



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 27, 2026 – 07:16 PM UTC

PDB ID : 2QA4 / pdb\_00002qa4  
Title : A more complete structure of the the L7/L12 stalk of the Haloarcula marismortui 50S large ribosomal subunit  
Authors : Steitz, T.A.; Kavran, J.M.  
Deposited on : 2007-06-14  
Resolution : 3.00 Å(reported)

This is a Full wwPDB X-ray Structure 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

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4-5-2 with Phenix2.0  
Mogul : 2022.3.0, CSD as543be (2022)  
Xtriage (Phenix) : 2.0  
EDS : 3.0  
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)  
CCP4 : 9.0.010 (Gargrove)  
Density-Fitness : 1.0.12  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.49

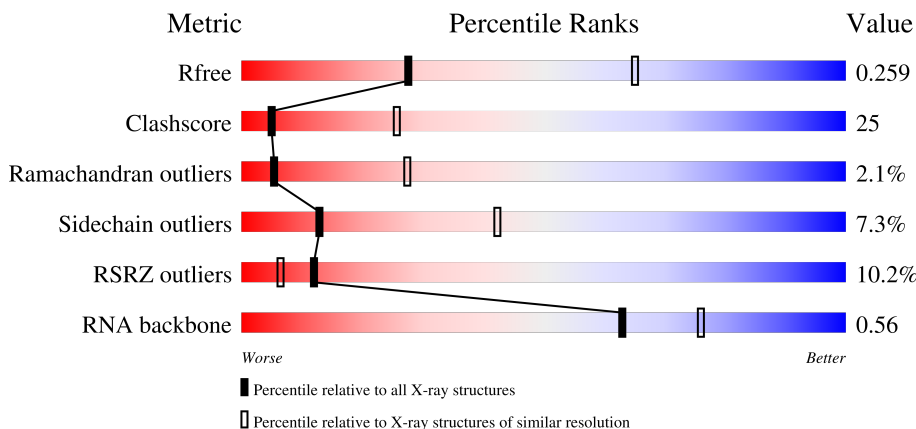
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.00 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))
$R_{free}$	180053	2672 (3.00-3.00)
Clashscore	190562	2977 (3.00-3.00)
Ramachandran outliers	187476	2877 (3.00-3.00)
Sidechain outliers	187428	2880 (3.00-3.00)
RSRZ outliers	180081	2671 (3.00-3.00)
RNA backbone	3983	1109 (3.20-2.80)

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 of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	0	2922	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 28%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 56%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 9%; height: 10px; background-color: orange; margin-right: 2px;"></div> <div style="width: 6%; height: 10px; background-color: grey;"></div> </div> <p style="font-size: small; margin-top: 5px;">2% 28% 56% 9% 6%</p>
2	9	122	<div style="display: flex; align-items: center;"> <div style="width: 8%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 16%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 70%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 14%; height: 10px; background-color: orange;"></div> </div> <p style="font-size: small; margin-top: 5px;">8% 16% 70% 14%</p>
3	A	240	<div style="display: flex; align-items: center;"> <div style="width: 13%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 58%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 33%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 7%; height: 10px; background-color: orange; margin-right: 2px;"></div> <div style="width: 2%; height: 10px; background-color: grey;"></div> </div> <p style="font-size: small; margin-top: 5px;">13% 58% 33% 7% ..</p>
4	B	338	<div style="display: flex; align-items: center;"> <div style="width: 4%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 55%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 35%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 9%; height: 10px; background-color: orange;"></div> <div style="width: 1%; height: 10px; background-color: grey;"></div> </div> <p style="font-size: small; margin-top: 5px;">4% 55% 35% 9% .</p>

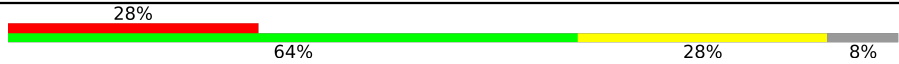

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Mol	Chain	Length	Quality of chain
5	C	246	
6	D	177	
7	E	178	
8	F	120	
9	G	348	
10	H	171	
11	I	162	
12	J	145	
13	K	132	
14	L	165	
15	M	196	
16	N	187	
17	O	116	
18	P	149	
19	Q	96	
20	R	155	
21	S	85	
22	T	120	
23	U	67	
24	V	71	
25	W	154	
26	X	92	
27	Y	241	
28	Z	92	
29	1	57	

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Mol	Chain	Length	Quality of chain
30	2	50	
31	3	92	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	MG	0	2946	-	-	-	X
32	MG	0	2971	-	-	-	X
32	MG	0	2998	-	-	-	X
32	MG	0	3014	-	-	-	X
32	MG	0	3022	-	-	-	X
32	MG	0	3026	-	-	-	X
32	MG	0	3029	-	-	-	X
34	NA	0	3050	-	-	-	X
34	NA	0	3057	-	-	-	X
34	NA	0	3075	-	-	-	X
34	NA	0	3093	-	-	-	X
34	NA	0	3103	-	-	-	X
35	CL	0	3109	-	-	-	X
35	CL	3	95	-	-	X	-
35	CL	J	147	-	-	X	-
35	CL	J	149	-	-	X	-
35	CL	O	117	-	-	-	X

## 2 Entry composition [i](#)

There are 36 unique types of molecules in this entry. The entry contains 92248 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	0	2753	58979	26332	10869	19036	2742	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	560	C	U	conflict	GB 3377779

- Molecule 2 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	9	122	2600	1160	472	847	121	0	0	0

- Molecule 3 is a protein called 50S ribosomal protein L2P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	A	237	1753	1072	352	324	5	0	0	0

- Molecule 4 is a protein called 50S ribosomal protein L3P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	B	337	2625	1616	493	511	5	0	0	0

- Molecule 5 is a protein called 50S ribosomal protein L4P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	C	246	1859	1131	344	383	1	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	73	LEU	GLN	conflict	UNP P12735

- Molecule 6 is a protein called 50S ribosomal protein L5P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	D	140	1094	685	195	210	4	0	0	0

- Molecule 7 is a protein called 50S ribosomal protein L6P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	E	172	1357	840	224	289	4	0	0	0

- Molecule 8 is a protein called 50S ribosomal protein L7Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	F	119	890	551	141	197	1	0	0	0

- Molecule 9 is a protein called ACIDIC RIBOSOMAL PROTEIN P0 HOMO.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	G	125	959	592	162	203	2	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	248	ASP	ALA	conflict	UNP P15825

- Molecule 10 is a protein called 50S ribosomal protein L10e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	H	160	1266	785	237	238	6	0	0	0

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	164	ASP	-	insertion	UNP P60617
H	165	SER	LYS	conflict	UNP P60617
H	166	SER	VAL	conflict	UNP P60617
H	167	PRO	GLU	conflict	UNP P60617
H	168	ALA	ARG	conflict	UNP P60617
H	?	-	GLU	deletion	UNP P60617
H	?	-	GLU	deletion	UNP P60617
H	?	-	LEU	deletion	UNP P60617
H	?	-	LEU	deletion	UNP P60617
H	170	ASN	ILE	conflict	UNP P60617

- Molecule 11 is a protein called 50S ribosomal protein L11P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	I	118	876	548	135	192	1	0	0	0

- Molecule 12 is a protein called 50S ribosomal protein L13P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	J	142	1120	696	199	222	3	0	0	0

- Molecule 13 is a protein called 50S ribosomal protein L14P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	K	132	992	609	187	192	4	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	44	LEU	HIS	conflict	UNP P22450

- Molecule 14 is a protein called 50S ribosomal protein L15P.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
14	L	145	1118	670	222	226	0	0	0

- Molecule 15 is a protein called 50S ribosomal protein L15e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	M	194	1559	943	332	283	1	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	13	GLU	LYS	conflict	UNP P60618
M	194	ALA	GLY	conflict	UNP P60618

- Molecule 16 is a protein called 50S ribosomal protein L18P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
16	N	186	1445	895	262	286	2	0	0	0

- Molecule 17 is a protein called 50S ribosomal protein L18e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
17	O	115	865	529	161	175	0	0	0

- Molecule 18 is a protein called 50S ribosomal protein L19e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
18	P	143	1136	683	229	224	0	0	0

- Molecule 19 is a protein called 50S ribosomal protein L21e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
19	Q	95	735	450	141	144	0	0	0

- Molecule 20 is a protein called 50S ribosomal protein L22P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
20	R	150	1149	713	209	223	4	0	0	0

- Molecule 21 is a protein called 50S ribosomal protein L23P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	S	81	Total	C	N	O	S	0	0	0
			641	389	111	138	3			

- Molecule 22 is a protein called 50S ribosomal protein L24P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	T	119	Total	C	N	O	S	0	0	0
			950	568	180	202				

- Molecule 23 is a protein called 50S ribosomal protein L24e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	U	53	Total	C	N	O	S	0	0	0
			410	244	75	86	5			

- Molecule 24 is a protein called 50S ribosomal protein L29P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	V	65	Total	C	N	O	S	0	0	0
			499	304	94	100	1			

- Molecule 25 is a protein called 50S ribosomal protein L30P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	W	154	Total	C	N	O	S	0	0	0
			1196	737	209	244	6			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L31E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	X	82	Total	C	N	O	S	0	0	0
			654	402	129	122	1			

- Molecule 27 is a protein called 50S ribosomal protein L32e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	Y	142	Total	C	N	O	S	0	0	0
			1130	686	228	216				

- Molecule 28 is a protein called 50S ribosomal protein L37Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
28	Z	73	578	346	116	111	5	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Z	10	ARG	SER	conflict	UNP P60619

- Molecule 29 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
29	1	56	431	258	86	83	4	0	0	0

- Molecule 30 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
30	2	46	396	239	89	67	1	0	0	0

- Molecule 31 is a protein called 50S ribosomal protein L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
31	3	92	755	458	153	137	7	0	0	0

- Molecule 32 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	0	108	Total	Mg	0	0
			108	108		
32	9	1	Total	Mg	0	0
			1	1		
32	A	2	Total	Mg	0	0
			2	2		
32	B	1	Total	Mg	0	0
			1	1		
32	K	1	Total	Mg	0	0
			1	1		
32	T	1	Total	Mg	0	0
			1	1		
32	Y	1	Total	Mg	0	0
			1	1		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
32	3	1	Total Mg 1 1	0	0

- Molecule 33 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
33	0	1	Total K 1 1	0	0
33	M	1	Total K 1 1	0	0

- Molecule 34 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	0	73	Total Na 73 73	0	0
34	9	3	Total Na 3 3	0	0
34	A	1	Total Na 1 1	0	0
34	C	1	Total Na 1 1	0	0
34	H	1	Total Na 1 1	0	0
34	J	1	Total Na 1 1	0	0
34	L	1	Total Na 1 1	0	0
34	M	1	Total Na 1 1	0	0
34	Q	1	Total Na 1 1	0	0
34	R	2	Total Na 2 2	0	0
34	S	1	Total Na 1 1	0	0

- Molecule 35 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	0	8	Total Cl 8 8	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	A	1	Total Cl 1 1	0	0
35	B	1	Total Cl 1 1	0	0
35	J	3	Total Cl 3 3	0	0
35	K	1	Total Cl 1 1	0	0
35	L	1	Total Cl 1 1	0	0
35	M	1	Total Cl 1 1	0	0
35	N	1	Total Cl 1 1	0	0
35	O	1	Total Cl 1 1	0	0
35	Q	1	Total Cl 1 1	0	0
35	R	1	Total Cl 1 1	0	0
35	Y	1	Total Cl 1 1	0	0
35	3	1	Total Cl 1 1	0	0

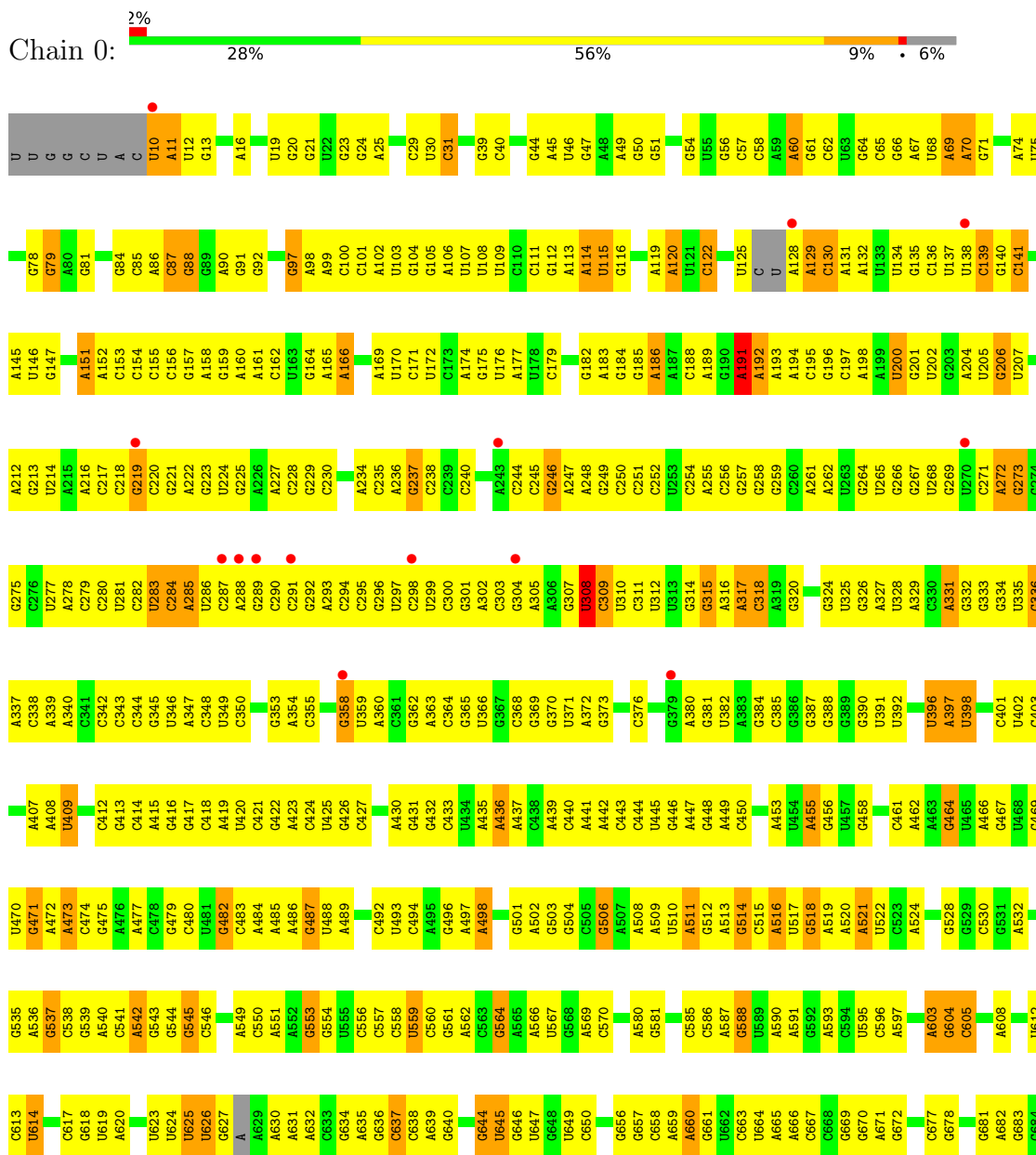
- Molecule 36 is CADMIUM ION (CCD ID: CD) (formula: Cd).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	O	1	Total Cd 1 1	0	0
36	U	1	Total Cd 1 1	0	0
36	Z	1	Total Cd 1 1	0	0
36	1	1	Total Cd 1 1	0	0
36	3	1	Total Cd 1 1	0	0

### 3 Residue-property plots i

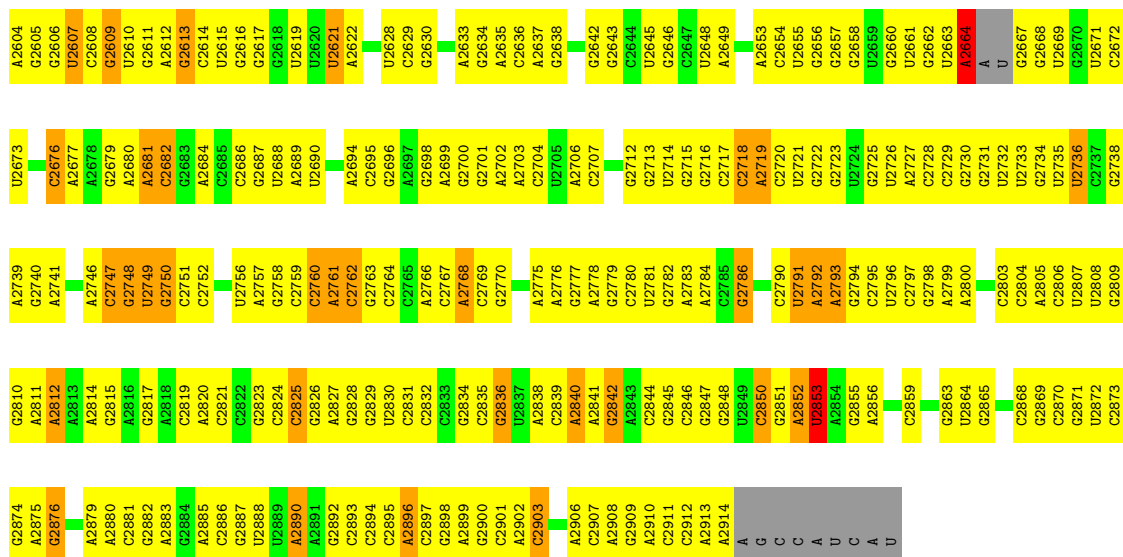
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: 23S RIBOSOMAL RNA

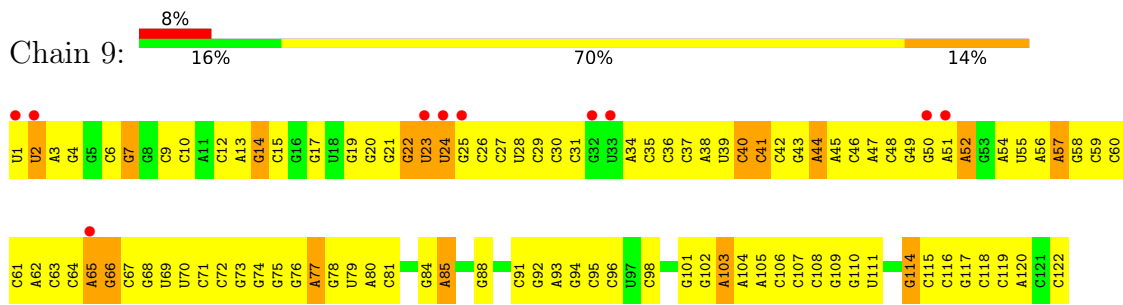




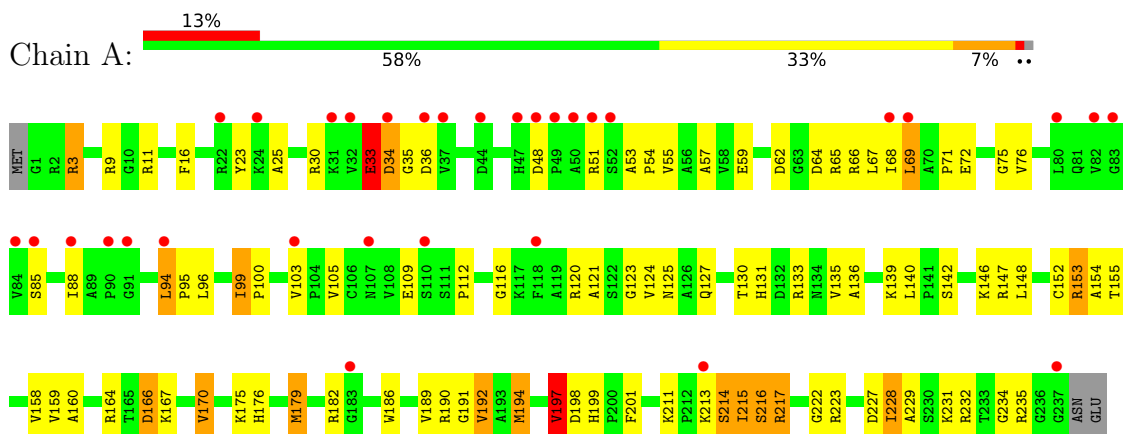
A2532	A2533	A2534	A2535	A2536	A2537	A2538	A2539	A2540	A2541	A2542	A2543	A2544	A2545	A2546	A2547	A2548	A2549	A2550	A2551	A2552	A2553	A2554	A2555	A2556	A2557	A2558	A2559	A2560	A2561	A2562	A2563	A2564	A2565	A2566	A2567	A2568	A2569	A2570	A2571	A2572	A2573	A2574	A2575	A2576	A2577	A2578	A2579	A2580	A2581	A2582	A2583	A2584	A2585	A2586	A2587	A2588	A2589	A2590	A2591	A2592	A2593	A2594	A2595	A2596	A2597	A2598	A2599	A2600	A2601	A2602	A2603					
G2386	G2387	G2388	G2389	G2390	G2391	G2392	G2393	G2394	G2395	G2396	G2397	G2398	G2399	G2400	G2401	G2402	G2403	G2404	G2405	G2406	G2407	G2408	G2409	G2410	G2411	G2412	G2413	G2414	G2415	G2416	G2417	G2418	G2419	G2420	G2421	G2422	G2423	G2424	G2425	G2426	G2427	G2428	G2429	G2430	G2431	G2432	G2433	G2434	G2435	G2436	G2437	G2438	G2439	G2440	G2441	G2442	G2443	G2444	G2445	G2446	G2447	G2448	G2449	G2450	G2451	G2452	G2453	G2454	G2455	G2456	G2457	G2458	G2459	G2460	G2461	G2462
A2465	A2466	A2467	A2468	A2469	A2470	A2471	A2472	A2473	A2474	A2475	A2476	A2477	A2478	A2479	A2480	A2481	A2482	A2483	A2484	A2485	A2486	A2487	A2488	A2489	A2490	A2491	A2492	A2493	A2494	A2495	A2496	A2497	A2498	A2499	A2500	A2501	A2502	A2503	A2504	A2505	A2506	A2507	A2508	A2509	A2510	A2511	A2512	A2513	A2514	A2515	A2516	A2517	A2518	A2519	A2520	A2521	A2522	A2523	A2524	A2525	A2526	A2527	A2528	A2529	A2530	A2531										
G2254	G2255	G2256	G2257	G2258	G2259	G2260	G2261	G2262	G2263	G2264	G2265	G2266	G2267	G2268	G2269	G2270	G2271	G2272	G2273	G2274	G2275	G2276	G2277	G2278	G2279	G2280	G2281	G2282	G2283	G2284	G2285	G2286	G2287	G2288	G2289	G2290	G2291	G2292	G2293	G2294	G2295	G2296	G2297	G2298	G2299	G2300	G2301	G2302	G2303	G2304	G2305	G2306	G2307	G2308	G2309	G2310	G2311	G2312	G2313	G2314	G2315	G2316	G2317	G2318	G2319	G2320	G2321	G2322	G2323							
C2324	C2325	C2326	C2327	C2328	C2329	C2330	C2331	C2332	C2333	C2334	C2335	C2336	C2337	C2338	C2339	C2340	C2341	C2342	C2343	C2344	C2345	C2346	C2347	C2348	C2349	C2350	C2351	C2352	C2353	C2354	C2355	C2356	C2357	C2358	C2359	C2360	C2361	C2362	C2363	C2364	C2365	C2366	C2367	C2368	C2369	C2370	C2371	C2372	C2373	C2374	C2375	C2376	C2377	C2378	C2379	C2380	C2381	C2382	C2383	C2384	C2385															
G2070	G2071	G2072	G2073	G2074	G2075	G2076	G2077	G2078	G2079	G2080	G2081	G2082	G2083	G2084	G2085	G2086	G2087	G2088	G2089	G2090	G2091	G2092	G2093	G2094	G2095	G2096	G2097	G2098	G2099	G2100	G2101	G2102	G2103	G2104	G2105	G2106	G2107	G2108	G2109	G2110	G2111	G2112	G2113	G2114	G2115	G2116	G2117	G2118	G2119	G2120	G2121	G2122	G2123	G2124	G2125	G2126	G2127	G2128	G2129	G2130																
U2003	U2004	U2005	U2006	U2007	U2008	U2009	U2010	U2011	U2012	U2013	U2014	U2015	U2016	U2017	U2018	U2019	U2020	U2021	U2022	U2023	U2024	U2025	U2026	U2027	U2028	U2029	U2030	U2031	U2032	U2033	U2034	U2035	U2036	U2037	U2038	U2039	U2040	U2041	U2042	U2043	U2044	U2045	U2046	U2047	U2048	U2049	U2050	U2051	U2052	U2053	U2054	U2055	U2056	U2057	U2058	U2059	U2060	U2061	U2062	U2063	U2064	U2065	U2066	U2067	U2068	U2069	U2070									
C1943	C1944	C1945	C1946	C1947	C1948	C1949	C1950	C1951	C1952	C1953	C1954	C1955	C1956	C1957	C1958	C1959	C1960	C1961	C1962	C1963	C1964	C1965	C1966	C1967	C1968	C1969	C1970	C1971	C1972	C1973	C1974	C1975	C1976	C1977	C1978	C1979	C1980	C1981	C1982	C1983	C1984	C1985	C1986	C1987	C1988	C1989	C1990	C1991	C1992	C1993	C1994	C1995	C1996	C1997	C1998	C1999	C2000	C2001	C2002																	
G1877	G1878	G1879	G1880	G1881	G1882	G1883	G1884	G1885	G1886	G1887	G1888	G1889	G1890	G1891	G1892	G1893	G1894	G1895	G1896	G1897	G1898	G1899	G1900	G1901	G1902	G1903	G1904	G1905	G1906	G1907	G1908	G1909	G1910	G1911	G1912	G1913	G1914	G1915	G1916	G1917	G1918	G1919	G1920	G1921	G1922	G1923	G1924	G1925	G1926	G1927	G1928	G1929	G1930	G1931	G1932	G1933	G1934	G1935	G1936	G1937	G1938	G1939	G1940	G1941												
A1814	A1815	A1816	A1817	A1818	A1819	A1820	A1821	A1822	A1823	A1824	A1825	A1826	A1827	A1828	A1829	A1830	A1831	A1832	A1833	A1834	A1835	A1836	A1837	A1838	A1839	A1840	A1841	A1842	A1843	A1844	A1845	A1846	A1847	A1848	A1849	A1850	A1851	A1852	A1853	A1854	A1855	A1856	A1857	A1858	A1859	A1860	A1861	A1862	A1863	A1864	A1865	A1866	A1867	A1868	A1869	A1870	A1871	A1872	A1873	A1874	A1875	A1876														
G1752	G1753	G1754	G1755	G1756	G1757	G1758	G1759	G1760	G1761	G1762	G1763	G1764	G1765	G1766	G1767	G1768	G1769	G1770	G1771	G1772	G1773	G1774	G1775	G1776	G1777	G1778	G1779	G1780	G1781	G1782	G1783	G1784	G1785	G1786	G1787	G1788	G1789	G1790	G1791	G1792	G1793	G1794	G1795	G1796	G1797	G1798	G1799	G1800	G1801	G1802	G1803	G1804	G1805	G1806	G1807	G1808	G1809	G1810	G1811	G1812	G1813															
C1675	C1676	C1677	C1678	C1679	C1680	C1681	C1682	C1683	C1684	C1685	C1686	C1687	C1688	C1689	C1690	C1691	C1692	C1693	C1694	C1695	C1696	C1697	C1698	C1699	C1700	C1701	C1702	C1703	C1704	C1705	C1706	C1707	C1708	C1709	C1710	C1711	C1712	C1713	C1714	C1715	C1716	C1717	C1718	C1719	C1720	C1721	C1722	C1723	C1724	C1725	C1726	C1727	C1728	C1729	C1730	C1731	C1732	C1733	C1734	C1735	C1736	C1737	C1738	C1739	C1740	C1741	C1742	C1743	C1744	C1745	C1746	C1747	C1748	C1749	C1750	C1751



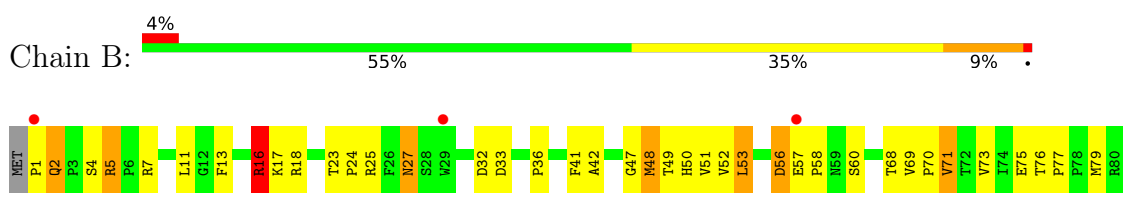
• Molecule 2: 5S RIBOSOMAL RNA

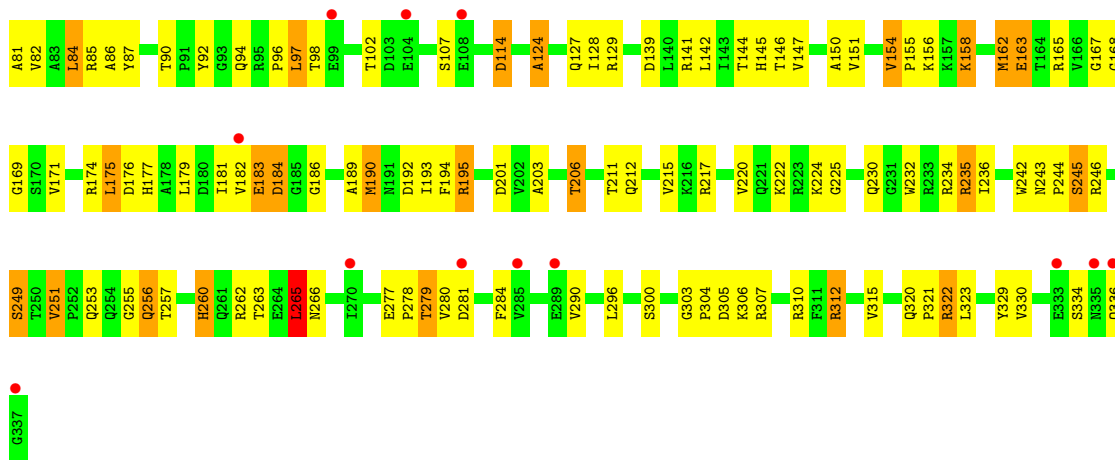


• Molecule 3: 50S ribosomal protein L2P

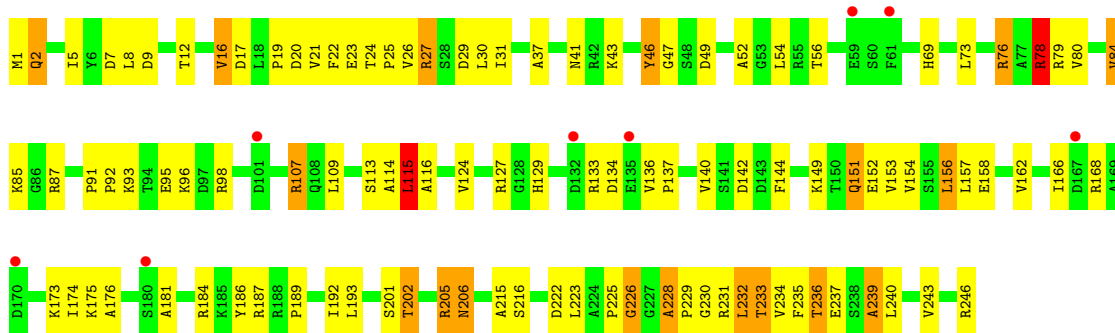


• Molecule 4: 50S ribosomal protein L3P

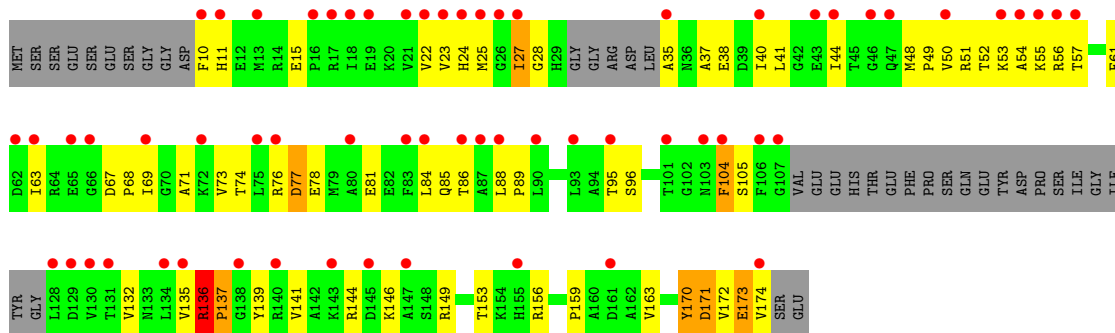




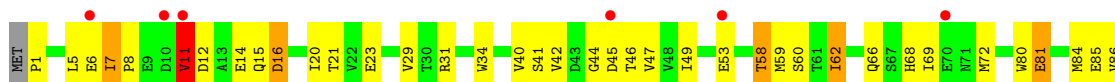
• Molecule 5: 50S ribosomal protein L4P

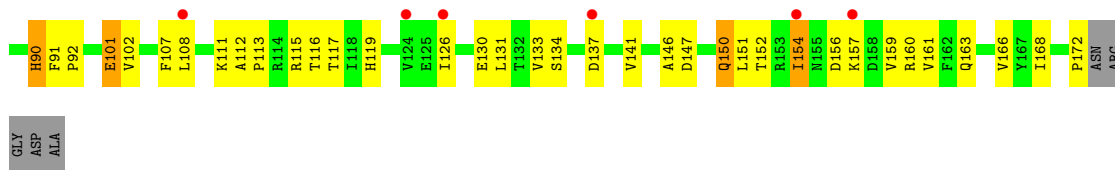


• Molecule 6: 50S ribosomal protein L5P

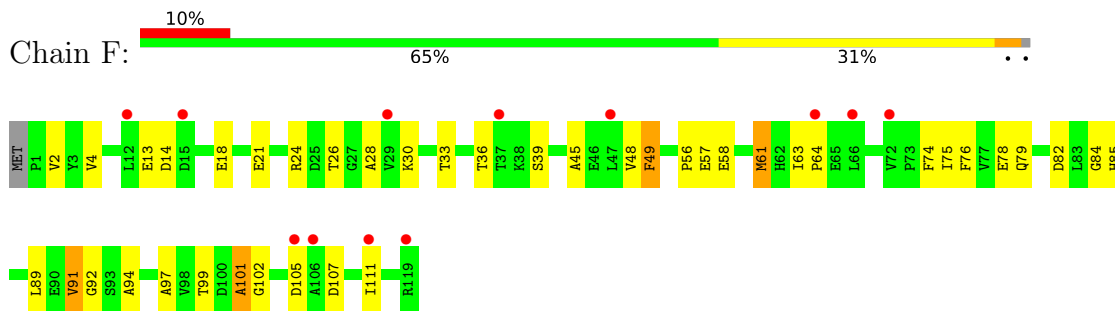


• Molecule 7: 50S ribosomal protein L6P

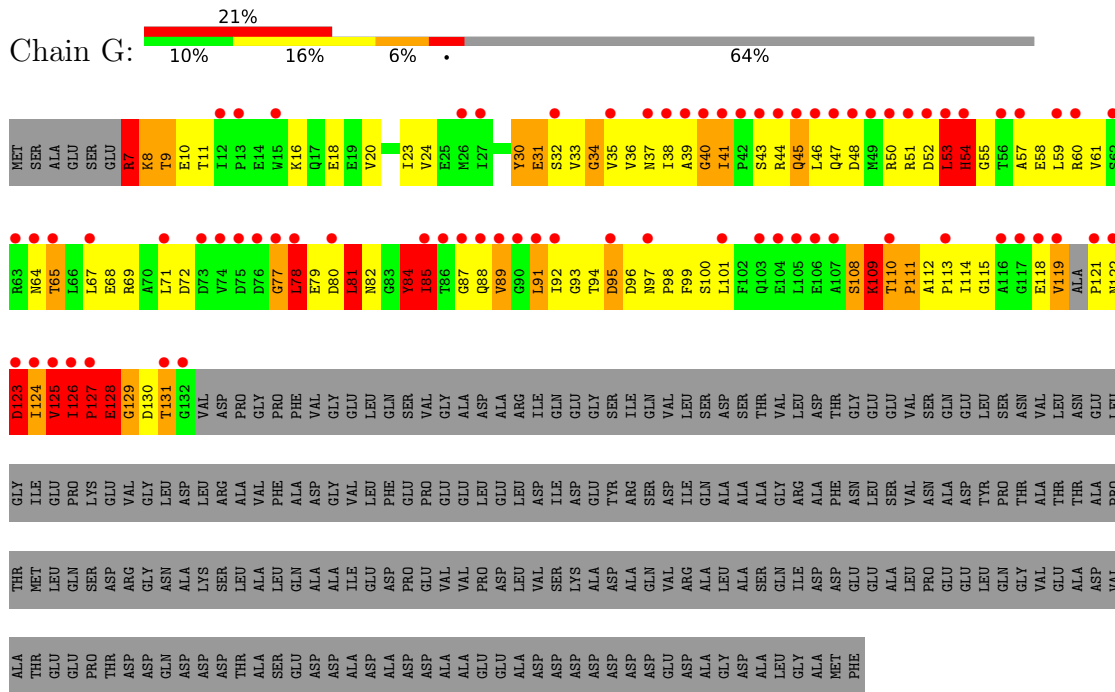




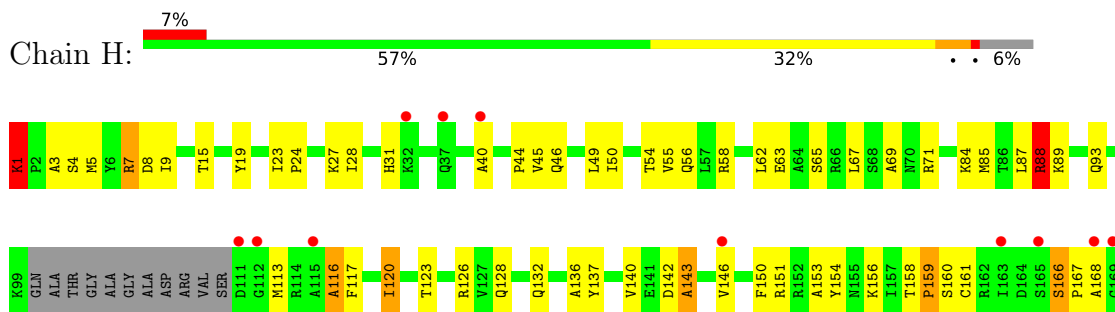
• Molecule 8: 50S ribosomal protein L7Ae



• Molecule 9: ACIDIC RIBOSOMAL PROTEIN P0 HOMO

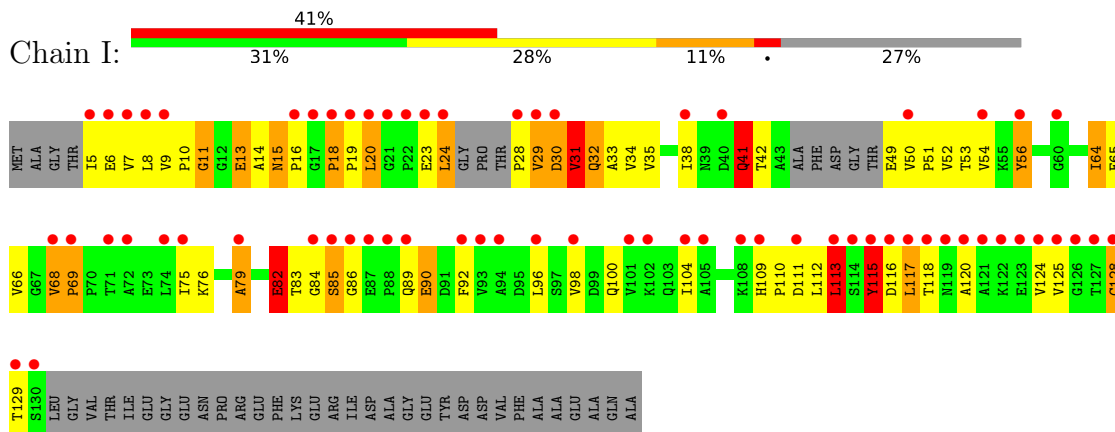


• Molecule 10: 50S ribosomal protein L10e

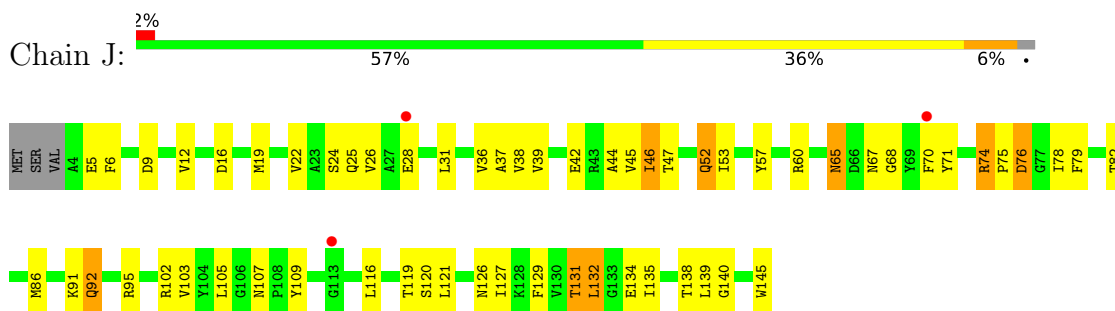


H170  
A171

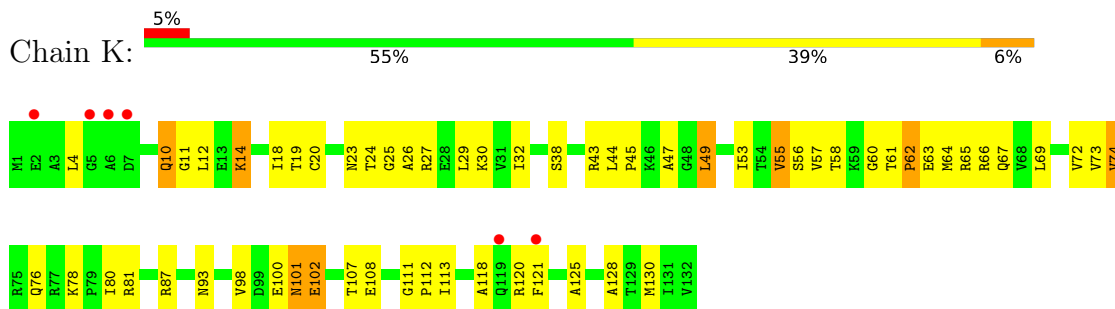
• Molecule 11: 50S ribosomal protein L11P



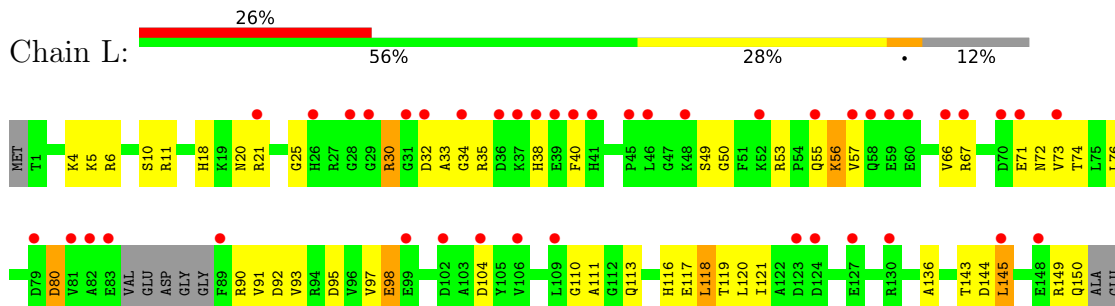
• Molecule 12: 50S ribosomal protein L13P



• Molecule 13: 50S ribosomal protein L14P

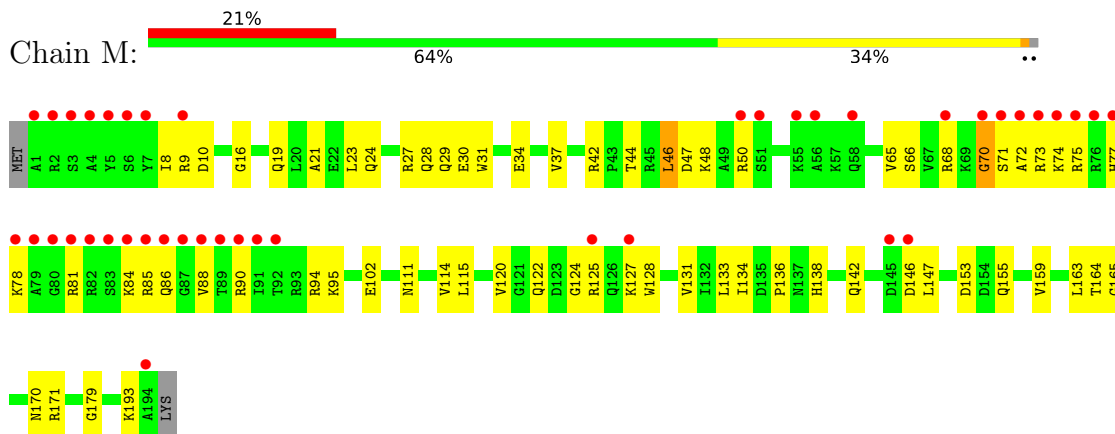


• Molecule 14: 50S ribosomal protein L15P

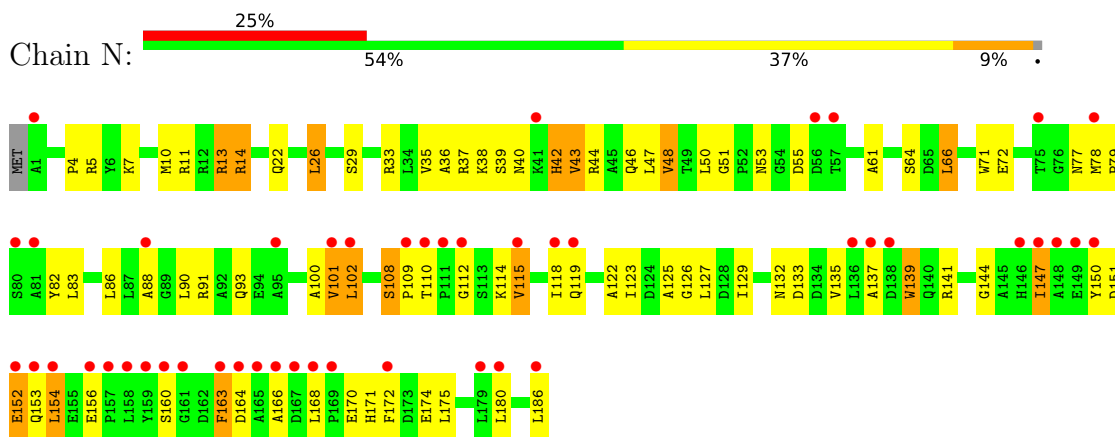


ALA  
GLU  
GLU  
THR  
GLU  
GLU  
ASP  
ASP  
ALA  
ALA  
ASP  
ASP  
GLU  
GLU

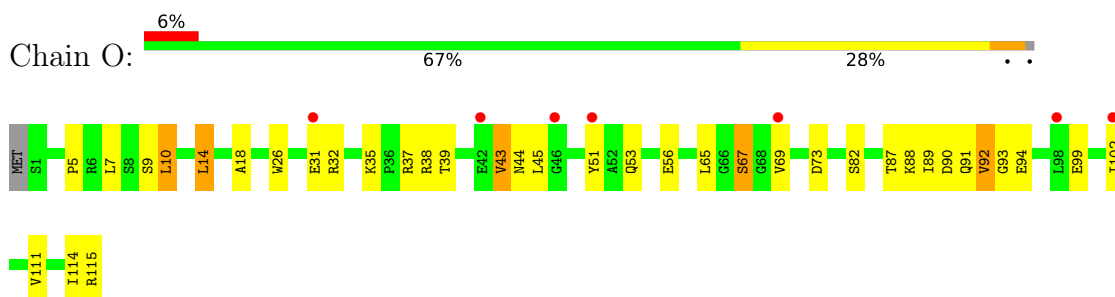
• Molecule 15: 50S ribosomal protein L15e



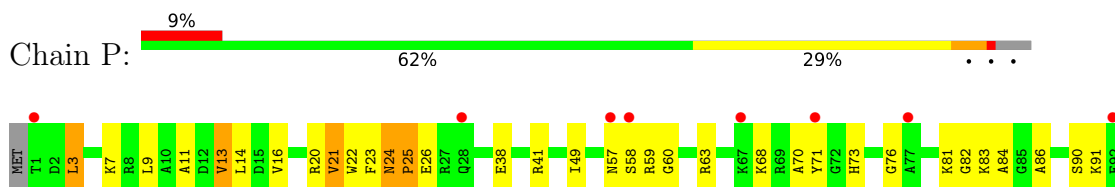
• Molecule 16: 50S ribosomal protein L18P



• Molecule 17: 50S ribosomal protein L18e

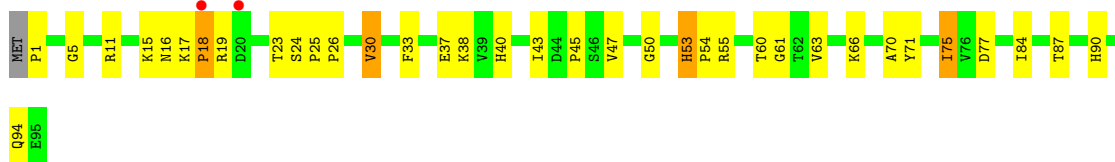


• Molecule 18: 50S ribosomal protein L19e

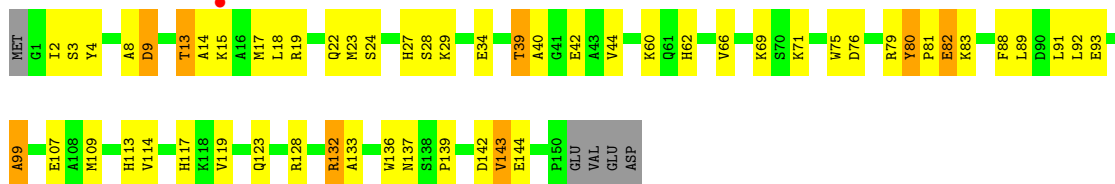




- Molecule 19: 50S ribosomal protein L21e



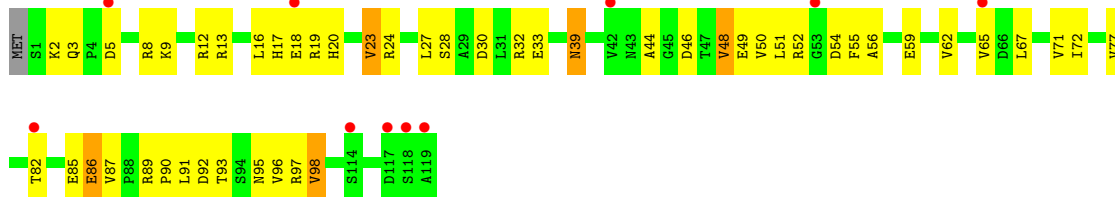
- Molecule 20: 50S ribosomal protein L22P



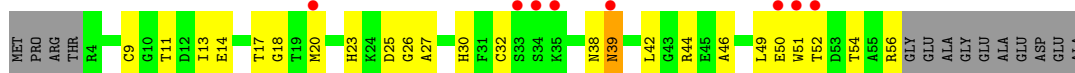
- Molecule 21: 50S ribosomal protein L23P



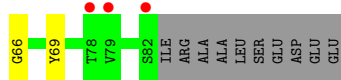
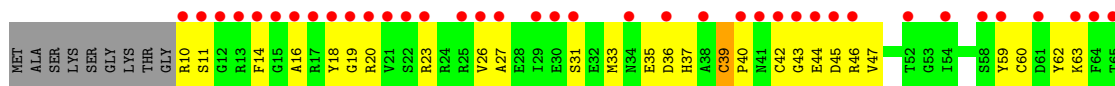
- Molecule 22: 50S ribosomal protein L24P



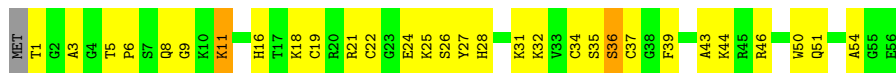
- Molecule 23: 50S ribosomal protein L24e



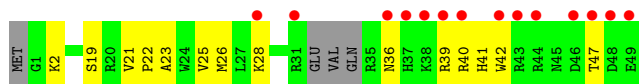




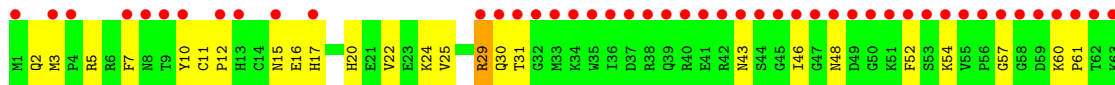
• Molecule 29: 50S ribosomal protein L37e



• Molecule 30: 50S ribosomal protein L39e



• Molecule 31: 50S ribosomal protein L44E



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	214.49Å 302.43Å 578.06Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.00 50.00 – 3.01	Depositor EDS
% Data completeness (in resolution range)	98.2 (50.00-3.00) 96.8 (50.00-3.01)	Depositor EDS
$R_{merge}$	0.13	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.65 (at 3.01Å)	Xtrriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.241 , 0.288 0.259 , 0.259	Depositor DCC
$R_{free}$ test set	18014 reflections (4.88%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	69.6	Xtrriage
Anisotropy	0.307	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.28 , 60.6	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	92248	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	71.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.71% of the height of the origin peak. No significant pseudotranslation is detected.*

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

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality i

### 5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: CL, CD, MG, OMG, K, PSU, OMU, NA, UR3

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	0	0.48	0/65932	0.72	46/102817 (0.0%)
2	9	0.43	0/2905	0.65	0/4528
3	A	0.54	0/1786	1.11	15/2408 (0.6%)
4	B	0.59	1/2690 (0.0%)	1.20	27/3652 (0.7%)
5	C	0.60	0/1884	1.15	16/2551 (0.6%)
6	D	0.45	0/1111	1.01	5/1498 (0.3%)
7	E	0.56	0/1382	1.07	8/1880 (0.4%)
8	F	0.45	0/901	0.97	0/1224
9	G	1.82	8/971 (0.8%)	2.11	36/1317 (2.7%)
10	H	0.54	0/1287	1.08	12/1725 (0.7%)
11	I	4.68	5/890 (0.6%)	2.25	18/1216 (1.5%)
12	J	0.62	0/1136	1.12	6/1530 (0.4%)
13	K	0.55	0/1001	1.20	12/1347 (0.9%)
14	L	0.47	0/1130	1.06	12/1509 (0.8%)
15	M	0.52	0/1583	1.05	3/2119 (0.1%)
16	N	0.45	0/1474	1.11	13/1999 (0.7%)
17	O	0.57	0/874	1.08	6/1181 (0.5%)
18	P	0.50	0/1147	0.97	5/1528 (0.3%)
19	Q	0.44	0/749	1.11	7/1005 (0.7%)
20	R	0.66	0/1172	1.13	9/1578 (0.6%)
21	S	0.47	0/648	0.99	3/875 (0.3%)
22	T	0.51	0/958	1.08	3/1289 (0.2%)
23	U	0.46	0/417	0.98	2/562 (0.4%)
24	V	0.50	0/502	1.15	4/675 (0.6%)
25	W	0.61	0/1219	1.18	11/1655 (0.7%)
26	X	0.66	0/664	1.20	7/895 (0.8%)
27	Y	0.61	0/1146	1.08	6/1536 (0.4%)
28	Z	0.47	0/589	0.98	2/787 (0.3%)
29	1	0.61	0/438	1.05	3/578 (0.5%)
30	2	0.51	0/401	0.98	2/529 (0.4%)
31	3	0.50	0/771	0.93	3/1024 (0.3%)
All	All	0.69	14/99758 (0.0%)	0.87	302/149017 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	0	6	93
2	9	0	1
9	G	0	8
11	I	2	4
All	All	8	106

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	I	24	LEU	CA-CB	95.57	3.44	1.53
11	I	24	LEU	CG-CD2	64.38	3.65	1.52
11	I	24	LEU	CG-CD1	56.39	3.38	1.52
11	I	24	LEU	CB-CG	49.83	2.53	1.53
9	G	54	HIS	CB-CG	36.77	2.01	1.50
9	G	54	HIS	C-N	-23.53	0.99	1.33
9	G	53	LEU	C-N	21.26	1.63	1.33
11	I	24	LEU	C-O	15.80	1.55	1.23
9	G	7	ARG	C-N	-11.35	1.22	1.33
9	G	9	THR	CA-CB	-6.69	1.44	1.53
9	G	8	LYS	N-CA	-5.89	1.36	1.46
9	G	8	LYS	C-N	-5.46	1.25	1.33
4	B	190	MET	SD-CE	-5.29	1.66	1.79
9	G	9	THR	N-CA	-5.03	1.40	1.46

All (302) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	I	24	LEU	CD1-CG-CD2	-41.20	20.15	110.80
11	I	24	LEU	CB-CA-C	-36.41	40.91	110.10
9	G	54	HIS	O-C-N	-24.21	90.39	122.59
11	I	24	LEU	N-CA-CB	23.28	150.08	110.50
9	G	54	HIS	CA-C-N	22.77	166.04	121.41
9	G	54	HIS	C-N-CA	22.77	166.04	121.41
11	I	24	LEU	CA-CB-CG	-16.98	56.88	116.30
9	G	110	THR	N-CA-C	16.71	146.73	109.81
11	I	24	LEU	CB-CG-CD1	-16.43	61.40	110.70
9	G	53	LEU	O-C-N	14.95	139.85	122.96
11	I	24	LEU	CB-CG-CD2	-14.48	67.26	110.70

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	1167	G	O4'-C4'-C3'	-13.51	92.59	106.10
9	G	84	TYR	N-CA-C	12.78	129.98	111.96
9	G	109	LYS	N-CA-C	11.27	127.31	109.50
9	G	82	ASN	N-CA-C	10.30	123.47	111.11
9	G	111	PRO	N-CA-C	9.93	132.93	112.47
9	G	110	THR	CB-CA-C	-9.93	90.61	110.17
9	G	54	HIS	CA-CB-CG	-9.92	103.88	113.80
9	G	123	ASP	N-CA-C	9.81	125.98	112.93
1	0	1193	A	C2'-C3'-O3'	9.69	124.03	109.50
9	G	96	ASP	N-CA-C	9.48	121.94	110.19
9	G	82	ASN	CB-CA-C	-9.23	96.05	110.81
15	M	70	GLY	N-CA-C	9.12	123.50	110.46
10	H	116	ALA	N-CA-C	9.09	122.17	111.71
9	G	52	ASP	N-CA-C	-9.04	91.53	110.80
9	G	89	VAL	CB-CA-C	8.94	123.44	111.19
14	L	98	GLU	N-CA-C	-8.63	99.79	110.41
4	B	265	LEU	N-CA-C	8.58	122.98	110.28
24	V	42	ASN	CA-C-N	8.46	130.41	119.84
24	V	42	ASN	C-N-CA	8.46	130.41	119.84
4	B	158	LYS	CA-C-N	8.42	128.49	119.90
4	B	158	LYS	C-N-CA	8.42	128.49	119.90
26	X	79	GLU	N-CA-C	8.42	120.23	111.14
6	D	136	ARG	CA-C-N	8.38	130.31	119.84
6	D	136	ARG	C-N-CA	8.38	130.31	119.84
5	C	78	ARG	N-CA-C	8.09	120.27	108.86
25	W	39	ASP	N-CA-C	-8.02	101.30	112.45
9	G	130	ASP	N-CA-C	8.00	124.48	111.37
4	B	251	VAL	CA-C-N	7.99	129.24	119.98
4	B	251	VAL	C-N-CA	7.99	129.24	119.98
9	G	123	ASP	CB-CA-C	-7.99	97.54	110.08
11	I	18	PRO	N-CA-C	7.96	120.41	110.70
11	I	68	VAL	CA-C-N	7.87	128.49	120.38
11	I	68	VAL	C-N-CA	7.87	128.49	120.38
27	Y	203	VAL	N-CA-C	7.87	119.94	108.53
6	D	40	ILE	N-CA-C	7.84	117.95	110.42
7	E	81	GLU	N-CA-C	7.83	121.60	108.13
11	I	15	ASN	N-CA-C	7.79	127.02	109.81
16	N	66	LEU	N-CA-C	-7.73	103.99	113.50
16	N	108	SER	CA-C-N	7.72	129.49	119.84
16	N	108	SER	C-N-CA	7.72	129.49	119.84
9	G	53	LEU	N-CA-C	7.70	121.88	110.48
15	M	90	ARG	N-CA-C	7.60	120.29	111.02

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	G	30	TYR	CB-CA-C	7.58	125.50	110.42
23	U	18	GLY	N-CA-C	7.57	119.73	112.08
1	0	1193	A	C5'-C4'-C3'	7.39	126.29	115.20
9	G	31	GLU	N-CA-CB	7.39	124.89	111.96
27	Y	117	LEU	N-CA-C	-7.36	103.19	111.14
3	A	99	ILE	N-CA-C	7.34	114.95	108.63
11	I	23	GLU	N-CA-C	7.32	119.16	111.03
3	A	198	ASP	N-CA-C	7.30	122.02	113.18
17	O	43	VAL	N-CA-C	7.30	119.12	108.53
11	I	128	CYS	N-CA-C	7.25	119.08	111.03
16	N	133	ASP	N-CA-C	7.20	118.77	111.07
1	0	1563	G	C2'-C3'-O3'	7.19	120.29	109.50
1	0	1979	G	C2'-C3'-O3'	7.17	124.45	113.70
10	H	88	ARG	N-CA-C	7.03	119.02	111.36
25	W	90	TYR	N-CA-C	6.95	119.50	110.53
16	N	14	ARG	N-CA-C	-6.95	103.40	110.97
15	M	114	VAL	N-CA-C	6.84	118.70	108.23
25	W	113	SER	CA-C-N	6.79	127.35	119.47
25	W	113	SER	C-N-CA	6.79	127.35	119.47
1	0	1504	A	O4'-C4'-C3'	-6.78	99.32	106.10
16	N	48	VAL	N-CA-C	6.78	118.34	108.58
1	0	1563	G	C4'-C3'-O3'	-6.74	99.29	109.40
4	B	154	VAL	CA-C-N	6.70	126.48	119.05
4	B	154	VAL	C-N-CA	6.70	126.48	119.05
3	A	213	LYS	N-CA-C	6.67	118.55	111.28
5	C	175	LYS	N-CA-C	6.67	120.05	110.24
17	O	7	LEU	N-CA-C	-6.66	103.64	111.03
24	V	5	VAL	N-CA-C	6.66	116.68	110.42
12	J	71	TYR	CA-C-N	6.66	126.62	120.03
12	J	71	TYR	C-N-CA	6.66	126.62	120.03
14	L	91	VAL	N-CA-C	6.62	117.09	108.35
12	J	9	ASP	N-CA-C	-6.61	104.16	111.36
13	K	55	VAL	N-CA-C	6.60	119.62	108.86
1	0	1193	A	N9-C1'-C2'	6.60	123.90	114.00
1	0	1167	G	C2'-C3'-O3'	6.57	119.36	109.50
4	B	222	LYS	N-CA-C	-6.55	102.36	110.41
1	0	1193	A	C5'-C4'-O4'	6.54	118.91	109.10
25	W	69	ARG	N-CA-C	6.54	121.19	112.30
9	G	124	ILE	CB-CA-C	6.52	121.98	111.29
16	N	153	GLN	N-CA-C	-6.51	100.60	110.70
12	J	95	ARG	N-CA-C	-6.51	104.10	111.07
28	Z	39	CYS	CA-C-N	6.51	126.13	119.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	Z	39	CYS	C-N-CA	6.51	126.13	119.56
7	E	34	TRP	N-CA-C	6.50	119.40	108.02
7	E	62	ILE	N-CA-C	-6.49	104.17	110.72
5	C	84	VAL	N-CA-C	-6.48	101.20	109.30
1	0	1161	A	N9-C1'-C2'	6.47	121.71	112.00
11	I	113	LEU	N-CA-C	-6.44	100.63	109.71
1	0	138	U	C2'-C3'-O3'	-6.43	104.06	113.70
14	L	145	LEU	N-CA-C	-6.42	104.38	111.82
4	B	163	GLU	N-CA-C	6.42	119.16	108.96
3	A	197	VAL	N-CA-C	6.38	117.13	110.62
1	0	1167	G	C4'-C3'-O3'	6.38	118.97	109.40
3	A	228	ILE	N-CA-C	6.36	117.24	108.84
1	0	1167	G	N9-C1'-C2'	6.34	123.52	114.00
11	I	116	ASP	N-CA-C	-6.34	98.28	109.06
16	N	42	HIS	N-CA-C	6.33	117.79	108.86
29	1	25	LYS	N-CA-C	-6.33	102.68	110.65
20	R	137	ASN	N-CA-C	6.31	119.86	110.52
9	G	41	ILE	N-CA-CB	-6.29	102.40	111.21
4	B	266	ASN	N-CA-C	6.27	120.30	111.52
27	Y	166	ALA	N-CA-C	6.24	117.74	111.07
14	L	20	ASN	N-CA-C	6.22	121.08	111.56
9	G	48	ASP	N-CA-C	-6.19	104.64	111.82
17	O	82	SER	N-CA-C	-6.13	102.88	110.41
26	X	51	ASP	CA-C-N	6.12	125.82	119.82
26	X	51	ASP	C-N-CA	6.12	125.82	119.82
1	0	1942	A	C5'-C4'-C3'	6.06	125.08	116.00
26	X	85	VAL	N-CA-C	6.05	117.43	108.65
10	H	50	ILE	N-CA-C	6.04	117.00	108.36
9	G	85	ILE	N-CA-C	6.03	121.88	109.34
4	B	53	LEU	N-CA-C	6.01	118.55	109.41
4	B	60	SER	N-CA-C	-6.00	102.22	109.72
4	B	71	VAL	N-CA-C	5.99	116.91	108.17
1	0	1504	A	N9-C1'-C2'	5.98	122.97	114.00
9	G	65	THR	N-CA-C	-5.98	104.33	111.69
5	C	56	THR	N-CA-C	5.98	113.51	108.13
16	N	51	GLY	CA-C-N	5.98	127.31	119.84
16	N	51	GLY	C-N-CA	5.98	127.31	119.84
20	R	13	THR	N-CA-C	5.97	118.10	108.32
9	G	39	ALA	CB-CA-C	-5.96	99.85	113.33
1	0	1161	A	C3'-C2'-O2'	5.96	119.64	110.70
1	0	1504	A	C1'-O4'-C4'	-5.95	103.75	109.70
1	0	2664	A	N9-C1'-C2'	5.95	120.93	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	G	89	VAL	N-CA-CB	-5.95	104.92	112.60
10	H	7	ARG	N-CA-C	5.94	120.14	113.01
1	0	834	G	C2'-C3'-O3'	-5.92	104.82	113.70
13	K	111	GLY	CA-C-N	5.92	127.24	119.84
13	K	111	GLY	C-N-CA	5.92	127.24	119.84
16	N	102	LEU	N-CA-C	5.91	118.37	108.73
19	Q	53	HIS	CA-C-N	5.91	127.23	119.84
19	Q	53	HIS	C-N-CA	5.91	127.23	119.84
1	0	2313	C	C5'-C4'-C3'	5.90	124.85	116.00
3	A	94	LEU	N-CA-C	5.90	113.53	108.22
27	Y	187	VAL	N-CA-C	5.88	116.55	107.78
13	K	61	THR	CA-C-N	5.88	127.19	119.84
13	K	61	THR	C-N-CA	5.88	127.19	119.84
4	B	279	THR	N-CA-C	5.87	118.57	110.35
1	0	1167	G	C1'-O4'-C4'	-5.86	103.84	109.70
9	G	8	LYS	CB-CA-C	-5.84	101.77	114.10
14	L	49	SER	N-CA-C	5.84	117.90	107.80
21	S	30	ASP	N-CA-C	5.82	119.85	112.87
4	B	249	SER	N-CA-C	-5.81	106.35	113.50
3	A	222	GLY	N-CA-C	-5.78	107.08	114.37
4	B	48	MET	N-CA-C	5.78	118.90	109.59
1	0	2760	C	N1-C1'-C2'	5.78	120.67	112.00
1	0	1194	A	C4'-C3'-O3'	-5.77	104.34	113.00
22	T	3	GLN	CA-C-N	5.77	125.90	119.32
22	T	3	GLN	C-N-CA	5.77	125.90	119.32
13	K	128	ALA	N-CA-C	5.77	119.50	110.32
18	P	90	SER	N-CA-C	5.76	118.03	111.11
20	R	99	ALA	N-CA-C	5.76	117.64	111.36
1	0	2313	C	C4'-C3'-C2'	-5.76	96.84	102.60
1	0	1723	G	C4'-C3'-O3'	-5.74	104.39	113.00
4	B	165	ARG	N-CA-C	5.73	119.16	109.76
18	P	70	ALA	N-CA-C	-5.72	106.25	113.18
22	T	3	GLN	N-CA-C	5.71	116.84	109.65
6	D	15	GLU	CA-C-N	5.69	126.96	119.84
6	D	15	GLU	C-N-CA	5.69	126.96	119.84
19	Q	47	VAL	N-CA-C	5.69	113.18	107.55
5	C	144	PHE	N-CA-C	-5.68	105.01	111.14
9	G	41	ILE	N-CA-C	5.67	121.14	108.88
26	X	54	ILE	N-CA-C	-5.67	104.99	110.72
10	H	120	ILE	N-CA-C	5.67	116.32	108.84
1	0	1006	A	N9-C1'-C2'	5.66	120.49	112.00
10	H	160	SER	N-CA-C	-5.66	101.33	110.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	R	123	GLN	N-CA-C	5.64	118.72	109.76
1	0	920	C	C2'-C3'-O3'	-5.63	105.26	113.70
13	K	81	ARG	N-CA-C	5.62	119.40	109.96
9	G	81	LEU	N-CA-C	5.61	120.25	112.45
4	B	230	GLN	N-CA-C	5.61	120.40	113.50
13	K	49	LEU	N-CA-C	5.61	118.15	110.24
20	R	80	TYR	CA-C-N	5.61	126.85	119.84
20	R	80	TYR	C-N-CA	5.61	126.85	119.84
1	0	1419	U	N1-C1'-C2'	5.60	120.39	112.00
3	A	33	GLU	N-CA-C	-5.59	104.41	111.11
25	W	25	ASN	N-CA-C	5.58	122.69	110.80
3	A	216	SER	N-CA-C	5.57	118.31	110.23
13	K	100	GLU	N-CA-C	5.57	117.03	111.07
3	A	48	ASP	CA-C-N	5.56	125.24	119.56
3	A	48	ASP	C-N-CA	5.56	125.24	119.56
11	I	41	GLN	N-CA-C	5.55	120.11	113.23
14	L	136	ALA	N-CA-C	-5.55	106.09	112.92
5	C	20	ASP	N-CA-C	5.54	117.32	111.28
5	C	233	THR	N-CA-C	5.52	117.90	108.90
4	B	193	ILE	CB-CA-C	-5.51	107.02	111.71
4	B	329	TYR	N-CA-C	5.50	117.06	107.49
14	L	21	ARG	N-CA-C	5.50	118.60	108.58
1	0	1207	A	C2'-C3'-O3'	-5.50	105.45	113.70
7	E	23	GLU	N-CA-C	5.50	117.36	108.34
4	B	47	GLY	N-CA-C	5.50	118.00	110.69
5	C	205	ARG	N-CA-C	5.48	116.94	110.97
4	B	260	HIS	N-CA-C	-5.47	101.20	109.85
1	0	1165	G	O4'-C4'-C3'	-5.47	100.63	106.10
9	G	131	THR	N-CA-C	5.47	122.44	110.80
10	H	27	LYS	N-CA-C	-5.46	105.74	112.90
24	V	45	ARG	N-CA-C	5.46	117.31	111.36
7	E	11	VAL	N-CA-C	5.46	120.69	109.34
10	H	143	ALA	N-CA-C	5.44	117.21	111.28
11	I	115	TYR	CA-CB-CG	-5.43	104.12	113.90
1	0	1189	A	N9-C1'-C2'	5.42	120.13	112.00
13	K	18	ILE	N-CA-C	5.42	115.43	108.82
5	C	186	TYR	N-CA-C	5.41	118.09	110.14
14	L	25	GLY	N-CA-C	-5.41	105.75	113.86
26	X	31	ILE	N-CA-C	-5.39	106.44	111.45
18	P	24	ASN	CA-C-N	5.39	126.58	119.84
18	P	24	ASN	C-N-CA	5.39	126.58	119.84
30	2	21	VAL	CA-C-N	5.39	125.69	119.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	2	21	VAL	C-N-CA	5.39	125.69	119.93
1	0	2546	U	N1-C1'-C2'	5.38	120.07	112.00
5	C	239	ALA	N-CA-C	-5.38	105.06	111.03
4	B	175	LEU	N-CA-C	-5.38	105.33	111.14
19	Q	17	LYS	CA-C-N	5.38	126.56	119.84
19	Q	17	LYS	C-N-CA	5.38	126.56	119.84
25	W	35	VAL	N-CA-C	5.37	113.74	107.89
9	G	77	GLY	N-CA-C	-5.36	107.62	115.72
10	H	159	PRO	N-CA-C	5.35	118.71	111.22
21	S	26	PHE	N-CA-C	5.35	116.78	109.18
25	W	38	THR	CB-CA-C	-5.34	104.77	113.37
7	E	111	LYS	N-CA-C	-5.34	106.27	112.89
14	L	80	ASP	N-CA-C	5.32	122.12	110.80
27	Y	101	GLY	N-CA-C	5.32	120.69	112.45
31	3	29	ARG	N-CA-C	5.32	118.00	110.50
31	3	73	GLU	N-CA-C	5.31	116.93	111.03
29	1	43	ALA	N-CA-C	-5.31	106.06	112.54
4	B	114	ASP	N-CA-C	-5.31	98.63	108.24
16	N	13	ARG	N-CA-C	-5.31	107.35	113.88
5	C	226	GLY	N-CA-C	-5.30	107.92	115.30
9	G	124	ILE	N-CA-C	-5.29	98.34	109.34
1	0	1192	A	N9-C1'-C2'	5.28	119.92	112.00
31	3	16	GLU	N-CA-C	5.28	116.31	108.60
13	K	14	LYS	N-CA-C	-5.28	102.23	110.10
3	A	133	ARG	N-CA-C	-5.26	106.37	112.89
17	O	69	VAL	N-CA-C	5.26	115.42	107.75
1	0	2313	C	O4'-C4'-C3'	-5.25	98.75	104.00
17	O	92	VAL	N-CA-C	5.25	118.02	112.83
1	0	1302	G	O4'-C4'-C3'	-5.24	98.76	104.00
18	P	98	ILE	N-CA-C	5.22	115.95	110.62
3	A	215	ILE	N-CA-C	5.22	115.24	108.35
1	0	129	A	C2'-C3'-O3'	5.20	121.50	113.70
3	A	166	ASP	N-CA-C	5.19	117.61	111.33
19	Q	5	GLY	CA-C-N	5.19	124.51	118.85
19	Q	5	GLY	C-N-CA	5.19	124.51	118.85
14	L	118	LEU	N-CA-C	5.19	117.42	109.07
1	0	1192	A	C4'-C3'-O3'	-5.18	105.22	113.00
27	Y	205	ILE	CB-CA-C	-5.18	104.69	110.96
13	K	25	GLY	N-CA-C	-5.18	107.91	115.63
1	0	2096	A	C4'-C3'-O3'	-5.17	105.25	113.00
10	H	1	LYS	CA-C-N	5.16	125.10	119.78
10	H	1	LYS	C-N-CA	5.16	125.10	119.78

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	R	9	ASP	CA-C-N	5.16	124.83	119.56
20	R	9	ASP	C-N-CA	5.16	124.83	119.56
9	G	8	LYS	N-CA-CB	-5.15	102.20	110.55
5	C	115	LEU	N-CA-C	-5.14	105.37	110.97
5	C	228	ALA	CA-C-N	5.13	125.11	120.03
5	C	228	ALA	C-N-CA	5.13	125.11	120.03
5	C	80	VAL	CA-C-N	5.13	125.17	119.32
5	C	80	VAL	C-N-CA	5.13	125.17	119.32
1	0	464	G	N9-C1'-C2'	5.13	121.69	114.00
11	I	34	VAL	N-CA-C	-5.13	105.39	110.62
7	E	101	GLU	N-CA-C	5.12	117.80	109.24
1	0	2609	G	N9-C1'-C2'	5.12	119.68	112.00
14	L	56	LYS	N-CA-C	5.11	118.62	112.38
4	B	303	GLY	CA-C-N	5.11	126.23	119.84
4	B	303	GLY	C-N-CA	5.11	126.23	119.84
1	0	1979	G	C4'-C3'-O3'	-5.10	105.34	113.00
1	0	877	G	C2'-C3'-O3'	-5.10	106.05	113.70
7	E	119	HIS	N-CA-C	5.09	116.98	108.23
14	L	55	GLN	N-CA-C	5.09	117.23	111.02
21	S	64	ALA	N-CA-C	5.09	117.03	108.73
29	1	51	GLN	N-CA-C	-5.09	107.05	113.20
12	J	91	LYS	N-CA-C	-5.08	102.76	110.28
25	W	17	ILE	N-CA-C	-5.07	105.76	110.53
20	R	34	GLU	N-CA-C	5.07	116.61	111.14
23	U	50	GLU	N-CA-C	5.07	116.80	111.28
1	0	1641	A	C5'-C4'-C3'	5.06	123.59	116.00
10	H	161	CYS	N-CA-C	5.06	117.55	109.81
12	J	76	ASP	N-CA-C	-5.06	103.20	111.04
26	X	25	ARG	N-CA-C	5.06	116.80	111.28
1	0	2306	U	N1-C1'-C2'	5.05	119.57	112.00
9	G	78	LEU	N-CA-C	-5.03	105.26	111.40
1	0	857	A	C2'-C3'-O3'	5.02	117.03	109.50
3	A	148	LEU	N-CA-C	5.02	117.29	109.52
25	W	35	VAL	CA-C-N	5.01	125.72	120.11
25	W	35	VAL	C-N-CA	5.01	125.72	120.11
4	B	124	ALA	N-CA-C	-5.01	105.73	111.14
16	N	163	PHE	N-CA-C	-5.01	100.14	110.80
11	I	79	ALA	N-CA-C	-5.00	105.91	111.36
17	O	94	GLU	N-CA-C	5.00	116.02	108.46

All (8) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	0	1161	A	C1'
1	0	1167	G	C3',C1'
1	0	1193	A	C4',C3',C1'
11	I	24	LEU	CA
11	I	30	ASP	CA

All (106) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1027	G	Sidechain
1	0	1072	G	Sidechain
1	0	1115	U	Sidechain
1	0	116	G	Sidechain
1	0	1167	G	Sidechain
1	0	1169	U	Sidechain
1	0	1193	A	Sidechain
1	0	1198	U	Sidechain
1	0	1234	U	Sidechain
1	0	1237	U	Sidechain
1	0	1261	A	Sidechain
1	0	1264	U	Sidechain
1	0	1316	G	Sidechain
1	0	1323	G	Sidechain
1	0	1328	A	Sidechain
1	0	1350	U	Sidechain
1	0	1364	G	Sidechain
1	0	1385	G	Sidechain
1	0	1458	A	Sidechain
1	0	1478	U	Sidechain
1	0	1561	U	Sidechain
1	0	1684	A	Sidechain
1	0	1711	A	Sidechain
1	0	1733	A	Sidechain
1	0	1761	U	Sidechain
1	0	1829	A	Sidechain
1	0	1835	U	Sidechain
1	0	1845	A	Sidechain
1	0	1878	G	Sidechain
1	0	191	A	Sidechain
1	0	1978	A	Sidechain
1	0	2034	U	Sidechain
1	0	2035	C	Sidechain
1	0	2042	U	Sidechain

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
1	0	2051	G	Sidechain
1	0	206	G	Sidechain
1	0	2068	G	Sidechain
1	0	2071	C	Sidechain
1	0	2076	U	Sidechain
1	0	2085	A	Sidechain
1	0	2123	A	Sidechain
1	0	2136	G	Sidechain
1	0	2284	G	Sidechain
1	0	2306	U	Sidechain
1	0	246	G	Sidechain
1	0	2480	G	Sidechain
1	0	2492	U	Sidechain
1	0	2501	G	Sidechain
1	0	2503	A	Sidechain
1	0	2506	A	Sidechain
1	0	2523	U	Sidechain
1	0	2526	C	Sidechain
1	0	2551	C	Sidechain
1	0	2610	U	Sidechain
1	0	2664	A	Sidechain
1	0	2671	U	Sidechain
1	0	2736	U	Sidechain
1	0	2749	U	Sidechain
1	0	2793	A	Sidechain
1	0	2840	A	Sidechain
1	0	2842	G	Sidechain
1	0	2853	U	Sidechain
1	0	308	U	Sidechain
1	0	315	G	Sidechain
1	0	331	A	Sidechain
1	0	436	A	Sidechain
1	0	455	A	Sidechain
1	0	471	G	Sidechain
1	0	475	G	Sidechain
1	0	482	G	Sidechain
1	0	49	A	Sidechain
1	0	502	A	Sidechain
1	0	506	G	Sidechain
1	0	518	G	Sidechain
1	0	521	A	Sidechain
1	0	537	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	564	G	Sidechain
1	0	614	U	Sidechain
1	0	619	U	Sidechain
1	0	625	U	Sidechain
1	0	626	U	Sidechain
1	0	637	C	Sidechain
1	0	761	A	Sidechain
1	0	781	C	Sidechain
1	0	79	G	Sidechain
1	0	818	A	Sidechain
1	0	832	U	Sidechain
1	0	857	A	Sidechain
1	0	866	U	Sidechain
1	0	874	A	Sidechain
1	0	903	U	Sidechain
1	0	942	U	Sidechain
1	0	952	G	Sidechain
2	9	85	A	Sidechain
9	G	123	ASP	Peptide
9	G	126	ILE	Peptide
9	G	127	PRO	Peptide
9	G	128	GLU	Peptide
9	G	53	LEU	Mainchain
9	G	54	HIS	Sidechain,Peptide
9	G	84	TYR	Sidechain
11	I	28	PRO	Peptide
11	I	30	ASP	Peptide
11	I	31	VAL	Peptide
11	I	32	GLN	Peptide

## 5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	58979	0	29793	2510	0
2	9	2600	0	1326	158	0
3	A	1753	0	1766	73	0
4	B	2625	0	2533	112	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	C	1859	0	1816	87	0
6	D	1094	0	1085	54	0
7	E	1357	0	1266	48	0
8	F	890	0	843	31	0
9	G	959	0	928	162	0
10	H	1266	0	1268	50	0
11	I	876	0	835	60	0
12	J	1120	0	1098	53	0
13	K	992	0	1031	47	0
14	L	1118	0	1076	35	0
15	M	1559	0	1567	66	0
16	N	1445	0	1401	77	0
17	O	865	0	873	29	0
18	P	1136	0	1123	43	0
19	Q	735	0	728	28	0
20	R	1149	0	1122	53	0
21	S	641	0	605	13	0
22	T	950	0	924	50	0
23	U	410	0	367	16	0
24	V	499	0	511	21	0
25	W	1196	0	1137	78	0
26	X	654	0	653	42	0
27	Y	1130	0	1133	53	0
28	Z	578	0	543	36	0
29	1	431	0	427	25	0
30	2	396	0	413	16	0
31	3	755	0	732	34	0
32	0	108	0	0	0	0
32	3	1	0	0	0	0
32	9	1	0	0	0	0
32	A	2	0	0	0	0
32	B	1	0	0	0	0
32	K	1	0	0	0	0
32	T	1	0	0	0	0
32	Y	1	0	0	0	0
33	0	1	0	0	0	0
33	M	1	0	0	0	0
34	0	73	0	0	0	0
34	9	3	0	0	0	0
34	A	1	0	0	0	0
34	C	1	0	0	0	0
34	H	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
34	J	1	0	0	0	0
34	L	1	0	0	0	0
34	M	1	0	0	0	0
34	Q	1	0	0	0	0
34	R	2	0	0	0	0
34	S	1	0	0	0	0
35	0	8	0	0	1	0
35	3	1	0	0	5	0
35	A	1	0	0	0	0
35	B	1	0	0	0	0
35	J	3	0	0	4	0
35	K	1	0	0	0	0
35	L	1	0	0	0	0
35	M	1	0	0	1	0
35	N	1	0	0	0	0
35	O	1	0	0	1	0
35	Q	1	0	0	1	0
35	R	1	0	0	0	0
35	Y	1	0	0	0	0
36	1	1	0	0	1	0
36	3	1	0	0	0	0
36	O	1	0	0	0	0
36	U	1	0	0	0	0
36	Z	1	0	0	0	0
All	All	92248	0	60923	3773	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 25.

All (3773) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:54:HIS:CG	9:G:54:HIS:CB	2.01	1.43
9:G:33:VAL:C	9:G:123:ASP:OD2	1.72	1.31
9:G:108:SER:O	9:G:109:LYS:HE3	1.32	1.30
1:0:1167:G:H5'	1:0:1168:C:OP2	1.34	1.28
9:G:35:VAL:HG21	9:G:122:ASN:OD1	1.37	1.25
9:G:32:SER:OG	9:G:124:ILE:CD1	1.83	1.24
1:0:1205:U:H2'	1:0:1206:U:H5''	1.25	1.18
9:G:32:SER:OG	9:G:124:ILE:HD11	1.01	1.18
1:0:1170:U:H2'	1:0:1171:A:H5''	1.19	1.17

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1170:U:C2'	1:0:1171:A:H5''	1.77	1.14
1:0:1242:A:H5'	12:J:82:THR:HG23	1.26	1.14
9:G:35:VAL:CG2	9:G:122:ASN:OD1	1.93	1.14
25:W:21:LEU:HD22	25:W:26:ILE:HD11	1.30	1.14
1:0:2502:C:H2'	1:0:2503:A:H5'	1.14	1.12
1:0:2502:C:C2'	1:0:2503:A:H5'	1.80	1.12
1:0:1196:C:H2'	1:0:1197:G:H5''	1.33	1.09
2:9:56:A:H2'	2:9:57:A:H5''	1.20	1.09
9:G:85:ILE:HG13	9:G:89:VAL:HG21	1.35	1.08
1:0:1150:A:H4'	9:G:65:THR:HG21	1.33	1.07
1:0:871:G:H5'	1:0:871:G:H8	1.12	1.06
1:0:1309:U:O2'	1:0:1310:U:H5'	1.57	1.04
9:G:23:ILE:HD11	9:G:67:LEU:HD23	1.38	1.04
1:0:545:G:H5'	1:0:545:G:H8	1.16	1.03
1:0:1118:A:C8	1:0:1118:A:H3'	1.93	1.03
1:0:56:G:H5''	24:V:50:ARG:HH12	1.14	1.03
1:0:870:G:H2'	1:0:871:G:H5''	1.40	1.03
1:0:1194:A:O2'	1:0:1195:G:H5'	1.58	1.03
1:0:1527:A:H1'	1:0:1528:A:C8	1.94	1.03
1:0:1204:C:C6	1:0:1204:C:H5''	1.94	1.02
9:G:125:VAL:O	9:G:127:PRO:HD2	1.60	1.02
1:0:1162:G:C1'	11:I:113:LEU:HD11	1.89	1.01
9:G:32:SER:HB2	9:G:124:ILE:CG1	1.90	1.01
13:K:10:GLN:NE2	13:K:10:GLN:H	1.57	1.01
1:0:1118:A:H3'	1:0:1118:A:H8	1.22	1.00
1:0:1834:C:H2'	1:0:1840:A:N6	1.75	1.00
11:I:41:GLN:HE22	11:I:66:VAL:HG21	1.24	1.00
1:0:1162:G:H1'	11:I:113:LEU:HD11	1.02	1.00
1:0:1377:C:H5'	1:0:1377:C:H6	1.24	0.99
1:0:1161:A:H5''	9:G:44:ARG:HA	1.44	0.99
1:0:1771:U:H5'	28:Z:20:ARG:HH21	1.23	0.99
1:0:236:A:H4'	1:0:237:G:H5'	1.44	0.99
2:9:76:G:H3'	2:9:77:A:H5''	1.44	0.99
1:0:877:G:H5'	1:0:878:G:OP1	1.62	0.99
9:G:34:GLY:N	9:G:123:ASP:OD2	1.96	0.98
2:9:28:U:H5''	16:N:40:ASN:ND2	1.78	0.98
24:V:2:VAL:HG21	24:V:45:ARG:HH21	1.24	0.98
25:W:5:VAL:HG11	25:W:153:MET:HE1	1.44	0.98
1:0:871:G:H5'	1:0:871:G:C8	1.99	0.98
1:0:1667:A:H8	1:0:1667:A:H5'	1.27	0.98
10:H:46:GLN:HB3	10:H:167:PRO:HD2	1.46	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:35:VAL:HG22	9:G:122:ASN:HA	1.47	0.97
5:C:47:GLY:HA2	5:C:92:PRO:HB2	1.46	0.96
7:E:20:ILE:HD11	7:E:40:VAL:HG11	1.42	0.96
1:O:1162:G:H1'	11:I:113:LEU:CD1	1.93	0.96
2:9:56:A:C2'	2:9:57:A:H5''	1.95	0.96
10:H:166:SER:HB2	10:H:167:PRO:HD3	1.47	0.96
1:O:69:A:H5'	1:O:69:A:H8	1.29	0.96
1:O:2769:C:O2'	1:O:2770:G:H5'	1.67	0.95
1:O:2064:U:H2'	1:O:2065:C:H6	1.30	0.95
1:O:2812:A:H2	1:O:2814:A:H62	1.12	0.95
1:O:1835:U:H5	1:O:1840:A:N7	1.63	0.95
27:Y:187:VAL:HG23	27:Y:192:ASP:HB2	1.49	0.94
28:Z:46:ARG:HD2	28:Z:59:TYR:HB2	1.49	0.94
1:O:1170:U:H2'	1:O:1171:A:C5'	1.97	0.94
9:G:33:VAL:CA	9:G:123:ASP:OD2	2.14	0.94
1:O:156:C:H5''	15:M:171:ARG:HD3	1.45	0.94
2:9:14:G:H5'	2:9:14:G:C8	2.02	0.94
1:O:1593:C:H5'	18:P:116:SER:O	1.66	0.94
1:O:1163:G:OP2	1:O:1164:U:H3'	1.67	0.94
1:O:2524:G:H21	1:O:2526:C:H41	0.95	0.94
16:N:91:ARG:HG2	16:N:186:LEU:HB3	1.50	0.93
1:O:1625:U:H6	1:O:1625:U:H3'	1.33	0.93
1:O:2419:U:H5''	1:O:2420:G:H5'	1.49	0.93
1:O:1204:C:H5''	1:O:1204:C:H6	1.30	0.93
9:G:32:SER:HB2	9:G:124:ILE:HG13	1.50	0.93
1:O:1783:A:O2'	1:O:1784:U:H5'	1.67	0.93
1:O:1206:U:C2'	1:O:1207:A:H5'	1.99	0.93
1:O:1751:G:H2'	1:O:1752:G:H5''	1.49	0.93
1:O:1185:U:O2'	1:O:1186:C:H5'	1.70	0.92
1:O:1119:G:H2'	12:J:52:GLN:HE22	1.33	0.92
15:M:159:VAL:HG12	35:M:198:CL:CL	2.06	0.91
9:G:32:SER:CB	9:G:124:ILE:CG1	2.47	0.91
9:G:32:SER:HG	9:G:124:ILE:HD11	1.14	0.91
1:O:282:C:O2'	1:O:283:U:H5'	1.71	0.91
4:B:51:VAL:HG23	4:B:330:VAL:HG22	1.52	0.91
1:O:69:A:H5'	1:O:69:A:C8	2.05	0.90
4:B:27:ASN:HD22	4:B:27:ASN:H	1.13	0.90
9:G:99:PHE:CD2	9:G:131:THR:HG23	2.06	0.90
1:O:1211:G:H5''	9:G:64:ASN:HD21	1.34	0.90
11:I:20:LEU:HD23	11:I:31:VAL:HG11	1.54	0.90
1:O:31:C:H1'	22:T:13:ARG:NH2	1.87	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:545:G:H5'	1:0:545:G:C8	2.07	0.89
1:0:1909:A:H2'	1:0:1910:A:C8	2.06	0.89
11:I:41:GLN:NE2	11:I:66:VAL:HG21	1.87	0.89
11:I:29:VAL:HG23	11:I:29:VAL:O	1.68	0.89
9:G:9:THR:HG22	9:G:11:THR:O	1.71	0.89
1:0:1496:G:H5'	1:0:1572:A:H1'	1.55	0.88
11:I:52:VAL:HG12	11:I:66:VAL:HA	1.54	0.88
1:0:1167:G:C1'	1:0:1168:C:H5'	2.03	0.88
1:0:944:G:H21	25:W:44:MET:HE2	1.39	0.88
1:0:365:G:H2'	1:0:366:U:H6	1.35	0.88
5:C:107:ARG:HB3	5:C:107:ARG:HH11	1.39	0.87
1:0:289:G:H22	1:0:363:A:H2	1.23	0.87
1:0:1120:U:H6	1:0:1120:U:H5'	1.39	0.87
1:0:2533:C:H5'	1:0:2533:C:H6	1.39	0.87
26:X:78:GLU:HG2	26:X:79:GLU:H	1.37	0.87
1:0:1242:A:H5'	12:J:82:THR:CG2	2.03	0.86
1:0:1915:U:O2'	1:0:1916:C:H5'	1.75	0.86
1:0:1510:G:H2'	1:0:1511:U:H6	1.41	0.86
5:C:78:ARG:HH11	5:C:78:ARG:HG3	1.37	0.86
1:0:1167:G:C5'	1:0:1168:C:OP2	2.22	0.86
1:0:1771:U:H1'	28:Z:23:ARG:NH2	1.90	0.86
1:0:595:U:O2'	1:0:596:C:H5'	1.76	0.86
1:0:694:A:H2'	1:0:695:C:H5'	1.57	0.85
1:0:870:G:C2'	1:0:871:G:H5''	2.06	0.85
1:0:2716:G:H5''	4:B:206:THR:HG21	1.59	0.85
1:0:559:U:H6	1:0:559:U:H5'	1.42	0.85
2:9:14:G:H5'	2:9:14:G:H8	1.36	0.85
1:0:702:G:O2'	1:0:703:G:H5'	1.76	0.85
9:G:122:ASN:HB2	9:G:126:ILE:O	1.77	0.85
1:0:1904:A:C2	1:0:1905:U:H1'	2.11	0.85
1:0:821:U:H2'	1:0:822:C:H6	1.41	0.85
1:0:485:A:N3	1:0:487:G:H5''	1.92	0.84
1:0:2850:C:H6	1:0:2850:C:H5'	1.42	0.84
1:0:56:G:H5''	24:V:50:ARG:NH1	1.93	0.84
1:0:558:C:H2'	1:0:559:U:H5'	1.56	0.84
1:0:2506:A:HO2'	1:0:2507:G:H8	1.21	0.84
18:P:115:SER:H	18:P:118:GLN:HE21	1.22	0.84
1:0:20:G:H21	20:R:117:HIS:HD2	1.23	0.84
1:0:2661:U:H3	1:0:2812:A:H62	1.24	0.84
17:O:44:ASN:HB2	35:O:117:CL:CL	2.14	0.84
1:0:1213:C:O2'	1:0:1214:G:H5'	1.76	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2393:C:H5'	19:Q:77:ASP:OD2	1.77	0.83
1:0:1377:C:H5'	1:0:1377:C:C6	2.13	0.83
1:0:755:G:O2'	1:0:756:A:H5'	1.78	0.83
1:0:1118:A:H62	1:0:1244:U:H3	1.24	0.83
1:0:2502:C:H2'	1:0:2503:A:C5'	2.03	0.83
15:M:164:THR:HG22	15:M:165:GLY:H	1.43	0.83
1:0:2524:G:N2	1:0:2526:C:H41	1.77	0.83
13:K:10:GLN:H	13:K:10:GLN:HE21	1.21	0.83
26:X:43:VAL:HG12	26:X:44:ASP:H	1.44	0.83
1:0:1206:U:H5'	1:0:1206:U:H6	1.44	0.83
1:0:541:C:H2'	1:0:542:A:C5'	2.08	0.82
1:0:1114:A:H2'	1:0:1115:U:H6	1.41	0.82
1:0:1205:U:C2'	1:0:1206:U:H5''	2.07	0.82
5:C:127:ARG:NH2	5:C:225:PRO:HG2	1.94	0.82
1:0:2731:G:H2'	1:0:2732:U:H6	1.42	0.82
1:0:1119:G:H22	1:0:1246:A:H2	1.27	0.82
1:0:1196:C:C2'	1:0:1197:G:H5''	2.08	0.82
1:0:236:A:C4'	1:0:237:G:H5'	2.08	0.82
1:0:2355:G:H5''	1:0:2356:A:OP2	1.80	0.82
1:0:541:C:H2'	1:0:542:A:H5'	1.61	0.82
1:0:1206:U:H2'	1:0:1207:A:H5'	1.60	0.82
1:0:2908:A:H2'	1:0:2909:G:O4'	1.78	0.82
1:0:1197:G:O2'	1:0:1198:U:H5'	1.80	0.82
1:0:1330:A:H5''	1:0:1331:A:OP2	1.79	0.82
1:0:2073:G:OP2	1:0:2490:A:H5'	1.80	0.82
1:0:2578:G:H5'	1:0:2578:G:H8	1.42	0.82
1:0:283:U:H5	1:0:284:C:H42	1.28	0.82
1:0:1923:G:H4'	31:3:31:THR:O	1.80	0.82
1:0:1603:A:H5'	1:0:1605:G:O4'	1.78	0.81
1:0:447:A:OP1	22:T:2:LYS:HG2	1.81	0.81
13:K:49:LEU:HD23	13:K:73:VAL:HG12	1.61	0.81
1:0:228:C:H2'	1:0:229:G:H5'	1.62	0.81
1:0:1163:G:H4'	11:I:112:LEU:CD1	2.11	0.81
1:0:338:C:H4'	5:C:174:ILE:CD1	2.10	0.81
4:B:190:MET:HE2	4:B:194:PHE:CD1	2.16	0.81
25:W:38:THR:HG22	25:W:39:ASP:H	1.45	0.81
1:0:1741:U:H5'	1:0:1742:A:OP1	1.81	0.81
9:G:97:ASN:ND2	9:G:99:PHE:HB2	1.96	0.80
1:0:1835:U:C5	1:0:1840:A:N7	2.50	0.80
12:J:75:PRO:HG2	12:J:105:LEU:HD21	1.63	0.80
1:0:2769:C:C2'	1:0:2770:G:H5'	2.10	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:X:28:LYS:HA	26:X:31:ILE:HD12	1.63	0.80
1:0:1987:C:H2'	1:0:1988:C:C6	2.16	0.80
1:0:2851:G:C2'	1:0:2852:A:H5'	2.12	0.80
1:0:2578:G:H5'	1:0:2578:G:C8	2.16	0.80
1:0:1266:U:H4'	27:Y:115:ARG:NH2	1.96	0.80
1:0:1878:G:HO2'	1:0:1879:U:H6	1.21	0.80
9:G:35:VAL:HG22	9:G:122:ASN:OD1	1.82	0.80
1:0:2256:G:C2'	1:0:2257:G:H5'	2.12	0.80
1:0:2256:G:H2'	1:0:2257:G:H5'	1.64	0.80
1:0:390:G:H2'	1:0:391:U:H6	1.47	0.79
1:0:1474:C:H6	1:0:1474:C:H5'	1.48	0.79
1:0:2064:U:H2'	1:0:2065:C:C6	2.18	0.79
2:9:9:C:H2'	2:9:10:C:H5'	1.65	0.79
9:G:108:SER:O	9:G:109:LYS:CE	2.24	0.79
1:0:694:A:C2'	1:0:695:C:H5'	2.13	0.79
1:0:821:U:H2'	1:0:822:C:C6	2.18	0.79
1:0:1552:G:H2'	1:0:1553:C:H6	1.48	0.79
9:G:124:ILE:HG22	9:G:125:VAL:HG23	1.65	0.79
1:0:2365:G:H4'	19:Q:45:PRO:O	1.81	0.79
9:G:32:SER:OG	9:G:124:ILE:CG1	2.30	0.79
9:G:32:SER:HB2	9:G:124:ILE:HG12	1.64	0.79
1:0:558:C:O2'	1:0:559:U:H5''	1.82	0.79
1:0:1987:C:H2'	1:0:1988:C:H6	1.47	0.79
1:0:1163:G:H4'	11:I:112:LEU:HD11	1.65	0.79
1:0:1422:U:H2'	1:0:1423:C:H6	1.47	0.79
1:0:2420:G:O2'	1:0:2421:G:H5'	1.82	0.79
2:9:38:A:H2'	2:9:39:U:C6	2.18	0.79
1:0:524:A:H5''	20:R:29:LYS:HE2	1.63	0.78
11:I:29:VAL:O	11:I:29:VAL:CG2	2.30	0.78
1:0:1989:G:H2'	1:0:1990:C:H6	1.48	0.78
31:3:25:VAL:HG22	31:3:68:LYS:HG3	1.65	0.78
1:0:1204:C:H5'	1:0:1205:U:OP2	1.83	0.78
1:0:2897:C:O2'	1:0:2898:G:H5'	1.83	0.78
10:H:69:ALA:HB2	10:H:153:ALA:HB2	1.65	0.78
1:0:2851:G:O2'	1:0:2852:A:H5'	1.84	0.78
7:E:1:PRO:HG2	7:E:59:MET:HE1	1.62	0.78
1:0:1450:C:H4'	1:0:1451:C:OP2	1.80	0.78
1:0:1674:C:H2'	1:0:1675:C:H6	1.47	0.78
1:0:2756:U:H3	1:0:2896:A:H2	1.32	0.78
15:M:74:LYS:O	15:M:88:VAL:HG13	1.84	0.78
1:0:236:A:H8	1:0:236:A:OP1	1.67	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:408:A:C2'	1:0:409:U:H5'	2.14	0.78
1:0:1783:A:C2'	1:0:1784:U:H5'	2.14	0.78
9:G:37:ASN:HD21	9:G:92:ILE:HG23	1.49	0.78
1:0:136:C:H2'	1:0:137:U:O4'	1.84	0.78
1:0:1089:G:H2'	1:0:1090:A:H8	1.48	0.78
1:0:1246:A:H5'	1:0:1246:A:H8	1.48	0.78
1:0:1878:G:O2'	1:0:1879:U:H6	1.65	0.78
1:0:2039:A:H2'	1:0:2040:C:H6	1.48	0.77
1:0:524:A:C5'	20:R:29:LYS:HE2	2.14	0.77
4:B:27:ASN:H	4:B:27:ASN:ND2	1.82	0.77
9:G:84:TYR:HB3	9:G:121:PRO:HG3	1.66	0.77
23:U:9:CYS:SG	23:U:11:THR:HG23	2.24	0.77
1:0:157:G:H4'	15:M:95:LYS:HE3	1.64	0.77
1:0:1667:A:H5'	1:0:1667:A:C8	2.17	0.77
9:G:121:PRO:CA	9:G:127:PRO:HB3	2.14	0.77
16:N:72:GLU:H	16:N:171:HIS:HE1	1.33	0.77
1:0:31:C:H1'	22:T:13:ARG:HH22	1.46	0.77
1:0:816:G:C6	1:0:817:G:N1	2.52	0.77
1:0:1170:U:C3'	1:0:1171:A:H5''	2.15	0.77
1:0:2312:G:H2'	1:0:2313:C:H5'	1.67	0.77
1:0:2766:A:O2'	1:0:2767:C:H5'	1.84	0.77
1:0:2505:G:O2'	1:0:2506:A:H5'	1.84	0.77
1:0:1708:C:O2'	1:0:1709:G:H5'	1.85	0.77
2:9:29:C:H2'	2:9:30:C:H5'	1.67	0.77
1:0:152:A:C2	1:0:153:C:C2	2.73	0.77
1:0:1625:U:H3'	1:0:1625:U:C6	2.17	0.77
1:0:282:C:H1'	1:0:368:C:N4	2.00	0.77
7:E:154:ILE:HD11	7:E:157:LYS:HB2	1.67	0.77
9:G:121:PRO:CB	9:G:127:PRO:CB	2.63	0.77
31:3:70:ARG:HG2	31:3:77:ALA:HB2	1.67	0.77
1:0:2524:G:H21	1:0:2526:C:N4	1.79	0.76
1:0:188:C:H5''	15:M:163:LEU:HD21	1.67	0.76
5:C:54:LEU:HD21	5:C:87:ARG:HD2	1.67	0.76
1:0:705:C:H42	1:0:723:G:H1	1.33	0.76
4:B:27:ASN:HD22	4:B:27:ASN:N	1.83	0.76
26:X:76:ARG:HH11	26:X:76:ARG:HG3	1.48	0.76
1:0:638:C:O2'	1:0:639:A:H5'	1.85	0.76
1:0:2859:C:H6	1:0:2859:C:H5''	1.51	0.76
1:0:1787:C:O2'	1:0:1788:U:H5'	1.84	0.76
1:0:2421:G:H3'	1:0:2422:U:H5''	1.65	0.76
1:0:2318:C:C4	1:0:2319:C:H5	2.03	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:280:C:H2'	1:0:281:U:O4'	1.84	0.76
1:0:283:U:H5	1:0:284:C:N4	1.84	0.76
1:0:1704:G:H1'	18:P:57:ASN:HD22	1.51	0.76
1:0:2717:C:O2'	1:0:2718:C:H5''	1.85	0.76
4:B:162:MET:SD	4:B:310:ARG:HD3	2.26	0.76
29:1:21:ARG:HD2	29:1:37:CYS:SG	2.26	0.76
1:0:1400:C:H2'	1:0:1401:G:H5'	1.67	0.75
1:0:2039:A:H2'	1:0:2040:C:C6	2.20	0.75
1:0:542:A:H5'	1:0:542:A:H8	1.50	0.75
1:0:1309:U:C2'	1:0:1310:U:H5'	2.17	0.75
1:0:2421:G:H3'	1:0:2422:U:C5'	2.16	0.75
1:0:646:G:H2'	1:0:647:U:C6	2.22	0.75
8:F:56:PRO:HG2	15:M:44:THR:HA	1.68	0.75
9:G:60:ARG:NH2	9:G:91:LEU:HD13	2.00	0.75
1:0:1119:G:H2'	12:J:52:GLN:NE2	2.02	0.75
1:0:88:G:H8	1:0:88:G:H5'	1.49	0.75
1:0:685:C:O2'	1:0:686:A:H5'	1.86	0.75
1:0:824:G:C8	1:0:854:G:O6	2.40	0.75
1:0:1332:C:O2'	1:0:1333:U:H5'	1.86	0.75
5:C:115:LEU:HD13	5:C:223:LEU:HD21	1.69	0.75
1:0:1393:A:H2'	1:0:1394:C:C6	2.22	0.75
1:0:1328:A:OP1	27:Y:169:ARG:HD2	1.87	0.74
1:0:1422:U:H2'	1:0:1423:C:C6	2.20	0.74
1:0:1114:A:H2'	1:0:1115:U:C6	2.22	0.74
1:0:1186:C:O2'	1:0:1187:U:H5'	1.88	0.74
1:0:1972:U:H2'	1:0:1973:A:H5'	1.69	0.74
2:9:13:A:O2'	2:9:14:G:H5''	1.86	0.74
10:H:9:ILE:HD12	10:H:54:THR:HG22	1.67	0.74
1:0:329:A:OP2	5:C:206:ASN:HB2	1.86	0.74
5:C:236:THR:HG22	5:C:239:ALA:H	1.52	0.74
1:0:1345:A:H2'	1:0:1346:U:H6	1.53	0.74
1:0:2521:A:OP2	10:H:3:ALA:HB3	1.86	0.74
4:B:36:PRO:HA	4:B:168:GLY:HA3	1.68	0.74
20:R:8:ALA:HB1	20:R:13:THR:HG21	1.69	0.74
1:0:1552:G:H2'	1:0:1553:C:C6	2.22	0.74
1:0:185:G:H4'	1:0:186:A:H4'	1.70	0.74
1:0:1080:C:H4'	1:0:1081:A:OP1	1.85	0.74
1:0:2035:C:O2'	1:0:2036:C:H5'	1.88	0.74
6:D:141:VAL:HG13	6:D:144:ARG:HH21	1.53	0.74
1:0:1450:C:O2'	1:0:1494:A:H5'	1.88	0.73
6:D:49:PRO:HA	6:D:73:VAL:HG22	1.68	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:84:GLY:HA3	8:F:92:GLY:HA2	1.70	0.73
1:0:1150:A:C2	9:G:20:VAL:HG21	2.23	0.73
2:9:26:C:O2'	2:9:27:C:H5'	1.87	0.73
1:0:1116:U:HO2'	1:0:1118:A:H2	1.36	0.73
4:B:217:ARG:HG3	4:B:257:THR:HG22	1.68	0.73
1:0:134:U:C2	1:0:145:A:C2	2.77	0.73
1:0:1150:A:H4'	9:G:65:THR:CG2	2.13	0.73
1:0:1416:G:H2'	1:0:1417:G:H5'	1.70	0.73
1:0:2244:A:H5''	15:M:29:GLN:OE1	1.89	0.73
9:G:60:ARG:CZ	9:G:91:LEU:HD13	2.18	0.73
9:G:121:PRO:HB3	9:G:127:PRO:HB2	1.71	0.73
1:0:703:G:O2'	1:0:704:C:H5'	1.89	0.73
9:G:33:VAL:CG1	9:G:94:THR:H	2.00	0.73
1:0:365:G:H2'	1:0:366:U:C6	2.22	0.73
1:0:2241:C:H2'	1:0:2242:U:H6	1.52	0.73
1:0:2676:C:H4'	12:J:70:PHE:CE1	2.24	0.73
22:T:71:VAL:HG11	22:T:90:PRO:HB3	1.71	0.73
1:0:160:A:C4	1:0:177:A:C2	2.77	0.72
1:0:1862:C:O2'	1:0:1863:G:H5'	1.88	0.72
2:9:70:U:H2'	2:9:71:C:O4'	1.87	0.72
9:G:10:GLU:HG2	9:G:11:THR:H	1.52	0.72
12:J:52:GLN:HG3	12:J:53:ILE:N	2.04	0.72
1:0:671:A:O2'	1:0:672:G:H2'	1.89	0.72
1:0:2296:C:H4'	1:0:2362:A:C2	2.24	0.72
9:G:112:ALA:HB3	9:G:113:PRO:HD3	1.71	0.72
1:0:184:G:O2'	1:0:185:G:H5'	1.89	0.72
1:0:746:A:C6	17:O:65:LEU:HD13	2.23	0.72
1:0:1439:C:H5''	30:2:41:HIS:HE1	1.55	0.72
1:0:1634:G:H2'	1:0:1635:U:H6	1.53	0.72
1:0:1771:U:H5'	28:Z:20:ARG:NH2	2.02	0.72
1:0:1802:G:N2	1:0:1803:C:C2	2.57	0.72
9:G:32:SER:CB	9:G:124:ILE:HG12	2.17	0.72
27:Y:200:THR:HG22	27:Y:201:GLU:HG3	1.72	0.72
1:0:1601:G:H2'	1:0:1602:C:H6	1.53	0.72
1:0:2346:C:H4'	6:D:52:THR:CG2	2.18	0.72
9:G:34:GLY:HA2	9:G:92:ILE:O	1.89	0.72
1:0:316:A:H5'	22:T:54:ASP:OD2	1.89	0.72
1:0:371:U:H2'	1:0:372:A:H8	1.52	0.72
1:0:1771:U:H1'	28:Z:23:ARG:HH22	1.53	0.72
1:0:2586:U:H3	1:0:2592:G:H22	1.36	0.72
7:E:116:THR:HG22	7:E:151:LEU:HD22	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1601:G:H2'	1:0:1602:C:C6	2.24	0.72
2:9:36:C:C5	2:9:37:C:C5	2.77	0.72
10:H:23:ILE:HA	10:H:120:ILE:HG21	1.70	0.72
22:T:24:ARG:HH21	22:T:39:ASN:HD22	1.35	0.72
9:G:125:VAL:O	9:G:127:PRO:CD	2.37	0.72
30:2:40:ARG:HD2	30:2:47:THR:HG22	1.71	0.72
1:0:702:G:HO2'	1:0:703:G:H5'	1.55	0.71
1:0:1883:U:C2'	1:0:1884:G:H5'	2.19	0.71
1:0:2296:C:H4'	1:0:2362:A:H2	1.55	0.71
1:0:2345:A:H3'	1:0:2346:C:C5	2.25	0.71
1:0:1116:U:O2'	1:0:1118:A:H2	1.74	0.71
1:0:1194:A:H5'	1:0:1194:A:H8	1.54	0.71
1:0:1246:A:H5'	1:0:1246:A:C8	2.25	0.71
1:0:2256:G:H2'	1:0:2257:G:C5'	2.19	0.71
1:0:2781:U:O2'	1:0:2782:G:H5'	1.90	0.71
25:W:7:LEU:HD12	25:W:53:ALA:HB2	1.71	0.71
1:0:154:C:O2'	1:0:155:C:H5'	1.89	0.71
9:G:81:LEU:HA	9:G:85:ILE:HG22	1.71	0.71
1:0:290:C:O2'	1:0:291:C:H5'	1.90	0.71
1:0:1815:A:H8	1:0:1815:A:O5'	1.73	0.71
1:0:287:C:H2'	1:0:288:A:H8	1.55	0.71
1:0:677:C:C2	1:0:678:G:C8	2.78	0.71
1:0:2731:G:H2'	1:0:2732:U:C6	2.24	0.71
2:9:51:A:H5'	16:N:160:SER:HB3	1.72	0.71
25:W:146:ILE:O	25:W:150:LEU:HG	1.90	0.71
1:0:541:C:O2'	1:0:542:A:H5''	1.90	0.71
1:0:2013:G:C2	1:0:2014:G:N7	2.59	0.71
2:9:92:G:H2'	2:9:93:A:C8	2.26	0.71
1:0:1400:C:C2'	1:0:1401:G:H5'	2.21	0.71
5:C:129:HIS:CE1	5:C:231:ARG:HA	2.26	0.71
26:X:43:VAL:HG12	26:X:44:ASP:N	2.06	0.71
1:0:2781:U:C2'	1:0:2782:G:H5'	2.20	0.71
1:0:871:G:H8	1:0:871:G:C5'	1.96	0.71
1:0:1548:U:O2'	1:0:1549:C:H5'	1.91	0.71
1:0:2834:G:H5''	26:X:39:LYS:HZ1	1.54	0.71
4:B:168:GLY:H	4:B:174:ARG:HD3	1.56	0.71
1:0:1636:G:O2'	1:0:1637:A:H5'	1.91	0.70
1:0:1822:A:O2'	1:0:1823:G:H5'	1.89	0.70
1:0:1829:A:C8	1:0:1885:A:C8	2.79	0.70
1:0:2050:G:OP1	20:R:79:ARG:HB3	1.91	0.70
1:0:2715:G:H5'	4:B:13:PHE:CE1	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:68:ARG:O	15:M:68:ARG:HD3	1.90	0.70
16:N:93:GLN:HE21	16:N:127:LEU:HD12	1.56	0.70
1:0:1477:C:H5'	1:0:1868:G:H5''	1.73	0.70
1:0:120:A:H2'	1:0:120:A:N3	2.05	0.70
1:0:2588:OMG:HM23	1:0:2617:G:C2	2.27	0.70
1:0:2908:A:O5'	1:0:2908:A:H8	1.74	0.70
18:P:9:LEU:O	18:P:13:VAL:HG12	1.92	0.70
1:0:453:A:C4	1:0:479:G:N7	2.59	0.70
1:0:1537:C:O2'	1:0:1538:C:H5'	1.91	0.70
1:0:2533:C:H5'	1:0:2533:C:C6	2.26	0.70
1:0:2526:C:C2'	1:0:2527:U:H5'	2.21	0.70
2:9:28:U:H2'	2:9:29:C:C6	2.27	0.70
9:G:64:ASN:HD22	9:G:89:VAL:HG12	1.55	0.70
1:0:1589:G:N2	1:0:1605:G:H1'	2.05	0.70
1:0:2318:C:C4	1:0:2319:C:C5	2.79	0.70
1:0:462:A:N6	1:0:477:A:C2	2.60	0.70
1:0:661:G:C5	1:0:686:A:C2	2.79	0.70
1:0:1213:C:C2'	1:0:1214:G:H5'	2.22	0.70
1:0:1375:A:C2'	1:0:1376:G:H5'	2.21	0.70
1:0:1819:G:O2'	1:0:1820:G:H5'	1.92	0.70
2:9:49:G:O2'	2:9:50:G:H5'	1.92	0.70
1:0:1768:C:C5	1:0:1769:C:C5	2.80	0.70
1:0:2781:U:H2'	1:0:2782:G:H5'	1.73	0.70
9:G:38:ILE:HG13	9:G:88:GLN:O	1.91	0.70
1:0:1118:A:C8	1:0:1118:A:C3'	2.62	0.70
1:0:1301:C:O2'	1:0:1331:A:H4'	1.92	0.70
1:0:2099:G:N2	1:0:2646:G:C5	2.60	0.70
1:0:2506:A:O2'	1:0:2507:G:H8	1.73	0.70
1:0:2804:C:H2'	1:0:2805:A:O4'	1.92	0.70
2:9:50:G:C6	2:9:51:A:C6	2.80	0.70
1:0:541:C:C2'	1:0:542:A:H5''	2.21	0.70
1:0:1197:G:C2'	1:0:1198:U:H5'	2.21	0.70
1:0:2354:A:C2	1:0:2367:A:C8	2.78	0.70
13:K:12:LEU:HB2	13:K:47:ALA:HB3	1.74	0.70
20:R:18:LEU:HB2	20:R:143:VAL:HG13	1.74	0.70
1:0:1197:G:H8	1:0:1197:G:H5'	1.56	0.69
1:0:2781:U:H2'	1:0:2782:G:C5'	2.22	0.69
1:0:423:A:C2	1:0:424:C:C2	2.80	0.69
1:0:656:G:OP2	17:O:37:ARG:HD2	1.91	0.69
1:0:445:U:O2'	1:0:446:G:H5'	1.93	0.69
1:0:694:A:H2'	1:0:695:C:C5'	2.21	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1204:C:C6	1:0:1204:C:C5'	2.74	0.69
1:0:449:A:C8	5:C:43:LYS:HG2	2.27	0.69
1:0:1334:C:H2'	1:0:1335:C:H6	1.57	0.69
5:C:78:ARG:HG3	5:C:78:ARG:NH1	2.00	0.69
17:O:18:ALA:HB2	17:O:26:TRP:HB2	1.74	0.69
1:0:324:G:C6	1:0:325:U:C5	2.81	0.69
1:0:1644:C:C4	1:0:1645:U:C5	2.80	0.69
1:0:2834:G:H5''	26:X:39:LYS:NZ	2.06	0.69
1:0:2890:A:H1'	23:U:56:ARG:NH2	2.07	0.69
9:G:10:GLU:HG2	9:G:11:THR:N	2.07	0.69
12:J:107:ASN:HD21	12:J:109:TYR:HB2	1.57	0.69
16:N:72:GLU:H	16:N:171:HIS:CE1	2.11	0.69
1:0:328:U:O2	5:C:202:THR:HG21	1.92	0.69
1:0:342:C:H2'	1:0:343:C:H6	1.56	0.69
1:0:1165:G:O2'	1:0:1174:A:H4'	1.92	0.69
1:0:1194:A:C2'	1:0:1195:G:H5'	2.23	0.69
1:0:1207:A:O3'	1:0:1208:C:P	2.51	0.69
1:0:1439:C:H5''	30:2:41:HIS:CE1	2.28	0.69
1:0:1751:G:C2'	1:0:1752:G:H5''	2.22	0.69
13:K:62:PRO:HG3	13:K:65:ARG:NH2	2.06	0.69
1:0:1116:U:H3	1:0:1246:A:N6	1.91	0.69
1:0:2013:G:N2	1:0:2014:G:C5	2.61	0.69
1:0:2594:C:O2'	1:0:2595:U:H5'	1.92	0.69
3:A:199:HIS:HD2	3:A:201:PHE:H	1.41	0.69
8:F:58:GLU:HA	8:F:61:MET:HE2	1.74	0.69
9:G:64:ASN:HB3	9:G:89:VAL:CG1	2.23	0.69
1:0:2318:C:C5	1:0:2319:C:H5	2.11	0.69
2:9:28:U:H5''	16:N:40:ASN:HD22	1.57	0.69
3:A:199:HIS:CD2	3:A:201:PHE:H	2.11	0.69
1:0:60:A:O2'	1:0:61:G:H5'	1.93	0.69
1:0:156:C:H5''	15:M:171:ARG:CD	2.21	0.69
1:0:1119:G:N2	1:0:1246:A:H2	1.90	0.69
1:0:1345:A:H2'	1:0:1346:U:C6	2.27	0.69
1:0:1864:C:H2'	1:0:1865:A:O4'	1.93	0.69
1:0:635:A:H2'	1:0:636:G:H5''	1.75	0.68
1:0:857:A:H4'	3:A:176:HIS:CD2	2.28	0.68
1:0:1641:A:H2'	1:0:1642:A:H5'	1.75	0.68
1:0:2256:G:O2'	1:0:2257:G:H5'	1.93	0.68
2:9:19:G:O2'	2:9:20:G:H5'	1.93	0.68
1:0:1159:G:H1	1:0:1208:C:H42	1.41	0.68
1:0:1176:C:H6	1:0:1176:C:H5''	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1625:U:C6	1:0:1625:U:C3'	2.76	0.68
9:G:60:ARG:HH21	9:G:91:LEU:HD22	1.58	0.68
16:N:5:ARG:HG3	19:Q:18:PRO:HB3	1.74	0.68
1:0:1127:C:H2'	1:0:1128:U:H5'	1.75	0.68
1:0:2784:A:H1'	7:E:60:SER:OG	1.92	0.68
12:J:19:MET:HE1	12:J:78:ILE:HG22	1.76	0.68
13:K:29:LEU:HB3	13:K:55:VAL:HG11	1.75	0.68
24:V:12:THR:HG22	24:V:15:GLU:HG3	1.74	0.68
1:0:212:A:O4'	1:0:214:U:C6	2.46	0.68
1:0:407:A:H2'	1:0:408:A:C8	2.29	0.68
1:0:1798:C:O2	1:0:1798:C:H2'	1.93	0.68
1:0:2028:U:H2'	1:0:2029:C:H6	1.59	0.68
1:0:1204:C:H6	1:0:1204:C:C5'	2.04	0.68
1:0:2060:A:C2	1:0:2061:C:C2	2.82	0.68
15:M:164:THR:HG22	15:M:165:GLY:N	2.07	0.68
1:0:1224:G:H2'	1:0:1225:C:H6	1.59	0.68
9:G:68:GLU:HG3	9:G:81:LEU:HD22	1.74	0.68
1:0:100:C:H2'	1:0:101:C:H6	1.58	0.68
1:0:2654:C:O2'	1:0:2655:U:H5'	1.93	0.68
7:E:81:GLU:O	7:E:172:PRO:HD3	1.94	0.68
1:0:1634:G:C4	1:0:1635:U:C5	2.81	0.68
1:0:1992:U:O2	1:0:1994:A:H8	1.77	0.68
1:0:2346:C:H6	1:0:2346:C:O5'	1.76	0.68
1:0:558:C:H2'	1:0:559:U:C5'	2.24	0.67
1:0:1733:A:H4'	4:B:212:GLN:HA	1.74	0.67
16:N:36:ALA:HB1	16:N:115:VAL:HG12	1.75	0.67
1:0:944:G:O4'	25:W:23:MET:HE1	1.94	0.67
1:0:1674:C:H2'	1:0:1675:C:C6	2.28	0.67
1:0:1706:G:C6	1:0:1707:G:C6	2.82	0.67
11:I:14:ALA:HB1	11:I:35:VAL:HG22	1.76	0.67
25:W:1:MET:HE3	25:W:101:LEU:HD23	1.75	0.67
1:0:1579:C:H1'	1:0:1580:A:C8	2.30	0.67
1:0:2281:C:C2'	1:0:2282:U:H5'	2.23	0.67
1:0:2864:U:H3'	1:0:2865:G:C8	2.30	0.67
1:0:737:A:H2'	1:0:738:G:O4'	1.94	0.67
1:0:816:G:C5	1:0:817:G:C6	2.83	0.67
1:0:937:C:O2'	1:0:938:G:H5'	1.94	0.67
1:0:1446:U:H2'	21:S:55:GLN:NE2	2.10	0.67
1:0:1120:U:H5'	1:0:1120:U:C6	2.28	0.67
1:0:1616:A:H5''	1:0:1617:C:OP1	1.93	0.67
1:0:1904:A:C2	1:0:1905:U:C1'	2.78	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:35:GLY:O	3:A:36:ASP:HB3	1.93	0.67
9:G:121:PRO:HA	9:G:127:PRO:HB3	1.75	0.67
22:T:17:HIS:NE2	22:T:18:GLU:HG3	2.10	0.67
1:0:955:A:H2'	1:0:956:G:O4'	1.95	0.67
1:0:1762:C:H2'	1:0:1763:C:C6	2.30	0.67
2:9:117:G:H2'	2:9:118:C:H6	1.60	0.67
1:0:896:C:C2'	1:0:897:A:H5'	2.25	0.67
1:0:1625:U:H6	1:0:1625:U:C3'	2.07	0.67
7:E:14:GLU:HG2	7:E:15:GLN:N	2.09	0.67
1:0:157:G:H4'	15:M:95:LYS:CE	2.25	0.67
1:0:1928:C:O2'	1:0:1929:G:H5'	1.95	0.67
1:0:2727:A:H2'	1:0:2728:C:H5'	1.76	0.67
18:P:94:TRP:CZ2	18:P:98:ILE:HG13	2.30	0.67
22:T:65:VAL:HG22	22:T:72:ILE:HG22	1.75	0.67
1:0:1015:C:H2'	1:0:1016:U:H6	1.61	0.67
1:0:1909:A:H2'	1:0:1910:A:H8	1.60	0.67
1:0:2263:G:H4'	15:M:70:GLY:HA2	1.77	0.67
27:Y:97:LEU:HD23	27:Y:235:GLU:HG3	1.76	0.67
1:0:47:G:N3	1:0:114:A:C2	2.63	0.66
1:0:541:C:C2'	1:0:542:A:C5'	2.73	0.66
1:0:1561:U:O2	1:0:1561:U:H2'	1.94	0.66
1:0:1758:U:H6	1:0:1758:U:O5'	1.78	0.66
6:D:51:ARG:HD2	6:D:68:PRO:HB3	1.75	0.66
12:J:19:MET:HE3	12:J:132:LEU:HD11	1.76	0.66
25:W:40:ALA:O	25:W:44:MET:HG3	1.95	0.66
1:0:1025:C:H2'	1:0:1026:C:C6	2.30	0.66
1:0:1139:U:H2'	1:0:1140:C:H6	1.58	0.66
2:9:117:G:H2'	2:9:118:C:C6	2.28	0.66
10:H:56:GLN:HE21	10:H:126:ARG:HE	1.41	0.66
25:W:6:GLN:HB2	25:W:26:ILE:HD12	1.77	0.66
1:0:134:U:O2	1:0:145:A:C2	2.47	0.66
1:0:2312:G:C2'	1:0:2313:C:H5'	2.25	0.66
20:R:99:ALA:HB1	20:R:109:MET:HE1	1.76	0.66
27:Y:97:LEU:CD2	27:Y:235:GLU:HG3	2.26	0.66
1:0:31:C:C2	22:T:12:ARG:NH1	2.63	0.66
1:0:1161:A:H1'	9:G:43:SER:OG	1.95	0.66
9:G:54:HIS:CG	9:G:54:HIS:H	2.14	0.66
1:0:492:C:C2	1:0:501:G:N2	2.63	0.66
1:0:1187:U:HO2'	1:0:1189:A:H2	1.42	0.66
1:0:1380:U:O4	1:0:2043:U:H4'	1.95	0.66
1:0:1624:A:H4'	1:0:1626:A:H5''	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2873:C:C2	1:0:2874:G:C8	2.84	0.66
4:B:177:HIS:O	4:B:181:ILE:HG13	1.94	0.66
9:G:16:LYS:O	9:G:20:VAL:HG23	1.95	0.66
25:W:68:THR:HG23	25:W:69:ARG:HG2	1.75	0.66
1:0:66:G:H2'	1:0:108:U:O2'	1.95	0.66
1:0:1945:G:C5	1:0:1946:C:C5	2.84	0.66
1:0:2036:C:H4'	13:K:44:LEU:HG	1.78	0.66
16:N:22:GLN:O	16:N:26:LEU:HD22	1.95	0.66
1:0:1185:U:H2'	1:0:1186:C:H6	1.60	0.66
1:0:1206:U:H6	1:0:1206:U:C5'	2.08	0.66
1:0:1216:G:N7	9:G:7:ARG:NH1	2.42	0.66
1:0:275:G:N2	1:0:376:C:C2	2.64	0.66
1:0:1989:G:H2'	1:0:1990:C:C6	2.31	0.66
1:0:2264:A:C2	1:0:2265:U:C2	2.83	0.66
9:G:85:ILE:CG1	9:G:89:VAL:HG21	2.21	0.66
11:I:38:ILE:O	11:I:42:THR:HG22	1.95	0.66
1:0:289:G:N2	1:0:363:A:H2	1.92	0.66
1:0:626:U:O4	1:0:627:G:C6	2.49	0.66
1:0:1767:A:O2'	1:0:1768:C:H5'	1.96	0.66
7:E:85:GLU:HG2	7:E:130:GLU:HG2	1.77	0.66
9:G:54:HIS:CG	9:G:54:HIS:CA	2.77	0.66
1:0:191:A:H2'	1:0:237:G:O6	1.96	0.66
1:0:816:G:C6	1:0:817:G:C6	2.84	0.66
1:0:1041:U:H2'	1:0:1042:U:H5'	1.78	0.66
1:0:2587:OMU:H2'	1:0:2589:U:H5''	1.78	0.66
1:0:2588:OMG:HM23	1:0:2617:G:N3	2.11	0.66
1:0:2676:C:H4'	12:J:70:PHE:HE1	1.61	0.66
2:9:31:C:C2	2:9:50:G:N2	2.64	0.66
1:0:925:C:H6	1:0:925:C:H5''	1.61	0.65
1:0:1139:U:H2'	1:0:1140:C:C6	2.30	0.65
3:A:72:GLU:HG3	28:Z:66:GLY:HA2	1.76	0.65
6:D:172:VAL:HG12	6:D:173:GLU:H	1.61	0.65
9:G:23:ILE:CD1	9:G:67:LEU:HD23	2.19	0.65
1:0:1687:C:O2	29:1:9:GLY:HA2	1.97	0.65
1:0:251:C:O2'	1:0:252:C:H5'	1.97	0.65
1:0:302:A:O2'	1:0:303:C:H5'	1.96	0.65
1:0:1375:A:O2'	1:0:1376:G:H5'	1.97	0.65
15:M:81:ARG:HG3	15:M:85:ARG:HB2	1.79	0.65
25:W:88:THR:HG23	25:W:110:GLN:NE2	2.10	0.65
1:0:944:G:H21	25:W:44:MET:CE	2.09	0.65
1:0:1279:U:O2	1:0:1279:U:H2'	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1336:U:C2	1:0:1337:A:C8	2.85	0.65
1:0:1784:U:C6	1:0:1813:U:OP2	2.49	0.65
1:0:2615:U:C5	1:0:2616:G:C6	2.85	0.65
1:0:312:U:C2	1:0:320:G:N2	2.65	0.65
1:0:324:G:C5	1:0:325:U:C5	2.85	0.65
1:0:797:A:H61	1:0:816:G:H1'	1.62	0.65
1:0:1527:A:H1'	1:0:1528:A:H8	1.53	0.65
1:0:1557:G:H2'	1:0:1558:C:H6	1.61	0.65
3:A:33:GLU:H	3:A:33:GLU:CD	2.04	0.65
5:C:193:LEU:O	5:C:233:THR:HG23	1.97	0.65
1:0:1778:A:H2'	1:0:1779:A:H5'	1.79	0.65
1:0:2106:C:H2'	1:0:2107:U:C6	2.31	0.65
1:0:2374:A:H2'	1:0:2375:G:C8	2.32	0.65
1:0:2408:A:H1'	31:3:10:TYR:CD1	2.31	0.65
1:0:2472:C:O2'	1:0:2634:G:H4'	1.97	0.65
26:X:7:GLU:HG3	26:X:74:ALA:O	1.96	0.65
31:3:65:THR:HG23	31:3:67:LEU:HG	1.79	0.65
1:0:255:A:O2'	1:0:256:C:H5'	1.97	0.65
1:0:1855:G:H4'	1:0:1856:C:O5'	1.96	0.65
1:0:1895:A:C8	1:0:1968:A:H1'	2.32	0.65
1:0:2526:C:O2'	1:0:2527:U:H5'	1.97	0.65
1:0:1389:G:H1'	1:0:1435:U:O2	1.97	0.65
1:0:1477:C:H5'	1:0:1868:G:C5'	2.27	0.65
1:0:1792:C:H2'	1:0:1793:C:H6	1.62	0.65
1:0:2694:A:H4'	7:E:91:PHE:HE1	1.62	0.65
1:0:2812:A:H2	1:0:2814:A:N6	1.88	0.65
6:D:41:LEU:HA	6:D:44:ILE:HG22	1.79	0.65
13:K:98:VAL:CG1	13:K:102:GLU:HA	2.26	0.65
1:0:1170:U:C3'	1:0:1171:A:C5'	2.74	0.65
1:0:1494:A:C4	1:0:1495:C:C5	2.85	0.65
1:0:1589:G:H22	1:0:1605:G:H1'	1.60	0.65
1:0:2505:G:C2'	1:0:2506:A:H5'	2.27	0.65
1:0:1194:A:HO2'	1:0:1195:G:H5'	1.60	0.64
1:0:2345:A:H3'	1:0:2346:C:H5	1.61	0.64
1:0:2769:C:H2'	1:0:2770:G:C5'	2.26	0.64
2:9:2:U:H4'	2:9:2:U:OP2	1.96	0.64
18:P:7:LYS:HD3	18:P:21:VAL:CG2	2.27	0.64
1:0:1773:G:C8	28:Z:16:ALA:HA	2.32	0.64
1:0:1815:A:O5'	1:0:1815:A:C8	2.51	0.64
1:0:2032:U:O2'	1:0:2033:G:H5''	1.96	0.64
2:9:78:G:N2	2:9:103:A:OP2	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:70:GLY:HA3	15:M:73:ARG:HH12	1.61	0.64
1:0:558:C:C2'	1:0:559:U:C5'	2.75	0.64
1:0:877:G:C5'	1:0:878:G:OP1	2.40	0.64
2:9:114:G:O6	16:N:11:ARG:HD3	1.98	0.64
4:B:190:MET:HE2	4:B:194:PHE:HD1	1.61	0.64
9:G:81:LEU:HA	9:G:85:ILE:CG2	2.26	0.64
1:0:161:A:H2'	1:0:162:C:C6	2.32	0.64
1:0:1167:G:C8	1:0:1167:G:H4'	2.32	0.64
1:0:1416:G:C2'	1:0:1417:G:H5'	2.26	0.64
1:0:1704:G:H1'	18:P:57:ASN:ND2	2.12	0.64
1:0:2271:G:H5'	3:A:223:ARG:NH2	2.12	0.64
11:I:56:TYR:H	11:I:56:TYR:HD2	1.42	0.64
1:0:256:C:H2'	1:0:257:G:O4'	1.98	0.64
1:0:1803:C:N4	1:0:1804:A:N6	2.46	0.64
1:0:1165:G:H4'	1:0:1174:A:O2'	1.97	0.64
1:0:1266:U:H4'	27:Y:115:ARG:HH21	1.61	0.64
1:0:1400:C:H4'	26:X:56:GLU:HG2	1.80	0.64
1:0:1477:C:O2'	1:0:1478:U:H5'	1.98	0.64
1:0:2253:G:O2'	1:0:2254:G:H5'	1.97	0.64
7:E:11:VAL:HG12	7:E:12:ASP:H	1.62	0.64
9:G:108:SER:C	9:G:109:LYS:HE3	2.20	0.64
14:L:143:THR:HG22	14:L:144:ASP:N	2.13	0.64
1:0:807:A:H2'	1:0:808:A:C8	2.33	0.64
1:0:824:G:O6	1:0:854:G:C8	2.50	0.64
27:Y:151:SER:O	27:Y:155:ARG:HG3	1.98	0.64
29:1:22:CYS:SG	36:1:57:CD:CD	2.07	0.64
3:A:167:LYS:HE3	28:Z:26:VAL:HG13	1.79	0.64
6:D:50:VAL:O	6:D:71:ALA:HA	1.98	0.64
1:0:1119:G:N2	1:0:1246:A:C2	2.64	0.64
1:0:1206:U:O2'	1:0:1207:A:H5'	1.98	0.64
9:G:23:ILE:HD11	9:G:67:LEU:HA	1.79	0.64
26:X:30:MET:HE3	26:X:55:ASN:OD1	1.98	0.64
1:0:1883:U:H2'	1:0:1884:G:H5'	1.79	0.64
9:G:37:ASN:ND2	9:G:92:ILE:HG23	2.12	0.64
13:K:10:GLN:HE21	13:K:10:GLN:N	1.95	0.64
21:S:33:SER:O	21:S:37:VAL:HG23	1.97	0.64
31:3:24:LYS:HE2	35:3:95:CL:CL	2.35	0.64
1:0:387:G:O2'	1:0:388:G:H5'	1.98	0.63
1:0:1197:G:H2'	1:0:1198:U:C5'	2.28	0.63
1:0:1206:U:H5'	1:0:1206:U:C6	2.30	0.63
9:G:35:VAL:HB	9:G:92:ILE:HD11	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:52:THR:HG22	23:U:54:THR:H	1.64	0.63
1:0:130:C:O2'	1:0:131:A:N7	2.31	0.63
1:0:236:A:H4'	1:0:237:G:OP1	1.99	0.63
1:0:440:C:H2'	1:0:441:A:C8	2.33	0.63
1:0:794:U:H2'	1:0:795:G:H5'	1.80	0.63
1:0:1097:A:H5''	25:W:125:HIS:CE1	2.34	0.63
1:0:1768:C:C6	1:0:1769:C:C6	2.86	0.63
4:B:36:PRO:HA	4:B:168:GLY:CA	2.28	0.63
24:V:1:THR:HG23	24:V:2:VAL:H	1.63	0.63
24:V:39:ALA:N	24:V:40:PRO:HD2	2.14	0.63
1:0:292:G:H1'	1:0:360:A:H61	1.63	0.63
1:0:1537:C:H2'	1:0:1538:C:H6	1.63	0.63
3:A:53:ALA:HB1	3:A:54:PRO:HD2	1.80	0.63
9:G:35:VAL:H	9:G:92:ILE:HG13	1.63	0.63
11:I:53:THR:O	11:I:64:ILE:HB	1.98	0.63
14:L:143:THR:HG22	14:L:145:LEU:H	1.64	0.63
1:0:1194:A:H5'	1:0:1194:A:C8	2.33	0.63
6:D:141:VAL:HA	6:D:144:ARG:HE	1.63	0.63
1:0:484:A:N6	1:0:508:A:N6	2.46	0.63
1:0:1167:G:H1'	1:0:1168:C:H5'	1.79	0.63
10:H:40:ALA:HB1	10:H:137:TYR:CE2	2.34	0.63
31:3:60:LYS:HG3	31:3:61:PRO:HD2	1.81	0.63
1:0:200:U:O2'	1:0:201:G:H5'	1.98	0.63
1:0:608:A:H8	1:0:608:A:O5'	1.82	0.63
1:0:2036:C:C4'	13:K:44:LEU:HG	2.29	0.63
2:9:64:C:C2'	2:9:65:A:H5'	2.28	0.63
11:I:14:ALA:CB	11:I:35:VAL:HG13	2.28	0.63
1:0:646:G:H2'	1:0:647:U:H6	1.62	0.63
1:0:685:C:O2	1:0:748:C:H4'	1.99	0.63
1:0:1762:C:N3	1:0:1783:A:C2	2.66	0.63
2:9:35:C:H2'	16:N:141:ARG:NH1	2.14	0.63
4:B:212:GLN:HB2	4:B:257:THR:HG21	1.81	0.63
12:J:74:ARG:HB3	12:J:74:ARG:HH11	1.64	0.63
27:Y:151:SER:HB3	27:Y:154:ARG:HB3	1.81	0.63
1:0:1164:U:H4'	1:0:1165:G:OP1	1.97	0.63
1:0:1216:G:C4	9:G:7:ARG:NH2	2.67	0.63
1:0:1224:G:C5	1:0:1225:C:C5	2.87	0.63
1:0:2758:G:H2'	1:0:2759:C:C6	2.34	0.63
17:O:10:LEU:HD13	17:O:99:GLU:HG3	1.79	0.63
26:X:76:ARG:HG3	26:X:76:ARG:NH1	2.10	0.63
1:0:391:U:O2'	1:0:392:U:H5'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:824:G:C5	1:0:854:G:C5	2.88	0.62
1:0:1021:G:H2'	1:0:1022:A:H8	1.63	0.62
3:A:179:MET:HG2	3:A:186:TRP:HB2	1.80	0.62
1:0:450:C:OP1	5:C:184:ARG:NH2	2.32	0.62
1:0:920:C:H4'	1:0:921:G:N2	2.14	0.62
5:C:193:LEU:HB3	5:C:233:THR:OG1	1.99	0.62
15:M:70:GLY:HA3	15:M:73:ARG:NH1	2.15	0.62
1:0:119:A:H2'	1:0:120:A:C5'	2.30	0.62
1:0:1788:U:C2	1:0:1805:G:N2	2.67	0.62
1:0:569:A:H5''	1:0:587:A:N1	2.15	0.62
1:0:816:G:H5'	1:0:1598:A:H4'	1.80	0.62
1:0:920:C:H4'	1:0:921:G:C2	2.35	0.62
1:0:1418:U:H4'	1:0:1419:U:O5'	1.98	0.62
1:0:1441:G:O2'	1:0:1442:A:H5'	1.98	0.62
1:0:2249:G:C2	1:0:2253:G:C6	2.87	0.62
3:A:135:VAL:HG22	3:A:136:ALA:N	2.14	0.62
4:B:304:PRO:HD2	4:B:307:ARG:HE	1.65	0.62
13:K:30:LYS:O	13:K:55:VAL:HG13	1.99	0.62
1:0:1090:A:C6	1:0:1091:U:C4	2.87	0.62
1:0:1712:A:H2'	1:0:1713:G:O4'	1.99	0.62
2:9:64:C:O2'	2:9:65:A:H5'	1.99	0.62
18:P:16:VAL:CG1	18:P:20:ARG:HB2	2.29	0.62
1:0:227:A:H8	1:0:227:A:O5'	1.83	0.62
1:0:514:G:OP1	1:0:514:G:H2'	1.98	0.62
1:0:2264:A:OP1	15:M:71:SER:HB3	2.00	0.62
1:0:2717:C:C2'	1:0:2718:C:H5''	2.30	0.62
4:B:56:ASP:HB3	4:B:322:ARG:HE	1.64	0.62
1:0:1194:A:C2	1:0:1195:G:C5	2.87	0.62
1:0:1747:A:C8	13:K:44:LEU:HD13	2.35	0.62
1:0:2029:C:C2	1:0:2030:A:C8	2.88	0.62
1:0:2437:A:H2'	1:0:2438:G:C8	2.35	0.62
2:9:49:G:C2'	2:9:50:G:H5'	2.29	0.62
7:E:84:MET:HG2	7:E:168:ILE:HA	1.81	0.62
1:0:569:A:O2'	1:0:570:C:H5'	2.00	0.62
1:0:1145:G:H1	1:0:1218:U:H3	1.45	0.62
1:0:1194:A:C2'	1:0:1195:G:C5'	2.78	0.62
9:G:40:GLY:C	9:G:41:ILE:HG13	2.24	0.62
26:X:72:VAL:HG22	26:X:85:VAL:HG12	1.79	0.62
1:0:1903:U:O2'	1:0:1904:A:N7	2.32	0.62
2:9:24:U:H3'	2:9:25:G:H5'	1.82	0.62
17:O:44:ASN:OD1	17:O:65:LEU:HB2	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:99:ALA:CB	20:R:109:MET:HE1	2.29	0.62
1:0:2850:C:H5'	1:0:2850:C:C6	2.31	0.62
1:0:2880:A:H2'	1:0:2881:C:O4'	1.99	0.62
25:W:81:ASP:OD1	25:W:92:ASP:HB2	1.99	0.62
1:0:1165:G:H1'	1:0:1174:A:H1'	1.81	0.61
1:0:1579:C:H1'	1:0:1580:A:H8	1.64	0.61
1:0:2507:G:H2'	1:0:2510:C:H42	1.64	0.61
1:0:553:G:O2'	27:Y:179:PRO:HG3	2.00	0.61
1:0:734:U:H2'	1:0:736:A:OP2	2.00	0.61
1:0:962:C:H2'	1:0:963:C:H5'	1.82	0.61
25:W:18:GLN:O	25:W:22:GLU:HG3	2.01	0.61
1:0:353:G:H2'	1:0:354:A:C8	2.35	0.61
1:0:1476:A:H8	1:0:1476:A:O5'	1.82	0.61
1:0:2029:C:H2'	1:0:2030:A:H8	1.65	0.61
9:G:77:GLY:O	9:G:80:ASP:HB3	2.00	0.61
1:0:44:G:N2	1:0:147:G:H21	1.98	0.61
1:0:613:C:H2'	1:0:614:U:H6	1.66	0.61
3:A:112:PRO:HD3	3:A:152:CYS:SG	2.41	0.61
1:0:338:C:H4'	5:C:174:ILE:HD11	1.82	0.61
1:0:1150:A:H2	9:G:20:VAL:HG21	1.64	0.61
1:0:1166:A:OP1	1:0:1174:A:H5'	2.01	0.61
1:0:1328:A:N7	1:0:1329:A:C5	2.69	0.61
1:0:1711:A:O2'	1:0:1712:A:H5'	2.01	0.61
1:0:1946:C:H2'	1:0:1946:C:O2	2.00	0.61
1:0:2281:C:H2'	1:0:2282:U:H5'	1.80	0.61
1:0:2504:A:H4'	10:H:71:ARG:NH1	2.16	0.61
1:0:2668:G:N2	1:0:2669:U:C2	2.69	0.61
9:G:32:SER:CB	9:G:124:ILE:HG13	2.19	0.61
1:0:544:G:H2'	1:0:545:G:H5''	1.83	0.61
1:0:1335:C:C2	1:0:1336:U:C5	2.88	0.61
1:0:1595:G:O2'	1:0:1596:U:H5'	2.01	0.61
1:0:2859:C:H5''	1:0:2859:C:C6	2.34	0.61
4:B:215:VAL:HA	4:B:220:VAL:HG22	1.81	0.61
6:D:57:THR:HG23	6:D:63:ILE:HG22	1.82	0.61
18:P:103:THR:HA	18:P:106:ARG:NH1	2.16	0.61
24:V:56:ILE:O	24:V:60:GLN:HG3	2.00	0.61
29:1:22:CYS:HB3	29:1:37:CYS:HB3	1.83	0.61
1:0:21:G:C5'	20:R:2:ILE:HA	2.31	0.61
1:0:661:G:C6	1:0:686:A:C2	2.89	0.61
1:0:2320:U:H4'	1:0:2321:A:O4'	2.01	0.61
1:0:179:C:O5'	1:0:179:C:H6	1.84	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:462:A:N6	1:0:477:A:H2	1.99	0.61
1:0:1116:U:N3	1:0:1246:A:N6	2.48	0.61
1:0:1477:C:C5'	1:0:1868:G:H5''	2.31	0.61
1:0:1928:C:C2'	1:0:1929:G:H5'	2.31	0.61
1:0:152:A:H1'	1:0:440:C:O2'	2.00	0.61
1:0:2089:A:O2'	1:0:2090:G:H5'	2.01	0.61
2:9:38:A:H2'	2:9:39:U:H6	1.61	0.61
3:A:170:VAL:HG11	28:Z:14:PHE:CE1	2.36	0.61
12:J:25:GLN:O	12:J:28:GLU:HB3	2.01	0.61
29:1:28:HIS:CD2	29:1:31:LYS:HG3	2.36	0.61
1:0:731:U:O2'	1:0:732:C:H5'	2.00	0.61
1:0:1120:U:H2'	1:0:1121:G:H5'	1.81	0.61
1:0:1510:G:H2'	1:0:1511:U:C6	2.30	0.61
1:0:1857:A:N6	1:0:2247:C:H1'	2.15	0.61
4:B:304:PRO:HD2	4:B:307:ARG:NE	2.16	0.61
9:G:97:ASN:HD22	9:G:99:PHE:HB2	1.66	0.61
10:H:166:SER:CB	10:H:167:PRO:HD3	2.27	0.61
13:K:27:ARG:HD2	13:K:60:GLY:HA2	1.82	0.61
25:W:56:GLU:O	25:W:143:THR:HG23	2.01	0.61
1:0:1883:U:O2'	1:0:1884:G:H5'	2.01	0.60
1:0:2241:C:C2	1:0:2242:U:C5	2.89	0.60
2:9:108:C:O2'	2:9:109:G:H5'	2.01	0.60
4:B:167:GLY:HA2	4:B:174:ARG:HD3	1.82	0.60
24:V:58:THR:O	24:V:62:GLU:HG3	2.01	0.60
27:Y:187:VAL:HG23	27:Y:192:ASP:CB	2.28	0.60
1:0:585:C:H2'	1:0:586:C:C6	2.35	0.60
1:0:661:G:C4	1:0:686:A:C2	2.88	0.60
1:0:1150:A:C6	9:G:69:ARG:NH2	2.69	0.60
1:0:1921:A:O2'	1:0:1922:A:H5'	2.01	0.60
1:0:2332:A:H5''	1:0:2333:G:OP2	2.01	0.60
1:0:2827:A:H2'	1:0:2828:G:O4'	2.01	0.60
6:D:54:ALA:HB2	6:D:69:ILE:HD12	1.83	0.60
9:G:54:HIS:CG	9:G:54:HIS:N	2.70	0.60
20:R:39:THR:HG23	20:R:107:GLU:O	2.01	0.60
1:0:228:C:H2'	1:0:229:G:C5'	2.30	0.60
1:0:1225:C:N3	1:0:1226:G:C8	2.70	0.60
1:0:2729:C:H1'	1:0:2864:U:O2'	2.01	0.60
9:G:33:VAL:HG21	9:G:94:THR:O	2.02	0.60
1:0:694:A:H2'	1:0:695:C:O4'	2.01	0.60
1:0:960:G:N3	1:0:960:G:H2'	2.16	0.60
1:0:1089:G:H2'	1:0:1090:A:C8	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1197:G:H2'	1:0:1198:U:H5'	1.82	0.60
1:0:1211:G:H4'	9:G:88:GLN:H	1.64	0.60
1:0:1626:A:H2'	1:0:1627:G:H5'	1.82	0.60
1:0:100:C:H4'	22:T:16:LEU:HB2	1.82	0.60
7:E:69:ILE:HA	7:E:72:MET:HE3	1.83	0.60
23:U:44:ARG:HD3	23:U:49:LEU:HD21	1.83	0.60
24:V:39:ALA:H	24:V:40:PRO:HD2	1.67	0.60
31:3:10:TYR:HB2	31:3:17:HIS:CE1	2.36	0.60
1:0:656:G:H3'	17:O:37:ARG:HH12	1.66	0.60
1:0:1497:G:H2'	1:0:1498:G:H8	1.67	0.60
1:0:1886:A:HO2'	28:Z:20:ARG:HB2	1.66	0.60
4:B:201:ASP:HB2	4:B:312:ARG:HD2	1.84	0.60
1:0:282:C:H1'	1:0:368:C:H41	1.66	0.60
1:0:1195:G:C2	1:0:1205:U:C2	2.90	0.60
1:0:1343:C:H1'	27:Y:208:LYS:HZ3	1.66	0.60
17:O:44:ASN:HB3	17:O:67:SER:O	2.02	0.60
1:0:472:A:H5'	29:1:35:SER:OG	2.01	0.60
1:0:45:A:N6	1:0:147:G:C4	2.70	0.60
1:0:305:A:C5	1:0:329:A:C2	2.90	0.60
5:C:16:VAL:HG12	5:C:17:ASP:H	1.67	0.60
10:H:55:VAL:HG21	10:H:159:PRO:HD3	1.84	0.60
15:M:75:ARG:HH12	15:M:78:LYS:HE3	1.66	0.60
1:0:896:C:H2'	1:0:897:A:H5'	1.84	0.60
1:0:1327:G:N2	1:0:1331:A:C4	2.70	0.60
1:0:2251:G:H2'	1:0:2252:A:C8	2.37	0.60
1:0:2291:A:C8	1:0:2309:C:H5'	2.37	0.60
1:0:2461:U:C2	1:0:2466:G:H1'	2.36	0.60
19:Q:26:PRO:O	19:Q:30:VAL:HG23	2.02	0.60
1:0:387:G:C2'	1:0:388:G:H5'	2.32	0.59
1:0:1120:U:H6	1:0:1120:U:C5'	2.13	0.59
1:0:1773:G:H8	28:Z:16:ALA:HA	1.66	0.59
1:0:1915:U:C2'	1:0:1916:C:H5'	2.31	0.59
22:T:85:GLU:HG2	22:T:86:GLU:H	1.67	0.59
1:0:396:U:H2'	1:0:397:A:N7	2.16	0.59
1:0:541:C:H2'	1:0:542:A:H5''	1.78	0.59
1:0:625:U:O2	1:0:627:G:C8	2.55	0.59
1:0:776:A:H1'	1:0:779:U:O4	2.02	0.59
1:0:1040:A:C2	1:0:1041:U:C2	2.89	0.59
1:0:1324:G:C6	1:0:1334:C:N3	2.70	0.59
1:0:1680:C:H2'	1:0:1681:G:O4'	2.03	0.59
1:0:1829:A:N6	28:Z:18:TYR:HA	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2106:C:H2'	1:0:2107:U:H6	1.67	0.59
1:0:235:C:O2'	1:0:236:A:H2'	2.03	0.59
1:0:661:G:C6	1:0:686:A:N1	2.70	0.59
1:0:1285:U:H4'	25:W:74:GLU:OE1	2.02	0.59
1:0:1909:A:N1	1:0:2128:G:H1'	2.16	0.59
1:0:222:A:H2'	1:0:223:G:O4'	2.01	0.59
1:0:1375:A:H2'	1:0:1376:G:H5'	1.84	0.59
1:0:1501:A:N6	1:0:1502:A:N6	2.49	0.59
1:0:1634:G:C5	1:0:1635:U:C5	2.90	0.59
17:O:32:ARG:O	17:O:32:ARG:HD3	2.02	0.59
28:Z:42:CYS:SG	28:Z:43:GLY:N	2.75	0.59
1:0:289:G:O2'	1:0:290:C:H5'	2.02	0.59
1:0:1400:C:H2'	1:0:1401:G:C5'	2.30	0.59
1:0:1666:C:H2'	1:0:1667:A:C8	2.37	0.59
1:0:1774:G:O2'	1:0:1775:A:H5'	2.02	0.59
1:0:1886:A:O2'	28:Z:20:ARG:HB2	2.01	0.59
1:0:2374:A:H2'	1:0:2375:G:O4'	2.02	0.59
3:A:68:ILE:HG12	3:A:69:LEU:N	2.17	0.59
16:N:61:ALA:HB3	16:N:88:ALA:HB2	1.85	0.59
23:U:13:ILE:HG12	23:U:32:CYS:HB3	1.83	0.59
1:0:1116:U:H3	1:0:1246:A:H62	1.50	0.59
1:0:1759:A:N3	1:0:1818:C:H2'	2.18	0.59
1:0:2864:U:H3'	1:0:2865:G:H8	1.67	0.59
2:9:48:C:H4'	16:N:141:ARG:HH21	1.68	0.59
18:P:121:ASP:O	18:P:125:LYS:HG3	2.03	0.59
25:W:72:PRO:HG2	25:W:77:ALA:HB3	1.85	0.59
1:0:57:C:O2'	1:0:58:C:H5'	2.02	0.59
1:0:105:G:O2'	1:0:106:A:H5'	2.03	0.59
1:0:317:A:H5'	22:T:52:ARG:HD2	1.85	0.59
1:0:1947:G:H2'	1:0:1948:G:H8	1.66	0.59
1:0:2450:C:O5'	1:0:2450:C:H6	1.85	0.59
3:A:125:ASN:HB3	3:A:158:VAL:HG12	1.84	0.59
4:B:51:VAL:HG13	4:B:53:LEU:HD13	1.83	0.59
8:F:4:VAL:HA	8:F:76:PHE:CZ	2.38	0.59
18:P:115:SER:H	18:P:118:GLN:NE2	1.97	0.59
1:0:595:U:C2'	1:0:596:C:H5'	2.32	0.59
1:0:1015:C:H2'	1:0:1016:U:C6	2.37	0.59
1:0:1194:A:C2	1:0:1195:G:C4	2.90	0.59
3:A:105:VAL:HG13	3:A:155:THR:O	2.02	0.59
4:B:189:ALA:O	4:B:192:ASP:HB2	2.02	0.59
11:I:82:GLU:CD	11:I:83:THR:H	2.11	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:86:LEU:O	16:N:90:LEU:HG	2.03	0.59
20:R:23:MET:HE3	20:R:28:SER:OG	2.03	0.59
1:0:1307:A:H2'	1:0:1308:A:C8	2.38	0.59
1:0:1964:U:H2'	1:0:1964:U:O2	2.03	0.59
1:0:2055:A:H4'	20:R:132:ARG:NH2	2.18	0.59
1:0:2103:A:H2'	1:0:2104:C:H5'	1.85	0.59
11:I:31:VAL:O	11:I:32:GLN:HB2	2.02	0.59
1:0:234:A:H2'	1:0:235:C:O5'	2.02	0.59
1:0:316:A:N3	1:0:336:G:O2'	2.35	0.59
1:0:390:G:O2'	1:0:391:U:H5'	2.02	0.59
1:0:1216:G:C5	9:G:7:ARG:NH1	2.71	0.59
1:0:1234:U:N3	4:B:244:PRO:HB3	2.18	0.59
1:0:1309:U:C2'	1:0:1310:U:C5'	2.81	0.59
1:0:1309:U:H2'	1:0:1310:U:C5'	2.33	0.59
1:0:1449:G:N3	1:0:1449:G:H2'	2.17	0.59
1:0:1557:G:O2'	1:0:1558:C:H5'	2.02	0.59
1:0:1664:A:H8	1:0:1664:A:OP1	1.86	0.59
1:0:1776:A:C8	1:0:1778:A:O4'	2.56	0.59
1:0:2028:U:H2'	1:0:2029:C:C6	2.36	0.59
1:0:2354:A:H5'	1:0:2355:G:C5	2.38	0.59
12:J:24:SER:HA	12:J:86:MET:SD	2.42	0.59
14:L:72:ASN:O	14:L:76:LEU:HG	2.02	0.59
16:N:86:LEU:HD12	16:N:125:ALA:HB2	1.83	0.59
28:Z:19:GLY:O	28:Z:23:ARG:HG2	2.03	0.59
1:0:1345:A:C4	1:0:1346:U:C5	2.91	0.58
1:0:1564:C:H1'	1:0:2738:G:N2	2.18	0.58
1:0:2461:U:O2	1:0:2466:G:H1'	2.03	0.58
1:0:2563:U:H2'	1:0:2565:C:O5'	2.03	0.58
1:0:2769:C:H2'	1:0:2770:G:H5'	1.84	0.58
1:0:2777:G:O2'	1:0:2778:A:H5'	2.03	0.58
3:A:192:VAL:HG23	3:A:201:PHE:HB3	1.84	0.58
9:G:121:PRO:HB2	9:G:127:PRO:HG3	1.85	0.58
11:I:49:GLU:O	11:I:51:PRO:HD3	2.03	0.58
1:0:482:G:N2	1:0:485:A:C8	2.71	0.58
1:0:705:C:N4	1:0:723:G:H1	1.99	0.58
1:0:961:A:C6	1:0:1010:C:C5	2.92	0.58
1:0:2544:G:C5	1:0:2545:U:C5	2.91	0.58
5:C:1:MET:HG2	5:C:2:GLN:H	1.68	0.58
10:H:166:SER:HB2	10:H:167:PRO:CD	2.28	0.58
15:M:75:ARG:HH22	15:M:78:LYS:CE	2.17	0.58
16:N:35:VAL:HG12	16:N:37:ARG:HG2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:213:LYS:O	27:Y:217:ILE:HG13	2.03	0.58
1:0:484:A:H61	1:0:508:A:H62	1.51	0.58
3:A:51:ARG:NH2	3:A:53:ALA:HB3	2.18	0.58
15:M:71:SER:H	15:M:73:ARG:HH12	1.51	0.58
1:0:287:C:H2'	1:0:288:A:C8	2.37	0.58
1:0:308:U:H5'	1:0:309:C:OP1	2.03	0.58
1:0:1187:U:O2'	1:0:1189:A:H2	1.86	0.58
1:0:1804:A:H2'	1:0:1805:G:C8	2.38	0.58
1:0:2729:C:H2'	1:0:2730:G:H8	1.67	0.58
2:9:30:C:O2	2:9:51:A:H2	1.86	0.58
18:P:38:GLU:OE2	18:P:41:ARG:HD2	2.04	0.58
1:0:1327:G:N1	1:0:1331:A:C6	2.72	0.58
1:0:2011:A:H4'	1:0:2012:U:O5'	2.03	0.58
1:0:2099:G:N2	1:0:2646:G:C6	2.71	0.58
4:B:71:VAL:HG11	4:B:296:LEU:HB3	1.84	0.58
12:J:52:GLN:HG3	12:J:53:ILE:H	1.68	0.58
13:K:64:MET:HA	13:K:67:GLN:HE21	1.68	0.58
16:N:42:HIS:CE1	16:N:64:SER:HB3	2.39	0.58
18:P:134:VAL:O	18:P:137:LEU:HB3	2.03	0.58
20:R:8:ALA:HB3	20:R:15:LYS:HE2	1.85	0.58
1:0:1098:A:OP1	25:W:128:VAL:HG22	2.03	0.58
1:0:1312:G:C4	1:0:1313:A:C8	2.91	0.58
1:0:1943:C:C5	1:0:1944:G:C8	2.92	0.58
1:0:2082:G:H1'	12:J:67:ASN:OD1	2.03	0.58
1:0:2769:C:C2'	1:0:2770:G:C5'	2.80	0.58
1:0:2825:C:H4'	1:0:2826:G:O4'	2.03	0.58
2:9:28:U:H5''	16:N:40:ASN:HD21	1.65	0.58
2:9:49:G:O3'	16:N:147:ILE:HD11	2.03	0.58
2:9:58:G:C8	2:9:59:C:C5	2.92	0.58
9:G:33:VAL:HA	9:G:123:ASP:OD2	2.04	0.58
1:0:282:C:O2'	1:0:283:U:C5'	2.48	0.58
1:0:645:U:O2	1:0:761:A:H2	1.87	0.58
1:0:814:G:H2'	1:0:815:U:O4'	2.03	0.58
1:0:1118:A:C8	1:0:1119:G:H5''	2.39	0.58
1:0:1381:A:N6	1:0:1402:G:H4'	2.17	0.58
2:9:55:U:H4'	2:9:56:A:C8	2.39	0.58
16:N:132:ASN:O	16:N:135:VAL:HG12	2.03	0.58
1:0:1523:G:C2	1:0:1524:U:C4	2.92	0.58
1:0:2055:A:H8	1:0:2055:A:O5'	1.86	0.58
8:F:2:VAL:HG22	8:F:57:GLU:OE1	2.03	0.58
8:F:21:GLU:O	8:F:24:ARG:HG2	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:107:ASN:ND2	12:J:109:TYR:H	2.01	0.58
16:N:144:GLY:O	16:N:147:ILE:HG22	2.03	0.58
1:0:1544:U:C2	1:0:1545:C:C6	2.91	0.58
1:0:1762:C:H2'	1:0:1763:C:H6	1.67	0.58
1:0:2337:G:H5''	6:D:96:SER:O	2.04	0.58
2:9:39:U:H3	2:9:42:C:H5''	1.68	0.58
1:0:1118:A:H2'	1:0:1120:U:H5''	1.86	0.58
1:0:1850:U:O4'	1:0:1941:A:C2	2.56	0.58
9:G:23:ILE:HG12	9:G:60:ARG:HH11	1.68	0.58
9:G:121:PRO:CB	9:G:127:PRO:HB2	2.31	0.58
9:G:121:PRO:CB	9:G:127:PRO:HB3	2.33	0.58
15:M:66:SER:HB3	15:M:128:TRP:NE1	2.19	0.58
20:R:82:GLU:HG3	20:R:83:LYS:H	1.69	0.58
21:S:73:ASP:O	21:S:77:VAL:HG23	2.04	0.58
1:0:896:C:O2'	1:0:897:A:H5'	2.04	0.57
1:0:1378:G:N1	1:0:2747:C:H2'	2.18	0.57
1:0:1556:G:O2'	1:0:1557:G:H5'	2.04	0.57
1:0:1895:A:C8	1:0:1968:A:C1'	2.87	0.57
1:0:2459:G:P	31:3:64:LYS:HB2	2.43	0.57
1:0:2856:A:C2	1:0:2903:C:O2	2.57	0.57
9:G:64:ASN:ND2	9:G:89:VAL:HG12	2.19	0.57
11:I:83:THR:HG22	11:I:84:GLY:N	2.18	0.57
22:T:48:VAL:HG22	22:T:98:VAL:HA	1.86	0.57
1:0:314:G:N2	1:0:316:A:H3'	2.18	0.57
1:0:1626:A:H2'	1:0:1627:G:C5'	2.34	0.57
1:0:1834:C:H2'	1:0:1840:A:H62	1.64	0.57
1:0:2717:C:H2'	1:0:2718:C:C5'	2.33	0.57
2:9:26:C:C2'	2:9:27:C:H5'	2.34	0.57
7:E:7:ILE:HD11	7:E:11:VAL:O	2.04	0.57
25:W:88:THR:HG23	25:W:110:GLN:HE21	1.69	0.57
1:0:506:G:H22	1:0:509:A:C5'	2.17	0.57
1:0:1167:G:C8	1:0:1167:G:C4'	2.87	0.57
1:0:1972:U:H2'	1:0:1973:A:C5'	2.35	0.57
1:0:2769:C:H2'	1:0:2770:G:O4'	2.05	0.57
3:A:9:ARG:HG2	3:A:16:PHE:CD2	2.39	0.57
1:0:408:A:H2'	1:0:409:U:H5'	1.86	0.57
1:0:702:G:N2	1:0:727:G:H1'	2.19	0.57
1:0:1246:A:C5	1:0:1248:A:C5	2.92	0.57
1:0:1930:A:H2'	1:0:1931:A:C8	2.39	0.57
1:0:2703:A:H2'	1:0:2704:C:H6	1.69	0.57
10:H:58:ARG:HH11	10:H:58:ARG:HG3	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:681:G:N3	1:0:681:G:H5'	2.19	0.57
1:0:1163:G:H4'	11:I:112:LEU:HD12	1.86	0.57
1:0:1194:A:H2	1:0:1195:G:C4	2.22	0.57
1:0:1194:A:H2'	1:0:1195:G:C5'	2.33	0.57
15:M:81:ARG:CG	15:M:85:ARG:HB2	2.34	0.57
22:T:24:ARG:HH21	22:T:39:ASN:ND2	2.02	0.57
22:T:49:GLU:OE2	22:T:97:ARG:HD2	2.04	0.57
1:0:453:A:C4	1:0:479:G:C8	2.91	0.57
1:0:718:C:O2	1:0:718:C:H2'	2.05	0.57
1:0:1768:C:C6	1:0:1769:C:C5	2.93	0.57
1:0:2241:C:H2'	1:0:2242:U:C6	2.35	0.57
1:0:2346:C:H4'	6:D:52:THR:HG22	1.86	0.57
1:0:2879:A:O2'	1:0:2880:A:H5'	2.05	0.57
4:B:168:GLY:N	4:B:174:ARG:HD3	2.18	0.57
1:0:228:C:C2'	1:0:229:G:H5'	2.34	0.57
1:0:236:A:H4'	1:0:237:G:C5'	2.29	0.57
1:0:401:C:H2'	1:0:402:U:H6	1.70	0.57
1:0:422:G:C6	1:0:2446:G:C6	2.93	0.57
1:0:1342:C:C2'	1:0:1343:C:H5'	2.34	0.57
1:0:1535:G:H2'	1:0:1536:C:C6	2.40	0.57
1:0:1783:A:H2'	1:0:1784:U:H5'	1.87	0.57
1:0:2120:U:H2'	1:0:2121:G:O4'	2.04	0.57
1:0:2599:A:C2	1:0:2684:A:H4'	2.39	0.57
1:0:2846:C:H4'	4:B:156:LYS:HB3	1.86	0.57
2:9:84:G:O2'	2:9:85:A:H5'	2.04	0.57
6:D:172:VAL:HG12	6:D:173:GLU:N	2.19	0.57
20:R:18:LEU:HB2	20:R:143:VAL:CG1	2.34	0.57
1:0:815:U:C4	1:0:816:G:C6	2.92	0.57
1:0:1059:G:H5''	1:0:1127:C:H5'	1.87	0.57
1:0:1543:G:H2'	1:0:1544:U:C5	2.40	0.57
1:0:1666:C:H2'	1:0:1667:A:H5'	1.86	0.57
1:0:1738:C:O2'	1:0:1739:G:H5'	2.04	0.57
2:9:41:C:H4'	6:D:48:MET:HB3	1.87	0.57
5:C:162:VAL:O	5:C:162:VAL:HG12	2.05	0.57
1:0:161:A:H2'	1:0:162:C:H6	1.67	0.57
1:0:324:G:C2	1:0:325:U:C6	2.93	0.57
1:0:1162:G:C2	1:0:1163:G:C8	2.93	0.57
1:0:1554:U:O2'	1:0:1631:A:H1'	2.03	0.57
1:0:1978:A:C4	1:0:1980:U:C5	2.93	0.57
12:J:135:ILE:O	12:J:139:LEU:HG	2.04	0.57
30:2:40:ARG:CD	30:2:47:THR:HG22	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:558:C:C2'	1:0:559:U:H5''	2.35	0.57
1:0:968:G:O2'	1:0:969:G:H5'	2.05	0.57
1:0:1269:G:H2'	1:0:1270:U:H6	1.69	0.57
1:0:1398:G:H4'	18:P:25:PRO:HG3	1.87	0.57
1:0:1788:U:H2'	1:0:1789:G:C8	2.40	0.57
1:0:2656:G:O2'	1:0:2657:G:H5'	2.05	0.57
1:0:2791:U:H1'	1:0:2792:A:H5''	1.86	0.57
1:0:449:A:N7	5:C:43:LYS:HG2	2.19	0.56
1:0:657:G:OP1	5:C:27:ARG:NH2	2.35	0.56
1:0:1537:C:N3	1:0:1649:G:C2	2.73	0.56
1:0:1989:G:C4	1:0:1990:C:C5	2.93	0.56
1:0:2327:A:C2	1:0:2374:A:C2	2.93	0.56
2:9:29:C:C2'	2:9:30:C:H5'	2.34	0.56
3:A:123:GLY:HA2	3:A:159:VAL:O	2.05	0.56
1:0:1279:U:H5''	1:0:1280:A:OP2	2.05	0.56
1:0:1821:A:O2'	1:0:1822:A:H5'	2.05	0.56
1:0:1937:U:O2'	1:0:1938:G:H5'	2.05	0.56
2:9:4:G:H21	16:N:44:ARG:NH1	2.03	0.56
2:9:55:U:H4'	2:9:56:A:H8	1.69	0.56
1:0:20:G:H21	20:R:117:HIS:CD2	2.13	0.56
1:0:31:C:OP2	22:T:8:ARG:HD2	2.05	0.56
1:0:46:U:H4'	1:0:47:G:OP2	2.05	0.56
1:0:380:A:OP2	15:M:9:ARG:HD2	2.06	0.56
1:0:497:A:H2'	1:0:498:A:C5'	2.35	0.56
1:0:1107:A:H1'	1:0:1257:C:H1'	1.86	0.56
1:0:1335:C:OP2	27:Y:207:SER:HB3	2.05	0.56
1:0:1363:G:O2'	1:0:1364:G:H5'	2.05	0.56
1:0:1496:G:O2'	1:0:1497:G:H5'	2.05	0.56
1:0:2064:U:H4'	1:0:2653:A:OP1	2.04	0.56
1:0:2634:G:O2'	1:0:2635:A:H5'	2.04	0.56
1:0:2900:G:O2'	1:0:2901:C:H5'	2.04	0.56
2:9:63:C:O2'	2:9:64:C:H5'	2.05	0.56
2:9:78:G:N2	2:9:102:G:H2'	2.20	0.56
7:E:11:VAL:HG12	7:E:12:ASP:N	2.20	0.56
9:G:32:SER:HG	9:G:124:ILE:CD1	1.95	0.56
9:G:33:VAL:HB	9:G:94:THR:O	2.05	0.56
12:J:22:VAL:O	12:J:26:VAL:HG23	2.05	0.56
13:K:101:ASN:O	13:K:102:GLU:HB2	2.05	0.56
1:0:736:A:H2'	1:0:737:A:O4'	2.05	0.56
1:0:921:G:H4'	1:0:924:G:C6	2.41	0.56
1:0:1439:C:O5'	1:0:1439:C:H6	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1996:U:C5	1:0:2587:OMU:H1'	2.41	0.56
7:E:81:GLU:HG2	7:E:134:SER:HB3	1.87	0.56
1:0:664:U:O4	1:0:681:G:H5''	2.04	0.56
1:0:1342:C:O2'	1:0:1343:C:H5'	2.05	0.56
1:0:1346:U:H2'	1:0:1347:U:H6	1.70	0.56
1:0:1787:C:O2	1:0:2875:A:H2	1.89	0.56
1:0:2382:A:H1'	31:3:10:TYR:CE2	2.41	0.56
1:0:2533:C:H6	1:0:2533:C:C5'	2.14	0.56
1:0:2851:G:H2'	1:0:2852:A:H5'	1.84	0.56
2:9:3:A:N6	2:9:22:G:H1'	2.20	0.56
4:B:195:ARG:HG2	4:B:323:LEU:HD22	1.87	0.56
26:X:28:LYS:HE3	26:X:32:LEU:HD21	1.88	0.56
1:0:29:C:O2'	1:0:30:U:H5'	2.06	0.56
1:0:39:G:H2'	1:0:40:C:O4'	2.06	0.56
1:0:371:U:C2	1:0:372:A:N7	2.74	0.56
1:0:535:G:H4'	1:0:536:A:OP1	2.05	0.56
1:0:1384:C:H5'	26:X:30:MET:HG2	1.87	0.56
1:0:1568:G:C6	1:0:1569:U:C4	2.94	0.56
1:0:2694:A:H4'	7:E:91:PHE:CE1	2.39	0.56
2:9:22:G:N7	2:9:55:U:C6	2.74	0.56
4:B:179:LEU:O	4:B:183:GLU:HG2	2.06	0.56
9:G:32:SER:O	9:G:123:ASP:HB2	2.06	0.56
9:G:60:ARG:HH22	9:G:71:LEU:HD21	1.71	0.56
10:H:45:VAL:HA	10:H:167:PRO:O	2.05	0.56
22:T:12:ARG:HH12	22:T:13:ARG:HH21	1.52	0.56
27:Y:189:ASN:C	27:Y:189:ASN:HD22	2.12	0.56
30:2:36:ASN:H	30:2:39:ARG:NH2	2.03	0.56
1:0:1829:A:H61	28:Z:18:TYR:H	1.54	0.56
13:K:65:ARG:O	13:K:66:ARG:HB2	2.06	0.56
1:0:64:G:H2'	1:0:65:C:O4'	2.05	0.56
1:0:81:G:N3	1:0:98:A:C2	2.73	0.56
1:0:247:A:C2	1:0:265:U:C2	2.93	0.56
1:0:390:G:H2'	1:0:391:U:C6	2.35	0.56
1:0:797:A:N6	1:0:816:G:H1'	2.20	0.56
1:0:1311:G:C2	1:0:1312:G:C8	2.93	0.56
1:0:1520:G:C6	1:0:1521:C:N4	2.73	0.56
9:G:23:ILE:CD1	9:G:67:LEU:HA	2.34	0.56
15:M:71:SER:N	15:M:73:ARG:NH1	2.54	0.56
19:Q:33:PHE:HB2	19:Q:71:TYR:CE2	2.41	0.56
1:0:522:U:O2'	1:0:1366:C:H5'	2.06	0.56
1:0:524:A:H5'	20:R:29:LYS:HE2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1079:A:N1	1:0:2068:G:O2'	2.33	0.56
1:0:1444:G:N3	1:0:1502:A:H2	2.03	0.56
1:0:2812:A:C2	1:0:2814:A:N6	2.69	0.56
2:9:76:G:C3'	2:9:77:A:H5''	2.28	0.56
4:B:167:GLY:HA2	4:B:174:ARG:CD	2.36	0.56
12:J:116:LEU:HB2	12:J:119:THR:HG21	1.86	0.56
19:Q:43:ILE:HA	19:Q:90:HIS:ND1	2.20	0.56
20:R:40:ALA:O	20:R:44:VAL:HG23	2.05	0.56
1:0:90:A:H2'	1:0:91:G:O4'	2.05	0.56
1:0:299:U:H2'	1:0:300:C:H6	1.70	0.56
1:0:431:G:O2'	1:0:432:G:H5'	2.05	0.56
1:0:617:C:O2'	1:0:618:G:H5'	2.06	0.56
1:0:806:A:H2'	1:0:807:A:O4'	2.06	0.56
1:0:1041:U:C2'	1:0:1042:U:H5'	2.36	0.56
1:0:1071:G:H4'	27:Y:154:ARG:NH2	2.21	0.56
1:0:1153:C:N3	1:0:2786:G:O6	2.39	0.56
7:E:101:GLU:HB2	7:E:116:THR:O	2.06	0.56
7:E:107:PHE:CE2	7:E:108:LEU:HD13	2.40	0.56
17:O:87:THR:O	17:O:91:GLN:HG3	2.06	0.56
1:0:283:U:C5	1:0:284:C:N4	2.71	0.55
1:0:310:U:O5'	1:0:310:U:H6	1.88	0.55
1:0:530:C:H4'	1:0:612:U:H4'	1.88	0.55
1:0:697:G:H4'	1:0:730:G:O3'	2.07	0.55
1:0:1170:U:C2	1:0:1172:G:OP2	2.59	0.55
1:0:1482:A:O2'	1:0:1483:C:H5'	2.06	0.55
1:0:1543:G:N1	1:0:1641:A:OP2	2.36	0.55
1:0:2237:G:O2'	1:0:2238:A:C8	2.56	0.55
1:0:2607:U:C4	4:B:242:TRP:CZ2	2.94	0.55
3:A:121:ALA:O	3:A:124:VAL:HG22	2.05	0.55
4:B:50:HIS:HD2	4:B:68:THR:HG21	1.71	0.55
13:K:23:ASN:HD21	13:K:107:THR:CB	2.18	0.55
28:Z:37:HIS:HB2	28:Z:47:VAL:HB	1.88	0.55
1:0:196:G:H1'	1:0:198:A:N7	2.21	0.55
1:0:443:C:H2'	1:0:444:C:C6	2.41	0.55
1:0:897:A:H2'	1:0:899:C:C5	2.41	0.55
1:0:913:A:N3	1:0:1042:U:O2'	2.37	0.55
1:0:1581:A:C6	1:0:1582:C:N3	2.74	0.55
1:0:1597:A:H2'	1:0:1598:A:H5'	1.88	0.55
1:0:1767:A:OP2	1:0:1776:A:N6	2.34	0.55
1:0:2325:C:H4'	1:0:2417:C:O2	2.06	0.55
2:9:61:C:H2'	2:9:62:A:H8	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:85:HIS:HA	8:F:89:LEU:O	2.07	0.55
1:0:447:A:O2'	1:0:448:G:H5'	2.06	0.55
1:0:1501:A:C6	1:0:1502:A:C6	2.94	0.55
1:0:2061:C:H2'	1:0:2062:A:H5'	1.87	0.55
1:0:2819:C:H2'	1:0:2820:A:C8	2.41	0.55
2:9:9:C:C6	2:9:10:C:C5	2.94	0.55
21:S:57:THR:HG22	21:S:58:MET:N	2.22	0.55
1:0:838:C:H2'	1:0:839:C:H5'	1.89	0.55
1:0:1706:G:C5	1:0:1707:G:C6	2.94	0.55
1:0:2834:G:C4	1:0:2847:G:N2	2.75	0.55
2:9:64:C:H2'	2:9:65:A:H5'	1.87	0.55
9:G:36:VAL:O	9:G:119:VAL:O	2.25	0.55
16:N:139:TRP:HA	16:N:139:TRP:CE3	2.42	0.55
1:0:47:G:H1'	1:0:114:A:N1	2.22	0.55
1:0:408:A:O2'	1:0:409:U:H5'	2.07	0.55
1:0:1118:A:N6	1:0:1244:U:H3	1.97	0.55
1:0:1667:A:O2'	1:0:1668:U:H5'	2.07	0.55
1:0:2049:C:P	20:R:69:LYS:HZ1	2.29	0.55
12:J:12:VAL:HG11	12:J:116:LEU:HD11	1.87	0.55
20:R:66:VAL:HG22	20:R:79:ARG:CZ	2.37	0.55
28:Z:31:SER:O	28:Z:35:GLU:HG3	2.05	0.55
29:1:21:ARG:HD2	29:1:39:PHE:HB2	1.88	0.55
1:0:107:U:H2'	1:0:108:U:H5'	1.88	0.55
1:0:113:A:OP2	1:0:114:A:H2'	2.07	0.55
1:0:368:C:H2'	1:0:369:G:H5'	1.88	0.55
1:0:772:G:H2'	1:0:773:A:O4'	2.06	0.55
1:0:1194:A:H2'	1:0:1195:G:O4'	2.06	0.55
1:0:1474:C:H5'	1:0:1474:C:C6	2.37	0.55
1:0:1597:A:C2'	1:0:1598:A:H5'	2.36	0.55
1:0:1878:G:O2'	1:0:1879:U:P	2.64	0.55
1:0:2377:U:H2'	1:0:2378:U:H6	1.72	0.55
1:0:2721:U:H4'	13:K:87:ARG:HG3	1.89	0.55
4:B:73:VAL:HG21	4:B:284:PHE:CZ	2.41	0.55
9:G:67:LEU:HD22	9:G:91:LEU:HD12	1.88	0.55
13:K:74:VAL:HG22	13:K:113:ILE:HG23	1.88	0.55
26:X:10:VAL:HG12	26:X:11:THR:H	1.72	0.55
1:0:292:G:H1'	1:0:360:A:N6	2.22	0.55
1:0:353:G:C6	1:0:354:A:C6	2.95	0.55
1:0:1174:A:C5	1:0:1201:C:H4'	2.42	0.55
1:0:1266:U:O2'	1:0:1267:C:H5'	2.07	0.55
1:0:1444:G:O2'	1:0:1445:G:H5'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1819:G:H2'	1:0:1820:G:H4'	1.87	0.55
1:0:2128:G:H2'	1:0:2129:U:H6	1.70	0.55
1:0:2382:A:O2'	31:3:12:PRO:HB3	2.07	0.55
2:9:9:C:C6	2:9:10:C:C6	2.95	0.55
3:A:130:THR:HG22	3:A:131:HIS:N	2.21	0.55
12:J:42:GLU:O	12:J:131:THR:HG23	2.06	0.55
13:K:23:ASN:HD21	13:K:107:THR:HB	1.72	0.55
21:S:10:VAL:HG11	24:V:36:ALA:HA	1.89	0.55
21:S:57:THR:C	21:S:59:ASP:H	2.15	0.55
1:0:566:A:H2'	1:0:567:U:O4'	2.07	0.55
1:0:1071:G:H4'	27:Y:154:ARG:HH22	1.72	0.55
1:0:1102:C:O2'	1:0:1103:C:H5'	2.06	0.55
1:0:1666:C:H2'	1:0:1667:A:H8	1.71	0.55
1:0:1819:G:H2'	1:0:1820:G:C5'	2.37	0.55
1:0:1844:C:C2'	1:0:1845:A:H5'	2.36	0.55
1:0:1904:A:H2'	1:0:1905:U:O4'	2.06	0.55
1:0:2013:G:C2	1:0:2014:G:C5	2.94	0.55
1:0:2029:C:H2'	1:0:2030:A:O4'	2.07	0.55
1:0:2055:A:H4'	20:R:132:ARG:HH22	1.71	0.55
1:0:2722:G:O2'	1:0:2723:G:H5'	2.07	0.55
3:A:135:VAL:HG22	3:A:136:ALA:H	1.70	0.55
6:D:135:VAL:HG21	6:D:139:TYR:CD1	2.41	0.55
27:Y:126:PRO:HG2	27:Y:128:PHE:CE1	2.41	0.55
1:0:740:G:C6	1:0:741:C:C4	2.95	0.55
1:0:808:A:H8	1:0:808:A:O5'	1.89	0.55
1:0:1159:G:H1	1:0:1208:C:N4	2.04	0.55
1:0:1346:U:C2	1:0:1347:U:C5	2.94	0.55
1:0:1512:G:O2'	1:0:1513:C:H5'	2.06	0.55
1:0:1900:A:C2	1:0:1938:G:C2	2.95	0.55
1:0:2668:G:H2'	1:0:2669:U:C6	2.41	0.55
9:G:59:LEU:HD12	9:G:91:LEU:O	2.07	0.55
13:K:118:ALA:HA	13:K:125:ALA:HB2	1.89	0.55
20:R:19:ARG:HA	20:R:142:ASP:OD1	2.06	0.55
27:Y:198:GLY:HA3	27:Y:225:GLY:O	2.06	0.55
1:0:12:U:H2'	1:0:13:G:H5'	1.89	0.55
1:0:214:U:H2'	1:0:214:U:O2	2.07	0.55
1:0:1015:C:O5'	1:0:1015:C:H6	1.89	0.55
1:0:1167:G:H4'	1:0:1167:G:H8	1.72	0.55
1:0:1790:C:H5	18:P:71:TYR:CE2	2.25	0.55
1:0:1947:G:H2'	1:0:1948:G:C8	2.41	0.55
3:A:140:LEU:HD11	3:A:146:LYS:HB2	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:38:LYS:HD2	16:N:114:LYS:HE3	1.88	0.55
22:T:28:SER:O	22:T:32:ARG:HG3	2.07	0.55
1:0:213:G:N2	1:0:225:G:H2'	2.21	0.54
1:0:1135:G:C5	1:0:1136:U:C5	2.95	0.54
1:0:1297:U:C4	1:0:1298:U:C5	2.94	0.54
1:0:1385:G:O3'	26:X:49:ARG:NH1	2.41	0.54
1:0:1444:G:O2'	1:0:1502:A:N1	2.38	0.54
1:0:1509:C:C4	1:0:1510:G:N7	2.75	0.54
2:9:106:C:H2'	2:9:107:C:C6	2.42	0.54
5:C:107:ARG:HB3	5:C:107:ARG:NH1	2.14	0.54
13:K:14:LYS:HB3	13:K:45:PRO:HG2	1.88	0.54
14:L:92:ASP:HA	14:L:121:ILE:HB	1.89	0.54
1:0:544:G:C2'	1:0:545:G:H5''	2.37	0.54
1:0:961:A:C5	1:0:1010:C:C6	2.95	0.54
1:0:2321:A:H2'	1:0:2321:A:N3	2.22	0.54
1:0:2388:C:O2'	1:0:2389:U:H5'	2.06	0.54
26:X:7:GLU:HG2	26:X:8:ARG:N	2.23	0.54
26:X:22:ASN:HA	26:X:25:ARG:HG3	1.89	0.54
26:X:78:GLU:HG2	26:X:79:GLU:N	2.13	0.54
31:3:5:ARG:NH2	31:3:90:PHE:HB2	2.22	0.54
1:0:949:U:O2'	19:Q:40:HIS:HE1	1.90	0.54
1:0:1102:C:H1'	1:0:1109:U:C4	2.42	0.54
1:0:1524:U:OP1	1:0:1524:U:H4'	2.07	0.54
1:0:1808:C:O2'	1:0:1809:G:H5'	2.07	0.54
1:0:1874:U:H2'	3:A:120:ARG:HG3	1.87	0.54
1:0:2086:C:H2'	1:0:2087:C:H6	1.70	0.54
1:0:2796:U:C4	1:0:2797:C:C5	2.95	0.54
1:0:553:G:P	27:Y:204:ARG:HH22	2.30	0.54
1:0:925:C:H6	1:0:925:C:C5'	2.21	0.54
1:0:1621:G:O2'	1:0:1622:G:H5'	2.08	0.54
1:0:2363:G:O2'	19:Q:11:ARG:HG3	2.07	0.54
1:0:2415:A:N3	16:N:26:LEU:HD13	2.22	0.54
1:0:2493:C:O2	1:0:2493:C:H2'	2.07	0.54
1:0:2566:A:C2	1:0:2696:G:O4'	2.61	0.54
8:F:91:VAL:HG12	8:F:92:GLY:H	1.72	0.54
1:0:308:U:H2'	22:T:52:ARG:HH22	1.73	0.54
1:0:945:U:H4'	25:W:43:GLY:O	2.08	0.54
1:0:1010:C:H4'	16:N:4:PRO:HB2	1.89	0.54
1:0:1052:G:H2'	1:0:1052:G:N3	2.21	0.54
1:0:1634:G:H2'	1:0:1635:U:C6	2.39	0.54
1:0:1683:G:N2	1:0:1723:G:H2'	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1787:C:O4'	1:0:2883:A:H1'	2.08	0.54
8:F:58:GLU:CD	15:M:27:ARG:HH22	2.15	0.54
15:M:71:SER:N	15:M:73:ARG:HH12	2.06	0.54
1:0:64:G:H2'	1:0:65:C:H6	1.72	0.54
1:0:453:A:C2	1:0:479:G:C8	2.95	0.54
1:0:678:G:OP2	5:C:107:ARG:NH2	2.39	0.54
1:0:711:G:N2	1:0:718:C:H1'	2.22	0.54
1:0:894:A:C2	5:C:87:ARG:NH2	2.76	0.54
1:0:1521:C:H2'	1:0:1522:A:H8	1.73	0.54
1:0:1706:G:H5'	1:0:2735:U:OP1	2.07	0.54
2:9:20:G:O2'	2:9:21:G:H5'	2.07	0.54
9:G:51:ARG:O	9:G:53:LEU:N	2.40	0.54
23:U:39:ASN:ND2	23:U:44:ARG:HH11	2.06	0.54
1:0:595:U:H5''	27:Y:118:THR:HG21	1.88	0.54
1:0:1343:C:H1'	27:Y:208:LYS:NZ	2.22	0.54
1:0:1579:C:N4	1:0:1618:G:N1	2.56	0.54
1:0:1810:C:H2'	1:0:1810:C:O2	2.08	0.54
1:0:2032:U:H2'	1:0:2033:G:C5'	2.38	0.54
1:0:2337:G:C2	1:0:2348:C:C2	2.95	0.54
2:9:109:G:C6	2:9:110:G:N7	2.76	0.54
6:D:95:THR:OG1	6:D:174:VAL:HG22	2.08	0.54
12:J:126:ASN:HA	35:J:147:CL:CL	2.44	0.54
19:Q:60:THR:HG21	19:Q:94:GLN:HE21	1.72	0.54
1:0:206:G:C6	1:0:437:A:C2	2.96	0.54
1:0:290:C:H2'	1:0:291:C:O4'	2.07	0.54
1:0:450:C:H4'	5:C:46:TYR:HE1	1.73	0.54
1:0:492:C:O5'	1:0:492:C:H6	1.90	0.54
1:0:1422:U:O2'	1:0:1423:C:H5'	2.07	0.54
1:0:1741:U:O2'	1:0:2723:G:H4'	2.08	0.54
1:0:1945:G:C4	1:0:1946:C:C6	2.95	0.54
1:0:2265:U:H2'	1:0:2266:A:H8	1.73	0.54
1:0:2478:U:H2'	1:0:2479:A:C8	2.43	0.54
1:0:2668:G:H2'	1:0:2669:U:H6	1.72	0.54
9:G:30:TYR:OH	9:G:58:GLU:HB3	2.08	0.54
10:H:46:GLN:HG3	10:H:137:TYR:CD2	2.42	0.54
18:P:115:SER:OG	18:P:118:GLN:HG3	2.08	0.54
25:W:20:THR:HA	25:W:23:MET:HE3	1.88	0.54
25:W:64:THR:O	25:W:68:THR:HG22	2.07	0.54
1:0:1008:C:H2'	1:0:1009:U:C6	2.42	0.54
1:0:1246:A:O2'	1:0:1247:A:H3'	2.08	0.54
1:0:1882:C:O2'	1:0:2012:U:OP2	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1916:C:N3	1:0:1924:A:C6	2.76	0.54
1:0:2271:G:H5'	3:A:223:ARG:HH22	1.73	0.54
9:G:99:PHE:C	9:G:101:LEU:H	2.16	0.54
10:H:151:ARG:HA	10:H:154:TYR:CE2	2.43	0.54
26:X:10:VAL:HG12	26:X:11:THR:N	2.22	0.54
29:1:37:CYS:SG	29:1:39:PHE:HB2	2.48	0.54
1:0:66:G:C2'	1:0:108:U:O2'	2.56	0.54
1:0:164:G:O3'	14:L:30:ARG:HB2	2.08	0.54
1:0:175:G:O6	15:M:94:ARG:NH2	2.40	0.54
1:0:262:A:H5''	1:0:264:G:O4'	2.06	0.54
1:0:432:G:N2	1:0:433:C:C2	2.76	0.54
1:0:925:C:H5''	1:0:925:C:C6	2.43	0.54
1:0:1209:C:O2	1:0:1210:G:C8	2.61	0.54
1:0:1249:U:H2'	1:0:1250:C:C6	2.43	0.54
1:0:1666:C:O2'	1:0:1667:A:H5''	2.07	0.54
1:0:1783:A:C2'	1:0:1784:U:C5'	2.86	0.54
1:0:1973:A:H61	1:0:2009:G:H1'	1.71	0.54
1:0:2120:U:O5'	1:0:2120:U:H6	1.90	0.54
1:0:2566:A:H4'	7:E:161:VAL:HG21	1.90	0.54
1:0:559:U:O2'	1:0:560:C:H5'	2.08	0.53
1:0:595:U:H3'	1:0:595:U:H6	1.72	0.53
1:0:846:A:O2'	1:0:847:C:H5'	2.08	0.53
1:0:1044:C:C6	1:0:2483:A:C2	2.95	0.53
1:0:1167:G:C2'	1:0:1168:C:H5'	2.37	0.53
1:0:1709:G:C5	1:0:1711:A:N7	2.76	0.53
1:0:1761:U:H4'	18:P:82:GLY:O	2.07	0.53
1:0:1821:A:N6	1:0:2029:C:H42	2.06	0.53
1:0:2325:C:O2'	1:0:2411:C:H1'	2.08	0.53
1:0:2346:C:O3'	6:D:52:THR:HG23	2.07	0.53
1:0:2635:A:O2'	1:0:2636:C:H5'	2.08	0.53
1:0:2829:G:N2	1:0:2830:U:C2	2.75	0.53
17:O:10:LEU:HD12	17:O:10:LEU:O	2.08	0.53
1:0:349:U:O2'	1:0:350:C:H5'	2.08	0.53
1:0:588:G:O6	25:W:154:ARG:NH1	2.42	0.53
1:0:1520:G:N2	1:0:1666:C:O2	2.41	0.53
1:0:1556:G:C2	1:0:1557:G:C8	2.97	0.53
1:0:1902:G:N2	1:0:1936:C:C2	2.76	0.53
1:0:2128:G:C5	1:0:2129:U:C5	2.96	0.53
1:0:2434:A:OP1	31:3:30:GLN:HG2	2.07	0.53
3:A:191:GLY:HA2	3:A:194:MET:HG3	1.90	0.53
4:B:243:ASN:HA	4:B:244:PRO:C	2.34	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:28:ALA:HB3	8:F:99:THR:O	2.08	0.53
8:F:63:ILE:HB	8:F:64:PRO:HD3	1.90	0.53
9:G:37:ASN:HD21	9:G:92:ILE:CG2	2.21	0.53
16:N:82:TYR:C	16:N:82:TYR:CD2	2.86	0.53
1:0:302:A:H2'	1:0:303:C:O4'	2.08	0.53
1:0:561:G:H2'	1:0:562:A:H8	1.72	0.53
1:0:838:C:C2'	1:0:839:C:H5'	2.38	0.53
1:0:1147:C:C4	1:0:1148:C:C5	2.96	0.53
1:0:1510:G:C5	1:0:1511:U:C5	2.96	0.53
1:0:2831:C:H2'	1:0:2832:C:H5'	1.89	0.53
1:0:234:A:C2'	1:0:235:C:O5'	2.56	0.53
1:0:250:C:O2'	1:0:251:C:H5'	2.08	0.53
1:0:666:A:C6	1:0:667:C:O2	2.61	0.53
1:0:682:A:H2'	1:0:683:G:O4'	2.08	0.53
1:0:1611:G:H2'	1:0:1612:A:H8	1.73	0.53
1:0:1819:G:H2'	1:0:1820:G:O5'	2.08	0.53
1:0:1896:G:C6	1:0:1897:U:C4	2.96	0.53
1:0:1950:G:H2'	1:0:1951:G:C8	2.44	0.53
1:0:2081:A:H2'	1:0:2082:G:O4'	2.07	0.53
1:0:2134:G:C6	1:0:2258:A:C8	2.97	0.53
1:0:2443:C:H5'	14:L:57:VAL:HG21	1.88	0.53
4:B:73:VAL:HG21	4:B:284:PHE:HZ	1.74	0.53
5:C:27:ARG:HG2	5:C:30:LEU:HD12	1.90	0.53
1:0:224:U:H2'	1:0:225:G:C5'	2.38	0.53
1:0:335:U:H4'	22:T:92:ASP:OD2	2.08	0.53
1:0:690:G:H1'	1:0:731:U:H1'	1.89	0.53
1:0:721:A:H4'	17:O:51:TYR:CD1	2.43	0.53
1:0:944:G:N2	25:W:44:MET:HE2	2.18	0.53
1:0:952:G:N3	1:0:2302:A:H2'	2.24	0.53
1:0:1308:A:O2'	1:0:1309:U:H5'	2.07	0.53
1:0:1476:A:O2'	1:0:1868:G:H5'	2.09	0.53
1:0:2337:G:C2	1:0:2348:C:O2	2.61	0.53
1:0:2828:G:O5'	1:0:2828:G:H8	1.90	0.53
2:9:72:C:O2'	2:9:73:G:H5'	2.08	0.53
4:B:1:PRO:O	4:B:2:GLN:HB2	2.07	0.53
6:D:104:PHE:CE2	6:D:132:VAL:HB	2.44	0.53
7:E:6:GLU:HA	7:E:46:THR:HG22	1.90	0.53
10:H:46:GLN:HB3	10:H:167:PRO:CD	2.29	0.53
22:T:23:VAL:C	22:T:93:THR:HG21	2.33	0.53
27:Y:130:ARG:HB2	27:Y:142:SER:O	2.08	0.53
1:0:174:A:O4'	1:0:176:U:C6	2.62	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:286:U:C4	1:0:287:C:N4	2.77	0.53
1:0:710:G:O2'	1:0:711:G:H5'	2.07	0.53
1:0:834:G:H5''	1:0:835:U:O5'	2.08	0.53
1:0:1023:C:H2'	1:0:1024:G:O4'	2.08	0.53
1:0:1166:A:OP1	1:0:1174:A:C5'	2.56	0.53
1:0:1496:G:H2'	1:0:1497:G:O4'	2.07	0.53
1:0:2582:G:C2	1:0:2583:A:C8	2.96	0.53
1:0:2637:A:OP1	1:0:2637:A:H3'	2.09	0.53
1:0:2658:G:H4'	1:0:2842:G:C8	2.44	0.53
1:0:2768:A:O2'	1:0:2769:C:H5'	2.08	0.53
2:9:29:C:H2'	2:9:30:C:C5'	2.38	0.53
6:D:76:ARG:O	6:D:77:ASP:HB2	2.09	0.53
8:F:79:GLN:HB2	8:F:82:ASP:HB2	1.91	0.53
25:W:35:VAL:HG23	25:W:41:TYR:CD2	2.43	0.53
27:Y:145:LYS:O	27:Y:147:ARG:HG2	2.09	0.53
27:Y:188:HIS:CD2	27:Y:188:HIS:N	2.76	0.53
1:0:564:G:N2	1:0:593:A:OP2	2.41	0.53
1:0:870:G:OP2	3:A:3:ARG:NH1	2.42	0.53
1:0:1231:A:N3	1:0:2553:A:H5''	2.24	0.53
1:0:1790:C:O2'	1:0:1791:U:H5'	2.08	0.53
2:9:50:G:C6	2:9:51:A:N6	2.77	0.53
9:G:30:TYR:OH	9:G:58:GLU:CB	2.57	0.53
9:G:36:VAL:HG13	9:G:89:VAL:CG2	2.39	0.53
10:H:46:GLN:HG3	10:H:137:TYR:CE2	2.43	0.53
14:L:143:THR:CG2	14:L:144:ASP:N	2.72	0.53
16:N:139:TRP:HA	16:N:139:TRP:HE3	1.74	0.53
1:0:206:G:C8	1:0:206:G:H5''	2.44	0.53
1:0:1063:G:O5'	1:0:2307:A:H1'	2.09	0.53
1:0:1085:C:H2'	1:0:1086:A:H5'	1.91	0.53
1:0:1231:A:N1	1:0:2498:C:O2'	2.41	0.53
9:G:20:VAL:O	9:G:23:ILE:HG22	2.09	0.53
12:J:127:ILE:N	35:J:147:CL:CL	2.66	0.53
1:0:1079:A:H4'	1:0:2078:U:H5'	1.91	0.53
1:0:1234:U:O2'	1:0:1235:G:H5'	2.08	0.53
1:0:1400:C:O2'	1:0:1401:G:H5'	2.08	0.53
1:0:1461:U:H2'	1:0:1462:C:C6	2.44	0.53
1:0:1666:C:C2'	1:0:1667:A:H5'	2.39	0.53
1:0:2312:G:H2'	1:0:2313:C:C5'	2.36	0.53
1:0:2521:A:OP1	10:H:158:THR:HG23	2.08	0.53
1:0:2761:A:C4	1:0:2763:G:C8	2.95	0.53
1:0:2897:C:O2'	1:0:2898:G:C5'	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:35:C:H2'	16:N:141:ARG:HH12	1.73	0.53
6:D:53:LYS:HA	6:D:67:ASP:O	2.09	0.53
8:F:26:THR:HB	8:F:102:GLY:HA3	1.90	0.53
11:I:7:VAL:HG12	11:I:8:LEU:N	2.24	0.53
15:M:84:LYS:HA	31:3:46:ILE:O	2.09	0.53
15:M:134:ILE:O	15:M:136:PRO:HD3	2.09	0.53
16:N:154:LEU:C	16:N:156:GLU:H	2.16	0.53
22:T:48:VAL:CG2	22:T:98:VAL:HA	2.38	0.53
24:V:4:HIS:O	24:V:8:ILE:HG13	2.09	0.53
25:W:4:LEU:HD23	25:W:54:PHE:HB3	1.91	0.53
1:0:1116:U:C2'	1:0:1118:A:H2	2.22	0.53
1:0:1188:A:N6	1:0:1189:A:N6	2.57	0.53
1:0:1291:A:O2'	1:0:1292:G:H5'	2.09	0.53
1:0:1722:U:C2	1:0:1724:U:C5	2.97	0.53
1:0:1806:G:H1'	1:0:2875:A:N3	2.24	0.53
1:0:2432:C:H2'	1:0:2433:A:H8	1.74	0.53
1:0:2444:U:C2	1:0:2445:U:C6	2.97	0.53
5:C:107:ARG:HH11	5:C:107:ARG:CB	2.15	0.53
16:N:79:PRO:HB3	16:N:172:PHE:CD1	2.44	0.53
28:Z:27:ALA:O	28:Z:31:SER:HB2	2.09	0.53
1:0:78:G:N1	1:0:79:G:C2	2.76	0.52
1:0:559:U:H2'	1:0:560:C:O4'	2.09	0.52
1:0:699:C:H2'	1:0:744:G:N3	2.24	0.52
1:0:1176:C:C4	1:0:1197:G:O6	2.62	0.52
1:0:1308:A:H2'	1:0:1309:U:C6	2.44	0.52
1:0:1309:U:C4	1:0:1310:U:C5	2.96	0.52
1:0:1335:C:N3	1:0:1336:U:C5	2.78	0.52
1:0:1765:G:N2	1:0:1766:U:C2	2.76	0.52
1:0:2346:C:O5'	1:0:2346:C:C6	2.59	0.52
1:0:2356:A:H2'	1:0:2357:G:O4'	2.09	0.52
1:0:2614:C:C2'	1:0:2615:U:H5'	2.39	0.52
5:C:129:HIS:HE1	5:C:231:ARG:HA	1.71	0.52
10:H:54:THR:HG23	10:H:128:GLN:HA	1.92	0.52
22:T:71:VAL:HG13	22:T:91:LEU:H	1.73	0.52
29:1:36:SER:O	29:1:46:ARG:HD3	2.09	0.52
1:0:261:A:OP1	15:M:42:ARG:NH2	2.39	0.52
1:0:853:C:H2'	1:0:854:G:O4'	2.09	0.52
1:0:1186:C:H2'	1:0:1187:U:O4'	2.08	0.52
1:0:1425:G:C6	1:0:1426:C:N4	2.77	0.52
1:0:1783:A:HO2'	1:0:1784:U:H5'	1.74	0.52
4:B:51:VAL:HG13	4:B:53:LEU:CD1	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:33:VAL:CG2	9:G:94:THR:O	2.56	0.52
9:G:85:ILE:HG23	9:G:85:ILE:O	2.07	0.52
16:N:83:LEU:HD13	16:N:175:LEU:HD23	1.91	0.52
22:T:71:VAL:HG13	22:T:91:LEU:O	2.09	0.52
26:X:72:VAL:HG22	26:X:85:VAL:CG1	2.39	0.52
1:0:74:A:H2'	1:0:75:U:C6	2.44	0.52
1:0:131:A:C2	1:0:132:A:C4	2.98	0.52
1:0:315:G:N2	1:0:483:C:C6	2.77	0.52
1:0:631:A:N3	1:0:2096:A:C8	2.78	0.52
1:0:1012:A:H8	1:0:1012:A:O5'	1.92	0.52
1:0:1161:A:H5''	9:G:44:ARG:CA	2.27	0.52
1:0:1196:C:C3'	1:0:1197:G:C5'	2.88	0.52
1:0:1568:G:O2'	1:0:1569:U:H5'	2.09	0.52
1:0:2504:A:H2'	1:0:2505:G:O4'	2.10	0.52
1:0:2672:C:OP2	4:B:25:ARG:NH1	2.42	0.52
27:Y:146:PRO:HB2	27:Y:154:ARG:HB2	1.91	0.52
1:0:1044:C:C5	1:0:2483:A:C2	2.98	0.52
1:0:1592:G:O2'	1:0:1593:C:O5'	2.28	0.52
1:0:1788:U:H2'	1:0:1789:G:H8	1.74	0.52
1:0:2901:C:H6	1:0:2901:C:O5'	1.91	0.52
6:D:10:PHE:CG	6:D:11:HIS:N	2.77	0.52
7:E:49:ILE:HD11	7:E:69:ILE:HD12	1.91	0.52
9:G:78:LEU:O	9:G:81:LEU:HG	2.10	0.52
9:G:124:ILE:O	9:G:126:ILE:N	2.42	0.52
21:S:37:VAL:O	21:S:41:VAL:HG23	2.08	0.52
1:0:473:A:C2	1:0:474:C:N1	2.78	0.52
1:0:1165:G:O2'	1:0:1174:A:C4'	2.58	0.52
1:0:1412:U:O4	1:0:1681:G:H2'	2.10	0.52
1:0:1862:C:C2'	1:0:1863:G:H5'	2.38	0.52
1:0:1904:A:C4	1:0:1905:U:C6	2.98	0.52
1:0:2251:G:C6	1:0:2252:A:C6	2.97	0.52
1:0:2621:PSU:H2'	1:0:2622:A:O4'	2.09	0.52
3:A:69:LEU:O	3:A:71:PRO:HD3	2.09	0.52
1:0:183:A:C2	1:0:184:G:C4	2.97	0.52
1:0:623:U:H2'	1:0:624:U:C6	2.45	0.52
1:0:1134:G:C2'	1:0:1135:G:H5'	2.39	0.52
1:0:1624:A:H5'	1:0:1626:A:O4'	2.09	0.52
1:0:1904:A:C2	1:0:1905:U:N1	2.78	0.52
1:0:2068:G:C5	1:0:2069:U:C5	2.98	0.52
1:0:2895:C:O2'	1:0:2896:A:H5''	2.10	0.52
3:A:214:SER:HA	3:A:227:ASP:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:31:C:C1'	22:T:13:ARG:HH22	2.21	0.52
1:0:115:U:O4'	1:0:131:A:C8	2.62	0.52
1:0:1156:C:O2'	1:0:1157:C:H5'	2.10	0.52
1:0:1406:A:H4'	1:0:1407:A:C5'	2.39	0.52
1:0:1418:U:OP2	30:2:40:ARG:NH2	2.41	0.52
1:0:1503:U:H2'	1:0:1504:A:O4'	2.09	0.52
1:0:1942:A:O2'	1:0:1943:C:H5'	2.09	0.52
1:0:2271:G:N3	1:0:2271:G:H2'	2.24	0.52
1:0:2873:C:N3	1:0:2874:G:C5	2.78	0.52
2:9:30:C:O5'	2:9:30:C:H6	1.93	0.52
3:A:96:LEU:HG	3:A:152:CYS:O	2.09	0.52
5:C:21:VAL:HG23	5:C:22:PHE:CD1	2.45	0.52
9:G:38:ILE:HA	9:G:88:GLN:O	2.09	0.52
15:M:46:LEU:O	15:M:50:ARG:HG3	2.08	0.52
1:0:291:C:H1'	1:0:362:G:N2	2.25	0.52
1:0:820:G:H5'	1:0:821:U:H5'	1.90	0.52
1:0:871:G:C8	1:0:871:G:C5'	2.79	0.52
1:0:1314:U:C2	1:0:1316:G:N2	2.78	0.52
1:0:1377:C:H6	1:0:1377:C:C5'	2.09	0.52
1:0:1423:C:O2'	1:0:1424:A:H5'	2.09	0.52
1:0:1676:G:C2'	1:0:1677:U:H5'	2.40	0.52
1:0:2053:G:H4'	20:R:136:TRP:CE2	2.44	0.52
1:0:2438:G:H2'	1:0:2439:C:O4'	2.09	0.52
1:0:2595:U:H2'	1:0:2596:A:C8	2.44	0.52
1:0:2793:A:H2'	1:0:2794:G:H5'	1.90	0.52
2:9:34:A:N3	16:N:150:TYR:HB2	2.25	0.52
4:B:145:HIS:HD2	4:B:146:THR:O	1.93	0.52
5:C:151:GLN:HA	5:C:151:GLN:HE21	1.75	0.52
8:F:30:LYS:HB2	8:F:97:ALA:HB3	1.91	0.52
11:I:14:ALA:HB1	11:I:35:VAL:HG13	1.91	0.52
13:K:55:VAL:HG12	13:K:56:SER:N	2.25	0.52
27:Y:100:ARG:NH1	27:Y:215:GLU:HA	2.25	0.52
1:0:392:U:H5''	15:M:193:LYS:HB3	1.90	0.52
1:0:730:G:H2'	1:0:731:U:H6	1.75	0.52
1:0:1575:C:C2	1:0:1622:G:N2	2.78	0.52
1:0:1586:G:O2'	1:0:1587:U:H5'	2.09	0.52
1:0:1594:C:O2'	1:0:1595:G:H5'	2.10	0.52
1:0:2338:G:N2	1:0:2347:C:C2	2.78	0.52
1:0:2381:C:H4'	31:3:80:ARG:NH1	2.24	0.52
1:0:2908:A:H2'	1:0:2909:G:C4'	2.40	0.52
2:9:12:C:H5'	2:9:70:U:O4'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:41:C:H4'	6:D:48:MET:CB	2.39	0.52
4:B:175:LEU:O	4:B:179:LEU:HG	2.09	0.52
14:L:149:ARG:O	14:L:150:GLN:HB2	2.09	0.52
22:T:52:ARG:HB2	22:T:95:ASN:HB3	1.92	0.52
25:W:52:VAL:HG22	25:W:53:ALA:H	1.75	0.52
1:0:698:A:C5'	14:L:110:GLY:O	2.58	0.52
1:0:1024:G:C6	1:0:1025:C:C4	2.98	0.52
1:0:1115:U:H2'	1:0:1116:U:H6	1.74	0.52
1:0:1166:A:H2'	1:0:1166:A:N3	2.24	0.52
1:0:1269:G:H2'	1:0:1270:U:C6	2.45	0.52
1:0:1334:C:H2'	1:0:1335:C:C6	2.43	0.52
1:0:2090:G:N2	4:B:253:GLN:OE1	2.43	0.52
9:G:35:VAL:O	9:G:92:ILE:HG12	2.10	0.52
1:0:87:C:H2'	30:2:28:LYS:O	2.10	0.51
1:0:154:C:H2'	1:0:155:C:H6	1.75	0.51
1:0:540:A:H2'	1:0:541:C:C6	2.45	0.51
1:0:1008:C:C2	1:0:1009:U:C5	2.99	0.51
1:0:1520:G:C6	1:0:1521:C:C4	2.98	0.51
1:0:1774:G:H2'	1:0:1775:A:O5'	2.10	0.51
1:0:2032:U:C2'	1:0:2033:G:H5''	2.39	0.51
1:0:2707:C:O2	1:0:2707:C:H2'	2.11	0.51
1:0:2779:G:N7	1:0:2790:C:C2	2.78	0.51
1:0:2848:G:O4'	1:0:2906:A:C2	2.63	0.51
15:M:77:HIS:CE1	15:M:86:GLN:HG2	2.44	0.51
17:O:32:ARG:HH21	17:O:35:LYS:HD2	1.74	0.51
18:P:114:LEU:HA	18:P:118:GLN:NE2	2.25	0.51
21:S:35:GLY:O	21:S:38:ALA:HB3	2.10	0.51
22:T:71:VAL:CG1	22:T:91:LEU:H	2.23	0.51
26:X:15:ARG:HB3	26:X:15:ARG:HH11	1.75	0.51
1:0:201:G:C2	1:0:202:U:C6	2.98	0.51
1:0:915:C:O2	1:0:915:C:H2'	2.10	0.51
1:0:2237:G:O2'	1:0:2238:A:N7	2.42	0.51
3:A:94:LEU:HG	3:A:99:ILE:HD11	1.91	0.51
4:B:147:VAL:HG12	4:B:150:ALA:H	1.75	0.51
14:L:67:ARG:O	14:L:71:GLU:HG3	2.11	0.51
19:Q:37:GLU:O	19:Q:63:VAL:HG23	2.08	0.51
23:U:38:ASN:O	23:U:42:LEU:HG	2.10	0.51
1:0:111:C:H2'	1:0:112:G:O4'	2.10	0.51
1:0:545:G:H8	1:0:545:G:C5'	2.07	0.51
1:0:1681:G:H4'	1:0:1682:A:N3	2.24	0.51
1:0:1840:A:H4'	1:0:1841:C:O5'	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1856:C:N4	1:0:1877:G:H21	2.08	0.51
1:0:1969:A:O2'	1:0:1970:G:H5'	2.10	0.51
1:0:2637:A:OP1	1:0:2637:A:H2'	2.10	0.51
2:9:44:A:C4	2:9:45:A:C8	2.99	0.51
9:G:33:VAL:CB	9:G:94:THR:O	2.58	0.51
9:G:121:PRO:HB2	9:G:127:PRO:CG	2.40	0.51
16:N:119:GLN:O	16:N:123:ILE:HG13	2.10	0.51
31:3:24:LYS:CD	35:3:95:CL:CL	2.95	0.51
1:0:69:A:H8	1:0:69:A:C5'	2.11	0.51
1:0:160:A:C6	1:0:161:A:C6	2.99	0.51
1:0:324:G:O2'	1:0:325:U:H5'	2.10	0.51
1:0:426:G:C2	1:0:427:C:C2	2.99	0.51
1:0:922:A:N7	1:0:2281:C:H5'	2.25	0.51
1:0:1129:C:H5''	1:0:1130:U:OP2	2.10	0.51
1:0:1308:A:H2'	1:0:1309:U:H6	1.76	0.51
1:0:1766:U:O4'	1:0:1779:A:N6	2.44	0.51
2:9:41:C:O2	6:D:73:VAL:HA	2.09	0.51
3:A:170:VAL:HG21	28:Z:26:VAL:HG21	1.91	0.51
3:A:215:ILE:HD12	3:A:216:SER:H	1.76	0.51
4:B:84:LEU:HD23	4:B:142:LEU:HD23	1.92	0.51
10:H:120:ILE:N	10:H:120:ILE:HD12	2.26	0.51
18:P:7:LYS:HG2	18:P:23:PHE:CE2	2.45	0.51
22:T:49:GLU:HB3	22:T:59:GLU:HG2	1.92	0.51
1:0:347:A:O2'	1:0:348:C:H5'	2.10	0.51
1:0:372:A:C2	1:0:373:G:C4	2.99	0.51
1:0:625:U:H5''	1:0:1044:C:N4	2.24	0.51
1:0:960:G:N3	1:0:960:G:C2'	2.73	0.51
1:0:1170:U:C2'	1:0:1171:A:C5'	2.64	0.51
1:0:1666:C:O2'	1:0:1667:A:C5'	2.59	0.51
1:0:1904:A:C2	1:0:1905:U:C2	2.98	0.51
12:J:6:PHE:CD1	12:J:102:ARG:NH1	2.79	0.51
16:N:48:VAL:CG1	16:N:55:ASP:HB3	2.41	0.51
20:R:39:THR:HB	20:R:42:GLU:OE1	2.10	0.51
20:R:82:GLU:HG3	20:R:83:LYS:N	2.25	0.51
1:0:249:G:O2'	1:0:250:C:H5'	2.11	0.51
1:0:364:C:H2'	1:0:365:G:C8	2.46	0.51
1:0:593:A:O5'	1:0:593:A:H8	1.94	0.51
1:0:669:G:C4	1:0:670:G:C8	2.98	0.51
1:0:685:C:H1'	1:0:748:C:H5''	1.92	0.51
1:0:935:G:O2'	1:0:936:C:H5'	2.11	0.51
1:0:1197:G:C2'	1:0:1198:U:C5'	2.88	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1607:A:H2'	1:0:1608:G:H5'	1.91	0.51
1:0:1872:C:C5	3:A:23:TYR:HB2	2.45	0.51
1:0:1889:C:O2'	1:0:1890:U:H5'	2.10	0.51
1:0:2265:U:H2'	1:0:2266:A:C8	2.46	0.51
1:0:2415:A:O2'	16:N:29:SER:HB3	2.11	0.51
1:0:2656:G:C2'	1:0:2657:G:H5'	2.40	0.51
1:0:2758:G:C5	1:0:2759:C:C4	2.98	0.51
3:A:211:LYS:NZ	3:A:223:ARG:HH21	2.08	0.51
5:C:46:TYR:CE2	5:C:98:ARG:NH1	2.79	0.51
11:I:109:HIS:N	11:I:110:PRO:HD2	2.26	0.51
1:0:153:C:O2	1:0:439:A:H2	1.94	0.51
1:0:401:C:H2'	1:0:402:U:C6	2.46	0.51
1:0:634:G:O2'	1:0:1358:A:OP1	2.29	0.51
1:0:694:A:H2'	1:0:695:C:C4'	2.41	0.51
1:0:816:G:O5'	1:0:816:G:H8	1.93	0.51
1:0:958:G:O2'	1:0:959:C:H5'	2.11	0.51
1:0:1014:A:H5''	2:9:101:G:O2'	2.11	0.51
1:0:2296:C:H2'	1:0:2297:U:C6	2.46	0.51
1:0:2387:U:H2'	1:0:2388:C:C6	2.45	0.51
1:0:2870:C:H2'	1:0:2871:G:H8	1.75	0.51
2:9:31:C:C2	2:9:50:G:C2	2.99	0.51
12:J:38:VAL:HB	12:J:103:VAL:HG22	1.92	0.51
12:J:107:ASN:HD22	12:J:109:TYR:H	1.57	0.51
19:Q:53:HIS:N	35:Q:97:CL:CL	2.77	0.51
1:0:694:A:C8	1:0:695:C:C6	2.99	0.51
1:0:1167:G:O4'	1:0:1168:C:H5'	2.11	0.51
1:0:1398:G:H2'	1:0:1399:A:C8	2.46	0.51
1:0:1453:G:N2	1:0:1675:C:C2	2.78	0.51
1:0:1504:A:O2'	1:0:1506:U:OP2	2.28	0.51
1:0:1925:G:H5'	31:3:29:ARG:HH12	1.75	0.51
3:A:170:VAL:HG11	28:Z:14:PHE:CZ	2.45	0.51
1:0:365:G:C5	1:0:366:U:C5	2.99	0.51
1:0:450:C:C4'	5:C:46:TYR:CE1	2.93	0.51
1:0:558:C:C2'	1:0:559:U:H5'	2.32	0.51
1:0:657:G:H2'	1:0:658:C:H6	1.76	0.51
1:0:1021:G:H2'	1:0:1022:A:C8	2.45	0.51
1:0:1305:C:O3'	5:C:184:ARG:NH1	2.44	0.51
1:0:1552:G:C4	1:0:1553:C:C5	2.98	0.51
1:0:1593:C:O2'	1:0:1594:C:H5'	2.11	0.51
1:0:1774:G:H2'	1:0:1775:A:C5'	2.40	0.51
1:0:1783:A:H2'	1:0:1784:U:C5'	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2432:C:O5'	1:0:2432:C:H6	1.93	0.51
1:0:2763:G:C5	1:0:2764:C:C5	2.99	0.51
2:9:84:G:H1	2:9:98:C:H42	1.58	0.51
7:E:21:THR:HA	7:E:29:VAL:O	2.11	0.51
12:J:53:ILE:O	12:J:57:TYR:HD1	1.93	0.51
1:0:192:A:N6	1:0:194:A:C2	2.79	0.51
1:0:444:C:H2'	1:0:445:U:C6	2.46	0.51
1:0:1163:G:C4'	11:I:112:LEU:HD11	2.40	0.51
1:0:1406:A:H4'	1:0:1407:A:H5''	1.92	0.51
1:0:1659:A:H2'	1:0:1660:G:O4'	2.10	0.51
1:0:1794:G:N2	1:0:1797:A:OP2	2.43	0.51
1:0:1882:C:H2'	1:0:1883:U:H6	1.76	0.51
1:0:2600:A:H2'	1:0:2601:A:O4'	2.11	0.51
1:0:2680:A:N3	1:0:2682:C:O2'	2.41	0.51
25:W:57:PRO:HG2	25:W:101:LEU:HD21	1.92	0.51
25:W:132:VAL:HA	25:W:136:GLY:O	2.11	0.51
1:0:61:G:C6	1:0:86:A:N6	2.79	0.50
1:0:342:C:H2'	1:0:343:C:C6	2.43	0.50
1:0:542:A:H2'	1:0:543:G:O4'	2.11	0.50
1:0:556:C:H2'	1:0:557:C:H6	1.76	0.50
1:0:559:U:H5'	1:0:559:U:C6	2.34	0.50
1:0:832:U:H2'	1:0:833:G:C8	2.46	0.50
1:0:932:U:O2'	1:0:1296:A:N3	2.42	0.50
1:0:961:A:C2	1:0:962:C:C5	2.99	0.50
1:0:962:C:N4	1:0:963:C:N3	2.58	0.50
1:0:1544:U:H2'	1:0:1545:C:H6	1.75	0.50
1:0:1603:A:H5'	1:0:1605:G:C4'	2.40	0.50
1:0:1896:G:C5	1:0:1897:U:C5	2.99	0.50
1:0:2026:C:O2'	1:0:2027:U:H5'	2.12	0.50
1:0:2085:A:O2'	1:0:2086:C:H5'	2.11	0.50
1:0:2605:G:O2'	1:0:2606:G:H5'	2.11	0.50
1:0:2628:U:N3	1:0:2629:C:C5	2.78	0.50
1:0:2661:U:H3	1:0:2812:A:N6	2.02	0.50
7:E:137:ASP:O	7:E:141:VAL:HG23	2.12	0.50
9:G:23:ILE:HG12	9:G:60:ARG:NH1	2.25	0.50
9:G:97:ASN:C	9:G:99:PHE:H	2.18	0.50
25:W:73:LEU:HD13	25:W:111:GLY:C	2.36	0.50
1:0:157:G:C6	1:0:158:A:C5	2.99	0.50
1:0:171:C:C2'	1:0:172:U:H5'	2.41	0.50
1:0:206:G:N1	1:0:437:A:C2	2.79	0.50
1:0:695:C:H2'	1:0:696:C:H6	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1029:U:O2'	1:0:1273:C:OP1	2.25	0.50
1:0:1158:G:C6	1:0:1159:G:N7	2.79	0.50
1:0:1335:C:O2	1:0:1336:U:C6	2.65	0.50
1:0:1785:G:OP1	18:P:76:GLY:HA3	2.10	0.50
1:0:1829:A:N6	28:Z:18:TYR:H	2.08	0.50
1:0:2116:U:C4	1:0:2271:G:C6	2.99	0.50
1:0:2262:C:H2'	1:0:2263:G:H8	1.74	0.50
1:0:2330:U:O4	1:0:2368:A:H5''	2.11	0.50
1:0:2887:G:H2'	1:0:2888:U:O4'	2.11	0.50
13:K:130:MET:SD	23:U:26:GLY:HA3	2.52	0.50
24:V:64:GLY:O	24:V:65:ASP:HB2	2.11	0.50
25:W:24:LEU:HD21	25:W:44:MET:SD	2.51	0.50
1:0:10:U:C2	1:0:532:A:N7	2.79	0.50
1:0:146:U:C5	1:0:147:G:C6	3.00	0.50
1:0:247:A:C8	1:0:262:A:N6	2.79	0.50
1:0:1311:G:O6	5:C:173:LYS:HE3	2.11	0.50
1:0:2364:A:H5''	19:Q:15:LYS:HD3	1.93	0.50
1:0:2783:A:H2'	1:0:2784:A:C8	2.47	0.50
7:E:152:THR:HG21	7:E:166:VAL:H	1.77	0.50
9:G:51:ARG:O	9:G:53:LEU:HG	2.11	0.50
1:0:21:G:H5''	20:R:2:ILE:HA	1.91	0.50
1:0:560:C:H42	1:0:597:A:H61	1.59	0.50
1:0:746:A:C5	17:O:65:LEU:HD13	2.45	0.50
1:0:1182:C:H5''	1:0:1183:C:H5'	1.93	0.50
1:0:1514:C:H42	1:0:1672:G:H1	1.59	0.50
1:0:1631:A:C6	1:0:1632:A:N1	2.80	0.50
1:0:1658:A:H2'	1:0:1659:A:C8	2.45	0.50
1:0:1815:A:H2'	1:0:1816:C:O4'	2.11	0.50
1:0:1871:U:O4'	1:0:1873:G:C8	2.64	0.50
1:0:2067:A:H2'	1:0:2068:G:O4'	2.10	0.50
1:0:2628:U:C4	1:0:2629:C:C5	2.98	0.50
1:0:2672:C:H2'	1:0:2673:U:H6	1.76	0.50
1:0:2910:A:C5	1:0:2911:C:C5	2.98	0.50
27:Y:178:HIS:CG	27:Y:179:PRO:HD2	2.47	0.50
1:0:119:A:C2	1:0:122:C:C2	2.99	0.50
1:0:470:U:C5	1:0:471:G:C6	2.99	0.50
1:0:794:U:C2'	1:0:795:G:H5'	2.40	0.50
1:0:1119:G:C6	1:0:1243:C:C4	2.99	0.50
1:0:1528:A:H2'	1:0:1529:G:O4'	2.11	0.50
1:0:1683:G:H21	1:0:1723:G:H2'	1.76	0.50
1:0:1836:A:H1'	29:1:1:THR:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2400:G:H2'	1:0:2401:A:C8	2.46	0.50
2:9:44:A:C5	2:9:45:A:N7	2.80	0.50
9:G:110:THR:OG1	9:G:114:ILE:HA	2.11	0.50
1:0:102:A:H2'	1:0:103:U:C6	2.47	0.50
1:0:450:C:H4'	5:C:46:TYR:CE1	2.46	0.50
1:0:766:A:O2'	1:0:767:A:H5''	2.12	0.50
1:0:1099:G:OP1	25:W:129:LYS:HE3	2.11	0.50
1:0:1161:A:H3'	9:G:44:ARG:HB2	1.93	0.50
1:0:1174:A:H2'	1:0:1175:G:OP1	2.12	0.50
1:0:2357:G:C6	1:0:2358:U:C4	2.99	0.50
1:0:2526:C:H2'	1:0:2527:U:H5'	1.91	0.50
1:0:2628:U:C4	1:0:2629:C:H5	2.30	0.50
1:0:2727:A:C2'	1:0:2728:C:H5'	2.42	0.50
1:0:2823:G:C2	1:0:2824:C:C5	2.99	0.50
2:9:104:A:O2'	2:9:105:A:H5'	2.12	0.50
6:D:170:TYR:O	6:D:171:ASP:HB3	2.11	0.50
12:J:16:ASP:O	12:J:121:LEU:HB3	2.11	0.50
1:0:222:A:C4	1:0:223:G:H1'	2.46	0.50
1:0:398:U:O2'	15:M:179:GLY:HA2	2.11	0.50
1:0:473:A:C2	1:0:474:C:C2	2.99	0.50
1:0:545:G:C8	1:0:545:G:C5'	2.90	0.50
1:0:688:A:C2	1:0:697:G:N3	2.80	0.50
1:0:861:A:H4'	1:0:1697:G:O4'	2.11	0.50
1:0:1209:C:O2'	1:0:1210:G:H5'	2.12	0.50
1:0:1563:G:O2'	1:0:1564:C:OP2	2.22	0.50
1:0:1564:C:H1'	1:0:2738:G:C2	2.47	0.50
1:0:1771:U:C4'	28:Z:20:ARG:HE	2.25	0.50
1:0:1789:G:O6	18:P:73:HIS:HE1	1.95	0.50
1:0:2029:C:H2'	1:0:2030:A:C8	2.45	0.50
1:0:2055:A:O2'	1:0:2056:C:H5'	2.10	0.50
1:0:2277:U:C4	1:0:2278:U:C4	2.99	0.50
1:0:2591:C:H2'	1:0:2592:G:O4'	2.12	0.50
15:M:75:ARG:HH22	15:M:78:LYS:NZ	2.09	0.50
1:0:249:G:O2'	1:0:266:G:H5'	2.12	0.50
1:0:354:A:C6	1:0:355:C:N4	2.80	0.50
1:0:511:A:H2'	1:0:512:G:H5'	1.93	0.50
1:0:545:G:H2'	1:0:546:C:O4'	2.12	0.50
1:0:812:A:H2'	1:0:813:C:O4'	2.12	0.50
1:0:1130:U:H2'	1:0:1131:G:O4'	2.12	0.50
1:0:1380:U:C5	1:0:2748:G:C4	3.00	0.50
1:0:1898:G:H2'	1:0:1899:C:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1946:C:N3	1:0:1971:G:C2	2.80	0.50
1:0:1974:G:C6	1:0:1975:C:C2	3.00	0.50
1:0:2099:G:C2	1:0:2646:G:C6	3.00	0.50
1:0:2294:C:O2	1:0:2294:C:H2'	2.11	0.50
1:0:2763:G:C6	1:0:2764:C:C4	2.99	0.50
2:9:95:C:O2'	2:9:96:C:H5'	2.12	0.50
5:C:27:ARG:HG3	5:C:29:ASP:OD1	2.12	0.50
8:F:36:THR:HG23	8:F:97:ALA:HB2	1.94	0.50
11:I:31:VAL:HG13	11:I:35:VAL:HG23	1.93	0.50
20:R:66:VAL:HA	20:R:79:ARG:HH21	1.77	0.50
31:3:11:CYS:HB2	31:3:20:HIS:CE1	2.47	0.50
1:0:44:G:N2	1:0:147:G:N2	2.59	0.50
1:0:1169:U:C5	1:0:1170:U:C4	3.00	0.50
1:0:1517:U:O2'	1:0:1518:A:H5'	2.12	0.50
1:0:1631:A:C2	1:0:1632:A:C2	3.00	0.50
1:0:1846:U:H2'	1:0:1847:A:C4	2.47	0.50
1:0:1944:G:C2	1:0:1945:G:C8	3.00	0.50
1:0:2032:U:H2'	1:0:2033:G:H5''	1.94	0.50
1:0:2330:U:C2	1:0:2371:G:N2	2.80	0.50
1:0:2715:G:O2'	4:B:262:ARG:HD2	2.12	0.50
1:0:2717:C:H2'	1:0:2718:C:H5'	1.93	0.50
1:0:2859:C:H6	1:0:2859:C:C5'	2.22	0.50
2:9:4:G:O2'	16:N:44:ARG:NH2	2.44	0.50
3:A:76:VAL:HG23	28:Z:63:LYS:HB3	1.93	0.50
9:G:47:GLN:HA	9:G:50:ARG:HB2	1.94	0.50
9:G:71:LEU:HD12	9:G:81:LEU:HD23	1.93	0.50
9:G:99:PHE:CE2	9:G:131:THR:HG23	2.47	0.50
10:H:15:THR:HG22	10:H:93:GLN:HA	1.94	0.50
11:I:7:VAL:HG12	11:I:8:LEU:H	1.77	0.50
12:J:68:GLY:HA2	35:J:149:CL:CL	2.49	0.50
15:M:133:LEU:O	15:M:134:ILE:HD13	2.11	0.50
20:R:4:TYR:CE1	20:R:17:MET:HE2	2.47	0.50
1:0:51:G:C2	1:0:111:C:C2	3.00	0.49
1:0:297:U:H2'	1:0:298:C:H6	1.77	0.49
1:0:396:U:O2'	1:0:397:A:P	2.69	0.49
1:0:420:U:H2'	1:0:421:C:C6	2.47	0.49
1:0:638:C:O2'	1:0:639:A:C5'	2.57	0.49
1:0:937:C:C2'	1:0:938:G:H5'	2.42	0.49
1:0:1336:U:N3	1:0:1337:A:N7	2.60	0.49
1:0:1510:G:C4	1:0:1511:U:C6	3.00	0.49
1:0:1623:C:OP2	1:0:1624:A:O2'	2.29	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1667:A:C2	1:0:1668:U:C2	3.00	0.49
1:0:2717:C:C2'	1:0:2718:C:C5'	2.89	0.49
2:9:27:C:H2'	2:9:28:U:O4'	2.12	0.49
4:B:16:ARG:HG3	4:B:260:HIS:CE1	2.47	0.49
4:B:176:ASP:HA	4:B:179:LEU:HD12	1.94	0.49
5:C:236:THR:HG22	5:C:239:ALA:N	2.26	0.49
16:N:72:GLU:N	16:N:171:HIS:HE1	2.04	0.49
25:W:117:ARG:CB	25:W:117:ARG:HH11	2.24	0.49
31:3:22:VAL:CG1	31:3:67:LEU:HD13	2.42	0.49
1:0:69:A:C8	1:0:69:A:C5'	2.87	0.49
1:0:139:C:H4'	1:0:140:G:C2	2.47	0.49
1:0:1149:U:C5	1:0:1215:A:N7	2.80	0.49
1:0:1195:G:N2	1:0:1205:U:C2	2.79	0.49
1:0:1335:C:C2	1:0:1336:U:C6	3.00	0.49
1:0:1705:C:H2'	1:0:1706:G:H5'	1.95	0.49
1:0:1832:G:N2	1:0:1845:A:H1'	2.27	0.49
1:0:1999:C:H2'	1:0:2000:G:H8	1.77	0.49
1:0:2054:A:N3	20:R:128:ARG:NH2	2.61	0.49
1:0:2249:G:N2	1:0:2253:G:C5	2.81	0.49
1:0:2740:G:H2'	1:0:2741:A:H8	1.77	0.49
3:A:59:GLU:HG3	3:A:65:ARG:HD3	1.94	0.49
23:U:23:HIS:HD2	23:U:27:ALA:O	1.95	0.49
26:X:76:ARG:HH11	26:X:76:ARG:CG	2.22	0.49
27:Y:197:ASP:OD1	27:Y:199:ASP:HB2	2.12	0.49
28:Z:60:CYS:O	28:Z:60:CYS:SG	2.70	0.49
1:0:216:A:N6	1:0:225:G:C2	2.80	0.49
1:0:339:A:C4	1:0:342:C:N4	2.81	0.49
1:0:369:G:C2	1:0:370:G:C8	3.00	0.49
1:0:497:A:H2'	1:0:498:A:H5'	1.93	0.49
1:0:532:A:H2	1:0:2660:G:N3	2.10	0.49
1:0:819:A:C4	1:0:821:U:C5	3.00	0.49
1:0:941:G:C6	1:0:942:U:C4	3.00	0.49
1:0:1013:A:H2'	1:0:1013:A:N3	2.26	0.49
1:0:1168:C:H4'	11:I:85:SER:O	2.12	0.49
1:0:1836:A:H3'	1:0:1837:G:H2'	1.94	0.49
1:0:2086:C:H2'	1:0:2087:C:C6	2.48	0.49
1:0:2398:A:H2'	1:0:2399:G:O4'	2.12	0.49
1:0:2751:C:C4	1:0:2752:C:C5	3.00	0.49
5:C:49:ASP:HB3	5:C:52:ALA:HB2	1.94	0.49
8:F:49:PHE:N	8:F:49:PHE:CD1	2.80	0.49
9:G:31:GLU:O	9:G:33:VAL:HG23	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:128:GLU:O	9:G:128:GLU:HG2	2.12	0.49
1:0:54:G:N2	1:0:66:G:C4	2.81	0.49
1:0:160:A:C5	1:0:177:A:C2	3.01	0.49
1:0:453:A:C5	1:0:479:G:N7	2.80	0.49
1:0:824:G:C5	1:0:854:G:C6	3.01	0.49
1:0:1312:G:O2'	1:0:1313:A:H5'	2.12	0.49
1:0:2583:A:C2	1:0:2584:G:C4	3.00	0.49
3:A:217:ARG:HG2	3:A:229:ALA:HB2	1.94	0.49
7:E:160:ARG:HA	7:E:163:GLN:HE21	1.76	0.49
9:G:127:PRO:C	9:G:129:GLY:N	2.70	0.49
10:H:113:MET:O	10:H:116:ALA:HB2	2.13	0.49
13:K:57:VAL:HG23	13:K:67:GLN:O	2.13	0.49
15:M:131:VAL:HG12	15:M:133:LEU:HD12	1.95	0.49
1:0:88:G:H5'	1:0:88:G:C8	2.39	0.49
1:0:1032:A:C4	1:0:1033:C:C6	3.01	0.49
1:0:1328:A:C8	27:Y:169:ARG:HD3	2.48	0.49
1:0:1329:A:N1	35:0:3107:CL:CL	2.82	0.49
1:0:1337:A:C5	1:0:1338:U:C5	3.00	0.49
1:0:1607:A:H2'	1:0:1608:G:C5'	2.43	0.49
1:0:1916:C:H2'	1:0:1917:G:O4'	2.12	0.49
1:0:2338:G:H1'	6:D:105:SER:OG	2.13	0.49
2:9:3:A:OP2	2:9:25:G:N2	2.45	0.49
2:9:44:A:H1'	6:D:76:ARG:CZ	2.43	0.49
2:9:51:A:C2	2:9:52:A:N6	2.81	0.49
4:B:81:ALA:O	4:B:186:GLY:HA3	2.12	0.49
6:D:22:VAL:HG22	6:D:74:THR:HG22	1.94	0.49
12:J:74:ARG:O	12:J:78:ILE:HG12	2.12	0.49
15:M:72:ALA:C	15:M:74:LYS:H	2.19	0.49
20:R:39:THR:HG22	20:R:42:GLU:HG3	1.93	0.49
25:W:142:ASP:HB3	25:W:145:GLY:H	1.76	0.49
27:Y:100:ARG:HH12	27:Y:215:GLU:HA	1.78	0.49
1:0:212:A:C8	1:0:214:U:C2	3.00	0.49
1:0:639:A:C2	1:0:1363:G:C2	3.00	0.49
1:0:820:G:O2'	1:0:856:G:H4'	2.12	0.49
1:0:1025:C:H2'	1:0:1026:C:H6	1.73	0.49
1:0:1040:A:N1	1:0:1041:U:C2	2.80	0.49
1:0:1208:C:C6	1:0:1208:C:H5''	2.46	0.49
1:0:1747:A:H5''	1:0:2585:G:OP1	2.13	0.49
1:0:1822:A:C2'	1:0:1823:G:H5'	2.42	0.49
1:0:1829:A:H61	28:Z:18:TYR:N	2.10	0.49
1:0:2091:G:H2'	1:0:2092:G:O5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2399:G:H4'	1:0:2428:G:OP1	2.13	0.49
1:0:2505:G:H2'	1:0:2506:A:H5'	1.94	0.49
1:0:2580:G:C6	1:0:2581:U:N3	2.80	0.49
1:0:2831:C:C2'	1:0:2832:C:H5'	2.42	0.49
3:A:76:VAL:CG2	28:Z:63:LYS:HB3	2.43	0.49
5:C:7:ASP:C	5:C:9:ASP:H	2.20	0.49
22:T:51:LEU:HD11	22:T:97:ARG:HB2	1.93	0.49
1:0:31:C:C6	1:0:31:C:OP1	2.66	0.49
1:0:254:C:O2	1:0:254:C:H2'	2.11	0.49
1:0:517:U:H2'	1:0:518:G:H5'	1.95	0.49
1:0:716:G:C6	1:0:717:C:C4	3.01	0.49
1:0:1337:A:C6	1:0:1338:U:C4	3.01	0.49
1:0:1407:A:O2'	1:0:1408:U:H3'	2.12	0.49
1:0:1507:C:H2'	1:0:1508:C:H6	1.77	0.49
1:0:2039:A:C4	1:0:2040:C:C5	3.00	0.49
7:E:151:LEU:O	7:E:151:LEU:HG	2.13	0.49
15:M:164:THR:CG2	15:M:165:GLY:H	2.20	0.49
16:N:101:VAL:HG12	16:N:102:LEU:H	1.78	0.49
19:Q:66:LYS:HB2	19:Q:70:ALA:O	2.13	0.49
28:Z:33:MET:HE2	28:Z:69:TYR:HD2	1.78	0.49
29:1:26:SER:O	29:1:34:CYS:HA	2.13	0.49
1:0:201:G:C2	1:0:202:U:C5	3.01	0.49
1:0:221:G:H2'	1:0:222:A:C8	2.47	0.49
1:0:371:U:C2	1:0:372:A:C8	3.00	0.49
1:0:696:C:O2'	1:0:697:G:H5'	2.13	0.49
1:0:906:C:OP2	27:Y:147:ARG:NH2	2.45	0.49
1:0:1204:C:C6	1:0:1204:C:C4'	2.96	0.49
1:0:1626:A:C2'	1:0:1627:G:H5'	2.43	0.49
1:0:1706:G:H1'	1:0:1712:A:H61	1.78	0.49
1:0:1709:G:C6	1:0:1711:A:C5	3.01	0.49
1:0:1804:A:H2'	1:0:1805:G:H8	1.75	0.49
1:0:1883:U:H2'	1:0:1884:G:C5'	2.41	0.49
1:0:1907:U:O2	1:0:1933:G:C2	2.65	0.49
1:0:1990:C:H2'	1:0:1990:C:O2	2.11	0.49
1:0:2530:C:O2'	1:0:2531:U:H5'	2.13	0.49
2:9:110:G:C6	2:9:111:U:C5	3.01	0.49
4:B:280:VAL:CG1	4:B:334:SER:HA	2.43	0.49
13:K:53:ILE:HG13	13:K:55:VAL:HG23	1.94	0.49
13:K:98:VAL:HG13	13:K:102:GLU:HA	1.93	0.49
25:W:13:MET:HE2	25:W:18:GLN:N	2.28	0.49
1:0:23:G:H1'	1:0:520:A:N6	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:107:U:C2'	1:0:108:U:H5'	2.43	0.49
1:0:665:A:C6	1:0:666:A:C6	3.00	0.49
1:0:857:A:C4'	3:A:176:HIS:CD2	2.94	0.49
1:0:962:C:H2'	1:0:963:C:C5'	2.41	0.49
1:0:1207:A:O3'	1:0:1208:C:OP1	2.31	0.49
1:0:1705:C:O2	1:0:2735:U:H5''	2.13	0.49
1:0:2326:U:H4'	1:0:2412:G:C4'	2.42	0.49
1:0:2444:U:N3	1:0:2445:U:C5	2.80	0.49
1:0:2669:U:H1'	4:B:114:ASP:OD2	2.11	0.49
1:0:2868:C:H2'	1:0:2869:G:O4'	2.13	0.49
2:9:91:C:H2'	2:9:92:G:O4'	2.13	0.49
5:C:84:VAL:O	5:C:85:LYS:HB2	2.13	0.49
7:E:126:ILE:HB	7:E:131:LEU:HD23	1.94	0.49
11:I:125:VAL:HA	11:I:128:CYS:SG	2.52	0.49
24:V:55:ARG:O	24:V:59:ILE:HG12	2.13	0.49
27:Y:219:GLU:HG3	27:Y:220:GLU:N	2.28	0.49
1:0:281:U:H2'	1:0:282:C:O4'	2.13	0.49
1:0:740:G:C2	1:0:741:C:C2	3.01	0.49
1:0:1174:A:C2'	1:0:1175:G:OP1	2.60	0.49
1:0:1495:C:H1'	1:0:1573:A:H1'	1.95	0.49
1:0:1607:A:C2'	1:0:1608:G:H5'	2.43	0.49
1:0:1794:G:N2	1:0:1799:G:C6	2.81	0.49
1:0:1844:C:H2'	1:0:1845:A:H5'	1.95	0.49
1:0:1889:C:O2	1:0:2010:A:H2	1.96	0.49
1:0:2253:G:C2	1:0:2254:G:C8	3.01	0.49
1:0:2551:C:N3	1:0:2604:A:C2	2.81	0.49
1:0:2663:U:C4	1:0:2664:A:N6	2.80	0.49
1:0:2808:U:O2'	1:0:2809:G:H5'	2.13	0.49
9:G:121:PRO:HB2	9:G:127:PRO:CB	2.41	0.49
12:J:19:MET:HE2	12:J:79:PHE:HA	1.94	0.49
22:T:55:PHE:CG	22:T:77:VAL:HG13	2.48	0.49
1:0:307:G:O2'	1:0:308:U:H4'	2.12	0.48
1:0:1314:U:C2	1:0:1316:G:C2	3.01	0.48
1:0:1544:U:C2	1:0:1545:C:C5	3.01	0.48
1:0:2001:G:C2'	1:0:2002:C:H5'	2.42	0.48
1:0:2910:A:H2'	1:0:2911:C:H6	1.78	0.48
1:0:275:G:C2	1:0:376:C:C2	3.01	0.48
1:0:332:G:O2'	1:0:333:G:H5'	2.13	0.48
1:0:347:A:C2'	1:0:348:C:H5'	2.42	0.48
1:0:425:U:C2	1:0:426:G:C8	3.01	0.48
1:0:1308:A:O4'	5:C:226:GLY:HA3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1889:C:C2'	1:0:1890:U:H5'	2.43	0.48
1:0:2273:C:O2'	1:0:2274:A:H5'	2.13	0.48
1:0:2468:A:N7	31:3:54:LYS:HE2	2.28	0.48
1:0:2478:U:H2'	1:0:2479:A:H8	1.78	0.48
1:0:2781:U:C2'	1:0:2782:G:C5'	2.86	0.48
4:B:277:GLU:N	4:B:278:PRO:HD2	2.27	0.48
6:D:69:ILE:HG22	6:D:69:ILE:O	2.13	0.48
8:F:61:MET:HB3	15:M:19:GLN:OE1	2.12	0.48
26:X:43:VAL:CG1	26:X:44:ASP:H	2.22	0.48
1:0:64:G:H2'	1:0:65:C:C6	2.48	0.48
1:0:372:A:O2'	1:0:373:G:H5'	2.13	0.48
1:0:870:G:C3'	1:0:871:G:H5''	2.43	0.48
1:0:1477:C:H4'	1:0:1868:G:OP1	2.14	0.48
1:0:1884:G:O6	3:A:190:ARG:HD2	2.13	0.48
1:0:1982:C:C2	1:0:1983:C:C6	3.01	0.48
1:0:2248:C:C2	1:0:2254:G:C2	3.01	0.48
1:0:2836:G:C4	1:0:2845:G:N2	2.80	0.48
4:B:203:ALA:HA	4:B:263:THR:HA	1.94	0.48
10:H:9:ILE:O	10:H:9:ILE:HG22	2.14	0.48
11:I:5:ILE:HD12	11:I:5:ILE:N	2.27	0.48
27:Y:107:PRO:HD3	27:Y:182:PHE:CE1	2.48	0.48
30:2:23:ALA:O	30:2:26:MET:HB2	2.13	0.48
1:0:185:G:C4'	1:0:186:A:H4'	2.41	0.48
1:0:268:U:C4	1:0:269:G:C6	3.01	0.48
1:0:1454:U:C6	1:0:1455:C:C5	3.01	0.48
1:0:1552:G:C6	1:0:1553:C:N4	2.81	0.48
1:0:1565:C:O2'	1:0:1566:C:H5'	2.14	0.48
1:0:1595:G:O2'	1:0:1596:U:C5'	2.61	0.48
1:0:1789:G:H2'	1:0:1790:C:O5'	2.14	0.48
1:0:2106:C:O5'	1:0:2106:C:H6	1.96	0.48
1:0:2588:OMG:H3'	1:0:2589:U:H5''	1.95	0.48
1:0:2825:C:C4'	1:0:2826:G:O4'	2.61	0.48
1:0:2827:A:C8	1:0:2828:G:C8	3.01	0.48
1:0:2863:G:C6	1:0:2894:C:N3	2.81	0.48
2:9:74:G:N2	2:9:108:C:C2	2.82	0.48
3:A:65:ARG:O	3:A:66:ARG:HG3	2.13	0.48
10:H:9:ILE:HG23	10:H:126:ARG:NE	2.27	0.48
11:I:16:PRO:HB2	11:I:19:PRO:CD	2.42	0.48
12:J:45:VAL:HG21	12:J:129:PHE:CD1	2.48	0.48
25:W:125:HIS:HD2	25:W:127:GLY:H	1.61	0.48
1:0:24:G:N2	1:0:518:G:H1'	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:99:A:C8	1:0:100:C:C5	3.02	0.48
1:0:660:A:H4'	1:0:661:G:O5'	2.13	0.48
1:0:907:A:H2'	1:0:908:A:H8	1.78	0.48
1:0:1215:A:O3'	1:0:1216:G:H4'	2.14	0.48
1:0:1289:C:O2'	1:0:1290:G:H5'	2.13	0.48
1:0:1322:G:C6	1:0:1323:G:C5	3.01	0.48
1:0:1543:G:H2'	1:0:1544:U:C6	2.49	0.48
1:0:1554:U:O2	1:0:1631:A:H2	1.95	0.48
1:0:1795:G:H2'	1:0:1796:A:O4'	2.12	0.48
1:0:1806:G:C6	1:0:1807:U:C4	3.01	0.48
1:0:2045:G:C2	1:0:2046:G:H1'	2.48	0.48
1:0:2894:C:H2'	1:0:2895:C:C6	2.48	0.48
2:9:14:G:C8	2:9:14:G:C5'	2.87	0.48
2:9:58:G:H3'	2:9:59:C:C6	2.49	0.48
4:B:36:PRO:CA	4:B:168:GLY:HA3	2.39	0.48
6:D:144:ARG:HD2	6:D:146:LYS:O	2.12	0.48
8:F:58:GLU:HB3	15:M:8:ILE:HG23	1.96	0.48
17:O:26:TRP:HA	17:O:26:TRP:CE3	2.48	0.48
25:W:117:ARG:HH11	25:W:117:ARG:HB2	1.78	0.48
1:0:111:C:O2'	1:0:112:G:H5'	2.13	0.48
1:0:1157:C:C6	1:0:1157:C:H3'	2.49	0.48
1:0:1165:G:N3	1:0:1174:A:N3	2.61	0.48
1:0:1238:C:C6	1:0:1240:G:OP2	2.66	0.48
1:0:1392:A:C6	1:0:1395:C:N3	2.82	0.48
1:0:1601:G:C5	1:0:1602:C:C5	3.02	0.48
1:0:1825:U:O2'	1:0:1826:C:H5'	2.13	0.48
1:0:2615:U:H5	1:0:2616:G:C6	2.31	0.48
1:0:2676:C:H2'	1:0:2676:C:O2	2.14	0.48
1:0:2870:C:H2'	1:0:2871:G:C8	2.48	0.48
2:9:42:C:O2	2:9:42:C:H2'	2.14	0.48
11:I:16:PRO:HB2	11:I:19:PRO:HD2	1.95	0.48
13:K:101:ASN:H	13:K:101:ASN:HD22	1.60	0.48
15:M:28:GLN:HA	15:M:31:TRP:HB2	1.96	0.48
26:X:23:HIS:CE1	26:X:24:LYS:HG3	2.49	0.48
1:0:255:A:H2'	1:0:256:C:C6	2.49	0.48
1:0:303:C:O2'	1:0:304:G:H5'	2.14	0.48
1:0:369:G:O2'	1:0:370:G:H5'	2.14	0.48
1:0:1077:G:N2	1:0:1083:C:N4	2.62	0.48
1:0:2335:C:O2	1:0:2350:G:C2	2.66	0.48
1:0:2815:G:H5'	12:J:102:ARG:HH21	1.77	0.48
1:0:2852:A:O4'	1:0:2902:A:N6	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2890:A:H1'	23:U:56:ARG:HH21	1.78	0.48
2:9:108:C:H3'	2:9:108:C:C6	2.49	0.48
4:B:18:ARG:HG2	4:B:256:GLN:OE1	2.13	0.48
4:B:52:VAL:O	4:B:53:LEU:HD12	2.13	0.48
4:B:320:GLN:NE2	4:B:321:PRO:HD2	2.28	0.48
5:C:2:GLN:HA	5:C:17:ASP:HA	1.96	0.48
8:F:48:VAL:HG23	8:F:74:PHE:HB3	1.96	0.48
19:Q:43:ILE:HG23	19:Q:90:HIS:CE1	2.49	0.48
19:Q:53:HIS:C	19:Q:55:ARG:H	2.21	0.48
28:Z:11:SER:HB3	28:Z:23:ARG:HB2	1.95	0.48
1:0:151:A:H2'	1:0:152:A:O4'	2.13	0.48
1:0:1134:G:O2'	1:0:1135:G:H5'	2.13	0.48
1:0:1168:C:H4'	11:I:86:GLY:HA2	1.95	0.48
1:0:1768:C:C5	1:0:1769:C:C6	3.01	0.48
1:0:1899:C:O2'	1:0:1900:A:H5'	2.13	0.48
1:0:1983:C:N3	1:0:1984:U:C4	2.82	0.48
1:0:2371:G:O5'	1:0:2371:G:H8	1.97	0.48
1:0:2547:C:H5'	4:B:236:ILE:HG22	1.96	0.48
2:9:6:C:H5''	16:N:37:ARG:NH1	2.29	0.48
2:9:54:A:O2'	2:9:55:U:H5'	2.14	0.48
7:E:31:ARG:HH12	7:E:68:HIS:CE1	2.32	0.48
12:J:107:ASN:HD22	12:J:107:ASN:C	2.21	0.48
17:O:73:ASP:HA	17:O:92:VAL:O	2.14	0.48
19:Q:40:HIS:NE2	19:Q:94:GLN:HG3	2.29	0.48
25:W:117:ARG:HB2	25:W:117:ARG:NH1	2.27	0.48
1:0:290:C:H2'	1:0:291:C:H6	1.78	0.48
1:0:293:A:O2'	1:0:294:C:H5'	2.13	0.48
1:0:365:G:C4	1:0:366:U:C5	3.02	0.48
1:0:820:G:H3'	1:0:820:G:N3	2.29	0.48
1:0:1010:C:OP1	19:Q:18:PRO:HG2	2.14	0.48
1:0:1117:A:N1	1:0:1244:U:O2'	2.47	0.48
1:0:1400:C:C6	1:0:1400:C:H3'	2.48	0.48
1:0:1572:A:C2	1:0:1573:A:C4	3.02	0.48
1:0:1598:A:P	18:P:102:ARG:HH22	2.36	0.48
1:0:1852:A:H2'	1:0:1853:C:C6	2.49	0.48
1:0:2245:C:H6	1:0:2245:C:O5'	1.96	0.48
1:0:2735:U:H2'	1:0:2736:U:C6	2.49	0.48
1:0:2780:C:H2'	1:0:2781:U:C6	2.48	0.48
2:9:13:A:N3	16:N:14:ARG:NH2	2.61	0.48
2:9:115:C:O5'	2:9:115:C:H6	1.97	0.48
9:G:33:VAL:HG12	9:G:93:GLY:HA2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:35:VAL:HG22	9:G:122:ASN:CA	2.31	0.48
11:I:100:GLN:O	11:I:104:ILE:HG13	2.13	0.48
16:N:71:TRP:HE3	16:N:175:LEU:HD22	1.78	0.48
1:0:10:U:O4	1:0:532:A:OP2	2.31	0.48
1:0:218:C:C5	1:0:220:C:C4	3.02	0.48
1:0:219:G:O5'	1:0:220:C:H5''	2.14	0.48
1:0:318:C:H5'	1:0:339:A:C4	2.49	0.48
1:0:696:C:C2'	1:0:697:G:H5'	2.44	0.48
1:0:932:U:H1'	1:0:1296:A:H1'	1.95	0.48
1:0:1119:G:C5	1:0:1243:C:C4	3.02	0.48
1:0:1819:G:C2'	1:0:1820:G:O5'	2.62	0.48
1:0:1992:U:H2'	1:0:1994:A:OP2	2.13	0.48
1:0:2061:C:C2'	1:0:2062:A:H5'	2.44	0.48
1:0:2096:A:H2'	1:0:2539:U:O4'	2.14	0.48
1:0:2515:C:H2'	1:0:2516:G:O4'	2.14	0.48
5:C:26:VAL:HA	5:C:113:SER:OG	2.14	0.48
5:C:136:VAL:HG22	5:C:137:PRO:HA	1.96	0.48
10:H:85:MET:HA	10:H:136:ALA:HA	1.96	0.48
10:H:150:PHE:O	10:H:154:TYR:CD2	2.67	0.48
21:S:52:VAL:HG22	21:S:66:VAL:HG22	1.96	0.48
24:V:39:ALA:N	24:V:40:PRO:CD	2.77	0.48
1:0:85:C:H3'	1:0:86:A:H2'	1.96	0.47
1:0:338:C:C4'	5:C:174:ILE:CD1	2.88	0.47
1:0:359:U:H2'	1:0:360:A:C8	2.49	0.47
1:0:590:A:H2'	1:0:591:A:O4'	2.14	0.47
1:0:688:A:O2'	1:0:697:G:N2	2.47	0.47
1:0:719:C:N4	1:0:720:G:C4	2.82	0.47
1:0:1127:C:C2'	1:0:1128:U:H5'	2.42	0.47
1:0:1190:G:H5'	1:0:1208:C:O2'	2.14	0.47
1:0:1928:C:H2'	1:0:1929:G:C5'	2.44	0.47
1:0:1992:U:O2	1:0:1994:A:C8	2.62	0.47
1:0:2098:C:O2'	1:0:2099:G:H5'	2.14	0.47
1:0:2117:U:OP2	1:0:2271:G:N2	2.45	0.47
1:0:2321:A:H2	1:0:2378:U:O4	1.96	0.47
1:0:2616:G:C4	1:0:2645:U:O4	2.66	0.47
1:0:2717:C:H2'	1:0:2718:C:H5''	1.94	0.47
1:0:2803:C:H6	1:0:2803:C:O5'	1.97	0.47
7:E:116:THR:CG2	7:E:151:LEU:HD22	2.42	0.47
9:G:33:VAL:HG12	9:G:94:THR:H	1.77	0.47
11:I:64:ILE:HG12	11:I:65:GLU:O	2.13	0.47
1:0:100:C:H5'	22:T:16:LEU:HD12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:136:C:O5'	1:0:136:C:H6	1.96	0.47
1:0:492:C:O2'	1:0:493:U:H5'	2.15	0.47
1:0:714:U:O4'	1:0:716:G:C2	2.67	0.47
1:0:777:U:O2'	1:0:778:C:H5'	2.14	0.47
1:0:1188:A:H5'	9:G:61:VAL:O	2.14	0.47
1:0:1352:A:H4'	1:0:1353:C:OP1	2.15	0.47
1:0:1665:G:H2'	1:0:1666:C:H6	1.79	0.47
1:0:1706:G:C6	1:0:1707:G:N1	2.82	0.47
1:0:1741:U:HO2'	1:0:2723:G:H4'	1.79	0.47
1:0:1829:A:H61	28:Z:18:TYR:HA	1.77	0.47
1:0:1894:C:C5	1:0:1940:C:C4	3.02	0.47
1:0:2032:U:O2'	1:0:2033:G:C5'	2.61	0.47
1:0:2105:C:H2'	1:0:2106:C:C6	2.49	0.47
1:0:2321:A:C2	1:0:2323:G:C6	3.02	0.47
1:0:2381:C:H2'	1:0:2382:A:H8	1.79	0.47
2:9:69:U:OP1	16:N:4:PRO:HG3	2.14	0.47
9:G:57:ALA:HA	9:G:94:THR:HG22	1.95	0.47
14:L:90:ARG:HA	14:L:119:THR:HB	1.97	0.47
15:M:153:ASP:C	15:M:155:GLN:H	2.21	0.47
16:N:36:ALA:HB2	16:N:102:LEU:HD11	1.95	0.47
20:R:89:LEU:HD23	20:R:89:LEU:HA	1.69	0.47
1:0:343:C:O2	1:0:344:C:C6	2.67	0.47
1:0:1076:G:C2	1:0:1084:C:C2	3.02	0.47
1:0:1561:U:O4	1:0:2739:A:N1	2.47	0.47
1:0:1594:C:O2'	1:0:1607:A:H4'	2.14	0.47
1:0:1644:C:N3	1:0:1645:U:C5	2.82	0.47
1:0:1917:G:C2	1:0:1923:G:C6	3.02	0.47
1:0:1976:G:O2'	1:0:1977:U:H5'	2.14	0.47
4:B:75:GLU:C	4:B:77:PRO:HD3	2.39	0.47
7:E:159:VAL:O	7:E:163:GLN:HG2	2.14	0.47
22:T:16:LEU:HD22	22:T:67:LEU:HD12	1.97	0.47
27:Y:182:PHE:CG	27:Y:202:ALA:HB2	2.49	0.47
28:Z:44:GLU:HG3	28:Z:46:ARG:HG3	1.96	0.47
1:0:1126:C:O2'	1:0:1128:U:H6	1.97	0.47
1:0:1449:G:H2'	1:0:1493:A:C2	2.49	0.47
1:0:1473:U:C5	29:1:44:LYS:HD2	2.50	0.47
1:0:1992:U:C2	1:0:1994:A:OP2	2.68	0.47
1:0:2311:A:H5''	10:H:117:PHE:CD2	2.48	0.47
1:0:2335:C:C2	1:0:2350:G:N2	2.82	0.47
1:0:2377:U:O2'	1:0:2378:U:H5'	2.15	0.47
4:B:90:THR:C	4:B:92:TYR:H	2.23	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:114:ALA:HB3	5:C:223:LEU:HD23	1.96	0.47
15:M:71:SER:H	15:M:73:ARG:NH1	2.10	0.47
25:W:132:VAL:HG21	25:W:140:LYS:O	2.14	0.47
27:Y:131:GLN:O	27:Y:132:ASP:HB2	2.15	0.47
28:Z:36:ASP:HB3	28:Z:45:ASP:HB3	1.95	0.47
1:0:164:G:C6	1:0:165:A:C4	3.03	0.47
1:0:224:U:H2'	1:0:225:G:H5'	1.97	0.47
1:0:285:A:C2	1:0:286:U:H1'	2.50	0.47
1:0:431:G:C2	1:0:432:G:C8	3.02	0.47
1:0:1032:A:C5	1:0:1033:C:C5	3.03	0.47
1:0:1185:U:H2'	1:0:1186:C:C6	2.46	0.47
1:0:1278:A:H4'	1:0:1279:U:C4	2.50	0.47
1:0:1746:A:O4'	1:0:1747:A:C2	2.68	0.47
1:0:2353:A:H4'	1:0:2354:A:O5'	2.15	0.47
1:0:2359:G:C6	1:0:2360:C:N4	2.83	0.47
1:0:2412:G:N2	1:0:2415:A:OP2	2.41	0.47
1:0:2791:U:C1'	1:0:2792:A:H5''	2.44	0.47
5:C:79:ARG:O	5:C:87:ARG:HG2	2.14	0.47
26:X:9:VAL:HG13	26:X:88:GLU:OE2	2.14	0.47
27:Y:166:ALA:O	27:Y:168:PHE:N	2.48	0.47
31:3:20:HIS:CE1	31:3:71:CYS:SG	3.08	0.47
1:0:228:C:C5	1:0:229:G:C8	3.03	0.47
1:0:246:G:C2	1:0:264:G:C2	3.03	0.47
1:0:247:A:C5	1:0:262:A:C6	3.03	0.47
1:0:324:G:C4	1:0:325:U:C6	3.03	0.47
1:0:566:A:C2'	1:0:567:U:H5'	2.45	0.47
1:0:800:G:H1	1:0:813:C:H42	1.62	0.47
1:0:943:A:N6	1:0:1024:G:H22	2.12	0.47
1:0:945:U:H2'	1:0:946:C:C6	2.50	0.47
1:0:1196:C:C3'	1:0:1197:G:H5''	2.44	0.47
1:0:1199:A:N6	1:0:1200:A:N1	2.63	0.47
1:0:1434:A:H2'	1:0:1436:C:C5	2.49	0.47
1:0:1563:G:O5'	1:0:1563:G:H8	1.97	0.47
1:0:1761:U:O2'	1:0:1762:C:H5'	2.15	0.47
1:0:2032:U:C2'	1:0:2033:G:C5'	2.93	0.47
1:0:2128:G:C4	1:0:2129:U:C6	3.03	0.47
1:0:2434:A:H2'	1:0:2435:U:O4'	2.15	0.47
1:0:2509:A:H2'	1:0:2510:C:O4'	2.15	0.47
4:B:79:MET:HG2	4:B:146:THR:HG22	1.95	0.47
5:C:5:ILE:HD11	5:C:16:VAL:CG2	2.45	0.47
5:C:133:ARG:HG2	5:C:134:ASP:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:1:PRO:HG2	7:E:59:MET:CE	2.37	0.47
10:H:24:PRO:HD3	10:H:120:ILE:HG22	1.97	0.47
18:P:142:ASP:O	18:P:143:ALA:HB3	2.15	0.47
29:1:18:LYS:HA	29:1:24:GLU:O	2.15	0.47
31:3:24:LYS:CE	35:3:95:CL:CL	2.98	0.47
1:0:246:G:N2	1:0:264:G:N3	2.63	0.47
1:0:371:U:N3	1:0:372:A:N7	2.62	0.47
1:0:462:A:N6	1:0:477:A:N1	2.63	0.47
1:0:484:A:N6	1:0:508:A:H62	2.09	0.47
1:0:677:C:O2'	1:0:678:G:H5'	2.14	0.47
1:0:885:G:C6	1:0:2475:C:O4'	2.68	0.47
1:0:969:G:N2	1:0:1000:C:C2	2.82	0.47
1:0:1292:G:H8	1:0:1292:G:O5'	1.97	0.47
1:0:1309:U:OP2	5:C:189:PRO:HA	2.14	0.47
1:0:1395:C:H2'	1:0:1396:C:H6	1.80	0.47
1:0:1517:U:C2	1:0:1670:G:N2	2.83	0.47
1:0:1544:U:N3	1:0:1545:C:C5	2.83	0.47
1:0:1552:G:O2'	1:0:1553:C:H5'	2.14	0.47
1:0:1588:G:C5	1:0:1589:G:C6	3.03	0.47
1:0:1742:A:C2	1:0:2762:C:C6	3.03	0.47
1:0:1755:A:H2'	1:0:1756:G:O4'	2.15	0.47
1:0:2114:C:O2'	1:0:2115:U:H5'	2.14	0.47
1:0:2125:G:H2'	1:0:2126:C:H6	1.80	0.47
1:0:2332:A:C5'	1:0:2333:G:OP2	2.62	0.47
1:0:2357:G:O6	1:0:2366:C:N4	2.47	0.47
1:0:2605:G:C2'	1:0:2606:G:H5'	2.45	0.47
1:0:2606:G:O6	1:0:2609:G:C5	2.68	0.47
2:9:47:A:C2	2:9:48:C:C2	3.01	0.47
3:A:57:ALA:HA	3:A:67:LEU:HD23	1.97	0.47
4:B:87:TYR:CE2	4:B:96:PRO:HG3	2.50	0.47
5:C:76:ARG:HG3	5:C:76:ARG:NH1	2.28	0.47
9:G:121:PRO:HB3	9:G:127:PRO:CB	2.35	0.47
10:H:1:LYS:HD3	10:H:5:MET:SD	2.55	0.47
14:L:35:ARG:O	14:L:40:PHE:HA	2.15	0.47
15:M:24:GLN:NE2	15:M:27:ARG:HH11	2.13	0.47
16:N:151:ASP:OD1	16:N:166:ALA:HA	2.15	0.47
18:P:24:ASN:HA	18:P:25:PRO:HD3	1.72	0.47
25:W:149:LEU:HG	25:W:153:MET:HE2	1.97	0.47
1:0:60:A:H5'	30:2:19:SER:OG	2.14	0.47
1:0:69:A:H2'	1:0:70:A:OP2	2.14	0.47
1:0:506:G:H22	1:0:509:A:H5'	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1041:U:H2'	1:0:1042:U:C5'	2.43	0.47
1:0:1342:C:H2'	1:0:1343:C:H5'	1.97	0.47
1:0:1568:G:C6	1:0:1569:U:N3	2.83	0.47
1:0:1589:G:H22	1:0:1605:G:C1'	2.27	0.47
1:0:1819:G:C2'	1:0:1820:G:C5'	2.93	0.47
1:0:1928:C:H2'	1:0:1929:G:H5'	1.97	0.47
1:0:2673:U:C2	1:0:2817:G:N2	2.83	0.47
1:0:2694:A:C6	1:0:2702:A:C8	3.02	0.47
1:0:2734:G:C2	1:0:2746:A:C2	3.03	0.47
1:0:2776:A:H2'	1:0:2777:G:H5'	1.96	0.47
9:G:84:TYR:CB	9:G:121:PRO:HG3	2.42	0.47
10:H:88:ARG:HG3	10:H:132:GLN:O	2.15	0.47
11:I:92:PHE:HE2	11:I:129:THR:HG23	1.80	0.47
26:X:43:VAL:CG1	26:X:44:ASP:N	2.77	0.47
29:1:28:HIS:HD2	29:1:31:LYS:HG3	1.78	0.47
1:0:158:A:O2'	1:0:159:G:H5'	2.14	0.47
1:0:844:A:C2	1:0:882:A:C4	3.03	0.47
1:0:1070:A:O5'	1:0:1070:A:H8	1.98	0.47
1:0:1463:A:H2'	1:0:1464:U:C6	2.50	0.47
1:0:1497:G:H2'	1:0:1498:G:C8	2.48	0.47
1:0:1711:A:C2'	1:0:1712:A:H5'	2.45	0.47
1:0:2508:C:O2	1:0:2508:C:H2'	2.15	0.47
1:0:2739:A:N6	1:0:2740:G:C6	2.83	0.47
2:9:41:C:C5	2:9:42:C:C5	3.03	0.47
2:9:49:G:HO2'	2:9:50:G:H5'	1.80	0.47
5:C:140:VAL:O	5:C:237:GLU:N	2.46	0.47
5:C:162:VAL:HG13	5:C:232:LEU:HD21	1.96	0.47
1:0:69:A:C2'	1:0:70:A:OP2	2.63	0.47
1:0:290:C:C2	1:0:291:C:C6	3.03	0.47
1:0:677:C:N3	1:0:678:G:N7	2.63	0.47
1:0:797:A:H4'	28:Z:10:ARG:N	2.30	0.47
1:0:1134:G:H2'	1:0:1135:G:H5'	1.96	0.47
1:0:1392:A:H4'	1:0:1393:A:OP1	2.15	0.47
1:0:1477:C:C2'	1:0:1478:U:H5'	2.44	0.47
1:0:1753:C:O5'	1:0:1753:C:H6	1.98	0.47
1:0:2546:U:H2'	1:0:2547:C:C6	2.50	0.47
1:0:2686:C:O2'	1:0:2687:G:H5'	2.15	0.47
3:A:95:PRO:HA	3:A:153:ARG:HA	1.97	0.47
5:C:84:VAL:HG12	5:C:85:LYS:HG2	1.96	0.47
5:C:127:ARG:HD2	5:C:230:GLY:C	2.40	0.47
11:I:10:PRO:O	11:I:11:GLY:O	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:31:VAL:HA	11:I:33:ALA:H	1.79	0.47
20:R:75:TRP:CG	20:R:76:ASP:H	2.32	0.47
22:T:20:HIS:O	22:T:23:VAL:HG23	2.15	0.47
24:V:1:THR:HG23	24:V:2:VAL:N	2.30	0.47
1:0:130:C:C5	1:0:141:C:C6	3.03	0.46
1:0:201:G:N2	1:0:202:U:C2	2.83	0.46
1:0:308:U:H5''	22:T:97:ARG:NH2	2.29	0.46
1:0:485:A:O2'	1:0:487:G:H5'	2.15	0.46
1:0:488:U:O2'	1:0:503:G:N2	2.46	0.46
1:0:953:G:H1'	1:0:954:U:H5	1.80	0.46
1:0:1610:G:O2'	1:0:1611:G:H5'	2.15	0.46
1:0:1785:G:H2'	1:0:1786:C:H6	1.78	0.46
1:0:1798:C:OP2	1:0:1799:G:H5''	2.14	0.46
1:0:1852:A:H2'	1:0:1853:C:H6	1.79	0.46
1:0:2554:U:C6	1:0:2577:A:N6	2.82	0.46
1:0:2657:G:OP1	4:B:17:LYS:HB2	2.16	0.46
2:9:14:G:H8	2:9:14:G:C5'	2.18	0.46
2:9:44:A:C5	2:9:45:A:C8	3.02	0.46
2:9:50:G:N1	2:9:51:A:N1	2.63	0.46
4:B:42:ALA:HB3	4:B:79:MET:SD	2.55	0.46
4:B:79:MET:HE3	4:B:144:THR:HG21	1.96	0.46
4:B:232:TRP:HD1	4:B:235:ARG:HD2	1.79	0.46
4:B:312:ARG:HD3	4:B:315:VAL:HG13	1.96	0.46
16:N:36:ALA:CB	16:N:115:VAL:HG12	2.42	0.46
23:U:23:HIS:HB2	23:U:25:ASP:OD2	2.15	0.46
1:0:308:U:C5'	22:T:97:ARG:NH2	2.79	0.46
1:0:484:A:C6	1:0:486:A:C6	3.03	0.46
1:0:694:A:H3'	1:0:695:C:H6	1.79	0.46
1:0:698:A:H5'	14:L:110:GLY:O	2.15	0.46
1:0:871:G:H4'	3:A:11:ARG:NH1	2.29	0.46
1:0:912:A:C4	1:0:1294:A:C2	3.03	0.46
1:0:920:C:C4'	1:0:921:G:C2	2.98	0.46
1:0:1158:G:C4	1:0:1159:G:C8	3.03	0.46
1:0:1186:C:N4	1:0:1187:U:C4	2.84	0.46
1:0:1583:U:H2'	1:0:1584:C:O4'	2.16	0.46
1:0:1883:U:H5''	1:0:2013:G:OP2	2.14	0.46
1:0:1973:A:C8	1:0:1973:A:H3'	2.50	0.46
1:0:2354:A:H5'	1:0:2355:G:N7	2.30	0.46
1:0:2357:G:C2'	1:0:2358:U:H5'	2.45	0.46
1:0:2544:G:C4	1:0:2545:U:C6	3.03	0.46
1:0:2672:C:H2'	1:0:2673:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2903:C:H6	1:0:2903:C:O5'	1.97	0.46
2:9:115:C:H42	16:N:11:ARG:HH11	1.62	0.46
4:B:263:THR:HG22	4:B:263:THR:O	2.16	0.46
9:G:35:VAL:H	9:G:92:ILE:CG1	2.27	0.46
1:0:119:A:H2'	1:0:120:A:H5''	1.98	0.46
1:0:229:G:C6	1:0:230:C:C4	3.04	0.46
1:0:245:C:H2'	1:0:246:G:H5'	1.97	0.46
1:0:560:C:C2	1:0:561:G:C8	3.02	0.46
1:0:841:A:C8	1:0:843:A:C8	3.02	0.46
1:0:1065:G:H2'	1:0:1066:U:O4'	2.15	0.46
1:0:1312:G:C5	1:0:1313:A:N7	2.83	0.46
1:0:1733:A:C6	1:0:1734:C:C2	3.03	0.46
1:0:1831:U:H2'	1:0:1832:G:O4'	2.14	0.46
1:0:2299:G:O6	19:Q:1:PRO:HA	2.16	0.46
1:0:2371:G:O5'	1:0:2371:G:C8	2.68	0.46
1:0:2853:U:C5	1:0:2906:A:N6	2.83	0.46
7:E:14:GLU:HG2	7:E:15:GLN:H	1.80	0.46
9:G:124:ILE:O	9:G:125:VAL:C	2.58	0.46
21:S:5:ILE:HD12	21:S:44:GLN:HG3	1.97	0.46
24:V:39:ALA:C	24:V:41:GLU:H	2.24	0.46
25:W:121:PRO:HD3	25:W:153:MET:SD	2.55	0.46
1:0:155:C:C2	1:0:182:G:N2	2.84	0.46
1:0:206:G:H5''	1:0:206:G:H8	1.79	0.46
1:0:382:U:O2'	1:0:430:A:H1'	2.16	0.46
1:0:777:U:O2'	29:1:11:LYS:HG2	2.15	0.46
1:0:1242:A:OP2	12:J:60:ARG:NH2	2.48	0.46
1:0:1500:U:P	18:P:41:ARG:HH22	2.38	0.46
1:0:1933:G:O2'	1:0:1934:A:H5'	2.15	0.46
1:0:2385:G:H2'	1:0:2386:U:C6	2.51	0.46
2:9:34:A:H2'	2:9:35:C:O4'	2.16	0.46
2:9:65:A:C2'	2:9:66:G:OP2	2.63	0.46
5:C:235:PHE:HE2	5:C:243:VAL:HG21	1.80	0.46
11:I:64:ILE:HG12	11:I:65:GLU:N	2.30	0.46
15:M:37:VAL:HG22	15:M:65:VAL:HG22	1.97	0.46
20:R:14:ALA:CB	20:R:99:ALA:HB2	2.46	0.46
27:Y:170:SER:OG	27:Y:175:ARG:HG3	2.15	0.46
1:0:331:A:N6	1:0:332:G:C2	2.83	0.46
1:0:450:C:O4'	5:C:46:TYR:CE1	2.68	0.46
1:0:595:U:H2'	1:0:596:C:O4'	2.15	0.46
1:0:661:G:C4	1:0:686:A:H2	2.31	0.46
1:0:663:C:H2'	1:0:664:U:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:764:C:H2'	1:0:765:G:O4'	2.15	0.46
1:0:814:G:N2	1:0:815:U:H1'	2.31	0.46
1:0:936:C:O2'	1:0:937:C:H5'	2.16	0.46
1:0:951:A:C2'	1:0:952:G:H5'	2.45	0.46
1:0:951:A:H2'	1:0:952:G:H5'	1.97	0.46
1:0:1085:C:C5	1:0:1086:A:N7	2.84	0.46
1:0:1462:C:O5'	1:0:1462:C:H6	1.99	0.46
1:0:1497:G:O2'	1:0:1498:G:H5'	2.15	0.46
1:0:1518:A:C2	1:0:1669:A:C2	3.03	0.46
1:0:1571:G:C2	1:0:1624:A:C2	3.02	0.46
1:0:1866:A:H8	1:0:1866:A:O5'	1.99	0.46
1:0:1942:A:HO2'	1:0:1943:C:H5'	1.80	0.46
1:0:2011:A:O4'	1:0:2013:G:C8	2.67	0.46
1:0:2072:G:C6	1:0:2533:C:H1'	2.51	0.46
1:0:2687:G:O2'	1:0:2688:U:H5'	2.16	0.46
1:0:2740:G:C4	1:0:2741:A:C8	3.03	0.46
7:E:90:HIS:O	7:E:92:PRO:HD3	2.14	0.46
10:H:65:SER:HB2	10:H:153:ALA:O	2.16	0.46
23:U:20:MET:HE2	23:U:30:HIS:NE2	2.30	0.46
25:W:93:ILE:O	25:W:96:LEU:HB3	2.15	0.46
26:X:43:VAL:CG1	26:X:47:ALA:HB3	2.46	0.46
31:3:3:MET:O	31:3:90:PHE:HA	2.13	0.46
1:0:50:G:C6	1:0:51:G:N7	2.83	0.46
1:0:414:C:O2'	1:0:415:A:H5'	2.15	0.46
1:0:581:G:H4'	1:0:1254:C:O2'	2.16	0.46
1:0:636:G:H5'	1:0:2059:U:OP2	2.15	0.46
1:0:686:A:C5	1:0:687:C:C5	3.04	0.46
1:0:2038:A:O2'	1:0:2039:A:H5'	2.15	0.46
1:0:2132:C:H1'	15:M:124:GLY:HA3	1.98	0.46
1:0:2416:G:H2'	1:0:2417:C:C6	2.51	0.46
1:0:2717:C:H1'	4:B:300:SER:HB3	1.96	0.46
1:0:2797:C:N4	1:0:2798:G:C6	2.83	0.46
1:0:2855:G:C2	1:0:2856:A:C4	3.03	0.46
1:0:2885:A:H2'	1:0:2886:C:H6	1.80	0.46
1:0:2892:G:C6	1:0:2893:C:N3	2.83	0.46
8:F:107:ASP:O	8:F:111:ILE:HG13	2.16	0.46
13:K:76:GLN:HA	13:K:93:ASN:HA	1.97	0.46
26:X:7:GLU:CG	26:X:8:ARG:N	2.79	0.46
1:0:195:C:H2'	1:0:196:G:H5'	1.97	0.46
1:0:212:A:H4'	1:0:213:G:OP1	2.15	0.46
1:0:272:A:C5'	1:0:273:G:OP2	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:353:G:H2'	1:0:354:A:H8	1.78	0.46
1:0:1228:C:O2'	1:0:1229:C:H5'	2.16	0.46
1:0:1603:A:C5'	1:0:1605:G:H5'	2.46	0.46
1:0:2025:G:O2'	1:0:2026:C:H5'	2.16	0.46
1:0:2072:G:O2'	1:0:2489:G:N2	2.47	0.46
1:0:2296:C:H2'	1:0:2297:U:H6	1.81	0.46
1:0:2582:G:O2'	1:0:2583:A:H5'	2.16	0.46
1:0:2795:C:O2'	1:0:2796:U:H5'	2.15	0.46
5:C:24:THR:HG23	5:C:25:PRO:HD2	1.97	0.46
6:D:25:MET:HE2	6:D:41:LEU:HD12	1.97	0.46
7:E:101:GLU:HB3	7:E:117:THR:HA	1.98	0.46
16:N:38:LYS:HA	16:N:43:VAL:HA	1.97	0.46
20:R:88:PHE:O	20:R:91:LEU:HB3	2.15	0.46
1:0:635:A:OP1	1:0:1359:U:O2'	2.27	0.46
1:0:892:G:H5''	29:1:54:ALA:HB2	1.97	0.46
1:0:892:G:C6	1:0:893:C:C4	3.03	0.46
1:0:1116:U:H2'	1:0:1118:A:C2	2.51	0.46
1:0:1510:G:C4	1:0:1511:U:C5	3.04	0.46
1:0:1969:A:C2'	1:0:1970:G:H5'	2.46	0.46
1:0:2127:U:O2	1:0:2266:A:C2	2.68	0.46
1:0:2248:C:O2'	1:0:2249:G:H5'	2.16	0.46
1:0:2582:G:C6	1:0:2583:A:N7	2.84	0.46
2:9:80:A:H2'	2:9:81:C:O4'	2.15	0.46
5:C:93:LYS:O	5:C:98:ARG:NH2	2.47	0.46
11:I:115:TYR:HD2	11:I:115:TYR:O	1.98	0.46
12:J:26:VAL:HG13	12:J:36:VAL:HG11	1.98	0.46
13:K:76:GLN:NE2	13:K:78:LYS:HB3	2.31	0.46
14:L:10:SER:O	14:L:11:ARG:HB3	2.16	0.46
15:M:30:GLU:O	15:M:34:GLU:HG3	2.16	0.46
22:T:50:VAL:HG12	22:T:56:ALA:HA	1.98	0.46
26:X:15:ARG:HH11	26:X:15:ARG:CG	2.29	0.46
1:0:305:A:C6	1:0:329:A:N3	2.84	0.46
1:0:344:C:OP1	22:T:24:ARG:HD3	2.15	0.46
1:0:359:U:H2'	1:0:360:A:H8	1.81	0.46
1:0:469:G:C6	1:0:473:A:N6	2.84	0.46
1:0:869:G:C8	1:0:869:G:OP2	2.68	0.46
1:0:1007:A:C5	10:H:19:TYR:CD1	3.03	0.46
1:0:1069:C:N4	1:0:1070:A:C6	2.84	0.46
1:0:1583:U:O2'	1:0:1584:C:H5'	2.15	0.46
1:0:1654:U:O4'	1:0:1655:G:C2	2.69	0.46
1:0:1755:A:O2'	1:0:1756:G:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1758:U:C4	1:0:1759:A:C6	3.04	0.46
1:0:1809:G:O6	1:0:1812:G:C6	2.69	0.46
1:0:2036:C:O3'	13:K:43:ARG:HA	2.16	0.46
1:0:2072:G:HO2'	1:0:2489:G:H21	1.62	0.46
1:0:2073:G:C6	1:0:2607:U:C2	3.04	0.46
1:0:2541:U:H2'	1:0:2542:C:C6	2.51	0.46
1:0:2735:U:C2	1:0:2736:U:C5	3.04	0.46
1:0:2824:C:H5''	1:0:2825:C:H5'	1.97	0.46
1:0:2856:A:OP1	26:X:15:ARG:NH2	2.49	0.46
1:0:2894:C:O2'	1:0:2895:C:H5'	2.15	0.46
2:9:74:G:C6	2:9:75:G:N7	2.84	0.46
4:B:211:THR:HA	4:B:255:GLY:O	2.16	0.46
5:C:235:PHE:CE2	5:C:243:VAL:HG21	2.50	0.46
10:H:4:SER:HA	10:H:7:ARG:NE	2.31	0.46
14:L:93:VAL:C	14:L:95:ASP:H	2.23	0.46
17:O:53:GLN:O	17:O:56:GLU:HB3	2.15	0.46
20:R:9:ASP:O	20:R:13:THR:HB	2.16	0.46
29:1:37:CYS:SG	29:1:39:PHE:CB	3.04	0.46
1:0:659:A:O2'	1:0:746:A:N1	2.42	0.46
1:0:1586:G:H2'	1:0:1587:U:H6	1.80	0.46
1:0:1766:U:H2'	1:0:1767:A:OP2	2.16	0.46
1:0:1844:C:H2'	1:0:1845:A:C5'	2.46	0.46
1:0:1876:C:O3'	3:A:164:ARG:NH2	2.48	0.46
1:0:1972:U:C2'	1:0:1973:A:C5'	2.94	0.46
1:0:2613:G:H2'	1:0:2614:C:C6	2.51	0.46
1:0:2715:G:H5'	4:B:13:PHE:CD1	2.51	0.46
8:F:33:THR:OG1	8:F:94:ALA:HB3	2.16	0.46
10:H:150:PHE:O	10:H:154:TYR:HD2	1.99	0.46
12:J:44:ALA:HB3	12:J:132:LEU:HG	1.97	0.46
16:N:7:LYS:HD3	19:Q:19:ARG:O	2.16	0.46
18:P:11:ALA:HB1	18:P:16:VAL:O	2.15	0.46
22:T:85:GLU:CG	22:T:86:GLU:H	2.28	0.46
25:W:7:LEU:HD23	25:W:7:LEU:HA	1.62	0.46
27:Y:171:PRO:O	27:Y:172:THR:C	2.58	0.46
1:0:283:U:C5	1:0:284:C:N3	2.84	0.45
1:0:649:U:O2'	1:0:650:C:H5'	2.15	0.45
1:0:840:U:C5	1:0:2648:U:C5	3.04	0.45
1:0:860:U:H2'	1:0:861:A:C8	2.51	0.45
1:0:1216:G:N9	9:G:7:ARG:NH2	2.48	0.45
1:0:1388:U:C4	1:0:1389:G:C5	3.04	0.45
1:0:1406:A:N6	1:0:1701:A:O5'	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1785:G:H2'	1:0:1786:C:C6	2.51	0.45
1:0:1855:G:N7	3:A:142:SER:OG	2.38	0.45
1:0:1973:A:C2	1:0:2010:A:C4	3.03	0.45
1:0:2044:G:OP1	26:X:23:HIS:HE1	1.99	0.45
1:0:2106:C:O2'	1:0:2107:U:H5'	2.16	0.45
1:0:2839:C:O2'	1:0:2841:A:OP2	2.34	0.45
1:0:2872:U:H2'	1:0:2873:C:H6	1.80	0.45
1:0:2894:C:H2'	1:0:2895:C:H6	1.81	0.45
2:9:1:U:O3'	2:9:3:A:H5'	2.16	0.45
3:A:179:MET:HG2	3:A:186:TRP:CB	2.46	0.45
5:C:156:LEU:HD12	5:C:156:LEU:O	2.17	0.45
19:Q:50:GLY:HA3	19:Q:87:THR:OG1	2.15	0.45
1:0:100:C:C4'	22:T:16:LEU:HB2	2.47	0.45
1:0:223:G:N2	1:0:224:U:C2	2.84	0.45
1:0:396:U:H2'	1:0:397:A:C8	2.51	0.45
1:0:492:C:N3	1:0:501:G:C2	2.85	0.45
1:0:536:A:C2	1:0:2075:G:N3	2.84	0.45
1:0:1448:A:C6	1:0:1451:C:C2	3.04	0.45
1:0:1617:C:C4	1:0:1643:C:H4'	2.51	0.45
1:0:1676:G:O2'	1:0:1677:U:H5'	2.15	0.45
1:0:1799:G:C4	1:0:1800:G:C8	3.04	0.45
1:0:2237:G:N2	1:0:2238:A:N3	2.65	0.45
1:0:2266:A:H2'	1:0:2267:G:C8	2.51	0.45
1:0:2289:G:C2	1:0:2309:C:N4	2.84	0.45
1:0:2502:C:C3'	1:0:2503:A:H5'	2.44	0.45
1:0:2524:G:O2'	1:0:2525:G:H5'	2.17	0.45
1:0:2686:C:H2'	1:0:2687:G:O4'	2.16	0.45
6:D:23:VAL:HG23	6:D:23:VAL:O	2.15	0.45
10:H:46:GLN:HE21	10:H:137:TYR:HE2	1.63	0.45
22:T:85:GLU:HG2	22:T:86:GLU:N	2.31	0.45
26:X:61:ARG:O	26:X:65:ASN:HB2	2.16	0.45
27:Y:123:VAL:HG12	27:Y:124:GLY:O	2.16	0.45
1:0:255:A:H2'	1:0:256:C:O4'	2.17	0.45
1:0:284:C:H4'	1:0:285:A:O5'	2.16	0.45
1:0:289:G:N1	1:0:363:A:C2	2.81	0.45
1:0:580:A:C2	1:0:1254:C:O4'	2.69	0.45
1:0:824:G:C6	1:0:854:G:C5	3.04	0.45
1:0:896:C:O5'	1:0:896:C:H6	1.98	0.45
1:0:941:G:C5	1:0:942:U:C4	3.04	0.45
1:0:1160:G:N3	1:0:1160:G:H2'	2.32	0.45
1:0:1550:A:C2	1:0:1636:G:C2	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1768:C:H2'	1:0:1769:C:O4'	2.15	0.45
1:0:2548:C:H2'	1:0:2549:C:C6	2.52	0.45
1:0:2717:C:H1'	4:B:300:SER:CB	2.46	0.45
3:A:51:ARG:C	3:A:53:ALA:H	2.25	0.45
7:E:150:GLN:HE21	7:E:150:GLN:HB3	1.52	0.45
11:I:49:GLU:N	11:I:49:GLU:CD	2.75	0.45
15:M:122:GLN:OE1	15:M:127:LYS:HE2	2.16	0.45
18:P:24:ASN:C	18:P:26:GLU:H	2.25	0.45
20:R:24:SER:HB3	20:R:27:HIS:ND1	2.31	0.45
28:Z:39:CYS:HA	28:Z:40:PRO:HD3	1.78	0.45
1:0:293:A:H2'	1:0:294:C:C6	2.52	0.45
1:0:1008:C:H2'	1:0:1009:U:H6	1.80	0.45
1:0:1509:C:N4	1:0:1510:G:O6	2.49	0.45
1:0:2350:G:H2'	1:0:2351:C:C6	2.51	0.45
1:0:2374:A:H2'	1:0:2375:G:H8	1.80	0.45
1:0:2578:G:H8	1:0:2578:G:C5'	2.22	0.45
2:9:37:C:H4'	16:N:110:THR:HG23	1.99	0.45
2:9:109:G:C4	2:9:110:G:C8	3.05	0.45
17:O:39:THR:O	17:O:115:ARG:NH2	2.50	0.45
18:P:115:SER:N	18:P:118:GLN:HE21	2.00	0.45
24:V:57:LYS:HA	24:V:60:GLN:HE21	1.80	0.45
26:X:34:ARG:NH1	26:X:45:GLU:O	2.50	0.45
1:0:30:U:OP2	5:C:181:ALA:HB2	2.16	0.45
1:0:216:A:H2'	1:0:217:C:H6	1.81	0.45
1:0:421:C:H6	1:0:421:C:O5'	1.98	0.45
1:0:1483:C:H2'	1:0:1484:G:O4'	2.16	0.45
1:0:1631:A:C6	1:0:1632:A:C2	3.05	0.45
1:0:1811:A:H2'	1:0:1812:G:H5'	1.98	0.45
1:0:1966:U:H3'	1:0:1966:U:H6	1.82	0.45
1:0:2028:U:C2	1:0:2029:C:C5	3.04	0.45
1:0:2504:A:C2	1:0:2517:A:C4	3.04	0.45
2:9:22:G:C8	2:9:55:U:C5	3.04	0.45
2:9:65:A:O2'	2:9:66:G:OP2	2.30	0.45
8:F:61:MET:SD	15:M:23:LEU:HD11	2.57	0.45
11:I:53:THR:HG22	11:I:54:VAL:N	2.31	0.45
22:T:30:ASP:O	22:T:33:GLU:HB3	2.17	0.45
1:0:297:U:H2'	1:0:298:C:C6	2.51	0.45
1:0:346:U:O5'	1:0:346:U:H6	2.00	0.45
1:0:1159:G:C4	1:0:1160:G:C8	3.04	0.45
1:0:1392:A:C5	1:0:1395:C:C4	3.04	0.45
1:0:1450:C:O2'	1:0:1494:A:C5'	2.61	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1527:A:C4	1:0:1528:A:N7	2.85	0.45
1:0:1900:A:C2	1:0:1938:G:N3	2.84	0.45
1:0:2335:C:O2	1:0:2350:G:N2	2.50	0.45
1:0:2409:C:H4'	31:3:17:HIS:HB2	1.99	0.45
1:0:2533:C:O2'	1:0:2534:C:H5'	2.15	0.45
1:0:2838:A:H1'	1:0:2844:C:O2	2.17	0.45
2:9:67:C:H2'	2:9:68:G:H8	1.82	0.45
3:A:100:PRO:HG2	3:A:103:VAL:HG21	1.98	0.45
4:B:76:THR:N	4:B:77:PRO:HD3	2.31	0.45
4:B:86:ALA:O	4:B:97:LEU:HB2	2.17	0.45
6:D:57:THR:HG23	6:D:63:ILE:HA	1.98	0.45
7:E:126:ILE:HB	7:E:131:LEU:CD2	2.47	0.45
11:I:41:GLN:CD	11:I:66:VAL:HG21	2.40	0.45
13:K:14:LYS:CB	13:K:45:PRO:HG2	2.46	0.45
17:O:26:TRP:HA	17:O:26:TRP:HE3	1.80	0.45
25:W:13:MET:HE2	25:W:18:GLN:CA	2.46	0.45
27:Y:150:LEU:O	27:Y:151:SER:C	2.59	0.45
29:1:19:CYS:N	29:1:24:GLU:O	2.41	0.45
1:0:368:C:C2'	1:0:369:G:H5'	2.46	0.45
1:0:542:A:H5'	1:0:542:A:C8	2.39	0.45
1:0:645:U:OP2	14:L:4:LYS:HE2	2.17	0.45
1:0:796:A:C2	1:0:818:A:H1'	2.52	0.45
1:0:1023:C:C2	1:0:1024:G:C8	3.05	0.45
1:0:1294:A:H2'	1:0:1295:G:O4'	2.17	0.45
1:0:1522:A:C2	1:0:1665:G:C6	3.04	0.45
1:0:1561:U:O2	1:0:1561:U:C2'	2.64	0.45
1:0:1823:G:C2	1:0:2027:U:C2	3.05	0.45
1:0:1861:C:O2'	1:0:1862:C:H5'	2.16	0.45
1:0:1890:U:H4'	1:0:2010:A:C6	2.52	0.45
1:0:2011:A:C4	1:0:2013:G:N7	2.85	0.45
1:0:2419:U:H5''	1:0:2420:G:C5'	2.34	0.45
1:0:2681:A:N6	1:0:2714:U:H4'	2.32	0.45
1:0:2834:G:N1	1:0:2835:C:C2	2.85	0.45
2:9:38:A:C2	2:9:39:U:C4	3.05	0.45
5:C:21:VAL:HG23	5:C:22:PHE:HD1	1.82	0.45
8:F:84:GLY:HA3	8:F:92:GLY:CA	2.45	0.45
10:H:137:TYR:N	10:H:137:TYR:CD1	2.85	0.45
11:I:18:PRO:HD2	11:I:19:PRO:HD3	1.97	0.45
12:J:24:SER:CA	12:J:86:MET:SD	3.05	0.45
13:K:20:CYS:SG	13:K:26:ALA:HB3	2.57	0.45
22:T:55:PHE:CE1	22:T:89:ARG:HG2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:11:MET:HB3	24:V:15:GLU:HB2	1.98	0.45
1:0:60:A:N6	30:2:25:VAL:HG21	2.32	0.45
1:0:223:G:N3	1:0:223:G:H2'	2.31	0.45
1:0:421:C:H4'	1:0:1919:A:C6	2.52	0.45
1:0:1512:G:C6	1:0:1513:C:C4	3.05	0.45
1:0:1665:G:N3	1:0:1666:C:C6	2.85	0.45
1:0:1730:G:H2'	1:0:1730:G:N3	2.32	0.45
1:0:1880:C:C2	1:0:1881:A:C8	3.05	0.45
1:0:2887:G:C5	1:0:2888:U:C4	3.05	0.45
2:9:50:G:P	16:N:147:ILE:HD11	2.57	0.45
6:D:104:PHE:CD2	6:D:104:PHE:N	2.84	0.45
10:H:143:ALA:HA	10:H:146:VAL:HG12	1.98	0.45
15:M:102:GLU:OE2	15:M:164:THR:HG21	2.16	0.45
31:3:43:ASN:HB2	31:3:52:PHE:CE1	2.51	0.45
1:0:295:C:H2'	1:0:296:G:O4'	2.17	0.45
1:0:561:G:N3	1:0:562:A:C8	2.84	0.45
1:0:883:U:O2	1:0:883:U:C2'	2.64	0.45
1:0:2616:G:C6	1:0:2645:U:N3	2.84	0.45
1:0:2712:G:O2'	1:0:2713:G:H5'	2.17	0.45
1:0:2731:G:C5	1:0:2732:U:C5	3.04	0.45
2:9:92:G:H2'	2:9:93:A:H8	1.79	0.45
3:A:51:ARG:CZ	3:A:53:ALA:HB3	2.47	0.45
9:G:20:VAL:O	9:G:24:VAL:HG23	2.17	0.45
9:G:34:GLY:HA2	9:G:92:ILE:C	2.41	0.45
13:K:32:ILE:HD11	13:K:56:SER:HB2	1.98	0.45
14:L:97:VAL:HG12	14:L:98:GLU:O	2.16	0.45
16:N:112:GLY:HA2	16:N:137:ALA:HB2	1.98	0.45
18:P:115:SER:C	18:P:117:SER:H	2.24	0.45
1:0:20:G:H4'	20:R:3:SER:O	2.17	0.45
1:0:100:C:O5'	1:0:100:C:H6	1.99	0.45
1:0:512:G:O3'	1:0:513:A:H8	2.00	0.45
1:0:536:A:H2	1:0:2075:G:N3	2.15	0.45
1:0:967:U:O2	1:0:1002:G:H1'	2.16	0.45
1:0:1343:C:C5	5:C:176:ALA:HB2	2.52	0.45
1:0:2000:G:C2	1:0:2001:G:C4	3.05	0.45
1:0:2102:G:N2	1:0:2104:C:C2	2.85	0.45
1:0:2379:G:H4'	1:0:2380:A:C5'	2.47	0.45
1:0:2381:C:H2'	1:0:2382:A:C8	2.52	0.45
1:0:2642:G:C6	1:0:2643:G:C6	3.05	0.45
1:0:2869:G:C5	1:0:2870:C:C4	3.05	0.45
2:9:65:A:O2'	2:9:66:G:P	2.75	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:27:ASN:ND2	4:B:27:ASN:N	2.51	0.45
4:B:162:MET:HG3	4:B:310:ARG:NE	2.31	0.45
11:I:117:LEU:O	11:I:120:ALA:HB3	2.17	0.45
11:I:120:ALA:O	11:I:124:VAL:HG23	2.17	0.45
16:N:11:ARG:C	16:N:13:ARG:H	2.25	0.45
16:N:50:LEU:HD12	16:N:50:LEU:HA	1.64	0.45
17:O:14:LEU:HG	17:O:102:ILE:HD11	1.98	0.45
17:O:44:ASN:OD1	17:O:67:SER:HB2	2.17	0.45
18:P:22:TRP:CH2	18:P:24:ASN:HA	2.52	0.45
25:W:14:HIS:HB2	25:W:17:ILE:HG13	1.99	0.45
26:X:24:LYS:HE2	26:X:24:LYS:HB3	1.61	0.45
1:0:61:G:C2	1:0:62:C:C2	3.04	0.44
1:0:340:A:C8	1:0:340:A:O5'	2.70	0.44
1:0:595:U:H3'	1:0:595:U:C6	2.52	0.44
1:0:961:A:C5	1:0:1010:C:C5	3.05	0.44
1:0:1075:G:C2'	1:0:1076:G:H5'	2.47	0.44
1:0:1085:C:C2'	1:0:1086:A:H5'	2.47	0.44
1:0:1100:G:O2'	1:0:1107:A:N1	2.39	0.44
1:0:1598:A:H2'	1:0:1599:U:O4'	2.16	0.44
1:0:1635:U:H2'	1:0:1636:G:H8	1.81	0.44
1:0:1667:A:C2	1:0:1668:U:N3	2.85	0.44
3:A:94:LEU:HD23	3:A:94:LEU:N	2.33	0.44
3:A:135:VAL:CG2	3:A:136:ALA:N	2.80	0.44
9:G:34:GLY:N	9:G:123:ASP:CG	2.71	0.44
16:N:152:GLU:C	16:N:154:LEU:H	2.25	0.44
1:0:372:A:H2'	1:0:373:G:H8	1.82	0.44
1:0:1126:C:O5'	1:0:1126:C:H6	2.00	0.44
1:0:1194:A:C2'	1:0:1195:G:O5'	2.66	0.44
1:0:1400:C:C6	1:0:1400:C:C3'	3.00	0.44
1:0:1523:G:N1	1:0:1524:U:O4	2.51	0.44
1:0:1845:A:OP1	3:A:189:VAL:HA	2.16	0.44
1:0:1897:U:O2'	1:0:1898:G:H5'	2.17	0.44
1:0:2066:C:C2'	1:0:2067:A:O5'	2.66	0.44
1:0:2321:A:C2	1:0:2323:G:C5	3.05	0.44
1:0:2500:C:C2	1:0:2521:A:C2	3.06	0.44
1:0:2855:G:O2'	1:0:2856:A:H5'	2.17	0.44
11:I:76:LYS:HD2	11:I:82:GLU:O	2.16	0.44
18:P:22:TRP:CZ2	18:P:24:ASN:HA	2.51	0.44
19:Q:75:ILE:HG12	19:Q:84:ILE:CD1	2.47	0.44
23:U:9:CYS:HA	23:U:52:THR:HG23	1.98	0.44
30:2:22:PRO:HG2	30:2:25:VAL:HG23	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:249:G:H1'	1:0:265:U:O2	2.17	0.44
1:0:416:G:C6	1:0:2444:U:O4	2.69	0.44
1:0:1398:G:O2'	1:0:1399:A:H5'	2.18	0.44
1:0:1787:C:OP1	18:P:68:LYS:HE3	2.17	0.44
1:0:1947:G:N2	1:0:1966:U:O2	2.50	0.44
1:0:2050:G:H5''	20:R:80:TYR:O	2.16	0.44
1:0:2289:G:N2	1:0:2309:C:N4	2.65	0.44
1:0:2563:U:O2'	1:0:2564:G:H3'	2.17	0.44
1:0:2594:C:C2'	1:0:2595:U:H5'	2.46	0.44
1:0:2881:C:H6	1:0:2881:C:O5'	2.01	0.44
1:0:2909:G:H2'	1:0:2910:A:C8	2.53	0.44
1:0:2909:G:H2'	1:0:2910:A:H8	1.81	0.44
2:9:61:C:H2'	2:9:62:A:C8	2.52	0.44
3:A:109:GLU:HB2	3:A:152:CYS:HB3	1.99	0.44
6:D:141:VAL:HG13	6:D:144:ARG:NH2	2.26	0.44
9:G:69:ARG:HA	9:G:72:ASP:OD2	2.17	0.44
10:H:23:ILE:HA	10:H:120:ILE:CG2	2.45	0.44
16:N:64:SER:C	16:N:66:LEU:H	2.25	0.44
22:T:9:LYS:HE3	22:T:13:ARG:NH1	2.32	0.44
1:0:139:C:C4'	1:0:140:G:C2	3.01	0.44
1:0:193:A:N1	1:0:413:G:O2'	2.48	0.44
1:0:384:G:O2'	1:0:385:C:H5'	2.17	0.44
1:0:550:C:O2'	1:0:551:A:H5'	2.17	0.44
1:0:659:A:N3	1:0:746:A:C2	2.85	0.44
1:0:812:A:C6	1:0:813:C:C4	3.05	0.44
1:0:911:G:H5'	1:0:932:U:OP1	2.17	0.44
1:0:1075:G:H2'	1:0:1076:G:H5'	1.99	0.44
1:0:1149:U:C5	1:0:1215:A:C5	3.05	0.44
1:0:1157:C:H2'	1:0:1158:G:H8	1.81	0.44
1:0:1216:G:C1'	9:G:7:ARG:HH22	2.29	0.44
1:0:1327:G:C6	1:0:1331:A:C6	3.06	0.44
1:0:1429:U:H2'	1:0:1430:G:H5'	2.00	0.44
1:0:2091:G:C2'	1:0:2092:G:O5'	2.66	0.44
1:0:2319:C:H2'	1:0:2320:U:H5'	1.98	0.44
1:0:2453:G:O3'	14:L:50:GLY:HA2	2.17	0.44
1:0:2667:G:C2	1:0:2668:G:C8	3.05	0.44
1:0:2698:G:H2'	1:0:2699:A:O4'	2.18	0.44
1:0:2758:G:H2'	1:0:2759:C:H6	1.82	0.44
1:0:2887:G:H2'	1:0:2888:U:C6	2.52	0.44
18:P:94:TRP:CH2	18:P:98:ILE:HG13	2.53	0.44
31:3:24:LYS:HD3	35:3:95:CL:CL	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:387:G:H2'	1:0:388:G:H5'	1.99	0.44
1:0:466:A:H2'	1:0:467:G:O4'	2.18	0.44
1:0:702:G:C2'	1:0:703:G:H5'	2.46	0.44
1:0:1227:C:O2'	1:0:1228:C:H5'	2.18	0.44
1:0:1293:U:O2	1:0:1293:U:H2'	2.18	0.44
1:0:1449:G:H5''	1:0:1450:C:OP2	2.18	0.44
1:0:1636:G:C2'	1:0:1637:A:H5'	2.47	0.44
1:0:1904:A:N1	1:0:1905:U:C2	2.86	0.44
1:0:2061:C:H2'	1:0:2062:A:C5'	2.48	0.44
1:0:2247:C:O2	1:0:2255:A:C2	2.71	0.44
1:0:2326:U:H4'	1:0:2412:G:H4'	2.00	0.44
1:0:2700:G:H2'	1:0:2701:G:O5'	2.18	0.44
1:0:2716:G:H21	4:B:300:SER:CB	2.30	0.44
1:0:2836:G:C4	1:0:2845:G:C2	3.06	0.44
5:C:21:VAL:C	5:C:23:GLU:H	2.26	0.44
12:J:36:VAL:HG12	12:J:37:ALA:N	2.32	0.44
17:O:5:PRO:O	17:O:9:SER:HB2	2.17	0.44
25:W:113:SER:HA	25:W:114:PRO:HD3	1.82	0.44
1:0:458:G:C2	1:0:464:G:C4	3.05	0.44
1:0:473:A:C2	1:0:474:C:C6	3.06	0.44
1:0:506:G:H22	1:0:509:A:H5''	1.82	0.44
1:0:509:A:O4'	1:0:511:A:C8	2.71	0.44
1:0:637:C:H5''	27:Y:136:LYS:NZ	2.32	0.44
1:0:740:G:C6	1:0:741:C:N3	2.86	0.44
1:0:1024:G:C5	1:0:1025:C:C4	3.05	0.44
1:0:1175:G:O2'	1:0:1193:A:H5''	2.18	0.44
1:0:1194:A:H2'	1:0:1195:G:O5'	2.17	0.44
1:0:1205:U:H2'	1:0:1205:U:O2	2.16	0.44
1:0:1418:U:P	30:2:40:ARG:HH22	2.41	0.44
1:0:2587:OMU:H2'	1:0:2589:U:C5'	2.45	0.44
1:0:2590:U:H2'	1:0:2591:C:H5'	1.98	0.44
5:C:69:HIS:CD2	5:C:69:HIS:N	2.82	0.44
12:J:131:THR:HB	12:J:134:GLU:HG3	2.00	0.44
25:W:21:LEU:HD21	25:W:48:VAL:CG1	2.48	0.44
1:0:224:U:C2'	1:0:225:G:H5'	2.48	0.44
1:0:294:C:O5'	1:0:294:C:H6	2.00	0.44
1:0:635:A:C2'	1:0:636:G:H5''	2.46	0.44
1:0:877:G:C6	3:A:197:VAL:HG11	2.53	0.44
1:0:1090:A:C2	1:0:1091:U:C2	3.06	0.44
1:0:1328:A:N6	1:0:1329:A:C2	2.85	0.44
1:0:1448:A:C2	1:0:1451:C:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1644:C:C2	1:0:1645:U:C6	3.06	0.44
1:0:1657:A:H2'	1:0:1658:A:C8	2.53	0.44
1:0:1865:A:H2'	1:0:1866:A:C8	2.53	0.44
1:0:2350:G:O2'	1:0:2351:C:H5'	2.17	0.44
2:9:59:C:H2'	2:9:60:C:C6	2.52	0.44
3:A:68:ILE:HG12	3:A:69:LEU:H	1.83	0.44
4:B:50:HIS:HD2	4:B:68:THR:CG2	2.30	0.44
12:J:135:ILE:O	12:J:138:THR:HB	2.18	0.44
18:P:14:LEU:HD11	18:P:49:ILE:HG22	2.00	0.44
19:Q:38:LYS:HA	19:Q:61:GLY:O	2.17	0.44
26:X:25:ARG:HD3	26:X:64:ALA:O	2.18	0.44
1:0:311:C:O5'	1:0:311:C:H6	2.01	0.44
1:0:369:G:C4	1:0:370:G:C8	3.06	0.44
1:0:553:G:H2'	1:0:554:G:H5'	1.99	0.44
1:0:669:G:H2'	1:0:670:G:O4'	2.18	0.44
1:0:823:U:H2'	1:0:824:G:O4'	2.18	0.44
1:0:1601:G:C4	1:0:1602:C:C5	3.06	0.44
1:0:1776:A:O4'	1:0:1778:A:H4'	2.17	0.44
1:0:1904:A:N3	1:0:1905:U:C1'	2.81	0.44
1:0:1904:A:H2	1:0:1905:U:H1'	1.72	0.44
1:0:1936:C:O2'	1:0:1937:U:H5'	2.18	0.44
1:0:1989:G:C6	1:0:2000:G:C6	3.06	0.44
1:0:2045:G:H2'	1:0:2046:G:O4'	2.17	0.44
1:0:2521:A:P	10:H:3:ALA:HB3	2.58	0.44
3:A:135:VAL:CG2	3:A:136:ALA:H	2.30	0.44
4:B:7:ARG:HB2	4:B:7:ARG:CZ	2.48	0.44
12:J:116:LEU:HB2	12:J:119:THR:CG2	2.47	0.44
13:K:24:THR:HB	13:K:64:MET:HE2	1.99	0.44
25:W:120:PRO:HA	25:W:121:PRO:HD2	1.82	0.44
1:0:161:A:C2	1:0:162:C:C4	3.06	0.44
1:0:281:U:O2	1:0:369:G:C2	2.71	0.44
1:0:1094:G:H21	25:W:119:HIS:CE1	2.34	0.44
1:0:1157:C:C6	1:0:1157:C:C3'	3.01	0.44
1:0:1283:G:O2'	1:0:1284:G:H5'	2.17	0.44
1:0:1486:A:C4	30:2:2:LYS:HG3	2.53	0.44
1:0:1785:G:H1'	1:0:1812:G:N3	2.33	0.44
1:0:1788:U:O2'	1:0:1789:G:H5'	2.18	0.44
1:0:1796:A:O2'	1:0:1797:A:H5'	2.17	0.44
1:0:2135:A:O4'	1:0:2243:C:N4	2.51	0.44
1:0:2325:C:C5'	1:0:2417:C:O2	2.66	0.44
1:0:2518:C:H2'	1:0:2519:C:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2611:G:H5'	1:0:2613:G:N7	2.33	0.44
2:9:56:A:C3'	2:9:57:A:H5''	2.46	0.44
9:G:99:PHE:O	9:G:101:LEU:N	2.51	0.44
16:N:122:ALA:O	16:N:125:ALA:HB3	2.18	0.44
25:W:128:VAL:HA	25:W:138:LEU:HD21	2.00	0.44
1:0:151:A:C2	1:0:442:A:C8	3.07	0.43
1:0:482:G:C2	1:0:485:A:C8	3.06	0.43
1:0:695:C:C2	1:0:696:C:C6	3.06	0.43
1:0:791:A:H4'	1:0:1709:G:H4'	2.00	0.43
1:0:1161:A:O2'	1:0:1162:G:OP2	2.29	0.43
1:0:1206:U:H2'	1:0:1207:A:C5'	2.40	0.43
1:0:1313:A:H5''	27:Y:210:GLY:H	1.83	0.43
1:0:1395:C:H2'	1:0:1396:C:C6	2.53	0.43
1:0:1429:U:C2'	1:0:1430:G:H5'	2.48	0.43
1:0:1552:G:C6	1:0:1553:C:C4	3.06	0.43
1:0:1585:C:C2	1:0:1611:G:C2	3.06	0.43
1:0:1754:A:H8	1:0:1754:A:O5'	2.01	0.43
1:0:2410:G:C2	1:0:2418:G:C2	3.06	0.43
1:0:2580:G:N3	1:0:2600:A:H2	2.15	0.43
2:9:67:C:O2'	2:9:68:G:H5'	2.18	0.43
2:9:108:C:C6	2:9:108:C:C3'	3.01	0.43
4:B:151:VAL:HG12	4:B:154:VAL:H	1.83	0.43
5:C:37:ALA:O	5:C:41:ASN:ND2	2.51	0.43
6:D:25:MET:HE1	6:D:37:ALA:O	2.17	0.43
7:E:53:GLU:O	7:E:58:THR:HG21	2.17	0.43
10:H:31:HIS:HD2	10:H:87:LEU:O	2.01	0.43
22:T:71:VAL:HG13	22:T:91:LEU:N	2.33	0.43
25:W:21:LEU:HD21	25:W:48:VAL:HG11	2.00	0.43
28:Z:46:ARG:NH1	28:Z:59:TYR:HD1	2.16	0.43
1:0:412:C:C2'	1:0:413:G:H5'	2.48	0.43
1:0:432:G:O2'	1:0:433:C:H5'	2.18	0.43
1:0:489:A:C8	22:T:82:THR:HG22	2.53	0.43
1:0:516:A:H2'	1:0:517:U:O4'	2.18	0.43
1:0:843:A:H2'	1:0:844:A:H5''	2.00	0.43
1:0:849:C:O2'	1:0:850:U:H5'	2.18	0.43
1:0:962:C:C2'	1:0:963:C:H5'	2.46	0.43
1:0:1118:A:H8	1:0:1119:G:H5''	1.83	0.43
1:0:1410:G:N2	1:0:1699:C:O2	2.50	0.43
1:0:1450:C:C2'	1:0:1494:A:H5'	2.48	0.43
1:0:1977:U:H3'	1:0:1978:A:H5'	2.00	0.43
1:0:2079:G:C6	1:0:2080:G:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2379:G:H4'	1:0:2380:A:H5''	2.01	0.43
1:0:2873:C:N4	1:0:2874:G:C6	2.86	0.43
2:9:44:A:H2'	2:9:45:A:O4'	2.18	0.43
8:F:13:GLU:OE2	8:F:78:GLU:HG2	2.18	0.43
9:G:32:SER:O	9:G:124:ILE:HG13	2.18	0.43
9:G:33:VAL:HG11	9:G:94:THR:OG1	2.18	0.43
13:K:112:PRO:C	13:K:113:ILE:HG13	2.43	0.43
16:N:71:TRP:CE3	16:N:175:LEU:HD22	2.53	0.43
25:W:151:GLU:O	25:W:154:ARG:HB3	2.19	0.43
1:0:287:C:H6	1:0:287:C:O5'	2.02	0.43
1:0:825:U:H5''	1:0:826:U:OP1	2.18	0.43
1:0:1925:G:C2	1:0:1926:G:C8	3.06	0.43
1:0:1969:A:N7	1:0:1970:G:C6	2.86	0.43
1:0:2408:A:H1'	31:3:10:TYR:CE1	2.53	0.43
1:0:2578:G:C8	1:0:2578:G:C5'	2.97	0.43
2:9:22:G:O2'	2:9:25:G:O6	2.36	0.43
2:9:23:U:OP2	2:9:23:U:H4'	2.18	0.43
2:9:76:G:O5'	2:9:76:G:H8	2.01	0.43
2:9:110:G:C5	2:9:111:U:C5	3.06	0.43
2:9:115:C:H2'	2:9:116:C:H6	1.84	0.43
4:B:16:ARG:HB3	4:B:217:ARG:NH2	2.34	0.43
20:R:3:SER:O	20:R:4:TYR:C	2.60	0.43
26:X:36:HIS:CE1	26:X:40:HIS:CD2	3.06	0.43
1:0:64:G:C4	1:0:65:C:C6	3.06	0.43
1:0:145:A:O2'	15:M:111:ASN:HB2	2.18	0.43
1:0:237:G:C5	1:0:238:C:C6	3.06	0.43
1:0:326:G:C6	1:0:327:A:C5	3.06	0.43
1:0:432:G:C2	1:0:433:C:C6	3.06	0.43
1:0:503:G:H2'	1:0:504:G:H8	1.84	0.43
1:0:943:A:C8	1:0:943:A:H3'	2.53	0.43
1:0:1285:U:H4'	25:W:74:GLU:HB3	2.00	0.43
1:0:1513:C:O2'	1:0:1514:C:H5'	2.18	0.43
1:0:1787:C:H4'	1:0:2883:A:O4'	2.19	0.43
1:0:1850:U:C1'	1:0:1941:A:C2	3.01	0.43
1:0:1894:C:C2	1:0:1939:U:C4	3.06	0.43
1:0:2362:A:C6	1:0:2363:G:C6	3.06	0.43
1:0:2616:G:C5	1:0:2645:U:O4	2.71	0.43
2:9:93:A:C5	2:9:94:G:H1'	2.53	0.43
3:A:109:GLU:HG2	3:A:116:GLY:H	1.84	0.43
8:F:14:ASP:O	8:F:18:GLU:HG3	2.17	0.43
11:I:6:GLU:HB3	11:I:53:THR:HG23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:138:HIS:O	15:M:142:GLN:HG3	2.18	0.43
16:N:33:ARG:O	16:N:47:LEU:HA	2.18	0.43
1:0:11:A:C5'	1:0:12:U:OP2	2.66	0.43
1:0:258:G:N1	1:0:259:G:C5	2.87	0.43
1:0:301:G:O2'	1:0:302:A:H5'	2.18	0.43
1:0:695:C:H2'	1:0:696:C:C6	2.51	0.43
1:0:1206:U:C6	1:0:1206:U:C4'	3.01	0.43
1:0:1310:U:P	5:C:168:ARG:HH11	2.42	0.43
1:0:1634:G:C6	1:0:1635:U:C4	3.07	0.43
1:0:2020:C:H6	1:0:2020:C:O5'	2.01	0.43
1:0:2099:G:N2	1:0:2646:G:C4	2.87	0.43
1:0:2277:U:O2'	1:0:2278:U:H5'	2.19	0.43
1:0:2320:U:H2'	31:3:2:GLN:O	2.17	0.43
1:0:2541:U:H2'	1:0:2542:C:H6	1.82	0.43
1:0:2838:A:O2'	1:0:2839:C:H5'	2.18	0.43
2:9:9:C:C5	2:9:10:C:C5	3.07	0.43
4:B:58:PRO:HD3	4:B:322:ARG:HD2	2.00	0.43
4:B:305:ASP:O	4:B:306:LYS:HB2	2.19	0.43
15:M:66:SER:HB3	15:M:128:TRP:CD1	2.54	0.43
25:W:58:SER:O	25:W:59:GLN:C	2.61	0.43
26:X:31:ILE:O	26:X:35:GLU:HG3	2.19	0.43
1:0:10:U:C4	1:0:532:A:C8	3.06	0.43
1:0:88:G:N7	30:2:28:LYS:HD2	2.34	0.43
1:0:115:U:C1'	1:0:131:A:C8	3.01	0.43
1:0:201:G:N3	1:0:201:G:H2'	2.34	0.43
1:0:282:C:C2'	1:0:283:U:H5'	2.48	0.43
1:0:440:C:C4	1:0:441:A:N6	2.87	0.43
1:0:667:C:H3'	1:0:667:C:H6	1.83	0.43
1:0:700:A:N6	14:L:113:GLN:O	2.50	0.43
1:0:1051:C:H2'	1:0:1052:G:O4'	2.18	0.43
1:0:1149:U:H5	1:0:1215:A:C5	2.36	0.43
1:0:1269:G:O2'	1:0:1270:U:H5'	2.18	0.43
1:0:1630:A:N6	1:0:1631:A:C6	2.86	0.43
1:0:1859:A:H8	1:0:1859:A:O5'	2.01	0.43
1:0:1945:G:C4	1:0:1946:C:C5	3.06	0.43
1:0:1945:G:H2'	1:0:1946:C:H6	1.83	0.43
1:0:2093:G:N3	4:B:246:ARG:HA	2.33	0.43
1:0:2269:C:H2'	1:0:2270:G:O4'	2.18	0.43
1:0:2892:G:H2'	1:0:2893:C:O4'	2.18	0.43
2:9:7:G:H4'	16:N:55:ASP:OD2	2.19	0.43
2:9:36:C:C6	2:9:37:C:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:53:ARG:NH2	14:L:57:VAL:HG12	2.33	0.43
21:S:53:ASN:HB2	21:S:65:VAL:HB	2.00	0.43
1:0:19:U:H2'	1:0:20:G:O5'	2.18	0.43
1:0:419:A:C4	1:0:2449:G:N2	2.86	0.43
1:0:1088:A:H2'	1:0:1088:A:O5'	2.18	0.43
1:0:1448:A:C6	1:0:1506:U:C5	3.07	0.43
1:0:1611:G:O2'	1:0:1612:A:H5'	2.18	0.43
1:0:1761:U:H5'	18:P:81:LYS:O	2.19	0.43
1:0:1985:U:C5	1:0:1996:U:C2	3.06	0.43
1:0:2092:G:H2'	1:0:2613:G:OP1	2.18	0.43
1:0:2094:G:C4'	4:B:245:SER:HB3	2.49	0.43
1:0:2118:A:C2	1:0:2277:U:C2	3.07	0.43
1:0:2601:A:N1	13:K:38:SER:HB2	2.34	0.43
1:0:2633:A:H2'	1:0:2634:G:H5'	2.01	0.43
1:0:2729:C:H2'	1:0:2730:G:C8	2.51	0.43
1:0:2782:G:O6	1:0:2790:C:H5''	2.19	0.43
1:0:2873:C:N3	1:0:2874:G:N7	2.66	0.43
1:0:2886:C:O2'	1:0:2887:G:H5'	2.18	0.43
5:C:228:ALA:HA	5:C:229:PRO:HD3	1.81	0.43
7:E:5:LEU:HD21	7:E:66:GLN:HG3	1.99	0.43
7:E:15:GLN:HG2	7:E:16:ASP:N	2.33	0.43
9:G:20:VAL:C	9:G:23:ILE:HG22	2.43	0.43
19:Q:40:HIS:HD2	19:Q:60:THR:CG2	2.30	0.43
20:R:22:GLN:HA	20:R:139:PRO:O	2.19	0.43
31:3:24:LYS:HG2	35:3:95:CL:CL	2.56	0.43
1:0:282:C:O2'	1:0:283:U:C4'	2.67	0.43
1:0:392:U:C5'	15:M:193:LYS:HB3	2.49	0.43
1:0:561:G:C2	1:0:562:A:C8	3.06	0.43
1:0:716:G:C2	1:0:717:C:C2	3.07	0.43
1:0:746:A:N6	17:O:65:LEU:HD13	2.33	0.43
1:0:962:C:C4	1:0:963:C:N3	2.86	0.43
1:0:1150:A:H2	9:G:20:VAL:CG2	2.30	0.43
1:0:1168:C:OP1	11:I:84:GLY:HA3	2.18	0.43
1:0:1324:G:C2	1:0:1334:C:O2	2.71	0.43
1:0:1764:C:H2'	1:0:1765:G:H5'	2.01	0.43
1:0:1976:G:O2'	1:0:1977:U:C5'	2.67	0.43
1:0:2597:U:H2'	1:0:2598:U:H5'	2.01	0.43
1:0:2715:G:OP1	4:B:16:ARG:NH2	2.51	0.43
1:0:2759:C:H2'	1:0:2760:C:O5'	2.19	0.43
2:9:57:A:N3	2:9:57:A:H5'	2.33	0.43
4:B:85:ARG:HD3	4:B:87:TYR:CZ	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:55:LYS:O	6:D:56:ARG:HB2	2.19	0.43
7:E:5:LEU:HD12	7:E:69:ILE:HG21	2.01	0.43
9:G:9:THR:CG2	9:G:11:THR:O	2.56	0.43
11:I:8:LEU:HD12	11:I:8:LEU:O	2.18	0.43
12:J:131:THR:O	12:J:132:LEU:C	2.62	0.43
16:N:13:ARG:NH1	16:N:13:ARG:O	2.52	0.43
25:W:13:MET:HE3	25:W:17:ILE:HB	1.99	0.43
1:0:152:A:O2'	1:0:153:C:H5'	2.18	0.43
1:0:206:G:H5'	1:0:207:U:OP2	2.19	0.43
1:0:595:U:C6	1:0:595:U:C3'	3.02	0.43
1:0:646:G:H5''	5:C:96:LYS:HD2	1.99	0.43
1:0:824:G:C8	1:0:854:G:C6	3.06	0.43
1:0:1095:U:H2'	1:0:1096:U:O4'	2.19	0.43
1:0:1197:G:H5'	1:0:1197:G:C8	2.44	0.43
1:0:1947:G:H5''	1:0:1947:G:H8	1.84	0.43
1:0:2497:A:H2'	1:0:2498:C:O4'	2.18	0.43
1:0:2612:A:H5''	1:0:2613:G:O5'	2.19	0.43
1:0:2634:G:H2'	1:0:2635:A:H8	1.84	0.43
1:0:2667:G:N3	1:0:2827:A:H2	2.17	0.43
1:0:2673:U:H4'	4:B:94:GLN:O	2.19	0.43
2:9:74:G:C5	2:9:75:G:N7	2.87	0.43
3:A:125:ASN:CB	3:A:158:VAL:HG12	2.47	0.43
10:H:28:ILE:HA	10:H:63:GLU:OE1	2.18	0.43
14:L:93:VAL:C	14:L:95:ASP:N	2.76	0.43
15:M:16:GLY:C	15:M:21:ALA:HB2	2.44	0.43
20:R:92:LEU:O	20:R:93:GLU:C	2.62	0.43
22:T:27:LEU:HB2	22:T:32:ARG:HG2	2.01	0.43
22:T:44:ALA:O	22:T:62:VAL:O	2.36	0.43
27:Y:125:LYS:HB2	27:Y:126:PRO:HD2	2.01	0.43
1:0:125:U:N3	1:0:128:A:C2	2.87	0.43
1:0:213:G:O2'	1:0:214:U:OP2	2.36	0.43
1:0:293:A:P	1:0:358:G:H22	2.40	0.43
1:0:333:G:O2'	1:0:334:G:H5'	2.19	0.43
1:0:514:G:O5'	1:0:514:G:H8	2.01	0.43
1:0:699:C:C2	1:0:743:G:N2	2.87	0.43
1:0:961:A:H2	1:0:962:C:C4	2.36	0.43
1:0:1589:G:C2	1:0:1605:G:N3	2.87	0.43
1:0:1676:G:C6	1:0:1677:U:N3	2.87	0.43
1:0:1764:C:C2'	1:0:1765:G:H5'	2.49	0.43
1:0:1774:G:C2'	1:0:1775:A:H5'	2.49	0.43
1:0:2000:G:O2'	1:0:2001:G:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2070:G:H2'	1:0:2072:G:OP1	2.18	0.43
1:0:2112:A:C2	1:0:2113:G:C5	3.07	0.43
1:0:2291:A:N9	1:0:2309:C:H5'	2.33	0.43
1:0:2544:G:C6	1:0:2545:U:C4	3.07	0.43
1:0:2676:C:N4	1:0:2810:G:N2	2.66	0.43
4:B:41:PHE:HB3	4:B:190:MET:HE1	2.01	0.43
7:E:47:VAL:HG11	7:E:69:ILE:HD13	1.99	0.43
10:H:154:TYR:C	10:H:156:LYS:H	2.26	0.43
13:K:72:VAL:HG11	13:K:121:PHE:CD1	2.54	0.43
18:P:3:LEU:HD23	18:P:3:LEU:N	2.33	0.43
19:Q:53:HIS:C	19:Q:55:ARG:N	2.77	0.43
25:W:32:CYS:SG	25:W:33:THR:N	2.92	0.43
26:X:51:ASP:HB2	26:X:85:VAL:O	2.19	0.43
1:0:50:G:C6	1:0:51:G:C5	3.07	0.42
1:0:189:A:OP1	15:M:171:ARG:NH2	2.52	0.42
1:0:331:A:C6	1:0:332:G:C4	3.06	0.42
1:0:402:U:H2'	1:0:403:C:C6	2.54	0.42
1:0:416:G:N2	1:0:425:U:C2	2.87	0.42
1:0:718:C:O2	1:0:718:C:C2'	2.66	0.42
1:0:730:G:H2'	1:0:731:U:C6	2.53	0.42
1:0:890:C:O2'	1:0:891:G:H5'	2.19	0.42
1:0:903:U:O4	14:L:18:HIS:HB2	2.19	0.42
1:0:940:G:C5	1:0:1027:G:C2	3.07	0.42
1:0:968:G:C2	1:0:1001:U:O2	2.72	0.42
1:0:1139:U:C2	1:0:1140:C:C5	3.07	0.42
1:0:1307:A:C2	1:0:1348:A:C2	3.07	0.42
1:0:1332:C:C2'	1:0:1333:U:H5'	2.48	0.42
1:0:1370:G:O5'	20:R:62:HIS:HB3	2.17	0.42
1:0:1556:G:C6	1:0:1557:G:N7	2.87	0.42
1:0:1565:C:O4'	1:0:2738:G:H1'	2.19	0.42
1:0:1886:A:H2'	1:0:1887:U:H5'	2.01	0.42
1:0:1935:C:H2'	1:0:1936:C:C6	2.53	0.42
1:0:2020:C:O2'	1:0:2021:C:H5'	2.19	0.42
1:0:2029:C:O2'	1:0:2030:A:H5'	2.19	0.42
1:0:2473:U:O3'	1:0:2474:A:H3'	2.19	0.42
1:0:2715:G:C5'	4:B:13:PHE:CE1	3.00	0.42
2:9:24:U:H3'	2:9:24:U:H6	1.83	0.42
3:A:54:PRO:CG	3:A:160:ALA:HB3	2.49	0.42
5:C:22:PHE:HA	5:C:116:ALA:HA	2.01	0.42
6:D:136:ARG:NH1	6:D:156:ARG:O	2.52	0.42
7:E:7:ILE:HA	7:E:8:PRO:HD3	1.89	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:75:PRO:CG	12:J:105:LEU:HD21	2.40	0.42
13:K:11:GLY:C	13:K:12:LEU:HD23	2.44	0.42
14:L:34:GLY:HA3	14:L:38:HIS:CE1	2.54	0.42
16:N:72:GLU:HB3	16:N:163:PHE:CE1	2.54	0.42
20:R:113:HIS:HE1	20:R:144:GLU:CD	2.27	0.42
25:W:88:THR:HG22	25:W:89:ASP:N	2.34	0.42
27:Y:166:ALA:C	27:Y:168:PHE:H	2.27	0.42
1:O:721:A:H1'	17:O:114:ILE:HD13	2.01	0.42
1:O:924:G:N2	1:O:925:C:H1'	2.33	0.42
1:O:1021:G:C4	1:O:1022:A:C8	3.06	0.42
1:O:1032:A:C5	1:O:1033:C:C6	3.07	0.42
1:O:1196:C:H3'	1:O:1197:G:C5'	2.47	0.42
1:O:1299:G:N7	14:L:6:ARG:NH1	2.67	0.42
1:O:1447:U:OP1	1:O:1506:U:N3	2.47	0.42
1:O:1597:A:H2'	1:O:1598:A:C5'	2.47	0.42
1:O:1749:U:O2	1:O:1751:G:H8	2.02	0.42
1:O:1820:G:C6	1:O:2030:A:C2	3.06	0.42
1:O:1973:A:C8	1:O:1973:A:C3'	3.03	0.42
1:O:2094:G:H4'	4:B:245:SER:HB3	2.00	0.42
1:O:2406:U:C2	1:O:2407:G:C8	3.07	0.42
1:O:2617:G:N3	1:O:2617:G:H2'	2.33	0.42
1:O:2864:U:H5'	1:O:2865:G:OP2	2.19	0.42
2:9:19:G:C2'	2:9:20:G:H5'	2.48	0.42
2:9:40:C:C5	6:D:50:VAL:HG13	2.54	0.42
4:B:141:ARG:HD2	4:B:163:GLU:OE2	2.20	0.42
4:B:217:ARG:NH1	4:B:255:GLY:HA3	2.35	0.42
5:C:202:THR:O	5:C:205:ARG:HG2	2.19	0.42
7:E:7:ILE:HG23	7:E:45:ASP:O	2.18	0.42
11:I:13:GLU:O	11:I:14:ALA:HB2	2.19	0.42
13:K:101:ASN:H	13:K:101:ASN:ND2	2.16	0.42
17:O:73:ASP:OD1	17:O:93:GLY:HA2	2.19	0.42
18:P:84:ALA:C	18:P:86:ALA:H	2.26	0.42
24:V:16:ARG:NH2	24:V:63:GLU:HG3	2.33	0.42
1:O:283:U:C5	1:O:284:C:C4	3.07	0.42
1:O:521:A:H5''	27:Y:137:LYS:CD	2.49	0.42
1:O:677:C:H4'	5:C:246:ARG:NH2	2.34	0.42
1:O:921:G:H4'	1:O:924:G:N1	2.34	0.42
1:O:1170:U:H3'	1:O:1171:A:C5'	2.49	0.42
1:O:1186:C:N3	1:O:1187:U:C2	2.88	0.42
1:O:1236:A:H2'	1:O:1237:U:O4'	2.19	0.42
1:O:1631:A:N1	1:O:1632:A:C2	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1805:G:H2'	1:0:1806:G:H8	1.85	0.42
1:0:1947:G:C8	1:0:1947:G:H3'	2.54	0.42
1:0:2256:G:C2'	1:0:2257:G:C5'	2.84	0.42
1:0:2361:A:C8	1:0:2425:A:N6	2.88	0.42
1:0:2672:C:O2'	4:B:87:TYR:HE2	2.03	0.42
1:0:2751:C:C5	1:0:2752:C:H5	2.37	0.42
1:0:2820:A:C6	1:0:2821:C:C4	3.07	0.42
1:0:2846:C:OP1	4:B:158:LYS:HD3	2.19	0.42
1:0:2871:G:C6	1:0:2887:G:N1	2.87	0.42
4:B:124:ALA:O	4:B:128:ILE:HG13	2.18	0.42
5:C:76:ARG:HH11	5:C:76:ARG:CG	2.32	0.42
9:G:85:ILE:HG22	9:G:85:ILE:H	1.59	0.42
11:I:83:THR:HG22	11:I:84:GLY:H	1.83	0.42
26:X:43:VAL:HG22	26:X:76:ARG:HH12	1.83	0.42
1:0:304:G:H1'	1:0:347:A:N6	2.34	0.42
1:0:807:A:H2'	1:0:808:A:H8	1.83	0.42
1:0:824:G:N7	1:0:854:G:C6	2.87	0.42
1:0:890:C:O2'	29:1:50:TRP:O	2.34	0.42
1:0:1007:A:H2'	10:H:19:TYR:CZ	2.55	0.42
1:0:1119:G:C6	1:0:1244:U:C5	3.07	0.42
1:0:1216:G:C8	9:G:7:ARG:NH2	2.83	0.42
1:0:1268:C:O2	1:0:1268:C:H2'	2.19	0.42
1:0:1324:G:N1	1:0:1334:C:C2	2.88	0.42
1:0:1593:C:OP1	18:P:117:SER:HB3	2.18	0.42
1:0:1853:C:H5'	3:A:228:ILE:O	2.19	0.42
1:0:2445:U:O2	1:0:2446:G:C8	2.73	0.42
1:0:2551:C:O2'	1:0:2552:C:H5'	2.19	0.42
1:0:2834:G:C5	1:0:2847:G:N2	2.87	0.42
1:0:2906:A:H5'	1:0:2907:C:O4'	2.19	0.42
3:A:105:VAL:CG1	3:A:154:ALA:HB1	2.49	0.42
5:C:192:ILE:HG23	5:C:232:LEU:O	2.19	0.42
15:M:71:SER:O	15:M:73:ARG:HD2	2.19	0.42
1:0:92:G:H4'	24:V:44:GLY:HA3	2.01	0.42
1:0:569:A:C2'	1:0:570:C:H5'	2.50	0.42
1:0:790:A:H1'	1:0:1710:A:H2'	2.02	0.42
1:0:910:C:O2'	1:0:932:U:H5''	2.20	0.42
1:0:1386:G:OP1	26:X:49:ARG:NH1	2.52	0.42
1:0:1555:G:O2'	1:0:1556:G:H5'	2.20	0.42
1:0:1586:G:H2'	1:0:1587:U:C6	2.55	0.42
1:0:2252:A:H8	1:0:2252:A:O5'	2.02	0.42
2:9:58:G:N7	2:9:59:C:C4	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:69:VAL:HA	4:B:70:PRO:HD3	1.89	0.42
6:D:159:PRO:O	6:D:163:VAL:HG23	2.20	0.42
11:I:79:ALA:CA	11:I:96:LEU:HD21	2.50	0.42
13:K:101:ASN:O	13:K:102:GLU:CB	2.68	0.42
18:P:22:TRP:CZ2	18:P:25:PRO:HD3	2.55	0.42
18:P:59:ARG:O	18:P:63:ARG:HG3	2.20	0.42
20:R:79:ARG:O	20:R:81:PRO:HD3	2.19	0.42
30:2:22:PRO:HG2	30:2:25:VAL:CG2	2.49	0.42
1:0:327:A:OP1	5:C:149:LYS:NZ	2.52	0.42
1:0:824:G:C6	1:0:854:G:N7	2.87	0.42
1:0:936:C:C2'	1:0:937:C:H5'	2.50	0.42
1:0:1097:A:H5''	25:W:125:HIS:NE2	2.34	0.42
1:0:1135:G:C2	1:0:1228:C:C2	3.08	0.42
1:0:2036:C:O4'	13:K:44:LEU:HG	2.20	0.42
1:0:2264:A:OP1	15:M:71:SER:CB	2.66	0.42
1:0:2500:C:O2'	1:0:2501:G:H5'	2.20	0.42
1:0:2713:G:C2'	1:0:2714:U:H5'	2.50	0.42
1:0:2824:C:OP1	1:0:2826:G:H4'	2.19	0.42
4:B:23:THR:HA	4:B:24:PRO:HD3	1.90	0.42
5:C:127:ARG:HH22	5:C:225:PRO:HG2	1.81	0.42
8:F:99:THR:O	8:F:99:THR:HG23	2.20	0.42
8:F:101:ALA:HB3	8:F:105:ASP:OD1	2.19	0.42
16:N:61:ALA:CB	16:N:88:ALA:HB2	2.49	0.42
17:O:45:LEU:HD12	17:O:88:LYS:HD2	2.02	0.42
29:1:5:THR:N	29:1:6:PRO:HD2	2.34	0.42
1:0:170:U:H2'	1:0:171:C:H5'	2.01	0.42
1:0:347:A:H2'	1:0:348:C:H5'	2.02	0.42
1:0:445:U:H2'	1:0:446:G:H8	1.83	0.42
1:0:484:A:H61	1:0:508:A:N6	2.10	0.42
1:0:786:G:H2'	1:0:787:G:O4'	2.20	0.42
1:0:924:G:C2	1:0:925:C:H1'	2.55	0.42
1:0:1016:U:O2'	1:0:1017:U:H5'	2.19	0.42
1:0:1075:G:C2	1:0:1085:C:C2	3.07	0.42
1:0:1163:G:OP2	1:0:1164:U:C3'	2.54	0.42
1:0:1195:G:H2'	1:0:1196:C:O5'	2.19	0.42
1:0:1734:C:OP1	4:B:234:ARG:NH1	2.50	0.42
1:0:2088:C:H2'	1:0:2089:A:H8	1.84	0.42
1:0:2679:G:N2	1:0:2807:U:C2	2.88	0.42
1:0:2912:C:O2'	1:0:2913:A:H5'	2.19	0.42
2:9:40:C:H5	6:D:50:VAL:HG13	1.85	0.42
2:9:49:G:H2'	2:9:50:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:57:GLU:HA	4:B:58:PRO:HD2	1.85	0.42
7:E:69:ILE:O	7:E:72:MET:HB2	2.19	0.42
9:G:53:LEU:HG	9:G:53:LEU:H	1.58	0.42
12:J:6:PHE:HB3	12:J:109:TYR:OH	2.20	0.42
13:K:55:VAL:CG1	13:K:56:SER:N	2.82	0.42
16:N:10:MET:O	16:N:14:ARG:HG3	2.20	0.42
16:N:48:VAL:HG13	16:N:55:ASP:HB3	2.02	0.42
20:R:39:THR:CG2	20:R:42:GLU:HG3	2.50	0.42
1:0:101:C:O2	1:0:102:A:C8	2.72	0.42
1:0:171:C:H2'	1:0:172:U:H5'	2.01	0.42
1:0:354:A:C6	1:0:355:C:C4	3.08	0.42
1:0:453:A:C5	1:0:479:G:C5	3.07	0.42
1:0:907:A:H2'	1:0:908:A:C8	2.54	0.42
1:0:914:A:O5'	1:0:915:C:C6	2.72	0.42
1:0:1580:A:H5''	1:0:1581:A:OP2	2.20	0.42
1:0:1760:G:N3	1:0:1760:G:H2'	2.35	0.42
1:0:2055:A:C4'	20:R:132:ARG:HH22	2.32	0.42
1:0:2103:A:H2'	1:0:2104:C:C5'	2.48	0.42
1:0:2335:C:H6	1:0:2335:C:O5'	2.03	0.42
1:0:2405:C:H2'	1:0:2406:U:C6	2.55	0.42
1:0:2661:U:C2	1:0:2812:A:N6	2.87	0.42
2:9:17:G:C2	2:9:64:C:C4	3.08	0.42
3:A:127:GLN:HB3	3:A:139:LYS:HB3	2.02	0.42
5:C:127:ARG:O	5:C:127:ARG:HG2	2.20	0.42
15:M:27:ARG:O	15:M:30:GLU:N	2.53	0.42
15:M:95:LYS:HA	15:M:170:ASN:HD21	1.84	0.42
16:N:77:ASN:OD1	16:N:79:PRO:HD2	2.20	0.42
16:N:93:GLN:NE2	16:N:127:LEU:HD12	2.30	0.42
27:Y:119:GLN:O	27:Y:120:ARG:C	2.61	0.42
1:0:166:A:C2	14:L:38:HIS:CE1	3.08	0.42
1:0:197:C:P	14:L:56:LYS:HD2	2.60	0.42
1:0:604:G:H4'	1:0:605:C:O5'	2.19	0.42
1:0:644:G:H5'	1:0:644:G:N3	2.35	0.42
1:0:669:G:H2'	1:0:670:G:H8	1.85	0.42
1:0:832:U:H2'	1:0:833:G:H8	1.83	0.42
1:0:877:G:O6	1:0:2113:G:O2'	2.38	0.42
1:0:1188:A:N7	1:0:1189:A:C2	2.88	0.42
1:0:1188:A:C8	1:0:1189:A:C2	3.07	0.42
1:0:1199:A:N6	1:0:1200:A:C6	2.88	0.42
1:0:1268:C:O2'	1:0:1269:G:H5'	2.19	0.42
1:0:1540:G:C6	1:0:1646:G:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1853:C:OP1	3:A:231:LYS:HG3	2.20	0.42
1:0:2121:G:C5	1:0:2122:C:C5	3.08	0.42
1:0:2634:G:H2'	1:0:2635:A:C8	2.55	0.42
2:9:44:A:O4'	6:D:76:ARG:NE	2.52	0.42
4:B:102:THR:HG23	4:B:182:VAL:HG12	2.01	0.42
9:G:64:ASN:HB3	9:G:89:VAL:HG11	1.99	0.42
9:G:79:GLU:H	9:G:79:GLU:HG3	1.62	0.42
10:H:88:ARG:H	10:H:88:ARG:HG2	1.40	0.42
14:L:57:VAL:HG12	14:L:57:VAL:O	2.20	0.42
14:L:66:VAL:HG22	14:L:111:ALA:H	1.83	0.42
16:N:78:MET:HB2	16:N:79:PRO:HD3	2.02	0.42
24:V:39:ALA:H	24:V:40:PRO:CD	2.32	0.42
25:W:110:GLN:NE2	25:W:110:GLN:HA	2.35	0.42
25:W:141:HIS:HB2	25:W:146:ILE:HG12	2.02	0.42
1:0:68:U:C4	1:0:107:U:H4'	2.54	0.42
1:0:667:C:H3'	1:0:667:C:C6	2.55	0.42
1:0:1024:G:C6	1:0:1025:C:N3	2.88	0.42
1:0:1134:G:H2'	1:0:1135:G:C5'	2.50	0.42
1:0:1211:G:O2'	1:0:1212:C:H5'	2.20	0.42
1:0:1317:A:H1'	1:0:1342:C:O2	2.20	0.42
1:0:1543:G:H2'	1:0:1544:U:H5	1.85	0.42
1:0:1774:G:C2'	1:0:1775:A:O5'	2.68	0.42
1:0:1895:A:C4	1:0:1896:G:C8	3.07	0.42
1:0:2253:G:N3	1:0:2254:G:C8	2.88	0.42
1:0:2290:U:C2	1:0:2292:C:C5	3.08	0.42
1:0:2758:G:O2'	1:0:2759:C:H5'	2.20	0.42
1:0:2863:G:H2'	1:0:2864:U:O4'	2.20	0.42
1:0:2885:A:C4	1:0:2886:C:C5	3.08	0.42
2:9:45:A:C6	2:9:46:C:C4	3.08	0.42
4:B:154:VAL:HA	4:B:155:PRO:HD3	1.84	0.42
5:C:124:VAL:HA	5:C:230:GLY:O	2.19	0.42
6:D:25:MET:HE2	6:D:41:LEU:CD1	2.50	0.42
6:D:44:ILE:O	6:D:44:ILE:HG12	2.20	0.42
7:E:80:TRP:O	7:E:134:SER:HA	2.20	0.42
15:M:72:ALA:C	15:M:74:LYS:N	2.77	0.42
25:W:4:LEU:HD22	25:W:52:VAL:HG21	2.01	0.42
25:W:146:ILE:HD13	25:W:146:ILE:HA	1.89	0.42
27:Y:182:PHE:HD2	27:Y:200:THR:O	2.03	0.42
1:0:170:U:H5'	31:3:48:ASN:O	2.19	0.41
1:0:218:C:H5	1:0:220:C:C4	2.38	0.41
1:0:944:G:C1'	25:W:23:MET:HE1	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:961:A:C2	1:0:962:C:C4	3.08	0.41
1:0:1163:G:C4'	11:I:112:LEU:CD1	2.92	0.41
1:0:1246:A:C8	1:0:1246:A:C5'	3.00	0.41
1:0:1383:U:H2'	1:0:1384:C:C6	2.55	0.41
1:0:2297:U:H4'	19:Q:11:ARG:HH21	1.84	0.41
1:0:2615:U:C5	1:0:2616:G:C5	3.08	0.41
1:0:2747:C:C4	1:0:2748:G:C2	3.08	0.41
1:0:2803:C:O2'	12:J:140:GLY:HA2	2.19	0.41
2:9:28:U:OP1	16:N:39:SER:HA	2.20	0.41
2:9:34:A:O5'	2:9:34:A:H8	2.03	0.41
4:B:217:ARG:CZ	4:B:255:GLY:HA3	2.50	0.41
5:C:154:VAL:O	5:C:158:GLU:HG3	2.20	0.41
9:G:121:PRO:C	9:G:127:PRO:HB3	2.45	0.41
10:H:49:LEU:HD13	10:H:150:PHE:HB3	2.01	0.41
11:I:68:VAL:HA	11:I:69:PRO:HD3	1.85	0.41
16:N:108:SER:HA	16:N:109:PRO:HD3	1.64	0.41
20:R:39:THR:O	20:R:40:ALA:C	2.63	0.41
20:R:119:VAL:HG21	20:R:142:ASP:CG	2.45	0.41
21:S:20:PHE:CD2	21:S:20:PHE:N	2.88	0.41
1:0:61:G:N1	1:0:86:A:N6	2.68	0.41
1:0:109:U:O2	1:0:109:U:H2'	2.19	0.41
1:0:455:A:C2'	1:0:456:G:H5'	2.50	0.41
1:0:608:A:O5'	1:0:608:A:C8	2.69	0.41
1:0:666:A:H2'	1:0:667:C:H5'	2.02	0.41
1:0:963:C:H2'	1:0:964:G:C8	2.55	0.41
1:0:1088:A:O5'	1:0:1088:A:C2'	2.68	0.41
1:0:1580:A:C4	1:0:1615:A:C6	3.07	0.41
1:0:1592:G:C6	1:0:1593:C:N4	2.88	0.41
1:0:1665:G:C2	1:0:1666:C:C6	3.09	0.41
1:0:1711:A:C2	1:0:1712:A:C8	3.08	0.41
1:0:1851:G:O2'	1:0:1852:A:H5'	2.21	0.41
1:0:1896:G:C5	1:0:1897:U:C4	3.07	0.41
1:0:1966:U:H3'	1:0:1966:U:C6	2.54	0.41
1:0:2327:A:N3	1:0:2374:A:C2	2.88	0.41
1:0:2382:A:H1'	31:3:10:TYR:CD2	2.55	0.41
1:0:2781:U:H2'	1:0:2782:G:O5'	2.19	0.41
1:0:2783:A:O2'	1:0:2784:A:H5'	2.20	0.41
1:0:2831:C:H2'	1:0:2832:C:C5'	2.50	0.41
4:B:280:VAL:CG1	4:B:281:ASP:N	2.82	0.41
7:E:68:HIS:O	7:E:72:MET:HG3	2.20	0.41
8:F:39:SER:HB3	8:F:45:ALA:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:143:THR:CG2	14:L:144:ASP:H	2.32	0.41
23:U:14:GLU:O	23:U:17:THR:HB	2.21	0.41
25:W:137:GLN:HE21	25:W:141:HIS:HE1	1.67	0.41
27:Y:154:ARG:O	27:Y:154:ARG:HG2	2.19	0.41
1:0:157:G:C5	1:0:158:A:N7	2.88	0.41
1:0:450:C:C4'	5:C:46:TYR:HE1	2.33	0.41
1:0:603:A:H4'	1:0:604:G:O5'	2.20	0.41
1:0:660:A:N6	1:0:746:A:O4'	2.53	0.41
1:0:669:G:C6	1:0:670:G:C5	3.08	0.41
1:0:710:G:H2'	1:0:711:G:O4'	2.20	0.41
1:0:1085:C:H2'	1:0:1086:A:C5'	2.49	0.41
1:0:1268:C:O2	1:0:1268:C:C2'	2.68	0.41
1:0:1327:G:O3'	27:Y:169:ARG:NH1	2.53	0.41
1:0:1443:G:C6	1:0:1444:G:C5	3.08	0.41
1:0:1550:A:N1	1:0:1636:G:C6	2.88	0.41
1:0:1671:U:O5'	1:0:1671:U:H6	2.04	0.41
1:0:1673:U:H5''	21:S:34:LYS:HD2	2.02	0.41
1:0:1683:G:N1	1:0:1723:G:C8	2.88	0.41
1:0:1695:G:C6	1:0:1696:U:C4	3.08	0.41
1:0:1964:U:C2	1:0:1965:C:C5	3.08	0.41
1:0:1974:G:C6	1:0:1975:C:N3	2.89	0.41
1:0:2276:U:O2'	1:0:2277:U:H5'	2.20	0.41
1:0:2725:G:N1	1:0:2756:U:OP2	2.43	0.41
1:0:2727:A:C8	1:0:2728:C:C6	3.07	0.41
1:0:2775:A:C6	1:0:2799:A:C8	3.08	0.41
1:0:2829:G:O2'	1:0:2830:U:H5'	2.20	0.41
3:A:54:PRO:HG3	3:A:160:ALA:HB3	2.02	0.41
6:D:84:LEU:C	6:D:86:THR:H	2.28	0.41
9:G:38:ILE:HG13	9:G:88:GLN:HB3	2.02	0.41
14:L:73:VAL:HG21	14:L:116:HIS:CD2	2.55	0.41
20:R:132:ARG:HG2	20:R:133:ALA:N	2.35	0.41
23:U:46:ALA:HB1	23:U:52:THR:HG21	2.02	0.41
29:1:27:TYR:HE1	29:1:32:LYS:C	2.28	0.41
31:3:7:PHE:HE2	31:3:22:VAL:CG2	2.32	0.41
1:0:25:A:C2	1:0:519:A:C8	3.08	0.41
1:0:84:G:C2	1:0:85:C:C2	3.09	0.41
1:0:204:A:C2'	1:0:205:U:H5'	2.51	0.41
1:0:441:A:H8	1:0:441:A:O5'	2.03	0.41
1:0:793:A:H2'	1:0:794:U:H6	1.85	0.41
1:0:1118:A:C8	1:0:1119:G:C5'	3.03	0.41
1:0:1346:U:C2	1:0:1347:U:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1447:U:O5'	1:0:1447:U:H6	2.04	0.41
1:0:1471:A:H2'	1:0:1472:C:C6	2.55	0.41
1:0:1496:G:H8	1:0:1496:G:O5'	2.04	0.41
1:0:1523:G:H2'	1:0:1524:U:C6	2.55	0.41
1:0:1603:A:H5'	1:0:1605:G:H5'	2.01	0.41
1:0:1815:A:H4'	1:0:2751:C:O4'	2.20	0.41
1:0:1946:C:O2	1:0:1946:C:C2'	2.64	0.41
1:0:2700:G:C5	1:0:2701:G:C5	3.09	0.41
1:0:2717:C:N3	1:0:2718:C:C5	2.89	0.41
1:0:2735:U:H2'	1:0:2736:U:H6	1.85	0.41
1:0:2759:C:C2'	1:0:2760:C:O5'	2.69	0.41
2:9:108:C:H3'	2:9:108:C:H6	1.85	0.41
4:B:256:GLN:HE21	4:B:256:GLN:HA	1.85	0.41
4:B:279:THR:OG1	4:B:290:VAL:HB	2.20	0.41
6:D:88:LEU:HB2	6:D:89:PRO:HD3	2.01	0.41
12:J:45:VAL:HG22	12:J:46:ILE:N	2.35	0.41
12:J:92:GLN:O	12:J:92:GLN:HG2	2.19	0.41
12:J:105:LEU:HD13	12:J:145:TRP:HB3	2.02	0.41
15:M:131:VAL:HG12	15:M:133:LEU:CD1	2.51	0.41
15:M:146:ASP:O	15:M:147:LEU:HD23	2.19	0.41
16:N:43:VAL:HG13	16:N:118:ILE:HD11	2.02	0.41
19:Q:24:SER:HB3	19:Q:25:PRO:HD2	2.00	0.41
1:0:16:A:C2	1:0:528:G:C2	3.09	0.41
1:0:23:G:C6	1:0:24:G:N1	2.88	0.41
1:0:335:U:C2'	1:0:336:G:OP1	2.68	0.41
1:0:638:C:C2'	1:0:639:A:O5'	2.69	0.41
1:0:874:A:H2'	1:0:1833:U:O2'	2.20	0.41
1:0:1112:G:C2	1:0:1252:A:C2	3.08	0.41
1:0:1548:U:H6	1:0:1548:U:H3'	1.85	0.41
1:0:1607:A:C5	1:0:1608:G:C8	3.08	0.41
1:0:1667:A:C8	1:0:1667:A:C5'	2.98	0.41
1:0:1760:G:C2	1:0:1761:U:C2	3.08	0.41
1:0:1850:U:H1'	1:0:1941:A:C2	2.55	0.41
1:0:1989:G:N1	1:0:2000:G:C6	2.89	0.41
1:0:2060:A:H2'	1:0:2061:C:C6	2.54	0.41
1:0:2090:G:H2'	1:0:2091:G:C8	2.55	0.41
1:0:2587:OMU:O2	1:0:2589:U:H5'	2.20	0.41
1:0:2719:A:C5	1:0:2720:C:C6	3.09	0.41
1:0:2805:A:C8	1:0:2806:C:C5	3.08	0.41
2:9:39:U:O2	2:9:44:A:N6	2.53	0.41
5:C:149:LYS:HB2	5:C:152:GLU:HG3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:135:VAL:HG22	6:D:136:ARG:N	2.35	0.41
9:G:31:GLU:HB2	9:G:95:ASP:HA	2.02	0.41
9:G:97:ASN:HD21	9:G:99:PHE:HB2	1.83	0.41
11:I:53:THR:HG22	11:I:54:VAL:H	1.85	0.41
12:J:65:ASN:O	35:J:149:CL:CL	2.76	0.41
16:N:35:VAL:HB	16:N:46:GLN:HB2	2.03	0.41
16:N:100:ALA:O	16:N:129:ILE:HG12	2.20	0.41
25:W:31:HIS:ND1	25:W:115:THR:HG21	2.35	0.41
26:X:32:LEU:N	26:X:32:LEU:HD23	2.36	0.41
1:0:286:U:C4	1:0:287:C:C4	3.09	0.41
1:0:332:G:H8	1:0:332:G:O5'	2.02	0.41
1:0:390:G:C4	1:0:391:U:C6	3.09	0.41
1:0:730:G:C5	1:0:731:U:C5	3.08	0.41
1:0:1196:C:H3'	1:0:1197:G:H5'	2.03	0.41
1:0:1225:C:O2	1:0:1225:C:H2'	2.20	0.41
1:0:1262:C:H1'	25:W:120:PRO:HG3	2.02	0.41
1:0:1430:G:C4	1:0:1434:A:N6	2.89	0.41
1:0:1552:G:C5	1:0:1553:C:C5	3.08	0.41
1:0:2361:A:H2'	1:0:2362:A:C8	2.55	0.41
1:0:2506:A:O2'	1:0:2507:G:P	2.78	0.41
1:0:2587:OMU:C2	1:0:2589:U:H5'	2.51	0.41
1:0:2662:G:C6	1:0:2663:U:C4	3.09	0.41
2:9:98:C:H1'	25:W:131:PRO:HG3	2.03	0.41
2:9:119:C:H2'	2:9:120:A:O4'	2.20	0.41
3:A:75:GLY:HA3	28:Z:62:TYR:CZ	2.56	0.41
6:D:81:GLU:O	6:D:85:GLN:N	2.53	0.41
9:G:33:VAL:HG11	9:G:94:THR:H	1.80	0.41
9:G:64:ASN:HB3	9:G:89:VAL:HG13	2.02	0.41
11:I:89:GLN:HG2	11:I:129:THR:HG22	2.01	0.41
13:K:4:LEU:HG	13:K:120:ARG:CZ	2.50	0.41
14:L:5:LYS:HD2	14:L:5:LYS:HA	1.86	0.41
15:M:47:ASP:CG	15:M:48:LYS:H	2.28	0.41
25:W:4:LEU:CD2	25:W:54:PHE:HB3	2.51	0.41
1:0:444:C:H2'	1:0:445:U:H6	1.86	0.41
1:0:560:C:H2'	1:0:561:G:H8	1.86	0.41
1:0:968:G:N2	1:0:1001:U:H1'	2.36	0.41
1:0:1133:A:H2	1:0:2500:C:O2	2.04	0.41
1:0:1144:A:C2	1:0:1220:U:C2	3.09	0.41
1:0:1197:G:H2'	1:0:1198:U:O5'	2.21	0.41
1:0:1262:C:O2	25:W:120:PRO:HG2	2.20	0.41
1:0:1500:U:OP2	18:P:41:ARG:NH2	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1544:U:OP2	1:0:1640:C:N4	2.51	0.41
1:0:1821:A:H61	1:0:2029:C:N4	2.18	0.41
1:0:1826:C:O2'	1:0:1827:G:H5'	2.20	0.41
2:9:78:G:O2'	2:9:79:U:OP2	2.39	0.41
5:C:136:VAL:HA	5:C:137:PRO:C	2.46	0.41
6:D:48:MET:HA	6:D:49:PRO:HD3	1.72	0.41
6:D:172:VAL:CG1	6:D:173:GLU:H	2.32	0.41
9:G:46:LEU:O	9:G:50:ARG:N	2.53	0.41
9:G:109:LYS:NZ	9:G:118:GLU:OE2	2.48	0.41
13:K:63:GLU:O	13:K:67:GLN:NE2	2.53	0.41
14:L:73:VAL:HG23	14:L:74:THR:N	2.35	0.41
16:N:168:LEU:C	16:N:170:GLU:H	2.28	0.41
1:0:79:G:N2	1:0:97:G:H1'	2.36	0.41
1:0:201:G:N1	1:0:202:U:C4	2.89	0.41
1:0:240:C:O2	1:0:240:C:H2'	2.19	0.41
1:0:277:U:H6	1:0:277:U:H3'	1.86	0.41
1:0:700:A:H5''	1:0:701:U:O5'	2.21	0.41
1:0:1082:A:H2'	1:0:1083:C:OP1	2.20	0.41
1:0:1116:U:C2'	1:0:1118:A:C2	3.02	0.41
1:0:1152:A:C4	1:0:1215:A:C2	3.08	0.41
1:0:1189:A:C8	1:0:1190:G:N7	2.89	0.41
1:0:1418:U:OP1	30:2:42:TRP:HB3	2.21	0.41
1:0:1688:G:H1	1:0:1692:C:C2'	2.34	0.41
1:0:1973:A:N6	1:0:2009:G:H1'	2.35	0.41
1:0:1994:A:H2'	1:0:1995:G:H5'	2.02	0.41
1:0:2135:A:C2	1:0:2241:C:C2	3.08	0.41
1:0:2405:C:H2'	1:0:2406:U:H6	1.85	0.41
1:0:2677:A:C2	1:0:2809:G:C4	3.09	0.41
2:9:10:C:C4'	2:9:13:A:H61	2.34	0.41
2:9:36:C:C5	2:9:37:C:C4	3.09	0.41
2:9:84:G:H2'	2:9:85:A:H8	1.85	0.41
3:A:135:VAL:HG21	3:A:147:ARG:CZ	2.51	0.41
4:B:224:LYS:HD3	4:B:224:LYS:HA	1.86	0.41
10:H:89:LYS:HA	10:H:89:LYS:HD3	1.88	0.41
14:L:118:LEU:HD13	14:L:120:LEU:HD21	2.02	0.41
17:O:31:GLU:O	17:O:35:LYS:HG3	2.21	0.41
17:O:89:ILE:C	17:O:91:GLN:N	2.78	0.41
22:T:12:ARG:O	22:T:19:ARG:NH2	2.48	0.41
22:T:23:VAL:O	22:T:93:THR:HG21	2.20	0.41
25:W:38:THR:HG22	25:W:39:ASP:N	2.24	0.41
1:0:74:A:C2	1:0:104:G:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:160:A:N6	1:0:161:A:C6	2.88	0.41
1:0:204:A:H2'	1:0:205:U:H5'	2.02	0.41
1:0:267:G:H2'	1:0:268:U:O4'	2.21	0.41
1:0:326:G:C5	1:0:340:A:C2	3.09	0.41
1:0:418:C:H2'	1:0:419:A:H8	1.86	0.41
1:0:435:A:C2'	1:0:436:A:H5'	2.51	0.41
1:0:545:G:H2'	1:0:546:C:H6	1.85	0.41
1:0:626:U:C4	1:0:627:G:C6	3.09	0.41
1:0:638:C:H2'	1:0:639:A:C8	2.56	0.41
1:0:701:U:O2	1:0:744:G:C2	2.74	0.41
1:0:778:C:C2	1:0:779:U:C6	3.08	0.41
1:0:869:G:H1'	1:0:886:A:C2	2.55	0.41
1:0:924:G:H2'	1:0:925:C:O5'	2.20	0.41
1:0:1081:A:C6	1:0:1082:A:N1	2.89	0.41
1:0:1135:G:C6	1:0:1136:U:C4	3.09	0.41
1:0:1168:C:P	11:I:84:GLY:HA3	2.61	0.41
1:0:1266:U:H4'	27:Y:115:ARG:HH22	1.82	0.41
1:0:1327:G:C2	1:0:1331:A:C4	3.09	0.41
1:0:1335:C:H2'	1:0:1336:U:H6	1.86	0.41
1:0:1463:A:H61	1:0:1479:A:N6	2.19	0.41
1:0:1494:A:N3	1:0:1495:C:C5	2.88	0.41
1:0:1544:U:O2	1:0:1545:C:C6	2.74	0.41
1:0:1766:U:O2	1:0:1778:A:H5'	2.20	0.41
1:0:1805:G:O2'	1:0:1806:G:H5'	2.20	0.41
1:0:1829:A:C2'	1:0:1830:C:H5'	2.51	0.41
1:0:1902:G:H2'	1:0:1903:U:O4'	2.21	0.41
1:0:2321:A:C2	1:0:2378:U:C4	3.09	0.41
1:0:2345:A:H3'	1:0:2346:C:C6	2.55	0.41
1:0:2385:G:H2'	1:0:2386:U:H6	1.86	0.41
1:0:2434:A:H8	1:0:2434:A:O5'	2.03	0.41
1:0:2523:U:H2'	1:0:2524:G:C8	2.55	0.41
1:0:2547:C:C2	1:0:2548:C:C5	3.09	0.41
1:0:2629:C:O2'	1:0:2630:G:H5'	2.21	0.41
1:0:2679:G:H2'	1:0:2680:A:H3'	2.02	0.41
1:0:2880:A:H2'	1:0:2881:C:H5'	2.03	0.41
6:D:67:ASP:HA	6:D:68:PRO:HD3	1.86	0.41
8:F:4:VAL:HA	8:F:76:PHE:CE1	2.56	0.41
8:F:48:VAL:O	8:F:75:ILE:HG22	2.20	0.41
9:G:78:LEU:C	9:G:80:ASP:N	2.78	0.41
12:J:36:VAL:CG1	12:J:37:ALA:N	2.84	0.41
13:K:49:LEU:HG	13:K:76:GLN:HG2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:170:GLU:O	16:N:174:GLU:HG3	2.21	0.41
17:O:89:ILE:O	17:O:91:GLN:N	2.53	0.41
19:Q:75:ILE:CD1	19:Q:84:ILE:HD11	2.51	0.41
20:R:79:ARG:C	20:R:81:PRO:HD3	2.46	0.41
1:0:39:G:N2	1:0:444:C:C2	2.89	0.41
1:0:165:A:H5'	14:L:33:ALA:HB2	2.02	0.41
1:0:420:U:O4'	1:0:1920:C:C4	2.73	0.41
1:0:453:A:N3	1:0:479:G:C8	2.90	0.41
1:0:494:C:O2	1:0:496:G:C8	2.73	0.41
1:0:512:G:H4'	1:0:515:C:O2	2.21	0.41
1:0:566:A:H2'	1:0:567:U:H5'	2.03	0.41
1:0:1550:A:C2	1:0:1636:G:C4	3.09	0.41
1:0:1872:C:O2	3:A:25:ALA:HA	2.21	0.41
1:0:2040:C:H4'	1:0:2759:C:O2	2.21	0.41
1:0:2088:C:O2'	1:0:2089:A:H5'	2.21	0.41
1:0:2381:C:H4'	31:3:80:ARG:HH12	1.86	0.41
1:0:2440:C:H2'	1:0:2441:U:O4'	2.21	0.41
1:0:2450:C:H2'	1:0:2451:G:O5'	2.21	0.41
1:0:2594:C:H3'	1:0:2594:C:C6	2.55	0.41
1:0:2682:C:C2	1:0:2713:G:N2	2.89	0.41
1:0:2694:A:H3'	1:0:2695:C:H6	1.86	0.41
1:0:2751:C:C6	1:0:2751:C:H3'	2.56	0.41
1:0:2766:A:O2'	4:B:265:LEU:O	2.37	0.41
2:9:9:C:C5	2:9:10:C:C6	3.09	0.41
2:9:37:C:O2'	2:9:38:A:H5'	2.21	0.41
5:C:157:LEU:HD23	5:C:157:LEU:HA	1.92	0.41
7:E:146:ALA:O	7:E:147:ASP:C	2.64	0.41
9:G:8:LYS:H	9:G:8:LYS:HG2	1.68	0.41
9:G:36:VAL:HG13	9:G:89:VAL:HG23	2.02	0.41
11:I:115:TYR:O	11:I:115:TYR:CD2	2.74	0.41
1:0:78:G:C2	1:0:79:G:C2	3.09	0.40
1:0:134:U:H2'	1:0:135:G:C8	2.56	0.40
1:0:196:G:O2'	14:L:56:LYS:NZ	2.43	0.40
1:0:293:A:C5	1:0:360:A:C2	3.10	0.40
1:0:324:G:N3	1:0:325:U:C6	2.90	0.40
1:0:418:C:O2'	1:0:419:A:H5'	2.21	0.40
1:0:479:G:C2	1:0:480:C:C5	3.09	0.40
1:0:561:G:O2'	1:0:562:A:H5'	2.21	0.40
1:0:722:G:H22	1:0:938:G:P	2.44	0.40
1:0:906:C:O4'	1:0:1330:A:H1'	2.22	0.40
1:0:1229:C:H6	1:0:1229:C:O5'	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1263:C:H5''	25:W:117:ARG:NH1	2.37	0.40
1:0:1264:U:H2'	1:0:1265:G:H8	1.86	0.40
1:0:1377:C:C6	1:0:1377:C:C5'	2.94	0.40
1:0:1709:G:C5	1:0:1711:A:C5	3.08	0.40
1:0:1787:C:O2	1:0:2875:A:C2	2.72	0.40
1:0:2048:C:O3'	20:R:69:LYS:NZ	2.54	0.40
1:0:2300:A:H4'	1:0:2301:A:O5'	2.21	0.40
1:0:2594:C:C6	1:0:2594:C:C3'	3.04	0.40
1:0:2607:U:H3'	1:0:2609:G:H5''	2.04	0.40
1:0:2706:A:C5	1:0:2707:C:C5	3.09	0.40
1:0:2713:G:O2'	1:0:2714:U:H5'	2.21	0.40
1:0:2723:G:C2	1:0:2760:C:O2	2.74	0.40
1:0:2851:G:H2'	1:0:2902:A:H61	1.85	0.40
1:0:2869:G:C6	1:0:2870:C:C4	3.09	0.40
1:0:2898:G:O2'	1:0:2899:A:H5'	2.21	0.40
2:9:13:A:C3'	2:9:14:G:C5'	3.00	0.40
2:9:45:A:C5	2:9:46:C:C4	3.09	0.40
2:9:58:G:H3'	2:9:59:C:C5	2.56	0.40
5:C:27:ARG:O	5:C:31:ILE:HG13	2.21	0.40
6:D:27:ILE:HG22	6:D:28:GLY:H	1.86	0.40
9:G:122:ASN:N	9:G:127:PRO:HB3	2.36	0.40
20:R:14:ALA:HB2	20:R:99:ALA:HB2	2.02	0.40
25:W:35:VAL:HA	25:W:36:PRO:HD3	1.78	0.40
25:W:59:GLN:HE22	25:W:98:PHE:N	2.19	0.40
1:0:1103:C:C2	1:0:1241:G:N2	2.89	0.40
1:0:1328:A:P	27:Y:169:ARG:HH11	2.44	0.40
1:0:1603:A:H4'	1:0:1605:G:C8	2.55	0.40
1:0:1915:U:C2'	1:0:1916:C:C5'	2.99	0.40
1:0:2614:C:H2'	1:0:2615:U:H5'	2.03	0.40
1:0:2615:U:O2'	1:0:2616:G:H5'	2.21	0.40
1:0:2725:G:H1'	1:0:2757:A:N6	2.36	0.40
1:0:2763:G:C6	1:0:2764:C:N4	2.89	0.40
2:9:108:C:H2'	2:9:109:G:O4'	2.21	0.40
2:9:115:C:C2	2:9:116:C:C5	3.09	0.40
4:B:4:SER:O	4:B:5:ARG:HB2	2.20	0.40
4:B:307:ARG:HG3	4:B:307:ARG:HH11	1.87	0.40
6:D:77:ASP:HB3	6:D:78:GLU:H	1.56	0.40
8:F:56:PRO:CG	15:M:44:THR:HA	2.46	0.40
9:G:8:LYS:HB2	9:G:9:THR:H	1.60	0.40
9:G:110:THR:HG1	9:G:114:ILE:HA	1.86	0.40
16:N:48:VAL:HG11	16:N:55:ASP:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:39:THR:HG22	20:R:42:GLU:H	1.86	0.40
25:W:45:VAL:O	25:W:49:ASN:N	2.54	0.40
1:0:170:U:C5'	31:3:48:ASN:O	2.69	0.40
1:0:244:C:H6	1:0:244:C:O5'	2.03	0.40
1:0:387:G:H2'	1:0:388:G:C5'	2.52	0.40
1:0:614:U:O2	1:0:614:U:H2'	2.22	0.40
1:0:775:G:OP1	29:1:16:HIS:HE1	2.04	0.40
1:0:793:A:H5''	18:P:83:LYS:HG2	2.04	0.40
1:0:856:G:O2'	1:0:857:A:H3'	2.21	0.40
1:0:1169:U:H2'	1:0:1170:U:C5'	2.52	0.40
1:0:1207:A:H3'	1:0:1208:C:OP2	2.22	0.40
1:0:1311:G:C2	1:0:1312:G:N7	2.89	0.40
1:0:1517:U:O5'	1:0:1517:U:H6	2.03	0.40
1:0:1657:A:C6	1:0:1658:A:C6	3.10	0.40
1:0:2575:C:C4	1:0:2576:A:C5	3.09	0.40
1:0:2596:A:O2'	13:K:32:ILE:HG22	2.20	0.40
1:0:2613:G:H2'	1:0:2614:C:H6	1.86	0.40
1:0:2689:A:H2'	1:0:2690:U:H5'	2.03	0.40
2:9:88:G:OP1	25:W:130:HIS:NE2	2.52	0.40
3:A:88:ILE:O	3:A:88:ILE:HG22	2.21	0.40
3:A:182:ARG:HH11	3:A:182:ARG:HG2	1.86	0.40
4:B:256:GLN:NE2	4:B:257:THR:H	2.19	0.40
6:D:35:ALA:O	6:D:38:GLU:HB2	2.21	0.40
7:E:112:ALA:HA	7:E:113:PRO:HD3	1.84	0.40
9:G:41:ILE:CG2	9:G:45:GLN:HB3	2.51	0.40
10:H:63:GLU:O	10:H:67:LEU:HB2	2.21	0.40
10:H:154:TYR:C	10:H:154:TYR:CD1	2.98	0.40
11:I:96:LEU:HD23	11:I:96:LEU:HA	1.91	0.40
18:P:58:SER:C	18:P:60:GLY:H	2.29	0.40
25:W:101:LEU:HD23	25:W:101:LEU:HA	1.77	0.40
29:1:22:CYS:HB3	29:1:37:CYS:CB	2.49	0.40
1:0:248:A:H3'	1:0:249:G:H5'	2.04	0.40
1:0:278:A:H2'	1:0:279:C:O4'	2.22	0.40
1:0:435:A:O2'	1:0:436:A:H5'	2.22	0.40
1:0:493:U:C2'	1:0:494:C:H5'	2.51	0.40
1:0:733:U:H2'	1:0:734:U:O4'	2.22	0.40
1:0:814:G:C2	1:0:815:U:H1'	2.57	0.40
1:0:1209:C:C2	1:0:1210:G:C8	3.10	0.40
1:0:1252:A:H2'	1:0:1253:C:O4'	2.22	0.40
1:0:1375:A:H2'	1:0:1376:G:C5'	2.49	0.40
1:0:1688:G:H4'	29:1:8:GLN:HG3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1889:C:H2'	1:0:1890:U:H5'	2.03	0.40
1:0:2005:G:OP2	1:0:2006:C:H5''	2.22	0.40
1:0:2348:C:C5'	6:D:22:VAL:HG21	2.51	0.40
1:0:2502:C:O3'	10:H:151:ARG:NH2	2.54	0.40
1:0:2508:C:O2	1:0:2508:C:C2'	2.68	0.40
1:0:2547:C:H2'	1:0:2548:C:C6	2.57	0.40
1:0:2733:U:C2	1:0:2750:G:N2	2.90	0.40
1:0:2750:G:O2'	1:0:2751:C:H5'	2.22	0.40
1:0:2865:G:O2'	23:U:51:TRP:HD1	2.04	0.40
2:9:10:C:H4'	2:9:13:A:N6	2.36	0.40
2:9:39:U:C2'	2:9:40:C:OP1	2.70	0.40
4:B:97:LEU:HD22	4:B:127:GLN:NE2	2.36	0.40
9:G:99:PHE:C	9:G:101:LEU:N	2.77	0.40
22:T:17:HIS:CD2	22:T:18:GLU:HG3	2.56	0.40
27:Y:166:ALA:C	27:Y:168:PHE:N	2.80	0.40
1:0:318:C:H5'	1:0:339:A:C2	2.57	0.40
1:0:639:A:H2'	1:0:640:G:C8	2.57	0.40
1:0:876:A:H2'	1:0:876:A:N3	2.36	0.40
1:0:876:A:N3	1:0:876:A:C2'	2.84	0.40
1:0:1197:G:C2	1:0:1203:G:O6	2.75	0.40
1:0:1213:C:H2'	1:0:1214:G:H5'	1.99	0.40
1:0:1707:G:N3	1:0:1709:G:C8	2.89	0.40
1:0:1836:A:C2	29:1:3:ALA:HA	2.57	0.40
1:0:2329:C:O2'	1:0:2330:U:H5'	2.21	0.40
1:0:2548:C:OP2	4:B:5:ARG:NH2	2.54	0.40
1:0:2569:A:H8	1:0:2569:A:O5'	2.05	0.40
1:0:2700:G:C6	1:0:2701:G:C4	3.10	0.40
1:0:2876:G:O6	1:0:2882:G:C2	2.75	0.40
5:C:95:GLU:H	5:C:95:GLU:CD	2.29	0.40
9:G:71:LEU:HB2	9:G:81:LEU:CD2	2.52	0.40
9:G:71:LEU:HB2	9:G:81:LEU:HD23	2.03	0.40
12:J:31:LEU:HD23	12:J:31:LEU:HA	1.93	0.40
19:Q:53:HIS:O	19:Q:55:ARG:N	2.54	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	
3	A	235/240 (98%)	206 (88%)	24 (10%)	5 (2%)	5	27
4	B	335/338 (99%)	287 (86%)	38 (11%)	10 (3%)	3	19
5	C	244/246 (99%)	209 (86%)	28 (12%)	7 (3%)	3	20
6	D	134/177 (76%)	95 (71%)	34 (25%)	5 (4%)	2	15
7	E	170/178 (96%)	156 (92%)	12 (7%)	2 (1%)	10	40
8	F	117/120 (98%)	101 (86%)	13 (11%)	3 (3%)	4	23
9	G	121/348 (35%)	79 (65%)	29 (24%)	13 (11%)	0	2
10	H	156/171 (91%)	141 (90%)	11 (7%)	4 (3%)	4	23
11	I	112/162 (69%)	76 (68%)	28 (25%)	8 (7%)	1	4
12	J	140/145 (97%)	129 (92%)	9 (6%)	2 (1%)	9	36
13	K	130/132 (98%)	117 (90%)	11 (8%)	2 (2%)	8	35
14	L	141/165 (86%)	127 (90%)	13 (9%)	1 (1%)	18	53
15	M	192/196 (98%)	161 (84%)	31 (16%)	0	100	100
16	N	184/187 (98%)	162 (88%)	19 (10%)	3 (2%)	7	34
17	O	113/116 (97%)	103 (91%)	9 (8%)	1 (1%)	14	48
18	P	141/149 (95%)	129 (92%)	11 (8%)	1 (1%)	18	53
19	Q	93/96 (97%)	85 (91%)	5 (5%)	3 (3%)	3	18
20	R	148/155 (96%)	129 (87%)	18 (12%)	1 (1%)	18	53
21	S	79/85 (93%)	65 (82%)	14 (18%)	0	100	100
22	T	117/120 (98%)	105 (90%)	11 (9%)	1 (1%)	14	48
23	U	51/67 (76%)	48 (94%)	3 (6%)	0	100	100
24	V	63/71 (89%)	57 (90%)	5 (8%)	1 (2%)	7	34
25	W	152/154 (99%)	134 (88%)	17 (11%)	1 (1%)	18	53
26	X	80/92 (87%)	66 (82%)	13 (16%)	1 (1%)	9	38
27	Y	140/241 (58%)	130 (93%)	7 (5%)	3 (2%)	5	27

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	Z	71/92 (77%)	64 (90%)	7 (10%)	0	100	100
29	1	54/57 (95%)	45 (83%)	8 (15%)	1 (2%)	6	30
30	2	42/50 (84%)	41 (98%)	1 (2%)	0	100	100
31	3	90/92 (98%)	82 (91%)	7 (8%)	1 (1%)	11	43
All	All	3845/4442 (87%)	3329 (87%)	436 (11%)	80 (2%)	5	27

All (80) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	B	16	ARG
6	D	27	ILE
8	F	91	VAL
9	G	127	PRO
11	I	11	GLY
11	I	82	GLU
14	L	80	ASP
16	N	154	LEU
3	A	34	ASP
3	A	62	ASP
4	B	139	ASP
4	B	169	GLY
4	B	184	ASP
6	D	77	ASP
7	E	44	GLY
7	E	90	HIS
8	F	61	MET
8	F	101	ALA
9	G	87	GLY
9	G	125	VAL
9	G	129	GLY
10	H	140	VAL
11	I	90	GLU
12	J	5	GLU
13	K	102	GLU
17	O	90	ASP
19	Q	23	THR
22	T	46	ASP
24	V	43	PRO
26	X	87	ALA
27	Y	173	ALA
31	3	57	GLY

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	B	107	SER
4	B	206	THR
5	C	8	LEU
5	C	201	SER
5	C	215	ALA
5	C	232	LEU
6	D	171	ASP
6	D	173	GLU
9	G	40	GLY
9	G	100	SER
9	G	128	GLU
10	H	166	SER
12	J	65	ASN
20	R	71	LYS
25	W	25	ASN
29	1	11	LYS
3	A	232	ARG
9	G	115	GLY
10	H	44	PRO
10	H	168	ALA
11	I	117	LEU
19	Q	54	PRO
27	Y	167	GLY
27	Y	172	THR
3	A	234	GLY
4	B	2	GLN
4	B	225	GLY
5	C	206	ASN
9	G	34	GLY
16	N	164	ASP
18	P	25	PRO
4	B	183	GLU
5	C	142	ASP
9	G	98	PRO
9	G	126	ILE
11	I	30	ASP
11	I	69	PRO
11	I	98	VAL
13	K	62	PRO
3	A	170	VAL
6	D	137	PRO
9	G	111	PRO

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Mol	Chain	Res	Type
9	G	55	GLY
11	I	50	VAL
19	Q	18	PRO
4	B	5	ARG
5	C	19	PRO
16	N	126	GLY

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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
3	A	179/182 (98%)	161 (90%)	18 (10%)	7 29
4	B	282/283 (100%)	256 (91%)	26 (9%)	8 33
5	C	193/193 (100%)	170 (88%)	23 (12%)	5 22
6	D	117/148 (79%)	109 (93%)	8 (7%)	14 45
7	E	152/156 (97%)	138 (91%)	14 (9%)	8 33
8	F	93/94 (99%)	92 (99%)	1 (1%)	65 83
9	G	106/283 (38%)	92 (87%)	14 (13%)	4 18
10	H	132/138 (96%)	125 (95%)	7 (5%)	20 54
11	I	99/130 (76%)	81 (82%)	18 (18%)	2 9
12	J	118/121 (98%)	108 (92%)	10 (8%)	10 36
13	K	106/106 (100%)	98 (92%)	8 (8%)	12 41
14	L	113/127 (89%)	109 (96%)	4 (4%)	32 65
15	M	158/160 (99%)	153 (97%)	5 (3%)	34 67
16	N	149/150 (99%)	140 (94%)	9 (6%)	17 50
17	O	93/94 (99%)	87 (94%)	6 (6%)	15 47
18	P	113/117 (97%)	107 (95%)	6 (5%)	20 54
19	Q	79/80 (99%)	76 (96%)	3 (4%)	29 63
20	R	117/122 (96%)	111 (95%)	6 (5%)	21 55
21	S	71/74 (96%)	66 (93%)	5 (7%)	14 44

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
22	T	105/106 (99%)	97 (92%)	8 (8%)	12	41
23	U	44/53 (83%)	43 (98%)	1 (2%)	44	74
24	V	51/57 (90%)	48 (94%)	3 (6%)	18	50
25	W	130/130 (100%)	116 (89%)	14 (11%)	6	26
26	X	66/74 (89%)	60 (91%)	6 (9%)	9	33
27	Y	120/196 (61%)	110 (92%)	10 (8%)	10	37
28	Z	60/74 (81%)	60 (100%)	0	100	100
29	1	46/47 (98%)	45 (98%)	1 (2%)	45	74
30	2	42/46 (91%)	42 (100%)	0	100	100
31	3	79/79 (100%)	77 (98%)	2 (2%)	42	72
All	All	3213/3620 (89%)	2977 (93%)	236 (7%)	13	42

All (236) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	3	ARG
3	A	30	ARG
3	A	33	GLU
3	A	34	ASP
3	A	55	VAL
3	A	64	ASP
3	A	69	LEU
3	A	85	SER
3	A	153	ARG
3	A	166	ASP
3	A	175	LYS
3	A	179	MET
3	A	192	VAL
3	A	194	MET
3	A	197	VAL
3	A	214	SER
3	A	217	ARG
3	A	235	ARG
4	B	11	LEU
4	B	16	ARG
4	B	27	ASN
4	B	32	ASP
4	B	33	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	B	48	MET
4	B	49	THR
4	B	56	ASP
4	B	82	VAL
4	B	84	LEU
4	B	97	LEU
4	B	98	THR
4	B	129	ARG
4	B	162	MET
4	B	171	VAL
4	B	184	ASP
4	B	195	ARG
4	B	235	ARG
4	B	245	SER
4	B	249	SER
4	B	251	VAL
4	B	256	GLN
4	B	265	LEU
4	B	312	ARG
4	B	322	ARG
4	B	336	GLN
5	C	2	GLN
5	C	12	THR
5	C	16	VAL
5	C	27	ARG
5	C	46	TYR
5	C	73	LEU
5	C	76	ARG
5	C	78	ARG
5	C	91	PRO
5	C	107	ARG
5	C	109	LEU
5	C	115	LEU
5	C	151	GLN
5	C	153	VAL
5	C	156	LEU
5	C	166	ILE
5	C	187	ARG
5	C	202	THR
5	C	216	SER
5	C	222	ASP
5	C	234	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
5	C	236	THR
5	C	240	LEU
6	D	24	HIS
6	D	61	PHE
6	D	104	PHE
6	D	136	ARG
6	D	137	PRO
6	D	149	ARG
6	D	153	THR
6	D	170	TYR
7	E	7	ILE
7	E	11	VAL
7	E	16	ASP
7	E	41	SER
7	E	42	VAL
7	E	58	THR
7	E	62	ILE
7	E	86	VAL
7	E	102	VAL
7	E	115	ARG
7	E	133	VAL
7	E	150	GLN
7	E	154	ILE
7	E	156	ASP
8	F	49	PHE
9	G	7	ARG
9	G	18	GLU
9	G	45	GLN
9	G	53	LEU
9	G	54	HIS
9	G	78	LEU
9	G	81	LEU
9	G	85	ILE
9	G	91	LEU
9	G	95	ASP
9	G	108	SER
9	G	109	LYS
9	G	119	VAL
9	G	125	VAL
10	H	1	LYS
10	H	8	ASP
10	H	62	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
10	H	84	LYS
10	H	88	ARG
10	H	123	THR
10	H	142	ASP
11	I	9	VAL
11	I	13	GLU
11	I	15	ASN
11	I	20	LEU
11	I	24	LEU
11	I	29	VAL
11	I	31	VAL
11	I	41	GLN
11	I	56	TYR
11	I	64	ILE
11	I	75	ILE
11	I	82	GLU
11	I	85	SER
11	I	90	GLU
11	I	111	ASP
11	I	113	LEU
11	I	115	TYR
11	I	118	THR
12	J	39	VAL
12	J	46	ILE
12	J	47	THR
12	J	52	GLN
12	J	74	ARG
12	J	76	ASP
12	J	92	GLN
12	J	120	SER
12	J	131	THR
12	J	132	LEU
13	K	10	GLN
13	K	19	THR
13	K	58	THR
13	K	69	LEU
13	K	74	VAL
13	K	80	ILE
13	K	101	ASN
13	K	108	GLU
14	L	30	ARG
14	L	32	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
14	L	104	ASP
14	L	117	GLU
15	M	10	ASP
15	M	46	LEU
15	M	115	LEU
15	M	120	VAL
15	M	125	ARG
16	N	26	LEU
16	N	43	VAL
16	N	53	ASN
16	N	101	VAL
16	N	115	VAL
16	N	139	TRP
16	N	147	ILE
16	N	152	GLU
16	N	180	LEU
17	O	10	LEU
17	O	14	LEU
17	O	38	ARG
17	O	43	VAL
17	O	67	SER
17	O	111	VAL
18	P	3	LEU
18	P	13	VAL
18	P	21	VAL
18	P	91	LYS
18	P	98	ILE
18	P	134	VAL
19	Q	16	ASN
19	Q	30	VAL
19	Q	75	ILE
20	R	39	THR
20	R	60	LYS
20	R	82	GLU
20	R	114	VAL
20	R	132	ARG
20	R	143	VAL
21	S	10	VAL
21	S	12	GLU
21	S	20	PHE
21	S	28	VAL
21	S	30	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
22	T	5	ASP
22	T	23	VAL
22	T	39	ASN
22	T	48	VAL
22	T	86	GLU
22	T	87	VAL
22	T	96	VAL
22	T	98	VAL
23	U	39	ASN
24	V	13	PRO
24	V	22	ASP
24	V	43	PRO
25	W	4	LEU
25	W	5	VAL
25	W	10	GLU
25	W	11	VAL
25	W	35	VAL
25	W	45	VAL
25	W	50	ASP
25	W	64	THR
25	W	117	ARG
25	W	120	PRO
25	W	128	VAL
25	W	132	VAL
25	W	146	ILE
25	W	154	ARG
26	X	10	VAL
26	X	15	ARG
26	X	21	PRO
26	X	76	ARG
26	X	84	ILE
26	X	85	VAL
27	Y	95	THR
27	Y	154	ARG
27	Y	163	THR
27	Y	165	GLU
27	Y	188	HIS
27	Y	189	ASN
27	Y	200	THR
27	Y	203	VAL
27	Y	219	GLU
27	Y	235	GLU

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Mol	Chain	Res	Type
29	1	36	SER
31	3	15	ASN
31	3	65	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (98) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	5	GLN
3	A	7	GLN
3	A	47	HIS
3	A	125	ASN
3	A	131	HIS
3	A	176	HIS
3	A	199	HIS
4	B	27	ASN
4	B	55	ASN
4	B	127	GLN
4	B	145	HIS
4	B	191	ASN
4	B	230	GLN
4	B	260	HIS
4	B	286	ASN
4	B	320	GLN
4	B	332	ASN
5	C	39	GLN
5	C	69	HIS
5	C	129	HIS
5	C	151	GLN
5	C	178	GLN
6	D	24	HIS
6	D	47	GLN
6	D	103	ASN
6	D	133	ASN
7	E	106	ASN
7	E	143	GLN
7	E	150	GLN
7	E	163	GLN
9	G	37	ASN
9	G	45	GLN
9	G	64	ASN
9	G	97	ASN
10	H	31	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
10	H	46	GLN
10	H	56	GLN
11	I	41	GLN
12	J	52	GLN
12	J	107	ASN
13	K	10	GLN
13	K	67	GLN
13	K	101	ASN
14	L	42	ASN
14	L	116	HIS
15	M	19	GLN
15	M	24	GLN
15	M	77	HIS
15	M	129	HIS
15	M	143	ASN
15	M	170	ASN
16	N	40	ASN
16	N	53	ASN
16	N	93	GLN
16	N	107	ASN
17	O	53	GLN
18	P	50	GLN
18	P	57	ASN
18	P	66	GLN
18	P	73	HIS
18	P	118	GLN
19	Q	16	ASN
19	Q	40	HIS
19	Q	53	HIS
19	Q	94	GLN
20	R	62	HIS
20	R	94	ASN
20	R	98	ASN
20	R	113	HIS
20	R	117	HIS
21	S	21	GLN
21	S	51	GLN
21	S	55	GLN
22	T	39	ASN
23	U	39	ASN
24	V	4	HIS
24	V	60	GLN

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Mol	Chain	Res	Type
25	W	6	GLN
25	W	12	ASN
25	W	59	GLN
25	W	110	GLN
25	W	119	HIS
25	W	125	HIS
25	W	141	HIS
26	X	23	HIS
27	Y	149	GLN
27	Y	188	HIS
27	Y	189	ASN
28	Z	56	GLN
29	1	16	HIS
29	1	51	GLN
30	2	16	ASN
30	2	18	ASN
30	2	37	HIS
30	2	41	HIS
31	3	13	HIS
31	3	15	ASN
31	3	48	ASN

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2742/2922 (93%)	292 (10%)	35 (1%)
2	9	121/122 (99%)	17 (14%)	4 (3%)
All	All	2863/3044 (94%)	309 (10%)	39 (1%)

All (309) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	11	A
1	0	31	C
1	0	60	A
1	0	67	A
1	0	69	A
1	0	70	A
1	0	71	G
1	0	87	C
1	0	88	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	97	G
1	0	114	A
1	0	115	U
1	0	120	A
1	0	122	C
1	0	130	C
1	0	139	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	169	A
1	0	186	A
1	0	191	A
1	0	192	A
1	0	200	U
1	0	219	G
1	0	237	G
1	0	271	C
1	0	272	A
1	0	273	G
1	0	283	U
1	0	284	C
1	0	285	A
1	0	308	U
1	0	309	C
1	0	317	A
1	0	318	C
1	0	336	G
1	0	337	A
1	0	345	G
1	0	358	G
1	0	381	G
1	0	397	A
1	0	398	U
1	0	409	U
1	0	417	G
1	0	461	C
1	0	473	A
1	0	487	G
1	0	498	A
1	0	510	U
1	0	511	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	514	G
1	0	516	A
1	0	537	G
1	0	538	C
1	0	539	G
1	0	542	A
1	0	545	G
1	0	549	A
1	0	553	G
1	0	559	U
1	0	588	G
1	0	603	A
1	0	604	G
1	0	605	C
1	0	620	A
1	0	630	A
1	0	632	A
1	0	644	G
1	0	645	U
1	0	660	A
1	0	688	A
1	0	701	U
1	0	759	C
1	0	777	U
1	0	809	G
1	0	821	U
1	0	835	U
1	0	840	U
1	0	846	A
1	0	857	A
1	0	858	U
1	0	868	G
1	0	869	G
1	0	871	G
1	0	872	U
1	0	875	A
1	0	877	G
1	0	878	G
1	0	884	C
1	0	905	C
1	0	921	G
1	0	923	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	953	G
1	0	960	G
1	0	961	A
1	0	1006	A
1	0	1008	C
1	0	1029	U
1	0	1030	U
1	0	1045	G
1	0	1052	G
1	0	1059	G
1	0	1060	C
1	0	1072	G
1	0	1081	A
1	0	1087	G
1	0	1088	A
1	0	1109	U
1	0	1110	G
1	0	1119	G
1	0	1120	U
1	0	1130	U
1	0	1137	G
1	0	1151	G
1	0	1162	G
1	0	1164	U
1	0	1165	G
1	0	1166	A
1	0	1167	G
1	0	1168	C
1	0	1170	U
1	0	1171	A
1	0	1174	A
1	0	1175	G
1	0	1193	A
1	0	1194	A
1	0	1195	G
1	0	1197	G
1	0	1205	U
1	0	1206	U
1	0	1207	A
1	0	1216	G
1	0	1237	U
1	0	1238	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1239	G
1	0	1247	A
1	0	1259	A
1	0	1260	G
1	0	1279	U
1	0	1289	C
1	0	1300	G
1	0	1331	A
1	0	1342	C
1	0	1353	C
1	0	1360	C
1	0	1377	C
1	0	1378	G
1	0	1407	A
1	0	1451	C
1	0	1457	U
1	0	1460	G
1	0	1474	C
1	0	1485	A
1	0	1488	U
1	0	1505	U
1	0	1506	U
1	0	1507	C
1	0	1524	U
1	0	1525	G
1	0	1562	C
1	0	1564	C
1	0	1580	A
1	0	1592	G
1	0	1605	G
1	0	1617	C
1	0	1625	U
1	0	1626	A
1	0	1633	C
1	0	1634	G
1	0	1656	A
1	0	1667	A
1	0	1684	A
1	0	1685	A
1	0	1692	C
1	0	1693	A
1	0	1701	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1703	G
1	0	1722	U
1	0	1723	G
1	0	1725	C
1	0	1730	G
1	0	1731	C
1	0	1732	A
1	0	1752	G
1	0	1778	A
1	0	1798	C
1	0	1819	G
1	0	1820	G
1	0	1829	A
1	0	1830	C
1	0	1838	U
1	0	1856	C
1	0	1857	A
1	0	1875	A
1	0	1879	U
1	0	1885	A
1	0	1919	A
1	0	1942	A
1	0	1968	A
1	0	1973	A
1	0	1974	G
1	0	1978	A
1	0	1979	G
1	0	1980	U
1	0	1996	U
1	0	2004	U
1	0	2005	G
1	0	2006	C
1	0	2008	U
1	0	2011	A
1	0	2012	U
1	0	2013	G
1	0	2033	G
1	0	2034	U
1	0	2064	U
1	0	2072	G
1	0	2073	G
1	0	2074	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	2096	A
1	0	2097	G
1	0	2101	A
1	0	2102	G
1	0	2110	G
1	0	2238	A
1	0	2243	C
1	0	2258	A
1	0	2271	G
1	0	2272	G
1	0	2317	C
1	0	2321	A
1	0	2329	C
1	0	2332	A
1	0	2346	C
1	0	2354	A
1	0	2361	A
1	0	2369	A
1	0	2422	U
1	0	2461	U
1	0	2462	G
1	0	2465	A
1	0	2467	A
1	0	2469	A
1	0	2476	C
1	0	2482	G
1	0	2483	A
1	0	2507	G
1	0	2509	A
1	0	2511	A
1	0	2513	A
1	0	2533	C
1	0	2537	G
1	0	2541	U
1	0	2553	A
1	0	2564	G
1	0	2589	U
1	0	2601	A
1	0	2602	G
1	0	2607	U
1	0	2608	C
1	0	2613	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	2638	G
1	0	2649	A
1	0	2664	A
1	0	2676	C
1	0	2681	A
1	0	2682	C
1	0	2718	C
1	0	2719	A
1	0	2726	U
1	0	2747	C
1	0	2748	G
1	0	2749	U
1	0	2750	G
1	0	2762	C
1	0	2768	A
1	0	2786	G
1	0	2792	A
1	0	2800	A
1	0	2811	A
1	0	2812	A
1	0	2825	C
1	0	2836	G
1	0	2840	A
1	0	2850	C
1	0	2852	A
1	0	2853	U
1	0	2876	G
1	0	2890	A
1	0	2896	A
1	0	2903	C
1	0	2914	A
2	9	2	U
2	9	7	G
2	9	14	G
2	9	15	C
2	9	22	G
2	9	23	U
2	9	24	U
2	9	40	C
2	9	41	C
2	9	43	G
2	9	44	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	9	52	A
2	9	57	A
2	9	66	G
2	9	77	A
2	9	114	G
2	9	122	C

All (39) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	10	U
1	0	129	A
1	0	396	U
1	0	603	A
1	0	604	G
1	0	644	G
1	0	857	A
1	0	871	G
1	0	877	G
1	0	898	G
1	0	1080	C
1	0	1161	A
1	0	1165	G
1	0	1167	G
1	0	1193	A
1	0	1237	U
1	0	1246	A
1	0	1352	A
1	0	1377	C
1	0	1450	C
1	0	1504	A
1	0	1506	U
1	0	1710	A
1	0	1856	C
1	0	1979	G
1	0	2011	A
1	0	2096	A
1	0	2313	C
1	0	2467	A
1	0	2536	C
1	0	2718	C
1	0	2761	A

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Mol	Chain	Res	Type
1	0	2791	U
1	0	2850	C
1	0	2852	A
2	9	14	G
2	9	43	G
2	9	65	A
2	9	103	A

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
1	UR3	0	2619	1	19,22,23	0.49	0	26,32,35	0.69	1 (3%)
1	PSU	0	2621	1	18,21,22	1.57	2 (11%)	21,30,33	1.46	4 (19%)
1	OMG	0	2588	1	23,26,27	0.34	0	32,38,41	0.48	0
1	OMU	0	2587	1	19,22,23	0.41	0	25,31,34	0.54	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	UR3	0	2619	1	-	0/7/25/26	0/2/2/2
1	PSU	0	2621	1	-	0/7/25/26	0/2/2/2
1	OMG	0	2588	1	-	1/9/27/28	0/3/3/3
1	OMU	0	2587	1	-	0/9/27/28	0/2/2/2

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	2621	PSU	C2-N1	5.45	1.43	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	2621	PSU	C6-C5	2.39	1.37	1.35

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2621	PSU	C6-C5-C4	3.66	120.65	118.17
1	0	2621	PSU	C6-N1-C2	-2.97	119.93	122.69
1	0	2621	PSU	O2-C2-N1	2.89	125.76	122.79
1	0	2619	UR3	C4-N3-C2	2.65	126.71	124.58
1	0	2621	PSU	O2'-C2'-C1'	-2.47	105.35	111.21

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	0	2588	OMG	C1'-C2'-O2'-CM2

There are no ring outliers.

3 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	0	2621	PSU	1	0
1	0	2588	OMG	3	0
1	0	2587	OMU	5	0

## 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 231 ligands modelled in this entry, 231 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
9	G	2
1	0	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	0	1207:A	O3'	1208:C	P	2.51
1	G	53:LEU	C	54:HIS	N	1.63
1	G	54:HIS	C	55:GLY	N	0.99

## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

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	0	2749/2922 (94%)	0.02	69 (2%) 58 35	17, 56, 120, 184	0
2	9	122/122 (100%)	0.62	10 (8%) 17 9	41, 89, 136, 181	0
3	A	237/240 (98%)	0.99	32 (13%) 7 4	34, 90, 133, 148	0
4	B	337/338 (99%)	0.46	15 (4%) 38 20	25, 60, 100, 112	0
5	C	246/246 (100%)	0.39	8 (3%) 49 28	29, 58, 91, 106	0
6	D	140/177 (79%)	2.05	62 (44%) 0 1	89, 146, 170, 178	0
7	E	172/178 (96%)	0.66	12 (6%) 22 12	46, 73, 100, 109	0
8	F	119/120 (99%)	1.00	12 (10%) 12 7	74, 110, 150, 166	0
9	G	125/348 (35%)	2.49	73 (58%) 0 0	100, 133, 165, 168	0
10	H	160/171 (93%)	0.84	12 (7%) 20 10	51, 76, 109, 120	0
11	I	118/162 (72%)	2.65	66 (55%) 0 0	20, 181, 199, 200	0
12	J	142/145 (97%)	0.29	3 (2%) 63 40	31, 54, 83, 99	0
13	K	132/132 (100%)	0.57	6 (4%) 38 20	33, 61, 98, 103	0
14	L	145/165 (87%)	1.66	43 (29%) 1 1	49, 111, 158, 162	0
15	M	194/196 (98%)	1.40	42 (21%) 2 2	2, 62, 161, 180	0
16	N	186/187 (99%)	1.53	47 (25%) 1 1	62, 106, 176, 189	0
17	O	115/116 (99%)	0.62	7 (6%) 27 14	48, 70, 88, 91	0
18	P	143/149 (95%)	0.80	14 (9%) 13 7	44, 68, 103, 109	0
19	Q	95/96 (98%)	0.62	2 (2%) 63 40	52, 74, 87, 100	0
20	R	150/155 (96%)	0.06	1 (0%) 84 66	30, 48, 74, 81	0
21	S	81/85 (95%)	0.78	5 (6%) 26 14	56, 87, 108, 123	0
22	T	119/120 (99%)	0.78	10 (8%) 17 9	51, 74, 106, 139	0
23	U	53/67 (79%)	1.27	8 (15%) 5 3	96, 108, 126, 133	0
24	V	65/71 (91%)	1.33	14 (21%) 2 1	66, 105, 145, 148	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
25	W	154/154 (100%)	0.36	2 (1%) 75 53	38, 55, 81, 95	0
26	X	82/92 (89%)	0.54	4 (4%) 35 18	43, 63, 84, 95	0
27	Y	142/241 (58%)	0.36	0 100 100	23, 51, 87, 106	0
28	Z	73/92 (79%)	3.14	41 (56%) 0 0	164, 174, 200, 200	0
29	1	56/57 (98%)	0.04	0 100 100	28, 43, 56, 65	0
30	2	46/50 (92%)	1.55	14 (30%) 1 1	48, 87, 150, 152	0
31	3	92/92 (100%)	3.16	58 (63%) 0 0	184, 198, 200, 200	0
All	All	6790/7486 (90%)	0.61	692 (10%) 12 6	2, 67, 162, 200	0

All (692) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
28	Z	11	SER	13.1
31	3	84	ARG	12.3
31	3	83	TRP	11.8
11	I	24	LEU	10.6
1	0	1181	A	10.5
31	3	46	ILE	10.2
28	Z	14	PHE	9.8
28	Z	16	ALA	9.4
28	Z	13	ARG	9.0
2	9	1	U	8.7
15	M	80	GLY	8.5
28	Z	15	GLY	8.5
28	Z	22	SER	8.4
28	Z	17	ARG	8.4
9	G	60	ARG	8.3
14	L	37	LYS	8.3
15	M	70	GLY	8.1
31	3	31	THR	8.0
11	I	20	LEU	8.0
15	M	74	LYS	7.6
15	M	89	THR	7.6
31	3	35	TRP	7.4
31	3	34	LYS	7.4
28	Z	12	GLY	7.4
11	I	128	CYS	7.3
28	Z	26	VAL	7.3
9	G	122	ASN	7.1
15	M	91	ILE	7.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
15	M	73	ARG	7.0
15	M	87	GLY	7.0
31	3	60	LYS	7.0
15	M	79	ALA	6.9
28	Z	18	TYR	6.9
16	N	167	ASP	6.8
9	G	37	ASN	6.6
15	M	88	VAL	6.6
16	N	160	SER	6.5
15	M	90	ARG	6.3
31	3	3	MET	6.3
28	Z	19	GLY	6.3
28	Z	23	ARG	6.3
11	I	72	ALA	6.2
31	3	48	ASN	6.1
30	2	48	ASP	6.0
22	T	119	ALA	6.0
11	I	130	SER	6.0
9	G	90	GLY	5.9
15	M	82	ARG	5.9
31	3	47	GLY	5.8
11	I	114	SER	5.8
11	I	85	SER	5.7
31	3	61	PRO	5.6
28	Z	21	VAL	5.6
31	3	36	ILE	5.6
31	3	33	MET	5.4
1	0	138	U	5.4
31	3	4	PRO	5.4
16	N	147	ILE	5.3
31	3	9	THR	5.3
30	2	49	GLU	5.3
15	M	78	LYS	5.3
6	D	18	ILE	5.3
15	M	85	ARG	5.3
31	3	38	ARG	5.2
31	3	62	THR	5.2
11	I	96	LEU	5.1
9	G	35	VAL	5.1
16	N	158	LEU	5.1
6	D	26	GLY	5.1
1	0	1175	G	5.0

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Mol	Chain	Res	Type	RSRZ
4	B	1	PRO	5.0
15	M	81	ARG	5.0
11	I	28	PRO	5.0
15	M	77	HIS	5.0
9	G	63	ARG	4.9
11	I	75	ILE	4.9
24	V	1	THR	4.9
15	M	76	ARG	4.9
31	3	39	GLN	4.9
11	I	101	VAL	4.9
9	G	48	ASP	4.9
11	I	113	LEU	4.9
28	Z	10	ARG	4.9
28	Z	58	SER	4.8
24	V	5	VAL	4.8
15	M	58	GLN	4.8
15	M	83	SER	4.7
14	L	38	HIS	4.7
11	I	122	LYS	4.7
9	G	43	SER	4.7
1	0	10	U	4.7
9	G	88	GLN	4.7
28	Z	30	GLU	4.6
11	I	9	VAL	4.6
2	9	2	U	4.6
3	A	118	PHE	4.6
6	D	17	ARG	4.6
15	M	71	SER	4.6
16	N	150	TYR	4.5
9	G	47	GLN	4.5
9	G	89	VAL	4.5
15	M	86	GLN	4.5
9	G	124	ILE	4.5
9	G	119	VAL	4.5
11	I	125	VAL	4.4
15	M	72	ALA	4.4
16	N	165	ALA	4.4
14	L	82	ALA	4.4
1	0	2344	G	4.4
15	M	5	TYR	4.4
11	I	118	THR	4.4
3	A	82	VAL	4.4

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Mol	Chain	Res	Type	RSRZ
31	3	7	PHE	4.3
9	G	116	ALA	4.3
31	3	79	LEU	4.3
1	0	1192	A	4.3
16	N	159	TYR	4.3
15	M	146	ASP	4.3
11	I	5	ILE	4.3
6	D	107	GLY	4.3
16	N	168	LEU	4.2
30	2	38	LYS	4.2
28	Z	27	ALA	4.2
31	3	81	GLU	4.2
9	G	53	LEU	4.2
14	L	123	ASP	4.2
28	Z	34	ASN	4.1
1	0	1180	U	4.1
31	3	12	PRO	4.1
6	D	134	LEU	4.1
6	D	25	MET	4.1
6	D	10	PHE	4.1
1	0	1161	A	4.1
11	I	22	PRO	4.1
9	G	52	ASP	4.0
11	I	29	VAL	4.0
28	Z	54	ILE	4.0
6	D	135	VAL	4.0
11	I	127	THR	4.0
31	3	41	GLU	4.0
15	M	75	ARG	4.0
31	3	43	ASN	4.0
6	D	138	GLY	3.9
31	3	82	GLY	3.9
9	G	118	GLU	3.9
30	2	44	ARG	3.9
15	M	84	LYS	3.9
3	A	110	SER	3.9
9	G	105	LEU	3.9
11	I	117	LEU	3.9
11	I	18	PRO	3.9
11	I	86	GLY	3.9
31	3	50	GLY	3.9
15	M	194	ALA	3.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
3	A	52	SER	3.8
16	N	166	ALA	3.8
1	0	960	G	3.8
11	I	123	GLU	3.8
31	3	69	TYR	3.8
12	J	70	PHE	3.8
15	M	9	ARG	3.8
11	I	30	ASP	3.8
31	3	42	ARG	3.8
1	0	734	U	3.8
10	H	112	GLY	3.7
14	L	59	GLU	3.7
9	G	45	GLN	3.7
18	P	57	ASN	3.7
6	D	44	ILE	3.7
16	N	179	LEU	3.7
11	I	88	PRO	3.7
16	N	154	LEU	3.7
30	2	42	TRP	3.7
9	G	117	GLY	3.7
7	E	45	ASP	3.6
6	D	101	THR	3.6
11	I	19	PRO	3.6
16	N	157	PRO	3.6
6	D	87	ALA	3.6
15	M	68	ARG	3.6
30	2	43	ARG	3.6
15	M	145	ASP	3.6
9	G	65	THR	3.6
6	D	88	LEU	3.6
11	I	102	LYS	3.6
31	3	32	GLY	3.6
9	G	121	PRO	3.6
11	I	16	PRO	3.6
31	3	85	ALA	3.6
6	D	72	LYS	3.6
5	C	132	ASP	3.6
11	I	71	THR	3.6
31	3	59	ASP	3.6
31	3	51	LYS	3.6
11	I	104	ILE	3.6
16	N	80	SER	3.5

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Mol	Chain	Res	Type	RSRZ
1	0	288	A	3.5
6	D	23	VAL	3.5
28	Z	79	VAL	3.5
31	3	64	LYS	3.5
22	T	5	ASP	3.5
6	D	130	VAL	3.5
11	I	129	THR	3.5
9	G	91	LEU	3.5
9	G	13	PRO	3.5
23	U	51	TRP	3.5
3	A	37	VAL	3.4
11	I	21	GLY	3.4
11	I	87	GLU	3.4
9	G	78	LEU	3.4
9	G	103	GLN	3.4
6	D	19	GLU	3.4
1	0	1177	A	3.4
16	N	112	GLY	3.4
10	H	111	ASP	3.4
22	T	117	ASP	3.4
4	B	337	GLY	3.4
16	N	95	ALA	3.4
18	P	77	ALA	3.4
22	T	53	GLY	3.4
1	0	1193	A	3.4
6	D	53	LYS	3.4
11	I	119	ASN	3.4
1	0	1964	U	3.4
14	L	39	GLU	3.4
11	I	121	ALA	3.4
1	0	735	C	3.3
11	I	68	VAL	3.3
14	L	71	GLU	3.3
7	E	10	ASP	3.3
6	D	55	LYS	3.3
31	3	45	GLY	3.3
16	N	75	THR	3.3
28	Z	20	ARG	3.3
15	M	3	SER	3.3
10	H	168	ALA	3.3
3	A	48	ASP	3.3
4	B	336	GLN	3.3

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Mol	Chain	Res	Type	RSRZ
6	D	57	THR	3.3
11	I	124	VAL	3.3
11	I	6	GLU	3.3
31	3	65	THR	3.3
11	I	74	LEU	3.3
31	3	8	ASN	3.3
28	Z	29	ILE	3.3
3	A	83	GLY	3.3
3	A	51	ARG	3.3
14	L	41	HIS	3.3
14	L	109	LEU	3.3
14	L	40	PHE	3.2
30	2	37	HIS	3.2
6	D	84	LEU	3.2
5	C	167	ASP	3.2
6	D	22	VAL	3.2
8	F	106	ALA	3.2
1	0	1176	C	3.2
3	A	88	ILE	3.2
9	G	41	ILE	3.2
6	D	35	ALA	3.2
15	M	56	ALA	3.2
14	L	99	GLU	3.2
23	U	35	LYS	3.2
14	L	81	VAL	3.2
16	N	115	VAL	3.2
1	0	1166	A	3.2
3	A	80	LEU	3.2
14	L	127	GLU	3.2
6	D	11	HIS	3.2
6	D	54	ALA	3.2
28	Z	45	ASP	3.1
31	3	88	LEU	3.1
9	G	85	ILE	3.1
11	I	109	HIS	3.1
9	G	73	ASP	3.1
2	9	24	U	3.1
21	S	81	ILE	3.1
11	I	94	ALA	3.1
14	L	36	ASP	3.1
31	3	54	LYS	3.1
31	3	49	ASP	3.1

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Mol	Chain	Res	Type	RSRZ
1	0	1167	G	3.1
4	B	335	ASN	3.1
9	G	59	LEU	3.1
1	0	2345	A	3.1
16	N	41	LYS	3.0
28	Z	82	SER	3.0
15	M	4	ALA	3.0
31	3	40	ARG	3.0
6	D	131	THR	3.0
31	3	1	MET	3.0
9	G	67	LEU	3.0
18	P	71	TYR	3.0
15	M	6	SER	3.0
9	G	39	ALA	3.0
16	N	119	GLN	3.0
14	L	46	LEU	3.0
14	L	148	GLU	3.0
1	0	1199	A	3.0
8	F	119	ARG	3.0
15	M	1	ALA	3.0
11	I	17	GLY	3.0
1	0	1561	U	3.0
9	G	92	ILE	3.0
10	H	165	SER	2.9
14	L	34	GLY	2.9
17	O	69	VAL	2.9
9	G	80	ASP	2.9
14	L	58	GLN	2.9
1	0	737	A	2.9
11	I	23	GLU	2.9
16	N	152	GLU	2.9
18	P	143	ALA	2.9
11	I	98	VAL	2.9
13	K	5	GLY	2.9
22	T	118	SER	2.9
9	G	101	LEU	2.9
30	2	40	ARG	2.9
5	C	59	GLU	2.9
6	D	65	GLU	2.9
16	N	169	PRO	2.9
9	G	125	VAL	2.9
3	A	91	GLY	2.9

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Mol	Chain	Res	Type	RSRZ
14	L	29	GLY	2.9
18	P	120	ARG	2.9
6	D	129	ASP	2.9
9	G	74	VAL	2.9
3	A	183	GLY	2.9
31	3	63	LYS	2.9
6	D	24	HIS	2.8
14	L	48	LYS	2.8
6	D	27	ILE	2.8
6	D	63	ILE	2.8
9	G	38	ILE	2.8
9	G	126	ILE	2.8
16	N	88	ALA	2.8
16	N	111	PRO	2.8
6	D	86	THR	2.8
6	D	95	THR	2.8
28	Z	59	TYR	2.8
9	G	107	ALA	2.8
24	V	39	ALA	2.8
9	G	95	ASP	2.8
9	G	104	GLU	2.8
28	Z	61	ASP	2.8
1	0	733	U	2.8
16	N	161	GLY	2.8
15	M	125	ARG	2.8
6	D	174	VAL	2.8
26	X	85	VAL	2.8
28	Z	31	SER	2.8
6	D	66	GLY	2.8
9	G	49	MET	2.8
1	0	243	A	2.8
1	0	287	C	2.8
3	A	50	ALA	2.8
16	N	1	ALA	2.8
1	0	1172	G	2.8
2	9	25	G	2.8
5	C	61	PHE	2.7
16	N	137	ALA	2.7
1	0	291	C	2.7
7	E	53	GLU	2.7
6	D	145	ASP	2.7
8	F	105	ASP	2.7

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Mol	Chain	Res	Type	RSRZ
14	L	102	ASP	2.7
10	H	40	ALA	2.7
11	I	54	VAL	2.7
11	I	38	ILE	2.7
24	V	2	VAL	2.7
1	0	2237	G	2.7
17	O	31	GLU	2.7
9	G	50	ARG	2.7
14	L	32	ASP	2.7
11	I	7	VAL	2.7
24	V	43	PRO	2.7
6	D	83	PHE	2.7
14	L	31	GLY	2.7
1	0	1178	G	2.7
3	A	47	HIS	2.7
9	G	97	ASN	2.7
6	D	47	GLN	2.6
24	V	45	ARG	2.6
9	G	86	THR	2.6
1	0	738	G	2.6
9	G	113	PRO	2.6
11	I	108	LYS	2.6
31	3	52	PHE	2.6
23	U	50	GLU	2.6
15	M	92	THR	2.6
6	D	106	PHE	2.6
11	I	40	ASP	2.6
14	L	104	ASP	2.6
1	0	2004	U	2.6
1	0	1979	G	2.6
2	9	50	G	2.6
3	A	69	LEU	2.6
9	G	15	TRP	2.6
9	G	110	THR	2.6
22	T	65	VAL	2.6
15	M	2	ARG	2.6
18	P	58	SER	2.6
10	H	169	GLY	2.6
18	P	127	GLY	2.6
14	L	145	LEU	2.6
16	N	148	ALA	2.6
31	3	55	VAL	2.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	0	1169	U	2.6
14	L	45	PRO	2.6
9	G	46	LEU	2.6
16	N	186	LEU	2.6
17	O	42	GLU	2.6
21	S	70	GLU	2.6
24	V	31	ARG	2.6
16	N	102	LEU	2.5
1	0	289	G	2.5
10	H	146	VAL	2.5
21	S	31	ARG	2.5
24	V	46	ILE	2.5
30	2	47	THR	2.5
16	N	163	PHE	2.5
25	W	75	GLY	2.5
31	3	30	GLN	2.5
3	A	24	LYS	2.5
14	L	73	VAL	2.5
7	E	6	GLU	2.5
31	3	37	ASP	2.5
11	I	92	PHE	2.5
14	L	89	PHE	2.5
9	G	42	PRO	2.5
9	G	132	GLY	2.5
18	P	67	LYS	2.5
11	I	89	GLN	2.5
6	D	50	VAL	2.5
6	D	155	HIS	2.5
9	G	71	LEU	2.5
15	M	7	TYR	2.5
13	K	119	GLN	2.5
21	S	52	VAL	2.5
1	0	1162	G	2.5
28	Z	38	ALA	2.5
22	T	18	GLU	2.5
4	B	281	ASP	2.5
6	D	16	PRO	2.5
6	D	93	LEU	2.5
8	F	12	LEU	2.5
30	2	31	ARG	2.5
9	G	87	GLY	2.5
31	3	86	GLY	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
16	N	101	VAL	2.5
4	B	270	ILE	2.4
9	G	62	SER	2.4
14	L	83	GLU	2.4
14	L	70	ASP	2.4
24	V	16	ARG	2.4
1	0	1182	C	2.4
6	D	80	ALA	2.4
9	G	57	ALA	2.4
23	U	33	SER	2.4
23	U	34	SER	2.4
31	3	29	ARG	2.4
9	G	131	THR	2.4
7	E	154	ILE	2.4
16	N	118	ILE	2.4
15	M	127	LYS	2.4
4	B	333	GLU	2.4
31	3	56	PRO	2.4
3	A	44	ASP	2.4
8	F	15	ASP	2.4
13	K	7	ASP	2.4
14	L	106	VAL	2.4
31	3	10	TYR	2.4
16	N	78	MET	2.4
24	V	62	GLU	2.4
1	0	379	G	2.4
1	0	1165	G	2.4
11	I	126	GLY	2.4
28	Z	36	ASP	2.4
31	3	13	HIS	2.4
11	I	79	ALA	2.4
11	I	115	TYR	2.4
11	I	120	ALA	2.4
17	O	51	TYR	2.4
26	X	83	ALA	2.4
30	2	28	LYS	2.4
6	D	128	LEU	2.4
22	T	114	SER	2.4
1	0	270	U	2.4
9	G	56	THR	2.3
31	3	15	ASN	2.3
30	2	39	ARG	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
16	N	153	GLN	2.3
5	C	135	GLU	2.3
14	L	57	VAL	2.3
3	A	85	SER	2.3
20	R	15	LYS	2.3
28	Z	41	ASN	2.3
5	C	170	ASP	2.3
18	P	124	ASP	2.3
3	A	94	LEU	2.3
8	F	47	LEU	2.3
14	L	60	GLU	2.3
2	9	32	G	2.3
24	V	47	LYS	2.3
11	I	69	PRO	2.3
16	N	81	ALA	2.3
3	A	34	ASP	2.3
9	G	75	ASP	2.3
3	A	84	VAL	2.3
11	I	93	VAL	2.3
15	M	50	ARG	2.3
8	F	64	PRO	2.3
9	G	12	ILE	2.3
9	G	127	PRO	2.3
16	N	109	PRO	2.3
17	O	46	GLY	2.3
24	V	44	GLY	2.3
25	W	123	GLY	2.3
10	H	115	ALA	2.3
28	Z	52	THR	2.3
9	G	54	HIS	2.3
1	0	2338	G	2.3
1	0	2421	G	2.3
14	L	55	GLN	2.3
18	P	28	GLN	2.3
6	D	143	LYS	2.3
1	0	1174	A	2.3
8	F	29	VAL	2.3
9	G	27	ILE	2.3
19	Q	18	PRO	2.3
6	D	46	GLY	2.3
11	I	105	ALA	2.3
28	Z	43	GLY	2.3

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Mol	Chain	Res	Type	RSRZ
18	P	114	LEU	2.3
6	D	140	ARG	2.3
28	Z	25	ARG	2.3
5	C	101	ASP	2.3
14	L	124	ASP	2.3
4	B	108	GLU	2.2
4	B	289	GLU	2.2
13	K	2	GLU	2.2
1	0	358	G	2.2
1	0	1525	G	2.2
1	0	1929	G	2.2
11	I	60	GLY	2.2
1	0	2419	U	2.2
2	9	51	A	2.2
14	L	26	HIS	2.2
16	N	146	HIS	2.2
14	L	52	LYS	2.2
6	D	21	VAL	2.2
10	H	37	GLN	2.2
26	X	65	ASN	2.2
16	N	164	ASP	2.2
16	N	57	THR	2.2
16	N	110	THR	2.2
18	P	1	THR	2.2
24	V	51	LYS	2.2
28	Z	65	THR	2.2
2	9	33	U	2.2
3	A	22	ARG	2.2
5	C	180	SER	2.2
18	P	116	SER	2.2
4	B	57	GLU	2.2
7	E	126	ILE	2.2
7	E	137	ASP	2.2
3	A	237	GLY	2.2
8	F	66	LEU	2.2
9	G	76	ASP	2.2
9	G	123	ASP	2.2
14	L	79	ASP	2.2
19	Q	20	ASP	2.2
31	3	57	GLY	2.2
10	H	32	LYS	2.2
23	U	52	THR	2.2

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Mol	Chain	Res	Type	RSRZ
7	E	11	VAL	2.2
11	I	50	VAL	2.2
31	3	44	SER	2.2
17	O	102	ILE	2.2
1	0	716	G	2.2
1	0	1173	A	2.2
2	9	65	A	2.2
6	D	90	LEU	2.2
23	U	20	MET	2.2
28	Z	42	CYS	2.2
1	0	2071	C	2.2
22	T	42	VAL	2.2
6	D	43	GLU	2.2
3	A	31	LYS	2.2
6	D	103	ASN	2.2
12	J	28	GLU	2.2
13	K	6	ALA	2.2
16	N	149	GLU	2.2
11	I	116	ASP	2.2
1	0	1207	A	2.2
21	S	54	THR	2.1
10	H	163	ILE	2.1
4	B	104	GLU	2.1
28	Z	44	GLU	2.1
3	A	90	PRO	2.1
11	I	84	GLY	2.1
6	D	104	PHE	2.1
1	0	1198	U	2.1
2	9	23	U	2.1
3	A	103	VAL	2.1
22	T	82	THR	2.1
1	0	1189	A	2.1
3	A	68	ILE	2.1
16	N	180	LEU	2.1
1	0	304	G	2.1
6	D	147	ALA	2.1
12	J	113	GLY	2.1
1	0	1000	C	2.1
1	0	1168	C	2.1
9	G	64	ASN	2.1
13	K	121	PHE	2.1
3	A	36	ASP	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
4	B	29	TRP	2.1
6	D	161	ASP	2.1
7	E	124	VAL	2.1
1	0	713	U	2.1
6	D	75	LEU	2.1
8	F	37	THR	2.1
11	I	8	LEU	2.1
16	N	136	LEU	2.1
9	G	44	ARG	2.1
14	L	21	ARG	2.1
7	E	70	GLU	2.1
9	G	77	GLY	2.1
9	G	106	GLU	2.1
16	N	172	PHE	2.1
3	A	107	ASN	2.1
1	0	1190	G	2.1
1	0	2379	G	2.1
4	B	285	VAL	2.1
1	0	1196	C	2.1
11	I	111	ASP	2.1
16	N	56	ASP	2.1
16	N	138	ASP	2.1
6	D	56	ARG	2.1
28	Z	46	ARG	2.1
6	D	13	MET	2.1
1	0	1130	U	2.1
1	0	2512	U	2.1
18	P	92	GLU	2.1
28	Z	40	PRO	2.1
9	G	32	SER	2.1
3	A	32	VAL	2.1
3	A	213	LYS	2.1
30	2	36	ASN	2.1
6	D	69	ILE	2.1
8	F	111	ILE	2.1
24	V	3	LEU	2.1
31	3	67	LEU	2.1
31	3	17	HIS	2.1
6	D	62	ASP	2.1
30	2	46	ASP	2.1
1	0	2335	C	2.1
1	0	1203	G	2.1

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Mol	Chain	Res	Type	RSRZ
9	G	40	GLY	2.1
16	N	156	GLU	2.1
7	E	157	LYS	2.0
15	M	55	LYS	2.0
28	Z	63	LYS	2.0
31	3	53	SER	2.0
7	E	108	LEU	2.0
9	G	51	ARG	2.0
14	L	67	ARG	2.0
14	L	130	ARG	2.0
1	0	1171	A	2.0
11	I	56	TYR	2.0
28	Z	78	THR	2.0
1	0	959	C	2.0
1	0	1184	C	2.0
8	F	72	VAL	2.0
14	L	66	VAL	2.0
1	0	219	G	2.0
6	D	40	ILE	2.0
15	M	51	SER	2.0
9	G	26	MET	2.0
10	H	170	ASN	2.0
23	U	39	ASN	2.0
26	X	16	ASP	2.0
14	L	28	GLY	2.0
28	Z	64	PHE	2.0
31	3	58	GLY	2.0
3	A	49	PRO	2.0
1	0	128	A	2.0
4	B	99	GLU	2.0
4	B	182	VAL	2.0
6	D	76	ARG	2.0
17	O	98	LEU	2.0
1	0	298	C	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
1	OMU	0	2587	21/22	0.95	0.11	33,36,42,43	0
1	OMG	0	2588	24/25	0.95	0.10	38,42,48,49	0
1	UR3	0	2619	21/22	0.95	0.09	34,42,44,47	0
1	PSU	0	2621	20/21	0.95	0.08	35,37,44,44	0

### 6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

### 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
34	NA	0	3100	1/1	0.39	0.26	56,56,56,56	0
34	NA	0	3078	1/1	0.42	0.35	78,78,78,78	0
32	MG	0	2971	1/1	0.42	0.76	200,200,200,200	0
34	NA	0	3046	1/1	0.44	0.14	26,26,26,26	0
34	NA	S	85	1/1	0.44	0.18	64,64,64,64	0
32	MG	0	3017	1/1	0.49	0.26	166,166,166,166	0
34	NA	0	3041	1/1	0.49	0.34	70,70,70,70	0
34	NA	0	3103	1/1	0.50	0.52	198,198,198,198	0
32	MG	0	3027	1/1	0.51	0.25	110,110,110,110	0
36	CD	3	94	1/1	0.53	0.35	200,200,200,200	0
32	MG	0	2998	1/1	0.54	0.51	73,73,73,73	0
35	CL	3	95	1/1	0.55	0.13	124,124,124,124	0
34	NA	0	3057	1/1	0.55	0.54	124,124,124,124	0
34	NA	0	3050	1/1	0.56	1.04	137,137,137,137	0
32	MG	A	241	1/1	0.59	0.32	142,142,142,142	0
35	CL	O	117	1/1	0.60	0.45	127,127,127,127	0
34	NA	0	3033	1/1	0.61	0.24	60,60,60,60	0
34	NA	0	3093	1/1	0.63	0.76	116,116,116,116	0
32	MG	0	3018	1/1	0.64	0.37	78,78,78,78	0
32	MG	0	3014	1/1	0.64	0.54	87,87,87,87	0
32	MG	0	2962	1/1	0.64	0.29	60,60,60,60	0
34	NA	Q	96	1/1	0.64	0.17	64,64,64,64	0
32	MG	0	2946	1/1	0.65	0.73	200,200,200,200	0
34	NA	0	3051	1/1	0.65	0.24	49,49,49,49	0
34	NA	0	3059	1/1	0.66	0.19	53,53,53,53	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
34	NA	0	3075	1/1	0.67	0.41	41,41,41,41	0
32	MG	0	2981	1/1	0.67	0.32	44,44,44,44	0
34	NA	0	3047	1/1	0.69	0.21	53,53,53,53	0
32	MG	0	3025	1/1	0.69	0.31	57,57,57,57	0
32	MG	0	2938	1/1	0.69	0.19	42,42,42,42	0
35	CL	0	3106	1/1	0.70	0.21	120,120,120,120	0
35	CL	0	3109	1/1	0.71	0.49	135,135,135,135	0
34	NA	0	3060	1/1	0.71	0.22	101,101,101,101	0
34	NA	0	3052	1/1	0.72	0.16	72,72,72,72	0
34	NA	9	124	1/1	0.72	0.09	34,34,34,34	0
34	NA	0	3082	1/1	0.72	0.16	43,43,43,43	0
34	NA	0	3094	1/1	0.73	0.30	116,116,116,116	0
32	MG	0	3026	1/1	0.74	1.06	79,79,79,79	0
33	K	M	196	1/1	0.74	0.36	127,127,127,127	0
32	MG	0	3007	1/1	0.74	0.23	54,54,54,54	0
34	NA	0	3065	1/1	0.74	0.12	27,27,27,27	0
34	NA	0	3068	1/1	0.74	0.28	68,68,68,68	0
32	MG	Y	241	1/1	0.75	0.16	68,68,68,68	0
34	NA	0	3038	1/1	0.75	0.30	67,67,67,67	0
34	NA	0	3067	1/1	0.76	0.15	47,47,47,47	0
32	MG	0	2988	1/1	0.76	0.10	52,52,52,52	0
34	NA	0	3101	1/1	0.76	0.20	43,43,43,43	0
32	MG	0	3022	1/1	0.76	0.44	44,44,44,44	0
34	NA	C	247	1/1	0.77	0.10	41,41,41,41	0
35	CL	L	166	1/1	0.77	0.14	68,68,68,68	0
32	MG	0	3028	1/1	0.77	0.19	66,66,66,66	0
32	MG	0	2949	1/1	0.77	0.19	45,45,45,45	0
34	NA	0	3040	1/1	0.77	0.15	29,29,29,29	0
32	MG	0	3019	1/1	0.78	0.10	41,41,41,41	0
32	MG	0	3001	1/1	0.78	0.10	38,38,38,38	0
32	MG	0	3029	1/1	0.78	0.45	69,69,69,69	0
32	MG	0	2980	1/1	0.79	0.35	48,48,48,48	0
34	NA	0	3064	1/1	0.79	0.26	60,60,60,60	0
34	NA	0	3099	1/1	0.79	0.35	56,56,56,56	0
35	CL	A	243	1/1	0.79	0.28	90,90,90,90	0
32	MG	0	2959	1/1	0.80	0.23	39,39,39,39	0
34	NA	0	3048	1/1	0.80	0.26	46,46,46,46	0
34	NA	9	125	1/1	0.80	0.35	78,78,78,78	0
34	NA	9	126	1/1	0.80	0.21	91,91,91,91	0
32	MG	A	240	1/1	0.80	0.18	56,56,56,56	0
34	NA	H	172	1/1	0.80	0.08	43,43,43,43	0
33	K	0	3031	1/1	0.80	0.39	153,153,153,153	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
34	NA	R	156	1/1	0.80	0.19	53,53,53,53	0
34	NA	0	3098	1/1	0.81	0.36	62,62,62,62	0
32	MG	0	2999	1/1	0.81	0.16	25,25,25,25	0
32	MG	0	3011	1/1	0.81	0.24	71,71,71,71	0
32	MG	0	2973	1/1	0.81	0.18	51,51,51,51	0
34	NA	0	3054	1/1	0.81	0.21	63,63,63,63	0
34	NA	0	3072	1/1	0.82	0.20	65,65,65,65	0
34	NA	0	3044	1/1	0.82	0.35	46,46,46,46	0
32	MG	0	2941	1/1	0.82	0.18	15,15,15,15	0
32	MG	0	2947	1/1	0.82	0.13	15,15,15,15	0
34	NA	J	146	1/1	0.82	0.15	41,41,41,41	0
35	CL	M	198	1/1	0.82	0.17	77,77,77,77	0
32	MG	0	2945	1/1	0.82	0.18	27,27,27,27	0
34	NA	R	155	1/1	0.82	0.15	31,31,31,31	0
36	CD	O	116	1/1	0.82	0.19	200,200,200,200	0
36	CD	Z	93	1/1	0.82	0.23	200,200,200,200	0
32	MG	0	2972	1/1	0.82	0.13	109,109,109,109	0
34	NA	0	3053	1/1	0.83	0.12	19,19,19,19	0
32	MG	0	2987	1/1	0.83	0.18	35,35,35,35	0
32	MG	0	3020	1/1	0.83	0.25	84,84,84,84	0
34	NA	A	242	1/1	0.83	0.16	55,55,55,55	0
35	CL	J	149	1/1	0.83	0.09	45,45,45,45	0
32	MG	0	2944	1/1	0.83	0.13	25,25,25,25	0
34	NA	0	3074	1/1	0.84	0.16	66,66,66,66	0
32	MG	0	2974	1/1	0.84	0.22	51,51,51,51	0
32	MG	0	2964	1/1	0.84	0.24	50,50,50,50	0
32	MG	0	2967	1/1	0.84	0.20	50,50,50,50	0
34	NA	0	3104	1/1	0.84	0.31	34,34,34,34	0
34	NA	0	3090	1/1	0.84	0.30	81,81,81,81	0
34	NA	0	3034	1/1	0.84	0.20	91,91,91,91	0
32	MG	0	2969	1/1	0.84	0.27	38,38,38,38	0
32	MG	3	93	1/1	0.84	0.21	69,69,69,69	0
32	MG	0	2985	1/1	0.85	0.10	34,34,34,34	0
32	MG	0	3016	1/1	0.85	0.10	43,43,43,43	0
32	MG	0	2936	1/1	0.85	0.09	17,17,17,17	0
34	NA	0	3058	1/1	0.85	0.11	61,61,61,61	0
34	NA	0	3095	1/1	0.85	0.32	126,126,126,126	0
32	MG	0	2968	1/1	0.85	0.15	60,60,60,60	0
32	MG	0	3009	1/1	0.85	0.09	40,40,40,40	0
32	MG	0	2937	1/1	0.85	0.26	14,14,14,14	0
35	CL	0	3112	1/1	0.85	0.22	96,96,96,96	0
32	MG	0	2993	1/1	0.86	0.27	78,78,78,78	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
32	MG	0	3013	1/1	0.86	0.15	41,41,41,41	0
32	MG	0	2954	1/1	0.86	0.12	29,29,29,29	0
32	MG	0	2961	1/1	0.86	0.28	41,41,41,41	0
34	NA	0	3077	1/1	0.86	0.33	119,119,119,119	0
32	MG	0	3030	1/1	0.86	0.13	46,46,46,46	0
34	NA	0	3045	1/1	0.86	0.12	33,33,33,33	0
32	MG	0	3010	1/1	0.86	0.19	56,56,56,56	0
34	NA	0	3089	1/1	0.87	0.10	51,51,51,51	0
32	MG	0	2982	1/1	0.87	0.16	14,14,14,14	0
32	MG	0	2984	1/1	0.87	0.28	59,59,59,59	0
32	MG	B	338	1/1	0.87	0.23	43,43,43,43	0
34	NA	0	3063	1/1	0.87	0.35	162,162,162,162	0
34	NA	0	3032	1/1	0.87	0.20	30,30,30,30	0
34	NA	0	3056	1/1	0.87	0.20	42,42,42,42	0
35	CL	0	3108	1/1	0.87	0.18	72,72,72,72	0
32	MG	0	2963	1/1	0.87	0.11	72,72,72,72	0
35	CL	0	3111	1/1	0.87	0.17	54,54,54,54	0
32	MG	0	2957	1/1	0.88	0.19	37,37,37,37	0
32	MG	0	2983	1/1	0.88	0.18	43,43,43,43	0
34	NA	0	3083	1/1	0.88	0.28	27,27,27,27	0
35	CL	N	187	1/1	0.88	0.13	64,64,64,64	0
34	NA	0	3085	1/1	0.88	0.24	15,15,15,15	0
34	NA	0	3073	1/1	0.88	0.11	25,25,25,25	0
32	MG	0	2986	1/1	0.88	0.09	53,53,53,53	0
32	MG	0	3003	1/1	0.88	0.11	26,26,26,26	0
32	MG	0	3004	1/1	0.88	0.29	27,27,27,27	0
32	MG	0	2989	1/1	0.89	0.55	56,56,56,56	0
35	CL	K	134	1/1	0.89	0.12	55,55,55,55	0
32	MG	0	3006	1/1	0.89	0.17	49,49,49,49	0
34	NA	0	3055	1/1	0.89	0.08	36,36,36,36	0
34	NA	0	3081	1/1	0.89	0.19	49,49,49,49	0
34	NA	0	3069	1/1	0.89	0.19	58,58,58,58	0
34	NA	0	3061	1/1	0.89	0.14	39,39,39,39	0
34	NA	0	3084	1/1	0.89	0.17	62,62,62,62	0
32	MG	0	2951	1/1	0.89	0.18	11,11,11,11	0
34	NA	0	3042	1/1	0.89	0.32	32,32,32,32	0
32	MG	0	2997	1/1	0.90	0.11	59,59,59,59	0
32	MG	0	2977	1/1	0.90	0.21	43,43,43,43	0
32	MG	0	2935	1/1	0.90	0.23	28,28,28,28	0
34	NA	0	3102	1/1	0.90	0.16	47,47,47,47	0
34	NA	0	3076	1/1	0.90	0.15	51,51,51,51	0
34	NA	0	3043	1/1	0.90	0.26	115,115,115,115	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
34	NA	0	3092	1/1	0.90	0.22	45,45,45,45	0
32	MG	K	133	1/1	0.90	0.26	35,35,35,35	0
34	NA	0	3079	1/1	0.90	0.12	53,53,53,53	0
32	MG	0	2965	1/1	0.90	0.16	47,47,47,47	0
32	MG	0	2943	1/1	0.90	0.17	23,23,23,23	0
35	CL	J	148	1/1	0.91	0.07	49,49,49,49	0
32	MG	0	3015	1/1	0.91	0.45	53,53,53,53	0
34	NA	0	3039	1/1	0.91	0.12	29,29,29,29	0
34	NA	0	3080	1/1	0.91	0.16	57,57,57,57	0
32	MG	0	2924	1/1	0.91	0.15	35,35,35,35	0
32	MG	0	2956	1/1	0.91	0.10	24,24,24,24	0
32	MG	0	3005	1/1	0.91	0.10	47,47,47,47	0
32	MG	0	2934	1/1	0.91	0.21	22,22,22,22	0
32	MG	0	2970	1/1	0.91	0.14	32,32,32,32	0
34	NA	0	3086	1/1	0.91	0.14	26,26,26,26	0
34	NA	0	3088	1/1	0.91	0.12	33,33,33,33	0
32	MG	0	3024	1/1	0.92	0.32	1,1,1,1	0
32	MG	0	2950	1/1	0.92	0.09	17,17,17,17	0
32	MG	0	2996	1/1	0.92	0.17	21,21,21,21	0
34	NA	0	3035	1/1	0.92	0.09	17,17,17,17	0
32	MG	0	3012	1/1	0.92	0.06	39,39,39,39	0
32	MG	0	1	1/1	0.92	0.16	26,26,26,26	0
35	CL	Q	97	1/1	0.92	0.19	93,93,93,93	0
34	NA	M	197	1/1	0.92	0.06	28,28,28,28	0
34	NA	0	3087	1/1	0.92	0.06	22,22,22,22	0
35	CL	B	339	1/1	0.92	0.15	61,61,61,61	0
34	NA	0	3097	1/1	0.92	0.19	50,50,50,50	0
32	MG	0	2976	1/1	0.93	0.07	19,19,19,19	0
32	MG	0	2939	1/1	0.93	0.28	20,20,20,20	0
32	MG	0	2979	1/1	0.93	0.10	20,20,20,20	0
34	NA	0	3096	1/1	0.93	0.07	47,47,47,47	0
34	NA	0	3071	1/1	0.93	0.05	27,27,27,27	0
32	MG	0	2940	1/1	0.93	0.16	24,24,24,24	0
32	MG	0	2930	1/1	0.93	0.07	55,55,55,55	0
32	MG	0	2990	1/1	0.93	0.06	31,31,31,31	0
32	MG	0	2991	1/1	0.93	0.16	20,20,20,20	0
32	MG	0	2992	1/1	0.93	0.40	52,52,52,52	0
32	MG	0	2966	1/1	0.93	0.09	46,46,46,46	0
35	CL	Y	242	1/1	0.93	0.08	27,27,27,27	0
32	MG	0	2953	1/1	0.93	0.09	8,8,8,8	0
34	NA	0	3091	1/1	0.93	0.15	31,31,31,31	0
35	CL	0	3110	1/1	0.93	0.10	56,56,56,56	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
32	MG	0	2928	1/1	0.93	0.13	32,32,32,32	0
32	MG	0	3021	1/1	0.94	0.17	20,20,20,20	0
32	MG	0	2975	1/1	0.94	0.17	45,45,45,45	0
32	MG	0	3023	1/1	0.94	0.24	29,29,29,29	0
32	MG	0	2948	1/1	0.94	0.18	18,18,18,18	0
34	NA	0	3070	1/1	0.94	0.06	27,27,27,27	0
32	MG	9	123	1/1	0.94	0.14	37,37,37,37	0
34	NA	0	3062	1/1	0.94	0.11	38,38,38,38	0
32	MG	0	2929	1/1	0.94	0.09	14,14,14,14	0
32	MG	0	2958	1/1	0.94	0.22	33,33,33,33	0
32	MG	0	2942	1/1	0.95	0.21	16,16,16,16	0
35	CL	0	3105	1/1	0.95	0.09	59,59,59,59	0
32	MG	0	2994	1/1	0.95	0.14	14,14,14,14	0
35	CL	R	157	1/1	0.95	0.12	55,55,55,55	0
35	CL	0	3107	1/1	0.95	0.09	55,55,55,55	0
34	NA	0	3049	1/1	0.95	0.21	28,28,28,28	0
34	NA	0	3037	1/1	0.95	0.06	61,61,61,61	0
34	NA	0	3066	1/1	0.95	0.05	9,9,9,9	0
32	MG	0	3008	1/1	0.95	0.10	52,52,52,52	0
32	MG	0	2932	1/1	0.96	0.09	10,10,10,10	0
35	CL	J	147	1/1	0.96	0.09	69,69,69,69	0
32	MG	0	3000	1/1	0.96	0.08	7,7,7,7	0
32	MG	0	2960	1/1	0.96	0.21	11,11,11,11	0
32	MG	0	2927	1/1	0.96	0.11	18,18,18,18	0
32	MG	0	2926	1/1	0.96	0.11	17,17,17,17	0
32	MG	0	2978	1/1	0.96	0.06	46,46,46,46	0
32	MG	0	2931	1/1	0.96	0.06	27,27,27,27	0
32	MG	0	2952	1/1	0.97	0.10	4,4,4,4	0
32	MG	T	120	1/1	0.97	0.05	38,38,38,38	0
32	MG	0	2925	1/1	0.97	0.07	5,5,5,5	0
32	MG	0	2995	1/1	0.97	0.05	13,13,13,13	0
36	CD	U	67	1/1	0.97	0.11	134,134,134,134	0
32	MG	0	3002	1/1	0.97	0.13	20,20,20,20	0
34	NA	L	165	1/1	0.97	0.09	42,42,42,42	0
34	NA	0	3036	1/1	0.98	0.15	49,49,49,49	0
32	MG	0	2933	1/1	0.98	0.21	1,1,1,1	0
36	CD	1	57	1/1	0.99	0.07	76,76,76,76	0
32	MG	0	2955	1/1	0.99	0.13	11,11,11,11	0

## 6.5 Other polymers

There are no such residues in this entry.