Full wwPDB EM Validation Report ⓘ

Nov 15, 2022 – 02:39 PM JST

PDB ID	:	8H2H
EMDB ID	:	EMD-33039
Title	:	Cryo-EM structure of a Group II Intron Complexed with its Reverse Transcriptase
Authors	:	Liu, N.; Dong, X.L.; Qu, G.S.; Wang, J.; Wang, H.W.; Belfort, M.
Deposited on	:	2022-10-06
Resolution	:	3.20 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

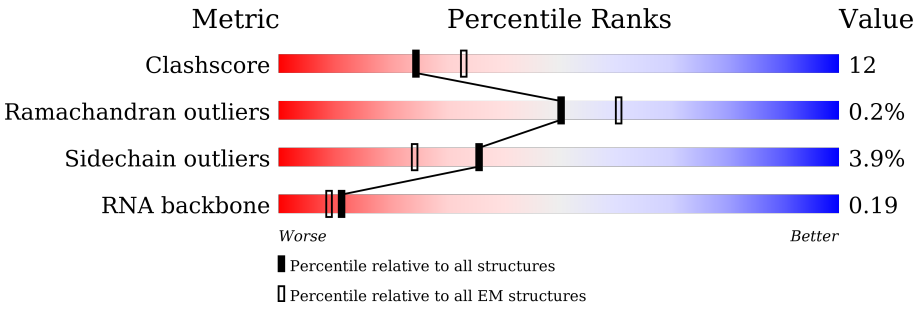
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance

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

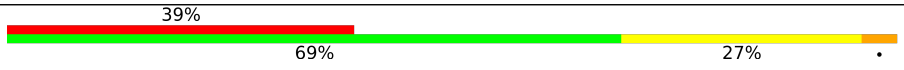
The reported resolution of this entry is 3.20 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	902	
2	B	12	
3	D	599	

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 20016 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called LtrB.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	A	692	14825	6637	2735	4762	691	0	0

- Molecule 2 is a RNA chain called RNA (5'-R(P*CP*AP*CP*AP*UP*CP*CP*AP*UP*AP *AP*C)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B	12	250	113	44	81	12	0	0

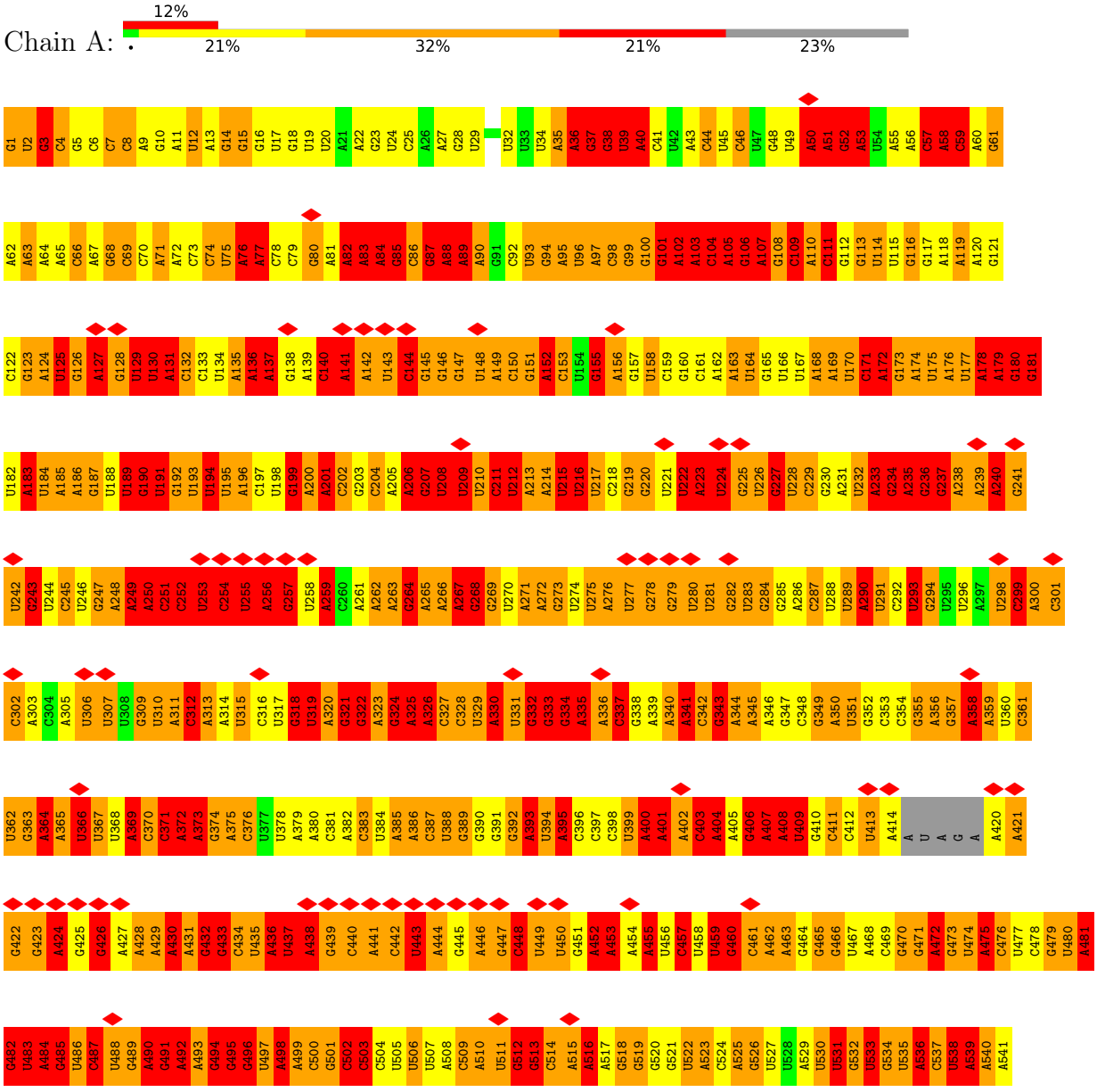
- Molecule 3 is a protein called Group II intron-encoded protein LtrA.

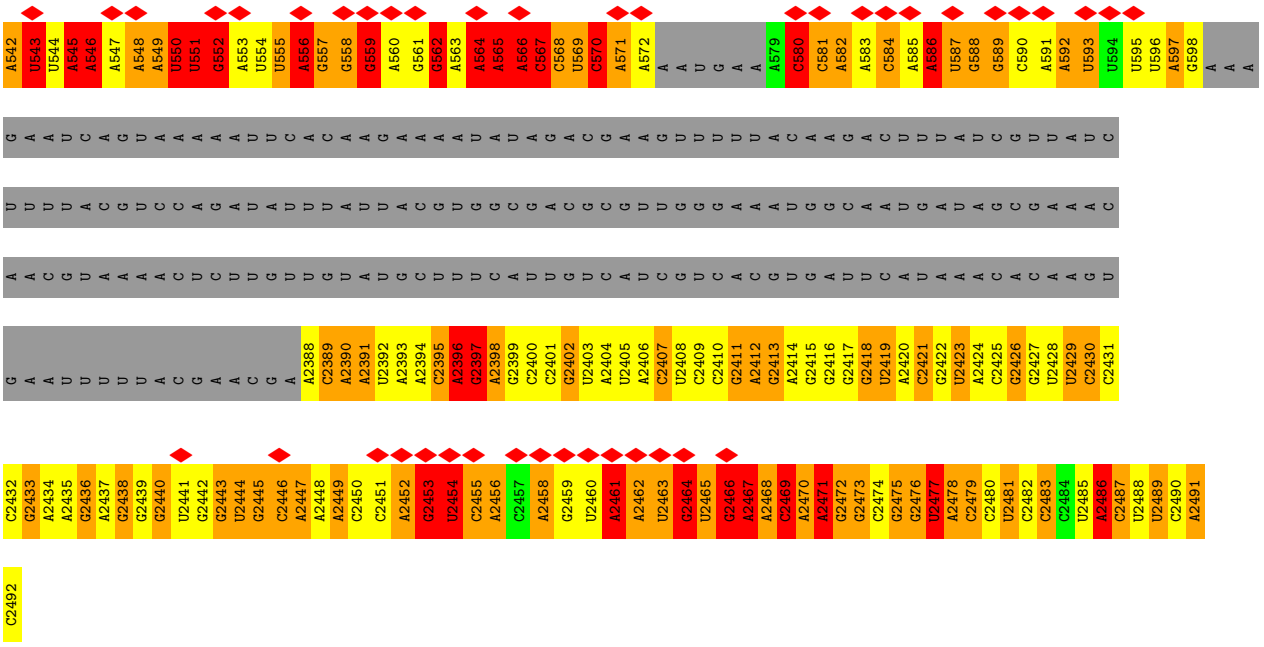
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	D	599	4941	3168	867	882	24	0	0

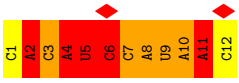
3 Residue-property plots (i)

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 atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: LtrB





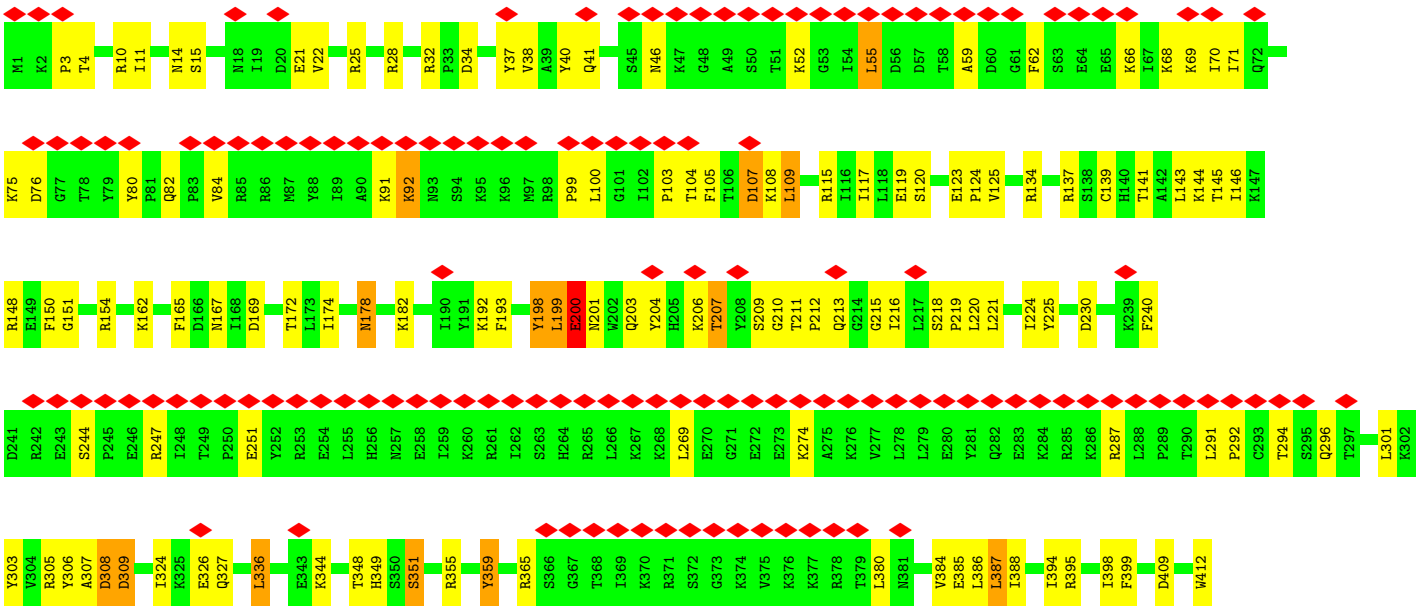


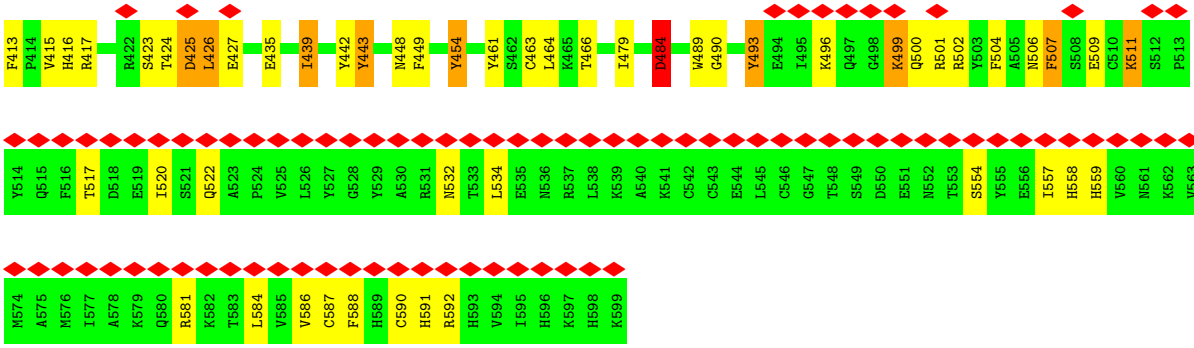
• Molecule 2: RNA (5'-R(P*CP*AP*CP*AP*UP*CP*CP*AP*UP*AP*AP*C)-3')

Chain B:

• Molecule 3: Group II intron-encoded protein LtrA

Chain D:




F413 P414 V415 H416 R417 R422 S423 T424 D425 L426 E427 E435 I439 Y442 Y443 N448 F449 Y454 Y461 S462 C463 L464 K465 T466 I479 D484 W489 G490 Y493 E494 I495 K496 Q497 G498 K499 Q500 R501 R502 Y503 F504 A505 N506 F507 S508 E509 C510 K511 S512 P513
Y514 Q515 F516 T517 D518 E519 I520 S521 Q522 A523 P524 V525 L526 Y527 G528 Y529 A530 R531 N532 T533 L534 E535 N536 R537 L538 K539 A540 K541 C542 C543 E544 L545 C546 G547 T548 S549 D550 E551 N552 T553 S554 Y555 E556 I557 H558 H559 V560 N561 K562 V563 K564 N565 L566 K567 G568 K569 E570 K571 W572 E573
M574 A575 M576 I577 A578 K579 Q580 R581 K582 T583 L584 V585 V586 C587 F588 H589 C590 H591 R592 H593 V594 I595 H596 K597 H598 K599

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	399660	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.097	Depositor
Minimum map value	-0.049	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.0124	Depositor
Map size (Å)	248.32, 248.32, 248.32	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.97, 0.97, 0.97	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	2.95	1566/16614 (9.4%)	3.05	2328/25893 (9.0%)
2	B	2.53	18/278 (6.5%)	3.51	64/429 (14.9%)
3	D	1.15	29/5047 (0.6%)	0.98	14/6775 (0.2%)
All	All	2.64	1613/21939 (7.4%)	2.76	2406/33097 (7.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2
3	D	0	11
All	All	0	13

All (1613) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	108	G	C2-N3	-22.51	1.14	1.32
1	A	108	G	N3-C4	-18.57	1.22	1.35
1	A	395	A	N9-C4	-18.41	1.26	1.37
1	A	183	A	N9-C4	-18.12	1.26	1.37
1	A	193	U	C2-N3	-17.83	1.25	1.37
1	A	516	A	N9-C4	-17.52	1.27	1.37
1	A	2426	G	N7-C5	-17.15	1.28	1.39
1	A	4	C	N1-C6	-17.14	1.26	1.37
1	A	2422	G	N7-C5	-16.87	1.29	1.39
1	A	393	A	N3-C4	15.98	1.44	1.34
1	A	109	C	N3-C4	-15.97	1.22	1.33
1	A	2422	G	C5-C6	-15.43	1.26	1.42
1	A	2422	G	C5-C4	-15.28	1.27	1.38
1	A	109	C	N1-C6	-15.28	1.27	1.37
1	A	2427	G	N7-C5	-15.27	1.30	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	334	G	C2-N3	-15.04	1.20	1.32
1	A	518	G	C2-N3	-14.96	1.20	1.32
1	A	2406	A	N9-C4	-14.70	1.29	1.37
1	A	3	G	N7-C5	-14.58	1.30	1.39
1	A	516	A	N7-C5	-14.53	1.30	1.39
1	A	10	G	N7-C5	-14.48	1.30	1.39
1	A	516	A	C5-C6	-14.37	1.28	1.41
1	A	516	A	N3-C4	-14.37	1.26	1.34
1	A	2426	G	C5-C4	-14.35	1.28	1.38
1	A	2406	A	C5-C4	-14.27	1.28	1.38
1	A	2420	A	N9-C4	-14.22	1.29	1.37
1	A	108	G	N9-C4	-14.15	1.26	1.38
1	A	2413	G	N7-C5	-14.15	1.30	1.39
1	A	2418	G	N9-C8	-13.97	1.28	1.37
1	A	384	U	C2-N3	-13.95	1.27	1.37
1	A	193	U	C4-O4	-13.93	1.12	1.23
1	A	395	A	N7-C5	-13.86	1.30	1.39
1	A	501	G	N7-C5	-13.78	1.30	1.39
1	A	352	G	N7-C5	-13.74	1.31	1.39
1	A	514	C	C4-C5	-13.65	1.32	1.43
1	A	2492	C	N3-C4	-13.52	1.24	1.33
1	A	103	A	N9-C4	-13.51	1.29	1.37
1	A	2406	A	N3-C4	-13.47	1.26	1.34
1	A	352	G	N9-C4	-13.44	1.27	1.38
1	A	11	A	N9-C4	-13.37	1.29	1.37
1	A	385	A	N9-C4	-13.34	1.29	1.37
1	A	2396	A	N9-C4	-13.34	1.29	1.37
1	A	460	G	N7-C5	-13.32	1.31	1.39
1	A	2430	C	N3-C4	-13.29	1.24	1.33
1	A	517	A	N9-C4	-13.28	1.29	1.37
1	A	2425	C	N3-C4	-13.27	1.24	1.33
1	A	318	G	N7-C5	-13.22	1.31	1.39
1	A	395	A	N3-C4	-13.21	1.26	1.34
1	A	2402	G	N1-C2	-13.20	1.27	1.37
1	A	2492	C	N1-C6	-13.11	1.29	1.37
1	A	513	G	N7-C5	-13.05	1.31	1.39
1	A	390	G	N7-C5	-12.89	1.31	1.39
1	A	10	G	C8-N7	-12.80	1.23	1.30
1	A	517	A	N3-C4	-12.76	1.27	1.34
1	A	109	C	C2-O2	-12.73	1.12	1.24
1	A	7	C	N3-C4	-12.69	1.25	1.33
1	A	2396	A	C5-C4	-12.58	1.29	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2421	C	C4-C5	-12.48	1.32	1.43
1	A	480	U	C2-N3	-12.47	1.29	1.37
1	A	2427	G	C5-C4	-12.43	1.29	1.38
1	A	11	A	C5-C6	-12.38	1.29	1.41
1	A	2421	C	N1-C6	-12.38	1.29	1.37
1	A	468	A	N9-C4	-12.37	1.30	1.37
1	A	7	C	N1-C2	-12.30	1.27	1.40
1	A	183	A	N7-C5	-12.30	1.31	1.39
1	A	2409	C	N1-C6	-12.28	1.29	1.37
1	A	2404	A	N9-C4	-12.24	1.30	1.37
1	A	2399	G	C6-N1	-12.22	1.30	1.39
1	A	5	G	N3-C4	-12.16	1.26	1.35
1	A	393	A	N9-C4	12.09	1.45	1.37
1	A	5	G	C5-C4	-12.07	1.29	1.38
1	A	468	A	N7-C5	-12.07	1.32	1.39
1	A	286	A	N9-C4	-12.06	1.30	1.37
1	A	2417	G	N7-C5	-12.02	1.32	1.39
1	A	11	A	N3-C4	-12.01	1.27	1.34
1	A	196	A	N9-C4	-11.98	1.30	1.37
1	A	2409	C	C4-C5	-11.97	1.33	1.43
1	A	2419	U	C2-N3	-11.87	1.29	1.37
1	A	2415	G	N7-C5	-11.87	1.32	1.39
1	A	10	G	C6-N1	-11.82	1.31	1.39
1	A	2414	A	C5-C4	-11.80	1.30	1.38
1	A	516	A	C6-N1	-11.75	1.27	1.35
1	A	2405	U	C2-N3	-11.68	1.29	1.37
1	A	471	G	N7-C5	-11.65	1.32	1.39
1	A	2423	U	N1-C2	-11.64	1.28	1.38
1	A	106	G	C6-N1	-11.64	1.31	1.39
1	A	2426	G	C2-N3	-11.63	1.23	1.32
1	A	2424	A	N9-C4	-11.62	1.30	1.37
1	A	2426	G	N9-C8	-11.57	1.29	1.37
1	A	352	G	N3-C4	-11.57	1.27	1.35
1	A	479	G	N7-C5	-11.56	1.32	1.39
1	A	514	C	N3-C4	-11.55	1.25	1.33
1	A	2417	G	C5-C4	-11.53	1.30	1.38
1	A	386	A	C5-C4	-11.53	1.30	1.38
1	A	179	A	N3-C4	-11.52	1.27	1.34
1	A	386	A	C6-N1	-11.52	1.27	1.35
1	A	106	G	N3-C4	-11.50	1.27	1.35
1	A	386	A	C5-C6	-11.47	1.30	1.41
1	A	352	G	C5-C6	-11.36	1.30	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2423	U	C2-N3	-11.34	1.29	1.37
1	A	468	A	N3-C4	-11.34	1.28	1.34
1	A	2422	G	C6-N1	-11.31	1.31	1.39
1	A	2427	G	C8-N7	-11.30	1.24	1.30
1	A	2422	G	C8-N7	-11.30	1.24	1.30
1	A	2427	G	C5-C6	-11.27	1.31	1.42
1	A	107	A	C5-C6	-11.20	1.30	1.41
1	A	6	C	C4-C5	-11.20	1.33	1.43
1	A	340	A	C5-C4	-11.18	1.30	1.38
1	A	2416	G	C5-C4	-11.14	1.30	1.38
1	A	2422	G	N1-C2	-11.11	1.28	1.37
1	A	2396	A	C5-C6	-11.11	1.31	1.41
1	A	2425	C	C4-C5	-11.10	1.34	1.43
1	A	2406	A	N9-C8	-11.09	1.28	1.37
1	A	286	A	N7-C5	-11.07	1.32	1.39
1	A	470	G	N3-C4	-11.04	1.27	1.35
1	A	3	G	N1-C2	-11.03	1.28	1.37
1	A	6	C	N3-C4	-11.03	1.26	1.33
1	A	2417	G	N9-C8	-11.02	1.30	1.37
1	A	2427	G	N9-C8	-11.02	1.30	1.37
1	A	473	G	N7-C5	-11.01	1.32	1.39
1	A	389	G	N7-C5	-10.98	1.32	1.39
1	A	2428	U	C2-N3	-10.98	1.30	1.37
1	A	77	A	N9-C4	-10.96	1.31	1.37
1	A	149	A	N7-C5	-10.97	1.32	1.39
1	A	77	A	N7-C5	-10.96	1.32	1.39
1	A	517	A	N7-C5	-10.95	1.32	1.39
1	A	2406	A	N7-C5	-10.95	1.32	1.39
1	A	2407	C	N3-C4	-10.93	1.26	1.33
1	A	206	A	N9-C4	-10.92	1.31	1.37
1	A	162	A	N7-C5	-10.90	1.32	1.39
1	A	5	G	N1-C2	-10.87	1.29	1.37
1	A	7	C	N1-C6	-10.87	1.30	1.37
1	A	356	A	N7-C5	-10.82	1.32	1.39
1	A	386	A	N7-C5	-10.82	1.32	1.39
1	A	4	C	C4-C5	-10.77	1.34	1.43
1	A	3	G	C6-N1	-10.77	1.32	1.39
1	A	184	U	C2-N3	-10.77	1.30	1.37
1	A	207	G	N9-C4	-10.76	1.29	1.38
1	A	107	A	N7-C5	-10.76	1.32	1.39
1	A	2398	A	C5-C4	-10.76	1.31	1.38
1	A	2412	A	C5-C6	-10.76	1.31	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	108	G	C5-C6	-10.75	1.31	1.42
1	A	2420	A	N7-C5	-10.73	1.32	1.39
1	A	2413	G	C5-C4	-10.73	1.30	1.38
1	A	2418	G	C6-N1	-10.72	1.32	1.39
1	A	109	C	C2-N3	-10.69	1.27	1.35
1	A	2413	G	N9-C8	-10.68	1.30	1.37
1	A	152	A	C5-C6	-10.61	1.31	1.41
1	A	2404	A	N7-C5	-10.60	1.32	1.39
1	A	392	G	N1-C2	-10.58	1.29	1.37
1	A	498	A	N3-C4	-10.57	1.28	1.34
1	A	2492	C	C4-C5	-10.51	1.34	1.43
1	A	108	G	C5-C4	-10.48	1.31	1.38
1	A	335	A	N3-C4	-10.48	1.28	1.34
1	A	340	A	N7-C5	-10.47	1.32	1.39
1	A	185	A	N7-C5	-10.47	1.32	1.39
1	A	2410	C	C4-C5	-10.46	1.34	1.43
1	A	2421	C	N3-C4	-10.45	1.26	1.33
1	A	393	A	P-O5'	10.44	1.70	1.59
1	A	2401	C	C4-C5	-10.44	1.34	1.43
1	A	7	C	C4-C5	-10.44	1.34	1.43
1	A	2400	C	N3-C4	-10.44	1.26	1.33
1	A	2405	U	N1-C2	-10.44	1.29	1.38
2	B	8	A	N9-C4	10.42	1.44	1.37
1	A	2413	G	C8-N7	-10.42	1.24	1.30
1	A	392	G	C6-N1	-10.39	1.32	1.39
1	A	387	C	N3-C4	-10.39	1.26	1.33
1	A	485	G	N9-C8	-10.36	1.30	1.37
1	A	2430	C	N1-C6	-10.35	1.30	1.37
1	A	5	G	C6-N1	-10.34	1.32	1.39
1	A	2415	G	C8-N7	-10.33	1.24	1.30
1	A	65	A	N9-C4	-10.33	1.31	1.37
1	A	5	G	C2-N3	-10.32	1.24	1.32
1	A	2426	G	C8-N7	-10.30	1.24	1.30
1	A	485	G	N7-C5	-10.27	1.33	1.39
1	A	2399	G	C5-C4	-10.25	1.31	1.38
1	A	105	A	N7-C5	-10.24	1.33	1.39
1	A	152	A	N7-C5	-10.21	1.33	1.39
1	A	152	A	N9-C4	-10.20	1.31	1.37
1	A	2414	A	N7-C5	-10.20	1.33	1.39
1	A	2420	A	N9-C8	-10.15	1.29	1.37
1	A	106	G	C2-N3	-10.14	1.24	1.32
1	A	151	G	C5-C6	-10.13	1.32	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	8	C	C4-C5	-10.13	1.34	1.43
1	A	107	A	C6-N1	-10.11	1.28	1.35
1	A	2431	C	N3-C4	-10.11	1.26	1.33
1	A	2416	G	N9-C8	-10.09	1.30	1.37
1	A	9	A	C6-N1	-10.09	1.28	1.35
2	B	3	C	C4-C5	-10.08	1.34	1.43
1	A	2415	G	C5-C4	-10.06	1.31	1.38
1	A	72	A	N9-C4	-10.05	1.31	1.37
1	A	2414	A	N3-C4	-10.04	1.28	1.34
1	A	2410	C	N3-C4	-10.03	1.26	1.33
1	A	3	G	C5-C4	-10.02	1.31	1.38
1	A	112	G	N7-C5	-10.02	1.33	1.39
1	A	2402	G	C5-C4	-10.00	1.31	1.38
1	A	68	G	N7-C5	-9.97	1.33	1.39
1	A	2400	C	C4-C5	-9.97	1.34	1.43
1	A	4	C	C2-N3	-9.97	1.27	1.35
1	A	185	A	C5-C4	-9.96	1.31	1.38
1	A	485	G	C8-N7	-9.96	1.25	1.30
1	A	2426	G	N1-C2	-9.94	1.29	1.37
1	A	4	C	N3-C4	-9.93	1.26	1.33
1	A	2419	U	N3-C4	-9.91	1.29	1.38
1	A	355	G	C5-C4	-9.91	1.31	1.38
1	A	517	A	N9-C8	-9.90	1.29	1.37
1	A	102	A	N9-C4	-9.88	1.31	1.37
1	A	395	A	C5-C6	-9.88	1.32	1.41
1	A	371	C	N1-C6	-9.87	1.31	1.37
1	A	3	G	C2-N3	-9.86	1.24	1.32
1	A	468	A	C5-C6	-9.86	1.32	1.41
1	A	2401	C	N3-C4	-9.85	1.27	1.33
1	A	2418	G	C8-N7	-9.82	1.25	1.30
1	A	2398	A	C8-N7	-9.80	1.24	1.31
1	A	2418	G	N7-C5	-9.77	1.33	1.39
1	A	2403	U	C2-N3	-9.76	1.30	1.37
1	A	517	A	C6-N1	-9.75	1.28	1.35
1	A	2402	G	C8-N7	-9.71	1.25	1.30
1	A	10	G	C5-C6	-9.68	1.32	1.42
1	A	5	G	N9-C8	-9.66	1.31	1.37
1	A	181	G	N7-C5	-9.66	1.33	1.39
1	A	520	G	N7-C5	-9.64	1.33	1.39
1	A	10	G	N9-C8	-9.64	1.31	1.37
1	A	163	A	C8-N7	-9.62	1.24	1.31
1	A	391	G	C5-C4	-9.61	1.31	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2414	A	C6-N1	-9.60	1.28	1.35
1	A	2422	G	N9-C8	-9.59	1.31	1.37
1	A	391	G	N9-C8	-9.59	1.31	1.37
1	A	131	A	N7-C5	-9.58	1.33	1.39
1	A	2427	G	N1-C2	-9.55	1.30	1.37
1	A	179	A	N9-C4	-9.52	1.32	1.37
1	A	2407	C	C2-N3	-9.51	1.28	1.35
1	A	396	C	N3-C4	-9.50	1.27	1.33
1	A	320	A	N7-C5	-9.50	1.33	1.39
1	A	356	A	C6-N1	9.49	1.42	1.35
1	A	337	C	N1-C6	-9.49	1.31	1.37
1	A	2416	G	C6-N1	-9.49	1.32	1.39
3	D	442	TYR	CE2-CZ	-9.49	1.26	1.38
1	A	284	G	C5-C4	-9.48	1.31	1.38
1	A	2424	A	C5-C6	-9.48	1.32	1.41
1	A	390	G	C6-N1	-9.46	1.32	1.39
1	A	2424	A	C5-C4	-9.46	1.32	1.38
1	A	479	G	N9-C8	-9.46	1.31	1.37
1	A	471	G	C5-C4	-9.44	1.31	1.38
1	A	2396	A	N3-C4	-9.43	1.29	1.34
1	A	2418	G	C5-C4	-9.41	1.31	1.38
1	A	17	U	N1-C2	-9.38	1.30	1.38
1	A	169	A	N7-C5	-9.38	1.33	1.39
3	D	123	GLU	CB-CG	-9.36	1.34	1.52
1	A	385	A	C5-C4	-9.35	1.32	1.38
1	A	354	C	N3-C4	-9.34	1.27	1.33
1	A	373	A	N9-C4	-9.33	1.32	1.37
1	A	219	G	N9-C4	9.33	1.45	1.38
1	A	118	A	N7-C5	-9.32	1.33	1.39
1	A	355	G	C6-N1	-9.32	1.33	1.39
1	A	2423	U	C4-C5	-9.32	1.35	1.43
1	A	512	G	N7-C5	-9.30	1.33	1.39
1	A	2420	A	C5-C4	-9.30	1.32	1.38
1	A	2428	U	N3-C4	-9.29	1.30	1.38
1	A	2425	C	N1-C2	-9.29	1.30	1.40
1	A	2404	A	N3-C4	-9.26	1.29	1.34
1	A	2425	C	C2-N3	-9.25	1.28	1.35
1	A	383	C	N1-C6	-9.24	1.31	1.37
1	A	513	G	N3-C4	-9.23	1.28	1.35
1	A	1	G	N9-C8	9.23	1.44	1.37
1	A	2403	U	C4-C5	-9.23	1.35	1.43
1	A	7	C	C2-N3	-9.21	1.28	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	185	A	C6-N1	-9.20	1.29	1.35
1	A	190	G	C6-N1	-9.20	1.33	1.39
1	A	16	G	N7-C5	-9.20	1.33	1.39
1	A	512	G	C5-C4	-9.18	1.31	1.38
1	A	388	U	N1-C2	-9.18	1.30	1.38
1	A	372	A	N9-C4	-9.17	1.32	1.37
1	A	69	C	N3-C4	-9.17	1.27	1.33
1	A	206	A	C5-C6	-9.17	1.32	1.41
1	A	398	C	C4-C5	-9.17	1.35	1.43
1	A	2396	A	N7-C5	-9.16	1.33	1.39
1	A	37	G	C2-N3	-9.16	1.25	1.32
1	A	388	U	C4-C5	-9.16	1.35	1.43
1	A	384	U	N3-C4	-9.16	1.30	1.38
2	B	4	A	C5-C6	-9.15	1.32	1.41
1	A	2422	G	C6-O6	-9.15	1.16	1.24
1	A	180	G	C5-C4	-9.14	1.31	1.38
1	A	107	A	C6-N6	-9.13	1.26	1.33
1	A	2420	A	N3-C4	-9.14	1.29	1.34
1	A	352	G	C6-N1	-9.13	1.33	1.39
1	A	468	A	C5-C4	-9.13	1.32	1.38
1	A	385	A	N3-C4	-9.12	1.29	1.34
1	A	519	G	C5-C4	-9.12	1.31	1.38
1	A	518	G	N7-C5	-9.11	1.33	1.39
1	A	205	A	C5-C4	-9.10	1.32	1.38
1	A	2426	G	N3-C4	-9.10	1.29	1.35
1	A	67	A	N7-C5	-9.09	1.33	1.39
1	A	518	G	C2-N2	-9.07	1.25	1.34
1	A	2402	G	C6-N1	-9.07	1.33	1.39
1	A	385	A	C5-C6	-9.06	1.32	1.41
1	A	399	U	C2-N3	-9.06	1.31	1.37
1	A	478	C	N3-C4	-9.06	1.27	1.33
1	A	65	A	N7-C5	-9.04	1.33	1.39
1	A	390	G	C5-C4	-9.04	1.32	1.38
1	A	518	G	N1-C2	-9.05	1.30	1.37
1	A	516	A	C6-N6	-9.04	1.26	1.33
1	A	340	A	C5-C6	-8.99	1.32	1.41
1	A	374	G	C5-C4	-8.99	1.32	1.38
1	A	480	U	N3-C4	-8.99	1.30	1.38
1	A	227	G	N9-C4	-8.99	1.30	1.38
1	A	470	G	C5-C4	8.97	1.44	1.38
1	A	398	C	N1-C6	-8.96	1.31	1.37
1	A	2407	C	N1-C6	-8.96	1.31	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	286	A	C5-C6	-8.95	1.32	1.41
1	A	388	U	C2-N3	-8.95	1.31	1.37
1	A	474	U	C2-N3	-8.93	1.31	1.37
1	A	314	A	N9-C4	-8.93	1.32	1.37
1	A	2399	G	N9-C8	-8.92	1.31	1.37
1	A	2412	A	C5-C4	-8.92	1.32	1.38
1	A	400	A	C5-C4	-8.92	1.32	1.38
1	A	2414	A	C5-C6	-8.91	1.33	1.41
1	A	2408	U	C4-C5	-8.90	1.35	1.43
1	A	207	G	N3-C4	-8.90	1.29	1.35
2	B	10	A	N7-C5	-8.90	1.33	1.39
1	A	499	A	C6-N1	-8.89	1.29	1.35
1	A	251	C	N3-C4	-8.86	1.27	1.33
1	A	2402	G	C2-N3	-8.85	1.25	1.32
1	A	2486	A	N7-C5	-8.84	1.33	1.39
1	A	2420	A	C6-N1	-8.82	1.29	1.35
1	A	2424	A	N3-C4	-8.82	1.29	1.34
1	A	2415	G	N9-C8	-8.81	1.31	1.37
1	A	273	G	N7-C5	-8.81	1.33	1.39
1	A	119	A	C6-N1	-8.80	1.29	1.35
1	A	390	G	N9-C8	-8.80	1.31	1.37
1	A	469	C	N3-C4	-8.79	1.27	1.33
1	A	349	G	C5-C4	-8.79	1.32	1.38
1	A	77	A	N3-C4	-8.77	1.29	1.34
1	A	2400	C	N1-C6	-8.77	1.31	1.37
1	A	2404	A	C5-C4	-8.76	1.32	1.38
1	A	396	C	C4-C5	-8.75	1.35	1.43
1	A	397	C	N3-C4	-8.73	1.27	1.33
1	A	9	A	N9-C4	-8.73	1.32	1.37
1	A	72	A	N3-C4	-8.73	1.29	1.34
1	A	16	G	C6-N1	-8.72	1.33	1.39
1	A	390	G	C5-C6	-8.70	1.33	1.42
1	A	2403	U	N3-C4	-8.70	1.30	1.38
1	A	2399	G	N1-C2	-8.70	1.30	1.37
1	A	2433	G	N7-C5	-8.70	1.34	1.39
1	A	180	G	C5-C6	-8.69	1.33	1.42
1	A	2398	A	N7-C5	-8.69	1.34	1.39
1	A	468	A	C6-N1	-8.69	1.29	1.35
1	A	2409	C	C5-C6	-8.67	1.27	1.34
1	A	120	A	N7-C5	-8.67	1.34	1.39
1	A	100	G	C2-N3	-8.67	1.25	1.32
1	A	466	G	C5-C4	-8.66	1.32	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2408	U	N1-C2	-8.66	1.30	1.38
1	A	2398	A	N3-C4	-8.64	1.29	1.34
1	A	206	A	N7-C5	-8.64	1.34	1.39
2	B	4	A	C6-N6	-8.61	1.27	1.33
1	A	467	U	C2-N3	-8.61	1.31	1.37
1	A	179	A	C6-N1	-8.60	1.29	1.35
1	A	190	G	N9-C4	8.59	1.44	1.38
1	A	163	A	N7-C5	-8.59	1.34	1.39
1	A	400	A	N3-C4	-8.58	1.29	1.34
1	A	2417	G	N9-C4	-8.58	1.31	1.38
1	A	2420	A	P-O5'	-8.58	1.51	1.59
1	A	374	G	N7-C5	-8.57	1.34	1.39
1	A	389	G	N9-C8	-8.57	1.31	1.37
1	A	318	G	N9-C8	-8.57	1.31	1.37
1	A	345	A	C6-N1	-8.56	1.29	1.35
1	A	475	A	N9-C4	-8.56	1.32	1.37
1	A	2411	G	N9-C8	-8.55	1.31	1.37
1	A	99	G	N9-C4	-8.54	1.31	1.38
1	A	252	C	N3-C4	-8.51	1.27	1.33
1	A	2398	A	C6-N1	-8.51	1.29	1.35
1	A	68	G	C5-C6	-8.50	1.33	1.42
1	A	197	C	C4-C5	-8.50	1.36	1.43
1	A	205	A	N7-C5	-8.50	1.34	1.39
1	A	2406	A	C2-N3	-8.50	1.25	1.33
1	A	180	G	N1-C2	-8.49	1.30	1.37
1	A	2404	A	C8-N7	-8.49	1.25	1.31
1	A	2430	C	C4-C5	-8.49	1.36	1.43
1	A	2397	G	C6-N1	8.48	1.45	1.39
1	A	149	A	C5-C6	-8.48	1.33	1.41
1	A	512	G	N9-C8	-8.47	1.31	1.37
1	A	471	G	C8-N7	-8.46	1.25	1.30
1	A	3	G	C8-N7	-8.46	1.25	1.30
1	A	477	U	C2-N3	-8.46	1.31	1.37
1	A	478	C	N1-C6	-8.46	1.32	1.37
1	A	484	A	C5-C4	-8.45	1.32	1.38
1	A	464	G	C6-N1	-8.45	1.33	1.39
1	A	131	A	C5-C6	-8.44	1.33	1.41
1	A	399	U	N3-C4	-8.44	1.30	1.38
1	A	163	A	C5-C6	-8.43	1.33	1.41
1	A	318	G	C6-N1	-8.43	1.33	1.39
1	A	2401	C	C2-N3	-8.43	1.29	1.35
1	A	393	A	O3'-P	8.42	1.71	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2393	A	N9-C4	-8.40	1.32	1.37
1	A	396	C	N1-C6	-8.40	1.32	1.37
1	A	2404	A	N9-C8	-8.40	1.31	1.37
1	A	345	A	N3-C4	-8.39	1.29	1.34
1	A	108	G	N7-C5	-8.38	1.34	1.39
1	A	2404	A	C6-N1	-8.38	1.29	1.35
1	A	165	G	C5-C4	-8.38	1.32	1.38
1	A	464	G	C5-C4	-8.38	1.32	1.38
1	A	390	G	C8-N7	-8.38	1.25	1.30
1	A	2410	C	N1-C2	-8.38	1.31	1.40
1	A	2415	G	C2-N3	-8.38	1.26	1.32
1	A	185	A	N3-C4	-8.38	1.29	1.34
1	A	193	U	N3-C4	-8.38	1.30	1.38
1	A	466	G	C6-N1	-8.38	1.33	1.39
1	A	352	G	C2-N3	-8.37	1.26	1.32
1	A	2409	C	N1-C2	-8.37	1.31	1.40
1	A	166	U	C2-N3	-8.37	1.31	1.37
1	A	2423	U	N3-C4	-8.36	1.30	1.38
1	A	284	G	N7-C5	-8.35	1.34	1.39
1	A	2412	A	N9-C8	-8.34	1.31	1.37
1	A	190	G	N9-C8	-8.33	1.32	1.37
1	A	470	G	C2-N3	-8.33	1.26	1.32
1	A	2424	A	N7-C5	-8.33	1.34	1.39
1	A	2410	C	C2-N3	-8.32	1.29	1.35
1	A	353	C	N1-C2	-8.32	1.31	1.40
1	A	119	A	C5-C4	-8.31	1.32	1.38
1	A	151	G	N7-C5	-8.30	1.34	1.39
1	A	517	A	C5-C4	-8.30	1.32	1.38
1	A	206	A	N3-C4	-8.28	1.29	1.34
1	A	109	C	N1-C2	-8.27	1.31	1.40
1	A	284	G	C6-N1	-8.26	1.33	1.39
1	A	112	G	C5-C6	-8.26	1.34	1.42
1	A	184	U	N3-C4	-8.26	1.31	1.38
1	A	2391	A	N7-C5	-8.25	1.34	1.39
1	A	131	A	N9-C4	-8.25	1.32	1.37
1	A	2421	C	N1-C2	-8.24	1.31	1.40
1	A	63	A	N7-C5	-8.23	1.34	1.39
1	A	188	U	C2-N3	-8.23	1.31	1.37
1	A	2419	U	C4-C5	-8.23	1.36	1.43
1	A	389	G	C6-N1	-8.23	1.33	1.39
1	A	2	U	N3-C4	-8.22	1.31	1.38
3	D	443	TYR	CD1-CE1	-8.22	1.27	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	485	G	C5-C6	-8.21	1.34	1.42
1	A	2413	G	C6-N1	-8.21	1.33	1.39
1	A	470	G	C4'-C3'	-8.21	1.44	1.53
1	A	4	C	N1-C2	-8.20	1.31	1.40
1	A	6	C	C4-N4	-8.19	1.26	1.33
1	A	2408	U	C2-N3	-8.19	1.32	1.37
1	A	120	A	N3-C4	-8.18	1.29	1.34
1	A	11	A	C6-N6	-8.18	1.27	1.33
1	A	491	G	N7-C5	-8.17	1.34	1.39
1	A	2414	A	N9-C4	-8.17	1.32	1.37
2	B	4	A	N7-C5	-8.17	1.34	1.39
1	A	2415	G	N1-C2	-8.14	1.31	1.37
1	A	106	G	N1-C2	-8.14	1.31	1.37
1	A	385	A	C6-N1	-8.14	1.29	1.35
1	A	342	C	N3-C4	-8.12	1.28	1.33
1	A	513	G	C6-N1	-8.12	1.33	1.39
1	A	466	G	C2-N3	-8.12	1.26	1.32
1	A	126	G	N7-C5	-8.11	1.34	1.39
1	A	189	U	C4-C5	-8.11	1.36	1.43
3	D	442	TYR	CD2-CE2	-8.10	1.27	1.39
1	A	467	U	N1-C2	-8.09	1.31	1.38
1	A	2425	C	C5-C6	-8.09	1.27	1.34
1	A	228	U	C2-N3	-8.08	1.32	1.37
3	D	200	GLU	CB-CG	8.07	1.67	1.52
1	A	489	G	C8-N7	-8.07	1.26	1.30
1	A	512	G	N9-C4	-8.07	1.31	1.38
1	A	385	A	N7-C5	-8.06	1.34	1.39
1	A	527	U	N1-C2	-8.06	1.31	1.38
1	A	2414	A	N1-C2	-8.06	1.27	1.34
1	A	471	G	N9-C8	-8.03	1.32	1.37
1	A	105	A	C5-C6	-8.03	1.33	1.41
1	A	391	G	N1-C2	-8.03	1.31	1.37
1	A	513	G	N9-C8	-8.02	1.32	1.37
1	A	382	A	N7-C5	-8.02	1.34	1.39
1	A	469	C	N1-C6	-8.02	1.32	1.37
1	A	501	G	C5-C6	-8.01	1.34	1.42
1	A	9	A	N3-C4	-8.00	1.30	1.34
1	A	520	G	C5-C4	-7.99	1.32	1.38
1	A	169	A	C5-C6	-7.99	1.33	1.41
1	A	108	G	C6-O6	-7.98	1.17	1.24
1	A	391	G	C8-N7	-7.98	1.26	1.30
1	A	186	A	C6-N1	-7.98	1.29	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	11	A	C6-N1	-7.97	1.29	1.35
1	A	341	A	N7-C5	-7.97	1.34	1.39
1	A	7	C	C2-O2	-7.96	1.17	1.24
1	A	199	G	O3'-P	-7.96	1.51	1.61
1	A	285	G	N9-C8	-7.96	1.32	1.37
1	A	2417	G	C8-N7	-7.96	1.26	1.30
1	A	2430	C	C2-N3	-7.95	1.29	1.35
1	A	2426	G	N9-C4	-7.95	1.31	1.38
1	A	168	A	C5-C4	-7.93	1.33	1.38
1	A	117	G	C6-N1	-7.93	1.33	1.39
1	A	2413	G	C5-C6	-7.93	1.34	1.42
1	A	3	G	C5-C6	-7.92	1.34	1.42
1	A	392	G	C5-C4	-7.91	1.32	1.38
1	A	464	G	N7-C5	-7.91	1.34	1.39
1	A	465	G	N7-C5	-7.90	1.34	1.39
1	A	15	G	C6-N1	-7.90	1.34	1.39
1	A	181	G	C6-N1	-7.88	1.34	1.39
1	A	190	G	N7-C5	-7.87	1.34	1.39
1	A	2426	G	C6-N1	-7.87	1.34	1.39
1	A	227	G	N3-C4	-7.87	1.29	1.35
1	A	2417	G	C6-N1	-7.86	1.34	1.39
1	A	174	A	C5-C6	-7.85	1.33	1.41
1	A	9	A	N7-C5	-7.85	1.34	1.39
1	A	120	A	C5-C6	-7.85	1.33	1.41
1	A	391	G	N3-C4	-7.85	1.29	1.35
1	A	2431	C	N1-C6	-7.84	1.32	1.37
1	A	2412	A	C8-N7	-7.83	1.26	1.31
1	A	386	A	C8-N7	-7.83	1.26	1.31
1	A	13	A	C6-N1	-7.82	1.30	1.35
1	A	2397	G	C5-C6	-7.82	1.34	1.42
1	A	2398	A	N1-C2	-7.82	1.27	1.34
1	A	391	G	C6-N1	-7.81	1.34	1.39
1	A	2427	G	C2-N3	-7.80	1.26	1.32
1	A	179	A	N7-C5	-7.79	1.34	1.39
1	A	18	G	C2-N3	-7.79	1.26	1.32
1	A	346	A	N7-C5	-7.79	1.34	1.39
1	A	10	G	C5-C4	-7.79	1.32	1.38
1	A	4	C	C5-C6	-7.79	1.28	1.34
1	A	498	A	C6-N1	-7.77	1.30	1.35
1	A	347	G	N7-C5	-7.76	1.34	1.39
1	A	90	A	C5-C4	-7.76	1.33	1.38
1	A	267	A	N7-C5	-7.76	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	107	A	N3-C4	-7.76	1.30	1.34
1	A	2419	U	N1-C2	-7.75	1.31	1.38
1	A	345	A	N9-C8	-7.74	1.31	1.37
1	A	2421	C	C5-C6	-7.74	1.28	1.34
1	A	2401	C	N1-C6	-7.71	1.32	1.37
1	A	518	G	C8-N7	-7.70	1.26	1.30
1	A	351	U	C4-C5	-7.70	1.36	1.43
1	A	180	G	C8-N7	-7.69	1.26	1.30
1	A	2433	G	C5-C4	-7.69	1.32	1.38
1	A	2437	A	N7-C5	-7.68	1.34	1.39
1	A	349	G	N1-C2	-7.68	1.31	1.37
1	A	64	A	N7-C5	-7.68	1.34	1.39
1	A	201	A	C5-C4	-7.67	1.33	1.38
1	A	484	A	C2-N3	-7.67	1.26	1.33
1	A	122	C	C4-C5	-7.67	1.36	1.43
1	A	271	A	N9-C4	-7.67	1.33	1.37
1	A	2491	A	N9-C4	-7.67	1.33	1.37
1	A	2412	A	N7-C5	-7.66	1.34	1.39
1	A	69	C	C2-N3	-7.66	1.29	1.35
1	A	471	G	N1-C2	-7.66	1.31	1.37
1	A	2423	U	C4-O4	-7.65	1.17	1.23
1	A	349	G	N7-C5	-7.63	1.34	1.39
1	A	390	G	N1-C2	-7.63	1.31	1.37
1	A	2420	A	C8-N7	-7.62	1.26	1.31
1	A	160	G	C6-N1	-7.61	1.34	1.39
1	A	151	G	C8-N7	-7.60	1.26	1.30
1	A	6	C	C2-N3	-7.60	1.29	1.35
1	A	334	G	N9-C4	-7.59	1.31	1.38
1	A	6	C	N1-C2	-7.59	1.32	1.40
1	A	180	G	N7-C5	-7.59	1.34	1.39
1	A	345	A	C5-C4	-7.59	1.33	1.38
1	A	389	G	C5-C4	-7.59	1.33	1.38
1	A	130	U	N1-C2	7.57	1.45	1.38
1	A	106	G	C2-N2	-7.57	1.26	1.34
1	A	2399	G	C5-C6	-7.57	1.34	1.42
1	A	329	U	C2-N3	-7.56	1.32	1.37
1	A	512	G	C5-C6	-7.55	1.34	1.42
1	A	2399	G	N7-C5	-7.54	1.34	1.39
1	A	2424	A	N9-C8	-7.54	1.31	1.37
1	A	5	G	N9-C4	-7.54	1.31	1.38
1	A	174	A	N7-C5	-7.54	1.34	1.39
1	A	3	G	N9-C8	-7.53	1.32	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	16	G	C5-C6	-7.53	1.34	1.42
1	A	205	A	C8-N7	-7.53	1.26	1.31
1	A	389	G	N3-C4	-7.53	1.30	1.35
1	A	400	A	C5-C6	-7.52	1.34	1.41
1	A	519	G	N1-C2	-7.52	1.31	1.37
1	A	59	C	N3-C4	-7.51	1.28	1.33
1	A	109	C	C4-C5	-7.51	1.36	1.43
1	A	562	G	C2-N3	-7.51	1.26	1.32
1	A	523	A	C5-C6	-7.51	1.34	1.41
1	A	89	A	C6-N6	-7.51	1.27	1.33
1	A	10	G	N1-C2	-7.51	1.31	1.37
1	A	2397	G	C6-O6	-7.51	1.17	1.24
1	A	189	U	N1-C2	-7.51	1.31	1.38
1	A	512	G	C2-N3	-7.50	1.26	1.32
1	A	288	U	C2-N3	-7.50	1.32	1.37
1	A	504	C	N3-C4	-7.50	1.28	1.33
1	A	203	G	C6-N1	-7.50	1.34	1.39
1	A	2405	U	C2-O2	-7.50	1.15	1.22
1	A	167	U	C4-C5	-7.49	1.36	1.43
1	A	87	G	C2-N3	-7.49	1.26	1.32
1	A	157	G	C6-N1	-7.49	1.34	1.39
1	A	2486	A	C5-C6	-7.49	1.34	1.41
1	A	11	A	C6-N1	-7.48	1.30	1.35
1	A	18	G	N3-C4	-7.48	1.30	1.35
1	A	386	A	C2-N3	-7.47	1.26	1.33
1	A	62	A	N7-C5	-7.46	1.34	1.39
1	A	484	A	C6-N1	-7.46	1.30	1.35
1	A	198	U	N3-C4	-7.46	1.31	1.38
1	A	121	G	N7-C5	-7.45	1.34	1.39
1	A	2398	A	N9-C4	-7.44	1.33	1.37
1	A	207	G	C6-N1	-7.43	1.34	1.39
1	A	358	A	C6-N6	-7.43	1.28	1.33
1	A	470	G	N9-C4	-7.43	1.32	1.38
1	A	203	G	C5-C4	-7.43	1.33	1.38
1	A	2413	G	N9-C4	-7.43	1.32	1.38
1	A	116	G	N1-C2	-7.42	1.31	1.37
1	A	351	U	C2-N3	-7.42	1.32	1.37
1	A	2412	A	N9-C4	-7.42	1.33	1.37
1	A	385	A	N9-C8	-7.41	1.31	1.37
1	A	2491	A	N3-C4	-7.41	1.30	1.34
1	A	2416	G	C8-N7	-7.41	1.26	1.30
1	A	480	U	N1-C2	-7.40	1.31	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	69	C	C4-C5	-7.40	1.37	1.43
1	A	81	A	N7-C5	-7.40	1.34	1.39
1	A	390	G	N3-C4	-7.40	1.30	1.35
1	A	208	U	C4-C5	-7.40	1.36	1.43
1	A	384	U	N1-C2	-7.40	1.31	1.38
1	A	70	C	N1-C6	-7.39	1.32	1.37
1	A	149	A	C5-C4	-7.39	1.33	1.38
1	A	210	U	C2-N3	-7.39	1.32	1.37
1	A	65	A	N9-C8	-7.39	1.31	1.37
1	A	397	C	C4-C5	-7.38	1.37	1.43
1	A	519	G	C6-N1	-7.38	1.34	1.39
1	A	58	A	N9-C4	-7.38	1.33	1.37
1	A	168	A	N3-C4	-7.38	1.30	1.34
1	A	169	A	C6-N1	-7.38	1.30	1.35
1	A	16	G	N9-C8	-7.37	1.32	1.37
1	A	2416	G	N1-C2	-7.37	1.31	1.37
1	A	81	A	C5-C6	-7.37	1.34	1.41
1	A	181	G	C5-C4	-7.37	1.33	1.38
1	A	210	U	N3-C4	-7.37	1.31	1.38
1	A	460	G	C5-C6	-7.36	1.34	1.42
1	A	123	G	N9-C8	-7.36	1.32	1.37
1	A	2397	G	C2-N3	-7.36	1.26	1.32
1	A	388	U	C5-C6	-7.36	1.27	1.34
1	A	2426	G	C5-C6	-7.35	1.34	1.42
1	A	2403	U	C4-O4	-7.35	1.17	1.23
1	A	108	G	C4'-C3'	-7.33	1.45	1.53
1	A	384	U	N1-C6	-7.33	1.31	1.38
1	A	284	G	C8-N7	-7.33	1.26	1.30
1	A	393	A	C5'-C4'	7.32	1.60	1.51
1	A	164	U	C2-N3	-7.32	1.32	1.37
1	A	121	G	N9-C8	-7.32	1.32	1.37
1	A	227	G	N7-C5	-7.32	1.34	1.39
1	A	2406	A	C6-N1	-7.32	1.30	1.35
1	A	118	A	C5-C4	-7.31	1.33	1.38
1	A	165	G	N1-C2	-7.30	1.31	1.37
1	A	77	A	C5-C6	-7.30	1.34	1.41
1	A	471	G	C5-C6	-7.30	1.35	1.42
1	A	2423	U	C2-O2	-7.29	1.15	1.22
1	A	163	A	C6-N1	-7.29	1.30	1.35
1	A	2405	U	N3-C4	-7.29	1.31	1.38
1	A	400	A	N7-C5	-7.28	1.34	1.39
1	A	2413	G	N1-C2	-7.28	1.31	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2398	A	C5-C6	-7.28	1.34	1.41
1	A	388	U	C2-O2	-7.27	1.15	1.22
1	A	397	C	N1-C6	-7.27	1.32	1.37
1	A	67	A	C5-C4	-7.27	1.33	1.38
1	A	19	U	C2-N3	-7.27	1.32	1.37
1	A	112	G	C8-N7	-7.26	1.26	1.30
1	A	15	G	N1-C2	-7.26	1.31	1.37
1	A	498	A	N9-C4	-7.25	1.33	1.37
1	A	18	G	N9-C4	-7.24	1.32	1.38
1	A	384	U	C4-C5	-7.24	1.37	1.43
1	A	516	A	C4'-C3'	-7.24	1.45	1.53
1	A	17	U	N1-C6	-7.24	1.31	1.38
1	A	2431	C	C2-N3	-7.23	1.29	1.35
1	A	2	U	C4-C5	-7.23	1.37	1.43
1	A	169	A	N3-C4	-7.23	1.30	1.34
1	A	2437	A	N9-C4	-7.23	1.33	1.37
1	A	2420	A	C5-C6	-7.22	1.34	1.41
1	A	2411	G	C5-C4	-7.22	1.33	1.38
1	A	487	C	N1-C6	-7.22	1.32	1.37
1	A	180	G	C6-N1	-7.21	1.34	1.39
1	A	66	C	N1-C6	-7.21	1.32	1.37
1	A	465	G	C6-N1	-7.21	1.34	1.39
1	A	67	A	C5-C6	-7.21	1.34	1.41
1	A	513	G	N9-C4	-7.20	1.32	1.38
1	A	2399	G	C6-O6	-7.20	1.17	1.24
1	A	2419	U	C2-O2	-7.20	1.15	1.22
1	A	160	G	C5-C4	-7.20	1.33	1.38
1	A	479	G	C5-C4	-7.20	1.33	1.38
1	A	2402	G	N9-C8	-7.20	1.32	1.37
1	A	285	G	C8-N7	-7.19	1.26	1.30
1	A	286	A	N3-C4	-7.19	1.30	1.34
1	A	464	G	N1-C2	-7.19	1.31	1.37
1	A	473	G	N9-C8	-7.19	1.32	1.37
1	A	2431	C	C4-C5	-7.19	1.37	1.43
1	A	2435	A	N3-C4	-7.18	1.30	1.34
1	A	341	A	N9-C8	-7.18	1.32	1.37
1	A	118	A	N3-C4	-7.17	1.30	1.34
1	A	284	G	C6-O6	-7.17	1.17	1.24
1	A	185	A	C6-N6	-7.17	1.28	1.33
2	B	3	C	C4-N4	-7.16	1.27	1.33
1	A	354	C	N1-C6	-7.16	1.32	1.37
1	A	519	G	N9-C8	-7.16	1.32	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2411	G	C6-N1	-7.16	1.34	1.39
1	A	2424	A	N1-C2	-7.16	1.27	1.34
1	A	16	G	C8-N7	-7.15	1.26	1.30
1	A	512	G	N3-C4	-7.15	1.30	1.35
1	A	519	G	N3-C4	-7.15	1.30	1.35
1	A	384	U	C4-O4	-7.14	1.18	1.23
1	A	2429	U	C2-N3	-7.14	1.32	1.37
1	A	165	G	C6-N1	-7.13	1.34	1.39
1	A	386	A	N9-C8	-7.13	1.32	1.37
1	A	2409	C	N3-C4	-7.13	1.28	1.33
1	A	485	G	C6-N1	-7.13	1.34	1.39
1	A	484	A	N1-C2	-7.12	1.27	1.34
1	A	105	A	N9-C4	-7.12	1.33	1.37
1	A	165	G	N3-C4	-7.12	1.30	1.35
1	A	199	G	N9-C4	-7.12	1.32	1.38
1	A	2407	C	C4-C5	-7.12	1.37	1.43
1	A	475	A	C5-C6	-7.11	1.34	1.41
1	A	116	G	C2-N3	-7.10	1.27	1.32
1	A	2424	A	C8-N7	-7.10	1.26	1.31
1	A	13	A	C5-C4	-7.10	1.33	1.38
1	A	166	U	N3-C4	-7.09	1.32	1.38
1	A	160	G	N9-C4	-7.09	1.32	1.38
1	A	90	A	N3-C4	-7.09	1.30	1.34
1	A	110	A	N9-C4	-7.08	1.33	1.37
1	A	375	A	C5-C4	-7.08	1.33	1.38
1	A	188	U	C4-C5	-7.08	1.37	1.43
1	A	353	C	C4-C5	-7.08	1.37	1.43
1	A	467	U	N3-C4	-7.08	1.32	1.38
1	A	122	C	N1-C6	-7.08	1.32	1.37
1	A	168	A	N9-C4	-7.08	1.33	1.37
1	A	469	C	N1-C2	-7.07	1.33	1.40
2	B	10	A	C5-C6	-7.07	1.34	1.41
1	A	460	G	N9-C8	-7.06	1.32	1.37
1	A	40	A	N9-C4	-7.06	1.33	1.37
1	A	475	A	N7-C5	-7.06	1.35	1.39
1	A	187	G	C6-N1	-7.05	1.34	1.39
3	D	454	TYR	CD1-CE1	-7.05	1.28	1.39
1	A	519	G	C2-N3	-7.05	1.27	1.32
1	A	6	C	N1-C6	-7.04	1.32	1.37
1	A	2416	G	C5-C6	-7.04	1.35	1.42
1	A	71	A	N9-C4	-7.04	1.33	1.37
1	A	513	G	C8-N7	-7.03	1.26	1.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2422	G	C2'-C1'	-7.03	1.45	1.53
1	A	354	C	N1-C2	-7.03	1.33	1.40
1	A	479	G	C8-N7	-7.03	1.26	1.30
1	A	2417	G	N1-C2	-7.02	1.32	1.37
2	B	5	U	C2-O2	-7.02	1.16	1.22
2	B	11	A	C2-N3	-7.02	1.27	1.33
1	A	6	C	C2-O2	-7.02	1.18	1.24
1	A	468	A	C2-N3	-7.02	1.27	1.33
1	A	340	A	N3-C4	-7.01	1.30	1.34
1	A	184	U	N1-C6	-7.01	1.31	1.38
1	A	469	C	C5-C6	-7.01	1.28	1.34
1	A	72	A	C5-C4	-7.01	1.33	1.38
1	A	330	A	N9-C4	-7.00	1.33	1.37
1	A	285	G	C5-C4	-7.00	1.33	1.38
1	A	2396	A	C8-N7	-6.99	1.26	1.31
1	A	2418	G	N1-C2	-6.98	1.32	1.37
1	A	464	G	N9-C8	-6.97	1.32	1.37
1	A	500	C	N3-C4	-6.97	1.29	1.33
1	A	2405	U	N1-C6	-6.96	1.31	1.38
1	A	2434	A	N9-C4	-6.95	1.33	1.37
1	A	108	G	N9-C8	6.95	1.42	1.37
1	A	182	U	N1-C2	-6.95	1.32	1.38
1	A	2492	C	C5-C6	-6.93	1.28	1.34
1	A	2406	A	N1-C2	-6.92	1.28	1.34
1	A	14	G	N1-C2	-6.92	1.32	1.37
1	A	526	G	N7-C5	-6.91	1.35	1.39
1	A	2399	G	N3-C4	-6.91	1.30	1.35
1	A	2420	A	P-OP2	-6.89	1.37	1.49
1	A	185	A	C5-C6	-6.89	1.34	1.41
1	A	372	A	C5-C6	-6.89	1.34	1.41
1	A	2416	G	N9-C4	-6.89	1.32	1.38
1	A	276	A	C5-C4	-6.88	1.33	1.38
1	A	68	G	C8-N7	-6.88	1.26	1.30
1	A	389	G	N1-C2	-6.87	1.32	1.37
1	A	513	G	C5-C6	-6.87	1.35	1.42
1	A	165	G	N9-C8	-6.87	1.33	1.37
1	A	355	G	N1-C2	-6.86	1.32	1.37
1	A	2432	C	N1-C6	-6.85	1.33	1.37
1	A	189	U	C5-C6	-6.85	1.27	1.34
1	A	2415	G	C5-C6	-6.85	1.35	1.42
1	A	62	A	C5-C6	-6.83	1.34	1.41
1	A	2487	C	N3-C4	-6.83	1.29	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	460	G	C6-N1	-6.83	1.34	1.39
1	A	520	G	C8-N7	-6.83	1.26	1.30
1	A	379	A	N3-C4	-6.81	1.30	1.34
1	A	482	G	C2-N3	-6.81	1.27	1.32
1	A	389	G	C8-N7	-6.81	1.26	1.30
1	A	60	A	C6-N1	-6.80	1.30	1.35
1	A	372	A	N7-C5	-6.80	1.35	1.39
1	A	384	U	C2-O2	-6.80	1.16	1.22
1	A	11	A	N7-C5	-6.80	1.35	1.39
1	A	469	C	C4'-C3'	-6.80	1.45	1.53
1	A	8	C	N3-C4	-6.79	1.29	1.33
1	A	194	U	C4-C5	-6.79	1.37	1.43
1	A	253	U	C2-N3	-6.79	1.32	1.37
1	A	374	G	N9-C8	-6.79	1.33	1.37
1	A	391	G	C2-N3	-6.79	1.27	1.32
1	A	346	A	C8-N7	-6.79	1.26	1.31
1	A	122	C	C2-N3	-6.78	1.30	1.35
1	A	122	C	N3-C4	-6.78	1.29	1.33
1	A	339	A	N9-C4	-6.78	1.33	1.37
1	A	183	A	C5-C4	-6.78	1.34	1.38
1	A	220	G	C5-C6	-6.78	1.35	1.42
1	A	318	G	C8-N7	-6.77	1.26	1.30
1	A	196	A	N3-C4	-6.77	1.30	1.34
1	A	2411	G	C2-N3	-6.77	1.27	1.32
1	A	121	G	C5-C4	-6.76	1.33	1.38
1	A	2399	G	C2-N3	-6.76	1.27	1.32
1	A	160	G	N3-C4	-6.76	1.30	1.35
1	A	354	C	C2-N3	-6.76	1.30	1.35
1	A	65	A	C5-C4	-6.75	1.34	1.38
1	A	208	U	C4-O4	-6.75	1.18	1.23
1	A	2414	A	N9-C8	-6.75	1.32	1.37
1	A	2486	A	C5-C4	-6.75	1.34	1.38
1	A	2430	C	C4-N4	-6.75	1.27	1.33
1	A	161	C	N3-C4	-6.75	1.29	1.33
1	A	519	G	C8-N7	-6.74	1.26	1.30
1	A	117	G	C5-C4	-6.74	1.33	1.38
1	A	122	C	N1-C2	-6.74	1.33	1.40
1	A	393	A	C6-N1	6.73	1.40	1.35
1	A	353	C	C2-N3	-6.73	1.30	1.35
1	A	285	G	N7-C5	-6.73	1.35	1.39
1	A	111	C	C4-C5	-6.72	1.37	1.43
1	A	1	G	C5-C6	-6.72	1.35	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2420	A	C6-N6	-6.71	1.28	1.33
1	A	2436	G	C8-N7	-6.71	1.26	1.30
1	A	24	U	C2-N3	-6.71	1.33	1.37
1	A	2410	C	N1-C6	-6.71	1.33	1.37
1	A	2428	U	C4-O4	-6.70	1.18	1.23
1	A	205	A	C5-C6	-6.70	1.35	1.41
1	A	491	G	N9-C8	-6.69	1.33	1.37
1	A	342	C	C4-C5	-6.69	1.37	1.43
1	A	340	A	C6-N1	-6.68	1.30	1.35
1	A	2410	C	C4-N4	-6.67	1.27	1.33
1	A	345	A	N1-C2	-6.67	1.28	1.34
1	A	185	A	C8-N7	-6.67	1.26	1.31
1	A	28	G	N7-C5	-6.66	1.35	1.39
1	A	56	A	C5-C4	-6.66	1.34	1.38
1	A	96	U	C2-N3	-6.65	1.33	1.37
1	A	160	G	N1-C2	-6.65	1.32	1.37
1	A	178	A	N3-C4	-6.65	1.30	1.34
1	A	152	A	C8-N7	-6.65	1.26	1.31
1	A	393	A	C5-C6	-6.64	1.35	1.41
1	A	2411	G	N1-C2	-6.64	1.32	1.37
1	A	85	G	C5-C6	-6.64	1.35	1.42
1	A	162	A	C5-C6	-6.64	1.35	1.41
1	A	340	A	N9-C4	-6.64	1.33	1.37
1	A	68	G	C6-N1	-6.63	1.34	1.39
1	A	181	G	N9-C8	-6.63	1.33	1.37
1	A	2424	A	C6-N1	-6.63	1.30	1.35
1	A	2393	A	N3-C4	-6.62	1.30	1.34
1	A	493	A	N7-C5	-6.62	1.35	1.39
1	A	183	A	N9-C8	-6.62	1.32	1.37
1	A	2429	U	N1-C2	-6.62	1.32	1.38
1	A	109	C	C5-C6	-6.61	1.29	1.34
1	A	2411	G	N7-C5	-6.61	1.35	1.39
1	A	373	A	N9-C8	-6.61	1.32	1.37
1	A	2406	A	C5-C6	-6.61	1.35	1.41
1	A	164	U	N1-C2	-6.61	1.32	1.38
1	A	395	A	C5-C4	-6.61	1.34	1.38
1	A	470	G	P-O5'	-6.61	1.53	1.59
1	A	370	C	N1-C2	-6.60	1.33	1.40
1	A	382	A	C5-C4	-6.59	1.34	1.38
1	A	526	G	N1-C2	-6.59	1.32	1.37
3	D	461	TYR	CE2-CZ	-6.59	1.29	1.38
1	A	2433	G	C2-N3	-6.59	1.27	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	159	C	N3-C4	-6.59	1.29	1.33
1	A	387	C	C2-N3	-6.58	1.30	1.35
1	A	2397	G	N9-C4	-6.58	1.32	1.38
1	A	77	A	N9-C8	-6.58	1.32	1.37
1	A	160	G	N9-C8	-6.58	1.33	1.37
1	A	37	G	C6-N1	-6.58	1.34	1.39
1	A	353	C	N1-C6	-6.58	1.33	1.37
1	A	102	A	C5-C4	-6.57	1.34	1.38
1	A	2423	U	P-OP2	-6.57	1.37	1.49
1	A	15	G	C5-C4	-6.57	1.33	1.38
1	A	474	U	N1-C2	-6.56	1.32	1.38
1	A	2438	G	C6-N1	-6.56	1.34	1.39
1	A	357	G	C2-N3	-6.55	1.27	1.32
1	A	501	G	C6-N1	-6.55	1.34	1.39
1	A	95	A	N9-C4	6.55	1.41	1.37
1	A	392	G	N9-C8	-6.55	1.33	1.37
1	A	220	G	N7-C5	-6.54	1.35	1.39
1	A	2435	A	N9-C4	-6.54	1.33	1.37
1	A	169	A	N9-C8	-6.53	1.32	1.37
1	A	178	A	N7-C5	-6.53	1.35	1.39
1	A	2416	G	C2-N3	-6.53	1.27	1.32
1	A	2403	U	C5-C6	-6.52	1.28	1.34
1	A	458	U	C2-N3	-6.52	1.33	1.37
1	A	329	U	N3-C4	-6.52	1.32	1.38
1	A	517	A	C6-N6	-6.52	1.28	1.33
1	A	12	U	C2-N3	-6.51	1.33	1.37
1	A	383	C	C4-C5	-6.51	1.37	1.43
1	A	255	U	C4-O4	-6.51	1.18	1.23
3	D	211	THR	C-N	6.51	1.46	1.34
1	A	393	A	C4'-C3'	6.51	1.60	1.53
1	A	2400	C	C4-N4	-6.51	1.28	1.33
1	A	5	G	N7-C5	-6.50	1.35	1.39
1	A	14	G	C2-N3	-6.50	1.27	1.32
1	A	70	C	C4-C5	-6.50	1.37	1.43
1	A	386	A	N1-C2	-6.49	1.28	1.34
1	A	102	A	N3-C4	-6.48	1.30	1.34
1	A	181	G	C8-N7	-6.48	1.27	1.30
1	A	512	G	N1-C2	-6.47	1.32	1.37
3	D	139	CYS	CB-SG	-6.47	1.71	1.82
1	A	183	A	C5-C6	-6.46	1.35	1.41
1	A	2491	A	C8-N7	-6.46	1.27	1.31
1	A	203	G	N1-C2	-6.46	1.32	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	8	C	C2-N3	-6.46	1.30	1.35
1	A	123	G	N1-C2	-6.45	1.32	1.37
1	A	229	C	N1-C6	-6.45	1.33	1.37
1	A	205	A	N9-C4	-6.45	1.33	1.37
1	A	108	G	C2'-C1'	-6.45	1.46	1.53
1	A	159	C	C4-C5	-6.45	1.37	1.43
1	A	351	U	N3-C4	-6.44	1.32	1.38
1	A	123	G	C5-C4	-6.43	1.33	1.38
1	A	382	A	N9-C4	-6.43	1.33	1.37
1	A	391	G	N9-C4	-6.43	1.32	1.38
1	A	2424	A	C2-N3	-6.43	1.27	1.33
1	A	167	U	C2-N3	-6.43	1.33	1.37
1	A	2417	G	C5-C6	-6.42	1.35	1.42
1	A	359	A	N9-C8	-6.42	1.32	1.37
1	A	181	G	N3-C4	-6.42	1.30	1.35
1	A	203	G	N3-C4	-6.41	1.30	1.35
1	A	519	G	N7-C5	-6.40	1.35	1.39
1	A	472	A	C2-N3	-6.40	1.27	1.33
1	A	120	A	C6-N1	-6.40	1.31	1.35
1	A	2407	C	C5-C6	-6.40	1.29	1.34
1	A	268	G	N7-C5	-6.39	1.35	1.39
1	A	351	U	N1-C2	-6.39	1.32	1.38
1	A	483	U	C4-C5	-6.39	1.37	1.43
1	A	124	A	C5-C4	-6.38	1.34	1.38
1	A	320	A	N9-C4	6.38	1.41	1.37
1	A	116	G	C5-C4	-6.38	1.33	1.38
1	A	284	G	C5-C6	-6.38	1.35	1.42
1	A	2416	G	N7-C5	-6.38	1.35	1.39
1	A	348	C	N3-C4	-6.37	1.29	1.33
1	A	255	U	C2-N3	-6.37	1.33	1.37
1	A	313	A	N9-C4	-6.37	1.34	1.37
1	A	71	A	N7-C5	-6.36	1.35	1.39
1	A	38	G	N9-C8	-6.36	1.33	1.37
1	A	290	A	C5-C6	-6.36	1.35	1.41
1	A	2428	U	C4-C5	-6.35	1.37	1.43
1	A	332	G	C6-N1	-6.34	1.35	1.39
1	A	2411	G	C8-N7	-6.34	1.27	1.30
1	A	212	U	C2-O2	-6.33	1.16	1.22
1	A	2419	U	C4-O4	-6.33	1.18	1.23
1	A	483	U	N1-C2	-6.33	1.32	1.38
1	A	350	A	C5-C6	-6.32	1.35	1.41
1	A	356	A	N9-C4	-6.32	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	521	G	C6-N1	-6.32	1.35	1.39
1	A	502	C	N3-C4	-6.31	1.29	1.33
1	A	581	C	C4-N4	-6.31	1.28	1.33
1	A	385	A	C6-N6	-6.30	1.28	1.33
1	A	514	C	C4-N4	-6.30	1.28	1.33
1	A	38	G	C6-N1	-6.30	1.35	1.39
1	A	2425	C	N1-C6	-6.30	1.33	1.37
1	A	2423	U	C5-C6	-6.30	1.28	1.34
1	A	337	C	C4-C5	-6.29	1.38	1.43
1	A	401	A	N3-C4	-6.29	1.31	1.34
1	A	522	U	C4-O4	-6.29	1.18	1.23
1	A	391	G	N7-C5	-6.29	1.35	1.39
1	A	188	U	N1-C6	-6.29	1.32	1.38
1	A	2	U	C4-O4	-6.29	1.18	1.23
1	A	345	A	N7-C5	-6.29	1.35	1.39
1	A	352	G	C5-C4	-6.29	1.33	1.38
1	A	165	G	N9-C4	-6.28	1.32	1.38
1	A	338	G	N7-C5	-6.28	1.35	1.39
1	A	162	A	C6-N1	-6.28	1.31	1.35
1	A	161	C	C4-C5	-6.28	1.38	1.43
1	A	464	G	N3-C4	-6.28	1.31	1.35
1	A	504	C	C4-C5	-6.28	1.38	1.43
1	A	509	C	N1-C6	-6.28	1.33	1.37
1	A	2408	U	N3-C4	-6.28	1.32	1.38
1	A	523	A	N7-C5	-6.27	1.35	1.39
1	A	2428	U	N1-C2	-6.27	1.32	1.38
1	A	350	A	N9-C4	-6.27	1.34	1.37
1	A	407	A	N9-C4	-6.27	1.34	1.37
1	A	2404	A	N1-C2	-6.26	1.28	1.34
1	A	182	U	C2-N3	-6.26	1.33	1.37
1	A	387	C	C2-O2	-6.26	1.18	1.24
1	A	480	U	N1-C6	-6.25	1.32	1.38
3	D	355	ARG	CG-CD	-6.25	1.36	1.51
1	A	489	G	C5-C4	-6.25	1.33	1.38
1	A	68	G	C5-C4	-6.25	1.33	1.38
1	A	466	G	N3-C4	-6.25	1.31	1.35
1	A	118	A	C6-N1	-6.24	1.31	1.35
1	A	193	U	C4-C5	-6.24	1.38	1.43
1	A	236	G	C5-C6	-6.24	1.36	1.42
1	A	356	A	C5-C6	-6.24	1.35	1.41
1	A	163	A	N9-C4	-6.24	1.34	1.37
1	A	520	G	N1-C2	-6.24	1.32	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	119	A	N3-C4	-6.23	1.31	1.34
1	A	183	A	C2-N3	-6.23	1.27	1.33
1	A	95	A	N3-C4	6.23	1.38	1.34
1	A	392	G	C5-C6	-6.22	1.36	1.42
1	A	2487	C	N1-C6	-6.22	1.33	1.37
1	A	117	G	N1-C2	-6.22	1.32	1.37
1	A	383	C	N3-C4	-6.21	1.29	1.33
1	A	466	G	N9-C4	-6.21	1.32	1.38
1	A	375	A	N9-C8	-6.21	1.32	1.37
1	A	2401	C	C5-C6	-6.21	1.29	1.34
1	A	464	G	C8-N7	-6.21	1.27	1.30
1	A	65	A	N3-C4	-6.20	1.31	1.34
1	A	2413	G	N3-C4	-6.20	1.31	1.35
1	A	9	A	C5-C6	-6.19	1.35	1.41
3	D	134	ARG	CG-CD	-6.19	1.36	1.51
1	A	8	C	C5-C6	-6.19	1.29	1.34
1	A	186	A	C5-C6	-6.19	1.35	1.41
1	A	201	A	C6-N6	-6.19	1.29	1.33
1	A	171	C	N1-C6	-6.19	1.33	1.37
1	A	181	G	N1-C2	-6.18	1.32	1.37
1	A	18	G	N7-C5	-6.18	1.35	1.39
1	A	466	G	C5-C6	-6.18	1.36	1.42
1	A	466	G	N7-C5	-6.18	1.35	1.39
1	A	113	G	N7-C5	-6.18	1.35	1.39
1	A	342	C	C5-C6	-6.18	1.29	1.34
1	A	166	U	N1-C2	-6.18	1.32	1.38
1	A	504	C	N1-C6	-6.18	1.33	1.37
1	A	343	G	C6-N1	-6.17	1.35	1.39
1	A	2490	C	C4-C5	-6.17	1.38	1.43
1	A	8	C	N1-C2	-6.17	1.33	1.40
1	A	207	G	C6-O6	-6.17	1.18	1.24
1	A	501	G	C8-N7	-6.17	1.27	1.30
1	A	90	A	N9-C8	-6.17	1.32	1.37
1	A	67	A	N9-C4	-6.16	1.34	1.37
1	A	379	A	C5-C4	-6.16	1.34	1.38
1	A	188	U	N1-C2	-6.16	1.33	1.38
1	A	374	G	C2-N3	-6.16	1.27	1.32
1	A	353	C	N3-C4	-6.15	1.29	1.33
1	A	14	G	C5-C4	-6.15	1.34	1.38
1	A	395	A	C8-N7	-6.14	1.27	1.31
1	A	510	A	N9-C4	-6.14	1.34	1.37
1	A	164	U	N3-C4	-6.14	1.32	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	386	A	C6-N6	-6.14	1.29	1.33
1	A	2423	U	P-OP1	-6.13	1.38	1.49
1	A	188	U	N3-C4	-6.13	1.32	1.38
1	A	57	C	C2-N3	-6.12	1.30	1.35
1	A	193	U	C5'-C4'	-6.12	1.44	1.51
1	A	97	A	C6-N1	-6.12	1.31	1.35
1	A	15	G	N7-C5	-6.11	1.35	1.39
1	A	108	G	C6-N1	-6.11	1.35	1.39
1	A	307	U	N3-C4	-6.11	1.32	1.38
1	A	307	U	C4-O4	-6.11	1.18	1.23
1	A	479	G	N9-C4	-6.10	1.33	1.38
1	A	361	C	C5-C6	-6.10	1.29	1.34
1	A	70	C	N1-C2	-6.08	1.34	1.40
1	A	494	G	C8-N7	-6.08	1.27	1.30
1	A	90	A	C6-N1	-6.08	1.31	1.35
1	A	284	G	N1-C2	-6.08	1.32	1.37
1	A	332	G	N1-C2	-6.08	1.32	1.37
1	A	460	G	C2-N3	-6.07	1.27	1.32
1	A	198	U	C2-N3	-6.07	1.33	1.37
1	A	2434	A	N3-C4	-6.07	1.31	1.34
1	A	371	C	C4-C5	-6.07	1.38	1.43
1	A	152	A	N3-C4	-6.07	1.31	1.34
1	A	2433	G	C5-C6	-6.07	1.36	1.42
1	A	105	A	C8-N7	-6.06	1.27	1.31
1	A	492	A	N7-C5	-6.06	1.35	1.39
1	A	2421	C	C2-N3	-6.06	1.30	1.35
1	A	2	U	C5-C6	-6.06	1.28	1.34
1	A	387	C	C4-C5	-6.06	1.38	1.43
1	A	157	G	C6-O6	-6.05	1.18	1.24
1	A	392	G	N7-C5	-6.05	1.35	1.39
1	A	393	A	O5'-C5'	6.05	1.54	1.44
1	A	273	G	C8-N7	-6.05	1.27	1.30
1	A	349	G	C5-C6	-6.05	1.36	1.42
1	A	475	A	C2-N3	-6.05	1.28	1.33
1	A	71	A	N3-C4	-6.05	1.31	1.34
2	B	5	U	C4-C5	-6.05	1.38	1.43
1	A	165	G	N7-C5	-6.04	1.35	1.39
1	A	384	U	C5-C6	-6.04	1.28	1.34
1	A	187	G	N1-C2	-6.04	1.32	1.37
1	A	309	G	N9-C4	-6.04	1.33	1.38
1	A	410	G	N9-C4	-6.04	1.33	1.38
1	A	501	G	N3-C4	-6.04	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	514	C	C5-C6	-6.04	1.29	1.34
1	A	163	A	C5-C4	-6.03	1.34	1.38
1	A	337	C	N3-C4	-6.03	1.29	1.33
1	A	2415	G	N9-C4	-6.03	1.33	1.38
1	A	467	U	C4-C5	-6.02	1.38	1.43
1	A	228	U	N1-C2	-6.02	1.33	1.38
1	A	113	G	C5-C4	-6.01	1.34	1.38
1	A	153	C	C4-C5	-6.01	1.38	1.43
1	A	2411	G	N3-C4	-6.01	1.31	1.35
1	A	2428	U	C2-O2	-6.01	1.17	1.22
1	A	471	G	C6-N1	-6.01	1.35	1.39
1	A	463	A	N9-C4	6.01	1.41	1.37
1	A	39	U	C4-C5	-6.00	1.38	1.43
1	A	28	G	N9-C8	-6.00	1.33	1.37
1	A	168	A	N7-C5	-6.00	1.35	1.39
1	A	516	A	C5'-C4'	-6.00	1.44	1.51
1	A	105	A	C6-N1	-6.00	1.31	1.35
1	A	2404	A	C2-N3	-6.00	1.28	1.33
1	A	400	A	C6-N6	-6.00	1.29	1.33
3	D	123	GLU	CG-CD	-6.00	1.43	1.51
1	A	186	A	N7-C5	-6.00	1.35	1.39
1	A	2421	C	P-OP2	-6.00	1.38	1.49
1	A	126	G	N9-C8	-5.99	1.33	1.37
1	A	87	G	N9-C4	-5.99	1.33	1.38
1	A	387	C	N1-C6	-5.98	1.33	1.37
1	A	109	C	P-OP2	-5.98	1.38	1.49
1	A	18	G	C5-C4	-5.97	1.34	1.38
1	A	159	C	N1-C6	-5.97	1.33	1.37
1	A	160	G	C8-N7	-5.97	1.27	1.30
1	A	466	G	N1-C2	-5.97	1.32	1.37
1	A	386	A	P-OP1	-5.97	1.38	1.49
1	A	2491	A	C5-C4	-5.96	1.34	1.38
1	A	356	A	N3-C4	5.96	1.38	1.34
1	A	87	G	N3-C4	-5.96	1.31	1.35
1	A	2406	A	C8-N7	-5.95	1.27	1.31
1	A	94	G	N3-C4	-5.95	1.31	1.35
1	A	355	G	N3-C4	-5.95	1.31	1.35
1	A	2439	G	N7-C5	-5.95	1.35	1.39
1	A	201	A	N1-C2	-5.95	1.28	1.34
1	A	223	A	C2-N3	-5.94	1.28	1.33
1	A	387	C	N1-C2	-5.94	1.34	1.40
1	A	74	C	N1-C6	-5.94	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	259	A	N7-C5	-5.93	1.35	1.39
1	A	201	A	C2-N3	-5.93	1.28	1.33
1	A	131	A	N3-C4	-5.93	1.31	1.34
1	A	116	G	C6-N1	-5.92	1.35	1.39
1	A	350	A	C6-N1	-5.92	1.31	1.35
1	A	398	C	C5-C6	-5.92	1.29	1.34
1	A	460	G	C8-N7	-5.92	1.27	1.30
1	A	212	U	C5-C6	-5.92	1.28	1.34
1	A	202	C	N3-C4	-5.92	1.29	1.33
1	A	2391	A	C5-C4	-5.91	1.34	1.38
1	A	66	C	N3-C4	-5.91	1.29	1.33
1	A	248	A	N9-C4	5.91	1.41	1.37
1	A	489	G	C6-N1	-5.91	1.35	1.39
1	A	581	C	C4-C5	-5.90	1.38	1.43
1	A	465	G	C8-N7	-5.90	1.27	1.30
1	A	190	G	N1-C2	-5.90	1.33	1.37
1	A	271	A	C5-C4	-5.90	1.34	1.38
1	A	2398	A	C2-N3	-5.90	1.28	1.33
1	A	344	A	N1-C2	-5.89	1.29	1.34
1	A	17	U	C2-N3	-5.89	1.33	1.37
3	D	461	TYR	CD1-CE1	-5.89	1.30	1.39
3	D	507	PHE	CD1-CE1	-5.89	1.27	1.39
3	D	461	TYR	CD2-CE2	-5.88	1.30	1.39
1	A	2396	A	C2-N3	-5.88	1.28	1.33
1	A	117	G	C2-N3	-5.88	1.28	1.32
1	A	2400	C	C5-C6	-5.88	1.29	1.34
3	D	412	TRP	CB-CG	-5.88	1.39	1.50
1	A	385	A	C8-N7	-5.87	1.27	1.31
1	A	495	G	C5-C4	-5.87	1.34	1.38
2	B	5	U	C2-N3	-5.87	1.33	1.37
1	A	10	G	C6-O6	-5.87	1.18	1.24
1	A	392	G	C6-O6	-5.87	1.18	1.24
1	A	2391	A	N9-C8	-5.87	1.33	1.37
1	A	198	U	C4-C5	-5.87	1.38	1.43
1	A	313	A	N7-C5	-5.87	1.35	1.39
1	A	136	A	N9-C4	-5.86	1.34	1.37
1	A	396	C	C5-C6	-5.86	1.29	1.34
1	A	313	A	N3-C4	-5.86	1.31	1.34
1	A	72	A	N7-C5	-5.85	1.35	1.39
1	A	2436	G	C5-C4	-5.85	1.34	1.38
1	A	340	A	C8-N7	-5.85	1.27	1.31
1	A	397	C	C2-N3	-5.85	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	526	G	N3-C4	-5.85	1.31	1.35
1	A	478	C	C2-N3	-5.84	1.31	1.35
1	A	273	G	N9-C8	-5.84	1.33	1.37
1	A	203	G	C5-C6	-5.84	1.36	1.42
1	A	2471	A	N9-C4	5.83	1.41	1.37
1	A	178	A	N9-C4	-5.83	1.34	1.37
1	A	346	A	C5-C4	-5.83	1.34	1.38
1	A	2433	G	N9-C4	-5.83	1.33	1.38
1	A	369	A	N9-C4	5.83	1.41	1.37
1	A	388	U	N1-C6	-5.83	1.32	1.38
2	B	10	A	C8-N7	-5.83	1.27	1.31
1	A	520	G	C2-N3	-5.83	1.28	1.32
1	A	37	G	N1-C2	-5.83	1.33	1.37
1	A	99	G	N7-C5	-5.83	1.35	1.39
1	A	335	A	C6-N1	-5.83	1.31	1.35
1	A	107	A	C5-C4	-5.82	1.34	1.38
1	A	185	A	N1-C2	-5.82	1.29	1.34
1	A	2402	G	N7-C5	-5.82	1.35	1.39
1	A	7	C	C5-C6	-5.82	1.29	1.34
1	A	282	G	C6-O6	-5.82	1.19	1.24
1	A	2403	U	N1-C6	-5.82	1.32	1.38
1	A	2404	A	C5-C6	-5.82	1.35	1.41
1	A	165	G	C2-N3	-5.82	1.28	1.32
1	A	337	C	C2-N3	-5.82	1.31	1.35
1	A	504	C	C5-C6	-5.82	1.29	1.34
1	A	2408	U	C4-O4	-5.82	1.19	1.23
1	A	162	A	N9-C8	-5.81	1.33	1.37
1	A	117	G	N7-C5	-5.81	1.35	1.39
1	A	262	A	N9-C4	-5.81	1.34	1.37
1	A	350	A	N3-C4	-5.81	1.31	1.34
1	A	520	G	N9-C8	-5.81	1.33	1.37
1	A	356	A	N9-C8	-5.80	1.33	1.37
1	A	46	C	N1-C6	-5.80	1.33	1.37
1	A	341	A	C5-C4	-5.80	1.34	1.38
1	A	495	G	N1-C2	-5.80	1.33	1.37
1	A	2435	A	C5-C4	-5.79	1.34	1.38
1	A	2464	G	C8-N7	-5.79	1.27	1.30
1	A	343	G	N7-C5	-5.79	1.35	1.39
1	A	251	C	C2-N3	-5.78	1.31	1.35
1	A	529	A	C2-N3	-5.78	1.28	1.33
1	A	60	A	N3-C4	-5.78	1.31	1.34
1	A	204	C	C2-N3	-5.78	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2426	G	C4'-C3'	-5.78	1.46	1.52
1	A	2427	G	C6-N1	-5.77	1.35	1.39
1	A	518	G	O3'-P	-5.77	1.54	1.61
1	A	212	U	C2-N3	-5.77	1.33	1.37
1	A	499	A	C6-N6	-5.77	1.29	1.33
1	A	70	C	N3-C4	-5.77	1.29	1.33
1	A	2491	A	N7-C5	-5.76	1.35	1.39
1	A	486	U	C5-C6	-5.76	1.28	1.34
1	A	172	A	N7-C5	-5.76	1.35	1.39
1	A	267	A	N9-C8	-5.76	1.33	1.37
1	A	79	C	C4-C5	-5.76	1.38	1.43
1	A	359	A	N7-C5	-5.76	1.35	1.39
1	A	165	G	C8-N7	-5.75	1.27	1.30
1	A	491	G	C5-C6	-5.75	1.36	1.42
1	A	464	G	C5-C6	-5.75	1.36	1.42
1	A	386	A	C2'-C1'	-5.75	1.47	1.53
1	A	153	C	N1-C6	-5.74	1.33	1.37
1	A	493	A	C5-C6	-5.74	1.35	1.41
1	A	2437	A	C5-C6	-5.74	1.35	1.41
1	A	339	A	C5-C4	-5.74	1.34	1.38
1	A	486	U	N1-C6	-5.74	1.32	1.38
1	A	480	U	C4-O4	-5.73	1.19	1.23
1	A	2418	G	C6-O6	-5.73	1.19	1.24
1	A	9	A	C6-N6	-5.72	1.29	1.33
1	A	65	A	C6-N1	-5.72	1.31	1.35
1	A	165	G	C5-C6	-5.72	1.36	1.42
1	A	105	A	N3-C4	-5.72	1.31	1.34
1	A	353	C	C2-O2	-5.72	1.19	1.24
1	A	2436	G	C6-N1	-5.72	1.35	1.39
1	A	183	A	P-O5'	-5.72	1.54	1.59
1	A	355	G	C8-N7	-5.72	1.27	1.30
1	A	163	A	N9-C8	-5.72	1.33	1.37
1	A	284	G	N9-C8	-5.72	1.33	1.37
1	A	2402	G	C2-N2	-5.71	1.28	1.34
1	A	2435	A	N7-C5	-5.71	1.35	1.39
1	A	2438	G	N1-C2	-5.71	1.33	1.37
1	A	479	G	N3-C4	-5.71	1.31	1.35
1	A	373	A	C5-C4	-5.70	1.34	1.38
1	A	204	C	C4-C5	-5.70	1.38	1.43
1	A	174	A	C8-N7	-5.69	1.27	1.31
1	A	259	A	N9-C4	-5.69	1.34	1.37
1	A	514	C	C2-N3	-5.69	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	3	G	N9-C4	-5.69	1.33	1.38
1	A	81	A	N9-C4	-5.69	1.34	1.37
1	A	476	C	C4-C5	-5.69	1.38	1.43
1	A	13	A	C5-C6	-5.69	1.35	1.41
1	A	17	U	C4-C5	-5.69	1.38	1.43
1	A	273	G	C5-C4	-5.68	1.34	1.38
1	A	1	G	C2-N3	-5.68	1.28	1.32
1	A	392	G	C8-N7	-5.68	1.27	1.30
1	A	2423	U	N1-C6	-5.68	1.32	1.38
1	A	522	U	C4-C5	-5.68	1.38	1.43
1	A	321	G	N7-C5	-5.67	1.35	1.39
1	A	2429	U	C2-O2	-5.67	1.17	1.22
1	A	2415	G	N3-C4	-5.67	1.31	1.35
1	A	2487	C	C4-C5	-5.67	1.38	1.43
1	A	8	C	N1-C6	-5.66	1.33	1.37
1	A	71	A	C5-C4	-5.66	1.34	1.38
1	A	92	C	N3-C4	-5.66	1.29	1.33
1	A	99	G	C5-C4	-5.66	1.34	1.38
1	A	344	A	C6-N1	-5.66	1.31	1.35
1	A	542	A	C2-N3	-5.66	1.28	1.33
1	A	2424	A	P-O5'	-5.66	1.54	1.59
1	A	474	U	C2-O2	-5.65	1.17	1.22
1	A	211	C	N3-C4	-5.65	1.29	1.33
1	A	483	U	C2-O2	-5.65	1.17	1.22
1	A	2414	A	C8-N7	-5.65	1.27	1.31
1	A	283	U	P-O5'	5.64	1.65	1.59
1	A	167	U	C5-C6	-5.63	1.29	1.34
1	A	489	G	C5-C6	-5.63	1.36	1.42
1	A	233	A	N7-C5	-5.63	1.35	1.39
1	A	469	C	C2-N3	-5.63	1.31	1.35
1	A	2433	G	N3-C4	-5.63	1.31	1.35
1	A	231	A	N9-C4	5.63	1.41	1.37
1	A	2422	G	C4'-C3'	-5.63	1.47	1.52
1	A	123	G	C6-N1	-5.63	1.35	1.39
1	A	382	A	N9-C8	-5.62	1.33	1.37
1	A	69	C	C5-C6	-5.61	1.29	1.34
1	A	341	A	C6-N1	-5.61	1.31	1.35
1	A	357	G	C5-C6	-5.61	1.36	1.42
1	A	485	G	N1-C2	-5.61	1.33	1.37
1	A	52	G	C6-N1	-5.61	1.35	1.39
1	A	344	A	N7-C5	-5.61	1.35	1.39
1	A	389	G	N9-C4	-5.61	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2405	U	C4-C5	-5.61	1.38	1.43
1	A	352	G	C8-N7	-5.60	1.27	1.30
1	A	521	G	N7-C5	-5.60	1.35	1.39
3	D	359	TYR	CD1-CE1	-5.60	1.30	1.39
1	A	124	A	N9-C8	-5.60	1.33	1.37
1	A	307	U	C2-N3	-5.60	1.33	1.37
1	A	496	G	C6-N1	-5.60	1.35	1.39
1	A	2434	A	N7-C5	-5.60	1.35	1.39
1	A	345	A	N9-C4	-5.59	1.34	1.37
1	A	322	G	N7-C5	-5.59	1.35	1.39
1	A	411	C	C5-C6	-5.59	1.29	1.34
1	A	2429	U	N1-C6	-5.59	1.32	1.38
1	A	518	G	P-OP2	-5.59	1.39	1.49
1	A	465	G	C5-C6	-5.59	1.36	1.42
1	A	502	C	C5-C6	-5.59	1.29	1.34
1	A	275	U	C2-N3	-5.58	1.33	1.37
1	A	164	U	C4-C5	-5.58	1.38	1.43
1	A	472	A	P-O5'	-5.58	1.54	1.59
1	A	180	G	N9-C8	-5.58	1.33	1.37
1	A	2410	C	C2-O2	-5.58	1.19	1.24
1	A	309	G	N3-C4	-5.58	1.31	1.35
1	A	394	U	C4-C5	-5.58	1.38	1.43
1	A	66	C	C4-C5	-5.58	1.38	1.43
1	A	111	C	N1-C6	-5.58	1.33	1.37
1	A	484	A	P-O5'	5.57	1.65	1.59
1	A	90	A	N9-C4	-5.56	1.34	1.37
1	A	177	U	N1-C2	5.56	1.43	1.38
1	A	341	A	C8-N7	-5.56	1.27	1.31
1	A	70	C	C2-O2	-5.56	1.19	1.24
1	A	513	G	C5-C4	-5.55	1.34	1.38
1	A	465	G	N1-C2	-5.55	1.33	1.37
1	A	472	A	C5-C6	-5.55	1.36	1.41
1	A	494	G	C5-C4	-5.55	1.34	1.38
1	A	487	C	C4-C5	-5.54	1.38	1.43
1	A	469	C	C4-C5	-5.54	1.38	1.43
1	A	2390	A	N7-C5	-5.54	1.35	1.39
1	A	9	A	N1-C2	-5.53	1.29	1.34
1	A	339	A	N3-C4	-5.53	1.31	1.34
1	A	375	A	N9-C4	-5.53	1.34	1.37
1	A	480	U	O3'-P	5.53	1.67	1.61
1	A	398	C	N1-C2	-5.53	1.34	1.40
3	D	21	GLU	CG-CD	5.53	1.60	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	120	A	C6-N6	-5.53	1.29	1.33
1	A	23	G	N7-C5	-5.52	1.35	1.39
1	A	374	G	N9-C4	-5.52	1.33	1.38
1	A	197	C	N3-C4	-5.52	1.30	1.33
1	A	349	G	C2-N3	-5.52	1.28	1.32
1	A	92	C	C2-N3	-5.51	1.31	1.35
1	A	498	A	C4'-C3'	-5.51	1.47	1.52
1	A	76	A	N3-C4	-5.50	1.31	1.34
1	A	201	A	C6-N1	-5.50	1.31	1.35
3	D	137	ARG	CG-CD	-5.50	1.38	1.51
1	A	90	A	N7-C5	-5.50	1.35	1.39
1	A	204	C	C5-C6	-5.50	1.29	1.34
1	A	457	C	C4-C5	-5.50	1.38	1.43
1	A	209	U	C4-C5	-5.49	1.38	1.43
1	A	69	C	N1-C6	-5.49	1.33	1.37
1	A	168	A	N9-C8	-5.49	1.33	1.37
1	A	508	A	C5-C6	-5.49	1.36	1.41
1	A	355	G	C2-N3	-5.49	1.28	1.32
1	A	2433	G	C8-N7	-5.48	1.27	1.30
1	A	2426	G	C2-N2	-5.48	1.29	1.34
1	A	472	A	C4'-C3'	-5.48	1.47	1.52
1	A	83	A	N7-C5	-5.47	1.35	1.39
1	A	470	G	C5'-C4'	-5.47	1.44	1.51
1	A	523	A	C5-C4	-5.47	1.34	1.38
1	A	382	A	C5-C6	-5.47	1.36	1.41
1	A	60	A	N9-C4	-5.46	1.34	1.37
1	A	227	G	N9-C8	-5.46	1.34	1.37
1	A	2480	C	C4-C5	-5.46	1.38	1.43
1	A	263	A	C2-N3	-5.46	1.28	1.33
1	A	356	A	C8-N7	-5.46	1.27	1.31
1	A	514	C	N1-C6	-5.46	1.33	1.37
1	A	267	A	C5-C6	-5.46	1.36	1.41
1	A	526	G	C6-N1	-5.46	1.35	1.39
3	D	40	TYR	CD1-CE1	-5.46	1.31	1.39
1	A	104	C	N3-C4	-5.45	1.30	1.33
1	A	109	C	C4-N4	-5.45	1.29	1.33
1	A	120	A	N9-C4	-5.45	1.34	1.37
1	A	121	G	N1-C2	-5.45	1.33	1.37
1	A	181	G	C5-C6	-5.45	1.36	1.42
1	A	2429	U	C4-C5	-5.45	1.38	1.43
1	A	178	A	C8-N7	-5.45	1.27	1.31
1	A	285	G	C6-N1	-5.45	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	386	A	P-OP2	-5.45	1.39	1.49
1	A	347	G	C5-C6	-5.44	1.36	1.42
1	A	181	G	C2-N3	-5.44	1.28	1.32
1	A	2423	U	P-O5'	-5.44	1.54	1.59
1	A	374	G	N3-C4	-5.44	1.31	1.35
1	A	195	U	N1-C2	-5.43	1.33	1.38
2	B	11	A	C8-N7	-5.43	1.27	1.31
1	A	15	G	C6-O6	-5.43	1.19	1.24
1	A	70	C	C2-N3	-5.43	1.31	1.35
1	A	13	A	C6-N6	-5.43	1.29	1.33
1	A	2401	C	N1-C2	-5.43	1.34	1.40
1	A	187	G	N9-C8	-5.43	1.34	1.37
1	A	514	C	C2-O2	-5.42	1.19	1.24
1	A	3	G	C2-N2	-5.42	1.29	1.34
1	A	395	A	C2-N3	-5.42	1.28	1.33
1	A	375	A	N7-C5	-5.42	1.35	1.39
1	A	223	A	N9-C4	5.41	1.41	1.37
3	D	303	TYR	CE1-CZ	-5.41	1.31	1.38
1	A	2408	U	C5-C6	-5.41	1.29	1.34
1	A	2427	G	C2-N2	-5.41	1.29	1.34
1	A	233	A	N3-C4	-5.40	1.31	1.34
1	A	67	A	C8-N7	-5.40	1.27	1.31
1	A	496	G	N7-C5	-5.40	1.36	1.39
3	D	193	PHE	CB-CG	-5.39	1.42	1.51
1	A	477	U	N3-C4	-5.39	1.33	1.38
1	A	236	G	N1-C2	-5.39	1.33	1.37
1	A	2422	G	C2-N2	-5.39	1.29	1.34
1	A	354	C	C5-C6	-5.39	1.30	1.34
1	A	493	A	N9-C4	-5.38	1.34	1.37
1	A	2393	A	C5-C4	-5.38	1.34	1.38
1	A	207	G	C8-N7	-5.38	1.27	1.30
1	A	173	G	C8-N7	-5.38	1.27	1.30
1	A	496	G	C5-C6	-5.38	1.36	1.42
1	A	187	G	N3-C4	-5.37	1.31	1.35
1	A	494	G	C6-N1	-5.37	1.35	1.39
1	A	115	U	C2-N3	-5.37	1.33	1.37
1	A	186	A	N3-C4	-5.37	1.31	1.34
1	A	205	A	N9-C8	-5.37	1.33	1.37
1	A	186	A	N9-C8	-5.36	1.33	1.37
1	A	385	A	N1-C2	-5.36	1.29	1.34
1	A	2425	C	C4-N4	-5.36	1.29	1.33
3	D	442	TYR	CD1-CE1	-5.36	1.31	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2394	A	N3-C4	-5.36	1.31	1.34
1	A	1	G	N7-C5	-5.35	1.36	1.39
1	A	183	A	C6-N1	-5.35	1.31	1.35
1	A	254	C	N1-C6	-5.35	1.33	1.37
1	A	540	A	N7-C5	-5.35	1.36	1.39
1	A	380	A	C5-C4	-5.35	1.35	1.38
1	A	2	U	N1-C6	-5.34	1.33	1.38
1	A	186	A	C2-N3	-5.34	1.28	1.33
1	A	236	G	N7-C5	-5.34	1.36	1.39
1	A	2409	C	C2-N3	-5.34	1.31	1.35
1	A	63	A	C5-C6	-5.34	1.36	1.41
1	A	89	A	C6-N1	-5.34	1.31	1.35
1	A	487	C	N1-C2	-5.34	1.34	1.40
1	A	17	U	C2-O2	-5.33	1.17	1.22
1	A	357	G	C6-N1	-5.33	1.35	1.39
1	A	39	U	C5-C6	-5.33	1.29	1.34
1	A	196	A	N7-C5	-5.33	1.36	1.39
1	A	471	G	C2-N3	-5.32	1.28	1.32
1	A	2408	U	N1-C6	-5.32	1.33	1.38
1	A	65	A	C5-C6	-5.32	1.36	1.41
1	A	162	A	C5-C4	-5.32	1.35	1.38
1	A	475	A	N3-C4	-5.32	1.31	1.34
1	A	2461	A	C6-N6	-5.32	1.29	1.33
1	A	169	A	C6-N6	-5.32	1.29	1.33
1	A	262	A	C6-N1	-5.32	1.31	1.35
3	D	484	ASP	CB-CG	-5.32	1.40	1.51
1	A	2485	U	N1-C2	-5.32	1.33	1.38
1	A	46	C	C4-C5	-5.31	1.38	1.43
1	A	480	U	C4-C5	-5.31	1.38	1.43
1	A	400	A	N9-C4	-5.31	1.34	1.37
1	A	477	U	C2-O2	-5.31	1.17	1.22
1	A	283	U	C4'-C3'	5.31	1.58	1.53
1	A	2490	C	C5-C6	-5.31	1.30	1.34
1	A	3	G	N3-C4	-5.30	1.31	1.35
3	D	385	GLU	CB-CG	5.30	1.62	1.52
1	A	517	A	C4'-C3'	-5.29	1.47	1.52
1	A	289	U	C2-N3	-5.29	1.34	1.37
1	A	359	A	N3-C4	5.29	1.38	1.34
1	A	394	U	C4-O4	-5.29	1.19	1.23
1	A	2418	G	C5-C6	-5.29	1.37	1.42
1	A	286	A	N9-C8	-5.29	1.33	1.37
1	A	376	C	N3-C4	-5.29	1.30	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	234	G	N1-C2	-5.29	1.33	1.37
1	A	538	U	N1-C2	5.29	1.43	1.38
1	A	340	A	N9-C8	-5.29	1.33	1.37
1	A	250	A	C6-N6	-5.28	1.29	1.33
1	A	349	G	C6-N1	-5.28	1.35	1.39
1	A	2388	A	N7-C5	-5.28	1.36	1.39
1	A	483	U	C4-O4	-5.28	1.19	1.23
1	A	473	G	C8-N7	-5.28	1.27	1.30
1	A	487	C	C2-N3	-5.27	1.31	1.35
1	A	117	G	N9-C8	-5.27	1.34	1.37
1	A	290	A	C5-C4	-5.27	1.35	1.38
1	A	393	A	C2-N3	-5.27	1.28	1.33
2	B	9	U	C5-C6	-5.27	1.29	1.34
1	A	2437	A	C5-C4	-5.27	1.35	1.38
1	A	285	G	N3-C4	-5.27	1.31	1.35
1	A	396	C	C2-N3	-5.27	1.31	1.35
1	A	529	A	C6-N1	-5.27	1.31	1.35
1	A	389	G	C5-C6	-5.26	1.37	1.42
1	A	271	A	C2-N3	-5.26	1.28	1.33
1	A	214	A	N9-C4	5.26	1.41	1.37
1	A	2412	A	N1-C2	-5.26	1.29	1.34
1	A	2421	C	C4-N4	-5.26	1.29	1.33
1	A	519	G	P-OP2	-5.26	1.40	1.49
1	A	195	U	C4-O4	-5.25	1.19	1.23
1	A	508	A	N7-C5	-5.25	1.36	1.39
1	A	119	A	N7-C5	-5.25	1.36	1.39
1	A	286	A	C5-C4	-5.25	1.35	1.38
1	A	568	C	C2-N3	-5.25	1.31	1.35
1	A	2432	C	C4-C5	-5.25	1.38	1.43
1	A	339	A	C6-N1	-5.25	1.31	1.35
1	A	183	A	C8-N7	-5.25	1.27	1.31
1	A	470	G	C2-N2	-5.25	1.29	1.34
1	A	289	U	C5-C6	-5.24	1.29	1.34
1	A	357	G	P-O5'	5.24	1.65	1.59
1	A	495	G	C2-N3	-5.24	1.28	1.32
1	A	359	A	N9-C4	5.24	1.41	1.37
1	A	227	G	C2-N3	-5.24	1.28	1.32
1	A	2430	C	N1-C2	-5.24	1.34	1.40
1	A	340	A	N1-C2	-5.24	1.29	1.34
1	A	184	U	C5-C6	-5.23	1.29	1.34
1	A	155	G	N9-C4	-5.23	1.33	1.38
1	A	189	U	C4-O4	-5.23	1.19	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	124	A	C5-C6	-5.23	1.36	1.41
1	A	332	G	C2-N2	-5.23	1.29	1.34
3	D	449	PHE	CD2-CE2	-5.23	1.28	1.39
1	A	521	G	N1-C2	-5.22	1.33	1.37
1	A	15	G	C5-C6	-5.22	1.37	1.42
1	A	160	G	C2-N3	-5.22	1.28	1.32
1	A	264	G	N9-C4	-5.22	1.33	1.38
1	A	480	U	C2-O2	-5.22	1.17	1.22
1	A	473	G	N9-C4	-5.22	1.33	1.38
1	A	347	G	C6-N1	-5.21	1.35	1.39
1	A	2467	A	N7-C5	-5.21	1.36	1.39
3	D	40	TYR	CD2-CE2	-5.21	1.31	1.39
1	A	2429	U	N3-C4	-5.21	1.33	1.38
1	A	6	C	P-OP1	-5.21	1.40	1.49
1	A	455	A	N9-C4	5.21	1.41	1.37
1	A	355	G	C5-C6	-5.21	1.37	1.42
1	A	109	C	P-OP1	-5.20	1.40	1.49
1	A	480	U	C5-C6	-5.20	1.29	1.34
1	A	2420	A	P-OP1	-5.20	1.40	1.49
1	A	364	A	C6-N1	-5.20	1.31	1.35
1	A	387	C	C5-C6	-5.20	1.30	1.34
1	A	521	G	C8-N7	-5.20	1.27	1.30
1	A	272	A	C2-N3	-5.20	1.28	1.33
1	A	333	G	N7-C5	-5.20	1.36	1.39
1	A	107	A	O3'-P	-5.19	1.54	1.61
1	A	489	G	N7-C5	-5.19	1.36	1.39
1	A	266	A	N9-C4	5.19	1.41	1.37
1	A	386	A	N3-C4	-5.19	1.31	1.34
1	A	71	A	N9-C8	-5.18	1.33	1.37
1	A	267	A	C8-N7	-5.18	1.27	1.31
1	A	305	A	N7-C5	-5.18	1.36	1.39
1	A	312	C	N3-C4	-5.17	1.30	1.33
1	A	37	G	N3-C4	-5.17	1.31	1.35
1	A	7	C	P-O5'	-5.17	1.54	1.59
1	A	477	U	N1-C2	-5.17	1.33	1.38
1	A	522	U	N3-C4	-5.17	1.33	1.38
1	A	527	U	N3-C4	-5.17	1.33	1.38
1	A	345	A	C8-N7	-5.17	1.27	1.31
1	A	351	U	N1-C6	-5.17	1.33	1.38
1	A	211	C	C4-C5	-5.16	1.38	1.43
1	A	519	G	N9-C4	-5.16	1.33	1.38
1	A	2419	U	C3'-C2'	-5.16	1.47	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2439	G	N9-C8	-5.16	1.34	1.37
1	A	344	A	C5-C6	-5.15	1.36	1.41
1	A	62	A	N9-C4	-5.15	1.34	1.37
1	A	28	G	C6-N1	-5.15	1.35	1.39
1	A	397	C	C2-O2	-5.14	1.19	1.24
1	A	2430	C	C2-O2	-5.14	1.19	1.24
1	A	531	U	C2-O2	-5.14	1.17	1.22
1	A	474	U	N3-C4	-5.14	1.33	1.38
1	A	124	A	N7-C5	-5.13	1.36	1.39
1	A	475	A	C4'-C3'	5.13	1.58	1.53
1	A	121	G	C2-N3	-5.13	1.28	1.32
1	A	375	A	C6-N1	-5.13	1.31	1.35
1	A	380	A	N3-C4	-5.13	1.31	1.34
1	A	239	A	N9-C4	5.13	1.41	1.37
1	A	205	A	C6-N1	-5.12	1.31	1.35
1	A	494	G	N9-C8	-5.12	1.34	1.37
1	A	527	U	C4-C5	-5.12	1.39	1.43
1	A	87	G	C5-C6	-5.12	1.37	1.42
1	A	87	G	C6-N1	-5.12	1.35	1.39
1	A	424	A	N7-C5	-5.12	1.36	1.39
2	B	1	C	C5-C6	-5.12	1.30	1.34
2	B	8	A	C5-C6	5.11	1.45	1.41
1	A	40	A	N9-C8	-5.11	1.33	1.37
1	A	4	C	C2-O2	-5.11	1.19	1.24
1	A	267	A	C6-N1	-5.11	1.31	1.35
1	A	2418	G	N9-C4	-5.11	1.33	1.38
1	A	90	A	N1-C2	-5.10	1.29	1.34
1	A	332	G	C5-C4	-5.10	1.34	1.38
1	A	374	G	C5-C6	-5.10	1.37	1.42
1	A	178	A	C5-C6	-5.09	1.36	1.41
1	A	159	C	N1-C2	-5.09	1.35	1.40
1	A	248	A	N7-C5	-5.09	1.36	1.39
1	A	400	A	C2-N3	-5.09	1.28	1.33
1	A	391	G	C5-C6	-5.09	1.37	1.42
1	A	406	G	N9-C4	-5.09	1.33	1.38
1	A	66	C	N1-C2	-5.09	1.35	1.40
1	A	355	G	N7-C5	-5.08	1.36	1.39
1	A	581	C	N3-C4	-5.08	1.30	1.33
1	A	2422	G	N9-C4	-5.08	1.33	1.38
1	A	188	U	C5-C6	-5.08	1.29	1.34
1	A	223	A	N1-C2	-5.08	1.29	1.34
1	A	2421	C	C2-O2	-5.08	1.19	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	321	G	C6-N1	-5.08	1.35	1.39
1	A	346	A	C6-N6	-5.08	1.29	1.33
1	A	379	A	N7-C5	-5.08	1.36	1.39
1	A	469	C	P-O5'	-5.07	1.54	1.59
1	A	183	A	N3-C4	-5.07	1.31	1.34
1	A	2414	A	C2-N3	-5.07	1.28	1.33
1	A	103	A	C2'-C1'	-5.06	1.47	1.53
1	A	524	C	N3-C4	-5.06	1.30	1.33
1	A	40	A	C5-C4	-5.06	1.35	1.38
1	A	393	A	N7-C5	-5.06	1.36	1.39
1	A	2489	U	C4-C5	-5.05	1.39	1.43
1	A	392	G	C3'-O3'	5.05	1.49	1.42
1	A	396	C	N1-C2	-5.05	1.35	1.40
1	A	2476	G	N9-C8	-5.05	1.34	1.37
1	A	255	U	C5-C6	-5.04	1.29	1.34
1	A	493	A	N3-C4	-5.04	1.31	1.34
1	A	273	G	C5-C6	-5.04	1.37	1.42
1	A	171	C	N1-C2	-5.04	1.35	1.40
1	A	504	C	C2-N3	-5.04	1.31	1.35
1	A	2398	A	N9-C8	-5.04	1.33	1.37
1	A	408	A	C2-N3	-5.04	1.29	1.33
1	A	2431	C	N1-C2	-5.04	1.35	1.40
3	D	399	PHE	CD1-CE1	-5.03	1.29	1.39
1	A	522	U	C2-N3	-5.03	1.34	1.37
3	D	413	PHE	CD1-CE1	-5.03	1.29	1.39
1	A	292	C	N3-C4	-5.03	1.30	1.33
1	A	122	C	C5-C6	-5.03	1.30	1.34
1	A	498	A	N7-C5	-5.03	1.36	1.39
1	A	40	A	N3-C4	-5.02	1.31	1.34
1	A	288	U	N1-C2	-5.02	1.34	1.38
1	A	518	G	P-O5'	-5.02	1.54	1.59
1	A	187	G	C2-N3	-5.02	1.28	1.32
1	A	517	A	C2'-C1'	-5.02	1.47	1.53
1	A	2440	G	C2-N3	-5.02	1.28	1.32
1	A	386	A	N9-C4	-5.01	1.34	1.37
1	A	472	A	N7-C5	-5.01	1.36	1.39
1	A	131	A	C5-C4	-5.01	1.35	1.38
1	A	518	G	N9-C8	-5.01	1.34	1.37
1	A	323	A	C8-N7	-5.01	1.28	1.31
1	A	346	A	C5-C6	-5.01	1.36	1.41
1	A	46	C	C5-C6	-5.00	1.30	1.34
1	A	153	C	C4-N4	-5.00	1.29	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	338	G	C5-C4	-5.00	1.34	1.38
1	A	2398	A	P-O5'	-5.00	1.54	1.59

All (2406) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	108	G	N3-C2-N2	-31.24	98.03	119.90
1	A	514	C	C6-N1-C2	-29.43	108.53	120.30
1	A	518	G	C8-N9-C4	-25.47	96.21	106.40
1	A	501	G	C8-N9-C4	-24.05	96.78	106.40
1	A	2397	G	C5-C6-O6	-23.60	114.44	128.60
1	A	518	G	N7-C8-N9	23.55	124.88	113.10
1	A	485	G	C4-N9-C1'	23.44	156.97	126.50
1	A	393	A	N9-C4-C5	-23.20	96.52	105.80
1	A	516	A	C5-N7-C8	-23.10	92.35	103.90
1	A	108	G	N3-C4-N9	-22.92	112.25	126.00
1	A	393	A	N1-C2-N3	-22.91	117.84	129.30
1	A	184	U	N3-C2-O2	-22.75	106.27	122.20
1	A	108	G	N1-C2-N2	22.45	136.40	116.20
1	A	485	G	N3-C4-N9	21.84	139.11	126.00
1	A	184	U	N1-C2-O2	21.23	137.66	122.80
1	A	485	G	C8-N9-C1'	-21.00	99.70	127.00
1	A	193	U	N3-C4-C5	20.82	127.09	114.60
1	A	318	G	C8-N9-C4	-20.76	98.09	106.40
1	A	151	G	C6-C5-N7	-20.59	118.05	130.40
1	A	108	G	C8-N9-C4	-20.47	98.21	106.40
1	A	2422	G	C4-C5-N7	20.44	118.98	110.80
1	A	342	C	C6-N1-C2	-20.15	112.24	120.30
1	A	483	U	C5-C6-N1	19.84	132.62	122.70
1	A	106	G	N1-C6-O6	-19.45	108.23	119.90
1	A	470	G	C5-C6-N1	-19.30	101.85	111.50
1	A	220	G	N1-C6-O6	19.24	131.44	119.90
1	A	108	G	N9-C4-C5	19.09	113.03	105.40
1	A	485	G	N3-C4-C5	-19.04	119.08	128.60
1	A	516	A	N7-C8-N9	18.93	123.26	113.80
1	A	501	G	N7-C8-N9	18.83	122.52	113.10
1	A	2397	G	N1-C6-O6	18.83	131.20	119.90
1	A	356	A	N9-C4-C5	-18.72	98.31	105.80
1	A	193	U	C4-C5-C6	-18.37	108.68	119.70
1	A	151	G	C5-C6-O6	-18.30	117.62	128.60
1	A	485	G	C5-C6-O6	-18.21	117.67	128.60
1	A	356	A	N1-C6-N6	18.16	129.50	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	211	C	C6-N1-C2	-18.09	113.07	120.30
1	A	485	G	C6-C5-N7	-18.07	119.56	130.40
1	A	151	G	C4-C5-N7	17.95	117.98	110.80
1	A	193	U	N3-C4-O4	-17.88	106.89	119.40
1	A	483	U	C4-C5-C6	-17.67	109.10	119.70
1	A	2422	G	C5-C6-O6	-17.29	118.23	128.60
1	A	2492	C	N1-C2-O2	17.14	129.18	118.90
1	A	151	G	N1-C6-O6	17.09	130.16	119.90
1	A	516	A	C4-C5-N7	16.91	119.15	110.70
1	A	2422	G	C6-C5-N7	-16.47	120.52	130.40
1	A	152	A	C4-C5-N7	16.32	118.86	110.70
1	A	251	C	N1-C2-O2	16.28	128.67	118.90
1	A	282	G	N1-C6-O6	-16.17	110.20	119.90
1	A	193	U	N1-C2-O2	16.12	134.09	122.80
1	A	106	G	C5-C6-O6	16.08	138.25	128.60
1	A	489	G	O5'-P-OP1	15.94	129.83	110.70
1	A	318	G	N7-C8-N9	15.76	120.98	113.10
1	A	485	G	N7-C8-N9	15.75	120.97	113.10
1	A	501	G	C6-C5-N7	-15.72	120.97	130.40
1	A	11	A	C2-N3-C4	-15.71	102.74	110.60
1	A	215	U	C5-C6-N1	15.70	130.55	122.70
1	A	393	A	C2-N3-C4	15.58	118.39	110.60
1	A	2397	G	C4-C5-N7	15.48	116.99	110.80
1	A	394	U	O5'-P-OP1	-15.47	91.78	105.70
1	A	151	G	N7-C8-N9	15.45	120.83	113.10
1	A	500	C	N3-C4-N4	-15.44	107.19	118.00
1	A	473	G	C8-N9-C4	-15.33	100.27	106.40
1	A	476	C	O5'-P-OP1	-15.25	91.98	105.70
1	A	220	G	C5-C6-O6	-15.12	119.53	128.60
2	B	3	C	C5-C6-N1	15.07	128.54	121.00
1	A	152	A	C5-N7-C8	-15.07	96.36	103.90
1	A	190	G	C4-N9-C1'	15.01	146.01	126.50
1	A	516	A	C8-N9-C4	-14.95	99.82	105.80
1	A	251	C	N3-C2-O2	-14.92	111.45	121.90
1	A	190	G	N3-C4-C5	-14.75	121.22	128.60
1	A	333	G	C8-N9-C4	-14.63	100.55	106.40
1	A	307	U	N3-C2-O2	-14.60	111.98	122.20
1	A	120	A	C8-N9-C4	-14.59	99.96	105.80
1	A	501	G	C5-N7-C8	-14.55	97.02	104.30
1	A	352	G	N3-C4-N9	-14.54	117.28	126.00
1	A	10	G	C6-C5-N7	-14.49	121.71	130.40
1	A	476	C	C5-C6-N1	14.49	128.24	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	151	G	C8-N9-C4	-14.45	100.62	106.40
1	A	207	G	N1-C6-O6	-14.42	111.25	119.90
1	A	106	G	N1-C2-N3	14.41	132.54	123.90
1	A	285	G	O5'-P-OP1	-14.36	92.78	105.70
1	A	500	C	C5-C4-N4	14.32	130.23	120.20
1	A	151	G	C5-N7-C8	-14.25	97.17	104.30
1	A	2422	G	C5-C6-N1	14.23	118.62	111.50
1	A	106	G	N9-C4-C5	14.19	111.08	105.40
1	A	537	C	C6-N1-C2	-14.19	114.62	120.30
1	A	518	G	C5-N7-C8	-14.14	97.23	104.30
1	A	152	A	C6-C5-N7	-14.12	122.42	132.30
1	A	513	G	C8-N9-C4	-14.09	100.76	106.40
1	A	329	U	N3-C2-O2	-14.08	112.34	122.20
1	A	39	U	C2-N1-C1'	14.07	134.59	117.70
1	A	152	A	N1-C6-N6	14.07	127.04	118.60
1	A	130	U	N1-C2-O2	14.05	132.63	122.80
1	A	2420	A	O5'-P-OP2	-14.05	93.05	105.70
2	B	3	C	C6-N1-C2	-14.00	114.70	120.30
1	A	2422	G	N3-C4-N9	13.94	134.36	126.00
1	A	496	G	N7-C8-N9	13.92	120.06	113.10
1	A	2397	G	N3-C4-C5	13.89	135.55	128.60
1	A	343	G	O5'-P-OP1	-13.87	93.22	105.70
1	A	496	G	C6-C5-N7	-13.87	122.08	130.40
1	A	190	G	N3-C4-N9	13.86	134.32	126.00
1	A	499	A	O5'-P-OP2	-13.84	93.24	105.70
1	A	194	U	C5-C6-N1	13.84	129.62	122.70
1	A	320	A	C8-N9-C4	-13.78	100.29	105.80
1	A	201	A	O5'-P-OP1	-13.73	93.35	105.70
1	A	220	G	C6-C5-N7	-13.67	122.20	130.40
1	A	163	A	N9-C4-C5	-13.64	100.34	105.80
1	A	81	A	N7-C8-N9	13.63	120.62	113.80
1	A	5	G	N9-C4-C5	13.59	110.84	105.40
1	A	11	A	C5-N7-C8	-13.58	97.11	103.90
1	A	411	C	C5-C6-N1	13.57	127.78	121.00
1	A	516	A	C2-N3-C4	-13.55	103.83	110.60
1	A	484	A	N1-C6-N6	-13.53	110.48	118.60
1	A	319	U	N3-C2-O2	-13.53	112.73	122.20
1	A	482	G	O4'-C1'-N9	13.47	118.98	108.20
1	A	276	A	C2-N3-C4	13.45	117.33	110.60
1	A	395	A	C2-N3-C4	-13.42	103.89	110.60
1	A	206	A	C5-N7-C8	-13.42	97.19	103.90
1	A	193	U	N3-C2-O2	-13.40	112.82	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	5	U	C2-N1-C1'	13.39	133.77	117.70
1	A	130	U	C2-N1-C1'	13.37	133.75	117.70
1	A	307	U	N1-C2-O2	13.35	132.15	122.80
1	A	282	G	C5-C6-N1	13.35	118.17	111.50
1	A	472	A	N1-C6-N6	13.32	126.59	118.60
1	A	134	U	N1-C2-O2	13.31	132.12	122.80
1	A	1	G	C4-C5-N7	13.28	116.11	110.80
1	A	393	A	N3-C4-N9	13.24	137.99	127.40
1	A	152	A	N9-C4-C5	-13.23	100.51	105.80
1	A	163	A	O4'-C1'-N9	13.23	118.79	108.20
1	A	352	G	C5-C6-N1	-13.22	104.89	111.50
1	A	329	U	N1-C2-O2	13.21	132.05	122.80
1	A	2477	U	N1-C2-O2	13.20	132.04	122.80
1	A	376	C	N3-C2-O2	-13.16	112.69	121.90
1	A	470	G	C2-N3-C4	-13.16	105.32	111.90
1	A	2397	G	N1-C2-N2	13.14	128.03	116.20
1	A	473	G	N7-C8-N9	13.12	119.66	113.10
1	A	499	A	N1-C6-N6	-13.12	110.73	118.60
1	A	352	G	N3-C4-C5	13.12	135.16	128.60
1	A	513	G	N7-C8-N9	13.08	119.64	113.10
1	A	442	C	N1-C2-O2	13.08	126.75	118.90
1	A	112	G	C6-C5-N7	-13.07	122.56	130.40
1	A	476	C	C4-C5-C6	-13.06	110.87	117.40
1	A	112	G	C5-C6-O6	-13.05	120.77	128.60
1	A	2430	C	C6-N1-C2	-13.01	115.09	120.30
1	A	39	U	O5'-P-OP2	-12.97	94.02	105.70
1	A	393	A	C4-C5-N7	12.97	117.19	110.70
1	A	318	G	N3-C4-C5	-12.97	122.12	128.60
1	A	333	G	N7-C8-N9	12.93	119.57	113.10
1	A	514	C	N3-C2-O2	-12.93	112.85	121.90
1	A	2396	A	O5'-P-OP1	-12.92	94.07	105.70
1	A	442	C	C6-N1-C2	-12.90	115.14	120.30
1	A	112	G	N1-C6-O6	12.88	127.63	119.90
1	A	81	A	C5-N7-C8	-12.86	97.47	103.90
1	A	302	C	N1-C2-O2	12.82	126.59	118.90
1	A	537	C	C5-C6-N1	12.74	127.37	121.00
1	A	352	G	C2-N3-C4	-12.73	105.53	111.90
1	A	149	A	N1-C6-N6	12.63	126.18	118.60
1	A	376	C	N1-C2-O2	12.61	126.47	118.90
1	A	318	G	C4-C5-C6	12.61	126.36	118.80
1	A	342	C	C5-C6-N1	12.55	127.28	121.00
1	A	219	G	N3-C4-C5	-12.52	122.34	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	478	C	N3-C2-O2	-12.50	113.15	121.90
1	A	199	G	O4'-C1'-N9	-12.49	98.21	108.20
1	A	52	G	C8-N9-C4	-12.49	101.41	106.40
1	A	496	G	N3-C4-N9	12.49	133.49	126.00
1	A	120	A	N7-C8-N9	12.45	120.03	113.80
1	A	500	C	C6-N1-C1'	12.43	135.71	120.80
1	A	335	A	N7-C8-N9	12.33	119.97	113.80
1	A	500	C	C6-N1-C2	-12.32	115.37	120.30
1	A	472	A	C4-C5-N7	12.32	116.86	110.70
1	A	2422	G	N9-C4-C5	-12.32	100.47	105.40
1	A	369	A	C8-N9-C4	-12.32	100.87	105.80
1	A	6	C	C6-N1-C2	-12.31	115.38	120.30
1	A	485	G	C4-C5-N7	12.29	115.72	110.80
1	A	318	G	C4-N9-C1'	12.29	142.47	126.50
1	A	2410	C	C6-N1-C2	-12.28	115.39	120.30
1	A	120	A	C5-N7-C8	-12.24	97.78	103.90
1	A	393	A	C8-N9-C4	12.23	110.69	105.80
1	A	108	G	N3-C4-C5	12.22	134.71	128.60
1	A	483	U	C2-N1-C1'	12.18	132.32	117.70
1	A	248	A	C8-N9-C4	-12.15	100.94	105.80
1	A	335	A	O4'-C1'-N9	12.15	117.92	108.20
1	A	214	A	C2-N3-C4	12.11	116.66	110.60
1	A	496	G	N3-C4-C5	-12.08	122.56	128.60
1	A	501	G	C4-C5-N7	12.08	115.63	110.80
1	A	212	U	C2-N1-C1'	12.07	132.19	117.70
1	A	518	G	N3-C2-N2	-12.07	111.45	119.90
1	A	130	U	N3-C2-O2	-12.05	113.77	122.20
1	A	472	A	N9-C4-C5	-12.03	100.99	105.80
1	A	442	C	C2-N1-C1'	12.02	132.03	118.80
1	A	190	G	C8-N9-C1'	-12.02	111.38	127.00
1	A	461	C	C6-N1-C2	-12.01	115.50	120.30
1	A	461	C	O5'-P-OP2	-11.99	94.91	105.70
1	A	183	A	N3-C4-N9	-11.97	117.83	127.40
1	A	108	G	C5-N7-C8	-11.97	98.32	104.30
1	A	2399	G	N1-C6-O6	-11.94	112.74	119.90
1	A	2492	C	C2-N1-C1'	11.90	131.89	118.80
1	A	327	C	C6-N1-C2	-11.88	115.55	120.30
1	A	356	A	C8-N9-C4	11.87	110.55	105.80
1	A	10	G	N3-C4-N9	11.85	133.11	126.00
1	A	108	G	C8-N9-C1'	11.85	142.40	127.00
1	A	369	A	C2-N3-C4	11.84	116.52	110.60
1	A	470	G	C5-C6-O6	11.84	135.70	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2425	C	C5-C6-N1	11.83	126.92	121.00
1	A	2407	C	N3-C4-C5	11.82	126.63	121.90
1	A	11	A	C4-C5-N7	11.82	116.61	110.70
1	A	327	C	N3-C4-C5	-11.82	117.17	121.90
1	A	243	G	N3-C2-N2	-11.80	111.64	119.90
1	A	2397	G	N9-C4-C5	-11.76	100.70	105.40
1	A	106	G	N3-C2-N2	-11.76	111.67	119.90
1	A	184	U	C2-N1-C1'	11.73	131.77	117.70
1	A	517	A	N1-C6-N6	-11.72	111.57	118.60
1	A	512	G	N1-C6-O6	11.66	126.89	119.90
1	A	183	A	C6-N1-C2	11.65	125.59	118.60
1	A	352	G	C5-N7-C8	-11.65	98.48	104.30
1	A	219	G	C8-N9-C4	-11.64	101.75	106.40
1	A	106	G	C8-N9-C4	-11.63	101.75	106.40
1	A	215	U	N3-C4-O4	11.62	127.53	119.40
1	A	81	A	N1-C6-N6	11.59	125.55	118.60
1	A	149	A	N1-C2-N3	-11.59	123.51	129.30
1	A	107	A	C8-N9-C4	-11.58	101.17	105.80
1	A	2425	C	C6-N1-C2	-11.56	115.68	120.30
1	A	282	G	C2-N3-C4	11.54	117.67	111.90
1	A	486	U	C6-N1-C1'	-11.53	105.05	121.20
1	A	485	G	N1-C6-O6	11.52	126.81	119.90
1	A	136	A	C8-N9-C4	-11.44	101.22	105.80
1	A	2407	C	N1-C2-O2	11.43	125.76	118.90
1	A	190	G	C6-C5-N7	-11.43	123.54	130.40
1	A	496	G	C8-N9-C4	-11.41	101.84	106.40
1	A	352	G	C8-N9-C4	-11.41	101.84	106.40
2	B	11	A	N1-C6-N6	-11.38	111.78	118.60
1	A	331	U	C6-N1-C2	-11.36	114.18	121.00
1	A	253	U	N3-C2-O2	-11.36	114.25	122.20
1	A	2492	C	N3-C4-C5	-11.35	117.36	121.90
1	A	68	G	C6-C5-N7	-11.33	123.60	130.40
1	A	476	C	N1-C2-O2	11.33	125.70	118.90
1	A	538	U	N1-C2-O2	11.32	130.73	122.80
1	A	206	A	N7-C8-N9	11.30	119.45	113.80
1	A	442	C	C5-C6-N1	11.30	126.65	121.00
1	A	81	A	C8-N9-C4	-11.30	101.28	105.80
1	A	85	G	C6-C5-N7	-11.29	123.62	130.40
1	A	118	A	C8-N9-C4	-11.29	101.28	105.80
1	A	343	G	C8-N9-C4	-11.28	101.89	106.40
1	A	516	A	C6-C5-N7	-11.27	124.41	132.30
1	A	234	G	N7-C8-N9	11.25	118.72	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	448	C	C5-C6-N1	11.22	126.61	121.00
1	A	2401	C	C6-N1-C2	-11.22	115.81	120.30
1	A	211	C	N3-C4-C5	-11.22	117.41	121.90
1	A	215	U	C5-C4-O4	-11.21	119.17	125.90
1	A	109	C	C2-N1-C1'	11.18	131.10	118.80
1	A	468	A	OP2-P-O3'	11.16	129.76	105.20
1	A	514	C	C2-N1-C1'	11.16	131.07	118.80
1	A	163	A	O5'-P-OP1	11.14	124.06	110.70
1	A	234	G	C8-N9-C4	-11.11	101.96	106.40
1	A	393	A	C5-C6-N6	-11.10	114.82	123.70
1	A	77	A	C2-N3-C4	-11.09	105.06	110.60
1	A	194	U	O5'-P-OP2	-11.08	95.73	105.70
1	A	167	U	C5-C6-N1	11.06	128.23	122.70
1	A	2477	U	N3-C2-O2	-11.03	114.48	122.20
1	A	112	G	C4-C5-N7	11.01	115.20	110.80
1	A	163	A	O5'-P-OP2	-11.00	95.80	105.70
1	A	2396	A	N9-C1'-C2'	-10.98	99.73	114.00
1	A	183	A	N1-C2-N3	-10.97	123.81	129.30
1	A	192	G	N3-C4-N9	-10.94	119.44	126.00
1	A	2397	G	O4'-C1'-N9	10.93	116.95	108.20
1	A	476	C	C2-N1-C1'	10.91	130.80	118.80
1	A	149	A	C5-C6-N6	-10.90	114.98	123.70
1	A	190	G	C4-C5-C6	10.90	125.34	118.80
1	A	496	G	C5-C6-O6	-10.89	122.06	128.60
1	A	162	A	C8-N9-C4	-10.87	101.45	105.80
1	A	227	G	C8-N9-C4	-10.87	102.05	106.40
1	A	229	C	N1-C2-O2	10.86	125.42	118.90
1	A	2410	C	C5-C6-N1	10.83	126.41	121.00
1	A	2492	C	C5-C4-N4	10.82	127.78	120.20
2	B	8	A	C8-N9-C4	-10.82	101.47	105.80
1	A	411	C	C5-C4-N4	-10.81	112.63	120.20
1	A	59	C	N1-C2-O2	10.79	125.38	118.90
1	A	52	G	O5'-P-OP1	-10.78	96.00	105.70
1	A	491	G	C4-N9-C1'	10.76	140.49	126.50
1	A	1	G	C8-N9-C4	-10.74	102.10	106.40
1	A	68	G	C4-C5-N7	10.72	115.09	110.80
1	A	207	G	C5-C6-O6	10.71	135.02	128.60
1	A	372	A	C5-N7-C8	-10.70	98.55	103.90
1	A	540	A	C5-C6-N6	-10.70	115.14	123.70
1	A	2492	C	C2-N3-C4	10.68	125.24	119.90
1	A	333	G	C2-N3-C4	-10.67	106.57	111.90
1	A	356	A	N3-C4-C5	10.66	134.26	126.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	39	U	C5-C6-N1	10.64	128.02	122.70
1	A	253	U	N1-C2-O2	10.62	130.23	122.80
1	A	322	G	C8-N9-C4	-10.62	102.15	106.40
1	A	483	U	O5'-P-OP1	-10.61	96.16	105.70
1	A	180	G	C4-C5-N7	10.60	115.04	110.80
1	A	502	C	C2-N1-C1'	10.60	130.46	118.80
1	A	372	A	C4-C5-N7	10.59	116.00	110.70
2	B	8	A	N1-C6-N6	-10.58	112.25	118.60
1	A	11	A	N3-C4-C5	10.58	134.20	126.80
1	A	472	A	C6-C5-N7	-10.56	124.91	132.30
1	A	230	G	C2-N3-C4	10.55	117.18	111.90
1	A	356	A	O4'-C1'-N9	10.55	116.64	108.20
1	A	236	G	C4-N9-C1'	10.55	140.21	126.50
1	A	1	G	C5-N7-C8	-10.54	99.03	104.30
1	A	498	A	O4'-C1'-N9	10.53	116.62	108.20
1	A	531	U	C5-C6-N1	10.52	127.96	122.70
1	A	318	G	C6-C5-N7	-10.50	124.10	130.40
1	A	197	C	C5-C6-N1	10.49	126.24	121.00
1	A	387	C	C6-N1-C2	-10.49	116.11	120.30
1	A	2480	C	C5-C6-N1	10.49	126.24	121.00
1	A	482	G	N3-C4-N9	-10.47	119.72	126.00
1	A	185	A	C8-N9-C4	-10.46	101.61	105.80
1	A	185	A	O5'-P-OP1	-10.45	96.29	105.70
1	A	545	A	N1-C6-N6	-10.45	112.33	118.60
1	A	2478	A	C5-C6-N6	-10.45	115.34	123.70
1	A	5	G	N1-C6-O6	-10.45	113.63	119.90
1	A	39	U	C6-N1-C1'	-10.44	106.59	121.20
1	A	6	C	C5-C6-N1	10.43	126.22	121.00
1	A	542	A	N1-C6-N6	-10.43	112.34	118.60
1	A	518	G	N9-C4-C5	10.41	109.56	105.40
1	A	356	A	C4-C5-N7	10.40	115.90	110.70
1	A	255	U	N3-C4-C5	10.40	120.84	114.60
1	A	85	G	C4-C5-N7	10.39	114.96	110.80
1	A	134	U	N3-C2-O2	-10.38	114.93	122.20
1	A	243	G	N3-C4-N9	-10.37	119.78	126.00
1	A	2492	C	N3-C2-O2	-10.37	114.64	121.90
1	A	89	A	C5-C6-N1	10.36	122.88	117.70
1	A	2397	G	N3-C2-N2	-10.36	112.65	119.90
1	A	399	U	C5-C4-O4	10.34	132.11	125.90
1	A	514	C	N1-C2-N3	10.34	126.44	119.20
1	A	77	A	C5-N7-C8	-10.34	98.73	103.90
2	B	7	C	C2-N1-C1'	10.33	130.16	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	491	G	C6-C5-N7	-10.33	124.20	130.40
1	A	94	G	C8-N9-C4	-10.33	102.27	106.40
1	A	184	U	C6-N1-C1'	-10.32	106.75	121.20
1	A	482	G	N3-C4-C5	10.32	133.76	128.60
1	A	2430	C	N3-C2-O2	-10.31	114.68	121.90
1	A	399	U	N3-C2-O2	-10.31	114.98	122.20
1	A	480	U	C5-C6-N1	-10.30	117.55	122.70
1	A	478	C	C2-N3-C4	-10.30	114.75	119.90
1	A	1	G	N7-C8-N9	10.29	118.25	113.10
1	A	106	G	C6-N1-C2	-10.29	118.93	125.10
1	A	485	G	C8-N9-C4	-10.25	102.30	106.40
1	A	2396	A	O5'-P-OP2	10.25	123.00	110.70
1	A	223	A	C2-N3-C4	10.23	115.72	110.60
1	A	236	G	C4-C5-N7	10.23	114.89	110.80
1	A	5	G	C5-C6-O6	10.22	134.73	128.60
1	A	219	G	N3-C4-N9	10.22	132.13	126.00
1	A	274	U	N1-C2-O2	10.21	129.95	122.80
1	A	468	A	C8-N9-C4	-10.21	101.72	105.80
1	A	2401	C	C5-C6-N1	10.21	126.10	121.00
1	A	10	G	N7-C8-N9	10.20	118.20	113.10
1	A	318	G	N1-C2-N2	-10.20	107.02	116.20
1	A	95	A	C2-N3-C4	10.20	115.70	110.60
1	A	485	G	C5-N7-C8	-10.18	99.21	104.30
1	A	210	U	N3-C2-O2	-10.17	115.08	122.20
1	A	564	A	C2-N3-C4	10.17	115.69	110.60
1	A	2449	A	N7-C8-N9	10.17	118.89	113.80
1	A	157	G	N3-C4-N9	10.17	132.10	126.00
1	A	299	C	C5-C6-N1	10.16	126.08	121.00
1	A	520	G	C8-N9-C4	-10.15	102.34	106.40
1	A	133	C	C6-N1-C2	-10.14	116.24	120.30
1	A	489	G	O5'-P-OP2	-10.14	96.58	105.70
1	A	197	C	C6-N1-C2	-10.13	116.25	120.30
1	A	393	A	C6-N1-C2	10.12	124.67	118.60
1	A	111	C	C4-C5-C6	10.12	122.46	117.40
1	A	395	A	N3-C4-C5	10.11	133.88	126.80
1	A	442	C	N3-C2-O2	-10.11	114.82	121.90
1	A	194	U	N3-C4-O4	10.10	126.47	119.40
1	A	2487	C	N3-C2-O2	-10.10	114.83	121.90
1	A	59	C	N3-C2-O2	-10.07	114.85	121.90
1	A	390	G	C6-C5-N7	-10.02	124.39	130.40
1	A	201	A	P-O3'-C3'	10.01	131.72	119.70
1	A	178	A	N7-C8-N9	10.01	118.81	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	52	G	C4-N9-C1'	10.01	139.51	126.50
1	A	496	G	C4-N9-C1'	10.01	139.51	126.50
1	A	283	U	C6-N1-C2	-10.00	115.00	121.00
1	A	6	C	C4-C5-C6	-9.97	112.41	117.40
1	A	413	U	N1-C2-O2	9.96	129.77	122.80
1	A	484	A	O4'-C1'-N9	9.96	116.17	108.20
1	A	2454	U	C2-N1-C1'	9.96	129.65	117.70
1	A	124	A	N1-C2-N3	-9.95	124.32	129.30
1	A	513	G	C6-C5-N7	-9.95	124.43	130.40
1	A	243	G	N9-C4-C5	9.94	109.38	105.40
1	A	482	G	C4-N9-C1'	-9.94	113.58	126.50
1	A	236	G	C6-C5-N7	-9.93	124.44	130.40
1	A	318	G	N1-C2-N3	9.92	129.85	123.90
1	A	2397	G	C4-C5-C6	-9.92	112.85	118.80
1	A	10	G	C4-C5-N7	9.92	114.77	110.80
1	A	334	G	N1-C2-N2	9.92	125.13	116.20
1	A	284	G	O5'-P-OP1	-9.91	96.78	105.70
2	B	8	A	C4-C5-N7	-9.91	105.74	110.70
1	A	201	A	C5-C6-N1	9.90	122.65	117.70
1	A	584	C	C5-C6-N1	9.90	125.95	121.00
1	A	227	G	N3-C4-N9	-9.89	120.06	126.00
1	A	335	A	N1-C2-N3	9.89	134.25	129.30
1	A	390	G	C4-N9-C1'	9.89	139.36	126.50
1	A	540	A	N7-C8-N9	9.89	118.75	113.80
1	A	179	A	O4'-C1'-N9	9.89	116.11	108.20
1	A	248	A	N7-C8-N9	9.85	118.73	113.80
1	A	214	A	N3-C4-N9	9.85	135.28	127.40
1	A	268	G	C4-N9-C1'	9.85	139.31	126.50
1	A	124	A	C2-N3-C4	9.85	115.52	110.60
1	A	77	A	N7-C8-N9	9.84	118.72	113.80
1	A	2422	G	C5-N7-C8	-9.84	99.38	104.30
1	A	335	A	C5-N7-C8	-9.84	98.98	103.90
1	A	485	G	C4-C5-C6	9.83	124.70	118.80
1	A	146	G	O4'-C1'-N9	9.83	116.06	108.20
1	A	70	C	C6-N1-C2	-9.82	116.37	120.30
1	A	334	G	C8-N9-C4	9.82	110.33	106.40
1	A	178	A	C5-N7-C8	-9.80	99.00	103.90
1	A	486	U	N3-C4-O4	9.80	126.26	119.40
1	A	2406	A	C2-N3-C4	9.79	115.50	110.60
1	A	361	C	N1-C2-O2	9.79	124.77	118.90
1	A	395	A	C5-N7-C8	-9.79	99.01	103.90
1	A	448	C	C6-N1-C2	-9.78	116.39	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	127	A	C4-C5-C6	-9.77	112.12	117.00
1	A	2425	C	C4-C5-C6	-9.76	112.52	117.40
1	A	2454	U	N1-C2-O2	9.76	129.63	122.80
1	A	222	U	O5'-P-OP2	-9.75	96.92	105.70
1	A	2406	A	O5'-P-OP2	-9.75	96.93	105.70
1	A	411	C	N3-C4-N4	9.74	124.82	118.00
1	A	190	G	C8-N9-C4	-9.73	102.51	106.40
1	A	225	G	N7-C8-N9	9.72	117.96	113.10
1	A	16	G	C6-C5-N7	-9.71	124.57	130.40
1	A	2422	G	C6-N1-C2	-9.71	119.28	125.10
1	A	163	A	C4-C5-N7	9.70	115.55	110.70
1	A	266	A	O5'-P-OP1	9.70	122.34	110.70
1	A	102	A	OP2-P-O3'	9.68	126.50	105.20
1	A	69	C	C6-N1-C2	-9.68	116.43	120.30
1	A	468	A	N3-C4-N9	-9.68	119.66	127.40
1	A	400	A	N1-C2-N3	-9.67	124.47	129.30
1	A	179	A	C8-N9-C4	-9.67	101.93	105.80
1	A	192	G	N3-C4-C5	9.66	133.43	128.60
1	A	11	A	N1-C6-N6	9.65	124.39	118.60
1	A	85	G	N1-C6-O6	9.64	125.69	119.90
1	A	180	G	N9-C4-C5	-9.64	101.54	105.40
1	A	206	A	C4-C5-N7	9.64	115.52	110.70
1	A	1	G	N3-C2-N2	-9.63	113.16	119.90
1	A	177	U	N3-C2-O2	-9.63	115.46	122.20
1	A	169	A	N7-C8-N9	9.62	118.61	113.80
1	A	299	C	C6-N1-C2	-9.62	116.45	120.30
1	A	352	G	C6-N1-C2	9.61	130.86	125.10
1	A	356	A	C2-N3-C4	-9.60	105.80	110.60
1	A	2407	C	N3-C2-O2	-9.58	115.19	121.90
1	A	125	U	C5-C6-N1	9.58	127.49	122.70
1	A	227	G	N7-C8-N9	9.58	117.89	113.10
1	A	565	A	O4'-C1'-N9	9.57	115.86	108.20
1	A	570	C	N3-C2-O2	-9.57	115.20	121.90
1	A	127	A	N1-C2-N3	-9.57	124.52	129.30
1	A	387	C	O5'-P-OP1	-9.57	97.09	105.70
1	A	2396	A	C4-C5-N7	9.55	115.48	110.70
1	A	109	C	N3-C2-O2	-9.54	115.22	121.90
1	A	309	G	N3-C4-N9	-9.54	120.27	126.00
1	A	251	C	N3-C4-C5	-9.54	118.09	121.90
1	A	395	A	N3-C4-N9	-9.53	119.78	127.40
1	A	343	G	O4'-C1'-N9	9.52	115.82	108.20
1	A	483	U	O4'-C1'-N1	-9.52	100.58	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	486	U	C5-C4-O4	-9.52	120.19	125.90
1	A	302	C	N3-C2-O2	-9.50	115.25	121.90
1	A	322	G	N7-C8-N9	9.49	117.84	113.10
1	A	518	G	C2-N3-C4	9.49	116.64	111.90
1	A	388	U	C5-C4-O4	-9.47	120.22	125.90
1	A	255	U	C2-N3-C4	-9.46	121.32	127.00
1	A	335	A	C8-N9-C4	-9.45	102.02	105.80
1	A	489	G	OP2-P-O3'	9.46	126.00	105.20
1	A	212	U	N3-C2-O2	-9.45	115.58	122.20
1	A	504	C	N1-C2-O2	9.45	124.57	118.90
1	A	457	C	C5-C6-N1	9.44	125.72	121.00
1	A	103	A	OP1-P-OP2	-9.43	105.46	119.60
1	A	206	A	O4'-C1'-N9	9.42	115.74	108.20
1	A	223	A	N1-C2-N3	-9.42	124.59	129.30
1	A	276	A	N1-C2-N3	-9.41	124.59	129.30
1	A	534	G	N3-C4-C5	-9.41	123.90	128.60
1	A	2478	A	N9-C4-C5	-9.41	102.04	105.80
1	A	403	C	C6-N1-C2	-9.40	116.54	120.30
1	A	103	A	O5'-P-OP1	9.39	121.97	110.70
1	A	399	U	O4'-C1'-N1	9.39	115.71	108.20
1	A	584	C	C5-C4-N4	-9.39	113.63	120.20
1	A	389	G	C8-N9-C4	-9.39	102.64	106.40
1	A	152	A	O4'-C1'-N9	-9.38	100.69	108.20
1	A	540	A	N1-C6-N6	9.38	124.23	118.60
1	A	2412	A	N9-C4-C5	-9.38	102.05	105.80
1	A	230	G	N3-C4-C5	-9.36	123.92	128.60
1	A	500	C	N3-C2-O2	-9.35	115.35	121.90
1	A	484	A	C4-C5-C6	-9.33	112.33	117.00
1	A	352	G	C5-C6-O6	9.33	134.20	128.60
1	A	2462	A	O5'-P-OP2	-9.32	97.31	105.70
1	A	352	G	C6-C5-N7	-9.32	124.81	130.40
1	A	132	C	C6-N1-C2	-9.31	116.58	120.30
1	A	534	G	C8-N9-C4	-9.31	102.67	106.40
1	A	392	G	N3-C4-N9	9.31	131.59	126.00
1	A	236	G	C8-N9-C1'	-9.30	114.91	127.00
1	A	135	A	C2-N3-C4	9.30	115.25	110.60
1	A	344	A	C8-N9-C4	-9.29	102.08	105.80
1	A	485	G	N9-C4-C5	-9.29	101.68	105.40
1	A	393	A	N1-C6-N6	9.28	124.17	118.60
1	A	207	G	O4'-C1'-N9	9.28	115.62	108.20
1	A	392	G	N3-C2-N2	9.27	126.39	119.90
1	A	5	G	O5'-P-OP1	-9.27	97.36	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	109	C	C6-N1-C1'	-9.26	109.69	120.80
1	A	334	G	N3-C2-N2	-9.25	113.42	119.90
1	A	334	G	N3-C4-C5	9.24	133.22	128.60
1	A	5	G	C4-C5-N7	-9.24	107.11	110.80
1	A	283	U	C5-C6-N1	9.24	127.32	122.70
1	A	562	G	N3-C2-N2	-9.22	113.45	119.90
1	A	2427	G	C4-C5-N7	9.22	114.49	110.80
1	A	497	U	C5-C6-N1	9.21	127.31	122.70
1	A	504	C	N3-C2-O2	-9.21	115.45	121.90
1	A	457	C	C2-N1-C1'	9.21	128.93	118.80
1	A	2398	A	OP1-P-OP2	-9.20	105.81	119.60
1	A	124	A	N9-C4-C5	-9.19	102.12	105.80
1	A	169	A	C8-N9-C4	-9.19	102.12	105.80
1	A	2410	C	C4-C5-C6	-9.19	112.81	117.40
1	A	183	A	N9-C4-C5	9.18	109.47	105.80
1	A	136	A	N7-C8-N9	9.17	118.38	113.80
1	A	10	G	C4-N9-C1'	9.16	138.41	126.50
1	A	10	G	N3-C4-C5	-9.16	124.02	128.60
1	A	320	A	C4-C5-C6	9.16	121.58	117.00
1	A	491	G	N3-C4-N9	9.15	131.49	126.00
1	A	202	C	C6-N1-C2	-9.12	116.65	120.30
1	A	542	A	C4-C5-C6	-9.12	112.44	117.00
1	A	480	U	C2-N3-C4	-9.12	121.53	127.00
1	A	352	G	N7-C8-N9	9.11	117.66	113.10
1	A	153	C	N1-C2-O2	9.11	124.36	118.90
1	A	557	G	C2-N3-C4	9.11	116.45	111.90
1	A	2492	C	C6-N1-C1'	-9.10	109.88	120.80
1	A	2409	C	C5-C6-N1	9.09	125.55	121.00
1	A	470	G	N1-C2-N3	9.09	129.35	123.90
1	A	471	G	C8-N9-C4	-9.08	102.77	106.40
1	A	179	A	C2-N3-C4	-9.08	106.06	110.60
1	A	163	A	N9-C1'-C2'	9.08	125.80	114.00
1	A	400	A	C2-N3-C4	9.08	115.14	110.60
1	A	460	G	C6-C5-N7	-9.08	124.95	130.40
1	A	135	A	N3-C4-N9	9.07	134.66	127.40
1	A	486	U	C2-N1-C1'	9.05	128.56	117.70
2	B	9	U	N1-C2-O2	9.05	129.13	122.80
2	B	7	C	C6-N1-C2	-9.03	116.69	120.30
1	A	192	G	C2-N3-C4	-9.02	107.39	111.90
1	A	2427	G	C6-C5-N7	-9.02	124.98	130.40
1	A	52	G	N7-C8-N9	9.02	117.61	113.10
1	A	274	U	N3-C2-O2	-9.02	115.89	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2487	C	C6-N1-C2	-9.01	116.69	120.30
1	A	178	A	O5'-P-OP2	-9.00	97.60	105.70
1	A	460	G	C4-N9-C1'	9.00	138.20	126.50
1	A	230	G	C5-N7-C8	8.99	108.80	104.30
1	A	2422	G	N3-C2-N2	8.99	126.19	119.90
1	A	500	C	C2-N1-C1'	-8.99	108.92	118.80
1	A	152	A	C8-N9-C1'	-8.98	111.53	127.70
1	A	472	A	C5-N7-C8	-8.98	99.41	103.90
1	A	2428	U	N3-C2-O2	-8.98	115.92	122.20
1	A	198	U	C6-N1-C2	-8.97	115.62	121.00
2	B	11	A	C5-C6-N6	8.97	130.88	123.70
1	A	352	G	C4-C5-N7	8.97	114.39	110.80
1	A	517	A	N9-C4-C5	8.97	109.39	105.80
1	A	592	A	C8-N9-C4	-8.96	102.21	105.80
1	A	583	A	O4'-C1'-N9	-8.96	101.03	108.20
2	B	8	A	C5-C6-N6	8.96	130.87	123.70
1	A	2466	G	C2-N3-C4	8.95	116.38	111.90
2	B	8	A	N3-C4-C5	-8.95	120.53	126.80
1	A	557	G	N3-C4-C5	-8.95	124.13	128.60
1	A	164	U	N3-C2-O2	-8.94	115.94	122.20
1	A	319	U	N1-C1'-C2'	8.94	125.62	114.00
1	A	324	G	C2-N3-C4	8.93	116.37	111.90
1	A	219	G	O4'-C1'-N9	8.93	115.34	108.20
1	A	513	G	C5-N7-C8	-8.93	99.84	104.30
1	A	230	G	N3-C4-N9	8.92	131.35	126.00
1	A	337	C	O4'-C1'-N1	8.92	115.34	108.20
1	A	334	G	N1-C6-O6	8.92	125.25	119.90
1	A	200	A	P-O3'-C3'	8.92	130.40	119.70
2	B	7	C	N1-C2-O2	8.91	124.25	118.90
1	A	206	A	C8-N9-C4	-8.91	102.24	105.80
1	A	518	G	N1-C6-O6	-8.89	114.56	119.90
1	A	109	C	N1-C2-N3	8.89	125.42	119.20
1	A	118	A	N9-C4-C5	8.89	109.36	105.80
1	A	319	U	C6-N1-C2	-8.89	115.67	121.00
1	A	214	A	C5-C6-N1	8.88	122.14	117.70
1	A	2412	A	C4-C5-N7	8.88	115.14	110.70
1	A	152	A	C4-N9-C1'	8.87	142.27	126.30
1	A	120	A	C4-C5-N7	8.87	115.13	110.70
1	A	84	A	C8-N9-C4	-8.87	102.25	105.80
1	A	496	G	N1-C6-O6	8.87	125.22	119.90
1	A	107	A	N7-C8-N9	8.86	118.23	113.80
1	A	356	A	C5-C6-N6	-8.85	116.62	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	505	U	N3-C2-O2	-8.85	116.00	122.20
2	B	5	U	N3-C2-O2	-8.84	116.01	122.20
1	A	108	G	N7-C8-N9	8.84	117.52	113.10
1	A	264	G	C8-N9-C4	-8.83	102.87	106.40
1	A	96	U	C5-C6-N1	-8.83	118.28	122.70
1	A	502	C	C6-N1-C2	-8.82	116.77	120.30
1	A	489	G	C8-N9-C1'	-8.82	115.53	127.00
1	A	455	A	C2-N3-C4	8.82	115.01	110.60
1	A	393	A	C4-C5-C6	-8.81	112.59	117.00
1	A	479	G	N7-C8-N9	8.81	117.51	113.10
1	A	2454	U	N3-C2-O2	-8.80	116.04	122.20
1	A	226	U	C2-N1-C1'	8.80	128.26	117.70
1	A	481	A	C8-N9-C4	8.80	109.32	105.80
1	A	514	C	C5-C6-N1	8.80	125.40	121.00
1	A	491	G	C8-N9-C1'	-8.79	115.57	127.00
1	A	2478	A	N1-C6-N6	8.79	123.88	118.60
1	A	8	C	C4-C5-C6	-8.79	113.00	117.40
1	A	500	C	N1-C2-N3	8.79	125.35	119.20
1	A	227	G	N9-C4-C5	8.78	108.91	105.40
1	A	319	U	N1-C2-O2	8.78	128.94	122.80
1	A	538	U	N3-C2-O2	-8.77	116.06	122.20
1	A	282	G	C4-C5-C6	-8.77	113.54	118.80
1	A	174	A	C4-C5-N7	8.76	115.08	110.70
1	A	264	G	N9-C4-C5	8.76	108.91	105.40
2	B	8	A	N9-C4-C5	8.76	109.31	105.80
1	A	215	U	C2-N1-C1'	8.76	128.21	117.70
1	A	335	A	C4-N9-C1'	8.75	142.06	126.30
1	A	353	C	C5-C6-N1	8.75	125.38	121.00
1	A	539	A	C8-N9-C4	-8.75	102.30	105.80
1	A	344	A	O5'-P-OP1	-8.75	97.82	105.70
1	A	34	U	C5-C6-N1	8.75	127.07	122.70
1	A	456	U	O5'-P-OP2	-8.75	97.83	105.70
1	A	247	G	C8-N9-C4	-8.74	102.91	106.40
1	A	442	C	C2-N3-C4	8.73	124.27	119.90
1	A	496	G	C5-N7-C8	-8.73	99.94	104.30
1	A	194	U	C5-C4-O4	-8.72	120.67	125.90
1	A	333	G	C5-N7-C8	-8.71	99.94	104.30
1	A	388	U	C5-C6-N1	8.71	127.06	122.70
1	A	214	A	N9-C4-C5	-8.70	102.32	105.80
1	A	266	A	O5'-P-OP2	-8.70	97.87	105.70
1	A	85	G	C5-N7-C8	-8.70	99.95	104.30
1	A	230	G	C5-C6-N1	8.70	115.85	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	413	U	N3-C2-O2	-8.69	116.12	122.20
1	A	106	G	C4-C5-N7	-8.68	107.33	110.80
1	A	190	G	N7-C8-N9	8.68	117.44	113.10
1	A	482	G	C8-N9-C1'	8.66	138.25	127.00
1	A	334	G	C5-C6-N1	-8.65	107.17	111.50
1	A	286	A	C2-N3-C4	-8.64	106.28	110.60
1	A	250	A	C5-C6-N6	-8.64	116.79	123.70
1	A	2427	G	N3-C2-N2	8.64	125.94	119.90
1	A	2471	A	N1-C2-N3	8.62	133.61	129.30
1	A	390	G	C8-N9-C1'	-8.62	115.80	127.00
1	A	2421	C	C6-N1-C2	-8.61	116.86	120.30
1	A	2461	A	C8-N9-C4	8.61	109.24	105.80
1	A	81	A	C2-N3-C4	-8.60	106.30	110.60
1	A	216	U	O5'-P-OP2	-8.60	97.96	105.70
1	A	151	G	C4-C5-C6	8.60	123.96	118.80
1	A	2427	G	N9-C4-C5	-8.60	101.96	105.40
1	A	152	A	N7-C8-N9	8.59	118.10	113.80
1	A	189	U	C5-C6-N1	8.59	127.00	122.70
1	A	131	A	C5-N7-C8	-8.59	99.61	103.90
1	A	228	U	O5'-P-OP1	-8.58	97.97	105.70
1	A	179	A	N7-C8-N9	8.58	118.09	113.80
1	A	395	A	N1-C6-N6	8.58	123.75	118.60
1	A	457	C	C6-N1-C2	-8.58	116.87	120.30
1	A	104	C	O4'-C1'-N1	8.58	115.06	108.20
1	A	155	G	N3-C2-N2	-8.57	113.90	119.90
1	A	2419	U	OP1-P-O3'	8.57	124.06	105.20
1	A	144	C	O4'-C1'-N1	8.57	115.06	108.20
1	A	105	A	O5'-P-OP2	-8.57	97.99	105.70
1	A	108	G	C4-C5-C6	-8.55	113.67	118.80
1	A	2490	C	N3-C4-C5	8.55	125.32	121.90
1	A	268	G	C6-C5-N7	-8.54	125.27	130.40
1	A	307	U	C2-N1-C1'	8.53	127.94	117.70
1	A	356	A	C6-N1-C2	8.53	123.72	118.60
1	A	352	G	C8-N9-C1'	8.53	138.08	127.00
1	A	486	U	C6-N1-C2	8.52	126.11	121.00
1	A	491	G	N3-C4-C5	-8.52	124.34	128.60
1	A	404	A	N1-C6-N6	-8.52	113.49	118.60
1	A	2487	C	N1-C2-O2	8.52	124.01	118.90
1	A	1	G	C2-N3-C4	-8.51	107.65	111.90
1	A	73	C	N3-C4-C5	8.51	125.30	121.90
1	A	148	U	N3-C2-O2	-8.51	116.25	122.20
1	A	157	G	N1-C2-N2	-8.50	108.55	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	5	U	C5-C6-N1	8.50	126.95	122.70
1	A	219	G	N7-C8-N9	8.49	117.35	113.10
1	A	221	U	O5'-P-OP2	-8.49	98.06	105.70
1	A	549	A	C2-N3-C4	8.49	114.84	110.60
1	A	279	G	C8-N9-C4	-8.49	103.00	106.40
1	A	2415	G	C4-C5-N7	8.47	114.19	110.80
1	A	523	A	N1-C6-N6	8.47	123.68	118.60
1	A	7	C	C6-N1-C2	-8.46	116.92	120.30
1	A	172	A	O5'-P-OP1	-8.46	98.09	105.70
1	A	581	C	N1-C2-O2	8.45	123.97	118.90
1	A	2471	A	C8-N9-C4	-8.45	102.42	105.80
1	A	220	G	C4-C5-N7	8.44	114.18	110.80
1	A	496	G	C4-C5-N7	8.44	114.17	110.80
1	A	264	G	N3-C4-N9	-8.43	120.94	126.00
1	A	109	C	C2-N3-C4	-8.42	115.69	119.90
1	A	102	A	O5'-P-OP2	-8.42	98.12	105.70
2	B	3	C	C4-C5-C6	-8.42	113.19	117.40
1	A	108	G	C6-N1-C2	-8.41	120.05	125.10
1	A	475	A	C6-N1-C2	8.41	123.64	118.60
1	A	282	G	C6-C5-N7	8.41	135.44	130.40
1	A	51	A	O5'-P-OP1	-8.40	98.14	105.70
1	A	480	U	O4'-C1'-N1	8.40	114.92	108.20
1	A	254	C	C5-C6-N1	-8.39	116.80	121.00
1	A	16	G	C4-C5-N7	8.38	114.15	110.80
1	A	130	U	C6-N1-C1'	-8.37	109.48	121.20
1	A	183	A	N3-C4-C5	8.36	132.65	126.80
1	A	388	U	N3-C4-O4	8.35	125.25	119.40
1	A	232	U	N1-C2-O2	8.35	128.64	122.80
1	A	545	A	C2-N3-C4	8.33	114.77	110.60
1	A	424	A	N7-C8-N9	8.32	117.96	113.80
1	A	226	U	C5-C4-O4	-8.31	120.91	125.90
1	A	479	G	C8-N9-C4	-8.31	103.08	106.40
1	A	363	G	C4-C5-N7	8.31	114.12	110.80
1	A	502	C	O5'-P-OP2	-8.31	98.22	105.70
1	A	67	A	C4-C5-N7	8.31	114.85	110.70
1	A	155	G	N3-C4-N9	-8.30	121.02	126.00
1	A	255	U	C5-C4-O4	-8.30	120.92	125.90
1	A	430	A	N7-C8-N9	8.31	117.95	113.80
1	A	480	U	N3-C4-C5	8.30	119.58	114.60
1	A	2424	A	N1-C2-N3	-8.28	125.16	129.30
1	A	224	U	N3-C4-O4	-8.28	113.61	119.40
1	A	2397	G	C5-N7-C8	-8.27	100.16	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	89	A	N1-C6-N6	-8.27	113.64	118.60
1	A	515	A	O5'-P-OP2	-8.27	98.26	105.70
1	A	540	A	O5'-P-OP2	-8.26	98.27	105.70
1	A	514	C	C5-C4-N4	-8.26	114.42	120.20
1	A	460	G	C8-N9-C1'	-8.25	116.27	127.00
1	A	252	C	N3-C2-O2	-8.25	116.13	121.90
1	A	328	C	N3-C2-O2	-8.24	116.13	121.90
1	A	2471	A	N1-C6-N6	-8.24	113.65	118.60
1	A	174	A	N1-C6-N6	8.24	123.55	118.60
1	A	77	A	N1-C6-N6	8.24	123.54	118.60
1	A	496	G	C4-C5-C6	8.24	123.74	118.80
1	A	231	A	C2-N3-C4	8.23	114.72	110.60
1	A	324	G	N3-C4-C5	-8.23	124.48	128.60
1	A	460	G	OP2-P-O3'	8.23	123.31	105.20
1	A	512	G	C5-C6-O6	-8.23	123.66	128.60
1	A	478	C	N1-C2-N3	8.22	124.95	119.20
1	A	543	U	O4'-C1'-N1	8.22	114.78	108.20
1	A	2425	C	C6-N1-C1'	8.22	130.66	120.80
1	A	234	G	N3-C2-N2	8.21	125.65	119.90
1	A	271	A	N1-C2-N3	-8.21	125.19	129.30
1	A	483	U	N3-C4-C5	8.21	119.53	114.60
1	A	480	U	N3-C4-O4	-8.21	113.66	119.40
1	A	10	G	N3-C2-N2	8.21	125.64	119.90
1	A	189	U	C4-C5-C6	-8.20	114.78	119.70
1	A	215	U	N1-C2-O2	8.20	128.54	122.80
2	B	5	U	N1-C2-O2	8.20	128.54	122.80
1	A	484	A	C5-C6-N1	8.19	121.80	117.70
1	A	81	A	C4-C5-N7	8.19	114.79	110.70
1	A	103	A	C4-N9-C1'	-8.18	111.57	126.30
2	B	5	U	C6-N1-C1'	-8.18	109.74	121.20
1	A	185	A	C5-C6-N1	8.17	121.78	117.70
1	A	124	A	N3-C4-N9	8.17	133.93	127.40
1	A	190	G	N1-C2-N2	-8.16	108.85	116.20
1	A	384	U	N3-C2-O2	-8.15	116.49	122.20
1	A	252	C	N3-C4-N4	-8.15	112.29	118.00
2	B	7	C	OP1-P-OP2	-8.14	107.39	119.60
1	A	540	A	C5-N7-C8	-8.13	99.83	103.90
1	A	174	A	N9-C4-C5	-8.11	102.56	105.80
1	A	10	G	N1-C2-N2	-8.10	108.91	116.20
1	A	411	C	C6-N1-C2	-8.10	117.06	120.30
1	A	475	A	C5-N7-C8	-8.10	99.85	103.90
1	A	155	G	N1-C6-O6	8.09	124.75	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	6	C	N3-C4-C5	8.08	125.13	121.90
1	A	2412	A	C5-N7-C8	-8.06	99.87	103.90
1	A	481	A	N9-C4-C5	-8.06	102.58	105.80
1	A	2489	U	C5-C6-N1	8.06	126.73	122.70
1	A	99	G	N3-C4-N9	-8.06	121.17	126.00
1	A	201	A	N1-C6-N6	-8.06	113.77	118.60
1	A	119	A	N1-C6-N6	-8.06	113.77	118.60
1	A	185	A	C2-N3-C4	8.05	114.62	110.60
1	A	483	U	C5-C4-O4	-8.04	121.07	125.90
1	A	220	G	C4-C5-C6	8.04	123.62	118.80
1	A	248	A	C4-N9-C1'	8.04	140.77	126.30
1	A	208	U	C6-N1-C2	-8.04	116.18	121.00
1	A	279	G	N7-C8-N9	8.04	117.12	113.10
2	B	2	A	N1-C6-N6	-8.03	113.78	118.60
1	A	247	G	N7-C8-N9	8.02	117.11	113.10
1	A	334	G	N9-C4-C5	-8.02	102.19	105.40
1	A	189	U	N3-C2-O2	8.01	127.81	122.20
1	A	2406	A	N1-C2-N3	-8.01	125.30	129.30
1	A	570	C	N1-C2-O2	8.00	123.70	118.90
1	A	209	U	N1-C2-O2	8.00	128.40	122.80
1	A	475	A	C4-C5-N7	8.00	114.70	110.70
1	A	46	C	N1-C2-O2	8.00	123.70	118.90
1	A	2448	A	N7-C8-N9	8.00	117.80	113.80
1	A	202	C	O5'-P-OP2	-7.99	98.51	105.70
1	A	88	A	C8-N9-C4	-7.98	102.61	105.80
1	A	516	A	O4'-C1'-N9	7.97	114.58	108.20
1	A	107	A	C4-N9-C1'	7.97	140.64	126.30
1	A	475	A	N1-C2-N3	-7.97	125.31	129.30
1	A	77	A	C6-C5-N7	-7.96	126.73	132.30
1	A	157	G	N3-C2-N2	7.96	125.47	119.90
1	A	162	A	N7-C8-N9	7.96	117.78	113.80
1	A	106	G	C6-C5-N7	7.96	135.17	130.40
1	A	485	G	C5-C6-N1	7.96	115.48	111.50
1	A	104	C	C6-N1-C2	-7.95	117.12	120.30
1	A	307	U	C5-C4-O4	7.93	130.66	125.90
1	A	2422	G	N3-C4-C5	-7.93	124.64	128.60
1	A	132	C	C5-C4-N4	7.92	125.74	120.20
1	A	135	A	N3-C4-C5	-7.91	121.26	126.80
1	A	229	C	N3-C2-O2	-7.91	116.36	121.90
1	A	96	U	N3-C4-O4	-7.91	113.87	119.40
2	B	1	C	C2-N1-C1'	-7.90	110.11	118.80
1	A	209	U	N3-C2-O2	-7.89	116.68	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	5	G	C6-C5-N7	7.89	135.13	130.40
1	A	152	A	C5-C6-N6	-7.88	117.39	123.70
1	A	337	C	N1-C2-O2	7.88	123.63	118.90
1	A	320	A	N3-C4-C5	-7.88	121.28	126.80
1	A	52	G	N3-C4-C5	-7.87	124.66	128.60
1	A	461	C	C5-C6-N1	7.87	124.94	121.00
1	A	328	C	N1-C2-O2	7.87	123.62	118.90
1	A	147	G	C8-N9-C4	-7.87	103.25	106.40
1	A	489	G	N9-C4-C5	-7.87	102.25	105.40
1	A	2420	A	C5-N7-C8	-7.87	99.97	103.90
1	A	16	G	C4-N9-C1'	7.86	136.71	126.50
1	A	76	A	P-O3'-C3'	7.86	129.13	119.70
1	A	177	U	N1-C2-O2	7.85	128.29	122.80
1	A	511	U	O4'-C1'-N1	7.85	114.48	108.20
1	A	130	U	C5-C6-N1	7.84	126.62	122.70
1	A	10	G	C4-C5-C6	7.83	123.50	118.80
1	A	174	A	N1-C2-N3	-7.83	125.38	129.30
1	A	2482	C	C4-C5-C6	-7.83	113.48	117.40
1	A	25	C	N3-C4-C5	7.83	125.03	121.90
1	A	209	U	C2-N1-C1'	7.83	127.09	117.70
2	B	8	A	C4-N9-C1'	7.82	140.38	126.30
1	A	88	A	N1-C6-N6	-7.82	113.91	118.60
1	A	471	G	OP2-P-O3'	7.82	122.39	105.20
1	A	215	U	N1-C2-N3	-7.81	110.21	114.90
1	A	11	A	N3-C4-N9	-7.81	121.15	127.40
1	A	279	G	C4-N9-C1'	7.81	136.65	126.50
1	A	502	C	C6-N1-C1'	-7.80	111.44	120.80
1	A	513	G	C4-C5-C6	7.80	123.48	118.80
1	A	2461	A	N9-C4-C5	-7.79	102.68	105.80
1	A	289	U	C2-N1-C1'	7.79	127.04	117.70
1	A	348	C	C6-N1-C2	-7.78	117.19	120.30
1	A	542	A	C5-C6-N6	7.78	129.92	123.70
1	A	267	A	N7-C8-N9	7.78	117.69	113.80
1	A	284	G	C5-C6-N1	7.78	115.39	111.50
1	A	151	G	N3-C4-N9	7.78	130.67	126.00
1	A	2427	G	N3-C4-N9	7.77	130.66	126.00
1	A	105	A	C2-N3-C4	-7.77	106.71	110.60
1	A	384	U	O5'-P-OP1	-7.77	98.71	105.70
1	A	2487	C	C2-N1-C1'	7.76	127.34	118.80
1	A	592	A	N7-C8-N9	7.75	117.68	113.80
1	A	2428	U	N3-C4-O4	-7.75	113.97	119.40
1	A	353	C	C4-C5-C6	-7.75	113.52	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	109	C	C5-C6-N1	-7.75	117.13	121.00
1	A	2397	G	N1-C2-N3	-7.75	119.25	123.90
1	A	283	U	P-O3'-C3'	7.75	129.00	119.70
1	A	403	C	C5-C6-N1	7.74	124.87	121.00
1	A	130	U	C6-N1-C2	-7.74	116.36	121.00
1	A	2412	A	N1-C6-N6	7.74	123.24	118.60
1	A	283	U	N3-C2-O2	-7.73	116.79	122.20
1	A	89	A	C4-C5-C6	-7.73	113.13	117.00
1	A	127	A	N1-C6-N6	-7.73	113.96	118.60
1	A	219	G	C6-C5-N7	-7.73	125.76	130.40
1	A	432	G	N9-C4-C5	-7.73	102.31	105.40
1	A	103	A	C8-N9-C1'	7.73	141.62	127.70
1	A	179	A	N1-C2-N3	7.73	133.16	129.30
1	A	2400	C	C6-N1-C2	-7.73	117.21	120.30
1	A	2422	G	C8-N9-C1'	-7.72	116.96	127.00
1	A	2480	C	C6-N1-C2	-7.72	117.21	120.30
1	A	155	G	N3-C4-C5	7.72	132.46	128.60
1	A	387	C	N3-C2-O2	-7.71	116.50	121.90
1	A	10	G	C8-N9-C4	-7.71	103.32	106.40
1	A	550	U	N1-C2-O2	7.71	128.20	122.80
1	A	51	A	C8-N9-C4	7.70	108.88	105.80
1	A	440	C	N1-C2-O2	7.70	123.52	118.90
1	A	185	A	N1-C6-N6	-7.69	113.98	118.60
1	A	476	C	C6-N1-C1'	-7.69	111.57	120.80
1	A	480	U	C2-N1-C1'	-7.69	108.47	117.70
2	B	5	U	C6-N1-C2	-7.69	116.39	121.00
1	A	2405	U	N3-C2-O2	-7.68	116.82	122.20
1	A	132	C	N3-C2-O2	-7.67	116.53	121.90
1	A	211	C	C5-C6-N1	7.67	124.84	121.00
1	A	194	U	C6-N1-C2	-7.67	116.40	121.00
1	A	2412	A	C5-C6-N6	-7.67	117.57	123.70
3	D	464	LEU	CB-CG-CD2	-7.67	97.96	111.00
1	A	331	U	C5-C6-N1	7.67	126.53	122.70
1	A	208	U	C5-C6-N1	7.66	126.53	122.70
1	A	546	A	C2-N3-C4	7.66	114.43	110.60
1	A	483	U	C6-N1-C1'	-7.66	110.47	121.20
1	A	204	C	N1-C2-O2	7.66	123.50	118.90
1	A	440	C	C2-N1-C1'	7.66	127.23	118.80
1	A	448	C	C2-N1-C1'	7.66	127.23	118.80
1	A	372	A	N9-C4-C5	-7.66	102.74	105.80
1	A	68	G	N1-C6-O6	7.65	124.49	119.90
1	A	361	C	N3-C2-O2	-7.65	116.54	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	514	C	N3-C4-N4	7.65	123.35	118.00
1	A	52	G	C6-C5-N7	-7.64	125.81	130.40
1	A	476	C	C6-N1-C2	-7.64	117.24	120.30
1	A	485	G	C2-N3-C4	7.64	115.72	111.90
1	A	516	A	N3-C4-C5	7.64	132.15	126.80
1	A	212	U	C6-N1-C1'	-7.64	110.50	121.20
1	A	34	U	C6-N1-C2	-7.63	116.42	121.00
1	A	356	A	C5-C6-N1	-7.63	113.88	117.70
1	A	183	A	C8-N9-C4	-7.63	102.75	105.80
1	A	5	G	N3-C4-N9	-7.63	121.42	126.00
1	A	472	A	C5-C6-N1	-7.63	113.89	117.70
1	A	326	A	O5'-P-OP1	-7.63	98.83	105.70
1	A	471	G	N3-C4-C5	-7.62	124.79	128.60
1	A	291	U	C5-C6-N1	7.62	126.51	122.70
1	A	473	G	C5-N7-C8	-7.62	100.49	104.30
1	A	107	A	C5-C6-N1	7.61	121.51	117.70
1	A	232	U	N3-C2-O2	-7.61	116.87	122.20
1	A	470	G	O5'-P-OP2	7.61	119.84	110.70
1	A	2397	G	C4-N9-C1'	-7.61	116.60	126.50
1	A	473	G	N9-C4-C5	7.61	108.44	105.40
1	A	376	C	O5'-P-OP1	-7.60	98.86	105.70
1	A	2423	U	C4-C5-C6	-7.60	115.14	119.70
1	A	183	A	C5-C6-N6	7.60	129.78	123.70
1	A	489	G	C4-N9-C1'	7.60	136.38	126.50
1	A	472	A	O4'-C1'-N9	7.59	114.27	108.20
1	A	428	A	N9-C4-C5	7.59	108.83	105.80
1	A	16	G	C8-N9-C1'	-7.59	117.14	127.00
1	A	95	A	N3-C4-N9	7.59	133.47	127.40
1	A	2396	A	N9-C4-C5	-7.58	102.77	105.80
1	A	509	C	C5-C6-N1	-7.58	117.21	121.00
1	A	4	C	C2-N1-C1'	7.58	127.14	118.80
1	A	333	G	N1-C2-N3	7.58	128.45	123.90
1	A	69	C	N3-C2-O2	-7.58	116.60	121.90
1	A	2432	C	N3-C4-C5	7.58	124.93	121.90
1	A	15	G	C5-C6-N1	7.57	115.28	111.50
1	A	170	U	C6-N1-C2	-7.56	116.47	121.00
1	A	460	G	C4-C5-C6	7.55	123.33	118.80
1	A	137	A	O5'-P-OP1	-7.55	98.90	105.70
1	A	290	A	N1-C6-N6	7.55	123.13	118.60
1	A	85	G	N7-C8-N9	7.55	116.87	113.10
1	A	501	G	C4-C5-C6	7.55	123.33	118.80
1	A	254	C	C2-N3-C4	-7.54	116.13	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	94	G	N7-C8-N9	7.54	116.87	113.10
1	A	98	C	C5-C6-N1	7.54	124.77	121.00
1	A	485	G	C6-N1-C2	-7.54	120.58	125.10
1	A	8	C	C5-C6-N1	7.54	124.77	121.00
1	A	2396	A	N3-C4-C5	7.53	132.07	126.80
1	A	2403	U	C4-C5-C6	-7.53	115.18	119.70
1	A	583	A	C8-N9-C1'	-7.52	114.16	127.70
1	A	398	C	C5-C6-N1	7.51	124.76	121.00
1	A	539	A	O5'-P-OP2	-7.51	98.94	105.70
1	A	2488	U	N3-C4-O4	-7.51	114.14	119.40
1	A	68	G	C5-N7-C8	-7.51	100.55	104.30
1	A	491	G	N7-C8-N9	7.50	116.85	113.10
1	A	2396	A	C5-C6-N6	-7.50	117.70	123.70
2	B	4	A	C4-C5-N7	7.50	114.45	110.70
1	A	53	A	C2-N3-C4	7.49	114.35	110.60
1	A	381	C	C4-C5-C6	-7.49	113.66	117.40
1	A	136	A	C5-N7-C8	-7.49	100.16	103.90
1	A	264	G	O5'-P-OP1	-7.49	98.96	105.70
1	A	512	G	C4-C5-N7	7.49	113.79	110.80
1	A	268	G	C8-N9-C4	-7.48	103.41	106.40
1	A	170	U	C5-C6-N1	7.48	126.44	122.70
1	A	357	G	N3-C2-N2	-7.48	114.66	119.90
1	A	268	G	C8-N9-C1'	-7.48	117.28	127.00
1	A	2396	A	N1-C6-N6	7.47	123.08	118.60
1	A	393	A	OP2-P-O3'	7.46	121.62	105.20
1	A	369	A	N7-C8-N9	7.46	117.53	113.80
1	A	235	A	C2-N3-C4	7.46	114.33	110.60
1	A	478	C	N3-C4-N4	-7.46	112.78	118.00
1	A	86	C	O5'-P-OP1	-7.46	98.99	105.70
1	A	125	U	OP1-P-OP2	-7.46	108.42	119.60
1	A	459	U	N1-C2-O2	7.46	128.02	122.80
1	A	509	C	C4-C5-C6	7.45	121.12	117.40
1	A	2422	G	N1-C2-N2	-7.44	109.50	116.20
1	A	61	G	N1-C6-O6	-7.44	115.44	119.90
1	A	319	U	C2-N1-C1'	7.44	126.63	117.70
1	A	490	A	N7-C8-N9	7.44	117.52	113.80
1	A	542	A	N3-C4-N9	-7.44	121.45	127.40
1	A	468	A	C5-N7-C8	-7.44	100.18	103.90
1	A	155	G	N1-C2-N2	7.43	122.89	116.20
2	B	4	A	C2-N3-C4	-7.43	106.88	110.60
1	A	2492	C	O5'-P-OP1	-7.43	99.01	105.70
1	A	557	G	C8-N9-C4	-7.43	103.43	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2423	U	C5-C6-N1	7.43	126.42	122.70
1	A	46	C	N3-C2-O2	-7.43	116.70	121.90
2	B	7	C	C5-C6-N1	7.43	124.71	121.00
1	A	424	A	C8-N9-C4	-7.42	102.83	105.80
1	A	148	U	N1-C2-O2	7.42	128.00	122.80
1	A	210	U	O5'-P-OP1	-7.42	99.02	105.70
1	A	534	G	C4-N9-C1'	7.42	136.15	126.50
1	A	470	G	C6-N1-C2	7.40	129.54	125.10
1	A	544	U	C5-C4-O4	-7.40	121.46	125.90
1	A	540	A	C4-C5-N7	7.40	114.40	110.70
1	A	531	U	C6-N1-C2	-7.39	116.56	121.00
1	A	234	G	C5-N7-C8	-7.38	100.61	104.30
1	A	376	C	N3-C4-N4	-7.38	112.83	118.00
1	A	52	G	OP1-P-OP2	7.37	130.66	119.60
1	A	164	U	N1-C2-O2	7.37	127.96	122.80
1	A	56	A	C8-N9-C4	7.37	108.75	105.80
1	A	2478	A	C8-N9-C4	7.36	108.75	105.80
1	A	489	G	C4-C5-N7	7.36	113.74	110.80
1	A	2451	C	N3-C4-C5	7.36	124.84	121.90
1	A	180	G	C5-C6-O6	-7.36	124.19	128.60
1	A	2426	G	C8-N9-C4	-7.36	103.46	106.40
1	A	2481	U	N3-C2-O2	-7.36	117.05	122.20
1	A	2473	G	C8-N9-C4	-7.35	103.46	106.40
1	A	549	A	N1-C6-N6	-7.35	114.19	118.60
1	A	522	U	C6-N1-C2	-7.35	116.59	121.00
1	A	343	G	C4-N9-C1'	7.34	136.05	126.50
1	A	2403	U	N1-C2-O2	7.34	127.94	122.80
1	A	201	A	C4-C5-C6	-7.34	113.33	117.00
1	A	307	U	N3-C4-O4	-7.34	114.26	119.40
1	A	236	G	C5-C6-O6	-7.34	124.20	128.60
1	A	369	A	C5-C6-N1	7.34	121.37	117.70
1	A	319	U	OP1-P-OP2	-7.33	108.60	119.60
1	A	81	A	C6-C5-N7	-7.33	127.17	132.30
1	A	87	G	N3-C2-N2	-7.32	114.77	119.90
1	A	530	U	C5-C6-N1	7.32	126.36	122.70
1	A	112	G	C5-N7-C8	-7.32	100.64	104.30
1	A	252	C	C5-C4-N4	7.32	125.32	120.20
1	A	2449	A	C5-N7-C8	-7.32	100.24	103.90
3	D	336	LEU	CA-CB-CG	7.32	132.13	115.30
1	A	207	G	N9-C4-C5	7.32	108.33	105.40
1	A	395	A	C5-C6-N1	-7.31	114.04	117.70
1	A	460	G	C5-C6-N1	-7.31	107.84	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	582	A	C8-N9-C4	7.31	108.72	105.80
1	A	386	A	N1-C2-N3	-7.31	125.64	129.30
1	A	557	G	N7-C8-N9	7.31	116.75	113.10
1	A	347	G	C8-N9-C4	-7.30	103.48	106.40
1	A	484	A	C2-N3-C4	7.30	114.25	110.60
1	A	476	C	C2-N3-C4	7.30	123.55	119.90
1	A	201	A	OP1-P-O3'	7.30	121.25	105.20
1	A	251	C	C2-N1-C1'	7.30	126.83	118.80
1	A	540	A	C6-C5-N7	-7.29	127.20	132.30
1	A	163	A	C8-N9-C1'	-7.29	114.58	127.70
1	A	167	U	C4-C5-C6	-7.29	115.33	119.70
1	A	114	U	C5-C6-N1	7.28	126.34	122.70
1	A	230	G	N7-C8-N9	-7.28	109.46	113.10
1	A	157	G	N3-C4-C5	-7.27	124.96	128.60
1	A	286	A	N1-C6-N6	7.27	122.96	118.60
1	A	220	G	C2-N3-C4	-7.27	108.27	111.90
1	A	2483	C	N1-C2-O2	7.26	123.26	118.90
1	A	101	G	C4-C5-N7	7.26	113.70	110.80
2	B	10	A	N1-C6-N6	7.26	122.96	118.60
1	A	78	C	N1-C2-O2	7.26	123.25	118.90
1	A	131	A	N7-C8-N9	7.26	117.43	113.80
1	A	397	C	C6-N1-C2	-7.26	117.40	120.30
1	A	206	A	C6-C5-N7	-7.25	127.22	132.30
1	A	2407	C	C6-N1-C2	7.24	123.20	120.30
1	A	482	G	OP1-P-O3'	7.24	121.13	105.20
1	A	103	A	N3-C4-C5	7.24	131.87	126.80
2	B	6	C	C6-N1-C2	7.24	123.19	120.30
1	A	155	G	C8-N9-C1'	7.23	136.40	127.00
1	A	2422	G	C4-N9-C1'	7.23	135.90	126.50
1	A	56	A	N9-C4-C5	-7.23	102.91	105.80
1	A	136	A	N3-C4-N9	-7.23	121.62	127.40
1	A	502	C	N1-C1'-C2'	7.23	123.40	114.00
1	A	206	A	N1-C6-N6	7.22	122.93	118.60
1	A	354	C	N3-C4-N4	-7.22	112.94	118.00
1	A	356	A	OP1-P-OP2	-7.22	108.77	119.60
1	A	389	G	N7-C8-N9	7.22	116.71	113.10
1	A	484	A	N9-C1'-C2'	7.21	123.38	114.00
1	A	215	U	C2-N3-C4	7.21	131.32	127.00
1	A	266	A	C2-N3-C4	7.21	114.20	110.60
1	A	111	C	N3-C4-N4	7.20	123.04	118.00
1	A	221	U	C2-N1-C1'	7.20	126.34	117.70
1	A	275	U	N3-C2-O2	-7.20	117.16	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	537	C	O4'-C1'-N1	7.20	113.96	108.20
1	A	2424	A	C5-N7-C8	-7.20	100.30	103.90
1	A	446	A	C8-N9-C4	-7.19	102.92	105.80
1	A	383	C	C6-N1-C2	-7.19	117.42	120.30
1	A	107	A	C5-N7-C8	-7.18	100.31	103.90
1	A	253	U	N3-C4-O4	-7.18	114.37	119.40
1	A	523	A	C5-C6-N6	-7.18	117.96	123.70
1	A	256	A	O4'-C1'-N9	7.17	113.94	108.20
1	A	252	C	C6-N1-C2	-7.17	117.43	120.30
1	A	376	C	C6-N1-C2	-7.17	117.43	120.30
1	A	433	G	N7-C8-N9	7.17	116.68	113.10
1	A	112	G	N7-C8-N9	7.17	116.68	113.10
1	A	282	G	N1-C2-N3	-7.16	119.60	123.90
1	A	127	A	C2-N3-C4	7.16	114.18	110.60
1	A	135	A	C6-C5-N7	-7.16	127.29	132.30
1	A	2437	A	C5-C6-N6	-7.15	117.98	123.70
1	A	334	G	C6-N1-C2	7.15	129.39	125.10
1	A	224	U	C5-C4-O4	7.15	130.19	125.90
1	A	210	U	N1-C2-N3	7.15	119.19	114.90
1	A	466	G	N3-C2-N2	-7.15	114.90	119.90
1	A	2402	G	N3-C2-N2	7.13	124.89	119.90
1	A	101	G	N9-C4-C5	-7.13	102.55	105.40
1	A	237	G	N3-C4-N9	-7.13	121.72	126.00
1	A	319	U	O5'-P-OP1	7.13	119.25	110.70
1	A	2490	C	C5-C4-N4	-7.13	115.21	120.20
1	A	516	A	N1-C6-N6	7.12	122.88	118.60
1	A	407	A	O5'-P-OP1	-7.12	99.29	105.70
1	A	105	A	N9-C4-C5	-7.12	102.95	105.80
1	A	266	A	N3-C4-N9	7.12	133.09	127.40
1	A	365	A	C8-N9-C4	7.12	108.65	105.80
2	B	8	A	C5-N7-C8	7.11	107.46	103.90
1	A	2403	U	N3-C4-O4	-7.11	114.42	119.40
1	A	157	G	C6-C5-N7	-7.11	126.14	130.40
1	A	307	U	C6-N1-C2	-7.11	116.74	121.00
1	A	250	A	C4-C5-N7	7.10	114.25	110.70
1	A	243	G	N1-C2-N2	7.10	122.59	116.20
1	A	2403	U	N3-C4-C5	7.09	118.86	114.60
1	A	2412	A	C6-C5-N7	-7.09	127.33	132.30
1	A	411	C	C4-C5-C6	-7.09	113.86	117.40
1	A	468	A	N3-C4-C5	7.09	131.76	126.80
1	A	267	A	C8-N9-C4	-7.08	102.97	105.80
1	A	517	A	C5-C6-N6	7.08	129.37	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	183	A	C5-C6-N1	-7.08	114.16	117.70
1	A	286	A	N3-C4-C5	7.07	131.75	126.80
1	A	309	G	N3-C4-C5	7.07	132.14	128.60
1	A	470	G	N7-C8-N9	7.07	116.64	113.10
1	A	79	C	C5-C6-N1	7.07	124.53	121.00
1	A	535	U	C2-N1-C1'	7.07	126.18	117.70
1	A	283	U	OP2-P-O3'	7.06	120.73	105.20
1	A	512	G	C6-C5-N7	-7.06	126.16	130.40
1	A	2399	G	C5-C6-N1	7.06	115.03	111.50
1	A	318	G	C8-N9-C1'	-7.05	117.83	127.00
1	A	2410	C	O5'-P-OP1	-7.05	99.35	105.70
1	A	440	C	C6-N1-C2	-7.05	117.48	120.30
1	A	9	A	C5-N7-C8	-7.04	100.38	103.90
1	A	220	G	N3-C2-N2	-7.04	114.97	119.90
1	A	250	A	C6-N1-C2	-7.04	114.37	118.60
1	A	534	G	C2-N3-C4	7.04	115.42	111.90
1	A	70	C	C5-C6-N1	7.03	124.52	121.00
1	A	106	G	O4'-C1'-N9	7.03	113.82	108.20
1	A	7	C	C4-C5-C6	-7.02	113.89	117.40
1	A	518	G	N3-C4-C5	-7.02	125.09	128.60
1	A	201	A	C2-N3-C4	7.02	114.11	110.60
1	A	406	G	N1-C6-O6	-7.01	115.69	119.90
1	A	492	A	N7-C8-N9	7.01	117.31	113.80
1	A	464	G	O5'-P-OP2	-7.01	99.39	105.70
1	A	240	A	N7-C8-N9	-7.00	110.30	113.80
1	A	333	G	O4'-C1'-N9	7.00	113.80	108.20
1	A	503	C	C5-C6-N1	7.00	124.50	121.00
1	A	68	G	C5-C6-O6	-7.00	124.40	128.60
1	A	372	A	N9-C1'-C2'	7.00	123.10	114.00
1	A	534	G	N3-C4-N9	6.99	130.20	126.00
1	A	359	A	N3-C4-N9	6.99	132.99	127.40
1	A	2401	C	C4-C5-C6	-6.99	113.91	117.40
1	A	346	A	O5'-P-OP1	-6.98	99.42	105.70
1	A	3	G	C5-C6-O6	6.97	132.78	128.60
1	A	503	C	C4-C5-C6	-6.97	113.91	117.40
1	A	116	G	C2-N3-C4	6.96	115.38	111.90
1	A	321	G	C8-N9-C4	-6.96	103.61	106.40
1	A	339	A	O5'-P-OP2	-6.96	99.43	105.70
1	A	125	U	O4'-C1'-N1	6.96	113.77	108.20
1	A	186	A	OP1-P-OP2	-6.96	109.16	119.60
1	A	2429	U	C5-C6-N1	6.95	126.18	122.70
1	A	373	A	O5'-P-OP1	-6.95	99.44	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	504	C	C2-N1-C1'	6.95	126.45	118.80
1	A	384	U	N3-C4-O4	-6.95	114.54	119.40
1	A	489	G	N3-C4-N9	6.95	130.17	126.00
1	A	583	A	C4-N9-C1'	6.95	138.80	126.30
1	A	10	G	C5-N7-C8	-6.94	100.83	104.30
1	A	163	A	OP1-P-OP2	-6.94	109.19	119.60
1	A	330	A	C5-N7-C8	-6.94	100.43	103.90
1	A	468	A	N9-C4-C5	6.94	108.58	105.80
1	A	390	G	N3-C2-N2	6.94	124.76	119.90
1	A	214	A	C5-C6-N6	-6.93	118.16	123.70
1	A	2429	U	C6-N1-C2	-6.93	116.84	121.00
1	A	570	C	C6-N1-C2	-6.93	117.53	120.30
1	A	312	C	C6-N1-C2	-6.93	117.53	120.30
1	A	342	C	C5'-C4'-O4'	-6.93	100.79	109.10
1	A	211	C	C2-N3-C4	6.92	123.36	119.90
2	B	2	A	C6-C5-N7	6.92	137.14	132.30
1	A	2421	C	C5-C4-N4	-6.92	115.36	120.20
1	A	390	G	N1-C2-N2	-6.91	109.98	116.20
1	A	111	C	C6-N1-C2	-6.91	117.54	120.30
1	A	248	A	N3-C4-C5	-6.91	121.96	126.80
1	A	95	A	N1-C2-N3	-6.91	125.85	129.30
1	A	325	A	N1-C2-N3	-6.91	125.85	129.30
1	A	93	U	C6-N1-C2	-6.90	116.86	121.00
1	A	232	U	C5-C6-N1	6.90	126.15	122.70
1	A	2480	C	N1-C2-O2	6.90	123.04	118.90
1	A	2413	G	C6-C5-N7	-6.90	126.26	130.40
1	A	430	A	C5-N7-C8	-6.90	100.45	103.90
1	A	7	C	C5-C6-N1	6.89	124.45	121.00
1	A	56	A	C5-C6-N6	-6.89	118.19	123.70
1	A	197	C	N1-C2-O2	6.89	123.03	118.90
1	A	200	A	OP2-P-O3'	6.89	120.36	105.20
1	A	358	A	C5-C6-N1	6.88	121.14	117.70
1	A	189	U	C5-C4-O4	-6.88	121.78	125.90
1	A	2416	G	O5'-P-OP1	-6.87	99.52	105.70
1	A	131	A	C4-C5-N7	6.86	114.13	110.70
1	A	149	A	C2-N3-C4	6.86	114.03	110.60
1	A	132	C	N3-C4-N4	-6.86	113.20	118.00
1	A	44	C	C6-N1-C2	-6.86	117.56	120.30
1	A	2430	C	N1-C2-N3	6.86	124.00	119.20
1	A	98	C	P-O3'-C3'	6.85	127.92	119.70
1	A	239	A	C2-N3-C4	6.85	114.02	110.60
1	A	492	A	C5-N7-C8	-6.85	100.48	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	227	G	C5-N7-C8	-6.84	100.88	104.30
2	B	1	C	C6-N1-C1'	6.84	129.01	120.80
1	A	180	G	C6-C5-N7	-6.83	126.30	130.40
1	A	470	G	C1'-O4'-C4'	-6.83	104.43	109.90
1	A	358	A	OP1-P-OP2	-6.83	109.35	119.60
1	A	44	C	N1-C2-O2	6.83	123.00	118.90
1	A	73	C	C4-C5-C6	-6.82	113.99	117.40
1	A	145	G	C2-N3-C4	6.82	115.31	111.90
1	A	2428	U	C4-C5-C6	-6.82	115.61	119.70
1	A	2490	C	C2-N1-C1'	6.82	126.30	118.80
1	A	74	C	C6-N1-C2	-6.82	117.57	120.30
1	A	109	C	O4'-C1'-N1	6.82	113.66	108.20
1	A	539	A	N7-C8-N9	6.82	117.21	113.80
1	A	190	G	N1-C2-N3	6.81	127.99	123.90
1	A	199	G	C8-N9-C4	6.81	109.12	106.40
1	A	2477	U	C2-N1-C1'	6.81	125.87	117.70
1	A	320	A	N7-C8-N9	6.80	117.20	113.80
1	A	372	A	C6-C5-N7	-6.80	127.54	132.30
1	A	131	A	C8-N9-C4	-6.80	103.08	105.80
1	A	523	A	C4-C5-N7	6.80	114.10	110.70
1	A	169	A	C5-N7-C8	-6.79	100.50	103.90
1	A	2467	A	C8-N9-C4	-6.79	103.08	105.80
1	A	334	G	C4-C5-N7	6.79	113.52	110.80
1	A	517	A	C8-N9-C4	-6.79	103.08	105.80
1	A	2473	G	N7-C8-N9	6.78	116.49	113.10
1	A	236	G	N3-C4-N9	6.78	130.07	126.00
1	A	99	G	N3-C4-C5	6.78	131.99	128.60
3	D	55	LEU	CA-CB-CG	6.78	130.88	115.30
1	A	166	U	N3-C4-O4	-6.77	114.66	119.40
1	A	329	U	C5-C4-O4	6.77	129.96	125.90
1	A	2450	C	C2-N3-C4	6.77	123.29	119.90
1	A	124	A	C8-N9-C4	6.77	108.51	105.80
1	A	499	A	C2-N3-C4	6.77	113.98	110.60
1	A	185	A	N9-C4-C5	6.76	108.51	105.80
1	A	396	C	N1-C2-O2	6.76	122.96	118.90
1	A	593	U	C5-C4-O4	-6.76	121.84	125.90
1	A	2489	U	N3-C2-O2	-6.76	117.47	122.20
1	A	392	G	N3-C4-C5	-6.76	125.22	128.60
1	A	381	C	N3-C4-C5	6.76	124.60	121.90
1	A	455	A	N3-C4-C5	-6.76	122.07	126.80
1	A	109	C	O5'-P-OP2	-6.76	99.62	105.70
1	A	39	U	N1-C2-O2	6.75	127.53	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	192	G	C8-N9-C1'	6.75	135.78	127.00
1	A	522	U	N3-C2-O2	-6.75	117.47	122.20
1	A	399	U	N3-C4-O4	-6.75	114.68	119.40
1	A	410	G	N3-C4-N9	-6.75	121.95	126.00
1	A	507	U	C5-C6-N1	6.74	126.07	122.70
1	A	526	G	C8-N9-C4	-6.74	103.70	106.40
1	A	2430	C	N3-C4-N4	-6.74	113.28	118.00
1	A	2438	G	N3-C2-N2	6.73	124.61	119.90
1	A	391	G	C8-N9-C4	6.73	109.09	106.40
1	A	10	G	C8-N9-C1'	-6.73	118.25	127.00
1	A	426	G	C8-N9-C4	-6.73	103.71	106.40
1	A	174	A	C5-N7-C8	-6.72	100.54	103.90
1	A	250	A	C5-C6-N1	6.72	121.06	117.70
1	A	2389	C	N3-C4-C5	6.72	124.59	121.90
1	A	2403	U	N1-C2-N3	-6.72	110.87	114.90
2	B	11	A	C8-N9-C4	-6.72	103.11	105.80
1	A	11	A	C5-C6-N6	-6.72	118.33	123.70
2	B	5	U	OP1-P-O3'	6.72	119.98	105.20
1	A	174	A	C5-C6-N6	-6.71	118.33	123.70
1	A	400	A	C5-C6-N1	6.70	121.05	117.70
1	A	175	U	N3-C4-O4	-6.70	114.71	119.40
1	A	230	G	N1-C6-O6	-6.70	115.88	119.90
1	A	210	U	O5'-P-OP2	-6.70	99.67	105.70
1	A	442	C	C6-N1-C1'	-6.70	112.76	120.80
1	A	205	A	C5-C6-N1	6.70	121.05	117.70
1	A	231	A	C5-C6-N1	6.70	121.05	117.70
1	A	107	A	O4'-C1'-N9	-6.69	102.85	108.20
1	A	268	G	N3-C4-C5	-6.69	125.25	128.60
1	A	480	U	C5'-C4'-C3'	6.69	126.71	116.00
1	A	340	A	N1-C2-N3	-6.69	125.96	129.30
1	A	471	G	N7-C8-N9	6.69	116.44	113.10
1	A	353	C	C6-N1-C2	-6.69	117.62	120.30
1	A	2418	G	C8-N9-C1'	-6.69	118.31	127.00
1	A	499	A	C5-C6-N1	6.68	121.04	117.70
1	A	542	A	N3-C4-C5	6.68	131.48	126.80
1	A	149	A	P-O3'-C3'	6.68	127.71	119.70
1	A	470	G	O5'-P-OP1	-6.68	99.69	105.70
1	A	2430	C	O5'-P-OP1	-6.68	99.69	105.70
1	A	335	A	C8-N9-C1'	-6.67	115.69	127.70
1	A	183	A	C8-N9-C1'	6.67	139.70	127.70
1	A	318	G	N3-C4-N9	6.67	130.00	126.00
1	A	225	G	C8-N9-C4	-6.66	103.73	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	343	G	C5-C6-O6	6.66	132.60	128.60
1	A	152	A	O5'-P-OP1	6.66	118.69	110.70
1	A	155	G	C4-N9-C1'	-6.65	117.85	126.50
1	A	382	A	O5'-P-OP2	-6.65	99.71	105.70
1	A	459	U	N3-C2-O2	-6.65	117.54	122.20
1	A	496	G	C8-N9-C1'	-6.65	118.35	127.00
1	A	221	U	N1-C2-O2	6.65	127.45	122.80
1	A	494	G	N9-C4-C5	-6.65	102.74	105.40
1	A	251	C	C4-C5-C6	6.65	120.72	117.40
1	A	105	A	C4-C5-N7	6.65	114.02	110.70
1	A	359	A	C2-N3-C4	6.65	113.92	110.60
1	A	80	G	C8-N9-C1'	6.65	135.64	127.00
1	A	410	G	N3-C4-C5	6.64	131.92	128.60
1	A	77	A	N1-C2-N3	6.64	132.62	129.30
1	A	178	A	C4-C5-N7	6.64	114.02	110.70
1	A	192	G	C5-C6-N1	-6.64	108.18	111.50
1	A	426	G	N9-C4-C5	6.64	108.06	105.40
1	A	483	U	OP1-P-OP2	6.64	129.56	119.60
1	A	2489	U	N1-C2-O2	6.63	127.44	122.80
1	A	584	C	C4-C5-C6	-6.63	114.08	117.40
1	A	376	C	C5-C4-N4	6.63	124.84	120.20
1	A	479	G	C5-N7-C8	-6.63	100.98	104.30
1	A	34	U	N3-C4-O4	6.63	124.04	119.40
1	A	204	C	N3-C2-O2	-6.63	117.26	121.90
1	A	371	C	C2-N1-C1'	6.62	126.09	118.80
1	A	2396	A	N1-C2-N3	-6.62	125.99	129.30
1	A	2423	U	C5-C4-O4	-6.62	121.93	125.90
1	A	2437	A	C5-C6-N1	6.62	121.01	117.70
1	A	212	U	N1-C2-O2	6.62	127.43	122.80
1	A	111	C	N3-C2-O2	-6.62	117.27	121.90
1	A	249	A	C8-N9-C4	-6.62	103.15	105.80
2	B	3	C	C5-C4-N4	-6.62	115.57	120.20
1	A	486	U	N1-C2-N3	-6.62	110.93	114.90
1	A	207	G	C8-N9-C4	-6.62	103.75	106.40
1	A	130	U	C2-N3-C4	6.61	130.97	127.00
1	A	332	G	N1-C2-N3	6.61	127.86	123.90
1	A	2466	G	N3-C4-C5	-6.61	125.30	128.60
1	A	149	A	O5'-P-OP1	-6.60	99.76	105.70
1	A	2401	C	N1-C2-O2	6.60	122.86	118.90
1	A	455	A	N3-C4-N9	6.60	132.68	127.40
1	A	472	A	N7-C8-N9	6.60	117.10	113.80
1	A	372	A	N1-C6-N6	6.60	122.56	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	8	C	N3-C4-C5	6.59	124.54	121.90
1	A	29	U	N3-C2-O2	-6.58	117.59	122.20
1	A	318	G	C5-C6-O6	6.58	132.55	128.60
1	A	274	U	C2-N1-C1'	6.58	125.59	117.70
1	A	518	G	N1-C2-N2	6.58	122.12	116.20
1	A	509	C	O5'-P-OP1	-6.58	99.78	105.70
1	A	44	C	C5-C6-N1	6.57	124.29	121.00
1	A	443	U	N3-C2-O2	-6.57	117.60	122.20
2	B	7	C	N3-C2-O2	-6.57	117.30	121.90
1	A	101	G	C8-N9-C4	6.57	109.03	106.40
1	A	271	A	C6-N1-C2	6.56	122.54	118.60
1	A	470	G	N3-C4-C5	6.56	131.88	128.60
1	A	518	G	C8-N9-C1'	6.56	135.53	127.00
1	A	192	G	C4-N9-C1'	-6.56	117.98	126.50
1	A	520	G	N7-C8-N9	6.55	116.38	113.10
1	A	16	G	N7-C8-N9	6.55	116.38	113.10
1	A	563	A	O5'-P-OP2	-6.55	99.80	105.70
1	A	335	A	C6-N1-C2	-6.55	114.67	118.60
1	A	342	C	OP1-P-O3'	6.55	119.61	105.20
1	A	194	U	C2-N1-C1'	6.55	125.56	117.70
1	A	333	G	C6-C5-N7	-6.55	126.47	130.40
1	A	470	G	O4'-C1'-N9	6.55	113.44	108.20
1	A	2441	U	N3-C2-O2	-6.54	117.62	122.20
1	A	433	G	C8-N9-C4	-6.54	103.78	106.40
1	A	2461	A	C4-C5-C6	-6.54	113.73	117.00
1	A	1	G	N3-C4-C5	6.54	131.87	128.60
1	A	438	A	N1-C2-N3	-6.54	126.03	129.30
1	A	150	C	C5-C6-N1	6.53	124.26	121.00
1	A	99	G	C5-N7-C8	-6.52	101.04	104.30
1	A	105	A	C6-C5-N7	-6.52	127.73	132.30
1	A	290	A	C4-C5-N7	6.52	113.96	110.70
1	A	499	A	C6-C5-N7	6.52	136.87	132.30
1	A	468	A	N7-C8-N9	6.52	117.06	113.80
1	A	254	C	N3-C2-O2	-6.52	117.34	121.90
1	A	344	A	C5-C6-N1	6.52	120.96	117.70
1	A	498	A	N1-C6-N6	-6.52	114.69	118.60
1	A	391	G	N9-C4-C5	-6.52	102.79	105.40
1	A	505	U	C6-N1-C2	-6.52	117.09	121.00
1	A	540	A	C8-N9-C4	-6.52	103.19	105.80
1	A	390	G	N3-C4-N9	6.52	129.91	126.00
1	A	32	U	C5-C6-N1	6.51	125.96	122.70
1	A	68	G	C8-N9-C4	-6.51	103.80	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	195	U	C6-N1-C1'	6.51	130.32	121.20
1	A	4	C	N3-C2-O2	-6.51	117.34	121.90
2	B	4	A	C5-C6-N6	-6.51	118.49	123.70
2	B	7	C	C6-N1-C1'	-6.51	112.98	120.80
1	A	16	G	C5-N7-C8	-6.51	101.05	104.30
1	A	395	A	N7-C8-N9	6.50	117.05	113.80
1	A	273	G	C6-C5-N7	-6.50	126.50	130.40
1	A	201	A	O5'-P-OP2	-6.50	99.85	105.70
1	A	276	A	N3-C4-N9	6.50	132.60	127.40
1	A	533	U	N1-C2-O2	6.50	127.35	122.80
1	A	561	G	N3-C4-C5	-6.50	125.35	128.60
1	A	343	G	N7-C8-N9	6.49	116.35	113.10
1	A	117	G	N1-C6-O6	-6.49	116.01	119.90
1	A	319	U	O5'-P-OP2	-6.49	99.86	105.70
1	A	470	G	C4'-C3'-C2'	-6.49	96.11	102.60
1	A	371	C	N3-C4-N4	6.48	122.54	118.00
1	A	2418	G	C4-N9-C1'	6.48	134.92	126.50
1	A	43	A	C8-N9-C4	-6.48	103.21	105.80
1	A	557	G	C4-N9-C1'	6.47	134.91	126.50
1	A	179	A	C5-N7-C8	-6.46	100.67	103.90
1	A	534	G	N7-C8-N9	6.46	116.33	113.10
1	A	2413	G	C4-C5-N7	6.46	113.38	110.80
1	A	236	G	N1-C6-O6	6.46	123.78	119.90
1	A	392	G	N1-C2-N2	-6.46	110.39	116.20
1	A	3	G	C6-N1-C2	6.45	128.97	125.10
1	A	68	G	N7-C8-N9	6.45	116.33	113.10
1	A	177	U	O5'-P-OP1	-6.45	99.89	105.70
1	A	393	A	O3'-P-O5'	6.45	116.26	104.00
1	A	428	A	N1-C6-N6	-6.45	114.73	118.60
1	A	545	A	C8-N9-C4	-6.45	103.22	105.80
1	A	524	C	C6-N1-C2	-6.45	117.72	120.30
1	A	180	G	O4'-C1'-N9	6.44	113.35	108.20
1	A	271	A	C4-C5-C6	-6.44	113.78	117.00
1	A	584	C	N3-C4-N4	6.44	122.51	118.00
1	A	38	G	O4'-C1'-N9	-6.44	103.05	108.20
1	A	132	C	O4'-C1'-N1	6.44	113.35	108.20
1	A	518	G	O5'-P-OP2	-6.44	99.91	105.70
1	A	280	U	O5'-P-OP2	-6.44	99.91	105.70
1	A	127	A	O5'-P-OP2	-6.43	99.91	105.70
1	A	359	A	C5-C6-N6	-6.43	118.55	123.70
1	A	491	G	C4-C5-C6	6.43	122.66	118.80
2	B	7	C	N3-C4-C5	-6.43	119.33	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	129	U	C6-N1-C2	-6.43	117.14	121.00
1	A	197	C	C2-N1-C1'	6.43	125.88	118.80
1	A	357	G	N3-C4-N9	-6.43	122.14	126.00
1	A	268	G	N7-C8-N9	6.43	116.32	113.10
1	A	2446	C	C5-C6-N1	6.43	124.22	121.00
1	A	219	G	N1-C2-N2	-6.43	110.42	116.20
1	A	2437	A	C5-N7-C8	-6.43	100.69	103.90
1	A	2492	C	C4-C5-C6	6.43	120.61	117.40
1	A	63	A	C8-N9-C4	-6.42	103.23	105.80
1	A	366	U	P-O3'-C3'	6.42	127.41	119.70
1	A	532	G	C4-N9-C1'	6.42	134.85	126.50
1	A	84	A	N9-C4-C5	6.42	108.37	105.80
1	A	273	G	N1-C6-O6	6.42	123.75	119.90
1	A	550	U	N3-C2-O2	-6.42	117.71	122.20
1	A	2392	U	N3-C2-O2	-6.42	117.71	122.20
1	A	9	A	N7-C8-N9	6.42	117.01	113.80
1	A	520	G	N3-C4-C5	-6.41	125.39	128.60
1	A	16	G	N9-C4-C5	-6.41	102.83	105.40
1	A	404	A	C6-C5-N7	6.41	136.79	132.30
1	A	10	G	N9-C4-C5	-6.41	102.84	105.40
1	A	108	G	OP2-P-O3'	6.41	119.30	105.20
1	A	489	G	C6-C5-N7	-6.41	126.56	130.40
1	A	44	C	C2-N1-C1'	6.41	125.85	118.80
1	A	120	A	O4'-C1'-N9	6.41	113.32	108.20
1	A	2475	G	O5'-P-OP1	-6.41	99.94	105.70
1	A	406	G	P-O3'-C3'	6.40	127.39	119.70
1	A	2454	U	C6-N1-C1'	-6.40	112.23	121.20
1	A	226	U	N3-C4-O4	6.40	123.88	119.40
1	A	566	A	C8-N9-C4	-6.40	103.24	105.80
1	A	235	A	N1-C6-N6	-6.39	114.76	118.60
1	A	293	U	C6-N1-C2	-6.39	117.17	121.00
1	A	532	G	N3-C4-N9	6.39	129.83	126.00
1	A	2432	C	C5-C4-N4	-6.39	115.73	120.20
1	A	501	G	N9-C4-C5	6.38	107.95	105.40
2	B	8	A	C2-N3-C4	6.38	113.79	110.60
1	A	210	U	OP1-P-OP2	6.38	129.16	119.60
1	A	510	A	C5-N7-C8	-6.38	100.71	103.90
1	A	39	U	OP1-P-OP2	-6.37	110.04	119.60
1	A	413	U	C2-N1-C1'	6.37	125.35	117.70
1	A	103	A	C5-N7-C8	-6.37	100.72	103.90
1	A	342	C	N3-C2-O2	-6.37	117.44	121.90
1	A	204	C	C2-N1-C1'	6.37	125.80	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	163	A	C1'-O4'-C4'	-6.37	104.81	109.90
1	A	180	G	N3-C4-N9	6.36	129.82	126.00
1	A	315	U	C6-N1-C2	6.36	124.81	121.00
1	A	243	G	C8-N9-C1'	6.36	135.26	127.00
1	A	46	C	C4-C5-C6	6.35	120.58	117.40
1	A	180	G	N9-C1'-C2'	-6.35	105.01	112.00
2	B	9	U	N3-C2-O2	-6.35	117.75	122.20
3	D	40	TYR	CA-CB-CG	-6.35	101.33	113.40
1	A	11	A	N7-C8-N9	6.35	116.97	113.80
1	A	471	G	C2-N3-C4	6.35	115.07	111.90
1	A	230	G	C4-C5-N7	-6.34	108.26	110.80
1	A	363	G	N9-C4-C5	-6.34	102.86	105.40
1	A	332	G	O4'-C1'-N9	6.34	113.27	108.20
1	A	52	G	C8-N9-C1'	-6.34	118.76	127.00
1	A	133	C	N3-C2-O2	-6.33	117.47	121.90
1	A	569	U	N1-C2-O2	6.33	127.23	122.80
1	A	243	G	C8-N9-C4	-6.33	103.87	106.40
1	A	132	C	C6-N1-C1'	6.33	128.40	120.80
1	A	2435	A	O5'-P-OP2	-6.33	100.00	105.70
1	A	214	A	N3-C4-C5	-6.33	122.37	126.80
1	A	483	U	C6-N1-C2	-6.33	117.20	121.00
1	A	542	A	C6-C5-N7	6.33	136.73	132.30
1	A	369	A	N1-C2-N3	-6.33	126.14	129.30
1	A	536	A	C8-N9-C4	6.32	108.33	105.80
1	A	342	C	C4'-C3'-O3'	6.32	125.64	113.00
1	A	2490	C	N1-C2-O2	6.32	122.69	118.90
1	A	2425	C	C2-N3-C4	6.31	123.06	119.90
1	A	253	U	N3-C4-C5	6.31	118.39	114.60
1	A	305	A	C8-N9-C4	-6.31	103.28	105.80
1	A	494	G	C4-C5-N7	6.31	113.33	110.80
1	A	2404	A	C5-N7-C8	-6.31	100.74	103.90
1	A	2428	U	N1-C2-O2	6.31	127.22	122.80
1	A	6	C	C2-N1-C1'	6.31	125.74	118.80
1	A	83	A	C8-N9-C4	-6.31	103.28	105.80
1	A	393	A	C5-C6-N1	6.31	120.85	117.70
1	A	232	U	C6-N1-C2	-6.31	117.22	121.00
1	A	178	A	O5'-P-OP1	6.30	118.26	110.70
1	A	327	C	C4-C5-C6	6.30	120.55	117.40
1	A	207	G	N3-C4-N9	-6.30	122.22	126.00
1	A	409	U	C6-N1-C2	-6.30	117.22	121.00
1	A	309	G	N3-C2-N2	-6.30	115.49	119.90
1	A	394	U	N3-C2-O2	-6.29	117.80	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	324	G	N3-C4-N9	6.29	129.77	126.00
1	A	192	G	N3-C2-N2	-6.29	115.50	119.90
1	A	199	G	OP2-P-O3'	-6.29	91.37	105.20
1	A	289	U	N3-C2-O2	-6.29	117.80	122.20
1	A	198	U	N3-C2-O2	-6.29	117.80	122.20
1	A	207	G	N1-C2-N3	6.29	127.67	123.90
1	A	264	G	C8-N9-C1'	6.29	135.17	127.00
1	A	399	U	N1-C2-O2	6.28	127.20	122.80
1	A	581	C	N3-C4-C5	6.28	124.41	121.90
1	A	539	A	O5'-P-OP1	6.28	118.24	110.70
1	A	2388	A	N1-C6-N6	6.28	122.37	118.60
1	A	69	C	C5-C6-N1	6.28	124.14	121.00
1	A	373	A	C5'-C4'-O4'	-6.27	101.57	109.10
1	A	336	A	C2-N3-C4	6.27	113.73	110.60
1	A	2471	A	N9-C4-C5	6.27	108.31	105.80
1	A	79	C	C2-N3-C4	6.27	123.03	119.90
1	A	2482	C	N3-C4-C5	6.27	124.41	121.90
1	A	5	G	C2-N3-C4	6.26	115.03	111.90
1	A	257	G	O4'-C1'-N9	6.26	113.21	108.20
1	A	2391	A	C5-C6-N6	-6.26	118.69	123.70
1	A	2396	A	C8-N9-C4	6.26	108.30	105.80
1	A	210	U	C6-N1-C2	-6.26	117.25	121.00
1	A	196	A	N3-C4-N9	-6.25	122.40	127.40
1	A	64	A	C8-N9-C4	-6.25	103.30	105.80
1	A	369	A	N3-C4-C5	-6.25	122.43	126.80
1	A	250	A	C5-N7-C8	-6.25	100.78	103.90
1	A	254	C	N3-C4-C5	6.25	124.40	121.90
1	A	388	U	OP1-P-OP2	-6.24	110.24	119.60
1	A	389	G	N3-C4-C5	-6.24	125.48	128.60
1	A	482	G	N9-C1'-C2'	-6.24	105.13	112.00
1	A	395	A	C4-C5-N7	6.24	113.82	110.70
1	A	311	A	N1-C6-N6	-6.24	114.86	118.60
1	A	2442	G	N9-C4-C5	-6.24	102.91	105.40
1	A	491	G	C8-N9-C4	-6.23	103.91	106.40
1	A	109	C	O5'-P-OP1	-6.23	100.09	105.70
1	A	175	U	OP1-P-O3'	6.23	118.91	105.20
1	A	2414	A	OP2-P-O3'	6.23	118.91	105.20
1	A	122	C	C5-C6-N1	6.23	124.11	121.00
1	A	557	G	N3-C4-N9	6.23	129.74	126.00
1	A	250	A	C6-C5-N7	-6.23	127.94	132.30
1	A	227	G	N3-C2-N2	-6.22	115.54	119.90
1	A	545	A	C4-N9-C1'	6.22	137.50	126.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	562	G	N1-C2-N2	6.22	121.80	116.20
1	A	59	C	C6-N1-C2	-6.22	117.81	120.30
1	A	89	A	C2-N3-C4	6.22	113.71	110.60
1	A	440	C	C5-C6-N1	6.22	124.11	121.00
1	A	567	C	N1-C2-O2	6.22	122.63	118.90
1	A	2398	A	O5'-P-OP1	6.22	118.16	110.70
1	A	2406	A	N1-C6-N6	-6.22	114.87	118.60
1	A	2479	C	N1-C2-O2	6.22	122.63	118.90
1	A	375	A	N1-C2-N3	-6.21	126.19	129.30
1	A	89	A	N1-C2-N3	-6.21	126.20	129.30
1	A	178	A	C8-N9-C4	-6.21	103.32	105.80
1	A	2448	A	C5-N7-C8	-6.21	100.80	103.90
2	B	2	A	N9-C4-C5	6.20	108.28	105.80
1	A	163	A	C6-C5-N7	-6.20	127.96	132.30
1	A	83	A	N7-C8-N9	6.20	116.90	113.80
1	A	219	G	C4-N9-C1'	6.20	134.56	126.50
1	A	410	G	C2-N3-C4	-6.20	108.80	111.90
1	A	2392	U	C5-C4-O4	6.20	129.62	125.90
1	A	333	G	C4-C5-N7	6.19	113.28	110.80
1	A	393	A	N7-C8-N9	-6.19	110.70	113.80
1	A	161	C	C6-N1-C2	-6.19	117.83	120.30
1	A	2420	A	OP1-P-OP2	-6.19	110.32	119.60
1	A	2	U	O5'-P-OP1	-6.18	100.14	105.70
1	A	133	C	O4'-C1'-N1	6.18	113.15	108.20
1	A	322	G	C4-C5-N7	6.18	113.27	110.80
1	A	532	G	N3-C4-C5	-6.18	125.51	128.60
1	A	533	U	C2-N1-C1'	6.18	125.12	117.70
1	A	1	G	C3'-C2'-C1'	6.18	106.44	101.50
1	A	118	A	C2-N3-C4	6.18	113.69	110.60
1	A	157	G	N9-C4-C5	-6.18	102.93	105.40
1	A	289	U	N1-C2-O2	6.17	127.12	122.80
1	A	2401	C	N3-C2-O2	-6.17	117.58	121.90
1	A	357	G	OP1-P-O3'	6.17	118.77	105.20
1	A	2406	A	N9-C4-C5	6.17	108.27	105.80
1	A	327	C	O5'-P-OP2	-6.17	100.15	105.70
1	A	516	A	N3-C4-N9	-6.17	122.47	127.40
1	A	437	U	C5-C6-N1	6.17	125.78	122.70
1	A	19	U	C5-C6-N1	-6.16	119.62	122.70
1	A	67	A	N9-C4-C5	-6.16	103.33	105.80
1	A	7	C	N3-C2-O2	-6.16	117.59	121.90
1	A	212	U	C6-N1-C2	-6.16	117.31	121.00
1	A	284	G	OP1-P-OP2	-6.16	110.36	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	24	U	O5'-P-OP1	-6.16	100.16	105.70
1	A	2478	A	C5-C6-N1	6.16	120.78	117.70
1	A	67	A	C5-C6-N1	6.15	120.78	117.70
1	A	41	C	N3-C4-C5	6.15	124.36	121.90
1	A	225	G	C5-N7-C8	-6.15	101.22	104.30
1	A	310	U	C6-N1-C1'	6.15	129.81	121.20
1	A	114	U	C6-N1-C2	-6.15	117.31	121.00
3	D	100	LEU	CA-CB-CG	6.14	129.43	115.30
1	A	448	C	C4-C5-C6	-6.14	114.33	117.40
1	A	290	A	N9-C4-C5	-6.14	103.35	105.80
1	A	37	G	N9-C1'-C2'	-6.13	105.25	112.00
1	A	233	A	N1-C2-N3	6.13	132.37	129.30
1	A	430	A	C8-N9-C4	-6.13	103.35	105.80
1	A	69	C	N1-C2-O2	6.13	122.58	118.90
1	A	129	U	N3-C4-C5	-6.13	110.92	114.60
1	A	494	G	N3-C4-N9	6.13	129.68	126.00
1	A	593	U	N3-C4-O4	6.13	123.69	119.40
1	A	2424	A	OP2-P-O3'	6.13	118.68	105.20
1	A	321	G	N9-C4-C5	6.12	107.85	105.40
1	A	65	A	C5-N7-C8	-6.12	100.84	103.90
1	A	470	G	N3-C4-N9	-6.12	122.33	126.00
1	A	482	G	O5'-P-OP1	6.12	118.04	110.70
1	A	464	G	N3-C4-N9	6.12	129.67	126.00
1	A	484	A	C6-C5-N7	6.12	136.58	132.30
1	A	505	U	N1-C2-N3	6.12	118.57	114.90
1	A	581	C	C2-N1-C1'	6.12	125.53	118.80
1	A	248	A	O4'-C1'-N9	6.11	113.09	108.20
1	A	2478	A	C4-C5-N7	6.11	113.76	110.70
1	A	2410	C	C6-N1-C1'	6.11	128.13	120.80
1	A	224	U	C2-N1-C1'	-6.11	110.37	117.70
1	A	152	A	C2-N3-C4	-6.10	107.55	110.60
1	A	94	G	N9-C4-C5	6.10	107.84	105.40
1	A	109	C	C4-C5-C6	6.10	120.45	117.40
1	A	343	G	C3'-C2'-C1'	-6.10	96.62	101.50
1	A	173	G	C8-N9-C1'	-6.10	119.07	127.00
1	A	465	G	C2-N3-C4	-6.10	108.85	111.90
1	A	2414	A	OP1-P-OP2	6.10	128.75	119.60
1	A	2418	G	N1-C6-O6	-6.10	116.24	119.90
1	A	2485	U	O5'-P-OP1	-6.09	100.22	105.70
2	B	11	A	N7-C8-N9	6.09	116.85	113.80
1	A	287	C	C5-C6-N1	6.09	124.05	121.00
3	D	100	LEU	CB-CG-CD2	-6.09	100.65	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	148	U	C6-N1-C2	-6.09	117.35	121.00
1	A	530	U	N1-C2-O2	6.08	127.06	122.80
1	A	78	C	N3-C2-O2	-6.08	117.64	121.90
1	A	236	G	C5-N7-C8	-6.08	101.26	104.30
1	A	512	G	C5-N7-C8	-6.08	101.26	104.30
1	A	116	G	N3-C4-C5	-6.08	125.56	128.60
1	A	238	A	N1-C2-N3	-6.08	126.26	129.30
1	A	131	A	OP1-P-OP2	-6.07	110.49	119.60
1	A	356	A	O5'-P-OP1	6.07	117.98	110.70
1	A	459	U	C5-C4-O4	6.07	129.54	125.90
1	A	2436	G	N1-C2-N2	-6.07	110.74	116.20
1	A	102	A	C4-C5-C6	-6.07	113.97	117.00
1	A	318	G	N9-C4-C5	6.07	107.83	105.40
1	A	455	A	OP2-P-O3'	6.06	118.54	105.20
1	A	2388	A	C5-N7-C8	-6.06	100.87	103.90
2	B	2	A	O4'-C1'-N9	6.06	113.05	108.20
1	A	2449	A	C8-N9-C4	-6.06	103.38	105.80
2	B	9	U	N3-C4-C5	6.06	118.24	114.60
1	A	149	A	C6-C5-N7	-6.06	128.06	132.30
1	A	204	C	C5-C6-N1	6.06	124.03	121.00
1	A	80	G	C5-N7-C8	-6.06	101.27	104.30
1	A	343	G	N9-C1'-C2'	6.06	121.87	114.00
1	A	268	G	C4-C5-C6	6.05	122.43	118.80
1	A	72	A	OP2-P-O3'	6.05	118.51	105.20
1	A	390	G	C4-C5-C6	6.05	122.43	118.80
1	A	2432	C	C2-N3-C4	-6.05	116.88	119.90
1	A	2399	G	C5-C6-O6	6.05	132.23	128.60
1	A	146	G	N9-C4-C5	-6.04	102.98	105.40
1	A	234	G	N1-C2-N2	-6.04	110.76	116.20
1	A	163	A	N3-C4-N9	6.04	132.23	127.40
1	A	470	G	N1-C2-N2	-6.04	110.77	116.20
1	A	219	G	C4-C5-C6	6.03	122.42	118.80
1	A	311	A	O4'-C1'-N9	6.03	113.02	108.20
1	A	357	G	C8-N9-C4	-6.03	103.99	106.40
1	A	207	G	C5-N7-C8	-6.02	101.29	104.30
1	A	299	C	C4-C5-C6	-6.02	114.39	117.40
1	A	2397	G	C8-N9-C4	6.02	108.81	106.40
1	A	2407	C	C5-C6-N1	-6.02	117.99	121.00
1	A	302	C	C2-N1-C1'	6.02	125.42	118.80
1	A	446	A	N7-C8-N9	6.02	116.81	113.80
1	A	2482	C	C5-C6-N1	6.01	124.00	121.00
1	A	179	A	C5-C6-N6	6.01	128.50	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2409	C	OP2-P-O3'	6.01	118.42	105.20
1	A	150	C	C4-C5-C6	-6.00	114.40	117.40
1	A	2420	A	N7-C8-N9	6.00	116.80	113.80
1	A	2434	A	C5-N7-C8	-6.00	100.90	103.90
1	A	115	U	N3-C2-O2	-6.00	118.00	122.20
1	A	79	C	C5-C4-N4	-6.00	116.00	120.20
1	A	80	G	C8-N9-C4	-6.00	104.00	106.40
1	A	243	G	C6-C5-N7	5.99	134.00	130.40
1	A	475	A	O4'-C1'-N9	5.99	112.99	108.20
1	A	478	C	C5-C6-N1	-5.99	118.00	121.00
1	A	2398	A	N1-C2-N3	-5.99	126.30	129.30
1	A	330	A	C5-C6-N1	5.99	120.69	117.70
1	A	2408	U	OP2-P-O3'	5.99	118.37	105.20
1	A	125	U	C6-N1-C2	-5.98	117.41	121.00
1	A	237	G	C8-N9-C1'	5.98	134.77	127.00
1	A	251	C	C2-N3-C4	5.98	122.89	119.90
1	A	544	U	N3-C4-O4	5.98	123.58	119.40
1	A	175	U	C4-C5-C6	-5.98	116.11	119.70
1	A	342	C	O5'-P-OP2	5.97	117.87	110.70
1	A	1	G	C8-N9-C1'	5.97	134.76	127.00
1	A	278	G	N9-C4-C5	-5.97	103.01	105.40
1	A	103	A	C4-C5-C6	-5.97	114.02	117.00
1	A	432	G	N3-C4-N9	5.96	129.58	126.00
1	A	523	A	N9-C4-C5	-5.96	103.41	105.80
1	A	207	G	N7-C8-N9	5.96	116.08	113.10
2	B	7	C	C2-N3-C4	5.96	122.88	119.90
2	B	8	A	C4-C5-C6	5.96	119.98	117.00
1	A	409	U	O5'-P-OP1	-5.96	100.34	105.70
1	A	410	G	C4-N9-C1'	-5.96	118.76	126.50
1	A	315	U	C6-N1-C1'	-5.96	112.86	121.20
1	A	2464	G	N3-C4-N9	5.96	129.57	126.00
1	A	502	C	C2-N3-C4	-5.95	116.92	119.90
1	A	525	A	P-O3'-C3'	5.95	126.84	119.70
1	A	5	G	C8-N9-C4	-5.95	104.02	106.40
1	A	390	G	C4-C5-N7	5.95	113.18	110.80
1	A	460	G	N1-C2-N2	5.95	121.56	116.20
1	A	112	G	N9-C4-C5	-5.95	103.02	105.40
1	A	207	G	C6-N1-C2	-5.95	121.53	125.10
1	A	2437	A	C4-C5-N7	5.95	113.67	110.70
1	A	2445	G	C5-C6-O6	-5.95	125.03	128.60
1	A	392	G	N1-C6-O6	-5.95	116.33	119.90
1	A	36	A	C8-N9-C4	-5.95	103.42	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	438	A	C8-N9-C4	5.94	108.18	105.80
1	A	386	A	C4-C5-N7	5.94	113.67	110.70
1	A	214	A	N1-C2-N3	-5.94	126.33	129.30
1	A	460	G	N3-C2-N2	-5.94	115.74	119.90
1	A	108	G	C4-N9-C1'	-5.94	118.78	126.50
1	A	228	U	O5'-P-OP2	5.94	117.82	110.70
1	A	2438	G	N1-C2-N2	-5.94	110.86	116.20
1	A	513	G	O5'-P-OP1	-5.93	100.36	105.70
1	A	2482	C	N1-C2-O2	5.93	122.46	118.90
1	A	2461	A	N1-C2-N3	-5.93	126.33	129.30
1	A	211	C	C5-C4-N4	5.93	124.35	120.20
1	A	405	A	C4-C5-C6	-5.93	114.03	117.00
1	A	140	C	C6-N1-C2	-5.93	117.93	120.30
1	A	182	U	OP1-P-O3'	5.93	118.24	105.20
1	A	242	U	C6-N1-C2	-5.93	117.44	121.00
1	A	497	U	C2-N3-C4	5.93	130.56	127.00
1	A	2486	A	N1-C2-N3	-5.93	126.34	129.30
1	A	489	G	O4'-C1'-N9	5.92	112.94	108.20
1	A	56	A	C5-C6-N1	5.92	120.66	117.70
1	A	329	U	C6-N1-C2	-5.92	117.45	121.00
1	A	2441	U	C4-C5-C6	5.92	123.25	119.70
1	A	123	G	C2-N3-C4	5.92	114.86	111.90
1	A	198	U	N1-C2-N3	5.92	118.45	114.90
1	A	471	G	P-O3'-C3'	5.92	126.80	119.70
1	A	471	G	O5'-P-OP2	-5.91	100.38	105.70
1	A	477	U	OP1-P-O3'	5.91	118.21	105.20
1	A	115	U	N1-C2-O2	5.91	126.94	122.80
1	A	322	G	C5-N7-C8	-5.91	101.34	104.30
1	A	372	A	N7-C8-N9	5.91	116.75	113.80
1	A	79	C	C4-C5-C6	-5.91	114.45	117.40
1	A	13	A	C5-C6-N1	5.91	120.65	117.70
1	A	580	C	C6-N1-C2	-5.91	117.94	120.30
1	A	240	A	C8-N9-C4	5.90	108.16	105.80
2	B	10	A	N7-C8-N9	5.90	116.75	113.80
1	A	209	U	C6-N1-C2	-5.90	117.46	121.00
1	A	135	A	C5-C6-N6	-5.90	118.98	123.70
1	A	496	G	C6-N1-C2	-5.89	121.56	125.10
1	A	312	C	C6-N1-C1'	5.89	127.87	120.80
1	A	179	A	N9-C4-C5	5.89	108.16	105.80
1	A	330	A	C4-C5-C6	-5.89	114.06	117.00
1	A	524	C	C5-C6-N1	5.88	123.94	121.00
1	A	218	C	C2-N1-C1'	-5.88	112.33	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	184	U	N3-C4-O4	-5.87	115.29	119.40
1	A	516	A	C5-C6-N6	-5.87	119.00	123.70
1	A	437	U	P-O3'-C3'	5.87	126.75	119.70
1	A	250	A	N1-C6-N6	5.87	122.12	118.60
1	A	342	C	C6-N1-C1'	5.87	127.84	120.80
1	A	410	G	C8-N9-C1'	5.87	134.63	127.00
1	A	2486	A	C4-C5-N7	5.87	113.63	110.70
1	A	452	A	N9-C4-C5	-5.87	103.45	105.80
1	A	2402	G	OP1-P-OP2	-5.87	110.80	119.60
1	A	518	G	C4-C5-C6	-5.86	115.28	118.80
1	A	76	A	C5-N7-C8	-5.86	100.97	103.90
1	A	230	G	C8-N9-C4	5.86	108.74	106.40
1	A	538	U	C2-N1-C1'	5.86	124.73	117.70
1	A	146	G	P-O3'-C3'	5.86	126.73	119.70
1	A	540	A	C5-C6-N1	5.86	120.63	117.70
1	A	106	G	N3-C4-N9	-5.85	122.49	126.00
1	A	2395	C	C6-N1-C2	-5.85	117.96	120.30
1	A	2411	G	O5'-P-OP2	-5.85	100.43	105.70
1	A	247	G	N3-C4-C5	-5.85	125.67	128.60
1	A	2415	G	C6-C5-N7	-5.85	126.89	130.40
1	A	170	U	P-O3'-C3'	5.85	126.72	119.70
1	A	396	C	N3-C2-O2	-5.85	117.81	121.90
1	A	2431	C	O5'-P-OP2	-5.85	100.44	105.70
1	A	53	A	C5-C6-N1	5.84	120.62	117.70
1	A	408	A	C2-N3-C4	-5.84	107.68	110.60
1	A	536	A	N1-C2-N3	-5.84	126.38	129.30
1	A	77	A	C4-C5-N7	5.84	113.62	110.70
1	A	106	G	OP1-P-O3'	5.84	118.04	105.20
1	A	474	U	C5-C6-N1	5.84	125.62	122.70
1	A	491	G	C4-C5-N7	5.84	113.14	110.80
1	A	399	U	O5'-P-OP2	-5.83	100.45	105.70
2	B	6	C	OP1-P-OP2	-5.83	110.85	119.60
1	A	226	U	N3-C2-O2	-5.83	118.12	122.20
1	A	268	G	N3-C4-N9	5.83	129.50	126.00
1	A	424	A	C5-N7-C8	-5.83	100.98	103.90
1	A	302	C	C6-N1-C2	-5.83	117.97	120.30
1	A	2395	C	P-O3'-C3'	5.83	126.70	119.70
1	A	497	U	C6-N1-C2	-5.83	117.50	121.00
1	A	95	A	N3-C4-C5	-5.83	122.72	126.80
1	A	359	A	N9-C4-C5	-5.82	103.47	105.80
1	A	475	A	OP2-P-O3'	5.82	118.01	105.20
1	A	2390	A	N7-C8-N9	5.82	116.71	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	38	G	OP2-P-O3'	5.82	118.00	105.20
1	A	518	G	C5-C6-O6	5.82	132.09	128.60
1	A	384	U	N3-C4-C5	5.81	118.09	114.60
1	A	384	U	N1-C2-O2	5.81	126.87	122.80
1	A	200	A	C5'-C4'-O4'	-5.81	102.13	109.10
1	A	254	C	N3-C4-N4	-5.81	113.93	118.00
1	A	320	A	C2-N3-C4	5.81	113.50	110.60
1	A	56	A	C4-C5-N7	5.81	113.60	110.70
1	A	187	G	OP1-P-O3'	5.81	117.97	105.20
1	A	317	U	C2-N1-C1'	-5.81	110.73	117.70
1	A	335	A	C6-C5-N7	-5.81	128.24	132.30
1	A	248	A	C4-C5-C6	5.80	119.90	117.00
1	A	314	A	N3-C4-C5	5.80	130.86	126.80
1	A	323	A	C4-N9-C1'	5.80	136.75	126.30
1	A	2402	G	N3-C4-N9	5.80	129.48	126.00
1	A	2490	C	C6-N1-C1'	-5.80	113.84	120.80
3	D	387	LEU	CA-CB-CG	5.80	128.65	115.30
1	A	2402	G	N9-C4-C5	-5.80	103.08	105.40
1	A	471	G	N3-C4-N9	5.80	129.48	126.00
1	A	233	A	N7-C8-N9	5.79	116.70	113.80
1	A	487	C	OP2-P-O3'	5.79	117.95	105.20
1	A	348	C	N3-C2-O2	-5.79	117.85	121.90
1	A	254	C	C6-N1-C2	5.79	122.62	120.30
1	A	323	A	C8-N9-C1'	-5.79	117.28	127.70
1	A	465	G	C4-C5-N7	5.79	113.11	110.80
1	A	559	G	O4'-C1'-N9	5.79	112.83	108.20
1	A	502	C	C5-C4-N4	-5.79	116.15	120.20
1	A	2465	U	C6-N1-C2	-5.78	117.53	121.00
1	A	3	G	C4-C5-N7	5.78	113.11	110.80
1	A	507	U	N3-C2-O2	-5.78	118.15	122.20
1	A	327	C	N1-C2-O2	-5.78	115.43	118.90
1	A	130	U	P-O3'-C3'	5.78	126.63	119.70
1	A	502	C	C5'-C4'-O4'	-5.77	102.17	109.10
1	A	16	G	C2-N3-C4	-5.77	109.02	111.90
1	A	181	G	O5'-P-OP2	-5.77	100.51	105.70
1	A	385	A	C5-N7-C8	-5.77	101.02	103.90
1	A	443	U	N1-C2-O2	5.77	126.84	122.80
1	A	56	A	N1-C2-N3	-5.77	126.42	129.30
1	A	476	C	N3-C2-O2	-5.77	117.86	121.90
1	A	2396	A	O4'-C1'-N9	5.77	112.82	108.20
1	A	421	A	N1-C6-N6	5.76	122.06	118.60
1	A	472	A	C8-N9-C1'	-5.76	117.33	127.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	179	A	C4-N9-C1'	5.76	136.67	126.30
1	A	135	A	C4-N9-C1'	5.76	136.67	126.30
1	A	1	G	C6-C5-N7	-5.75	126.95	130.40
1	A	186	A	O5'-P-OP2	5.75	117.60	110.70
1	A	2479	C	N3-C4-C5	5.75	124.20	121.90
1	A	88	A	N7-C8-N9	5.75	116.68	113.80
1	A	145	G	O4'-C1'-N9	5.75	112.80	108.20
1	A	392	G	C4-C5-N7	5.75	113.10	110.80
1	A	93	U	N3-C2-O2	-5.75	118.18	122.20
1	A	544	U	C2-N1-C1'	5.75	124.60	117.70
1	A	2414	A	C5-C6-N1	5.75	120.57	117.70
1	A	102	A	OP1-P-O3'	-5.75	92.56	105.20
1	A	2481	U	N1-C2-O2	5.75	126.82	122.80
1	A	212	U	C5-C6-N1	5.74	125.57	122.70
1	A	350	A	C5-N7-C8	-5.74	101.03	103.90
1	A	2488	U	N3-C4-C5	5.74	118.05	114.60
3	D	109	LEU	CB-CG-CD1	-5.74	101.24	111.00
1	A	186	A	N7-C8-N9	5.74	116.67	113.80
1	A	11	A	C6-C5-N7	-5.74	128.28	132.30
1	A	123	G	N3-C4-C5	-5.74	125.73	128.60
1	A	382	A	N1-C6-N6	5.74	122.04	118.60
1	A	510	A	N1-C6-N6	5.74	122.04	118.60
1	A	428	A	C4-C5-N7	-5.74	107.83	110.70
1	A	551	U	OP1-P-O3'	5.73	117.81	105.20
1	A	432	G	C4-C5-N7	5.73	113.09	110.80
1	A	96	U	C2-N1-C1'	-5.73	110.83	117.70
1	A	2471	A	N3-C4-C5	-5.73	122.79	126.80
1	A	392	G	C5-C6-N1	5.73	114.36	111.50
1	A	463	A	C2-N3-C4	5.73	113.46	110.60
1	A	481	A	N9-C1'-C2'	-5.73	105.70	112.00
1	A	502	C	N3-C2-O2	-5.72	117.89	121.90
1	A	158	U	C5-C6-N1	5.72	125.56	122.70
1	A	534	G	C5-C6-O6	-5.72	125.17	128.60
1	A	266	A	N3-C4-C5	-5.72	122.80	126.80
1	A	347	G	N7-C8-N9	5.72	115.96	113.10
1	A	464	G	N3-C4-C5	-5.72	125.74	128.60
1	A	112	G	C4-C5-C6	5.72	122.23	118.80
1	A	373	A	C8-N9-C4	5.71	108.09	105.80
1	A	82	A	C8-N9-C4	-5.71	103.52	105.80
1	A	184	U	N3-C4-C5	5.71	118.03	114.60
1	A	464	G	C4-N9-C1'	5.71	133.92	126.50
1	A	457	C	C6-N1-C1'	-5.71	113.95	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2414	A	C2-N3-C4	5.71	113.45	110.60
1	A	164	U	C2-N1-C1'	5.70	124.55	117.70
2	B	4	A	C5-N7-C8	-5.70	101.05	103.90
1	A	222	U	C5-C6-N1	-5.70	119.85	122.70
1	A	2471	A	C6-N1-C2	-5.70	115.18	118.60
1	A	38	G	N1-C6-O6	-5.70	116.48	119.90
1	A	110	A	C4-C5-C6	-5.69	114.15	117.00
1	A	489	G	N3-C2-N2	5.69	123.89	119.90
1	A	510	A	C2-N3-C4	-5.69	107.75	110.60
1	A	2409	C	C4-C5-C6	-5.69	114.55	117.40
1	A	395	A	C6-C5-N7	-5.69	128.32	132.30
1	A	498	A	C8-N9-C4	-5.69	103.52	105.80
1	A	222	U	OP1-P-O3'	5.69	117.72	105.20
1	A	394	U	C6-N1-C2	-5.69	117.59	121.00
1	A	136	A	C8-N9-C1'	5.68	137.93	127.70
1	A	2412	A	C8-N9-C1'	-5.68	117.47	127.70
3	D	426	LEU	CA-CB-CG	-5.68	102.24	115.30
1	A	482	G	C5-N7-C8	-5.67	101.46	104.30
1	A	2448	A	N1-C2-N3	-5.67	126.46	129.30
1	A	2465	U	OP2-P-O3'	5.67	117.67	105.20
1	A	2397	G	C5-C6-N1	5.67	114.33	111.50
1	A	237	G	C4-N9-C1'	-5.67	119.14	126.50
1	A	461	C	N3-C2-O2	-5.66	117.94	121.90
1	A	586	A	N1-C6-N6	5.66	122.00	118.60
1	A	464	G	C8-N9-C1'	-5.66	119.64	127.00
1	A	472	A	C4-N9-C1'	5.66	136.49	126.30
1	A	2486	A	C3'-C2'-C1'	-5.66	96.97	101.50
1	A	179	A	N3-C4-N9	-5.66	122.88	127.40
1	A	199	G	C5'-C4'-O4'	5.66	115.89	109.10
1	A	145	G	O5'-P-OP2	-5.65	100.61	105.70
1	A	249	A	N7-C8-N9	5.65	116.63	113.80
1	A	469	C	OP1-P-OP2	-5.65	111.12	119.60
1	A	220	G	N7-C8-N9	5.65	115.92	113.10
1	A	252	C	N1-C2-O2	5.65	122.29	118.90
1	A	540	A	N3-C4-N9	5.65	131.92	127.40
1	A	85	G	C5-C6-O6	-5.65	125.21	128.60
1	A	134	U	C5-C6-N1	5.64	125.52	122.70
1	A	390	G	N3-C4-C5	-5.64	125.78	128.60
1	A	408	A	C8-N9-C4	5.64	108.05	105.80
1	A	433	G	C5-N7-C8	-5.64	101.48	104.30
1	A	385	A	N1-C2-N3	-5.63	126.48	129.30
1	A	566	A	N7-C8-N9	5.63	116.62	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	10	A	C6-C5-N7	-5.63	128.36	132.30
1	A	279	G	N3-C4-C5	-5.63	125.78	128.60
1	A	2446	C	N1-C2-O2	5.63	122.28	118.90
1	A	2407	C	C2-N3-C4	-5.63	117.09	119.90
1	A	442	C	N3-C4-C5	-5.62	119.65	121.90
1	A	499	A	C5-C6-N6	5.62	128.20	123.70
1	A	483	U	O5'-P-OP2	-5.62	100.64	105.70
1	A	99	G	C8-N9-C1'	5.62	134.30	127.00
1	A	532	G	C6-C5-N7	-5.62	127.03	130.40
1	A	153	C	N3-C2-O2	-5.62	117.97	121.90
1	A	433	G	C4-N9-C1'	5.62	133.80	126.50
1	A	506	U	N3-C2-O2	-5.62	118.27	122.20
1	A	214	A	C4-C5-N7	5.61	113.51	110.70
1	A	492	A	C8-N9-C4	-5.61	103.56	105.80
1	A	67	A	C5-N7-C8	-5.61	101.10	103.90
1	A	559	G	C6-N1-C2	5.61	128.46	125.10
1	A	163	A	C8-N9-C4	5.61	108.04	105.80
1	A	2453	G	C4-C5-N7	5.61	113.04	110.80
1	A	195	U	C2-N1-C1'	-5.60	110.97	117.70
1	A	318	G	C5-C6-N1	-5.60	108.70	111.50
1	A	329	U	C2-N1-C1'	5.60	124.42	117.70
1	A	36	A	C2-N3-C4	5.60	113.40	110.60
1	A	2408	U	C4-C5-C6	-5.60	116.34	119.70
1	A	198	U	C5-C6-N1	5.60	125.50	122.70
1	A	366	U	C5-C6-N1	5.60	125.50	122.70
1	A	410	G	N3-C2-N2	-5.60	115.98	119.90
1	A	96	U	C6-N1-C2	5.60	124.36	121.00
1	A	103	A	N3-C4-N9	-5.60	122.92	127.40
1	A	359	A	N1-C6-N6	5.60	121.96	118.60
1	A	472	A	O5'-P-OP2	-5.60	100.66	105.70
1	A	64	A	N9-C4-C5	5.59	108.04	105.80
1	A	2417	G	O5'-P-OP2	-5.59	100.67	105.70
1	A	464	G	C6-C5-N7	-5.59	127.05	130.40
1	A	224	U	O5'-P-OP2	-5.59	100.67	105.70
1	A	281	U	C2-N3-C4	5.59	130.35	127.00
1	A	535	U	N1-C2-O2	5.59	126.71	122.80
1	A	514	C	O4'-C1'-N1	5.59	112.67	108.20
1	A	67	A	C5-C6-N6	-5.58	119.23	123.70
1	A	2414	A	C5-N7-C8	-5.58	101.11	103.90
1	A	2444	U	C5-C6-N1	5.58	125.49	122.70
1	A	186	A	C5-N7-C8	-5.58	101.11	103.90
1	A	310	U	C2-N1-C1'	-5.58	111.01	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2456	A	N1-C2-N3	-5.58	126.51	129.30
1	A	191	U	OP2-P-O3'	5.58	117.47	105.20
1	A	341	A	N7-C8-N9	5.57	116.59	113.80
1	A	59	C	N3-C4-N4	-5.57	114.10	118.00
1	A	231	A	O4'-C1'-N9	5.57	112.66	108.20
1	A	242	U	C5-C6-N1	5.57	125.48	122.70
1	A	2433	G	O5'-P-OP2	-5.57	100.69	105.70
1	A	2490	C	C4-C5-C6	-5.57	114.62	117.40
1	A	153	C	OP1-P-OP2	5.57	127.95	119.60
1	A	2469	C	N3-C4-C5	5.57	124.13	121.90
1	A	193	U	C2-N3-C4	-5.56	123.66	127.00
1	A	498	A	P-O3'-C3'	-5.56	113.03	119.70
1	A	455	A	C4-N9-C1'	5.56	136.30	126.30
1	A	36	A	P-O3'-C3'	5.55	126.36	119.70
1	A	108	G	C5-C6-O6	-5.55	125.27	128.60
1	A	232	U	O5'-P-OP1	-5.55	100.70	105.70
1	A	494	G	N3-C2-N2	5.55	123.79	119.90
1	A	197	C	O5'-P-OP2	-5.55	100.71	105.70
1	A	209	U	N3-C4-O4	5.54	123.28	119.40
1	A	2405	U	N1-C2-N3	5.54	118.23	114.90
1	A	392	G	O3'-P-O5'	5.54	114.53	104.00
1	A	2486	A	C8-N9-C4	-5.54	103.58	105.80
1	A	192	G	O4'-C1'-N9	5.54	112.63	108.20
1	A	329	U	OP1-P-OP2	-5.54	111.30	119.60
1	A	549	A	N3-C4-C5	-5.54	122.93	126.80
1	A	504	C	C4-C5-C6	5.53	120.17	117.40
1	A	251	C	C6-N1-C1'	-5.53	114.16	120.80
1	A	2426	G	C2-N3-C4	5.53	114.67	111.90
1	A	428	A	C8-N9-C4	-5.53	103.59	105.80
1	A	480	U	P-O3'-C3'	5.53	126.33	119.70
1	A	76	A	C4-C5-N7	5.52	113.46	110.70
1	A	50	A	O5'-P-OP1	-5.52	100.73	105.70
1	A	163	A	C5-N7-C8	-5.52	101.14	103.90
1	A	499	A	OP2-P-O3'	5.52	117.34	105.20
1	A	500	C	P-O3'-C3'	5.52	126.32	119.70
2	B	10	A	C4-C5-N7	5.52	113.46	110.70
1	A	471	G	C5-C6-O6	-5.52	125.29	128.60
1	A	2419	U	N3-C4-O4	-5.52	115.54	119.40
1	A	542	A	C2-N3-C4	-5.51	107.84	110.60
1	A	2396	A	C4-C5-C6	-5.51	114.24	117.00
1	A	79	C	N3-C4-N4	5.51	121.86	118.00
1	A	470	G	C5-N7-C8	-5.51	101.54	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	198	U	C5-C4-O4	5.51	129.21	125.90
1	A	392	G	N9-C4-C5	-5.51	103.19	105.40
1	A	470	G	P-O5'-C5'	-5.51	112.08	120.90
1	A	2446	C	C6-N1-C2	-5.51	118.10	120.30
1	A	176	A	O4'-C1'-N9	-5.50	103.80	108.20
1	A	3	G	C8-N9-C4	-5.50	104.20	106.40
1	A	315	U	N1-C2-N3	-5.50	111.60	114.90
1	A	283	U	N1-C2-O2	5.49	126.64	122.80
1	A	181	G	C5-C6-O6	5.49	131.89	128.60
1	A	155	G	O5'-P-OP1	-5.49	100.76	105.70
1	A	220	G	C8-N9-C4	-5.49	104.21	106.40
1	A	507	U	C6-N1-C2	-5.49	117.71	121.00
1	A	199	G	OP1-P-OP2	-5.48	111.37	119.60
1	A	107	A	C5-C6-N6	-5.48	119.31	123.70
1	A	168	A	OP1-P-O3'	5.48	117.26	105.20
1	A	116	G	C8-N9-C4	-5.48	104.21	106.40
1	A	206	A	C2-N3-C4	-5.48	107.86	110.60
1	A	558	G	N3-C4-N9	5.48	129.29	126.00
1	A	2429	U	N3-C2-O2	-5.48	118.37	122.20
1	A	456	U	C5-C4-O4	5.47	129.19	125.90
1	A	499	A	C4-C5-N7	-5.47	107.96	110.70
1	A	309	G	N9-C4-C5	5.47	107.59	105.40
1	A	514	C	C4-C5-C6	5.47	120.14	117.40
1	A	81	A	C5-C6-N1	-5.47	114.97	117.70
1	A	2388	A	C4-C5-N7	5.47	113.44	110.70
1	A	201	A	N9-C1'-C2'	5.47	121.11	114.00
2	B	8	A	OP2-P-O3'	5.47	117.23	105.20
1	A	215	U	C6-N1-C2	-5.46	117.72	121.00
1	A	513	G	N9-C4-C5	5.46	107.59	105.40
1	A	387	C	N3-C4-N4	-5.46	114.18	118.00
2	B	6	C	N3-C4-C5	5.46	124.08	121.90
1	A	136	A	OP1-P-O3'	5.46	117.22	105.20
1	A	276	A	N3-C4-C5	-5.46	122.98	126.80
1	A	510	A	N3-C4-C5	5.46	130.62	126.80
1	A	2433	G	N1-C6-O6	5.46	123.18	119.90
1	A	337	C	O5'-P-OP1	5.46	117.25	110.70
1	A	4	C	C6-N1-C2	-5.45	118.12	120.30
1	A	100	G	C8-N9-C4	-5.45	104.22	106.40
1	A	136	A	N9-C4-C5	5.45	107.98	105.80
1	A	499	A	N9-C4-C5	5.45	107.98	105.80
1	A	58	A	N3-C4-C5	5.45	130.62	126.80
1	A	393	A	P-O3'-C3'	5.45	126.24	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2424	A	C6-N1-C2	5.45	121.87	118.60
1	A	2443	G	N9-C4-C5	-5.45	103.22	105.40
1	A	143	U	N1-C2-O2	5.45	126.61	122.80
1	A	580	C	N3-C4-C5	-5.44	119.72	121.90
1	A	2467	A	N7-C8-N9	5.44	116.52	113.80
1	A	188	U	N3-C2-O2	-5.44	118.39	122.20
1	A	2456	A	C6-N1-C2	5.44	121.86	118.60
1	A	223	A	C4-C5-C6	-5.44	114.28	117.00
1	A	205	A	C5-C6-N6	-5.44	119.35	123.70
1	A	294	G	C5-N7-C8	-5.44	101.58	104.30
1	A	180	G	C8-N9-C1'	-5.43	119.94	127.00
1	A	16	G	N3-C4-N9	5.43	129.26	126.00
1	A	100	G	N3-C2-N2	-5.43	116.10	119.90
1	A	2458	A	C2-N3-C4	-5.43	107.88	110.60
2	B	8	A	C8-N9-C1'	-5.43	117.92	127.70
1	A	327	C	C6-N1-C1'	5.43	127.32	120.80
1	A	90	A	C5-C6-N1	5.43	120.42	117.70
1	A	440	C	N3-C2-O2	-5.43	118.10	121.90
1	A	80	G	C5-C6-N1	5.43	114.21	111.50
1	A	170	U	N3-C4-O4	5.43	123.20	119.40
1	A	483	U	N1-C2-O2	5.43	126.60	122.80
1	A	2478	A	N3-C4-N9	5.43	131.74	127.40
1	A	6	C	N3-C2-O2	-5.42	118.10	121.90
1	A	357	G	C8-N9-C1'	5.42	134.05	127.00
1	A	2397	G	C8-N9-C1'	5.42	134.05	127.00
1	A	185	A	N3-C4-C5	-5.42	123.00	126.80
1	A	386	A	OP2-P-O3'	5.42	117.13	105.20
1	A	2461	A	C4-C5-N7	5.42	113.41	110.70
1	A	158	U	C4-C5-C6	-5.42	116.45	119.70
2	B	10	A	C5-C6-N6	-5.42	119.37	123.70
1	A	180	G	C5-C6-N1	5.41	114.21	111.50
1	A	510	A	C4-C5-N7	5.41	113.41	110.70
1	A	359	A	C5-N7-C8	5.41	106.61	103.90
1	A	319	U	O4'-C1'-N1	5.41	112.53	108.20
1	A	117	G	C5-C6-O6	5.41	131.84	128.60
1	A	352	G	N9-C4-C5	5.41	107.56	105.40
1	A	330	A	C8-N9-C1'	5.40	137.42	127.70
1	A	533	U	C6-N1-C1'	-5.40	113.64	121.20
1	A	2470	A	C4-C5-N7	5.40	113.40	110.70
1	A	251	C	C5-C4-N4	5.40	123.98	120.20
1	A	109	C	P-O3'-C3'	5.39	126.17	119.70
1	A	329	U	N3-C4-O4	-5.39	115.62	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2489	U	C6-N1-C2	-5.39	117.77	121.00
1	A	208	U	P-O3'-C3'	5.39	126.17	119.70
1	A	281	U	O5'-P-OP1	-5.39	100.85	105.70
1	A	357	G	O5'-P-OP2	5.39	117.17	110.70
1	A	378	U	O5'-P-OP1	-5.39	100.85	105.70
1	A	102	A	C4-N9-C1'	-5.39	116.60	126.30
1	A	227	G	C8-N9-C1'	5.39	134.00	127.00
1	A	277	U	OP1-P-OP2	5.39	127.68	119.60
1	A	526	G	N7-C8-N9	5.39	115.79	113.10
1	A	552	G	N9-C4-C5	-5.39	103.25	105.40
1	A	2453	G	N9-C4-C5	-5.39	103.25	105.40
1	A	183	A	N7-C8-N9	5.38	116.49	113.80
1	A	537	C	N3-C4-C5	-5.38	119.75	121.90
1	A	2470	A	N9-C4-C5	-5.38	103.65	105.80
1	A	2442	G	C4-C5-N7	5.38	112.95	110.80
1	A	463	A	C8-N9-C4	-5.38	103.65	105.80
1	A	57	C	N1-C2-O2	5.38	122.13	118.90
1	A	230	G	C6-C5-N7	5.38	133.63	130.40
1	A	507	U	N1-C2-O2	5.38	126.56	122.80
1	A	330	A	OP2-P-O3'	5.38	117.03	105.20
1	A	522	U	C5-C6-N1	5.38	125.39	122.70
1	A	223	A	C5-C6-N1	5.38	120.39	117.70
1	A	56	A	C2-N3-C4	5.37	113.29	110.60
1	A	545	A	N7-C8-N9	5.37	116.49	113.80
1	A	2392	U	OP1-P-O3'	5.37	117.02	105.20
1	A	253	U	O5'-P-OP2	-5.37	100.86	105.70
1	A	286	A	C4-C5-N7	5.37	113.39	110.70
1	A	441	A	P-O3'-C3'	5.37	126.14	119.70
1	A	453	A	N1-C2-N3	-5.37	126.61	129.30
1	A	2421	C	N3-C4-N4	5.37	121.76	118.00
1	A	197	C	C2-N3-C4	5.37	122.58	119.90
1	A	2492	C	C6-N1-C2	-5.37	118.15	120.30
1	A	400	A	C5-C6-N6	-5.36	119.41	123.70
1	A	1	G	N1-C2-N2	5.36	121.03	116.20
1	A	309	G	N1-C2-N2	5.36	121.03	116.20
1	A	39	U	N3-C4-O4	5.36	123.15	119.40
1	A	151	G	N3-C4-C5	-5.36	125.92	128.60
1	A	482	G	C8-N9-C4	-5.35	104.26	106.40
1	A	357	G	N1-C2-N2	5.35	121.02	116.20
1	A	110	A	C5'-C4'-C3'	5.35	124.56	116.00
1	A	458	U	C5-C4-O4	5.35	129.11	125.90
1	A	482	G	C4-C5-C6	-5.35	115.59	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	597	A	O4'-C1'-N9	5.35	112.48	108.20
1	A	238	A	N1-C6-N6	5.35	121.81	118.60
1	A	597	A	C2-N3-C4	5.35	113.27	110.60
1	A	289	U	C6-N1-C1'	-5.35	113.72	121.20
1	A	19	U	N3-C2-O2	-5.34	118.46	122.20
1	A	84	A	N7-C8-N9	5.34	116.47	113.80
1	A	141	A	P-O3'-C3'	5.34	126.11	119.70
1	A	237	G	N3-C4-C5	5.34	131.27	128.60
1	A	143	U	N3-C2-O2	-5.34	118.46	122.20
1	A	2415	G	N9-C4-C5	-5.34	103.26	105.40
1	A	199	G	C2-N3-C4	-5.34	109.23	111.90
1	A	2429	U	C2-N1-C1'	5.34	124.11	117.70
1	A	243	G	C4-C5-N7	-5.34	108.67	110.80
1	A	254	C	N1-C2-O2	5.34	122.10	118.90
1	A	564	A	N3-C4-N9	5.34	131.67	127.40
3	D	398	ILE	CG1-CB-CG2	-5.34	99.66	111.40
1	A	449	U	C2-N3-C4	5.33	130.20	127.00
1	A	107	A	C8-N9-C1'	-5.33	118.10	127.70
1	A	559	G	C8-N9-C4	-5.33	104.27	106.40
1	A	460	G	N3-C4-N9	5.33	129.20	126.00
1	A	532	G	C8-N9-C1'	-5.33	120.07	127.00
1	A	356	A	O5'-P-OP2	5.33	117.09	110.70
1	A	470	G	C4-C5-C6	5.32	121.99	118.80
2	B	4	A	O5'-P-OP1	-5.32	100.91	105.70
2	B	10	A	C5-N7-C8	-5.32	101.24	103.90
1	A	153	C	C5-C6-N1	5.32	123.66	121.00
1	A	385	A	C5-C6-N1	5.32	120.36	117.70
1	A	107	A	C4-C5-N7	5.32	113.36	110.70
1	A	135	A	C4-C5-C6	5.32	119.66	117.00
1	A	2480	C	C4-C5-C6	-5.32	114.74	117.40
2	B	10	A	C8-N9-C4	-5.32	103.67	105.80
1	A	226	U	C6-N1-C1'	-5.31	113.76	121.20
3	D	230	ASP	CB-CG-OD1	-5.31	113.52	118.30
1	A	152	A	OP1-P-OP2	-5.31	111.63	119.60
1	A	127	A	C5-C6-N1	5.31	120.36	117.70
1	A	173	G	C4-N9-C1'	5.31	133.40	126.50
1	A	77	A	C4-C5-C6	5.31	119.65	117.00
1	A	197	C	C4-C5-C6	-5.31	114.75	117.40
1	A	405	A	C6-C5-N7	5.31	136.01	132.30
1	A	436	A	N1-C6-N6	-5.31	115.42	118.60
1	A	100	G	C4-C5-C6	-5.31	115.62	118.80
1	A	113	G	C5-C6-N1	5.30	114.15	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	131	A	C6-C5-N7	-5.30	128.59	132.30
1	A	217	U	C2-N1-C1'	-5.30	111.33	117.70
1	A	331	U	N1-C2-N3	5.30	118.08	114.90
1	A	491	G	C5-C6-O6	-5.30	125.42	128.60
3	D	210	GLY	C-N-CA	5.30	134.96	121.70
1	A	474	U	C4-C5-C6	-5.30	116.52	119.70
1	A	2402	G	C4-C5-N7	5.30	112.92	110.80
1	A	143	U	O4'-C1'-N1	-5.29	103.96	108.20
1	A	248	A	C8-N9-C1'	-5.29	118.17	127.70
1	A	468	A	C4-C5-C6	-5.29	114.36	117.00
1	A	222	U	C4-C5-C6	5.29	122.87	119.70
1	A	272	A	N1-C2-N3	-5.29	126.66	129.30
1	A	4	C	C5-C6-N1	5.29	123.64	121.00
1	A	148	U	O5'-P-OP2	-5.29	100.94	105.70
1	A	275	U	C2-N1-C1'	5.29	124.04	117.70
1	A	2388	A	C5-C6-N6	-5.29	119.47	123.70
1	A	178	A	N1-C6-N6	5.28	121.77	118.60
1	A	355	G	N1-C6-O6	-5.28	116.73	119.90
1	A	2486	A	OP1-P-O3'	5.28	116.82	105.20
1	A	2392	U	N1-C2-O2	5.28	126.50	122.80
1	A	327	C	N1-C2-N3	5.28	122.89	119.20
1	A	475	A	O3'-P-O5'	5.28	114.03	104.00
1	A	81	A	C5-C6-N6	-5.28	119.48	123.70
1	A	352	G	C4-N9-C1'	-5.28	119.64	126.50
1	A	2450	C	C5-C6-N1	5.28	123.64	121.00
1	A	331	U	N3-C4-C5	-5.27	111.44	114.60
1	A	389	G	OP2-P-O3'	5.27	116.80	105.20
1	A	175	U	N3-C4-C5	5.27	117.76	114.60
1	A	312	C	C5-C4-N4	5.27	123.89	120.20
1	A	332	G	C6-N1-C2	-5.27	121.94	125.10
1	A	63	A	N7-C8-N9	5.27	116.43	113.80
1	A	2428	U	N3-C4-C5	5.27	117.76	114.60
1	A	2422	G	N1-C6-O6	5.27	123.06	119.90
1	A	172	A	C5-C6-N1	5.26	120.33	117.70
1	A	179	A	C5'-C4'-O4'	5.26	115.42	109.10
1	A	387	C	C5-C4-N4	5.26	123.89	120.20
1	A	2413	G	N3-C2-N2	5.26	123.58	119.90
1	A	530	U	C5-C4-O4	-5.26	122.74	125.90
1	A	461	C	O4'-C1'-N1	5.26	112.41	108.20
1	A	531	U	N3-C4-O4	5.26	123.08	119.40
1	A	85	G	C4-N9-C1'	5.26	133.34	126.50
1	A	514	C	C2-N3-C4	-5.26	117.27	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	471	G	C6-C5-N7	-5.26	127.25	130.40
1	A	493	A	O5'-P-OP2	-5.26	100.97	105.70
2	B	2	A	C4-C5-N7	-5.25	108.07	110.70
1	A	465	G	C4-N9-C1'	5.25	133.33	126.50
1	A	510	A	N9-C4-C5	-5.25	103.70	105.80
1	A	591	A	C4-C5-C6	-5.25	114.38	117.00
1	A	96	U	C5-C4-O4	5.25	129.05	125.90
1	A	490	A	O5'-P-OP2	-5.25	100.98	105.70
1	A	4	C	C6-N1-C1'	-5.25	114.51	120.80
1	A	77	A	C5-C6-N1	-5.24	115.08	117.70
1	A	465	G	N1-C2-N3	5.24	127.05	123.90
1	A	468	A	C2-N3-C4	-5.24	107.98	110.60
1	A	238	A	O5'-P-OP1	-5.23	100.99	105.70
1	A	490	A	C8-N9-C4	-5.23	103.71	105.80
1	A	238	A	C5-C6-N6	-5.23	119.51	123.70
1	A	472	A	C5-C6-N6	-5.23	119.51	123.70
1	A	501	G	C8-N9-C1'	5.23	133.80	127.00
1	A	485	G	O5'-P-OP2	5.23	116.97	110.70
1	A	320	A	C6-C5-N7	-5.23	128.64	132.30
1	A	386	A	C4-N9-C1'	5.22	135.71	126.30
1	A	128	G	N9-C4-C5	5.22	107.49	105.40
1	A	286	A	O5'-P-OP1	-5.22	101.00	105.70
1	A	51	A	O4'-C1'-N9	5.22	112.38	108.20
1	A	396	C	C6-N1-C2	-5.22	118.21	120.30
1	A	397	C	N3-C2-O2	-5.22	118.25	121.90
1	A	163	A	OP1-P-O3'	5.22	116.68	105.20
1	A	470	G	C5'-C4'-O4'	5.21	115.36	109.10
1	A	462	A	C4-C5-N7	5.21	113.31	110.70
1	A	2486	A	C6-C5-N7	-5.21	128.65	132.30
1	A	189	U	O4'-C1'-N1	5.21	112.37	108.20
1	A	392	G	C4-N9-C1'	5.21	133.27	126.50
1	A	2396	A	C5-N7-C8	-5.21	101.30	103.90
1	A	371	C	C6-N1-C1'	-5.20	114.56	120.80
1	A	293	U	N1-C2-O2	-5.20	119.16	122.80
1	A	357	G	N9-C4-C5	5.20	107.48	105.40
1	A	589	G	N1-C6-O6	5.20	123.02	119.90
3	D	351	SER	C-N-CA	5.20	134.70	121.70
1	A	233	A	C2-N3-C4	-5.20	108.00	110.60
1	A	389	G	C4-N9-C1'	5.20	133.25	126.50
1	A	2417	G	C4-C5-N7	5.20	112.88	110.80
1	A	173	G	N3-C4-N9	5.19	129.12	126.00
1	A	72	A	N3-C4-N9	-5.19	123.25	127.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	220	G	N1-C2-N3	5.19	127.01	123.90
1	A	544	U	C6-N1-C1'	-5.19	113.93	121.20
1	A	185	A	OP2-P-O3'	5.19	116.61	105.20
1	A	402	A	OP1-P-OP2	-5.19	111.82	119.60
1	A	11	A	N1-C2-N3	5.19	131.89	129.30
1	A	279	G	C8-N9-C1'	-5.19	120.26	127.00
1	A	100	G	N1-C6-O6	-5.18	116.79	119.90
1	A	477	U	N3-C2-O2	-5.18	118.57	122.20
1	A	319	U	N1-C2-N3	5.18	118.01	114.90
1	A	330	A	O4'-C1'-N9	5.18	112.34	108.20
1	A	77	A	C4-N9-C1'	5.17	135.62	126.30
1	A	472	A	O5'-P-OP1	-5.17	101.04	105.70
1	A	162	A	C4-C5-C6	5.17	119.59	117.00
1	A	2409	C	C5-C4-N4	-5.17	116.58	120.20
1	A	508	A	N1-C2-N3	-5.17	126.72	129.30
1	A	240	A	C4-N9-C1'	-5.17	117.00	126.30
1	A	2426	G	C5'-C4'-O4'	5.17	115.30	109.10
1	A	124	A	N7-C8-N9	-5.17	111.22	113.80
1	A	488	U	C5-C6-N1	5.17	125.28	122.70
1	A	2477	U	C5-C6-N1	5.17	125.28	122.70
1	A	9	A	C8-N9-C4	-5.16	103.73	105.80
1	A	367	U	C4-C5-C6	-5.16	116.60	119.70
1	A	298	U	C6-N1-C2	-5.16	117.90	121.00
1	A	2400	C	C5-C6-N1	5.16	123.58	121.00
1	A	80	G	OP1-P-O3'	5.16	116.55	105.20
1	A	556	A	N1-C6-N6	-5.16	115.50	118.60
1	A	406	G	N3-C4-N9	-5.16	122.91	126.00
1	A	2415	G	C5-N7-C8	-5.16	101.72	104.30
1	A	395	A	C8-N9-C4	-5.16	103.74	105.80
1	A	127	A	C6-C5-N7	5.15	135.91	132.30
1	A	231	A	N1-C2-N3	-5.15	126.72	129.30
1	A	597	A	N7-C8-N9	5.15	116.38	113.80
1	A	128	G	C5-C6-O6	5.15	131.69	128.60
1	A	482	G	N7-C8-N9	5.15	115.68	113.10
1	A	249	A	N3-C4-C5	-5.15	123.20	126.80
1	A	18	G	N3-C2-N2	-5.15	116.30	119.90
1	A	38	G	OP1-P-OP2	-5.15	111.88	119.60
1	A	305	A	N7-C8-N9	5.15	116.37	113.80
1	A	385	A	C4-C5-N7	5.15	113.27	110.70
1	A	404	A	C4-C5-N7	-5.15	108.13	110.70
1	A	497	U	O4'-C1'-N1	-5.14	104.08	108.20
1	A	518	G	OP1-P-O3'	5.14	116.52	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2443	G	OP1-P-OP2	-5.14	111.88	119.60
1	A	215	U	C4-C5-C6	-5.14	116.61	119.70
1	A	340	A	C5-C6-N1	5.14	120.27	117.70
1	A	460	G	O5'-P-OP2	-5.14	101.07	105.70
1	A	80	G	C4-C5-N7	5.14	112.86	110.80
1	A	183	A	C5-N7-C8	-5.14	101.33	103.90
1	A	315	U	N3-C4-C5	5.14	117.68	114.60
1	A	136	A	N3-C4-C5	5.14	130.40	126.80
1	A	265	A	OP2-P-O3'	5.14	116.51	105.20
1	A	273	G	C5-C6-O6	-5.14	125.52	128.60
1	A	481	A	N3-C4-N9	5.14	131.51	127.40
1	A	2471	A	C5-C6-N6	5.14	127.81	123.70
1	A	89	A	C8-N9-C4	-5.14	103.75	105.80
1	A	302	C	C2-N3-C4	5.14	122.47	119.90
1	A	2469	C	C4-C5-C6	-5.14	114.83	117.40
2	B	4	A	N1-C6-N6	5.14	121.68	118.60
1	A	478	C	N3-C4-C5	5.13	123.95	121.90
1	A	149	A	OP1-P-O3'	5.13	116.49	105.20
1	A	155	G	P-O3'-C3'	5.13	125.86	119.70
1	A	565	A	C2-N3-C4	5.13	113.17	110.60
1	A	2427	G	N1-C2-N2	-5.13	111.58	116.20
1	A	9	A	N1-C6-N6	-5.13	115.52	118.60
1	A	429	A	C2-N3-C4	5.13	113.16	110.60
1	A	215	U	C6-N1-C1'	-5.13	114.02	121.20
1	A	148	U	C5-C4-O4	5.12	128.97	125.90
1	A	2415	G	N1-C6-O6	5.12	122.97	119.90
1	A	163	A	C4-N9-C1'	5.12	135.51	126.30
1	A	223	A	P-O3'-C3'	5.12	125.84	119.70
1	A	525	A	C2'-C3'-O3'	5.12	121.89	113.70
1	A	324	G	O4'-C1'-N9	5.11	112.29	108.20
1	A	362	U	O5'-P-OP1	-5.11	101.10	105.70
1	A	2443	G	C4-C5-N7	5.11	112.84	110.80
1	A	165	G	N3-C2-N2	5.11	123.48	119.90
1	A	2441	U	N1-C2-O2	5.11	126.38	122.80
1	A	386	A	C5-N7-C8	-5.11	101.34	103.90
1	A	398	C	C5-C4-N4	-5.11	116.62	120.20
1	A	413	U	C5-C6-N1	5.11	125.25	122.70
1	A	2404	A	N7-C8-N9	5.11	116.36	113.80
1	A	28	G	C4-N9-C1'	5.11	133.14	126.50
1	A	108	G	C5-C6-N1	5.11	114.05	111.50
1	A	2476	G	C8-N9-C1'	-5.11	120.36	127.00
1	A	219	G	N1-C2-N3	5.11	126.96	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	437	U	C4-C5-C6	-5.11	116.64	119.70
1	A	545	A	C5-C6-N1	5.11	120.25	117.70
1	A	108	G	C6-C5-N7	5.10	133.46	130.40
1	A	2391	A	N9-C4-C5	-5.10	103.76	105.80
1	A	161	C	C5-C6-N1	5.10	123.55	121.00
1	A	301	C	O4'-C1'-N1	5.10	112.28	108.20
1	A	2471	A	C4-C5-N7	-5.10	108.15	110.70
1	A	275	U	N1-C2-O2	5.09	126.37	122.80
1	A	337	C	N3-C2-O2	-5.09	118.33	121.90
1	A	102	A	N3-C4-C5	5.09	130.37	126.80
1	A	271	A	N3-C4-C5	5.09	130.37	126.80
1	A	384	U	OP1-P-O3'	5.09	116.40	105.20
1	A	58	A	C6-N1-C2	5.09	121.66	118.60
1	A	117	G	N3-C4-N9	-5.09	122.94	126.00
1	A	433	G	C2-N3-C4	5.09	114.45	111.90
1	A	540	A	N9-C4-C5	-5.09	103.76	105.80
1	A	581	C	C6-N1-C1'	-5.09	114.69	120.80
1	A	60	A	N1-C6-N6	-5.09	115.55	118.60
1	A	226	U	C6-N1-C2	-5.09	117.95	121.00
1	A	399	U	C6-N1-C2	-5.09	117.95	121.00
1	A	2446	C	C2-N1-C1'	5.09	124.40	118.80
1	A	178	A	C6-C5-N7	-5.09	128.74	132.30
1	A	363	G	N7-C8-N9	5.09	115.64	113.10
1	A	550	U	C5-C6-N1	5.09	125.24	122.70
3	D	213	GLN	C-N-CA	-5.09	111.62	122.30
1	A	112	G	N3-C4-N9	5.08	129.05	126.00
1	A	2391	A	N1-C6-N6	5.08	121.65	118.60
1	A	249	A	C2-N3-C4	5.08	113.14	110.60
1	A	2424	A	C4-C5-N7	5.07	113.24	110.70
1	A	2464	G	N3-C4-C5	-5.07	126.06	128.60
1	A	457	C	C2-N3-C4	5.07	122.44	119.90
1	A	145	G	N3-C4-N9	5.07	129.04	126.00
1	A	312	C	N3-C4-N4	-5.07	114.45	118.00
1	A	34	U	C5-C4-O4	-5.07	122.86	125.90
1	A	111	C	OP1-P-O3'	5.07	116.34	105.20
1	A	148	U	C5-C6-N1	5.07	125.23	122.70
1	A	392	G	OP1-P-O3'	-5.07	94.05	105.20
1	A	2419	U	N3-C2-O2	-5.07	118.66	122.20
1	A	2467	A	C6-C5-N7	-5.07	128.75	132.30
1	A	237	G	P-O3'-C3'	-5.06	113.62	119.70
1	A	564	A	N1-C2-N3	-5.06	126.77	129.30
1	A	323	A	C6-N1-C2	-5.06	115.56	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	480	U	C6-N1-C2	5.06	124.03	121.00
1	A	155	G	O5'-P-OP2	-5.06	101.15	105.70
1	A	248	A	O5'-P-OP1	5.06	116.77	110.70
1	A	114	U	C6-N1-C1'	5.05	128.27	121.20
1	A	221	U	N3-C2-O2	-5.05	118.67	122.20
2	B	10	A	N1-C2-N3	-5.05	126.78	129.30
1	A	52	G	C5-N7-C8	-5.05	101.78	104.30
1	A	118	A	N1-C6-N6	-5.05	115.57	118.60
1	A	483	U	N1-C2-N3	-5.05	111.87	114.90
1	A	2481	U	C2-N1-C1'	5.05	123.76	117.70
1	A	101	G	OP2-P-O3'	5.04	116.30	105.20
1	A	356	A	C6-C5-N7	-5.04	128.77	132.30
1	A	504	C	C6-N1-C1'	-5.04	114.75	120.80
1	A	151	G	N9-C4-C5	-5.04	103.38	105.40
1	A	202	C	O4'-C1'-N1	5.04	112.23	108.20
1	A	14	G	C4-C5-N7	5.04	112.82	110.80
1	A	155	G	C5-C6-O6	-5.04	125.58	128.60
1	A	88	A	N9-C4-C5	5.04	107.81	105.80
1	A	89	A	C5-N7-C8	-5.04	101.38	103.90
1	A	231	A	N1-C6-N6	-5.04	115.58	118.60
1	A	372	A	N3-C4-C5	5.04	130.33	126.80
1	A	393	A	C5'-C4'-O4'	-5.03	103.06	109.10
1	A	1	G	C5-C6-O6	-5.03	125.58	128.60
1	A	236	G	N9-C4-C5	-5.03	103.39	105.40
1	A	2433	G	C5-C6-O6	-5.03	125.58	128.60
1	A	534	G	C6-C5-N7	-5.03	127.38	130.40
1	A	501	G	C4'-C3'-O3'	5.03	123.05	113.00
1	A	513	G	C2-N3-C4	-5.03	109.39	111.90
1	A	70	C	N3-C2-O2	-5.03	118.38	121.90
1	A	236	G	N7-C8-N9	5.03	115.61	113.10
1	A	196	A	N9-C4-C5	5.02	107.81	105.80
1	A	220	G	C5-C6-N1	-5.02	108.99	111.50
1	A	483	U	N1-C1'-C2'	5.02	120.53	114.00
2	B	2	A	C8-N9-C1'	5.02	136.74	127.70
1	A	126	G	C8-N9-C1'	-5.02	120.47	127.00
1	A	234	G	C4-N9-C1'	5.02	133.03	126.50
1	A	363	G	C5-N7-C8	-5.02	101.79	104.30
1	A	501	G	C3'-C2'-C1'	-5.02	97.48	101.50
1	A	169	A	C6-C5-N7	-5.02	128.79	132.30
1	A	326	A	C4-N9-C1'	5.02	135.33	126.30
1	A	2411	G	N9-C1'-C2'	-5.02	106.48	112.00
1	A	455	A	C8-N9-C4	-5.02	103.79	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	538	U	N3-C4-C5	-5.02	111.59	114.60
1	A	171	C	O5'-P-OP2	-5.01	101.19	105.70
1	A	287	C	C6-N1-C2	-5.01	118.30	120.30
1	A	2413	G	N3-C4-N9	5.01	129.01	126.00
1	A	108	G	C4-C5-N7	5.01	112.80	110.80
1	A	120	A	O5'-P-OP1	-5.01	101.19	105.70
1	A	389	G	N9-C4-C5	5.01	107.41	105.40
1	A	434	C	N3-C4-C5	-5.01	119.90	121.90
1	A	265	A	N1-C2-N3	-5.01	126.80	129.30
1	A	2414	A	C4-C5-N7	5.01	113.20	110.70
1	A	2438	G	C4-N9-C1'	5.01	133.01	126.50
1	A	479	G	N3-C2-N2	5.01	123.41	119.90
1	A	85	G	C2-N3-C4	-5.00	109.40	111.90
1	A	170	U	N3-C2-O2	-5.00	118.70	122.20
1	A	302	C	C5-C6-N1	5.00	123.50	121.00
1	A	484	A	C5-C6-N6	5.00	127.70	123.70
1	A	2425	C	N3-C4-N4	-5.00	114.50	118.00
1	A	119	A	N9-C4-C5	5.00	107.80	105.80

There are no chirality outliers.

All (13) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	2396	A	Sidechain
1	A	482	G	Sidechain
3	D	178	ASN	Peptide
3	D	198	TYR	Peptide
3	D	199	LEU	Peptide
3	D	215	GLY	Peptide
3	D	218	SER	Peptide
3	D	3	PRO	Peptide
3	D	344	LYS	Peptide
3	D	484	ASP	Peptide
3	D	509	GLU	Peptide
3	D	511	LYS	Peptide
3	D	517	THR	Peptide

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	14825	0	7348	237	0
2	B	250	0	126	6	0
3	D	4941	0	5067	95	0
All	All	20016	0	12541	331	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 12.

All (331) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:234:G:H22	1:A:254:C:H42	1.21	0.85
2:B:5:U:H2'	2:B:6:C:H3'	1.63	0.77
1:A:496:G:O6	1:A:502:C:N4	2.16	0.76
1:A:273:G:H1	1:A:287:C:H42	1.33	0.76
1:A:105:A:N7	1:A:106:G:N2	2.34	0.74
1:A:482:G:OP2	1:A:514:C:N4	2.20	0.74
1:A:2452:A:H62	1:A:2454:U:H5	1.37	0.72
3:D:305:ARG:NH1	3:D:307:ALA:O	2.23	0.72
1:A:129:U:H2'	1:A:130:U:H4'	1.73	0.71
3:D:62:PHE:H	3:D:557:ILE:HG22	1.56	0.70
1:A:48:G:H1	1:A:59:C:H42	1.41	0.69
1:A:433:G:N1	1:A:448:C:O2	2.25	0.68
1:A:280:U:O4	2:B:11:A:N6	2.27	0.68
1:A:77:A:H61	1:A:100:G:H1	1.42	0.66
1:A:562:G:H5"	3:D:32:ARG:HE	1.60	0.66
1:A:2459:G:N2	1:A:2462:A:OP2	2.27	0.66
3:D:308:ASP:OD1	3:D:308:ASP:N	2.28	0.66
3:D:10:ARG:O	3:D:14:ASN:ND2	2.27	0.66
3:D:417:ARG:NH2	3:D:435:GLU:OE2	2.28	0.66
3:D:587:CYS:HB2	3:D:590:CYS:H	1.60	0.66
1:A:234:G:O2'	1:A:251:C:N4	2.30	0.65
3:D:154:ARG:HD2	3:D:296:GLN:HB3	1.77	0.65
1:A:330:A:N6	1:A:332:G:O6	2.30	0.65
2:B:3:C:H2'	2:B:4:A:H4'	1.79	0.65
1:A:539:A:H2'	1:A:540:A:H8	1.61	0.64
3:D:532:ASN:OD1	3:D:581:ARG:NH2	2.30	0.64
3:D:387:LEU:HB3	3:D:448:ASN:HD21	1.62	0.64
1:A:412:C:H4'	1:A:2460:U:H4'	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:183:A:N6	1:A:184:U:O4	2.31	0.64
1:A:173:G:H2'	1:A:174:A:H8	1.62	0.63
1:A:325:A:H1'	3:D:365:ARG:HD3	1.80	0.63
1:A:82:A:H5'	1:A:83:A:C8	2.33	0.63
3:D:66:LYS:HA	3:D:69:LYS:HB2	1.80	0.63
1:A:318:G:H8	1:A:319:U:H1'	1.64	0.63
1:A:215:U:O2'	1:A:312:C:N4	2.32	0.63
1:A:430:A:O5'	1:A:448:C:N4	2.32	0.62
1:A:2454:U:O2	1:A:2470:A:N6	2.30	0.62
1:A:341:A:OP1	3:D:395:ARG:NH1	2.32	0.62
1:A:357:G:H3'	1:A:358:A:H4'	1.79	0.62
1:A:107:A:N6	1:A:2418:G:O2'	2.32	0.62
1:A:2477:U:N3	1:A:2478:A:N7	2.47	0.62
3:D:558:HIS:HB2	3:D:586:VAL:HB	1.81	0.62
1:A:318:G:C8	1:A:319:U:H1'	2.34	0.61
1:A:363:G:N1	1:A:364:A:O2'	2.33	0.61
3:D:326:GLU:HG2	3:D:327:GLN:HE21	1.65	0.61
3:D:351:SER:OG	3:D:365:ARG:NH1	2.33	0.61
3:D:162:LYS:O	3:D:167:ASN:ND2	2.32	0.61
3:D:554:SER:H	3:D:588:PHE:HB2	1.65	0.61
1:A:39:U:H4'	1:A:40:A:H5'	1.83	0.61
3:D:169:ASP:OD2	3:D:172:THR:N	2.27	0.61
1:A:86:C:H2'	1:A:89:A:N1	2.16	0.61
1:A:87:G:H1'	1:A:400:A:N3	2.16	0.61
1:A:319:U:H2'	1:A:320:A:C5	2.36	0.60
3:D:309:ASP:N	3:D:309:ASP:OD1	2.32	0.60
3:D:225:TYR:OH	3:D:336:LEU:O	2.19	0.60
1:A:52:G:OP2	1:A:267:A:N6	2.34	0.60
1:A:437:U:H3	1:A:444:A:H2	1.49	0.60
1:A:269:G:H22	1:A:291:U:H3	1.50	0.60
1:A:324:G:O3'	3:D:349:HIS:NE2	2.35	0.60
1:A:425:G:OP1	1:A:429:A:N6	2.34	0.60
1:A:107:A:H8	1:A:2418:G:H21	1.49	0.60
1:A:155:G:O2'	1:A:156:A:O4'	2.19	0.59
1:A:264:G:H22	1:A:306:U:H3	1.49	0.59
1:A:393:A:N3	1:A:393:A:H2'	2.17	0.59
1:A:531:U:H3	1:A:2390:A:H61	1.51	0.59
3:D:305:ARG:NH1	3:D:306:TYR:O	2.35	0.59
1:A:140:C:O2	1:A:243:G:N2	2.35	0.59
1:A:548:A:OP1	1:A:586:A:N6	2.30	0.59
3:D:91:LYS:HD3	3:D:203:GLN:HB3	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:125:U:N3	1:A:156:A:N1	2.51	0.59
3:D:84:VAL:HA	3:D:198:TYR:HE1	1.66	0.59
1:A:401:A:H2	1:A:462:A:H61	1.50	0.59
1:A:493:A:H2'	1:A:494:G:H8	1.68	0.58
1:A:193:U:N3	1:A:343:G:OP1	2.36	0.58
3:D:82:GLN:NE2	3:D:104:THR:OG1	2.37	0.58
1:A:479:G:N2	1:A:518:G:N7	2.50	0.58
1:A:1:G:O5'	1:A:2486:A:N3	2.37	0.57
3:D:117:ILE:O	3:D:120:SER:OG	2.23	0.57
1:A:180:G:O2'	1:A:181:G:O5'	2.22	0.57
3:D:463:CYS:O	3:D:466:THR:OG1	2.22	0.57
1:A:472:A:O2'	1:A:2397:G:O6	2.15	0.57
1:A:76:A:N1	1:A:103:A:N6	2.53	0.57
1:A:36:A:H5'	1:A:37:G:H5"	1.87	0.57
1:A:2389:C:H2'	1:A:2390:A:H8	1.70	0.57
1:A:35:A:H2'	1:A:36:A:H4'	1.87	0.56
1:A:236:G:O2'	1:A:241:G:N2	2.37	0.56
1:A:340:A:H2'	1:A:341:A:C8	2.41	0.56
3:D:99:PRO:O	3:D:201:ASN:N	2.34	0.56
1:A:365:A:H2	1:A:369:A:H62	1.54	0.55
1:A:432:G:H21	1:A:455:A:H62	1.52	0.55
1:A:2466:G:H21	1:A:2467:A:H5'	1.70	0.55
1:A:173:G:H2'	1:A:174:A:C8	2.41	0.55
1:A:406:G:N1	1:A:457:C:N3	2.53	0.55
3:D:409:ASP:OD1	3:D:409:ASP:N	2.33	0.55
3:D:423:SER:HB2	3:D:427:GLU:HB2	1.88	0.55
1:A:320:A:O4'	1:A:337:C:O2'	2.21	0.55
1:A:173:G:H1	1:A:361:C:H42	1.55	0.55
3:D:204:TYR:O	3:D:207:THR:OG1	2.23	0.55
3:D:587:CYS:O	3:D:592:ARG:NH1	2.39	0.55
1:A:172:A:O5'	1:A:358:A:N6	2.39	0.55
1:A:189:U:H1'	1:A:190:G:H5"	1.88	0.55
1:A:409:U:O2'	1:A:430:A:N6	2.38	0.54
3:D:66:LYS:O	3:D:70:ILE:N	2.36	0.54
1:A:496:G:H2'	1:A:497:U:O4'	2.06	0.54
1:A:539:A:H2'	1:A:540:A:C8	2.40	0.54
3:D:38:VAL:HA	3:D:41:GLN:HB2	1.90	0.54
1:A:435:U:N3	1:A:445:G:O6	2.41	0.54
3:D:212:PRO:HB2	3:D:216:ILE:HD12	1.88	0.54
1:A:93:U:H2'	1:A:94:G:H5"	1.90	0.53
1:A:179:A:H2	1:A:355:G:H21	1.55	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:53:A:H62	1:A:300:A:H62	1.56	0.53
1:A:536:A:O2'	1:A:538:U:OP2	2.25	0.53
3:D:424:THR:OG1	3:D:425:ASP:N	2.42	0.53
3:D:4:THR:HG22	3:D:34:ASP:HB3	1.90	0.53
3:D:221:LEU:HA	3:D:224:ILE:HD12	1.89	0.53
1:A:240:A:H62	1:A:245:C:N4	2.06	0.53
3:D:484:ASP:OD1	3:D:501:ARG:NE	2.42	0.53
1:A:490:A:H1'	1:A:491:G:H5'	1.90	0.53
1:A:492:A:H2'	1:A:493:A:H8	1.72	0.53
1:A:208:U:H2'	1:A:209:U:H5	1.74	0.53
1:A:213:A:H2	1:A:334:G:H2'	1.74	0.52
1:A:267:A:H3'	1:A:268:G:H8	1.74	0.52
1:A:199:G:N3	1:A:201:A:N6	2.57	0.52
3:D:244:SER:O	3:D:247:ARG:NH1	2.42	0.52
3:D:493:TYR:HE2	3:D:500:GLN:HB2	1.74	0.52
1:A:443:U:H2'	1:A:444:A:H4'	1.92	0.51
1:A:37:G:N1	1:A:39:U:OP2	2.43	0.51
1:A:431:A:H61	1:A:450:U:H1'	1.75	0.51
1:A:255:U:OP1	1:A:257:G:N2	2.44	0.51
1:A:249:A:O2'	1:A:250:A:N7	2.34	0.51
1:A:206:A:O2'	1:A:207:G:N2	2.42	0.51
1:A:2447:A:N7	1:A:2469:C:N4	2.44	0.51
1:A:210:U:H2'	1:A:211:C:C4	2.46	0.51
1:A:88:A:N3	1:A:89:A:N6	2.59	0.51
1:A:45:U:H2'	1:A:46:C:H6	1.75	0.51
1:A:2455:C:H5'	1:A:2470:A:H62	1.75	0.51
1:A:130:U:H3'	1:A:131:A:C8	2.46	0.51
1:A:424:A:H5"	1:A:426:G:H5"	1.93	0.51
1:A:49:U:O2'	1:A:51:A:OP1	2.23	0.50
3:D:424:THR:HG22	3:D:427:GLU:HG3	1.92	0.50
3:D:115:ARG:NE	3:D:119:GLU:OE2	2.45	0.50
1:A:492:A:H2'	1:A:493:A:C8	2.46	0.50
2:B:3:C:N4	2:B:4:A:N3	2.59	0.50
1:A:227:G:N2	2:B:2:A:O4'	2.44	0.50
1:A:333:G:HO2'	1:A:335:A:N6	2.09	0.50
3:D:388:ILE:HG21	3:D:394:ILE:HD11	1.93	0.50
1:A:84:A:H2'	1:A:85:G:C8	2.46	0.50
1:A:406:G:N2	1:A:457:C:O2	2.44	0.50
1:A:565:A:O2'	1:A:566:A:O5'	2.30	0.50
3:D:68:LYS:HA	3:D:71:ILE:HG12	1.92	0.50
3:D:22:VAL:HG12	3:D:182:LYS:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2471:A:H2'	1:A:2474:C:H42	1.76	0.49
1:A:234:G:C8	1:A:251:C:H5	2.31	0.49
1:A:570:C:O2	1:A:571:A:N6	2.42	0.49
3:D:591:HIS:HB3	3:D:592:ARG:HD2	1.95	0.49
1:A:233:A:H2'	1:A:234:G:N2	2.27	0.49
1:A:364:A:H3'	1:A:365:A:H8	1.78	0.49
1:A:126:G:H2'	1:A:127:A:O4'	2.12	0.49
1:A:2473:G:OP2	1:A:2474:C:N4	2.45	0.49
3:D:80:TYR:CZ	3:D:192:LYS:HE2	2.48	0.49
1:A:38:G:H1'	1:A:39:U:C5	2.48	0.49
1:A:140:C:H2'	1:A:141:A:C8	2.48	0.49
1:A:240:A:H2'	1:A:243:G:C8	2.48	0.49
1:A:2463:U:H2'	1:A:2464:G:N7	2.27	0.49
3:D:479:ILE:HG23	3:D:489:TRP:HB3	1.94	0.49
3:D:359:TYR:HD2	3:D:386:LEU:HB3	1.77	0.49
1:A:251:C:O2'	1:A:252:C:O4'	2.28	0.49
1:A:261:A:H2'	1:A:262:A:C8	2.47	0.49
3:D:107:ASP:OD1	3:D:107:ASP:N	2.45	0.48
1:A:484:A:O2'	1:A:485:G:OP2	2.31	0.48
1:A:403:C:N3	1:A:404:A:N6	2.61	0.48
1:A:557:G:N2	1:A:558:G:O4'	2.46	0.48
1:A:321:G:H2'	1:A:322:G:C8	2.49	0.48
1:A:2449:A:N6	1:A:2469:C:O4'	2.47	0.48
3:D:52:LYS:HE2	3:D:59:ALA:HB2	1.96	0.48
1:A:206:A:HO2'	1:A:207:G:N2	2.12	0.48
1:A:240:A:H62	1:A:245:C:H41	1.61	0.48
1:A:512:G:N2	1:A:513:G:N3	2.62	0.48
1:A:395:A:H2	1:A:466:G:H22	1.61	0.48
3:D:55:LEU:HB2	3:D:82:GLN:HE22	1.79	0.47
1:A:372:A:H4'	1:A:373:A:OP1	2.13	0.47
1:A:432:G:H21	1:A:455:A:N6	2.12	0.47
1:A:252:C:H2'	1:A:253:U:C6	2.49	0.47
1:A:495:G:H2'	1:A:496:G:C8	2.49	0.47
1:A:2459:G:C6	1:A:2461:A:H5"	2.49	0.47
3:D:151:GLY:HA2	3:D:384:VAL:HG23	1.96	0.47
1:A:208:U:H2'	1:A:209:U:C5	2.49	0.47
1:A:2452:A:C8	1:A:2453:G:H3'	2.50	0.47
1:A:318:G:N2	1:A:334:G:N7	2.58	0.47
1:A:440:C:O2	1:A:2449:A:O2'	2.32	0.47
1:A:446:A:H2'	1:A:447:G:C8	2.50	0.47
1:A:2454:U:H2'	1:A:2470:A:H61	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:171:C:H3'	1:A:358:A:N6	2.30	0.46
3:D:415:VAL:HG22	3:D:416:HIS:H	1.80	0.46
1:A:105:A:H62	1:A:106:G:N2	2.13	0.46
3:D:91:LYS:HD2	3:D:92:LYS:HG3	1.98	0.46
1:A:224:U:H2'	1:A:225:G:C8	2.50	0.46
3:D:174:ILE:O	3:D:178:ASN:ND2	2.49	0.46
1:A:233:A:N3	1:A:256:A:O2'	2.48	0.46
1:A:103:A:O2'	1:A:104:C:O5'	2.24	0.46
3:D:493:TYR:CE2	3:D:500:GLN:HB2	2.51	0.46
1:A:326:A:H61	3:D:292:PRO:HG3	1.80	0.45
1:A:102:A:HO2'	1:A:111:C:H5	1.63	0.45
1:A:362:U:H2'	1:A:363:G:H8	1.81	0.45
1:A:2452:A:H8	1:A:2453:G:H3'	1.81	0.45
1:A:543:U:H2'	1:A:545:A:N6	2.31	0.45
3:D:141:THR:O	3:D:145:THR:OG1	2.27	0.45
3:D:499:LYS:HE2	3:D:499:LYS:HB2	1.72	0.45
1:A:543:U:H5"	1:A:546:A:N1	2.31	0.45
3:D:103:PRO:HG2	3:D:108:LYS:HG3	1.97	0.45
3:D:558:HIS:HB3	3:D:584:LEU:HD23	1.98	0.45
1:A:37:G:C2	1:A:38:G:H4'	2.51	0.45
1:A:475:A:H62	1:A:523:A:N6	2.15	0.45
1:A:564:A:N1	1:A:567:C:O2'	2.49	0.45
3:D:75:LYS:HD2	3:D:75:LYS:HA	1.66	0.45
1:A:83:A:H61	1:A:93:U:H3	1.65	0.45
1:A:130:U:H1'	1:A:152:A:N1	2.32	0.45
1:A:142:A:N7	1:A:144:C:H5"	2.32	0.45
1:A:216:U:H2'	1:A:259:A:C8	2.52	0.45
3:D:439:ILE:HG22	3:D:443:TYR:HD2	1.82	0.45
1:A:193:U:H5"	1:A:194:U:H5	1.81	0.45
1:A:481:A:O2'	1:A:516:A:OP2	2.25	0.45
1:A:491:G:O5'	1:A:492:A:H5"	2.17	0.45
1:A:533:U:H2'	1:A:534:G:C8	2.52	0.45
3:D:115:ARG:HD2	3:D:119:GLU:HG3	1.98	0.45
3:D:206:LYS:HA	3:D:209:SER:HA	1.99	0.45
3:D:507:PHE:O	3:D:511:LYS:N	2.50	0.45
1:A:438:A:N1	1:A:445:G:H1'	2.31	0.45
1:A:51:A:N6	1:A:293:U:OP1	2.50	0.44
1:A:388:U:H2'	1:A:389:G:C8	2.52	0.44
3:D:37:TYR:O	3:D:41:GLN:N	2.48	0.44
3:D:46:ASN:OD1	3:D:46:ASN:N	2.47	0.44
3:D:165:PHE:HD2	3:D:216:ILE:HG12	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:88:A:H1'	1:A:89:A:C5	2.53	0.44
1:A:558:G:H21	1:A:580:C:H42	1.65	0.44
1:A:2455:C:H2'	1:A:2456:A:H8	1.82	0.44
1:A:428:A:H2'	1:A:2461:A:H61	1.82	0.44
1:A:222:U:O3'	1:A:223:A:H3'	2.17	0.44
1:A:306:U:C2	1:A:307:U:H5	2.36	0.44
1:A:484:A:O2'	1:A:484:A:N3	2.42	0.44
1:A:255:U:H5"	1:A:257:G:H21	1.82	0.44
1:A:349:G:H2'	1:A:350:A:C8	2.53	0.44
1:A:459:U:N3	1:A:460:G:N7	2.65	0.44
3:D:76:ASP:OD1	3:D:76:ASP:N	2.37	0.44
1:A:555:U:H2'	1:A:556:A:C8	2.53	0.44
1:A:3:G:N1	1:A:109:C:H5	2.16	0.44
1:A:7:C:O2'	1:A:516:A:H8	2.00	0.44
1:A:235:A:OP2	1:A:250:A:N6	2.51	0.44
1:A:522:U:H2'	1:A:523:A:H8	1.82	0.44
3:D:15:SER:HB3	3:D:124:PRO:HG2	2.00	0.43
3:D:25:ARG:HD2	3:D:28:ARG:NH2	2.33	0.43
1:A:51:A:HO2'	1:A:267:A:H61	1.64	0.43
1:A:2459:G:N1	1:A:2461:A:H5"	2.32	0.43
1:A:550:U:C4	1:A:551:U:H1'	2.53	0.43
3:D:240:PHE:CD2	3:D:301:LEU:HB2	2.53	0.43
1:A:422:G:N2	1:A:423:G:N3	2.66	0.43
3:D:424:THR:HG23	3:D:426:LEU:H	1.83	0.43
1:A:212:U:H2'	1:A:334:G:H1	1.84	0.43
3:D:143:LEU:HA	3:D:143:LEU:HD23	1.72	0.43
1:A:75:U:H2'	1:A:101:G:H22	1.83	0.43
1:A:366:U:H4'	1:A:369:A:H1'	2.01	0.43
1:A:493:A:H2'	1:A:494:G:C8	2.51	0.43
1:A:495:G:H1	1:A:503:C:H42	1.67	0.43
1:A:178:A:H8	1:A:178:A:OP1	2.01	0.43
1:A:240:A:N6	1:A:246:U:O4	2.49	0.43
1:A:435:U:H2'	1:A:436:A:C8	2.54	0.43
3:D:146:ILE:O	3:D:150:PHE:HB2	2.17	0.43
3:D:424:THR:N	3:D:427:GLU:OE1	2.47	0.43
3:D:534:LEU:HD23	3:D:534:LEU:HA	1.82	0.43
3:D:198:TYR:HB2	3:D:200:GLU:HB3	2.01	0.43
1:A:51:A:H2'	1:A:52:G:C5	2.54	0.43
3:D:105:PHE:CZ	3:D:109:LEU:HD11	2.54	0.43
3:D:520:ILE:HG22	3:D:522:GLN:HE21	1.84	0.43
1:A:487:C:N3	1:A:514:C:H5'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:321:G:H2'	1:A:322:G:H8	1.83	0.42
1:A:363:G:C4	1:A:364:A:H4'	2.55	0.42
1:A:2478:A:H2'	1:A:2479:C:C6	2.54	0.42
1:A:435:U:H5	1:A:444:A:C5	2.37	0.42
1:A:447:G:H3'	1:A:448:C:H6	1.85	0.42
2:B:6:C:H1'	2:B:7:C:H1'	2.00	0.42
3:D:557:ILE:HD11	3:D:559:HIS:HB2	2.01	0.42
1:A:318:G:H3'	1:A:319:U:O4'	2.20	0.42
1:A:438:A:H3'	1:A:439:G:H8	1.84	0.42
3:D:490:GLY:HA3	3:D:501:ARG:HD3	2.00	0.42
1:A:50:A:O2'	1:A:52:G:O5'	2.38	0.42
1:A:57:C:O2'	1:A:58:A:O5'	2.33	0.42
1:A:215:U:H1'	1:A:313:A:N1	2.34	0.42
1:A:319:U:O2'	1:A:337:C:H1'	2.20	0.42
1:A:333:G:O2'	1:A:335:A:N6	2.53	0.42
1:A:409:U:HO2'	1:A:430:A:H61	1.63	0.42
1:A:432:G:O4'	1:A:452:A:N6	2.53	0.42
1:A:236:G:C2	1:A:237:G:H1'	2.54	0.42
1:A:2468:A:N6	1:A:2470:A:N7	2.68	0.42
3:D:144:LYS:HB3	3:D:148:ARG:NH2	2.35	0.42
1:A:270:U:H2'	1:A:271:A:C8	2.55	0.41
1:A:556:A:N7	1:A:557:G:H8	2.18	0.41
3:D:502:ARG:HD2	3:D:502:ARG:HA	1.61	0.41
1:A:289:U:H3'	1:A:290:A:C8	2.55	0.41
1:A:362:U:H2'	1:A:363:G:C8	2.56	0.41
1:A:371:C:H2'	1:A:372:A:C8	2.55	0.41
1:A:136:A:H5'	1:A:137:A:H5"	2.03	0.41
1:A:180:G:O6	1:A:355:G:N2	2.53	0.41
1:A:299:C:H3'	1:A:300:A:H5"	2.03	0.41
1:A:485:G:H5'	1:A:512:G:H22	1.85	0.41
1:A:551:U:H5"	1:A:552:G:H3'	2.03	0.41
3:D:269:LEU:HD23	3:D:274:LYS:HB2	2.02	0.41
1:A:155:G:O2'	1:A:156:A:O5'	2.38	0.41
1:A:407:A:C8	1:A:408:A:H2	2.39	0.41
1:A:483:U:OP1	1:A:485:G:N1	2.33	0.41
1:A:587:U:H2'	1:A:588:G:C8	2.55	0.41
3:D:221:LEU:HA	3:D:221:LEU:HD23	1.88	0.41
1:A:113:G:O2'	1:A:114:U:O4'	2.30	0.41
1:A:522:U:H2'	1:A:523:A:C8	2.55	0.41
1:A:559:G:H1	1:A:571:A:N6	2.17	0.41
3:D:287:ARG:HA	3:D:287:ARG:HD2	1.90	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:108:G:H22	1:A:2419:U:C2'	2.34	0.41
3:D:199:LEU:HD12	3:D:199:LEU:HA	1.77	0.41
3:D:240:PHE:HD2	3:D:301:LEU:HB2	1.84	0.41
1:A:428:A:N3	1:A:2461:A:N6	2.68	0.40
1:A:452:A:H1'	1:A:453:A:N7	2.36	0.40
1:A:191:U:O2'	1:A:193:U:OP2	2.30	0.40
1:A:420:A:H2'	1:A:421:A:C8	2.56	0.40
1:A:431:A:H2'	1:A:432:G:H8	1.86	0.40
1:A:497:U:O4	1:A:498:A:N6	2.55	0.40
1:A:172:A:N6	1:A:363:G:O6	2.54	0.40
1:A:548:A:N7	1:A:588:G:N1	2.69	0.40
1:A:570:C:H2'	1:A:571:A:N7	2.37	0.40
1:A:2455:C:H5'	1:A:2470:A:N6	2.37	0.40
1:A:2454:U:H1'	1:A:2472:G:C8	2.56	0.40
3:D:52:LYS:HD3	3:D:52:LYS:HA	1.81	0.40
3:D:251:GLU:HG2	3:D:291:LEU:HD11	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
3	D	597/599 (100%)	523 (88%)	73 (12%)	1 (0%)	47 79

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	219	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
3	D	545/545 (100%)	524 (96%)	21 (4%)	32 67

All (21) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	11	ILE
3	D	92	LYS
3	D	107	ASP
3	D	125	VAL
3	D	200	GLU
3	D	207	THR
3	D	220	LEU
3	D	294	THR
3	D	308	ASP
3	D	309	ASP
3	D	324	ILE
3	D	348	THR
3	D	380	LEU
3	D	425	ASP
3	D	439	ILE
3	D	454	TYR
3	D	493	TYR
3	D	496	LYS
3	D	499	LYS
3	D	504	PHE
3	D	506	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	82	GLN
3	D	131	HIS
3	D	167	ASN
3	D	178	ASN

Continued on next page...

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Mol	Chain	Res	Type
3	D	223	ASN
3	D	327	GLN
3	D	352	GLN
3	D	448	ASN
3	D	506	ASN
3	D	522	GLN
3	D	561	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	688/902 (76%)	431 (62%)	67 (9%)
2	B	11/12 (91%)	9 (81%)	1 (9%)
All	All	699/914 (76%)	440 (62%)	68 (9%)

All (440) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	2	U
1	A	3	G
1	A	4	C
1	A	8	C
1	A	12	U
1	A	14	G
1	A	15	G
1	A	20	U
1	A	22	A
1	A	27	A
1	A	35	A
1	A	36	A
1	A	37	G
1	A	38	G
1	A	39	U
1	A	40	A
1	A	44	C
1	A	50	A
1	A	51	A
1	A	52	G
1	A	53	A
1	A	55	A
1	A	57	C

Continued on next page...

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Mol	Chain	Res	Type
1	A	58	A
1	A	59	C
1	A	61	G
1	A	63	A
1	A	66	C
1	A	69	C
1	A	71	A
1	A	74	C
1	A	75	U
1	A	77	A
1	A	80	G
1	A	82	A
1	A	83	A
1	A	84	A
1	A	85	G
1	A	87	G
1	A	88	A
1	A	89	A
1	A	90	A
1	A	95	A
1	A	96	U
1	A	97	A
1	A	98	C
1	A	99	G
1	A	101	G
1	A	102	A
1	A	103	A
1	A	104	C
1	A	105	A
1	A	106	G
1	A	107	A
1	A	109	C
1	A	110	A
1	A	111	C
1	A	116	G
1	A	119	A
1	A	123	G
1	A	124	A
1	A	125	U
1	A	127	A
1	A	128	G
1	A	129	U

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Mol	Chain	Res	Type
1	A	130	U
1	A	131	A
1	A	132	C
1	A	135	A
1	A	136	A
1	A	137	A
1	A	138	G
1	A	139	A
1	A	140	C
1	A	141	A
1	A	142	A
1	A	143	U
1	A	144	C
1	A	145	G
1	A	146	G
1	A	147	G
1	A	148	U
1	A	149	A
1	A	150	C
1	A	151	G
1	A	152	A
1	A	153	C
1	A	155	G
1	A	156	A
1	A	158	U
1	A	163	A
1	A	164	U
1	A	168	A
1	A	169	A
1	A	170	U
1	A	171	C
1	A	172	A
1	A	175	U
1	A	176	A
1	A	177	U
1	A	178	A
1	A	179	A
1	A	180	G
1	A	181	G
1	A	183	A
1	A	185	A
1	A	186	A

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Mol	Chain	Res	Type
1	A	187	G
1	A	189	U
1	A	190	G
1	A	191	U
1	A	192	G
1	A	194	U
1	A	195	U
1	A	196	A
1	A	199	G
1	A	200	A
1	A	201	A
1	A	202	C
1	A	204	C
1	A	207	G
1	A	208	U
1	A	209	U
1	A	211	C
1	A	212	U
1	A	213	A
1	A	214	A
1	A	215	U
1	A	216	U
1	A	217	U
1	A	219	G
1	A	220	G
1	A	222	U
1	A	223	A
1	A	224	U
1	A	226	U
1	A	227	G
1	A	228	U
1	A	229	C
1	A	232	U
1	A	233	A
1	A	234	G
1	A	235	A
1	A	236	G
1	A	237	G
1	A	238	A
1	A	239	A
1	A	240	A
1	A	241	G

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Mol	Chain	Res	Type
1	A	242	U
1	A	243	G
1	A	244	U
1	A	245	C
1	A	247	G
1	A	248	A
1	A	249	A
1	A	250	A
1	A	251	C
1	A	252	C
1	A	253	U
1	A	254	C
1	A	255	U
1	A	256	A
1	A	257	G
1	A	258	U
1	A	259	A
1	A	263	A
1	A	264	G
1	A	265	A
1	A	266	A
1	A	267	A
1	A	268	G
1	A	269	G
1	A	272	A
1	A	275	U
1	A	276	A
1	A	277	U
1	A	278	G
1	A	279	G
1	A	281	U
1	A	282	G
1	A	283	U
1	A	284	G
1	A	290	A
1	A	293	U
1	A	294	G
1	A	296	U
1	A	298	U
1	A	299	C
1	A	300	A
1	A	301	C

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Mol	Chain	Res	Type
1	A	302	C
1	A	303	A
1	A	306	U
1	A	309	G
1	A	310	U
1	A	311	A
1	A	312	C
1	A	315	U
1	A	316	C
1	A	318	G
1	A	319	U
1	A	321	G
1	A	322	G
1	A	323	A
1	A	324	G
1	A	325	A
1	A	326	A
1	A	327	C
1	A	328	C
1	A	329	U
1	A	330	A
1	A	331	U
1	A	332	G
1	A	333	G
1	A	334	G
1	A	335	A
1	A	336	A
1	A	337	C
1	A	341	A
1	A	342	C
1	A	343	G
1	A	344	A
1	A	345	A
1	A	351	U
1	A	356	A
1	A	358	A
1	A	359	A
1	A	360	U
1	A	364	A
1	A	366	U
1	A	367	U
1	A	368	U

Continued on next page...

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Mol	Chain	Res	Type
1	A	370	C
1	A	371	C
1	A	372	A
1	A	373	A
1	A	374	G
1	A	375	A
1	A	376	C
1	A	383	C
1	A	385	A
1	A	386	A
1	A	387	C
1	A	392	G
1	A	393	A
1	A	394	U
1	A	395	A
1	A	399	U
1	A	400	A
1	A	401	A
1	A	402	A
1	A	403	C
1	A	404	A
1	A	406	G
1	A	407	A
1	A	408	A
1	A	409	U
1	A	411	C
1	A	413	U
1	A	414	A
1	A	422	G
1	A	423	G
1	A	424	A
1	A	426	G
1	A	427	A
1	A	430	A
1	A	431	A
1	A	432	G
1	A	433	G
1	A	434	C
1	A	435	U
1	A	436	A
1	A	438	A
1	A	439	G

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Mol	Chain	Res	Type
1	A	441	A
1	A	442	C
1	A	443	U
1	A	444	A
1	A	447	G
1	A	448	C
1	A	449	U
1	A	450	U
1	A	451	G
1	A	452	A
1	A	453	A
1	A	454	A
1	A	455	A
1	A	457	C
1	A	459	U
1	A	460	G
1	A	461	C
1	A	463	A
1	A	465	G
1	A	470	G
1	A	471	G
1	A	472	A
1	A	473	G
1	A	474	U
1	A	475	A
1	A	476	C
1	A	480	U
1	A	481	A
1	A	482	G
1	A	483	U
1	A	484	A
1	A	485	G
1	A	486	U
1	A	487	C
1	A	488	U
1	A	489	G
1	A	490	A
1	A	491	G
1	A	492	A
1	A	494	G
1	A	495	G
1	A	496	G

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Mol	Chain	Res	Type
1	A	498	A
1	A	499	A
1	A	500	C
1	A	501	G
1	A	502	C
1	A	503	C
1	A	506	U
1	A	509	C
1	A	510	A
1	A	511	U
1	A	512	G
1	A	513	G
1	A	515	A
1	A	516	A
1	A	519	G
1	A	525	A
1	A	526	G
1	A	530	U
1	A	531	U
1	A	532	G
1	A	533	U
1	A	535	U
1	A	536	A
1	A	537	C
1	A	538	U
1	A	539	A
1	A	541	A
1	A	542	A
1	A	543	U
1	A	545	A
1	A	546	A
1	A	547	A
1	A	548	A
1	A	549	A
1	A	550	U
1	A	551	U
1	A	552	G
1	A	553	A
1	A	554	U
1	A	556	A
1	A	559	G
1	A	560	A

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Mol	Chain	Res	Type
1	A	562	G
1	A	564	A
1	A	565	A
1	A	566	A
1	A	567	C
1	A	568	C
1	A	569	U
1	A	570	C
1	A	571	A
1	A	572	A
1	A	580	C
1	A	581	C
1	A	582	A
1	A	584	C
1	A	585	A
1	A	586	A
1	A	587	U
1	A	588	G
1	A	589	G
1	A	590	C
1	A	592	A
1	A	593	U
1	A	595	U
1	A	596	U
1	A	597	A
1	A	598	G
1	A	2391	A
1	A	2396	A
1	A	2397	G
1	A	2398	A
1	A	2402	G
1	A	2407	C
1	A	2411	G
1	A	2412	A
1	A	2413	G
1	A	2421	C
1	A	2423	U
1	A	2426	G
1	A	2429	U
1	A	2430	C
1	A	2433	G
1	A	2436	G

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Mol	Chain	Res	Type
1	A	2438	G
1	A	2440	G
1	A	2443	G
1	A	2444	U
1	A	2445	G
1	A	2446	C
1	A	2447	A
1	A	2452	A
1	A	2453	G
1	A	2454	U
1	A	2455	C
1	A	2458	A
1	A	2461	A
1	A	2463	U
1	A	2464	G
1	A	2466	G
1	A	2467	A
1	A	2468	A
1	A	2469	C
1	A	2471	A
1	A	2472	G
1	A	2475	G
1	A	2476	G
1	A	2477	U
1	A	2481	U
1	A	2483	C
1	A	2486	A
1	A	2487	C
1	A	2489	U
1	A	2491	A
2	B	2	A
2	B	4	A
2	B	5	U
2	B	6	C
2	B	8	A
2	B	9	U
2	B	10	A
2	B	11	A
2	B	12	C

All (68) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	12	U
1	A	58	A
1	A	68	G
1	A	76	A
1	A	89	A
1	A	98	C
1	A	103	A
1	A	104	C
1	A	109	C
1	A	127	A
1	A	135	A
1	A	136	A
1	A	141	A
1	A	144	C
1	A	149	A
1	A	155	G
1	A	163	A
1	A	169	A
1	A	170	U
1	A	176	A
1	A	179	A
1	A	191	U
1	A	201	A
1	A	206	A
1	A	208	U
1	A	211	C
1	A	213	A
1	A	217	U
1	A	219	G
1	A	222	U
1	A	223	A
1	A	251	C
1	A	278	G
1	A	283	U
1	A	326	A
1	A	334	G
1	A	336	A
1	A	343	G
1	A	359	A
1	A	366	U
1	A	367	U
1	A	368	U
1	A	369	A

Continued on next page...

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Mol	Chain	Res	Type
1	A	372	A
1	A	373	A
1	A	393	A
1	A	406	G
1	A	408	A
1	A	437	U
1	A	453	A
1	A	470	G
1	A	472	A
1	A	480	U
1	A	483	U
1	A	484	A
1	A	485	G
1	A	495	G
1	A	498	A
1	A	502	C
1	A	525	A
1	A	555	U
1	A	565	A
1	A	566	A
1	A	2395	C
1	A	2396	A
1	A	2397	G
1	A	2465	U
2	B	5	U

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

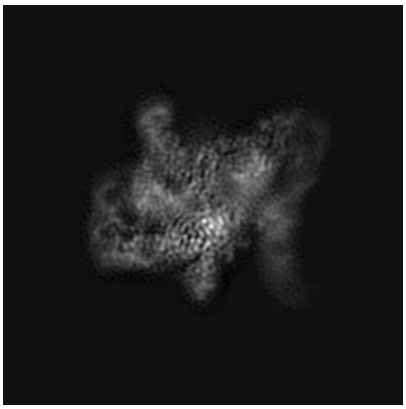
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-33039. These allow visual inspection of the internal detail of the map and identification of artifacts.

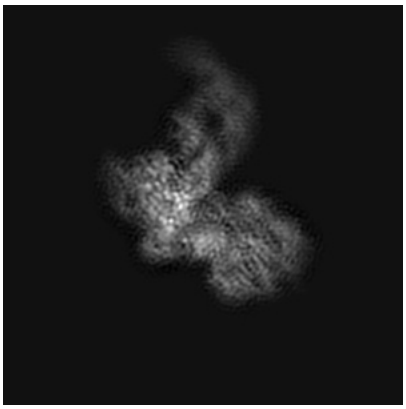
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

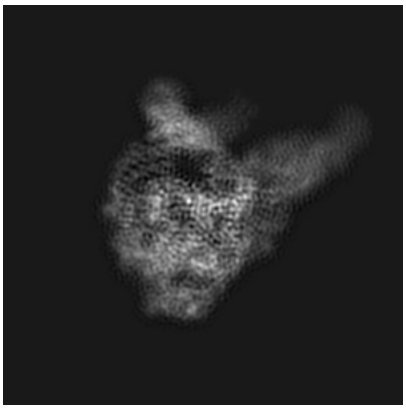
6.1.1 Primary map



X

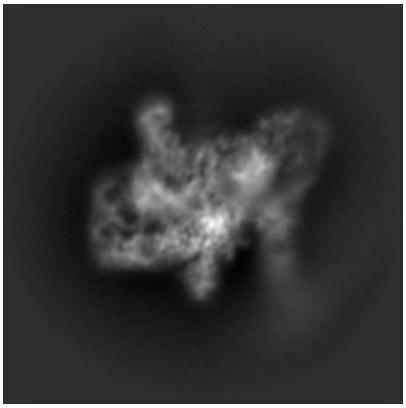


Y

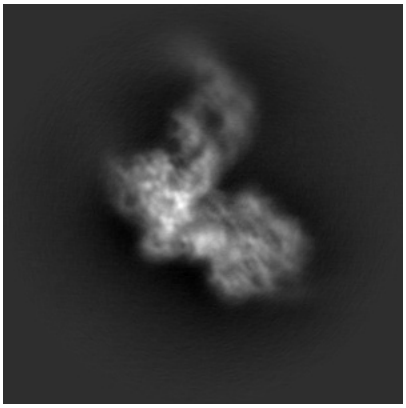


Z

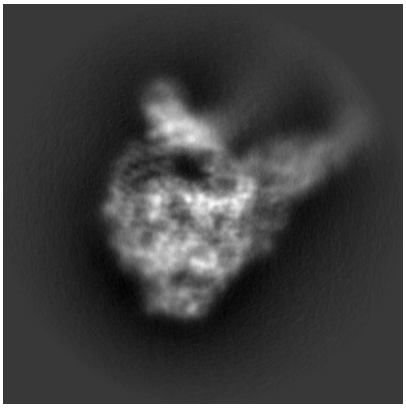
6.1.2 Raw map



X



Y

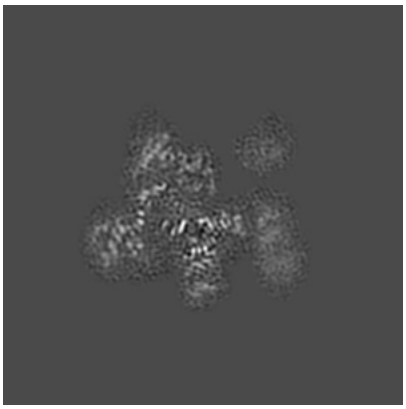


Z

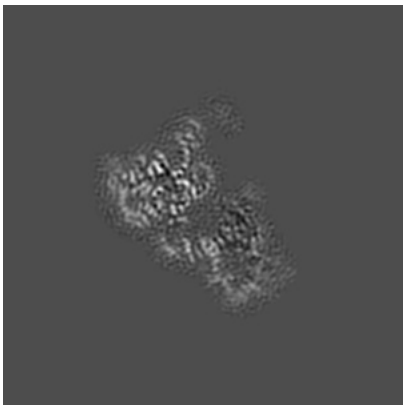
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

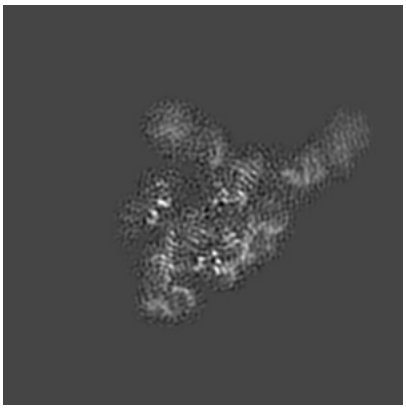
6.2.1 Primary map



X Index: 128

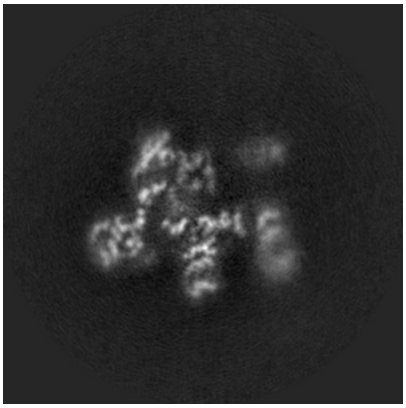


Y Index: 128

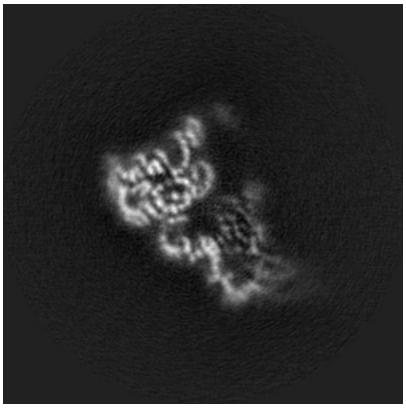


Z Index: 128

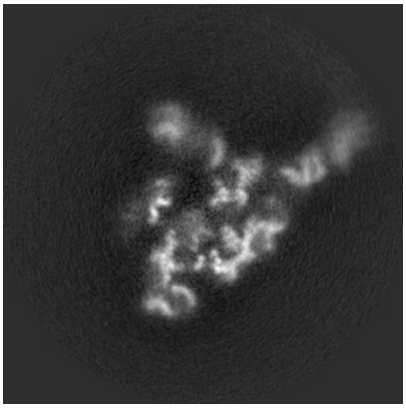
6.2.2 Raw map



X Index: 128



Y Index: 128

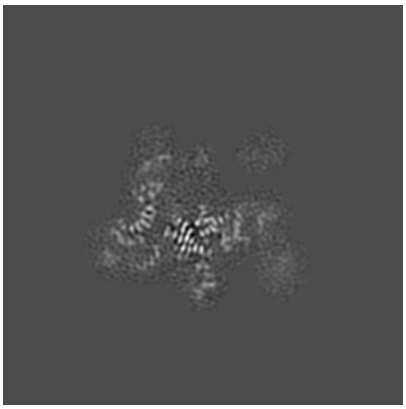


Z Index: 128

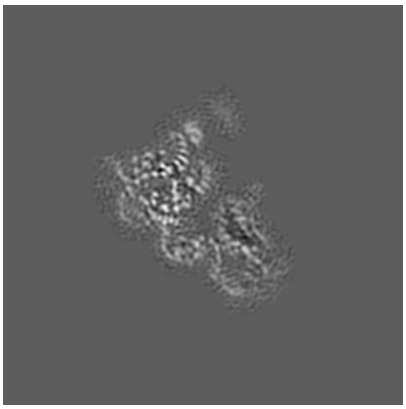
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

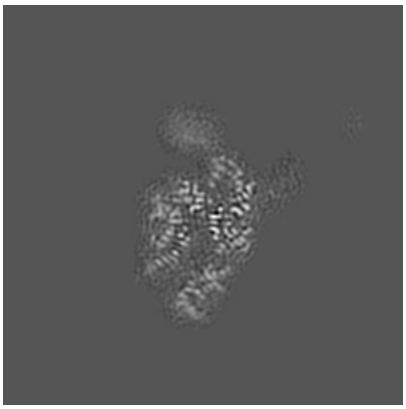
6.3.1 Primary map



X Index: 133

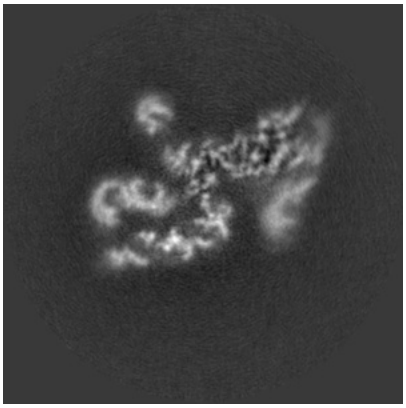


Y Index: 131

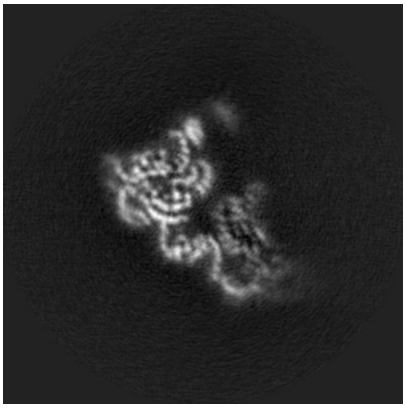


Z Index: 104

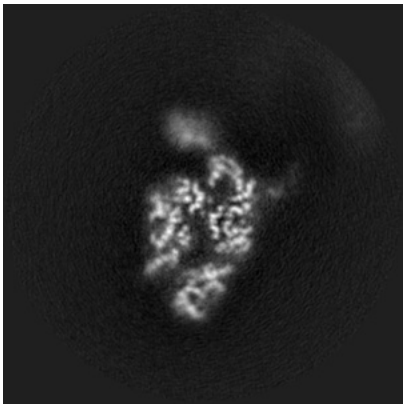
6.3.2 Raw map



X Index: 105



Y Index: 130



Z Index: 104

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

6.4 Orthogonal surface views (i)

6.4.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0124. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map

X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

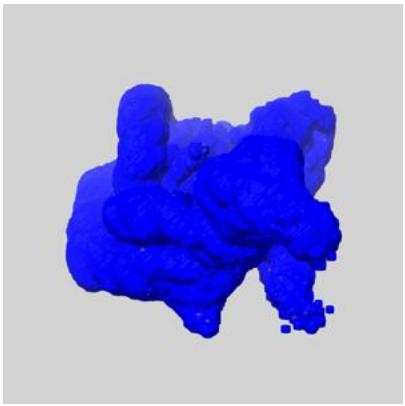
6.5 Mask visualisation

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

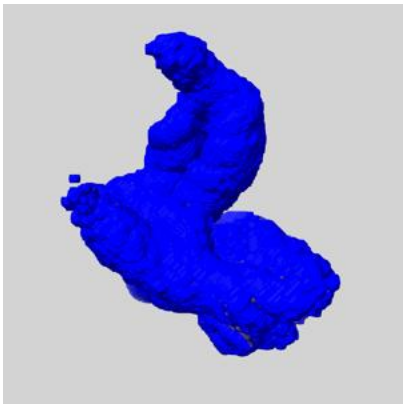
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

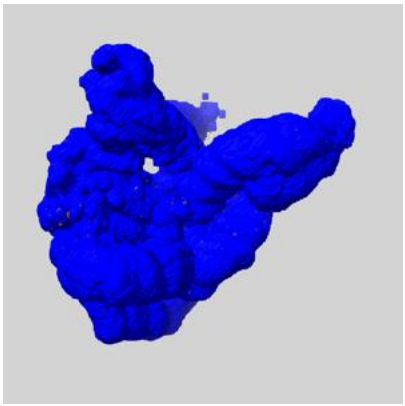
6.5.1 emd_33039_msk_1.map



X



Y

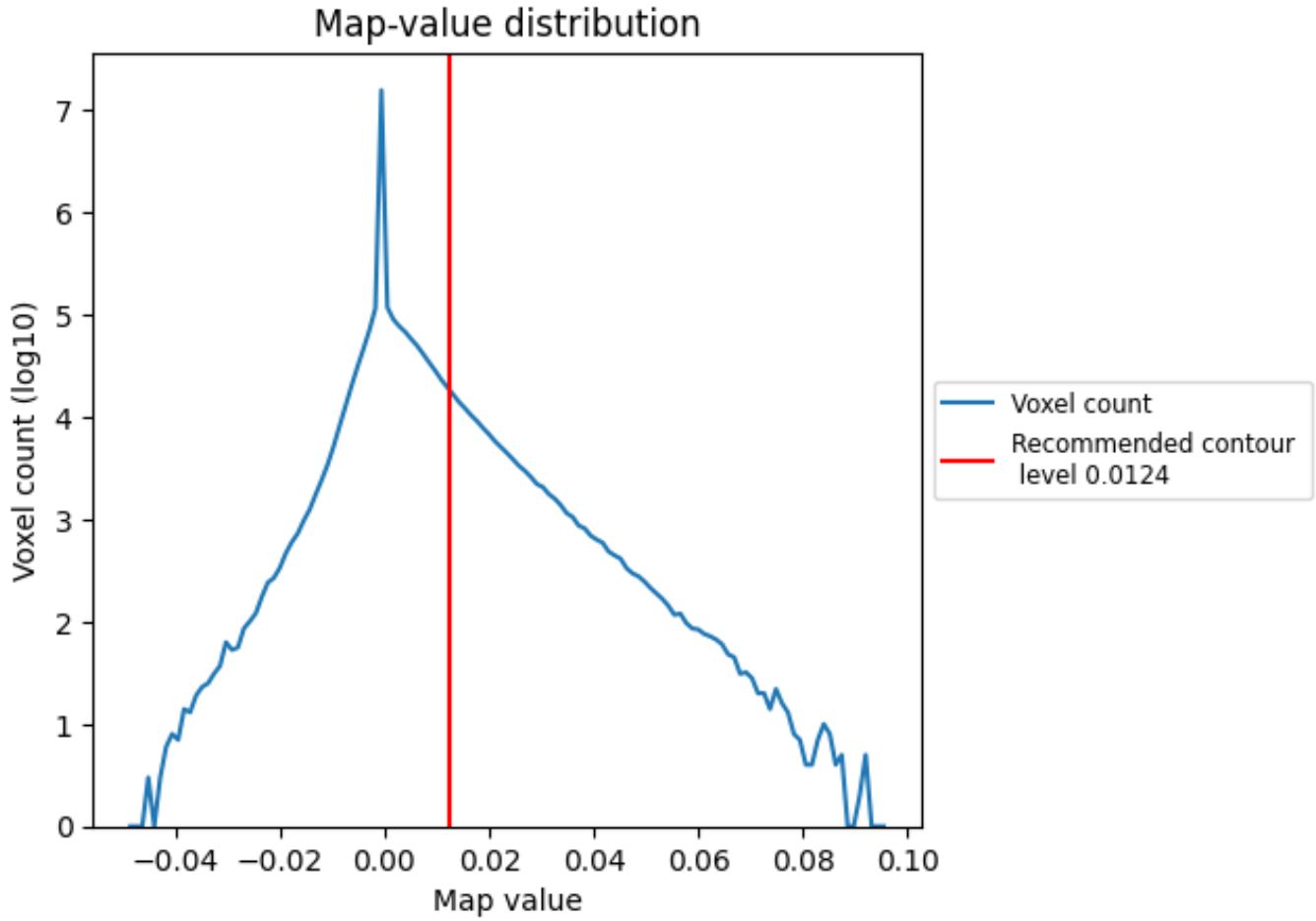


Z

7 Map analysis

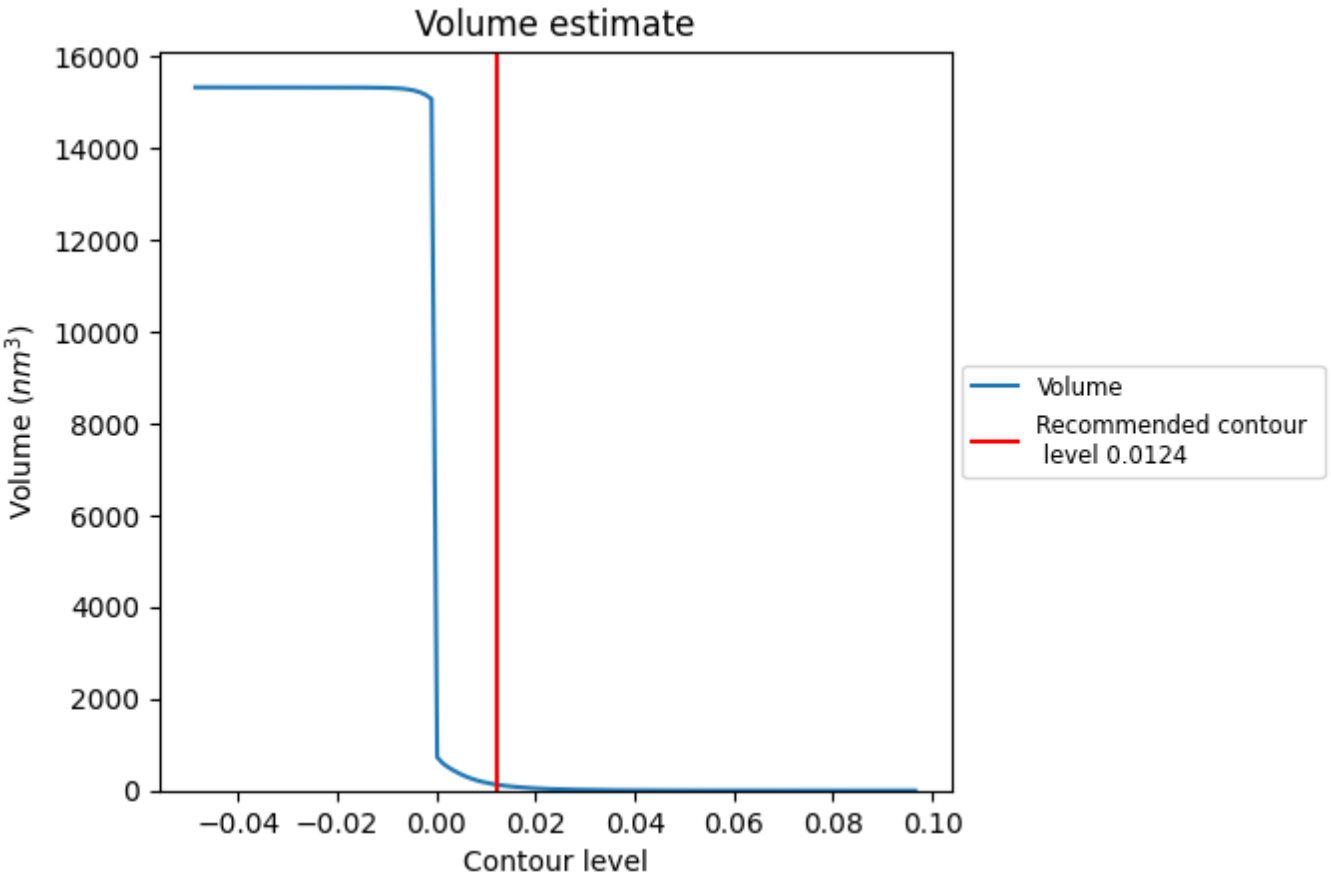
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

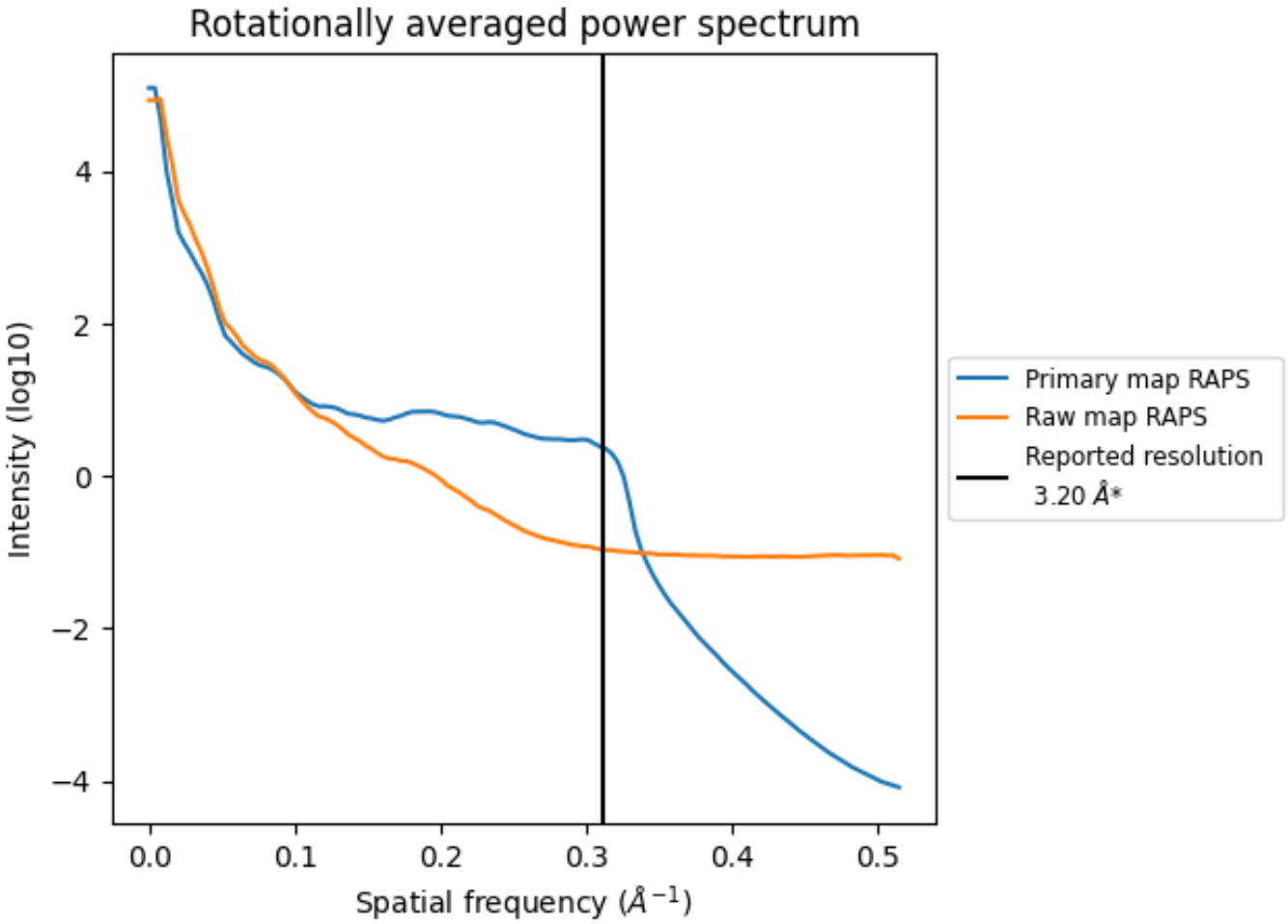
7.2 Volume estimate



The volume at the recommended contour level is 125 nm^3; this corresponds to an approximate mass of 113 kDa.

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

7.3 Rotationally averaged power spectrum (i)

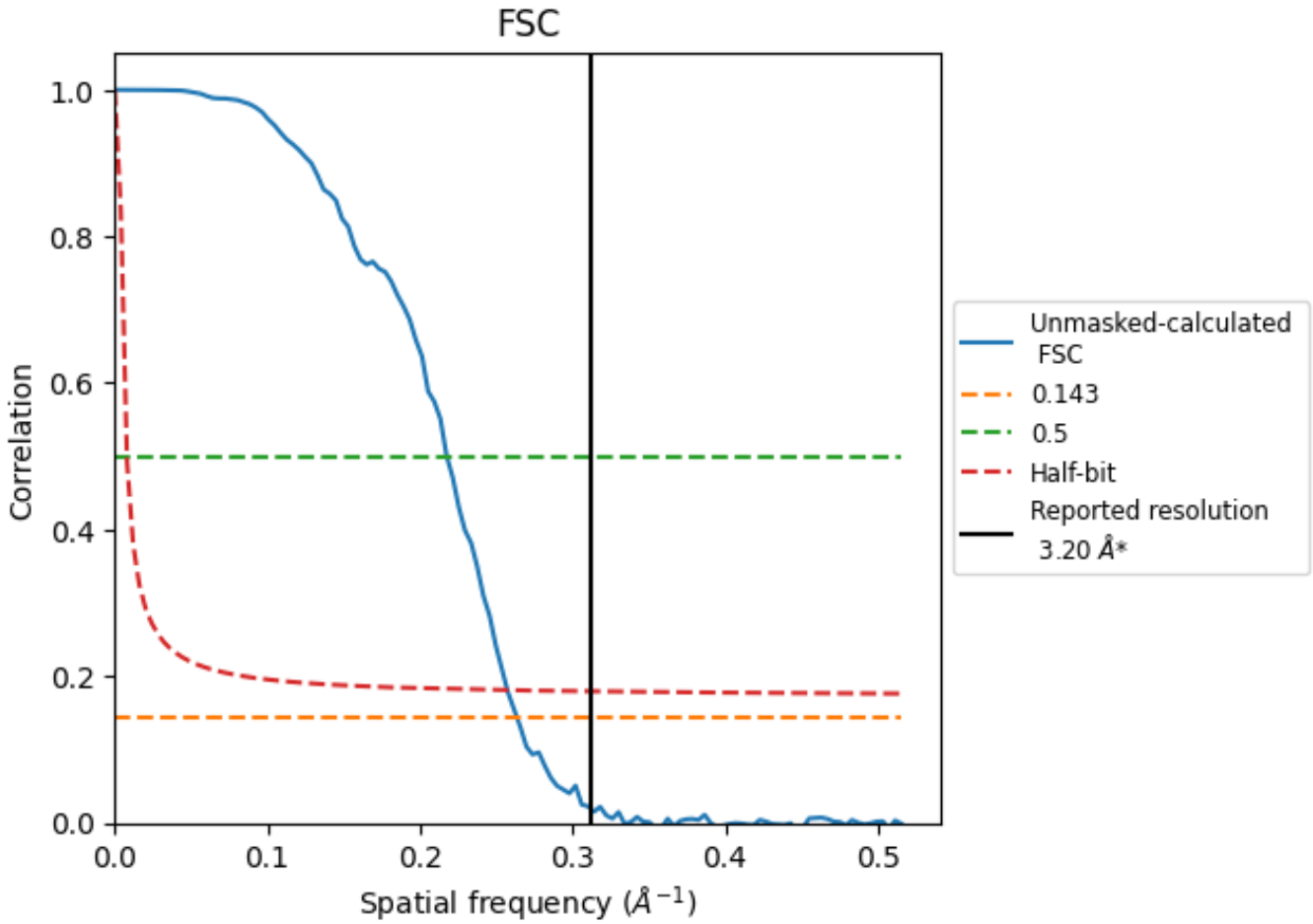


*Reported resolution corresponds to spatial frequency of 0.312 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.312 Å^{-1}

8.2 Resolution estimates (i)

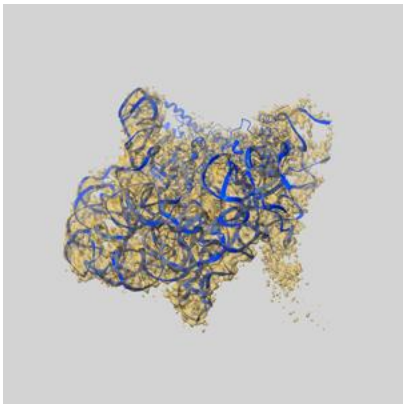
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.79	4.60	3.89

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.79 differs from the reported value 3.2 by more than 10 %

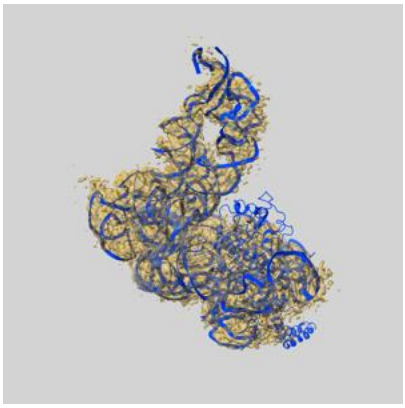
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-33039 and PDB model 8H2H. Per-residue inclusion information can be found in section 3 on page 4.

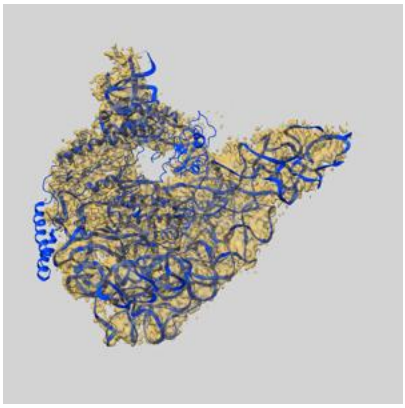
9.1 Map-model overlay



X



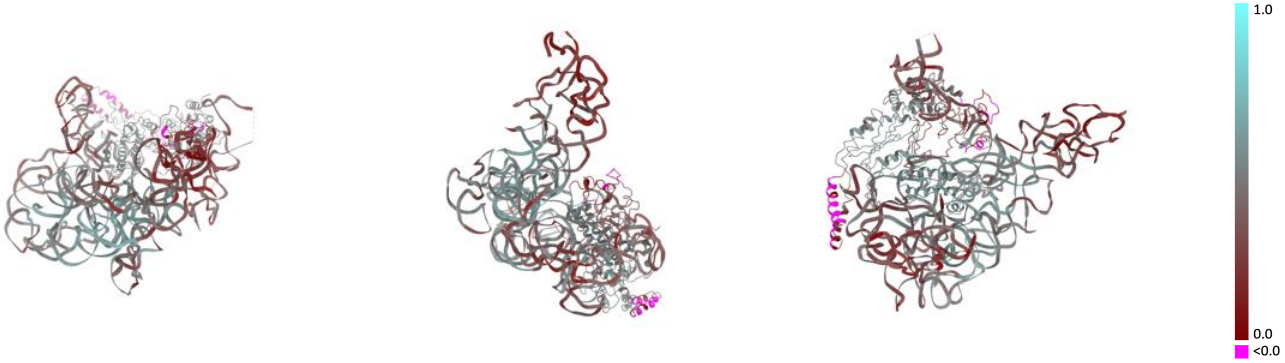
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0124 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

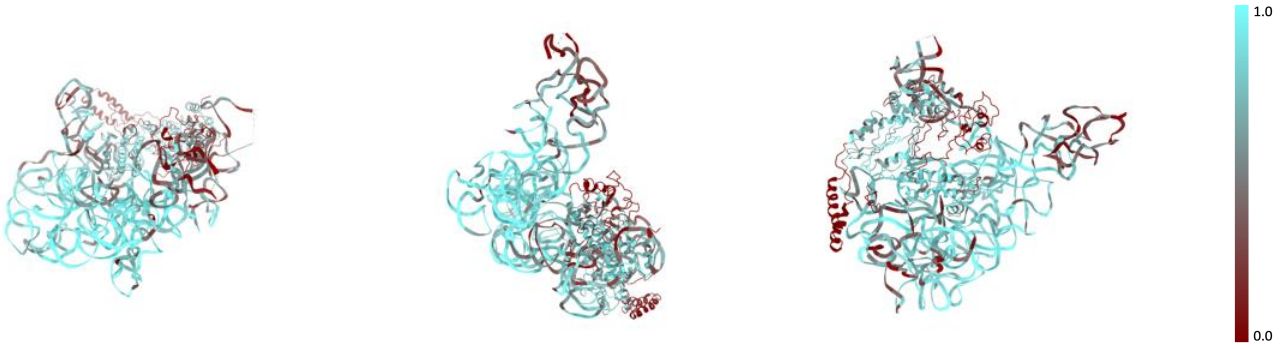
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

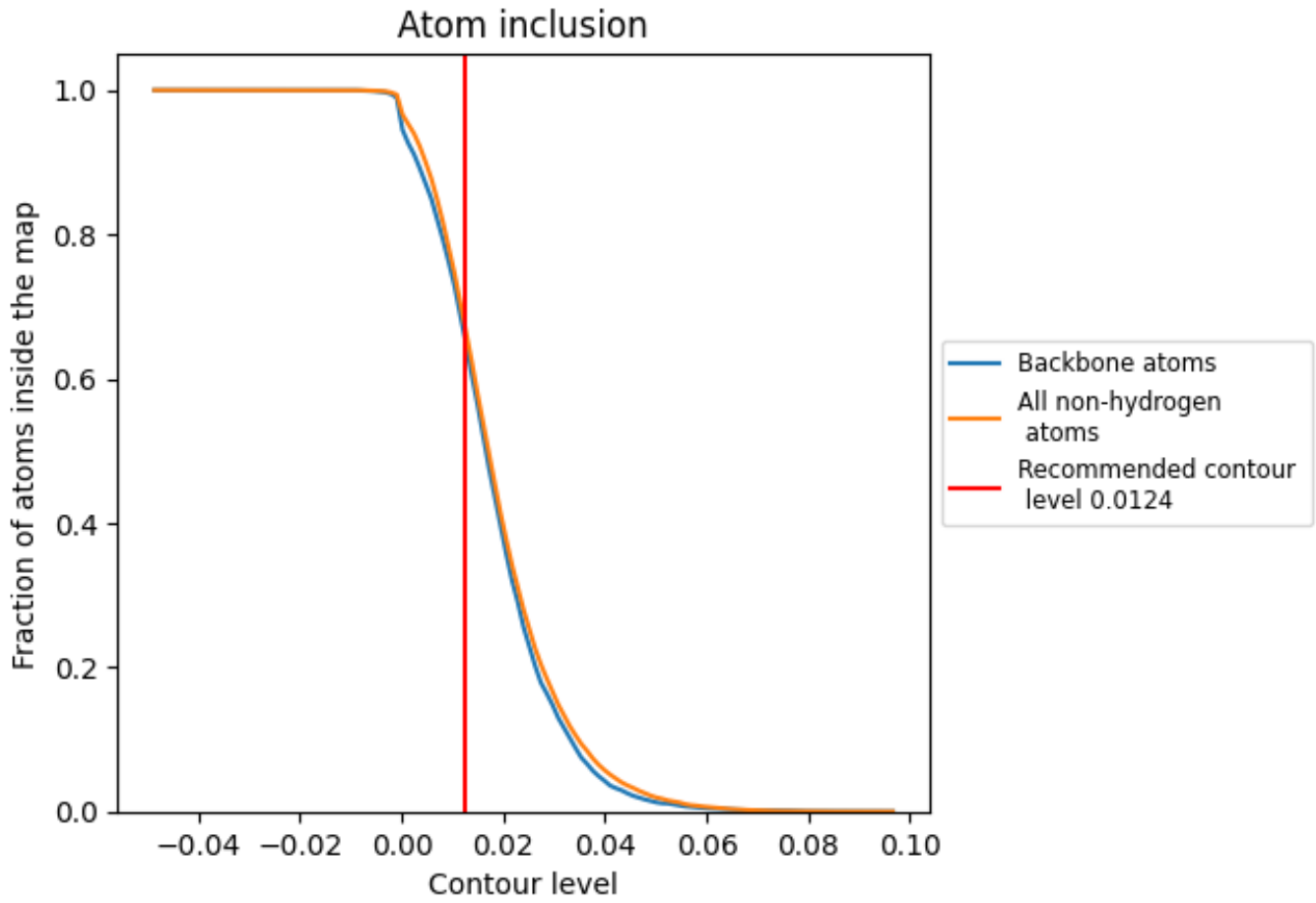
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0124).

9.4 Atom inclusion (i)



At the recommended contour level, 66% of all backbone atoms, 68% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0124) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6756	0.4140
A	0.7375	0.4120
B	0.6160	0.3990
D	0.4884	0.4200