



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 01:45 PM UTC

PDB ID : 5NRL / pdb_00005nrl
EMDB ID : EMD-3683
Title : Structure of a pre-catalytic spliceosome
Authors : Plaschka, C.; Lin, P.-C.; Nagai, K.
Deposited on : 2017-04-24
Resolution : 7.20 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

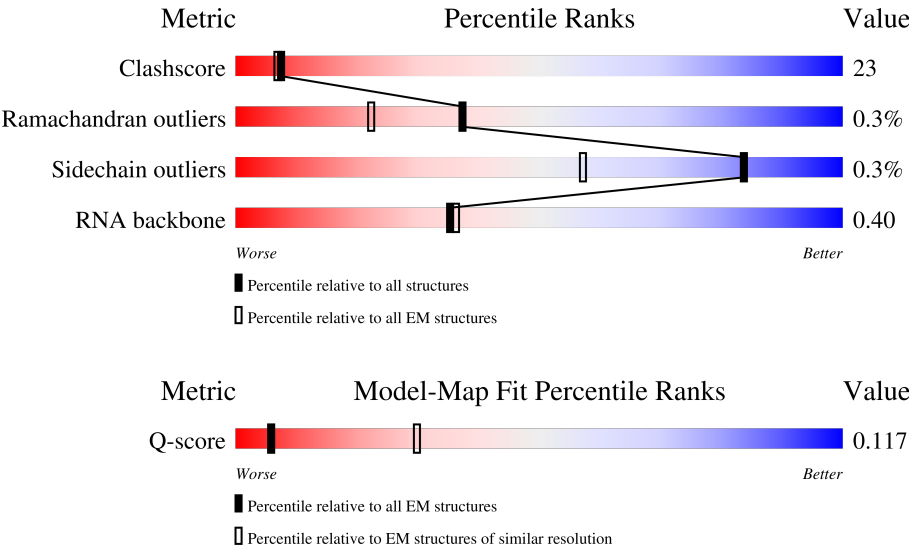
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data 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 7.20 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	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	444 (6.70 - 7.70)

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	2	1175	9% 5% 87%
2	3	89	31% 55% 31% 13%
3	4	160	16% 38% 18% 29%

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Mol	Chain	Length	Quality of chain
4	5	214	
5	6	112	
6	7	115	
7	8	109	
8	A	2413	
9	B	2163	
10	C	1008	
11	D	143	
12	E	587	
13	F	494	
14	G	469	
15	H	465	
16	I	95	
17	J	899	
18	K	126	
19	L	194	
20	M	242	
21	N	291	
22	O	971	
23	P	1361	
24	Q	435	
25	R	213	
26	S	107	
27	T	530	
28	U	266	

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Mol	Chain	Length	Quality of chain
29	V	280	
30	W	238	
31	X	111	
32	Y	111	
33	Z	85	
34	a	95	
35	b	196	
35	k	196	
35	s	196	
36	d	101	
36	n	101	
36	v	101	
37	e	94	
37	p	94	
37	w	94	
38	f	86	
38	q	86	
38	x	86	
39	g	77	
39	r	77	
39	y	77	
40	h	146	
40	l	146	
40	t	146	
41	i	110	

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Mol	Chain	Length	Quality of chain
41	m	110	35% 35% 49% 16%
41	u	110	84% 44% 40% 16%
42	j	187	18% 26% 13% 60%
43	o	93	17% 63% 17% 19%
44	z	86	34% 63% 23% 14%



2 Entry composition

There are 46 unique types of molecules in this entry. The entry contains 118701 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 RNA chain called U2 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	2	155	Total	C	N	O	P	0	0
			3275	1464	552	1104	155		

- Molecule 2 is a protein called U6 snRNA-associated Sm-like protein LSm3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	3	77	Total	C	N	O	S	0	0
			611	382	105	121	3		

- Molecule 3 is a RNA chain called U4 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	4	114	Total	C	N	O	P	0	0
			2423	1084	419	806	114		

- Molecule 4 is a RNA chain called U5 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	5	170	Total	C	N	O	P	0	0
			3615	1618	640	1188	169		

- Molecule 5 is a RNA chain called U6 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	6	95	Total	C	N	O	P	0	0
			2019	904	355	665	95		

- Molecule 6 is a protein called U6 snRNA-associated Sm-like protein LSm7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	7	66	Total	C	N	O	S	0	0
			504	325	85	91	3		

- Molecule 7 is a protein called U6 snRNA-associated Sm-like protein LSm8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	8	64	Total	C	N	O	S	0	0
			498	320	86	90	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
8	A	2216	Total	C	N	O	S	0	0
			18122	11661	3103	3294	64		

- Molecule 9 is a protein called Pre-mRNA-splicing helicase BRR2.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	B	1699	Total	C	N	O	S	1	0
			13607	8720	2269	2564	54		

- Molecule 10 is a protein called Pre-mRNA-splicing factor SNU114.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	C	850	Total	C	N	O	S	0	0
			6784	4392	1129	1237	26		

- Molecule 11 is a protein called Spliceosomal protein DIB1.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	D	142	Total	C	N	O	S	0	0
			1164	736	202	215	11		

- Molecule 12 is a protein called 66 kDa U4/U6.U5 small nuclear ribonucleoprotein component.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	E	124	Total	C	N	O	S	0	0
			825	501	153	170	1		

- Molecule 13 is a protein called Pre-mRNA-processing factor 31.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	F	413	Total	C	N	O	S	0	0
			3238	2064	578	584	12		

- Molecule 14 is a protein called U4/U6 small nuclear ribonucleoprotein PRP3.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	G	372	Total	C	N	O	S	0	0
			2835	1786	523	512	14		

- Molecule 15 is a protein called U4/U6 small nuclear ribonucleoprotein PRP4.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	H	429	Total	C	N	O	S	0	0
			3396	2120	609	653	14		

- Molecule 16 is a RNA chain called Yeast UBC4 gene for ubiquitin-conjugating enzyme.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	I	29	Total	C	N	O	P	0	0
			600	271	95	205	29		

- Molecule 17 is a protein called Pre-mRNA-splicing factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	J	800	Total	C	N	O	S	0	0
			6485	4151	1106	1201	27		

- Molecule 18 is a protein called 13 kDa ribonucleoprotein-associated protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	K	124	Total	C	N	O	S	0	0
			936	597	161	174	4		

- Molecule 19 is a protein called 23 kDa U4/U6.U5 small nuclear ribonucleoprotein component.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	L	109	Total	C	N	O	S	0	0
			882	570	150	159	3		

- Molecule 20 is a protein called Pre-mRNA-splicing factor 38.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	M	174	Total	C	N	O	S	0	0
			1407	915	236	249	7		

- Molecule 21 is a protein called Pre-mRNA-splicing factor SPP381.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	N	85	Total	C	N	O	0	0
			425	255	85	85		

- Molecule 22 is a protein called U2 snRNP component HSH155.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	O	833	Total	C	N	O	S	0	0
			6612	4258	1121	1192	41		

- Molecule 23 is a protein called Pre-mRNA-splicing factor RSE1.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	P	1186	Total	C	N	O	S	0	0
			9437	6034	1589	1763	51		

- Molecule 24 is a protein called Cold sensitive U2 snRNA suppressor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Q	220	Total	C	N	O	S	0	0
			1786	1157	307	313	9		

- Molecule 25 is a protein called Protein HSH49.

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

- Molecule 26 is a protein called Pre-mRNA-splicing factor RDS3.

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

- Molecule 27 is a protein called Pre-mRNA-splicing factor PRP9.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	T	462	Total	C	N	O	S	0	0
			3915	2487	677	735	16		

- Molecule 28 is a protein called Pre-mRNA-splicing factor PRP11.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	U	196	Total	C	N	O	S	0	0
			1488	933	258	291	6		

- Molecule 29 is a protein called Pre-mRNA-splicing factor PRP21.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
30	W	170	Total	C	N	O	S	0	0
			1383	866	253	257	7		

- Molecule 31 is a protein called Unknown.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	X	30	Total	C	N	O	0	0
			150	90	30	30		

- Molecule 32 is a protein called U2 small nuclear ribonucleoprotein B'.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Y	84	Total	C	N	O	S	0	0
			683	439	119	122	3		

- Molecule 33 is a protein called RDS3 complex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Z	83	Total	C	N	O	S	0	0
			685	424	129	131	1		

- Molecule 34 is a protein called U6 snRNA-associated Sm-like protein LSm2.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	a	90	Total	C	N	O	S	0	0
			735	469	124	139	3		

- Molecule 35 is a protein called Small nuclear ribonucleoprotein-associated protein B.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	b	70	Total	C	N	O	S	0	0
			563	360	98	102	3		
35	k	70	Total	C	N	O	S	0	0
			563	360	98	102	3		
35	s	70	Total	C	N	O	S	0	0
			563	360	98	102	3		

- Molecule 36 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	d	83	Total	C	N	O	S	0	0
			641	408	111	120	2		
36	n	82	Total	C	N	O	S	0	0
			632	402	109	119	2		
36	v	82	Total	C	N	O	S	0	0
			632	402	109	119	2		

- Molecule 37 is a protein called Small nuclear ribonucleoprotein E.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	e	77	Total	C	N	O	S	0	0
			602	396	95	108	3		
37	p	77	Total	C	N	O	S	0	0
			602	396	95	108	3		
37	w	77	Total	C	N	O	S	0	0
			602	396	95	108	3		

- Molecule 38 is a protein called Small nuclear ribonucleoprotein F.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	f	72	Total	C	N	O	S	0	0
			578	371	101	105	1		
38	q	73	Total	C	N	O	S	0	0
			585	376	102	106	1		
38	x	73	Total	C	N	O	S	0	0
			585	376	102	106	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
39	g	71	Total	C	N	O	S	0	0
			549	345	96	106	2		

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Mol	Chain	Residues	Atoms					AltConf	Trace
39	r	75	Total	C	N	O	S	0	0
			577	363	100	112	2		
39	y	75	Total	C	N	O	S	0	0
			577	363	100	112	2		

- Molecule 40 is a protein called Small nuclear ribonucleoprotein Sm D1.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	h	80	Total	C	N	O	S	0	0
			630	402	108	118	2		
40	l	99	Total	C	N	O	S	0	0
			751	475	137	137	2		
40	t	72	Total	C	N	O	S	0	0
			569	364	99	104	2		

- Molecule 41 is a protein called Small nuclear ribonucleoprotein Sm D2.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	i	92	Total	C	N	O	S	0	0
			752	481	136	131	4		
41	m	92	Total	C	N	O	S	0	0
			752	481	136	131	4		
41	u	92	Total	C	N	O	S	0	0
			752	481	136	131	4		

- Molecule 42 is a protein called U6 snRNA-associated Sm-like protein LSm4.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	j	74	Total	C	N	O	S	0	0
			588	381	96	108	3		

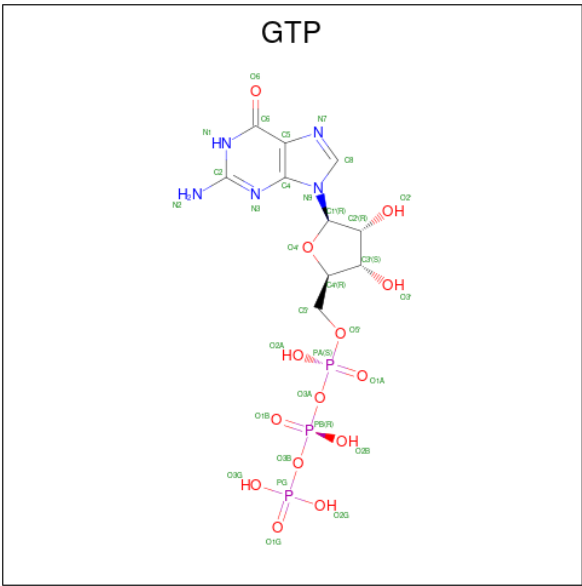
- Molecule 43 is a protein called U6 snRNA-associated Sm-like protein LSm5.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	o	75	Total	C	N	O	S	0	0
			588	378	98	110	2		

- Molecule 44 is a protein called U6 snRNA-associated Sm-like protein LSm6.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	z	74	Total	C	N	O	S	0	0
			577	364	95	116	2		

- Molecule 45 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: C₁₀H₁₆N₅O₁₄P₃).



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

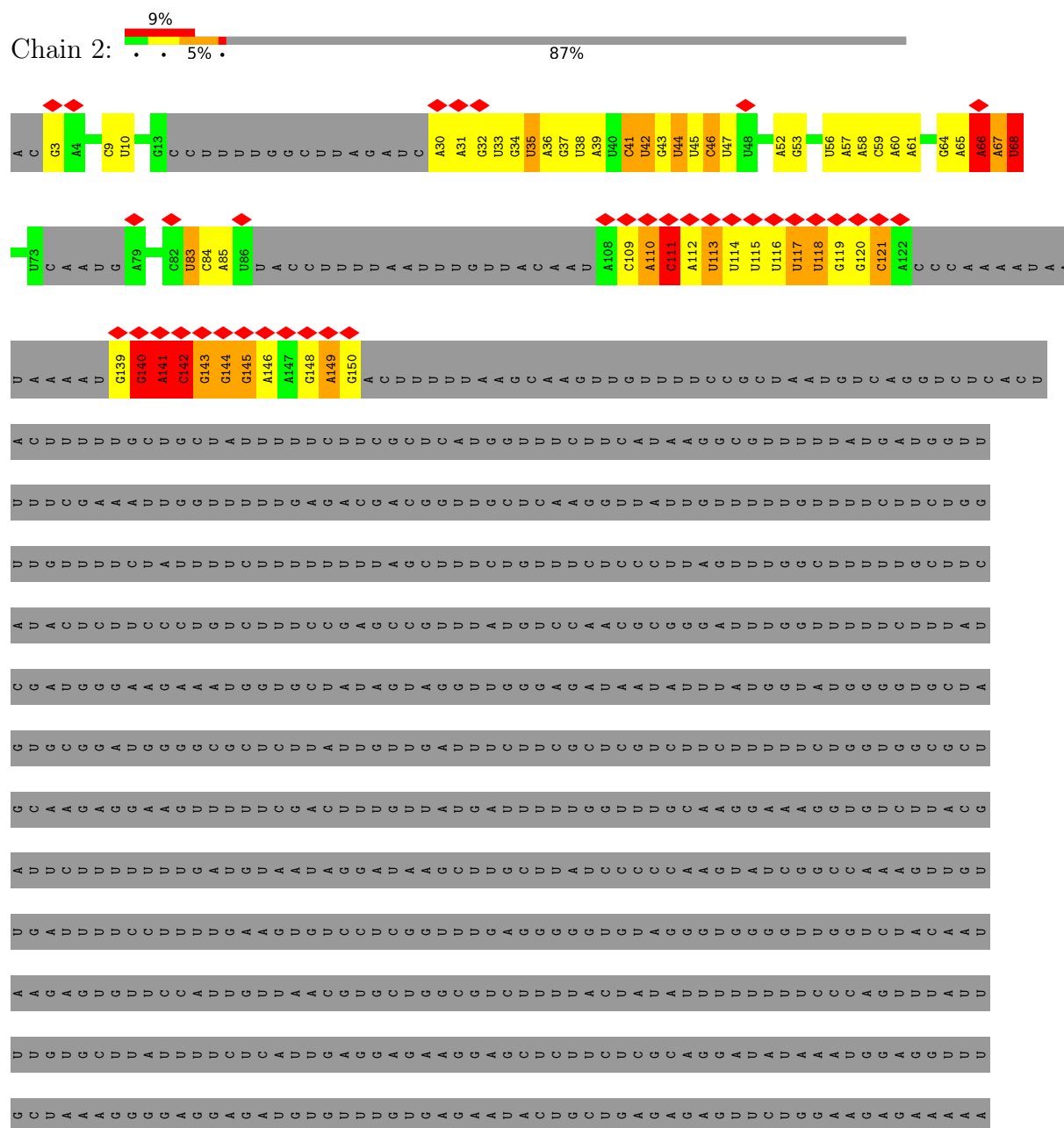
- Molecule 46 is ZINC ION (CCD ID: ZN) (formula: Zn).

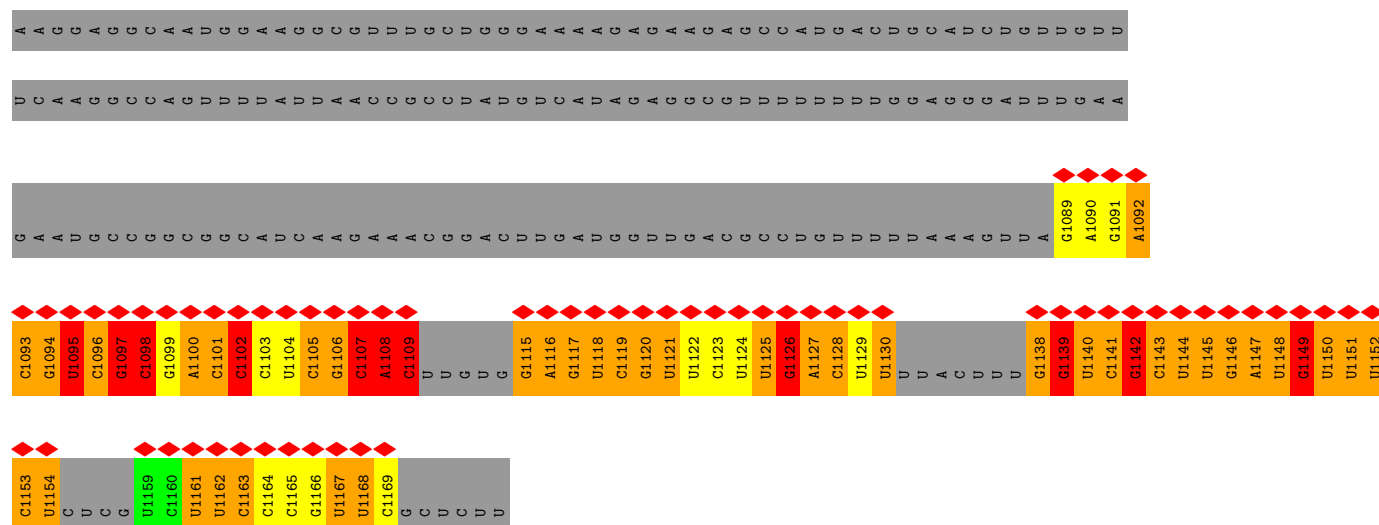
Mol	Chain	Residues	Atoms		AltConf
46	L	1	Total	Zn	0
			1	1	
46	S	3	Total	Zn	0
			3	3	
46	T	2	Total	Zn	0
			2	2	
46	U	1	Total	Zn	0
			1	1	

3 Residue-property plots [i](#)

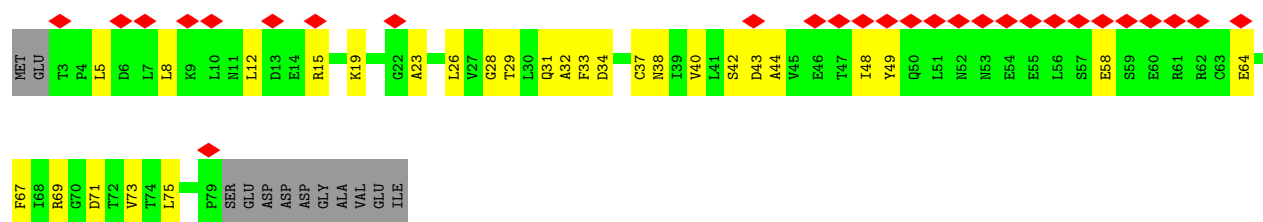
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

• Molecule 1: U2 snRNA

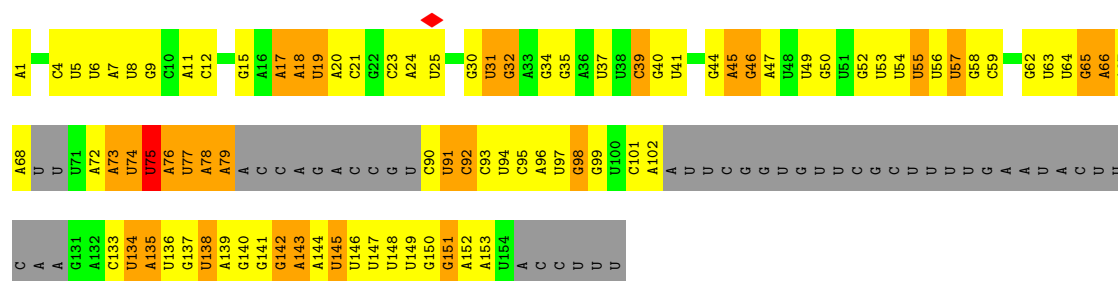




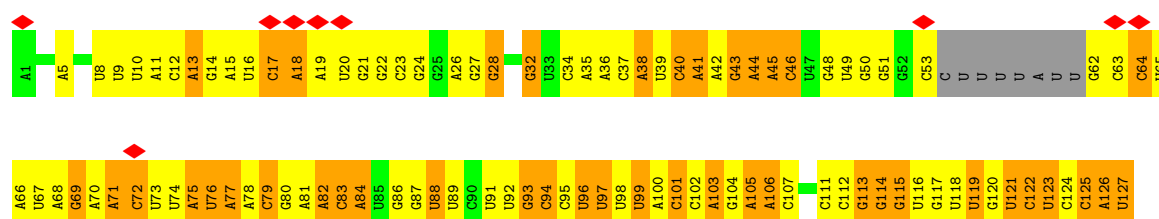
• Molecule 2: U6 snRNA-associated Sm-like protein LSm3



• Molecule 3: U4 snRNA



• Molecule 4: U5 snRNA



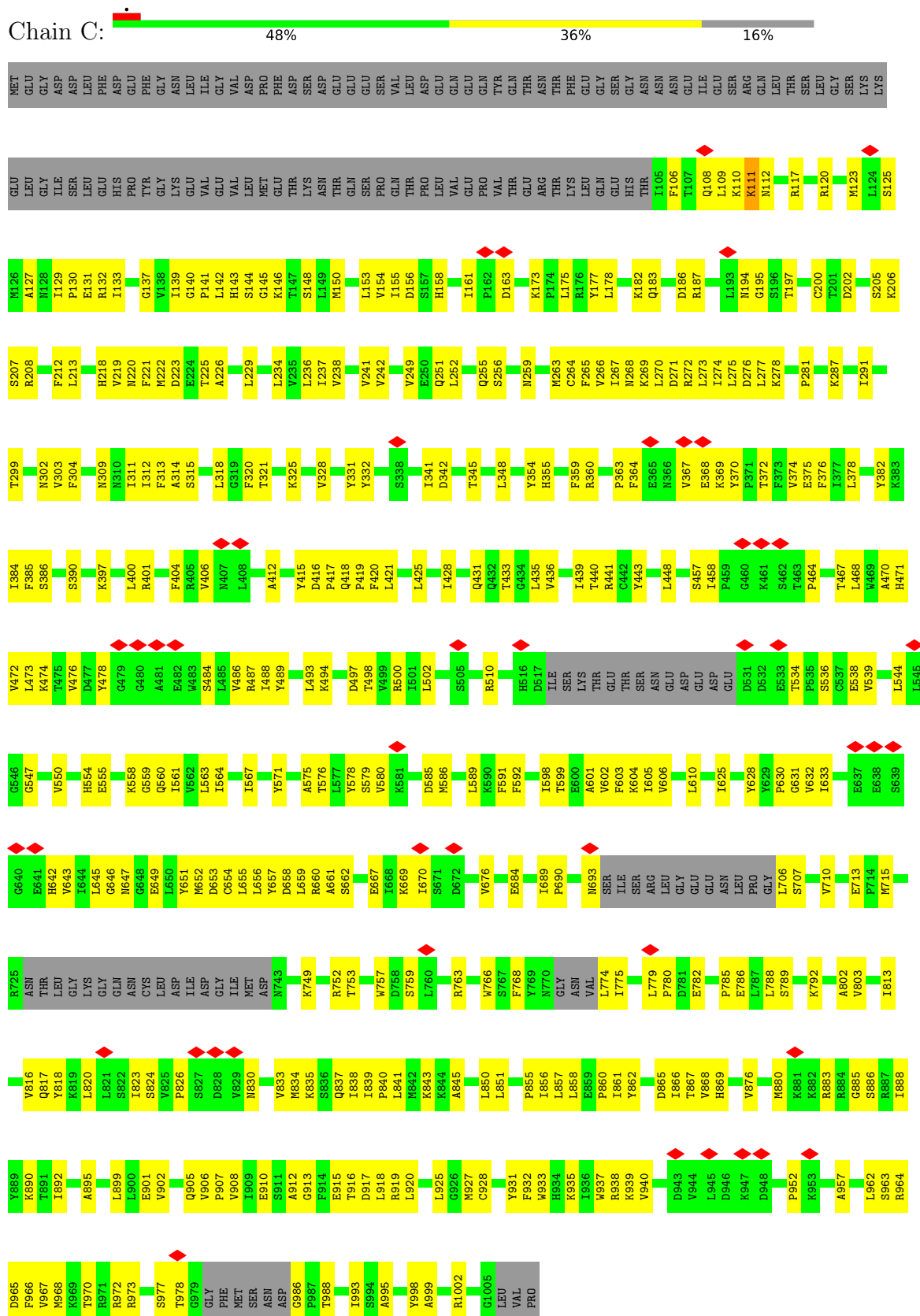
L1342	F1265	T1162	D1075	Y982	P902	P802	L715	M629	K552	D457	Y383	S997	H194
F1346	E1266	R1163	P1076	P986	L903	P802	R716	K630	M553	F458	A386	Y298	G197
R1347	Y1164	Y1164	M1077	Y905	Y905	T808	T719	I632	T554	A459	A198	K300	A198
I1350	R1268	I1168	I1078	D992	D908	T811	L722	V633	F557	P460	P388	I199	I199
L1356	I1269	Y1169	T1083	D996	L912	R814	Q733	D634	Q558	E464	F303	R207	R207
L1357	L1270	M1170	A1084	Q997	L914	T815	F734	T635	Q589	E465	D804	V208	V208
L1360	L1271	L1171	N1086	Y1000	L916	K817	E735	V644	T560	E466	L390	I209	I209
V1361	M1275	F1177	V1089	Y1001	L916	S816	GLY	A646	W564	E467	L391	M308	M308
K1362	E1276	E1178	F1092	E1002	E917	K819	ARG	A647	L569	E468	P395	V212	V212
G1363	E1277	Y1186	K1093	R1006	E918	A820	ASN	Q648	Q570	L469	N310	Y213	Y213
E1364	V1278	Y1190	D1094	I1013	D921	W823	ILE	I653	Q574	P471	R313	T214	T214
L1366	V1279	K1014	V1098	P1015	V922	W829	VAL	H654	M578	P472	P401	W217	W217
I1367	S1280	P1015	M1099	E1019	Y923	R830	LYS	H655	L579	T473	M404	T220	T220
K1372	D1282	E1019	K1100	E1019	A924	R831	THR	Y669	M592	T474	R319	V221	V221
L1373	E1283	I1020	Y1101	I1020	S925	R832	THR	K670	L593	D475	D320	I222	I222
K1376	G1284	L1023	G1102	L1023	K926	R833	LYS	G661	L582	A476	M405	A223	A223
S1377	L1288	K1027	I1103	L1103	Y927	T834	GLN	Q662	T995	L479	S408	M224	M224
K1378	V1289	W1028	I1104	I1104	R928	R835	ARG	L663	K672	P483	C409	K228	K228
K1378	D1290	G1106	R1105	R1105	R929	R836	LEU	T664	F597	P485	Q412	R229	R229
R1382	E1291	T1029	G1106	E933	R930	R836	D751	G665	L588	M493	N413	T232	T232
P1384	F1385	K1030	G1031	E936	R839	R840	D755	L666	L591	T494	GLU	K235	K235
A1386	T1297	I1032	E1031	E936	R840	R840	L756	L666	L591	R495	GLU	K236	K236
F1387	A1298	N1034	S1046	L951	R841	R841	L756	Y669	H592	A341	TRP	M237	M237
V1388	Y1301	L1035	A1047	L952	R842	R842	L756	K670	L593	N342	ASP	R238	R238
L1390	L1302	L1035	A1047	N952	R843	R843	L756	Y671	D594	N343	F239	F239	F239
E1393	E1306	W1039	L1050	K955	R844	R844	L756	V673	N596	N344	P240	P240	P240
I1399	I1309	R1043	G1044	V963	R845	R845	L756	H675	N598	A345	A345	P241	P241
K1392	K1310	G1044	G1044	V963	R845	R845	L756	H675	N598	F352	F352	D445	D445
L1394	K1311	D1122	S1046	V963	R845	R845	L756	H675	N598	P354	P354	L249	L249
I1400	F1312	L1126	A1047	K955	R845	R845	L756	H675	N598	L355	L355	T255	T255
S1401	D1313	Q1128	L1050	K955	R845	R845	L756	H675	N598	Y356	Y356	E256	E256
A1402	S1314	Q1128	L1050	K955	R845	R845	L756	H675	N598	P357	P357	N257	N257
S1403	R1315	Q1128	L1050	K955	R845	R845	L756	H675	N598	E359	E359	I258	I258
H1404	I1316	Q1128	L1050	K955	R845	R845	L756	H675	N598	E360	E360	P260	P260
I1405	R1317	Q1128	L1050	K955	R845	R845	L756	H675	N598	E361	E361	L261	L261
G1318	G1318	Q1128	L1050	K955	R845	R845	L756	H675	N598	E362	E362	D262	D262
I1319	I1319	Q1128	L1050	K955	R845	R845	L756	H675	N598	D363	D363	P263	P263
P1408	L1320	Q1128	L1050	K955	R845	R845	L756	H675	N598	S369	S369	D282	D282
A1409	A1322	Q1128	L1050	K955	R845	R845	L756	H675	N598	I370	I370	S283	S283
S1410	S1323	Q1128	L1050	K955	R845	R845	L756	H675	N598	V372	V372	R284	R284
D1411	G1324	Q1128	L1050	K955	R845	R845	L756	H675	N598	I374	I374	E287	E287
S1413	S1325	Q1128	L1050	K955	R845	R845	L756	H675	N598	F375	F375	E288	E288
T1418	A1332	Q1128	L1050	K955	R845	R845	L756	H675	N598	R376	R376	D289	D289
D1419	A1333	Q1128	L1050	K955	R845	R845	L756	H675	N598	V377	V377	E289	E289
T1420	K1334	Q1128	L1050	K955	R845	R845	L756	H675	N598	R380	R380	N294	N294
G1421	W1335	Q1128	L1050	K955	R845	R845	L756	H675	N598	G295	G295	T296	T296
	L1336	Q1128	L1050	K955	R845	R845	L756	H675	N598	S381	S381	E382	E382
	S1341	Q1128	L1050	K955	R845	R845	L756	H675	N598				

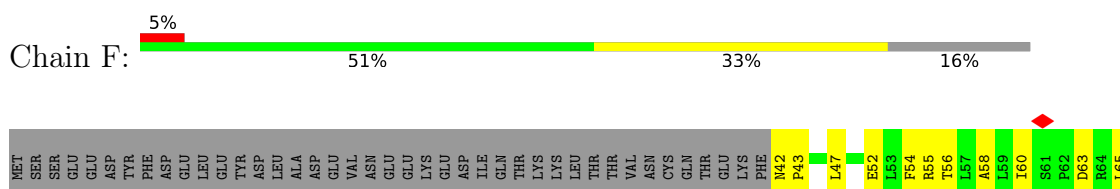




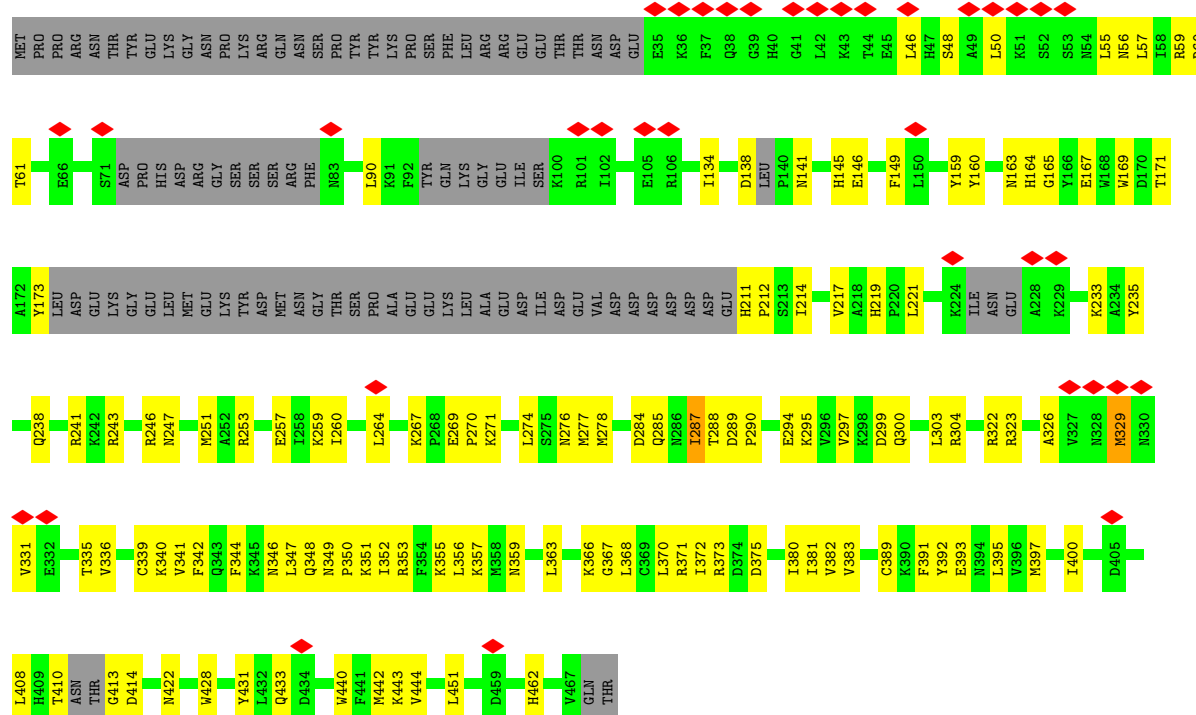
• Molecule 10: Pre-mRNA-splicing factor SNU114

Chain C:



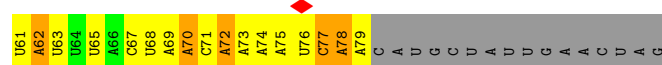


- Molecule 14: U4/U6 small nuclear ribonucleoprotein PRP3



- Molecule 15: U4/U6 small nuclear ribonucleoprotein PRP4

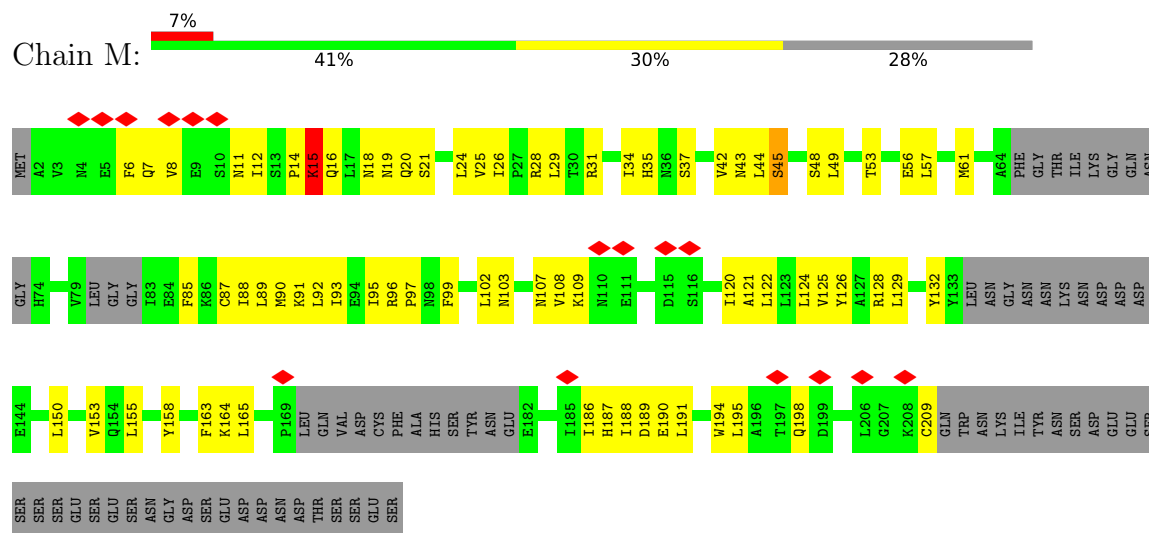




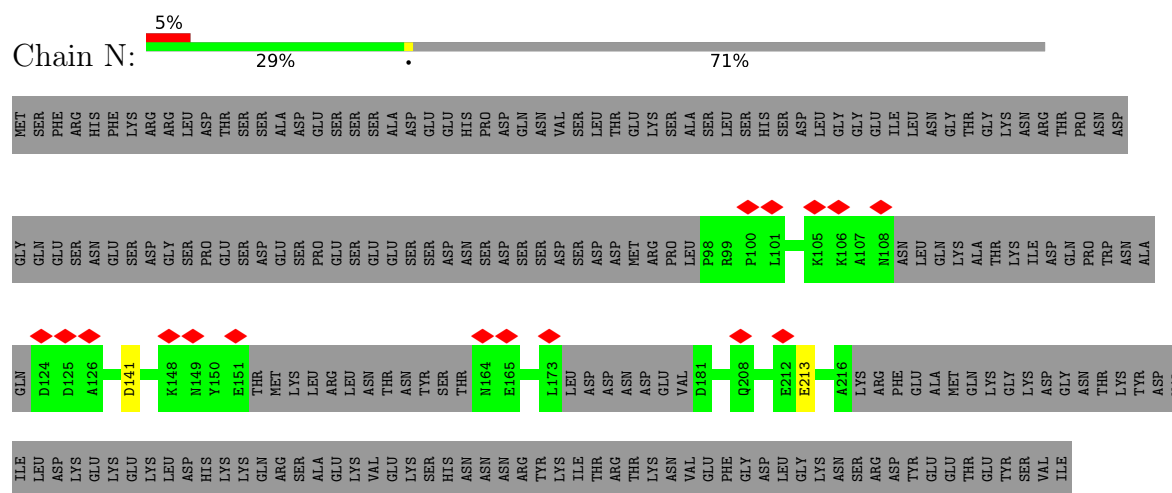
Chain J: 5% 50% 38% 11%



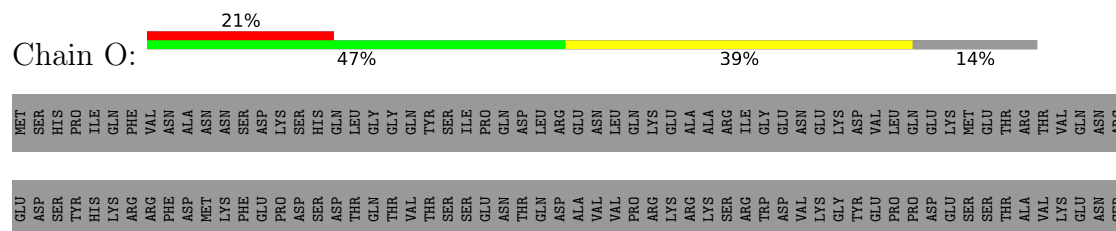
- Molecule 20: Pre-mRNA-splicing factor 38



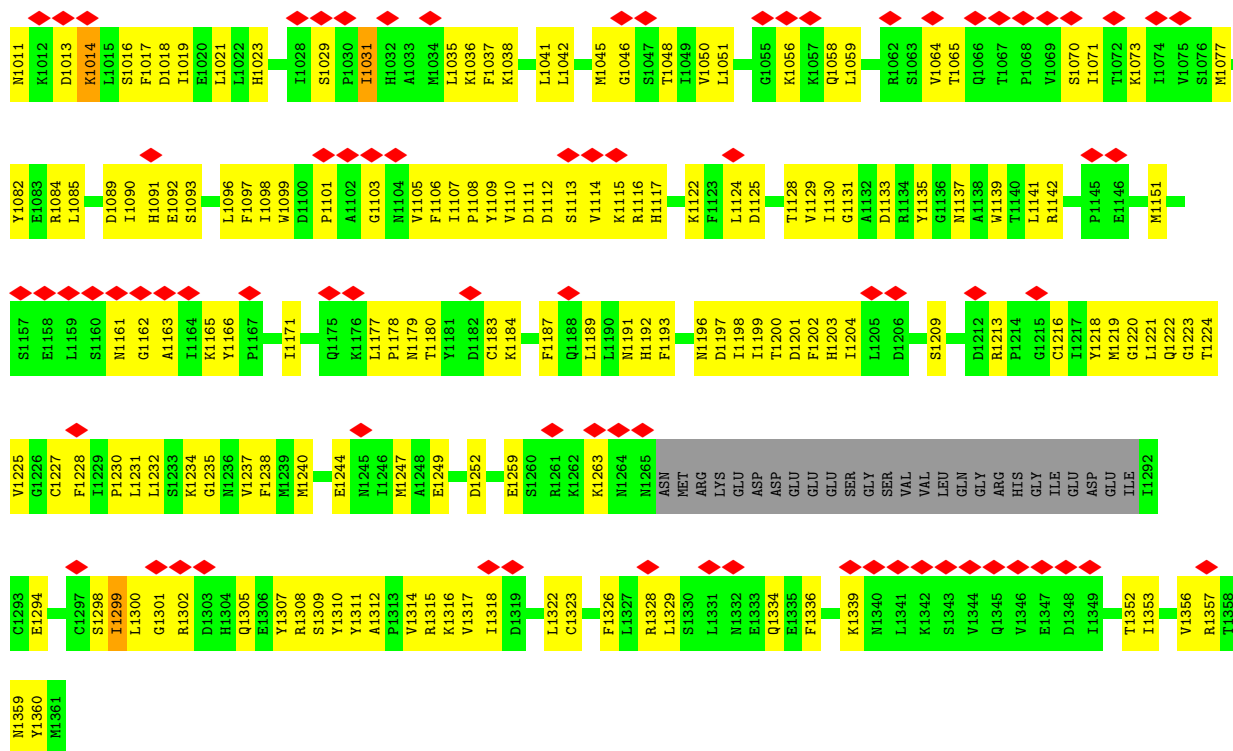
- Molecule 21: Pre-mRNA-splicing factor SPP381



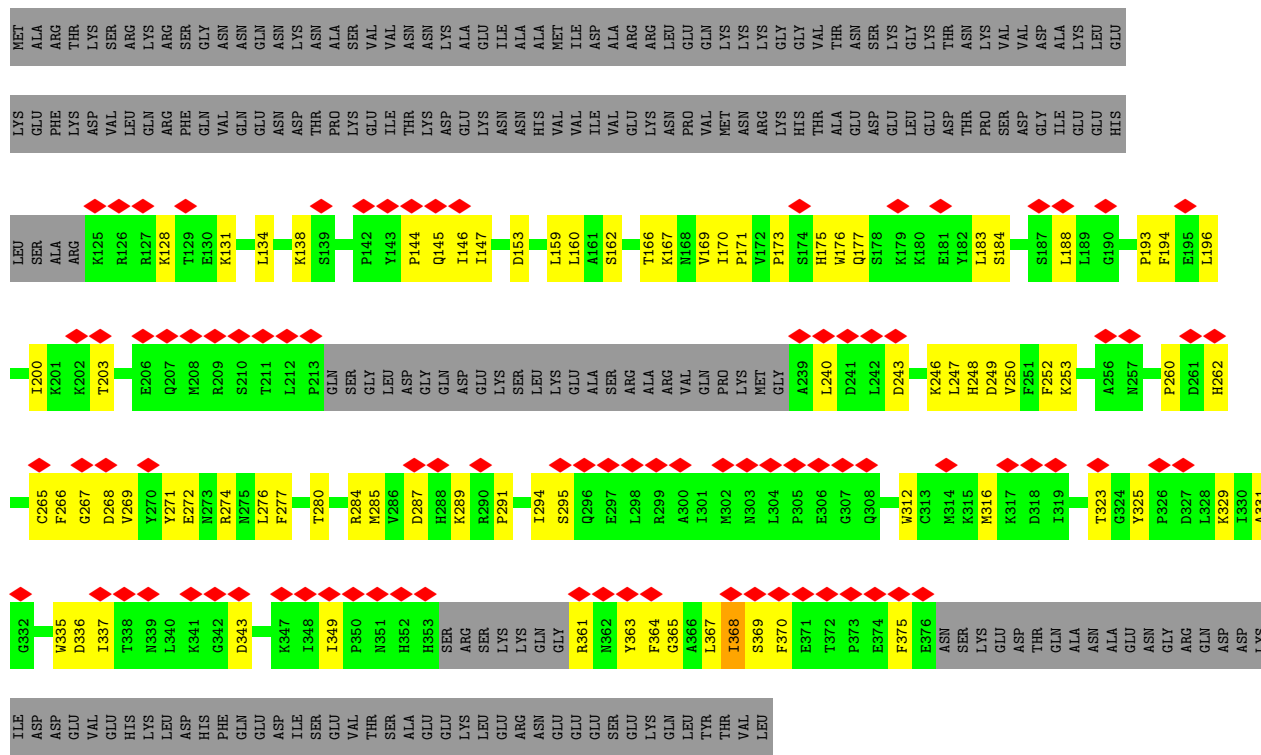
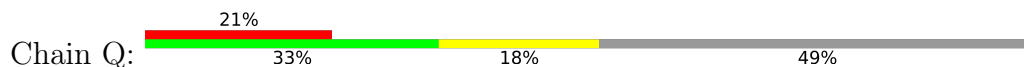
- Molecule 22: U2 snRNP component HSH155



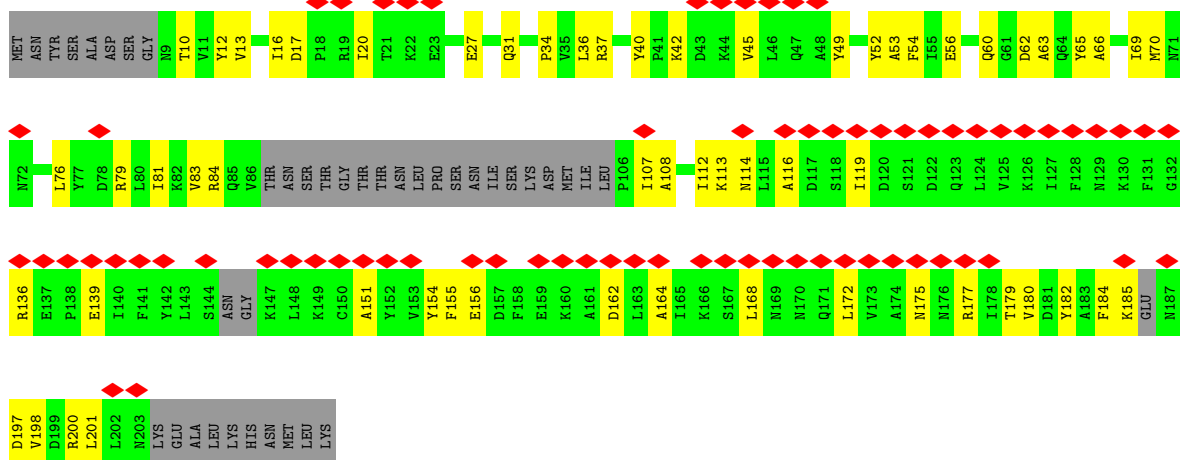




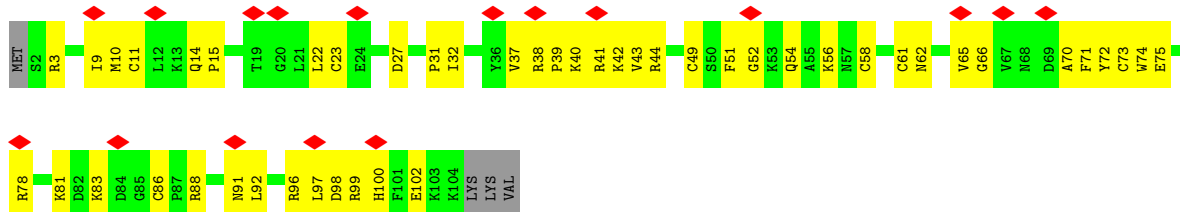
• Molecule 24: Cold sensitive U2 snRNA suppressor 1



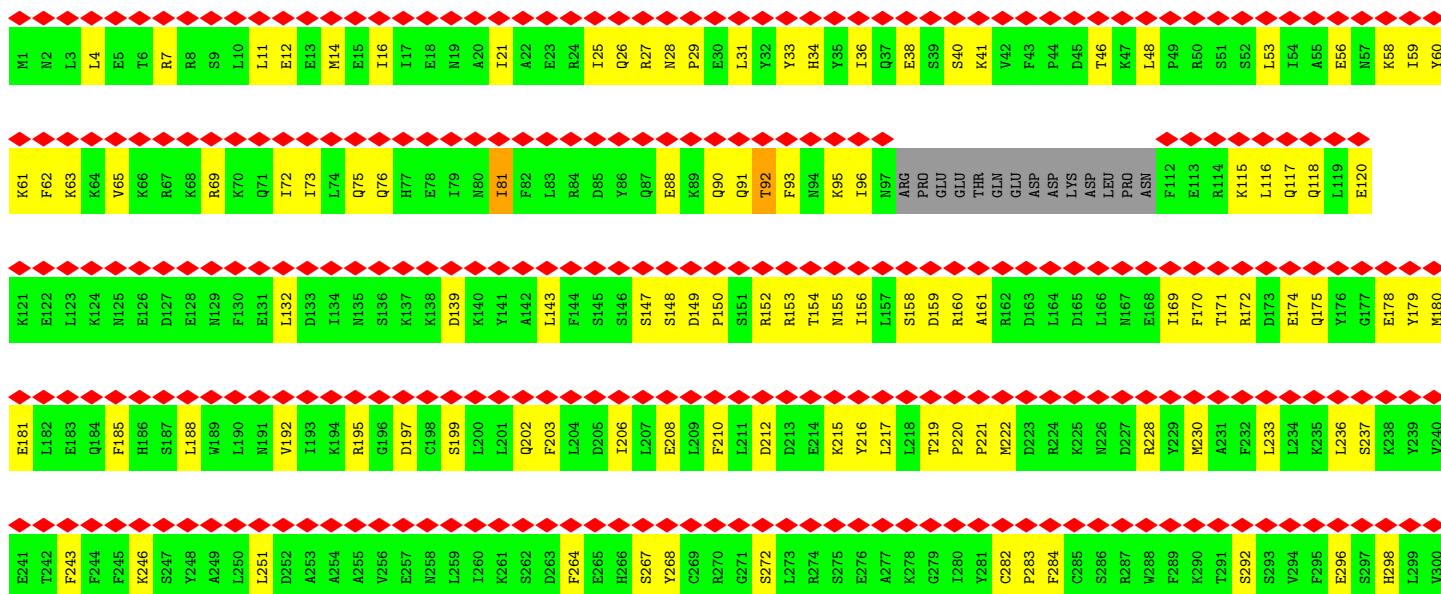
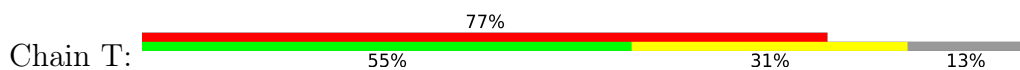
• Molecule 25: Protein HSH49

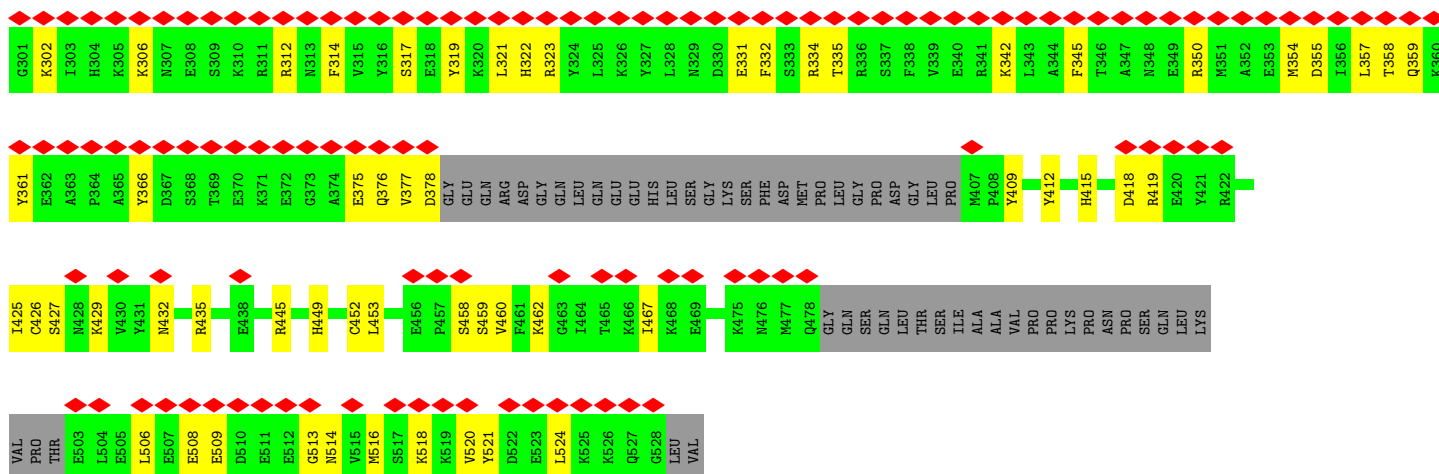


• Molecule 26: Pre-mRNA-splicing factor RDS3

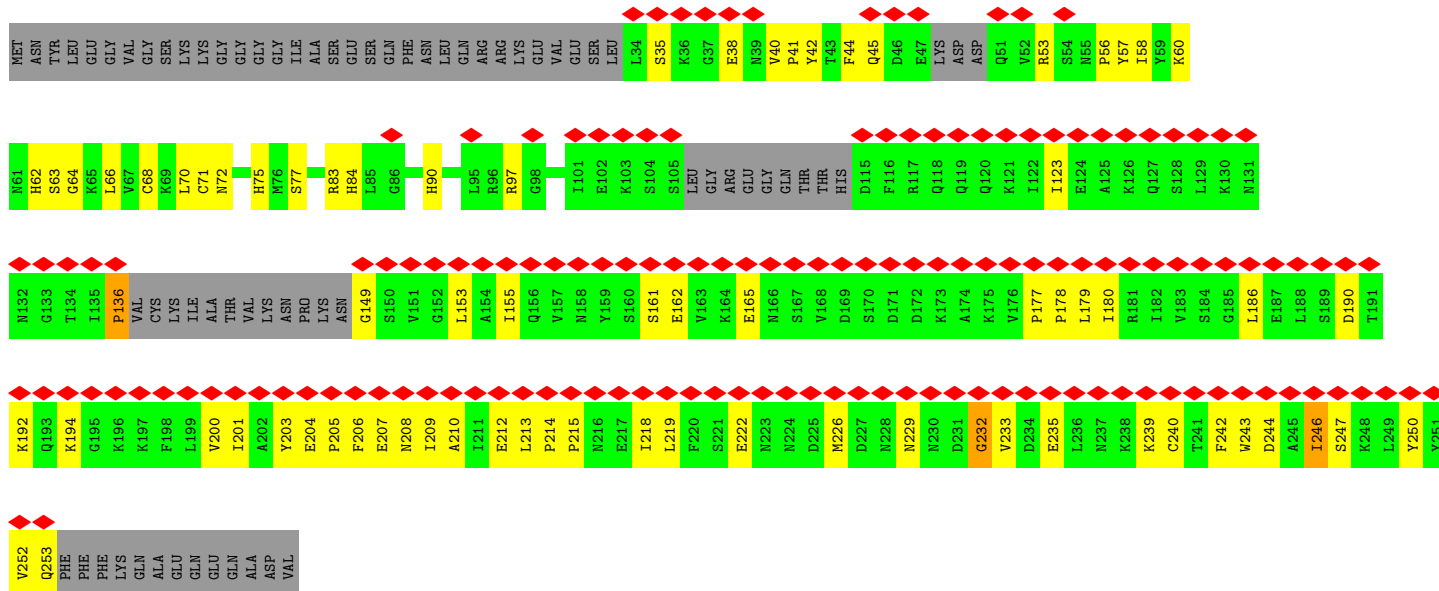


• Molecule 27: Pre-mRNA-splicing factor PRP9

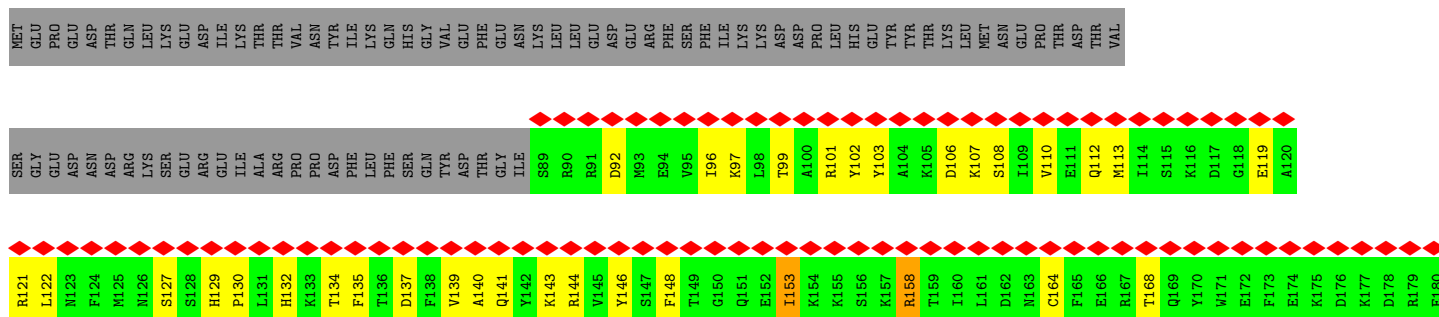
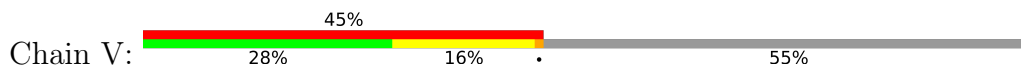




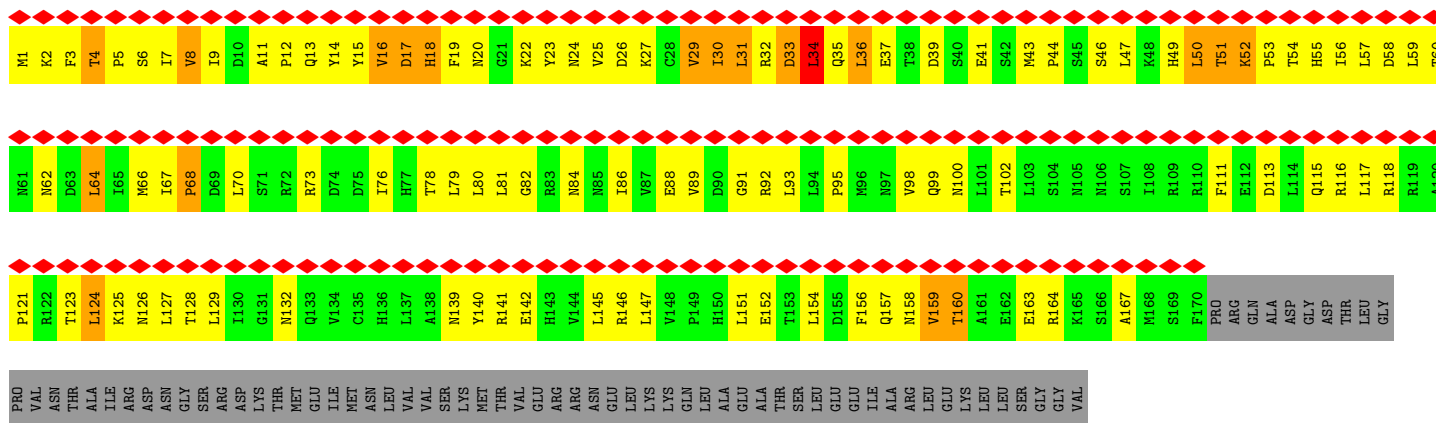
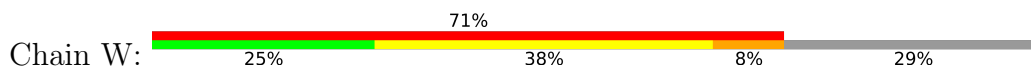
• Molecule 28: Pre-mRNA-splicing factor PRP11



• Molecule 29: Pre-mRNA-splicing factor PRP21



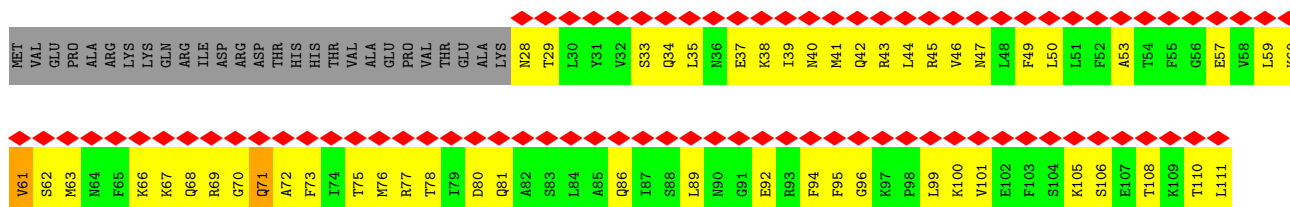
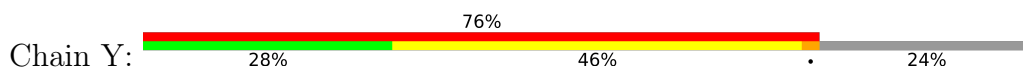
- Molecule 30: U2 small nuclear ribonucleoprotein A'



- Molecule 31: Unknown



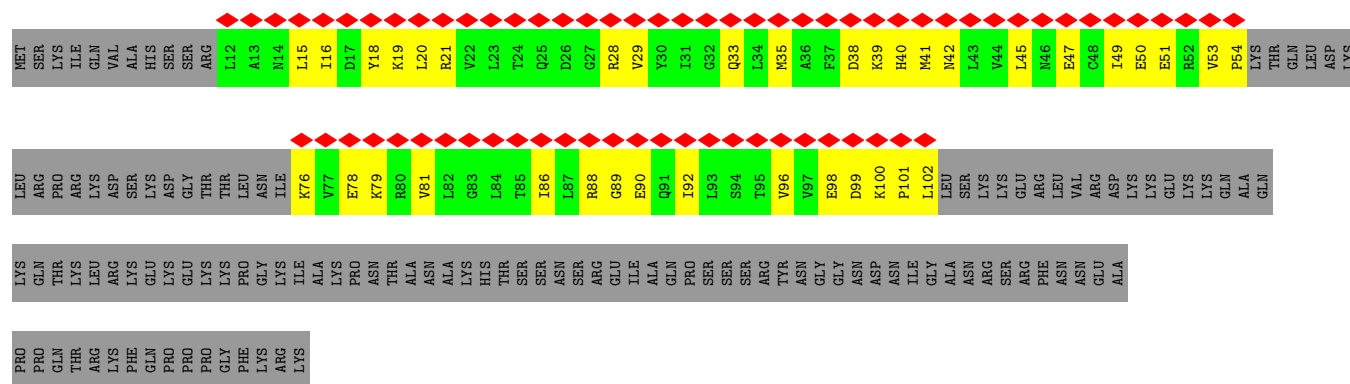
- Molecule 32: U2 small nuclear ribonucleoprotein B''



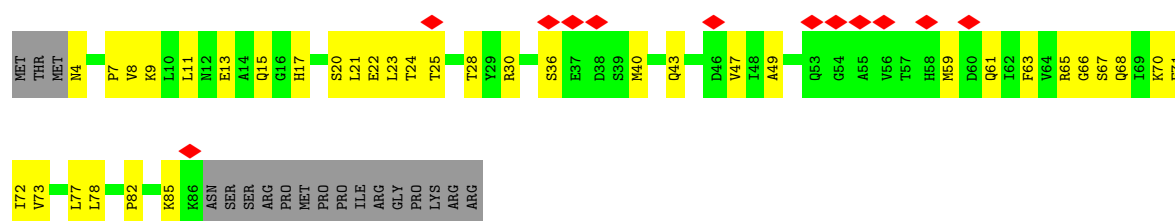
- Molecule 33: RDS3 complex subunit 10



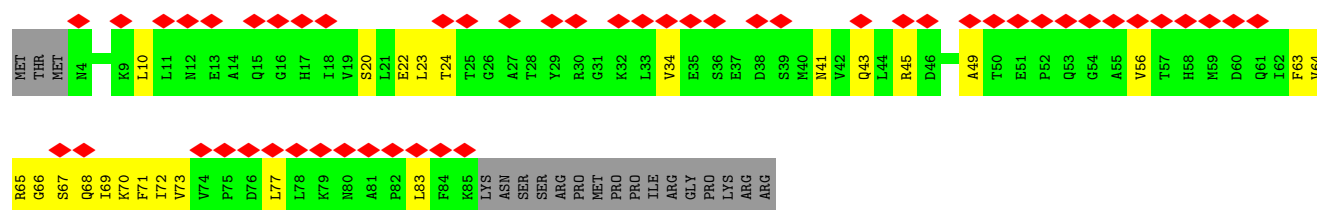




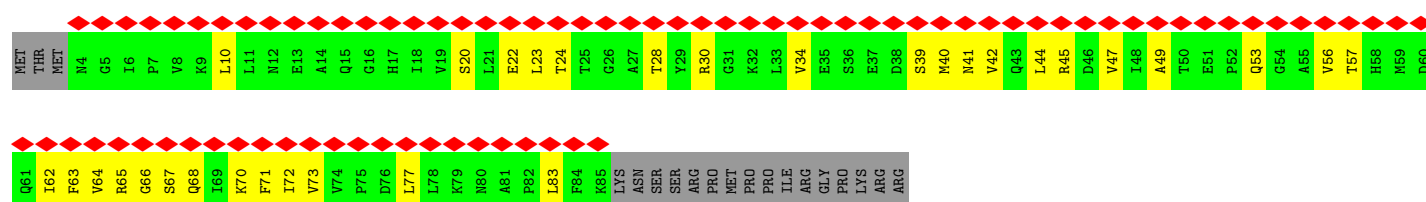
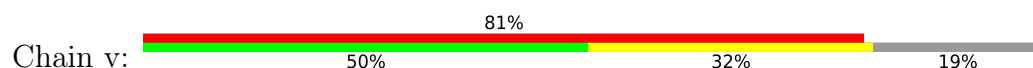
• Molecule 36: Small nuclear ribonucleoprotein Sm D3



• Molecule 36: Small nuclear ribonucleoprotein Sm D3

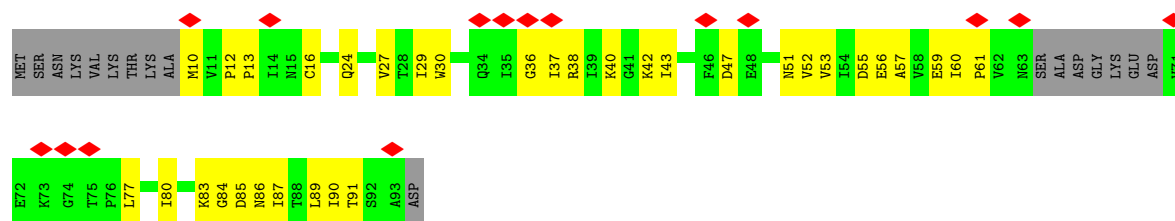


• Molecule 36: Small nuclear ribonucleoprotein Sm D3

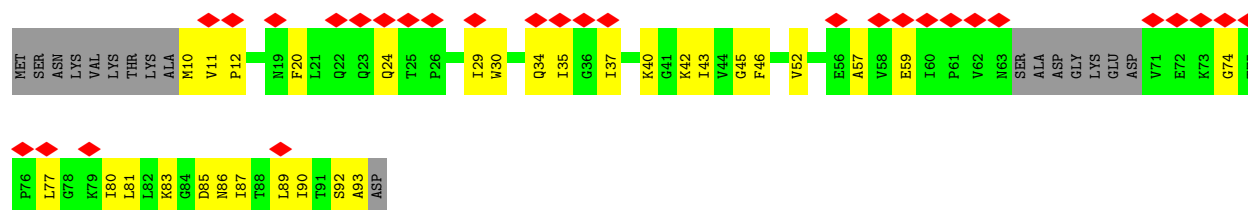


• Molecule 37: Small nuclear ribonucleoprotein E

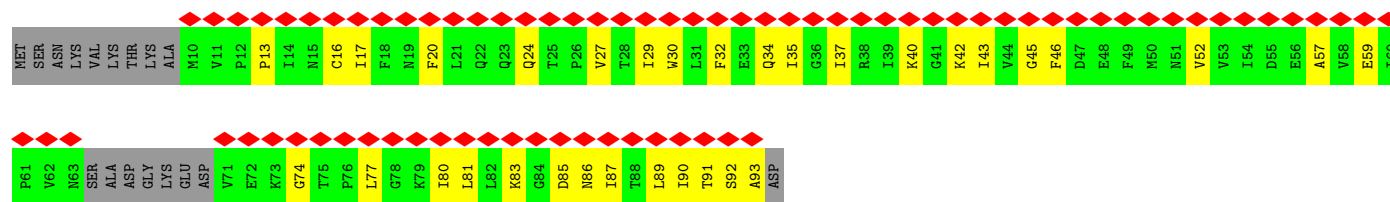
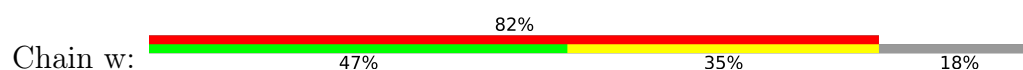




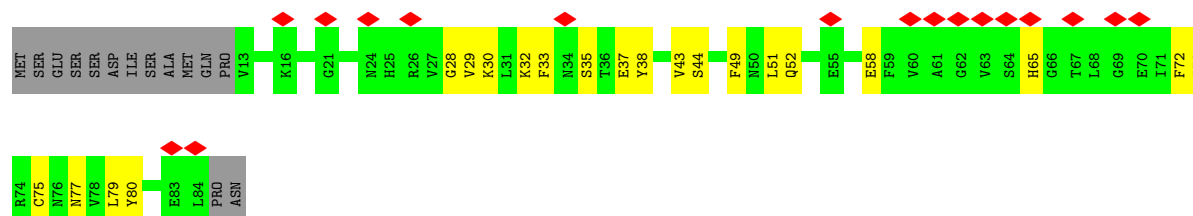
• Molecule 37: Small nuclear ribonucleoprotein E



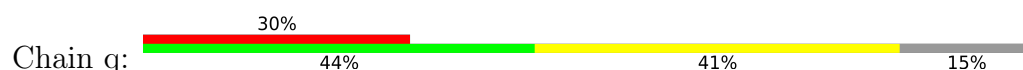
• Molecule 37: Small nuclear ribonucleoprotein E



• Molecule 38: Small nuclear ribonucleoprotein F

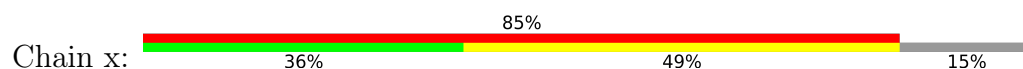


• Molecule 38: Small nuclear ribonucleoprotein F

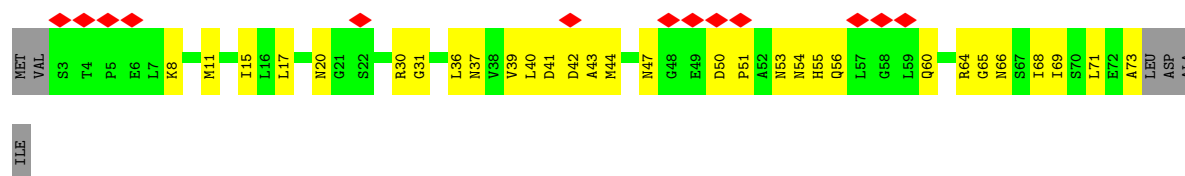




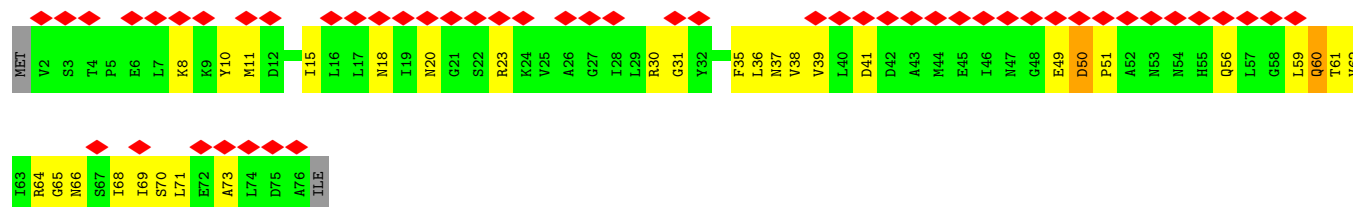
• Molecule 38: Small nuclear ribonucleoprotein F



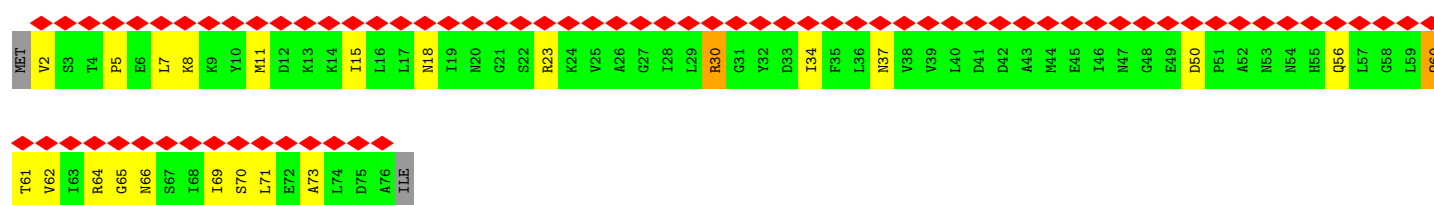
• Molecule 39: Small nuclear ribonucleoprotein G



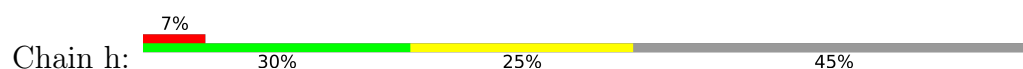
• Molecule 39: Small nuclear ribonucleoprotein G

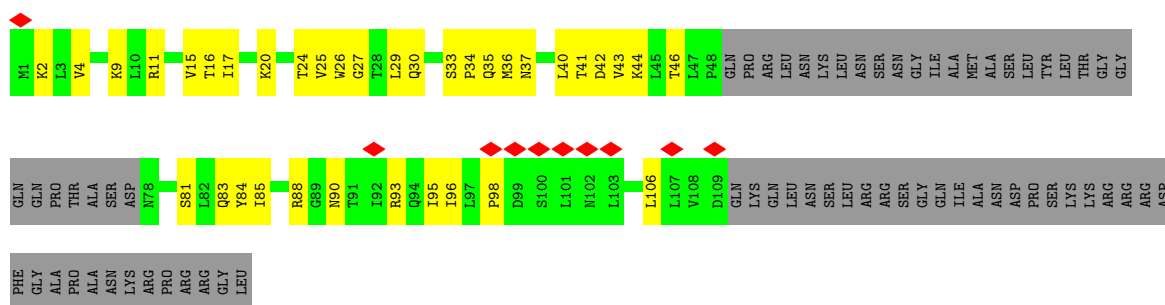


• Molecule 39: Small nuclear ribonucleoprotein G



• Molecule 40: Small nuclear ribonucleoprotein Sm D1

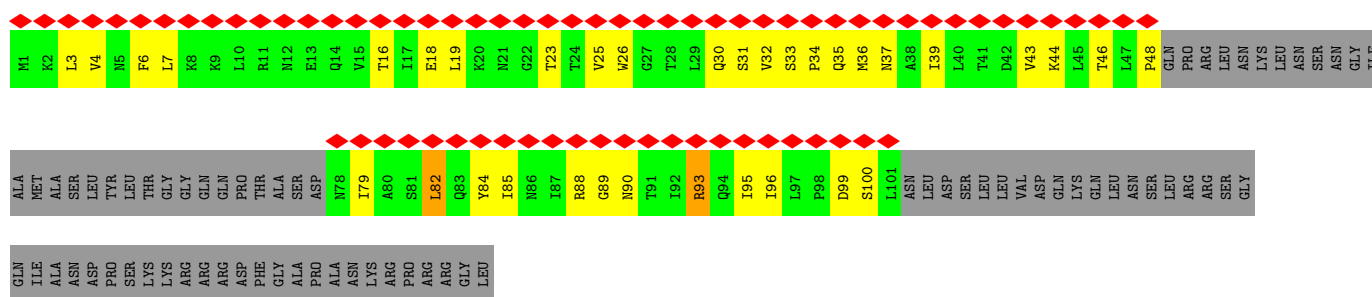
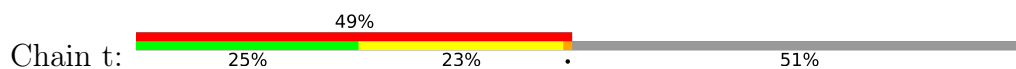




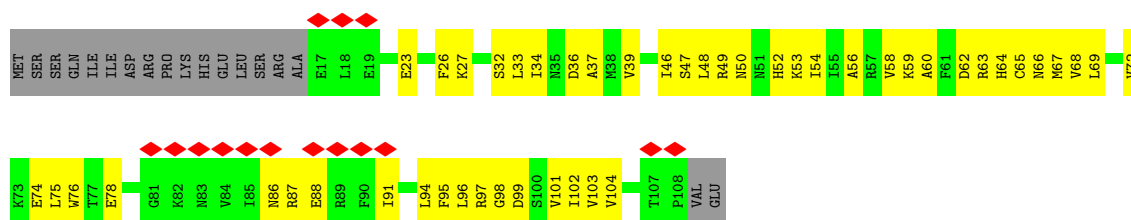
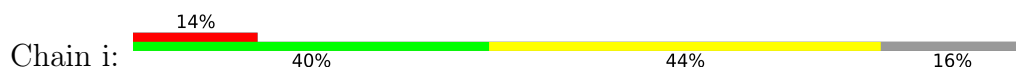
• Molecule 40: Small nuclear ribonucleoprotein Sm D1



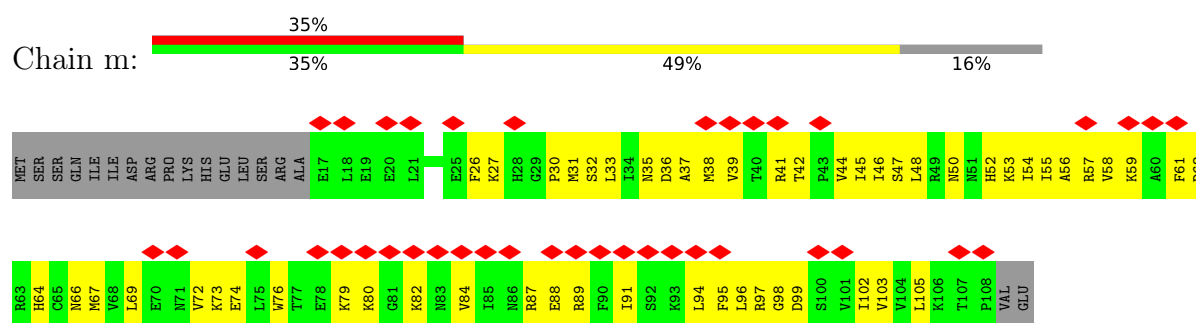
• Molecule 40: Small nuclear ribonucleoprotein Sm D1



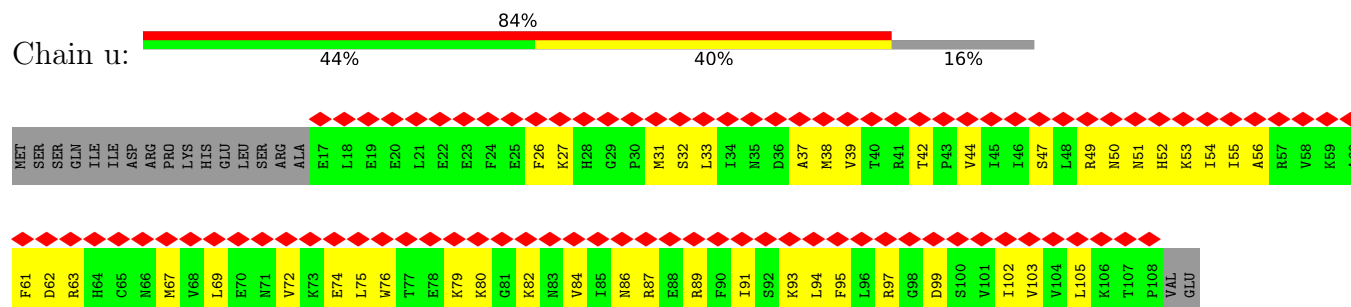
• Molecule 41: Small nuclear ribonucleoprotein Sm D2



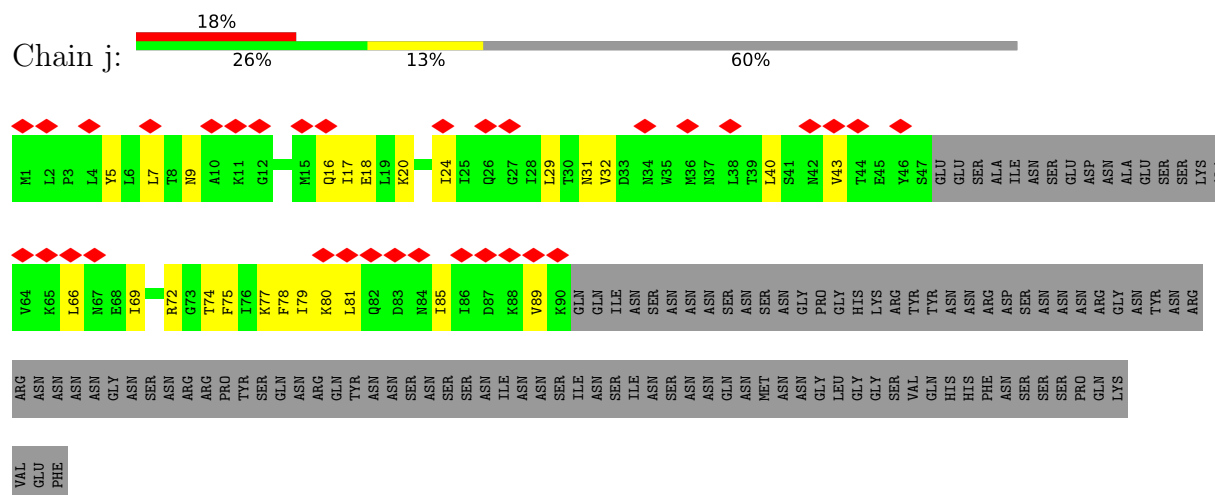
• Molecule 41: Small nuclear ribonucleoprotein Sm D2



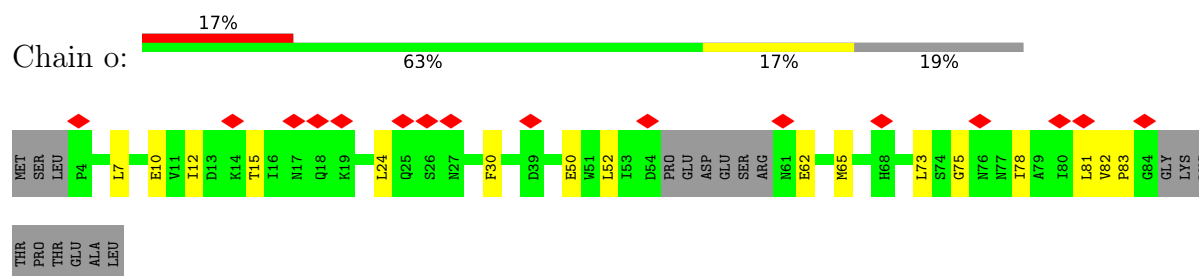
• Molecule 41: Small nuclear ribonucleoprotein Sm D2



• Molecule 42: U6 snRNA-associated Sm-like protein LSM4

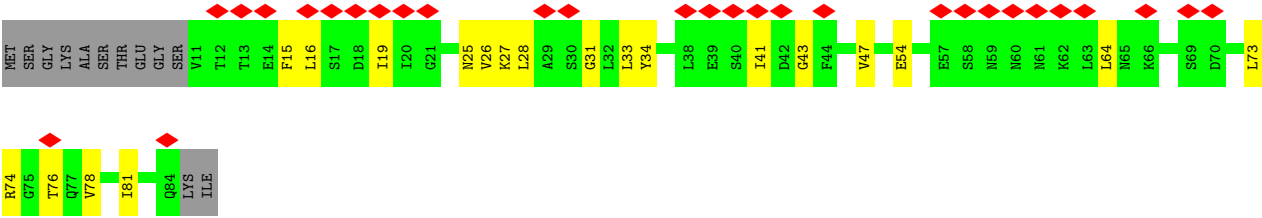


• Molecule 43: U6 snRNA-associated Sm-like protein LSM5



• Molecule 44: U6 snRNA-associated Sm-like protein LSM6





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	9559	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 ($e^-/\text{\AA}^2$)	56	Depositor
Minimum defocus (nm)	350	Depositor
Maximum defocus (nm)	5300	Depositor
Magnification	81000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.080	Depositor
Minimum map value	-0.019	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.0258	Depositor
Map size (Å)	686.39996, 686.39996, 686.39996	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.43, 1.43, 1.43	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	2	1.18	46/3579 (1.3%)	1.74	139/5551 (2.5%)
2	3	0.15	0/617	0.45	0/836
3	4	0.28	3/2705 (0.1%)	0.40	0/4204
4	5	0.28	1/4039 (0.0%)	0.37	2/6284 (0.0%)
5	6	0.13	0/2253	0.37	3/3497 (0.1%)
6	7	0.13	0/505	0.43	0/675
7	8	0.12	0/501	0.43	0/673
8	A	0.21	0/18580	0.50	4/25189 (0.0%)
9	B	0.32	0/13905	0.67	10/18852 (0.1%)
10	C	0.23	0/6928	0.48	1/9377 (0.0%)
11	D	0.20	0/1185	0.56	0/1596
12	E	0.16	0/822	0.52	0/1109
13	F	0.18	0/3292	0.49	0/4432
14	G	0.26	0/2885	0.59	2/3882 (0.1%)
15	H	0.19	0/3455	0.52	0/4663
16	I	0.14	0/665	0.29	0/1024
17	J	0.17	0/6613	0.50	0/8942
18	K	0.19	0/949	0.48	0/1292
19	L	0.15	0/899	0.51	0/1204
20	M	0.17	0/1430	0.57	3/1927 (0.2%)
21	N	0.10	0/421	0.29	0/583
22	O	0.19	0/6745	0.47	1/9157 (0.0%)
23	P	0.22	0/9623	0.53	1/13041 (0.0%)
24	Q	0.17	0/1835	0.53	0/2480
25	R	0.14	0/1453	0.40	0/1954
26	S	0.21	0/827	0.55	0/1105
27	T	0.28	0/3992	0.66	2/5346 (0.0%)
28	U	0.26	0/1511	0.65	2/2038 (0.1%)
29	V	0.26	0/1105	0.63	0/1475
30	W	0.35	0/1406	0.71	0/1905
31	X	0.15	0/148	0.48	0/204
32	Y	0.20	0/692	0.46	0/923

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Z	0.21	0/694	0.46	0/929
34	a	0.17	0/745	0.48	0/1005
35	b	0.20	0/567	0.47	0/762
35	k	0.33	0/567	0.56	0/762
35	s	0.32	0/567	0.59	0/762
36	d	0.22	0/650	0.45	0/879
36	n	0.33	0/641	0.56	0/868
36	v	0.36	0/641	0.58	0/868
37	e	0.16	0/612	0.42	0/830
37	p	0.46	1/612 (0.2%)	0.65	1/830 (0.1%)
37	w	0.39	0/612	0.65	0/830
38	f	0.16	0/589	0.42	0/796
38	q	0.28	0/597	0.62	0/807
38	x	0.33	0/597	0.63	0/807
39	g	0.19	0/554	0.58	0/746
39	r	0.28	0/582	0.71	0/785
39	y	0.16	0/582	0.41	0/785
40	h	0.15	0/635	0.41	0/861
40	l	0.35	0/756	0.72	1/1023 (0.1%)
40	t	0.38	0/574	0.64	1/777 (0.1%)
41	i	0.16	0/764	0.42	0/1026
41	m	0.29	0/764	0.55	0/1026
41	u	0.33	0/764	0.57	0/1026
42	j	0.15	0/594	0.41	0/802
43	o	0.13	0/595	0.37	0/806
44	z	0.13	0/584	0.45	0/787
All	All	0.31	51/122004 (0.0%)	0.61	173/167605 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	2	0	2
8	A	0	2
9	B	0	4
17	J	0	2
20	M	0	2
23	P	0	2
27	T	0	1
30	W	0	1

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
39	r	0	1
All	All	0	17

All (51) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	2	1149	G	O3'-P	19.48	1.90	1.61
1	2	143	G	O3'-P	15.14	1.83	1.61
4	5	105	A	O3'-P	14.43	1.82	1.61
1	2	143	G	C3'-O3'	14.26	1.63	1.42
1	2	1161	U	O3'-P	-12.45	1.42	1.61
1	2	1092	A	O3'-P	-11.83	1.43	1.61
1	2	1090	A	O3'-P	11.59	1.78	1.61
1	2	144	G	O3'-P	-11.43	1.44	1.61
1	2	1163	C	O5'-C5'	11.07	1.59	1.42
1	2	1149	G	C3'-O3'	9.32	1.56	1.42
1	2	1116	A	O3'-P	-9.27	1.47	1.61
1	2	1116	A	C3'-O3'	-8.33	1.29	1.42
1	2	1150	U	O5'-C5'	8.12	1.54	1.42
1	2	1166	G	O3'-P	8.00	1.73	1.61
1	2	1165	C	O5'-C5'	7.79	1.54	1.42
1	2	1162	U	O5'-C5'	7.75	1.54	1.42
37	p	12	PRO	CA-C	7.34	1.55	1.51
1	2	1090	A	C3'-O3'	7.27	1.53	1.42
1	2	1154	U	C1'-N1	7.15	1.59	1.48
1	2	1140	U	C1'-N1	7.08	1.59	1.48
1	2	1127	A	O3'-P	-6.95	1.50	1.61
1	2	1167	U	O3'-P	6.90	1.71	1.61
1	2	1090	A	O5'-C5'	6.84	1.52	1.42
1	2	1169	C	C1'-N1	6.64	1.58	1.48
1	2	1164	C	O3'-P	-6.58	1.51	1.61
1	2	1091	G	O5'-C5'	6.25	1.51	1.42
1	2	1116	A	O5'-C5'	6.12	1.51	1.42
1	2	1096	C	O5'-C5'	6.05	1.51	1.42
1	2	1166	G	O5'-C5'	6.03	1.51	1.42
1	2	1151	U	O5'-C5'	-6.01	1.33	1.42
1	2	68	U	C1'-N1	5.98	1.57	1.48
3	4	74	U	C1'-N1	5.92	1.57	1.48
1	2	118	U	C1'-N1	5.79	1.57	1.48
3	4	73	A	C1'-N9	-5.71	1.38	1.47
1	2	121	C	C1'-N1	5.64	1.56	1.48
1	2	111	C	C1'-N1	5.58	1.56	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	4	75	U	C1'-N1	5.58	1.55	1.47
1	2	1096	C	O3'-P	5.57	1.69	1.61
1	2	1090	A	C4'-O4'	5.51	1.53	1.45
1	2	146	A	O5'-C5'	5.51	1.50	1.42
1	2	109	C	C1'-N1	5.49	1.56	1.48
1	2	1128	C	C5'-C4'	-5.49	1.43	1.51
1	2	85	A	C1'-N9	-5.48	1.39	1.48
1	2	1161	U	C3'-O3'	-5.35	1.34	1.42
1	2	1165	C	O3'-P	5.24	1.69	1.61
1	2	1095	U	O3'-P	5.23	1.69	1.61
1	2	144	G	C3'-O3'	-5.13	1.34	1.42
1	2	1127	A	O5'-C5'	5.10	1.50	1.42
1	2	1117	G	C5'-C4'	5.07	1.58	1.51
1	2	1118	U	O5'-C5'	5.02	1.50	1.42
1	2	1162	U	P-O5'	5.02	1.67	1.59

All (173) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	2	144	G	C4'-C3'-O3'	-25.53	74.71	113.00
1	2	1151	U	C4'-C3'-O3'	-19.99	83.02	113.00
1	2	143	G	C4'-C3'-O3'	18.15	140.22	113.00
1	2	1092	A	C2'-C3'-O3'	17.89	140.53	113.70
1	2	1097	G	C3'-C2'-O2'	16.44	135.37	110.70
1	2	1093	C	P-O5'-C5'	15.79	144.59	120.90
1	2	144	G	C2'-C3'-O3'	15.19	136.49	113.70
1	2	1147	A	C5'-C4'-C3'	-15.10	93.35	116.00
1	2	1168	U	C4'-C3'-O3'	-14.96	90.56	113.00
1	2	1150	U	C4'-C3'-O3'	-14.94	90.59	113.00
1	2	1148	U	C4'-C3'-O3'	-14.36	91.46	113.00
1	2	1109	C	C4'-C3'-O3'	13.40	129.50	109.40
1	2	1092	A	C4'-C3'-O3'	-13.36	92.96	113.00
1	2	1151	U	P-O5'-C5'	12.46	139.59	120.90
1	2	145	G	C5'-C4'-C3'	-11.99	98.02	116.00
1	2	1096	C	C1'-C2'-O2'	-11.90	90.55	108.40
1	2	1150	U	C5'-C4'-C3'	11.82	133.72	116.00
1	2	1117	G	C5'-C4'-C3'	-11.61	98.59	116.00
1	2	1090	A	C4'-C3'-O3'	11.51	130.26	113.00
1	2	1162	U	C5'-C4'-O4'	11.38	126.86	109.80
1	2	1162	U	C2'-C3'-O3'	-11.23	96.86	113.70
1	2	144	G	C5'-C4'-C3'	11.14	132.71	116.00
1	2	1097	G	C2'-C3'-O3'	-10.94	97.30	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	2	143	G	C5'-C4'-C3'	-10.55	100.17	116.00
1	2	1091	G	C5'-C4'-C3'	10.54	131.81	116.00
1	2	1163	C	C5'-C4'-C3'	-10.36	100.45	116.00
1	2	1147	A	C4'-C3'-O3'	10.36	128.53	113.00
1	2	1098	C	N1-C1'-C2'	-10.27	96.59	112.00
1	2	1147	A	P-O5'-C5'	10.23	136.25	120.90
1	2	144	G	O3'-P-O5'	-10.16	88.75	104.00
1	2	1149	G	O3'-P-O5'	10.14	119.22	104.00
1	2	1091	G	C4'-C3'-O3'	-10.08	97.88	113.00
1	2	1165	C	C4'-C3'-O3'	10.04	128.06	113.00
1	2	144	G	C5'-C4'-O4'	-9.91	94.94	109.80
1	2	1162	U	C5'-C4'-C3'	-9.81	101.28	116.00
1	2	1089	G	C4'-C3'-O3'	9.68	127.51	113.00
1	2	1149	G	C4'-C3'-O3'	9.63	127.45	113.00
1	2	1115	G	C4'-C3'-O3'	9.38	127.08	113.00
1	2	66	A	C4'-C3'-O3'	9.30	123.35	109.40
1	2	1152	U	P-O5'-C5'	9.28	134.82	120.90
1	2	143	G	P-O3'-C3'	9.18	133.97	120.20
1	2	144	G	C1'-C2'-O2'	-9.18	94.63	108.40
1	2	1149	G	P-O3'-C3'	9.18	133.97	120.20
1	2	1150	U	C2'-C3'-O3'	9.14	127.41	113.70
1	2	1092	A	P-O5'-C5'	9.09	134.54	120.90
1	2	145	G	C3'-C2'-O2'	-8.88	97.37	110.70
1	2	145	G	P-O5'-C5'	8.86	134.20	120.90
1	2	1165	C	C5'-C4'-C3'	-8.82	102.77	116.00
1	2	148	G	C5'-C4'-C3'	-8.79	102.81	116.00
1	2	1167	U	C2'-C3'-O3'	8.76	126.84	113.70
1	2	1117	G	C5'-C4'-O4'	8.65	122.78	109.80
1	2	1096	C	C2'-C3'-O3'	-8.53	100.90	113.70
1	2	1150	U	P-O5'-C5'	8.51	133.67	120.90
1	2	1168	U	P-O5'-C5'	-8.46	108.21	120.90
1	2	1108	A	C1'-C2'-O2'	-8.31	95.93	108.40
1	2	1161	U	C5'-C4'-C3'	-8.26	103.61	116.00
1	2	1090	A	C2'-C3'-O3'	-8.26	101.32	113.70
1	2	1093	C	C5'-C4'-C3'	-8.23	103.66	116.00
1	2	1166	G	O5'-C5'-C4'	8.21	123.81	111.50
1	2	1096	C	C4'-C3'-O3'	8.16	125.24	113.00
1	2	1169	C	P-O5'-C5'	-8.16	108.66	120.90
1	2	1163	C	C5'-C4'-O4'	7.97	121.76	109.80
1	2	1096	C	C3'-C2'-O2'	7.95	122.62	110.70
1	2	1168	U	C2'-C3'-O3'	7.88	125.53	113.70
1	2	1162	U	C4'-C3'-O3'	7.85	124.78	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	2	145	G	O5'-C5'-C4'	-7.75	99.87	111.50
1	2	141	A	N9-C1'-C2'	-7.74	100.38	112.00
1	2	1168	U	C1'-C2'-O2'	-7.73	96.81	108.40
1	2	1105	C	C4'-C3'-O3'	-7.64	97.95	109.40
1	2	1091	G	O5'-C5'-C4'	7.60	122.90	111.50
1	2	1151	U	O3'-P-O5'	-7.59	92.61	104.00
1	2	141	A	C4'-C3'-O3'	7.58	124.38	113.00
1	2	143	G	O3'-P-O5'	7.58	115.37	104.00
1	2	144	G	C3'-C2'-O2'	7.57	122.06	110.70
4	5	88	U	P-O3'-C3'	7.45	131.38	120.20
1	2	1128	C	C4'-C3'-O3'	-7.39	101.91	113.00
1	2	1126	G	N9-C1'-C2'	-7.35	100.97	112.00
1	2	1090	A	P-O3'-C3'	7.28	131.12	120.20
1	2	143	G	C2'-C3'-O3'	-7.20	102.89	113.70
1	2	1090	A	C5'-C4'-C3'	-7.16	105.26	116.00
1	2	1139	G	N9-C1'-C2'	-7.12	101.31	112.00
37	p	12	PRO	O-C-N	7.11	124.58	121.31
1	2	1165	C	C2'-C3'-O3'	-6.99	103.21	113.70
1	2	1151	U	C1'-C2'-O2'	-6.92	98.02	108.40
9	B	1370	SER	N-CA-C	6.87	119.60	110.53
1	2	1163	C	C4'-C3'-O3'	6.87	123.30	113.00
1	2	145	G	C4'-C3'-O3'	6.83	123.24	113.00
1	2	1168	U	O3'-P-O5'	-6.76	93.86	104.00
1	2	1092	A	N9-C1'-C2'	6.75	122.12	112.00
1	2	1166	G	C5'-C4'-C3'	6.73	126.09	116.00
28	U	136	PRO	N-CA-CB	6.57	110.22	103.00
1	2	1152	U	C5'-C4'-C3'	-6.55	106.17	116.00
1	2	1147	A	O5'-C5'-C4'	6.52	121.28	111.50
20	M	15	LYS	CB-CA-C	-6.49	108.40	117.23
1	2	142	C	N1-C1'-C2'	-6.49	102.27	112.00
40	l	93	ARG	CG-CD-NE	-6.43	97.86	112.00
1	2	1150	U	C1'-C2'-O2'	-6.41	98.79	108.40
9	B	683	PHE	CA-C-N	-6.39	109.33	121.54
9	B	683	PHE	C-N-CA	-6.39	109.33	121.54
1	2	1150	U	N1-C1'-C2'	6.38	121.57	112.00
1	2	1129	U	C1'-C2'-O2'	6.37	117.96	108.40
1	2	1167	U	C4'-C3'-O3'	-6.36	103.46	113.00
5	6	24	A	OP2-P-O3'	-6.32	89.04	108.00
40	t	93	ARG	CG-CD-NE	-6.29	98.17	112.00
1	2	1169	C	O5'-C5'-C4'	-6.28	102.08	111.50
1	2	1097	G	C4'-C3'-O3'	6.26	122.39	113.00
1	2	144	G	O5'-C5'-C4'	6.25	120.88	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	2	1152	U	O4'-C4'-C3'	6.25	110.25	104.00
1	2	1117	G	C2'-C3'-O3'	-6.17	104.44	113.70
14	G	329	MET	CB-CA-C	-6.10	108.53	115.79
1	2	1153	C	C4'-C3'-O3'	-6.09	103.87	113.00
1	2	1151	U	C5'-C4'-O4'	6.04	118.86	109.80
1	2	1151	U	N1-C1'-C2'	6.04	121.05	112.00
1	2	1093	C	O5'-C5'-C4'	-6.00	102.49	111.50
1	2	1090	A	C5'-C4'-O4'	6.00	118.81	109.80
1	2	1166	G	O3'-P-O5'	5.96	112.94	104.00
1	2	1167	U	C5'-C4'-C3'	5.96	124.94	116.00
1	2	1091	G	C1'-C2'-O2'	-5.92	99.52	108.40
1	2	1108	A	C4'-C3'-O3'	5.87	121.81	113.00
1	2	1118	U	O5'-C5'-C4'	5.85	120.27	111.50
1	2	1102	C	C3'-C2'-O2'	5.79	119.38	110.70
1	2	1151	U	O5'-C5'-C4'	-5.78	102.84	111.50
1	2	1165	C	C5'-C4'-O4'	5.76	118.44	109.80
1	2	1117	G	C4'-C3'-O3'	5.72	121.58	113.00
4	5	105	A	P-O3'-C3'	-5.70	111.64	120.20
1	2	1107	C	C4'-C3'-O3'	-5.69	104.47	113.00
1	2	1107	C	N1-C1'-C2'	-5.68	103.47	112.00
9	B	944	LEU	CD1-CG-CD2	-5.67	98.33	110.80
27	T	28	ASN	CA-C-N	5.57	125.94	119.47
27	T	28	ASN	C-N-CA	5.57	125.94	119.47
22	O	680	PRO	N-CA-C	5.57	117.49	110.70
5	6	24	A	O3'-P-O5'	5.53	112.30	104.00
1	2	1090	A	O3'-P-O5'	5.51	112.26	104.00
9	B	1213	ARG	NE-CZ-NH2	-5.50	114.25	119.20
8	A	2105	ARG	N-CA-C	-5.49	101.24	109.15
5	6	24	A	P-O3'-C3'	5.48	128.41	120.20
1	2	1148	U	P-O5'-C5'	5.46	129.10	120.90
1	2	1139	G	C4'-C3'-O3'	5.45	121.17	113.00
1	2	1162	U	C4'-C3'-C2'	5.43	108.03	102.60
1	2	1092	A	O3'-P-O5'	-5.42	95.88	104.00
1	2	1168	U	C4'-C3'-C2'	-5.41	97.19	102.60
23	P	961	CYS	CB-CA-C	-5.41	109.35	115.79
1	2	148	G	C2'-C3'-O3'	-5.40	105.60	113.70
20	M	15	LYS	N-CA-C	5.36	117.63	108.67
1	2	146	A	C5'-C4'-C3'	-5.36	107.96	116.00
1	2	1128	C	C5'-C4'-O4'	5.36	117.84	109.80
1	2	1126	G	C4'-C3'-O3'	5.36	121.03	113.00
1	2	149	A	O5'-C5'-C4'	5.35	119.53	111.50
1	2	1095	U	C3'-C2'-O2'	5.33	118.70	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	G	287	ILE	N-CA-C	-5.33	106.98	111.56
1	2	143	G	C3'-C2'-O2'	-5.33	102.71	110.70
8	A	1763	ASN	N-CA-C	5.32	115.88	108.00
20	M	45	SER	CB-CA-C	-5.31	108.91	116.34
28	U	229	ASN	N-CA-C	5.31	117.28	107.73
8	A	1763	ASN	CB-CA-C	-5.30	108.93	116.34
9	B	1774	THR	CA-C-N	-5.28	114.64	122.41
9	B	1774	THR	C-N-CA	-5.28	114.64	122.41
10	C	988	THR	CB-CA-C	-5.28	109.51	115.79
1	2	1089	G	C2'-C3'-O3'	-5.25	105.82	113.70
1	2	1129	U	O4'-C4'-C3'	5.23	109.23	104.00
1	2	1090	A	P-O5'-C5'	5.23	128.74	120.90
1	2	140	G	C3'-C2'-O2'	5.23	118.54	110.70
1	2	1142	G	C1'-C2'-O2'	-5.22	100.57	108.40
9	B	1935	SER	CA-C-N	-5.21	114.76	122.41
9	B	1935	SER	C-N-CA	-5.21	114.76	122.41
1	2	148	G	C4'-C3'-O3'	5.19	120.78	113.00
1	2	1167	U	C5'-C4'-O4'	-5.19	102.02	109.80
1	2	1167	U	P-O3'-C3'	-5.17	112.44	120.20
1	2	144	G	P-O3'-C3'	-5.10	112.55	120.20
1	2	144	G	N9-C1'-C2'	5.09	119.63	112.00
9	B	1202	MET	CB-CG-SD	-5.07	97.49	112.70
1	2	1163	C	C2'-C3'-O3'	-5.06	106.11	113.70
8	A	2159	ASN	N-CA-C	5.00	117.46	111.71

There are no chirality outliers.

All (17) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	2	1109	C	Sidechain
1	2	141	A	Sidechain
8	A	1190	ASN	Peptide
8	A	1481	GLU	Peptide
9	B	1369	GLY	Peptide
9	B	684	LEU	Peptide
9	B	685	ARG	Peptide
9	B	790	ASP	Peptide
17	J	271	CYS	Peptide
17	J	664	PHE	Peptide
20	M	15	LYS	Peptide
20	M	18	ASN	Peptide
23	P	1013	ASP	Peptide

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Mol	Chain	Res	Type	Group
23	P	1014	LYS	Peptide
27	T	458	SER	Peptide
30	W	16	VAL	Peptide
39	r	50	ASP	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	2	3275	0	1663	252	0
2	3	611	0	620	19	0
3	4	2423	0	1216	166	0
4	5	3615	0	1829	165	0
5	6	2019	0	1022	101	0
6	7	504	0	557	9	0
7	8	498	0	533	20	0
8	A	18122	0	18041	956	0
9	B	13607	0	13606	714	0
10	C	6784	0	6967	298	0
11	D	1164	0	1152	63	0
12	E	825	0	657	38	0
13	F	3238	0	3345	149	0
14	G	2835	0	2608	117	0
15	H	3396	0	3364	192	0
16	I	600	0	310	31	0
17	J	6485	0	6515	316	0
18	K	936	0	987	52	0
19	L	882	0	844	58	0
20	M	1407	0	1416	83	0
21	N	425	0	183	3	0
22	O	6612	0	6823	313	0
23	P	9437	0	9532	485	0
24	Q	1786	0	1778	70	0
25	R	1429	0	1458	43	0
26	S	814	0	809	39	0
27	T	3915	0	3853	146	0
28	U	1488	0	1410	69	0
29	V	1084	0	1081	52	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	W	1383	0	1407	242	0
31	X	150	0	151	7	0
32	Y	683	0	715	91	0
33	Z	685	0	693	30	0
34	a	735	0	744	31	0
35	b	563	0	600	25	0
35	k	563	0	600	40	0
35	s	563	0	598	58	0
36	d	641	0	666	33	0
36	n	632	0	653	29	0
36	v	632	0	653	44	0
37	e	602	0	631	30	0
37	p	602	0	631	41	0
37	w	602	0	631	48	0
38	f	578	0	579	18	0
38	q	585	0	587	45	0
38	x	585	0	587	41	0
39	g	549	0	566	25	0
39	r	577	0	595	40	0
39	y	577	0	595	31	0
40	h	630	0	677	29	0
40	l	751	0	776	66	0
40	t	569	0	616	52	0
41	i	752	0	786	43	0
41	m	752	0	786	53	0
41	u	752	0	786	61	0
42	j	588	0	602	16	0
43	o	588	0	594	10	0
44	z	577	0	572	19	0
45	C	32	0	12	4	0
46	L	1	0	0	0	0
46	S	3	0	0	0	0
46	T	2	0	0	0	0
46	U	1	0	0	0	0
All	All	118701	0	113268	5353	0

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

All (5353) 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)
3:4:67:A:C2	9:B:716:LEU:HD21	1.32	1.63
8:A:2398:LEU:HD13	9:B:1060:LYS:CD	1.37	1.53
9:B:1070:ASP:CG	12:E:208:LYS:CD	1.86	1.47
1:2:143:G:C3'	1:2:143:G:O3'	1.63	1.44
9:B:1070:ASP:OD2	12:E:208:LYS:CD	1.64	1.44
8:A:144:ASN:HB3	20:M:19:ASN:ND2	1.32	1.42
8:A:2398:LEU:HD13	9:B:1060:LYS:CE	1.48	1.42
8:A:2398:LEU:CD1	9:B:1060:LYS:HD2	1.53	1.38
8:A:158:LYS:NZ	20:M:6:PHE:O	1.57	1.34
8:A:1693:LYS:NZ	8:A:2128:ALA:O	1.56	1.33
8:A:2121:MET:HB3	9:B:1056:GLN:NE2	1.45	1.32
9:B:1070:ASP:CG	12:E:208:LYS:HD2	1.42	1.32
8:A:2152:TRP:CH2	9:B:1061:ALA:O	1.83	1.32
9:B:1057:LEU:HD12	19:L:61:LYS:NZ	1.40	1.30
8:A:1683:LYS:NZ	8:A:2144:GLN:HG3	1.44	1.30
1:2:1148:U:H4'	35:s:78:GLU:OE2	1.22	1.28
8:A:1667:GLN:HA	8:A:2146:PHE:CE1	1.72	1.25
8:A:1666:CYS:O	8:A:2146:PHE:CE1	1.88	1.25
8:A:2395:PHE:CD1	9:B:1062:PRO:HD3	1.72	1.24
1:2:1098:C:O3'	30:W:158:ASN:ND2	1.69	1.23
1:2:1109:C:H3'	1:2:1115:G:O2'	1.34	1.22
1:2:1109:C:C3'	1:2:1115:G:O2'	1.85	1.22
1:2:1109:C:O3'	1:2:1115:G:O2'	1.57	1.21
8:A:147:SER:OG	20:M:20:GLN:HG2	1.39	1.21
1:2:1099:G:O2'	1:2:1100:A:H5'	1.42	1.20
8:A:2121:MET:CB	9:B:1056:GLN:NE2	2.04	1.19
8:A:2398:LEU:CG	9:B:1060:LYS:HD2	1.72	1.19
8:A:1663:PHE:CE1	8:A:2144:GLN:NE2	2.12	1.18
9:B:1070:ASP:CG	12:E:208:LYS:HD3	1.59	1.18
9:B:539:LEU:O	9:B:543:TYR:HB3	1.44	1.17
3:4:67:A:C2	9:B:716:LEU:CD2	2.28	1.17
8:A:1666:CYS:O	8:A:2146:PHE:CZ	1.99	1.16
8:A:144:ASN:O	20:M:19:ASN:OD1	1.64	1.15
3:4:67:A:H2	9:B:716:LEU:CD2	1.59	1.15
8:A:992:ASP:OD2	8:A:1085:LYS:NZ	1.80	1.15
9:B:1057:LEU:CD1	19:L:61:LYS:HZ2	1.58	1.15
1:2:1099:G:OP1	30:W:158:ASN:CG	1.91	1.14
1:2:118:U:C5	41:u:99:ASP:HB3	1.83	1.13
8:A:1670:ASP:OD2	8:A:2148:SER:OG	1.65	1.12
8:A:144:ASN:CB	20:M:19:ASN:HD21	1.60	1.12
9:B:1057:LEU:CD1	19:L:61:LYS:NZ	2.12	1.12
8:A:1667:GLN:CA	8:A:2146:PHE:HE1	1.62	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:99:G:H4'	9:B:1186:GLU:HB3	1.31	1.12
9:B:1056:GLN:OE1	19:L:61:LYS:HB3	1.52	1.09
8:A:1843:LEU:O	8:A:1849:LYS:NZ	1.85	1.09
30:W:22:LYS:HZ2	30:W:34:LEU:HD13	1.15	1.08
8:A:1666:CYS:C	8:A:2146:PHE:CE1	2.30	1.08
19:L:131:PHE:O	19:L:135:TYR:HB3	1.49	1.08
8:A:610:ARG:NE	8:A:1623:PHE:CE1	2.21	1.07
8:A:610:ARG:NE	8:A:1623:PHE:CD1	2.22	1.07
8:A:2398:LEU:CD1	9:B:1060:LYS:CE	2.33	1.07
8:A:158:LYS:HZ2	20:M:6:PHE:C	1.64	1.06
1:2:1098:C:OP1	32:Y:43:ARG:NE	1.88	1.06
13:F:55:ARG:NH1	13:F:100:GLU:OE2	1.88	1.06
1:2:1109:C:OP2	1:2:1117:G:OP1	1.74	1.05
9:B:1070:ASP:OD2	12:E:208:LYS:HD2	0.89	1.05
9:B:804:HIS:CE1	9:B:813:ARG:HG3	1.89	1.05
13:F:373:ARG:O	13:F:377:GLU:HB2	1.53	1.05
3:4:75:U:C5	9:B:1100:PHE:HE1	1.73	1.05
8:A:1683:LYS:HD2	8:A:2144:GLN:O	1.56	1.04
3:4:66:A:H61	9:B:716:LEU:HD11	1.21	1.04
8:A:1490:ARG:HH12	8:A:1536:LEU:HD23	1.16	1.04
5:6:83:A:OP1	14:G:351:LYS:NZ	1.91	1.04
8:A:1670:ASP:CG	8:A:2148:SER:HB2	1.83	1.04
37:p:59:GLU:HG3	37:p:77:LEU:HD11	1.40	1.03
8:A:2183:TYR:HE2	8:A:2289:ILE:HG12	1.20	1.02
8:A:1673:LEU:HD11	8:A:2149:LYS:HG3	1.40	1.01
8:A:2395:PHE:CD1	9:B:1061:ALA:HA	1.95	1.01
8:A:2398:LEU:HD13	9:B:1060:LYS:HD2	1.03	1.01
8:A:2398:LEU:HD22	9:B:1060:LYS:HB2	1.41	1.01
17:J:657:ASN:O	17:J:661:LEU:HB3	1.60	1.01
37:p:83:LYS:NZ	38:q:75:CYS:O	1.93	1.01
8:A:144:ASN:CB	20:M:19:ASN:ND2	2.22	1.00
37:w:59:GLU:HG3	37:w:77:LEU:HD11	1.43	1.00
37:w:83:LYS:NZ	38:x:75:CYS:O	1.95	1.00
9:B:1056:GLN:OE1	19:L:61:LYS:CB	2.08	1.00
30:W:17:ASP:HB3	32:Y:61:VAL:HA	1.42	1.00
3:4:67:A:N3	9:B:716:LEU:HD21	1.75	1.00
8:A:2395:PHE:CE1	9:B:1061:ALA:HA	1.96	1.00
18:K:7:LYS:NZ	18:K:62:GLU:OE2	1.95	0.99
3:4:91:U:O2	3:4:142:G:N2	1.95	0.99
8:A:2395:PHE:CG	9:B:1062:PRO:HD3	1.97	0.99
9:B:1056:GLN:CB	19:L:61:LYS:HE2	1.91	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:44:PSU:HN3	16:I:59:C:H42	1.11	0.98
9:B:1056:GLN:HB3	19:L:61:LYS:HE2	1.46	0.98
1:2:1100:A:H2'	32:Y:38:LYS:HE2	1.46	0.98
30:W:13:GLN:HG2	35:s:100:LYS:HE3	1.43	0.98
8:A:147:SER:OG	20:M:20:GLN:CG	2.12	0.98
22:O:381:LEU:O	22:O:385:SER:HB2	1.64	0.98
30:W:15:TYR:OH	35:s:100:LYS:HG3	1.64	0.98
17:J:864:ASP:OD2	17:J:889:ARG:NH1	1.96	0.98
35:k:88:ARG:NH2	36:n:66:GLY:O	1.97	0.98
9:B:527:LYS:HE3	9:B:670:LEU:HB3	1.46	0.97
17:J:688:ARG:NH1	17:J:712:ASP:OD1	1.97	0.97
8:A:1663:PHE:CD1	8:A:2144:GLN:NE2	2.31	0.97
8:A:1666:CYS:HB3	8:A:2146:PHE:CG	2.00	0.97
8:A:2398:LEU:CD1	9:B:1060:LYS:NZ	2.28	0.97
9:B:757:LEU:O	9:B:761:PHE:HB3	1.62	0.97
30:W:23:TYR:CE2	35:s:100:LYS:NZ	2.32	0.97
8:A:1667:GLN:HA	8:A:2146:PHE:HE1	0.80	0.96
1:2:1109:C:O5'	1:2:1116:A:O3'	1.75	0.96
8:A:1683:LYS:NZ	8:A:2144:GLN:CG	2.28	0.96
8:A:158:LYS:HZ3	20:M:6:PHE:HB2	1.29	0.96
8:A:1893:ILE:O	8:A:1984:PRO:HA	1.63	0.96
9:B:912:PHE:HB3	9:B:944:LEU:HD23	1.47	0.96
8:A:232:THR:HG22	21:N:213:GLU:CB	1.95	0.96
15:H:288:THR:HA	15:H:303:GLN:O	1.66	0.96
8:A:1667:GLN:CA	8:A:2146:PHE:CE1	2.43	0.95
8:A:2121:MET:CB	9:B:1056:GLN:HE22	1.75	0.95
9:B:556:LYS:NZ	9:B:602:THR:O	1.98	0.95
1:2:118:U:H5	41:u:99:ASP:HB3	1.23	0.95
9:B:1070:ASP:OD1	12:E:208:LYS:CD	2.15	0.94
1:2:1167:U:OP1	30:W:92:ARG:NH2	1.99	0.94
8:A:610:ARG:CZ	8:A:1623:PHE:CD1	2.50	0.94
30:W:31:LEU:HB2	30:W:36:LEU:HA	1.45	0.94
1:2:1099:G:C2'	1:2:1100:A:H5'	1.97	0.94
17:J:377:ASN:OD1	17:J:411:ARG:NH1	1.99	0.94
22:O:244:LEU:O	22:O:248:ALA:HB2	1.67	0.94
8:A:1688:PRO:CA	8:A:2142:GLU:OE2	2.15	0.94
4:5:22:G:H1	4:5:149:U:H3	0.96	0.94
8:A:1688:PRO:HA	8:A:2142:GLU:OE2	1.68	0.94
11:D:30:ARG:O	11:D:62:CYS:HB2	1.67	0.94
11:D:31:PHE:HA	11:D:62:CYS:O	1.68	0.94
8:A:2152:TRP:CZ2	9:B:1061:ALA:O	2.21	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2152:TRP:HH2	9:B:1061:ALA:O	1.32	0.94
19:L:130:GLU:O	19:L:134:CYS:HB2	1.68	0.94
27:T:63:LYS:HB2	27:T:376:GLN:HG3	1.49	0.94
8:A:2398:LEU:CD1	9:B:1060:LYS:CD	2.22	0.93
1:2:1099:G:P	30:W:158:ASN:CG	2.51	0.93
8:A:1683:LYS:HZ2	8:A:2144:GLN:HG3	1.14	0.93
37:p:87:ILE:O	39:r:64:ARG:NE	2.02	0.93
1:2:1148:U:C4'	35:s:78:GLU:OE2	2.14	0.93
8:A:1666:CYS:C	8:A:2146:PHE:CD1	2.46	0.93
9:B:1056:GLN:CD	19:L:61:LYS:HB3	1.94	0.93
11:D:78:ASP:OD2	11:D:102:LYS:NZ	2.01	0.93
3:4:150:G:OP2	38:q:74:ARG:NH2	2.00	0.93
23:P:634:CYS:HG	23:P:645:SER:HG	1.11	0.93
28:U:235:GLU:O	28:U:239:LYS:HB2	1.69	0.93
8:A:1252:SER:O	8:A:1274:ARG:NH1	2.02	0.93
3:4:78:A:C2	9:B:1110:ARG:NE	2.38	0.92
9:B:869:LEU:HD13	9:B:904:GLN:HE21	1.33	0.92
30:W:17:ASP:HA	32:Y:61:VAL:HG12	1.50	0.92
9:B:479:GLU:OE2	24:Q:349:ILE:HG23	1.68	0.92
37:w:87:ILE:O	39:y:64:ARG:NE	2.00	0.92
1:2:116:U:C4	40:t:88:ARG:HD2	2.03	0.91
1:2:1150:U:O2'	36:v:53:GLN:HG2	1.69	0.91
9:B:1086:GLN:NE2	9:B:1138:LYS:O	2.03	0.91
40:l:144:ARG:NH1	40:l:145:GLY:O	2.03	0.91
8:A:2398:LEU:HD12	9:B:1060:LYS:NZ	1.84	0.91
3:4:91:U:H3	3:4:142:G:H1	0.94	0.91
8:A:1666:CYS:HB3	8:A:2146:PHE:CB	2.00	0.91
4:5:104:G:OP1	8:A:531:LEU:HD11	1.70	0.91
8:A:1659:GLU:OE1	8:A:2141:TYR:CD2	2.24	0.91
35:k:88:ARG:NH1	36:n:67:SER:O	2.02	0.91
8:A:147:SER:OG	20:M:20:GLN:HA	1.71	0.90
23:P:827:TRP:HA	23:P:839:ARG:O	1.70	0.90
1:2:1099:G:OP1	30:W:158:ASN:OD1	1.87	0.90
8:A:2024:MET:O	8:A:2028:SER:HB2	1.71	0.90
1:2:3:G:H1	5:6:102:U:H3	1.17	0.90
8:A:1666:CYS:HB3	8:A:2146:PHE:HB2	1.50	0.90
8:A:2121:MET:HB3	9:B:1056:GLN:HE22	1.29	0.90
3:4:72:A:OP2	9:B:1047:ARG:NH1	2.05	0.90
10:C:195:GLY:HA3	10:C:212:PHE:O	1.70	0.90
17:J:244:TRP:O	17:J:248:ALA:HB2	1.71	0.89
14:G:341:VAL:HG22	14:G:428:TRP:HB3	1.52	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2398:LEU:HB2	9:B:1060:LYS:CD	2.02	0.89
9:B:1687:LEU:HB2	9:B:1698:TYR:HE1	1.36	0.89
17:J:710:LYS:HG2	17:J:749:ARG:HH12	1.37	0.89
9:B:1057:LEU:HD12	19:L:61:LYS:HZ1	1.06	0.89
30:W:19:PHE:CE1	35:s:47:GLU:OE2	2.25	0.89
1:2:1138:G:OP2	32:Y:41:MET:HE2	1.72	0.88
13:F:224:ILE:O	13:F:325:ARG:NH1	2.06	0.88
40:l:35:GLN:OE1	40:l:37:ASN:ND2	2.06	0.88
5:6:45:A:OP1	8:A:1689:ARG:NH2	2.06	0.88
8:A:1673:LEU:HD21	8:A:2149:LYS:HB2	1.52	0.88
15:H:180:ALA:O	15:H:192:THR:HA	1.71	0.88
9:B:1387:HIS:HB2	9:B:1470:LEU:HD13	1.52	0.88
8:A:237:MET:CE	8:A:644:VAL:HG21	2.03	0.88
9:B:781:LEU:HD21	9:B:798:GLU:HA	1.52	0.88
10:C:478:TYR:OH	10:C:547:GLY:O	1.89	0.88
9:B:2049:PRO:HB2	9:B:2051:VAL:HG13	1.55	0.88
13:F:155:ASP:O	13:F:159:PHE:HB2	1.73	0.88
3:4:75:U:C5	9:B:1100:PHE:CE1	2.62	0.88
3:4:18:A:N1	5:6:63:G:O6	2.05	0.87
37:w:37:ILE:HD11	37:w:59:GLU:HB3	1.55	0.87
22:O:317:ILE:O	22:O:321:CYS:HB3	1.73	0.87
8:A:2398:LEU:CB	9:B:1060:LYS:HD2	2.04	0.87
30:W:8:VAL:HA	30:W:25:VAL:HG13	1.57	0.87
38:f:28:GLY:HA2	38:f:38:TYR:O	1.75	0.87
20:M:191:LEU:O	20:M:195:LEU:HB2	1.73	0.87
30:W:30:ILE:HD12	30:W:41:GLU:HG2	1.56	0.87
3:4:97:U:H3	3:4:135:A:H61	1.22	0.87
39:y:64:ARG:HH11	39:y:66:ASN:HB3	1.38	0.87
27:T:506:LEU:HD23	27:T:521:TYR:HB3	1.57	0.86
8:A:1582:GLU:O	8:A:1586:GLN:HB2	1.75	0.86
14:G:367:GLY:O	14:G:440:TRP:HA	1.75	0.86
40:l:36:MET:SD	41:m:97:ARG:NH1	2.48	0.86
8:A:1922:ARG:NH2	8:A:1950:ASP:OD2	2.09	0.86
30:W:23:TYR:CD2	35:s:100:LYS:NZ	2.44	0.86
1:2:1098:C:H5'	30:W:152:GLU:CD	2.01	0.86
30:W:15:TYR:OH	35:s:100:LYS:O	1.93	0.86
40:t:35:GLN:OE1	40:t:37:ASN:ND2	2.07	0.86
9:B:1524:TRP:HB2	9:B:1780:ARG:HG3	1.58	0.86
23:P:416:SER:HA	23:P:431:SER:HA	1.56	0.86
14:G:221:LEU:HD12	15:H:341:LYS:HZ3	1.40	0.85
9:B:636:ILE:HG22	9:B:671:SER:HB2	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2183:TYR:CE2	8:A:2289:ILE:HG12	2.10	0.85
1:2:1149:G:N2	36:v:53:GLN:O	2.09	0.85
3:4:145:U:H3	39:r:35:PHE:HB3	1.39	0.85
8:A:681:LYS:O	8:A:684:LYS:HB3	1.76	0.85
27:T:11:LEU:HA	27:T:14:MET:HE3	1.57	0.85
1:2:1098:C:O3'	30:W:158:ASN:CG	2.19	0.85
3:4:146:U:H5''	3:4:147:U:H5'	1.56	0.85
8:A:1994:ASP:OD1	8:A:1998:ARG:NH1	2.10	0.85
9:B:1056:GLN:HB3	19:L:61:LYS:CE	2.05	0.85
9:B:1524:TRP:HD1	9:B:1780:ARG:CZ	1.90	0.85
8:A:158:LYS:CE	20:M:6:PHE:O	2.25	0.85
30:W:15:TYR:CE1	35:s:102:LEU:HA	2.11	0.85
4:5:32:G:H1	4:5:121:U:H3	1.23	0.84
13:F:225:ILE:O	13:F:325:ARG:NH1	2.10	0.84
23:P:71:PHE:HA	23:P:97:THR:HG22	1.57	0.84
9:B:1213:ARG:HH22	9:B:1316:LYS:CG	1.90	0.84
9:B:1216:MET:HG3	9:B:1218:PHE:HE1	1.41	0.84
17:J:161:LYS:O	17:J:165:GLU:HB2	1.76	0.84
18:K:95:ARG:HD2	18:K:96:PRO:HD2	1.59	0.84
23:P:379:VAL:O	23:P:390:LYS:HA	1.76	0.84
1:2:114:U:O4'	36:v:67:SER:HB2	1.78	0.84
8:A:982:TYR:HD2	8:A:1106:GLY:H	1.26	0.84
9:B:784:GLU:HG3	9:B:819:LEU:HD21	1.58	0.84
14:G:347:LEU:HD21	14:G:371:ARG:HD3	1.60	0.83
35:b:88:ARG:HG2	35:b:90:GLU:H	1.43	0.83
41:u:72:VAL:HB	41:u:91:ILE:O	1.77	0.83
15:H:190:VAL:O	15:H:201:VAL:HA	1.78	0.83
15:H:283:ALA:HB2	15:H:313:LEU:HG	1.61	0.83
30:W:32:ARG:HA	30:W:36:LEU:HD22	1.60	0.83
1:2:1099:G:O2'	1:2:1100:A:C5'	2.24	0.83
3:4:21:C:OP1	13:F:439:LYS:NZ	2.11	0.83
27:T:11:LEU:HD23	27:T:14:MET:CE	2.08	0.83
8:A:237:MET:HE2	8:A:644:VAL:HG21	1.59	0.83
8:A:1683:LYS:HZ3	8:A:2144:GLN:HG3	1.44	0.83
9:B:804:HIS:HE1	9:B:813:ARG:HG3	1.38	0.83
9:B:1609:MET:HG2	9:B:1611:ASN:H	1.42	0.83
17:J:325:ARG:HG2	17:J:328:ARG:HH12	1.43	0.83
8:A:1670:ASP:CB	8:A:2148:SER:HB2	2.09	0.82
30:W:25:VAL:HB	30:W:31:LEU:HA	1.61	0.82
1:2:119:G:OP2	38:x:76:ASN:ND2	2.12	0.82
22:O:198:GLU:O	22:O:202:ASN:HB2	1.76	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:417:HIS:HB2	23:P:432:GLU:HB3	1.58	0.82
4:5:48:G:H1	4:5:67:U:H3	0.84	0.82
8:A:1453:ASP:OD1	8:A:1486:ARG:NH2	2.12	0.82
8:A:2398:LEU:HD13	9:B:1060:LYS:HE3	1.61	0.82
14:G:340:LYS:HZ1	14:G:389:CYS:HB3	1.43	0.82
8:A:928:ARG:HH11	8:A:1586:GLN:HG2	1.41	0.82
8:A:1490:ARG:NH1	8:A:1536:LEU:HD23	1.92	0.82
8:A:1670:ASP:OD2	8:A:2148:SER:CB	2.26	0.82
8:A:1670:ASP:CG	8:A:2148:SER:CB	2.52	0.82
17:J:658:GLU:O	17:J:662:LYS:HB2	1.79	0.82
7:8:14:VAL:HG22	7:8:24:ILE:HG12	1.61	0.82
8:A:2152:TRP:CZ3	9:B:1064:PRO:HG3	2.14	0.82
8:A:1347:ARG:NH1	8:A:1444:ILE:HG23	1.95	0.82
9:B:1057:LEU:HD13	19:L:61:LYS:HZ2	1.43	0.82
9:B:2134:THR:O	9:B:2138:HIS:NE2	2.13	0.82
17:J:465:VAL:HG11	17:J:501:VAL:HG22	1.60	0.82
17:J:575:ASP:OD1	17:J:577:ARG:NH1	2.12	0.82
37:w:24:GLN:HB3	37:w:42:LYS:HD2	1.62	0.82
1:2:114:U:O2	36:v:39:SER:OG	1.97	0.82
3:4:55:U:O2'	13:F:376:LYS:NZ	2.13	0.82
3:4:66:A:N1	9:B:716:LEU:HD13	1.93	0.82
35:s:88:ARG:NH2	36:v:66:GLY:O	2.11	0.82
38:x:32:LYS:HA	38:x:79:LEU:HD12	1.62	0.82
1:2:141:A:H2'	1:2:142:C:C6	2.15	0.81
8:A:460:PRO:HG2	10:C:375:GLU:HG2	1.61	0.81
9:B:462:GLU:OE1	9:B:729:LYS:NZ	2.13	0.81
27:T:331:GLU:O	27:T:335:THR:HG23	1.79	0.81
8:A:1347:ARG:HH11	8:A:1444:ILE:HG23	1.45	0.81
30:W:22:LYS:NZ	30:W:34:LEU:HD13	1.95	0.81
3:4:37:U:H5	13:F:280:ARG:HH12	1.24	0.81
5:6:31:G:H1'	8:A:1637:LYS:HB2	1.63	0.81
8:A:588:LEU:HD12	8:A:588:LEU:O	1.81	0.81
8:A:1659:GLU:OE2	8:A:2144:GLN:HB2	1.81	0.81
23:P:609:HIS:O	23:P:620:ASN:HA	1.80	0.81
4:5:50:G:H1	4:5:65:U:H3	0.81	0.81
9:B:1070:ASP:OD2	12:E:208:LYS:CE	2.27	0.81
1:2:1099:G:P	30:W:158:ASN:ND2	2.53	0.81
3:4:142:G:N2	35:k:39:LYS:NZ	2.29	0.81
3:4:66:A:N6	9:B:716:LEU:HD11	1.95	0.81
3:4:145:U:H1'	39:r:66:ASN:HB2	1.62	0.81
8:A:1659:GLU:OE1	8:A:2141:TYR:CE2	2.34	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:222:ILE:HG23	22:O:265:ILE:HD11	1.62	0.81
1:2:111:C:H5	41:u:63:ARG:HD3	1.45	0.80
8:A:1156:HIS:O	8:A:1159:ARG:NH1	2.15	0.80
17:J:538:GLU:O	17:J:542:GLN:HB2	1.80	0.80
9:B:589:THR:HA	9:B:611:LYS:HG2	1.62	0.80
4:5:8:U:H3	4:5:157:G:H1	1.27	0.80
9:B:1213:ARG:HH22	9:B:1316:LYS:HG2	1.44	0.80
10:C:274:ILE:HG12	10:C:382:TYR:HE1	1.47	0.80
11:D:74:TYR:OH	17:J:21:ARG:NH2	2.15	0.80
15:H:239:GLU:HA	15:H:267:ARG:HG3	1.62	0.80
9:B:1277:LYS:O	9:B:1281:GLN:HB2	1.81	0.80
13:F:106:LYS:NZ	13:F:244:HIS:O	2.14	0.80
9:B:2103:LEU:HD11	9:B:2140:LEU:HB3	1.64	0.80
9:B:766:ILE:O	9:B:769:LYS:NZ	2.14	0.80
35:k:88:ARG:HG2	35:k:90:GLU:H	1.47	0.80
1:2:144:G:H3'	1:2:145:G:H8	1.46	0.80
8:A:2121:MET:CB	9:B:1056:GLN:HE21	1.90	0.80
5:6:31:G:H4'	8:A:1637:LYS:HD3	1.62	0.80
9:B:563:LEU:HD21	9:B:836:TRP:CD1	2.16	0.80
30:W:22:LYS:HE3	30:W:34:LEU:HD22	1.62	0.80
30:W:157:GLN:HE22	32:Y:96:GLY:H	1.26	0.80
41:m:74:GLU:OE2	41:m:89:ARG:NE	2.15	0.80
1:2:1109:C:P	1:2:1116:A:O3'	2.39	0.79
14:G:285:GLN:HB2	14:G:289:ASP:HB2	1.63	0.79
10:C:684:GLU:HG2	10:C:713:GLU:HG2	1.62	0.79
8:A:1624:LEU:HD11	8:A:1633:PHE:HB3	1.62	0.79
8:A:1943:PRO:HG3	12:E:169:ILE:HD11	1.64	0.79
27:T:150:PRO:HB3	27:T:154:THR:HB	1.64	0.79
30:W:44:PRO:HG3	30:W:64:LEU:HD11	1.64	0.79
9:B:1887:VAL:HG21	40:l:140:LYS:HD2	1.65	0.79
22:O:651:LEU:HD21	22:O:692:ILE:HD11	1.65	0.79
38:q:19:LEU:HD21	38:q:45:THR:HG21	1.63	0.79
42:j:20:LYS:HA	42:j:77:LYS:HE3	1.65	0.79
40:l:3:LEU:HD23	41:m:95:PHE:HE1	1.48	0.79
9:B:1557:ILE:HA	9:B:1695:TYR:HE2	1.46	0.79
3:4:134:U:H2'	3:4:135:A:H8	1.46	0.79
5:6:84:C:H3'	14:G:350:PRO:HB3	1.64	0.78
8:A:322:VAL:HB	8:A:508:GLN:HE21	1.48	0.78
9:B:1688:TYR:HD1	9:B:1695:TYR:CD1	2.00	0.78
30:W:156:PHE:HZ	32:Y:50:LEU:HD22	1.47	0.78
1:2:1109:C:H3'	1:2:1115:G:C2'	2.13	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:J:131:ARG:O	17:J:135:ASN:HB2	1.83	0.78
23:P:363:VAL:HG12	23:P:364:THR:H	1.48	0.78
8:A:2398:LEU:HB2	9:B:1060:LYS:HD3	1.63	0.78
27:T:459:SER:O	27:T:462:LYS:NZ	2.15	0.78
20:M:28:ARG:HH11	20:M:31:ARG:HH22	1.31	0.78
30:W:36:LEU:HD11	30:W:57:LEU:HG	1.65	0.78
5:6:31:G:C4'	8:A:1637:LYS:HD3	2.13	0.78
17:J:506:ILE:HD11	17:J:519:LEU:HD11	1.64	0.78
37:p:30:TRP:HB3	39:r:23:ARG:HH12	1.47	0.78
1:2:142:C:H2'	1:2:143:G:H8	1.49	0.78
8:A:147:SER:HB3	20:M:19:ASN:O	1.83	0.78
27:T:11:LEU:HD23	27:T:14:MET:HE1	1.65	0.78
27:T:150:PRO:HG3	27:T:154:THR:H	1.46	0.78
1:2:116:U:C5	40:t:88:ARG:HD2	2.19	0.78
4:5:158:G:N2	4:5:160:U:O4	2.17	0.78
5:6:32:U:C5'	8:A:607:THR:HG22	2.14	0.78
9:B:677:TYR:HD2	9:B:691:LEU:HD21	1.47	0.78
9:B:1772:TRP:HZ3	9:B:1773:PHE:CE1	2.02	0.78
8:A:2121:MET:HB2	9:B:1056:GLN:NE2	1.99	0.78
37:e:83:LYS:NZ	38:f:75:CYS:O	2.17	0.78
1:2:111:C:N4	41:u:63:ARG:CG	2.47	0.77
8:A:2398:LEU:CD2	9:B:1060:LYS:HD2	2.13	0.77
10:C:605:ILE:HD12	10:C:652:MET:HG2	1.64	0.77
10:C:867:THR:HG22	10:C:901:GLU:HG2	1.64	0.77
37:w:30:TRP:HB3	39:y:23:ARG:HH12	1.48	0.77
8:A:756:LEU:HD11	11:D:44:GLU:HG3	1.66	0.77
8:A:2157:ILE:HG23	9:B:1066:ARG:HG2	1.67	0.77
9:B:1515:LEU:HB2	9:B:1518:ALA:HB2	1.65	0.77
28:U:40:VAL:HG23	28:U:53:ARG:HH12	1.49	0.77
34:a:63:ARG:NH2	34:a:65:SER:OG	2.18	0.77
39:r:64:ARG:HH11	39:r:66:ASN:HB3	1.49	0.77
8:A:769:MET:HG2	17:J:108:LYS:HG3	1.66	0.77
8:A:1364:GLU:OE2	8:A:1389:TYR:OH	2.03	0.77
19:L:82:CYS:SG	19:L:104:HIS:HE1	2.04	0.77
23:P:104:TYR:HE1	23:P:113:LEU:HD23	1.49	0.77
1:2:111:C:H41	41:u:63:ARG:HG3	1.50	0.77
9:B:708:CYS:SG	9:B:889:ILE:HA	2.25	0.77
1:2:1138:G:OP2	32:Y:41:MET:HB2	1.85	0.77
17:J:161:LYS:O	17:J:165:GLU:CB	2.33	0.77
17:J:504:LYS:HZ2	17:J:508:TRP:HE1	1.31	0.77
35:s:88:ARG:HH12	36:v:67:SER:C	1.93	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:z:74:ARG:NH1	44:z:76:THR:OG1	2.17	0.77
1:2:111:C:N4	41:u:63:ARG:HG3	1.99	0.77
4:5:170:U:H5''	4:5:171:U:H5'	1.67	0.77
8:A:683:LEU:HD13	8:A:706:PRO:HB2	1.67	0.77
8:A:2398:LEU:HD22	9:B:1060:LYS:CB	2.15	0.77
38:q:32:LYS:HA	38:q:79:LEU:HD12	1.66	0.77
3:4:79:A:H61	9:B:593:ARG:HG3	1.50	0.76
9:B:1777:TYR:OH	9:B:1781:ARG:NH1	2.17	0.76
17:J:643:LEU:HB3	17:J:653:ILE:HD11	1.68	0.76
22:O:566:LEU:HD21	22:O:601:ILE:HG12	1.68	0.76
4:5:96:U:OP2	8:A:1366:ARG:CZ	2.33	0.76
8:A:1666:CYS:HB3	8:A:2146:PHE:CD1	2.20	0.76
22:O:790:LYS:HD2	22:O:826:TYR:HB3	1.67	0.76
23:P:526:SER:HA	23:P:870:ARG:HG3	1.67	0.76
23:P:699:MET:HA	23:P:719:GLN:O	1.85	0.76
3:4:76:A:N7	9:B:1107:ARG:NH2	2.33	0.76
8:A:2249:ASP:OD1	9:B:1309:ASN:ND2	2.18	0.76
35:s:86:ILE:HG22	36:v:72:ILE:HG22	1.67	0.76
8:A:1473:ARG:NH1	17:J:286:GLU:OE1	2.18	0.76
10:C:774:LEU:N	10:C:816:VAL:O	2.18	0.76
13:F:143:ILE:HD13	13:F:160:HIS:HA	1.66	0.76
8:A:161:PHE:HB3	8:A:165:LEU:HD13	1.67	0.76
8:A:1670:ASP:HB3	8:A:2148:SER:HB2	1.66	0.76
20:M:57:LEU:HD22	20:M:95:ILE:HD12	1.68	0.76
35:k:88:ARG:HH12	36:n:67:SER:C	1.93	0.76
37:p:37:ILE:HD11	37:p:59:GLU:HB3	1.66	0.76
27:T:516:MET:HE1	27:T:524:LEU:HD22	1.68	0.76
8:A:1094:ASP:HB3	17:J:134:ARG:NH1	2.01	0.76
22:O:835:ILE:HA	22:O:838:ILE:HD12	1.67	0.76
1:2:116:U:C4	40:t:88:ARG:HG3	2.20	0.76
8:A:1683:LYS:HZ3	8:A:2144:GLN:CG	1.96	0.76
22:O:686:LEU:HD21	22:O:727:ILE:HD11	1.66	0.76
3:4:58:G:O2'	14:G:257:GLU:OE2	2.04	0.75
23:P:434:ASN:ND2	23:P:506:THR:OG1	2.19	0.75
22:O:317:ILE:O	22:O:321:CYS:CB	2.34	0.75
22:O:805:TYR:HB2	22:O:816:VAL:HG11	1.69	0.75
28:U:180:ILE:HG22	28:U:201:ILE:HG12	1.67	0.75
3:4:78:A:C2	9:B:1110:ARG:NH2	2.54	0.75
3:4:98:G:H1	3:4:134:U:H3	1.30	0.75
8:A:1656:LYS:HG2	8:A:2141:TYR:OH	1.86	0.75
9:B:1620:TYR:HD2	9:B:1655:LEU:HD21	1.50	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:w:20:PHE:HE1	37:w:92:SER:HB2	1.51	0.75
22:O:386:TYR:CG	22:O:387:PRO:HD2	2.22	0.75
1:2:116:U:C4	40:t:88:ARG:CD	2.70	0.75
8:A:158:LYS:HZ3	20:M:6:PHE:CB	1.99	0.75
8:A:1647:GLN:HE21	8:A:1650:ARG:HH11	1.34	0.75
1:2:1138:G:P	1:2:1138:G:O4'	2.45	0.75
8:A:1856:ASN:HB3	8:A:1859:ARG:HH11	1.51	0.75
9:B:1070:ASP:OD1	12:E:208:LYS:HD3	1.84	0.75
22:O:675:LEU:HD11	22:O:714:LEU:HB3	1.69	0.75
30:W:111:PHE:CE2	30:W:140:TYR:HA	2.22	0.75
41:u:74:GLU:OE2	41:u:89:ARG:NE	2.20	0.75
9:B:841:PRO:HG2	9:B:877:ARG:HG2	1.68	0.74
1:2:43:G:N2	16:I:61:U:O2	2.20	0.74
8:A:965:LYS:HE3	13:F:444:ARG:NH1	2.02	0.74
9:B:515:SER:HB2	9:B:687:PRO:HG3	1.68	0.74
9:B:1688:TYR:HD1	9:B:1695:TYR:HD1	1.34	0.74
26:S:62:ASN:HD21	26:S:92:LEU:HA	1.53	0.74
37:p:20:PHE:HE1	37:p:92:SER:HB2	1.52	0.74
8:A:1590:LEU:HB2	8:A:1595:ARG:HE	1.50	0.74
8:A:1683:LYS:CD	8:A:2144:GLN:O	2.34	0.74
30:W:7:ILE:HG22	30:W:25:VAL:HG12	1.69	0.74
3:4:78:A:C2	9:B:1110:ARG:CZ	2.69	0.74
8:A:2398:LEU:HB2	9:B:1060:LYS:HD2	1.67	0.74
9:B:516:ASN:HD22	9:B:685:ARG:HB3	1.53	0.74
14:G:368:LEU:HD13	14:G:370:LEU:HD13	1.70	0.74
33:Z:54:SER:HA	33:Z:65:THR:HG21	1.70	0.74
3:4:134:U:H2'	3:4:135:A:C8	2.23	0.74
8:A:284:ARG:NH2	8:A:296:THR:O	2.21	0.74
8:A:816:ILE:O	8:A:820:ALA:HB2	1.88	0.74
8:A:1667:GLN:N	8:A:2146:PHE:CE1	2.55	0.74
9:B:539:LEU:O	9:B:543:TYR:CB	2.31	0.74
9:B:1524:TRP:HD1	9:B:1780:ARG:NE	1.85	0.74
10:C:309:ASN:HD21	10:C:325:LYS:HD3	1.51	0.74
15:H:300:LEU:HD12	15:H:301:LEU:H	1.52	0.74
30:W:50:LEU:HD23	30:W:52:LYS:H	1.51	0.74
9:B:1895:ARG:O	9:B:1897:GLY:N	2.16	0.74
25:R:66:ALA:O	25:R:70:MET:HB3	1.87	0.74
8:A:213:TYR:OH	8:A:705:GLN:OE1	2.04	0.74
9:B:761:PHE:HE2	9:B:769:LYS:HD3	1.53	0.74
9:B:1090:GLU:OE1	19:L:62:LEU:C	2.31	0.74
9:B:1822:ILE:HG12	9:B:1844:ILE:HG12	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:142:C:H2'	1:2:143:G:C8	2.23	0.74
8:A:982:TYR:HB2	8:A:1106:GLY:HA3	1.68	0.74
8:A:1332:ALA:O	8:A:1336:ASN:HB2	1.88	0.74
14:G:214:ILE:HG23	15:H:121:ARG:HD2	1.70	0.74
22:O:310:VAL:O	22:O:314:LEU:HB2	1.88	0.74
35:b:19:LYS:HD3	35:b:99:ASP:HB2	1.70	0.74
8:A:796:ASN:HD22	8:A:861:GLN:HE21	1.31	0.73
8:A:2121:MET:HB2	9:B:1056:GLN:HE22	1.53	0.73
10:C:868:VAL:O	10:C:899:LEU:HA	1.88	0.73
18:K:79:VAL:HG13	18:K:121:ILE:HG23	1.70	0.73
8:A:597:PHE:O	8:A:623:ARG:HD2	1.88	0.73
8:A:2121:MET:CE	9:B:1056:GLN:CG	2.66	0.73
9:B:1057:LEU:N	19:L:61:LYS:HZ3	1.86	0.73
10:C:386:SER:O	10:C:390:SER:HB3	1.87	0.73
17:J:325:ARG:HG2	17:J:328:ARG:NH1	2.03	0.73
23:P:1178:PRO:HG3	24:Q:145:GLN:HE21	1.53	0.73
8:A:2398:LEU:HD21	9:B:1056:GLN:O	1.88	0.73
9:B:511:PHE:CE1	9:B:537:LYS:HB2	2.23	0.73
17:J:692:LEU:HB3	17:J:696:ARG:HH12	1.51	0.73
8:A:1670:ASP:N	8:A:2146:PHE:CZ	2.55	0.73
9:B:479:GLU:OE2	24:Q:349:ILE:CG2	2.36	0.73
23:P:1111:ASP:HB2	23:P:1183:CYS:HB2	1.71	0.73
29:V:158:ARG:HH11	29:V:158:ARG:HB2	1.53	0.73
8:A:1165:LEU:HD11	8:A:1513:GLU:OE2	1.88	0.73
8:A:1659:GLU:OE1	8:A:2141:TYR:HD2	1.72	0.73
9:B:1367:PHE:HD2	9:B:1532:ILE:HG23	1.53	0.73
23:P:105:ASP:HB2	23:P:114:ILE:HD11	1.69	0.73
20:M:194:TRP:O	20:M:198:GLN:HB2	1.88	0.73
1:2:111:C:H41	41:u:63:ARG:CG	2.02	0.73
14:G:372:ILE:HG22	14:G:373:ARG:HG2	1.69	0.73
23:P:1294:GLU:HG3	26:S:41:ARG:HG2	1.70	0.73
28:U:246:ILE:H	28:U:246:ILE:HD13	1.54	0.73
40:h:24:THR:HB	40:h:46:THR:HB	1.70	0.73
39:r:56:GLN:NE2	39:r:60:GLN:O	2.20	0.73
36:v:65:ARG:HE	36:v:67:SER:HB3	1.52	0.73
1:2:45:U:O4	16:I:58:U:O4	2.07	0.73
1:2:114:U:H5''	1:2:115:U:H5'	1.70	0.73
30:W:5:PRO:O	30:W:8:VAL:HG12	1.88	0.73
23:P:250:PRO:HG2	23:P:273:LEU:HB3	1.70	0.73
9:B:1056:GLN:OE1	19:L:61:LYS:HB2	1.87	0.72
18:K:37:ALA:HB2	18:K:98:ILE:HD11	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:L:131:PHE:O	19:L:135:TYR:CB	2.34	0.72
26:S:54:GLN:HB3	26:S:88:ARG:HH22	1.52	0.72
3:4:76:A:OP2	9:B:590:GLY:HA3	1.89	0.72
8:A:147:SER:OG	20:M:20:GLN:CA	2.37	0.72
8:A:814:ARG:NH1	8:A:817:LYS:HZ3	1.87	0.72
22:O:445:GLU:HG2	22:O:453:MET:HE2	1.70	0.72
28:U:53:ARG:NH2	28:U:58:ILE:O	2.22	0.72
8:A:1382:ARG:HH21	8:A:1408:PRO:HD2	1.53	0.72
8:A:2079:ILE:HD12	14:G:287:ILE:HB	1.70	0.72
10:C:493:LEU:HD21	10:C:539:VAL:HG21	1.71	0.72
23:P:732:ARG:NH2	23:P:737:GLY:O	2.22	0.72
8:A:1656:LYS:CG	8:A:2141:TYR:OH	2.37	0.72
13:F:300:LYS:HE3	13:F:304:ARG:HH22	1.55	0.72
14:G:347:LEU:HD13	14:G:353:ARG:HD3	1.70	0.72
22:O:945:TYR:HB3	22:O:948:ALA:HB3	1.71	0.72
30:W:24:ASN:HA	30:W:32:ARG:O	1.89	0.72
40:h:4:VAL:HG11	40:h:34:PRO:HA	1.72	0.72
1:2:67:A:HO2'	1:2:68:U:H6	1.36	0.72
8:A:1837:SER:HB3	8:A:2084:LEU:HD11	1.72	0.72
9:B:2051:VAL:HG12	9:B:2077:ARG:HA	1.71	0.72
15:H:419:ILE:O	15:H:433:LEU:HB2	1.90	0.72
22:O:594:MET:O	22:O:598:LEU:N	2.22	0.72
27:T:93:PHE:CZ	29:V:148:PHE:HE1	2.06	0.72
9:B:523:THR:HG23	9:B:527:LYS:HD3	1.70	0.72
13:F:373:ARG:O	13:F:377:GLU:CB	2.36	0.72
15:H:177:PRO:HB3	15:H:457:TRP:HA	1.72	0.72
1:2:111:C:C5	41:u:63:ARG:HG2	2.25	0.72
3:4:18:A:H5'	3:4:19:U:H3'	1.71	0.72
10:C:106:PHE:HA	10:C:109:LEU:HD13	1.72	0.72
10:C:841:LEU:O	10:C:845:ALA:HB2	1.89	0.72
17:J:348:GLU:HG3	17:J:354:VAL:HG21	1.71	0.72
23:P:434:ASN:HD22	23:P:504:HIS:HE1	1.36	0.72
8:A:1936:THR:HG22	8:A:1963:LEU:HD12	1.72	0.72
10:C:183:GLN:HE22	10:C:654:CYS:HA	1.54	0.72
17:J:792:THR:OG1	18:K:46:ARG:NH2	2.22	0.72
23:P:1122:LYS:NZ	23:P:1202:PHE:O	2.23	0.72
17:J:406:THR:HG23	17:J:421:LEU:HD11	1.70	0.72
17:J:719:PRO:HB2	17:J:723:ARG:NH1	2.05	0.72
27:T:150:PRO:HG3	27:T:155:ASN:H	1.55	0.72
30:W:81:LEU:O	30:W:84:ASN:ND2	2.23	0.72
34:a:31:SER:HB3	34:a:39:LYS:HD3	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:66:A:N1	9:B:716:LEU:CD1	2.53	0.71
17:J:377:ASN:HA	17:J:411:ARG:HH12	1.54	0.71
32:Y:45:ARG:NH1	32:Y:62:SER:HB3	2.04	0.71
1:2:116:U:C4	40:t:88:ARG:CG	2.72	0.71
9:B:1680:VAL:HG23	9:B:1710:ALA:HB2	1.72	0.71
29:V:92:ASP:O	29:V:96:ILE:HG12	1.89	0.71
37:e:16:CYS:SG	39:g:60:GLN:NE2	2.63	0.71
1:2:111:C:C5	38:x:48:TYR:HE2	2.08	0.71
4:5:105:A:P	8:A:535:HIS:HE2	2.12	0.71
10:C:117:ARG:NH1	10:C:158:HIS:O	2.22	0.71
10:C:132:ARG:HH12	36:d:13:GLU:HG3	1.54	0.71
10:C:332:TYR:OH	10:C:376:PHE:O	2.08	0.71
17:J:293:LYS:HZ2	17:J:317:GLU:CD	1.98	0.71
29:V:103:TYR:HD1	29:V:110:VAL:HG21	1.53	0.71
9:B:1392:LYS:HD2	9:B:1469:GLU:OE1	1.90	0.71
23:P:638:SER:HB3	23:P:641:GLN:HB3	1.72	0.71
26:S:56:LYS:HB3	26:S:65:VAL:HG23	1.72	0.71
32:Y:35:LEU:HG	32:Y:99:LEU:HD11	1.72	0.71
30:W:15:TYR:OH	35:s:100:LYS:C	2.34	0.71
30:W:67:ILE:HD12	30:W:89:VAL:HG12	1.72	0.71
3:4:145:U:N3	39:r:35:PHE:HB3	2.05	0.71
8:A:823:TRP:CD1	8:A:851:ARG:HH11	2.09	0.71
9:B:1056:GLN:HB2	19:L:61:LYS:HE2	1.71	0.71
9:B:1396:VAL:HG13	9:B:1445:LEU:HD11	1.73	0.71
9:B:1056:GLN:CB	19:L:61:LYS:CE	2.65	0.71
17:J:809:LEU:HD13	17:J:838:TYR:HE2	1.55	0.71
23:P:639:LYS:HB3	23:P:686:GLN:HA	1.73	0.71
27:T:33:TYR:O	27:T:36:ILE:HG22	1.91	0.71
1:2:111:C:C4	41:u:63:ARG:HG2	2.25	0.71
1:2:140:G:H1	1:2:1168:U:H3	1.37	0.71
8:A:232:THR:CG2	21:N:213:GLU:CB	2.67	0.71
8:A:1666:CYS:CB	8:A:2146:PHE:HB2	2.21	0.71
8:A:1673:LEU:HD11	8:A:2149:LYS:CG	2.20	0.71
8:A:2080:LYS:HB3	8:A:2085:GLY:HA2	1.73	0.71
9:B:454:LYS:HG3	9:B:463:ILE:HG22	1.73	0.71
14:G:370:LEU:HD23	14:G:451:LEU:HG	1.73	0.71
28:U:53:ARG:HE	28:U:56:PRO:HA	1.54	0.71
28:U:123:ILE:HA	28:U:207:GLU:HB2	1.72	0.71
28:U:186:LEU:HA	28:U:194:LYS:HD2	1.71	0.71
4:5:147:C:H2'	4:5:148:G:H8	1.54	0.71
9:B:535:VAL:HG13	9:B:557:ILE:HD13	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:C:155:ILE:HD11	10:C:175:LEU:HD23	1.73	0.71
41:i:102:ILE:HG22	41:i:103:VAL:HG23	1.71	0.71
1:2:1093:C:H2'	1:2:1094:G:O4'	1.90	0.71
8:A:2152:TRP:CE3	9:B:1064:PRO:HG3	2.26	0.71
8:A:2398:LEU:HD13	9:B:1060:LYS:NZ	1.95	0.71
9:B:1629:LEU:HD13	9:B:1639:ILE:HB	1.73	0.71
14:G:149:PHE:HA	15:H:425:ASP:OD2	1.91	0.71
20:M:120:ILE:HG13	20:M:121:ALA:H	1.56	0.71
22:O:778:ARG:NH1	22:O:811:ASN:OD1	2.23	0.71
22:O:963:TYR:OH	23:P:1091:HIS:NE2	2.24	0.71
23:P:825:SER:OG	23:P:827:TRP:NE1	2.24	0.71
23:P:847:LEU:HB3	23:P:865:ILE:HG23	1.73	0.71
30:W:19:PHE:HE1	35:s:47:GLU:OE2	1.71	0.71
3:4:142:G:N2	35:k:39:LYS:HZ3	1.89	0.70
8:A:191:VAL:O	8:A:559:GLN:HA	1.91	0.70
8:A:963:VAL:HG21	13:F:280:ARG:HE	1.56	0.70
10:C:256:SER:OG	10:C:263:MET:SD	2.48	0.70
10:C:363:PRO:HG3	10:C:369:LYS:HE3	1.71	0.70
5:6:33:C:OP2	8:A:607:THR:HB	1.90	0.70
9:B:1517:ASN:HB3	9:B:1781:ARG:HH12	1.55	0.70
17:J:523:THR:HG21	17:J:532:LEU:HB2	1.73	0.70
4:5:48:G:N2	4:5:67:U:O2	2.24	0.70
9:B:589:THR:HG21	9:B:608:THR:HG23	1.71	0.70
23:P:983:ALA:O	23:P:995:ILE:HB	1.91	0.70
25:R:136:ARG:HB2	25:R:154:TYR:HD2	1.55	0.70
3:4:97:U:H2'	3:4:98:G:C8	2.26	0.70
23:P:181:ARG:HD2	23:P:185:ARG:HH22	1.55	0.70
27:T:93:PHE:HZ	29:V:148:PHE:HE1	1.39	0.70
30:W:129:LEU:O	30:W:132:ASN:ND2	2.24	0.70
8:A:237:MET:HE1	8:A:644:VAL:HG11	1.73	0.70
17:J:268:CYS:SG	17:J:281:ASN:ND2	2.65	0.70
23:P:1125:ASP:HB2	23:P:1128:THR:HG22	1.72	0.70
28:U:179:LEU:HD13	29:V:192:PHE:HB2	1.72	0.70
1:2:41:C:H42	16:I:63:U:H3	1.40	0.70
1:2:1098:C:H5'	30:W:152:GLU:OE2	1.91	0.70
8:A:342:LEU:HB3	8:A:344:ASN:HD22	1.56	0.70
13:F:401:LEU:HB2	13:F:406:GLU:HG3	1.73	0.70
17:J:821:TYR:O	17:J:825:LEU:HB2	1.92	0.70
35:s:88:ARG:HG2	35:s:90:GLU:H	1.55	0.70
1:2:43:G:H1	16:I:60:U:H3	1.38	0.70
3:4:91:U:O2'	3:4:92:C:OP1	2.08	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2395:PHE:HD1	9:B:1060:LYS:O	1.74	0.70
10:C:474:LYS:NZ	10:C:628:TYR:O	2.25	0.70
17:J:657:ASN:O	17:J:661:LEU:CB	2.39	0.70
23:P:410:PHE:HE1	23:P:445:GLY:HA3	1.54	0.70
9:B:667:ILE:HG21	9:B:684:LEU:HD11	1.73	0.70
23:P:78:HIS:NE2	23:P:81:ASP:OD1	2.24	0.70
23:P:116:LYS:HD2	23:P:883:ASP:HB3	1.73	0.70
23:P:690:LEU:HB3	23:P:702:ILE:HD11	1.73	0.70
27:T:449:HIS:O	27:T:453:LEU:HB2	1.91	0.70
4:5:5:A:O2'	40:h:11:ARG:NH1	2.24	0.70
4:5:171:U:H3	35:b:42:ASN:HD21	1.40	0.70
23:P:496:SER:HB3	23:P:497:PRO:HD3	1.74	0.70
8:A:425:ASP:HB3	8:A:428:LEU:HG	1.74	0.70
9:B:589:THR:OG1	9:B:608:THR:OG1	2.06	0.70
9:B:765:ASN:HB3	9:B:768:HIS:HD2	1.57	0.70
22:O:884:LEU:HD12	22:O:906:LEU:HD11	1.74	0.70
40:t:7:LEU:HB3	40:t:32:VAL:HG11	1.71	0.70
23:P:103:LEU:HG	23:P:114:ILE:HD12	1.72	0.69
23:P:434:ASN:HD22	23:P:504:HIS:CE1	2.10	0.69
23:P:857:VAL:O	23:P:875:ARG:NH1	2.25	0.69
4:5:77:A:N7	10:C:173:LYS:NZ	2.40	0.69
8:A:971:MET:SD	8:A:979:SER:OG	2.50	0.69
9:B:1101:ILE:O	9:B:1105:ALA:HB2	1.92	0.69
15:H:176:LYS:NZ	18:K:69:LEU:O	2.24	0.69
15:H:307:ASP:N	15:H:328:ASP:OD2	2.24	0.69
18:K:54:MET:HE3	18:K:80:PHE:HE1	1.57	0.69
35:s:21:ARG:NH1	35:s:51:GLU:OE2	2.25	0.69
9:B:1213:ARG:NH2	9:B:1316:LYS:HG2	2.08	0.69
8:A:814:ARG:NH1	8:A:817:LYS:NZ	2.39	0.69
8:A:2121:MET:SD	9:B:1056:GLN:NE2	2.60	0.69
10:C:143:HIS:O	10:C:269:LYS:NZ	2.24	0.69
13:F:298:VAL:HG12	13:F:302:MET:HG2	1.74	0.69
17:J:504:LYS:NZ	17:J:508:TRP:HE1	1.91	0.69
23:P:493:VAL:O	23:P:499:SER:OG	2.09	0.69
28:U:153:LEU:H	28:U:219:LEU:HD23	1.58	0.69
15:H:169:GLY:HA2	17:J:724:SER:HB3	1.73	0.69
23:P:365:ILE:HD13	23:P:381:LEU:HB3	1.74	0.69
35:b:28:ARG:NH1	36:d:22:GLU:OE2	2.25	0.69
27:T:377:VAL:O	27:T:378:ASP:HB2	1.91	0.69
29:V:97:LYS:O	29:V:101:ARG:HG3	1.93	0.69
40:t:3:LEU:HD23	41:u:95:PHE:HE1	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:147:SER:OG	20:M:20:GLN:CB	2.40	0.69
41:m:33:LEU:HD12	38:q:72:PHE:HB2	1.75	0.69
38:x:19:LEU:HD21	38:x:45:THR:HG21	1.73	0.69
1:2:141:A:H2'	1:2:142:C:C5	2.28	0.69
8:A:320:ASP:HB2	8:A:508:GLN:HE22	1.57	0.69
9:B:626:GLU:OE2	9:B:658:SER:OG	2.06	0.69
17:J:667:CYS:O	17:J:668:HIS:ND1	2.26	0.69
17:J:832:LEU:HD11	17:J:845:LEU:HD11	1.75	0.69
20:M:103:ASN:OD1	20:M:107:ASN:ND2	2.26	0.69
22:O:381:LEU:O	22:O:385:SER:CB	2.40	0.69
23:P:944:ASN:ND2	23:P:979:CYS:SG	2.65	0.69
30:W:47:LEU:O	30:W:50:LEU:HB3	1.92	0.69
34:a:16:VAL:HB	34:a:71:TYR:HB2	1.73	0.69
8:A:766:ILE:HG21	8:A:782:ILE:HG21	1.73	0.69
8:A:1497:ARG:O	17:J:160:ASN:ND2	2.25	0.69
9:B:1489:GLU:OE2	9:B:1744:SER:OG	2.11	0.69
23:P:75:CYS:HB2	23:P:129:SER:HB3	1.74	0.69
37:p:40:LYS:O	37:p:57:ALA:HA	1.93	0.69
41:u:33:LEU:HD12	38:x:72:PHE:HB2	1.74	0.69
8:A:2152:TRP:CZ3	9:B:1062:PRO:O	2.46	0.69
8:A:2398:LEU:HD12	9:B:1060:LYS:HZ1	1.56	0.69
30:W:17:ASP:O	32:Y:61:VAL:HB	1.91	0.69
35:b:31:ILE:O	35:b:48:CYS:HA	1.93	0.69
1:2:44:PSU:HN3	16:I:59:C:N4	1.87	0.68
1:2:1092:A:H3'	1:2:1093:C:H6	1.58	0.68
3:4:77:U:C2	9:B:1107:ARG:HA	2.29	0.68
9:B:578:LEU:HB3	9:B:583:ILE:HD12	1.74	0.68
30:W:14:TYR:OH	32:Y:57:GLU:HG3	1.93	0.68
41:m:72:VAL:HB	41:m:91:ILE:O	1.93	0.68
36:n:65:ARG:HE	36:n:67:SER:HB3	1.58	0.68
23:P:841:LEU:HD23	23:P:843:ASP:H	1.58	0.68
9:B:1456:SER:HA	9:B:1465:ILE:HD13	1.73	0.68
15:H:371:GLY:HA2	15:H:396:VAL:HG23	1.73	0.68
1:2:111:C:C5	41:u:63:ARG:HD3	2.28	0.68
3:4:150:G:C8	41:m:99:ASP:HB3	2.29	0.68
17:J:741:ILE:HG23	17:J:776:GLU:OE2	1.92	0.68
22:O:689:LEU:HD21	22:O:707:PHE:HD2	1.57	0.68
28:U:203:TYR:HD1	28:U:205:PRO:HD2	1.57	0.68
8:A:1197:ASN:ND2	8:A:1221:ASN:OD1	2.26	0.68
8:A:1688:PRO:CG	8:A:2142:GLU:OE2	2.41	0.68
14:G:368:LEU:HD11	14:G:381:ILE:HD12	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:531:GLU:HA	22:O:534:ARG:HE	1.59	0.68
37:w:30:TRP:HB3	39:y:23:ARG:NH1	2.09	0.68
4:5:147:C:H2'	4:5:148:G:C8	2.29	0.68
8:A:1186:TYR:O	8:A:1190:ASN:HB2	1.93	0.68
8:A:2398:LEU:CB	9:B:1060:LYS:CD	2.69	0.68
15:H:420:ASN:ND2	15:H:422:TYR:OH	2.26	0.68
41:i:72:VAL:HG21	41:i:94:LEU:HB3	1.76	0.68
37:p:59:GLU:OE2	38:q:30:LYS:NZ	2.20	0.68
1:2:1098:C:C3'	30:W:158:ASN:HD22	2.06	0.68
4:5:45:A:H5''	4:5:46:C:H5	1.59	0.68
8:A:241:PRO:HB2	8:A:634:ASP:HB3	1.76	0.68
8:A:257:ASN:O	8:A:258:ILE:HG13	1.93	0.68
17:J:277:ILE:O	17:J:281:ASN:HB2	1.93	0.68
23:P:130:LEU:HB3	23:P:195:ILE:HD13	1.74	0.68
25:R:36:LEU:HG	25:R:37:ARG:HG3	1.75	0.68
40:l:7:LEU:HB3	40:l:32:VAL:HG11	1.76	0.68
9:B:450:GLU:O	9:B:466:PRO:HD2	1.93	0.68
13:F:424:THR:HG22	13:F:425:SER:H	1.59	0.68
18:K:20:ILE:HD13	18:K:79:VAL:HG21	1.76	0.68
20:M:12:ILE:HG23	20:M:14:PRO:HD3	1.76	0.68
35:s:39:LYS:HE3	40:t:35:GLN:HE21	1.59	0.68
8:A:974:ASN:HD21	8:A:1311:LYS:HG3	1.59	0.68
8:A:1694:MET:O	8:A:1759:TYR:OH	2.12	0.68
8:A:1743:TYR:O	8:A:1746:HIS:ND1	2.26	0.68
10:C:197:THR:HG21	10:C:544:LEU:HB3	1.76	0.68
10:C:331:TYR:OH	10:C:428:ILE:O	2.08	0.68
13:F:349:SER:HA	17:J:126:THR:H	1.58	0.68
22:O:678:LEU:HD12	22:O:682:ILE:HD11	1.76	0.68
23:P:104:TYR:OH	23:P:481:GLN:NE2	2.26	0.68
23:P:1259:GLU:OE2	23:P:1263:LYS:NZ	2.27	0.68
37:p:24:GLN:HB3	37:p:42:LYS:HD2	1.76	0.68
5:6:29:U:H4'	8:A:614:ARG:CD	2.23	0.68
5:6:32:U:C4	11:D:100:ASN:HB2	2.29	0.68
8:A:1663:PHE:HD1	8:A:1683:LYS:HZ1	1.41	0.68
9:B:639:LEU:HA	9:B:644:GLY:HA3	1.74	0.68
23:P:369:ILE:HD11	23:P:380:LEU:HB2	1.75	0.68
36:v:68:GLN:HG3	39:y:69:ILE:HA	1.74	0.68
4:5:44:A:O2'	4:5:45:A:O4'	2.12	0.67
8:A:610:ARG:HD3	8:A:1623:PHE:CE2	2.29	0.67
17:J:708:LEU:HD22	17:J:725:ILE:HG21	1.76	0.67
27:T:11:LEU:HA	27:T:14:MET:CE	2.23	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:g:47:ASN:HD21	39:g:51:PRO:HB2	1.58	0.67
37:p:85:ASP:OD2	38:q:32:LYS:NZ	2.27	0.67
8:A:175:LEU:HD22	8:A:629:MET:HE1	1.74	0.67
8:A:1481:GLU:HG3	8:A:1482:GLY:H	1.59	0.67
15:H:441:ILE:HG22	15:H:456:GLY:HA2	1.76	0.67
23:P:927:ARG:HG3	23:P:928:THR:HG23	1.76	0.67
27:T:148:SER:HB2	27:T:159:ASP:H	1.58	0.67
10:C:206:LYS:NZ	36:d:15:GLN:OE1	2.24	0.67
23:P:527:LEU:HD12	23:P:528:PRO:HD2	1.75	0.67
30:W:13:GLN:CG	35:s:100:LYS:HE3	2.24	0.67
3:4:143:A:C6	38:q:48:TYR:HD2	2.13	0.67
8:A:158:LYS:NZ	20:M:6:PHE:HB2	2.07	0.67
8:A:1309:ILE:HG12	8:A:1356:LEU:HD12	1.77	0.67
8:A:1854:ASP:HB3	8:A:1913:THR:HG21	1.74	0.67
9:B:1640:LEU:HD23	9:B:1666:ILE:HG12	1.76	0.67
9:B:2137:LYS:HB2	9:B:2159:GLU:OE2	1.94	0.67
10:C:693:ASN:ND2	10:C:837:GLN:OE1	2.28	0.67
15:H:321:LEU:HD21	15:H:333:LEU:HD23	1.75	0.67
35:k:39:LYS:HE3	40:l:35:GLN:HE21	1.59	0.67
40:t:36:MET:SD	41:u:97:ARG:NH1	2.67	0.67
1:2:45:U:H3	16:I:58:U:H3	1.40	0.67
3:4:67:A:N3	9:B:716:LEU:CD2	2.49	0.67
8:A:1582:GLU:OE2	8:A:1586:GLN:NE2	2.27	0.67
8:A:1688:PRO:HG3	8:A:2142:GLU:OE2	1.94	0.67
23:P:1097:PHE:HB3	23:P:1106:PHE:HB3	1.77	0.67
17:J:838:TYR:HD2	17:J:841:THR:HG23	1.60	0.67
23:P:884:ASN:ND2	23:P:886:PHE:O	2.27	0.67
37:w:34:GLN:O	39:y:23:ARG:NH2	2.27	0.67
2:3:32:ALA:HB3	2:3:40:VAL:H	1.60	0.67
5:6:1:G:H21	8:A:662:GLN:HE21	1.39	0.67
8:A:228:LYS:NZ	8:A:699:PRO:O	2.27	0.67
8:A:239:PHE:CE2	8:A:655:TYR:CD2	2.82	0.67
9:B:556:LYS:HB2	9:B:628:VAL:HA	1.77	0.67
9:B:1620:TYR:CD2	9:B:1655:LEU:HD21	2.30	0.67
10:C:749:LYS:O	10:C:753:THR:HB	1.93	0.67
23:P:414:GLN:NE2	23:P:434:ASN:OD1	2.27	0.67
25:R:184:PHE:HA	25:R:188:GLY:HA2	1.77	0.67
30:W:141:ARG:HD2	30:W:154:LEU:HD23	1.77	0.67
40:l:107:LEU:HD11	41:m:59:LYS:HG3	1.77	0.67
1:2:1115:G:H1	1:2:1130:U:H3	1.43	0.67
9:B:677:TYR:CD2	9:B:691:LEU:HD21	2.30	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:1756:ASN:HA	9:B:1854:SER:OG	1.94	0.67
10:C:400:LEU:HB3	10:C:406:VAL:HB	1.76	0.67
10:C:502:LEU:HD21	10:C:534:THR:HG22	1.76	0.67
22:O:882:ASN:ND2	22:O:918:TYR:OH	2.27	0.67
23:P:704:SER:O	23:P:713:LEU:HA	1.94	0.67
29:V:132:HIS:O	29:V:135:PHE:HB3	1.94	0.67
8:A:1851:PHE:O	8:A:1881:THR:HA	1.94	0.67
30:W:11:ALA:HB3	30:W:24:ASN:HB3	1.77	0.67
9:B:1890:GLU:HB3	40:I:143:ARG:HE	1.60	0.67
9:B:1890:GLU:O	40:I:143:ARG:NE	2.28	0.67
9:B:2077:ARG:NH1	9:B:2119:LEU:O	2.28	0.67
3:4:141:G:C2'	3:4:142:G:H5'	2.25	0.66
12:E:149:TYR:HD2	12:E:178:VAL:HG12	1.60	0.66
23:P:594:MET:O	23:P:598:SER:OG	2.12	0.66
35:k:86:ILE:HG22	36:n:72:ILE:HG22	1.77	0.66
5:6:92:C:H2'	5:6:93:A:H8	1.61	0.66
8:A:1214:ARG:N	8:A:1255:ASN:OD1	2.28	0.66
8:A:1687:HIS:CD2	8:A:2127:ASN:ND2	2.63	0.66
15:H:381:ARG:O	15:H:385:GLN:NE2	2.27	0.66
23:P:582:LYS:HE2	23:P:610:ILE:HG21	1.76	0.66
32:Y:45:ARG:NH2	32:Y:63:MET:O	2.29	0.66
37:e:53:VAL:HA	37:e:80:ILE:O	1.95	0.66
8:A:823:TRP:NE1	8:A:851:ARG:HH11	1.94	0.66
8:A:2123:THR:HG22	19:L:59:LYS:HA	1.78	0.66
10:C:868:VAL:HG11	10:C:876:VAL:HG21	1.78	0.66
13:F:155:ASP:O	13:F:159:PHE:CB	2.42	0.66
30:W:19:PHE:CE1	35:s:47:GLU:CD	2.73	0.66
36:v:23:LEU:HD21	39:y:69:ILE:HG23	1.78	0.66
28:U:212:GLU:HG2	28:U:214:PRO:HD3	1.76	0.66
8:A:897:PRO:O	8:A:1006:ARG:NH1	2.29	0.66
8:A:974:ASN:O	8:A:1314:SER:OG	2.13	0.66
8:A:1688:PRO:CB	8:A:2142:GLU:OE2	2.43	0.66
9:B:1971:LEU:HA	9:B:2111:LEU:HB2	1.77	0.66
10:C:599:THR:OG1	10:C:932:PHE:O	2.13	0.66
10:C:602:VAL:HG11	10:C:860:PRO:HG3	1.76	0.66
8:A:1019:GLU:OE2	8:A:1027:LYS:NZ	2.29	0.66
13:F:143:ILE:HG21	13:F:160:HIS:HB3	1.77	0.66
17:J:248:ALA:O	17:J:252:GLU:HB2	1.96	0.66
23:P:736:ILE:HG23	23:P:738:GLN:H	1.60	0.66
14:G:366:LYS:O	14:G:383:VAL:HB	1.94	0.66
17:J:399:PRO:HB3	17:J:432:LEU:HD21	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:V:221:LEU:O	29:V:225:ARG:HG3	1.95	0.66
37:p:30:TRP:HB3	39:r:23:ARG:NH1	2.09	0.66
1:2:111:C:H5	41:u:63:ARG:CD	2.07	0.66
3:4:67:A:H2'	3:4:68:A:H8	1.61	0.66
5:6:74:U:OP1	14:G:323:ARG:NH2	2.29	0.66
17:J:676:GLN:O	17:J:680:SER:OG	2.10	0.66
17:J:688:ARG:HH21	17:J:721:ARG:HH21	1.44	0.66
23:P:547:ASN:HA	23:P:563:ILE:O	1.95	0.66
44:z:27:LYS:NZ	44:z:31:GLY:O	2.29	0.66
8:A:237:MET:HE1	8:A:644:VAL:HG21	1.76	0.66
8:A:666:ILE:HG22	8:A:673:VAL:HG21	1.77	0.66
9:B:1550:SER:C	9:B:1551:PHE:HD1	2.03	0.66
22:O:832:LYS:HB2	22:O:871:THR:HG21	1.78	0.66
23:P:783:ILE:HG13	23:P:784:SER:H	1.61	0.66
30:W:8:VAL:HG11	30:W:49:HIS:HB3	1.76	0.66
8:A:905:TYR:HB3	8:A:908:ASP:HB2	1.76	0.66
10:C:144:SER:O	10:C:268:ASN:ND2	2.25	0.66
13:F:350:ILE:H	17:J:125:ALA:HB1	1.60	0.66
20:M:194:TRP:O	20:M:198:GLN:CB	2.44	0.66
23:P:380:LEU:HA	23:P:389:PHE:O	1.96	0.66
23:P:1165:LYS:HE2	25:R:34:PRO:HG2	1.78	0.66
24:Q:184:SER:O	28:U:72:ASN:ND2	2.19	0.66
27:T:116:LEU:HD13	29:V:102:TYR:CD2	2.30	0.66
30:W:7:ILE:HA	30:W:27:LYS:H	1.60	0.66
3:4:75:U:H5	9:B:1100:PHE:CE1	2.12	0.65
4:5:62:G:OP1	10:C:108:GLN:NE2	2.29	0.65
10:C:851:LEU:HD23	10:C:855:PRO:HG3	1.77	0.65
10:C:858:LEU:HB3	10:C:937:TRP:HB3	1.78	0.65
23:P:268:LEU:HD13	23:P:329:ILE:HD11	1.76	0.65
23:P:382:GLN:NE2	23:P:416:SER:O	2.29	0.65
23:P:1036:LYS:NZ	23:P:1082:TYR:OH	2.28	0.65
27:T:415:HIS:HE1	27:T:435:ARG:HH11	1.43	0.65
30:W:16:VAL:HG22	30:W:22:LYS:NZ	2.10	0.65
32:Y:69:ARG:HG3	32:Y:71:GLN:HG3	1.78	0.65
32:Y:94:PHE:HB3	32:Y:99:LEU:HD13	1.78	0.65
8:A:431:ILE:HG12	10:C:895:ALA:HB1	1.79	0.65
8:A:1670:ASP:OD2	8:A:2146:PHE:CG	2.44	0.65
9:B:571:VAL:HG21	9:B:587:GLU:HG2	1.78	0.65
15:H:51:VAL:HG13	15:H:76:LEU:HD11	1.79	0.65
22:O:700:VAL:O	22:O:704:THR:OG1	2.09	0.65
37:e:38:ARG:O	37:e:60:ILE:HB	1.95	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:l:26:TRP:CE3	40:l:44:LYS:HG2	2.31	0.65
3:4:57:U:C4	13:F:367:ARG:NH1	2.64	0.65
8:A:2123:THR:OG1	8:A:2138:SER:OG	2.13	0.65
8:A:2380:LEU:HB3	8:A:2384:ASN:HD22	1.60	0.65
9:B:542:HIS:CD2	9:B:555:PHE:HB3	2.30	0.65
9:B:1077:ASN:O	9:B:1081:GLN:HG3	1.96	0.65
23:P:1178:PRO:HG2	24:Q:146:ILE:HD11	1.78	0.65
41:u:54:ILE:HG23	41:u:72:VAL:HG13	1.78	0.65
9:B:1585:LEU:HD21	9:B:1683:LEU:HD23	1.79	0.65
15:H:166:GLU:OE2	17:J:728:ARG:NH2	2.29	0.65
27:T:132:LEU:HD23	27:T:132:LEU:H	1.61	0.65
30:W:11:ALA:HB1	30:W:31:LEU:HD23	1.78	0.65
41:m:54:ILE:HG23	41:m:72:VAL:HG13	1.78	0.65
8:A:2259:ILE:HD11	8:A:2293:ILE:HD11	1.77	0.65
8:A:380:ARG:NH2	10:C:917:ASP:OD1	2.29	0.65
17:J:148:ALA:HB1	17:J:152:LEU:HD12	1.79	0.65
17:J:358:LEU:HD13	17:J:375:TYR:HA	1.78	0.65
40:t:3:LEU:HD13	41:u:62:ASP:HB2	1.79	0.65
1:2:1138:G:O2'	1:2:1139:G:H8	1.79	0.65
8:A:2400:GLY:HA3	19:L:60:ARG:HH22	1.62	0.65
10:C:866:ILE:O	10:C:901:GLU:HA	1.97	0.65
13:F:120:TYR:CE2	13:F:141:ILE:HD13	2.32	0.65
15:H:47:GLU:O	15:H:51:VAL:HB	1.96	0.65
9:B:747:ARG:NH1	9:B:1047:ARG:HG3	2.12	0.65
9:B:1487:VAL:O	9:B:1490:THR:OG1	2.13	0.65
10:C:219:VAL:HG11	10:C:931:TYR:HB3	1.77	0.65
27:T:139:ASP:O	27:T:143:LEU:HB2	1.97	0.65
35:s:49:ILE:HG22	35:s:81:VAL:HA	1.79	0.65
8:A:2398:LEU:HD12	9:B:1060:LYS:HZ2	1.60	0.65
22:O:606:LEU:HD23	22:O:609:LEU:HD12	1.79	0.65
23:P:268:LEU:HD21	23:P:270:PHE:CE1	2.32	0.65
28:U:136:PRO:HA	28:U:149:GLY:HA2	1.77	0.65
38:f:72:PHE:HB3	41:i:104:VAL:HB	1.79	0.65
38:x:28:GLY:HA2	38:x:38:TYR:O	1.97	0.65
22:O:645:ILE:HD11	22:O:679:GLN:HG2	1.79	0.65
22:O:963:TYR:O	33:Z:36:ARG:NH2	2.30	0.65
23:P:776:SER:HB2	23:P:822:HIS:HB2	1.79	0.65
27:T:81:ILE:HD11	27:T:160:ARG:HG3	1.78	0.65
27:T:180:MET:H	27:T:335:THR:HG21	1.61	0.65
8:A:1895:HIS:ND1	8:A:1982:THR:O	2.30	0.64
10:C:788:LEU:O	10:C:792:LYS:HB2	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:M:191:LEU:O	20:M:195:LEU:CB	2.45	0.64
22:O:542:THR:HG22	22:O:582:GLY:HA3	1.79	0.64
22:O:804:GLU:O	22:O:807:THR:OG1	2.13	0.64
22:O:810:THR:HG23	28:U:64:GLY:H	1.63	0.64
32:Y:60:LYS:NZ	32:Y:73:PHE:HB2	2.12	0.64
39:g:31:GLY:H	39:g:39:VAL:HB	1.62	0.64
35:k:21:ARG:NH1	35:k:51:GLU:OE2	2.30	0.64
1:2:1097:G:C5'	32:Y:42:GLN:HE22	2.10	0.64
5:6:32:U:H5''	8:A:607:THR:CG2	2.26	0.64
8:A:395:PRO:HB2	8:A:398:VAL:HG21	1.78	0.64
10:C:658:ASP:O	10:C:662:SER:OG	2.14	0.64
12:E:194:LEU:HD13	12:E:197:ARG:NH1	2.12	0.64
30:W:8:VAL:CA	30:W:25:VAL:HG13	2.26	0.64
30:W:81:LEU:HB3	30:W:102:THR:O	1.96	0.64
41:m:102:ILE:HG22	41:m:103:VAL:HG23	1.77	0.64
37:w:43:ILE:HD12	37:w:52:VAL:HG11	1.79	0.64
1:2:1138:G:O2'	1:2:1139:G:C8	2.50	0.64
9:B:1493:SER:HA	9:B:1524:TRP:HH2	1.60	0.64
22:O:159:ASP:O	22:O:163:GLU:HB2	1.97	0.64
22:O:955:VAL:HA	22:O:959:ASN:HD22	1.62	0.64
22:O:966:GLU:HA	22:O:969:LEU:HD13	1.78	0.64
23:P:364:THR:OG1	23:P:384:ASN:ND2	2.21	0.64
26:S:98:ASP:O	26:S:102:GLU:HB2	1.97	0.64
32:Y:67:LYS:HB3	32:Y:69:ARG:HH11	1.62	0.64
39:y:56:GLN:HG3	39:y:61:THR:HB	1.79	0.64
15:H:358:SER:OG	15:H:360:ASN:O	2.16	0.64
22:O:872:GLY:HA2	23:P:1315:ARG:HG3	1.79	0.64
1:2:116:U:O4	40:t:88:ARG:HG3	1.96	0.64
8:A:298:TYR:O	8:A:493:MET:HG3	1.98	0.64
8:A:1372:LYS:HE2	8:A:1383:PHE:HB3	1.78	0.64
8:A:1688:PRO:HG3	8:A:2142:GLU:HG2	1.80	0.64
14:G:346:ASN:ND2	14:G:375:ASP:OD1	2.30	0.64
15:H:219:GLY:HA3	15:H:239:GLU:HB3	1.78	0.64
17:J:492:MET:O	17:J:494:HIS:N	2.31	0.64
17:J:886:CYS:SG	17:J:894:ARG:NH2	2.70	0.64
23:P:236:VAL:HB	23:P:257:ILE:HG23	1.79	0.64
37:w:30:TRP:CE2	37:w:89:LEU:HD22	2.32	0.64
8:A:1059:GLU:HG3	8:A:1105:ARG:HH22	1.61	0.64
9:B:520:CYS:HB3	9:B:673:THR:HA	1.78	0.64
17:J:586:ILE:O	17:J:590:ALA:HB3	1.98	0.64
23:P:690:LEU:HA	23:P:703:MET:O	1.96	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:738:GLN:NE2	23:P:740:ASN:OD1	2.30	0.64
35:k:21:ARG:HH11	35:k:29:VAL:HG11	1.62	0.64
40:t:26:TRP:CE3	40:t:44:LYS:HG2	2.33	0.64
8:A:621:LEU:HD23	8:A:722:LEU:HD21	1.79	0.64
9:B:1700:ILE:O	9:B:1704:LEU:HG	1.98	0.64
13:F:296:VAL:HA	13:F:299:HIS:CD2	2.33	0.64
30:W:36:LEU:HB2	30:W:59:LEU:HA	1.78	0.64
30:W:81:LEU:HD21	30:W:86:ILE:HD13	1.79	0.64
9:B:490:ALA:C	9:B:491:PHE:HD1	2.05	0.64
9:B:677:TYR:HB2	9:B:691:LEU:HD11	1.78	0.64
9:B:1372:LYS:HD3	9:B:1708:GLY:HA3	1.79	0.64
9:B:1688:TYR:HD2	9:B:1895:ARG:HA	1.62	0.64
22:O:914:LEU:HD13	24:Q:266:PHE:CE1	2.33	0.64
37:e:29:ILE:HD11	37:e:87:ILE:HG23	1.80	0.64
1:2:1097:G:C3'	32:Y:40:ASN:HD22	2.11	0.64
8:A:1940:MET:HB3	8:A:1944:LEU:HD13	1.79	0.64
8:A:2064:GLY:O	8:A:2068:ASN:HA	1.98	0.64
10:C:968:MET:HB3	10:C:972:ARG:HH22	1.63	0.64
15:H:306:HIS:HD2	15:H:310:VAL:HG22	1.61	0.64
40:h:96:ILE:HG13	41:i:94:LEU:HD13	1.80	0.64
8:A:1561:LEU:HD11	8:A:1823:LEU:HD11	1.79	0.64
10:C:602:VAL:HG13	10:C:676:VAL:HB	1.79	0.64
14:G:340:LYS:NZ	14:G:389:CYS:HB3	2.13	0.64
22:O:484:PHE:HA	22:O:488:TRP:HD1	1.63	0.64
23:P:994:LEU:HB3	23:P:1006:TYR:HB2	1.78	0.64
28:U:178:PRO:HD3	28:U:203:TYR:HE2	1.61	0.64
40:h:27:GLY:HA3	40:h:43:VAL:HG22	1.79	0.64
35:k:39:LYS:HE3	40:l:35:GLN:NE2	2.13	0.64
3:4:151:G:H4'	3:4:152:A:O4'	1.97	0.63
22:O:542:THR:O	22:O:546:ASN:ND2	2.30	0.63
23:P:1009:LEU:HB2	23:P:1018:ASP:HB3	1.80	0.63
23:P:1096:LEU:HD13	23:P:1187:PHE:HZ	1.63	0.63
30:W:7:ILE:HG23	30:W:26:ASP:HA	1.80	0.63
37:w:59:GLU:OE2	38:x:30:LYS:NZ	2.21	0.63
3:4:142:G:H5''	3:4:143:A:OP2	1.99	0.63
4:5:67:U:H2'	4:5:68:A:C8	2.34	0.63
4:5:127:U:O2'	4:5:128:A:N7	2.29	0.63
8:A:583:ILE:HG23	8:A:588:LEU:HD11	1.80	0.63
9:B:1668:LYS:HE3	9:B:1702:GLU:HG3	1.80	0.63
15:H:125:ILE:O	15:H:129:LEU:HB2	1.97	0.63
15:H:279:PHE:HA	15:H:292:TRP:O	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:540:PRO:HB2	23:P:612:PRO:HG3	1.81	0.63
23:P:642:LEU:HD21	23:P:644:ILE:HG23	1.80	0.63
33:Z:22:GLY:HA2	33:Z:26:THR:HG21	1.80	0.63
1:2:1120:G:H2'	1:2:1121:U:H6	1.62	0.63
5:6:63:G:N7	13:F:371:LYS:NZ	2.46	0.63
10:C:443:TYR:HE1	10:C:448:LEU:HD22	1.63	0.63
20:M:190:GLU:O	20:M:194:TRP:HB3	1.97	0.63
22:O:943:VAL:O	23:P:185:ARG:NH1	2.32	0.63
24:Q:176:TRP:O	24:Q:177:GLN:HG2	1.98	0.63
34:a:37:ASN:OD1	34:a:64:GLY:N	2.31	0.63
1:2:114:U:C2	36:v:39:SER:OG	2.50	0.63
9:B:757:LEU:O	9:B:761:PHE:CB	2.41	0.63
10:C:117:ARG:NH1	10:C:156:ASP:O	2.32	0.63
13:F:117:ILE:HD12	13:F:128:SER:HB3	1.81	0.63
17:J:550:ARG:NH1	17:J:585:GLN:O	2.31	0.63
23:P:1179:ASN:OD1	23:P:1180:THR:N	2.31	0.63
24:Q:128:LYS:HA	24:Q:131:LYS:HE2	1.79	0.63
24:Q:249:ASP:HB3	24:Q:253:LYS:HE3	1.79	0.63
26:S:37:VAL:HG22	26:S:38:ARG:HG2	1.78	0.63
30:W:5:PRO:HB3	30:W:49:HIS:CG	2.34	0.63
1:2:1098:C:O5'	1:2:1098:C:H6	1.82	0.63
9:B:1917:THR:HG22	9:B:1918:SER:H	1.64	0.63
10:C:183:GLN:HE21	10:C:187:ARG:HE	1.47	0.63
15:H:171:GLN:HA	17:J:723:ARG:HH21	1.64	0.63
30:W:16:VAL:HG12	30:W:18:HIS:H	1.64	0.63
39:g:17:LEU:HD23	39:g:71:LEU:HB3	1.80	0.63
5:6:48:C:C4	8:A:1629:LEU:HD11	2.34	0.63
9:B:453:PHE:HE2	9:B:455:ARG:HE	1.45	0.63
9:B:568:GLN:HA	9:B:587:GLU:OE2	1.99	0.63
10:C:133:ILE:HD13	10:C:560:GLN:HB3	1.81	0.63
10:C:200:CYS:HB3	10:C:436:VAL:HG21	1.81	0.63
17:J:397:GLN:H	17:J:435:ASN:HB3	1.64	0.63
23:P:270:PHE:HE2	23:P:340:MET:HA	1.64	0.63
32:Y:45:ARG:NE	32:Y:63:MET:H	1.97	0.63
39:g:43:ALA:HB3	39:g:56:GLN:HB2	1.79	0.63
37:w:40:LYS:O	37:w:57:ALA:HA	1.99	0.63
1:2:1097:G:C2	1:2:1146:G:C4	2.86	0.63
1:2:1098:C:H2'	1:2:1099:G:H8	1.62	0.63
24:Q:331:ALA:HB1	24:Q:337:ILE:HA	1.80	0.63
30:W:3:PHE:CZ	30:W:25:VAL:HG11	2.33	0.63
32:Y:44:LEU:HD22	32:Y:68:GLN:OE1	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:g:44:MET:HE2	39:g:54:ASN:HD21	1.64	0.63
8:A:158:LYS:NZ	20:M:6:PHE:C	2.37	0.63
8:A:1019:GLU:HA	8:A:1023:LEU:HD23	1.81	0.63
8:A:1545:ASP:O	8:A:1549:ALA:HB2	1.98	0.63
10:C:468:LEU:O	10:C:578:TYR:HA	1.99	0.63
11:D:120:ILE:HA	11:D:131:VAL:HG11	1.80	0.63
17:J:99:ASN:HD22	17:J:102:ARG:HE	1.46	0.63
17:J:233:TYR:CE2	17:J:243:GLY:HA2	2.34	0.63
18:K:23:VAL:HG21	18:K:117:VAL:HG21	1.81	0.63
30:W:111:PHE:HE2	30:W:140:TYR:HA	1.63	0.63
40:h:16:THR:HA	40:h:25:VAL:O	1.98	0.63
1:2:1099:G:H2'	1:2:1100:A:H5'	1.80	0.63
8:A:901:PRO:HD3	8:A:1078:ILE:HD11	1.81	0.63
9:B:804:HIS:CD2	9:B:834:LEU:HD11	2.33	0.63
9:B:1471:MET:HE2	9:B:1473:TYR:CE1	2.33	0.63
17:J:293:LYS:HZ1	17:J:316:LEU:C	2.06	0.63
17:J:658:GLU:O	17:J:662:LYS:CB	2.46	0.63
19:L:89:PHE:HD2	19:L:95:TYR:HA	1.64	0.63
23:P:548:THR:O	23:P:563:ILE:HB	1.99	0.63
38:f:51:LEU:HB2	38:f:73:ILE:HB	1.81	0.63
10:C:223:ASP:CG	10:C:647:ASN:HD21	2.06	0.62
10:C:374:VAL:HA	10:C:378:LEU:HB3	1.81	0.62
10:C:968:MET:HB3	10:C:972:ARG:NH2	2.14	0.62
23:P:211:LYS:HD2	23:P:230:ILE:HD11	1.81	0.62
23:P:832:TRP:HB3	23:P:835:VAL:HG23	1.80	0.62
30:W:35:GLN:HE22	32:Y:77:ARG:HH22	1.46	0.62
4:5:40:C:O2'	4:5:41:A:O5'	2.16	0.62
8:A:1270:LEU:HD21	8:A:1275:MET:HA	1.81	0.62
8:A:1859:ARG:NH2	8:A:1876:ASN:O	2.32	0.62
30:W:157:GLN:HE22	32:Y:96:GLY:N	1.97	0.62
10:C:576:THR:HG22	10:C:592:PHE:HD2	1.63	0.62
10:C:883:ARG:NH1	10:C:910:GLU:O	2.32	0.62
13:F:395:LYS:HZ2	17:J:222:ASP:HB2	1.63	0.62
15:H:225:ASP:OD2	15:H:272:LYS:HD2	1.99	0.62
17:J:299:ALA:HB1	17:J:309:LEU:HD13	1.81	0.62
22:O:252:ILE:HD11	22:O:296:VAL:HA	1.80	0.62
22:O:757:ILE:HG22	22:O:758:GLY:H	1.62	0.62
22:O:767:LEU:HD22	22:O:804:GLU:HG2	1.81	0.62
23:P:270:PHE:CE2	23:P:340:MET:HA	2.34	0.62
23:P:822:HIS:ND1	23:P:846:MET:O	2.31	0.62
23:P:1056:LYS:O	27:T:514:ASN:ND2	2.31	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:W:11:ALA:HB3	30:W:25:VAL:N	2.14	0.62
40:l:3:LEU:HD13	41:m:62:ASP:HB2	1.81	0.62
37:p:35:ILE:HA	39:r:23:ARG:HH21	1.65	0.62
4:5:91:U:OP1	8:A:836:ARG:NH1	2.32	0.62
19:L:46:TYR:O	19:L:50:ILE:N	2.31	0.62
34:a:19:LEU:O	34:a:68:ARG:NH1	2.33	0.62
39:g:37:ASN:OD1	39:g:65:GLY:N	2.30	0.62
37:p:90:ILE:HB	39:r:62:VAL:HG13	1.82	0.62
1:2:1098:C:O3'	30:W:158:ASN:CB	2.47	0.62
8:A:1082:ILE:HD13	8:A:1113:ILE:HD11	1.80	0.62
8:A:2121:MET:HE2	9:B:1056:GLN:CG	2.28	0.62
9:B:960:ILE:HG23	9:B:961:SER:H	1.65	0.62
9:B:1996:GLN:NE2	9:B:2150:LEU:H	1.97	0.62
11:D:30:ARG:HD3	11:D:61:LEU:HD23	1.81	0.62
13:F:392:GLU:HG2	13:F:395:LYS:HG2	1.81	0.62
20:M:28:ARG:HH11	20:M:31:ARG:NH2	1.97	0.62
30:W:25:VAL:O	30:W:31:LEU:HA	1.99	0.62
30:W:25:VAL:HG21	30:W:32:ARG:HB3	1.81	0.62
8:A:585:ARG:NH2	8:A:733:GLN:O	2.32	0.62
9:B:610:GLU:HG2	9:B:643:ARG:NH2	2.14	0.62
9:B:1772:TRP:CZ3	9:B:1773:PHE:CE1	2.86	0.62
15:H:192:THR:O	15:H:199:LEU:HA	2.00	0.62
22:O:357:SER:HA	22:O:360:LYS:HE2	1.81	0.62
23:P:943:ASP:HB2	23:P:952:ARG:HG2	1.82	0.62
23:P:1116:ARG:HH12	23:P:1189:LEU:HD13	1.64	0.62
30:W:59:LEU:HD21	30:W:64:LEU:HD13	1.80	0.62
1:2:116:U:O4'	40:t:90:ASN:HB2	1.99	0.62
8:A:144:ASN:HB3	20:M:19:ASN:CG	2.21	0.62
8:A:460:PRO:HB3	10:C:376:PHE:HA	1.82	0.62
8:A:1391:PRO:HB3	8:A:1543:ARG:HG3	1.82	0.62
10:C:857:LEU:HD11	10:C:967:VAL:HG23	1.82	0.62
17:J:794:PHE:CD1	17:J:811:ILE:HG12	2.35	0.62
23:P:1003:LEU:HD23	23:P:1059:LEU:HD11	1.81	0.62
35:k:49:ILE:HG22	35:k:81:VAL:HA	1.82	0.62
43:o:75:GLY:HA2	43:o:78:ILE:HD12	1.80	0.62
35:s:88:ARG:NH1	36:v:67:SER:O	2.32	0.62
9:B:1216:MET:HG3	9:B:1218:PHE:CE1	2.30	0.62
9:B:1688:TYR:CD1	9:B:1695:TYR:CD1	2.85	0.62
10:C:182:LYS:NZ	10:C:186:ASP:OD2	2.25	0.62
14:G:238:GLN:HB2	14:G:241:ARG:HH11	1.64	0.62
15:H:65:GLU:HG3	15:H:66:ASN:H	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:H:411:VAL:HG12	15:H:443:LEU:HD21	1.82	0.62
22:O:435:THR:HG21	22:O:467:VAL:HG21	1.82	0.62
27:T:342:LYS:HE3	40:t:100:SER:HA	1.82	0.62
40:l:44:LYS:HB2	40:l:79:ILE:HG21	1.81	0.62
1:2:113:U:H1'	39:y:66:ASN:HB2	1.81	0.62
3:4:141:G:O2'	3:4:142:G:H5'	1.99	0.62
4:5:19:A:N6	4:5:151:A:N1	2.47	0.62
9:B:781:LEU:HD21	9:B:798:GLU:HG2	1.80	0.62
10:C:830:ASN:HB3	10:C:833:VAL:HG22	1.82	0.62
11:D:76:LEU:HG	11:D:81:THR:HG21	1.82	0.62
23:P:195:ILE:HG12	23:P:202:ILE:HG12	1.81	0.62
23:P:994:LEU:HB2	23:P:1008:ILE:HD11	1.82	0.62
25:R:40:TYR:HD1	25:R:53:ALA:HB2	1.64	0.62
30:W:78:THR:HG23	30:W:100:ASN:HD22	1.65	0.62
32:Y:67:LYS:HB3	32:Y:69:ARG:NH1	2.15	0.62
38:f:30:LYS:HE2	38:f:80:TYR:CE2	2.35	0.62
8:A:1257:ASN:OD1	8:A:1268:ARG:NH2	2.32	0.62
9:B:1148:GLN:HE22	9:B:1297:TRP:HA	1.64	0.62
11:D:46:LEU:HD21	11:D:113:MET:HE2	1.82	0.62
13:F:124:PHE:CD2	13:F:127:LEU:HB2	2.35	0.62
22:O:359:ILE:HG21	22:O:378:LEU:HD21	1.79	0.62
42:j:43:VAL:HG21	42:j:69:ILE:HG22	1.82	0.62
8:A:1616:ARG:HD3	8:A:1744:ASP:OD2	2.00	0.61
8:A:2121:MET:CE	9:B:1056:GLN:HG3	2.30	0.61
22:O:416:LEU:HD12	22:O:453:MET:HE1	1.82	0.61
23:P:820:VAL:HG21	23:P:849:CYS:HB3	1.82	0.61
28:U:178:PRO:HD3	28:U:203:TYR:CE2	2.35	0.61
4:5:35:A:OP1	8:A:552:LYS:NZ	2.30	0.61
8:A:918:ASP:OD2	8:A:997:GLN:NE2	2.33	0.61
8:A:2189:LEU:HD13	8:A:2224:VAL:HG23	1.81	0.61
8:A:2398:LEU:HD22	9:B:1060:LYS:HD2	1.81	0.61
10:C:759:SER:O	10:C:763:ARG:HB2	2.00	0.61
24:Q:323:THR:OG1	25:R:62:ASP:OD1	2.18	0.61
27:T:63:LYS:HE3	27:T:378:ASP:HB2	1.82	0.61
8:A:2121:MET:CG	9:B:1056:GLN:HE21	2.12	0.61
11:D:94:ASP:HB2	11:D:130:LEU:HD11	1.81	0.61
22:O:810:THR:HG22	28:U:63:SER:HB3	1.82	0.61
23:P:154:SER:HB3	23:P:1302:ARG:HD2	1.83	0.61
23:P:816:MET:HE2	23:P:830:TYR:HB2	1.83	0.61
27:T:508:GLU:HG2	27:T:509:GLU:H	1.66	0.61
9:B:1370:SER:OG	9:B:1535:PHE:HB2	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:1541:ILE:HD12	9:B:1542:GLU:HG2	1.82	0.61
22:O:532:PRO:O	22:O:535:THR:OG1	2.14	0.61
22:O:850:ASP:HB2	22:O:853:HIS:HD2	1.65	0.61
23:P:156:ASN:HA	23:P:177:GLN:O	2.00	0.61
23:P:957:ILE:HG22	23:P:962:LEU:HD11	1.81	0.61
37:e:84:GLY:HA2	37:e:87:ILE:HD12	1.82	0.61
40:t:44:LYS:HB2	40:t:79:ILE:HG21	1.81	0.61
8:A:975:TYR:HB2	8:A:1314:SER:OG	1.99	0.61
8:A:1122:ASP:OD1	8:A:1161:TYR:OH	2.18	0.61
14:G:274:LEU:HA	14:G:277:MET:HE3	1.82	0.61
23:P:768:ARG:NH1	23:P:1209:SER:O	2.34	0.61
26:S:31:PRO:HG2	26:S:43:VAL:HG11	1.83	0.61
3:4:18:A:H2	5:6:63:G:H1	1.49	0.61
3:4:23:C:OP1	14:G:246:ARG:NH2	2.33	0.61
8:A:1453:ASP:OD2	8:A:1486:ARG:HD2	2.00	0.61
17:J:230:LEU:HD11	17:J:250:LEU:HD23	1.83	0.61
17:J:516:TRP:HA	17:J:519:LEU:HD12	1.82	0.61
23:P:1124:LEU:HG	23:P:1130:ILE:HD11	1.81	0.61
23:P:1177:LEU:HD22	24:Q:171:PRO:HD2	1.83	0.61
27:T:415:HIS:CE1	27:T:435:ARG:HH11	2.18	0.61
30:W:36:LEU:HG	30:W:58:ASP:C	2.26	0.61
1:2:1167:U:OP1	30:W:92:ARG:CZ	2.49	0.61
3:4:30:G:OP1	3:4:31:U:O2'	2.14	0.61
6:7:61:LEU:HB2	6:7:94:ILE:HB	1.83	0.61
8:A:165:LEU:HD21	8:A:581:LEU:HD23	1.82	0.61
8:A:1029:THR:HB	8:A:1288:LEU:HD21	1.83	0.61
9:B:1688:TYR:CZ	9:B:1896:LYS:HE2	2.36	0.61
17:J:541:PHE:HE1	17:J:585:GLN:HG3	1.66	0.61
22:O:223:LYS:NZ	26:S:98:ASP:OD2	2.34	0.61
23:P:836:TRP:HZ3	23:P:838:ILE:HG23	1.66	0.61
27:T:179:TYR:HA	27:T:335:THR:HG22	1.83	0.61
30:W:8:VAL:HA	30:W:25:VAL:CG1	2.29	0.61
8:A:518:VAL:O	8:A:521:SER:OG	2.16	0.61
8:A:583:ILE:HG23	8:A:588:LEU:CD1	2.31	0.61
8:A:834:ILE:HD13	8:A:845:VAL:HG23	1.81	0.61
8:A:976:GLN:HE21	8:A:1314:SER:HB2	1.65	0.61
8:A:1068:ARG:HG3	13:F:177:MET:HG3	1.83	0.61
8:A:1089:VAL:HG22	8:A:1098:VAL:HG22	1.82	0.61
8:A:2013:ARG:NH1	8:A:2016:LYS:NZ	2.49	0.61
9:B:1524:TRP:CD1	9:B:1780:ARG:CZ	2.79	0.61
9:B:1781:ARG:HG3	9:B:1789:TYR:HE2	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:X:105:ALA:O	31:X:109:ALA:HB2	1.99	0.61
39:r:30:ARG:HE	39:r:41:ASP:HB3	1.65	0.61
36:v:65:ARG:HH12	39:y:66:ASN:C	2.09	0.61
8:A:771:PRO:HA	8:A:775:ARG:HD3	1.82	0.61
9:B:1057:LEU:N	19:L:61:LYS:NZ	2.49	0.61
23:P:1235:GLY:HA2	23:P:1238:PHE:HB3	1.83	0.61
23:P:1336:PHE:O	23:P:1339:LYS:NZ	2.29	0.61
28:U:41:PRO:HD2	28:U:53:ARG:HH11	1.65	0.61
30:W:16:VAL:HG22	30:W:22:LYS:HZ3	1.65	0.61
32:Y:43:ARG:O	32:Y:47:ASN:ND2	2.33	0.61
4:5:82:A:H2	8:A:716:ARG:HH12	1.49	0.61
9:B:1216:MET:CG	9:B:1218:PHE:HE1	2.14	0.61
10:C:766:TRP:CG	10:C:792:LYS:HE3	2.36	0.61
17:J:594:LEU:HB2	17:J:635:LEU:HD11	1.83	0.61
23:P:62:HIS:HE2	23:P:1218:TYR:HH	1.47	0.61
23:P:365:ILE:HG21	23:P:381:LEU:HB3	1.82	0.61
30:W:15:TYR:CD1	35:s:102:LEU:HA	2.36	0.61
37:w:35:ILE:HA	39:y:23:ARG:HH21	1.65	0.61
2:3:34:ASP:OD1	2:3:38:ASN:N	2.28	0.60
8:A:1400:ILE:HG23	8:A:1542:TYR:CZ	2.35	0.60
8:A:2349:PHE:CD2	8:A:2379:PRO:HG3	2.35	0.60
9:B:571:VAL:HG21	9:B:587:GLU:CG	2.31	0.60
9:B:589:THR:HG1	9:B:608:THR:HG1	1.43	0.60
17:J:337:ASP:OD2	17:J:340:LEU:HG	2.00	0.60
22:O:226:ASP:OD1	22:O:268:ASN:ND2	2.34	0.60
22:O:240:VAL:HG13	22:O:269:LEU:HD21	1.82	0.60
23:P:426:TYR:HA	23:P:439:PHE:O	2.00	0.60
38:f:32:LYS:HA	38:f:79:LEU:HD12	1.81	0.60
1:2:1107:C:H2'	32:Y:105:LYS:HD2	1.82	0.60
8:A:1894:ILE:HD12	8:A:1912:LYS:HE3	1.82	0.60
8:A:1951:PHE:CD2	8:A:1954:ILE:HD12	2.36	0.60
9:B:1524:TRP:CD1	9:B:1780:ARG:NE	2.69	0.60
13:F:395:LYS:HB2	17:J:219:THR:HG21	1.82	0.60
23:P:630:ILE:HG21	23:P:646:LEU:HB2	1.83	0.60
34:a:40:LEU:HD12	34:a:60:ILE:HD11	1.83	0.60
8:A:610:ARG:NH1	8:A:1623:PHE:CD1	2.68	0.60
8:A:1739:ARG:NH2	8:A:1745:SER:OG	2.33	0.60
9:B:1367:PHE:HE2	9:B:1518:ALA:HB1	1.64	0.60
13:F:387:LEU:HB3	13:F:413:SER:HA	1.83	0.60
14:G:238:GLN:HA	14:G:241:ARG:HE	1.65	0.60
17:J:775:VAL:HG13	17:J:810:GLU:HG3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:i:27:LYS:O	41:i:32:SER:OG	2.18	0.60
35:s:96:VAL:HG12	40:t:85:ILE:HG12	1.84	0.60
8:A:2147:SER:O	8:A:2153:ARG:NH2	2.34	0.60
9:B:781:LEU:CD2	9:B:798:GLU:HA	2.29	0.60
10:C:803:VAL:HA	10:C:813:ILE:HD12	1.84	0.60
13:F:222:ILE:HA	13:F:225:ILE:HB	1.82	0.60
17:J:668:HIS:HA	17:J:671:PHE:HD2	1.65	0.60
22:O:605:ILE:HD11	22:O:627:LEU:HD12	1.83	0.60
23:P:643:ILE:HD11	23:P:653:TYR:HD1	1.65	0.60
36:d:30:ARG:O	36:d:47:VAL:HA	2.01	0.60
1:2:1108:A:C2	32:Y:73:PHE:CZ	2.90	0.60
3:4:18:A:OP2	13:F:378:LYS:NZ	2.33	0.60
8:A:1043:ARG:HB2	8:A:1045:GLN:HE22	1.66	0.60
9:B:1220:ILE:HD11	9:B:1272:PHE:HE2	1.65	0.60
10:C:328:VAL:HG22	10:C:332:TYR:HD2	1.67	0.60
10:C:869:HIS:HD2	10:C:925:LEU:HB3	1.66	0.60
15:H:322:VAL:HG23	15:H:336:ILE:HD11	1.82	0.60
22:O:632:LYS:HD2	22:O:672:VAL:HG13	1.83	0.60
27:T:26:GLN:HB2	29:V:168:THR:HG23	1.83	0.60
39:g:50:ASP:HB3	39:g:51:PRO:HD3	1.83	0.60
35:s:39:LYS:HE3	40:t:35:GLN:NE2	2.14	0.60
8:A:898:ILE:HB	8:A:1074:VAL:HG12	1.83	0.60
14:G:408:LEU:O	14:G:414:ASP:HA	2.02	0.60
16:I:68:U:OP2	22:O:778:ARG:NH2	2.32	0.60
17:J:664:PHE:O	17:J:666:ILE:N	2.34	0.60
1:2:1139:G:H2'	1:2:1140:U:C6	2.36	0.60
3:4:77:U:H1'	9:B:1107:ARG:HG3	1.84	0.60
3:4:90:C:N3	40:l:34:PRO:HD2	2.17	0.60
3:4:146:U:O4'	36:n:67:SER:HB2	2.01	0.60
8:A:791:ARG:HH12	17:J:131:ARG:NH1	2.00	0.60
9:B:2013:VAL:HG13	9:B:2018:ASP:HB2	1.83	0.60
9:B:2104:GLY:HA2	9:B:2112:TYR:HD2	1.66	0.60
13:F:157:LEU:HA	13:F:160:HIS:CE1	2.36	0.60
17:J:637:TYR:O	17:J:641:ASN:HB2	2.01	0.60
28:U:232:GLY:HA2	29:V:185:VAL:HG13	1.84	0.60
28:U:242:PHE:HD1	29:V:225:ARG:HG2	1.66	0.60
40:l:7:LEU:HD11	41:m:95:PHE:CE2	2.36	0.60
40:t:43:VAL:HG11	40:t:85:ILE:HD12	1.84	0.60
5:6:67:C:H2'	5:6:68:C:H6	1.67	0.60
8:A:501:LEU:HD12	8:A:705:GLN:HG2	1.82	0.60
9:B:707:PHE:HD2	9:B:895:VAL:HG13	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:1443:HIS:HE1	12:E:300:ASP:O	1.85	0.60
9:B:2008:CYS:SG	9:B:2013:VAL:HB	2.42	0.60
10:C:782:GLU:O	10:C:785:PRO:HD2	2.02	0.60
23:P:380:LEU:HD23	23:P:388:LEU:HD21	1.82	0.60
30:W:57:LEU:HD22	30:W:79:LEU:HD22	1.84	0.60
41:u:72:VAL:HG21	41:u:94:LEU:HB3	1.83	0.60
1:2:115:U:H3	35:s:42:ASN:HD21	1.50	0.60
4:5:125:C:H2'	4:5:126:A:C8	2.37	0.60
8:A:132:ALA:HA	8:A:559:GLN:HE21	1.66	0.60
8:A:1594:GLN:O	8:A:1598:LEU:HB2	2.02	0.60
8:A:2127:ASN:OD1	8:A:2128:ALA:N	2.34	0.60
10:C:234:LEU:HD13	10:C:439:ILE:HG23	1.82	0.60
10:C:656:LEU:HD13	10:C:670:ILE:HD13	1.84	0.60
14:G:300:GLN:HG2	14:G:304:ARG:NH1	2.17	0.60
17:J:700:ASN:HA	17:J:733:ASN:HD22	1.67	0.60
22:O:294:ARG:HB3	22:O:332:THR:HG21	1.83	0.60
28:U:218:ILE:O	28:U:219:LEU:HG	2.00	0.60
30:W:139:ASN:HB2	30:W:142:GLU:HG2	1.84	0.60
1:2:1108:A:C2	32:Y:73:PHE:CE1	2.90	0.60
7:8:35:ASN:OD1	7:8:58:GLY:N	2.33	0.60
8:A:394:ARG:HD3	10:C:610:LEU:HD13	1.83	0.60
9:B:683:PHE:HA	9:B:946:VAL:HG21	1.83	0.60
9:B:1154:VAL:O	9:B:1157:ILE:HG13	2.02	0.60
12:E:183:LYS:O	12:E:187:GLU:HB2	2.02	0.60
14:G:159:TYR:O	14:G:163:ASN:ND2	2.34	0.60
22:O:361:ASP:OD1	22:O:362:CYS:N	2.35	0.60
23:P:629:GLY:O	23:P:630:ILE:HG13	2.02	0.60
30:W:17:ASP:C	30:W:19:PHE:H	2.09	0.60
30:W:32:ARG:CA	30:W:36:LEU:HD22	2.29	0.60
38:q:28:GLY:HA2	38:q:38:TYR:O	2.02	0.60
1:2:1099:G:OP1	30:W:158:ASN:CB	2.50	0.59
1:2:1161:U:O2'	1:2:1162:U:H5'	2.01	0.59
6:7:92:THR:HG22	43:o:82:VAL:HG22	1.84	0.59
8:A:546:LYS:HB2	8:A:549:LYS:HG2	1.84	0.59
9:B:706:GLN:C	9:B:707:PHE:HD1	2.10	0.59
13:F:47:LEU:HD21	13:F:97:PHE:HB3	1.82	0.59
14:G:48:SER:HA	22:O:642:LYS:NZ	2.16	0.59
14:G:169:TRP:HB3	15:H:337:ARG:HH12	1.67	0.59
17:J:513:THR:O	17:J:517:SER:CB	2.50	0.59
17:J:692:LEU:HB3	17:J:696:ARG:NH1	2.16	0.59
23:P:337:VAL:HG22	23:P:346:LEU:HB2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:638:SER:HA	23:P:683:GLN:HA	1.84	0.59
25:R:200:ARG:HB3	27:T:453:LEU:HA	1.83	0.59
27:T:148:SER:HB2	27:T:159:ASP:N	2.17	0.59
27:T:516:MET:HE3	27:T:520:VAL:HG12	1.84	0.59
28:U:60:LYS:HE2	28:U:66:LEU:HD11	1.83	0.59
34:a:19:LEU:HD12	34:a:23:ILE:HB	1.84	0.59
43:o:12:ILE:HA	43:o:15:THR:HG22	1.84	0.59
3:4:15:G:N2	5:6:67:C:C2	2.70	0.59
3:4:37:U:H5	13:F:280:ARG:NH1	1.99	0.59
3:4:57:U:OP2	13:F:367:ARG:NH2	2.36	0.59
4:5:161:U:H2'	4:5:162:G:C8	2.37	0.59
8:A:249:LEU:O	8:A:569:LEU:HD13	2.02	0.59
8:A:1616:ARG:HH11	8:A:1743:TYR:HB3	1.67	0.59
8:A:1686:VAL:O	8:A:2142:GLU:HG3	2.01	0.59
10:C:110:LYS:C	10:C:112:ASN:H	2.10	0.59
10:C:141:PRO:O	10:C:146:LYS:NZ	2.34	0.59
10:C:367:VAL:HG13	10:C:368:GLU:HG2	1.84	0.59
13:F:80:LEU:HD23	13:F:210:LEU:HD11	1.83	0.59
14:G:410:THR:OG1	14:G:413:GLY:O	2.19	0.59
15:H:67:GLU:OE1	15:H:75:ARG:NE	2.29	0.59
1:2:111:C:C5	41:u:63:ARG:CD	2.85	0.59
4:5:40:C:C5	8:A:541:ASN:HB2	2.38	0.59
5:6:70:U:H2'	5:6:71:G:H8	1.68	0.59
5:6:110:U:H3	7:8:35:ASN:HD21	1.49	0.59
8:A:1670:ASP:OD2	8:A:2146:PHE:CD1	2.40	0.59
9:B:1513:ASN:OD1	9:B:1514:CYS:N	2.31	0.59
23:P:369:ILE:HG21	23:P:419:LEU:HB2	1.84	0.59
23:P:426:TYR:HB3	23:P:438:LEU:HD21	1.83	0.59
1:2:1109:C:C3'	1:2:1115:G:HO2'	1.95	0.59
4:5:41:A:H2'	4:5:42:A:C8	2.37	0.59
5:6:31:G:H1'	8:A:1637:LYS:CB	2.32	0.59
8:A:528:ASN:O	8:A:532:ASN:ND2	2.35	0.59
8:A:1071:ARG:HH21	13:F:270:HIS:HB3	1.67	0.59
8:A:2157:ILE:CG2	9:B:1066:ARG:HG2	2.31	0.59
8:A:2395:PHE:CD1	9:B:1062:PRO:CD	2.67	0.59
9:B:486:TRP:NE1	9:B:487:CYS:HG	2.00	0.59
10:C:539:VAL:HG13	10:C:564:ILE:HG23	1.83	0.59
23:P:60:LEU:HB2	23:P:1317:VAL:HG22	1.85	0.59
23:P:924:PHE:CD2	23:P:952:ARG:HD2	2.38	0.59
10:C:200:CYS:O	10:C:207:SER:HA	2.02	0.59
10:C:266:VAL:HG22	10:C:312:ILE:HB	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:F:408:VAL:HG11	17:J:154:PRO:HG2	1.83	0.59
17:J:287:SER:OG	17:J:292:CYS:SG	2.58	0.59
23:P:61:TYR:HB2	23:P:1231:LEU:HD11	1.83	0.59
1:2:115:U:O2	35:s:88:ARG:HG3	2.02	0.59
1:2:1141:C:H2'	1:2:1142:G:H8	1.67	0.59
5:6:32:U:H5'	8:A:607:THR:HG22	1.84	0.59
8:A:791:ARG:NH1	17:J:131:ARG:NH1	2.51	0.59
8:A:833:ARG:HH21	8:A:839:HIS:HB2	1.66	0.59
20:M:14:PRO:HB2	20:M:15:LYS:HG2	1.84	0.59
23:P:1218:TYR:O	23:P:1225:VAL:HA	2.03	0.59
30:W:13:GLN:HB2	30:W:23:TYR:HA	1.83	0.59
32:Y:33:SER:HB3	32:Y:100:LYS:HE3	1.84	0.59
1:2:65:A:O2'	1:2:66:A:H5'	2.02	0.59
1:2:1140:U:C2	1:2:1141:C:C5	2.91	0.59
8:A:140:ARG:O	8:A:144:ASN:ND2	2.32	0.59
8:A:584:HIS:CD2	20:M:8:VAL:O	2.56	0.59
8:A:755:ASP:OD1	8:A:756:LEU:N	2.35	0.59
8:A:841:GLU:OE1	8:A:844:MET:N	2.35	0.59
9:B:1434:LEU:HB2	9:B:2096:LEU:HG	1.84	0.59
9:B:1489:GLU:CD	9:B:1746:LEU:HG	2.28	0.59
9:B:1700:ILE:HD11	9:B:1740:LEU:HD13	1.84	0.59
10:C:302:ASN:OD1	10:C:303:VAL:N	2.36	0.59
10:C:328:VAL:HG13	10:C:332:TYR:HB2	1.83	0.59
13:F:414:ASN:OD1	13:F:418:GLN:NE2	2.36	0.59
27:T:31:LEU:HD11	27:T:75:GLN:OE1	2.02	0.59
30:W:156:PHE:HB3	32:Y:95:PHE:CE1	2.38	0.59
41:i:74:GLU:HG3	41:i:76:TRP:HZ3	1.67	0.59
36:n:65:ARG:NH1	39:r:65:GLY:O	2.35	0.59
37:w:40:LYS:NZ	37:w:93:ALA:HB3	2.17	0.59
1:2:43:G:O6	16:I:60:U:O4	2.20	0.59
4:5:48:G:O6	4:5:67:U:O4	2.20	0.59
8:A:1934:ILE:HA	8:A:1957:ARG:O	2.03	0.59
8:A:2062:GLU:OE1	8:A:2065:ARG:NH2	2.32	0.59
9:B:1772:TRP:HZ3	9:B:1773:PHE:CZ	2.20	0.59
10:C:759:SER:O	10:C:763:ARG:CB	2.51	0.59
13:F:395:LYS:NZ	17:J:222:ASP:HB2	2.18	0.59
22:O:602:VAL:HA	22:O:605:ILE:HD12	1.84	0.59
30:W:18:HIS:CE1	32:Y:46:VAL:HA	2.38	0.59
34:a:4:PHE:HA	34:a:7:PHE:CE2	2.38	0.59
35:k:18:TYR:HD1	35:k:101:PRO:HG3	1.67	0.59
35:s:21:ARG:HH11	35:s:29:VAL:HG11	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:143:G:O3'	1:2:143:G:H3'	1.91	0.59
4:5:169:U:H1'	39:g:66:ASN:HB2	1.84	0.59
8:A:1952:PRO:HB2	13:F:425:SER:HA	1.84	0.59
9:B:645:PRO:HA	9:B:648:GLU:OE2	2.03	0.59
9:B:1428:LEU:HD11	9:B:1445:LEU:HB2	1.85	0.59
15:H:386:LEU:HD13	15:H:388:GLN:HG3	1.83	0.59
22:O:324:ARG:HD2	22:O:330:ARG:HH21	1.67	0.59
22:O:599:ALA:HA	22:O:639:MET:HE1	1.85	0.59
23:P:703:MET:HE3	23:P:713:LEU:HB2	1.84	0.59
1:2:1109:C:H6	1:2:1109:C:HO2'	1.48	0.59
8:A:2189:LEU:HD21	8:A:2347:GLY:C	2.28	0.59
9:B:1779:TYR:CE1	9:B:1783:HIS:CE1	2.91	0.59
14:G:346:ASN:O	14:G:422:ASN:ND2	2.36	0.59
17:J:678:TYR:O	17:J:683:ASN:N	2.31	0.59
23:P:493:VAL:HG23	23:P:937:LYS:HG2	1.84	0.59
24:Q:329:LYS:HB3	24:Q:335:TRP:HB2	1.85	0.59
27:T:243:PHE:HA	27:T:246:LYS:HE2	1.83	0.59
30:W:8:VAL:HG11	30:W:49:HIS:CB	2.32	0.59
30:W:29:VAL:HA	30:W:39:ASP:OD2	2.02	0.59
41:m:72:VAL:HG21	41:m:94:LEU:HB3	1.85	0.59
38:q:46:ASP:OD1	38:q:50:ASN:N	2.33	0.59
4:5:96:U:OP1	8:A:1366:ARG:NE	2.36	0.58
8:A:1347:ARG:NH2	8:A:1536:LEU:O	2.36	0.58
8:A:1361:VAL:HG21	31:X:7:ALA:HA	1.85	0.58
9:B:1898:ASP:O	9:B:1902:LEU:HG	2.03	0.58
10:C:208:ARG:NH1	10:C:440:THR:OG1	2.36	0.58
11:D:4:VAL:HG13	11:D:5:LEU:H	1.67	0.58
22:O:639:MET:HG3	22:O:642:LYS:HE2	1.84	0.58
23:P:600:ILE:HD13	23:P:642:LEU:HD13	1.85	0.58
40:h:40:LEU:HB3	40:h:43:VAL:HG21	1.85	0.58
37:w:87:ILE:O	39:y:64:ARG:CZ	2.51	0.58
3:4:96:A:H2'	3:4:97:U:O4'	2.02	0.58
8:A:623:ARG:NH2	8:A:624:GLU:OE2	2.35	0.58
8:A:1315:ARG:HH21	8:A:1522:ASN:HD21	1.50	0.58
9:B:1372:LYS:HA	9:B:1376:LYS:NZ	2.18	0.58
14:G:335:THR:HG22	14:G:336:VAL:H	1.67	0.58
17:J:798:LEU:HD22	17:J:803:ASN:HD22	1.67	0.58
23:P:106:THR:C	23:P:108:ASP:H	2.11	0.58
23:P:412:THR:O	23:P:413:ILE:HG23	2.03	0.58
27:T:29:PRO:HG3	27:T:59:ILE:HG13	1.84	0.58
27:T:516:MET:HE2	27:T:521:TYR:HA	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:s:18:TYR:HD1	35:s:101:PRO:HG3	1.67	0.58
4:5:136:G:O2'	4:5:137:U:O4'	2.19	0.58
8:A:158:LYS:NZ	20:M:6:PHE:CA	2.66	0.58
9:B:563:LEU:HD11	9:B:836:TRP:CE2	2.38	0.58
9:B:568:GLN:NE2	9:B:587:GLU:OE1	2.36	0.58
9:B:1367:PHE:CE2	9:B:1518:ALA:HB1	2.39	0.58
9:B:2102:VAL:O	9:B:2142:ILE:HA	2.03	0.58
10:C:605:ILE:HB	10:C:652:MET:HE2	1.84	0.58
15:H:202:LEU:HG	15:H:209:PRO:HA	1.84	0.58
17:J:886:CYS:HB2	17:J:890:GLU:OE2	2.03	0.58
23:P:153:ASP:OD1	23:P:154:SER:N	2.33	0.58
27:T:445:ARG:O	27:T:449:HIS:ND1	2.28	0.58
29:V:140:ALA:HA	29:V:143:LYS:HD2	1.85	0.58
1:2:1097:G:H5'	32:Y:42:GLN:HE22	1.68	0.58
8:A:1594:GLN:HE21	11:D:122:ARG:NH2	2.01	0.58
8:A:2057:ASP:O	8:A:2061:THR:OG1	2.17	0.58
13:F:302:MET:O	13:F:306:LEU:HB2	2.03	0.58
14:G:50:LEU:HA	34:a:78:ASP:HB2	1.85	0.58
15:H:435:GLY:H	17:J:731:LEU:HD12	1.68	0.58
17:J:512:ASP:HB3	17:J:560:LEU:HD11	1.86	0.58
23:P:369:ILE:HD13	23:P:421:ILE:HD11	1.85	0.58
23:P:379:VAL:HG22	23:P:391:LEU:HB2	1.83	0.58
23:P:538:PRO:HA	23:P:548:THR:HG23	1.85	0.58
28:U:214:PRO:N	28:U:215:PRO:HD2	2.19	0.58
1:2:1152:U:H2'	1:2:1153:C:C6	2.38	0.58
2:3:23:ALA:HB1	2:3:49:TYR:HB2	1.84	0.58
8:A:166:LYS:HE2	17:J:75:GLU:HG2	1.86	0.58
8:A:395:PRO:HD2	10:C:660:ARG:HH12	1.67	0.58
10:C:130:PRO:HG3	10:C:558:LYS:HB3	1.85	0.58
10:C:820:LEU:HD13	10:C:823:ILE:HD11	1.86	0.58
16:I:72:A:N3	26:S:99:ARG:NH2	2.52	0.58
22:O:927:ALA:C	22:O:929:ASN:H	2.11	0.58
30:W:57:LEU:CD1	30:W:73:ARG:HH12	2.16	0.58
35:b:35:MET:HB2	35:b:44:VAL:HG23	1.85	0.58
3:4:18:A:N1	5:6:63:G:C6	2.72	0.58
8:A:144:ASN:HB3	20:M:19:ASN:HD21	0.66	0.58
8:A:222:ILE:HD11	8:A:317:PRO:HG2	1.84	0.58
9:B:1779:TYR:CE1	9:B:1783:HIS:HE1	2.21	0.58
14:G:243:ARG:O	14:G:247:ASN:ND2	2.36	0.58
15:H:176:LYS:HZ2	18:K:72:GLU:HB2	1.67	0.58
22:O:869:SER:OG	26:S:78:ARG:NH1	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:1009:LEU:O	23:P:1017:PHE:HA	2.03	0.58
28:U:242:PHE:CD1	29:V:225:ARG:HG2	2.38	0.58
8:A:1289:VAL:HG22	8:A:1296:ARG:HG2	1.84	0.58
8:A:2121:MET:HE2	9:B:1056:GLN:HG3	1.85	0.58
8:A:2398:LEU:CD1	9:B:1060:LYS:HZ2	2.15	0.58
10:C:802:ALA:HB2	10:C:843:LYS:HA	1.85	0.58
13:F:369:GLY:O	13:F:373:ARG:N	2.28	0.58
17:J:540:LEU:HB3	17:J:550:ARG:HH21	1.68	0.58
17:J:791:LYS:HA	17:J:794:PHE:HD2	1.68	0.58
23:P:380:LEU:HB3	23:P:388:LEU:HD11	1.85	0.58
37:w:90:ILE:HB	39:y:62:VAL:HG13	1.86	0.58
3:4:4:C:C2	5:6:78:G:N2	2.72	0.58
4:5:95:C:H4'	4:5:96:U:H5'	1.85	0.58
8:A:1103:LEU:HD21	8:A:1110:ALA:HB1	1.84	0.58
9:B:1396:VAL:HG11	9:B:1452:PHE:CE2	2.38	0.58
10:C:861:ILE:HD11	10:C:938:ARG:HB3	1.86	0.58
18:K:63:ILE:HG13	18:K:64:LEU:HD12	1.86	0.58
22:O:859:ASN:O	22:O:862:THR:OG1	2.19	0.58
23:P:363:VAL:O	23:P:364:THR:HG23	2.03	0.58
23:P:704:SER:O	23:P:712:PHE:O	2.22	0.58
37:w:87:ILE:O	39:y:64:ARG:NH2	2.35	0.58
5:6:45:A:O2'	5:6:46:U:OP1	2.18	0.58
8:A:1581:PHE:HB2	8:A:1605:ARG:HH12	1.69	0.58
10:C:234:LEU:HD12	10:C:443:TYR:HB2	1.85	0.58
17:J:392:ARG:HH11	17:J:402:TRP:HZ2	1.52	0.58
18:K:45:ASN:HA	18:K:74:LYS:NZ	2.18	0.58
30:W:11:ALA:HB2	30:W:25:VAL:C	2.29	0.58
30:W:23:TYR:O	30:W:33:ASP:HB2	2.03	0.58
36:d:65:ARG:HE	39:g:36:LEU:HD23	1.68	0.58
40:t:7:LEU:HD11	41:u:95:PHE:CZ	2.39	0.58
1:2:111:C:C5	38:x:48:TYR:CE2	2.92	0.58
5:6:1:G:H21	8:A:662:GLN:NE2	2.02	0.58
5:6:29:U:C5'	8:A:614:ARG:HD2	2.33	0.58
8:A:755:ASP:HB2	8:A:819:LYS:HE3	1.85	0.58
9:B:1139:MET:HE1	9:B:1148:GLN:HB3	1.86	0.58
9:B:1409:LEU:HD22	9:B:1427:LYS:HB2	1.84	0.58
10:C:385:PHE:HE1	10:C:425:LEU:HD21	1.69	0.58
10:C:890:LYS:HE3	10:C:892:ILE:HD11	1.86	0.58
22:O:916:MET:HB3	22:O:920:TRP:HE1	1.69	0.58
41:i:62:ASP:OD1	41:i:63:ARG:N	2.37	0.58
9:B:765:ASN:CB	9:B:768:HIS:HD2	2.16	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:D:28:VAL:HB	11:D:58:VAL:O	2.04	0.57
23:P:638:SER:OG	23:P:685:THR:O	2.21	0.57
23:P:1037:PHE:HB2	23:P:1042:LEU:HB2	1.85	0.57
23:P:1070:SER:HB3	24:Q:167:LYS:HD3	1.86	0.57
23:P:1302:ARG:NH2	23:P:1307:TYR:HA	2.19	0.57
37:p:10:MET:HG3	39:r:30:ARG:O	2.04	0.57
39:r:8:LYS:HA	39:r:11:MET:HG2	1.86	0.57
3:4:6:U:H2'	3:4:7:A:H8	1.69	0.57
8:A:147:SER:HG	20:M:20:GLN:HG2	1.63	0.57
9:B:794:ARG:O	9:B:798:GLU:HG3	2.04	0.57
9:B:2053:LEU:HD21	9:B:2142:ILE:HG22	1.86	0.57
10:C:125:SER:HB2	36:d:77:LEU:HD13	1.85	0.57
10:C:309:ASN:HD22	10:C:441:ARG:HG3	1.70	0.57
15:H:411:VAL:HG22	15:H:421:VAL:HG12	1.86	0.57
23:P:205:SER:HB2	23:P:211:LYS:HG2	1.86	0.57
23:P:643:ILE:HG23	23:P:651:LEU:HD21	1.86	0.57
23:P:644:ILE:HG13	23:P:652:VAL:HB	1.86	0.57
23:P:1244:GLU:HG3	23:P:1322:LEU:HD23	1.86	0.57
30:W:35:GLN:NE2	32:Y:77:ARG:HH22	2.02	0.57
30:W:160:THR:HG22	30:W:163:GLU:HG2	1.85	0.57
37:e:51:ASN:OD1	37:e:84:GLY:N	2.21	0.57
41:u:67:MET:HE2	41:u:69:LEU:HD21	1.87	0.57
8:A:791:ARG:NH1	17:J:131:ARG:HD3	2.18	0.57
8:A:1663:PHE:CD1	8:A:2144:GLN:CD	2.82	0.57
13:F:302:MET:O	13:F:306:LEU:CB	2.52	0.57
22:O:288:ASN:OD1	22:O:289:GLU:N	2.37	0.57
23:P:622:LEU:HD21	23:P:663:LEU:HB2	1.87	0.57
35:k:21:ARG:NH1	35:k:29:VAL:HG11	2.19	0.57
35:s:21:ARG:HB2	35:s:98:GLU:OE1	2.03	0.57
40:t:95:ILE:HG23	41:u:95:PHE:HB3	1.87	0.57
38:x:74:ARG:HB3	38:x:77:ASN:HD22	1.69	0.57
4:5:95:C:N4	4:5:100:A:H61	2.02	0.57
8:A:330:LEU:HD12	10:C:920:LEU:HD21	1.84	0.57
8:A:898:ILE:HA	8:A:1006:ARG:NH1	2.19	0.57
9:B:801:ILE:HG22	9:B:827:VAL:HB	1.86	0.57
9:B:1070:ASP:OD1	12:E:208:LYS:HD2	1.87	0.57
9:B:1101:ILE:O	9:B:1105:ALA:CB	2.53	0.57
9:B:1370:SER:HB2	9:B:1514:CYS:SG	2.45	0.57
9:B:1488:TYR:O	9:B:1492:ILE:HG12	2.03	0.57
9:B:1748:TYR:CE2	40:l:142:PRO:HD2	2.39	0.57
17:J:533:LEU:HA	17:J:564:TYR:HE1	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:359:ILE:O	22:O:363:LEU:HB2	2.05	0.57
22:O:689:LEU:HD21	22:O:707:PHE:CD2	2.38	0.57
22:O:881:MET:O	22:O:884:LEU:N	2.36	0.57
23:P:1035:LEU:HD11	23:P:1042:LEU:HD23	1.85	0.57
30:W:8:VAL:HA	30:W:25:VAL:HG22	1.86	0.57
30:W:17:ASP:O	30:W:19:PHE:N	2.38	0.57
34:a:20:LYS:NZ	34:a:67:VAL:O	2.38	0.57
1:2:143:G:O3'	1:2:143:G:C2'	2.47	0.57
8:A:173:LEU:HB2	8:A:719:ILE:HD11	1.87	0.57
8:A:352:PHE:HE1	8:A:527:LYS:HG3	1.70	0.57
8:A:926:LYS:NZ	8:A:933:GLU:OE2	2.31	0.57
8:A:1335:TRP:CG	8:A:1367:ILE:HD11	2.39	0.57
9:B:2058:ASN:ND2	9:B:2070:LYS:O	2.37	0.57
14:G:260:ILE:HD11	14:G:267:LYS:HA	1.87	0.57
15:H:200:GLN:HE21	15:H:213:LYS:HA	1.68	0.57
17:J:499:ILE:HG22	17:J:503:LYS:HE3	1.85	0.57
18:K:64:LEU:HD21	18:K:98:ILE:HB	1.85	0.57
22:O:346:ILE:HG13	26:S:51:PHE:HB3	1.86	0.57
23:P:65:LEU:HB3	23:P:886:PHE:HE2	1.69	0.57
25:R:162:ASP:OD1	25:R:182:TYR:OH	2.22	0.57
27:T:377:VAL:HG12	27:T:378:ASP:N	2.19	0.57
27:T:377:VAL:HG12	27:T:378:ASP:H	1.69	0.57
32:Y:60:LYS:HE3	32:Y:75:THR:HG23	1.86	0.57
35:b:38:ASP:OD1	35:b:42:ASN:N	2.37	0.57
36:d:21:LEU:HD23	36:d:72:ILE:HB	1.86	0.57
43:o:30:PHE:HE1	43:o:50:GLU:HG3	1.70	0.57
1:2:66:A:OP2	1:2:66:A:H8	1.87	0.57
1:2:141:A:C2'	1:2:142:C:C6	2.87	0.57
8:A:1577:LYS:HE3	13:F:391:MET:HB3	1.86	0.57
8:A:1656:LYS:HG3	8:A:2141:TYR:OH	2.04	0.57
9:B:1771:ASP:O	9:B:1774:THR:OG1	2.18	0.57
13:F:218:ILE:O	13:F:222:ILE:HG23	2.05	0.57
15:H:140:MET:HA	15:H:143:HIS:CD2	2.39	0.57
15:H:263:GLY:HA3	15:H:292:TRP:HZ2	1.68	0.57
23:P:1223:GLY:O	23:P:1224:THR:OG1	2.22	0.57
36:v:68:GLN:CD	39:y:69:ILE:HD13	2.30	0.57
4:5:14:G:C2	4:5:15:A:C8	2.93	0.57
8:A:421:ALA:HB2	8:A:474:LYS:HB2	1.86	0.57
8:A:628:MET:HE1	8:A:660:ILE:HD12	1.87	0.57
8:A:791:ARG:HH11	17:J:131:ARG:HD3	1.69	0.57
9:B:1688:TYR:CD1	9:B:1695:TYR:CE1	2.93	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:J:387:THR:O	17:J:390:SER:OG	2.15	0.57
36:n:68:GLN:HG3	39:r:69:ILE:HA	1.86	0.57
8:A:610:ARG:HD3	8:A:1623:PHE:CZ	2.40	0.57
8:A:1604:ARG:HG2	8:A:1640:THR:HB	1.86	0.57
8:A:1906:SER:HA	12:E:164:LEU:HD13	1.85	0.57
8:A:2084:LEU:HD12	8:A:2085:GLY:H	1.70	0.57
8:A:2177:VAL:HG12	8:A:2179:GLU:H	1.70	0.57
9:B:901:VAL:HA	9:B:906:LEU:HD13	1.87	0.57
9:B:1217:ARG:NH2	9:B:1788:TYR:OH	2.37	0.57
10:C:632:VAL:HG21	10:C:655:LEU:HD12	1.86	0.57
10:C:880:MET:HG3	10:C:888:ILE:HD11	1.87	0.57
13:F:400:VAL:HG22	17:J:215:LEU:HD23	1.87	0.57
15:H:60:LYS:HG3	15:H:79:ILE:HD13	1.86	0.57
22:O:516:SER:O	22:O:520:ASP:HB2	2.04	0.57
22:O:903:LEU:HB3	22:O:915:PHE:CZ	2.39	0.57
22:O:921:ALA:HB2	24:Q:169:VAL:HB	1.86	0.57
23:P:486:PRO:HG2	23:P:505:PHE:CG	2.40	0.57
23:P:1193:PHE:HA	23:P:1314:VAL:HG12	1.86	0.57
28:U:233:VAL:HG11	29:V:192:PHE:CD2	2.39	0.57
1:2:1097:G:H1'	1:2:1146:G:N2	2.20	0.57
5:6:30:G:O2'	11:D:96:GLY:O	2.17	0.57
5:6:81:G:H2'	5:6:82:A:C8	2.40	0.57
8:A:655:TYR:O	8:A:659:HIS:HB2	2.04	0.57
8:A:939:LEU:HD12	8:A:986:PRO:HB2	1.87	0.57
9:B:505:LYS:HA	9:B:508:HIS:NE2	2.19	0.57
9:B:1246:THR:O	9:B:1289:PHE:HE2	1.87	0.57
9:B:1996:GLN:HE22	9:B:2150:LEU:N	2.03	0.57
10:C:370:TYR:HB3	10:C:375:GLU:HB2	1.85	0.57
11:D:92:MET:HG2	11:D:130:LEU:HD13	1.87	0.57
15:H:176:LYS:HB3	15:H:177:PRO:HD2	1.86	0.57
22:O:205:LEU:HD21	22:O:243:ILE:HG12	1.86	0.57
23:P:1301:GLY:O	26:S:41:ARG:NH2	2.37	0.57
24:Q:265:CYS:SG	24:Q:266:PHE:N	2.76	0.57
27:T:11:LEU:HD23	27:T:14:MET:HE3	1.87	0.57
30:W:3:PHE:CZ	30:W:32:ARG:HB2	2.40	0.57
30:W:15:TYR:CE1	35:s:101:PRO:O	2.57	0.57
38:x:16:LYS:HB2	38:x:17:PRO:HD3	1.87	0.57
4:5:50:G:N2	4:5:65:U:O2	2.24	0.57
8:A:1860:VAL:HG12	8:A:1874:ALA:HA	1.87	0.57
8:A:2007:ARG:NE	8:A:2052:GLU:OE2	2.29	0.57
8:A:2121:MET:CE	9:B:1056:GLN:HG2	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:1090:GLU:CD	19:L:62:LEU:C	2.73	0.57
23:P:339:ASP:OD1	23:P:340:MET:N	2.38	0.57
29:V:134:THR:O	29:V:137:ASP:HB2	2.04	0.57
40:h:44:LYS:HA	40:h:81:SER:HA	1.85	0.57
8:A:395:PRO:HD2	10:C:660:ARG:NH1	2.20	0.56
8:A:1616:ARG:HD2	8:A:1619:VAL:HG23	1.88	0.56
8:A:2083:ILE:HG13	8:A:2084:LEU:HG	1.87	0.56
9:B:1415:ARG:HA	9:B:1418:HIS:CE1	2.40	0.56
9:B:1781:ARG:HG3	9:B:1789:TYR:CE2	2.40	0.56
13:F:131:ILE:HD11	13:F:175:LEU:HD12	1.86	0.56
23:P:1112:ASP:OD1	23:P:1113:SER:N	2.35	0.56
23:P:1142:ARG:HH12	24:Q:363:TYR:HB3	1.70	0.56
24:Q:203:THR:HG22	24:Q:250:VAL:HG21	1.87	0.56
27:T:170:PHE:CZ	27:T:246:LYS:HG2	2.39	0.56
28:U:42:TYR:HD1	28:U:60:LYS:HB2	1.70	0.56
37:e:47:ASP:OD1	37:e:51:ASN:N	2.36	0.56
43:o:24:LEU:HD21	43:o:73:LEU:HD21	1.85	0.56
1:2:111:C:C4	38:x:48:TYR:CD2	2.93	0.56
8:A:1856:ASN:HB3	8:A:1859:ARG:NH1	2.19	0.56
9:B:642:ASP:O	9:B:645:PRO:HG2	2.06	0.56
13:F:54:PHE:HD1	13:F:108:ASN:HD22	1.52	0.56
17:J:131:ARG:O	17:J:135:ASN:CB	2.52	0.56
19:L:93:LEU:O	19:L:97:ASP:HB2	2.04	0.56
22:O:324:ARG:O	22:O:330:ARG:NH2	2.38	0.56
23:P:1096:LEU:HD13	23:P:1187:PHE:CZ	2.39	0.56
30:W:89:VAL:HG23	30:W:116:ARG:HB2	1.86	0.56
40:h:17:ILE:HD11	40:h:29:LEU:HD21	1.87	0.56
35:s:40:HIS:O	35:s:89:GLY:HA3	2.05	0.56
3:4:64:U:O4	3:4:66:A:N6	2.39	0.56
8:A:340:LYS:HE2	8:A:355:LEU:HD21	1.87	0.56
8:A:1073:ILE:HD11	8:A:1116:TYR:CE1	2.40	0.56
8:A:2021:SER:O	8:A:2025:ILE:HD12	2.06	0.56
8:A:2159:ASN:HA	8:A:2162:LEU:HD13	1.86	0.56
9:B:978:LEU:HD23	9:B:981:LEU:HD12	1.86	0.56
9:B:1213:ARG:HE	9:B:1281:GLN:NE2	2.03	0.56
10:C:110:LYS:O	10:C:112:ASN:N	2.38	0.56
10:C:139:ILE:HD12	10:C:225:THR:HG23	1.88	0.56
10:C:749:LYS:O	10:C:753:THR:CB	2.54	0.56
13:F:398:GLN:HE21	17:J:215:LEU:HD22	1.69	0.56
14:G:382:VAL:HG21	14:G:392:TYR:CE2	2.41	0.56
17:J:258:SER:C	17:J:262:LYS:HZ3	2.13	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:J:513:THR:O	17:J:517:SER:OG	2.22	0.56
22:O:278:ILE:HG21	22:O:304:VAL:HG11	1.86	0.56
22:O:408:ARG:HA	22:O:412:LEU:HB2	1.87	0.56
22:O:689:LEU:HA	22:O:692:ILE:HD12	1.86	0.56
23:P:232:ARG:HE	23:P:235:MET:HG3	1.70	0.56
23:P:293:ASN:HD22	23:P:364:THR:HB	1.70	0.56
23:P:691:LEU:HB3	23:P:703:MET:HB2	1.86	0.56
23:P:719:GLN:HG2	23:P:762:PHE:HD2	1.69	0.56
23:P:854:ASN:OD1	23:P:855:ALA:N	2.38	0.56
27:T:508:GLU:H	27:T:513:GLY:HA3	1.70	0.56
36:n:23:LEU:HD21	39:r:69:ILE:HG23	1.88	0.56
38:q:16:LYS:HB2	38:q:17:PRO:HD3	1.87	0.56
40:t:30:GLN:HE22	40:t:84:TYR:HE1	1.54	0.56
44:z:16:LEU:HD22	44:z:41:ILE:HG21	1.86	0.56
3:4:149:U:O4	41:m:66:ASN:ND2	2.32	0.56
4:5:174:G:H2'	4:5:175:G:H5''	1.87	0.56
8:A:1878:CYS:HA	8:A:1892:LYS:O	2.04	0.56
9:B:648:GLU:OE1	9:B:943:TYR:HB3	2.04	0.56
23:P:634:CYS:SG	23:P:645:SER:OG	2.38	0.56
24:Q:262:HIS:HB3	24:Q:280:THR:HG22	1.86	0.56
5:6:30:G:H5'	5:6:31:G:H5''	1.86	0.56
9:B:790:ASP:OD1	9:B:794:ARG:NH2	2.38	0.56
9:B:848:LYS:HA	9:B:889:ILE:HB	1.86	0.56
9:B:1165:VAL:HG11	9:B:1170:TYR:CE1	2.41	0.56
9:B:1245:ASP:HA	9:B:1288:PHE:HD1	1.71	0.56
9:B:1489:GLU:OE2	9:B:1746:LEU:HG	2.06	0.56
9:B:1497:PHE:HD1	9:B:1775:TYR:CD2	2.24	0.56
14:G:169:TRP:HB3	15:H:337:ARG:NH1	2.19	0.56
23:P:207:VAL:O	23:P:237:THR:N	2.39	0.56
23:P:965:GLY:N	23:P:1016:SER:OG	2.38	0.56
26:S:23:CYS:HA	26:S:66:GLY:HA2	1.87	0.56
30:W:1:MET:H2	30:W:29:VAL:HG11	1.69	0.56
30:W:3:PHE:CE2	30:W:25:VAL:HG11	2.40	0.56
30:W:17:ASP:CB	32:Y:61:VAL:HA	2.26	0.56
8:A:214:THR:HG22	8:A:501:LEU:HD21	1.88	0.56
8:A:628:MET:HE1	8:A:660:ILE:HG23	1.87	0.56
9:B:516:ASN:HD22	9:B:685:ARG:CB	2.18	0.56
9:B:1458:ARG:HH22	9:B:1462:ARG:NH1	2.03	0.56
10:C:880:MET:SD	10:C:886:SER:HB3	2.46	0.56
13:F:124:PHE:HE2	13:F:127:LEU:HD13	1.69	0.56
23:P:200:ARG:HH12	23:P:245:VAL:HG11	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:382:GLN:HA	23:P:387:ASP:O	2.06	0.56
23:P:494:SER:OG	23:P:497:PRO:HD2	2.06	0.56
25:R:107:ILE:HD13	25:R:154:TYR:HB3	1.86	0.56
38:f:77:ASN:ND2	41:i:102:ILE:HA	2.20	0.56
40:t:3:LEU:HD23	41:u:95:PHE:CE1	2.40	0.56
2:3:26:LEU:HD21	2:3:44:ALA:HB1	1.88	0.56
4:5:10:U:H2'	4:5:11:A:N7	2.20	0.56
4:5:82:A:O2'	4:5:83:C:OP1	2.23	0.56
4:5:105:A:OP1	8:A:535:HIS:NE2	2.39	0.56
8:A:147:SER:CB	20:M:20:GLN:HA	2.36	0.56
8:A:396:ARG:NH2	10:C:667:GLU:OE2	2.37	0.56
8:A:823:TRP:HE1	8:A:851:ARG:HH11	1.53	0.56
9:B:789:LEU:O	9:B:794:ARG:NE	2.32	0.56
9:B:1125:THR:HG21	9:B:1251:ILE:HD11	1.87	0.56
22:O:948:ALA:HA	23:P:1311:TYR:HD1	1.70	0.56
35:b:88:ARG:NH2	36:d:66:GLY:O	2.33	0.56
1:2:111:C:C5	41:u:63:ARG:CG	2.88	0.56
8:A:168:LEU:HD21	8:A:626:LEU:HD21	1.87	0.56
8:A:483:PRO:HB2	8:A:485:PRO:HD2	1.88	0.56
8:A:1790:TRP:CD1	8:A:1795:LYS:HZ3	2.23	0.56
9:B:1579:ASN:OD1	9:B:1678:ASP:HB3	2.06	0.56
15:H:371:GLY:O	15:H:391:ALA:HB3	2.06	0.56
17:J:663:SER:O	17:J:665:PRO:HD3	2.06	0.56
20:M:31:ARG:HA	20:M:90:MET:HE1	1.88	0.56
23:P:104:TYR:CE1	23:P:113:LEU:HD23	2.36	0.56
23:P:820:VAL:HG12	23:P:828:VAL:HG12	1.87	0.56
23:P:1326:PHE:O	23:P:1334:GLN:NE2	2.38	0.56
24:Q:194:PHE:HE2	24:Q:196:LEU:HD23	1.69	0.56
30:W:17:ASP:OD2	32:Y:59:LEU:C	2.48	0.56
41:i:60:ALA:HB3	41:i:68:VAL:HB	1.88	0.56
1:2:1126:G:O2'	1:2:1127:A:C5'	2.54	0.56
3:4:4:C:C2	5:6:78:G:C2	2.94	0.56
4:5:42:A:H2'	4:5:43:G:H5''	1.88	0.56
8:A:1186:TYR:O	8:A:1190:ASN:CB	2.52	0.56
9:B:793:LEU:HD13	9:B:808:LEU:HD13	1.88	0.56
15:H:60:LYS:HG3	15:H:79:ILE:HG21	1.88	0.56
15:H:64:VAL:HG12	15:H:65:GLU:H	1.70	0.56
17:J:155:GLY:O	17:J:213:ASN:ND2	2.39	0.56
17:J:821:TYR:O	17:J:825:LEU:CB	2.53	0.56
22:O:680:PRO:HG2	22:O:685:ILE:HD11	1.88	0.56
25:R:139:GLU:O	25:R:151:ALA:HA	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:T:148:SER:HB2	27:T:158:SER:HA	1.87	0.56
36:d:65:ARG:HH12	36:d:67:SER:HB3	1.71	0.56
41:i:56:ALA:HB2	41:i:72:VAL:HA	1.86	0.56
8:A:1666:CYS:CB	8:A:2146:PHE:CD1	2.89	0.56
10:C:690:PRO:HB3	10:C:707:SER:HB2	1.87	0.56
22:O:874:GLU:O	22:O:878:ILE:N	2.36	0.56
23:P:1191:ASN:ND2	23:P:1316:LYS:HB2	2.21	0.56
27:T:150:PRO:CB	27:T:154:THR:HB	2.36	0.56
30:W:2:LYS:NZ	30:W:43:MET:HE2	2.21	0.56
30:W:11:ALA:HB2	30:W:26:ASP:N	2.21	0.56
41:i:72:VAL:HB	41:i:91:ILE:O	2.06	0.56
38:q:74:ARG:HB3	38:q:77:ASN:HD22	1.70	0.56
39:r:64:ARG:NH1	39:r:66:ASN:HB3	2.21	0.56
4:5:149:U:H2'	4:5:150:U:O4'	2.06	0.55
6:7:93:VAL:HB	43:o:81:LEU:HB2	1.86	0.55
8:A:606:THR:HG22	8:A:609:GLU:HG3	1.88	0.55
13:F:249:LEU:O	13:F:253:ARG:HG2	2.06	0.55
14:G:363:LEU:HD11	14:G:391:PHE:HD2	1.71	0.55
23:P:209:GLN:HE22	23:P:233:PRO:HA	1.71	0.55
23:P:1117:HIS:O	23:P:1133:ASP:HA	2.06	0.55
37:e:43:ILE:HD12	37:e:52:VAL:HG11	1.88	0.55
41:i:36:ASP:HA	41:i:39:VAL:HG12	1.87	0.55
1:2:1139:G:C5	1:2:1140:U:C5	2.94	0.55
8:A:136:PRO:HB2	8:A:140:ARG:HH12	1.70	0.55
8:A:325:LYS:HD2	8:A:405:ASN:ND2	2.21	0.55
8:A:901:PRO:HB2	8:A:955:LYS:HE3	1.87	0.55
8:A:2007:ARG:NH1	8:A:2048:TRP:CE3	2.73	0.55
9:B:562:PRO:HG3	9:B:635:GLU:OE1	2.05	0.55
9:B:1609:MET:SD	9:B:1611:ASN:ND2	2.79	0.55
9:B:1902:LEU:HD22	9:B:1928:LEU:HD12	1.87	0.55
13:F:190:ASP:OD2	13:F:192:LYS:HB3	2.07	0.55
17:J:479:GLU:HA	17:J:482:LEU:HB3	1.87	0.55
23:P:105:ASP:OD1	23:P:106:THR:N	2.39	0.55
23:P:209:GLN:HE21	23:P:231:ILE:HG23	1.71	0.55
23:P:378:PHE:HA	23:P:391:LEU:O	2.05	0.55
30:W:15:TYR:OH	35:s:100:LYS:CG	2.48	0.55
30:W:22:LYS:HG3	30:W:34:LEU:HB2	1.88	0.55
1:2:1139:G:C4	1:2:1140:U:C5	2.94	0.55
4:5:50:G:O6	4:5:66:A:N6	2.40	0.55
8:A:927:VAL:HG13	13:F:385:ARG:HD2	1.88	0.55
10:C:236:LEU:HD23	10:C:264:CYS:HB3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:L:128:GLN:HA	19:L:131:PHE:CE2	2.41	0.55
22:O:851:LEU:HD21	22:O:895:ALA:HB2	1.89	0.55
23:P:446:VAL:HG21	23:P:453:ASN:HD21	1.71	0.55
27:T:148:SER:CB	27:T:159:ASP:H	2.20	0.55
30:W:15:TYR:HH	35:s:100:LYS:HG3	1.68	0.55
30:W:25:VAL:HB	30:W:31:LEU:CA	2.35	0.55
41:u:37:ALA:HA	41:u:42:THR:HG22	1.88	0.55
41:u:102:ILE:HG22	41:u:103:VAL:HG23	1.87	0.55
3:4:77:U:H2'	3:4:78:A:C8	2.41	0.55
8:A:1069:LEU:HD13	8:A:1120:VAL:HG21	1.89	0.55
8:A:1552:GLY:O	8:A:1556:ILE:HD12	2.06	0.55
8:A:1594:GLN:O	8:A:1598:LEU:CB	2.54	0.55
9:B:486:TRP:CD1	9:B:487:CYS:HG	2.23	0.55
9:B:1731:TYR:OH	40:l:146:LEU:O	2.15	0.55
9:B:1779:TYR:O	9:B:1782:ILE:HG22	2.06	0.55
10:C:397:LYS:HE2	10:C:401:ARG:HE	1.71	0.55
10:C:497:ASP:OD1	10:C:498:THR:N	2.40	0.55
10:C:707:SER:H	10:C:824:SER:HB3	1.70	0.55
20:M:26:ILE:HG21	20:M:90:MET:HE2	1.89	0.55
27:T:62:PHE:HB3	27:T:375:GLU:HB2	1.89	0.55
32:Y:45:ARG:HD3	32:Y:62:SER:HA	1.88	0.55
35:b:30:TYR:HE1	35:b:50:GLU:HG3	1.72	0.55
40:l:43:VAL:HG11	40:l:85:ILE:HD12	1.87	0.55
41:u:76:TRP:NE1	41:u:87:ARG:HB2	2.22	0.55
1:2:67:A:O2'	1:2:68:U:H6	1.89	0.55
8:A:1201:TYR:OH	8:A:1213:MET:SD	2.63	0.55
9:B:535:VAL:HG13	9:B:557:ILE:CD1	2.37	0.55
10:C:251:GLN:OE1	10:C:933:TRP:NE1	2.39	0.55
13:F:253:ARG:HD2	18:K:70:LEU:HD13	1.89	0.55
15:H:170:SER:HA	15:H:461:ILE:O	2.06	0.55
15:H:225:ASP:OD2	15:H:272:LYS:HA	2.06	0.55
4:5:79:C:H5'	4:5:80:G:H8	1.70	0.55
8:A:1412:LEU:HB2	8:A:1427:ALA:HB2	1.88	0.55
8:A:1626:GLN:NE2	8:A:1692:TYR:O	2.36	0.55
8:A:1733:TRP:HD1	8:A:1769:SER:HB3	1.70	0.55
9:B:617:ARG:HH12	9:B:1009:TYR:HD1	1.53	0.55
9:B:789:LEU:HD11	9:B:797:ILE:HG13	1.88	0.55
9:B:1008:PHE:N	9:B:1008:PHE:HD1	2.02	0.55
9:B:1194:ASP:HB3	9:B:1198:ARG:HH12	1.71	0.55
13:F:241:LEU:HD11	13:F:285:LEU:HD21	1.89	0.55
14:G:167:GLU:OE2	15:H:135:ARG:NH2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:H:419:ILE:HG13	15:H:440:ILE:HD13	1.89	0.55
17:J:337:ASP:OD2	17:J:340:LEU:N	2.38	0.55
17:J:513:THR:O	17:J:517:SER:HB3	2.07	0.55
17:J:562:MET:O	17:J:566:SER:OG	2.24	0.55
23:P:1023:HIS:HB3	23:P:1058:GLN:HA	1.87	0.55
23:P:1084:ARG:HG2	23:P:1098:ILE:HG12	1.87	0.55
27:T:199:SER:H	27:T:202:GLN:HE21	1.53	0.55
30:W:20:ASN:HB3	30:W:55:HIS:HB3	1.89	0.55
30:W:35:GLN:HE22	32:Y:77:ARG:HH12	1.55	0.55
32:Y:39:ILE:HG13	32:Y:95:PHE:CD2	2.42	0.55
35:k:40:HIS:O	35:k:89:GLY:HA3	2.05	0.55
7:8:43:ASN:HB3	7:8:48:GLU:H	1.71	0.55
8:A:610:ARG:NH1	8:A:1623:PHE:HD1	2.04	0.55
8:A:1063:PHE:O	8:A:1067:ASN:HB2	2.07	0.55
9:B:1624:LEU:HD12	9:B:1630:ARG:HD2	1.88	0.55
10:C:222:MET:HE1	10:C:252:LEU:HD21	1.87	0.55
11:D:9:LEU:HD13	11:D:15:VAL:HA	1.88	0.55
17:J:441:LEU:O	17:J:444:TRP:N	2.40	0.55
22:O:696:LYS:HG2	22:O:697:HIS:H	1.72	0.55
23:P:493:VAL:HB	23:P:939:ILE:HD11	1.89	0.55
34:a:17:VAL:O	34:a:24:GLU:HA	2.07	0.55
40:l:3:LEU:HD23	41:m:95:PHE:CE1	2.35	0.55
1:2:1126:G:HO2'	1:2:1127:A:H8	1.55	0.55
1:2:1146:G:O2'	1:2:1147:A:O5'	2.15	0.55
3:4:30:G:OP2	18:K:95:ARG:NE	2.37	0.55
8:A:374:ILE:HG21	10:C:966:PHE:HE1	1.70	0.55
9:B:1557:ILE:HA	9:B:1695:TYR:CE2	2.36	0.55
10:C:315:SER:OG	45:C:1101:GTP:O6	2.21	0.55
10:C:658:ASP:OD1	10:C:662:SER:OG	2.25	0.55
14:G:167:GLU:O	14:G:171:THR:HG23	2.07	0.55
17:J:723:ARG:HA	17:J:746:MET:HE1	1.89	0.55
17:J:842:TRP:HA	17:J:845:LEU:HD12	1.88	0.55
22:O:916:MET:HB3	22:O:920:TRP:NE1	2.22	0.55
29:V:103:TYR:CD1	29:V:110:VAL:HG21	2.40	0.55
30:W:156:PHE:HB3	32:Y:95:PHE:CD1	2.41	0.55
32:Y:28:ASN:HD21	32:Y:111:LEU:HB2	1.72	0.55
8:A:1834:PHE:O	8:A:1839:ASN:ND2	2.38	0.55
9:B:1217:ARG:C	9:B:1218:PHE:HD1	2.14	0.55
9:B:1583:VAL:HG22	9:B:1681:ILE:HB	1.89	0.55
10:C:137:GLY:HA2	10:C:213:LEU:HB2	1.89	0.55
10:C:223:ASP:OD2	10:C:631:GLY:HA3	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:442:ILE:HG23	22:O:457:ILE:HG23	1.88	0.55
23:P:773:LYS:HD2	23:P:823:SER:HA	1.88	0.55
37:w:85:ASP:OD2	38:x:32:LYS:NZ	2.39	0.55
38:x:46:ASP:OD1	38:x:50:ASN:N	2.36	0.55
1:2:1097:G:H5'	32:Y:40:ASN:CB	2.37	0.55
1:2:1098:C:H2'	1:2:1099:G:C8	2.41	0.55
1:2:1148:U:H2'	1:2:1149:G:C8	2.42	0.55
5:6:31:G:O2'	8:A:1637:LYS:HD2	2.07	0.55
8:A:503:LYS:HA	8:A:506:PHE:CE2	2.42	0.55
9:B:898:TYR:HA	9:B:901:VAL:HG22	1.88	0.55
17:J:158:ASP:OD2	17:J:160:ASN:HB2	2.07	0.55
17:J:335:PRO:O	17:J:341:TRP:NE1	2.29	0.55
17:J:883:MET:HG2	17:J:894:ARG:HE	1.72	0.55
23:P:885:TRP:CH2	23:P:1357:ARG:HB3	2.42	0.55
23:P:1216:CYS:SG	23:P:1228:PHE:HB2	2.47	0.55
3:4:73:A:H3'	9:B:833:THR:HG22	1.88	0.54
8:A:322:VAL:HB	8:A:508:GLN:NE2	2.20	0.54
8:A:628:MET:HE2	8:A:664:THR:HG21	1.88	0.54
8:A:785:HIS:CE1	17:J:124:ASP:HA	2.42	0.54
8:A:1130:ARG:NH2	8:A:1158:ILE:O	2.40	0.54
8:A:1464:LYS:NZ	8:A:1479:GLU:OE2	2.24	0.54
8:A:1557:LEU:HD21	13:F:393:PHE:HZ	1.72	0.54
8:A:2398:LEU:CD1	9:B:1060:LYS:HZ1	2.11	0.54
9:B:809:THR:HA	9:B:1092:PHE:CD1	2.41	0.54
15:H:125:ILE:O	15:H:129:LEU:CB	2.56	0.54
18:K:52:ILE:O	18:K:78:TYR:HA	2.07	0.54
22:O:971:LEU:HD23	33:Z:56:SER:HB3	1.89	0.54
23:P:1193:PHE:CZ	23:P:1308:ARG:HD2	2.42	0.54
25:R:13:VAL:HG12	25:R:16:ILE:HD11	1.89	0.54
25:R:114:ASN:ND2	25:R:177:ARG:O	2.40	0.54
36:n:49:ALA:O	36:n:56:VAL:HA	2.07	0.54
41:u:27:LYS:O	41:u:32:SER:OG	2.20	0.54
3:4:8:U:H2'	3:4:9:G:C8	2.42	0.54
7:8:31:ASP:OD1	7:8:35:ASN:N	2.35	0.54
8:A:763:MET:O	8:A:767:LEU:HB2	2.07	0.54
8:A:913:VAL:HG21	17:J:163:THR:HG22	1.88	0.54
8:A:1855:THR:HG23	8:A:1937:ARG:HH12	1.71	0.54
8:A:2165:ARG:HB3	8:A:2300:VAL:HG13	1.89	0.54
9:B:478:LYS:HB2	9:B:504:SER:HB2	1.88	0.54
9:B:1436:LEU:HD22	9:B:1462:ARG:CZ	2.38	0.54
9:B:2056:SER:HG	9:B:2072:THR:HG1	1.52	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:G:145:HIS:HD2	15:H:428:LEU:HD11	1.72	0.54
15:H:410:LEU:HD22	15:H:422:TYR:HD2	1.72	0.54
18:K:35:LYS:O	18:K:39:GLU:HB2	2.07	0.54
19:L:80:PHE:O	19:L:88:THR:HA	2.07	0.54
22:O:198:GLU:O	22:O:202:ASN:CB	2.51	0.54
27:T:319:TYR:O	27:T:322:HIS:HB3	2.08	0.54
30:W:64:LEU:HB3	30:W:86:ILE:HD11	1.88	0.54
32:Y:43:ARG:HG2	32:Y:47:ASN:ND2	2.22	0.54
32:Y:43:ARG:HG2	32:Y:47:ASN:HD21	1.72	0.54
37:p:59:GLU:O	37:p:74:GLY:HA2	2.08	0.54
1:2:67:A:C4	1:2:68:U:C5	2.96	0.54
5:6:55:G:O2'	5:6:56:A:OP1	2.22	0.54
8:A:921:ASP:OD2	13:F:404:TYR:HB2	2.07	0.54
9:B:924:VAL:HG12	9:B:998:ALA:HB2	1.90	0.54
9:B:1220:ILE:HG22	9:B:1222:ILE:HG13	1.88	0.54
10:C:205:SER:HB2	36:d:9:LYS:HD3	1.89	0.54
10:C:219:VAL:HG11	10:C:931:TYR:CB	2.37	0.54
10:C:932:PHE:CZ	10:C:935:LYS:HA	2.42	0.54
14:G:428:TRP:CE2	15:H:390:LEU:HD22	2.41	0.54
23:P:643:ILE:HD13	23:P:653:TYR:HA	1.89	0.54
23:P:770:LEU:HB2	23:P:827:TRP:NE1	2.22	0.54
25:R:116:ALA:HB3	25:R:119:ILE:HG12	1.88	0.54
27:T:147:SER:HA	27:T:155:ASN:O	2.08	0.54
30:W:58:ASP:HA	30:W:80:LEU:HB2	1.88	0.54
1:2:1099:G:P	30:W:158:ASN:CB	2.95	0.54
8:A:973:GLU:HA	8:A:978:ILE:HG22	1.90	0.54
9:B:614:ILE:HD11	9:B:1009:TYR:CG	2.42	0.54
19:L:93:LEU:O	19:L:97:ASP:CB	2.56	0.54
22:O:219:HIS:NE2	26:S:97:LEU:HD23	2.23	0.54
23:P:292:ALA:HA	23:P:331:PHE:CD1	2.42	0.54
27:T:21:ILE:HD11	29:V:164:CYS:SG	2.47	0.54
28:U:42:TYR:HB2	28:U:45:GLN:HG3	1.90	0.54
30:W:7:ILE:O	30:W:26:ASP:N	2.40	0.54
32:Y:43:ARG:HA	32:Y:46:VAL:HG12	1.90	0.54
40:l:30:GLN:HE22	40:l:84:TYR:HE1	1.53	0.54
38:q:33:PHE:C	38:q:35:SER:H	2.16	0.54
1:2:1126:G:O2'	1:2:1127:A:O5'	2.24	0.54
3:4:46:G:H2'	3:4:47:A:H8	1.71	0.54
4:5:45:A:H5''	4:5:46:C:C5	2.41	0.54
8:A:239:PHE:HB3	8:A:663:LEU:HD11	1.89	0.54
9:B:1208:ALA:O	9:B:1209:GLN:HG3	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:F:390:ARG:O	13:F:412:MET:N	2.40	0.54
23:P:59:TYR:HE1	23:P:1316:LYS:HD2	1.73	0.54
23:P:607:LEU:HB2	23:P:624:TRP:HB3	1.90	0.54
23:P:641:GLN:HE21	23:P:653:TYR:HE1	1.54	0.54
27:T:116:LEU:HG	29:V:113:MET:HE3	1.89	0.54
28:U:57:TYR:HD1	28:U:70:LEU:HD13	1.73	0.54
1:2:1102:C:H5	32:Y:38:LYS:HE3	1.71	0.54
4:5:105:A:H2'	4:5:106:A:C8	2.43	0.54
8:A:1033:ASN:HB2	8:A:1288:LEU:HD23	1.88	0.54
8:A:2183:TYR:HE2	8:A:2289:ILE:CG1	2.08	0.54
9:B:465:ILE:HB	9:B:705:GLN:HB2	1.90	0.54
9:B:1312:LYS:N	9:B:1787:SER:OG	2.39	0.54
9:B:1628:HIS:O	9:B:1632:PRO:HD2	2.07	0.54
9:B:1925:LYS:NZ	9:B:1946:ASP:OD2	2.25	0.54
9:B:1982:MET:HE2	9:B:1989:ASP:H	1.73	0.54
10:C:270:LEU:HD11	10:C:313:PHE:HB3	1.89	0.54
15:H:72:ARG:HG3	15:H:75:ARG:NH1	2.23	0.54
17:J:244:TRP:O	17:J:248:ALA:CB	2.51	0.54
22:O:519:ILE:HA	22:O:522:LEU:HB2	1.89	0.54
23:P:208:GLU:HA	23:P:236:VAL:HA	1.89	0.54
23:P:768:ARG:NH2	23:P:1359:ASN:O	2.41	0.54
23:P:1130:ILE:HD13	23:P:1204:ILE:HD11	1.90	0.54
24:Q:277:PHE:O	24:Q:280:THR:OG1	2.18	0.54
36:d:23:LEU:HD23	36:d:25:THR:H	1.73	0.54
40:h:42:ASP:N	40:h:83:GLN:O	2.38	0.54
1:2:1109:C:C2	1:2:1116:A:OP1	2.61	0.54
8:A:404:ASN:HB3	10:C:919:ARG:NH1	2.21	0.54
8:A:1013:ILE:HD11	8:A:1119:LEU:HD13	1.89	0.54
8:A:2084:LEU:HD12	8:A:2085:GLY:N	2.22	0.54
9:B:656:TRP:HH2	9:B:929:ILE:HG13	1.73	0.54
9:B:766:ILE:HG23	9:B:767:THR:HG23	1.89	0.54
14:G:340:LYS:HE3	14:G:393:GLU:HB2	1.88	0.54
17:J:164:GLU:HG3	17:J:167:GLU:OE2	2.07	0.54
17:J:877:ALA:HB2	17:J:895:LEU:HD21	1.89	0.54
23:P:1298:SER:C	23:P:1300:LEU:H	2.16	0.54
36:v:49:ALA:O	36:v:56:VAL:HA	2.08	0.54
1:2:116:U:N3	40:t:88:ARG:HG3	2.22	0.54
8:A:376:ARG:NE	10:C:910:GLU:OE2	2.29	0.54
8:A:2189:LEU:HD22	8:A:2349:PHE:CE1	2.42	0.54
8:A:2189:LEU:HD22	8:A:2349:PHE:HE1	1.73	0.54
9:B:1748:TYR:HB3	40:l:140:LYS:N	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:2077:ARG:HH12	9:B:2081:PRO:HG3	1.73	0.54
22:O:881:MET:HG2	22:O:885:ILE:HD11	1.89	0.54
23:P:157:LEU:O	23:P:176:ASN:HA	2.07	0.54
23:P:1323:CYS:HB3	23:P:1353:ILE:HD12	1.90	0.54
27:T:409:TYR:HA	27:T:412:TYR:CE2	2.43	0.54
39:g:30:ARG:HE	39:g:41:ASP:HB2	1.72	0.54
41:m:56:ALA:HB2	41:m:72:VAL:HA	1.90	0.54
3:4:72:A:OP2	9:B:1047:ARG:CZ	2.56	0.54
8:A:176:LEU:HD23	8:A:715:LEU:HD11	1.89	0.54
8:A:1060:LYS:HD2	8:A:1239:THR:HA	1.90	0.54
8:A:1386:ALA:O	8:A:1390:THR:OG1	2.20	0.54
9:B:567:VAL:HG13	9:B:606:VAL:HG12	1.89	0.54
9:B:639:LEU:HD23	9:B:943:TYR:CD2	2.42	0.54
9:B:766:ILE:HD12	9:B:769:LYS:HZ1	1.72	0.54
9:B:1779:TYR:CZ	9:B:1783:HIS:CE1	2.95	0.54
10:C:649:GLU:OE2	10:C:913:GLY:N	2.40	0.54
13:F:120:TYR:CZ	13:F:141:ILE:HG21	2.43	0.54
23:P:782:GLU:O	23:P:816:MET:N	2.39	0.54
28:U:212:GLU:HB3	29:V:205:LYS:HB3	1.90	0.54
30:W:32:ARG:HA	30:W:36:LEU:CD2	2.35	0.54
37:e:51:ASN:HD22	38:f:49:PHE:HE2	1.54	0.54
37:p:30:TRP:CE2	37:p:89:LEU:HD22	2.42	0.54
39:r:50:ASP:H	39:r:51:PRO:HD3	1.73	0.54
36:v:10:LEU:HD12	36:v:83:LEU:HD12	1.90	0.54
4:5:159:C:O2'	4:5:161:U:OP2	2.19	0.54
8:A:2157:ILE:CG1	9:B:1064:PRO:HB2	2.37	0.54
9:B:1629:LEU:HD23	9:B:1648:ASP:CG	2.32	0.54
9:B:1740:LEU:HD11	40:l:146:LEU:HD12	1.88	0.54
10:C:472:VAL:HB	10:C:575:ALA:HB3	1.90	0.54
13:F:135:LEU:HD11	13:F:139:LYS:HE3	1.89	0.54
15:H:181:VAL:HG22	15:H:192:THR:HG22	1.88	0.54
17:J:234:ARG:HH11	17:J:247:SER:HB2	1.73	0.54
23:P:154:SER:HA	23:P:182:THR:HA	1.90	0.54
28:U:41:PRO:HD2	28:U:53:ARG:NH1	2.23	0.54
28:U:210:ALA:HB3	29:V:202:GLN:HB3	1.90	0.54
30:W:2:LYS:C	30:W:30:ILE:HD11	2.33	0.54
30:W:11:ALA:CB	30:W:31:LEU:HD23	2.37	0.54
32:Y:86:GLN:NE2	32:Y:101:VAL:HG23	2.23	0.54
32:Y:89:LEU:HD22	32:Y:92:GLU:HG3	1.88	0.54
1:2:1097:G:C5	1:2:1146:G:C6	2.96	0.53
1:2:1139:G:HO2'	1:2:1140:U:C5'	2.20	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1265:PHE:HE1	8:A:1346:PHE:HD1	1.56	0.53
9:B:614:ILE:HD11	9:B:1009:TYR:CD1	2.43	0.53
9:B:1008:PHE:N	9:B:1008:PHE:CD1	2.72	0.53
11:D:49:ILE:HD11	11:D:110:LYS:HA	1.89	0.53
13:F:290:MET:HE1	13:F:334:LYS:HE2	1.89	0.53
16:I:67:C:OP2	22:O:773:GLN:NE2	2.33	0.53
17:J:883:MET:HG2	17:J:894:ARG:HH21	1.72	0.53
22:O:159:ASP:O	22:O:163:GLU:CB	2.56	0.53
22:O:256:PRO:HA	22:O:259:ARG:HB2	1.91	0.53
22:O:435:THR:O	22:O:439:MET:HG2	2.09	0.53
22:O:539:HIS:CE1	22:O:578:ILE:HG12	2.42	0.53
30:W:36:LEU:HG	30:W:59:LEU:N	2.23	0.53
30:W:56:ILE:HG13	30:W:78:THR:HB	1.89	0.53
37:w:35:ILE:HG22	39:y:23:ARG:HE	1.73	0.53
1:2:42:PSU:H1'	28:U:83:ARG:HH21	1.73	0.53
1:2:110:A:H5''	1:2:111:C:OP2	2.07	0.53
3:4:147:U:H3	35:k:42:ASN:HD21	1.54	0.53
8:A:1632:ILE:HD13	8:A:1645:LEU:HD13	1.90	0.53
10:C:803:VAL:HG23	10:C:813:ILE:HB	1.91	0.53
13:F:157:LEU:HA	13:F:160:HIS:HE1	1.72	0.53
22:O:484:PHE:HA	22:O:488:TRP:CD1	2.42	0.53
22:O:827:ILE:HD12	22:O:830:MET:HB2	1.91	0.53
23:P:390:LYS:HD2	23:P:410:PHE:CZ	2.43	0.53
23:P:692:ALA:HB2	23:P:730:MET:HE3	1.91	0.53
30:W:47:LEU:HD12	30:W:70:LEU:HA	1.89	0.53
37:e:57:ALA:HB3	37:e:77:LEU:HB2	1.90	0.53
40:t:7:LEU:HD11	41:u:95:PHE:CE2	2.43	0.53
1:2:1125:U:O2'	1:2:1126:G:C8	2.57	0.53
3:4:7:A:H2'	3:4:8:U:C6	2.43	0.53
4:5:94:C:H2'	4:5:95:C:C5	2.44	0.53
8:A:816:ILE:O	8:A:820:ALA:CB	2.55	0.53
8:A:2032:ILE:HG21	8:A:2047:GLN:HE22	1.74	0.53
9:B:1457:ARG:NH1	9:B:1854:SER:O	2.41	0.53
10:C:363:PRO:HB3	10:C:369:LYS:HG2	1.90	0.53
14:G:433:GLN:HB3	15:H:349:SER:HB3	1.90	0.53
15:H:423:SER:HG	15:H:426:THR:HG1	1.55	0.53
17:J:503:LYS:HA	17:J:506:ILE:HD12	1.89	0.53
20:M:16:GLN:OE1	20:M:96:ARG:NH1	2.41	0.53
22:O:257:MET:HG3	26:S:100:HIS:CG	2.43	0.53
22:O:390:ILE:HD12	22:O:426:MET:HA	1.89	0.53
22:O:682:ILE:HA	22:O:685:ILE:HD12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:R:164:ALA:O	25:R:168:LEU:HB2	2.09	0.53
35:b:30:TYR:HB3	35:b:48:CYS:SG	2.49	0.53
1:2:1127:A:O2'	1:2:1128:C:H5'	2.08	0.53
8:A:645:ASP:OD1	8:A:646:ALA:N	2.41	0.53
8:A:914:LEU:HD21	8:A:1501:THR:HG22	1.91	0.53
8:A:1458:TRP:CZ3	8:A:1494:LEU:HD11	2.43	0.53
8:A:2398:LEU:HD22	9:B:1060:LYS:CG	2.38	0.53
9:B:675:PRO:HG3	9:B:905:GLN:C	2.34	0.53
9:B:781:LEU:HD11	9:B:798:GLU:HA	1.90	0.53
9:B:2138:HIS:O	9:B:2159:GLU:HG3	2.08	0.53
22:O:863:HIS:HD1	26:S:75:GLU:CD	2.16	0.53
23:P:182:THR:O	23:P:183:THR:HG23	2.08	0.53
26:S:40:LYS:HE2	26:S:74:TRP:HD1	1.73	0.53
27:T:251:LEU:HD12	27:T:251:LEU:O	2.09	0.53
3:4:76:A:OP1	9:B:608:THR:OG1	2.27	0.53
9:B:455:ARG:HB2	9:B:462:GLU:HG3	1.90	0.53
15:H:159:LEU:HB3	15:H:430:MET:HE2	1.89	0.53
22:O:327:TRP:HA	22:O:330:ARG:HH11	1.73	0.53
22:O:855:GLN:O	22:O:858:SER:OG	2.18	0.53
22:O:903:LEU:HB3	22:O:915:PHE:HZ	1.73	0.53
24:Q:193:PRO:HA	28:U:62:HIS:HB2	1.91	0.53
34:a:24:GLU:HG2	34:a:46:THR:HG21	1.89	0.53
37:p:43:ILE:HD12	37:p:52:VAL:HG11	1.90	0.53
44:z:28:LEU:HA	44:z:78:VAL:HA	1.91	0.53
4:5:95:C:O4'	4:5:96:U:H2'	2.08	0.53
4:5:97:U:H1'	11:D:139:HIS:HA	1.91	0.53
8:A:1478:GLU:OE2	17:J:256:LYS:HA	2.08	0.53
9:B:945:TYR:CE2	9:B:949:LEU:HD11	2.43	0.53
9:B:1395:ALA:HB3	9:B:1444:VAL:HG22	1.91	0.53
9:B:1431:ASP:HB2	9:B:1434:LEU:HB3	1.89	0.53
9:B:1757:GLU:HB3	9:B:1763:ILE:HD12	1.90	0.53
10:C:312:ILE:HD13	10:C:435:LEU:HG	1.90	0.53
11:D:30:ARG:NH2	11:D:39:CYS:HB2	2.24	0.53
12:E:151:ILE:HB	12:E:180:GLU:HG2	1.90	0.53
14:G:322:ARG:O	14:G:326:ALA:HB2	2.08	0.53
15:H:402:SER:HB2	15:H:409:LYS:HB2	1.91	0.53
17:J:271:CYS:O	17:J:273:ARG:N	2.41	0.53
23:P:493:VAL:HG13	23:P:499:SER:OG	2.09	0.53
23:P:1107:ILE:HD12	23:P:1108:PRO:HD2	1.91	0.53
23:P:1305:GLN:O	23:P:1309:SER:CB	2.56	0.53
24:Q:183:LEU:HD23	24:Q:272:GLU:HG3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:V:129:HIS:ND1	29:V:130:PRO:HD2	2.23	0.53
30:W:32:ARG:HG2	30:W:50:LEU:HD12	1.90	0.53
30:W:81:LEU:O	30:W:81:LEU:HD23	2.09	0.53
37:w:59:GLU:O	37:w:74:GLY:CA	2.56	0.53
4:5:130:A:H4'	4:5:131:A:O5'	2.08	0.53
8:A:229:ARG:HB2	8:A:695:LEU:HD22	1.91	0.53
8:A:831:ARG:HH12	8:A:975:TYR:HA	1.73	0.53
8:A:1490:ARG:NH1	8:A:1536:LEU:HA	2.24	0.53
8:A:1659:GLU:OE2	8:A:2144:GLN:CB	2.55	0.53
9:B:1380:ALA:HB2	9:B:1511:LEU:HD11	1.90	0.53
9:B:1629:LEU:HD23	9:B:1648:ASP:OD2	2.08	0.53
11:D:83:MET:HE1	17:J:26:PHE:HZ	1.71	0.53
13:F:98:PHE:HA	13:F:101:ILE:HG22	1.91	0.53
15:H:411:VAL:HB	15:H:445:ILE:HD11	1.91	0.53
15:H:459:ARG:NH2	18:K:72:GLU:O	2.42	0.53
17:J:668:HIS:HB3	17:J:698:VAL:HG21	1.90	0.53
23:P:1006:TYR:HD1	23:P:1021:LEU:HA	1.74	0.53
23:P:1048:THR:OG1	23:P:1065:THR:O	2.22	0.53
23:P:1163:ALA:HB1	23:P:1165:LYS:NZ	2.23	0.53
40:l:95:ILE:HG23	41:m:95:PHE:HB3	1.91	0.53
36:n:34:VAL:CG2	36:n:45:ARG:HG3	2.39	0.53
35:s:50:GLU:O	35:s:79:LYS:HA	2.08	0.53
40:t:34:PRO:C	40:t:36:MET:H	2.15	0.53
38:x:14:ASN:HB2	38:x:17:PRO:HD2	1.91	0.53
44:z:26:VAL:HG22	44:z:81:ILE:HG23	1.90	0.53
8:A:1685:THR:HG22	19:L:59:LYS:HE3	1.90	0.53
9:B:491:PHE:HE1	9:B:533:LEU:HD21	1.73	0.53
9:B:563:LEU:HD11	9:B:836:TRP:NE1	2.24	0.53
9:B:759:ASN:O	9:B:763:GLU:HG3	2.09	0.53
9:B:1426:ASN:HD22	9:B:1442:SER:HB2	1.73	0.53
9:B:1476:ALA:HB3	9:B:1512:SER:HB2	1.91	0.53
10:C:148:SER:N	45:C:1101:GTP:O1A	2.39	0.53
10:C:484:SER:O	10:C:563:LEU:HA	2.09	0.53
14:G:342:PHE:HB2	14:G:380:ILE:HB	1.89	0.53
22:O:188:LEU:O	22:O:192:ALA:HB2	2.08	0.53
23:P:328:VAL:HG22	23:P:337:VAL:HG12	1.90	0.53
23:P:1109:TYR:CD2	23:P:1110:VAL:HG23	2.44	0.53
26:S:51:PHE:HD2	26:S:52:GLY:H	1.56	0.53
37:e:85:ASP:OD1	37:e:86:ASN:N	2.41	0.53
36:n:10:LEU:HB2	36:n:83:LEU:HD11	1.91	0.53
41:u:80:LYS:HE3	41:u:82:LYS:HG3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:139:G:H2'	1:2:140:G:O5'	2.09	0.53
3:4:6:U:H2'	3:4:7:A:C8	2.44	0.53
3:4:75:U:O2	9:B:643:ARG:NH1	2.42	0.53
8:A:1938:LYS:HG2	8:A:1958:PRO:HB2	1.91	0.53
9:B:1368:VAL:HB	9:B:1511:LEU:HD23	1.90	0.53
15:H:122:ARG:HA	15:H:125:ILE:HG12	1.90	0.53
17:J:232:SER:HA	17:J:235:LYS:HE2	1.91	0.53
17:J:365:ILE:HG21	17:J:368:SER:HB2	1.91	0.53
17:J:753:LEU:HD12	17:J:785:ASN:ND2	2.23	0.53
30:W:31:LEU:CB	30:W:36:LEU:HA	2.29	0.53
30:W:156:PHE:CZ	32:Y:50:LEU:HD22	2.35	0.53
35:b:28:ARG:HD2	36:d:70:LYS:HZ3	1.74	0.53
39:y:5:PRO:HB2	39:y:7:LEU:HG	1.90	0.53
1:2:111:C:N4	41:u:63:ARG:HG2	2.24	0.53
4:5:71:A:H3'	4:5:72:C:C6	2.44	0.53
4:5:96:U:OP1	8:A:1366:ARG:CD	2.57	0.53
5:6:31:G:O4'	8:A:1637:LYS:HD3	2.08	0.53
8:A:785:HIS:NE2	17:J:123:PRO:O	2.42	0.53
8:A:1594:GLN:HE21	11:D:122:ARG:HH22	1.56	0.53
8:A:2395:PHE:CG	9:B:1062:PRO:CD	2.82	0.53
9:B:1399:ASN:O	9:B:1405:ILE:HD11	2.09	0.53
20:M:190:GLU:O	20:M:194:TRP:CB	2.57	0.53
22:O:820:MET:HA	22:O:823:MET:HG2	1.90	0.53
25:R:201:LEU:HA	27:T:452:CYS:HB3	1.89	0.53
30:W:11:ALA:HB3	30:W:24:ASN:CB	2.39	0.53
35:s:76:LYS:HD3	35:s:79:LYS:HD3	1.91	0.53
37:w:59:GLU:O	37:w:74:GLY:HA2	2.09	0.53
38:x:33:PHE:C	38:x:35:SER:H	2.15	0.53
1:2:52:A:N6	1:2:64:G:O6	2.42	0.52
3:4:12:C:N4	5:6:69:C:H42	2.07	0.52
8:A:1204:ARG:HD3	8:A:1266:GLU:OE1	2.10	0.52
8:A:1748:ILE:HG22	8:A:1783:MET:HE2	1.91	0.52
8:A:2183:TYR:CD1	8:A:2219:LYS:HB2	2.44	0.52
9:B:516:ASN:O	9:B:687:PRO:HD2	2.08	0.52
10:C:195:GLY:CA	10:C:212:PHE:O	2.53	0.52
11:D:33:ARG:O	11:D:34:LYS:HG2	2.09	0.52
17:J:229:ILE:O	17:J:232:SER:OG	2.25	0.52
17:J:688:ARG:HH12	17:J:712:ASP:CG	2.13	0.52
22:O:470:ILE:HD12	22:O:475:LEU:HD21	1.91	0.52
23:P:179:LEU:HD11	23:P:214:PHE:HZ	1.74	0.52
23:P:1042:LEU:HD21	23:P:1085:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:T:93:PHE:HZ	29:V:148:PHE:CE1	2.24	0.52
41:m:80:LYS:HE3	41:m:82:LYS:HG3	1.90	0.52
1:2:142:C:C2'	1:2:143:G:H8	2.20	0.52
1:2:1098:C:C3'	30:W:158:ASN:ND2	2.66	0.52
5:6:29:U:C4'	8:A:614:ARG:NE	2.73	0.52
8:A:235:LYS:O	8:A:648:GLN:NE2	2.42	0.52
8:A:1669:LEU:HB3	8:A:1681:VAL:HG21	1.90	0.52
8:A:2125:THR:HA	19:L:57:LEU:HD23	1.91	0.52
9:B:648:GLU:OE2	9:B:912:PHE:HD1	1.93	0.52
9:B:779:GLN:HG2	19:L:14:TYR:HA	1.92	0.52
9:B:851:ASP:HA	9:B:861:GLU:O	2.10	0.52
9:B:1751:HIS:HA	9:B:1810:CYS:SG	2.50	0.52
14:G:277:MET:HE2	14:G:297:VAL:HG21	1.90	0.52
15:H:342:VAL:HG12	15:H:343:MET:HG3	1.92	0.52
17:J:387:THR:HG22	17:J:391:PHE:CE2	2.44	0.52
22:O:599:ALA:HB3	22:O:600:PRO:HD3	1.91	0.52
41:i:62:ASP:HB3	41:i:66:ASN:H	1.74	0.52
39:r:30:ARG:HE	39:r:41:ASP:CB	2.21	0.52
3:4:17:A:H2'	3:4:18:A:C8	2.45	0.52
3:4:92:C:H2'	3:4:93:C:H6	1.74	0.52
8:A:1413:SER:O	8:A:1743:TYR:OH	2.22	0.52
8:A:1509:ARG:O	8:A:1513:GLU:HB2	2.10	0.52
8:A:1617:ALA:HB2	8:A:1635:HIS:CE1	2.44	0.52
8:A:1848:ILE:HG23	8:A:1930:PRO:HA	1.92	0.52
9:B:810:ARG:HH11	9:B:813:ARG:HE	1.57	0.52
10:C:412:ALA:HA	10:C:415:TYR:CE2	2.45	0.52
17:J:598:PHE:HD1	17:J:638:LYS:HD2	1.73	0.52
22:O:230:TYR:HE2	33:Z:5:GLN:HB3	1.74	0.52
22:O:695:ASN:HD22	22:O:700:VAL:HG11	1.74	0.52
23:P:128:LYS:NZ	23:P:194:GLU:OE1	2.32	0.52
23:P:370:VAL:HA	23:P:379:VAL:HG12	1.91	0.52
23:P:1305:GLN:O	23:P:1309:SER:HB2	2.10	0.52
34:a:41:ASP:OD1	34:a:42:ASN:N	2.43	0.52
41:u:38:MET:SD	41:u:61:PHE:HE2	2.31	0.52
37:w:24:GLN:CB	37:w:42:LYS:HD2	2.38	0.52
1:2:1150:U:O2'	36:v:53:GLN:CG	2.52	0.52
4:5:50:G:H2'	4:5:51:G:C8	2.45	0.52
8:A:773:SER:O	8:A:774:ILE:HG13	2.09	0.52
8:A:1566:GLY:HA3	8:A:1816:ARG:HD3	1.90	0.52
8:A:1803:ARG:NH1	8:A:1807:LYS:HZ1	2.08	0.52
8:A:2174:ASP:OD1	8:A:2175:ASP:N	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:505:LYS:HA	9:B:508:HIS:CD2	2.45	0.52
9:B:1783:HIS:CE1	9:B:1799:ILE:HG21	2.44	0.52
10:C:236:LEU:HA	10:C:264:CYS:O	2.09	0.52
11:D:11:THR:HG23	11:D:13:TRP:H	1.75	0.52
14:G:233:LYS:HB2	18:K:18:GLN:NE2	2.24	0.52
22:O:796:ASN:HA	24:Q:247:LEU:HD13	1.92	0.52
23:P:704:SER:OG	23:P:712:PHE:O	2.24	0.52
25:R:66:ALA:O	25:R:70:MET:CB	2.57	0.52
30:W:35:GLN:HE22	32:Y:77:ARG:NH2	2.07	0.52
37:p:35:ILE:HG22	39:r:23:ARG:HE	1.74	0.52
38:q:58:GLU:C	38:q:59:PHE:HD1	2.17	0.52
39:y:8:LYS:HA	39:y:11:MET:HG2	1.92	0.52
1:2:111:C:C4	41:u:63:ARG:CG	2.90	0.52
1:2:1150:U:H1'	36:v:53:GLN:HA	1.91	0.52
4:5:86:G:OP1	8:A:670:LYS:NZ	2.38	0.52
5:6:34:A:N6	5:6:47:A:H62	2.07	0.52
8:A:325:LYS:HD2	8:A:405:ASN:HD21	1.73	0.52
9:B:765:ASN:CB	9:B:768:HIS:CD2	2.93	0.52
9:B:1184:ARG:HH21	21:N:141:ASP:HA	1.75	0.52
9:B:1493:SER:HA	9:B:1524:TRP:CH2	2.43	0.52
9:B:1933:TYR:HE1	9:B:2090:LYS:O	1.93	0.52
10:C:713:GLU:OE1	10:C:817:GLN:NE2	2.42	0.52
10:C:861:ILE:CD1	10:C:938:ARG:HE	2.22	0.52
13:F:315:ARG:HH22	18:K:38:ASN:HD22	1.58	0.52
22:O:956:THR:H	22:O:959:ASN:HB3	1.75	0.52
23:P:75:CYS:SG	23:P:94:CYS:HB3	2.50	0.52
23:P:301:LEU:HD12	23:P:326:PHE:CD2	2.45	0.52
26:S:22:LEU:HD13	26:S:27:ASP:HA	1.92	0.52
27:T:90:GLN:HG3	29:V:153:ILE:HG13	1.91	0.52
40:l:7:LEU:HD11	41:m:95:PHE:CZ	2.44	0.52
1:2:58:A:H2'	1:2:59:C:O4'	2.09	0.52
3:4:91:U:H2'	3:4:92:C:C6	2.45	0.52
5:6:96:G:H2'	5:6:97:A:H8	1.75	0.52
8:A:1483:SER:HB3	8:A:1486:ARG:NH1	2.25	0.52
8:A:2208:TYR:HE1	8:A:2255:LEU:HD13	1.74	0.52
9:B:1213:ARG:HH22	9:B:1316:LYS:HG3	1.71	0.52
9:B:2071:ILE:HG22	9:B:2128:LEU:HB2	1.92	0.52
10:C:106:PHE:HE2	10:C:554:HIS:CE1	2.27	0.52
10:C:715:MET:HE1	10:C:775:ILE:HB	1.91	0.52
15:H:117:LEU:HD13	15:H:300:LEU:HD13	1.92	0.52
19:L:81:TYR:HA	19:L:88:THR:HG22	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:M:28:ARG:NH1	20:M:31:ARG:HH22	2.05	0.52
22:O:733:GLU:O	22:O:736:LYS:NZ	2.40	0.52
23:P:981:SER:OG	23:P:1031:ILE:O	2.20	0.52
24:Q:144:PRO:HG2	27:T:460:VAL:HG23	1.92	0.52
24:Q:363:TYR:C	24:Q:365:GLY:H	2.16	0.52
27:T:117:GLN:HB3	29:V:113:MET:HE1	1.90	0.52
1:2:1097:G:C2	1:2:1146:G:C5	2.98	0.52
1:2:1140:U:H2'	1:2:1141:C:H6	1.75	0.52
2:3:5:LEU:HD23	2:3:8:LEU:HD12	1.90	0.52
3:4:52:G:H2'	3:4:53:U:C6	2.45	0.52
8:A:1803:ARG:NH1	8:A:1807:LYS:NZ	2.57	0.52
8:A:2013:ARG:NH1	8:A:2016:LYS:HZ1	2.07	0.52
22:O:531:GLU:HB3	22:O:534:ARG:HH21	1.73	0.52
23:P:130:LEU:HD23	23:P:149:ALA:HB2	1.91	0.52
23:P:433:MET:O	23:P:485:ASN:HB2	2.10	0.52
23:P:609:HIS:HD2	23:P:621:LYS:HB2	1.75	0.52
23:P:924:PHE:HA	23:P:944:ASN:O	2.10	0.52
23:P:1110:VAL:HG12	23:P:1111:ASP:O	2.09	0.52
23:P:1201:ASP:O	23:P:1218:TYR:HA	2.10	0.52
23:P:1219:MET:HA	23:P:1224:THR:O	2.10	0.52
24:Q:367:LEU:O	24:Q:368:ILE:HG22	2.10	0.52
41:i:75:LEU:HD13	41:i:88:GLU:HB3	1.91	0.52
42:j:85:ILE:O	42:j:89:VAL:CB	2.57	0.52
38:x:51:LEU:HB2	38:x:73:ILE:HB	1.91	0.52
1:2:117:U:O3'	41:u:99:ASP:OD2	2.27	0.52
1:2:1120:G:H2'	1:2:1121:U:C6	2.45	0.52
8:A:323:THR:HG22	8:A:483:PRO:HG3	1.92	0.52
8:A:923:TYR:OH	8:A:936:GLU:OE1	2.17	0.52
8:A:1447:TRP:HB3	8:A:1451:PHE:HE2	1.75	0.52
8:A:2067:TYR:HB3	12:E:194:LEU:HD22	1.92	0.52
9:B:1679:GLU:HG2	9:B:1719:LYS:HB3	1.91	0.52
10:C:219:VAL:O	10:C:222:MET:HG2	2.09	0.52
13:F:378:LYS:HA	13:F:433:ASN:HA	1.91	0.52
18:K:4:PRO:HB2	18:K:56:ALA:HB1	1.91	0.52
27:T:292:SER:O	27:T:296:GLU:HG2	2.10	0.52
30:W:60:THR:HA	30:W:82:GLY:O	2.10	0.52
32:Y:75:THR:HG21	32:Y:108:THR:HG21	1.91	0.52
41:m:37:ALA:HA	41:m:42:THR:HG22	1.92	0.52
2:3:19:LYS:HB2	2:3:75:LEU:HB3	1.91	0.52
3:4:62:G:H1	5:6:57:U:H3	1.58	0.52
3:4:140:G:H2'	3:4:141:G:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:620:HIS:HB3	8:A:669:TYR:CE2	2.44	0.52
9:B:1814:LEU:HB3	9:B:1820:ILE:HG12	1.90	0.52
10:C:510:ARG:HG2	10:C:591:PHE:HE2	1.74	0.52
17:J:355:ILE:HG12	17:J:379:GLN:HE22	1.75	0.52
17:J:469:LEU:HD23	17:J:472:LEU:HD12	1.91	0.52
20:M:124:LEU:HD12	20:M:155:LEU:HD22	1.92	0.52
22:O:901:GLU:OE1	26:S:3:ARG:NH2	2.43	0.52
23:P:396:ASP:HB2	23:P:404:LEU:HD11	1.90	0.52
23:P:490:SER:N	23:P:1201:ASP:OD2	2.36	0.52
34:a:23:ILE:HG23	34:a:52:PRO:HD3	1.92	0.52
4:5:16:U:O2'	4:5:18:A:N7	2.43	0.52
4:5:37:C:H2'	4:5:38:A:C8	2.45	0.52
8:A:1509:ARG:O	8:A:1513:GLU:CB	2.58	0.52
8:A:2096:GLN:NE2	12:E:200:ASN:OD1	2.28	0.52
9:B:724:ASP:HA	9:B:760:LYS:NZ	2.25	0.52
10:C:786:GLU:O	10:C:789:SER:OG	2.18	0.52
14:G:371:ARG:HG3	14:G:444:VAL:HG23	1.92	0.52
17:J:319:THR:HG22	17:J:321:VAL:H	1.74	0.52
17:J:663:SER:C	17:J:665:PRO:HD3	2.35	0.52
17:J:849:TYR:HD2	17:J:854:LYS:HB2	1.74	0.52
23:P:155:GLY:O	23:P:179:LEU:HB2	2.10	0.52
23:P:539:ASP:OD1	23:P:618:TYR:OH	2.28	0.52
28:U:204:GLU:HB3	28:U:205:PRO:HD3	1.91	0.52
41:m:27:LYS:O	41:m:32:SER:OG	2.20	0.52
38:q:14:ASN:HB2	38:q:17:PRO:HD2	1.91	0.52
4:5:128:A:H2'	4:5:129:G:H2'	1.91	0.51
6:7:38:ILE:HD11	6:7:63:LEU:HD21	1.92	0.51
9:B:1387:HIS:CB	9:B:1470:LEU:HD13	2.32	0.51
10:C:241:VAL:O	10:C:287:LYS:NZ	2.35	0.51
10:C:869:HIS:CD2	10:C:925:LEU:HB3	2.44	0.51
14:G:259:LYS:HD3	14:G:264:LEU:HD22	1.92	0.51
17:J:644:ARG:HG3	17:J:881:VAL:HG11	1.91	0.51
22:O:667:TYR:HA	22:O:707:PHE:HD1	1.74	0.51
23:P:332:GLU:HG2	23:P:333:ASN:N	2.24	0.51
23:P:783:ILE:HG13	23:P:784:SER:N	2.24	0.51
25:R:112:ILE:HA	25:R:179:THR:O	2.10	0.51
30:W:8:VAL:HG23	30:W:25:VAL:HG22	1.92	0.51
4:5:76:U:O3'	4:5:77:A:H2'	2.10	0.51
5:6:32:U:H5''	8:A:607:THR:HG21	1.92	0.51
8:A:1210:ASP:OD1	8:A:1211:SER:N	2.44	0.51
8:A:1733:TRP:NE1	8:A:1769:SER:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2177:VAL:H	8:A:2338:GLN:HE22	1.58	0.51
9:B:1763:ILE:HG21	9:B:1769:CYS:HB3	1.91	0.51
11:D:46:LEU:HB3	11:D:59:ILE:HG21	1.91	0.51
14:G:219:HIS:HE1	15:H:112:PRO:HG3	1.75	0.51
14:G:340:LYS:HZ1	14:G:389:CYS:CB	2.18	0.51
15:H:364:VAL:O	15:H:375:VAL:HA	2.11	0.51
27:T:426:CYS:O	27:T:429:LYS:N	2.37	0.51
40:l:141:ARG:HB2	40:l:142:PRO:HD3	1.93	0.51
41:m:26:PHE:CE1	41:m:31:MET:HB3	2.45	0.51
36:v:65:ARG:NH1	39:y:65:GLY:O	2.43	0.51
1:2:142:C:O2'	1:2:143:G:O4'	2.27	0.51
4:5:71:A:H4'	4:5:71:A:OP1	2.09	0.51
5:6:26:A:H2'	5:6:27:U:C6	2.45	0.51
8:A:321:GLU:OE2	8:A:412:GLN:NE2	2.43	0.51
8:A:834:ILE:HD12	8:A:848:ASN:HD22	1.75	0.51
8:A:1067:ASN:HB2	8:A:1083:THR:HG21	1.93	0.51
8:A:2003:THR:HG21	14:G:294:GLU:HB2	1.91	0.51
9:B:1213:ARG:HE	9:B:1281:GLN:HE21	1.58	0.51
9:B:1913:PHE:HE2	9:B:1917:THR:HB	1.76	0.51
13:F:102:ILE:HA	13:F:105:ILE:HD12	1.92	0.51
22:O:925:HIS:ND1	22:O:926:PRO:HD2	2.25	0.51
23:P:382:GLN:NE2	23:P:416:SER:OG	2.39	0.51
29:V:195:ILE:HD11	29:V:197:TRP:CZ2	2.45	0.51
33:Z:57:ARG:HH12	33:Z:68:HIS:CG	2.28	0.51
38:f:29:VAL:O	38:f:37:GLU:HA	2.10	0.51
2:3:15:ARG:HA	2:3:28:GLY:O	2.11	0.51
3:4:78:A:H2	9:B:1110:ARG:NH2	2.08	0.51
4:5:70:A:H3'	4:5:71:A:H5''	1.92	0.51
4:5:73:U:H2'	4:5:74:U:C6	2.46	0.51
9:B:1853:ALA:HB1	9:B:1863:ILE:HG13	1.93	0.51
11:D:32:GLY:O	11:D:63:ASP:HA	2.11	0.51
15:H:176:LYS:NZ	18:K:72:GLU:HB2	2.25	0.51
17:J:888:PRO:HA	17:J:891:ILE:HD12	1.92	0.51
20:M:21:SER:HB3	20:M:24:LEU:HG	1.93	0.51
22:O:306:LYS:HD3	22:O:343:LEU:HB3	1.92	0.51
22:O:374:THR:O	22:O:377:THR:OG1	2.22	0.51
23:P:154:SER:HA	23:P:182:THR:HG22	1.91	0.51
23:P:186:ARG:O	23:P:206:SER:HB3	2.10	0.51
23:P:1114:VAL:HG12	23:P:1115:LYS:N	2.25	0.51
24:Q:183:LEU:HD22	24:Q:188:LEU:HD11	1.93	0.51
27:T:185:PHE:CE2	27:T:236:LEU:HA	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:h:88:ARG:NH1	40:h:90:ASN:HB3	2.26	0.51
36:v:10:LEU:HB2	36:v:83:LEU:HD11	1.92	0.51
1:2:111:C:C4	38:x:48:TYR:HD2	2.29	0.51
1:2:1139:G:HO2'	1:2:1140:U:H6	1.57	0.51
3:4:7:A:H2'	3:4:8:U:H6	1.75	0.51
3:4:143:A:N7	38:q:48:TYR:HE2	2.08	0.51
7:8:25:ALA:HB2	7:8:41:VAL:HA	1.93	0.51
8:A:1929:GLN:HG2	8:A:1954:ILE:HD11	1.92	0.51
10:C:318:LEU:HD13	10:C:421:LEU:HD22	1.93	0.51
15:H:421:VAL:HG23	15:H:430:MET:HB2	1.92	0.51
22:O:813:GLN:HB2	22:O:853:HIS:HE1	1.74	0.51
23:P:643:ILE:HD12	23:P:651:LEU:HD21	1.92	0.51
23:P:766:LYS:HD3	23:P:836:TRP:CE2	2.45	0.51
23:P:1124:LEU:HD23	23:P:1204:ILE:HG12	1.93	0.51
23:P:1133:ASP:HB2	23:P:1137:ASN:H	1.75	0.51
37:w:13:PRO:HG3	39:y:37:ASN:HB2	1.92	0.51
4:5:114:G:O2'	4:5:115:G:OP1	2.28	0.51
8:A:794:LYS:HB3	8:A:854:ARG:HE	1.75	0.51
8:A:1918:SER:HB3	8:A:1947:HIS:HB3	1.91	0.51
9:B:645:PRO:HG3	9:B:911:GLN:O	2.10	0.51
9:B:1898:ASP:HA	9:B:1943:PHE:CZ	2.44	0.51
10:C:281:PRO:HA	10:C:382:TYR:HE2	1.75	0.51
11:D:118:GLU:O	11:D:122:ARG:HG2	2.11	0.51
15:H:128:SER:O	15:H:132:SER:OG	2.21	0.51
22:O:169:LEU:O	22:O:173:ILE:HD12	2.11	0.51
22:O:215:ASP:OD1	22:O:216:GLN:N	2.43	0.51
22:O:462:GLN:HG3	22:O:508:THR:HG21	1.93	0.51
23:P:384:ASN:O	23:P:415:ASN:ND2	2.39	0.51
23:P:930:LEU:HD13	23:P:984:ILE:HG23	1.91	0.51
27:T:81:ILE:HD13	27:T:161:ALA:HB2	1.92	0.51
41:i:47:SER:HB2	41:i:53:LYS:HE3	1.92	0.51
40:l:34:PRO:C	40:l:36:MET:H	2.17	0.51
8:A:594:ASP:OD1	8:A:600:LYS:NZ	2.44	0.51
8:A:1073:ILE:HD11	8:A:1116:TYR:CD1	2.46	0.51
8:A:1615:ASN:HD21	8:A:1634:LEU:HA	1.76	0.51
9:B:682:ARG:NH2	9:B:946:VAL:HG13	2.26	0.51
9:B:683:PHE:CD1	9:B:943:TYR:HA	2.46	0.51
9:B:1085:SER:OG	9:B:1140:TRP:NE1	2.30	0.51
9:B:1387:HIS:CE1	9:B:1392:LYS:HB3	2.45	0.51
10:C:610:LEU:HG	10:C:669:LYS:HE3	1.93	0.51
13:F:65:LEU:HD12	13:F:66:SER:N	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:F:120:TYR:OH	13:F:197:ILE:HB	2.10	0.51
13:F:400:VAL:HG11	17:J:154:PRO:HB2	1.93	0.51
17:J:719:PRO:HB2	17:J:723:ARG:CZ	2.41	0.51
22:O:386:TYR:CD2	22:O:387:PRO:HD2	2.46	0.51
22:O:535:THR:HG21	22:O:574:ASN:HD21	1.76	0.51
23:P:699:MET:HB3	23:P:720:LEU:HD23	1.93	0.51
24:Q:289:LYS:HD3	25:R:27:GLU:HB2	1.93	0.51
25:R:60:GLN:HA	25:R:63:ALA:HB3	1.93	0.51
40:l:139:ASN:O	40:l:140:LYS:HB3	2.10	0.51
41:m:50:ASN:ND2	41:m:52:HIS:CD2	2.78	0.51
40:t:19:LEU:HA	40:t:93:ARG:H	1.76	0.51
8:A:1670:ASP:HB3	8:A:2148:SER:CB	2.38	0.51
9:B:781:LEU:HD23	9:B:781:LEU:C	2.35	0.51
9:B:2071:ILE:O	9:B:2127:GLU:HA	2.11	0.51
16:I:78:A:C2	22:O:499:ASN:HB3	2.46	0.51
17:J:258:SER:HA	17:J:261:LYS:HB3	1.93	0.51
17:J:481:GLU:O	17:J:485:VAL:HG23	2.11	0.51
17:J:550:ARG:HD2	17:J:589:PHE:HD2	1.76	0.51
17:J:790:LYS:HG2	17:J:794:PHE:HE2	1.75	0.51
18:K:105:ASN:HB3	18:K:108:SER:HB2	1.93	0.51
22:O:950:VAL:HG21	33:Z:42:THR:HG21	1.93	0.51
23:P:190:ILE:O	23:P:191:SER:OG	2.23	0.51
27:T:171:THR:HG21	27:T:181:GLU:OE2	2.11	0.51
27:T:302:LYS:O	27:T:306:LYS:HG2	2.11	0.51
27:T:425:ILE:HG13	27:T:467:ILE:HG22	1.91	0.51
27:T:506:LEU:HB2	27:T:518:LYS:HD2	1.93	0.51
30:W:3:PHE:CE2	30:W:32:ARG:HB2	2.46	0.51
30:W:5:PRO:HD3	30:W:46:SER:HB3	1.91	0.51
33:Z:18:TYR:HB2	33:Z:21:LEU:HD11	1.93	0.51
42:j:16:GLN:HE21	42:j:24:ILE:HD12	1.74	0.51
36:v:28:THR:O	36:v:49:ALA:HA	2.11	0.51
2:3:43:ASP:N	2:3:64:GLU:O	2.43	0.51
8:A:899:PRO:HD3	8:A:1006:ARG:HH12	1.75	0.51
8:A:1312:PHE:O	8:A:1316:ILE:HG12	2.11	0.51
8:A:1688:PRO:HG3	8:A:2142:GLU:CG	2.41	0.51
9:B:639:LEU:HD23	9:B:943:TYR:CE2	2.46	0.51
9:B:1924:PHE:CZ	9:B:1928:LEU:HD11	2.45	0.51
11:D:106:ILE:HD11	11:D:141:ARG:HH21	1.75	0.51
13:F:132:PRO:HB3	13:F:266:LYS:HB3	1.93	0.51
13:F:379:PHE:CZ	17:J:144:LYS:HD3	2.46	0.51
14:G:221:LEU:HD12	15:H:341:LYS:NZ	2.21	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:J:268:CYS:SG	17:J:277:ILE:HG12	2.51	0.51
23:P:1161:ASN:OD1	23:P:1162:GLY:N	2.44	0.51
24:Q:312:TRP:O	24:Q:316:MET:HB2	2.11	0.51
30:W:36:LEU:O	30:W:62:ASN:ND2	2.33	0.51
1:2:44:PSU:C4	1:2:45:U:C5	2.99	0.51
4:5:50:G:O6	4:5:65:U:O4	2.29	0.51
8:A:308:MET:HG3	8:A:479:LEU:HD11	1.92	0.51
8:A:1030:GLN:HE22	8:A:1288:LEU:HA	1.76	0.51
8:A:1479:GLU:HB2	17:J:286:GLU:HG3	1.93	0.51
8:A:1509:ARG:NH2	8:A:1533:ASP:OD1	2.44	0.51
9:B:510:ALA:HB2	9:B:517:MET:HE1	1.93	0.51
9:B:536:LEU:HD21	9:B:578:LEU:CD2	2.41	0.51
9:B:1209:GLN:NE2	9:B:1788:TYR:O	2.45	0.51
9:B:1424:ILE:H	9:B:1443:HIS:CD2	2.29	0.51
9:B:1748:TYR:CE2	40:l:142:PRO:CD	2.94	0.51
22:O:292:TYR:O	22:O:296:VAL:HG23	2.11	0.51
22:O:835:ILE:HG21	22:O:873:HIS:CG	2.45	0.51
23:P:1114:VAL:HG12	23:P:1115:LYS:H	1.76	0.51
25:R:172:LEU:HD21	25:R:175:ASN:HA	1.92	0.51
30:W:15:TYR:OH	35:s:101:PRO:O	2.23	0.51
8:A:823:TRP:CD1	8:A:851:ARG:NH1	2.76	0.50
8:A:1937:ARG:HD3	12:E:166:GLU:HB3	1.92	0.50
8:A:1992:TYR:HB3	8:A:1996:LEU:HB2	1.92	0.50
8:A:1995:TRP:HH2	8:A:2040:TRP:CG	2.29	0.50
8:A:2206:PHE:HE2	8:A:2241:ILE:HA	1.76	0.50
9:B:1252:LEU:HD11	9:B:1288:PHE:CE1	2.46	0.50
9:B:1624:LEU:O	9:B:1624:LEU:HD23	2.12	0.50
10:C:360:ARG:HD2	10:C:364:PHE:HB3	1.93	0.50
10:C:952:PRO:HD2	10:C:957:ALA:HA	1.93	0.50
14:G:233:LYS:HB2	18:K:18:GLN:HE22	1.75	0.50
17:J:576:THR:O	17:J:580:LEU:HB2	2.11	0.50
18:K:62:GLU:HA	18:K:65:LEU:HB2	1.93	0.50
22:O:848:ASP:OD1	22:O:849:ARG:N	2.44	0.50
23:P:1089:ASP:HB2	23:P:1092:GLU:O	2.11	0.50
27:T:115:LYS:HA	27:T:118:GLN:HB3	1.93	0.50
30:W:118:ARG:HB3	30:W:147:LEU:HD13	1.93	0.50
35:k:19:LYS:HD2	35:k:99:ASP:HB2	1.93	0.50
40:t:96:ILE:HG13	41:u:94:LEU:HD13	1.93	0.50
38:x:60:VAL:HG12	38:x:65:HIS:HB2	1.91	0.50
1:2:1151:U:H2'	1:2:1152:U:C6	2.46	0.50
8:A:356:TYR:HE2	8:A:396:ARG:HB2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:370:ILE:HD12	8:A:1214:ARG:HH21	1.75	0.50
8:A:1616:ARG:NH1	8:A:1743:TYR:HB3	2.26	0.50
8:A:2015:LEU:HD11	8:A:2023:LYS:HE3	1.93	0.50
9:B:1936:ARG:HD3	9:B:2090:LYS:HE3	1.92	0.50
10:C:274:ILE:HG21	10:C:385:PHE:HD2	1.75	0.50
14:G:48:SER:HA	22:O:642:LYS:HZ2	1.75	0.50
15:H:300:LEU:HD12	15:H:301:LEU:N	2.23	0.50
17:J:139:GLU:O	17:J:143:ARG:HG3	2.11	0.50
17:J:632:THR:HA	17:J:635:LEU:HD12	1.92	0.50
17:J:738:LEU:HD23	17:J:741:ILE:HD12	1.92	0.50
20:M:108:VAL:HG23	20:M:109:LYS:HG2	1.93	0.50
22:O:178:THR:HA	22:O:181:ARG:HG2	1.94	0.50
22:O:229:LEU:HD11	22:O:243:ILE:HG21	1.93	0.50
30:W:89:VAL:CG2	30:W:116:ARG:HB2	2.41	0.50
34:a:5:SER:HA	34:a:8:LYS:HE2	1.92	0.50
35:k:86:ILE:O	36:n:71:PHE:HB2	2.11	0.50
39:r:56:GLN:HG3	39:r:61:THR:HB	1.92	0.50
8:A:1043:ARG:HB2	8:A:1045:GLN:NE2	2.26	0.50
8:A:1406:LEU:HD22	8:A:1434:GLU:OE2	2.11	0.50
8:A:1407:ILE:HD11	8:A:1437:ILE:HG12	1.94	0.50
8:A:2207:ILE:HD12	8:A:2256:LEU:HB2	1.93	0.50
9:B:985:GLU:HG3	9:B:1001:LEU:HD22	1.93	0.50
9:B:1890:GLU:HB3	40:l:143:ARG:NE	2.26	0.50
10:C:474:LYS:HE3	10:C:476:VAL:HG12	1.94	0.50
10:C:625:ILE:HG13	10:C:659:LEU:HD12	1.93	0.50
10:C:752:ARG:HA	10:C:757:TRP:HB2	1.93	0.50
11:D:30:ARG:HH21	11:D:39:CYS:HB2	1.76	0.50
12:E:210:LEU:HB3	12:E:212:VAL:HG13	1.92	0.50
17:J:367:GLN:HG2	17:J:395:LEU:HD22	1.93	0.50
23:P:551:PHE:HD2	23:P:591:THR:HG21	1.76	0.50
23:P:836:TRP:CZ3	23:P:838:ILE:HG23	2.45	0.50
23:P:1096:LEU:HD11	23:P:1129:VAL:HG21	1.92	0.50
27:T:220:PRO:HB2	27:T:222:MET:O	2.10	0.50
30:W:7:ILE:HG12	30:W:29:VAL:HG23	1.93	0.50
32:Y:59:LEU:HD23	32:Y:59:LEU:O	2.12	0.50
37:e:30:TRP:HB2	37:e:89:LEU:HB3	1.93	0.50
7:8:5:LEU:HD13	7:8:36:LEU:HD21	1.93	0.50
8:A:158:LYS:HZ3	20:M:6:PHE:CA	2.22	0.50
8:A:766:ILE:HA	8:A:769:MET:SD	2.52	0.50
8:A:1316:ILE:HD12	8:A:1335:TRP:CD1	2.47	0.50
8:A:1562:PHE:O	8:A:1565:THR:OG1	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1686:VAL:O	8:A:2142:GLU:CG	2.59	0.50
8:A:1977:VAL:HG21	8:A:1989:PHE:HZ	1.77	0.50
9:B:453:PHE:CE2	9:B:455:ARG:HG3	2.46	0.50
9:B:1032:PHE:HB3	9:B:1077:ASN:HB2	1.92	0.50
9:B:1750:ILE:HD13	9:B:1806:LEU:HG	1.93	0.50
10:C:970:THR:HG22	10:C:973:ARG:HH21	1.76	0.50
15:H:183:LEU:HD21	15:H:453:VAL:HG21	1.92	0.50
15:H:436:HIS:CE1	15:H:462:LYS:HD2	2.47	0.50
17:J:144:LYS:O	17:J:145:THR:OG1	2.28	0.50
17:J:486:ASP:HA	17:J:489:LEU:HD12	1.94	0.50
23:P:78:HIS:N	23:P:146:THR:OG1	2.44	0.50
23:P:701:LYS:HG2	23:P:718:LEU:HD23	1.93	0.50
23:P:1006:TYR:HB3	23:P:1019:ILE:HD11	1.92	0.50
27:T:56:GLU:OE1	27:T:63:LYS:HE2	2.11	0.50
41:u:53:LYS:O	41:u:74:GLU:HA	2.12	0.50
3:4:65:G:C4	12:E:204:ARG:NH1	2.80	0.50
4:5:83:C:H4'	4:5:84:A:OP1	2.11	0.50
5:6:60:G:N7	13:F:368:ALA:HB3	2.27	0.50
8:A:673:VAL:HG22	8:A:714:PHE:CE1	2.46	0.50
8:A:1704:GLU:OE2	8:A:1731:LYS:HE2	2.11	0.50
8:A:2183:TYR:HE1	8:A:2219:LYS:HG3	1.76	0.50
9:B:1115:ILE:O	9:B:1119:ARG:HG2	2.11	0.50
9:B:1457:ARG:O	9:B:1760:ASN:ND2	2.44	0.50
9:B:1950:ILE:O	9:B:1954:VAL:HG13	2.12	0.50
10:C:132:ARG:NH1	10:C:207:SER:O	2.44	0.50
10:C:237:ILE:HD12	10:C:265:PHE:HE1	1.76	0.50
22:O:827:ILE:HB	22:O:830:MET:HB2	1.94	0.50
23:P:1221:LEU:HD22	33:Z:52:TYR:HD1	1.77	0.50
24:Q:361:ARG:HH21	24:Q:363:TYR:HE2	1.60	0.50
29:V:191:GLN:O	29:V:195:ILE:HG23	2.12	0.50
30:W:25:VAL:HG12	30:W:30:ILE:O	2.11	0.50
40:h:36:MET:SD	41:i:97:ARG:NH1	2.84	0.50
38:q:51:LEU:HB2	38:q:73:ILE:HB	1.93	0.50
1:2:111:C:C4	38:x:48:TYR:CE2	2.99	0.50
8:A:352:PHE:CE1	8:A:527:LYS:HG3	2.47	0.50
8:A:1502:LEU:HD13	8:A:1531:HIS:HB3	1.92	0.50
8:A:1883:ASN:ND2	8:A:1886:THR:OG1	2.43	0.50
9:B:1035:PHE:CD2	9:B:1080:LEU:HD22	2.47	0.50
9:B:1861:PHE:CD2	40:l:140:LYS:HD3	2.46	0.50
9:B:1996:GLN:HE22	9:B:2150:LEU:H	1.59	0.50
10:C:472:VAL:HG22	10:C:486:VAL:HG22	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:C:841:LEU:O	10:C:845:ALA:CB	2.57	0.50
14:G:217:VAL:HB	15:H:112:PRO:HG2	1.94	0.50
15:H:202:LEU:HD22	15:H:461:ILE:HD12	1.93	0.50
16:I:68:U:H2'	16:I:69:A:C8	2.46	0.50
19:L:130:GLU:O	19:L:134:CYS:CB	2.51	0.50
22:O:168:MET:O	22:O:172:LYS:HG2	2.12	0.50
22:O:636:GLU:O	22:O:639:MET:N	2.35	0.50
23:P:439:PHE:CE1	23:P:477:ILE:HG13	2.47	0.50
23:P:545:ASP:OD1	23:P:546:ASN:N	2.44	0.50
23:P:852:PHE:CE2	23:P:854:ASN:HB2	2.47	0.50
23:P:975:ASP:O	23:P:977:ILE:HD12	2.12	0.50
23:P:1353:ILE:O	23:P:1356:VAL:HG22	2.12	0.50
25:R:13:VAL:HG22	25:R:83:VAL:HG22	1.93	0.50
27:T:91:GLN:HG2	27:T:95:LYS:HE2	1.93	0.50
30:W:57:LEU:HD13	30:W:73:ARG:HH22	1.76	0.50
36:d:82:PRO:HA	36:d:85:LYS:HE2	1.92	0.50
40:h:26:TRP:CD2	40:h:44:LYS:HE3	2.47	0.50
41:m:50:ASN:ND2	41:m:52:HIS:HD2	2.09	0.50
1:2:52:A:H2'	1:2:53:G:H8	1.76	0.50
1:2:116:U:O4	40:t:88:ARG:CD	2.59	0.50
1:2:118:U:O2'	1:2:120:G:OP1	2.25	0.50
3:4:46:G:H2'	3:4:47:A:C8	2.46	0.50
4:5:50:G:H2'	4:5:51:G:H8	1.75	0.50
5:6:29:U:H4'	8:A:614:ARG:HD2	1.91	0.50
5:6:111:U:O4'	34:a:65:SER:HB3	2.12	0.50
8:A:1312:PHE:CD1	8:A:1342:LEU:HD13	2.46	0.50
8:A:2306:ASN:HB2	8:A:2335:THR:OG1	2.12	0.50
9:B:1320:PRO:HB2	9:B:1534:ASN:O	2.12	0.50
9:B:1513:ASN:ND2	9:B:1704:LEU:HD13	2.25	0.50
9:B:1524:TRP:CD1	9:B:1780:ARG:NH2	2.80	0.50
9:B:2073:ILE:HD11	9:B:2142:ILE:HD13	1.93	0.50
10:C:918:LEU:HD13	10:C:928:CYS:HB2	1.94	0.50
13:F:63:ASP:H	13:F:115:PHE:HD1	1.60	0.50
23:P:71:PHE:O	23:P:430:LEU:HD21	2.11	0.50
27:T:377:VAL:O	27:T:378:ASP:CB	2.60	0.50
39:g:64:ARG:NH1	39:g:66:ASN:HB3	2.27	0.50
37:p:20:PHE:CE1	37:p:92:SER:HB2	2.41	0.50
37:p:40:LYS:NZ	37:p:93:ALA:HB3	2.26	0.50
44:z:27:LYS:NZ	44:z:33:LEU:HB2	2.26	0.50
3:4:91:U:C2	3:4:142:G:N2	2.78	0.50
5:6:32:U:C5'	8:A:607:THR:CG2	2.84	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1126:LEU:HD13	8:A:1134:LEU:HD12	1.94	0.50
8:A:1624:LEU:HD13	8:A:1635:HIS:ND1	2.26	0.50
8:A:1722:ASP:OD2	8:A:1795:LYS:HE3	2.12	0.50
17:J:691:TYR:HB3	17:J:708:LEU:HD12	1.93	0.50
20:M:120:ILE:HG13	20:M:121:ALA:N	2.24	0.50
22:O:439:MET:HA	22:O:442:ILE:HD12	1.94	0.50
23:P:504:HIS:HD2	23:P:511:ILE:HD11	1.77	0.50
23:P:719:GLN:HG2	23:P:762:PHE:CD2	2.47	0.50
23:P:832:TRP:CG	23:P:833:LYS:H	2.30	0.50
29:V:158:ARG:HB2	29:V:158:ARG:NH1	2.25	0.50
37:e:77:LEU:HB3	37:e:80:ILE:HD11	1.94	0.50
40:l:29:LEU:HD23	40:l:40:LEU:HG	1.94	0.50
37:p:59:GLU:O	37:p:74:GLY:CA	2.59	0.50
39:r:10:TYR:CE2	39:r:71:LEU:HD11	2.46	0.50
40:t:23:THR:HA	40:t:48:PRO:HD3	1.93	0.50
8:A:1393:GLU:HA	13:F:391:MET:HE2	1.94	0.50
8:A:1663:PHE:HD1	8:A:1683:LYS:NZ	2.08	0.50
9:B:1095:ASN:O	9:B:1098:ILE:HG22	2.12	0.50
10:C:328:VAL:HG21	10:C:348:LEU:HD11	1.94	0.50
10:C:354:TYR:HD1	10:C:359:PHE:CE1	2.30	0.50
10:C:418:GLN:HB3	10:C:419:PRO:HD3	1.93	0.50
10:C:498:THR:HG22	10:C:538:GLU:HG2	1.94	0.50
15:H:317:CYS:SG	15:H:359:PRO:HA	2.51	0.50
22:O:618:GLN:HB3	22:O:658:VAL:HG22	1.93	0.50
23:P:65:LEU:HB3	23:P:886:PHE:CE2	2.47	0.50
23:P:1131:GLY:HA3	23:P:1139:TRP:CZ2	2.46	0.50
30:W:81:LEU:HD21	30:W:86:ILE:CD1	2.42	0.50
42:j:31:ASN:OD1	42:j:32:VAL:N	2.45	0.50
39:r:20:ASN:ND2	39:r:69:ILE:HD11	2.27	0.50
40:t:43:VAL:CG1	40:t:85:ILE:HD12	2.42	0.50
39:y:15:ILE:HG22	39:y:73:ALA:HA	1.93	0.50
1:2:43:G:C4	1:2:44:PSU:C6	3.00	0.49
1:2:67:A:O2'	1:2:68:U:P	2.70	0.49
1:2:121:C:O2'	41:u:51:ASN:ND2	2.39	0.49
3:4:101:C:H2'	3:4:102:A:H8	1.77	0.49
4:5:122:C:C2	4:5:123:U:C5	3.00	0.49
8:A:781:THR:O	8:A:785:HIS:ND1	2.39	0.49
8:A:1357:LEU:HD13	31:X:9:ALA:HA	1.94	0.49
8:A:1471:GLN:HE22	8:A:1473:ARG:HH21	1.59	0.49
8:A:1717:LEU:HB2	8:A:1786:ALA:HB3	1.94	0.49
8:A:2026:LEU:HG	8:A:2041:PRO:HG3	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:464:HIS:CE1	9:B:706:GLN:NE2	2.80	0.49
10:C:861:ILE:HD11	10:C:938:ARG:HE	1.77	0.49
17:J:227:ARG:HG2	17:J:231:LYS:HE3	1.94	0.49
17:J:719:PRO:HB2	17:J:723:ARG:HH12	1.77	0.49
18:K:50:GLU:N	18:K:102:ILE:O	2.45	0.49
23:P:102:GLU:OE1	23:P:104:TYR:OH	2.18	0.49
23:P:324:ASN:OD1	23:P:341:ASN:ND2	2.44	0.49
23:P:1065:THR:HG21	23:P:1106:PHE:H	1.77	0.49
3:4:151:G:N7	38:q:32:LYS:HD3	2.27	0.49
4:5:84:A:O2'	8:A:713:ASN:O	2.17	0.49
8:A:236:ARG:HG2	8:A:237:MET:N	2.27	0.49
8:A:1035:LEU:HD11	8:A:1160:LEU:HG	1.94	0.49
9:B:1453:GLU:OE2	9:B:1494:ARG:NH2	2.42	0.49
13:F:140:VAL:HG11	13:F:175:LEU:HD11	1.92	0.49
17:J:65:ASP:O	17:J:69:ASN:ND2	2.44	0.49
18:K:81:VAL:HG21	18:K:87:LEU:HB2	1.94	0.49
20:M:42:VAL:O	20:M:48:SER:OG	2.29	0.49
22:O:720:PRO:HG2	22:O:723:GLU:HB2	1.94	0.49
22:O:881:MET:HB2	22:O:906:LEU:HD13	1.94	0.49
22:O:908:GLN:HG2	26:S:78:ARG:HD3	1.93	0.49
23:P:130:LEU:HD22	23:P:202:ILE:HD11	1.95	0.49
30:W:17:ASP:OD2	32:Y:60:LYS:O	2.30	0.49
30:W:31:LEU:O	30:W:36:LEU:HB3	2.12	0.49
34:a:33:ASP:OD1	34:a:37:ASN:N	2.35	0.49
35:b:88:ARG:HH22	36:d:66:GLY:C	2.20	0.49
41:i:47:SER:HA	41:i:53:LYS:HG3	1.95	0.49
37:p:43:ILE:HG23	37:p:52:VAL:HG13	1.94	0.49
4:5:88:U:H2'	4:5:89:U:C6	2.46	0.49
5:6:112:U:O3'	44:z:74:ARG:NH2	2.45	0.49
8:A:511:ASP:OD1	8:A:512:GLU:N	2.45	0.49
8:A:2395:PHE:HD1	9:B:1060:LYS:C	2.20	0.49
9:B:789:LEU:HB2	9:B:794:ARG:HG2	1.94	0.49
9:B:1095:ASN:O	9:B:1099:VAL:HG23	2.12	0.49
9:B:1168:GLY:O	9:B:1172:GLN:HG3	2.12	0.49
9:B:1387:HIS:CE1	9:B:1470:LEU:HB2	2.47	0.49
15:H:36:ARG:HG2	15:H:81:MET:HE1	1.93	0.49
17:J:296:VAL:HG11	17:J:313:ALA:HB2	1.93	0.49
18:K:66:HIS:CE1	18:K:67:LEU:HG	2.47	0.49
27:T:26:GLN:CB	29:V:168:THR:HG23	2.42	0.49
27:T:75:GLN:HE21	27:T:156:ILE:HG21	1.76	0.49
30:W:22:LYS:HB2	30:W:33:ASP:C	2.37	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:W:25:VAL:HB	30:W:32:ARG:N	2.27	0.49
30:W:31:LEU:HD22	30:W:35:GLN:O	2.12	0.49
30:W:57:LEU:HD12	30:W:73:ARG:HH12	1.77	0.49
41:i:54:ILE:HG23	41:i:72:VAL:HG13	1.95	0.49
36:n:10:LEU:HD12	36:n:83:LEU:HD12	1.93	0.49
43:o:7:LEU:HB2	43:o:10:GLU:HG3	1.94	0.49
35:s:28:ARG:HD3	35:s:50:GLU:OE2	2.11	0.49
1:2:64:G:H2'	1:2:65:A:C8	2.47	0.49
4:5:68:A:HO2'	4:5:69:G:H8	1.60	0.49
8:A:1271:PRO:HA	8:A:1298:ALA:HA	1.94	0.49
8:A:1529:ASN:HD22	8:A:1532:HIS:HD2	1.59	0.49
8:A:1550:LEU:O	8:A:1552:GLY:N	2.46	0.49
8:A:2134:VAL:HG13	19:L:92:THR:HB	1.94	0.49
9:B:588:LEU:HD11	9:B:599:ILE:HD11	1.95	0.49
9:B:1461:GLN:OE1	9:B:1461:GLN:N	2.44	0.49
10:C:127:ALA:HA	10:C:133:ILE:HD11	1.94	0.49
10:C:144:SER:OG	10:C:146:LYS:NZ	2.42	0.49
10:C:478:TYR:CE2	10:C:550:VAL:HG23	2.47	0.49
11:D:49:ILE:O	11:D:53:VAL:HG22	2.12	0.49
13:F:253:ARG:NH1	18:K:70:LEU:HD13	2.27	0.49
14:G:322:ARG:O	14:G:326:ALA:CB	2.60	0.49
15:H:268:ILE:HA	15:H:284:SER:HA	1.94	0.49
17:J:676:GLN:O	17:J:680:SER:CB	2.60	0.49
20:M:61:MET:HB2	20:M:88:ILE:HG12	1.94	0.49
20:M:92:LEU:HD11	20:M:122:LEU:HG	1.94	0.49
22:O:229:LEU:HD21	22:O:243:ILE:HD13	1.94	0.49
22:O:538:VAL:O	22:O:542:THR:HG23	2.13	0.49
23:P:431:SER:H	23:P:436:ASN:HD22	1.60	0.49
23:P:1356:VAL:HA	23:P:1360:TYR:CD2	2.47	0.49
29:V:141:GLN:O	29:V:144:ARG:HB2	2.13	0.49
30:W:91:GLY:HA2	30:W:116:ARG:HB3	1.95	0.49
31:X:105:ALA:O	31:X:109:ALA:CB	2.60	0.49
40:l:4:VAL:HG11	40:l:34:PRO:HA	1.94	0.49
8:A:1605:ARG:CZ	8:A:1824:GLN:HG3	2.42	0.49
8:A:1638:ILE:HB	8:A:1641:LEU:HB3	1.94	0.49
8:A:1703:MET:HB3	8:A:1732:MET:HB3	1.94	0.49
8:A:1809:ASN:HB3	8:A:1812:LEU:HB2	1.93	0.49
8:A:2152:TRP:HZ3	9:B:1064:PRO:HG3	1.75	0.49
8:A:2255:LEU:HD11	8:A:2281:PHE:HE1	1.77	0.49
9:B:747:ARG:HH12	9:B:1047:ARG:HG3	1.77	0.49
9:B:1371:GLY:O	9:B:1376:LYS:NZ	2.40	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:1431:ASP:OD2	9:B:2095:LYS:HD2	2.13	0.49
15:H:267:ARG:HG2	15:H:268:ILE:O	2.12	0.49
19:L:60:ARG:HD3	19:L:78:PHE:CD1	2.47	0.49
22:O:418:ALA:O	22:O:421:SER:OG	2.30	0.49
22:O:624:CYS:O	22:O:628:ILE:HG12	2.11	0.49
22:O:916:MET:O	22:O:919:ILE:N	2.46	0.49
23:P:103:LEU:HD22	23:P:162:ILE:HD13	1.93	0.49
23:P:228:LEU:HD12	23:P:273:LEU:HD11	1.94	0.49
26:S:10:MET:HA	26:S:88:ARG:O	2.12	0.49
27:T:11:LEU:HD11	29:V:148:PHE:HZ	1.77	0.49
27:T:237:SER:HA	27:T:321:LEU:HD13	1.93	0.49
27:T:342:LYS:HA	27:T:345:PHE:CD2	2.47	0.49
30:W:35:GLN:OE1	32:Y:57:GLU:HB2	2.12	0.49
37:w:40:LYS:HZ3	37:w:93:ALA:HB3	1.77	0.49
1:2:1097:G:C2	1:2:1098:C:C4	3.00	0.49
4:5:91:U:H2'	4:5:92:U:C6	2.48	0.49
5:6:57:U:H2'	5:6:58:C:C6	2.48	0.49
7:8:51:CYS:SG	7:8:52:LYS:N	2.85	0.49
8:A:759:ARG:NH2	11:D:44:GLU:OE1	2.42	0.49
9:B:820:PHE:CD2	9:B:828:LEU:HD22	2.48	0.49
9:B:1682:ILE:HD12	9:B:1722:ILE:HG12	1.95	0.49
9:B:1687:LEU:HB2	9:B:1698:TYR:CE1	2.29	0.49
9:B:1688:TYR:CD2	9:B:1895:ARG:HA	2.44	0.49
13:F:321:LYS:HE2	15:H:218:VAL:HG21	1.94	0.49
15:H:64:VAL:HG12	15:H:65:GLU:N	2.27	0.49
15:H:345:LEU:HD13	15:H:376:TRP:CE2	2.48	0.49
17:J:257:PHE:CG	17:J:258:SER:N	2.81	0.49
17:J:840:ASP:OD2	17:J:872:PRO:HD2	2.12	0.49
20:M:189:ASP:OD1	20:M:190:GLU:N	2.45	0.49
23:P:183:THR:OG1	23:P:185:ARG:NE	2.45	0.49
23:P:239:ASP:OD2	23:P:295:VAL:N	2.36	0.49
30:W:16:VAL:HG12	30:W:18:HIS:N	2.27	0.49
30:W:36:LEU:HD12	30:W:59:LEU:HD13	1.95	0.49
41:i:66:ASN:OD1	41:i:98:GLY:N	2.45	0.49
40:l:31:SER:HB2	40:l:39:ILE:HD11	1.95	0.49
40:l:88:ARG:NH1	40:l:90:ASN:HB3	2.28	0.49
41:m:47:SER:OG	41:m:103:VAL:HB	2.12	0.49
41:m:76:TRP:NE1	41:m:87:ARG:HB2	2.27	0.49
35:s:28:ARG:NH1	36:v:22:GLU:OE2	2.45	0.49
6:7:56:ASP:OD1	6:7:60:ASN:N	2.45	0.49
8:A:380:ARG:HG2	8:A:383:TYR:CE2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:963:VAL:HG21	13:F:280:ARG:NE	2.25	0.49
8:A:1753:ARG:HA	8:A:1787:TYR:CD2	2.48	0.49
8:A:1784:TYR:CD1	8:A:1806:MET:HG3	2.48	0.49
9:B:467:ALA:HB1	9:B:702:PRO:HB2	1.95	0.49
10:C:604:LYS:HZ1	10:C:973:ARG:HH12	1.61	0.49
14:G:428:TRP:HH2	15:H:371:GLY:C	2.21	0.49
15:H:171:GLN:HA	17:J:723:ARG:NH2	2.28	0.49
15:H:407:GLY:C	15:H:409:LYS:H	2.20	0.49
17:J:504:LYS:NZ	17:J:508:TRP:NE1	2.60	0.49
23:P:847:LEU:N	23:P:865:ILE:O	2.40	0.49
35:b:12:LEU:HD12	35:b:15:LEU:HD12	1.93	0.49
41:i:48:LEU:HD23	41:i:101:VAL:HA	1.94	0.49
41:u:79:LYS:HD3	41:u:84:VAL:HG22	1.93	0.49
6:7:91:LEU:O	43:o:83:PRO:HD2	2.13	0.49
8:A:194:HIS:HA	8:A:557:PHE:CD1	2.48	0.49
8:A:404:ASN:HD21	10:C:927:MET:HE1	1.78	0.49
8:A:1094:ASP:HB2	17:J:129:THR:HB	1.93	0.49
9:B:1740:LEU:HD11	40:l:146:LEU:CD1	2.42	0.49
9:B:2007:LYS:HB3	9:B:2030:ILE:HD12	1.93	0.49
10:C:145:GLY:N	45:C:1101:GTP:O1B	2.37	0.49
10:C:606:VAL:HG22	10:C:643:VAL:HG22	1.94	0.49
11:D:105:PHE:HB2	11:D:141:ARG:HG3	1.95	0.49
13:F:74:LEU:HG	13:F:75:PRO:HD3	1.95	0.49
15:H:291:LEU:HB3	15:H:301:LEU:HB2	1.94	0.49
22:O:270:SER:HA	22:O:278:ILE:HD11	1.94	0.49
22:O:855:GLN:HG3	22:O:898:ARG:HG3	1.93	0.49
22:O:950:VAL:HG13	33:Z:39:THR:HG22	1.94	0.49
22:O:955:VAL:HG21	33:Z:35:VAL:HG11	1.94	0.49
23:P:484:LEU:HD11	23:P:511:ILE:HD13	1.95	0.49
23:P:514:THR:O	23:P:886:PHE:HA	2.12	0.49
23:P:1097:PHE:CE1	23:P:1108:PRO:HB3	2.47	0.49
25:R:16:ILE:HD12	25:R:52:TYR:HA	1.94	0.49
26:S:11:CYS:HB3	26:S:86:CYS:O	2.12	0.49
28:U:123:ILE:CA	28:U:207:GLU:HB2	2.40	0.49
30:W:5:PRO:HB3	30:W:49:HIS:CD2	2.48	0.49
30:W:11:ALA:HB3	30:W:24:ASN:C	2.37	0.49
35:b:88:ARG:HH21	36:d:40:MET:HE2	1.78	0.49
37:e:40:LYS:O	37:e:57:ALA:HA	2.13	0.49
40:t:31:SER:HB2	40:t:39:ILE:HD11	1.93	0.49
37:w:43:ILE:HG23	37:w:52:VAL:HG13	1.95	0.49
3:4:63:U:H2'	3:4:64:U:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:45:A:H4'	10:C:111:LYS:HG2	1.95	0.49
8:A:1670:ASP:CB	8:A:2148:SER:CB	2.87	0.49
8:A:1672:GLU:HB3	8:A:1676:LEU:HD12	1.95	0.49
8:A:1861:THR:HA	12:E:160:THR:O	2.12	0.49
8:A:1995:TRP:HB2	8:A:1999:ILE:HG12	1.94	0.49
8:A:2121:MET:HE1	9:B:1056:GLN:CG	2.43	0.49
10:C:885:GLY:HA3	10:C:907:PRO:CD	2.43	0.49
12:E:194:LEU:HD13	12:E:197:ARG:HH11	1.78	0.49
13:F:135:LEU:HD22	13:F:208:TRP:NE1	2.28	0.49
13:F:406:GLU:OE1	13:F:406:GLU:N	2.46	0.49
15:H:44:ILE:HD12	15:H:45:PRO:HD2	1.95	0.49
17:J:248:ALA:O	17:J:252:GLU:CB	2.61	0.49
23:P:159:ILE:HD12	23:P:224:ILE:HD11	1.94	0.49
23:P:1234:LYS:O	23:P:1237:VAL:N	2.44	0.49
24:Q:170:ILE:HD13	24:Q:267:GLY:HA2	1.95	0.49
24:Q:173:PRO:O	24:Q:176:TRP:HD1	1.95	0.49
27:T:206:ILE:HG23	27:T:221:PRO:HG3	1.94	0.49
30:W:59:LEU:HD11	30:W:64:LEU:HD13	1.94	0.49
30:W:123:THR:O	30:W:125:LYS:N	2.45	0.49
36:d:43:GLN:HB2	36:d:63:PHE:HD1	1.78	0.49
37:e:27:VAL:HG13	37:e:91:THR:O	2.12	0.49
38:f:43:VAL:HB	38:f:52:GLN:HG2	1.95	0.49
40:h:20:LYS:HA	40:h:93:ARG:HD2	1.95	0.49
38:q:41:THR:HG23	38:q:55:GLU:OE2	2.12	0.49
1:2:1116:A:O2'	1:2:1117:G:H5'	2.13	0.49
1:2:1139:G:H2'	1:2:1140:U:H6	1.76	0.49
3:4:53:U:H2'	3:4:54:U:O4'	2.13	0.49
4:5:143:U:H2'	4:5:144:G:H8	1.78	0.49
9:B:835:ALA:HA	9:B:874:ARG:HD3	1.94	0.49
9:B:1584:PHE:HZ	9:B:1709:LEU:HD22	1.77	0.49
9:B:1852:ILE:O	9:B:1856:TYR:HD2	1.96	0.49
12:E:150:ASN:OD1	12:E:151:ILE:N	2.45	0.49
13:F:178:SER:O	13:F:182:SER:OG	2.28	0.49
14:G:55:LEU:O	14:G:59:ARG:CB	2.61	0.49
15:H:267:ARG:HH21	15:H:285:HIS:CE1	2.31	0.49
15:H:321:LEU:HD11	15:H:333:LEU:HB3	1.95	0.49
15:H:321:LEU:HD23	15:H:357:TRP:HH2	1.77	0.49
16:I:65:U:O2'	28:U:77:SER:OG	2.24	0.49
23:P:630:ILE:HD13	23:P:646:LEU:HD13	1.95	0.49
24:Q:295:SER:N	25:R:27:GLU:OE2	2.38	0.49
28:U:190:ASP:HB2	28:U:192:LYS:HE3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:W:8:VAL:N	30:W:25:VAL:HG13	2.28	0.49
30:W:157:GLN:NE2	32:Y:96:GLY:H	2.03	0.49
35:b:96:VAL:HG12	40:h:85:ILE:HA	1.95	0.49
38:f:44:SER:OG	38:f:52:GLN:OE1	2.31	0.49
39:g:8:LYS:HA	39:g:11:MET:HG2	1.94	0.49
1:2:45:U:C4	16:I:58:U:O4	2.66	0.48
3:4:150:G:N2	3:4:152:A:H5'	2.28	0.48
3:4:151:G:H21	3:4:152:A:N6	2.10	0.48
8:A:185:GLN:HE21	8:A:263:PRO:HD3	1.78	0.48
8:A:294:ASN:HB2	8:A:300:LYS:HB2	1.95	0.48
8:A:1094:ASP:HB3	17:J:134:ARG:CZ	2.43	0.48
8:A:1268:ARG:NH1	8:A:1301:TYR:CD2	2.80	0.48
8:A:1404:HIS:HB3	31:X:6:ALA:HB3	1.95	0.48
8:A:2083:ILE:HG13	8:A:2084:LEU:N	2.28	0.48
9:B:1228:TRP:CE2	9:B:1261:PRO:HG3	2.48	0.48
9:B:1908:ARG:HD3	41:m:39:VAL:HG23	1.95	0.48
9:B:1913:PHE:CE2	9:B:1917:THR:HB	2.47	0.48
14:G:211:HIS:HB3	14:G:212:PRO:HD3	1.93	0.48
23:P:514:THR:OG1	23:P:887:HIS:NE2	2.45	0.48
23:P:739:LEU:O	23:P:755:ILE:HB	2.13	0.48
29:V:139:VAL:O	29:V:143:LYS:HG3	2.12	0.48
41:i:48:LEU:HD21	41:i:96:LEU:HD21	1.94	0.48
37:w:89:LEU:HD23	37:w:91:THR:HG23	1.93	0.48
8:A:1242:LYS:HD3	8:A:1244:GLU:OE2	2.12	0.48
8:A:1813:TYR:HB3	8:A:2098:MET:SD	2.53	0.48
8:A:2166:LEU:HD11	8:A:2194:ILE:HG13	1.95	0.48
9:B:656:TRP:CH2	9:B:929:ILE:HG13	2.47	0.48
9:B:1056:GLN:HB2	19:L:61:LYS:CE	2.38	0.48
15:H:44:ILE:HG12	15:H:76:LEU:HD13	1.95	0.48
15:H:140:MET:SD	15:H:143:HIS:NE2	2.85	0.48
15:H:222:GLY:N	15:H:237:CYS:O	2.41	0.48
16:I:61:U:N3	16:I:62:A:N7	2.61	0.48
22:O:172:LYS:HE3	22:O:180:SER:HB3	1.95	0.48
22:O:244:LEU:O	22:O:248:ALA:CB	2.50	0.48
23:P:406:GLN:HA	23:P:455:LEU:O	2.13	0.48
23:P:1071:ILE:HG12	23:P:1089:ASP:OD2	2.12	0.48
23:P:1099:TRP:HB2	23:P:1106:PHE:CE1	2.48	0.48
24:Q:184:SER:N	24:Q:272:GLU:OE2	2.46	0.48
24:Q:265:CYS:N	24:Q:268:ASP:OD2	2.45	0.48
30:W:3:PHE:N	30:W:30:ILE:HD11	2.27	0.48
42:j:29:LEU:HA	42:j:40:LEU:HD23	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:k:96:VAL:HG12	40:l:85:ILE:HG12	1.95	0.48
40:l:96:ILE:HG13	41:m:94:LEU:HD13	1.94	0.48
41:m:67:MET:HE2	41:m:69:LEU:HD21	1.94	0.48
35:s:38:ASP:OD1	35:s:42:ASN:N	2.45	0.48
5:6:49:A:N3	8:A:1647:GLN:NE2	2.60	0.48
8:A:976:GLN:NE2	8:A:1310:LYS:O	2.46	0.48
8:A:1050:LEU:HD13	8:A:1230:ILE:HD12	1.95	0.48
8:A:1347:ARG:HD2	8:A:1447:TRP:CE2	2.48	0.48
8:A:1703:MET:HE2	8:A:1709:TRP:CH2	2.48	0.48
9:B:1213:ARG:NH2	9:B:1316:LYS:CG	2.67	0.48
9:B:1320:PRO:HB2	9:B:1535:PHE:HA	1.95	0.48
10:C:269:LYS:HG2	45:C:1101:GTP:C5	2.48	0.48
13:F:402:ASP:OD1	13:F:403:SER:N	2.46	0.48
15:H:240:ASP:OD1	15:H:241:GLY:N	2.47	0.48
17:J:594:LEU:HD21	17:J:630:SER:HB2	1.94	0.48
22:O:519:ILE:HD12	22:O:553:LEU:HD11	1.95	0.48
22:O:685:ILE:O	22:O:688:THR:OG1	2.27	0.48
30:W:14:TYR:CE2	30:W:34:LEU:HD21	2.49	0.48
30:W:127:LEU:HD23	30:W:151:LEU:HD11	1.95	0.48
35:s:88:ARG:NH1	36:v:67:SER:C	2.69	0.48
37:w:20:PHE:CE1	37:w:92:SER:HB2	2.40	0.48
1:2:1097:G:H2'	1:2:1098:C:H5	1.78	0.48
3:4:55:U:OP2	17:J:144:LYS:NZ	2.45	0.48
5:6:41:A:N3	5:6:42:A:N6	2.61	0.48
8:A:1418:THR:OG1	8:A:1421:GLY:O	2.27	0.48
8:A:2157:ILE:HG13	9:B:1064:PRO:HB2	1.94	0.48
9:B:542:HIS:O	9:B:551:ASN:HB3	2.14	0.48
9:B:766:ILE:CD1	9:B:769:LYS:HZ1	2.27	0.48
9:B:828:LEU:HG	9:B:830:CYS:SG	2.53	0.48
9:B:1847:LEU:O	9:B:1851:LEU:HD13	2.14	0.48
9:B:2051:VAL:CG1	9:B:2077:ARG:HG2	2.43	0.48
10:C:270:LEU:O	10:C:273:LEU:HG	2.13	0.48
10:C:534:THR:HG21	10:C:578:TYR:OH	2.13	0.48
23:P:651:LEU:HB3	23:P:670:PRO:HG2	1.95	0.48
23:P:1240:MET:HB3	23:P:1318:ILE:HD13	1.95	0.48
27:T:178:GLU:HA	27:T:334:ARG:HH11	1.78	0.48
27:T:208:GLU:HG3	27:T:332:PHE:CE2	2.49	0.48
27:T:267:SER:O	27:T:272:SER:HB2	2.13	0.48
32:Y:76:MET:HB3	32:Y:81:GLN:HG3	1.95	0.48
36:d:61:GLN:HB3	39:g:73:ALA:HB3	1.96	0.48
41:m:79:LYS:HD3	41:m:84:VAL:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:v:34:VAL:HG22	36:v:45:ARG:HD2	1.95	0.48
36:v:64:VAL:HG23	39:y:70:SER:HB2	1.94	0.48
44:z:27:LYS:HZ3	44:z:33:LEU:HB2	1.78	0.48
3:4:91:U:O2	35:k:39:LYS:NZ	2.37	0.48
4:5:8:U:O4	4:5:157:G:O6	2.31	0.48
5:6:70:U:H2'	5:6:71:G:C8	2.48	0.48
8:A:192:LEU:HD23	8:A:559:GLN:HB3	1.94	0.48
8:A:1393:GLU:OE2	13:F:396:GLN:HG3	2.13	0.48
9:B:496:THR:O	24:Q:336:ASP:CB	2.61	0.48
9:B:804:HIS:HE1	9:B:813:ARG:CG	2.18	0.48
9:B:1563:MET:HE1	9:B:1684:GLY:HA2	1.95	0.48
10:C:221:PHE:CD1	10:C:651:TYR:HD1	2.32	0.48
10:C:226:ALA:HB2	10:C:598:ILE:HG13	1.95	0.48
22:O:739:ASN:HB3	22:O:742:ILE:HB	1.94	0.48
23:P:600:ILE:HD11	23:P:607:LEU:HD23	1.96	0.48
23:P:1011:ASN:CG	23:P:1014:LYS:HB2	2.39	0.48
23:P:1201:ASP:HB3	23:P:1203:HIS:CE1	2.47	0.48
27:T:195:ARG:HD3	27:T:197:ASP:OD2	2.14	0.48
29:V:119:GLU:C	29:V:121:ARG:H	2.21	0.48
30:W:141:ARG:CD	30:W:154:LEU:HD23	2.42	0.48
39:r:31:GLY:H	39:r:39:VAL:HB	1.79	0.48
1:2:1109:C:O2	1:2:1116:A:OP1	2.31	0.48
3:4:67:A:H2	9:B:716:LEU:HD21	0.74	0.48
8:A:1490:ARG:HH12	8:A:1536:LEU:HA	1.79	0.48
8:A:1685:THR:CG2	19:L:59:LYS:HE3	2.44	0.48
8:A:1752:VAL:HG12	8:A:1787:TYR:HB3	1.96	0.48
8:A:2332:THR:HA	8:A:2333:PHE:HA	1.64	0.48
10:C:142:LEU:HD13	10:C:218:HIS:HB2	1.94	0.48
23:P:212:LEU:HD21	26:S:14:GLN:HG3	1.94	0.48
23:P:1299:ILE:C	23:P:1300:LEU:HD12	2.39	0.48
35:b:44:VAL:HG12	35:b:86:ILE:HB	1.94	0.48
40:h:30:GLN:NE2	40:h:41:THR:HB	2.28	0.48
35:k:15:LEU:HB3	35:k:20:LEU:HD11	1.95	0.48
35:k:50:GLU:O	35:k:79:LYS:HA	2.14	0.48
37:w:27:VAL:O	37:w:40:LYS:HA	2.13	0.48
37:w:80:ILE:HG23	38:x:80:TYR:HB2	1.96	0.48
3:4:8:U:H2'	3:4:9:G:H8	1.79	0.48
3:4:15:G:C2	5:6:67:C:C2	3.02	0.48
8:A:882:ILE:HG21	8:A:1238:LEU:HD11	1.96	0.48
9:B:1032:PHE:HE2	9:B:1081:GLN:HG2	1.79	0.48
9:B:1213:ARG:HG3	9:B:1313:LEU:HB3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:C:237:ILE:HD12	10:C:265:PHE:CE1	2.48	0.48
10:C:861:ILE:HG21	10:C:905:GLN:HB3	1.96	0.48
15:H:177:PRO:HA	15:H:459:ARG:HG2	1.94	0.48
17:J:654:LYS:HG2	17:J:677:ILE:HG21	1.96	0.48
17:J:860:TYR:HB3	17:J:889:ARG:HH22	1.78	0.48
23:P:671:GLU:C	23:P:673:ASP:H	2.21	0.48
1:2:1093:C:C2	1:2:1094:G:C8	3.02	0.48
2:3:12:LEU:HD13	34:a:83:GLN:NE2	2.28	0.48
3:4:136:U:O2'	9:B:1194:ASP:OD2	2.26	0.48
3:4:150:G:O2'	3:4:152:A:OP1	2.32	0.48
6:7:97:THR:O	42:j:72:ARG:NH1	2.47	0.48
8:A:1319:ILE:HG23	8:A:1320:LEU:HG	1.95	0.48
8:A:2381:GLU:HB3	8:A:2384:ASN:HB2	1.94	0.48
9:B:2011:ILE:HD12	9:B:2030:ILE:HD11	1.96	0.48
11:D:11:THR:HG22	11:D:14:HIS:ND1	2.29	0.48
13:F:434:GLN:HB3	13:F:436:LYS:NZ	2.29	0.48
15:H:335:ASP:HB2	15:H:338:SER:HB3	1.95	0.48
19:L:46:TYR:HA	19:L:49:LEU:HB3	1.94	0.48
22:O:422:MET:O	22:O:426:MET:HG2	2.14	0.48
22:O:507:VAL:HG21	22:O:543:ARG:HB2	1.95	0.48
22:O:557:LEU:HD23	22:O:560:ARG:HD3	1.96	0.48
23:P:149:ALA:HB3	23:P:195:ILE:HD11	1.95	0.48
23:P:186:ARG:N	33:Z:41:ASN:HD21	2.12	0.48
23:P:272:VAL:HG23	23:P:283:LYS:HG3	1.94	0.48
28:U:71:CYS:SG	28:U:90:HIS:HA	2.54	0.48
32:Y:41:MET:HE3	32:Y:66:LYS:HA	1.96	0.48
36:d:65:ARG:HD2	39:g:68:ILE:HB	1.95	0.48
38:q:60:VAL:HG12	38:q:65:HIS:HB2	1.96	0.48
3:4:143:A:C5	38:q:48:TYR:CD2	3.02	0.48
8:A:596:ASN:HA	8:A:630:LYS:HG2	1.95	0.48
8:A:632:ILE:O	8:A:635:THR:OG1	2.25	0.48
8:A:1739:ARG:HD2	8:A:1751:TYR:CD2	2.49	0.48
9:B:1016:ASP:OD1	9:B:1017:VAL:N	2.46	0.48
9:B:1241:LEU:HA	9:B:1292:LEU:HD23	1.95	0.48
10:C:839:ILE:HB	10:C:840:PRO:HD3	1.94	0.48
10:C:918:LEU:HD22	10:C:928:CYS:HB2	1.95	0.48
10:C:964:ARG:HH22	10:C:986:GLY:N	2.12	0.48
15:H:352:ILE:HA	15:H:368:GLY:HA2	1.95	0.48
15:H:372:ILE:HG12	15:H:390:LEU:HD23	1.96	0.48
15:H:375:VAL:HG11	15:H:427:TRP:CZ2	2.49	0.48
19:L:127:PRO:O	19:L:128:GLN:HG2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:232:LEU:HD12	22:O:233:GLY:N	2.29	0.48
22:O:528:ASP:OD1	22:O:529:GLU:N	2.46	0.48
22:O:943:VAL:HG13	33:Z:18:TYR:CE2	2.49	0.48
23:P:594:MET:HB3	23:P:656:ILE:HG21	1.95	0.48
23:P:632:ILE:HA	23:P:646:LEU:HA	1.95	0.48
23:P:961:CYS:O	23:P:962:LEU:HD12	2.14	0.48
28:U:244:ASP:OD2	28:U:247:SER:HB3	2.14	0.48
30:W:88:GLU:HA	30:W:113:ASP:OD1	2.13	0.48
32:Y:70:GLY:O	32:Y:72:ALA:N	2.45	0.48
35:s:21:ARG:NH1	35:s:29:VAL:HG11	2.29	0.48
1:2:42:PSU:C4	1:2:43:G:C8	3.01	0.48
1:2:1108:A:N7	32:Y:106:SER:OG	2.47	0.48
4:5:119:U:H2'	4:5:120:G:C8	2.49	0.48
5:6:87:U:OP2	14:G:443:LYS:NZ	2.32	0.48
8:A:282:ASP:OD1	8:A:283:SER:N	2.47	0.48
8:A:1667:GLN:N	8:A:2146:PHE:CD1	2.79	0.48
8:A:1959:THR:OG1	8:A:1961:LEU:HB3	2.14	0.48
9:B:635:GLU:N	9:B:670:LEU:O	2.47	0.48
9:B:1987:VAL:HG23	9:B:2150:LEU:HD22	1.95	0.48
10:C:816:VAL:HG21	10:C:850:LEU:HD21	1.96	0.48
17:J:162:LEU:HG	17:J:166:ARG:NH2	2.29	0.48
17:J:602:LYS:O	17:J:606:ARG:HG2	2.14	0.48
18:K:62:GLU:O	18:K:65:LEU:N	2.43	0.48
20:M:186:ILE:HD12	20:M:191:LEU:HB3	1.96	0.48
22:O:161:LYS:HA	22:O:164:ARG:HG2	1.96	0.48
22:O:387:PRO:HA	22:O:425:LEU:HB3	1.96	0.48
22:O:698:ARG:HG3	22:O:699:LYS:H	1.79	0.48
23:P:58:LEU:HD11	23:P:1230:PRO:HB3	1.95	0.48
23:P:503:LYS:HD3	23:P:941:PHE:CD1	2.49	0.48
28:U:123:ILE:C	28:U:207:GLU:HB2	2.39	0.48
30:W:8:VAL:CG2	30:W:25:VAL:HG22	2.43	0.48
38:f:33:PHE:C	38:f:35:SER:H	2.22	0.48
39:g:64:ARG:HH12	39:g:66:ASN:HB3	1.77	0.48
1:2:1109:C:OP2	1:2:1117:G:P	2.70	0.47
3:4:58:G:H2'	3:4:59:C:O4'	2.14	0.47
3:4:143:A:C5	38:q:48:TYR:HD2	2.31	0.47
7:8:28:ASN:HB2	7:8:37:PHE:HD2	1.79	0.47
8:A:209:ILE:HD13	8:A:303:PHE:HZ	1.79	0.47
8:A:470:LEU:HB3	8:A:471:PRO:HD2	1.96	0.47
8:A:796:ASN:HD22	8:A:861:GLN:NE2	2.07	0.47
8:A:1032:ILE:HG12	8:A:1171:LEU:HD22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1126:LEU:HD21	8:A:1161:TYR:CG	2.49	0.47
8:A:1940:MET:C	8:A:1943:PRO:HD2	2.40	0.47
8:A:2398:LEU:HD22	9:B:1060:LYS:CD	2.43	0.47
8:A:2398:LEU:CD2	9:B:1060:LYS:HB2	2.29	0.47
9:B:945:TYR:O	9:B:949:LEU:HG	2.13	0.47
9:B:1621:ILE:HD12	9:B:1630:ARG:HG3	1.96	0.47
11:D:29:ILE:HD13	11:D:60:TYR:HB2	1.96	0.47
14:G:134:ILE:O	14:G:138:ASP:N	2.46	0.47
14:G:149:PHE:HB3	15:H:151:GLU:OE2	2.13	0.47
14:G:167:GLU:HB3	14:G:169:TRP:HE3	1.79	0.47
17:J:153:ILE:O	17:J:155:GLY:N	2.40	0.47
22:O:252:ILE:HD13	22:O:296:VAL:HG22	1.95	0.47
22:O:888:ILE:HG12	22:O:903:LEU:HD11	1.94	0.47
41:u:47:SER:OG	41:u:103:VAL:HB	2.14	0.47
37:w:85:ASP:OD1	37:w:86:ASN:N	2.47	0.47
38:x:50:ASN:HB3	38:x:72:PHE:CE1	2.49	0.47
1:2:1150:U:H5'	1:2:1151:U:OP2	2.15	0.47
4:5:37:C:H2'	4:5:38:A:H8	1.78	0.47
5:6:92:C:H2'	5:6:93:A:C8	2.45	0.47
6:7:39:ARG:HH21	42:j:66:LEU:HD11	1.78	0.47
8:A:688:TYR:O	8:A:692:ASN:N	2.35	0.47
8:A:1050:LEU:HD22	8:A:1170:MET:HE3	1.96	0.47
8:A:1099:ASN:HD22	8:A:1104:ILE:HG13	1.79	0.47
8:A:1478:GLU:OE2	17:J:252:GLU:OE2	2.32	0.47
13:F:173:LEU:O	13:F:177:MET:HG2	2.15	0.47
14:G:344:PHE:CZ	14:G:347:LEU:HD23	2.48	0.47
15:H:418:LEU:HD13	15:H:432:SER:HB2	1.97	0.47
17:J:832:LEU:HD21	17:J:845:LEU:HD11	1.96	0.47
18:K:51:PHE:HB3	18:K:77:PRO:HG2	1.96	0.47
22:O:681:PRO:HG2	22:O:683:ASN:OD1	2.14	0.47
22:O:865:ALA:HA	22:O:877:PHE:HE1	1.79	0.47
22:O:935:TRP:CE3	33:Z:22:GLY:HA3	2.49	0.47
23:P:766:LYS:HD3	23:P:836:TRP:NE1	2.30	0.47
23:P:831:THR:HA	23:P:836:TRP:HA	1.96	0.47
23:P:843:ASP:OD1	23:P:844:GLN:N	2.48	0.47
30:W:17:ASP:OD2	32:Y:60:LYS:N	2.47	0.47
40:l:8:LYS:HE3	40:l:34:PRO:HG3	1.96	0.47
37:p:10:MET:HA	39:r:30:ARG:C	2.38	0.47
1:2:1094:G:C6	1:2:1149:G:C6	3.03	0.47
1:2:1162:U:O2'	1:2:1163:C:H5'	2.14	0.47
3:4:138:U:H5	9:B:1227:ILE:HG12	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:28:G:C6	4:5:126:A:N1	2.82	0.47
7:8:8:TYR:HE2	34:a:61:PHE:HB2	1.79	0.47
8:A:900:PHE:HB2	8:A:1075:ASP:OD2	2.14	0.47
8:A:1306:GLU:HG2	8:A:1310:LYS:NZ	2.29	0.47
8:A:1341:SER:OG	8:A:1524:PRO:O	2.31	0.47
9:B:1372:LYS:CD	9:B:1708:GLY:HA3	2.44	0.47
10:C:139:ILE:HG22	10:C:252:LEU:HD13	1.96	0.47
10:C:416:ASP:HB3	10:C:417:PRO:HD2	1.96	0.47
10:C:606:VAL:HA	10:C:642:HIS:O	2.15	0.47
10:C:965:ASP:OD1	10:C:966:PHE:N	2.47	0.47
13:F:54:PHE:O	13:F:58:ALA:CB	2.61	0.47
16:I:70:A:OP1	22:O:898:ARG:NH1	2.47	0.47
20:M:125:VAL:HG22	20:M:195:LEU:HD11	1.97	0.47
22:O:801:ILE:HG23	22:O:816:VAL:HG13	1.95	0.47
23:P:1133:ASP:OD2	23:P:1137:ASN:HB2	2.14	0.47
23:P:1222:GLN:HG2	33:Z:48:ALA:HA	1.95	0.47
24:Q:162:SER:O	24:Q:166:THR:OG1	2.28	0.47
27:T:62:PHE:HA	27:T:376:GLN:O	2.14	0.47
27:T:506:LEU:HD13	27:T:518:LYS:NZ	2.28	0.47
30:W:3:PHE:HE2	30:W:31:LEU:O	1.98	0.47
30:W:51:THR:C	30:W:53:PRO:HD2	2.40	0.47
30:W:73:ARG:NH2	30:W:76:ILE:HG12	2.29	0.47
37:e:30:TRP:CD2	37:e:89:LEU:HD22	2.50	0.47
38:f:79:LEU:HD22	38:f:80:TYR:HD2	1.78	0.47
35:s:39:LYS:HA	35:s:39:LYS:HD2	1.50	0.47
41:u:56:ALA:HB2	41:u:72:VAL:HA	1.96	0.47
4:5:10:U:O2	4:5:156:G:N1	2.46	0.47
4:5:32:G:O6	4:5:121:U:O4	2.33	0.47
7:8:12:ARG:NH1	7:8:25:ALA:HA	2.30	0.47
8:A:2084:LEU:CD1	8:A:2086:GLN:H	2.28	0.47
8:A:2094:LYS:HG2	12:E:217:ILE:HG12	1.95	0.47
9:B:686:VAL:HG12	9:B:687:PRO:O	2.14	0.47
9:B:1471:MET:HE1	9:B:1495:MET:HG3	1.96	0.47
9:B:1685:THR:O	9:B:1697:PRO:HA	2.15	0.47
9:B:1804:SER:HA	9:B:1807:VAL:HG22	1.96	0.47
9:B:2103:LEU:HD13	9:B:2142:ILE:HG13	1.96	0.47
14:G:167:GLU:HB3	14:G:169:TRP:CE3	2.50	0.47
15:H:170:SER:HB3	15:H:462:LYS:HG2	1.96	0.47
17:J:462:GLN:NE2	17:J:496:LYS:O	2.44	0.47
17:J:674:LEU:HG	17:J:677:ILE:HD12	1.96	0.47
22:O:275:LEU:HD22	22:O:312:GLN:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:601:ILE:O	22:O:604:THR:OG1	2.28	0.47
23:P:363:VAL:HG12	23:P:364:THR:N	2.25	0.47
23:P:702:ILE:O	23:P:715:VAL:HA	2.15	0.47
23:P:881:THR:HG23	23:P:883:ASP:H	1.79	0.47
26:S:49:CYS:O	26:S:88:ARG:NH1	2.48	0.47
27:T:267:SER:C	27:T:272:SER:HB2	2.39	0.47
30:W:30:ILE:HA	30:W:31:LEU:HD12	1.97	0.47
38:f:52:GLN:HG3	41:i:33:LEU:HD11	1.95	0.47
41:i:78:GLU:CD	41:i:87:ARG:HG3	2.38	0.47
41:m:38:MET:SD	41:m:61:PHE:HE2	2.36	0.47
37:p:46:PHE:O	38:q:14:ASN:ND2	2.47	0.47
37:p:85:ASP:OD1	37:p:86:ASN:N	2.47	0.47
3:4:62:G:H2'	3:4:63:U:H6	1.79	0.47
4:5:45:A:H2'	4:5:45:A:N3	2.29	0.47
5:6:85:C:OP2	14:G:353:ARG:NH1	2.47	0.47
8:A:166:LYS:HE3	8:A:167:TYR:CZ	2.49	0.47
8:A:1391:PRO:HG3	8:A:1547:ILE:HD11	1.96	0.47
8:A:2105:ARG:O	8:A:2106:SER:C	2.57	0.47
8:A:2152:TRP:CZ3	9:B:1064:PRO:CG	2.95	0.47
9:B:781:LEU:HD21	9:B:798:GLU:CA	2.33	0.47
9:B:783:THR:O	9:B:787:ASN:ND2	2.48	0.47
9:B:1587:SER:HB3	9:B:1895:ARG:CZ	2.45	0.47
9:B:2051:VAL:HG12	9:B:2077:ARG:HG2	1.97	0.47
10:C:183:GLN:HE21	10:C:187:ARG:NE	2.11	0.47
10:C:865:ASP:HB2	10:C:931:TYR:HE1	1.80	0.47
10:C:977:SER:O	10:C:978:THR:OG1	2.28	0.47
13:F:239:ALA:O	13:F:243:ALA:HB2	2.15	0.47
15:H:179:SER:HB3	15:H:195:TRP:CD1	2.50	0.47
17:J:292:CYS:HA	17:J:295:LEU:HD12	1.96	0.47
17:J:641:ASN:O	17:J:644:ARG:HB3	2.14	0.47
22:O:376:HIS:O	22:O:379:SER:OG	2.23	0.47
22:O:526:LEU:HD23	22:O:537:ALA:HB1	1.96	0.47
22:O:613:THR:O	22:O:617:ARG:HG2	2.15	0.47
22:O:822:PHE:HA	22:O:825:GLU:HG2	1.96	0.47
22:O:836:TYR:HB3	24:Q:260:PRO:HD3	1.97	0.47
22:O:925:HIS:CG	22:O:926:PRO:HD2	2.50	0.47
24:Q:248:HIS:CE1	24:Q:252:PHE:HD2	2.33	0.47
27:T:210:PHE:CE1	27:T:216:TYR:HB2	2.49	0.47
28:U:155:ILE:HD12	28:U:155:ILE:N	2.29	0.47
32:Y:60:LYS:HD2	32:Y:73:PHE:O	2.14	0.47
41:i:74:GLU:O	41:i:88:GLU:HA	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:l:43:VAL:CG1	40:l:85:ILE:HD12	2.44	0.47
41:m:53:LYS:O	41:m:74:GLU:HA	2.15	0.47
40:t:18:GLU:O	40:t:93:ARG:HB3	2.15	0.47
37:w:17:ILE:HA	37:w:20:PHE:HD2	1.79	0.47
3:4:66:A:C6	9:B:716:LEU:HD11	2.49	0.47
5:6:45:A:H5'	8:A:1689:ARG:HH12	1.78	0.47
8:A:193:TYR:CZ	8:A:558:GLN:HB2	2.50	0.47
8:A:708:TRP:CZ2	8:A:712:LEU:HD11	2.50	0.47
8:A:849:LEU:HD12	8:A:973:GLU:HG3	1.96	0.47
8:A:1000:TRP:CH2	8:A:1510:ILE:HG21	2.50	0.47
8:A:1524:PRO:HA	8:A:1526:TRP:HD1	1.78	0.47
8:A:2398:LEU:HA	9:B:1060:LYS:HZ2	1.79	0.47
9:B:1459:TRP:NE1	9:B:1762:ILE:HD11	2.28	0.47
13:F:205:GLU:O	13:F:209:LYS:HG2	2.15	0.47
18:K:16:LEU:HD23	18:K:124:LEU:HD11	1.96	0.47
23:P:634:CYS:SG	23:P:678:LYS:HA	2.54	0.47
23:P:1199:ILE:HA	23:P:1220:GLY:HA2	1.96	0.47
25:R:197:ASP:OD1	25:R:198:VAL:N	2.46	0.47
29:V:127:SER:HA	29:V:132:HIS:CG	2.50	0.47
32:Y:78:THR:HG22	32:Y:81:GLN:OE1	2.15	0.47
36:n:22:GLU:HG2	36:n:70:LYS:HD2	1.97	0.47
40:t:44:LYS:HB2	40:t:79:ILE:CG2	2.44	0.47
1:2:1097:G:C6	1:2:1146:G:C6	3.03	0.47
1:2:1097:G:O3'	32:Y:40:ASN:ND2	2.47	0.47
1:2:1143:C:H4'	1:2:1144:U:H2'	1.96	0.47
3:4:39:C:O2'	13:F:266:LYS:HA	2.15	0.47
4:5:40:C:HO2'	4:5:41:A:C5'	2.26	0.47
4:5:121:U:C2	4:5:122:C:C5	3.02	0.47
6:7:64:ASP:OD1	6:7:65:ASP:N	2.48	0.47
8:A:139:LEU:HD11	8:A:570:GLN:HE22	1.80	0.47
8:A:597:PHE:CZ	8:A:626:LEU:HB3	2.49	0.47
8:A:1588:LYS:HE2	13:F:364:LYS:HZ2	1.79	0.47
8:A:1647:GLN:HE21	8:A:1650:ARG:NH1	2.08	0.47
8:A:1994:ASP:CG	8:A:1998:ARG:NH1	2.73	0.47
8:A:2094:LYS:HB3	8:A:2098:MET:HE2	1.97	0.47
8:A:2319:LYS:HG3	8:A:2320:ASP:H	1.79	0.47
10:C:886:SER:HA	10:C:906:VAL:HG22	1.96	0.47
14:G:46:LEU:O	14:G:50:LEU:CB	2.63	0.47
14:G:160:TYR:CZ	14:G:165:GLY:HA2	2.50	0.47
14:G:342:PHE:N	14:G:380:ILE:O	2.40	0.47
15:H:68:ASP:OD1	15:H:69:VAL:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:H:140:MET:HA	15:H:143:HIS:NE2	2.29	0.47
15:H:147:ASN:O	15:H:151:GLU:CB	2.63	0.47
15:H:415:TYR:CD1	15:H:439:LYS:HB3	2.50	0.47
17:J:5:SER:O	17:J:9:GLN:HG3	2.14	0.47
17:J:457:SER:O	17:J:460:THR:OG1	2.27	0.47
17:J:713:GLU:O	17:J:717:LYS:HA	2.14	0.47
17:J:728:ARG:O	17:J:732:LYS:HG3	2.15	0.47
20:M:11:ASN:HD21	20:M:35:HIS:CE1	2.33	0.47
22:O:823:MET:O	22:O:827:ILE:HG12	2.14	0.47
22:O:841:LEU:HA	24:Q:194:PHE:HE1	1.79	0.47
22:O:922:GLY:O	22:O:934:PHE:HD2	1.98	0.47
23:P:331:PHE:HB2	23:P:334:HIS:O	2.14	0.47
23:P:945:HIS:CE1	23:P:947:GLY:HA3	2.50	0.47
23:P:1050:VAL:HG22	23:P:1064:VAL:HG12	1.97	0.47
23:P:1098:ILE:O	23:P:1106:PHE:HA	2.15	0.47
23:P:1197:ASP:OD2	23:P:1224:THR:OG1	2.30	0.47
23:P:1310:TYR:HE2	23:P:1311:TYR:CZ	2.33	0.47
24:Q:176:TRP:CE3	24:Q:177:GLN:HB3	2.50	0.47
26:S:42:LYS:HA	26:S:71:PHE:HD1	1.79	0.47
27:T:169:ILE:O	27:T:246:LYS:HD2	2.15	0.47
28:U:155:ILE:HB	28:U:252:VAL:CG2	2.44	0.47
29:V:139:VAL:HG23	29:V:140:ALA:H	1.80	0.47
30:W:145:LEU:CD2	30:W:159:VAL:HG13	2.45	0.47
30:W:145:LEU:HD21	30:W:159:VAL:HG13	1.97	0.47
37:e:29:ILE:HD12	37:e:89:LEU:O	2.15	0.47
35:k:28:ARG:HD3	35:k:50:GLU:OE2	2.14	0.47
40:l:23:THR:HA	40:l:48:PRO:HD3	1.96	0.47
35:s:89:GLY:O	35:s:92:ILE:HG22	2.15	0.47
36:v:20:SER:OG	36:v:73:VAL:HB	2.14	0.47
1:2:1099:G:H5'	30:W:158:ASN:HB2	1.95	0.47
4:5:21:G:H2'	4:5:22:G:C8	2.50	0.47
8:A:636:HIS:CE1	8:A:653:ILE:HD11	2.50	0.47
8:A:928:ARG:NH1	8:A:1586:GLN:HG2	2.20	0.47
8:A:1161:TYR:HD1	8:A:1170:MET:HG2	1.78	0.47
8:A:1211:SER:O	8:A:1257:ASN:ND2	2.48	0.47
8:A:1258:LEU:HB3	8:A:1269:ILE:HB	1.96	0.47
9:B:809:THR:HA	9:B:1092:PHE:CG	2.50	0.47
9:B:1496:ILE:HD12	9:B:1524:TRP:CZ3	2.50	0.47
9:B:1887:VAL:HG21	40:l:140:LYS:CD	2.42	0.47
10:C:603:PHE:O	10:C:645:LEU:HA	2.13	0.47
12:E:212:VAL:HG23	12:E:213:SER:H	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:F:95:LEU:HB3	13:F:96:PRO:HD3	1.96	0.47
15:H:320:SER:HB2	15:H:337:ARG:HH22	1.79	0.47
22:O:146:ASP:OD2	22:O:167:SER:OG	2.25	0.47
23:P:565:ASN:C	23:P:567:SER:H	2.22	0.47
27:T:180:MET:H	27:T:335:THR:CG2	2.28	0.47
36:d:65:ARG:NH1	36:d:67:SER:HB3	2.29	0.47
35:s:15:LEU:HB3	35:s:20:LEU:HD11	1.97	0.47
44:z:25:ASN:HA	44:z:34:TYR:O	2.15	0.47
4:5:102:C:H5''	8:A:675:HIS:HE2	1.79	0.47
8:A:220:THR:O	8:A:224:MET:HG2	2.15	0.47
8:A:760:ASN:HD21	11:D:44:GLU:CD	2.22	0.47
8:A:1028:TRP:CG	8:A:1262:MET:HE1	2.50	0.47
8:A:1357:LEU:HD23	8:A:1360:LEU:HD12	1.96	0.47
8:A:1446:THR:OG1	8:A:1449:ASN:OD1	2.33	0.47
9:B:843:HIS:HA	9:B:876:GLY:HA2	1.96	0.47
9:B:1724:THR:HG22	9:B:1725:SER:N	2.30	0.47
9:B:1772:TRP:CZ3	9:B:1773:PHE:CZ	3.03	0.47
10:C:141:PRO:HD2	10:C:238:VAL:O	2.15	0.47
10:C:299:THR:HG21	10:C:304:PHE:HE2	1.80	0.47
10:C:471:HIS:HD2	10:C:592:PHE:CG	2.33	0.47
13:F:143:ILE:HG23	13:F:159:PHE:HD2	1.80	0.47
13:F:215:GLY:O	13:F:219:ALA:HB2	2.15	0.47
17:J:640:VAL:HG23	17:J:653:ILE:HG23	1.97	0.47
23:P:80:VAL:HG11	23:P:169:LEU:HD22	1.96	0.47
23:P:245:VAL:HG21	23:P:249:ASN:H	1.79	0.47
23:P:1193:PHE:CE1	23:P:1308:ARG:HD2	2.49	0.47
27:T:31:LEU:HD23	27:T:72:ILE:HG23	1.96	0.47
30:W:30:ILE:HG21	30:W:41:GLU:CA	2.45	0.47
35:k:29:VAL:HB	35:k:51:GLU:HG3	1.95	0.47
39:r:65:GLY:HA2	39:r:68:ILE:HD12	1.95	0.47
1:2:1140:U:H2'	1:2:1141:C:C6	2.50	0.47
3:4:137:G:H5''	9:B:1198:ARG:NH2	2.29	0.47
8:A:585:ARG:HG2	8:A:734:PHE:HE1	1.80	0.47
8:A:889:TRP:HA	8:A:1128:GLN:HE22	1.80	0.47
8:A:944:TYR:HE1	17:J:162:LEU:HD21	1.80	0.47
8:A:1069:LEU:HB3	8:A:1116:TYR:HE2	1.80	0.47
8:A:1201:TYR:HD1	8:A:1243:TRP:HZ2	1.62	0.47
8:A:1562:PHE:HB2	8:A:1609:TRP:CH2	2.50	0.47
9:B:585:VAL:HG22	9:B:604:VAL:HB	1.96	0.47
9:B:1255:ASP:OD1	9:B:1255:ASP:N	2.47	0.47
9:B:1515:LEU:O	9:B:1534:ASN:ND2	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:D:14:HIS:CE1	17:J:11:PRO:HD3	2.50	0.47
13:F:100:GLU:O	13:F:103:PRO:HD2	2.15	0.47
14:G:169:TRP:HE1	15:H:321:LEU:HD22	1.79	0.47
17:J:757:GLU:OE2	17:J:786:LYS:NZ	2.48	0.47
18:K:54:MET:HB3	18:K:64:LEU:HD23	1.96	0.47
22:O:757:ILE:HG22	22:O:758:GLY:N	2.30	0.47
22:O:915:PHE:CE2	22:O:919:ILE:HD11	2.50	0.47
23:P:63:LEU:HB2	23:P:1227:CYS:SG	2.55	0.47
23:P:337:VAL:CG2	23:P:346:LEU:HB2	2.45	0.47
23:P:1065:THR:HG21	23:P:1106:PHE:HD2	1.80	0.47
27:T:171:THR:HG22	27:T:174:GLU:CD	2.40	0.47
27:T:350:ARG:O	27:T:354:MET:HG2	2.15	0.47
30:W:129:LEU:HD22	30:W:140:TYR:HE1	1.79	0.47
40:l:18:GLU:O	40:l:93:ARG:HB3	2.15	0.47
36:v:23:LEU:HD23	36:v:24:THR:N	2.30	0.47
1:2:1099:G:C5'	30:W:158:ASN:HB2	2.45	0.46
3:4:5:U:H2'	3:4:6:U:H6	1.80	0.46
3:4:90:C:N3	40:l:34:PRO:CD	2.78	0.46
3:4:150:G:H2'	3:4:151:G:H5''	1.97	0.46
5:6:43:C:O2'	5:6:44:A:H8	1.98	0.46
7:8:22:CYS:SG	7:8:44:ARG:HB3	2.55	0.46
8:A:165:LEU:HG	8:A:578:MET:HB2	1.97	0.46
8:A:1485:ASP:O	8:A:1490:ARG:NE	2.45	0.46
8:A:1910:LYS:O	8:A:1940:MET:HE1	2.15	0.46
8:A:2192:LYS:HE3	8:A:2379:PRO:HG2	1.97	0.46
9:B:491:PHE:N	9:B:491:PHE:CD1	2.82	0.46
9:B:1194:ASP:HB3	9:B:1198:ARG:NH1	2.30	0.46
9:B:1482:GLY:HA3	40:l:143:ARG:O	2.15	0.46
9:B:1902:LEU:HB3	9:B:1928:LEU:HD12	1.97	0.46
10:C:229:LEU:HB3	10:C:259:ASN:HD21	1.80	0.46
15:H:125:ILE:HG22	15:H:337:ARG:HD2	1.96	0.46
17:J:494:HIS:HA	17:J:498:GLN:HG3	1.96	0.46
22:O:197:PRO:HA	22:O:200:ILE:HB	1.98	0.46
22:O:467:VAL:HG12	22:O:469:SER:H	1.80	0.46
22:O:675:LEU:HD13	22:O:715:ALA:HB2	1.96	0.46
23:P:117:PHE:HA	23:P:1328:ARG:HH22	1.80	0.46
23:P:1101:PRO:C	23:P:1103:GLY:H	2.23	0.46
24:Q:183:LEU:HB3	24:Q:188:LEU:HD11	1.98	0.46
27:T:156:ILE:HG12	27:T:366:TYR:HB2	1.97	0.46
30:W:31:LEU:O	30:W:36:LEU:HD13	2.14	0.46
30:W:93:LEU:C	30:W:95:PRO:HD3	2.40	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:k:76:LYS:HD3	35:k:79:LYS:HD3	1.96	0.46
36:v:23:LEU:HD23	36:v:24:THR:H	1.80	0.46
1:2:38:U:H2'	1:2:39:A:C8	2.50	0.46
1:2:139:G:C2'	1:2:140:G:O5'	2.62	0.46
4:5:106:A:H2'	4:5:107:C:C6	2.50	0.46
8:A:973:GLU:OE2	8:A:975:TYR:CD2	2.68	0.46
8:A:2075:THR:O	8:A:2079:ILE:HG12	2.15	0.46
9:B:1252:LEU:HD11	9:B:1288:PHE:CD1	2.49	0.46
9:B:1938:GLU:OE1	9:B:1938:GLU:N	2.40	0.46
13:F:124:PHE:CE2	13:F:127:LEU:HB2	2.49	0.46
15:H:32:LEU:HD23	15:H:34:HIS:H	1.80	0.46
17:J:748:ILE:HD11	17:J:783:HIS:NE2	2.31	0.46
20:M:34:ILE:O	20:M:37:SER:OG	2.29	0.46
20:M:124:LEU:HG	20:M:155:LEU:HD13	1.98	0.46
22:O:747:ASN:HD21	22:O:780:CYS:HB3	1.81	0.46
23:P:353:ARG:HE	23:P:385:HIS:HB3	1.80	0.46
27:T:12:GLU:O	27:T:16:ILE:HG13	2.15	0.46
28:U:161:SER:C	28:U:162:GLU:HG3	2.39	0.46
30:W:1:MET:H2	30:W:29:VAL:HG21	1.79	0.46
30:W:14:TYR:CZ	30:W:34:LEU:HD21	2.50	0.46
32:Y:94:PHE:HB3	32:Y:99:LEU:CD1	2.44	0.46
37:e:29:ILE:HD13	37:e:90:ILE:HG12	1.97	0.46
37:e:86:ASN:HD21	38:f:32:LYS:HE2	1.80	0.46
38:f:58:GLU:O	38:f:65:HIS:N	2.34	0.46
35:k:28:ARG:NH1	36:n:22:GLU:OE2	2.48	0.46
5:6:2:U:H2'	5:6:3:U:C6	2.50	0.46
5:6:56:A:H2'	5:6:57:U:C6	2.50	0.46
8:A:163:GLY:HA3	17:J:71:PHE:CD1	2.51	0.46
8:A:628:MET:CE	8:A:660:ILE:HD12	2.45	0.46
8:A:769:MET:SD	17:J:111:LEU:HD22	2.55	0.46
8:A:1445:THR:HA	31:X:17:ALA:HB2	1.97	0.46
8:A:2070:ASN:OD1	8:A:2071:ILE:N	2.48	0.46
9:B:648:GLU:CD	9:B:912:PHE:CD1	2.94	0.46
9:B:986:LEU:HD21	9:B:1015:MET:HG2	1.97	0.46
9:B:1056:GLN:CB	19:L:61:LYS:HZ3	2.29	0.46
9:B:1351:ILE:HB	9:B:1374:THR:HG21	1.97	0.46
9:B:1629:LEU:HD21	9:B:1652:VAL:CG2	2.45	0.46
10:C:567:ILE:HG22	10:C:571:TYR:CE1	2.51	0.46
14:G:57:LEU:O	14:G:61:THR:CB	2.63	0.46
15:H:407:GLY:O	15:H:408:LYS:HG2	2.15	0.46
17:J:664:PHE:CD2	17:J:667:CYS:HB2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:472:PRO:HB2	22:O:476:ARG:HH22	1.80	0.46
22:O:935:TRP:CZ3	33:Z:22:GLY:HA3	2.50	0.46
23:P:127:MET:HG3	23:P:148:LEU:HD13	1.97	0.46
23:P:257:ILE:HD11	23:P:264:LEU:HD11	1.97	0.46
23:P:485:ASN:HB2	23:P:486:PRO:HD3	1.98	0.46
26:S:61:CYS:HB2	26:S:96:ARG:NH2	2.31	0.46
29:V:108:SER:O	29:V:112:GLN:HG3	2.15	0.46
30:W:17:ASP:C	30:W:19:PHE:N	2.74	0.46
30:W:139:ASN:HB2	30:W:142:GLU:OE2	2.15	0.46
30:W:159:VAL:HG11	30:W:164:ARG:NE	2.31	0.46
36:n:23:LEU:HD23	36:n:24:THR:H	1.80	0.46
35:s:29:VAL:HB	35:s:51:GLU:HG3	1.97	0.46
37:w:90:ILE:HB	39:y:62:VAL:CG1	2.46	0.46
3:4:30:G:C2	3:4:45:A:C6	3.04	0.46
4:5:173:U:O2'	41:i:99:ASP:OD1	2.31	0.46
5:6:30:G:OP1	8:A:611:LYS:HE2	2.15	0.46
8:A:376:ARG:HE	10:C:910:GLU:CD	2.20	0.46
9:B:633:ILE:HG21	9:B:636:ILE:HD13	1.98	0.46
9:B:1677:THR:O	9:B:1710:ALA:HA	2.15	0.46
10:C:464:PRO:HB2	10:C:467:THR:HG22	1.98	0.46
10:C:471:HIS:CE1	10:C:473:LEU:HD23	2.50	0.46
15:H:330:LEU:HG	15:H:346:ALA:HB2	1.97	0.46
29:V:106:ASP:O	29:V:107:LYS:HB2	2.16	0.46
35:k:53:VAL:HB	35:k:54:PRO:HD3	1.96	0.46
41:u:52:HIS:C	41:u:53:LYS:HD2	2.40	0.46
1:2:116:U:H5'	40:t:90:ASN:ND2	2.31	0.46
1:2:142:C:HO2'	1:2:143:G:H8	1.63	0.46
2:3:48:ILE:O	2:3:58:GLU:HA	2.16	0.46
2:3:69:ARG:CZ	34:a:65:SER:HA	2.45	0.46
3:4:1:A:C2	5:6:81:G:N1	2.83	0.46
3:4:62:G:H2'	3:4:63:U:C6	2.49	0.46
4:5:22:G:O6	4:5:149:U:O4	2.34	0.46
8:A:158:LYS:NZ	20:M:6:PHE:CB	2.74	0.46
8:A:1347:ARG:HD2	8:A:1447:TRP:CD2	2.51	0.46
8:A:1687:HIS:CD2	8:A:2127:ASN:HD22	2.32	0.46
8:A:2306:ASN:HB2	8:A:2335:THR:HG1	1.80	0.46
9:B:1493:SER:CA	9:B:1524:TRP:HH2	2.28	0.46
10:C:386:SER:O	10:C:390:SER:CB	2.62	0.46
10:C:768:PHE:HB3	10:C:775:ILE:HG12	1.98	0.46
15:H:306:HIS:HB3	15:H:328:ASP:OD2	2.16	0.46
17:J:270:GLU:C	17:J:272:PRO:HD3	2.40	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:928:LYS:HD2	33:Z:24:GLU:OE2	2.16	0.46
23:P:125:THR:HG22	23:P:191:SER:HA	1.98	0.46
23:P:292:ALA:HA	23:P:331:PHE:HD1	1.80	0.46
23:P:428:PHE:CE2	23:P:430:LEU:HB2	2.50	0.46
23:P:487:SER:O	23:P:1200:THR:HG21	2.16	0.46
30:W:6:SER:O	30:W:9:ILE:HG22	2.16	0.46
37:e:30:TRP:CE3	37:e:89:LEU:HD13	2.51	0.46
40:l:46:THR:OG1	40:l:79:ILE:HG12	2.16	0.46
36:n:23:LEU:HD23	36:n:24:THR:N	2.30	0.46
37:p:90:ILE:HB	39:r:62:VAL:CG1	2.44	0.46
35:s:33:GLN:O	35:s:45:LEU:HA	2.16	0.46
1:2:116:U:N3	40:t:88:ARG:CG	2.78	0.46
1:2:119:G:C8	37:w:32:PHE:HD2	2.34	0.46
8:A:377:VAL:HG21	10:C:912:ALA:HB3	1.97	0.46
8:A:1318:GLY:HA2	8:A:1322:ALA:HB3	1.98	0.46
8:A:1391:PRO:HB2	8:A:1393:GLU:OE1	2.16	0.46
8:A:1659:GLU:OE1	8:A:2141:TYR:HE2	1.94	0.46
8:A:1751:TYR:CZ	8:A:1755:LYS:HG3	2.51	0.46
8:A:2177:VAL:N	8:A:2338:GLN:HE22	2.12	0.46
9:B:1722:ILE:HG22	9:B:1724:THR:OG1	2.16	0.46
13:F:136:GLN:HE21	13:F:166:LYS:CB	2.28	0.46
17:J:721:ARG:O	17:J:725:ILE:HG12	2.15	0.46
22:O:334:ILE:HD11	22:O:362:CYS:SG	2.56	0.46
23:P:643:ILE:HG13	23:P:691:LEU:HD12	1.97	0.46
24:Q:131:LYS:NZ	24:Q:153:ASP:OD1	2.39	0.46
28:U:68:CYS:O	28:U:72:ASN:N	2.43	0.46
30:W:35:GLN:HE22	32:Y:77:ARG:NH1	2.13	0.46
41:i:97:ARG:HG3	41:i:99:ASP:H	1.81	0.46
36:n:20:SER:OG	36:n:73:VAL:HB	2.16	0.46
36:v:34:VAL:CG2	36:v:45:ARG:HG3	2.46	0.46
1:2:120:G:H2'	1:2:121:C:C6	2.51	0.46
4:5:123:U:C2	4:5:124:C:C5	3.04	0.46
7:8:27:LEU:HD11	7:8:36:LEU:HD22	1.98	0.46
8:A:148:ASP:CG	20:M:21:SER:HB2	2.41	0.46
8:A:193:TYR:HE2	8:A:560:THR:HG23	1.80	0.46
8:A:1686:VAL:O	8:A:2142:GLU:CD	2.59	0.46
8:A:1893:ILE:HD12	8:A:1978:VAL:HG22	1.98	0.46
8:A:2393:LEU:O	8:A:2397:GLU:CB	2.63	0.46
11:D:8:GLN:HA	11:D:61:LEU:HB2	1.97	0.46
13:F:143:ILE:HD11	13:F:163:ASN:HB3	1.98	0.46
17:J:252:GLU:HG3	17:J:284:LEU:HD22	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:J:760:VAL:HG11	17:J:777:GLN:HB2	1.98	0.46
18:K:8:ALA:HB1	18:K:80:PHE:CD2	2.51	0.46
20:M:43:ASN:C	20:M:44:LEU:HD12	2.40	0.46
23:P:106:THR:O	23:P:108:ASP:N	2.44	0.46
23:P:242:VAL:HG22	23:P:252:PHE:HB3	1.97	0.46
23:P:387:ASP:HA	23:P:412:THR:HG22	1.95	0.46
26:S:32:ILE:HG21	26:S:81:LYS:HD3	1.98	0.46
27:T:188:LEU:O	27:T:192:VAL:HG23	2.16	0.46
36:d:24:THR:HG23	36:d:68:GLN:O	2.16	0.46
35:k:33:GLN:O	35:k:45:LEU:HA	2.16	0.46
41:m:38:MET:HG3	41:m:39:VAL:N	2.30	0.46
36:v:77:LEU:HD23	36:v:77:LEU:O	2.16	0.46
38:x:54:ASN:OD1	38:x:55:GLU:N	2.46	0.46
1:2:117:U:O2'	41:u:99:ASP:OD1	2.28	0.46
8:A:593:LEU:HD21	8:A:599:LEU:HD12	1.98	0.46
8:A:789:ALA:HA	8:A:799:TRP:CD1	2.51	0.46
8:A:878:GLU:O	8:A:882:ILE:HG12	2.16	0.46
8:A:917:GLU:HG3	17:J:159:LEU:HD21	1.98	0.46
8:A:1100:LYS:NZ	13:F:275:LEU:HD23	2.30	0.46
8:A:1702:THR:HG22	8:A:1768:PRO:HG3	1.97	0.46
8:A:2084:LEU:HD13	8:A:2086:GLN:H	1.81	0.46
8:A:2395:PHE:CD1	9:B:1060:LYS:O	2.63	0.46
9:B:574:PHE:HB2	9:B:585:VAL:HG11	1.97	0.46
9:B:2055:TYR:CE2	9:B:2158:PHE:CD2	3.04	0.46
10:C:384:ILE:HD11	10:C:404:PHE:CZ	2.51	0.46
15:H:202:LEU:HD23	15:H:207:LEU:O	2.16	0.46
17:J:377:ASN:CG	17:J:411:ARG:HH12	2.22	0.46
17:J:600:LYS:HD2	17:J:616:PHE:CE1	2.51	0.46
18:K:54:MET:HE3	18:K:80:PHE:CE1	2.44	0.46
22:O:378:LEU:HB3	22:O:422:MET:HE2	1.98	0.46
23:P:76:ILE:HD11	23:P:422:PHE:CD1	2.51	0.46
23:P:494:SER:HB3	23:P:499:SER:OG	2.16	0.46
23:P:678:LYS:NZ	23:P:726:SER:O	2.36	0.46
24:Q:134:LEU:O	24:Q:138:LYS:HG2	2.16	0.46
24:Q:291:PRO:HA	25:R:31:GLN:OE1	2.15	0.46
24:Q:291:PRO:HG3	24:Q:325:TYR:CE1	2.51	0.46
25:R:20:ILE:O	25:R:40:TYR:OH	2.25	0.46
26:S:22:LEU:HD23	26:S:70:ALA:HB2	1.98	0.46
30:W:80:LEU:HD13	32:Y:53:ALA:CB	2.46	0.46
30:W:95:PRO:HG2	30:W:98:VAL:HG21	1.97	0.46
41:m:46:ILE:HD11	41:m:67:MET:HE1	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:m:48:LEU:HD11	41:m:54:ILE:HD12	1.98	0.46
37:p:24:GLN:CB	37:p:42:LYS:HD2	2.44	0.46
39:r:15:ILE:HG22	39:r:73:ALA:HA	1.97	0.46
38:x:27:VAL:O	38:x:39:ARG:HA	2.15	0.46
3:4:142:G:N2	35:k:39:LYS:HZ1	2.12	0.46
8:A:1790:TRP:CG	8:A:1795:LYS:HZ3	2.33	0.46
8:A:2083:ILE:HG13	8:A:2084:LEU:H	1.80	0.46
8:A:2241:ILE:HD12	8:A:2284:LYS:HD3	1.98	0.46
9:B:1217:ARG:HH12	40:l:146:LEU:HD23	1.80	0.46
10:C:178:LEU:HD23	10:C:194:ASN:O	2.15	0.46
13:F:63:ASP:OD2	17:J:851:ARG:HD2	2.16	0.46
14:G:352:ILE:HD12	14:G:400:ILE:HG23	1.98	0.46
15:H:423:SER:OG	15:H:426:THR:OG1	2.27	0.46
16:I:62:A:H2'	16:I:63:U:C6	2.51	0.46
17:J:664:PHE:HD2	17:J:667:CYS:HB2	1.81	0.46
17:J:738:LEU:HA	17:J:741:ILE:HD12	1.98	0.46
23:P:98:GLU:OE1	23:P:1196:ASN:ND2	2.49	0.46
23:P:924:PHE:HD2	23:P:952:ARG:HD2	1.79	0.46
23:P:1166:TYR:HB2	23:P:1171:ILE:HD11	1.97	0.46
24:Q:138:LYS:NZ	24:Q:147:ILE:O	2.49	0.46
25:R:42:LYS:HD3	25:R:49:TYR:CE1	2.51	0.46
27:T:264:PHE:CE1	27:T:268:TYR:CD2	3.03	0.46
30:W:66:MET:HG3	30:W:88:GLU:O	2.16	0.46
41:i:75:LEU:HD11	41:i:86:ASN:HB3	1.98	0.46
35:s:86:ILE:O	36:v:71:PHE:HB2	2.15	0.46
41:u:62:ASP:OD1	41:u:63:ARG:N	2.48	0.46
1:2:45:U:O2'	1:2:46:C:H5'	2.15	0.46
1:2:1126:G:O2'	1:2:1127:A:H8	1.97	0.46
2:3:12:LEU:HD21	2:3:33:PHE:CE2	2.51	0.46
4:5:174:G:C6	40:h:20:LYS:HD3	2.51	0.46
8:A:135:PRO:HG2	8:A:138:HIS:HB2	1.96	0.46
8:A:239:PHE:CE2	8:A:655:TYR:HD2	2.34	0.46
8:A:1028:TRP:HA	8:A:1145:MET:HE1	1.98	0.46
9:B:1757:GLU:CB	9:B:1763:ILE:HD12	2.46	0.46
9:B:1888:GLU:HB3	9:B:1953:LYS:HG2	1.97	0.46
9:B:1912:ARG:HD2	9:B:1912:ARG:HA	1.67	0.46
9:B:1999:HIS:ND1	9:B:1999:HIS:O	2.49	0.46
10:C:129:ILE:HG22	10:C:131:GLU:H	1.81	0.46
10:C:314:ALA:HB1	10:C:321:THR:HG22	1.98	0.46
14:G:259:LYS:NZ	15:H:29:LEU:HD11	2.31	0.46
15:H:203:ASN:HD22	15:H:206:THR:HG22	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:J:473:ARG:HH22	17:J:482:LEU:HD22	1.81	0.46
22:O:213:LEU:HD13	22:O:218:ARG:HB3	1.98	0.46
22:O:510:ALA:HA	22:O:518:THR:HG21	1.98	0.46
23:P:640:THR:OG1	23:P:686:GLN:O	2.34	0.46
27:T:60:TYR:CE2	27:T:61:LYS:HG2	2.51	0.46
29:V:99:THR:HG21	29:V:122:LEU:HD22	1.97	0.46
30:W:30:ILE:HD12	30:W:41:GLU:CG	2.36	0.46
32:Y:76:MET:SD	32:Y:81:GLN:HG3	2.55	0.46
36:d:11:LEU:HG	36:d:36:SER:OG	2.16	0.46
39:g:47:ASN:HB3	39:g:53:ASN:ND2	2.31	0.46
35:k:21:ARG:HB2	35:k:98:GLU:OE1	2.16	0.46
40:l:16:THR:HA	40:l:25:VAL:O	2.16	0.46
40:t:4:VAL:HG11	40:t:34:PRO:HA	1.97	0.46
41:u:33:LEU:HD11	38:x:52:GLN:HG3	1.99	0.46
37:w:83:LYS:NZ	38:x:75:CYS:C	2.73	0.46
4:5:135:G:N1	4:5:136:G:N2	2.64	0.45
4:5:167:A:H5'	41:i:64:HIS:NE2	2.31	0.45
8:A:284:ARG:HH21	8:A:298:TYR:HB2	1.81	0.45
8:A:1082:ILE:O	8:A:1086:ASN:ND2	2.48	0.45
8:A:1346:PHE:HD2	8:A:1350:ILE:HD11	1.81	0.45
8:A:2079:ILE:O	8:A:2083:ILE:HG12	2.16	0.45
8:A:2183:TYR:CE1	8:A:2219:LYS:HG3	2.52	0.45
9:B:536:LEU:HA	9:B:536:LEU:HD23	1.69	0.45
9:B:587:GLU:O	9:B:594:LEU:HG	2.15	0.45
9:B:836:TRP:HE3	9:B:870:GLN:HE22	1.62	0.45
10:C:265:PHE:HB2	10:C:311:ILE:HD13	1.98	0.45
10:C:834:MET:O	10:C:838:ILE:HG13	2.16	0.45
11:D:46:LEU:O	11:D:50:ALA:HB2	2.16	0.45
14:G:356:LEU:HD22	14:G:392:TYR:OH	2.16	0.45
15:H:245:ASN:HB2	15:H:259:GLY:H	1.80	0.45
15:H:405:ASP:HB3	15:H:408:LYS:HE2	1.98	0.45
16:I:72:A:H2'	16:I:73:A:C8	2.51	0.45
17:J:227:ARG:NH2	17:J:255:ARG:HD3	2.31	0.45
17:J:519:LEU:HD13	17:J:532:LEU:HD11	1.96	0.45
22:O:230:TYR:CE2	33:Z:5:GLN:HB3	2.51	0.45
22:O:584:GLY:HA3	22:O:626:ILE:HG21	1.97	0.45
23:P:500:ILE:HD13	23:P:1225:VAL:HG11	1.98	0.45
23:P:849:CYS:SG	23:P:862:VAL:HG21	2.56	0.45
25:R:108:ALA:O	25:R:154:TYR:HA	2.15	0.45
30:W:25:VAL:O	30:W:31:LEU:HG	2.15	0.45
42:j:5:TYR:O	42:j:9:ASN:ND2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:38:U:OP2	22:O:186:ARG:NH2	2.50	0.45
1:2:1139:G:C6	1:2:1140:U:C4	3.04	0.45
5:6:31:G:H4'	8:A:1637:LYS:CD	2.39	0.45
5:6:55:G:HO2'	5:6:56:A:P	2.38	0.45
8:A:842:LYS:HD2	11:D:140:LYS:HZ1	1.81	0.45
8:A:1256:PRO:HB3	8:A:1274:ARG:NE	2.31	0.45
9:B:1640:LEU:HB2	9:B:1664:LEU:HD11	1.97	0.45
10:C:274:ILE:HG12	10:C:382:TYR:CE1	2.37	0.45
11:D:5:LEU:HD13	11:D:51:GLU:OE2	2.17	0.45
13:F:244:HIS:CD2	13:F:262:ILE:HG23	2.50	0.45
19:L:84:ILE:HD13	19:L:108:PHE:HB2	1.98	0.45
22:O:531:GLU:O	22:O:535:THR:HG23	2.17	0.45
23:P:561:LEU:HD21	23:P:568:MET:HG3	1.97	0.45
23:P:732:ARG:CZ	23:P:739:LEU:HB2	2.46	0.45
27:T:418:ASP:N	27:T:432:ASN:O	2.49	0.45
33:Z:50:LEU:HD11	33:Z:66:ARG:HB2	1.97	0.45
42:j:81:LEU:HD13	42:j:85:ILE:HG12	1.97	0.45
37:p:11:VAL:O	39:r:31:GLY:HA3	2.15	0.45
37:p:80:ILE:HG23	38:q:80:TYR:HB2	1.99	0.45
39:y:2:VAL:HG11	39:y:34:ILE:HD13	1.98	0.45
1:2:37:G:H4'	22:O:893:PRO:HG3	1.98	0.45
1:2:1139:G:H2'	1:2:1140:U:C5	2.51	0.45
4:5:102:C:C2'	4:5:103:A:H5'	2.46	0.45
5:6:29:U:C4'	8:A:614:ARG:CD	2.94	0.45
8:A:773:SER:C	8:A:774:ILE:HG13	2.42	0.45
8:A:1268:ARG:HH11	8:A:1301:TYR:HD2	1.62	0.45
8:A:2121:MET:SD	9:B:1056:GLN:HG2	2.57	0.45
9:B:699:ARG:HH21	9:B:875:ALA:HB3	1.81	0.45
9:B:1165:VAL:HG13	9:B:1166:PRO:HD2	1.98	0.45
10:C:370:TYR:O	10:C:372:THR:N	2.46	0.45
14:G:285:GLN:HA	14:G:288:THR:HB	1.98	0.45
15:H:327:MET:HA	15:H:351:PRO:HB3	1.99	0.45
17:J:445:LEU:HD11	17:J:498:GLN:HE22	1.81	0.45
17:J:745:GLN:HA	17:J:748:ILE:HG22	1.97	0.45
17:J:838:TYR:HA	17:J:870:TYR:HB2	1.97	0.45
22:O:602:VAL:HG21	22:O:639:MET:HE2	1.98	0.45
22:O:865:ALA:HB3	22:O:905:ALA:HB1	1.97	0.45
23:P:519:TYR:CZ	23:P:874:GLY:HA3	2.51	0.45
23:P:586:ASP:OD1	23:P:587:THR:N	2.49	0.45
25:R:108:ALA:HB3	25:R:155:PHE:HB2	1.97	0.45
28:U:212:GLU:HB3	29:V:205:LYS:CB	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:s:19:LYS:HD2	35:s:99:ASP:HB2	1.98	0.45
35:s:53:VAL:HB	35:s:54:PRO:HD3	1.98	0.45
1:2:65:A:H2'	1:2:66:A:O4'	2.16	0.45
1:2:1098:C:O3'	30:W:158:ASN:HB3	2.16	0.45
4:5:82:A:H2'	4:5:83:C:O4'	2.16	0.45
5:6:29:U:H5'	8:A:614:ARG:HD2	1.99	0.45
5:6:74:U:H2'	5:6:75:A:H8	1.81	0.45
8:A:420:PRO:HG2	8:A:423:PHE:HB2	1.98	0.45
8:A:1508:HIS:CE1	8:A:1509:ARG:HG2	2.52	0.45
8:A:1528:THR:OG1	8:A:1533:ASP:OD2	2.28	0.45
8:A:1673:LEU:CD2	8:A:2149:LYS:HB2	2.36	0.45
8:A:1855:THR:CG2	8:A:1937:ARG:HH12	2.30	0.45
9:B:1056:GLN:HB2	19:L:61:LYS:HZ3	1.81	0.45
9:B:1564:LEU:HD21	9:B:1597:ALA:HB1	1.98	0.45
9:B:1890:GLU:C	40:l:143:ARG:HE	2.23	0.45
9:B:2011:ILE:CD1	9:B:2030:ILE:HD11	2.46	0.45
9:B:2054:THR:OG1	9:B:2074:GLN:HB3	2.16	0.45
10:C:273:LEU:HA	10:C:277:LEU:HD12	1.98	0.45
13:F:347:ALA:HB1	13:F:348:PRO:HD2	1.99	0.45
14:G:339:CYS:SG	14:G:383:VAL:HG22	2.57	0.45
15:H:77:ALA:O	15:H:81:MET:HG2	2.16	0.45
15:H:355:VAL:HG23	15:H:366:THR:HG22	1.99	0.45
15:H:438:ASP:CG	15:H:439:LYS:H	2.25	0.45
18:K:50:GLU:OE2	18:K:104:THR:OG1	2.28	0.45
19:L:99:LEU:HA	19:L:104:HIS:CD2	2.52	0.45
22:O:732:LEU:HD11	22:O:769:ASN:HB2	1.98	0.45
22:O:866:LEU:O	26:S:78:ARG:NH1	2.50	0.45
23:P:527:LEU:HD21	23:P:552:ILE:HG21	1.99	0.45
23:P:827:TRP:CH2	23:P:1209:SER:HB3	2.51	0.45
23:P:865:ILE:HD11	23:P:869:GLY:HA2	1.98	0.45
24:Q:243:ASP:HB3	24:Q:246:LYS:HG3	1.98	0.45
30:W:6:SER:O	30:W:27:LYS:HB2	2.17	0.45
30:W:15:TYR:CD1	30:W:15:TYR:N	2.84	0.45
32:Y:108:THR:HG22	32:Y:110:THR:H	1.81	0.45
36:d:28:THR:O	36:d:49:ALA:HA	2.17	0.45
37:e:37:ILE:HD11	37:e:59:GLU:HG2	1.98	0.45
39:g:47:ASN:HD22	39:g:53:ASN:ND2	2.14	0.45
43:o:65:MET:HE1	44:z:25:ASN:HD22	1.81	0.45
37:p:29:ILE:HD11	37:p:87:ILE:HA	1.98	0.45
1:2:118:U:O4	41:u:49:ARG:HD3	2.16	0.45
8:A:970:THR:O	8:A:971:MET:HE2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1207:TRP:HB2	8:A:1212:ARG:HG3	1.99	0.45
8:A:1632:ILE:HG12	8:A:1740:TYR:CD2	2.52	0.45
8:A:1716:LEU:HB2	8:A:1719:GLU:OE2	2.17	0.45
9:B:486:TRP:NE1	9:B:487:CYS:SG	2.90	0.45
9:B:845:VAL:HG21	9:B:874:ARG:O	2.16	0.45
9:B:1014:SER:OG	9:B:1039:GLU:HB3	2.16	0.45
9:B:1120:GLY:HA2	9:B:1251:ILE:HB	1.98	0.45
9:B:1436:LEU:HD22	9:B:1462:ARG:NH2	2.31	0.45
17:J:688:ARG:NH2	17:J:721:ARG:HE	2.15	0.45
22:O:443:ARG:HH11	22:O:479:ILE:HD11	1.80	0.45
23:P:269:ILE:HD11	23:P:282:LYS:HG3	1.99	0.45
25:R:185:LYS:HD2	27:T:427:SER:HB2	1.98	0.45
26:S:42:LYS:HA	26:S:71:PHE:CD1	2.52	0.45
27:T:219:THR:N	27:T:220:PRO:HD3	2.30	0.45
37:e:24:GLN:O	37:e:42:LYS:HG3	2.17	0.45
37:w:27:VAL:HG21	37:w:43:ILE:HG12	1.99	0.45
1:2:52:A:H2'	1:2:53:G:C8	2.51	0.45
5:6:34:A:H61	5:6:47:A:H62	1.63	0.45
8:A:468:LEU:HD21	10:C:382:TYR:HB3	1.99	0.45
8:A:917:GLU:OE2	8:A:944:TYR:OH	2.17	0.45
8:A:1409:ALA:HA	8:A:1412:LEU:HD12	1.98	0.45
8:A:1844:PHE:HB2	14:G:278:MET:HE1	1.99	0.45
8:A:1935:VAL:O	8:A:1959:THR:HG22	2.17	0.45
9:B:765:ASN:HB2	9:B:768:HIS:CD2	2.51	0.45
9:B:1631:ALA:HB3	9:B:1632:PRO:HD3	1.98	0.45
10:C:580:VAL:HG21	10:C:586:MET:HG2	1.98	0.45
15:H:271:VAL:HA	15:H:281:GLY:O	2.15	0.45
17:J:161:LYS:O	17:J:165:GLU:HB3	2.13	0.45
17:J:320:THR:HA	17:J:323:LYS:HD2	1.98	0.45
17:J:846:PHE:O	17:J:850:ALA:HB2	2.17	0.45
19:L:46:TYR:OH	19:L:99:LEU:HD21	2.16	0.45
22:O:386:TYR:CD1	22:O:387:PRO:HD2	2.51	0.45
22:O:797:VAL:HG12	22:O:801:ILE:HD11	1.99	0.45
22:O:889:PHE:CE1	22:O:930:VAL:HG22	2.52	0.45
23:P:61:TYR:HD1	23:P:1318:ILE:HD11	1.81	0.45
23:P:301:LEU:HD21	23:P:393:VAL:HG21	1.98	0.45
23:P:552:ILE:HG22	23:P:553:THR:H	1.82	0.45
27:T:169:ILE:HG22	27:T:246:LYS:CD	2.47	0.45
30:W:11:ALA:CB	30:W:25:VAL:N	2.79	0.45
40:t:26:TRP:O	40:t:43:VAL:HA	2.17	0.45
38:x:58:GLU:C	38:x:59:PHE:HD1	2.25	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:34:G:C6	16:I:72:A:C6	3.04	0.45
3:4:99:G:H4'	9:B:1186:GLU:CB	2.23	0.45
4:5:101:C:OP2	8:A:670:LYS:NZ	2.41	0.45
5:6:111:U:O4	7:8:34:THR:OG1	2.29	0.45
8:A:144:ASN:C	20:M:19:ASN:OD1	2.50	0.45
8:A:1015:PRO:HG3	8:A:1164:TYR:CE1	2.51	0.45
8:A:1663:PHE:CD1	8:A:2144:GLN:CG	2.99	0.45
8:A:1740:TYR:CE1	8:A:1780:ALA:HB2	2.52	0.45
8:A:1878:CYS:HB2	8:A:1891:LEU:HD11	1.99	0.45
8:A:2060:LEU:HD11	8:A:2078:GLU:OE2	2.16	0.45
9:B:529:ASN:O	9:B:533:LEU:HG	2.17	0.45
9:B:929:ILE:HD13	9:B:935:ALA:HA	1.98	0.45
10:C:412:ALA:HA	10:C:415:TYR:CD2	2.51	0.45
14:G:241:ARG:HD3	15:H:65:GLU:OE2	2.16	0.45
18:K:10:PRO:HG2	18:K:125:LEU:HA	1.98	0.45
19:L:127:PRO:C	19:L:129:GLU:H	2.24	0.45
20:M:188:ILE:HD12	20:M:191:LEU:HD11	1.99	0.45
22:O:698:ARG:HG3	22:O:699:LYS:N	2.31	0.45
23:P:59:TYR:O	23:P:1230:PRO:HA	2.16	0.45
23:P:294:PHE:HE1	23:P:365:ILE:HB	1.81	0.45
23:P:581:PHE:CG	23:P:582:LYS:N	2.85	0.45
23:P:1035:LEU:HD23	23:P:1077:MET:HG3	1.98	0.45
23:P:1065:THR:HG22	23:P:1105:VAL:HG23	1.98	0.45
27:T:7:ARG:HD2	27:T:96:ILE:HG22	1.97	0.45
30:W:67:ILE:O	30:W:93:LEU:HD21	2.17	0.45
30:W:151:LEU:O	30:W:159:VAL:HG21	2.17	0.45
34:a:53:HIS:O	34:a:54:LEU:HD12	2.17	0.45
1:2:35:PSU:O2	1:2:36:A:N6	2.49	0.45
1:2:141:A:C2'	1:2:142:C:H6	2.29	0.45
1:2:1109:C:H3'	1:2:1115:G:O3'	2.16	0.45
5:6:45:A:H2'	5:6:46:U:C6	2.52	0.45
5:6:96:G:H2'	5:6:97:A:C8	2.52	0.45
8:A:372:ARG:HB3	10:C:973:ARG:HG2	1.99	0.45
8:A:620:HIS:O	8:A:624:GLU:HG2	2.17	0.45
9:B:1163:SER:HB2	9:B:1184:ARG:HH22	1.82	0.45
9:B:2101:LEU:O	9:B:2114:ILE:HA	2.16	0.45
14:G:295:LYS:O	14:G:299:ASP:CB	2.64	0.45
15:H:243:ILE:HG13	15:H:261:LEU:HB2	1.99	0.45
17:J:514:VAL:O	17:J:518:ARG:HG2	2.17	0.45
22:O:450:ASP:OD1	22:O:451:ASP:N	2.49	0.45
22:O:820:MET:HE1	22:O:841:LEU:HD13	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:886:PRO:HA	24:Q:175:HIS:CE1	2.52	0.45
23:P:110:GLU:HG2	23:P:479:SER:OG	2.17	0.45
23:P:178:PRO:C	23:P:179:LEU:HD12	2.42	0.45
23:P:374:LYS:C	23:P:376:ASP:H	2.23	0.45
23:P:694:ALA:HB2	23:P:728:MET:SD	2.57	0.45
23:P:1037:PHE:CE2	23:P:1038:LYS:HG2	2.52	0.45
27:T:175:GLN:HB2	27:T:178:GLU:HB3	1.99	0.45
27:T:178:GLU:O	27:T:334:ARG:HD2	2.17	0.45
29:V:99:THR:O	29:V:103:TYR:HB2	2.17	0.45
30:W:51:THR:HG23	30:W:53:PRO:HD2	1.98	0.45
30:W:129:LEU:HD22	30:W:140:TYR:CE1	2.52	0.45
36:d:17:HIS:CE1	36:d:78:LEU:HD11	2.52	0.45
39:r:59:LEU:O	39:r:60:GLN:HG2	2.16	0.45
8:A:470:LEU:O	8:A:473:THR:HG22	2.17	0.45
8:A:2162:LEU:HD23	8:A:2194:ILE:O	2.16	0.45
8:A:2189:LEU:HD11	8:A:2347:GLY:HA3	1.99	0.45
9:B:610:GLU:OE2	9:B:646:VAL:HG21	2.17	0.45
9:B:676:ASN:HD22	9:B:907:PRO:HB3	1.82	0.45
9:B:1000:ASP:OD1	9:B:1000:ASP:N	2.50	0.45
9:B:1391:ASN:HD21	12:E:297:LYS:N	2.14	0.45
10:C:120:ARG:HH21	10:C:123:MET:HE1	1.82	0.45
10:C:213:LEU:HD11	10:C:561:ILE:HD13	1.98	0.45
10:C:835:LYS:HA	10:C:838:ILE:HD12	1.99	0.45
13:F:375:TYR:O	13:F:378:LYS:HG2	2.16	0.45
23:P:124:ILE:HD13	23:P:150:LEU:HD11	1.97	0.45
28:U:240:CYS:HB2	28:U:253:GLN:C	2.42	0.45
32:Y:34:GLN:HB2	32:Y:100:LYS:HE2	1.98	0.45
40:h:9:LYS:HD3	40:h:106:LEU:HD22	1.99	0.45
41:u:44:VAL:O	41:u:55:ILE:HD12	2.17	0.45
44:z:74:ARG:NH1	44:z:76:THR:HG1	2.14	0.45
1:2:149:A:H2'	1:2:150:G:H8	1.82	0.45
3:4:18:A:C5'	3:4:19:U:H3'	2.45	0.45
3:4:49:U:H2'	3:4:50:G:C8	2.52	0.45
3:4:78:A:N1	9:B:1110:ARG:NE	2.64	0.45
4:5:32:G:H5''	8:A:296:THR:HB	1.98	0.45
4:5:43:G:O2'	4:5:44:A:H5'	2.17	0.45
8:A:2052:GLU:OE1	14:G:290:PRO:HG2	2.16	0.45
8:A:2349:PHE:CE2	8:A:2379:PRO:HG3	2.52	0.45
9:B:820:PHE:HB2	9:B:825:LEU:HD12	1.99	0.45
9:B:1610:LEU:HD23	9:B:1612:VAL:HB	1.99	0.45
14:G:149:PHE:CD1	15:H:155:ARG:NH1	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:H:415:TYR:HB3	15:H:439:LYS:HD2	1.99	0.45
17:J:111:LEU:HD21	17:J:119:TRP:CZ2	2.52	0.45
17:J:246:ALA:O	17:J:250:LEU:HB2	2.16	0.45
17:J:258:SER:O	17:J:262:LYS:HG3	2.17	0.45
17:J:462:GLN:HG2	17:J:497:VAL:HA	1.99	0.45
17:J:617:PHE:O	17:J:620:THR:OG1	2.24	0.45
22:O:253:ASP:OD1	22:O:254:GLU:N	2.49	0.45
22:O:928:LYS:HA	22:O:931:ARG:NH1	2.32	0.45
23:P:1249:GLU:O	23:P:1252:ASP:N	2.50	0.45
28:U:165:GLU:O	28:U:165:GLU:HG2	2.16	0.45
30:W:30:ILE:H	30:W:30:ILE:HG12	1.44	0.45
40:l:9:LYS:HD3	40:l:106:LEU:HD22	1.99	0.45
41:m:66:ASN:OD1	41:m:98:GLY:N	2.50	0.45
3:4:15:G:C2	5:6:67:C:N3	2.85	0.44
3:4:65:G:C8	8:A:2099:ALA:HB1	2.52	0.44
4:5:74:U:H2'	4:5:75:A:H4'	1.99	0.44
8:A:207:ARG:HA	8:A:495:ARG:HA	1.98	0.44
8:A:344:ASN:HB3	8:A:381:SER:OG	2.17	0.44
8:A:658:ASN:HB3	8:A:684:LYS:HD2	1.98	0.44
8:A:1161:TYR:CD1	8:A:1170:MET:HG2	2.51	0.44
8:A:1753:ARG:HG3	8:A:1787:TYR:CZ	2.52	0.44
8:A:1854:ASP:OD1	8:A:1937:ARG:NH2	2.51	0.44
8:A:1963:LEU:HD13	8:A:1965:PHE:CE2	2.52	0.44
8:A:2199:VAL:HG23	8:A:2200:LYS:HG3	1.98	0.44
9:B:1751:HIS:NE2	9:B:1813:ASP:OD2	2.50	0.44
9:B:1951:LEU:HA	9:B:1954:VAL:HG22	1.99	0.44
10:C:187:ARG:NH2	10:C:653:ASP:OD2	2.51	0.44
10:C:706:LEU:HG	10:C:826:PRO:HD3	2.00	0.44
14:G:431:TYR:O	15:H:370:ASP:HB2	2.17	0.44
15:H:223:ALA:N	15:H:237:CYS:SG	2.91	0.44
19:L:46:TYR:O	19:L:50:ILE:HG13	2.18	0.44
20:M:6:PHE:HD1	20:M:7:GLN:HG3	1.81	0.44
20:M:25:VAL:HG11	20:M:129:LEU:HB3	1.99	0.44
22:O:913:GLY:HA3	23:P:1114:VAL:HG11	1.99	0.44
23:P:73:HIS:CE1	23:P:126:SER:HA	2.51	0.44
23:P:443:LYS:C	23:P:445:GLY:H	2.24	0.44
23:P:654:PHE:HE1	23:P:665:GLU:HB3	1.81	0.44
23:P:936:PRO:O	23:P:937:LYS:HD2	2.16	0.44
25:R:76:LEU:HB2	25:R:81:ILE:HD11	1.99	0.44
27:T:150:PRO:CG	27:T:154:THR:H	2.24	0.44
30:W:80:LEU:HA	30:W:102:THR:HB	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:l:107:LEU:HD12	41:m:59:LYS:HE3	1.99	0.44
40:t:37:ASN:OD1	40:t:89:GLY:N	2.42	0.44
41:u:75:LEU:HD11	41:u:86:ASN:HB3	1.99	0.44
1:2:1150:U:O2'	36:v:53:GLN:HA	2.17	0.44
3:4:62:G:C6	5:6:58:C:N3	2.85	0.44
3:4:143:A:N7	38:q:48:TYR:CE2	2.85	0.44
4:5:10:U:H1'	4:5:156:G:H22	1.82	0.44
5:6:29:U:H2'	5:6:30:G:O4'	2.17	0.44
5:6:49:A:H5'	8:A:1650:ARG:HB2	1.99	0.44
8:A:937:LEU:HD22	17:J:152:LEU:HD11	1.98	0.44
8:A:1477:PHE:HE1	8:A:1495:PHE:HB3	1.82	0.44
9:B:766:ILE:HD12	9:B:769:LYS:NZ	2.31	0.44
9:B:1218:PHE:N	9:B:1218:PHE:CD1	2.85	0.44
9:B:1411:ASP:O	9:B:1415:ARG:HG2	2.17	0.44
9:B:1497:PHE:HD1	9:B:1775:TYR:CE2	2.36	0.44
9:B:1933:TYR:OH	9:B:2091:TYR:HB2	2.16	0.44
14:G:90:LEU:HA	44:z:43:GLY:HA3	1.98	0.44
15:H:234:MET:HG3	15:H:246:PHE:HB2	1.98	0.44
16:I:69:A:H3'	22:O:775:ARG:NH2	2.33	0.44
16:I:69:A:H4'	22:O:898:ARG:HH11	1.82	0.44
17:J:562:MET:O	17:J:566:SER:CB	2.65	0.44
17:J:616:PHE:O	17:J:620:THR:HG23	2.16	0.44
17:J:796:ASP:OD2	18:K:46:ARG:NH1	2.50	0.44
22:O:667:TYR:HA	22:O:707:PHE:CD1	2.52	0.44
22:O:683:ASN:HB3	22:O:718:TYR:HB3	2.00	0.44
23:P:348:VAL:HG21	23:P:405:VAL:HB	2.00	0.44
23:P:564:ASP:HB3	23:P:567:SER:HB3	1.99	0.44
23:P:782:GLU:HB3	23:P:860:ASN:OD1	2.18	0.44
24:Q:248:HIS:CD2	24:Q:375:PHE:HB2	2.52	0.44
25:R:65:TYR:O	25:R:69:ILE:HG22	2.17	0.44
27:T:219:THR:HG22	27:T:219:THR:O	2.17	0.44
33:Z:23:ASP:CG	33:Z:24:GLU:H	2.25	0.44
40:t:88:ARG:NH1	40:t:90:ASN:HB3	2.31	0.44
1:2:116:U:O4	35:s:41:MET:HG3	2.17	0.44
1:2:1146:G:HO2'	1:2:1147:A:P	2.37	0.44
8:A:606:THR:HG23	8:A:609:GLU:H	1.83	0.44
8:A:941:GLU:OE1	13:F:434:GLN:NE2	2.50	0.44
8:A:1122:ASP:CG	8:A:1161:TYR:HH	2.23	0.44
8:A:1481:GLU:HG3	8:A:1482:GLY:N	2.30	0.44
8:A:2007:ARG:NH1	8:A:2048:TRP:CZ3	2.86	0.44
9:B:1377:THR:O	9:B:1381:GLU:HG3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:1459:TRP:HE1	9:B:1762:ILE:HD11	1.81	0.44
9:B:1625:THR:OG1	9:B:1648:ASP:HB2	2.17	0.44
9:B:1880:LEU:HD21	9:B:1931:GLN:HE21	1.82	0.44
10:C:940:VAL:HG23	10:C:963:SER:HB3	1.99	0.44
13:F:268:LEU:HB3	13:F:270:HIS:CE1	2.52	0.44
13:F:379:PHE:CE1	17:J:144:LYS:HD3	2.53	0.44
15:H:362:TYR:HD1	15:H:379:ARG:HE	1.65	0.44
17:J:547:ASP:C	17:J:549:ILE:H	2.25	0.44
17:J:582:LEU:O	17:J:586:ILE:HG12	2.18	0.44
20:M:45:SER:O	20:M:49:LEU:HB2	2.18	0.44
22:O:555:GLU:HG2	22:O:593:ARG:NH1	2.32	0.44
22:O:855:GLN:NE2	22:O:894:HIS:HB3	2.32	0.44
23:P:153:ASP:OD2	23:P:1302:ARG:NH1	2.50	0.44
23:P:770:LEU:HD22	23:P:827:TRP:CG	2.52	0.44
27:T:34:HIS:CD2	27:T:76:GLN:HE22	2.35	0.44
27:T:355:ASP:O	27:T:359:GLN:HG2	2.17	0.44
30:W:23:TYR:HE2	35:s:100:LYS:HD3	1.83	0.44
32:Y:78:THR:HG23	32:Y:81:GLN:HG2	1.98	0.44
40:l:44:LYS:HB2	40:l:79:ILE:CG2	2.45	0.44
37:w:27:VAL:HG13	37:w:91:THR:O	2.17	0.44
1:2:115:U:O2	35:s:88:ARG:CG	2.64	0.44
1:2:1092:A:H3'	1:2:1093:C:C6	2.47	0.44
3:4:76:A:C8	9:B:1107:ARG:CZ	3.00	0.44
5:6:26:A:HO2'	5:6:27:U:P	2.40	0.44
8:A:394:ARG:HD2	8:A:396:ARG:NH2	2.32	0.44
8:A:973:GLU:OE2	8:A:975:TYR:CG	2.71	0.44
8:A:1362:LYS:O	8:A:1366:ARG:HG2	2.17	0.44
8:A:1608:LEU:HD21	8:A:1648:ILE:HD11	1.99	0.44
9:B:452:SER:HB2	9:B:466:PRO:HG3	1.98	0.44
9:B:491:PHE:HD1	9:B:491:PHE:N	2.16	0.44
9:B:1355:VAL:HG11	9:B:1368:VAL:HG13	2.00	0.44
9:B:1403:GLU:HG2	9:B:1642:LYS:NZ	2.32	0.44
10:C:241:VAL:HG11	10:C:273:LEU:CD2	2.47	0.44
11:D:36:ASP:HB2	11:D:39:CYS:SG	2.58	0.44
17:J:234:ARG:HD2	17:J:244:TRP:CE3	2.52	0.44
17:J:264:ILE:HD13	17:J:284:LEU:HD13	2.00	0.44
17:J:649:ASN:O	17:J:653:ILE:HG12	2.17	0.44
17:J:706:VAL:HG12	17:J:710:LYS:HE3	2.00	0.44
17:J:838:TYR:O	17:J:841:THR:OG1	2.30	0.44
18:K:51:PHE:HE2	18:K:114:ILE:HG23	1.82	0.44
20:M:120:ILE:HG21	20:M:158:TYR:CZ	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:363:LEU:HA	22:O:374:THR:HG21	2.00	0.44
23:P:60:LEU:HB3	23:P:1228:PHE:HB3	1.99	0.44
23:P:839:ARG:HG3	23:P:840:GLN:O	2.17	0.44
23:P:1192:HIS:CE1	23:P:1312:ALA:HB3	2.52	0.44
23:P:1222:GLN:H	23:P:1222:GLN:CD	2.26	0.44
30:W:37:GLU:HG2	30:W:60:THR:HG22	1.98	0.44
30:W:141:ARG:HE	30:W:145:LEU:HD11	1.82	0.44
36:d:8:VAL:HG23	36:d:9:LYS:H	1.83	0.44
38:f:28:GLY:CA	38:f:38:TYR:O	2.54	0.44
1:2:59:C:H3'	1:2:60:A:H8	1.82	0.44
2:3:37:CYS:SG	2:3:73:VAL:HG11	2.58	0.44
3:4:9:G:C6	5:6:73:A:N1	2.86	0.44
4:5:10:U:H1'	4:5:156:G:N2	2.33	0.44
4:5:92:U:H2'	4:5:93:G:C8	2.53	0.44
4:5:105:A:H2'	4:5:106:A:H8	1.82	0.44
8:A:174:LYS:O	8:A:178:ASN:ND2	2.43	0.44
8:A:340:LYS:HB2	8:A:352:PHE:HD2	1.82	0.44
8:A:882:ILE:HD13	8:A:1238:LEU:HD11	1.99	0.44
8:A:1393:GLU:OE2	13:F:396:GLN:HA	2.18	0.44
8:A:1563:LYS:HB2	8:A:1781:TYR:HA	1.99	0.44
9:B:508:HIS:O	9:B:512:GLU:HG3	2.17	0.44
9:B:1008:PHE:HE2	9:B:1110:ARG:HG3	1.82	0.44
9:B:1473:TYR:CE2	9:B:1492:ILE:HD12	2.52	0.44
9:B:1992:ASN:HD21	9:B:1994:LEU:HB2	1.82	0.44
11:D:22:GLU:OE2	11:D:25:ARG:NH2	2.50	0.44
13:F:443:HIS:O	13:F:446:SER:OG	2.24	0.44
15:H:192:THR:HG21	15:H:461:ILE:HD11	1.99	0.44
16:I:78:A:N7	22:O:539:HIS:NE2	2.66	0.44
17:J:234:ARG:HD2	17:J:244:TRP:CZ3	2.53	0.44
17:J:388:LEU:HA	17:J:391:PHE:HD2	1.82	0.44
20:M:128:ARG:HG2	20:M:195:LEU:HD21	2.00	0.44
20:M:132:TYR:HB3	20:M:209:CYS:HA	1.99	0.44
22:O:244:LEU:HD21	22:O:282:MET:HE2	2.00	0.44
22:O:399:PRO:HA	22:O:402:LYS:HG2	1.99	0.44
22:O:562:ILE:HD11	22:O:590:LEU:HD11	1.99	0.44
22:O:910:LEU:HD23	22:O:914:LEU:HD23	2.00	0.44
23:P:951:CYS:SG	23:P:952:ARG:N	2.90	0.44
25:R:45:VAL:HG13	28:U:97:ARG:HD2	1.99	0.44
29:V:181:HIS:O	29:V:185:VAL:HG23	2.18	0.44
30:W:8:VAL:HA	30:W:25:VAL:CG2	2.48	0.44
40:t:33:SER:HB3	40:t:37:ASN:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:u:80:LYS:HE3	41:u:82:LYS:CG	2.48	0.44
1:2:1094:G:H2'	1:2:1095:U:H6	1.83	0.44
3:4:32:G:N2	3:4:44:G:N3	2.65	0.44
4:5:104:G:OP1	8:A:531:LEU:CD1	2.54	0.44
8:A:391:TYR:OH	10:C:913:GLY:N	2.50	0.44
8:A:1066:LEU:HD11	8:A:1113:ILE:HG23	1.98	0.44
8:A:1201:TYR:CD1	8:A:1243:TRP:HZ2	2.35	0.44
8:A:1209:LYS:O	8:A:1212:ARG:N	2.51	0.44
8:A:1898:VAL:HG11	8:A:1912:LYS:HE2	1.99	0.44
8:A:1964:PRO:HB2	8:A:2012:LEU:HB3	2.00	0.44
8:A:2395:PHE:CD1	9:B:1061:ALA:CA	2.84	0.44
9:B:617:ARG:HD3	9:B:1006:SER:OG	2.18	0.44
9:B:1694:LYS:HG2	9:B:1695:TYR:N	2.33	0.44
10:C:604:LYS:NZ	10:C:973:ARG:HH12	2.15	0.44
15:H:160:GLN:HE21	15:H:164:ASN:ND2	2.15	0.44
15:H:176:LYS:HD2	15:H:196:ALA:N	2.32	0.44
15:H:306:HIS:CD2	15:H:310:VAL:HG22	2.47	0.44
22:O:257:MET:HG3	26:S:100:HIS:CD2	2.53	0.44
22:O:719:ALA:HB3	22:O:724:TRP:CE2	2.52	0.44
22:O:881:MET:O	22:O:885:ILE:HD12	2.18	0.44
22:O:916:MET:HB3	22:O:920:TRP:CD1	2.53	0.44
27:T:4:LEU:HD21	29:V:146:TYR:OH	2.16	0.44
27:T:172:ARG:HG3	27:T:361:TYR:HB2	1.99	0.44
28:U:177:PRO:HB3	28:U:243:TRP:CD1	2.53	0.44
30:W:14:TYR:O	30:W:22:LYS:HG2	2.17	0.44
30:W:129:LEU:HD13	30:W:154:LEU:HD11	1.99	0.44
40:h:26:TRP:O	40:h:43:VAL:HA	2.18	0.44
38:q:33:PHE:N	38:q:33:PHE:CD1	2.86	0.44
37:w:46:PHE:O	38:x:14:ASN:ND2	2.51	0.44
1:2:57:A:C6	24:Q:177:GLN:HB2	2.53	0.44
1:2:1109:C:H2'	1:2:1115:G:O3'	2.17	0.44
4:5:50:G:C6	4:5:66:A:C6	3.06	0.44
5:6:71:G:H2'	5:6:72:C:C6	2.53	0.44
7:8:28:ASN:HB2	7:8:37:PHE:CD2	2.53	0.44
8:A:654:HIS:ND1	8:A:701:CYS:O	2.43	0.44
8:A:1591:THR:HG21	11:D:118:GLU:HG3	2.00	0.44
8:A:1611:SER:OG	8:A:1612:PRO:HD3	2.18	0.44
8:A:1611:SER:HA	8:A:1614:ILE:HB	2.00	0.44
8:A:1663:PHE:HB2	8:A:2144:GLN:HG2	2.00	0.44
8:A:1755:LYS:HE3	8:A:1759:TYR:CE2	2.52	0.44
8:A:1842:GLU:OE2	13:F:373:ARG:NH2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:758:LYS:O	9:B:762:ALA:HB3	2.18	0.44
10:C:964:ARG:NE	10:C:968:MET:HE3	2.33	0.44
15:H:147:ASN:O	15:H:151:GLU:HB2	2.17	0.44
15:H:436:HIS:C	17:J:731:LEU:HD11	2.43	0.44
17:J:661:LEU:O	17:J:665:PRO:HG3	2.18	0.44
19:L:60:ARG:HD3	19:L:78:PHE:HD1	1.83	0.44
19:L:135:TYR:CZ	19:L:139:ILE:HD11	2.53	0.44
20:M:163:PHE:H	20:M:188:ILE:HG22	1.82	0.44
22:O:349:LEU:HD21	22:O:385:SER:O	2.18	0.44
22:O:760:HIS:HB3	24:Q:240:LEU:HD12	1.99	0.44
23:P:62:HIS:HA	23:P:1227:CYS:O	2.18	0.44
23:P:1198:ILE:O	23:P:1221:LEU:N	2.42	0.44
30:W:117:LEU:HD13	30:W:127:LEU:HD21	2.00	0.44
41:m:44:VAL:O	41:m:55:ILE:HD12	2.17	0.44
41:u:50:ASN:ND2	41:u:52:HIS:CD2	2.85	0.44
37:w:16:CYS:SG	39:y:60:GLN:NE2	2.75	0.44
37:w:81:LEU:HB3	38:x:81:ILE:HG22	2.00	0.44
1:2:1139:G:O2'	1:2:1140:U:O5'	2.33	0.44
2:3:12:LEU:HD22	34:a:83:GLN:HE22	1.83	0.44
4:5:14:G:N3	4:5:14:G:H2'	2.33	0.44
4:5:26:A:N6	4:5:141:G:H8	2.16	0.44
4:5:35:A:OP2	8:A:549:LYS:NZ	2.51	0.44
4:5:102:C:H5''	8:A:675:HIS:NE2	2.32	0.44
8:A:194:HIS:HB2	8:A:199:ILE:HG22	2.00	0.44
8:A:1170:MET:CE	8:A:1230:ILE:HD13	2.47	0.44
8:A:1320:LEU:HD11	8:A:1367:ILE:HG13	2.00	0.44
8:A:1393:GLU:HG2	13:F:395:LYS:O	2.18	0.44
8:A:2011:LEU:HD23	8:A:2055:MET:HG3	2.00	0.44
9:B:521:ALA:O	9:B:672:ALA:HA	2.17	0.44
9:B:883:PHE:C	9:B:883:PHE:CD1	2.95	0.44
9:B:1204:VAL:O	9:B:1304:ILE:HG21	2.18	0.44
9:B:1415:ARG:HA	9:B:1418:HIS:HE1	1.83	0.44
10:C:457:SER:OG	10:C:458:ILE:N	2.51	0.44
10:C:660:ARG:HG3	10:C:661:ALA:N	2.33	0.44
10:C:866:ILE:HG22	10:C:868:VAL:HG13	1.98	0.44
10:C:913:GLY:O	10:C:916:THR:OG1	2.34	0.44
15:H:279:PHE:HB3	15:H:291:LEU:HD11	1.98	0.44
20:M:150:LEU:HA	20:M:153:VAL:HG12	1.99	0.44
22:O:338:GLN:HG3	22:O:377:THR:HG22	2.00	0.44
22:O:472:PRO:HB2	22:O:476:ARG:NH2	2.32	0.44
22:O:594:MET:SD	22:O:630:VAL:HG11	2.58	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:498:LEU:HD23	23:P:498:LEU:O	2.18	0.44
41:u:50:ASN:ND2	41:u:52:HIS:HD2	2.15	0.44
36:v:49:ALA:HB3	36:v:57:THR:HG22	1.99	0.44
44:z:47:VAL:HB	44:z:73:LEU:HB2	2.00	0.44
1:2:1138:G:C6	1:2:1139:G:O6	2.71	0.44
4:5:10:U:O2	4:5:11:A:N6	2.51	0.44
4:5:35:A:H2'	4:5:36:A:C8	2.53	0.44
4:5:86:G:H2'	4:5:87:G:H8	1.83	0.44
5:6:74:U:H2'	5:6:75:A:C8	2.52	0.44
8:A:310:ASN:ND2	8:A:313:ARG:HH21	2.15	0.44
8:A:1588:LYS:CE	13:F:364:LYS:HZ2	2.31	0.44
8:A:1993:ASP:OD2	8:A:2038:HIS:HA	2.18	0.44
8:A:2318:ASN:HB3	8:A:2322:MET:HG3	2.00	0.44
9:B:453:PHE:HE2	9:B:455:ARG:NE	2.15	0.44
9:B:457:LYS:HE3	9:B:462:GLU:OE2	2.17	0.44
9:B:499:LEU:HD23	9:B:503:GLN:HB3	1.99	0.44
9:B:1163:SER:HB3	9:B:1184:ARG:HH12	1.83	0.44
9:B:1459:TRP:CZ3	9:B:1502:LEU:HD11	2.53	0.44
9:B:1537:PRO:O	9:B:1540:ARG:NH1	2.50	0.44
10:C:474:LYS:NZ	10:C:630:PRO:HD3	2.32	0.44
11:D:28:VAL:HG22	11:D:84:PHE:HD1	1.82	0.44
14:G:353:ARG:C	14:G:357:LYS:HZ3	2.26	0.44
14:G:355:LYS:O	14:G:359:ASN:ND2	2.37	0.44
15:H:186:ASP:H	15:H:447:ASN:ND2	2.15	0.44
22:O:916:MET:HE2	22:O:919:ILE:HD12	2.00	0.44
23:P:827:TRP:HH2	23:P:1209:SER:HB3	1.82	0.44
24:Q:173:PRO:HB3	24:Q:269:VAL:HG11	1.99	0.44
24:Q:246:LYS:O	24:Q:250:VAL:HG23	2.18	0.44
28:U:226:MET:HG3	28:U:226:MET:O	2.18	0.44
30:W:59:LEU:HD21	30:W:64:LEU:HD22	2.00	0.44
30:W:124:LEU:O	30:W:151:LEU:HD23	2.17	0.44
30:W:139:ASN:HB2	30:W:142:GLU:CG	2.46	0.44
34:a:5:SER:O	34:a:9:THR:OG1	2.24	0.44
41:i:65:CYS:O	41:i:67:MET:HG3	2.17	0.44
35:k:89:GLY:O	35:k:92:ILE:HG22	2.17	0.44
1:2:9:C:H2'	1:2:10:U:H6	1.83	0.43
8:A:388:PRO:HB2	8:A:398:VAL:HG11	2.00	0.43
8:A:1060:LYS:NZ	8:A:1240:SER:HB2	2.33	0.43
8:A:1170:MET:HE1	8:A:1230:ILE:HG21	1.99	0.43
8:A:1934:ILE:HG12	8:A:1957:ARG:HB2	2.00	0.43
9:B:617:ARG:NH1	9:B:1009:TYR:HD1	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:C:110:LYS:C	10:C:112:ASN:N	2.76	0.43
10:C:241:VAL:HG21	10:C:270:LEU:HD23	1.98	0.43
10:C:271:ASP:OD2	10:C:318:LEU:HD12	2.17	0.43
10:C:299:THR:HG21	10:C:304:PHE:CE2	2.53	0.43
10:C:603:PHE:HB3	10:C:646:GLY:O	2.18	0.43
11:D:74:TYR:HB2	11:D:76:LEU:HD13	2.00	0.43
11:D:104:ASN:ND2	11:D:143:SER:O	2.51	0.43
15:H:453:VAL:HG22	15:H:463:LEU:HD23	2.00	0.43
22:O:297:THR:HA	22:O:300:ALA:HB3	2.00	0.43
22:O:335:LYS:O	22:O:338:GLN:HB2	2.18	0.43
22:O:393:PHE:CD1	22:O:422:MET:HE1	2.52	0.43
22:O:839:THR:HG22	22:O:880:LEU:HD21	1.98	0.43
23:P:387:ASP:HA	23:P:412:THR:CG2	2.48	0.43
23:P:1124:LEU:HD13	24:Q:364:PHE:CD2	2.53	0.43
24:Q:276:LEU:O	24:Q:280:THR:HG23	2.17	0.43
29:V:139:VAL:HG23	29:V:140:ALA:N	2.32	0.43
30:W:11:ALA:HB2	30:W:26:ASP:CB	2.48	0.43
39:g:41:ASP:OD1	39:g:42:ASP:N	2.51	0.43
36:n:24:THR:HA	36:n:70:LYS:HE3	2.00	0.43
41:u:38:MET:HG3	41:u:39:VAL:N	2.32	0.43
38:x:60:VAL:O	38:x:63:VAL:HG12	2.18	0.43
44:z:15:PHE:CE2	44:z:19:ILE:HD13	2.53	0.43
1:2:64:G:C2	1:2:65:A:C5	3.06	0.43
2:3:67:PHE:HB3	34:a:70:VAL:HB	1.99	0.43
3:4:6:U:C2	3:4:7:A:C8	3.06	0.43
4:5:102:C:H5'	8:A:671:TYR:HE2	1.84	0.43
5:6:30:G:H5'	5:6:31:G:C5'	2.48	0.43
8:A:554:THR:HG21	17:J:74:LEU:HD11	2.00	0.43
8:A:592:HIS:CD2	20:M:28:ARG:HG3	2.52	0.43
8:A:1689:ARG:O	8:A:1693:LYS:HB2	2.17	0.43
8:A:2249:ASP:OD1	9:B:1307:SER:OG	2.34	0.43
10:C:161:ILE:HG22	10:C:163:ASP:H	1.83	0.43
13:F:102:ILE:CG2	13:F:103:PRO:HD3	2.48	0.43
13:F:315:ARG:HD3	18:K:66:HIS:CE1	2.53	0.43
14:G:322:ARG:NH2	15:H:70:GLN:HE22	2.17	0.43
17:J:458:ASN:O	17:J:462:GLN:HG3	2.18	0.43
23:P:181:ARG:HD2	23:P:185:ARG:NH2	2.28	0.43
23:P:776:SER:O	23:P:821:CYS:HA	2.18	0.43
23:P:952:ARG:HA	23:P:972:LYS:O	2.17	0.43
23:P:1111:ASP:OD1	23:P:1112:ASP:N	2.48	0.43
27:T:38:GLU:O	27:T:41:LYS:HG2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:T:203:PHE:O	27:T:206:ILE:HB	2.18	0.43
28:U:178:PRO:HG2	28:U:250:TYR:CD1	2.53	0.43
30:W:4:THR:HG22	30:W:7:ILE:HD13	2.00	0.43
30:W:8:VAL:HG23	30:W:25:VAL:CG2	2.47	0.43
30:W:35:GLN:NE2	32:Y:77:ARG:NH2	2.64	0.43
42:j:78:PHE:HE1	42:j:80:LYS:HE3	1.83	0.43
40:l:26:TRP:HE3	40:l:44:LYS:HG2	1.82	0.43
40:t:99:ASP:HA	41:u:93:LYS:HG3	2.00	0.43
3:4:34:G:P	13:F:304:ARG:HH21	2.40	0.43
4:5:13:A:C2	4:5:14:G:H1'	2.53	0.43
4:5:104:G:OP1	8:A:531:LEU:HD21	2.17	0.43
5:6:63:G:O2'	14:G:253:ARG:HD2	2.18	0.43
8:A:380:ARG:HG2	8:A:383:TYR:HE2	1.83	0.43
8:A:1609:TRP:CE3	8:A:1823:LEU:HD13	2.53	0.43
8:A:1687:HIS:CD2	8:A:1689:ARG:HB2	2.53	0.43
8:A:1882:LEU:HB3	8:A:1889:LEU:HD13	2.00	0.43
8:A:2043:PHE:CE2	8:A:2051:ILE:HG13	2.53	0.43
9:B:1070:ASP:OD2	12:E:208:LYS:HE3	2.14	0.43
10:C:320:PHE:CD1	10:C:425:LEU:HD13	2.54	0.43
11:D:88:ASN:OD1	17:J:21:ARG:HD2	2.18	0.43
13:F:217:TYR:O	13:F:220:SER:OG	2.22	0.43
13:F:316:VAL:HG11	13:F:329:LEU:HD12	2.00	0.43
14:G:141:ASN:H	14:G:146:GLU:HB2	1.84	0.43
17:J:66:GLU:O	17:J:70:VAL:HG23	2.18	0.43
20:M:102:LEU:HD11	20:M:126:TYR:HE2	1.82	0.43
22:O:313:LEU:HD23	22:O:317:ILE:HG13	2.00	0.43
27:T:508:GLU:HG2	27:T:509:GLU:N	2.31	0.43
30:W:23:TYR:H	30:W:33:ASP:HB3	1.84	0.43
30:W:115:GLN:O	30:W:118:ARG:HG2	2.18	0.43
35:b:16:ILE:HD11	35:b:35:MET:O	2.18	0.43
1:2:1100:A:H2'	32:Y:38:LYS:CE	2.32	0.43
1:2:1149:G:H21	36:v:53:GLN:C	2.26	0.43
3:4:32:G:N3	3:4:44:G:N2	2.66	0.43
4:5:125:C:H2'	4:5:126:A:H8	1.82	0.43
5:6:24:A:H3'	5:6:25:C:H5''	1.99	0.43
5:6:61:C:OP1	14:G:276:ASN:ND2	2.51	0.43
8:A:852:LEU:HA	8:A:855:LEU:HG	2.00	0.43
8:A:948:HIS:CE1	8:A:952:ASN:HD21	2.36	0.43
8:A:969:ILE:O	8:A:969:ILE:HG13	2.18	0.43
8:A:1082:ILE:HG23	8:A:1109:PHE:CE1	2.53	0.43
8:A:1630:THR:O	8:A:1692:TYR:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2013:ARG:HH12	8:A:2016:LYS:HZ1	1.66	0.43
9:B:468:PRO:HD2	9:B:702:PRO:HB2	2.01	0.43
10:C:220:ASN:HB3	10:C:651:TYR:HB2	2.01	0.43
10:C:510:ARG:HG2	10:C:591:PHE:CE2	2.53	0.43
13:F:84:LEU:HD11	13:F:217:TYR:CG	2.53	0.43
13:F:249:LEU:O	13:F:252:SER:OG	2.27	0.43
15:H:47:GLU:HB2	15:H:50:GLU:HB2	1.99	0.43
16:I:77:C:O3'	22:O:496:ARG:NH1	2.50	0.43
17:J:399:PRO:O	17:J:402:TRP:N	2.50	0.43
17:J:869:THR:HG22	17:J:874:TRP:HE1	1.84	0.43
22:O:164:ARG:HG3	22:O:165:THR:N	2.32	0.43
22:O:319:ALA:O	22:O:323:SER:HB2	2.19	0.43
22:O:904:GLU:O	22:O:907:SER:OG	2.25	0.43
22:O:964:ILE:HG22	22:O:966:GLU:H	1.82	0.43
23:P:130:LEU:HD11	23:P:147:PHE:CE1	2.54	0.43
23:P:379:VAL:CG2	23:P:391:LEU:HB2	2.48	0.43
30:W:7:ILE:HA	30:W:27:LYS:N	2.30	0.43
35:b:15:LEU:HD11	40:h:84:TYR:OH	2.18	0.43
41:i:59:LYS:HB3	41:i:68:VAL:HG12	2.00	0.43
37:p:45:GLY:HA3	38:q:13:VAL:O	2.18	0.43
37:w:45:GLY:HA3	38:x:13:VAL:O	2.18	0.43
1:2:1099:G:H2'	1:2:1100:A:H8	1.83	0.43
1:2:1150:U:H3'	1:2:1151:U:O4'	2.17	0.43
3:4:32:G:N2	3:4:44:G:O2'	2.47	0.43
3:4:77:U:C2	3:4:78:A:N7	2.87	0.43
4:5:105:A:N6	4:5:106:A:N6	2.66	0.43
4:5:117:G:H2'	4:5:118:U:C6	2.53	0.43
4:5:162:G:C6	4:5:163:C:N4	2.86	0.43
4:5:172:U:O2	40:h:35:GLN:HB3	2.18	0.43
8:A:169:PRO:HB3	8:A:622:MET:HE1	2.00	0.43
8:A:1163:ARG:HG3	8:A:1168:ILE:HG22	2.00	0.43
8:A:1411:ASP:HB3	8:A:1559:HIS:NE2	2.33	0.43
8:A:1535:LYS:HG2	13:F:401:LEU:HD21	2.00	0.43
8:A:1791:PHE:CE2	8:A:1794:LEU:HD22	2.53	0.43
8:A:1949:LEU:HD13	13:F:421:VAL:HG11	2.00	0.43
8:A:2060:LEU:HD21	8:A:2078:GLU:OE2	2.18	0.43
8:A:2121:MET:HE1	9:B:1056:GLN:HG3	2.01	0.43
9:B:644:GLY:N	9:B:645:PRO:HD2	2.33	0.43
9:B:682:ARG:CZ	9:B:946:VAL:HG13	2.48	0.43
9:B:723:ASN:HB3	9:B:756:TRP:NE1	2.33	0.43
9:B:758:LYS:O	9:B:762:ALA:CB	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:981:LEU:HD23	9:B:986:LEU:HD12	1.99	0.43
9:B:1224:ALA:HB1	9:B:1226:TRP:CZ3	2.53	0.43
9:B:1550:SER:HA	9:B:1724:THR:O	2.18	0.43
9:B:2063:LEU:HD13	9:B:2160:ILE:HB	1.99	0.43
10:C:962:LEU:HD11	10:C:966:PHE:CZ	2.53	0.43
14:G:56:ASN:O	14:G:60:ARG:CB	2.67	0.43
14:G:235:TYR:HB3	18:K:25:GLN:HE21	1.83	0.43
14:G:462:HIS:CE1	15:H:388:GLN:HB2	2.54	0.43
15:H:324:SER:O	15:H:331:SER:HA	2.18	0.43
15:H:395:ILE:HG21	18:K:123:THR:HG23	2.01	0.43
17:J:226:MET:HB3	17:J:251:GLU:OE2	2.18	0.43
17:J:259:VAL:HG23	17:J:260:ALA:H	1.84	0.43
17:J:699:PRO:O	17:J:733:ASN:ND2	2.52	0.43
17:J:710:LYS:O	17:J:714:ILE:HG22	2.19	0.43
22:O:386:TYR:O	22:O:388:TYR:N	2.52	0.43
22:O:724:TRP:HA	22:O:727:ILE:HD12	2.01	0.43
22:O:865:ALA:HA	22:O:877:PHE:CE1	2.53	0.43
23:P:653:TYR:HE2	23:P:655:LYS:NZ	2.15	0.43
23:P:770:LEU:HD13	23:P:827:TRP:CD1	2.54	0.43
25:R:108:ALA:HA	25:R:194:TYR:OH	2.18	0.43
27:T:152:ARG:C	27:T:153:ARG:HG3	2.44	0.43
30:W:8:VAL:HA	30:W:25:VAL:CB	2.49	0.43
30:W:25:VAL:HB	30:W:31:LEU:C	2.43	0.43
33:Z:40:LEU:HD22	33:Z:69:LEU:HD22	1.99	0.43
33:Z:54:SER:HB2	33:Z:62:ILE:HG23	2.00	0.43
35:b:37:PHE:HA	35:b:42:ASN:O	2.18	0.43
40:h:15:VAL:HG12	40:h:98:PRO:HD3	2.00	0.43
40:h:93:ARG:HH22	41:i:49:ARG:H	1.67	0.43
36:v:44:LEU:HB3	36:v:62:ILE:CG2	2.48	0.43
37:w:30:TRP:N	37:w:30:TRP:CD1	2.87	0.43
1:2:56:U:H1'	1:2:59:C:H5	1.82	0.43
3:4:141:G:H2'	3:4:142:G:H5'	1.97	0.43
4:5:82:A:HO2'	4:5:83:C:P	2.37	0.43
4:5:98:U:H2'	4:5:99:U:O4'	2.18	0.43
4:5:102:C:H2'	4:5:103:A:H5'	2.00	0.43
5:6:48:C:C5	8:A:1629:LEU:HD11	2.53	0.43
5:6:111:U:H3	34:a:37:ASN:HD21	1.66	0.43
7:8:59:SER:HA	34:a:63:ARG:CZ	2.47	0.43
8:A:139:LEU:HD21	8:A:570:GLN:HE22	1.84	0.43
8:A:1347:ARG:HD3	8:A:1445:THR:O	2.19	0.43
8:A:1795:LYS:HB3	8:A:1796:PRO:HD3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:602:THR:HG22	9:B:603:GLN:N	2.33	0.43
9:B:703:LEU:HD21	9:B:872:LEU:HD23	2.00	0.43
9:B:1633:LEU:CD1	9:B:1652:VAL:HG22	2.48	0.43
9:B:2007:LYS:O	9:B:2010:GLU:HB3	2.18	0.43
11:D:42:MET:HG2	11:D:80:MET:HE1	2.01	0.43
11:D:86:TYR:CD2	11:D:124:ALA:HB1	2.53	0.43
12:E:149:TYR:CD2	12:E:178:VAL:HG12	2.47	0.43
22:O:827:ILE:O	22:O:827:ILE:HG13	2.17	0.43
23:P:561:LEU:HG	23:P:569:GLU:O	2.18	0.43
23:P:754:HIS:HB3	23:P:764:ASP:HB3	1.99	0.43
23:P:1308:ARG:HG3	23:P:1314:VAL:HG11	1.99	0.43
25:R:113:LYS:HB3	25:R:179:THR:OG1	2.18	0.43
28:U:35:SER:O	28:U:38:GLU:HG2	2.18	0.43
28:U:200:VAL:HA	28:U:209:ILE:O	2.18	0.43
29:V:195:ILE:HD11	29:V:197:TRP:CH2	2.54	0.43
37:p:34:GLN:O	39:r:23:ARG:NH2	2.51	0.43
37:p:81:LEU:HB3	38:q:81:ILE:HG22	1.99	0.43
35:s:96:VAL:HG11	40:t:82:LEU:HD23	1.99	0.43
4:5:36:A:H2'	4:5:37:C:C6	2.53	0.43
4:5:113:G:C2	4:5:114:G:C8	3.06	0.43
8:A:343:ASN:ND2	8:A:354:PRO:HB3	2.34	0.43
8:A:908:ASP:OD2	8:A:951:LEU:HD13	2.19	0.43
8:A:1510:ILE:O	8:A:1514:PHE:HB3	2.19	0.43
8:A:1638:ILE:HG22	8:A:1641:LEU:H	1.83	0.43
8:A:1961:LEU:CD1	8:A:2084:LEU:HB3	2.49	0.43
9:B:1263:ILE:HD11	9:B:1693:HIS:O	2.18	0.43
9:B:1402:GLY:HA2	9:B:1405:ILE:HD12	2.00	0.43
10:C:154:VAL:HG11	10:C:177:TYR:CD2	2.54	0.43
10:C:273:LEU:O	10:C:277:LEU:HB2	2.19	0.43
10:C:999:ALA:HA	10:C:1002:ARG:HG2	2.00	0.43
14:G:349:ASN:HB3	14:G:352:ILE:HG12	2.01	0.43
14:G:392:TYR:O	14:G:395:LEU:HG	2.19	0.43
15:H:345:LEU:HD12	15:H:345:LEU:O	2.18	0.43
17:J:99:ASN:ND2	17:J:102:ARG:HH21	2.17	0.43
18:K:120:LYS:O	18:K:123:THR:HB	2.19	0.43
22:O:244:LEU:HD23	22:O:281:VAL:HG11	1.98	0.43
23:P:361:LYS:C	23:P:363:VAL:H	2.25	0.43
23:P:704:SER:O	23:P:712:PHE:C	2.61	0.43
30:W:81:LEU:HD11	30:W:86:ILE:HG12	2.01	0.43
34:a:21:ASN:HD21	34:a:23:ILE:HD12	1.83	0.43
35:b:40:HIS:O	35:b:89:GLY:HA3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:g:20:ASN:ND2	39:g:69:ILE:HD11	2.34	0.43
40:h:93:ARG:NH2	41:i:50:ASN:H	2.17	0.43
39:r:18:ASN:O	39:r:69:ILE:HB	2.19	0.43
40:t:46:THR:OG1	40:t:79:ILE:HG12	2.19	0.43
1:2:66:A:OP2	1:2:66:A:C8	2.70	0.43
4:5:84:A:OP1	8:A:713:ASN:HB3	2.18	0.43
4:5:105:A:H5'	8:A:355:LEU:HD22	2.00	0.43
5:6:33:C:OP2	8:A:607:THR:CB	2.65	0.43
8:A:600:LYS:HE2	20:M:29:LEU:HD11	2.00	0.43
8:A:1447:TRP:HB3	8:A:1451:PHE:CE2	2.52	0.43
8:A:2395:PHE:HB2	9:B:1062:PRO:HG3	2.01	0.43
9:B:580:PHE:CE2	9:B:581:LEU:HG	2.54	0.43
9:B:648:GLU:CD	9:B:912:PHE:HD1	2.27	0.43
9:B:1220:ILE:HD13	9:B:1241:LEU:HD11	2.00	0.43
9:B:1224:ALA:HB3	9:B:1264:VAL:HA	2.00	0.43
9:B:1541:ILE:H	9:B:1541:ILE:HG13	1.65	0.43
9:B:1621:ILE:HG21	9:B:1633:LEU:HD22	2.01	0.43
9:B:2143:TRP:HB3	9:B:2145:VAL:HG23	2.01	0.43
10:C:205:SER:CB	36:d:9:LYS:HD3	2.48	0.43
10:C:633:ILE:HB	10:C:645:LEU:HB2	2.01	0.43
10:C:862:TYR:CE2	10:C:908:VAL:HG13	2.54	0.43
13:F:91:PHE:CE2	13:F:221:LYS:HG2	2.53	0.43
14:G:341:VAL:HG12	14:G:381:ILE:HG12	2.01	0.43
14:G:346:ASN:OD1	14:G:348:GLN:HG3	2.18	0.43
17:J:692:LEU:HD23	17:J:708:LEU:HD11	2.01	0.43
22:O:387:PRO:HA	22:O:425:LEU:CB	2.47	0.43
22:O:519:ILE:HG21	22:O:561:LEU:HD12	2.00	0.43
22:O:775:ARG:HA	22:O:778:ARG:HE	1.84	0.43
22:O:842:LEU:HA	22:O:845:ALA:HB3	2.01	0.43
23:P:180:THR:O	26:S:83:LYS:HB3	2.19	0.43
23:P:770:LEU:HD12	23:P:770:LEU:O	2.18	0.43
23:P:1041:LEU:O	23:P:1051:LEU:HD12	2.19	0.43
23:P:1098:ILE:CD1	23:P:1151:MET:HE2	2.49	0.43
23:P:1183:CYS:O	23:P:1184:LYS:HG2	2.18	0.43
28:U:222:GLU:HG3	28:U:222:GLU:O	2.18	0.43
30:W:5:PRO:O	30:W:8:VAL:N	2.52	0.43
30:W:23:TYR:H	30:W:33:ASP:CB	2.32	0.43
35:b:38:ASP:HB3	36:d:7:PRO:HG2	2.01	0.43
37:e:91:THR:HG21	39:g:55:HIS:HD2	1.84	0.43
41:i:62:ASP:HB3	41:i:66:ASN:N	2.32	0.43
1:2:60:A:H3'	1:2:61:A:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:92:C:H1'	35:k:39:LYS:HD3	2.01	0.43
4:5:68:A:O2'	4:5:69:G:H8	2.01	0.43
4:5:154:G:H2'	4:5:155:U:C6	2.54	0.43
8:A:905:TYR:OH	8:A:1002:GLU:OE2	2.22	0.43
8:A:1961:LEU:HD13	8:A:2084:LEU:HB3	2.00	0.43
9:B:1137:THR:HB	9:B:1139:MET:HE3	2.00	0.43
9:B:1458:ARG:HB3	9:B:1461:GLN:HB2	2.01	0.43
9:B:1897:GLY:O	9:B:1901:LEU:HB2	2.18	0.43
10:C:154:VAL:HG21	10:C:178:LEU:HD11	1.99	0.43
13:F:120:TYR:CE2	13:F:141:ILE:HG21	2.54	0.43
13:F:424:THR:HG22	13:F:425:SER:N	2.31	0.43
15:H:399:VAL:HG13	15:H:410:LEU:HD21	1.99	0.43
17:J:369:MET:HA	17:J:400:GLU:OE2	2.18	0.43
17:J:821:TYR:HA	17:J:824:SER:OG	2.18	0.43
19:L:33:PRO:HB2	19:L:34:ILE:H	1.63	0.43
20:M:44:LEU:HD23	20:M:91:LYS:HB2	2.01	0.43
22:O:331:HIS:CE1	22:O:335:LYS:HD2	2.54	0.43
22:O:419:VAL:O	22:O:423:ILE:HG12	2.19	0.43
23:P:155:GLY:HA3	23:P:179:LEU:O	2.19	0.43
24:Q:271:TYR:CZ	24:Q:274:ARG:HB2	2.54	0.43
27:T:319:TYR:CZ	27:T:323:ARG:HD2	2.54	0.43
28:U:155:ILE:HD13	28:U:252:VAL:HG23	2.00	0.43
40:h:33:SER:HB3	40:h:37:ASN:H	1.83	0.43
41:u:103:VAL:HG11	38:x:71:ILE:HD11	1.99	0.43
4:5:63:C:H2'	4:5:64:C:C6	2.54	0.43
8:A:139:LEU:HD13	8:A:193:TYR:CG	2.54	0.43
8:A:898:ILE:N	8:A:1073:ILE:O	2.45	0.43
8:A:1075:ASP:OD1	8:A:1076:PRO:HD2	2.19	0.43
8:A:1290:ASP:OD1	8:A:1291:GLU:N	2.52	0.43
8:A:1763:ASN:HB3	8:A:1764:VAL:H	1.65	0.43
9:B:539:LEU:HG	9:B:555:PHE:CZ	2.54	0.43
9:B:707:PHE:CD2	9:B:895:VAL:HG13	2.50	0.43
9:B:1519:ARG:O	9:B:1523:GLU:HG3	2.18	0.43
9:B:1675:CYS:O	9:B:1677:THR:HG23	2.18	0.43
9:B:1917:THR:HG22	9:B:1918:SER:N	2.32	0.43
10:C:318:LEU:HD13	10:C:421:LEU:CD2	2.49	0.43
10:C:478:TYR:CZ	10:C:550:VAL:HG23	2.54	0.43
11:D:4:VAL:HG13	11:D:5:LEU:N	2.33	0.43
11:D:69:ASP:OD2	17:J:17:PRO:HD2	2.19	0.43
14:G:238:GLN:CB	14:G:241:ARG:HH11	2.32	0.43
14:G:251:MET:HB3	15:H:34:HIS:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:H:203:ASN:HB3	15:H:206:THR:HG22	2.00	0.43
17:J:98:SER:OG	17:J:99:ASN:N	2.51	0.43
20:M:42:VAL:HG23	20:M:43:ASN:N	2.33	0.43
22:O:591:ASP:OD1	22:O:592:ILE:HD12	2.19	0.43
22:O:964:ILE:HB	22:O:967:LEU:HD13	2.01	0.43
23:P:153:ASP:OD1	23:P:183:THR:N	2.52	0.43
24:Q:248:HIS:CG	24:Q:375:PHE:HB2	2.54	0.43
24:Q:294:ILE:O	24:Q:343:ASP:HB2	2.19	0.43
27:T:212:ASP:HB3	27:T:215:LYS:HB2	2.00	0.43
27:T:233:LEU:HD12	27:T:233:LEU:HA	1.82	0.43
30:W:7:ILE:HG22	30:W:25:VAL:CG1	2.43	0.43
32:Y:80:ASP:OD1	32:Y:81:GLN:N	2.52	0.43
37:e:30:TRP:NE1	37:e:38:ARG:HD3	2.34	0.43
41:i:34:ILE:O	41:i:37:ALA:HB3	2.19	0.43
41:m:30:PRO:HA	38:q:52:GLN:HB2	1.99	0.43
41:m:73:LYS:HE3	41:m:88:GLU:HG3	2.01	0.43
1:2:1146:G:H2'	1:2:1147:A:H8	1.84	0.42
3:4:66:A:N1	9:B:716:LEU:HD11	2.33	0.42
4:5:79:C:H5'	4:5:80:G:H2'	2.01	0.42
7:8:5:LEU:HD21	34:a:61:PHE:CD2	2.53	0.42
8:A:1172:PHE:CZ	8:A:1230:ILE:HD11	2.53	0.42
8:A:1350:ILE:HD12	8:A:1356:LEU:HD22	2.00	0.42
8:A:1466:GLN:O	8:A:1470:GLN:HG2	2.19	0.42
8:A:1803:ARG:HH12	8:A:1807:LYS:NZ	2.16	0.42
8:A:1995:TRP:HH2	8:A:2040:TRP:CD1	2.37	0.42
9:B:557:ILE:HD12	9:B:604:VAL:HG22	2.00	0.42
9:B:683:PHE:CA	9:B:946:VAL:HG21	2.48	0.42
9:B:730:VAL:HG22	9:B:740:ILE:HD13	2.01	0.42
9:B:912:PHE:CD2	9:B:944:LEU:HD23	2.55	0.42
9:B:1183:ILE:HG22	9:B:1183:ILE:O	2.19	0.42
9:B:1861:PHE:CB	40:l:140:LYS:HZ3	2.32	0.42
10:C:567:ILE:HG22	10:C:571:TYR:HE1	1.83	0.42
12:E:168:SER:O	12:E:172:ASP:CB	2.67	0.42
12:E:206:LYS:HB2	12:E:208:LYS:NZ	2.34	0.42
15:H:38:GLN:HE22	15:H:41:LEU:HD22	1.84	0.42
15:H:351:PRO:O	15:H:369:GLY:N	2.52	0.42
17:J:125:ALA:O	17:J:126:THR:OG1	2.34	0.42
22:O:163:GLU:HG3	22:O:199:MET:HE2	1.99	0.42
22:O:767:LEU:HD11	22:O:800:VAL:HG12	2.01	0.42
23:P:1213:ARG:HH21	23:P:1232:LEU:HB2	1.84	0.42
23:P:1356:VAL:HG12	23:P:1360:TYR:CE2	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:S:43:VAL:HG12	26:S:72:TYR:CE1	2.54	0.42
27:T:354:MET:SD	40:t:100:SER:HB3	2.59	0.42
28:U:178:PRO:O	28:U:179:LEU:HD23	2.19	0.42
30:W:17:ASP:OD2	32:Y:60:LYS:C	2.62	0.42
30:W:66:MET:HG3	30:W:88:GLU:C	2.44	0.42
35:b:38:ASP:HB2	36:d:4:ASN:HA	2.01	0.42
36:d:47:VAL:HG13	36:d:59:MET:HB2	2.00	0.42
37:e:36:GLY:O	37:e:61:PRO:HA	2.18	0.42
41:m:55:ILE:HG23	41:m:73:LYS:HB3	2.01	0.42
39:r:50:ASP:N	39:r:51:PRO:HD3	2.34	0.42
41:u:26:PHE:CE1	41:u:31:MET:HB3	2.54	0.42
1:2:119:G:C8	37:w:32:PHE:CD2	3.07	0.42
1:2:141:A:HO2'	1:2:142:C:H6	1.60	0.42
1:2:1094:G:H2'	1:2:1095:U:C6	2.54	0.42
1:2:1098:C:OP1	32:Y:43:ARG:CD	2.64	0.42
1:2:1153:C:H2'	1:2:1154:U:H6	1.84	0.42
4:5:23:C:N4	4:5:24:G:O6	2.52	0.42
4:5:120:G:C6	4:5:121:U:C4	3.07	0.42
5:6:74:U:O2	15:H:66:ASN:ND2	2.52	0.42
8:A:912:LEU:HB2	8:A:951:LEU:HD21	1.99	0.42
8:A:1204:ARG:CZ	8:A:1260:PHE:HA	2.50	0.42
8:A:1407:ILE:HG12	8:A:1550:LEU:HD21	2.01	0.42
8:A:1755:LYS:HE3	8:A:1759:TYR:HE2	1.85	0.42
9:B:524:GLY:O	9:B:525:SER:HB3	2.19	0.42
9:B:804:HIS:CG	9:B:834:LEU:HD11	2.54	0.42
9:B:1392:LYS:HB3	9:B:1469:GLU:OE1	2.19	0.42
9:B:1699:THR:HG22	40:l:144:ARG:HD2	2.01	0.42
10:C:156:ASP:OD1	10:C:431:GLN:HB2	2.19	0.42
10:C:251:GLN:O	10:C:255:GLN:HB2	2.19	0.42
13:F:194:ARG:O	13:F:197:ILE:HG13	2.19	0.42
15:H:285:HIS:HA	15:H:309:GLY:HA3	2.01	0.42
17:J:377:ASN:HA	17:J:411:ARG:NH1	2.29	0.42
17:J:620:THR:O	17:J:624:LEU:HG	2.20	0.42
23:P:197:PRO:HG2	23:P:244:ASP:HB3	2.01	0.42
23:P:291:SER:HB3	23:P:332:GLU:OE1	2.19	0.42
23:P:393:VAL:HA	23:P:404:LEU:O	2.18	0.42
23:P:826:THR:O	23:P:840:GLN:HA	2.18	0.42
23:P:1006:TYR:CD1	23:P:1021:LEU:HA	2.53	0.42
23:P:1124:LEU:HB2	23:P:1128:THR:HG23	2.00	0.42
30:W:125:LYS:HG3	30:W:126:ASN:N	2.34	0.42
30:W:146:ARG:HB2	30:W:167:ALA:HB1	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Y:37:GLU:HB3	32:Y:69:ARG:HA	2.00	0.42
32:Y:78:THR:O	32:Y:81:GLN:HG2	2.19	0.42
40:l:30:GLN:NE2	40:l:84:TYR:HE1	2.16	0.42
36:n:34:VAL:HG23	36:n:45:ARG:HG3	2.01	0.42
35:s:21:ARG:HB3	35:s:96:VAL:CG2	2.49	0.42
36:v:40:MET:O	36:v:42:VAL:HG13	2.18	0.42
37:w:29:ILE:HD11	37:w:87:ILE:HA	2.00	0.42
1:2:44:PSU:H2'	1:2:45:U:H6	1.84	0.42
3:4:9:G:C2	5:6:73:A:C2	3.07	0.42
3:4:148:U:O4	35:k:41:MET:HG3	2.19	0.42
4:5:150:U:H4'	4:5:151:A:OP1	2.19	0.42
8:A:305:LEU:HD21	8:A:476:ALA:HB2	2.01	0.42
8:A:409:CYS:SG	10:C:277:LEU:HD21	2.59	0.42
8:A:856:TRP:CE3	8:A:857:ILE:HD13	2.53	0.42
8:A:1674:ASP:C	8:A:1677:GLN:H	2.27	0.42
9:B:2077:ARG:NH1	9:B:2081:PRO:HG3	2.34	0.42
10:C:242:VAL:HG22	10:C:277:LEU:HD11	2.01	0.42
10:C:766:TRP:CE3	10:C:792:LYS:HG3	2.54	0.42
11:D:33:ARG:NH1	11:D:64:ILE:HB	2.33	0.42
13:F:110:LYS:O	13:F:114:ASN:ND2	2.52	0.42
14:G:214:ILE:HA	15:H:121:ARG:HH11	1.84	0.42
17:J:559:GLY:O	17:J:563:MET:HG2	2.19	0.42
20:M:99:PHE:HA	20:M:102:LEU:HD12	2.00	0.42
22:O:327:TRP:HE1	22:O:367:HIS:HB3	1.84	0.42
23:P:89:GLU:HG3	23:P:91:SER:H	1.85	0.42
23:P:353:ARG:HH21	23:P:385:HIS:HB3	1.83	0.42
23:P:547:ASN:ND2	23:P:564:ASP:HB2	2.34	0.42
23:P:643:ILE:HG21	23:P:691:LEU:HD11	2.01	0.42
27:T:36:ILE:HD12	27:T:36:ILE:HA	1.86	0.42
30:W:4:THR:HG22	30:W:7:ILE:CD1	2.50	0.42
30:W:11:ALA:HA	30:W:26:ASP:HB3	2.01	0.42
32:Y:41:MET:SD	32:Y:68:GLN:NE2	2.93	0.42
40:h:95:ILE:HG23	41:i:95:PHE:HB3	2.01	0.42
41:u:105:LEU:HD12	38:x:70:GLU:O	2.18	0.42
38:x:36:THR:HG23	38:x:58:GLU:HG3	2.00	0.42
3:4:149:U:C2	41:m:64:HIS:HB3	2.55	0.42
4:5:9:U:H2'	4:5:10:U:O4'	2.19	0.42
5:6:32:U:O4	11:D:101:ASN:ND2	2.52	0.42
8:A:139:LEU:HD13	8:A:193:TYR:CD1	2.54	0.42
9:B:708:CYS:SG	9:B:889:ILE:HG12	2.59	0.42
9:B:929:ILE:CD1	9:B:935:ALA:HA	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:944:LEU:O	9:B:948:MET:HG2	2.20	0.42
9:B:981:LEU:HB3	9:B:987:VAL:HG22	2.01	0.42
9:B:1183:ILE:O	9:B:1184:ARG:HG2	2.19	0.42
9:B:1933:TYR:CE1	9:B:2090:LYS:O	2.73	0.42
10:C:150:MET:SD	10:C:212:PHE:HB3	2.60	0.42
10:C:585:ASP:O	10:C:589:LEU:HG	2.20	0.42
11:D:17:GLN:O	11:D:21:THR:HG23	2.18	0.42
11:D:34:LYS:HD3	11:D:63:ASP:HB3	2.00	0.42
11:D:56:PHE:HB3	13:F:358:ILE:HG22	2.01	0.42
14:G:284:ASP:O	14:G:285:GLN:HG2	2.19	0.42
17:J:260:ALA:O	17:J:263:ILE:HG22	2.20	0.42
17:J:261:LYS:HD2	17:J:285:HIS:ND1	2.34	0.42
18:K:51:PHE:CE1	18:K:53:ILE:HD11	2.54	0.42
22:O:950:VAL:HA	22:O:953:TYR:CE2	2.54	0.42
27:T:419:ARG:N	27:T:432:ASN:O	2.44	0.42
28:U:57:TYR:CD1	28:U:70:LEU:HD13	2.54	0.42
30:W:17:ASP:HA	32:Y:61:VAL:CG1	2.35	0.42
32:Y:28:ASN:OD1	32:Y:29:THR:N	2.52	0.42
36:d:68:GLN:HG3	39:g:69:ILE:HA	2.01	0.42
36:n:64:VAL:HG23	39:r:70:SER:HB2	2.00	0.42
37:p:83:LYS:NZ	38:q:75:CYS:C	2.74	0.42
1:2:46:C:N4	16:I:58:U:O4	2.53	0.42
1:2:1108:A:C2	32:Y:73:PHE:CD1	3.08	0.42
3:4:67:A:C2	9:B:716:LEU:HD11	2.55	0.42
3:4:135:A:C6	3:4:136:U:C4	3.07	0.42
5:6:56:A:H2'	5:6:57:U:H6	1.84	0.42
8:A:180:PRO:HG2	8:A:636:HIS:CD2	2.55	0.42
8:A:939:LEU:CD2	13:F:445:ILE:HD11	2.49	0.42
9:B:1396:VAL:HG12	9:B:1398:ILE:HG13	2.00	0.42
10:C:139:ILE:HG22	10:C:140:GLY:N	2.35	0.42
10:C:267:ILE:HD12	10:C:313:PHE:HE1	1.85	0.42
13:F:336:GLU:O	13:F:340:LYS:HG2	2.19	0.42
15:H:72:ARG:HG3	15:H:75:ARG:HH11	1.84	0.42
15:H:83:ASP:HB3	15:H:85:ILE:HG22	2.02	0.42
17:J:376:THR:HB	17:J:408:LEU:HD21	2.01	0.42
17:J:409:GLU:OE1	17:J:424:LEU:HD21	2.19	0.42
18:K:54:MET:HB2	18:K:80:PHE:CD1	2.55	0.42
22:O:674:ASP:O	22:O:678:LEU:HG	2.20	0.42
23:P:178:PRO:O	23:P:179:LEU:HD12	2.19	0.42
23:P:410:PHE:CE1	23:P:445:GLY:HA3	2.44	0.42
23:P:522:LEU:C	23:P:523:ILE:HG13	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:T:69:ARG:O	27:T:73:ILE:HG12	2.20	0.42
27:T:377:VAL:CG1	27:T:378:ASP:H	2.33	0.42
32:Y:61:VAL:HG23	32:Y:62:SER:OG	2.18	0.42
37:w:35:ILE:HA	39:y:23:ARG:NH2	2.34	0.42
3:4:135:A:C4	3:4:136:U:C5	3.08	0.42
4:5:111:C:H2'	4:5:112:C:C6	2.55	0.42
5:6:72:C:H2'	5:6:73:A:C8	2.55	0.42
8:A:197:GLY:O	8:A:574:GLN:NE2	2.52	0.42
8:A:767:LEU:HD11	8:A:775:ARG:HH12	1.84	0.42
8:A:829:TYR:CE2	8:A:833:ARG:HD2	2.55	0.42
8:A:914:LEU:HD22	8:A:1505:ASP:HB2	2.02	0.42
8:A:1144:PHE:CE2	8:A:1145:MET:HE2	2.54	0.42
8:A:1575:TRP:HE1	13:F:393:PHE:HD1	1.66	0.42
8:A:1910:LYS:HE3	12:E:167:SER:O	2.20	0.42
8:A:2088:ILE:HG13	12:E:190:ASP:OD1	2.20	0.42
9:B:830:CYS:SG	9:B:834:LEU:HD22	2.59	0.42
9:B:907:PRO:HG2	9:B:947:ARG:NH2	2.34	0.42
9:B:956:LYS:O	9:B:958:PRO:HD3	2.20	0.42
9:B:1056:GLN:HE22	19:L:61:LYS:HA	1.84	0.42
9:B:1584:PHE:CD2	9:B:1706:MET:HG2	2.54	0.42
9:B:1763:ILE:HD13	9:B:1769:CYS:HA	2.00	0.42
9:B:1938:GLU:O	9:B:1938:GLU:HG2	2.20	0.42
9:B:2137:LYS:HE3	9:B:2159:GLU:OE2	2.20	0.42
10:C:494:LYS:HA	10:C:555:GLU:HG2	2.02	0.42
13:F:52:GLU:O	13:F:56:THR:HG23	2.19	0.42
14:G:329:MET:HB2	14:G:331:VAL:HG23	2.02	0.42
17:J:244:TRP:HZ3	17:J:263:ILE:HG13	1.84	0.42
22:O:299:ARG:HG2	22:O:339:GLN:HG2	2.02	0.42
22:O:493:ALA:HA	22:O:499:ASN:OD1	2.20	0.42
22:O:748:ALA:HA	22:O:787:ILE:HD13	2.01	0.42
23:P:76:ILE:HD13	23:P:420:HIS:HB3	2.01	0.42
23:P:542:THR:HG22	23:P:615:LYS:NZ	2.34	0.42
23:P:885:TRP:CZ3	23:P:1357:ARG:HD3	2.54	0.42
23:P:1213:ARG:HD2	23:P:1360:TYR:CD1	2.54	0.42
26:S:15:PRO:HB3	26:S:44:ARG:O	2.19	0.42
35:b:28:ARG:HD2	36:d:70:LYS:NZ	2.34	0.42
37:e:55:ASP:OD1	37:e:56:GLU:N	2.52	0.42
37:p:85:ASP:CG	38:q:32:LYS:HZ1	2.22	0.42
38:q:36:THR:HG21	38:q:38:TYR:CZ	2.55	0.42
39:y:56:GLN:NE2	39:y:60:GLN:O	2.53	0.42
3:4:92:C:C1'	35:k:39:LYS:HD3	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:142:G:N2	35:k:39:LYS:CE	2.82	0.42
4:5:166:U:OP1	40:h:2:LYS:HE2	2.20	0.42
8:A:194:HIS:HA	8:A:557:PHE:HD1	1.85	0.42
8:A:320:ASP:HB2	8:A:508:GLN:NE2	2.31	0.42
8:A:404:ASN:HB3	10:C:919:ARG:HH12	1.84	0.42
8:A:833:ARG:NH2	8:A:839:HIS:HB2	2.31	0.42
8:A:1068:ARG:HD2	8:A:1071:ARG:HD2	2.02	0.42
8:A:1476:ALA:HB3	8:A:1479:GLU:HB3	2.01	0.42
8:A:2126:ILE:HA	8:A:2135:VAL:HA	2.02	0.42
9:B:1668:LYS:HD3	9:B:1687:LEU:HD13	2.01	0.42
10:C:272:ARG:HG3	10:C:276:ASP:OD2	2.19	0.42
14:G:164:HIS:ND1	14:G:164:HIS:O	2.53	0.42
15:H:345:LEU:HD13	15:H:376:TRP:CD1	2.54	0.42
17:J:350:ASP:O	17:J:354:VAL:HG23	2.19	0.42
17:J:649:ASN:OD1	17:J:652:ALA:HB3	2.19	0.42
20:M:164:LYS:HG2	20:M:187:HIS:CD2	2.55	0.42
22:O:305:ALA:HB2	22:O:313:LEU:HD22	2.00	0.42
23:P:385:HIS:CE1	33:Z:60:LEU:HD13	2.55	0.42
23:P:597:HIS:ND1	23:P:597:HIS:O	2.52	0.42
23:P:667:THR:O	23:P:668:THR:OG1	2.34	0.42
23:P:1135:TYR:HB3	23:P:1311:TYR:CE2	2.54	0.42
27:T:202:GLN:O	27:T:206:ILE:HG13	2.20	0.42
28:U:53:ARG:NE	28:U:56:PRO:HA	2.30	0.42
28:U:219:LEU:HD12	28:U:219:LEU:O	2.20	0.42
30:W:15:TYR:HE1	35:s:101:PRO:O	1.98	0.42
30:W:33:ASP:OD2	30:W:50:LEU:HG	2.20	0.42
34:a:19:LEU:HD22	34:a:66:THR:HG22	2.00	0.42
40:t:4:VAL:HG11	40:t:34:PRO:O	2.20	0.42
41:u:76:TRP:HZ3	41:u:89:ARG:HG2	1.85	0.42
1:2:1097:G:N1	1:2:1146:G:C5	2.88	0.42
1:2:1099:G:OP1	30:W:158:ASN:HB2	2.19	0.42
3:4:152:A:H2'	3:4:153:A:H8	1.85	0.42
3:4:152:A:H2'	3:4:153:A:C8	2.54	0.42
4:5:16:U:H2'	4:5:17:C:O4'	2.19	0.42
8:A:209:ILE:HG13	8:A:298:TYR:OH	2.20	0.42
8:A:1306:GLU:HG2	8:A:1310:LYS:HZ2	1.85	0.42
8:A:1546:VAL:HA	8:A:1549:ALA:HB3	2.02	0.42
8:A:1855:THR:CB	8:A:1937:ARG:HH12	2.32	0.42
8:A:1944:LEU:O	8:A:1948:MET:HG2	2.20	0.42
9:B:593:ARG:HG2	9:B:593:ARG:O	2.20	0.42
9:B:695:ASP:OD1	9:B:696:SER:N	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:1668:LYS:CE	9:B:1702:GLU:HG3	2.48	0.42
10:C:468:LEU:HG	10:C:579:SER:HB3	2.01	0.42
13:F:279:VAL:HG11	13:F:286:PHE:CE1	2.54	0.42
15:H:172:LEU:CD2	17:J:752:ASN:HD21	2.33	0.42
17:J:255:ARG:NH1	17:J:259:VAL:HG21	2.34	0.42
17:J:422:VAL:HA	17:J:425:LEU:HB2	2.01	0.42
17:J:657:ASN:HD22	17:J:677:ILE:HD11	1.84	0.42
22:O:792:CYS:SG	22:O:796:ASN:ND2	2.75	0.42
22:O:947:ASP:OD2	23:P:1310:TYR:OH	2.29	0.42
23:P:748:GLY:HA2	23:P:775:VAL:HG13	2.02	0.42
23:P:1056:LYS:C	23:P:1058:GLN:H	2.28	0.42
23:P:1093:SER:OG	23:P:1116:ARG:N	2.53	0.42
23:P:1201:ASP:HB3	23:P:1203:HIS:HE1	1.84	0.42
24:Q:367:LEU:C	24:Q:369:SER:H	2.26	0.42
25:R:135:ILE:HB	25:R:156:GLU:HG2	2.02	0.42
27:T:11:LEU:HD11	29:V:148:PHE:CZ	2.55	0.42
28:U:205:PRO:HG2	28:U:206:PHE:CD1	2.55	0.42
30:W:16:VAL:CG2	30:W:20:ASN:HB2	2.49	0.42
30:W:66:MET:C	30:W:68:PRO:HD3	2.45	0.42
32:Y:28:ASN:HD22	32:Y:111:LEU:HD13	1.83	0.42
33:Z:23:ASP:OD1	33:Z:24:GLU:N	2.50	0.42
38:f:79:LEU:HD22	38:f:80:TYR:CD2	2.55	0.42
42:j:72:ARG:NE	42:j:74:THR:OG1	2.53	0.42
40:l:4:VAL:HG12	40:l:8:LYS:HZ1	1.84	0.42
41:m:45:ILE:HG23	41:m:105:LEU:HB3	2.02	0.42
36:v:45:ARG:HH11	36:v:45:ARG:HD3	1.65	0.42
39:y:18:ASN:O	39:y:69:ILE:HB	2.20	0.42
1:2:1098:C:C4'	30:W:158:ASN:HD22	2.32	0.42
2:3:12:LEU:HD21	2:3:33:PHE:HE2	1.84	0.42
3:4:65:G:C1'	12:E:204:ARG:HH12	2.32	0.42
8:A:610:ARG:CD	8:A:1623:PHE:CZ	3.03	0.42
8:A:1384:PRO:O	8:A:1387:VAL:HG22	2.20	0.42
8:A:1413:SER:OG	8:A:1426:ARG:HD3	2.20	0.42
8:A:2398:LEU:CD1	9:B:1060:LYS:HE3	2.35	0.42
10:C:153:LEU:HD13	10:C:212:PHE:CZ	2.55	0.42
10:C:315:SER:HB3	10:C:320:PHE:CE1	2.55	0.42
10:C:341:ILE:O	10:C:345:THR:HG23	2.20	0.42
14:G:393:GLU:OE2	14:G:397:MET:HG3	2.19	0.42
16:I:59:C:H2'	16:I:60:U:C6	2.55	0.42
17:J:223:LEU:HD22	17:J:254:ALA:HB1	2.01	0.42
17:J:838:TYR:CE2	17:J:840:ASP:HB2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:K:51:PHE:HE1	18:K:53:ILE:HD11	1.85	0.42
24:Q:284:ARG:O	24:Q:287:ASP:HB2	2.20	0.42
24:Q:367:LEU:HD12	24:Q:370:PHE:HE1	1.85	0.42
27:T:21:ILE:O	27:T:25:ILE:HG13	2.18	0.42
27:T:264:PHE:CE1	27:T:268:TYR:HD2	2.37	0.42
33:Z:57:ARG:HH12	33:Z:68:HIS:CD2	2.38	0.42
39:g:15:ILE:HD11	39:g:40:LEU:HD21	2.02	0.42
41:m:41:ARG:O	41:m:57:ARG:HD2	2.20	0.42
38:q:50:ASN:HB3	38:q:72:PHE:CE1	2.54	0.42
40:t:26:TRP:HB3	40:t:44:LYS:HG2	2.02	0.42
41:u:74:GLU:HG3	41:u:76:TRP:HZ3	1.84	0.42
41:u:76:TRP:CZ3	41:u:89:ARG:HG2	2.54	0.42
1:2:140:G:H2'	1:2:141:A:H8	1.83	0.42
1:2:1152:U:H2'	1:2:1153:C:H6	1.79	0.42
8:A:591:LEU:HD11	8:A:613:SER:HB2	2.01	0.42
8:A:790:TRP:NE1	8:A:794:LYS:HD2	2.34	0.42
8:A:2024:MET:O	8:A:2028:SER:CB	2.56	0.42
9:B:1497:PHE:CE2	9:B:1762:ILE:HG21	2.55	0.42
9:B:1580:SER:H	9:B:1678:ASP:HB2	1.85	0.42
9:B:1699:THR:HG22	40:l:144:ARG:CZ	2.50	0.42
9:B:1875:THR:O	9:B:1879:MET:HG3	2.20	0.42
9:B:1978:ASP:O	9:B:1982:MET:HG3	2.20	0.42
9:B:2139:ASN:ND2	9:B:2159:GLU:OE1	2.53	0.42
10:C:140:GLY:N	10:C:146:LYS:HD3	2.34	0.42
10:C:354:TYR:HD1	10:C:359:PHE:HE1	1.68	0.42
10:C:993:ILE:C	10:C:995:ALA:H	2.28	0.42
13:F:123:ARG:HH12	13:F:188:PRO:HB3	1.84	0.42
13:F:252:SER:HB2	13:F:315:ARG:HG2	2.02	0.42
15:H:117:LEU:O	15:H:121:ARG:N	2.35	0.42
17:J:562:MET:HE1	17:J:595:ASP:OD2	2.19	0.42
20:M:163:PHE:HE2	20:M:165:LEU:HB3	1.85	0.42
22:O:177:ASN:OD1	22:O:178:THR:N	2.52	0.42
26:S:9:ILE:HG22	26:S:91:ASN:OD1	2.19	0.42
29:V:221:LEU:HA	29:V:224:MET:HB3	2.02	0.42
29:V:226:LEU:O	29:V:227:ARG:HD3	2.20	0.42
30:W:24:ASN:ND2	30:W:35:GLN:H	2.18	0.42
41:i:46:ILE:HD11	41:i:67:MET:HE1	2.01	0.42
37:w:30:TRP:CD2	37:w:89:LEU:HD22	2.55	0.42
37:w:86:ASN:HD21	38:x:79:LEU:HA	1.85	0.42
1:2:1097:G:C4	1:2:1146:G:C2	3.07	0.41
1:2:1148:U:H2'	1:2:1149:G:H8	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:145:U:O4	39:r:37:ASN:ND2	2.47	0.41
4:5:10:U:H2'	4:5:11:A:C8	2.54	0.41
7:8:32:LYS:HE2	34:a:35:PHE:CE2	2.55	0.41
7:8:64:VAL:HB	34:a:61:PHE:HB3	2.01	0.41
8:A:239:PHE:HA	8:A:240:PRO:C	2.45	0.41
8:A:671:TYR:CE1	8:A:674:MET:HG3	2.55	0.41
8:A:1256:PRO:O	8:A:1270:LEU:HD13	2.20	0.41
8:A:1394:LEU:HD13	8:A:1556:ILE:HG21	2.01	0.41
8:A:1977:VAL:HG21	8:A:1989:PHE:CZ	2.55	0.41
9:B:1113:PHE:HZ	9:B:1240:LEU:HD13	1.84	0.41
9:B:1781:ARG:HG2	9:B:1789:TYR:OH	2.20	0.41
9:B:2059:ASN:OD1	9:B:2059:ASN:N	2.53	0.41
10:C:866:ILE:HB	10:C:902:VAL:CG1	2.50	0.41
13:F:401:LEU:HD12	13:F:401:LEU:O	2.20	0.41
15:H:60:LYS:HB3	15:H:61:PRO:HD2	2.01	0.41
15:H:192:THR:HG21	15:H:461:ILE:CD1	2.51	0.41
17:J:387:THR:HG22	17:J:391:PHE:HE2	1.85	0.41
17:J:706:VAL:HG22	17:J:742:ALA:HB2	2.01	0.41
18:K:62:GLU:C	18:K:65:LEU:H	2.28	0.41
22:O:793:GLY:HA2	22:O:794:PRO:HD3	1.88	0.41
22:O:875:ASP:OD1	22:O:876:ALA:N	2.53	0.41
23:P:76:ILE:HD11	23:P:422:PHE:HD1	1.84	0.41
23:P:582:LYS:CE	23:P:610:ILE:HG21	2.47	0.41
23:P:673:ASP:OD1	23:P:674:THR:HG23	2.20	0.41
24:Q:363:TYR:O	24:Q:365:GLY:N	2.53	0.41
25:R:200:ARG:CB	27:T:453:LEU:HA	2.49	0.41
30:W:31:LEU:HD12	30:W:31:LEU:N	2.35	0.41
35:b:54:PRO:HG3	35:b:77:VAL:H	1.85	0.41
40:h:26:TRP:CE3	40:h:44:LYS:HG2	2.55	0.41
35:k:31:ILE:O	35:k:48:CYS:HA	2.20	0.41
36:n:34:VAL:HG22	36:n:45:ARG:HD2	2.02	0.41
36:n:41:ASN:HB3	36:n:63:PHE:CZ	2.54	0.41
43:o:52:LEU:HB2	43:o:62:GLU:HB3	2.02	0.41
37:w:59:GLU:CD	38:x:30:LYS:HZ3	2.17	0.41
2:3:29:THR:HG23	2:3:31:GLN:HE21	1.85	0.41
3:4:4:C:H2'	3:4:5:U:H6	1.85	0.41
3:4:65:G:O4'	12:E:204:ARG:NH1	2.53	0.41
4:5:87:G:H2'	4:5:88:U:C6	2.55	0.41
8:A:318:LEU:HD21	8:A:501:LEU:HD22	2.01	0.41
8:A:606:THR:HG22	8:A:609:GLU:CG	2.49	0.41
8:A:1441:PHE:O	31:X:16:ALA:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1510:ILE:O	8:A:1514:PHE:CB	2.67	0.41
8:A:2307:LEU:HD11	8:A:2311:GLY:HA3	2.02	0.41
9:B:542:HIS:HD2	9:B:555:PHE:HB3	1.82	0.41
9:B:558:VAL:HB	9:B:631:LEU:HD12	2.01	0.41
9:B:1381:GLU:HG2	9:B:1416:PHE:CZ	2.54	0.41
10:C:488:ILE:O	10:C:559:GLY:N	2.41	0.41
15:H:65:GLU:HG3	15:H:66:ASN:N	2.32	0.41
15:H:158:GLU:HB3	15:H:409:LYS:NZ	2.35	0.41
17:J:674:LEU:O	17:J:677:ILE:HB	2.20	0.41
17:J:883:MET:CG	17:J:894:ARG:HE	2.33	0.41
19:L:75:GLY:HA2	19:L:88:THR:HG23	2.02	0.41
22:O:205:LEU:N	22:O:206:PRO:HD2	2.35	0.41
22:O:695:ASN:HD22	22:O:700:VAL:HG21	1.85	0.41
22:O:916:MET:O	22:O:917:ASN:C	2.63	0.41
22:O:927:ALA:O	22:O:929:ASN:N	2.52	0.41
23:P:535:TRP:O	23:P:550:LEU:HD12	2.21	0.41
24:Q:285:MET:HB2	24:Q:285:MET:HE3	1.90	0.41
27:T:149:ASP:N	27:T:150:PRO:HD2	2.35	0.41
28:U:42:TYR:CD1	28:U:60:LYS:HB2	2.53	0.41
28:U:214:PRO:N	28:U:215:PRO:CD	2.83	0.41
30:W:52:LYS:O	30:W:54:THR:N	2.52	0.41
42:j:7:LEU:HB3	42:j:32:VAL:HG21	2.01	0.41
41:m:36:ASP:HA	41:m:39:VAL:HG12	2.02	0.41
39:r:8:LYS:HD2	39:r:11:MET:HG3	2.02	0.41
35:s:16:ILE:HD11	35:s:35:MET:O	2.21	0.41
40:t:3:LEU:O	40:t:6:PHE:HB3	2.20	0.41
38:x:29:VAL:HG22	38:x:81:ILE:HG13	2.00	0.41
38:x:82:ARG:HG3	38:x:84:LEU:CD1	2.50	0.41
1:2:1106:G:N2	32:Y:69:ARG:HD3	2.35	0.41
1:2:1109:C:O2'	1:2:1109:C:C6	2.67	0.41
3:4:23:C:H2'	3:4:24:A:C8	2.55	0.41
4:5:41:A:N1	4:5:75:A:H1'	2.35	0.41
4:5:94:C:H2'	4:5:95:C:C6	2.55	0.41
4:5:111:C:H2'	4:5:112:C:H6	1.84	0.41
5:6:57:U:H2'	5:6:58:C:H6	1.84	0.41
8:A:356:TYR:CE2	8:A:396:ARG:HB2	2.56	0.41
8:A:1105:ARG:HD3	8:A:1517:TYR:CE2	2.55	0.41
8:A:1177:ASP:OD1	8:A:1178:GLU:N	2.53	0.41
8:A:1332:ALA:O	8:A:1336:ASN:CB	2.64	0.41
9:B:484:PRO:O	9:B:488:GLN:HG3	2.20	0.41
9:B:561:ALA:HB1	9:B:566:LEU:HD22	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:562:PRO:HA	9:B:609:PRO:CD	2.51	0.41
9:B:1141:PRO:HG3	9:B:1298:TRP:CZ3	2.55	0.41
9:B:1412:TRP:CD1	9:B:1416:PHE:CE2	3.07	0.41
9:B:1412:TRP:CE2	9:B:1416:PHE:HE2	2.38	0.41
9:B:1748:TYR:HE2	40:I:142:PRO:CD	2.32	0.41
9:B:1971:LEU:HB2	9:B:2110:GLU:C	2.45	0.41
10:C:835:LYS:O	10:C:838:ILE:N	2.48	0.41
11:D:14:HIS:HD2	17:J:7:LEU:HA	1.85	0.41
11:D:49:ILE:HD12	11:D:114:ILE:HG13	2.02	0.41
14:G:440:TRP:CH2	14:G:442:MET:HE3	2.55	0.41
15:H:141:GLU:O	15:H:145:LYS:HG2	2.19	0.41
15:H:314:SER:HB3	15:H:355:VAL:HG13	2.01	0.41
17:J:307:PRO:HB2	17:J:311:PHE:HE2	1.85	0.41
22:O:294:ARG:NE	22:O:328:LYS:HD3	2.35	0.41
22:O:433:TYR:O	22:O:437:GLU:HG2	2.20	0.41
22:O:524:THR:N	22:O:525:PRO:HD2	2.36	0.41
22:O:939:ASN:O	22:O:943:VAL:HG23	2.21	0.41
23:P:298:LEU:HA	23:P:299:PRO:HD3	1.94	0.41
23:P:414:GLN:NE2	23:P:437:PHE:HE2	2.18	0.41
23:P:961:CYS:HB3	23:P:962:LEU:H	1.71	0.41
25:R:12:TYR:HB3	25:R:84:ARG:O	2.20	0.41
28:U:208:ASN:HB2	29:V:199:LYS:O	2.20	0.41
37:p:59:GLU:CD	38:q:30:LYS:HZ3	2.20	0.41
35:s:89:GLY:HA2	35:s:92:ILE:HG22	2.02	0.41
44:z:54:GLU:HG3	44:z:64:LEU:HB2	2.01	0.41
1:2:144:G:H3'	1:2:145:G:C8	2.38	0.41
1:2:1108:A:C2	32:Y:73:PHE:CE2	3.08	0.41
1:2:1143:C:H4'	1:2:1144:U:H3'	2.01	0.41
4:5:26:A:O4'	4:5:131:A:H5'	2.21	0.41
8:A:457:ASP:OD1	8:A:458:PHE:N	2.53	0.41
8:A:766:ILE:HA	8:A:769:MET:HG3	2.02	0.41
8:A:853:THR:OG1	8:A:971:MET:HG3	2.20	0.41
8:A:1404:HIS:CE1	8:A:1436:LEU:HD11	2.56	0.41
8:A:1647:GLN:NE2	8:A:1650:ARG:HH11	2.11	0.41
8:A:1808:ALA:HB2	12:E:221:GLU:OE2	2.20	0.41
8:A:1961:LEU:HA	8:A:2084:LEU:HB3	2.03	0.41
8:A:1971:ILE:HD11	8:A:2012:LEU:HD21	2.02	0.41
9:B:1085:SER:HG	9:B:1140:TRP:HE1	1.60	0.41
9:B:1583:VAL:C	9:B:1584:PHE:HD1	2.28	0.41
10:C:813:ILE:HD13	10:C:818:TYR:OH	2.19	0.41
13:F:42:ASN:N	13:F:43:PRO:CD	2.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:I:52:U:H2'	16:I:53:U:C6	2.55	0.41
17:J:427:GLU:HA	17:J:430:LEU:HD12	2.01	0.41
17:J:661:LEU:HD13	17:J:670:PHE:HB2	2.02	0.41
17:J:746:MET:HA	17:J:749:ARG:HE	1.85	0.41
22:O:963:TYR:CG	22:O:964:ILE:N	2.87	0.41
23:P:472:LEU:HD13	23:P:919:LEU:H	1.85	0.41
23:P:693:ILE:HG23	23:P:701:LYS:HB2	2.02	0.41
23:P:1247:MET:HE1	23:P:1329:LEU:HD11	2.02	0.41
27:T:58:LYS:HB3	27:T:63:LYS:HA	2.02	0.41
30:W:16:VAL:HG13	32:Y:49:PHE:CZ	2.54	0.41
30:W:73:ARG:HE	30:W:76:ILE:HG21	1.85	0.41
41:i:58:VAL:HA	41:i:69:LEU:HD23	2.01	0.41
37:p:86:ASN:HD21	38:q:79:LEU:HA	1.86	0.41
40:t:16:THR:HA	40:t:25:VAL:O	2.20	0.41
44:z:16:LEU:HD22	44:z:41:ILE:HD13	2.01	0.41
1:2:83:U:H2'	1:2:84:C:C6	2.56	0.41
8:A:180:PRO:HD3	8:A:564:TRP:CD2	2.55	0.41
8:A:1443:TYR:HE2	8:A:1542:TYR:HD1	1.68	0.41
8:A:2326:SER:O	8:A:2329:PHE:HB3	2.21	0.41
10:C:487:ARG:NH1	10:C:489:TYR:CE2	2.88	0.41
10:C:601:ALA:HB1	10:C:646:GLY:C	2.46	0.41
10:C:710:VAL:HG22	10:C:820:LEU:HD23	2.01	0.41
11:D:113:MET:SD	11:D:116:ILE:HD11	2.61	0.41
14:G:323:ARG:HA	14:G:326:ALA:HB3	2.02	0.41
15:H:161:ARG:NH1	15:H:450:HIS:HA	2.35	0.41
17:J:153:ILE:HA	17:J:154:PRO:HD3	1.82	0.41
17:J:559:GLY:O	17:J:562:MET:HG2	2.20	0.41
20:M:89:LEU:O	20:M:93:ILE:HG12	2.21	0.41
22:O:173:ILE:HG12	22:O:185:MET:SD	2.60	0.41
22:O:330:ARG:O	22:O:334:ILE:HG13	2.20	0.41
23:P:185:ARG:O	23:P:188:SER:OG	2.37	0.41
23:P:832:TRP:CG	23:P:833:LYS:N	2.88	0.41
23:P:832:TRP:CD1	23:P:833:LYS:H	2.38	0.41
27:T:418:ASP:HA	27:T:432:ASN:HB2	2.03	0.41
30:W:13:GLN:CB	30:W:24:ASN:H	2.32	0.41
30:W:24:ASN:CG	30:W:34:LEU:HB3	2.45	0.41
40:l:4:VAL:CG1	40:l:34:PRO:HA	2.50	0.41
41:m:76:TRP:HZ3	41:m:89:ARG:HG2	1.85	0.41
38:q:74:ARG:HB3	38:q:77:ASN:ND2	2.33	0.41
41:u:44:VAL:C	41:u:55:ILE:HD12	2.45	0.41
1:2:1109:C:H6	1:2:1109:C:O2'	1.99	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:66:A:H2'	3:4:67:A:O4'	2.21	0.41
3:4:77:U:H2'	3:4:78:A:H8	1.83	0.41
3:4:94:U:C4	3:4:95:C:C4	3.09	0.41
3:4:149:U:H1'	41:m:99:ASP:CG	2.46	0.41
8:A:209:ILE:HB	8:A:212:VAL:HB	2.02	0.41
8:A:383:TYR:CD1	10:C:913:GLY:HA3	2.55	0.41
8:A:627:LYS:O	8:A:631:LEU:HD13	2.21	0.41
8:A:1047:ALA:HA	8:A:1172:PHE:O	2.21	0.41
8:A:1201:TYR:OH	8:A:1248:VAL:O	2.38	0.41
8:A:1310:LYS:O	8:A:1314:SER:HB2	2.20	0.41
8:A:1561:LEU:O	8:A:1564:GLY:N	2.49	0.41
9:B:1095:ASN:HA	9:B:1098:ILE:HG22	2.01	0.41
9:B:1211:ILE:HD11	9:B:1217:ARG:HB2	2.03	0.41
9:B:1640:LEU:CD1	9:B:1649:GLU:HG3	2.51	0.41
9:B:1973:ALA:O	9:B:1977:MET:HG3	2.21	0.41
9:B:2063:LEU:CD1	9:B:2160:ILE:HB	2.51	0.41
10:C:275:LEU:O	10:C:278:LYS:HG3	2.21	0.41
11:D:16:ASP:OD1	17:J:21:ARG:HD3	2.19	0.41
13:F:60:ILE:O	13:F:111:LEU:HD11	2.20	0.41
15:H:121:ARG:HG3	15:H:337:ARG:HA	2.01	0.41
15:H:158:GLU:OE1	15:H:408:LYS:HE3	2.20	0.41
15:H:316:GLN:NE2	15:H:361:GLY:HA3	2.35	0.41
16:I:75:A:H2'	16:I:76:U:C6	2.55	0.41
17:J:230:LEU:HD13	17:J:247:SER:HA	2.02	0.41
17:J:261:LYS:HA	17:J:264:ILE:HD12	2.03	0.41
17:J:654:LYS:O	17:J:658:GLU:HG3	2.21	0.41
17:J:805:HIS:CE1	17:J:806:ARG:HG3	2.55	0.41
18:K:45:ASN:HA	18:K:74:LYS:HZ1	1.84	0.41
22:O:410:LYS:O	22:O:413:SER:OG	2.16	0.41
23:P:528:PRO:HG2	23:P:554:PHE:CZ	2.56	0.41
23:P:823:SER:OG	23:P:824:SER:N	2.53	0.41
27:T:132:LEU:H	27:T:132:LEU:CD2	2.31	0.41
27:T:230:MET:HA	27:T:314:PHE:CE1	2.55	0.41
27:T:282:CYS:HA	27:T:283:PRO:HD3	1.95	0.41
28:U:213:LEU:C	28:U:215:PRO:HD2	2.45	0.41
30:W:14:TYR:CD2	30:W:34:LEU:HD21	2.55	0.41
32:Y:76:MET:HB3	32:Y:81:GLN:NE2	2.35	0.41
33:Z:20:GLY:HA3	33:Z:34:ASN:ND2	2.35	0.41
35:k:86:ILE:CG2	36:n:72:ILE:HG22	2.49	0.41
41:m:58:VAL:HA	41:m:69:LEU:HD23	2.01	0.41
36:v:63:PHE:O	39:y:71:LEU:HG	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:45:U:C2'	1:2:46:C:H5'	2.50	0.41
1:2:143:G:H2'	1:2:144:G:H8	1.86	0.41
2:3:29:THR:HG22	2:3:42:SER:O	2.21	0.41
2:3:71:ASP:HA	44:z:74:ARG:CZ	2.50	0.41
4:5:119:U:C2	4:5:120:G:C8	3.09	0.41
5:6:61:C:H4'	14:G:271:LYS:H	1.86	0.41
8:A:192:LEU:HD12	8:A:548:LEU:HD11	2.03	0.41
8:A:372:ARG:HD2	10:C:973:ARG:HA	2.03	0.41
8:A:916:LEU:HD22	8:A:940:ILE:HG23	2.03	0.41
8:A:1027:LYS:O	8:A:1145:MET:HE1	2.20	0.41
8:A:1039:TRP:HE3	8:A:1251:TYR:CZ	2.38	0.41
8:A:1810:PRO:O	8:A:1814:VAL:HG23	2.21	0.41
8:A:2152:TRP:HZ3	9:B:1064:PRO:CD	2.33	0.41
9:B:589:THR:HB	9:B:608:THR:H	1.85	0.41
9:B:1439:LEU:HD21	9:B:1465:ILE:HG13	2.01	0.41
9:B:1587:SER:HB3	9:B:1895:ARG:NE	2.35	0.41
9:B:1651:ILE:O	9:B:1655:LEU:HG	2.21	0.41
9:B:1689:ASP:OD1	9:B:1692:GLU:HB3	2.21	0.41
15:H:408:LYS:HA	15:H:424:SER:OG	2.20	0.41
17:J:234:ARG:HH11	17:J:247:SER:CB	2.33	0.41
17:J:361:ALA:HB1	17:J:371:LEU:HD13	2.02	0.41
17:J:804:ASP:OD1	17:J:805:HIS:N	2.53	0.41
22:O:385:SER:O	22:O:386:TYR:HB3	2.21	0.41
23:P:590:HIS:CD2	23:P:591:THR:H	2.38	0.41
23:P:1002:ARG:NH2	23:P:1004:LEU:HD11	2.35	0.41
23:P:1046:GLY:O	23:P:1073:LYS:HA	2.21	0.41
24:Q:159:LEU:O	24:Q:162:SER:OG	2.38	0.41
24:Q:200:ILE:O	24:Q:203:THR:OG1	2.26	0.41
26:S:40:LYS:HD3	26:S:74:TRP:HB2	2.03	0.41
28:U:178:PRO:HB3	28:U:203:TYR:HD2	1.85	0.41
29:V:140:ALA:O	29:V:143:LYS:HB2	2.21	0.41
37:e:12:PRO:HA	37:e:13:PRO:HD3	1.93	0.41
35:k:88:ARG:HH22	36:n:69:ILE:H	1.67	0.41
40:l:19:LEU:HA	40:l:93:ARG:H	1.85	0.41
36:n:43:GLN:HG3	39:r:10:TYR:HH	1.85	0.41
38:q:45:THR:HG23	38:q:50:ASN:O	2.20	0.41
36:v:44:LEU:HB3	36:v:62:ILE:HG23	2.01	0.41
44:z:16:LEU:HA	44:z:19:ILE:HG12	2.02	0.41
1:2:41:C:H4'	28:U:75:HIS:CE1	2.56	0.41
3:4:17:A:O2'	3:4:18:A:OP1	2.32	0.41
3:4:96:A:C6	3:4:137:G:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:101:C:OP1	8:A:672:LYS:N	2.54	0.41
4:5:122:C:H2'	4:5:123:U:C6	2.56	0.41
4:5:124:C:O2'	4:5:125:C:O5'	2.39	0.41
5:6:2:U:H2'	5:6:3:U:H6	1.85	0.41
5:6:47:A:H3'	5:6:48:C:H6	1.86	0.41
8:A:996:ASP:OD2	8:A:1511:ARG:NE	2.49	0.41
8:A:1169:TYR:CD2	8:A:1262:MET:HE2	2.56	0.41
8:A:1319:ILE:HD11	8:A:1334:LYS:HB3	2.02	0.41
8:A:2013:ARG:NH1	8:A:2016:LYS:HZ3	2.17	0.41
9:B:778:LYS:O	9:B:782:LYS:HG2	2.21	0.41
9:B:1448:THR:HB	9:B:1449:PRO:HD2	2.02	0.41
9:B:1486:ALA:HA	9:B:1489:GLU:HG2	2.02	0.41
10:C:241:VAL:HG11	10:C:273:LEU:HD22	2.03	0.41
10:C:768:PHE:CB	10:C:775:ILE:HG12	2.51	0.41
14:G:269:GLU:HB3	14:G:270:PRO:HD2	2.02	0.41
14:G:299:ASP:O	14:G:303:LEU:HB2	2.20	0.41
15:H:32:LEU:HG	15:H:33:PRO:HD2	2.03	0.41
15:H:184:SER:HA	15:H:226:TRP:CG	2.56	0.41
15:H:261:LEU:HD23	15:H:292:TRP:CE3	2.55	0.41
15:H:436:HIS:NE2	15:H:464:TRP:HH2	2.18	0.41
17:J:724:SER:O	17:J:728:ARG:HG2	2.21	0.41
22:O:221:MET:O	22:O:224:THR:OG1	2.28	0.41
22:O:493:ALA:HB2	22:O:533:PHE:HD1	1.86	0.41
22:O:842:LEU:HB3	22:O:846:LEU:HD13	2.02	0.41
22:O:873:HIS:HB2	22:O:877:PHE:CE2	2.56	0.41
23:P:333:ASN:O	23:P:350:ILE:HG22	2.20	0.41
23:P:453:ASN:HA	23:P:464:LEU:HD11	2.01	0.41
23:P:528:PRO:HG2	23:P:554:PHE:HZ	1.85	0.41
27:T:33:TYR:O	27:T:34:HIS:C	2.62	0.41
27:T:359:GLN:OE1	27:T:359:GLN:HA	2.20	0.41
32:Y:50:LEU:HD23	32:Y:50:LEU:C	2.46	0.41
40:l:4:VAL:HG11	40:l:34:PRO:O	2.21	0.41
40:l:26:TRP:O	40:l:43:VAL:HA	2.21	0.41
40:t:95:ILE:HG22	41:u:95:PHE:HD2	1.86	0.41
36:v:30:ARG:O	36:v:47:VAL:HA	2.21	0.41
1:2:1108:A:N1	32:Y:73:PHE:CD2	2.88	0.41
3:4:4:C:H2'	3:4:5:U:C6	2.56	0.41
4:5:40:C:H4'	4:5:41:A:OP1	2.21	0.41
4:5:41:A:C2	4:5:75:A:H1'	2.56	0.41
4:5:112:C:H4'	8:A:173:LEU:HD21	2.02	0.41
4:5:173:U:H3	41:i:66:ASN:HD21	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:6:16:C:O2'	5:6:17:U:O5'	2.37	0.41
7:8:34:THR:O	7:8:34:THR:HG22	2.20	0.41
8:A:175:LEU:HD22	8:A:629:MET:CE	2.47	0.41
8:A:841:GLU:OE2	8:A:843:THR:HG22	2.21	0.41
8:A:867:ILE:HG21	8:A:1101:TYR:CD1	2.56	0.41
8:A:1092:PHE:CG	8:A:1093:LYS:N	2.89	0.41
8:A:1859:ARG:NH2	8:A:1969:MET:HE2	2.35	0.41
8:A:2208:TYR:CD1	8:A:2255:LEU:HA	2.56	0.41
8:A:2259:ILE:HG13	8:A:2291:ILE:HB	2.03	0.41
8:A:2356:VAL:O	8:A:2359:TYR:CE1	2.74	0.41
9:B:610:GLU:OE1	9:B:1009:TYR:CE2	2.73	0.41
9:B:761:PHE:CZ	9:B:768:HIS:CE1	3.09	0.41
9:B:1070:ASP:OD1	12:E:208:LYS:CG	2.68	0.41
9:B:1862:THR:OG1	9:B:1887:VAL:HG12	2.20	0.41
9:B:1905:LEU:HD11	9:B:1937:LEU:HD13	2.03	0.41
9:B:1992:ASN:ND2	9:B:1994:LEU:HB2	2.36	0.41
10:C:202:ASP:O	10:C:433:THR:OG1	2.36	0.41
10:C:287:LYS:HZ2	10:C:291:ILE:HD11	1.85	0.41
10:C:342:ASP:O	10:C:345:THR:OG1	2.28	0.41
10:C:355:HIS:HB2	10:C:364:PHE:CE1	2.55	0.41
10:C:915:GLU:HA	10:C:928:CYS:HB3	2.01	0.41
13:F:99:ASN:OD1	13:F:247:GLY:HA2	2.21	0.41
13:F:142:SER:HB2	13:F:201:ASN:ND2	2.36	0.41
13:F:385:ARG:HH22	17:J:152:LEU:HB2	1.85	0.41
13:F:420:ALA:HB2	17:J:222:ASP:OD2	2.21	0.41
13:F:443:HIS:HE1	13:F:447:GLU:OE2	2.04	0.41
14:G:300:GLN:HG2	14:G:304:ARG:HH12	1.84	0.41
15:H:191:ALA:HB2	15:H:226:TRP:CZ2	2.55	0.41
15:H:438:ASP:OD2	15:H:457:TRP:HB2	2.21	0.41
16:I:60:U:H2'	16:I:61:U:C6	2.56	0.41
16:I:76:U:O4	16:I:77:C:N4	2.54	0.41
17:J:667:CYS:O	17:J:668:HIS:CG	2.74	0.41
17:J:683:ASN:HB3	17:J:686:MET:HB2	2.03	0.41
17:J:753:LEU:HD12	17:J:785:ASN:HD21	1.83	0.41
18:K:8:ALA:HB1	18:K:80:PHE:CE2	2.56	0.41
18:K:98:ILE:HD12	18:K:99:ALA:N	2.36	0.41
22:O:451:ASP:OD1	22:O:498:LEU:HD12	2.21	0.41
22:O:700:VAL:O	22:O:704:THR:CB	2.69	0.41
22:O:945:TYR:O	22:O:949:MET:HE2	2.21	0.41
23:P:60:LEU:HD22	23:P:1228:PHE:HB3	2.03	0.41
23:P:211:LYS:HB2	23:P:230:ILE:HG13	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:369:ILE:HD13	23:P:421:ILE:CD1	2.50	0.41
23:P:816:MET:HE3	23:P:831:THR:O	2.21	0.41
23:P:950:GLN:HE21	23:P:973:ILE:CG2	2.34	0.41
23:P:978:ASP:O	23:P:998:ALA:HA	2.20	0.41
23:P:1007:LYS:O	23:P:1019:ILE:HA	2.21	0.41
23:P:1073:LYS:HD2	23:P:1090:ILE:HD12	2.03	0.41
27:T:53:LEU:HD23	27:T:58:LYS:HE3	2.03	0.41
27:T:284:PHE:HE1	27:T:312:ARG:HA	1.86	0.41
30:W:99:GLN:HA	30:W:123:THR:O	2.21	0.41
37:e:57:ALA:O	37:e:77:LEU:N	2.30	0.41
41:i:47:SER:OG	41:i:103:VAL:HB	2.21	0.41
41:m:48:LEU:HD21	41:m:96:LEU:HD21	2.02	0.41
36:n:65:ARG:HH12	39:r:66:ASN:C	2.29	0.41
38:q:30:LYS:HE2	38:q:80:TYR:CE2	2.55	0.41
38:q:59:PHE:N	38:q:59:PHE:CD1	2.88	0.41
39:r:30:ARG:HG3	39:r:41:ASP:HB2	2.03	0.41
38:x:33:PHE:N	38:x:33:PHE:CD1	2.88	0.41
4:5:117:G:H2'	4:5:118:U:H6	1.86	0.41
4:5:119:U:H2'	4:5:120:G:H8	1.85	0.41
5:6:29:U:H5'	8:A:614:ARG:HE	1.85	0.41
5:6:74:U:O4	5:6:75:A:N6	2.53	0.41
8:A:213:TYR:CZ	8:A:217:TRP:NE1	2.84	0.41
8:A:1376:ASN:ND2	8:A:1620:TYR:HE1	2.19	0.41
8:A:1443:TYR:CE2	8:A:1542:TYR:HD1	2.38	0.41
8:A:1739:ARG:HD2	8:A:1751:TYR:CE2	2.56	0.41
9:B:496:THR:O	9:B:497:THR:OG1	2.30	0.41
9:B:707:PHE:N	9:B:707:PHE:CD1	2.89	0.41
9:B:1326:ASN:OD1	9:B:1326:ASN:N	2.54	0.41
9:B:1688:TYR:CD1	9:B:1695:TYR:HE1	2.39	0.41
9:B:1895:ARG:O	9:B:1895:ARG:HG3	2.21	0.41
10:C:354:TYR:CD1	10:C:359:PHE:HE1	2.38	0.41
10:C:500:ARG:NH1	10:C:536:SER:HB3	2.36	0.41
11:D:73:MET:HE2	17:J:23:ALA:HB3	2.03	0.41
13:F:253:ARG:HH11	18:K:70:LEU:HD13	1.84	0.41
17:J:281:ASN:OD1	17:J:285:HIS:CD2	2.74	0.41
19:L:78:PHE:CG	19:L:79:GLY:N	2.89	0.41
20:M:85:PHE:HA	20:M:88:ILE:HG22	2.03	0.41
22:O:314:LEU:N	22:O:315:PRO:HD2	2.36	0.41
22:O:701:GLU:OE1	22:O:701:GLU:N	2.52	0.41
23:P:672:LEU:C	23:P:674:THR:H	2.29	0.41
23:P:1139:TRP:CE3	23:P:1141:LEU:HG	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:1234:LYS:O	23:P:1237:VAL:HG12	2.20	0.41
25:R:10:THR:HA	25:R:56:GLU:HA	2.02	0.41
25:R:112:ILE:HG12	25:R:180:VAL:HG22	2.03	0.41
26:S:58:CYS:HB3	26:S:61:CYS:SG	2.61	0.41
27:T:81:ILE:CD1	27:T:161:ALA:HB2	2.50	0.41
27:T:192:VAL:HG13	27:T:228:ARG:HB3	2.02	0.41
36:d:70:LYS:HG2	36:d:71:PHE:HD1	1.86	0.41
37:e:10:MET:N	39:g:30:ARG:O	2.55	0.41
35:k:22:VAL:HG13	35:k:30:TYR:HB2	2.03	0.41
40:t:30:GLN:NE2	40:t:84:TYR:HE1	2.17	0.41
36:v:41:ASN:HB3	36:v:63:PHE:CZ	2.56	0.41
38:x:74:ARG:HB3	38:x:77:ASN:ND2	2.36	0.41
1:2:30:A:H2'	1:2:31:A:C8	2.56	0.40
1:2:1125:U:O2'	1:2:1126:G:H8	2.00	0.40
3:4:101:C:H2'	3:4:102:A:C8	2.56	0.40
4:5:82:A:O2'	4:5:83:C:P	2.79	0.40
4:5:82:A:OP1	8:A:504:LYS:NZ	2.54	0.40
8:A:1134:LEU:O	8:A:1142:ASN:ND2	2.44	0.40
8:A:1945:GLU:O	8:A:1949:LEU:HG	2.22	0.40
8:A:1995:TRP:HA	8:A:1998:ARG:HB2	2.02	0.40
8:A:2003:THR:O	8:A:2007:ARG:HG2	2.21	0.40
8:A:2319:LYS:HG3	8:A:2320:ASP:N	2.36	0.40
9:B:727:TYR:CD2	9:B:760:LYS:HE2	2.56	0.40
9:B:945:TYR:CE1	9:B:970:ARG:HD3	2.56	0.40
9:B:2086:VAL:HB	9:B:2095:LYS:HB3	2.03	0.40
10:C:715:MET:HE2	10:C:816:VAL:C	2.46	0.40
10:C:856:ILE:HD12	10:C:939:LYS:HB2	2.03	0.40
11:D:122:ARG:NH1	13:F:361:ASP:OD2	2.54	0.40
15:H:179:SER:N	15:H:193:GLY:O	2.54	0.40
15:H:353:TYR:CD2	15:H:395:ILE:HD12	2.56	0.40
16:I:73:A:C5	22:O:738:THR:HB	2.55	0.40
17:J:377:ASN:CA	17:J:411:ARG:HH12	2.28	0.40
20:M:53:THR:HG22	20:M:56:GLU:H	1.86	0.40
22:O:813:GLN:HB2	22:O:853:HIS:CE1	2.56	0.40
22:O:839:THR:N	22:O:840:PRO:HD2	2.36	0.40
23:P:594:MET:CE	23:P:642:LEU:HB2	2.51	0.40
24:Q:193:PRO:HD3	28:U:44:PHE:CG	2.55	0.40
27:T:48:LEU:O	27:T:48:LEU:HD12	2.21	0.40
27:T:88:GLU:O	27:T:92:THR:HG23	2.20	0.40
30:W:128:THR:HG21	32:Y:50:LEU:HD21	2.02	0.40
36:d:20:SER:OG	36:d:73:VAL:HB	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:j:17:ILE:HD12	42:j:79:ILE:HG12	2.02	0.40
42:j:20:LYS:HG3	42:j:75:PHE:O	2.21	0.40
40:l:33:SER:HB3	40:l:37:ASN:HB2	2.02	0.40
41:m:35:ASN:O	41:m:38:MET:HG2	2.22	0.40
41:m:76:TRP:CZ3	41:m:89:ARG:HG2	2.55	0.40
39:r:36:LEU:O	39:r:38:VAL:HG23	2.21	0.40
38:x:41:THR:HG23	38:x:55:GLU:OE2	2.22	0.40
1:2:1145:U:O2	1:2:1145:U:C2'	2.69	0.40
4:5:45:A:C8	4:5:71:A:N6	2.89	0.40
4:5:148:G:H2'	4:5:149:U:C6	2.56	0.40
8:A:389:HIS:CD2	10:C:657:TYR:HB2	2.55	0.40
8:A:1654:TRP:CD1	8:A:1692:TYR:HB3	2.56	0.40
8:A:1890:PHE:HD2	8:A:1920:LEU:HD21	1.86	0.40
8:A:1899:TRP:HH2	8:A:1909:ALA:HB2	1.86	0.40
8:A:2152:TRP:HZ3	9:B:1064:PRO:CG	2.33	0.40
8:A:2152:TRP:CD1	8:A:2391:HIS:CD2	3.09	0.40
9:B:535:VAL:O	9:B:539:LEU:HD13	2.22	0.40
9:B:725:ALA:O	9:B:729:LYS:HG2	2.21	0.40
9:B:1057:LEU:H	19:L:61:LYS:HZ3	1.65	0.40
9:B:1092:PHE:CD1	9:B:1095:ASN:HB3	2.56	0.40
9:B:1148:GLN:NE2	9:B:1297:TRP:HA	2.35	0.40
10:C:218:HIS:HE1	10:C:220:ASN:ND2	2.19	0.40
10:C:415:TYR:HB2	10:C:420:PHE:HB2	2.02	0.40
10:C:689:ILE:HG12	10:C:998:TYR:OH	2.21	0.40
10:C:779:LEU:N	10:C:780:PRO:HD3	2.36	0.40
13:F:84:LEU:HD13	13:F:98:PHE:HZ	1.86	0.40
15:H:171:GLN:HB2	15:H:207:LEU:HG	2.03	0.40
17:J:502:LEU:O	17:J:506:ILE:HG13	2.20	0.40
17:J:632:THR:HG22	17:J:635:LEU:HD12	2.02	0.40
19:L:46:TYR:HE2	20:M:48:SER:HA	1.87	0.40
22:O:382:ALA:HB3	22:O:421:SER:HB2	2.02	0.40
22:O:601:ILE:O	22:O:605:ILE:HG13	2.21	0.40
22:O:693:LEU:HD12	22:O:730:GLU:OE1	2.21	0.40
23:P:187:VAL:HG11	33:Z:18:TYR:HD1	1.87	0.40
23:P:209:GLN:NE2	23:P:233:PRO:HA	2.35	0.40
23:P:593:LEU:HG	23:P:598:SER:O	2.21	0.40
23:P:783:ILE:HG22	23:P:815:TRP:HA	2.03	0.40
23:P:859:ILE:O	23:P:860:ASN:HB2	2.22	0.40
23:P:1240:MET:HE2	23:P:1352:THR:HG22	2.01	0.40
25:R:17:ASP:N	25:R:79:ARG:HD2	2.36	0.40
27:T:116:LEU:HD11	27:T:120:GLU:OE2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:W:115:GLN:HA	30:W:147:LEU:HD11	2.02	0.40
35:b:22:VAL:HG12	35:b:30:TYR:O	2.21	0.40
40:h:29:LEU:HD23	40:h:40:LEU:HG	2.03	0.40
41:m:80:LYS:HE3	41:m:82:LYS:CG	2.50	0.40
37:p:30:TRP:CZ3	37:p:89:LEU:HD13	2.56	0.40
38:q:54:ASN:OD1	38:q:55:GLU:N	2.51	0.40
39:y:30:ARG:HD3	39:y:30:ARG:HA	1.90	0.40
1:2:1101:C:O2	1:2:1101:C:C2'	2.69	0.40
1:2:1139:G:C2'	1:2:1140:U:H6	2.34	0.40
3:4:4:C:C2	3:4:5:U:C5	3.09	0.40
3:4:133:C:H2'	3:4:134:U:C6	2.56	0.40
4:5:143:U:H2'	4:5:144:G:C8	2.56	0.40
8:A:320:ASP:CB	8:A:508:GLN:HE22	2.28	0.40
8:A:401:PRO:O	10:C:187:ARG:HA	2.21	0.40
8:A:808:ILE:HA	8:A:811:ILE:HG22	2.02	0.40
8:A:930:ASN:HA	17:J:145:THR:HA	2.04	0.40
8:A:1483:SER:HB3	8:A:1486:ARG:CZ	2.51	0.40
8:A:1995:TRP:CE2	8:A:2007:ARG:NH2	2.89	0.40
9:B:502:ILE:HD11	9:B:522:PRO:HD2	2.02	0.40
9:B:779:GLN:O	9:B:783:THR:HG23	2.22	0.40
9:B:1696:MET:HE2	40:l:144:ARG:HG2	2.03	0.40
9:B:1700:ILE:CD1	9:B:1740:LEU:HD13	2.49	0.40
9:B:2030:ILE:HG22	9:B:2031:LEU:HD12	2.01	0.40
10:C:237:ILE:HB	10:C:265:PHE:CD1	2.56	0.40
14:G:145:HIS:CD2	15:H:428:LEU:HD11	2.54	0.40
15:H:58:LEU:HG	15:H:60:LYS:HG2	2.03	0.40
15:H:359:PRO:HG2	15:H:407:GLY:N	2.36	0.40
17:J:70:VAL:O	17:J:73:THR:OG1	2.23	0.40
17:J:234:ARG:NH1	17:J:247:SER:HB2	2.36	0.40
17:J:794:PHE:HD1	17:J:811:ILE:HG12	1.80	0.40
22:O:674:ASP:OD1	22:O:675:LEU:N	2.54	0.40
22:O:820:MET:HG2	22:O:824:PHE:CE2	2.56	0.40
22:O:843:GLU:OE1	22:O:879:HIS:NE2	2.53	0.40
22:O:943:VAL:HG13	33:Z:18:TYR:HE2	1.86	0.40
23:P:69:THR:OG1	23:P:484:LEU:O	2.39	0.40
23:P:504:HIS:HB3	23:P:509:LYS:H	1.86	0.40
23:P:670:PRO:O	23:P:672:LEU:HG	2.21	0.40
26:S:39:PRO:HA	26:S:73:CYS:HA	2.03	0.40
27:T:59:ILE:HD12	29:V:168:THR:HG21	2.03	0.40
27:T:150:PRO:HD3	27:T:155:ASN:HB3	2.04	0.40
29:V:139:VAL:HB	29:V:143:LYS:HE3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:i:52:HIS:HA	41:i:76:TRP:HB3	2.03	0.40
41:i:74:GLU:HG3	41:i:76:TRP:CZ3	2.53	0.40
36:n:77:LEU:HD23	36:n:77:LEU:O	2.20	0.40
40:t:16:THR:OG1	40:t:96:ILE:HB	2.21	0.40
36:v:24:THR:HA	36:v:70:LYS:HE3	2.02	0.40
1:2:116:U:OP1	35:s:90:GLU:HG3	2.21	0.40
1:2:1118:U:H2'	1:2:1119:C:H6	1.86	0.40
3:4:31:U:H4'	13:F:312:LEU:HD11	2.03	0.40
3:4:91:U:O2'	3:4:92:C:P	2.79	0.40
4:5:28:G:C2	4:5:126:A:C2	3.09	0.40
4:5:87:G:H2'	4:5:88:U:H6	1.87	0.40
4:5:169:U:O4	39:g:37:ASN:ND2	2.33	0.40
8:A:255:ILE:HA	8:A:258:ILE:HD12	2.03	0.40
8:A:579:LEU:HD11	8:A:626:LEU:HD12	2.03	0.40
8:A:1050:LEU:HD11	8:A:1227:PHE:HD1	1.86	0.40
8:A:1266:GLU:O	8:A:1302:LEU:HA	2.21	0.40
8:A:1735:ASP:OD2	8:A:1774:MET:HE2	2.22	0.40
8:A:2096:GLN:OE1	12:E:199:MET:HE3	2.21	0.40
9:B:506:VAL:HG22	9:B:692:PHE:CG	2.57	0.40
9:B:610:GLU:OE1	9:B:1009:TYR:HE2	2.05	0.40
9:B:1685:THR:HG23	9:B:1723:LEU:O	2.22	0.40
9:B:2138:HIS:C	9:B:2159:GLU:HG3	2.46	0.40
10:C:141:PRO:HD3	10:C:249:VAL:HG22	2.02	0.40
10:C:470:ALA:CB	10:C:488:ILE:HA	2.51	0.40
14:G:173:TYR:CE1	14:G:212:PRO:HD2	2.57	0.40
17:J:16:VAL:HG13	17:J:19:ILE:HG22	2.03	0.40
17:J:249:ARG:HH21	17:J:280:GLU:CD	2.30	0.40
17:J:341:TRP:CE3	17:J:361:ALA:HB2	2.56	0.40
18:K:58:CYS:SG	18:K:64:LEU:HD13	2.62	0.40
19:L:73:LYS:HG2	19:L:74:ARG:HG3	2.03	0.40
20:M:6:PHE:CD1	20:M:7:GLN:HG3	2.55	0.40
20:M:44:LEU:HD22	20:M:87:CYS:SG	2.62	0.40
22:O:531:GLU:CB	22:O:534:ARG:HH21	2.34	0.40
22:O:925:HIS:HA	24:Q:160:LEU:HD11	2.03	0.40
23:P:98:GLU:OE2	33:Z:47:SER:OG	2.39	0.40
23:P:563:ILE:HG21	23:P:852:PHE:HE1	1.86	0.40
23:P:633:VAL:HG23	23:P:647:SER:HA	2.03	0.40
23:P:642:LEU:HB3	23:P:654:PHE:HB2	2.02	0.40
23:P:683:GLN:OE1	23:P:683:GLN:N	2.52	0.40
23:P:702:ILE:HB	23:P:762:PHE:CZ	2.57	0.40
23:P:1029:SER:OG	23:P:1045:MET:HA	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:U:84:HIS:CE1	28:U:90:HIS:HB2	2.56	0.40
36:d:22:GLU:O	36:d:70:LYS:HB3	2.21	0.40
41:i:23:GLU:O	41:i:26:PHE:HB3	2.21	0.40
41:i:46:ILE:HG23	41:i:101:VAL:HG13	2.03	0.40
35:k:39:LYS:HA	35:k:39:LYS:HD2	1.48	0.40
37:p:85:ASP:CG	38:q:32:LYS:NZ	2.79	0.40
38:q:33:PHE:C	38:q:35:SER:N	2.80	0.40
3:4:12:C:H41	5:6:69:C:H42	1.69	0.40
4:5:48:G:H2'	4:5:49:U:C6	2.56	0.40
4:5:105:A:P	8:A:535:HIS:NE2	2.89	0.40
4:5:122:C:H2'	4:5:123:U:H6	1.87	0.40
5:6:30:G:N7	8:A:1378:LYS:HD3	2.37	0.40
8:A:144:ASN:CG	20:M:19:ASN:ND2	2.77	0.40
8:A:363:ASP:HA	8:A:1212:ARG:HH12	1.86	0.40
8:A:369:SER:O	8:A:373:VAL:HG22	2.22	0.40
8:A:386:ALA:HB1	10:C:916:THR:HG21	2.02	0.40
8:A:1020:ILE:N	8:A:1509:ARG:HH12	2.19	0.40
8:A:1316:ILE:HA	8:A:1319:ILE:HG22	2.02	0.40
8:A:1483:SER:HB3	8:A:1486:ARG:HH11	1.86	0.40
8:A:1632:ILE:HG12	8:A:1740:TYR:CG	2.57	0.40
8:A:1701:ILE:HB	8:A:1734:PHE:HB2	2.02	0.40
8:A:1887:GLY:HA2	8:A:1992:TYR:HD2	1.86	0.40
8:A:2193:PHE:HA	8:A:2196:ILE:HG12	2.03	0.40
9:B:594:LEU:HD22	9:B:598:GLN:OE1	2.21	0.40
9:B:692:PHE:HB3	9:B:694:PHE:CE2	2.57	0.40
9:B:1056:GLN:C	19:L:61:LYS:HZ3	2.29	0.40
9:B:1175:THR:HB	9:B:1178:GLU:CB	2.51	0.40
9:B:1486:ALA:O	9:B:1490:THR:HG23	2.22	0.40
9:B:1898:ASP:HA	9:B:1943:PHE:HZ	1.86	0.40
10:C:632:VAL:HG23	10:C:651:TYR:OH	2.22	0.40
11:D:16:ASP:HB2	17:J:17:PRO:HB3	2.03	0.40
14:G:335:THR:HG22	14:G:336:VAL:N	2.35	0.40
14:G:352:ILE:O	14:G:356:LEU:HG	2.21	0.40
14:G:428:TRP:CE3	15:H:390:LEU:HB3	2.56	0.40
15:H:166:GLU:OE2	17:J:728:ARG:CZ	2.70	0.40
15:H:268:ILE:HG22	15:H:269:SER:N	2.36	0.40
15:H:436:HIS:CG	15:H:440:ILE:HG12	2.56	0.40
17:J:273:ARG:C	17:J:303:ASN:HD21	2.29	0.40
17:J:297:ALA:O	17:J:300:ILE:HG13	2.21	0.40
17:J:402:TRP:CE2	17:J:428:GLY:HA2	2.56	0.40
17:J:845:LEU:HD22	17:J:849:TYR:HE1	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:M:97:PRO:HD2	20:M:126:TYR:OH	2.22	0.40
23:P:54:LYS:HG2	24:Q:370:PHE:CE2	2.57	0.40
23:P:353:ARG:HE	23:P:385:HIS:CB	2.35	0.40
23:P:372:LYS:HA	23:P:377:PHE:HA	2.04	0.40
23:P:612:PRO:HA	23:P:618:TYR:CD1	2.57	0.40
23:P:929:ILE:HG12	23:P:941:PHE:HD1	1.86	0.40
25:R:12:TYR:HD1	25:R:54:PHE:CE1	2.40	0.40
27:T:29:PRO:CG	27:T:59:ILE:HG13	2.51	0.40
27:T:40:SER:HA	27:T:46:THR:OG1	2.20	0.40
30:W:17:ASP:C	32:Y:61:VAL:HB	2.46	0.40
30:W:159:VAL:HG11	30:W:164:ARG:CZ	2.51	0.40
33:Z:67:ILE:O	33:Z:71:LYS:HG2	2.22	0.40
42:j:18:GLU:HG2	42:j:78:PHE:CE2	2.56	0.40
40:l:18:GLU:HB3	40:l:94:GLN:HG2	2.04	0.40
41:m:33:LEU:HD11	38:q:52:GLN:HG3	2.03	0.40
41:m:105:LEU:HD12	38:q:70:GLU:O	2.21	0.40
37:p:30:TRP:N	37:p:30:TRP:CD1	2.89	0.40
37:p:87:ILE:HD13	37:p:90:ILE:HD11	2.03	0.40
38:q:29:VAL:HG22	38:q:81:ILE:HG13	2.02	0.40
36:v:65:ARG:NH1	39:y:66:ASN:C	2.77	0.40
36:v:65:ARG:NE	36:v:67:SER:HB3	2.28	0.40
44:z:47:VAL:O	44:z:73:LEU:N	2.53	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	3	75/89 (84%)	74 (99%)	1 (1%)	0	100	100
6	7	62/115 (54%)	62 (100%)	0	0	100	100
7	8	62/109 (57%)	61 (98%)	1 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	A	2202/2413 (91%)	2095 (95%)	105 (5%)	2 (0%)	48	83
9	B	1694/2163 (78%)	1631 (96%)	60 (4%)	3 (0%)	43	78
10	C	838/1008 (83%)	785 (94%)	52 (6%)	1 (0%)	48	83
11	D	140/143 (98%)	126 (90%)	14 (10%)	0	100	100
12	E	114/587 (19%)	103 (90%)	9 (8%)	2 (2%)	6	34
13	F	409/494 (83%)	387 (95%)	21 (5%)	1 (0%)	43	78
14	G	358/469 (76%)	335 (94%)	23 (6%)	0	100	100
15	H	425/465 (91%)	398 (94%)	27 (6%)	0	100	100
17	J	788/899 (88%)	722 (92%)	61 (8%)	5 (1%)	21	59
18	K	122/126 (97%)	121 (99%)	1 (1%)	0	100	100
19	L	101/194 (52%)	94 (93%)	7 (7%)	0	100	100
20	M	164/242 (68%)	141 (86%)	23 (14%)	0	100	100
21	N	77/291 (26%)	76 (99%)	1 (1%)	0	100	100
22	O	829/971 (85%)	789 (95%)	40 (5%)	0	100	100
23	P	1170/1361 (86%)	1059 (90%)	104 (9%)	7 (1%)	21	59
24	Q	214/435 (49%)	202 (94%)	11 (5%)	1 (0%)	24	63
25	R	165/213 (78%)	162 (98%)	3 (2%)	0	100	100
26	S	101/107 (94%)	88 (87%)	13 (13%)	0	100	100
27	T	454/530 (86%)	416 (92%)	38 (8%)	0	100	100
28	U	188/266 (71%)	159 (85%)	28 (15%)	1 (0%)	24	63
29	V	123/280 (44%)	112 (91%)	11 (9%)	0	100	100
30	W	168/238 (71%)	129 (77%)	28 (17%)	11 (6%)	1	12
31	X	26/111 (23%)	26 (100%)	0	0	100	100
32	Y	82/111 (74%)	76 (93%)	5 (6%)	1 (1%)	10	44
33	Z	81/85 (95%)	76 (94%)	4 (5%)	1 (1%)	10	44
34	a	88/95 (93%)	81 (92%)	7 (8%)	0	100	100
35	b	66/196 (34%)	61 (92%)	5 (8%)	0	100	100
35	k	66/196 (34%)	62 (94%)	4 (6%)	0	100	100
35	s	66/196 (34%)	62 (94%)	4 (6%)	0	100	100
36	d	81/101 (80%)	79 (98%)	2 (2%)	0	100	100
36	n	80/101 (79%)	77 (96%)	3 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	v	80/101 (79%)	77 (96%)	3 (4%)	0	100	100
37	e	73/94 (78%)	71 (97%)	2 (3%)	0	100	100
37	p	73/94 (78%)	72 (99%)	1 (1%)	0	100	100
37	w	73/94 (78%)	72 (99%)	1 (1%)	0	100	100
38	f	70/86 (81%)	67 (96%)	3 (4%)	0	100	100
38	q	71/86 (83%)	68 (96%)	3 (4%)	0	100	100
38	x	71/86 (83%)	69 (97%)	2 (3%)	0	100	100
39	g	69/77 (90%)	63 (91%)	6 (9%)	0	100	100
39	r	73/77 (95%)	66 (90%)	5 (7%)	2 (3%)	4	25
39	y	73/77 (95%)	64 (88%)	6 (8%)	3 (4%)	2	18
40	h	76/146 (52%)	75 (99%)	1 (1%)	0	100	100
40	l	93/146 (64%)	89 (96%)	3 (3%)	1 (1%)	11	46
40	t	68/146 (47%)	67 (98%)	1 (2%)	0	100	100
41	i	90/110 (82%)	90 (100%)	0	0	100	100
41	m	90/110 (82%)	89 (99%)	1 (1%)	0	100	100
41	u	90/110 (82%)	89 (99%)	1 (1%)	0	100	100
42	j	70/187 (37%)	67 (96%)	3 (4%)	0	100	100
43	o	71/93 (76%)	66 (93%)	5 (7%)	0	100	100
44	z	72/86 (84%)	70 (97%)	2 (3%)	0	100	100
All	All	13125/17406 (75%)	12318 (94%)	765 (6%)	42 (0%)	37	72

All (42) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
17	J	881	VAL
23	P	1299	ILE
24	Q	368	ILE
30	W	34	LEU
30	W	52	LYS
39	y	50	ASP
13	F	368	ALA
23	P	363	VAL
23	P	413	ILE
30	W	17	ASP
30	W	18	HIS

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Mol	Chain	Res	Type
30	W	51	THR
30	W	68	PRO
30	W	121	PRO
30	W	124	LEU
32	Y	71	GLN
40	l	140	LYS
9	B	791	PRO
9	B	1896	LYS
10	C	111	LYS
30	W	29	VAL
39	r	60	GLN
8	A	2321	ILE
9	B	960	ILE
12	E	212	VAL
17	J	157	VAL
17	J	665	PRO
23	P	107	ALA
30	W	12	PRO
33	Z	19	ILE
17	J	493	PRO
28	U	232	GLY
39	r	49	GLU
39	y	30	ARG
39	y	60	GLN
23	P	364	THR
23	P	486	PRO
30	W	159	VAL
17	J	718	ASN
8	A	1621	VAL
12	E	305	VAL
23	P	1031	ILE

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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	3	71/81 (88%)	71 (100%)	0	100	100
6	7	56/103 (54%)	56 (100%)	0	100	100
7	8	56/99 (57%)	56 (100%)	0	100	100
8	A	1982/2182 (91%)	1981 (100%)	1 (0%)	88	89
9	B	1525/1955 (78%)	1521 (100%)	4 (0%)	86	86
10	C	761/910 (84%)	761 (100%)	0	100	100
11	D	131/132 (99%)	131 (100%)	0	100	100
12	E	60/534 (11%)	59 (98%)	1 (2%)	53	69
13	F	354/445 (80%)	354 (100%)	0	100	100
14	G	267/436 (61%)	267 (100%)	0	100	100
15	H	377/410 (92%)	377 (100%)	0	100	100
17	J	708/813 (87%)	708 (100%)	0	100	100
18	K	102/104 (98%)	102 (100%)	0	100	100
19	L	92/179 (51%)	92 (100%)	0	100	100
20	M	154/224 (69%)	154 (100%)	0	100	100
22	O	739/867 (85%)	739 (100%)	0	100	100
23	P	1093/1244 (88%)	1093 (100%)	0	100	100
24	Q	192/391 (49%)	192 (100%)	0	100	100
25	R	154/189 (82%)	154 (100%)	0	100	100
26	S	93/97 (96%)	93 (100%)	0	100	100
27	T	429/492 (87%)	420 (98%)	9 (2%)	47	65
28	U	158/236 (67%)	157 (99%)	1 (1%)	78	83
29	V	118/259 (46%)	116 (98%)	2 (2%)	53	69
30	W	161/219 (74%)	151 (94%)	10 (6%)	16	38
32	Y	76/100 (76%)	75 (99%)	1 (1%)	61	74
33	Z	75/77 (97%)	75 (100%)	0	100	100
34	a	85/91 (93%)	85 (100%)	0	100	100
35	b	64/176 (36%)	64 (100%)	0	100	100
35	k	64/176 (36%)	64 (100%)	0	100	100
35	s	64/176 (36%)	64 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	d	72/89 (81%)	72 (100%)	0	100	100
36	n	71/89 (80%)	71 (100%)	0	100	100
36	v	71/89 (80%)	71 (100%)	0	100	100
37	e	69/83 (83%)	69 (100%)	0	100	100
37	p	69/83 (83%)	69 (100%)	0	100	100
37	w	69/83 (83%)	69 (100%)	0	100	100
38	f	64/77 (83%)	64 (100%)	0	100	100
38	q	65/77 (84%)	65 (100%)	0	100	100
38	x	65/77 (84%)	65 (100%)	0	100	100
39	g	61/66 (92%)	61 (100%)	0	100	100
39	r	64/66 (97%)	64 (100%)	0	100	100
39	y	64/66 (97%)	64 (100%)	0	100	100
40	h	75/129 (58%)	75 (100%)	0	100	100
40	l	81/129 (63%)	80 (99%)	1 (1%)	63	75
40	t	67/129 (52%)	66 (98%)	1 (2%)	57	72
41	i	85/103 (82%)	85 (100%)	0	100	100
41	m	85/103 (82%)	85 (100%)	0	100	100
41	u	85/103 (82%)	85 (100%)	0	100	100
42	j	64/172 (37%)	64 (100%)	0	100	100
43	o	66/84 (79%)	66 (100%)	0	100	100
44	z	66/75 (88%)	66 (100%)	0	100	100
All	All	11739/15369 (76%)	11708 (100%)	31 (0%)	84	86

All (31) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
8	A	2289	ILE
9	B	491	PHE
9	B	707	PHE
9	B	1008	PHE
9	B	1551	PHE
12	E	217	ILE
27	T	27	ARG
27	T	65	VAL
27	T	81	ILE

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Mol	Chain	Res	Type
27	T	92	THR
27	T	217	LEU
27	T	298	HIS
27	T	317	SER
27	T	357	LEU
27	T	358	THR
28	U	246	ILE
29	V	153	ILE
29	V	158	ARG
30	W	4	THR
30	W	8	VAL
30	W	30	ILE
30	W	31	LEU
30	W	33	ASP
30	W	34	LEU
30	W	36	LEU
30	W	50	LEU
30	W	64	LEU
30	W	160	THR
32	Y	61	VAL
40	l	82	LEU
40	t	82	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (256) such sidechains are listed below:

Mol	Chain	Res	Type
2	3	31	GLN
6	7	57	GLN
8	A	170	HIS
8	A	185	GLN
8	A	254	HIS
8	A	294	ASN
8	A	344	ASN
8	A	404	ASN
8	A	429	ASN
8	A	481	HIS
8	A	487	ASN
8	A	508	GLN
8	A	543	ASN
8	A	559	GLN
8	A	570	GLN
8	A	592	HIS

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Mol	Chain	Res	Type
8	A	617	ASN
8	A	658	ASN
8	A	662	GLN
8	A	694	ASN
8	A	760	ASN
8	A	784	GLN
8	A	796	ASN
8	A	839	HIS
8	A	907	ASN
8	A	952	ASN
8	A	974	ASN
8	A	976	GLN
8	A	997	GLN
8	A	1087	ASN
8	A	1128	GLN
8	A	1173	HIS
8	A	1190	ASN
8	A	1218	GLN
8	A	1404	HIS
8	A	1471	GLN
8	A	1522	ASN
8	A	1529	ASN
8	A	1531	HIS
8	A	1635	HIS
8	A	1647	GLN
8	A	1667	GLN
8	A	1695	ASN
8	A	1863	HIS
8	A	1883	ASN
8	A	2047	GLN
8	A	2144	GLN
8	A	2306	ASN
8	A	2336	HIS
8	A	2338	GLN
8	A	2358	ASN
9	B	516	ASN
9	B	568	GLN
9	B	621	ASN
9	B	676	ASN
9	B	706	GLN
9	B	768	HIS
9	B	804	HIS

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Mol	Chain	Res	Type
9	B	843	HIS
9	B	862	GLN
9	B	894	ASN
9	B	904	GLN
9	B	921	ASN
9	B	1028	GLN
9	B	1123	HIS
9	B	1148	GLN
9	B	1266	HIS
9	B	1281	GLN
9	B	1349	ASN
9	B	1354	GLN
9	B	1390	GLN
9	B	1418	HIS
9	B	1443	HIS
9	B	1517	ASN
9	B	1726	HIS
9	B	1756	ASN
9	B	1855	HIS
9	B	1931	GLN
9	B	1968	ASN
9	B	1996	GLN
9	B	2069	GLN
9	B	2085	GLN
9	B	2139	ASN
9	B	2161	ASN
10	C	167	ASN
10	C	183	GLN
10	C	255	GLN
10	C	290	HIS
10	C	309	ASN
10	C	471	HIS
10	C	511	GLN
10	C	554	HIS
10	C	588	GLN
10	C	647	ASN
10	C	693	ASN
10	C	817	GLN
10	C	934	HIS
10	C	1004	ASN
11	D	90	HIS
11	D	100	ASN

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Mol	Chain	Res	Type
11	D	101	ASN
11	D	104	ASN
11	D	138	ASN
13	F	113	HIS
13	F	136	GLN
13	F	148	ASN
13	F	171	GLN
13	F	244	HIS
13	F	320	GLN
13	F	414	ASN
13	F	418	GLN
13	F	443	HIS
14	G	145	HIS
14	G	163	ASN
14	G	276	ASN
14	G	409	HIS
14	G	448	GLN
15	H	38	GLN
15	H	144	GLN
15	H	160	GLN
15	H	200	GLN
15	H	203	ASN
15	H	306	HIS
15	H	392	HIS
15	H	420	ASN
15	H	448	ASN
17	J	99	ASN
17	J	171	GLN
17	J	367	GLN
17	J	379	GLN
17	J	657	ASN
17	J	673	GLN
17	J	733	ASN
17	J	785	ASN
17	J	803	ASN
18	K	5	ASN
18	K	25	GLN
18	K	26	GLN
18	K	38	ASN
18	K	75	ASN
19	L	104	HIS
20	M	19	ASN

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Mol	Chain	Res	Type
20	M	43	ASN
20	M	112	ASN
20	M	130	GLN
20	M	198	GLN
22	O	141	HIS
22	O	318	ASN
22	O	376	HIS
22	O	539	HIS
22	O	695	ASN
22	O	703	ASN
22	O	769	ASN
22	O	853	HIS
22	O	882	ASN
22	O	887	ASN
22	O	894	HIS
22	O	908	GLN
23	P	209	GLN
23	P	249	ASN
23	P	362	ASN
23	P	375	ASN
23	P	382	GLN
23	P	385	HIS
23	P	414	GLN
23	P	434	ASN
23	P	436	ASN
23	P	474	ASN
23	P	481	GLN
23	P	585	GLN
23	P	590	HIS
23	P	609	HIS
23	P	641	GLN
23	P	738	GLN
23	P	845	ASN
23	P	878	ASN
23	P	920	GLN
23	P	944	ASN
23	P	945	HIS
23	P	950	GLN
23	P	1023	HIS
23	P	1024	GLN
23	P	1032	HIS
23	P	1039	ASN

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Mol	Chain	Res	Type
23	P	1117	HIS
23	P	1203	HIS
23	P	1210	ASN
23	P	1359	ASN
24	Q	136	GLN
24	Q	145	GLN
24	Q	288	HIS
24	Q	296	GLN
24	Q	352	HIS
25	R	31	GLN
25	R	47	GLN
25	R	170	ASN
26	S	14	GLN
26	S	100	HIS
27	T	34	HIS
27	T	91	GLN
27	T	167	ASN
27	T	175	GLN
27	T	202	GLN
27	T	307	ASN
27	T	415	HIS
27	T	440	HIS
28	U	39	ASN
30	W	20	ASN
30	W	55	HIS
30	W	61	ASN
30	W	99	GLN
30	W	133	GLN
30	W	157	GLN
30	W	158	ASN
32	Y	28	ASN
32	Y	34	GLN
32	Y	47	ASN
32	Y	71	GLN
33	Z	7	GLN
33	Z	37	ASN
33	Z	41	ASN
34	a	13	GLN
34	a	34	GLN
34	a	83	GLN
35	b	40	HIS
36	d	17	HIS

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Mol	Chain	Res	Type
36	d	61	GLN
37	e	86	ASN
38	f	65	HIS
39	g	53	ASN
39	g	54	ASN
39	g	56	GLN
39	g	60	GLN
42	j	14	GLN
42	j	16	GLN
35	k	33	GLN
40	l	30	GLN
40	l	94	GLN
41	m	52	HIS
41	m	64	HIS
43	o	77	ASN
37	p	15	ASN
38	q	76	ASN
38	q	77	ASN
39	r	20	ASN
35	s	33	GLN
40	t	30	GLN
40	t	90	ASN
40	t	94	GLN
41	u	51	ASN
41	u	52	HIS
37	w	15	ASN
38	x	25	HIS
38	x	77	ASN
39	y	20	ASN
39	y	54	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	147/1175 (12%)	47 (31%)	25 (17%)
16	I	26/95 (27%)	8 (30%)	2 (7%)
3	4	110/160 (68%)	33 (30%)	6 (5%)
4	5	167/214 (78%)	62 (37%)	8 (4%)
5	6	91/112 (81%)	33 (36%)	8 (8%)
All	All	541/1756 (30%)	183 (33%)	49 (9%)

All (183) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	33	U
1	2	41	C
1	2	46	C
1	2	47	U
1	2	66	A
1	2	67	A
1	2	68	U
1	2	83	U
1	2	111	C
1	2	112	A
1	2	113	U
1	2	117	U
1	2	140	G
1	2	141	A
1	2	142	C
1	2	1094	G
1	2	1095	U
1	2	1096	C
1	2	1097	G
1	2	1098	C
1	2	1100	A
1	2	1101	C
1	2	1102	C
1	2	1103	C
1	2	1104	U
1	2	1105	C
1	2	1106	G
1	2	1107	C
1	2	1108	A
1	2	1109	C
1	2	1119	C
1	2	1120	G
1	2	1121	U
1	2	1122	U
1	2	1123	C
1	2	1124	U
1	2	1125	U
1	2	1126	G
1	2	1130	U
1	2	1139	G
1	2	1141	C
1	2	1142	G
1	2	1143	C

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Mol	Chain	Res	Type
1	2	1144	U
1	2	1145	U
1	2	1146	G
1	2	1149	G
3	4	11	A
3	4	18	A
3	4	19	U
3	4	20	A
3	4	25	U
3	4	31	U
3	4	32	G
3	4	35	G
3	4	40	G
3	4	41	U
3	4	45	A
3	4	46	G
3	4	55	U
3	4	56	U
3	4	57	U
3	4	65	G
3	4	66	A
3	4	74	U
3	4	75	U
3	4	76	A
3	4	77	U
3	4	78	A
3	4	79	A
3	4	92	C
3	4	98	G
3	4	134	U
3	4	135	A
3	4	138	U
3	4	139	A
3	4	143	A
3	4	144	A
3	4	145	U
3	4	151	G
4	5	12	C
4	5	13	A
4	5	18	A
4	5	20	U
4	5	27	G

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Mol	Chain	Res	Type
4	5	28	G
4	5	32	G
4	5	34	C
4	5	38	A
4	5	39	U
4	5	41	A
4	5	43	G
4	5	44	A
4	5	45	A
4	5	46	C
4	5	53	C
4	5	64	C
4	5	69	G
4	5	71	A
4	5	72	C
4	5	75	A
4	5	76	U
4	5	77	A
4	5	78	A
4	5	79	C
4	5	81	A
4	5	82	A
4	5	83	C
4	5	84	A
4	5	93	G
4	5	94	C
4	5	96	U
4	5	97	U
4	5	99	U
4	5	101	C
4	5	103	A
4	5	106	A
4	5	113	G
4	5	115	G
4	5	116	U
4	5	119	U
4	5	121	U
4	5	122	C
4	5	123	U
4	5	125	C
4	5	126	A
4	5	127	U

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Mol	Chain	Res	Type
4	5	128	A
4	5	129	G
4	5	131	A
4	5	132	A
4	5	139	A
4	5	140	A
4	5	141	G
4	5	142	C
4	5	151	A
4	5	160	U
4	5	165	A
4	5	166	U
4	5	167	A
4	5	169	U
4	5	173	U
5	6	2	U
5	6	17	U
5	6	19	C
5	6	25	C
5	6	26	A
5	6	27	U
5	6	28	U
5	6	31	G
5	6	33	C
5	6	37	U
5	6	38	U
5	6	39	G
5	6	41	A
5	6	42	A
5	6	44	A
5	6	45	A
5	6	46	U
5	6	47	A
5	6	48	C
5	6	49	A
5	6	51	A
5	6	56	A
5	6	63	G
5	6	75	A
5	6	76	A
5	6	83	A
5	6	84	C

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Mol	Chain	Res	Type
5	6	85	C
5	6	86	G
5	6	87	U
5	6	88	U
5	6	109	U
5	6	111	U
16	I	58	U
16	I	62	A
16	I	70	A
16	I	71	C
16	I	72	A
16	I	74	A
16	I	78	A
16	I	79	A

All (49) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	2	32	G
1	2	46	C
1	2	66	A
1	2	67	A
1	2	110	A
1	2	1095	U
1	2	1096	C
1	2	1097	G
1	2	1100	A
1	2	1101	C
1	2	1102	C
1	2	1105	C
1	2	1107	C
1	2	1119	C
1	2	1120	G
1	2	1121	U
1	2	1122	U
1	2	1123	C
1	2	1124	U
1	2	1125	U
1	2	1138	G
1	2	1141	C
1	2	1142	G
1	2	1144	U

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Mol	Chain	Res	Type
1	2	1145	U
3	4	17	A
3	4	19	U
3	4	39	C
3	4	91	U
3	4	134	U
3	4	142	G
4	5	17	C
4	5	40	C
4	5	82	A
4	5	83	C
4	5	114	G
4	5	128	A
4	5	130	A
4	5	150	U
5	6	26	A
5	6	27	U
5	6	38	U
5	6	43	C
5	6	45	A
5	6	55	G
5	6	83	A
5	6	84	C
16	I	77	C
16	I	78	A

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

3 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
1	PSU	2	35	16,1	18,21,22	1.10	1 (5%)	21,30,33	1.87	5 (23%)
1	PSU	2	42	16,1	18,21,22	1.12	1 (5%)	21,30,33	1.87	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	2	44	16,1	18,21,22	1.07	1 (5%)	21,30,33	1.79	4 (19%)

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
1	PSU	2	35	16,1	-	0/7/25/26	0/2/2/2
1	PSU	2	42	16,1	-	0/7/25/26	0/2/2/2
1	PSU	2	44	16,1	-	0/7/25/26	0/2/2/2

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	2	42	PSU	C6-C5	3.67	1.39	1.35
1	2	35	PSU	C6-C5	3.56	1.39	1.35
1	2	44	PSU	C6-C5	3.42	1.39	1.35

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	2	42	PSU	C4-N3-C2	-4.81	119.75	126.37
1	2	42	PSU	N1-C2-N3	4.72	120.14	115.17
1	2	35	PSU	C4-N3-C2	-4.72	119.87	126.37
1	2	35	PSU	N1-C2-N3	4.66	120.08	115.17
1	2	44	PSU	N1-C2-N3	4.56	119.98	115.17
1	2	44	PSU	C4-N3-C2	-4.28	120.47	126.37
1	2	44	PSU	C6-N1-C2	-3.01	119.90	122.69
1	2	44	PSU	O2-C2-N1	-2.60	120.11	122.79
1	2	35	PSU	O2-C2-N1	-2.54	120.17	122.79
1	2	35	PSU	C6-N1-C2	-2.45	120.42	122.69
1	2	42	PSU	O2-C2-N1	-2.38	120.34	122.79
1	2	42	PSU	C6-N1-C2	-2.36	120.50	122.69
1	2	35	PSU	O4'-C1'-C2'	2.02	107.95	105.15

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

3 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	2	35	PSU	1	0
1	2	42	PSU	2	0
1	2	44	PSU	5	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 8 ligands modelled in this entry, 7 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
45	GTP	C	1101	-	33,34,34	0.89	2 (6%)	50,54,54	1.53	9 (18%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
45	GTP	C	1101	-	-	0/22/38/38	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	C	1101	GTP	C2-N3	2.11	1.38	1.33
45	C	1101	GTP	C5-N7	-2.01	1.35	1.39

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	C	1101	GTP	C5-C4-N3	-5.06	120.33	128.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	C	1101	GTP	C2-N3-C4	4.64	120.29	112.30
45	C	1101	GTP	N9-C4-N3	3.17	132.28	125.95
45	C	1101	GTP	C2-N1-C6	-3.03	119.61	125.11
45	C	1101	GTP	C5-C6-N1	2.62	119.93	113.25
45	C	1101	GTP	N9-C8-N7	-2.51	108.74	113.40
45	C	1101	GTP	C8-N7-C5	2.44	108.60	104.26
45	C	1101	GTP	O6-C6-C5	-2.41	120.16	126.53
45	C	1101	GTP	C3'-C2'-C1'	2.04	105.33	101.46

There are no chirality outliers.

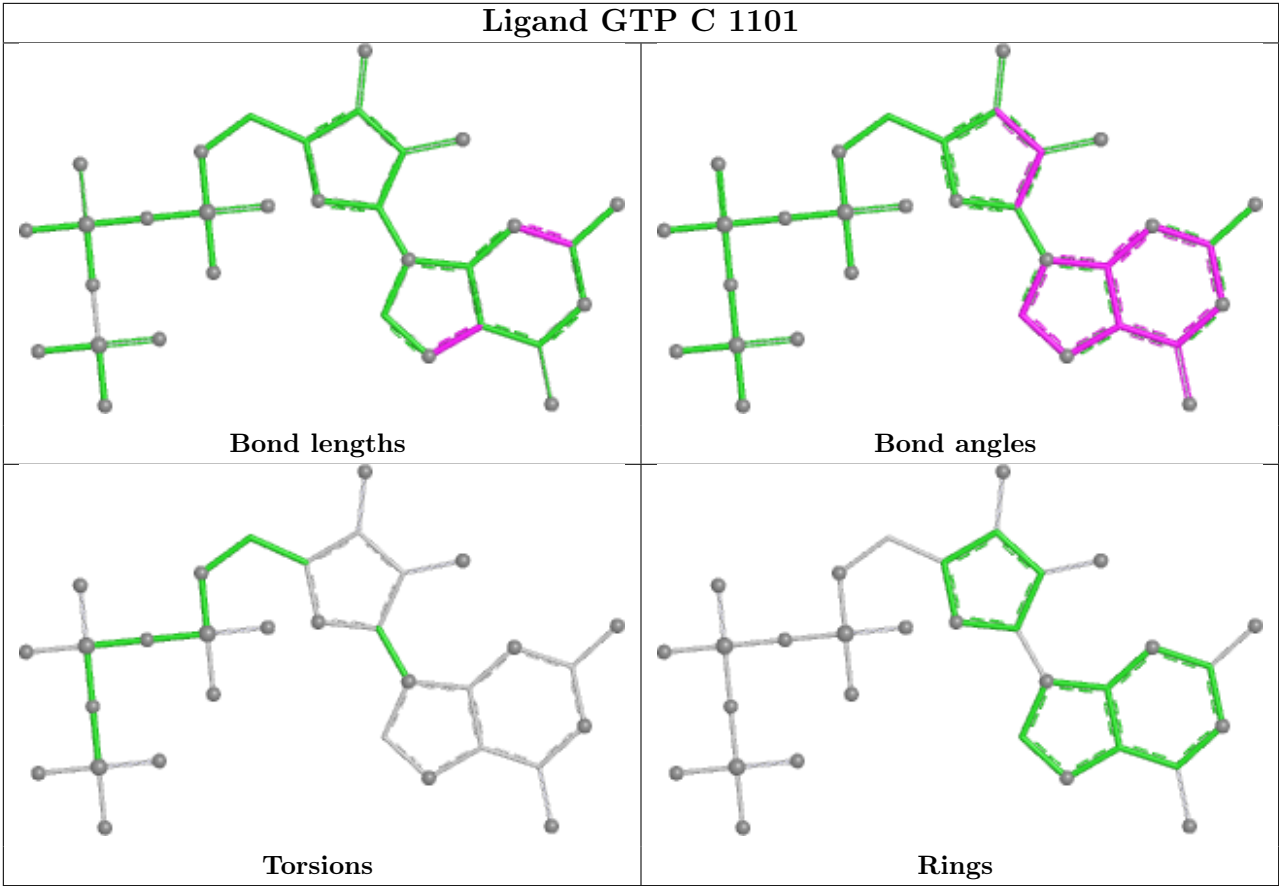
There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
45	C	1101	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 ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
4	5	3
1	2	3
12	E	1
31	X	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	236:SER	C	297:LYS	N	126.30
1	X	19:ALA	C	101:ALA	N	56.70
1	5	72:C	O3'	73:U	P	3.93

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	5	42:A	O3'	43:G	P	3.10
1	2	1149:G	O3'	1150:U	P	1.90
1	2	143:G	O3'	144:G	P	1.83
1	5	105:A	O3'	106:A	P	1.82
1	2	1090:A	O3'	1091:G	P	1.78

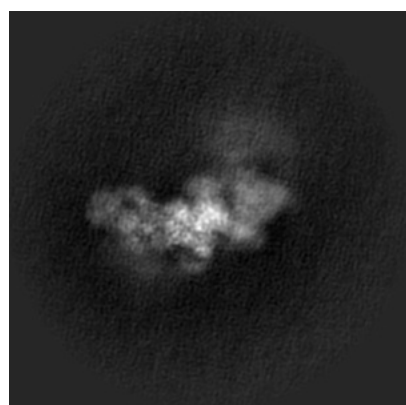
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-3683. These allow visual inspection of the internal detail of the map and identification of artifacts.

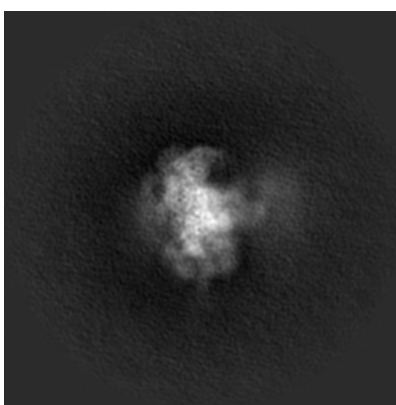
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

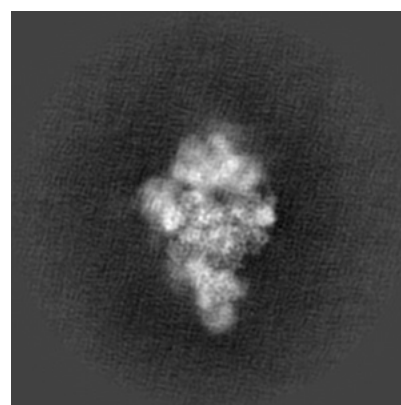
6.1.1 Primary map



X



Y

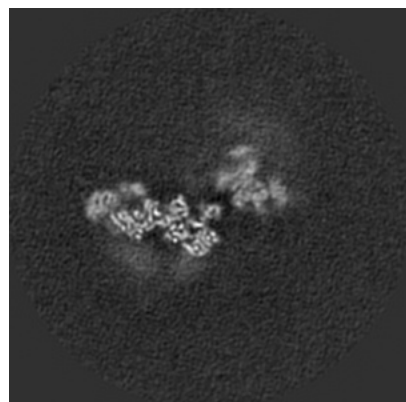


Z

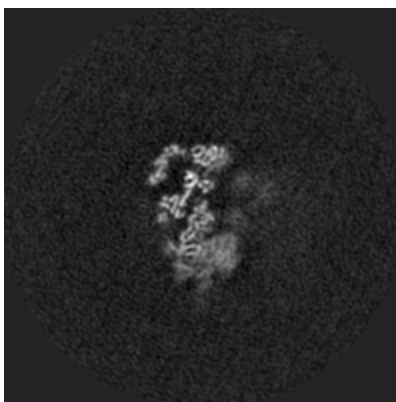
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

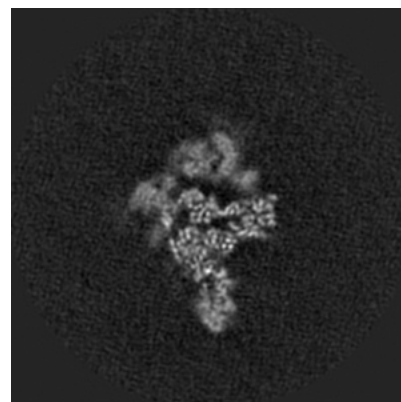
6.2.1 Primary map



X Index: 240



Y Index: 240

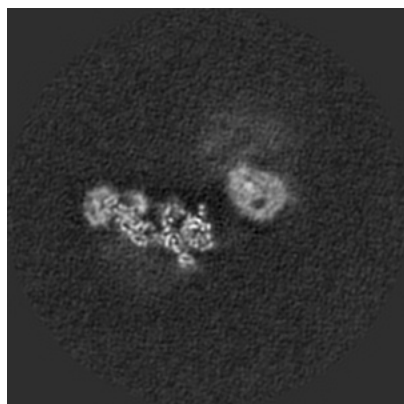


Z Index: 240

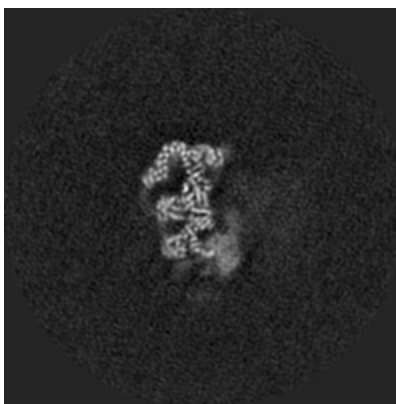
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

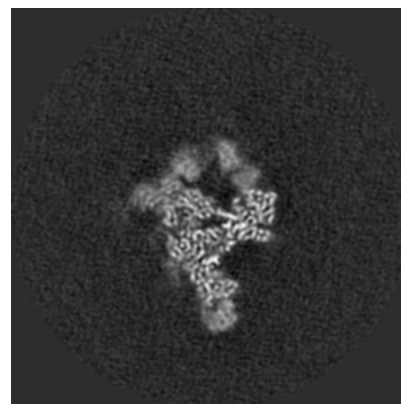
6.3.1 Primary map



X Index: 253



Y Index: 232

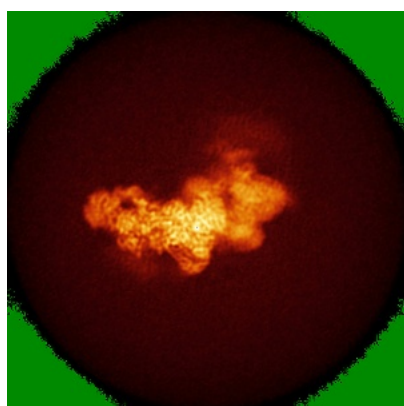


Z Index: 232

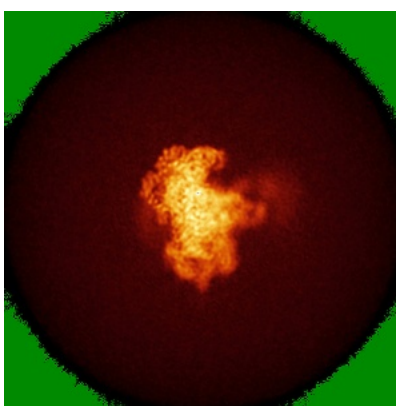
The images above show the largest variance slices of the map in three orthogonal directions.

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

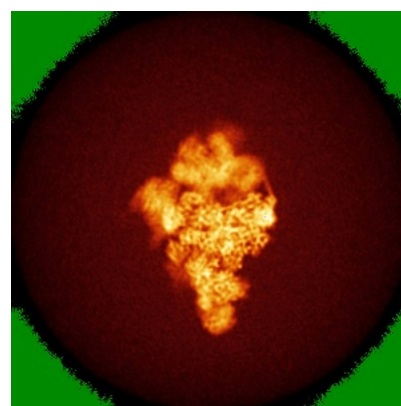
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views

This section was not generated.

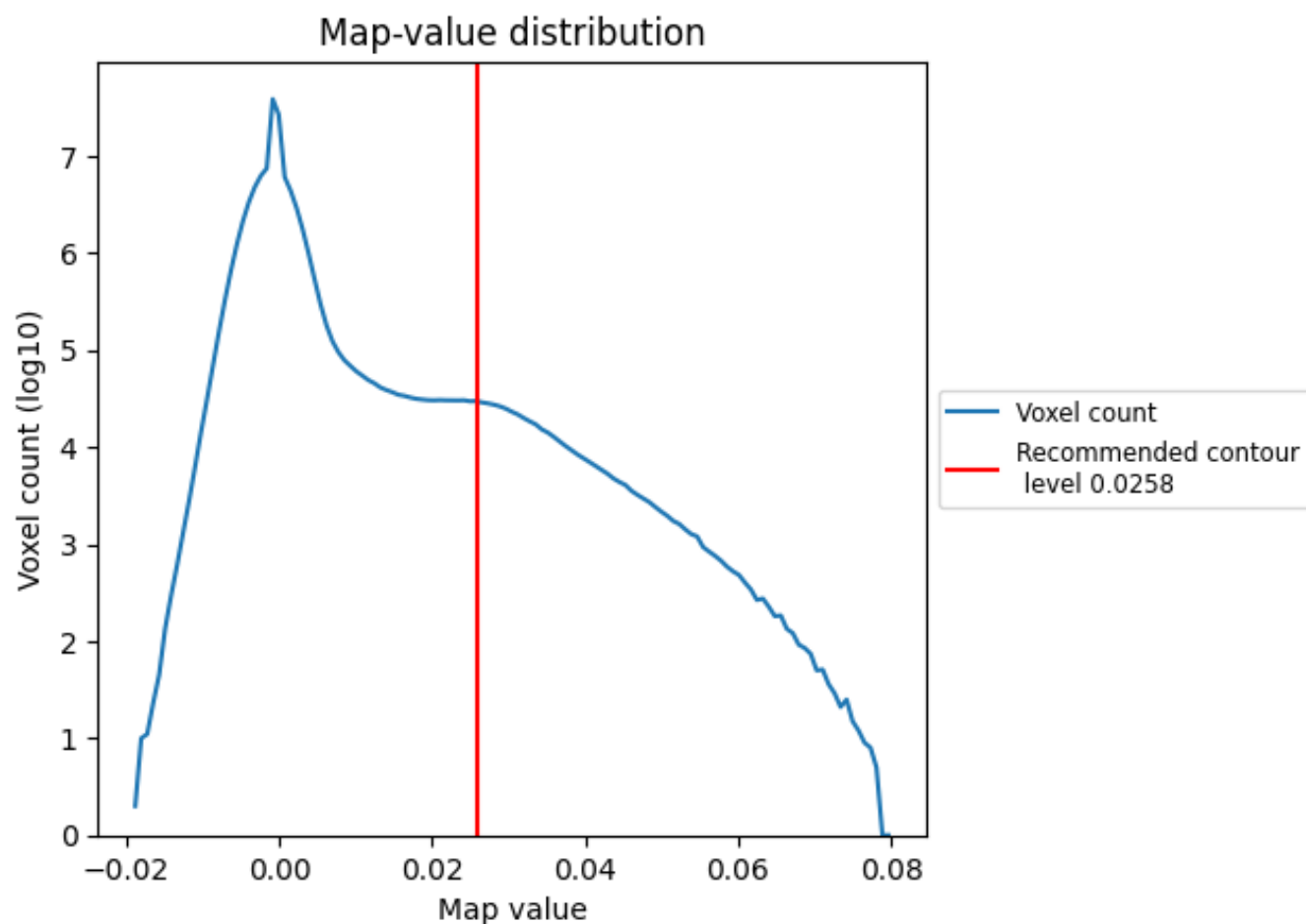
6.6 Mask visualisation

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

7 Map analysis [i](#)

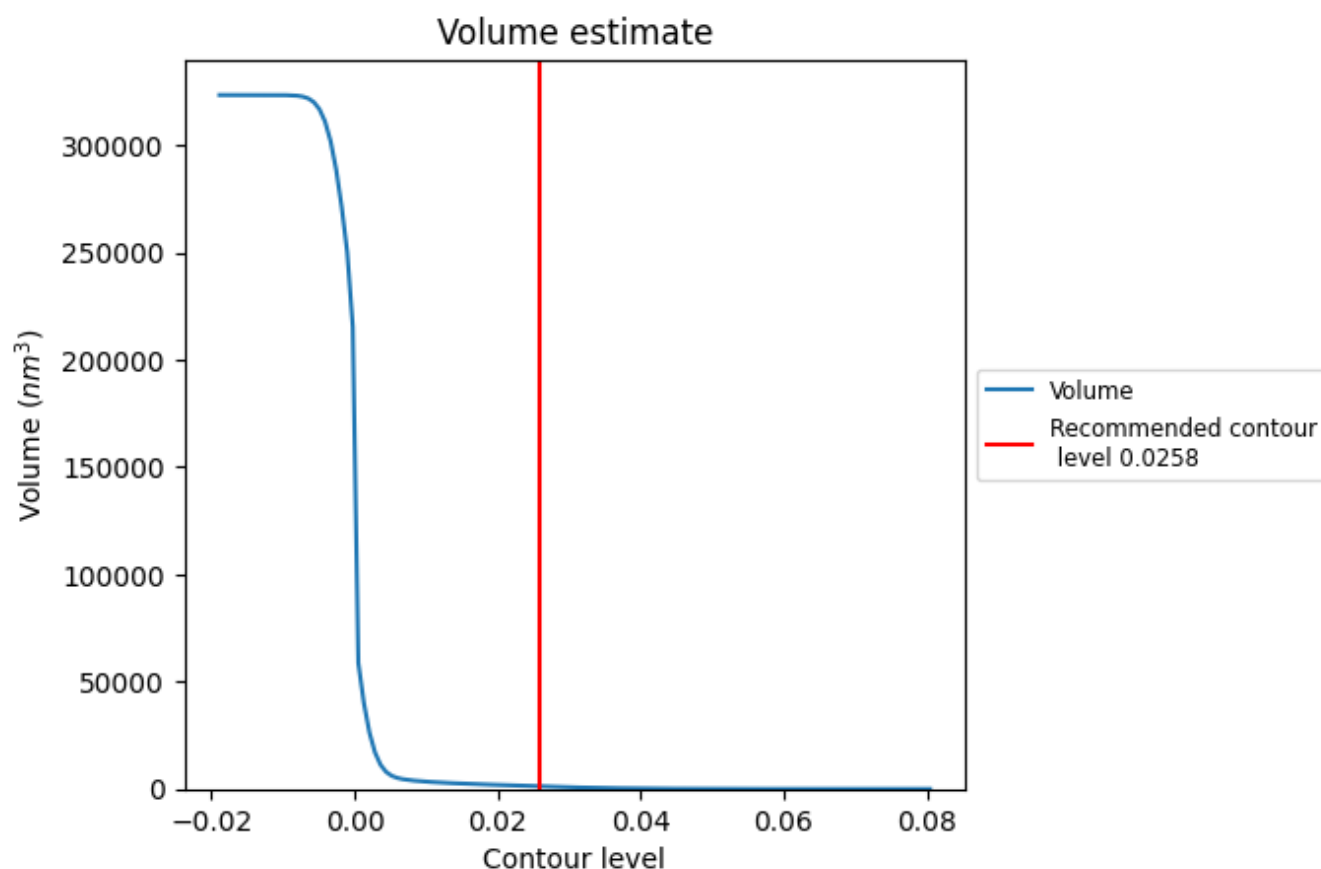
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

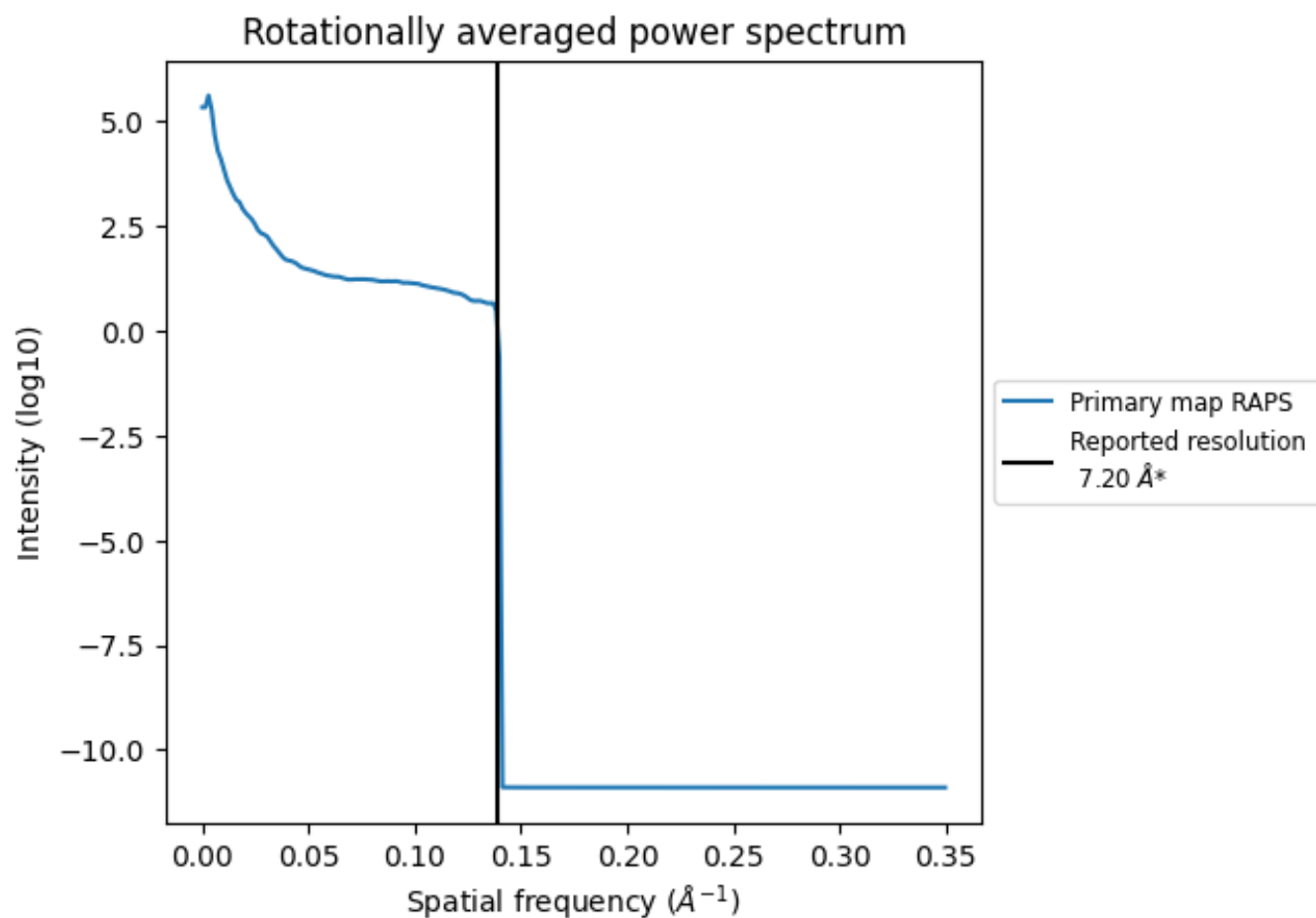
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1240 nm^3 ; this corresponds to an approximate mass of 1120 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 0.139 Å⁻¹

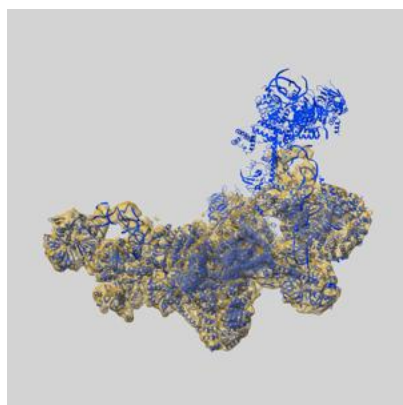
8 Fourier-Shell correlation

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

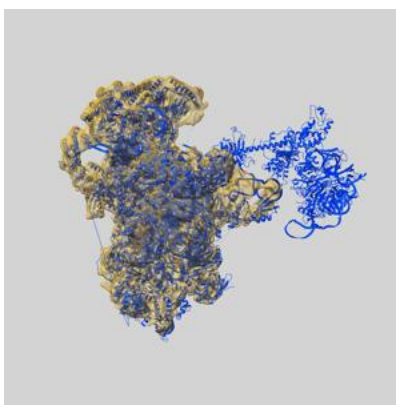
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-3683 and PDB model 5NRL. Per-residue inclusion information can be found in section 3 on page 14.

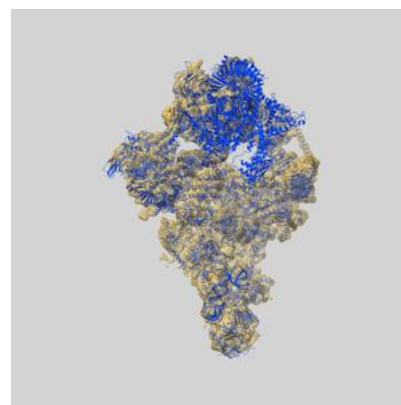
9.1 Map-model overlay [i](#)



X



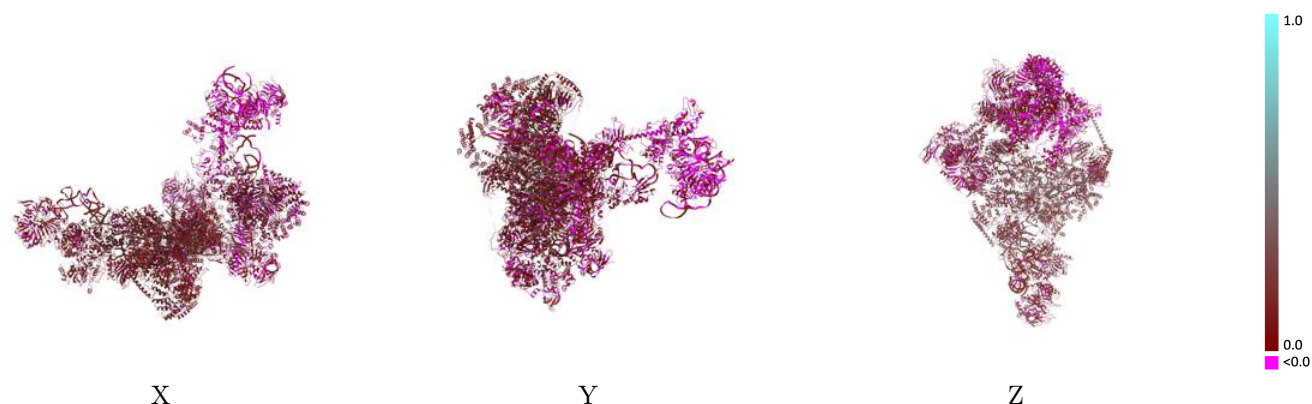
Y



Z

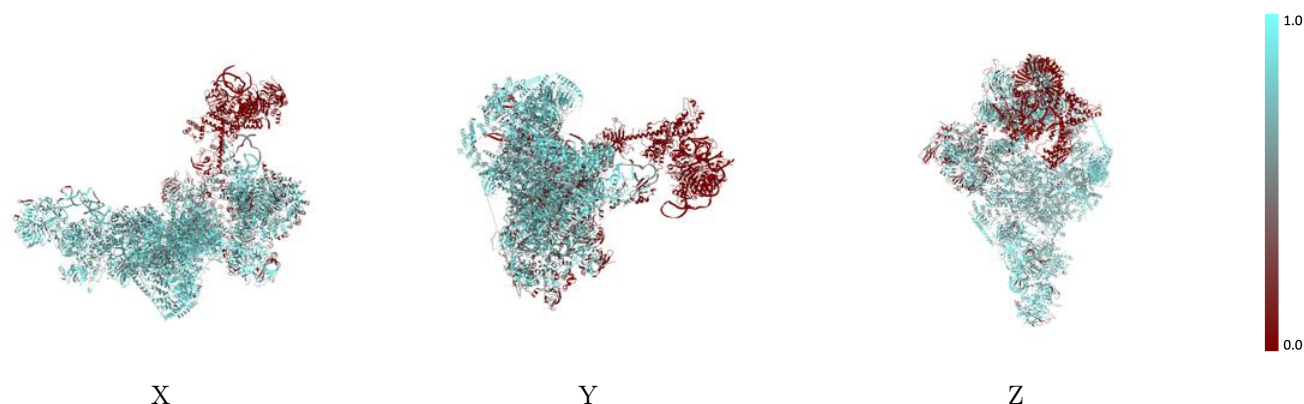
The images above show the 3D surface view of the map at the recommended contour level 0.0258 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



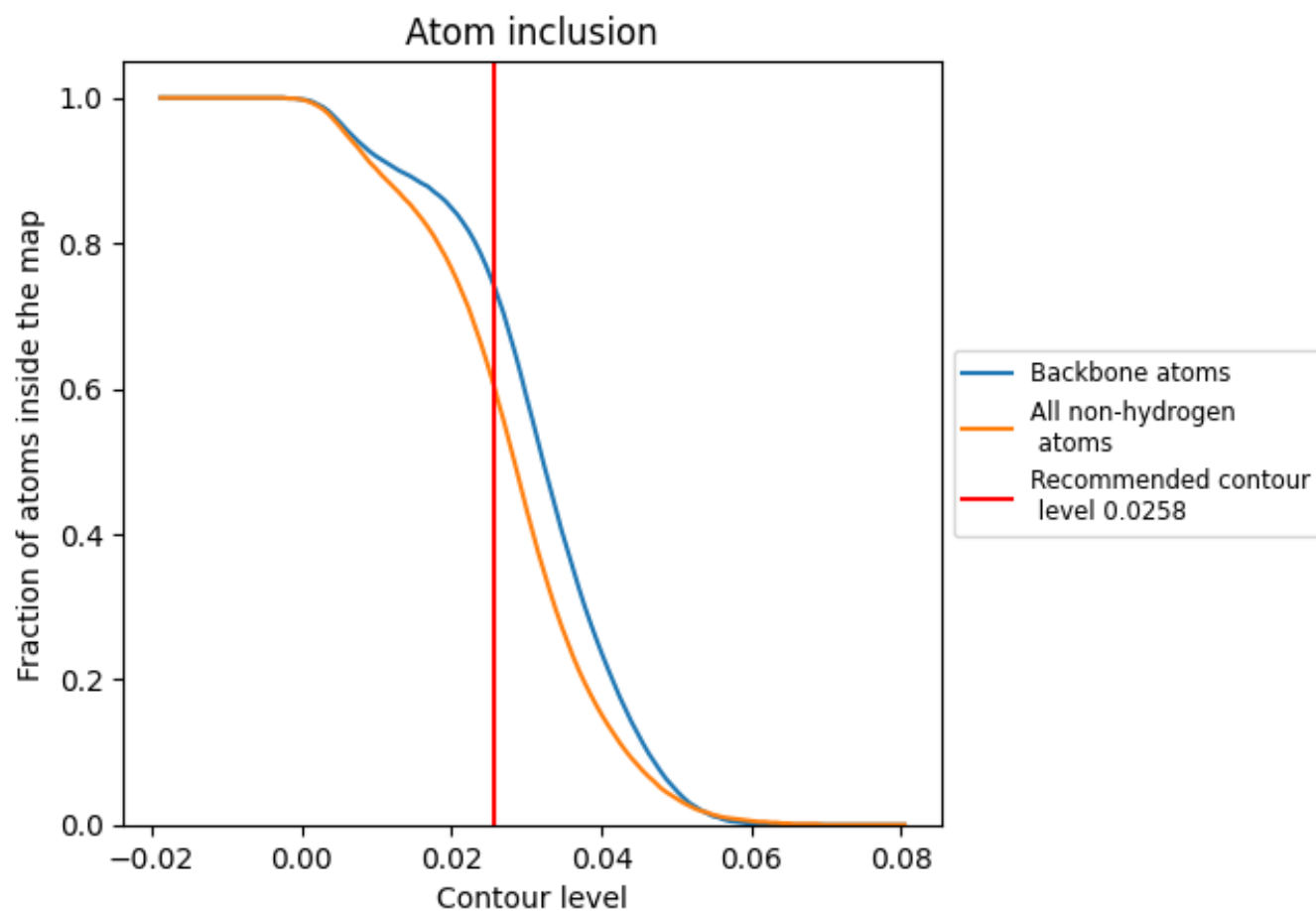
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0258).

9.4 Atom inclusion [i](#)



At the recommended contour level, 74% of all backbone atoms, 60% 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 (0.0258) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5990	 0.1170
2	 0.2760	 0.0470
3	 0.5440	 0.0880
4	 0.9080	 0.1920
5	 0.8050	 0.1610
6	 0.8490	 0.1950
7	 0.5250	 0.0490
8	 0.5600	 0.0820
A	 0.7100	 0.1500
B	 0.6040	 0.1240
C	 0.7390	 0.1500
D	 0.6650	 0.1440
E	 0.5550	 0.1590
F	 0.7210	 0.1670
G	 0.7410	 0.1600
H	 0.7760	 0.1380
I	 0.7900	 0.1290
J	 0.7460	 0.1600
K	 0.6930	 0.1580
L	 0.7210	 0.1510
M	 0.7060	 0.1400
N	 0.7880	 0.2460
O	 0.6550	 0.1020
P	 0.6160	 0.0950
Q	 0.5210	 0.1160
R	 0.4630	 0.0960
S	 0.7310	 0.0980
T	 0.1060	 0.0240
U	 0.2500	 0.0420
V	 0.0000	 0.0440
W	 0.0000	 -0.0000
X	 0.5070	 0.2310
Y	 0.0000	 0.0080
Z	 0.6490	 0.1080
a	 0.6180	 0.0880



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Chain	Atom inclusion	Q-score
b	 0.6820	 0.1200
d	 0.6500	 0.1270
e	 0.6880	 0.1190
f	 0.6930	 0.1170
g	 0.6540	 0.1230
h	 0.7060	 0.1050
i	 0.7160	 0.1360
j	 0.5100	 0.0780
k	 0.4970	 0.0340
l	 0.3620	 0.0730
m	 0.4950	 0.0640
n	 0.3060	 0.0440
o	 0.6960	 0.0800
p	 0.5580	 0.0620
q	 0.5850	 0.0790
r	 0.3290	 0.0510
s	 0.0000	 0.0010
t	 0.0000	 0.0150
u	 0.0000	 -0.0040
v	 0.0000	 -0.0080
w	 0.0000	 0.0040
x	 0.0000	 -0.0260
y	 0.0000	 -0.0010
z	 0.5740	 0.0700