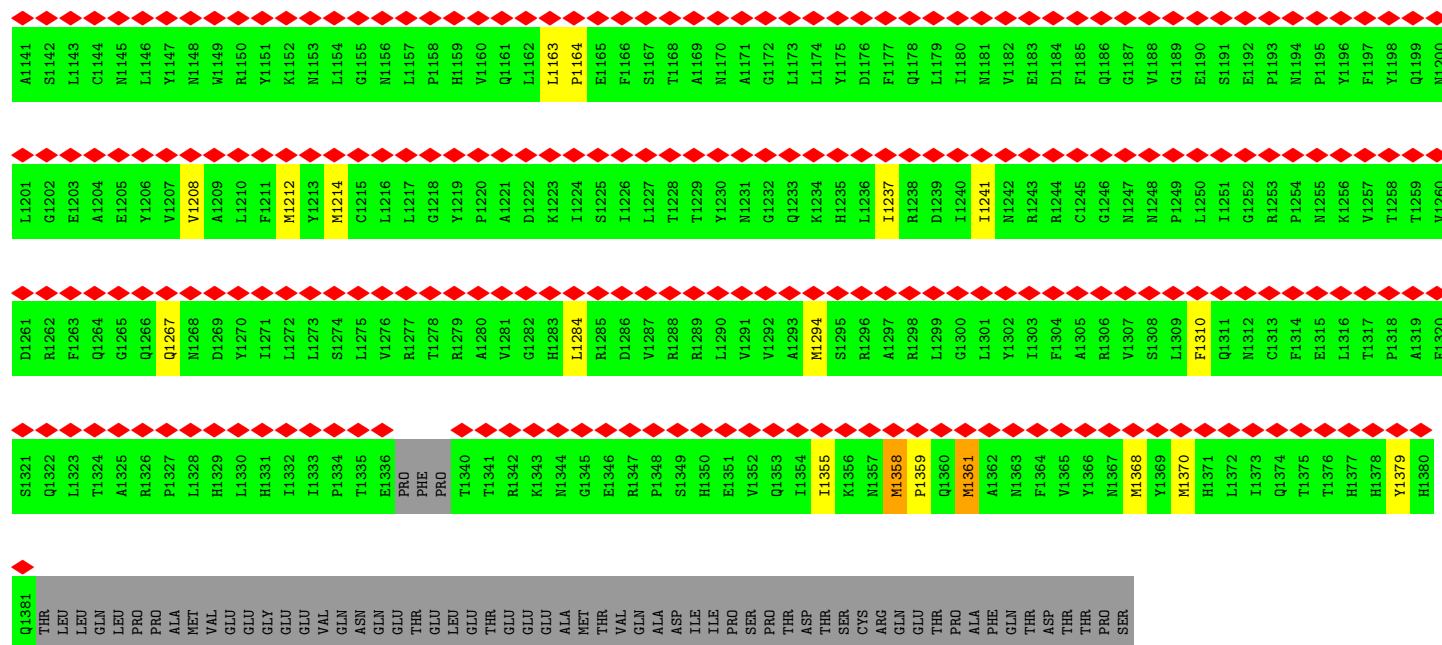
- Molecule 16: Spliceosome-associated protein CWC15 homolog



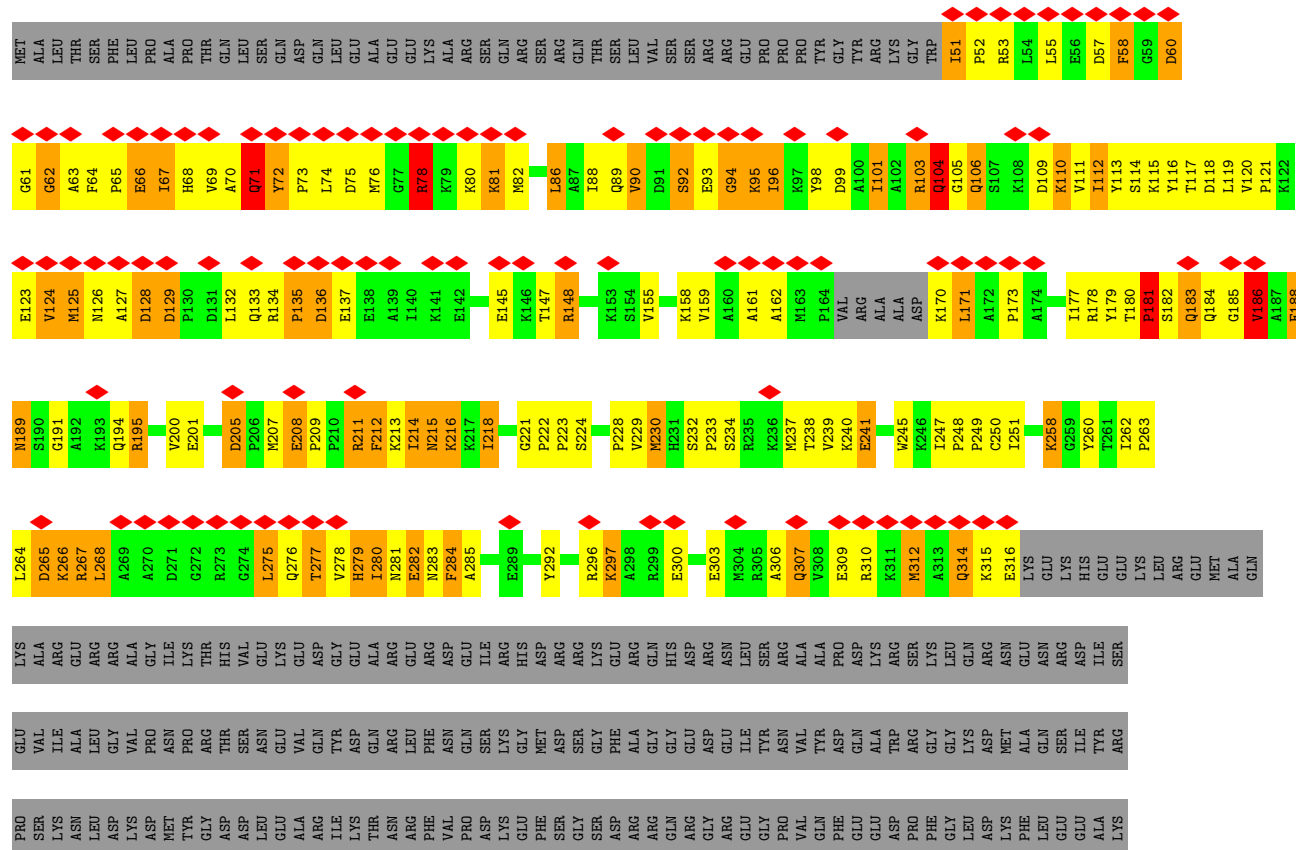
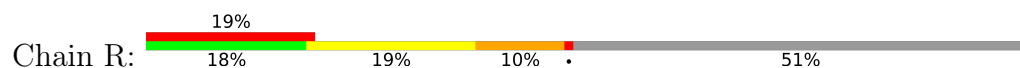
- Molecule 17: Intron-binding protein aquarium



P1081	L1021	V961	Y841	F781	I721	P661	L601	I541	I481	L421	T361
Q1082	D1022	T962	H842	H782	E722	K662	D602	N542	R482	N422	R362
D1083	R1023	E963	N843	V783	H723	E663	D603	L543	Q483	Q423	E363
G1084	S1024	V964	F844	I784	L724	N664	K604	N544	D484	M424	S364
F1085	R905	P845	P845	P785	K725	N665	G605	V545	I485	P425	L365
S1086	Y1026	E846	E846	N786	A726	F666	R606	R546	I486	L426	V366
R1087	L1027	Q847	Q847	R787	S727	K667	V607	D547	D487	Y427	K367
L1088	L1028	R848	R848	P788	F728	A668	I608	H548	S488	P428	F368
K1089	V1029	T849	T849	P789	F729	V669	GLU	I549	V489	P429	F369
R1090	L909	L909	L909	Y790	G730	L670	ASP	K550	S490	E430	G370
W1091	E910	L850	L850	P791	H731	E671	GLY	D551	K431	P371	P371
I1092	E911	L851	L851	Y792	H732	T672	PRO	E552	I432	L372	L372
M1093	V912	V852	V852	N793	N732	I673	GLU	M492	K493	I433	S373
I1094	K913	T853	T853	Q794	K734	R674	P614	W553	I434	S374	S374
G1095	R914	H854	H854	P795	V735	N675	R615	K494	W434	N375	N375
D1096	L915	S855	S855	K796	V736	L676	P616	W495	D435	T376	T376
H1097	Q916	N856	N856	R797	T736	M677	N617	Q496	E436	L377	L377
I1098	K917	Q857	Q857	N798	E738	M678	L618	S497	N437	I438	H378
Q1099	S918	A858	A858	T799	V739	N679	R619	GLU	I439	I438	H378
L1100	L919	L859	L859	T799	D739	T679	G620	TVR	V439	V439	Q379
P1101	G920	N860	N860	I800	P740	D680	E621	G500	P440	P440	V380
P1102	V921	Q861	Q861	Q801	A741	C681	S622	G501	T441	T441	A381
V1103	P922	L862	L862	F802	L742	R682	G623	V502	E442	E442	S382
I1104	G923	F863	F863	T603	Q743	V683	T624	V503	Y443	Y443	Y383
I1105	D924	E864	E864	H804	PRO	P684	F625	F504	Y444	Y444	L384
K1106	A925	K865	K865	T605	I746	D685	R626	G505	S445	S445	C385
N1107	S926	T866	T866	Q906	F747	N686	V627	G506	G446	G446	L386
A1108	Y927	R867	R867	I807	E748	L687	F628	W507	E447	E447	L387
F1109	T928	A868	A868	E808	I749	H688	L629	A508	G448	G448	P388
Q1110	C929	L869	L869	A809	T750	D689	D630	P569	C449	C449	T389
K1111	E930	D870	D870	I810	F751	I690	P631	M510	L450	L450	L390
Y1112	T931	L871	L871	R811	F752	I691	N632	A511	A451	A451	P391
S1113	A932	D872	D872	A812	V753	L692	Q633	Q512	L452	L452	K392
A1114	G933	E873	E873	G813	ARG	G693	Y634	P513	P453	P453	N393
M1115	Y934	N814	N814	Q815	SER	Y694	Q635	I514	K454	K454	E394
E1116	F935	H875	H875	P816	GLY	G695	Q636	V515	L455	L455	D395
Q1117	F936	L876	L876	G517	LYS	D696	D637	A516	N456	N456	T396
S1118	L937	L877	L877	G517	GLY	P697	M638	F517	L457	L457	T397
L1119	Y938	R878	R878	L818	LYS	S698	T639	T518	Q458	Q458	F398
F1120	Q939	L879	L879	T819	ARG	S699	N640	V519	F459	F459	D399
T1121	V940	G880	G880	N820	ASP	A700	T641	V520	L460	L460	K400
K1002	M941	H881	H881	V821	ALA	H701	I642	E521	T461	T461	E401
E1062	S942	GLY	GLY	V822	ASP	Y702	Q643	V522	L462	L462	F402
E1063	R943	E884	E884	G823	VAL	S703	N644	A523	H463	H463	L403
A1064	W944	E885	E885	P824	GLU	F704	G645	K524	D464	D464	L404
F1005	E945	E886	E886	P825	ASP	M705	A646	P525	Y465	Y465	E405
T1006	E946	L886	L886	G826	GLU	P706	E647	N526	L466	L466	L406
Q1007	E947	E887	E887	G826	THR	E706	D648	I527	L467	L467	L407
L1008	Y947	T888	T888	T827	GLU	N707	V649	G528	L468	L468	V408
E1009	I948	E889	E889	K829	E773	Q708	N650	E529	N469	N469	S409
E1010	S949	K890	K890	K829	A774	I709	E651	N530	F470	F470	R410
F1011	K950	D891	D891	T830	K775	A710	T652	W531	N471	N471	H411
Y1012	V951	F892	F892	D831	T776	T711	F653	P532	L472	L472	E412
A1013	K952	V832	V832	V832	L777	L712	N654	T533	F473	F473	R413
S1014	N953	A833	A833	A833	I778	D713	I655	R534	R474	R474	R414
E1015	LYS	V634	V634	V634	V779	F714	T656	V535	L475	L475	I415
L1016	GLY	Q835	Q835	Q835	E780	N715	I656	R536	E476	E476	S416
L1017	SER	T836	T836	T836		D716	M657	A537	T477	T477	Q417
L1018	THR	I837	I837	I837		F717	R658	D538	S478	S478	I418
S1019	LEU	S838	S838	S838		L718	Q598	V539	Y479	Y479	Q419
P959	P959	N839	N839	N839		L719	K660	T540	E480	E480	Q420
D960	D960	T840	T840	T840		S720					



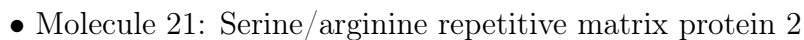
Molecule 18: SNW domain-containing protein 1



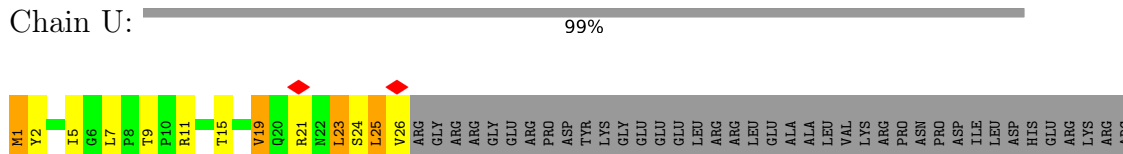
Chain S:



Chain T:



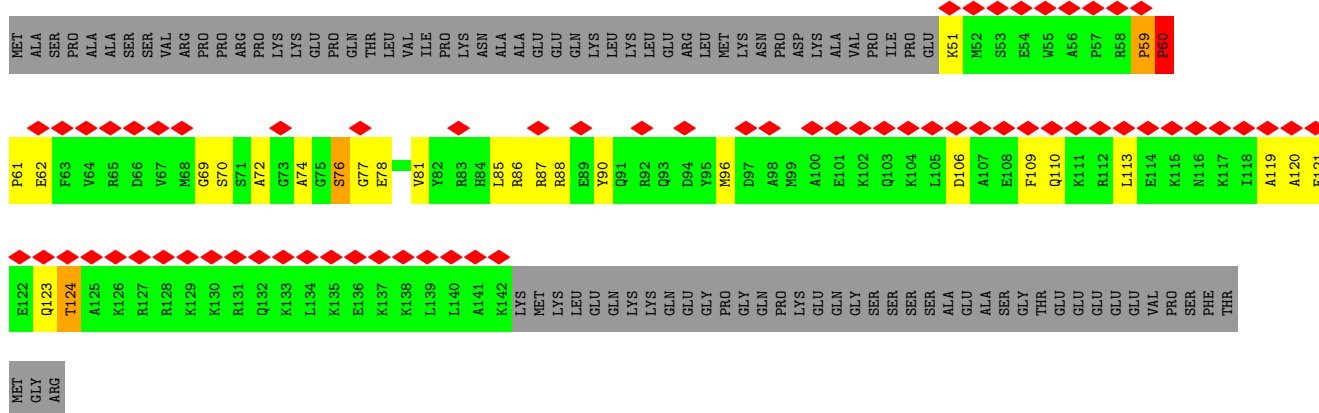
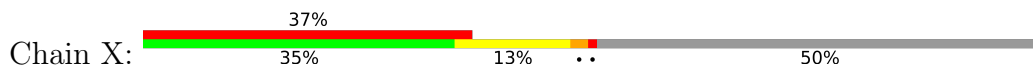
Chain U:



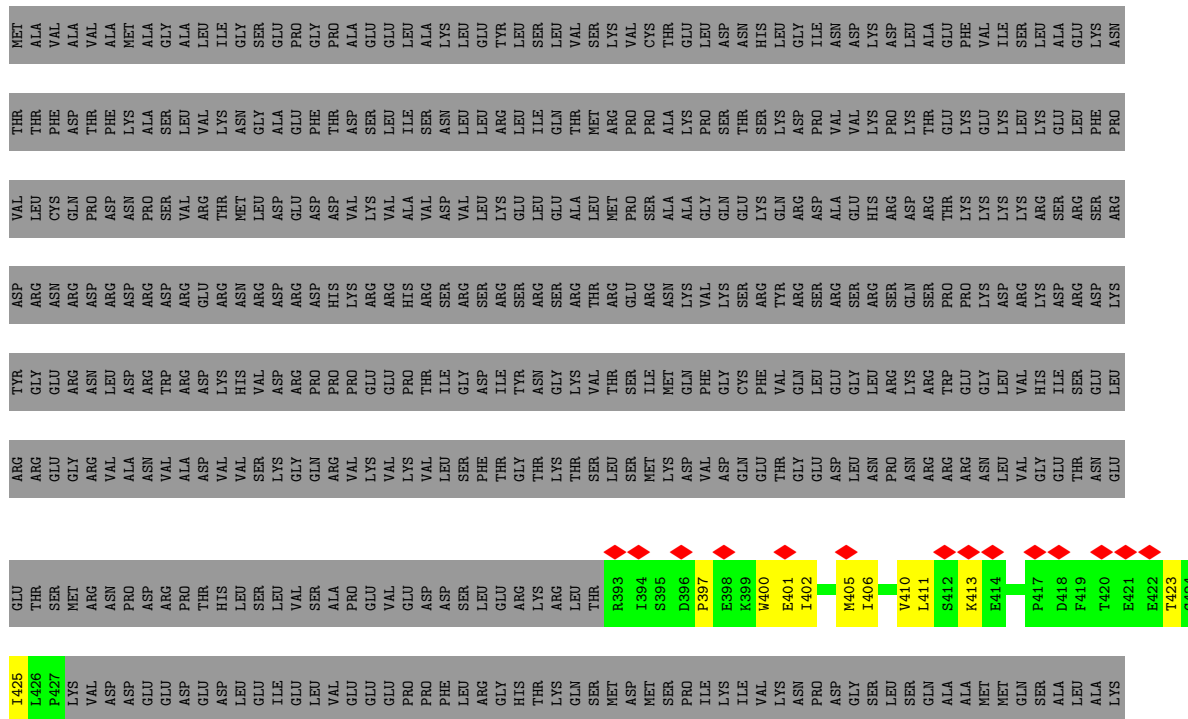




- Molecule 24: PRKR-interacting protein 1



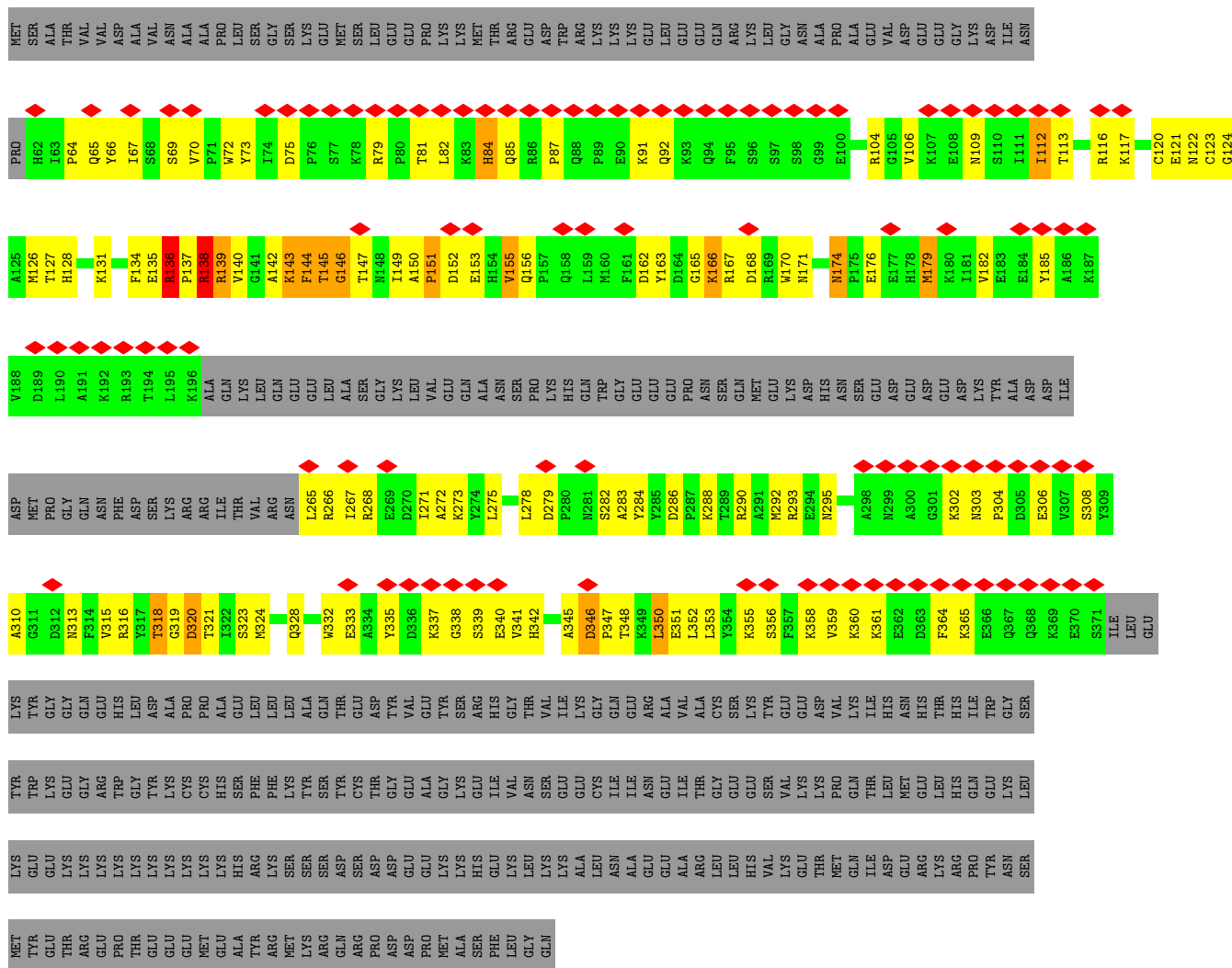
- Molecule 25: ATP-dependent RNA helicase DHX8



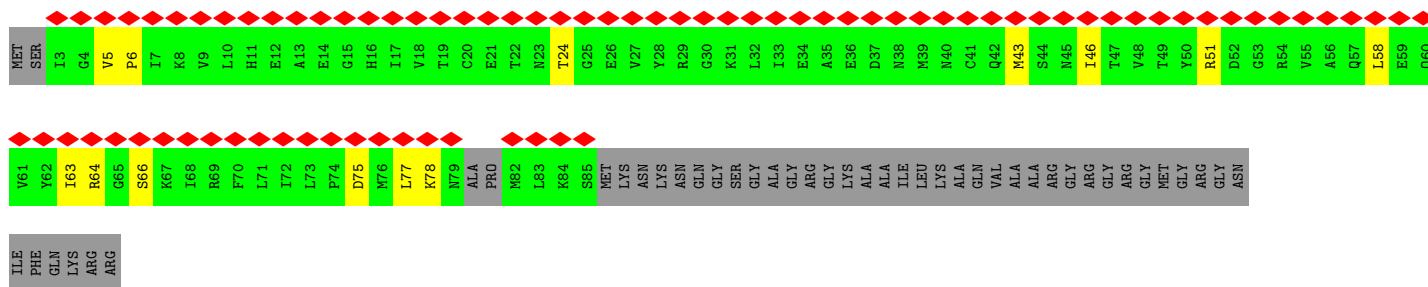
TYR	Q1145	I1085	Q1025	G965	E905	S845	E785	F725	M665	A605	G545	GLU
GLU	P1146	M1086	A1026	A966	R906	L846	L786	S726	L666	G606	N946	ARG
GLU	E1147	D1087	L1027	L967	A907	T847	D787	Q727	L667	G606	N946	ARG
PRO	W1148	R1088	A1028	D968	Y908	I848	T788	V728	R668	T608	K547	LEU
ASN	V1149	H1089	D1029	D969	R909	D849	A789	F729	E669	S609	A548	LYS
ALA	V1150	K1090	Q1030	E970	D910	G850	C790	V730	C670	R610	S549	GLN
TRP	V1151	L1091	K1031	Q971	E911	I851	E791	E731	L671	G611	Y550	ALA
ILE	H1152	D1092	K1032	L972	M912	Y852	L792	A732	I672	K612	G551	GLN
SER	H1153	V1093	A1033	L973	R913	Y853	L793	F733	D673	K612	K352	ARG
ARG	E1154	V1094	K1034	T974	T914	V854	L794	I734	P674	G614	T554	GLU
ARG	V1155	S1095	F1035	R975	T915	V855	E795	F735	D675	C615	Q555	MET
ARG	L1156	C1096	H1036	L976	N916	D856	R796	T736	L676	T616	M556	ASP
ARG	T1157	G1097	Q1037	Q977	V917	P857	M797	I737	T677	Q617	S557	SER
	T1158	K1098	T1038	R978	P918	G858	K798	P738	Q678	P618	I558	ILE
	K1159	S1099	E1039	R979	E919	F859	S799	G739	Y679	R619	I559	PRO
	E1160	T1100	G1040	M980	I920	V860	L800	R740	A680	R620	E560	MET
	Y1161	V1101	D1041	A981	I921	K861	G801	T741	I681	V621	Q561	GLY
	M1162	R1102	H1042	E982	R922	Q862	P802	V742	I682	A622	R562	LEU
	R1163	V1103	L1043	F983	T923	K863	D803	F743	M683	A623	R563	ASN
	E1164	Q1104	T1044	P984	N924	V864	V804	V744	L684	M624	S564	LYS
	V1165	K1105	L1045	L985	L925	Y865	P805	E745	D685	S625	L565	HIS
	T1166	A1106	L1046	E986	A926	N866	E306	I746	E686	V626	P566	TRP
	T1167	I1107	A1047	P987	S927	S867	L807	L747	E687	A627	P567	VAL
	I1168	C1108	V1048	M988	T928	K868	I808	V748	H688	K628	Y568	
	D1169	S1109	Y1049	L989	V929	T869	I809	T749	E689	R629	K569	
	P1170	G1110	N1050	C990	L930	G870	L810	K750	R690	V630	L570	
	R1171	F1111	S1051	K991	S931	D872	P811	E751	T691	S631	E571	
	W1172	F1112	W1052	M992	L932	D872	V812	F752	I692	E632	E572	
	L1173	R1113	K1053	L993	K933	Q873	E813	E753	H693	E633	Q573	
	V1174	M1114	N1054	T994	A934	L874	S814	T754	T694	F634	L574	
	E1175	A1115	N1055	M995	M935	V875	A815	D755	D695	G635	V575	
	F1176	A1116	K1056	S996	G936	V876	L816	V756	V696	C636	Q576	
	A1177	K1117	F1057	V997	I937	T877	P817	L757	L697	C637	A577	
	P1178	K1118	S1058	H998	N938	P878	S818	D758	F698	L638	V578	
	A1179	D1119	M1059	L999	D939	I879	E819	A759	G699	G639	H579	
	F1180	P1120	P1060	G1000	L940	S880	M820	S760	L700	Q640	D580	
	F1181	Q1121	W1061	C1001	L941	Q881	R821	L761	L701	E641	N581	
	K1182	E1122	C1062	S1002	S942	A892	T822	I762	K702	V642	Q582	
	V1183	G1123	Y1063	E1003	F943	Q863	R823	T763	K703	G643	G529	
	S1184	Y1124	E1064	E1004	D944	A894	I824	V764	T704	V644	L584	
	D1185	M1065	M1065	M1005	F945	K885	F825	M765	V705	T645	I585	
	P1186	T1126	F1066	L1006	M946	Q886	D826	Q766	Q706	I646	V586	
	T1187	L1127	I1067	T1007	D947	R887	P827	I767	K707	R647	I587	
	K1188	I1128	Q1068	I1008	A948	A888	A828	H768	R708	F648	N533	
LEU	D1129	A1069	A1069	V1009	P949	G889	R829	L769	Q709	E649	D534	
SER	Q1130	R1070	R1070	S1010	P950	R890	P830	T770	D710	D650	I536	
GLN	Q1131	S1071	S1071	M1011	M951	A891	G831	E771	M711	C651	G591	
LYS	V1132	L1072	L1072	L1012	E952	G892	S832	P772	K712	T652	E537	
LYS	V1133	R1073	R1073	S1013	T953	R893	R833	P773	L713	S653	W538	
GLN	Y1134	R1074	R1074	V1014	L954	T894	K834	G774	I714	P654	K539	
GLN	I1135	A1075	A1075	Q1015	I955	G895	V835	D775	V715	T595	K540	
ARG	H1136	Q1076	Q1076	N1016	T956	P896	V836	I776	T716	T656	H541	
LEU	A1076	Q1077	D1077	V1017	A957	G897	I837	L777	S717	V657	A542	
GLU	P1137	I1078	I1078	F1018	M958	K898	A838	V778	A718	I658	F543	
PRO	S1138	R1079	R1079	Y1019	E959	C899	T839	F779	T719	K659	T599	
LEU	S1139	K1080	K1080	R1020	Q960	Y900	N840	L780	L720	Y660	Q600	
ASN	A1140	Q1081	Q1081	P1021	L961	R901	I841	T781	D721	M661	Y601	
TRP	F1142	F1142	M1082	K1022	Y962	L902	A842	G782	A722	T662	L602	
ARG	M1143	R1144	L1083	D1023	T963	Y903	E843	Q783	V723	D663	A603	
			G1084	K1024	L964	T904	T844	E784	K724	G664	E604	

• Molecule 26: Pre-mRNA-splicing factor SLU7

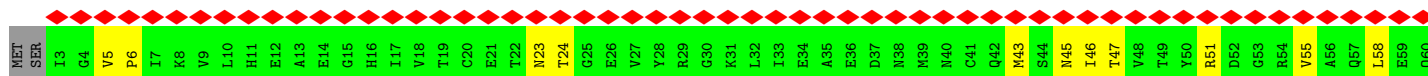


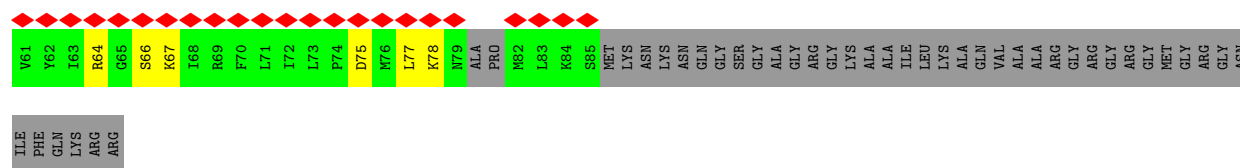


- Molecule 27: Small nuclear ribonucleoprotein Sm D3

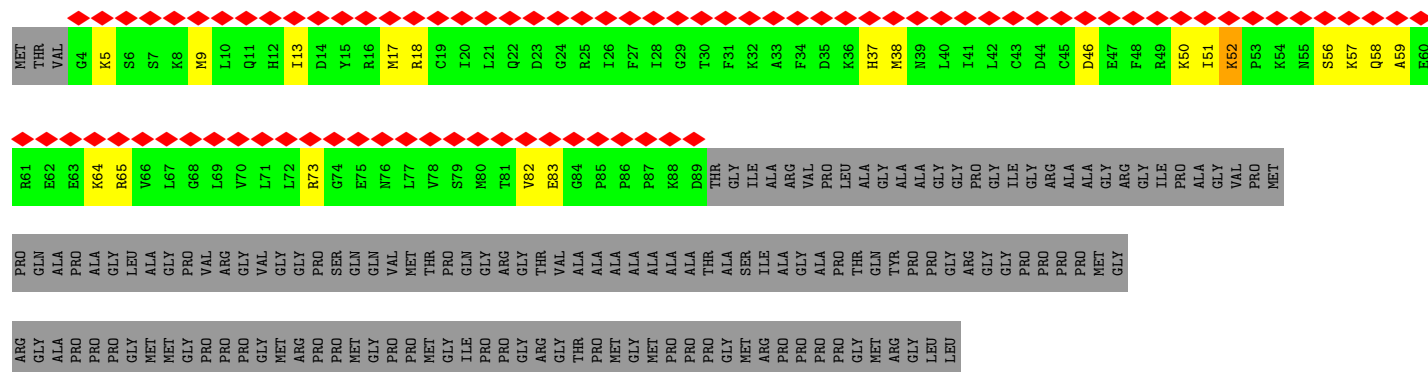


- Molecule 27: Small nuclear ribonucleoprotein Sm D3

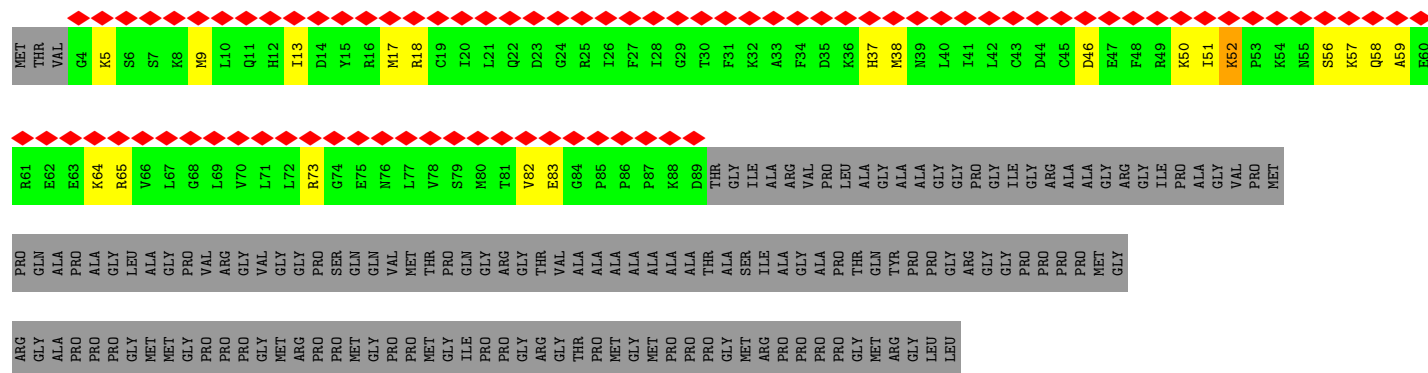




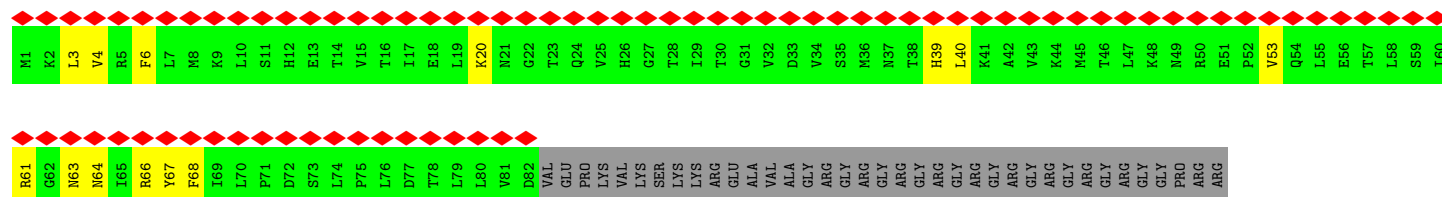
- Molecule 28: Small nuclear ribonucleoprotein-associated proteins B and B'



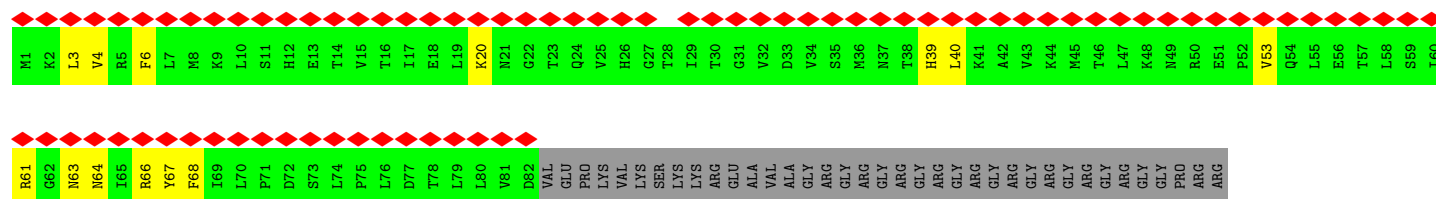
- Molecule 28: Small nuclear ribonucleoprotein-associated proteins B and B'



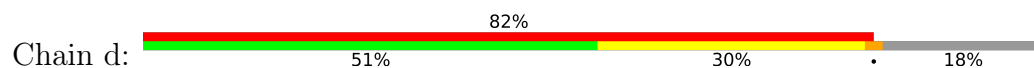
- Molecule 29: Small nuclear ribonucleoprotein Sm D1



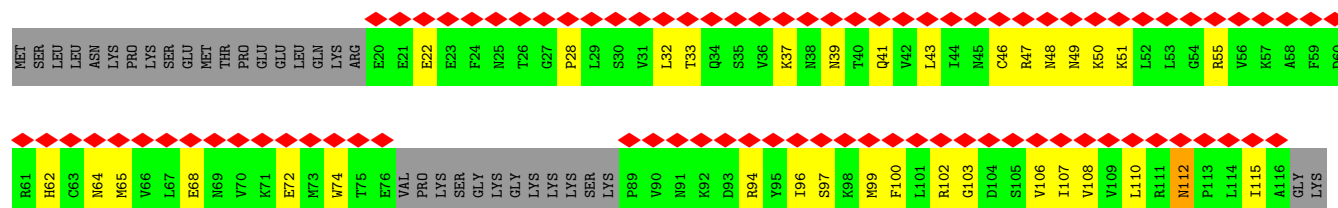
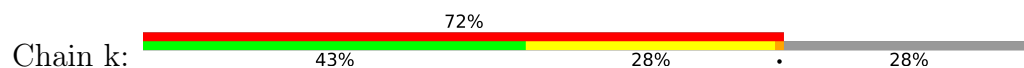
- Molecule 29: Small nuclear ribonucleoprotein Sm D1



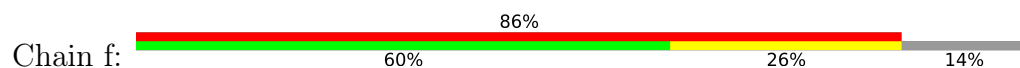
- Molecule 30: Small nuclear ribonucleoprotein Sm D2



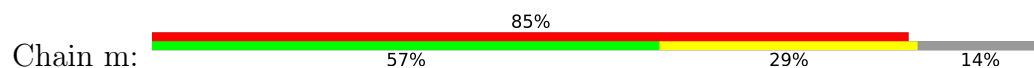
- Molecule 30: Small nuclear ribonucleoprotein Sm D2



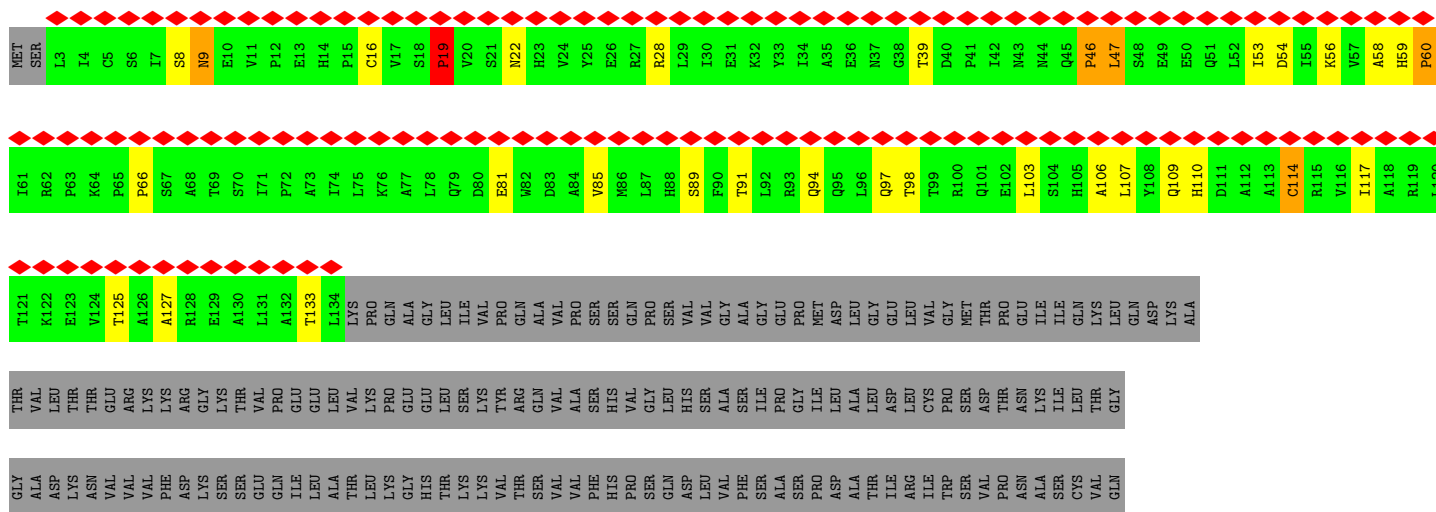
- Molecule 31: Small nuclear ribonucleoprotein F



- Molecule 31: Small nuclear ribonucleoprotein F







[illegible]

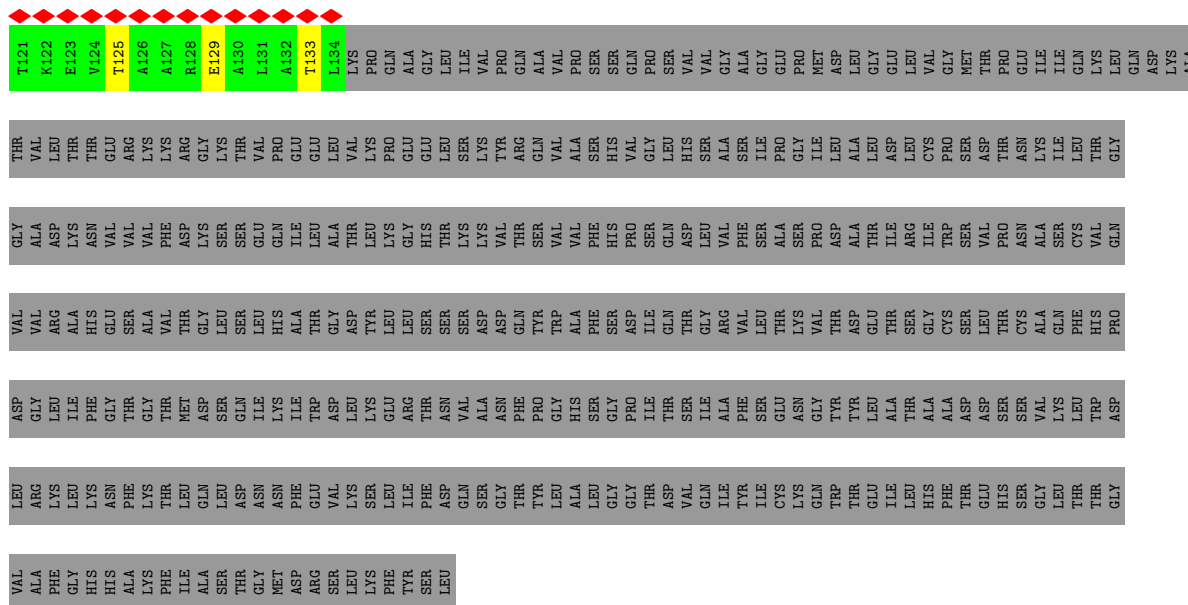
- Molecule 36: Pre-mRNA-processing factor 19

[illegible]

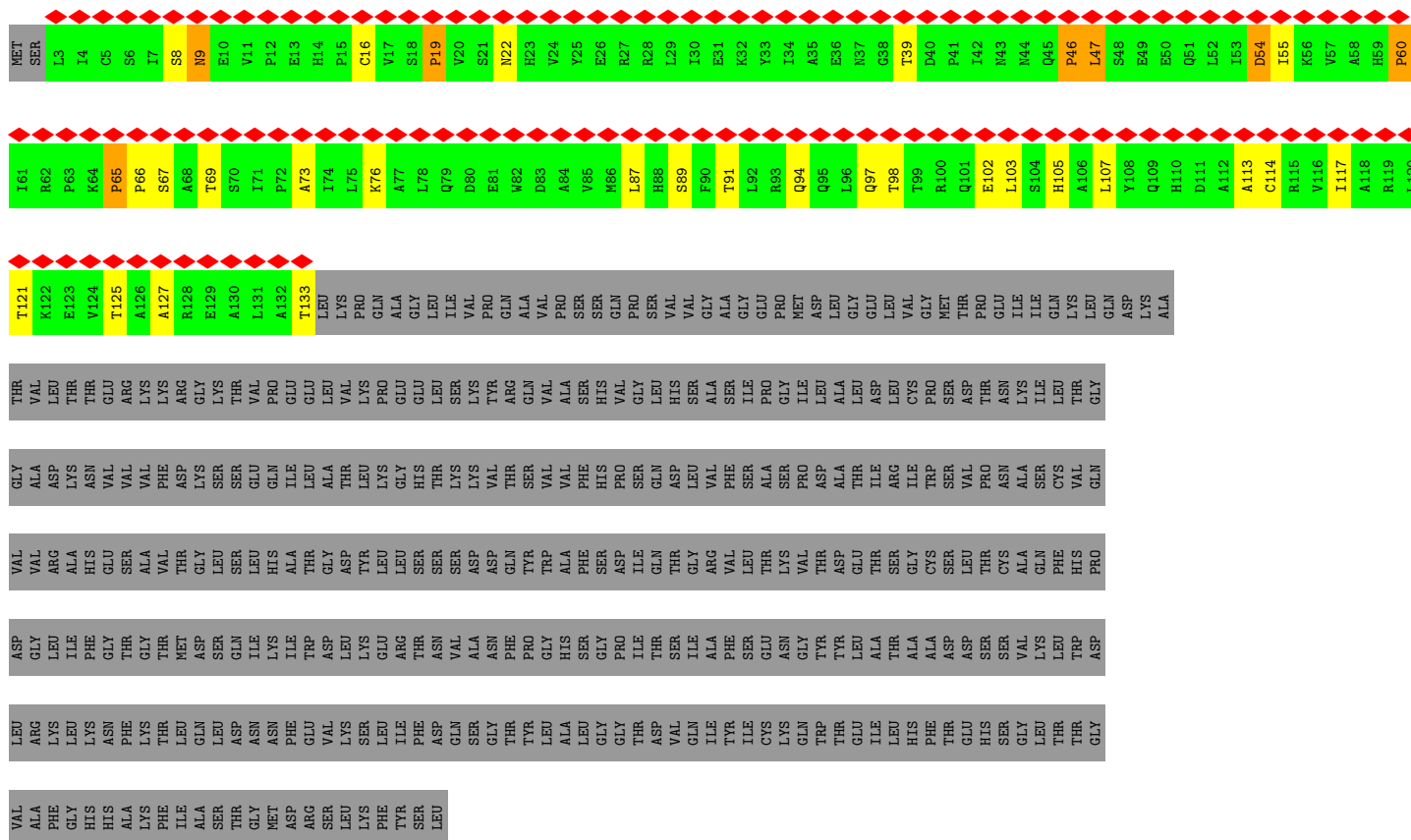
- Molecule 36: Pre-mRNA-processing factor 19



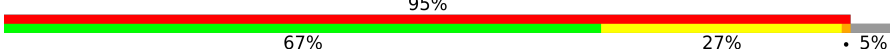
MT	SR	L3	L4	C5	S6	I7	S8	N9	E10	P11	E13	H14	P15	C16	V17	S18	P19	V20	S21	N22	H23	V24	V25	E26	R27	L28	L29	L30	E31	K32	V33	L34	A35	E36	N37	G38	T39	D40	P41	L42	N43	N44	Q45	P46	L47	S48	F49	E50	H10	Q51	L52	S53	D54	S55	K56	V67	A58	H59	P60
I61	R62	P63	K64	P65	P66	S67	A68	T69	S70	I71	P72	A73	I74	L75	K76	L77	L78	Q79	D80	E81	W82	D83	A84	V85	M86	L87	H88	S89	P90	T91	L92	R93	Q94	Q95	L96	Q97	T98	T99	R100	Q101	E102	L103	S104	H105	A106	I107	N108	Q109	H110	D111	A112	A113	C114	R115	V116	I117	A118	R119	L120

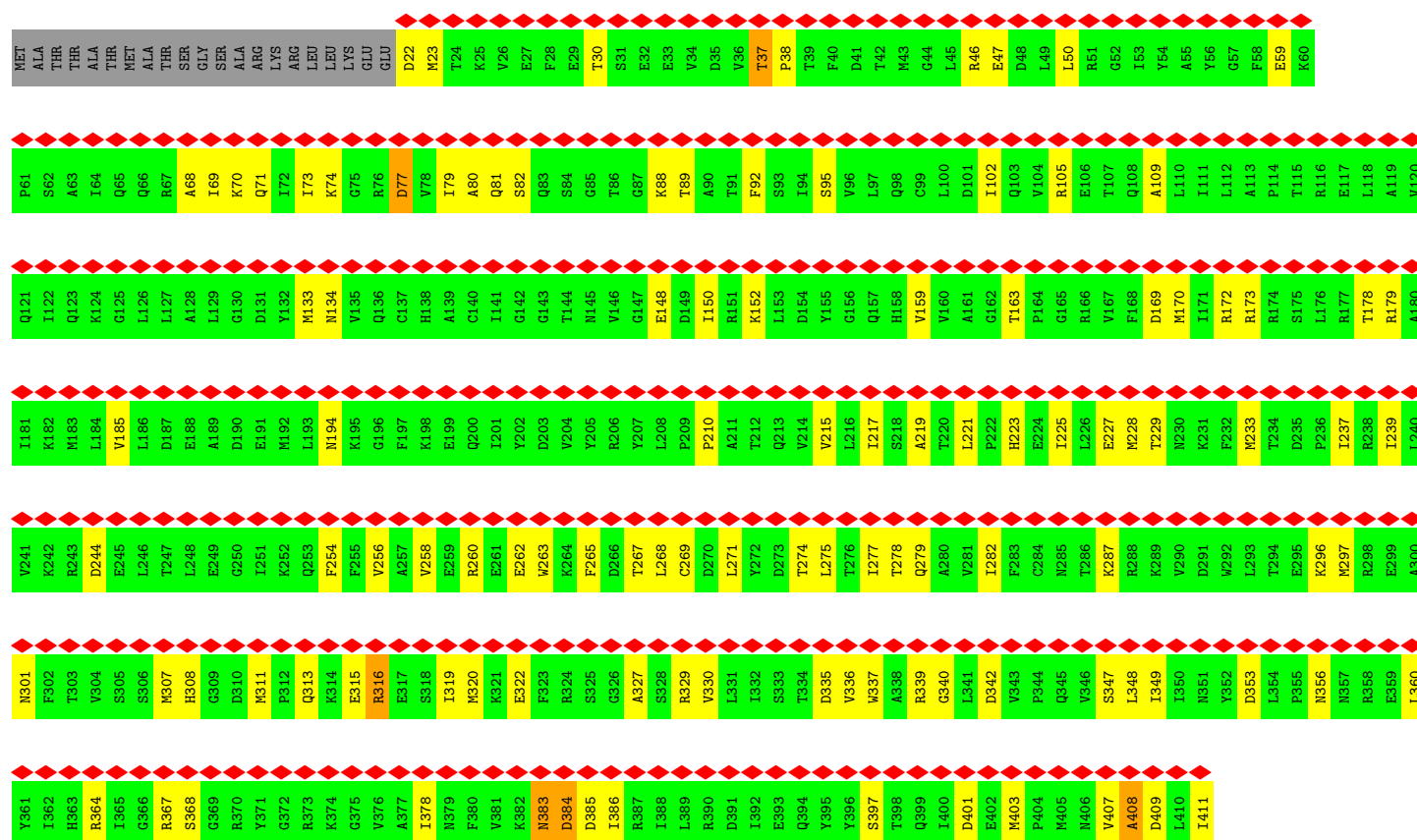


- Molecule 36: Pre-mRNA-processing factor 19



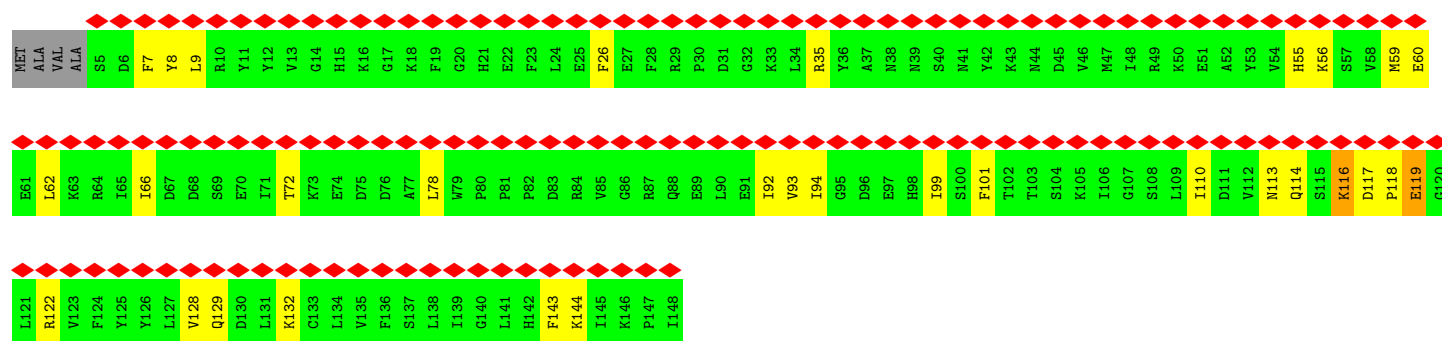
- Molecule 37: Eukaryotic initiation factor 4A-III

Chain u: 



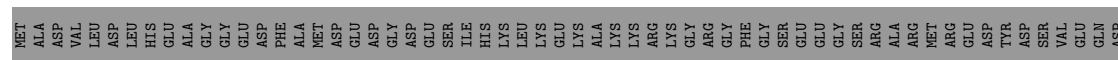
• Molecule 38: Protein mago nashi homolog 2

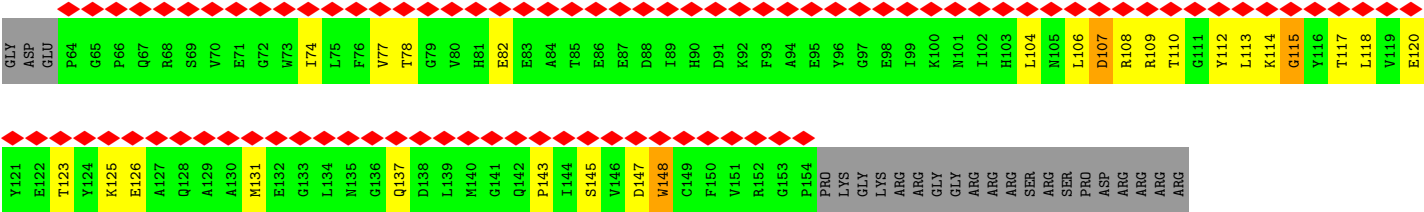
Chain v: 



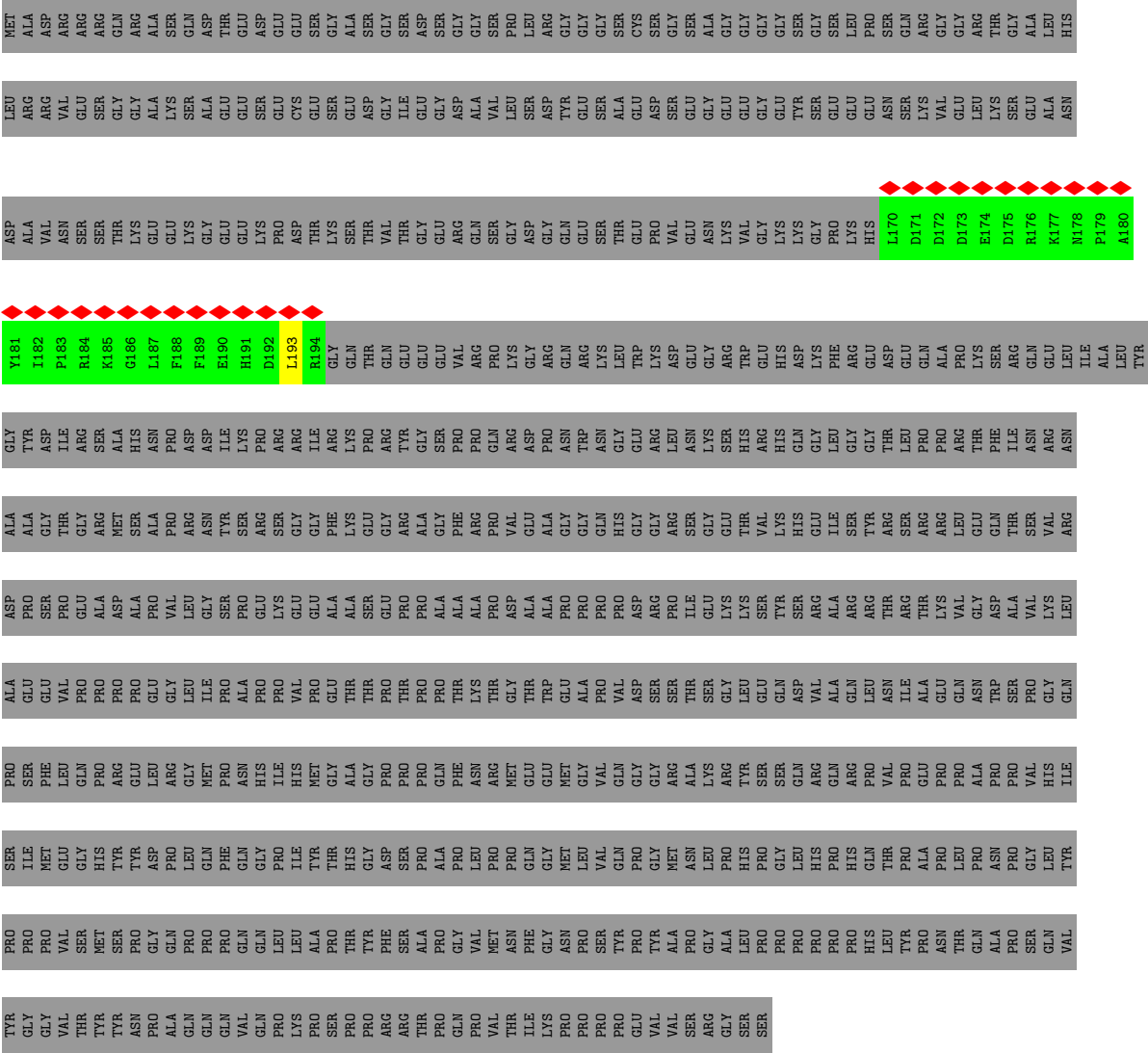
• Molecule 39: RNA-binding protein 8A

Chain w: 





• Molecule 40: Protein CASC3



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	100085	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	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	0.260	Depositor
Minimum map value	-0.149	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.05	Depositor
Map size ($\text{\AA}$)	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 ($\text{\AA}$)	1.338, 1.338, 1.338	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.90	2/19149 (0.0%)	1.13	103/25983 (0.4%)
2	B	0.60	1/1970 (0.1%)	0.82	6/3060 (0.2%)
3	C	0.76	0/6950	1.14	30/9443 (0.3%)
4	D	0.47	0/14140	0.92	27/19159 (0.1%)
5	E	0.63	1/2392 (0.0%)	0.91	6/3242 (0.2%)
6	F	0.48	0/2323	0.80	1/3619 (0.0%)
7	G	0.62	6/1720 (0.3%)	0.91	6/2664 (0.2%)
8	H	0.84	26/3305 (0.8%)	1.39	58/5130 (1.1%)
9	I	1.83	1/2760 (0.0%)	1.02	21/3790 (0.6%)
10	J	0.73	0/3870	1.09	26/5252 (0.5%)
11	K	1.16	13/982 (1.3%)	1.02	6/1318 (0.5%)
12	L	0.78	4/3236 (0.1%)	1.09	16/4346 (0.4%)
13	M	0.73	0/1119	1.09	3/1497 (0.2%)
14	N	0.73	0/1210	0.89	1/1622 (0.1%)
15	O	0.74	1/2344 (0.0%)	0.89	1/3163 (0.0%)
16	P	0.79	0/943	1.15	5/1255 (0.4%)
17	Q	0.57	71/11155 (0.6%)	0.70	1/15095 (0.0%)
18	R	0.80	1/2091 (0.0%)	1.25	19/2809 (0.7%)
19	S	0.59	0/1268	1.12	12/1714 (0.7%)
20	T	1.11	1/2526 (0.0%)	1.21	15/3443 (0.4%)
21	U	1.05	0/196	1.19	3/265 (1.1%)
22	V	0.63	6/3462 (0.2%)	0.92	16/4651 (0.3%)
23	W	0.73	1/4128 (0.0%)	1.10	30/5572 (0.5%)
24	X	0.59	0/714	1.19	4/959 (0.4%)
25	Y	0.81	0/3000	1.60	19/3777 (0.5%)
26	Z	0.69	0/2049	0.92	5/2757 (0.2%)
27	a	0.65	0/646	0.85	0/867
27	h	0.65	0/639	0.86	0/857
28	b	0.73	0/700	1.03	4/933 (0.4%)
28	i	0.72	0/700	1.03	4/933 (0.4%)
29	c	0.74	0/657	0.98	0/888
29	j	0.74	0/657	0.98	0/888

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
30	d	0.94	0/786	1.10	2/1053 (0.2%)
30	k	0.95	0/696	1.07	1/935 (0.1%)
31	f	1.04	1/588 (0.2%)	1.08	0/795
31	m	1.03	1/588 (0.2%)	1.08	0/795
32	e	0.85	0/660	1.06	1/886 (0.1%)
32	l	0.84	0/660	1.06	1/886 (0.1%)
33	g	0.71	0/584	0.95	1/779 (0.1%)
33	n	0.70	0/548	0.95	1/729 (0.1%)
34	o	0.81	0/1299	2.05	57/1761 (3.2%)
35	p	0.77	0/774	1.71	13/1035 (1.3%)
36	q	0.98	9/929 (1.0%)	1.00	6/1260 (0.5%)
36	r	0.97	9/912 (1.0%)	1.01	6/1239 (0.5%)
36	s	0.98	10/928 (1.1%)	1.05	7/1258 (0.6%)
36	t	0.98	9/917 (1.0%)	0.96	6/1245 (0.5%)
37	u	0.45	0/3179	1.00	14/4291 (0.3%)
38	v	0.40	0/1225	0.84	3/1648 (0.2%)
39	w	0.40	0/748	0.98	4/1012 (0.4%)
40	x	0.46	0/221	0.92	0/296
All	All	0.78	174/119243 (0.1%)	1.06	571/162854 (0.4%)

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

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

All (174) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	I	283	ILE	C-N	-91.70	0.06	1.33
36	q	47	LEU	CB-CG	14.06	1.81	1.53
36	s	47	LEU	CB-CG	13.99	1.81	1.53
36	r	47	LEU	CB-CG	13.96	1.81	1.53
36	t	47	LEU	CB-CG	13.91	1.81	1.53
11	K	163	LEU	CB-CG	13.77	1.80	1.53
11	K	195	ILE	CB-CG1	13.76	1.80	1.53
11	K	106	CYS	CB-SG	-11.63	1.42	1.81
22	V	591	CYS	CB-SG	-9.29	1.50	1.81
11	K	132	CYS	CB-SG	-8.67	1.52	1.81
36	q	16	CYS	CB-SG	-8.67	1.52	1.81
36	s	16	CYS	CB-SG	-8.63	1.52	1.81
36	t	16	CYS	CB-SG	-8.62	1.52	1.81
36	r	16	CYS	CB-SG	-8.55	1.53	1.81
36	r	114	CYS	CB-SG	-8.42	1.53	1.81
22	V	567	CYS	CB-SG	-8.36	1.53	1.81
36	t	114	CYS	CB-SG	-8.30	1.53	1.81
36	q	114	CYS	CB-SG	-8.22	1.54	1.81
36	s	114	CYS	CB-SG	-8.09	1.54	1.81
8	H	142	C	C1'-N1	7.66	1.59	1.48
8	H	77	C	C1'-N1	7.64	1.59	1.48
23	W	278	LYS	CA-C	-7.59	1.44	1.53
11	K	186	VAL	CA-CB	-7.39	1.43	1.54
2	B	103	G	C1'-N9	-7.22	1.37	1.48
7	G	-22	G	C1'-N9	-7.18	1.37	1.48
8	H	55	U	C1'-N1	7.14	1.59	1.48
8	H	89	U	C1'-N1	7.12	1.59	1.48
8	H	54	U	C1'-N1	7.08	1.59	1.48
8	H	72	U	C1'-N1	7.08	1.59	1.48
8	H	69	U	C1'-N1	7.08	1.59	1.48
8	H	92	U	C1'-N1	7.06	1.59	1.48
8	H	74	U	C1'-N1	7.06	1.59	1.48
8	H	60	U	C1'-N1	7.05	1.59	1.48
8	H	91	U	C1'-N1	7.04	1.59	1.48
8	H	150	U	C1'-N1	7.04	1.59	1.48
8	H	182	U	C1'-N1	7.03	1.58	1.48
8	H	58	U	C1'-N1	7.00	1.58	1.48
7	G	-23	G	C1'-N9	-6.83	1.37	1.48
7	G	21	A	O3'-P	-6.71	1.51	1.61
8	H	97	G	C1'-N9	-6.71	1.37	1.48
11	K	40	THR	CB-OG1	6.67	1.54	1.43
8	H	151	C	C1'-N1	6.59	1.58	1.48
8	H	141	C	C1'-N1	6.57	1.58	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	H	184	C	C1'-N1	6.56	1.58	1.48
7	G	-20	A	C1'-N9	-6.52	1.38	1.48
7	G	-19	A	C1'-N9	-6.51	1.38	1.48
8	H	73	C	C1'-N1	6.51	1.58	1.48
17	Q	1093	MET	SD-CE	6.51	1.95	1.79
8	H	84	C	C1'-N1	6.50	1.58	1.48
8	H	148	C	C1'-N1	6.49	1.58	1.48
17	Q	867	MET	SD-CE	6.47	1.95	1.79
8	H	71	C	C1'-N1	6.46	1.58	1.48
8	H	67	C	C1'-N1	6.45	1.58	1.48
17	Q	1214	MET	SD-CE	6.41	1.95	1.79
8	H	70	C	C1'-N1	6.40	1.58	1.48
17	Q	1368	MET	SD-CE	6.39	1.95	1.79
17	Q	79	MET	SD-CE	6.38	1.95	1.79
17	Q	1115	MET	SD-CE	6.38	1.95	1.79
17	Q	176	MET	SD-CE	6.38	1.95	1.79
17	Q	257	MET	SD-CE	6.38	1.95	1.79
17	Q	1037	MET	SD-CE	6.38	1.95	1.79
17	Q	1294	MET	SD-CE	6.38	1.95	1.79
8	H	78	C	C1'-N1	6.38	1.58	1.48
17	Q	65	MET	SD-CE	6.37	1.95	1.79
17	Q	492	MET	SD-CE	6.34	1.95	1.79
17	Q	92	MET	SD-CE	6.32	1.95	1.79
22	V	607	THR	CB-OG1	6.31	1.53	1.43
17	Q	244	MET	SD-CE	6.30	1.95	1.79
17	Q	424	MET	SD-CE	6.29	1.95	1.79
17	Q	1061	MET	SD-CE	6.28	1.95	1.79
17	Q	1370	MET	SD-CE	6.28	1.95	1.79
17	Q	304	MET	SD-CE	6.27	1.95	1.79
17	Q	814	MET	SD-CE	6.27	1.95	1.79
17	Q	657	MET	SD-CE	6.26	1.95	1.79
17	Q	1361	MET	SD-CE	6.23	1.95	1.79
17	Q	174	MET	SD-CE	6.20	1.95	1.79
17	Q	705	MET	SD-CE	6.20	1.95	1.79
17	Q	97	MET	SD-CE	6.19	1.95	1.79
17	Q	207	MET	SD-CE	6.19	1.95	1.79
5	E	102	TYR	CA-C	6.18	1.55	1.52
17	Q	1107	MET	SD-CE	6.16	1.95	1.79
17	Q	991	MET	CG-SD	6.15	1.96	1.80
17	Q	1358	MET	CG-SD	6.15	1.96	1.80
7	G	-21	A	C1'-N9	-6.15	1.38	1.48
17	Q	244	MET	CG-SD	6.15	1.96	1.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	Q	79	MET	CG-SD	6.14	1.96	1.80
17	Q	1107	MET	CG-SD	6.13	1.96	1.80
17	Q	176	MET	CG-SD	6.11	1.96	1.80
17	Q	1294	MET	CG-SD	6.11	1.96	1.80
17	Q	424	MET	CG-SD	6.10	1.96	1.80
17	Q	600	MET	SD-CE	6.09	1.94	1.79
17	Q	638	MET	SD-CE	6.08	1.94	1.79
17	Q	1212	MET	SD-CE	6.07	1.94	1.79
17	Q	705	MET	CG-SD	6.07	1.96	1.80
17	Q	1358	MET	SD-CE	6.05	1.94	1.79
17	Q	510	MET	SD-CE	6.01	1.94	1.79
17	Q	510	MET	CG-SD	5.99	1.95	1.80
17	Q	941	MET	CG-SD	5.99	1.95	1.80
17	Q	326	MET	SD-CE	5.99	1.94	1.79
17	Q	207	MET	CG-SD	5.97	1.95	1.80
17	Q	1368	MET	CG-SD	5.96	1.95	1.80
17	Q	638	MET	CG-SD	5.95	1.95	1.80
17	Q	257	MET	CG-SD	5.94	1.95	1.80
17	Q	1214	MET	CG-SD	5.94	1.95	1.80
36	s	22	ASN	CA-CB	-5.94	1.45	1.52
36	q	91	THR	CB-OG1	5.93	1.53	1.43
17	Q	941	MET	SD-CE	5.90	1.94	1.79
17	Q	1370	MET	CG-SD	5.88	1.95	1.80
17	Q	600	MET	CG-SD	5.88	1.95	1.80
36	s	91	THR	CB-OG1	5.87	1.53	1.43
17	Q	174	MET	CG-SD	5.86	1.95	1.80
17	Q	1212	MET	CG-SD	5.86	1.95	1.80
12	L	761	SER	CB-OG	5.86	1.53	1.42
17	Q	657	MET	CG-SD	5.84	1.95	1.80
17	Q	677	MET	CG-SD	5.83	1.95	1.80
17	Q	1361	MET	CG-SD	5.82	1.95	1.80
36	r	39	THR	CB-OG1	5.77	1.52	1.43
36	t	98	THR	CB-OG1	5.77	1.52	1.43
17	Q	92	MET	CG-SD	5.75	1.95	1.80
17	Q	991	MET	SD-CE	5.73	1.93	1.79
17	Q	1037	MET	CG-SD	5.69	1.95	1.80
36	t	91	THR	CB-OG1	5.69	1.52	1.43
36	r	91	THR	CB-OG1	5.69	1.52	1.43
36	t	39	THR	CB-OG1	5.68	1.52	1.43
11	K	160	ILE	CB-CG1	-5.68	1.42	1.53
36	q	39	THR	CB-OG1	5.68	1.52	1.43
17	Q	677	MET	SD-CE	5.66	1.93	1.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	Q	492	MET	CG-SD	5.66	1.94	1.80
17	Q	97	MET	CG-SD	5.64	1.94	1.80
36	r	133	THR	CB-OG1	5.64	1.52	1.43
36	q	98	THR	CB-OG1	5.64	1.52	1.43
17	Q	304	MET	CG-SD	5.63	1.94	1.80
36	t	133	THR	CB-OG1	5.61	1.52	1.43
36	q	125	THR	CB-OG1	5.59	1.52	1.43
22	V	624	THR	CB-OG1	5.59	1.52	1.43
17	Q	1061	MET	CG-SD	5.57	1.94	1.80
17	Q	326	MET	CG-SD	5.57	1.94	1.80
17	Q	1093	MET	CG-SD	5.56	1.94	1.80
36	s	39	THR	CB-OG1	5.55	1.52	1.43
36	r	125	THR	CB-OG1	5.55	1.52	1.43
17	Q	65	MET	CG-SD	5.54	1.94	1.80
36	s	98	THR	CB-OG1	5.53	1.52	1.43
8	H	110	A	C1'-N9	-5.53	1.39	1.48
11	K	128	SER	CB-OG	5.52	1.53	1.42
17	Q	814	MET	CG-SD	5.52	1.94	1.80
36	t	125	THR	CB-OG1	5.50	1.52	1.43
36	q	133	THR	CB-OG1	5.49	1.52	1.43
17	Q	1115	MET	CG-SD	5.49	1.94	1.80
36	s	133	THR	CB-OG1	5.49	1.52	1.43
36	r	98	THR	CB-OG1	5.48	1.52	1.43
36	s	125	THR	CB-OG1	5.45	1.52	1.43
11	K	162	ASP	CA-CB	-5.44	1.44	1.53
11	K	183	SER	CB-OG	5.43	1.53	1.42
36	t	89	SER	CB-OG	5.40	1.52	1.42
17	Q	867	MET	CG-SD	5.40	1.94	1.80
12	L	705	THR	CB-OG1	5.38	1.52	1.43
36	s	89	SER	CB-OG	5.37	1.52	1.42
36	r	89	SER	CB-OG	5.35	1.52	1.42
11	K	173	THR	CB-OG1	5.34	1.52	1.43
11	K	187	SER	CB-OG	5.30	1.52	1.42
17	Q	820	MET	SD-CE	5.30	1.92	1.79
22	V	486	THR	CB-OG1	5.30	1.52	1.43
12	L	793	LEU	CA-CB	-5.29	1.44	1.53
36	q	89	SER	CB-OG	5.28	1.52	1.42
11	K	190	SER	CB-OG	5.24	1.52	1.42
20	T	324	HIS	CA-C	-5.24	1.46	1.52
1	A	628	GLY	CA-C	-5.23	1.47	1.52
22	V	528	ILE	CB-CG1	-5.21	1.43	1.53
12	L	726	SER	CB-OG	5.20	1.52	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	R	284	PHE	CA-C	-5.08	1.45	1.52
15	O	221	PRO	N-CD	5.05	1.54	1.47
31	m	14	LEU	CA-C	5.03	1.59	1.52
31	f	14	LEU	CA-C	5.03	1.59	1.52
1	A	2105	ILE	CA-CB	-5.01	1.48	1.54

All (571) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	283	ILE	CA-C-N	-19.36	80.03	121.45
9	I	283	ILE	C-N-CA	-19.36	80.03	121.45
24	X	59	PRO	CA-C-N	13.75	134.54	120.38
24	X	59	PRO	C-N-CA	13.75	134.54	120.38
34	o	55	ARG	CD-NE-CZ	13.19	142.86	124.40
3	C	776	GLU	N-CA-C	12.61	128.89	113.38
7	G	131	U	C2'-C3'-O3'	-12.10	95.55	113.70
34	o	49	PHE	CA-CB-CG	11.49	125.29	113.80
37	u	37	THR	CA-C-N	10.63	130.40	119.56
37	u	37	THR	C-N-CA	10.63	130.40	119.56
39	w	114	LYS	N-CA-C	-10.47	93.65	110.20
18	R	267	ARG	N-CA-C	10.12	125.42	113.18
2	B	104	C	C2'-C3'-O3'	-9.96	94.55	109.50
23	W	278	LYS	CB-CA-C	-9.92	95.90	111.17
36	s	46	PRO	N-CA-CB	9.37	111.14	103.36
23	W	382	ASN	CA-C-N	9.04	128.77	119.19
23	W	382	ASN	C-N-CA	9.04	128.77	119.19
34	o	58	ASP	CA-CB-CG	9.00	121.60	112.60
11	K	90	PRO	CA-CB-CG	8.84	121.29	104.50
2	B	12	U	C4'-C3'-O3'	8.79	122.59	109.40
36	r	46	PRO	N-CA-CB	8.72	111.12	103.27
8	H	82	G	O3'-P-O5'	-8.64	91.04	104.00
8	H	181	G	O3'-P-O5'	-8.62	91.07	104.00
18	R	221	GLY	CA-C-N	8.62	129.26	120.38
18	R	221	GLY	C-N-CA	8.62	129.26	120.38
8	H	80	A	O3'-P-O5'	-8.62	91.08	104.00
8	H	59	A	O3'-P-O5'	-8.61	91.08	104.00
8	H	180	G	O3'-P-O5'	-8.61	91.09	104.00
8	H	55	U	O3'-P-O5'	-8.61	91.09	104.00
8	H	78	C	O3'-P-O5'	-8.61	91.09	104.00
8	H	150	U	O3'-P-O5'	-8.61	91.09	104.00
8	H	88	A	O3'-P-O5'	-8.60	91.09	104.00
8	H	183	G	O3'-P-O5'	-8.60	91.09	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	H	68	G	O3'-P-O5'	-8.60	91.11	104.00
8	H	73	C	O3'-P-O5'	-8.60	91.11	104.00
8	H	81	G	O3'-P-O5'	-8.60	91.11	104.00
8	H	83	A	O3'-P-O5'	-8.60	91.11	104.00
8	H	149	A	O3'-P-O5'	-8.60	91.11	104.00
8	H	92	U	O3'-P-O5'	-8.59	91.11	104.00
8	H	56	A	O3'-P-O5'	-8.59	91.11	104.00
8	H	72	U	O3'-P-O5'	-8.59	91.11	104.00
8	H	84	C	O3'-P-O5'	-8.59	91.11	104.00
8	H	141	C	O3'-P-O5'	-8.59	91.11	104.00
8	H	77	C	O3'-P-O5'	-8.59	91.12	104.00
8	H	93	A	O3'-P-O5'	-8.59	91.12	104.00
8	H	54	U	O3'-P-O5'	-8.58	91.12	104.00
8	H	89	U	O3'-P-O5'	-8.58	91.12	104.00
8	H	182	U	O3'-P-O5'	-8.58	91.13	104.00
8	H	91	U	O3'-P-O5'	-8.58	91.13	104.00
8	H	70	C	O3'-P-O5'	-8.58	91.14	104.00
8	H	57	A	O3'-P-O5'	-8.57	91.14	104.00
8	H	67	C	O3'-P-O5'	-8.57	91.14	104.00
8	H	79	G	O3'-P-O5'	-8.57	91.14	104.00
8	H	90	A	O3'-P-O5'	-8.57	91.14	104.00
8	H	69	U	O3'-P-O5'	-8.57	91.14	104.00
8	H	113	G	O3'-P-O5'	-8.57	91.14	104.00
8	H	74	U	O3'-P-O5'	-8.57	91.15	104.00
36	s	54	ASP	CA-CB-CG	-8.56	104.04	112.60
8	H	148	C	O3'-P-O5'	-8.55	91.17	104.00
8	H	71	C	O3'-P-O5'	-8.55	91.18	104.00
8	H	58	U	O3'-P-O5'	-8.54	91.19	104.00
8	H	114	A	O3'-P-O5'	-8.53	91.20	104.00
36	q	46	PRO	N-CA-CB	8.53	111.27	103.34
34	o	5	THR	N-CA-CB	-8.48	98.33	111.05
10	J	188	GLN	N-CA-C	-8.47	92.76	110.80
1	A	211	GLN	CA-C-N	8.45	130.40	119.84
1	A	211	GLN	C-N-CA	8.45	130.40	119.84
35	p	80	ARG	CD-NE-CZ	8.33	136.07	124.40
26	Z	318	THR	N-CA-C	8.26	119.91	111.07
23	W	279	LYS	N-CA-C	-8.23	93.26	110.80
36	s	60	PRO	N-CA-CB	8.15	111.81	103.25
34	o	16	THR	CA-C-O	-7.99	111.81	120.36
36	t	54	ASP	CA-CB-CG	-7.95	104.65	112.60
24	X	59	PRO	N-CA-C	7.93	120.38	110.70
12	L	55	ASP	CA-C-N	7.92	127.64	119.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	55	ASP	C-N-CA	7.92	127.64	119.56
1	A	167	PRO	N-CA-C	7.91	120.36	110.70
34	o	99	SER	N-CA-C	7.91	122.70	112.26
34	o	47	ILE	N-CA-CB	7.90	123.05	111.52
16	P	194	PHE	N-CA-C	7.89	121.39	108.52
10	J	306	LEU	CA-C-N	7.84	127.56	119.56
10	J	306	LEU	C-N-CA	7.84	127.56	119.56
20	T	187	LYS	CA-C-N	7.82	128.11	119.90
20	T	187	LYS	C-N-CA	7.82	128.11	119.90
7	G	21	A	O3'-P-O5'	7.77	115.65	104.00
10	J	195	LEU	N-CA-C	-7.67	103.00	111.36
17	Q	1379	TYR	N-CA-C	7.66	122.72	112.30
34	o	117	TYR	CA-C-O	7.65	128.43	120.40
8	H	168	A	P-O5'-C5'	-7.58	109.53	120.90
12	L	563	PRO	N-CA-CB	7.56	110.41	103.08
3	C	823	ALA	N-CA-C	7.55	120.85	110.06
22	V	575	THR	CA-C-N	-7.54	110.94	122.09
22	V	575	THR	C-N-CA	-7.54	110.94	122.09
36	q	54	ASP	CA-CB-CG	-7.54	105.06	112.60
11	K	90	PRO	N-CA-CB	7.53	111.16	103.25
12	L	25	LYS	N-CA-C	7.50	120.91	111.69
1	A	937	PRO	CA-C-N	7.46	127.13	119.82
1	A	937	PRO	C-N-CA	7.46	127.13	119.82
36	q	60	PRO	N-CA-CB	7.45	111.07	103.25
19	S	10	GLN	CA-C-N	-7.44	114.30	119.66
19	S	10	GLN	C-N-CA	-7.44	114.30	119.66
2	B	20	G	N9-C1'-C2'	7.37	125.05	114.00
22	V	483	GLU	N-CA-C	7.37	119.31	111.28
3	C	144	CYS	N-CA-CB	7.34	121.66	110.28
1	A	1811	ASN	CA-C-N	7.34	127.98	119.47
1	A	1811	ASN	C-N-CA	7.34	127.98	119.47
3	C	919	ARG	CA-C-N	7.34	126.97	119.19
3	C	919	ARG	C-N-CA	7.34	126.97	119.19
8	H	22	U	C2'-C3'-O3'	-7.28	102.78	113.70
9	I	588	PRO	N-CA-CB	7.28	110.14	103.08
1	A	167	PRO	CA-C-N	7.27	126.90	119.56
1	A	167	PRO	C-N-CA	7.27	126.90	119.56
13	M	224	ARG	N-CA-C	7.27	119.28	111.36
1	A	873	ASN	CA-C-N	7.25	127.26	119.28
1	A	873	ASN	C-N-CA	7.25	127.26	119.28
11	K	78	PRO	N-CA-CB	7.25	110.87	103.25
8	H	167	U	O3'-P-O5'	-7.25	93.12	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	1044	VAL	CA-C-N	7.25	126.75	118.85
4	D	1044	VAL	C-N-CA	7.25	126.75	118.85
10	J	522	PRO	N-CA-CB	7.23	110.10	103.08
4	D	1666	THR	N-CA-C	7.20	121.51	112.87
24	X	60	PRO	N-CA-C	7.19	119.47	110.70
19	S	32	ALA	CA-C-N	7.18	127.18	119.28
19	S	32	ALA	C-N-CA	7.18	127.18	119.28
21	U	7	LEU	CA-C-N	7.18	127.51	119.32
21	U	7	LEU	C-N-CA	7.18	127.51	119.32
34	o	71	VAL	CA-C-N	7.18	131.59	120.75
34	o	71	VAL	C-N-CA	7.18	131.59	120.75
37	u	408	ALA	N-CA-C	7.18	118.75	111.07
1	A	204	LEU	N-CA-C	7.16	119.08	111.28
34	o	21	ASP	CA-CB-CG	7.14	119.74	112.60
36	t	60	PRO	N-CA-CB	7.13	111.28	103.30
3	C	922	GLU	CA-C-N	7.12	127.16	119.90
3	C	922	GLU	C-N-CA	7.12	127.16	119.90
10	J	206	LEU	CA-C-N	-7.11	113.06	120.38
10	J	206	LEU	C-N-CA	-7.11	113.06	120.38
1	A	1373	GLN	CA-C-N	7.09	127.08	119.78
1	A	1373	GLN	C-N-CA	7.09	127.08	119.78
37	u	77	ASP	N-CA-C	-7.09	99.79	110.28
20	T	213	GLU	CA-C-N	7.04	128.64	119.84
20	T	213	GLU	C-N-CA	7.04	128.64	119.84
1	A	948	PRO	N-CA-C	7.03	119.28	110.70
8	H	170	C	C3'-C2'-O2'	-7.02	104.07	114.60
4	D	533	VAL	N-CA-C	7.00	118.88	112.29
34	o	72	ASN	OD1-CG-ND2	6.99	129.59	122.60
23	W	269	MET	CA-C-N	-6.99	113.19	120.38
23	W	269	MET	C-N-CA	-6.99	113.19	120.38
1	A	276	GLY	CA-C-N	6.98	127.53	120.14
1	A	276	GLY	C-N-CA	6.98	127.53	120.14
10	J	188	GLN	N-CA-CB	6.97	122.27	110.49
9	I	589	PRO	N-CA-CB	6.92	110.87	103.39
9	I	475	PRO	N-CA-CB	6.92	110.85	103.52
1	A	462	ARG	CA-C-N	-6.91	113.26	120.38
1	A	462	ARG	C-N-CA	-6.91	113.26	120.38
22	V	491	ASN	N-CA-C	-6.90	103.76	111.28
34	o	121	LEU	CA-C-O	6.90	128.89	121.44
10	J	412	ASP	N-CA-C	6.89	119.55	109.07
34	o	4	LEU	N-CA-C	-6.89	97.99	108.67
34	o	75	ARG	NE-CZ-NH1	-6.89	114.61	121.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	o	107	ASP	CA-CB-CG	6.88	119.48	112.60
9	I	160	PRO	N-CA-CB	6.86	110.45	103.25
20	T	327	SER	N-CA-C	-6.85	101.69	110.53
23	W	251	GLY	N-CA-C	-6.84	96.97	113.18
3	C	536	ARG	N-CA-C	-6.84	99.23	109.83
18	R	247	ILE	CA-C-N	6.82	124.57	119.66
18	R	247	ILE	C-N-CA	6.82	124.57	119.66
36	t	46	PRO	N-CA-CB	6.81	110.40	103.25
10	J	488	PRO	N-CA-CB	6.79	110.38	103.25
9	I	551	PRO	N-CA-CB	6.78	110.71	103.52
10	J	675	PRO	N-CA-CB	6.78	110.37	103.25
36	r	54	ASP	CA-CB-CG	-6.77	105.83	112.60
10	J	604	PRO	N-CA-CB	6.77	110.36	103.25
34	o	58	ASP	N-CA-CB	-6.76	100.56	111.24
10	J	183	ALA	CA-C-N	-6.75	112.81	119.76
10	J	183	ALA	C-N-CA	-6.75	112.81	119.76
9	I	342	PRO	N-CA-CB	6.75	110.33	103.25
35	p	53	PHE	CA-C-O	-6.74	112.90	120.32
9	I	162	PRO	N-CA-CB	6.74	110.66	103.52
36	q	19	PRO	N-CA-CB	6.72	110.31	103.25
1	A	947	PRO	CA-C-N	6.71	127.29	120.38
1	A	947	PRO	C-N-CA	6.71	127.29	120.38
9	I	232	PRO	N-CA-CB	6.70	110.62	103.52
9	I	387	PRO	N-CA-CB	6.69	110.36	103.00
12	L	558	PRO	N-CA-CB	6.66	110.58	103.52
8	H	164	C	C5'-C4'-O4'	-6.65	99.12	109.10
12	L	620	PRO	N-CA-CB	6.64	110.22	103.25
36	r	19	PRO	N-CA-CB	6.63	110.19	102.76
9	I	722	GLU	N-CA-C	6.61	118.49	111.28
23	W	565	LYS	N-CA-C	6.59	118.88	108.79
12	L	594	PRO	N-CA-CB	6.58	110.16	103.25
37	u	38	PRO	N-CA-C	6.58	122.39	113.84
20	T	188	PRO	N-CA-C	6.57	120.72	110.80
9	I	816	PRO	N-CA-CB	6.57	110.48	103.52
36	t	19	PRO	N-CA-CB	6.57	110.15	103.25
7	G	127	U	C2'-C3'-O3'	-6.56	103.86	113.70
3	C	907	VAL	CA-C-N	6.55	126.79	119.32
3	C	907	VAL	C-N-CA	6.55	126.79	119.32
10	J	523	PRO	N-CA-CB	6.55	110.46	103.52
25	Y	1038	THR	N-CA-C	6.52	118.94	111.11
1	A	912	GLU	CA-C-N	6.52	126.76	119.32
1	A	912	GLU	C-N-CA	6.52	126.76	119.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	637	PRO	N-CA-CB	6.48	110.39	103.52
2	B	12	U	C2'-C3'-O3'	-6.46	99.80	109.50
7	G	22	C	C4'-C3'-O3'	-6.45	103.32	113.00
12	L	546	PRO	N-CA-CB	6.45	110.66	103.44
34	o	87	LEU	CA-C-N	6.42	126.18	119.05
34	o	87	LEU	C-N-CA	6.42	126.18	119.05
36	s	19	PRO	N-CA-CB	6.41	109.97	103.25
9	I	463	PRO	N-CA-CB	6.40	109.97	103.25
9	I	788	PRO	N-CA-CB	6.40	110.61	103.44
5	E	336	HIS	CA-C-N	6.39	126.08	119.56
5	E	336	HIS	C-N-CA	6.39	126.08	119.56
11	K	40	THR	CA-CB-OG1	6.39	119.18	109.60
3	C	89	LEU	N-CA-C	6.37	118.75	111.11
9	I	177	PRO	N-CA-CB	6.36	110.56	103.44
12	L	564	PRO	N-CA-CB	6.35	110.25	103.52
1	A	69	ILE	CB-CA-C	-6.34	103.85	111.97
22	V	621	PRO	N-CA-CB	6.33	110.30	103.33
9	I	518	PRO	N-CA-CB	6.33	110.23	103.52
34	o	55	ARG	NE-CZ-NH1	6.33	127.83	121.50
26	Z	117	LYS	N-CA-C	6.32	117.83	111.07
9	I	394	PRO	N-CA-CB	6.31	110.51	103.44
9	I	371	PRO	N-CA-CB	6.30	110.50	103.44
36	r	60	PRO	N-CA-CB	6.30	109.86	103.25
34	o	40	THR	CA-C-N	6.30	131.53	122.40
34	o	40	THR	C-N-CA	6.30	131.53	122.40
23	W	460	SER	N-CA-C	6.29	118.14	111.28
26	Z	138	ARG	N-CA-C	6.29	118.88	111.02
37	u	68	ALA	N-CA-C	6.28	119.42	111.69
23	W	106	ALA	CA-C-N	6.26	126.21	119.76
23	W	106	ALA	C-N-CA	6.26	126.21	119.76
23	W	90	ALA	CA-C-N	-6.25	113.51	119.76
23	W	90	ALA	C-N-CA	-6.25	113.51	119.76
3	C	440	SER	CA-C-N	6.25	125.99	119.05
3	C	440	SER	C-N-CA	6.25	125.99	119.05
8	H	168	A	C5'-C4'-C3'	-6.25	106.63	116.00
1	A	1879	PHE	CA-C-N	6.24	125.94	119.82
1	A	1879	PHE	C-N-CA	6.24	125.94	119.82
8	H	169	C	P-O3'-C3'	6.22	129.53	120.20
2	B	26	A	P-O5'-C5'	-6.21	111.58	120.90
10	J	670	PRO	N-CA-CB	6.21	110.39	103.44
15	O	23	LEU	N-CA-C	6.21	118.85	109.23
18	R	247	ILE	CB-CA-C	-6.17	103.76	110.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	T	354	ILE	CB-CA-C	-6.16	103.27	110.91
1	A	1737	ASN	CA-C-N	6.16	125.88	119.05
1	A	1737	ASN	C-N-CA	6.16	125.88	119.05
23	W	116	GLU	CA-C-N	6.15	126.50	119.92
23	W	116	GLU	C-N-CA	6.15	126.50	119.92
25	Y	994	ILE	O-C-N	-6.13	114.90	122.57
23	W	281	ILE	N-CA-C	6.13	117.49	111.67
38	v	144	LYS	N-CA-C	6.12	118.62	109.25
34	o	73	ASN	N-CA-C	6.12	119.80	111.17
1	A	334	THR	CA-C-N	-6.08	113.50	119.76
1	A	334	THR	C-N-CA	-6.08	113.50	119.76
12	L	548	PRO	N-CA-CB	6.08	110.25	103.44
1	A	1536	LEU	CB-CA-C	-6.08	100.70	110.79
20	T	220	VAL	CB-CA-C	-6.07	101.58	110.62
12	L	163	GLN	N-CA-C	6.07	118.84	109.07
25	Y	672	ILE	CA-C-N	6.07	127.62	122.28
25	Y	672	ILE	C-N-CA	6.07	127.62	122.28
37	u	339	ARG	N-CA-C	6.07	119.59	109.95
10	J	566	PRO	N-CA-CB	6.04	110.20	103.44
1	A	1063	GLY	CA-C-N	6.03	124.00	119.66
1	A	1063	GLY	C-N-CA	6.03	124.00	119.66
20	T	381	HIS	CA-C-N	6.03	127.38	119.84
20	T	381	HIS	C-N-CA	6.03	127.38	119.84
34	o	52	ASN	CA-CB-CG	6.03	118.63	112.60
10	J	551	PRO	N-CA-CB	6.02	110.19	103.44
7	G	144	A	C3'-C2'-O2'	6.02	119.72	110.70
35	p	89	ASP	CA-CB-CG	6.02	118.62	112.60
22	V	485	GLN	CA-CB-CG	-6.01	102.08	114.10
4	D	1006	LYS	CA-C-N	6.01	126.17	119.32
4	D	1006	LYS	C-N-CA	6.01	126.17	119.32
34	o	75	ARG	N-CA-CB	-6.01	102.62	111.51
37	u	178	THR	N-CA-C	6.01	120.74	113.17
1	A	173	GLU	CA-C-N	6.00	123.98	119.66
1	A	173	GLU	C-N-CA	6.00	123.98	119.66
18	R	247	ILE	N-CA-C	5.99	114.56	107.73
16	P	50	ALA	CA-C-N	5.99	125.67	119.56
16	P	50	ALA	C-N-CA	5.99	125.67	119.56
34	o	79	ILE	CA-C-N	5.99	125.79	120.10
34	o	79	ILE	C-N-CA	5.99	125.79	120.10
9	I	761	PRO	N-CA-CB	5.98	109.85	103.39
1	A	106	MET	CA-C-N	5.97	126.08	119.87
1	A	106	MET	C-N-CA	5.97	126.08	119.87

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	g	67	ILE	CB-CA-C	-5.97	104.78	111.23
22	V	465	SER	N-CA-C	5.96	117.78	111.28
18	R	101	ILE	CB-CA-C	-5.95	104.26	111.88
33	n	67	ILE	CB-CA-C	-5.95	104.81	111.23
9	I	625	PRO	N-CA-CB	5.94	109.86	103.33
19	S	66	ASP	CA-C-N	5.93	125.63	119.82
19	S	66	ASP	C-N-CA	5.93	125.63	119.82
35	p	46	MET	N-CA-C	-5.93	104.73	111.07
1	A	1052	VAL	N-CA-C	5.92	116.09	110.53
1	A	1117	HIS	CA-C-N	5.92	125.82	119.85
1	A	1117	HIS	C-N-CA	5.92	125.82	119.85
1	A	1307	MET	CA-C-N	5.90	127.22	119.84
1	A	1307	MET	C-N-CA	5.90	127.22	119.84
23	W	285	SER	CB-CA-C	-5.90	109.78	116.63
34	o	27	ARG	CB-CA-C	-5.89	98.70	109.54
3	C	776	GLU	CB-CA-C	-5.89	99.41	109.65
34	o	123	ASN	OD1-CG-ND2	5.88	128.48	122.60
1	A	273	ILE	CA-C-N	5.86	127.17	119.84
1	A	273	ILE	C-N-CA	5.86	127.17	119.84
34	o	113	LYS	N-CA-C	5.86	118.42	111.33
7	G	1	G	C4'-C3'-O3'	5.86	118.18	109.40
22	V	463	ILE	N-CA-C	5.85	116.63	110.72
1	A	380	LEU	CA-C-N	-5.84	113.68	119.93
1	A	380	LEU	C-N-CA	-5.84	113.68	119.93
1	A	1451	ASN	CA-C-N	5.84	125.54	119.82
1	A	1451	ASN	C-N-CA	5.84	125.54	119.82
8	H	163	G	O3'-P-O5'	-5.84	95.25	104.00
23	W	464	MET	CA-C-N	-5.84	113.00	119.19
23	W	464	MET	C-N-CA	-5.84	113.00	119.19
19	S	128	ILE	CA-C-N	5.83	128.37	120.44
19	S	128	ILE	C-N-CA	5.83	128.37	120.44
34	o	50	SER	CA-C-O	5.83	127.73	121.55
1	A	2199	ILE	CB-CA-C	-5.82	104.39	112.02
3	C	535	ALA	N-CA-C	5.79	120.92	111.37
22	V	513	ARG	N-CA-C	-5.79	105.05	111.71
11	K	107	VAL	CA-CB-CG1	5.78	120.23	110.40
22	V	607	THR	CA-CB-OG1	5.78	118.27	109.60
25	Y	811	PRO	CA-C-N	5.76	130.76	121.95
25	Y	811	PRO	C-N-CA	5.76	130.76	121.95
10	J	410	HIS	N-CA-C	5.75	122.72	114.39
37	u	336	VAL	N-CA-C	-5.74	104.01	112.04
1	A	705	LYS	N-CA-C	5.73	118.26	111.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	707	ILE	N-CA-C	5.71	118.19	111.05
4	D	1135	LEU	CA-C-N	5.71	125.64	119.76
4	D	1135	LEU	C-N-CA	5.71	125.64	119.76
3	C	924	GLN	CA-C-N	5.71	125.66	119.78
3	C	924	GLN	C-N-CA	5.71	125.66	119.78
6	F	50	A	C1'-C2'-O2'	5.71	116.96	108.40
1	A	1566	ILE	CA-C-N	5.69	125.22	119.19
1	A	1566	ILE	C-N-CA	5.69	125.22	119.19
36	r	110	HIS	CA-CB-CG	5.69	119.49	113.80
34	o	149	LYS	CB-CA-C	-5.69	101.97	110.16
1	A	2153	THR	N-CA-C	-5.69	101.76	109.95
4	D	782	PHE	N-CA-C	5.69	118.06	109.41
21	U	19	VAL	N-CA-C	5.69	114.92	106.85
8	H	164	C	P-O3'-C3'	5.69	128.73	120.20
3	C	205	THR	CA-C-N	5.68	125.58	119.85
3	C	205	THR	C-N-CA	5.68	125.58	119.85
4	D	1291	LEU	CA-C-N	5.68	126.00	119.92
4	D	1291	LEU	C-N-CA	5.68	126.00	119.92
1	A	1318	THR	CA-C-N	5.67	125.62	119.78
1	A	1318	THR	C-N-CA	5.67	125.62	119.78
34	o	27	ARG	CA-C-N	5.67	128.67	120.11
34	o	27	ARG	C-N-CA	5.67	128.67	120.11
10	J	340	GLN	CA-C-N	5.67	126.92	119.84
10	J	340	GLN	C-N-CA	5.67	126.92	119.84
10	J	373	HIS	CA-C-N	5.66	126.91	119.84
10	J	373	HIS	C-N-CA	5.66	126.91	119.84
20	T	192	PRO	CA-C-N	5.66	125.63	120.03
20	T	192	PRO	C-N-CA	5.66	125.63	120.03
37	u	210	PRO	N-CA-C	5.65	121.39	113.53
1	A	619	GLY	CA-C-N	5.65	125.76	119.32
1	A	619	GLY	C-N-CA	5.65	125.76	119.32
1	A	1657	THR	N-CA-C	5.65	116.00	108.38
22	V	597	PRO	N-CA-CB	5.65	109.18	103.25
25	Y	663	ASP	O-C-N	-5.63	115.11	122.59
3	C	270	PRO	CA-C-N	5.62	125.73	119.32
3	C	270	PRO	C-N-CA	5.62	125.73	119.32
1	A	1963	GLU	CA-C-N	5.62	125.71	119.87
1	A	1963	GLU	C-N-CA	5.62	125.71	119.87
38	v	116	LYS	N-CA-C	-5.61	100.53	109.96
1	A	1303	LEU	CA-C-N	-5.61	113.48	122.62
1	A	1303	LEU	C-N-CA	-5.61	113.48	122.62
18	R	251	ILE	CB-CA-C	-5.59	103.98	110.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	1048	VAL	N-CA-C	-5.59	106.35	113.22
1	A	1742	VAL	CB-CA-C	-5.58	104.60	112.14
34	o	71	VAL	O-C-N	-5.58	115.59	122.57
1	A	1182	ASN	CA-C-N	5.57	125.27	119.64
1	A	1182	ASN	C-N-CA	5.57	125.27	119.64
1	A	332	TYR	N-CA-C	-5.57	100.60	109.07
20	T	216	ASN	CB-CA-C	-5.57	103.67	111.80
19	S	152	ARG	CA-C-N	5.55	125.56	119.90
19	S	152	ARG	C-N-CA	5.55	125.56	119.90
25	Y	1097	GLY	CA-C-N	5.55	132.14	121.54
25	Y	1097	GLY	C-N-CA	5.55	132.14	121.54
1	A	2241	ASN	N-CA-C	5.55	118.36	110.10
8	H	165	A	N9-C1'-C2'	5.55	120.32	112.00
1	A	624	GLY	CA-C-N	5.54	125.20	119.05
1	A	624	GLY	C-N-CA	5.54	125.20	119.05
28	i	52	LYS	CA-C-N	-5.53	114.23	119.76
28	i	52	LYS	C-N-CA	-5.53	114.23	119.76
1	A	2225	LEU	N-CA-C	5.53	117.80	109.23
34	o	159	GLU	N-CA-C	-5.53	104.89	111.69
8	H	168	A	O4'-C1'-C2'	-5.52	102.08	107.60
8	H	157	G	P-O5'-C5'	-5.51	112.63	120.90
8	H	160	A	P-O5'-C5'	-5.51	112.64	120.90
28	b	52	LYS	CA-C-N	-5.50	114.26	119.76
28	b	52	LYS	C-N-CA	-5.50	114.26	119.76
25	Y	738	PRO	N-CA-C	5.50	123.80	112.47
18	R	214	ILE	CB-CA-C	-5.49	104.39	111.20
34	o	34	ILE	CA-C-O	-5.49	114.26	120.74
34	o	32	PRO	CA-C-N	5.49	130.62	122.99
34	o	32	PRO	C-N-CA	5.49	130.62	122.99
1	A	2203	ASN	N-CA-C	5.48	120.78	109.11
28	i	5	LYS	N-CA-C	5.48	118.17	111.82
23	W	279	LYS	N-CA-CB	5.47	119.74	110.49
39	w	115	GLY	N-CA-C	5.47	126.15	113.18
37	u	384	ASP	N-CA-C	5.47	117.67	111.11
23	W	151	LYS	N-CA-C	5.46	118.29	109.40
18	R	208	GLU	CA-C-N	5.46	126.00	120.38
18	R	208	GLU	C-N-CA	5.46	126.00	120.38
34	o	132	ARG	CD-NE-CZ	5.45	132.03	124.40
1	A	1083	HIS	CA-C-N	5.45	125.09	119.05
1	A	1083	HIS	C-N-CA	5.45	125.09	119.05
28	b	5	LYS	N-CA-C	5.44	118.13	111.82
18	R	51	ILE	CA-C-N	-5.44	112.92	118.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	R	51	ILE	C-N-CA	-5.44	112.92	118.85
25	Y	869	THR	CA-C-N	5.44	132.06	121.41
25	Y	869	THR	C-N-CA	5.44	132.06	121.41
4	D	1228	VAL	CB-CA-C	-5.43	104.92	112.04
34	o	16	THR	O-C-N	5.43	129.41	123.22
1	A	941	LYS	N-CA-C	5.42	118.48	108.94
23	W	470	SER	CA-C-N	5.41	125.08	119.56
23	W	470	SER	C-N-CA	5.41	125.08	119.56
35	p	25	ARG	CD-NE-CZ	5.40	131.96	124.40
34	o	40	THR	N-CA-C	-5.39	106.20	112.89
10	J	356	TYR	N-CA-C	-5.38	102.23	110.14
1	A	387	PHE	N-CA-C	5.38	117.84	111.33
12	L	214	ILE	CA-C-N	5.38	126.57	119.84
12	L	214	ILE	C-N-CA	5.38	126.57	119.84
1	A	2100	THR	N-CA-C	-5.37	106.72	113.28
1	A	141	ILE	CB-CA-C	-5.36	104.91	112.14
22	V	540	GLU	N-CA-C	5.35	117.77	110.55
3	C	596	ASN	CA-C-N	5.35	125.42	119.32
3	C	596	ASN	C-N-CA	5.35	125.42	119.32
22	V	610	PRO	N-CA-CB	5.34	109.29	103.30
20	T	317	VAL	CB-CA-C	-5.34	105.04	112.04
18	R	180	THR	C-N-CD	-5.33	103.13	125.00
3	C	799	GLU	CA-C-N	5.33	126.50	119.84
3	C	799	GLU	C-N-CA	5.33	126.50	119.84
1	A	435	CYS	CA-C-N	-5.32	113.14	119.05
1	A	435	CYS	C-N-CA	-5.32	113.14	119.05
28	i	65	ARG	CB-CG-CD	5.32	123.54	111.30
4	D	1228	VAL	N-CA-C	5.32	116.68	110.62
34	o	125	VAL	CA-C-N	5.31	127.93	120.28
34	o	125	VAL	C-N-CA	5.31	127.93	120.28
28	b	65	ARG	CB-CG-CD	5.31	123.52	111.30
34	o	146	ASP	CA-C-N	5.31	130.10	122.40
34	o	146	ASP	C-N-CA	5.31	130.10	122.40
4	D	2096	ALA	CA-C-N	5.30	125.51	120.31
4	D	2096	ALA	C-N-CA	5.30	125.51	120.31
26	Z	174	ASN	CA-C-N	-5.30	113.07	118.85
26	Z	174	ASN	C-N-CA	-5.30	113.07	118.85
3	C	939	ARG	NE-CZ-NH1	5.30	126.80	121.50
1	A	1134	TRP	CA-C-N	5.29	125.23	119.78
1	A	1134	TRP	C-N-CA	5.29	125.23	119.78
4	D	1127	CYS	CA-C-N	5.29	125.61	119.47
4	D	1127	CYS	C-N-CA	5.29	125.61	119.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	811	SER	N-CA-C	5.29	115.11	108.45
35	p	6	ASN	N-CA-CB	-5.28	101.70	111.53
4	D	749	GLY	N-CA-C	-5.28	108.41	114.69
36	s	54	ASP	N-CA-CB	-5.28	102.28	110.46
10	J	203	LEU	N-CA-C	5.28	122.04	110.80
34	o	33	VAL	N-CA-CB	-5.28	103.81	111.52
1	A	434	HIS	N-CA-C	5.27	117.83	111.40
35	p	20	LYS	N-CA-C	5.27	117.43	111.11
22	V	613	GLU	CA-CB-CG	-5.27	103.56	114.10
23	W	274	CYS	N-CA-C	5.27	117.48	110.53
36	r	74	ILE	CA-CB-CG1	5.26	119.35	110.40
4	D	1693	ARG	CA-C-N	5.25	125.05	119.28
4	D	1693	ARG	C-N-CA	5.25	125.05	119.28
19	S	108	ASN	N-CA-C	5.24	117.99	109.24
1	A	1615	HIS	CA-C-N	5.24	125.54	119.47
1	A	1615	HIS	C-N-CA	5.24	125.54	119.47
8	H	171	U	C2'-C3'-O3'	-5.24	105.85	113.70
25	Y	979	ARG	CA-C-N	5.23	127.24	120.44
25	Y	979	ARG	C-N-CA	5.23	127.24	120.44
23	W	462	HIS	N-CA-C	5.23	117.06	111.36
1	A	132	ILE	CA-C-N	5.23	126.37	119.84
1	A	132	ILE	C-N-CA	5.23	126.37	119.84
34	o	88	PRO	CB-CA-C	-5.23	104.00	112.62
4	D	488	LEU	N-CA-C	5.22	119.75	113.17
16	P	191	ASP	N-CA-C	5.21	117.11	108.20
37	u	367	ARG	N-CA-C	-5.21	106.19	112.54
35	p	36	HIS	CA-CB-CG	-5.20	108.60	113.80
1	A	724	ILE	CA-C-N	-5.20	114.56	119.76
1	A	724	ILE	C-N-CA	-5.20	114.56	119.76
37	u	163	THR	N-CA-C	-5.20	103.63	110.39
5	E	281	VAL	N-CA-C	5.19	115.78	108.36
3	C	469	ASP	CA-C-N	-5.18	113.97	119.98
3	C	469	ASP	C-N-CA	-5.18	113.97	119.98
5	E	156	SER	N-CA-C	5.18	116.72	108.79
13	M	166	SER	N-CA-C	5.18	116.93	111.28
11	K	146	ILE	CA-CB-CG1	5.18	119.20	110.40
35	p	48	MET	N-CA-C	5.17	119.59	113.28
36	t	46	PRO	CA-CB-CG	5.17	114.33	104.50
25	Y	609	SER	CA-C-N	5.17	131.42	121.54
25	Y	609	SER	C-N-CA	5.17	131.42	121.54
35	p	51	GLN	N-CA-C	5.17	117.53	109.52
23	W	257	ILE	C-N-CD	-5.17	103.82	125.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	V	466	SER	N-CA-C	5.17	117.15	108.73
36	s	60	PRO	CA-CB-CG	5.16	114.31	104.50
12	L	774	VAL	CA-CB-CG2	5.16	119.17	110.40
8	H	160	A	C4'-C3'-C2'	-5.16	97.44	102.60
25	Y	656	THR	CA-C-N	5.15	128.87	121.55
25	Y	656	THR	C-N-CA	5.15	128.87	121.55
35	p	68	GLN	OE1-CD-NE2	5.15	127.75	122.60
14	N	101	CYS	CB-CA-C	-5.14	100.19	110.42
22	V	538	ARG	N-CA-C	5.14	116.89	111.28
1	A	30	LEU	N-CA-C	-5.14	105.37	110.97
1	A	316	PHE	CA-C-N	5.14	125.59	120.04
1	A	316	PHE	C-N-CA	5.14	125.59	120.04
18	R	205	ASP	CA-C-N	5.14	124.75	119.56
18	R	205	ASP	C-N-CA	5.14	124.75	119.56
23	W	297	PHE	CA-C-N	5.14	125.43	119.93
23	W	297	PHE	C-N-CA	5.14	125.43	119.93
1	A	1040	ILE	CB-CA-C	-5.13	105.21	112.14
8	H	156	U	C4'-C3'-C2'	5.13	107.73	102.60
4	D	1875	VAL	CA-C-N	5.13	124.58	119.24
4	D	1875	VAL	C-N-CA	5.13	124.58	119.24
4	D	572	ASP	N-CA-C	-5.13	103.38	110.35
34	o	55	ARG	NE-CZ-NH2	-5.13	114.58	119.20
30	k	99	MET	N-CA-C	5.12	116.85	108.76
36	q	110	HIS	CA-CB-CG	5.12	118.92	113.80
12	L	225	TYR	CA-C-N	-5.12	116.19	122.84
12	L	225	TYR	C-N-CA	-5.12	116.19	122.84
1	A	840	ILE	CB-CA-C	-5.11	105.42	111.97
23	W	399	LYS	N-CA-C	5.11	117.71	110.50
30	d	99	MET	N-CA-C	5.11	116.83	108.76
37	u	342	ASP	N-CA-C	5.11	117.04	107.99
30	d	88	LYS	CG-CD-CE	-5.11	99.55	111.30
8	H	22	U	C1'-C2'-O2'	-5.11	100.74	108.40
23	W	176	GLU	N-CA-C	5.10	118.66	111.52
36	q	60	PRO	CA-CB-CG	5.10	114.19	104.50
13	M	160	PHE	N-CA-C	5.09	117.50	111.33
39	w	107	ASP	N-CA-C	-5.09	102.11	109.59
34	o	83	LEU	N-CA-C	5.09	117.49	111.33
1	A	480	LYS	N-CA-C	5.09	118.95	112.34
2	B	21	A	C2'-C3'-O3'	-5.09	106.07	113.70
35	p	83	TYR	CA-C-O	-5.09	115.25	121.05
18	R	129	ASP	CA-C-N	-5.08	113.70	119.28
18	R	129	ASP	C-N-CA	-5.08	113.70	119.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	v	143	PHE	N-CA-C	5.08	120.12	113.88
39	w	148	TRP	N-CA-C	-5.07	103.34	110.50
8	H	170	C	O4'-C1'-C2'	-5.07	100.73	105.80
1	A	2310	ARG	CG-CD-NE	5.06	123.14	112.00
1	A	1189	MET	CB-CG-SD	5.06	127.89	112.70
8	H	160	A	N9-C1'-C2'	5.05	119.58	112.00
20	T	307	SER	N-CA-C	5.05	116.87	109.24
34	o	90	LEU	CA-C-O	-5.05	113.29	120.51
8	H	155	C	P-O3'-C3'	5.05	127.77	120.20
1	A	581	ILE	CB-CA-C	-5.05	105.33	112.14
25	Y	814	SER	N-CA-C	5.04	118.20	111.75
32	e	85	THR	N-CA-C	-5.04	105.98	112.68
32	l	85	THR	N-CA-C	-5.03	105.99	112.68
34	o	28	GLY	N-CA-C	5.03	120.82	113.48
1	A	1064	PRO	CA-C-N	5.02	125.09	119.87
1	A	1064	PRO	C-N-CA	5.02	125.09	119.87
4	D	574	GLN	N-CA-C	5.02	117.87	111.69
16	P	29	GLN	N-CA-C	5.02	117.16	110.53
34	o	139	VAL	CA-C-N	5.02	124.68	119.56
34	o	139	VAL	C-N-CA	5.02	124.68	119.56
36	t	60	PRO	CA-CB-CG	5.02	114.04	104.50
3	C	700	ILE	CB-CA-C	-5.02	105.54	111.97
1	A	492	VAL	CB-CA-C	-5.02	105.30	112.22
19	S	126	HIS	N-CA-C	5.02	117.30	109.52
35	p	38	VAL	O-C-N	5.01	127.00	121.83
1	A	243	ASN	N-CA-C	5.01	118.17	111.75
5	E	339	GLU	CA-C-N	5.01	126.11	119.84
5	E	339	GLU	C-N-CA	5.01	126.11	119.84
34	o	99	SER	N-CA-CB	-5.01	102.96	111.17
1	A	1119	ASP	CA-C-N	5.00	124.61	119.56
1	A	1119	ASP	C-N-CA	5.00	124.61	119.56
34	o	90	LEU	O-C-N	5.00	129.25	122.59
34	o	81	GLU	N-CA-C	5.00	118.53	112.23
36	s	71	ILE	CA-CB-CG1	5.00	118.90	110.40

There are no chirality outliers.

All (39) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	166	PHE	Peptide
1	A	81	PHE	Peptide
1	A	941	LYS	Peptide

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Mol	Chain	Res	Type	Group
3	C	622	GLU	Peptide
3	C	736	GLY	Peptide
3	C	823	ALA	Peptide
3	C	88	PRO	Peptide
4	D	430	LEU	Peptide
9	I	283	ILE	Mainchain,Peptide
12	L	130	PRO	Peptide
12	L	201	LYS	Peptide
14	N	101	CYS	Peptide
14	N	36	PRO	Peptide
15	O	63	MET	Peptide
18	R	94	GLY	Peptide
20	T	400	PHE	Mainchain,Peptide
24	X	59	PRO	Mainchain,Peptide
25	Y	1098	LYS	Peptide
25	Y	1127	LEU	Peptide
25	Y	1163	ARG	Peptide
25	Y	1187	THR	Peptide
25	Y	515	ASP	Peptide
25	Y	550	TYR	Peptide
25	Y	563	GLU	Peptide
25	Y	636	CYS	Peptide
25	Y	662	THR	Peptide
25	Y	811	PRO	Peptide
25	Y	855	VAL	Peptide
25	Y	868	LYS	Peptide
25	Y	938	ASN	Peptide
25	Y	963	THR	Peptide
25	Y	993	LEU	Peptide
26	Z	151	PRO	Peptide
26	Z	155	VAL	Peptide
30	d	112	ASN	Peptide
30	k	112	ASN	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	18633	0	18480	846	0
2	B	1768	0	897	54	0
3	C	6798	0	6815	615	0
4	D	13846	0	13985	383	0
5	E	2338	0	2272	149	0
6	F	2075	0	1048	158	0
7	G	1551	0	785	178	0
8	H	2966	0	1505	256	0
9	I	2792	0	1249	41	0
10	J	3829	0	2906	144	0
11	K	980	0	741	11	0
12	L	3205	0	2777	203	0
13	M	1098	0	1080	175	0
14	N	1184	0	1189	62	0
15	O	2296	0	2283	199	0
16	P	929	0	910	100	0
17	Q	10885	0	10852	77	0
18	R	2073	0	2116	289	0
19	S	1236	0	1208	142	0
20	T	2461	0	2420	158	0
21	U	193	0	194	18	0
22	V	3419	0	3300	275	0
23	W	4023	0	3938	879	0
24	X	701	0	631	32	0
25	Y	2995	0	992	14	0
26	Z	1999	0	1951	146	0
27	a	640	0	657	9	0
27	h	633	0	645	15	0
28	b	690	0	712	15	0
28	i	690	0	712	15	0
29	c	649	0	693	10	0
29	j	649	0	693	12	0
30	d	776	0	819	30	0
30	k	688	0	709	31	0
31	f	576	0	589	20	0
31	m	576	0	589	24	0
32	e	652	0	668	20	0
32	l	652	0	668	25	0
33	g	577	0	603	14	0
33	n	542	0	568	28	0
34	o	1282	0	1305	30	0
35	p	760	0	783	11	0
36	q	918	0	801	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	r	901	0	777	17	0
36	s	917	0	798	13	0
36	t	906	0	785	14	0
37	u	3130	0	3172	131	0
38	v	1196	0	1182	34	0
39	w	730	0	690	26	0
40	x	216	0	202	1	0
41	A	36	0	6	4	0
42	C	32	0	12	4	0
43	C	1	0	0	0	0
43	D	1	0	0	0	0
43	F	6	0	0	0	0
43	Q	2	0	0	0	0
43	u	1	0	0	0	0
44	D	54	0	24	3	0
45	N	3	0	0	0	0
45	O	3	0	0	0	0
45	Z	1	0	0	0	0
46	Q	31	0	12	0	0
46	u	31	0	12	2	0
All	All	116421	0	106410	5418	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 24.

All (5418) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:264:PHE:CE1	1:A:459:LEU:HD13	1.13	1.65
1:A:264:PHE:CE1	1:A:459:LEU:CD1	1.79	1.64
11:K:163:LEU:CB	11:K:163:LEU:CG	1.81	1.57
36:q:47:LEU:CB	36:q:47:LEU:CG	1.81	1.55
36:r:47:LEU:CB	36:r:47:LEU:CG	1.81	1.55
36:s:47:LEU:CG	36:s:47:LEU:CB	1.81	1.55
12:L:144:MET:HE2	12:L:149:LEU:CD2	1.25	1.54
9:I:371:PRO:CB	17:Q:357:ALA:CB	1.81	1.53
9:I:511:LEU:CB	9:I:547:LEU:CB	1.80	1.53
11:K:195:ILE:CB	11:K:195:ILE:CG1	1.81	1.53
9:I:343:LEU:HA	17:Q:527:ILE:CB	1.36	1.53
36:t:47:LEU:CB	36:t:47:LEU:CG	1.81	1.52
9:I:371:PRO:CB	17:Q:357:ALA:HB2	1.35	1.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:536:ASP:HB2	23:W:543:TYR:CE2	1.47	1.50
12:L:144:MET:CE	12:L:149:LEU:HD23	1.40	1.50
5:E:146:ARG:NH1	5:E:148:LYS:CE	1.75	1.49
23:W:536:ASP:CB	23:W:543:TYR:CE2	1.95	1.49
23:W:528:GLY:HA2	23:W:552:VAL:CG2	1.46	1.46
22:V:171:ASN:CG	37:u:277:ILE:HG23	1.33	1.46
23:W:536:ASP:HB2	23:W:543:TYR:CD2	1.52	1.44
5:E:146:ARG:NH1	5:E:148:LYS:HE3	1.24	1.43
1:A:47:GLU:O	1:A:50:LYS:CG	1.67	1.42
22:V:171:ASN:ND2	37:u:277:ILE:HG23	1.30	1.42
23:W:488:PHE:CE1	23:W:496:LEU:HB3	1.52	1.42
3:C:680:ASN:OD1	3:C:682:LYS:CG	1.65	1.41
19:S:39:PHE:CB	19:S:129:PHE:CZ	2.02	1.40
19:S:39:PHE:HB2	19:S:129:PHE:CZ	1.55	1.40
19:S:39:PHE:CG	19:S:129:PHE:HE2	1.40	1.39
3:C:670:SER:HA	3:C:823:ALA:CB	1.52	1.37
9:I:370:ARG:CB	17:Q:355:ASN:CG	1.98	1.37
9:I:280:GLU:C	9:I:288:THR:CB	2.00	1.34
6:F:57:U:O2'	16:P:8:THR:HG21	1.18	1.34
9:I:370:ARG:CB	17:Q:355:ASN:HB3	1.57	1.33
3:C:679:PRO:HB2	3:C:807:GLN:OE1	1.19	1.32
23:W:266:ARG:NH1	32:l:14:MET:N	1.75	1.32
10:J:191:ALA:O	10:J:193:GLN:N	1.61	1.31
23:W:536:ASP:CG	23:W:543:TYR:HE2	1.38	1.31
23:W:162:ASN:HD22	23:W:165:LEU:CD2	1.41	1.31
22:V:536:ILE:CG2	22:V:579:SER:CB	2.10	1.30
9:I:370:ARG:CB	17:Q:355:ASN:CB	2.08	1.29
9:I:280:GLU:CB	9:I:288:THR:CB	2.08	1.29
19:S:39:PHE:CG	19:S:129:PHE:CE2	2.19	1.29
3:C:449:ILE:CD1	3:C:466:SER:OG	1.80	1.28
23:W:536:ASP:CG	23:W:543:TYR:CE2	2.10	1.28
23:W:265:LEU:CD1	23:W:300:SER:HB2	1.63	1.27
3:C:230:ASP:OD2	3:C:259:LYS:CE	1.81	1.27
23:W:126:GLU:CG	23:W:130:ARG:NH1	1.96	1.27
23:W:528:GLY:CA	23:W:552:VAL:HG23	1.65	1.27
5:E:74:PHE:CE1	5:E:81:LEU:HD21	1.69	1.26
19:S:39:PHE:CB	19:S:129:PHE:HZ	1.39	1.26
23:W:374:LYS:HD3	23:W:397:ASP:CB	1.66	1.26
7:G:120:G:O2'	7:G:121:G:O4'	1.54	1.25
1:A:264:PHE:CZ	1:A:459:LEU:CD1	2.21	1.24
22:V:540:GLU:OE1	22:V:541:THR:HG23	1.35	1.24

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:387:ASP:O	3:C:388:VAL:HG12	1.07	1.24
22:V:320:ARG:NH1	22:V:340:PHE:CE1	2.02	1.24
23:W:252:ARG:NH1	23:W:257:ILE:CD1	2.00	1.24
19:S:131:ARG:HD3	19:S:132:VAL:O	1.19	1.23
3:C:497:LEU:CD1	3:C:577:PHE:CZ	2.20	1.23
1:A:1370:ARG:NH1	22:V:506:PHE:CG	2.07	1.23
23:W:342:THR:HB	23:W:388:GLN:NE2	1.52	1.23
1:A:300:ASN:O	3:C:939:ARG:NH2	1.72	1.23
3:C:679:PRO:CB	3:C:807:GLN:OE1	1.86	1.23
36:q:22:ASN:CB	36:r:55:ILE:HA	1.67	1.22
18:R:171:LEU:HD12	18:R:201:GLU:OE1	1.40	1.22
23:W:266:ARG:HH11	32:l:14:MET:N	1.32	1.22
3:C:497:LEU:HD13	3:C:577:PHE:CZ	1.74	1.22
7:G:17:U:O2	15:O:198:ILE:HD11	1.40	1.22
23:W:501:ILE:O	23:W:502:PHE:HD1	1.21	1.22
13:M:153:ARG:HA	13:M:160:PHE:CE2	1.74	1.21
23:W:126:GLU:HG3	23:W:130:ARG:NH1	1.51	1.21
23:W:243:VAL:CG1	23:W:323:ARG:CZ	2.19	1.20
22:V:496:CYS:O	22:V:500:GLN:HG3	1.40	1.20
23:W:243:VAL:HG11	23:W:323:ARG:CZ	1.70	1.20
3:C:906:ILE:CD1	37:u:179:ARG:HH12	1.52	1.20
19:S:131:ARG:CD	19:S:132:VAL:O	1.89	1.19
3:C:449:ILE:HD13	3:C:466:SER:OG	1.40	1.18
3:C:680:ASN:OD1	3:C:682:LYS:HG2	1.15	1.18
9:I:280:GLU:O	9:I:288:THR:CB	1.90	1.18
1:A:339:PHE:CE1	1:A:406:TRP:CE3	2.32	1.18
3:C:449:ILE:CG2	3:C:457:VAL:CG1	2.21	1.18
23:W:210:GLU:HA	23:W:213:GLN:OE1	1.42	1.18
1:A:439:GLN:NE2	1:A:614:TYR:CZ	2.11	1.17
23:W:417:HIS:CE1	23:W:437:SER:HB3	1.78	1.17
3:C:221:ILE:HD11	3:C:479:THR:OG1	1.45	1.16
7:G:21:A:O2'	7:G:22:C:O5'	1.64	1.16
22:V:520:GLU:O	22:V:523:GLU:CG	1.92	1.16
23:W:140:ASP:HB3	23:W:153:ILE:CG2	1.74	1.16
22:V:171:ASN:ND2	37:u:277:ILE:CG2	2.08	1.15
23:W:304:LEU:CB	23:W:318:VAL:HG22	1.76	1.15
1:A:264:PHE:CD1	1:A:459:LEU:CD1	2.27	1.15
3:C:449:ILE:CG2	3:C:457:VAL:HG11	1.73	1.15
23:W:245:GLU:HG3	23:W:323:ARG:HH21	1.11	1.14
3:C:349:PHE:CD1	3:C:356:PHE:CE1	2.35	1.14
14:N:40:LYS:O	14:N:41:ARG:HG3	1.46	1.14

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:193:VAL:HG23	16:P:194:PHE:CD2	1.80	1.14
22:V:171:ASN:CG	37:u:277:ILE:CG2	2.20	1.13
22:V:455:PHE:HZ	22:V:489:LEU:HB2	1.05	1.13
18:R:64:PHE:CB	18:R:67:ILE:HD11	1.77	1.13
20:T:399:LYS:CG	20:T:406:ILE:HD11	1.79	1.13
1:A:264:PHE:CD1	1:A:459:LEU:HD11	1.84	1.12
3:C:387:ASP:O	3:C:388:VAL:CG1	1.97	1.12
23:W:162:ASN:ND2	23:W:165:LEU:HD21	1.61	1.13
24:X:120:ALA:O	24:X:124:THR:OG1	1.66	1.12
1:A:901:LEU:HD12	1:A:904:HIS:CE1	1.83	1.12
8:H:36:G:H2'	8:H:37:U:H5'	1.30	1.12
6:F:34:G:H2'	6:F:35:A:H5''	1.29	1.12
22:V:171:ASN:OD1	37:u:277:ILE:HG23	1.46	1.12
23:W:358:LEU:HD22	23:W:405:ILE:HD11	1.30	1.12
23:W:548:ALA:CB	23:W:578:TRP:CH2	2.31	1.12
3:C:507:VAL:HG11	3:C:565:ILE:HG23	1.28	1.12
18:R:101:ILE:O	18:R:104:GLN:HG3	1.50	1.12
18:R:262:ILE:HG21	18:R:267:ARG:NH1	1.65	1.12
22:V:493:ILE:HD13	22:V:510:LEU:HD23	1.26	1.12
7:G:129:G:H4'	23:W:541:LYS:NZ	1.65	1.12
13:M:126:ASP:OD2	13:M:128:ALA:HB3	1.49	1.12
19:S:11:PRO:HB3	19:S:166:GLY:HA3	1.26	1.11
23:W:252:ARG:HH11	23:W:257:ILE:CD1	1.56	1.11
23:W:390:LEU:HD12	23:W:447:TRP:CZ2	1.84	1.11
8:H:154:C:OP2	35:p:19:LYS:HG2	1.49	1.11
18:R:64:PHE:HB2	18:R:67:ILE:CG1	1.79	1.11
1:A:1791:HIS:CE1	1:A:1799:THR:HG23	1.85	1.11
3:C:445:ALA:HB1	3:C:449:ILE:HG13	1.20	1.11
5:E:119:THR:CG2	5:E:161:ARG:HB3	1.80	1.11
6:F:57:U:O2'	16:P:8:THR:CG2	1.99	1.10
8:H:168:A:H1'	33:n:48:MET:HE1	1.19	1.10
13:M:153:ARG:HA	13:M:160:PHE:CZ	1.85	1.10
13:M:194:ASP:O	13:M:196:TYR:N	1.83	1.10
23:W:252:ARG:NH1	23:W:257:ILE:HD13	1.64	1.10
23:W:258:PRO:HB3	23:W:302:HIS:ND1	1.66	1.10
23:W:374:LYS:HE3	23:W:397:ASP:OD2	1.47	1.10
1:A:339:PHE:CE1	1:A:406:TRP:CZ3	2.40	1.10
9:I:296:PHE:HA	9:I:305:SER:CB	1.80	1.10
1:A:369:GLU:O	1:A:371:LEU:N	1.83	1.09
3:C:445:ALA:HB1	3:C:449:ILE:CG1	1.81	1.09
6:F:27:A:N3	15:O:181:TYR:CE2	2.19	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:371:PRO:CA	17:Q:357:ALA:HB3	1.82	1.09
18:R:178:ARG:HD3	18:R:194:GLN:NE2	1.67	1.09
8:H:36:G:C2'	8:H:37:U:H5'	1.83	1.09
13:M:153:ARG:HG3	13:M:160:PHE:CE2	1.87	1.09
23:W:390:LEU:HD12	23:W:447:TRP:HZ2	0.98	1.09
1:A:203:VAL:HG21	1:A:237:THR:CG2	1.83	1.09
5:E:146:ARG:HH11	5:E:148:LYS:HE2	1.01	1.09
23:W:304:LEU:HB2	23:W:318:VAL:HG22	1.22	1.09
23:W:501:ILE:O	23:W:502:PHE:CD1	2.06	1.09
26:Z:140:VAL:HG11	26:Z:145:THR:HG21	1.35	1.09
1:A:805:GLU:OE2	16:P:194:PHE:CZ	2.05	1.09
23:W:374:LYS:HD3	23:W:397:ASP:HB3	1.17	1.09
1:A:1793:THR:HG21	6:F:43:A:H5'	1.32	1.08
16:P:3:THR:OG1	16:P:6:ARG:NH2	1.87	1.08
20:T:434:GLY:HA2	20:T:464:GLY:HA2	1.35	1.08
3:C:670:SER:HA	3:C:823:ALA:HB1	1.24	1.08
10:J:214:ILE:HG22	10:J:219:GLU:HB3	1.09	1.08
18:R:64:PHE:HB2	18:R:67:ILE:CD1	1.83	1.08
22:V:515:CYS:HA	22:V:521:TYR:HB2	1.36	1.08
23:W:300:SER:HB3	23:W:561:HIS:CE1	1.87	1.08
3:C:449:ILE:HG21	3:C:457:VAL:HG11	1.11	1.08
3:C:465:MET:CE	3:C:475:MET:HG3	1.83	1.08
7:G:128:U:OP1	23:W:545:ARG:NH2	1.86	1.08
10:J:192:GLU:HA	10:J:195:LEU:CD1	1.82	1.08
3:C:679:PRO:HD2	3:C:807:GLN:HB3	1.12	1.08
18:R:178:ARG:HD3	18:R:194:GLN:HE22	0.97	1.08
3:C:470:PRO:HB3	3:C:500:THR:HG23	1.30	1.08
9:I:371:PRO:CB	17:Q:357:ALA:HB3	1.76	1.08
19:S:39:PHE:CB	19:S:129:PHE:CE2	2.32	1.08
23:W:536:ASP:CB	23:W:543:TYR:HE2	1.47	1.08
7:G:129:G:C5'	23:W:541:LYS:NZ	2.17	1.07
8:H:156:U:H6	8:H:156:U:H5''	1.10	1.07
10:J:192:GLU:HA	10:J:195:LEU:HD13	1.35	1.07
3:C:906:ILE:CD1	37:u:179:ARG:NH1	2.17	1.07
6:F:39:A:C2'	6:F:40:U:H5'	1.82	1.07
9:I:280:GLU:CA	9:I:288:THR:CB	2.32	1.07
22:V:330:LYS:HE2	37:u:50:LEU:HD23	1.35	1.07
23:W:162:ASN:HB3	23:W:165:LEU:HD23	1.10	1.07
18:R:82:MET:HA	18:R:82:MET:HE3	1.35	1.07
3:C:776:GLU:O	3:C:781:ASP:OD1	1.73	1.07
38:v:72:THR:HG21	38:v:94:ILE:HD11	1.29	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:980:ARG:HG2	1:A:1094:ARG:HD2	1.36	1.06
5:E:243:LEU:CD1	5:E:247:GLY:HA2	1.84	1.06
9:I:343:LEU:CA	17:Q:527:ILE:CB	2.32	1.06
12:L:251:LEU:HD11	12:L:254:GLU:HB2	1.32	1.06
3:C:452:THR:CG2	3:C:577:PHE:HD2	1.68	1.06
3:C:511:GLY:O	3:C:576:ILE:CD1	2.03	1.06
19:S:34:LYS:HE3	19:S:78:TYR:CE2	1.90	1.06
23:W:252:ARG:HH11	23:W:257:ILE:HD13	0.93	1.06
8:H:105:G:H2'	8:H:106:G:H5''	1.37	1.06
13:M:153:ARG:CA	13:M:160:PHE:CE2	2.38	1.06
23:W:260:ASP:HA	33:n:10:LYS:HZ1	1.20	1.06
23:W:358:LEU:CD2	23:W:405:ILE:HD11	1.84	1.06
15:O:253:TYR:CE1	19:S:93:THR:OG1	2.09	1.06
19:S:39:PHE:HB3	19:S:129:PHE:CZ	1.81	1.06
23:W:488:PHE:CE1	23:W:496:LEU:CB	2.39	1.06
1:A:339:PHE:HE1	1:A:406:TRP:CZ3	1.73	1.05
10:J:201:ARG:NE	10:J:201:ARG:O	1.89	1.05
19:S:100:MET:HG2	19:S:108:ASN:OD1	1.55	1.05
23:W:417:HIS:CE1	23:W:437:SER:CB	2.39	1.05
3:C:306:ASN:OD1	3:C:437:HIS:CE1	2.09	1.05
19:S:131:ARG:NH1	19:S:133:CYS:HA	1.70	1.05
20:T:352:THR:HG22	20:T:373:LYS:O	1.57	1.05
3:C:448:LYS:O	3:C:452:THR:OG1	1.74	1.05
10:J:203:LEU:HD13	10:J:204:GLU:N	1.68	1.05
23:W:162:ASN:HB3	23:W:165:LEU:CD2	1.85	1.05
6:F:57:U:C2'	16:P:8:THR:HG21	1.87	1.04
22:V:489:LEU:O	22:V:492:MET:HB2	1.56	1.04
22:V:497:CYS:CB	22:V:507:PHE:CG	2.39	1.04
3:C:711:ARG:NH2	3:C:730:ARG:O	1.90	1.04
23:W:548:ALA:HB1	23:W:578:TRP:CH2	1.92	1.04
3:C:700:ILE:HG23	3:C:735:PHE:CD2	1.92	1.04
23:W:536:ASP:CB	23:W:543:TYR:CD2	2.30	1.04
7:G:129:G:C4'	23:W:541:LYS:NZ	2.21	1.04
22:V:449:GLU:HB3	22:V:452:LEU:HG	1.35	1.04
1:A:369:GLU:OE2	1:A:369:GLU:N	1.91	1.03
23:W:162:ASN:HD22	23:W:165:LEU:HD21	0.93	1.03
13:M:162:PRO:HB3	13:M:167:LEU:HB2	1.39	1.03
23:W:317:GLU:HG2	23:W:321:GLU:HG3	1.41	1.03
1:A:264:PHE:CD1	1:A:459:LEU:HD13	1.93	1.03
3:C:465:MET:HE1	3:C:475:MET:HG3	1.03	1.03
7:G:147:C:H2'	7:G:148:U:C6	1.93	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:162:ASN:ND2	23:W:165:LEU:CD2	2.20	1.03
3:C:670:SER:HA	3:C:823:ALA:HB3	1.33	1.03
5:E:146:ARG:HH11	5:E:148:LYS:CE	1.50	1.03
20:T:399:LYS:HG3	20:T:406:ILE:HD11	1.37	1.03
23:W:548:ALA:HB2	23:W:578:TRP:CH2	1.93	1.03
7:G:116:C:OP1	17:Q:615:ARG:HD3	1.59	1.02
23:W:257:ILE:O	23:W:302:HIS:CE1	2.11	1.02
3:C:670:SER:CA	3:C:823:ALA:HB3	1.88	1.02
3:C:670:SER:CB	3:C:823:ALA:HB3	1.88	1.02
9:I:371:PRO:HA	17:Q:357:ALA:HB3	1.35	1.02
23:W:158:GLU:OE1	23:W:158:GLU:N	1.91	1.02
3:C:115:GLU:O	3:C:118:PHE:N	1.91	1.02
3:C:216:THR:HG22	3:C:245:HIS:CE1	1.92	1.02
6:F:8:C:H6	6:F:8:C:H5''	1.22	1.02
10:J:192:GLU:CA	10:J:195:LEU:CD1	2.37	1.02
22:V:320:ARG:NH1	22:V:340:PHE:CZ	2.28	1.02
23:W:303:LEU:C	23:W:318:VAL:HG21	1.83	1.02
3:C:76:GLU:OE1	3:C:76:GLU:N	1.93	1.02
9:I:251:PHE:CB	17:Q:1016:LEU:HD22	1.90	1.02
7:G:129:G:C5'	23:W:541:LYS:HZ1	1.73	1.02
22:V:493:ILE:CD1	22:V:510:LEU:HD23	1.87	1.02
23:W:342:THR:CB	23:W:388:GLN:HE22	1.72	1.02
1:A:264:PHE:CZ	1:A:459:LEU:HD12	1.93	1.01
22:V:449:GLU:HB3	22:V:452:LEU:CG	1.89	1.01
3:C:670:SER:CA	3:C:823:ALA:CB	2.38	1.01
3:C:703:GLU:OE2	3:C:740:THR:HG21	1.60	1.01
1:A:300:ASN:C	3:C:939:ARG:NH2	2.18	1.01
3:C:230:ASP:OD2	3:C:259:LYS:HE2	1.58	1.01
8:H:39:U:H6	8:H:39:U:H5''	1.23	1.01
23:W:420:ALA:O	23:W:438:ASP:N	1.93	1.01
3:C:349:PHE:HD1	3:C:356:PHE:CD1	1.76	1.01
3:C:445:ALA:CB	3:C:449:ILE:HG13	1.90	1.01
3:C:449:ILE:HD11	3:C:466:SER:OG	1.60	1.01
3:C:680:ASN:OD1	3:C:682:LYS:CB	2.08	1.01
6:F:86:U:O2'	6:F:87:C:O5'	1.78	1.01
22:V:548:ALA:CB	22:V:585:ILE:CB	2.39	1.01
23:W:126:GLU:HG3	23:W:130:ARG:HH11	1.20	1.01
23:W:203:LYS:HA	23:W:203:LYS:HE3	1.43	1.01
23:W:287:HIS:CD2	23:W:308:SER:HB2	1.95	1.01
3:C:678:THR:CG2	3:C:683:ASN:HB2	1.90	1.01
7:G:138:A:C2	8:H:39:U:O2	2.14	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:171:ASN:OD1	37:u:277:ILE:CG2	2.08	1.01
23:W:300:SER:HB3	23:W:561:HIS:NE2	1.76	1.01
23:W:529:ASN:HD22	23:W:531:LYS:HE3	1.25	1.01
37:u:278:THR:HG23	37:u:279:GLN:H	1.26	1.01
3:C:906:ILE:HD12	37:u:179:ARG:NH1	1.76	1.00
8:H:40:C:H4'	8:H:41:U:OP1	1.56	1.00
1:A:548:ARG:NH2	1:A:549:GLU:OE2	1.94	1.00
3:C:674:CYS:SG	3:C:822:MET:SD	2.59	1.00
23:W:209:SER:HB2	23:W:212:GLU:HG3	1.44	1.00
3:C:507:VAL:CA	3:C:568:PRO:HB3	1.91	1.00
3:C:855:GLY:O	3:C:856:HIS:HB3	1.59	1.00
18:R:303:GLU:OE2	18:R:307:GLN:NE2	1.93	1.00
19:S:11:PRO:CB	19:S:165:SER:O	2.10	1.00
22:V:536:ILE:HG21	22:V:579:SER:CB	1.86	1.00
1:A:203:VAL:CG2	1:A:237:THR:CG2	2.39	1.00
1:A:1341:ARG:NH2	1:A:1342:TRP:CZ2	2.29	0.99
18:R:64:PHE:HB2	18:R:67:ILE:HD11	1.35	0.99
18:R:263:PRO:HB2	18:R:266:LYS:HG2	1.42	0.99
12:L:59:LYS:CD	12:L:91:ARG:NH1	2.26	0.99
23:W:548:ALA:HB1	23:W:578:TRP:CZ2	1.97	0.99
20:T:352:THR:HG22	20:T:373:LYS:C	1.85	0.99
22:V:455:PHE:CZ	22:V:489:LEU:HB2	1.96	0.99
3:C:680:ASN:CG	3:C:682:LYS:HG2	1.87	0.99
7:G:129:G:H4'	23:W:541:LYS:CE	1.91	0.99
23:W:260:ASP:HA	33:n:10:LYS:NZ	1.78	0.99
22:V:497:CYS:HB3	22:V:507:PHE:CG	1.98	0.99
1:A:1793:THR:HG21	6:F:43:A:C5'	1.93	0.99
23:W:243:VAL:HG13	23:W:323:ARG:NH1	1.75	0.99
23:W:242:HIS:CB	23:W:325:LEU:O	2.10	0.99
8:H:168:A:H5''	8:H:168:A:C8	1.98	0.98
20:T:306:CYS:SG	20:T:336:VAL:HB	2.03	0.98
23:W:433:PHE:HE1	23:W:445:TRP:HB2	1.26	0.98
19:S:11:PRO:HB2	19:S:165:SER:O	1.62	0.98
22:V:602:ARG:O	22:V:606:GLU:CG	2.12	0.98
23:W:245:GLU:CG	23:W:323:ARG:NH2	2.26	0.98
23:W:267:SER:HB3	23:W:561:HIS:HD2	1.27	0.98
23:W:374:LYS:CE	23:W:397:ASP:OD2	2.11	0.98
3:C:507:VAL:HG11	3:C:565:ILE:CG2	1.93	0.98
23:W:269:MET:HE2	23:W:269:MET:HA	1.44	0.98
14:N:128:VAL:HG13	14:N:130:ARG:H	1.25	0.98
3:C:711:ARG:HD3	3:C:730:ARG:NH1	1.78	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:41:A:N1	7:G:6:A:N1	2.11	0.98
18:R:312:MET:HA	18:R:312:MET:HE3	1.40	0.98
18:R:113:TYR:OH	20:T:402:ASP:O	1.80	0.98
23:W:242:HIS:HB2	23:W:325:LEU:O	1.62	0.98
5:E:243:LEU:HD11	5:E:247:GLY:HA2	1.45	0.98
22:V:171:ASN:ND2	37:u:277:ILE:HG12	1.79	0.98
23:W:261:VAL:HG11	23:W:319:TYR:CZ	1.98	0.98
8:H:40:C:O2'	8:H:41:U:H5''	1.64	0.98
12:L:37:LEU:HD21	12:L:155:ALA:CB	1.93	0.98
3:C:230:ASP:CG	3:C:259:LYS:HE2	1.88	0.97
3:C:449:ILE:HD11	3:C:466:SER:CB	1.93	0.97
1:A:293:TRP:HB2	1:A:1136:ARG:NH2	1.77	0.97
6:F:34:G:C2'	6:F:35:A:H5''	1.94	0.97
18:R:297:LYS:HE3	18:R:300:GLU:OE1	1.63	0.97
23:W:245:GLU:HG3	23:W:323:ARG:NH2	1.79	0.97
18:R:101:ILE:O	18:R:104:GLN:CG	2.11	0.97
2:B:95:G:H5'	31:f:25:TRP:HH2	1.28	0.97
3:C:465:MET:HE1	3:C:475:MET:CG	1.94	0.97
18:R:292:TYR:CE2	18:R:296:ARG:NH2	2.31	0.97
26:Z:142:ALA:O	26:Z:144:PHE:N	1.97	0.97
23:W:265:LEU:HD13	23:W:300:SER:CB	1.94	0.97
23:W:265:LEU:HD13	23:W:300:SER:HB2	0.99	0.97
3:C:700:ILE:HG23	3:C:735:PHE:CE2	2.00	0.97
3:C:482:TYR:HE2	3:C:493:PHE:CG	1.82	0.97
3:C:711:ARG:HD3	3:C:730:ARG:HH11	1.26	0.97
1:A:203:VAL:HG21	1:A:237:THR:HG22	1.45	0.97
1:A:980:ARG:HG2	1:A:1094:ARG:CD	1.93	0.96
21:U:24:SER:HB2	22:V:477:LEU:CD1	1.95	0.96
23:W:128:GLN:OE1	23:W:139:LEU:CD1	2.13	0.96
1:A:264:PHE:CE1	1:A:459:LEU:HD11	1.95	0.96
3:C:476:CYS:HB3	3:C:565:ILE:HB	1.47	0.96
6:F:39:A:H2'	6:F:40:U:H5'	1.46	0.96
7:G:18:A:H5'	15:O:69:GLU:OE1	1.64	0.96
7:G:21:A:H4'	7:G:22:C:OP1	1.60	0.96
12:L:251:LEU:CD1	12:L:254:GLU:CB	2.43	0.96
5:E:310:TYR:CE1	5:E:322:LYS:HD2	2.00	0.96
21:U:24:SER:HB2	22:V:477:LEU:HD12	1.48	0.96
23:W:284:TRP:CD1	23:W:316:TRP:CE3	2.54	0.96
38:v:92:ILE:HG22	38:v:94:ILE:HG23	1.46	0.96
23:W:483:ASN:OD1	23:W:505:HIS:O	1.84	0.96
1:A:357:ASN:OD1	22:V:344:LYS:NZ	1.98	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:666:LYS:HB3	1:A:668:VAL:HG23	1.47	0.96
1:A:1370:ARG:NH1	22:V:506:PHE:CD1	2.33	0.96
23:W:140:ASP:HB3	23:W:153:ILE:HG23	1.42	0.95
12:L:251:LEU:CD1	12:L:254:GLU:HB2	1.95	0.95
23:W:443:ARG:NH2	23:W:455:TYR:CE2	2.34	0.95
1:A:47:GLU:O	1:A:50:LYS:HG3	0.78	0.95
1:A:533:LYS:HE2	6:F:37:C:N3	1.81	0.95
19:S:131:ARG:NH1	19:S:132:VAL:O	1.98	0.95
23:W:253:SER:OG	23:W:255:LEU:HG	1.64	0.95
3:C:523:GLN:OE1	3:C:524:ILE:N	1.98	0.95
23:W:140:ASP:HB2	23:W:153:ILE:HD13	1.49	0.95
23:W:268:THR:HG22	23:W:270:PRO:HD2	1.47	0.95
1:A:305:ARG:HA	1:A:305:ARG:HH11	1.30	0.95
1:A:419:ARG:NH2	1:A:423:ASP:O	2.00	0.95
3:C:452:THR:HG22	3:C:577:PHE:HD2	1.31	0.95
8:H:156:U:H5"	8:H:156:U:C6	2.02	0.95
22:V:645:GLU:O	22:V:648:LYS:CG	2.13	0.95
23:W:500:LYS:NZ	23:W:537:TRP:CD1	2.35	0.95
23:W:322:ARG:HH11	23:W:322:ARG:H	1.13	0.95
36:q:22:ASN:CB	36:r:55:ILE:CA	2.45	0.95
5:E:74:PHE:CE1	5:E:81:LEU:CD2	2.50	0.94
15:O:256:GLY:HA2	18:R:70:ALA:CB	1.97	0.94
3:C:306:ASN:OD1	3:C:437:HIS:ND1	2.00	0.94
5:E:119:THR:HG21	5:E:161:ARG:HB3	1.45	0.94
15:O:253:TYR:HE1	19:S:93:THR:OG1	1.47	0.94
21:U:23:LEU:H	22:V:474:HIS:HD2	1.02	0.94
23:W:210:GLU:OE1	23:W:211:GLU:N	2.01	0.94
23:W:374:LYS:CD	23:W:397:ASP:CB	2.45	0.94
3:C:152:GLN:NE2	3:C:426:GLU:O	1.99	0.94
1:A:433:GLU:OE1	1:A:436:PRO:HB3	1.67	0.94
13:M:153:ARG:CG	13:M:160:PHE:HE2	1.80	0.94
22:V:171:ASN:HD21	37:u:277:ILE:HG23	1.22	0.94
22:V:537:HIS:HA	22:V:578:SER:HB2	1.47	0.94
23:W:140:ASP:HA	23:W:153:ILE:CD1	1.97	0.94
3:C:221:ILE:CD1	3:C:479:THR:OG1	2.14	0.94
1:A:247:THR:HG22	1:A:249:LEU:H	1.32	0.94
13:M:153:ARG:CB	13:M:160:PHE:CE2	2.50	0.94
14:N:124:SER:O	14:N:127:GLU:HG2	1.68	0.94
19:S:11:PRO:HB3	19:S:166:GLY:CA	1.97	0.94
21:U:23:LEU:H	22:V:474:HIS:CD2	1.85	0.94
22:V:642:GLU:O	22:V:645:GLU:CG	2.16	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:317:GLU:HG3	23:W:319:TYR:H	1.28	0.94
7:G:27:U:O2'	7:G:28:A:O5'	1.84	0.94
7:G:147:C:H2'	7:G:148:U:H6	1.29	0.94
15:O:234:LEU:O	15:O:271:PHE:HA	1.67	0.94
23:W:162:ASN:CB	23:W:165:LEU:HD23	1.96	0.94
1:A:805:GLU:OE2	16:P:194:PHE:HZ	1.42	0.94
19:S:39:PHE:HB2	19:S:129:PHE:CE2	2.02	0.94
23:W:326:ARG:NH2	23:W:363:THR:HA	1.83	0.94
3:C:678:THR:OG1	3:C:680:ASN:O	1.86	0.93
3:C:516:LEU:HD12	3:C:517:GLU:HG3	1.50	0.93
23:W:322:ARG:HD2	23:W:323:ARG:N	1.83	0.93
23:W:443:ARG:NH2	23:W:455:TYR:CD2	2.36	0.93
1:A:297:ASN:HB3	1:A:1345:GLN:HE22	1.32	0.93
7:G:129:G:O5'	23:W:541:LYS:NZ	1.99	0.93
36:q:22:ASN:CB	36:r:55:ILE:CG1	2.46	0.93
3:C:906:ILE:HD13	37:u:179:ARG:HH12	1.29	0.93
21:U:1:MET:SD	21:U:1:MET:N	2.38	0.93
13:M:153:ARG:CG	13:M:160:PHE:CE2	2.50	0.93
18:R:135:PRO:O	18:R:136:ASP:OD1	1.86	0.93
1:A:193:LEU:HD12	1:A:194:GLU:H	1.32	0.93
1:A:203:VAL:CG2	1:A:237:THR:HG21	1.98	0.93
3:C:679:PRO:CG	3:C:807:GLN:OE1	2.15	0.93
23:W:137:TYR:CD1	23:W:158:GLU:HB2	2.04	0.93
3:C:711:ARG:HD3	3:C:730:ARG:HE	1.32	0.93
7:G:22:C:H5''	15:O:216:ARG:NH1	1.83	0.93
8:H:40:C:O2'	8:H:41:U:C5'	2.16	0.93
26:Z:174:ASN:OD1	26:Z:176:GLU:N	2.01	0.93
36:s:22:ASN:CB	36:t:55:ILE:HA	1.99	0.93
10:J:193:GLN:O	10:J:197:GLU:N	2.01	0.93
18:R:103:ARG:HB3	18:R:103:ARG:HH11	1.34	0.93
22:V:171:ASN:HD21	37:u:277:ILE:CG2	1.78	0.93
3:C:500:THR:HG22	3:C:545:PRO:HA	1.51	0.92
12:L:250:GLU:N	12:L:250:GLU:OE2	2.02	0.92
13:M:153:ARG:CA	13:M:160:PHE:HE2	1.79	0.92
23:W:126:GLU:HG2	23:W:130:ARG:NH1	1.85	0.92
3:C:445:ALA:HB3	3:C:466:SER:HA	1.51	0.92
8:H:40:C:O2'	8:H:41:U:O4'	1.87	0.92
12:L:59:LYS:CG	12:L:91:ARG:NH1	2.33	0.92
3:C:488:VAL:HG13	3:C:609:LYS:CE	2.00	0.92
26:Z:145:THR:O	26:Z:147:THR:N	2.02	0.92
1:A:1791:HIS:HE1	1:A:1799:THR:HG23	1.25	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:457:ARG:HH21	22:V:457:ARG:HG3	1.34	0.92
22:V:536:ILE:O	22:V:578:SER:HB3	1.70	0.92
23:W:317:GLU:HG2	23:W:321:GLU:CG	1.99	0.92
3:C:482:TYR:HE2	3:C:493:PHE:CB	1.83	0.92
7:G:27:U:C2'	7:G:28:A:O5'	2.15	0.92
23:W:453:PHE:CE1	23:W:454:LYS:HB2	2.05	0.92
1:A:203:VAL:HG23	1:A:237:THR:HG21	1.52	0.92
18:R:292:TYR:HE2	18:R:296:ARG:HH22	0.96	0.92
23:W:167:VAL:HG23	23:W:168:PHE:CD1	2.05	0.92
3:C:701:GLU:HA	3:C:740:THR:OG1	1.70	0.92
12:L:59:LYS:HG2	12:L:91:ARG:NH1	1.83	0.92
18:R:315:LYS:HE2	18:R:315:LYS:N	1.85	0.92
23:W:130:ARG:HB3	23:W:167:VAL:HG11	1.50	0.92
23:W:252:ARG:NH1	23:W:257:ILE:HD11	1.84	0.92
19:S:35:THR:C	19:S:129:PHE:HE1	1.79	0.91
3:C:711:ARG:HD3	3:C:730:ARG:NE	1.84	0.91
16:P:66:ARG:HB2	16:P:66:ARG:HH11	1.35	0.91
23:W:188:ASN:HD22	23:W:191:GLY:HA3	1.31	0.91
23:W:374:LYS:HG2	23:W:397:ASP:HB2	1.52	0.91
1:A:47:GLU:C	1:A:50:LYS:HG3	1.95	0.91
5:E:74:PHE:CZ	5:E:81:LEU:HD21	2.04	0.91
23:W:402:GLN:NE2	23:W:447:TRP:CZ3	2.37	0.91
1:A:264:PHE:HE1	1:A:459:LEU:HD13	1.10	0.91
1:A:300:ASN:HB3	3:C:939:ARG:NH2	1.85	0.91
5:E:162:ARG:NH2	5:E:203:ASP:O	2.04	0.91
23:W:342:THR:HB	23:W:388:GLN:HE22	1.11	0.91
22:V:497:CYS:HB2	22:V:507:PHE:CG	2.03	0.91
23:W:243:VAL:HG11	23:W:323:ARG:NE	1.85	0.91
3:C:488:VAL:HG13	3:C:609:LYS:HE2	1.52	0.91
10:J:323:LEU:O	13:M:178:GLU:HG2	1.71	0.91
19:S:35:THR:O	19:S:129:PHE:CE1	2.24	0.91
23:W:245:GLU:CG	23:W:323:ARG:HH21	1.84	0.91
23:W:390:LEU:CD1	23:W:447:TRP:HZ2	1.84	0.91
23:W:499:LYS:HZ3	23:W:499:LYS:HA	1.36	0.91
3:C:856:HIS:HB2	37:u:105:ARG:NE	1.85	0.91
12:L:144:MET:HG3	12:L:149:LEU:HG	1.50	0.91
1:A:364:SER:O	1:A:365:VAL:O	1.87	0.91
5:E:146:ARG:HH12	5:E:148:LYS:HE3	1.11	0.91
3:C:216:THR:HG22	3:C:245:HIS:HE1	1.34	0.90
26:Z:116:ARG:HH11	26:Z:126:MET:HG2	1.36	0.90
18:R:224:SEP:O3P	20:T:355:ARG:NH1	2.03	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:34:LYS:HE3	19:S:78:TYR:HE2	1.26	0.90
1:A:360:SER:CB	22:V:337:GLU:OE2	2.18	0.90
8:H:168:A:C1'	33:n:48:MET:HE1	2.01	0.90
19:S:39:PHE:CD1	19:S:129:PHE:HE2	1.90	0.90
23:W:210:GLU:CA	23:W:213:GLN:OE1	2.18	0.90
23:W:488:PHE:HE1	23:W:496:LEU:HB3	0.89	0.90
3:C:482:TYR:CE2	3:C:493:PHE:HB2	2.05	0.90
23:W:465:PRO:HG2	23:W:481:MET:CE	2.01	0.90
3:C:470:PRO:HA	3:C:499:GLY:HA2	1.54	0.90
3:C:677:GLU:OE2	3:C:684:LYS:HG2	1.72	0.90
20:T:417:ASN:OD1	20:T:432:ASP:OD1	1.88	0.90
23:W:135:TYR:CE2	23:W:165:LEU:HD11	2.06	0.90
23:W:258:PRO:O	23:W:260:ASP:N	2.03	0.90
23:W:420:ALA:N	23:W:438:ASP:HB3	1.86	0.90
3:C:670:SER:HB3	3:C:823:ALA:HB3	1.53	0.90
8:H:39:U:O2'	8:H:40:C:OP1	1.87	0.90
3:C:244:LYS:HB2	3:C:292:TYR:HE2	1.36	0.90
8:H:168:A:H5''	8:H:168:A:H8	1.37	0.90
12:L:163:GLN:O	12:L:168:LYS:HE3	1.71	0.90
8:H:168:A:H1'	33:n:48:MET:CE	2.02	0.90
13:M:194:ASP:C	13:M:196:TYR:H	1.77	0.90
23:W:423:THR:HG21	23:W:467:VAL:HG12	1.51	0.90
22:V:537:HIS:O	22:V:578:SER:OG	1.87	0.90
5:E:269:PRO:O	5:E:270:LYS:HB3	1.72	0.89
6:F:27:A:N3	15:O:181:TYR:HE2	1.67	0.89
7:G:18:A:C2	15:O:196:GLN:O	2.25	0.89
7:G:142:U:H2'	7:G:143:U:C5	2.07	0.89
20:T:434:GLY:HA2	20:T:464:GLY:CA	2.02	0.89
1:A:73:HIS:HB3	1:A:76:MET:HE3	1.54	0.89
1:A:664:HIS:NE2	1:A:666:LYS:HD3	1.87	0.89
3:C:497:LEU:HD13	3:C:577:PHE:HZ	1.07	0.89
3:C:680:ASN:CG	3:C:682:LYS:CG	2.41	0.89
8:H:39:U:H5''	8:H:39:U:C6	2.07	0.89
13:M:209:ASP:OD1	13:M:219:ASN:ND2	2.04	0.89
1:A:456:LEU:O	1:A:460:LYS:HG2	1.72	0.89
7:G:129:G:H4'	23:W:541:LYS:HZ3	1.23	0.89
18:R:171:LEU:CD1	18:R:201:GLU:OE1	2.20	0.89
1:A:901:LEU:CD1	1:A:904:HIS:CE1	2.55	0.89
3:C:230:ASP:OD2	3:C:259:LYS:NZ	2.03	0.89
23:W:304:LEU:HB2	23:W:318:VAL:CG2	2.03	0.89
1:A:1791:HIS:CE1	1:A:1799:THR:CG2	2.55	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:20:A:O2'	7:G:21:A:OP2	1.91	0.89
9:I:342:PRO:CB	17:Q:528:GLY:CA	2.50	0.89
23:W:284:TRP:HE1	23:W:316:TRP:HB3	1.34	0.89
23:W:289:LYS:HD3	23:W:310:ASP:OD1	1.71	0.89
23:W:465:PRO:HD2	23:W:479:GLN:O	1.71	0.89
3:C:711:ARG:HD3	3:C:730:ARG:CZ	2.03	0.89
23:W:317:GLU:HG2	23:W:321:GLU:CB	2.02	0.89
1:A:1083:HIS:NE2	16:P:189:ASP:OD1	2.06	0.89
3:C:508:LYS:HE3	3:C:566:THR:HG21	1.53	0.89
12:L:59:LYS:HD3	12:L:91:ARG:NH1	1.88	0.89
22:V:171:ASN:HB3	37:u:277:ILE:HA	1.54	0.89
23:W:276:LEU:H	23:W:276:LEU:HD12	1.35	0.89
26:Z:142:ALA:C	26:Z:144:PHE:H	1.81	0.89
3:C:507:VAL:HA	3:C:568:PRO:HB3	1.52	0.89
3:C:856:HIS:NE2	37:u:102:ILE:O	2.04	0.89
20:T:267:ASP:O	20:T:268:LYS:HG3	1.72	0.89
3:C:906:ILE:HD13	37:u:179:ARG:NH1	1.84	0.89
15:O:235:TYR:HD2	15:O:301:LYS:HB2	1.38	0.89
12:L:59:LYS:HD3	12:L:91:ARG:HH11	1.38	0.89
19:S:39:PHE:CD2	19:S:129:PHE:CE2	2.60	0.89
23:W:179:LYS:O	23:W:200:VAL:HG22	1.72	0.88
10:J:406:PHE:CD2	10:J:411:MET:HE3	2.09	0.88
13:M:152:LEU:CD2	13:M:160:PHE:CZ	2.56	0.88
1:A:1678:ARG:HG2	1:A:1678:ARG:HH11	1.37	0.88
3:C:516:LEU:CD1	3:C:517:GLU:HG3	2.04	0.88
3:C:906:ILE:HD12	37:u:179:ARG:HH12	1.31	0.88
7:G:147:C:C2	7:G:148:U:C5	2.61	0.88
19:S:35:THR:O	19:S:129:PHE:HE1	1.54	0.88
23:W:156:VAL:HG12	23:W:160:GLU:CD	1.99	0.88
23:W:268:THR:HG22	23:W:270:PRO:CD	2.02	0.88
23:W:300:SER:HA	23:W:561:HIS:CE1	2.08	0.88
23:W:528:GLY:HA2	23:W:552:VAL:HG21	1.54	0.88
2:B:95:G:H5''	30:d:47:ARG:HH22	1.38	0.88
6:F:27:A:N9	15:O:181:TYR:OH	2.07	0.88
13:M:163:THR:OG1	13:M:166:SER:HB2	1.73	0.88
23:W:128:GLN:OE1	23:W:139:LEU:HD12	1.73	0.88
3:C:507:VAL:CG1	3:C:565:ILE:HG23	2.04	0.88
23:W:501:ILE:C	23:W:502:PHE:CD1	2.51	0.88
22:V:320:ARG:HH12	22:V:340:PHE:HE1	0.91	0.88
23:W:317:GLU:HG2	23:W:321:GLU:HB2	1.52	0.88
1:A:805:GLU:CD	16:P:194:PHE:CZ	2.52	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:222:LEU:H	12:L:222:LEU:HD22	1.39	0.88
23:W:475:TRP:CE3	23:W:537:TRP:CZ2	2.62	0.88
3:C:221:ILE:HD11	3:C:479:THR:HG1	1.33	0.87
23:W:265:LEU:O	23:W:561:HIS:NE2	2.07	0.87
23:W:322:ARG:HD2	23:W:323:ARG:H	1.40	0.87
23:W:384:ASP:OD2	23:W:430:ASN:HB2	1.74	0.87
5:E:258:THR:HG22	5:E:260:ARG:HG2	1.55	0.87
3:C:497:LEU:HD11	3:C:577:PHE:CZ	2.08	0.87
3:C:700:ILE:HA	3:C:705:VAL:HG23	1.57	0.87
20:T:387:PHE:CE1	20:T:398:TRP:CD1	2.62	0.87
3:C:449:ILE:HG21	3:C:457:VAL:CG1	1.92	0.87
23:W:321:GLU:OE1	23:W:322:ARG:NH2	2.07	0.87
1:A:44:ARG:HD2	1:A:45:TYR:CE2	2.09	0.87
9:I:370:ARG:CB	17:Q:355:ASN:ND2	2.37	0.87
13:M:219:ASN:O	13:M:223:GLU:HG2	1.75	0.87
18:R:292:TYR:HE2	18:R:296:ARG:NH2	1.54	0.87
23:W:140:ASP:CB	23:W:153:ILE:CG2	2.53	0.87
15:O:155:PRO:HG3	18:R:188:PHE:HD1	1.39	0.87
1:A:1414:ARG:NH1	22:V:545:ARG:HD2	1.90	0.87
3:C:725:ASP:OD1	3:C:727:LEU:N	2.07	0.87
5:E:277:PHE:HE2	5:E:300:ILE:CD1	1.87	0.87
7:G:22:C:O2'	7:G:23:U:OP1	1.91	0.87
16:P:3:THR:CB	16:P:6:ARG:HH21	1.88	0.87
23:W:261:VAL:HG11	23:W:319:TYR:CE1	2.10	0.87
1:A:1414:ARG:HH12	22:V:545:ARG:HD2	1.40	0.87
8:H:154:C:O2	8:H:176:G:N2	2.07	0.87
12:L:59:LYS:HG2	12:L:91:ARG:HH12	1.38	0.87
23:W:137:TYR:CE1	23:W:158:GLU:HB3	2.10	0.87
23:W:358:LEU:HD22	23:W:405:ILE:CD1	2.04	0.87
37:u:278:THR:HG23	37:u:279:GLN:N	1.84	0.87
3:C:216:THR:CG2	3:C:245:HIS:HE1	1.87	0.86
7:G:17:U:O2	15:O:198:ILE:CD1	2.23	0.86
3:C:711:ARG:CD	3:C:730:ARG:HE	1.89	0.86
8:H:156:U:H6	8:H:156:U:C5'	1.88	0.86
10:J:361:ARG:HD3	13:M:161:PHE:CD2	2.10	0.86
13:M:153:ARG:CB	13:M:160:PHE:HE2	1.84	0.86
1:A:253:ASN:OD1	1:A:334:THR:OG1	1.92	0.86
23:W:155:SER:C	23:W:156:VAL:HG23	2.00	0.86
1:A:523:ASN:OD1	1:A:552:ARG:NH2	2.06	0.86
6:F:78:A:H4'	10:J:237:LYS:HE2	1.58	0.86
22:V:536:ILE:HG22	22:V:579:SER:CB	2.06	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:135:TYR:CZ	23:W:165:LEU:HD11	2.10	0.86
28:b:46:ASP:OD2	28:b:64:LYS:HE3	1.75	0.86
3:C:488:VAL:CG1	3:C:609:LYS:HE2	2.06	0.86
18:R:65:PRO:HG2	18:R:66:GLU:OE2	1.76	0.86
18:R:280:ILE:HD12	18:R:281:ASN:N	1.90	0.86
23:W:374:LYS:CD	23:W:397:ASP:HB3	2.05	0.86
1:A:805:GLU:CD	16:P:194:PHE:HZ	1.82	0.86
14:N:111:THR:HG21	14:N:115:THR:O	1.75	0.86
23:W:265:LEU:O	23:W:561:HIS:CD2	2.27	0.86
18:R:134:ARG:O	18:R:136:ASP:N	2.09	0.86
1:A:439:GLN:O	1:A:444:ARG:NH1	2.09	0.86
3:C:824:THR:HG23	3:C:824:THR:O	1.75	0.86
18:R:262:ILE:HG13	18:R:263:PRO:CD	2.06	0.86
23:W:101:THR:CG2	23:W:104:MET:HG2	2.05	0.86
3:C:449:ILE:HG22	3:C:457:VAL:CG1	2.06	0.86
3:C:452:THR:CG2	3:C:577:PHE:CD2	2.58	0.86
5:E:74:PHE:CD1	5:E:81:LEU:CD2	2.59	0.86
23:W:140:ASP:CB	23:W:153:ILE:HD13	2.05	0.86
1:A:367:SER:O	1:A:369:GLU:N	2.08	0.85
5:E:265:ARG:H	5:E:272:ARG:NH2	1.74	0.85
12:L:190:GLU:OE2	23:W:336:ARG:NH2	2.08	0.85
23:W:209:SER:CB	23:W:212:GLU:HG3	2.06	0.85
5:E:119:THR:HG21	5:E:161:ARG:CB	2.06	0.85
36:s:22:ASN:CB	36:t:54:ASP:O	2.23	0.85
38:v:110:ILE:O	38:v:114:GLN:HG2	1.74	0.85
1:A:73:HIS:HB3	1:A:76:MET:CE	2.07	0.85
3:C:348:TYR:CD1	3:C:359:LYS:HB3	2.10	0.85
22:V:496:CYS:HA	26:Z:72:TRP:HH2	1.40	0.85
5:E:251:LEU:HG	5:E:291:CYS:SG	2.17	0.85
3:C:510:LEU:HD22	3:C:514:TYR:CE2	2.12	0.85
6:F:33:G:H5''	6:F:33:G:H8	1.41	0.85
12:L:59:LYS:CD	12:L:91:ARG:HH12	1.88	0.85
23:W:88:MET:HE1	23:W:89:PHE:HD2	1.41	0.85
23:W:257:ILE:O	23:W:302:HIS:HE1	1.58	0.85
3:C:220:ARG:NH1	3:C:578:ARG:O	2.09	0.85
22:V:291:GLU:HG3	22:V:335:MET:SD	2.16	0.85
28:i:46:ASP:OD2	28:i:64:LYS:HE3	1.75	0.85
1:A:1764:SER:HB3	1:A:1767:ASN:OD1	1.76	0.85
6:F:8:C:H5''	6:F:8:C:C6	2.11	0.85
3:C:678:THR:HG21	3:C:683:ASN:HB2	1.59	0.85
8:H:154:C:OP2	35:p:19:LYS:CG	2.25	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:244:LYS:HA	3:C:292:TYR:HD2	1.39	0.84
3:C:349:PHE:CD1	3:C:356:PHE:HE1	1.88	0.84
7:G:146:C:H2'	7:G:147:C:H5''	1.57	0.84
22:V:515:CYS:SG	22:V:522:MET:HA	2.16	0.84
23:W:109:ASN:HB2	23:W:114:TYR:CD1	2.12	0.84
23:W:146:HIS:ND1	23:W:146:HIS:O	2.10	0.84
23:W:417:HIS:NE2	23:W:437:SER:HB3	1.91	0.84
1:A:156:ARG:NH1	26:Z:153:GLU:OE2	2.10	0.84
1:A:584:HIS:HE1	41:A:3000:IHP:O26	1.58	0.84
5:E:74:PHE:CE2	5:E:343:ILE:HG12	2.11	0.84
12:L:146:GLU:OE1	12:L:146:GLU:N	2.10	0.84
22:V:473:ALA:O	22:V:477:LEU:HG	1.77	0.84
2:B:95:G:H4'	2:B:96:A:O4'	1.76	0.84
12:L:135:LYS:HZ3	12:L:136:PRO:HD2	1.41	0.84
23:W:126:GLU:CG	23:W:130:ARG:HH12	1.86	0.84
23:W:370:PHE:HE2	23:W:391:PHE:CE2	1.95	0.84
15:O:89:GLU:OE1	23:W:103:GLN:HB2	1.78	0.84
15:O:292:ILE:HG12	15:O:297:ARG:HA	1.59	0.84
18:R:307:GLN:OE1	18:R:307:GLN:N	2.10	0.84
13:M:165:ASN:HB2	18:R:95:LYS:HA	1.58	0.84
23:W:264:ASN:O	23:W:267:SER:HB2	1.76	0.84
23:W:300:SER:CB	23:W:561:HIS:CE1	2.60	0.84
23:W:182:LYS:O	23:W:182:LYS:HD3	1.76	0.84
23:W:242:HIS:CD2	23:W:324:CYS:SG	2.70	0.84
23:W:304:LEU:CB	23:W:318:VAL:CG2	2.56	0.84
9:I:342:PRO:CB	17:Q:528:GLY:HA3	2.07	0.84
20:T:352:THR:CG2	20:T:373:LYS:C	2.51	0.84
23:W:384:ASP:CG	23:W:430:ASN:HB2	2.02	0.84
23:W:500:LYS:NZ	23:W:537:TRP:NE1	2.26	0.84
8:H:98:G:N2	31:m:66:CYS:SG	2.50	0.84
23:W:137:TYR:HA	23:W:154:GLY:HA3	1.59	0.84
23:W:531:LYS:HB3	23:W:546:PHE:O	1.78	0.84
1:A:615:ARG:O	1:A:618:THR:OG1	1.93	0.84
4:D:782:PHE:HB3	4:D:808:VAL:HB	1.60	0.84
5:E:165:GLN:O	5:E:166:LEU:HD23	1.77	0.84
1:A:1504:GLU:HG3	1:A:1754:TYR:OH	1.78	0.83
18:R:262:ILE:HG13	18:R:263:PRO:HD2	1.57	0.83
1:A:1504:GLU:HB2	1:A:1754:TYR:CE2	2.13	0.83
23:W:140:ASP:CA	23:W:153:ILE:HG12	2.08	0.83
23:W:326:ARG:NH2	23:W:362:GLU:O	2.11	0.83
8:H:152:G:N2	8:H:153:A:N7	2.26	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:152:LEU:HD23	13:M:160:PHE:CZ	2.14	0.83
23:W:188:ASN:ND2	23:W:191:GLY:HA3	1.93	0.83
1:A:462:ARG:HD2	1:A:462:ARG:N	1.92	0.83
3:C:449:ILE:HD11	3:C:466:SER:CA	2.07	0.83
10:J:406:PHE:CD2	10:J:411:MET:CE	2.61	0.83
13:M:153:ARG:HG3	13:M:160:PHE:HE2	1.28	0.83
23:W:210:GLU:HA	23:W:213:GLN:HB2	1.58	0.83
23:W:528:GLY:HA2	23:W:552:VAL:HG23	0.87	0.83
3:C:230:ASP:OD2	3:C:259:LYS:HE3	1.76	0.83
12:L:208:VAL:HG23	15:O:110:SER:HB2	1.57	0.83
23:W:425:VAL:O	23:W:433:PHE:HB2	1.78	0.83
7:G:129:G:C5'	23:W:541:LYS:HZ3	1.90	0.83
23:W:304:LEU:N	23:W:318:VAL:CG2	2.40	0.83
38:v:72:THR:CG2	38:v:94:ILE:HD11	2.08	0.83
6:F:27:A:C4	15:O:181:TYR:CE2	2.66	0.83
10:J:203:LEU:HD13	10:J:204:GLU:H	1.43	0.83
12:L:59:LYS:CG	12:L:91:ARG:HH12	1.90	0.83
14:N:40:LYS:C	14:N:41:ARG:HG3	2.03	0.83
23:W:277:PRO:CB	23:W:578:TRP:C	2.51	0.83
1:A:1767:ASN:O	1:A:1770:GLU:HG2	1.76	0.83
1:A:1953:ILE:HD11	1:A:1986:LEU:HD11	1.59	0.83
10:J:192:GLU:O	10:J:196:ARG:HB2	1.79	0.83
4:D:1538:ARG:NH1	4:D:1665:ASP:OD1	2.10	0.83
23:W:160:GLU:N	23:W:160:GLU:OE1	2.11	0.83
23:W:370:PHE:CE2	23:W:391:PHE:CE2	2.67	0.83
23:W:420:ALA:HB3	23:W:438:ASP:HB2	1.59	0.83
1:A:331:TRP:CZ3	3:C:179:VAL:HG21	2.14	0.83
2:B:18:C:O2'	2:B:19:A:O5'	1.96	0.83
3:C:470:PRO:HB3	3:C:500:THR:CG2	2.08	0.83
4:D:1218:SER:HB3	4:D:1240:LEU:HD21	1.61	0.83
13:M:210:TYR:HD2	13:M:216:ALA:HA	1.42	0.83
16:P:193:VAL:CG2	16:P:194:PHE:CD2	2.60	0.83
22:V:496:CYS:HA	26:Z:72:TRP:CH2	2.12	0.83
1:A:377:GLU:O	1:A:378:PHE:HB3	1.78	0.82
1:A:1935:ARG:NH2	26:Z:348:THR:HG21	1.93	0.82
22:V:330:LYS:CE	37:u:50:LEU:HD23	2.09	0.82
22:V:548:ALA:HB1	22:V:586:PHE:N	1.93	0.82
23:W:265:LEU:HD21	23:W:319:TYR:OH	1.79	0.82
23:W:479:GLN:OE1	23:W:512:CYS:HB2	1.79	0.82
3:C:489:GLN:O	3:C:489:GLN:NE2	2.11	0.82
9:I:346:ASN:CB	17:Q:527:ILE:HA	2.09	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:119:THR:OG1	19:S:122:LEU:HD12	1.78	0.82
1:A:354:PRO:O	22:V:344:LYS:HB2	1.80	0.82
3:C:678:THR:HG21	3:C:683:ASN:HD22	1.42	0.82
8:H:154:C:P	35:p:19:LYS:HD3	2.19	0.82
13:M:153:ARG:CA	13:M:160:PHE:CZ	2.57	0.82
36:s:53:ILE:CG1	36:t:22:ASN:CB	2.57	0.82
3:C:131:ASN:ND2	3:C:495:ARG:HH12	1.77	0.82
7:G:22:C:H5''	15:O:216:ARG:HH11	1.44	0.82
8:H:105:G:C2'	8:H:106:G:H5''	2.10	0.82
19:S:11:PRO:CB	19:S:166:GLY:HA3	2.07	0.82
22:V:536:ILE:HG23	22:V:579:SER:CB	2.09	0.82
1:A:362:ARG:O	1:A:362:ARG:NE	2.12	0.82
3:C:365:SER:OG	3:C:371:GLU:OE2	1.95	0.82
4:D:425:ASN:ND2	4:D:886:GLN:O	2.13	0.82
19:S:9:TRP:HE3	19:S:11:PRO:HD3	1.44	0.82
23:W:261:VAL:HG21	23:W:319:TYR:CE1	2.15	0.82
1:A:73:HIS:HD2	1:A:81:PHE:CE2	1.97	0.82
1:A:380:LEU:HD23	3:C:349:PHE:CE1	2.14	0.82
7:G:127:U:O5'	23:W:547:LYS:NZ	2.13	0.82
18:R:67:ILE:HG22	18:R:69:VAL:HG23	1.61	0.82
1:A:339:PHE:HE1	1:A:406:TRP:HZ3	1.24	0.82
1:A:366:LYS:O	1:A:368:GLN:N	2.12	0.82
3:C:244:LYS:HA	3:C:292:TYR:CD2	2.15	0.82
8:H:40:C:O2'	8:H:41:U:C6	2.33	0.82
8:H:40:C:C4'	8:H:41:U:OP1	2.27	0.82
22:V:449:GLU:HB3	22:V:452:LEU:CD1	2.09	0.82
23:W:284:TRP:HD1	23:W:316:TRP:CE3	1.96	0.82
7:G:-19:A:C2	37:u:172:ARG:NH2	2.47	0.82
12:L:215:PRO:O	15:O:113:ASN:OD1	1.97	0.82
18:R:117:THR:O	18:R:120:VAL:HG12	1.79	0.82
19:S:10:GLN:OE1	19:S:10:GLN:N	2.13	0.82
1:A:684:GLU:OE1	20:T:266:GLU:HB3	1.80	0.82
3:C:482:TYR:CE2	3:C:493:PHE:CB	2.62	0.82
3:C:711:ARG:CD	3:C:730:ARG:HH11	1.92	0.82
1:A:70:ILE:HD13	1:A:495:GLN:HG3	1.60	0.82
3:C:244:LYS:HB2	3:C:292:TYR:CE2	2.14	0.82
12:L:178:GLU:O	12:L:181:ARG:HG3	1.78	0.82
20:T:399:LYS:HG2	20:T:406:ILE:HD11	1.57	0.82
23:W:209:SER:O	23:W:213:GLN:N	2.13	0.82
23:W:252:ARG:HH12	23:W:257:ILE:CD1	1.91	0.82
3:C:348:TYR:CE1	3:C:359:LYS:HB3	2.15	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:511:GLY:O	3:C:576:ILE:HD13	1.80	0.81
6:F:27:A:OP1	14:N:41:ARG:NH2	2.12	0.81
23:W:260:ASP:CA	33:n:10:LYS:HZ1	1.93	0.81
23:W:274:CYS:SG	23:W:518:PRO:O	2.37	0.81
23:W:404:ASP:OD1	23:W:406:ARG:HG2	1.81	0.81
1:A:1341:ARG:HH21	1:A:1342:TRP:HZ2	1.23	0.81
3:C:91:GLU:O	20:T:278:ASN:ND2	2.13	0.81
3:C:483:SER:HA	3:C:490:PHE:HB3	1.60	0.81
6:F:28:A:O2'	14:N:39:GLY:HA2	1.79	0.81
12:L:26:TYR:OH	12:L:158:ARG:NH1	2.13	0.81
15:O:256:GLY:HA2	18:R:70:ALA:HB2	1.60	0.81
18:R:64:PHE:O	18:R:67:ILE:HG12	1.81	0.81
23:W:277:PRO:HB3	23:W:578:TRP:O	1.80	0.81
3:C:250:ARG:HE	3:C:451:HIS:CD2	1.98	0.81
15:O:253:TYR:CD1	19:S:93:THR:OG1	2.34	0.81
1:A:2333:LEU:HB3	4:D:591:GLU:HG3	1.61	0.81
3:C:96:PRO:HB3	20:T:276:GLU:OE2	1.81	0.81
5:E:74:PHE:HE2	5:E:343:ILE:HG12	1.44	0.81
13:M:121:ASP:O	13:M:122:LEU:HD13	1.81	0.81
19:S:39:PHE:CD2	19:S:129:PHE:HE2	1.98	0.81
23:W:278:LYS:HD2	23:W:278:LYS:C	2.06	0.81
1:A:980:ARG:CG	1:A:1094:ARG:HD2	2.11	0.81
1:A:1384:ARG:NH2	1:A:1414:ARG:HH11	1.77	0.81
3:C:349:PHE:HD1	3:C:356:PHE:CE1	1.85	0.81
6:F:86:U:HO2'	6:F:87:C:P	2.03	0.81
23:W:269:MET:HA	23:W:269:MET:CE	2.11	0.81
23:W:488:PHE:CD1	23:W:496:LEU:HB3	2.16	0.81
23:W:499:LYS:HA	23:W:499:LYS:NZ	1.95	0.81
1:A:283:VAL:O	1:A:284:ARG:NE	2.14	0.81
1:A:371:LEU:CD1	3:C:347:ILE:HD11	2.11	0.81
10:J:220:LEU:HD11	10:J:224:LYS:HE3	1.62	0.81
12:L:251:LEU:CD1	12:L:254:GLU:HB3	2.10	0.81
20:T:366:VAL:HG21	20:T:402:ASP:HA	1.61	0.81
23:W:465:PRO:HG3	23:W:481:MET:SD	2.19	0.81
8:H:152:G:H5''	8:H:153:A:OP2	1.80	0.81
20:T:267:ASP:HB3	20:T:269:GLN:HG2	1.60	0.81
20:T:292:TYR:CZ	20:T:308:ARG:HG3	2.16	0.81
22:V:152:LEU:HA	22:V:387:MET:HE1	1.62	0.81
5:E:162:ARG:NH2	5:E:204:THR:HA	1.94	0.81
5:E:231:MET:HB3	5:E:262:TRP:CZ3	2.16	0.81
6:F:80:G:H5''	6:F:81:C:OP2	1.81	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:39:U:H3'	8:H:40:C:C5	2.16	0.81
18:R:88:ILE:CG2	18:R:96:ILE:HG23	2.10	0.81
18:R:195:ARG:HB3	18:R:195:ARG:HH11	1.44	0.81
23:W:212:GLU:O	23:W:214:LYS:N	2.14	0.81
3:C:738:ASP:HB2	3:C:740:THR:O	1.80	0.81
12:L:238:ASP:OD2	12:L:241:LYS:HB2	1.82	0.81
19:S:11:PRO:HB3	19:S:165:SER:O	1.80	0.81
23:W:479:GLN:HE21	23:W:514:VAL:HG12	1.45	0.81
1:A:1889:LEU:HD11	1:A:2012:LEU:HG	1.61	0.80
3:C:572:GLU:HG3	3:C:573:GLU:H	1.45	0.80
8:H:40:C:H2'	8:H:41:U:C6	2.16	0.80
22:V:528:ILE:HA	22:V:531:GLU:CG	2.11	0.80
23:W:267:SER:HB3	23:W:561:HIS:CD2	2.16	0.80
23:W:481:MET:HE2	23:W:481:MET:HA	1.62	0.80
1:A:150:MET:SD	1:A:153:ARG:NH2	2.54	0.80
1:A:253:ASN:CG	1:A:334:THR:HG1	1.89	0.80
7:G:130:A:O2'	7:G:131:U:OP2	1.99	0.80
37:u:383:ASN:CG	37:u:384:ASP:H	1.89	0.80
7:G:129:G:C4'	23:W:541:LYS:HZ3	1.86	0.80
1:A:293:TRP:CZ3	1:A:295:GLU:OE1	2.34	0.80
1:A:468:LYS:HD3	1:A:469:LYS:N	1.96	0.80
4:D:593:TRP:HD1	4:D:631:LEU:HD22	1.46	0.80
22:V:455:PHE:HZ	22:V:489:LEU:CB	1.92	0.80
22:V:487:LYS:NZ	22:V:491:ASN:CG	2.40	0.80
23:W:140:ASP:HA	23:W:153:ILE:HD11	1.61	0.80
23:W:154:GLY:O	23:W:156:VAL:HG23	1.82	0.80
38:v:129:GLN:HB3	39:w:108:ARG:HG3	1.64	0.80
3:C:488:VAL:HG13	3:C:609:LYS:NZ	1.96	0.80
23:W:417:HIS:CE1	23:W:437:SER:OG	2.35	0.80
3:C:471:ASP:H	3:C:499:GLY:HA2	1.46	0.80
3:C:749:THR:OG1	3:C:752:SER:HB2	1.82	0.80
16:P:188:TRP:CE3	16:P:189:ASP:HB2	2.16	0.80
23:W:137:TYR:HE1	23:W:158:GLU:HB3	1.44	0.80
3:C:481:MET:SD	3:C:492:ALA:HB2	2.22	0.80
23:W:137:TYR:CE1	23:W:158:GLU:CB	2.65	0.80
5:E:66:GLU:HB2	5:E:87:ASP:OD2	1.82	0.80
22:V:171:ASN:ND2	37:u:277:ILE:CG1	2.44	0.80
6:F:27:A:C4	15:O:181:TYR:CZ	2.69	0.80
10:J:181:ASN:HD22	10:J:181:ASN:H	1.30	0.80
19:S:20:MET:HE2	19:S:141:ARG:HB3	1.64	0.80
1:A:1790:ILE:HG23	1:A:1800:THR:HG22	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:471:ASP:OD1	3:C:472:GLY:N	2.15	0.80
3:C:856:HIS:HB2	37:u:105:ARG:HE	1.45	0.80
20:T:459:LEU:HD12	20:T:460:ASP:H	1.47	0.79
22:V:549:LYS:O	22:V:552:ALA:HB3	1.82	0.79
1:A:1495:PHE:CD2	1:A:1501:LEU:HD11	2.17	0.79
3:C:567:GLU:HG2	3:C:572:GLU:OE2	1.81	0.79
18:R:129:ASP:HB2	18:R:132:LEU:CD2	2.13	0.79
1:A:658:ARG:HD2	1:A:663:ARG:NH2	1.97	0.79
3:C:726:LEU:HD12	3:C:726:LEU:O	1.82	0.79
19:S:9:TRP:O	19:S:11:PRO:HD3	1.80	0.79
23:W:300:SER:HA	23:W:561:HIS:HE1	1.46	0.79
3:C:750:LEU:O	3:C:754:VAL:HG23	1.83	0.79
5:E:277:PHE:HE2	5:E:300:ILE:HD12	1.45	0.79
12:L:238:ASP:OD1	12:L:240:ARG:HD3	1.82	0.79
13:M:162:PRO:HB3	13:M:167:LEU:CB	2.13	0.79
18:R:178:ARG:CD	18:R:194:GLN:HE22	1.90	0.79
23:W:242:HIS:HB3	23:W:325:LEU:O	1.82	0.79
23:W:243:VAL:CG1	23:W:323:ARG:NH1	2.40	0.79
1:A:1953:ILE:HD11	1:A:1986:LEU:CD1	2.11	0.79
10:J:214:ILE:HD13	12:L:242:LEU:HB3	1.64	0.79
23:W:552:VAL:CG1	23:W:571:TRP:CD1	2.66	0.79
22:V:477:LEU:CD2	22:V:514:PHE:HE1	1.96	0.79
23:W:488:PHE:HE1	23:W:496:LEU:CB	1.85	0.79
23:W:501:ILE:C	23:W:502:PHE:HD1	1.90	0.79
1:A:176:LEU:HD13	1:A:181:ASN:ND2	1.98	0.79
3:C:452:THR:HG22	3:C:577:PHE:CD2	2.17	0.79
5:E:74:PHE:CE2	5:E:343:ILE:CG1	2.66	0.79
8:H:153:A:H2'	8:H:154:C:H5'	1.65	0.79
12:L:135:LYS:NZ	12:L:136:PRO:HD2	1.98	0.79
19:S:10:GLN:HA	19:S:29:TRP:CZ2	2.18	0.79
22:V:514:PHE:O	22:V:521:TYR:CG	2.36	0.79
23:W:536:ASP:CG	23:W:543:TYR:CD2	2.59	0.79
1:A:339:PHE:CE1	1:A:406:TRP:HE3	1.97	0.79
18:R:88:ILE:H	18:R:88:ILE:HD12	1.48	0.79
22:V:330:LYS:HE2	37:u:50:LEU:CD2	2.13	0.79
23:W:140:ASP:HB3	23:W:153:ILE:CG1	2.13	0.79
23:W:528:GLY:CA	23:W:552:VAL:CG2	2.41	0.79
5:E:243:LEU:HD12	5:E:247:GLY:HA2	1.64	0.78
8:H:101:U:H5''	8:H:102:U:H5'	1.64	0.78
32:l:20:LEU:HD22	32:l:24:TYR:CE2	2.18	0.78
1:A:928:TYR:OH	1:A:932:LYS:NZ	2.12	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:679:PRO:HD2	3:C:807:GLN:CB	2.06	0.78
6:F:29:A:N6	7:G:16:G:O2'	2.16	0.78
7:G:19:G:N2	15:O:194:ALA:O	2.16	0.78
1:A:107:PRO:O	1:A:111:GLU:OE1	2.01	0.78
2:B:90:U:H5''	2:B:91:U:H5'	1.64	0.78
15:O:256:GLY:CA	18:R:70:ALA:HB2	2.14	0.78
22:V:536:ILE:O	22:V:578:SER:CB	2.32	0.78
1:A:1365:ILE:O	22:V:465:SER:HB2	1.82	0.78
13:M:152:LEU:CD2	13:M:160:PHE:CE1	2.66	0.78
23:W:101:THR:HG22	23:W:104:MET:HG2	1.66	0.78
23:W:264:ASN:OD1	23:W:267:SER:N	2.15	0.78
23:W:342:THR:CB	23:W:388:GLN:NE2	2.38	0.78
32:e:20:LEU:HD22	32:e:24:TYR:CE2	2.18	0.78
37:u:79:ILE:HD11	37:u:229:THR:HG21	1.64	0.78
1:A:1094:ARG:HH11	1:A:1094:ARG:HB2	1.47	0.78
3:C:457:VAL:CB	3:C:462:GLY:HA3	2.14	0.78
6:F:43:A:H2	7:G:4:A:H61	1.31	0.78
20:T:455:GLN:HG2	20:T:456:PRO:HD3	1.66	0.78
23:W:554:ILE:HD13	23:W:571:TRP:CZ3	2.18	0.78
27:h:47:THR:CB	34:o:65:ARG:NH2	2.47	0.78
18:R:67:ILE:HG22	18:R:69:VAL:CG2	2.14	0.78
36:t:8:SER:O	36:t:9:ASN:CB	2.32	0.78
3:C:457:VAL:HB	3:C:462:GLY:HA3	1.66	0.78
7:G:17:U:C2	15:O:198:ILE:HD11	2.18	0.78
18:R:148:ARG:HG3	18:R:148:ARG:HH11	1.49	0.78
23:W:166:THR:OG1	23:W:169:GLU:HB3	1.84	0.78
1:A:1370:ARG:NH1	22:V:506:PHE:CD2	2.51	0.78
5:E:264:VAL:HA	5:E:272:ARG:HH21	1.48	0.78
19:S:34:LYS:CE	19:S:78:TYR:CE2	2.67	0.78
32:e:48:ILE:HD11	32:e:59:ASP:HB2	1.66	0.78
1:A:339:PHE:CD1	1:A:406:TRP:CE3	2.72	0.77
1:A:468:LYS:HD3	1:A:469:LYS:H	1.50	0.77
1:A:2166:HIS:CD2	1:A:2272:MET:HE1	2.18	0.77
3:C:515:THR:O	3:C:517:GLU:N	2.17	0.77
8:H:177:A:H5''	8:H:178:A:OP1	1.84	0.77
10:J:214:ILE:H	10:J:214:ILE:HD12	1.49	0.77
23:W:389:ASN:ND2	23:W:406:ARG:NH2	2.32	0.77
1:A:666:LYS:CB	1:A:668:VAL:HG23	2.14	0.77
1:A:1993:LYS:HD2	1:A:1993:LYS:O	1.84	0.77
4:D:790:THR:HG21	4:D:793:ASP:HB2	1.64	0.77
4:D:1380:THR:HG21	4:D:1385:LEU:HB3	1.65	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:37:LEU:HD21	12:L:155:ALA:HB1	1.64	0.77
31:f:70:LEU:HD22	31:f:71:TYR:HD2	1.50	0.77
1:A:1211:ASP:OD1	22:V:505:LYS:HB2	1.84	0.77
18:R:61:GLY:HA2	19:S:136:ILE:HB	1.66	0.77
18:R:64:PHE:HB2	18:R:67:ILE:HG12	1.64	0.77
23:W:240:ILE:C	23:W:241:LEU:HD23	2.10	0.77
1:A:630:TRP:O	1:A:632:ALA:N	2.18	0.77
3:C:482:TYR:CE2	3:C:493:PHE:CD2	2.71	0.77
6:F:36:A:H2'	6:F:37:C:O5'	1.85	0.77
12:L:37:LEU:HD12	12:L:158:ARG:CZ	2.14	0.77
22:V:515:CYS:HA	22:V:521:TYR:CB	2.14	0.77
23:W:265:LEU:CD1	23:W:300:SER:CB	2.55	0.77
23:W:465:PRO:HG2	23:W:481:MET:HE1	1.66	0.77
22:V:171:ASN:HD22	37:u:277:ILE:HG12	1.46	0.77
14:N:117:CYS:SG	14:N:119:CYS:HB3	2.23	0.77
1:A:768:ASP:O	1:A:771:VAL:HG12	1.85	0.77
6:F:27:A:C8	15:O:181:TYR:OH	2.36	0.77
22:V:449:GLU:CG	22:V:452:LEU:HD12	2.15	0.77
23:W:464:MET:SD	23:W:478:CYS:CB	2.72	0.77
1:A:264:PHE:CG	1:A:459:LEU:HD11	2.19	0.77
3:C:221:ILE:CG1	3:C:479:THR:OG1	2.33	0.77
13:M:210:TYR:CD2	13:M:216:ALA:HA	2.20	0.77
1:A:467:GLN:HE21	2:B:19:A:N6	1.83	0.77
1:A:658:ARG:NH1	6:F:67:G:OP1	2.17	0.77
5:E:108:HIS:CE1	5:E:128:SER:HB2	2.20	0.77
7:G:147:C:C2'	7:G:148:U:H6	1.98	0.77
19:S:131:ARG:HH12	19:S:133:CYS:HA	1.49	0.77
26:Z:140:VAL:HG11	26:Z:145:THR:CG2	2.14	0.77
23:W:389:ASN:HB3	23:W:405:ILE:HG22	1.66	0.77
23:W:479:GLN:HE21	23:W:514:VAL:CG1	1.98	0.77
1:A:434:HIS:ND1	1:A:435:CYS:SG	2.58	0.76
5:E:248:SER:HB2	5:E:249:TYR:CD1	2.20	0.76
7:G:116:C:OP2	17:Q:557:ARG:HD2	1.85	0.76
15:O:131:THR:CG2	23:W:108:ARG:HD3	2.15	0.76
15:O:256:GLY:HA2	18:R:70:ALA:HB3	1.67	0.76
18:R:262:ILE:HG21	18:R:267:ARG:HH11	1.50	0.76
1:A:1949:ARG:HD2	1:A:1986:LEU:HD21	1.66	0.76
3:C:749:THR:HG1	3:C:752:SER:HB2	1.50	0.76
4:D:424:ALA:HB3	4:D:888:PRO:HG2	1.66	0.76
6:F:27:A:C2	15:O:181:TYR:CE2	2.72	0.76
13:M:210:TYR:CD2	13:M:216:ALA:CB	2.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:178:ARG:HD2	23:W:199:TYR:CD1	2.20	0.76
3:C:350:ASN:CG	3:C:353:THR:HG23	2.10	0.76
8:H:143:A:H3'	8:H:143:A:N3	2.00	0.76
18:R:64:PHE:HB3	18:R:67:ILE:HD11	1.62	0.76
22:V:514:PHE:O	22:V:521:TYR:CB	2.34	0.76
1:A:1341:ARG:NH2	1:A:1342:TRP:CH2	2.53	0.76
8:H:39:U:H2'	8:H:40:C:C6	2.21	0.76
1:A:176:LEU:HD13	1:A:181:ASN:HD22	1.50	0.76
3:C:507:VAL:C	3:C:568:PRO:HB3	2.10	0.76
5:E:74:PHE:CD1	5:E:81:LEU:HD23	2.21	0.76
8:H:98:G:H1	31:m:41:ASN:HD21	1.34	0.76
18:R:103:ARG:HH11	18:R:103:ARG:CB	1.98	0.76
18:R:135:PRO:O	18:R:136:ASP:CG	2.28	0.76
18:R:262:ILE:CG2	18:R:267:ARG:NH1	2.47	0.76
18:R:306:ALA:O	18:R:310:ARG:HG3	1.84	0.76
22:V:584:LYS:HG3	22:V:634:ILE:HG12	1.67	0.76
1:A:767:VAL:HB	1:A:771:VAL:HG11	1.66	0.76
1:A:919:ASP:OD2	1:A:1012:LYS:HE3	1.85	0.76
4:D:539:ILE:HB	4:D:612:ILE:HG22	1.65	0.76
6:F:5:U:H3'	6:F:7:G:H5''	1.68	0.76
19:S:131:ARG:NH1	19:S:133:CYS:CA	2.47	0.76
23:W:203:LYS:HE3	23:W:204:ASP:H	1.49	0.76
26:Z:361:LYS:O	26:Z:365:LYS:HG2	1.84	0.76
7:G:20:A:HO2'	7:G:21:A:P	2.08	0.76
13:M:126:ASP:OD2	13:M:128:ALA:CB	2.33	0.76
18:R:132:LEU:HD23	18:R:132:LEU:H	1.50	0.76
23:W:255:LEU:HD12	23:W:256:HIS:HA	1.66	0.76
23:W:500:LYS:HZ2	23:W:537:TRP:NE1	1.82	0.76
18:R:124:VAL:HG23	20:T:185:MET:SD	2.26	0.76
18:R:233:PRO:O	18:R:234:SER:OG	2.03	0.76
23:W:137:TYR:HD1	23:W:158:GLU:HB2	1.51	0.76
23:W:178:ARG:CG	23:W:199:TYR:HE1	1.98	0.76
23:W:474:LYS:HG2	23:W:491:GLN:HE22	1.50	0.76
31:m:70:LEU:HD22	31:m:71:TYR:HD2	1.49	0.76
13:M:205:ASP:OD1	13:M:206:ALA:N	2.19	0.76
33:n:35:ASP:HB2	33:n:36:PRO:HD2	1.68	0.76
1:A:758:ARG:NH2	1:A:775:ASN:ND2	2.34	0.76
3:C:706:GLN:HE21	3:C:708:THR:H	1.33	0.76
22:V:264:ILE:HG13	22:V:274:CYS:SG	2.25	0.76
23:W:479:GLN:OE1	23:W:512:CYS:CB	2.34	0.76
27:h:45:ASN:OD1	34:o:16:THR:CB	2.34	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1641:ARG:HH11	1:A:1641:ARG:HG3	1.49	0.75
3:C:482:TYR:CD2	3:C:493:PHE:HB2	2.20	0.75
23:W:203:LYS:HE3	23:W:203:LYS:CA	2.16	0.75
23:W:277:PRO:HB2	23:W:578:TRP:C	2.10	0.75
26:Z:112:ILE:HG23	26:Z:113:THR:HG23	1.67	0.75
10:J:221:ASN:HD21	12:L:211:ASN:CG	1.94	0.75
15:O:247:ASP:OD2	15:O:294:ASN:ND2	2.19	0.75
19:S:88:PRO:O	19:S:91:LYS:HE3	1.86	0.75
23:W:255:LEU:HD12	23:W:256:HIS:N	2.01	0.75
1:A:1953:ILE:CD1	1:A:1986:LEU:CD1	2.64	0.75
20:T:351:ASP:O	20:T:352:THR:OG1	2.03	0.75
36:q:8:SER:O	36:q:9:ASN:CB	2.34	0.75
12:L:59:LYS:HE2	12:L:91:ARG:HH12	1.52	0.75
23:W:179:LYS:O	23:W:200:VAL:CG2	2.33	0.75
23:W:465:PRO:CG	23:W:481:MET:CE	2.63	0.75
1:A:378:PHE:CD1	1:A:379:GLU:N	2.54	0.75
1:A:1356:GLY:O	21:U:15:THR:HG22	1.86	0.75
12:L:12:ARG:HE	12:L:138:ARG:NH2	1.85	0.75
15:O:177:GLU:OE1	15:O:177:GLU:N	2.18	0.75
18:R:312:MET:HA	18:R:312:MET:CE	2.16	0.75
22:V:620:ASN:HB3	22:V:623:ASN:HB2	1.67	0.75
23:W:304:LEU:N	23:W:318:VAL:HG21	2.01	0.75
23:W:304:LEU:HB3	23:W:318:VAL:HG22	1.69	0.75
1:A:805:GLU:OE1	16:P:194:PHE:CE1	2.40	0.75
3:C:445:ALA:C	3:C:449:ILE:HG13	2.11	0.75
6:F:27:A:C4	15:O:181:TYR:OH	2.39	0.75
18:R:171:LEU:CD1	18:R:201:GLU:CD	2.59	0.75
22:V:171:ASN:CB	37:u:277:ILE:HA	2.15	0.75
22:V:468:ASP:O	22:V:506:PHE:HE2	1.69	0.75
22:V:540:GLU:OE1	22:V:541:THR:N	2.20	0.75
23:W:374:LYS:HD3	23:W:397:ASP:CG	2.11	0.75
37:u:278:THR:HG21	37:u:347:SER:HB2	1.69	0.75
3:C:680:ASN:OD1	3:C:682:LYS:HB2	1.86	0.75
3:C:857:VAL:HB	37:u:134:ASN:ND2	2.02	0.75
4:D:1205:THR:HG22	4:D:1249:GLU:HB3	1.68	0.75
23:W:198:LYS:O	23:W:199:TYR:O	2.04	0.75
33:g:35:ASP:HB2	33:g:36:PRO:HD2	1.68	0.75
1:A:305:ARG:HA	1:A:305:ARG:NH1	2.01	0.75
1:A:778:ARG:NH1	8:H:23:A:OP1	2.19	0.75
3:C:572:GLU:HG3	3:C:573:GLU:N	2.02	0.75
16:P:66:ARG:HH11	16:P:66:ARG:CB	2.00	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:720:ILE:O	9:I:721:LYS:CB	2.34	0.74
12:L:178:GLU:HA	12:L:181:ARG:HG2	1.69	0.74
18:R:82:MET:HA	18:R:82:MET:CE	2.14	0.74
30:k:107:ILE:HG22	30:k:108:VAL:HG23	1.69	0.74
1:A:2073:TRP:CD1	1:A:2074:ARG:HD2	2.22	0.74
1:A:384:VAL:HG12	3:C:331:PHE:CD2	2.22	0.74
13:M:152:LEU:O	13:M:156:HIS:CD2	2.40	0.74
22:V:471:GLU:OE2	22:V:475:LYS:HE3	1.86	0.74
36:s:8:SER:O	36:s:9:ASN:CB	2.35	0.74
8:H:40:C:C2'	8:H:41:U:C6	2.71	0.74
8:H:153:A:C2'	8:H:154:C:H5'	2.17	0.74
10:J:214:ILE:CD1	12:L:242:LEU:HB3	2.17	0.74
23:W:126:GLU:CD	23:W:130:ARG:HH12	1.94	0.74
32:l:48:ILE:HD11	32:l:59:ASP:HB2	1.67	0.74
3:C:387:ASP:C	3:C:388:VAL:HG12	2.08	0.74
4:D:686:GLU:HB2	4:D:866:GLU:HG2	1.69	0.74
10:J:232:GLU:HG3	12:L:210:TYR:HE1	1.50	0.74
16:P:57:ARG:HG3	16:P:57:ARG:HH11	1.52	0.74
19:S:81:GLN:HA	19:S:108:ASN:O	1.87	0.74
23:W:517:SER:OG	23:W:522:TYR:N	2.19	0.74
30:k:50:LYS:HG2	30:k:74:TRP:HB3	1.68	0.74
1:A:258:PHE:HZ	1:A:275:GLY:O	1.69	0.74
5:E:178:LEU:HD21	5:E:208:ILE:CD1	2.18	0.74
7:G:27:U:H2'	7:G:28:A:O5'	1.86	0.74
23:W:140:ASP:N	23:W:153:ILE:HG12	2.02	0.74
23:W:154:GLY:O	23:W:156:VAL:CG2	2.36	0.74
23:W:374:LYS:CG	23:W:397:ASP:HB2	2.18	0.74
10:J:493:ALA:HB1	10:J:499:ARG:CB	2.18	0.74
12:L:12:ARG:NE	12:L:138:ARG:NH2	2.36	0.74
14:N:40:LYS:O	14:N:41:ARG:CG	2.33	0.74
23:W:101:THR:HG23	23:W:104:MET:H	1.52	0.74
1:A:300:ASN:C	3:C:939:ARG:HH21	1.95	0.74
3:C:349:PHE:CD1	3:C:356:PHE:CD1	2.64	0.74
10:J:353:GLU:OE1	10:J:358:GLU:CB	2.36	0.74
12:L:59:LYS:CE	12:L:91:ARG:HH12	2.00	0.74
13:M:160:PHE:HB3	13:M:161:PHE:CD1	2.23	0.74
19:S:13:ASN:HA	19:S:25:LEU:O	1.88	0.74
22:V:477:LEU:HD23	22:V:514:PHE:HE1	1.52	0.74
23:W:135:TYR:CE2	23:W:165:LEU:CD1	2.70	0.74
30:d:107:ILE:HG22	30:d:108:VAL:HG23	1.69	0.74
1:A:766:THR:HG21	2:B:39:C:N3	2.02	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:108:HIS:CE1	5:E:128:SER:CB	2.70	0.74
7:G:147:C:H5'	7:G:147:C:H6	1.53	0.74
8:H:106:G:H4'	8:H:107:A:O4'	1.88	0.74
10:J:203:LEU:CD1	10:J:204:GLU:N	2.51	0.74
12:L:251:LEU:HD13	12:L:254:GLU:H	1.52	0.74
23:W:88:MET:CE	23:W:89:PHE:HD2	2.00	0.74
23:W:101:THR:O	23:W:102:GLN:C	2.30	0.74
36:q:66:PRO:HD3	36:r:11:VAL:HG11	1.68	0.74
39:w:109:ARG:HG3	39:w:110:THR:N	2.03	0.74
3:C:679:PRO:HG2	3:C:807:GLN:OE1	1.87	0.74
3:C:736:GLY:CA	3:C:770:PHE:HE2	2.01	0.73
7:G:13:C:H2'	7:G:14:A:C8	2.23	0.73
8:H:179:C:H2'	8:H:180:G:H8	1.53	0.73
13:M:118:LYS:HA	13:M:118:LYS:HZ3	1.53	0.73
15:O:155:PRO:HG3	18:R:188:PHE:CD1	2.22	0.73
16:P:30:TYR:OH	18:R:162:ALA:O	2.04	0.73
30:k:110:LEU:HD11	31:m:59:LEU:HB3	1.70	0.73
2:B:19:A:O2'	2:B:20:G:OP1	2.04	0.73
3:C:736:GLY:CA	3:C:770:PHE:CE2	2.71	0.73
8:H:18:U:OP2	13:M:221:LYS:NZ	2.17	0.73
12:L:36:SER:OG	12:L:158:ARG:NH2	2.21	0.73
13:M:234:LYS:O	13:M:238:GLU:HG2	1.87	0.73
23:W:322:ARG:HH11	23:W:322:ARG:HG3	1.52	0.73
23:W:358:LEU:HD21	23:W:405:ILE:HD11	1.71	0.73
18:R:119:LEU:O	18:R:119:LEU:HD13	1.89	0.73
20:T:213:GLU:HG3	20:T:218:TRP:CE2	2.22	0.73
23:W:317:GLU:CG	23:W:321:GLU:HB2	2.17	0.73
7:G:129:G:H4'	23:W:541:LYS:HE2	1.71	0.73
13:M:162:PRO:CB	13:M:167:LEU:HB2	2.18	0.73
18:R:189:ASN:HD21	18:R:195:ARG:NH2	1.86	0.73
23:W:137:TYR:CB	23:W:159:ALA:HB2	2.17	0.73
31:m:70:LEU:HD22	31:m:71:TYR:CD2	2.23	0.73
5:E:178:LEU:HD11	5:E:222:LEU:CD2	2.18	0.73
7:G:26:U:H2'	7:G:27:U:H5''	1.69	0.73
10:J:192:GLU:C	10:J:195:LEU:HD12	2.12	0.73
15:O:240:GLY:HA3	15:O:296:ARG:HH12	1.51	0.73
23:W:212:GLU:C	23:W:214:LYS:H	1.97	0.73
24:X:60:PRO:HB2	24:X:61:PRO:HD2	1.69	0.73
30:d:50:LYS:HG2	30:d:74:TRP:HB3	1.68	0.73
31:f:70:LEU:HD22	31:f:71:TYR:CD2	2.23	0.73
3:C:482:TYR:HE2	3:C:493:PHE:CD2	2.06	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:146:C:C2'	7:G:147:C:H5'	2.19	0.73
7:G:149:G:H2'	7:G:150:U:H5'	1.70	0.73
10:J:186:GLU:HA	10:J:186:GLU:OE2	1.87	0.73
12:L:12:ARG:HE	12:L:138:ARG:HH22	1.35	0.73
13:M:163:THR:N	13:M:166:SER:HB3	2.04	0.73
13:M:211:ILE:HD12	13:M:212:ASN:N	2.04	0.73
18:R:66:GLU:OE2	18:R:66:GLU:N	2.21	0.73
18:R:263:PRO:CB	18:R:266:LYS:HG2	2.17	0.73
23:W:436:THR:HG21	23:W:464:MET:HB2	1.69	0.73
7:G:149:G:C2'	7:G:150:U:H5'	2.19	0.73
12:L:144:MET:CE	12:L:149:LEU:CD2	2.19	0.73
15:O:256:GLY:N	18:R:70:ALA:HB2	2.03	0.73
1:A:36:LYS:NZ	23:W:163:GLN:O	2.21	0.73
1:A:712:HIS:CE1	18:R:250:CYS:HB2	2.24	0.73
1:A:1384:ARG:HH21	1:A:1414:ARG:HH11	1.33	0.73
3:C:519:GLU:N	3:C:519:GLU:OE2	2.21	0.73
4:D:731:THR:HG22	4:D:784:ILE:HB	1.71	0.73
5:E:250:LEU:HD23	5:E:250:LEU:O	1.88	0.73
7:G:129:G:C4'	23:W:541:LYS:CE	2.63	0.73
15:O:20:PHE:CE1	18:R:177:ILE:HD11	2.24	0.73
18:R:58:PHE:CE1	18:R:73:PRO:HA	2.24	0.73
23:W:253:SER:CB	23:W:255:LEU:HG	2.18	0.73
1:A:439:GLN:NE2	1:A:614:TYR:OH	2.22	0.73
3:C:671:SER:O	3:C:672:LEU:HD13	1.88	0.73
18:R:171:LEU:HD12	18:R:201:GLU:CD	2.13	0.73
22:V:452:LEU:N	22:V:452:LEU:HD23	2.04	0.73
23:W:261:VAL:HG21	23:W:319:TYR:CD1	2.22	0.73
30:d:110:LEU:HD11	31:f:59:LEU:HB3	1.69	0.73
6:F:59:G:O2'	6:F:60:C:OP1	2.07	0.73
7:G:145:U:HO2'	7:G:146:C:H6	1.31	0.73
18:R:113:TYR:OH	20:T:402:ASP:OD1	2.06	0.73
23:W:271:PRO:CG	23:W:563:THR:CG2	2.67	0.73
23:W:533:ASN:HB2	23:W:535:TRP:CH2	2.24	0.73
3:C:125:ASN:O	3:C:126:SER:OG	2.04	0.72
5:E:178:LEU:CD1	5:E:222:LEU:CD2	2.66	0.72
26:Z:116:ARG:NH1	26:Z:126:MET:HG2	2.03	0.72
27:h:47:THR:CB	34:o:65:ARG:HH22	2.02	0.72
37:u:275:LEU:HG	37:u:348:LEU:HD23	1.71	0.72
38:v:72:THR:HG21	38:v:94:ILE:CD1	2.16	0.72
3:C:93:ILE:HD11	20:T:240:LEU:HD23	1.71	0.72
5:E:209:ILE:HG21	5:E:250:LEU:CD1	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:381:PRO:HD2	3:C:334:ILE:HG22	1.71	0.72
3:C:452:THR:O	3:C:577:PHE:HA	1.88	0.72
3:C:510:LEU:HD22	3:C:514:TYR:CD2	2.24	0.72
4:D:1739:GLU:HG3	4:D:1744:THR:HB	1.71	0.72
23:W:245:GLU:HG2	23:W:323:ARG:NH2	2.04	0.72
23:W:303:LEU:C	23:W:318:VAL:CG2	2.61	0.72
1:A:181:ASN:O	1:A:185:VAL:HG22	1.89	0.72
1:A:845:ARG:HH22	1:A:1439:ARG:HB3	1.54	0.72
9:I:371:PRO:CA	17:Q:357:ALA:CB	2.51	0.72
23:W:140:ASP:CB	23:W:153:ILE:CD1	2.67	0.72
38:v:99:ILE:HD12	38:v:101:PHE:CE1	2.24	0.72
3:C:669:THR:CG2	3:C:690:GLU:OE1	2.37	0.72
6:F:34:G:C5'	6:F:34:G:H8	2.03	0.72
6:F:85:U:C5	13:M:127:TYR:CE2	2.78	0.72
7:G:137:C:C5	7:G:137:C:OP2	2.43	0.72
9:I:296:PHE:CA	9:I:305:SER:CB	2.66	0.72
10:J:191:ALA:O	10:J:192:GLU:C	2.32	0.72
10:J:406:PHE:CE2	10:J:411:MET:CE	2.72	0.72
20:T:314:ILE:HD12	20:T:324:HIS:HB2	1.70	0.72
23:W:300:SER:CA	23:W:561:HIS:CE1	2.73	0.72
1:A:298:ASP:O	1:A:302:ILE:HG12	1.90	0.72
1:A:344:ASP:OD1	1:A:347:LEU:HD12	1.89	0.72
6:F:28:A:H1'	14:N:39:GLY:O	1.87	0.72
7:G:7:G:O2'	7:G:8:C:H5'	1.90	0.72
16:P:72:ARG:NH1	16:P:72:ARG:HB2	2.05	0.72
22:V:547:VAL:O	22:V:550:MET:N	2.22	0.72
23:W:101:THR:O	23:W:104:MET:N	2.22	0.72
23:W:140:ASP:CB	23:W:153:ILE:CG1	2.68	0.72
23:W:140:ASP:CA	23:W:153:ILE:CD1	2.66	0.72
23:W:284:TRP:HE1	23:W:316:TRP:CB	2.02	0.72
1:A:1211:ASP:OD1	22:V:505:LYS:CB	2.37	0.72
1:A:1791:HIS:HE1	1:A:1799:THR:CG2	1.98	0.72
6:F:31:U:C2'	6:F:32:U:H5'	2.19	0.72
6:F:41:A:C2	7:G:6:A:C2	2.78	0.72
19:S:100:MET:CG	19:S:108:ASN:OD1	2.36	0.72
22:V:171:ASN:ND2	37:u:277:ILE:CB	2.53	0.72
23:W:258:PRO:CB	23:W:302:HIS:ND1	2.51	0.72
3:C:452:THR:HB	3:C:577:PHE:CD2	2.24	0.72
6:F:35:A:C5'	6:F:35:A:H8	2.03	0.72
8:H:153:A:H2'	8:H:154:C:C5'	2.19	0.72
10:J:192:GLU:N	10:J:195:LEU:HD11	2.03	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:61:THR:CG2	12:L:91:ARG:HH22	2.02	0.72
16:P:188:TRP:CZ3	16:P:189:ASP:HB2	2.25	0.72
19:S:13:ASN:HD22	19:S:24:VAL:HG11	1.54	0.72
22:V:330:LYS:O	22:V:333:GLN:HG3	1.89	0.72
22:V:637:GLY:O	22:V:644:ARG:NH2	2.22	0.72
23:W:245:GLU:HG2	23:W:323:ARG:HH22	1.55	0.72
23:W:491:GLN:O	23:W:493:ARG:N	2.23	0.72
20:T:318:ARG:HG3	20:T:319:THR:HG23	1.72	0.72
22:V:603:LEU:HD12	22:V:639:LEU:HD13	1.72	0.72
23:W:506:MET:HG3	23:W:506:MET:O	1.89	0.72
1:A:158:ARG:NH2	1:A:570:ASP:OD2	2.22	0.71
3:C:220:ARG:HG2	3:C:479:THR:HG21	1.72	0.71
23:W:407:SER:OG	23:W:409:GLU:HB2	1.90	0.71
37:u:275:LEU:O	37:u:275:LEU:HD23	1.90	0.71
1:A:700:GLY:C	1:A:701:ILE:HD13	2.14	0.71
1:A:805:GLU:OE1	16:P:194:PHE:CZ	2.43	0.71
5:E:246:GLU:HB2	5:E:248:SER:OG	1.90	0.71
13:M:239:ARG:HG2	13:M:239:ARG:HH11	1.55	0.71
15:O:197:ASN:OD1	15:O:198:ILE:N	2.22	0.71
23:W:162:ASN:HD22	23:W:165:LEU:HD22	1.49	0.71
23:W:423:THR:CG2	23:W:467:VAL:HG12	2.18	0.71
1:A:684:GLU:OE2	20:T:266:GLU:O	2.09	0.71
3:C:490:PHE:CZ	3:C:612:LYS:HD2	2.24	0.71
4:D:1901:ARG:HH11	4:D:1961:LYS:HE2	1.54	0.71
5:E:243:LEU:CD1	5:E:247:GLY:CA	2.68	0.71
15:O:262:THR:HB	15:O:271:PHE:HB2	1.72	0.71
1:A:57:GLN:NE2	2:B:13:C:O2'	2.19	0.71
1:A:533:LYS:HE2	6:F:37:C:C4	2.25	0.71
1:A:2324:GLU:HG2	1:A:2330:ARG:HH12	1.54	0.71
3:C:675:PHE:HD1	3:C:675:PHE:H	1.38	0.71
3:C:749:THR:O	3:C:753:GLU:N	2.22	0.71
7:G:129:G:C4'	23:W:541:LYS:HE2	2.21	0.71
23:W:255:LEU:HD12	23:W:256:HIS:CA	2.20	0.71
26:Z:121:GLU:HG2	26:Z:143:LYS:HD2	1.72	0.71
5:E:264:VAL:HA	5:E:272:ARG:NH2	2.04	0.71
20:T:292:TYR:CE2	20:T:308:ARG:HG3	2.25	0.71
23:W:162:ASN:CB	23:W:165:LEU:CD2	2.63	0.71
1:A:772:CYS:SG	1:A:1249:MET:SD	2.89	0.71
3:C:240:GLU:OE2	3:C:292:TYR:OH	2.06	0.71
3:C:250:ARG:NE	3:C:451:HIS:NE2	2.39	0.71
8:H:40:C:O2'	8:H:41:U:H6	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:243:ARG:O	12:L:246:ASP:N	2.22	0.71
15:O:235:TYR:HD1	15:O:271:PHE:HE1	1.38	0.71
18:R:70:ALA:O	18:R:71:GLN:O	2.07	0.71
23:W:140:ASP:CB	23:W:153:ILE:HG21	2.19	0.71
35:p:66:LEU:HD12	35:p:81:ILE:HG22	1.70	0.71
9:I:342:PRO:CB	17:Q:528:GLY:HA2	2.20	0.71
20:T:455:GLN:HG2	20:T:456:PRO:CD	2.20	0.71
23:W:513:GLN:HB2	23:W:555:GLY:HA2	1.73	0.71
1:A:344:ASP:OD1	1:A:347:LEU:CD1	2.39	0.71
7:G:21:A:N6	15:O:91:GLY:O	2.24	0.71
7:G:138:A:H2	8:H:39:U:O2	1.71	0.71
23:W:292:SER:OG	23:W:307:CYS:HB2	1.89	0.71
1:A:293:TRP:HB2	1:A:1136:ARG:CZ	2.21	0.71
3:C:678:THR:CG2	3:C:683:ASN:CB	2.66	0.71
5:E:287:ASN:O	5:E:289:LEU:HD23	1.91	0.71
13:M:211:ILE:CD1	13:M:212:ASN:HB2	2.20	0.71
16:P:7:PRO:C	16:P:8:THR:HG23	2.16	0.71
1:A:377:GLU:O	1:A:378:PHE:CB	2.38	0.71
8:H:106:G:H21	8:H:107:A:N6	1.87	0.71
10:J:353:GLU:OE1	10:J:358:GLU:HB3	1.90	0.71
20:T:439:TRP:CZ3	20:T:446:ASN:HB2	2.25	0.71
1:A:2156:THR:OG1	1:A:2157:VAL:N	2.21	0.70
5:E:87:ASP:O	5:E:88:ARG:HG3	1.91	0.70
10:J:360:ASP:O	10:J:363:ARG:HG3	1.90	0.70
15:O:137:LEU:HD12	15:O:140:ALA:HB3	1.73	0.70
15:O:226:PRO:HB2	15:O:277:ARG:HH21	1.55	0.70
19:S:131:ARG:HH11	19:S:132:VAL:C	1.99	0.70
23:W:277:PRO:CB	23:W:578:TRP:O	2.39	0.70
26:Z:140:VAL:CG1	26:Z:145:THR:HG21	2.16	0.70
37:u:69:ILE:O	37:u:73:ILE:HG12	1.91	0.70
3:C:244:LYS:CB	3:C:292:TYR:CE2	2.73	0.70
6:F:36:A:C2'	6:F:37:C:O5'	2.39	0.70
10:J:192:GLU:C	10:J:195:LEU:CD1	2.64	0.70
1:A:1384:ARG:NH2	1:A:1414:ARG:NH1	2.39	0.70
4:D:1737:ASN:HB2	4:D:1796:LEU:HD21	1.73	0.70
17:Q:1059:ILE:HG13	17:Q:1088:LEU:HD11	1.72	0.70
1:A:193:LEU:HD12	1:A:194:GLU:N	2.06	0.70
1:A:293:TRP:HB2	1:A:1136:ARG:HH21	1.56	0.70
1:A:1641:ARG:HG3	1:A:1641:ARG:NH1	2.06	0.70
3:C:856:HIS:HB2	37:u:105:ARG:CZ	2.21	0.70
12:L:268:LYS:HE2	12:L:268:LYS:HA	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:129:ASP:HB2	18:R:132:LEU:HD21	1.72	0.70
3:C:508:LYS:HE3	3:C:566:THR:CG2	2.21	0.70
23:W:139:LEU:HD12	23:W:139:LEU:H	1.55	0.70
23:W:257:ILE:HD12	23:W:257:ILE:N	2.05	0.70
23:W:433:PHE:CE1	23:W:445:TRP:HB2	2.18	0.70
1:A:772:CYS:HG	1:A:1249:MET:CE	2.04	0.70
3:C:680:ASN:ND2	3:C:682:LYS:HG3	2.07	0.70
7:G:137:C:O2'	7:G:138:A:OP1	2.10	0.70
7:G:142:U:O2'	7:G:143:U:OP1	2.09	0.70
12:L:144:MET:HE1	12:L:152:LEU:HD12	1.72	0.70
15:O:20:PHE:CD1	18:R:177:ILE:HD11	2.27	0.70
15:O:26:THR:OG1	15:O:159:ARG:NH2	2.23	0.70
23:W:140:ASP:HB3	23:W:153:ILE:HG21	1.74	0.70
23:W:242:HIS:HD2	23:W:324:CYS:SG	2.10	0.70
23:W:260:ASP:CA	33:n:10:LYS:NZ	2.51	0.70
1:A:1938:LEU:HD11	26:Z:345:ALA:O	1.92	0.70
7:G:137:C:H6	7:G:137:C:C5'	2.04	0.70
15:O:78:LYS:O	15:O:97:ARG:NH2	2.24	0.70
16:P:2:THR:O	16:P:4:ALA:N	2.24	0.70
18:R:124:VAL:HG22	18:R:125:MET:N	2.05	0.70
23:W:443:ARG:NH2	23:W:455:TYR:HD2	1.87	0.70
38:v:92:ILE:CG2	38:v:94:ILE:HG23	2.21	0.70
8:H:106:G:C5'	30:k:47:ARG:HH22	2.05	0.70
1:A:982:GLU:CD	1:A:1169:GLN:HG3	2.16	0.70
19:S:61:MET:SD	23:W:95:PRO:HG3	2.31	0.70
22:V:457:ARG:HG3	22:V:457:ARG:NH2	2.04	0.70
23:W:443:ARG:NH2	23:W:455:TYR:HE2	1.85	0.70
1:A:384:VAL:HG12	3:C:331:PHE:HB3	1.73	0.70
4:D:509:LYS:NZ	44:D:2201:ADP:O1A	2.16	0.70
7:G:137:C:O2'	7:G:138:A:P	2.50	0.70
10:J:353:GLU:OE2	10:J:361:ARG:NH2	2.25	0.70
23:W:317:GLU:OE2	23:W:319:TYR:HB2	1.92	0.70
3:C:89:LEU:HD23	3:C:89:LEU:C	2.17	0.69
3:C:678:THR:HG21	3:C:683:ASN:ND2	2.06	0.69
5:E:243:LEU:HD11	5:E:247:GLY:CA	2.20	0.69
13:M:145:ASP:HB2	13:M:148:THR:OG1	1.92	0.69
22:V:470:GLU:OE2	22:V:513:ARG:NH1	2.25	0.69
23:W:123:PHE:CZ	23:W:168:PHE:CD2	2.80	0.69
3:C:445:ALA:CB	3:C:466:SER:HA	2.21	0.69
6:F:57:U:O2'	16:P:8:THR:CB	2.39	0.69
8:H:101:U:O4'	27:h:66:SER:HB3	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:2:THR:C	16:P:4:ALA:H	1.98	0.69
18:R:90:VAL:CG1	18:R:94:GLY:O	2.40	0.69
23:W:155:SER:O	23:W:156:VAL:HG23	1.90	0.69
23:W:266:ARG:HH12	32:l:14:MET:N	1.89	0.69
1:A:1211:ASP:O	1:A:1213:VAL:N	2.25	0.69
3:C:474:LEU:HD23	3:C:474:LEU:C	2.17	0.69
5:E:263:ASP:HB3	5:E:274:VAL:HG21	1.74	0.69
7:G:-12:G:H4'	7:G:-11:G:OP1	1.91	0.69
8:H:11:G:N7	13:M:198:ARG:NH1	2.40	0.69
8:H:154:C:H2'	8:H:155:C:C6	2.27	0.69
20:T:434:GLY:CA	20:T:464:GLY:HA2	2.16	0.69
22:V:565:LEU:HD22	22:V:608:LEU:HD13	1.75	0.69
23:W:140:ASP:HB3	23:W:153:ILE:HG12	1.75	0.69
1:A:282:LEU:O	1:A:282:LEU:HD23	1.91	0.69
2:B:21:A:O3'	2:B:22:U:H4'	1.92	0.69
3:C:710:ASN:O	3:C:713:LYS:N	2.26	0.69
13:M:124:PHE:O	13:M:125:SER:OG	2.08	0.69
19:S:9:TRP:CZ2	19:S:44:ARG:HD3	2.27	0.69
22:V:449:GLU:HB3	22:V:452:LEU:HD12	1.74	0.69
22:V:548:ALA:HB1	22:V:585:ILE:CB	2.23	0.69
23:W:499:LYS:HE2	23:W:499:LYS:N	2.08	0.69
1:A:44:ARG:CG	1:A:45:TYR:CD2	2.74	0.69
15:O:144:SER:HA	15:O:148:LEU:HD13	1.72	0.69
20:T:185:MET:HB3	20:T:186:PRO:HD3	1.74	0.69
23:W:256:HIS:HB3	23:W:257:ILE:HD12	1.74	0.69
23:W:433:PHE:HE1	23:W:445:TRP:CB	2.04	0.69
38:v:119:GLU:OE1	38:v:119:GLU:HA	1.91	0.69
1:A:1813:ARG:HB3	1:A:1813:ARG:CZ	2.21	0.69
6:F:31:U:O2'	6:F:32:U:H5'	1.92	0.69
7:G:18:A:N1	15:O:196:GLN:O	2.25	0.69
19:S:102:ASN:ND2	19:S:104:GLY:O	2.25	0.69
23:W:140:ASP:HB3	23:W:153:ILE:CB	2.21	0.69
23:W:243:VAL:HG13	23:W:323:ARG:CZ	2.06	0.69
8:H:150:U:H3	8:H:181:G:H1	1.41	0.69
23:W:178:ARG:CG	23:W:199:TYR:CE1	2.76	0.69
1:A:293:TRP:HZ3	1:A:295:GLU:OE1	1.76	0.69
1:A:1953:ILE:CD1	1:A:1986:LEU:HD13	2.23	0.69
1:A:2146:VAL:HG22	1:A:2272:MET:HB2	1.74	0.69
4:D:790:THR:O	4:D:794:ARG:NH1	2.25	0.69
6:F:41:A:H2	7:G:6:A:H2	1.38	0.69
7:G:16:G:O2'	7:G:17:U:OP2	2.10	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:151:ARG:HH11	13:M:151:ARG:HG2	1.56	0.69
15:O:20:PHE:CD1	18:R:177:ILE:CD1	2.75	0.69
18:R:314:GLN:HA	18:R:314:GLN:NE2	2.06	0.69
20:T:385:TYR:O	20:T:400:PHE:HB2	1.92	0.69
23:W:348:LEU:HD12	23:W:391:PHE:CE2	2.27	0.69
37:u:73:ILE:HD11	37:u:95:SER:HA	1.75	0.69
1:A:360:SER:HB3	22:V:337:GLU:OE2	1.91	0.69
6:F:22:A:OP2	23:W:130:ARG:NH2	2.24	0.69
10:J:214:ILE:HD12	10:J:214:ILE:N	2.08	0.69
12:L:144:MET:HE2	12:L:149:LEU:HD21	1.60	0.69
18:R:171:LEU:HD23	18:R:171:LEU:O	1.92	0.69
23:W:260:ASP:HA	33:n:10:LYS:CE	2.22	0.69
23:W:317:GLU:CB	23:W:321:GLU:HB2	2.23	0.69
23:W:404:ASP:OD2	23:W:407:SER:HB3	1.93	0.69
3:C:700:ILE:CG2	3:C:735:PHE:CD2	2.74	0.69
4:D:2041:LEU:HB2	4:D:2088:ALA:HB3	1.74	0.69
6:F:22:A:H5''	14:N:116:ASN:O	1.92	0.69
10:J:406:PHE:CG	10:J:411:MET:HE2	2.28	0.69
13:M:235:GLN:O	13:M:238:GLU:HG3	1.93	0.69
15:O:276:THR:HG23	15:O:279:ALA:H	1.57	0.69
20:T:306:CYS:SG	20:T:336:VAL:CB	2.79	0.69
23:W:269:MET:HE2	23:W:269:MET:CA	2.20	0.69
4:D:637:ARG:NH1	4:D:918:ASN:OD1	2.27	0.68
8:H:153:A:N6	8:H:177:A:C2	2.60	0.68
10:J:192:GLU:CA	10:J:195:LEU:HD11	2.22	0.68
12:L:241:LYS:O	12:L:241:LYS:NZ	2.21	0.68
15:O:80:VAL:HG11	15:O:94:ILE:HD11	1.74	0.68
20:T:318:ARG:HH11	20:T:319:THR:HG23	1.57	0.68
22:V:468:ASP:O	22:V:506:PHE:CE2	2.46	0.68
26:Z:316:ARG:O	26:Z:321:THR:HG21	1.92	0.68
1:A:44:ARG:HG3	1:A:45:TYR:CD2	2.27	0.68
3:C:452:THR:CB	3:C:577:PHE:HD2	2.06	0.68
3:C:511:GLY:O	3:C:576:ILE:HD12	1.90	0.68
6:F:7:G:H5'	6:F:7:G:H8	1.58	0.68
6:F:39:A:O2'	6:F:40:U:H5'	1.93	0.68
16:P:31:SER:N	16:P:34:ASP:OD2	2.27	0.68
17:Q:323:GLU:HA	17:Q:326:MET:HE3	1.75	0.68
22:V:489:LEU:O	22:V:492:MET:CB	2.37	0.68
23:W:466:ALA:CB	23:W:512:CYS:O	2.41	0.68
1:A:712:HIS:ND1	18:R:250:CYS:HB2	2.08	0.68
3:C:669:THR:HG22	3:C:690:GLU:OE1	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:680:ASN:OD1	3:C:682:LYS:HG3	1.86	0.68
13:M:152:LEU:O	13:M:156:HIS:HD2	1.75	0.68
18:R:123:GLU:OE1	18:R:124:VAL:N	2.24	0.68
23:W:241:LEU:HD23	23:W:241:LEU:N	2.08	0.68
23:W:260:ASP:HB3	33:n:10:LYS:HZ3	1.57	0.68
23:W:322:ARG:H	23:W:322:ARG:NH1	1.88	0.68
23:W:462:HIS:ND1	23:W:482:ASP:HB3	2.07	0.68
1:A:880:ARG:HG3	1:A:881:ILE:N	2.08	0.68
7:G:-11:G:H5'	7:G:-10:C:C5	2.29	0.68
1:A:300:ASN:CB	3:C:939:ARG:NH2	2.57	0.68
3:C:453:TYR:CZ	3:C:575:GLN:HB2	2.29	0.68
6:F:83:A:OP2	10:J:247:LYS:NZ	2.26	0.68
18:R:88:ILE:CG2	18:R:96:ILE:CG2	2.72	0.68
1:A:1390:ALA:HB2	25:Y:410:VAL:HG11	1.76	0.68
3:C:96:PRO:CB	20:T:276:GLU:OE2	2.41	0.68
3:C:389:ASP:OD1	3:C:389:ASP:N	2.26	0.68
5:E:146:ARG:HH12	5:E:148:LYS:CE	1.71	0.68
10:J:203:LEU:CD1	10:J:204:GLU:H	2.06	0.68
18:R:62:GLY:H	19:S:132:VAL:HG23	1.58	0.68
23:W:463:SER:HB3	23:W:481:MET:HG2	1.74	0.68
1:A:368:GLN:OE1	1:A:368:GLN:HA	1.92	0.68
2:B:90:U:O4'	27:a:66:SER:HB3	1.92	0.68
5:E:265:ARG:H	5:E:272:ARG:HH21	1.42	0.68
6:F:42:C:H3'	6:F:43:A:C8	2.28	0.68
8:H:40:C:H2'	8:H:41:U:C5	2.29	0.68
18:R:178:ARG:CD	18:R:194:GLN:NE2	2.51	0.68
1:A:1017:ILE:HD12	1:A:1024:HIS:NE2	2.08	0.68
3:C:350:ASN:HB3	3:C:353:THR:HG23	1.74	0.68
3:C:470:PRO:HA	3:C:499:GLY:CA	2.23	0.68
3:C:478:THR:OG1	3:C:563:ALA:O	2.12	0.68
3:C:725:ASP:OD1	3:C:728:ALA:N	2.23	0.68
7:G:1:G:H4'	7:G:2:U:OP1	1.94	0.68
7:G:18:A:H2	15:O:196:GLN:O	1.77	0.68
22:V:250:LYS:HE3	37:u:59:GLU:OE2	1.94	0.68
22:V:477:LEU:CD2	22:V:514:PHE:CE1	2.76	0.68
23:W:257:ILE:C	23:W:302:HIS:CE1	2.72	0.68
23:W:464:MET:SD	23:W:478:CYS:HB3	2.34	0.68
30:d:33:THR:HG22	30:d:37:LYS:HE2	1.76	0.68
4:D:2043:ARG:HB3	4:D:2086:GLN:HA	1.76	0.68
8:H:152:G:O3'	8:H:153:A:O4'	2.11	0.68
12:L:251:LEU:HD13	12:L:254:GLU:CB	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:196:GLN:HE21	15:O:208:PRO:HG2	1.59	0.68
23:W:88:MET:SD	23:W:89:PHE:HB2	2.33	0.68
23:W:156:VAL:HG12	23:W:160:GLU:OE1	1.94	0.68
23:W:317:GLU:CG	23:W:321:GLU:HG3	2.22	0.68
1:A:1848:LEU:HD22	1:A:1914:MET:HE3	1.75	0.68
12:L:102:PHE:CE1	12:L:106:LYS:HG2	2.28	0.68
15:O:31:ASN:OD1	15:O:33:TYR:N	2.27	0.68
15:O:147:LEU:O	15:O:151:ALA:N	2.27	0.68
15:O:243:ILE:HG12	15:O:294:ASN:HD22	1.59	0.68
23:W:140:ASP:CB	23:W:153:ILE:HG12	2.24	0.68
30:k:33:THR:HG22	30:k:37:LYS:HE2	1.76	0.68
1:A:348:PRO:HB3	1:A:394:TYR:CE2	2.29	0.67
1:A:2328:ALA:HB3	4:D:728:ARG:NE	2.09	0.67
3:C:700:ILE:HG21	3:C:741:GLY:O	1.94	0.67
8:H:143:A:H2'	8:H:144:C:H6	1.59	0.67
10:J:212:GLN:HB3	23:W:508:ALA:HB1	1.76	0.67
14:N:128:VAL:HG13	14:N:130:ARG:N	2.05	0.67
15:O:283:ALA:O	15:O:287:SER:OG	2.12	0.67
22:V:329:ASP:O	22:V:333:GLN:HG2	1.95	0.67
23:W:139:LEU:HD12	23:W:139:LEU:N	2.08	0.67
23:W:488:PHE:CD1	23:W:496:LEU:CB	2.74	0.67
23:W:517:SER:HB3	23:W:558:TRP:CZ3	2.28	0.67
1:A:628:GLY:O	1:A:629:PHE:HB2	1.94	0.67
1:A:1352:HIS:CD2	21:U:5:ILE:CD1	2.76	0.67
1:A:1868:MET:HE2	1:A:1872:LEU:HD11	1.77	0.67
3:C:510:LEU:HD22	3:C:514:TYR:HE2	1.59	0.67
4:D:1963:LEU:HD22	4:D:2007:VAL:HG13	1.76	0.67
6:F:85:U:H3'	6:F:86:U:H5'	1.74	0.67
13:M:210:TYR:CD2	13:M:216:ALA:HB2	2.30	0.67
18:R:303:GLU:O	18:R:307:GLN:CD	2.37	0.67
20:T:399:LYS:HG2	20:T:406:ILE:CD1	2.23	0.67
22:V:171:ASN:CG	37:u:277:ILE:HA	2.18	0.67
22:V:483:GLU:O	22:V:486:THR:CB	2.42	0.67
22:V:622:ARG:HA	22:V:625:ARG:HH11	1.58	0.67
23:W:265:LEU:HD12	23:W:300:SER:HB2	1.73	0.67
28:i:18:ARG:NH1	28:i:52:LYS:HB2	2.09	0.67
1:A:280:GLU:OE1	21:U:9:THR:HG21	1.95	0.67
1:A:312:TYR:OH	3:C:886:ASP:OD2	2.13	0.67
1:A:1764:SER:OG	1:A:1765:SER:N	2.26	0.67
1:A:1774:ASN:H	26:Z:318:THR:HG21	1.60	0.67
3:C:256:CYS:SG	3:C:308:CYS:CB	2.82	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:256:CYS:SG	3:C:308:CYS:HB2	2.34	0.67
5:E:114:GLU:CD	5:E:116:HIS:HE2	2.03	0.67
12:L:241:LYS:NZ	12:L:241:LYS:HA	2.09	0.67
19:S:39:PHE:HB3	19:S:129:PHE:HZ	1.22	0.67
23:W:255:LEU:HD12	23:W:255:LEU:C	2.18	0.67
23:W:391:PHE:CZ	23:W:405:ILE:HD12	2.29	0.67
23:W:518:PRO:O	23:W:519:ASP:HB3	1.94	0.67
3:C:449:ILE:HD11	3:C:466:SER:HA	1.76	0.67
5:E:116:HIS:O	5:E:124:LEU:HD12	1.93	0.67
19:S:77:ILE:HG13	19:S:78:TYR:HD1	1.58	0.67
22:V:499:GLN:OE1	26:Z:72:TRP:CE3	2.47	0.67
23:W:283:VAL:CG1	23:W:574:LEU:HD22	2.24	0.67
23:W:474:LYS:HA	23:W:490:ALA:HB3	1.75	0.67
25:Y:413:LYS:HG3	25:Y:425:ILE:HD11	1.76	0.67
1:A:1224:ARG:NH1	22:V:592:GLU:O	2.27	0.67
3:C:456:GLY:C	3:C:457:VAL:HG13	2.19	0.67
6:F:1:G:O2'	14:N:99:ASN:ND2	2.27	0.67
7:G:26:U:H2'	7:G:27:U:C5'	2.24	0.67
22:V:548:ALA:HB3	22:V:585:ILE:CB	2.22	0.67
23:W:101:THR:HG22	23:W:104:MET:CG	2.24	0.67
23:W:123:PHE:CE1	23:W:168:PHE:CE2	2.83	0.67
23:W:252:ARG:HB3	23:W:252:ARG:CZ	2.25	0.67
23:W:391:PHE:CE1	23:W:405:ILE:HD12	2.29	0.67
37:u:335:ASP:OD1	37:u:364:ARG:HD2	1.95	0.67
1:A:2306:HIS:CD2	1:A:2308:VAL:H	2.13	0.67
1:A:439:GLN:NE2	1:A:614:TYR:CE2	2.48	0.67
1:A:766:THR:HG21	2:B:39:C:C2	2.30	0.67
1:A:1134:TRP:O	1:A:1139:ARG:NH1	2.26	0.67
3:C:223:ASP:OD1	3:C:495:ARG:NH2	2.28	0.67
3:C:824:THR:O	3:C:824:THR:CG2	2.43	0.67
4:D:739:ARG:NH2	4:D:776:ASP:OD2	2.27	0.67
7:G:137:C:OP2	7:G:137:C:H5	1.78	0.67
7:G:142:U:H2'	7:G:143:U:C6	2.30	0.67
8:H:151:C:H2'	8:H:152:G:H8	1.60	0.67
12:L:241:LYS:HA	12:L:241:LYS:HZ3	1.60	0.67
18:R:110:LYS:HD2	18:R:110:LYS:C	2.19	0.67
26:Z:116:ARG:HH11	26:Z:126:MET:CG	2.06	0.67
28:b:18:ARG:NH1	28:b:52:LYS:CB	2.58	0.67
39:w:106:LEU:HD23	39:w:113:LEU:HD23	1.77	0.67
1:A:344:ASP:OD1	1:A:344:ASP:N	2.27	0.67
3:C:301:SER:O	3:C:304:LEU:N	2.22	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:28:A:O2'	14:N:39:GLY:CA	2.43	0.67
20:T:267:ASP:O	20:T:268:LYS:CG	2.43	0.67
23:W:128:GLN:OE1	23:W:139:LEU:HD11	1.94	0.67
26:Z:121:GLU:CG	26:Z:143:LYS:HD2	2.23	0.67
1:A:609:LYS:HE2	41:A:3000:IHP:O31	1.95	0.67
1:A:1352:HIS:CD2	21:U:5:ILE:HD13	2.30	0.67
7:G:138:A:N1	8:H:39:U:O2	2.27	0.67
7:G:148:U:O2	7:G:148:U:H2'	1.95	0.67
10:J:203:LEU:HD13	10:J:204:GLU:CB	2.25	0.67
10:J:212:GLN:CB	23:W:508:ALA:HB1	2.24	0.67
23:W:241:LEU:HD22	23:W:326:ARG:HD2	1.76	0.67
3:C:473:PRO:O	3:C:474:LEU:HB3	1.95	0.66
4:D:1338:THR:O	4:D:1342:SER:OG	2.12	0.66
8:H:151:C:O2	8:H:152:G:C8	2.48	0.66
22:V:549:LYS:O	22:V:552:ALA:N	2.28	0.66
23:W:384:ASP:OD2	23:W:430:ASN:CB	2.43	0.66
23:W:536:ASP:HB3	23:W:543:TYR:CE2	2.23	0.66
26:Z:140:VAL:CG1	26:Z:145:THR:CG2	2.73	0.66
6:F:33:G:H5''	6:F:33:G:C8	2.28	0.66
15:O:171:GLY:HA2	23:W:208:PRO:CD	2.25	0.66
12:L:28:LYS:HE3	18:R:268:LEU:HD23	1.76	0.66
12:L:37:LEU:CD2	12:L:155:ALA:CB	2.70	0.66
18:R:185:GLY:O	18:R:186:VAL:HG22	1.95	0.66
20:T:399:LYS:CG	20:T:406:ILE:CD1	2.67	0.66
1:A:758:ARG:NH2	1:A:775:ASN:HD22	1.92	0.66
9:I:371:PRO:CB	17:Q:357:ALA:HB1	2.17	0.66
15:O:228:ASP:OD2	17:Q:544:ASN:HB3	1.95	0.66
23:W:453:PHE:CD1	23:W:454:LYS:HB2	2.30	0.66
1:A:44:ARG:CD	1:A:45:TYR:CE2	2.78	0.66
1:A:380:LEU:HD23	3:C:349:PHE:HE1	1.59	0.66
3:C:678:THR:HG21	3:C:683:ASN:CB	2.23	0.66
23:W:242:HIS:C	23:W:243:VAL:HG23	2.21	0.66
23:W:534:ILE:HD12	23:W:544:SER:CB	2.26	0.66
1:A:406:TRP:CZ3	3:C:265:LEU:O	2.49	0.66
1:A:1775:GLN:HE21	26:Z:315:VAL:HG11	1.60	0.66
3:C:62:ASP:OD1	3:C:62:ASP:N	2.26	0.66
4:D:1590:LEU:HD11	4:D:1597:LEU:HD11	1.78	0.66
5:E:310:TYR:CE1	5:E:322:LYS:CD	2.78	0.66
8:H:114:A:H61	8:H:142:C:H42	1.44	0.66
8:H:151:C:C2	8:H:152:G:C8	2.83	0.66
23:W:354:ARG:HG2	23:W:354:ARG:HH11	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:534:ILE:HD12	23:W:544:SER:HB3	1.76	0.66
37:u:278:THR:CG2	37:u:279:GLN:N	2.57	0.66
1:A:300:ASN:C	3:C:939:ARG:HH22	1.89	0.66
1:A:360:SER:OG	22:V:337:GLU:OE2	2.13	0.66
3:C:680:ASN:CG	3:C:682:LYS:HG3	2.19	0.66
8:H:75:A:H61	8:H:77:C:H42	1.43	0.66
10:J:196:ARG:HA	13:M:208:ILE:CD1	2.25	0.66
16:P:72:ARG:HB2	16:P:72:ARG:HH11	1.59	0.66
18:R:181:PRO:O	18:R:182:SER:HB2	1.94	0.66
20:T:302:VAL:HG23	20:T:315:TRP:O	1.95	0.66
23:W:322:ARG:HG3	23:W:322:ARG:NH1	2.10	0.66
28:b:18:ARG:NH1	28:b:52:LYS:HB2	2.09	0.66
28:i:18:ARG:NH1	28:i:52:LYS:CB	2.58	0.66
3:C:750:LEU:C	3:C:750:LEU:HD12	2.21	0.66
10:J:195:LEU:HD21	12:L:24:MET:CE	2.26	0.66
13:M:152:LEU:HD23	13:M:152:LEU:C	2.20	0.66
23:W:317:GLU:CD	23:W:319:TYR:HD2	2.04	0.66
23:W:390:LEU:HD23	23:W:390:LEU:N	2.10	0.66
23:W:417:HIS:CD2	23:W:443:ARG:HG3	2.31	0.66
4:D:1052:ILE:HG12	4:D:1053:GLU:H	1.60	0.66
7:G:-11:G:H5'	7:G:-10:C:H5	1.60	0.66
8:H:40:C:O2'	8:H:41:U:C4'	2.44	0.66
8:H:41:U:H5''	8:H:41:U:H6	1.59	0.66
12:L:202:ARG:O	12:L:202:ARG:HG3	1.95	0.66
14:N:40:LYS:C	14:N:41:ARG:CG	2.67	0.66
15:O:133:PRO:HD2	15:O:137:LEU:HD22	1.78	0.66
16:P:2:THR:C	16:P:4:ALA:N	2.54	0.66
22:V:279:THR:O	22:V:283:GLU:HG3	1.96	0.66
23:W:140:ASP:CA	23:W:153:ILE:CG1	2.74	0.66
23:W:291:VAL:HG21	23:W:575:ILE:HD11	1.76	0.66
23:W:317:GLU:HG3	23:W:319:TYR:N	2.06	0.66
1:A:1795:GLU:OE1	12:L:172:ARG:NH2	2.29	0.66
8:H:168:A:C8	8:H:168:A:C5'	2.75	0.66
13:M:152:LEU:HD21	13:M:160:PHE:CE1	2.31	0.66
18:R:72:TYR:CZ	18:R:78:ARG:HD2	2.31	0.66
18:R:88:ILE:HG23	18:R:96:ILE:CG2	2.26	0.66
22:V:497:CYS:O	22:V:500:GLN:HB2	1.95	0.66
23:W:495:ARG:O	23:W:495:ARG:HG2	1.95	0.66
32:e:20:LEU:HD12	33:g:41:VAL:HG13	1.77	0.66
3:C:471:ASP:N	3:C:499:GLY:HA2	2.11	0.65
3:C:706:GLN:NE2	3:C:708:THR:H	1.94	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:153:A:C3'	8:H:154:C:H5'	2.25	0.65
10:J:198:ALA:HB1	12:L:160:ALA:HB2	1.79	0.65
22:V:330:LYS:HA	22:V:333:GLN:CG	2.25	0.65
23:W:216:LEU:O	23:W:220:THR:HG23	1.95	0.65
23:W:252:ARG:NH1	23:W:257:ILE:CG1	2.59	0.65
1:A:676:ARG:NH2	6:F:70:A:OP2	2.28	0.65
1:A:919:ASP:OD2	1:A:1012:LYS:CE	2.45	0.65
3:C:680:ASN:HD21	3:C:682:LYS:HG3	1.59	0.65
9:I:346:ASN:CB	17:Q:527:ILE:CA	2.75	0.65
13:M:211:ILE:HD12	13:M:212:ASN:HB2	1.77	0.65
18:R:67:ILE:HD13	18:R:67:ILE:N	2.11	0.65
23:W:217:ASP:O	23:W:220:THR:OG1	2.13	0.65
1:A:684:GLU:CD	20:T:266:GLU:HB3	2.21	0.65
3:C:363:SER:O	3:C:364:SER:OG	2.08	0.65
5:E:153:PHE:O	5:E:171:SER:HB2	1.96	0.65
7:G:143:U:H2'	7:G:145:U:C5	2.31	0.65
23:W:281:ILE:N	23:W:281:ILE:HD12	2.11	0.65
23:W:533:ASN:CB	23:W:535:TRP:CH2	2.79	0.65
32:l:20:LEU:HD12	33:n:41:VAL:HG13	1.77	0.65
38:v:122:ARG:HG2	38:v:122:ARG:HH11	1.61	0.65
1:A:1868:MET:CE	1:A:1872:LEU:HD11	2.26	0.65
1:A:1949:ARG:CD	1:A:1986:LEU:HD21	2.26	0.65
2:B:23:C:O2'	2:B:24:G:O5'	2.15	0.65
4:D:514:LEU:HA	4:D:517:MET:HE2	1.78	0.65
6:F:85:U:H3'	6:F:86:U:C5'	2.25	0.65
8:H:67:C:H42	8:H:85:A:H61	1.44	0.65
10:J:220:LEU:HD13	10:J:220:LEU:C	2.22	0.65
23:W:420:ALA:N	23:W:438:ASP:CB	2.57	0.65
4:D:1130:ARG:NH1	4:D:1144:GLU:OE1	2.29	0.65
5:E:108:HIS:ND1	5:E:128:SER:HB2	2.12	0.65
7:G:138:A:N1	8:H:39:U:C2	2.64	0.65
18:R:297:LYS:CE	18:R:300:GLU:OE1	2.42	0.65
22:V:250:LYS:HD3	22:V:288:ASP:CG	2.21	0.65
23:W:178:ARG:HD2	23:W:199:TYR:HD1	1.62	0.65
23:W:253:SER:OG	23:W:255:LEU:CG	2.44	0.65
1:A:663:ARG:NH1	6:F:64:U:OP2	2.29	0.65
3:C:619:THR:C	3:C:620:LYS:HG3	2.22	0.65
3:C:679:PRO:HD3	3:C:811:THR:OG1	1.97	0.65
12:L:56:PRO:HB3	13:M:237:LEU:CD2	2.27	0.65
12:L:61:THR:HG23	12:L:91:ARG:HH22	1.59	0.65
22:V:488:GLU:HA	22:V:491:ASN:HB2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:137:TYR:HB2	23:W:159:ALA:HB2	1.79	0.65
1:A:232:LEU:HD11	3:C:412:ILE:HD11	1.79	0.65
4:D:947:PRO:HG2	4:D:948:LEU:HD12	1.78	0.65
4:D:1765:THR:HG23	4:D:1781:LEU:HD13	1.79	0.65
5:E:108:HIS:CE1	5:E:128:SER:HB3	2.32	0.65
7:G:-23:G:N2	37:u:356:ASN:HD22	1.94	0.65
20:T:458:SER:OG	20:T:459:LEU:N	2.25	0.65
1:A:44:ARG:CG	1:A:45:TYR:CE2	2.79	0.65
1:A:381:PRO:CD	3:C:334:ILE:HG22	2.26	0.65
3:C:298:LEU:HD13	3:C:298:LEU:N	2.12	0.65
3:C:360:ALA:N	3:C:361:PRO:HD3	2.12	0.65
4:D:1565:SER:HB3	4:D:1568:GLN:HB2	1.77	0.65
6:F:6:C:OP2	6:F:6:C:H4'	1.95	0.65
15:O:131:THR:HG21	23:W:108:ARG:HG3	1.77	0.65
23:W:201:ASP:OD1	23:W:201:ASP:N	2.28	0.65
23:W:493:ARG:HB3	23:W:495:ARG:HD2	1.78	0.65
3:C:449:ILE:HG22	3:C:457:VAL:HG13	1.77	0.65
5:E:277:PHE:CE2	5:E:300:ILE:HD12	2.28	0.65
12:L:77:LEU:HD22	18:R:285:ALA:HA	1.79	0.65
14:N:38:GLU:HG2	14:N:39:GLY:H	1.61	0.65
22:V:603:LEU:HA	22:V:606:GLU:CG	2.27	0.65
23:W:97:ASN:OD1	23:W:99:PHE:HB2	1.97	0.65
1:A:82:ARG:NH2	7:G:14:A:OP2	2.30	0.65
1:A:1835:GLN:OE1	1:A:1835:GLN:HA	1.96	0.65
5:E:178:LEU:HD21	5:E:208:ILE:HD13	1.79	0.65
5:E:251:LEU:CG	5:E:291:CYS:SG	2.85	0.65
15:O:89:GLU:CD	23:W:103:GLN:HB2	2.21	0.65
18:R:61:GLY:CA	19:S:136:ILE:HB	2.25	0.65
19:S:34:LYS:HE3	19:S:78:TYR:CD2	2.32	0.65
20:T:355:ARG:C	20:T:356:LEU:HD12	2.21	0.65
23:W:440:LYS:CD	23:W:440:LYS:H	2.10	0.65
23:W:539:THR:CB	23:W:543:TYR:HH	2.10	0.65
26:Z:318:THR:HG23	26:Z:319:GLY:N	2.11	0.65
1:A:1436:TRP:CH2	1:A:1437:ARG:NH2	2.65	0.64
3:C:679:PRO:CD	3:C:807:GLN:HB3	2.07	0.64
4:D:1456:VAL:HG11	4:D:1489:ALA:HB1	1.79	0.64
15:O:22:ILE:HD13	23:W:111:LEU:HD23	1.79	0.64
20:T:455:GLN:NE2	20:T:456:PRO:HD2	2.12	0.64
3:C:706:GLN:NE2	3:C:708:THR:OG1	2.30	0.64
15:O:235:TYR:CD2	15:O:301:LYS:HB2	2.27	0.64
18:R:237:MET:SD	18:R:241:GLU:CD	2.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:9:TRP:HE3	19:S:11:PRO:CD	2.11	0.64
3:C:350:ASN:CB	3:C:353:THR:HG23	2.27	0.64
3:C:463:GLU:OE1	3:C:463:GLU:N	2.29	0.64
3:C:482:TYR:CE2	3:C:493:PHE:CG	2.73	0.64
12:L:233:GLN:OE1	12:L:233:GLN:HA	1.96	0.64
15:O:224:ASP:O	15:O:302:TRP:NE1	2.30	0.64
15:O:233:THR:HA	15:O:272:ILE:O	1.97	0.64
16:P:76:ARG:HG3	16:P:77:ASP:N	2.13	0.64
19:S:131:ARG:HH11	19:S:133:CYS:HA	1.46	0.64
20:T:455:GLN:HE21	20:T:456:PRO:HD2	1.63	0.64
23:W:210:GLU:OE1	23:W:210:GLU:N	2.31	0.64
30:d:32:LEU:HD22	30:d:65:MET:HE3	1.79	0.64
3:C:186:VAL:HG22	3:C:535:ALA:HA	1.78	0.64
3:C:507:VAL:HA	3:C:568:PRO:CB	2.28	0.64
4:D:538:ILE:HB	4:D:585:ILE:HG12	1.79	0.64
4:D:589:THR:H	4:D:592:LYS:HE2	1.62	0.64
4:D:1433:ASP:OD1	4:D:1473:ARG:NH2	2.29	0.64
4:D:1563:VAL:HG12	4:D:1664:MET:HE2	1.79	0.64
8:H:156:U:C6	8:H:156:U:C5'	2.72	0.64
10:J:214:ILE:HG22	10:J:219:GLU:CB	2.05	0.64
16:P:63:LEU:O	16:P:63:LEU:HD23	1.97	0.64
20:T:185:MET:CB	20:T:186:PRO:HD3	2.27	0.64
23:W:123:PHE:CZ	23:W:168:PHE:CE2	2.84	0.64
3:C:93:ILE:HD11	20:T:240:LEU:CD2	2.27	0.64
3:C:699:ASP:C	3:C:705:VAL:CG2	2.71	0.64
7:G:147:C:C2	7:G:148:U:C6	2.86	0.64
13:M:160:PHE:C	13:M:162:PRO:HD3	2.23	0.64
15:O:19:ASP:OD1	15:O:20:PHE:N	2.30	0.64
23:W:203:LYS:HE3	23:W:204:ASP:N	2.12	0.64
23:W:388:GLN:OE1	23:W:388:GLN:HA	1.97	0.64
34:o:5:THR:HG22	34:o:8:LEU:H	1.60	0.64
1:A:254:TYR:OH	1:A:434:HIS:HB3	1.98	0.64
3:C:77:VAL:HG11	20:T:196:LEU:HG	1.79	0.64
3:C:449:ILE:CD1	3:C:466:SER:CB	2.62	0.64
4:D:1973:ARG:HD2	4:D:1997:LEU:HD11	1.80	0.64
8:H:39:U:H2'	8:H:40:C:C5	2.32	0.64
18:R:64:PHE:CB	18:R:67:ILE:CD1	2.53	0.64
21:U:23:LEU:O	21:U:23:LEU:HD13	1.98	0.64
3:C:350:ASN:ND2	3:C:353:THR:HG23	2.13	0.64
8:H:41:U:H2'	8:H:42:G:C8	2.33	0.64
8:H:153:A:H3'	8:H:154:C:H5'	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:106:GLN:HG2	18:R:110:LYS:HE2	1.78	0.64
19:S:11:PRO:HB3	19:S:165:SER:C	2.22	0.64
22:V:449:GLU:CB	22:V:452:LEU:HG	2.22	0.64
23:W:374:LYS:CD	23:W:397:ASP:OD2	2.45	0.64
23:W:382:ASN:CG	23:W:383:PRO:HD2	2.23	0.64
26:Z:303:ASN:HB2	26:Z:304:PRO:HD3	1.79	0.64
1:A:48:LYS:O	1:A:53:PHE:CD2	2.50	0.64
1:A:203:VAL:CG2	1:A:237:THR:HB	2.26	0.64
1:A:464:PRO:O	1:A:465:LYS:HB3	1.97	0.64
1:A:1321:GLU:HB2	26:Z:66:TYR:OH	1.96	0.64
3:C:495:ARG:HD2	3:C:497:LEU:HD23	1.79	0.64
4:D:1104:TRP:O	4:D:1108:THR:HG23	1.97	0.64
4:D:1553:HIS:HB3	4:D:1701:ARG:HD2	1.79	0.64
5:E:233:GLY:O	5:E:260:ARG:NH2	2.29	0.64
16:P:3:THR:HB	16:P:6:ARG:HH21	1.62	0.64
1:A:203:VAL:CG2	1:A:237:THR:CB	2.76	0.64
1:A:1801:LYS:HD3	1:A:1802:PRO:HD2	1.79	0.64
3:C:439:PRO:HB2	3:C:443:VAL:HB	1.80	0.64
8:H:10:C:C4	13:M:198:ARG:NH1	2.66	0.64
10:J:408:ASP:OD1	10:J:442:ARG:HG2	1.98	0.64
18:R:119:LEU:HD13	18:R:119:LEU:C	2.23	0.64
39:w:125:LYS:HG3	39:w:126:GLU:N	2.12	0.64
1:A:381:PRO:HD2	3:C:334:ILE:CG2	2.26	0.64
1:A:1675:ASP:OD2	1:A:1678:ARG:HD2	1.97	0.64
3:C:220:ARG:O	3:C:448:LYS:HE3	1.98	0.64
8:H:147:G:H2'	8:H:148:C:H6	1.62	0.64
18:R:101:ILE:O	18:R:104:GLN:HG2	1.97	0.64
20:T:185:MET:SD	20:T:442:ARG:NH2	2.70	0.64
26:Z:112:ILE:HG13	26:Z:113:THR:H	1.63	0.64
39:w:123:THR:HG1	39:w:126:GLU:HG3	1.62	0.64
1:A:91:ALA:HA	18:R:207:MET:HE3	1.81	0.63
1:A:297:ASN:HB3	1:A:1345:GLN:NE2	2.11	0.63
1:A:339:PHE:CD1	1:A:406:TRP:CZ3	2.86	0.63
3:C:295:ASP:OD1	3:C:297:ASN:N	2.31	0.63
3:C:359:LYS:HE3	3:C:359:LYS:O	1.97	0.63
3:C:855:GLY:C	37:u:105:ARG:NH2	2.56	0.63
23:W:176:GLU:HA	23:W:176:GLU:OE2	1.97	0.63
23:W:243:VAL:HG11	23:W:323:ARG:NH2	2.13	0.63
39:w:78:THR:HG22	39:w:145:SER:HB2	1.80	0.63
1:A:48:LYS:O	1:A:53:PHE:CG	2.51	0.63
3:C:669:THR:HG22	3:C:690:GLU:HB3	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:154:C:H2'	8:H:155:C:H6	1.63	0.63
14:N:116:ASN:OD1	14:N:116:ASN:N	2.30	0.63
15:O:171:GLY:HA2	23:W:208:PRO:CG	2.27	0.63
23:W:203:LYS:HA	23:W:203:LYS:CE	2.21	0.63
23:W:262:GLY:O	23:W:263:VAL:HG22	1.98	0.63
23:W:463:SER:O	23:W:480:SER:HA	1.98	0.63
1:A:901:LEU:CD1	1:A:904:HIS:HE1	2.08	0.63
1:A:1757:GLU:HB3	1:A:1759:THR:OG1	1.99	0.63
3:C:456:GLY:O	3:C:457:VAL:HG22	1.98	0.63
9:I:216:SER:O	17:Q:938:TYR:CD1	2.51	0.63
13:M:211:ILE:HD12	13:M:211:ILE:C	2.24	0.63
18:R:315:LYS:HE2	18:R:315:LYS:CA	2.29	0.63
19:S:12:PRO:CD	19:S:166:GLY:HA2	2.29	0.63
36:r:92:LEU:HD12	36:s:92:LEU:HD23	1.79	0.63
1:A:1889:LEU:CD1	1:A:2012:LEU:HG	2.28	0.63
4:D:447:VAL:HG22	4:D:687:GLN:HB2	1.80	0.63
4:D:1936:LEU:HD22	4:D:1940:LEU:HD11	1.81	0.63
5:E:277:PHE:HE2	5:E:300:ILE:HD13	1.62	0.63
15:O:245:GLU:O	15:O:248:LEU:N	2.31	0.63
23:W:137:TYR:CD1	23:W:158:GLU:CB	2.79	0.63
4:D:728:ARG:NH2	4:D:787:ALA:H	1.96	0.63
6:F:42:C:H5''	6:F:43:A:OP2	1.97	0.63
16:P:193:VAL:HG23	16:P:194:PHE:HD2	1.55	0.63
19:S:20:MET:CE	19:S:141:ARG:HD3	2.29	0.63
23:W:317:GLU:CD	23:W:319:TYR:HB2	2.23	0.63
1:A:70:ILE:CD1	1:A:495:GLN:HG3	2.28	0.63
1:A:283:VAL:HG13	1:A:284:ARG:H	1.64	0.63
1:A:744:LYS:HD3	20:T:462:GLU:OE2	1.98	0.63
1:A:1504:GLU:HG3	1:A:1754:TYR:CZ	2.33	0.63
3:C:516:LEU:HD13	3:C:516:LEU:C	2.24	0.63
3:C:671:SER:C	3:C:672:LEU:HD22	2.24	0.63
4:D:1992:GLU:HA	4:D:1995:ALA:HB3	1.80	0.63
10:J:192:GLU:OE2	10:J:196:ARG:NH1	2.32	0.63
12:L:102:PHE:CE1	12:L:106:LYS:CG	2.82	0.63
23:W:264:ASN:O	23:W:267:SER:CB	2.46	0.63
23:W:548:ALA:HB2	23:W:578:TRP:CZ3	2.33	0.63
4:D:1950:THR:OG1	4:D:2060:ARG:NH2	2.30	0.63
13:M:118:LYS:HG3	13:M:119:ASN:N	2.14	0.63
13:M:153:ARG:CB	13:M:160:PHE:CZ	2.81	0.63
13:M:154:GLU:HG3	13:M:155:LYS:N	2.13	0.63
16:P:54:VAL:HG13	16:P:59:PHE:HZ	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:171:ASN:OD1	37:u:277:ILE:HG22	1.98	0.63
22:V:449:GLU:CB	22:V:452:LEU:HD12	2.29	0.63
23:W:284:TRP:NE1	23:W:316:TRP:HB3	2.11	0.63
30:k:32:LEU:HD22	30:k:65:MET:HE3	1.79	0.63
1:A:579:GLN:NE2	1:A:613:TYR:CE1	2.67	0.63
1:A:1790:ILE:CD1	24:X:76:SER:HB2	2.29	0.63
1:A:2105:ILE:HD13	1:A:2266:ARG:HH22	1.64	0.63
4:D:508:GLY:HA3	44:D:2201:ADP:H8	1.64	0.63
8:H:39:U:H6	8:H:39:U:C5'	2.07	0.63
10:J:226:ARG:NH1	12:L:181:ARG:HH12	1.97	0.63
10:J:297:ASN:OD1	12:L:223:GLY:O	2.15	0.63
15:O:102:SER:OG	15:O:139:LYS:NZ	2.22	0.63
20:T:185:MET:SD	20:T:442:ARG:NH1	2.72	0.63
22:V:540:GLU:OE1	22:V:541:THR:CG2	2.28	0.63
23:W:356:LEU:HD22	23:W:370:PHE:CD2	2.34	0.63
26:Z:122:ASN:OD1	26:Z:138:ARG:HG3	1.98	0.63
1:A:1332:HIS:ND1	1:A:1359:HIS:CE1	2.67	0.63
1:A:1494:TYR:CD2	1:A:1494:TYR:O	2.52	0.63
1:A:1502:PHE:HD1	1:A:1502:PHE:H	1.47	0.63
6:F:57:U:C1'	16:P:8:THR:HG21	2.28	0.63
7:G:120:G:C2'	7:G:121:G:O4'	2.46	0.63
8:H:164:C:H6	8:H:164:C:H5'	1.63	0.63
16:P:63:LEU:HD23	16:P:63:LEU:C	2.24	0.63
1:A:369:GLU:C	1:A:371:LEU:H	1.99	0.62
1:A:371:LEU:HD13	3:C:347:ILE:HD11	1.80	0.62
1:A:671:THR:O	1:A:676:ARG:NH1	2.32	0.62
1:A:980:ARG:HG2	1:A:1094:ARG:HD3	1.81	0.62
3:C:943:LEU:HD23	3:C:943:LEU:N	2.14	0.62
5:E:277:PHE:CE2	5:E:300:ILE:CD1	2.77	0.62
7:G:1:G:H1'	7:G:2:U:O5'	2.00	0.62
16:P:3:THR:O	16:P:6:ARG:NE	2.32	0.62
23:W:271:PRO:HG2	23:W:563:THR:CG2	2.29	0.62
36:r:8:SER:O	36:r:9:ASN:CB	2.47	0.62
1:A:462:ARG:HD2	1:A:462:ARG:H	1.59	0.62
3:C:508:LYS:CE	3:C:566:THR:HG21	2.27	0.62
4:D:772:LEU:HB2	4:D:774:LEU:HG	1.81	0.62
4:D:2067:VAL:HG22	4:D:2079:ILE:HG13	1.81	0.62
10:J:221:ASN:ND2	12:L:211:ASN:OD1	2.18	0.62
22:V:330:LYS:HA	22:V:333:GLN:CD	2.24	0.62
22:V:487:LYS:HZ1	22:V:491:ASN:CG	2.06	0.62
32:e:74:LEU:HB3	32:e:77:ILE:HD11	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:u:223:HIS:O	37:u:227:GLU:HG3	1.99	0.62
38:v:9:LEU:CD1	38:v:92:ILE:HG12	2.29	0.62
1:A:587:GLN:O	1:A:587:GLN:HG2	1.98	0.62
2:B:19:A:H2'	2:B:20:G:H5''	1.81	0.62
3:C:465:MET:CE	3:C:475:MET:CG	2.66	0.62
3:C:567:GLU:OE2	3:C:570:GLY:HA3	1.99	0.62
5:E:260:ARG:NH1	5:E:276:ILE:HD11	2.14	0.62
7:G:147:C:H6	7:G:147:C:C5'	2.12	0.62
9:I:342:PRO:O	17:Q:528:GLY:N	2.32	0.62
23:W:259:GLN:HG2	32:l:14:MET:HE3	1.80	0.62
39:w:78:THR:CG2	39:w:145:SER:HB2	2.29	0.62
1:A:701:ILE:HD13	1:A:701:ILE:N	2.14	0.62
3:C:333:ASP:OD1	3:C:333:ASP:N	2.31	0.62
8:H:20:G:N7	16:P:5:ALA:HB1	2.13	0.62
10:J:225:LEU:HD21	12:L:211:ASN:HB2	1.80	0.62
12:L:15:GLU:OE1	12:L:41:LYS:NZ	2.32	0.62
22:V:264:ILE:HD13	22:V:269:ALA:HB3	1.79	0.62
23:W:88:MET:HE1	23:W:89:PHE:CD2	2.30	0.62
1:A:82:ARG:HB3	1:A:83:HIS:ND1	2.14	0.62
6:F:43:A:O5'	6:F:43:A:H8	1.82	0.62
10:J:408:ASP:OD1	10:J:443:ILE:HG22	1.98	0.62
18:R:95:LYS:HD3	18:R:95:LYS:N	2.15	0.62
20:T:455:GLN:HG3	20:T:485:THR:HG21	1.81	0.62
22:V:533:TYR:HA	22:V:536:ILE:HG13	1.80	0.62
23:W:126:GLU:HG2	23:W:130:ARG:CZ	2.30	0.62
1:A:2068:SER:HB2	1:A:2072:GLU:HB2	1.82	0.62
7:G:5:G:O5'	7:G:5:G:H8	1.81	0.62
18:R:303:GLU:O	18:R:307:GLN:HG2	1.99	0.62
1:A:163:ARG:NH2	1:A:625:PRO:O	2.32	0.62
1:A:371:LEU:HD11	3:C:347:ILE:HD11	1.81	0.62
1:A:2319:LEU:HG	1:A:2320:LEU:N	2.11	0.62
6:F:27:A:O2'	6:F:28:A:C8	2.51	0.62
8:H:15:U:C2'	8:H:16:U:OP2	2.48	0.62
13:M:198:ARG:HG3	13:M:198:ARG:O	1.99	0.62
18:R:51:ILE:N	18:R:67:ILE:CG2	2.63	0.62
23:W:257:ILE:HG21	23:W:259:GLN:NE2	2.15	0.62
23:W:420:ALA:H	23:W:438:ASP:HB3	1.65	0.62
32:l:74:LEU:HB3	32:l:77:ILE:HD11	1.81	0.62
1:A:203:VAL:HG23	1:A:237:THR:CG2	2.18	0.62
1:A:682:ASP:OD2	8:H:21:C:H4'	2.00	0.62
2:B:95:G:H5'	31:f:25:TRP:CH2	2.21	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:452:THR:CB	3:C:577:PHE:CD2	2.81	0.62
3:C:534:VAL:HG12	3:C:535:ALA:H	1.65	0.62
3:C:941:LYS:HG2	3:C:942:GLY:N	2.13	0.62
4:D:482:ASN:HB3	4:D:485:GLN:CD	2.24	0.62
13:M:210:TYR:CD2	13:M:216:ALA:CA	2.83	0.62
15:O:147:LEU:HA	15:O:150:LEU:HG	1.82	0.62
18:R:124:VAL:HG13	18:R:125:MET:H	1.65	0.62
20:T:318:ARG:HG3	20:T:318:ARG:HH11	1.62	0.62
22:V:549:LYS:HG2	22:V:589:GLU:HB2	1.81	0.62
23:W:252:ARG:HH12	23:W:257:ILE:CG1	2.12	0.62
23:W:284:TRP:CD1	23:W:316:TRP:CD2	2.87	0.62
1:A:1599:GLN:NE2	26:Z:271:ILE:HD11	2.15	0.62
3:C:476:CYS:CB	3:C:565:ILE:HB	2.26	0.62
3:C:737:PRO:HG3	3:C:774:THR:OG1	1.99	0.62
8:H:157:G:H5''	8:H:157:G:H8	1.65	0.62
13:M:210:TYR:CE2	13:M:216:ALA:CB	2.82	0.62
23:W:135:TYR:HB3	23:W:137:TYR:CE1	2.35	0.62
23:W:256:HIS:ND1	23:W:257:ILE:HG13	2.15	0.62
37:u:275:LEU:CD2	37:u:330:VAL:HG22	2.30	0.62
20:T:318:ARG:NH1	20:T:319:THR:CG2	2.63	0.62
23:W:402:GLN:NE2	23:W:447:TRP:CH2	2.67	0.62
1:A:282:LEU:HD23	1:A:282:LEU:C	2.24	0.61
1:A:1868:MET:HE3	1:A:1872:LEU:HG	1.81	0.61
1:A:1951:LYS:NZ	24:X:85:LEU:HD21	2.15	0.61
3:C:230:ASP:CG	3:C:259:LYS:CE	2.56	0.61
3:C:701:GLU:HA	3:C:740:THR:HG1	1.63	0.61
8:H:112:G:H2'	8:H:113:G:H8	1.65	0.61
8:H:152:G:C2	8:H:153:A:C5	2.87	0.61
23:W:257:ILE:HG21	23:W:259:GLN:HE21	1.64	0.61
25:Y:401:GLU:O	25:Y:405:MET:HG2	2.00	0.61
26:Z:155:VAL:HG12	26:Z:156:GLN:H	1.63	0.61
34:o:123:ASN:O	34:o:126:THR:HB	1.99	0.61
1:A:378:PHE:C	1:A:379:GLU:HG2	2.24	0.61
3:C:680:ASN:ND2	3:C:682:LYS:CG	2.63	0.61
8:H:143:A:H2'	8:H:144:C:C6	2.35	0.61
13:M:210:TYR:HD1	13:M:210:TYR:O	1.83	0.61
15:O:240:GLY:HA3	15:O:296:ARG:HH22	1.66	0.61
19:S:13:ASN:HD22	19:S:24:VAL:CG1	2.12	0.61
20:T:351:ASP:C	20:T:352:THR:OG1	2.43	0.61
22:V:483:GLU:O	22:V:486:THR:N	2.30	0.61
5:E:229:TYR:CE2	5:E:272:ARG:NH1	2.69	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:609:GLN:O	22:V:612:PHE:N	2.32	0.61
23:W:109:ASN:HB2	23:W:114:TYR:HD1	1.63	0.61
23:W:204:ASP:OD1	23:W:205:VAL:N	2.33	0.61
23:W:280:GLN:HA	23:W:577:LEU:O	2.00	0.61
26:Z:79:ARG:O	26:Z:81:THR:N	2.33	0.61
26:Z:91:LYS:HG3	26:Z:92:GLN:N	2.15	0.61
26:Z:179:MET:O	26:Z:182:VAL:HB	1.99	0.61
36:q:22:ASN:CB	36:r:55:ILE:CB	2.78	0.61
1:A:1793:THR:HG21	6:F:43:A:H5''	1.80	0.61
3:C:572:GLU:O	3:C:573:GLU:HB2	2.00	0.61
5:E:178:LEU:CD1	5:E:222:LEU:HD22	2.31	0.61
8:H:106:G:H5'	30:k:47:ARG:HH22	1.65	0.61
8:H:153:A:N6	8:H:177:A:H2	1.98	0.61
12:L:37:LEU:HD21	12:L:155:ALA:CA	2.30	0.61
12:L:101:GLU:O	12:L:105:ASP:HB2	2.00	0.61
15:O:50:ARG:NH1	15:O:122:GLU:OE1	2.33	0.61
15:O:106:ASP:CG	15:O:107:MET:H	2.08	0.61
15:O:232:THR:HG22	15:O:277:ARG:HA	1.82	0.61
18:R:52:PRO:O	18:R:53:ARG:HB2	1.99	0.61
23:W:389:ASN:HB3	23:W:405:ILE:CG2	2.31	0.61
23:W:487:ILE:HD12	23:W:537:TRP:CH2	2.35	0.61
23:W:529:ASN:HD22	23:W:531:LYS:CE	2.08	0.61
1:A:60:ASP:OD1	1:A:60:ASP:N	2.34	0.61
1:A:253:ASN:CG	1:A:334:THR:OG1	2.38	0.61
3:C:350:ASN:HB3	3:C:353:THR:CG2	2.30	0.61
5:E:232:ARG:O	5:E:262:TRP:HH2	1.83	0.61
8:H:33:G:H2'	8:H:34:U:C6	2.35	0.61
13:M:190:ILE:HG12	13:M:193:ARG:NH2	2.15	0.61
19:S:10:GLN:HA	19:S:29:TRP:CH2	2.35	0.61
20:T:347:THR:O	20:T:354:ILE:HG23	2.00	0.61
23:W:180:LYS:HB3	23:W:199:TYR:HA	1.83	0.61
23:W:203:LYS:CE	23:W:204:ASP:H	2.13	0.61
23:W:210:GLU:CA	23:W:213:GLN:HB2	2.28	0.61
23:W:261:VAL:HG11	23:W:319:TYR:OH	2.01	0.61
23:W:414:TYR:HD2	23:W:445:TRP:CZ3	2.18	0.61
37:u:278:THR:HG21	37:u:347:SER:CB	2.29	0.61
2:B:12:U:O2'	2:B:13:C:O5'	2.18	0.61
3:C:508:LYS:CE	3:C:566:THR:CG2	2.79	0.61
6:F:41:A:H2	7:G:6:A:C2	2.16	0.61
12:L:20:LYS:HE3	12:L:54:LEU:HD11	1.83	0.61
12:L:243:ARG:O	12:L:244:GLN:C	2.42	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:459:LEU:HD12	20:T:460:ASP:N	2.14	0.61
37:u:229:THR:HG23	37:u:233:MET:SD	2.41	0.61
1:A:678:GLU:OE2	1:A:774:LYS:NZ	2.33	0.61
1:A:986:GLU:O	1:A:1029:GLY:HA2	2.01	0.61
3:C:470:PRO:CA	3:C:499:GLY:HA2	2.30	0.61
5:E:119:THR:HG23	5:E:161:ARG:HB3	1.78	0.61
7:G:13:C:H2'	7:G:14:A:H8	1.64	0.61
18:R:171:LEU:HD11	18:R:201:GLU:CD	2.26	0.61
23:W:290:GLY:CA	23:W:571:TRP:O	2.49	0.61
26:Z:142:ALA:C	26:Z:144:PHE:N	2.48	0.61
1:A:1502:PHE:HE1	1:A:1754:TYR:HB2	1.66	0.61
5:E:250:LEU:CD2	5:E:262:TRP:HB2	2.30	0.61
10:J:355:ARG:NH2	13:M:139:THR:HG23	2.15	0.61
1:A:549:GLU:OE1	1:A:552:ARG:NH1	2.33	0.61
10:J:406:PHE:CD2	10:J:411:MET:HE2	2.35	0.61
19:S:39:PHE:HB2	19:S:129:PHE:HZ	1.04	0.61
22:V:225:LYS:HG2	22:V:405:ILE:HG12	1.82	0.61
22:V:472:CYS:CB	22:V:510:LEU:HD11	2.31	0.61
23:W:374:LYS:HD3	23:W:397:ASP:OD2	2.00	0.61
1:A:75:ASP:OD1	1:A:75:ASP:N	2.33	0.61
2:B:95:G:C5'	30:d:47:ARG:HH22	2.12	0.61
13:M:153:ARG:HG3	13:M:160:PHE:CD2	2.34	0.61
13:M:194:ASP:C	13:M:196:TYR:N	2.42	0.61
18:R:282:GLU:O	18:R:284:PHE:N	2.33	0.61
20:T:257:ARG:HD3	20:T:301:ASP:OD1	2.01	0.61
20:T:454:VAL:CG2	20:T:463:SER:OG	2.49	0.61
22:V:515:CYS:SG	22:V:522:MET:CA	2.89	0.61
23:W:253:SER:HB3	23:W:256:HIS:HB2	1.81	0.61
23:W:500:LYS:HZ1	23:W:537:TRP:CD1	2.15	0.61
1:A:338:VAL:O	3:C:266:GLU:HG2	2.01	0.60
1:A:1599:GLN:CD	26:Z:271:ILE:HD11	2.26	0.60
8:H:142:C:C2'	8:H:143:A:H5'	2.30	0.60
12:L:144:MET:CE	12:L:152:LEU:HD12	2.30	0.60
13:M:163:THR:H	13:M:166:SER:CB	2.14	0.60
13:M:193:ARG:O	13:M:196:TYR:HB2	2.01	0.60
18:R:312:MET:HE3	18:R:312:MET:CA	2.25	0.60
23:W:430:ASN:O	23:W:447:TRP:HB2	2.01	0.60
23:W:481:MET:CE	23:W:481:MET:HA	2.31	0.60
1:A:1504:GLU:CB	1:A:1754:TYR:CE2	2.84	0.60
3:C:77:VAL:HG12	20:T:197:TYR:C	2.26	0.60
3:C:250:ARG:NE	3:C:451:HIS:CD2	2.68	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:456:GLY:O	3:C:457:VAL:HG13	2.01	0.60
6:F:35:A:H5''	6:F:35:A:H8	1.64	0.60
7:G:130:A:O2'	7:G:131:U:P	2.59	0.60
23:W:146:HIS:HB3	23:W:148:VAL:O	2.01	0.60
38:v:8:TYR:HB3	38:v:93:VAL:HB	1.83	0.60
38:v:119:GLU:OE1	38:v:119:GLU:CA	2.49	0.60
3:C:700:ILE:HA	3:C:705:VAL:CG2	2.30	0.60
12:L:72:LEU:HD21	12:L:103:LEU:HD12	1.83	0.60
19:S:131:ARG:HH11	19:S:133:CYS:CA	2.12	0.60
22:V:536:ILE:HG23	22:V:579:SER:CA	2.30	0.60
23:W:128:GLN:CD	23:W:139:LEU:CD1	2.74	0.60
1:A:2073:TRP:CZ3	1:A:2310:ARG:HG2	2.36	0.60
3:C:445:ALA:CA	3:C:449:ILE:HG13	2.30	0.60
4:D:905:ILE:HG22	4:D:981:VAL:HG22	1.83	0.60
4:D:2124:VAL:O	4:D:2125:ASP:HB2	2.01	0.60
10:J:181:ASN:HD22	10:J:181:ASN:N	1.99	0.60
22:V:532:GLN:CG	22:V:536:ILE:HG12	2.31	0.60
23:W:140:ASP:CB	23:W:153:ILE:HG23	2.23	0.60
23:W:257:ILE:CG2	23:W:259:GLN:HE21	2.15	0.60
37:u:278:THR:O	37:u:329:ARG:HD2	2.01	0.60
1:A:666:LYS:HB3	1:A:668:VAL:CG2	2.27	0.60
14:N:54:HIS:CD2	23:W:196:TRP:HZ3	2.20	0.60
22:V:152:LEU:HA	22:V:387:MET:CE	2.30	0.60
23:W:248:ASP:OD1	23:W:248:ASP:N	2.34	0.60
1:A:434:HIS:CE1	1:A:435:CYS:SG	2.94	0.60
3:C:736:GLY:HA2	3:C:770:PHE:CE2	2.36	0.60
4:D:1135:LEU:HD22	4:D:1140:VAL:HG23	1.84	0.60
5:E:108:HIS:ND1	5:E:128:SER:CB	2.64	0.60
12:L:146:GLU:HG2	12:L:147:ASP:OD1	2.02	0.60
20:T:318:ARG:HH11	20:T:319:THR:CG2	2.14	0.60
1:A:630:TRP:O	1:A:631:ALA:C	2.43	0.60
1:A:1334:LEU:HB2	22:V:471:GLU:HG3	1.84	0.60
3:C:115:GLU:O	3:C:116:MET:C	2.41	0.60
3:C:678:THR:HG23	3:C:683:ASN:H	1.67	0.60
12:L:208:VAL:CG2	15:O:110:SER:HB2	2.30	0.60
23:W:327:THR:C	23:W:328:PHE:HD1	2.10	0.60
23:W:417:HIS:NE2	23:W:443:ARG:HG3	2.17	0.60
23:W:517:SER:HG	23:W:522:TYR:N	1.99	0.60
37:u:148:GLU:OE1	37:u:148:GLU:HA	2.01	0.60
13:M:152:LEU:HD23	13:M:160:PHE:HZ	1.65	0.60
1:A:283:VAL:HG13	1:A:284:ARG:N	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:758:ARG:HD2	1:A:779:LEU:HD11	1.83	0.60
1:A:2106:LEU:HD12	1:A:2107:PRO:HD2	1.83	0.60
7:G:6:A:H2'	7:G:7:G:C8	2.37	0.60
13:M:223:GLU:O	13:M:227:GLY:HA3	2.02	0.60
13:M:239:ARG:HG2	13:M:239:ARG:NH1	2.16	0.60
14:N:38:GLU:C	14:N:40:LYS:H	2.10	0.60
20:T:213:GLU:HB2	20:T:218:TRP:O	2.02	0.60
20:T:327:SER:O	20:T:357:TRP:CH2	2.55	0.60
23:W:252:ARG:HH12	23:W:257:ILE:HG12	1.66	0.60
23:W:291:VAL:O	23:W:554:ILE:HD11	2.02	0.60
23:W:465:PRO:CG	23:W:481:MET:SD	2.89	0.60
25:Y:413:LYS:HE3	25:Y:425:ILE:HG13	1.84	0.60
1:A:364:SER:O	1:A:365:VAL:C	2.44	0.60
1:A:406:TRP:CH2	3:C:265:LEU:O	2.55	0.60
15:O:132:ARG:HG3	15:O:137:LEU:HD23	1.84	0.60
23:W:290:GLY:HA3	23:W:571:TRP:HA	1.84	0.60
5:E:146:ARG:NH1	5:E:148:LYS:NZ	2.50	0.59
10:J:196:ARG:HA	13:M:208:ILE:HD11	1.84	0.59
18:R:181:PRO:O	23:W:112:SER:O	2.20	0.59
22:V:530:LYS:O	22:V:532:GLN:N	2.35	0.59
3:C:449:ILE:CG2	3:C:457:VAL:HG12	2.25	0.59
6:F:85:U:O2'	6:F:86:U:H5''	2.02	0.59
7:G:18:A:C5'	15:O:69:GLU:OE1	2.44	0.59
12:L:243:ARG:O	12:L:245:GLN:N	2.35	0.59
23:W:274:CYS:HB2	23:W:521:SER:OG	2.02	0.59
1:A:181:ASN:N	1:A:181:ASN:OD1	2.35	0.59
5:E:310:TYR:CZ	5:E:322:LYS:HD2	2.36	0.59
7:G:21:A:O2'	7:G:22:C:P	2.59	0.59
10:J:203:LEU:HD13	10:J:204:GLU:CA	2.33	0.59
10:J:359:VAL:O	10:J:363:ARG:HG2	2.02	0.59
12:L:37:LEU:CD2	12:L:155:ALA:HB2	2.33	0.59
13:M:118:LYS:HA	13:M:118:LYS:NZ	2.15	0.59
19:S:34:LYS:CE	19:S:78:TYR:CD2	2.85	0.59
23:W:144:ASP:N	23:W:144:ASP:OD1	2.36	0.59
26:Z:320:ASP:N	26:Z:320:ASP:OD1	2.35	0.59
1:A:358:PRO:HG3	22:V:340:PHE:HB2	1.82	0.59
1:A:1793:THR:CG2	6:F:43:A:H5'	2.21	0.59
1:A:1865:ARG:NH2	24:X:72:ALA:O	2.35	0.59
5:E:114:GLU:HG2	5:E:116:HIS:HD2	1.68	0.59
7:G:21:A:H61	15:O:92:LEU:HD23	1.66	0.59
8:H:40:C:HO2'	8:H:41:U:C1'	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1094:ARG:HH11	1:A:1094:ARG:CB	2.15	0.59
1:A:1770:GLU:OE1	26:Z:316:ARG:HB3	2.03	0.59
4:D:844:LEU:HD11	4:D:849:ILE:HG23	1.83	0.59
7:G:-12:G:O2'	7:G:-11:G:P	2.60	0.59
10:J:239:ARG:NH1	10:J:239:ARG:HG2	2.16	0.59
13:M:163:THR:N	13:M:166:SER:CB	2.66	0.59
13:M:168:LEU:HD23	13:M:168:LEU:H	1.67	0.59
23:W:198:LYS:O	23:W:199:TYR:C	2.45	0.59
3:C:490:PHE:HZ	3:C:612:LYS:HD2	1.67	0.59
4:D:451:LYS:H	4:D:451:LYS:HE2	1.66	0.59
6:F:36:A:HO2'	6:F:37:C:P	2.25	0.59
10:J:201:ARG:O	10:J:203:LEU:N	2.35	0.59
18:R:195:ARG:HH11	18:R:195:ARG:CB	2.14	0.59
20:T:342:GLU:HB3	20:T:343:PRO:HD3	1.84	0.59
20:T:356:LEU:HD12	20:T:356:LEU:N	2.18	0.59
23:W:531:LYS:CB	23:W:546:PHE:O	2.50	0.59
1:A:1790:ILE:CG2	1:A:1798:LEU:HB3	2.33	0.59
3:C:445:ALA:CB	3:C:449:ILE:CG1	2.62	0.59
4:D:704:MET:HG3	4:D:870:ILE:HG21	1.83	0.59
10:J:191:ALA:C	10:J:193:GLN:N	2.48	0.59
14:N:128:VAL:HG11	14:N:130:ARG:HB3	1.83	0.59
14:N:128:VAL:CG1	14:N:130:ARG:HB3	2.32	0.59
17:Q:362:ARG:NH2	17:Q:405:GLU:OE1	2.35	0.59
19:S:77:ILE:HG13	19:S:78:TYR:CD1	2.37	0.59
22:V:536:ILE:CG2	22:V:579:SER:CA	2.79	0.59
1:A:1591:MET:HG3	26:Z:266:ARG:HD2	1.84	0.59
1:A:1678:ARG:HH11	1:A:1678:ARG:CG	2.10	0.59
13:M:166:SER:O	13:M:167:LEU:HD13	2.02	0.59
15:O:243:ILE:HG22	15:O:244:THR:O	2.03	0.59
20:T:318:ARG:HH11	20:T:318:ARG:CG	2.15	0.59
22:V:225:LYS:HE3	22:V:405:ILE:CG1	2.33	0.59
22:V:537:HIS:HA	22:V:578:SER:CB	2.26	0.59
1:A:762:ARG:HH22	16:P:226:LYS:HE2	1.68	0.59
1:A:1801:LYS:HE3	6:F:42:C:OP1	2.02	0.59
6:F:34:G:C5'	6:F:34:G:C8	2.85	0.59
7:G:22:C:O2	7:G:22:C:H2'	2.02	0.59
7:G:137:C:H6	7:G:137:C:O5'	1.85	0.59
8:H:106:G:N2	8:H:107:A:C6	2.67	0.59
1:A:107:PRO:O	1:A:111:GLU:CD	2.45	0.59
5:E:74:PHE:HE1	5:E:95:VAL:HG22	1.68	0.59
5:E:87:ASP:O	5:E:88:ARG:CB	2.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:27:A:O2'	6:F:28:A:N7	2.35	0.59
7:G:134:U:C5	7:G:135:G:N2	2.71	0.59
18:R:81:LYS:HA	18:R:81:LYS:HZ2	1.68	0.59
20:T:339:GLN:NE2	20:T:342:GLU:O	2.36	0.59
20:T:384:HIS:O	20:T:385:TYR:CB	2.48	0.59
23:W:552:VAL:HG13	23:W:571:TRP:CD1	2.36	0.59
3:C:152:GLN:CD	3:C:426:GLU:O	2.45	0.58
3:C:259:LYS:HG3	42:C:1500:GTP:C6	2.37	0.58
4:D:545:ARG:O	4:D:549:GLN:HG2	2.03	0.58
7:G:134:U:C5'	7:G:135:G:OP2	2.51	0.58
17:Q:867:MET:HE1	17:Q:889:GLU:HB3	1.86	0.58
18:R:60:ASP:N	18:R:60:ASP:OD1	2.36	0.58
23:W:128:GLN:CD	23:W:139:LEU:HD11	2.28	0.58
23:W:155:SER:C	23:W:156:VAL:CG2	2.72	0.58
23:W:276:LEU:HD12	23:W:276:LEU:N	2.09	0.58
23:W:536:ASP:OD1	23:W:543:TYR:CD2	2.55	0.58
1:A:182:ILE:HD11	1:A:562:VAL:HG13	1.84	0.58
3:C:89:LEU:O	3:C:91:GLU:N	2.36	0.58
3:C:444:GLY:O	3:C:447:PRO:HD2	2.02	0.58
4:D:728:ARG:HH21	4:D:787:ALA:H	1.51	0.58
4:D:1120:LYS:HG2	4:D:1131:GLN:HG2	1.86	0.58
4:D:1360:ALA:HB2	4:D:1490:LEU:HD11	1.85	0.58
6:F:39:A:H2'	6:F:40:U:C5'	2.29	0.58
12:L:253:SER:O	12:L:256:GLU:HB3	2.02	0.58
13:M:152:LEU:CD2	13:M:160:PHE:HZ	2.15	0.58
13:M:235:GLN:O	13:M:239:ARG:HB2	2.03	0.58
20:T:342:GLU:HB3	20:T:343:PRO:CD	2.34	0.58
23:W:374:LYS:HG2	23:W:397:ASP:CB	2.31	0.58
37:u:383:ASN:CG	37:u:384:ASP:N	2.58	0.58
1:A:465:LYS:HG3	1:A:465:LYS:O	2.01	0.58
1:A:535:ARG:HG3	1:A:535:ARG:HH11	1.68	0.58
3:C:185:PRO:HG3	3:C:482:TYR:CZ	2.38	0.58
3:C:703:GLU:OE2	3:C:740:THR:CG2	2.45	0.58
7:G:1:G:N3	7:G:1:G:H2'	2.18	0.58
12:L:21:ALA:HA	12:L:24:MET:HE2	1.86	0.58
15:O:283:ALA:O	15:O:287:SER:CB	2.51	0.58
16:P:33:ARG:CG	16:P:33:ARG:HH11	2.16	0.58
23:W:156:VAL:HG12	23:W:160:GLU:OE2	2.03	0.58
23:W:262:GLY:O	23:W:263:VAL:HG13	2.02	0.58
23:W:348:LEU:CD1	23:W:391:PHE:CD2	2.85	0.58
31:f:70:LEU:CD2	31:f:71:TYR:HD2	2.16	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:v:99:ILE:HD12	38:v:101:PHE:CZ	2.38	0.58
1:A:73:HIS:CD2	1:A:81:PHE:CE2	2.86	0.58
10:J:218:GLU:HG3	10:J:219:GLU:OE2	2.03	0.58
13:M:233:ILE:HG21	18:R:265:ASP:HA	1.86	0.58
13:M:235:GLN:HA	13:M:238:GLU:CG	2.32	0.58
23:W:485:ILE:HB	23:W:502:PHE:HB2	1.84	0.58
23:W:548:ALA:CB	23:W:578:TRP:CZ2	2.72	0.58
1:A:44:ARG:HD2	1:A:45:TYR:CZ	2.37	0.58
1:A:1768:TYR:CZ	26:Z:324:MET:HE1	2.39	0.58
3:C:327:TYR:O	3:C:331:PHE:HB2	2.03	0.58
3:C:509:VAL:O	3:C:510:LEU:HD23	2.03	0.58
3:C:510:LEU:HB3	3:C:576:ILE:HD11	1.85	0.58
6:F:77:C:H2'	6:F:78:A:H5'	1.86	0.58
6:F:85:U:C4	13:M:127:TYR:CE2	2.92	0.58
7:G:1:G:H1'	7:G:2:U:C5'	2.34	0.58
10:J:195:LEU:HD21	12:L:24:MET:HE1	1.84	0.58
12:L:158:ARG:HB3	12:L:158:ARG:HH11	1.68	0.58
18:R:148:ARG:HG3	18:R:148:ARG:NH1	2.13	0.58
23:W:95:PRO:O	23:W:96:GLU:HB3	2.02	0.58
31:m:70:LEU:CD2	31:m:71:TYR:HD2	2.16	0.58
39:w:77:VAL:HB	39:w:117:THR:CG2	2.33	0.58
1:A:204:LEU:HD23	1:A:205:ASP:OD1	2.03	0.58
1:A:569:VAL:O	1:A:570:ASP:CB	2.51	0.58
1:A:1774:ASN:H	26:Z:318:THR:CG2	2.16	0.58
4:D:887:LEU:HD23	4:D:888:PRO:HD2	1.86	0.58
18:R:135:PRO:O	18:R:136:ASP:CB	2.52	0.58
19:S:119:THR:CB	19:S:122:LEU:HD12	2.33	0.58
3:C:677:GLU:HA	3:C:683:ASN:O	2.02	0.58
4:D:1570:ARG:NH2	4:D:1608:THR:HG21	2.18	0.58
6:F:35:A:C5'	6:F:35:A:C8	2.85	0.58
6:F:80:G:OP1	12:L:174:LYS:NZ	2.36	0.58
7:G:23:U:C6	7:G:23:U:H5''	2.37	0.58
15:O:149:LYS:HD2	15:O:290:LYS:NZ	2.18	0.58
18:R:124:VAL:HG22	18:R:125:MET:H	1.68	0.58
23:W:265:LEU:HB3	23:W:300:SER:OG	2.03	0.58
23:W:445:TRP:CD1	23:W:445:TRP:N	2.71	0.58
26:Z:144:PHE:O	26:Z:146:GLY:N	2.33	0.58
1:A:156:ARG:HH11	26:Z:153:GLU:CD	2.10	0.58
1:A:339:PHE:C	1:A:340:ILE:HD13	2.29	0.58
1:A:348:PRO:O	1:A:350:PHE:N	2.37	0.58
1:A:712:HIS:CE1	18:R:250:CYS:CB	2.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1210:LYS:O	1:A:1212:GLY:N	2.37	0.58
8:H:154:C:OP1	35:p:19:LYS:HD3	2.03	0.58
12:L:144:MET:HE1	12:L:152:LEU:CD1	2.34	0.58
12:L:260:ARG:NE	13:M:202:TYR:HD2	2.01	0.58
13:M:210:TYR:CE2	13:M:216:ALA:HB1	2.38	0.58
22:V:483:GLU:O	22:V:486:THR:OG1	2.21	0.58
23:W:225:LYS:O	23:W:228:LYS:HG2	2.04	0.58
26:Z:121:GLU:H	26:Z:121:GLU:CD	2.11	0.58
1:A:980:ARG:O	1:A:1168:VAL:HG13	2.03	0.58
1:A:1455:TRP:H	1:A:1455:TRP:CD1	2.21	0.58
1:A:1578:ARG:O	1:A:1579:ALA:HB3	2.03	0.58
4:D:1777:SER:OG	4:D:1778:HIS:N	2.34	0.58
6:F:39:A:C3'	6:F:40:U:H5'	2.34	0.58
6:F:57:U:H1'	16:P:8:THR:HG21	1.85	0.58
8:H:36:G:O2'	8:H:37:U:H5'	2.04	0.58
16:P:3:THR:CB	16:P:6:ARG:NH2	2.56	0.58
23:W:262:GLY:C	23:W:263:VAL:HG13	2.29	0.58
23:W:318:VAL:HG12	23:W:318:VAL:O	2.03	0.58
1:A:283:VAL:HG22	1:A:284:ARG:HG2	1.86	0.58
3:C:115:GLU:HB3	3:C:118:PHE:HB3	1.85	0.58
3:C:173:THR:O	3:C:177:ARG:HG3	2.04	0.58
3:C:440:SER:HB3	3:C:441:PRO:HD2	1.86	0.58
5:E:263:ASP:OD1	5:E:272:ARG:HB3	2.04	0.58
6:F:85:U:O2'	6:F:86:U:OP1	2.20	0.58
7:G:12:G:H2'	7:G:13:C:C5	2.38	0.58
7:G:22:C:HO2'	7:G:23:U:P	2.27	0.58
21:U:23:LEU:N	22:V:474:HIS:HD2	1.87	0.58
22:V:225:LYS:HE3	22:V:405:ILE:HG12	1.86	0.58
22:V:497:CYS:SG	22:V:504:GLU:CG	2.91	0.58
22:V:548:ALA:HB2	22:V:585:ILE:CB	2.33	0.58
22:V:641:ASP:O	22:V:644:ARG:N	2.36	0.58
23:W:167:VAL:CG2	23:W:168:PHE:CD1	2.85	0.58
23:W:284:TRP:HD1	23:W:316:TRP:CZ3	2.22	0.58
1:A:300:ASN:CA	3:C:939:ARG:NH2	2.67	0.57
1:A:371:LEU:HD12	1:A:372:PRO:HD2	1.86	0.57
3:C:354:ARG:HG3	3:C:354:ARG:NH1	2.19	0.57
5:E:178:LEU:CD2	5:E:208:ILE:CD1	2.81	0.57
23:W:348:LEU:HD11	23:W:391:PHE:CD2	2.39	0.57
1:A:378:PHE:O	1:A:379:GLU:HG2	2.04	0.57
1:A:2073:TRP:CD1	1:A:2074:ARG:N	2.71	0.57
4:D:423:MET:HE1	4:D:877:GLN:HG2	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:195:LEU:HD12	10:J:195:LEU:H	1.69	0.57
10:J:433:ARG:HH12	10:J:461:LYS:CB	2.17	0.57
18:R:106:GLN:CG	18:R:110:LYS:HE2	2.35	0.57
19:S:9:TRP:HZ2	19:S:44:ARG:HD3	1.67	0.57
1:A:1386:TRP:HB3	25:Y:410:VAL:HG21	1.86	0.57
1:A:2073:TRP:HD1	1:A:2074:ARG:HD2	1.68	0.57
1:A:2095:ASP:OD2	1:A:2258:ARG:NE	2.36	0.57
3:C:66:TYR:CD2	20:T:457:GLY:HA2	2.39	0.57
3:C:392:LEU:HD12	3:C:392:LEU:O	2.04	0.57
4:D:1122:MET:HE3	4:D:1126:MET:HB2	1.86	0.57
8:H:154:C:O2'	8:H:155:C:H5'	2.04	0.57
10:J:205:LEU:O	10:J:206:LEU:HG	2.04	0.57
10:J:239:ARG:HG2	10:J:239:ARG:HH11	1.69	0.57
20:T:287:HIS:CE1	20:T:313:ARG:HG3	2.40	0.57
26:Z:283:ALA:HB3	26:Z:292:MET:HE1	1.85	0.57
37:u:46:ARG:HD3	37:u:133:MET:HE3	1.85	0.57
39:w:109:ARG:HG3	39:w:110:THR:HG23	1.86	0.57
1:A:280:GLU:OE2	1:A:281:PRO:HD2	2.04	0.57
1:A:344:ASP:HB3	26:Z:144:PHE:CE2	2.40	0.57
1:A:1935:ARG:HH21	26:Z:348:THR:HG21	1.68	0.57
10:J:204:GLU:HG3	10:J:204:GLU:O	2.04	0.57
13:M:124:PHE:HE2	13:M:127:TYR:CE1	2.23	0.57
13:M:215:ASN:C	13:M:215:ASN:HD22	2.13	0.57
19:S:20:MET:HE2	19:S:141:ARG:CB	2.33	0.57
23:W:99:PHE:O	23:W:99:PHE:HD1	1.86	0.57
23:W:284:TRP:NE1	23:W:316:TRP:CE3	2.72	0.57
27:h:45:ASN:HB3	34:o:22:ARG:NH1	2.18	0.57
33:n:19:LEU:O	33:n:26:HIS:HD2	1.88	0.57
3:C:300:LEU:HD13	3:C:300:LEU:N	2.18	0.57
3:C:445:ALA:HA	3:C:448:LYS:HB3	1.85	0.57
6:F:81:C:C5	12:L:252:ARG:HD3	2.39	0.57
8:H:39:U:C3'	8:H:40:C:C5	2.87	0.57
12:L:259:ASP:OD2	13:M:199:ARG:NE	2.37	0.57
14:N:139:CYS:SG	14:N:140:ARG:N	2.77	0.57
22:V:548:ALA:HB1	22:V:585:ILE:C	2.29	0.57
34:o:133:LEU:HD12	34:o:158:ALA:HB2	1.84	0.57
1:A:176:LEU:HB3	1:A:181:ASN:HD21	1.70	0.57
1:A:347:LEU:HD13	1:A:351:TYR:OH	2.04	0.57
1:A:533:LYS:NZ	6:F:37:C:C2	2.70	0.57
1:A:2153:THR:HG22	1:A:2154:HIS:H	1.70	0.57
3:C:185:PRO:HD3	3:C:482:TYR:CE1	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:220:ARG:O	3:C:448:LYS:CE	2.52	0.57
3:C:573:GLU:N	3:C:573:GLU:OE1	2.36	0.57
4:D:1670:ASN:ND2	4:D:1673:ILE:HG12	2.20	0.57
5:E:153:PHE:HD1	5:E:153:PHE:H	1.51	0.57
22:V:625:ARG:O	22:V:629:ASN:HB3	2.05	0.57
3:C:487:GLY:HA3	3:C:489:GLN:OE1	2.04	0.57
3:C:567:GLU:OE1	3:C:572:GLU:HB3	2.04	0.57
8:H:152:G:N2	8:H:153:A:C5	2.73	0.57
10:J:290:ARG:CZ	13:M:179:ILE:HD11	2.35	0.57
15:O:134:VAL:HG12	15:O:135:GLY:H	1.70	0.57
16:P:188:TRP:CG	16:P:189:ASP:H	2.21	0.57
19:S:10:GLN:CB	19:S:29:TRP:CD2	2.87	0.57
19:S:35:THR:C	19:S:129:PHE:CE1	2.70	0.57
20:T:306:CYS:SG	20:T:336:VAL:CG1	2.92	0.57
23:W:182:LYS:HD3	23:W:182:LYS:C	2.28	0.57
23:W:268:THR:HG22	23:W:270:PRO:HD3	1.86	0.57
34:o:2:VAL:HG11	34:o:29:TYR:O	2.05	0.57
3:C:750:LEU:O	3:C:750:LEU:HD12	2.04	0.57
4:D:681:ARG:HH21	4:D:854:GLY:HA2	1.69	0.57
4:D:1661:VAL:HG23	4:D:1691:ALA:HB2	1.86	0.57
8:H:40:C:H5''	8:H:41:U:OP1	2.05	0.57
8:H:73:C:H2'	8:H:74:U:H6	1.70	0.57
14:N:131:ILE:HG21	15:O:177:GLU:HG2	1.87	0.57
19:S:61:MET:HE1	23:W:95:PRO:HG3	1.86	0.57
23:W:130:ARG:O	23:W:134:THR:OG1	2.21	0.57
23:W:140:ASP:HA	23:W:153:ILE:CG1	2.35	0.57
23:W:272:GLU:HA	23:W:272:GLU:OE2	2.04	0.57
33:g:19:LEU:O	33:g:26:HIS:HD2	1.88	0.57
34:o:101:VAL:HG23	34:o:102:GLU:HG3	1.86	0.57
1:A:436:PRO:O	1:A:437:ALA:HB3	2.05	0.57
1:A:799:PRO:HD3	18:R:284:PHE:CD2	2.40	0.57
1:A:1386:TRP:HB3	25:Y:410:VAL:CG2	2.35	0.57
1:A:1495:PHE:HD2	1:A:1501:LEU:HD11	1.63	0.57
3:C:481:MET:SD	3:C:492:ALA:CB	2.93	0.57
3:C:673:LYS:HD3	3:C:673:LYS:H	1.70	0.57
12:L:268:LYS:HA	12:L:268:LYS:CE	2.35	0.57
13:M:151:ARG:NE	13:M:151:ARG:HA	2.18	0.57
13:M:153:ARG:HB2	13:M:160:PHE:CZ	2.40	0.57
22:V:573:GLU:OE1	22:V:574:THR:N	2.38	0.57
23:W:496:LEU:O	23:W:498:LYS:NZ	2.37	0.57
26:Z:122:ASN:OD1	26:Z:138:ARG:CG	2.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1021:ASP:OD1	8:H:24:A:C2	2.58	0.57
3:C:360:ALA:H	3:C:361:PRO:HD3	1.68	0.57
3:C:678:THR:HG23	3:C:683:ASN:CA	2.34	0.57
4:D:690:VAL:HG21	4:D:707:ILE:HD13	1.87	0.57
5:E:67:GLY:H	5:E:87:ASP:CG	2.13	0.57
12:L:49:ARG:HD3	12:L:49:ARG:O	2.04	0.57
16:P:193:VAL:HG23	16:P:194:PHE:CE2	2.37	0.57
23:W:280:GLN:HE21	23:W:280:GLN:C	2.12	0.57
23:W:500:LYS:HZ3	23:W:537:TRP:CD1	2.21	0.57
24:X:86:ARG:HH11	24:X:90:TYR:HE2	1.53	0.57
1:A:1494:TYR:HB3	1:A:1744:ARG:HD3	1.85	0.56
1:A:1889:LEU:HD21	1:A:1891:LEU:HD21	1.87	0.56
3:C:244:LYS:HG3	3:C:292:TYR:CD2	2.39	0.56
3:C:401:ILE:HD11	3:C:423:PHE:HB2	1.86	0.56
4:D:1307:LEU:H	4:D:1333:THR:HG21	1.69	0.56
6:F:38:G:H2'	6:F:39:A:C8	2.40	0.56
7:G:20:A:O2'	7:G:21:A:P	2.59	0.56
8:H:90:A:H2'	8:H:91:U:H6	1.70	0.56
22:V:549:LYS:O	22:V:552:ALA:CB	2.52	0.56
23:W:109:ASN:HB2	23:W:114:TYR:CE1	2.39	0.56
23:W:516:PHE:N	23:W:516:PHE:CD1	2.73	0.56
37:u:268:LEU:HD11	37:u:282:ILE:HD13	1.87	0.56
3:C:354:ARG:HH11	3:C:354:ARG:CG	2.18	0.56
3:C:855:GLY:C	37:u:105:ARG:HH21	2.13	0.56
8:H:149:A:H2'	8:H:150:U:H6	1.71	0.56
15:O:131:THR:HG22	23:W:108:ARG:HD3	1.85	0.56
26:Z:284:TYR:CE2	26:Z:286:ASP:HB3	2.40	0.56
28:b:52:LYS:HE3	29:c:53:VAL:HG21	1.88	0.56
32:e:20:LEU:HD22	32:e:24:TYR:CZ	2.40	0.56
28:i:52:LYS:HE3	29:j:53:VAL:HG21	1.87	0.56
32:l:20:LEU:HD22	32:l:24:TYR:CZ	2.40	0.56
1:A:30:LEU:HD21	5:E:214:ASP:HA	1.86	0.56
1:A:254:TYR:CZ	1:A:434:HIS:HB3	2.40	0.56
1:A:340:ILE:HD13	1:A:340:ILE:N	2.20	0.56
1:A:569:VAL:O	1:A:570:ASP:HB2	2.05	0.56
1:A:1317:TYR:CE1	1:A:1329:SER:HB2	2.39	0.56
1:A:2310:ARG:NH1	1:A:2314:PHE:HE1	2.02	0.56
3:C:193:THR:HG22	3:C:428:THR:HG21	1.85	0.56
3:C:481:MET:SD	3:C:559:ILE:HD11	2.46	0.56
4:D:1040:LEU:HD11	4:D:1072:LEU:HD22	1.86	0.56
4:D:1861:ARG:HD2	4:D:1864:GLU:OE2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1989:GLU:HG2	4:D:1991:GLU:H	1.70	0.56
7:G:128:U:O2'	7:G:129:G:OP2	2.24	0.56
7:G:129:G:H5'	23:W:541:LYS:HZ3	1.71	0.56
8:H:24:A:H3'	8:H:25:G:H5''	1.86	0.56
8:H:88:A:H2'	8:H:89:U:H6	1.70	0.56
8:H:91:U:H2'	8:H:92:U:H6	1.71	0.56
12:L:37:LEU:HD21	12:L:155:ALA:HA	1.87	0.56
13:M:164:SER:O	18:R:98:TYR:OH	2.12	0.56
15:O:110:SER:OG	15:O:113:ASN:ND2	2.35	0.56
15:O:228:ASP:O	15:O:277:ARG:NH2	2.38	0.56
18:R:76:MET:N	18:R:76:MET:SD	2.78	0.56
18:R:103:ARG:NH2	18:R:110:LYS:O	2.38	0.56
22:V:556:TYR:CG	22:V:557:THR:N	2.73	0.56
23:W:178:ARG:HH12	23:W:202:GLU:HG2	1.70	0.56
23:W:255:LEU:O	23:W:302:HIS:CD2	2.58	0.56
26:Z:144:PHE:N	26:Z:144:PHE:CD1	2.73	0.56
1:A:790:ARG:HG3	3:C:60:HIS:HD2	1.71	0.56
1:A:982:GLU:OE2	1:A:1169:GLN:HG3	2.06	0.56
3:C:474:LEU:HD11	3:C:501:ILE:HG12	1.86	0.56
4:D:1985:ILE:O	4:D:1993:ARG:NH1	2.39	0.56
8:H:54:U:H2'	8:H:55:U:H6	1.71	0.56
8:H:71:C:C2	8:H:72:U:C5	2.94	0.56
8:H:141:C:C2	8:H:142:C:C5	2.94	0.56
8:H:183:G:H2'	8:H:184:C:H6	1.71	0.56
12:L:238:ASP:O	12:L:242:LEU:HB2	2.06	0.56
18:R:74:LEU:HD23	18:R:75:ASP:OD1	2.06	0.56
19:S:131:ARG:HD2	19:S:131:ARG:C	2.30	0.56
23:W:135:TYR:CZ	23:W:165:LEU:CD1	2.85	0.56
23:W:243:VAL:CG1	23:W:323:ARG:NH2	2.65	0.56
23:W:370:PHE:HE2	23:W:391:PHE:CZ	2.23	0.56
37:u:89:THR:HB	46:u:702:ATP:O1A	2.06	0.56
3:C:702:ASN:O	3:C:703:GLU:HB2	2.05	0.56
4:D:724:PHE:CG	4:D:852:MET:HE2	2.39	0.56
4:D:1586:ARG:HG2	4:D:1587:GLN:HG3	1.85	0.56
4:D:1777:SER:HB3	4:D:1780:HIS:ND1	2.21	0.56
6:F:22:A:C5'	14:N:116:ASN:O	2.53	0.56
7:G:136:U:OP2	7:G:136:U:H6	1.88	0.56
8:H:69:U:C2	8:H:70:C:C5	2.94	0.56
8:H:70:C:H2'	8:H:71:C:H6	1.71	0.56
8:H:71:C:H2'	8:H:72:U:H6	1.71	0.56
12:L:12:ARG:NH2	12:L:138:ARG:HH21	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:13:ASN:ND2	12:L:139:PRO:HA	2.21	0.56
12:L:240:ARG:H	12:L:240:ARG:CD	2.18	0.56
13:M:176:THR:O	13:M:179:ILE:N	2.39	0.56
23:W:101:THR:O	23:W:103:GLN:N	2.38	0.56
23:W:284:TRP:HE1	23:W:316:TRP:CG	2.23	0.56
37:u:315:GLU:O	37:u:319:ILE:HG12	2.05	0.56
1:A:2073:TRP:HD1	1:A:2074:ARG:N	2.04	0.56
2:B:47:A:O2'	2:B:48:A:H5''	2.06	0.56
4:D:2014:TYR:OH	4:D:2114:MET:O	2.23	0.56
8:H:150:U:H2'	8:H:151:C:H6	1.71	0.56
8:H:179:C:H2'	8:H:180:G:C8	2.38	0.56
13:M:160:PHE:HB3	13:M:161:PHE:HD1	1.71	0.56
15:O:106:ASP:OD1	15:O:107:MET:N	2.34	0.56
19:S:110:SER:O	19:S:111:GLN:C	2.49	0.56
20:T:297:HIS:HD2	20:T:338:CYS:SG	2.28	0.56
1:A:1416:ILE:HB	1:A:1417:PRO:HD3	1.87	0.56
3:C:493:PHE:HD2	3:C:551:LEU:HD21	1.71	0.56
4:D:828:ILE:HD12	4:D:869:LEU:HD12	1.87	0.56
8:H:57:A:H2'	8:H:58:U:H6	1.71	0.56
8:H:181:G:H2'	8:H:182:U:H6	1.71	0.56
10:J:218:GLU:HG3	10:J:219:GLU:N	2.20	0.56
14:N:27:GLN:NE2	14:N:31:GLU:OE2	2.38	0.56
19:S:88:PRO:O	19:S:91:LYS:CE	2.53	0.56
22:V:374:ASP:HB2	22:V:376:TYR:CZ	2.41	0.56
22:V:455:PHE:O	22:V:459:ILE:HG12	2.06	0.56
23:W:135:TYR:HB3	23:W:137:TYR:HE1	1.71	0.56
23:W:256:HIS:HB3	23:W:257:ILE:CD1	2.36	0.56
23:W:433:PHE:CE1	23:W:445:TRP:CG	2.94	0.56
23:W:465:PRO:CG	23:W:481:MET:HE3	2.34	0.56
31:f:70:LEU:HD23	31:f:70:LEU:C	2.31	0.56
30:k:50:LYS:HG2	30:k:74:TRP:CB	2.36	0.56
1:A:59:GLU:HB3	14:N:103:LEU:HD13	1.87	0.56
1:A:384:VAL:HG12	3:C:331:PHE:CB	2.35	0.56
1:A:1481:VAL:HG23	26:Z:85:GLN:NE2	2.21	0.56
3:C:426:GLU:O	3:C:427:PHE:HB2	2.05	0.56
9:I:508:ASP:O	9:I:547:LEU:CB	2.54	0.56
10:J:192:GLU:O	10:J:196:ARG:CB	2.52	0.56
10:J:406:PHE:CD1	10:J:411:MET:HE2	2.41	0.56
22:V:575:THR:O	22:V:580:ARG:NH1	2.39	0.56
23:W:420:ALA:CB	23:W:438:ASP:HB2	2.34	0.56
23:W:440:LYS:H	23:W:440:LYS:HD2	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:293:TRP:HD1	1:A:1136:ARG:NE	2.04	0.56
1:A:369:GLU:C	1:A:371:LEU:N	2.60	0.56
1:A:533:LYS:CE	6:F:37:C:N3	2.65	0.56
1:A:678:GLU:CD	1:A:774:LYS:HZ1	2.13	0.56
3:C:297:ASN:HD22	3:C:298:LEU:CD1	2.19	0.56
4:D:1223:ILE:HG22	4:D:1270:VAL:HG22	1.87	0.56
4:D:1877:HIS:HB2	4:D:1896:GLN:NE2	2.21	0.56
5:E:162:ARG:CZ	5:E:203:ASP:O	2.54	0.56
5:E:258:THR:HG22	5:E:260:ARG:CG	2.32	0.56
6:F:25:C:H4'	6:F:26:U:O5'	2.05	0.56
8:H:150:U:C2	8:H:151:C:C5	2.94	0.56
10:J:187:VAL:HG12	10:J:188:GLN:N	2.21	0.56
10:J:189:ILE:HG23	10:J:189:ILE:O	2.06	0.56
18:R:280:ILE:HD12	18:R:280:ILE:C	2.27	0.56
22:V:497:CYS:HA	22:V:500:GLN:OE1	2.06	0.56
23:W:178:ARG:CD	23:W:199:TYR:CD1	2.88	0.56
31:m:8:LYS:HB3	31:m:9:PRO:HD3	1.88	0.56
37:u:77:ASP:HB3	37:u:233:MET:HE2	1.86	0.56
1:A:58:LYS:NZ	1:A:477:LYS:O	2.39	0.56
4:D:727:SER:HB3	4:D:730:GLU:HB3	1.88	0.56
7:G:21:A:N6	15:O:92:LEU:HD23	2.21	0.56
8:H:69:U:H2'	8:H:70:C:H6	1.71	0.56
8:H:77:C:H2'	8:H:78:C:H6	1.70	0.56
8:H:77:C:C2	8:H:78:C:C5	2.93	0.56
18:R:103:ARG:HH11	18:R:103:ARG:CG	2.19	0.56
19:S:36:CYS:HA	19:S:129:PHE:CE1	2.41	0.56
23:W:185:ASP:O	23:W:186:ALA:HB3	2.06	0.56
23:W:271:PRO:HG3	23:W:563:THR:CG2	2.35	0.56
23:W:287:HIS:NE2	23:W:314:LYS:HD2	2.21	0.56
23:W:374:LYS:CD	23:W:397:ASP:HB2	2.27	0.56
23:W:528:GLY:O	23:W:552:VAL:HB	2.06	0.56
1:A:161:PHE:CD2	1:A:626:GLY:HA3	2.42	0.55
1:A:359:ILE:O	1:A:360:SER:HB3	2.05	0.55
1:A:1067:MET:HG3	25:Y:413:LYS:HD2	1.88	0.55
1:A:1767:ASN:O	1:A:1770:GLU:CG	2.53	0.55
3:C:291:MET:CG	3:C:292:TYR:CE1	2.88	0.55
3:C:354:ARG:HG3	3:C:354:ARG:HH11	1.71	0.55
3:C:499:GLY:O	3:C:500:THR:CG2	2.54	0.55
5:E:114:GLU:HG2	5:E:116:HIS:CD2	2.42	0.55
6:F:41:A:C2	7:G:6:A:H2	2.16	0.55
16:P:54:VAL:HG13	16:P:59:PHE:CZ	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:185:GLY:C	18:R:186:VAL:HG13	2.31	0.55
18:R:275:LEU:O	18:R:277:THR:HG23	2.07	0.55
22:V:525:PHE:O	22:V:528:ILE:N	2.39	0.55
23:W:554:ILE:CD1	23:W:571:TRP:CZ3	2.88	0.55
3:C:150:ILE:HD11	3:C:535:ALA:HB2	1.88	0.55
3:C:457:VAL:HG12	3:C:462:GLY:CA	2.37	0.55
5:E:251:LEU:CD2	5:E:291:CYS:SG	2.94	0.55
6:F:81:C:H4'	6:F:82:A:OP2	2.06	0.55
8:H:72:U:H2'	8:H:73:C:H6	1.71	0.55
8:H:73:C:C2	8:H:74:U:C5	2.94	0.55
8:H:147:G:C4	8:H:148:C:C5	2.94	0.55
8:H:183:G:C4	8:H:184:C:C5	2.94	0.55
10:J:214:ILE:CG2	10:J:219:GLU:HB3	2.06	0.55
12:L:168:LYS:O	12:L:172:ARG:HG3	2.06	0.55
13:M:179:ILE:HG13	13:M:180:ASP:N	2.20	0.55
15:O:149:LYS:HD2	15:O:290:LYS:HZ3	1.71	0.55
19:S:131:ARG:HD2	19:S:132:VAL:O	2.01	0.55
20:T:327:SER:O	20:T:357:TRP:HH2	1.89	0.55
22:V:316:PHE:CE2	22:V:343:ARG:HD3	2.40	0.55
22:V:484:SER:C	22:V:486:THR:H	2.15	0.55
1:A:254:TYR:CZ	1:A:434:HIS:CB	2.89	0.55
2:B:94:U:H2'	2:B:95:G:H5''	1.89	0.55
6:F:58:G:O2'	6:F:59:G:OP1	2.20	0.55
8:H:72:U:C2	8:H:73:C:C5	2.94	0.55
8:H:152:G:N2	8:H:153:A:C8	2.73	0.55
12:L:236:ASP:OD1	12:L:236:ASP:N	2.40	0.55
18:R:90:VAL:HG11	18:R:94:GLY:O	2.04	0.55
20:T:356:LEU:N	20:T:356:LEU:CD1	2.68	0.55
22:V:287:ASP:HB3	22:V:331:ARG:CZ	2.35	0.55
22:V:525:PHE:O	22:V:528:ILE:CG1	2.54	0.55
22:V:571:SER:HB2	22:V:573:GLU:HB3	1.87	0.55
23:W:474:LYS:C	23:W:490:ALA:CB	2.80	0.55
23:W:539:THR:OG1	23:W:543:TYR:CZ	2.59	0.55
26:Z:293:ARG:NE	26:Z:316:ARG:NH2	2.54	0.55
31:f:8:LYS:HB3	31:f:9:PRO:HD3	1.88	0.55
31:f:11:LEU:CD1	31:f:40:MET:HE2	2.35	0.55
31:m:70:LEU:HD23	31:m:70:LEU:C	2.31	0.55
36:q:58:ALA:HB1	36:r:6:SER:HA	1.87	0.55
1:A:1333:VAL:HG11	1:A:1367:ASN:ND2	2.21	0.55
1:A:1504:GLU:CG	1:A:1754:TYR:CE2	2.89	0.55
1:A:1813:ARG:NH2	1:A:1814:THR:HG22	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:602:GLU:HG2	4:D:606:THR:HG23	1.88	0.55
8:H:59:A:H2'	8:H:60:U:H6	1.71	0.55
8:H:70:C:C2	8:H:71:C:C5	2.93	0.55
8:H:141:C:H2'	8:H:142:C:H6	1.71	0.55
13:M:211:ILE:HD11	13:M:212:ASN:HB2	1.88	0.55
17:Q:204:ASP:HA	17:Q:207:MET:HE2	1.87	0.55
23:W:207:LYS:HG3	23:W:208:PRO:O	2.06	0.55
1:A:1021:ASP:OD1	8:H:24:A:N3	2.40	0.55
1:A:1678:ARG:HG2	1:A:1678:ARG:NH1	2.16	0.55
1:A:1953:ILE:CD1	1:A:1986:LEU:HD11	2.28	0.55
3:C:69:ALA:HA	20:T:456:PRO:HG3	1.88	0.55
4:D:1564:PRO:O	4:D:1648:ARG:NH2	2.40	0.55
5:E:260:ARG:CD	5:E:276:ILE:HG12	2.36	0.55
8:H:68:G:H2'	8:H:69:U:H6	1.70	0.55
13:M:123:GLY:O	18:R:239:VAL:HG22	2.07	0.55
13:M:160:PHE:CB	13:M:161:PHE:CD1	2.90	0.55
14:N:70:ILE:HG23	14:N:74:LEU:HB3	1.88	0.55
18:R:88:ILE:H	18:R:88:ILE:CD1	2.19	0.55
20:T:267:ASP:O	20:T:268:LYS:CB	2.55	0.55
22:V:218:LEU:HD23	22:V:218:LEU:C	2.31	0.55
23:W:162:ASN:CG	23:W:165:LEU:CD2	2.78	0.55
23:W:178:ARG:HG3	23:W:199:TYR:HE1	1.69	0.55
23:W:453:PHE:CD1	23:W:453:PHE:C	2.84	0.55
31:m:11:LEU:CD1	31:m:40:MET:HE2	2.35	0.55
37:u:30:THR:HG23	37:u:239:ILE:HA	1.89	0.55
3:C:678:THR:HG23	3:C:683:ASN:N	2.22	0.55
4:D:752:LEU:O	4:D:807:GLN:NE2	2.40	0.55
4:D:927:ILE:HB	4:D:931:ARG:HH21	1.71	0.55
8:H:17:U:O2'	13:M:221:LYS:NZ	2.35	0.55
8:H:83:A:H2'	8:H:84:C:H6	1.71	0.55
15:O:235:TYR:HD1	15:O:271:PHE:CE1	2.23	0.55
15:O:240:GLY:HA3	15:O:296:ARG:NH1	2.21	0.55
16:P:193:VAL:CG2	16:P:194:PHE:CE2	2.89	0.55
19:S:9:TRP:CE3	19:S:11:PRO:CG	2.89	0.55
23:W:278:LYS:HD2	23:W:279:LYS:N	2.20	0.55
26:Z:123:CYS:HB3	26:Z:150:ALA:HB3	1.89	0.55
5:E:87:ASP:O	5:E:88:ARG:CG	2.54	0.55
6:F:41:A:N1	7:G:6:A:C2	2.75	0.55
6:F:48:A:N6	12:L:30:GLN:HE22	2.04	0.55
8:H:83:A:C4	8:H:84:C:C5	2.95	0.55
8:H:88:A:C4	8:H:89:U:C5	2.95	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:149:A:C4	8:H:150:U:C5	2.95	0.55
10:J:360:ASP:HA	10:J:363:ARG:HD2	1.88	0.55
10:J:361:ARG:HD3	13:M:161:PHE:CE2	2.41	0.55
15:O:236:VAL:O	15:O:269:CYS:HA	2.06	0.55
23:W:463:SER:HB3	23:W:481:MET:CG	2.37	0.55
23:W:465:PRO:HG2	23:W:481:MET:HE3	1.84	0.55
28:b:56:SER:HB2	28:b:59:ALA:O	2.07	0.55
36:q:94:GLN:O	36:q:97:GLN:CG	2.55	0.55
1:A:1384:ARG:HD2	22:V:545:ARG:NH2	2.22	0.55
1:A:1935:ARG:NH2	26:Z:348:THR:CG2	2.68	0.55
3:C:349:PHE:CG	3:C:356:PHE:HE1	2.23	0.55
3:C:499:GLY:C	3:C:500:THR:HG23	2.32	0.55
3:C:855:GLY:O	3:C:856:HIS:CB	2.41	0.55
4:D:871:THR:OG1	4:D:872:SER:N	2.39	0.55
6:F:34:G:H8	6:F:34:G:H5''	1.70	0.55
10:J:192:GLU:CA	10:J:195:LEU:HD13	2.13	0.55
20:T:439:TRP:CE3	20:T:446:ASN:HB2	2.41	0.55
23:W:316:TRP:CE3	23:W:324:CYS:HB2	2.42	0.55
23:W:382:ASN:HB3	23:W:387:LYS:O	2.06	0.55
1:A:805:GLU:OE1	16:P:194:PHE:HE1	1.88	0.55
3:C:221:ILE:O	3:C:448:LYS:NZ	2.40	0.55
3:C:301:SER:O	3:C:303:LEU:N	2.40	0.55
3:C:452:THR:O	3:C:577:PHE:CA	2.55	0.55
3:C:856:HIS:CE1	37:u:102:ILE:HG22	2.42	0.55
4:D:991:TYR:O	4:D:1090:ARG:HD2	2.07	0.55
5:E:269:PRO:O	5:E:270:LYS:CB	2.51	0.55
8:H:68:G:C4	8:H:69:U:C5	2.95	0.55
10:J:191:ALA:O	10:J:193:GLN:CA	2.52	0.55
13:M:163:THR:CB	13:M:166:SER:HB2	2.37	0.55
14:N:27:GLN:HE21	14:N:31:GLU:HG2	1.71	0.55
16:P:6:ARG:O	16:P:8:THR:HG23	2.07	0.55
18:R:99:ASP:OD2	18:R:114:SER:HB3	2.07	0.55
18:R:134:ARG:O	18:R:135:PRO:C	2.49	0.55
18:R:309:GLU:OE1	18:R:309:GLU:HA	2.06	0.55
30:d:94:ARG:HE	30:d:96:ILE:HD11	1.72	0.55
36:t:102:GLU:O	36:t:105:HIS:CG	2.60	0.55
3:C:699:ASP:C	3:C:705:VAL:HG22	2.31	0.55
6:F:34:G:H8	6:F:34:G:O5'	1.89	0.55
12:L:178:GLU:O	12:L:181:ARG:CG	2.51	0.55
14:N:17:LEU:HD12	14:N:18:ILE:HG23	1.89	0.55
23:W:135:TYR:CB	23:W:137:TYR:CE1	2.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:268:THR:CG2	23:W:270:PRO:HD2	2.30	0.55
23:W:531:LYS:HA	23:W:546:PHE:O	2.07	0.55
30:k:94:ARG:HE	30:k:96:ILE:HD11	1.72	0.55
37:u:275:LEU:HD23	37:u:275:LEU:C	2.31	0.55
38:v:99:ILE:HD12	38:v:101:PHE:HE1	1.71	0.55
38:v:117:ASP:N	38:v:118:PRO:HD3	2.21	0.55
1:A:296:PHE:CE2	3:C:593:GLU:HB3	2.43	0.54
1:A:1790:ILE:HG22	1:A:1798:LEU:HB3	1.88	0.54
1:A:2117:ILE:O	1:A:2304:PHE:HB2	2.07	0.54
4:D:793:ASP:HA	4:D:796:LEU:HB2	1.89	0.54
4:D:1093:ARG:HD2	4:D:1115:CYS:SG	2.47	0.54
5:E:161:ARG:NH1	5:E:203:ASP:OD1	2.40	0.54
8:H:90:A:C4	8:H:91:U:C5	2.95	0.54
8:H:181:G:C4	8:H:182:U:C5	2.95	0.54
11:K:135:TRP:O	11:K:138:TYR:CG	2.60	0.54
14:N:54:HIS:HD2	23:W:196:TRP:HZ3	1.54	0.54
18:R:88:ILE:HD12	18:R:88:ILE:N	2.20	0.54
23:W:137:TYR:CE1	23:W:158:GLU:HB2	2.33	0.54
23:W:370:PHE:CE2	23:W:391:PHE:CZ	2.95	0.54
26:Z:144:PHE:C	26:Z:146:GLY:H	2.15	0.54
1:A:356:ILE:HG22	1:A:357:ASN:H	1.71	0.54
1:A:409:ARG:N	1:A:410:PRO:HD2	2.23	0.54
1:A:1321:GLU:CB	26:Z:66:TYR:OH	2.54	0.54
1:A:1504:GLU:HG3	1:A:1754:TYR:CE2	2.43	0.54
3:C:516:LEU:HD13	3:C:517:GLU:HG3	1.88	0.54
5:E:265:ARG:N	5:E:272:ARG:HH21	2.04	0.54
14:N:113:PHE:CD1	18:R:200:VAL:HG21	2.43	0.54
19:S:10:GLN:HB3	19:S:29:TRP:CE3	2.41	0.54
20:T:459:LEU:HB3	20:T:462:GLU:HG3	1.90	0.54
23:W:528:GLY:C	23:W:552:VAL:HG23	2.30	0.54
25:Y:402:ILE:O	25:Y:406:ILE:HD12	2.07	0.54
2:B:27:U:O2'	2:B:28:A:O5'	2.25	0.54
3:C:64:LYS:HE2	3:C:64:LYS:HA	1.89	0.54
3:C:809:ILE:HB	3:C:810:PRO:HD3	1.87	0.54
4:D:1982:VAL:HG12	4:D:1986:MET:HE3	1.88	0.54
8:H:91:U:C2	8:H:92:U:C5	2.94	0.54
16:P:41:ILE:HD11	20:T:318:ARG:HB2	1.88	0.54
18:R:60:ASP:O	19:S:133:CYS:O	2.25	0.54
18:R:86:LEU:O	18:R:86:LEU:HD12	2.08	0.54
22:V:523:GLU:CG	22:V:524:SER:N	2.70	0.54
23:W:381:PHE:HE1	23:W:391:PHE:CE1	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:255:PHE:O	1:A:332:TYR:OH	2.25	0.54
1:A:570:ASP:OD1	1:A:571:ALA:N	2.41	0.54
1:A:1370:ARG:NH1	22:V:506:PHE:CB	2.69	0.54
1:A:1949:ARG:NH2	24:X:62:GLU:OE1	2.40	0.54
3:C:359:LYS:HD3	3:C:359:LYS:H	1.72	0.54
7:G:22:C:O2'	7:G:23:U:P	2.65	0.54
10:J:212:GLN:HB3	23:W:508:ALA:CB	2.37	0.54
12:L:18:ILE:HG23	12:L:37:LEU:CD2	2.37	0.54
12:L:260:ARG:HE	13:M:202:TYR:HD2	1.54	0.54
12:L:721:LEU:HA	12:L:724:TYR:CG	2.41	0.54
13:M:223:GLU:OE1	18:R:266:LYS:CE	2.55	0.54
18:R:281:ASN:OD1	18:R:282:GLU:N	2.41	0.54
20:T:345:ILE:HB	20:T:357:TRP:HB2	1.88	0.54
22:V:250:LYS:CE	37:u:59:GLU:OE2	2.54	0.54
22:V:600:ASN:HA	22:V:639:LEU:HD21	1.90	0.54
23:W:260:ASP:CB	33:n:10:LYS:HZ3	2.19	0.54
23:W:381:PHE:CE1	23:W:391:PHE:CE1	2.94	0.54
28:i:56:SER:HB2	28:i:59:ALA:O	2.07	0.54
1:A:338:VAL:HG21	3:C:867:PRO:CG	2.37	0.54
1:A:630:TRP:CD1	1:A:630:TRP:H	2.24	0.54
4:D:2105:THR:HG23	4:D:2121:LYS:HG3	1.90	0.54
5:E:74:PHE:HE1	5:E:95:VAL:CG2	2.20	0.54
5:E:228:THR:HG22	5:E:229:TYR:HD1	1.71	0.54
8:H:29:A:O4'	8:H:30:A:OP1	2.25	0.54
13:M:212:ASN:O	13:M:215:ASN:HB3	2.08	0.54
17:Q:571:LYS:HD2	17:Q:586:GLN:O	2.07	0.54
17:Q:673:ILE:HG22	17:Q:677:MET:HE2	1.90	0.54
23:W:192:PHE:CD1	23:W:192:PHE:C	2.86	0.54
1:A:2323:GLY:HA3	4:D:1071:LYS:HB2	1.90	0.54
3:C:699:ASP:O	3:C:705:VAL:HG22	2.08	0.54
4:D:1005:LEU:HD11	4:D:1095:ILE:HG23	1.90	0.54
8:H:54:U:C2	8:H:55:U:C5	2.94	0.54
13:M:207:ASP:OD1	13:M:207:ASP:N	2.39	0.54
23:W:167:VAL:HG23	23:W:168:PHE:HD1	1.68	0.54
23:W:433:PHE:CE1	23:W:445:TRP:CD1	2.96	0.54
23:W:522:TYR:CE1	23:W:536:ASP:OD1	2.61	0.54
23:W:534:ILE:CD1	23:W:544:SER:HB3	2.38	0.54
34:o:14:GLN:HG2	34:o:22:ARG:NH2	2.21	0.54
36:q:22:ASN:CB	36:r:54:ASP:O	2.56	0.54
37:u:383:ASN:OD1	37:u:384:ASP:N	2.38	0.54
1:A:47:GLU:C	1:A:50:LYS:CG	2.67	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:606:THR:HA	4:D:609:VAL:HG22	1.90	0.54
4:D:1048:VAL:O	4:D:1050:GLU:N	2.40	0.54
7:G:21:A:O2'	7:G:22:C:C5'	2.55	0.54
11:K:195:ILE:CG1	11:K:195:ILE:CA	2.81	0.54
12:L:59:LYS:HE2	12:L:91:ARG:NH1	2.20	0.54
13:M:160:PHE:CB	13:M:161:PHE:HD1	2.20	0.54
15:O:89:GLU:OE2	23:W:102:GLN:OE1	2.25	0.54
15:O:97:ARG:HH12	15:O:136:MET:HE2	1.72	0.54
16:P:30:TYR:HE1	18:R:161:ALA:O	1.91	0.54
22:V:291:GLU:OE1	22:V:331:ARG:NH2	2.41	0.54
1:A:388:LEU:HB3	1:A:391:THR:OG1	2.08	0.54
1:A:1848:LEU:HD22	1:A:1914:MET:CE	2.38	0.54
1:A:2320:LEU:HD23	1:A:2322:GLU:H	1.71	0.54
4:D:425:ASN:ND2	4:D:888:PRO:HD3	2.23	0.54
7:G:127:U:P	23:W:547:LYS:NZ	2.81	0.54
9:I:640:ALA:HA	10:J:512:GLU:CB	2.38	0.54
16:P:61:ARG:HG2	16:P:61:ARG:HH11	1.73	0.54
20:T:393:ASP:O	20:T:413:ASN:ND2	2.41	0.54
22:V:625:ARG:O	22:V:629:ASN:CB	2.55	0.54
26:Z:70:VAL:HG11	26:Z:79:ARG:H	1.72	0.54
39:w:123:THR:OG1	39:w:126:GLU:HG3	2.07	0.54
1:A:2326:TYR:CE2	4:D:729:LYS:HD3	2.43	0.54
3:C:150:ILE:CD1	3:C:535:ALA:HB2	2.38	0.54
4:D:785:HIS:CE1	4:D:815:LEU:HD23	2.43	0.54
4:D:2069:GLY:HA2	4:D:2077:ILE:HB	1.89	0.54
6:F:49:G:O4'	12:L:158:ARG:HD2	2.08	0.54
8:H:59:A:C4	8:H:60:U:C5	2.95	0.54
8:H:105:G:C6	29:j:20:LYS:HD3	2.42	0.54
10:J:220:LEU:HD13	10:J:220:LEU:O	2.08	0.54
14:N:43:VAL:O	14:N:47:TRP:NE1	2.41	0.54
18:R:104:GLN:NE2	18:R:105:GLY:N	2.55	0.54
19:S:10:GLN:HA	19:S:29:TRP:CE2	2.43	0.54
20:T:347:THR:CG2	20:T:357:TRP:HE1	2.21	0.54
23:W:137:TYR:CG	23:W:159:ALA:HB2	2.42	0.54
23:W:474:LYS:C	23:W:490:ALA:HB3	2.33	0.54
23:W:481:MET:O	23:W:483:ASN:N	2.41	0.54
38:v:129:GLN:CB	39:w:108:ARG:HG3	2.36	0.54
1:A:412:ASN:OD1	1:A:413:LEU:HD23	2.08	0.54
3:C:301:SER:C	3:C:303:LEU:N	2.65	0.54
4:D:1028:THR:O	4:D:1058:LYS:NZ	2.31	0.54
5:E:161:ARG:HH11	5:E:161:ARG:CG	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:57:A:C4	8:H:58:U:C5	2.95	0.54
10:J:323:LEU:HD21	13:M:182:MET:HE2	1.89	0.54
15:O:97:ARG:NH1	15:O:136:MET:HE2	2.23	0.54
16:P:13:ARG:NH1	20:T:310:SER:HB2	2.23	0.54
22:V:466:SER:HB2	22:V:471:GLU:CD	2.33	0.54
23:W:328:PHE:HD1	23:W:328:PHE:N	2.06	0.54
23:W:474:LYS:CA	23:W:490:ALA:HB3	2.37	0.54
1:A:2325:VAL:HG13	4:D:788:GLY:HA3	1.89	0.53
3:C:559:ILE:C	3:C:559:ILE:HD12	2.32	0.53
4:D:791:ARG:HH21	4:D:794:ARG:HH12	1.55	0.53
7:G:5:G:H2'	7:G:6:A:C8	2.43	0.53
8:H:153:A:H3'	8:H:154:C:C5'	2.38	0.53
12:L:241:LYS:HA	12:L:241:LYS:CE	2.38	0.53
17:Q:913:LYS:HD2	17:Q:917:LYS:HE2	1.90	0.53
19:S:12:PRO:HD3	19:S:166:GLY:HA2	1.90	0.53
19:S:20:MET:HE1	19:S:141:ARG:HD3	1.89	0.53
20:T:281:ILE:HD12	20:T:282:ARG:HG2	1.89	0.53
20:T:384:HIS:O	20:T:385:TYR:HB3	2.08	0.53
20:T:416:ILE:O	20:T:416:ILE:HD13	2.08	0.53
21:U:24:SER:HB2	22:V:477:LEU:HD11	1.87	0.53
22:V:608:LEU:O	22:V:612:PHE:HB2	2.08	0.53
23:W:100:ARG:NH1	23:W:100:ARG:HG2	2.22	0.53
23:W:317:GLU:CG	23:W:319:TYR:HB2	2.38	0.53
23:W:328:PHE:N	23:W:328:PHE:CD1	2.76	0.53
30:d:88:LYS:HG3	30:d:89:PRO:HD2	1.89	0.53
3:C:488:VAL:HG12	3:C:609:LYS:HE2	1.88	0.53
4:D:764:THR:OG1	4:D:778:LEU:O	2.18	0.53
4:D:1448:ILE:HD11	4:D:1474:MET:HE2	1.90	0.53
4:D:1842:VAL:O	4:D:1846:ILE:HG12	2.08	0.53
6:F:26:U:O2'	6:F:27:A:P	2.67	0.53
6:F:83:A:OP2	10:J:247:LYS:CE	2.56	0.53
8:H:40:C:C5'	8:H:41:U:OP1	2.56	0.53
8:H:153:A:C3'	8:H:154:C:C5'	2.86	0.53
12:L:59:LYS:CE	12:L:91:ARG:NH1	2.64	0.53
12:L:251:LEU:HD13	12:L:254:GLU:HB3	1.85	0.53
23:W:454:LYS:HZ3	23:W:456:ILE:HD11	1.73	0.53
36:r:117:ILE:O	36:r:121:THR:HG23	2.09	0.53
3:C:334:ILE:HD12	3:C:334:ILE:O	2.08	0.53
3:C:457:VAL:CG1	3:C:462:GLY:HA3	2.38	0.53
3:C:906:ILE:HB	37:u:179:ARG:HH22	1.72	0.53
4:D:1985:ILE:HG22	4:D:1988:MET:HE3	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:80:G:H5''	6:F:81:C:P	2.47	0.53
7:G:145:U:O2'	7:G:146:C:H6	1.88	0.53
8:H:15:U:H2'	8:H:16:U:OP2	2.07	0.53
12:L:239:PHE:N	12:L:239:PHE:CD1	2.75	0.53
13:M:235:GLN:O	13:M:239:ARG:N	2.37	0.53
18:R:70:ALA:O	18:R:71:GLN:C	2.51	0.53
23:W:271:PRO:HG3	23:W:563:THR:HG22	1.90	0.53
23:W:314:LYS:HB2	23:W:316:TRP:CZ2	2.43	0.53
23:W:420:ALA:H	23:W:438:ASP:CB	2.17	0.53
30:d:50:LYS:HG2	30:d:74:TRP:CB	2.36	0.53
29:j:68:PHE:HB2	30:k:100:PHE:HB3	1.91	0.53
37:u:46:ARG:NH1	37:u:133:MET:HE3	2.24	0.53
1:A:259:ASP:C	1:A:259:ASP:OD1	2.51	0.53
1:A:296:PHE:HE2	3:C:593:GLU:HB3	1.73	0.53
1:A:299:ILE:HD11	3:C:921:LEU:HD13	1.90	0.53
1:A:356:ILE:HG22	1:A:357:ASN:N	2.24	0.53
12:L:52:GLU:OE2	12:L:134:THR:N	2.40	0.53
13:M:151:ARG:HG2	13:M:151:ARG:NH1	2.22	0.53
17:Q:310:GLY:O	17:Q:414:ARG:NH2	2.38	0.53
19:S:35:THR:O	19:S:129:PHE:CZ	2.60	0.53
23:W:135:TYR:O	23:W:158:GLU:HG2	2.08	0.53
23:W:212:GLU:C	23:W:214:LYS:N	2.61	0.53
37:u:313:GLN:HA	37:u:316:ARG:HG3	1.90	0.53
1:A:593:ARG:NH1	1:A:1565:LYS:HE3	2.24	0.53
1:A:697:MET:HE2	18:R:245:TRP:CZ3	2.43	0.53
1:A:697:MET:SD	1:A:705:LYS:HD2	2.49	0.53
1:A:1641:ARG:HH11	1:A:1641:ARG:CG	2.21	0.53
1:A:1949:ARG:HD3	1:A:1986:LEU:HD11	1.91	0.53
3:C:90:THR:O	3:C:92:PRO:HD3	2.09	0.53
3:C:385:VAL:HG23	3:C:386:GLY:N	2.22	0.53
4:D:1134:LYS:HE2	4:D:1177:TYR:CE1	2.43	0.53
6:F:58:G:O2'	6:F:59:G:P	2.66	0.53
7:G:21:A:C8	15:O:152:ARG:NH2	2.76	0.53
14:N:119:CYS:SG	14:N:134:CYS:HB2	2.48	0.53
18:R:303:GLU:O	18:R:307:GLN:CG	2.57	0.53
22:V:477:LEU:HD23	22:V:514:PHE:CE1	2.39	0.53
23:W:253:SER:HB3	23:W:255:LEU:HG	1.91	0.53
23:W:353:ASP:O	23:W:354:ARG:HB2	2.07	0.53
23:W:498:LYS:HB2	23:W:499:LYS:HE2	1.89	0.53
33:n:17:LEU:HD23	33:n:72:ALA:HA	1.91	0.53
38:v:55:HIS:CE1	38:v:56:LYS:HG2	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:44:ARG:HG2	1:A:45:TYR:CD2	2.43	0.53
1:A:1948:ASP:OD2	24:X:88:ARG:NH1	2.42	0.53
1:A:2073:TRP:CH2	1:A:2310:ARG:HG2	2.44	0.53
1:A:2129:TYR:HB3	1:A:2172:MET:HE3	1.89	0.53
3:C:514:TYR:CD1	3:C:515:THR:N	2.76	0.53
5:E:162:ARG:HH22	5:E:204:THR:HA	1.71	0.53
5:E:276:ILE:C	5:E:277:PHE:CD1	2.87	0.53
12:L:26:TYR:CE1	12:L:33:ARG:HG2	2.44	0.53
13:M:163:THR:H	13:M:166:SER:HB3	1.71	0.53
18:R:215:ASN:HD22	18:R:216:LYS:N	2.05	0.53
18:R:316:GLU:HG3	18:R:316:GLU:O	2.09	0.53
22:V:466:SER:HB2	22:V:471:GLU:OE1	2.09	0.53
23:W:178:ARG:HG3	23:W:199:TYR:CE1	2.43	0.53
23:W:240:ILE:C	23:W:240:ILE:HD12	2.33	0.53
23:W:292:SER:OG	23:W:307:CYS:CB	2.55	0.53
37:u:287:LYS:HG2	37:u:308:HIS:HB2	1.89	0.53
2:B:23:C:HO2'	2:B:24:G:P	2.32	0.53
3:C:114:TYR:HD1	3:C:115:GLU:HG3	1.74	0.53
3:C:709:TRP:CD1	3:C:709:TRP:H	2.26	0.53
4:D:1375:ARG:CZ	4:D:1420:GLY:HA2	2.39	0.53
8:H:39:U:C4	8:H:40:C:N4	2.77	0.53
10:J:195:LEU:CD2	12:L:24:MET:HE3	2.39	0.53
10:J:344:GLN:HG2	13:M:132:LEU:HD21	1.90	0.53
12:L:146:GLU:O	12:L:149:LEU:N	2.41	0.53
13:M:230:THR:HG22	13:M:230:THR:O	2.08	0.53
18:R:112:ILE:HD11	18:R:228:PRO:HD2	1.91	0.53
23:W:126:GLU:CD	23:W:130:ARG:NH1	2.57	0.53
23:W:275:TYR:O	23:W:558:TRP:CZ2	2.62	0.53
1:A:73:HIS:HD2	1:A:81:PHE:CD2	2.26	0.53
1:A:758:ARG:HH21	1:A:775:ASN:ND2	2.05	0.53
1:A:1211:ASP:C	1:A:1213:VAL:N	2.67	0.53
1:A:2095:ASP:OD1	1:A:2095:ASP:N	2.41	0.53
3:C:508:LYS:HB3	3:C:566:THR:CG2	2.38	0.53
3:C:749:THR:O	3:C:753:GLU:HB2	2.09	0.53
6:F:40:U:H2'	6:F:41:A:C8	2.44	0.53
8:H:164:C:H5'	8:H:164:C:C6	2.44	0.53
10:J:225:LEU:CD2	12:L:211:ASN:HB2	2.39	0.53
12:L:103:LEU:O	12:L:107:ALA:HB2	2.09	0.53
18:R:52:PRO:HB3	18:R:57:ASP:OD2	2.08	0.53
20:T:454:VAL:HG22	20:T:463:SER:OG	2.09	0.53
21:U:9:THR:HG23	21:U:9:THR:O	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:493:ILE:HD11	22:V:510:LEU:HD23	1.82	0.53
23:W:511:ALA:O	23:W:512:CYS:SG	2.67	0.53
39:w:104:LEU:HD22	39:w:113:LEU:HD13	1.90	0.53
1:A:2067:PHE:CE2	1:A:2069:SER:HA	2.43	0.53
3:C:65:TYR:C	3:C:66:TYR:CG	2.86	0.53
3:C:711:ARG:CZ	3:C:730:ARG:O	2.56	0.53
5:E:178:LEU:N	5:E:178:LEU:HD23	2.22	0.53
7:G:126:C:O3'	23:W:547:LYS:NZ	2.42	0.53
13:M:156:HIS:CD2	13:M:156:HIS:N	2.77	0.53
15:O:28:LEU:HD23	18:R:195:ARG:HE	1.74	0.53
16:P:57:ARG:HG3	16:P:57:ARG:NH1	2.23	0.53
20:T:387:PHE:CZ	20:T:398:TRP:CD1	2.96	0.53
23:W:244:LYS:HD2	23:W:244:LYS:O	2.08	0.53
1:A:55:ASP:OD1	1:A:55:ASP:N	2.40	0.53
1:A:1775:GLN:HG3	26:Z:315:VAL:HG11	1.90	0.53
3:C:259:LYS:CG	42:C:1500:GTP:C6	2.92	0.53
3:C:709:TRP:CD1	3:C:709:TRP:N	2.77	0.53
4:D:1601:LEU:HD23	4:D:1604:LEU:HD12	1.91	0.53
5:E:132:THR:HG21	5:E:146:ARG:HG2	1.91	0.53
5:E:153:PHE:N	5:E:153:PHE:CD1	2.77	0.53
6:F:50:A:HO2'	6:F:51:U:P	2.32	0.53
7:G:147:C:N1	7:G:148:U:C5	2.77	0.53
19:S:81:GLN:HB3	19:S:108:ASN:N	2.24	0.53
19:S:82:PHE:H	19:S:108:ASN:H	1.57	0.53
23:W:188:ASN:ND2	23:W:191:GLY:CA	2.68	0.53
23:W:284:TRP:NE1	23:W:316:TRP:CD2	2.77	0.53
24:X:76:SER:OG	24:X:77:GLY:N	2.42	0.53
30:d:85:LYS:HG2	30:d:85:LYS:O	2.09	0.53
37:u:307:MET:HE1	37:u:320:MET:HG2	1.90	0.53
1:A:352:PHE:CE1	3:C:269:LEU:HD22	2.44	0.52
1:A:2306:HIS:HD2	1:A:2308:VAL:H	1.54	0.52
5:E:146:ARG:HH12	5:E:148:LYS:NZ	2.07	0.52
5:E:162:ARG:HH21	5:E:204:THR:HA	1.71	0.52
5:E:260:ARG:CZ	5:E:276:ILE:HD11	2.39	0.52
8:H:154:C:OP2	35:p:19:LYS:CD	2.56	0.52
12:L:18:ILE:CG2	12:L:37:LEU:CD2	2.87	0.52
15:O:196:GLN:NE2	15:O:209:VAL:HG23	2.24	0.52
15:O:230:THR:H	15:O:277:ARG:CZ	2.22	0.52
20:T:387:PHE:CD1	20:T:387:PHE:C	2.87	0.52
23:W:181:PHE:N	23:W:181:PHE:CD1	2.76	0.52
23:W:443:ARG:HH21	23:W:455:TYR:HE2	1.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:536:ASP:O	23:W:540:THR:N	2.41	0.52
26:Z:124:GLY:HA3	26:Z:149:ILE:HG23	1.91	0.52
37:u:275:LEU:HD21	37:u:330:VAL:HG22	1.90	0.52
39:w:125:LYS:CG	39:w:126:GLU:N	2.71	0.52
1:A:1791:HIS:ND1	1:A:1799:THR:CG2	2.72	0.52
1:A:2310:ARG:HH12	1:A:2314:PHE:HE1	1.56	0.52
3:C:441:PRO:O	3:C:444:GLY:HA3	2.09	0.52
5:E:260:ARG:HD2	5:E:276:ILE:HG12	1.91	0.52
6:F:58:G:HO2'	6:F:59:G:P	2.32	0.52
10:J:203:LEU:HD13	10:J:204:GLU:HB3	1.91	0.52
18:R:95:LYS:HD3	18:R:95:LYS:H	1.74	0.52
22:V:484:SER:C	22:V:486:THR:N	2.66	0.52
23:W:178:ARG:HG2	23:W:199:TYR:HE1	1.74	0.52
23:W:260:ASP:HA	33:n:10:LYS:HE2	1.90	0.52
23:W:517:SER:HB3	23:W:558:TRP:CH2	2.44	0.52
36:q:53:ILE:CG1	36:r:22:ASN:CB	2.86	0.52
1:A:48:LYS:HG2	1:A:49:ARG:N	2.24	0.52
1:A:338:VAL:O	3:C:266:GLU:CG	2.58	0.52
1:A:1066:GLN:OE1	25:Y:423:THR:O	2.27	0.52
3:C:336:TYR:CD1	3:C:336:TYR:C	2.86	0.52
3:C:360:ALA:N	3:C:361:PRO:CD	2.72	0.52
3:C:488:VAL:HG13	3:C:609:LYS:HZ3	1.74	0.52
3:C:571:ASN:O	3:C:572:GLU:HB3	2.09	0.52
4:D:1134:LYS:HE2	4:D:1177:TYR:HE1	1.74	0.52
5:E:146:ARG:CZ	5:E:148:LYS:HE3	2.21	0.52
7:G:136:U:OP2	7:G:136:U:C6	2.62	0.52
9:I:729:SER:O	9:I:732:ALA:HB3	2.09	0.52
15:O:235:TYR:CD1	15:O:271:PHE:HE1	2.23	0.52
17:Q:1027:LEU:HA	17:Q:1031:GLU:HB3	1.90	0.52
18:R:60:ASP:HB2	19:S:134:GLN:HA	1.90	0.52
19:S:131:ARG:HD3	19:S:132:VAL:C	2.20	0.52
23:W:287:HIS:CD2	23:W:314:LYS:HE3	2.44	0.52
23:W:384:ASP:OD2	23:W:430:ASN:CG	2.53	0.52
23:W:500:LYS:HZ1	23:W:537:TRP:NE1	2.06	0.52
1:A:299:ILE:CD1	3:C:921:LEU:HD13	2.39	0.52
1:A:584:HIS:CE1	41:A:3000:IHP:O26	2.50	0.52
1:A:762:ARG:HH22	16:P:226:LYS:CE	2.23	0.52
1:A:1210:LYS:NZ	1:A:1369:TYR:OH	2.31	0.52
3:C:91:GLU:OE1	3:C:91:GLU:HA	2.10	0.52
12:L:11:TRP:CE2	12:L:41:LYS:HE2	2.44	0.52
13:M:215:ASN:ND2	13:M:215:ASN:O	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:493:ILE:HD13	22:V:510:LEU:CD2	2.19	0.52
37:u:80:ALA:HB3	37:u:217:ILE:HD13	1.91	0.52
1:A:210:HIS:C	1:A:210:HIS:CD2	2.88	0.52
1:A:242:ALA:O	1:A:246:LEU:HD12	2.09	0.52
1:A:312:TYR:HH	3:C:886:ASP:CG	2.16	0.52
1:A:409:ARG:HD2	1:A:409:ARG:O	2.09	0.52
1:A:901:LEU:HD12	1:A:904:HIS:ND1	2.21	0.52
1:A:1364:LEU:O	1:A:1365:ILE:HD13	2.09	0.52
1:A:1436:TRP:CZ2	1:A:1437:ARG:NH2	2.78	0.52
1:A:1947:ASN:HD21	24:X:85:LEU:CD1	2.23	0.52
3:C:457:VAL:HG12	3:C:462:GLY:HA3	1.92	0.52
3:C:856:HIS:HB2	37:u:105:ARG:NH2	2.25	0.52
4:D:1380:THR:HG22	4:D:1382:MET:H	1.74	0.52
6:F:77:C:C2'	6:F:78:A:H5'	2.40	0.52
12:L:144:MET:HG3	12:L:149:LEU:CG	2.30	0.52
12:L:733:LYS:O	12:L:736:ASN:CG	2.52	0.52
20:T:339:GLN:HG2	20:T:340:ALA:N	2.24	0.52
20:T:454:VAL:HG12	20:T:455:GLN:N	2.22	0.52
23:W:242:HIS:CD2	23:W:324:CYS:HG	2.27	0.52
23:W:464:MET:HE1	23:W:486:LEU:HD12	1.92	0.52
23:W:529:ASN:ND2	23:W:531:LYS:HE3	2.09	0.52
26:Z:342:HIS:HB3	26:Z:345:ALA:HB3	1.92	0.52
37:u:307:MET:HA	37:u:311:MET:SD	2.49	0.52
1:A:901:LEU:HD13	1:A:904:HIS:HE1	1.74	0.52
3:C:143:THR:HB	42:C:1500:GTP:O1A	2.09	0.52
3:C:387:ASP:O	3:C:389:ASP:OD1	2.28	0.52
8:H:33:G:H3'	8:H:33:G:OP2	2.10	0.52
10:J:212:GLN:CB	23:W:508:ALA:CB	2.87	0.52
13:M:168:LEU:HD23	13:M:168:LEU:N	2.24	0.52
14:N:37:HIS:CD2	14:N:37:HIS:O	2.63	0.52
18:R:64:PHE:HB2	18:R:67:ILE:HG13	1.84	0.52
18:R:265:ASP:OD2	18:R:266:LYS:HD3	2.10	0.52
20:T:434:GLY:HA2	20:T:464:GLY:N	2.24	0.52
23:W:374:LYS:HB3	23:W:395:MET:HE3	1.92	0.52
23:W:457:ALA:O	23:W:458:GLU:OE1	2.27	0.52
37:u:383:ASN:O	37:u:386:ILE:HG22	2.09	0.52
1:A:47:GLU:OE1	1:A:47:GLU:N	2.37	0.52
1:A:645:THR:HB	1:A:646:PRO:HD3	1.92	0.52
1:A:1012:LYS:O	1:A:1015:VAL:HG13	2.10	0.52
1:A:1424:GLN:O	1:A:1427:ARG:HG2	2.10	0.52
1:A:2090:ILE:HA	1:A:2223:CYS:O	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1443:LYS:HD3	4:D:1443:LYS:H	1.73	0.52
4:D:1538:ARG:HG3	4:D:1542:MET:HE3	1.91	0.52
4:D:1979:VAL:HG11	4:D:1985:ILE:HG23	1.92	0.52
4:D:2026:LYS:NZ	4:D:2027:ASP:OD2	2.42	0.52
5:E:232:ARG:O	5:E:262:TRP:CH2	2.62	0.52
6:F:5:U:H5'	6:F:6:C:OP2	2.10	0.52
6:F:42:C:H2'	6:F:43:A:C1'	2.39	0.52
10:J:221:ASN:ND2	12:L:211:ASN:CG	2.66	0.52
13:M:225:PHE:N	13:M:225:PHE:CD1	2.76	0.52
15:O:131:THR:O	15:O:132:ARG:HB2	2.09	0.52
16:P:58:ASP:OD2	16:P:61:ARG:HB2	2.08	0.52
18:R:51:ILE:N	18:R:52:PRO:CD	2.73	0.52
23:W:178:ARG:CD	23:W:199:TYR:CE1	2.92	0.52
23:W:374:LYS:CG	23:W:397:ASP:CB	2.83	0.52
23:W:578:TRP:CD1	23:W:578:TRP:N	2.76	0.52
32:l:87:LEU:HB2	33:n:61:VAL:HB	1.92	0.52
1:A:597:LYS:HE3	2:B:30:A:OP2	2.10	0.52
1:A:1881:ASN:OD1	26:Z:273:LYS:HG3	2.09	0.52
2:B:22:U:O2	2:B:22:U:H2'	2.09	0.52
4:D:1228:VAL:CG1	4:D:1264:PRO:HD2	2.40	0.52
4:D:1636:PHE:CE1	4:D:1644:VAL:HG22	2.45	0.52
4:D:1732:MET:HE3	4:D:1788:LEU:HD21	1.92	0.52
23:W:255:LEU:HA	23:W:303:LEU:HD11	1.92	0.52
23:W:341:ASN:OD1	23:W:343:ALA:N	2.43	0.52
23:W:356:LEU:HD23	23:W:356:LEU:C	2.35	0.52
29:c:68:PHE:HB2	30:d:100:PHE:HB3	1.91	0.52
33:g:17:LEU:HD23	33:g:72:ALA:HA	1.91	0.52
39:w:82:GLU:CG	39:w:112:TYR:HB3	2.40	0.52
1:A:1163:ARG:HH12	16:P:201:VAL:HG11	1.75	0.52
1:A:1594:CYS:SG	26:Z:268:ARG:NH1	2.82	0.52
1:A:2133:PRO:HD2	1:A:2139:VAL:HG13	1.92	0.52
3:C:93:ILE:O	3:C:94:ILE:HB	2.10	0.52
3:C:514:TYR:CD1	3:C:514:TYR:C	2.86	0.52
5:E:276:ILE:C	5:E:277:PHE:HD1	2.17	0.52
8:H:147:G:H2'	8:H:148:C:C6	2.43	0.52
8:H:154:C:OP2	35:p:19:LYS:HD3	2.09	0.52
12:L:104:LEU:HA	12:L:107:ALA:HB3	1.91	0.52
16:P:191:ASP:N	16:P:191:ASP:OD1	2.40	0.52
20:T:392:PRO:HA	20:T:414:ALA:O	2.09	0.52
22:V:291:GLU:OE2	37:u:59:GLU:OE1	2.28	0.52
23:W:137:TYR:HE1	23:W:158:GLU:CB	2.14	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:274:CYS:O	23:W:275:TYR:HD1	1.92	0.52
23:W:281:ILE:HD13	23:W:577:LEU:HD22	1.91	0.52
26:Z:145:THR:O	26:Z:147:THR:HG23	2.10	0.52
1:A:90:GLY:HA3	18:R:209:PRO:HD3	1.92	0.52
1:A:2298:LEU:HD11	4:D:1287:ARG:NH1	2.24	0.52
7:G:116:C:OP2	17:Q:557:ARG:CD	2.55	0.52
8:H:39:U:H3'	8:H:40:C:H5	1.72	0.52
12:L:12:ARG:CZ	12:L:138:ARG:NH2	2.73	0.52
18:R:125:MET:HG3	18:R:129:ASP:OD2	2.09	0.52
18:R:126:ASN:HD22	18:R:128:ASP:H	1.58	0.52
23:W:455:TYR:C	23:W:455:TYR:CD1	2.88	0.52
1:A:712:HIS:CG	18:R:250:CYS:HB2	2.44	0.51
1:A:1477:ALA:HA	22:V:461:LEU:HD21	1.92	0.51
3:C:334:ILE:HD12	3:C:334:ILE:C	2.34	0.51
3:C:710:ASN:O	3:C:712:LYS:N	2.43	0.51
4:D:1135:LEU:HD23	4:D:1136:PRO:HD2	1.92	0.51
5:E:231:MET:SD	5:E:262:TRP:CE3	3.03	0.51
5:E:277:PHE:CE2	5:E:300:ILE:HD13	2.44	0.51
7:G:147:C:C6	7:G:148:U:H5	2.28	0.51
15:O:166:SER:HA	15:O:169:VAL:HG12	1.92	0.51
23:W:240:ILE:HD12	23:W:241:LEU:N	2.25	0.51
32:e:87:LEU:HB2	33:g:61:VAL:HB	1.92	0.51
34:o:5:THR:CG2	34:o:8:LEU:H	2.23	0.51
1:A:176:LEU:HB3	1:A:181:ASN:ND2	2.25	0.51
1:A:197:PRO:HA	1:A:204:LEU:HD13	1.91	0.51
1:A:384:VAL:O	1:A:385:GLU:HG2	2.10	0.51
3:C:736:GLY:N	3:C:770:PHE:HE2	2.06	0.51
4:D:544:MET:HG3	4:D:817:TRP:CE2	2.45	0.51
6:F:78:A:OP1	12:L:170:LYS:HD3	2.09	0.51
10:J:192:GLU:N	10:J:195:LEU:CD1	2.65	0.51
12:L:154:GLU:O	12:L:158:ARG:HG2	2.11	0.51
15:O:44:GLU:HA	15:O:50:ARG:O	2.10	0.51
23:W:499:LYS:CA	23:W:499:LYS:CE	2.89	0.51
23:W:531:LYS:CA	23:W:546:PHE:O	2.58	0.51
26:Z:293:ARG:NH2	26:Z:316:ARG:HH22	2.08	0.51
3:C:736:GLY:HA3	3:C:770:PHE:CE2	2.44	0.51
4:D:792:VAL:HG12	4:D:796:LEU:HD13	1.92	0.51
4:D:1182:PRO:HA	4:D:1208:PHE:CG	2.45	0.51
4:D:1271:VAL:HG12	4:D:1279:GLU:HB2	1.92	0.51
7:G:21:A:HO2'	7:G:22:C:P	2.34	0.51
10:J:192:GLU:HA	10:J:195:LEU:HD11	1.77	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:203:LEU:CD1	10:J:204:GLU:HG2	2.40	0.51
15:O:171:GLY:HA2	23:W:208:PRO:HG2	1.92	0.51
19:S:39:PHE:CD1	19:S:129:PHE:CE2	2.79	0.51
23:W:132:PHE:CD1	23:W:132:PHE:C	2.88	0.51
23:W:385:GLU:OE1	23:W:385:GLU:HA	2.09	0.51
23:W:507:VAL:HG23	23:W:507:VAL:O	2.08	0.51
36:r:47:LEU:CG	36:r:47:LEU:CA	2.82	0.51
1:A:433:GLU:OE1	1:A:436:PRO:CB	2.49	0.51
1:A:519:ASP:C	1:A:519:ASP:OD1	2.54	0.51
1:A:1363:GLN:O	1:A:1364:LEU:HG	2.10	0.51
12:L:20:LYS:CE	12:L:54:LEU:HD11	2.40	0.51
12:L:144:MET:CG	12:L:149:LEU:HG	2.33	0.51
12:L:251:LEU:HD12	12:L:251:LEU:N	2.26	0.51
13:M:153:ARG:CA	13:M:160:PHE:HZ	2.19	0.51
22:V:466:SER:HB2	22:V:471:GLU:HB3	1.92	0.51
23:W:181:PHE:H	23:W:200:VAL:HG13	1.75	0.51
23:W:252:ARG:NH1	23:W:257:ILE:HG12	2.25	0.51
1:A:73:HIS:CD2	1:A:81:PHE:CZ	2.99	0.51
1:A:126:ILE:HG21	18:R:207:MET:HE2	1.91	0.51
1:A:378:PHE:CD1	1:A:378:PHE:C	2.89	0.51
1:A:380:LEU:H	1:A:380:LEU:HD22	1.76	0.51
1:A:1775:GLN:NE2	26:Z:315:VAL:HG11	2.25	0.51
3:C:216:THR:HG21	3:C:245:HIS:HE1	1.73	0.51
3:C:520:GLU:OE2	3:C:520:GLU:N	2.21	0.51
22:V:234:LEU:HB3	22:V:370:LEU:HD12	1.92	0.51
23:W:189:ILE:O	23:W:189:ILE:HG13	2.11	0.51
23:W:492:ASN:C	23:W:492:ASN:HD22	2.19	0.51
1:A:1949:ARG:HD2	1:A:1986:LEU:CD2	2.37	0.51
2:B:18:C:C2'	2:B:19:A:O5'	2.58	0.51
3:C:66:TYR:N	3:C:66:TYR:CD1	2.77	0.51
3:C:753:GLU:C	3:C:755:ASP:H	2.18	0.51
4:D:1982:VAL:O	4:D:1986:MET:HG2	2.11	0.51
5:E:146:ARG:NH1	5:E:148:LYS:HE2	1.69	0.51
6:F:43:A:C6	6:F:44:G:O6	2.64	0.51
11:K:196:GLU:O	11:K:199:ILE:CG1	2.59	0.51
15:O:21:PRO:O	23:W:110:MET:HE1	2.10	0.51
15:O:229:LYS:HA	15:O:277:ARG:HH12	1.76	0.51
34:o:102:GLU:HG2	34:o:128:LYS:HZ1	1.75	0.51
3:C:115:GLU:O	3:C:118:PHE:HB3	2.11	0.51
4:D:930:LEU:HD23	4:D:949:LEU:HD23	1.91	0.51
4:D:1099:VAL:HG13	4:D:1108:THR:HG22	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:251:LEU:HD23	5:E:291:CYS:SG	2.51	0.51
6:F:48:A:H61	12:L:30:GLN:HE22	1.59	0.51
7:G:145:U:O2'	7:G:146:C:C6	2.52	0.51
8:H:100:U:O2'	27:h:64:ARG:NH2	2.43	0.51
11:K:188:LEU:C	11:K:188:LEU:HD13	2.36	0.51
15:O:57:TRP:CD1	15:O:57:TRP:C	2.89	0.51
18:R:282:GLU:C	18:R:284:PHE:N	2.65	0.51
23:W:153:ILE:O	23:W:153:ILE:HG13	2.11	0.51
23:W:162:ASN:CG	23:W:165:LEU:HD21	2.31	0.51
23:W:481:MET:C	23:W:483:ASN:H	2.18	0.51
36:q:127:ALA:HB1	36:t:127:ALA:HB1	1.92	0.51
38:v:94:ILE:HG13	38:v:94:ILE:O	2.09	0.51
1:A:331:TRP:CE3	1:A:331:TRP:C	2.89	0.51
1:A:394:TYR:H	1:A:394:TYR:HD1	1.58	0.51
1:A:1868:MET:CE	1:A:1872:LEU:CD1	2.88	0.51
3:C:96:PRO:CD	20:T:276:GLU:OE2	2.59	0.51
3:C:497:LEU:CD1	3:C:577:PHE:CE1	2.89	0.51
3:C:512:GLU:HG3	3:C:562:THR:O	2.10	0.51
4:D:1127:CYS:SG	4:D:1129:LEU:HB2	2.51	0.51
4:D:1519:ARG:NH1	4:D:1521:VAL:O	2.44	0.51
5:E:87:ASP:O	5:E:88:ARG:HB2	2.11	0.51
6:F:43:A:N6	6:F:44:G:O6	2.44	0.51
6:F:58:G:H2'	6:F:59:G:C8	2.44	0.51
10:J:192:GLU:O	10:J:196:ARG:N	2.43	0.51
10:J:195:LEU:HD21	12:L:24:MET:HE3	1.93	0.51
10:J:331:GLN:NE2	13:M:164:SER:O	2.44	0.51
12:L:20:LYS:NZ	12:L:54:LEU:HD11	2.26	0.51
12:L:102:PHE:CD1	12:L:102:PHE:C	2.89	0.51
12:L:202:ARG:O	12:L:202:ARG:CG	2.58	0.51
20:T:399:LYS:HG3	20:T:406:ILE:CD1	2.25	0.51
23:W:317:GLU:O	23:W:318:VAL:HB	2.11	0.51
23:W:389:ASN:HD21	23:W:406:ARG:NH2	2.06	0.51
23:W:417:HIS:ND1	23:W:437:SER:CB	2.72	0.51
23:W:488:PHE:HD1	23:W:496:LEU:CA	2.23	0.51
37:u:71:GLN:HG3	37:u:237:ILE:HG21	1.92	0.51
3:C:115:GLU:O	3:C:118:PHE:CA	2.58	0.51
4:D:406:ARG:HG2	4:D:954:LEU:HG	1.93	0.51
4:D:424:ALA:HB1	4:D:935:LEU:HD11	1.93	0.51
4:D:1891:THR:O	4:D:1895:LEU:HB2	2.11	0.51
6:F:81:C:H5	12:L:252:ARG:HD3	1.76	0.51
8:H:111:G:O3'	8:H:112:G:O4'	2.29	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:342:GLU:CB	20:T:343:PRO:CD	2.88	0.51
22:V:171:ASN:CG	37:u:277:ILE:CA	2.84	0.51
23:W:88:MET:CE	23:W:89:PHE:CD2	2.90	0.51
23:W:166:THR:OG1	23:W:169:GLU:CB	2.56	0.51
23:W:283:VAL:HG13	23:W:574:LEU:HD22	1.92	0.51
23:W:488:PHE:CD1	23:W:496:LEU:CA	2.93	0.51
23:W:497:ASN:HD21	23:W:500:LYS:H	1.59	0.51
23:W:498:LYS:HZ3	23:W:498:LYS:N	2.09	0.51
1:A:394:TYR:HD1	1:A:394:TYR:N	2.09	0.51
1:A:1868:MET:HE3	1:A:1872:LEU:CD1	2.41	0.51
2:B:94:U:H5	30:d:104:ASP:O	1.94	0.51
3:C:502:HIS:HE1	3:C:543:ARG:CD	2.24	0.51
4:D:1418:LEU:O	4:D:1421:LYS:HG2	2.11	0.51
4:D:1496:ASN:HD22	4:D:1763:ARG:NH1	2.09	0.51
7:G:17:U:H1'	15:O:46:LYS:HZ2	1.76	0.51
18:R:114:SER:HA	18:R:230:MET:HE1	1.93	0.51
20:T:385:TYR:CE2	20:T:400:PHE:HB3	2.45	0.51
22:V:576:THR:O	22:V:579:SER:N	2.44	0.51
23:W:370:PHE:HE2	23:W:391:PHE:CD2	2.27	0.51
23:W:497:ASN:HD22	23:W:499:LYS:H	1.59	0.51
23:W:536:ASP:HB3	23:W:539:THR:OG1	2.10	0.51
24:X:109:PHE:HD2	24:X:110:GLN:HG3	1.76	0.51
1:A:394:TYR:N	1:A:394:TYR:CD1	2.79	0.50
1:A:425:PRO:HG3	2:B:26:A:H5''	1.93	0.50
1:A:596:TYR:O	1:A:597:LYS:C	2.50	0.50
1:A:1332:HIS:CE1	1:A:1358:SER:O	2.64	0.50
3:C:216:THR:CG2	3:C:245:HIS:CE1	2.68	0.50
4:D:1872:ALA:HB2	4:D:1893:LEU:HD13	1.93	0.50
6:F:50:A:O2'	6:F:51:U:P	2.69	0.50
10:J:185:ALA:HA	12:L:142:ILE:HD13	1.92	0.50
10:J:360:ASP:HA	10:J:363:ARG:CD	2.41	0.50
12:L:36:SER:HG	12:L:158:ARG:NH2	2.07	0.50
13:M:202:TYR:C	13:M:202:TYR:CD1	2.88	0.50
18:R:280:ILE:HD12	18:R:281:ASN:H	1.70	0.50
20:T:185:MET:CB	20:T:186:PRO:CD	2.89	0.50
22:V:166:ILE:O	22:V:170:ILE:HG12	2.11	0.50
23:W:140:ASP:HB2	23:W:153:ILE:HG21	1.93	0.50
23:W:263:VAL:HG23	23:W:264:ASN:N	2.26	0.50
23:W:283:VAL:HG12	23:W:574:LEU:HD22	1.92	0.50
23:W:436:THR:CG2	23:W:464:MET:HB2	2.40	0.50
1:A:1958:LYS:HG3	24:X:96:MET:HB3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2147:MET:O	1:A:2274:PRO:HD3	2.10	0.50
6:F:85:U:C3'	6:F:86:U:C5'	2.90	0.50
13:M:176:THR:O	13:M:177:GLU:C	2.54	0.50
14:N:60:ILE:HD12	14:N:84:ALA:HB2	1.93	0.50
17:Q:225:LEU:HG	17:Q:253:PHE:HE1	1.74	0.50
18:R:303:GLU:O	18:R:307:GLN:OE1	2.28	0.50
18:R:314:GLN:C	18:R:315:LYS:HE2	2.35	0.50
23:W:464:MET:SD	23:W:478:CYS:HB2	2.48	0.50
23:W:533:ASN:HB2	23:W:535:TRP:CZ3	2.45	0.50
26:Z:137:PRO:C	26:Z:138:ARG:HG2	2.35	0.50
30:k:41:GLN:H	30:k:115:ILE:HB	1.76	0.50
1:A:182:ILE:HA	1:A:185:VAL:CG2	2.41	0.50
1:A:1476:GLN:HG3	26:Z:73:TYR:OH	2.10	0.50
3:C:711:ARG:NE	3:C:730:ARG:HE	2.09	0.50
4:D:833:VAL:CG1	4:D:844:LEU:HB3	2.42	0.50
4:D:1081:MET:O	4:D:1085:THR:HG23	2.11	0.50
4:D:1309:VAL:HA	4:D:1328:PHE:HE2	1.77	0.50
4:D:1890:LYS:NZ	4:D:1894:LEU:HD11	2.26	0.50
4:D:2064:TRP:CZ3	4:D:2110:SER:HB2	2.46	0.50
7:G:7:G:OP2	7:G:7:G:H8	1.94	0.50
7:G:7:G:H2'	7:G:8:C:C6	2.46	0.50
8:H:107:A:C6	8:H:108:G:C5	2.99	0.50
11:K:163:LEU:CG	11:K:163:LEU:CA	2.80	0.50
12:L:12:ARG:NH2	12:L:138:ARG:NH2	2.58	0.50
14:N:128:VAL:CG1	14:N:130:ARG:HG2	2.41	0.50
15:O:226:PRO:HG3	15:O:302:TRP:CH2	2.46	0.50
17:Q:204:ASP:O	17:Q:212:ARG:NH1	2.45	0.50
22:V:515:CYS:SG	22:V:521:TYR:C	2.94	0.50
23:W:304:LEU:HD11	23:W:567:ILE:HG21	1.93	0.50
26:Z:134:PHE:HE2	26:Z:153:GLU:OE1	1.95	0.50
38:v:9:LEU:HD22	38:v:66:ILE:HD11	1.93	0.50
1:A:344:ASP:OD1	1:A:347:LEU:HD11	2.12	0.50
1:A:1757:GLU:HG3	1:A:1759:THR:OG1	2.11	0.50
3:C:619:THR:O	3:C:620:LYS:HG3	2.11	0.50
4:D:725:VAL:HG12	4:D:727:SER:H	1.77	0.50
6:F:27:A:C1'	15:O:181:TYR:OH	2.60	0.50
13:M:160:PHE:HB3	13:M:161:PHE:CE1	2.47	0.50
22:V:250:LYS:NZ	37:u:59:GLU:OE2	2.43	0.50
22:V:520:GLU:C	22:V:523:GLU:CG	2.79	0.50
23:W:271:PRO:CG	23:W:563:THR:HG22	2.40	0.50
28:b:50:LYS:HG2	28:b:51:ILE:HG13	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:t:47:LEU:CG	36:t:47:LEU:CA	2.81	0.50
37:u:256:VAL:CG2	37:u:403:MET:HE2	2.41	0.50
37:u:322:GLU:HG3	37:u:327:ALA:HB3	1.94	0.50
38:v:128:VAL:HG12	38:v:132:LYS:HE2	1.93	0.50
39:w:74:ILE:HD13	39:w:120:GLU:HG3	1.93	0.50
1:A:364:SER:C	1:A:365:VAL:O	2.55	0.50
1:A:384:VAL:HA	3:C:331:PHE:CD2	2.47	0.50
1:A:672:VAL:HB	20:T:267:ASP:OD1	2.11	0.50
1:A:1352:HIS:ND1	21:U:21:ARG:HA	2.26	0.50
1:A:1862:ILE:CG2	1:A:1887:SER:OG	2.59	0.50
1:A:1868:MET:O	1:A:1871:PRO:HD2	2.11	0.50
1:A:1935:ARG:HH22	26:Z:348:THR:HG21	1.73	0.50
1:A:2073:TRP:HH2	1:A:2310:ARG:NH1	2.09	0.50
4:D:530:THR:C	4:D:531:ILE:HG13	2.36	0.50
4:D:787:ALA:HA	4:D:794:ARG:HD3	1.94	0.50
4:D:1478:SER:HA	4:D:1481:ILE:HG22	1.93	0.50
7:G:1:G:N3	7:G:1:G:C2'	2.73	0.50
8:H:106:G:H5'	31:m:25:TRP:HH2	1.76	0.50
8:H:153:A:C2'	8:H:154:C:C5'	2.86	0.50
10:J:361:ARG:HD3	13:M:161:PHE:HD2	1.69	0.50
15:O:234:LEU:HB2	15:O:272:ILE:HB	1.94	0.50
19:S:125:LYS:HE3	19:S:125:LYS:N	2.25	0.50
20:T:329:HIS:CE1	20:T:355:ARG:HG3	2.46	0.50
22:V:457:ARG:NH2	22:V:457:ARG:CG	2.73	0.50
23:W:287:HIS:HE1	23:W:306:SER:OG	1.94	0.50
23:W:290:GLY:HA2	23:W:573:GLY:HA2	1.94	0.50
26:Z:109:ASN:ND2	26:Z:112:ILE:HD13	2.26	0.50
28:i:50:LYS:HG2	28:i:51:ILE:HG13	1.93	0.50
31:m:51:ILE:HG22	31:m:56:SER:HB2	1.93	0.50
38:v:7:PHE:CE1	38:v:94:ILE:HG22	2.46	0.50
1:A:254:TYR:OH	1:A:434:HIS:CB	2.60	0.50
1:A:642:ARG:NE	2:B:55:C:O2	2.44	0.50
1:A:678:GLU:CD	1:A:774:LYS:NZ	2.70	0.50
1:A:772:CYS:SG	1:A:1249:MET:CE	3.00	0.50
1:A:2303:GLU:CD	1:A:2303:GLU:H	2.19	0.50
2:B:100:C:H2'	2:B:101:U:C6	2.47	0.50
3:C:335:ASN:OD1	3:C:336:TYR:N	2.44	0.50
3:C:514:TYR:HD1	3:C:515:THR:N	2.10	0.50
4:D:420:SER:HA	4:D:621:HIS:CD2	2.47	0.50
4:D:593:TRP:CD1	4:D:631:LEU:HD22	2.37	0.50
4:D:1100:LEU:HA	4:D:1108:THR:HG21	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1534:HIS:CE1	4:D:1536:GLN:HB2	2.47	0.50
6:F:28:A:HO2'	14:N:39:GLY:HA2	1.76	0.50
19:S:9:TRP:CE3	19:S:11:PRO:CD	2.94	0.50
23:W:88:MET:SD	23:W:89:PHE:CB	2.98	0.50
23:W:348:LEU:CD1	23:W:391:PHE:CE2	2.95	0.50
23:W:537:TRP:CD1	23:W:537:TRP:C	2.90	0.50
23:W:576:LYS:HB2	23:W:578:TRP:HE1	1.75	0.50
37:u:307:MET:HE1	37:u:320:MET:SD	2.51	0.50
1:A:384:VAL:HG12	3:C:331:PHE:CG	2.46	0.50
2:B:23:C:O2'	2:B:24:G:H3'	2.11	0.50
3:C:856:HIS:CB	37:u:105:ARG:HH21	2.25	0.50
4:D:423:MET:HE1	4:D:877:GLN:CG	2.40	0.50
4:D:512:VAL:HA	4:D:515:MET:HE2	1.93	0.50
4:D:1764:MET:HE1	4:D:1784:HIS:CD2	2.47	0.50
12:L:144:MET:SD	12:L:149:LEU:HD21	2.52	0.50
12:L:243:ARG:C	12:L:245:GLN:N	2.68	0.50
12:L:260:ARG:NE	13:M:202:TYR:CD2	2.80	0.50
15:O:113:ASN:O	15:O:116:TYR:N	2.44	0.50
19:S:61:MET:CE	23:W:95:PRO:HG3	2.41	0.50
20:T:272:CYS:HB3	20:T:282:ARG:HG3	1.94	0.50
23:W:255:LEU:HD23	23:W:362:GLU:HG3	1.93	0.50
30:d:107:ILE:HG22	30:d:108:VAL:CG2	2.39	0.50
1:A:273:ILE:CG2	1:A:274:PRO:HD2	2.42	0.50
1:A:312:TYR:N	1:A:312:TYR:CD1	2.80	0.50
1:A:370:PRO:HG3	3:C:304:LEU:HD21	1.94	0.50
7:G:137:C:C5'	7:G:137:C:C6	2.90	0.50
10:J:232:GLU:HG3	12:L:210:TYR:CE1	2.39	0.50
15:O:115:GLU:HB3	18:R:218:ILE:HG21	1.93	0.50
18:R:238:THR:HG22	18:R:239:VAL:N	2.26	0.50
20:T:459:LEU:HG	20:T:461:SER:OG	2.12	0.50
23:W:548:ALA:CB	23:W:578:TRP:HH2	2.16	0.50
37:u:225:ILE:HD13	37:u:228:MET:HE3	1.93	0.50
1:A:95:MET:N	1:A:96:PRO:HD2	2.26	0.50
1:A:1332:HIS:HE1	1:A:1358:SER:O	1.94	0.50
1:A:1768:TYR:CD1	1:A:1768:TYR:C	2.90	0.50
2:B:20:G:OP1	2:B:20:G:H4'	2.12	0.50
3:C:481:MET:HE2	3:C:559:ILE:HD11	1.94	0.50
5:E:178:LEU:CD1	5:E:222:LEU:HD21	2.41	0.50
5:E:250:LEU:HD22	5:E:262:TRP:HB2	1.93	0.50
10:J:406:PHE:CE2	10:J:411:MET:HE3	2.39	0.50
22:V:532:GLN:O	22:V:536:ILE:HG13	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:393:ALA:HB3	23:W:403:TRP:HZ3	1.77	0.50
26:Z:116:ARG:NH1	26:Z:152:ASP:OD1	2.29	0.50
26:Z:302:LYS:HG3	26:Z:306:GLU:CG	2.42	0.50
27:a:75:ASP:O	27:a:78:LYS:HG2	2.12	0.50
32:e:15:VAL:O	33:g:33:GLY:HA3	2.12	0.50
27:h:55:VAL:HG21	34:o:67:LYS:NZ	2.25	0.50
1:A:1678:ARG:CG	1:A:1678:ARG:NH1	2.73	0.49
1:A:1763:LEU:O	1:A:1767:ASN:HB2	2.12	0.49
5:E:178:LEU:CD2	5:E:208:ILE:HD11	2.42	0.49
7:G:8:C:H2'	7:G:9:C:C6	2.46	0.49
10:J:216:ASP:O	10:J:219:GLU:N	2.45	0.49
12:L:61:THR:HG22	12:L:91:ARG:HH22	1.77	0.49
15:O:45:CYS:SG	15:O:48:CYS:N	2.85	0.49
23:W:260:ASP:CB	33:n:10:LYS:NZ	2.75	0.49
23:W:266:ARG:HH11	32:l:14:MET:CA	2.18	0.49
23:W:430:ASN:O	23:W:447:TRP:CB	2.59	0.49
23:W:518:PRO:O	23:W:519:ASP:CB	2.57	0.49
1:A:76:MET:O	1:A:85:LYS:HE2	2.12	0.49
1:A:758:ARG:HH21	1:A:779:LEU:HD12	1.77	0.49
1:A:1790:ILE:CD1	24:X:76:SER:CB	2.90	0.49
3:C:313:GLN:HB2	42:C:1500:GTP:C6	2.47	0.49
5:E:255:MET:C	5:E:257:ASN:H	2.20	0.49
8:H:29:A:C4'	8:H:30:A:OP1	2.60	0.49
13:M:124:PHE:CD1	13:M:125:SER:N	2.80	0.49
13:M:222:ALA:O	13:M:226:TYR:HB2	2.13	0.49
15:O:75:SER:O	15:O:79:ASN:N	2.43	0.49
22:V:497:CYS:HA	22:V:500:GLN:CD	2.37	0.49
27:h:75:ASP:O	27:h:78:LYS:HG2	2.12	0.49
31:m:20:MET:HE2	31:m:30:LYS:HB2	1.94	0.49
34:o:66:LEU:HD21	34:o:69:LEU:HG	1.95	0.49
1:A:1904:ASP:O	1:A:1908:LYS:HG2	2.12	0.49
1:A:1984:LYS:HE2	26:Z:346:ASP:OD1	2.13	0.49
1:A:2097:ILE:HD12	1:A:2099:GLU:HB2	1.94	0.49
3:C:499:GLY:O	3:C:500:THR:HG23	2.12	0.49
3:C:710:ASN:O	3:C:711:ARG:C	2.55	0.49
8:H:104:U:O2'	31:m:65:ARG:NH2	2.45	0.49
16:P:64:GLU:OE2	16:P:68:ARG:NE	2.45	0.49
18:R:81:LYS:HZ2	18:R:81:LYS:CA	2.24	0.49
22:V:294:ILE:HG22	22:V:298:LYS:HE3	1.94	0.49
23:W:189:ILE:O	23:W:190:ASP:HB2	2.13	0.49
23:W:241:LEU:HD22	23:W:326:ARG:HH11	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:317:GLU:CD	23:W:319:TYR:CD2	2.88	0.49
23:W:487:ILE:HG13	23:W:500:LYS:HB3	1.94	0.49
30:d:41:GLN:H	30:d:115:ILE:HB	1.76	0.49
1:A:2325:VAL:HG22	4:D:788:GLY:O	2.12	0.49
5:E:74:PHE:CE2	5:E:343:ILE:HG13	2.45	0.49
7:G:128:U:P	23:W:545:ARG:HH22	2.23	0.49
13:M:156:HIS:CD2	13:M:156:HIS:H	2.30	0.49
18:R:67:ILE:HG22	18:R:69:VAL:HG21	1.94	0.49
19:S:81:GLN:HB3	19:S:108:ASN:H	1.77	0.49
20:T:418:THR:HG21	20:T:468:CYS:N	2.28	0.49
23:W:260:ASP:HB3	33:n:10:LYS:NZ	2.27	0.49
23:W:505:HIS:CB	23:W:533:ASN:OD1	2.60	0.49
26:Z:304:PRO:HD2	26:Z:304:PRO:O	2.13	0.49
31:f:20:MET:HE2	31:f:30:LYS:HB2	1.94	0.49
32:l:15:VAL:O	33:n:33:GLY:HA3	2.12	0.49
1:A:47:GLU:O	1:A:50:LYS:HG2	1.94	0.49
1:A:332:TYR:C	1:A:332:TYR:CD1	2.90	0.49
1:A:469:LYS:NZ	2:B:59:G:N7	2.60	0.49
2:B:87:A:H2'	31:f:39:TYR:CE2	2.47	0.49
3:C:297:ASN:HB3	3:C:298:LEU:HD13	1.94	0.49
3:C:489:GLN:HB2	3:C:556:ASP:OD2	2.13	0.49
4:D:772:LEU:HD23	4:D:789:MET:HB2	1.95	0.49
4:D:1725:GLU:OE1	4:D:1763:ARG:NE	2.46	0.49
5:E:165:GLN:HG3	5:E:181:ILE:HD11	1.94	0.49
6:F:37:C:H3'	6:F:37:C:H6	1.78	0.49
7:G:147:C:C2	7:G:148:U:H5	2.22	0.49
8:H:98:G:H2'	31:m:39:TYR:CE2	2.47	0.49
9:I:346:ASN:CB	17:Q:527:ILE:CB	2.90	0.49
10:J:239:ARG:C	10:J:239:ARG:HD3	2.38	0.49
13:M:121:ASP:OD1	13:M:122:LEU:N	2.46	0.49
13:M:161:PHE:CD1	13:M:161:PHE:N	2.80	0.49
16:P:210:PHE:HD2	20:T:455:GLN:HE22	1.59	0.49
17:Q:19:ASN:HB3	17:Q:22:PHE:HB3	1.94	0.49
18:R:69:VAL:O	19:S:93:THR:HG21	2.13	0.49
23:W:110:MET:HG3	23:W:110:MET:O	2.12	0.49
25:Y:397:PRO:O	25:Y:400:TRP:HB3	2.13	0.49
36:r:92:LEU:HD21	36:s:96:LEU:HD12	1.95	0.49
1:A:45:TYR:HB2	5:E:153:PHE:HE2	1.77	0.49
1:A:67:ARG:HD3	1:A:179:ALA:HB2	1.93	0.49
1:A:2073:TRP:CH2	1:A:2310:ARG:NH1	2.80	0.49
2:B:93:U:O2'	31:f:65:ARG:NH2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:223:GLU:OE1	13:M:223:GLU:HA	2.12	0.49
15:O:72:GLN:O	15:O:75:SER:OG	2.28	0.49
19:S:12:PRO:HD2	19:S:166:GLY:HA2	1.93	0.49
22:V:152:LEU:HA	22:V:387:MET:SD	2.53	0.49
22:V:369:MET:O	22:V:369:MET:HE3	2.13	0.49
22:V:536:ILE:HG23	22:V:579:SER:HA	1.95	0.49
23:W:305:LEU:HD23	23:W:305:LEU:C	2.38	0.49
26:Z:350:LEU:O	26:Z:353:LEU:HB2	2.12	0.49
31:f:51:ILE:HG22	31:f:56:SER:HB2	1.93	0.49
32:e:20:LEU:HD13	33:g:61:VAL:CG2	2.43	0.49
36:r:94:GLN:O	36:r:97:GLN:CG	2.60	0.49
1:A:79:ARG:O	1:A:82:ARG:HD2	2.12	0.49
1:A:258:PHE:CZ	1:A:275:GLY:O	2.59	0.49
1:A:385:GLU:OE1	1:A:386:PRO:HD2	2.13	0.49
3:C:502:HIS:ND1	3:C:543:ARG:HB3	2.27	0.49
3:C:678:THR:HG22	3:C:683:ASN:HB2	1.88	0.49
5:E:161:ARG:HH11	5:E:161:ARG:HG2	1.77	0.49
7:G:147:C:N1	7:G:148:U:H5	2.10	0.49
18:R:125:MET:O	18:R:126:ASN:HB3	2.11	0.49
22:V:260:VAL:O	22:V:264:ILE:HG12	2.13	0.49
22:V:577:SER:HA	22:V:580:ARG:HD2	1.95	0.49
22:V:612:PHE:HZ	22:V:631:PHE:HE2	1.61	0.49
23:W:499:LYS:N	23:W:499:LYS:CE	2.74	0.49
24:X:121:GLU:HA	24:X:124:THR:OG1	2.12	0.49
36:r:92:LEU:HD12	36:s:92:LEU:CD2	2.43	0.49
1:A:378:PHE:CE2	3:C:338:GLU:HB2	2.48	0.49
1:A:387:PHE:HE1	3:C:327:TYR:CD1	2.31	0.49
3:C:679:PRO:HB2	3:C:807:GLN:CD	2.21	0.49
4:D:1512:PHE:HB3	4:D:1514:PHE:CE2	2.48	0.49
10:J:201:ARG:NE	10:J:203:LEU:HA	2.27	0.49
19:S:119:THR:HB	19:S:122:LEU:CD1	2.42	0.49
22:V:514:PHE:O	22:V:521:TYR:HB3	2.09	0.49
23:W:109:ASN:CB	23:W:114:TYR:HD1	2.23	0.49
23:W:254:TYR:OH	23:W:362:GLU:HA	2.12	0.49
26:Z:121:GLU:OE1	26:Z:121:GLU:N	2.27	0.49
37:u:185:VAL:HG22	37:u:215:VAL:HB	1.94	0.49
1:A:382:GLU:HA	3:C:354:ARG:NH1	2.28	0.49
1:A:406:TRP:HZ3	3:C:265:LEU:O	1.93	0.49
1:A:721:LYS:O	1:A:1022:MET:HE3	2.12	0.49
1:A:758:ARG:HG2	16:P:227:TYR:CD2	2.47	0.49
1:A:1341:ARG:CZ	1:A:1342:TRP:CZ2	2.92	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1763:LEU:HG	1:A:1862:ILE:HD13	1.94	0.49
1:A:2149:PRO:O	1:A:2160:PRO:HD3	2.13	0.49
3:C:742:PRO:HB2	3:C:786:ASN:H	1.78	0.49
5:E:67:GLY:N	5:E:87:ASP:OD1	2.38	0.49
6:F:42:C:H2'	6:F:43:A:H1'	1.94	0.49
7:G:129:G:C4'	23:W:541:LYS:HZ1	2.07	0.49
7:G:147:C:C2'	7:G:148:U:C6	2.77	0.49
8:H:107:A:C2	8:H:108:G:C4	3.01	0.49
15:O:56:ARG:HG2	15:O:67:LYS:HB3	1.94	0.49
15:O:146:MET:O	15:O:149:LYS:N	2.40	0.49
15:O:294:ASN:O	15:O:296:ARG:HG3	2.12	0.49
18:R:93:GLU:HG3	19:S:19:SER:O	2.13	0.49
20:T:418:THR:HG21	20:T:468:CYS:H	1.77	0.49
23:W:207:LYS:HB2	23:W:207:LYS:NZ	2.27	0.49
23:W:225:LYS:HA	23:W:228:LYS:HZ1	1.78	0.49
26:Z:318:THR:HG23	26:Z:319:GLY:H	1.77	0.49
26:Z:341:VAL:HG23	26:Z:350:LEU:HD12	1.94	0.49
4:D:1747:ASN:HB2	4:D:1809:ASP:HA	1.95	0.49
8:H:20:G:O4'	16:P:7:PRO:HB3	2.13	0.49
8:H:39:U:C2'	8:H:40:C:C6	2.92	0.49
12:L:39:HIS:O	12:L:40:ARG:HB2	2.13	0.49
15:O:20:PHE:HD1	18:R:177:ILE:CD1	2.24	0.49
15:O:229:LYS:HA	15:O:277:ARG:NH1	2.28	0.49
18:R:76:MET:HE1	19:S:140:ASN:OD1	2.13	0.49
22:V:294:ILE:HD13	22:V:335:MET:O	2.13	0.49
22:V:352:ILE:HG22	22:V:353:ILE:HG13	1.95	0.49
23:W:88:MET:SD	23:W:88:MET:C	2.95	0.49
23:W:88:MET:SD	23:W:89:PHE:N	2.86	0.49
23:W:210:GLU:HA	23:W:213:GLN:CD	2.27	0.49
23:W:527:ASP:OD1	23:W:529:ASN:N	2.46	0.49
1:A:344:ASP:HB3	26:Z:144:PHE:CD2	2.48	0.48
1:A:1757:GLU:CG	1:A:1759:THR:OG1	2.60	0.48
1:A:2073:TRP:CD1	1:A:2073:TRP:C	2.91	0.48
2:B:89:U:O2'	27:a:64:ARG:NH2	2.43	0.48
4:D:1359:CYS:HA	4:D:1362:PHE:CD2	2.48	0.48
6:F:39:A:H61	7:G:8:C:H42	1.59	0.48
7:G:1:G:C6	7:G:144:A:C6	3.01	0.48
12:L:28:LYS:HE3	18:R:268:LEU:CD2	2.43	0.48
16:P:48:GLN:O	16:P:49:ASP:HB2	2.13	0.48
18:R:123:GLU:CD	18:R:124:VAL:H	2.20	0.48
23:W:127:GLN:HG3	23:W:168:PHE:CE2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:210:GLU:CB	23:W:213:GLN:OE1	2.61	0.48
23:W:423:THR:CG2	23:W:467:VAL:CG1	2.89	0.48
32:l:20:LEU:HD13	33:n:61:VAL:CG2	2.42	0.48
1:A:1210:LYS:O	1:A:1211:ASP:C	2.55	0.48
1:A:1366:PRO:HD2	1:A:1474:MET:CE	2.42	0.48
1:A:1935:ARG:HH21	26:Z:348:THR:CG2	2.25	0.48
3:C:449:ILE:HG23	3:C:457:VAL:CG1	2.33	0.48
5:E:209:ILE:HG21	5:E:250:LEU:HD13	1.92	0.48
6:F:57:U:H1'	16:P:8:THR:CG2	2.42	0.48
6:F:85:U:C2	10:J:277:THR:HG22	2.48	0.48
7:G:20:A:H1'	15:O:193:LEU:CD2	2.42	0.48
7:G:133:A:OP1	23:W:500:LYS:HE3	2.13	0.48
7:G:137:C:OP2	7:G:137:C:C6	2.66	0.48
15:O:256:GLY:CA	18:R:70:ALA:CB	2.75	0.48
20:T:213:GLU:HG3	20:T:218:TRP:NE1	2.28	0.48
22:V:294:ILE:HD13	22:V:335:MET:C	2.37	0.48
23:W:252:ARG:CZ	23:W:252:ARG:CB	2.90	0.48
26:Z:134:PHE:HD2	26:Z:153:GLU:OE2	1.96	0.48
26:Z:135:GLU:O	26:Z:136:ARG:O	2.31	0.48
1:A:351:TYR:HA	3:C:270:PRO:HG3	1.94	0.48
1:A:1775:GLN:CG	26:Z:315:VAL:HG11	2.43	0.48
1:A:1850:ARG:NH1	26:Z:265:LEU:O	2.46	0.48
2:B:57:G:H2'	2:B:58:U:H5'	1.95	0.48
3:C:507:VAL:HG13	3:C:566:THR:O	2.13	0.48
4:D:1839:LYS:O	4:D:1841:LYS:HE3	2.13	0.48
10:J:225:LEU:HD21	12:L:211:ASN:CB	2.43	0.48
12:L:222:LEU:HD23	12:L:222:LEU:O	2.13	0.48
14:N:117:CYS:C	14:N:119:CYS:N	2.71	0.48
23:W:497:ASN:HD22	23:W:499:LYS:N	2.10	0.48
23:W:528:GLY:O	23:W:552:VAL:CB	2.62	0.48
26:Z:355:LYS:O	26:Z:358:LYS:N	2.47	0.48
37:u:89:THR:HA	37:u:92:PHE:CE2	2.48	0.48
1:A:32:GLU:OE1	1:A:32:GLU:HA	2.12	0.48
1:A:155:LYS:HD3	1:A:621:VAL:CG2	2.43	0.48
1:A:247:THR:HG23	1:A:249:LEU:HD12	1.96	0.48
1:A:434:HIS:C	1:A:434:HIS:HD1	2.21	0.48
1:A:802:THR:HG21	1:A:804:GLU:OE2	2.13	0.48
1:A:1336:PRO:HB3	1:A:1353:PHE:CE1	2.48	0.48
3:C:82:GLN:HG3	20:T:238:LEU:H	1.78	0.48
3:C:221:ILE:HG13	3:C:479:THR:OG1	2.11	0.48
4:D:1476:TYR:O	4:D:1479:SER:HB3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1566:ARG:O	4:D:1569:THR:HG22	2.13	0.48
15:O:134:VAL:HG12	15:O:135:GLY:N	2.28	0.48
22:V:151:SER:O	22:V:155:GLN:HG3	2.13	0.48
22:V:585:ILE:O	22:V:588:GLN:N	2.46	0.48
23:W:348:LEU:HD23	23:W:348:LEU:C	2.38	0.48
26:Z:271:ILE:HG22	26:Z:272:ALA:O	2.14	0.48
37:u:70:LYS:O	37:u:74:LYS:HG3	2.13	0.48
37:u:244:ASP:HB2	37:u:397:SER:HB2	1.95	0.48
39:w:77:VAL:HB	39:w:117:THR:HG23	1.95	0.48
1:A:378:PHE:HD1	1:A:379:GLU:N	2.09	0.48
2:B:20:G:HI'	2:B:21:A:OP1	2.14	0.48
4:D:496:ASP:CG	4:D:519:ARG:HH11	2.22	0.48
4:D:720:GLN:HG2	4:D:807:GLN:HA	1.95	0.48
4:D:837:GLU:HG2	4:D:1083:TYR:CZ	2.48	0.48
4:D:1329:ASN:O	4:D:1333:THR:HG23	2.12	0.48
6:F:56:A:N1	16:P:5:ALA:O	2.47	0.48
7:G:129:G:O4'	23:W:541:LYS:HE2	2.14	0.48
10:J:229:LYS:HD2	12:L:206:ARG:HH22	1.79	0.48
10:J:296:ARG:HD2	12:L:225:TYR:CZ	2.49	0.48
12:L:251:LEU:HD13	12:L:254:GLU:N	2.27	0.48
13:M:211:ILE:HD12	13:M:212:ASN:CB	2.42	0.48
17:Q:830:THR:HG22	17:Q:865:LYS:HD2	1.94	0.48
22:V:330:LYS:C	22:V:333:GLN:HG3	2.38	0.48
23:W:554:ILE:HG12	23:W:570:GLY:HA2	1.96	0.48
1:A:293:TRP:CE3	1:A:293:TRP:C	2.91	0.48
1:A:589:THR:OG1	1:A:590:GLY:N	2.44	0.48
3:C:725:ASP:OD1	3:C:727:LEU:CA	2.60	0.48
4:D:1113:ASN:O	4:D:1117:MET:HG3	2.14	0.48
12:L:104:LEU:O	12:L:108:ALA:N	2.41	0.48
14:N:38:GLU:O	14:N:40:LYS:N	2.47	0.48
22:V:525:PHE:O	22:V:526:GLU:C	2.56	0.48
23:W:291:VAL:HG12	23:W:293:ALA:H	1.79	0.48
23:W:498:LYS:C	23:W:499:LYS:HE2	2.38	0.48
23:W:571:TRP:HA	23:W:571:TRP:CE3	2.49	0.48
24:X:51:LYS:N	31:m:3:LEU:CD1	2.77	0.48
30:k:107:ILE:HG22	30:k:108:VAL:CG2	2.39	0.48
34:o:92:GLU:OE1	35:p:25:ARG:NE	2.39	0.48
1:A:300:ASN:CA	3:C:939:ARG:HH22	2.25	0.48
1:A:331:TRP:C	1:A:331:TRP:HE3	2.22	0.48
1:A:362:ARG:C	1:A:362:ARG:CD	2.87	0.48
1:A:823:SER:OG	1:A:933:ARG:NH1	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1908:LYS:HD2	23:W:448:ASP:OD1	2.14	0.48
1:A:2200:MET:HB3	1:A:2200:MET:HE2	1.65	0.48
3:C:89:LEU:C	3:C:91:GLU:N	2.71	0.48
4:D:1616:GLY:HA2	4:D:1641:ILE:HG22	1.95	0.48
8:H:39:U:C2'	8:H:40:C:C5	2.97	0.48
9:I:342:PRO:CA	17:Q:528:GLY:HA2	2.43	0.48
9:I:712:VAL:O	9:I:713:ARG:C	2.57	0.48
15:O:123:ARG:O	15:O:126:SER:OG	2.21	0.48
15:O:196:GLN:NE2	15:O:208:PRO:HG2	2.27	0.48
20:T:318:ARG:NH1	20:T:318:ARG:CG	2.74	0.48
20:T:358:ASP:HB2	20:T:365:ARG:HD2	1.96	0.48
23:W:336:ARG:C	23:W:336:ARG:HD3	2.39	0.48
23:W:487:ILE:CD1	23:W:537:TRP:CH2	2.97	0.48
23:W:499:LYS:HA	23:W:499:LYS:CE	2.43	0.48
1:A:1686:ASP:OD1	26:Z:170:TRP:NE1	2.44	0.48
3:C:507:VAL:HG12	3:C:508:LYS:N	2.28	0.48
4:D:495:THR:HG22	4:D:497:GLU:H	1.77	0.48
4:D:500:LEU:HD23	4:D:662:ALA:HA	1.95	0.48
4:D:1559:VAL:HG22	4:D:1660:LEU:HB3	1.95	0.48
12:L:77:LEU:CD2	18:R:285:ALA:HA	2.42	0.48
12:L:102:PHE:CE1	12:L:106:LYS:HG3	2.49	0.48
15:O:236:VAL:HB	15:O:270:ALA:O	2.14	0.48
15:O:258:ILE:HG22	15:O:260:THR:N	2.28	0.48
18:R:123:GLU:C	18:R:124:VAL:HG12	2.39	0.48
23:W:100:ARG:HB3	23:W:104:MET:HB3	1.95	0.48
23:W:429:GLU:O	23:W:430:ASN:HB3	2.13	0.48
23:W:464:MET:CE	23:W:486:LEU:HD12	2.43	0.48
23:W:491:GLN:O	23:W:492:ASN:C	2.57	0.48
34:o:2:VAL:O	34:o:2:VAL:HG13	2.13	0.48
37:u:307:MET:HE2	37:u:319:ILE:CG2	2.44	0.48
38:v:9:LEU:HD12	38:v:92:ILE:HG12	1.95	0.48
1:A:1790:ILE:HD11	24:X:76:SER:HA	1.96	0.48
1:A:1863:VAL:HG11	1:A:1868:MET:HB2	1.96	0.48
1:A:1868:MET:HE3	1:A:1872:LEU:CG	2.44	0.48
3:C:483:SER:HA	3:C:490:PHE:CB	2.37	0.48
4:D:1066:PHE:CG	4:D:1085:THR:HG21	2.49	0.48
10:J:311:GLN:OE1	10:J:311:GLN:N	2.39	0.48
12:L:186:GLN:HG3	12:L:187:LYS:N	2.28	0.48
12:L:240:ARG:HD3	12:L:240:ARG:H	1.79	0.48
15:O:75:SER:OG	15:O:76:LYS:N	2.46	0.48
16:P:193:VAL:CG2	16:P:194:PHE:HD2	2.19	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:1355:ILE:HG21	17:Q:1361:MET:HB2	1.96	0.48
18:R:110:LYS:HD3	18:R:111:VAL:O	2.12	0.48
18:R:132:LEU:HD23	18:R:132:LEU:N	2.22	0.48
19:S:125:LYS:HB3	19:S:126:HIS:CE1	2.48	0.48
19:S:131:ARG:CZ	19:S:132:VAL:O	2.59	0.48
20:T:225:ASP:C	20:T:226:ARG:HG3	2.38	0.48
20:T:233:LEU:HD23	20:T:233:LEU:C	2.39	0.48
22:V:234:LEU:HD21	22:V:263:LEU:HD13	1.96	0.48
23:W:210:GLU:CD	23:W:211:GLU:H	2.11	0.48
23:W:271:PRO:CG	23:W:563:THR:HG23	2.44	0.48
1:A:299:ILE:HD11	3:C:921:LEU:CD1	2.44	0.48
1:A:802:THR:HG22	1:A:804:GLU:HG2	1.95	0.48
3:C:152:GLN:OE1	3:C:426:GLU:O	2.31	0.48
3:C:567:GLU:CD	3:C:572:GLU:HG2	2.39	0.48
3:C:671:SER:OG	3:C:672:LEU:HD22	2.14	0.48
4:D:728:ARG:HA	4:D:728:ARG:HD2	1.59	0.48
4:D:828:ILE:HD13	4:D:849:ILE:HG22	1.96	0.48
4:D:1314:ASN:OD1	4:D:1317:PHE:N	2.47	0.48
7:G:-12:G:C4'	7:G:-11:G:OP1	2.62	0.48
23:W:137:TYR:OH	23:W:165:LEU:HG	2.14	0.48
23:W:402:GLN:NE2	23:W:447:TRP:CE3	2.82	0.48
26:Z:338:GLY:O	26:Z:339:SER:OG	2.30	0.48
31:f:10:PHE:CE2	32:e:78:MET:HB2	2.48	0.48
33:g:35:ASP:HB2	33:g:36:PRO:CD	2.42	0.48
1:A:283:VAL:C	1:A:284:ARG:HG2	2.38	0.47
1:A:705:LYS:O	1:A:708:THR:N	2.43	0.47
1:A:1334:LEU:HB2	22:V:471:GLU:CG	2.44	0.47
3:C:84:GLU:O	20:T:238:LEU:HD23	2.14	0.47
3:C:753:GLU:O	3:C:755:ASP:N	2.46	0.47
4:D:538:ILE:HG12	4:D:611:LEU:HB3	1.96	0.47
4:D:1265:GLN:O	4:D:1265:GLN:HG2	2.13	0.47
4:D:1356:LYS:O	4:D:1359:CYS:HB2	2.13	0.47
4:D:1408:LEU:HD22	4:D:1425:ILE:HG22	1.95	0.47
4:D:1962:GLN:HE22	4:D:2014:TYR:HE1	1.61	0.47
5:E:248:SER:HB2	5:E:249:TYR:HD1	1.72	0.47
6:F:31:U:H2'	6:F:32:U:H5'	1.95	0.47
6:F:34:G:C8	6:F:34:G:H5''	2.47	0.47
8:H:44:U:H2'	8:H:45:C:C6	2.48	0.47
12:L:101:GLU:OE2	12:L:101:GLU:HA	2.14	0.47
15:O:133:PRO:HD2	15:O:137:LEU:HB2	1.96	0.47
18:R:124:VAL:HG22	18:R:126:ASN:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:11:PRO:HB3	19:S:166:GLY:N	2.29	0.47
26:Z:155:VAL:CG1	26:Z:156:GLN:H	2.27	0.47
26:Z:286:ASP:OD1	26:Z:286:ASP:N	2.46	0.47
39:w:82:GLU:HG3	39:w:112:TYR:HB3	1.96	0.47
3:C:507:VAL:CG1	3:C:565:ILE:CG2	2.74	0.47
4:D:972:TYR:HB2	4:D:979:PHE:HD1	1.79	0.47
4:D:1982:VAL:HG13	4:D:1985:ILE:HD11	1.95	0.47
4:D:2076:LEU:HD21	4:D:2079:ILE:HB	1.96	0.47
8:H:39:U:C3'	8:H:40:C:C6	2.97	0.47
23:W:277:PRO:CG	23:W:578:TRP:C	2.87	0.47
23:W:284:TRP:NE1	23:W:316:TRP:CG	2.82	0.47
23:W:316:TRP:O	23:W:318:VAL:HG23	2.13	0.47
23:W:433:PHE:HD1	23:W:433:PHE:N	2.12	0.47
34:o:153:LYS:O	34:o:157:GLU:HG3	2.15	0.47
38:v:26:PHE:HA	38:v:35:ARG:O	2.14	0.47
39:w:125:LYS:NZ	39:w:126:GLU:HG3	2.29	0.47
1:A:161:PHE:CD2	1:A:626:GLY:CA	2.97	0.47
1:A:1790:ILE:HD13	24:X:76:SER:HB2	1.96	0.47
1:A:1860:GLN:HG2	1:A:1883:VAL:HB	1.94	0.47
1:A:2148:VAL:O	1:A:2150:GLN:HG2	2.14	0.47
3:C:60:HIS:ND1	3:C:60:HIS:O	2.48	0.47
8:H:42:G:H8	8:H:42:G:O5'	1.98	0.47
23:W:127:GLN:CG	23:W:168:PHE:CE2	2.97	0.47
23:W:256:HIS:CB	23:W:257:ILE:HD12	2.44	0.47
23:W:281:ILE:HD13	23:W:577:LEU:CD2	2.44	0.47
23:W:571:TRP:HA	23:W:571:TRP:HE3	1.79	0.47
26:Z:84:HIS:CD2	26:Z:84:HIS:H	2.32	0.47
26:Z:138:ARG:O	26:Z:140:VAL:N	2.47	0.47
37:u:225:ILE:HA	37:u:228:MET:HE3	1.96	0.47
39:w:77:VAL:HB	39:w:117:THR:HG22	1.95	0.47
1:A:733:THR:N	1:A:734:PRO:CD	2.78	0.47
1:A:758:ARG:HD2	1:A:779:LEU:CD1	2.44	0.47
3:C:559:ILE:HD12	3:C:559:ILE:O	2.14	0.47
3:C:700:ILE:CG2	3:C:741:GLY:O	2.61	0.47
4:D:1139:VAL:O	4:D:1143:ILE:HG23	2.14	0.47
5:E:276:ILE:O	5:E:277:PHE:HD1	1.96	0.47
7:G:130:A:HO2'	7:G:131:U:P	2.34	0.47
8:H:72:U:H2'	8:H:73:C:C6	2.50	0.47
8:H:77:C:H2'	8:H:78:C:C6	2.49	0.47
10:J:226:ARG:NH1	12:L:181:ARG:NH1	2.62	0.47
13:M:124:PHE:C	13:M:125:SER:HG	2.17	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:197:ASN:O	15:O:201:ARG:HG3	2.14	0.47
18:R:74:LEU:HD23	18:R:74:LEU:C	2.39	0.47
18:R:75:ASP:C	18:R:76:MET:SD	2.97	0.47
20:T:342:GLU:O	20:T:343:PRO:C	2.56	0.47
22:V:456:ARG:HG2	26:Z:73:TYR:O	2.15	0.47
23:W:100:ARG:HG2	23:W:100:ARG:HH11	1.78	0.47
23:W:159:ALA:HB3	23:W:160:GLU:OE1	2.14	0.47
23:W:433:PHE:HD1	23:W:433:PHE:H	1.60	0.47
31:f:36:VAL:HG12	31:f:37:ASP:N	2.29	0.47
1:A:254:TYR:CZ	1:A:434:HIS:HB2	2.49	0.47
1:A:1074:PHE:CD1	1:A:1080:GLU:HG2	2.50	0.47
1:A:1675:ASP:C	1:A:1675:ASP:OD1	2.57	0.47
3:C:116:MET:O	3:C:119:LEU:HB3	2.14	0.47
4:D:1713:PHE:N	4:D:1713:PHE:CD1	2.82	0.47
4:D:2109:MET:HG3	4:D:2117:ASP:CG	2.39	0.47
5:E:114:GLU:CD	5:E:116:HIS:NE2	2.70	0.47
8:H:17:U:C4	13:M:214:ARG:HG3	2.49	0.47
8:H:153:A:C8	8:H:154:C:H5'	2.50	0.47
13:M:210:TYR:HB3	13:M:215:ASN:ND2	2.30	0.47
14:N:128:VAL:CG1	14:N:130:ARG:CB	2.92	0.47
15:O:259:ARG:HG3	15:O:274:PHE:C	2.39	0.47
16:P:66:ARG:HH11	16:P:66:ARG:CG	2.27	0.47
17:Q:1237:ILE:O	17:Q:1241:ILE:HG12	2.15	0.47
18:R:109:ASP:OD1	18:R:110:LYS:N	2.48	0.47
19:S:10:GLN:CA	19:S:29:TRP:CE2	2.97	0.47
22:V:515:CYS:SG	22:V:522:MET:N	2.87	0.47
23:W:316:TRP:CE3	23:W:324:CYS:CB	2.97	0.47
23:W:443:ARG:CZ	23:W:455:TYR:HD2	2.28	0.47
26:Z:136:ARG:HA	26:Z:137:PRO:HD3	1.56	0.47
29:c:20:LYS:HE2	29:c:63:ASN:O	2.15	0.47
30:d:108:VAL:CG1	31:f:62:VAL:HG13	2.44	0.47
31:m:10:PHE:CE2	32:l:78:MET:HB2	2.49	0.47
4:D:618:HIS:CD2	4:D:847:LEU:HD22	2.50	0.47
6:F:25:C:O4'	6:F:26:U:OP2	2.33	0.47
10:J:436:TYR:OH	10:J:458:PHE:HA	2.15	0.47
15:O:58:CYS:HB2	15:O:65:PHE:CE1	2.49	0.47
15:O:84:CYS:O	15:O:85:LEU:HB2	2.14	0.47
15:O:230:THR:H	15:O:277:ARG:NH1	2.13	0.47
20:T:297:HIS:CD2	20:T:338:CYS:SG	3.06	0.47
23:W:155:SER:O	23:W:156:VAL:CG2	2.61	0.47
23:W:167:VAL:CG2	23:W:168:PHE:CE1	2.98	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:316:TRP:CZ3	23:W:324:CYS:CB	2.98	0.47
37:u:349:ILE:HG12	37:u:368:SER:HB3	1.95	0.47
1:A:357:ASN:OD1	22:V:344:LYS:CE	2.63	0.47
1:A:369:GLU:HB2	1:A:370:PRO:HD2	1.97	0.47
1:A:384:VAL:HA	3:C:331:PHE:CE2	2.50	0.47
1:A:579:GLN:HG2	1:A:627:CYS:O	2.14	0.47
1:A:2310:ARG:HH11	1:A:2310:ARG:CG	2.27	0.47
2:B:92:U:O4	28:b:38:MET:HG3	2.14	0.47
3:C:490:PHE:CD1	3:C:490:PHE:N	2.83	0.47
3:C:502:HIS:HE1	3:C:543:ARG:HD2	1.80	0.47
3:C:680:ASN:HD21	3:C:682:LYS:CG	2.25	0.47
3:C:706:GLN:HE21	3:C:708:THR:N	2.08	0.47
4:D:493:LEU:HD11	4:D:515:MET:HB3	1.96	0.47
4:D:1408:LEU:HD23	4:D:1427:SER:HB2	1.95	0.47
4:D:1560:ILE:HG13	4:D:1658:ALA:HB2	1.96	0.47
4:D:2104:TYR:HB2	4:D:2122:PHE:CZ	2.50	0.47
5:E:87:ASP:C	5:E:88:ARG:HG3	2.40	0.47
6:F:43:A:C6	6:F:44:G:C6	3.02	0.47
7:G:12:G:H2'	7:G:13:C:C6	2.49	0.47
8:H:91:U:H2'	8:H:92:U:C6	2.50	0.47
8:H:103:U:O4	28:i:38:MET:HG3	2.14	0.47
8:H:149:A:H2'	8:H:150:U:C6	2.50	0.47
13:M:240:GLY:O	13:M:241:THR:OG1	2.26	0.47
18:R:60:ASP:HB2	19:S:133:CYS:O	2.15	0.47
19:S:13:ASN:ND2	19:S:24:VAL:CG1	2.77	0.47
20:T:358:ASP:HB2	20:T:365:ARG:CD	2.45	0.47
22:V:568:ILE:HG21	22:V:583:VAL:HG11	1.97	0.47
23:W:123:PHE:CZ	23:W:168:PHE:HD2	2.29	0.47
23:W:252:ARG:HH12	23:W:257:ILE:HD11	1.64	0.47
23:W:284:TRP:NE1	23:W:316:TRP:CB	2.76	0.47
23:W:454:LYS:NZ	23:W:456:ILE:HD11	2.30	0.47
23:W:462:HIS:O	23:W:463:SER:HB2	2.15	0.47
23:W:536:ASP:OD2	23:W:543:TYR:HE2	1.87	0.47
26:Z:168:ASP:HB3	26:Z:171:ASN:OD1	2.15	0.47
38:v:113:ASN:HA	38:v:118:PRO:HB3	1.95	0.47
1:A:293:TRP:HD1	1:A:1136:ARG:CD	2.27	0.47
3:C:445:ALA:CB	3:C:449:ILE:CD1	2.93	0.47
3:C:596:ASN:HD22	3:C:596:ASN:N	2.13	0.47
3:C:856:HIS:CB	37:u:105:ARG:NH2	2.78	0.47
4:D:669:PRO:HA	4:D:673:LEU:HB2	1.97	0.47
4:D:1228:VAL:HG11	4:D:1264:PRO:HD2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:144:MET:CE	12:L:149:LEU:HD21	2.30	0.47
13:M:215:ASN:C	13:M:215:ASN:ND2	2.71	0.47
18:R:64:PHE:O	18:R:71:GLN:OE1	2.33	0.47
18:R:113:TYR:CG	18:R:118:ASP:OD2	2.68	0.47
18:R:237:MET:HE2	18:R:237:MET:HA	1.96	0.47
19:S:10:GLN:HB3	19:S:29:TRP:CD2	2.50	0.47
22:V:228:GLN:HG2	22:V:229:ILE:N	2.29	0.47
24:X:119:ALA:O	24:X:123:GLN:HG2	2.14	0.47
26:Z:127:THR:HG21	26:Z:153:GLU:O	2.15	0.47
29:c:61:ARG:HB3	29:c:64:ASN:HD22	1.80	0.47
29:j:61:ARG:HB3	29:j:64:ASN:HD22	1.80	0.47
38:v:99:ILE:CD1	38:v:101:PHE:HE1	2.27	0.47
1:A:44:ARG:NH2	23:W:124:MET:SD	2.88	0.47
1:A:365:VAL:HG12	1:A:366:LYS:N	2.30	0.47
1:A:437:ALA:O	1:A:439:GLN:HG2	2.14	0.47
1:A:1786:TYR:CE1	1:A:1833:LEU:HB3	2.50	0.47
1:A:1946:ASN:ND2	1:A:1949:ARG:HE	2.13	0.47
3:C:507:VAL:CA	3:C:568:PRO:CB	2.80	0.47
3:C:736:GLY:HA2	3:C:770:PHE:CD2	2.50	0.47
4:D:772:LEU:HD12	4:D:772:LEU:H	1.79	0.47
4:D:1024:PHE:HB3	4:D:1027:ILE:HD12	1.96	0.47
8:H:54:U:H2'	8:H:55:U:C6	2.50	0.47
8:H:71:C:H2'	8:H:72:U:C6	2.50	0.47
8:H:151:C:C2	8:H:152:G:N7	2.82	0.47
12:L:253:SER:O	12:L:256:GLU:N	2.48	0.47
18:R:116:TYR:CD1	18:R:116:TYR:C	2.93	0.47
18:R:266:LYS:CD	18:R:266:LYS:N	2.76	0.47
19:S:20:MET:CE	19:S:141:ARG:CD	2.92	0.47
19:S:61:MET:SD	23:W:95:PRO:CG	3.03	0.47
23:W:534:ILE:HD11	23:W:546:PHE:CE2	2.50	0.47
33:g:64:GLY:HA2	33:g:67:ILE:HD12	1.97	0.47
31:m:36:VAL:HG12	31:m:37:ASP:N	2.29	0.47
34:o:56:LYS:HG2	34:o:58:ASP:HB2	1.97	0.47
1:A:206:TRP:CD1	1:A:213:LEU:HD21	2.50	0.47
1:A:1070:ASP:C	1:A:1070:ASP:OD1	2.57	0.47
3:C:366:GLN:O	3:C:367:ARG:C	2.56	0.47
3:C:446:LYS:HB3	3:C:447:PRO:HD3	1.97	0.47
4:D:969:LEU:HD12	4:D:985:GLY:HA2	1.96	0.47
4:D:1532:ILE:HG21	4:D:1537:THR:HB	1.97	0.47
4:D:1760:LEU:O	4:D:1764:MET:HG3	2.15	0.47
5:E:157:CYS:HA	5:E:168:CYS:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:50:A:O2'	6:F:51:U:OP1	2.27	0.47
8:H:33:G:O2'	8:H:34:U:O4'	2.23	0.47
8:H:59:A:H2'	8:H:60:U:C6	2.50	0.47
10:J:360:ASP:HA	10:J:363:ARG:CG	2.45	0.47
16:P:54:VAL:CG1	16:P:59:PHE:HZ	2.26	0.47
18:R:229:VAL:HG23	18:R:230:MET:N	2.28	0.47
22:V:487:LYS:HZ3	22:V:491:ASN:CG	2.23	0.47
23:W:252:ARG:NH1	23:W:252:ARG:CB	2.78	0.47
23:W:374:LYS:CE	23:W:397:ASP:CG	2.87	0.47
23:W:374:LYS:O	23:W:395:MET:HE1	2.14	0.47
23:W:440:LYS:CD	23:W:440:LYS:N	2.78	0.47
26:Z:353:LEU:O	26:Z:356:SER:N	2.48	0.47
26:Z:360:LYS:O	26:Z:364:PHE:HB2	2.15	0.47
27:h:43:MET:HB3	27:h:46:ILE:HD11	1.97	0.47
32:l:18:ILE:HA	32:l:21:ILE:HD12	1.98	0.47
33:n:64:GLY:HA2	33:n:67:ILE:HD12	1.97	0.47
1:A:384:VAL:HG12	3:C:331:PHE:HD2	1.78	0.46
1:A:1094:ARG:HH11	1:A:1094:ARG:CG	2.27	0.46
1:A:1313:PRO:CG	1:A:1363:GLN:HE22	2.26	0.46
1:A:1984:LYS:CD	26:Z:345:ALA:HB1	2.45	0.46
1:A:1993:LYS:HD2	1:A:1993:LYS:C	2.40	0.46
4:D:591:GLU:H	4:D:591:GLU:HG2	1.42	0.46
12:L:24:MET:HG3	18:R:262:ILE:O	2.14	0.46
19:S:66:ASP:C	19:S:66:ASP:OD1	2.58	0.46
22:V:631:PHE:HB2	22:V:640:THR:HG21	1.96	0.46
23:W:326:ARG:HH22	23:W:363:THR:HA	1.73	0.46
23:W:342:THR:HB	23:W:388:GLN:HE21	1.65	0.46
23:W:462:HIS:HD1	23:W:482:ASP:HB3	1.78	0.46
26:Z:155:VAL:HG12	26:Z:156:GLN:N	2.29	0.46
38:v:7:PHE:HE1	38:v:94:ILE:HG22	1.80	0.46
1:A:344:ASP:CG	1:A:347:LEU:CD1	2.88	0.46
1:A:358:PRO:HG3	22:V:340:PHE:CB	2.45	0.46
1:A:422:LEU:HD21	1:A:638:LEU:HD12	1.95	0.46
1:A:592:TYR:CD1	1:A:592:TYR:C	2.93	0.46
1:A:1904:ASP:OD1	24:X:86:ARG:NH2	2.48	0.46
3:C:244:LYS:CG	3:C:292:TYR:CE2	2.99	0.46
3:C:297:ASN:HD22	3:C:298:LEU:HD12	1.79	0.46
3:C:513:ASN:O	3:C:513:ASN:ND2	2.48	0.46
4:D:418:GLN:HE22	4:D:842:THR:HG22	1.80	0.46
4:D:791:ARG:HH21	4:D:794:ARG:NH1	2.13	0.46
4:D:969:LEU:CD1	4:D:985:GLY:HA2	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1375:ARG:HG2	4:D:1448:ILE:HG22	1.97	0.46
8:H:68:G:H2'	8:H:69:U:C6	2.50	0.46
8:H:104:U:O4	30:k:64:ASN:ND2	2.42	0.46
15:O:283:ALA:O	15:O:287:SER:HB3	2.15	0.46
18:R:189:ASN:HD22	18:R:189:ASN:HA	1.50	0.46
22:V:449:GLU:CB	22:V:452:LEU:CD1	2.85	0.46
22:V:527:GLY:O	22:V:530:LYS:N	2.48	0.46
23:W:204:ASP:O	23:W:205:VAL:HB	2.14	0.46
23:W:241:LEU:HD13	23:W:326:ARG:NH1	2.30	0.46
23:W:304:LEU:CA	23:W:318:VAL:CG2	2.93	0.46
26:Z:121:GLU:HG3	26:Z:143:LYS:HD2	1.97	0.46
32:e:18:ILE:HA	32:e:21:ILE:HD12	1.98	0.46
27:h:45:ASN:HB3	34:o:22:ARG:HH11	1.79	0.46
29:j:20:LYS:HE2	29:j:63:ASN:O	2.15	0.46
34:o:14:GLN:HG3	34:o:44:PHE:HE1	1.80	0.46
38:v:56:LYS:O	38:v:60:GLU:HG2	2.15	0.46
1:A:723:ASN:HD22	1:A:788:GLN:CD	2.24	0.46
3:C:221:ILE:HG23	3:C:495:ARG:HB3	1.97	0.46
3:C:388:VAL:HA	3:C:392:LEU:HB2	1.97	0.46
3:C:534:VAL:HG12	3:C:535:ALA:N	2.28	0.46
7:G:134:U:H5''	7:G:135:G:OP2	2.15	0.46
8:H:69:U:H2'	8:H:70:C:C6	2.49	0.46
8:H:81:G:H2'	8:H:82:G:H8	1.81	0.46
8:H:183:G:H2'	8:H:184:C:C6	2.50	0.46
10:J:191:ALA:N	12:L:17:GLU:OE1	2.47	0.46
12:L:63:TRP:CD1	12:L:67:GLU:HG2	2.50	0.46
15:O:27:CYS:O	15:O:28:LEU:C	2.58	0.46
15:O:161:ARG:NH2	15:O:182:ARG:HD2	2.29	0.46
17:Q:790:TYR:OH	17:Q:976:ASN:ND2	2.47	0.46
23:W:210:GLU:HB3	23:W:213:GLN:OE1	2.15	0.46
23:W:427:VAL:HG13	23:W:428:ASP:N	2.31	0.46
29:c:6:PHE:CD1	29:c:6:PHE:C	2.93	0.46
32:e:68:THR:O	32:e:68:THR:HG22	2.15	0.46
29:j:6:PHE:CD1	29:j:6:PHE:C	2.93	0.46
38:v:122:ARG:HG2	38:v:122:ARG:NH1	2.30	0.46
39:w:107:ASP:OD1	39:w:109:ARG:HG2	2.15	0.46
1:A:470:ARG:CZ	1:A:470:ARG:HB2	2.46	0.46
1:A:481:PHE:CE2	18:R:205:ASP:HA	2.50	0.46
3:C:557:GLN:N	3:C:558:PRO:HD2	2.30	0.46
3:C:856:HIS:HE1	37:u:102:ILE:HG22	1.79	0.46
3:C:857:VAL:HB	37:u:134:ASN:HD21	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:994:THR:HG22	4:D:1023:GLU:OE1	2.14	0.46
4:D:1328:PHE:HB2	4:D:1333:THR:HG22	1.97	0.46
7:G:17:U:H1'	15:O:46:LYS:NZ	2.30	0.46
7:G:27:U:HO2'	7:G:28:A:C4'	2.27	0.46
7:G:27:U:HO2'	7:G:28:A:C5'	2.25	0.46
8:H:80:A:H2'	8:H:81:G:H8	1.81	0.46
8:H:143:A:N3	8:H:143:A:C3'	2.73	0.46
14:N:128:VAL:HG13	14:N:130:ARG:CB	2.45	0.46
17:Q:987:TYR:CZ	17:Q:991:MET:HE3	2.51	0.46
18:R:178:ARG:HH11	18:R:194:GLN:NE2	2.14	0.46
22:V:171:ASN:CG	37:u:277:ILE:CB	2.88	0.46
22:V:477:LEU:HD21	22:V:514:PHE:CE1	2.49	0.46
22:V:585:ILE:O	22:V:586:PHE:C	2.58	0.46
23:W:275:TYR:O	23:W:558:TRP:HZ2	1.99	0.46
26:Z:137:PRO:C	26:Z:138:ARG:CG	2.88	0.46
36:t:65:PRO:O	36:t:66:PRO:C	2.58	0.46
1:A:1215:ASN:CG	1:A:1224:ARG:HD3	2.40	0.46
1:A:1504:GLU:CG	1:A:1754:TYR:HE2	2.28	0.46
1:A:2252:LEU:HD23	1:A:2253:PRO:HD2	1.96	0.46
4:D:1264:PRO:HB2	4:D:1265:GLN:OE1	2.15	0.46
4:D:1395:GLU:HA	4:D:1399:ASP:HB2	1.98	0.46
5:E:277:PHE:CE1	5:E:317:ARG:HG2	2.51	0.46
6:F:8:C:C6	6:F:8:C:C5'	2.91	0.46
8:H:39:U:N3	8:H:40:C:N4	2.63	0.46
8:H:78:C:H2'	8:H:79:G:H8	1.81	0.46
10:J:212:GLN:HB2	23:W:508:ALA:HB1	1.95	0.46
13:M:210:TYR:CE2	13:M:216:ALA:HB2	2.50	0.46
14:N:1:MET:HB3	14:N:2:PRO:HD3	1.97	0.46
17:Q:444:TYR:CZ	17:Q:446:GLY:HA2	2.51	0.46
17:Q:1284:LEU:HD23	17:Q:1310:PHE:CE1	2.51	0.46
18:R:314:GLN:CA	18:R:314:GLN:HE21	2.29	0.46
23:W:282:HIS:HB3	23:W:284:TRP:CE3	2.51	0.46
23:W:433:PHE:N	23:W:433:PHE:CD1	2.83	0.46
27:a:24:THR:O	27:a:51:ARG:NH1	2.46	0.46
30:k:46:CYS:HB3	30:k:48:ASN:OD1	2.15	0.46
30:k:108:VAL:CG1	31:m:62:VAL:HG13	2.44	0.46
37:u:269:CYS:SG	37:u:297:MET:HE1	2.56	0.46
1:A:1502:PHE:CE1	1:A:1754:TYR:HB2	2.49	0.46
1:A:2196:HIS:HB3	1:A:2230:LEU:HD11	1.98	0.46
3:C:471:ASP:H	3:C:499:GLY:CA	2.23	0.46
3:C:516:LEU:HB2	3:C:575:GLN:HE22	1.78	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:600:LEU:N	3:C:601:PRO:HD2	2.31	0.46
3:C:856:HIS:CB	37:u:105:ARG:HE	2.24	0.46
4:D:1320:LEU:HA	4:D:1400:ARG:NH1	2.30	0.46
4:D:1324:LYS:NZ	4:D:1400:ARG:HH12	2.14	0.46
4:D:1948:MET:HE3	4:D:1955:SER:N	2.31	0.46
5:E:177:LYS:C	5:E:178:LEU:HD23	2.40	0.46
8:H:150:U:H2'	8:H:151:C:C6	2.50	0.46
8:H:181:G:H2'	8:H:182:U:C6	2.50	0.46
8:H:182:U:H2'	8:H:183:G:H8	1.81	0.46
10:J:335:ARG:NH2	18:R:98:TYR:HB3	2.31	0.46
12:L:163:GLN:O	12:L:168:LYS:CE	2.54	0.46
12:L:789:ALA:O	12:L:792:LEU:CG	2.64	0.46
13:M:142:ILE:HG13	13:M:142:ILE:O	2.15	0.46
16:P:69:ALA:HA	16:P:72:ARG:HH12	1.81	0.46
20:T:399:LYS:HG2	20:T:406:ILE:CG1	2.45	0.46
26:Z:67:ILE:HG23	26:Z:85:GLN:HE21	1.81	0.46
30:d:33:THR:CG2	30:d:37:LYS:HE2	2.46	0.46
1:A:76:MET:O	1:A:85:LYS:CE	2.64	0.46
1:A:373:ASP:OD1	1:A:374:ASP:N	2.49	0.46
1:A:609:LYS:O	1:A:613:TYR:HB2	2.15	0.46
3:C:674:CYS:SG	3:C:822:MET:CE	3.04	0.46
7:G:120:G:O2'	7:G:121:G:C1'	2.59	0.46
7:G:141:C:H2'	7:G:142:U:C6	2.51	0.46
8:H:107:A:C6	8:H:108:G:C6	3.04	0.46
8:H:141:C:H2'	8:H:142:C:C6	2.50	0.46
10:J:195:LEU:C	13:M:208:ILE:HD11	2.40	0.46
12:L:12:ARG:HH21	12:L:138:ARG:NH2	2.13	0.46
15:O:240:GLY:HA3	15:O:296:ARG:NH2	2.31	0.46
18:R:106:GLN:CA	18:R:106:GLN:NE2	2.78	0.46
20:T:281:ILE:CD1	20:T:282:ARG:HG2	2.46	0.46
20:T:329:HIS:CE1	20:T:353:THR:O	2.69	0.46
20:T:455:GLN:HG3	20:T:485:THR:CG2	2.46	0.46
23:W:265:LEU:CD1	23:W:300:SER:C	2.89	0.46
23:W:434:VAL:HG22	23:W:444:VAL:HG22	1.98	0.46
39:w:131:MET:HE1	39:w:148:TRP:CD1	2.51	0.46
1:A:705:LYS:O	1:A:706:ALA:C	2.59	0.46
1:A:1870:ASP:HB2	1:A:1871:PRO:HD3	1.98	0.46
3:C:457:VAL:HA	3:C:462:GLY:HA3	1.97	0.46
3:C:667:VAL:HG22	3:C:824:THR:HG23	1.97	0.46
4:D:1349:GLY:HA2	4:D:1491:SER:O	2.16	0.46
6:F:58:G:OP1	16:P:12:ALA:HB2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:146:C:C4'	24:X:74:ALA:O	2.63	0.46
8:H:83:A:H2'	8:H:84:C:C6	2.49	0.46
12:L:222:LEU:H	12:L:222:LEU:CD2	2.19	0.46
13:M:158:GLU:OE1	13:M:158:GLU:HA	2.15	0.46
15:O:20:PHE:CG	15:O:21:PRO:HD2	2.51	0.46
18:R:82:MET:HE3	18:R:82:MET:CA	2.22	0.46
19:S:9:TRP:CH2	19:S:44:ARG:HD3	2.51	0.46
19:S:119:THR:CB	19:S:122:LEU:CD1	2.93	0.46
22:V:234:LEU:CD2	22:V:263:LEU:HD13	2.46	0.46
23:W:137:TYR:CD2	23:W:137:TYR:O	2.69	0.46
23:W:241:LEU:HA	23:W:326:ARG:CD	2.46	0.46
23:W:354:ARG:HH11	23:W:354:ARG:CG	2.26	0.46
27:a:43:MET:HB3	27:a:46:ILE:HD11	1.97	0.46
34:o:61:PRO:O	34:o:86:ALA:HB1	2.16	0.46
36:q:47:LEU:CG	36:q:47:LEU:CA	2.81	0.46
1:A:1285:LEU:HD23	1:A:1285:LEU:HA	1.84	0.46
1:A:1591:MET:HE1	26:Z:268:ARG:HD2	1.96	0.46
2:B:12:U:H3	2:B:65:G:H1	1.63	0.46
3:C:77:VAL:CG1	20:T:196:LEU:O	2.64	0.46
3:C:461:LEU:HD23	3:C:461:LEU:HA	1.75	0.46
4:D:420:SER:HB3	4:D:622:ASP:HA	1.97	0.46
4:D:598:ARG:HA	4:D:907:LEU:HD21	1.98	0.46
4:D:833:VAL:HG11	4:D:844:LEU:HB3	1.98	0.46
4:D:1313:ARG:HD2	4:D:1313:ARG:HA	1.68	0.46
5:E:265:ARG:H	5:E:272:ARG:HH22	1.60	0.46
8:H:88:A:H2'	8:H:89:U:C6	2.50	0.46
8:H:152:G:O2'	8:H:153:A:H1'	2.16	0.46
10:J:375:ASP:O	10:J:376:VAL:C	2.59	0.46
16:P:72:ARG:NH1	16:P:72:ARG:CB	2.76	0.46
17:Q:509:ARG:HG3	17:Q:549:ILE:HD12	1.97	0.46
17:Q:790:TYR:HB3	17:Q:792:TYR:CE2	2.51	0.46
23:W:265:LEU:O	23:W:300:SER:HB3	2.16	0.46
23:W:304:LEU:N	23:W:318:VAL:HG23	2.27	0.46
28:i:18:ARG:NH1	28:i:52:LYS:HB3	2.31	0.46
1:A:331:TRP:CZ3	3:C:179:VAL:CG2	2.93	0.46
1:A:535:ARG:HH11	1:A:535:ARG:CG	2.28	0.46
1:A:758:ARG:HG2	16:P:227:TYR:CE2	2.51	0.46
1:A:1389:TYR:CE2	25:Y:405:MET:SD	3.09	0.46
1:A:1951:LYS:HZ2	24:X:85:LEU:HD21	1.81	0.46
1:A:2121:ARG:O	1:A:2154:HIS:HA	2.15	0.46
1:A:2320:LEU:HD21	1:A:2322:GLU:CD	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:323:PHE:CE1	3:C:424:PHE:HE1	2.33	0.46
4:D:728:ARG:NH2	4:D:786:HIS:HB2	2.31	0.46
4:D:1969:GLU:H	4:D:1969:GLU:HG3	1.58	0.46
8:H:74:U:H2'	8:H:75:A:H8	1.81	0.46
8:H:90:A:H2'	8:H:91:U:C6	2.50	0.46
13:M:168:LEU:HD11	19:S:144:MET:HE1	1.98	0.46
13:M:235:GLN:HA	13:M:238:GLU:HG2	1.97	0.46
14:N:15:TRP:HE3	14:N:74:LEU:HD11	1.81	0.46
15:O:22:ILE:HG23	23:W:112:SER:HB3	1.97	0.46
19:S:38:ASN:HD22	19:S:100:MET:CE	2.29	0.46
23:W:243:VAL:HG21	23:W:323:ARG:CG	2.46	0.46
23:W:282:HIS:NE2	23:W:320:GLY:O	2.49	0.46
23:W:291:VAL:HG12	23:W:293:ALA:N	2.31	0.46
23:W:381:PHE:HE1	23:W:391:PHE:CD1	2.34	0.46
23:W:497:ASN:C	23:W:497:ASN:ND2	2.74	0.46
23:W:516:PHE:HA	23:W:522:TYR:O	2.16	0.46
24:X:51:LYS:N	31:m:3:LEU:HD12	2.31	0.46
30:d:46:CYS:HB3	30:d:48:ASN:OD1	2.15	0.46
30:k:33:THR:CG2	30:k:37:LYS:HE2	2.46	0.46
37:u:265:PHE:CZ	37:u:296:LYS:HG2	2.51	0.46
39:w:109:ARG:CG	39:w:110:THR:N	2.77	0.46
1:A:161:PHE:CE2	1:A:626:GLY:CA	3.00	0.45
3:C:493:PHE:CZ	3:C:549:TRP:HB3	2.50	0.45
3:C:495:ARG:HG3	3:C:495:ARG:O	2.15	0.45
4:D:826:VAL:O	4:D:868:ILE:HD12	2.16	0.45
4:D:1732:MET:HE3	4:D:1788:LEU:CD2	2.47	0.45
5:E:264:VAL:CA	5:E:272:ARG:HH21	2.24	0.45
5:E:277:PHE:CD1	5:E:277:PHE:N	2.83	0.45
7:G:7:G:H2'	7:G:8:C:H6	1.80	0.45
11:K:134:ALA:C	11:K:137:VAL:HG12	2.40	0.45
12:L:168:LYS:O	12:L:172:ARG:CG	2.64	0.45
12:L:194:ALA:HB2	23:W:309:MET:HE2	1.97	0.45
16:P:227:TYR:N	16:P:227:TYR:CD1	2.84	0.45
20:T:269:GLN:NE2	20:T:271:LYS:HE3	2.31	0.45
20:T:454:VAL:CG1	20:T:455:GLN:N	2.78	0.45
22:V:399:LYS:O	22:V:403:LYS:HG3	2.16	0.45
23:W:254:TYR:CG	23:W:325:LEU:HD12	2.51	0.45
23:W:426:PHE:CD1	23:W:433:PHE:HB3	2.51	0.45
23:W:471:PRO:HD2	23:W:520:MET:SD	2.56	0.45
26:Z:144:PHE:C	26:Z:146:GLY:N	2.75	0.45
28:b:17:MET:HE1	28:b:82:VAL:HG22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:l:68:THR:HG22	32:l:68:THR:O	2.15	0.45
34:o:120:ILE:HG22	34:o:120:ILE:O	2.16	0.45
1:A:195:LEU:H	1:A:195:LEU:HD12	1.81	0.45
1:A:678:GLU:OE1	1:A:774:LYS:NZ	2.48	0.45
1:A:755:HIS:CE1	16:P:220:HIS:ND1	2.84	0.45
1:A:2112:LYS:HE2	1:A:2112:LYS:HB3	1.67	0.45
4:D:506:GLY:O	4:D:682:PRO:HG3	2.15	0.45
4:D:1775:GLY:HA3	4:D:1780:HIS:CD2	2.51	0.45
4:D:1890:LYS:HZ2	4:D:1894:LEU:HD11	1.81	0.45
5:E:132:THR:OG1	5:E:148:LYS:HD3	2.16	0.45
9:I:712:VAL:O	9:I:715:GLY:N	2.49	0.45
12:L:49:ARG:HD3	12:L:49:ARG:C	2.41	0.45
15:O:24:CYS:HB3	15:O:26:THR:H	1.81	0.45
16:P:13:ARG:HA	16:P:13:ARG:HD2	1.67	0.45
18:R:78:ARG:NE	18:R:78:ARG:N	2.64	0.45
18:R:179:TYR:CE2	18:R:181:PRO:HG3	2.50	0.45
23:W:100:ARG:HB3	23:W:104:MET:CB	2.47	0.45
23:W:476:LEU:O	23:W:487:ILE:HA	2.16	0.45
30:d:72:GLU:HG2	30:d:74:TRP:CE3	2.52	0.45
30:k:72:GLU:HG2	30:k:74:TRP:CE3	2.52	0.45
36:s:65:PRO:O	36:s:66:PRO:C	2.59	0.45
1:A:328:HIS:C	1:A:329:LEU:HD23	2.41	0.45
1:A:439:GLN:NE2	1:A:614:TYR:CE1	2.81	0.45
1:A:801:ILE:O	1:A:802:THR:HB	2.15	0.45
3:C:223:ASP:CG	3:C:495:ARG:HH22	2.23	0.45
4:D:612:ILE:HD11	4:D:648:LEU:HG	1.98	0.45
4:D:967:ASN:ND2	4:D:995:ASN:O	2.48	0.45
6:F:36:A:O2'	6:F:37:C:P	2.74	0.45
7:G:1:G:O5'	7:G:144:A:H1'	2.16	0.45
7:G:137:C:O2'	7:G:138:A:O5'	2.35	0.45
10:J:360:ASP:C	10:J:363:ARG:HG3	2.40	0.45
12:L:18:ILE:CG2	12:L:37:LEU:HD22	2.47	0.45
12:L:183:ALA:O	12:L:187:LYS:HG2	2.15	0.45
18:R:76:MET:CE	19:S:140:ASN:OD1	2.65	0.45
20:T:471:ASP:OD1	20:T:471:ASP:C	2.60	0.45
23:W:277:PRO:HG2	23:W:578:TRP:C	2.41	0.45
24:X:109:PHE:O	24:X:113:LEU:HG	2.16	0.45
32:e:16:GLN:HB3	32:e:19:ASN:OD1	2.16	0.45
32:l:16:GLN:HB3	32:l:19:ASN:OD1	2.16	0.45
37:u:148:GLU:OE2	37:u:152:LYS:HE2	2.17	0.45
1:A:280:GLU:CD	1:A:281:PRO:HD2	2.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:549:GLU:OE2	1:A:552:ARG:NH1	2.49	0.45
1:A:1333:VAL:CG1	1:A:1367:ASN:HD22	2.30	0.45
1:A:1363:GLN:O	1:A:1364:LEU:HD23	2.17	0.45
3:C:350:ASN:ND2	3:C:353:THR:CG2	2.78	0.45
3:C:477:HIS:HD1	3:C:478:THR:N	2.14	0.45
7:G:-7:C:O2'	7:G:-6:C:O5'	2.33	0.45
8:H:148:C:H2'	8:H:149:A:H8	1.82	0.45
13:M:152:LEU:HD23	13:M:153:ARG:N	2.31	0.45
13:M:177:GLU:H	13:M:177:GLU:HG3	1.64	0.45
14:N:128:VAL:CG1	14:N:130:ARG:CG	2.94	0.45
15:O:214:LEU:HD23	15:O:214:LEU:HA	1.80	0.45
15:O:259:ARG:HD2	15:O:273:GLN:HG2	1.99	0.45
26:Z:75:ASP:N	26:Z:75:ASP:OD1	2.46	0.45
28:i:17:MET:HE1	28:i:82:VAL:HG22	1.98	0.45
33:n:32:ARG:HG3	33:n:43:ASP:HB2	1.99	0.45
37:u:148:GLU:OE1	37:u:148:GLU:CA	2.65	0.45
1:A:150:MET:SD	1:A:193:LEU:HD13	2.56	0.45
1:A:384:VAL:CG1	3:C:331:PHE:HB3	2.45	0.45
1:A:469:LYS:O	1:A:471:TYR:CD2	2.70	0.45
1:A:1338:SER:OG	1:A:1351:THR:N	2.34	0.45
1:A:1798:LEU:CD1	1:A:1798:LEU:N	2.79	0.45
1:A:2074:ARG:O	1:A:2078:ILE:HD13	2.17	0.45
4:D:1128:PRO:HG2	4:D:1150:PHE:CD2	2.52	0.45
5:E:243:LEU:HD11	5:E:247:GLY:C	2.42	0.45
6:F:41:A:C2	7:G:6:A:N1	2.79	0.45
8:H:70:C:H2'	8:H:71:C:C6	2.50	0.45
8:H:168:A:C2'	33:n:48:MET:HE1	2.46	0.45
12:L:18:ILE:HG23	12:L:37:LEU:HD22	1.98	0.45
15:O:72:GLN:HA	15:O:82:GLN:HE21	1.80	0.45
16:P:33:ARG:CG	16:P:33:ARG:NH1	2.76	0.45
18:R:282:GLU:O	18:R:283:ASN:C	2.56	0.45
22:V:294:ILE:CD1	22:V:335:MET:HB3	2.47	0.45
22:V:639:LEU:HA	22:V:639:LEU:HD23	1.75	0.45
26:Z:361:LYS:HA	26:Z:364:PHE:HB3	1.98	0.45
28:b:18:ARG:NH1	28:b:52:LYS:HB3	2.31	0.45
33:g:32:ARG:HG3	33:g:43:ASP:HB2	1.99	0.45
1:A:244:GLN:OE1	26:Z:131:LYS:O	2.34	0.45
1:A:273:ILE:HG23	1:A:274:PRO:HD2	1.99	0.45
1:A:666:LYS:CB	1:A:668:VAL:CG2	2.91	0.45
1:A:2319:LEU:HD13	4:D:1069:GLN:C	2.41	0.45
4:D:791:ARG:HE	4:D:794:ARG:HH22	1.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1534:HIS:HE1	4:D:1536:GLN:HB2	1.81	0.45
8:H:114:A:H2'	8:H:115:G:H8	1.81	0.45
8:H:142:C:H2'	8:H:143:A:H5'	1.98	0.45
10:J:194:LEU:HD21	12:L:152:LEU:HD22	1.99	0.45
10:J:196:ARG:HA	13:M:208:ILE:HD13	1.97	0.45
15:O:27:CYS:SG	15:O:66:LYS:NZ	2.88	0.45
16:P:11:PRO:O	16:P:12:ALA:HB2	2.16	0.45
22:V:492:MET:O	22:V:496:CYS:HB2	2.16	0.45
22:V:571:SER:CB	22:V:573:GLU:HB3	2.46	0.45
22:V:612:PHE:CZ	22:V:631:PHE:HE2	2.35	0.45
23:W:101:THR:N	23:W:104:MET:HB2	2.31	0.45
23:W:242:HIS:O	23:W:243:VAL:HG23	2.16	0.45
23:W:255:LEU:CD2	23:W:362:GLU:HG3	2.47	0.45
23:W:322:ARG:HH11	23:W:322:ARG:CG	2.23	0.45
23:W:576:LYS:CB	23:W:578:TRP:HE1	2.29	0.45
26:Z:149:ILE:HG22	26:Z:150:ALA:N	2.31	0.45
26:Z:318:THR:CG2	26:Z:319:GLY:N	2.80	0.45
27:a:77:LEU:HD12	27:a:77:LEU:N	2.32	0.45
1:A:68:LYS:HD3	14:N:49:ILE:HD11	1.98	0.45
1:A:434:HIS:ND1	1:A:434:HIS:C	2.74	0.45
1:A:469:LYS:O	1:A:471:TYR:CE2	2.69	0.45
1:A:1502:PHE:O	1:A:1503:TRP:HB2	2.16	0.45
1:A:1862:ILE:HG22	1:A:1887:SER:OG	2.16	0.45
6:F:40:U:O4	6:F:41:A:N6	2.50	0.45
8:H:56:A:H2'	8:H:57:A:H8	1.82	0.45
8:H:89:U:H2'	8:H:90:A:H8	1.82	0.45
13:M:122:LEU:N	13:M:122:LEU:HD22	2.31	0.45
16:P:57:ARG:NH1	16:P:57:ARG:CG	2.80	0.45
17:Q:894:ARG:HE	17:Q:1024:SER:HB2	1.82	0.45
18:R:119:LEU:C	18:R:119:LEU:CD1	2.90	0.45
23:W:488:PHE:HD1	23:W:496:LEU:HA	1.81	0.45
23:W:533:ASN:HB3	23:W:535:TRP:CH2	2.50	0.45
30:d:22:GLU:OE1	30:d:22:GLU:HA	2.17	0.45
1:A:161:PHE:CE2	1:A:626:GLY:HA2	2.52	0.45
1:A:995:ARG:HA	1:A:995:ARG:HD2	1.79	0.45
1:A:1211:ASP:O	1:A:1212:GLY:C	2.60	0.45
1:A:1306:LYS:NZ	2:B:38:C:O2'	2.50	0.45
4:D:881:SER:HA	4:D:886:GLN:HB2	1.99	0.45
4:D:1368:LEU:HD13	4:D:1368:LEU:HA	1.87	0.45
4:D:1439:TRP:CD2	4:D:1477:ILE:HD13	2.52	0.45
4:D:1889:VAL:O	4:D:1893:LEU:HG	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:162:ARG:NE	5:E:203:ASP:O	2.50	0.45
6:F:7:G:H5'	6:F:7:G:C8	2.45	0.45
8:H:73:C:H2'	8:H:74:U:C6	2.50	0.45
8:H:180:G:H2'	8:H:181:G:H8	1.81	0.45
13:M:239:ARG:HH11	13:M:239:ARG:CG	2.28	0.45
15:O:32:PRO:HA	18:R:195:ARG:NH1	2.31	0.45
16:P:7:PRO:O	16:P:8:THR:HG23	2.17	0.45
20:T:294:LEU:N	20:T:294:LEU:HD23	2.31	0.45
20:T:316:ASP:OD1	20:T:316:ASP:C	2.60	0.45
20:T:349:SER:OG	20:T:351:ASP:OD1	2.34	0.45
20:T:455:GLN:CG	20:T:456:PRO:CD	2.92	0.45
23:W:140:ASP:CA	23:W:153:ILE:HD13	2.39	0.45
23:W:449:ILE:HD11	24:X:86:ARG:NH2	2.32	0.45
23:W:497:ASN:ND2	23:W:500:LYS:H	2.13	0.45
23:W:536:ASP:OD1	23:W:543:TYR:CE2	2.63	0.45
26:Z:295:ASN:HB3	26:Z:310:ALA:O	2.17	0.45
32:l:25:LEU:HD23	32:l:25:LEU:C	2.42	0.45
37:u:307:MET:HA	37:u:311:MET:CE	2.47	0.45
1:A:293:TRP:CD1	1:A:1136:ARG:NE	2.85	0.45
1:A:549:GLU:CD	1:A:552:ARG:NH1	2.75	0.45
1:A:1211:ASP:HB2	1:A:1276:GLU:HG2	1.99	0.45
1:A:2222:SER:OG	1:A:2223:CYS:N	2.50	0.45
1:A:2237:TRP:HZ2	1:A:2248:PRO:HB2	1.81	0.45
1:A:2272:MET:HE3	1:A:2272:MET:HB3	1.74	0.45
3:C:65:TYR:O	3:C:66:TYR:CB	2.65	0.45
3:C:70:GLU:CD	3:C:71:GLU:N	2.75	0.45
3:C:301:SER:C	3:C:303:LEU:H	2.25	0.45
4:D:531:ILE:HD12	4:D:531:ILE:O	2.16	0.45
8:H:12:G:N2	13:M:196:TYR:CE1	2.85	0.45
8:H:57:A:H2'	8:H:58:U:C6	2.50	0.45
8:H:82:G:H2'	8:H:83:A:H8	1.81	0.45
12:L:56:PRO:HB3	13:M:237:LEU:HD21	1.99	0.45
13:M:200:ARG:HG2	13:M:200:ARG:HH11	1.82	0.45
15:O:113:ASN:O	15:O:114:LYS:C	2.59	0.45
16:P:33:ARG:NH1	16:P:33:ARG:HG2	2.31	0.45
17:Q:362:ARG:HH22	17:Q:405:GLU:CD	2.24	0.45
18:R:74:LEU:CD2	18:R:75:ASP:N	2.80	0.45
22:V:489:LEU:O	22:V:492:MET:N	2.50	0.45
22:V:502:THR:HG22	22:V:503:TYR:N	2.32	0.45
23:W:498:LYS:NZ	23:W:498:LYS:N	2.65	0.45
1:A:790:ARG:NH2	1:A:986:GLU:HG2	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1211:ASP:C	1:A:1213:VAL:H	2.25	0.45
1:A:1811:ASN:C	1:A:1811:ASN:OD1	2.60	0.45
3:C:388:VAL:O	3:C:388:VAL:HG22	2.17	0.45
3:C:413:ARG:HB2	3:C:414:PRO:HD3	1.98	0.45
3:C:675:PHE:CD1	3:C:675:PHE:N	2.82	0.45
4:D:1028:THR:OG1	4:D:1029:VAL:N	2.49	0.45
4:D:1735:HIS:O	4:D:1739:GLU:HB2	2.17	0.45
6:F:12:G:H2'	6:F:13:G:O4'	2.17	0.45
6:F:22:A:H3'	14:N:115:THR:HG21	1.99	0.45
8:H:93:A:H2'	8:H:94:A:H8	1.82	0.45
10:J:323:LEU:O	13:M:178:GLU:CG	2.53	0.45
11:K:134:ALA:O	11:K:137:VAL:HG12	2.17	0.45
13:M:161:PHE:HD1	13:M:161:PHE:N	2.14	0.45
13:M:166:SER:O	13:M:167:LEU:CD1	2.65	0.45
13:M:228:LYS:O	13:M:228:LYS:HE3	2.17	0.45
18:R:223:PRO:C	18:R:224:SEP:O	2.60	0.45
23:W:426:PHE:HA	23:W:433:PHE:HA	1.99	0.45
26:Z:145:THR:C	26:Z:147:THR:N	2.74	0.45
30:d:43:LEU:HD11	30:d:51:LYS:HB3	1.99	0.45
30:k:43:LEU:HD11	30:k:51:LYS:HB3	2.00	0.45
33:n:38:MET:HE2	33:n:67:ILE:HG21	1.98	0.45
36:s:47:LEU:CG	36:s:47:LEU:CA	2.81	0.45
36:t:73:ALA:O	36:t:76:LYS:CG	2.65	0.45
37:u:82:SER:O	37:u:219:ALA:HA	2.17	0.45
37:u:274:THR:HG21	37:u:409:ASP:OD1	2.17	0.45
1:A:387:PHE:CE1	3:C:327:TYR:CD1	3.04	0.44
1:A:2169:LEU:HD21	1:A:2272:MET:HG3	1.98	0.44
1:A:2335:ALA:H	4:D:592:LYS:HG3	1.82	0.44
3:C:61:GLU:OE1	3:C:62:ASP:N	2.51	0.44
4:D:421:HIS:NE2	4:D:875:GLU:OE1	2.49	0.44
4:D:721:VAL:HA	4:D:825:THR:O	2.18	0.44
5:E:164:PRO:O	5:E:166:LEU:HG	2.17	0.44
8:H:92:U:H2'	8:H:93:A:H8	1.82	0.44
12:L:18:ILE:CG2	12:L:37:LEU:HD23	2.48	0.44
18:R:64:PHE:CG	18:R:67:ILE:HD11	2.47	0.44
18:R:120:VAL:CG2	18:R:121:PRO:HD2	2.47	0.44
18:R:124:VAL:CG2	20:T:185:MET:SD	3.03	0.44
19:S:82:PHE:N	19:S:108:ASN:H	2.15	0.44
22:V:631:PHE:CD1	22:V:634:ILE:HD12	2.52	0.44
23:W:241:LEU:HA	23:W:326:ARG:HD3	1.98	0.44
23:W:327:THR:C	23:W:328:PHE:CD1	2.93	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:g:38:MET:HE2	33:g:67:ILE:HG21	1.98	0.44
27:h:77:LEU:N	27:h:77:LEU:HD12	2.32	0.44
1:A:393:LEU:HD11	3:C:378:TYR:CB	2.48	0.44
1:A:393:LEU:HD11	3:C:378:TYR:HB3	1.99	0.44
1:A:1798:LEU:N	1:A:1798:LEU:HD12	2.31	0.44
1:A:2073:TRP:CZ3	1:A:2313:HIS:CE1	3.05	0.44
3:C:115:GLU:O	3:C:118:PHE:CB	2.66	0.44
3:C:674:CYS:HG	3:C:822:MET:CE	2.25	0.44
3:C:726:LEU:HD12	3:C:726:LEU:C	2.38	0.44
4:D:1083:TYR:O	4:D:1087:SER:OG	2.35	0.44
4:D:1542:MET:C	4:D:1545:PRO:HD2	2.42	0.44
4:D:1733:HIS:CD2	4:D:1792:THR:HG23	2.52	0.44
8:H:143:A:OP2	8:H:143:A:C2	2.71	0.44
15:O:249:ARG:HH21	18:R:68:HIS:HE1	1.65	0.44
18:R:90:VAL:HG13	18:R:95:LYS:O	2.17	0.44
19:S:25:LEU:HD12	19:S:25:LEU:N	2.32	0.44
22:V:533:TYR:CA	22:V:536:ILE:HG13	2.47	0.44
22:V:645:GLU:CG	22:V:646:HIS:N	2.79	0.44
23:W:265:LEU:CD2	23:W:319:TYR:OH	2.60	0.44
32:e:20:LEU:CD2	32:e:24:TYR:CZ	3.00	0.44
1:A:232:LEU:N	1:A:233:PRO:CD	2.81	0.44
1:A:469:LYS:HG2	1:A:471:TYR:CE2	2.53	0.44
1:A:1373:GLN:NE2	22:V:502:THR:HG21	2.32	0.44
1:A:1541:THR:O	1:A:1544:ARG:CG	2.65	0.44
1:A:1698:PRO:HG3	26:Z:185:TYR:HB2	1.99	0.44
1:A:2280:ASN:HB3	1:A:2309:HIS:CD2	2.53	0.44
3:C:712:LYS:O	3:C:716:GLU:HG3	2.17	0.44
4:D:441:GLY:O	4:D:693:THR:N	2.36	0.44
4:D:846:ALA:O	4:D:849:ILE:HG13	2.17	0.44
4:D:1475:ARG:HH12	4:D:1505:GLY:HA3	1.82	0.44
8:H:29:A:H1'	8:H:30:A:O5'	2.16	0.44
8:H:113:G:H2'	8:H:114:A:H8	1.82	0.44
13:M:230:THR:HG21	18:R:265:ASP:O	2.16	0.44
15:O:259:ARG:HB2	15:O:273:GLN:HG2	1.99	0.44
23:W:317:GLU:HB3	23:W:321:GLU:HB2	2.00	0.44
36:s:65:PRO:O	36:s:67:SER:N	2.49	0.44
37:u:73:ILE:CD1	37:u:95:SER:HA	2.46	0.44
1:A:374:ASP:O	1:A:375:ASP:HB3	2.18	0.44
1:A:468:LYS:HD3	1:A:468:LYS:C	2.37	0.44
4:D:535:ASP:N	4:D:535:ASP:OD1	2.50	0.44
4:D:1191:GLN:HE21	4:D:1199:LYS:HE2	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:26:U:H4'	6:F:27:A:OP2	2.18	0.44
6:F:85:U:N1	10:J:277:THR:HG22	2.33	0.44
8:H:39:U:C6	8:H:39:U:C5'	2.90	0.44
8:H:67:C:H2'	8:H:68:G:H8	1.81	0.44
8:H:112:G:H2'	8:H:113:G:C8	2.50	0.44
10:J:358:GLU:OE2	13:M:149:TYR:OH	2.29	0.44
15:O:63:MET:SD	15:O:160:ASN:HB2	2.58	0.44
18:R:232:SEP:HB3	20:T:372:LYS:HE3	1.98	0.44
22:V:514:PHE:HD1	22:V:514:PHE:HA	1.69	0.44
22:V:530:LYS:C	22:V:532:GLN:N	2.72	0.44
23:W:285:SER:OG	23:W:286:GLY:N	2.48	0.44
28:b:37:HIS:O	28:b:38:MET:HB2	2.17	0.44
27:h:5:VAL:HB	27:h:6:PRO:HD3	2.00	0.44
30:k:22:GLU:OE1	30:k:22:GLU:HA	2.17	0.44
39:w:123:THR:OG1	39:w:126:GLU:CG	2.66	0.44
1:A:703:GLN:NE2	1:A:703:GLN:HA	2.32	0.44
1:A:2125:ALA:O	1:A:2150:GLN:NE2	2.50	0.44
1:A:2284:MET:HE1	1:A:2311:PRO:HG3	1.99	0.44
3:C:93:ILE:O	3:C:94:ILE:CB	2.66	0.44
4:D:592:LYS:HA	4:D:595:ILE:HD11	2.00	0.44
7:G:7:G:C8	7:G:7:G:OP2	2.71	0.44
8:H:142:C:O2'	8:H:143:A:H5'	2.18	0.44
12:L:86:ALA:HB1	12:L:91:ARG:O	2.17	0.44
12:L:144:MET:HB2	12:L:148:GLU:HB2	1.98	0.44
12:L:268:LYS:HE2	12:L:268:LYS:CA	2.44	0.44
12:L:703:MET:O	12:L:707:ALA:HB3	2.18	0.44
15:O:24:CYS:HB2	15:O:27:CYS:SG	2.57	0.44
18:R:81:LYS:CA	18:R:81:LYS:NZ	2.80	0.44
18:R:263:PRO:CG	18:R:266:LYS:HG2	2.47	0.44
19:S:34:LYS:HE2	19:S:78:TYR:CD2	2.52	0.44
22:V:294:ILE:HD12	22:V:335:MET:HB3	1.98	0.44
22:V:577:SER:N	22:V:580:ARG:HH11	2.15	0.44
27:a:5:VAL:HB	27:a:6:PRO:HD3	2.00	0.44
37:u:267:THR:O	37:u:271:LEU:HD13	2.17	0.44
1:A:61:MET:HB3	1:A:62:PRO:HD2	1.99	0.44
1:A:201:ALA:HA	1:A:204:LEU:HB3	1.99	0.44
1:A:298:ASP:OD1	1:A:300:ASN:N	2.50	0.44
1:A:902:TYR:HB3	1:A:1245:ARG:NH2	2.33	0.44
1:A:1657:THR:OG1	1:A:1658:GLN:N	2.50	0.44
1:A:1788:VAL:HG22	1:A:1800:THR:HB	1.99	0.44
3:C:300:LEU:N	3:C:300:LEU:CD1	2.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:385:VAL:CG2	3:C:386:GLY:N	2.80	0.44
3:C:738:ASP:OD1	3:C:738:ASP:N	2.50	0.44
4:D:419:GLY:C	4:D:421:HIS:H	2.25	0.44
4:D:464:VAL:HG21	4:D:478:PHE:O	2.18	0.44
4:D:665:LEU:HB2	4:D:667:VAL:HG23	1.99	0.44
4:D:728:ARG:HH21	4:D:787:ALA:N	2.13	0.44
4:D:1139:VAL:HA	4:D:1167:MET:HE1	1.99	0.44
4:D:1945:LEU:O	4:D:1949:VAL:HG23	2.18	0.44
8:H:79:G:H2'	8:H:80:A:H8	1.82	0.44
8:H:154:C:O2'	8:H:155:C:C5'	2.66	0.44
9:I:433:ALA:O	9:I:437:CYS:N	2.50	0.44
13:M:210:TYR:O	13:M:210:TYR:CD1	2.66	0.44
15:O:226:PRO:HD3	15:O:281:GLU:HG2	2.00	0.44
15:O:292:ILE:HG23	15:O:296:ARG:C	2.42	0.44
16:P:228:ILE:O	16:P:229:LYS:C	2.60	0.44
18:R:184:GLN:O	18:R:188:PHE:HB2	2.18	0.44
20:T:347:THR:HG21	20:T:357:TRP:HE1	1.83	0.44
20:T:434:GLY:CA	20:T:464:GLY:CA	2.84	0.44
23:W:89:PHE:CD1	23:W:89:PHE:O	2.71	0.44
23:W:126:GLU:O	23:W:130:ARG:HD3	2.18	0.44
23:W:146:HIS:ND1	23:W:146:HIS:C	2.76	0.44
23:W:280:GLN:C	23:W:281:ILE:HD12	2.42	0.44
23:W:481:MET:CE	23:W:481:MET:CA	2.95	0.44
23:W:492:ASN:C	23:W:492:ASN:ND2	2.74	0.44
26:Z:135:GLU:O	26:Z:135:GLU:HG2	2.16	0.44
26:Z:162:ASP:HB2	26:Z:165:GLY:H	1.83	0.44
26:Z:304:PRO:O	26:Z:304:PRO:CD	2.65	0.44
1:A:283:VAL:CG1	1:A:284:ARG:H	2.29	0.44
1:A:308:ILE:O	1:A:308:ILE:HG22	2.16	0.44
1:A:658:ARG:CD	1:A:663:ARG:NH2	2.77	0.44
1:A:857:ASN:OD1	1:A:857:ASN:C	2.60	0.44
1:A:1868:MET:HE3	1:A:1868:MET:HB3	1.85	0.44
1:A:2326:TYR:HE2	4:D:729:LYS:HD3	1.82	0.44
3:C:699:ASP:O	3:C:705:VAL:CG2	2.65	0.44
4:D:544:MET:HG3	4:D:817:TRP:CD2	2.53	0.44
4:D:1329:ASN:HB2	4:D:1330:PRO:HD2	1.98	0.44
4:D:2114:MET:HE3	4:D:2114:MET:HB3	1.86	0.44
8:H:106:G:H5''	30:k:47:ARG:HH22	1.82	0.44
12:L:99:HIS:O	12:L:102:PHE:HB3	2.17	0.44
13:M:200:ARG:H	13:M:200:ARG:HD2	1.81	0.44
14:N:91:LYS:HD3	14:N:91:LYS:HA	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:147:LEU:HD12	15:O:148:LEU:N	2.33	0.44
18:R:104:GLN:HE21	18:R:104:GLN:C	2.26	0.44
23:W:309:MET:HA	23:W:334:ALA:HB1	2.00	0.44
23:W:316:TRP:CZ3	23:W:324:CYS:HB3	2.52	0.44
23:W:468:THR:HG22	23:W:516:PHE:HE1	1.83	0.44
23:W:517:SER:HB3	23:W:558:TRP:CE3	2.52	0.44
23:W:552:VAL:HG12	23:W:571:TRP:CD1	2.52	0.44
26:Z:333:GLU:O	26:Z:337:LYS:HG3	2.17	0.44
32:e:25:LEU:C	32:e:25:LEU:HD23	2.42	0.44
30:k:48:ASN:O	30:k:49:ASN:HB2	2.17	0.44
1:A:45:TYR:HB2	5:E:153:PHE:CE2	2.53	0.44
1:A:357:ASN:ND2	3:C:862:PRO:HB2	2.33	0.44
1:A:1215:ASN:HB3	1:A:1224:ARG:CD	2.48	0.44
1:A:1279:VAL:HG23	22:V:467:LEU:HD23	1.99	0.44
1:A:2314:PHE:HD2	4:D:1123:TRP:CG	2.36	0.44
4:D:1368:LEU:HD11	4:D:1403:LYS:HG3	2.00	0.44
4:D:1416:LEU:O	4:D:1419:LEU:HD23	2.18	0.44
6:F:25:C:C4'	6:F:26:U:OP2	2.65	0.44
8:H:84:C:H2'	8:H:85:A:H8	1.82	0.44
13:M:125:SER:HB2	18:R:237:MET:O	2.17	0.44
14:N:113:PHE:HD1	18:R:200:VAL:HG21	1.81	0.44
15:O:110:SER:HG	15:O:113:ASN:HD22	1.59	0.44
18:R:52:PRO:HB3	18:R:57:ASP:CB	2.48	0.44
18:R:106:GLN:CD	18:R:106:GLN:N	2.76	0.44
19:S:15:TYR:CE2	19:S:22:ILE:HG21	2.52	0.44
19:S:102:ASN:OD1	19:S:107:THR:O	2.35	0.44
22:V:330:LYS:NZ	37:u:47:GLU:HG3	2.33	0.44
23:W:280:GLN:C	23:W:280:GLN:NE2	2.75	0.44
23:W:389:ASN:ND2	23:W:406:ARG:HH21	2.12	0.44
23:W:458:GLU:O	23:W:459:PRO:C	2.58	0.44
28:i:18:ARG:HB2	28:i:83:GLU:HG2	1.99	0.44
28:i:37:HIS:O	28:i:38:MET:HB2	2.17	0.44
34:o:37:LEU:HB2	34:o:61:PRO:HD3	2.00	0.44
38:v:7:PHE:HE2	38:v:62:LEU:HD23	1.82	0.44
1:A:264:PHE:CE2	1:A:459:LEU:CD1	2.92	0.44
1:A:283:VAL:C	1:A:284:ARG:CG	2.91	0.44
1:A:348:PRO:C	1:A:350:PHE:N	2.75	0.44
1:A:784:LEU:HD23	1:A:784:LEU:HA	1.90	0.44
1:A:1179:SER:C	1:A:1181:ASP:N	2.76	0.44
7:G:19:G:H21	15:O:196:GLN:HB2	1.82	0.44
7:G:139:U:H2'	7:G:140:A:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:30:TYR:CE1	18:R:162:ALA:HA	2.53	0.44
18:R:67:ILE:CG1	18:R:71:GLN:OE1	2.66	0.44
19:S:10:GLN:HB2	19:S:29:TRP:CG	2.53	0.44
23:W:101:THR:CG2	23:W:104:MET:CG	2.85	0.44
23:W:181:PHE:N	23:W:181:PHE:HD1	2.15	0.44
23:W:373:ARG:HA	23:W:373:ARG:HD3	1.86	0.44
32:l:20:LEU:CD2	32:l:24:TYR:CZ	3.00	0.44
1:A:1771:LEU:O	1:A:1777:ILE:HD12	2.17	0.43
1:A:1947:ASN:HD21	24:X:85:LEU:HD11	1.82	0.43
3:C:445:ALA:HB3	3:C:449:ILE:HD11	1.99	0.43
5:E:178:LEU:HG	5:E:188:GLN:HB2	2.00	0.43
7:G:5:G:C5'	7:G:5:G:C8	3.01	0.43
7:G:23:U:H5''	7:G:23:U:H6	1.82	0.43
12:L:83:ARG:HH11	12:L:93:ALA:HB3	1.82	0.43
12:L:178:GLU:CA	12:L:181:ARG:HG2	2.43	0.43
14:N:125:LYS:HD2	23:W:167:VAL:O	2.18	0.43
15:O:36:MET:HE2	15:O:57:TRP:CE3	2.53	0.43
16:P:77:ASP:O	16:P:78:ARG:HD2	2.18	0.43
17:Q:748:ARG:NH1	17:Q:780:GLU:OE1	2.43	0.43
19:S:10:GLN:H	19:S:10:GLN:CD	2.25	0.43
20:T:418:THR:CG2	20:T:467:ALA:HA	2.48	0.43
22:V:536:ILE:O	22:V:578:SER:HB2	2.15	0.43
23:W:404:ASP:CG	23:W:406:ARG:HG2	2.43	0.43
23:W:482:ASP:OD1	23:W:482:ASP:C	2.59	0.43
24:X:69:GLY:O	24:X:70:SER:C	2.60	0.43
26:Z:315:VAL:O	26:Z:318:THR:HB	2.18	0.43
32:e:51:ASP:C	32:e:51:ASP:OD1	2.61	0.43
32:l:34:TRP:CD1	32:l:34:TRP:N	2.86	0.43
36:s:101:GLN:O	36:s:105:HIS:CG	2.71	0.43
37:u:81:GLN:HB2	37:u:221:LEU:HD12	1.99	0.43
1:A:246:LEU:HD22	1:A:408:PRO:HG2	2.00	0.43
1:A:282:LEU:C	1:A:282:LEU:CD2	2.92	0.43
1:A:1384:ARG:CZ	22:V:545:ARG:HD3	2.48	0.43
1:A:1427:ARG:HH21	1:A:1427:ARG:CG	2.31	0.43
1:A:1813:ARG:HH22	1:A:1814:THR:HG22	1.83	0.43
1:A:1949:ARG:CD	1:A:1986:LEU:CD2	2.96	0.43
1:A:1984:LYS:HD2	26:Z:345:ALA:HB1	2.00	0.43
1:A:2072:GLU:O	1:A:2076:ARG:HG3	2.19	0.43
3:C:59:LEU:CD2	3:C:59:LEU:N	2.80	0.43
3:C:497:LEU:HD11	3:C:577:PHE:CE2	2.53	0.43
4:D:412:GLU:O	4:D:415:VAL:HG22	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:479:LYS:HA	4:D:479:LYS:HD3	1.92	0.43
4:D:1340:TYR:O	4:D:1366:ARG:HD2	2.18	0.43
8:H:55:U:H2'	8:H:56:A:H8	1.82	0.43
8:H:178:A:N3	8:H:178:A:H2'	2.33	0.43
10:J:220:LEU:O	10:J:223:TYR:HB3	2.18	0.43
14:N:12:PRO:HG2	14:N:74:LEU:HA	2.00	0.43
18:R:126:ASN:CG	18:R:127:ALA:N	2.76	0.43
23:W:266:ARG:O	23:W:267:SER:O	2.35	0.43
25:Y:662:THR:C	25:Y:663:ASP:O	2.61	0.43
26:Z:166:LYS:HB2	26:Z:166:LYS:HE3	1.79	0.43
26:Z:356:SER:O	26:Z:359:VAL:HB	2.19	0.43
30:d:48:ASN:O	30:d:49:ASN:HB2	2.17	0.43
37:u:23:MET:O	37:u:227:GLU:HG2	2.18	0.43
1:A:371:LEU:HD11	3:C:347:ILE:CD1	2.47	0.43
2:B:40:U:H6	2:B:40:U:O5'	2.01	0.43
4:D:411:LEU:O	4:D:415:VAL:HG13	2.18	0.43
4:D:890:GLU:OE1	4:D:936:TYR:OH	2.31	0.43
4:D:1244:LYS:HE2	4:D:1245:TYR:CE2	2.54	0.43
8:H:157:G:H2'	8:H:158:G:O4'	2.19	0.43
10:J:220:LEU:CD1	10:J:224:LYS:HE3	2.40	0.43
12:L:11:TRP:O	12:L:137:ALA:HB1	2.17	0.43
18:R:106:GLN:NE2	18:R:106:GLN:N	2.66	0.43
18:R:113:TYR:CD2	18:R:118:ASP:OD2	2.71	0.43
18:R:124:VAL:CG2	18:R:125:MET:N	2.75	0.43
23:W:382:ASN:HA	23:W:383:PRO:HD3	1.82	0.43
24:X:78:GLU:O	24:X:81:VAL:HB	2.18	0.43
26:Z:140:VAL:CG1	26:Z:145:THR:HG23	2.49	0.43
37:u:88:LYS:NZ	46:u:702:ATP:O1G	2.50	0.43
1:A:338:VAL:O	1:A:338:VAL:HG13	2.18	0.43
1:A:362:ARG:NE	1:A:362:ARG:C	2.76	0.43
1:A:1795:GLU:OE1	1:A:1795:GLU:HA	2.17	0.43
1:A:1820:LYS:NZ	1:A:1844:GLU:OE1	2.48	0.43
1:A:1889:LEU:HD12	1:A:2013:GLY:HA3	2.01	0.43
1:A:2067:PHE:HB2	1:A:2072:GLU:HG2	2.00	0.43
1:A:2314:PHE:HD2	4:D:1123:TRP:HB3	1.83	0.43
2:B:31:U:H5''	16:P:32:SER:OG	2.18	0.43
2:B:95:G:C6	32:e:36:TYR:O	2.72	0.43
3:C:244:LYS:HG3	3:C:292:TYR:CE2	2.53	0.43
3:C:292:TYR:N	3:C:292:TYR:CD1	2.85	0.43
3:C:445:ALA:C	3:C:449:ILE:CG1	2.87	0.43
3:C:617:LEU:HD11	3:C:629:ILE:HG23	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:678:THR:HG23	3:C:683:ASN:O	2.18	0.43
3:C:846:VAL:HG22	3:C:887:LEU:HD11	2.00	0.43
4:D:760:GLU:HB3	4:D:763:ARG:HB2	2.01	0.43
4:D:807:GLN:H	4:D:807:GLN:HG2	1.67	0.43
4:D:1380:THR:HG21	4:D:1385:LEU:HD22	2.01	0.43
8:H:58:U:H2'	8:H:59:A:H8	1.82	0.43
12:L:146:GLU:CG	12:L:147:ASP:OD1	2.66	0.43
13:M:121:ASP:C	13:M:122:LEU:HD22	2.43	0.43
15:O:51:PRO:HG3	18:R:212:PHE:CE1	2.53	0.43
15:O:197:ASN:HB3	15:O:200:ASP:HB3	2.00	0.43
15:O:235:TYR:HA	15:O:271:PHE:CD1	2.54	0.43
16:P:73:GLU:C	16:P:73:GLU:CD	2.86	0.43
18:R:276:GLN:NE2	18:R:277:THR:N	2.65	0.43
19:S:98:LEU:HD21	19:S:129:PHE:HD2	1.83	0.43
23:W:517:SER:OG	23:W:522:TYR:HB2	2.17	0.43
26:Z:163:TYR:CE1	26:Z:167:ARG:CZ	3.02	0.43
26:Z:293:ARG:CZ	26:Z:316:ARG:HH22	2.31	0.43
27:h:24:THR:O	27:h:51:ARG:NH1	2.46	0.43
32:l:51:ASP:C	32:l:51:ASP:OD1	2.61	0.43
37:u:275:LEU:CD2	37:u:330:VAL:CG2	2.94	0.43
1:A:750:TRP:CZ2	1:A:778:ARG:HG2	2.53	0.43
1:A:1757:GLU:CB	1:A:1759:THR:OG1	2.66	0.43
3:C:70:GLU:CD	3:C:70:GLU:C	2.86	0.43
3:C:89:LEU:HD23	3:C:90:THR:N	2.32	0.43
3:C:298:LEU:O	3:C:298:LEU:HD22	2.19	0.43
4:D:822:PRO:HG2	4:D:859:PRO:HD3	1.99	0.43
4:D:1033:GLU:HB3	4:D:1077:LEU:HD11	2.01	0.43
4:D:1455:GLU:HG3	4:D:1457:HIS:CE1	2.53	0.43
4:D:1457:HIS:CE1	4:D:1492:SER:HB3	2.53	0.43
4:D:1475:ARG:NH1	4:D:1505:GLY:HA3	2.32	0.43
6:F:71:G:O2'	7:G:-2:C:O2'	2.33	0.43
8:H:98:G:H5'	8:H:104:U:OP2	2.19	0.43
13:M:211:ILE:HD12	13:M:212:ASN:CA	2.48	0.43
14:N:5:LYS:HD2	14:N:77:TYR:OH	2.17	0.43
15:O:104:LYS:HG3	15:O:139:LYS:HZ1	1.83	0.43
15:O:177:GLU:HB3	23:W:202:GLU:OE1	2.19	0.43
16:P:59:PHE:HB3	20:T:216:ASN:ND2	2.33	0.43
18:R:179:TYR:HD2	18:R:195:ARG:HD2	1.83	0.43
18:R:238:THR:HG22	18:R:240:LYS:H	1.82	0.43
20:T:409:LEU:HD12	20:T:409:LEU:N	2.34	0.43
23:W:249:TYR:HB3	23:W:250:GLN:H	1.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:254:TYR:CD1	23:W:255:LEU:N	2.86	0.43
23:W:505:HIS:HB3	23:W:533:ASN:OD1	2.19	0.43
36:t:117:ILE:O	36:t:121:THR:HG23	2.18	0.43
37:u:307:MET:HE1	37:u:320:MET:CG	2.49	0.43
1:A:1314:VAL:HG13	1:A:1315:VAL:N	2.32	0.43
1:A:1494:TYR:O	1:A:1494:TYR:CG	2.71	0.43
1:A:2073:TRP:CH2	1:A:2313:HIS:CG	3.06	0.43
3:C:941:LYS:O	3:C:943:LEU:HG	2.18	0.43
4:D:704:MET:HE2	4:D:870:ILE:HG22	2.00	0.43
4:D:726:HIS:CG	4:D:833:VAL:HG12	2.54	0.43
4:D:1359:CYS:HA	4:D:1362:PHE:HD2	1.82	0.43
6:F:39:A:H2'	6:F:40:U:O4'	2.19	0.43
10:J:220:LEU:C	10:J:220:LEU:CD1	2.90	0.43
10:J:406:PHE:CG	10:J:411:MET:CE	2.94	0.43
13:M:154:GLU:HG3	13:M:155:LYS:HG3	2.00	0.43
15:O:241:ASP:CG	15:O:268:GLN:HE21	2.27	0.43
16:P:188:TRP:CG	16:P:189:ASP:N	2.86	0.43
22:V:231:GLU:O	22:V:235:LYS:HG3	2.19	0.43
22:V:512:GLY:O	22:V:513:ARG:C	2.60	0.43
23:W:172:GLN:HG3	23:W:173:LYS:N	2.33	0.43
23:W:265:LEU:HD11	23:W:301:GLY:C	2.44	0.43
23:W:468:THR:HG22	23:W:469:LEU:N	2.33	0.43
23:W:517:SER:O	23:W:518:PRO:C	2.60	0.43
26:Z:112:ILE:HG23	26:Z:113:THR:N	2.34	0.43
26:Z:275:LEU:HA	26:Z:275:LEU:HD23	1.69	0.43
28:b:52:LYS:HG3	28:b:52:LYS:O	2.18	0.43
31:f:65:ARG:HH11	31:f:65:ARG:HG3	1.83	0.43
28:i:52:LYS:HG3	28:i:52:LYS:O	2.18	0.43
1:A:293:TRP:CH2	1:A:295:GLU:OE1	2.71	0.43
1:A:767:VAL:HB	1:A:771:VAL:CG1	2.42	0.43
1:A:781:ARG:NH2	8:H:24:A:H5'	2.34	0.43
2:B:27:U:HO2'	2:B:28:A:P	2.42	0.43
3:C:144:CYS:SG	3:C:148:CYS:SG	3.13	0.43
3:C:696:LEU:O	3:C:700:ILE:HG13	2.19	0.43
8:H:153:A:H62	8:H:177:A:H2	1.67	0.43
13:M:215:ASN:OD1	18:R:260:TYR:HA	2.19	0.43
15:O:51:PRO:HG3	18:R:212:PHE:CD1	2.54	0.43
15:O:284:ALA:O	15:O:288:PHE:N	2.38	0.43
18:R:88:ILE:HG22	18:R:96:ILE:HG23	1.94	0.43
18:R:126:ASN:CG	18:R:127:ALA:H	2.26	0.43
22:V:330:LYS:NZ	37:u:50:LEU:HD23	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:154:GLY:O	23:W:156:VAL:HG22	2.17	0.43
23:W:167:VAL:HG23	23:W:168:PHE:N	2.32	0.43
23:W:205:VAL:HG12	23:W:206:ALA:N	2.33	0.43
23:W:210:GLU:C	23:W:213:GLN:HB2	2.44	0.43
23:W:258:PRO:CG	23:W:265:LEU:HG	2.49	0.43
23:W:265:LEU:HD12	23:W:300:SER:CB	2.39	0.43
23:W:354:ARG:CZ	23:W:375:VAL:HG23	2.48	0.43
37:u:265:PHE:CE1	37:u:297:MET:HE3	2.53	0.43
1:A:151:MET:SD	1:A:628:GLY:O	2.77	0.43
1:A:2268:LEU:HD21	4:D:1261:PRO:HB2	2.01	0.43
1:A:2315:LEU:HD13	1:A:2315:LEU:HA	1.82	0.43
2:B:94:U:O2'	2:B:95:G:H3'	2.18	0.43
3:C:363:SER:O	3:C:364:SER:CB	2.66	0.43
3:C:366:GLN:H	3:C:366:GLN:HG2	1.48	0.43
3:C:438:ILE:CD1	3:C:438:ILE:N	2.81	0.43
3:C:513:ASN:ND2	3:C:513:ASN:C	2.76	0.43
4:D:462:LEU:HD21	4:D:467:LEU:HB3	2.01	0.43
4:D:639:ILE:HD11	4:D:646:VAL:HB	2.01	0.43
4:D:1566:ARG:HG3	4:D:1622:GLU:HG2	2.00	0.43
4:D:1728:LEU:O	4:D:1732:MET:HE2	2.18	0.43
5:E:209:ILE:HG21	5:E:250:LEU:HD11	2.00	0.43
15:O:248:LEU:O	15:O:252:PHE:HD2	2.02	0.43
17:Q:987:TYR:CE2	17:Q:991:MET:HE3	2.53	0.43
18:R:81:LYS:NZ	18:R:81:LYS:N	2.65	0.43
19:S:12:PRO:HB2	19:S:13:ASN:H	1.69	0.43
23:W:445:TRP:CZ3	23:W:450:PRO:O	2.72	0.43
1:A:2272:MET:HE3	1:A:2296:LEU:HB3	2.01	0.43
2:B:99:C:H2'	2:B:100:C:C6	2.53	0.43
3:C:191:PRO:HG2	3:C:426:GLU:OE1	2.19	0.43
3:C:569:ARG:O	3:C:569:ARG:HG2	2.19	0.43
4:D:1148:PHE:CE2	4:D:1152:ARG:HB3	2.54	0.43
5:E:161:ARG:NH1	5:E:161:ARG:CG	2.80	0.43
12:L:267:LEU:HD23	12:L:267:LEU:HA	1.81	0.43
14:N:4:VAL:O	14:N:6:ARG:NH1	2.52	0.43
15:O:155:PRO:CG	18:R:188:PHE:HD1	2.19	0.43
15:O:254:GLN:HG2	19:S:120:GLN:HB2	1.59	0.43
18:R:74:LEU:HD12	19:S:136:ILE:CG2	2.49	0.43
18:R:106:GLN:HG2	18:R:110:LYS:CE	2.45	0.43
20:T:454:VAL:CG1	20:T:455:GLN:H	2.31	0.43
22:V:284:ARG:HG3	22:V:284:ARG:O	2.19	0.43
26:Z:295:ASN:OD1	26:Z:295:ASN:C	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:d:68:GLU:HA	30:d:97:SER:O	2.19	0.43
32:e:34:TRP:N	32:e:34:TRP:CD1	2.86	0.43
37:u:271:LEU:HD11	37:u:408:ALA:HB1	2.00	0.43
1:A:30:LEU:CD2	5:E:214:ASP:HA	2.47	0.43
1:A:48:LYS:C	1:A:50:LYS:H	2.27	0.43
1:A:664:HIS:CE1	1:A:666:LYS:HD3	2.51	0.43
1:A:2279:TRP:CD1	1:A:2279:TRP:H	2.35	0.43
3:C:185:PRO:HD3	3:C:482:TYR:CZ	2.54	0.43
3:C:700:ILE:HD11	3:C:744:ILE:HD11	2.01	0.43
4:D:646:VAL:HG12	4:D:647:ARG:O	2.19	0.43
4:D:681:ARG:NH2	4:D:854:GLY:HA2	2.34	0.43
4:D:837:GLU:HG2	4:D:1083:TYR:CE1	2.54	0.43
4:D:991:TYR:CE2	4:D:1097:GLU:HG3	2.54	0.43
4:D:1996:LEU:HD12	4:D:1997:LEU:HD23	2.00	0.43
5:E:219:VAL:HB	5:E:229:TYR:HB2	1.99	0.43
6:F:22:A:C8	23:W:130:ARG:NE	2.87	0.43
7:G:-19:A:N3	37:u:169:ASP:OD2	2.52	0.43
7:G:19:G:N2	15:O:196:GLN:HB2	2.34	0.43
8:H:33:G:OP2	8:H:33:G:H8	2.01	0.43
10:J:260:ARG:HH12	12:L:215:PRO:HD3	1.84	0.43
16:P:69:ALA:HA	16:P:72:ARG:NH1	2.33	0.43
17:Q:961:VAL:HG12	17:Q:987:TYR:N	2.34	0.43
18:R:282:GLU:O	18:R:285:ALA:N	2.34	0.43
22:V:484:SER:O	22:V:486:THR:N	2.52	0.43
23:W:101:THR:HG23	23:W:104:MET:N	2.25	0.43
23:W:254:TYR:OH	23:W:361:THR:O	2.14	0.43
23:W:466:ALA:HB2	23:W:512:CYS:O	2.17	0.43
23:W:571:TRP:O	23:W:573:GLY:N	2.52	0.43
36:r:102:GLU:HA	36:r:105:HIS:CG	2.54	0.43
1:A:89:LEU:HA	1:A:89:LEU:HD23	1.87	0.42
1:A:292:ASP:O	1:A:294:ASN:ND2	2.52	0.42
1:A:361:HIS:ND1	1:A:361:HIS:N	2.65	0.42
1:A:370:PRO:O	1:A:371:LEU:C	2.61	0.42
1:A:629:PHE:CD2	1:A:629:PHE:O	2.71	0.42
1:A:1591:MET:CG	26:Z:266:ARG:HD2	2.48	0.42
1:A:2302:LYS:HD2	1:A:2306:HIS:CE1	2.54	0.42
3:C:71:GLU:C	3:C:71:GLU:CD	2.86	0.42
3:C:297:ASN:ND2	3:C:298:LEU:HD12	2.33	0.42
3:C:452:THR:HB	3:C:577:PHE:CE2	2.53	0.42
4:D:420:SER:O	4:D:878:TYR:OH	2.26	0.42
4:D:862:ASP:OD1	4:D:863:THR:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1351:PRO:HG3	4:D:1516:PRO:HA	2.01	0.42
4:D:1855:TYR:CE1	4:D:1915:ILE:HG23	2.54	0.42
6:F:34:G:C3'	6:F:35:A:H5''	2.46	0.42
6:F:43:A:O2'	6:F:44:G:H5'	2.19	0.42
7:G:134:U:H3'	7:G:135:G:H21	1.84	0.42
10:J:201:ARG:C	10:J:203:LEU:N	2.77	0.42
10:J:258:ILE:HD11	12:L:232:TYR:CG	2.54	0.42
17:Q:61:ILE:O	17:Q:65:MET:HG3	2.19	0.42
18:R:94:GLY:HA3	18:R:95:LYS:HD3	2.01	0.42
18:R:103:ARG:CG	18:R:103:ARG:NH1	2.77	0.42
18:R:279:HIS:ND1	18:R:279:HIS:N	2.66	0.42
19:S:131:ARG:CD	19:S:131:ARG:C	2.91	0.42
20:T:300:ILE:O	20:T:301:ASP:HB2	2.19	0.42
22:V:182:ILE:O	22:V:186:LEU:HG	2.18	0.42
23:W:298:PRO:O	23:W:299:LEU:HB3	2.19	0.42
23:W:427:VAL:CG1	23:W:428:ASP:N	2.82	0.42
28:b:50:LYS:C	28:b:51:ILE:HG13	2.44	0.42
29:j:66:ARG:CZ	30:k:48:ASN:HB3	2.49	0.42
32:l:20:LEU:HD13	33:n:61:VAL:HG22	2.00	0.42
36:q:117:ILE:HG13	36:t:117:ILE:HG22	2.01	0.42
37:u:254:PHE:HA	37:u:401:ASP:O	2.18	0.42
37:u:403:MET:HG3	37:u:411:ILE:HD12	2.00	0.42
39:w:137:GLN:O	39:w:143:PRO:HA	2.19	0.42
1:A:379:GLU:HB3	3:C:355:LYS:HB2	2.02	0.42
1:A:382:GLU:C	1:A:382:GLU:CD	2.86	0.42
1:A:596:TYR:O	1:A:598:LEU:N	2.52	0.42
1:A:609:LYS:CE	41:A:3000:IHP:O31	2.64	0.42
1:A:1370:ARG:HA	1:A:1370:ARG:HD2	1.69	0.42
1:A:1763:LEU:CD2	1:A:1768:TYR:HA	2.49	0.42
1:A:2121:ARG:HD2	1:A:2121:ARG:HA	1.55	0.42
1:A:2216:CYS:HA	1:A:2225:LEU:HB3	2.01	0.42
3:C:452:THR:HG21	3:C:577:PHE:CD2	2.52	0.42
4:D:1094:ALA:O	4:D:1098:ILE:HG13	2.18	0.42
4:D:1291:LEU:HA	4:D:1292:PRO:HD3	1.88	0.42
5:E:119:THR:HG21	5:E:161:ARG:HB2	1.96	0.42
7:G:1:G:C6	7:G:144:A:N1	2.87	0.42
7:G:14:A:C8	7:G:14:A:OP2	2.72	0.42
8:H:43:U:H2'	8:H:44:U:C6	2.53	0.42
8:H:101:U:H4'	28:i:73:ARG:NH2	2.35	0.42
15:O:20:PHE:CD2	15:O:21:PRO:HD2	2.54	0.42
17:Q:1208:VAL:HG13	17:Q:1241:ILE:HD13	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:263:PRO:HB2	18:R:266:LYS:CG	2.31	0.42
18:R:276:GLN:HE22	18:R:278:VAL:N	2.17	0.42
20:T:438:LEU:HB3	20:T:447:PHE:CZ	2.55	0.42
23:W:155:SER:O	23:W:156:VAL:CB	2.67	0.42
23:W:243:VAL:CG1	23:W:323:ARG:NE	2.61	0.42
23:W:316:TRP:CZ3	23:W:324:CYS:HB2	2.54	0.42
23:W:341:ASN:OD1	23:W:341:ASN:C	2.62	0.42
23:W:354:ARG:NH1	23:W:373:ARG:O	2.52	0.42
28:b:18:ARG:HB2	28:b:83:GLU:HG2	1.99	0.42
29:c:67:TYR:HB2	30:d:100:PHE:O	2.19	0.42
31:m:65:ARG:HG3	31:m:65:ARG:HH11	1.83	0.42
37:u:260:ARG:HG2	37:u:262:GLU:H	1.83	0.42
39:w:131:MET:HE2	39:w:147:ASP:C	2.44	0.42
1:A:159:ARG:NH1	26:Z:104:ARG:O	2.52	0.42
1:A:254:TYR:CE2	1:A:434:HIS:HB2	2.54	0.42
1:A:381:PRO:O	1:A:383:PHE:N	2.52	0.42
1:A:730:GLY:O	18:R:248:PRO:HG2	2.19	0.42
2:B:87:A:H5'	2:B:93:U:OP2	2.19	0.42
3:C:445:ALA:O	3:C:449:ILE:HG13	2.20	0.42
3:C:449:ILE:HG23	3:C:457:VAL:HG12	1.95	0.42
3:C:489:GLN:N	3:C:489:GLN:CD	2.77	0.42
3:C:499:GLY:C	3:C:500:THR:CG2	2.91	0.42
3:C:508:LYS:HE2	3:C:566:THR:HG23	2.01	0.42
4:D:1542:MET:O	4:D:1546:VAL:HG23	2.19	0.42
4:D:1713:PHE:N	4:D:1713:PHE:HD1	2.17	0.42
6:F:2:U:H4'	14:N:98:GLU:OE1	2.18	0.42
8:H:157:G:H5''	8:H:157:G:C8	2.50	0.42
18:R:71:GLN:HE21	18:R:71:GLN:HB2	1.60	0.42
18:R:249:PRO:O	18:R:250:CYS:C	2.62	0.42
23:W:431:ARG:O	23:W:446:GLU:HA	2.20	0.42
29:c:66:ARG:CZ	30:d:48:ASN:HB3	2.49	0.42
32:e:20:LEU:HD13	33:g:61:VAL:HG22	2.00	0.42
33:n:35:ASP:HB2	33:n:36:PRO:CD	2.42	0.42
34:o:56:LYS:HE2	34:o:58:ASP:CG	2.44	0.42
1:A:293:TRP:CB	1:A:1136:ARG:NH2	2.67	0.42
1:A:330:THR:O	1:A:331:TRP:CB	2.67	0.42
1:A:2310:ARG:HH11	1:A:2310:ARG:HB3	1.83	0.42
3:C:245:HIS:O	3:C:249:GLU:HG2	2.20	0.42
3:C:445:ALA:HB1	3:C:449:ILE:HG12	1.88	0.42
3:C:490:PHE:CE1	3:C:612:LYS:HD2	2.52	0.42
3:C:524:ILE:O	3:C:525:CYS:SG	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:623:ASP:O	4:D:626:PRO:HD2	2.19	0.42
4:D:692:ILE:HG22	4:D:694:GLU:H	1.83	0.42
4:D:1680:PRO:O	4:D:1683:ASP:HB2	2.20	0.42
5:E:255:MET:O	5:E:257:ASN:N	2.52	0.42
12:L:163:GLN:HB3	12:L:168:LYS:HG3	2.01	0.42
14:N:54:HIS:CE1	14:N:92:TRP:CZ2	3.07	0.42
16:P:72:ARG:CB	16:P:72:ARG:CZ	2.97	0.42
17:Q:735:VAL:HG11	17:Q:743:GLN:HG2	2.02	0.42
19:S:125:LYS:C	19:S:126:HIS:ND1	2.77	0.42
22:V:322:ILE:O	22:V:326:SER:HB2	2.19	0.42
23:W:101:THR:HG23	23:W:104:MET:HG2	1.97	0.42
23:W:341:ASN:HB2	23:W:346:GLN:HB2	2.00	0.42
23:W:416:ARG:CG	23:W:416:ARG:HH11	2.33	0.42
23:W:474:LYS:C	23:W:490:ALA:HB2	2.43	0.42
30:d:28:PRO:HD2	31:f:37:ASP:HB3	2.02	0.42
36:s:67:SER:HB3	36:s:70:SER:HB2	2.02	0.42
1:A:533:LYS:CE	6:F:37:C:C2	3.02	0.42
1:A:646:PRO:HG3	2:B:55:C:H4'	2.00	0.42
1:A:726:TRP:CE3	1:A:726:TRP:O	2.73	0.42
1:A:1641:ARG:HA	1:A:1642:PRO:HD3	1.90	0.42
1:A:1830:GLN:O	1:A:1831:LYS:C	2.62	0.42
1:A:2008:ARG:O	1:A:2012:LEU:HB3	2.20	0.42
1:A:2310:ARG:HG2	1:A:2310:ARG:HH11	1.84	0.42
1:A:2332:ASP:C	1:A:2334:TYR:H	2.28	0.42
3:C:183:SER:OG	3:C:480:LYS:NZ	2.52	0.42
3:C:203:MET:HE1	3:C:482:TYR:OH	2.20	0.42
3:C:297:ASN:ND2	3:C:297:ASN:C	2.76	0.42
3:C:493:PHE:HZ	3:C:549:TRP:CE3	2.36	0.42
4:D:739:ARG:HD3	4:D:780:TYR:CE2	2.55	0.42
4:D:933:PRO:HG3	4:D:943:LEU:HD22	2.02	0.42
5:E:243:LEU:HD22	5:E:243:LEU:HA	1.82	0.42
7:G:26:U:C2'	7:G:27:U:H5''	2.44	0.42
8:H:107:A:N1	8:H:108:G:C5	2.88	0.42
10:J:201:ARG:HE	10:J:203:LEU:HA	1.84	0.42
13:M:211:ILE:CD1	13:M:212:ASN:N	2.80	0.42
18:R:195:ARG:HH11	18:R:195:ARG:CG	2.32	0.42
23:W:266:ARG:NH1	32:l:14:MET:CA	2.73	0.42
25:Y:405:MET:HB3	25:Y:411:LEU:HG	2.00	0.42
1:A:1760:GLU:HG3	26:Z:293:ARG:NH2	2.34	0.42
1:A:1949:ARG:HD3	1:A:1986:LEU:CG	2.50	0.42
2:B:24:G:O2'	2:B:26:A:C5	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:57:G:C2'	2:B:58:U:H5'	2.49	0.42
2:B:90:U:H4'	28:b:73:ARG:NH2	2.35	0.42
3:C:89:LEU:O	3:C:90:THR:C	2.61	0.42
3:C:221:ILE:C	3:C:448:LYS:HZ1	2.26	0.42
3:C:502:HIS:ND1	3:C:543:ARG:CB	2.83	0.42
3:C:704:VAL:O	3:C:709:TRP:CZ2	2.73	0.42
4:D:828:ILE:HD11	4:D:853:LEU:HD13	2.00	0.42
4:D:1385:LEU:O	4:D:1389:VAL:HG23	2.19	0.42
4:D:2014:TYR:HA	4:D:2015:PRO:HD3	1.87	0.42
4:D:2051:VAL:HG13	4:D:2113:TYR:CZ	2.54	0.42
7:G:145:U:O2'	7:G:146:C:P	2.77	0.42
12:L:77:LEU:HD22	18:R:285:ALA:CA	2.48	0.42
13:M:200:ARG:HH11	13:M:200:ARG:CG	2.31	0.42
18:R:61:GLY:N	19:S:136:ILE:HB	2.34	0.42
18:R:90:VAL:CG1	18:R:94:GLY:C	2.92	0.42
18:R:171:LEU:H	18:R:171:LEU:CD2	2.33	0.42
18:R:211:ARG:HB3	18:R:212:PHE:CD2	2.55	0.42
19:S:10:GLN:HB2	19:S:29:TRP:CD2	2.54	0.42
20:T:225:ASP:O	20:T:226:ARG:CB	2.67	0.42
22:V:387:MET:HA	22:V:387:MET:HE3	2.01	0.42
22:V:576:THR:O	22:V:580:ARG:N	2.37	0.42
22:V:622:ARG:HA	22:V:625:ARG:NH1	2.30	0.42
23:W:240:ILE:HG13	23:W:327:THR:HB	2.02	0.42
23:W:254:TYR:HD1	23:W:255:LEU:N	2.18	0.42
23:W:261:VAL:CG2	23:W:319:TYR:CE1	2.97	0.42
23:W:470:SER:HB2	23:W:520:MET:SD	2.60	0.42
23:W:534:ILE:O	23:W:542:LEU:HD12	2.18	0.42
26:Z:286:ASP:O	26:Z:288:LYS:N	2.52	0.42
26:Z:350:LEU:O	26:Z:351:GLU:C	2.63	0.42
30:d:103:GLY:O	30:d:106:VAL:HG23	2.20	0.42
1:A:329:LEU:HD13	3:C:177:ARG:HE	1.84	0.42
1:A:684:GLU:OE2	20:T:266:GLU:HB3	2.20	0.42
1:A:2117:ILE:H	1:A:2117:ILE:HG12	1.64	0.42
4:D:564:ILE:HG13	4:D:584:GLN:HG3	2.02	0.42
4:D:1583:ASP:C	4:D:1585:GLN:H	2.26	0.42
4:D:1825:ASN:OD1	4:D:1826:TYR:N	2.53	0.42
6:F:42:C:C5'	6:F:43:A:OP2	2.65	0.42
7:G:20:A:C1'	15:O:193:LEU:HD21	2.49	0.42
8:H:155:C:H2'	8:H:156:U:H5''	2.02	0.42
10:J:196:ARG:CA	13:M:208:ILE:HD11	2.49	0.42
12:L:37:LEU:HD23	12:L:155:ALA:HB2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:200:ARG:HD2	13:M:200:ARG:N	2.35	0.42
16:P:48:GLN:O	16:P:49:ASP:CB	2.68	0.42
18:R:106:GLN:HE21	18:R:106:GLN:HA	1.85	0.42
18:R:135:PRO:C	18:R:136:ASP:OD1	2.60	0.42
18:R:276:GLN:C	18:R:276:GLN:CD	2.88	0.42
22:V:155:GLN:CD	22:V:387:MET:HE2	2.45	0.42
22:V:330:LYS:HA	22:V:333:GLN:OE1	2.20	0.42
22:V:387:MET:CE	22:V:387:MET:HA	2.50	0.42
23:W:314:LYS:CB	23:W:316:TRP:CZ2	3.01	0.42
23:W:317:GLU:OE1	23:W:319:TYR:HD2	2.02	0.42
23:W:554:ILE:HD13	23:W:571:TRP:CH2	2.53	0.42
31:m:65:ARG:HG3	31:m:65:ARG:NH1	2.35	0.42
36:t:94:GLN:O	36:t:97:GLN:CG	2.68	0.42
37:u:46:ARG:HH11	37:u:133:MET:HE3	1.85	0.42
1:A:298:ASP:O	1:A:302:ILE:CG1	2.63	0.42
1:A:378:PHE:HB3	3:C:342:ARG:HH12	1.85	0.42
1:A:1083:HIS:HA	1:A:1084:PRO:HD3	1.88	0.42
1:A:1179:SER:O	1:A:1181:ASP:N	2.52	0.42
1:A:1690:ASP:OD1	1:A:1691:ASN:N	2.52	0.42
1:A:1813:ARG:HB3	1:A:1813:ARG:NH1	2.35	0.42
1:A:2328:ALA:H	4:D:728:ARG:HG2	1.85	0.42
3:C:65:TYR:O	3:C:66:TYR:CG	2.72	0.42
3:C:291:MET:HG2	3:C:292:TYR:CE1	2.54	0.42
4:D:598:ARG:CZ	4:D:992:TYR:CE1	3.03	0.42
4:D:1010:SER:OG	4:D:1013:GLU:OE2	2.33	0.42
4:D:1023:GLU:H	4:D:1023:GLU:HG2	1.65	0.42
4:D:1836:LEU:HB3	4:D:1930:LEU:HD21	2.01	0.42
5:E:178:LEU:CD2	5:E:208:ILE:HD13	2.44	0.42
13:M:240:GLY:C	13:M:241:THR:HG1	2.24	0.42
14:N:125:LYS:HA	14:N:125:LYS:HD3	1.76	0.42
15:O:32:PRO:HG2	15:O:33:TYR:CD2	2.55	0.42
15:O:193:LEU:HD23	15:O:193:LEU:O	2.20	0.42
16:P:63:LEU:C	16:P:63:LEU:CD2	2.91	0.42
17:Q:1088:LEU:HD12	17:Q:1088:LEU:HA	1.93	0.42
18:R:78:ARG:NE	18:R:78:ARG:H	2.18	0.42
18:R:126:ASN:ND2	18:R:127:ALA:N	2.67	0.42
19:S:38:ASN:HD22	19:S:100:MET:HE1	1.84	0.42
23:W:182:LYS:N	23:W:182:LYS:CD	2.82	0.42
23:W:326:ARG:HH21	23:W:362:GLU:C	2.28	0.42
24:X:86:ARG:HG3	24:X:87:ARG:N	2.34	0.42
26:Z:335:TYR:HD1	26:Z:340:GLU:HA	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:j:63:ASN:HA	30:k:102:ARG:CZ	2.50	0.42
34:o:160:LYS:O	34:o:161:MET:C	2.63	0.42
36:q:81:GLU:O	36:q:85:VAL:HG23	2.20	0.42
37:u:22:ASP:C	37:u:22:ASP:OD1	2.61	0.42
38:v:78:LEU:HB3	38:v:116:LYS:HB2	2.02	0.42
1:A:264:PHE:CD2	1:A:459:LEU:HD11	2.55	0.42
1:A:296:PHE:CD1	3:C:656:ALA:HB2	2.55	0.42
1:A:422:LEU:HD23	1:A:422:LEU:HA	1.76	0.42
1:A:436:PRO:HG2	1:A:439:GLN:HG3	2.02	0.42
1:A:712:HIS:ND1	18:R:250:CYS:CB	2.79	0.42
3:C:129:ILE:HG22	3:C:199:LEU:HB3	2.02	0.42
3:C:144:CYS:HG	3:C:148:CYS:HG	1.59	0.42
3:C:457:VAL:CA	3:C:462:GLY:HA3	2.49	0.42
4:D:423:MET:HB2	4:D:878:TYR:HD1	1.85	0.42
4:D:1346:VAL:HG23	4:D:1488:VAL:HG13	2.00	0.42
4:D:2032:GLY:HA2	4:D:2095:VAL:HG23	2.00	0.42
5:E:260:ARG:HD3	5:E:276:ILE:HG12	2.01	0.42
8:H:154:C:N3	8:H:176:G:N1	2.61	0.42
10:J:191:ALA:O	10:J:194:LEU:N	2.49	0.42
13:M:213:GLU:CD	13:M:213:GLU:C	2.88	0.42
14:N:64:PHE:O	14:N:68:LYS:HD3	2.19	0.42
17:Q:61:ILE:HD11	17:Q:103:ARG:NE	2.35	0.42
17:Q:163:ARG:O	17:Q:167:GLN:HG2	2.19	0.42
17:Q:565:ILE:HB	17:Q:655:ILE:HB	2.02	0.42
18:R:183:GLN:HB3	18:R:188:PHE:CD2	2.55	0.42
22:V:547:VAL:O	22:V:548:ALA:C	2.63	0.42
22:V:631:PHE:CE1	22:V:634:ILE:HD12	2.55	0.42
23:W:97:ASN:OD1	23:W:99:PHE:CB	2.65	0.42
26:Z:122:ASN:ND2	26:Z:136:ARG:O	2.49	0.42
28:b:9:MET:HE2	29:c:39:HIS:HE1	1.85	0.42
29:j:67:TYR:HB2	30:k:100:PHE:O	2.19	0.42
30:k:28:PRO:HD2	31:m:37:ASP:HB3	2.02	0.42
34:o:161:MET:O	34:o:162:PHE:HB2	2.19	0.42
37:u:265:PHE:CE1	37:u:297:MET:CE	3.03	0.42
1:A:55:ASP:O	1:A:56:ALA:HB3	2.20	0.42
1:A:323:LEU:N	1:A:324:PRO:CD	2.82	0.42
1:A:355:LEU:O	3:C:867:PRO:HB3	2.20	0.42
1:A:946:GLU:OE2	1:A:954:LYS:HE3	2.19	0.42
1:A:1014:ASN:HD22	12:L:81:GLN:HA	1.85	0.42
3:C:89:LEU:C	3:C:91:GLU:H	2.28	0.42
3:C:323:PHE:HE1	3:C:424:PHE:CE1	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:509:LYS:HE2	44:D:2201:ADP:O2B	2.20	0.42
4:D:598:ARG:HD3	4:D:989:SER:OG	2.19	0.42
4:D:924:TYR:O	4:D:927:ILE:HG13	2.19	0.42
4:D:1388:GLN:HG3	4:D:1655:ASN:OD1	2.19	0.42
4:D:1986:MET:HE1	4:D:2011:CYS:HB3	2.01	0.42
6:F:78:A:C2	16:P:6:ARG:HG3	2.55	0.42
7:G:19:G:H21	15:O:196:GLN:HG3	1.85	0.42
15:O:88:LEU:HD23	15:O:88:LEU:HA	1.83	0.42
15:O:196:GLN:HE22	15:O:209:VAL:HG23	1.84	0.42
17:Q:21:GLU:H	17:Q:21:GLU:CD	2.28	0.42
18:R:215:ASN:ND2	18:R:216:LYS:N	2.67	0.42
22:V:552:ALA:HB3	22:V:589:GLU:HG2	2.02	0.42
31:f:65:ARG:HG3	31:f:65:ARG:NH1	2.35	0.42
30:k:68:GLU:HA	30:k:97:SER:O	2.19	0.42
1:A:628:GLY:O	1:A:629:PHE:CB	2.65	0.41
1:A:904:HIS:HA	16:P:227:TYR:O	2.20	0.41
1:A:1317:TYR:O	1:A:1318:THR:C	2.63	0.41
3:C:508:LYS:HB3	3:C:566:THR:HG23	2.01	0.41
3:C:508:LYS:HE2	3:C:566:THR:CG2	2.49	0.41
4:D:462:LEU:HD11	4:D:466:LYS:HB2	2.01	0.41
4:D:752:LEU:HB3	4:D:807:GLN:HE21	1.85	0.41
4:D:2109:MET:HG3	4:D:2117:ASP:OD1	2.20	0.41
5:E:274:VAL:C	5:E:275:LYS:CG	2.92	0.41
7:G:147:C:N3	7:G:148:U:C5	2.88	0.41
11:K:157:ARG:O	11:K:160:ILE:CG1	2.67	0.41
14:N:2:PRO:HG2	14:N:4:VAL:H	1.84	0.41
16:P:32:SER:O	16:P:35:LEU:HD12	2.20	0.41
18:R:96:ILE:HB	18:R:98:TYR:CZ	2.55	0.41
19:S:133:CYS:SG	19:S:134:GLN:N	2.93	0.41
19:S:155:ASP:C	19:S:155:ASP:OD1	2.63	0.41
22:V:497:CYS:HA	22:V:500:GLN:CG	2.50	0.41
22:V:542:ASN:O	22:V:544:LEU:N	2.52	0.41
23:W:168:PHE:CD1	23:W:168:PHE:N	2.87	0.41
23:W:268:THR:HG22	23:W:269:MET:N	2.35	0.41
23:W:381:PHE:O	23:W:382:ASN:C	2.61	0.41
23:W:571:TRP:C	23:W:573:GLY:N	2.78	0.41
23:W:577:LEU:C	23:W:578:TRP:CD1	2.98	0.41
29:c:63:ASN:HA	30:d:102:ARG:CZ	2.50	0.41
37:u:378:ILE:HD13	37:u:403:MET:HE1	2.02	0.41
1:A:67:ARG:HE	1:A:67:ARG:HB2	1.66	0.41
1:A:371:LEU:HD12	1:A:372:PRO:CD	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:387:PHE:CD1	3:C:327:TYR:CE1	3.08	0.41
1:A:694:LEU:HD23	1:A:694:LEU:HA	1.87	0.41
1:A:1790:ILE:CG2	1:A:1800:THR:HG22	2.40	0.41
1:A:2268:LEU:CD2	4:D:1261:PRO:HB2	2.51	0.41
3:C:678:THR:HG23	3:C:683:ASN:C	2.46	0.41
3:C:756:LYS:O	3:C:759:LEU:HB3	2.20	0.41
4:D:1814:ASN:O	4:D:1818:ILE:HG13	2.20	0.41
4:D:1860:ILE:HG13	4:D:1885:ASN:O	2.19	0.41
10:J:294:HIS:CE1	12:L:227:THR:OG1	2.74	0.41
12:L:37:LEU:HD11	12:L:158:ARG:HB2	2.02	0.41
14:N:124:SER:OG	14:N:125:LYS:HE3	2.20	0.41
15:O:90:TYR:HB3	15:O:92:LEU:HD12	2.01	0.41
17:Q:302:LEU:HD12	17:Q:302:LEU:HA	1.91	0.41
18:R:95:LYS:H	18:R:95:LYS:CD	2.31	0.41
20:T:337:ARG:HG2	20:T:378:VAL:HG23	2.03	0.41
21:U:26:VAL:O	21:U:26:VAL:HG12	2.19	0.41
22:V:597:PRO:O	22:V:600:ASN:HB2	2.20	0.41
23:W:128:GLN:NE2	23:W:139:LEU:HD11	2.35	0.41
23:W:483:ASN:O	23:W:483:ASN:CG	2.63	0.41
26:Z:120:CYS:HB3	26:Z:128:HIS:O	2.19	0.41
37:u:353:ASP:O	37:u:364:ARG:NH2	2.53	0.41
1:A:1171:GLU:OE1	1:A:1171:GLU:N	2.45	0.41
1:A:1968:TRP:HB3	1:A:1969:PRO:HD2	2.02	0.41
3:C:514:TYR:HD1	3:C:518:ASP:HB3	1.85	0.41
4:D:618:HIS:CE1	4:D:653:ALA:H	2.38	0.41
4:D:991:TYR:HE2	4:D:1097:GLU:HG3	1.85	0.41
4:D:1077:LEU:H	4:D:1077:LEU:HD12	1.85	0.41
4:D:1481:ILE:C	4:D:1483:ARG:H	2.28	0.41
4:D:1576:ILE:O	4:D:1580:CYS:HB2	2.21	0.41
6:F:37:C:C3'	6:F:37:C:C6	3.03	0.41
8:H:36:G:C3'	8:H:37:U:H5'	2.48	0.41
8:H:103:U:C3'	8:H:104:U:H5'	2.50	0.41
10:J:240:THR:O	10:J:241:VAL:HB	2.20	0.41
12:L:214:ILE:HA	12:L:215:PRO:HD3	1.93	0.41
12:L:241:LYS:O	12:L:241:LYS:HD3	2.20	0.41
15:O:161:ARG:CZ	15:O:182:ARG:HH11	2.34	0.41
18:R:123:GLU:CD	18:R:124:VAL:N	2.77	0.41
18:R:315:LYS:HE2	18:R:315:LYS:HA	2.02	0.41
20:T:314:ILE:HD12	20:T:324:HIS:CB	2.44	0.41
23:W:317:GLU:OE2	23:W:319:TYR:CD2	2.73	0.41
23:W:356:LEU:HD22	23:W:370:PHE:HD2	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:372:ASN:C	23:W:373:ARG:NH1	2.78	0.41
29:c:3:LEU:O	29:c:6:PHE:HB3	2.21	0.41
37:u:173:ARG:HH21	37:u:173:ARG:CB	2.33	0.41
1:A:648:LEU:HD23	1:A:648:LEU:HA	1.85	0.41
1:A:699:GLU:H	1:A:699:GLU:CD	2.22	0.41
1:A:1284:LEU:HD23	1:A:1284:LEU:HA	1.94	0.41
1:A:1578:ARG:O	1:A:1579:ALA:CB	2.68	0.41
3:C:69:ALA:HA	20:T:456:PRO:CG	2.49	0.41
3:C:671:SER:CB	3:C:672:LEU:HD22	2.50	0.41
4:D:1186:LEU:HD13	4:D:1282:LEU:HB2	2.02	0.41
4:D:1793:LEU:HD23	4:D:1793:LEU:HA	1.90	0.41
4:D:2027:ASP:OD1	4:D:2027:ASP:N	2.49	0.41
7:G:146:C:H4'	24:X:74:ALA:O	2.19	0.41
13:M:153:ARG:HB2	13:M:160:PHE:CE2	2.48	0.41
13:M:159:GLU:HA	13:M:167:LEU:HD23	2.02	0.41
14:N:40:LYS:O	14:N:44:GLU:HB3	2.20	0.41
15:O:205:ILE:O	15:O:207:ASP:N	2.53	0.41
15:O:232:THR:OG1	15:O:273:GLN:HG3	2.20	0.41
17:Q:173:PRO:HG3	17:Q:200:ILE:HD13	2.01	0.41
17:Q:1358:MET:HB3	17:Q:1359:PRO:HD3	2.01	0.41
18:R:312:MET:N	18:R:312:MET:SD	2.93	0.41
19:S:38:ASN:ND2	19:S:100:MET:CE	2.84	0.41
20:T:400:PHE:HA	20:T:401:PRO:HA	1.76	0.41
22:V:461:LEU:HD12	22:V:461:LEU:HA	1.85	0.41
23:W:266:ARG:H	23:W:266:ARG:HG2	1.51	0.41
23:W:290:GLY:HA2	23:W:571:TRP:O	2.19	0.41
23:W:425:VAL:O	23:W:433:PHE:CB	2.59	0.41
26:Z:278:LEU:O	26:Z:279:ASP:C	2.64	0.41
28:i:50:LYS:C	28:i:51:ILE:HG13	2.45	0.41
1:A:203:VAL:HG12	1:A:207:PHE:CD1	2.54	0.41
1:A:300:ASN:HB3	3:C:939:ARG:HH21	1.78	0.41
1:A:1767:ASN:O	1:A:1768:TYR:C	2.63	0.41
1:A:2073:TRP:CZ3	1:A:2313:HIS:CG	3.09	0.41
2:B:92:U:C3'	2:B:93:U:H5'	2.50	0.41
3:C:673:LYS:CD	3:C:673:LYS:N	2.84	0.41
3:C:673:LYS:HG3	3:C:686:THR:CG2	2.50	0.41
4:D:655:LEU:HD21	4:D:882:LEU:HD23	2.01	0.41
4:D:777:LEU:HB3	4:D:782:PHE:O	2.21	0.41
8:H:33:G:OP2	8:H:33:G:C8	2.73	0.41
12:L:83:ARG:NH1	12:L:93:ALA:HB3	2.36	0.41
13:M:152:LEU:HD22	13:M:160:PHE:CE1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:95:GLN:OE1	15:O:207:ASP:HB3	2.20	0.41
15:O:239:LEU:HG	15:O:240:GLY:O	2.19	0.41
17:Q:902:LEU:O	17:Q:906:ILE:HG12	2.21	0.41
22:V:603:LEU:HA	22:V:603:LEU:HD23	1.84	0.41
23:W:498:LYS:HA	23:W:498:LYS:HD3	1.84	0.41
26:Z:138:ARG:O	26:Z:139:ARG:C	2.63	0.41
26:Z:328:GLN:NE2	26:Z:332:TRP:CZ2	2.89	0.41
37:u:46:ARG:HD3	37:u:133:MET:CE	2.51	0.41
37:u:307:MET:HE2	37:u:319:ILE:HG22	2.01	0.41
1:A:461:HIS:NE2	2:B:23:C:C6	2.88	0.41
1:A:1414:ARG:NH1	22:V:545:ARG:CD	2.73	0.41
1:A:1648:SER:OG	1:A:1649:LYS:N	2.53	0.41
3:C:451:HIS:O	3:C:578:ARG:HD2	2.21	0.41
3:C:511:GLY:O	3:C:576:ILE:HD11	2.12	0.41
4:D:406:ARG:HD2	4:D:406:ARG:H	1.85	0.41
4:D:481:LEU:HD23	4:D:486:SER:HA	2.02	0.41
4:D:703:ILE:O	4:D:707:ILE:HG13	2.21	0.41
4:D:791:ARG:HE	4:D:794:ARG:HH12	1.68	0.41
4:D:1344:ASP:OD1	4:D:1344:ASP:N	2.49	0.41
5:E:115:LEU:O	5:E:116:HIS:CD2	2.74	0.41
5:E:283:ASN:C	5:E:283:ASN:OD1	2.63	0.41
7:G:7:G:C2'	7:G:8:C:H5'	2.50	0.41
8:H:106:G:H5'	30:k:47:ARG:NH2	2.34	0.41
8:H:171:U:H2'	8:H:172:C:O4'	2.21	0.41
9:I:606:TRP:O	9:I:609:ALA:HB3	2.21	0.41
12:L:145:ASP:O	12:L:147:ASP:N	2.54	0.41
13:M:121:ASP:C	13:M:122:LEU:HD13	2.41	0.41
17:Q:1138:ARG:NE	17:Q:1267:GLN:OE1	2.48	0.41
21:U:19:VAL:O	21:U:19:VAL:HG12	2.18	0.41
22:V:492:MET:O	22:V:496:CYS:N	2.48	0.41
23:W:100:ARG:HH11	23:W:100:ARG:CG	2.33	0.41
23:W:185:ASP:N	23:W:185:ASP:OD1	2.52	0.41
23:W:391:PHE:HE1	23:W:405:ILE:HD12	1.81	0.41
23:W:465:PRO:CD	23:W:481:MET:HE3	2.50	0.41
27:a:58:LEU:HD22	33:g:71:GLU:CD	2.46	0.41
27:h:58:LEU:HD22	33:n:71:GLU:CD	2.46	0.41
29:j:3:LEU:O	29:j:6:PHE:HB3	2.21	0.41
38:v:7:PHE:HD2	38:v:59:MET:HE3	1.84	0.41
1:A:151:MET:CE	1:A:628:GLY:O	2.68	0.41
1:A:225:TYR:CD2	1:A:225:TYR:O	2.74	0.41
1:A:663:ARG:NH2	6:F:65:G:N7	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:986:GLU:O	1:A:1029:GLY:CA	2.68	0.41
1:A:1072:LEU:HD22	1:A:1087:LEU:HD22	2.01	0.41
4:D:434:SER:HB3	4:D:447:VAL:HG12	2.03	0.41
4:D:577:LYS:O	4:D:581:SER:N	2.54	0.41
4:D:1037:LEU:HD23	4:D:1037:LEU:HA	1.87	0.41
6:F:43:A:N1	6:F:44:G:C6	2.89	0.41
8:H:152:G:N3	8:H:152:G:H2'	2.36	0.41
10:J:203:LEU:HD12	10:J:204:GLU:HG2	2.03	0.41
12:L:144:MET:HE2	12:L:149:LEU:HD23	0.46	0.41
14:N:28:LYS:HZ1	23:W:190:ASP:N	2.18	0.41
15:O:288:PHE:HD1	15:O:288:PHE:HA	1.78	0.41
17:Q:826:GLY:HA3	17:Q:1138:ARG:HG2	2.02	0.41
17:Q:1163:LEU:HA	17:Q:1164:PRO:HD3	1.96	0.41
18:R:81:LYS:N	18:R:81:LYS:HZ3	2.18	0.41
19:S:132:VAL:H	19:S:132:VAL:HG22	1.68	0.41
22:V:506:PHE:CD1	22:V:506:PHE:C	2.99	0.41
22:V:548:ALA:O	22:V:586:PHE:HA	2.21	0.41
23:W:123:PHE:HZ	23:W:168:PHE:HD2	1.68	0.41
23:W:482:ASP:O	23:W:483:ASN:HB3	2.21	0.41
27:a:63:ILE:HG12	33:g:69:MET:HG3	2.03	0.41
30:d:39:ASN:OD1	30:d:55:ARG:HD3	2.21	0.41
31:f:65:ARG:HB3	31:f:68:ASN:HD22	1.86	0.41
28:i:9:MET:HE2	29:j:39:HIS:HE1	1.85	0.41
30:k:103:GLY:O	30:k:106:VAL:HG23	2.20	0.41
34:o:52:ASN:HB2	34:o:74:ASN:OD1	2.20	0.41
36:q:106:ALA:O	36:q:109:GLN:CG	2.69	0.41
2:B:20:G:C1'	2:B:21:A:OP1	2.69	0.41
3:C:67:PRO:HB2	3:C:71:GLU:HG3	2.02	0.41
3:C:457:VAL:C	3:C:458:ASP:CG	2.87	0.41
3:C:838:ALA:HA	3:C:839:PRO:HD3	1.95	0.41
4:D:504:PRO:HG3	4:D:678:ASN:HA	2.03	0.41
4:D:566:VAL:HG23	4:D:585:ILE:O	2.20	0.41
4:D:709:TYR:O	4:D:712:ILE:HG22	2.20	0.41
4:D:752:LEU:HB3	4:D:807:GLN:NE2	2.36	0.41
4:D:792:VAL:O	4:D:795:THR:OG1	2.30	0.41
4:D:1521:VAL:HA	4:D:1522:PRO:HD3	1.94	0.41
4:D:1647:SER:HB3	4:D:1650:LEU:HD13	2.01	0.41
4:D:1755:LEU:HD23	4:D:1755:LEU:HA	1.88	0.41
4:D:1936:LEU:HA	4:D:1936:LEU:HD23	1.79	0.41
4:D:2036:VAL:HG22	4:D:2093:ASP:HB3	2.02	0.41
5:E:260:ARG:HD3	5:E:276:ILE:HD13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:85:U:C6	13:M:127:TYR:CE2	3.09	0.41
7:G:5:G:H8	7:G:5:G:C5'	2.34	0.41
8:H:40:C:C2'	8:H:41:U:H5''	2.47	0.41
9:I:296:PHE:CB	9:I:305:SER:O	2.68	0.41
10:J:239:ARG:HH11	10:J:239:ARG:CG	2.31	0.41
14:N:118:ILE:HD12	14:N:132:ILE:HD12	2.03	0.41
15:O:245:GLU:O	15:O:248:LEU:HB2	2.21	0.41
16:P:73:GLU:O	16:P:76:ARG:HG2	2.21	0.41
17:Q:789:PRO:O	17:Q:791:PRO:HD3	2.21	0.41
20:T:257:ARG:HH11	20:T:301:ASP:CG	2.28	0.41
22:V:304:LEU:HD23	22:V:304:LEU:HA	1.76	0.41
22:V:530:LYS:O	22:V:531:GLU:C	2.61	0.41
23:W:98:PRO:O	23:W:99:PHE:C	2.63	0.41
23:W:162:ASN:CB	23:W:165:LEU:HD21	2.49	0.41
23:W:390:LEU:CD1	23:W:447:TRP:CZ2	2.72	0.41
23:W:416:ARG:CG	23:W:416:ARG:NH1	2.84	0.41
23:W:462:HIS:CG	23:W:482:ASP:HB3	2.55	0.41
23:W:499:LYS:HZ3	23:W:499:LYS:CA	2.19	0.41
23:W:577:LEU:C	23:W:577:LEU:HD23	2.45	0.41
26:Z:87:PRO:HB2	26:Z:91:LYS:HD3	2.02	0.41
32:e:24:TYR:CD1	32:e:31:ILE:HD11	2.56	0.41
34:o:132:ARG:NE	34:o:154:GLU:OE1	2.43	0.41
37:u:169:ASP:OD1	37:u:170:MET:HE2	2.20	0.41
1:A:283:VAL:O	1:A:284:ARG:CZ	2.68	0.41
1:A:440:PRO:O	1:A:441:VAL:C	2.64	0.41
1:A:488:ASP:OD1	1:A:488:ASP:C	2.64	0.41
1:A:873:ASN:OD1	1:A:873:ASN:C	2.64	0.41
1:A:923:ASP:OD2	1:A:1439:ARG:HD3	2.21	0.41
1:A:948:PRO:N	1:A:949:PRO:HD2	2.35	0.41
1:A:1024:HIS:CD2	1:A:1024:HIS:C	2.98	0.41
1:A:1539:SER:N	1:A:1540:PRO:CD	2.84	0.41
1:A:1791:HIS:ND1	1:A:1799:THR:HG22	2.36	0.41
1:A:1827:TRP:O	1:A:1828:ALA:C	2.64	0.41
1:A:2120:LEU:H	1:A:2120:LEU:HD12	1.86	0.41
1:A:2195:THR:O	1:A:2199:ILE:HG12	2.21	0.41
1:A:2259:VAL:HG22	1:A:2260:GLN:H	1.86	0.41
2:B:12:U:O2'	2:B:13:C:P	2.79	0.41
3:C:185:PRO:CD	3:C:482:TYR:CE1	3.04	0.41
3:C:291:MET:CG	3:C:292:TYR:HE1	2.32	0.41
3:C:348:TYR:CD1	3:C:359:LYS:CB	2.93	0.41
3:C:439:PRO:O	3:C:440:SER:CB	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:489:GLN:CB	3:C:556:ASP:OD2	2.68	0.41
3:C:518:ASP:N	3:C:519:GLU:OE2	2.54	0.41
3:C:856:HIS:HB3	37:u:105:ARG:HH21	1.86	0.41
4:D:436:ARG:HG3	4:D:445:VAL:HG22	2.03	0.41
4:D:538:ILE:O	4:D:585:ILE:HA	2.21	0.41
4:D:729:LYS:HA	4:D:729:LYS:HD2	1.72	0.41
6:F:8:C:H6	6:F:8:C:C5'	2.08	0.41
6:F:22:A:N7	23:W:130:ARG:NE	2.69	0.41
6:F:27:A:C2	15:O:181:TYR:CD2	3.08	0.41
7:G:142:U:O2'	7:G:143:U:P	2.79	0.41
8:H:39:U:H3'	8:H:40:C:C6	2.56	0.41
8:H:43:U:C6	8:H:43:U:OP2	2.73	0.41
9:I:520:ILE:O	9:I:524:TYR:N	2.54	0.41
10:J:376:VAL:HB	10:J:411:MET:HE1	2.03	0.41
12:L:144:MET:CG	12:L:149:LEU:CD2	2.98	0.41
15:O:235:TYR:HA	15:O:271:PHE:HD1	1.86	0.41
15:O:251:HIS:NE2	15:O:291:LEU:HD22	2.36	0.41
15:O:254:GLN:NE2	19:S:120:GLN:OE1	2.42	0.41
16:P:7:PRO:O	16:P:8:THR:OG1	2.36	0.41
17:Q:49:ILE:O	17:Q:53:GLU:HB2	2.21	0.41
17:Q:208:ASP:OD1	17:Q:210:GLU:HG2	2.20	0.41
18:R:63:ALA:CB	19:S:95:ALA:O	2.69	0.41
18:R:103:ARG:O	18:R:106:GLN:N	2.47	0.41
18:R:147:THR:HG21	20:T:359:LEU:HD23	2.03	0.41
18:R:189:ASN:HD21	18:R:195:ARG:HH22	1.65	0.41
18:R:222:PRO:HA	18:R:223:PRO:HD2	1.87	0.41
18:R:230:MET:HE3	18:R:230:MET:HB2	1.57	0.41
20:T:187:LYS:N	20:T:188:PRO:CD	2.84	0.41
20:T:381:HIS:HA	20:T:382:PRO:HD3	1.90	0.41
20:T:471:ASP:OD1	20:T:474:GLU:N	2.54	0.41
22:V:449:GLU:CG	22:V:452:LEU:CD1	2.92	0.41
23:W:127:GLN:HG2	23:W:168:PHE:CE2	2.56	0.41
23:W:389:ASN:CB	23:W:405:ILE:HG22	2.46	0.41
23:W:453:PHE:CD1	23:W:454:LYS:N	2.89	0.41
23:W:505:HIS:HB2	23:W:533:ASN:OD1	2.20	0.41
23:W:528:GLY:O	23:W:552:VAL:HA	2.21	0.41
26:Z:293:ARG:HD2	26:Z:313:ASN:OD1	2.21	0.41
26:Z:302:LYS:HG3	26:Z:306:GLU:HG2	2.03	0.41
30:d:62:HIS:O	30:d:103:GLY:HA3	2.21	0.41
30:k:62:HIS:O	30:k:103:GLY:HA3	2.21	0.41
35:p:74:PHE:CG	35:p:79:MET:HE3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:t:113:ALA:O	36:t:117:ILE:HG23	2.21	0.41
37:u:109:ALA:HB3	37:u:159:VAL:HG22	2.02	0.41
37:u:268:LEU:HD11	37:u:282:ILE:CD1	2.50	0.41
39:w:131:MET:HE1	39:w:148:TRP:CG	2.56	0.41
1:A:1489:LEU:O	1:A:1490:PHE:C	2.61	0.41
1:A:2111:LEU:HD21	1:A:2225:LEU:HD21	2.03	0.41
3:C:291:MET:HG2	3:C:292:TYR:HE1	1.85	0.41
4:D:882:LEU:HD23	4:D:882:LEU:HA	1.79	0.41
4:D:1741:VAL:HG13	4:D:1817:MET:HE3	2.03	0.41
6:F:33:G:O2'	6:F:34:G:P	2.79	0.41
8:H:88:A:C6	8:H:89:U:C4	3.09	0.41
8:H:102:U:O2'	29:j:61:ARG:NH1	2.51	0.41
8:H:168:A:C2	33:n:54:GLN:CB	3.04	0.41
12:L:27:GLY:HA2	18:R:267:ARG:HE	1.86	0.41
12:L:61:THR:O	12:L:91:ARG:NH2	2.47	0.41
12:L:135:LYS:HG3	12:L:136:PRO:N	2.36	0.41
14:N:11:PRO:HA	14:N:12:PRO:HD3	1.97	0.41
15:O:51:PRO:CG	18:R:212:PHE:CE1	3.04	0.41
16:P:31:SER:HB3	16:P:34:ASP:OD2	2.21	0.41
19:S:9:TRP:O	19:S:9:TRP:CE3	2.74	0.41
22:V:530:LYS:C	22:V:532:GLN:H	2.29	0.41
23:W:258:PRO:C	23:W:260:ASP:H	2.17	0.41
23:W:259:GLN:OE1	32:l:14:MET:HB2	2.21	0.41
23:W:371:THR:O	23:W:372:ASN:CB	2.68	0.41
26:Z:134:PHE:CE2	26:Z:153:GLU:OE1	2.73	0.41
30:k:110:LEU:CD1	31:m:59:LEU:HB3	2.46	0.41
35:p:13:ASN:HB2	35:p:80:ARG:HH21	1.86	0.41
1:A:40:LEU:HD11	23:W:124:MET:SD	2.62	0.40
1:A:311:GLU:OE2	21:U:1:MET:HG3	2.21	0.40
1:A:1951:LYS:HZ1	24:X:85:LEU:HD21	1.86	0.40
3:C:115:GLU:C	3:C:117:ASP:N	2.76	0.40
3:C:489:GLN:NE2	3:C:489:GLN:C	2.77	0.40
3:C:854:ARG:NH1	3:C:879:ASP:OD2	2.54	0.40
4:D:543:PRO:HG3	4:D:616:GLU:HB2	2.03	0.40
4:D:612:ILE:HD12	4:D:612:ILE:O	2.21	0.40
4:D:1442:ARG:H	4:D:1442:ARG:HG2	1.68	0.40
6:F:9:U:H2'	6:F:10:U:C6	2.57	0.40
8:H:57:A:C6	8:H:58:U:C4	3.10	0.40
16:P:212:ASN:ND2	20:T:484:LYS:HD2	2.36	0.40
17:Q:109:TRP:CD2	17:Q:162:ILE:HD11	2.56	0.40
17:Q:1021:LEU:HD22	17:Q:1021:LEU:HA	1.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:70:ALA:HA	19:S:93:THR:HG21	2.03	0.40
18:R:92:SER:HB2	18:R:93:GLU:H	1.67	0.40
18:R:208:GLU:OE2	18:R:211:ARG:NH1	2.54	0.40
19:S:15:TYR:HB2	19:S:163:TYR:HB2	2.03	0.40
22:V:520:GLU:HA	22:V:523:GLU:CG	2.51	0.40
23:W:156:VAL:O	23:W:160:GLU:HG2	2.21	0.40
23:W:160:GLU:CD	23:W:160:GLU:N	2.76	0.40
26:Z:352:LEU:O	26:Z:355:LYS:HB3	2.21	0.40
37:u:150:ILE:HD11	37:u:173:ARG:HH22	1.86	0.40
1:A:52:GLY:O	1:A:53:PHE:C	2.64	0.40
1:A:365:VAL:CG1	1:A:366:LYS:N	2.85	0.40
1:A:395:THR:N	1:A:398:THR:OG1	2.48	0.40
1:A:951:LEU:HD23	1:A:951:LEU:HA	1.89	0.40
1:A:1094:ARG:CG	1:A:1094:ARG:NH1	2.84	0.40
1:A:2090:ILE:HD13	1:A:2090:ILE:H	1.86	0.40
1:A:2117:ILE:HG21	1:A:2301:PRO:HB2	2.02	0.40
3:C:327:TYR:HE2	3:C:372:PHE:CD1	2.39	0.40
3:C:544:VAL:HA	3:C:545:PRO:HD2	1.95	0.40
3:C:902:HIS:ND1	3:C:903:HIS:HB2	2.35	0.40
4:D:702:GLN:O	4:D:705:ASN:HB2	2.21	0.40
4:D:753:ARG:NE	4:D:756:SER:O	2.52	0.40
4:D:821:LEU:HA	4:D:822:PRO:HD3	1.82	0.40
4:D:896:LYS:O	4:D:900:MET:HG2	2.21	0.40
4:D:1005:LEU:HD23	4:D:1005:LEU:HA	1.89	0.40
4:D:1188:VAL:HG23	4:D:1200:VAL:HG13	2.04	0.40
4:D:1869:ARG:HE	4:D:1869:ARG:HB2	1.71	0.40
4:D:1979:VAL:HG13	4:D:1984:ASP:HB2	2.02	0.40
5:E:161:ARG:HG2	5:E:161:ARG:H	1.60	0.40
6:F:7:G:H4'	6:F:7:G:OP1	2.20	0.40
7:G:9:C:H2'	7:G:10:U:C6	2.57	0.40
7:G:21:A:OP2	15:O:193:LEU:HD21	2.22	0.40
8:H:152:G:H2'	8:H:153:A:C1'	2.51	0.40
8:H:153:A:C8	8:H:154:C:O4'	2.75	0.40
8:H:183:G:C6	8:H:184:C:N4	2.89	0.40
10:J:192:GLU:O	10:J:195:LEU:HD12	2.20	0.40
10:J:493:ALA:CB	10:J:499:ARG:CB	2.96	0.40
11:K:92:PRO:O	11:K:93:SER:C	2.64	0.40
12:L:18:ILE:HG21	12:L:37:LEU:HD23	2.03	0.40
15:O:40:LYS:HA	15:O:40:LYS:HD3	1.84	0.40
15:O:131:THR:CG2	23:W:108:ARG:CD	2.95	0.40
18:R:155:VAL:O	18:R:159:VAL:HG23	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:258:LYS:HB3	18:R:260:TYR:CE1	2.57	0.40
18:R:312:MET:CE	18:R:312:MET:CA	2.93	0.40
19:S:55:ARG:HB2	19:S:63:GLN:HB3	2.03	0.40
19:S:102:ASN:CG	19:S:107:THR:O	2.64	0.40
20:T:309:ASP:OD1	20:T:309:ASP:C	2.64	0.40
23:W:123:PHE:HZ	23:W:168:PHE:CD2	2.38	0.40
23:W:200:VAL:HG23	23:W:201:ASP:OD1	2.19	0.40
23:W:210:GLU:O	23:W:213:GLN:HB2	2.20	0.40
23:W:505:HIS:HB3	23:W:533:ASN:CG	2.46	0.40
37:u:258:VAL:HB	37:u:263:TRP:HB2	2.02	0.40
40:x:193:LEU:HA	40:x:193:LEU:HD23	1.68	0.40
1:A:338:VAL:CG2	3:C:867:PRO:HG3	2.51	0.40
1:A:378:PHE:O	1:A:379:GLU:CB	2.69	0.40
1:A:378:PHE:HE2	3:C:338:GLU:HB2	1.86	0.40
1:A:533:LYS:HE2	6:F:37:C:C2	2.51	0.40
1:A:762:ARG:NH2	16:P:226:LYS:HE2	2.33	0.40
1:A:1539:SER:OG	1:A:1540:PRO:HD3	2.21	0.40
1:A:1768:TYR:C	1:A:1770:GLU:N	2.78	0.40
1:A:2144:CYS:HB2	1:A:2270:PHE:CE1	2.57	0.40
3:C:286:ASN:ND2	3:C:299:ILE:HG22	2.37	0.40
3:C:299:ILE:C	3:C:300:LEU:HD13	2.47	0.40
3:C:505:GLN:HG2	3:C:506:PRO:HD2	2.02	0.40
3:C:506:PRO:HD2	3:C:506:PRO:O	2.21	0.40
3:C:507:VAL:CG1	3:C:508:LYS:N	2.85	0.40
3:C:519:GLU:N	3:C:519:GLU:CD	2.79	0.40
4:D:580:ILE:HB	4:D:605:TYR:OH	2.20	0.40
4:D:1481:ILE:O	4:D:1481:ILE:HG12	2.20	0.40
4:D:1590:LEU:HD22	4:D:1614:LEU:O	2.20	0.40
4:D:1682:TYR:HA	4:D:1685:LEU:HD12	2.03	0.40
5:E:74:PHE:CE1	5:E:95:VAL:HG22	2.53	0.40
6:F:34:G:H2'	6:F:35:A:C8	2.56	0.40
7:G:21:A:OP2	15:O:193:LEU:CD2	2.69	0.40
16:P:193:VAL:HG21	16:P:194:PHE:CE2	2.55	0.40
18:R:145:GLU:OE1	18:R:145:GLU:HA	2.20	0.40
19:S:125:LYS:C	19:S:126:HIS:HD1	2.29	0.40
19:S:131:ARG:NH1	19:S:133:CYS:CB	2.85	0.40
21:U:25:LEU:C	21:U:25:LEU:CD1	2.94	0.40
22:V:287:ASP:HB3	22:V:331:ARG:NH1	2.36	0.40
22:V:641:ASP:O	22:V:642:GLU:C	2.65	0.40
23:W:194:GLY:HA3	23:W:195:PRO:HD2	1.77	0.40
24:X:106:ASP:O	24:X:109:PHE:HB3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:402:ILE:O	25:Y:405:MET:HB2	2.22	0.40
26:Z:65:GLN:O	26:Z:69:SER:HB3	2.21	0.40
26:Z:85:GLN:OE1	26:Z:85:GLN:CA	2.69	0.40
32:e:21:ILE:HA	32:e:24:TYR:HD2	1.86	0.40
34:o:37:LEU:HB2	34:o:61:PRO:CD	2.51	0.40
37:u:271:LEU:O	37:u:275:LEU:HB2	2.21	0.40
38:v:78:LEU:N	38:v:78:LEU:HD12	2.37	0.40
1:A:1502:PHE:CD1	1:A:1502:PHE:N	2.86	0.40
1:A:1766:GLN:OE1	1:A:1766:GLN:CA	2.70	0.40
1:A:2332:ASP:O	1:A:2334:TYR:N	2.54	0.40
3:C:675:PHE:CD1	3:C:675:PHE:O	2.74	0.40
4:D:428:CYS:SG	4:D:429:GLN:N	2.93	0.40
4:D:483:ARG:NH2	4:D:680:PHE:HE1	2.20	0.40
4:D:488:LEU:HD21	4:D:501:LEU:HD23	2.02	0.40
4:D:597:THR:HG23	4:D:602:GLU:CD	2.46	0.40
4:D:642:THR:C	4:D:644:GLU:H	2.29	0.40
4:D:928:ARG:HD2	4:D:928:ARG:HA	1.90	0.40
5:E:288:LEU:HD12	5:E:290:ARG:HH21	1.86	0.40
6:F:87:C:OP1	13:M:137:ARG:NH2	2.54	0.40
7:G:-12:G:O2'	7:G:-11:G:OP1	2.27	0.40
7:G:9:C:H2'	7:G:10:U:O4'	2.22	0.40
8:H:149:A:C6	8:H:150:U:C4	3.09	0.40
10:J:195:LEU:CD1	10:J:195:LEU:H	2.31	0.40
12:L:144:MET:SD	12:L:149:LEU:CD2	3.03	0.40
12:L:150:GLU:OE1	12:L:150:GLU:HA	2.21	0.40
15:O:278:GLN:O	15:O:282:VAL:HG23	2.22	0.40
16:P:6:ARG:HA	16:P:6:ARG:HD3	1.91	0.40
18:R:92:SER:N	19:S:155:ASP:OD2	2.55	0.40
22:V:573:GLU:CD	22:V:574:THR:N	2.80	0.40
23:W:258:PRO:CA	23:W:302:HIS:CE1	3.04	0.40
23:W:264:ASN:OD1	23:W:267:SER:CA	2.69	0.40
23:W:269:MET:HE2	23:W:269:MET:N	2.36	0.40
23:W:276:LEU:HA	23:W:277:PRO:HD3	1.85	0.40
23:W:298:PRO:O	23:W:299:LEU:CB	2.68	0.40
26:Z:64:PRO:HD2	26:Z:67:ILE:HD12	2.04	0.40
32:l:24:TYR:CD1	32:l:31:ILE:HD11	2.56	0.40
1:A:47:GLU:HA	1:A:50:LYS:HG2	2.02	0.40
1:A:312:TYR:HE1	3:C:886:ASP:OD1	2.04	0.40
1:A:338:VAL:HG21	3:C:867:PRO:HG3	2.04	0.40
1:A:378:PHE:C	1:A:379:GLU:CG	2.89	0.40
1:A:419:ARG:HH21	1:A:423:ASP:HB3	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1313:PRO:HG2	1:A:1363:GLN:HE22	1.85	0.40
1:A:1801:LYS:HD3	1:A:1801:LYS:HA	1.73	0.40
1:A:2120:LEU:HD12	1:A:2120:LEU:N	2.35	0.40
3:C:96:PRO:CG	20:T:276:GLU:OE2	2.69	0.40
3:C:301:SER:O	3:C:302:PRO:C	2.65	0.40
3:C:507:VAL:N	3:C:568:PRO:HB3	2.29	0.40
3:C:709:TRP:HB3	3:C:713:LYS:CD	2.52	0.40
4:D:420:SER:CB	4:D:622:ASP:HA	2.52	0.40
4:D:928:ARG:HB3	4:D:936:TYR:CE1	2.57	0.40
4:D:1312:LEU:HD12	4:D:1312:LEU:H	1.85	0.40
7:G:146:C:H5'	24:X:74:ALA:O	2.21	0.40
9:I:342:PRO:HA	17:Q:528:GLY:HA2	2.03	0.40
10:J:239:ARG:C	10:J:239:ARG:CD	2.95	0.40
13:M:168:LEU:N	13:M:168:LEU:CD2	2.85	0.40
15:O:144:SER:O	15:O:145:ASP:C	2.64	0.40
15:O:168:TRP:C	15:O:171:GLY:H	2.29	0.40
16:P:228:ILE:N	16:P:228:ILE:HD12	2.36	0.40
17:Q:1012:ARG:NH1	17:Q:1015:GLU:OE1	2.43	0.40
18:R:129:ASP:HB2	18:R:132:LEU:HD23	2.00	0.40
20:T:406:ILE:HG22	20:T:407:GLN:N	2.37	0.40
20:T:438:LEU:HD12	20:T:447:PHE:CE1	2.56	0.40
20:T:454:VAL:HG12	20:T:455:GLN:H	1.86	0.40
22:V:523:GLU:CG	22:V:524:SER:H	2.33	0.40
22:V:597:PRO:O	22:V:600:ASN:N	2.55	0.40
23:W:101:THR:C	23:W:103:GLN:N	2.79	0.40
23:W:157:GLU:HB3	23:W:158:GLU:OE1	2.21	0.40
23:W:348:LEU:HD12	23:W:391:PHE:CD2	2.54	0.40
27:h:23:ASN:ND2	27:h:67:LYS:HA	2.37	0.40
30:k:39:ASN:OD1	30:k:55:ARG:HD3	2.21	0.40
31:m:65:ARG:HB3	31:m:68:ASN:HD22	1.85	0.40
34:o:140:PRO:O	34:o:155:ARG:NH1	2.48	0.40
35:p:3:ILE:HG22	35:p:83:TYR:HB2	2.02	0.40
38:v:60:GLU:HA	38:v:60:GLU:OE1	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	2247/2335 (96%)	2104 (94%)	107 (5%)	36 (2%)	7	36
3	C	856/972 (88%)	787 (92%)	48 (6%)	21 (2%)	4	28
4	D	1720/2136 (80%)	1632 (95%)	85 (5%)	3 (0%)	43	72
5	E	297/357 (83%)	273 (92%)	17 (6%)	7 (2%)	4	29
9	I	502/855 (59%)	482 (96%)	11 (2%)	9 (2%)	6	34
10	J	530/848 (62%)	482 (91%)	30 (6%)	18 (3%)	3	23
11	K	144/225 (64%)	134 (93%)	6 (4%)	4 (3%)	4	26
12	L	436/802 (54%)	409 (94%)	20 (5%)	7 (2%)	7	36
13	M	128/243 (53%)	118 (92%)	4 (3%)	6 (5%)	2	17
14	N	141/144 (98%)	124 (88%)	13 (9%)	4 (3%)	4	26
15	O	283/420 (67%)	255 (90%)	22 (8%)	6 (2%)	5	31
16	P	104/229 (45%)	91 (88%)	8 (8%)	5 (5%)	2	16
17	Q	1308/1485 (88%)	1283 (98%)	25 (2%)	0	100	100
18	R	255/536 (48%)	229 (90%)	14 (6%)	12 (5%)	2	17
19	S	157/166 (95%)	146 (93%)	8 (5%)	3 (2%)	6	33
20	T	311/514 (60%)	280 (90%)	22 (7%)	9 (3%)	3	26
21	U	24/2752 (1%)	20 (83%)	3 (12%)	1 (4%)	2	19
22	V	444/908 (49%)	418 (94%)	20 (4%)	6 (1%)	9	38
23	W	494/579 (85%)	434 (88%)	31 (6%)	29 (6%)	1	13
24	X	90/184 (49%)	81 (90%)	8 (9%)	1 (1%)	11	43
25	Y	709/1220 (58%)	617 (87%)	60 (8%)	32 (4%)	2	17
26	Z	238/586 (41%)	197 (83%)	30 (13%)	11 (5%)	2	17
27	a	77/126 (61%)	76 (99%)	1 (1%)	0	100	100
27	h	77/126 (61%)	76 (99%)	1 (1%)	0	100	100
28	b	84/231 (36%)	82 (98%)	2 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	i	84/231 (36%)	82 (98%)	2 (2%)	0	100	100
29	c	80/119 (67%)	77 (96%)	3 (4%)	0	100	100
29	j	80/119 (67%)	77 (96%)	3 (4%)	0	100	100
30	d	95/118 (80%)	91 (96%)	4 (4%)	0	100	100
30	k	81/118 (69%)	78 (96%)	3 (4%)	0	100	100
31	f	72/86 (84%)	69 (96%)	3 (4%)	0	100	100
31	m	72/86 (84%)	68 (94%)	4 (6%)	0	100	100
32	e	77/92 (84%)	76 (99%)	1 (1%)	0	100	100
32	l	77/92 (84%)	76 (99%)	1 (1%)	0	100	100
33	g	72/76 (95%)	70 (97%)	2 (3%)	0	100	100
33	n	65/76 (86%)	63 (97%)	2 (3%)	0	100	100
34	o	160/255 (63%)	146 (91%)	12 (8%)	2 (1%)	9	39
35	p	92/225 (41%)	90 (98%)	2 (2%)	0	100	100
36	q	130/504 (26%)	119 (92%)	7 (5%)	4 (3%)	3	25
36	r	129/504 (26%)	118 (92%)	9 (7%)	2 (2%)	7	36
36	s	130/504 (26%)	116 (89%)	7 (5%)	7 (5%)	1	14
36	t	129/504 (26%)	116 (90%)	9 (7%)	4 (3%)	3	25
37	u	388/411 (94%)	376 (97%)	9 (2%)	3 (1%)	16	49
38	v	142/148 (96%)	138 (97%)	4 (3%)	0	100	100
39	w	89/174 (51%)	87 (98%)	1 (1%)	1 (1%)	11	43
40	x	23/703 (3%)	22 (96%)	1 (4%)	0	100	100
All	All	13923/24124 (58%)	12985 (93%)	685 (5%)	253 (2%)	9	34

All (253) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	82	ARG
1	A	308	ILE
1	A	331	TRP
1	A	346	ASP
1	A	365	VAL
1	A	367	SER
1	A	368	GLN
1	A	570	ASP
1	A	629	PHE

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Mol	Chain	Res	Type
1	A	631	ALA
1	A	706	ALA
1	A	1828	ALA
3	C	388	VAL
3	C	427	PHE
3	C	444	GLY
3	C	457	VAL
3	C	458	ASP
3	C	516	LEU
3	C	572	GLU
3	C	824	THR
4	D	957	VAL
4	D	1584	ILE
5	E	193	THR
9	I	463	PRO
9	I	721	LYS
9	I	797	PHE
10	J	188	GLN
10	J	191	ALA
10	J	192	GLU
10	J	202	GLU
10	J	203	LEU
10	J	206	LEU
10	J	216	ASP
10	J	341	PRO
10	J	376	VAL
10	J	413	GLU
11	K	78	PRO
11	K	90	PRO
12	L	138	ARG
12	L	146	GLU
12	L	202	ARG
13	M	157	GLY
13	M	195	LYS
15	O	132	ARG
16	P	3	THR
16	P	12	ALA
16	P	49	ASP
18	R	71	GLN
18	R	78	ARG
18	R	135	PRO
18	R	136	ASP

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Mol	Chain	Res	Type
18	R	186	VAL
19	S	164	PRO
20	T	186	PRO
20	T	268	LYS
20	T	343	PRO
20	T	495	ALA
22	V	485	GLN
22	V	596	LEU
22	V	597	PRO
23	W	156	VAL
23	W	199	TYR
23	W	213	GLN
23	W	234	PRO
23	W	243	VAL
23	W	258	PRO
23	W	259	GLN
23	W	263	VAL
23	W	267	SER
23	W	279	LYS
23	W	299	LEU
23	W	325	LEU
23	W	372	ASN
23	W	492	ASN
25	Y	531	MET
25	Y	610	ARG
25	Y	855	VAL
25	Y	944	ASP
25	Y	995	MET
25	Y	1090	LYS
25	Y	1098	LYS
25	Y	1099	SER
25	Y	1129	ASP
25	Y	1145	GLN
25	Y	1164	GLU
26	Z	136	ARG
26	Z	143	LYS
26	Z	146	GLY
36	q	59	HIS
36	q	60	PRO
36	s	9	ASN
36	s	55	ILE
36	s	60	PRO

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Mol	Chain	Res	Type
36	s	66	PRO
36	s	71	ILE
36	t	9	ASN
36	t	69	THR
37	u	383	ASN
1	A	51	PHE
1	A	167	PRO
1	A	188	LEU
1	A	349	ALA
1	A	370	PRO
1	A	374	ASP
1	A	382	GLU
1	A	383	PHE
1	A	942	PRO
1	A	1092	ILE
1	A	1212	GLY
3	C	90	THR
3	C	364	SER
5	E	88	ARG
9	I	618	ARG
9	I	634	ILE
10	J	205	LEU
10	J	709	VAL
12	L	244	GLN
13	M	120	PRO
14	N	36	PRO
16	P	8	THR
18	R	62	GLY
19	S	12	PRO
20	T	341	ALA
21	U	2	TYR
23	W	191	GLY
23	W	205	VAL
23	W	318	VAL
23	W	482	ASP
25	Y	517	GLU
25	Y	845	SER
25	Y	870	GLY
25	Y	1182	LYS
26	Z	106	VAL
26	Z	139	ARG
34	o	160	LYS

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Mol	Chain	Res	Type
36	q	9	ASN
37	u	340	GLY
37	u	385	ASP
39	w	115	GLY
1	A	212	PRO
1	A	377	GLU
1	A	379	GLU
1	A	1947	ASN
3	C	63	LYS
3	C	615	PRO
3	C	711	ARG
5	E	256	ASP
9	I	283	ILE
9	I	601	GLN
9	I	752	ALA
10	J	217	GLU
10	J	357	LYS
14	N	39	GLY
15	O	111	ASP
15	O	134	VAL
15	O	206	ASN
18	R	173	PRO
18	R	277	THR
19	S	10	GLN
20	T	301	ASP
20	T	406	ILE
23	W	97	ASN
23	W	102	GLN
25	Y	524	ASN
25	Y	550	TYR
25	Y	806	GLU
25	Y	994	ILE
25	Y	1055	ASN
25	Y	1056	LYS
26	Z	112	ILE
26	Z	145	THR
26	Z	282	SER
36	q	19	PRO
36	r	9	ASN
36	t	67	SER
1	A	363	HIS
1	A	378	PHE

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Mol	Chain	Res	Type
1	A	903	SER
1	A	1180	LYS
3	C	754	VAL
3	C	856	HIS
5	E	159	PRO
5	E	162	ARG
9	I	617	GLU
10	J	189	ILE
10	J	604	PRO
11	K	65	ILE
12	L	132	PRO
12	L	585	TYR
15	O	107	MET
18	R	124	VAL
23	W	96	GLU
23	W	272	GLU
23	W	554	ILE
25	Y	590	THR
25	Y	663	ASP
25	Y	722	ALA
25	Y	835	VAL
26	Z	151	PRO
26	Z	347	PRO
34	o	32	PRO
36	t	65	PRO
1	A	359	ILE
1	A	1339	ASP
3	C	94	ILE
3	C	156	GLU
5	E	149	GLY
12	L	215	PRO
13	M	144	PRO
15	O	20	PHE
16	P	36	PRO
18	R	104	GLN
18	R	191	GLY
20	T	185	MET
20	T	189	GLN
23	W	301	GLY
23	W	330	GLY
25	Y	811	PRO
25	Y	1157	THR

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Mol	Chain	Res	Type
26	Z	308	SER
36	s	62	ARG
1	A	1275	ARG
1	A	2013	GLY
10	J	187	VAL
13	M	161	PHE
18	R	181	PRO
22	V	573	GLU
22	V	578	SER
22	V	609	GLN
23	W	376	PRO
23	W	549	HIS
24	X	76	SER
25	Y	523	ALA
25	Y	856	ASP
3	C	302	PRO
3	C	361	PRO
10	J	241	VAL
13	M	174	PRO
25	Y	738	PRO
3	C	360	ALA
11	K	17	PRO
25	Y	1137	PRO
3	C	440	SER
14	N	118	ILE
23	W	235	GLY
23	W	270	PRO
25	Y	521	ILE
36	s	38	GLY
1	A	828	PRO
4	D	585	ILE
5	E	324	PRO
36	r	60	PRO
14	N	4	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	2021/2108 (96%)	1866 (92%)	155 (8%)	12	38
3	C	761/866 (88%)	693 (91%)	68 (9%)	9	33
4	D	1541/1908 (81%)	1347 (87%)	194 (13%)	4	22
5	E	256/300 (85%)	243 (95%)	13 (5%)	21	49
10	J	241/751 (32%)	214 (89%)	27 (11%)	6	27
11	K	56/196 (29%)	48 (86%)	8 (14%)	3	19
12	L	229/709 (32%)	184 (80%)	45 (20%)	1	8
13	M	117/209 (56%)	81 (69%)	36 (31%)	0	2
14	N	130/130 (100%)	127 (98%)	3 (2%)	44	64
15	O	255/361 (71%)	250 (98%)	5 (2%)	48	66
16	P	99/203 (49%)	82 (83%)	17 (17%)	2	12
17	Q	1202/1336 (90%)	1197 (100%)	5 (0%)	84	81
18	R	219/457 (48%)	161 (74%)	58 (26%)	0	3
19	S	129/134 (96%)	120 (93%)	9 (7%)	14	41
20	T	269/441 (61%)	253 (94%)	16 (6%)	18	45
21	U	21/2432 (1%)	17 (81%)	4 (19%)	1	9
22	V	327/838 (39%)	306 (94%)	21 (6%)	16	43
23	W	436/502 (87%)	318 (73%)	118 (27%)	0	3
24	X	62/157 (40%)	60 (97%)	2 (3%)	34	58
25	Y	31/1085 (3%)	31 (100%)	0	100	100
26	Z	214/520 (41%)	201 (94%)	13 (6%)	17	45
27	a	72/101 (71%)	72 (100%)	0	100	100
27	h	70/101 (69%)	70 (100%)	0	100	100
28	b	77/169 (46%)	74 (96%)	3 (4%)	28	54
28	i	77/169 (46%)	74 (96%)	3 (4%)	28	54
29	c	77/101 (76%)	75 (97%)	2 (3%)	40	62
29	j	77/101 (76%)	75 (97%)	2 (3%)	40	62
30	d	90/110 (82%)	89 (99%)	1 (1%)	65	74
30	k	80/110 (73%)	79 (99%)	1 (1%)	61	72
31	f	63/74 (85%)	61 (97%)	2 (3%)	34	58
31	m	63/74 (85%)	61 (97%)	2 (3%)	34	58
32	e	74/84 (88%)	74 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
32	l	74/84 (88%)	74 (100%)	0	100	100
33	g	64/66 (97%)	63 (98%)	1 (2%)	55	69
33	n	60/66 (91%)	59 (98%)	1 (2%)	53	69
34	o	139/218 (64%)	133 (96%)	6 (4%)	26	52
35	p	82/195 (42%)	79 (96%)	3 (4%)	30	56
36	q	79/435 (18%)	72 (91%)	7 (9%)	9	33
36	r	77/435 (18%)	66 (86%)	11 (14%)	3	19
36	s	77/435 (18%)	69 (90%)	8 (10%)	7	29
36	t	77/435 (18%)	71 (92%)	6 (8%)	11	38
37	u	345/361 (96%)	338 (98%)	7 (2%)	48	66
38	v	132/134 (98%)	131 (99%)	1 (1%)	73	77
39	w	76/143 (53%)	75 (99%)	1 (1%)	61	72
40	x	23/581 (4%)	23 (100%)	0	100	100
All	All	10741/20425 (53%)	9856 (92%)	885 (8%)	13	36

All (885) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	44	ARG
1	A	48	LYS
1	A	59	GLU
1	A	60	ASP
1	A	75	ASP
1	A	76	MET
1	A	82	ARG
1	A	180	ASP
1	A	181	ASN
1	A	185	VAL
1	A	204	LEU
1	A	218	LYS
1	A	250	VAL
1	A	258	PHE
1	A	284	ARG
1	A	294	ASN
1	A	295	GLU
1	A	325	HIS
1	A	330	THR

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Mol	Chain	Res	Type
1	A	336	ASN
1	A	340	ILE
1	A	343	GLU
1	A	344	ASP
1	A	352	PHE
1	A	359	ILE
1	A	361	HIS
1	A	362	ARG
1	A	363	HIS
1	A	364	SER
1	A	367	SER
1	A	371	LEU
1	A	376	GLU
1	A	377	GLU
1	A	379	GLU
1	A	380	LEU
1	A	383	PHE
1	A	389	LYS
1	A	391	THR
1	A	394	TYR
1	A	409	ARG
1	A	413	LEU
1	A	433	GLU
1	A	439	GLN
1	A	459	LEU
1	A	460	LYS
1	A	462	ARG
1	A	467	GLN
1	A	468	LYS
1	A	535	ARG
1	A	546	LEU
1	A	548	ARG
1	A	579	GLN
1	A	596	TYR
1	A	597	LYS
1	A	601	GLN
1	A	604	MET
1	A	615	ARG
1	A	621	VAL
1	A	625	PRO
1	A	630	TRP
1	A	670	LYS

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Mol	Chain	Res	Type
1	A	674	LYS
1	A	697	MET
1	A	701	ILE
1	A	705	LYS
1	A	726	TRP
1	A	762	ARG
1	A	796	LYS
1	A	847	LYS
1	A	875	HIS
1	A	904	HIS
1	A	985	TYR
1	A	1012	LYS
1	A	1032	ARG
1	A	1089	CYS
1	A	1094	ARG
1	A	1136	ARG
1	A	1141	ARG
1	A	1168	VAL
1	A	1179	SER
1	A	1210	LYS
1	A	1211	ASP
1	A	1224	ARG
1	A	1243	ARG
1	A	1246	GLN
1	A	1321	GLU
1	A	1332	HIS
1	A	1361	GLU
1	A	1363	GLN
1	A	1370	ARG
1	A	1414	ARG
1	A	1427	ARG
1	A	1502	PHE
1	A	1591	MET
1	A	1641	ARG
1	A	1678	ARG
1	A	1681	ARG
1	A	1732	LYS
1	A	1757	GLU
1	A	1759	THR
1	A	1763	LEU
1	A	1766	GLN
1	A	1768	TYR

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Mol	Chain	Res	Type
1	A	1790	ILE
1	A	1794	PHE
1	A	1801	LYS
1	A	1813	ARG
1	A	1831	LYS
1	A	1833	LEU
1	A	1838	LYS
1	A	1885	LYS
1	A	1887	SER
1	A	1888	GLU
1	A	1898	LYS
1	A	1949	ARG
1	A	1958	LYS
1	A	1966	HIS
1	A	1968	TRP
1	A	1984	LYS
1	A	1986	LEU
1	A	2073	TRP
1	A	2074	ARG
1	A	2078	ILE
1	A	2085	LEU
1	A	2087	THR
1	A	2090	ILE
1	A	2103	THR
1	A	2108	LYS
1	A	2117	ILE
1	A	2139	VAL
1	A	2143	ARG
1	A	2156	THR
1	A	2157	VAL
1	A	2159	LEU
1	A	2171	GLU
1	A	2193	VAL
1	A	2194	THR
1	A	2219	THR
1	A	2223	CYS
1	A	2226	THR
1	A	2233	SER
1	A	2242	THR
1	A	2254	SER
1	A	2258	ARG
1	A	2259	VAL

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Mol	Chain	Res	Type
1	A	2261	MET
1	A	2268	LEU
1	A	2273	VAL
1	A	2284	MET
1	A	2293	LYS
1	A	2298	LEU
1	A	2303	GLU
1	A	2310	ARG
1	A	2312	SER
1	A	2319	LEU
3	C	59	LEU
3	C	61	GLU
3	C	62	ASP
3	C	63	LYS
3	C	64	LYS
3	C	66	TYR
3	C	68	THR
3	C	71	GLU
3	C	76	GLU
3	C	86	THR
3	C	87	GLN
3	C	97	VAL
3	C	256	CYS
3	C	297	ASN
3	C	298	LEU
3	C	300	LEU
3	C	333	ASP
3	C	354	ARG
3	C	359	LYS
3	C	362	THR
3	C	366	GLN
3	C	389	ASP
3	C	427	PHE
3	C	428	THR
3	C	438	ILE
3	C	443	VAL
3	C	448	LYS
3	C	452	THR
3	C	454	THR
3	C	457	VAL
3	C	459	SER
3	C	463	GLU

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Mol	Chain	Res	Type
3	C	468	CYS
3	C	474	LEU
3	C	475	MET
3	C	485	ASP
3	C	489	GLN
3	C	490	PHE
3	C	495	ARG
3	C	512	GLU
3	C	517	GLU
3	C	519	GLU
3	C	540	GLU
3	C	571	ASN
3	C	572	GLU
3	C	573	GLU
3	C	596	ASN
3	C	623	GLU
3	C	673	LYS
3	C	675	PHE
3	C	677	GLU
3	C	680	ASN
3	C	704	VAL
3	C	705	VAL
3	C	706	GLN
3	C	707	ILE
3	C	709	TRP
3	C	725	ASP
3	C	730	ARG
3	C	738	ASP
3	C	740	THR
3	C	749	THR
3	C	750	LEU
3	C	813	ARG
3	C	826	ARG
3	C	856	HIS
3	C	941	LYS
3	C	943	LEU
4	D	406	ARG
4	D	409	LEU
4	D	410	ASP
4	D	412	GLU
4	D	414	LEU
4	D	420	SER

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Mol	Chain	Res	Type
4	D	430	LEU
4	D	436	ARG
4	D	446	HIS
4	D	447	VAL
4	D	450	LEU
4	D	451	LYS
4	D	464	VAL
4	D	467	LEU
4	D	488	LEU
4	D	495	THR
4	D	500	LEU
4	D	501	LEU
4	D	505	THR
4	D	525	ILE
4	D	533	VAL
4	D	547	LEU
4	D	550	GLU
4	D	566	VAL
4	D	572	ASP
4	D	576	CYS
4	D	578	GLU
4	D	580	ILE
4	D	584	GLN
4	D	591	GLU
4	D	592	LYS
4	D	595	ILE
4	D	602	GLU
4	D	612	ILE
4	D	614	LEU
4	D	643	GLN
4	D	673	LEU
4	D	683	VAL
4	D	690	VAL
4	D	693	THR
4	D	712	ILE
4	D	728	ARG
4	D	739	ARG
4	D	743	LEU
4	D	750	LEU
4	D	759	THR
4	D	773	GLU
4	D	782	PHE

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Mol	Chain	Res	Type
4	D	791	ARG
4	D	806	ILE
4	D	807	GLN
4	D	809	LEU
4	D	810	VAL
4	D	820	ASN
4	D	833	VAL
4	D	847	LEU
4	D	849	ILE
4	D	850	LEU
4	D	852	MET
4	D	855	ARG
4	D	868	ILE
4	D	869	LEU
4	D	877	GLN
4	D	885	GLN
4	D	887	LEU
4	D	894	VAL
4	D	897	LEU
4	D	900	MET
4	D	901	LEU
4	D	906	VAL
4	D	910	VAL
4	D	920	LEU
4	D	934	THR
4	D	941	ASP
4	D	942	ASP
4	D	957	VAL
4	D	972	TYR
4	D	975	LYS
4	D	981	VAL
4	D	992	TYR
4	D	1004	LEU
4	D	1016	ARG
4	D	1020	LEU
4	D	1028	THR
4	D	1037	LEU
4	D	1051	SER
4	D	1062	LEU
4	D	1063	LEU
4	D	1087	SER
4	D	1091	LEU

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Mol	Chain	Res	Type
4	D	1100	LEU
4	D	1101	ASN
4	D	1108	THR
4	D	1125	SER
4	D	1135	LEU
4	D	1143	ILE
4	D	1153	LEU
4	D	1165	ILE
4	D	1166	ARG
4	D	1186	LEU
4	D	1187	SER
4	D	1204	ILE
4	D	1224	LEU
4	D	1225	VAL
4	D	1228	VAL
4	D	1232	VAL
4	D	1234	LEU
4	D	1240	LEU
4	D	1241	LEU
4	D	1242	LYS
4	D	1262	LEU
4	D	1287	ARG
4	D	1301	LEU
4	D	1312	LEU
4	D	1320	LEU
4	D	1337	ASN
4	D	1368	LEU
4	D	1375	ARG
4	D	1385	LEU
4	D	1399	ASP
4	D	1406	VAL
4	D	1408	LEU
4	D	1413	SER
4	D	1419	LEU
4	D	1421	LYS
4	D	1425	ILE
4	D	1430	GLU
4	D	1436	SER
4	D	1441	GLN
4	D	1442	ARG
4	D	1443	LYS
4	D	1453	VAL

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Mol	Chain	Res	Type
4	D	1455	GLU
4	D	1456	VAL
4	D	1474	MET
4	D	1477	ILE
4	D	1480	GLN
4	D	1481	ILE
4	D	1482	GLU
4	D	1492	SER
4	D	1528	GLN
4	D	1567	LYS
4	D	1580	CYS
4	D	1629	ARG
4	D	1655	ASN
4	D	1707	GLN
4	D	1713	PHE
4	D	1728	LEU
4	D	1734	ASP
4	D	1742	THR
4	D	1747	ASN
4	D	1752	VAL
4	D	1756	THR
4	D	1762	ARG
4	D	1779	ARG
4	D	1781	LEU
4	D	1788	LEU
4	D	1817	MET
4	D	1829	ILE
4	D	1831	LEU
4	D	1834	MET
4	D	1840	THR
4	D	1842	VAL
4	D	1849	ILE
4	D	1854	GLU
4	D	1865	ASP
4	D	1912	THR
4	D	1936	LEU
4	D	1956	LYS
4	D	1957	ASP
4	D	1970	HIS
4	D	1988	MET
4	D	1996	LEU
4	D	1999	LEU

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Mol	Chain	Res	Type
4	D	2000	THR
4	D	2017	ILE
4	D	2026	LYS
4	D	2027	ASP
4	D	2029	ILE
4	D	2031	SER
4	D	2047	VAL
4	D	2055	LEU
4	D	2070	ASP
4	D	2076	LEU
4	D	2077	ILE
4	D	2082	LEU
4	D	2084	LEU
4	D	2092	LEU
4	D	2095	VAL
4	D	2105	THR
4	D	2109	MET
4	D	2114	MET
4	D	2121	LYS
4	D	2125	ASP
5	E	153	PHE
5	E	161	ARG
5	E	178	LEU
5	E	243	LEU
5	E	248	SER
5	E	250	LEU
5	E	260	ARG
5	E	265	ARG
5	E	270	LYS
5	E	271	GLU
5	E	272	ARG
5	E	289	LEU
5	E	290	ARG
10	J	180	LYS
10	J	181	ASN
10	J	186	GLU
10	J	188	GLN
10	J	195	LEU
10	J	196	ARG
10	J	199	LYS
10	J	200	GLU
10	J	201	ARG

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Mol	Chain	Res	Type
10	J	202	GLU
10	J	203	LEU
10	J	212	GLN
10	J	214	ILE
10	J	215	THR
10	J	216	ASP
10	J	217	GLU
10	J	218	GLU
10	J	219	GLU
10	J	221	ASN
10	J	229	LYS
10	J	237	LYS
10	J	239	ARG
10	J	281	LYS
10	J	308	ARG
10	J	363	ARG
10	J	410	HIS
10	J	411	MET
11	K	38	GLU
11	K	90	PRO
11	K	117	GLN
11	K	126	LEU
11	K	147	GLU
11	K	168	LYS
11	K	171	GLN
11	K	173	THR
12	L	20	LYS
12	L	25	LYS
12	L	33	ARG
12	L	37	LEU
12	L	67	GLU
12	L	83	ARG
12	L	91	ARG
12	L	101	GLU
12	L	103	LEU
12	L	106	LYS
12	L	131	ASN
12	L	135	LYS
12	L	138	ARG
12	L	144	MET
12	L	146	GLU
12	L	147	ASP

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Mol	Chain	Res	Type
12	L	158	ARG
12	L	159	LEU
12	L	162	THR
12	L	172	ARG
12	L	186	GLN
12	L	188	ARG
12	L	206	ARG
12	L	218	LYS
12	L	219	LYS
12	L	222	LEU
12	L	227	THR
12	L	228	SER
12	L	233	GLN
12	L	235	LEU
12	L	236	ASP
12	L	239	PHE
12	L	240	ARG
12	L	241	LYS
12	L	242	LEU
12	L	244	GLN
12	L	247	LEU
12	L	250	GLU
12	L	251	LEU
12	L	264	LYS
12	L	268	LYS
12	L	269	ARG
12	L	731	LEU
12	L	761	SER
12	L	781	GLU
13	M	118	LYS
13	M	122	LEU
13	M	124	PHE
13	M	142	ILE
13	M	145	ASP
13	M	146	MET
13	M	147	GLU
13	M	148	THR
13	M	150	GLU
13	M	151	ARG
13	M	152	LEU
13	M	154	GLU
13	M	155	LYS

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Mol	Chain	Res	Type
13	M	156	HIS
13	M	159	GLU
13	M	167	LEU
13	M	172	HIS
13	M	177	GLU
13	M	179	ILE
13	M	182	MET
13	M	195	LYS
13	M	197	SER
13	M	198	ARG
13	M	200	ARG
13	M	207	ASP
13	M	208	ILE
13	M	210	TYR
13	M	212	ASN
13	M	215	ASN
13	M	220	LYS
13	M	224	ARG
13	M	225	PHE
13	M	228	LYS
13	M	232	GLU
13	M	234	LYS
13	M	239	ARG
14	N	41	ARG
14	N	116	ASN
14	N	125	LYS
15	O	69	GLU
15	O	74	CYS
15	O	115	GLU
15	O	222	ARG
15	O	272	ILE
16	P	2	THR
16	P	3	THR
16	P	6	ARG
16	P	13	ARG
16	P	29	GLN
16	P	30	TYR
16	P	33	ARG
16	P	34	ASP
16	P	57	ARG
16	P	66	ARG
16	P	67	GLU

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Mol	Chain	Res	Type
16	P	76	ARG
16	P	78	ARG
16	P	191	ASP
16	P	224	MET
16	P	225	GLU
16	P	229	LYS
17	Q	51	GLU
17	Q	881	HIS
17	Q	960	ASP
17	Q	986	SER
17	Q	1021	LEU
18	R	55	LEU
18	R	58	PHE
18	R	60	ASP
18	R	66	GLU
18	R	67	ILE
18	R	71	GLN
18	R	72	TYR
18	R	78	ARG
18	R	80	LYS
18	R	81	LYS
18	R	86	LEU
18	R	89	GLN
18	R	90	VAL
18	R	92	SER
18	R	95	LYS
18	R	96	ILE
18	R	103	ARG
18	R	104	GLN
18	R	106	GLN
18	R	110	LYS
18	R	112	ILE
18	R	115	LYS
18	R	125	MET
18	R	128	ASP
18	R	133	GLN
18	R	137	GLU
18	R	148	ARG
18	R	158	LYS
18	R	170	LYS
18	R	171	LEU
18	R	181	PRO

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Mol	Chain	Res	Type
18	R	183	GLN
18	R	186	VAL
18	R	188	PHE
18	R	189	ASN
18	R	195	ARG
18	R	211	ARG
18	R	212	PHE
18	R	213	LYS
18	R	214	ILE
18	R	215	ASN
18	R	216	LYS
18	R	218	ILE
18	R	230	MET
18	R	241	GLU
18	R	258	LYS
18	R	264	LEU
18	R	265	ASP
18	R	266	LYS
18	R	268	LEU
18	R	275	LEU
18	R	279	HIS
18	R	280	ILE
18	R	282	GLU
18	R	297	LYS
18	R	307	GLN
18	R	312	MET
18	R	314	GLN
19	S	10	GLN
19	S	15	TYR
19	S	20	MET
19	S	100	MET
19	S	102	ASN
19	S	108	ASN
19	S	125	LYS
19	S	129	PHE
19	S	131	ARG
20	T	243	THR
20	T	257	ARG
20	T	308	ARG
20	T	318	ARG
20	T	387	PHE
20	T	399	LYS

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Mol	Chain	Res	Type
20	T	400	PHE
20	T	401	PRO
20	T	402	ASP
20	T	412	HIS
20	T	416	ILE
20	T	418	THR
20	T	455	GLN
20	T	461	SER
20	T	463	SER
20	T	478	LEU
21	U	1	MET
21	U	11	ARG
21	U	23	LEU
21	U	25	LEU
22	V	333	GLN
22	V	344	LYS
22	V	387	MET
22	V	452	LEU
22	V	457	ARG
22	V	458	THR
22	V	461	LEU
22	V	465	SER
22	V	467	LEU
22	V	471	GLU
22	V	478	LYS
22	V	490	CYS
22	V	505	LYS
22	V	510	LEU
22	V	513	ARG
22	V	514	PHE
22	V	533	TYR
22	V	535	THR
22	V	540	GLU
22	V	577	SER
22	V	597	PRO
23	W	84	THR
23	W	88	MET
23	W	92	GLU
23	W	96	GLU
23	W	100	ARG
23	W	108	ARG
23	W	126	GLU

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Mol	Chain	Res	Type
23	W	127	GLN
23	W	129	ARG
23	W	130	ARG
23	W	134	THR
23	W	139	LEU
23	W	144	ASP
23	W	146	HIS
23	W	148	VAL
23	W	152	TYR
23	W	156	VAL
23	W	157	GLU
23	W	158	GLU
23	W	160	GLU
23	W	165	LEU
23	W	169	GLU
23	W	170	THR
23	W	172	GLN
23	W	176	GLU
23	W	177	LYS
23	W	178	ARG
23	W	180	LYS
23	W	181	PHE
23	W	182	LYS
23	W	187	SER
23	W	198	LYS
23	W	200	VAL
23	W	201	ASP
23	W	203	LYS
23	W	207	LYS
23	W	209	SER
23	W	210	GLU
23	W	212	GLU
23	W	213	GLN
23	W	228	LYS
23	W	231	GLU
23	W	232	GLU
23	W	240	ILE
23	W	241	LEU
23	W	242	HIS
23	W	248	ASP
23	W	249	TYR
23	W	252	ARG

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Mol	Chain	Res	Type
23	W	257	ILE
23	W	259	GLN
23	W	260	ASP
23	W	263	VAL
23	W	265	LEU
23	W	266	ARG
23	W	269	MET
23	W	272	GLU
23	W	273	LYS
23	W	276	LEU
23	W	278	LYS
23	W	279	LYS
23	W	280	GLN
23	W	282	HIS
23	W	284	TRP
23	W	288	THR
23	W	289	LYS
23	W	300	SER
23	W	322	ARG
23	W	323	ARG
23	W	325	LEU
23	W	328	PHE
23	W	336	ARG
23	W	354	ARG
23	W	371	THR
23	W	373	ARG
23	W	374	LYS
23	W	381	PHE
23	W	387	LYS
23	W	390	LEU
23	W	405	ILE
23	W	406	ARG
23	W	409	GLU
23	W	416	ARG
23	W	417	HIS
23	W	418	LEU
23	W	428	ASP
23	W	431	ARG
23	W	432	ARG
23	W	433	PHE
23	W	440	LYS
23	W	443	ARG

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Mol	Chain	Res	Type
23	W	445	TRP
23	W	453	PHE
23	W	455	TYR
23	W	458	GLU
23	W	461	MET
23	W	463	SER
23	W	467	VAL
23	W	469	LEU
23	W	481	MET
23	W	487	ILE
23	W	491	GLN
23	W	492	ASN
23	W	495	ARG
23	W	497	ASN
23	W	498	LYS
23	W	499	LYS
23	W	505	HIS
23	W	513	GLN
23	W	516	PHE
23	W	517	SER
23	W	527	ASP
23	W	534	ILE
23	W	536	ASP
23	W	551	LYS
23	W	554	ILE
23	W	565	LYS
23	W	571	TRP
24	X	60	PRO
24	X	124	THR
26	Z	82	LEU
26	Z	84	HIS
26	Z	136	ARG
26	Z	138	ARG
26	Z	144	PHE
26	Z	166	LYS
26	Z	179	MET
26	Z	267	ILE
26	Z	290	ARG
26	Z	320	ASP
26	Z	323	SER
26	Z	346	ASP
26	Z	350	LEU

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Mol	Chain	Res	Type
28	b	13	ILE
28	b	57	LYS
28	b	58	GLN
29	c	4	VAL
29	c	40	LEU
30	d	112	ASN
31	f	27	MET
31	f	55	LEU
33	g	65	ASN
28	i	13	ILE
28	i	57	LYS
28	i	58	GLN
29	j	4	VAL
29	j	40	LEU
30	k	112	ASN
31	m	27	MET
31	m	55	LEU
33	n	65	ASN
34	o	5	THR
34	o	71	VAL
34	o	79	ILE
34	o	101	VAL
34	o	114	SER
34	o	126	THR
35	p	46	MET
35	p	66	LEU
35	p	87	ASP
36	q	19	PRO
36	q	28	ARG
36	q	46	PRO
36	q	56	LYS
36	q	103	LEU
36	q	107	LEU
36	q	114	CYS
36	r	19	PRO
36	r	46	PRO
36	r	57	VAL
36	r	60	PRO
36	r	62	ARG
36	r	79	GLN
36	r	87	LEU
36	r	92	LEU

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Mol	Chain	Res	Type
36	r	93	ARG
36	r	101	GLN
36	r	103	LEU
36	s	19	PRO
36	s	46	PRO
36	s	56	LYS
36	s	60	PRO
36	s	89	SER
36	s	96	LEU
36	s	120	LEU
36	s	129	GLU
36	t	19	PRO
36	t	46	PRO
36	t	60	PRO
36	t	87	LEU
36	t	103	LEU
36	t	107	LEU
37	u	37	THR
37	u	194	ASN
37	u	301	ASN
37	u	316	ARG
37	u	337	TRP
37	u	360	LEU
37	u	407	VAL
38	v	119	GLU
39	w	118	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (187) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	38	GLN
1	A	57	GLN
1	A	73	HIS
1	A	160	HIS
1	A	210	HIS
1	A	297	ASN
1	A	467	GLN
1	A	495	GLN
1	A	584	HIS
1	A	601	GLN
1	A	723	ASN
1	A	755	HIS

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Mol	Chain	Res	Type
1	A	775	ASN
1	A	792	HIS
1	A	957	GLN
1	A	1014	ASN
1	A	1018	ASN
1	A	1023	ASN
1	A	1035	GLN
1	A	1066	GLN
1	A	1075	GLN
1	A	1122	ASN
1	A	1345	GLN
1	A	1352	HIS
1	A	1359	HIS
1	A	1476	GLN
1	A	1599	GLN
1	A	1717	ASN
1	A	1774	ASN
1	A	1890	GLN
1	A	1944	HIS
1	A	1946	ASN
1	A	1947	ASN
1	A	2084	HIS
1	A	2089	HIS
1	A	2123	GLN
1	A	2155	GLN
1	A	2162	GLN
1	A	2291	ASN
1	A	2306	HIS
3	C	60	HIS
3	C	82	GLN
3	C	245	HIS
3	C	280	HIS
3	C	297	ASN
3	C	513	ASN
3	C	548	ASN
3	C	575	GLN
3	C	583	ASN
3	C	596	ASN
3	C	706	GLN
3	C	743	ASN
3	C	768	GLN
3	C	892	GLN

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Mol	Chain	Res	Type
4	D	425	ASN
4	D	482	ASN
4	D	726	HIS
4	D	785	HIS
4	D	877	GLN
4	D	940	HIS
4	D	1113	ASN
4	D	1189	HIS
4	D	1322	GLN
4	D	1337	ASN
4	D	1423	ASN
4	D	1528	GLN
4	D	1568	GLN
4	D	1733	HIS
4	D	1735	HIS
4	D	1780	HIS
4	D	1814	ASN
4	D	1862	HIS
4	D	1898	HIS
4	D	2012	ASN
4	D	2058	GLN
5	E	101	ASN
5	E	108	HIS
5	E	165	GLN
5	E	188	GLN
5	E	225	ASN
10	J	181	ASN
10	J	212	GLN
11	K	123	ASN
11	K	171	GLN
12	L	13	ASN
12	L	99	HIS
12	L	163	GLN
13	M	134	GLN
13	M	156	HIS
13	M	172	HIS
13	M	203	ASN
14	N	27	GLN
14	N	37	HIS
14	N	54	HIS
14	N	99	ASN
14	N	136	HIS

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Mol	Chain	Res	Type
15	O	82	GLN
15	O	196	GLN
15	O	268	GLN
15	O	294	ASN
17	Q	71	GLN
17	Q	152	HIS
17	Q	165	GLN
17	Q	355	ASN
17	Q	393	ASN
17	Q	469	ASN
17	Q	542	ASN
17	Q	544	ASN
17	Q	632	ASN
17	Q	633	GLN
17	Q	1007	GLN
17	Q	1082	GLN
17	Q	1255	ASN
17	Q	1311	GLN
17	Q	1380	HIS
18	R	68	HIS
18	R	71	GLN
18	R	89	GLN
18	R	104	GLN
18	R	106	GLN
18	R	126	ASN
18	R	189	ASN
18	R	194	GLN
18	R	215	ASN
18	R	242	GLN
18	R	276	GLN
18	R	314	GLN
19	S	13	ASN
19	S	150	GLN
20	T	217	GLN
20	T	297	HIS
20	T	413	ASN
20	T	417	ASN
20	T	446	ASN
20	T	451	HIS
20	T	455	GLN
21	U	3	ASN
22	V	171	ASN

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Mol	Chain	Res	Type
22	V	306	GLN
22	V	474	HIS
22	V	499	GLN
23	W	102	GLN
23	W	147	GLN
23	W	162	ASN
23	W	172	GLN
23	W	188	ASN
23	W	242	HIS
23	W	259	GLN
23	W	280	GLN
23	W	287	HIS
23	W	388	GLN
23	W	402	GLN
23	W	417	HIS
23	W	479	GLN
23	W	483	ASN
23	W	484	GLN
23	W	491	GLN
23	W	492	ASN
23	W	497	ASN
23	W	513	GLN
26	Z	178	HIS
26	Z	367	GLN
27	a	16	HIS
27	a	60	GLN
28	b	22	GLN
28	b	76	ASN
29	c	64	ASN
30	d	34	GLN
31	f	58	HIS
33	g	65	ASN
27	h	23	ASN
27	h	60	GLN
28	i	22	GLN
28	i	76	ASN
29	j	64	ASN
30	k	34	GLN
31	m	58	HIS
32	l	65	HIS
33	n	65	ASN
34	o	156	GLN

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Mol	Chain	Res	Type
35	p	7	HIS
37	u	136	GLN
37	u	157	GLN
37	u	301	ASN
37	u	356	ASN
37	u	394	GLN
38	v	39	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	B	82/117 (70%)	17 (20%)	4 (4%)
6	F	96/107 (89%)	45 (46%)	14 (14%)
7	G	82/275 (29%)	53 (64%)	10 (12%)
8	H	133/188 (70%)	33 (24%)	8 (6%)
All	All	393/687 (57%)	148 (37%)	36 (9%)

All (148) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	B	12	U
2	B	13	C
2	B	19	A
2	B	20	G
2	B	21	A
2	B	22	U
2	B	23	C
2	B	24	G
2	B	25	C
2	B	26	A
2	B	28	A
2	B	36	C
2	B	38	C
2	B	45	C
2	B	57	G
2	B	70	A
2	B	71	C
6	F	5	U
6	F	6	C
6	F	7	G
6	F	8	C

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Mol	Chain	Res	Type
6	F	9	U
6	F	10	U
6	F	12	G
6	F	25	C
6	F	26	U
6	F	27	A
6	F	28	A
6	F	29	A
6	F	31	U
6	F	33	G
6	F	34	G
6	F	35	A
6	F	36	A
6	F	37	C
6	F	38	G
6	F	40	U
6	F	43	A
6	F	45	A
6	F	46	G
6	F	47	A
6	F	48	A
6	F	49	G
6	F	51	U
6	F	54	G
6	F	56	A
6	F	59	G
6	F	60	C
6	F	61	C
6	F	62	C
6	F	68	C
6	F	74	U
6	F	78	A
6	F	79	C
6	F	80	G
6	F	81	C
6	F	82	A
6	F	83	A
6	F	84	A
6	F	85	U
6	F	86	U
6	F	87	C
7	G	-11	G

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Mol	Chain	Res	Type
7	G	-7	C
7	G	-6	C
7	G	2	U
7	G	3	A
7	G	5	G
7	G	6	A
7	G	7	G
7	G	8	C
7	G	10	U
7	G	11	A
7	G	12	G
7	G	13	C
7	G	14	A
7	G	17	U
7	G	21	A
7	G	22	C
7	G	23	U
7	G	24	G
7	G	25	G
7	G	26	U
7	G	27	U
7	G	28	A
7	G	29	C
7	G	30	C
7	G	31	U
7	G	120	G
7	G	121	G
7	G	122	U
7	G	123	U
7	G	124	U
7	G	125	C
7	G	126	C
7	G	127	U
7	G	128	U
7	G	129	G
7	G	130	A
7	G	131	U
7	G	134	U
7	G	135	G
7	G	136	U
7	G	137	C
7	G	138	A

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Mol	Chain	Res	Type
7	G	139	U
7	G	140	A
7	G	143	U
7	G	144	A
7	G	145	U
7	G	146	C
7	G	147	C
7	G	148	U
7	G	149	G
7	G	150	U
8	H	13	C
8	H	14	C
8	H	15	U
8	H	16	U
8	H	17	U
8	H	19	G
8	H	24	A
8	H	25	G
8	H	29	A
8	H	30	A
8	H	31	G
8	H	33	G
8	H	37	U
8	H	39	U
8	H	40	C
8	H	41	U
8	H	42	G
8	H	43	U
8	H	112	G
8	H	143	A
8	H	147	G
8	H	152	G
8	H	153	A
8	H	154	C
8	H	156	U
8	H	157	G
8	H	164	C
8	H	165	A
8	H	168	A
8	H	169	C
8	H	177	A
8	H	178	A

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Mol	Chain	Res	Type
8	H	179	C

All (36) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	B	18	C
2	B	19	A
2	B	20	G
2	B	27	U
6	F	5	U
6	F	7	G
6	F	25	C
6	F	26	U
6	F	33	G
6	F	34	G
6	F	35	A
6	F	36	A
6	F	50	A
6	F	58	G
6	F	59	G
6	F	81	C
6	F	84	A
6	F	86	U
7	G	-12	G
7	G	1	G
7	G	16	G
7	G	20	A
7	G	21	A
7	G	22	C
7	G	23	U
7	G	137	C
7	G	142	U
7	G	147	C
8	H	15	U
8	H	29	A
8	H	38	A
8	H	39	U
8	H	40	C
8	H	156	U
8	H	164	C
8	H	168	A

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
18	SEP	R	224	18	8,9,10	0.71	0	7,12,14	1.26	0
18	SEP	R	232	18	8,9,10	0.85	0	7,12,14	1.23	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
18	SEP	R	224	18	-	0/6/8/10	-
18	SEP	R	232	18	-	2/6/8/10	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) torsion outliers are listed below:

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

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
18	R	224	SEP	2	0
18	R	232	SEP	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
46	ATP	u	702	43	32,33,33	1.22	4 (12%)	48,52,52	1.84	8 (16%)
44	ADP	D	2201	-	28,29,29	1.45	5 (17%)	43,45,45	1.78	7 (16%)
41	IHP	A	3000	-	36,36,36	0.80	0	60,60,60	1.34	7 (11%)
42	GTP	C	1500	43	33,34,34	1.18	4 (12%)	50,54,54	1.97	9 (18%)
44	ADP	D	2202	43	28,29,29	1.37	4 (14%)	43,45,45	1.86	9 (20%)
46	ATP	Q	1501	43	32,33,33	2.05	8 (25%)	48,52,52	1.88	16 (33%)

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
46	ATP	u	702	43	-	0/22/38/38	0/3/3/3
44	ADP	D	2201	-	-	8/16/32/32	0/3/3/3
41	IHP	A	3000	-	-	8/30/54/54	0/1/1/1
42	GTP	C	1500	43	-	7/22/38/38	0/3/3/3
44	ADP	D	2202	43	-	2/16/32/32	0/3/3/3
46	ATP	Q	1501	43	-	4/22/38/38	0/3/3/3

All (25) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	Q	1501	ATP	PB-O3B	7.29	1.67	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	D	2201	ADP	C5-C4	4.74	1.47	1.39
46	Q	1501	ATP	C6-N6	4.68	1.46	1.34
44	D	2202	ADP	C5-C4	4.46	1.47	1.39
42	C	1500	GTP	C6-N1	-3.36	1.32	1.38
46	Q	1501	ATP	C4-N3	3.23	1.40	1.34
46	u	702	ATP	C4-N9	-3.18	1.31	1.37
46	Q	1501	ATP	C2'-C3'	-2.80	1.45	1.53
46	u	702	ATP	PB-O3B	2.77	1.62	1.59
42	C	1500	GTP	C5-N7	-2.73	1.33	1.39
44	D	2202	ADP	C5-C6	2.65	1.48	1.41
44	D	2201	ADP	C5-C6	2.58	1.48	1.41
44	D	2202	ADP	C5-N7	-2.45	1.34	1.39
44	D	2201	ADP	C5-N7	-2.41	1.34	1.39
44	D	2201	ADP	PA-O3A	2.37	1.62	1.59
44	D	2201	ADP	C8-N7	2.34	1.36	1.31
44	D	2202	ADP	C8-N7	2.33	1.36	1.31
42	C	1500	GTP	C4-N9	-2.32	1.32	1.38
46	Q	1501	ATP	C3'-C4'	-2.20	1.47	1.53
46	Q	1501	ATP	C8-N7	2.17	1.35	1.31
42	C	1500	GTP	C5-C4	2.15	1.44	1.38
46	u	702	ATP	C5-N7	-2.14	1.35	1.39
46	Q	1501	ATP	O2'-C2'	-2.13	1.37	1.43
46	Q	1501	ATP	O3'-C3'	-2.02	1.38	1.43
46	u	702	ATP	PA-O3A	2.02	1.61	1.59

All (56) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
42	C	1500	GTP	C5-C4-N3	-6.50	118.04	128.39
44	D	2202	ADP	C5-C4-N3	-6.37	117.95	126.72
46	u	702	ATP	C5-C4-N3	-6.36	117.96	126.72
44	D	2201	ADP	C5-C4-N3	-5.85	118.67	126.72
42	C	1500	GTP	N9-C4-N3	5.70	137.36	125.95
42	C	1500	GTP	C2-N3-C4	5.49	121.76	112.30
46	Q	1501	ATP	C5-C4-N3	-4.95	119.90	126.72
44	D	2202	ADP	N3-C4-N9	4.85	135.42	127.17
44	D	2201	ADP	N3-C4-N9	4.62	135.02	127.17
46	Q	1501	ATP	N3-C2-N1	-4.26	122.13	128.58
46	u	702	ATP	N3-C2-N1	-4.17	122.28	128.58
46	u	702	ATP	N3-C4-N9	4.06	134.07	127.17
46	u	702	ATP	C4-C5-N7	-4.03	105.97	110.58
44	D	2202	ADP	C2-N3-C4	3.89	121.32	111.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
42	C	1500	GTP	O6-C6-C5	-3.83	116.42	126.53
46	Q	1501	ATP	N3-C4-N9	3.74	133.54	127.17
44	D	2201	ADP	C2-N3-C4	3.70	120.87	111.83
46	u	702	ATP	C2-N3-C4	3.64	120.71	111.83
44	D	2202	ADP	C4-C5-N7	-3.61	106.45	110.58
46	Q	1501	ATP	N9-C8-N7	-3.42	109.08	113.94
46	Q	1501	ATP	C2-N3-C4	3.27	119.81	111.83
44	D	2201	ADP	N3-C2-N1	-3.24	123.68	128.58
42	C	1500	GTP	C5-C6-N1	3.16	121.30	113.25
44	D	2201	ADP	C4-C5-N7	-3.16	106.97	110.58
46	u	702	ATP	N9-C8-N7	-3.13	109.49	113.94
46	u	702	ATP	C5-N7-C8	3.09	108.31	103.45
41	A	3000	IHP	C6-C1-C2	-3.05	103.74	110.43
41	A	3000	IHP	C5-C4-C3	3.01	117.03	110.43
42	C	1500	GTP	C2-N1-C6	-3.00	119.66	125.11
44	D	2202	ADP	N3-C2-N1	-2.99	124.06	128.58
46	Q	1501	ATP	C5-N7-C8	2.96	108.11	103.45
46	Q	1501	ATP	C4-N9-C8	2.89	108.77	105.74
41	A	3000	IHP	O11-C1-C6	2.81	114.74	108.76
41	A	3000	IHP	O16-C6-C1	2.75	114.62	108.76
41	A	3000	IHP	C5-C6-C1	-2.74	104.42	110.43
46	Q	1501	ATP	C4-C5-N7	-2.73	107.46	110.58
42	C	1500	GTP	C6-C5-N7	2.64	135.10	130.29
44	D	2202	ADP	C5-N7-C8	2.55	107.46	103.45
46	Q	1501	ATP	O2A-PA-O1A	-2.54	100.63	112.44
46	Q	1501	ATP	O2G-PG-O1G	-2.45	101.28	110.83
42	C	1500	GTP	O2G-PG-O3B	2.45	112.85	104.64
46	u	702	ATP	C4-N9-C8	2.41	108.27	105.74
44	D	2202	ADP	C4-N9-C8	2.29	108.14	105.74
46	Q	1501	ATP	O2A-PA-O3A	2.27	113.40	107.27
41	A	3000	IHP	O15-P5-O25	-2.26	101.28	109.33
46	Q	1501	ATP	O2G-PG-O3B	2.26	112.20	104.64
44	D	2201	ADP	C5-N7-C8	2.25	106.99	103.45
46	Q	1501	ATP	O2B-PB-O1B	-2.25	101.98	112.44
41	A	3000	IHP	P6-O16-C6	-2.25	117.44	123.43
44	D	2202	ADP	C3'-C2'-C1'	2.22	105.67	101.46
44	D	2201	ADP	C4-N9-C8	2.22	108.07	105.74
46	Q	1501	ATP	O5'-C5'-C4'	2.11	116.19	108.99
42	C	1500	GTP	C8-N9-C4	2.08	109.93	106.03
46	Q	1501	ATP	O3G-PG-O3B	2.06	111.54	104.64
46	Q	1501	ATP	O4'-C1'-N9	2.03	111.99	108.09
44	D	2202	ADP	C6-C5-N7	2.02	135.97	132.09

There are no chirality outliers.

All (29) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
41	A	3000	IHP	C4-C5-O15-P5
41	A	3000	IHP	C6-C5-O15-P5
42	C	1500	GTP	C5'-O5'-PA-O3A
42	C	1500	GTP	C5'-O5'-PA-O1A
42	C	1500	GTP	C5'-O5'-PA-O2A
42	C	1500	GTP	O4'-C4'-C5'-O5'
44	D	2201	ADP	PA-O3A-PB-O2B
44	D	2201	ADP	C5'-O5'-PA-O1A
44	D	2201	ADP	C5'-O5'-PA-O2A
44	D	2201	ADP	C5'-O5'-PA-O3A
46	Q	1501	ATP	C5'-O5'-PA-O1A
46	Q	1501	ATP	C5'-O5'-PA-O2A
46	Q	1501	ATP	C5'-O5'-PA-O3A
42	C	1500	GTP	C3'-C4'-C5'-O5'
44	D	2201	ADP	C3'-C4'-C5'-O5'
44	D	2201	ADP	O4'-C4'-C5'-O5'
44	D	2202	ADP	C3'-C4'-C5'-O5'
44	D	2202	ADP	O4'-C4'-C5'-O5'
42	C	1500	GTP	PB-O3B-PG-O3G
41	A	3000	IHP	C1-O11-P1-O21
41	A	3000	IHP	C2-O12-P2-O42
41	A	3000	IHP	C5-O15-P5-O25
46	Q	1501	ATP	PB-O3A-PA-O2A
44	D	2201	ADP	PA-O3A-PB-O1B
44	D	2201	ADP	PA-O3A-PB-O3B
41	A	3000	IHP	C1-O11-P1-O31
41	A	3000	IHP	C5-O15-P5-O45
41	A	3000	IHP	C2-O12-P2-O22
42	C	1500	GTP	PG-O3B-PB-O1B

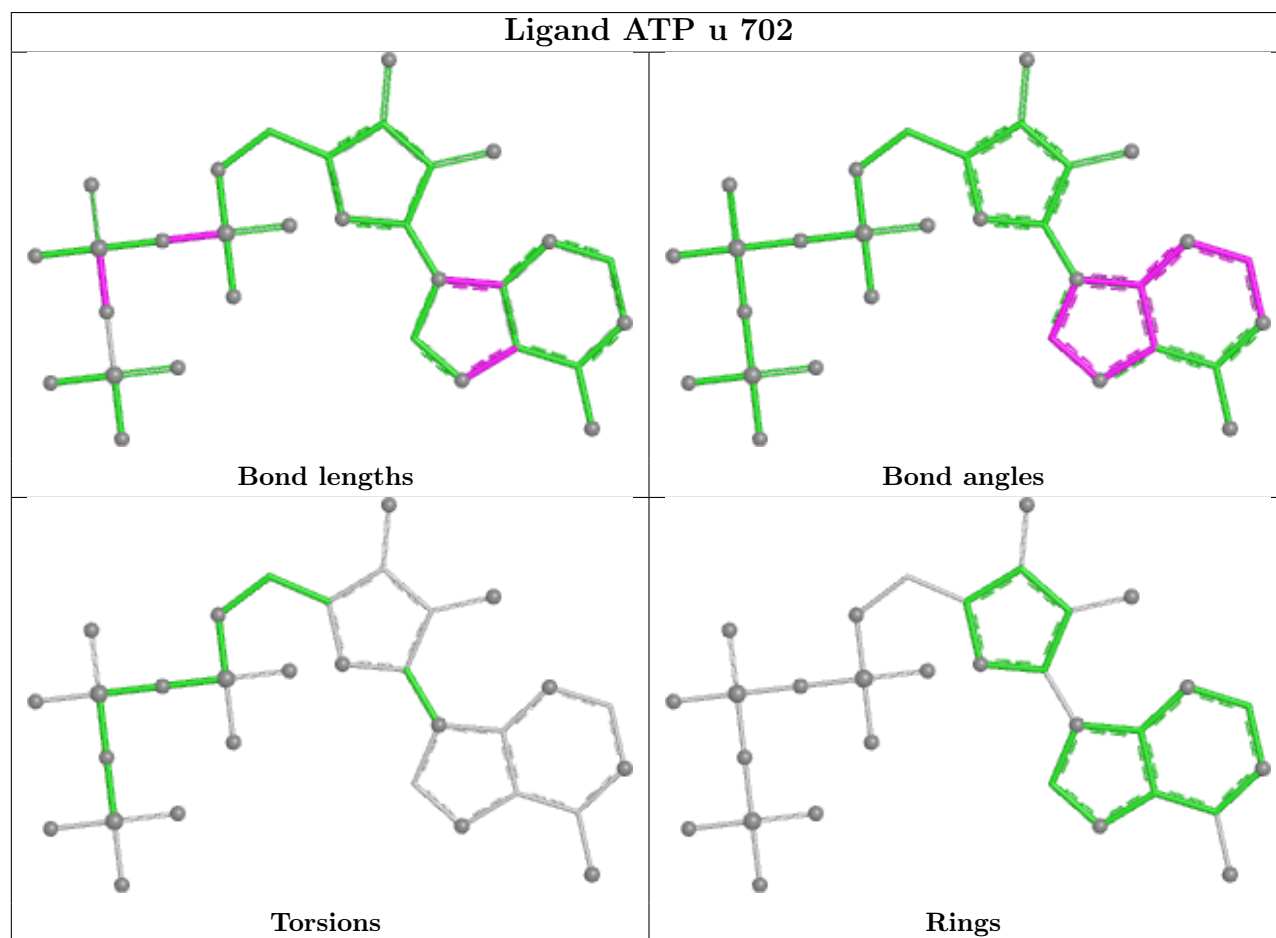
There are no ring outliers.

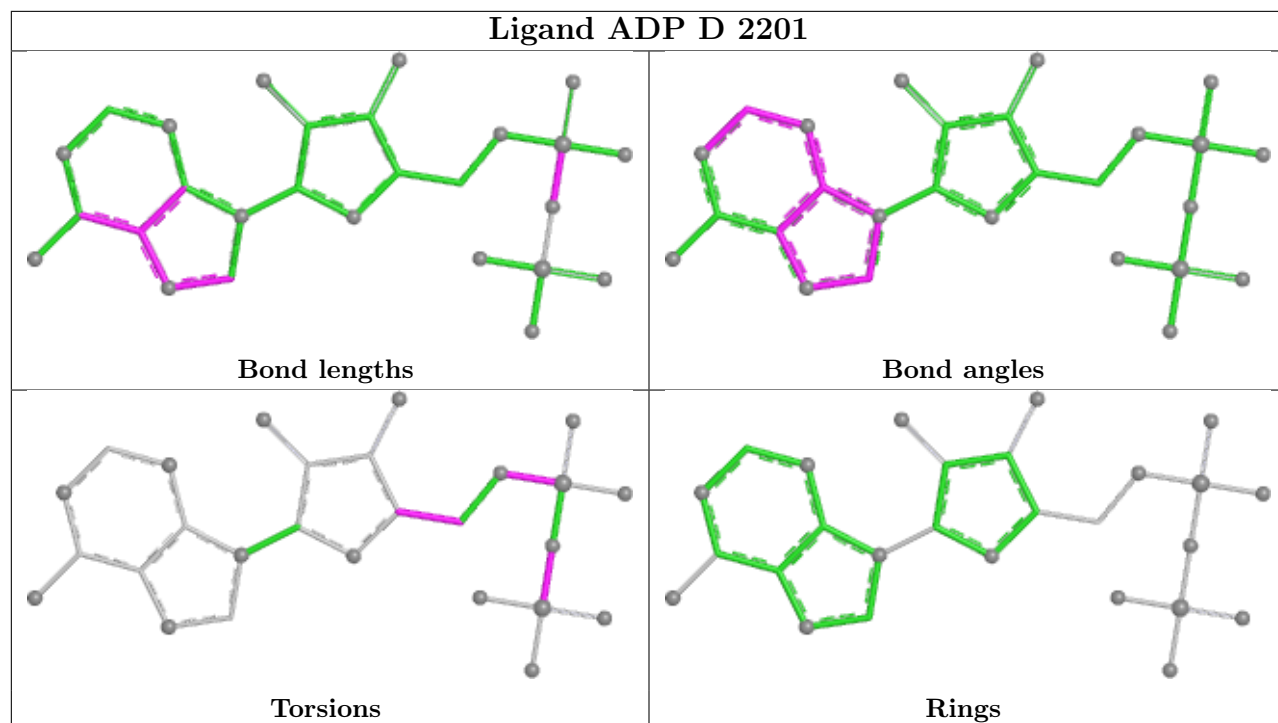
4 monomers are involved in 13 short contacts:

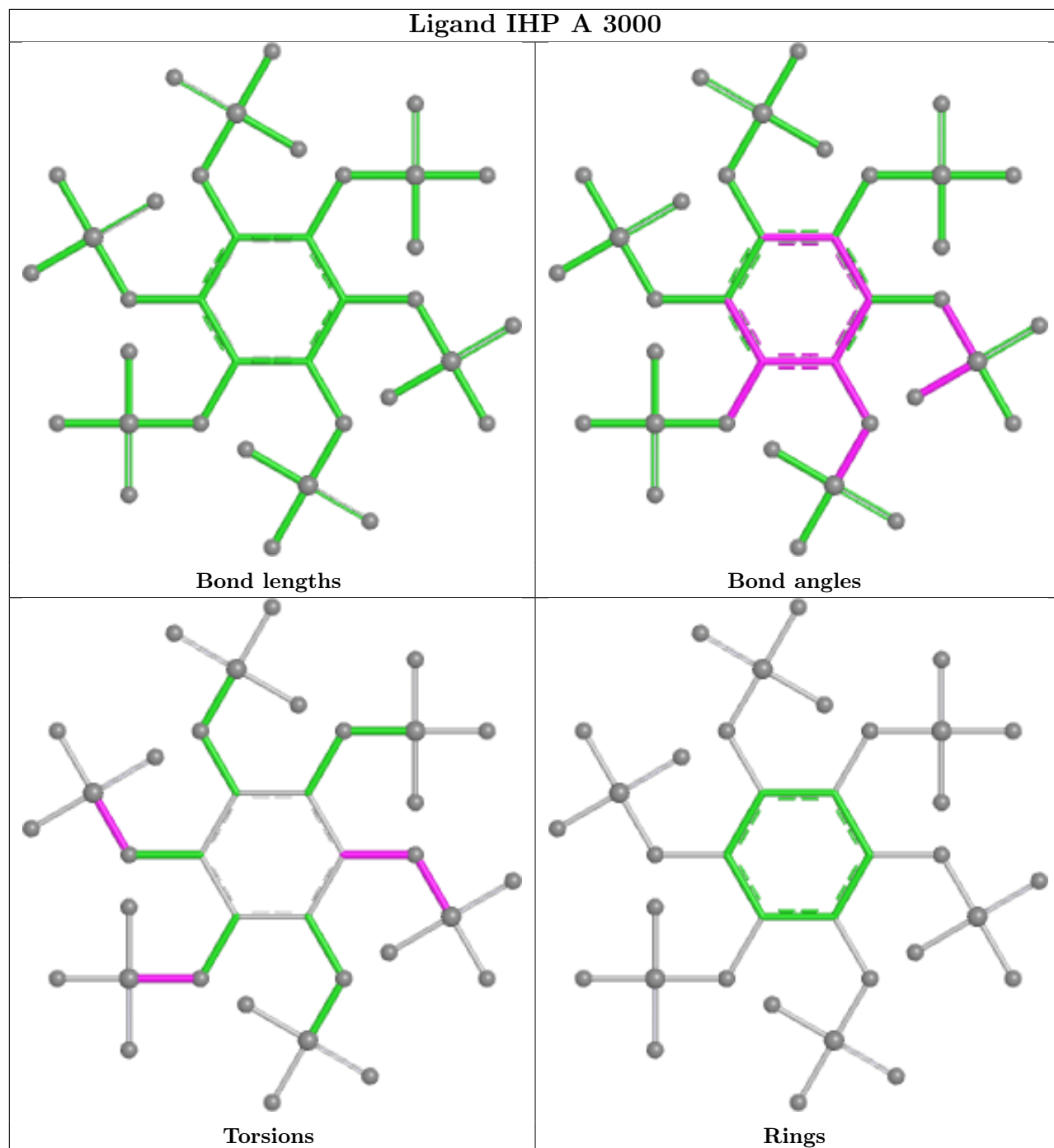
Mol	Chain	Res	Type	Clashes	Symm-Clashes
46	u	702	ATP	2	0
44	D	2201	ADP	3	0
41	A	3000	IHP	4	0
42	C	1500	GTP	4	0

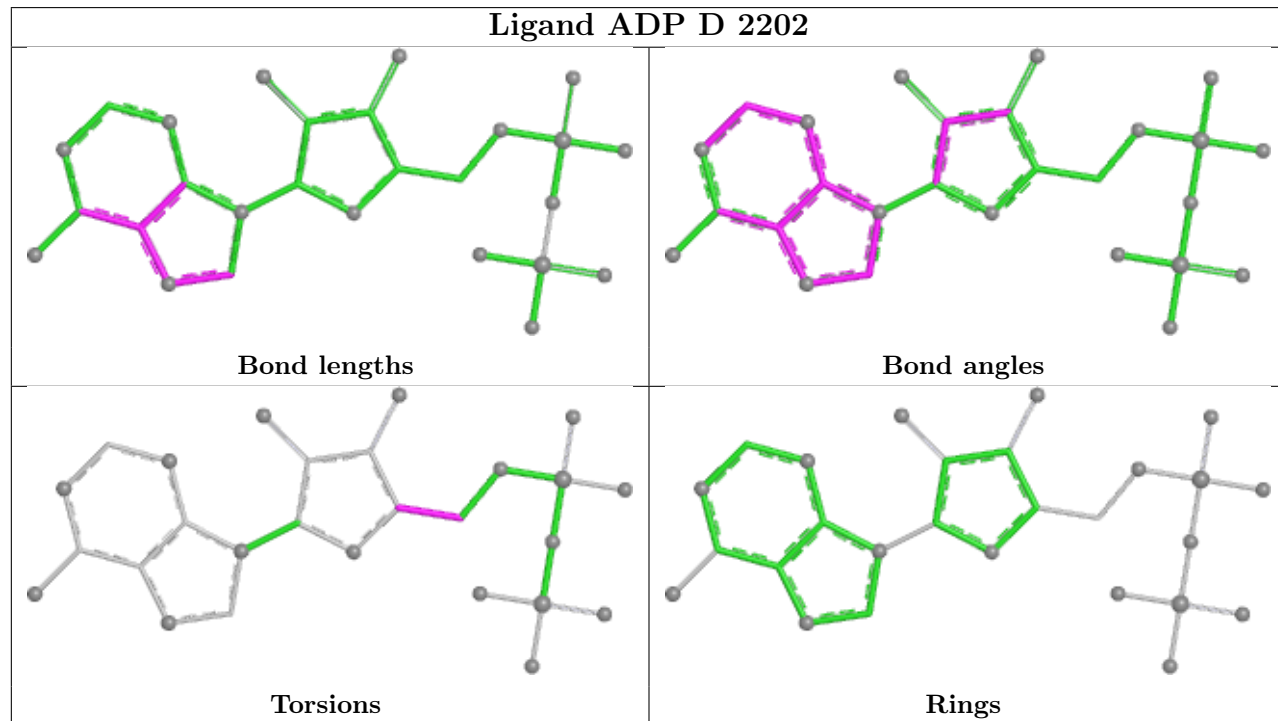
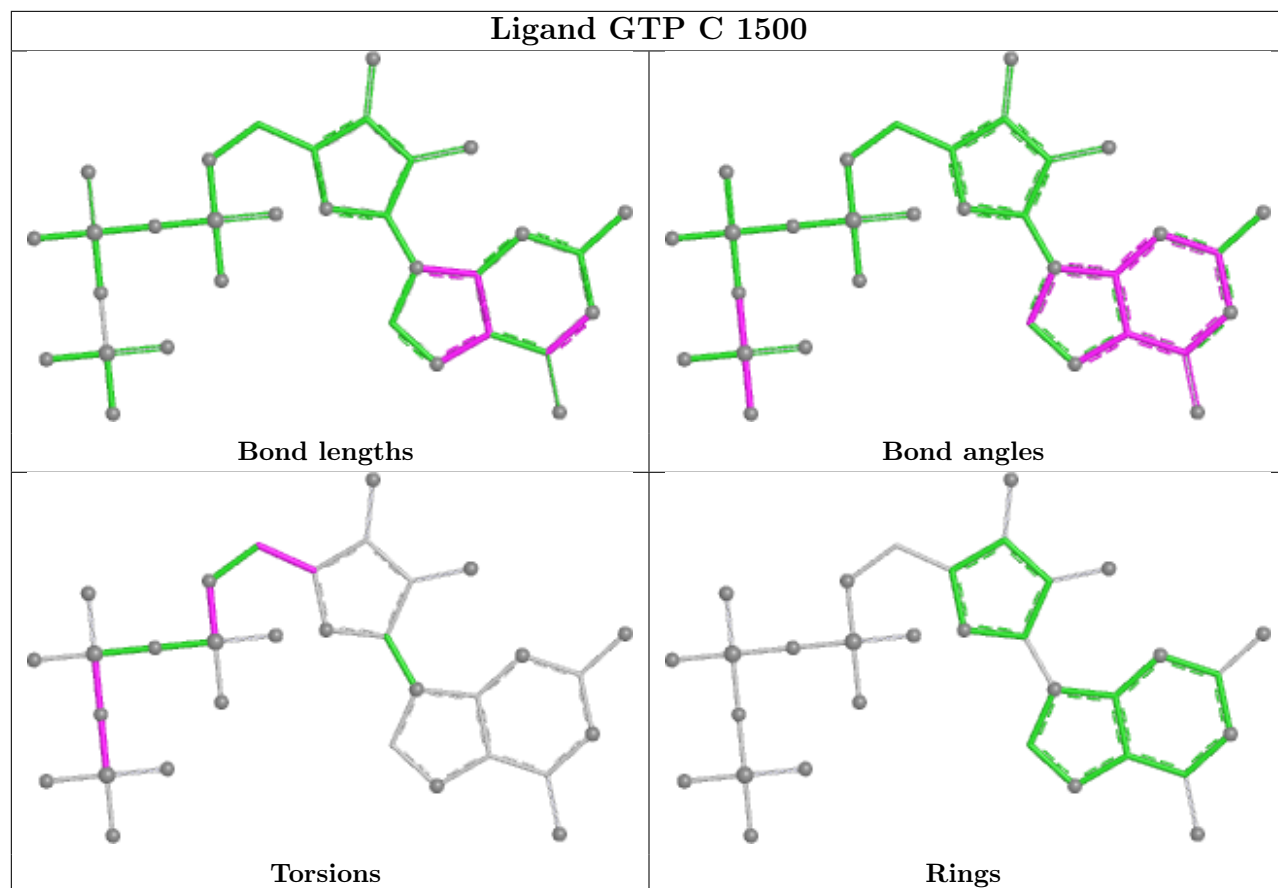
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

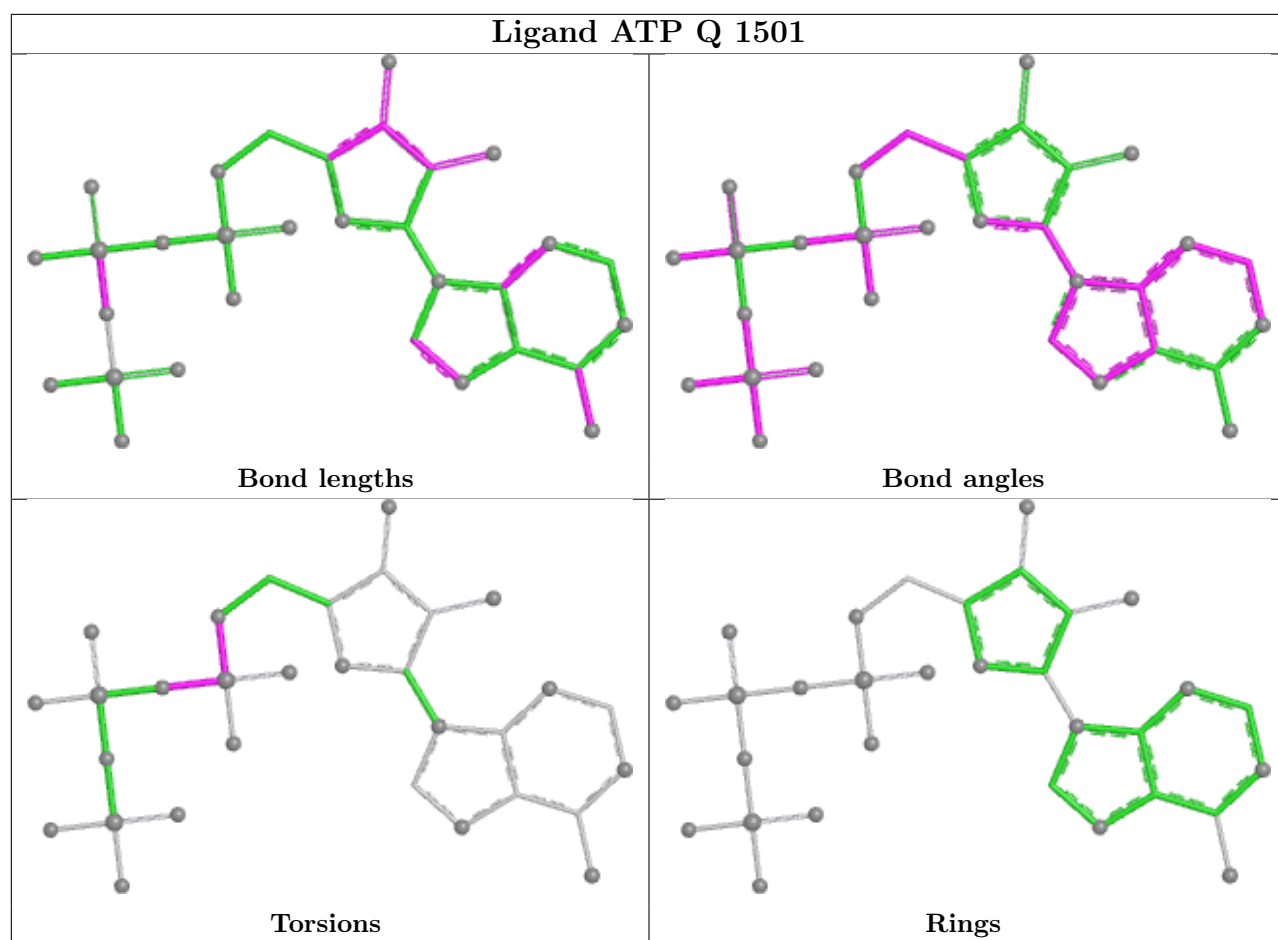
bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 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.

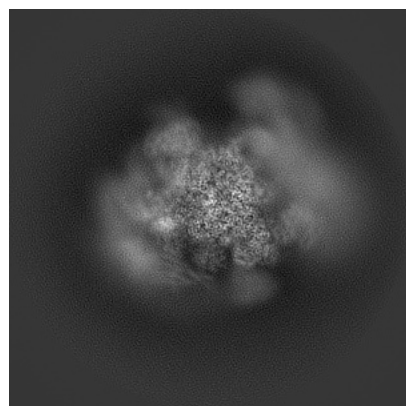
6 Map visualisation [i](#)

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

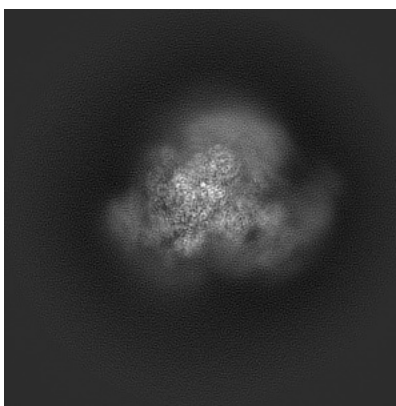
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

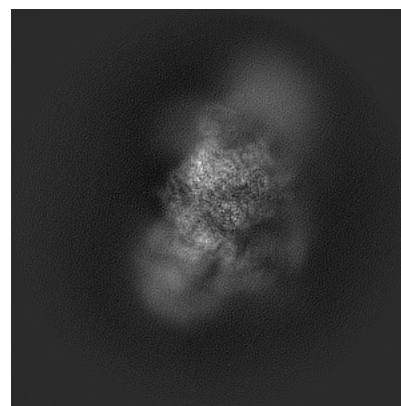
6.1.1 Primary map



X

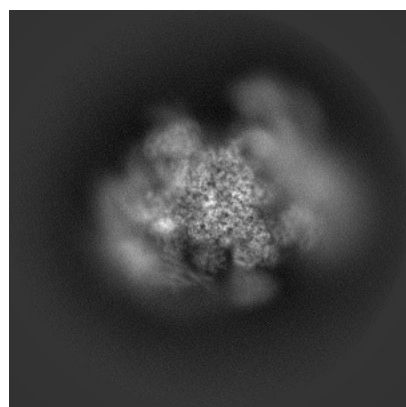


Y

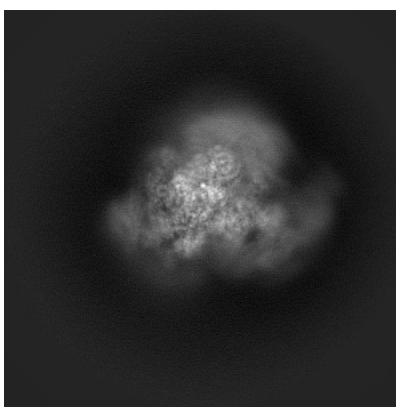


Z

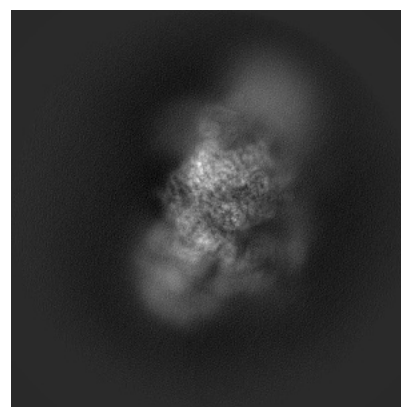
6.1.2 Raw map



X



Y

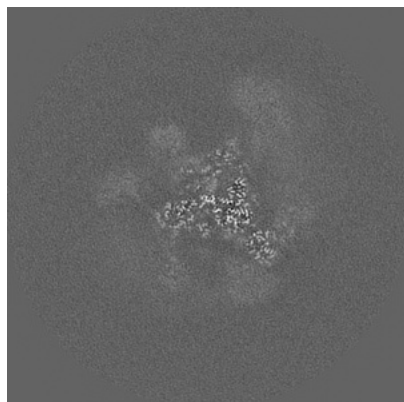


Z

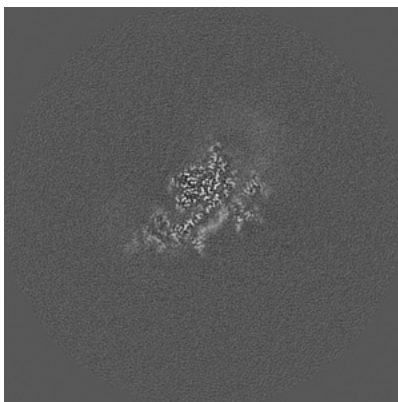
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

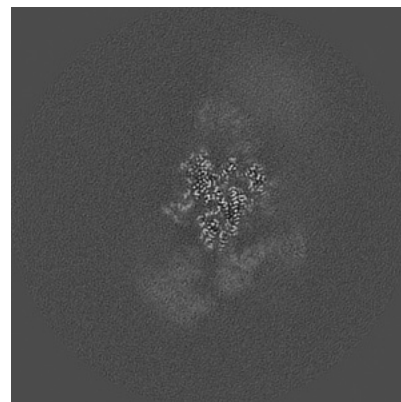
6.2.1 Primary map



X Index: 200

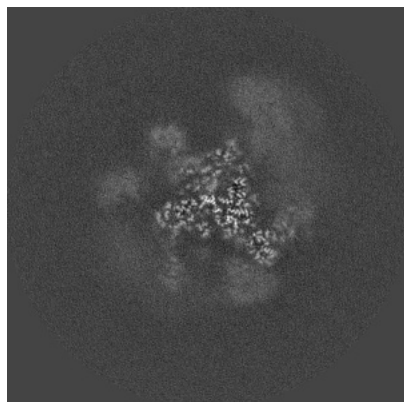


Y Index: 200

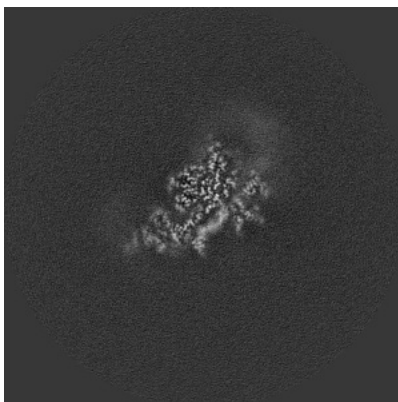


Z Index: 200

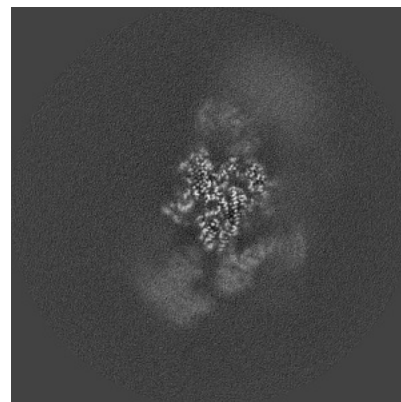
6.2.2 Raw map



X Index: 200



Y Index: 200

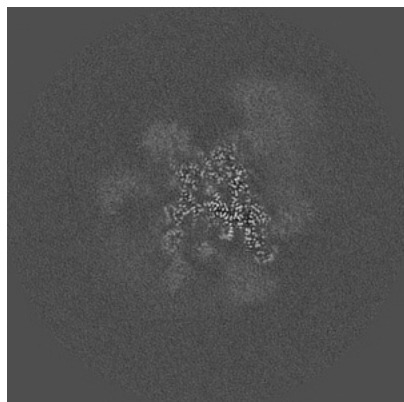


Z Index: 200

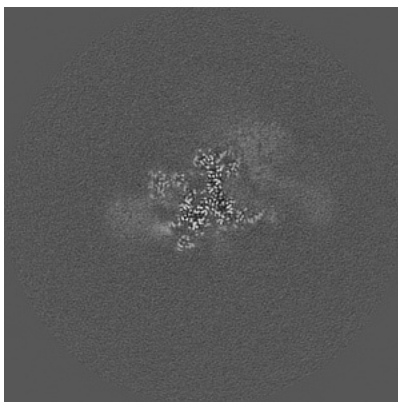
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

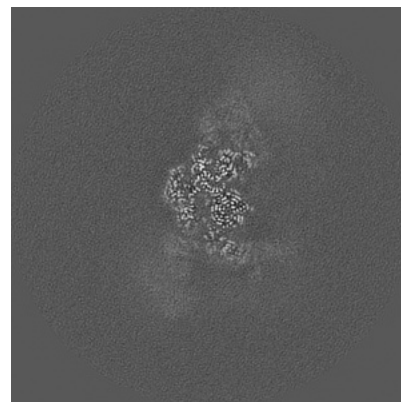
6.3.1 Primary map



X Index: 194

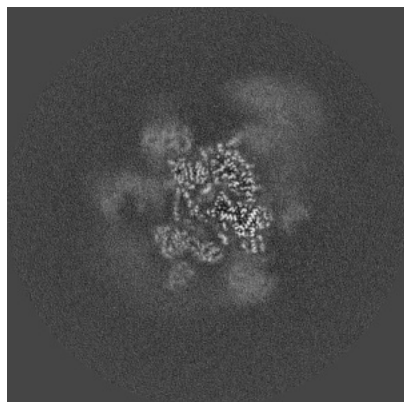


Y Index: 229

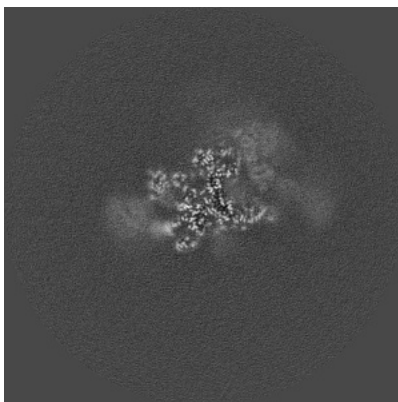


Z Index: 182

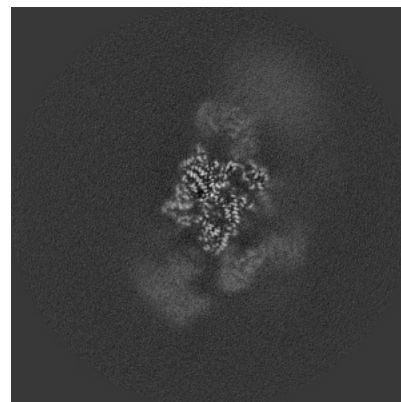
6.3.2 Raw map



X Index: 188



Y Index: 228

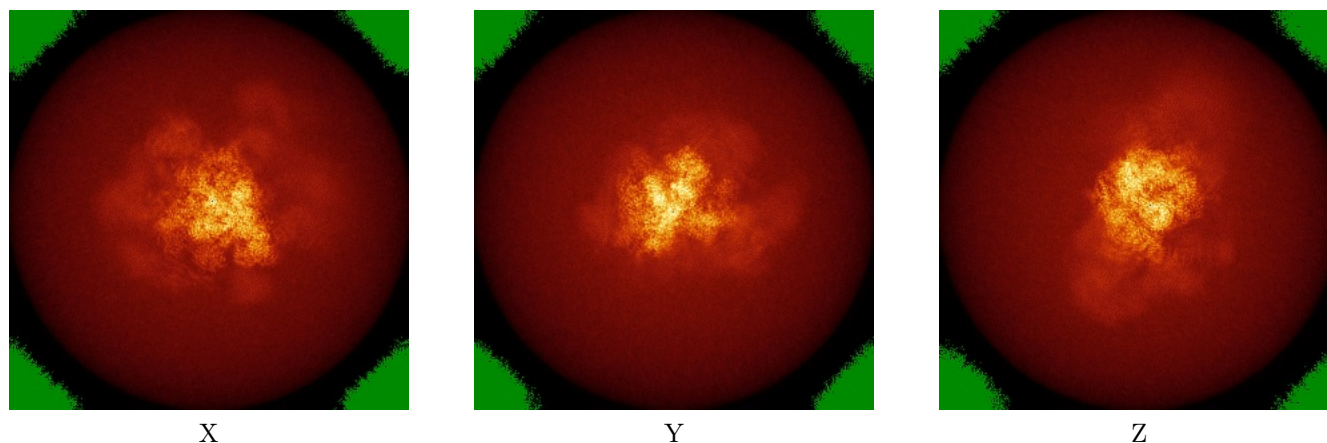


Z Index: 197

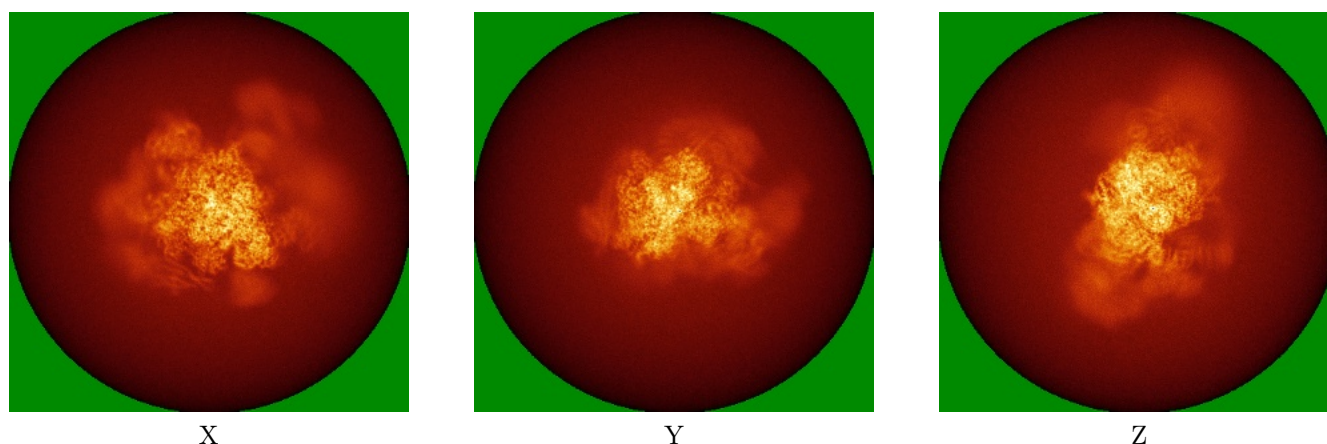
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



6.4.2 Raw map



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

6.5 Orthogonal surface views [i](#)

This section was not generated.

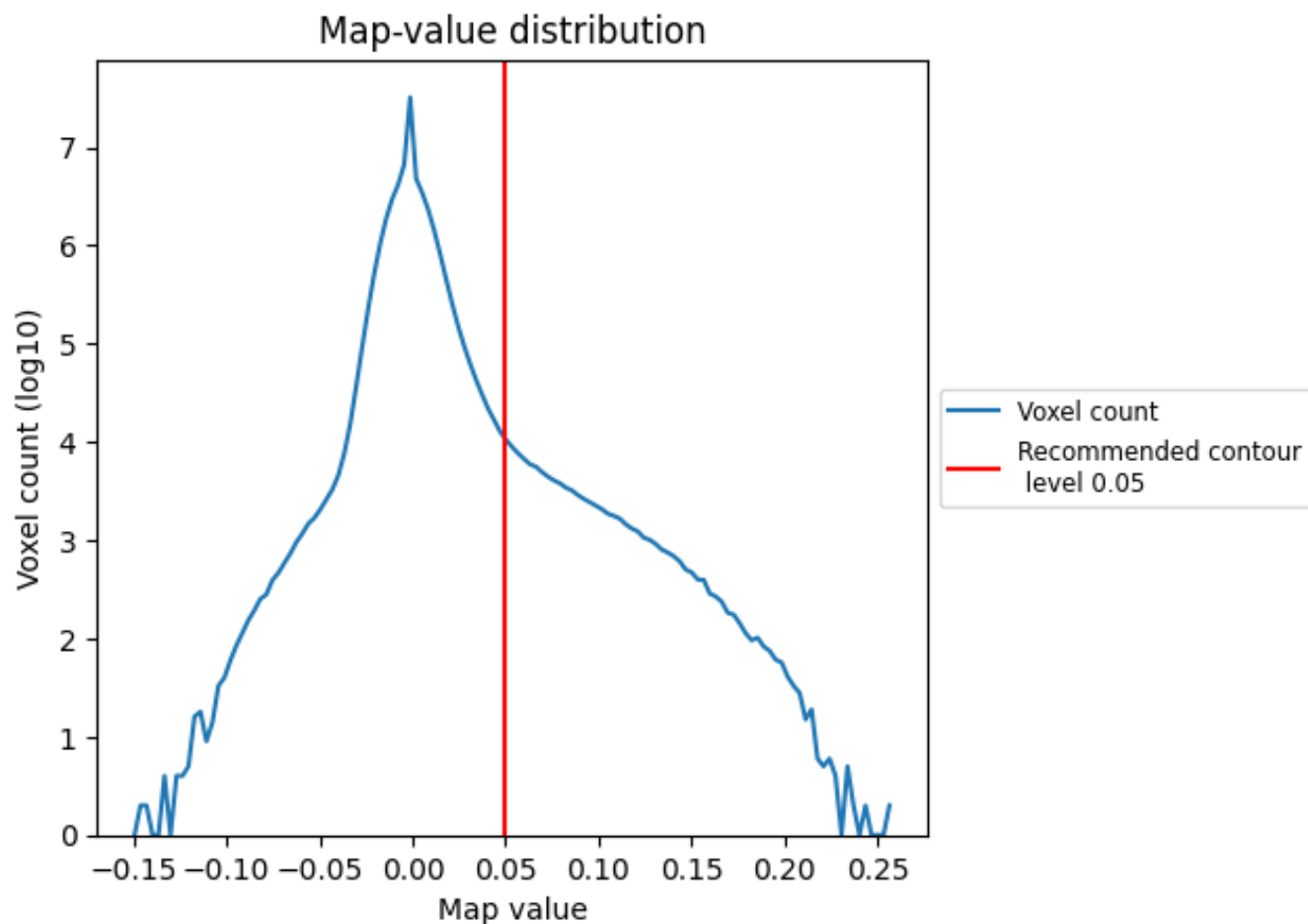
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

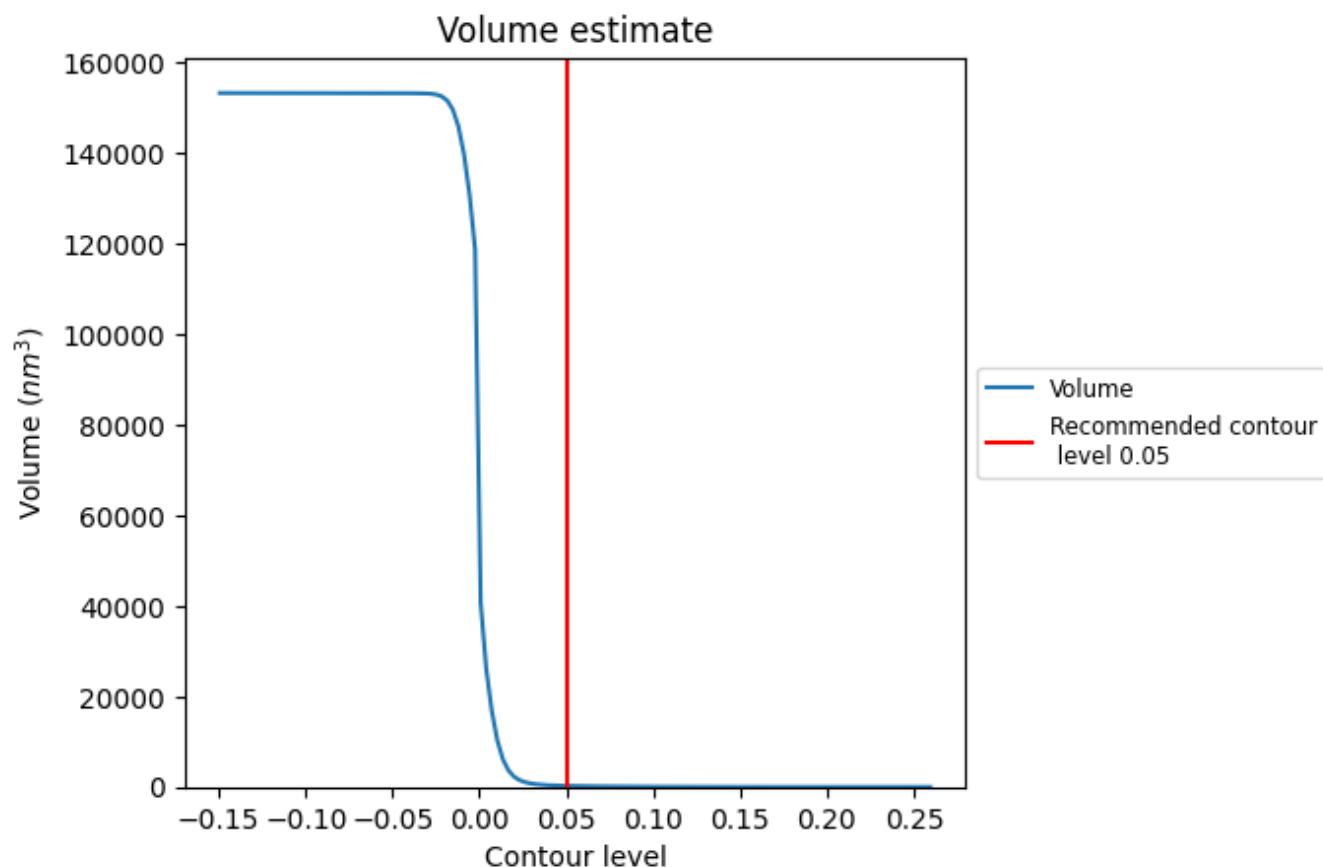
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

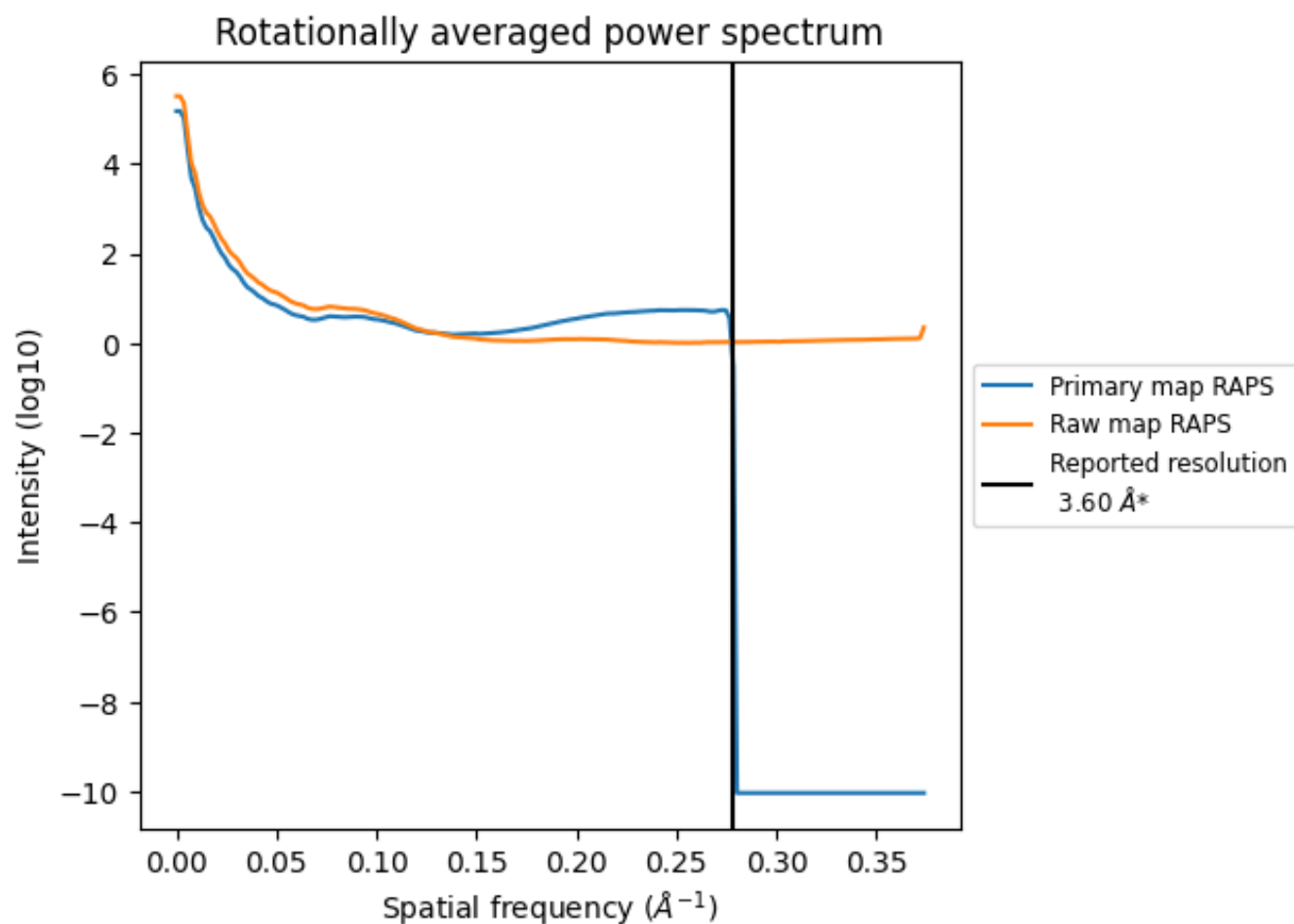
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 243 nm³; this corresponds to an approximate mass of 220 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

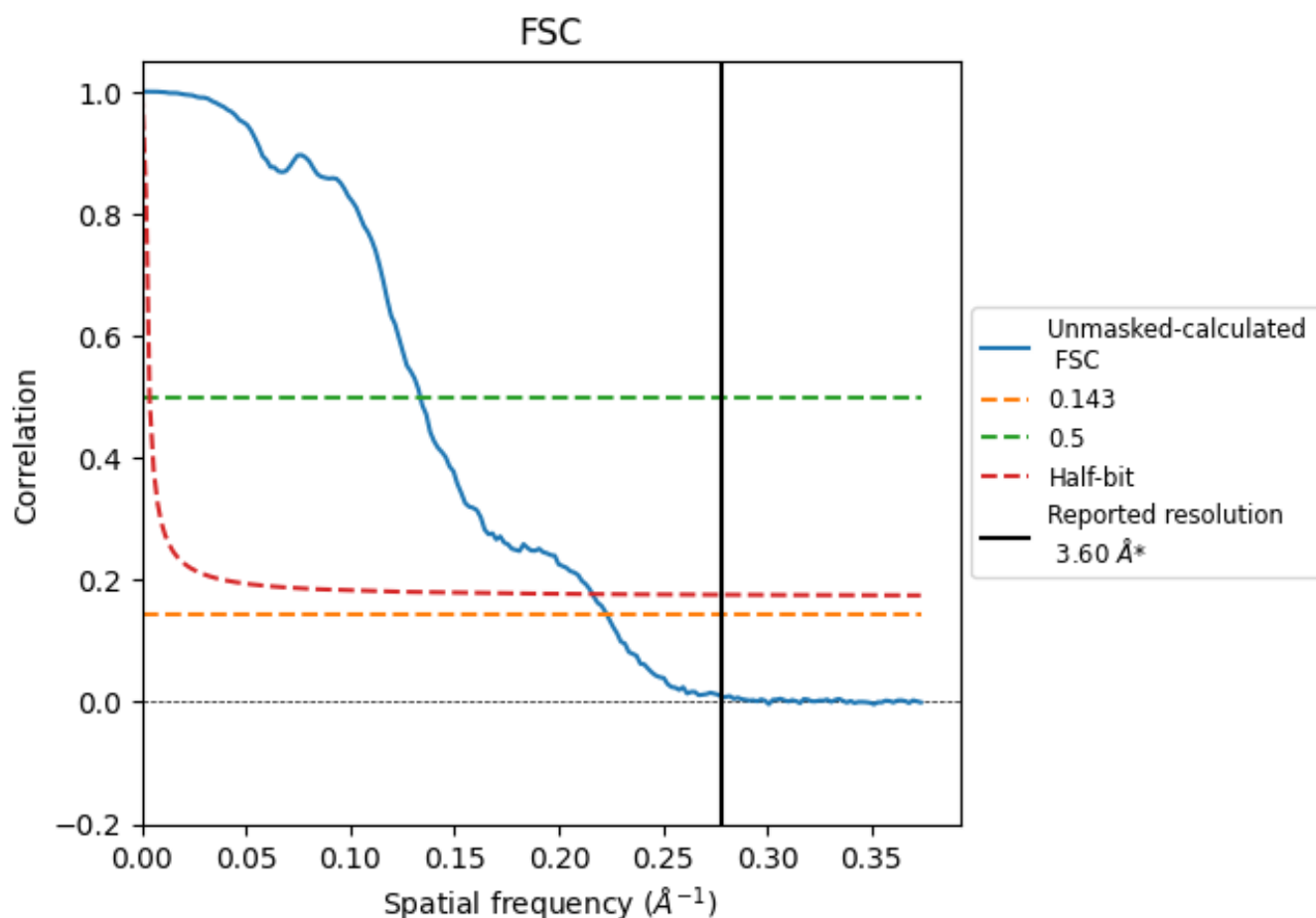


*Reported resolution corresponds to spatial frequency of 0.278 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.278 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

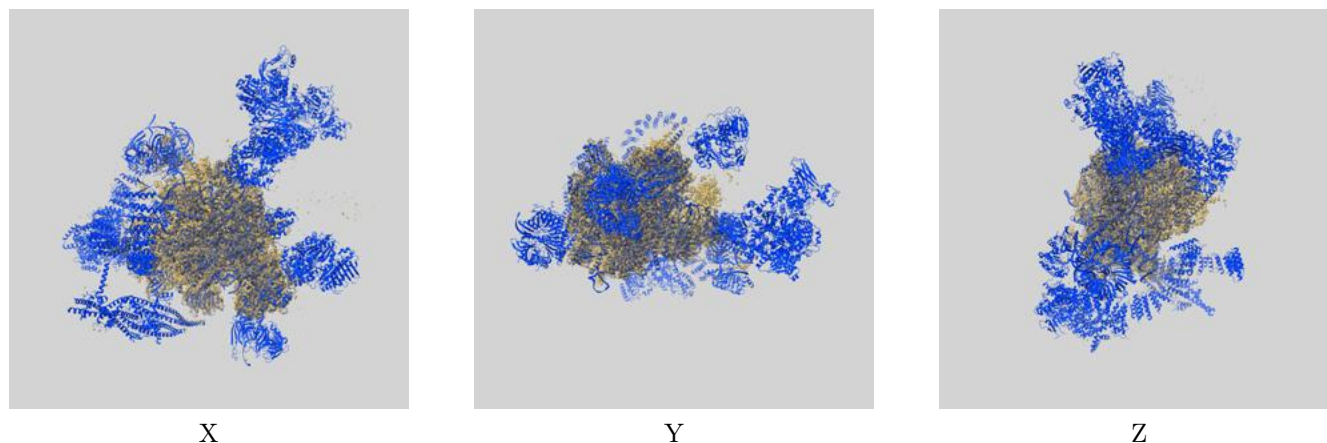
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.48	7.49	4.63

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

9 Map-model fit [i](#)

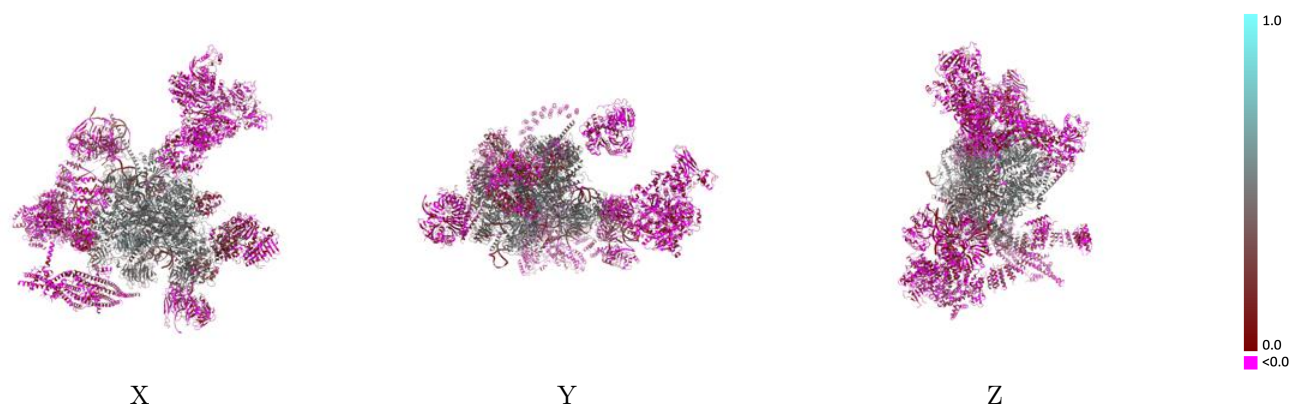
This section contains information regarding the fit between EMDB map EMD-6721 and PDB model 5XJC. Per-residue inclusion information can be found in [section 3](#) on [page 15](#).

9.1 Map-model overlay [i](#)



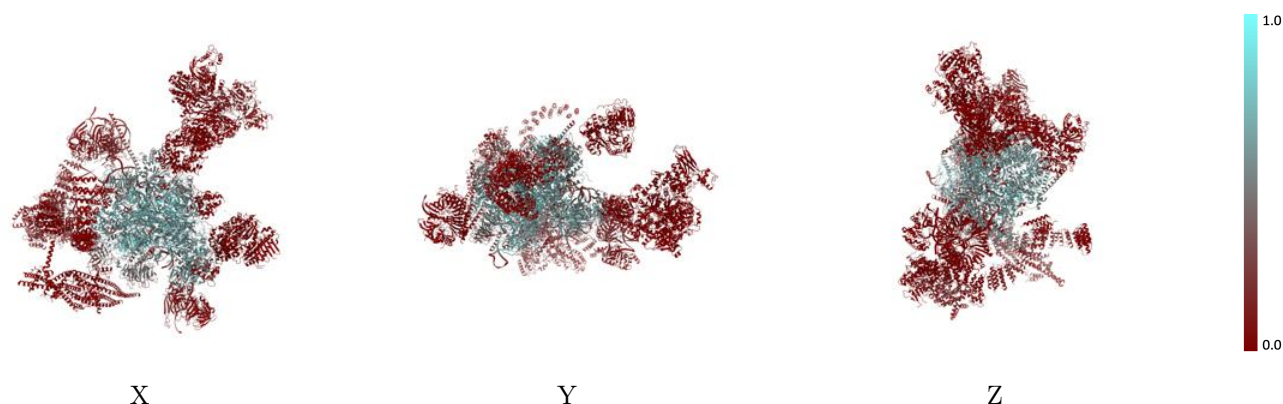
The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



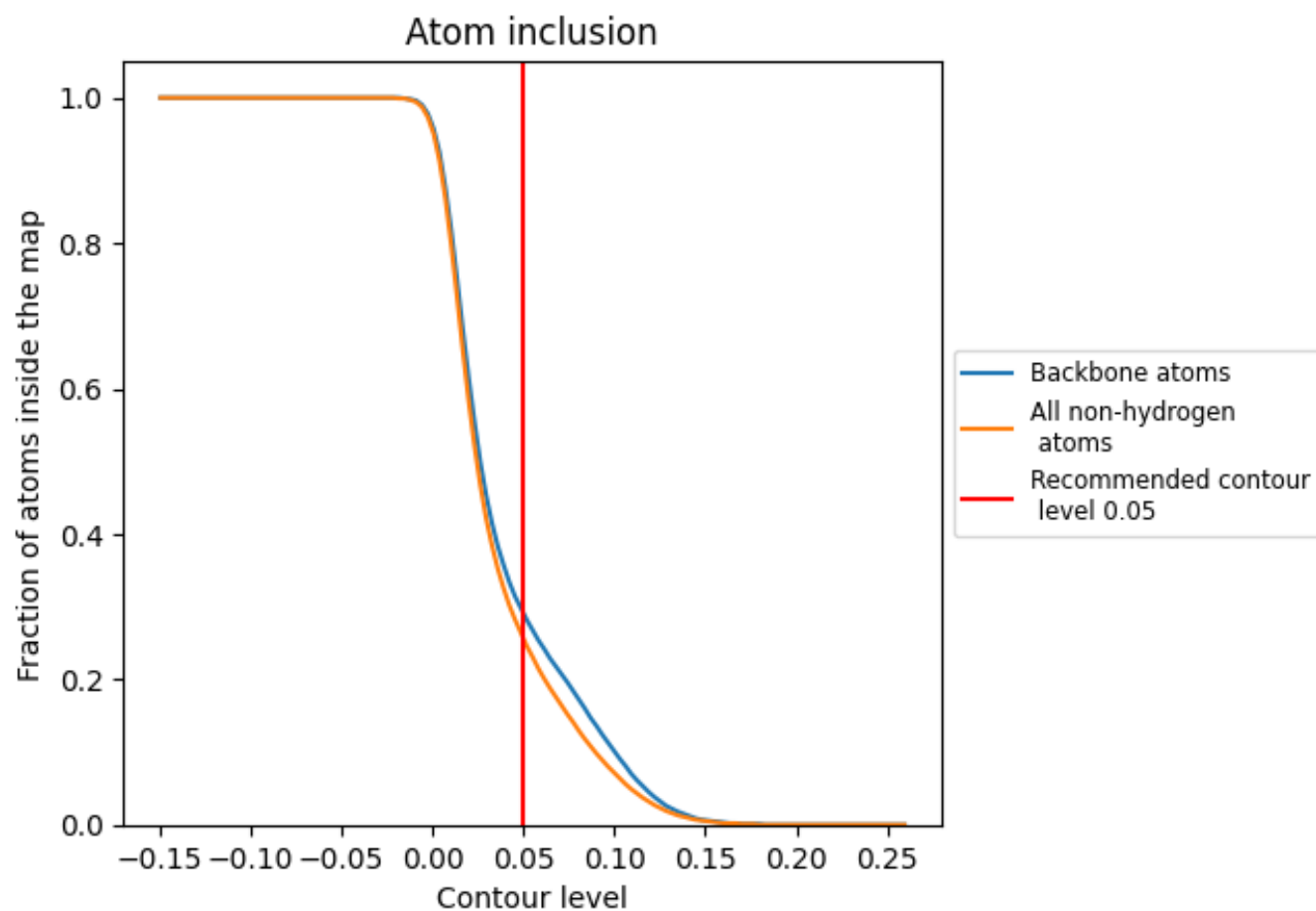
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



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

9.4 Atom inclusion [i](#)



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

9.5 Map-model fit summary

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

Chain	Atom inclusion	Q-score
All	 0.2560	 0.2200
A	 0.5640	 0.4190
B	 0.5240	 0.3110
C	 0.5120	 0.4170
D	 0.0000	 0.0040
E	 0.3880	 0.4040
F	 0.6060	 0.3820
G	 0.3400	 0.2520
H	 0.2000	 0.1500
I	 0.0060	 0.0560
J	 0.3380	 0.2840
K	 0.0030	 0.1110
L	 0.3250	 0.2780
M	 0.4910	 0.4280
N	 0.6470	 0.4810
O	 0.4250	 0.4380
P	 0.4330	 0.4200
Q	 0.0000	 0.0010
R	 0.4730	 0.4290
S	 0.2880	 0.3640
T	 0.7080	 0.5000
U	 0.7010	 0.5090
V	 0.0960	 0.1920
W	 0.4500	 0.4070
X	 0.2420	 0.3880
Y	 0.0400	 0.0400
Z	 0.4240	 0.4540
a	 0.0000	 0.0300
b	 0.0000	 0.0130
c	 0.0000	 -0.0140
d	 0.0000	 0.0020
e	 0.0000	 0.0320
f	 0.0000	 0.0120
g	 0.0000	 0.0170
h	 0.0110	 0.0680



Continued on next page...

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Chain	Atom inclusion	Q-score
i	 0.0040	 0.0110
j	 0.0090	 -0.0050
k	 0.0040	 0.0070
l	 0.0050	 -0.0070
m	 0.0160	 0.0990
n	 0.0190	 0.0720
o	 0.0010	 0.0030
p	 0.0010	 0.0030
q	 0.0000	 -0.0090
r	 0.0000	 0.0390
s	 0.0000	 0.0600
t	 0.0000	 0.0090
u	 0.0060	 0.1250
v	 0.0010	 0.0320
w	 0.0000	 0.0570
x	 0.0000	 0.0030