



# Full wwPDB X-ray Structure Validation Report

Feb 28, 2014 – 06:21 PM GMT

PDB ID : 4KBW  
Title : 70S ribosome translocation intermediate GDPNP-II containing elongation factor EFG/GDPNP, mRNA, and tRNA bound in the pe\*/E state. This entry contains 50S ribosomal subunit B. The full asymmetric unit also contains PDB entries 4KBV (30S subunit B), 4KBT (30S subunit A), and 4KBU (50S subunit A).  
Authors : Zhou, J.; Lancaster, L.; Donohue, J.P.; Noller, H.F.  
Deposited on : 2013-04-23  
Resolution : 3.86 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

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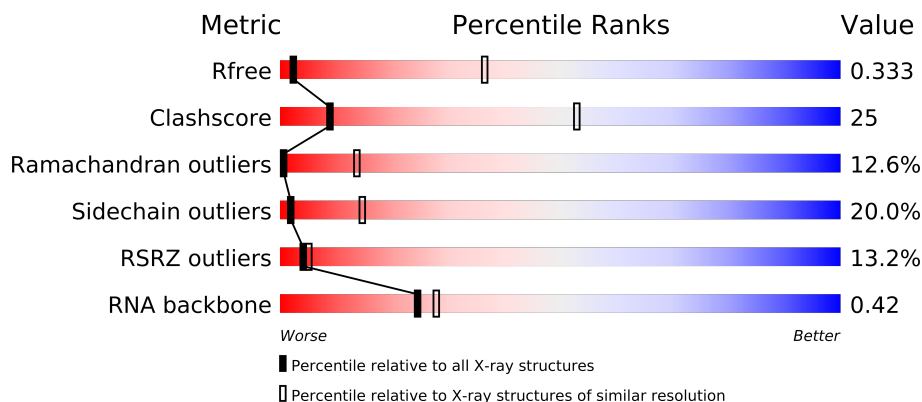
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.15 2013  
Xtriage (Phenix) : dev-1323  
EDS : stable22639  
Percentile statistics : 21963  
Refmac : 5.8.0049  
CCP4 : 6.3.0 (Settle)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : stable22683

# 1 Overall quality at a glance

The reported resolution of this entry is 3.86 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)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	66092	1013 (4.30-3.42)
Clashscore	79885	1145 (4.22-3.50)
Ramachandran outliers	78287	1091 (4.22-3.50)
Sidechain outliers	78261	1081 (4.22-3.50)
RSRZ outliers	66119	1014 (4.30-3.42)
RNA backbone	1838	1010 (4.84-2.80)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	C	228	
2	D	275	
3	E	205	
4	F	208	
5	G	181	
6	H	167	
7	J	170	
8	K	140	
9	O	122	
10	P	146	
11	Q	141	
12	R	117	

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Mol	Chain	Length	Quality of chain
13	S	99	
14	T	138	
15	U	117	
16	V	101	
17	W	113	
18	X	93	
19	Y	107	
20	Z	185	
21	0	84	
22	1	93	
23	4	35	
24	N	138	
25	2	71	
26	3	60	
27	5	59	
28	6	50	
29	7	49	
30	8	64	
31	9	37	
32	e	103	
33	f	31	
33	g	31	
34	h	30	
35	B	119	
36	A	2879	

## 2 Entry composition

There are 36 unique types of molecules in this entry. The entry contains 95124 atoms, of which 0 are hydrogen and 0 are deuterium.

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

- Molecule 1 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	C	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	20	VAL	ILE	CONFLICT	UNP Q72GV9
C	28	ARG	HIS	CONFLICT	UNP Q72GV9

- Molecule 2 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	D	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			

- Molecule 3 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	E	205	Total	C	N	O	S	0	0	0
			1569	991	300	272	6			

- Molecule 4 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	F	208	Total	C	N	O	S	0	0	0
			1628	1037	304	284	3			

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	2	LYS	-	INSERTION	UNP Q72I05
F	3	GLU	-	INSERTION	UNP Q72I05

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Chain	Residue	Modelled	Actual	Comment	Reference
F	4	VAL	-	INSERTION	UNP Q72I05
F	5	ALA	-	INSERTION	UNP Q72I05
F	6	VAL	-	INSERTION	UNP Q72I05

- Molecule 5 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	G	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	5	VAL	LEU	CONFLICT	UNP Q72I16

- Molecule 6 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	H	167	Total	C	N	O	S	0	0	0
			1274	806	238	229	1			

- Molecule 7 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	J	170	Total	C	N	O		0	0	0
			851	510	170	171				

- Molecule 8 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	K	140	Total	C	N	O	S	0	0	0
			1035	659	183	188	5			

- Molecule 9 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	O	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
O	69	ILE	VAL	CONFLICT	UNP Q72I14

- Molecule 10 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	P	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

- Molecule 11 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	Q	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	32	TYR	PHE	CONFLICT	UNP Q72I11

- Molecule 12 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
12	R	117	Total	C	N	O	0	0	0
			960	599	202	159			

- Molecule 13 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
13	S	99	Total	C	N	O	0	0	0
			775	488	155	132			

- Molecule 14 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	T	138	Total	C	N	O	S	0	0	0
			1147	713	235	198	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
T	123	GLN	LYS	CONFLICT	UNP Q72JU9
T	135	ALA	VAL	CONFLICT	UNP Q72JU9

- Molecule 15 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	U	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 16 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	V	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 17 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	W	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 18 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	X	93	Total	C	N	O	S	0	0	0
			734	477	132	125				

- Molecule 19 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	Y	107	Total	C	N	O	S	0	0	0
			818	524	155	134	5			

- Molecule 20 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	Z	185	Total	C	N	O	S	0	0	0
			1473	939	262	270	2			

- Molecule 21 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	0	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	11	ARG	LYS	CONFLICT	UNP Q72HR3

- Molecule 22 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	1	93	Total	C	N	O	S	0	0	0
			732	460	145	126	1			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1	81	LYS	ARG	CONFLICT	UNP Q72G84

- Molecule 23 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	4	35	Total	C	N	O	S	0	0	0
			271	174	44	50	3			

- Molecule 24 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	N	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 25 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	2	71	Total	C	N	O	S	0	0	0
			598	370	121	106	1			

- Molecule 26 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	3	60	Total	C	N	O	S	0	0	0
			477	303	91	82	1			

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			



There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
5	29	THR	ILE	CONFLICT	UNP P62652

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	6	50	Total	C	N	O	S	0	0	0
			433	270	88	71	4			

- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 32 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	e	102	Total	C	N	O		0	0	0
			686	430	119	137				

- Molecule 33 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	f	31	Total	C	N	O		0	0	0
			156	93	31	32				
33	g	31	Total	C	N	O		0	0	0
			156	93	31	32				

- Molecule 34 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
34	h	30	Total	C	N	O	0	0	0
			151	90	30	31			

- Molecule 35 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	B	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			

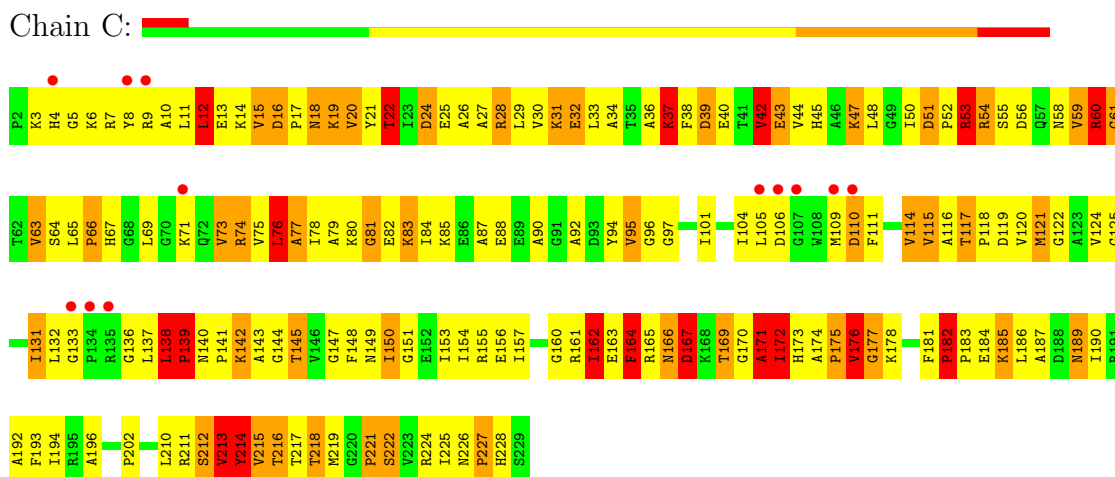
- Molecule 36 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	A	2879	Total	C	N	O	P	0	0	0
			61997	27594	11582	19943	2878			

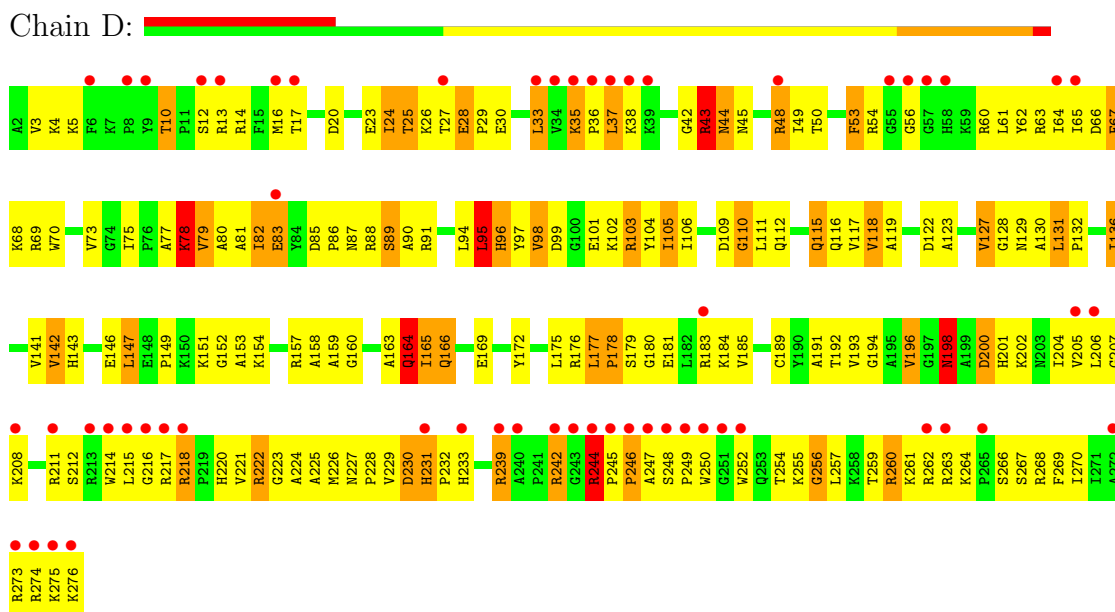
### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron 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 dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). 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: 50S ribosomal protein L1

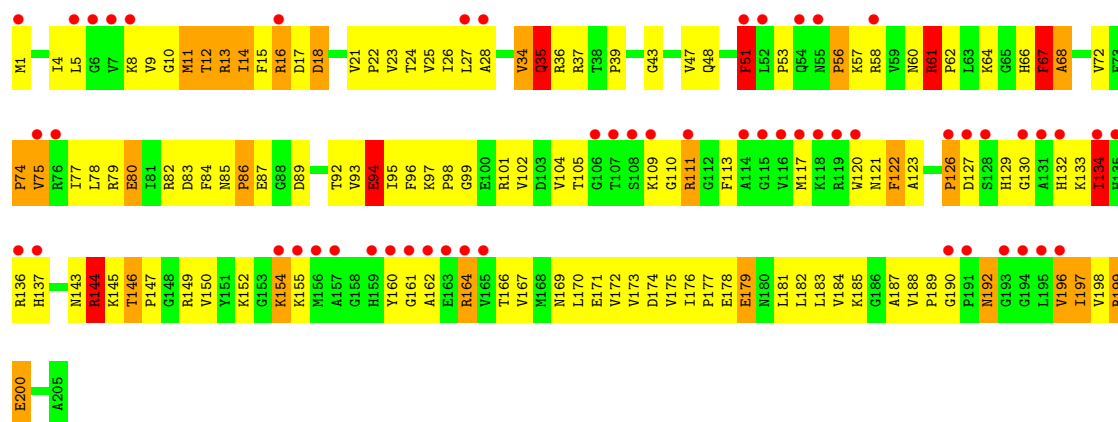


#### • Molecule 2: 50S ribosomal protein L2



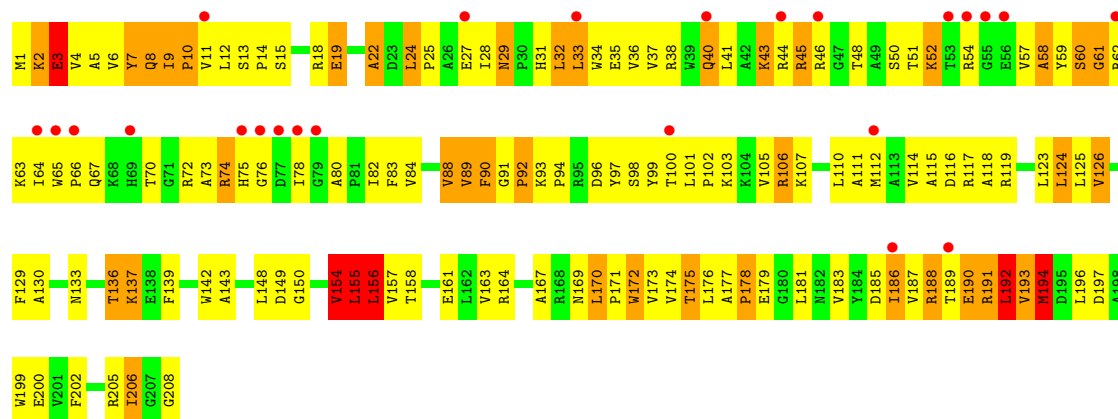
#### • Molecule 3: 50S ribosomal protein L3





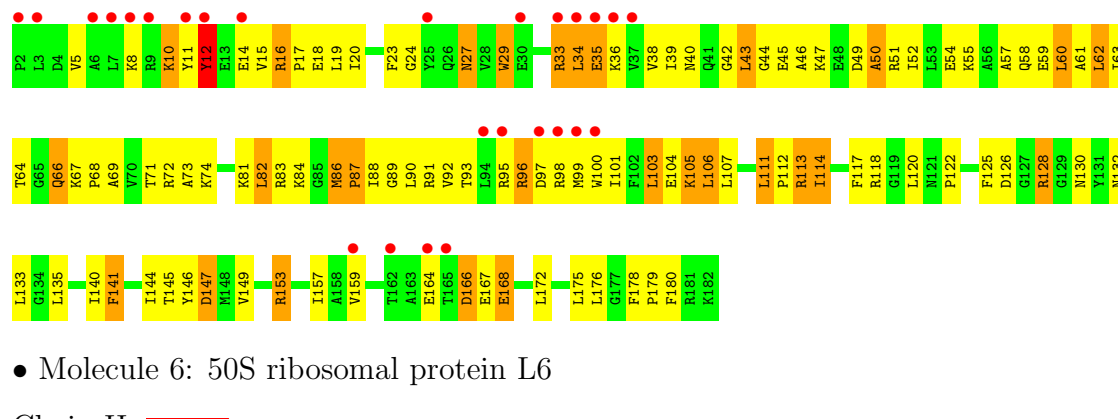
• Molecule 4: 50S ribosomal protein L4

Chain F:



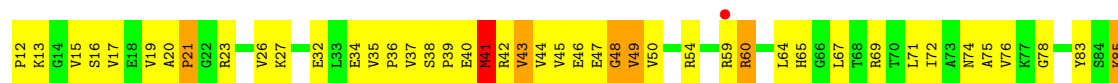
• Molecule 5: 50S ribosomal protein L5

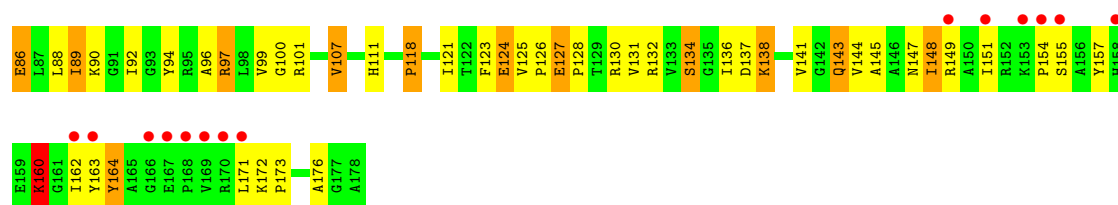
Chain G:



• Molecule 6: 50S ribosomal protein L6

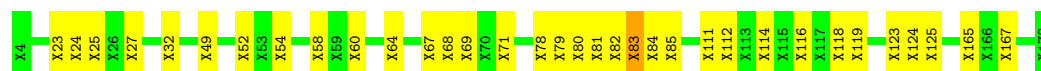
Chain H:





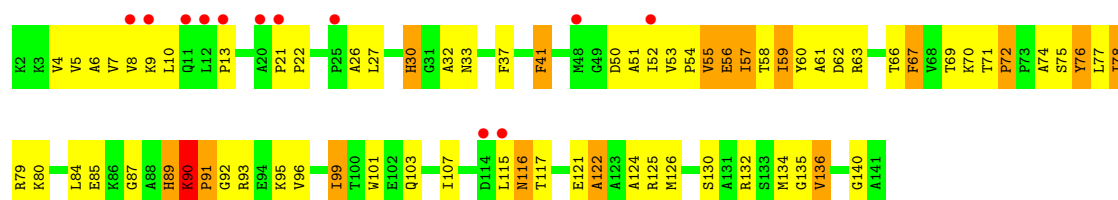
• Molecule 7: 50S ribosomal protein L10

Chain J:



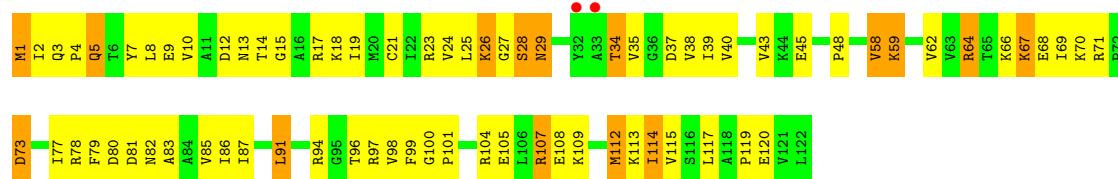
• Molecule 8: 50S ribosomal protein L11

Chain K:



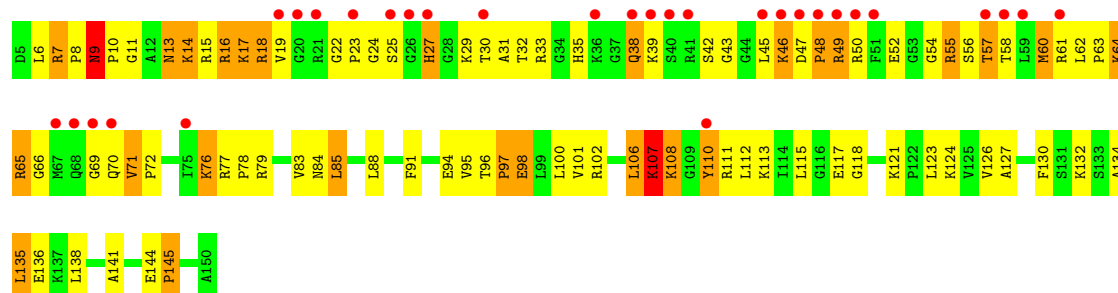
• Molecule 9: 50S ribosomal protein L14

Chain O:



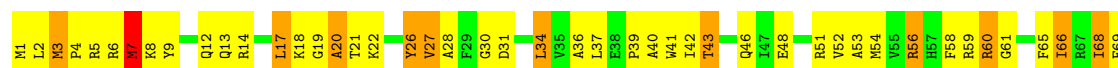
• Molecule 10: 50S ribosomal protein L15

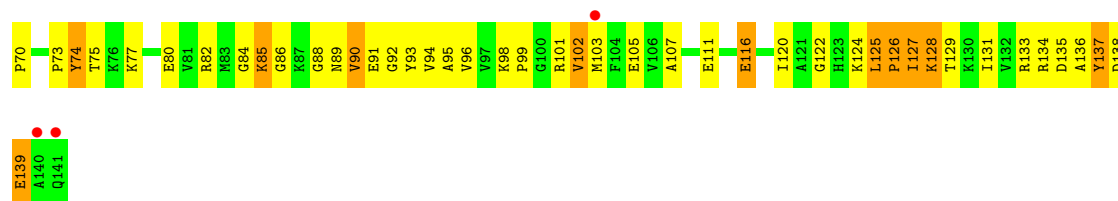
Chain P:



• Molecule 11: 50S ribosomal protein L16

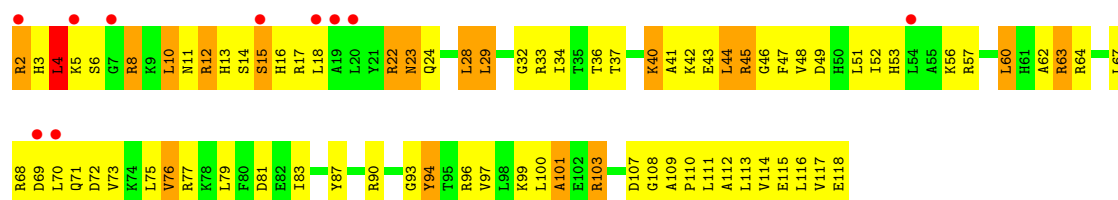
Chain Q:





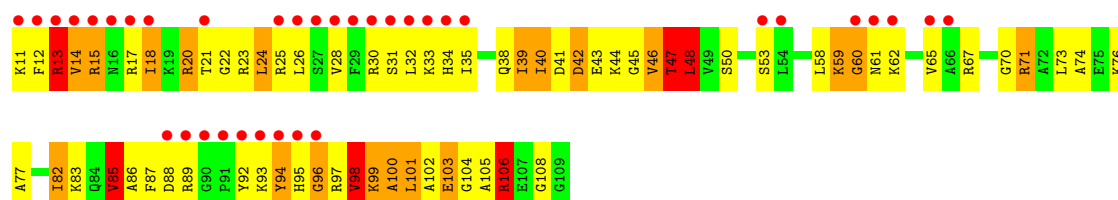
• Molecule 12: 50S ribosomal protein L17

Chain R:



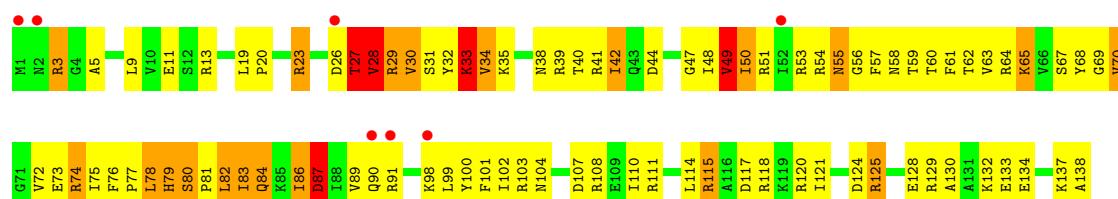
• Molecule 13: 50S ribosomal protein L18

Chain S:



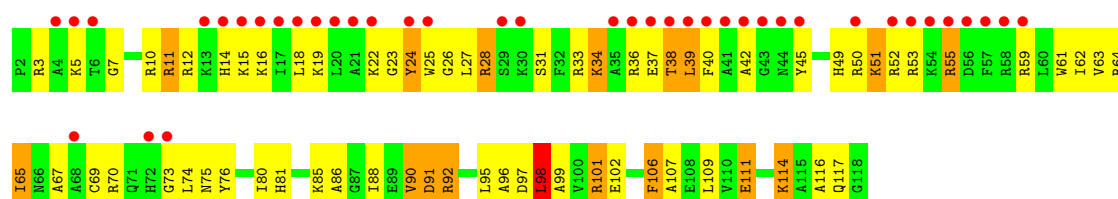
• Molecule 14: 50S ribosomal protein L19

Chain T:



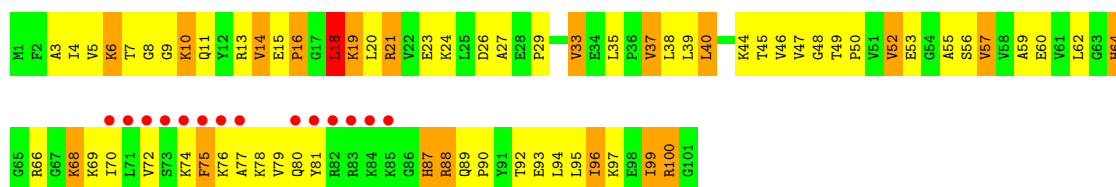
• Molecule 15: 50S ribosomal protein L20

Chain U:



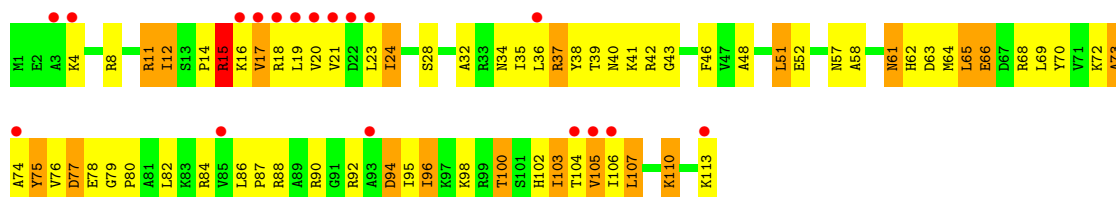
• Molecule 16: 50S ribosomal protein L21

Chain V:



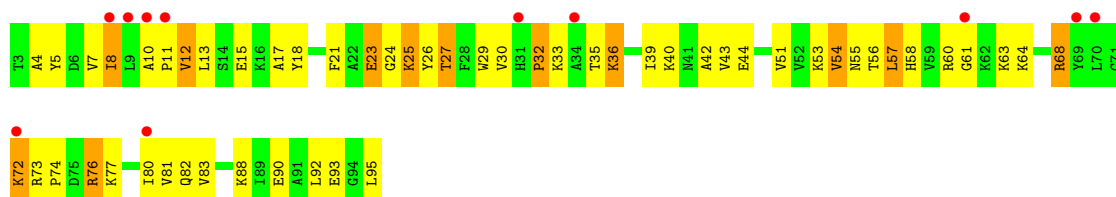
• Molecule 17: 50S ribosomal protein L22

Chain W:



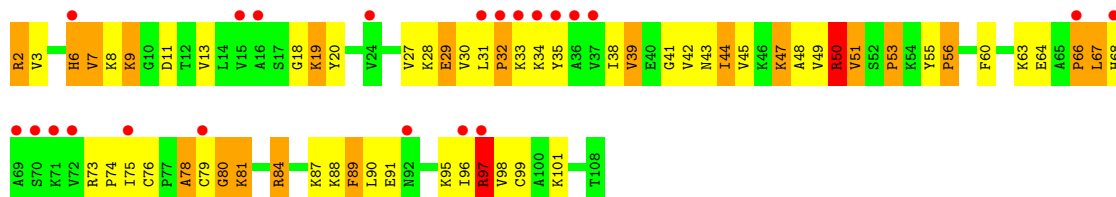
• Molecule 18: 50S ribosomal protein L23

Chain X:



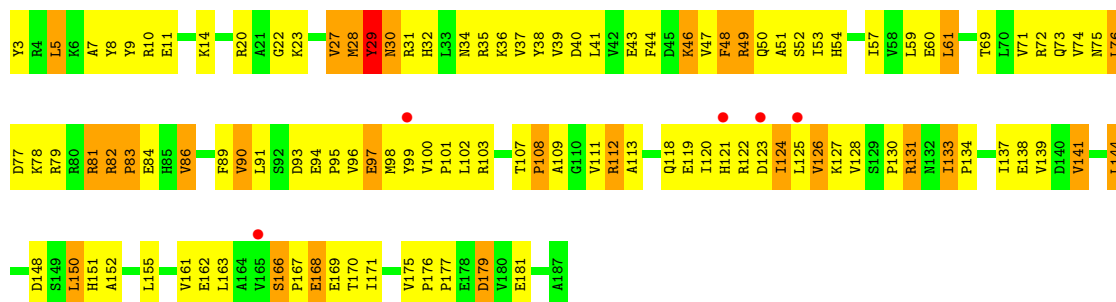
• Molecule 19: 50S ribosomal protein L24

Chain Y:



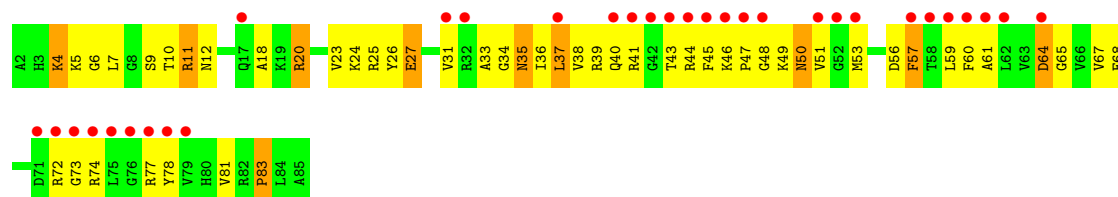
• Molecule 20: 50S ribosomal protein L25

Chain Z:



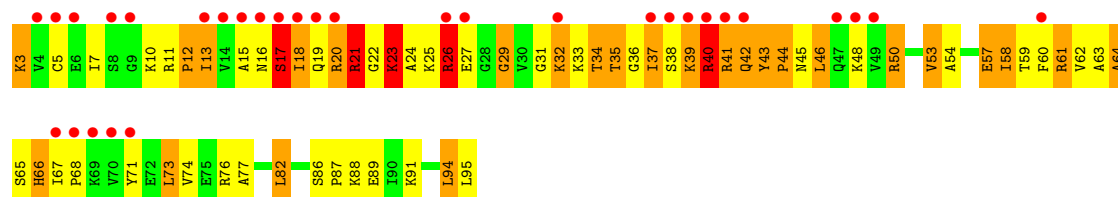
• Molecule 21: 50S ribosomal protein L27

Chain 0:



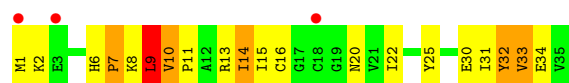
- Molecule 22: 50S ribosomal protein L28

Chain 1:



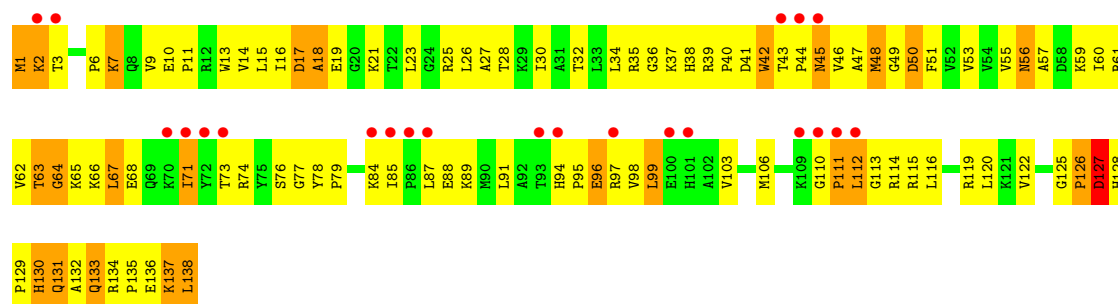
- Molecule 23: 50S ribosomal protein L31

Chain 4:



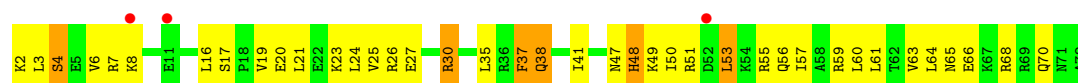
- Molecule 24: 50S ribosomal protein L13

Chain N:



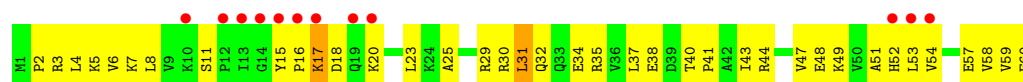
- Molecule 25: 50S ribosomal protein L29

Chain 2:



- Molecule 26: 50S ribosomal protein L30

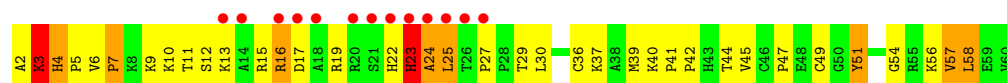
Chain 3:





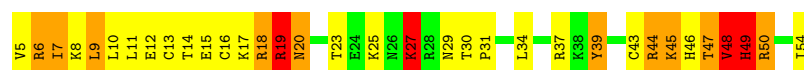
- Molecule 27: 50S ribosomal protein L32

Chain 5: 



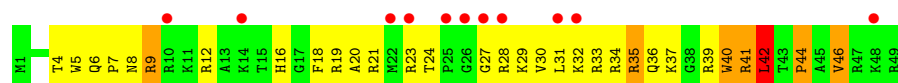
- Molecule 28: 50S ribosomal protein L33

Chain 6: 



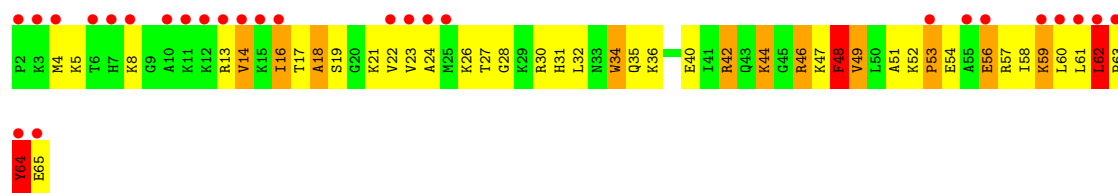
- Molecule 29: 50S ribosomal protein L34

Chain 7: 



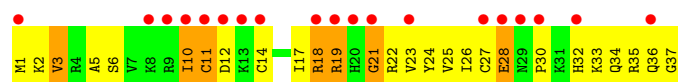
- Molecule 30: 50S ribosomal protein L35

Chain 8: 



- Molecule 31: 50S ribosomal protein L36

Chain 9: 



- Molecule 32: 50S ribosomal protein L7/L12

Chain e: 



- Molecule 33: 50S ribosomal protein L7/L12

Chain f: 

There are no outlier residues recorded for this chain.

- Molecule 33: 50S ribosomal protein L7/L12

Chain g: 

There are no outlier residues recorded for this chain.

- Molecule 34: 50S ribosomal protein L7/L12

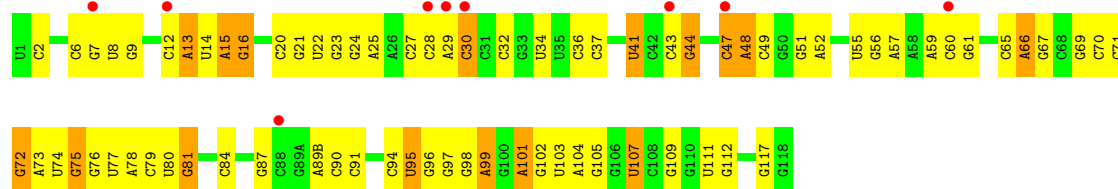
Chain h:



There are no outlier residues recorded for this chain.

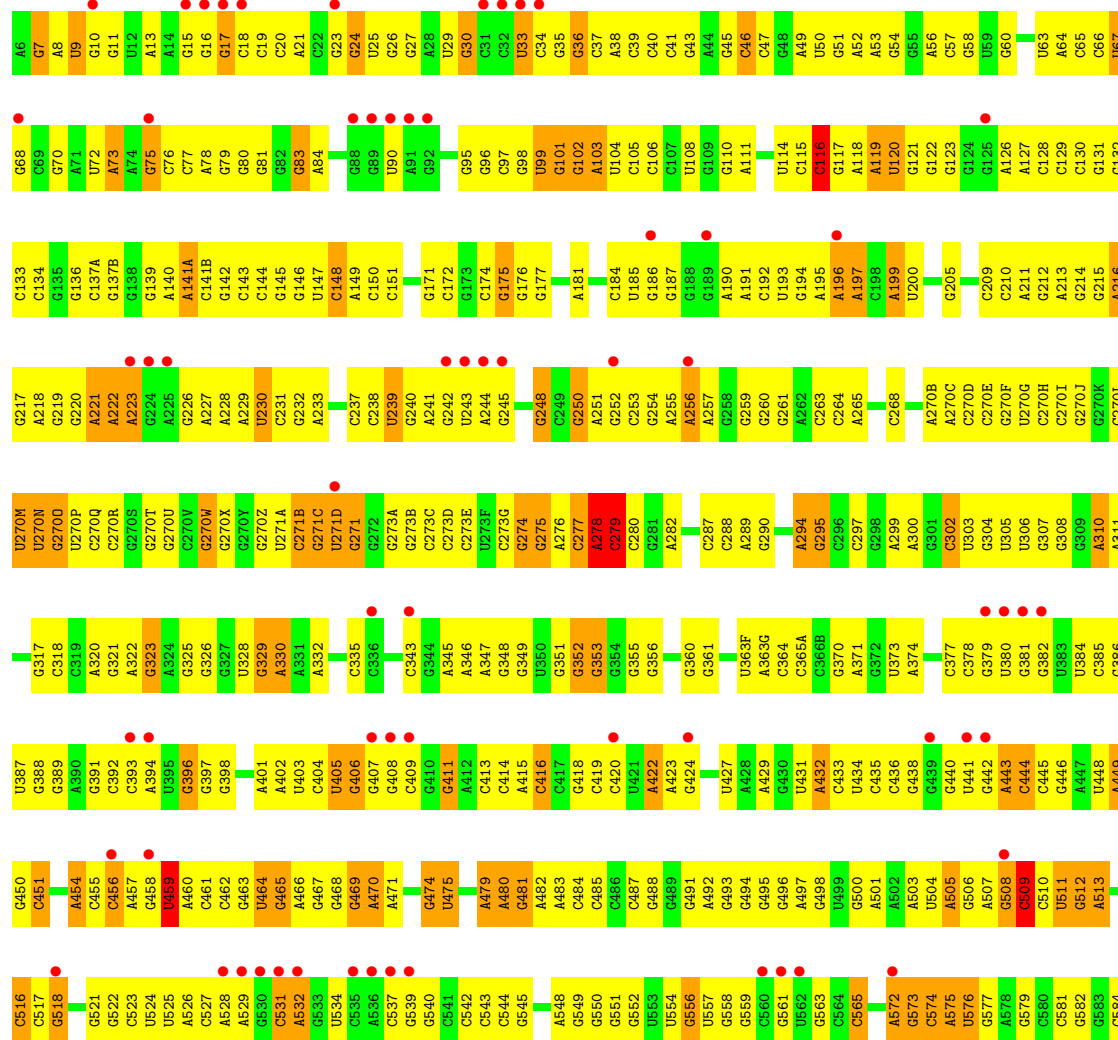
- Molecule 35: 5S ribosomal RNA

Chain B:

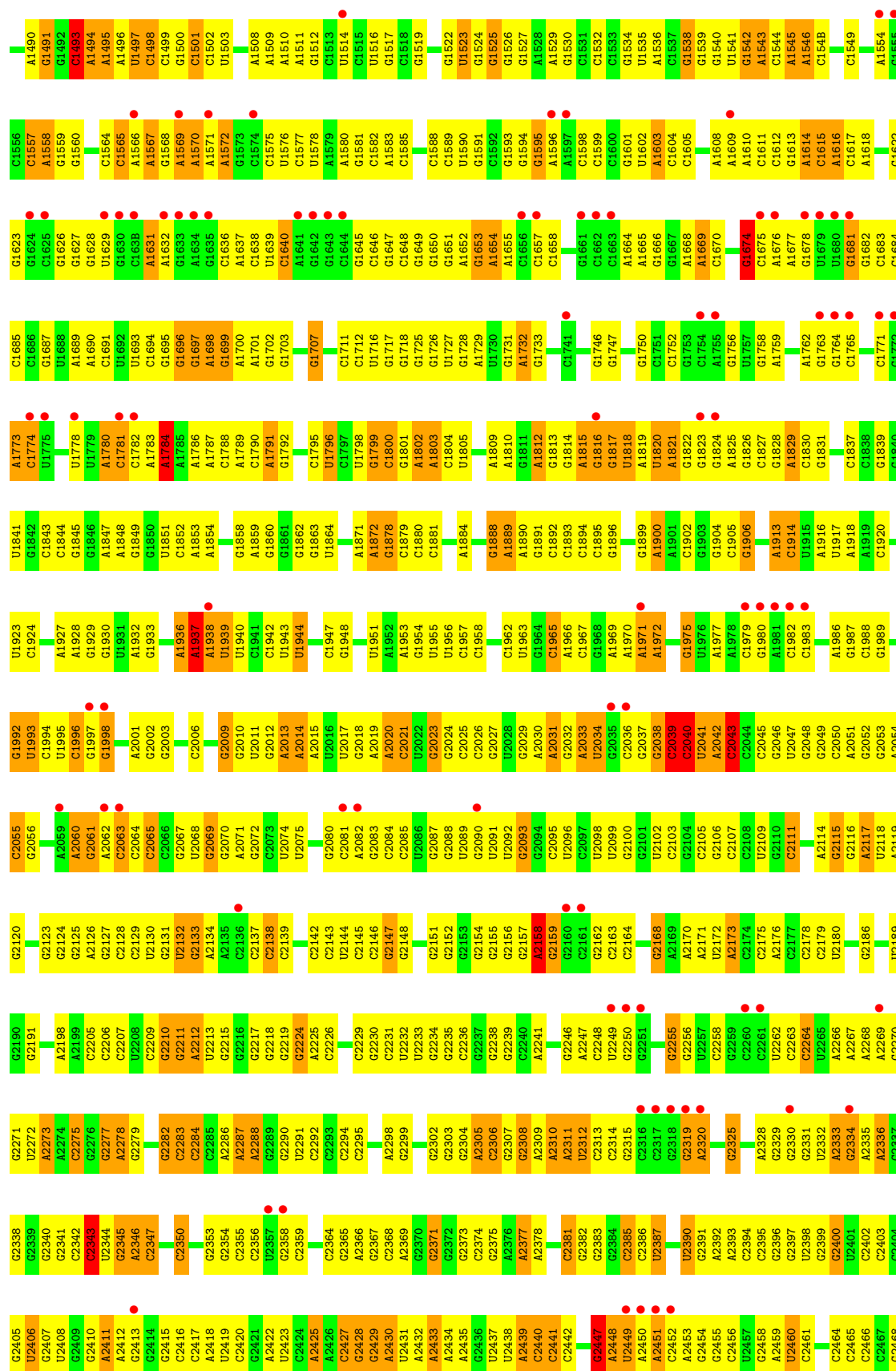


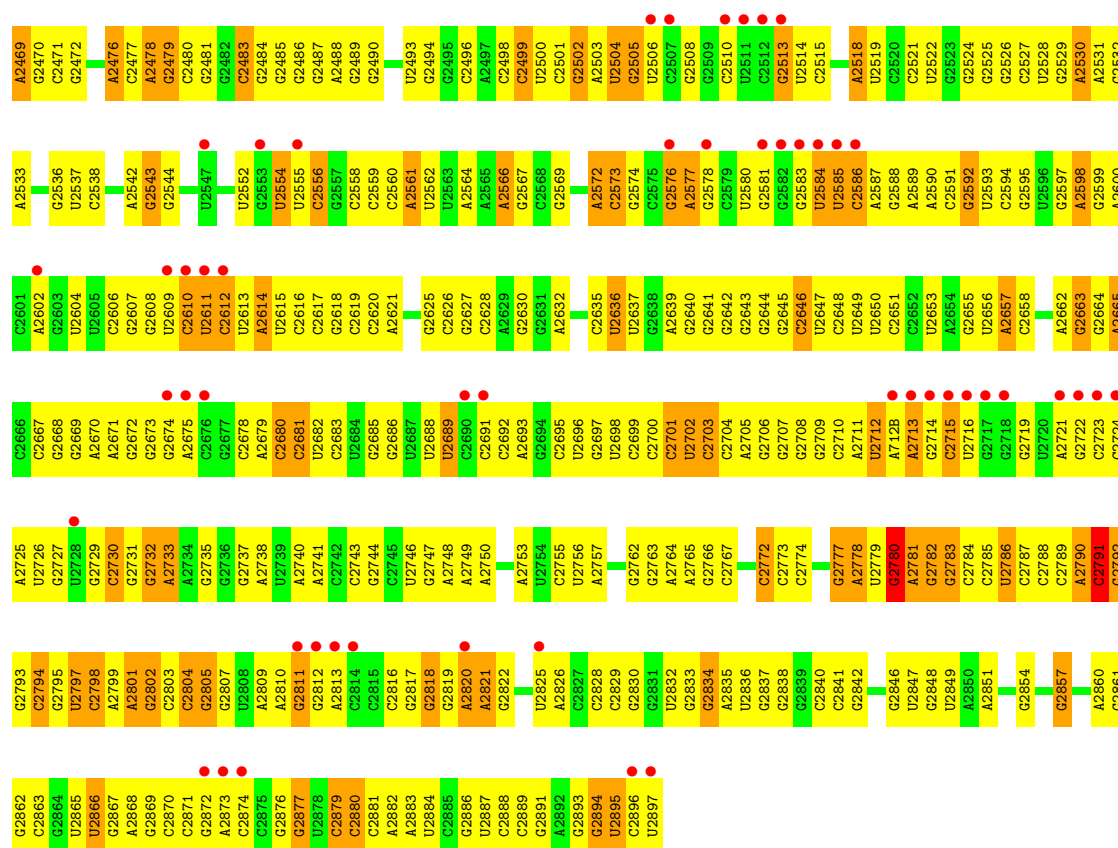
- Molecule 36: 23S ribosomal RNA

Chain A:



U1420	A1353	G1291	A1095	G1031	C970	G906	C838	G776	G710	G647	G585
G1421	A1354	U1292	A1096	A1032	C971	U907	U839	A777	G711	G648	A586
G1422	G1355	C1293	U1097	U1033	G974A	A908	C840	G778	G712	G649	C587
G1423	G1356	U1294	C1161	G1034	A909	A909	C841	U779	G713	C650	U588
G1424	G1357	G1295	C1162	G1035	C974B	A910	G842	G780	U714	U651	C589
G1425	G1358	G1232	U1101	U1036	G975	A911	G843	G781	U715	U652	A590
G1426	A1359	G1233	C1102	G1036	C976	C912	C844	A782	A716	C653	C591
A1427	A1360	U1234	A1103	G1039	G977	U913	G845	A783	G717	U654	U594
C1428	G1361	U1235	G978	U1040	G978	C914	C846	A784	G718	A655	G595
G1429	G1362	G1236	U1105	C1041	G979	C915	U847	G785	C719	G656	C596
C1430	G1364	A1237	U1106	G1042	A980	G916	G848	G786	C720	U657	U597
U1431	A1365	U1240	G1107	C1043	A981	A917	C849	U787	G721	C658	G598
A1434	A1366	A1241	U1108	G1044	C982	A918	C850	A788	U724	C659	G599
G1435	G1371	A1242	C1109	A1045	A983	G919	U851	A789	G725	G660	G600
G1436	U1372	A1243	G1110	G1047	C984	U922	G852	C791	A726	G661	C601
G1437	A1373	G1244	A1111	A1048	C985	C923	G853	G792	G727	G662	G602
U1438	G1374	G1245	U1112	C1049	A988	C924	G854	G793	G728	G663	A603
A1439	G1375	G1246	U1113	A1050	G989	C925	G855	G794	G729	C664	G604
G1440	C1376	G1247	U1114	G1051	A990	A926	C856	G795	C730	C665	C605
G1441	A1377	U1249	C1116	C1052	C991	U928	U858	C796	G733	U667	U606
G1442	U1378	C1251	G1183	G1053	C992	G929	A861	C797	A734	G668	U607
G1443	A1379	G1252	G1184	A1054	G993	U930	G857	G798	A735	G669	A608
G1444	G1380	A1253	G1185	G1055	C994	G931	G862	G799	C736	G670	A609
A1445	G1381	U1254	G1186	G1056	C995	G932	A863	A800	C737	C671	G609A
C1446	G1382	U1255	U1188	A1057	A996	A933	C866	G681	G738	C672	G609B
G1447	C1383	G1256	A1189	G1058	G997	G934	A866	A802	G739	C673	G612
G1448	A1384	C1257	U1190	G1059	C998	C935	G869	G805	U740	G674	U613
A1498	G1385	G1258	G1125	U1060	U999	G938	U871	U807	G741	A675	G615
U1453	U1389	G1259	G1126	U1061	A1000	G939	A870	G806	G742	A676	G616
A1454	U1391	G1260	A1127	G1062	A1001	C940	G743	U807	G744	G617	G618A
G1455	G1392	C1261	A1128	G1063	G1002	A941	U810	G880	G745	G618	G620
G1456	A1393	A1262	A1129	C1064	G1003	U943	U811	G881	G746	G619	A621
U1459	G1394	G1263	G1131	C1005	C1004	U944	U813	G882	U747	G620	G622
A1460	A1395	U1264	U1132	A1006	C1006	G944	G814	G883	G748	G623	G624
G1461	U1396	G1265	A1133	C1007	C1007	A945	C815	G884	C749	G625	G626
C1462	U1397	U1266	C1136	C1072	C1008	G946	C816	G885	A751	G627	G628
C1463	G1398	C1270	G1137	A1073	A1009	G947	C817	G886	A752	C691	G629
C1464	C1399	G1271	U1138	G1074	A1010	G948	G887	G889	C753	C692	G630
G1465	G1400	A1272	G1139	C1075	C1011	C949	G888	G890	G754	G631	A631
G1466	G1401	U1273	G1140	C1076	U1012	G950	G889	G891	C755	A632	A633
C1467	C1402	A1274	C1141	A1077	C1013	C951	C884	G892	C756	A634	C634
C1468	C1403	A1275	U1142	C1079	G1015	G954	A887	U822	U757	C635	C636
A1469	C1404	U1276	A1143	C1080	G1016	C955	C888	U823	C758	G637	A637
U1472	U1405	G1277	A1144	U1081	G1017	G956	C889	A824	G759	G700	A638
G1473	U1406	A1278	G1145	C1082	C1018	A957	A890	C825	G760	G701	G639
C1474	C1407	G1279	C1146	U1083	U1019	U958	G892	U826	A761	G702	C640
U1477	C1408	G1280	C1147	A1084	A1020	A959	C893	U827	U762	C698	C641
G1478	C1409	G1281	C1148	A1085	A1021	A960	C894	U828	G763	A699	G636
G1479	G1345	U1282	U1149	U1086	G1022	C961	U895	U829	A764	G700	A637
G1480	G1346	A1283	C1150	A1087	U1023	G962	A896	G830	G765	G701	G638
U1481	G1347	G1285	G1151	A1088	G1024	U963	A897	G831	G766	G702	U639
G1483	U1415	A1286	C1152	G1089	G1025	C964	C898	G832	U767	C640	C640
G1416	C1417	A1287	C1153	U1090	A1026	C965	A899	U833	G768	A705	C641
U1486	C1418	U1288	A1156	G1091	A1027	G966	C903	C834	A706	A706	A644
G1487	U1352	C1290	G1157	G1092	A1028	C967	C904	A835	U773	G707	A645
				G1093	A1029	G968	U905	G836	A774	C708	A646
				U1094	G1030	U969		C837	G775	U709	





## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	302.39Å 683.92Å 356.70Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 3.86 182.04 – 3.87	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-3.86) 64.4 (182.04-3.87)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	0.34	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.11 (at 3.89Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, $R_{free}$	0.264 , 0.317 0.332 , 0.333	Depositor DCC
$R_{free}$ test set	21649 reflections (5.01%)	DCC
Wilson B-factor (Å <sup>2</sup> )	76.3	Xtriage
Anisotropy	0.322	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.25 , 432.4	EDS
Estimated twinning fraction	0.320 for h,-k,-l	Xtriage
L-test for twinning	$\langle  L  \rangle = 0.24$ , $\langle L^2 \rangle = 0.09$	Xtriage
Outliers	0 of 432130 reflections	Xtriage
$F_o, F_c$ correlation	0.59	EDS
Total number of atoms	95124	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	88.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.42% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

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	C	0.55	1/1774 (0.1%)	0.93	7/2391 (0.3%)
2	D	0.34	0/2195	0.64	2/2955 (0.1%)
3	E	0.34	0/1602	0.65	1/2160 (0.0%)
4	F	0.43	0/1663	0.87	6/2249 (0.3%)
5	G	0.39	1/1499 (0.1%)	0.63	0/2016
6	H	0.30	0/1298	0.56	0/1751
8	K	0.27	0/1054	0.52	0/1427
9	O	0.29	0/943	0.55	0/1269
10	P	0.30	0/1131	0.62	0/1504
11	Q	0.32	0/1143	0.63	0/1527
12	R	0.32	0/974	0.63	0/1302
13	S	0.36	0/783	0.68	0/1041
14	T	0.32	0/1161	0.65	0/1549
15	U	0.38	0/982	0.61	0/1306
16	V	0.34	0/790	0.66	1/1057 (0.1%)
17	W	0.34	0/911	0.63	0/1220
18	X	0.29	0/748	0.55	1/1004 (0.1%)
19	Y	0.31	0/831	0.58	0/1108
20	Z	0.31	0/1505	0.60	0/2042
21	0	0.27	0/671	0.53	0/892
22	1	0.50	0/739	0.82	3/981 (0.3%)
23	4	0.36	0/276	0.59	0/372
24	N	0.34	0/1131	0.66	0/1525
25	2	0.34	0/600	0.58	0/793
26	3	0.29	0/482	0.53	0/646
27	5	0.31	0/473	0.58	0/639
28	6	0.34	0/440	0.66	0/586
29	7	0.32	0/438	0.55	0/575
30	8	0.32	0/525	0.63	0/691
31	9	0.30	0/310	0.63	0/407
32	e	0.31	0/538	0.56	0/715
35	B	0.38	0/2853	1.07	10/4451 (0.2%)
36	A	0.38	3/69437 (0.0%)	1.06	187/108401 (0.2%)
All	All	0.37	5/101900 (0.0%)	0.97	218/152552 (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	C	0	3
2	D	0	2
4	F	0	1
5	G	0	2
7	J	0	1
13	S	0	3
14	T	0	1
17	W	0	2
22	1	0	2
All	All	0	17

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	G	114	ILE	N-CA	-7.54	1.31	1.46
1	C	214	TYR	CD1-CE1	6.83	1.49	1.39
36	A	1020	A	N9-C8	-5.47	1.33	1.37
36	A	1137	G	N9-C4	5.46	1.42	1.38
36	A	1006	C	N1-C2	5.06	1.45	1.40

All (218) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	A	1006	C	N1-C2-O2	12.16	126.20	118.90
36	A	1006	C	N3-C2-O2	-11.85	113.61	121.90
36	A	1137	G	N3-C4-C5	-10.22	123.49	128.60
36	A	1006	C	C6-N1-C2	-9.95	116.32	120.30
36	A	2040	C	C6-N1-C2	-9.65	116.44	120.30
36	A	1137	G	O4'-C1'-N9	9.04	115.44	108.20
36	A	2039	C	N3-C2-O2	-9.04	115.57	121.90
36	A	2039	C	N1-C2-O2	8.76	124.16	118.90
35	B	75	G	N3-C4-C5	-8.46	124.37	128.60
4	F	155	LEU	N-CA-C	-8.29	88.61	111.00
36	A	1493	C	C2-N1-C1'	8.23	127.85	118.80
36	A	1020	A	C5-N7-C8	8.20	108.00	103.90
36	A	2794	C	C2-N1-C1'	8.20	127.82	118.80
36	A	1493	C	N1-C2-O2	8.11	123.77	118.90
35	B	101	A	C6-N1-C2	-8.03	113.78	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	A	1138	G	O4'-C1'-N9	7.87	114.49	108.20
36	A	1006	C	C2-N1-C1'	7.84	127.43	118.80
35	B	75	G	C6-N1-C2	-7.84	120.40	125.10
35	B	75	G	N3-C4-N9	7.81	130.69	126.00
36	A	479	A	N1-C6-N6	-7.75	113.95	118.60
36	A	1107	G	N3-C4-N9	-7.75	121.35	126.00
36	A	271(B)	C	C2-N1-C1'	7.67	127.24	118.80
36	A	1314	C	C2-N1-C1'	7.55	127.11	118.80
36	A	1135	C	C2-N1-C1'	7.52	127.07	118.80
36	A	459	U	C6-N1-C2	7.49	125.49	121.00
36	A	673	C	C2-N3-C4	-7.46	116.17	119.90
36	A	1137	G	C8-N9-C4	-7.41	103.44	106.40
35	B	95	U	C5-C4-O4	7.37	130.32	125.90
36	A	1493	C	C6-N1-C2	-7.37	117.35	120.30
36	A	1020	A	N7-C8-N9	-7.34	110.13	113.80
36	A	30	G	N3-C4-N9	7.26	130.36	126.00
36	A	621	A	N1-C6-N6	-7.25	114.25	118.60
1	C	12	LEU	CA-CB-CG	7.20	131.85	115.30
36	A	1313	U	C2-N1-C1'	7.13	126.26	117.70
36	A	1774	C	C6-N1-C2	-7.09	117.47	120.30
36	A	807	U	C2-N3-C4	-7.08	122.75	127.00
36	A	294	A	N1-C6-N6	7.06	122.83	118.60
36	A	1137	G	N3-C4-N9	6.98	130.19	126.00
36	A	1048	A	N1-C6-N6	6.96	122.78	118.60
36	A	1020	A	C4-C5-N7	-6.91	107.25	110.70
36	A	2794	C	N1-C2-O2	6.91	123.04	118.90
36	A	2158	A	P-O3'-C3'	6.90	127.98	119.70
36	A	1137	G	C6-N1-C2	-6.83	121.00	125.10
36	A	459	U	N1-C2-N3	-6.83	110.81	114.90
36	A	576	U	C5-C4-O4	-6.82	121.81	125.90
36	A	1048	A	C4-C5-C6	6.79	120.39	117.00
1	C	214	TYR	N-CA-C	-6.75	92.76	111.00
36	A	121	G	N3-C4-N9	6.75	130.05	126.00
36	A	1139	G	O5'-P-OP1	-6.70	99.67	105.70
36	A	894	C	C2-N1-C1'	-6.68	111.45	118.80
36	A	2794	C	C6-N1-C1'	-6.68	112.79	120.80
36	A	271(B)	C	N1-C2-O2	6.64	122.89	118.90
36	A	1019	U	C5-C6-N1	6.63	126.01	122.70
36	A	2780	G	OP2-P-O3'	6.62	119.77	105.20
36	A	103	A	N9-C4-C5	-6.60	103.16	105.80
36	A	2895	U	O4'-C1'-N1	6.58	113.47	108.20
36	A	1020	A	C8-N9-C4	6.54	108.42	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	A	1213	A	N1-C6-N6	6.46	122.48	118.60
36	A	1140	C	C5-C6-N1	6.43	124.22	121.00
36	A	1493	C	C5-C6-N1	6.43	124.22	121.00
36	A	1139	G	O4'-C1'-N9	6.43	113.34	108.20
36	A	1493	C	N3-C2-O2	-6.43	117.40	121.90
36	A	1025	G	C5-C6-O6	-6.41	124.75	128.60
36	A	2264	C	C2-N1-C1'	6.41	125.85	118.80
36	A	1137	G	C4-N9-C1'	6.36	134.76	126.50
3	E	61	ARG	C-N-CD	6.35	141.73	128.40
36	A	103	A	N1-C6-N6	6.34	122.41	118.60
4	F	156	LEU	N-CA-C	-6.32	93.94	111.00
35	B	75	G	C5-C6-N1	6.30	114.65	111.50
36	A	1019	U	C6-N1-C2	-6.29	117.22	121.00
36	A	459	U	N3-C4-C5	6.26	118.36	114.60
36	A	1674	G	N9-C4-C5	-6.26	102.90	105.40
36	A	647	G	N3-C4-N9	6.25	129.75	126.00
36	A	1377	G	N3-C4-N9	6.22	129.73	126.00
36	A	30	G	N9-C4-C5	-6.21	102.91	105.40
36	A	294	A	C4-C5-C6	6.21	120.11	117.00
36	A	1006	C	C5-C6-N1	6.21	124.10	121.00
36	A	2598	A	N1-C6-N6	6.21	122.32	118.60
36	A	673	C	C5-C4-N4	-6.18	115.87	120.20
36	A	1107	G	N9-C4-C5	6.17	107.87	105.40
36	A	565	C	C2-N3-C4	-6.15	116.83	119.90
36	A	2681	C	C2-N1-C1'	6.12	125.53	118.80
36	A	1385	G	N3-C4-N9	-6.11	122.34	126.00
36	A	1818	U	C2-N1-C1'	-6.10	110.38	117.70
36	A	1937	A	P-O3'-C3'	6.09	127.01	119.70
1	C	214	TYR	CB-CG-CD1	6.04	124.62	121.00
36	A	2043	C	C2-N1-C1'	6.04	125.44	118.80
36	A	974(B)	C	N1-C2-O2	6.03	122.52	118.90
35	B	81	G	C5-C6-O6	-6.02	124.99	128.60
36	A	1140	C	C6-N1-C2	-6.02	117.89	120.30
36	A	882	G	N9-C4-C5	5.99	107.80	105.40
36	A	1135	C	C6-N1-C1'	-5.96	113.64	120.80
36	A	103	A	C8-N9-C1'	-5.93	117.02	127.70
36	A	974(B)	C	C2-N1-C1'	5.92	125.31	118.80
36	A	893	C	C6-N1-C1'	5.84	127.81	120.80
36	A	1818	U	O4'-C1'-N1	5.83	112.86	108.20
36	A	673	C	N3-C4-C5	5.83	124.23	121.90
36	A	1420	U	C2-N1-C1'	5.82	124.69	117.70
36	A	1570	A	N1-C6-N6	5.81	122.09	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	F	125	LEU	CA-CB-CG	5.81	128.65	115.30
36	A	83	G	C2-N3-C4	-5.79	109.01	111.90
36	A	1784	A	N1-C6-N6	-5.78	115.13	118.60
22	1	40	ARG	N-CA-C	5.78	126.59	111.00
36	A	882	G	C5-C6-O6	5.76	132.06	128.60
36	A	1048	A	C6-C5-N7	-5.76	128.27	132.30
36	A	2794	C	C5-C6-N1	5.74	123.87	121.00
36	A	2791	C	C2-N1-C1'	5.73	125.10	118.80
36	A	271(B)	C	C6-N1-C1'	-5.72	113.93	120.80
36	A	2802	G	N3-C4-N9	5.70	129.42	126.00
36	A	1377	G	C4-N9-C1'	5.70	133.91	126.50
36	A	2804	C	C6-N1-C1'	5.70	127.64	120.80
36	A	645	C	C2-N1-C1'	5.68	125.04	118.80
36	A	893	C	C2-N1-C1'	-5.67	112.56	118.80
36	A	894	C	C6-N1-C1'	5.63	127.56	120.80
36	A	1818	U	C6-N1-C1'	5.63	129.08	121.20
36	A	271(B)	C	C5-C6-N1	5.62	123.81	121.00
36	A	2681	C	C6-N1-C1'	-5.62	114.06	120.80
36	A	278	A	P-O3'-C3'	5.61	126.43	119.70
36	A	1120	G	C5-C6-O6	5.61	131.96	128.60
36	A	2264	C	C6-N1-C1'	-5.60	114.08	120.80
36	A	1314	C	N1-C2-O2	5.60	122.26	118.90
1	C	214	TYR	CZ-CE2-CD2	5.60	124.84	119.80
36	A	116	C	C6-N1-C2	-5.58	118.07	120.30
2	D	177	LEU	CA-CB-CG	5.58	128.13	115.30
36	A	1424	G	N3-C4-N9	-5.58	122.65	126.00
36	A	645	C	N3-C2-O2	-5.57	118.00	121.90
36	A	1872	A	N1-C6-N6	5.54	121.93	118.60
36	A	2804	C	C2-N1-C1'	-5.54	112.70	118.80
36	A	1377	G	C6-C5-N7	-5.52	127.09	130.40
36	A	510	C	N1-C2-O2	5.50	122.20	118.90
4	F	191	ARG	N-CA-C	5.48	125.80	111.00
36	A	1428	C	C5-C4-N4	-5.48	116.36	120.20
4	F	193	VAL	CB-CA-C	5.48	121.81	111.40
36	A	1377	G	C8-N9-C1'	-5.47	119.88	127.00
36	A	544	C	C2-N1-C1'	5.47	124.82	118.80
35	B	101	A	C5-C6-N1	5.47	120.43	117.70
36	A	2111	C	O4'-C1'-N1	5.47	112.57	108.20
36	A	363(F)	U	N1-C2-O2	5.45	126.61	122.80
1	C	164	PHE	N-CA-CB	5.44	120.40	110.60
2	D	95	LEU	CA-CB-CG	5.43	127.80	115.30
36	A	103	A	N3-C4-N9	5.42	131.74	127.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	A	1025	G	N1-C6-O6	5.41	123.15	119.90
36	A	2786	U	C2-N1-C1'	5.40	124.19	117.70
36	A	645	C	N1-C2-O2	5.40	122.14	118.90
36	A	930	U	C2-N1-C1'	5.40	124.18	117.70
36	A	1048	A	N3-C4-N9	5.39	131.72	127.40
36	A	1525	G	N3-C4-N9	-5.39	122.77	126.00
36	A	1314	C	C6-N1-C1'	-5.39	114.34	120.80
36	A	45	G	N3-C4-N9	-5.38	122.77	126.00
36	A	1674	G	C6-C5-N7	-5.38	127.17	130.40
36	A	9	U	N1-C2-O2	5.37	126.56	122.80
36	A	2598	A	C4-C5-C6	5.37	119.68	117.00
36	A	24	G	N3-C4-N9	-5.36	122.78	126.00
36	A	459	U	C4-C5-C6	-5.36	116.48	119.70
22	1	17	SER	N-CA-C	-5.36	96.54	111.00
36	A	1784	A	C8-N9-C4	-5.36	103.66	105.80
36	A	454	A	C5-C6-N6	5.35	127.98	123.70
36	A	1110	G	C2-N3-C4	-5.35	109.22	111.90
36	A	30	G	C8-N9-C1'	-5.34	120.06	127.00
36	A	2780	G	P-O3'-C3'	5.34	126.11	119.70
1	C	138	LEU	N-CA-C	5.34	125.41	111.00
36	A	1288	U	N3-C2-O2	-5.32	118.48	122.20
36	A	647	G	C8-N9-C1'	-5.31	120.10	127.00
36	A	1048	A	C8-N9-C1'	-5.31	118.14	127.70
36	A	1188	U	C2-N1-C1'	5.30	124.06	117.70
36	A	510	C	C2-N1-C1'	5.30	124.63	118.80
36	A	2009	G	N3-C4-N9	-5.29	122.82	126.00
36	A	1083	U	O4'-C1'-N1	5.29	112.43	108.20
1	C	213	VAL	N-CA-C	-5.29	96.73	111.00
36	A	121	G	C6-C5-N7	-5.28	127.23	130.40
36	A	121	G	C4-N9-C1'	5.27	133.35	126.50
36	A	1420	U	OP1-P-O3'	5.27	116.79	105.20
36	A	1784	A	C2-N3-C4	5.26	113.23	110.60
16	V	18	LEU	CA-CB-CG	5.26	127.40	115.30
36	A	422	A	C8-N9-C4	-5.26	103.70	105.80
36	A	1047	G	O4'-C1'-N9	5.26	112.40	108.20
36	A	647	G	C6-C5-N7	-5.25	127.25	130.40
36	A	647	G	C4-N9-C1'	5.25	133.32	126.50
4	F	154	VAL	CG1-CB-CG2	-5.25	102.50	110.90
36	A	1139	G	N3-C4-N9	-5.25	122.85	126.00
36	A	2804	C	O4'-C1'-N1	5.25	112.40	108.20
36	A	671	C	C2-N1-C1'	5.24	124.56	118.80
36	A	883	G	N3-C4-N9	-5.24	122.86	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	A	2038	G	C6-C5-N7	-5.21	127.27	130.40
36	A	1313	U	C6-N1-C1'	-5.21	113.91	121.20
36	A	907	U	O4'-C1'-N1	5.20	112.36	108.20
36	A	2794	C	C5-C4-N4	-5.19	116.56	120.20
18	X	57	LEU	CA-CB-CG	5.19	127.24	115.30
36	A	294	A	C6-C5-N7	-5.17	128.68	132.30
36	A	130	C	C2-N1-C1'	5.14	124.46	118.80
36	A	1107	G	N3-C2-N2	-5.14	116.30	119.90
35	B	101	A	C5-C6-N6	-5.13	119.59	123.70
36	A	271(C)	G	P-O3'-C3'	5.13	125.86	119.70
36	A	103	A	C4-N9-C1'	5.13	135.53	126.30
36	A	907	U	C5-C4-O4	5.12	128.97	125.90
36	A	2343	C	C2-N1-C1'	5.09	124.40	118.80
36	A	2014	A	N1-C6-N6	-5.09	115.55	118.60
36	A	2714	G	N3-C4-N9	5.08	129.05	126.00
36	A	1036	G	N3-C4-N9	-5.08	122.95	126.00
36	A	1338	G	N3-C4-N9	5.08	129.04	126.00
36	A	2447	G	P-O3'-C3'	5.07	125.78	119.70
36	A	103	A	C4-C5-C6	5.06	119.53	117.00
36	A	1048	A	C4-N9-C1'	5.06	135.41	126.30
36	A	1998	G	N3-C4-N9	5.06	129.04	126.00
36	A	509	C	C6-N1-C2	-5.06	118.28	120.30
36	A	2147	G	C6-C5-N7	-5.06	127.37	130.40
36	A	2040	C	N3-C4-C5	-5.05	119.88	121.90
22	1	13	ILE	CB-CA-C	5.05	121.69	111.60
36	A	2794	C	N3-C4-N4	5.04	121.53	118.00
36	A	1138	G	C5-C6-O6	-5.03	125.58	128.60
36	A	130	C	N1-C2-O2	5.03	121.92	118.90
36	A	279	C	N1-C2-O2	-5.03	115.88	118.90
36	A	270(W)	G	N3-C4-N9	-5.03	122.98	126.00
35	B	95	U	C6-N1-C1'	5.02	128.22	121.20
36	A	2040	C	C5-C6-N1	5.02	123.51	121.00
36	A	2021	C	C6-N1-C2	-5.01	118.30	120.30
36	A	2043	C	C6-N1-C1'	-5.00	114.80	120.80
36	A	1493	C	C6-N1-C1'	-5.00	114.80	120.80

There are no chirality outliers.

All (17) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
22	1	16	ASN	Peptide
22	1	17	SER	Peptide

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Mol	Chain	Res	Type	Group
1	C	171	ALA	Peptide
1	C	211	ARG	Peptide
1	C	60	ARG	Peptide
2	D	164	GLN	Peptide
2	D	78	LYS	Peptide
4	F	154	VAL	Peptide
5	G	111	LEU	Mainchain
5	G	113	ARG	Peptide
7	J	83	UNK	Peptide
13	S	14	VAL	Peptide
13	S	46	VAL	Peptide
13	S	98	VAL	Peptide
14	T	28	VAL	Peptide
17	W	73	ALA	Peptide
17	W	75	TYR	Peptide

## 5.2 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 hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	1742	0	1798	182	0
2	D	2145	0	2234	162	0
3	E	1569	0	1634	129	0
4	F	1628	0	1680	164	0
5	G	1474	0	1535	79	0
6	H	1274	0	1342	51	0
7	J	851	0	203	34	0
8	K	1035	0	1082	62	0
9	O	933	0	996	57	0
10	P	1114	0	1187	76	0
11	Q	1122	0	1179	71	0
12	R	960	0	1021	71	0
13	S	775	0	835	67	0
14	T	1147	0	1207	81	0
15	U	964	0	1022	83	0
16	V	779	0	852	63	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
17	W	900	0	964	60	0
18	X	734	0	789	48	0
19	Y	818	0	908	42	0
20	Z	1473	0	1497	70	0
21	0	662	0	688	44	0
22	1	732	0	808	75	0
23	4	271	0	284	16	0
24	N	1104	0	1180	211	0
25	2	598	0	653	29	0
26	3	477	0	529	25	0
27	5	459	0	477	40	0
28	6	433	0	461	30	0
29	7	430	0	480	37	0
30	8	517	0	582	38	0
31	9	307	0	338	29	0
32	e	686	0	620	0	0
33	f	156	0	38	0	0
33	g	156	0	40	0	0
34	h	151	0	40	0	0
35	B	2551	0	1295	84	0
36	A	61997	0	31250	2172	0
All	All	95124	0	63728	3961	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 25.

All (3961) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:N:78:TYR:CD2	36:A:2642:G:C5'	1.74	1.62
15:U:64:ARG:CD	24:N:41:ASP:HA	1.14	1.60
15:U:64:ARG:HD2	24:N:41:ASP:CA	1.06	1.52
24:N:76:SER:HB3	36:A:2641:G:C5'	1.44	1.48
24:N:78:TYR:CD2	36:A:2642:G:H5'	1.35	1.36
36:A:1311:G:H21	36:A:1603:A:N6	1.26	1.34
36:A:1311:G:N2	36:A:1603:A:H62	1.26	1.32
24:N:78:TYR:CG	36:A:2642:G:H5'	1.64	1.31
36:A:1354:A:N6	36:A:1377:G:H21	1.28	1.31
36:A:1354:A:H62	36:A:1377:G:N2	1.27	1.29
15:U:64:ARG:NE	24:N:41:ASP:HA	1.47	1.28
24:N:76:SER:CB	36:A:2641:G:H5''	1.64	1.28
24:N:78:TYR:CE2	36:A:2642:G:H4'	1.72	1.24
36:A:1019:U:O2	36:A:1020:A:N7	1.71	1.23

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2681:C:C5	36:A:2725:A:N6	2.09	1.19
24:N:66:LYS:NZ	36:A:1140:C:OP2	1.78	1.15
36:A:2681:C:N4	36:A:2725:A:H62	1.46	1.14
24:N:78:TYR:HB2	36:A:2642:G:OP1	1.49	1.12
24:N:78:TYR:CD2	36:A:2642:G:C4'	2.30	1.12
15:U:64:ARG:CD	24:N:41:ASP:CA	1.90	1.11
36:A:2681:C:H5	36:A:2725:A:N6	1.46	1.10
24:N:78:TYR:CD2	36:A:2642:G:H5''	1.70	1.09
36:A:2699:C:N4	36:A:2708:G:H1	1.51	1.08
36:A:882:G:N2	36:A:894:C:N3	2.00	1.07
24:N:39:ARG:HH21	24:N:41:ASP:HB2	1.13	1.07
36:A:1324:G:H1	36:A:1330:C:N4	1.51	1.06
24:N:78:TYR:CE2	36:A:2642:G:C4'	2.36	1.06
36:A:529:A:N6	36:A:2041:U:H3	1.53	1.05
15:U:63:VAL:HG11	24:N:42:TRP:CD1	1.92	1.03
24:N:63:THR:HG21	36:A:1141:U:P	1.99	1.03
36:A:2255:G:H1	36:A:2275:C:N4	1.54	1.03
36:A:2125:G:N2	36:A:2173:A:H62	1.57	1.01
36:A:1664:A:H61	36:A:1996:C:N4	1.57	1.00
1:C:44:VAL:HB	1:C:174:ALA:HB3	1.43	1.00
36:A:460:A:H62	36:A:469:G:H21	1.03	1.00
36:A:1664:A:N6	36:A:1996:C:H42	1.60	1.00
24:N:78:TYR:CG	36:A:2642:G:C5'	2.31	1.00
36:A:1347:G:H1	36:A:1599:C:H42	1.09	1.00
36:A:2505:G:H22	36:A:2610:C:N4	1.59	1.00
36:A:1487:G:H1	36:A:1502:C:H42	1.10	0.99
24:N:78:TYR:HD2	36:A:2642:G:C5'	1.66	0.99
4:F:129:PHE:HE2	4:F:158:THR:HG1	1.07	0.99
36:A:1416:G:H1	36:A:1582:C:H42	1.05	0.99
24:N:78:TYR:CD2	36:A:2642:G:H4'	1.90	0.99
36:A:131:G:H1	36:A:148:C:H42	1.05	0.99
36:A:2125:G:H21	36:A:2173:A:N6	1.59	0.98
36:A:2505:G:N2	36:A:2610:C:H42	1.61	0.98
36:A:1030:G:H1	36:A:1124:C:N4	1.61	0.98
36:A:1019:U:H3	36:A:1020:A:N6	1.60	0.98
36:A:2290:G:H1	36:A:2342:C:N4	1.61	0.98
36:A:1317:A:H61	36:A:1335:U:H3	1.00	0.98
36:A:1305:C:H42	36:A:1623:G:H1	0.99	0.98
15:U:64:ARG:HD2	24:N:41:ASP:C	1.83	0.98
36:A:1359:A:N6	36:A:1372:U:H3	1.61	0.97
36:A:289:A:H62	36:A:351:G:N2	1.62	0.97
36:A:585:G:H21	36:A:1254:A:H62	0.98	0.97

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:N:133:GLN:HG2	24:N:135:PRO:HD3	1.45	0.97
24:N:78:TYR:CE2	36:A:2642:G:H5'	2.00	0.97
36:A:1487:G:H1	36:A:1502:C:N4	1.63	0.97
36:A:1019:U:C2	36:A:1020:A:N7	2.33	0.96
36:A:226:G:N2	36:A:228:A:H62	1.62	0.96
36:A:882:G:H1	36:A:894:C:H42	1.10	0.96
36:A:1447:G:H1	36:A:1464:C:H42	1.07	0.96
15:U:64:ARG:HD2	24:N:41:ASP:N	1.58	0.96
36:A:24:G:N1	36:A:516:C:O2	1.97	0.96
36:A:268:C:H42	36:A:424:G:H1	1.08	0.96
36:A:2294:C:H42	36:A:2338:G:H1	1.08	0.95
36:A:2330:G:H1	36:A:2385:C:N4	1.64	0.95
14:T:49:VAL:HA	14:T:63:VAL:HA	1.48	0.95
36:A:57:C:N4	36:A:70:G:H1	1.64	0.95
36:A:2205:C:H42	36:A:2219:G:H1	1.05	0.95
36:A:289:A:N6	36:A:351:G:H21	1.64	0.95
24:N:76:SER:CB	36:A:2641:G:C5'	2.31	0.95
36:A:1628:G:H1	36:A:1638:C:H42	1.14	0.95
36:A:226:G:H21	36:A:228:A:H62	1.03	0.94
24:N:78:TYR:CE2	36:A:2642:G:C5'	2.51	0.94
36:A:1281:G:H1	36:A:1289:C:N4	1.64	0.94
24:N:73:THR:HG22	24:N:84:LYS:HB3	1.49	0.94
36:A:1658:C:H42	36:A:2002:G:H1	0.96	0.94
15:U:64:ARG:NH2	24:N:42:TRP:O	2.00	0.94
36:A:2681:C:H41	36:A:2725:A:N6	1.66	0.94
36:A:413:C:H42	36:A:2410:G:H1	1.13	0.94
36:A:280:C:H42	36:A:360:G:H1	1.08	0.94
36:A:1711:C:H42	36:A:1747:G:H1	1.03	0.94
36:A:1845:G:H1	36:A:1895:C:N4	1.64	0.94
13:S:40:ILE:HA	13:S:47:THR:HA	1.50	0.94
3:E:13:ARG:HA	3:E:21:VAL:O	1.67	0.93
36:A:2459:A:H61	36:A:2493:U:H3	1.08	0.93
36:A:565:C:N4	36:A:576:U:H3	1.65	0.93
24:N:78:TYR:CB	36:A:2642:G:OP1	2.17	0.93
36:A:2088:G:H1	36:A:2231:C:H42	1.10	0.93
36:A:585:G:N2	36:A:1254:A:H62	1.66	0.93
36:A:2737:G:H1	36:A:2767:C:H42	1.15	0.93
36:A:1448:G:H1	36:A:1463:C:H42	0.97	0.93
36:A:1416:G:N2	36:A:1582:C:N3	2.16	0.93
36:A:954:G:H1	36:A:963:U:H3	1.08	0.93
36:A:134:C:H42	36:A:145:G:H1	1.13	0.93
24:N:91:LEU:HA	24:N:95:PRO:HB3	1.50	0.93

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2681:C:H5	36:A:2725:A:H61	0.97	0.92
36:A:2681:C:H41	36:A:2725:A:H62	1.09	0.92
10:P:49:ARG:HB3	30:8:59:LYS:HE2	1.48	0.92
36:A:1442:G:H1	36:A:1549:C:H42	1.16	0.92
36:A:2810:A:H62	36:A:2891:G:H21	1.14	0.92
36:A:1350:C:H42	36:A:1381:G:H1	1.11	0.92
36:A:1685:C:H42	36:A:1703:G:H1	1.07	0.92
36:A:2455:G:H1	36:A:2496:C:N4	1.68	0.92
24:N:15:LEU:HG	24:N:134:ARG:HE	1.33	0.91
36:A:2291:U:H3	36:A:2341:G:H1	1.16	0.91
18:X:53:LYS:HB3	18:X:82:GLN:HB3	1.50	0.91
36:A:1862:G:H1	36:A:1880:C:H42	1.13	0.91
36:A:19:C:H42	36:A:521:G:H1	1.09	0.91
36:A:2636:U:H3	36:A:2782:G:H1	0.95	0.91
36:A:2455:G:H1	36:A:2496:C:H42	0.92	0.91
36:A:1003:G:H1	36:A:1152:C:N4	1.69	0.91
36:A:843:G:H1	36:A:935:C:H42	0.92	0.91
36:A:1320:C:H42	36:A:1331:A:H62	1.19	0.91
36:A:585:G:H21	36:A:1254:A:N6	1.67	0.91
36:A:1003:G:H1	36:A:1152:C:H42	0.91	0.90
36:A:80:G:H1	36:A:106:C:N4	1.69	0.90
11:Q:54:MET:HG2	11:Q:58:PHE:HE2	1.36	0.90
24:N:39:ARG:NH2	24:N:41:ASP:HB2	1.85	0.90
36:A:1414:G:H1	36:A:1588:C:H42	1.00	0.90
36:A:882:G:N2	36:A:894:C:C2	2.39	0.90
30:8:53:PRO:HA	30:8:56:GLU:HB2	1.53	0.90
36:A:843:G:H1	36:A:935:C:N4	1.68	0.89
36:A:80:G:H1	36:A:106:C:H42	0.96	0.89
36:A:699:A:H62	36:A:733:G:H21	1.13	0.89
4:F:154:VAL:HG12	4:F:156:LEU:HA	1.53	0.89
36:A:2109:U:H3	36:A:2180:U:H3	1.19	0.89
36:A:1658:C:N4	36:A:2002:G:H1	1.69	0.89
36:A:2747:G:N2	36:A:2757:A:H62	1.69	0.89
36:A:122:G:H1	36:A:129:C:H42	1.20	0.89
36:A:2747:G:H21	36:A:2757:A:H62	0.89	0.89
35:B:24:G:H1	35:B:59:A:H61	1.21	0.88
4:F:34:TRP:HB2	10:P:10:PRO:HB2	1.54	0.88
36:A:600:G:H1	36:A:657:U:H3	1.21	0.88
36:A:1530:G:O6	36:A:1541:U:O2	1.91	0.88
36:A:711:G:H1	36:A:720:C:H42	1.15	0.88
36:A:1448:G:H1	36:A:1463:C:N4	1.71	0.88
24:N:15:LEU:HB2	24:N:134:ARG:HG2	1.53	0.88

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:U:111:GLU:HA	15:U:114:LYS:HD2	1.56	0.88
35:B:14:U:H1'	35:B:107:U:H1'	1.55	0.88
36:A:277:C:H3'	36:A:278:A:H8	1.39	0.88
35:B:77:U:H3	35:B:99:A:H62	1.21	0.88
36:A:2505:G:N1	36:A:2610:C:N3	2.21	0.88
13:S:100:ALA:O	13:S:102:ALA:N	2.06	0.88
4:F:63:LYS:HE3	4:F:67:GLN:HE22	1.38	0.88
24:N:62:VAL:HG22	24:N:66:LYS:HG3	1.55	0.88
36:A:696:G:H1	36:A:766:C:H42	1.18	0.88
36:A:57:C:H42	36:A:70:G:H1	0.90	0.87
36:A:237:C:H42	36:A:260:G:H1	1.18	0.87
36:A:2699:C:N3	36:A:2708:G:N2	2.22	0.87
36:A:2505:G:H22	36:A:2610:C:H42	0.87	0.87
10:P:115:LEU:HA	10:P:134:ALA:HB2	1.56	0.87
12:R:63:ARG:HH22	12:R:77:ARG:HH12	1.16	0.87
36:A:2681:C:N4	36:A:2725:A:N6	2.23	0.86
36:A:1281:G:H1	36:A:1289:C:H42	0.88	0.86
4:F:154:VAL:HG23	4:F:173:VAL:HG22	1.56	0.86
36:A:2747:G:H21	36:A:2757:A:N6	1.74	0.86
25:2:35:LEU:HD21	25:2:50:ILE:HG12	1.57	0.86
36:A:743:G:H1	36:A:754:C:H42	1.23	0.86
36:A:1305:C:N4	36:A:1623:G:H1	1.73	0.86
36:A:1359:A:H62	36:A:1372:U:H3	0.87	0.86
36:A:2330:G:H1	36:A:2385:C:H42	0.89	0.86
36:A:2037:G:H2'	36:A:2038:G:C8	2.11	0.85
36:A:1139:G:O2'	36:A:1140:C:O4'	1.92	0.85
3:E:61:ARG:HD2	36:A:2811:G:H5'	1.58	0.85
10:P:138:LEU:HD21	10:P:144:GLU:HB2	1.58	0.85
3:E:189:PRO:HA	36:A:2680:C:H5'	1.56	0.85
36:A:2290:G:N2	36:A:2342:C:N3	2.24	0.85
22:1:20:ARG:HH12	22:1:24:ALA:HB2	1.39	0.85
24:N:111:PRO:HD2	36:A:558:G:OP2	1.76	0.85
22:1:19:GLN:NE2	36:A:2233:U:OP2	2.09	0.85
15:U:64:ARG:CD	24:N:41:ASP:C	2.42	0.85
9:O:28:SER:HB2	36:A:2566:A:H61	1.40	0.85
36:A:1414:G:H1	36:A:1588:C:N4	1.74	0.84
36:A:947:G:H1	36:A:970:C:H42	1.19	0.84
36:A:1024:G:H1	36:A:1140:C:H42	1.21	0.84
36:A:1317:A:N6	36:A:1335:U:H3	1.75	0.84
36:A:136:G:H1	36:A:143:C:H42	1.25	0.84
36:A:1752:C:H42	36:A:1756:G:H1	1.25	0.84
36:A:1711:C:N4	36:A:1747:G:H1	1.76	0.84

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:1076:C:H2'	36:A:1077:A:H4'	1.58	0.84
36:A:696:G:N2	36:A:766:C:N3	2.26	0.84
36:A:1487:G:N2	36:A:1502:C:N3	2.25	0.84
36:A:1345:C:H42	36:A:1601:G:H1	1.26	0.83
36:A:1416:G:H1	36:A:1582:C:N4	1.75	0.83
36:A:1845:G:H1	36:A:1895:C:H42	0.87	0.82
15:U:3:ARG:HB2	36:A:445:C:H5''	1.61	0.82
36:A:1305:C:N3	36:A:1623:G:N2	2.25	0.82
22:1:25:LYS:HG3	22:1:34:THR:HA	1.60	0.82
1:C:51:ASP:O	1:C:53:ARG:N	2.11	0.82
36:A:2651:C:H42	36:A:2669:G:H1	1.24	0.82
36:A:131:G:H1	36:A:148:C:N4	1.75	0.82
36:A:529:A:N7	36:A:2041:U:O4	2.13	0.82
11:Q:98:LYS:HB3	20:Z:79:ARG:HH12	1.43	0.82
36:A:882:G:C2	36:A:894:C:N3	2.48	0.82
2:D:165:ILE:HG22	2:D:166:GLN:H	1.45	0.82
36:A:981:A:OP2	36:A:982:C:N4	2.11	0.82
1:C:79:ALA:HB1	1:C:83:LYS:HB2	1.61	0.82
27:5:45:VAL:HG13	27:5:51:TYR:H	1.44	0.82
35:B:24:G:H1	35:B:59:A:N6	1.78	0.81
24:N:78:TYR:HD2	36:A:2642:G:H5''	1.25	0.81
36:A:2400:G:H1	36:A:2416:C:H42	1.25	0.81
1:C:164:PHE:HA	1:C:172:ILE:HG13	1.62	0.81
36:A:2685:G:H1	36:A:2724:C:H42	1.23	0.81
25:2:4:SER:HA	25:2:7:ARG:HD2	1.62	0.81
36:A:2505:G:O6	36:A:2610:C:O2	1.99	0.81
36:A:882:G:H1	36:A:894:C:N4	1.78	0.81
1:C:42:VAL:HA	1:C:217:THR:HA	1.61	0.81
4:F:1:MET:HB3	4:F:3:GLU:HG2	1.62	0.81
36:A:56:A:N1	36:A:114:U:O4	2.14	0.81
36:A:371:A:H61	36:A:401:A:H3'	1.45	0.81
36:A:270(N):U:H4'	36:A:270(O):G:H5'	1.61	0.81
36:A:2610:C:H4'	36:A:2611:U:H5'	1.61	0.81
24:N:125:GLY:HA3	24:N:126:PRO:O	1.80	0.81
36:A:392:C:H5''	36:A:409:C:H5''	1.61	0.81
36:A:2330:G:N2	36:A:2385:C:N3	2.26	0.81
36:A:1030:G:N2	36:A:1124:C:N3	2.27	0.81
36:A:2205:C:N4	36:A:2219:G:H1	1.77	0.81
8:K:89:HIS:HA	36:A:1064:C:H4'	1.63	0.80
36:A:2454:G:H1	36:A:2498:C:H42	1.29	0.80
36:A:474:G:OP2	36:A:508:G:N2	2.14	0.80
36:A:268:C:N4	36:A:424:G:H1	1.79	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Z:151:HIS:HB3	20:Z:170:THR:HA	1.61	0.80
22:1:88:LYS:NZ	36:A:1361:G:OP1	2.14	0.80
24:N:78:TYR:HE2	36:A:2642:G:H4'	1.37	0.80
36:A:1030:G:H1	36:A:1124:C:H42	0.86	0.80
11:Q:60:ARG:H	20:Z:179:ASP:HB3	1.47	0.80
5:G:118:ARG:HG2	36:A:888:C:H1'	1.62	0.80
36:A:1676:A:H2'	36:A:1677:A:C8	2.17	0.80
1:C:139:PRO:HA	1:C:145:THR:HB	1.64	0.80
24:N:112:LEU:HD23	24:N:113:GLY:N	1.96	0.80
15:U:25:TRP:HD1	15:U:26:GLY:H	1.30	0.80
1:C:216:THR:HG21	36:A:2176:A:H4'	1.64	0.80
22:1:86:SER:HB2	22:1:89:GLU:HB2	1.63	0.80
36:A:8:A:N1	36:A:2895:U:O4	2.15	0.80
5:G:103:LEU:HA	5:G:106:LEU:HB3	1.64	0.79
36:A:1018:C:H2'	36:A:1019:U:H6	1.46	0.79
4:F:155:LEU:HD22	4:F:186:ILE:HB	1.63	0.79
24:N:55:VAL:HB	24:N:126:PRO:HB3	1.65	0.79
36:A:1854:A:H62	36:A:1888:G:H8	1.29	0.79
16:V:15:GLU:HB3	16:V:16:PRO:HD2	1.64	0.79
36:A:289:A:H62	36:A:351:G:H21	0.83	0.79
4:F:154:VAL:HB	4:F:173:VAL:HG13	1.64	0.79
36:A:2675:A:H61	36:A:2732:G:H1	1.30	0.79
36:A:280:C:N3	36:A:360:G:N2	2.29	0.79
15:U:28:ARG:NH1	15:U:38:THR:OG1	2.15	0.79
11:Q:19:GLY:HA2	11:Q:98:LYS:HG2	1.64	0.79
36:A:741:G:H1	36:A:756:C:H42	1.28	0.79
36:A:2503:A:O2'	36:A:2505:G:OP2	1.99	0.79
24:N:111:PRO:HA	24:N:114:ARG:NH1	1.97	0.79
4:F:111:ALA:HA	4:F:202:PHE:HZ	1.47	0.79
36:A:1447:G:H1	36:A:1464:C:N4	1.81	0.79
36:A:1003:G:N2	36:A:1152:C:N3	2.25	0.79
36:A:1414:G:N2	36:A:1588:C:N3	2.29	0.78
36:A:2459:A:N6	36:A:2493:U:H3	1.82	0.78
17:W:20:VAL:HG21	17:W:43:GLY:HA3	1.62	0.78
36:A:2699:C:H42	36:A:2708:G:H1	0.82	0.78
36:A:2290:G:H1	36:A:2342:C:H42	0.85	0.78
24:N:120:LEU:HD21	24:N:122:VAL:HG23	1.64	0.78
36:A:814:C:H42	36:A:1193:G:H1	1.31	0.78
36:A:1795:C:H42	36:A:1824:G:H1	1.31	0.78
15:U:90:VAL:HG11	16:V:11:GLN:HE22	1.49	0.78
36:A:1044:G:H4'	36:A:1048:A:H1'	1.65	0.78
36:A:2854:G:H1	36:A:2863:C:H42	1.31	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:226:G:H21	36:A:228:A:N6	1.81	0.78
31:9:30:PRO:HB2	36:A:2527:C:H5'	1.64	0.78
9:O:68:GLU:HB3	9:O:78:ARG:HB2	1.65	0.78
36:A:1347:G:H1	36:A:1599:C:N4	1.82	0.78
1:C:63:VAL:HG13	1:C:162:ILE:HB	1.66	0.78
6:H:85:LYS:HE3	6:H:145:ALA:HB2	1.65	0.78
36:A:460:A:H62	36:A:469:G:N2	1.82	0.78
7:J:54:UNK:O	36:A:1106:G:O2'	2.02	0.77
24:N:39:ARG:HH21	24:N:41:ASP:CB	1.93	0.77
35:B:24:G:O2'	35:B:27:C:N4	2.16	0.77
10:P:121:LYS:HG3	10:P:123:LEU:HD22	1.67	0.77
36:A:2810:A:H62	36:A:2891:G:N2	1.83	0.77
36:A:1675:C:H3'	36:A:1676:A:H8	1.49	0.77
36:A:2088:G:H1	36:A:2231:C:N4	1.81	0.77
1:C:39:ASP:HB3	1:C:178:LYS:HD2	1.66	0.77
4:F:29:ASN:HB3	4:F:32:LEU:HB2	1.66	0.77
27:5:22:HIS:NE2	36:A:2045:C:O2	2.17	0.77
36:A:134:C:N4	36:A:145:G:H1	1.82	0.77
36:A:1350:C:N4	36:A:1381:G:H1	1.83	0.77
13:S:106:ARG:HE	13:S:108:GLY:HA3	1.48	0.77
36:A:2593:U:H3	36:A:2600:A:H61	1.33	0.77
36:A:648:G:H2'	36:A:649:G:H8	1.47	0.77
15:U:51:LYS:HB3	15:U:55:ARG:HH21	1.49	0.77
27:5:3:LYS:HG2	27:5:4:HIS:H	1.49	0.77
8:K:91:PRO:HA	8:K:135:GLY:HA2	1.66	0.76
16:V:6:LYS:HB3	16:V:37:VAL:HG11	1.66	0.76
7:J:25:UNK:HA	7:J:80:UNK:HA	1.68	0.76
15:U:64:ARG:HD3	24:N:42:TRP:N	2.00	0.76
36:A:280:C:N4	36:A:360:G:H1	1.82	0.76
36:A:1685:C:N4	36:A:1703:G:H1	1.80	0.76
20:Z:137:ILE:HG21	20:Z:155:LEU:HD12	1.66	0.76
2:D:165:ILE:HA	2:D:175:LEU:HA	1.66	0.76
36:A:2447:G:O6	36:A:2451:A:N6	2.19	0.76
36:A:2749:A:H62	36:A:2753:A:H61	1.34	0.76
36:A:1090:U:H2'	36:A:1091:G:C8	2.20	0.76
10:P:56:SER:O	10:P:58:THR:N	2.19	0.76
12:R:41:ALA:HB1	12:R:97:VAL:HG11	1.68	0.76
36:A:1948:G:H1	36:A:1958:C:H42	1.34	0.76
7:J:64:UNK:O	7:J:68:UNK:N	2.19	0.76
3:E:58:ARG:NH2	36:A:2830:G:OP1	2.19	0.76
24:N:19:GLU:HA	24:N:59:LYS:O	1.86	0.76
15:U:15:LYS:NZ	36:A:1217:C:OP1	2.18	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:36:CYS:SG	27:5:37:LYS:N	2.59	0.76
36:A:1442:G:N2	36:A:1549:C:N3	2.31	0.76
1:C:75:VAL:HG21	1:C:154:ILE:HG12	1.67	0.76
1:C:78:ILE:HG21	1:C:124:VAL:HG21	1.65	0.76
36:A:1347:G:N2	36:A:1599:C:N3	2.32	0.75
22:1:25:LYS:HG2	22:1:26:ARG:H	1.50	0.75
36:A:2287:A:H62	36:A:2344:U:H3	1.34	0.75
1:C:42:VAL:O	1:C:44:VAL:N	2.18	0.75
24:N:76:SER:HB2	36:A:2641:G:H4'	1.67	0.75
22:1:48:LYS:HE2	22:1:61:ARG:HG2	1.67	0.75
36:A:2812:G:H1	36:A:2888:C:H42	1.33	0.75
36:A:2040:C:H2'	36:A:2041:U:C6	2.20	0.75
36:A:1442:G:H1	36:A:1549:C:N4	1.84	0.75
1:C:8:TYR:HA	1:C:11:LEU:HB2	1.68	0.75
36:A:1447:G:N2	36:A:1464:C:N3	2.32	0.75
15:U:49:HIS:CD2	36:A:559:G:H22	2.04	0.75
36:A:1674:G:H21	36:A:1677:A:H61	1.34	0.75
36:A:459:U:H3	36:A:470:A:H62	1.33	0.75
22:1:13:ILE:HG13	22:1:17:SER:HB2	1.69	0.75
36:A:2635:C:H42	36:A:2783:G:H1	1.35	0.75
27:5:3:LYS:HG2	27:5:5:PRO:HD2	1.68	0.75
17:W:82:LEU:HB2	17:W:98:LYS:HB2	1.68	0.75
36:A:2255:G:H1	36:A:2275:C:H42	0.80	0.75
36:A:1359:A:N7	36:A:1372:U:O4	2.19	0.75
36:A:1771:C:H42	36:A:1980:G:H1	1.33	0.75
21:0:24:LYS:N	21:0:37:LEU:O	2.15	0.75
36:A:565:C:H42	36:A:576:U:H3	0.81	0.75
12:R:97:VAL:HG22	12:R:114:VAL:HA	1.67	0.75
17:W:68:ARG:HB3	17:W:110:LYS:H	1.50	0.75
2:D:164:GLN:NE2	2:D:164:GLN:O	2.19	0.74
36:A:19:C:N4	36:A:521:G:H1	1.83	0.74
21:0:74:ARG:NH2	35:B:15:A:N7	2.33	0.74
7:J:52:UNK:HA	7:J:81:UNK:HA	1.68	0.74
4:F:88:VAL:HG22	4:F:89:VAL:H	1.52	0.74
2:D:244:ARG:HG2	2:D:245:PRO:HA	1.69	0.74
36:A:852:G:H2'	36:A:853:G:C8	2.22	0.74
36:A:1324:G:H1	36:A:1330:C:H42	0.77	0.74
36:A:2205:C:N3	36:A:2219:G:N2	2.31	0.74
22:1:50:ARG:NH2	36:A:2206:C:OP2	2.20	0.74
4:F:103:LYS:HE3	4:F:107:LYS:HE3	1.66	0.74
36:A:2455:G:N2	36:A:2496:C:N3	2.33	0.74
4:F:164:ARG:HA	4:F:167:ALA:HB3	1.68	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:114:VAL:O	1:C:116:ALA:N	2.20	0.74
36:A:2294:C:N4	36:A:2338:G:H1	1.83	0.74
4:F:2:LYS:O	4:F:4:VAL:N	2.21	0.74
24:N:15:LEU:HD12	24:N:136:GLU:HG3	1.68	0.74
1:C:132:LEU:HB3	1:C:137:LEU:HB2	1.70	0.74
36:A:659:C:H2'	36:A:660:G:C8	2.23	0.74
18:X:63:LYS:HB3	18:X:72:LYS:HG3	1.69	0.74
24:N:65:LYS:NZ	36:A:1021:A:H5'	2.02	0.74
36:A:529:A:H62	36:A:2041:U:H3	0.76	0.74
36:A:1448:G:N2	36:A:1463:C:N3	2.32	0.74
36:A:1858:G:H1'	36:A:1884:A:N6	2.02	0.74
36:A:2314:C:H2'	36:A:2315:G:H8	1.51	0.74
36:A:581:C:H2'	36:A:582:G:C8	2.23	0.74
15:U:64:ARG:CD	24:N:42:TRP:N	2.50	0.74
36:A:2521:C:O2'	36:A:2564:A:N3	2.20	0.74
24:N:76:SER:HB3	36:A:2641:G:H5'	1.67	0.73
4:F:24:LEU:HB3	4:F:25:PRO:HD2	1.70	0.73
36:A:1120:G:H2'	36:A:1121:C:C6	2.23	0.73
36:A:413:C:N4	36:A:2410:G:H1	1.85	0.73
36:A:2314:C:H2'	36:A:2315:G:C8	2.23	0.73
36:A:1212:G:HO2'	36:A:1236:G:H1	1.33	0.73
22:I:44:PRO:O	36:A:2230:G:O2'	2.06	0.73
3:E:117:MET:HA	3:E:122:PHE:H	1.53	0.73
4:F:10:PRO:HB3	4:F:19:GLU:HA	1.68	0.73
24:N:45:ASN:H	24:N:45:ASN:HD22	1.35	0.73
36:A:711:G:H1	36:A:720:C:N4	1.85	0.73
36:A:1278:A:H2'	36:A:1279:G:C8	2.23	0.73
24:N:42:TRP:HA	24:N:48:MET:HE1	1.70	0.73
36:A:485:C:H42	36:A:495:G:H1	1.35	0.73
36:A:2780:G:H4'	36:A:2781:A:OP2	1.88	0.73
4:F:170:LEU:HB3	4:F:173:VAL:HB	1.70	0.73
36:A:1511:A:H2'	36:A:1512:G:H8	1.53	0.73
36:A:2700:C:H42	36:A:2707:G:H1	1.37	0.73
19:Y:2:ARG:HG2	36:A:106:C:H1'	1.71	0.73
36:A:979:G:H2'	36:A:982:C:H42	1.54	0.73
36:A:1342:A:O2'	36:A:1344:G:OP2	2.07	0.73
1:C:140:ASN:O	1:C:142:LYS:N	2.22	0.72
16:V:8:GLY:HA3	16:V:23:GLU:HG3	1.71	0.72
36:A:1138:G:O2'	36:A:1139:G:O5'	2.07	0.72
36:A:575:A:OP2	36:A:2499:C:O2'	2.05	0.72
36:A:2681:C:C4	36:A:2725:A:N6	2.44	0.72
24:N:15:LEU:HG	24:N:134:ARG:NE	2.03	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:S:85:VAL:H	13:S:106:ARG:HG2	1.54	0.72
1:C:84:ILE:HG23	1:C:95:VAL:HB	1.70	0.72
7:J:23:UNK:O	7:J:85:UNK:N	2.22	0.72
2:D:220:HIS:NE2	36:A:1825:A:OP2	2.22	0.72
24:N:76:SER:HB3	36:A:2641:G:H5''	0.75	0.72
36:A:602:G:H4'	36:A:604:G:H4'	1.70	0.72
7:J:54:UNK:HA	7:J:79:UNK:HA	1.71	0.72
36:A:1230:C:H2'	36:A:1231:G:H8	1.55	0.72
36:A:975:G:O6	36:A:989:G:N2	2.22	0.72
36:A:355:G:H2'	36:A:356:G:C8	2.23	0.72
14:T:53:ARG:NH1	14:T:60:THR:OG1	2.21	0.72
36:A:1628:G:H1	36:A:1638:C:N4	1.85	0.72
13:S:20:ARG:HD3	13:S:88:ASP:HA	1.71	0.72
3:E:39:PRO:HA	3:E:43:GLY:H	1.55	0.72
36:A:1435:G:H2'	36:A:1436:G:C8	2.25	0.72
22:1:37:ILE:HG12	36:A:200:U:H4'	1.69	0.72
27:5:12:SER:HB2	36:A:2020:A:H5'	1.71	0.72
36:A:745:G:H21	36:A:750:A:H61	1.36	0.72
36:A:947:G:H1	36:A:970:C:N4	1.86	0.72
8:K:115:LEU:O	36:A:1058:G:O2'	2.06	0.72
36:A:1538:G:H2'	36:A:1539:G:C8	2.24	0.72
5:G:126:ASP:OD1	36:A:2302:G:N2	2.22	0.72
36:A:780:G:H21	36:A:783:A:H62	1.36	0.72
36:A:1017:G:O6	36:A:1145:C:N3	2.23	0.72
36:A:699:A:H62	36:A:733:G:N2	1.87	0.71
9:O:66:LYS:HG3	36:A:1665:A:H5''	1.72	0.71
4:F:170:LEU:HD13	4:F:171:PRO:HD2	1.71	0.71
4:F:194:MET:HE3	4:F:199:TRP:HD1	1.55	0.71
24:N:76:SER:CB	36:A:2641:G:C4'	2.68	0.71
36:A:1674:G:H1'	36:A:1676:A:H62	1.53	0.71
36:A:871:U:H2'	36:A:872:A:C8	2.24	0.71
36:A:2794:C:N3	36:A:2802:G:O6	2.23	0.71
17:W:77:ASP:O	17:W:102:HIS:N	2.23	0.71
19:Y:41:GLY:O	19:Y:43:ASN:ND2	2.23	0.71
4:F:8:GLN:NE2	4:F:9:ILE:O	2.24	0.71
36:A:2580:U:OP2	36:A:2581:G:N1	2.22	0.71
12:R:96:ARG:HG3	36:A:2882:A:H5'	1.72	0.71
36:A:576:U:H2'	36:A:577:G:C8	2.25	0.71
36:A:1101:U:H2'	36:A:1102:C:C6	2.25	0.71
6:H:118:PRO:HG2	6:H:121:ILE:HD11	1.72	0.71
36:A:216:A:H62	36:A:431:U:H3	1.39	0.71
6:H:19:VAL:HG23	6:H:45:VAL:HG23	1.72	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:462:C:N4	36:A:463:G:O6	2.23	0.71
1:C:30:VAL:HG22	1:C:33:LEU:HD12	1.71	0.71
22:1:11:ARG:HB2	22:1:12:PRO:HD2	1.72	0.71
4:F:31:HIS:HB3	10:P:13:ASN:HB3	1.71	0.71
10:P:60:MET:HB3	36:A:2392:A:H1'	1.72	0.71
36:A:1277:G:O6	36:A:1293:C:N3	2.24	0.71
36:A:557:U:H2'	36:A:558:G:C8	2.26	0.71
35:B:74:U:H2'	35:B:75:G:H8	1.55	0.71
13:S:74:ALA:HA	13:S:105:ALA:HB2	1.72	0.71
10:P:65:ARG:NH2	30:8:14:VAL:O	2.24	0.70
36:A:2647:U:H2'	36:A:2648:C:C6	2.26	0.70
36:A:2304:G:H1	36:A:2312:U:H3	1.37	0.70
36:A:2030:A:H4'	36:A:2031:A:C8	2.26	0.70
36:A:2438:U:H5''	36:A:2600:A:H5'	1.72	0.70
35:B:80:U:O2'	36:A:918:A:N3	2.24	0.70
29:7:30:VAL:O	29:7:34:ARG:NH1	2.24	0.70
36:A:2737:G:H1	36:A:2767:C:N4	1.87	0.70
20:Z:53:ILE:HD11	20:Z:99:TYR:HB2	1.73	0.70
5:G:39:ILE:HG22	5:G:157:ILE:HA	1.72	0.70
12:R:64:ARG:O	12:R:68:ARG:N	2.24	0.70
36:A:1007:C:H5''	36:A:1008:C:H2'	1.73	0.70
3:E:143:ASN:ND2	3:E:146:THR:O	2.24	0.70
2:D:5:LYS:HB3	2:D:17:THR:HG22	1.73	0.70
24:N:15:LEU:HB2	24:N:134:ARG:CG	2.21	0.70
36:A:696:G:H1	36:A:766:C:N4	1.89	0.70
36:A:698:C:H4'	36:A:734:A:H61	1.55	0.70
36:A:2458:G:HO2'	36:A:2490:G:H1	1.37	0.70
14:T:23:ARG:HB2	14:T:120:ARG:HH22	1.54	0.70
24:N:68:GLU:HG2	24:N:88:GLU:OE1	1.92	0.70
36:A:133:C:H42	36:A:146:G:H1	1.36	0.70
24:N:16:ILE:CD1	24:N:137:LYS:HB2	2.21	0.70
36:A:659:C:H2'	36:A:660:G:H8	1.54	0.70
36:A:2105:C:H2'	36:A:2106:G:C8	2.27	0.70
36:A:273(A):G:H1	36:A:364:C:H42	1.39	0.70
6:H:172:LYS:HB2	6:H:176:ALA:HB2	1.72	0.70
24:N:35:ARG:HB3	24:N:42:TRP:HZ3	1.54	0.70
36:A:1355:G:H1	36:A:1376:C:H42	1.39	0.70
36:A:648:G:H2'	36:A:649:G:C8	2.27	0.70
36:A:1491:G:OP1	36:A:1494:A:N6	2.24	0.70
9:O:64:ARG:HH22	14:T:69:GLY:HA3	1.57	0.70
6:H:149:ARG:HH11	6:H:164:TYR:H	1.40	0.70
3:E:12:THR:O	3:E:22:PRO:HA	1.92	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:65:LEU:HD22	1:C:176:VAL:HG13	1.72	0.70
36:A:1685:C:N3	36:A:1703:G:N2	2.36	0.70
36:A:947:G:H2'	36:A:948:G:H8	1.57	0.70
6:H:23:ARG:HA	6:H:36:PRO:HA	1.73	0.70
15:U:64:ARG:NE	24:N:41:ASP:CA	2.36	0.70
13:S:15:ARG:HB3	13:S:18:ILE:HB	1.73	0.70
4:F:13:SER:O	4:F:15:SER:N	2.25	0.70
2:D:202:LYS:HB3	36:A:1820:U:H1'	1.74	0.70
16:V:24:LYS:HE3	16:V:64:HIS:HD2	1.57	0.70
3:E:110:GLY:H	36:A:2821:A:H5''	1.57	0.70
36:A:1486:A:H2'	36:A:1487:G:C8	2.27	0.69
36:A:131:G:H2'	36:A:132:G:H8	1.57	0.69
12:R:107:ASP:HA	36:A:2009:G:H1'	1.74	0.69
36:A:1604:C:H2'	36:A:1605:C:C6	2.27	0.69
36:A:415:A:H61	36:A:2408:U:H3	1.40	0.69
30:8:52:LYS:HG2	36:A:834:C:H4'	1.73	0.69
36:A:1814:G:H3'	36:A:1815:A:H2'	1.73	0.69
36:A:1272:A:O2'	36:A:1273:U:OP1	2.10	0.69
36:A:1019:U:H3	36:A:1020:A:H62	0.79	0.69
36:A:1862:G:H1	36:A:1880:C:N4	1.86	0.69
36:A:77:C:H2'	36:A:78:A:H8	1.58	0.69
36:A:1024:G:H3'	36:A:1025:G:H5''	1.75	0.69
35:B:60:C:H2'	35:B:61:G:C8	2.27	0.69
16:V:39:LEU:HA	16:V:47:VAL:HG11	1.75	0.69
36:A:874:G:H2'	36:A:875:G:C8	2.26	0.69
15:U:63:VAL:HG11	24:N:42:TRP:HD1	1.54	0.69
36:A:577:G:O2'	36:A:1254:A:OP1	2.11	0.69
22:1:12:PRO:HA	22:1:44:PRO:HD3	1.73	0.69
36:A:733:G:OP2	36:A:761:A:N6	2.25	0.69
4:F:188:ARG:HG3	4:F:189:THR:HG23	1.75	0.69
36:A:237:C:N4	36:A:260:G:H1	1.90	0.69
10:P:88:LEU:HD11	10:P:123:LEU:HD21	1.75	0.69
36:A:2043:C:OP2	36:A:2777:G:O2'	2.11	0.69
10:P:48:PRO:O	10:P:50:ARG:N	2.24	0.69
24:N:15:LEU:CG	24:N:134:ARG:HE	2.05	0.69
24:N:16:ILE:HD13	24:N:137:LYS:HB2	1.75	0.69
30:8:57:ARG:NH1	30:8:64:TYR:OH	2.24	0.69
24:N:112:LEU:HA	24:N:115:ARG:HB2	1.73	0.69
36:A:975:G:H1'	36:A:990:A:C2	2.28	0.69
36:A:432:A:H2'	36:A:433:C:C6	2.28	0.69
2:D:99:ASP:O	36:A:1500:G:N2	2.25	0.69
36:A:1024:G:H1	36:A:1140:C:N4	1.91	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:X:36:LYS:HD2	36:A:1598:C:H5'	1.73	0.69
4:F:124:LEU:HD21	4:F:126:VAL:HG23	1.73	0.69
36:A:573:G:N1	36:A:2031:A:OP2	2.26	0.69
36:A:528:A:H61	36:A:2042:A:H3'	1.58	0.68
18:X:12:VAL:O	18:X:29:TRP:NE1	2.22	0.68
36:A:2461:C:H42	36:A:2489:G:H1	1.40	0.68
11:Q:124:LYS:NZ	36:A:2483:C:O2	2.26	0.68
1:C:43:GLU:HG3	1:C:218:THR:HA	1.75	0.68
7:J:112:UNK:O	7:J:114:UNK:N	2.26	0.68
36:A:355:G:H2'	36:A:356:G:H8	1.58	0.68
30:8:8:LYS:NZ	36:A:243:U:OP2	2.22	0.68
16:V:66:ARG:HG2	16:V:88:ARG:HD2	1.74	0.68
36:A:1248:G:H3'	36:A:1249:U:H5''	1.73	0.68
36:A:2632:A:N1	36:A:2786:U:O4	2.27	0.68
19:Y:76:CYS:HB3	19:Y:96:ILE:HG13	1.75	0.68
15:U:50:ARG:HH22	16:V:72:VAL:HG12	1.58	0.68
36:A:2857:G:N2	36:A:2860:A:OP2	2.25	0.68
36:A:1197:G:N2	36:A:1249:U:O2	2.23	0.68
36:A:2650:U:O4	36:A:2670:A:N1	2.26	0.68
35:B:75:G:H2'	35:B:76:G:O4'	1.94	0.68
1:C:153:ILE:HA	1:C:156:GLU:HB2	1.74	0.68
3:E:11:MET:HA	3:E:23:VAL:O	1.94	0.68
24:N:67:LEU:O	24:N:88:GLU:HB2	1.93	0.68
36:A:1845:G:N2	36:A:1895:C:N3	2.33	0.68
36:A:621:A:C2	36:A:622:G:H1'	2.28	0.68
36:A:613:U:H4'	36:A:616:A:C6	2.29	0.68
35:B:44:G:H21	35:B:47:C:H42	1.41	0.68
1:C:101:ILE:HD13	1:C:124:VAL:HG13	1.75	0.68
36:A:951:C:H42	36:A:966:G:H1	1.41	0.68
28:6:45:LYS:HD3	36:A:2371:G:H4'	1.74	0.68
19:Y:6:HIS:HB3	19:Y:35:TYR:HE1	1.59	0.68
24:N:55:VAL:HB	24:N:126:PRO:CB	2.24	0.68
24:N:111:PRO:HD2	36:A:558:G:P	2.33	0.68
36:A:136:G:H1	36:A:143:C:N4	1.90	0.68
2:D:35:LYS:O	2:D:37:LEU:N	2.27	0.68
20:Z:14:LYS:NZ	35:B:95:U:OP2	2.22	0.68
36:A:2657:A:H62	36:A:2664:G:H21	1.39	0.68
36:A:1525:G:H2'	36:A:1526:G:C8	2.29	0.68
36:A:16:G:H1	36:A:524:U:H3	1.40	0.68
5:G:105:LYS:HZ2	23:4:31:ILE:HG21	1.58	0.68
36:A:529:A:N6	36:A:2041:U:N3	2.22	0.68
18:X:40:LYS:NZ	36:A:139:G:O6	2.26	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:360:G:H2'	36:A:361:G:H8	1.58	0.68
13:S:17:ARG:NH2	35:B:8:U:OP1	2.26	0.68
36:A:1110:G:O2'	36:A:1111:A:O5'	2.11	0.68
36:A:550:G:H2'	36:A:551:G:H8	1.59	0.68
36:A:2212:A:H1'	36:A:2215:G:C6	2.29	0.68
14:T:47:GLY:HA2	14:T:65:LYS:HB2	1.75	0.68
24:N:30:ILE:HG22	24:N:34:LEU:CD2	2.24	0.67
22:1:45:ASN:HD22	36:A:2230:G:H1'	1.59	0.67
36:A:1162:G:H2'	36:A:1163:G:H8	1.59	0.67
36:A:1173:G:H21	36:A:1177:A:H62	1.39	0.67
36:A:192:C:O2'	36:A:802:A:N3	2.28	0.67
36:A:131:G:H2'	36:A:132:G:C8	2.28	0.67
24:N:14:VAL:HG11	24:N:137:LYS:HG3	1.75	0.67
8:K:90:LYS:HB3	8:K:93:ARG:HB2	1.76	0.67
24:N:18:ALA:O	24:N:21:LYS:HB2	1.94	0.67
10:P:126:VAL:HA	10:P:145:PRO:HG2	1.74	0.67
4:F:175:THR:OG1	4:F:175:THR:O	2.09	0.67
13:S:73:LEU:HD13	13:S:101:LEU:HD22	1.76	0.67
2:D:218:ARG:NH1	36:A:690:G:O3'	2.21	0.67
8:K:116:ASN:ND2	36:A:1081:U:O2	2.27	0.67
22:1:43:TYR:OH	36:A:1365:A:OP1	2.11	0.67
4:F:74:ARG:NH2	36:A:674:G:N3	2.42	0.67
10:P:23:PRO:HB3	10:P:29:LYS:HB2	1.76	0.67
4:F:194:MET:HE3	4:F:199:TRP:CD1	2.29	0.67
36:A:2683:C:N3	36:A:2727:G:O2'	2.26	0.67
36:A:2098:U:H3	36:A:2191:G:H1	1.43	0.67
36:A:2656:U:H3	36:A:2665:A:H62	1.41	0.67
36:A:1009:A:H2'	36:A:1010:A:C8	2.30	0.67
12:R:101:ALA:HB2	27:5:44:THR:HG21	1.76	0.67
36:A:922:U:H2'	36:A:923:C:C6	2.30	0.67
36:A:1711:C:N3	36:A:1747:G:N2	2.39	0.67
36:A:2791:C:OP1	36:A:2893:G:N2	2.26	0.67
3:E:105:THR:HB	3:E:197:ILE:HG23	1.77	0.67
29:7:34:ARG:HD3	29:7:39:ARG:HD2	1.77	0.67
1:C:214:TYR:HD2	1:C:222:SER:HB2	1.60	0.67
24:N:71:ILE:H	24:N:71:ILE:HD12	1.60	0.67
2:D:78:LYS:HD2	2:D:98:VAL:HG22	1.76	0.67
4:F:102:PRO:HB3	36:A:606:U:H5''	1.76	0.67
36:A:2448:A:H5'	36:A:2449:U:H2'	1.77	0.67
36:A:1135:C:N4	36:A:1137:G:H3'	2.11	0.67
4:F:154:VAL:H	4:F:173:VAL:HA	1.59	0.67
36:A:2487:G:H2'	36:A:2488:A:H8	1.59	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:G:50:ALA:HB1	5:G:51:ARG:HE	1.58	0.67
24:N:35:ARG:HB3	24:N:42:TRP:CZ3	2.30	0.66
31:9:22:ARG:HB3	31:9:36:GLN:HB2	1.77	0.66
4:F:5:ALA:HB3	4:F:8:GLN:H	1.59	0.66
36:A:2151:G:H2'	36:A:2152:G:H8	1.59	0.66
36:A:223:A:O2'	36:A:420:C:O2	2.12	0.66
17:W:66:GLU:HA	17:W:69:LEU:HB2	1.76	0.66
1:C:26:ALA:HA	1:C:30:VAL:HG23	1.77	0.66
36:A:1011:G:O6	36:A:1150:C:N3	2.29	0.66
36:A:2087:G:H1	36:A:2232:U:H3	1.43	0.66
36:A:712:G:H1	36:A:719:C:H42	1.41	0.66
5:G:8:LYS:NZ	5:G:97:ASP:OD1	2.27	0.66
13:S:26:LEU:HD22	13:S:87:PHE:HA	1.77	0.66
4:F:80:ALA:HB3	4:F:83:PHE:HE1	1.61	0.66
3:E:184:VAL:HG12	3:E:185:LYS:H	1.60	0.66
36:A:1821:A:H2'	36:A:1822:G:C8	2.31	0.66
13:S:42:ASP:N	13:S:42:ASP:OD1	2.26	0.66
13:S:26:LEU:HD21	13:S:101:LEU:HD13	1.78	0.66
19:Y:32:PRO:HD2	19:Y:34:LYS:H	1.60	0.66
18:X:36:LYS:HG3	18:X:54:VAL:HB	1.77	0.66
36:A:1538:G:H2'	36:A:1539:G:H8	1.61	0.66
4:F:8:GLN:HB2	4:F:22:ALA:HB2	1.77	0.66
16:V:3:ALA:O	16:V:14:VAL:N	2.27	0.66
20:Z:102:LEU:HD21	20:Z:124:ILE:HD12	1.78	0.66
18:X:36:LYS:HA	18:X:39:ILE:HD12	1.78	0.66
36:A:2810:A:N6	36:A:2891:G:H21	1.92	0.66
36:A:1752:C:N4	36:A:1756:G:H1	1.94	0.66
36:A:612:G:N2	36:A:616:A:O2'	2.28	0.66
1:C:218:THR:O	36:A:2175:C:O2'	2.12	0.66
12:R:63:ARG:NH2	12:R:77:ARG:HH12	1.92	0.66
12:R:100:LEU:HD22	12:R:101:ALA:H	1.61	0.66
36:A:1139:G:H2'	36:A:1140:C:C6	2.31	0.65
36:A:2405:G:H21	36:A:2412:A:H62	1.42	0.65
21:0:65:GLY:HA3	21:0:81:VAL:HG13	1.76	0.65
24:N:74:ARG:NH2	36:A:2640:G:H5''	2.11	0.65
36:A:24:G:H2'	36:A:25:U:C6	2.31	0.65
24:N:55:VAL:HG23	24:N:56:ASN:OD1	1.97	0.65
4:F:64:ILE:HG22	4:F:76:GLY:HA2	1.77	0.65
24:N:17:ASP:O	24:N:18:ALA:HB2	1.95	0.65
36:A:630:G:N2	36:A:633:A:OP2	2.28	0.65
36:A:595:C:H2'	36:A:596:G:C8	2.31	0.65
36:A:2685:G:H1	36:A:2724:C:N4	1.93	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:F:5:ALA:HB1	4:F:123:LEU:HD21	1.76	0.65
4:F:9:ILE:HG21	4:F:124:LEU:HA	1.77	0.65
36:A:852:G:H2'	36:A:853:G:H8	1.59	0.65
36:A:2131:G:H5'	36:A:2133:G:O4'	1.96	0.65
36:A:1417:C:H4'	36:A:1588:C:H1'	1.77	0.65
36:A:2291:U:O2'	36:A:2374:C:O2	2.14	0.65
36:A:2133:G:O2'	36:A:2158:A:N6	2.30	0.65
21:0:39:ARG:HH21	36:A:2355:C:H1'	1.61	0.65
3:E:12:THR:HB	14:T:58:ASN:HD21	1.59	0.65
15:U:92:ARG:HB3	15:U:95:LEU:HB2	1.79	0.65
14:T:53:ARG:NH2	36:A:2683:C:OP1	2.30	0.65
36:A:150:C:H2'	36:A:151:C:C6	2.32	0.65
36:A:1355:G:H2'	36:A:1356:G:C8	2.32	0.65
36:A:743:G:H1	36:A:754:C:N4	1.95	0.65
16:V:24:LYS:HA	16:V:92:THR:HG23	1.78	0.65
1:C:28:ARG:HG3	1:C:183:PRO:HB3	1.78	0.65
2:D:24:ILE:HG13	2:D:82:ILE:HB	1.77	0.65
36:A:1019:U:O2	36:A:1020:A:C8	2.49	0.65
3:E:5:LEU:HD23	3:E:197:ILE:HB	1.78	0.65
36:A:2400:G:H1	36:A:2416:C:N4	1.94	0.65
10:P:66:GLY:HA2	36:A:2415:G:H4'	1.79	0.65
6:H:85:LYS:HD2	6:H:141:VAL:HG12	1.79	0.65
22:1:17:SER:OG	22:1:42:GLN:N	2.29	0.65
36:A:1080:C:H2'	36:A:1081:U:C6	2.32	0.65
20:Z:9:TYR:HA	20:Z:37:VAL:HG12	1.77	0.65
11:Q:85:LYS:HG3	21:0:7:LEU:HD13	1.77	0.65
36:A:1570:A:H2'	36:A:1571:A:C8	2.31	0.65
2:D:165:ILE:O	2:D:166:GLN:HB2	1.97	0.65
28:6:48:VAL:O	28:6:49:HIS:HB2	1.97	0.65
36:A:2636:U:O4	36:A:2782:G:O6	2.15	0.64
1:C:138:LEU:HD22	1:C:139:PRO:HD2	1.78	0.64
16:V:4:ILE:HD13	16:V:40:LEU:HD23	1.79	0.64
36:A:784:A:N6	36:A:2072:G:O2'	2.30	0.64
36:A:463:G:H21	36:A:466:A:H62	1.45	0.64
35:B:95:U:H2'	35:B:96:G:C8	2.32	0.64
28:6:8:LYS:HE3	28:6:25:LYS:HE2	1.77	0.64
4:F:155:LEU:HA	4:F:176:LEU:CB	2.27	0.64
5:G:135:LEU:HD22	5:G:140:ILE:HD11	1.79	0.64
28:6:18:ARG:O	28:6:19:ARG:HB2	1.96	0.64
36:A:1664:A:H61	36:A:1996:C:H42	0.77	0.64
21:0:25:ARG:NH2	36:A:2354:G:O3'	2.30	0.64
36:A:1636:C:H2'	36:A:1637:A:C8	2.32	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:N:126:PRO:O	24:N:127:ASP:HB2	1.98	0.64
8:K:59:ILE:HG13	8:K:61:ALA:H	1.62	0.64
36:A:969:U:H2'	36:A:970:C:C6	2.32	0.64
36:A:2210:G:H21	36:A:2211:G:H5'	1.63	0.64
36:A:1183:G:H2'	36:A:1184:G:H8	1.62	0.64
36:A:245:G:H21	36:A:384:U:H4'	1.61	0.64
36:A:2651:C:N4	36:A:2669:G:H1	1.95	0.64
20:Z:151:HIS:HB2	20:Z:168:GLU:O	1.98	0.64
2:D:12:SER:HB2	2:D:208:LYS:HB3	1.79	0.64
36:A:1288:U:H3	36:A:1326:U:H3	1.46	0.64
36:A:2282:G:H21	36:A:2390:U:H3	1.44	0.64
36:A:1631:A:N6	36:A:1682:G:O2'	2.30	0.64
36:A:1136:G:H2'	36:A:1137:G:O4'	1.98	0.64
36:A:1416:G:N2	36:A:1582:C:C2	2.63	0.64
24:N:137:LYS:HZ3	24:N:137:LYS:HA	1.62	0.64
36:A:647:G:H2'	36:A:648:G:O4'	1.98	0.64
36:A:1796:U:H3	36:A:1823:G:H1	1.43	0.64
36:A:1516:U:H2'	36:A:1517:G:C8	2.33	0.64
36:A:37:C:H2'	36:A:38:A:C8	2.33	0.64
20:Z:10:ARG:HB3	20:Z:36:LYS:HB2	1.79	0.64
36:A:2879:C:O2	36:A:2881:C:N4	2.31	0.64
36:A:2487:G:H2'	36:A:2488:A:C8	2.32	0.64
36:A:1516:U:H2'	36:A:1517:G:H8	1.63	0.64
36:A:2793:G:N1	36:A:2803:C:O2	2.24	0.64
5:G:43:LEU:HD13	36:A:2305:A:H61	1.62	0.64
5:G:47:LYS:HD3	5:G:81:LYS:HD2	1.80	0.64
36:A:2696:U:H3	36:A:2711:A:H61	1.45	0.64
3:E:36:ARG:HG3	3:E:47:VAL:HG22	1.78	0.64
4:F:155:LEU:HA	4:F:176:LEU:HB3	1.79	0.64
4:F:117:ARG:HB2	4:F:186:ILE:HD11	1.79	0.64
36:A:1674:G:H1'	36:A:1676:A:N6	2.12	0.64
36:A:1511:A:H2'	36:A:1512:G:C8	2.31	0.64
16:V:66:ARG:HA	16:V:90:PRO:HA	1.80	0.64
4:F:101:LEU:HD12	4:F:102:PRO:HD2	1.79	0.64
36:A:503:A:H4'	36:A:504:U:H5''	1.78	0.64
8:K:7:VAL:HB	8:K:58:THR:HG23	1.80	0.64
15:U:97:ASP:C	15:U:99:ALA:H	1.99	0.64
4:F:169:ASN:HB2	36:A:322:A:P	2.38	0.64
36:A:2675:A:N6	36:A:2732:G:H1	1.96	0.64
36:A:1218:C:H42	36:A:1231:G:H1	1.44	0.64
16:V:62:LEU:HG	16:V:95:LEU:HB2	1.80	0.64
36:A:996:A:H2'	36:A:997:G:C8	2.33	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2229:C:H2'	36:A:2230:G:H8	1.62	0.64
36:A:278:A:H2'	36:A:279:C:C6	2.33	0.64
36:A:504:U:H4'	36:A:505:A:H5'	1.79	0.64
36:A:1394:U:H4'	36:A:1603:A:H4'	1.79	0.63
1:C:29:LEU:O	1:C:32:GLU:HG3	1.98	0.63
36:A:1529:A:H62	36:A:1542:G:N2	1.96	0.63
36:A:2647:U:H2'	36:A:2648:C:H6	1.60	0.63
11:Q:34:LEU:HD21	11:Q:122:GLY:HA3	1.79	0.63
3:E:13:ARG:HG2	14:T:58:ASN:HD22	1.63	0.63
36:A:268:C:N3	36:A:424:G:N2	2.44	0.63
36:A:278:A:O2'	36:A:279:C:O5'	2.17	0.63
1:C:132:LEU:HB2	1:C:138:LEU:HG	1.80	0.63
4:F:206:ILE:HG22	4:F:208:GLY:H	1.62	0.63
17:W:42:ARG:HD2	36:A:2010:G:H4'	1.80	0.63
36:A:822:U:H2'	36:A:823:G:H8	1.62	0.63
36:A:193:U:H2'	36:A:194:G:C8	2.34	0.63
36:A:1359:A:N6	36:A:1372:U:N3	2.30	0.63
2:D:102:LYS:NZ	36:A:1500:G:O2'	2.31	0.63
4:F:143:ALA:HB1	4:F:148:LEU:HD12	1.81	0.63
1:C:26:ALA:CB	1:C:215:VAL:HG21	2.28	0.63
15:U:18:LEU:HD22	15:U:22:LYS:HE2	1.80	0.63
13:S:42:ASP:O	13:S:44:LYS:N	2.32	0.63
9:O:85:VAL:HG11	9:O:114:ILE:HD12	1.81	0.63
19:Y:28:LYS:HE3	19:Y:30:VAL:HG22	1.81	0.63
5:G:120:LEU:HB2	5:G:180:PHE:HA	1.80	0.63
3:E:133:LYS:HB2	3:E:134:ILE:HD13	1.80	0.63
24:N:120:LEU:HD23	24:N:120:LEU:O	1.98	0.63
36:A:550:G:H2'	36:A:551:G:C8	2.33	0.63
1:C:29:LEU:O	1:C:33:LEU:HG	1.99	0.63
36:A:1320:C:O2'	36:A:1321:A:OP2	2.17	0.63
13:S:97:ARG:O	13:S:99:LYS:N	2.32	0.63
22:1:18:ILE:O	36:A:379:G:O2'	2.12	0.63
36:A:903:C:H2'	36:A:904:C:H6	1.64	0.63
36:A:77:C:H2'	36:A:78:A:C8	2.33	0.63
36:A:1069:A:O2'	36:A:1073:A:N6	2.32	0.63
18:X:64:LYS:HD3	36:A:64:A:H5'	1.81	0.63
36:A:1652:A:H3'	36:A:1653:G:C8	2.34	0.63
15:U:63:VAL:CG1	24:N:42:TRP:CD1	2.77	0.63
1:C:64:SER:HA	1:C:160:GLY:O	1.99	0.63
36:A:1486:A:H2'	36:A:1487:G:H8	1.61	0.63
36:A:1416:G:H2'	36:A:1417:C:C6	2.34	0.63
8:K:27:LEU:HD23	8:K:30:HIS:HD1	1.64	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:1320:C:N4	36:A:1331:A:H62	1.95	0.63
36:A:392:C:H2'	36:A:393:C:C6	2.33	0.63
36:A:216:A:N7	36:A:431:U:O4	2.32	0.63
14:T:115:ARG:H	14:T:115:ARG:HD2	1.63	0.63
36:A:1025:G:OP1	36:A:1025:G:H8	1.80	0.63
10:P:6:LEU:HG	10:P:8:PRO:HD2	1.81	0.63
36:A:2030:A:H4'	36:A:2031:A:H8	1.64	0.63
20:Z:151:HIS:HA	20:Z:171:ILE:HG23	1.81	0.63
36:A:1230:C:H2'	36:A:1231:G:C8	2.34	0.63
11:Q:41:TRP:HB3	11:Q:94:VAL:HG21	1.79	0.63
14:T:51:ARG:NE	14:T:100:TYR:OH	2.31	0.63
4:F:169:ASN:ND2	36:A:322:A:H3'	2.14	0.63
3:E:172:VAL:HB	3:E:184:VAL:HG13	1.80	0.63
36:A:690:G:H2'	36:A:691:C:O4'	1.99	0.63
17:W:11:ARG:CZ	17:W:12:ILE:H	2.12	0.63
35:B:87:G:H21	35:B:89(B):A:H62	1.46	0.63
18:X:36:LYS:HE2	18:X:56:THR:HG23	1.80	0.62
5:G:57:ALA:HB1	5:G:90:LEU:HD22	1.81	0.62
36:A:600:G:O6	36:A:657:U:O4	2.17	0.62
36:A:1437:C:H2'	36:A:1438:U:C6	2.35	0.62
26:3:31:LEU:HB2	36:A:1157:G:O2'	1.99	0.62
19:Y:51:VAL:HB	19:Y:55:TYR:HD2	1.65	0.62
12:R:90:ARG:HH12	36:A:2880:C:H4'	1.64	0.62
36:A:226:G:N2	36:A:228:A:N6	2.42	0.62
16:V:96:ILE:HG22	16:V:97:LYS:N	2.14	0.62
36:A:2303:G:H1	36:A:2313:C:H42	1.47	0.62
24:N:76:SER:HB2	36:A:2641:G:C4'	2.28	0.62
36:A:843:G:N2	36:A:935:C:N3	2.38	0.62
36:A:2074:U:O2'	36:A:2597:G:N3	2.26	0.62
2:D:61:LEU:O	2:D:63:ARG:NH1	2.32	0.62
36:A:1437:C:H2'	36:A:1438:U:H6	1.62	0.62
2:D:56:GLY:N	36:A:692:C:OP1	2.32	0.62
19:Y:66:PRO:O	19:Y:67:LEU:HB2	1.98	0.62
36:A:122:G:H1	36:A:129:C:N4	1.93	0.62
13:S:24:LEU:HB3	13:S:85:VAL:HG12	1.81	0.62
24:N:74:ARG:HH21	36:A:2640:G:H5''	1.65	0.62
14:T:130:ALA:HA	14:T:133:GLU:HB3	1.80	0.62
36:A:724:U:H2'	36:A:725:G:C8	2.35	0.62
36:A:2708:G:H2'	36:A:2709:G:C8	2.35	0.62
14:T:26:ASP:HA	14:T:48:ILE:HG23	1.81	0.62
36:A:2788:C:H2'	36:A:2789:C:O4'	2.00	0.62
24:N:56:ASN:H	24:N:126:PRO:HA	1.64	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
35:B:74:U:H2'	35:B:75:G:C8	2.34	0.62
36:A:1802:A:C8	36:A:1815:A:N6	2.67	0.62
36:A:496:G:H2'	36:A:497:A:O4'	2.00	0.62
36:A:305:U:H2'	36:A:306:U:C6	2.35	0.62
9:O:3:GLN:O	9:O:5:GLN:N	2.30	0.62
15:U:64:ARG:HD2	24:N:42:TRP:N	2.15	0.62
7:J:49:UNK:H	7:J:82:UNK:HA	1.64	0.62
36:A:1202:C:H42	36:A:1243:G:H1	1.47	0.62
36:A:1986:A:H2'	36:A:1987:G:C8	2.35	0.62
36:A:2589:A:H2'	36:A:2590:A:C8	2.34	0.62
10:P:16:ARG:O	36:A:661:C:O2'	2.17	0.62
19:Y:48:ALA:O	36:A:483:A:O2'	2.17	0.62
18:X:72:LYS:HD2	18:X:72:LYS:H	1.65	0.62
36:A:2248:C:N3	36:A:2256:G:O6	2.33	0.62
36:A:1306:C:H2'	36:A:1307:A:C8	2.34	0.62
36:A:2783:G:H2'	36:A:2784:C:C6	2.35	0.62
1:C:76:LEU:HB2	1:C:111:PHE:HB3	1.81	0.62
5:G:18:GLU:HG2	5:G:175:LEU:HD21	1.80	0.62
36:A:1645:G:H5''	36:A:1646:C:H5'	1.82	0.62
21:O:20:ARG:HD2	21:O:20:ARG:H	1.64	0.62
36:A:119:A:H4'	36:A:120:U:H5'	1.81	0.62
36:A:625:G:H4'	36:A:656:G:H4'	1.81	0.62
36:A:1529:A:H62	36:A:1542:G:H21	1.46	0.62
8:K:130:SER:OG	36:A:1059:G:N2	2.32	0.62
8:K:13:PRO:HB3	8:K:52:ILE:HG12	1.81	0.62
24:N:13:TRP:O	24:N:135:PRO:HD2	2.00	0.61
36:A:24:G:O6	36:A:516:C:N3	2.33	0.61
36:A:710:G:H2'	36:A:711:G:C8	2.35	0.61
36:A:966:G:H2'	36:A:967:C:C6	2.35	0.61
20:Z:23:LYS:HB3	20:Z:38:TYR:CD1	2.35	0.61
24:N:9:VAL:HG11	24:N:39:ARG:HH12	1.65	0.61
36:A:890:A:H2'	36:A:892:G:C8	2.35	0.61
36:A:529:A:N6	36:A:2041:U:C2	2.65	0.61
24:N:131:GLN:HG3	36:A:7:G:O2'	2.00	0.61
36:A:1782:C:H42	36:A:2586:C:H42	1.47	0.61
36:A:1231:G:H2'	36:A:1232:G:H8	1.63	0.61
3:E:8:LYS:HE3	3:E:188:VAL:HG13	1.81	0.61
23:4:15:ILE:HB	23:4:32:TYR:HB3	1.82	0.61
25:2:65:ASN:HA	25:2:68:ARG:HB2	1.82	0.61
2:D:256:GLY:O	36:A:1843:C:O2'	2.18	0.61
36:A:1335:U:H2'	36:A:1336:A:C8	2.34	0.61
36:A:822:U:H2'	36:A:823:G:C8	2.35	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:8:17:THR:O	30:8:19:SER:N	2.30	0.61
36:A:248:G:C4	36:A:2431:U:H4'	2.34	0.61
36:A:2514:U:H2'	36:A:2515:C:C6	2.35	0.61
14:T:34:VAL:HG13	14:T:39:ARG:HA	1.82	0.61
36:A:2692:C:H2'	36:A:2693:A:H8	1.63	0.61
24:N:128:HIS:NE2	24:N:134:ARG:HD2	2.16	0.61
36:A:558:G:H2'	36:A:559:G:H8	1.66	0.61
22:1:88:LYS:HA	22:1:91:LYS:HD3	1.81	0.61
2:D:183:ARG:NH1	2:D:184:LYS:O	2.33	0.61
36:A:2471:C:H2'	36:A:2472:G:C8	2.35	0.61
36:A:926:A:H2'	36:A:928:G:C8	2.36	0.61
36:A:2178:C:H2'	36:A:2179:C:C6	2.35	0.61
4:F:38:ARG:NH2	36:A:660:G:O3'	2.34	0.61
2:D:96:HIS:HE2	36:A:1501:C:H5'	1.66	0.61
6:H:74:ASN:HB3	6:H:138:LYS:HD2	1.83	0.61
36:A:1135:C:H42	36:A:1138:G:H8	1.48	0.61
36:A:1345:C:N4	36:A:1601:G:H1	1.96	0.61
36:A:2787:C:H2'	36:A:2788:C:C6	2.36	0.61
36:A:2811:G:H1	36:A:2889:C:H42	1.47	0.61
36:A:2782:G:H3'	36:A:2783:G:H8	1.66	0.61
13:S:97:ARG:O	13:S:100:ALA:N	2.21	0.61
36:A:1467:C:C6	36:A:154(B):C:H2'	2.35	0.61
4:F:130:ALA:HB3	4:F:142:TRP:HD1	1.66	0.61
28:6:12:GLU:HG3	28:6:23:THR:HG22	1.82	0.61
36:A:270(B):A:N3	36:A:365(A):C:O2'	2.32	0.61
1:C:65:LEU:O	1:C:67:HIS:N	2.33	0.61
4:F:164:ARG:HD3	4:F:177:ALA:HB2	1.81	0.61
15:U:52:ARG:NH1	36:A:559:G:O2'	2.33	0.61
31:9:5:ALA:HB3	36:A:2466:C:H5'	1.83	0.61
36:A:20:C:H2'	36:A:21:A:H8	1.65	0.61
35:B:13:A:N1	35:B:69:G:O2'	2.33	0.61
36:A:1203:G:N1	36:A:1241:A:OP2	2.30	0.61
36:A:2123:G:H1	36:A:2175:C:H42	1.47	0.61
14:T:30:VAL:HG23	14:T:44:ASP:HA	1.82	0.61
36:A:2646:C:H2'	36:A:2647:U:O4'	2.01	0.61
36:A:1287:A:H2'	36:A:1288:U:H5'	1.83	0.61
2:D:77:ALA:HA	2:D:97:TYR:HA	1.82	0.61
36:A:2468:G:OP2	36:A:2476:A:N6	2.34	0.61
1:C:61:GLY:HA3	1:C:164:PHE:CG	2.36	0.61
36:A:1658:C:N3	36:A:2002:G:N2	2.44	0.61
36:A:240:G:O2'	36:A:257:A:N6	2.30	0.61
36:A:1940:U:OP1	36:A:1965:C:N4	2.33	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:8:23:VAL:HG13	30:8:48:PHE:HA	1.83	0.61
17:W:32:ALA:O	17:W:36:LEU:HG	2.01	0.61
5:G:69:ALA:HB1	35:B:41:U:H5	1.66	0.61
24:N:57:ALA:O	24:N:60:ILE:HG13	2.01	0.60
36:A:81:G:H1	36:A:105:C:H42	1.49	0.60
36:A:136:G:N2	36:A:143:C:N3	2.46	0.60
36:A:459:U:O4	36:A:470:A:N7	2.34	0.60
29:7:34:ARG:HD2	29:7:42:LEU:HD22	1.83	0.60
36:A:1312:U:H5'	36:A:1313:U:C6	2.36	0.60
12:R:12:ARG:HB3	12:R:16:HIS:HB3	1.82	0.60
24:N:63:THR:HG21	36:A:1141:U:OP2	2.01	0.60
36:A:741:G:H1	36:A:756:C:N4	1.98	0.60
36:A:2812:G:H2'	36:A:2813:A:C8	2.35	0.60
2:D:242:ARG:NH1	36:A:1902:C:OP1	2.33	0.60
17:W:79:GLY:N	17:W:100:THR:O	2.28	0.60
1:C:33:LEU:HB3	1:C:221:PRO:HD2	1.83	0.60
36:A:2789:C:O3'	36:A:2790:A:H4'	2.01	0.60
17:W:84:ARG:HB2	17:W:96:ILE:HG23	1.83	0.60
11:Q:36:ALA:N	11:Q:103:MET:SD	2.74	0.60
9:O:85:VAL:HG21	9:O:114:ILE:HG21	1.83	0.60
36:A:1546:A:H2'	36:A:154(B):C:O4'	2.01	0.60
20:Z:90:VAL:HG12	20:Z:91:LEU:H	1.66	0.60
36:A:1270:C:H5''	36:A:1271:G:H5''	1.83	0.60
36:A:40:C:H2'	36:A:41:C:C6	2.36	0.60
24:N:30:ILE:HG22	24:N:34:LEU:HD21	1.82	0.60
36:A:2784:C:H2'	36:A:2785:C:C6	2.35	0.60
28:6:37:ARG:NH2	36:A:2344:U:O2	2.33	0.60
36:A:1199:U:H2'	36:A:1200:C:C6	2.35	0.60
36:A:783:A:H4'	36:A:2588:G:H4'	1.83	0.60
23:4:16:CYS:HB2	23:4:20:ASN:HB2	1.81	0.60
36:A:1523:U:H2'	36:A:1524:G:C8	2.36	0.60
27:5:56:LYS:HE2	27:5:58:LEU:HD11	1.82	0.60
11:Q:51:ARG:HA	11:Q:54:MET:HE2	1.83	0.60
36:A:698:C:H42	36:A:763:G:H1	1.49	0.60
4:F:74:ARG:HE	36:A:674:G:H1'	1.66	0.60
20:Z:102:LEU:HD13	20:Z:139:VAL:HG11	1.83	0.60
20:Z:8:TYR:HB2	20:Z:38:TYR:CE1	2.36	0.60
11:Q:17:LEU:HD13	11:Q:40:ALA:HA	1.83	0.60
35:B:36:C:H2'	35:B:37:C:H6	1.66	0.60
24:N:99:LEU:O	24:N:103:VAL:HG23	2.02	0.60
36:A:2291:U:H2'	36:A:2292:C:C6	2.36	0.60
36:A:1316:U:H3	36:A:1336:A:H61	1.47	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:K:55:VAL:HG23	8:K:69:THR:HG22	1.83	0.60
13:S:73:LEU:HA	13:S:76:LYS:HD2	1.84	0.60
1:C:186:LEU:O	1:C:190:ILE:HG12	2.01	0.60
17:W:36:LEU:HD13	17:W:48:ALA:HA	1.83	0.60
36:A:1423:G:H2'	36:A:1424:G:H8	1.66	0.60
36:A:2089:U:H2'	36:A:2090:G:C8	2.35	0.60
6:H:49:VAL:HG12	6:H:50:VAL:H	1.65	0.60
36:A:576:U:H2'	36:A:577:G:H8	1.66	0.60
36:A:2598:A:H8	36:A:2598:A:O5'	1.85	0.60
15:U:37:GLU:HA	15:U:40:PHE:HD1	1.66	0.60
3:E:61:ARG:HB3	3:E:62:PRO:HD3	1.82	0.60
22:1:13:ILE:HG13	22:1:17:SER:CB	2.32	0.60
36:A:903:C:H2'	36:A:904:C:C6	2.37	0.60
18:X:68:ARG:NH1	36:A:456:C:O2'	2.29	0.60
2:D:146:GLU:HA	2:D:153:ALA:HA	1.83	0.60
4:F:154:VAL:O	4:F:156:LEU:N	2.34	0.60
7:J:25:UNK:N	7:J:112:UNK:N	2.49	0.60
36:A:2836:U:H2'	36:A:2837:G:H8	1.65	0.60
36:A:1792:G:O2'	36:A:1830:C:OP1	2.16	0.60
18:X:10:ALA:HB3	18:X:29:TRP:HB2	1.84	0.60
2:D:33:LEU:HD11	36:A:1423:G:H5''	1.83	0.60
36:A:635:C:H2'	36:A:636:G:O4'	2.02	0.60
1:C:185:LYS:O	1:C:189:ASN:HB2	2.01	0.60
36:A:2732:G:H3'	36:A:2733:A:O4'	2.02	0.60
9:O:68:GLU:OE2	9:O:78:ARG:NH1	2.34	0.59
1:C:11:LEU:HD23	1:C:14:LYS:HD2	1.84	0.59
36:A:964:C:O2'	36:A:2273:A:N3	2.34	0.59
36:A:756:C:H2'	36:A:757:U:O4'	2.01	0.59
36:A:852:G:H1	36:A:925:C:H42	1.49	0.59
36:A:1016:G:H1	36:A:1146:C:H42	1.49	0.59
24:N:74:ARG:HH12	24:N:85:ILE:HD11	1.67	0.59
20:Z:40:ASP:O	20:Z:44:PHE:HB3	2.02	0.59
24:N:38:HIS:ND1	24:N:39:ARG:N	2.49	0.59
36:A:2178:C:H2'	36:A:2179:C:H6	1.66	0.59
36:A:624:C:H2'	36:A:625:G:C8	2.38	0.59
36:A:1047:G:N3	36:A:1110:G:N1	2.49	0.59
36:A:2586:C:H2'	36:A:2587:A:C8	2.37	0.59
36:A:998:C:H2'	36:A:999:U:O4'	2.01	0.59
17:W:58:ALA:HA	17:W:62:HIS:HB2	1.83	0.59
36:A:137(B):G:O6	36:A:139:G:O2'	2.13	0.59
36:A:19:C:H2'	36:A:20:C:C6	2.37	0.59
36:A:1149:G:H2'	36:A:1150:C:C6	2.36	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:E:8:LYS:NZ	3:E:190:GLY:O	2.25	0.59
36:A:373:U:H2'	36:A:374:A:C8	2.37	0.59
25:2:27:GLU:O	25:2:30:ARG:HG3	2.02	0.59
24:N:65:LYS:HZ2	36:A:1021:A:H5'	1.64	0.59
36:A:954:G:H2'	36:A:955:C:C6	2.37	0.59
24:N:137:LYS:HZ3	24:N:138:LEU:HD23	1.67	0.59
1:C:83:LYS:HG3	1:C:117:THR:HG21	1.83	0.59
1:C:78:ILE:HG13	1:C:124:VAL:HG11	1.83	0.59
5:G:43:LEU:HB2	5:G:88:ILE:HG23	1.84	0.59
36:A:2653:U:H3	36:A:2667:C:H42	1.49	0.59
36:A:1943:U:H4'	36:A:1944:U:H2'	1.84	0.59
35:B:24:G:N2	35:B:28:C:O2	2.36	0.59
3:E:101:ARG:NH2	36:A:2730:C:OP2	2.35	0.59
36:A:2578:G:OP1	36:A:2614:A:N6	2.35	0.59
36:A:1058:G:H2'	36:A:1059:G:C8	2.37	0.59
36:A:270(C):A:O2'	36:A:364:C:O2	2.21	0.59
36:A:640:C:H2'	36:A:641:C:C6	2.37	0.59
36:A:2698:U:H2'	36:A:2699:C:C6	2.37	0.59
24:N:15:LEU:HD13	24:N:16:ILE:N	2.17	0.59
36:A:2038:G:N3	36:A:2039:C:H1'	2.16	0.59
36:A:2038:G:H2'	36:A:2039:C:O4'	2.02	0.59
24:N:111:PRO:HA	24:N:114:ARG:CZ	2.33	0.59
16:V:10:LYS:HE3	16:V:23:GLU:OE1	2.03	0.59
24:N:120:LEU:HD23	24:N:120:LEU:C	2.21	0.59
31:9:11:CYS:SG	31:9:32:HIS:ND1	2.75	0.59
29:7:9:ARG:N	36:A:1309:G:OP1	2.23	0.59
36:A:2841:C:H2'	36:A:2842:G:C8	2.36	0.59
1:C:164:PHE:HZ	1:C:196:ALA:HB1	1.66	0.59
20:Z:123:ASP:OD1	20:Z:123:ASP:N	2.36	0.59
35:B:79:C:O2'	36:A:917:A:N1	2.32	0.59
36:A:1183:G:H2'	36:A:1184:G:C8	2.36	0.59
24:N:89:LYS:NZ	24:N:89:LYS:HB3	2.17	0.59
3:E:25:VAL:HG12	3:E:181:LEU:HD12	1.85	0.59
4:F:154:VAL:O	4:F:174:VAL:O	2.18	0.59
4:F:191:ARG:HB3	4:F:193:VAL:HG23	1.83	0.59
3:E:197:ILE:HD11	3:E:199:ARG:HD3	1.84	0.59
36:A:1530:G:N2	36:A:1541:U:O2'	2.26	0.59
27:5:45:VAL:HG22	27:5:51:TYR:HB2	1.84	0.59
36:A:956:G:H2'	36:A:957:A:H2'	1.85	0.59
36:A:1891:G:H2'	36:A:1892:C:C6	2.38	0.59
2:D:13:ARG:NH1	36:A:729:G:OP2	2.32	0.59
36:A:2207:C:H42	36:A:2217:G:H1	1.49	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Z:43:GLU:O	20:Z:47:VAL:HG23	2.03	0.59
36:A:847:U:HO2'	36:A:848:G:H8	1.49	0.59
1:C:47:LYS:HB3	1:C:212:SER:HB2	1.85	0.59
2:D:96:HIS:NE2	36:A:1501:C:H5'	2.17	0.59
36:A:238:C:O2'	36:A:608:A:N3	2.33	0.59
19:Y:28:LYS:HA	19:Y:39:VAL:HA	1.84	0.59
24:N:46:VAL:O	24:N:47:ALA:HB3	2.02	0.59
1:C:176:VAL:O	1:C:178:LYS:N	2.36	0.59
36:A:216:A:H2'	36:A:217:G:O4'	2.02	0.59
18:X:21:PHE:CE2	18:X:26:TYR:HA	2.38	0.59
20:Z:96:VAL:HG22	20:Z:97:GLU:H	1.67	0.59
18:X:5:TYR:OH	18:X:42:ALA:O	2.21	0.59
24:N:78:TYR:CG	36:A:2642:G:H5''	2.18	0.58
36:A:2255:G:N2	36:A:2275:C:N3	2.40	0.58
1:C:213:VAL:O	1:C:214:TYR:HB2	2.01	0.58
36:A:1853:A:H1'	36:A:2233:U:O2'	2.03	0.58
36:A:2685:G:N2	36:A:2724:C:N3	2.42	0.58
7:J:25:UNK:CA	7:J:80:UNK:HA	2.32	0.58
7:J:64:UNK:O	7:J:67:UNK:N	2.36	0.58
1:C:120:VAL:O	1:C:124:VAL:N	2.16	0.58
36:A:1576:U:H2'	36:A:1577:C:C6	2.38	0.58
8:K:101:TRP:CD1	8:K:140:GLY:HA2	2.38	0.58
10:P:24:GLY:HA2	10:P:30:THR:HA	1.85	0.58
24:N:36:GLY:O	24:N:42:TRP:HB2	2.03	0.58
36:A:2696:U:H2'	36:A:2697:G:C8	2.38	0.58
22:1:22:GLY:HA2	22:1:37:ILE:HA	1.85	0.58
36:A:2646:C:OP2	36:A:2732:G:O2'	2.21	0.58
17:W:4:LYS:NZ	36:A:495:G:OP1	2.36	0.58
36:A:1287:A:H2	36:A:1649:G:H4'	1.68	0.58
36:A:694:U:H2'	36:A:695:G:C8	2.38	0.58
3:E:11:MET:HA	3:E:24:THR:HA	1.84	0.58
1:C:15:VAL:HG13	1:C:221:PRO:HB3	1.85	0.58
17:W:84:ARG:NH2	36:A:1322:A:O2'	2.36	0.58
36:A:1540:G:C2	36:A:1541:U:H1'	2.38	0.58
36:A:277:C:H3'	36:A:278:A:C8	2.30	0.58
36:A:2454:G:H1	36:A:2498:C:N4	1.98	0.58
1:C:121:MET:O	1:C:125:GLY:N	2.37	0.58
1:C:9:ARG:O	1:C:12:LEU:HB3	2.03	0.58
12:R:48:VAL:O	12:R:52:ILE:HG12	2.04	0.58
5:G:71:THR:OG1	5:G:89:GLY:O	2.17	0.58
24:N:76:SER:CB	36:A:2641:G:H4'	2.32	0.58
36:A:2023:G:H8	36:A:2023:G:P	2.25	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:1:45:ASN:HB3	36:A:397:G:H5''	1.84	0.58
4:F:167:ALA:HB1	4:F:175:THR:HB	1.83	0.58
2:D:228:PRO:HG3	36:A:2598:A:H4'	1.85	0.58
11:Q:21:THR:OG1	11:Q:99:PRO:O	2.21	0.58
1:C:30:VAL:HG12	1:C:217:THR:HG23	1.85	0.58
4:F:169:ASN:HB2	36:A:322:A:OP1	2.03	0.58
3:E:171:GLU:HB3	3:E:185:LYS:HG2	1.85	0.58
13:S:26:LEU:HD13	13:S:106:ARG:NH1	2.18	0.58
36:A:2812:G:H1	36:A:2888:C:N4	2.02	0.58
2:D:206:LEU:O	2:D:208:LYS:N	2.37	0.58
36:A:1128:A:O2'	36:A:2490:G:OP1	2.16	0.58
16:V:19:LYS:HB2	16:V:96:ILE:HG13	1.86	0.58
36:A:193:U:H2'	36:A:194:G:H8	1.69	0.58
36:A:2061:G:H2'	36:A:2063:C:H41	1.69	0.58
26:3:48:GLU:HA	26:3:51:ALA:HB2	1.85	0.58
36:A:819:A:H2'	36:A:820:A:H8	1.68	0.58
11:Q:125:LEU:O	11:Q:127:ILE:N	2.32	0.58
36:A:2114:A:H2	36:A:2168:G:H1'	1.68	0.58
8:K:55:VAL:HG22	8:K:56:GLU:H	1.68	0.58
36:A:392:C:H2'	36:A:393:C:H6	1.69	0.58
36:A:2854:G:H1	36:A:2863:C:N4	1.98	0.58
12:R:33:ARG:HA	12:R:114:VAL:O	2.03	0.58
36:A:1007:C:H5''	36:A:1008:C:C2'	2.32	0.58
36:A:2841:C:H2'	36:A:2842:G:H8	1.69	0.58
36:A:1654:A:H2'	36:A:1655:A:H8	1.68	0.58
29:7:16:HIS:ND1	36:A:684:G:OP1	2.32	0.58
22:1:34:THR:HG23	22:1:35:THR:HG23	1.84	0.58
36:A:1017:G:N1	36:A:1145:C:O2	2.25	0.58
36:A:2392:A:H2'	36:A:2393:A:O4'	2.04	0.58
15:U:50:ARG:HH21	36:A:993:G:H5''	1.69	0.58
36:A:661:C:H2'	36:A:662:G:C8	2.38	0.58
36:A:1411:C:H42	36:A:1591:G:H1	1.51	0.58
1:C:26:ALA:HB1	1:C:215:VAL:HG21	1.86	0.58
26:3:17:LYS:HE2	36:A:969:U:OP1	2.04	0.58
7:J:116:UNK:O	7:J:118:UNK:N	2.37	0.58
16:V:20:LEU:HG	16:V:21:ARG:H	1.68	0.58
36:A:2282:G:O2'	36:A:2425:A:N6	2.29	0.58
20:Z:118:GLN:HG3	20:Z:120:ILE:HG12	1.85	0.58
36:A:2095:C:H2'	36:A:2096:U:O4'	2.04	0.58
3:E:24:THR:O	3:E:183:LEU:HA	2.04	0.58
3:E:13:ARG:HG2	14:T:58:ASN:ND2	2.19	0.58
36:A:2809:A:H2'	36:A:2810:A:C8	2.38	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2889:C:H2'	36:A:2891:G:O4'	2.02	0.58
36:A:1541:U:H3'	36:A:1542:G:O3'	2.04	0.58
22:1:25:LYS:CG	22:1:26:ARG:H	2.17	0.58
12:R:24:GLN:OE1	36:A:1277:G:O2'	2.22	0.58
13:S:74:ALA:HB2	13:S:104:GLY:HA2	1.84	0.58
36:A:243:U:O2	36:A:255:A:N7	2.37	0.58
15:U:40:PHE:HB3	16:V:75:PHE:CE1	2.39	0.58
10:P:45:LEU:HG	10:P:46:LYS:H	1.67	0.58
11:Q:52:VAL:O	11:Q:56:ARG:HB2	2.03	0.58
36:A:1389:G:H2'	36:A:1390:U:O4'	2.04	0.58
7:J:165:UNK:O	7:J:167:UNK:N	2.36	0.58
36:A:1028:A:H2'	36:A:1029:A:C8	2.39	0.58
24:N:14:VAL:CG1	24:N:137:LYS:HG3	2.33	0.58
4:F:154:VAL:HG12	4:F:156:LEU:CA	2.32	0.58
8:K:91:PRO:HG3	36:A:1062:G:N2	2.18	0.58
20:Z:99:TYR:HB3	20:Z:123:ASP:HB2	1.84	0.58
36:A:1101:U:H2'	36:A:1102:C:H6	1.69	0.58
17:W:39:THR:O	17:W:41:LYS:N	2.36	0.58
26:3:40:THR:HB	26:3:43:ILE:HG12	1.85	0.58
36:A:1077:A:H3'	36:A:1078:U:O4'	2.03	0.57
1:C:77:ALA:HB2	1:C:115:VAL:HG22	1.86	0.57
36:A:1830:C:H42	36:A:1975:G:H1	1.52	0.57
36:A:874:G:H1	36:A:903:C:H42	1.52	0.57
21:0:44:ARG:NH2	36:A:858:U:OP1	2.36	0.57
36:A:1669:A:H61	36:A:1993:U:H3	1.52	0.57
36:A:33:U:O4	36:A:446:G:O2'	2.17	0.57
18:X:44:GLU:HG3	18:X:51:VAL:HG23	1.86	0.57
36:A:1530:G:C6	36:A:1541:U:O2	2.57	0.57
36:A:1010:A:N3	36:A:1153:C:H1'	2.19	0.57
20:Z:69:THR:HG22	20:Z:90:VAL:HA	1.85	0.57
36:A:1523:U:H2'	36:A:1524:G:H8	1.68	0.57
26:3:5:LYS:O	26:3:57:GLU:HB3	2.04	0.57
36:A:1324:G:N2	36:A:1330:C:N3	2.40	0.57
18:X:54:VAL:HG12	18:X:81:VAL:HG12	1.86	0.57
25:2:35:LEU:CD2	25:2:50:ILE:HG12	2.30	0.57
4:F:123:LEU:HB2	4:F:192:LEU:HD22	1.86	0.57
4:F:2:LYS:HB2	4:F:24:LEU:HD12	1.84	0.57
36:A:306:U:H3	36:A:310:A:H62	1.52	0.57
16:V:35:LEU:HD23	16:V:57:VAL:HG22	1.86	0.57
36:A:348:G:H2'	36:A:349:G:C8	2.40	0.57
36:A:1070:A:H5'	36:A:1072:C:OP2	2.04	0.57
36:A:1186:G:H2'	36:A:1187:G:O4'	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:166:ASN:HB2	1:C:170:GLY:HA2	1.87	0.57
27:5:10:LYS:HB2	36:A:2017:U:O2	2.05	0.57
36:A:481:G:H4'	36:A:481:G:OP1	2.05	0.57
36:A:1135:C:N4	36:A:1138:G:H8	2.02	0.57
36:A:2697:G:H2'	36:A:2698:U:O4'	2.03	0.57
13:S:47:THR:O	13:S:48:LEU:HB2	2.04	0.57
36:A:1674:G:H21	36:A:1677:A:N6	2.01	0.57
36:A:1326:U:H2'	36:A:1327:C:O4'	2.05	0.57
36:A:232:G:H22	36:A:420:C:H5''	1.67	0.57
18:X:8:ILE:HG23	18:X:30:VAL:HG12	1.87	0.57
11:Q:8:LYS:NZ	36:A:912:C:OP1	2.37	0.57
36:A:545:G:H1'	36:A:548:A:N6	2.19	0.57
36:A:2377:A:H2'	36:A:2378:A:C8	2.39	0.57
13:S:17:ARG:HA	13:S:20:ARG:HB2	1.87	0.57
16:V:10:LYS:HD3	36:A:994:C:H1'	1.85	0.57
15:U:28:ARG:HA	15:U:31:SER:HB3	1.87	0.57
2:D:141:VAL:HA	2:D:164:GLN:HB2	1.87	0.57
2:D:38:LYS:HA	2:D:61:LEU:HD12	1.85	0.57
36:A:2589:A:H2'	36:A:2590:A:H8	1.69	0.57
36:A:1131:G:O2'	36:A:1132:A:OP2	2.23	0.57
36:A:2558:C:H2'	36:A:2559:C:C6	2.40	0.57
36:A:1613:G:H3'	36:A:1614:A:H5'	1.86	0.57
14:T:3:ARG:NE	36:A:2876:G:O2'	2.35	0.57
1:C:60:ARG:HH11	1:C:60:ARG:HA	1.69	0.57
24:N:91:LEU:CA	24:N:95:PRO:HB3	2.30	0.57
1:C:133:GLY:HA2	1:C:138:LEU:HB2	1.86	0.57
36:A:2862:G:H2'	36:A:2863:C:C6	2.40	0.57
36:A:2612:C:H2'	36:A:2613:U:H5'	1.86	0.57
36:A:1791:A:N6	36:A:1828:G:O2'	2.30	0.57
1:C:31:LYS:HG3	1:C:182:PRO:HA	1.85	0.57
36:A:839:U:H2'	36:A:840:C:C6	2.39	0.57
28:6:39:TYR:OH	36:A:2346:A:H3'	2.05	0.57
36:A:174:C:H2'	36:A:175:G:O4'	2.04	0.57
36:A:2102:U:H2'	36:A:2103:C:C6	2.40	0.57
3:E:102:VAL:HG12	3:E:200:GLU:HA	1.86	0.57
36:A:557:U:H2'	36:A:558:G:H8	1.66	0.57
36:A:1062:G:H2'	36:A:1063:G:C8	2.39	0.57
4:F:25:PRO:HD3	4:F:115:ALA:O	2.04	0.57
20:Z:100:VAL:HG11	20:Z:137:ILE:HD12	1.86	0.57
17:W:70:TYR:O	17:W:107:LEU:HB2	2.05	0.57
2:D:231:HIS:O	2:D:233:HIS:N	2.38	0.57
36:A:851:U:H2'	36:A:852:G:C8	2.40	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:P:27:HIS:HD2	36:A:813:U:H3'	1.69	0.57
15:U:98:LEU:HD22	15:U:101:ARG:NH1	2.19	0.57
35:B:32:C:O2'	35:B:52:A:N6	2.35	0.57
27:5:2:ALA:HB3	36:A:747:U:C2	2.39	0.57
24:N:7:LYS:HZ3	24:N:7:LYS:N	2.02	0.57
1:C:219:MET:SD	36:A:2124:G:N2	2.74	0.57
36:A:226:G:C2	36:A:228:A:N6	2.73	0.57
36:A:1332:G:N2	36:A:1609:A:O2'	2.37	0.57
35:B:60:C:H2'	35:B:61:G:H8	1.67	0.57
13:S:70:GLY:HA3	13:S:99:LYS:HG3	1.85	0.57
36:A:2235:G:H2'	36:A:2236:C:C6	2.39	0.57
1:C:104:ILE:HG21	1:C:132:LEU:HD11	1.86	0.57
36:A:1007:C:H3'	36:A:1008:C:H2'	1.86	0.57
14:T:118:ARG:HD2	14:T:118:ARG:H	1.70	0.57
20:Z:126:VAL:HG12	20:Z:163:LEU:HA	1.86	0.57
36:A:1462:C:H4'	36:A:2703:C:H5'	1.87	0.57
36:A:1375:C:H2'	36:A:1376:C:C6	2.40	0.57
35:B:24:G:C6	35:B:56:G:N3	2.73	0.57
36:A:220:G:H1	36:A:427:U:H3'	1.70	0.57
20:Z:5:LEU:HB2	20:Z:57:ILE:HD11	1.87	0.57
36:A:348:G:H2'	36:A:349:G:H8	1.69	0.57
5:G:149:VAL:HG23	5:G:153:ARG:HD2	1.87	0.57
1:C:82:GLU:HA	1:C:85:LYS:HE3	1.86	0.57
12:R:40:LYS:O	12:R:44:LEU:HB2	2.05	0.57
22:1:54:ALA:HB2	22:1:82:LEU:HD22	1.87	0.57
36:A:883:G:H2'	36:A:884:C:C6	2.40	0.56
3:E:51:PHE:C	3:E:74:PRO:HB3	2.25	0.56
36:A:1321:A:H2'	36:A:1322:A:O4'	2.05	0.56
11:Q:54:MET:HG2	11:Q:58:PHE:CE2	2.28	0.56
16:V:40:LEU:HA	16:V:45:THR:HB	1.87	0.56
36:A:2829:C:H2'	36:A:2830:G:C8	2.40	0.56
36:A:2506:U:OP2	36:A:2576:G:N2	2.38	0.56
36:A:38:A:H2'	36:A:39:C:C6	2.40	0.56
29:7:8:ASN:HA	36:A:1309:G:H5''	1.87	0.56
31:9:33:LYS:NZ	36:A:2526:G:O2'	2.25	0.56
2:D:262:ARG:NH1	36:A:2085:C:O3'	2.37	0.56
36:A:1718:G:H2'	36:A:1725:G:H8	1.69	0.56
23:4:10:VAL:HG22	23:4:11:PRO:HD2	1.87	0.56
10:P:50:ARG:HB3	30:8:59:LYS:NZ	2.19	0.56
10:P:113:LYS:HE2	10:P:115:LEU:HD23	1.86	0.56
18:X:61:GLY:HA3	18:X:73:ARG:HB2	1.88	0.56
11:Q:30:GLY:HA2	11:Q:107:ALA:HB2	1.86	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:F:51:THR:H	4:F:92:PRO:HB2	1.70	0.56
21:0:34:GLY:H	21:0:61:ALA:HB3	1.71	0.56
1:C:69:LEU:HG	1:C:160:GLY:HA2	1.86	0.56
18:X:36:LYS:HB3	36:A:1599:C:OP1	2.05	0.56
14:T:29:ARG:HG3	14:T:30:VAL:HB	1.85	0.56
14:T:27:THR:O	14:T:87:ASP:HB2	2.05	0.56
3:E:79:ARG:NH2	8:K:30:HIS:O	103.12	0.56
21:0:72:ARG:O	21:0:74:ARG:N	2.39	0.56
36:A:696:G:N2	36:A:766:C:C2	2.70	0.56
36:A:382:G:H1	36:A:392:C:H42	1.52	0.56
24:N:45:ASN:HD22	24:N:45:ASN:N	1.95	0.56
16:V:96:ILE:HG22	16:V:97:LYS:H	1.68	0.56
24:N:74:ARG:HH12	24:N:85:ILE:CD1	2.18	0.56
36:A:1203:G:H2'	36:A:1204:A:C2	2.40	0.56
6:H:12:PRO:HG2	6:H:49:VAL:HG13	1.86	0.56
36:A:848:G:H2'	36:A:849:A:C8	2.40	0.56
1:C:48:LEU:HD13	1:C:50:ILE:HG23	1.87	0.56
36:A:2561:A:H2'	36:A:2562:U:O4'	2.05	0.56
2:D:180:GLY:HA3	2:D:275:LYS:HB3	1.86	0.56
28:6:43:CYS:O	28:6:44:ARG:NE	2.34	0.56
36:A:687:C:H42	36:A:787:U:H4'	1.70	0.56
26:3:18:ASP:OD2	26:3:49:LYS:NZ	2.37	0.56
24:N:94:HIS:HB2	24:N:96:GLU:OE2	2.05	0.56
6:H:157:TYR:CD1	6:H:171:LEU:HB3	2.41	0.56
4:F:99:TYR:CD2	36:A:660:G:H5'	2.41	0.56
1:C:24:ASP:O	1:C:28:ARG:NE	2.37	0.56
5:G:145:THR:OG1	5:G:146:TYR:N	2.29	0.56
2:D:142:VAL:HG23	2:D:193:VAL:HA	1.87	0.56
15:U:10:ARG:HH21	36:A:1251:C:H2'	1.71	0.56
36:A:2411:A:H2'	36:A:2412:A:C8	2.40	0.56
36:A:2031:A:H2'	36:A:2454:G:H21	1.71	0.56
14:T:117:ASP:HB3	14:T:120:ARG:HG2	1.86	0.56
35:B:101:A:H3'	35:B:102:G:C8	2.40	0.56
36:A:273(G):C:H3'	36:A:274:G:H5''	1.87	0.56
22:1:58:ILE:HG13	22:1:91:LYS:HB2	1.87	0.56
7:J:23:UNK:O	7:J:84:UNK:C	2.53	0.56
36:A:2812:G:H2'	36:A:2813:A:H8	1.68	0.56
36:A:184:C:H2'	36:A:185:U:C6	2.41	0.56
18:X:27:THR:HB	18:X:80:ILE:HG22	1.87	0.56
36:A:1942:C:OP2	36:A:1943:U:O2'	2.20	0.56
12:R:2:ARG:NH1	36:A:2723:C:H5''	2.20	0.56
36:A:1165:U:H2'	36:A:1166:C:C6	2.41	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:2:56:GLN:O	25:2:60:LEU:HG	2.06	0.56
5:G:55:LYS:HA	5:G:58:GLN:HG3	1.88	0.56
36:A:134:C:N3	36:A:145:G:N2	2.45	0.56
8:K:5:VAL:HA	8:K:59:ILE:HG12	1.87	0.56
4:F:41:LEU:HB3	36:A:443:A:N6	2.21	0.56
36:A:108:U:H4'	36:A:347:A:C2	2.41	0.56
35:B:96:G:H2'	35:B:97:G:O4'	2.05	0.56
3:E:133:LYS:O	36:A:1657:C:H5"	2.06	0.56
11:Q:46:GLN:HG2	11:Q:126:PRO:HD3	1.87	0.56
36:A:597:U:H2'	36:A:598:G:C8	2.40	0.56
21:O:48:GLY:H	21:O:51:VAL:HB	1.70	0.56
9:O:1:MET:H2	9:O:67:LYS:HB2	1.71	0.56
36:A:2479:G:OP1	36:A:2536:G:N2	2.38	0.56
31:9:27:CYS:SG	31:9:28:GLU:N	2.78	0.56
17:W:19:LEU:HB3	27:5:25:LEU:HG	1.88	0.56
25:2:48:HIS:HD2	25:2:49:LYS:HG2	1.71	0.56
36:A:422:A:H2'	36:A:423:A:C8	2.41	0.56
36:A:2615:U:H2'	36:A:2616:C:C6	2.41	0.56
36:A:1604:C:H2'	36:A:1605:C:H6	1.71	0.56
18:X:23:GLU:HB3	18:X:25:LYS:HZ3	1.71	0.56
3:E:28:ALA:HB3	3:E:93:VAL:HG13	1.88	0.56
10:P:9:ASN:H	10:P:10:PRO:HD2	1.70	0.56
36:A:947:G:H2'	36:A:948:G:C8	2.39	0.56
22:1:46:LEU:HD23	22:1:61:ARG:HH12	1.71	0.56
18:X:27:THR:HA	18:X:80:ILE:HA	1.88	0.56
19:Y:28:LYS:HG2	19:Y:39:VAL:HG22	1.88	0.56
36:A:1986:A:H2'	36:A:1987:G:H8	1.69	0.56
36:A:1654:A:H2'	36:A:1655:A:C8	2.40	0.56
5:G:86:MET:SD	5:G:86:MET:N	2.79	0.56
2:D:28:GLU:H	2:D:29:PRO:HD2	1.71	0.56
8:K:78:ILE:HD11	8:K:136:VAL:HG11	1.88	0.56
36:A:1008:C:H1'	36:A:1009:A:N7	2.21	0.56
5:G:82:LEU:HD13	5:G:87:PRO:HB3	1.88	0.56
1:C:169:THR:C	1:C:171:ALA:H	2.07	0.55
36:A:1359:A:N6	36:A:1372:U:C2	2.72	0.55
22:1:23:LYS:HZ3	22:1:33:LYS:HB3	1.71	0.55
18:X:63:LYS:HE2	18:X:72:LYS:HE3	1.87	0.55
36:A:1032:A:N1	36:A:1122:G:O6	2.39	0.55
2:D:206:LEU:HB2	36:A:1791:A:H4'	1.87	0.55
11:Q:46:GLN:NE2	36:A:2484:G:O3'	2.39	0.55
27:5:29:THR:O	27:5:42:PRO:HD3	2.06	0.55
36:A:270(E):C:H2'	36:A:270(F):G:C8	2.41	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:Q:84:GLY:O	11:Q:86:GLY:N	2.39	0.55
17:W:86:LEU:HB3	17:W:94:ASP:HB2	1.88	0.55
36:A:1356:G:H2'	36:A:1357:U:O4'	2.06	0.55
13:S:87:PHE:HB2	13:S:106:ARG:HH22	1.70	0.55
1:C:111:PHE:HE1	1:C:137:LEU:HD13	1.71	0.55
36:A:1200:C:H2'	36:A:1201:C:H6	1.72	0.55
24:N:45:ASN:H	24:N:45:ASN:ND2	2.02	0.55
12:R:4:LEU:HB2	36:A:1653:G:H3'	1.88	0.55
36:A:2525:G:H2'	36:A:2526:G:H8	1.71	0.55
6:H:94:TYR:HA	6:H:107:VAL:HG12	1.88	0.55
36:A:907:U:H2'	36:A:908:C:C6	2.41	0.55
3:E:174:ASP:HB3	3:E:183:LEU:HB2	1.88	0.55
36:A:883:G:N1	36:A:893:C:O2	2.40	0.55
36:A:122:G:H2'	36:A:123:G:O4'	2.06	0.55
36:A:2415:G:H2'	36:A:2416:C:H6	1.69	0.55
36:A:401:A:H2'	36:A:402:A:H8	1.70	0.55
17:W:77:ASP:OD2	36:A:23:G:N2	2.33	0.55
12:R:53:HIS:ND1	12:R:94:TYR:OH	2.36	0.55
9:O:17:ARG:HB2	9:O:45:GLU:HG3	1.87	0.55
14:T:56:GLY:O	14:T:79:HIS:NE2	2.39	0.55
22:1:25:LYS:HD3	36:A:388:G:P	2.47	0.55
6:H:111:HIS:NE2	36:A:2668:G:H1'	2.21	0.55
12:R:23:ASN:HD21	36:A:1277:G:H1'	1.72	0.55
19:Y:96:ILE:HG22	19:Y:97:ARG:H	1.72	0.55
36:A:2465:C:H2'	36:A:2466:C:C6	2.42	0.55
2:D:14:ARG:NH1	36:A:1693:U:O2'	2.39	0.55
36:A:2792:G:N1	36:A:2804:C:O2	2.34	0.55
25:2:38:GLN:O	25:2:41:ILE:HG12	2.07	0.55
36:A:862:G:H2'	36:A:863:A:O4'	2.06	0.55
29:7:20:ALA:HA	29:7:23:ARG:HD2	1.88	0.55
24:N:36:GLY:C	24:N:42:TRP:HB2	2.27	0.55
12:R:17:ARG:NH2	36:A:2002:G:OP1	2.40	0.55
24:N:115:ARG:NH2	36:A:10:G:OP1	2.40	0.55
15:U:11:ARG:HH11	15:U:15:LYS:HZ1	1.55	0.55
4:F:45:ARG:NH1	36:A:444:C:OP2	2.40	0.55
36:A:1557:C:H2'	36:A:1558:A:H2	1.70	0.55
36:A:783:A:H2'	36:A:784:A:H4'	1.88	0.55
36:A:873:G:H2'	36:A:874:G:O4'	2.07	0.55
10:P:96:THR:HA	10:P:126:VAL:HB	1.88	0.55
36:A:956:G:H1'	36:A:960:A:N6	2.22	0.55
21:0:18:ALA:O	21:0:20:ARG:NH1	2.39	0.55
1:C:58:ASN:ND2	1:C:166:ASN:OD1	2.40	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:29:U:H3	36:A:511:U:H3	1.54	0.55
28:6:16:CYS:HA	28:6:50:ARG:HH11	1.71	0.55
6:H:20:ALA:HB1	6:H:21:PRO:HD2	1.88	0.55
3:E:11:MET:HA	3:E:23:VAL:C	2.26	0.55
36:A:460:A:N6	36:A:469:G:H21	1.87	0.55
35:B:24:G:N1	35:B:59:A:N6	2.44	0.55
20:Z:150:LEU:HD12	20:Z:171:ILE:HD11	1.87	0.55
22:1:73:LEU:HD11	22:1:95:LEU:HB3	1.88	0.55
36:A:2440:C:H5''	36:A:2587:A:H4'	1.89	0.55
3:E:110:GLY:HA2	3:E:162:ALA:N	2.20	0.55
36:A:1287:A:C2	36:A:1649:G:H4'	2.42	0.55
17:W:42:ARG:HG3	36:A:2010:G:H5''	1.88	0.55
36:A:909:A:H2'	36:A:912:C:C5	2.41	0.55
36:A:99:U:OP1	36:A:101:G:H3'	2.07	0.55
4:F:11:VAL:HB	4:F:18:ARG:HB3	1.89	0.55
6:H:147:ASN:O	6:H:151:ILE:HG13	2.07	0.55
36:A:537:C:H2'	36:A:539:G:C8	2.42	0.55
2:D:149:PRO:HG2	36:A:2218:G:H4'	1.87	0.55
1:C:83:LYS:HD2	1:C:148:PHE:CE1	2.42	0.55
10:P:7:ARG:HE	36:A:1203:G:H5'	1.71	0.55
36:A:858:U:O2	36:A:2268:A:H2'	2.07	0.55
36:A:1810:A:H8	36:A:1810:A:O5'	1.90	0.55
20:Z:128:VAL:HG21	20:Z:133:ILE:HA	1.87	0.55
10:P:98:GLU:HA	10:P:101:VAL:HG22	1.88	0.55
6:H:143:GLN:OE1	36:A:2744:G:N2	2.32	0.55
2:D:118:VAL:HG22	2:D:119:ALA:H	1.71	0.55
36:A:1445:C:H42	36:A:1466:G:H1	1.55	0.55
1:C:181:PHE:HB3	1:C:185:LYS:HB3	1.89	0.55
36:A:565:C:N4	36:A:576:U:N3	2.38	0.55
36:A:2001:A:H2'	36:A:2002:G:C8	2.41	0.55
3:E:92:THR:H	3:E:95:ILE:HD11	1.72	0.55
20:Z:28:MET:N	20:Z:28:MET:SD	2.80	0.55
8:K:99:ILE:HD11	8:K:136:VAL:HG11	1.89	0.55
36:A:1000:A:H2'	36:A:1001:A:C8	2.42	0.55
12:R:67:LEU:HA	12:R:70:LEU:HB2	1.88	0.55
24:N:49:GLY:O	24:N:119:ARG:NH1	2.39	0.55
36:A:105:C:H2'	36:A:106:C:C6	2.41	0.55
3:E:167:VAL:HG13	3:E:170:LEU:HD11	1.87	0.55
22:1:39:LYS:NZ	22:1:40:ARG:O	2.40	0.55
28:6:37:ARG:NE	36:A:2344:U:O2'	2.39	0.55
36:A:950:G:H2'	36:A:951:C:C6	2.42	0.55
36:A:2092:U:O2'	36:A:2093:G:OP2	2.23	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:260:ARG:HH22	36:A:1799:G:H3'	1.71	0.55
10:P:71:VAL:H	10:P:72:PRO:CD	2.19	0.55
36:A:2772:C:H2'	36:A:2773:C:H6	1.72	0.55
3:E:61:ARG:HB3	3:E:62:PRO:CD	2.36	0.55
36:A:874:G:H2'	36:A:875:G:H8	1.69	0.55
9:O:64:ARG:HA	9:O:79:PHE:CG	2.42	0.55
19:Y:97:ARG:HH11	19:Y:97:ARG:HA	1.72	0.55
15:U:75:ASN:ND2	36:A:1011:G:OP1	2.33	0.55
21:O:39:ARG:NH2	36:A:2355:C:O2	2.40	0.55
5:G:72:ARG:HB3	5:G:87:PRO:HD2	1.89	0.55
2:D:198:ASN:HD21	2:D:200:ASP:HB2	1.72	0.55
24:N:99:LEU:O	24:N:99:LEU:HD13	2.06	0.54
36:A:2333:A:H5''	36:A:2335:A:H5'	1.90	0.54
36:A:1120:G:H2'	36:A:1121:C:H6	1.69	0.54
16:V:5:VAL:HG21	16:V:35:LEU:HB3	1.88	0.54
5:G:166:ASP:N	5:G:166:ASP:OD2	2.39	0.54
36:A:1697:G:H5''	36:A:1698:A:H5''	1.88	0.54
36:A:2738:A:H61	36:A:2766:G:H1	1.55	0.54
36:A:273(C):C:H2'	36:A:273(D):C:C6	2.42	0.54
4:F:57:VAL:O	4:F:59:TYR:N	2.35	0.54
36:A:680:G:H2'	36:A:681:G:C8	2.42	0.54
9:O:1:MET:N	9:O:67:LYS:HB2	2.22	0.54
1:C:84:ILE:HD11	1:C:97:GLY:H	1.72	0.54
36:A:1795:C:N4	36:A:1824:G:H1	2.02	0.54
6:H:41:MET:SD	6:H:42:ARG:N	2.80	0.54
23:4:11:PRO:HA	23:4:25:TYR:HA	1.89	0.54
36:A:325:G:H2'	36:A:326:G:C8	2.42	0.54
6:H:60:ARG:O	6:H:64:LEU:HG	2.07	0.54
36:A:479:A:H4'	36:A:480:A:O5'	2.06	0.54
10:P:61:ARG:HH11	30:8:13:ARG:HD2	1.72	0.54
24:N:98:VAL:HG23	24:N:99:LEU:N	2.23	0.54
14:T:49:VAL:HG22	14:T:50:ILE:H	1.72	0.54
22:1:18:ILE:HG12	22:1:20:ARG:H	1.70	0.54
36:A:1231:G:H2'	36:A:1232:G:C8	2.41	0.54
31:9:19:ARG:NH1	31:9:24:TYR:HB2	2.22	0.54
17:W:16:LYS:O	17:W:19:LEU:HB2	2.08	0.54
36:A:1923:U:H2'	36:A:1924:C:C6	2.42	0.54
6:H:54:ARG:HB3	6:H:65:HIS:HB2	1.88	0.54
36:A:2410:G:H2'	36:A:2411:A:C8	2.42	0.54
4:F:161:GLU:HG3	4:F:164:ARG:NH2	2.22	0.54
22:1:23:LYS:NZ	22:1:24:ALA:O	2.41	0.54
36:A:230:U:H2'	36:A:231:C:C6	2.43	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:1652:A:H3'	36:A:1653:G:H8	1.71	0.54
36:A:2868:A:H2'	36:A:2869:G:C8	2.42	0.54
14:T:49:VAL:H	14:T:63:VAL:HG13	1.71	0.54
24:N:73:THR:CG2	24:N:84:LYS:HB3	2.30	0.54
21:O:74:ARG:NE	35:B:12:C:O2'	2.40	0.54
1:C:84:ILE:HD11	1:C:97:GLY:N	2.22	0.54
7:J:82:UNK:O	7:J:84:UNK:N	2.40	0.54
36:A:1327:C:H3'	36:A:1328:G:C8	2.43	0.54
16:V:21:ARG:HA	16:V:93:GLU:HA	1.90	0.54
36:A:1428:C:C5	36:A:1569:A:H5''	2.43	0.54
15:U:61:TRP:CH2	36:A:996:A:H5''	2.43	0.54
36:A:998:C:H42	36:A:1157:G:H1	1.56	0.54
36:A:2692:C:H2'	36:A:2693:A:C8	2.41	0.54
36:A:29:U:H2'	36:A:30:G:C8	2.42	0.54
29:7:35:ARG:NH2	36:A:53:A:N3	2.55	0.54
24:N:25:ARG:NH2	36:A:1140:C:O3'	2.35	0.54
1:C:44:VAL:HA	1:C:214:TYR:O	2.08	0.54
4:F:158:THR:O	4:F:178:PRO:HD3	2.08	0.54
36:A:1003:G:H2'	36:A:1004:C:C6	2.42	0.54
36:A:948:G:N2	36:A:985:C:OP2	2.41	0.54
36:A:573:G:H1	36:A:2030:A:H2'	1.71	0.54
15:U:92:ARG:O	15:U:96:ALA:N	2.41	0.54
36:A:1434:A:H61	36:A:1558:A:N6	2.06	0.54
36:A:992:C:H2'	36:A:993:G:H8	1.71	0.54
6:H:88:LEU:HG	6:H:130:ARG:HG3	1.90	0.54
36:A:2834:G:H1'	36:A:2883:A:N6	2.22	0.54
11:Q:12:GLN:HG3	36:A:910:A:H62	1.72	0.54
36:A:2212:A:H1'	36:A:2215:G:C5	2.42	0.54
36:A:2115:G:H1	36:A:2117:A:H3'	1.73	0.54
2:D:200:ASP:O	2:D:204:ILE:HG13	2.08	0.54
36:A:736:C:H2'	36:A:737:C:C6	2.42	0.54
36:A:1084:A:H2	36:A:1105:U:H1'	1.73	0.54
36:A:1039:G:H1	36:A:1116:C:H42	1.55	0.54
15:U:64:ARG:HH21	24:N:41:ASP:C	2.10	0.54
24:N:63:THR:CG2	36:A:1141:U:OP2	2.55	0.54
22:1:45:ASN:HB3	36:A:397:G:C5'	2.38	0.54
36:A:699:A:N6	36:A:733:G:H21	1.95	0.54
3:E:104:VAL:O	3:E:167:VAL:HG12	2.08	0.54
36:A:2038:G:C4	36:A:2039:C:H1'	2.42	0.54
2:D:136:ILE:HG21	2:D:165:ILE:HD13	1.90	0.54
36:A:1948:G:H1	36:A:1958:C:N4	2.03	0.54
12:R:107:ASP:HB2	36:A:1649:G:H21	1.73	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2258:C:O2'	36:A:2427:C:OP2	2.26	0.54
36:A:1871:A:H2'	36:A:1872:A:C8	2.42	0.54
36:A:813:U:O2'	36:A:1225:G:O2'	2.12	0.54
36:A:1969:A:O2'	36:A:1972:A:N3	2.40	0.54
27:5:19:ARG:HH12	36:A:1264:G:P	2.30	0.54
2:D:79:VAL:HA	2:D:95:LEU:HA	1.90	0.54
36:A:1628:G:N2	36:A:1638:C:N3	2.48	0.54
7:J:23:UNK:N	7:J:119:UNK:HA	2.23	0.54
36:A:2749:A:H3'	36:A:2750:A:H2'	1.90	0.54
2:D:242:ARG:HD3	2:D:246:PRO:HG3	1.89	0.54
36:A:2133:G:H2'	36:A:2157:G:N2	2.22	0.54
6:H:99:VAL:O	6:H:101:ARG:N	2.41	0.54
36:A:46:C:H2'	36:A:47:C:C6	2.43	0.54
6:H:46:GLU:O	6:H:48:GLY:N	2.41	0.54
24:N:46:VAL:HG13	24:N:47:ALA:N	2.23	0.54
24:N:30:ILE:CD1	24:N:99:LEU:HD11	2.38	0.54
36:A:2783:G:H2'	36:A:2784:C:H6	1.72	0.54
16:V:75:PHE:HB2	16:V:81:TYR:O	2.08	0.54
36:A:2816:C:O2	36:A:2883:A:O2'	2.26	0.54
3:E:136:ARG:NH2	36:A:1998:G:OP2	2.40	0.54
24:N:60:ILE:HD13	24:N:99:LEU:HD23	1.89	0.53
36:A:2040:C:H6	36:A:2040:C:OP1	1.89	0.53
7:J:24:UNK:HA	7:J:84:UNK:C	2.39	0.53
4:F:38:ARG:HA	4:F:41:LEU:HB2	1.90	0.53
36:A:485:C:N4	36:A:495:G:H1	2.05	0.53
5:G:73:ALA:H	5:G:87:PRO:HD2	1.74	0.53
36:A:329:G:H8	36:A:329:G:OP2	1.91	0.53
36:A:898:C:C2	36:A:899:A:C8	2.96	0.53
36:A:1178:C:H2'	36:A:1179:C:C6	2.43	0.53
4:F:37:VAL:HA	4:F:40:GLN:CD	2.29	0.53
4:F:197:ASP:HA	4:F:200:GLU:HB2	1.89	0.53
18:X:90:GLU:HA	18:X:93:GLU:HB2	1.90	0.53
36:A:1357:U:H2'	36:A:1358:G:O4'	2.08	0.53
24:N:126:PRO:O	24:N:127:ASP:CB	2.56	0.53
4:F:171:PRO:HB3	36:A:323:G:C8	2.43	0.53
35:B:24:G:C2	35:B:56:G:N2	2.77	0.53
15:U:45:TYR:O	15:U:49:HIS:ND1	2.41	0.53
18:X:21:PHE:HE1	18:X:92:LEU:HB3	1.73	0.53
36:A:1444:G:H2'	36:A:1445:C:H5	1.72	0.53
21:O:27:GLU:HB3	21:O:68:GLU:HA	1.90	0.53
36:A:1472:A:H3'	36:A:1473:G:C8	2.43	0.53
24:N:78:TYR:CB	36:A:2642:G:H5''	2.38	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:E:93:VAL:O	3:E:95:ILE:N	2.39	0.53
16:V:47:VAL:HG12	16:V:52:VAL:HB	1.91	0.53
17:W:72:LYS:H	17:W:107:LEU:HA	1.72	0.53
36:A:1765:C:H42	36:A:1987:G:H1	1.56	0.53
36:A:468:G:H3'	36:A:469:G:C8	2.43	0.53
4:F:155:LEU:O	4:F:191:ARG:O	2.25	0.53
36:A:814:C:N4	36:A:1193:G:H1	2.02	0.53
6:H:137:ASP:O	6:H:141:VAL:HG23	2.08	0.53
4:F:100:THR:O	36:A:659:C:H4'	2.08	0.53
5:G:128:ARG:CZ	36:A:2315:G:H21	2.20	0.53
36:A:1278:A:H2'	36:A:1279:G:H8	1.73	0.53
36:A:1499:C:H2'	36:A:1500:G:O4'	2.08	0.53
36:A:2298:A:H2'	36:A:2299:G:O4'	2.09	0.53
36:A:1170:G:H2'	36:A:1171:G:H8	1.74	0.53
9:O:13:ASN:O	9:O:15:GLY:N	2.36	0.53
1:C:213:VAL:HG23	1:C:227:PRO:HG3	1.90	0.53
36:A:133:C:N4	36:A:146:G:H1	2.05	0.53
36:A:2294:C:H2'	36:A:2295:C:C6	2.43	0.53
13:S:25:ARG:HB3	13:S:40:ILE:HG23	1.90	0.53
10:P:48:PRO:C	10:P:50:ARG:H	2.11	0.53
24:N:115:ARG:HH11	24:N:115:ARG:HG2	1.73	0.53
36:A:745:G:O6	36:A:746:A:N6	2.41	0.53
3:E:110:GLY:N	36:A:2821:A:OP1	2.42	0.53
36:A:2398:U:H3	36:A:2418:A:H2	1.54	0.53
26:3:5:LYS:HA	26:3:35:ARG:O	2.08	0.53
36:A:2524:G:H2'	36:A:2525:G:C8	2.44	0.53
36:A:738:G:H3'	36:A:739:G:C8	2.43	0.53
36:A:65:C:H2'	36:A:66:C:H6	1.73	0.53
36:A:954:G:N2	36:A:963:U:O2	2.26	0.53
15:U:49:HIS:O	15:U:53:ARG:HB2	2.08	0.53
16:V:8:GLY:HA2	36:A:1161:C:H4'	1.89	0.53
36:A:1063:G:H2'	36:A:1064:C:O4'	2.09	0.53
24:N:120:LEU:CD2	24:N:122:VAL:HG23	2.38	0.53
36:A:1947:C:H2'	36:A:1948:G:C8	2.43	0.53
22:1:48:LYS:HG2	22:1:61:ARG:HA	1.91	0.53
16:V:19:LYS:HB3	16:V:94:LEU:O	2.09	0.53
31:9:19:ARG:HH12	31:9:26:ILE:HG13	1.71	0.53
17:W:23:LEU:HD22	27:5:25:LEU:HB3	1.91	0.53
27:5:7:PRO:HD2	36:A:2015:A:N1	2.23	0.53
36:A:1444:G:H2'	36:A:1445:C:C5	2.44	0.53
36:A:325:G:H2'	36:A:326:G:H8	1.74	0.53
36:A:1208:C:H2'	36:A:1209:G:C8	2.44	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:F:191:ARG:HB3	4:F:193:VAL:CG2	2.38	0.53
16:V:39:LEU:HD12	16:V:47:VAL:HG21	1.89	0.53
36:A:2311:A:H5''	36:A:2312:U:OP2	2.09	0.53
36:A:1197:G:H2'	36:A:1198:U:H6	1.74	0.53
36:A:2151:G:H2'	36:A:2152:G:C8	2.43	0.53
15:U:70:ARG:HG2	15:U:75:ASN:HA	1.90	0.53
36:A:2282:G:HO2'	36:A:2425:A:H61	1.56	0.53
4:F:90:PHE:CD2	36:A:588:U:H1'	2.44	0.53
11:Q:126:PRO:HA	36:A:2485:G:H4'	1.90	0.53
2:D:45:ASN:HB2	36:A:1812:A:O2'	2.09	0.53
36:A:797:C:H2'	36:A:798:G:C8	2.44	0.53
8:K:74:ALA:HA	8:K:77:LEU:HB2	1.89	0.53
36:A:841:A:H2'	36:A:842:G:C8	2.43	0.53
14:T:61:PHE:CE2	14:T:76:PHE:HB2	2.44	0.53
3:E:166:THR:HB	36:A:2772:C:H5''	1.90	0.53
1:C:44:VAL:O	1:C:172:ILE:O	2.27	0.53
4:F:4:VAL:H	4:F:24:LEU:HG	1.73	0.53
1:C:81:GLY:O	1:C:84:ILE:HB	2.08	0.53
16:V:4:ILE:HB	16:V:39:LEU:HB2	1.89	0.53
36:A:1090:U:H2'	36:A:1091:G:H8	1.73	0.53
36:A:1100:C:H2'	36:A:1101:U:O4'	2.09	0.53
10:P:55:ARG:HG2	10:P:56:SER:O	2.08	0.53
36:A:2134:A:N6	36:A:2157:G:O2'	2.38	0.53
5:G:43:LEU:HB3	5:G:45:GLU:H	1.73	0.53
17:W:11:ARG:HB3	17:W:12:ILE:HD12	1.90	0.53
36:A:1534:G:H3'	36:A:1535:U:H5''	1.90	0.53
36:A:1018:C:C2	36:A:1019:U:C6	2.97	0.53
36:A:2700:C:N4	36:A:2707:G:H1	2.07	0.53
30:8:4:MET:O	30:8:62:LEU:HD11	2.09	0.53
22:1:23:LYS:NZ	22:1:33:LYS:HB3	2.24	0.53
26:3:20:LYS:HA	26:3:23:LEU:HD12	1.90	0.53
1:C:77:ALA:HB3	1:C:95:VAL:HG13	1.91	0.53
15:U:15:LYS:O	15:U:18:LEU:HB2	2.09	0.53
36:A:1229:G:H2'	36:A:1230:C:C6	2.43	0.53
36:A:2134:A:H1'	36:A:2159:G:H21	1.74	0.53
36:A:1569:A:H2'	36:A:1570:A:C8	2.44	0.53
36:A:2715:C:H2'	36:A:2716:U:C6	2.43	0.53
3:E:82:ARG:NH2	36:A:2637:U:H5''	2.24	0.53
20:Z:48:PHE:HA	20:Z:51:ALA:HB3	1.91	0.53
36:A:24:G:C2	36:A:516:C:O2	2.62	0.53
15:U:107:ALA:O	15:U:111:GLU:HG2	2.09	0.53
15:U:25:TRP:HD1	15:U:26:GLY:N	2.02	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:U:92:ARG:HD3	15:U:95:LEU:HG	1.91	0.53
36:A:273(A):G:H1	36:A:364:C:N4	2.07	0.53
13:S:15:ARG:HG2	36:A:2334:G:N2	2.24	0.53
36:A:76:C:H2'	36:A:77:C:C6	2.44	0.53
36:A:996:A:H2'	36:A:997:G:H8	1.71	0.53
21:O:34:GLY:HA3	36:A:2353:G:H1'	1.91	0.53
36:A:1478:G:H2'	36:A:1479:G:H8	1.74	0.53
19:Y:73:ARG:HD2	36:A:335:C:H4'	1.90	0.53
36:A:442:G:H5''	36:A:615:G:H22	1.74	0.53
13:S:31:SER:O	13:S:33:LYS:N	2.42	0.53
36:A:2013:A:H2'	36:A:2014:A:C8	2.44	0.53
5:G:107:LEU:HD11	5:G:178:PHE:CE1	2.44	0.53
36:A:2641:G:H1	36:A:2773:C:H42	1.56	0.52
15:U:67:ALA:CB	24:N:40:PRO:HA	2.39	0.52
3:E:11:MET:SD	36:A:2681:C:H5'	2.50	0.52
36:A:1135:C:H3'	36:A:1137:G:OP2	2.09	0.52
22:1:43:TYR:CG	22:1:44:PRO:HD2	2.44	0.52
4:F:154:VAL:HG13	4:F:191:ARG:HB2	1.90	0.52
9:O:64:ARG:HB2	9:O:83:ALA:HB3	1.91	0.52
20:Z:5:LEU:HD11	20:Z:44:PHE:HB2	1.92	0.52
36:A:1409:C:H2'	36:A:1410:G:H8	1.73	0.52
36:A:1409:C:H2'	36:A:1410:G:C8	2.44	0.52
31:9:3:VAL:HG22	31:9:37:GLY:HA3	1.91	0.52
9:O:35:VAL:O	9:O:109:LYS:NZ	2.35	0.52
36:A:1138:G:O2'	36:A:1139:G:O4'	2.26	0.52
24:N:30:ILE:O	24:N:34:LEU:HD23	2.09	0.52
36:A:1324:G:H3'	36:A:1325:G:H4'	1.91	0.52
1:C:44:VAL:O	1:C:173:HIS:HA	2.08	0.52
1:C:65:LEU:HD12	1:C:160:GLY:HA2	1.91	0.52
36:A:2294:C:N3	36:A:2338:G:N2	2.44	0.52
36:A:1453:A:H3'	36:A:1454:U:H2'	1.91	0.52
36:A:984:A:OP1	36:A:985:C:N4	2.38	0.52
36:A:1091:G:H2'	36:A:1092:C:H6	1.73	0.52
2:D:245:PRO:O	2:D:247:ALA:N	2.42	0.52
36:A:261:G:HO2'	36:A:609(B):G:HO2'	1.55	0.52
24:N:17:ASP:O	24:N:18:ALA:CB	2.57	0.52
14:T:3:ARG:HG3	36:A:2876:G:H4'	1.91	0.52
12:R:2:ARG:CZ	36:A:2723:C:H5''	2.39	0.52
2:D:110:GLY:HA3	2:D:127:VAL:HG11	1.91	0.52
27:5:6:VAL:HG13	36:A:2015:A:C2	2.44	0.52
14:T:128:GLU:HG2	14:T:129:ARG:HG2	1.90	0.52
8:K:124:ALA:HB3	8:K:125:ARG:HH11	1.74	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:37:LYS:HB2	1:C:38:PHE:CD1	2.44	0.52
36:A:1603:A:H5'	36:A:1604:C:OP2	2.09	0.52
1:C:212:SER:HG	1:C:214:TYR:HE1	1.58	0.52
24:N:137:LYS:NZ	24:N:138:LEU:HD23	2.24	0.52
13:S:99:LYS:HG2	13:S:100:ALA:N	2.23	0.52
8:K:90:LYS:HG3	8:K:91:PRO:HD2	1.90	0.52
36:A:1947:C:H2'	36:A:1948:G:H8	1.74	0.52
36:A:2656:U:O4	36:A:2665:A:N7	2.42	0.52
36:A:926:A:H2'	36:A:928:G:H8	1.74	0.52
36:A:2397:G:H2'	36:A:2398:U:C6	2.45	0.52
36:A:1115:G:H2'	36:A:1116:C:H6	1.74	0.52
36:A:65:C:H2'	36:A:66:C:C6	2.43	0.52
36:A:1053:C:H2'	36:A:1054:A:O4'	2.10	0.52
15:U:81:HIS:CG	36:A:1151:G:H4'	2.43	0.52
36:A:307:G:H21	36:A:330:A:N6	2.07	0.52
1:C:74:ARG:O	1:C:92:ALA:HA	2.09	0.52
6:H:89:ILE:HG22	6:H:162:ILE:HG23	1.90	0.52
25:2:21:LEU:HA	25:2:24:LEU:HD12	1.91	0.52
14:T:49:VAL:O	14:T:64:ARG:HB3	2.10	0.52
22:1:41:ARG:HH12	22:1:43:TYR:HD1	1.58	0.52
4:F:167:ALA:HA	4:F:170:LEU:HD23	1.91	0.52
36:A:1047:G:O2'	36:A:1109:C:N4	2.41	0.52
18:X:11:PRO:O	18:X:13:LEU:HG	2.09	0.52
15:U:106:PHE:O	15:U:109:LEU:N	2.43	0.52
15:U:12:ARG:HH21	36:A:1215:G:H5''	1.74	0.52
36:A:1826:G:N2	36:A:1900:A:H2	2.07	0.52
12:R:73:VAL:O	12:R:76:VAL:HG12	2.10	0.52
36:A:2331:G:H21	36:A:2336:A:H2	1.57	0.52
36:A:413:C:H2'	36:A:414:C:C6	2.44	0.52
15:U:3:ARG:HD3	36:A:445:C:H4'	1.91	0.52
1:C:150:ILE:O	1:C:154:ILE:HG13	2.10	0.52
36:A:1771:C:N4	36:A:1980:G:H1	2.05	0.52
36:A:2020:A:N1	36:A:2034:U:O4	2.42	0.52
36:A:579:G:O2'	36:A:2019:A:OP1	2.24	0.52
28:6:39:TYR:HE2	36:A:2347:C:H4'	1.74	0.52
36:A:2870:C:H2'	36:A:2871:C:O4'	2.10	0.52
36:A:54:G:H1	36:A:116:C:H42	1.58	0.52
22:1:15:ALA:HA	22:1:40:ARG:O	2.09	0.52
36:A:2817:G:O6	36:A:2829:C:N3	2.43	0.52
36:A:2821:A:H2'	36:A:2822:G:H8	1.74	0.52
17:W:41:LYS:NZ	36:A:2010:G:OP2	2.33	0.52
2:D:127:VAL:HA	2:D:193:VAL:HG13	1.91	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:1712:C:H42	36:A:1746:G:H1	1.58	0.52
10:P:25:SER:HB2	36:A:812:C:H3'	1.91	0.52
36:A:1354:A:H2'	36:A:1355:G:H5'	1.91	0.52
24:N:26:LEU:HD23	24:N:99:LEU:HD21	1.92	0.52
24:N:129:PRO:O	24:N:131:GLN:N	2.43	0.52
13:S:89:ARG:HB3	13:S:92:TYR:HB3	1.92	0.52
36:A:2593:U:H3	36:A:2600:A:N6	2.05	0.52
36:A:2599:G:H8	36:A:2599:G:OP2	1.93	0.52
15:U:15:LYS:HG2	15:U:18:LEU:HD12	1.90	0.52
36:A:698:C:O2'	36:A:734:A:N6	2.43	0.52
36:A:2649:U:H2'	36:A:2650:U:C6	2.44	0.52
36:A:2282:G:H1	36:A:2427:C:H42	1.56	0.52
35:B:36:C:H2'	35:B:37:C:C6	2.43	0.52
36:A:2528:U:H2'	36:A:2530:A:OP1	2.09	0.52
36:A:1403:C:H2'	36:A:1404:C:C6	2.45	0.52
36:A:1690:A:H2'	36:A:1691:C:O4'	2.10	0.52
19:Y:49:VAL:HG12	19:Y:50:ARG:H	1.75	0.52
15:U:64:ARG:NH2	24:N:41:ASP:C	2.62	0.52
14:T:58:ASN:ND2	36:A:2682:U:O2'	2.42	0.52
1:C:47:LYS:HG2	1:C:212:SER:HB2	1.91	0.52
22:1:91:LYS:HA	22:1:94:LEU:HD22	1.91	0.52
36:A:745:G:N2	36:A:750:A:H61	2.06	0.52
2:D:183:ARG:HG3	2:D:270:ILE:HA	1.92	0.52
2:D:79:VAL:O	2:D:94:LEU:O	2.28	0.52
15:U:65:ILE:O	15:U:69:CYS:HB2	2.10	0.52
3:E:102:VAL:HB	3:E:199:ARG:O	2.10	0.52
4:F:2:LYS:HD3	4:F:119:ARG:HH21	1.74	0.52
36:A:1829:A:H2'	36:A:1830:C:O4'	2.10	0.52
29:7:30:VAL:O	29:7:34:ARG:HG2	2.10	0.52
29:7:31:LEU:HA	29:7:34:ARG:HG2	1.92	0.52
36:A:2532:G:O2'	36:A:2657:A:N1	2.43	0.52
2:D:78:LYS:H	2:D:78:LYS:HD3	1.73	0.52
9:O:9:GLU:OE2	9:O:81:ASP:HB2	2.10	0.52
29:7:32:LYS:HA	29:7:35:ARG:HG3	1.90	0.52
3:E:26:ILE:HD11	3:E:182:LEU:HD23	1.92	0.52
30:8:42:ARG:HG3	36:A:2350:C:H5''	1.92	0.52
19:Y:81:LYS:NZ	19:Y:99:CYS:SG	2.83	0.52
2:D:261:LYS:HG2	2:D:263:ARG:H	1.75	0.52
5:G:60:LEU:O	5:G:63:ILE:HG12	2.09	0.52
36:A:2041:U:H6	36:A:2041:U:OP2	1.93	0.52
36:A:1346:G:H2'	36:A:1347:G:H8	1.75	0.52
13:S:96:GLY:O	13:S:100:ALA:HB2	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:401:A:H2'	36:A:402:A:C8	2.45	0.52
1:C:111:PHE:CE1	1:C:137:LEU:HD13	2.45	0.52
1:C:132:LEU:O	1:C:137:LEU:N	2.43	0.52
16:V:15:GLU:HB3	16:V:16:PRO:CD	2.39	0.52
36:A:2345:G:N3	36:A:2381:C:H2'	2.25	0.52
2:D:226:MET:HE2	2:D:230:ASP:HB3	1.92	0.52
11:Q:14:ARG:HB3	11:Q:41:TRP:CZ2	2.45	0.52
1:C:6:LYS:HD2	36:A:2132:U:O4	2.10	0.52
24:N:11:PRO:HB2	24:N:51:PHE:CE1	2.45	0.52
11:Q:13:GLN:H	36:A:910:A:N6	2.08	0.52
36:A:1473:G:H2'	36:A:1474:C:H6	1.74	0.52
36:A:96:G:H2'	36:A:97:C:H6	1.74	0.52
8:K:103:GLN:O	8:K:107:ILE:HG12	2.10	0.52
20:Z:166:SER:H	20:Z:167:PRO:HA	1.74	0.52
20:Z:30:ASN:O	20:Z:32:HIS:N	2.39	0.52
36:A:2865:U:H3'	36:A:2866:U:O2	2.09	0.52
1:C:25:GLU:O	1:C:29:LEU:HB2	2.10	0.51
8:K:27:LEU:HD23	8:K:30:HIS:ND1	2.24	0.51
4:F:169:ASN:ND2	36:A:323:G:H3'	2.25	0.51
36:A:2037:G:H2'	36:A:2038:G:H8	1.69	0.51
36:A:142:G:H2'	36:A:143:C:C6	2.45	0.51
4:F:25:PRO:HB2	4:F:27:GLU:O	2.09	0.51
36:A:2576:G:C8	36:A:2581:G:N7	2.79	0.51
36:A:1696:G:H2'	36:A:1697:G:O4'	2.09	0.51
36:A:1041:C:H2'	36:A:1042:G:O4'	2.10	0.51
36:A:2773:C:H2'	36:A:2774:C:H6	1.75	0.51
24:N:63:THR:CG2	36:A:1141:U:P	2.87	0.51
3:E:36:ARG:NH2	3:E:86:PRO:HG2	2.25	0.51
36:A:2080:G:H2'	36:A:2081:C:C6	2.45	0.51
24:N:120:LEU:HD21	24:N:122:VAL:CG2	2.40	0.51
7:J:111:UNK:O	7:J:116:UNK:HA	2.10	0.51
36:A:1306:C:N3	36:A:1622:G:O6	2.43	0.51
36:A:1687:G:H21	36:A:1701:A:H62	1.56	0.51
24:N:30:ILE:HG22	24:N:34:LEU:HD23	1.90	0.51
36:A:1295:C:H2'	36:A:1296:G:C8	2.45	0.51
36:A:528:A:N1	36:A:2042:A:H2'	2.24	0.51
1:C:218:THR:HG21	36:A:2124:G:H1'	1.91	0.51
36:A:1077:A:C2	36:A:1088:A:H2'	2.45	0.51
36:A:2749:A:H62	36:A:2753:A:N6	2.05	0.51
1:C:118:PRO:HD3	1:C:147:GLY:HA2	1.92	0.51
36:A:780:G:N2	36:A:783:A:H62	2.07	0.51
36:A:2663:G:H2'	36:A:2664:G:O4'	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:117:G:H5'	36:A:126:A:N3	2.25	0.51
25:2:20:GLU:O	25:2:24:LEU:HG	2.10	0.51
16:V:38:LEU:HD13	16:V:55:ALA:HB1	1.93	0.51
9:O:12:ASP:HA	9:O:97:ARG:O	2.09	0.51
36:A:516:C:H2'	36:A:517:C:C6	2.45	0.51
13:S:70:GLY:O	13:S:73:LEU:HB3	2.10	0.51
4:F:110:LEU:HB3	4:F:202:PHE:HE1	1.76	0.51
36:A:2887:U:H2'	36:A:2888:C:C6	2.45	0.51
36:A:1211:U:O2'	36:A:1212:G:OP1	2.29	0.51
36:A:2515:C:H42	36:A:2569:G:H1	1.58	0.51
1:C:6:LYS:HA	1:C:9:ARG:HD3	1.93	0.51
36:A:816:C:H2'	36:A:817:C:O4'	2.10	0.51
36:A:442:G:H5''	36:A:615:G:N2	2.25	0.51
36:A:2083:G:H2'	36:A:2084:C:C6	2.44	0.51
35:B:22:U:H2'	35:B:23:G:C8	2.46	0.51
2:D:60:ARG:NH1	2:D:86:PRO:O	2.44	0.51
36:A:1638:C:H2'	36:A:1639:U:O4'	2.10	0.51
36:A:397:G:H2'	36:A:398:G:C8	2.45	0.51
1:C:53:ARG:O	1:C:55:SER:N	2.44	0.51
36:A:2836:U:H2'	36:A:2837:G:C8	2.45	0.51
36:A:875:G:H2'	36:A:876:C:O4'	2.09	0.51
36:A:218:A:H2'	36:A:219:G:O4'	2.11	0.51
36:A:17:G:H1	36:A:523:C:H42	1.57	0.51
16:V:95:LEU:O	16:V:96:ILE:O	2.27	0.51
9:O:98:VAL:HG23	9:O:119:PRO:HD3	1.92	0.51
31:9:14:CYS:HA	31:9:26:ILE:O	2.10	0.51
12:R:117:VAL:O	12:R:118:GLU:HB2	2.11	0.51
14:T:74:ARG:HD2	14:T:76:PHE:CE2	2.46	0.51
29:7:4:THR:OG1	36:A:788:A:N3	2.42	0.51
36:A:1564:C:H2'	36:A:1565:C:C6	2.45	0.51
36:A:2772:C:H2'	36:A:2773:C:C6	2.46	0.51
31:9:22:ARG:HH21	31:9:35:ARG:HH22	1.59	0.51
36:A:780:G:H5''	36:A:781:A:OP2	2.11	0.51
36:A:609(A):A:H3'	36:A:609(B):G:H8	1.76	0.51
36:A:1013:C:H2'	36:A:1014:U:C6	2.46	0.51
28:6:12:GLU:O	28:6:14:THR:N	2.44	0.51
24:N:11:PRO:HB2	24:N:51:PHE:HE1	1.74	0.51
36:A:2364:C:H2'	36:A:2365:G:O4'	2.10	0.51
36:A:2678:C:H2'	36:A:2679:A:H8	1.75	0.51
36:A:1904:G:N2	36:A:1928:A:N3	2.52	0.51
2:D:163:ALA:HB2	2:D:178:PRO:HD2	1.93	0.51
18:X:25:LYS:NZ	18:X:82:GLN:OE1	2.33	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:F:157:VAL:HA	4:F:176:LEU:O	2.10	0.51
13:S:106:ARG:NE	13:S:108:GLY:HA3	2.22	0.51
36:A:385:C:O2'	36:A:388:G:N2	2.44	0.51
36:A:482:A:H1'	36:A:498:G:N2	2.26	0.51
36:A:1615:C:O2'	36:A:1616:A:H5'	2.10	0.51
36:A:817:C:H2'	36:A:818:G:O4'	2.11	0.51
5:G:61:ALA:HB2	5:G:68:PRO:HD3	1.93	0.51
36:A:1338:G:H2'	36:A:1339:G:O4'	2.11	0.51
10:P:94:GLU:HG3	10:P:124:LYS:HB2	1.93	0.51
36:A:1394:U:H5''	36:A:1604:C:OP1	2.11	0.51
1:C:213:VAL:HG11	1:C:225:ILE:HG12	1.93	0.51
36:A:468:G:H3'	36:A:469:G:H8	1.76	0.51
36:A:1346:G:H2'	36:A:1347:G:C8	2.45	0.51
36:A:589:C:H2'	36:A:590:A:C8	2.46	0.51
36:A:1331:A:HO2'	36:A:1332:G:H8	1.58	0.51
4:F:156:LEU:CD1	4:F:193:VAL:HB	2.41	0.51
36:A:237:C:N3	36:A:260:G:N2	2.50	0.51
36:A:2304:G:H22	36:A:2312:U:H3	1.59	0.51
3:E:134:ILE:HG22	3:E:137:HIS:HB2	1.93	0.51
30:8:34:TRP:HB3	36:A:2420:C:OP1	2.10	0.51
36:A:1070:A:H2'	36:A:1097:U:OP1	2.10	0.51
28:6:16:CYS:HA	28:6:50:ARG:NH1	2.26	0.51
25:2:25:VAL:HG11	25:2:61:LEU:HG	1.93	0.51
15:U:69:CYS:HA	15:U:106:PHE:HE2	1.75	0.51
36:A:1889:A:H2'	36:A:1890:A:C8	2.46	0.51
4:F:70:THR:N	36:A:2060:A:OP1	2.36	0.51
11:Q:26:TYR:O	11:Q:102:VAL:HG21	2.11	0.51
36:A:2332:U:H4'	36:A:2336:A:N6	2.26	0.51
36:A:2001:A:H4'	36:A:2689:U:C2	2.45	0.51
22:1:21:ARG:HG3	36:A:2080:G:H5''	1.93	0.51
36:A:392:C:C5'	36:A:409:C:H5''	2.38	0.51
36:A:1677:A:H2'	36:A:1678:G:O4'	2.10	0.51
15:U:90:VAL:C	15:U:92:ARG:H	2.13	0.51
36:A:1119:C:H2'	36:A:1120:G:C8	2.46	0.51
36:A:1435:G:H2'	36:A:1436:G:H8	1.73	0.51
36:A:1954:G:N1	36:A:1986:A:OP1	2.37	0.51
36:A:634:C:H2'	36:A:635:C:C6	2.46	0.51
11:Q:4:PRO:HD3	11:Q:69:PHE:HE2	1.76	0.51
35:B:29:A:H2'	35:B:30:C:O4'	2.11	0.51
36:A:2319:G:N3	36:A:2320:A:N6	2.58	0.51
14:T:48:ILE:N	14:T:64:ARG:O	2.34	0.51
20:Z:75:ASN:HD21	35:B:75:G:H22	1.59	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:R:63:ARG:CZ	36:A:1454:U:H5'	2.41	0.51
36:A:689:A:H2'	36:A:690:G:C8	2.46	0.51
36:A:2134:A:N6	36:A:2157:G:H1'	2.26	0.51
23:4:16:CYS:HB3	23:4:34:GLU:O	2.11	0.51
36:A:1992:G:O2'	36:A:1993:U:OP2	2.27	0.51
27:5:7:PRO:HA	36:A:2615:U:H1'	1.93	0.51
29:7:23:ARG:O	29:7:28:ARG:NH1	2.44	0.51
29:7:18:PHE:N	36:A:126:A:OP2	2.44	0.51
36:A:2832:U:O4	36:A:2883:A:H5''	2.11	0.51
8:K:124:ALA:HB3	8:K:125:ARG:NH1	2.26	0.51
4:F:50:SER:HB2	4:F:94:PRO:HD3	1.93	0.51
36:A:270(I):C:H2'	36:A:270(J):G:H8	1.75	0.51
36:A:139:G:H22	36:A:1596:A:H4'	1.76	0.50
36:A:576:U:H5''	36:A:2502:G:H2'	1.93	0.50
36:A:360:G:H2'	36:A:361:G:C8	2.43	0.50
5:G:29:TRP:HD1	35:B:55:U:H1'	1.76	0.50
4:F:9:ILE:CG2	4:F:124:LEU:HA	2.40	0.50
36:A:851:U:H2'	36:A:852:G:H8	1.75	0.50
13:S:71:ARG:O	13:S:74:ALA:HB3	2.11	0.50
36:A:2105:C:H2'	36:A:2106:G:H8	1.74	0.50
12:R:87:TYR:HB3	12:R:94:TYR:CD2	2.46	0.50
22:1:53:VAL:HG21	22:1:74:VAL:HG22	1.93	0.50
10:P:52:GLU:HG3	10:P:54:GLY:H	1.76	0.50
24:N:76:SER:HG	36:A:2642:G:P	2.33	0.50
36:A:576:U:H4'	36:A:2502:G:C5	2.45	0.50
36:A:1464:C:H2'	36:A:1465:G:C8	2.47	0.50
13:S:17:ARG:HG3	13:S:88:ASP:OD2	2.11	0.50
36:A:689:A:H2'	36:A:690:G:H8	1.75	0.50
2:D:66:ASP:HB2	2:D:103:ARG:HB3	1.94	0.50
4:F:82:ILE:HG23	4:F:83:PHE:CE1	2.47	0.50
16:V:14:VAL:HG12	16:V:96:ILE:HD13	1.93	0.50
36:A:481:G:O2'	36:A:506:G:N2	2.43	0.50
36:A:1418:G:H1'	36:A:1580:A:H61	1.76	0.50
10:P:35:HIS:N	36:A:1190:G:H5''	2.26	0.50
36:A:2704:C:H2'	36:A:2705:A:O4'	2.11	0.50
36:A:415:A:N6	36:A:2408:U:H3	2.07	0.50
22:1:12:PRO:HA	22:1:44:PRO:CD	2.40	0.50
36:A:320:A:H4'	36:A:322:A:N7	2.26	0.50
35:B:24:G:C2	35:B:56:G:C2	2.99	0.50
2:D:222:ARG:HG2	36:A:1789:A:OP1	2.11	0.50
35:B:95:U:H2'	35:B:96:G:H8	1.73	0.50
36:A:2657:A:H62	36:A:2664:G:N2	2.08	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:1403:C:H2'	36:A:1404:C:H6	1.76	0.50
28:6:5:VAL:N	36:A:2283:C:H5'	2.26	0.50
36:A:263:C:H2'	36:A:264:C:O4'	2.11	0.50
36:A:1355:G:H1	36:A:1376:C:N4	2.08	0.50
36:A:1139:G:HO2'	36:A:1140:C:C1'	2.23	0.50
36:A:1325:G:OP1	36:A:1647:G:O2'	2.16	0.50
36:A:2331:G:H2'	36:A:2332:U:O4'	2.10	0.50
36:A:413:C:N3	36:A:2410:G:N2	2.47	0.50
24:N:138:LEU:HD23	24:N:138:LEU:N	2.26	0.50
8:K:6:ALA:H	8:K:59:ILE:HG23	1.75	0.50
4:F:154:VAL:CG2	4:F:173:VAL:HG22	2.36	0.50
22:1:25:LYS:O	22:1:26:ARG:HB2	2.10	0.50
36:A:2795:G:H3'	36:A:2797:U:H5''	1.93	0.50
36:A:1819:A:H4'	36:A:1820:U:H5'	1.93	0.50
6:H:160:LYS:HZ1	36:A:2658:C:H5'	1.75	0.50
7:J:32:UNK:O	36:A:1055:G:H4'	2.10	0.50
36:A:854:G:H1	36:A:923:C:H42	1.58	0.50
6:H:144:VAL:O	6:H:147:ASN:HB3	2.12	0.50
36:A:685:A:OP1	36:A:686:G:N2	2.45	0.50
36:A:1418:G:H1'	36:A:1580:A:N6	2.27	0.50
16:V:76:LYS:NZ	36:A:974(A):G:H4'	2.26	0.50
6:H:86:GLU:HB3	6:H:132:ARG:HG3	1.93	0.50
28:6:7:ILE:HG22	28:6:29:ASN:HB2	1.93	0.50
11:Q:18:LYS:HD3	35:B:90:C:H5'	1.93	0.50
36:A:1269:A:H61	36:A:2011:U:H3	1.60	0.50
36:A:2762:G:H2'	36:A:2763:G:O4'	2.11	0.50
36:A:2673:G:H2'	36:A:2674:G:H8	1.75	0.50
2:D:147:LEU:O	2:D:185:VAL:HG13	2.10	0.50
36:A:1005:C:H2'	36:A:1006:C:C6	2.46	0.50
1:C:42:VAL:HG23	1:C:176:VAL:H	1.75	0.50
3:E:51:PHE:H	3:E:74:PRO:HG3	1.77	0.50
8:K:30:HIS:HA	8:K:59:ILE:HD12	1.94	0.50
3:E:101:ARG:CZ	3:E:169:ASN:HD21	2.25	0.50
35:B:76:G:H2'	35:B:77:U:C6	2.46	0.50
12:R:42:LYS:O	12:R:45:ARG:HG3	2.11	0.50
2:D:96:HIS:CD2	2:D:102:LYS:HD2	2.46	0.50
20:Z:121:HIS:HB3	20:Z:124:ILE:HG22	1.94	0.50
21:0:65:GLY:HA2	21:0:83:PRO:HA	1.93	0.50
19:Y:38:ILE:HA	19:Y:66:PRO:HA	1.93	0.50
36:A:2398:U:H2'	36:A:2399:G:C8	2.47	0.50
36:A:373:U:H2'	36:A:374:A:H8	1.75	0.50
9:O:105:GLU:O	9:O:108:GLU:HG2	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Z:93:ASP:OD1	20:Z:93:ASP:N	2.44	0.50
30:8:46:ARG:HH11	30:8:47:LYS:H	1.60	0.50
36:A:1019:U:H2'	36:A:1020:A:C8	2.47	0.50
36:A:2378:A:H8	36:A:2378:A:O5'	1.94	0.50
30:8:54:GLU:OE2	30:8:57:ARG:NE	2.38	0.50
8:K:90:LYS:CG	36:A:1076:C:H1'	2.42	0.50
36:A:1830:C:H2'	36:A:1831:G:H8	1.76	0.50
36:A:2581:G:N3	36:A:2581:G:H2'	2.26	0.50
2:D:54:ARG:HH21	36:A:1822:G:H5''	1.77	0.50
36:A:1115:G:H2'	36:A:1116:C:C6	2.46	0.50
25:2:21:LEU:O	25:2:25:VAL:HG23	2.11	0.50
36:A:1429:G:H2'	36:A:1430:C:C6	2.47	0.50
5:G:10:LYS:O	5:G:14:GLU:HB3	2.11	0.50
36:A:2504:U:C2'	36:A:2505:G:H5'	2.41	0.50
36:A:1320:C:H42	36:A:1331:A:N6	1.99	0.50
36:A:1341:U:H3'	36:A:1342:A:C8	2.47	0.50
36:A:2655:G:O2'	36:A:2664:G:O6	2.26	0.50
36:A:2793:G:O6	36:A:2803:C:N3	2.45	0.50
31:9:14:CYS:SG	31:9:27:CYS:HB2	2.52	0.50
36:A:1166:C:H2'	36:A:1167:U:C6	2.47	0.50
2:D:79:VAL:HG12	2:D:80:ALA:N	2.27	0.50
6:H:124:GLU:O	6:H:126:PRO:HD3	2.12	0.50
12:R:6:SER:HB2	36:A:2873:A:N3	2.27	0.50
36:A:1637:A:H2'	36:A:1638:C:H6	1.77	0.50
36:A:80:G:N2	36:A:106:C:N3	2.47	0.50
36:A:2233:U:H2'	36:A:2234:G:C8	2.47	0.50
36:A:2895:U:H2'	36:A:2896:C:O4'	2.12	0.50
2:D:211:ARG:HA	2:D:214:TRP:CE3	2.47	0.50
36:A:1145:C:H2'	36:A:1146:C:C6	2.46	0.50
36:A:632:A:H2'	36:A:633:A:C8	2.47	0.50
3:E:154:LYS:NZ	36:A:2513:G:O2'	2.42	0.50
36:A:1495:A:H2	36:A:1578:U:H1'	1.77	0.50
5:G:61:ALA:CB	5:G:68:PRO:HD3	2.42	0.50
36:A:2024:G:H2'	36:A:2025:C:H6	1.76	0.50
36:A:84:A:N6	36:A:102:G:O2'	2.41	0.50
15:U:67:ALA:HB3	24:N:40:PRO:HA	1.93	0.50
15:U:64:ARG:CD	24:N:42:TRP:H	2.25	0.50
36:A:668:G:H2'	36:A:670:A:N7	2.27	0.50
36:A:142:G:H2'	36:A:143:C:H6	1.77	0.50
36:A:2437:U:H2'	36:A:2438:U:C6	2.47	0.50
36:A:2439:A:N7	36:A:2586:C:H4'	2.27	0.50
36:A:2599:G:H2'	36:A:2600:A:H8	1.77	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:1144:G:H2'	36:A:1145:C:H6	1.77	0.50
36:A:1082:U:H2'	36:A:1083:U:H5'	1.93	0.50
35:B:81:G:H1'	36:A:919:G:H5'	1.93	0.50
36:A:1878:G:H2'	36:A:1879:C:C6	2.47	0.50
15:U:86:ALA:HB2	15:U:116:ALA:HB2	1.94	0.50
36:A:2552:U:C2	36:A:2554:U:H5'	2.47	0.50
17:W:37:ARG:HG3	17:W:38:TYR:CD2	2.46	0.50
36:A:1665:A:N1	36:A:1995:U:O4	2.45	0.49
8:K:134:MET:HG2	36:A:1063:G:H5'	1.94	0.49
36:A:2896:C:H2'	36:A:2897:U:C6	2.46	0.49
36:A:1058:G:H2'	36:A:1059:G:H8	1.77	0.49
16:V:89:GLN:OE1	36:A:1162:G:N2	2.43	0.49
36:A:37:C:H2'	36:A:38:A:H8	1.73	0.49
36:A:2419:U:H2'	36:A:2420:C:C6	2.46	0.49
36:A:909:A:H2'	36:A:912:C:H5	1.77	0.49
36:A:737:C:H42	36:A:759:G:H1	1.60	0.49
36:A:1478:G:H2'	36:A:1479:G:C8	2.47	0.49
36:A:1611:C:H2'	36:A:1612:C:C6	2.48	0.49
2:D:177:LEU:O	2:D:179:SER:N	2.42	0.49
16:V:56:SER:HB2	16:V:100:ARG:HD2	1.94	0.49
2:D:50:THR:HA	36:A:1805:U:O2'	2.11	0.49
36:A:1666:G:H1	36:A:1994:C:H42	1.60	0.49
9:O:78:ARG:NH2	14:T:73:GLU:OE1	2.46	0.49
1:C:34:ALA:HB2	1:C:217:THR:HG21	1.93	0.49
36:A:2635:C:N4	36:A:2783:G:H1	2.06	0.49
36:A:947:G:N2	36:A:970:C:N3	2.48	0.49
1:C:87:ALA:HB3	1:C:95:VAL:HG11	1.93	0.49
36:A:581:C:H2'	36:A:582:G:H8	1.71	0.49
36:A:232:G:H22	36:A:420:C:C5'	2.25	0.49
20:Z:28:MET:SD	20:Z:37:VAL:HG22	2.51	0.49
20:Z:10:ARG:N	20:Z:36:LYS:O	2.41	0.49
36:A:822:U:C5	36:A:944:G:H1'	2.47	0.49
28:6:43:CYS:SG	28:6:44:ARG:NH2	2.82	0.49
36:A:1780:A:H3'	36:A:1781:C:H2'	1.93	0.49
29:7:40:TRP:N	29:7:40:TRP:CD1	2.80	0.49
36:A:1095:A:H2'	36:A:1096:A:C8	2.48	0.49
14:T:5:ALA:O	14:T:9:LEU:HG	2.11	0.49
9:O:8:LEU:HD21	9:O:21:CYS:HB2	1.93	0.49
14:T:50:ILE:HG12	14:T:99:LEU:HB2	1.93	0.49
14:T:49:VAL:O	14:T:50:ILE:HG13	2.12	0.49
36:A:1281:G:N2	36:A:1289:C:N3	2.49	0.49
4:F:190:GLU:O	4:F:191:ARG:HG3	2.11	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:391:G:H1'	36:A:411:G:C4	2.48	0.49
36:A:1047:G:H21	36:A:1111:A:H62	1.61	0.49
36:A:1291:C:H2'	36:A:1292:U:C6	2.48	0.49
21:O:20:ARG:HD3	36:A:2356:C:O3'	2.12	0.49
36:A:273(D):C:H2'	36:A:273(E):C:H6	1.77	0.49
36:A:273(D):C:H2'	36:A:273(E):C:C6	2.47	0.49
36:A:408:G:H1	36:A:419:C:H42	1.58	0.49
12:R:22:ARG:HG2	12:R:69:ASP:O	2.12	0.49
36:A:1136:G:C4	36:A:1137:G:C8	3.00	0.49
24:N:103:VAL:O	24:N:106:MET:N	2.37	0.49
14:T:27:THR:HG23	14:T:28:VAL:H	1.77	0.49
36:A:994:C:O2'	36:A:995:C:H3'	2.12	0.49
36:A:1091:G:H2'	36:A:1092:C:C6	2.46	0.49
36:A:150:C:O2	36:A:176:G:N1	2.45	0.49
36:A:1203:G:H5''	36:A:1204:A:OP2	2.12	0.49
14:T:78:LEU:O	14:T:79:HIS:ND1	2.45	0.49
28:6:16:CYS:HB2	28:6:17:LYS:HD2	1.93	0.49
36:A:270(D):C:O2'	36:A:273(C):C:H5''	2.13	0.49
5:G:107:LEU:HD23	5:G:111:LEU:HD11	1.93	0.49
36:A:1005:C:H2'	36:A:1006:C:O4'	2.12	0.49
36:A:1025:G:O6	36:A:1139:G:N2	2.46	0.49
21:O:25:ARG:HH22	36:A:2355:C:P	2.35	0.49
36:A:506:G:H4'	36:A:509:C:O2	2.12	0.49
2:D:198:ASN:ND2	2:D:200:ASP:HB2	2.27	0.49
36:A:682:G:H1	36:A:795:C:H42	1.59	0.49
36:A:1804:C:H2'	36:A:1805:U:H6	1.77	0.49
36:A:13:A:N6	36:A:526:A:OP2	2.42	0.49
12:R:14:SER:O	12:R:18:LEU:HG	2.13	0.49
36:A:1728:G:N2	36:A:1731:G:O2'	2.45	0.49
8:K:5:VAL:HG12	8:K:60:TYR:HA	1.95	0.49
13:S:17:ARG:O	13:S:21:THR:N	2.46	0.49
4:F:118:ALA:HA	4:F:123:LEU:HD22	1.94	0.49
36:A:2461:C:N4	36:A:2489:G:H1	2.09	0.49
35:B:34:U:O2'	35:B:44:G:N7	2.42	0.49
4:F:75:HIS:HA	36:A:674:G:H4'	1.94	0.49
36:A:493:G:H2'	36:A:494:G:O4'	2.12	0.49
36:A:2064:C:H2'	36:A:2065:C:C6	2.47	0.49
2:D:85:ASP:OD1	2:D:88:ARG:N	2.40	0.49
36:A:2573:C:OP1	36:A:2574:G:H5''	2.13	0.49
36:A:1035:U:H2'	36:A:1036:G:C8	2.47	0.49
36:A:2464:C:H42	36:A:2486:G:H1	1.59	0.49
36:A:828:U:H4'	36:A:831:G:N1	2.27	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:Q:80:GLU:HA	36:A:2494:G:O2'	2.13	0.49
36:A:56:A:H2'	36:A:57:C:C6	2.48	0.49
35:B:56:G:H4'	35:B:57:A:C8	2.47	0.49
36:A:83:G:H21	36:A:103:A:N6	2.11	0.49
17:W:28:SER:HA	17:W:70:TYR:HA	1.94	0.49
36:A:1858:G:H1'	36:A:1884:A:H62	1.76	0.49
36:A:78:A:H61	36:A:108:U:H3	1.60	0.49
14:T:115:ARG:HD2	14:T:115:ARG:N	2.28	0.49
26:3:43:ILE:O	26:3:47:VAL:HG23	2.12	0.49
36:A:856:C:H2'	36:A:857:C:C6	2.48	0.49
1:C:37:LYS:NZ	36:A:2127:G:H4'	2.28	0.49
12:R:13:HIS:ND1	36:A:712(B):A:H4'	2.27	0.49
21:0:47:PRO:HG3	21:0:59:LEU:HD22	1.94	0.49
3:E:79:ARG:NH1	36:A:2635:C:OP1	2.45	0.49
36:A:80:G:H2'	36:A:81:G:O4'	2.12	0.49
4:F:167:ALA:HA	4:F:170:LEU:HB2	1.95	0.49
29:7:42:LEU:HD21	36:A:466:A:H5''	1.95	0.49
36:A:1327:C:C4	36:A:1328:G:C6	3.00	0.49
2:D:35:LYS:HB3	2:D:35:LYS:HE3	1.56	0.49
6:H:160:LYS:NZ	36:A:2658:C:H5'	2.28	0.49
36:A:752:A:O2'	36:A:1781:C:H5'	2.12	0.49
14:T:32:TYR:HE2	14:T:76:PHE:HD2	1.61	0.49
36:A:701:G:H2'	36:A:702:G:C8	2.48	0.49
36:A:27:G:H1'	36:A:513:A:N6	2.28	0.49
2:D:111:LEU:HD11	2:D:128:GLY:HA3	1.94	0.49
5:G:12:TYR:O	5:G:16:ARG:HG2	2.13	0.49
20:Z:22:GLY:HA2	20:Z:41:LEU:HG	1.94	0.49
20:Z:7:ALA:O	20:Z:61:LEU:HA	2.12	0.49
36:A:2411:A:H2'	36:A:2412:A:H8	1.77	0.49
36:A:2109:U:O4	36:A:2180:U:O4	2.31	0.49
3:E:99:GLY:H	3:E:173:VAL:HA	1.78	0.49
2:D:254:THR:HG21	36:A:1824:G:H1'	1.94	0.49
3:E:145:LYS:NZ	36:A:2054:A:OP1	2.43	0.49
2:D:244:ARG:HA	2:D:246:PRO:HD3	1.94	0.49
36:A:2627:G:O2'	36:A:2781:A:N1	2.36	0.49
29:7:34:ARG:CD	29:7:42:LEU:HD22	2.43	0.49
13:S:13:ARG:O	13:S:15:ARG:N	2.46	0.49
36:A:551:G:H2'	36:A:552:G:O4'	2.13	0.49
36:A:2209:C:N3	36:A:2215:G:O6	2.45	0.49
24:N:21:LYS:O	24:N:61:ARG:N	2.42	0.49
36:A:231:C:H2'	36:A:232:G:O4'	2.12	0.49
36:A:594:U:H2'	36:A:595:C:C6	2.48	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:X:64:LYS:HD2	18:X:73:ARG:HH21	1.78	0.49
1:C:166:ASN:HA	1:C:170:GLY:O	2.12	0.49
36:A:2876:G:H2'	36:A:2877:G:H8	1.77	0.49
17:W:38:TYR:CZ	27:5:41:PRO:HD3	2.48	0.49
11:Q:134:ARG:HH12	20:Z:119:GLU:CG	2.26	0.49
17:W:90:ARG:HH11	36:A:751:A:H4'	1.78	0.49
21:O:38:VAL:HG12	21:O:40:GLN:HB3	1.95	0.49
36:A:2173:A:OP2	36:A:2173:A:H8	1.96	0.49
1:C:142:LYS:C	1:C:144:GLY:H	2.16	0.49
3:E:197:ILE:HG12	3:E:198:VAL:N	2.28	0.49
36:A:1077:A:N3	36:A:1077:A:H2'	2.28	0.49
19:Y:96:ILE:O	19:Y:98:VAL:N	2.46	0.49
28:6:10:LEU:HD11	36:A:2420:C:H5''	1.94	0.49
36:A:638:G:H2'	36:A:639:U:O4'	2.13	0.49
11:Q:125:LEU:C	11:Q:127:ILE:H	2.15	0.49
17:W:87:PRO:HB3	36:A:1614:A:N7	2.28	0.49
20:Z:82:ARG:HG2	20:Z:83:PRO:HD2	1.94	0.49
24:N:76:SER:O	24:N:78:TYR:N	2.46	0.48
36:A:1030:G:H2'	36:A:1031:G:H8	1.78	0.48
36:A:2411:A:H8	36:A:2411:A:O5'	1.95	0.48
3:E:28:ALA:C	3:E:93:VAL:HG22	2.33	0.48
12:R:97:VAL:HG12	12:R:112:ALA:HB1	1.95	0.48
36:A:2398:U:H2'	36:A:2399:G:H8	1.77	0.48
10:P:101:VAL:HG12	10:P:106:LEU:HB3	1.95	0.48
36:A:195:A:O5'	36:A:196:A:H4'	2.13	0.48
36:A:1837:C:O2'	36:A:1927:A:N3	2.34	0.48
3:E:25:VAL:HG13	3:E:183:LEU:HD11	1.95	0.48
36:A:882:G:H2'	36:A:883:G:C8	2.47	0.48
1:C:42:VAL:O	1:C:43:GLU:C	2.52	0.48
36:A:2230:G:H2'	36:A:2231:C:H6	1.79	0.48
3:E:62:PRO:HB3	36:A:2787:C:H5'	1.95	0.48
3:E:170:LEU:HB3	3:E:184:VAL:HG11	1.95	0.48
36:A:711:G:N2	36:A:720:C:N3	2.48	0.48
36:A:83:G:H21	36:A:103:A:H62	1.61	0.48
2:D:53:PHE:HE1	2:D:220:HIS:CD2	2.31	0.48
36:A:184:C:H4'	36:A:217:G:H21	1.78	0.48
2:D:17:THR:HG1	2:D:205:VAL:H	1.56	0.48
23:4:13:ARG:O	23:4:15:ILE:N	2.46	0.48
12:R:87:TYR:HB3	12:R:94:TYR:HD2	1.77	0.48
36:A:2560:C:C2'	36:A:2561:A:H5'	2.43	0.48
36:A:2103:C:N3	36:A:2186:G:O6	2.46	0.48
27:5:19:ARG:NH1	36:A:1264:G:OP1	2.45	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:0:23:VAL:HG12	21:0:38:VAL:HG13	1.95	0.48
36:A:1049:C:H1'	36:A:1113:U:H4'	1.94	0.48
14:T:84:GLN:HG2	14:T:86:ILE:HG13	1.93	0.48
20:Z:46:LYS:O	20:Z:50:GLN:NE2	2.47	0.48
36:A:1296:G:OP1	36:A:2709:G:O2'	2.22	0.48
14:T:26:ASP:OD2	14:T:48:ILE:HG23	2.13	0.48
24:N:56:ASN:HB3	24:N:125:GLY:C	2.33	0.48
4:F:191:ARG:O	4:F:193:VAL:N	2.47	0.48
16:V:87:HIS:HE1	36:A:992:C:O2	1.97	0.48
36:A:1173:G:C5	36:A:1175:U:H5'	2.48	0.48
36:A:1013:C:H2'	36:A:1014:U:H6	1.78	0.48
36:A:39:C:H42	36:A:440:G:H1	1.62	0.48
8:K:13:PRO:HA	8:K:52:ILE:HA	1.95	0.48
17:W:24:ILE:HD12	17:W:36:LEU:HD21	1.94	0.48
36:A:1312:U:H4'	36:A:1313:U:O5'	2.13	0.48
3:E:111:ARG:HB2	3:E:160:TYR:O	2.13	0.48
2:D:86:PRO:HB3	36:A:1567:A:OP2	2.13	0.48
29:7:7:PRO:HA	36:A:686:G:C8	2.49	0.48
36:A:2701:C:H2'	36:A:2702:U:H2'	1.95	0.48
35:B:6:C:H2'	35:B:7:G:H8	1.78	0.48
9:O:104:ARG:O	9:O:107:ARG:HB3	2.14	0.48
36:A:777:A:H2'	36:A:778:G:C8	2.49	0.48
36:A:140:A:H8	36:A:1408:C:HO2'	1.59	0.48
26:3:7:LYS:HD3	26:3:34:GLU:HG3	1.94	0.48
18:X:32:PRO:HA	18:X:77:LYS:HB3	1.95	0.48
36:A:253:C:H2'	36:A:254:G:O4'	2.13	0.48
10:P:110:TYR:HB3	10:P:111:ARG:H	1.45	0.48
36:A:650:C:H2'	36:A:651:G:O4'	2.13	0.48
36:A:1939:U:OP1	36:A:2604:U:O2'	2.29	0.48
1:C:167:ASP:OD1	1:C:171:ALA:HB2	2.14	0.48
31:9:36:GLN:HB3	36:A:1124:C:O2'	2.13	0.48
36:A:144:C:H2'	36:A:145:G:H8	1.79	0.48
24:N:134:ARG:HG2	24:N:134:ARG:O	2.13	0.48
35:B:15:A:H5'	35:B:16:G:C8	2.47	0.48
20:Z:27:VAL:HG11	35:B:75:G:H1'	1.95	0.48
36:A:1086:A:H3'	36:A:1086:A:N3	2.29	0.48
7:J:25:UNK:C	7:J:111:UNK:HA	2.44	0.48
20:Z:155:LEU:H	20:Z:155:LEU:HD23	1.78	0.48
2:D:96:HIS:NE2	2:D:102:LYS:HD2	2.28	0.48
36:A:616:A:H4'	36:A:617:G:OP1	2.13	0.48
36:A:2134:A:H61	36:A:2157:G:H1'	1.78	0.48
1:C:85:LYS:O	1:C:88:GLU:HB2	2.14	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2834:G:H1'	36:A:2883:A:H61	1.79	0.48
4:F:48:THR:HG21	36:A:442:G:H1'	1.95	0.48
11:Q:66:ILE:HD13	11:Q:66:ILE:H	1.77	0.48
9:O:37:ASP:O	9:O:62:VAL:HG22	2.13	0.48
2:D:27:THR:HG21	2:D:81:ALA:HB1	1.95	0.48
6:H:16:SER:HB3	6:H:27:LYS:HE2	1.94	0.48
14:T:41:ARG:HG2	14:T:42:ILE:H	1.78	0.48
10:P:17:LYS:HE3	10:P:19:VAL:HB	1.96	0.48
24:N:78:TYR:CD1	36:A:2642:G:H5'	2.38	0.48
36:A:2695:C:H2'	36:A:2696:U:C6	2.48	0.48
1:C:63:VAL:HG22	1:C:162:ILE:HD12	1.95	0.48
36:A:2386:C:H2'	36:A:2387:U:C6	2.48	0.48
3:E:66:HIS:CD2	36:A:2786:U:H4'	2.49	0.48
24:N:15:LEU:HD21	24:N:55:VAL:HG13	1.95	0.48
3:E:74:PRO:HB2	3:E:75:VAL:H	1.32	0.48
3:E:84:PHE:CE1	3:E:86:PRO:HD3	2.48	0.48
30:8:63:PRO:O	30:8:65:GLU:N	2.46	0.48
36:A:443:A:H1'	36:A:1201:C:C1'	2.43	0.48
36:A:1007:C:C5	36:A:1008:C:N3	2.82	0.48
36:A:1083:U:H2'	36:A:1085:A:OP2	2.14	0.48
36:A:2472:G:H21	36:A:2478:A:H62	1.60	0.48
2:D:260:ARG:HH12	36:A:1799:G:H5''	1.79	0.48
9:O:77:ILE:HD11	14:T:72:VAL:HG22	1.95	0.48
9:O:77:ILE:HD13	14:T:74:ARG:HG2	1.94	0.48
14:T:129:ARG:HD3	14:T:132:LYS:HB2	1.95	0.48
1:C:149:ASN:O	1:C:149:ASN:ND2	2.46	0.48
36:A:405:U:H3'	36:A:406:G:H5'	1.96	0.48
36:A:389:G:C8	36:A:2413:G:H4'	2.48	0.48
36:A:49:A:H4'	36:A:50:U:H5''	1.95	0.48
1:C:226:ASN:ND2	1:C:226:ASN:O	2.46	0.48
3:E:98:PRO:HG3	3:E:175:VAL:HG12	1.96	0.48
36:A:1024:G:N2	36:A:1140:C:N3	2.45	0.48
36:A:1441:G:H2'	36:A:1442:G:C8	2.49	0.48
4:F:176:LEU:HG	4:F:177:ALA:N	2.28	0.48
4:F:156:LEU:HD12	4:F:193:VAL:HB	1.96	0.48
20:Z:75:ASN:O	20:Z:84:GLU:N	2.42	0.48
36:A:740:U:H2'	36:A:741:G:C8	2.49	0.48
5:G:132:ASN:HA	5:G:157:ILE:O	2.14	0.48
36:A:949:C:H2'	36:A:950:G:H8	1.79	0.48
21:O:35:ASN:OD1	36:A:2353:G:O2'	2.30	0.48
22:1:64:ALA:O	22:1:66:HIS:N	2.47	0.48
10:P:112:LEU:HD12	10:P:127:ALA:HB2	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:531:C:H4'	36:A:532:A:O5'	2.14	0.48
4:F:112:MET:O	4:F:116:ASP:N	2.38	0.48
3:E:16:ARG:O	3:E:18:ASP:N	2.40	0.48
36:A:2147:G:H2'	36:A:2148:G:O4'	2.13	0.48
36:A:938:G:H2'	36:A:939:G:H8	1.78	0.48
24:N:15:LEU:HD22	24:N:53:VAL:O	2.14	0.48
27:5:3:LYS:HE3	27:5:5:PRO:HG2	1.96	0.48
11:Q:5:ARG:HH22	36:A:871:U:P	2.37	0.48
28:6:15:GLU:HG2	28:6:48:VAL:HG23	1.96	0.48
36:A:1175:U:H2'	36:A:1176:G:N7	2.28	0.48
16:V:20:LEU:HG	16:V:21:ARG:HG3	1.94	0.48
26:3:25:ALA:HB2	36:A:849:A:C2	2.49	0.48
29:7:21:ARG:NH2	36:A:684:G:OP1	2.46	0.48
15:U:62:ILE:HA	15:U:65:ILE:HB	1.96	0.48
20:Z:76:LEU:HA	20:Z:83:PRO:HA	1.95	0.48
11:Q:137:TYR:HD1	11:Q:137:TYR:H	1.60	0.48
5:G:96:ARG:O	5:G:99:MET:HG2	2.14	0.48
16:V:9:GLY:O	36:A:1160:G:N2	2.29	0.48
7:J:69:UNK:O	7:J:71:UNK:N	2.46	0.48
36:A:287:C:H2'	36:A:288:C:C6	2.48	0.48
4:F:155:LEU:HD12	4:F:176:LEU:HD23	1.95	0.48
36:A:1542:G:O2'	36:A:1543:A:OP2	2.30	0.48
35:B:12:C:H4'	35:B:15:A:N6	2.28	0.48
36:A:2801:A:H2'	36:A:2802:G:O4'	2.14	0.48
31:9:10:ILE:HG13	31:9:14:CYS:SG	2.54	0.48
36:A:681:G:H2'	36:A:682:G:C8	2.49	0.48
36:A:2064:C:H1'	36:A:2450:A:C6	2.49	0.48
36:A:1113:U:H2'	36:A:1114:G:C8	2.48	0.48
36:A:2848:G:O2'	36:A:2867:G:N1	2.42	0.48
1:C:16:ASP:O	1:C:18:ASN:N	2.47	0.48
15:U:64:ARG:HD3	24:N:42:TRP:H	1.75	0.48
15:U:64:ARG:HH21	24:N:42:TRP:C	2.16	0.48
36:A:2375:G:H2'	36:A:2377:A:N7	2.29	0.48
36:A:2088:G:N2	36:A:2231:C:N3	2.48	0.48
5:G:29:TRP:CE3	5:G:29:TRP:HA	2.49	0.48
36:A:1110:G:HO2'	36:A:1111:A:H8	1.56	0.48
36:A:2054:A:H62	36:A:2577:A:H61	1.62	0.48
15:U:11:ARG:HD2	15:U:15:LYS:HZ1	1.79	0.48
22:1:13:ILE:HG23	22:1:42:GLN:O	2.13	0.48
22:1:13:ILE:O	22:1:42:GLN:O	2.32	0.48
36:A:1899:G:H21	36:A:1902:C:N4	2.12	0.48
36:A:1199:U:H2'	36:A:1200:C:H6	1.78	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:G:128:ARG:HB2	5:G:130:ASN:HD21	1.79	0.48
36:A:1213:A:N6	36:A:1236:G:H1'	2.29	0.48
36:A:550:G:O2'	36:A:1220:A:N3	2.41	0.48
4:F:33:LEU:O	4:F:37:VAL:HG23	2.14	0.48
36:A:270(T):G:H2'	36:A:270(U):G:H8	1.78	0.48
36:A:2681:C:H4'	36:A:2682:U:H5'	1.95	0.48
36:A:2294:C:H2'	36:A:2295:C:H6	1.78	0.48
4:F:164:ARG:CD	4:F:177:ALA:HB2	2.44	0.48
13:S:34:HIS:CE1	35:B:27:C:H5''	2.49	0.48
36:A:712:G:H1	36:A:719:C:N4	2.11	0.48
36:A:1077:A:H5''	36:A:1078:U:C6	2.49	0.48
3:E:145:LYS:HB2	36:A:2572:A:N7	2.29	0.48
36:A:2447:G:H1'	36:A:2448:A:OP2	2.14	0.48
5:G:105:LYS:NZ	23:4:31:ILE:HG21	2.26	0.48
19:Y:38:ILE:HD11	19:Y:64:GLU:HB3	1.96	0.48
36:A:2618:G:H2'	36:A:2619:C:O4'	2.14	0.48
35:B:32:C:H1'	35:B:52:A:H62	1.79	0.48
36:A:1408:C:H42	36:A:1594:G:H1	1.61	0.48
36:A:2308:G:OP1	36:A:2308:G:H4'	2.13	0.48
19:Y:87:LYS:O	19:Y:89:PHE:N	2.47	0.48
36:A:1916:A:H2'	36:A:1917:U:C6	2.49	0.48
36:A:1916:A:H2'	36:A:1917:U:H6	1.78	0.48
36:A:2142:C:H2'	36:A:2143:C:C6	2.49	0.48
24:N:78:TYR:HB3	36:A:2642:G:OP1	2.10	0.47
24:N:9:VAL:HG11	24:N:39:ARG:NH1	2.29	0.47
1:C:26:ALA:HB2	1:C:215:VAL:HG21	1.94	0.47
36:A:2343:C:HO2'	36:A:2373:G:HO2'	1.60	0.47
10:P:47:ASP:HB3	10:P:48:PRO:O	2.14	0.47
4:F:137:LYS:NZ	36:A:320:A:N7	2.58	0.47
4:F:171:PRO:HG2	4:F:172:TRP:HD1	1.78	0.47
36:A:1341:U:H5''	36:A:1397:U:O2	2.14	0.47
2:D:218:ARG:HD2	2:D:218:ARG:N	2.28	0.47
36:A:1292:U:H2'	36:A:1293:C:H6	1.78	0.47
26:3:8:LEU:HD22	26:3:31:LEU:HA	1.96	0.47
16:V:56:SER:O	16:V:100:ARG:HG3	2.14	0.47
4:F:46:ARG:HD2	4:F:46:ARG:HA	1.76	0.47
14:T:62:THR:HG23	14:T:75:ILE:HG12	1.96	0.47
23:4:14:ILE:HB	23:4:22:ILE:HB	1.96	0.47
29:7:33:ARG:NH1	36:A:467:G:OP1	2.47	0.47
36:A:1139:G:C2'	36:A:1140:C:C6	2.97	0.47
1:C:212:SER:OG	36:A:2178:C:OP1	2.32	0.47
36:A:1336:A:H2'	36:A:1337:G:O4'	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:8:61:LEU:O	30:8:64:TYR:N	2.43	0.47
13:S:102:ALA:HA	13:S:108:GLY:H	1.79	0.47
13:S:39:ILE:HG12	13:S:85:VAL:HG21	1.94	0.47
22:1:23:LYS:HE2	22:1:33:LYS:HB3	1.96	0.47
36:A:558:G:H2'	36:A:559:G:C8	2.47	0.47
4:F:89:VAL:HG21	36:A:586:A:H5'	1.97	0.47
2:D:230:ASP:O	2:D:231:HIS:HB2	2.14	0.47
36:A:1234:U:H2'	36:A:1235:G:C8	2.49	0.47
36:A:463:G:H2'	36:A:464:U:H5''	1.96	0.47
36:A:16:G:H2'	36:A:17:G:C8	2.49	0.47
17:W:90:ARG:NH1	36:A:751:A:O2'	2.48	0.47
36:A:2469:A:H61	36:A:2481:G:H1'	1.80	0.47
10:P:95:VAL:HG12	10:P:100:LEU:HD21	1.96	0.47
1:C:44:VAL:CB	1:C:174:ALA:HB3	2.31	0.47
36:A:20:C:H2'	36:A:21:A:C8	2.47	0.47
4:F:117:ARG:NH2	4:F:187:VAL:HA	2.29	0.47
5:G:29:TRP:CD1	35:B:55:U:H1'	2.49	0.47
36:A:1853:A:N3	36:A:2233:U:O2'	2.44	0.47
36:A:644:A:N1	36:A:646:A:C8	2.82	0.47
14:T:67:SER:O	14:T:69:GLY:N	2.47	0.47
2:D:70:TRP:HA	2:D:73:VAL:HG23	1.95	0.47
36:A:1428:C:O2'	36:A:1569:A:OP2	2.15	0.47
4:F:52:LYS:HA	4:F:93:LYS:NZ	2.28	0.47
5:G:16:ARG:NH2	5:G:33:ARG:HG2	2.29	0.47
36:A:2146:C:H4'	36:A:2147:G:C8	2.50	0.47
3:E:15:PHE:HD1	14:T:80:SER:HB2	1.77	0.47
36:A:1398:C:H2'	36:A:1399:C:C6	2.49	0.47
1:C:61:GLY:O	1:C:163:GLU:HA	2.13	0.47
14:T:28:VAL:HG12	14:T:29:ARG:N	2.29	0.47
8:K:8:VAL:HG11	8:K:26:ALA:HB1	1.96	0.47
36:A:1320:C:HO2'	36:A:1321:A:P	2.35	0.47
13:S:39:ILE:HD12	13:S:73:LEU:HD11	1.96	0.47
13:S:92:TYR:C	13:S:94:TYR:H	2.17	0.47
36:A:573:G:O2'	36:A:574:C:H3'	2.15	0.47
2:D:220:HIS:O	36:A:1789:A:H5''	2.15	0.47
15:U:76:TYR:CD2	36:A:1010:A:H4'	2.50	0.47
9:O:79:PHE:CE2	9:O:101:PRO:HG2	2.49	0.47
36:A:951:C:N4	36:A:966:G:H1	2.07	0.47
36:A:1525:G:H2'	36:A:1526:G:H8	1.73	0.47
36:A:1175:U:H2'	36:A:1176:G:C8	2.50	0.47
31:9:6:SER:HB3	36:A:2466:C:H5''	1.97	0.47
36:A:858:U:H3	36:A:919:G:H1	1.61	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2615:U:H2'	36:A:2616:C:H6	1.77	0.47
24:N:51:PHE:CE2	24:N:119:ARG:HD2	2.48	0.47
36:A:1493:C:O2	36:A:1493:C:H2'	2.14	0.47
36:A:706:A:H2'	36:A:707:G:O4'	2.14	0.47
36:A:2047:U:H2'	36:A:2048:G:C8	2.48	0.47
36:A:2505:G:C6	36:A:2610:C:O2	2.67	0.47
13:S:47:THR:HG22	13:S:48:LEU:H	1.80	0.47
1:C:53:ARG:C	1:C:55:SER:H	2.18	0.47
36:A:1292:U:H2'	36:A:1293:C:C6	2.50	0.47
16:V:19:LYS:HG3	16:V:20:LEU:H	1.79	0.47
18:X:64:LYS:HD2	18:X:73:ARG:NH2	2.30	0.47
3:E:152:LYS:HA	36:A:2619:C:O3'	2.15	0.47
14:T:128:GLU:O	14:T:129:ARG:NE	2.44	0.47
9:O:7:TYR:O	9:O:8:LEU:HD13	2.15	0.47
29:7:33:ARG:HA	29:7:36:GLN:HG2	1.96	0.47
36:A:1774:C:H2'	36:A:1774:C:O2	2.14	0.47
21:0:11:ARG:HH22	36:A:2278:A:H3'	1.79	0.47
15:U:42:ALA:HB1	36:A:534:U:H5'	1.96	0.47
36:A:837:C:H42	36:A:942:G:H1	1.61	0.47
1:C:60:ARG:HG2	1:C:142:LYS:HD3	1.97	0.47
14:T:64:ARG:HH12	14:T:103:ARG:HA	1.78	0.47
36:A:1844:C:H42	36:A:1896:G:H1	1.63	0.47
3:E:169:ASN:HB3	36:A:2730:C:H4'	1.97	0.47
3:E:145:LYS:HD2	36:A:2053:G:H5''	1.96	0.47
36:A:1121:C:H2'	36:A:1122:G:O4'	2.15	0.47
36:A:990:A:H1'	36:A:1156:A:C2	2.50	0.47
36:A:876:C:H2'	36:A:877:U:O4'	2.15	0.47
36:A:524:U:H4'	36:A:554:U:H4'	1.97	0.47
19:Y:47:LYS:HB2	36:A:482:A:H4'	1.96	0.47
36:A:2840:C:H2'	36:A:2841:C:C6	2.50	0.47
36:A:880:G:H1	36:A:897:C:H42	1.62	0.47
36:A:2011:U:H2'	36:A:2012:G:O4'	2.15	0.47
36:A:295:G:O6	36:A:343:C:N3	2.47	0.47
26:3:3:ARG:HB2	26:3:59:VAL:O	2.14	0.47
24:N:25:ARG:CZ	36:A:1140:C:H4'	2.45	0.47
24:N:63:THR:O	24:N:64:GLY:O	2.32	0.47
1:C:162:ILE:HD13	1:C:193:PHE:CD1	2.49	0.47
36:A:671:C:H2'	36:A:672:C:H6	1.80	0.47
8:K:56:GLU:O	8:K:67:PHE:HA	2.15	0.47
12:R:60:LEU:HD11	36:A:1454:U:H1'	1.96	0.47
10:P:135:LEU:HD13	10:P:138:LEU:HD23	1.95	0.47
22:1:22:GLY:O	22:1:37:ILE:N	2.48	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:F:114:VAL:HG13	4:F:192:LEU:HD21	1.97	0.47
7:J:54:UNK:CA	7:J:79:UNK:HA	2.44	0.47
36:A:2438:U:O2'	36:A:2439:A:O5'	2.30	0.47
36:A:2817:G:O2'	36:A:2836:U:O2	2.20	0.47
2:D:242:ARG:NH1	36:A:1971:A:OP2	2.47	0.47
36:A:1228:G:H2'	36:A:1229:G:O4'	2.14	0.47
18:X:12:VAL:HG23	18:X:13:LEU:H	1.79	0.47
36:A:613:U:H4'	36:A:616:A:C5	2.49	0.47
36:A:949:C:H2'	36:A:950:G:C8	2.50	0.47
36:A:2663:G:H3'	36:A:2664:G:C8	2.49	0.47
36:A:1081:U:H2'	36:A:1082:U:C6	2.50	0.47
10:P:23:PRO:HD2	10:P:33:ARG:HG3	1.96	0.47
5:G:15:VAL:HA	5:G:175:LEU:HD13	1.97	0.47
31:9:10:ILE:HD12	31:9:32:HIS:HB3	1.95	0.47
36:A:840:C:OP2	36:A:932:G:N2	2.48	0.47
4:F:57:VAL:HG12	4:F:59:TYR:CD2	2.50	0.47
21:0:27:GLU:OE1	36:A:855:G:O2'	2.22	0.47
1:C:37:LYS:HB2	1:C:38:PHE:HD1	1.79	0.47
2:D:88:ARG:HB3	36:A:1817:G:H5''	1.96	0.47
3:E:15:PHE:CD1	14:T:81:PRO:HD3	2.49	0.47
36:A:1626:G:H5''	36:A:1627:G:H5'	1.97	0.47
17:W:76:VAL:HA	17:W:103:ILE:HA	1.97	0.47
24:N:78:TYR:HB3	36:A:2642:G:H5''	1.97	0.47
1:C:212:SER:O	1:C:213:VAL:O	2.33	0.47
1:C:213:VAL:HG21	1:C:225:ILE:HG12	1.97	0.47
36:A:2229:C:H2'	36:A:2230:G:C8	2.48	0.47
3:E:37:ARG:NH1	36:A:2784:C:O2'	2.48	0.47
30:8:5:LYS:HG2	36:A:242:G:N7	2.30	0.47
36:A:2668:G:H2'	36:A:2669:G:O4'	2.14	0.47
36:A:2584:U:H5''	36:A:2585:U:OP2	2.14	0.47
3:E:56:PRO:HD2	3:E:58:ARG:HB3	1.95	0.47
30:8:28:GLY:HA2	36:A:2392:A:H5''	1.95	0.47
21:0:65:GLY:HA2	21:0:83:PRO:CA	2.45	0.47
36:A:150:C:H2'	36:A:151:C:H6	1.77	0.47
28:6:25:LYS:HE3	28:6:25:LYS:HB2	1.57	0.47
36:A:2418:A:H2'	36:A:2419:U:O4'	2.15	0.47
20:Z:163:LEU:H	20:Z:163:LEU:HD23	1.80	0.47
4:F:90:PHE:O	4:F:92:PRO:HD2	2.14	0.47
36:A:441:U:H2'	36:A:442:G:C8	2.50	0.47
10:P:39:LYS:HA	10:P:39:LYS:HD2	1.50	0.47
11:Q:7:MET:HG3	11:Q:7:MET:H	1.41	0.47
9:O:112:MET:HA	9:O:115:VAL:HB	1.97	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
35:B:20:C:H2'	35:B:21:G:H8	1.79	0.47
36:A:1918:A:O2'	36:A:1920:C:N4	2.48	0.47
21:0:36:ILE:HA	21:0:60:PHE:HA	1.97	0.47
5:G:95:ARG:HG3	35:B:43:C:O2'	2.15	0.47
24:N:39:ARG:HG2	24:N:40:PRO:HD2	1.96	0.47
36:A:1638:C:H4'	36:A:2710:C:O2	2.15	0.47
36:A:2711:A:H3'	36:A:2712:U:H5'	1.97	0.47
3:E:34:VAL:HG11	3:E:78:LEU:HD22	1.97	0.47
5:G:27:ASN:HD21	35:B:56:G:H5''	1.80	0.47
2:D:37:LEU:HB3	2:D:62:TYR:HD1	1.80	0.47
36:A:608:A:H2'	36:A:609(A):A:C8	2.50	0.47
5:G:100:TRP:O	5:G:104:GLU:HB2	2.15	0.47
36:A:2398:U:O4	36:A:2418:A:N1	2.48	0.47
31:9:25:VAL:HG21	31:9:34:GLN:HB2	1.97	0.47
36:A:819:A:N7	36:A:1188:U:O4	2.48	0.47
11:Q:13:GLN:H	36:A:910:A:H62	1.61	0.47
36:A:2688:U:H5	36:A:2719:G:C4	2.33	0.47
36:A:141(A):A:N6	36:A:1595:G:O2'	2.48	0.47
13:S:53:SER:HA	13:S:65:VAL:HG11	1.97	0.47
24:N:78:TYR:CB	36:A:2642:G:C5'	2.91	0.47
36:A:1639:U:H2'	36:A:1640:C:H5''	1.96	0.47
1:C:63:VAL:HG11	1:C:164:PHE:HE2	1.80	0.47
36:A:591:C:H42	36:A:666:G:H1	1.63	0.47
36:A:624:C:O2'	36:A:657:U:H4'	2.15	0.47
35:B:8:U:H2'	35:B:9:G:C8	2.50	0.47
15:U:92:ARG:HD2	16:V:11:GLN:HB2	1.96	0.47
2:D:224:ALA:HB2	2:D:233:HIS:HB3	1.95	0.47
36:A:2460:U:H2'	36:A:2461:C:O4'	2.14	0.47
19:Y:51:VAL:HG12	19:Y:53:PRO:HD2	1.96	0.47
36:A:2114:A:C2	36:A:2168:G:H1'	2.47	0.47
5:G:68:PRO:HB3	5:G:92:VAL:HB	1.97	0.47
36:A:270(G):U:H2'	36:A:270(H):C:C6	2.50	0.47
36:A:1178:C:H2'	36:A:1179:C:H6	1.80	0.47
5:G:16:ARG:HB2	5:G:17:PRO:HD3	1.97	0.47
36:A:2162:G:H2'	36:A:2163:C:O4'	2.14	0.47
22:1:7:ILE:HD13	22:1:62:VAL:HA	1.97	0.47
21:0:10:THR:HG21	36:A:2277:G:OP2	2.15	0.47
13:S:41:ASP:HB3	13:S:46:VAL:O	2.15	0.47
11:Q:70:PRO:HA	11:Q:95:ALA:HB2	1.97	0.47
5:G:114:ILE:O	5:G:117:PHE:HB2	2.15	0.47
36:A:2050:C:H2'	36:A:2051:A:O4'	2.14	0.47
24:N:34:LEU:HD12	24:N:116:LEU:O	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:N:30:ILE:CG2	24:N:34:LEU:HD21	2.44	0.46
1:C:164:PHE:CZ	1:C:196:ALA:HB1	2.49	0.46
36:A:2342:C:H2'	36:A:2343:C:O4'	2.15	0.46
36:A:2811:G:H1	36:A:2889:C:N4	2.13	0.46
35:B:14:U:H2'	35:B:15:A:C2	2.50	0.46
16:V:64:HIS:CG	16:V:92:THR:HG22	2.50	0.46
7:J:54:UNK:HA	7:J:78:UNK:O	2.14	0.46
4:F:45:ARG:HG2	36:A:443:A:N7	2.30	0.46
36:A:1285:G:H21	36:A:1328:G:H5''	1.78	0.46
28:6:12:GLU:HG2	36:A:2419:U:H4'	1.97	0.46
3:E:120:TRP:O	3:E:121:ASN:HB2	2.15	0.46
3:E:26:ILE:HG13	3:E:182:LEU:HB3	1.97	0.46
2:D:250:TRP:CZ2	36:A:1805:U:H4'	2.50	0.46
13:S:23:ARG:HA	13:S:23:ARG:HD3	1.63	0.46
11:Q:37:LEU:HG	11:Q:129:THR:HA	1.97	0.46
6:H:38:SER:OG	6:H:40:GLU:HG2	2.15	0.46
36:A:2230:G:H2'	36:A:2231:C:C6	2.49	0.46
24:N:56:ASN:HB3	24:N:126:PRO:N	2.30	0.46
3:E:101:ARG:HA	3:E:170:LEU:O	2.15	0.46
3:E:172:VAL:HA	3:E:184:VAL:HA	1.96	0.46
36:A:380:U:H3	36:A:394:A:H61	1.63	0.46
36:A:2447:G:H1	36:A:2452:C:H41	1.63	0.46
2:D:211:ARG:O	2:D:215:LEU:HG	2.15	0.46
29:7:12:ARG:NH2	36:A:464:U:O3'	2.48	0.46
36:A:1162:G:H2'	36:A:1163:G:C8	2.47	0.46
36:A:2098:U:H2'	36:A:2099:U:O4'	2.15	0.46
36:A:2018:G:H2'	36:A:2019:A:O4'	2.15	0.46
2:D:30:GLU:HB2	2:D:104:TYR:OH	2.15	0.46
14:T:98:LYS:HE2	36:A:2719:G:H5'	1.97	0.46
36:A:2262:U:H4'	36:A:2328:A:H2	1.79	0.46
12:R:36:THR:OG1	12:R:37:THR:N	2.47	0.46
24:N:28:THR:HA	24:N:106:MET:CE	2.44	0.46
36:A:889:C:O2'	36:A:890:A:OP2	2.30	0.46
24:N:132:ALA:O	24:N:133:GLN:C	2.53	0.46
14:T:49:VAL:HG23	14:T:63:VAL:HG22	1.98	0.46
4:F:3:GLU:HA	4:F:24:LEU:H	1.81	0.46
19:Y:84:ARG:HG3	19:Y:95:LYS:O	2.16	0.46
2:D:61:LEU:HD22	36:A:1569:A:H5'	1.98	0.46
5:G:43:LEU:CD1	36:A:2305:A:H61	2.28	0.46
36:A:248:G:N3	36:A:2431:U:H4'	2.29	0.46
2:D:172:TYR:CD1	2:D:184:LYS:HB3	2.50	0.46
2:D:146:GLU:HB2	2:D:151:LYS:O	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:118:VAL:HG22	2:D:119:ALA:N	2.31	0.46
30:8:26:LYS:HB2	30:8:46:ARG:O	2.16	0.46
3:E:15:PHE:CD1	14:T:80:SER:HB2	2.50	0.46
9:O:19:ILE:HG22	9:O:43:VAL:HA	1.97	0.46
12:R:32:GLY:HA3	12:R:116:LEU:HG	1.97	0.46
36:A:705:A:C2	36:A:727:A:H1'	2.51	0.46
2:D:132:PRO:HA	2:D:189:CYS:O	2.15	0.46
9:O:27:GLY:O	9:O:29:ASN:N	2.42	0.46
3:E:37:ARG:HH12	36:A:2784:C:H1'	1.79	0.46
3:E:34:VAL:HG23	3:E:67:PHE:CG	2.51	0.46
3:E:80:GLU:HG3	36:A:2636:U:P	2.55	0.46
2:D:165:ILE:HG22	2:D:166:GLN:N	2.24	0.46
4:F:24:LEU:HB3	4:F:25:PRO:CD	2.40	0.46
3:E:144:ARG:HB3	3:E:145:LYS:H	1.50	0.46
11:Q:53:ALA:HB2	11:Q:124:LYS:HZ1	1.79	0.46
16:V:59:ALA:HB1	16:V:96:ILE:HA	1.96	0.46
27:5:58:LEU:H	27:5:58:LEU:HG	1.52	0.46
12:R:94:TYR:O	12:R:117:VAL:HB	2.14	0.46
36:A:270(F):G:H2'	36:A:270(G):U:C6	2.50	0.46
10:P:101:VAL:HG23	10:P:102:ARG:HG3	1.97	0.46
36:A:1800:C:N3	36:A:1818:U:N3	2.64	0.46
21:O:64:ASP:OD1	21:O:64:ASP:N	2.49	0.46
36:A:2368:C:H2'	36:A:2369:A:C8	2.50	0.46
5:G:19:LEU:HA	5:G:23:PHE:HD1	1.80	0.46
7:J:123:UNK:C	7:J:125:UNK:H	2.28	0.46
36:A:2100:G:H1	36:A:2189:U:H3	1.63	0.46
6:H:26:VAL:O	6:H:32:GLU:HA	2.16	0.46
36:A:1468:C:H2'	36:A:1469:A:C8	2.51	0.46
9:O:66:LYS:HD3	9:O:78:ARG:HD2	1.97	0.46
11:Q:128:LYS:HB3	36:A:1030:G:OP1	2.16	0.46
36:A:371:A:N6	36:A:401:A:H3'	2.22	0.46
36:A:1675:C:H3'	36:A:1676:A:C8	2.39	0.46
1:C:139:PRO:CA	1:C:145:THR:HB	2.40	0.46
7:J:83:UNK:C	7:J:85:UNK:N	2.78	0.46
36:A:443:A:H1'	36:A:1201:C:H1'	1.98	0.46
36:A:2628:C:O2'	36:A:2781:A:H3'	2.16	0.46
26:3:11:SER:OG	36:A:989:G:OP2	2.21	0.46
29:7:34:ARG:NE	29:7:42:LEU:HD13	2.29	0.46
29:7:41:ARG:HH21	29:7:44:PRO:HB2	1.81	0.46
36:A:1328:G:O2'	36:A:1329:U:H5''	2.16	0.46
16:V:87:HIS:ND1	36:A:992:C:O2'	2.47	0.46
35:B:44:G:H21	35:B:47:C:N4	2.11	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2397:G:O6	36:A:2419:U:O2	2.34	0.46
12:R:5:LYS:CD	36:A:2820:A:H4'	2.46	0.46
6:H:96:ALA:H	6:H:128:PRO:HA	1.80	0.46
17:W:74:ALA:HA	17:W:104:THR:O	2.16	0.46
5:G:168:GLU:O	5:G:172:LEU:HG	2.16	0.46
36:A:1281:G:H2'	36:A:1282:U:O4'	2.16	0.46
36:A:144:C:H2'	36:A:145:G:C8	2.51	0.46
13:S:45:GLY:O	35:B:112:G:N2	2.48	0.46
36:A:401:A:C4	36:A:402:A:C8	3.03	0.46
7:J:24:UNK:HA	7:J:84:UNK:O	2.15	0.46
36:A:2439:A:H8	36:A:2586:C:HO2'	1.62	0.46
36:A:2599:G:H2'	36:A:2600:A:C8	2.50	0.46
36:A:2577:A:H2'	36:A:2614:A:N6	2.30	0.46
29:7:37:LYS:HB3	36:A:458:G:H2'	1.97	0.46
36:A:607:U:C5	36:A:620:G:C2	3.04	0.46
36:A:497:A:H2'	36:A:498:G:C8	2.51	0.46
36:A:1070:A:C4	36:A:1097:U:H4'	2.50	0.46
3:E:111:ARG:NE	3:E:161:GLY:HA2	2.30	0.46
36:A:1473:G:H2'	36:A:1474:C:C6	2.50	0.46
36:A:196:A:H3'	36:A:197:A:H5''	1.98	0.46
26:3:3:ARG:HA	26:3:38:GLU:HA	1.98	0.46
36:A:2366:A:H3'	36:A:2367:G:H8	1.80	0.46
25:2:53:LEU:O	25:2:57:ILE:HG12	2.16	0.46
35:B:65:C:H2'	35:B:66:A:H5'	1.97	0.46
36:A:1481:U:H2'	36:A:1483:G:H4'	1.98	0.46
27:5:40:LYS:HZ1	36:A:2884:U:H3	1.62	0.46
24:N:27:ALA:HB1	24:N:103:VAL:HG22	1.97	0.46
36:A:1030:G:H2'	36:A:1031:G:C8	2.51	0.46
36:A:600:G:H2'	36:A:601:C:O4'	2.15	0.46
36:A:2080:G:H2'	36:A:2081:C:H6	1.80	0.46
20:Z:77:ASP:O	20:Z:79:ARG:N	2.48	0.46
22:1:94:LEU:O	22:1:95:LEU:HB2	2.15	0.46
36:A:2657:A:H2'	36:A:2658:C:O4'	2.16	0.46
10:P:22:GLY:O	10:P:33:ARG:NH2	2.48	0.46
36:A:1423:G:H2'	36:A:1424:G:C8	2.47	0.46
15:U:37:GLU:HA	15:U:40:PHE:CD1	2.50	0.46
15:U:34:LYS:HZ2	36:A:2019:A:H1'	1.80	0.46
6:H:144:VAL:O	6:H:148:ILE:HG12	2.15	0.46
36:A:775:G:C5	36:A:794:G:C8	3.04	0.46
36:A:526:A:N6	36:A:2626:C:H4'	2.30	0.46
19:Y:8:LYS:HD2	19:Y:8:LYS:H	1.81	0.46
9:O:40:VAL:HG13	9:O:59:LYS:HG3	1.96	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:W:8:ARG:NH2	36:A:25:U:OP1	2.49	0.46
21:O:74:ARG:NH2	35:B:12:C:H1'	2.31	0.46
36:A:245:G:N2	36:A:384:U:H4'	2.29	0.46
36:A:697:C:H2'	36:A:698:C:C6	2.51	0.46
9:O:101:PRO:HA	9:O:120:GLU:O	2.16	0.46
36:A:1496:A:H2'	36:A:1498:C:C5	2.50	0.46
2:D:99:ASP:HB3	2:D:101:GLU:HG3	1.97	0.46
36:A:609(A):A:H2'	36:A:609(B):G:O4'	2.16	0.46
16:V:18:LEU:HG	16:V:19:LYS:H	1.80	0.46
17:W:12:ILE:HG21	17:W:17:VAL:HG13	1.97	0.46
36:A:310:A:O2'	36:A:311:A:H2'	2.16	0.46
11:Q:120:ILE:HG12	36:A:2468:G:H5'	1.96	0.46
36:A:861:A:H2'	36:A:862:G:O4'	2.15	0.46
24:N:10:GLU:OE2	24:N:11:PRO:HD2	2.15	0.46
25:2:23:LYS:HA	25:2:26:ARG:HD2	1.97	0.46
36:A:1726:G:H2'	36:A:1727:U:O4'	2.16	0.46
2:D:157:ARG:NH2	36:A:1817:G:H3'	2.31	0.46
21:O:50:ASN:N	21:O:50:ASN:OD1	2.49	0.46
36:A:2111:C:H4'	36:A:2118:U:H4'	1.97	0.46
24:N:76:SER:OG	36:A:2641:G:O3'	2.33	0.46
36:A:2709:G:H2'	36:A:2710:C:O4'	2.16	0.46
5:G:29:TRP:HA	5:G:29:TRP:HE3	1.81	0.46
36:A:574:C:C4	36:A:2033:A:H5''	2.50	0.46
12:R:34:ILE:O	12:R:113:LEU:HA	2.16	0.46
36:A:2458:G:O2'	36:A:2490:G:N1	2.46	0.46
36:A:1011:G:H1'	36:A:1013:C:O4'	2.15	0.46
30:8:34:TRP:CG	30:8:35:GLN:N	2.84	0.46
10:P:46:LYS:HD2	10:P:46:LYS:H	1.80	0.46
2:D:105:ILE:HD13	2:D:106:ILE:H	1.80	0.46
9:O:34:THR:HG23	9:O:35:VAL:H	1.81	0.46
22:1:71:TYR:O	22:1:74:VAL:HB	2.16	0.46
2:D:248:SER:O	2:D:250:TRP:N	2.40	0.46
10:P:127:ALA:HB3	10:P:130:PHE:CE1	2.50	0.46
8:K:84:LEU:HD22	8:K:96:VAL:HB	1.98	0.46
36:A:1022:G:O2'	36:A:1023:U:OP2	2.29	0.46
9:O:68:GLU:OE2	9:O:78:ARG:HD3	2.16	0.46
1:C:181:PHE:HB3	1:C:185:LYS:CB	2.46	0.46
13:S:101:LEU:O	13:S:106:ARG:HB2	2.16	0.46
22:1:22:GLY:O	22:1:23:LYS:HB2	2.16	0.46
16:V:23:GLU:O	16:V:92:THR:OG1	2.32	0.46
4:F:2:LYS:HD3	4:F:119:ARG:NH2	2.31	0.46
20:Z:100:VAL:O	20:Z:123:ASP:HA	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:G:91:ARG:NH1	36:A:2314:C:OP1	2.49	0.46
2:D:221:VAL:HA	36:A:1789:A:H5''	1.97	0.46
36:A:1218:C:N4	36:A:1231:G:H1	2.12	0.46
36:A:779:U:H2'	36:A:780:G:O4'	2.16	0.46
36:A:1290:C:H2'	36:A:1291:C:C6	2.51	0.46
36:A:273(A):G:C2	36:A:273(B):G:C8	3.04	0.46
36:A:2671:A:H2'	36:A:2672:G:C8	2.51	0.46
2:D:24:ILE:HG23	2:D:25:THR:H	1.81	0.46
11:Q:68:ILE:H	11:Q:68:ILE:HD13	1.81	0.46
17:W:61:ASN:HD21	36:A:496:G:H1'	1.81	0.46
1:C:6:LYS:HA	1:C:9:ARG:CD	2.46	0.46
11:Q:48:GLU:O	11:Q:52:VAL:HG23	2.15	0.46
36:A:597:U:H2'	36:A:598:G:H8	1.81	0.46
17:W:23:LEU:HD21	27:5:27:PRO:HA	1.98	0.46
36:A:537:C:H2'	36:A:539:G:H8	1.80	0.46
36:A:797:C:H2'	36:A:798:G:H8	1.80	0.46
8:K:121:GLU:HA	8:K:125:ARG:HH12	1.80	0.46
21:O:46:LYS:HD3	21:O:78:TYR:CZ	2.51	0.46
36:A:1401:G:H2'	36:A:1402:C:C6	2.51	0.46
1:C:212:SER:C	1:C:213:VAL:O	2.53	0.45
24:N:129:PRO:O	24:N:130:HIS:C	2.54	0.45
36:A:1088:A:H2'	36:A:1088:A:N3	2.30	0.45
16:V:39:LEU:HB3	16:V:40:LEU:HD22	1.98	0.45
36:A:1341:U:H3'	36:A:1342:A:H8	1.81	0.45
2:D:16:MET:SD	2:D:211:ARG:NH1	2.89	0.45
13:S:77:ALA:HB3	13:S:105:ALA:HB1	1.97	0.45
16:V:69:LYS:HA	16:V:88:ARG:HG2	1.99	0.45
36:A:847:U:H3	36:A:934:G:N2	2.15	0.45
36:A:545:G:H1'	36:A:548:A:H61	1.80	0.45
36:A:274:G:H2'	36:A:275:G:O4'	2.16	0.45
25:2:48:HIS:CD2	25:2:49:LYS:HG2	2.50	0.45
29:7:24:THR:O	29:7:28:ARG:HG3	2.16	0.45
36:A:775:G:C4	36:A:794:G:C8	3.04	0.45
6:H:125:VAL:HG13	6:H:131:VAL:HG22	1.96	0.45
36:A:1426:G:H2'	36:A:1427:A:C8	2.51	0.45
36:A:487:C:H2'	36:A:488:G:O4'	2.16	0.45
24:N:63:THR:HG21	36:A:1141:U:O5'	2.17	0.45
18:X:43:VAL:HB	18:X:51:VAL:HG21	1.99	0.45
36:A:1414:G:H2'	36:A:1415:U:C6	2.52	0.45
36:A:1416:G:C2	36:A:1582:C:N3	2.83	0.45
10:P:50:ARG:HB3	30:8:59:LYS:HZ3	1.80	0.45
36:A:1350:C:N3	36:A:1381:G:N2	2.50	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2250:G:O2'	36:A:2496:C:OP1	2.30	0.45
30:8:56:GLU:O	30:8:60:LEU:HG	2.15	0.45
36:A:2039:C:H2'	36:A:2039:C:O2	2.15	0.45
36:A:411:G:OP2	36:A:2406:U:O2'	2.25	0.45
1:C:150:ILE:HA	1:C:153:ILE:HB	1.99	0.45
17:W:70:TYR:HE2	17:W:110:LYS:HA	1.81	0.45
4:F:45:ARG:HD3	4:F:97:TYR:CE1	2.51	0.45
2:D:101:GLU:C	2:D:102:LYS:HD3	2.37	0.45
36:A:1248:G:H3'	36:A:1249:U:C5'	2.43	0.45
36:A:622:G:H2'	36:A:623:G:C8	2.50	0.45
16:V:33:VAL:HG13	16:V:59:ALA:O	2.16	0.45
36:A:176:G:H3'	36:A:177:G:C2	2.50	0.45
36:A:1271:G:H22	36:A:1615:C:H42	1.64	0.45
36:A:848:G:H1'	36:A:933:A:H8	1.81	0.45
9:O:14:THR:HG23	9:O:94:ARG:HB2	1.98	0.45
36:A:1593:G:H2'	36:A:1594:G:O4'	2.15	0.45
9:O:26:LYS:HB3	9:O:27:GLY:H	1.64	0.45
36:A:377:C:H2'	36:A:378:C:C6	2.51	0.45
36:A:2125:G:H21	36:A:2173:A:H62	0.75	0.45
24:N:53:VAL:HG11	24:N:128:HIS:CB	2.47	0.45
36:A:2782:G:H3'	36:A:2783:G:C8	2.50	0.45
3:E:67:PHE:CG	3:E:68:ALA:N	2.84	0.45
36:A:1542:G:H4'	36:A:1543:A:O5'	2.15	0.45
22:1:23:LYS:HB3	22:1:23:LYS:HE3	1.65	0.45
1:C:145:THR:N	1:C:150:ILE:HD11	2.31	0.45
15:U:90:VAL:HG23	15:U:91:ASP:H	1.81	0.45
36:A:2795:G:H3'	36:A:2797:U:C5'	2.44	0.45
36:A:1285:G:H5''	36:A:1286:A:OP2	2.16	0.45
36:A:176:G:H3'	36:A:177:G:N2	2.32	0.45
1:C:27:ALA:HA	1:C:186:LEU:HB3	1.99	0.45
36:A:1423:G:H1	36:A:1575:C:H42	1.63	0.45
36:A:1577:C:H2'	36:A:1578:U:C6	2.51	0.45
9:O:13:ASN:CG	9:O:14:THR:H	2.19	0.45
6:H:17:VAL:HG12	6:H:26:VAL:HG22	1.98	0.45
8:K:84:LEU:HB3	8:K:87:GLY:O	2.15	0.45
9:O:58:VAL:HG21	9:O:86:ILE:HD11	1.96	0.45
26:3:4:LEU:HD23	26:3:58:VAL:HG13	1.97	0.45
1:C:5:GLY:HA2	36:A:2129:C:OP1	2.16	0.45
36:A:416:C:N3	36:A:2407:G:O6	2.49	0.45
36:A:1353:A:H2'	36:A:1354:A:C8	2.52	0.45
24:N:98:VAL:CG2	24:N:99:LEU:N	2.78	0.45
1:C:194:ILE:HD11	1:C:225:ILE:HD11	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2341:G:H2'	36:A:2342:C:C6	2.50	0.45
24:N:15:LEU:C	24:N:15:LEU:HD13	2.37	0.45
36:A:2038:G:C6	36:A:2039:C:C2	3.04	0.45
22:1:19:GLN:O	22:1:20:ARG:HG2	2.17	0.45
22:1:18:ILE:HG22	36:A:380:U:H4'	1.98	0.45
36:A:137(A):C:H42	36:A:142:G:H1	1.65	0.45
7:J:25:UNK:O	7:J:27:UNK:N	2.49	0.45
36:A:2726:U:O2'	36:A:2727:G:H8	2.00	0.45
36:A:745:G:H21	36:A:750:A:N6	2.09	0.45
29:7:37:LYS:HB2	29:7:39:ARG:HH21	1.81	0.45
36:A:697:C:H42	36:A:765:G:H1	1.65	0.45
11:Q:43:THR:HA	11:Q:94:VAL:HG12	1.98	0.45
36:A:2396:G:C2	36:A:2397:G:C8	3.05	0.45
31:9:19:ARG:O	31:9:21:GLY:N	2.47	0.45
16:V:35:LEU:HB2	16:V:57:VAL:HG22	1.98	0.45
12:R:2:ARG:HB3	12:R:5:LYS:HE2	1.99	0.45
17:W:16:LYS:HA	17:W:19:LEU:HD22	1.97	0.45
3:E:82:ARG:HH21	36:A:2637:U:H5''	1.80	0.45
17:W:74:ALA:HA	17:W:105:VAL:HA	1.98	0.45
16:V:99:ILE:H	16:V:99:ILE:HD13	1.82	0.45
11:Q:20:ALA:C	11:Q:22:LYS:H	2.19	0.45
4:F:96:ASP:OD2	4:F:98:SER:OG	2.31	0.45
36:A:302:C:H2'	36:A:303:U:H6	1.82	0.45
10:P:132:LYS:O	10:P:136:GLU:HG2	2.17	0.45
36:A:449:A:H2'	36:A:450:G:O4'	2.17	0.45
12:R:79:LEU:HD13	12:R:83:ILE:HB	1.97	0.45
18:X:53:LYS:HD2	18:X:55:ASN:ND2	2.31	0.45
36:A:132:G:H2'	36:A:133:C:C6	2.52	0.45
36:A:576:U:H4'	36:A:2502:G:C4	2.52	0.45
22:1:11:ARG:CB	22:1:12:PRO:HD2	2.43	0.45
36:A:1773:A:C5	36:A:1829:A:H1'	2.52	0.45
36:A:1497:U:H5'	36:A:1498:C:C5	2.52	0.45
17:W:65:LEU:O	17:W:69:LEU:HG	2.17	0.45
6:H:74:ASN:O	6:H:78:GLY:N	2.50	0.45
36:A:1411:C:N4	36:A:1591:G:H1	2.14	0.45
23:4:6:HIS:O	23:4:8:LYS:N	2.45	0.45
2:D:67:PHE:CZ	2:D:157:ARG:HD2	2.52	0.45
36:A:140:A:H8	36:A:1408:C:O2'	2.00	0.45
36:A:2147:G:H3'	36:A:2147:G:C8	2.52	0.45
36:A:2543:G:H2'	36:A:2544:G:C8	2.52	0.45
36:A:1406:U:H2'	36:A:1407:C:C6	2.51	0.45
1:C:66:PRO:HD2	1:C:192:ALA:HB1	1.98	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:171:G:H2'	36:A:172:C:C6	2.51	0.45
24:N:78:TYR:HB2	36:A:2642:G:P	2.50	0.45
24:N:95:PRO:C	24:N:97:ARG:N	2.70	0.45
36:A:2893:G:H5''	36:A:2894:G:O4'	2.16	0.45
3:E:34:VAL:O	3:E:48:GLN:HB2	2.16	0.45
36:A:711:G:H2'	36:A:712:G:O4'	2.16	0.45
13:S:94:TYR:HE1	13:S:100:ALA:HB1	1.81	0.45
22:1:18:ILE:HG12	22:1:20:ARG:N	2.31	0.45
4:F:24:LEU:C	4:F:115:ALA:HB1	2.37	0.45
36:A:1173:G:N2	36:A:1177:A:H62	2.11	0.45
1:C:182:PRO:HB3	1:C:183:PRO:HD2	1.99	0.45
36:A:635:C:O2	36:A:639:U:H4'	2.16	0.45
3:E:16:ARG:HE	3:E:16:ARG:HB3	1.43	0.45
36:A:715:G:H2'	36:A:716:A:C8	2.52	0.45
1:C:172:ILE:CG2	1:C:193:PHE:HZ	2.30	0.45
18:X:82:GLN:NE2	18:X:83:VAL:O	2.50	0.45
36:A:2504:U:H2'	36:A:2505:G:H5'	1.98	0.45
24:N:137:LYS:HZ3	24:N:137:LYS:CA	2.27	0.45
35:B:59:A:H2'	35:B:60:C:O4'	2.16	0.45
36:A:259:G:H2'	36:A:260:G:C8	2.51	0.45
10:P:64:LYS:HE3	36:A:2416:C:H5''	1.99	0.45
4:F:10:PRO:CB	4:F:19:GLU:HA	2.41	0.45
10:P:60:MET:O	30:8:27:THR:HG21	2.16	0.45
36:A:2670:A:H2'	36:A:2671:A:C8	2.52	0.45
36:A:922:U:H2'	36:A:923:C:H6	1.81	0.45
5:G:40:ASN:HA	5:G:90:LEU:O	2.16	0.45
36:A:46:C:OP2	36:A:215:G:H2'	2.17	0.45
36:A:1479:G:H1	36:A:1514:U:H3	1.64	0.45
25:2:21:LEU:HB2	25:2:64:LEU:HD23	1.98	0.45
36:A:1430:C:H2'	36:A:1431:U:C6	2.52	0.45
36:A:1727:U:C4	36:A:1728:G:C6	3.04	0.45
36:A:712(B):A:H3'	36:A:2713:A:H5'	1.98	0.45
36:A:773:U:H2'	36:A:778:G:O2'	2.16	0.45
36:A:836:G:H2'	36:A:837:C:C6	2.52	0.45
36:A:628:G:H1'	36:A:637:A:N1	2.31	0.45
36:A:800:A:H8	36:A:800:A:OP1	2.00	0.45
36:A:1274:A:H8	36:A:1274:A:O5'	2.00	0.45
36:A:845:G:OP2	36:A:845:G:N2	2.40	0.45
17:W:18:ARG:CZ	36:A:518:G:H4'	2.47	0.45
14:T:137:LYS:HG2	14:T:138:ALA:H	1.82	0.45
24:N:78:TYR:HD2	36:A:2642:G:C4'	2.07	0.45
24:N:78:TYR:HA	24:N:79:PRO:HD3	1.85	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:N:65:LYS:O	24:N:66:LYS:C	2.54	0.45
36:A:2707:G:H2'	36:A:2708:G:C8	2.52	0.45
13:S:28:VAL:HG22	13:S:88:ASP:O	2.17	0.45
27:5:3:LYS:HG3	36:A:2613:U:OP2	2.17	0.45
2:D:160:GLY:HA3	36:A:1820:U:C4	2.52	0.45
36:A:2595:G:H21	36:A:2598:A:H62	1.65	0.45
5:G:122:PRO:HA	5:G:125:PHE:HE1	1.81	0.45
27:5:9:LYS:NZ	36:A:2019:A:OP2	2.44	0.45
29:7:19:ARG:O	29:7:23:ARG:N	2.50	0.45
36:A:1474:C:H42	36:A:1519:G:H1	1.64	0.45
36:A:830:G:H4'	36:A:831:G:OP2	2.17	0.45
36:A:1426:G:H2'	36:A:1427:A:N7	2.31	0.45
36:A:187:G:H1	36:A:209:C:H42	1.64	0.45
36:A:2798:C:H5''	36:A:2799:A:OP2	2.17	0.45
1:C:47:LYS:HB2	1:C:169:THR:HB	1.98	0.45
35:B:24:G:N7	35:B:56:G:O2'	2.49	0.45
36:A:1782:C:H42	36:A:2586:C:N4	2.14	0.45
3:E:143:ASN:HB3	3:E:147:PRO:HD2	1.99	0.45
30:8:48:PHE:O	30:8:49:VAL:HG22	2.17	0.45
17:W:48:ALA:O	17:W:52:GLU:HB2	2.17	0.45
20:Z:93:ASP:HA	20:Z:130:PRO:HB2	1.99	0.45
13:S:95:HIS:NE2	35:B:48:A:H4'	2.31	0.45
20:Z:111:VAL:HG12	20:Z:112:ARG:H	1.82	0.45
20:Z:112:ARG:HD3	20:Z:113:ALA:N	2.32	0.45
1:C:4:HIS:HB3	1:C:8:TYR:HB3	1.99	0.45
27:5:16:ARG:HH12	36:A:517:C:H5''	1.82	0.45
3:E:61:ARG:HG3	36:A:2811:G:OP1	2.16	0.45
8:K:91:PRO:HA	8:K:135:GLY:CA	2.42	0.45
36:A:384:U:H2'	36:A:385:C:C6	2.52	0.45
1:C:131:ILE:HG12	1:C:132:LEU:H	1.81	0.45
24:N:112:LEU:HA	24:N:115:ARG:CB	2.42	0.45
4:F:110:LEU:HD23	4:F:183:VAL:HG13	1.99	0.45
17:W:4:LYS:HB3	17:W:4:LYS:HE3	1.88	0.45
2:D:43:ARG:NH2	36:A:690:G:O2'	2.48	0.45
36:A:1229:G:H2'	36:A:1230:C:H6	1.81	0.45
10:P:23:PRO:O	10:P:33:ARG:HA	2.17	0.45
2:D:239:ARG:HE	36:A:2590:A:H5''	1.82	0.45
27:5:56:LYS:HB3	27:5:57:VAL:H	1.64	0.45
36:A:1892:C:H2'	36:A:1893:C:O4'	2.17	0.45
13:S:33:LYS:O	13:S:62:LYS:HE2	2.16	0.45
36:A:1005:C:N3	36:A:1006:C:C4	2.85	0.45
36:A:2366:A:H2'	36:A:2367:G:O4'	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Z:103:ARG:HB2	20:Z:138:GLU:HG2	1.99	0.45
6:H:90:LYS:HG3	6:H:163:TYR:CD1	2.52	0.45
2:D:212:SER:HB3	2:D:217:ARG:HD2	1.99	0.45
27:5:23:HIS:HB3	27:5:24:ALA:H	1.40	0.45
36:A:542:C:H2'	36:A:543:C:C6	2.52	0.45
5:G:42:GLY:C	36:A:2306:C:H42	2.20	0.45
3:E:13:ARG:N	3:E:23:VAL:HG22	2.32	0.44
24:N:25:ARG:O	24:N:28:THR:HB	2.17	0.44
31:9:2:LYS:HZ1	31:9:35:ARG:HG3	1.81	0.44
36:A:200:U:O4	36:A:250:G:N2	2.50	0.44
6:H:85:LYS:HD2	6:H:141:VAL:CG1	2.46	0.44
9:O:70:LYS:HD2	36:A:2683:C:O2	2.17	0.44
36:A:1819:A:C4'	36:A:1820:U:H5'	2.46	0.44
36:A:1285:G:N2	36:A:1328:G:H5''	2.32	0.44
19:Y:84:ARG:CZ	19:Y:97:ARG:HH12	2.30	0.44
2:D:24:ILE:HD12	2:D:91:ARG:HG3	2.00	0.44
19:Y:28:LYS:HB3	19:Y:28:LYS:HE2	1.86	0.44
36:A:694:U:H2'	36:A:695:G:H8	1.82	0.44
36:A:1187:G:H8	36:A:1187:G:O5'	2.00	0.44
2:D:159:ALA:HB1	2:D:198:ASN:O	2.17	0.44
2:D:95:LEU:HD11	2:D:105:ILE:HB	1.98	0.44
22:1:67:ILE:N	22:1:68:PRO:HD2	2.32	0.44
2:D:143:HIS:CE1	2:D:192:THR:HB	2.52	0.44
9:O:1:MET:O	36:A:1665:A:O2'	2.34	0.44
1:C:14:LYS:HG3	1:C:33:LEU:HD22	1.99	0.44
36:A:1305:C:C2	36:A:1623:G:N2	2.79	0.44
8:K:6:ALA:O	8:K:8:VAL:HG23	2.17	0.44
5:G:29:TRP:HB3	35:B:57:A:C2	2.52	0.44
35:B:14:U:OP2	35:B:70:C:O2'	2.28	0.44
22:1:23:LYS:CE	22:1:33:LYS:HB3	2.47	0.44
15:U:95:LEU:HD13	16:V:4:ILE:HG12	1.98	0.44
36:A:2587:A:H62	36:A:2608:G:H21	1.66	0.44
1:C:78:ILE:HB	1:C:120:VAL:HG21	1.97	0.44
36:A:1213:A:C8	36:A:1236:G:N2	2.77	0.44
36:A:780:G:H2'	36:A:782:A:C5	2.52	0.44
4:F:31:HIS:NE2	36:A:599:G:H4'	2.32	0.44
6:H:149:ARG:NH1	6:H:164:TYR:H	2.12	0.44
36:A:2594:C:H2'	36:A:2595:G:O4'	2.17	0.44
4:F:91:GLY:O	4:F:93:LYS:N	2.49	0.44
15:U:97:ASP:C	15:U:99:ALA:N	2.69	0.44
2:D:239:ARG:NE	36:A:2590:A:H5''	2.32	0.44
26:3:25:ALA:HB2	36:A:849:A:N1	2.33	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:Q:39:PRO:HB3	11:Q:99:PRO:HD3	1.99	0.44
11:Q:9:TYR:OH	36:A:911:A:H2'	2.17	0.44
1:C:37:LYS:HZ2	36:A:2127:G:H4'	1.82	0.44
17:W:75:TYR:O	17:W:104:THR:N	2.50	0.44
26:3:15:TYR:OH	35:B:84:C:OP1	2.28	0.44
3:E:126:PRO:HB3	3:E:130:GLY:HA3	1.98	0.44
14:T:38:ASN:O	14:T:40:THR:HG23	2.17	0.44
36:A:1056:G:H1'	36:A:1103:A:H61	1.82	0.44
24:N:1:MET:O	24:N:2:LYS:HB2	2.18	0.44
36:A:460:A:H2'	36:A:461:C:O4'	2.18	0.44
19:Y:2:ARG:HD2	19:Y:3:VAL:HG23	2.00	0.44
4:F:176:LEU:HD22	4:F:185:ASP:OD2	2.17	0.44
13:S:26:LEU:O	13:S:88:ASP:HB3	2.17	0.44
4:F:7:TYR:CZ	4:F:9:ILE:HG13	2.53	0.44
1:C:90:ALA:HB1	1:C:154:ILE:HG21	1.99	0.44
1:C:76:LEU:HD22	1:C:111:PHE:CD2	2.52	0.44
2:D:164:GLN:O	2:D:176:ARG:HB3	2.17	0.44
5:G:128:ARG:NH1	36:A:2315:G:H21	2.16	0.44
36:A:2822:G:H1'	36:A:2826:A:N6	2.32	0.44
36:A:2825:U:H2'	36:A:2826:A:O4'	2.16	0.44
36:A:1802:A:H2'	36:A:1803:A:C8	2.51	0.44
36:A:2417:C:H2'	36:A:2418:A:O4'	2.17	0.44
1:C:48:LEU:HD11	1:C:170:GLY:HA3	1.97	0.44
21:O:49:LYS:O	21:O:51:VAL:HG23	2.17	0.44
2:D:94:LEU:HA	2:D:104:TYR:HD2	1.82	0.44
4:F:40:GLN:H	4:F:40:GLN:HG3	1.51	0.44
36:A:1477:A:H2'	36:A:1478:G:C8	2.52	0.44
36:A:2441:C:H2'	36:A:2442:C:H6	1.83	0.44
30:8:40:GLU:O	30:8:44:LYS:N	2.50	0.44
36:A:2288:A:H2	36:A:2325:G:C8	2.35	0.44
36:A:1863:G:H2'	36:A:1864:U:O4'	2.17	0.44
9:O:25:LEU:HB3	9:O:38:VAL:HG23	1.99	0.44
3:E:25:VAL:HG22	3:E:183:LEU:HG	1.99	0.44
36:A:1417:C:H42	36:A:1581:G:H1	1.64	0.44
22:1:26:ARG:HH11	22:1:26:ARG:HA	1.82	0.44
2:D:255:LYS:NZ	36:A:1824:G:H21	2.15	0.44
18:X:63:LYS:HA	18:X:72:LYS:HA	1.99	0.44
5:G:46:ALA:HB1	5:G:50:ALA:HA	1.98	0.44
18:X:60:ARG:HD2	36:A:1312:U:C5	2.52	0.44
27:5:29:THR:O	27:5:30:LEU:HD23	2.18	0.44
19:Y:81:LYS:HB2	19:Y:81:LYS:HE3	1.71	0.44
5:G:17:PRO:HA	5:G:20:ILE:HB	1.98	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2162:G:N2	36:A:2163:C:H1'	2.32	0.44
36:A:302:C:H2'	36:A:303:U:C6	2.52	0.44
3:E:94:GLU:HG2	3:E:177:PRO:HB3	2.00	0.44
14:T:82:LEU:O	14:T:83:ILE:HG13	2.17	0.44
36:A:2246:G:H2'	36:A:2247:A:O4'	2.17	0.44
36:A:2270:G:H2'	36:A:2271:G:O4'	2.18	0.44
2:D:130:ALA:HA	2:D:191:ALA:O	2.18	0.44
8:K:76:TYR:O	8:K:80:LYS:N	2.49	0.44
4:F:179:GLU:O	4:F:205:ARG:NH2	2.50	0.44
36:A:2773:C:H2'	36:A:2774:C:C6	2.53	0.44
3:E:174:ASP:HB3	3:E:183:LEU:CB	2.48	0.44
27:5:13:LYS:NZ	36:A:517:C:OP2	2.50	0.44
36:A:1442:G:N2	36:A:1549:C:C2	2.79	0.44
8:K:67:PHE:N	8:K:67:PHE:CD1	2.85	0.44
36:A:1086:A:H5''	36:A:1087:G:H5'	1.98	0.44
36:A:1790:C:OP2	36:A:1828:G:N1	2.50	0.44
12:R:96:ARG:HH21	36:A:2881:C:H5''	1.82	0.44
29:7:27:GLY:O	29:7:31:LEU:HG	2.17	0.44
5:G:8:LYS:HD2	5:G:100:TRP:CD1	2.53	0.44
36:A:847:U:O2'	36:A:848:G:H8	1.99	0.44
27:5:7:PRO:HA	36:A:2615:U:C1'	2.48	0.44
36:A:99:U:OP1	36:A:99:U:H4'	2.17	0.44
14:T:125:ARG:O	14:T:128:GLU:HB3	2.18	0.44
1:C:19:LYS:HE3	1:C:20:VAL:N	2.32	0.44
36:A:221:A:H4'	36:A:222:A:O5'	2.18	0.44
36:A:436:C:H2'	36:A:438:G:H8	1.82	0.44
36:A:1074:G:H2'	36:A:1075:C:C5	2.52	0.44
8:K:53:VAL:HA	8:K:54:PRO:HD3	1.81	0.44
18:X:74:PRO:O	18:X:76:ARG:HD2	2.18	0.44
31:9:22:ARG:NH2	31:9:35:ARG:HH22	2.16	0.44
10:P:42:SER:HA	36:A:671:C:C5	2.53	0.44
8:K:10:LEU:O	8:K:55:VAL:HG12	2.18	0.44
4:F:172:TRP:CD2	4:F:173:VAL:HG23	2.53	0.44
4:F:8:GLN:CB	4:F:22:ALA:HB2	2.46	0.44
36:A:391:G:H2'	36:A:392:C:C6	2.52	0.44
22:1:76:ARG:NH2	22:1:95:LEU:HD13	2.32	0.44
36:A:646:A:H2'	36:A:647:G:O4'	2.18	0.44
12:R:97:VAL:HA	12:R:113:LEU:O	2.18	0.44
10:P:63:PRO:HD2	36:A:2393:A:O3'	2.18	0.44
6:H:149:ARG:HD3	6:H:164:TYR:CE2	2.53	0.44
18:X:13:LEU:HA	18:X:18:TYR:OH	2.18	0.44
36:A:2211:G:H2'	36:A:2211:G:N3	2.33	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:1080:C:H2'	36:A:1081:U:H6	1.77	0.44
36:A:2397:G:H2'	36:A:2398:U:H6	1.83	0.44
4:F:40:GLN:HB3	4:F:43:LYS:NZ	2.33	0.44
14:T:84:GLN:HE21	14:T:84:GLN:HB3	1.57	0.44
9:O:19:ILE:HG22	9:O:43:VAL:HG13	1.98	0.44
24:N:37:LYS:HE2	24:N:37:LYS:HB3	1.84	0.44
36:A:2537:U:H2'	36:A:2538:C:C6	2.53	0.44
36:A:308:G:C8	36:A:501:A:H1'	2.53	0.44
25:2:63:VAL:O	25:2:66:GLU:HG2	2.17	0.44
3:E:164:ARG:NH2	36:A:2773:C:OP1	2.50	0.44
36:A:1464:C:H2'	36:A:1465:G:H8	1.83	0.44
4:F:173:VAL:C	4:F:174:VAL:O	2.51	0.44
3:E:1:MET:N	3:E:200:GLU:HG2	2.33	0.44
9:O:28:SER:HB2	36:A:2566:A:N6	2.19	0.44
15:U:25:TRP:CD1	15:U:26:GLY:N	2.82	0.44
36:A:2896:C:H2'	36:A:2897:U:H6	1.83	0.44
36:A:741:G:N2	36:A:756:C:N3	2.56	0.44
36:A:2585:U:OP1	36:A:2585:U:H6	2.01	0.44
1:C:120:VAL:O	1:C:121:MET:C	2.56	0.44
36:A:217:G:H2'	36:A:218:A:O4'	2.17	0.44
6:H:41:MET:SD	6:H:43:VAL:HG13	2.57	0.44
29:7:30:VAL:HG13	29:7:34:ARG:HH11	1.83	0.44
35:B:78:A:H2'	35:B:79:C:O4'	2.17	0.44
3:E:110:GLY:N	36:A:2821:A:H5''	2.30	0.44
2:D:68:LYS:O	2:D:70:TRP:N	2.44	0.44
11:Q:14:ARG:NH1	36:A:956:G:N7	2.41	0.44
2:D:10:THR:HG23	2:D:13:ARG:HB3	2.00	0.44
36:A:275:G:H2'	36:A:276:A:O4'	2.17	0.44
36:A:1164:G:H2'	36:A:1165:U:H6	1.82	0.44
36:A:2616:C:H2'	36:A:2617:C:O4'	2.18	0.44
36:A:701:G:H2'	36:A:702:G:H8	1.83	0.44
11:Q:134:ARG:HH12	20:Z:119:GLU:HG3	1.83	0.44
20:Z:11:GLU:OE2	20:Z:11:GLU:N	2.47	0.44
24:N:43:THR:HB	24:N:46:VAL:HG11	1.99	0.44
3:E:25:VAL:HG13	3:E:183:LEU:CD1	2.48	0.44
1:C:218:THR:HG21	36:A:2124:G:N3	2.32	0.44
1:C:65:LEU:HD12	1:C:160:GLY:CA	2.47	0.44
1:C:60:ARG:O	1:C:61:GLY:O	2.36	0.44
36:A:414:C:C2	36:A:415:A:C8	3.06	0.44
22:1:44:PRO:CB	36:A:396:G:H4'	2.48	0.44
24:N:128:HIS:CE1	24:N:134:ARG:CZ	3.00	0.44
36:A:19:C:N3	36:A:521:G:N2	2.49	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:U:53:ARG:NH2	36:A:994:C:OP1	2.51	0.44
17:W:70:TYR:CE2	17:W:110:LYS:HA	2.52	0.44
4:F:45:ARG:NH2	36:A:444:C:OP1	2.51	0.44
36:A:781:A:H5''	36:A:782:A:N7	2.33	0.44
13:S:67:ARG:NH1	13:S:98:VAL:HB	2.32	0.44
36:A:818:G:N1	36:A:1188:U:OP2	2.44	0.44
36:A:1655:A:C2	36:A:2049:G:H5''	2.52	0.44
28:6:43:CYS:O	28:6:44:ARG:HB2	2.17	0.44
36:A:856:C:H2'	36:A:857:C:H6	1.81	0.44
14:T:121:ILE:O	14:T:124:ASP:N	2.50	0.44
20:Z:29:TYR:O	20:Z:30:ASN:HB3	2.18	0.44
36:A:2701:C:N3	36:A:2706:G:O6	2.51	0.44
36:A:938:G:H2'	36:A:939:G:C8	2.52	0.44
36:A:2522:U:H3	36:A:2543:G:H1	1.66	0.44
9:O:113:LYS:HA	9:O:113:LYS:HD2	1.81	0.44
36:A:768:G:O5'	36:A:768:G:H8	2.00	0.44
20:Z:89:PHE:CE2	35:B:104:A:H4'	2.53	0.44
12:R:15:SER:HB2	36:A:1275:A:H62	1.82	0.44
13:S:38:GLN:HG2	13:S:50:SER:HA	1.99	0.44
36:A:1310:G:H2'	36:A:1311:G:O4'	2.18	0.44
36:A:2610:C:C4'	36:A:2611:U:H5'	2.41	0.44
36:A:589:C:H42	36:A:668:G:H1	1.65	0.44
4:F:154:VAL:HG13	4:F:191:ARG:CB	2.47	0.44
10:P:6:LEU:HB3	10:P:9:ASN:HB2	1.99	0.44
3:E:171:GLU:HG2	3:E:173:VAL:HG23	1.99	0.44
36:A:1853:A:H2'	36:A:1854:A:H8	1.83	0.44
24:N:19:GLU:HB3	24:N:59:LYS:HE3	1.99	0.44
2:D:223:GLY:HA3	2:D:231:HIS:CD2	2.53	0.44
14:T:53:ARG:NH2	36:A:2683:C:H5''	2.33	0.44
9:O:64:ARG:HA	9:O:79:PHE:CD1	2.52	0.44
36:A:238:C:H2'	36:A:239:U:C6	2.53	0.44
2:D:227:ASN:HB2	2:D:228:PRO:HD2	1.98	0.44
36:A:2114:A:H3'	36:A:2115:G:C8	2.52	0.44
21:O:31:VAL:HB	21:O:61:ALA:HB2	1.99	0.44
9:O:10:VAL:HG22	9:O:17:ARG:HA	1.99	0.44
14:T:59:THR:HG23	14:T:78:LEU:HD23	1.98	0.44
35:B:104:A:H2'	35:B:105:G:O4'	2.18	0.44
28:6:6:ARG:HD2	28:6:6:ARG:H	1.83	0.44
11:Q:27:VAL:HG21	11:Q:133:ARG:O	2.18	0.44
10:P:107:LYS:C	10:P:108:LYS:HD2	2.37	0.44
1:C:176:VAL:HB	1:C:177:GLY:H	1.33	0.43
14:T:99:LEU:HA	14:T:101:PHE:CE1	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
35:B:15:A:OP2	35:B:69:G:N2	2.51	0.43
36:A:259:G:H2'	36:A:260:G:H8	1.83	0.43
26:3:17:LYS:HA	26:3:17:LYS:HD3	1.72	0.43
7:J:114:UNK:C	7:J:124:UNK:HA	2.47	0.43
36:A:2439:A:C8	36:A:2586:C:H4'	2.53	0.43
36:A:443:A:H1'	36:A:1201:C:O4'	2.18	0.43
36:A:1790:C:H2'	36:A:1791:A:C5	2.53	0.43
36:A:1129:A:N6	36:A:2490:G:H5''	2.33	0.43
2:D:78:LYS:CD	2:D:98:VAL:HG22	2.45	0.43
5:G:44:GLY:H	5:G:88:ILE:HG23	1.82	0.43
18:X:7:VAL:HG11	18:X:42:ALA:HB3	1.99	0.43
36:A:141(A):A:H5''	36:A:141(B):C:OP2	2.18	0.43
36:A:2441:C:H2'	36:A:2442:C:C6	2.53	0.43
7:J:58:UNK:HA	36:A:1107:G:OP1	2.17	0.43
36:A:2041:U:H5'	36:A:2042:A:OP2	2.18	0.43
36:A:565:C:N4	36:A:576:U:C4	2.84	0.43
36:A:2335:A:O2'	36:A:2336:A:H5''	2.19	0.43
24:N:97:ARG:HG2	24:N:97:ARG:HH11	1.83	0.43
4:F:154:VAL:CB	4:F:173:VAL:HG13	2.43	0.43
36:A:1540:G:H3'	36:A:1541:U:H6	1.82	0.43
36:A:718:A:H2'	36:A:719:C:O4'	2.18	0.43
36:A:403:U:H4'	36:A:404:C:H5'	2.00	0.43
12:R:45:ARG:HB3	12:R:97:VAL:HG23	2.00	0.43
36:A:2344:U:H4'	36:A:2345:G:OP1	2.17	0.43
17:W:68:ARG:O	17:W:110:LYS:N	2.51	0.43
29:7:31:LEU:HA	29:7:34:ARG:CG	2.46	0.43
13:S:74:ALA:HA	13:S:105:ALA:CB	2.45	0.43
13:S:15:ARG:HB3	13:S:18:ILE:CB	2.47	0.43
13:S:13:ARG:C	13:S:15:ARG:N	2.71	0.43
5:G:34:LEU:HD23	5:G:100:TRP:CZ2	2.53	0.43
2:D:61:LEU:HD13	36:A:1569:A:H4'	2.00	0.43
11:Q:34:LEU:O	11:Q:103:MET:N	2.50	0.43
9:O:98:VAL:HG11	9:O:114:ILE:HG22	2.01	0.43
36:A:2395:C:H2'	36:A:2396:G:O4'	2.18	0.43
36:A:2792:G:C2	36:A:2805:G:N1	2.87	0.43
36:A:2673:G:H2'	36:A:2674:G:C8	2.53	0.43
36:A:1430:C:H2'	36:A:1431:U:H6	1.83	0.43
36:A:1937:A:H1'	36:A:1938:A:OP1	2.18	0.43
1:C:19:LYS:HE3	1:C:20:VAL:HB	1.99	0.43
36:A:2271:G:H2'	36:A:2272:U:C6	2.53	0.43
14:T:19:LEU:HA	14:T:20:PRO:HD3	1.82	0.43
19:Y:44:ILE:HG22	19:Y:45:VAL:H	1.83	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:174:ALA:HA	1:C:175:PRO:HD3	1.33	0.43
1:C:176:VAL:HG11	1:C:189:ASN:ND2	2.33	0.43
8:K:10:LEU:HD22	8:K:22:PRO:HB2	2.00	0.43
3:E:79:ARG:HH21	8:K:63:ARG:H	104.42	0.43
4:F:154:VAL:N	4:F:173:VAL:HA	2.29	0.43
1:C:115:VAL:HA	1:C:145:THR:HA	2.00	0.43
36:A:1789:A:H2'	36:A:1790:C:O4'	2.19	0.43
5:G:97:ASP:HB2	5:G:98:ARG:NH1	2.33	0.43
36:A:2425:A:H5''	36:A:2427:C:O4'	2.19	0.43
24:N:89:LYS:HZ3	24:N:89:LYS:HB3	1.83	0.43
36:A:1698:A:H1'	36:A:1699:G:H3'	2.00	0.43
36:A:2082:A:H3'	36:A:2083:G:H8	1.84	0.43
29:7:7:PRO:HA	36:A:686:G:N7	2.34	0.43
26:3:6:VAL:HB	26:3:54:VAL:HG13	2.00	0.43
36:A:1913:A:H4'	36:A:1914:C:O5'	2.17	0.43
24:N:66:LYS:O	24:N:67:LEU:C	2.56	0.43
31:9:2:LYS:NZ	31:9:35:ARG:HG3	2.34	0.43
36:A:280:C:C2	36:A:360:G:N2	2.81	0.43
36:A:521:G:H2'	36:A:522:G:H8	1.83	0.43
3:E:79:ARG:NH1	8:K:63:ARG:HH21	103.46	0.43
35:B:111:U:H2'	35:B:112:G:H8	1.83	0.43
22:1:21:ARG:HB3	22:1:38:SER:HB2	1.99	0.43
36:A:574:C:O4'	36:A:2055:C:H5''	2.19	0.43
2:D:42:GLY:C	2:D:43:ARG:HG3	2.38	0.43
36:A:2071:A:H2'	36:A:2072:G:C8	2.53	0.43
27:5:17:ASP:CB	36:A:16:G:H5''	2.48	0.43
36:A:41:C:C2	36:A:43:G:C8	3.06	0.43
12:R:53:HIS:O	12:R:56:LYS:HB3	2.18	0.43
36:A:1259:G:H2'	36:A:1260:G:H8	1.82	0.43
36:A:190:A:H3'	36:A:191:A:C8	2.53	0.43
3:E:14:ILE:O	3:E:21:VAL:HG22	2.19	0.43
36:A:1138:G:O2'	36:A:1139:G:P	2.76	0.43
36:A:20:C:C2	36:A:21:A:C8	3.06	0.43
10:P:84:ASN:HA	10:P:115:LEU:O	2.18	0.43
22:1:37:ILE:HG13	22:1:38:SER:N	2.34	0.43
36:A:979:G:C4	36:A:982:C:N4	2.87	0.43
4:F:7:TYR:C	4:F:9:ILE:H	2.21	0.43
36:A:917:A:H3'	36:A:918:A:H8	1.84	0.43
12:R:11:ASN:O	12:R:12:ARG:HB2	2.18	0.43
36:A:684:G:H3'	36:A:774:A:H61	1.84	0.43
35:B:102:G:H2'	35:B:103:U:C6	2.53	0.43
12:R:8:ARG:HG3	12:R:43:GLU:OE2	2.17	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:20:VAL:CG1	1:C:226:ASN:HB2	2.48	0.43
1:C:16:ASP:N	1:C:16:ASP:OD1	2.52	0.43
2:D:268:ARG:HB3	2:D:268:ARG:NH1	2.33	0.43
36:A:2154:G:H2'	36:A:2155:G:H8	1.84	0.43
36:A:1665:A:H2	36:A:1995:U:H3	1.67	0.43
36:A:2503:A:H3'	36:A:2503:A:OP2	2.19	0.43
3:E:62:PRO:HB3	36:A:2786:U:H2'	1.99	0.43
11:Q:58:PHE:HD1	11:Q:61:GLY:HA3	1.82	0.43
36:A:2498:C:O2'	36:A:2499:C:H5'	2.19	0.43
36:A:2358:G:H2'	36:A:2359:C:O4'	2.19	0.43
36:A:1236:G:O2'	36:A:1237:A:OP2	2.29	0.43
1:C:27:ALA:HB1	1:C:183:PRO:O	2.19	0.43
10:P:7:ARG:HD3	10:P:7:ARG:C	2.39	0.43
36:A:817:C:O2'	36:A:839:U:OP1	2.24	0.43
1:C:58:ASN:HA	1:C:166:ASN:CG	2.38	0.43
12:R:2:ARG:HB2	12:R:5:LYS:HG2	2.01	0.43
36:A:2639:A:H1'	36:A:2778:A:C2	2.53	0.43
36:A:1786:A:C8	36:A:1938:A:C6	3.07	0.43
14:T:111:ARG:HG3	14:T:111:ARG:H	1.48	0.43
36:A:2606:C:H2'	36:A:2607:G:O4'	2.18	0.43
9:O:87:ILE:HD13	9:O:91:LEU:HA	1.99	0.43
19:Y:9:LYS:HE3	19:Y:11:ASP:HB3	1.99	0.43
8:K:117:THR:HG21	8:K:122:ALA:HB3	2.01	0.43
11:Q:74:TYR:HB3	11:Q:91:GLU:O	2.18	0.43
36:A:1932:A:H3'	36:A:1933:G:C8	2.53	0.43
36:A:572:A:H61	36:A:2029:G:H1'	1.83	0.43
21:O:45:PHE:HA	21:O:77:ARG:O	2.18	0.43
36:A:1637:A:H2'	36:A:1638:C:C6	2.54	0.43
36:A:1299:G:H22	36:A:1640:C:H5'	1.83	0.43
1:C:67:HIS:HB2	1:C:189:ASN:ND2	2.34	0.43
18:X:39:ILE:O	18:X:43:VAL:HG23	2.18	0.43
18:X:53:LYS:HD2	18:X:55:ASN:CG	2.39	0.43
36:A:2374:C:H2'	36:A:2375:G:O4'	2.18	0.43
36:A:1332:G:C6	36:A:1609:A:C5	3.07	0.43
36:A:81:G:N2	36:A:105:C:N3	2.57	0.43
36:A:2045:C:H2'	36:A:2046:G:O4'	2.19	0.43
36:A:1279:G:H2'	36:A:1280:G:O4'	2.18	0.43
13:S:11:LYS:HD2	13:S:13:ARG:NH2	2.33	0.43
2:D:97:TYR:HB2	2:D:101:GLU:O	2.19	0.43
11:Q:53:ALA:HB2	11:Q:124:LYS:NZ	2.34	0.43
10:P:23:PRO:HB3	10:P:29:LYS:CB	2.45	0.43
2:D:54:ARG:HA	2:D:216:GLY:O	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:38:A:H2'	36:A:39:C:H6	1.83	0.43
36:A:2478:A:O2'	36:A:2536:G:N2	2.52	0.43
22:1:29:GLY:C	36:A:2396:G:HO2'	2.22	0.43
19:Y:19:LYS:HB3	19:Y:20:TYR:H	1.48	0.43
25:2:16:LEU:O	25:2:20:GLU:HB3	2.19	0.43
25:2:2:LYS:O	25:2:6:VAL:N	2.39	0.43
36:A:1195:G:H2'	36:A:1196:C:H6	1.82	0.43
2:D:264:LYS:HB3	2:D:267:SER:OG	2.19	0.43
2:D:264:LYS:NZ	2:D:266:SER:OG	2.34	0.43
36:A:1019:U:H2'	36:A:1020:A:H8	1.84	0.43
3:E:80:GLU:N	36:A:2636:U:OP1	2.51	0.43
15:U:114:LYS:HB3	15:U:114:LYS:HE3	1.39	0.43
13:S:67:ARG:O	13:S:71:ARG:NH1	2.52	0.43
28:6:47:THR:HG23	28:6:48:VAL:H	1.83	0.43
36:A:1055:G:N2	36:A:1085:A:N3	2.67	0.43
36:A:2248:C:O2	36:A:2256:G:N1	2.33	0.43
36:A:2049:G:H1	36:A:2619:C:H42	1.67	0.43
25:2:48:HIS:CE1	36:A:95:G:H4'	2.53	0.43
36:A:539:G:H2'	36:A:540:G:H8	1.84	0.43
14:T:76:PHE:HA	14:T:77:PRO:HD3	1.80	0.43
25:2:20:GLU:HA	25:2:23:LYS:HD2	2.01	0.43
30:8:18:ALA:HB3	36:A:628:G:H5''	2.01	0.43
21:0:43:THR:HB	21:0:57:PHE:CE1	2.54	0.43
36:A:2591:C:H2'	36:A:2592:G:C8	2.54	0.43
36:A:2224:G:H4'	36:A:2226:C:C2	2.54	0.43
24:N:35:ARG:NH2	24:N:42:TRP:HH2	2.16	0.43
36:A:2696:U:H2'	36:A:2697:G:H8	1.82	0.43
4:F:129:PHE:CD2	4:F:163:VAL:HG21	2.54	0.43
36:A:1335:U:H2'	36:A:1336:A:H8	1.79	0.43
36:A:2790:A:N3	36:A:2791:C:H5''	2.34	0.43
36:A:2809:A:C6	36:A:2810:A:C6	3.06	0.43
8:K:10:LEU:HD11	8:K:27:LEU:HD13	2.01	0.43
8:K:91:PRO:HG2	8:K:92:GLY:H	1.84	0.43
36:A:2415:G:H2'	36:A:2416:C:C6	2.51	0.43
7:J:25:UNK:HA	7:J:79:UNK:O	2.19	0.43
36:A:1782:C:N4	36:A:2586:C:H42	2.16	0.43
20:Z:99:TYR:HE2	20:Z:125:LEU:HB2	1.83	0.43
17:W:72:LYS:HB2	17:W:106:ILE:HG22	1.99	0.43
36:A:1201:C:H42	36:A:1244:G:H1	1.65	0.43
2:D:222:ARG:NH1	36:A:1827:C:O5'	2.52	0.43
36:A:872:A:H2'	36:A:873:G:H8	1.84	0.43
29:7:42:LEU:O	29:7:44:PRO:HD3	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:V:59:ALA:CB	16:V:96:ILE:HA	2.49	0.43
36:A:848:G:N7	36:A:929:G:N2	2.67	0.43
23:4:9:LEU:HB3	23:4:10:VAL:H	1.60	0.43
23:4:6:HIS:HA	23:4:7:PRO:HD3	1.82	0.43
5:G:38:VAL:HG22	5:G:93:THR:HA	2.00	0.43
2:D:127:VAL:HG13	2:D:194:GLY:HA3	2.01	0.43
11:Q:4:PRO:HD3	11:Q:69:PHE:CE2	2.54	0.43
8:K:79:ARG:HG2	8:K:84:LEU:HB2	2.01	0.43
8:K:117:THR:HG21	8:K:122:ALA:CB	2.48	0.43
14:T:89:VAL:O	14:T:91:ARG:N	2.42	0.43
36:A:1681:G:N3	36:A:1762:A:H2'	2.33	0.43
1:C:213:VAL:HG12	1:C:214:TYR:H	1.84	0.43
1:C:214:TYR:CD2	1:C:222:SER:HB2	2.46	0.43
22:1:41:ARG:HE	22:1:41:ARG:HB3	1.44	0.43
30:8:62:LEU:HD13	36:A:242:G:H5''	2.00	0.43
36:A:1957:C:H2'	36:A:1958:C:C6	2.54	0.43
2:D:244:ARG:HG3	36:A:1902:C:O4'	2.18	0.43
36:A:220:G:H2'	36:A:427:U:O4	2.19	0.43
36:A:2821:A:H2'	36:A:2822:G:C8	2.52	0.43
36:A:78:A:H2'	36:A:79:G:H8	1.84	0.43
2:D:102:LYS:C	2:D:103:ARG:HG2	2.39	0.43
35:B:36:C:O2	35:B:49:C:O2'	2.37	0.43
24:N:6:PRO:C	24:N:7:LYS:HZ3	2.22	0.43
31:9:33:LYS:HZ2	36:A:2526:G:HO2'	1.56	0.43
36:A:1689:A:H62	36:A:1698:A:H2	1.67	0.43
36:A:46:C:P	36:A:215:G:H2'	2.59	0.43
36:A:1398:C:H2'	36:A:1399:C:H6	1.83	0.43
3:E:176:ILE:HA	3:E:177:PRO:HD2	1.86	0.43
25:2:37:PHE:HA	25:2:37:PHE:HD1	1.74	0.43
2:D:274:ARG:NH2	36:A:1798:U:OP2	2.52	0.43
36:A:2555:U:H2'	36:A:2556:C:H5'	2.01	0.43
36:A:2740:A:H3'	36:A:2741:A:C8	2.53	0.43
36:A:1527:G:N2	36:A:1545:A:H5'	2.34	0.43
12:R:103:ARG:HB3	12:R:109:ALA:N	2.33	0.43
36:A:2137:C:H2'	36:A:2138:C:C6	2.53	0.43
3:E:93:VAL:C	3:E:95:ILE:H	2.21	0.42
36:A:604:G:N1	36:A:624:C:O2	2.43	0.42
4:F:5:ALA:HB3	4:F:8:GLN:N	2.30	0.42
4:F:103:LYS:O	4:F:106:ARG:HD2	2.19	0.42
36:A:1213:A:OP2	36:A:1235:G:N2	2.37	0.42
36:A:784:A:O2'	36:A:785:G:H8	2.02	0.42
19:Y:84:ARG:HE	19:Y:98:VAL:H	1.67	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:G:100:TRP:HA	5:G:100:TRP:CE3	2.54	0.42
31:9:19:ARG:HG2	36:A:2756:U:H5''	2.01	0.42
12:R:87:TYR:CD1	12:R:94:TYR:HB3	2.54	0.42
14:T:56:GLY:H	14:T:59:THR:HB	1.84	0.42
36:A:682:G:H2'	36:A:683:C:C6	2.54	0.42
6:H:127:GLU:OE2	6:H:130:ARG:NH2	2.48	0.42
2:D:83:GLU:OE1	2:D:94:LEU:HB2	2.19	0.42
29:7:6:GLN:O	36:A:686:G:H8	2.01	0.42
36:A:1804:C:H2'	36:A:1805:U:C6	2.54	0.42
3:E:15:PHE:CE1	14:T:81:PRO:HD3	2.54	0.42
36:A:1913:A:H4'	36:A:1914:C:C5'	2.49	0.42
36:A:2432:A:N3	36:A:2432:A:H2'	2.33	0.42
14:T:107:ASP:N	14:T:107:ASP:OD1	2.52	0.42
2:D:158:ALA:O	2:D:196:VAL:HG21	2.19	0.42
20:Z:141:VAL:HG12	20:Z:144:LEU:HB3	2.01	0.42
16:V:68:LYS:O	16:V:70:ILE:HG12	2.19	0.42
36:A:1732:A:H2'	36:A:1733:G:O4'	2.19	0.42
24:N:65:LYS:NZ	36:A:1021:A:C5'	2.79	0.42
3:E:62:PRO:O	3:E:64:LYS:N	2.42	0.42
30:8:57:ARG:NH1	30:8:64:TYR:HH	2.16	0.42
4:F:111:ALA:HB2	4:F:206:ILE:HD11	2.02	0.42
12:R:45:ARG:O	12:R:49:ASP:HB2	2.19	0.42
36:A:852:G:H1	36:A:925:C:N4	2.17	0.42
8:K:126:MET:HG3	36:A:1058:G:N2	2.34	0.42
10:P:60:MET:O	36:A:2392:A:O2'	2.30	0.42
2:D:62:TYR:OH	36:A:1816:G:H8	2.02	0.42
4:F:80:ALA:HB3	4:F:83:PHE:CE1	2.46	0.42
36:A:1575:C:H2'	36:A:1576:U:O4'	2.19	0.42
36:A:481:G:H2'	36:A:507:A:N1	2.34	0.42
36:A:911:A:O5'	36:A:912:C:H5''	2.19	0.42
19:Y:19:LYS:HG2	36:A:329:G:O6	2.18	0.42
21:0:26:TYR:HB3	21:0:27:GLU:OE2	2.19	0.42
36:A:67:U:H2'	36:A:68:G:H8	1.84	0.42
14:T:124:ASP:O	14:T:128:GLU:HB2	2.19	0.42
36:A:1712:C:H2'	36:A:1716:U:O4'	2.18	0.42
35:B:90:C:H2'	35:B:91:C:O4'	2.19	0.42
36:A:1848:A:H2'	36:A:1849:G:O4'	2.19	0.42
13:S:61:ASN:ND2	35:B:51:G:OP2	2.51	0.42
30:8:16:ILE:HB	30:8:22:VAL:HA	2.00	0.42
36:A:2662:A:H8	36:A:2662:A:O5'	2.01	0.42
15:U:27:LEU:HA	15:U:27:LEU:HD23	1.77	0.42
13:S:59:LYS:HB3	13:S:60:GLY:H	1.55	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:N:38:HIS:CG	24:N:39:ARG:N	2.88	0.42
24:N:43:THR:O	24:N:46:VAL:HG12	2.19	0.42
36:A:1317:A:N1	36:A:1335:U:O2	2.52	0.42
14:T:30:VAL:HA	14:T:44:ASP:HA	2.02	0.42
4:F:176:LEU:HA	4:F:176:LEU:HD12	1.85	0.42
13:S:39:ILE:CD1	13:S:73:LEU:HD11	2.50	0.42
36:A:2234:G:H2'	36:A:2235:G:C8	2.54	0.42
4:F:192:LEU:HD23	4:F:194:MET:CE	2.49	0.42
16:V:6:LYS:HA	16:V:11:GLN:HA	2.02	0.42
27:5:3:LYS:HE2	27:5:3:LYS:H	1.84	0.42
36:A:470:A:H2'	36:A:471:A:O4'	2.19	0.42
5:G:126:ASP:HB2	5:G:130:ASN:HB2	2.01	0.42
2:D:222:ARG:NH1	36:A:1828:G:N7	2.67	0.42
13:S:71:ARG:N	13:S:71:ARG:HD3	2.33	0.42
16:V:96:ILE:CG2	16:V:97:LYS:N	2.82	0.42
36:A:1631:A:H2'	36:A:1632:A:C8	2.54	0.42
4:F:52:LYS:NZ	36:A:38:A:H5'	2.33	0.42
12:R:90:ARG:NH1	36:A:2880:C:O2'	2.53	0.42
19:Y:63:LYS:HB2	19:Y:64:GLU:H	1.49	0.42
36:A:2513:G:H2'	36:A:2514:U:O4'	2.20	0.42
12:R:70:LEU:HB3	12:R:71:GLN:H	1.66	0.42
4:F:43:LYS:HG2	4:F:44:ARG:HG3	2.01	0.42
36:A:1534:G:H3'	36:A:1535:U:C5'	2.49	0.42
36:A:1215:G:C4	36:A:1216:G:C8	3.07	0.42
36:A:2705:A:C6	36:A:2706:G:C4	3.08	0.42
36:A:1913:A:H4'	36:A:1914:C:H5'	2.01	0.42
36:A:1572:A:OP2	36:A:1572:A:H8	2.03	0.42
36:A:199:A:N6	36:A:2433:A:H2'	2.34	0.42
28:6:9:LEU:HD23	28:6:54:ILE:HG22	2.01	0.42
20:Z:176:PRO:HA	20:Z:177:PRO:HD3	1.74	0.42
36:A:1683:C:H2'	36:A:1684:C:C6	2.54	0.42
36:A:1018:C:C4	36:A:1019:U:C5	3.08	0.42
36:A:2275:C:H6	36:A:2275:C:H2'	1.67	0.42
1:C:11:LEU:HA	1:C:14:LYS:HG2	2.02	0.42
8:K:30:HIS:CD2	8:K:59:ILE:HB	2.54	0.42
36:A:1047:G:H1'	36:A:1110:G:H22	1.85	0.42
6:H:19:VAL:HG11	6:H:43:VAL:O	2.20	0.42
9:O:64:ARG:NH1	9:O:100:GLY:HA3	2.34	0.42
36:A:2391:G:C6	36:A:2427:C:H1'	2.55	0.42
36:A:2420:C:H6	36:A:2420:C:O5'	2.03	0.42
11:Q:116:GLU:O	11:Q:120:ILE:HD12	2.19	0.42
36:A:1613:G:H3'	36:A:1614:A:C5'	2.47	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:R:5:LYS:HD2	36:A:2820:A:H4'	2.01	0.42
11:Q:30:GLY:N	11:Q:105:GLU:OE2	2.38	0.42
17:W:15:ARG:NH1	17:W:15:ARG:HB2	2.35	0.42
36:A:67:U:C2	36:A:68:G:C8	3.08	0.42
36:A:2873:A:O2'	36:A:2874:C:H5'	2.20	0.42
36:A:2024:G:H2'	36:A:2025:C:C6	2.54	0.42
36:A:2050:C:N4	36:A:2051:A:N1	2.67	0.42
6:H:26:VAL:HG11	6:H:76:VAL:HA	2.02	0.42
36:A:147:U:O2'	36:A:148:C:H5'	2.20	0.42
36:A:2263:C:H4'	36:A:2329:G:H4'	2.01	0.42
36:A:2784:C:H2'	36:A:2785:C:H6	1.82	0.42
8:K:30:HIS:CG	8:K:59:ILE:HB	2.54	0.42
30:8:61:LEU:HB3	30:8:62:LEU:H	1.70	0.42
36:A:1530:G:C6	36:A:1542:G:N2	2.87	0.42
10:P:83:VAL:N	10:P:113:LYS:O	2.50	0.42
36:A:2731:G:H2'	36:A:2732:G:C8	2.53	0.42
36:A:1043:C:H2'	36:A:1044:G:H5'	2.00	0.42
12:R:45:ARG:HB3	12:R:97:VAL:CG2	2.49	0.42
36:A:2650:U:H3	36:A:2670:A:H2	1.67	0.42
24:N:71:ILE:N	24:N:71:ILE:HD12	2.30	0.42
17:W:57:ASN:O	17:W:61:ASN:HB3	2.20	0.42
36:A:639:U:H2'	36:A:640:C:C6	2.54	0.42
36:A:2082:A:C2	36:A:2083:G:H1'	2.54	0.42
12:R:8:ARG:NH2	36:A:2873:A:N3	2.67	0.42
36:A:939:G:H2'	36:A:940:G:H8	1.84	0.42
21:O:11:ARG:HH22	36:A:2278:A:H5''	1.84	0.42
6:H:72:ILE:O	6:H:76:VAL:HG23	2.19	0.42
31:9:18:ARG:HE	31:9:23:VAL:HG23	1.85	0.42
1:C:109:MET:HB3	1:C:110:ASP:H	1.63	0.42
20:Z:134:PRO:HG3	20:Z:161:VAL:HG21	2.01	0.42
36:A:454:A:H3'	36:A:455:C:C5	2.54	0.42
11:Q:75:THR:HB	11:Q:88:GLY:HA3	2.00	0.42
19:Y:68:HIS:CE1	36:A:328:U:H4'	2.54	0.42
9:O:67:LYS:NZ	36:A:1664:A:N3	2.68	0.42
1:C:213:VAL:O	1:C:214:TYR:CB	2.66	0.42
36:A:1028:A:H2'	36:A:1029:A:H8	1.80	0.42
24:N:13:TRP:CD1	24:N:13:TRP:N	2.88	0.42
3:E:27:LEU:O	3:E:51:PHE:HZ	2.03	0.42
4:F:170:LEU:HB3	4:F:173:VAL:O	2.20	0.42
4:F:63:LYS:HA	4:F:76:GLY:HA3	2.01	0.42
4:F:9:ILE:HG23	4:F:10:PRO:N	2.34	0.42
36:A:1048:A:C6	36:A:1111:A:C4	3.08	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:W:68:ARG:HB3	17:W:110:LYS:HB2	2.01	0.42
2:D:206:LEU:HB3	2:D:211:ARG:HD3	2.01	0.42
36:A:1129:A:H62	36:A:2490:G:H5''	1.85	0.42
36:A:17:G:H2'	36:A:18:C:H6	1.84	0.42
2:D:38:LYS:HG3	36:A:1569:A:O2'	2.20	0.42
5:G:69:ALA:HB1	35:B:41:U:C5	2.51	0.42
12:R:115:GLU:CD	12:R:117:VAL:H	2.23	0.42
36:A:270(E):C:H2'	36:A:270(F):G:H8	1.83	0.42
36:A:539:G:C2	36:A:556:G:C4	3.07	0.42
2:D:105:ILE:HD13	2:D:106:ILE:N	2.34	0.42
3:E:57:LYS:N	3:E:57:LYS:HD2	2.34	0.42
12:R:47:PHE:O	12:R:51:LEU:HD13	2.18	0.42
36:A:270(L):C:H2'	36:A:270(M):U:H5''	2.02	0.42
1:C:4:HIS:HA	36:A:2175:C:OP1	2.20	0.42
36:A:1581:G:H2'	36:A:1582:C:C6	2.55	0.42
35:B:24:G:C6	35:B:59:A:N6	2.87	0.42
35:B:12:C:H4'	35:B:15:A:H62	1.83	0.42
1:C:132:LEU:HD12	1:C:138:LEU:HD23	2.02	0.42
36:A:2585:U:O2'	36:A:2586:C:H5'	2.20	0.42
36:A:2453:A:H4'	36:A:2572:A:H1'	2.02	0.42
2:D:53:PHE:HB3	2:D:218:ARG:HB2	2.01	0.42
36:A:214:G:O2'	36:A:216:A:O2'	2.33	0.42
36:A:255:A:C6	36:A:256:A:C6	3.08	0.42
36:A:620:G:H8	36:A:622:G:O6	2.02	0.42
16:V:59:ALA:HA	16:V:97:LYS:N	2.35	0.42
36:A:2074:U:H2'	36:A:2075:U:C6	2.55	0.42
14:T:33:LYS:HB3	14:T:34:VAL:H	1.59	0.42
4:F:139:PHE:HA	4:F:142:TRP:HB3	2.00	0.42
36:A:2207:C:N4	36:A:2217:G:H1	2.17	0.42
36:A:2528:U:H3'	36:A:2530:A:C8	2.54	0.42
21:O:46:LYS:HA	21:O:47:PRO:HD3	1.88	0.42
10:P:79:ARG:HG3	10:P:110:TYR:HB2	2.01	0.42
6:H:38:SER:HA	6:H:39:PRO:HD3	1.80	0.42
22:1:3:LYS:HB2	36:A:1364:G:OP2	2.19	0.42
12:R:28:LEU:HD13	12:R:29:LEU:HD13	2.01	0.42
11:Q:136:ALA:C	11:Q:138:ASP:H	2.21	0.42
20:Z:108:PRO:HB2	20:Z:109:ALA:H	1.66	0.42
24:N:46:VAL:HG13	24:N:47:ALA:H	1.83	0.42
24:N:131:GLN:NE2	24:N:132:ALA:CB	2.83	0.42
4:F:185:ASP:O	4:F:189:THR:OG1	2.33	0.42
36:A:1077:A:H2	36:A:1088:A:H2'	1.84	0.42
22:1:31:GLY:C	22:1:34:THR:H	2.22	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:474:G:O2'	36:A:475:U:H5''	2.20	0.42
1:C:84:ILE:HA	1:C:95:VAL:HG11	2.02	0.42
36:A:824:A:H1'	36:A:2358:G:N7	2.35	0.42
4:F:106:ARG:HG2	4:F:107:LYS:N	2.32	0.42
36:A:1212:G:O2'	36:A:1236:G:N1	2.34	0.42
36:A:2310:A:C2'	36:A:2311:A:H5'	2.50	0.42
18:X:12:VAL:HG13	18:X:27:THR:O	2.19	0.42
19:Y:76:CYS:CB	19:Y:96:ILE:HG13	2.48	0.42
36:A:2597:G:H8	36:A:2597:G:O5'	2.03	0.42
36:A:846:C:H4'	36:A:847:U:H5'	2.02	0.42
4:F:40:GLN:HB2	4:F:40:GLN:HE21	1.62	0.42
36:A:26:G:O5'	36:A:26:G:H8	2.03	0.42
36:A:2163:C:H2'	36:A:2164:C:C6	2.54	0.42
35:B:72:G:H1'	35:B:104:A:N6	2.34	0.42
11:Q:89:ASN:O	11:Q:91:GLU:N	2.52	0.42
5:G:83:ARG:N	5:G:83:ARG:HD2	2.35	0.42
36:A:1509:A:H4'	36:A:1510:A:C8	2.54	0.42
8:K:71:THR:HB	8:K:72:PRO:HD2	2.02	0.42
24:N:46:VAL:O	24:N:47:ALA:CB	2.67	0.42
18:X:36:LYS:NZ	18:X:54:VAL:O	2.40	0.42
36:A:589:C:H2'	36:A:590:A:H8	1.83	0.42
24:N:134:ARG:CG	24:N:134:ARG:O	2.67	0.42
3:E:36:ARG:NH1	3:E:85:ASN:OD1	2.53	0.42
8:K:9:LYS:HA	8:K:56:GLU:HA	2.02	0.42
36:A:1540:G:H3'	36:A:1541:U:C6	2.55	0.42
22:1:25:LYS:NZ	22:1:31:GLY:HA3	2.35	0.42
36:A:2645:G:H4'	36:A:2732:G:H1'	2.00	0.42
36:A:2828:C:H2'	36:A:2829:C:H6	1.84	0.42
36:A:749:C:H2'	36:A:750:A:O4'	2.20	0.42
36:A:239:U:H4'	36:A:621:A:H2	1.85	0.42
2:D:68:LYS:NZ	36:A:2209:C:OP1	2.52	0.42
28:6:19:ARG:HB3	28:6:20:ASN:H	1.49	0.42
26:3:31:LEU:HD23	26:3:32:GLN:H	1.85	0.42
12:R:53:HIS:CD2	36:A:2840:C:H5''	2.55	0.42
22:1:77:ALA:HB1	22:1:82:LEU:HD21	2.02	0.42
36:A:2015:A:P	36:A:2015:A:H8	2.42	0.42
36:A:66:C:C4	36:A:67:U:C5	3.08	0.42
5:G:59:GLU:O	5:G:63:ILE:HG23	2.20	0.42
20:Z:152:ALA:HA	20:Z:167:PRO:O	2.20	0.42
20:Z:49:ARG:HB2	20:Z:50:GLN:OE1	2.19	0.42
19:Y:11:ASP:O	19:Y:27:VAL:HA	2.20	0.42
25:2:2:LYS:HG3	25:2:6:VAL:HG23	2.02	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:2:55:ARG:O	25:2:59:ARG:HG3	2.19	0.42
36:A:1061:U:H2'	36:A:1061:U:H6	1.72	0.42
36:A:2069:G:H2'	36:A:2070:G:O4'	2.20	0.42
26:3:41:PRO:O	26:3:44:ARG:HB2	2.20	0.42
36:A:1851:U:H2'	36:A:1852:C:C6	2.55	0.42
1:C:63:VAL:HG11	1:C:164:PHE:CE2	2.55	0.42
36:A:2807:G:N1	36:A:2893:G:C6	2.88	0.42
4:F:171:PRO:HA	36:A:1205:U:N3	2.35	0.42
35:B:9:G:N2	35:B:111:U:O2	2.44	0.42
36:A:251:A:H8	36:A:251:A:O5'	2.03	0.42
22:1:25:LYS:HG3	22:1:34:THR:CA	2.41	0.42
10:P:65:ARG:NH1	36:A:631:A:H4'	2.35	0.42
36:A:1674:G:N2	36:A:1677:A:H61	2.09	0.42
36:A:646:A:H3'	36:A:646:A:N3	2.34	0.42
27:5:3:LYS:HG2	27:5:4:HIS:N	2.27	0.42
36:A:1119:C:H2'	36:A:1120:G:H8	1.85	0.42
13:S:71:ARG:HD2	13:S:103:GLU:HB3	2.01	0.42
18:X:12:VAL:HG11	18:X:21:PHE:CE2	2.55	0.42
36:A:621:A:N3	36:A:621:A:H2'	2.34	0.42
36:A:1821:A:C6	36:A:1822:G:C6	3.08	0.42
11:Q:77:LYS:HB2	36:A:957:A:OP2	2.20	0.42
36:A:579:G:C8	36:A:2017:U:C4	3.08	0.42
36:A:2559:C:H2'	36:A:2560:C:C6	2.55	0.42
12:R:2:ARG:NH2	36:A:2723:C:OP1	2.53	0.42
35:B:102:G:H2'	35:B:103:U:H6	1.85	0.42
10:P:15:ARG:HB2	36:A:598:G:H5'	2.02	0.42
36:A:897:C:H2'	36:A:898:C:C6	2.55	0.42
36:A:2528:U:OP2	36:A:2530:A:N6	2.53	0.42
36:A:1567:A:H4'	36:A:1568:G:O4'	2.20	0.42
36:A:27:G:N2	36:A:512:G:H1'	2.35	0.42
5:G:42:GLY:O	36:A:2306:C:N4	2.41	0.42
10:P:18:ARG:HD2	10:P:18:ARG:HA	1.92	0.42
11:Q:82:ARG:H	21:0:4:LYS:HD3	1.85	0.42
24:N:36:GLY:H	24:N:42:TRP:HE3	1.67	0.41
36:A:2698:U:H2'	36:A:2699:C:C5	2.55	0.41
36:A:529:A:C2	36:A:2023:G:C8	3.08	0.41
18:X:53:LYS:O	18:X:81:VAL:HA	2.19	0.41
36:A:1844:C:H2'	36:A:1845:G:O4'	2.20	0.41
10:P:47:ASP:OD2	36:A:666:G:H4'	2.19	0.41
24:N:112:LEU:HD23	24:N:113:GLY:H	1.79	0.41
36:A:2862:G:H2'	36:A:2863:C:H6	1.83	0.41
7:J:23:UNK:HA	7:J:111:UNK:O	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:219:G:C6	36:A:220:G:C6	3.08	0.41
36:A:465:G:H2'	36:A:466:A:C5	2.55	0.41
36:A:243:U:C2	36:A:255:A:N7	2.88	0.41
19:Y:32:PRO:HG2	19:Y:34:LYS:HE3	2.02	0.41
1:C:27:ALA:O	1:C:31:LYS:HB2	2.20	0.41
2:D:63:ARG:HH11	2:D:87:ASN:HD21	1.68	0.41
35:B:87:G:N2	35:B:89(B):A:H62	2.16	0.41
36:A:2168:G:N2	36:A:2170:A:H3'	2.35	0.41
36:A:307:G:H21	36:A:330:A:H62	1.68	0.41
36:A:1567:A:OP2	36:A:1567:A:H2'	2.20	0.41
36:A:2012:G:H8	36:A:2012:G:O5'	2.03	0.41
25:2:6:VAL:HG22	25:2:59:ARG:HH12	1.84	0.41
36:A:714:U:O2	36:A:717:G:H8	2.03	0.41
36:A:889:C:O2'	36:A:890:A:P	2.78	0.41
36:A:883:G:C2	36:A:893:C:O2	2.73	0.41
1:C:45:HIS:O	1:C:213:VAL:C	2.58	0.41
36:A:2329:G:H2'	36:A:2330:G:O4'	2.20	0.41
3:E:104:VAL:HG13	3:E:196:VAL:HG23	2.01	0.41
22:1:20:ARG:O	22:1:39:LYS:N	2.52	0.41
26:3:17:LYS:CD	26:3:20:LYS:HD2	2.50	0.41
26:3:17:LYS:HD2	26:3:20:LYS:HD2	2.02	0.41
22:1:95:LEU:HD12	22:1:95:LEU:HA	1.89	0.41
36:A:834:C:H1'	36:A:2358:G:N3	2.35	0.41
4:F:88:VAL:HG22	4:F:89:VAL:N	2.29	0.41
36:A:1434:A:H2'	36:A:1435:G:C8	2.55	0.41
36:A:904:C:H2'	36:A:905:U:O4'	2.20	0.41
36:A:2210:G:N2	36:A:2211:G:H5'	2.33	0.41
36:A:1174:A:C8	36:A:1175:U:H1'	2.54	0.41
36:A:1175:U:H5	36:A:1177:A:C6	2.38	0.41
4:F:74:ARG:O	36:A:674:G:H4'	2.20	0.41
35:B:89(B):A:H8	35:B:89(B):A:O5'	2.03	0.41
3:E:150:VAL:HB	36:A:2618:G:O2'	2.20	0.41
5:G:67:LYS:HA	5:G:68:PRO:HD3	1.89	0.41
36:A:2869:G:H2'	36:A:2870:C:O4'	2.20	0.41
17:W:15:ARG:HG2	36:A:1266:G:N7	2.35	0.41
20:Z:93:ASP:HB2	20:Z:131:ARG:HG3	2.02	0.41
2:D:50:THR:OG1	36:A:1813:G:O2'	2.24	0.41
11:Q:137:TYR:CD1	11:Q:137:TYR:N	2.86	0.41
17:W:21:VAL:HG21	17:W:76:VAL:HB	2.01	0.41
3:E:177:PRO:C	3:E:179:GLU:H	2.23	0.41
36:A:144(B):A:H8	36:A:144(B):A:OP1	2.02	0.41
11:Q:3:MET:SD	11:Q:3:MET:N	2.93	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:U:85:LYS:HG3	15:U:117:GLN:HG2	2.01	0.41
15:U:36:ARG:O	15:U:39:LEU:HB3	2.19	0.41
36:A:584:C:N4	36:A:585:G:O6	2.53	0.41
14:T:50:ILE:HG22	14:T:51:ARG:HB2	2.03	0.41
36:A:1448:G:H2'	36:A:149(B):A:H8	1.83	0.41
36:A:671:C:H2'	36:A:672:C:C6	2.55	0.41
4:F:136:THR:OG1	36:A:320:A:H3'	2.20	0.41
4:F:136:THR:N	36:A:321:G:OP2	2.53	0.41
7:J:82:UNK:C	7:J:84:UNK:N	2.83	0.41
27:5:5:PRO:HB2	36:A:2614:A:O4'	2.20	0.41
10:P:55:ARG:NH1	36:A:2358:G:H1	2.18	0.41
36:A:1828:G:H4'	36:A:1829:A:OP1	2.20	0.41
26:3:11:SER:HB3	36:A:988:A:P	2.60	0.41
16:V:19:LYS:HB2	16:V:96:ILE:CG1	2.50	0.41
21:0:65:GLY:HA3	21:0:81:VAL:CG1	2.47	0.41
2:D:24:ILE:HG12	2:D:25:THR:N	2.35	0.41
17:W:61:ASN:HD21	36:A:496:G:C1'	2.34	0.41
36:A:1467:C:H6	36:A:154(B):C:H2'	1.85	0.41
3:E:111:ARG:HA	12:R:2:ARG:HG3	2.02	0.41
36:A:2804:C:H2'	36:A:2805:G:C8	2.55	0.41
12:R:67:LEU:HD11	12:R:72:ASP:O	2.20	0.41
36:A:898:C:H2'	36:A:899:A:H8	1.85	0.41
29:7:5:TRP:HD1	36:A:1612:C:O3'	2.04	0.41
36:A:526:A:C6	36:A:2626:C:H4'	2.55	0.41
35:B:6:C:H2'	35:B:7:G:C8	2.55	0.41
36:A:2047:U:H2'	36:A:2048:G:H8	1.85	0.41
17:W:51:LEU:HD23	17:W:105:VAL:HG11	2.02	0.41
35:B:72:G:H1'	35:B:104:A:H61	1.85	0.41
25:2:55:ARG:NH1	36:A:75:G:H4'	2.36	0.41
36:A:491:G:H2'	36:A:492:A:O4'	2.20	0.41
15:U:5:LYS:HE3	15:U:7:GLY:H	1.84	0.41
9:O:23:ARG:HG3	9:O:24:VAL:H	1.85	0.41
1:C:40:GLU:HB2	1:C:217:THR:HB	2.03	0.41
11:Q:128:LYS:HB3	36:A:1030:G:P	2.61	0.41
14:T:26:ASP:CG	14:T:27:THR:H	2.24	0.41
36:A:2002:G:H2'	36:A:2003:G:O4'	2.21	0.41
8:K:60:TYR:O	8:K:62:ASP:N	2.53	0.41
4:F:191:ARG:O	4:F:193:VAL:HG23	2.19	0.41
36:A:1532:C:C2	36:A:1540:G:N2	2.89	0.41
36:A:244:A:H2'	36:A:245:G:O4'	2.20	0.41
1:C:53:ARG:HG2	1:C:54:ARG:N	2.35	0.41
2:D:131:LEU:HD11	2:D:136:ILE:HD11	2.01	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:233:HIS:NE2	2:D:246:PRO:HA	2.35	0.41
36:A:1558:A:N7	36:A:1560:G:C8	2.88	0.41
36:A:622:G:H2'	36:A:623:G:H8	1.84	0.41
36:A:17:G:H2'	36:A:18:C:C6	2.55	0.41
15:U:24:TYR:O	36:A:18:C:H4'	2.20	0.41
12:R:4:LEU:HG	36:A:1653:G:H2'	2.02	0.41
36:A:2303:G:H1	36:A:2313:C:N4	2.14	0.41
10:P:7:ARG:HG2	36:A:1203:G:H4'	2.02	0.41
29:7:21:ARG:HH22	36:A:684:G:P	2.43	0.41
36:A:273(G):C:H3'	36:A:274:G:C5'	2.50	0.41
27:5:19:ARG:HD2	36:A:1266:G:OP2	2.20	0.41
36:A:2625:G:H2'	36:A:2626:C:O4'	2.19	0.41
36:A:51:G:O5'	36:A:51:G:H8	2.02	0.41
36:A:317:G:H2'	36:A:318:C:O4'	2.21	0.41
36:A:2643:G:H2'	36:A:2644:G:O4'	2.20	0.41
36:A:1022:G:N3	36:A:1023:U:H5	2.18	0.41
24:N:26:LEU:HD23	24:N:99:LEU:CD2	2.51	0.41
1:C:40:GLU:HB3	1:C:217:THR:C	2.41	0.41
1:C:60:ARG:HG2	1:C:142:LYS:HB3	2.03	0.41
36:A:2341:G:H2'	36:A:2342:C:H6	1.83	0.41
36:A:2330:G:H2'	36:A:2331:G:O4'	2.21	0.41
4:F:155:LEU:CD1	4:F:176:LEU:HD23	2.51	0.41
36:A:401:A:C2	36:A:402:A:C4	3.08	0.41
16:V:4:ILE:N	16:V:39:LEU:O	2.53	0.41
2:D:244:ARG:NH2	36:A:1841:U:O2	2.54	0.41
2:D:218:ARG:NH1	36:A:691:C:H5'	2.35	0.41
36:A:1288:U:C4	36:A:1327:C:H1'	2.56	0.41
36:A:76:C:H2'	36:A:77:C:H6	1.85	0.41
36:A:605:C:C4	36:A:606:U:C4	3.09	0.41
17:W:64:MET:O	17:W:65:LEU:HB2	2.19	0.41
36:A:2465:C:H2'	36:A:2466:C:H6	1.82	0.41
17:W:32:ALA:O	17:W:35:ILE:HB	2.20	0.41
36:A:2115:G:C6	36:A:2117:A:H5'	2.56	0.41
23:4:8:LYS:HB3	23:4:9:LEU:H	1.59	0.41
9:O:9:GLU:HA	9:O:18:LYS:HA	2.01	0.41
2:D:94:LEU:HG	2:D:104:TYR:HE2	1.86	0.41
4:F:36:VAL:O	4:F:40:GLN:HG3	2.20	0.41
25:2:23:LYS:O	25:2:26:ARG:HB2	2.21	0.41
36:A:831:G:O5'	36:A:831:G:H8	2.04	0.41
36:A:2147:G:H3'	36:A:2147:G:H8	1.85	0.41
36:A:2688:U:H5	36:A:2719:G:C5	2.38	0.41
2:D:69:ARG:HH11	2:D:130:ALA:H	1.68	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:869:G:H2'	36:A:870:A:O4'	2.20	0.41
19:Y:79:CYS:SG	19:Y:80:GLY:N	2.94	0.41
11:Q:128:LYS:HD2	36:A:1029:A:H5''	2.03	0.41
22:1:12:PRO:HA	22:1:44:PRO:HG3	2.01	0.41
3:E:53:PRO:HA	3:E:74:PRO:HA	2.03	0.41
8:K:30:HIS:ND1	8:K:32:ALA:HB2	2.35	0.41
30:8:58:ILE:O	30:8:61:LEU:HG	2.20	0.41
36:A:761:A:H8	36:A:761:A:O5'	2.04	0.41
36:A:1542:G:H4'	36:A:1543:A:O4'	2.21	0.41
36:A:718:A:O5'	36:A:718:A:H8	2.03	0.41
12:R:42:LYS:O	12:R:45:ARG:NE	2.53	0.41
36:A:872:A:H2'	36:A:873:G:C8	2.55	0.41
6:H:118:PRO:HD2	6:H:121:ILE:HG13	2.03	0.41
13:S:11:LYS:HD2	13:S:13:ARG:CZ	2.51	0.41
15:U:75:ASN:ND2	36:A:1011:G:H4'	2.35	0.41
29:7:8:ASN:HA	36:A:1309:G:C5'	2.49	0.41
36:A:1717:G:H2'	36:A:1718:G:O4'	2.21	0.41
4:F:11:VAL:HG21	4:F:18:ARG:NH1	2.36	0.41
14:T:35:LYS:HD2	14:T:41:ARG:HD3	2.02	0.41
7:J:58:UNK:C	7:J:60:UNK:N	2.82	0.41
28:6:27:LYS:HA	28:6:27:LYS:HD3	1.86	0.41
36:A:2428:G:H5''	36:A:2429:G:O5'	2.19	0.41
8:K:57:ILE:HA	8:K:66:THR:O	2.20	0.41
36:A:821:A:C2	36:A:946:G:H1'	2.55	0.41
1:C:33:LEU:HD13	1:C:221:PRO:HG2	2.02	0.41
36:A:278:A:H2'	36:A:279:C:H6	1.84	0.41
4:F:3:GLU:HB2	4:F:22:ALA:O	2.21	0.41
36:A:2345:G:H1'	36:A:2381:C:H2'	2.03	0.41
36:A:1202:C:N4	36:A:1243:G:H1	2.15	0.41
36:A:1788:C:H2'	36:A:1789:A:C8	2.56	0.41
36:A:1284:A:N6	36:A:1285:G:C2	2.89	0.41
36:A:2671:A:H2'	36:A:2672:G:H8	1.85	0.41
4:F:102:PRO:HG3	36:A:658:C:O2'	2.21	0.41
5:G:120:LEU:O	5:G:122:PRO:HD3	2.21	0.41
36:A:1992:G:O6	36:A:1997:G:C2	2.74	0.41
3:E:111:ARG:HA	12:R:2:ARG:CG	2.50	0.41
5:G:62:LEU:HD12	23:4:7:PRO:HB3	2.02	0.41
36:A:794:G:C6	36:A:795:C:C4	3.09	0.41
36:A:46:C:H2'	36:A:47:C:H6	1.83	0.41
14:T:128:GLU:C	14:T:129:ARG:HE	2.23	0.41
36:A:96:G:H2'	36:A:97:C:C6	2.56	0.41
36:A:686:G:H21	36:A:788:A:H61	1.68	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:8:24:ALA:O	30:8:46:ARG:NH1	2.53	0.41
36:A:418:G:H2'	36:A:419:C:C6	2.56	0.41
20:Z:22:GLY:O	20:Z:41:LEU:HG	2.20	0.41
21:0:40:GLN:O	21:0:41:ARG:NH1	2.53	0.41
36:A:127:A:O5'	36:A:127:A:H8	2.04	0.41
20:Z:74:VAL:HG22	20:Z:86:VAL:HG13	2.03	0.41
15:U:19:LYS:HE2	36:A:1219:G:OP2	2.21	0.41
4:F:60:SER:HB3	4:F:61:GLY:H	1.52	0.41
36:A:52:A:C6	36:A:118:A:C2	3.08	0.41
36:A:1628:G:H2'	36:A:1629:U:C6	2.56	0.41
36:A:1995:U:H3'	36:A:1996:C:H2'	2.02	0.41
1:C:65:LEU:HD22	1:C:176:VAL:CG1	2.44	0.41
27:5:16:ARG:NH1	36:A:517:C:H5''	2.35	0.41
36:A:590:A:H2'	36:A:591:C:C6	2.56	0.41
36:A:81:G:H1	36:A:105:C:N4	2.17	0.41
30:8:57:ARG:HH11	30:8:64:TYR:HH	1.64	0.41
8:K:91:PRO:HG3	36:A:1062:G:H21	1.82	0.41
36:A:402:A:O2'	36:A:403:U:H5'	2.20	0.41
36:A:1677:A:H2'	36:A:1678:G:C8	2.55	0.41
2:D:255:LYS:HZ2	36:A:1824:G:H21	1.68	0.41
36:A:1007:C:C5	36:A:1008:C:C2	3.09	0.41
36:A:108:U:H4'	36:A:347:A:H2	1.85	0.41
18:X:12:VAL:CG1	18:X:17:ALA:HB1	2.51	0.41
16:V:19:LYS:HB2	16:V:96:ILE:CD1	2.51	0.41
36:A:1954:G:O2'	36:A:1956:U:O4	2.28	0.41
36:A:1170:G:H2'	36:A:1171:G:C8	2.54	0.41
36:A:1404:C:H2'	36:A:1405:U:H6	1.86	0.41
3:E:149:ARG:HH11	36:A:2024:G:H4'	1.86	0.41
35:B:20:C:H2'	35:B:21:G:C8	2.55	0.41
6:H:35:VAL:HG21	6:H:75:ALA:HB1	2.03	0.41
36:A:1050:A:H2'	36:A:1051:G:C8	2.56	0.41
36:A:2818:G:H2'	36:A:2819:G:H8	1.86	0.41
36:A:2846:G:H2'	36:A:2847:U:C6	2.55	0.41
36:A:270(W):G:H2'	36:A:270(X):G:H8	1.86	0.41
36:A:271(D):U:H3'	36:A:271:G:H5'	2.03	0.41
20:Z:101:PRO:HA	20:Z:122:ARG:O	2.21	0.41
24:N:46:VAL:HG13	24:N:48:MET:HG3	2.03	0.41
24:N:43:THR:CG2	24:N:44:PRO:HD2	2.50	0.41
36:A:1137:G:C6	36:A:1138:G:C5	3.09	0.41
24:N:27:ALA:HA	24:N:30:ILE:HD12	2.03	0.41
24:N:66:LYS:O	24:N:68:GLU:N	2.54	0.41
1:C:163:GLU:O	1:C:164:PHE:O	2.39	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2385:C:H2'	36:A:2386:C:C6	2.56	0.41
36:A:414:C:H2'	36:A:415:A:H8	1.85	0.41
36:A:670:A:H4'	36:A:671:C:H5'	2.02	0.41
36:A:1539:G:H2'	36:A:1540:G:O4'	2.20	0.41
13:S:85:VAL:HB	13:S:86:ALA:H	1.72	0.41
36:A:814:C:H2'	36:A:815:C:H6	1.86	0.41
7:J:112:UNK:C	7:J:114:UNK:N	2.83	0.41
4:F:103:LYS:HA	4:F:106:ARG:HD2	2.01	0.41
10:P:11:GLY:HA3	36:A:1244:G:H4'	2.03	0.41
36:A:464:U:C4	36:A:465:G:C4	3.08	0.41
36:A:261:G:H1'	36:A:609(A):A:H2	1.86	0.41
19:Y:6:HIS:HB2	19:Y:7:VAL:H	1.55	0.41
36:A:16:G:N2	36:A:524:U:O2	2.45	0.41
1:C:28:ARG:NH2	1:C:187:ALA:HB2	2.36	0.41
19:Y:55:TYR:HA	19:Y:56:PRO:HD2	1.92	0.41
2:D:270:ILE:HG13	2:D:270:ILE:H	1.58	0.41
30:8:21:LYS:O	30:8:23:VAL:HG23	2.21	0.41
36:A:481:G:H2'	36:A:507:A:C6	2.56	0.41
36:A:1951:U:H2'	36:A:1953:A:OP2	2.21	0.41
1:C:85:LYS:HA	1:C:88:GLU:HB2	2.03	0.41
23:4:6:HIS:C	23:4:8:LYS:H	2.24	0.41
36:A:786:C:H2'	36:A:787:U:O4'	2.21	0.41
10:P:97:PRO:O	10:P:101:VAL:HG13	2.21	0.41
36:A:899:A:N3	36:A:899:A:H2'	2.35	0.41
36:A:855:G:H2'	36:A:856:C:C6	2.55	0.41
25:2:19:VAL:HG23	25:2:20:GLU:N	2.36	0.41
30:8:42:ARG:HH22	36:A:2382:G:H21	1.68	0.41
8:K:41:PHE:CE1	8:K:53:VAL:HB	2.56	0.41
12:R:109:ALA:HA	12:R:110:PRO:HD2	1.92	0.41
36:A:1508:A:O2'	36:A:1510:A:C4	2.73	0.41
36:A:869:G:C6	36:A:870:A:C5	3.09	0.41
9:O:69:ILE:HD12	9:O:69:ILE:HA	1.72	0.41
10:P:85:LEU:HG	10:P:85:LEU:H	1.63	0.41
1:C:73:VAL:HG11	1:C:157:ILE:HG22	2.02	0.41
5:G:141:PHE:HA	5:G:141:PHE:HD2	1.71	0.41
28:6:30:THR:OG1	36:A:2286:A:OP1	2.30	0.41
36:A:2743:C:P	36:A:2755:C:H42	2.43	0.41
1:C:21:TYR:O	1:C:22:THR:OG1	2.32	0.41
1:C:210:LEU:HD22	1:C:227:PRO:HB3	2.02	0.41
31:9:2:LYS:HB3	31:9:2:LYS:HE3	1.83	0.41
10:P:50:ARG:HB2	10:P:57:THR:HB	2.02	0.41
3:E:35:GLN:HG2	3:E:36:ARG:N	2.35	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:K:59:ILE:HG13	8:K:60:TYR:N	2.35	0.41
30:8:62:LEU:HB2	30:8:63:PRO:HD3	2.02	0.41
3:E:117:MET:HA	3:E:122:PHE:N	2.30	0.41
3:E:170:LEU:HB3	3:E:184:VAL:CG1	2.50	0.41
8:K:91:PRO:HB2	36:A:1078:U:OP1	2.22	0.41
36:A:382:G:H1	36:A:392:C:N4	2.17	0.41
36:A:1858:G:H1'	36:A:1884:A:H61	1.83	0.41
36:A:2071:A:H2'	36:A:2072:G:H8	1.86	0.41
17:W:77:ASP:OD1	17:W:78:GLU:N	2.54	0.41
36:A:1128:A:C5	36:A:2518:A:N6	2.89	0.41
36:A:1498:C:H2'	36:A:1499:C:C6	2.55	0.41
28:6:45:LYS:O	28:6:47:THR:HG22	2.20	0.41
12:R:100:LEU:HD21	27:5:47:PRO:HD3	2.03	0.41
36:A:2134:A:H1'	36:A:2159:G:N2	2.36	0.41
36:A:41:C:H2'	36:A:43:G:O4'	2.21	0.41
31:9:14:CYS:HB3	31:9:25:VAL:HG13	2.03	0.41
36:A:13:A:N1	36:A:525:U:H2'	2.36	0.41
36:A:2118:U:H5''	36:A:2119:A:OP1	2.21	0.41
36:A:1932:A:H3'	36:A:1933:G:H8	1.86	0.41
36:A:429:A:H8	36:A:429:A:O5'	2.03	0.41
2:D:115:GLN:HE21	2:D:115:GLN:HB3	1.64	0.41
10:P:76:LYS:HE3	10:P:76:LYS:HB3	1.68	0.41
36:A:2068:U:H3	36:A:2430:A:H2	1.69	0.41
36:A:1421:G:H2'	36:A:1422:G:H8	1.86	0.41
36:A:352:G:O2'	36:A:353:G:N7	2.52	0.41
1:C:10:ALA:O	1:C:13:GLU:N	2.54	0.41
36:A:1936:A:OP2	36:A:1962:C:N4	2.53	0.41
1:C:43:GLU:OE2	36:A:2123:G:N2	2.47	0.40
36:A:2729:G:H2'	36:A:2730:C:O4'	2.21	0.40
1:C:90:ALA:HA	1:C:155:ARG:NH2	2.36	0.40
16:V:4:ILE:HG13	16:V:13:ARG:HA	2.01	0.40
31:9:30:PRO:CB	36:A:2527:C:H5''	2.42	0.40
36:A:1243:G:C6	36:A:1244:G:C5	3.09	0.40
36:A:220:G:H22	36:A:427:U:H2'	1.85	0.40
36:A:698:C:N4	36:A:763:G:H1	2.16	0.40
36:A:1872:A:O5'	36:A:1872:A:H8	2.03	0.40
15:U:34:LYS:NZ	36:A:2018:G:H21	2.20	0.40
36:A:1953:A:O2'	36:A:2559:C:H1'	2.20	0.40
3:E:120:TRP:CZ2	3:E:155:LYS:HA	2.55	0.40
5:G:38:VAL:HA	5:G:92:VAL:O	2.21	0.40
36:A:1799:G:O4'	36:A:1800:C:H5	2.03	0.40
2:D:181:GLU:OE2	36:A:1799:G:O2'	2.27	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:D:94:LEU:HA	2:D:104:TYR:CD2	2.57	0.40
13:S:30:ARG:NH1	13:S:62:LYS:HB3	2.35	0.40
20:Z:81:ARG:O	20:Z:82:ARG:HB2	2.21	0.40
31:9:18:ARG:NE	31:9:23:VAL:HG23	2.36	0.40
36:A:1051:G:H2'	36:A:1052:C:C6	2.56	0.40
1:C:25:GLU:HB3	1:C:29:LEU:HD13	2.02	0.40
3:E:79:ARG:NH2	8:K:61:ALA:O	103.64	0.40
30:8:60:LEU:HB3	30:8:64:TYR:O	2.20	0.40
36:A:250:G:N1	36:A:251:A:C2	2.89	0.40
1:C:151:GLY:C	1:C:154:ILE:H	2.24	0.40
36:A:8:A:C2	36:A:9:U:C2	3.10	0.40
36:A:1091:G:N1	36:A:1100:C:O2	2.53	0.40
12:R:46:GLY:HA2	36:A:2838:G:O2'	2.21	0.40
36:A:1016:G:H1	36:A:1146:C:N4	2.16	0.40
19:Y:76:CYS:O	19:Y:78:ALA:N	2.48	0.40
36:A:2212:A:O2'	36:A:2215:G:N7	2.50	0.40
5:G:87:PRO:HB2	5:G:88:ILE:H	1.54	0.40
14:T:130:ALA:O	14:T:134:GLU:HB2	2.21	0.40
11:Q:17:LEU:HD21	36:A:958:U:O2	2.21	0.40
15:U:34:LYS:NZ	36:A:2019:A:H1'	2.36	0.40
11:Q:65:PHE:HB2	11:Q:105:GLU:HG3	2.03	0.40
36:A:786:C:H5''	36:A:1780:A:C8	2.57	0.40
25:2:48:HIS:CG	36:A:95:G:HO2'	2.34	0.40
36:A:270(F):G:H2'	36:A:270(G):U:H6	1.86	0.40
2:D:118:VAL:O	2:D:129:ASN:HA	2.20	0.40
36:A:1906:G:H1	36:A:1924:C:H42	1.68	0.40
36:A:1969:A:O2'	36:A:1972:A:H1'	2.21	0.40
28:6:5:VAL:HG12	36:A:2284:C:OP1	2.21	0.40
36:A:26:G:H2'	36:A:27:G:O4'	2.21	0.40
36:A:1937:A:N7	36:A:1939:U:H2'	2.37	0.40
21:0:12:ASN:HB3	36:A:2277:G:C8	2.56	0.40
36:A:542:C:H2'	36:A:543:C:H6	1.85	0.40
36:A:2138:C:H2'	36:A:2139:C:C6	2.56	0.40
36:A:199:A:H61	36:A:2433:A:H2'	1.87	0.40
36:A:500:G:H8	36:A:500:G:O5'	2.04	0.40
6:H:97:ARG:HB3	6:H:97:ARG:HE	1.67	0.40
17:W:34:ASN:ND2	27:5:39:MET:HG3	2.36	0.40
36:A:210:C:H2'	36:A:211:A:O4'	2.22	0.40
36:A:270(Z):G:O2'	36:A:271(A):U:H5'	2.21	0.40
36:A:36:G:H4'	36:A:451:C:C4	2.57	0.40
36:A:1589:C:H2'	36:A:1590:U:C6	2.56	0.40
14:T:102:ILE:HB	14:T:110:ILE:HD13	2.04	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:1859:A:H2'	36:A:1860:G:O4'	2.21	0.40
1:C:61:GLY:HA3	1:C:164:PHE:CD1	2.56	0.40
36:A:1345:C:H2'	36:A:1346:G:O4'	2.21	0.40
18:X:40:LYS:HE2	18:X:44:GLU:OE1	2.21	0.40
36:A:2505:G:N1	36:A:2610:C:C2	2.82	0.40
36:A:1124:C:H2'	36:A:1125:G:O4'	2.21	0.40
36:A:963:U:H2'	36:A:964:C:C6	2.57	0.40
3:E:48:GLN:HA	3:E:79:ARG:O	2.21	0.40
4:F:155:LEU:HD22	4:F:186:ILE:CB	2.41	0.40
36:A:1087:G:O2'	36:A:1088:A:H4'	2.22	0.40
36:A:2685:G:H2'	36:A:2686:G:H8	1.85	0.40
4:F:7:TYR:CE2	4:F:10:PRO:HD3	2.56	0.40
36:A:2447:G:O2'	36:A:2500:U:H5	2.04	0.40
36:A:2837:G:C6	36:A:2838:G:C5	3.09	0.40
1:C:118:PRO:O	1:C:121:MET:HB3	2.21	0.40
36:A:1008:C:H1'	36:A:1009:A:C8	2.57	0.40
36:A:1288:U:C2	36:A:1327:C:O2	2.75	0.40
36:A:1815:A:H4'	36:A:1816:G:OP1	2.21	0.40
35:B:97:G:H2'	35:B:98:G:H5'	2.03	0.40
36:A:2532:G:O6	36:A:2533:A:C6	2.74	0.40
36:A:2210:G:N2	36:A:2212:A:OP1	2.54	0.40
31:9:1:MET:O	31:9:34:GLN:HA	2.21	0.40
11:Q:8:LYS:HB3	11:Q:8:LYS:HE2	1.91	0.40
5:G:67:LYS:HG2	23:4:7:PRO:HD3	2.03	0.40
36:A:681:G:H1	36:A:796:C:H42	1.69	0.40
11:Q:12:GLN:HB3	11:Q:73:PRO:HG2	2.03	0.40
14:T:132:LYS:HD3	14:T:132:LYS:O	2.21	0.40
36:A:1094:U:H2'	36:A:1096:A:OP2	2.22	0.40
36:A:1095:A:H8	36:A:1095:A:P	2.44	0.40
2:D:88:ARG:HH21	36:A:1817:G:P	2.44	0.40
2:D:276:LYS:HA	2:D:276:LYS:HD2	1.89	0.40
6:H:83:TYR:CD1	6:H:134:SER:HA	2.56	0.40
36:A:1988:C:H2'	36:A:1989:G:C8	2.57	0.40
3:E:21:VAL:HA	3:E:22:PRO:HD2	1.71	0.40
36:A:1023:U:H2'	36:A:1024:G:H5'	2.04	0.40
1:C:65:LEU:HG	1:C:162:ILE:HD11	2.03	0.40
24:N:95:PRO:C	24:N:97:ARG:H	2.24	0.40
3:E:34:VAL:HG23	3:E:67:PHE:CD2	2.57	0.40
4:F:154:VAL:HB	4:F:156:LEU:HB2	2.02	0.40
10:P:84:ASN:ND2	36:A:627:A:N7	2.70	0.40
10:P:66:GLY:H	36:A:631:A:H1'	1.86	0.40
22:1:57:GLU:HG2	22:1:58:ILE:N	2.36	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
36:A:2439:A:H2'	36:A:2439:A:N3	2.36	0.40
36:A:2780:G:H2'	36:A:2780:G:OP1	2.21	0.40
36:A:1344:G:H4'	36:A:1384:A:N6	2.37	0.40
36:A:2795:G:H1'	36:A:2801:A:N6	2.37	0.40
9:O:64:ARG:CZ	9:O:101:PRO:HD2	2.51	0.40
36:A:497:A:H2'	36:A:498:G:H8	1.86	0.40
9:O:18:LYS:H	9:O:45:GLU:HG3	1.87	0.40
24:N:51:PHE:CZ	24:N:119:ARG:HD2	2.56	0.40
2:D:89:SER:HB2	2:D:159:ALA:N	2.36	0.40
4:F:58:ALA:C	4:F:59:TYR:HD2	2.25	0.40
36:A:53:A:H62	36:A:117:G:H21	1.70	0.40
21:O:27:GLU:HA	21:O:67:VAL:HB	2.04	0.40
36:A:1826:G:H21	36:A:1900:A:H2	1.70	0.40
36:A:1701:A:H3'	36:A:1702:G:H8	1.85	0.40
36:A:2138:C:H2'	36:A:2139:C:H6	1.86	0.40
20:Z:107:THR:HA	20:Z:108:PRO:HD2	1.90	0.40
10:P:85:LEU:HD12	10:P:118:GLY:N	2.36	0.40
36:A:72:U:O4	36:A:111:A:O2'	2.37	0.40
36:A:58:G:N2	36:A:73:A:N3	2.55	0.40
36:A:212:G:H2'	36:A:213:A:C8	2.55	0.40
36:A:2172:U:H5'	36:A:2173:A:P	2.61	0.40
18:X:55:ASN:HD22	18:X:55:ASN:HA	1.59	0.40
36:A:2037:G:C6	36:A:2038:G:C6	3.10	0.40
36:A:1707:G:C5	36:A:1756:G:C6	3.09	0.40
36:A:2510:C:H42	36:A:2578:G:H1	1.68	0.40
36:A:1243:G:H2'	36:A:1244:G:O4'	2.21	0.40
36:A:1791:A:C2	36:A:1829:A:H4'	2.56	0.40
36:A:239:U:H2'	36:A:240:G:O4'	2.21	0.40
11:Q:34:LEU:HD23	11:Q:103:MET:CE	2.50	0.40
11:Q:68:ILE:HD12	11:Q:103:MET:HB3	2.03	0.40
14:T:55:ASN:N	14:T:59:THR:HB	2.37	0.40
2:D:75:ILE:O	2:D:118:VAL:HG23	2.22	0.40
5:G:111:LEU:O	5:G:112:PRO:C	2.59	0.40
36:A:1214:A:H3'	36:A:1215:G:H8	1.86	0.40
2:D:48:ARG:NH2	36:A:777:A:O2'	2.54	0.40
36:A:895:U:O5'	36:A:895:U:H6	2.04	0.40
10:P:14:LYS:HA	10:P:14:LYS:HD3	1.90	0.40
36:A:2721:A:H2'	36:A:2722:G:H8	1.87	0.40
9:O:71:ARG:C	9:O:73:ASP:H	2.25	0.40
36:A:1778:U:O4	36:A:1784:A:H1'	2.22	0.40
36:A:1373:A:H2'	36:A:1374:G:O4'	2.21	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	226/228 (99%)	108 (48%)	66 (29%)	52 (23%)	0	2
2	D	273/275 (99%)	179 (66%)	57 (21%)	37 (14%)	0	11
3	E	203/205 (99%)	133 (66%)	41 (20%)	29 (14%)	0	10
4	F	206/208 (99%)	126 (61%)	55 (27%)	25 (12%)	1	14
5	G	179/181 (99%)	121 (68%)	43 (24%)	15 (8%)	1	26
6	H	165/167 (99%)	121 (73%)	26 (16%)	18 (11%)	1	17
8	K	138/140 (99%)	91 (66%)	35 (25%)	12 (9%)	1	25
9	O	120/122 (98%)	90 (75%)	22 (18%)	8 (7%)	2	35
10	P	144/146 (99%)	88 (61%)	35 (24%)	21 (15%)	0	9
11	Q	139/141 (99%)	99 (71%)	26 (19%)	14 (10%)	1	20
12	R	115/117 (98%)	78 (68%)	26 (23%)	11 (10%)	1	22
13	S	97/99 (98%)	52 (54%)	24 (25%)	21 (22%)	0	3
14	T	136/138 (99%)	89 (65%)	28 (21%)	19 (14%)	0	10
15	U	115/117 (98%)	84 (73%)	20 (17%)	11 (10%)	1	22
16	V	99/101 (98%)	63 (64%)	22 (22%)	14 (14%)	0	10
17	W	111/113 (98%)	90 (81%)	10 (9%)	11 (10%)	1	20
18	X	91/93 (98%)	69 (76%)	17 (19%)	5 (6%)	3	41
19	Y	105/107 (98%)	50 (48%)	34 (32%)	21 (20%)	0	4
20	Z	183/185 (99%)	120 (66%)	45 (25%)	18 (10%)	1	21
21	0	82/84 (98%)	55 (67%)	20 (24%)	7 (8%)	1	26
22	1	91/93 (98%)	55 (60%)	17 (19%)	19 (21%)	0	3
23	4	33/35 (94%)	17 (52%)	11 (33%)	5 (15%)	0	8
24	N	136/138 (99%)	94 (69%)	26 (19%)	16 (12%)	1	15
25	2	69/71 (97%)	51 (74%)	14 (20%)	4 (6%)	3	39
26	3	58/60 (97%)	45 (78%)	10 (17%)	3 (5%)	3	42
27	5	57/59 (97%)	37 (65%)	13 (23%)	7 (12%)	1	14

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	6	48/50 (96%)	26 (54%)	11 (23%)	11 (23%)	0	2
29	7	47/49 (96%)	34 (72%)	9 (19%)	4 (8%)	1	26
30	8	62/64 (97%)	37 (60%)	17 (27%)	8 (13%)	0	13
31	9	35/37 (95%)	19 (54%)	12 (34%)	4 (11%)	1	16
32	e	70/103 (68%)	40 (57%)	23 (33%)	7 (10%)	1	20
All	All	3633/3726 (98%)	2361 (65%)	815 (22%)	457 (13%)	0	14

All (457) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	17	PRO
1	C	43	GLU
1	C	52	PRO
1	C	54	ARG
1	C	59	VAL
1	C	66	PRO
1	C	114	VAL
1	C	115	VAL
1	C	138	LEU
1	C	141	PRO
1	C	162	ILE
1	C	167	ASP
1	C	172	ILE
1	C	175	PRO
1	C	176	VAL
1	C	177	GLY
1	C	182	PRO
1	C	212	SER
1	C	213	VAL
1	C	214	TYR
1	C	221	PRO
1	C	222	SER
1	C	227	PRO
2	D	3	VAL
2	D	36	PRO
2	D	118	VAL
2	D	166	GLN
2	D	178	PRO
2	D	207	GLY
2	D	231	HIS

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Mol	Chain	Res	Type
3	E	11	MET
3	E	12	THR
3	E	13	ARG
3	E	56	PRO
3	E	60	ASN
3	E	61	ARG
3	E	72	VAL
3	E	74	PRO
3	E	94	GLU
3	E	126	PRO
3	E	144	ARG
3	E	187	ALA
4	F	3	GLU
4	F	10	PRO
4	F	22	ALA
4	F	90	PHE
4	F	105	VAL
4	F	192	LEU
5	G	12	TYR
5	G	50	ALA
5	G	96	ARG
6	H	13	LYS
6	H	21	PRO
6	H	124	GLU
6	H	164	TYR
6	H	173	PRO
9	O	48	PRO
10	P	38	GLN
10	P	57	THR
10	P	65	ARG
10	P	71	VAL
10	P	145	PRO
11	Q	20	ALA
11	Q	85	LYS
12	R	57	ARG
13	S	14	VAL
13	S	43	GLU
13	S	47	THR
13	S	48	LEU
13	S	98	VAL
13	S	101	LEU
14	T	28	VAL

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Mol	Chain	Res	Type
14	T	30	VAL
14	T	49	VAL
14	T	50	ILE
14	T	68	TYR
14	T	83	ILE
16	V	16	PRO
16	V	46	VAL
16	V	50	PRO
16	V	68	LYS
16	V	77	ALA
16	V	96	ILE
17	W	73	ALA
17	W	77	ASP
17	W	110	LYS
19	Y	19	LYS
19	Y	32	PRO
19	Y	53	PRO
19	Y	56	PRO
19	Y	66	PRO
19	Y	67	LEU
19	Y	78	ALA
19	Y	97	ARG
20	Z	71	VAL
20	Z	72	ARG
20	Z	168	GLU
20	Z	169	GLU
21	0	56	ASP
21	0	73	GLY
22	1	26	ARG
22	1	32	LYS
22	1	35	THR
22	1	53	VAL
22	1	64	ALA
23	4	14	ILE
24	N	17	ASP
24	N	18	ALA
24	N	50	ASP
24	N	56	ASN
24	N	63	THR
24	N	64	GLY
24	N	130	HIS
24	N	133	GLN

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Mol	Chain	Res	Type
28	6	13	CYS
28	6	19	ARG
28	6	44	ARG
28	6	49	HIS
29	7	44	PRO
30	8	49	VAL
30	8	62	LEU
31	9	10	ILE
31	9	18	ARG
32	e	54	ALA
32	e	81	ILE
1	C	36	ALA
1	C	61	GLY
1	C	80	LYS
1	C	94	TYR
1	C	96	GLY
1	C	119	ASP
1	C	142	LYS
1	C	184	GLU
1	C	218	THR
1	C	228	HIS
2	D	79	VAL
2	D	127	VAL
2	D	152	GLY
2	D	165	ILE
2	D	200	ASP
2	D	273	ARG
3	E	10	GLY
3	E	18	ASP
3	E	34	VAL
3	E	51	PHE
3	E	68	ALA
3	E	77	ILE
4	F	58	ALA
4	F	73	ALA
4	F	84	VAL
4	F	181	LEU
4	F	194	MET
4	F	206	ILE
5	G	82	LEU
5	G	87	PRO
5	G	179	PRO

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Mol	Chain	Res	Type
6	H	41	MET
6	H	48	GLY
6	H	92	ILE
6	H	100	GLY
6	H	123	PHE
6	H	154	PRO
9	O	4	PRO
9	O	29	ASN
9	O	96	THR
10	P	14	LYS
10	P	70	GLN
11	Q	7	MET
11	Q	90	VAL
11	Q	92	GLY
11	Q	111	GLU
11	Q	127	ILE
11	Q	139	GLU
12	R	4	LEU
12	R	12	ARG
12	R	63	ARG
12	R	108	GLY
13	S	13	ARG
13	S	22	GLY
13	S	32	LEU
13	S	59	LYS
13	S	96	GLY
13	S	100	ALA
14	T	33	LYS
14	T	80	SER
14	T	86	ILE
14	T	104	ASN
15	U	11	ARG
15	U	90	VAL
16	V	44	LYS
16	V	49	THR
17	W	40	ASN
18	X	12	VAL
19	Y	39	VAL
19	Y	51	VAL
19	Y	80	GLY
19	Y	101	LYS
20	Z	52	SER

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Mol	Chain	Res	Type
20	Z	73	GLN
20	Z	78	LYS
20	Z	95	PRO
20	Z	108	PRO
21	0	6	GLY
21	0	11	ARG
21	0	83	PRO
23	4	7	PRO
23	4	9	LEU
23	4	33	VAL
24	N	2	LYS
25	2	48	HIS
25	2	70	GLN
26	3	2	PRO
26	3	52	HIS
27	5	23	HIS
27	5	54	GLY
28	6	27	LYS
28	6	46	HIS
30	8	53	PRO
32	e	62	VAL
32	e	114	LYS
32	e	120	ALA
1	C	3	LYS
1	C	139	PRO
1	C	164	PHE
2	D	43	ARG
2	D	48	ARG
2	D	89	SER
2	D	123	ALA
2	D	147	LEU
2	D	222	ARG
2	D	246	PRO
3	E	67	PHE
3	E	75	VAL
3	E	86	PRO
3	E	122	PHE
3	E	179	GLU
3	E	192	ASN
4	F	7	TYR
4	F	14	PRO
4	F	60	SER

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Mol	Chain	Res	Type
4	F	133	ASN
4	F	150	GLY
5	G	27	ASN
5	G	35	GLU
5	G	43	LEU
5	G	66	GLN
5	G	84	LYS
5	G	147	ASP
5	G	166	ASP
6	H	47	GLU
6	H	118	PRO
6	H	155	SER
6	H	160	LYS
8	K	116	ASN
9	O	5	GLN
9	O	26	LYS
9	O	64	ARG
10	P	31	ALA
10	P	43	GLY
10	P	49	ARG
11	Q	2	LEU
11	Q	102	VAL
11	Q	135	ASP
12	R	40	LYS
12	R	62	ALA
13	S	24	LEU
13	S	83	LYS
13	S	94	TYR
14	T	3	ARG
14	T	27	THR
15	U	23	GLY
16	V	27	ALA
16	V	29	PRO
16	V	78	LYS
17	W	12	ILE
18	X	4	ALA
18	X	32	PRO
18	X	33	LYS
19	Y	29	GLU
19	Y	88	LYS
20	Z	29	TYR
20	Z	166	SER

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Mol	Chain	Res	Type
22	1	10	LYS
22	1	20	ARG
22	1	23	LYS
22	1	34	THR
22	1	65	SER
22	1	87	PRO
23	4	2	LYS
24	N	67	LEU
24	N	127	ASP
25	2	3	LEU
25	2	17	SER
27	5	3	LYS
28	6	48	VAL
29	7	9	ARG
29	7	42	LEU
30	8	18	ALA
30	8	30	ARG
30	8	48	PHE
30	8	51	ALA
30	8	64	TYR
32	e	119	GLY
1	C	37	LYS
1	C	53	ARG
1	C	77	ALA
1	C	143	ALA
1	C	171	ALA
2	D	28	GLU
2	D	44	ASN
2	D	110	GLY
2	D	122	ASP
2	D	260	ARG
3	E	35	GLN
3	E	123	ALA
4	F	52	LYS
4	F	66	PRO
4	F	78	ILE
4	F	92	PRO
6	H	59	ARG
6	H	107	VAL
8	K	30	HIS
8	K	51	ALA
8	K	85	GLU

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Mol	Chain	Res	Type
8	K	122	ALA
9	O	28	SER
10	P	46	LYS
10	P	48	PRO
10	P	76	LYS
10	P	97	PRO
10	P	107	LYS
10	P	141	ALA
11	Q	28	ALA
11	Q	126	PRO
13	S	58	LEU
13	S	82	ILE
13	S	93	LYS
13	S	106	ARG
14	T	55	ASN
14	T	78	LEU
15	U	24	TYR
15	U	88	ILE
15	U	98	LEU
16	V	53	GLU
17	W	15	ARG
17	W	61	ASN
18	X	24	GLY
19	Y	18	GLY
19	Y	81	LYS
20	Z	30	ASN
20	Z	34	ASN
21	0	35	ASN
22	1	12	PRO
22	1	36	GLY
22	1	40	ARG
22	1	44	PRO
22	1	63	ALA
22	1	94	LEU
24	N	23	LEU
26	3	16	PRO
27	5	7	PRO
27	5	24	ALA
31	9	3	VAL
32	e	78	LEU
1	C	22	THR
1	C	60	ARG

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Mol	Chain	Res	Type
1	C	76	LEU
1	C	122	GLY
1	C	202	PRO
2	D	53	PHE
2	D	90	ALA
2	D	109	ASP
2	D	198	ASN
2	D	225	ALA
2	D	242	ARG
3	E	178	GLU
4	F	24	LEU
8	K	33	ASN
8	K	89	HIS
8	K	90	LYS
10	P	9	ASN
10	P	13	ASN
10	P	17	LYS
12	R	93	GLY
12	R	101	ALA
12	R	103	ARG
13	S	85	VAL
14	T	31	SER
14	T	70	VAL
14	T	87	ASP
14	T	90	GLN
15	U	92	ARG
15	U	106	PHE
17	W	65	LEU
19	Y	50	ARG
19	Y	60	PHE
19	Y	91	GLU
20	Z	31	ARG
20	Z	82	ARG
20	Z	83	PRO
21	0	33	ALA
24	N	3	THR
27	5	49	CYS
28	6	6	ARG
28	6	20	ASN
28	6	31	PRO
31	9	21	GLY
1	C	18	ASN

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Mol	Chain	Res	Type
1	C	150	ILE
2	D	98	VAL
2	D	154	LYS
2	D	232	PRO
8	K	21	PRO
8	K	91	PRO
12	R	10	LEU
15	U	59	ARG
16	V	80	GLN
17	W	63	ASP
17	W	80	PRO
20	Z	39	VAL
22	1	21	ARG
24	N	110	GLY
27	5	57	VAL
1	C	136	GLY
2	D	256	GLY
8	K	72	PRO
10	P	69	GLY
11	Q	27	VAL
17	W	14	PRO
19	Y	42	VAL
24	N	77	GLY
28	6	7	ILE
29	7	46	VAL
1	C	42	VAL
1	C	81	GLY
3	E	14	ILE
4	F	88	VAL
5	G	24	GLY
6	H	49	VAL
16	V	48	GLY
2	D	244	ARG
2	D	249	PRO
3	E	134	ILE
4	F	178	PRO
8	K	55	VAL
10	P	78	PRO
14	T	34	VAL
15	U	73	GLY
19	Y	74	PRO
20	Z	90	VAL

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Mol	Chain	Res	Type
1	C	20	VAL
4	F	61	GLY
5	G	16	ARG
13	S	60	GLY
15	U	102	GLU
22	1	29	GLY
24	N	126	PRO

### 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 X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	180/180 (100%)	130 (72%)	50 (28%)	0	6
2	D	217/217 (100%)	173 (80%)	44 (20%)	2	14
3	E	165/165 (100%)	134 (81%)	31 (19%)	2	17
4	F	165/165 (100%)	126 (76%)	39 (24%)	1	9
5	G	155/155 (100%)	121 (78%)	34 (22%)	1	11
6	H	136/136 (100%)	115 (85%)	21 (15%)	4	29
8	K	105/105 (100%)	88 (84%)	17 (16%)	3	26
9	O	100/100 (100%)	84 (84%)	16 (16%)	3	27
10	P	112/112 (100%)	91 (81%)	21 (19%)	2	17
11	Q	111/111 (100%)	85 (77%)	26 (23%)	1	9
12	R	100/100 (100%)	81 (81%)	19 (19%)	2	17
13	S	77/77 (100%)	60 (78%)	17 (22%)	1	11
14	T	120/120 (100%)	99 (82%)	21 (18%)	3	21
15	U	93/93 (100%)	76 (82%)	17 (18%)	2	18
16	V	82/82 (100%)	60 (73%)	22 (27%)	1	7
17	W	92/92 (100%)	74 (80%)	18 (20%)	2	15
18	X	75/75 (100%)	60 (80%)	15 (20%)	2	15
19	Y	88/88 (100%)	72 (82%)	16 (18%)	2	19
20	Z	162/162 (100%)	128 (79%)	34 (21%)	1	12

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	0	66/66 (100%)	56 (85%)	10 (15%)	4	30
22	1	78/78 (100%)	53 (68%)	25 (32%)	0	4
23	4	31/31 (100%)	25 (81%)	6 (19%)	2	16
24	N	117/117 (100%)	100 (86%)	17 (14%)	5	32
25	2	66/66 (100%)	58 (88%)	8 (12%)	7	42
26	3	52/52 (100%)	45 (86%)	7 (14%)	6	36
27	5	51/51 (100%)	42 (82%)	9 (18%)	3	21
28	6	49/49 (100%)	37 (76%)	12 (24%)	1	8
29	7	42/42 (100%)	36 (86%)	6 (14%)	5	33
30	8	54/54 (100%)	40 (74%)	14 (26%)	1	7
31	9	34/34 (100%)	29 (85%)	5 (15%)	4	31
32	e	54/54 (100%)	46 (85%)	8 (15%)	4	31
All	All	3029/3029 (100%)	2424 (80%)	605 (20%)	2	15

All (605) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	7	ARG
1	C	12	LEU
1	C	15	VAL
1	C	16	ASP
1	C	19	LYS
1	C	22	THR
1	C	24	ASP
1	C	28	ARG
1	C	31	LYS
1	C	32	GLU
1	C	37	LYS
1	C	39	ASP
1	C	42	VAL
1	C	47	LYS
1	C	51	ASP
1	C	53	ARG
1	C	56	ASP
1	C	59	VAL
1	C	60	ARG
1	C	63	VAL
1	C	71	LYS

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Mol	Chain	Res	Type
1	C	73	VAL
1	C	74	ARG
1	C	76	LEU
1	C	83	LYS
1	C	95	VAL
1	C	105	LEU
1	C	106	ASP
1	C	110	ASP
1	C	117	THR
1	C	121	MET
1	C	131	ILE
1	C	138	LEU
1	C	139	PRO
1	C	145	THR
1	C	161	ARG
1	C	162	ILE
1	C	164	PHE
1	C	165	ARG
1	C	166	ASN
1	C	167	ASP
1	C	169	THR
1	C	172	ILE
1	C	176	VAL
1	C	182	PRO
1	C	185	LYS
1	C	189	ASN
1	C	215	VAL
1	C	216	THR
1	C	224	ARG
2	D	4	LYS
2	D	10	THR
2	D	20	ASP
2	D	23	GLU
2	D	24	ILE
2	D	25	THR
2	D	26	LYS
2	D	33	LEU
2	D	35	LYS
2	D	37	LEU
2	D	43	ARG
2	D	44	ASN
2	D	49	ILE

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Mol	Chain	Res	Type
2	D	64	ILE
2	D	65	ILE
2	D	67	PHE
2	D	78	LYS
2	D	82	ILE
2	D	83	GLU
2	D	95	LEU
2	D	96	HIS
2	D	103	ARG
2	D	105	ILE
2	D	112	GLN
2	D	115	GLN
2	D	116	GLN
2	D	117	VAL
2	D	131	LEU
2	D	136	ILE
2	D	142	VAL
2	D	164	GLN
2	D	169	GLU
2	D	196	VAL
2	D	198	ASN
2	D	201	HIS
2	D	218	ARG
2	D	229	VAL
2	D	230	ASP
2	D	239	ARG
2	D	244	ARG
2	D	252	TRP
2	D	257	LEU
2	D	259	THR
2	D	269	PHE
3	E	4	ILE
3	E	9	VAL
3	E	16	ARG
3	E	17	ASP
3	E	35	GLN
3	E	51	PHE
3	E	61	ARG
3	E	67	PHE
3	E	80	GLU
3	E	83	ASP
3	E	87	GLU

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Mol	Chain	Res	Type
3	E	89	ASP
3	E	94	GLU
3	E	96	PHE
3	E	97	LYS
3	E	109	LYS
3	E	111	ARG
3	E	113	PHE
3	E	127	ASP
3	E	129	HIS
3	E	132	HIS
3	E	134	ILE
3	E	144	ARG
3	E	146	THR
3	E	154	LYS
3	E	164	ARG
3	E	192	ASN
3	E	196	VAL
3	E	197	ILE
3	E	199	ARG
3	E	200	GLU
4	F	2	LYS
4	F	3	GLU
4	F	6	VAL
4	F	8	GLN
4	F	9	ILE
4	F	12	LEU
4	F	19	GLU
4	F	28	ILE
4	F	29	ASN
4	F	32	LEU
4	F	33	LEU
4	F	35	GLU
4	F	40	GLN
4	F	43	LYS
4	F	45	ARG
4	F	54	ARG
4	F	62	ARG
4	F	65	TRP
4	F	72	ARG
4	F	74	ARG
4	F	89	VAL
4	F	106	ARG

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Mol	Chain	Res	Type
4	F	124	LEU
4	F	126	VAL
4	F	136	THR
4	F	137	LYS
4	F	149	ASP
4	F	154	VAL
4	F	155	LEU
4	F	156	LEU
4	F	170	LEU
4	F	172	TRP
4	F	175	THR
4	F	186	ILE
4	F	188	ARG
4	F	190	GLU
4	F	192	LEU
4	F	194	MET
4	F	196	LEU
5	G	5	VAL
5	G	10	LYS
5	G	11	TYR
5	G	12	TYR
5	G	29	TRP
5	G	33	ARG
5	G	34	LEU
5	G	35	GLU
5	G	36	LYS
5	G	49	ASP
5	G	52	ILE
5	G	54	GLU
5	G	60	LEU
5	G	62	LEU
5	G	64	THR
5	G	66	GLN
5	G	74	LYS
5	G	86	MET
5	G	101	ILE
5	G	103	LEU
5	G	105	LYS
5	G	106	LEU
5	G	113	ARG
5	G	128	ARG
5	G	133	LEU

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Mol	Chain	Res	Type
5	G	141	PHE
5	G	144	ILE
5	G	147	ASP
5	G	153	ARG
5	G	159	VAL
5	G	164	GLU
5	G	167	GLU
5	G	168	GLU
5	G	176	LEU
6	H	15	VAL
6	H	34	GLU
6	H	37	VAL
6	H	41	MET
6	H	43	VAL
6	H	44	VAL
6	H	60	ARG
6	H	67	LEU
6	H	69	ARG
6	H	71	LEU
6	H	85	LYS
6	H	86	GLU
6	H	89	ILE
6	H	97	ARG
6	H	127	GLU
6	H	134	SER
6	H	136	ILE
6	H	138	LYS
6	H	143	GLN
6	H	148	ILE
6	H	160	LYS
8	K	4	VAL
8	K	37	PHE
8	K	41	PHE
8	K	50	ASP
8	K	56	GLU
8	K	57	ILE
8	K	59	ILE
8	K	67	PHE
8	K	70	LYS
8	K	75	SER
8	K	76	TYR
8	K	78	ILE

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Mol	Chain	Res	Type
8	K	90	LYS
8	K	95	LYS
8	K	99	ILE
8	K	132	ARG
8	K	136	VAL
9	O	1	MET
9	O	2	ILE
9	O	34	THR
9	O	39	ILE
9	O	58	VAL
9	O	59	LYS
9	O	67	LYS
9	O	73	ASP
9	O	80	ASP
9	O	82	ASN
9	O	91	LEU
9	O	99	PHE
9	O	107	ARG
9	O	112	MET
9	O	114	ILE
9	O	117	LEU
10	P	7	ARG
10	P	9	ASN
10	P	16	ARG
10	P	18	ARG
10	P	27	HIS
10	P	32	THR
10	P	38	GLN
10	P	55	ARG
10	P	60	MET
10	P	62	LEU
10	P	64	LYS
10	P	77	ARG
10	P	85	LEU
10	P	91	PHE
10	P	98	GLU
10	P	106	LEU
10	P	107	LYS
10	P	108	LYS
10	P	110	TYR
10	P	117	GLU
10	P	135	LEU

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Mol	Chain	Res	Type
11	Q	1	MET
11	Q	3	MET
11	Q	6	ARG
11	Q	7	MET
11	Q	17	LEU
11	Q	26	TYR
11	Q	31	ASP
11	Q	34	LEU
11	Q	42	ILE
11	Q	43	THR
11	Q	56	ARG
11	Q	59	ARG
11	Q	60	ARG
11	Q	66	ILE
11	Q	68	ILE
11	Q	74	TYR
11	Q	90	VAL
11	Q	93	TYR
11	Q	96	VAL
11	Q	101	ARG
11	Q	116	GLU
11	Q	125	LEU
11	Q	128	LYS
11	Q	131	ILE
11	Q	137	TYR
11	Q	139	GLU
12	R	2	ARG
12	R	3	HIS
12	R	4	LEU
12	R	8	ARG
12	R	10	LEU
12	R	15	SER
12	R	22	ARG
12	R	23	ASN
12	R	28	LEU
12	R	29	LEU
12	R	44	LEU
12	R	45	ARG
12	R	60	LEU
12	R	75	LEU
12	R	76	VAL
12	R	81	ASP

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Mol	Chain	Res	Type
12	R	94	TYR
12	R	99	LYS
12	R	111	LEU
13	S	12	PHE
13	S	13	ARG
13	S	15	ARG
13	S	18	ILE
13	S	20	ARG
13	S	35	ILE
13	S	39	ILE
13	S	40	ILE
13	S	42	ASP
13	S	47	THR
13	S	48	LEU
13	S	71	ARG
13	S	82	ILE
13	S	85	VAL
13	S	99	LYS
13	S	103	GLU
13	S	106	ARG
14	T	11	GLU
14	T	13	ARG
14	T	23	ARG
14	T	27	THR
14	T	29	ARG
14	T	33	LYS
14	T	42	ILE
14	T	49	VAL
14	T	54	ARG
14	T	57	PHE
14	T	65	LYS
14	T	70	VAL
14	T	74	ARG
14	T	79	HIS
14	T	82	LEU
14	T	84	GLN
14	T	87	ASP
14	T	108	ARG
14	T	114	LEU
14	T	115	ARG
14	T	125	ARG
15	U	14	HIS

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Mol	Chain	Res	Type
15	U	16	LYS
15	U	28	ARG
15	U	33	ARG
15	U	34	LYS
15	U	38	THR
15	U	39	LEU
15	U	51	LYS
15	U	55	ARG
15	U	65	ILE
15	U	74	LEU
15	U	80	ILE
15	U	91	ASP
15	U	98	LEU
15	U	101	ARG
15	U	111	GLU
15	U	114	LYS
16	V	6	LYS
16	V	7	THR
16	V	10	LYS
16	V	14	VAL
16	V	18	LEU
16	V	19	LYS
16	V	21	ARG
16	V	26	ASP
16	V	33	VAL
16	V	37	VAL
16	V	40	LEU
16	V	52	VAL
16	V	57	VAL
16	V	60	GLU
16	V	64	HIS
16	V	74	LYS
16	V	75	PHE
16	V	79	VAL
16	V	87	HIS
16	V	88	ARG
16	V	99	ILE
16	V	100	ARG
17	W	11	ARG
17	W	15	ARG
17	W	17	VAL
17	W	24	ILE

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Mol	Chain	Res	Type
17	W	37	ARG
17	W	46	PHE
17	W	51	LEU
17	W	66	GLU
17	W	88	ARG
17	W	92	ARG
17	W	94	ASP
17	W	95	ILE
17	W	96	ILE
17	W	100	THR
17	W	103	ILE
17	W	105	VAL
17	W	107	LEU
17	W	113	LYS
18	X	8	ILE
18	X	15	GLU
18	X	23	GLU
18	X	25	LYS
18	X	27	THR
18	X	35	THR
18	X	36	LYS
18	X	54	VAL
18	X	57	LEU
18	X	58	HIS
18	X	68	ARG
18	X	72	LYS
18	X	76	ARG
18	X	88	LYS
18	X	95	LEU
19	Y	2	ARG
19	Y	6	HIS
19	Y	7	VAL
19	Y	9	LYS
19	Y	13	VAL
19	Y	29	GLU
19	Y	31	LEU
19	Y	33	LYS
19	Y	44	ILE
19	Y	47	LYS
19	Y	50	ARG
19	Y	75	ILE
19	Y	84	ARG

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Mol	Chain	Res	Type
19	Y	89	PHE
19	Y	90	LEU
19	Y	97	ARG
20	Z	3	TYR
20	Z	5	LEU
20	Z	20	ARG
20	Z	27	VAL
20	Z	28	MET
20	Z	29	TYR
20	Z	35	ARG
20	Z	46	LYS
20	Z	48	PHE
20	Z	49	ARG
20	Z	54	HIS
20	Z	59	LEU
20	Z	60	GLU
20	Z	61	LEU
20	Z	76	LEU
20	Z	81	ARG
20	Z	86	VAL
20	Z	94	GLU
20	Z	97	GLU
20	Z	98	MET
20	Z	112	ARG
20	Z	124	ILE
20	Z	126	VAL
20	Z	127	LYS
20	Z	131	ARG
20	Z	133	ILE
20	Z	141	VAL
20	Z	144	LEU
20	Z	148	ASP
20	Z	150	LEU
20	Z	162	GLU
20	Z	175	VAL
20	Z	179	ASP
20	Z	181	GLU
21	0	4	LYS
21	0	5	LYS
21	0	9	SER
21	0	20	ARG
21	0	27	GLU

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Mol	Chain	Res	Type
21	0	37	LEU
21	0	50	ASN
21	0	53	MET
21	0	57	PHE
21	0	64	ASP
22	1	3	LYS
22	1	5	CYS
22	1	17	SER
22	1	18	ILE
22	1	21	ARG
22	1	23	LYS
22	1	26	ARG
22	1	27	GLU
22	1	32	LYS
22	1	37	ILE
22	1	39	LYS
22	1	40	ARG
22	1	41	ARG
22	1	42	GLN
22	1	43	TYR
22	1	46	LEU
22	1	50	ARG
22	1	57	GLU
22	1	58	ILE
22	1	59	THR
22	1	60	PHE
22	1	61	ARG
22	1	66	HIS
22	1	73	LEU
22	1	82	LEU
23	4	1	MET
23	4	9	LEU
23	4	10	VAL
23	4	30	GLU
23	4	32	TYR
23	4	33	VAL
24	N	1	MET
24	N	7	LYS
24	N	32	THR
24	N	42	TRP
24	N	45	ASN
24	N	48	MET

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Mol	Chain	Res	Type
24	N	50	ASP
24	N	71	ILE
24	N	87	LEU
24	N	96	GLU
24	N	99	LEU
24	N	111	PRO
24	N	112	LEU
24	N	127	ASP
24	N	131	GLN
24	N	137	LYS
24	N	138	LEU
25	2	4	SER
25	2	8	LYS
25	2	30	ARG
25	2	37	PHE
25	2	38	GLN
25	2	47	ASN
25	2	51	ARG
25	2	53	LEU
26	3	17	LYS
26	3	29	ARG
26	3	30	ARG
26	3	31	LEU
26	3	37	LEU
26	3	53	LEU
26	3	60	GLU
27	5	3	LYS
27	5	4	HIS
27	5	11	THR
27	5	15	ARG
27	5	16	ARG
27	5	23	HIS
27	5	25	LEU
27	5	51	TYR
27	5	58	LEU
28	6	9	LEU
28	6	11	LEU
28	6	18	ARG
28	6	19	ARG
28	6	27	LYS
28	6	34	LEU
28	6	39	TYR

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Mol	Chain	Res	Type
28	6	45	LYS
28	6	47	THR
28	6	48	VAL
28	6	49	HIS
28	6	50	ARG
29	7	29	LYS
29	7	35	ARG
29	7	40	TRP
29	7	41	ARG
29	7	42	LEU
29	7	46	VAL
30	8	14	VAL
30	8	16	ILE
30	8	31	HIS
30	8	32	LEU
30	8	34	TRP
30	8	36	LYS
30	8	42	ARG
30	8	44	LYS
30	8	46	ARG
30	8	48	PHE
30	8	56	GLU
30	8	59	LYS
30	8	62	LEU
30	8	64	TYR
31	9	11	CYS
31	9	12	ASP
31	9	17	ILE
31	9	19	ARG
31	9	28	GLU
32	e	60	PHE
32	e	73	GLU
32	e	78	LEU
32	e	90	LYS
32	e	91	ASP
32	e	94	GLU
32	e	106	GLN
32	e	118	VAL

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (26) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	58	ASN
2	D	115	GLN
2	D	198	ASN
3	E	143	ASN
3	E	159	HIS
3	E	169	ASN
4	F	8	GLN
4	F	40	GLN
4	F	67	GLN
5	G	58	GLN
8	K	116	ASN
12	R	23	ASN
13	S	34	HIS
13	S	38	GLN
14	T	43	GLN
14	T	58	ASN
16	V	11	GLN
16	V	64	HIS
22	1	45	ASN
22	1	47	GLN
24	N	45	ASN
24	N	94	HIS
24	N	131	GLN
24	N	133	GLN
25	2	9	GLN
25	2	47	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
35	B	118/119 (99%)	19 (16%)	1 (0%)
36	A	2878/2879 (99%)	692 (24%)	22 (0%)
All	All	2996/2998 (99%)	711 (23%)	23 (0%)

All (711) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
35	B	2	C
35	B	13	A
35	B	15	A
35	B	16	G
35	B	25	A

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Mol	Chain	Res	Type
35	B	30	C
35	B	41	U
35	B	44	G
35	B	47	C
35	B	48	A
35	B	67	G
35	B	71	C
35	B	72	G
35	B	73	A
35	B	94	C
35	B	99	A
35	B	107	U
35	B	109	G
35	B	117	G
36	A	7	G
36	A	11	G
36	A	15	G
36	A	17	G
36	A	33	U
36	A	34	C
36	A	35	G
36	A	36	G
36	A	46	C
36	A	60	G
36	A	63	U
36	A	67	U
36	A	73	A
36	A	75	G
36	A	90	U
36	A	98	G
36	A	99	U
36	A	101	G
36	A	102	G
36	A	104	U
36	A	110	G
36	A	115	C
36	A	116	C
36	A	119	A
36	A	120	U
36	A	128	C
36	A	141(A)	A
36	A	148	C

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Mol	Chain	Res	Type
36	A	149	A
36	A	175	G
36	A	181	A
36	A	186	G
36	A	196	A
36	A	197	A
36	A	199	A
36	A	205	G
36	A	216	A
36	A	221	A
36	A	222	A
36	A	223	A
36	A	227	A
36	A	229	A
36	A	230	U
36	A	233	A
36	A	239	U
36	A	241	A
36	A	248	G
36	A	250	G
36	A	252	G
36	A	256	A
36	A	265	A
36	A	270(M)	U
36	A	270(N)	U
36	A	270(O)	G
36	A	270(P)	U
36	A	270(Q)	C
36	A	270(R)	C
36	A	271(B)	C
36	A	271(D)	U
36	A	271	G
36	A	274	G
36	A	275	G
36	A	277	C
36	A	279	C
36	A	282	A
36	A	290	G
36	A	294	A
36	A	295	G
36	A	297	C
36	A	299	A

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Mol	Chain	Res	Type
36	A	300	A
36	A	302	C
36	A	304	G
36	A	310	A
36	A	323	G
36	A	329	G
36	A	330	A
36	A	332	A
36	A	345	A
36	A	346	A
36	A	352	G
36	A	353	G
36	A	363(G)	A
36	A	370	G
36	A	381	G
36	A	386	G
36	A	387	U
36	A	396	G
36	A	405	U
36	A	406	G
36	A	407	G
36	A	411	G
36	A	416	C
36	A	432	A
36	A	434	U
36	A	435	C
36	A	443	A
36	A	444	C
36	A	448	U
36	A	449	A
36	A	451	C
36	A	456	C
36	A	457	A
36	A	459	U
36	A	464	U
36	A	465	G
36	A	469	G
36	A	470	A
36	A	475	U
36	A	480	A
36	A	481	G
36	A	484	C

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Mol	Chain	Res	Type
36	A	505	A
36	A	508	G
36	A	509	C
36	A	511	U
36	A	512	G
36	A	513	A
36	A	516	C
36	A	518	G
36	A	527	C
36	A	531	C
36	A	532	A
36	A	549	G
36	A	556	G
36	A	561	G
36	A	563	G
36	A	572	A
36	A	573	G
36	A	574	C
36	A	575	A
36	A	585	G
36	A	599	G
36	A	603	A
36	A	615	G
36	A	616	A
36	A	617	G
36	A	618(A)	G
36	A	620	G
36	A	621	A
36	A	627	A
36	A	628	G
36	A	637	A
36	A	645	C
36	A	646	A
36	A	652	U
36	A	654	U
36	A	655	A
36	A	657	U
36	A	662	G
36	A	667	U
36	A	671	C
36	A	682	G
36	A	685	A

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Mol	Chain	Res	Type
36	A	686	G
36	A	709	U
36	A	716	A
36	A	719	C
36	A	728	G
36	A	730	C
36	A	735	A
36	A	736	C
36	A	737	C
36	A	738	G
36	A	747	U
36	A	748	G
36	A	753	C
36	A	755	C
36	A	757	U
36	A	764	A
36	A	767	U
36	A	768	G
36	A	776	G
36	A	781	A
36	A	782	A
36	A	784	A
36	A	785	G
36	A	788	A
36	A	792	G
36	A	800	A
36	A	805	G
36	A	806	C
36	A	810	U
36	A	812	C
36	A	817	C
36	A	819	A
36	A	821	A
36	A	825	C
36	A	827	U
36	A	829	A
36	A	831	G
36	A	835	A
36	A	846	C
36	A	847	U
36	A	852	G
36	A	869	G

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Mol	Chain	Res	Type
36	A	887	A
36	A	890	A
36	A	896	A
36	A	897	C
36	A	898	C
36	A	906	G
36	A	910	A
36	A	911	A
36	A	917	A
36	A	919	G
36	A	929	G
36	A	932	G
36	A	941	A
36	A	942	G
36	A	943	U
36	A	946	G
36	A	947	G
36	A	961	C
36	A	971	C
36	A	974(A)	G
36	A	974(B)	C
36	A	977	G
36	A	980	A
36	A	982	C
36	A	983	A
36	A	990	A
36	A	996	A
36	A	1005	C
36	A	1008	C
36	A	1009	A
36	A	1012	U
36	A	1013	C
36	A	1022	G
36	A	1023	U
36	A	1025	G
36	A	1026	U
36	A	1030	G
36	A	1033	U
36	A	1034	G
36	A	1042	G
36	A	1045	A
36	A	1046	A

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Mol	Chain	Res	Type
36	A	1047	G
36	A	1048	A
36	A	1070	A
36	A	1071	G
36	A	1072	C
36	A	1073	A
36	A	1075	C
36	A	1077	A
36	A	1078	U
36	A	1079	C
36	A	1082	U
36	A	1085	A
36	A	1087	G
36	A	1088	A
36	A	1090	U
36	A	1095	A
36	A	1096	A
36	A	1102	C
36	A	1106	G
36	A	1110	G
36	A	1111	A
36	A	1112	G
36	A	1119	C
36	A	1127	A
36	A	1130	U
36	A	1132	A
36	A	1135	C
36	A	1136	G
36	A	1138	G
36	A	1139	G
36	A	1141	U
36	A	114(B)	A
36	A	1148	A
36	A	1157	G
36	A	1175	U
36	A	1176	G
36	A	1186	G
36	A	1199	U
36	A	1204	A
36	A	1210	A
36	A	1211	U
36	A	1212	G

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Mol	Chain	Res	Type
36	A	1221	C
36	A	1224	C
36	A	1237	A
36	A	1241	A
36	A	1244	G
36	A	1248	G
36	A	1249	U
36	A	1253	A
36	A	1255	U
36	A	1256	G
36	A	1257	C
36	A	1262	A
36	A	1271	G
36	A	1272	A
36	A	1273	U
36	A	1274	A
36	A	1286	A
36	A	1288	U
36	A	1300	U
36	A	1301	A
36	A	1302	A
36	A	1311	G
36	A	1312	U
36	A	1314	C
36	A	1321	A
36	A	1324	G
36	A	1325	G
36	A	1329	U
36	A	1332	G
36	A	1333	C
36	A	1341	U
36	A	1342	A
36	A	1345	C
36	A	1346	G
36	A	1349	A
36	A	1350	C
36	A	1352	U
36	A	1359	A
36	A	1365	A
36	A	1366	A
36	A	1371	G
36	A	1380	G

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Mol	Chain	Res	Type
36	A	1384	A
36	A	1385	G
36	A	1392	A
36	A	1395	A
36	A	1396	U
36	A	1400	G
36	A	1416	G
36	A	1420	U
36	A	1421	G
36	A	1427	A
36	A	1428	C
36	A	1435	G
36	A	144(B)	A
36	A	1445	C
36	A	149(B)	A
36	A	1453	A
36	A	1454	U
36	A	1455	G
36	A	1459	G
36	A	1460	A
36	A	1467	C
36	A	1483	G
36	A	1486	A
36	A	1490	A
36	A	1491	G
36	A	1493	C
36	A	1494	A
36	A	1495	A
36	A	1497	U
36	A	1498	C
36	A	1501	C
36	A	1503	U
36	A	1522	G
36	A	1523	U
36	A	1536	A
36	A	1538	G
36	A	1542	G
36	A	1543	A
36	A	1544	C
36	A	1545	A
36	A	1546	A
36	A	1554	A

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Mol	Chain	Res	Type
36	A	1557	C
36	A	1558	A
36	A	1559	G
36	A	1565	C
36	A	1566	A
36	A	1567	A
36	A	1569	A
36	A	1572	A
36	A	1583	A
36	A	1585	C
36	A	1595	G
36	A	1602	U
36	A	1603	A
36	A	1608	A
36	A	1610	A
36	A	1614	A
36	A	1615	C
36	A	1616	A
36	A	1617	C
36	A	1618	A
36	A	1631	A
36	A	1640	C
36	A	1648	C
36	A	1650	G
36	A	1651	G
36	A	1653	G
36	A	1654	A
36	A	1668	A
36	A	1669	A
36	A	1670	C
36	A	1674	G
36	A	1681	G
36	A	1694	C
36	A	1695	G
36	A	1696	G
36	A	1697	G
36	A	1698	A
36	A	1699	G
36	A	1700	A
36	A	1707	G
36	A	1729	A
36	A	1732	A

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Mol	Chain	Res	Type
36	A	1750	G
36	A	1758	G
36	A	1759	A
36	A	1763	G
36	A	1764	G
36	A	1773	A
36	A	1780	A
36	A	1781	C
36	A	1783	A
36	A	1784	A
36	A	1787	A
36	A	1791	A
36	A	1796	U
36	A	1799	G
36	A	1800	C
36	A	1801	G
36	A	1802	A
36	A	1803	A
36	A	1809	A
36	A	1812	A
36	A	1815	A
36	A	1816	G
36	A	1817	G
36	A	1820	U
36	A	1821	A
36	A	1829	A
36	A	1839	G
36	A	1847	A
36	A	1878	G
36	A	1881	C
36	A	1888	G
36	A	1889	A
36	A	1894	C
36	A	1900	A
36	A	1905	C
36	A	1906	G
36	A	1913	A
36	A	1914	C
36	A	1929	G
36	A	1930	G
36	A	1936	A
36	A	1938	A

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Mol	Chain	Res	Type
36	A	1939	U
36	A	1944	U
36	A	1955	U
36	A	1963	U
36	A	1965	C
36	A	1966	A
36	A	1967	C
36	A	1970	A
36	A	1971	A
36	A	1972	A
36	A	1975	G
36	A	1977	A
36	A	1979	C
36	A	1982	C
36	A	1983	C
36	A	1992	G
36	A	1993	U
36	A	1996	C
36	A	2006	C
36	A	2013	A
36	A	2020	A
36	A	2021	C
36	A	2023	G
36	A	2026	C
36	A	2027	G
36	A	2031	A
36	A	2032	G
36	A	2033	A
36	A	2034	U
36	A	2036	C
36	A	2039	C
36	A	2040	C
36	A	2041	U
36	A	2042	A
36	A	2043	C
36	A	2052	G
36	A	2055	C
36	A	2056	G
36	A	2060	A
36	A	2061	G
36	A	2062	A
36	A	2063	C

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Mol	Chain	Res	Type
36	A	2065	C
36	A	2067	G
36	A	2069	G
36	A	2091	U
36	A	2093	G
36	A	2107	C
36	A	2115	G
36	A	2116	G
36	A	2117	A
36	A	2120	G
36	A	2126	A
36	A	2128	C
36	A	2130	U
36	A	2132	U
36	A	2133	G
36	A	2138	C
36	A	2144	U
36	A	2145	C
36	A	2156	G
36	A	2158	A
36	A	2159	G
36	A	2168	G
36	A	2171	A
36	A	2173	A
36	A	2198	A
36	A	2210	G
36	A	2211	G
36	A	2212	A
36	A	2213	U
36	A	2224	G
36	A	2225	A
36	A	2238	G
36	A	2239	G
36	A	2241	A
36	A	2249	U
36	A	2255	G
36	A	2264	C
36	A	2266	A
36	A	2267	A
36	A	2269	A
36	A	2273	A
36	A	2275	C

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Mol	Chain	Res	Type
36	A	2277	G
36	A	2278	A
36	A	2279	G
36	A	2282	G
36	A	2283	C
36	A	2284	C
36	A	2287	A
36	A	2288	A
36	A	2305	A
36	A	2306	C
36	A	2307	G
36	A	2308	G
36	A	2309	A
36	A	2310	A
36	A	2311	A
36	A	2312	U
36	A	2319	G
36	A	2320	A
36	A	2325	G
36	A	2333	A
36	A	2334	G
36	A	2336	A
36	A	2340	G
36	A	2343	C
36	A	2345	G
36	A	2346	A
36	A	2347	C
36	A	2350	C
36	A	2371	G
36	A	2377	A
36	A	2381	C
36	A	2383	G
36	A	2385	C
36	A	2387	U
36	A	2390	U
36	A	2394	C
36	A	2400	G
36	A	2402	C
36	A	2403	C
36	A	2406	U
36	A	2411	A
36	A	2422	A

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Mol	Chain	Res	Type
36	A	2423	U
36	A	2425	A
36	A	2427	C
36	A	2428	G
36	A	2429	G
36	A	2430	A
36	A	2433	A
36	A	2434	A
36	A	2435	A
36	A	2439	A
36	A	2440	C
36	A	2441	C
36	A	2447	G
36	A	2448	A
36	A	2449	U
36	A	2451	A
36	A	2456	C
36	A	2460	U
36	A	2469	A
36	A	2470	G
36	A	2476	A
36	A	2477	C
36	A	2478	A
36	A	2479	G
36	A	2480	C
36	A	2483	C
36	A	2499	C
36	A	2501	C
36	A	2502	G
36	A	2504	U
36	A	2505	G
36	A	2508	G
36	A	2513	G
36	A	2518	A
36	A	2519	U
36	A	2529	G
36	A	2530	A
36	A	2531	A
36	A	2542	A
36	A	2543	G
36	A	2554	U
36	A	2556	C

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Mol	Chain	Res	Type
36	A	2561	A
36	A	2566	A
36	A	2567	G
36	A	2572	A
36	A	2573	C
36	A	2576	G
36	A	2577	A
36	A	2583	G
36	A	2584	U
36	A	2585	U
36	A	2586	C
36	A	2592	G
36	A	2602	A
36	A	2609	U
36	A	2610	C
36	A	2611	U
36	A	2612	C
36	A	2614	A
36	A	2620	C
36	A	2621	A
36	A	2630	G
36	A	2636	U
36	A	2646	C
36	A	2657	A
36	A	2663	G
36	A	2665	A
36	A	2680	C
36	A	2689	U
36	A	2691	C
36	A	2701	C
36	A	2702	U
36	A	2703	C
36	A	2712	U
36	A	2713	A
36	A	2715	C
36	A	2730	C
36	A	2732	G
36	A	2733	A
36	A	2735	G
36	A	2746	U
36	A	2748	A
36	A	2764	A

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Mol	Chain	Res	Type
36	A	2765	A
36	A	2772	C
36	A	2777	G
36	A	2778	A
36	A	2779	U
36	A	2780	G
36	A	2781	A
36	A	2782	G
36	A	2783	G
36	A	2790	A
36	A	2791	C
36	A	2792	G
36	A	2797	U
36	A	2798	C
36	A	2801	A
36	A	2805	G
36	A	2811	G
36	A	2818	G
36	A	2820	A
36	A	2821	A
36	A	2833	G
36	A	2834	G
36	A	2835	A
36	A	2849	U
36	A	2851	A
36	A	2857	G
36	A	2861	G
36	A	2866	U
36	A	2872	G
36	A	2877	G
36	A	2879	C
36	A	2880	C
36	A	2886	G
36	A	2894	G

All (23) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
35	B	66	A
36	A	221	A
36	A	271(C)	G
36	A	278	A

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Mol	Chain	Res	Type
36	A	474	G
36	A	830	G
36	A	1022	G
36	A	1110	G
36	A	1137	G
36	A	1240	U
36	A	1420	U
36	A	1542	G
36	A	1558	A
36	A	1815	A
36	A	1913	A
36	A	1937	A
36	A	1992	G
36	A	2158	A
36	A	2212	A
36	A	2447	G
36	A	2518	A
36	A	2780	G
36	A	2791	C

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

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

#### 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

#### 5.6 Ligand geometry ⓘ

There are no ligands in this entry.

#### 5.7 Other polymers ⓘ

There are no such residues in this entry.

#### 5.8 Polymer linkage issues

There are no chain breaks in this entry.

## 6 Fit of model and data ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	C	228/228 (100%)	-0.02	12 (5%) 25 21	73, 140, 196, 228	0
2	D	275/275 (100%)	0.87	57 (20%) 1 2	18, 59, 122, 191	0
3	E	205/205 (100%)	1.08	54 (26%) 1 2	20, 74, 138, 209	0
4	F	208/208 (100%)	0.46	24 (11%) 5 7	26, 76, 155, 199	0
5	G	181/181 (100%)	0.55	26 (14%) 3 4	40, 94, 165, 199	0
6	H	167/167 (100%)	0.09	15 (8%) 10 11	11, 67, 139, 168	0
7	J	0/170	-	-	-	-
8	K	140/140 (100%)	0.13	12 (8%) 11 11	30, 110, 178, 234	0
9	O	122/122 (100%)	-0.15	2 (1%) 68 52	20, 58, 106, 159	0
10	P	146/146 (100%)	0.66	30 (20%) 1 2	28, 78, 141, 189	0
11	Q	141/141 (100%)	0.07	3 (2%) 60 44	22, 68, 140, 174	0
12	R	117/117 (100%)	0.40	10 (8%) 11 11	18, 69, 143, 195	0
13	S	99/99 (100%)	1.51	36 (36%) 1 2	18, 106, 167, 216	0
14	T	138/138 (100%)	0.13	7 (5%) 27 22	19, 75, 153, 238	0
15	U	117/117 (100%)	1.25	40 (34%) 1 2	24, 61, 118, 158	0
16	V	101/101 (100%)	0.43	14 (13%) 4 5	20, 72, 127, 200	0
17	W	113/113 (100%)	0.74	18 (15%) 3 4	5, 65, 136, 178	0
18	X	93/93 (100%)	0.59	11 (11%) 5 7	34, 63, 128, 170	0
19	Y	107/107 (100%)	1.05	22 (20%) 1 2	35, 76, 151, 176	0
20	Z	185/185 (100%)	-0.06	5 (2%) 52 38	36, 82, 147, 226	0
21	0	84/84 (100%)	1.69	32 (38%) 1 1	19, 85, 145, 160	0
22	1	93/93 (100%)	1.80	31 (33%) 1 2	38, 92, 166, 194	0
23	4	35/35 (100%)	-0.05	3 (8%) 11 11	82, 115, 164, 187	0
24	N	138/138 (100%)	0.61	22 (15%) 3 4	58, 84, 107, 116	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
25	2	71/71 (100%)	0.26	3 (4%) 35 26	42, 70, 130, 187	0
26	3	60/60 (100%)	0.58	12 (20%) 2 3	53, 68, 130, 149	0
27	5	59/59 (100%)	0.76	13 (22%) 1 2	16, 83, 166, 185	0
28	6	50/50 (100%)	-0.25	0 100 100	61, 118, 161, 188	0
29	7	49/49 (100%)	1.10	11 (22%) 1 2	33, 61, 140, 186	0
30	8	64/64 (100%)	1.70	27 (42%) 1 1	28, 75, 142, 191	0
31	9	37/37 (100%)	3.48	19 (51%) 0 1	102, 132, 185, 210	0
32	e	72/103 (69%)	-0.59	0 100 100	46, 118, 183, 199	0
33	f	0/31	-	-	-	-
33	g	0/31	-	-	-	-
34	h	0/30	-	-	-	-
35	B	119/119 (100%)	-0.04	9 (7%) 14 13	35, 118, 182, 220	0
36	A	2879/2879 (100%)	0.39	306 (10%) 7 8	5, 79, 177, 310	0
All	All	6693/6986 (95%)	0.49	886 (13%) 4 5	5, 82, 169, 310	0

All (886) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
36	A	2585	U	15.5
31	9	11	CYS	12.8
31	9	27	CYS	12.7
22	1	40	ARG	11.9
36	A	2506	U	11.7
31	9	28	GLU	11.5
36	A	2602	A	9.7
31	9	12	ASP	9.4
21	0	43	THR	9.4
36	A	2897	U	9.0
36	A	755	C	8.8
31	9	10	ILE	8.8
22	1	39	LYS	8.6
36	A	2676	C	8.5
22	1	16	ASN	8.4
31	9	13	LYS	8.1
36	A	34	C	8.1
36	A	456	C	8.1
31	9	14	CYS	8.1
22	1	15	ALA	8.1

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Mol	Chain	Res	Type	RSRZ
36	A	1420	U	8.0
36	A	2609	U	8.0
36	A	2675	A	7.7
36	A	394	A	7.7
36	A	2334	G	7.5
27	5	23	HIS	7.5
31	9	9	ARG	7.4
2	D	276	LYS	7.4
22	1	41	ARG	7.4
36	A	561	G	7.4
36	A	508	G	7.3
5	G	99	MET	7.3
22	1	14	VAL	7.3
30	8	56	GLU	7.2
36	A	1026	U	7.2
36	A	1675	C	7.1
36	A	2584	U	7.0
21	0	75	LEU	6.9
16	V	82	ARG	6.9
36	A	91	A	6.8
3	E	115	GLY	6.7
36	A	1816	G	6.7
36	A	89	G	6.7
11	Q	141	GLN	6.7
15	U	39	LEU	6.7
13	S	89	ARG	6.7
13	S	31	SER	6.6
1	C	135	ARG	6.5
6	H	167	GLU	6.5
13	S	13	ARG	6.5
13	S	30	ARG	6.5
36	A	380	U	6.5
16	V	81	TYR	6.4
27	5	17	ASP	6.4
30	8	65	GLU	6.4
5	G	100	TRP	6.4
36	A	1104	C	6.4
26	3	20	LYS	6.3
2	D	36	PRO	6.3
36	A	2813	A	6.2
14	T	1	MET	6.2
21	0	76	GLY	6.2

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Mol	Chain	Res	Type	RSRZ
22	1	18	ILE	6.2
30	8	25	MET	6.1
22	1	19	GLN	6.0
36	A	2581	G	6.0
36	A	1205	U	6.0
36	A	381	G	6.0
36	A	2553	G	6.0
15	U	54	LYS	5.9
36	A	975	G	5.9
36	A	766	C	5.9
13	S	29	PHE	5.8
22	1	17	SER	5.8
3	E	76	ARG	5.8
36	A	393	C	5.8
13	S	34	HIS	5.7
3	E	114	ALA	5.7
13	S	17	ARG	5.7
21	0	42	GLY	5.7
24	N	84	LYS	5.7
5	G	98	ARG	5.7
36	A	2319	G	5.6
16	V	76	LYS	5.6
36	A	1597	A	5.5
36	A	2583	G	5.5
36	A	2582	G	5.5
6	H	170	ARG	5.5
18	X	69	TYR	5.5
12	R	2	ARG	5.5
21	0	46	LYS	5.4
36	A	528	A	5.4
10	P	50	ARG	5.4
36	A	825	C	5.4
13	S	32	LEU	5.4
3	E	75	VAL	5.4
36	A	90	U	5.4
3	E	163	GLU	5.4
22	1	67	ILE	5.4
24	N	71	ILE	5.4
13	S	15	ARG	5.4
3	E	52	LEU	5.4
36	A	1662	C	5.3
11	Q	140	ALA	5.3

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Mol	Chain	Res	Type	RSRZ
22	1	71	TYR	5.3
13	S	33	LYS	5.3
36	A	754	C	5.3
13	S	12	PHE	5.3
36	A	743	G	5.3
21	0	52	GLY	5.3
36	A	224	G	5.2
30	8	64	TYR	5.2
27	5	25	LEU	5.2
3	E	117	MET	5.2
2	D	35	LYS	5.2
6	H	171	LEU	5.2
16	V	75	PHE	5.2
1	C	4	HIS	5.2
5	G	35	GLU	5.2
12	R	69	ASP	5.2
35	B	29	A	5.2
36	A	2251	G	5.1
36	A	1782	C	5.1
24	N	85	ILE	5.1
36	A	1980	G	5.1
36	A	1574	C	5.1
19	Y	35	TYR	5.1
36	A	1250	G	5.1
16	V	74	LYS	5.1
36	A	2611	U	5.0
2	D	64	ILE	5.0
36	A	1775	U	5.0
16	V	73	SER	5.0
21	0	40	GLN	5.0
36	A	2507	C	5.0
3	E	119	ARG	5.0
36	A	756	C	4.9
10	P	46	LYS	4.9
5	G	34	LEU	4.9
15	U	40	PHE	4.9
21	0	78	TYR	4.9
36	A	2812	G	4.9
36	A	913	U	4.9
36	A	2036	C	4.9
10	P	51	PHE	4.8
22	1	38	SER	4.8

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Mol	Chain	Res	Type	RSRZ
8	K	115	LEU	4.8
36	A	823	G	4.8
26	3	16	PRO	4.8
36	A	441	U	4.8
27	5	24	ALA	4.8
15	U	59	ARG	4.8
15	U	17	ILE	4.8
36	A	665	C	4.8
21	0	44	ARG	4.8
36	A	2452	C	4.8
8	K	21	PRO	4.8
14	T	2	ASN	4.8
22	1	20	ARG	4.8
1	C	134	PRO	4.7
36	A	974(B)	C	4.7
36	A	2721	A	4.7
19	Y	16	ALA	4.7
36	A	1971	A	4.7
21	0	71	ASP	4.7
30	8	6	THR	4.7
36	A	562	U	4.7
36	A	742	G	4.7
36	A	1643	G	4.7
36	A	1661	G	4.6
31	9	30	PRO	4.6
17	W	23	LEU	4.6
27	5	20	ARG	4.6
2	D	250	TRP	4.6
19	Y	34	LYS	4.6
3	E	107	THR	4.6
21	0	51	VAL	4.6
22	1	48	LYS	4.6
3	E	162	ALA	4.6
24	N	72	TYR	4.6
36	A	824	A	4.6
5	G	8	LYS	4.6
36	A	1350	C	4.6
3	E	195	LEU	4.6
36	A	2081	C	4.5
36	A	2722	G	4.5
21	0	32	ARG	4.5
36	A	790	C	4.5

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Mol	Chain	Res	Type	RSRZ
10	P	27	HIS	4.5
24	N	109	LYS	4.5
3	E	132	HIS	4.5
36	A	835	A	4.5
36	A	408	G	4.5
36	A	664	C	4.5
36	A	1656	C	4.5
16	V	80	GLN	4.5
3	E	54	GLN	4.5
30	8	14	VAL	4.5
10	P	61	ARG	4.5
36	A	68	G	4.4
36	A	336	C	4.4
2	D	16	MET	4.4
36	A	1642	G	4.4
4	F	78	ILE	4.4
36	A	244	A	4.4
13	S	92	TYR	4.4
19	Y	69	ALA	4.4
3	E	116	VAL	4.4
21	0	60	PHE	4.4
17	W	22	ASP	4.4
13	S	88	ASP	4.4
3	E	160	TYR	4.4
31	9	29	ASN	4.3
15	U	18	LEU	4.3
36	A	1473	G	4.3
36	A	915	C	4.3
13	S	91	PRO	4.3
21	0	47	PRO	4.3
17	W	21	VAL	4.3
15	U	53	ARG	4.3
18	X	11	PRO	4.3
3	E	126	PRO	4.3
2	D	9	TYR	4.3
2	D	252	TRP	4.3
36	A	424	G	4.3
36	A	196	A	4.2
36	A	942	G	4.2
2	D	249	PRO	4.2
8	K	114	ASP	4.2
5	G	11	TYR	4.2

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Mol	Chain	Res	Type	RSRZ
17	W	4	LYS	4.2
36	A	1025	G	4.2
24	N	45	ASN	4.2
36	A	976	C	4.2
2	D	251	GLY	4.2
2	D	275	LYS	4.2
16	V	77	ALA	4.2
30	8	24	ALA	4.2
3	E	164	ARG	4.2
22	1	26	ARG	4.2
36	A	974(A)	G	4.2
17	W	17	VAL	4.1
36	A	1938	A	4.1
36	A	2450	A	4.1
4	F	40	GLN	4.1
6	H	154	PRO	4.1
3	E	27	LEU	4.1
2	D	213	ARG	4.1
30	8	63	PRO	4.1
17	W	19	LEU	4.1
31	9	18	ARG	4.1
15	U	14	HIS	4.1
3	E	190	GLY	4.1
36	A	223	A	4.1
21	0	74	ARG	4.1
36	A	1629	U	4.1
10	P	110	TYR	4.1
2	D	246	PRO	4.0
36	A	2161	C	4.0
5	G	12	TYR	4.0
10	P	57	THR	4.0
4	F	77	ASP	4.0
18	X	72	LYS	4.0
24	N	44	PRO	4.0
36	A	2820	A	4.0
36	A	1379	A	4.0
15	U	58	ARG	4.0
36	A	1632	A	4.0
21	0	59	LEU	4.0
20	Z	121	HIS	4.0
36	A	1774	C	4.0
36	A	2872	G	3.9

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Mol	Chain	Res	Type	RSRZ
3	E	131	ALA	3.9
15	U	16	LYS	3.9
36	A	1380	G	3.9
25	2	11	GLU	3.9
3	E	137	HIS	3.9
13	S	14	VAL	3.9
36	A	2717	G	3.9
15	U	19	LYS	3.9
2	D	272	ALA	3.9
36	A	2269	A	3.9
15	U	22	LYS	3.9
36	A	2413	G	3.9
19	Y	36	ALA	3.9
29	7	31	LEU	3.9
36	A	2690	C	3.9
3	E	191	PRO	3.8
24	N	2	LYS	3.8
10	P	48	PRO	3.8
2	D	183	ARG	3.8
6	H	169	VAL	3.8
2	D	216	GLY	3.8
27	5	21	SER	3.8
30	8	53	PRO	3.8
15	U	21	ALA	3.8
2	D	243	GLY	3.8
36	A	2610	C	3.8
10	P	69	GLY	3.8
36	A	1676	A	3.8
36	A	1754	C	3.8
36	A	1781	C	3.8
26	3	10	LYS	3.8
36	A	2250	G	3.8
36	A	833	U	3.8
36	A	805	G	3.8
36	A	1824	G	3.8
10	P	38	GLN	3.8
36	A	1406	U	3.7
2	D	247	ALA	3.7
36	A	1679	U	3.7
36	A	1635	G	3.7
36	A	560	C	3.7
36	A	243	U	3.7

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Mol	Chain	Res	Type	RSRZ
3	E	136	ARG	3.7
3	E	135	HIS	3.7
36	A	1979	C	3.7
12	R	19	ALA	3.7
36	A	2713	A	3.7
5	G	164	GLU	3.7
16	V	72	VAL	3.7
15	U	68	ALA	3.7
36	A	88	G	3.7
5	G	2	PRO	3.7
36	A	2062	A	3.7
8	K	12	LEU	3.7
3	E	159	HIS	3.7
36	A	242	G	3.7
36	A	535	C	3.7
36	A	831	G	3.7
22	1	27	GLU	3.6
18	X	9	LEU	3.6
2	D	245	PRO	3.6
36	A	764	A	3.6
13	S	16	ASN	3.6
30	8	2	PRO	3.6
36	A	834	C	3.6
36	A	1304	C	3.6
36	A	2674	G	3.6
2	D	38	LYS	3.6
36	A	765	G	3.6
36	A	1644	C	3.6
27	5	16	ARG	3.6
36	A	2316	C	3.6
3	E	156	MET	3.6
22	1	13	ILE	3.6
36	A	529	A	3.6
3	E	118	LYS	3.6
30	8	11	LYS	3.6
21	0	73	GLY	3.6
36	A	1680	U	3.6
3	E	55	ASN	3.5
10	P	39	LYS	3.5
15	U	50	ARG	3.5
36	A	1305	C	3.5
15	U	41	ALA	3.5

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Mol	Chain	Res	Type	RSRZ
13	S	35	ILE	3.5
1	C	106	ASP	3.5
36	A	1634	A	3.5
4	F	53	THR	3.5
30	8	7	HIS	3.5
5	G	162	THR	3.5
3	E	111	ARG	3.5
36	A	15	G	3.5
4	F	76	GLY	3.5
6	H	153	LYS	3.5
36	A	379	G	3.5
36	A	729	G	3.5
26	3	17	LYS	3.5
36	A	2249	U	3.5
15	U	20	LEU	3.5
26	3	53	LEU	3.5
21	0	48	GLY	3.5
36	A	572	A	3.5
13	S	54	LEU	3.5
36	A	1008	C	3.5
27	5	18	ALA	3.4
22	1	42	GLN	3.4
27	5	22	HIS	3.4
16	V	84	LYS	3.4
30	8	22	VAL	3.4
13	S	11	LYS	3.4
2	D	58	HIS	3.4
31	9	32	HIS	3.4
36	A	75	G	3.4
3	E	165	VAL	3.4
36	A	1566	A	3.4
5	G	37	VAL	3.4
24	N	70	LYS	3.4
36	A	822	U	3.4
20	Z	165	VAL	3.4
30	8	62	LEU	3.4
36	A	1001	A	3.4
11	Q	103	MET	3.4
3	E	127	ASP	3.4
2	D	37	LEU	3.4
4	F	46	ARG	3.4
3	E	108	SER	3.4

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Mol	Chain	Res	Type	RSRZ
15	U	30	LYS	3.4
5	G	7	LEU	3.4
36	A	2059	A	3.4
22	1	49	VAL	3.4
24	N	73	THR	3.4
9	O	32	TYR	3.3
36	A	1135	C	3.3
36	A	532	A	3.3
1	C	133	GLY	3.3
2	D	231	HIS	3.3
36	A	738	G	3.3
36	A	2714	G	3.3
3	E	161	GLY	3.3
10	P	41	ARG	3.3
31	9	36	GLN	3.3
36	A	2723	C	3.3
15	U	57	PHE	3.3
30	8	8	LYS	3.3
31	9	21	GLY	3.3
24	N	87	LEU	3.3
36	A	163(B)	C	3.3
22	1	70	VAL	3.3
3	E	51	PHE	3.3
29	7	26	GLY	3.3
1	C	8	TYR	3.3
31	9	19	ARG	3.3
17	W	20	VAL	3.3
2	D	265	PRO	3.3
36	A	2358	G	3.3
4	F	75	HIS	3.3
29	7	32	LYS	3.3
5	G	97	ASP	3.3
22	1	68	PRO	3.3
2	D	273	ARG	3.3
19	Y	31	LEU	3.2
36	A	2716	U	3.2
24	N	111	PRO	3.2
19	Y	72	VAL	3.2
36	A	781	A	3.2
5	G	159	VAL	3.2
30	8	10	ALA	3.2
35	B	60	C	3.2

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Mol	Chain	Res	Type	RSRZ
2	D	211	ARG	3.2
19	Y	96	ILE	3.2
22	1	9	GLY	3.2
29	7	14	LYS	3.2
3	E	5	LEU	3.2
30	8	4	MET	3.2
6	H	166	GLY	3.2
21	0	72	ARG	3.2
35	B	12	C	3.2
36	A	914	C	3.2
36	A	737	C	3.2
36	A	1002	G	3.2
10	P	21	ARG	3.2
10	P	36	LYS	3.2
3	E	109	LYS	3.2
17	W	16	LYS	3.2
36	A	2082	A	3.1
15	U	73	GLY	3.1
2	D	33	LEU	3.1
36	A	2814	C	3.1
13	S	18	ILE	3.1
24	N	86	PRO	3.1
36	A	92	G	3.1
36	A	1657	C	3.1
36	A	2160	G	3.1
12	R	7	GLY	3.1
36	A	18	C	3.1
19	Y	33	LYS	3.1
36	A	1678	G	3.1
36	A	1681	G	3.1
36	A	125	G	3.1
36	A	2090	G	3.1
36	A	409	C	3.1
36	A	1571	A	3.1
1	C	71	LYS	3.1
13	S	28	VAL	3.1
15	U	36	ARG	3.1
3	E	106	GLY	3.1
36	A	225	A	3.1
14	T	26	ASP	3.1
20	Z	123	ASP	3.1
15	U	44	ASN	3.1

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Mol	Chain	Res	Type	RSRZ
29	7	27	GLY	3.1
4	F	112	MET	3.1
3	E	7	VAL	3.1
22	1	5	CYS	3.1
14	T	90	GLN	3.1
21	0	37	LEU	3.1
3	E	16	ARG	3.1
2	D	240	ALA	3.1
27	5	13	LYS	3.0
36	A	2451	A	3.0
36	A	767	U	3.0
10	P	47	ASP	3.0
19	Y	6	HIS	3.0
36	A	1217	C	3.0
20	Z	125	LEU	3.0
23	4	3	GLU	3.0
29	7	23	ARG	3.0
36	A	836	G	3.0
36	A	1596	A	3.0
36	A	2318	G	3.0
26	3	52	HIS	3.0
4	F	65	TRP	3.0
10	P	75	ILE	3.0
15	U	72	HIS	3.0
18	X	70	LEU	3.0
1	C	110	ASP	3.0
17	W	104	THR	3.0
36	A	1633	G	3.0
6	H	168	PRO	3.0
29	7	25	PRO	3.0
2	D	13	ARG	3.0
36	A	537	C	3.0
8	K	13	PRO	3.0
36	A	1823	G	3.0
15	U	15	LYS	3.0
36	A	1033	U	2.9
30	8	16	ILE	2.9
36	A	1982	C	2.9
36	A	2724	C	2.9
4	F	69	HIS	2.9
10	P	49	ARG	2.9
14	T	91	ARG	2.9

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Mol	Chain	Res	Type	RSRZ
15	U	43	GLY	2.9
36	A	1755	A	2.9
4	F	55	GLY	2.9
13	S	65	VAL	2.9
2	D	242	ARG	2.9
36	A	2896	C	2.9
13	S	62	LYS	2.9
16	V	85	LYS	2.9
22	1	47	GLN	2.9
36	A	2586	C	2.9
2	D	248	SER	2.9
3	E	155	LYS	2.9
36	A	539	G	2.9
17	W	113	LYS	2.9
4	F	64	ILE	2.9
15	U	38	THR	2.9
10	P	19	VAL	2.9
8	K	20	ALA	2.9
4	F	56	GLU	2.9
15	U	55	ARG	2.9
17	W	18	ARG	2.9
20	Z	99	TYR	2.9
2	D	34	VAL	2.9
36	A	1407	C	2.9
36	A	1998	G	2.9
21	0	64	ASP	2.9
5	G	30	GLU	2.8
19	Y	32	PRO	2.8
36	A	530	G	2.8
2	D	274	ARG	2.8
36	A	2513	G	2.8
10	P	70	GLN	2.8
15	U	24	TYR	2.8
21	0	62	LEU	2.8
36	A	343	C	2.8
36	A	1293	C	2.8
24	N	112	LEU	2.8
5	G	36	LYS	2.8
36	A	31	C	2.8
36	A	759	G	2.8
36	A	970	C	2.8
36	A	1430	C	2.8

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Mol	Chain	Res	Type	RSRZ
36	A	1763	G	2.8
18	X	8	ILE	2.8
30	8	15	LYS	2.8
21	0	31	VAL	2.8
36	A	666	G	2.8
10	P	26	GLY	2.8
19	Y	75	ILE	2.8
3	E	154	LYS	2.8
4	F	11	VAL	2.8
27	5	26	THR	2.8
22	1	69	LYS	2.8
36	A	23	G	2.8
36	A	531	C	2.8
36	A	2317	C	2.8
36	A	382	G	2.7
5	G	165	THR	2.7
8	K	48	MET	2.7
36	A	1983	C	2.7
21	0	41	ARG	2.7
36	A	989	G	2.7
36	A	1381	G	2.7
4	F	54	ARG	2.7
2	D	206	LEU	2.7
18	X	34	ALA	2.7
3	E	6	GLY	2.7
21	0	79	VAL	2.7
36	A	744	G	2.7
16	V	71	LEU	2.7
3	E	157	ALA	2.7
36	A	812	C	2.7
16	V	83	ARG	2.7
30	8	59	LYS	2.7
17	W	106	ILE	2.7
19	Y	15	VAL	2.7
17	W	105	VAL	2.7
35	B	28	C	2.7
36	A	2874	C	2.7
26	3	12	PRO	2.7
24	N	94	HIS	2.7
36	A	1405	U	2.7
3	E	28	ALA	2.7
36	A	458	G	2.7

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Mol	Chain	Res	Type	RSRZ
36	A	2718	G	2.7
26	3	13	ILE	2.7
36	A	1569	A	2.7
24	N	110	GLY	2.6
29	7	48	LYS	2.6
13	S	95	HIS	2.6
36	A	17	G	2.6
8	K	11	GLN	2.6
14	T	98	LYS	2.6
30	8	23	VAL	2.6
13	S	21	THR	2.6
2	D	65	ILE	2.6
5	G	3	LEU	2.6
2	D	83	GLU	2.6
17	W	93	ALA	2.6
35	B	7	G	2.6
36	A	1440	G	2.6
36	A	1439	A	2.6
10	P	23	PRO	2.6
15	U	35	ALA	2.6
36	A	2578	G	2.6
2	D	217	ARG	2.6
36	A	2449	U	2.6
13	S	93	LYS	2.6
6	H	155	SER	2.6
36	A	676	A	2.6
36	A	2715	C	2.6
1	C	9	ARG	2.6
24	N	100	GLU	2.6
18	X	80	ILE	2.6
36	A	256	A	2.6
15	U	5	LYS	2.6
2	D	263	ARG	2.6
5	G	94	LEU	2.6
36	A	760	G	2.6
3	E	120	TRP	2.6
13	S	90	GLY	2.6
19	Y	97	ARG	2.5
22	1	6	GLU	2.5
36	A	1741	C	2.5
36	A	2612	C	2.5
1	C	105	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
17	W	36	LEU	2.5
21	O	45	PHE	2.5
36	A	2555	U	2.5
2	D	218	ARG	2.5
13	S	27	SER	2.5
36	A	518	G	2.5
15	U	4	ALA	2.5
36	A	2320	A	2.5
17	W	85	VAL	2.5
6	H	162	ILE	2.5
3	E	8	LYS	2.5
24	N	43	THR	2.5
16	V	70	ILE	2.5
18	X	10	ALA	2.5
19	Y	71	LYS	2.5
36	A	1133	U	2.5
36	A	674	G	2.5
36	A	1027	A	2.5
8	K	9	LYS	2.5
36	A	2063	C	2.5
36	A	2691	C	2.5
24	N	101	HIS	2.5
24	N	97	ARG	2.5
36	A	1771	C	2.5
30	8	12	LYS	2.5
2	D	17	THR	2.5
36	A	186	G	2.5
2	D	233	HIS	2.5
26	3	15	TYR	2.5
36	A	16	G	2.5
36	A	1051	G	2.5
36	A	1997	G	2.5
36	A	2035	G	2.5
3	E	1	MET	2.5
36	A	2512	C	2.5
1	C	107	GLY	2.5
4	F	79	GLY	2.5
6	H	149	ARG	2.4
15	U	25	TRP	2.4
10	P	45	LEU	2.4
21	O	53	MET	2.4
13	S	61	ASN	2.4

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Mol	Chain	Res	Type	RSRZ
36	A	1555	G	2.4
36	A	1630	G	2.4
36	A	1764	G	2.4
6	H	151	ILE	2.4
2	D	8	PRO	2.4
2	D	262	ARG	2.4
36	A	2510	C	2.4
25	2	8	LYS	2.4
13	S	26	LEU	2.4
3	E	130	GLY	2.4
4	F	27	GLU	2.4
29	7	22	MET	2.4
15	U	45	TYR	2.4
23	4	18	CYS	2.4
36	A	903	C	2.4
36	A	971	C	2.4
31	9	20	HIS	2.4
10	P	58	THR	2.4
36	A	252	G	2.4
12	R	5	LYS	2.4
2	D	55	GLY	2.4
15	U	6	THR	2.4
19	Y	24	VAL	2.4
6	H	158	HIS	2.4
36	A	801	G	2.4
2	D	208	LYS	2.4
2	D	12	SER	2.4
21	0	58	THR	2.4
36	A	1981	A	2.4
19	Y	92	ASN	2.4
12	R	15	SER	2.4
26	3	54	VAL	2.4
13	S	25	ARG	2.4
17	W	3	ALA	2.4
21	0	61	ALA	2.4
36	A	536	A	2.4
2	D	244	ARG	2.3
15	U	42	ALA	2.3
15	U	29	SER	2.3
29	7	28	ARG	2.3
36	A	2728	U	2.3
25	2	52	ASP	2.3

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Mol	Chain	Res	Type	RSRZ
3	E	193	GLY	2.3
36	A	837	C	2.3
36	A	1765	C	2.3
22	1	60	PHE	2.3
36	A	2547	U	2.3
36	A	2873	A	2.3
2	D	6	PHE	2.3
3	E	128	SER	2.3
8	K	52	ILE	2.3
14	T	52	ILE	2.3
36	A	907	U	2.3
36	A	1663	C	2.3
36	A	33	U	2.3
17	W	74	ALA	2.3
36	A	735	A	2.3
35	B	30	C	2.3
36	A	1625	C	2.3
26	3	14	GLY	2.3
5	G	9	ARG	2.3
9	O	33	ALA	2.3
19	Y	79	CYS	2.3
36	A	1624	G	2.3
4	F	189	THR	2.3
5	G	33	ARG	2.3
30	8	61	LEU	2.3
35	B	43	C	2.3
1	C	109	MET	2.3
36	A	2511	U	2.3
2	D	205	VAL	2.3
10	P	20	GLY	2.3
15	U	52	ARG	2.3
22	1	8	SER	2.3
36	A	961	C	2.3
6	H	59	ARG	2.3
36	A	1772	G	2.3
36	A	734	A	2.3
36	A	1103	A	2.3
21	0	17	GLN	2.2
36	A	966	G	2.2
36	A	1366	A	2.2
31	9	1	MET	2.2
12	R	54	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
2	D	215	LEU	2.2
15	U	37	GLU	2.2
22	1	32	LYS	2.2
36	A	2825	U	2.2
19	Y	70	SER	2.2
13	S	60	GLY	2.2
10	P	40	SER	2.2
12	R	70	LEU	2.2
36	A	1340	U	2.2
2	D	56	GLY	2.2
2	D	57	GLY	2.2
35	B	47	C	2.2
36	A	691	C	2.2
10	P	67	MET	2.2
36	A	712	G	2.2
36	A	1311	G	2.2
5	G	95	ARG	2.2
36	A	32	C	2.2
3	E	194	GLY	2.2
36	A	1090	U	2.2
4	F	44	ARG	2.2
4	F	33	LEU	2.2
36	A	271(D)	U	2.2
36	A	1218	C	2.2
36	A	2261	C	2.2
3	E	134	ILE	2.2
22	1	37	ILE	2.2
30	8	3	LYS	2.2
3	E	196	VAL	2.2
35	B	88	C	2.2
36	A	10	G	2.2
6	H	163	TYR	2.2
10	P	59	LEU	2.1
12	R	20	LEU	2.1
15	U	56	ASP	2.1
36	A	1431	U	2.1
36	A	2357	U	2.1
36	A	713	G	2.1
21	0	77	ARG	2.1
19	Y	66	PRO	2.1
27	5	14	ALA	2.1
5	G	14	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
36	A	1136	G	2.1
36	A	2330	G	2.1
13	S	94	TYR	2.1
36	A	420	C	2.1
4	F	100	THR	2.1
36	A	245	G	2.1
18	X	31	HIS	2.1
12	R	18	LEU	2.1
36	A	1641	A	2.1
36	A	442	G	2.1
4	F	66	PRO	2.1
26	3	19	GLN	2.1
13	S	53	SER	2.1
13	S	96	GLY	2.1
36	A	995	C	2.1
2	D	214	TRP	2.1
30	8	13	ARG	2.1
2	D	39	LYS	2.1
36	A	1609	A	2.1
36	A	407	G	2.1
22	1	4	VAL	2.1
24	N	93	THR	2.1
36	A	752	A	2.1
36	A	712(B)	A	2.1
24	N	3	THR	2.1
27	5	27	PRO	2.1
8	K	8	VAL	2.1
30	8	60	LEU	2.1
36	A	988	A	2.1
3	E	58	ARG	2.1
36	A	2811	G	2.1
36	A	2136	C	2.1
2	D	27	THR	2.1
8	K	25	PRO	2.1
5	G	6	ALA	2.0
4	F	62	ARG	2.0
5	G	25	TYR	2.0
10	P	25	SER	2.0
30	8	55	ALA	2.0
18	X	61	GLY	2.0
36	A	832	G	2.0
10	P	68	GLN	2.0

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Mol	Chain	Res	Type	RSRZ
36	A	758	C	2.0
10	P	30	THR	2.0
2	D	48	ARG	2.0
2	D	239	ARG	2.0
21	0	57	PHE	2.0
29	7	10	ARG	2.0
36	A	439	G	2.0
36	A	1382	G	2.0
31	9	8	LYS	2.0
36	A	1514	U	2.0
36	A	2260	C	2.0
13	S	66	ALA	2.0
36	A	1778	U	2.0
36	A	2576	G	2.0
36	A	866	A	2.0
15	U	13	LYS	2.0
19	Y	37	VAL	2.0
36	A	189	G	2.0
36	A	739	G	2.0
36	A	1138	G	2.0
4	F	186	ILE	2.0
23	4	1	MET	2.0
31	9	23	VAL	2.0
36	A	941	A	2.0
36	A	1554	A	2.0
19	Y	68	HIS	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

## 6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 6.4 Ligands ⓘ

There are no ligands in this entry.

## 6.5 Other polymers ⓘ

There are no such residues in this entry.