WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Sep 29, 2021 – 04:19 pm BST

PDB ID	:	7A18
Title	:	50S Deinococcus radiodurans ribosome bounded with mycinamicin IV
Authors	:	Breiner, E.; Eyal, Z.; Matzov, D.; Halfon, Y.; Cimicata, G.; Rozenberg, H.; Zimmerman, E.; Bashan, A.; Yonath, A.
Deposited on	:	2020-08-12
Resolution	:	3.40 Å(reported)

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

|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.23.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0267
CCP4	:	7.1.010 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.2

1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.40 Å.

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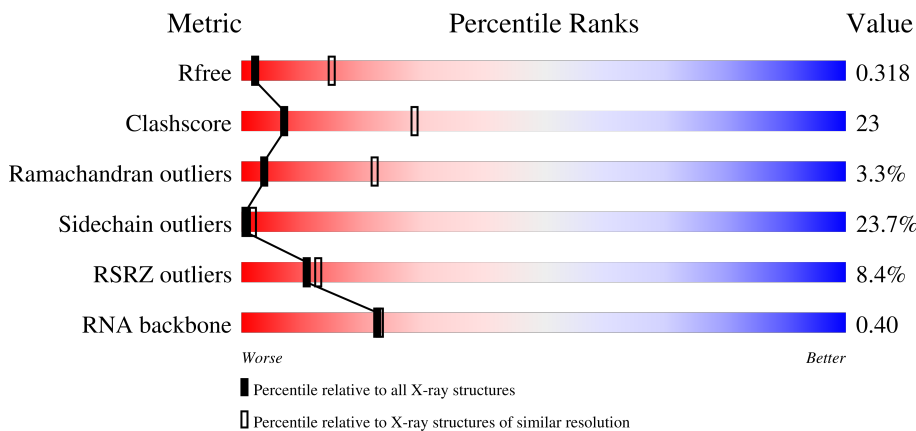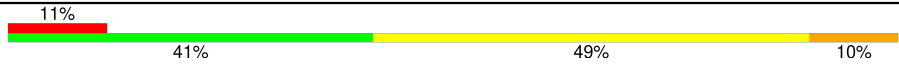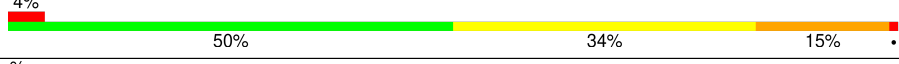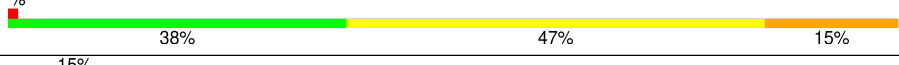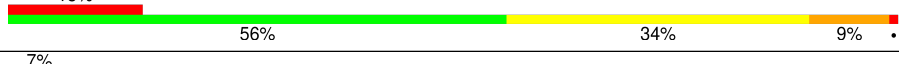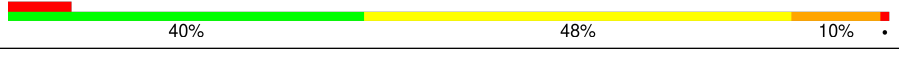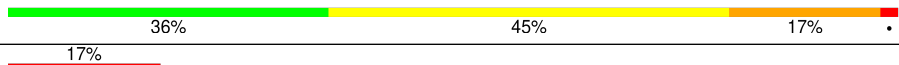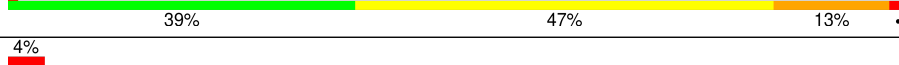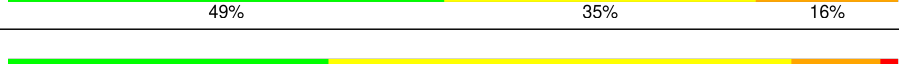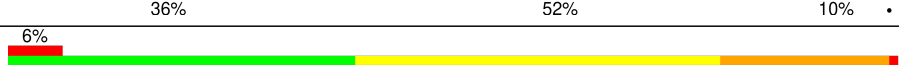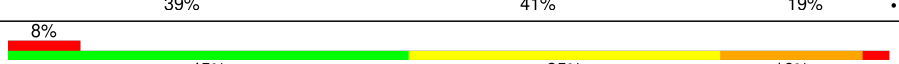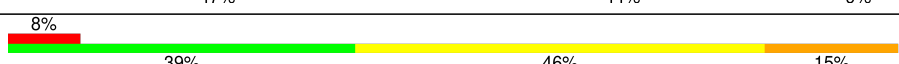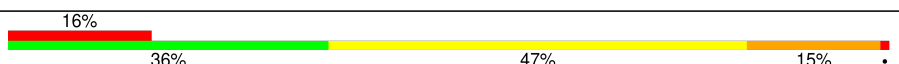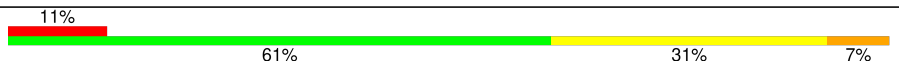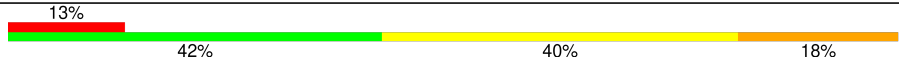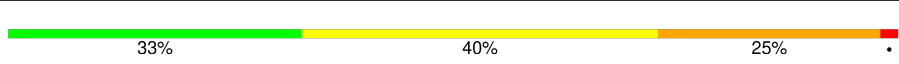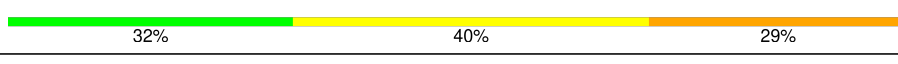

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1026 (3.48-3.32)
Clashscore	141614	1055 (3.48-3.32)
Ramachandran outliers	138981	1038 (3.48-3.32)
Sidechain outliers	138945	1038 (3.48-3.32)
RSRZ outliers	127900	2173 (3.50-3.30)
RNA backbone	3102	1006 (3.84-2.96)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	X	2699	7% / 25% 45% 25% 5%
2	Y	122	8% / 22% 56% 18% •
3	A	271	14% / 51% 41% 7%
4	B	206	4% / 48% 37% 14% •

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Mol	Chain	Length	Quality of chain
5	C	195	11% 41% 49% 10%
6	D	176	19% 43% 42% 15%
7	E	171	20% 50% 38% 12%
8	G	142	4% 50% 34% 15%
9	H	134	% 38% 47% 15%
10	I	137	15% 56% 34% 9%
11	J	134	7% 40% 48% 10%
12	K	115	36% 45% 17%
13	L	104	17% 50% 44% 6%
14	M	118	% 39% 47% 13%
15	N	117	4% 52% 38% 9%
16	O	98	6% 49% 35% 16%
17	P	129	36% 52% 10%
18	Q	93	6% 39% 41% 19%
19	R	110	8% 45% 35% 16%
20	S	175	27% 47% 44% 9%
21	T	72	8% 39% 46% 15%
22	U	74	16% 36% 47% 15%
23	V	54	11% 61% 31% 7%
24	W	55	13% 42% 40% 18%
25	Z	57	33% 40% 25%
26	1	49	16% 57% 31% 10%
27	2	46	54% 39% 7%
28	3	63	32% 40% 29%

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

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
30	MG	2	101	-	-	-	X
30	MG	X	2925	-	-	-	X
30	MG	X	2950	-	-	-	X
30	MG	X	2969	-	-	-	X
30	MG	X	2976	-	-	-	X
30	MG	X	2979	-	-	-	X
30	MG	X	3002	-	-	-	X
30	MG	X	3045	-	-	-	X
30	MG	X	3050	-	-	-	X
30	MG	X	3052	-	-	-	X
30	MG	X	3057	-	-	-	X
30	MG	X	3060	-	-	-	X
30	MG	X	3071	-	-	-	X
30	MG	X	3074	-	-	-	X
30	MG	X	3086	-	-	-	X
30	MG	X	3090	-	-	-	X
30	MG	X	3096	-	-	-	X
30	MG	X	3097	-	-	-	X
30	MG	X	3102	-	-	-	X
30	MG	X	3104	-	-	-	X
30	MG	X	3105	-	-	-	X
30	MG	X	3109	-	-	-	X
30	MG	X	3115	-	-	-	X
30	MG	X	3122	-	-	-	X
30	MG	X	3131	-	-	-	X
30	MG	X	3141	-	-	-	X
30	MG	X	3144	-	-	-	X
30	MG	X	3146	-	-	-	X
30	MG	X	3149	-	-	-	X
30	MG	X	3151	-	-	-	X
30	MG	X	3154	-	-	-	X
30	MG	X	3159	-	-	-	X
30	MG	X	3163	-	-	-	X
30	MG	Y	202	-	-	-	X
31	SPD	X	3166	-	-	-	X
31	SPD	X	3167	-	-	X	-

2 Entry composition ⓘ

There are 31 unique types of molecules in this entry. The entry contains 84387 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called RNA (2699-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	X	2699	Total	C	N	O	P	0	1	0
			57957	25853	10701	18704	2699			

- Molecule 2 is a RNA chain called RNA (122-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	Y	122	Total	C	N	O	P	0	0	0
			2598	1161	476	840	121			

- Molecule 3 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	271	Total	C	N	O	S	0	0	0
			2001	1246	390	362	3			

- Molecule 4 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	B	206	Total	C	N	O	S	0	0	0
			1544	968	296	272	8			

- Molecule 5 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	C	195	Total	C	N	O	S	0	0	0
			1467	912	280	273	2			

- Molecule 6 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	D	176	Total	C	N	O	S	0	0	0
			1367	870	238	253	6			

- Molecule 7 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	E	171	Total 1286	C 812	N 237	O 236	S 1	0	0	0

- Molecule 8 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	G	142	Total 1107	C 698	N 208	O 198	S 3	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	H	134	Total 993	C 611	N 197	O 180	S 5	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	I	137	Total 982	C 603	N 194	O 184	S 1	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	J	134	Total 1042	C 668	N 188	O 179	S 7	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	K	115	Total 897	C 552	N 183	O 159	S 3	0	0	0

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
13	L	104	Total 751	C 457	N 154	O 140	0	0	0

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	M	118	Total 923	C 578	N 178	O 167	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	N	117	Total 962	C 599	N 203	O 159	S 1	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	O	98	Total 734	C 459	N 135	O 139	S 1	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
O	12	ALA	TYR	conflict	UNP Q9RY64

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	P	129	Total 1020	C 643	N 199	O 176	S 2	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	Q	93	Total 718	C 452	N 134	O 130	S 2	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	R	110	Total 793	C 492	N 149	O 151	S 1	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	S	175	Total 1290	C 811	N 224	O 251	S 4	0	0	1

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	T	72	Total 542	C 343	N 104	O 94	S 1	0	0	0

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
22	U	74	Total 539	C 336	N 107	O 96	0	0	0

- Molecule 23 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	V	54	Total 438	C 270	N 89	O 78	S 1	0	0	0

- Molecule 24 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	W	55	Total 424	C 264	N 82	O 76	S 2	0	0	0

- Molecule 25 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Z	57	Total 448	C 275	N 92	O 76	S 5	0	0	0

- Molecule 26 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	1	49	Total 315	C 199	N 54	O 62	0	0	0

- Molecule 27 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	2	46	Total 383	C 230	N 91	O 60	S 2	0	0	0

- Molecule 28 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	3	63	Total 470	C 295	N 97	O 75	S 3	0	0	0

- Molecule 29 is MYCINAMICIN IV (three-letter code: MIV) (formula: $C_{37}H_{61}NO_{11}$) (labeled as "Ligand of Interest" by depositor).

MIV
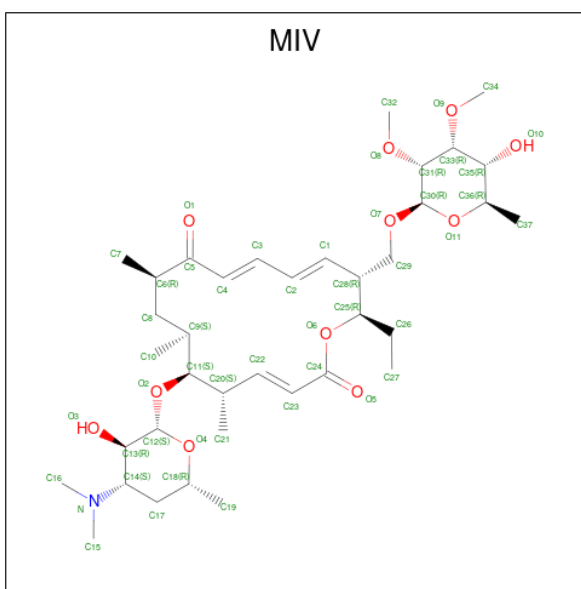
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
29	X	1	Total 49	C 37	N 1	O 11	0	0

- Molecule 30 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
30	X	264	Total 264	Mg 264	0	0
30	Y	4	Total 4	Mg 4	0	0
30	A	1	Total 1	Mg 1	0	0
30	I	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
30	N	1	Total 1	Mg 1	0	0
30	Q	2	Total 2	Mg 2	0	0
30	W	1	Total 1	Mg 1	0	0
30	2	2	Total 2	Mg 2	0	0
30	3	1	Total 1	Mg 1	0	0

- Molecule 31 is SPERMIDINE (three-letter code: SPD) (formula: $C_7H_{19}N_3$).
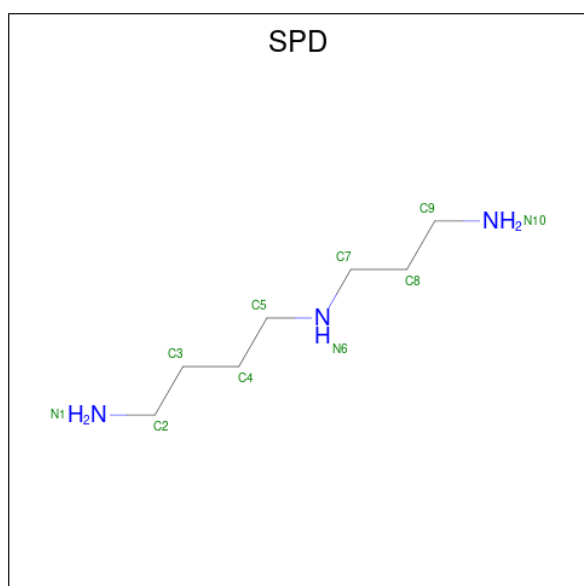
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
31	X	1	Total 10	C 7	N 3	0	0
31	X	1	Total 10	C 7	N 3	0	0
31	X	1	Total 10	C 7	N 3	0	0
31	X	1	Total 10	C 7	N 3	0	0
31	X	1	Total 10	C 7	N 3	0	0
31	X	1	Total 10	C 7	N 3	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
31	V	1	Total 10	C 7	N 3	0	0

3 Residue-property plots ⓘ

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

• Molecule 1: RNA (2699-MER)

• Molecule 2: RNA (122-MER)

• Molecule 3: 50S ribosomal protein L2
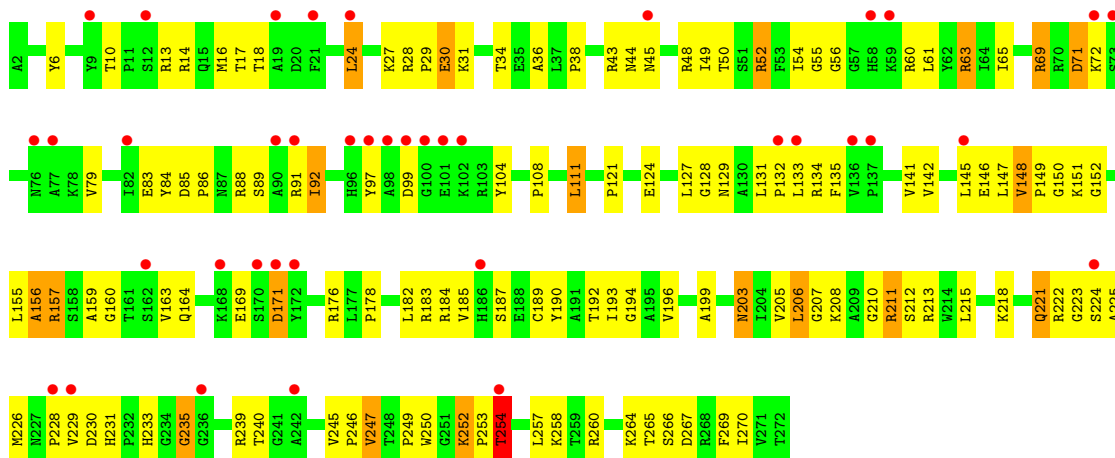
• Molecule 4: 50S ribosomal protein L3
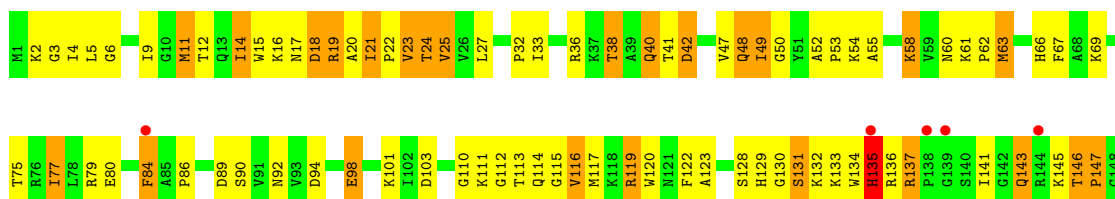
• Molecule 5: 50S ribosomal protein L4

Chain C:
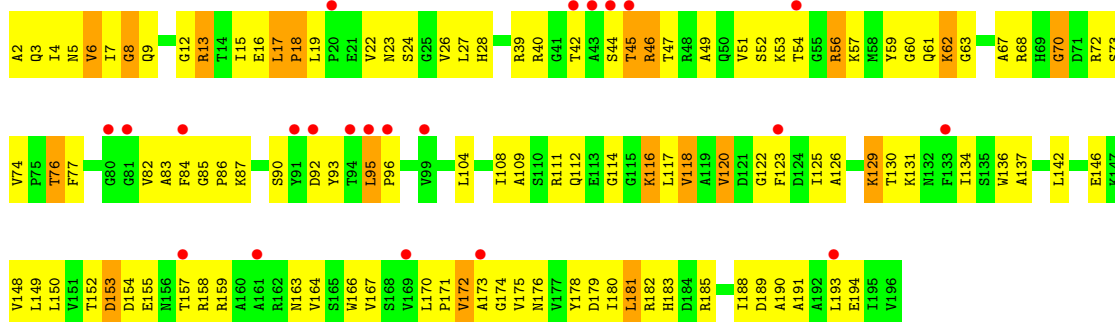
• Molecule 6: 50S ribosomal protein L5

Chain D:
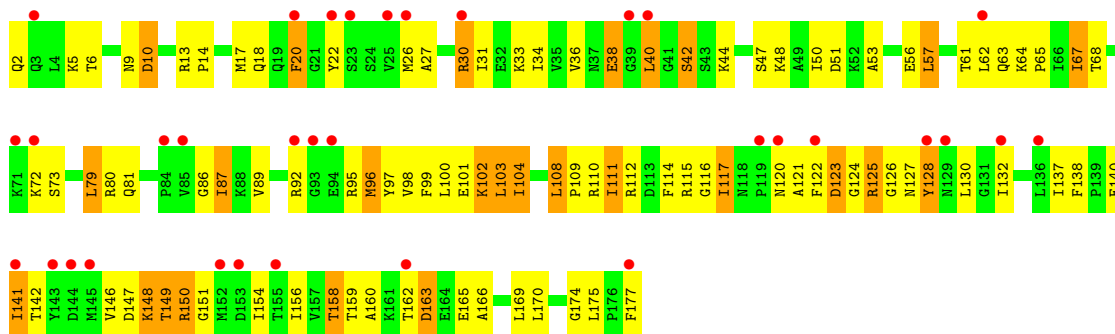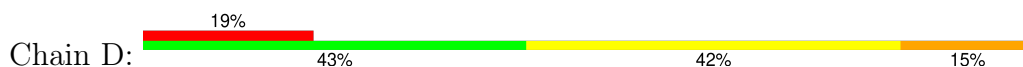
• Molecule 7: 50S ribosomal protein L6

Chain E:
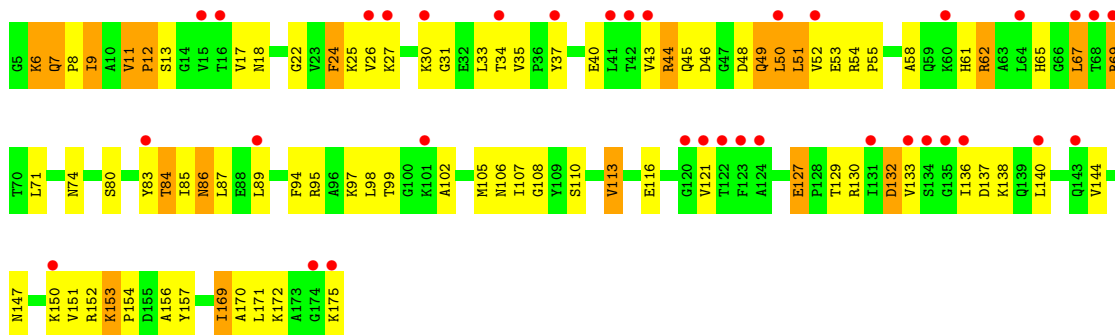
• Molecule 8: 50S ribosomal protein L13

Chain G:
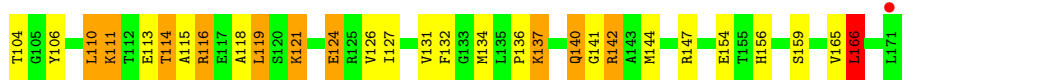
• Molecule 9: 50S ribosomal protein L14

Chain H:
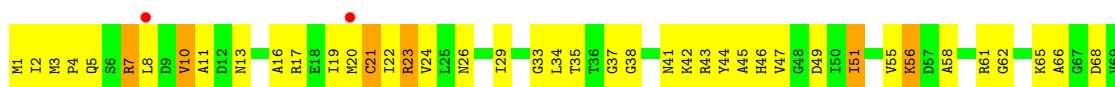
• Molecule 10: 50S ribosomal protein L15

Chain I:
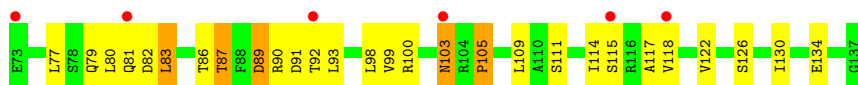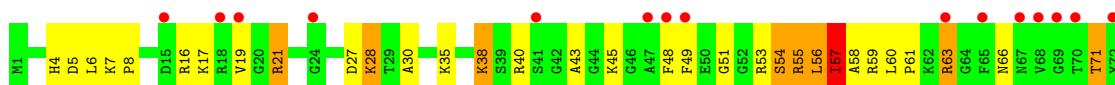
• Molecule 11: 50S ribosomal protein L16

Chain J:
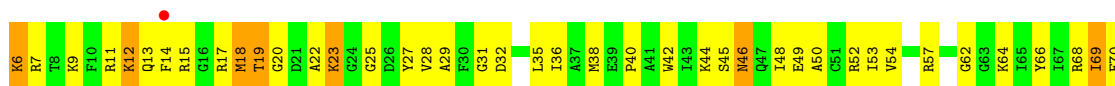
• Molecule 12: 50S ribosomal protein L17

Chain K:

V75 V76 R77 K78 V79 M80 D81 V83 K86 Y87 A88 E89 R90 P91 G92 G93 Y94 T95 R96 I97 L98 R99 T102 R103 R104 G105 D106 T109 M110 A111 L112 I113 E114 L115

• Molecule 13: 50S ribosomal protein L18

Chain L:

17%
50% 44% 6%

R8 R9 K10 L11 R14 R15 K16 V17 R18 T19 T20 T21 S24 G25 R26 L27 R28 L29 S30 V31 Y32 R33 S34 S35 K36 H37 I38 Y39 A40 Q41 I42 I43 S46 R47 G48 Q49 T50 L51 A52 A53 A54 S55 T67 A68 A69 A70 V71 L75 A76 A77 A78 E81 K85

Q86 K86 F89 D90 R91 G92 S93 Y94 K95 Y96 H97 G98 R99 V100 K101 A102 L103 A104 D105 E109 G110 G111
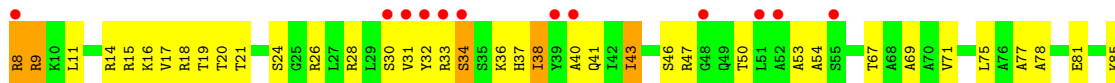
• Molecule 14: 50S ribosomal protein L19

Chain M:

%
39% 47% 13%

Q2 T3 H4 I5 K6 I7 N8 R9 G10 E11 L12 L13 G15 I16 E17 Q18 L24 P25 D26 F27 R28 P29 G30 D31 T32 V33 K38 E41 G42 N43 R44 T45 R46 F50 E51 V54 I55 A56 I57 N58 G59 S62 R63 K64 T67 V68 R69 F73 V77 E78

R79 V80 F81 P82 S85 P86 L87 V88 N89 Q90 V91 T92 I93 V94 E95 R96 G97 K98 V99 R100 R101 A102 K103 L104 R108 E109 L110 K113 A114 A115 R116 I117 K118 S119
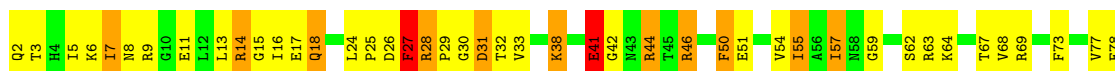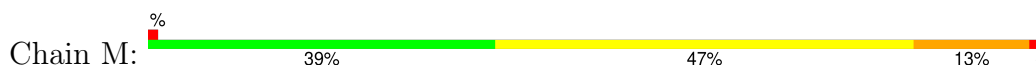
• Molecule 15: 50S ribosomal protein L20

Chain N:

4%
52% 38% 9%

P2 T6 G7 I8 V9 R10 R11 R12 R13 H14 K15 L18 K22 G23 P24 R28 S29 K30 Q31 N34 Q37 L40 A43 T44 Y47 R48 D49 R50 R51 N52 K53 K54 R58 R59 L60 W61 I62 Q63 R64 I65 N66 H72 Y76 F79 I80 L83

K84 R85 I88 D89 L90 N91 R92 K93 V94 L95 A96 D97 R101 E102 F106 K107 A108 L109 V110 S113 Q118
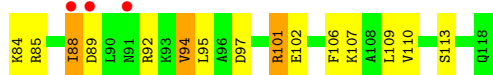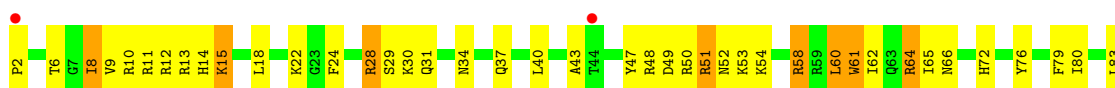
• Molecule 16: 50S ribosomal protein L21

Chain O:

6%
49% 35% 16%

M1 I4 I5 Q6 T7 G8 G9 K10 Q11 V14 S15 E16 V19 I20 R21 V22 E23 S24 L25 Q26 D31 K32 V33 E34 L35 K36 A37 L38 F39 V40 G41 G42 E43 Q44 F47 G48 E49 D50 A51 G52 K53 Y54 T55 H63 G64 R65 G66 K67 R72 K73 Y74 V78

Q79 Y80 R81 R82 R83 T84 G85 H86 R87 Q88 N89 F90 L96 G97 I98
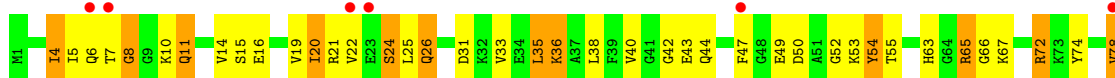
• Molecule 17: 50S ribosomal protein L22

Chain P:

36% 52% 10%

• Molecule 18: 50S ribosomal protein L23

• Molecule 19: 50S ribosomal protein L24
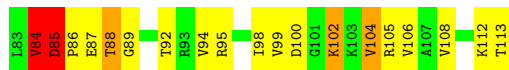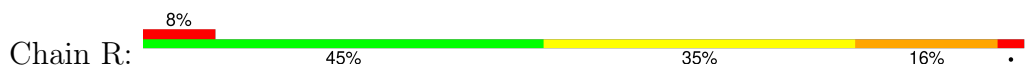
• Molecule 20: 50S ribosomal protein L25
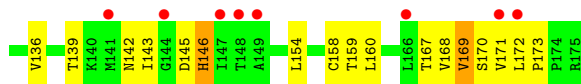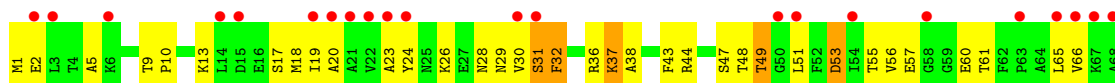
• Molecule 21: 50S ribosomal protein L27

• Molecule 22: 50S ribosomal protein L28

Chain U:

16%

36% 47% 15%

Y6 L7 K11 V14 V15 N16 S17 V18 I19 R20 R21 G22 K23 A24 D27 V30 K33 T34 T35 G36 I37 T38 K39 R40 Q42 R43 A44 N45 L46 H47 K48 K49 A50 E53 N54 V57 K58 T59 V60 W61 L62 S63 A64 N65 A66 L67 R68 T69 K72 G73 P74

Y75 K76 G77 I78 E79
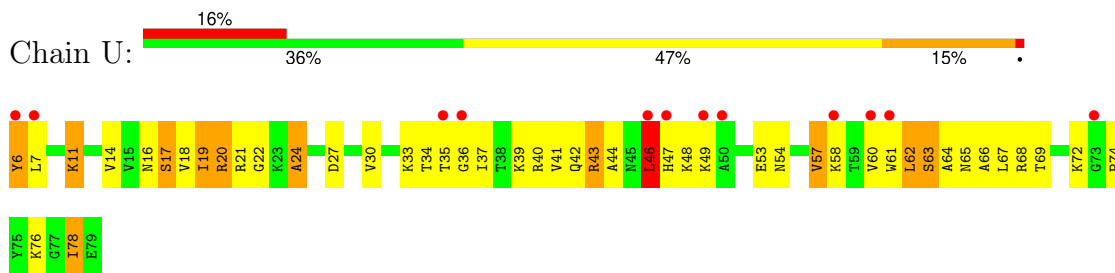
• Molecule 23: 50S ribosomal protein L29

Chain V:

11%

61% 31% 7%

D13 F14 E17 I18 D19 L25 M26 E27 L28 R29 F30 A33 Q36 L37 P40 H41 R42 V43 R44 Q45 L46 R47 R48 E49 V50 A51 Q52 L53 K57 A58 E59 R62 Q66
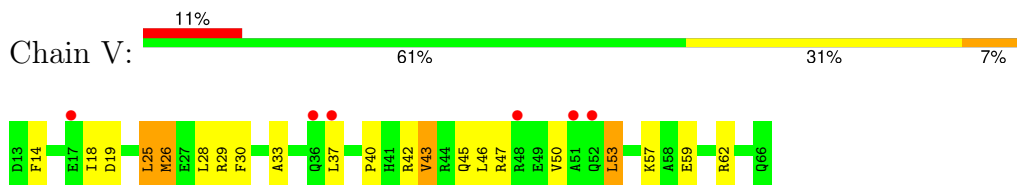
• Molecule 24: 50S ribosomal protein L30

Chain W:

13%

42% 40% 18%

M1 K2 I3 K4 L5 V6 R7 S8 V9 I10 G11 R12 Q16 V17 V20 Q21 A22 L23 G24 L25 R26 K27 I28 G29 D30 S31 V34 S35 D36 T37 P38 A39 V40 R41 G42 M43 V44 K45 T46 V47 K48 H49 L50 L51 E52 E55
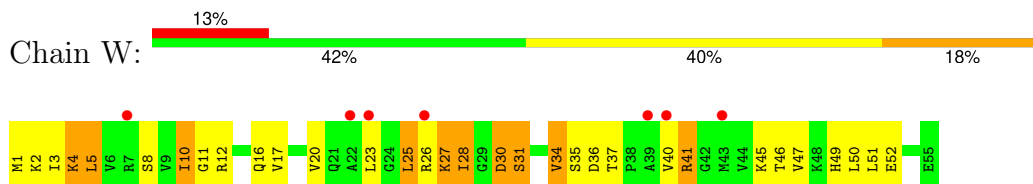
• Molecule 25: 50S ribosomal protein L32

Chain Z:

33% 40% 25%

K3 H4 P5 V6 P7 K8 K9 K10 K13 S14 K15 R16 D17 M18 R19 R20 S21 L25 L30 T31 E32 C33 C36 H37 G38 K39 K40 L41 S42 H43 H44 I45 C46 C49 G50 Y51 Y52 D53 G54 R55 Q56 V57 L58 A59
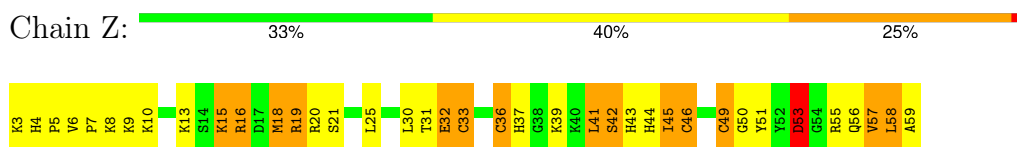
• Molecule 26: 50S ribosomal protein L33

Chain 1:

16%

57% 31% 10%

P6 R7 I8 I9 E13 S14 S15 F20 Y21 Y22 T23 T24 N27 R28 R29 N30 K34 L35 E36 L37 Y40 D41 P42 K45 R51 E52 K53 K54
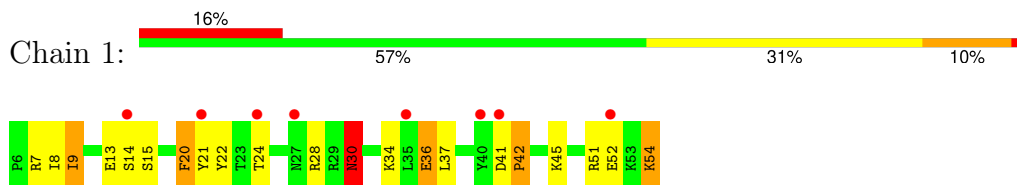
• Molecule 27: 50S ribosomal protein L34

Chain 2:

54% 39% 7%

M1 K2 R3 T4 Y5 Q6 P7 R10 K11 R12 A13 K14 G17 F18 R19 A20 R21 M22 K23 T24 R28 N29 I30 R33 R34 R39 H40 Q41 L42 D46
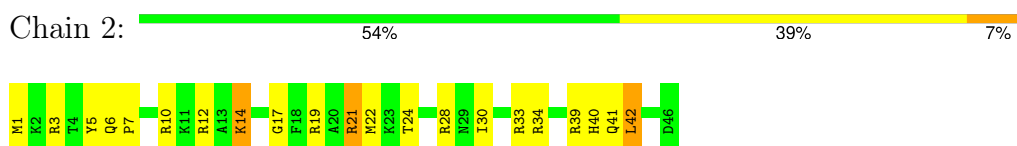
• Molecule 28: 50S ribosomal protein L35

Chain 3:

32% 40% 29%
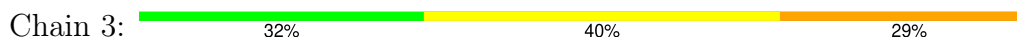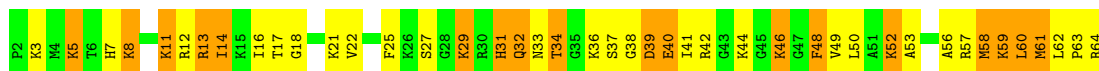
4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α, β, γ	169.59Å　　410.13Å　　690.48Å 90.00°　　　90.00°　　　90.00°	Depositor
Resolution (Å)	50.00　–　3.40 50.07　–　3.30	Depositor EDS
% Data completeness (in resolution range)	93.9 (50.00-3.40) 91.9 (50.07-3.30)	Depositor EDS
R_{merge}	0.29	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.76 (at 3.33Å)	Xtriage
Refinement program	PHENIX 1.15.2_3472	Depositor
R, R_{free}	0.284　,　0.318 0.284　,　0.318	Depositor DCC
R_{free} test set	16405 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å²)	79.6	Xtriage
Anisotropy	0.724	Xtriage
Bulk solvent k_{sol}(e/Å³), B_{sol}(Å²)	(Not available) , (Not available)	EDS
L-test for twinning[2]	$< |L| > = 0.45, < L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.85	EDS
Total number of atoms	84387	wwPDB-VP
Average B, all atoms (Å²)	109.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.31% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MIV, SPD, MG

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	X	0.81	33/64897 (0.1%)	1.48	1063/101217 (1.1%)
2	Y	0.56	0/2904	1.27	26/4525 (0.6%)
3	A	0.37	0/2041	0.59	0/2765
4	B	0.59	0/1572	0.78	0/2112
5	C	0.44	0/1490	0.67	1/2021 (0.0%)
6	D	0.34	0/1385	0.58	0/1863
7	E	0.34	0/1308	0.59	0/1771
8	G	0.46	0/1131	0.68	1/1531 (0.1%)
9	H	0.71	1/1003 (0.1%)	0.85	0/1348
10	I	0.46	0/994	0.74	0/1338
11	J	0.50	0/1064	0.70	0/1425
12	K	0.71	0/905	0.92	1/1212 (0.1%)
13	L	0.31	0/755	0.65	0/1011
14	M	0.68	0/936	0.86	0/1257
15	N	0.53	0/978	0.75	1/1305 (0.1%)
16	O	0.43	0/741	0.66	0/992
17	P	0.62	0/1033	0.79	1/1383 (0.1%)
18	Q	0.38	0/729	0.60	0/980
19	R	0.44	0/803	0.66	0/1087
20	S	0.36	0/1312	0.59	0/1791
21	T	0.43	0/549	0.65	0/728
22	U	0.32	0/544	0.61	0/732
23	V	0.38	0/441	0.48	0/586
24	W	0.43	0/426	0.68	0/568
25	Z	0.69	0/460	0.87	2/618 (0.3%)
26	1	0.41	0/319	0.66	0/438
27	2	0.41	0/387	0.64	0/509
28	3	0.44	0/475	0.70	1/623 (0.2%)
All	All	0.73	34/91582 (0.0%)	1.33	1097/137736 (0.8%)

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
4	B	0	5
5	C	0	1
8	G	0	1
10	I	0	2
11	J	0	2
12	K	0	1
14	M	0	2
16	O	0	1
19	R	0	2
20	S	0	1
25	Z	0	2
All	All	0	20

All (34) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	1278	A	N3-C4	-8.26	1.29	1.34
1	X	1981	A	N3-C4	-7.72	1.30	1.34
9	H	21	CYS	CB-SG	-7.46	1.69	1.82
1	X	1278	A	N9-C4	-7.20	1.33	1.37
1	X	2823	G	N7-C5	-6.66	1.35	1.39
1	X	2796	A	N3-C4	-6.62	1.30	1.34
1	X	1688	U	C2-N3	6.49	1.42	1.37
1	X	1691	G	N7-C5	-6.45	1.35	1.39
1	X	1686	A	N3-C4	-6.41	1.31	1.34
1	X	1750	A	N7-C5	-6.35	1.35	1.39
1	X	581	A	N3-C4	6.04	1.38	1.34
1	X	1278	A	C6-N1	-5.98	1.31	1.35
1	X	2823	G	N9-C8	-5.89	1.33	1.37
1	X	484	G	N7-C5	-5.84	1.35	1.39
1	X	1687	C	N3-C4	-5.83	1.29	1.33
1	X	1976	U	N3-C4	-5.71	1.33	1.38
1	X	994	A	C6-N1	-5.70	1.31	1.35
1	X	2690	A	C5-C6	-5.62	1.35	1.41
1	X	2848	A	N3-C4	-5.59	1.31	1.34
1	X	2530	C	N3-C4	-5.53	1.30	1.33
1	X	2804	G	N3-C4	-5.43	1.31	1.35
1	X	1338	G	C2-N3	5.31	1.36	1.32
1	X	970	A	N7-C5	-5.29	1.36	1.39
1	X	2022	C	N3-C4	-5.28	1.30	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	1688	U	N3-C4	5.22	1.43	1.38
1	X	1976	U	C4-O4	-5.22	1.19	1.23
1	X	1981	A	C6-N1	-5.20	1.31	1.35
1	X	2796	A	C5-C4	-5.18	1.35	1.38
1	X	2488	G	C5-C4	-5.16	1.34	1.38
1	X	1997	A	N7-C5	-5.12	1.36	1.39
1	X	586	G	N7-C5	-5.11	1.36	1.39
1	X	2435	C	N1-C6	-5.10	1.34	1.37
1	X	1206	G	N9-C4	-5.10	1.33	1.38
1	X	2817	A	N9-C4	-5.07	1.34	1.37

All (1097) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2489	C	C6-N1-C2	-19.63	112.45	120.30
1	X	1675	C	O5'-P-OP1	-17.57	89.61	110.70
1	X	2532	G	O5'-P-OP2	-13.57	93.48	105.70
1	X	2489	C	N3-C4-C5	-13.52	116.49	121.90
1	X	1973	C	C6-N1-C2	-12.59	115.27	120.30
1	X	2491	C	C6-N1-C2	-12.17	115.43	120.30
1	X	2800	C	C6-N1-C2	-11.79	115.58	120.30
1	X	759	C	C6-N1-C2	-11.67	115.63	120.30
1	X	2580	C	C6-N1-C2	-11.49	115.70	120.30
1	X	2499	C	C6-N1-C2	-11.24	115.80	120.30
1	X	1278	A	C2-N3-C4	-10.93	105.13	110.60
1	X	1307	U	C5-C6-N1	10.92	128.16	122.70
1	X	2692	A	O5'-P-OP2	-10.86	95.92	105.70
1	X	527	C	C6-N1-C2	-10.81	115.98	120.30
1	X	759	C	N3-C4-C5	-10.73	117.61	121.90
1	X	2691	C	O4'-C1'-N1	10.66	116.73	108.20
1	X	1973	C	C5-C6-N1	10.62	126.31	121.00
1	X	2800	C	C5-C6-N1	10.57	126.28	121.00
1	X	1685	A	O5'-P-OP1	-10.57	96.19	105.70
1	X	1937	G	N3-C4-C5	-10.46	123.37	128.60
1	X	1682	A	O5'-P-OP1	-10.44	96.30	105.70
1	X	1466	C	N1-C2-O2	10.27	125.06	118.90
1	X	169	C	N1-C2-O2	10.26	125.06	118.90
1	X	2559	U	O5'-P-OP1	-10.13	96.58	105.70
1	X	1288	A	O5'-P-OP2	-10.11	96.60	105.70
1	X	1680	U	C5-C6-N1	-10.02	117.69	122.70
1	X	1770	U	C5-C6-N1	-9.91	117.75	122.70
1	X	1958	G	N9-C4-C5	-9.87	101.45	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1339	U	C5-C4-O4	-9.81	120.02	125.90
1	X	1466	C	C2-N1-C1'	9.75	129.53	118.80
2	Y	39	C	N1-C2-O2	9.72	124.73	118.90
1	X	1338	G	N3-C4-C5	-9.71	123.74	128.60
1	X	1697	U	N3-C2-O2	-9.56	115.51	122.20
1	X	1292	A	C8-N9-C4	9.40	109.56	105.80
1	X	1291	G	C8-N9-C4	9.39	110.16	106.40
1	X	1300	A	C2-N3-C4	9.38	115.29	110.60
2	Y	39	C	C2-N1-C1'	9.29	129.02	118.80
1	X	2542	U	N3-C2-O2	-9.27	115.71	122.20
1	X	2668	U	C2-N1-C1'	-9.25	106.60	117.70
1	X	56	C	C2-N1-C1'	9.18	128.90	118.80
1	X	2857	C	C6-N1-C2	-9.16	116.64	120.30
1	X	2470	U	C2-N1-C1'	9.14	128.67	117.70
1	X	1338	G	N3-C4-N9	9.14	131.48	126.00
1	X	2675	U	N3-C2-O2	-9.11	115.82	122.20
1	X	2551	A	C8-N9-C4	9.08	109.43	105.80
1	X	2437	G	C8-N9-C4	-9.07	102.77	106.40
1	X	583	C	C4-C5-C6	9.06	121.93	117.40
1	X	1468	A	C8-N9-C4	-9.05	102.18	105.80
1	X	2489	C	C5-C6-N1	9.05	125.52	121.00
1	X	759	C	C5-C6-N1	9.04	125.52	121.00
1	X	994	A	N1-C6-N6	-9.04	113.18	118.60
1	X	2434	G	C8-N9-C4	-8.99	102.80	106.40
1	X	1467	U	N1-C2-O2	8.87	129.01	122.80
1	X	1995	G	N3-C4-N9	8.87	131.32	126.00
1	X	1006	C	C6-N1-C2	-8.86	116.76	120.30
2	Y	14	C	C6-N1-C2	-8.84	116.76	120.30
1	X	343	A	O4'-C1'-N9	8.80	115.24	108.20
1	X	1344	C	N1-C2-O2	8.80	124.18	118.90
1	X	2435	C	C6-N1-C2	8.77	123.81	120.30
1	X	2667	C	N3-C4-C5	8.74	125.40	121.90
1	X	2668	U	N1-C2-O2	-8.68	116.72	122.80
1	X	2484	G	C4-C5-N7	8.68	114.27	110.80
1	X	2796	A	N1-C6-N6	-8.68	113.39	118.60
1	X	1467	U	N1-C2-N3	-8.68	109.69	114.90
1	X	484	G	C8-N9-C4	-8.67	102.93	106.40
1	X	2585	C	N1-C2-O2	8.61	124.06	118.90
1	X	1288	A	O5'-P-OP1	8.60	121.02	110.70
1	X	1307	U	C5-C4-O4	-8.55	120.77	125.90
1	X	1697	U	N1-C2-O2	8.54	128.78	122.80
1	X	2804	G	O5'-P-OP2	-8.54	98.02	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	559	C	C2-N1-C1'	8.53	128.19	118.80
1	X	2681	A	C8-N9-C4	8.51	109.20	105.80
1	X	689	A	N1-C6-N6	8.50	123.70	118.60
1	X	1977	C	N1-C2-O2	8.50	124.00	118.90
1	X	2040	A	C5-C6-N1	8.48	121.94	117.70
1	X	540	G	C5-C6-O6	-8.45	123.53	128.60
1	X	2499	C	C5-C6-N1	8.45	125.22	121.00
1	X	1691	G	N3-C4-C5	-8.43	124.38	128.60
1	X	2018	G	O4'-C1'-N9	8.43	114.94	108.20
1	X	1265	G	N3-C4-C5	-8.39	124.40	128.60
1	X	1675	C	O5'-P-OP2	8.39	120.76	110.70
1	X	756	C	C6-N1-C2	-8.38	116.95	120.30
1	X	1270	C	N3-C4-C5	-8.38	118.55	121.90
1	X	2690	A	O5'-P-OP1	-8.35	98.19	105.70
1	X	559	C	N1-C2-O2	8.33	123.90	118.90
1	X	2828	C	C5-C6-N1	8.32	125.16	121.00
1	X	1307	U	C4-C5-C6	-8.24	114.75	119.70
1	X	219	G	P-O3'-C3'	8.23	129.57	119.70
1	X	1466	C	C6-N1-C1'	-8.21	110.95	120.80
1	X	1292	A	N7-C8-N9	-8.21	109.70	113.80
1	X	1280	U	O5'-P-OP2	-8.19	98.33	105.70
1	X	1308	C	C6-N1-C2	-8.18	117.03	120.30
1	X	2434	G	C4-N9-C1'	8.18	137.13	126.50
1	X	2470	U	N1-C2-O2	8.17	128.52	122.80
1	X	2554	C	O5'-P-OP1	-8.12	98.39	105.70
1	X	577	U	N3-C2-O2	-8.12	116.52	122.20
1	X	56	C	N1-C2-O2	8.11	123.76	118.90
1	X	2821	G	O5'-P-OP1	-8.08	98.43	105.70
1	X	969	U	C5-C6-N1	-8.07	118.66	122.70
1	X	1172	U	C5-C6-N1	8.05	126.72	122.70
1	X	2663	U	N1-C2-O2	-8.04	117.17	122.80
1	X	592	G	C8-N9-C4	-8.02	103.19	106.40
1	X	2551	A	N7-C8-N9	-8.01	109.79	113.80
1	X	833	A	N1-C6-N6	7.99	123.39	118.60
1	X	1717	A	N1-C6-N6	-7.98	113.81	118.60
1	X	2659	C	O5'-P-OP1	-7.97	98.52	105.70
1	X	2856	U	N1-C2-O2	-7.97	117.22	122.80
1	X	2484	G	C6-C5-N7	-7.97	125.62	130.40
1	X	1468	A	N7-C8-N9	7.96	117.78	113.80
1	X	2543	A	N1-C6-N6	-7.95	113.83	118.60
1	X	2703	C	C6-N1-C2	-7.93	117.13	120.30
1	X	1223	G	C4-N9-C1'	7.91	136.78	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	583	C	C5-C6-N1	-7.89	117.05	121.00
1	X	2531	U	C5-C4-O4	7.89	130.63	125.90
1	X	1691	G	C8-N9-C4	-7.85	103.26	106.40
1	X	1300	A	C5-C6-N1	7.84	121.62	117.70
1	X	1684	G	C8-N9-C4	-7.82	103.27	106.40
1	X	2470	U	C6-N1-C1'	-7.82	110.25	121.20
1	X	1801	C	O5'-P-OP1	-7.82	98.66	105.70
1	X	1338	G	C4-C5-C6	7.81	123.48	118.80
1	X	2675	U	C6-N1-C2	-7.78	116.33	121.00
1	X	1477	C	N3-C2-O2	-7.76	116.47	121.90
1	X	2799	C	C6-N1-C2	-7.74	117.20	120.30
1	X	1338	G	C4-N9-C1'	7.72	136.54	126.50
1	X	1664	G	O5'-P-OP1	-7.71	98.76	105.70
1	X	169	C	N3-C2-O2	-7.71	116.50	121.90
1	X	884	C	N1-C2-O2	-7.70	114.28	118.90
1	X	2533	U	N3-C4-C5	-7.68	110.00	114.60
1	X	2796	A	N9-C4-C5	7.66	108.86	105.80
1	X	1278	A	O4'-C1'-N9	7.65	114.32	108.20
1	X	1697	U	C2-N1-C1'	7.64	126.87	117.70
1	X	2040	A	C6-N1-C2	-7.63	114.02	118.60
1	X	1972	G	C8-N9-C4	-7.62	103.35	106.40
1	X	1696	C	N3-C2-O2	-7.59	116.58	121.90
1	X	2847	G	C5-C6-O6	7.58	133.15	128.60
1	X	1691	G	N3-C4-N9	7.57	130.54	126.00
1	X	2531	U	C5-C6-N1	-7.57	118.92	122.70
1	X	29	U	C5-C6-N1	7.57	126.48	122.70
1	X	1989	C	C5-C6-N1	7.56	124.78	121.00
1	X	2670	C	C6-N1-C2	-7.56	117.28	120.30
1	X	1674	C	OP1-P-O3'	7.55	121.82	105.20
1	X	2797	G	N3-C4-N9	7.54	130.53	126.00
1	X	958	G	O5'-P-OP1	-7.54	98.91	105.70
1	X	1985	G	O5'-P-OP1	7.53	119.74	110.70
1	X	1307	U	N3-C2-O2	7.53	127.47	122.20
1	X	1977	C	N3-C2-O2	-7.53	116.63	121.90
1	X	527	C	C2-N1-C1'	7.53	127.08	118.80
1	X	577	U	C6-N1-C2	-7.52	116.49	121.00
1	X	1775	A	C8-N9-C4	7.51	108.81	105.80
1	X	2531	U	N1-C2-N3	7.50	119.40	114.90
1	X	1750	A	O5'-P-OP1	-7.50	98.95	105.70
1	X	538	A	C5-C6-N1	7.49	121.44	117.70
1	X	1691	G	C6-C5-N7	-7.49	125.91	130.40
1	X	1656	U	C5-C6-N1	-7.48	118.96	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1743	C	N3-C4-C5	7.48	124.89	121.90
1	X	1695	U	C2-N1-C1'	7.48	126.67	117.70
1	X	1270	C	C6-N1-C2	-7.47	117.31	120.30
1	X	2521	A	O5'-P-OP2	-7.47	98.98	105.70
1	X	764	A	N1-C6-N6	-7.45	114.13	118.60
1	X	1305	C	C6-N1-C2	7.44	123.28	120.30
1	X	1786	C	C6-N1-C2	-7.44	117.32	120.30
1	X	39	C	C5-C6-N1	7.42	124.71	121.00
1	X	1223	G	C6-C5-N7	-7.42	125.95	130.40
1	X	469	G	O4'-C1'-N9	7.42	114.14	108.20
1	X	1249	G	C5-C6-O6	7.42	133.05	128.60
1	X	39	C	C6-N1-C2	-7.41	117.33	120.30
1	X	2674	C	N3-C4-C5	7.41	124.86	121.90
1	X	2425	G	O5'-P-OP1	-7.40	99.04	105.70
1	X	1683	G	N9-C4-C5	7.39	108.36	105.40
1	X	994	A	C5-N7-C8	7.38	107.59	103.90
1	X	504	G	C4-C5-N7	7.35	113.74	110.80
1	X	2668	U	O5'-P-OP1	-7.33	99.10	105.70
1	X	1937	G	N3-C4-N9	7.33	130.40	126.00
1	X	1677	C	C6-N1-C2	7.32	123.23	120.30
1	X	1636	G	N3-C4-C5	-7.31	124.94	128.60
1	X	1467	U	C4-C5-C6	-7.30	115.32	119.70
1	X	1037	U	N1-C2-O2	7.30	127.91	122.80
1	X	1684	G	O5'-P-OP1	-7.28	99.14	105.70
1	X	2847	G	N9-C4-C5	7.27	108.31	105.40
1	X	1770	U	C4-C5-C6	7.26	124.06	119.70
1	X	869	C	C6-N1-C2	-7.26	117.39	120.30
1	X	1338	G	C6-C5-N7	-7.26	126.05	130.40
1	X	2705	A	P-O3'-C3'	7.25	128.41	119.70
1	X	2542	U	C5-C4-O4	7.24	130.25	125.90
1	X	965	G	C8-N9-C4	-7.22	103.51	106.40
1	X	1979	C	N3-C4-C5	7.22	124.79	121.90
1	X	2751	C	C6-N1-C2	7.22	123.19	120.30
1	X	2704	U	N1-C2-N3	7.21	119.23	114.90
1	X	268	G	N9-C4-C5	-7.21	102.52	105.40
1	X	1339	U	N3-C4-O4	7.20	124.44	119.40
1	X	810	U	C5-C6-N1	7.20	126.30	122.70
1	X	1279	G	O4'-C1'-N9	7.19	113.95	108.20
1	X	2580	C	N3-C2-O2	-7.18	116.87	121.90
1	X	1574	A	O4'-C1'-N9	7.17	113.94	108.20
1	X	2800	C	C2-N3-C4	7.17	123.48	119.90
1	X	1974	U	C6-N1-C2	-7.17	116.70	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2681	A	N7-C8-N9	-7.16	110.22	113.80
1	X	2031	A	C8-N9-C4	-7.16	102.94	105.80
1	X	1691	G	C4-N9-C1'	7.16	135.80	126.50
2	Y	39	C	C6-N1-C1'	-7.14	112.23	120.80
1	X	1984	A	O5'-P-OP1	-7.13	99.28	105.70
1	X	1278	A	C5-C6-N1	-7.12	114.14	117.70
1	X	994	A	C6-N1-C2	-7.12	114.33	118.60
1	X	2484	G	N7-C8-N9	7.12	116.66	113.10
1	X	2459	C	N1-C2-O2	-7.10	114.64	118.90
1	X	2857	C	N3-C4-C5	-7.10	119.06	121.90
1	X	18	U	N3-C2-O2	-7.09	117.23	122.20
1	X	2484	G	C5-N7-C8	-7.09	100.75	104.30
1	X	1497	C	C2-N3-C4	-7.09	116.36	119.90
1	X	56	C	C6-N1-C1'	-7.08	112.31	120.80
1	X	1696	C	N1-C2-O2	7.07	123.14	118.90
1	X	2815	C	O5'-P-OP1	7.07	119.18	110.70
1	X	994	A	C4-C5-N7	-7.06	107.17	110.70
1	X	2043	A	OP2-P-O3'	7.06	120.73	105.20
1	X	2492	G	O5'-P-OP2	-7.06	99.35	105.70
1	X	959	C	C2-N1-C1'	7.05	126.55	118.80
1	X	2815	C	O5'-P-OP2	-7.04	99.36	105.70
1	X	2690	A	N1-C6-N6	7.04	122.83	118.60
1	X	1680	U	C6-N1-C2	7.04	125.22	121.00
1	X	1985	G	C4-C5-N7	7.04	113.61	110.80
1	X	2668	U	C6-N1-C1'	7.04	131.05	121.20
1	X	2838	U	N3-C2-O2	-7.03	117.28	122.20
1	X	2672	U	O5'-P-OP1	-7.02	99.38	105.70
1	X	2006	G	O5'-P-OP1	-7.01	99.39	105.70
1	X	878	C	C6-N1-C2	-7.01	117.50	120.30
1	X	540	G	C4-C5-N7	7.00	113.60	110.80
1	X	1278	A	N1-C2-N3	6.99	132.80	129.30
1	X	1300	A	N1-C2-N3	-6.98	125.81	129.30
1	X	484	G	N7-C8-N9	6.96	116.58	113.10
1	X	2821	G	C8-N9-C4	-6.95	103.62	106.40
1	X	1765	C	N1-C2-O2	6.95	123.07	118.90
1	X	1301	U	N3-C4-C5	-6.91	110.45	114.60
1	X	2499	C	N3-C4-C5	-6.91	119.14	121.90
1	X	2550	C	C6-N1-C2	-6.91	117.54	120.30
1	X	1663	C	N1-C2-O2	6.91	123.04	118.90
1	X	2472	U	C6-N1-C2	-6.90	116.86	121.00
1	X	1750	A	C6-N1-C2	-6.89	114.47	118.60
1	X	2019	C	N1-C2-O2	6.88	123.03	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	972	C	N3-C2-O2	-6.88	117.09	121.90
1	X	268	G	N3-C4-N9	6.87	130.12	126.00
1	X	1391	A	P-O3'-C3'	6.87	127.95	119.70
1	X	2537	C	C6-N1-C2	-6.86	117.56	120.30
1	X	2010	G	O5'-P-OP2	-6.85	99.53	105.70
1	X	1958	G	C4-C5-N7	6.85	113.54	110.80
1	X	1497	C	N1-C2-O2	-6.83	114.80	118.90
1	X	2847	G	C4-C5-N7	-6.82	108.07	110.80
1	X	956	A	C8-N9-C4	-6.81	103.08	105.80
1	X	1407	G	C4-N9-C1'	6.81	135.35	126.50
2	Y	69	G	O5'-P-OP2	-6.80	99.58	105.70
1	X	2585	C	N3-C2-O2	-6.80	117.14	121.90
1	X	2019	C	N3-C2-O2	-6.80	117.14	121.90
1	X	1681	A	O4'-C1'-N9	-6.79	102.77	108.20
1	X	1665	C	C6-N1-C2	6.77	123.01	120.30
1	X	507	A	N1-C6-N6	-6.75	114.55	118.60
1	X	2434	G	N3-C4-C5	-6.75	125.22	128.60
1	X	489	A	N1-C6-N6	-6.75	114.55	118.60
1	X	1973	C	N1-C2-O2	6.75	122.95	118.90
1	X	2036	G	C8-N9-C4	-6.74	103.70	106.40
1	X	1265	G	N3-C4-N9	6.72	130.03	126.00
1	X	484	G	N3-C4-C5	-6.71	125.25	128.60
1	X	1335	A	C8-N9-C4	6.71	108.48	105.80
1	X	2800	C	N1-C2-O2	6.71	122.92	118.90
2	Y	14	C	C5-C6-N1	6.71	124.35	121.00
1	X	2658	A	OP2-P-O3'	6.69	119.92	105.20
1	X	1671	A	OP2-P-O3'	6.68	119.89	105.20
1	X	1997	A	C4-C5-C6	6.68	120.34	117.00
1	X	587	A	C4-C5-N7	-6.67	107.36	110.70
1	X	1688	U	N3-C4-O4	6.66	124.06	119.40
1	X	595	A	O5'-P-OP1	-6.66	99.70	105.70
1	X	975	C	C6-N1-C2	-6.66	117.64	120.30
1	X	1855	G	C6-C5-N7	-6.65	126.41	130.40
1	X	2523	G	C8-N9-C4	-6.64	103.74	106.40
1	X	2558	C	OP1-P-O3'	6.64	119.82	105.20
1	X	1338	G	C8-N9-C1'	-6.64	118.37	127.00
1	X	2542	U	C6-N1-C2	-6.63	117.02	121.00
1	X	2557	G	OP1-P-O3'	6.63	119.78	105.20
1	X	2822	U	N3-C4-O4	6.63	124.04	119.40
1	X	776	G	C8-N9-C4	-6.62	103.75	106.40
1	X	2034	A	C5-N7-C8	-6.62	100.59	103.90
28	3	60	LEU	CA-CB-CG	6.61	130.50	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1855	G	N3-C4-N9	6.61	129.97	126.00
1	X	1345	G	C8-N9-C4	-6.60	103.76	106.40
1	X	1994	U	C5-C4-O4	-6.59	121.94	125.90
1	X	1213	U	C5-C6-N1	6.58	125.99	122.70
1	X	2531	U	C2-N1-C1'	-6.58	109.81	117.70
1	X	1670	G	C8-N9-C4	6.58	109.03	106.40
1	X	1223	G	C8-N9-C1'	-6.57	118.46	127.00
1	X	1265	G	C4-N9-C1'	6.57	135.03	126.50
1	X	1684	G	N3-C4-N9	-6.57	122.06	126.00
1	X	2466	G	C6-C5-N7	-6.56	126.47	130.40
1	X	1683	G	N3-C4-N9	-6.56	122.07	126.00
1	X	2005	U	C5-C6-N1	-6.55	119.42	122.70
1	X	2419	C	N1-C2-O2	6.55	122.83	118.90
1	X	591	G	C8-N9-C4	6.54	109.02	106.40
1	X	2235	G	N1-C6-O6	6.54	123.83	119.90
1	X	940	G	C4-N9-C1'	-6.54	118.00	126.50
1	X	2255	G	C4-C5-N7	-6.54	108.18	110.80
1	X	1326	U	C2-N1-C1'	6.54	125.54	117.70
1	X	343	A	C4-C5-C6	6.53	120.27	117.00
1	X	1819	U	N3-C2-O2	-6.53	117.63	122.20
1	X	1475	U	C2-N1-C1'	6.53	125.53	117.70
1	X	1984	A	O5'-P-OP2	6.53	118.53	110.70
1	X	2699	G	N3-C2-N2	-6.53	115.33	119.90
1	X	559	C	OP1-P-O3'	6.52	119.55	105.20
1	X	2489	C	N1-C2-N3	6.52	123.77	119.20
1	X	2042	A	C8-N9-C4	6.52	108.41	105.80
1	X	2624	G	C8-N9-C4	-6.51	103.79	106.40
1	X	1686	A	N1-C2-N3	6.50	132.55	129.30
1	X	2667	C	C2-N3-C4	-6.50	116.65	119.90
1	X	219	G	OP2-P-O3'	6.49	119.49	105.20
1	X	499	G	N3-C4-C5	-6.49	125.35	128.60
1	X	1958	G	C8-N9-C4	6.49	109.00	106.40
1	X	2543	A	N9-C4-C5	6.49	108.40	105.80
1	X	1668	G	C6-C5-N7	-6.49	126.51	130.40
1	X	1291	G	N7-C8-N9	-6.49	109.86	113.10
1	X	1345	G	N7-C8-N9	6.49	116.34	113.10
1	X	1006	C	N3-C2-O2	-6.48	117.36	121.90
1	X	1333	G	C8-N9-C4	-6.48	103.81	106.40
1	X	2010	G	N1-C6-O6	-6.48	116.01	119.90
1	X	2015	G	C4-N9-C1'	-6.48	118.08	126.50
1	X	2043	A	C2-N3-C4	6.48	113.84	110.60
1	X	2702	G	N3-C4-N9	6.47	129.88	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2808	U	O5'-P-OP1	-6.47	99.88	105.70
1	X	803	C	O5'-P-OP1	-6.47	99.88	105.70
1	X	1918	G	C8-N9-C4	-6.46	103.81	106.40
1	X	2408	G	C8-N9-C4	-6.45	103.82	106.40
1	X	1958	G	N1-C6-O6	6.45	123.77	119.90
1	X	1428	G	N3-C2-N2	-6.45	115.38	119.90
1	X	617	U	N3-C2-O2	-6.45	117.69	122.20
1	X	1973	C	N3-C2-O2	-6.45	117.39	121.90
1	X	2598	C	N1-C2-O2	-6.45	115.03	118.90
1	X	2443	C	C6-N1-C2	-6.44	117.72	120.30
1	X	1278	A	C5-C6-N6	6.44	128.85	123.70
2	Y	39	C	N3-C2-O2	-6.44	117.39	121.90
1	X	69	G	N3-C4-N9	6.43	129.86	126.00
1	X	2488	G	C2-N3-C4	6.43	115.11	111.90
1	X	756	C	N3-C4-C5	-6.43	119.33	121.90
1	X	761	G	O4'-C1'-N9	6.42	113.34	108.20
1	X	2298	U	N1-C2-O2	6.42	127.30	122.80
1	X	1035	G	C8-N9-C4	-6.42	103.83	106.40
1	X	1206	G	N3-C4-C5	6.42	131.81	128.60
2	Y	69	G	N3-C4-N9	6.42	129.85	126.00
1	X	1685	A	N1-C6-N6	-6.41	114.75	118.60
1	X	1340	C	N1-C2-O2	-6.40	115.06	118.90
1	X	1224	A	C8-N9-C4	6.39	108.36	105.80
1	X	1770	U	O4'-C1'-N1	6.39	113.31	108.20
1	X	1407	G	C6-C5-N7	-6.38	126.57	130.40
1	X	2799	C	N1-C2-N3	6.38	123.67	119.20
1	X	1687	C	C5-C6-N1	-6.38	117.81	121.00
1	X	2671	C	C6-N1-C2	-6.38	117.75	120.30
1	X	2848	A	C4-C5-C6	6.38	120.19	117.00
1	X	1684	G	N7-C8-N9	6.38	116.29	113.10
1	X	1786	C	C5-C6-N1	6.38	124.19	121.00
1	X	1995	G	N9-C4-C5	-6.38	102.85	105.40
1	X	940	G	C6-C5-N7	6.37	134.22	130.40
1	X	2589	C	O5'-P-OP1	-6.37	99.97	105.70
1	X	527	C	C5-C6-N1	6.37	124.18	121.00
1	X	2848	A	OP1-P-O3'	6.37	119.21	105.20
1	X	583	C	N1-C2-O2	-6.35	115.09	118.90
1	X	1475	U	P-O3'-C3'	6.35	127.31	119.70
1	X	2015	G	C4-C5-C6	-6.34	114.99	118.80
1	X	487	G	N9-C4-C5	6.33	107.93	105.40
1	X	2026	C	C6-N1-C2	-6.32	117.77	120.30
1	X	559	C	C6-N1-C1'	-6.31	113.23	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1660	G	C4-C5-N7	-6.31	108.28	110.80
1	X	519	C	C5-C6-N1	6.29	124.15	121.00
1	X	699	G	N3-C4-C5	6.29	131.75	128.60
1	X	1279	G	N3-C2-N2	6.29	124.31	119.90
1	X	1475	U	C5-C6-N1	6.29	125.84	122.70
1	X	992	A	O5'-P-OP2	-6.28	100.05	105.70
1	X	1681	A	C8-N9-C4	-6.28	103.29	105.80
1	X	1688	U	C5-C6-N1	6.28	125.84	122.70
1	X	2841	U	N3-C2-O2	-6.27	117.81	122.20
1	X	2531	U	N3-C4-O4	-6.27	115.01	119.40
1	X	1687	C	C5-C4-N4	6.27	124.59	120.20
1	X	1346	C	N3-C2-O2	-6.26	117.51	121.90
1	X	2255	G	OP1-P-O3'	6.26	118.98	105.20
1	X	1249	G	N1-C6-O6	-6.26	116.15	119.90
1	X	1974	U	N1-C2-N3	6.26	118.65	114.90
1	X	56	C	C5-C6-N1	6.25	124.12	121.00
1	X	1830	C	P-O3'-C3'	6.25	127.20	119.70
1	X	2818	G	C8-N9-C4	-6.25	103.90	106.40
1	X	981	C	C2-N1-C1'	6.25	125.67	118.80
1	X	559	C	N3-C2-O2	-6.24	117.53	121.90
1	X	1293	A	C5-C6-N1	6.24	120.82	117.70
1	X	2694	G	OP2-P-O3'	6.24	118.93	105.20
1	X	2694	G	O5'-P-OP2	6.23	118.18	110.70
1	X	2674	C	C6-N1-C2	6.23	122.79	120.30
1	X	1636	G	N3-C4-N9	6.22	129.73	126.00
1	X	2530	C	C6-N1-C2	-6.21	117.81	120.30
2	Y	55	C	N1-C2-O2	6.21	122.62	118.90
1	X	2402	U	N3-C2-O2	-6.20	117.86	122.20
1	X	2867	G	C5-N7-C8	-6.19	101.21	104.30
1	X	2820	C	OP2-P-O3'	6.18	118.81	105.20
1	X	574	C	C5-C6-N1	6.18	124.09	121.00
1	X	2691	C	OP2-P-O3'	6.18	118.80	105.20
1	X	1015	U	N3-C2-O2	-6.18	117.88	122.20
1	X	69	G	C4-N9-C1'	6.17	134.53	126.50
1	X	2847	G	OP1-P-OP2	6.17	128.86	119.60
1	X	1670	G	N7-C8-N9	-6.17	110.01	113.10
1	X	486	U	C2-N1-C1'	6.17	125.10	117.70
1	X	2445	C	N3-C4-C5	-6.17	119.43	121.90
1	X	2469	G	C8-N9-C4	-6.17	103.93	106.40
1	X	1467	U	C6-N1-C1'	-6.16	112.57	121.20
1	X	1679	U	O5'-P-OP1	6.16	118.10	110.70
1	X	1635	G	C2-N3-C4	6.16	114.98	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2664	G	C2-N3-C4	6.16	114.98	111.90
1	X	787	A	C2-N3-C4	-6.15	107.52	110.60
1	X	1258	G	C8-N9-C4	-6.15	103.94	106.40
1	X	1986	G	N1-C6-O6	-6.15	116.21	119.90
1	X	586	G	C4-N9-C1'	6.14	134.49	126.50
1	X	841	G	C2-N3-C4	-6.14	108.83	111.90
1	X	69	G	N3-C4-C5	-6.14	125.53	128.60
1	X	1668	G	N1-C6-O6	6.14	123.58	119.90
1	X	2564	U	C2-N1-C1'	6.14	125.06	117.70
1	X	1327	C	C2-N1-C1'	6.13	125.54	118.80
1	X	2627	G	N1-C6-O6	6.13	123.58	119.90
1	X	1309	G	N3-C4-C5	-6.13	125.53	128.60
1	X	1630	A	C4-C5-C6	6.13	120.06	117.00
12	K	28	LEU	CA-CB-CG	6.13	129.40	115.30
1	X	1958	G	C6-C5-N7	-6.12	126.72	130.40
1	X	972	C	O5'-P-OP1	-6.12	100.19	105.70
1	X	1660	G	N9-C4-C5	6.12	107.85	105.40
1	X	19	C	C6-N1-C2	-6.11	117.86	120.30
1	X	504	G	C5-N7-C8	-6.11	101.24	104.30
1	X	1643	A	N9-C4-C5	-6.11	103.35	105.80
1	X	1328	C	C6-N1-C2	-6.10	117.86	120.30
1	X	689	A	C6-C5-N7	-6.09	128.04	132.30
1	X	35	G	O5'-P-OP2	-6.09	100.22	105.70
1	X	2857	C	N3-C2-O2	-6.08	117.64	121.90
1	X	2554	C	O5'-P-OP2	6.08	117.99	110.70
1	X	1673	C	C5-C6-N1	6.07	124.04	121.00
1	X	2463	G	C2-N3-C4	6.07	114.94	111.90
1	X	1240	G	C6-C5-N7	-6.07	126.76	130.40
1	X	587	A	N9-C4-C5	6.06	108.22	105.80
1	X	29	U	N3-C4-O4	6.06	123.64	119.40
1	X	940	G	C8-N9-C1'	6.06	134.87	127.00
1	X	1855	G	C8-N9-C1'	-6.06	119.12	127.00
1	X	1963	G	N9-C4-C5	6.06	107.82	105.40
1	X	1958	G	N3-C4-N9	6.05	129.63	126.00
1	X	2463	G	N3-C4-C5	-6.05	125.58	128.60
1	X	1644	G	N9-C4-C5	-6.05	102.98	105.40
1	X	2827	G	N3-C4-C5	-6.05	125.58	128.60
1	X	526	C	OP1-P-O3'	6.05	118.51	105.20
1	X	1958	G	C8-N9-C1'	-6.04	119.14	127.00
1	X	2029	G	N1-C6-O6	6.04	123.53	119.90
1	X	1660	G	N3-C4-C5	-6.04	125.58	128.60
1	X	1673	C	C4-C5-C6	-6.04	114.38	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	Y	14	C	OP2-P-O3'	6.03	118.48	105.20
2	Y	58	G	C4-N9-C1'	6.03	134.34	126.50
1	X	29	U	C5-C4-O4	-6.03	122.28	125.90
1	X	35	G	O4'-C1'-N9	6.03	113.03	108.20
1	X	852	U	C5-C6-N1	-6.03	119.69	122.70
1	X	1998	A	N1-C2-N3	6.03	132.31	129.30
1	X	2232	G	C4-N9-C1'	6.03	134.33	126.50
1	X	264	U	C2-N1-C1'	6.02	124.93	117.70
1	X	343	A	C4-N9-C1'	6.02	137.14	126.30
1	X	1765	C	N3-C2-O2	-6.02	117.68	121.90
1	X	1217	U	N3-C2-O2	-6.02	117.98	122.20
1	X	2668	U	N3-C4-O4	-6.01	115.19	119.40
1	X	2695	C	OP2-P-O3'	6.01	118.43	105.20
1	X	268	G	C4-C5-N7	6.01	113.20	110.80
1	X	2034	A	C4-C5-N7	6.01	113.71	110.70
1	X	927	C	C5-C6-N1	6.01	124.00	121.00
1	X	1981	A	N1-C2-N3	6.01	132.30	129.30
1	X	2531	U	C6-N1-C1'	6.01	129.61	121.20
1	X	994	A	N9-C4-C5	5.99	108.20	105.80
1	X	812	G	C8-N9-C4	-5.99	104.00	106.40
1	X	1755	G	O5'-P-OP2	-5.99	100.31	105.70
1	X	1760	G	C4-C5-N7	5.99	113.20	110.80
1	X	1721	G	N3-C4-N9	-5.99	122.41	126.00
1	X	2848	A	N9-C4-C5	5.99	108.19	105.80
1	X	1974	U	N3-C2-O2	-5.99	118.01	122.20
1	X	1855	G	C4-N9-C1'	5.98	134.28	126.50
1	X	1310	C	O5'-P-OP1	-5.98	100.32	105.70
1	X	1467	U	O5'-P-OP1	-5.98	100.32	105.70
1	X	381	C	C2-N1-C1'	5.98	125.38	118.80
1	X	523	A	C8-N9-C4	5.98	108.19	105.80
1	X	1655	C	C6-N1-C2	5.97	122.69	120.30
1	X	1770	U	C2-N1-C1'	-5.97	110.54	117.70
1	X	1664	G	O5'-P-OP2	5.97	117.86	110.70
1	X	2255	G	N1-C6-O6	-5.96	116.32	119.90
1	X	2673	G	C8-N9-C4	-5.96	104.02	106.40
1	X	749	C	C6-N1-C2	-5.96	117.92	120.30
1	X	2848	A	C8-N9-C4	-5.96	103.42	105.80
1	X	1309	G	C5-C6-N1	5.96	114.48	111.50
1	X	530	G	O5'-P-OP1	-5.95	100.35	105.70
1	X	1683	G	C5-C6-O6	5.95	132.17	128.60
1	X	587	A	N1-C6-N6	-5.94	115.04	118.60
1	X	2624	G	N7-C8-N9	5.94	116.07	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1750	A	C4-C5-C6	5.94	119.97	117.00
1	X	2671	C	N3-C2-O2	-5.94	117.74	121.90
1	X	2788	C	OP1-P-O3'	5.94	118.26	105.20
1	X	1627	C	C6-N1-C2	-5.93	117.93	120.30
1	X	458	G	O4'-C1'-N9	5.93	112.95	108.20
1	X	1691	G	C5-C6-N1	5.93	114.47	111.50
2	Y	14	C	P-O3'-C3'	5.93	126.81	119.70
1	X	1217	U	N1-C2-N3	5.93	118.46	114.90
1	X	1644	G	C5-C6-O6	-5.92	125.05	128.60
1	X	587	A	C5-N7-C8	5.92	106.86	103.90
1	X	1284	G	O5'-P-OP1	5.91	117.80	110.70
1	X	836	G	N9-C4-C5	5.91	107.76	105.40
1	X	1681	A	OP2-P-O3'	5.91	118.20	105.20
1	X	2593	A	C2-N3-C4	5.91	113.55	110.60
1	X	1718	A	O5'-P-OP1	-5.91	100.39	105.70
1	X	2690	A	C4-C5-N7	5.90	113.65	110.70
1	X	930	A	N1-C6-N6	-5.90	115.06	118.60
1	X	1354	A	N1-C6-N6	5.90	122.14	118.60
1	X	959	C	C6-N1-C2	-5.89	117.94	120.30
1	X	2539	C	C5-C6-N1	5.89	123.95	121.00
1	X	1656	U	C6-N1-C2	5.89	124.53	121.00
1	X	1691	G	C4-C5-N7	5.89	113.16	110.80
1	X	2606	G	C8-N9-C4	-5.89	104.05	106.40
1	X	1265	G	C8-N9-C4	-5.88	104.05	106.40
1	X	2666	U	N3-C4-C5	-5.88	111.07	114.60
1	X	2822	U	C5-C4-O4	-5.88	122.37	125.90
1	X	678	G	O5'-P-OP1	-5.88	100.41	105.70
1	X	2542	U	N3-C4-C5	-5.88	111.07	114.60
1	X	1977	C	O5'-P-OP1	-5.88	100.41	105.70
1	X	1676	U	N1-C2-O2	-5.87	118.69	122.80
1	X	1217	U	C2-N3-C4	-5.87	123.48	127.00
1	X	2232	G	C6-C5-N7	-5.87	126.88	130.40
1	X	576	A	N1-C6-N6	-5.86	115.08	118.60
1	X	2580	C	N3-C4-C5	-5.86	119.56	121.90
1	X	343	A	N1-C2-N3	5.86	132.23	129.30
1	X	860	U	C2-N1-C1'	5.86	124.73	117.70
1	X	1037	U	N3-C2-O2	-5.86	118.10	122.20
1	X	2530	C	N3-C4-C5	-5.85	119.56	121.90
1	X	2408	G	N3-C4-C5	-5.85	125.67	128.60
1	X	1404	C	C6-N1-C2	5.85	122.64	120.30
1	X	1010	U	N3-C2-O2	-5.84	118.11	122.20
1	X	1249	G	C4-C5-N7	-5.84	108.46	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2021	G	O5'-P-OP1	-5.84	100.44	105.70
1	X	2434	G	C8-N9-C1'	-5.84	119.41	127.00
8	G	166	LEU	CA-CB-CG	5.84	128.72	115.30
1	X	1339	U	C2-N1-C1'	5.83	124.70	117.70
1	X	1206	G	N3-C4-N9	-5.83	122.50	126.00
1	X	2445	C	C2-N1-C1'	5.83	125.21	118.80
1	X	699	G	C5-N7-C8	-5.83	101.39	104.30
1	X	527	C	N3-C2-O2	-5.82	117.83	121.90
1	X	1155	G	C8-N9-C4	5.82	108.73	106.40
1	X	1681	A	N7-C8-N9	5.82	116.71	113.80
1	X	1466	C	N3-C2-O2	-5.81	117.83	121.90
1	X	1020	A	N1-C6-N6	-5.81	115.11	118.60
1	X	2598	C	OP1-P-O3'	5.81	117.98	105.20
1	X	2702	G	N3-C4-C5	-5.81	125.70	128.60
1	X	1976	U	N3-C4-C5	5.81	118.08	114.60
1	X	460	U	C6-N1-C2	-5.80	117.52	121.00
1	X	1935	A	C8-N9-C4	-5.80	103.48	105.80
1	X	2041	A	N9-C4-C5	-5.80	103.48	105.80
2	Y	93	G	N9-C4-C5	-5.80	103.08	105.40
1	X	277	G	N3-C4-N9	5.80	129.48	126.00
1	X	2622	G	N3-C4-N9	5.80	129.48	126.00
1	X	2482	A	O5'-P-OP2	5.80	117.66	110.70
1	X	2557	G	N9-C4-C5	5.79	107.72	105.40
1	X	484	G	C6-C5-N7	-5.79	126.93	130.40
1	X	1709	U	N3-C2-O2	-5.79	118.15	122.20
1	X	2030	U	N1-C2-O2	-5.79	118.75	122.80
1	X	837	U	C5-C6-N1	-5.79	119.81	122.70
1	X	2235	G	C4-C5-N7	5.78	113.11	110.80
1	X	2263	C	N1-C2-O2	5.78	122.37	118.90
1	X	1258	G	N9-C4-C5	5.78	107.71	105.40
1	X	1668	G	C5-C6-N1	-5.78	108.61	111.50
1	X	967	G	O5'-P-OP2	-5.78	100.50	105.70
1	X	1167	A	C2-N3-C4	5.78	113.49	110.60
1	X	2611	A	C8-N9-C4	5.78	108.11	105.80
1	X	2434	G	N7-C8-N9	5.77	115.99	113.10
1	X	1278	A	N3-C4-N9	-5.77	122.79	127.40
1	X	1669	A	C2-N3-C4	-5.77	107.72	110.60
1	X	2702	G	C8-N9-C1'	-5.77	119.50	127.00
1	X	2430	A	N1-C2-N3	5.77	132.18	129.30
1	X	1671	A	C8-N9-C4	5.76	108.11	105.80
2	Y	17	A	O4'-C1'-N9	5.76	112.81	108.20
1	X	2828	C	C2-N3-C4	5.76	122.78	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2460	G	P-O3'-C3'	5.76	126.61	119.70
1	X	2856	U	N3-C2-O2	5.76	126.23	122.20
1	X	967	G	C8-N9-C4	-5.76	104.10	106.40
1	X	495	C	N3-C4-C5	5.75	124.20	121.90
1	X	2041	A	O4'-C1'-N9	-5.75	103.60	108.20
1	X	1989	C	C2-N1-C1'	5.75	125.12	118.80
1	X	2015	G	N3-C4-C5	5.75	131.47	128.60
1	X	2698	G	OP1-P-O3'	5.75	117.84	105.20
1	X	800	U	O5'-P-OP2	-5.74	100.53	105.70
1	X	1937	G	C4-N9-C1'	5.74	133.96	126.50
1	X	2702	G	N3-C2-N2	5.73	123.91	119.90
1	X	1407	G	C8-N9-C1'	-5.73	119.55	127.00
1	X	818	G	C4-C5-N7	5.73	113.09	110.80
1	X	2232	G	N7-C8-N9	5.73	115.97	113.10
1	X	24	G	OP1-P-O3'	5.73	117.80	105.20
1	X	2627	G	C6-C5-N7	-5.73	126.96	130.40
1	X	2004	U	C6-N1-C2	5.72	124.44	121.00
2	Y	69	G	N3-C4-C5	-5.72	125.74	128.60
1	X	2564	U	C6-N1-C2	-5.72	117.57	121.00
1	X	2822	U	C2-N1-C1'	5.72	124.56	117.70
1	X	763	A	O5'-P-OP2	5.71	117.56	110.70
1	X	1709	U	N1-C2-O2	5.71	126.80	122.80
1	X	797	A	O5'-P-OP2	-5.71	100.56	105.70
1	X	2409	A	C4-C5-N7	5.71	113.56	110.70
1	X	1161	U	C2-N1-C1'	5.71	124.55	117.70
1	X	2402	U	N1-C2-O2	5.71	126.79	122.80
1	X	2430	A	C2-N3-C4	-5.71	107.75	110.60
1	X	2702	G	C5-C6-N1	5.70	114.35	111.50
1	X	2830	U	C5-C6-N1	5.70	125.55	122.70
1	X	2541	U	N3-C2-O2	-5.70	118.21	122.20
1	X	559	C	P-O3'-C3'	5.70	126.53	119.70
1	X	2573	C	C6-N1-C2	-5.70	118.02	120.30
1	X	878	C	C5-C6-N1	5.69	123.85	121.00
1	X	1935	A	N9-C4-C5	5.69	108.08	105.80
1	X	1750	A	N1-C2-N3	5.69	132.15	129.30
1	X	818	G	N9-C4-C5	-5.69	103.12	105.40
1	X	921	A	C2-N3-C4	5.68	113.44	110.60
1	X	1333	G	C5-N7-C8	-5.68	101.46	104.30
1	X	932	G	C8-N9-C4	5.68	108.67	106.40
1	X	1217	U	C5-C6-N1	-5.68	119.86	122.70
1	X	2564	U	N3-C2-O2	-5.68	118.22	122.20
1	X	1680	U	C2-N1-C1'	-5.67	110.89	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	302	U	C2-N1-C1'	5.67	124.51	117.70
1	X	679	C	C6-N1-C2	-5.67	118.03	120.30
1	X	1958	G	C5-C6-O6	-5.67	125.20	128.60
1	X	2543	A	C8-N9-C4	-5.67	103.53	105.80
1	X	1685	A	OP1-P-OP2	5.66	128.09	119.60
1	X	679	C	N3-C2-O2	-5.66	117.94	121.90
1	X	1691	G	N7-C8-N9	5.66	115.93	113.10
1	X	1036	G	N1-C6-O6	-5.66	116.50	119.90
1	X	2830	U	C5-C4-O4	-5.66	122.51	125.90
1	X	343	A	P-O3'-C3'	5.65	126.48	119.70
1	X	343	A	C6-C5-N7	-5.65	128.34	132.30
1	X	1704	G	C8-N9-C4	-5.65	104.14	106.40
1	X	2701	A	N9-C4-C5	5.65	108.06	105.80
1	X	2797	G	N1-C2-N2	-5.65	111.11	116.20
1	X	1473	U	P-O3'-C3'	5.65	126.48	119.70
1	X	2011	U	C6-N1-C2	-5.64	117.62	121.00
1	X	1687	C	N3-C4-N4	-5.63	114.06	118.00
1	X	2855	C	C4-C5-C6	-5.63	114.58	117.40
1	X	2867	G	N7-C8-N9	5.63	115.92	113.10
1	X	533	C	N1-C2-O2	5.63	122.28	118.90
1	X	2673	G	N9-C4-C5	5.63	107.65	105.40
1	X	2432	A	C8-N9-C4	-5.63	103.55	105.80
1	X	2561	G	N3-C4-N9	5.62	129.37	126.00
1	X	759	C	C2-N3-C4	5.62	122.71	119.90
1	X	931	G	N3-C4-N9	5.62	129.37	126.00
1	X	1985	G	C5-N7-C8	-5.62	101.49	104.30
1	X	2691	C	C2-N1-C1'	-5.62	112.62	118.80
1	X	2832	G	C8-N9-C1'	5.62	134.30	127.00
1	X	2854	G	C4-C5-N7	5.62	113.05	110.80
1	X	268	G	C5-C6-O6	-5.62	125.23	128.60
1	X	2534	U	C5-C6-N1	5.62	125.51	122.70
1	X	2001	G	N9-C4-C5	-5.61	103.15	105.40
1	X	2708	U	O5'-P-OP1	-5.61	100.65	105.70
1	X	1937	G	C2-N3-C4	5.61	114.70	111.90
1	X	2423	G	OP2-P-O3'	5.61	117.54	105.20
1	X	460	U	N3-C4-C5	-5.61	111.24	114.60
1	X	2814	G	C4-C5-N7	-5.61	108.56	110.80
1	X	540	G	N9-C4-C5	-5.60	103.16	105.40
1	X	1333	G	N7-C8-N9	5.60	115.90	113.10
1	X	2041	A	C8-N9-C1'	-5.60	117.62	127.70
1	X	100	G	P-O3'-C3'	5.60	126.42	119.70
1	X	1226	A	N1-C6-N6	5.60	121.96	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2042	A	C5-C6-N1	-5.60	114.90	117.70
1	X	2564	U	C5-C6-N1	5.60	125.50	122.70
1	X	362	C	N1-C2-O2	5.59	122.26	118.90
1	X	937	C	C6-N1-C2	-5.59	118.06	120.30
1	X	2015	G	C8-N9-C1'	5.59	134.27	127.00
1	X	2692	A	N1-C6-N6	5.59	121.96	118.60
1	X	699	G	N3-C4-N9	-5.59	122.64	126.00
1	X	1937	G	C8-N9-C4	-5.58	104.17	106.40
1	X	1307	U	N1-C2-N3	-5.58	111.55	114.90
1	X	13	A	N9-C4-C5	5.58	108.03	105.80
1	X	1681	A	O5'-P-OP1	-5.58	100.68	105.70
1	X	484	G	N3-C4-N9	5.57	129.34	126.00
1	X	1223	G	C4-C5-C6	5.57	122.14	118.80
1	X	833	A	C6-C5-N7	-5.57	128.40	132.30
1	X	2037	A	N1-C6-N6	-5.57	115.26	118.60
1	X	495	C	C4-C5-C6	-5.57	114.62	117.40
1	X	1708	C	C6-N1-C2	5.57	122.53	120.30
1	X	1684	G	C5-N7-C8	-5.56	101.52	104.30
1	X	2042	A	N9-C4-C5	-5.56	103.58	105.80
1	X	2797	G	C6-C5-N7	-5.56	127.07	130.40
1	X	2843	A	OP2-P-O3'	5.56	117.43	105.20
1	X	1778	U	N3-C2-O2	-5.55	118.31	122.20
1	X	2466	G	C4-N9-C1'	5.55	133.72	126.50
1	X	1242	A	C8-N9-C4	5.55	108.02	105.80
1	X	2027	C	C6-N1-C2	-5.55	118.08	120.30
1	X	2871	U	C5-C6-N1	5.54	125.47	122.70
1	X	1230	C	O5'-P-OP1	-5.54	100.71	105.70
1	X	1269	G	O5'-P-OP1	-5.54	100.71	105.70
1	X	1981	A	C4-C5-C6	5.54	119.77	117.00
1	X	1407	G	N7-C8-N9	5.54	115.87	113.10
1	X	2036	G	OP1-P-OP2	-5.54	111.29	119.60
1	X	1253	C	C6-N1-C2	-5.54	118.08	120.30
1	X	1995	G	N3-C4-C5	-5.54	125.83	128.60
1	X	689	A	C4-C5-C6	5.54	119.77	117.00
1	X	2845	C	OP2-P-O3'	5.54	117.38	105.20
1	X	15	G	C4-N9-C1'	-5.53	119.31	126.50
1	X	2867	G	C4-C5-N7	5.53	113.01	110.80
1	X	1235	C	C6-N1-C2	5.53	122.51	120.30
1	X	2702	G	N1-C2-N2	-5.53	111.22	116.20
1	X	544	U	N3-C2-O2	-5.53	118.33	122.20
1	X	1288	A	N1-C6-N6	5.53	121.92	118.60
25	Z	49	CYS	CA-CB-SG	5.53	123.95	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	27	G	O4'-C1'-N9	5.52	112.62	108.20
1	X	1773	C	N1-C2-O2	5.52	122.21	118.90
1	X	1271	C	N3-C4-C5	-5.52	119.69	121.90
1	X	2691	C	C5-C6-N1	-5.52	118.24	121.00
1	X	485	G	N3-C4-C5	-5.51	125.84	128.60
1	X	2557	G	N3-C2-N2	-5.51	116.04	119.90
1	X	1995	G	N1-C2-N2	-5.51	111.24	116.20
1	X	684	C	C4-C5-C6	5.50	120.15	117.40
1	X	1855	G	N9-C4-C5	-5.50	103.20	105.40
1	X	2675	U	N1-C2-O2	5.50	126.65	122.80
1	X	1995	G	C6-C5-N7	-5.49	127.10	130.40
1	X	1775	A	OP1-P-O3'	5.49	117.28	105.20
1	X	1002	C	C5-C6-N1	5.49	123.75	121.00
1	X	683	A	O4'-C1'-N9	-5.49	103.81	108.20
1	X	2587	G	O5'-P-OP1	-5.49	100.76	105.70
1	X	1143	A	C8-N9-C4	-5.49	103.61	105.80
1	X	2850	U	O5'-P-OP1	-5.48	100.76	105.70
1	X	2593	A	N1-C2-N3	-5.48	126.56	129.30
1	X	1644	G	C4-C5-N7	5.48	112.99	110.80
1	X	1941	C	O5'-P-OP1	-5.48	100.77	105.70
1	X	2480	C	N3-C4-C5	5.48	124.09	121.90
1	X	21	A	C8-N9-C4	-5.48	103.61	105.80
1	X	2243	C	C6-N1-C2	-5.48	118.11	120.30
1	X	2553	G	C8-N9-C4	-5.48	104.21	106.40
1	X	2012	A	C2-N3-C4	5.47	113.34	110.60
1	X	2537	C	O5'-P-OP2	5.47	117.27	110.70
1	X	2026	C	N3-C2-O2	-5.47	118.07	121.90
1	X	2606	G	N7-C8-N9	5.47	115.83	113.10
1	X	2030	U	OP1-P-O3'	5.46	117.22	105.20
1	X	1010	U	C2-N1-C1'	5.46	124.25	117.70
1	X	2836	U	C5-C4-O4	-5.46	122.62	125.90
1	X	2466	G	N3-C4-N9	5.46	129.28	126.00
1	X	2434	G	C4-C5-C6	5.46	122.08	118.80
1	X	2838	U	N1-C2-O2	5.46	126.62	122.80
1	X	970	A	N9-C4-C5	-5.46	103.62	105.80
1	X	1690	U	C6-N1-C2	5.46	124.27	121.00
1	X	2702	G	C4-N9-C1'	5.46	133.59	126.50
1	X	1235	C	C5-C6-N1	-5.45	118.27	121.00
1	X	381	C	C6-N1-C1'	-5.45	114.26	120.80
1	X	524	A	C5-C6-N1	5.45	120.42	117.70
1	X	1683	G	C4-C5-N7	-5.45	108.62	110.80
1	X	840	U	N1-C2-N3	5.45	118.17	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2830	U	C2-N1-C1'	5.45	124.23	117.70
1	X	924	C	N1-C2-O2	5.44	122.17	118.90
1	X	761	G	N3-C4-C5	-5.44	125.88	128.60
1	X	1679	U	N3-C2-O2	-5.44	118.39	122.20
1	X	2794	G	OP2-P-O3'	5.44	117.18	105.20
1	X	754	G	N3-C4-N9	5.44	129.26	126.00
1	X	2532	G	C8-N9-C4	5.44	108.58	106.40
1	X	10	A	C8-N9-C4	-5.44	103.62	105.80
1	X	1981	A	C5-C6-N6	5.44	128.05	123.70
1	X	1746	A	N9-C4-C5	5.43	107.97	105.80
1	X	689	A	O4'-C1'-N9	5.43	112.55	108.20
1	X	1989	C	O5'-P-OP2	5.43	117.22	110.70
1	X	540	G	P-O3'-C3'	5.43	126.22	119.70
1	X	763	A	O5'-P-OP1	-5.43	100.81	105.70
1	X	884	C	N3-C2-O2	5.43	125.70	121.90
1	X	1986	G	N9-C4-C5	5.43	107.57	105.40
1	X	2036	G	N7-C8-N9	5.43	115.81	113.10
1	X	995	A	C5-C6-N1	-5.42	114.99	117.70
1	X	1398	G	C4-N9-C1'	-5.42	119.45	126.50
1	X	1855	G	C4-C5-N7	5.42	112.97	110.80
1	X	579	G	C5-C6-O6	5.42	131.85	128.60
1	X	591	G	N7-C8-N9	-5.42	110.39	113.10
1	X	2408	G	O5'-P-OP1	-5.42	100.82	105.70
1	X	2429	A	OP1-P-OP2	-5.42	111.47	119.60
1	X	2854	G	C5-N7-C8	-5.42	101.59	104.30
1	X	1684	G	N3-C4-C5	5.42	131.31	128.60
1	X	543	G	O5'-P-OP1	-5.41	100.83	105.70
1	X	586	G	C6-C5-N7	-5.41	127.15	130.40
1	X	1480	G	N3-C4-N9	-5.41	122.75	126.00
1	X	1163	C	N3-C4-C5	-5.41	119.74	121.90
1	X	519	C	C6-N1-C2	-5.41	118.14	120.30
1	X	2049	C	N1-C2-O2	-5.40	115.66	118.90
1	X	2523	G	N3-C4-C5	-5.40	125.90	128.60
1	X	69	G	C8-N9-C1'	-5.40	119.98	127.00
1	X	673	G	C8-N9-C4	5.40	108.56	106.40
1	X	2602	G	N3-C4-C5	-5.40	125.90	128.60
1	X	2491	C	C5-C6-N1	5.40	123.70	121.00
2	Y	53	G	C4-N9-C1'	5.40	133.52	126.50
2	Y	79	U	N1-C2-O2	5.39	126.57	122.80
1	X	1663	C	O5'-P-OP2	5.39	117.16	110.70
1	X	1636	G	C5-C6-N1	5.38	114.19	111.50
1	X	112	U	C2-N1-C1'	5.38	124.16	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1982	C	OP2-P-O3'	5.38	117.04	105.20
1	X	2420	C	C6-N1-C2	-5.38	118.15	120.30
1	X	2844	G	OP2-P-O3'	5.38	117.04	105.20
1	X	1166	A	C8-N9-C4	5.38	107.95	105.80
1	X	804	C	N1-C2-O2	5.38	122.12	118.90
1	X	1000	G	N3-C4-N9	-5.38	122.78	126.00
1	X	1963	G	C8-N9-C4	-5.37	104.25	106.40
1	X	2403	C	N1-C2-O2	5.37	122.12	118.90
1	X	2560	G	C8-N9-C4	-5.37	104.25	106.40
1	X	1292	A	C5-N7-C8	5.37	106.58	103.90
1	X	2668	U	N3-C2-O2	5.37	125.96	122.20
1	X	2432	A	N7-C8-N9	5.37	116.48	113.80
1	X	2533	U	C2-N3-C4	5.37	130.22	127.00
1	X	2800	C	OP2-P-O3'	5.37	117.00	105.20
1	X	1668	G	N3-C2-N2	-5.36	116.15	119.90
1	X	2709	C	N1-C2-O2	-5.36	115.68	118.90
1	X	2861	A	N7-C8-N9	5.36	116.48	113.80
1	X	324	C	C6-N1-C2	-5.36	118.16	120.30
1	X	586	G	C8-N9-C1'	-5.36	120.03	127.00
1	X	1979	C	C4-C5-C6	-5.36	114.72	117.40
1	X	2863	U	N1-C2-N3	5.36	118.12	114.90
2	Y	33	C	C5-C6-N1	5.36	123.68	121.00
1	X	852	U	C5-C4-O4	5.36	129.12	125.90
1	X	2042	A	N1-C6-N6	5.36	121.81	118.60
1	X	842	A	O4'-C1'-N9	-5.36	103.92	108.20
1	X	2532	G	O5'-P-OP1	5.36	117.13	110.70
1	X	2599	U	C6-N1-C2	-5.36	117.79	121.00
1	X	1293	A	C8-N9-C4	-5.36	103.66	105.80
1	X	2034	A	N7-C8-N9	5.36	116.48	113.80
1	X	2845	C	N1-C2-O2	5.36	122.11	118.90
1	X	508	G	N3-C2-N2	5.35	123.65	119.90
1	X	2470	U	N3-C2-O2	-5.35	118.46	122.20
1	X	994	A	N3-C4-C5	-5.34	123.06	126.80
1	X	527	C	N1-C2-O2	5.34	122.11	118.90
1	X	1260	A	C8-N9-C4	5.34	107.94	105.80
1	X	2699	G	N1-C6-O6	5.34	123.11	119.90
1	X	1981	A	N9-C4-C5	5.34	107.94	105.80
1	X	1819	U	C5-C4-O4	5.34	129.10	125.90
1	X	1288	A	C6-C5-N7	-5.34	128.56	132.30
1	X	2409	A	C6-C5-N7	-5.33	128.57	132.30
1	X	2334	C	C2-N1-C1'	5.33	124.67	118.80
1	X	1223	G	N3-C4-N9	5.33	129.20	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1671	A	N9-C4-C5	-5.33	103.67	105.80
1	X	787	A	N3-C4-C5	5.33	130.53	126.80
1	X	973	U	C5-C6-N1	5.32	125.36	122.70
2	Y	39	C	C5-C6-N1	5.32	123.66	121.00
1	X	381	C	N1-C2-O2	5.32	122.09	118.90
1	X	810	U	C6-N1-C2	-5.32	117.81	121.00
1	X	1570	C	N1-C2-O2	5.32	122.09	118.90
1	X	1751	A	C8-N9-C4	5.32	107.93	105.80
1	X	2571	G	C8-N9-C4	-5.32	104.27	106.40
1	X	2701	A	N1-C2-N3	5.32	131.96	129.30
1	X	1633	C	C6-N1-C2	5.32	122.43	120.30
1	X	2482	A	C4-C5-C6	5.32	119.66	117.00
1	X	2854	G	C5-C6-O6	-5.31	125.41	128.60
1	X	2557	G	C4-C5-N7	-5.31	108.67	110.80
1	X	1775	A	N9-C4-C5	-5.31	103.68	105.80
1	X	689	A	C4-N9-C1'	5.31	135.85	126.30
1	X	937	C	C5-C6-N1	5.31	123.65	121.00
1	X	927	C	N1-C2-O2	5.30	122.08	118.90
1	X	1335	A	N7-C8-N9	-5.30	111.15	113.80
1	X	1191	G	N3-C4-N9	5.30	129.18	126.00
1	X	2242	C	C6-N1-C2	-5.30	118.18	120.30
1	X	2409	A	C5-N7-C8	-5.30	101.25	103.90
1	X	2028	C	C6-N1-C2	5.30	122.42	120.30
1	X	2799	C	C5-C4-N4	5.30	123.91	120.20
1	X	1775	A	N7-C8-N9	-5.29	111.15	113.80
1	X	1979	C	C6-N1-C2	5.29	122.42	120.30
1	X	993	C	C6-N1-C2	-5.29	118.18	120.30
1	X	2704	U	C6-N1-C2	-5.29	117.83	121.00
1	X	600	G	P-O3'-C3'	5.29	126.05	119.70
1	X	579	G	N9-C4-C5	5.29	107.52	105.40
1	X	2042	A	C2-N3-C4	-5.29	107.96	110.60
1	X	1167	A	N1-C2-N3	-5.29	126.66	129.30
1	X	2805	G	C4-C5-N7	-5.29	108.69	110.80
1	X	2011	U	N1-C2-N3	5.28	118.07	114.90
1	X	503	G	N3-C2-N2	5.28	123.60	119.90
1	X	1948	C	C6-N1-C2	-5.28	118.19	120.30
1	X	2028	C	OP1-P-O3'	5.28	116.82	105.20
1	X	2524	G	C5-C6-N1	5.28	114.14	111.50
1	X	2663	U	N3-C2-O2	5.28	125.89	122.20
1	X	536	A	C5-C6-N1	5.28	120.34	117.70
1	X	803	C	O5'-P-OP2	5.28	117.03	110.70
2	Y	55	C	N3-C2-O2	-5.28	118.21	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	863	C	C6-N1-C2	-5.27	118.19	120.30
1	X	2797	G	N3-C4-C5	-5.27	125.96	128.60
1	X	2472	U	N3-C4-O4	5.27	123.09	119.40
1	X	933	G	C6-C5-N7	-5.27	127.24	130.40
1	X	2857	C	N1-C2-O2	5.27	122.06	118.90
5	C	150	LEU	CA-CB-CG	5.26	127.40	115.30
1	X	2518	C	N1-C2-O2	-5.26	115.74	118.90
1	X	2796	A	C5-C6-N6	5.26	127.91	123.70
1	X	855	G	N9-C4-C5	-5.26	103.30	105.40
1	X	2561	G	N3-C4-C5	-5.26	125.97	128.60
1	X	1239	A	C8-N9-C4	-5.26	103.70	105.80
1	X	2010	G	N3-C4-C5	-5.26	125.97	128.60
1	X	993	C	C5-C6-N1	5.25	123.63	121.00
1	X	2029	G	C6-C5-N7	-5.25	127.25	130.40
1	X	2327	U	O5'-P-OP1	-5.25	100.97	105.70
1	X	2745	A	N1-C6-N6	5.25	121.75	118.60
1	X	941	U	O5'-P-OP1	-5.25	100.97	105.70
1	X	9	U	N3-C2-O2	-5.25	118.53	122.20
1	X	13	A	N1-C6-N6	-5.25	115.45	118.60
1	X	1398	G	C8-N9-C1'	5.25	133.82	127.00
1	X	1466	C	C5-C6-N1	5.25	123.62	121.00
1	X	2489	C	N3-C4-N4	5.25	121.67	118.00
1	X	2797	G	N3-C2-N2	5.25	123.57	119.90
1	X	2594	U	N3-C4-O4	5.25	123.07	119.40
1	X	1663	C	C2-N1-C1'	5.24	124.57	118.80
2	Y	32	C	C6-N1-C2	-5.24	118.20	120.30
15	N	61	TRP	CA-CB-CG	5.24	123.66	113.70
1	X	2823	G	C5-C6-O6	5.24	131.74	128.60
1	X	1036	G	C6-C5-N7	5.24	133.54	130.40
1	X	1663	C	OP1-P-O3'	5.24	116.72	105.20
1	X	2466	G	C8-N9-C1'	-5.24	120.19	127.00
1	X	1308	C	N3-C4-C5	-5.23	119.81	121.90
1	X	15	G	C8-N9-C1'	5.23	133.80	127.00
1	X	500	G	N1-C6-O6	5.23	123.04	119.90
1	X	2708	U	N3-C2-O2	-5.23	118.54	122.20
1	X	1687	C	C4-C5-C6	5.23	120.01	117.40
1	X	2817	A	O5'-P-OP1	5.23	116.97	110.70
1	X	2626	U	OP2-P-O3'	5.23	116.70	105.20
1	X	2702	G	N1-C6-O6	-5.23	116.76	119.90
1	X	124	A	C8-N9-C4	-5.22	103.71	105.80
1	X	487	G	N3-C2-N2	-5.22	116.24	119.90
1	X	2537	C	O5'-P-OP1	-5.22	101.00	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	528	G	C8-N9-C4	-5.22	104.31	106.40
1	X	773	G	C8-N9-C4	-5.22	104.31	106.40
1	X	1660	G	N1-C6-O6	-5.22	116.77	119.90
1	X	2027	C	OP1-P-O3'	5.22	116.68	105.20
1	X	2847	G	O5'-P-OP1	-5.22	101.00	105.70
1	X	1238	A	C8-N9-C4	5.21	107.89	105.80
1	X	1356	G	C4-N9-C1'	5.21	133.28	126.50
1	X	586	G	C4-C5-C6	5.21	121.93	118.80
1	X	343	A	C8-N9-C1'	-5.21	118.32	127.70
1	X	1709	U	C2-N1-C1'	5.21	123.95	117.70
17	P	90	LEU	CA-CB-CG	5.21	127.29	115.30
1	X	2018	G	O5'-P-OP2	-5.21	101.01	105.70
1	X	2037	A	C4-C5-C6	-5.21	114.39	117.00
1	X	2489	C	N1-C2-O2	-5.21	115.77	118.90
1	X	2712	G	N3-C4-N9	5.21	129.13	126.00
1	X	2822	U	C6-N1-C1'	-5.21	113.91	121.20
1	X	2036	G	C5-N7-C8	-5.21	101.70	104.30
1	X	2530	C	C4-C5-C6	5.21	120.00	117.40
1	X	1954	A	C2-N3-C4	-5.20	108.00	110.60
1	X	1694	A	N1-C6-N6	5.20	121.72	118.60
1	X	2453	C	N1-C2-O2	5.20	122.02	118.90
1	X	2826	C	N3-C4-N4	-5.20	114.36	118.00
1	X	689	A	N7-C8-N9	5.20	116.40	113.80
1	X	931	G	C8-N9-C1'	-5.20	120.24	127.00
1	X	23	G	N3-C4-C5	-5.20	126.00	128.60
1	X	1344	C	N3-C2-O2	-5.20	118.26	121.90
1	X	1300	A	C4-C5-C6	-5.19	114.40	117.00
1	X	998	C	C6-N1-C2	-5.19	118.22	120.30
1	X	2591	C	C2-N1-C1'	5.19	124.51	118.80
1	X	2701	A	C8-N9-C4	-5.19	103.72	105.80
1	X	485	G	OP2-P-O3'	5.19	116.61	105.20
1	X	970	A	N1-C6-N6	5.19	121.71	118.60
1	X	2480	C	O4'-C1'-N1	5.19	112.35	108.20
1	X	975	C	N3-C4-C5	-5.18	119.83	121.90
1	X	1284	G	C6-C5-N7	-5.18	127.29	130.40
1	X	302	U	C5-C4-O4	-5.18	122.79	125.90
1	X	759	C	P-O3'-C3'	5.18	125.92	119.70
1	X	2795	A	P-O3'-C3'	5.18	125.92	119.70
1	X	1887	G	C8-N9-C4	-5.18	104.33	106.40
1	X	2489	C	C2-N3-C4	5.18	122.49	119.90
1	X	1309	G	C6-N1-C2	-5.18	121.99	125.10
1	X	2474	G	C5-C6-N1	5.18	114.09	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1692	C	N3-C4-C5	-5.18	119.83	121.90
1	X	2023	C	C2-N1-C1'	5.18	124.49	118.80
2	Y	93	G	C4-C5-N7	5.17	112.87	110.80
1	X	1284	G	C4-C5-C6	5.17	121.90	118.80
1	X	1279	G	C5-C6-N1	5.17	114.08	111.50
1	X	1775	A	O5'-P-OP1	-5.17	101.05	105.70
1	X	649	G	N3-C2-N2	-5.16	116.29	119.90
1	X	2751	C	N1-C2-O2	5.16	122.00	118.90
1	X	2844	G	OP1-P-OP2	-5.16	111.86	119.60
1	X	2038	C	OP2-P-O3'	5.16	116.55	105.20
1	X	1717	A	N9-C4-C5	5.16	107.86	105.80
1	X	2422	C	C6-N1-C2	-5.15	118.24	120.30
1	X	2486	C	N3-C4-N4	-5.15	114.39	118.00
1	X	2553	G	N9-C4-C5	5.15	107.46	105.40
1	X	1662	G	C8-N9-C4	5.15	108.46	106.40
1	X	2662	C	C5-C6-N1	5.15	123.58	121.00
1	X	2700	U	N3-C4-C5	-5.15	111.51	114.60
2	Y	77	G	N1-C6-O6	-5.15	116.81	119.90
1	X	956	A	N7-C8-N9	5.15	116.37	113.80
1	X	2817	A	C5-N7-C8	-5.15	101.33	103.90
1	X	1643	A	C8-N9-C4	5.14	107.86	105.80
1	X	1685	A	C4-C5-N7	-5.14	108.13	110.70
1	X	1743	C	O5'-P-OP2	-5.14	101.07	105.70
1	X	1855	G	C5-C6-O6	-5.14	125.52	128.60
1	X	776	G	N7-C8-N9	5.14	115.67	113.10
1	X	836	G	C8-N9-C4	-5.14	104.34	106.40
1	X	1674	C	N3-C4-C5	5.14	123.95	121.90
1	X	2832	G	N3-C4-N9	-5.14	122.92	126.00
1	X	1468	A	C2-N3-C4	5.13	113.17	110.60
1	X	863	C	C5-C6-N1	5.13	123.57	121.00
1	X	1313	U	N1-C2-O2	-5.13	119.21	122.80
1	X	2513	A	OP1-P-O3'	5.13	116.49	105.20
2	Y	58	G	N3-C4-C5	-5.13	126.03	128.60
1	X	1790	G	P-O3'-C3'	5.13	125.86	119.70
1	X	2818	G	N3-C4-C5	-5.13	126.04	128.60
1	X	1035	G	N7-C8-N9	5.13	115.66	113.10
1	X	2699	G	O5'-P-OP2	5.13	116.85	110.70
1	X	2551	A	C5-N7-C8	5.12	106.46	103.90
1	X	940	G	C4-C5-N7	-5.12	108.75	110.80
1	X	2030	U	C2-N1-C1'	-5.12	111.56	117.70
1	X	1933	G	C8-N9-C4	-5.12	104.35	106.40
1	X	1975	G	C5-C6-N1	5.12	114.06	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2751	C	C6-N1-C1'	-5.12	114.66	120.80
1	X	1670	G	C4-N9-C1'	-5.12	119.85	126.50
1	X	1819	U	N1-C2-O2	5.12	126.38	122.80
1	X	1038	U	C6-N1-C2	-5.11	117.93	121.00
1	X	1664	G	C8-N9-C4	5.11	108.44	106.40
1	X	2461	G	N1-C6-O6	5.11	122.97	119.90
1	X	343	A	N9-C1'-C2'	5.11	120.64	114.00
1	X	1277	G	N1-C6-O6	-5.11	116.83	119.90
1	X	1206	G	C4-N9-C1'	-5.11	119.86	126.50
1	X	1234	C	C2-N1-C1'	5.11	124.42	118.80
1	X	268	G	C6-C5-N7	-5.11	127.34	130.40
1	X	1288	A	N7-C8-N9	5.11	116.35	113.80
1	X	39	C	N3-C4-C5	-5.10	119.86	121.90
1	X	1480	G	N3-C4-C5	5.10	131.15	128.60
1	X	1527	G	N3-C2-N2	-5.10	116.33	119.90
1	X	2580	C	C2-N1-C1'	5.10	124.41	118.80
1	X	2705	A	OP1-P-O3'	5.10	116.42	105.20
1	X	834	A	C2-N3-C4	-5.10	108.05	110.60
1	X	2409	A	N1-C6-N6	5.10	121.66	118.60
1	X	2817	A	C4-C5-N7	5.10	113.25	110.70
1	X	1972	G	N7-C8-N9	5.09	115.65	113.10
1	X	2542	U	N1-C2-N3	5.09	117.96	114.90
1	X	1786	C	C2-N1-C1'	5.09	124.40	118.80
1	X	777	A	O4'-C1'-N9	5.09	112.27	108.20
1	X	2402	U	C2-N1-C1'	5.09	123.81	117.70
1	X	2437	G	N7-C8-N9	5.09	115.65	113.10
1	X	2469	G	O5'-P-OP2	-5.09	101.12	105.70
1	X	2832	G	C4-N9-C1'	-5.09	119.88	126.50
1	X	2846	G	N9-C4-C5	5.09	107.44	105.40
1	X	699	G	C4-C5-N7	5.09	112.84	110.80
1	X	969	U	C6-N1-C2	5.09	124.05	121.00
1	X	2604	G	C8-N9-C4	-5.09	104.36	106.40
1	X	2658	A	N9-C4-C5	-5.09	103.77	105.80
1	X	2043	A	N1-C2-N3	-5.08	126.76	129.30
1	X	2857	C	C5-C6-N1	5.08	123.54	121.00
1	X	2828	C	C6-N1-C2	-5.08	118.27	120.30
1	X	763	A	OP2-P-O3'	5.08	116.38	105.20
1	X	1006	C	N3-C4-C5	-5.08	119.87	121.90
1	X	949	G	C4-C5-N7	-5.08	108.77	110.80
1	X	1269	G	C4-C5-N7	5.08	112.83	110.80
1	X	1704	G	C4-N9-C1'	5.07	133.09	126.50
1	X	2437	G	OP1-P-O3'	5.07	116.36	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	955	G	C4-N9-C1'	5.07	133.09	126.50
1	X	1745	C	C2-N1-C1'	-5.07	113.22	118.80
1	X	523	A	N7-C8-N9	-5.07	111.27	113.80
1	X	2260	C	C6-N1-C2	-5.07	118.27	120.30
25	Z	46	CYS	CA-CB-SG	5.07	123.12	114.00
1	X	1309	G	C2-N3-C4	5.07	114.43	111.90
1	X	1994	U	N3-C2-O2	5.07	125.75	122.20
1	X	2655	C	N3-C2-O2	-5.07	118.36	121.90
1	X	2808	U	C6-N1-C2	5.07	124.04	121.00
1	X	2408	G	N7-C8-N9	5.06	115.63	113.10
1	X	1679	U	C5-C6-N1	-5.06	120.17	122.70
1	X	1745	C	C6-N1-C1'	5.06	126.88	120.80
1	X	2459	C	C2-N3-C4	-5.06	117.37	119.90
1	X	1336	G	C4-C5-N7	5.06	112.83	110.80
1	X	1980	A	C2-N3-C4	-5.06	108.07	110.60
1	X	1036	G	C5-C6-O6	5.06	131.63	128.60
1	X	1830	C	C2-N1-C1'	5.06	124.36	118.80
1	X	2472	U	C2-N1-C1'	5.06	123.77	117.70
1	X	2693	U	O4'-C1'-N1	-5.06	104.15	108.20
1	X	2759	U	C2-N1-C1'	5.06	123.77	117.70
1	X	1668	G	C4-N9-C1'	5.06	133.08	126.50
1	X	592	G	C4-C5-N7	5.06	112.82	110.80
1	X	1242	A	N7-C8-N9	-5.05	111.28	113.80
1	X	2258	G	C5-C6-N1	5.05	114.03	111.50
1	X	2370	G	O4'-C1'-N9	5.05	112.24	108.20
1	X	1658	A	C8-N9-C4	5.05	107.82	105.80
1	X	2459	C	C5-C4-N4	-5.05	116.67	120.20
1	X	2711	G	N1-C6-O6	-5.04	116.87	119.90
1	X	1223	G	N3-C4-C5	-5.04	126.08	128.60
1	X	560	G	O5'-P-OP1	-5.04	101.16	105.70
1	X	2444	C	N3-C4-C5	-5.04	119.88	121.90
1	X	787	A	N3-C4-N9	-5.04	123.37	127.40
1	X	2491	C	C2-N1-C1'	5.04	124.34	118.80
1	X	2594	U	C2-N1-C1'	5.04	123.74	117.70
1	X	2601	C	C6-N1-C2	-5.04	118.29	120.30
1	X	2668	U	C2-N3-C4	-5.04	123.98	127.00
1	X	1142	G	N9-C4-C5	-5.03	103.39	105.40
1	X	1697	U	O4'-C1'-N1	5.03	112.23	108.20
1	X	1686	A	C6-N1-C2	-5.03	115.58	118.60
1	X	1974	U	C2-N1-C1'	5.03	123.74	117.70
1	X	2542	U	N1-C2-O2	5.03	126.32	122.80
1	X	1660	G	C2-N3-C4	5.03	114.41	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2528	G	N3-C4-C5	-5.03	126.08	128.60
2	Y	97	C	N1-C2-O2	5.03	121.92	118.90
1	X	1636	G	C6-N1-C2	-5.03	122.08	125.10
1	X	2499	C	C2-N3-C4	5.03	122.41	119.90
1	X	2545	A	C6-N1-C2	-5.03	115.58	118.60
1	X	2836	U	C5-C6-N1	5.03	125.21	122.70
1	X	2662	C	C2-N3-C4	5.02	122.41	119.90
1	X	2857	C	N3-C4-N4	5.02	121.52	118.00
2	Y	58	G	C8-N9-C1'	-5.02	120.47	127.00
1	X	1240	G	C4-C5-N7	5.02	112.81	110.80
1	X	1691	G	C6-N1-C2	-5.02	122.09	125.10
1	X	2492	G	N3-C4-C5	-5.02	126.09	128.60
1	X	981	C	N3-C4-N4	5.02	121.51	118.00
1	X	493	A	C8-N9-C4	5.01	107.81	105.80
1	X	1676	U	OP1-P-OP2	5.01	127.12	119.60
1	X	1746	A	N1-C6-N6	-5.01	115.59	118.60
1	X	1037	U	C5-C6-N1	5.01	125.20	122.70
1	X	1748	U	C5-C4-O4	-5.01	122.90	125.90
1	X	2322	U	P-O3'-C3'	5.01	125.71	119.70

There are no chirality outliers.

All (20) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	B	130	GLY	Peptide
4	B	131	SER	Peptide
4	B	135	HIS	Peptide
4	B	146	THR	Peptide
4	B	149	ARG	Peptide
5	C	49	ALA	Peptide
8	G	114	THR	Peptide
10	I	48	PHE	Peptide
10	I	57	ILE	Peptide
11	J	11	ARG	Peptide
11	J	12	LYS	Peptide
12	K	8	ARG	Peptide
14	M	27	PHE	Peptide
14	M	28	ARG	Peptide
16	O	78	VAL	Peptide
19	R	57	ASN	Peptide
19	R	68	GLY	Peptide
20	S	32	PHE	Peptide

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Mol	Chain	Res	Type	Group
25	Z	37	HIS	Peptide
25	Z	53	ASP	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	X	57957	0	29205	1932	0
2	Y	2598	0	1328	88	0
3	A	2001	0	1994	121	0
4	B	1544	0	1605	107	0
5	C	1467	0	1472	100	0
6	D	1367	0	1423	81	0
7	E	1286	0	1336	61	0
8	G	1107	0	1124	66	0
9	H	993	0	1035	84	0
10	I	982	0	973	49	0
11	J	1042	0	1059	64	0
12	K	897	0	955	68	0
13	L	751	0	770	40	0
14	M	923	0	942	76	0
15	N	962	0	987	65	0
16	O	734	0	736	35	0
17	P	1020	0	1096	72	0
18	Q	718	0	731	48	0
19	R	793	0	804	68	0
20	S	1290	0	1268	56	0
21	T	542	0	566	39	0
22	U	539	0	556	37	0
23	V	438	0	456	18	0
24	W	424	0	470	18	0
25	Z	448	0	446	41	0
26	1	315	0	252	16	0
27	2	383	0	414	19	0
28	3	470	0	512	48	0
29	X	49	0	61	8	0
30	2	2	0	0	0	0
30	3	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	A	1	0	0	0	0
30	I	1	0	0	0	0
30	N	1	0	0	0	0
30	Q	2	0	0	0	0
30	W	1	0	0	0	0
30	X	264	0	0	0	0
30	Y	4	0	0	0	0
31	V	10	0	19	0	0
31	X	60	0	104	15	0
All	All	84387	0	54699	3132	0

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

All (3132) 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)
13:L:30:SER:O	13:L:40:ALA:HA	1.55	1.03
15:N:66:ASN:HB3	15:N:76:TYR:HB2	1.40	1.03
1:X:1673:C:H5"	4:B:136:ARG:HB3	1.39	1.02
8:G:119:LEU:HD12	8:G:126:VAL:HG23	1.41	1.01
1:X:2796:A:H2'	1:X:2797:G:H8	1.24	1.01
17:P:21:ARG:HH11	17:P:21:ARG:HA	1.29	0.98
14:M:69:ARG:NH1	14:M:78:GLU:OE2	2.00	0.95
5:C:45:THR:HG21	5:C:85:GLY:HA3	1.47	0.92
1:X:226:C:OP2	1:X:2373:C:O2'	1.88	0.91
28:3:61:MET:N	28:3:61:MET:SD	2.40	0.91
25:Z:32:GLU:HG3	25:Z:39:LYS:HD3	1.54	0.90
8:G:70:PHE:HB2	8:G:76:GLN:HE22	1.37	0.90
1:X:2542:U:H5'	9:H:37:GLY:HA2	1.53	0.90
6:D:124:GLY:HA3	6:D:163:ASP:HA	1.54	0.89
2:Y:67:C:H2'	2:Y:111:C:H41	1.36	0.89
12:K:33:ARG:HG3	12:K:114:GLU:HB3	1.52	0.89
9:H:110:VAL:HG23	9:H:129:LEU:HB2	1.55	0.88
1:X:2551:A:H5"	1:X:2553:G:H4'	1.56	0.88
1:X:2796:A:H2'	1:X:2797:G:C8	2.09	0.87
14:M:14:ARG:HH11	14:M:15:GLY:HA2	1.37	0.87
1:X:1277:G:OP1	25:Z:19:ARG:NH2	2.06	0.87
4:B:174:GLU:HB3	4:B:183:LEU:HD22	1.56	0.87
8:G:100:TYR:HB2	8:G:115:ALA:H	1.39	0.87
1:X:479:G:N7	27:2:39:ARG:NH2	2.21	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:693:A:H2'	1:X:694:G:C8	2.09	0.87
3:A:55:GLY:HA3	3:A:218:LYS:HG2	1.55	0.87
11:J:18:MET:SD	11:J:19:THR:N	2.48	0.87
13:L:91:ARG:NH1	13:L:94:TYR:O	2.06	0.87
27:2:22:MET:O	27:2:28:ARG:NH2	2.08	0.87
1:X:338:G:H5'	19:R:9:HIS:CE1	2.10	0.86
1:X:492:G:O2'	1:X:516:G:N2	2.09	0.86
1:X:494:A:O2'	19:R:58:VAL:HG13	1.74	0.86
22:U:74:PRO:HB3	22:U:78:ILE:HA	1.58	0.85
1:X:1936:A:H61	31:X:3167:SPD:HN11	1.25	0.85
3:A:223:GLY:HA2	3:A:226:MET:HG3	1.59	0.85
9:H:2:ILE:HB	9:H:45:ALA:HB3	1.59	0.85
3:A:17:THR:HB	3:A:205:VAL:H	1.41	0.85
1:X:1283:C:H5"	1:X:1284:G:H5'	1.59	0.84
1:X:1542:G:H22	1:X:1562:G:H1	1.24	0.84
1:X:1570:C:N4	1:X:1651:U:O4	2.10	0.84
1:X:2307:A:H2'	1:X:2308:A:C8	2.12	0.84
1:X:337:G:O2'	19:R:9:HIS:ND1	2.09	0.84
1:X:683:A:OP1	10:I:40:ARG:NE	2.10	0.84
1:X:2186:G:H2'	1:X:2187:A:H8	1.43	0.84
2:Y:82:U:H3	2:Y:99:G:H1	1.26	0.84
1:X:2399:C:N4	28:3:31:HIS:O	2.10	0.83
5:C:56:ARG:NH2	5:C:57:LYS:O	2.11	0.83
9:H:62:GLY:O	9:H:65:LYS:NZ	2.12	0.83
14:M:33:VAL:HG22	14:M:51:GLU:HB2	1.61	0.83
1:X:938:G:O2'	1:X:940:G:N7	2.11	0.82
1:X:38:G:H2'	1:X:39:C:C6	2.15	0.82
1:X:320:A:N6	1:X:1223:G:O2'	2.13	0.82
1:X:2020:G:H2'	1:X:2021:G:C8	2.15	0.82
1:X:517:A:H5"	1:X:518:A:H5'	1.60	0.82
1:X:2605:C:H2'	1:X:2606:G:H8	1.45	0.82
1:X:474:G:N2	1:X:477:A:OP2	2.13	0.81
10:I:89:ASP:OD1	10:I:89:ASP:N	2.12	0.81
8:G:35:LYS:HD3	8:G:35:LYS:H	1.45	0.81
1:X:1793:A:H2'	1:X:1794:A:C8	2.15	0.81
1:X:2609:G:H2'	1:X:2610:G:H8	1.45	0.81
4:B:194:GLY:HA2	14:M:2:GLN:HA	1.61	0.81
1:X:1165:G:OP2	15:N:58:ARG:NH2	2.12	0.81
1:X:1662:G:H5"	1:X:1663:C:H5'	1.63	0.81
1:X:546:A:H2'	1:X:547:U:C6	2.15	0.81
1:X:1882:G:H21	1:X:1885:C:H41	1.29	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1481:U:HO2'	1:X:1562:G:HO2'	1.21	0.81
1:X:2306:A:H2'	1:X:2307:A:C8	2.15	0.81
1:X:2432:A:H2'	1:X:2433:G:H8	1.45	0.81
1:X:1582:A:OP1	3:A:211:ARG:NH1	2.14	0.80
20:S:91:PRO:HD2	20:S:92:VAL:HG23	1.63	0.80
1:X:219:G:HO2'	1:X:231:G:H1	1.29	0.80
1:X:1850:G:O2'	1:X:1866:G:N2	2.15	0.80
2:Y:32:C:H1'	2:Y:59:A:H61	1.44	0.80
15:N:24:PHE:O	15:N:29:SER:OG	2.00	0.80
1:X:1919:A:H2	1:X:1926:U:H3	1.29	0.80
1:X:2261:G:H21	1:X:2369:U:H3	1.30	0.80
15:N:47:TYR:O	15:N:51:ARG:NH1	2.15	0.80
1:X:1345:G:N7	1:X:1625:A:O2'	2.14	0.80
1:X:2662:C:H2'	1:X:2663:U:H6	1.47	0.79
24:W:1:MET:HB3	24:W:34:VAL:HG12	1.64	0.79
1:X:2659:C:H5'	4:B:189:PRO:HA	1.64	0.79
6:D:128:TYR:HB3	6:D:156:ILE:HD12	1.64	0.79
1:X:1154:A:N7	8:G:53:ARG:NH2	2.30	0.79
1:X:2246:A:H5"	1:X:2247:A:H5"	1.65	0.79
1:X:2516:U:H2'	1:X:2517:C:C6	2.16	0.79
1:X:2795:A:OP1	12:K:2:ARG:NH1	2.15	0.79
1:X:704:G:OP1	3:A:218:LYS:NZ	2.15	0.79
16:O:66:GLY:O	16:O:87:ARG:NH1	2.16	0.79
5:C:47:THR:H	5:C:51:VAL:HB	1.46	0.79
25:Z:15:LYS:HA	25:Z:18:MET:HG3	1.65	0.78
1:X:1014:G:O2'	1:X:1021:A:N1	2.16	0.78
1:X:1996:A:H2	17:P:109:ARG:HH22	1.31	0.78
1:X:1075:C:O2	1:X:1085:G:N2	2.17	0.78
10:I:55:ARG:H	10:I:55:ARG:CZ	1.97	0.78
1:X:2518:C:HO2'	1:X:2721:A:HO2'	1.29	0.78
1:X:2533:U:H2'	1:X:2534:U:C6	2.19	0.78
15:N:48:ARG:O	15:N:52:ASN:ND2	2.15	0.78
1:X:2186:G:H2'	1:X:2187:A:C8	2.18	0.77
1:X:2266:A:H62	1:X:2323:U:H3	1.31	0.77
1:X:2567:G:C6	1:X:2586:G:C2	2.72	0.77
16:O:50:ASP:HA	16:O:53:LYS:HD3	1.67	0.77
27:2:3:ARG:O	27:2:6:GLN:NE2	2.17	0.77
1:X:224:G:H4'	1:X:399:G:C5	2.19	0.77
4:B:48:GLN:HB2	4:B:80:GLU:HG2	1.66	0.77
1:X:2640:G:H2'	1:X:2641:A:C8	2.20	0.77
12:K:35:GLN:HB2	12:K:112:LEU:HD23	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:212:SER:HA	3:A:215:LEU:HD12	1.67	0.77
18:Q:33:ALA:O	18:Q:76:LYS:NZ	2.14	0.77
14:M:90:GLN:OE1	14:M:91:VAL:N	2.18	0.77
1:X:1993:G:OP2	17:P:62:ARG:NH1	2.18	0.76
4:B:14:ILE:HG22	4:B:21:ILE:HG13	1.66	0.76
6:D:108:LEU:HD22	6:D:110:ARG:H	1.48	0.76
1:X:1212:U:H2'	1:X:1213:U:C6	2.20	0.76
4:B:55:ALA:HB3	4:B:58:LYS:HD3	1.66	0.76
1:X:2727:G:OP1	7:E:74:ASN:ND2	2.18	0.76
14:M:29:PRO:HB3	14:M:104:LEU:HD11	1.67	0.76
9:H:33:GLY:HA3	9:H:102:GLN:HE21	1.50	0.76
1:X:335:A:N6	1:X:349:G:O2'	2.19	0.76
1:X:2264:C:OP2	26:1:30:ASN:ND2	2.17	0.76
4:B:179:GLU:HB3	4:B:181:LEU:HD23	1.68	0.76
12:K:87:TYR:HD1	12:K:90:ARG:HD2	1.51	0.76
19:R:95:ARG:HA	19:R:104:VAL:HG12	1.68	0.76
1:X:168:A:H2'	1:X:169:C:H6	1.50	0.76
1:X:1938:U:O4	1:X:2535:C:N4	2.17	0.76
18:Q:7:LEU:O	23:V:29:ARG:NH1	2.19	0.76
1:X:2225:G:H2'	1:X:2226:A:H8	1.49	0.76
16:O:4:ILE:HA	16:O:11:GLN:HB3	1.66	0.76
6:D:111:ILE:HG21	6:D:137:ILE:HG22	1.68	0.75
12:K:103:ARG:NH2	12:K:106:ASP:OD2	2.18	0.75
1:X:2053:G:H2'	1:X:2054:A:C8	2.22	0.75
19:R:14:LEU:HD12	19:R:41:PRO:HB3	1.68	0.75
1:X:596:C:OP2	10:I:21:ARG:NH1	2.19	0.75
1:X:763:A:OP1	1:X:1631:C:N4	2.20	0.75
1:X:870:C:H4'	21:T:23:VAL:HG21	1.69	0.75
1:X:224:G:H4'	1:X:399:G:C6	2.21	0.75
1:X:758:G:O2'	1:X:763:A:N6	2.20	0.75
1:X:1436:G:N2	1:X:1514:C:O2	2.19	0.75
1:X:2811:G:H2'	1:X:2812:A:C8	2.22	0.75
11:J:32:ASP:N	11:J:107:VAL:O	2.19	0.75
11:J:46:ASN:OD1	11:J:46:ASN:N	2.16	0.75
1:X:1675:C:OP1	4:B:134:TRP:NE1	2.20	0.75
1:X:2372:A:H62	1:X:2401:A:H61	1.34	0.75
6:D:170:LEU:HB2	6:D:175:LEU:HB2	1.69	0.74
20:S:90:GLU:HB3	20:S:125:PRO:HA	1.68	0.74
1:X:2048:C:H1'	1:X:2428:U:H3	1.52	0.74
14:M:31:ASP:N	14:M:31:ASP:OD1	2.17	0.74
17:P:45:ILE:HD11	17:P:57:LEU:HG	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1348:C:H2'	1:X:1349:A:C8	2.23	0.74
1:X:1762:C:H2'	1:X:1763:G:C8	2.21	0.74
16:O:38:LEU:HD23	16:O:47:PHE:HB3	1.69	0.74
1:X:71:A:O2'	1:X:72:A:OP1	2.05	0.74
1:X:219:G:O2'	1:X:220:U:OP2	2.05	0.74
1:X:1444:C:H2'	1:X:1445:A:C8	2.22	0.74
1:X:2283:G:H22	1:X:2291:U:H3	1.36	0.74
11:J:32:ASP:HB2	11:J:108:ALA:HA	1.70	0.74
14:M:27:PHE:HZ	14:M:96:ARG:HA	1.53	0.74
1:X:689:A:H8	1:X:2052:G:H21	1.32	0.74
1:X:1022:A:H2'	1:X:1024:G:H5"	1.69	0.74
1:X:640:C:H4'	1:X:660:G:H21	1.51	0.74
1:X:1355:A:O2'	1:X:1357:U:OP2	2.05	0.74
1:X:1997:A:H2'	1:X:1998:A:C8	2.22	0.74
1:X:2191:A:OP1	1:X:2193:C:N4	2.19	0.74
9:H:16:ALA:HA	9:H:58:ALA:HA	1.69	0.74
1:X:2225:G:H2'	1:X:2226:A:C8	2.23	0.74
1:X:1727:C:H2'	1:X:1728:A:C8	2.23	0.73
19:R:84:VAL:HG12	19:R:88:THR:HA	1.70	0.73
1:X:2867:G:OP2	1:X:2867:G:H8	1.70	0.73
23:V:42:ARG:NH1	23:V:45:GLN:OE1	2.21	0.73
1:X:313:U:H2'	1:X:314:G:H8	1.53	0.73
1:X:1081:A:N7	1:X:1107:A:O2'	2.21	0.73
1:X:1684:G:O2'	1:X:1974:U:O4	2.06	0.73
5:C:171:PRO:HB2	5:C:172:VAL:HG23	1.69	0.73
1:X:222:G:O6	28:3:7:HIS:NE2	2.21	0.73
1:X:339:U:H3	1:X:343:A:H2	1.35	0.73
1:X:1179:A:H2'	1:X:1180:A:C8	2.22	0.73
19:R:23:ILE:HG23	19:R:81:VAL:HB	1.70	0.73
1:X:37:C:H2'	1:X:38:G:H8	1.51	0.73
1:X:2402:U:O2'	1:X:2404:A:H2'	1.88	0.73
16:O:78:VAL:HG13	16:O:80:TYR:HB3	1.70	0.73
1:X:38:G:H2'	1:X:39:C:H6	1.54	0.73
15:N:94:VAL:HG13	15:N:95:LEU:HD22	1.68	0.73
3:A:34:THR:HG22	3:A:63:ARG:HB3	1.71	0.73
5:C:111:ARG:HB3	5:C:116:LYS:HB3	1.71	0.73
1:X:2567:G:O6	1:X:2586:G:C6	2.42	0.72
4:B:135:HIS:HB2	4:B:136:ARG:HG2	1.70	0.72
1:X:2873:G:H2'	1:X:2874:A:H8	1.54	0.72
3:A:203:ASN:OD1	3:A:203:ASN:N	2.21	0.72
1:X:5:A:H2'	1:X:6:A:C8	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2400:G:N7	28:3:32:GLN:NE2	2.37	0.72
1:X:2284:U:H1'	6:D:151:GLY:HA3	1.70	0.72
9:H:11:ALA:N	9:H:96:ALA:O	2.21	0.72
1:X:2605:C:H2'	1:X:2606:G:C8	2.24	0.72
7:E:7:GLN:H	7:E:8:PRO:HD2	1.54	0.72
1:X:2011:U:H2'	1:X:2012:A:C8	2.24	0.72
1:X:115:G:OP2	1:X:117:A:O2'	2.08	0.72
11:J:133:VAL:HB	20:S:76:ARG:HH21	1.55	0.72
17:P:30:TYR:H	17:P:123:HIS:CE1	2.08	0.72
1:X:705:C:H2'	1:X:706:A:H8	1.53	0.71
1:X:2800:C:H3'	1:X:2801:A:H8	1.54	0.71
3:A:36:ALA:HB1	3:A:61:LEU:HD22	1.72	0.71
1:X:1352:G:OP2	18:Q:77:LYS:NZ	2.23	0.71
21:T:21:LEU:HD11	21:T:41:ARG:HE	1.54	0.71
1:X:1466:C:H2'	1:X:1467:U:H1'	1.72	0.71
12:K:2:ARG:O	12:K:4:GLY:N	2.23	0.71
1:X:1587:A:H2'	1:X:1588:A:C8	2.26	0.71
6:D:36:VAL:HG22	6:D:154:ILE:HG12	1.72	0.71
20:S:104:SER:HA	20:S:139:THR:HA	1.72	0.71
1:X:1573:G:H3'	1:X:1574:A:H5''	1.72	0.71
1:X:1996:A:N3	17:P:109:ARG:NH1	2.34	0.71
4:B:176:ARG:HE	14:M:16:ILE:HG22	1.55	0.71
1:X:37:C:H2'	1:X:38:G:C8	2.26	0.71
4:B:188:ILE:HG22	4:B:189:PRO:HD2	1.72	0.71
21:T:22:GLY:H	21:T:39:ARG:HB2	1.56	0.71
9:H:105:PRO:HG3	9:H:126:ILE:HG12	1.73	0.71
20:S:69:VAL:HG22	20:S:81:VAL:HG12	1.73	0.71
1:X:1419:G:H2'	1:X:1420:A:H8	1.56	0.70
1:X:1448:A:H61	1:X:1574:A:H61	1.39	0.70
1:X:2434:G:H2'	1:X:2435:C:C6	2.26	0.70
21:T:27:GLY:HA2	21:T:67:VAL:HG13	1.73	0.70
1:X:489:A:H2'	1:X:490:A:H5''	1.73	0.70
17:P:102:THR:HG21	17:P:118:LYS:HG3	1.71	0.70
26:1:13:GLU:H	26:1:54:LYS:HG2	1.56	0.70
1:X:1727:C:H2'	1:X:1728:A:H8	1.56	0.70
11:J:136:GLU:OE2	20:S:44:ARG:NH1	2.24	0.70
1:X:1418:C:H2'	1:X:1419:G:C8	2.27	0.70
1:X:1446:U:H3	1:X:1577:G:H1	1.37	0.70
1:X:2772:U:H2'	1:X:2773:G:C8	2.26	0.70
1:X:1465:G:H2'	1:X:1466:C:C6	2.25	0.70
1:X:2226:A:H2'	1:X:2227:C:C6	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1030:U:H2'	1:X:1032:A:C2	2.27	0.70
1:X:2609:G:H2'	1:X:2610:G:C8	2.26	0.70
1:X:1348:C:H2'	1:X:1349:A:H8	1.54	0.70
1:X:1440:G:N7	3:A:31:LYS:NZ	2.30	0.70
2:Y:6:C:H2'	2:Y:7:C:H6	1.55	0.70
1:X:1674:C:H2'	1:X:1675:C:H6	1.56	0.70
1:X:2621:G:H5'	8:G:106:TYR:CD2	2.27	0.70
2:Y:51:G:H2'	2:Y:52:G:H8	1.55	0.69
14:M:41:GLU:OE2	14:M:46:ARG:NE	2.22	0.69
18:Q:11:VAL:HG23	18:Q:27:PHE:HA	1.73	0.69
1:X:612:G:O2'	1:X:614:G:O2'	2.08	0.69
1:X:969:U:O2	2:Y:92:G:H4'	1.92	0.69
1:X:1212:U:H2'	1:X:1213:U:H6	1.54	0.69
1:X:577:U:OP1	10:I:35:LYS:NZ	2.20	0.69
1:X:1697:U:N3	1:X:1755:G:OP2	2.22	0.69
26:1:36:GLU:HB2	26:1:52:GLU:HB2	1.75	0.69
1:X:1856:U:OP1	1:X:2389:G:O2'	2.05	0.69
1:X:2078:G:N2	1:X:2178:U:H3	1.91	0.69
1:X:1762:C:H2'	1:X:1763:G:H8	1.58	0.69
1:X:2231:G:H2'	1:X:2232:G:H8	1.58	0.69
2:Y:26:G:N3	2:Y:29:C:N4	2.40	0.69
21:T:64:ASP:OD1	21:T:64:ASP:N	2.22	0.69
28:3:5:LYS:H	28:3:5:LYS:NZ	1.91	0.69
1:X:341:A:H2	1:X:1223:G:H2'	1.57	0.69
1:X:356:A:HO2'	1:X:357:A:H8	1.38	0.69
1:X:1283:C:H5"	1:X:1284:G:C5'	2.22	0.69
1:X:1465:G:H2'	1:X:1466:C:H6	1.55	0.69
3:A:29:PRO:O	3:A:104:TYR:OH	2.09	0.69
17:P:94:GLU:HB2	17:P:127:ILE:HB	1.75	0.69
22:U:47:HIS:CD2	22:U:63:SER:HA	2.27	0.69
11:J:6:LYS:HD2	11:J:45:SER:HB2	1.75	0.69
9:H:13:ASN:OD1	9:H:108:THR:N	2.26	0.68
1:X:932:G:H2'	1:X:933:G:C8	2.28	0.68
13:L:75:LEU:HD12	13:L:78:ALA:HB3	1.74	0.68
1:X:463:C:N4	1:X:466:A:OP2	2.26	0.68
7:E:9:ILE:HG13	7:E:50:LEU:H	1.57	0.68
10:I:82:ASP:O	10:I:86:THR:OG1	2.11	0.68
1:X:1329:U:H2'	1:X:1330:G:H8	1.59	0.68
7:E:108:GLY:O	7:E:152:ARG:NH1	2.26	0.68
21:T:38:VAL:HG21	21:T:45:PHE:CD2	2.28	0.68
1:X:1785:A:H2'	1:X:1786:C:C6	2.28	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:123:PHE:HB3	5:C:125:ILE:HG12	1.74	0.68
21:T:23:VAL:HA	21:T:38:VAL:HG23	1.75	0.68
4:B:60:ASN:HB3	4:B:62:PRO:HD2	1.73	0.68
1:X:859:U:O2'	1:X:860:U:O5'	2.09	0.68
1:X:862:A:H2'	1:X:863:C:C6	2.29	0.68
1:X:1693:A:H2	1:X:1976:U:H5'	1.58	0.68
3:A:142:VAL:HG12	3:A:193:ILE:HA	1.75	0.68
1:X:1422:C:H2'	1:X:1423:A:H8	1.59	0.68
1:X:1462:C:O2'	1:X:1560:A:N3	2.27	0.68
7:E:52:VAL:O	7:E:65:HIS:NE2	2.23	0.68
8:G:70:PHE:HB2	8:G:76:GLN:NE2	2.08	0.68
1:X:797:A:C5	3:A:229:VAL:HG21	2.29	0.68
1:X:1039:A:N6	1:X:1136:G:H2'	2.09	0.68
1:X:1419:G:H2'	1:X:1420:A:C8	2.29	0.68
1:X:1428:G:N2	1:X:1602:G:H5'	2.08	0.68
1:X:1674:C:H2'	1:X:1675:C:C6	2.29	0.68
6:D:150:ARG:H	6:D:150:ARG:HD3	1.58	0.68
1:X:1142:G:H21	8:G:101:THR:HG22	1.58	0.68
1:X:2653:A:O2'	9:H:41:ASN:OD1	2.11	0.68
8:G:67:ARG:O	8:G:69:ASP:N	2.27	0.68
15:N:58:ARG:HA	15:N:61:TRP:CD1	2.29	0.68
1:X:1279:G:O2'	1:X:1995:G:O6	2.07	0.67
1:X:1422:C:H2'	1:X:1423:A:C8	2.28	0.67
1:X:1693:A:C2	1:X:1976:U:H5'	2.29	0.67
1:X:494:A:H4'	19:R:57:ASN:HA	1.76	0.67
9:H:75:VAL:HG12	9:H:118:LEU:HD21	1.75	0.67
9:H:76:ARG:O	9:H:94:ASN:HA	1.94	0.67
1:X:652:C:O2'	1:X:2329:C:OP1	2.11	0.67
5:C:95:LEU:HD23	5:C:96:PRO:HD2	1.76	0.67
19:R:58:VAL:HG12	19:R:68:GLY:N	2.09	0.67
1:X:585:U:H2'	1:X:586:G:C8	2.30	0.67
11:J:28:VAL:H	11:J:138:TYR:HE2	1.40	0.67
1:X:242:A:N6	1:X:440:U:O2'	2.27	0.67
1:X:1656:U:H2'	1:X:1657:A:H5''	1.76	0.67
1:X:2692:A:H5'	1:X:2693:U:OP2	1.94	0.67
5:C:170:LEU:HD12	5:C:171:PRO:HD2	1.76	0.67
10:I:58:ALA:HA	28:3:11:LYS:HD3	1.76	0.67
13:L:54:ALA:HB2	13:L:75:LEU:HD13	1.77	0.67
15:N:60:LEU:HD22	15:N:64:ARG:HH11	1.59	0.67
19:R:58:VAL:HB	19:R:67:GLY:N	2.10	0.67
1:X:705:C:H2'	1:X:706:A:C8	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2002:A:H61	1:X:2018:G:H1	1.43	0.67
4:B:132:LYS:HA	4:B:134:TRP:CD1	2.29	0.67
8:G:56:THR:HG22	8:G:134:MET:SD	2.34	0.67
8:G:118:ALA:O	8:G:121:LYS:HB3	1.94	0.67
1:X:833:A:N3	1:X:954:U:O2'	2.26	0.67
1:X:1329:U:H2'	1:X:1330:G:C8	2.30	0.67
1:X:2307:A:H2'	1:X:2308:A:H8	1.58	0.67
15:N:88:ILE:HG21	16:O:49:GLU:HB2	1.76	0.67
1:X:82:G:H22	1:X:100:G:H1'	1.60	0.67
1:X:719:A:H3'	1:X:720:A:H8	1.60	0.67
1:X:868:U:H2'	1:X:869:C:C6	2.30	0.67
1:X:2824:C:OP1	14:M:100:ARG:NH1	2.27	0.67
21:T:42:GLY:HA2	21:T:57:HIS:ND1	2.10	0.67
25:Z:58:LEU:H	25:Z:58:LEU:HD13	1.58	0.67
14:M:27:PHE:CZ	14:M:96:ARG:HA	2.29	0.67
21:T:32:LYS:N	21:T:35:ASN:OD1	2.28	0.67
25:Z:36:CYS:SG	25:Z:49:CYS:HB3	2.35	0.67
1:X:2191:A:H5"	1:X:2192:U:H5	1.59	0.66
1:X:2662:C:H2'	1:X:2663:U:C6	2.29	0.66
9:H:7:ARG:HH21	9:H:7:ARG:HG2	1.60	0.66
14:M:38:LYS:NZ	14:M:46:ARG:HD2	2.10	0.66
1:X:114:C:O2'	1:X:124:A:N3	2.25	0.66
1:X:556:A:OP1	1:X:1233:A:O2'	2.13	0.66
1:X:2040:A:H2'	1:X:2041:A:C8	2.31	0.66
3:A:223:GLY:HA3	3:A:231:HIS:CD2	2.30	0.66
5:C:189:ASP:O	5:C:191:ALA:N	2.24	0.66
11:J:6:LYS:HB2	11:J:45:SER:HB2	1.77	0.66
12:K:28:LEU:HD11	12:K:115:LEU:HD21	1.77	0.66
1:X:2567:G:O6	1:X:2586:G:N1	2.28	0.66
1:X:2594:U:C2	25:Z:7:PRO:HA	2.29	0.66
1:X:2700:U:H2'	1:X:2701:A:H8	1.59	0.66
13:L:32:TYR:O	13:L:34:SER:N	2.29	0.66
17:P:68:VAL:HG22	17:P:124:ILE:HG21	1.76	0.66
24:W:46:THR:HG22	24:W:47:VAL:HG13	1.75	0.66
20:S:1:MET:N	20:S:2:GLU:OE1	2.29	0.66
7:E:48:ASP:OD2	7:E:49:GLN:NE2	2.28	0.66
20:S:117:VAL:HG23	20:S:168:VAL:HA	1.78	0.66
4:B:112:GLY:O	4:B:159:HIS:HA	1.95	0.66
14:M:41:GLU:HG2	14:M:44:ARG:HH22	1.60	0.66
15:N:15:LYS:HB2	15:N:15:LYS:NZ	2.09	0.66
1:X:1583:A:H3'	3:A:86:PRO:HG3	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2085:G:H2'	1:X:2086:U:C6	2.31	0.66
1:X:2332:G:O2'	21:T:33:ALA:O	2.12	0.66
14:M:50:PHE:HD2	14:M:79:ARG:HH11	1.43	0.66
1:X:17:G:H2'	1:X:18:U:C6	2.30	0.65
1:X:249:A:N6	1:X:278:G:O2'	2.29	0.65
1:X:2847:G:OP1	31:X:3168:SPD:H32	1.96	0.65
5:C:190:ALA:HA	5:C:194:GLU:HG3	1.76	0.65
19:R:29:HIS:HE2	19:R:51:VAL:HA	1.60	0.65
1:X:2000:U:O2'	25:Z:10:LYS:N	2.27	0.65
1:X:2270:U:OP1	1:X:2359:U:O2'	2.14	0.65
2:Y:78:A:H4'	20:S:20:ALA:HB1	1.78	0.65
5:C:152:THR:O	5:C:158:ARG:NH2	2.30	0.65
12:K:60:LEU:HG	12:K:64:ARG:HD2	1.79	0.65
28:3:12:ARG:O	28:3:14:ILE:N	2.28	0.65
1:X:693:A:H2'	1:X:694:G:H8	1.58	0.65
1:X:1444:C:H2'	1:X:1445:A:H8	1.62	0.65
21:T:15:ASP:OD1	21:T:16:SER:N	2.26	0.65
1:X:927:C:OP2	21:T:74:LYS:NZ	2.29	0.65
1:X:1012:A:H62	1:X:1165:G:H21	1.45	0.65
1:X:1326:U:H4'	1:X:1345:G:H4'	1.78	0.65
9:H:83:ARG:HH12	9:H:134:LEU:HD21	1.61	0.65
17:P:114:ALA:O	17:P:115:ASN:ND2	2.30	0.65
1:X:2077:G:O6	1:X:2078:G:N2	2.28	0.65
1:X:2801:A:H5"	1:X:2802:C:OP2	1.97	0.65
10:I:66:ASN:N	10:I:98:LEU:O	2.25	0.65
1:X:2688:G:N7	31:X:3171:SPD:N1	2.44	0.65
15:N:83:LEU:HD21	15:N:109:LEU:HD23	1.77	0.65
1:X:621:U:H2'	1:X:622:U:C6	2.31	0.65
5:C:5:ASN:HB3	5:C:120:VAL:HG23	1.77	0.65
1:X:341:A:C2	1:X:1223:G:H2'	2.31	0.65
1:X:572:G:N3	15:N:37:GLN:NE2	2.45	0.65
1:X:1264:C:OP1	15:N:13:ARG:NH1	2.29	0.65
1:X:2293:G:H2'	1:X:2294:U:C6	2.32	0.65
4:B:115:GLY:O	4:B:119:ARG:HB2	1.97	0.65
12:K:8:ARG:HD3	12:K:10:LEU:HD21	1.78	0.65
17:P:59:PHE:HD2	25:Z:41:LEU:HD22	1.62	0.65
1:X:1991:C:H2'	1:X:1992:G:H8	1.62	0.65
12:K:52:ILE:HD11	12:K:94:TYR:CG	2.32	0.65
1:X:1017:C:H1'	8:G:134:MET:SD	2.37	0.64
1:X:1265:G:N2	15:N:37:GLN:OE1	2.28	0.64
1:X:2567:G:C6	1:X:2586:G:N1	2.65	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:20:ILE:HD12	16:O:21:ARG:H	1.62	0.64
17:P:34:SER:HB3	17:P:37:LYS:HD2	1.78	0.64
8:G:115:ALA:HB3	8:G:116:ARG:HG3	1.80	0.64
22:U:24:ALA:HB3	22:U:36:GLY:H	1.61	0.64
1:X:759:C:O2'	1:X:760:U:OP2	2.13	0.64
1:X:2447:G:HO2'	1:X:2448:A:H8	1.44	0.64
3:A:210:GLY:O	3:A:213:ARG:N	2.30	0.64
5:C:154:ASP:OD1	5:C:157:THR:OG1	2.14	0.64
1:X:320:A:N3	1:X:340:G:O2'	2.29	0.64
1:X:605:G:H2'	1:X:606:A:H8	1.63	0.64
1:X:2039:G:C2	1:X:2040:A:C8	2.86	0.64
1:X:2873:G:H2'	1:X:2874:A:C8	2.32	0.64
1:X:116:A:OP2	1:X:117:A:H8	1.80	0.64
1:X:2357:A:H4'	13:L:26:ARG:CZ	2.28	0.64
7:E:9:ILE:HD11	7:E:49:GLN:HB3	1.79	0.64
8:G:114:THR:OG1	8:G:119:LEU:HD23	1.97	0.64
17:P:97:VAL:HG22	17:P:124:ILE:HG23	1.80	0.64
1:X:2069:U:H2'	1:X:2070:G:C8	2.32	0.64
5:C:153:ASP:HA	5:C:158:ARG:HH22	1.60	0.64
1:X:1467:U:H3'	1:X:1468:A:O4'	1.97	0.64
1:X:2363:G:OP2	21:T:55:ARG:NH2	2.31	0.64
1:X:2490:U:O3'	4:B:123:ALA:HB3	1.97	0.64
1:X:72:A:H5"	23:V:47:ARG:HH21	1.61	0.64
1:X:992:A:N1	1:X:2010:G:O2'	2.26	0.64
1:X:1687:C:H42	1:X:1691:G:H5'	1.61	0.64
3:A:252:LYS:NZ	3:A:253:PRO:HD2	2.13	0.64
11:J:28:VAL:HA	11:J:68:ARG:HH22	1.63	0.64
12:K:87:TYR:CD1	12:K:90:ARG:HD2	2.32	0.64
17:P:44:VAL:O	17:P:48:LYS:NZ	2.31	0.64
18:Q:64:ARG:HB2	18:Q:69:ILE:HG13	1.80	0.64
1:X:994:A:N6	1:X:995:A:N1	2.46	0.63
2:Y:14:C:H4'	2:Y:17:A:H62	1.63	0.63
2:Y:26:G:N7	2:Y:58:G:H2'	2.12	0.63
6:D:166:ALA:O	6:D:169:LEU:HG	1.97	0.63
1:X:1153:A:O2'	1:X:1154:A:O5'	2.16	0.63
1:X:1117:G:N2	1:X:1118:G:N7	2.45	0.63
1:X:1464:A:H2'	1:X:1465:G:C8	2.33	0.63
1:X:1584:G:H5"	3:A:61:LEU:HG	1.80	0.63
1:X:2795:A:O2'	12:K:3:HIS:HD2	1.79	0.63
1:X:310:A:N3	1:X:330:C:O2'	2.31	0.63
1:X:712:A:H2'	1:X:713:G:O4'	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1123:G:H2'	1:X:1124:U:O4'	1.99	0.63
1:X:1872:A:N3	1:X:2069:U:O2'	2.31	0.63
1:X:2220:A:H2'	1:X:2221:G:C8	2.34	0.63
1:X:2814:G:N2	12:K:91:PRO:O	2.30	0.63
1:X:1402:G:H2'	1:X:1403:U:C6	2.33	0.63
1:X:1987:G:C5	1:X:1988:A:C8	2.86	0.63
11:J:19:THR:HG22	11:J:99:LYS:HD3	1.81	0.63
12:K:98:LEU:HD22	12:K:98:LEU:H	1.64	0.63
13:L:28:ARG:NH1	13:L:90:ASP:OD2	2.28	0.63
1:X:544:U:H2'	1:X:545:C:C6	2.34	0.63
1:X:759:C:H3'	1:X:759:C:H6	1.63	0.63
1:X:2871:U:H2'	1:X:2872:U:C6	2.33	0.63
2:Y:62:C:H2'	2:Y:63:A:H8	1.63	0.63
7:E:86:ASN:OD1	7:E:86:ASN:N	2.31	0.63
22:U:47:HIS:CG	22:U:48:LYS:H	2.16	0.63
1:X:1300:A:H2'	1:X:1300:A:N3	2.14	0.63
4:B:110:GLY:O	12:K:3:HIS:NE2	2.32	0.63
20:S:24:TYR:HB3	20:S:29:ASN:OD1	1.99	0.63
22:U:20:ARG:HE	22:U:41:VAL:HG22	1.63	0.63
19:R:105:ARG:HH11	19:R:112:LYS:HG2	1.64	0.63
20:S:122:ILE:HG22	20:S:160:LEU:HA	1.81	0.63
25:Z:36:CYS:HB2	25:Z:49:CYS:SG	2.38	0.63
1:X:171:G:H2'	1:X:172:A:O4'	1.99	0.62
1:X:2311:U:OP1	21:T:46:LYS:NZ	2.32	0.62
6:D:123:ASP:OD1	6:D:125:ARG:NE	2.31	0.62
1:X:1105:U:H2'	1:X:1106:A:H5"	1.81	0.62
1:X:1800:A:H4'	1:X:1801:C:OP1	2.00	0.62
1:X:2672:U:H2'	1:X:2673:G:H8	1.63	0.62
1:X:2711:G:OP1	4:B:169:ASN:ND2	2.29	0.62
11:J:15:ARG:HG2	11:J:74:PRO:HD2	1.80	0.62
13:L:69:ALA:HB2	13:L:102:ALA:HB1	1.81	0.62
7:E:9:ILE:H	7:E:9:ILE:HD13	1.65	0.62
26:1:30:ASN:N	26:1:30:ASN:OD1	2.31	0.62
1:X:38:G:H21	5:C:42:THR:HG21	1.64	0.62
1:X:546:A:H2'	1:X:547:U:H6	1.62	0.62
1:X:936:A:H2'	1:X:937:C:H6	1.65	0.62
1:X:2189:A:H3'	1:X:2190:A:H5"	1.81	0.62
12:K:92:GLY:HA2	12:K:94:TYR:CE2	2.35	0.62
1:X:995:A:H5"	1:X:996:C:H5	1.64	0.62
1:X:1985:G:OP1	12:K:9:LYS:HE2	1.99	0.62
18:Q:48:VAL:HG21	18:Q:82:LEU:HD13	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:19:C:OP1	15:N:30:LYS:NZ	2.24	0.62
1:X:957:G:H2'	1:X:958:G:H8	1.64	0.62
1:X:967:G:H5"	11:J:78:LYS:HD3	1.82	0.62
1:X:2417:U:O2'	1:X:2419:C:OP1	2.14	0.62
1:X:2674:C:H2'	1:X:2675:U:C6	2.35	0.62
3:A:164:GLN:HB3	3:A:176:ARG:HB3	1.81	0.62
1:X:70:A:H5'	1:X:71:A:H2'	1.81	0.62
1:X:1890:G:H2'	1:X:1890:G:N3	2.15	0.62
1:X:1995:G:O3'	17:P:117:ILE:HD11	1.99	0.62
1:X:2191:A:H5"	1:X:2192:U:C5	2.33	0.62
6:D:61:THR:HA	6:D:99:PHE:CZ	2.35	0.62
17:P:24:GLY:O	17:P:127:ILE:HA	2.00	0.62
1:X:1785:A:H2'	1:X:1786:C:H6	1.65	0.62
4:B:5:LEU:HD21	4:B:79:ARG:HG3	1.81	0.62
1:X:590:C:C2	1:X:591:G:C8	2.87	0.62
1:X:1055:A:O2'	1:X:1058:G:O2'	2.16	0.62
1:X:1562:G:H8	1:X:1562:G:OP2	1.82	0.62
1:X:1675:C:OP1	4:B:134:TRP:CD1	2.53	0.62
10:I:51:GLY:O	10:I:53:ARG:NH1	2.28	0.62
1:X:946:U:H2'	1:X:947:C:C6	2.34	0.61
1:X:1264:C:H5"	15:N:13:ARG:HH12	1.65	0.61
1:X:1370:U:H3'	1:X:1371:G:C8	2.35	0.61
1:X:967:G:O3'	11:J:78:LYS:HE2	2.00	0.61
1:X:1275:A:OP2	17:P:120:ARG:NH1	2.33	0.61
1:X:1687:C:N4	1:X:1691:G:H5'	2.14	0.61
1:X:1982:C:OP1	1:X:2704:U:H5'	2.00	0.61
5:C:27:LEU:HG	5:C:181:LEU:HD21	1.82	0.61
6:D:162:THR:HB	6:D:165:GLU:HG3	1.82	0.61
2:Y:37:C:H2'	2:Y:38:C:O4'	2.00	0.61
3:A:29:PRO:HB2	3:A:34:THR:HG21	1.83	0.61
6:D:104:ILE:HG13	6:D:174:GLY:HA3	1.82	0.61
1:X:1099:A:H5'	1:X:1100:G:H5'	1.82	0.61
1:X:1105:U:HO2'	1:X:1106:A:H8	1.49	0.61
1:X:1937:G:O2'	1:X:1939:U:O4	2.10	0.61
2:Y:50:U:H2'	2:Y:51:G:C8	2.36	0.61
1:X:1425:G:H2'	1:X:1426:U:C6	2.36	0.61
5:C:82:VAL:HG12	5:C:83:ALA:O	2.00	0.61
1:X:205:A:H2'	1:X:206:U:H5'	1.82	0.61
1:X:833:A:OP2	1:X:984:A:N6	2.33	0.61
1:X:1225:G:H1'	1:X:1250:A:N6	2.16	0.61
1:X:1686:A:H5'	31:X:3167:SPD:H22	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2020:G:H2'	1:X:2021:G:H8	1.63	0.61
9:H:99:ILE:HD12	9:H:103:GLY:HA2	1.81	0.61
17:P:57:LEU:HD13	17:P:69:ALA:HA	1.82	0.61
20:S:23:ALA:H	20:S:30:VAL:HG22	1.64	0.61
1:X:580:A:H4'	1:X:581:A:OP1	1.99	0.61
1:X:826:U:H2'	1:X:827:C:C6	2.35	0.61
1:X:2212:U:H2'	1:X:2213:G:C8	2.36	0.61
1:X:2344:G:H4'	21:T:60:PHE:CE1	2.36	0.61
1:X:2441:U:H2'	1:X:2442:C:C6	2.36	0.61
2:Y:59:A:H3'	2:Y:60:A:H8	1.66	0.61
12:K:98:LEU:HD23	12:K:112:LEU:HB2	1.83	0.61
14:M:14:ARG:NH1	14:M:15:GLY:HA2	2.12	0.61
1:X:1427:G:O2'	1:X:1604:A:N6	2.32	0.61
1:X:2795:A:H61	14:M:2:GLN:HE22	1.48	0.61
2:Y:51:G:H2'	2:Y:52:G:C8	2.35	0.61
20:S:75:LYS:O	20:S:77:ALA:N	2.34	0.61
1:X:1882:G:H21	1:X:1885:C:N4	1.96	0.61
1:X:2440:C:C2	1:X:2441:U:C5	2.89	0.61
5:C:9:GLN:HG3	5:C:120:VAL:HG21	1.81	0.61
28:3:5:LYS:H	28:3:5:LYS:HZ2	1.47	0.61
1:X:13:A:O2'	1:X:15:G:N7	2.34	0.61
1:X:809:C:H2'	1:X:810:U:C6	2.36	0.61
1:X:1264:C:H5"	15:N:13:ARG:NH1	2.16	0.61
1:X:1386:A:H5"	1:X:2191:A:N6	2.16	0.61
1:X:1484:G:H2'	1:X:1485:U:C6	2.36	0.61
1:X:2053:G:H2'	1:X:2054:A:H8	1.63	0.61
1:X:2705:A:H2'	1:X:2706:U:H2'	1.81	0.61
19:R:77:HIS:O	19:R:79:SER:N	2.27	0.61
1:X:2432:A:H2'	1:X:2433:G:C8	2.31	0.60
4:B:54:LYS:HE2	4:B:58:LYS:HB3	1.81	0.60
1:X:840:U:H4'	1:X:841:G:N2	2.16	0.60
1:X:1278:A:N6	1:X:1996:A:H5"	2.16	0.60
1:X:1979:C:OP1	9:H:43:ARG:NH1	2.33	0.60
1:X:2229:G:H5"	1:X:2229:G:N3	2.16	0.60
1:X:2674:C:H2'	1:X:2675:U:H6	1.66	0.60
5:C:153:ASP:HA	5:C:158:ARG:NH2	2.16	0.60
3:A:145:LEU:HB3	3:A:155:LEU:HB2	1.82	0.60
3:A:246:PRO:HD2	3:A:250:TRP:H	1.66	0.60
1:X:874:A:H2'	1:X:875:G:O4'	2.01	0.60
1:X:923:A:C5	11:J:12:LYS:HE3	2.36	0.60
1:X:1163:C:HO2'	15:N:76:TYR:HE1	1.50	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1193:G:H2'	1:X:1194:U:H6	1.67	0.60
1:X:1542:G:N2	1:X:1562:G:H1	1.96	0.60
1:X:2326:C:H2'	1:X:2327:U:C6	2.37	0.60
1:X:2824:C:P	14:M:100:ARG:HH11	2.24	0.60
2:Y:14:C:H4'	2:Y:17:A:N6	2.17	0.60
3:A:17:THR:O	3:A:211:ARG:NH2	2.34	0.60
11:J:20:GLY:C	11:J:99:LYS:HE2	2.21	0.60
1:X:15:G:H5'	25:Z:21:SER:HA	1.83	0.60
1:X:313:U:H2'	1:X:314:G:C8	2.36	0.60
3:A:69:ARG:NH2	3:A:192:THR:OG1	2.34	0.60
4:B:55:ALA:H	4:B:58:LYS:HZ3	1.49	0.60
6:D:170:LEU:HD11	6:D:177:PHE:HD2	1.67	0.60
9:H:121:ARG:HH21	9:H:121:ARG:HB3	1.65	0.60
1:X:16:G:H2'	1:X:17:G:H8	1.65	0.60
1:X:2796:A:OP2	12:K:3:HIS:NE2	2.33	0.60
5:C:22:VAL:O	5:C:24:SER:N	2.35	0.60
1:X:650:U:H2'	1:X:651:C:C6	2.37	0.60
1:X:687:G:H1'	5:C:68:ARG:HD2	1.82	0.60
1:X:1454:U:H2'	1:X:1455:C:C6	2.37	0.60
1:X:2595:C:H2'	1:X:2596:C:H6	1.67	0.60
1:X:936:A:H2'	1:X:937:C:C6	2.37	0.60
1:X:1377:G:N7	22:U:6:TYR:N	2.48	0.60
3:A:16:MET:HG2	3:A:206:LEU:O	2.02	0.60
28:3:53:ALA:O	28:3:57:ARG:HG2	2.01	0.60
1:X:63:A:H1'	18:Q:65:VAL:HG13	1.84	0.60
1:X:1805:G:N3	3:A:50:THR:HG21	2.17	0.60
1:X:2516:U:H2'	1:X:2517:C:H6	1.62	0.60
3:A:85:ASP:HB2	3:A:92:ILE:HD12	1.84	0.60
9:H:23:ARG:HG2	9:H:23:ARG:HH21	1.67	0.60
9:H:125:LYS:CE	9:H:125:LYS:H	2.14	0.60
1:X:520:C:H2'	1:X:521:U:O4'	2.02	0.60
1:X:1030:U:OP1	1:X:1046:U:O2'	2.20	0.60
10:I:54:SER:O	28:3:12:ARG:NE	2.35	0.60
16:O:24:SER:O	16:O:24:SER:OG	2.20	0.60
21:T:24:LYS:N	21:T:37:LEU:O	2.34	0.60
1:X:276:A:H2'	1:X:277:G:C8	2.36	0.59
1:X:1769:U:H2'	1:X:1775:A:N6	2.17	0.59
1:X:1981:A:OP2	4:B:136:ARG:NH1	2.26	0.59
6:D:146:VAL:HA	6:D:148:LYS:HE3	1.83	0.59
14:M:54:VAL:HG22	14:M:68:VAL:HG12	1.84	0.59
1:X:585:U:H2'	1:X:586:G:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:697:G:N2	1:X:801:A:OP2	2.34	0.59
1:X:1478:U:H2'	1:X:1479:G:C8	2.37	0.59
1:X:2266:A:N6	1:X:2323:U:H3	1.99	0.59
31:X:3167:SPD:H21	9:H:5:GLN:NE2	2.17	0.59
8:G:49:VAL:HG11	8:G:54:LEU:HB2	1.84	0.59
17:P:35:PRO:HB2	17:P:39:ARG:NH2	2.17	0.59
1:X:689:A:H8	1:X:2052:G:N2	2.00	0.59
1:X:1295:U:H2'	1:X:1296:G:O4'	2.03	0.59
1:X:2546:G:H2'	1:X:2547:C:C6	2.37	0.59
8:G:99:VAL:HA	8:G:115:ALA:HA	1.83	0.59
9:H:125:LYS:H	9:H:125:LYS:HE2	1.67	0.59
10:I:83:LEU:HD13	10:I:115:SER:HA	1.84	0.59
19:R:53:VAL:HG11	19:R:74:LEU:HD23	1.84	0.59
1:X:70:A:H4'	1:X:71:A:H5''	1.84	0.59
1:X:252:G:H2'	1:X:253:A:O4'	2.03	0.59
1:X:706:A:O2'	1:X:1366:A:N3	2.31	0.59
1:X:2278:A:H2'	1:X:2279:G:H8	1.67	0.59
5:C:28:HIS:HA	10:I:6:LEU:HD22	1.83	0.59
5:C:57:LYS:HA	5:C:70:GLY:O	2.03	0.59
19:R:29:HIS:NE2	19:R:51:VAL:HA	2.17	0.59
1:X:220:U:OP1	28:3:5:LYS:HE3	2.03	0.59
1:X:1225:G:H1'	1:X:1250:A:H61	1.65	0.59
1:X:2691:C:O2'	1:X:2692:A:H5''	2.03	0.59
18:Q:14:GLU:O	18:Q:18:SER:OG	2.20	0.59
1:X:699:G:H21	27:2:7:PRO:HA	1.65	0.59
7:E:58:ALA:HB3	7:E:61:HIS:HB2	1.84	0.59
8:G:116:ARG:NH2	8:G:118:ALA:HB3	2.18	0.59
1:X:413:G:N7	22:U:68:ARG:NH1	2.45	0.59
1:X:2172:U:H2'	1:X:2173:G:O4'	2.02	0.59
1:X:2223:U:H1'	1:X:2413:A:C4	2.36	0.59
1:X:627:A:H2'	1:X:628:A:C8	2.37	0.59
1:X:691:C:H2'	1:X:692:C:C6	2.38	0.59
1:X:2345:A:H3'	1:X:2346:G:H8	1.68	0.59
19:R:23:ILE:O	19:R:81:VAL:N	2.36	0.59
1:X:76:C:O2'	23:V:59:GLU:OE2	2.19	0.59
1:X:304:A:N6	1:X:356:A:N7	2.51	0.59
1:X:994:A:N7	1:X:995:A:C6	2.71	0.59
1:X:1325:U:H4'	1:X:1326:U:O5'	2.03	0.59
7:E:130:ARG:NH1	7:E:132:ASP:OD2	2.36	0.59
8:G:44:VAL:HG22	8:G:166:LEU:HD11	1.84	0.59
11:J:36:ILE:HD11	11:J:101:GLY:HA2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:9:ARG:HD3	13:L:9:ARG:H	1.68	0.59
1:X:1300:A:H3'	1:X:1301:U:H6	1.68	0.59
1:X:1478:U:H2'	1:X:1479:G:H8	1.67	0.59
1:X:2264:C:P	26:1:30:ASN:HD22	2.25	0.59
8:G:68:PRO:HB2	8:G:70:PHE:CE1	2.38	0.59
1:X:1779:C:H2'	1:X:1780:A:C8	2.38	0.58
1:X:2441:U:H2'	1:X:2442:C:H6	1.67	0.58
2:Y:66:G:H2'	2:Y:67:C:O4'	2.03	0.58
3:A:146:GLU:HB2	3:A:189:CYS:HB3	1.85	0.58
12:K:9:LYS:HA	12:K:17:ARG:HD3	1.85	0.58
1:X:82:G:N2	1:X:101:A:OP2	2.34	0.58
1:X:2030:U:H2'	1:X:2031:A:C8	2.38	0.58
1:X:2355:A:N6	13:L:91:ARG:HD3	2.17	0.58
2:Y:6:C:H2'	2:Y:7:C:C6	2.35	0.58
3:A:63:ARG:H	3:A:63:ARG:HE	1.51	0.58
1:X:1370:U:H3'	1:X:1371:G:H8	1.67	0.58
1:X:2370:G:H2'	1:X:2403:C:H41	1.68	0.58
2:Y:109:G:OP1	20:S:26:LYS:NZ	2.33	0.58
12:K:12:ARG:O	12:K:17:ARG:NH1	2.36	0.58
12:K:24:GLN:HB3	12:K:44:LEU:HD22	1.86	0.58
1:X:652:C:H42	1:X:657:A:H61	1.51	0.58
1:X:1223:G:H4'	1:X:1224:A:H5'	1.86	0.58
6:D:2:GLN:HA	6:D:5:LYS:HZ3	1.69	0.58
1:X:2691:C:H2'	1:X:2694:G:H5"	1.85	0.58
5:C:54:THR:HG21	5:C:73:SER:HB3	1.85	0.58
7:E:97:LYS:NZ	7:E:98:LEU:H	2.02	0.58
1:X:640:C:C4'	1:X:660:G:H21	2.16	0.58
1:X:1012:A:N6	1:X:1165:G:H21	2.02	0.58
1:X:1631:C:C5	1:X:1633:C:C2	2.91	0.58
1:X:1807:A:H5'	1:X:1809:G:H1'	1.85	0.58
1:X:2001:G:OP1	25:Z:9:LYS:NZ	2.29	0.58
4:B:119:ARG:HG3	4:B:160:MET:HB2	1.84	0.58
5:C:22:VAL:HG11	5:C:26:VAL:HG23	1.84	0.58
1:X:1033:G:OP2	8:G:93:LYS:NZ	2.21	0.58
1:X:2696:A:C2'	1:X:2697:G:H5'	2.33	0.58
4:B:32:PRO:HD2	4:B:50:GLY:O	2.02	0.58
1:X:661:C:H2'	1:X:662:G:C8	2.39	0.58
1:X:1503:G:H2'	1:X:1504:G:C8	2.39	0.58
1:X:2344:G:H4'	21:T:60:PHE:CZ	2.39	0.58
1:X:2555:G:H21	1:X:2555:G:P	2.27	0.58
1:X:2658:A:O2'	4:B:189:PRO:HB3	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:5:LYS:HG2	6:D:6:THR:N	2.18	0.58
19:R:47:VAL:HG22	19:R:75:ALA:HB2	1.85	0.58
28:3:8:LYS:O	28:3:12:ARG:HB2	2.04	0.58
1:X:14:A:C6	1:X:536:A:C2	2.92	0.58
1:X:247:A:N1	1:X:382:U:H4'	2.19	0.58
20:S:70:GLN:O	20:S:79:ILE:HB	2.03	0.58
1:X:28:A:H1'	1:X:523:A:C2	2.39	0.58
1:X:2406:C:H5"	1:X:2408:G:OP1	2.04	0.58
6:D:100:LEU:O	6:D:104:ILE:HG22	2.03	0.58
9:H:89:ILE:HD12	9:H:134:LEU:HD22	1.86	0.58
11:J:15:ARG:CG	11:J:74:PRO:HD2	2.34	0.58
13:L:26:ARG:HG2	13:L:86:GLN:HB3	1.86	0.58
1:X:3:U:H2'	1:X:4:C:C6	2.39	0.57
1:X:1300:A:O5'	12:K:103:ARG:HD2	2.04	0.57
1:X:1685:A:H5"	9:H:5:GLN:HG2	1.84	0.57
4:B:48:GLN:HA	4:B:79:ARG:O	2.04	0.57
20:S:89:GLY:H	20:S:127:PRO:HG3	1.69	0.57
1:X:536:A:N6	1:X:2605:C:H4'	2.19	0.57
1:X:588:G:C2	1:X:1275:A:C5	2.92	0.57
1:X:876:A:H2'	1:X:877:G:H8	1.68	0.57
1:X:1006:C:O2	8:G:31:THR:OG1	2.23	0.57
1:X:1332:G:C2	1:X:1333:G:C2	2.92	0.57
1:X:1941:C:H2'	1:X:1942:G:H8	1.69	0.57
1:X:2058:U:H2'	1:X:2217:G:N2	2.18	0.57
1:X:2245:A:H4'	1:X:2246:A:N3	2.18	0.57
14:M:14:ARG:NH1	14:M:18:GLN:OE1	2.36	0.57
21:T:46:LYS:NZ	21:T:75:GLY:O	2.21	0.57
24:W:8:SER:HB2	24:W:10:ILE:HG13	1.85	0.57
1:X:29:U:O5'	1:X:29:U:H6	1.87	0.57
1:X:168:A:H2'	1:X:169:C:C6	2.35	0.57
1:X:1050:G:H21	1:X:1127:C:H42	1.51	0.57
1:X:2054:A:H2'	1:X:2055:G:H8	1.69	0.57
1:X:2370:G:H2'	1:X:2403:C:N4	2.19	0.57
3:A:223:GLY:O	3:A:233:HIS:HB2	2.05	0.57
6:D:147:ASP:OD1	6:D:147:ASP:N	2.37	0.57
8:G:35:LYS:HD3	8:G:35:LYS:N	2.19	0.57
8:G:42:VAL:HB	8:G:166:LEU:HD12	1.86	0.57
19:R:98:ILE:HG13	19:R:99:VAL:H	1.67	0.57
20:S:17:SER:H	20:S:36:ARG:CB	2.16	0.57
1:X:605:G:H2'	1:X:606:A:C8	2.39	0.57
1:X:1070:G:H5"	1:X:1071:U:H2'	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1835:C:H2'	1:X:1836:C:C6	2.40	0.57
1:X:2457:A:C8	1:X:2508:G:C6	2.93	0.57
1:X:2543:A:C6	1:X:2544:A:N1	2.71	0.57
1:X:2552:C:H5"	1:X:2553:G:H5"	1.86	0.57
5:C:149:LEU:HD23	5:C:180:ILE:HG22	1.85	0.57
11:J:76:THR:HB	11:J:91:VAL:HA	1.84	0.57
19:R:81:VAL:HG11	19:R:89:GLY:HA2	1.87	0.57
1:X:767:G:H2'	1:X:768:U:C6	2.39	0.57
1:X:912:A:H3'	1:X:913:A:H8	1.68	0.57
1:X:1024:G:H2'	1:X:1025:A:H8	1.68	0.57
1:X:1256:C:H2'	1:X:1257:U:C6	2.40	0.57
1:X:1818:G:OP1	3:A:233:HIS:ND1	2.32	0.57
1:X:2801:A:H2'	1:X:2801:A:N3	2.19	0.57
2:Y:68:A:N6	2:Y:111:C:OP2	2.37	0.57
8:G:111:LYS:O	8:G:113:GLU:HG3	2.04	0.57
14:M:32:THR:O	14:M:51:GLU:HA	2.05	0.57
22:U:47:HIS:CG	22:U:48:LYS:N	2.72	0.57
1:X:255:A:N6	1:X:265:U:O4	2.37	0.57
1:X:765:C:C4	29:X:2901:MIV:H36	2.39	0.57
1:X:773:G:H2'	1:X:774[A]:A:O4'	2.05	0.57
1:X:2007:G:C2	1:X:2023:C:C2	2.92	0.57
12:K:98:LEU:CD2	12:K:112:LEU:HB2	2.35	0.57
28:3:32:GLN:NE2	28:3:32:GLN:HA	2.19	0.57
1:X:940:G:O2'	1:X:941:U:O5'	2.18	0.57
1:X:1658:A:H2'	1:X:1659:G:O4'	2.05	0.57
1:X:1919:A:N6	1:X:1946:U:H3	2.02	0.57
1:X:2226:A:H2'	1:X:2227:C:H6	1.69	0.57
1:X:2526:U:H2'	1:X:2527:G:C8	2.39	0.57
2:Y:59:A:H1'	6:D:27:ALA:HB2	1.87	0.57
27:2:10:ARG:O	27:2:14:LYS:HB2	2.05	0.57
1:X:151:G:H2'	1:X:152:G:H8	1.69	0.57
1:X:227:G:H2'	1:X:228:A:C8	2.40	0.57
1:X:554:U:H5"	1:X:556:A:C2	2.39	0.57
1:X:691:C:H2'	1:X:692:C:H6	1.70	0.57
1:X:1141:U:N3	1:X:2008:C:H5"	2.19	0.57
1:X:1835:C:O2'	3:A:254:THR:HB	2.04	0.57
1:X:2067:U:H2'	1:X:2068:C:C6	2.40	0.57
1:X:2336:G:N2	1:X:2339:A:OP2	2.38	0.57
1:X:2337:A:C2	1:X:2338:C:H1'	2.40	0.57
5:C:158:ARG:NH2	5:C:171:PRO:HA	2.20	0.57
17:P:31:VAL:O	17:P:122:SER:N	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:100:ASP:HB2	19:R:102:LYS:HG3	1.85	0.57
1:X:2408:G:H5'	1:X:2409:A:P	2.45	0.57
2:Y:77:G:H2'	2:Y:78:A:O4'	2.04	0.57
3:A:183:ARG:HG3	3:A:267:ASP:HB3	1.87	0.57
7:E:58:ALA:O	7:E:62:ARG:N	2.37	0.57
7:E:136:ILE:HG13	7:E:137:ASP:H	1.69	0.57
9:H:125:LYS:H	9:H:125:LYS:CD	2.18	0.57
28:3:39:ASP:HB3	28:3:42:ARG:HH22	1.69	0.57
1:X:174:A:H62	1:X:2409:A:H2'	1.69	0.57
1:X:487:G:H22	1:X:490:A:H5'	1.70	0.57
1:X:494:A:H4'	19:R:58:VAL:H	1.70	0.57
1:X:764:A:H4'	29:X:2901:MIV:H342	1.87	0.57
1:X:1004:A:OP1	15:N:50:ARG:NH1	2.38	0.57
1:X:1300:A:H3'	1:X:1301:U:C6	2.40	0.57
1:X:1607:A:H2'	1:X:1608:U:C6	2.39	0.57
1:X:2477:C:O2'	1:X:2478:C:H5'	2.04	0.57
10:I:100:ARG:HA	10:I:117:ALA:O	2.05	0.57
12:K:22:ARG:HD3	12:K:69:ASP:HA	1.87	0.57
1:X:2371:A:C5	1:X:2372:A:C8	2.93	0.56
2:Y:68:A:H4'	2:Y:69:G:OP2	2.03	0.56
1:X:573:C:H2'	1:X:574:C:C6	2.41	0.56
1:X:859:U:HO2'	1:X:860:U:P	2.28	0.56
2:Y:50:U:H2'	2:Y:51:G:H8	1.70	0.56
7:E:7:GLN:HB3	7:E:51:LEU:HD11	1.86	0.56
7:E:156:ALA:HB1	7:E:172:LYS:HG3	1.87	0.56
8:G:68:PRO:O	8:G:70:PHE:N	2.38	0.56
14:M:38:LYS:HA	14:M:87:LEU:HD13	1.87	0.56
21:T:40:GLN:OE1	21:T:45:PHE:N	2.34	0.56
1:X:18:U:O2'	1:X:563:U:OP1	2.19	0.56
1:X:242:A:N6	1:X:440:U:HO2'	2.03	0.56
1:X:276:A:H2'	1:X:277:G:H8	1.69	0.56
1:X:530:G:H2'	1:X:531:G:H8	1.70	0.56
1:X:588:G:O2'	1:X:2002:A:OP1	2.20	0.56
1:X:597:U:H1'	5:C:84:PHE:CD1	2.40	0.56
1:X:876:A:H2'	1:X:877:G:C8	2.41	0.56
1:X:1367:A:H2'	1:X:1368:G:O4'	2.05	0.56
1:X:1701:C:H2'	1:X:1702:C:C6	2.40	0.56
1:X:1702:C:C2	1:X:1721:G:N2	2.73	0.56
1:X:1729:C:H2'	1:X:1730:G:H8	1.70	0.56
1:X:1975:G:N2	1:X:1979:C:O2'	2.39	0.56
1:X:2700:U:H2'	1:X:2701:A:C8	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2859:U:OP2	25:Z:43:HIS:NE2	2.36	0.56
17:P:13:GLN:O	17:P:17:GLN:HG2	2.05	0.56
18:Q:35:LYS:HE3	18:Q:55:THR:HG22	1.87	0.56
19:R:58:VAL:HG12	19:R:68:GLY:CA	2.35	0.56
19:R:106:VAL:O	19:R:112:LYS:HA	2.05	0.56
20:S:146:HIS:ND1	20:S:170:SER:OG	2.34	0.56
21:T:56:ASP:OD1	21:T:58:THR:HG22	2.05	0.56
1:X:661:C:H2'	1:X:662:G:H8	1.69	0.56
1:X:1310:C:C2	1:X:1311:C:C5	2.93	0.56
1:X:1320:A:H2'	1:X:1321:A:O4'	2.06	0.56
1:X:1742:G:H2'	1:X:1743:C:C6	2.41	0.56
1:X:1812:U:N3	3:A:199:ALA:O	2.30	0.56
1:X:2437:G:H2'	1:X:2469:G:O6	2.05	0.56
1:X:2646:C:N3	7:E:110:SER:OG	2.34	0.56
1:X:2790:C:H2'	1:X:2791:C:H6	1.71	0.56
1:X:2824:C:H4'	1:X:2825:A:H5'	1.87	0.56
5:C:178:TYR:O	5:C:182:ARG:HB2	2.05	0.56
18:Q:88:ILE:HG23	18:Q:89:GLU:O	2.06	0.56
1:X:409:G:OP1	22:U:14:VAL:HG11	2.06	0.56
1:X:1630:A:N1	17:P:114:ALA:HB2	2.20	0.56
4:B:53:PRO:HA	4:B:75:THR:HA	1.86	0.56
6:D:10:ASP:O	6:D:14:PRO:HD2	2.05	0.56
6:D:125:ARG:HA	6:D:160:ALA:HB3	1.87	0.56
14:M:59:GLY:HA3	14:M:64:LYS:HA	1.88	0.56
17:P:54:GLU:OE2	17:P:76:LYS:NZ	2.32	0.56
19:R:58:VAL:HA	19:R:67:GLY:HA3	1.86	0.56
1:X:529:U:H2'	1:X:530:G:H8	1.71	0.56
1:X:919:U:OP1	11:J:25:GLY:HA2	2.05	0.56
1:X:2030:U:H2'	1:X:2031:A:H8	1.71	0.56
1:X:2661:G:H4'	14:M:63:ARG:HD3	1.87	0.56
16:O:35:LEU:HA	16:O:55:THR:HG22	1.88	0.56
1:X:14:A:H2'	1:X:15:G:O4'	2.06	0.56
1:X:453:U:H2'	1:X:454:G:C8	2.40	0.56
1:X:491:A:H5'	1:X:492:G:O5'	2.05	0.56
1:X:1045:G:H2'	1:X:1046:U:C6	2.40	0.56
1:X:1398:G:O2'	1:X:1399:C:O5'	2.24	0.56
1:X:2251:U:H5"	1:X:2252:A:OP1	2.05	0.56
2:Y:45:C:H4'	6:D:95:ARG:HH22	1.71	0.56
4:B:152:LYS:HG2	8:G:106:TYR:CE1	2.40	0.56
5:C:45:THR:O	5:C:87:LYS:NZ	2.38	0.56
8:G:38:GLU:HG3	8:G:67:ARG:HH12	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:51:LEU:HD12	8:G:88:VAL:HG21	1.88	0.56
9:H:11:ALA:O	9:H:111:PHE:N	2.38	0.56
1:X:200:A:N1	1:X:420:C:O2'	2.28	0.56
1:X:661:C:H5"	28:3:18:GLY:HA2	1.86	0.56
1:X:946:U:H2'	1:X:947:C:H6	1.71	0.56
1:X:1283:C:H2'	1:X:1665:C:H5"	1.87	0.56
1:X:1729:C:H2'	1:X:1730:G:C8	2.41	0.56
15:N:72:HIS:CE1	15:N:107:LYS:HD3	2.41	0.56
20:S:49:THR:OG1	20:S:49:THR:O	2.24	0.56
27:2:17:GLY:O	27:2:21:ARG:HG2	2.06	0.56
1:X:453:U:O2'	5:C:40:ARG:NH1	2.39	0.56
1:X:1211:G:C2	1:X:1212:U:C5	2.94	0.56
3:A:246:PRO:HD3	3:A:252:LYS:HG3	1.88	0.56
10:I:114:ILE:HG23	10:I:134:GLU:HB2	1.87	0.56
1:X:136:A:H2'	1:X:137:A:C8	2.41	0.56
1:X:932:G:H2'	1:X:933:G:H8	1.70	0.56
1:X:1061:A:N6	1:X:2731:G:O6	2.39	0.56
1:X:1261:G:OP1	5:C:86:PRO:HG3	2.06	0.56
1:X:2043:A:H1'	1:X:2481:G:C1'	2.36	0.56
1:X:2673:G:H2'	1:X:2674:C:H6	1.71	0.56
3:A:258:LYS:NZ	3:A:264:LYS:HG2	2.20	0.56
8:G:101:THR:HG23	8:G:111:LYS:HA	1.87	0.56
9:H:11:ALA:HB3	9:H:97:VAL:HB	1.87	0.56
12:K:92:GLY:HA2	12:K:94:TYR:CZ	2.41	0.56
1:X:1104:G:H2'	1:X:1105:U:H5	1.71	0.55
1:X:1155:G:H5"	1:X:1156:U:OP2	2.06	0.55
3:A:71:ASP:OD1	3:A:71:ASP:N	2.36	0.55
7:E:27:LYS:HA	7:E:31:GLY:HA2	1.88	0.55
9:H:49:ASP:OD1	9:H:121:ARG:NH1	2.39	0.55
10:I:53:ARG:NH2	28:3:12:ARG:HD3	2.21	0.55
11:J:27:TYR:HB2	11:J:138:TYR:CD2	2.41	0.55
16:O:40:VAL:HG12	16:O:43:GLU:HA	1.88	0.55
18:Q:89:GLU:O	18:Q:91:LEU:N	2.34	0.55
1:X:16:G:H2'	1:X:17:G:C8	2.41	0.55
1:X:796:A:H4'	1:X:2567:G:H4'	1.88	0.55
1:X:1469:U:O2	12:K:63:ARG:HD3	2.06	0.55
1:X:2468:G:H2'	1:X:2469:G:O4'	2.06	0.55
1:X:2867:G:OP2	1:X:2867:G:C8	2.55	0.55
7:E:17:VAL:HG22	7:E:26:VAL:HG22	1.89	0.55
1:X:24:G:H2'	1:X:25:U:H6	1.71	0.55
1:X:331:U:H4'	1:X:333:A:N7	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:578:U:H5"	1:X:579:G:OP2	2.06	0.55
1:X:806:A:OP2	1:X:806:A:H8	1.89	0.55
1:X:914:C:H2'	1:X:915:C:C6	2.42	0.55
1:X:1071:U:H3	1:X:1099:A:H8	1.54	0.55
1:X:1314:A:H2	1:X:1642:G:N3	2.04	0.55
1:X:2040:A:H2'	1:X:2041:A:H8	1.72	0.55
2:Y:11:G:P	13:L:28:ARG:HH22	2.29	0.55
5:C:123:PHE:CD2	5:C:157:THR:HG21	2.41	0.55
17:P:89:ARG:HA	17:P:89:ARG:HE	1.71	0.55
17:P:130:GLU:C	17:P:132:GLY:H	2.08	0.55
1:X:542:A:OP1	1:X:570:G:N2	2.37	0.55
1:X:746:G:H2'	1:X:747:A:H5"	1.88	0.55
1:X:789:G:C6	1:X:806:A:C5	2.94	0.55
1:X:1976:U:C4	1:X:1977:C:C5	2.93	0.55
1:X:2269:G:H2'	1:X:2270:U:O4'	2.06	0.55
1:X:2368:G:H5"	1:X:2369:U:H5'	1.88	0.55
3:A:63:ARG:H	3:A:63:ARG:NE	2.03	0.55
5:C:172:VAL:HG12	5:C:173:ALA:H	1.72	0.55
1:X:501:G:H3'	1:X:502:A:H8	1.72	0.55
1:X:759:C:OP1	1:X:761:G:H4'	2.07	0.55
1:X:877:G:H2'	1:X:878:C:C6	2.41	0.55
1:X:2398:U:O4	28:3:31:HIS:NE2	2.39	0.55
4:B:132:LYS:O	4:B:132:LYS:HG2	2.06	0.55
5:C:6:VAL:HG22	5:C:120:VAL:H	1.71	0.55
5:C:17:LEU:HD21	5:C:112:GLN:HG2	1.88	0.55
15:N:101:ARG:HD3	15:N:102:GLU:HG3	1.89	0.55
1:X:544:U:O2'	15:N:49:ASP:OD2	2.15	0.55
1:X:654:A:N1	1:X:2348:A:O2'	2.37	0.55
1:X:670:U:H2'	1:X:671:A:C8	2.41	0.55
1:X:1457:A:H2'	1:X:1458:A:C8	2.41	0.55
1:X:1608:U:H2'	1:X:1609:G:C8	2.42	0.55
1:X:2556:A:O2'	25:Z:3:LYS:HA	2.06	0.55
1:X:2721:A:H8	1:X:2721:A:O5'	1.90	0.55
12:K:90:ARG:HB2	12:K:94:TYR:HE1	1.72	0.55
16:O:20:ILE:O	16:O:90:PHE:HB2	2.06	0.55
17:P:31:VAL:HG23	17:P:122:SER:O	2.07	0.55
1:X:790:A:H2'	1:X:791:G:C8	2.42	0.55
1:X:836:G:H2'	1:X:837:U:H6	1.72	0.55
1:X:841:G:H2'	1:X:842:A:C8	2.41	0.55
1:X:1171:A:H2'	1:X:1172:U:C6	2.42	0.55
1:X:1654:A:H4'	1:X:2690:A:O2'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1845:A:H2'	1:X:1846:A:C8	2.42	0.55
1:X:2511:G:N2	1:X:2642:G:O2'	2.40	0.55
4:B:38:THR:O	4:B:42:ASP:N	2.39	0.55
19:R:64:ASN:ND2	19:R:67:GLY:HA2	2.22	0.55
20:S:88:TYR:HA	20:S:127:PRO:CB	2.37	0.55
1:X:980:G:O3'	24:W:11:GLY:HA2	2.07	0.55
1:X:1040:A:C8	1:X:1041:G:C8	2.94	0.55
1:X:2371:A:H2	1:X:2403:C:H42	1.55	0.55
1:X:2630:C:H2'	1:X:2631:C:H6	1.72	0.55
2:Y:22:U:H2'	2:Y:23:G:C8	2.41	0.55
3:A:171:ASP:O	3:A:187:SER:HB2	2.07	0.55
16:O:11:GLN:O	16:O:36:LYS:HA	2.07	0.55
1:X:336:A:H2'	1:X:337:G:C8	2.42	0.55
1:X:757:U:H2'	1:X:758:G:O4'	2.07	0.55
1:X:2270:U:H2'	1:X:2271:C:C6	2.41	0.55
1:X:2273:C:OP2	13:L:15:ARG:NH2	2.39	0.55
1:X:2673:G:H2'	1:X:2674:C:C6	2.41	0.55
1:X:2799:C:H2'	1:X:2800:C:O4'	2.07	0.55
17:P:40:LEU:HD13	25:Z:25:LEU:HD11	1.89	0.55
18:Q:20:MET:HG3	18:Q:25:TYR:CE1	2.42	0.55
1:X:500:G:C2	1:X:501:G:H1'	2.42	0.55
1:X:1834:G:H2'	1:X:1835:C:C6	2.42	0.55
1:X:1888:C:H5"	1:X:1889:G:H5'	1.89	0.55
1:X:1992:G:H2'	1:X:1993:G:H5'	1.88	0.55
14:M:17:GLU:HG3	14:M:62:SER:HB3	1.89	0.55
1:X:1608:U:H2'	1:X:1609:G:H8	1.72	0.54
1:X:1908:C:O2'	1:X:1909:U:H5"	2.07	0.54
1:X:1987:G:C2	1:X:1988:A:H1'	2.43	0.54
1:X:2292:C:H5'	6:D:68:THR:HG21	1.89	0.54
6:D:40:LEU:HD11	6:D:53:ALA:HB3	1.89	0.54
16:O:86:HIS:NE2	16:O:88:GLN:HG2	2.22	0.54
24:W:36:ASP:OD1	24:W:41:ARG:NH1	2.40	0.54
1:X:654:A:H2'	1:X:655:A:H5'	1.89	0.54
1:X:1256:C:H2'	1:X:1257:U:H6	1.71	0.54
1:X:2567:G:C5	1:X:2586:G:C2	2.95	0.54
1:X:2665:G:C2	1:X:2704:U:O2	2.60	0.54
3:A:141:VAL:HG23	3:A:194:GLY:HA2	1.89	0.54
4:B:77:ILE:HD12	4:B:195:LEU:HD22	1.88	0.54
8:G:71:THR:HG22	8:G:73:ASN:H	1.72	0.54
11:J:15:ARG:HG3	11:J:73:LYS:HG3	1.89	0.54
11:J:42:TRP:CE3	11:J:95:VAL:HG21	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:110:LEU:HB3	14:M:115:ALA:CB	2.38	0.54
1:X:1215:A:H2'	1:X:1216:G:C8	2.42	0.54
1:X:1269:G:N2	5:C:76:THR:O	2.41	0.54
1:X:1674:C:C2	1:X:1675:C:C5	2.95	0.54
1:X:1919:A:H2	1:X:1926:U:N3	2.01	0.54
1:X:2208:U:H2'	1:X:2209:G:H8	1.71	0.54
1:X:2495:G:O2'	1:X:2496:C:H5'	2.07	0.54
1:X:2571:G:H1	1:X:2580:C:H41	1.53	0.54
2:Y:7:C:H2'	2:Y:8:C:H6	1.72	0.54
1:X:1956:G:H2'	1:X:1957:C:H6	1.72	0.54
1:X:2839:G:H2'	1:X:2840:U:C6	2.42	0.54
5:C:47:THR:HB	5:C:51:VAL:H	1.72	0.54
19:R:25:LEU:HG	19:R:81:VAL:HG23	1.88	0.54
1:X:2370:G:O2'	1:X:2408:G:N2	2.41	0.54
1:X:2440:C:H2'	1:X:2441:U:C6	2.43	0.54
1:X:2543:A:C2	1:X:2626:U:H4'	2.42	0.54
1:X:2567:G:C5	1:X:2586:G:N2	2.75	0.54
1:X:2705:A:O2'	1:X:2706:U:C6	2.60	0.54
3:A:131:LEU:O	3:A:190:TYR:HA	2.08	0.54
1:X:47:G:N2	1:X:154:U:OP2	2.39	0.54
1:X:456:C:OP2	15:N:2:PRO:HD3	2.06	0.54
1:X:1398:G:O2'	1:X:1399:C:O4'	2.25	0.54
1:X:1538:A:H2'	1:X:1539:U:O4'	2.07	0.54
1:X:1928:G:H2'	1:X:1929:U:C6	2.42	0.54
1:X:2214:G:H2'	1:X:2215:C:H6	1.73	0.54
3:A:134:ARG:HB2	3:A:187:SER:OG	2.08	0.54
4:B:25:VAL:HG12	4:B:181:LEU:HD12	1.88	0.54
17:P:107:ILE:O	17:P:107:ILE:HG12	2.07	0.54
1:X:1484:G:H2'	1:X:1485:U:H6	1.71	0.54
1:X:1561:A:H3'	1:X:1562:G:C8	2.42	0.54
6:D:5:LYS:HD2	6:D:97:TYR:HB3	1.90	0.54
1:X:125:A:H5"	1:X:126:C:C6	2.42	0.54
1:X:1288:A:C8	12:K:16:ALA:HB2	2.43	0.54
1:X:1716:G:O6	1:X:1754:G:H1'	2.08	0.54
1:X:1967:U:H2'	1:X:1968:G:H8	1.73	0.54
1:X:1982:C:O3'	1:X:2702:G:N2	2.41	0.54
1:X:2078:G:H2'	1:X:2079:A:C8	2.43	0.54
1:X:2467:A:C2'	1:X:2468:G:H5'	2.36	0.54
7:E:83:TYR:CE2	7:E:138:LYS:HB2	2.43	0.54
21:T:21:LEU:HD11	21:T:41:ARG:NE	2.22	0.54
1:X:70:A:N3	1:X:72:A:N6	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:347:C:H4'	19:R:15:HIS:NE2	2.23	0.54
1:X:494:A:H3'	1:X:495:C:H6	1.73	0.54
1:X:1302:C:H2'	1:X:1303:U:H6	1.72	0.54
1:X:1816:G:O2'	3:A:246:PRO:HB3	2.08	0.54
1:X:1886:G:H2'	1:X:1887:G:H8	1.72	0.54
1:X:2383:C:H2'	1:X:2384:G:O4'	2.08	0.54
1:X:2664:G:C2	1:X:2665:G:C8	2.96	0.54
1:X:2828:C:H2'	1:X:2829:A:H8	1.73	0.54
3:A:63:ARG:NH2	3:A:85:ASP:OD2	2.40	0.54
6:D:98:VAL:O	6:D:102:LYS:N	2.36	0.54
8:G:62:ILE:HD11	8:G:80:VAL:HG22	1.89	0.54
9:H:119:ARG:NH2	14:M:41:GLU:HA	2.23	0.54
10:I:83:LEU:O	10:I:87:THR:OG1	2.12	0.54
20:S:105:GLN:HG2	20:S:139:THR:O	2.07	0.54
1:X:1770:U:H5	1:X:1775:A:N7	2.06	0.54
1:X:2048:C:H1'	1:X:2428:U:N3	2.20	0.54
1:X:2568:A:H2'	1:X:2569:A:C8	2.43	0.54
1:X:2751:C:H2'	1:X:2752:C:C6	2.43	0.54
1:X:2773:G:H1	1:X:2779:A:H61	1.55	0.54
3:A:150:GLY:O	3:A:152:GLY:N	2.41	0.54
4:B:16:LYS:HB2	4:B:21:ILE:HD11	1.90	0.54
1:X:1804:U:H1'	3:A:45:ASN:HB2	1.89	0.53
1:X:1987:G:C4	1:X:1988:A:C8	2.96	0.53
1:X:2811:G:H2'	1:X:2812:A:H8	1.72	0.53
5:C:149:LEU:HD13	5:C:183:HIS:CE1	2.43	0.53
6:D:61:THR:HA	6:D:99:PHE:HZ	1.73	0.53
13:L:30:SER:O	13:L:40:ALA:CA	2.44	0.53
19:R:84:VAL:O	19:R:85:ASP:HB2	2.08	0.53
1:X:796:A:H8	1:X:797:A:H4'	1.73	0.53
1:X:1215:A:H2'	1:X:1216:G:H8	1.73	0.53
1:X:1300:A:H5"	1:X:1301:U:OP2	2.08	0.53
4:B:33:ILE:HG21	4:B:36:ARG:CZ	2.38	0.53
5:C:117:LEU:O	5:C:188:ILE:HD12	2.07	0.53
19:R:15:HIS:CE1	19:R:78:ALA:HB1	2.43	0.53
1:X:320:A:C6	1:X:341:A:C6	2.96	0.53
1:X:1033:G:H22	1:X:1153:A:H2	1.57	0.53
1:X:1047:G:C6	1:X:1131:G:C6	2.96	0.53
1:X:1428:G:N2	1:X:1601:U:H4'	2.22	0.53
1:X:1823:G:C6	1:X:1824:C:N4	2.77	0.53
1:X:1941:C:H2'	1:X:1942:G:C8	2.44	0.53
1:X:2329:C:H2'	1:X:2330:G:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2696:A:H2'	1:X:2697:G:H5'	1.91	0.53
1:X:2705:A:C2'	1:X:2706:U:H2'	2.38	0.53
1:X:2821:G:C5	1:X:2822:U:C4	2.96	0.53
4:B:14:ILE:HG22	4:B:21:ILE:CG1	2.35	0.53
6:D:56:GLU:CD	6:D:150:ARG:HH11	2.12	0.53
1:X:767:G:H2'	1:X:768:U:H6	1.74	0.53
1:X:922:A:O2'	1:X:2243:C:O2'	2.17	0.53
1:X:1137:A:H4'	1:X:1138:A:O5'	2.07	0.53
1:X:1284:G:N2	1:X:1633:C:O4'	2.42	0.53
1:X:1381:G:H2'	1:X:1382:G:H8	1.74	0.53
8:G:116:ARG:HH21	8:G:118:ALA:HB3	1.73	0.53
14:M:55:ILE:HG22	14:M:104:LEU:HB2	1.90	0.53
19:R:64:ASN:N	19:R:64:ASN:OD1	2.38	0.53
1:X:356:A:O2'	1:X:357:A:H8	1.92	0.53
1:X:816:U:H2'	1:X:817:A:O4'	2.09	0.53
1:X:2490:U:H2'	1:X:2491:C:C6	2.43	0.53
1:X:2773:G:H1	1:X:2779:A:N6	2.06	0.53
1:X:2821:G:H2'	1:X:2822:U:C6	2.44	0.53
2:Y:14:C:H3'	21:T:72:LYS:HD2	1.91	0.53
4:B:119:ARG:CG	4:B:160:MET:HB2	2.38	0.53
5:C:72:ARG:HA	5:C:77:PHE:CD2	2.43	0.53
5:C:137:ALA:HB1	5:C:142:LEU:HD12	1.91	0.53
6:D:138:PHE:HB3	6:D:140:GLU:H	1.74	0.53
14:M:30:GLY:HA2	14:M:117:ILE:CD1	2.39	0.53
1:X:39:C:H2'	1:X:40:U:C6	2.43	0.53
1:X:568:G:H2'	1:X:569:C:O4'	2.08	0.53
1:X:595:A:N1	1:X:822:G:O2'	2.32	0.53
1:X:1267:A:H5"	1:X:1268:U:H5"	1.89	0.53
1:X:1399:C:H2'	1:X:1400:A:H8	1.72	0.53
1:X:1928:G:H2'	1:X:1929:U:H6	1.74	0.53
1:X:2322:U:O2'	1:X:2323:U:OP1	2.23	0.53
1:X:213:C:H2'	1:X:214:C:H6	1.72	0.53
1:X:694:G:C4	1:X:695:G:C8	2.97	0.53
1:X:759:C:H3'	1:X:759:C:C6	2.43	0.53
1:X:1240:G:H5"	1:X:1240:G:H8	1.74	0.53
1:X:1462:C:H2'	1:X:1463:A:H8	1.74	0.53
1:X:1656:U:C2'	1:X:1657:A:H5"	2.39	0.53
1:X:1774:A:N1	1:X:2566:A:H2'	2.23	0.53
1:X:1872:A:H2'	1:X:1873:A:C8	2.44	0.53
1:X:2039:G:N2	25:Z:5:PRO:HA	2.24	0.53
1:X:2533:U:H2'	1:X:2534:U:H6	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:231:HIS:CE1	3:A:247:VAL:HA	2.44	0.53
4:B:9:ILE:O	14:M:9:ARG:NH1	2.36	0.53
19:R:105:ARG:HD3	19:R:112:LYS:HD2	1.90	0.53
1:X:1670:G:H8	1:X:1670:G:OP2	1.91	0.53
1:X:2231:G:C4	1:X:2232:G:C8	2.97	0.53
1:X:2551:A:C5'	1:X:2553:G:H4'	2.35	0.53
24:W:4:LYS:HG2	24:W:52:GLU:HB3	1.91	0.53
1:X:1787:U:H4'	3:A:254:THR:H	1.74	0.53
1:X:1813:A:H2'	1:X:1814:G:H8	1.74	0.53
1:X:2691:C:O2'	1:X:2693:U:H5'	2.08	0.53
1:X:2807:U:H1'	1:X:2808:U:OP2	2.09	0.53
6:D:2:GLN:HA	6:D:5:LYS:HD3	1.91	0.53
10:I:71:THR:HB	10:I:105:PRO:HB2	1.91	0.53
12:K:10:LEU:O	12:K:12:ARG:HD2	2.08	0.53
17:P:32:ARG:NH1	17:P:119:LYS:HD2	2.23	0.53
22:U:19:ILE:HG22	22:U:42:GLN:HG3	1.90	0.53
1:X:68:C:O2'	1:X:72:A:O2'	2.22	0.53
1:X:216:U:H2'	1:X:217:U:C6	2.43	0.53
1:X:358:C:H2'	1:X:359:G:H5'	1.91	0.53
1:X:747:A:OP2	1:X:774[A]:A:N6	2.39	0.53
1:X:915:C:H2'	1:X:916:U:C6	2.44	0.53
1:X:1655:C:O2	1:X:2677:U:O2'	2.27	0.53
1:X:2272:A:H2'	1:X:2273:C:C6	2.44	0.53
3:A:108:PRO:HB2	3:A:127:LEU:HD11	1.90	0.53
18:Q:19:ALA:HB1	18:Q:24:VAL:HG13	1.90	0.53
19:R:56:LYS:H	19:R:56:LYS:HD2	1.73	0.53
1:X:618:A:H2'	1:X:619:A:C8	2.45	0.52
1:X:1179:A:H2'	1:X:1180:A:H8	1.74	0.52
1:X:1291:G:OP1	12:K:36:THR:OG1	2.17	0.52
1:X:1770:U:C2	1:X:1774:A:N7	2.77	0.52
1:X:1787:U:H2'	1:X:1788:C:C6	2.44	0.52
1:X:2358:C:H4'	13:L:21:THR:HG21	1.92	0.52
6:D:56:GLU:OE1	6:D:150:ARG:NH1	2.33	0.52
9:H:119:ARG:HH21	14:M:41:GLU:HA	1.74	0.52
22:U:7:LEU:HD11	22:U:46:LEU:HD13	1.90	0.52
27:2:34:ARG:CZ	27:2:39:ARG:HD2	2.40	0.52
1:X:224:G:OP2	1:X:226:C:N4	2.42	0.52
1:X:1050:G:O2'	1:X:1128:G:N2	2.42	0.52
1:X:1980:A:H5"	4:B:117:MET:CE	2.40	0.52
1:X:2282:G:H2'	1:X:2283:G:O4'	2.09	0.52
1:X:2793:G:O2'	1:X:2794:G:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:22:TYR:HB3	6:D:27:ALA:HB3	1.91	0.52
8:G:70:PHE:HD1	15:N:64:ARG:HH21	1.58	0.52
9:H:19:ILE:O	9:H:19:ILE:HG13	2.08	0.52
16:O:35:LEU:HD21	16:O:52:GLY:HA2	1.91	0.52
20:S:2:GLU:HG3	20:S:55:THR:HG22	1.91	0.52
21:T:19:LYS:O	21:T:21:LEU:N	2.42	0.52
25:Z:58:LEU:HD22	25:Z:59:ALA:H	1.74	0.52
1:X:591:G:H2'	1:X:592:G:C8	2.44	0.52
1:X:2002:A:N6	1:X:2018:G:H1	2.07	0.52
9:H:21:CYS:SG	9:H:51:ILE:HG13	2.49	0.52
1:X:820:U:H2'	1:X:821:A:C8	2.45	0.52
1:X:1082:G:H5'	1:X:1083:C:H5	1.74	0.52
1:X:1745:C:P	14:M:101:ARG:HH22	2.32	0.52
1:X:1982:C:H4'	1:X:2703:C:O2	2.09	0.52
2:Y:7:C:H2'	2:Y:8:C:C6	2.45	0.52
2:Y:14:C:H5	21:T:72:LYS:HB2	1.73	0.52
18:Q:14:GLU:CD	18:Q:14:GLU:H	2.12	0.52
1:X:39:C:H2'	1:X:40:U:H6	1.75	0.52
1:X:133:C:C5	1:X:134:G:H1'	2.44	0.52
1:X:528:G:H2'	1:X:529:U:C6	2.45	0.52
1:X:960:U:H2'	1:X:961:G:C8	2.45	0.52
1:X:1326:U:H2'	1:X:1626:A:C2	2.45	0.52
1:X:1816:G:O2'	3:A:252:LYS:HG2	2.08	0.52
1:X:1918:G:C6	1:X:1945:C:C5	2.98	0.52
1:X:1991:C:H2'	1:X:1992:G:C8	2.44	0.52
1:X:2272:A:H2'	1:X:2273:C:H6	1.74	0.52
5:C:2:ALA:O	5:C:112:GLN:NE2	2.41	0.52
9:H:83:ARG:HH22	9:H:134:LEU:HD11	1.74	0.52
15:N:94:VAL:HA	15:N:97:ASP:OD2	2.09	0.52
18:Q:29:VAL:HG11	18:Q:38:ILE:HD12	1.92	0.52
22:U:43:ARG:HG2	22:U:44:ALA:H	1.74	0.52
22:U:53:GLU:HA	22:U:57:VAL:HA	1.90	0.52
25:Z:45:ILE:HD12	25:Z:50:GLY:HA2	1.90	0.52
1:X:219:G:O2'	1:X:231:G:N1	2.32	0.52
1:X:463:C:OP2	5:C:46:ARG:HG2	2.10	0.52
1:X:2069:U:H2'	1:X:2070:G:H8	1.72	0.52
1:X:2085:G:N2	1:X:2171:U:O2'	2.43	0.52
1:X:2738:A:C5	7:E:67:LEU:HD11	2.45	0.52
18:Q:5:ASP:N	18:Q:5:ASP:OD1	2.42	0.52
1:X:231:G:H4'	1:X:397:U:H5"	1.92	0.52
1:X:684:C:OP1	10:I:40:ARG:HA	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:840:U:H4'	1:X:841:G:C2	2.45	0.52
1:X:930:A:C2	2:Y:82:U:H4'	2.43	0.52
1:X:940:G:H5'	24:W:37:THR:HG21	1.92	0.52
1:X:2175:A:H2'	1:X:2176:U:C6	2.45	0.52
1:X:2290:A:H8	1:X:2291:U:C5	2.28	0.52
1:X:2557:G:O2'	1:X:2558:C:H5'	2.09	0.52
1:X:2683:C:H2'	1:X:2684:A:H8	1.75	0.52
2:Y:39:C:H5"	2:Y:40:C:C5	2.45	0.52
1:X:219:G:H3'	28:3:5:LYS:HD3	1.90	0.52
1:X:464:G:OP2	5:C:46:ARG:NH1	2.42	0.52
1:X:576:A:H4'	1:X:821:A:OP1	2.10	0.52
1:X:829:C:H2'	1:X:830:C:C6	2.44	0.52
1:X:1429:A:C2	1:X:1603:A:H1'	2.45	0.52
1:X:2335:U:H2'	1:X:2336:G:C8	2.45	0.52
1:X:2440:C:H2'	1:X:2441:U:H6	1.74	0.52
2:Y:26:G:N2	2:Y:30:C:C2	2.77	0.52
4:B:9:ILE:O	14:M:9:ARG:HD2	2.09	0.52
6:D:149:THR:HA	6:D:150:ARG:NH2	2.25	0.52
8:G:85:ALA:HB1	8:G:127:ILE:HD12	1.92	0.52
8:G:140:GLN:O	8:G:144:MET:HG3	2.10	0.52
23:V:25:LEU:HD21	23:V:47:ARG:HG2	1.92	0.52
1:X:1050:G:N2	1:X:1127:C:H42	2.08	0.52
1:X:1122:A:O2'	1:X:1123:G:H4'	2.09	0.52
1:X:1164:C:C4	1:X:1165:G:C5	2.98	0.52
1:X:1873:A:H3'	1:X:1874:G:H8	1.75	0.52
1:X:2812:A:H2'	1:X:2813:G:H8	1.75	0.52
2:Y:59:A:H5'	2:Y:60:A:OP2	2.10	0.52
14:M:27:PHE:CD2	14:M:93:ILE:HD13	2.45	0.52
17:P:21:ARG:N	17:P:21:ARG:HD2	2.23	0.52
25:Z:42:SER:O	25:Z:44:HIS:ND1	2.43	0.52
27:2:30:ILE:O	27:2:34:ARG:HG3	2.10	0.52
1:X:38:G:H1	1:X:453:U:H3	1.57	0.52
1:X:196:A:H2'	1:X:197:G:C8	2.45	0.52
1:X:719:A:H3'	1:X:720:A:C8	2.43	0.52
1:X:1783:G:H5"	3:A:205:VAL:HG13	1.91	0.52
1:X:1833:U:C2	1:X:1834:G:C8	2.98	0.52
3:A:246:PRO:HD3	3:A:252:LYS:HE3	1.92	0.52
4:B:110:GLY:HA2	4:B:161:GLY:HA3	1.91	0.52
6:D:79:LEU:HD23	6:D:80:ARG:H	1.75	0.52
8:G:67:ARG:HH21	8:G:76:GLN:HB3	1.75	0.52
9:H:21:CYS:HB2	9:H:51:ILE:HD11	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:16:ARG:HG2	10:I:17:LYS:N	2.25	0.52
12:K:114:GLU:C	12:K:115:LEU:HD23	2.31	0.52
13:L:41:GLN:OE1	13:L:50:THR:HG21	2.10	0.52
14:M:33:VAL:HA	14:M:50:PHE:O	2.10	0.52
17:P:20:LEU:C	17:P:21:ARG:HD2	2.30	0.52
20:S:71:MET:HA	20:S:78:PRO:HA	1.92	0.52
1:X:2:G:H2'	1:X:3:U:C6	2.45	0.51
1:X:845:U:OP1	10:I:38:LYS:HE3	2.11	0.51
1:X:954:U:OP2	10:I:38:LYS:NZ	2.43	0.51
1:X:1996:A:H2	17:P:109:ARG:NH2	2.06	0.51
1:X:1999:U:H1'	25:Z:6:VAL:CG1	2.40	0.51
1:X:2214:G:H2'	1:X:2215:C:C6	2.44	0.51
1:X:2279:G:H2'	1:X:2280:A:C8	2.45	0.51
5:C:176:ASN:HB3	5:C:179:ASP:HB2	1.92	0.51
9:H:10:VAL:HG23	9:H:17:ARG:O	2.10	0.51
12:K:72:ASP:O	12:K:75:VAL:HG23	2.10	0.51
15:N:8:ILE:O	15:N:12:ARG:HG2	2.10	0.51
18:Q:34:THR:O	18:Q:38:ILE:HG22	2.10	0.51
25:Z:16:ARG:HD3	25:Z:20:ARG:CZ	2.40	0.51
1:X:754:G:H2'	1:X:755:C:H6	1.74	0.51
1:X:768:U:H2'	1:X:769:C:O4'	2.10	0.51
1:X:791:G:H5'	3:A:48:ARG:CZ	2.40	0.51
1:X:1006:C:OP2	15:N:54:LYS:HE3	2.11	0.51
1:X:1292:A:H4'	12:K:31:GLU:OE1	2.09	0.51
1:X:1635:G:H2'	1:X:1635:G:N3	2.24	0.51
1:X:2790:C:H2'	1:X:2791:C:C6	2.45	0.51
1:X:2795:A:O2'	12:K:3:HIS:CD2	2.62	0.51
3:A:246:PRO:HD2	3:A:250:TRP:N	2.25	0.51
6:D:101:GLU:HA	6:D:104:ILE:HG22	1.91	0.51
10:I:79:GLN:HB3	10:I:111:SER:HB2	1.91	0.51
23:V:14:PHE:O	23:V:18:ILE:HG13	2.11	0.51
1:X:263:G:N2	1:X:264:U:O4	2.39	0.51
1:X:674:U:H2'	1:X:675:C:O4'	2.11	0.51
1:X:1238:A:H4'	16:O:83:ARG:HG2	1.91	0.51
1:X:1269:G:C6	1:X:1270:C:C4	2.98	0.51
4:B:63:MET:O	4:B:67:PHE:HD1	1.94	0.51
14:M:41:GLU:CG	14:M:44:ARG:HH22	2.23	0.51
1:X:338:G:H1'	19:R:10:HIS:NE2	2.26	0.51
1:X:552:C:C2'	1:X:553:C:H5'	2.41	0.51
1:X:748:A:H5'	1:X:749:C:OP2	2.11	0.51
1:X:1354:A:H8	1:X:1354:A:O5'	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2043:A:O2'	1:X:2481:G:O4'	2.29	0.51
1:X:2334:C:H1'	21:T:39:ARG:HH21	1.76	0.51
1:X:2386:G:H2'	1:X:2387:U:C6	2.45	0.51
1:X:2604:G:H2'	1:X:2605:C:C6	2.45	0.51
1:X:2800:C:O2	1:X:2800:C:H2'	2.11	0.51
3:A:79:VAL:HG21	3:A:111:LEU:HD21	1.92	0.51
13:L:77:ALA:O	13:L:81:GLU:HG2	2.10	0.51
14:M:38:LYS:HZ1	14:M:46:ARG:HD2	1.75	0.51
15:N:66:ASN:HB3	15:N:76:TYR:CB	2.28	0.51
20:S:28:ASN:OD1	20:S:28:ASN:N	2.41	0.51
24:W:3:ILE:O	24:W:31:SER:HA	2.10	0.51
1:X:492:G:H2'	1:X:517:A:N6	2.26	0.51
1:X:748:A:H3'	1:X:749:C:H6	1.75	0.51
1:X:847:C:C2	1:X:848:A:C8	2.98	0.51
1:X:1193:G:H2'	1:X:1194:U:C6	2.45	0.51
1:X:1307:U:H2'	1:X:1308:C:H5'	1.93	0.51
1:X:1469:U:H5'	1:X:1470:G:OP2	2.11	0.51
2:Y:78:A:H4'	20:S:20:ALA:CB	2.40	0.51
5:C:111:ARG:HB3	5:C:116:LYS:CB	2.39	0.51
17:P:54:GLU:HB3	17:P:58:ARG:HH22	1.75	0.51
17:P:59:PHE:CD2	25:Z:41:LEU:HD22	2.42	0.51
1:X:64:C:H1'	18:Q:68:PHE:CD2	2.45	0.51
1:X:222:G:H2'	1:X:223:C:C6	2.45	0.51
1:X:402:A:N3	1:X:2391:A:H2	2.09	0.51
1:X:717:G:O2'	1:X:739:G:N2	2.32	0.51
1:X:836:G:H2'	1:X:837:U:C6	2.46	0.51
1:X:1325:U:OP2	18:Q:62:ARG:NH2	2.44	0.51
1:X:1360:G:C6	1:X:1361:G:N7	2.79	0.51
1:X:1717:A:H3'	1:X:1718:A:H8	1.75	0.51
1:X:2081:U:H3	1:X:2174:G:H1	1.57	0.51
1:X:2736:U:H4'	1:X:2737:A:OP1	2.10	0.51
15:N:10:ARG:HG2	15:N:14:HIS:NE2	2.24	0.51
15:N:58:ARG:HA	15:N:61:TRP:HD1	1.73	0.51
1:X:28:A:C2	1:X:523:A:C8	2.99	0.51
1:X:494:A:H3'	1:X:495:C:C6	2.46	0.51
1:X:746:G:N7	1:X:774[B]:A:C6	2.79	0.51
1:X:2312:A:H4'	1:X:2313:G:O5'	2.11	0.51
1:X:239:A:N3	1:X:443:A:O2'	2.35	0.51
1:X:560:G:H5'	16:O:67:LYS:HE3	1.92	0.51
1:X:1063:C:H2'	1:X:1064:C:C6	2.46	0.51
1:X:1992:G:C2'	1:X:1993:G:H5'	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:33:ILE:HG12	4:B:89:ASP:HA	1.93	0.51
22:U:53:GLU:O	22:U:78:ILE:HG23	2.11	0.51
1:X:1377:G:C5	22:U:6:TYR:N	2.79	0.51
1:X:1573:G:H3'	1:X:1574:A:C5'	2.40	0.51
1:X:2394:G:H2'	1:X:2395:C:H6	1.75	0.51
1:X:2522:G:H2'	1:X:2523:G:C8	2.46	0.51
6:D:141:ILE:HB	6:D:146:VAL:HG21	1.92	0.51
7:E:55:PRO:HG2	7:E:61:HIS:NE2	2.26	0.51
9:H:56:LYS:O	9:H:56:LYS:NZ	2.35	0.51
1:X:503:G:H2'	1:X:504:G:O4'	2.11	0.51
1:X:831:G:C2	1:X:1204:G:C6	2.98	0.51
1:X:1448:A:H61	1:X:1574:A:N6	2.07	0.51
1:X:1802:A:H2'	1:X:1803:G:O4'	2.10	0.51
1:X:2800:C:H5'	1:X:2801:A:OP2	2.10	0.51
22:U:21:ARG:HA	22:U:39:LYS:O	2.10	0.51
1:X:393:U:H4'	22:U:19:ILE:O	2.11	0.50
1:X:393:U:H2'	1:X:394:U:C6	2.45	0.50
1:X:820:U:H2'	1:X:821:A:H8	1.75	0.50
1:X:857:U:H2'	1:X:858:G:O4'	2.11	0.50
1:X:1770:U:O2	1:X:1774:A:N6	2.45	0.50
1:X:2309:G:H2'	1:X:2310:G:O4'	2.11	0.50
6:D:149:THR:HA	6:D:150:ARG:HH21	1.76	0.50
9:H:120:ASP:OD1	9:H:120:ASP:N	2.44	0.50
12:K:96:ARG:O	12:K:113:ILE:HD12	2.11	0.50
19:R:25:LEU:O	19:R:30:LYS:HB2	2.11	0.50
1:X:198:A:O2'	1:X:243:G:N7	2.34	0.50
1:X:219:G:H8	28:3:3:LYS:O	1.95	0.50
1:X:640:C:P	28:3:17:THR:HB	2.51	0.50
1:X:1628:C:N4	1:X:1629:G:N7	2.59	0.50
1:X:1810:U:H3'	3:A:157:ARG:CG	2.41	0.50
1:X:1816:G:OP1	3:A:52:ARG:HG3	2.11	0.50
1:X:1818:G:H2'	1:X:1819:U:H6	1.76	0.50
1:X:2029:G:H2'	1:X:2030:U:C6	2.46	0.50
1:X:2049:C:O2'	1:X:2050:G:H5'	2.12	0.50
1:X:2236:U:O2'	1:X:2237:C:H5'	2.10	0.50
1:X:2369:U:O5'	1:X:2369:U:H6	1.94	0.50
1:X:2490:U:H2'	1:X:2491:C:H6	1.75	0.50
1:X:2820:C:C2	1:X:2821:G:C8	2.99	0.50
3:A:72:LYS:NZ	3:A:99:ASP:OD2	2.44	0.50
6:D:48:LYS:H	6:D:48:LYS:HD2	1.75	0.50
9:H:116:ARG:HE	9:H:134:LEU:HD11	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:36:ILE:HG22	11:J:131:LYS:O	2.11	0.50
20:S:101:THR:HG22	20:S:136:VAL:O	2.11	0.50
1:X:427:C:H2'	1:X:428:A:C8	2.46	0.50
1:X:839:U:H5"	1:X:2408:G:OP2	2.12	0.50
1:X:1364:C:H2'	1:X:1365:U:C6	2.47	0.50
1:X:1917:C:C2	1:X:1918:G:C8	3.00	0.50
1:X:1998:A:N3	25:Z:6:VAL:HG22	2.26	0.50
1:X:2509:A:H2'	1:X:2510:A:H5"	1.94	0.50
3:A:252:LYS:HZ2	3:A:253:PRO:HD2	1.75	0.50
6:D:109:PRO:HG3	6:D:137:ILE:HB	1.92	0.50
14:M:6:LYS:O	14:M:7:ILE:HD12	2.11	0.50
1:X:69:G:O2'	1:X:72:A:H1'	2.12	0.50
1:X:135:U:H2'	1:X:136:A:C8	2.47	0.50
1:X:222:G:H2'	1:X:223:C:H6	1.76	0.50
1:X:469:G:OP1	27:2:40:HIS:NE2	2.44	0.50
1:X:547:U:H2'	1:X:548:G:H8	1.75	0.50
1:X:577:U:H2'	1:X:579:G:OP2	2.11	0.50
1:X:630:G:O5'	1:X:631:G:N2	2.44	0.50
1:X:868:U:H2'	1:X:869:C:H6	1.75	0.50
1:X:1257:U:O2'	1:X:1258:G:H5'	2.12	0.50
1:X:1664:G:P	1:X:1664:G:H3'	2.52	0.50
1:X:2583:U:O2'	1:X:2584:U:H5'	2.11	0.50
7:E:98:LEU:HD12	7:E:102:ALA:O	2.12	0.50
9:H:19:ILE:HG22	9:H:55:VAL:HA	1.93	0.50
12:K:51:LEU:HD21	12:K:66:VAL:HG13	1.93	0.50
21:T:38:VAL:HG12	21:T:59:LEU:HG	1.94	0.50
1:X:166:G:H21	1:X:184:A:H62	1.60	0.50
1:X:326:A:C6	1:X:327:C:C4	3.00	0.50
1:X:1231:A:C4	1:X:1245:G:N2	2.79	0.50
1:X:1773:C:O2'	1:X:2588:U:H5"	2.12	0.50
1:X:2258:G:O6	21:T:14:ARG:HD3	2.11	0.50
1:X:2571:G:H22	1:X:2580:C:H5	1.60	0.50
1:X:2849:C:H2'	1:X:2850:U:H6	1.76	0.50
31:X:3168:SPD:H41	31:X:3168:SPD:H81	1.93	0.50
14:M:77:VAL:O	14:M:78:GLU:HG2	2.12	0.50
17:P:29:LYS:HB3	17:P:30:TYR:CD2	2.46	0.50
26:1:37:LEU:HD23	26:1:51:ARG:HA	1.94	0.50
28:3:14:ILE:HD13	28:3:22:VAL:HG13	1.94	0.50
28:3:52:LYS:NZ	28:3:56:ALA:HB2	2.26	0.50
1:X:314:G:H2'	1:X:315:G:H8	1.75	0.50
1:X:1910:A:H2'	1:X:1911:A:O4'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2274:C:C2'	1:X:2275:U:H5'	2.41	0.50
1:X:2522:G:H2'	1:X:2523:G:O4'	2.12	0.50
1:X:2696:A:C6	1:X:2697:G:N7	2.80	0.50
1:X:2786:G:C2	1:X:2787:A:C5	2.99	0.50
2:Y:45:C:H5'	6:D:95:ARG:HH12	1.75	0.50
8:G:78:ASP:OD1	8:G:78:ASP:N	2.44	0.50
12:K:10:LEU:HD13	12:K:40:LYS:HG3	1.94	0.50
14:M:68:VAL:HG21	14:M:81:PHE:HE1	1.77	0.50
1:X:455:A:C8	5:C:39:ARG:HD3	2.47	0.50
1:X:623:G:H3'	1:X:624:A:H5"	1.92	0.50
1:X:1219:C:H2'	1:X:1220:G:O4'	2.11	0.50
1:X:1281:A:C2	1:X:1282:A:H1'	2.47	0.50
1:X:1423:A:H2'	1:X:1424:U:C6	2.47	0.50
1:X:1429:A:N3	1:X:1603:A:H1'	2.27	0.50
1:X:1563:U:H2'	1:X:1564:U:C6	2.47	0.50
1:X:1628:C:O2'	27:2:5:TYR:O	2.25	0.50
1:X:1744:G:H2'	1:X:1746:A:OP2	2.12	0.50
1:X:2343:C:H2'	1:X:2344:G:O4'	2.11	0.50
1:X:2659:C:C2	1:X:2660:C:C5	3.00	0.50
1:X:2769:C:O2	1:X:2866:A:H2	1.95	0.50
3:A:24:LEU:HD21	3:A:91:ARG:HD2	1.94	0.50
4:B:188:ILE:CG2	4:B:189:PRO:HD2	2.40	0.50
1:X:547:U:H2'	1:X:548:G:C8	2.47	0.50
1:X:1037:U:O2	1:X:1037:U:H2'	2.11	0.50
1:X:1428:G:H22	1:X:1602:G:H5'	1.75	0.50
1:X:1787:U:H2'	1:X:1788:C:H6	1.76	0.50
1:X:1973:C:H6	1:X:1973:C:H3'	1.76	0.50
1:X:2277:A:H2	1:X:2300:G:H2'	1.77	0.50
1:X:2278:A:H2'	1:X:2279:G:C8	2.47	0.50
1:X:2328:G:C6	1:X:2348:A:C6	3.00	0.50
1:X:2424:G:O2'	1:X:2425:G:H5'	2.11	0.50
1:X:2594:U:H2'	1:X:2595:C:H6	1.76	0.50
1:X:2683:C:H2'	1:X:2684:A:C8	2.46	0.50
10:I:83:LEU:HD22	10:I:115:SER:HA	1.93	0.50
15:N:95:LEU:HD21	16:O:5:ILE:HG12	1.93	0.50
23:V:46:LEU:O	23:V:50:VAL:HG23	2.12	0.50
1:X:751:G:O2'	1:X:752:G:OP1	2.29	0.50
1:X:824:U:H2'	10:I:21:ARG:HA	1.94	0.50
1:X:1072:U:H4'	1:X:1081:A:O2'	2.11	0.50
1:X:1321:A:H5'	1:X:1322:G:OP2	2.12	0.50
1:X:2218:G:H5'	3:A:249:PRO:HD3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2653:A:H4'	9:H:42:LYS:HB2	1.93	0.50
3:A:69:ARG:NH1	3:A:128:GLY:O	2.31	0.50
5:C:7:ILE:HB	5:C:122:GLY:HA2	1.92	0.50
7:E:6:LYS:HG3	7:E:69:ARG:HD3	1.94	0.50
7:E:22:GLY:O	7:E:37:TYR:HB2	2.11	0.50
1:X:58:C:OP2	18:Q:73:ASN:ND2	2.45	0.49
1:X:101:A:OP2	1:X:101:A:H8	1.95	0.49
1:X:1012:A:H62	1:X:1165:G:N2	2.09	0.49
1:X:1697:U:O2	1:X:1754:G:C8	2.65	0.49
1:X:2663:U:N3	1:X:2664:G:N7	2.60	0.49
2:Y:74:A:H1'	2:Y:108:G:N2	2.26	0.49
5:C:28:HIS:CE1	10:I:8:PRO:HB3	2.47	0.49
8:G:75:ILE:HG21	8:G:144:MET:HG2	1.94	0.49
10:I:122:VAL:O	10:I:126:SER:HB2	2.11	0.49
24:W:5:LEU:HA	24:W:51:LEU:HD23	1.93	0.49
1:X:57:G:N3	1:X:72:A:H2	2.10	0.49
1:X:1428:G:H2'	1:X:1428:G:N3	2.27	0.49
1:X:1622:G:H4'	1:X:1624:A:C2	2.47	0.49
1:X:2285:U:C4	6:D:42:SER:HB2	2.48	0.49
1:X:2724:G:C6	1:X:2741:G:C6	2.99	0.49
1:X:2859:U:P	25:Z:43:HIS:HE2	2.34	0.49
2:Y:62:C:H2'	2:Y:63:A:C8	2.46	0.49
7:E:12:PRO:HG3	7:E:80:SER:OG	2.12	0.49
7:E:105:MET:HB2	7:E:113:VAL:HG23	1.94	0.49
10:I:54:SER:HB3	10:I:55:ARG:HH22	1.77	0.49
12:K:28:LEU:HD21	12:K:115:LEU:HD21	1.94	0.49
17:P:56:LEU:O	17:P:58:ARG:N	2.45	0.49
22:U:47:HIS:CE1	22:U:64:ALA:H	2.30	0.49
28:3:13:ARG:CB	28:3:25:PHE:H	2.24	0.49
1:X:82:G:N2	1:X:100:G:H1'	2.25	0.49
1:X:405:C:H2'	1:X:406:G:H8	1.77	0.49
1:X:970:A:N6	11:J:84:MET:HE1	2.27	0.49
1:X:995:A:H5"	1:X:996:C:C5	2.47	0.49
1:X:1377:G:H5"	1:X:1800:A:O4'	2.12	0.49
1:X:2064:U:H5"	22:U:20:ARG:HH21	1.76	0.49
1:X:2407:G:H5"	1:X:2408:G:OP1	2.12	0.49
1:X:2602:G:H2'	1:X:2603:G:H8	1.77	0.49
3:A:16:MET:HG3	3:A:207:GLY:HA3	1.93	0.49
4:B:149:ARG:CB	4:B:149:ARG:HH11	2.25	0.49
6:D:65:PRO:HB2	6:D:87:ILE:CG2	2.43	0.49
12:K:52:ILE:HD11	12:K:94:TYR:CD1	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:70:GLN:N	20:S:80:HIS:O	2.41	0.49
1:X:90:G:H5'	1:X:91:A:OP2	2.12	0.49
1:X:338:G:H2'	1:X:339:U:O4'	2.12	0.49
1:X:513:A:C6	1:X:516:G:C6	3.00	0.49
1:X:530:G:H2'	1:X:531:G:C8	2.45	0.49
1:X:1194:U:H2'	1:X:1195:U:C6	2.47	0.49
1:X:1264:C:OP1	15:N:10:ARG:HG3	2.11	0.49
1:X:1779:C:H2'	1:X:1780:A:H8	1.76	0.49
1:X:2272:A:OP2	13:L:18:ARG:NH1	2.45	0.49
2:Y:31:A:H2'	2:Y:32:C:C6	2.47	0.49
2:Y:95:U:O2'	2:Y:96:C:H5'	2.12	0.49
3:A:63:ARG:HH21	3:A:65:ILE:HD11	1.77	0.49
3:A:183:ARG:NH1	3:A:184:ARG:O	2.45	0.49
4:B:134:TRP:H	4:B:134:TRP:HD1	1.60	0.49
8:G:104:THR:O	8:G:106:TYR:N	2.38	0.49
11:J:53:ILE:HG23	11:J:57:ARG:NH1	2.28	0.49
13:L:43:ILE:HG23	13:L:50:THR:HG23	1.92	0.49
19:R:38:LEU:HD22	19:R:39:ALA:H	1.76	0.49
1:X:494:A:N7	1:X:507:A:H2	2.10	0.49
1:X:1674:C:OP2	4:B:136:ARG:HG3	2.12	0.49
1:X:1681:A:C6	1:X:2706:U:C5	3.01	0.49
1:X:1817:U:O3'	3:A:233:HIS:HE1	1.95	0.49
1:X:2283:G:N2	1:X:2291:U:H3	2.08	0.49
5:C:155:GLU:O	5:C:159:ARG:HB2	2.12	0.49
12:K:102:THR:HA	12:K:109:THR:HA	1.94	0.49
17:P:41:VAL:HA	17:P:44:VAL:HG23	1.94	0.49
21:T:45:PHE:HZ	21:T:77:ARG:HH21	1.61	0.49
1:X:119:G:H5'	1:X:143:A:OP2	2.13	0.49
1:X:412:U:H2'	1:X:413:G:O4'	2.12	0.49
1:X:759:C:HO2'	1:X:760:U:P	2.36	0.49
1:X:1069:G:H2'	1:X:1070:G:C8	2.47	0.49
1:X:1468:A:C8	1:X:1468:A:OP2	2.66	0.49
1:X:1692:C:N4	1:X:1976:U:O4'	2.46	0.49
1:X:1810:U:OP2	3:A:157:ARG:NH1	2.45	0.49
1:X:1939:U:H1'	1:X:2531:U:OP1	2.11	0.49
1:X:2310:G:N2	1:X:2364:C:C4	2.81	0.49
1:X:2555:G:H8	1:X:2560:G:O6	1.95	0.49
1:X:2557:G:H2'	1:X:2558:C:H6	1.77	0.49
8:G:52:GLY:O	8:G:56:THR:HG23	2.13	0.49
15:N:24:PHE:HB3	15:N:28:ARG:HB2	1.94	0.49
16:O:26:GLN:HA	16:O:63:HIS:NE2	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:6:ILE:HG22	18:Q:7:LEU:HD12	1.94	0.49
25:Z:51:TYR:HE1	25:Z:55:ARG:CZ	2.26	0.49
27:2:1:MET:HG2	27:2:3:ARG:NH1	2.27	0.49
1:X:98:U:H4'	1:X:99:U:H5'	1.94	0.49
1:X:348:U:H2'	1:X:349:G:O4'	2.12	0.49
1:X:840:U:C5	1:X:2409:A:C5	3.01	0.49
1:X:852:U:H2'	1:X:853:C:C6	2.48	0.49
1:X:989:G:C2	1:X:997:C:C2	3.00	0.49
1:X:1082:G:H3'	1:X:1083:C:C6	2.46	0.49
1:X:1936:A:N6	31:X:3167:SPD:HN11	2.02	0.49
1:X:1947:G:H4'	1:X:1948:C:OP2	2.13	0.49
1:X:1956:G:H2'	1:X:1957:C:C6	2.47	0.49
1:X:2048:C:H2'	1:X:2049:C:H6	1.75	0.49
1:X:2726:U:H2'	1:X:2727:G:H5'	1.93	0.49
1:X:2781:G:O2'	1:X:2782:G:H5'	2.11	0.49
19:R:24:VAL:HA	19:R:80:LYS:HA	1.95	0.49
24:W:5:LEU:HB3	24:W:28:ILE:HA	1.94	0.49
28:3:62:LEU:HD12	28:3:63:PRO:HD2	1.95	0.49
1:X:163:A:H2'	1:X:164:G:C8	2.48	0.49
1:X:249:A:C8	1:X:381:C:H1'	2.48	0.49
1:X:563:U:H2'	1:X:564:U:O4'	2.13	0.49
1:X:627:A:H2'	1:X:628:A:H8	1.78	0.49
1:X:742:G:C5	3:A:208:LYS:HB2	2.48	0.49
1:X:790:A:H2'	1:X:791:G:H8	1.78	0.49
1:X:1016:C:H1'	1:X:1023:U:H3	1.77	0.49
1:X:1431:U:H3'	1:X:1432:G:O4'	2.13	0.49
1:X:1478:U:C2	1:X:1479:G:C8	3.01	0.49
1:X:1727:C:H4'	1:X:2833:C:O2	2.13	0.49
3:A:27:LYS:NZ	3:A:83:GLU:OE1	2.46	0.49
11:J:110:VAL:HG12	11:J:114:GLN:HB2	1.95	0.49
25:Z:45:ILE:HD13	25:Z:57:VAL:HB	1.94	0.49
26:1:9:ILE:HA	26:1:28:ARG:HA	1.94	0.49
1:X:23:G:C2	1:X:24:G:C8	3.01	0.49
1:X:33:C:O2	1:X:459:A:N6	2.46	0.49
1:X:174:A:N6	1:X:2409:A:H2'	2.28	0.49
1:X:495:C:C5'	19:R:58:VAL:HG22	2.43	0.49
1:X:930:A:N3	2:Y:82:U:O2'	2.37	0.49
1:X:1469:U:H3'	1:X:1470:G:C8	2.48	0.49
1:X:1793:A:H2'	1:X:1794:A:H8	1.70	0.49
1:X:1977:C:O2'	1:X:1978:U:H5'	2.12	0.49
4:B:120:TRP:CD1	4:B:155:ARG:HB3	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:16:ARG:HG2	10:I:17:LYS:H	1.78	0.49
15:N:101:ARG:O	15:N:101:ARG:HG2	2.13	0.49
1:X:334:G:C2	1:X:344:G:H1'	2.47	0.49
1:X:921:A:H4'	11:J:15:ARG:NH2	2.27	0.49
1:X:1006:C:O2	15:N:61:TRP:HH2	1.95	0.49
1:X:1268:U:C6	5:C:67:ALA:HA	2.48	0.49
1:X:1473:U:O2	1:X:1474:A:C6	2.66	0.49
1:X:1539:U:H2'	1:X:1540:C:C6	2.48	0.49
1:X:1595:A:H2'	1:X:1596:A:C8	2.48	0.49
1:X:1623:C:N4	1:X:1637:U:H2'	2.27	0.49
1:X:2280:A:H2'	1:X:2281:C:C6	2.48	0.49
1:X:2422:C:O2'	1:X:2423:G:H5'	2.13	0.49
1:X:2542:U:C5'	9:H:37:GLY:HA2	2.34	0.49
1:X:2791:C:O2	1:X:2858:A:O2'	2.25	0.49
3:A:72:LYS:HE2	3:A:97:TYR:CG	2.48	0.49
4:B:18:ASP:N	4:B:18:ASP:OD1	2.46	0.49
5:C:72:ARG:HA	5:C:77:PHE:CE2	2.47	0.49
11:J:28:VAL:N	11:J:138:TYR:HE2	2.10	0.49
16:O:4:ILE:HG13	16:O:20:ILE:HG12	1.94	0.49
1:X:542:A:H4'	1:X:543:G:C8	2.48	0.48
1:X:839:U:H1'	10:I:49:PHE:HB3	1.94	0.48
1:X:1322:G:H4'	27:2:7:PRO:HB2	1.95	0.48
1:X:2044:G:C2	1:X:2046:C:C4	3.01	0.48
1:X:2064:U:H5'	22:U:41:VAL:HG11	1.95	0.48
1:X:2398:U:OP2	28:3:41:ILE:HD11	2.12	0.48
9:H:116:ARG:HB2	9:H:134:LEU:HD21	1.95	0.48
14:M:38:LYS:HE2	14:M:46:ARG:HB3	1.94	0.48
14:M:68:VAL:CG2	14:M:81:PHE:HE1	2.26	0.48
17:P:54:GLU:HB3	17:P:58:ARG:NH2	2.28	0.48
1:X:339:U:N3	1:X:343:A:H2	2.08	0.48
1:X:590:C:OP1	15:N:31:GLN:HB3	2.13	0.48
1:X:859:U:O2	1:X:860:U:N3	2.45	0.48
1:X:2511:G:C6	1:X:2512:A:C5	3.01	0.48
1:X:2597:G:H2'	1:X:2598:C:H6	1.77	0.48
1:X:2597:G:H2'	1:X:2598:C:C6	2.47	0.48
1:X:2788:C:H2'	1:X:2789:U:H6	1.78	0.48
4:B:98:GLU:CD	4:B:174:GLU:HA	2.34	0.48
12:K:9:LYS:O	12:K:10:LEU:HD23	2.13	0.48
20:S:53:ASP:N	20:S:53:ASP:OD1	2.46	0.48
21:T:29:GLU:H	21:T:67:VAL:HG12	1.78	0.48
1:X:173:A:H2'	1:X:173:A:N3	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:215:G:H2'	1:X:216:U:O4'	2.13	0.48
1:X:596:C:P	10:I:21:ARG:NH1	2.86	0.48
1:X:753:U:O4'	1:X:1964:A:C4	2.66	0.48
1:X:1024:G:H2'	1:X:1025:A:C8	2.48	0.48
1:X:1175:A:H2'	1:X:1176:U:H6	1.78	0.48
1:X:1310:C:H2'	1:X:1311:C:H6	1.79	0.48
1:X:1620:C:O2'	1:X:1626:A:N1	2.39	0.48
1:X:2271:C:P	13:L:18:ARG:HH22	2.36	0.48
1:X:2663:U:C2	1:X:2664:G:C8	3.01	0.48
1:X:2753:C:H5"	4:B:164:ARG:HG2	1.94	0.48
1:X:2810:A:H3'	14:M:6:LYS:NZ	2.28	0.48
5:C:173:ALA:O	5:C:175:VAL:N	2.37	0.48
15:N:8:ILE:HD11	15:N:12:ARG:HH21	1.78	0.48
15:N:40:LEU:HD13	16:O:74:TYR:CE1	2.48	0.48
18:Q:17:TYR:HE2	18:Q:93:GLY:HA2	1.77	0.48
19:R:46:VAL:N	19:R:76:LEU:O	2.46	0.48
1:X:339:U:O2'	19:R:79:SER:HB3	2.13	0.48
1:X:1781:C:H2'	1:X:1782:A:C5	2.47	0.48
1:X:2044:G:H2'	1:X:2480:C:O2'	2.14	0.48
1:X:2570:C:H2'	1:X:2571:G:C8	2.47	0.48
1:X:2673:G:C6	1:X:2696:A:C6	3.01	0.48
2:Y:56:G:H21	6:D:26:MET:HG3	1.77	0.48
7:E:54:ARG:NH2	7:E:54:ARG:HB3	2.28	0.48
7:E:156:ALA:O	7:E:172:LYS:N	2.45	0.48
17:P:28:ALA:HB2	17:P:71:VAL:HG22	1.94	0.48
1:X:14:A:C5	1:X:536:A:C2	3.01	0.48
1:X:860:U:H5"	1:X:861:G:OP2	2.13	0.48
1:X:1357:U:H4'	1:X:1397:A:C5	2.49	0.48
1:X:1705:U:H1'	1:X:1718:A:C5	2.48	0.48
1:X:2672:U:H2'	1:X:2673:G:C8	2.46	0.48
1:X:2870:C:H2'	1:X:2871:U:C6	2.48	0.48
8:G:59:ALA:HB2	8:G:131:VAL:HG13	1.96	0.48
11:J:126:LEU:HD23	11:J:126:LEU:HA	1.59	0.48
1:X:524:A:H1'	1:X:590:C:O2'	2.14	0.48
1:X:559:C:O2	1:X:559:C:H2'	2.14	0.48
1:X:1164:C:H2'	1:X:1165:G:O4'	2.12	0.48
1:X:1480:G:H2'	1:X:1481:U:O4'	2.12	0.48
1:X:1683:G:N2	1:X:1686:A:N7	2.61	0.48
1:X:2306:A:H2'	1:X:2307:A:H8	1.76	0.48
1:X:2446:C:H2'	1:X:2447:G:O4'	2.14	0.48
1:X:2451:G:C6	1:X:2454:C:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2507:U:O3'	1:X:2508:G:H8	1.96	0.48
1:X:2784:A:C6	1:X:2866:A:C8	3.02	0.48
2:Y:120:G:C2	2:Y:121:G:C8	3.01	0.48
5:C:18:PRO:HD2	5:C:109:ALA:HB2	1.95	0.48
7:E:35:VAL:HB	7:E:37:TYR:CZ	2.48	0.48
8:G:56:THR:O	8:G:60:SER:OG	2.27	0.48
9:H:33:GLY:HA3	9:H:102:GLN:NE2	2.23	0.48
10:I:56:LEU:HD23	28:3:12:ARG:NH1	2.27	0.48
11:J:99:LYS:HE3	11:J:100:PRO:CD	2.44	0.48
12:K:97:ILE:HG23	12:K:113:ILE:HD13	1.96	0.48
13:L:96:TYR:CZ	13:L:101:LYS:HG3	2.48	0.48
28:3:33:ASN:OD1	28:3:34:THR:N	2.47	0.48
1:X:495:C:H5'	19:R:58:VAL:HG22	1.94	0.48
1:X:589:C:H4'	15:N:31:GLN:OE1	2.13	0.48
1:X:1034:U:H5	1:X:1035:G:C4	2.32	0.48
1:X:1782:A:O3'	3:A:206:LEU:HB2	2.13	0.48
1:X:1791:C:H42	1:X:1809:G:N2	2.11	0.48
1:X:2222:U:H2'	1:X:2223:U:C6	2.48	0.48
1:X:2274:C:H2'	1:X:2275:U:H5'	1.95	0.48
1:X:2843:A:H5'	1:X:2844:G:OP2	2.14	0.48
31:X:3167:SPD:H21	9:H:5:GLN:HE22	1.78	0.48
15:N:58:ARG:NH2	15:N:62:ILE:HD11	2.28	0.48
15:N:61:TRP:CE3	15:N:97:ASP:OD2	2.67	0.48
17:P:8:PHE:CE2	17:P:14:ARG:HG3	2.48	0.48
17:P:34:SER:O	17:P:38:VAL:HG23	2.14	0.48
1:X:24:G:H2'	1:X:25:U:C6	2.47	0.48
1:X:169:C:O2	1:X:815:A:O2'	2.22	0.48
1:X:242:A:N6	1:X:441:A:C8	2.81	0.48
1:X:959:C:H1'	1:X:995:A:N3	2.29	0.48
1:X:1050:G:H1'	1:X:1128:G:H1	1.78	0.48
1:X:1671:A:C1'	1:X:2798:A:H5'	2.44	0.48
1:X:2085:G:N2	1:X:2171:U:HO2'	2.12	0.48
1:X:2220:A:H2'	1:X:2221:G:H8	1.79	0.48
1:X:2290:A:N1	6:D:42:SER:OG	2.37	0.48
1:X:2386:G:H8	1:X:2386:G:O5'	1.97	0.48
1:X:2720:A:C8	1:X:2743:G:N2	2.81	0.48
2:Y:3:A:C6	2:Y:4:C:N4	2.82	0.48
2:Y:23:G:H2'	2:Y:24:U:H6	1.78	0.48
2:Y:34:C:H2'	2:Y:35:C:C6	2.49	0.48
3:A:6:TYR:HE2	3:A:13:ARG:HH21	1.62	0.48
4:B:12:THR:HG22	4:B:23:VAL:HG23	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:99:THR:HG23	7:E:102:ALA:HB3	1.96	0.48
9:H:3:MET:HE2	9:H:3:MET:HB3	1.72	0.48
9:H:116:ARG:HE	9:H:134:LEU:CD1	2.27	0.48
10:I:53:ARG:NH2	28:3:8:LYS:HD3	2.28	0.48
14:M:29:PRO:HG2	14:M:99:VAL:HG11	1.95	0.48
24:W:27:LYS:HG3	24:W:30:ASP:OD1	2.14	0.48
1:X:83:A:C2	1:X:101:A:C5	3.02	0.48
1:X:181:A:O3'	1:X:182:G:H4'	2.13	0.48
1:X:309:G:P	19:R:94:VAL:HG22	2.54	0.48
1:X:325:U:H2'	1:X:326:A:C8	2.49	0.48
1:X:489:A:C2'	1:X:490:A:H5"	2.42	0.48
1:X:590:C:O5'	1:X:590:C:H6	1.96	0.48
1:X:1141:U:C5	4:B:147:PRO:HD3	2.48	0.48
1:X:1210:C:H2'	1:X:1211:G:H8	1.77	0.48
1:X:1225:G:H2'	1:X:1249:G:N2	2.29	0.48
1:X:1420:A:H2'	1:X:1421:U:C6	2.48	0.48
1:X:1482:U:H2'	1:X:1483:G:C8	2.48	0.48
1:X:1561:A:H3'	1:X:1562:G:H8	1.79	0.48
1:X:2086:U:H2'	1:X:2087:U:C6	2.49	0.48
9:H:88:THR:O	14:M:79:ARG:HG3	2.14	0.48
10:I:53:ARG:HH21	28:3:12:ARG:HD3	1.76	0.48
10:I:55:ARG:NH1	28:3:25:PHE:HB2	2.28	0.48
26:1:28:ARG:C	26:1:30:ASN:H	2.16	0.48
1:X:469:G:O2'	27:2:39:ARG:HG2	2.14	0.48
1:X:659:G:H2'	1:X:660:G:C8	2.49	0.48
1:X:833:A:H8	1:X:833:A:O5'	1.97	0.48
1:X:991:A:C4	1:X:1146:G:O4'	2.67	0.48
1:X:998:C:O2'	1:X:1011:A:N3	2.34	0.48
1:X:1429:A:H1'	1:X:1603:A:C5	2.48	0.48
1:X:2230:G:C6	1:X:2231:G:C6	3.02	0.48
1:X:2270:U:H2'	1:X:2271:C:H6	1.79	0.48
1:X:2282:G:H1	1:X:2292:C:H42	1.60	0.48
3:A:252:LYS:HD2	3:A:253:PRO:HD2	1.96	0.48
13:L:9:ARG:HH11	13:L:9:ARG:C	2.16	0.48
14:M:110:LEU:HB3	14:M:115:ALA:HB1	1.94	0.48
19:R:58:VAL:HG12	19:R:68:GLY:HA2	1.95	0.48
24:W:16:GLN:OE1	24:W:49:HIS:NE2	2.44	0.48
1:X:338:G:H5'	19:R:9:HIS:ND1	2.27	0.47
1:X:462:G:H5"	1:X:463:C:OP2	2.13	0.47
1:X:534:U:H2'	1:X:535:U:C6	2.49	0.47
1:X:537:C:O2'	1:X:538:A:C4	2.65	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:588:G:C2	1:X:1275:A:C4	3.02	0.47
1:X:1030:U:H2'	1:X:1032:A:H2	1.77	0.47
1:X:1340:C:H2'	1:X:1341:G:O4'	2.13	0.47
1:X:1425:G:H2'	1:X:1426:U:H6	1.79	0.47
1:X:1606:C:H2'	1:X:1607:A:H8	1.78	0.47
1:X:1810:U:HO2'	1:X:1811:A:P	2.37	0.47
1:X:1838:G:H2'	1:X:1839:A:O4'	2.14	0.47
1:X:1919:A:H62	1:X:1946:U:H3	1.60	0.47
1:X:2358:C:H2'	1:X:2359:U:H6	1.78	0.47
1:X:2606:G:C6	1:X:2607:C:N4	2.82	0.47
1:X:2791:C:C2	1:X:2806:G:C2	3.02	0.47
1:X:2855:C:H1'	12:K:92:GLY:O	2.14	0.47
4:B:132:LYS:HA	4:B:134:TRP:NE1	2.29	0.47
5:C:2:ALA:HB3	5:C:15:ILE:HD12	1.95	0.47
6:D:63:GLN:NE2	6:D:89:VAL:HG13	2.29	0.47
1:X:89:A:H4'	1:X:90:G:O5'	2.13	0.47
1:X:144:U:H2'	1:X:145:C:H6	1.79	0.47
1:X:481:A:C6	1:X:482:A:C6	3.02	0.47
1:X:603:C:H2'	1:X:604:U:C6	2.49	0.47
1:X:737:C:H2'	1:X:738:G:O4'	2.14	0.47
1:X:1710:U:O2'	3:A:14:ARG:NH2	2.47	0.47
1:X:1865:C:H3'	1:X:1866:G:H8	1.77	0.47
1:X:2067:U:H2'	1:X:2068:C:H6	1.78	0.47
1:X:2352:A:H2'	1:X:2353:G:C8	2.49	0.47
1:X:2442:C:H2'	1:X:2443:C:C6	2.49	0.47
1:X:2493:U:H2'	1:X:2494:C:H6	1.78	0.47
1:X:2659:C:C5'	4:B:189:PRO:HA	2.37	0.47
2:Y:23:G:H2'	2:Y:24:U:C6	2.49	0.47
2:Y:36:A:H4'	2:Y:37:C:OP1	2.13	0.47
2:Y:77:G:O3'	20:S:32:PHE:HZ	1.97	0.47
6:D:22:TYR:OH	6:D:165:GLU:OE1	2.30	0.47
6:D:33:LYS:HB3	6:D:92:ARG:HG2	1.96	0.47
8:G:114:THR:O	8:G:116:ARG:NH2	2.47	0.47
15:N:106:PHE:O	15:N:110:VAL:HG23	2.13	0.47
1:X:543:G:C6	1:X:544:U:C4	3.03	0.47
1:X:1028:G:C6	1:X:1157:G:C6	3.03	0.47
1:X:1389:C:H2'	1:X:1390:G:O4'	2.14	0.47
1:X:2073:A:N6	1:X:2209:G:O6	2.47	0.47
3:A:228:PRO:HD3	3:A:235:GLY:H	1.78	0.47
4:B:55:ALA:H	4:B:58:LYS:NZ	2.11	0.47
10:I:83:LEU:HD11	10:I:99:VAL:HG11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:43:PHE:O	20:S:47:SER:N	2.46	0.47
28:3:14:ILE:CD1	28:3:22:VAL:HG13	2.45	0.47
1:X:603:C:H2'	1:X:604:U:H6	1.78	0.47
1:X:1562:G:H5'	1:X:1563:U:H5'	1.96	0.47
2:Y:27:A:H2'	2:Y:28:A:H5"	1.96	0.47
2:Y:117:G:H2'	2:Y:118:G:O4'	2.14	0.47
3:A:246:PRO:HD2	3:A:250:TRP:O	2.14	0.47
4:B:40:GLN:OE1	4:B:41:THR:HG22	2.14	0.47
4:B:146:THR:HG22	4:B:147:PRO:CD	2.45	0.47
4:B:199:ARG:NH2	4:B:199:ARG:HB2	2.28	0.47
8:G:92:GLY:H	8:G:94:LYS:HG3	1.80	0.47
15:N:43:ALA:HB2	16:O:72:ARG:NH1	2.29	0.47
1:X:1333:G:N2	1:X:1344:C:H41	2.13	0.47
1:X:1430:G:C4	1:X:1599:G:N2	2.82	0.47
1:X:1824:C:N4	1:X:1825:C:C4	2.83	0.47
1:X:2422:C:H2'	1:X:2423:G:H8	1.79	0.47
2:Y:14:C:H3'	2:Y:14:C:H6	1.79	0.47
5:C:158:ARG:HH21	5:C:171:PRO:HA	1.79	0.47
13:L:36:LYS:HA	13:L:99:ARG:HH21	1.79	0.47
19:R:94:VAL:HG23	19:R:95:ARG:N	2.30	0.47
1:X:347:C:H4'	19:R:15:HIS:CD2	2.49	0.47
1:X:540:G:O6	1:X:2006:G:OP1	2.32	0.47
1:X:626:A:O2'	5:C:176:ASN:HB2	2.12	0.47
1:X:1104:G:H2'	1:X:1105:U:C5	2.49	0.47
1:X:1284:G:N2	1:X:1631:C:C4	2.82	0.47
1:X:1462:C:H2'	1:X:1463:A:C8	2.49	0.47
1:X:1635:G:C4	1:X:1636:G:C8	3.03	0.47
1:X:1794:A:H2	1:X:1815:G:O4'	1.97	0.47
1:X:2264:C:C2	1:X:2363:G:N2	2.82	0.47
1:X:2394:G:H2'	1:X:2395:C:C6	2.49	0.47
1:X:2434:G:H2'	1:X:2435:C:H6	1.75	0.47
1:X:2555:G:N2	1:X:2555:G:OP2	2.47	0.47
1:X:2663:U:C4	1:X:2664:G:N7	2.82	0.47
10:I:51:GLY:C	10:I:53:ARG:HE	2.17	0.47
12:K:14:SER:O	12:K:18:VAL:HG23	2.14	0.47
14:M:103:LYS:HA	14:M:103:LYS:HD3	1.58	0.47
16:O:20:ILE:HD12	16:O:21:ARG:N	2.27	0.47
1:X:186:C:H2'	1:X:187:U:C6	2.50	0.47
1:X:467:U:H2'	1:X:468:A:H2'	1.97	0.47
1:X:493:A:N6	1:X:516:G:O2'	2.46	0.47
1:X:598:U:C2	1:X:599:A:C8	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:859:U:H1'	1:X:860:U:C2	2.49	0.47
1:X:1191:G:C5	1:X:1192:A:C8	3.03	0.47
1:X:1225:G:O2'	1:X:1250:A:N6	2.48	0.47
1:X:1332:G:C2	1:X:1347:C:C2	3.03	0.47
1:X:1443:G:H2'	1:X:1444:C:C6	2.50	0.47
1:X:1705:U:H1'	1:X:1718:A:C6	2.49	0.47
1:X:1932:G:H2'	1:X:1933:G:C8	2.50	0.47
1:X:2444:C:O2'	1:X:2445:C:H5'	2.15	0.47
1:X:2530:C:OP1	31:X:3167:SPD:H81	2.14	0.47
1:X:2541:U:H1'	9:H:23:ARG:NH2	2.30	0.47
1:X:2876:C:C4	1:X:2877:A:N6	2.83	0.47
6:D:142:THR:O	6:D:146:VAL:HG22	2.15	0.47
9:H:2:ILE:O	9:H:44:TYR:HA	2.14	0.47
9:H:83:ARG:HH22	9:H:134:LEU:CD1	2.28	0.47
11:J:25:GLY:O	11:J:103:VAL:HG12	2.15	0.47
11:J:27:TYR:HB2	11:J:138:TYR:CE2	2.50	0.47
12:K:79:VAL:HA	12:K:83:VAL:HG22	1.97	0.47
18:Q:49:ARG:HG3	18:Q:49:ARG:O	2.14	0.47
20:S:116:VAL:N	20:S:168:VAL:O	2.43	0.47
20:S:154:LEU:HD11	20:S:160:LEU:HB2	1.97	0.47
21:T:12:ASN:N	21:T:12:ASN:ND2	2.62	0.47
22:U:64:ALA:HA	22:U:67:LEU:HG	1.97	0.47
1:X:24:G:H2'	1:X:25:U:O4'	2.15	0.47
1:X:689:A:C8	1:X:2422:C:H1'	2.50	0.47
1:X:783:G:H2'	1:X:784:U:O4'	2.15	0.47
1:X:1629:G:C2	1:X:1633:C:C2	3.03	0.47
1:X:2043:A:H1'	1:X:2481:G:H1'	1.97	0.47
1:X:2326:C:H2'	1:X:2327:U:H6	1.78	0.47
1:X:2590:U:C5	29:X:2901:MIV:H212	2.50	0.47
3:A:228:PRO:HD3	3:A:235:GLY:N	2.30	0.47
3:A:252:LYS:HZ2	3:A:252:LYS:H	1.63	0.47
18:Q:10:PRO:HA	18:Q:27:PHE:HB3	1.97	0.47
28:3:37:SER:HB3	28:3:40:GLU:HB2	1.96	0.47
1:X:1164:C:OP1	15:N:76:TYR:OH	2.33	0.47
1:X:1210:C:C2	1:X:1211:G:C8	3.02	0.47
1:X:1782:A:H4'	3:A:206:LEU:HB2	1.97	0.47
1:X:1845:A:H2'	1:X:1846:A:H8	1.79	0.47
1:X:2229:G:C8	1:X:2475:C:H5"	2.49	0.47
1:X:2627:G:H2'	1:X:2628:C:H6	1.80	0.47
2:Y:112:A:C6	2:Y:113:G:C5	3.03	0.47
3:A:72:LYS:HG3	3:A:97:TYR:CZ	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:13:ARG:HB2	6:D:14:PRO:HD3	1.97	0.47
11:J:42:TRP:HB3	11:J:95:VAL:HB	1.96	0.47
20:S:76:ARG:HB3	20:S:76:ARG:NH1	2.30	0.47
28:3:52:LYS:CE	28:3:56:ALA:HB2	2.44	0.47
1:X:591:G:C4	1:X:592:G:C8	3.03	0.47
1:X:621:U:H2'	1:X:622:U:H6	1.78	0.47
1:X:692:C:C2	1:X:812:G:N2	2.83	0.47
1:X:812:G:H3'	1:X:813:A:H2'	1.96	0.47
1:X:1035:G:C6	1:X:1036:G:C6	3.03	0.47
1:X:1164:C:H5'	15:N:76:TYR:CE1	2.50	0.47
1:X:1675:C:OP1	4:B:134:TRP:CE2	2.67	0.47
1:X:1813:A:H2'	1:X:1814:G:C8	2.49	0.47
1:X:1873:A:H2'	1:X:1874:G:O4'	2.14	0.47
1:X:1959:U:O3'	1:X:1960:A:H8	1.98	0.47
1:X:1998:A:O5'	1:X:1998:A:H8	1.98	0.47
1:X:2352:A:H2'	1:X:2353:G:H8	1.80	0.47
1:X:2737:A:H2'	1:X:2738:A:H5''	1.97	0.47
1:X:326:A:H2'	1:X:327:C:O4'	2.15	0.46
1:X:526:C:O2'	1:X:527:C:H5'	2.15	0.46
1:X:806:A:OP2	1:X:2055:G:H5'	2.15	0.46
1:X:1074:G:C5	1:X:1075:C:C5	3.03	0.46
1:X:1443:G:H2'	1:X:1444:C:H6	1.80	0.46
1:X:2493:U:H2'	1:X:2494:C:C6	2.49	0.46
1:X:2594:U:N3	25:Z:7:PRO:HA	2.29	0.46
1:X:2796:A:C4	1:X:2797:G:N7	2.83	0.46
5:C:164:VAL:HB	5:C:167:VAL:HG22	1.97	0.46
6:D:53:ALA:HA	6:D:56:GLU:HG2	1.97	0.46
10:I:27:ASP:OD1	10:I:27:ASP:N	2.44	0.46
11:J:13:GLN:HG2	11:J:14:PHE:CE1	2.50	0.46
26:1:14:SER:HA	26:1:52:GLU:HA	1.96	0.46
26:1:20:PHE:HE2	26:1:42:PRO:HG2	1.80	0.46
1:X:231:G:H4'	1:X:397:U:C5'	2.45	0.46
1:X:762:A:N1	1:X:766:A:O2'	2.46	0.46
1:X:1263:G:OP2	10:I:21:ARG:NH2	2.48	0.46
1:X:1277:G:H8	1:X:1277:G:O5'	1.98	0.46
1:X:1655:C:OP1	1:X:2689:C:O2'	2.20	0.46
1:X:2708:U:H2'	1:X:2709:C:C6	2.50	0.46
1:X:2800:C:H3'	1:X:2801:A:C8	2.43	0.46
9:H:124:MET:H	9:H:125:LYS:HE3	1.80	0.46
12:K:33:ARG:HD3	12:K:112:LEU:HD22	1.97	0.46
12:K:76:VAL:O	12:K:80:MET:HB2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:U:49:LYS:HA	22:U:61:TRP:HD1	1.81	0.46
1:X:405:C:H2'	1:X:406:G:C8	2.50	0.46
1:X:427:C:H1'	1:X:1856:U:H1'	1.97	0.46
1:X:525:A:OP1	31:X:3170:SPD:N10	2.49	0.46
1:X:635:C:O2'	1:X:670:U:OP1	2.27	0.46
1:X:888:G:H2'	1:X:889:C:O4'	2.16	0.46
1:X:1211:G:C2	1:X:1212:U:C4	3.03	0.46
1:X:1339:U:O2'	1:X:1993:G:H1'	2.16	0.46
1:X:1695:U:H1'	1:X:1974:U:O2'	2.15	0.46
1:X:1999:U:H1'	25:Z:6:VAL:HG11	1.96	0.46
1:X:2268:G:N2	1:X:2323:U:O2	2.49	0.46
1:X:2272:A:P	13:L:15:ARG:HH22	2.37	0.46
1:X:2345:A:H2'	1:X:2346:G:O4'	2.15	0.46
1:X:2665:G:H2'	1:X:2666:U:O4'	2.15	0.46
1:X:2695:C:H2'	1:X:2696:A:O4'	2.16	0.46
7:E:153:LYS:HG2	7:E:154:PRO:HD2	1.97	0.46
8:G:110:LEU:O	8:G:111:LYS:C	2.52	0.46
9:H:108:THR:H	9:H:108:THR:HG1	1.50	0.46
21:T:63:SER:O	21:T:81:ILE:HD12	2.14	0.46
28:3:16:ILE:HG21	28:3:63:PRO:CB	2.46	0.46
1:X:105:G:N2	1:X:357:A:H61	2.13	0.46
1:X:386:U:O2	1:X:387:A:C8	2.69	0.46
1:X:1162:A:H2'	1:X:1163:C:C6	2.50	0.46
1:X:1437:A:H2'	1:X:1438:G:C8	2.50	0.46
3:A:99:ASP:OD1	3:A:99:ASP:N	2.45	0.46
6:D:9:ASN:O	6:D:13:ARG:HG3	2.15	0.46
8:G:104:THR:C	8:G:106:TYR:H	2.19	0.46
14:M:55:ILE:HG13	14:M:67:THR:O	2.15	0.46
18:Q:25:TYR:CE2	18:Q:88:ILE:HB	2.50	0.46
1:X:526:C:H41	31:X:3170:SPD:H81	1.79	0.46
1:X:677:G:O2'	1:X:951:G:H5"	2.16	0.46
1:X:736:G:H2'	1:X:737:C:O4'	2.15	0.46
1:X:753:U:C2	1:X:754:G:N7	2.84	0.46
1:X:1143:A:H1'	8:G:101:THR:HG21	1.98	0.46
1:X:1202:U:H2'	1:X:1203:A:H8	1.79	0.46
1:X:1439:G:O2'	1:X:1440:G:OP1	2.29	0.46
1:X:2187:A:H61	1:X:2197:U:H3	1.63	0.46
1:X:2372:A:H62	1:X:2401:A:N6	2.07	0.46
1:X:2696:A:C2	1:X:2697:G:C8	3.04	0.46
1:X:2792:C:C2	1:X:2805:G:N2	2.84	0.46
4:B:4:ILE:HG12	4:B:5:LEU:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Z:30:LEU:HD23	25:Z:30:LEU:HA	1.79	0.46
1:X:598:U:H2'	1:X:599:A:H8	1.81	0.46
1:X:939:C:OP2	1:X:940:G:H8	1.98	0.46
1:X:1098:G:N2	1:X:1114:A:H1'	2.30	0.46
1:X:1223:G:H4'	1:X:1224:A:C5'	2.45	0.46
1:X:1623:C:H4'	1:X:1624:A:H5'	1.97	0.46
1:X:1670:G:O5'	1:X:2797:G:N2	2.42	0.46
1:X:2073:A:C6	1:X:2209:G:C6	3.04	0.46
1:X:2078:G:H2'	1:X:2079:A:N9	2.30	0.46
1:X:2177:U:H2'	1:X:2178:U:C6	2.50	0.46
1:X:2245:A:H4'	1:X:2246:A:C2	2.51	0.46
1:X:2324:G:N3	1:X:2360:C:H2'	2.30	0.46
1:X:2569:A:H5"	3:A:239:ARG:HH11	1.81	0.46
2:Y:49:C:H5'	2:Y:50:U:OP2	2.15	0.46
14:M:82:PRO:HG2	14:M:85:SER:CB	2.45	0.46
15:N:11:ARG:HG2	15:N:15:LYS:NZ	2.31	0.46
16:O:65:ARG:HB3	16:O:87:ARG:NH1	2.31	0.46
18:Q:34:THR:HG23	18:Q:37:GLU:OE2	2.16	0.46
19:R:81:VAL:HG21	19:R:89:GLY:HA2	1.98	0.46
22:U:11:LYS:HE3	22:U:76:LYS:HD3	1.98	0.46
1:X:268:G:C4	1:X:269:G:C8	3.04	0.46
1:X:457:C:O2'	1:X:458:G:H5'	2.16	0.46
1:X:585:U:H6	1:X:585:U:O5'	1.98	0.46
1:X:1022:A:C5	1:X:1024:G:C8	3.03	0.46
1:X:1175:A:C4	1:X:1176:U:C5	3.03	0.46
1:X:1683:G:H1'	9:H:3:MET:SD	2.56	0.46
1:X:1809:G:OP1	3:A:88:ARG:NH1	2.49	0.46
1:X:2673:G:C6	1:X:2696:A:N1	2.83	0.46
7:E:18:ASN:O	7:E:24:PHE:HB2	2.15	0.46
9:H:68:ASP:OD1	9:H:68:ASP:N	2.48	0.46
9:H:121:ARG:HB2	9:H:123:PHE:HD1	1.81	0.46
22:U:27:ASP:HB2	22:U:33:LYS:O	2.16	0.46
26:1:36:GLU:CB	26:1:52:GLU:HB2	2.44	0.46
1:X:109:A:H5"	23:V:62:ARG:NH2	2.30	0.46
1:X:123:A:OP1	27:2:14:LYS:HE2	2.15	0.46
1:X:396:U:H5'	1:X:397:U:OP2	2.16	0.46
1:X:564:U:H2'	1:X:565:A:C8	2.51	0.46
1:X:858:G:H8	1:X:858:G:OP2	1.98	0.46
1:X:960:U:H2'	1:X:961:G:H8	1.80	0.46
1:X:1369:G:C6	1:X:1370:U:C4	3.03	0.46
1:X:1656:U:H4'	1:X:2678:C:O2'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1976:U:C2	1:X:1977:C:C6	3.03	0.46
1:X:1976:U:N3	1:X:1977:C:C6	2.84	0.46
1:X:2011:U:H2'	1:X:2012:A:H8	1.75	0.46
1:X:2541:U:C2	1:X:2542:U:C6	3.04	0.46
4:B:33:ILE:HG21	4:B:36:ARG:NH2	2.31	0.46
6:D:30:ARG:O	6:D:158:THR:HB	2.16	0.46
6:D:115:ARG:HG3	6:D:116:GLY:O	2.15	0.46
6:D:138:PHE:HB2	6:D:141:ILE:HD12	1.98	0.46
11:J:20:GLY:O	11:J:99:LYS:HG3	2.15	0.46
11:J:28:VAL:HG12	11:J:138:TYR:CZ	2.50	0.46
17:P:41:VAL:O	17:P:44:VAL:N	2.49	0.46
19:R:64:ASN:HD21	19:R:67:GLY:HA2	1.81	0.46
28:3:52:LYS:HE3	28:3:56:ALA:HB2	1.98	0.46
1:X:21:A:C6	1:X:530:G:C6	3.03	0.46
1:X:228:A:H2'	1:X:229:G:O4'	2.16	0.46
1:X:228:A:H2'	1:X:229:G:C4'	2.46	0.46
1:X:312:G:C6	1:X:328:A:C5	3.03	0.46
1:X:441:A:H2'	1:X:442:A:C8	2.51	0.46
1:X:602:C:O2'	28:3:3:LYS:HB2	2.16	0.46
1:X:826:U:H2'	1:X:827:C:H6	1.78	0.46
1:X:857:U:H3'	1:X:858:G:C8	2.51	0.46
1:X:1332:G:C5	1:X:1333:G:C6	3.03	0.46
1:X:1496:G:O2'	1:X:1497:C:OP1	2.30	0.46
1:X:2078:G:H22	1:X:2178:U:H3	1.61	0.46
1:X:2486:C:H5"	1:X:2552:C:N4	2.30	0.46
1:X:2526:U:C5	1:X:2545:A:C8	3.04	0.46
1:X:2652:G:H2'	1:X:2653:A:H8	1.80	0.46
2:Y:9:G:H2'	2:Y:10:U:C6	2.51	0.46
9:H:114:VAL:HG23	9:H:115:ALA:O	2.14	0.46
17:P:117:ILE:HD13	17:P:118:LYS:N	2.31	0.46
20:S:72:ASP:OD2	20:S:75:LYS:N	2.33	0.46
1:X:138:G:H2'	1:X:139:A:C8	2.50	0.46
1:X:165:G:H2'	1:X:166:G:O4'	2.17	0.46
1:X:1112:U:H2'	1:X:1113:C:O4'	2.16	0.46
1:X:1229:C:O5'	1:X:1229:C:H6	1.99	0.46
1:X:1446:U:H2'	1:X:1447:U:O4'	2.16	0.46
1:X:1672:A:C6	1:X:1673:C:C2	3.04	0.46
1:X:2486:C:H5"	1:X:2552:C:H41	1.81	0.46
1:X:2690:A:OP1	1:X:2692:A:P	2.73	0.46
1:X:2708:U:C2	1:X:2709:C:C5	3.04	0.46
1:X:2728:A:H2'	1:X:2729:A:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:28:A:O2'	2:Y:29:C:OP1	2.29	0.46
5:C:108:ILE:O	5:C:111:ARG:HB2	2.16	0.46
5:C:130:THR:O	5:C:134:ILE:HG13	2.16	0.46
6:D:38:GLU:HB3	6:D:87:ILE:HG13	1.98	0.46
6:D:68:THR:OG1	6:D:86:GLY:O	2.19	0.46
14:M:29:PRO:HB2	14:M:99:VAL:HG11	1.98	0.46
19:R:57:ASN:HB2	19:R:60:PRO:CD	2.46	0.46
1:X:383:G:H4'	1:X:384:A:OP2	2.16	0.45
1:X:572:G:H2'	15:N:37:GLN:HE21	1.81	0.45
1:X:669:G:H2'	1:X:670:U:H6	1.81	0.45
1:X:929:A:H5"	1:X:2247:A:N6	2.31	0.45
1:X:994:A:C6	1:X:995:A:N1	2.84	0.45
1:X:1393:G:O2'	1:X:1585:A:N6	2.49	0.45
1:X:2037:A:C2	1:X:2595:C:N3	2.84	0.45
1:X:2758:A:O2'	1:X:2760:G:O2'	2.29	0.45
1:X:2813:G:O2'	12:K:46:PRO:HG3	2.15	0.45
2:Y:17:A:H1'	2:Y:112:A:C8	2.51	0.45
4:B:111:LYS:O	4:B:114:GLN:NE2	2.49	0.45
14:M:82:PRO:HG2	14:M:85:SER:HB2	1.98	0.45
22:U:16:ASN:OD1	22:U:17:SER:N	2.47	0.45
1:X:393:U:OP1	22:U:20:ARG:HB2	2.17	0.45
1:X:677:G:C6	1:X:678:G:N7	2.84	0.45
1:X:688:A:O2'	5:C:61:GLN:HG2	2.16	0.45
1:X:764:A:C4	1:X:802:A:C2	3.05	0.45
1:X:792:U:H5"	3:A:49:ILE:HD11	1.98	0.45
1:X:831:G:C2	1:X:1204:G:O6	2.70	0.45
1:X:1264:C:H5"	15:N:13:ARG:NH2	2.31	0.45
1:X:1466:C:H2'	1:X:1467:U:C1'	2.43	0.45
6:D:121:ALA:O	6:D:123:ASP:N	2.48	0.45
10:I:55:ARG:H	10:I:55:ARG:NH1	2.13	0.45
15:N:83:LEU:O	15:N:89:ASP:HB2	2.16	0.45
22:U:27:ASP:HB3	22:U:30:VAL:HB	1.97	0.45
1:X:30:G:O2'	1:X:31:C:H5'	2.17	0.45
1:X:394:U:O2'	1:X:395:G:H5'	2.16	0.45
1:X:1428:G:C2	1:X:1601:U:H4'	2.51	0.45
1:X:1439:G:H2'	1:X:1440:G:C8	2.51	0.45
1:X:2006:G:H2'	1:X:2007:G:H8	1.81	0.45
1:X:2290:A:C8	1:X:2291:U:C6	3.05	0.45
1:X:2472:U:C4	1:X:2473:G:C8	3.04	0.45
1:X:2511:G:C5	1:X:2512:A:N7	2.84	0.45
1:X:2707:G:H2'	1:X:2708:U:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2711:G:P	4:B:169:ASN:HD22	2.38	0.45
4:B:32:PRO:O	4:B:49:ILE:HB	2.16	0.45
4:B:184:VAL:HG11	4:B:188:ILE:HD11	1.97	0.45
8:G:38:GLU:HG3	8:G:67:ARG:NH1	2.31	0.45
15:N:72:HIS:HD2	15:N:110:VAL:HG21	1.82	0.45
20:S:5:ALA:HA	20:S:31:SER:HB3	1.98	0.45
1:X:115:G:C6	1:X:117:A:N6	2.84	0.45
1:X:209:G:O2'	1:X:210:A:O5'	2.30	0.45
1:X:474:G:C2	1:X:478:G:C6	3.05	0.45
1:X:609:U:H2'	1:X:610:G:H8	1.82	0.45
1:X:777:A:H5'	3:A:210:GLY:HA3	1.97	0.45
1:X:1039:A:C2	1:X:2466:G:H1'	2.50	0.45
1:X:1084:A:H3'	1:X:1085:G:H8	1.81	0.45
1:X:1712:G:N2	1:X:1713:G:C8	2.85	0.45
1:X:1744:G:O6	1:X:1747:G:C6	2.70	0.45
1:X:2054:A:H2'	1:X:2055:G:C8	2.51	0.45
1:X:2871:U:H2'	1:X:2872:U:H6	1.81	0.45
6:D:34:ILE:HD13	6:D:34:ILE:HA	1.87	0.45
9:H:29:ILE:HD13	9:H:34:LEU:HD23	1.98	0.45
11:J:120:ARG:HE	11:J:120:ARG:HB3	1.44	0.45
17:P:89:ARG:HA	17:P:131:LYS:HG2	1.99	0.45
1:X:116:A:OP2	1:X:117:A:H5"	2.16	0.45
1:X:318:G:H21	1:X:341:A:H62	1.64	0.45
1:X:386:U:C2	1:X:387:A:C8	3.04	0.45
1:X:1805:G:H4'	3:A:44:ASN:HA	1.99	0.45
1:X:2438:A:C4	1:X:2439:U:C6	3.04	0.45
1:X:2661:G:O2'	14:M:63:ARG:HG2	2.17	0.45
1:X:2799:C:H2'	1:X:2800:C:C6	2.52	0.45
6:D:2:GLN:HG3	6:D:5:LYS:NZ	2.32	0.45
12:K:48:VAL:O	12:K:52:ILE:HG23	2.16	0.45
12:K:95:THR:HG23	12:K:113:ILE:HD11	1.98	0.45
18:Q:11:VAL:HG22	18:Q:28:TRP:NE1	2.31	0.45
1:X:60:A:C6	1:X:61:U:C4	3.05	0.45
1:X:68:C:H4'	1:X:74:G:N7	2.31	0.45
1:X:198:A:H61	1:X:441:A:N6	2.15	0.45
1:X:334:G:C6	1:X:344:G:C4	3.04	0.45
1:X:353:G:H2'	1:X:354:C:H6	1.82	0.45
1:X:769:C:C4	1:X:770:U:C5	3.05	0.45
1:X:1135:C:H2'	1:X:1136:G:O4'	2.16	0.45
1:X:1269:G:N3	1:X:1269:G:H2'	2.31	0.45
1:X:1272:G:C6	1:X:1273:G:C6	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1327:C:P	1:X:1345:G:H5"	2.57	0.45
1:X:1467:U:O4	1:X:1473:U:C2	2.70	0.45
1:X:2061:C:H2'	1:X:2062:U:C6	2.51	0.45
1:X:2460:G:O2'	1:X:2461:G:P	2.74	0.45
1:X:2513:A:H8	1:X:2513:A:O5'	2.00	0.45
1:X:2709:C:H2'	1:X:2710:C:C6	2.52	0.45
1:X:2866:A:H3'	1:X:2867:G:C8	2.51	0.45
2:Y:27:A:H2'	2:Y:27:A:N3	2.31	0.45
2:Y:28:A:HO2'	2:Y:29:C:P	2.40	0.45
4:B:79:ARG:HD3	4:B:79:ARG:HA	1.69	0.45
4:B:159:HIS:CE1	4:B:162:MET:HB2	2.51	0.45
9:H:1:MET:HG3	9:H:46:HIS:NE2	2.32	0.45
20:S:23:ALA:HA	20:S:83:PHE:HB2	1.99	0.45
24:W:3:ILE:HD12	24:W:51:LEU:HD13	1.98	0.45
24:W:34:VAL:HG22	24:W:40:VAL:HG11	1.97	0.45
28:3:21:LYS:HA	28:3:21:LYS:HD2	1.67	0.45
1:X:48:A:H4'	1:X:49:U:O5'	2.16	0.45
1:X:173:A:O2'	1:X:818:G:O6	2.22	0.45
1:X:469:G:H3'	27:2:39:ARG:HA	1.99	0.45
1:X:805:G:N7	1:X:2419:C:H1'	2.32	0.45
1:X:1034:U:H2'	1:X:1035:G:H5'	1.98	0.45
1:X:1302:C:H2'	1:X:1303:U:C6	2.51	0.45
1:X:1403:U:HO2'	1:X:1404:C:C5'	2.30	0.45
1:X:1645:U:O2	1:X:2677:U:H5"	2.16	0.45
1:X:1993:G:P	17:P:62:ARG:HH11	2.40	0.45
1:X:2338:C:H3'	1:X:2339:A:H8	1.81	0.45
1:X:2630:C:H2'	1:X:2631:C:C6	2.51	0.45
1:X:2657:G:H2'	1:X:2658:A:O4'	2.16	0.45
1:X:2796:A:N3	1:X:2797:G:C8	2.84	0.45
2:Y:12:C:H2'	2:Y:13:C:O4'	2.17	0.45
3:A:124:GLU:O	3:A:129:ASN:ND2	2.49	0.45
4:B:55:ALA:HB3	4:B:58:LYS:CD	2.42	0.45
4:B:159:HIS:HE1	4:B:162:MET:HB2	1.82	0.45
11:J:69:ILE:HG13	11:J:70:PHE:N	2.32	0.45
18:Q:17:TYR:HE2	18:Q:93:GLY:CA	2.30	0.45
24:W:47:VAL:HB	24:W:50:LEU:HD13	1.98	0.45
1:X:148:C:HO2'	1:X:149:A:P	2.39	0.45
1:X:194:G:H2'	1:X:195:A:O4'	2.17	0.45
1:X:417:C:H4'	1:X:418:C:O5'	2.17	0.45
1:X:539:A:OP2	8:G:142:ARG:NH2	2.46	0.45
1:X:592:G:C6	1:X:593:C:N4	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:652:C:N4	1:X:657:A:H61	2.13	0.45
1:X:1164:C:N4	1:X:1165:G:C6	2.85	0.45
1:X:1321:A:H3'	1:X:1322:G:H8	1.81	0.45
1:X:1347:C:H5"	18:Q:64:ARG:HH22	1.81	0.45
1:X:1403:U:H4'	1:X:1404:C:OP1	2.15	0.45
1:X:1650:A:C6	1:X:1652:G:C5	3.04	0.45
1:X:1824:C:H2'	1:X:1825:C:O4'	2.17	0.45
1:X:2679:G:H2'	1:X:2680:U:C6	2.52	0.45
1:X:2689:C:H2'	1:X:2690:A:O4'	2.16	0.45
2:Y:93:G:O5'	11:J:19:THR:OG1	2.29	0.45
4:B:141:ILE:HD11	4:B:156:MET:CE	2.47	0.45
5:C:190:ALA:HA	5:C:194:GLU:CG	2.44	0.45
8:G:70:PHE:HA	15:N:64:ARG:NH2	2.32	0.45
16:O:14:VAL:HG12	16:O:15:SER:H	1.82	0.45
17:P:103:LEU:HB3	17:P:105:ARG:NH1	2.32	0.45
1:X:353:G:H2'	1:X:354:C:C6	2.52	0.45
1:X:540:G:HO2'	1:X:542:A:H2	1.59	0.45
1:X:572:G:C2'	15:N:37:GLN:HE21	2.30	0.45
1:X:994:A:N7	1:X:995:A:C5	2.85	0.45
1:X:1175:A:N3	1:X:1176:U:C6	2.84	0.45
1:X:1735:G:H2'	1:X:1736:C:C6	2.51	0.45
6:D:132:ILE:HG21	6:D:137:ILE:HD13	1.98	0.45
7:E:127:GLU:HB3	7:E:130:ARG:HB2	1.99	0.45
9:H:80:ALA:HA	9:H:90:ARG:HG2	1.98	0.45
14:M:97:GLY:HA3	14:M:117:ILE:CD1	2.46	0.45
15:N:92:ARG:H	16:O:5:ILE:HD13	1.82	0.45
23:V:18:ILE:HG12	23:V:53:LEU:HD13	1.99	0.45
1:X:48:A:H2'	1:X:48:A:N3	2.32	0.45
1:X:337:G:H21	19:R:10:HIS:CD2	2.34	0.45
1:X:489:A:N6	1:X:491:A:C6	2.85	0.45
1:X:783:G:C2	1:X:784:U:H1'	2.52	0.45
1:X:839:U:H5"	1:X:2408:G:P	2.57	0.45
1:X:1086:C:O2'	1:X:1087:C:OP1	2.32	0.45
1:X:1139:A:C6	1:X:2497:A:C6	3.05	0.45
1:X:1671:A:O4'	1:X:2798:A:H5'	2.16	0.45
1:X:1834:G:H2'	1:X:1835:C:H6	1.82	0.45
1:X:1836:C:C2	1:X:1837:G:C8	3.05	0.45
1:X:2035:G:P	4:B:141:ILE:HG22	2.57	0.45
1:X:2417:U:O2'	1:X:2418:A:H5"	2.17	0.45
1:X:2553:G:C6	1:X:2554:C:N3	2.84	0.45
1:X:2680:U:O2'	12:K:73:LYS:HD3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2833:C:H6	1:X:2833:C:O5'	2.00	0.45
2:Y:95:U:H2'	2:Y:96:C:H6	1.82	0.45
4:B:161:GLY:O	4:B:163:GLU:N	2.49	0.45
17:P:61:PRO:HD2	17:P:62:ARG:HD3	1.98	0.45
1:X:408:U:H2'	1:X:409:G:C8	2.53	0.44
1:X:694:G:C2	1:X:695:G:C4	3.04	0.44
1:X:795:A:P	1:X:795:A:H8	2.40	0.44
1:X:1045:G:H2'	1:X:1046:U:H6	1.82	0.44
1:X:1078:A:H2'	1:X:1079:G:H8	1.82	0.44
1:X:1152:C:H4'	1:X:1153:A:OP2	2.18	0.44
1:X:2057:U:H2'	1:X:2058:U:C6	2.52	0.44
1:X:2448:A:N6	1:X:2460:G:H1'	2.32	0.44
1:X:2559:U:H5"	1:X:2560:G:N2	2.32	0.44
2:Y:15:A:C6	2:Y:72:C:H5'	2.52	0.44
2:Y:64:C:H2'	2:Y:65:A:H8	1.82	0.44
2:Y:75:A:H3'	2:Y:76:U:C6	2.52	0.44
4:B:195:LEU:HB2	14:M:3:THR:HG23	1.98	0.44
9:H:88:THR:HB	14:M:80:VAL:HB	1.99	0.44
11:J:53:ILE:O	11:J:57:ARG:HG2	2.18	0.44
18:Q:77:LYS:HG3	18:Q:78:ALA:N	2.31	0.44
1:X:88:G:C8	1:X:89:A:H2'	2.52	0.44
1:X:385:G:H2'	22:U:69:THR:OG1	2.17	0.44
1:X:538:A:H2	8:G:142:ARG:HH11	1.65	0.44
1:X:934:G:H2'	1:X:935:C:O4'	2.18	0.44
1:X:1310:C:H2'	1:X:1311:C:C6	2.53	0.44
1:X:1404:C:H5'	1:X:1405:A:OP2	2.16	0.44
1:X:2007:G:N2	1:X:2023:C:C2	2.85	0.44
1:X:2286:G:N1	1:X:2287:G:C5	2.85	0.44
1:X:2395:C:C2	1:X:2396:C:C5	3.06	0.44
1:X:2495:G:C5	1:X:2496:C:C4	3.04	0.44
1:X:2539:C:C2	1:X:2540:A:C8	3.05	0.44
1:X:2805:G:C2'	1:X:2806:G:H5'	2.47	0.44
1:X:2807:U:H4'	1:X:2808:U:C5'	2.47	0.44
2:Y:116:C:H2'	2:Y:117:G:C8	2.53	0.44
5:C:13:ARG:HD3	5:C:13:ARG:HA	1.68	0.44
7:E:22:GLY:HA2	7:E:43:VAL:HB	1.98	0.44
7:E:94:PHE:HA	7:E:107:ILE:HG22	2.00	0.44
7:E:97:LYS:HD2	7:E:97:LYS:HA	1.75	0.44
9:H:83:ARG:HD2	9:H:83:ARG:N	2.32	0.44
17:P:39:ARG:HA	17:P:42:VAL:HB	1.99	0.44
1:X:32:C:O2'	1:X:33:C:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:240:U:H2'	1:X:241:C:O4'	2.18	0.44
1:X:439:C:H2'	1:X:440:U:O4'	2.17	0.44
1:X:572:G:C6	1:X:573:C:C4	3.05	0.44
1:X:673:G:H5"	5:C:93:TYR:CE2	2.52	0.44
1:X:1281:A:H2'	1:X:1282:A:O4'	2.18	0.44
1:X:1459:U:N3	1:X:1475:U:O2	2.50	0.44
1:X:1645:U:H2'	1:X:1646:G:O4'	2.17	0.44
1:X:2034:A:H4'	4:B:141:ILE:HB	1.99	0.44
1:X:2324:G:H1'	1:X:2360:C:H2'	1.99	0.44
1:X:2367:A:C8	1:X:2368:G:C5	3.06	0.44
1:X:2522:G:H2'	1:X:2523:G:H8	1.82	0.44
4:B:47:VAL:O	4:B:80:GLU:HA	2.17	0.44
4:B:84:PHE:CD1	4:B:86:PRO:HD3	2.52	0.44
11:J:6:LYS:HG3	11:J:7:ARG:H	1.82	0.44
11:J:17:ARG:CB	11:J:42:TRP:HZ2	2.30	0.44
11:J:99:LYS:HE3	11:J:100:PRO:HD2	1.99	0.44
12:K:10:LEU:HD23	12:K:10:LEU:HA	1.63	0.44
16:O:42:GLY:C	16:O:44:GLN:H	2.21	0.44
16:O:50:ASP:O	16:O:53:LYS:HB2	2.17	0.44
26:1:21:TYR:CG	26:1:42:PRO:HB3	2.52	0.44
1:X:105:G:C6	1:X:106:G:N7	2.86	0.44
1:X:923:A:C6	11:J:12:LYS:HD2	2.53	0.44
1:X:971:A:H2'	1:X:973:U:H5'	2.00	0.44
1:X:1774:A:C2	1:X:2566:A:C4	3.05	0.44
1:X:1776:A:N7	1:X:1778:U:C4	2.85	0.44
1:X:2044:G:O4'	1:X:2482:A:C6	2.70	0.44
1:X:2302:G:H2'	1:X:2303:C:O4'	2.18	0.44
1:X:2395:C:OP1	10:I:57:ILE:HA	2.17	0.44
1:X:2434:G:C4	1:X:2435:C:C5	3.06	0.44
1:X:2474:G:H2'	1:X:2475:C:O4'	2.17	0.44
1:X:2563:U:H6	1:X:2563:U:O5'	2.00	0.44
3:A:160:GLY:H	3:A:196:VAL:HB	1.82	0.44
5:C:72:ARG:HD2	5:C:77:PHE:HE2	1.82	0.44
7:E:9:ILE:HD13	7:E:9:ILE:N	2.32	0.44
14:M:29:PRO:CG	14:M:99:VAL:HG11	2.48	0.44
22:U:63:SER:HB2	22:U:66:ALA:H	1.81	0.44
1:X:249:A:H8	1:X:278:G:H21	1.65	0.44
1:X:595:A:H4'	5:C:84:PHE:HE2	1.83	0.44
1:X:853:C:C2	1:X:950:G:N1	2.86	0.44
1:X:1050:G:H2'	1:X:1051:U:C6	2.52	0.44
1:X:1271:C:H2'	1:X:1272:G:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1411:C:H2'	1:X:1412:C:C6	2.52	0.44
1:X:1650:A:C6	1:X:1652:G:C4	3.06	0.44
1:X:1846:A:H62	1:X:1871:G:H8	1.65	0.44
1:X:1880:G:H2'	1:X:1881:U:C6	2.52	0.44
1:X:1947:G:HO2'	1:X:1950:C:P	2.40	0.44
1:X:2269:G:H2'	1:X:2270:U:C6	2.52	0.44
1:X:2447:G:H22	1:X:2460:G:H2'	1.82	0.44
1:X:2447:G:N2	1:X:2460:G:H2'	2.32	0.44
1:X:2514:G:H2'	1:X:2515:G:H8	1.83	0.44
1:X:2794:G:H2'	1:X:2796:A:N7	2.32	0.44
2:Y:25:G:C2	2:Y:26:G:O6	2.70	0.44
4:B:103:ASP:OD1	4:B:168:GLN:HA	2.17	0.44
6:D:40:LEU:HD11	6:D:53:ALA:CB	2.46	0.44
6:D:148:LYS:HD2	6:D:148:LYS:O	2.18	0.44
11:J:35:LEU:O	11:J:103:VAL:HG23	2.17	0.44
12:K:9:LYS:H	12:K:9:LYS:HG2	1.40	0.44
13:L:21:THR:O	13:L:24:SER:HB3	2.16	0.44
14:M:29:PRO:HA	14:M:54:VAL:O	2.17	0.44
15:N:61:TRP:O	15:N:65:ILE:HG13	2.17	0.44
19:R:25:LEU:HG	19:R:81:VAL:CG2	2.47	0.44
19:R:25:LEU:HB2	19:R:79:SER:O	2.18	0.44
19:R:98:ILE:HG23	19:R:100:ASP:H	1.81	0.44
20:S:37:LYS:HD3	20:S:38:ALA:H	1.82	0.44
21:T:73:GLY:O	21:T:76:ALA:HB3	2.18	0.44
27:2:1:MET:HE2	27:2:3:ARG:HH12	1.81	0.44
1:X:193:A:C8	1:X:445:A:C6	3.05	0.44
1:X:480:G:OP1	5:C:54:THR:HA	2.18	0.44
1:X:571:U:O2'	1:X:581:A:H8	2.01	0.44
1:X:640:C:H4'	1:X:660:G:N2	2.26	0.44
1:X:832:A:OP2	1:X:1201:G:N2	2.50	0.44
1:X:1376:C:C2'	1:X:1377:G:H5'	2.48	0.44
1:X:1476:G:H2'	1:X:1477:C:H6	1.82	0.44
1:X:1515:U:C2	1:X:1516:A:C8	3.05	0.44
1:X:1709:U:H2'	1:X:1711:C:C4	2.53	0.44
1:X:2364:C:OP2	1:X:2364:C:H4'	2.18	0.44
1:X:2385:U:H5''	1:X:2387:U:OP2	2.18	0.44
1:X:2563:U:O2'	1:X:2564:U:O2	2.26	0.44
1:X:2845:C:O2'	1:X:2846:G:H5'	2.17	0.44
1:X:2864:C:C2	1:X:2865:G:C8	3.06	0.44
29:X:2901:MIV:H22	29:X:2901:MIV:H9	1.66	0.44
4:B:15:TRP:CE2	4:B:20:ALA:HB2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:164:VAL:HG12	5:C:166:TRP:H	1.83	0.44
9:H:1:MET:HG2	9:H:44:TYR:CG	2.53	0.44
11:J:42:TRP:HZ3	11:J:75:VAL:HG21	1.83	0.44
13:L:32:TYR:O	13:L:34:SER:OG	2.28	0.44
14:M:13:LEU:HD13	14:M:13:LEU:HA	1.83	0.44
1:X:95:G:H2'	1:X:96:C:H6	1.83	0.44
1:X:693:A:C6	1:X:811:G:N1	2.86	0.44
1:X:848:A:C4	1:X:849:G:C8	3.06	0.44
1:X:891:A:H2'	1:X:911:A:C2	2.52	0.44
1:X:931:G:C6	1:X:932:G:C5	3.05	0.44
1:X:1033:G:H4'	1:X:1034:U:H5'	2.00	0.44
1:X:1344:C:H2'	1:X:1346:C:C5	2.52	0.44
1:X:1586:A:C6	1:X:1587:A:C6	3.06	0.44
1:X:1739:G:C6	1:X:1740:G:C5	3.06	0.44
1:X:1890:G:N2	1:X:1891:C:O3'	2.42	0.44
1:X:2595:C:H2'	1:X:2596:C:C6	2.51	0.44
1:X:2661:G:N3	4:B:22:PRO:HB3	2.32	0.44
1:X:2727:G:O6	1:X:2735:C:H5"	2.16	0.44
8:G:67:ARG:NH2	8:G:76:GLN:HB3	2.32	0.44
11:J:54:VAL:HG21	11:J:121:LEU:HB3	2.00	0.44
16:O:87:ARG:HH11	16:O:87:ARG:HB3	1.82	0.44
19:R:24:VAL:HB	19:R:29:HIS:O	2.18	0.44
1:X:494:A:H4'	19:R:58:VAL:N	2.33	0.44
1:X:1192:A:H2'	1:X:1193:G:C8	2.53	0.44
1:X:1437:A:H2'	1:X:1438:G:H8	1.82	0.44
1:X:1468:A:H5'	1:X:1472:C:N4	2.32	0.44
1:X:1573:G:O5'	1:X:1574:A:H5"	2.18	0.44
1:X:1975:G:O2'	1:X:1980:A:N6	2.51	0.44
1:X:2000:U:O2	25:Z:10:LYS:HB2	2.17	0.44
1:X:2010:G:C2	1:X:2020:G:C5	3.06	0.44
1:X:2262:C:C5	1:X:2368:G:C4	3.05	0.44
1:X:2407:G:H4'	1:X:2408:G:C4	2.53	0.44
1:X:2526:U:H2'	1:X:2527:G:H8	1.83	0.44
1:X:2641:A:H2'	1:X:2642:G:O4'	2.17	0.44
2:Y:19:C:H2'	2:Y:20:A:O4'	2.18	0.44
3:A:28:ARG:NE	3:A:29:PRO:HD3	2.32	0.44
5:C:39:ARG:HG3	5:C:40:ARG:N	2.33	0.44
5:C:116:LYS:HB2	5:C:116:LYS:HE2	1.86	0.44
9:H:24:VAL:HG11	9:H:42:LYS:HG2	2.00	0.44
14:M:97:GLY:HA3	14:M:117:ILE:HD11	1.99	0.44
15:N:95:LEU:HD22	15:N:95:LEU:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:22:VAL:HG22	19:R:82:ALA:O	2.17	0.44
1:X:319:G:N7	17:P:12:LYS:NZ	2.66	0.44
1:X:582:G:H5'	1:X:584:A:N7	2.33	0.44
1:X:761:G:O5'	17:P:110:ALA:HB2	2.18	0.44
1:X:836:G:C4	1:X:837:U:C5	3.05	0.44
1:X:1806:G:H5"	1:X:1807:A:H2'	1.99	0.44
1:X:2066:G:H2'	1:X:2067:U:O4'	2.18	0.44
1:X:2252:A:O2'	1:X:2253:A:H5'	2.18	0.44
1:X:2300:G:H3'	1:X:2300:G:N3	2.32	0.44
2:Y:77:G:O3'	20:S:32:PHE:CZ	2.71	0.44
6:D:26:MET:CE	6:D:30:ARG:HH22	2.31	0.44
9:H:26:ASN:HB3	9:H:38:GLY:HA3	2.00	0.44
11:J:135:ARG:HA	11:J:138:TYR:CE1	2.53	0.44
13:L:95:LYS:HG2	13:L:96:TYR:N	2.33	0.44
14:M:57:ILE:H	14:M:57:ILE:HG13	1.72	0.44
16:O:19:VAL:HG13	16:O:90:PHE:CD1	2.52	0.44
18:Q:15:LYS:HA	18:Q:15:LYS:HD2	1.82	0.44
1:X:321:A:C6	1:X:341:A:C6	3.05	0.43
1:X:498:C:O2'	17:P:73:ASN:HB3	2.17	0.43
1:X:654:A:H2'	1:X:654:A:N3	2.32	0.43
1:X:659:G:H1'	28:3:46:LYS:NZ	2.33	0.43
1:X:759:C:C6	1:X:759:C:C3'	3.01	0.43
1:X:1448:A:C6	1:X:1576:G:C2	3.06	0.43
1:X:1607:A:H2'	1:X:1608:U:H6	1.83	0.43
1:X:1695:U:H3'	1:X:1696:C:H6	1.83	0.43
1:X:1772:C:H3'	1:X:1772:C:OP2	2.18	0.43
1:X:2367:A:N7	1:X:2368:G:C6	2.86	0.43
1:X:2408:G:H5'	1:X:2409:A:OP1	2.18	0.43
1:X:2659:C:N3	1:X:2660:C:C5	2.86	0.43
3:A:222:ARG:NH2	3:A:224:SER:HB2	2.33	0.43
5:C:56:ARG:HD3	5:C:57:LYS:O	2.18	0.43
5:C:155:GLU:HA	5:C:158:ARG:HG2	2.00	0.43
7:E:30:LYS:HD2	7:E:30:LYS:HA	1.91	0.43
11:J:29:ALA:O	11:J:31:GLY:N	2.45	0.43
17:P:30:TYR:CD1	17:P:123:HIS:HE1	2.36	0.43
17:P:59:PHE:CD1	25:Z:30:LEU:HD21	2.52	0.43
19:R:10:HIS:HB2	19:R:44:GLN:NE2	2.33	0.43
26:1:54:LYS:HE2	26:1:54:LYS:HB2	1.50	0.43
1:X:571:U:HO2'	1:X:581:A:H8	1.64	0.43
1:X:700:C:H2'	1:X:701:U:O4'	2.18	0.43
1:X:717:G:N3	1:X:739:G:C2	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:764:A:O2'	29:X:2901:MIV:H341	2.18	0.43
1:X:1046:U:H2'	1:X:1047:G:C8	2.54	0.43
1:X:1055:A:HO2'	1:X:1122:A:H61	1.66	0.43
1:X:1154:A:OP2	1:X:1154:A:H8	2.01	0.43
1:X:1264:C:H5"	15:N:13:ARG:CZ	2.48	0.43
1:X:1584:G:N7	3:A:28:ARG:NH2	2.52	0.43
1:X:2291:U:H2'	1:X:2292:C:H6	1.82	0.43
1:X:2495:G:C6	1:X:2548:G:C2	3.06	0.43
1:X:2843:A:H3'	1:X:2844:G:H8	1.81	0.43
2:Y:117:G:O2'	13:L:53:ALA:HB2	2.18	0.43
5:C:61:GLN:NE2	5:C:61:GLN:O	2.50	0.43
5:C:149:LEU:HB2	5:C:183:HIS:ND1	2.32	0.43
14:M:44:ARG:CZ	14:M:44:ARG:HB2	2.38	0.43
17:P:53:ALA:O	17:P:57:LEU:HB2	2.18	0.43
20:S:154:LEU:HB3	20:S:158:CYS:HB2	2.00	0.43
1:X:64:C:H1'	18:Q:68:PHE:HD2	1.82	0.43
1:X:748:A:H3'	1:X:749:C:C6	2.53	0.43
1:X:794:A:H2	1:X:1767:G:N3	2.17	0.43
1:X:1193:G:C4	1:X:1194:U:C5	3.07	0.43
1:X:2022:C:P	8:G:137:LYS:HD3	2.58	0.43
1:X:2040:A:C6	1:X:2041:A:C6	3.07	0.43
1:X:2060:A:C5	1:X:2414:A:C5	3.06	0.43
1:X:2235:G:N2	1:X:2254:C:C4	2.87	0.43
1:X:2526:U:C6	1:X:2545:A:C5	3.06	0.43
1:X:2716:G:C6	1:X:2749:A:C2	3.07	0.43
5:C:3:GLN:HG3	5:C:12:GLY:HA2	1.99	0.43
6:D:10:ASP:HA	6:D:13:ARG:CZ	2.48	0.43
8:G:136:PRO:O	8:G:141:GLY:HA3	2.18	0.43
22:U:68:ARG:O	22:U:72:LYS:HG2	2.18	0.43
23:V:14:PHE:H	23:V:14:PHE:HD1	1.65	0.43
1:X:82:G:C2	1:X:100:G:N3	2.87	0.43
1:X:669:G:H2'	1:X:670:U:C6	2.54	0.43
1:X:746:G:O6	1:X:774[B]:A:H2'	2.18	0.43
1:X:913:A:C5	1:X:914:C:C5	3.06	0.43
1:X:957:G:H2'	1:X:958:G:C8	2.49	0.43
1:X:1172:U:O5'	1:X:1172:U:H6	2.02	0.43
1:X:1197:U:H2'	1:X:1198:C:C6	2.54	0.43
1:X:1405:A:H2'	1:X:1406:A:C8	2.53	0.43
1:X:1790:G:H4'	1:X:1791:C:O5'	2.17	0.43
1:X:1935:A:H1'	1:X:2539:C:O2'	2.17	0.43
1:X:2050:G:O2'	1:X:2052:G:H5"	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2245:A:H1'	1:X:2251:U:O4	2.19	0.43
4:B:11:MET:HG3	4:B:24:THR:OG1	2.18	0.43
5:C:59:TYR:HD1	5:C:60:GLY:N	2.16	0.43
8:G:34:PRO:CD	8:G:70:PHE:HB3	2.48	0.43
13:L:105:ASP:O	13:L:109:GLU:HB2	2.19	0.43
15:N:6:THR:O	15:N:9:VAL:HG23	2.19	0.43
17:P:45:ILE:HD11	17:P:57:LEU:CG	2.45	0.43
18:Q:20:MET:HG3	18:Q:25:TYR:CD1	2.53	0.43
28:3:5:LYS:HB3	28:3:59:LYS:O	2.18	0.43
1:X:501:G:H2'	1:X:502:A:O4'	2.19	0.43
1:X:1333:G:N2	1:X:1344:C:N4	2.67	0.43
1:X:1474:A:H2'	1:X:1474:A:N3	2.34	0.43
1:X:1672:A:C2	1:X:1673:C:H1'	2.53	0.43
1:X:1696:C:C4	1:X:1697:U:C5	3.06	0.43
1:X:1788:C:H2'	1:X:1789:U:C6	2.54	0.43
1:X:1838:G:C2'	1:X:1839:A:H5'	2.48	0.43
1:X:1919:A:C8	1:X:1928:G:O6	2.71	0.43
1:X:2225:G:C6	1:X:2405:A:C8	3.06	0.43
1:X:2323:U:O5'	1:X:2323:U:H6	2.02	0.43
1:X:2768:C:H2'	1:X:2769:C:O4'	2.18	0.43
3:A:156:ALA:HB2	3:A:163:VAL:HG23	2.00	0.43
6:D:109:PRO:HB3	6:D:137:ILE:O	2.18	0.43
9:H:2:ILE:HA	9:H:2:ILE:HD13	1.66	0.43
15:N:79:PHE:CE2	15:N:110:VAL:HG22	2.53	0.43
17:P:67:PRO:O	17:P:71:VAL:HG23	2.18	0.43
18:Q:50:VAL:HG13	18:Q:80:VAL:HG23	2.00	0.43
22:U:20:ARG:HG2	22:U:43:ARG:NH2	2.33	0.43
25:Z:57:VAL:HG22	25:Z:58:LEU:HD13	2.00	0.43
1:X:102:C:H2'	1:X:103:U:O4'	2.18	0.43
1:X:312:G:C6	1:X:328:A:C6	3.06	0.43
1:X:588:G:N2	1:X:1275:A:C4	2.86	0.43
1:X:592:G:N1	1:X:593:C:C4	2.86	0.43
1:X:874:A:H3'	1:X:875:G:H8	1.83	0.43
1:X:1599:G:H2'	1:X:1600:U:O4'	2.18	0.43
1:X:1672:A:O4'	4:B:113:THR:HG22	2.17	0.43
1:X:1823:G:C6	1:X:1958:G:C6	3.07	0.43
1:X:1832:G:C6	1:X:1833:U:C4	3.06	0.43
1:X:1835:C:H2'	1:X:1836:C:H6	1.82	0.43
1:X:2528:G:C2	1:X:2529:G:C5	3.07	0.43
2:Y:3:A:C4	2:Y:4:C:C5	3.07	0.43
7:E:17:VAL:HG13	7:E:24:PHE:HD2	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:13:ASN:HD21	9:H:109:ARG:N	2.16	0.43
9:H:55:VAL:HG12	9:H:66:ALA:HA	1.99	0.43
12:K:28:LEU:CD1	12:K:115:LEU:HD21	2.46	0.43
16:O:35:LEU:CD2	16:O:52:GLY:HA2	2.48	0.43
17:P:29:LYS:HG2	17:P:123:HIS:CD2	2.54	0.43
17:P:59:PHE:CG	25:Z:30:LEU:HD21	2.54	0.43
1:X:330:C:H2'	1:X:331:U:C6	2.54	0.43
1:X:590:C:H2'	1:X:591:G:H8	1.83	0.43
1:X:650:U:H2'	1:X:651:C:C5	2.54	0.43
1:X:922:A:H2'	1:X:923:A:C8	2.54	0.43
1:X:994:A:HO2'	1:X:995:A:P	2.41	0.43
1:X:1357:U:H4'	1:X:1397:A:C6	2.54	0.43
1:X:1464:A:H61	1:X:1477:C:H42	1.66	0.43
1:X:1833:U:H2'	1:X:1834:G:H8	1.84	0.43
1:X:1839:A:H5"	1:X:1840:A:OP1	2.19	0.43
1:X:2284:U:H1'	6:D:151:GLY:CA	2.46	0.43
1:X:2315:A:H2	1:X:2364:C:O2	2.02	0.43
1:X:2690:A:OP1	1:X:2692:A:OP1	2.36	0.43
2:Y:11:G:OP1	13:L:16:LYS:HD3	2.18	0.43
7:E:84:THR:HA	7:E:133:VAL:O	2.18	0.43
9:H:7:ARG:HA	9:H:20:MET:HA	1.99	0.43
9:H:21:CYS:SG	9:H:22:ILE:N	2.91	0.43
11:J:123:GLY:O	11:J:126:LEU:HB2	2.19	0.43
15:N:95:LEU:CD2	16:O:5:ILE:HG12	2.48	0.43
19:R:85:ASP:OD1	19:R:86:PRO:HD2	2.19	0.43
1:X:242:A:H61	1:X:440:U:HO2'	1.54	0.43
1:X:393:U:O2'	22:U:18:VAL:HB	2.19	0.43
1:X:465:C:O2'	1:X:467:U:O2'	2.24	0.43
1:X:486:U:H2'	1:X:487:G:O4'	2.18	0.43
1:X:1012:A:C8	1:X:1013:G:C8	3.07	0.43
1:X:1473:U:H6	1:X:1473:U:H2'	1.68	0.43
1:X:2550:C:N4	1:X:2553:G:C8	2.87	0.43
2:Y:80:A:H2'	2:Y:81:C:O4'	2.18	0.43
14:M:110:LEU:HA	14:M:110:LEU:HD23	1.68	0.43
1:X:3:U:H2'	1:X:4:C:H6	1.83	0.43
1:X:148:C:O2'	1:X:149:A:OP1	2.31	0.43
1:X:441:A:H3'	1:X:442:A:H8	1.84	0.43
1:X:541:C:N3	1:X:572:G:C8	2.87	0.43
1:X:592:G:OP2	15:N:10:ARG:HD2	2.18	0.43
1:X:869:C:H2'	1:X:870:C:C6	2.54	0.43
1:X:1149:G:H5"	8:G:51:LEU:HD23	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1501:C:H2'	1:X:1502:G:O4'	2.18	0.43
1:X:1742:G:O2'	1:X:1743:C:H5'	2.18	0.43
1:X:1831:G:C6	1:X:1910:A:C2	3.07	0.43
1:X:1981:A:H4'	1:X:2704:U:O2'	2.19	0.43
1:X:2057:U:C2	1:X:2415:G:C2	3.06	0.43
1:X:2068:C:O3'	3:A:260:ARG:NH2	2.52	0.43
1:X:2222:U:H2'	1:X:2223:U:H6	1.82	0.43
1:X:2728:A:C6	1:X:2729:A:C6	3.06	0.43
1:X:2795:A:H2'	4:B:191:ALA:HB2	2.01	0.43
31:X:3168:SPD:H52	31:X:3168:SPD:H21	1.57	0.43
2:Y:3:A:C6	2:Y:4:C:C4	3.07	0.43
7:E:25:LYS:HA	7:E:34:THR:HG22	2.01	0.43
8:G:30:LYS:HA	8:G:30:LYS:HD2	1.79	0.43
8:G:75:ILE:HG13	8:G:147:ARG:NH2	2.34	0.43
9:H:104:GLU:OE1	9:H:125:LYS:HG3	2.19	0.43
17:P:38:VAL:HG12	17:P:97:VAL:HG21	2.00	0.43
28:3:48:PHE:N	28:3:48:PHE:CD1	2.87	0.43
1:X:57:G:C2	1:X:69:G:C2	3.07	0.43
1:X:165:G:H1'	1:X:1378:A:C6	2.54	0.43
1:X:524:A:H2'	1:X:525:A:O4'	2.19	0.43
1:X:529:U:H2'	1:X:530:G:C8	2.52	0.43
1:X:717:G:N2	1:X:739:G:C4	2.87	0.43
1:X:719:A:C3'	1:X:720:A:H8	2.31	0.43
1:X:1057:A:H5'	1:X:1058:G:OP2	2.19	0.43
1:X:1673:C:H2'	1:X:1674:C:H6	1.83	0.43
1:X:1685:A:N6	1:X:1976:U:C5	2.87	0.43
1:X:1811:A:H2'	3:A:178:PRO:HB2	2.01	0.43
1:X:2311:U:H4'	1:X:2315:A:H62	1.82	0.43
1:X:2394:G:H4'	10:I:58:ALA:O	2.18	0.43
1:X:2426:G:O2'	1:X:2479:U:OP2	2.23	0.43
1:X:2791:C:C2	1:X:2806:G:N2	2.87	0.43
2:Y:96:C:H2'	2:Y:97:C:H6	1.84	0.43
3:A:29:PRO:O	3:A:30:GLU:HB2	2.18	0.43
3:A:221:GLN:HE21	3:A:221:GLN:HB3	1.48	0.43
6:D:67:ILE:H	6:D:67:ILE:HG13	1.57	0.43
9:H:2:ILE:HG13	9:H:8:LEU:HD21	2.00	0.43
18:Q:53:ILE:HD12	18:Q:79:ILE:O	2.18	0.43
27:2:34:ARG:HH11	27:2:42:LEU:HA	1.82	0.43
1:X:332:C:OP1	5:C:129:LYS:NZ	2.41	0.42
1:X:543:G:C4	1:X:544:U:C5	3.07	0.42
1:X:753:U:N3	1:X:754:G:N7	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:781:G:N2	1:X:1392:U:H1'	2.34	0.42
1:X:799:C:O2'	1:X:800:U:H5'	2.18	0.42
1:X:867:G:H2'	1:X:868:U:C6	2.53	0.42
1:X:875:G:O6	1:X:928:G:N2	2.52	0.42
1:X:884:C:H2'	1:X:885:A:H8	1.84	0.42
1:X:967:G:N2	1:X:970:A:H3'	2.33	0.42
1:X:1806:G:OP2	1:X:1807:A:O2'	2.16	0.42
1:X:1810:U:H3'	3:A:157:ARG:HG3	2.01	0.42
1:X:1832:G:C5	1:X:1833:U:C5	3.06	0.42
1:X:1980:A:H5"	4:B:117:MET:HE1	2.01	0.42
1:X:1991:C:C2	1:X:1992:G:C8	3.07	0.42
1:X:2047:C:H1'	1:X:2429:A:C2	2.54	0.42
1:X:2337:A:C6	1:X:2338:C:C2	3.07	0.42
1:X:2348:A:H2'	1:X:2349:G:C8	2.54	0.42
1:X:2629:U:C2	1:X:2630:C:C6	3.07	0.42
1:X:2661:G:C6	1:X:2662:C:C4	3.07	0.42
1:X:2799:C:H2'	1:X:2800:C:H6	1.84	0.42
31:X:3171:SPD:H41	31:X:3171:SPD:H72	1.66	0.42
4:B:19:ARG:HG2	9:H:84:ALA:HB1	2.01	0.42
5:C:6:VAL:HB	5:C:7:ILE:H	1.54	0.42
20:S:72:ASP:HB3	20:S:75:LYS:O	2.18	0.42
22:U:46:LEU:HB2	22:U:47:HIS:H	1.63	0.42
27:2:41:GLN:O	27:2:42:LEU:HB3	2.19	0.42
1:X:30:G:C2	1:X:521:U:O2	2.72	0.42
1:X:79:G:H2'	1:X:80:A:H8	1.84	0.42
1:X:575:U:H4'	1:X:822:G:OP2	2.19	0.42
1:X:711:C:O2'	1:X:747:A:N6	2.52	0.42
1:X:1082:G:H3'	1:X:1083:C:H6	1.83	0.42
1:X:1378:A:P	22:U:7:LEU:HD23	2.59	0.42
1:X:1489:C:H5"	1:X:1490:U:OP2	2.19	0.42
1:X:1596:A:H2'	1:X:1597:A:O4'	2.20	0.42
1:X:2053:G:C2	1:X:2421:C:C2	3.07	0.42
1:X:2238:G:C8	1:X:2406:C:C5	3.08	0.42
1:X:2634:G:HO2'	1:X:2643:G:H1	1.67	0.42
3:A:148:VAL:HG22	3:A:149:PRO:HD2	2.02	0.42
5:C:24:SER:HB3	10:I:7:LYS:H	1.84	0.42
7:E:95:ARG:HB2	7:E:106:ASN:HB3	2.01	0.42
11:J:50:ALA:O	11:J:54:VAL:HG12	2.19	0.42
13:L:98:GLY:HA2	13:L:101:LYS:HB3	2.01	0.42
17:P:17:GLN:HG2	17:P:17:GLN:H	1.60	0.42
1:X:16:G:N1	1:X:535:U:C2	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:40:U:C2	1:X:41:G:C8	3.06	0.42
1:X:338:G:C2	1:X:347:C:C2	3.08	0.42
1:X:518:A:N6	17:P:30:TYR:CG	2.87	0.42
1:X:540:G:N1	1:X:2005:U:OP1	2.52	0.42
1:X:545:C:C2	1:X:546:A:C8	3.07	0.42
1:X:648:A:OP1	10:I:103:ASN:HB2	2.19	0.42
1:X:654:A:H2'	1:X:655:A:C5'	2.50	0.42
1:X:792:U:OP1	3:A:49:ILE:HG13	2.19	0.42
1:X:1071:U:H4'	1:X:1072:U:H3'	2.02	0.42
1:X:1134:C:H2'	1:X:1135:C:H6	1.85	0.42
1:X:1321:A:H3'	1:X:1322:G:C8	2.55	0.42
1:X:1377:G:C8	22:U:6:TYR:N	2.87	0.42
1:X:1745:C:H2'	1:X:1746:A:O4'	2.19	0.42
1:X:1752:U:H2'	1:X:1753:A:H5'	2.01	0.42
1:X:1886:G:H2'	1:X:1887:G:C8	2.54	0.42
1:X:2035:G:OP1	4:B:141:ILE:N	2.51	0.42
1:X:2306:A:O2'	1:X:2307:A:O5'	2.34	0.42
1:X:2644:A:C2	1:X:2645:C:C6	3.08	0.42
1:X:2837:G:C5	1:X:2838:U:C5	3.07	0.42
1:X:2855:C:O2'	12:K:90:ARG:NH1	2.52	0.42
3:A:43:ARG:CZ	3:A:49:ILE:HG12	2.49	0.42
3:A:108:PRO:CB	3:A:127:LEU:HD11	2.48	0.42
5:C:18:PRO:HB2	5:C:19:LEU:H	1.64	0.42
8:G:124:GLU:H	8:G:124:GLU:HG3	1.46	0.42
9:H:132:GLU:HB2	14:M:73:PHE:CE2	2.55	0.42
18:Q:6:ILE:HD13	18:Q:6:ILE:HA	1.93	0.42
1:X:494:A:H8	19:R:56:LYS:HG3	1.84	0.42
1:X:774[B]:A:H8	1:X:774[B]:A:O5'	2.02	0.42
1:X:817:A:H5"	1:X:818:G:OP1	2.20	0.42
1:X:846:A:H2'	1:X:847:C:C6	2.54	0.42
1:X:986:A:H1'	1:X:1001:A:C2	2.53	0.42
1:X:1195:U:H2'	1:X:1196:G:H8	1.84	0.42
1:X:1628:C:C4	1:X:1629:G:C8	3.07	0.42
3:A:63:ARG:NH2	3:A:65:ILE:HD11	2.34	0.42
4:B:141:ILE:HG21	4:B:141:ILE:HD13	1.75	0.42
7:E:169:ILE:HD13	7:E:170:ALA:H	1.85	0.42
13:L:36:LYS:O	13:L:38:ILE:HG22	2.19	0.42
14:M:55:ILE:O	14:M:103:LYS:O	2.37	0.42
17:P:33:MET:HE1	17:P:64:ALA:HA	2.01	0.42
18:Q:32:LYS:H	18:Q:32:LYS:HG2	1.56	0.42
19:R:9:HIS:CD2	19:R:9:HIS:N	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:76:ARG:HB3	20:S:76:ARG:HH11	1.83	0.42
23:V:40:PRO:O	23:V:43:VAL:HB	2.20	0.42
28:3:38:GLY:HA2	28:3:41:ILE:HG22	2.00	0.42
1:X:28:A:C4	1:X:523:A:C5	3.07	0.42
1:X:314:G:H2'	1:X:315:G:C8	2.53	0.42
1:X:533:C:H2'	1:X:534:U:O4'	2.19	0.42
1:X:567:G:H5"	8:G:140:GLN:NE2	2.35	0.42
1:X:617:U:H3'	1:X:617:U:O2	2.20	0.42
1:X:834:A:H8	1:X:834:A:O5'	2.03	0.42
1:X:888:G:H4'	20:S:167:THR:HG21	2.02	0.42
1:X:1158:A:H2'	1:X:1159:U:C6	2.54	0.42
1:X:1610:A:H2'	1:X:1611:U:C6	2.55	0.42
1:X:1623:C:H4'	1:X:1624:A:C5'	2.49	0.42
1:X:1655:C:H4'	1:X:2689:C:O2	2.18	0.42
1:X:1980:A:H5"	4:B:117:MET:HE3	2.01	0.42
1:X:2030:U:O2'	1:X:2031:A:H5'	2.19	0.42
1:X:2707:G:C4	1:X:2708:U:C5	3.07	0.42
1:X:2837:G:C6	1:X:2838:U:C4	3.07	0.42
5:C:193:LEU:O	5:C:193:LEU:HD23	2.19	0.42
9:H:5:GLN:HA	9:H:20:MET:HE2	2.01	0.42
9:H:121:ARG:HB2	9:H:123:PHE:CD1	2.54	0.42
11:J:6:LYS:HA	11:J:71:PRO:HG2	2.02	0.42
17:P:79:ALA:O	17:P:85:MET:HB2	2.20	0.42
18:Q:64:ARG:HB2	18:Q:69:ILE:HA	2.01	0.42
19:R:64:ASN:CG	19:R:67:GLY:HA2	2.39	0.42
21:T:37:LEU:HD11	21:T:61:ALA:H	1.84	0.42
1:X:706:A:H2'	1:X:707:U:O4'	2.19	0.42
1:X:1032:A:C5	1:X:1034:U:C2	3.07	0.42
1:X:1163:C:O2'	15:N:76:TYR:HE1	2.01	0.42
1:X:1211:G:N3	1:X:1212:U:C5	2.88	0.42
1:X:1264:C:H5"	15:N:13:ARG:HH22	1.84	0.42
1:X:1439:G:HO2'	1:X:1440:G:P	2.43	0.42
1:X:1774:A:H5'	1:X:2587:G:H4'	2.02	0.42
1:X:2048:C:H2'	1:X:2049:C:C6	2.53	0.42
1:X:2055:G:H2'	1:X:2056:C:H6	1.85	0.42
1:X:2355:A:H2'	1:X:2356:A:O4'	2.19	0.42
1:X:2378:G:C6	1:X:2397:A:C6	3.08	0.42
1:X:2820:C:N3	1:X:2821:G:N7	2.67	0.42
2:Y:94:G:N2	2:Y:95:U:C2	2.88	0.42
6:D:63:GLN:OE1	6:D:95:ARG:NH2	2.53	0.42
6:D:158:THR:HG21	6:D:169:LEU:HD22	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:107:ILE:HG13	7:E:107:ILE:O	2.20	0.42
7:E:157:TYR:O	7:E:171:LEU:HD12	2.20	0.42
8:G:81:VAL:HG11	8:G:156:HIS:HD2	1.84	0.42
8:G:90:LEU:HB3	8:G:94:LYS:HB2	2.01	0.42
12:K:44:LEU:HA	12:K:44:LEU:HD12	1.69	0.42
12:K:99:ARG:HA	12:K:111:ALA:CB	2.49	0.42
13:L:8:ARG:HA	13:L:8:ARG:HD2	1.69	0.42
1:X:499:G:C2	1:X:503:G:O6	2.73	0.42
1:X:555:U:O2'	1:X:556:A:OP2	2.36	0.42
1:X:790:A:O2'	3:A:48:ARG:NH2	2.52	0.42
1:X:796:A:O3'	1:X:2567:G:H5"	2.19	0.42
1:X:1326:U:H5"	1:X:1327:C:OP2	2.19	0.42
1:X:1446:U:C4	1:X:1447:U:C4	3.08	0.42
1:X:1755:G:C6	1:X:1972:G:C2	3.08	0.42
1:X:1790:G:N2	1:X:1810:U:O2'	2.52	0.42
1:X:1996:A:C2	17:P:109:ARG:NH2	2.80	0.42
1:X:2035:G:OP1	4:B:141:ILE:HG22	2.20	0.42
1:X:2627:G:C5	1:X:2628:C:C5	3.08	0.42
29:X:2901:MIV:H72C	29:X:2901:MIV:H4	1.83	0.42
2:Y:70:C:C2	2:Y:71:G:C8	3.08	0.42
2:Y:85:G:C6	2:Y:86:A:C5	3.08	0.42
3:A:182:LEU:HD12	3:A:270:ILE:HG13	2.01	0.42
4:B:176:ARG:NE	14:M:16:ILE:HG22	2.31	0.42
7:E:12:PRO:HB2	7:E:13:SER:H	1.66	0.42
8:G:81:VAL:HG11	8:G:156:HIS:CD2	2.55	0.42
13:L:95:LYS:O	13:L:100:VAL:HG11	2.20	0.42
20:S:9:THR:N	20:S:10:PRO:HD3	2.35	0.42
1:X:161:U:H2'	1:X:162:C:C6	2.54	0.42
1:X:257:G:N2	1:X:263:G:O4'	2.53	0.42
1:X:507:A:C4	1:X:508:G:C8	3.08	0.42
1:X:598:U:H2'	1:X:599:A:C8	2.54	0.42
1:X:797:A:C6	3:A:229:VAL:HG21	2.55	0.42
1:X:969:U:H5	11:J:17:ARG:CB	2.33	0.42
1:X:1084:A:H3'	1:X:1085:G:C8	2.54	0.42
1:X:1134:C:H2'	1:X:1135:C:C6	2.55	0.42
1:X:1354:A:H1'	18:Q:54:SER:HB2	2.00	0.42
1:X:1573:G:C3'	1:X:1574:A:H5"	2.46	0.42
1:X:1659:G:C2'	1:X:1660:G:H5'	2.50	0.42
1:X:2043:A:C5	1:X:2481:G:C2	3.07	0.42
1:X:2293:G:H2'	1:X:2294:U:H6	1.81	0.42
1:X:2568:A:H2'	1:X:2569:A:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:100:LEU:HD12	6:D:100:LEU:HA	1.82	0.42
9:H:20:MET:O	9:H:20:MET:HG2	2.19	0.42
12:K:38:LEU:HD12	12:K:38:LEU:O	2.19	0.42
17:P:35:PRO:HB2	17:P:39:ARG:HH22	1.84	0.42
19:R:58:VAL:O	19:R:58:VAL:HG23	2.19	0.42
1:X:507:A:H2'	1:X:508:G:O4'	2.20	0.42
1:X:527:C:P	25:Z:13:LYS:HE2	2.60	0.42
1:X:773:G:H2'	1:X:774[B]:A:O4'	2.19	0.42
1:X:834:A:H1'	1:X:955:G:H5'	2.02	0.42
1:X:1030:U:C2	1:X:1155:G:N2	2.88	0.42
1:X:1039:A:H62	1:X:1136:G:H2'	1.85	0.42
1:X:1282:A:H2'	1:X:1283:C:C6	2.54	0.42
1:X:1506:C:C6	3:A:99:ASP:HB3	2.54	0.42
1:X:1673:C:O5'	1:X:1673:C:H6	2.03	0.42
1:X:1745:C:O2'	1:X:1746:A:H5'	2.19	0.42
1:X:1766:U:OP1	1:X:1962:C:O2'	2.38	0.42
1:X:1821:A:N6	1:X:1960:A:N6	2.68	0.42
1:X:2043:A:H3'	5:C:62:LYS:HZ1	1.85	0.42
1:X:2043:A:H3'	5:C:62:LYS:NZ	2.35	0.42
1:X:2086:U:H2'	1:X:2087:U:C5	2.55	0.42
1:X:2238:G:C8	1:X:2406:C:C4	3.08	0.42
1:X:2283:G:H1	1:X:2291:U:H3	1.66	0.42
1:X:2598:C:H2'	1:X:2599:U:H6	1.84	0.42
5:C:6:VAL:HG23	5:C:8:GLY:H	1.85	0.42
6:D:47:SER:HA	6:D:50:ILE:HD11	2.01	0.42
6:D:96:MET:HE2	6:D:97:TYR:HA	2.02	0.42
11:J:22:ALA:HB2	11:J:99:LYS:HB2	2.02	0.42
11:J:78:LYS:HB2	11:J:78:LYS:HE3	1.64	0.42
12:K:78:LYS:O	12:K:83:VAL:HG13	2.19	0.42
13:L:67:THR:O	13:L:71:VAL:HG23	2.20	0.42
14:M:31:ASP:OD1	14:M:117:ILE:HG21	2.19	0.42
20:S:112:LEU:H	20:S:112:LEU:HD12	1.84	0.42
25:Z:45:ILE:O	25:Z:45:ILE:HG13	2.19	0.42
1:X:389:G:H2'	1:X:390:U:C6	2.55	0.42
1:X:540:G:C6	1:X:2005:U:H5"	2.54	0.42
1:X:597:U:H2'	1:X:598:U:C6	2.55	0.42
1:X:890:U:O2'	1:X:891:A:OP1	2.31	0.42
1:X:1386:A:H5"	1:X:2191:A:H62	1.84	0.42
1:X:1807:A:O4'	1:X:1809:G:C8	2.73	0.42
1:X:2271:C:OP2	13:L:18:ARG:NH2	2.53	0.42
1:X:2323:U:O2'	1:X:2324:G:H3'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2323:U:HO2'	1:X:2324:G:H3'	1.84	0.42
1:X:2675:U:H2'	1:X:2676:G:C8	2.55	0.42
1:X:2746:G:H2'	1:X:2746:G:N3	2.35	0.42
9:H:105:PRO:HD3	9:H:125:LYS:HG2	2.02	0.42
10:I:118:VAL:HG13	10:I:122:VAL:HB	2.02	0.42
12:K:68:GLN:O	12:K:71:HIS:NE2	2.52	0.42
12:K:69:ASP:C	12:K:70:ILE:HG12	2.40	0.42
14:M:41:GLU:HG2	14:M:46:ARG:NH2	2.34	0.42
14:M:108:ARG:HH11	14:M:108:ARG:HD3	1.71	0.42
24:W:3:ILE:HG23	24:W:51:LEU:HD13	2.01	0.42
25:Z:58:LEU:H	25:Z:58:LEU:CD1	2.29	0.42
28:3:29:LYS:HG2	28:3:34:THR:HG23	2.01	0.42
28:3:58:MET:H	28:3:58:MET:HG2	1.46	0.42
1:X:15:G:C6	1:X:16:G:N7	2.88	0.41
1:X:83:A:C8	1:X:98:U:C4	3.08	0.41
1:X:425:A:N7	1:X:2391:A:H1'	2.35	0.41
1:X:478:G:OP1	27:2:33:ARG:NE	2.52	0.41
1:X:1069:G:C2	1:X:1092:U:C4	3.08	0.41
1:X:1385:C:C2	1:X:1386:A:C8	3.08	0.41
1:X:1399:C:H2'	1:X:1400:A:C8	2.53	0.41
1:X:2056:C:O2'	1:X:2057:U:H5'	2.20	0.41
1:X:2228:U:H4'	1:X:2254:C:H5	1.85	0.41
1:X:2338:C:H2'	1:X:2339:A:O4'	2.20	0.41
1:X:2596:C:C2	1:X:2597:G:C8	3.08	0.41
1:X:2724:G:C2	1:X:2725:C:C5	3.08	0.41
1:X:2805:G:O2'	1:X:2806:G:H5'	2.20	0.41
2:Y:47:A:C5	2:Y:48:A:N7	2.88	0.41
5:C:111:ARG:HD3	5:C:111:ARG:HA	1.83	0.41
7:E:147:ASN:HA	7:E:150:LYS:HE2	2.01	0.41
17:P:49:SER:HB3	17:P:52:ASP:OD2	2.20	0.41
20:S:95:SER:HA	20:S:121:GLN:HA	2.02	0.41
20:S:117:VAL:HG12	20:S:119:ASN:O	2.20	0.41
21:T:57:HIS:N	21:T:57:HIS:CD2	2.87	0.41
1:X:138:G:H2'	1:X:139:A:H8	1.85	0.41
1:X:763:A:C2	1:X:766:A:H1'	2.54	0.41
1:X:797:A:N7	1:X:805:G:C4	2.89	0.41
1:X:1076:U:C2	1:X:1085:G:N2	2.88	0.41
1:X:1284:G:C2	1:X:1633:C:H4'	2.55	0.41
1:X:1563:U:H2'	1:X:1564:U:H6	1.85	0.41
1:X:1684:G:C2	1:X:1974:U:C5	3.09	0.41
1:X:1701:C:H2'	1:X:1702:C:H6	1.81	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1817:U:O3'	3:A:233:HIS:CE1	2.71	0.41
1:X:2290:A:H8	1:X:2291:U:C6	2.36	0.41
1:X:2292:C:C2	1:X:2293:G:C8	3.08	0.41
1:X:2356:A:H8	1:X:2356:A:OP2	2.03	0.41
1:X:2544:A:N7	1:X:2545:A:C2	2.87	0.41
1:X:2597:G:O3'	4:B:149:ARG:NH2	2.41	0.41
1:X:2796:A:C2	1:X:2797:G:C5	3.07	0.41
5:C:131:LYS:HA	5:C:134:ILE:HD12	2.00	0.41
11:J:23:LYS:HA	20:S:73:LYS:NZ	2.34	0.41
12:K:2:ARG:C	12:K:4:GLY:H	2.23	0.41
18:Q:10:PRO:HD3	23:V:30:PHE:CD2	2.55	0.41
18:Q:22:ARG:NH1	18:Q:24:VAL:HG11	2.35	0.41
26:1:14:SER:O	26:1:22:TYR:HA	2.20	0.41
1:X:15:G:H4'	25:Z:21:SER:HB2	2.03	0.41
1:X:306:G:H2'	1:X:307:C:C6	2.55	0.41
1:X:334:G:OP1	1:X:349:G:N2	2.53	0.41
1:X:467:U:O2'	1:X:483:A:N6	2.53	0.41
1:X:515:A:H2'	1:X:516:G:H5'	2.02	0.41
1:X:575:U:OP1	10:I:28:LYS:NZ	2.49	0.41
1:X:738:G:C6	1:X:739:G:N1	2.88	0.41
1:X:1034:U:OP2	1:X:1036:G:O2'	2.32	0.41
1:X:1993:G:P	17:P:62:ARG:NH1	2.93	0.41
1:X:2000:U:H4'	25:Z:8:LYS:O	2.20	0.41
1:X:2371:A:H2'	1:X:2372:A:O4'	2.20	0.41
1:X:2395:C:C5'	10:I:57:ILE:HB	2.51	0.41
1:X:2423:G:P	5:C:62:LYS:HD2	2.60	0.41
1:X:2595:C:C2	1:X:2596:C:C5	3.08	0.41
1:X:2737:A:H61	7:E:67:LEU:HG	1.85	0.41
1:X:2792:C:C2	1:X:2805:G:C2	3.08	0.41
5:C:137:ALA:HB1	5:C:142:LEU:HB2	2.02	0.41
6:D:117:ILE:HD11	6:D:120:ASN:HD22	1.86	0.41
7:E:83:TYR:CD2	7:E:138:LYS:HB2	2.56	0.41
7:E:136:ILE:HG13	7:E:137:ASP:N	2.33	0.41
18:Q:8:GLN:O	23:V:29:ARG:HD2	2.20	0.41
18:Q:9:ALA:HB1	23:V:33:ALA:HB2	2.02	0.41
18:Q:11:VAL:HG22	18:Q:28:TRP:CE2	2.55	0.41
1:X:83:A:C2	1:X:101:A:C4	3.08	0.41
1:X:89:A:H4'	1:X:90:G:C5'	2.50	0.41
1:X:181:A:OP1	1:X:183:U:H1'	2.21	0.41
1:X:502:A:H2'	1:X:503:G:O4'	2.20	0.41
1:X:773:G:HO2'	1:X:774[B]:A:P	2.43	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:888:G:H5"	20:S:146:HIS:CE1	2.55	0.41
1:X:1056:U:OP1	1:X:1057:A:H5"	2.20	0.41
1:X:1163:C:H2'	1:X:1164:C:H6	1.85	0.41
1:X:1278:A:H61	1:X:1996:A:H5"	1.85	0.41
1:X:1496:G:HO2'	1:X:1497:C:P	2.42	0.41
1:X:1761:G:C6	1:X:1762:C:C4	3.08	0.41
1:X:1933:G:H2'	1:X:1934:U:C6	2.55	0.41
1:X:2043:A:N6	5:C:68:ARG:NH2	2.68	0.41
1:X:2210:C:C4	1:X:2211:U:C4	3.08	0.41
1:X:2794:G:C2	1:X:2803:C:C2	3.08	0.41
1:X:2844:G:C6	1:X:2845:C:C4	3.08	0.41
1:X:2851:G:O5'	14:M:8:ASN:HA	2.21	0.41
2:Y:3:A:OP1	2:Y:3:A:H3'	2.21	0.41
2:Y:70:C:H2'	2:Y:71:G:O4'	2.20	0.41
3:A:85:ASP:CB	3:A:92:ILE:HD12	2.51	0.41
3:A:176:ARG:HH21	3:A:182:LEU:HD21	1.86	0.41
3:A:258:LYS:HZ3	3:A:264:LYS:HG2	1.85	0.41
4:B:5:LEU:HD21	4:B:79:ARG:CG	2.48	0.41
4:B:15:TRP:NE1	14:M:86:PRO:HD2	2.36	0.41
4:B:101:LYS:HD2	4:B:169:ASN:O	2.21	0.41
6:D:112:ARG:HA	6:D:112:ARG:NH2	2.35	0.41
7:E:107:ILE:HD11	7:E:151:VAL:HG12	2.02	0.41
11:J:85:GLY:O	11:J:86:LYS:HB2	2.20	0.41
13:L:9:ARG:NH1	13:L:9:ARG:O	2.54	0.41
16:O:6:GLN:O	16:O:8:GLY:N	2.53	0.41
17:P:64:ALA:O	17:P:67:PRO:HD2	2.20	0.41
18:Q:7:LEU:HB3	23:V:30:PHE:HZ	1.85	0.41
19:R:64:ASN:OD1	19:R:67:GLY:HA2	2.21	0.41
20:S:49:THR:OG1	20:S:132:GLN:HA	2.21	0.41
22:U:62:LEU:HD12	22:U:62:LEU:HA	1.87	0.41
23:V:26:MET:O	23:V:30:PHE:HD1	2.04	0.41
1:X:23:G:H21	17:P:98:ASP:CG	2.24	0.41
1:X:249:A:N7	1:X:279:A:H1'	2.35	0.41
1:X:544:U:H3	1:X:568:G:H1	1.68	0.41
1:X:552:C:O2'	1:X:553:C:H5'	2.20	0.41
1:X:1245:G:C5	1:X:1246:G:N7	2.88	0.41
1:X:1446:U:H2'	1:X:1447:U:C6	2.55	0.41
1:X:1482:U:H2'	1:X:1483:G:H8	1.85	0.41
1:X:1574:A:H2'	1:X:1575:C:H5"	2.01	0.41
1:X:1940:C:H2'	1:X:1941:C:C6	2.55	0.41
1:X:1987:G:C6	1:X:1988:A:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2036:G:O3'	4:B:145:LYS:HD3	2.21	0.41
1:X:2331:A:H2'	1:X:2332:G:O4'	2.20	0.41
1:X:2528:G:H2'	1:X:2529:G:H8	1.85	0.41
1:X:2553:G:H8	1:X:2553:G:O5'	2.04	0.41
1:X:2639:A:N7	7:E:175:LYS:NZ	2.63	0.41
1:X:2770:A:H4'	1:X:2771:C:H5'	2.02	0.41
12:K:13:ASN:ND2	12:K:13:ASN:H	2.19	0.41
14:M:96:ARG:HH11	14:M:96:ARG:HD3	1.74	0.41
19:R:22:VAL:HG13	19:R:81:VAL:O	2.20	0.41
21:T:53:MET:HA	21:T:59:LEU:HA	2.02	0.41
24:W:1:MET:N	24:W:34:VAL:O	2.53	0.41
25:Z:41:LEU:HD12	25:Z:41:LEU:HA	1.92	0.41
1:X:95:G:H2'	1:X:96:C:C6	2.56	0.41
1:X:194:G:C4	1:X:195:A:C8	3.08	0.41
1:X:213:C:H2'	1:X:214:C:C6	2.52	0.41
1:X:386:U:HO2'	1:X:387:A:H8	1.61	0.41
1:X:438:G:H2'	1:X:439:C:C6	2.56	0.41
1:X:663:G:H2'	1:X:664:C:O4'	2.21	0.41
1:X:753:U:H5'	1:X:1964:A:C6	2.55	0.41
1:X:861:G:C6	1:X:943:U:C2	3.08	0.41
1:X:886:A:H2'	1:X:887:G:O4'	2.21	0.41
1:X:981:C:C4	1:X:982:C:C5	3.08	0.41
1:X:987:G:H5'	1:X:1167:A:C6	2.56	0.41
1:X:1174:G:C2	1:X:1175:A:N7	2.89	0.41
1:X:1260:A:C5	1:X:1262:U:C4	3.09	0.41
1:X:1681:A:C2	1:X:2706:U:C6	3.09	0.41
1:X:1790:G:C6	1:X:1811:A:C8	3.08	0.41
1:X:1998:A:C2	25:Z:6:VAL:HG13	2.55	0.41
1:X:2029:G:C2	1:X:2030:U:C2	3.09	0.41
1:X:2034:A:P	4:B:137:ARG:NH2	2.94	0.41
1:X:2043:A:H1'	1:X:2481:G:O4'	2.21	0.41
1:X:2198:U:OP2	1:X:2199:C:H5''	2.20	0.41
1:X:2277:A:C2	1:X:2300:G:H2'	2.55	0.41
1:X:2467:A:H2'	1:X:2468:G:H5'	1.99	0.41
1:X:2528:G:C2	1:X:2529:G:N7	2.88	0.41
1:X:2629:U:N3	1:X:2630:C:C5	2.88	0.41
1:X:2754:C:H2'	1:X:2755:A:C8	2.56	0.41
1:X:2807:U:H4'	1:X:2808:U:H5'	2.03	0.41
2:Y:25:G:H5''	2:Y:26:G:OP1	2.20	0.41
2:Y:52:G:C2	2:Y:53:G:H8	2.38	0.41
2:Y:78:A:H2'	2:Y:79:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:84:TYR:CG	3:A:85:ASP:N	2.89	0.41
4:B:61:LYS:N	4:B:62:PRO:HD2	2.34	0.41
5:C:155:GLU:HB3	5:C:159:ARG:NH1	2.35	0.41
6:D:103:LEU:HD23	6:D:103:LEU:HA	1.70	0.41
8:G:68:PRO:HB3	15:N:64:ARG:HG3	2.03	0.41
9:H:78:SER:HA	9:H:91:PHE:O	2.21	0.41
12:K:10:LEU:HB2	12:K:12:ARG:HD3	2.02	0.41
12:K:82:GLU:O	12:K:86:LYS:HG3	2.21	0.41
16:O:89:ASN:OD1	16:O:89:ASN:N	2.52	0.41
17:P:60:ILE:HG22	17:P:62:ARG:HG2	2.01	0.41
18:Q:11:VAL:HG12	18:Q:12:ILE:O	2.20	0.41
25:Z:33:CYS:SG	25:Z:36:CYS:N	2.93	0.41
1:X:5:A:C6	1:X:2873:G:C6	3.09	0.41
1:X:538:A:H3'	1:X:538:A:N3	2.36	0.41
1:X:542:A:N6	1:X:2018:G:N2	2.68	0.41
1:X:580:A:C5	1:X:2013:A:C6	3.09	0.41
1:X:587:A:C2	1:X:2001:G:H1'	2.55	0.41
1:X:748:A:H5"	1:X:749:C:H5	1.86	0.41
1:X:810:U:C4	1:X:811:G:N7	2.88	0.41
1:X:839:U:H5"	1:X:2407:G:O3'	2.20	0.41
1:X:1022:A:C6	1:X:1024:G:N7	2.88	0.41
1:X:1121:G:O2'	1:X:1122:A:O4'	2.29	0.41
1:X:1332:G:C6	1:X:1333:G:N1	2.89	0.41
1:X:1418:C:H2'	1:X:1419:G:H8	1.80	0.41
1:X:1562:G:OP2	1:X:1562:G:C8	2.69	0.41
1:X:1769:U:H2'	1:X:1775:A:C6	2.56	0.41
1:X:2434:G:C2	1:X:2435:C:C4	3.08	0.41
1:X:2821:G:H2'	1:X:2822:U:H6	1.85	0.41
7:E:11:VAL:HB	7:E:50:LEU:HD11	2.01	0.41
9:H:124:MET:O	9:H:127:VAL:HG12	2.20	0.41
13:L:11:LEU:HD12	13:L:93:SER:HB2	2.03	0.41
19:R:105:ARG:CZ	19:R:105:ARG:HA	2.51	0.41
20:S:125:PRO:HD3	20:S:158:CYS:HA	2.03	0.41
20:S:143:ILE:HA	20:S:171:VAL:HG11	2.02	0.41
21:T:19:LYS:HA	21:T:19:LYS:HD3	1.80	0.41
21:T:37:LEU:HD11	21:T:61:ALA:N	2.35	0.41
26:1:15:SER:HA	26:1:21:TYR:O	2.21	0.41
1:X:69:G:H3'	1:X:111:G:O2'	2.20	0.41
1:X:154:U:H3'	1:X:155:G:H8	1.84	0.41
1:X:194:G:H2'	1:X:195:A:H8	1.86	0.41
1:X:456:C:H2'	1:X:457:C:H6	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:555:U:H5	1:X:1232:U:H2'	1.86	0.41
1:X:797:A:O2'	1:X:798:G:H8	2.04	0.41
1:X:810:U:H2'	1:X:811:G:O4'	2.21	0.41
1:X:935:C:H4'	21:T:29:GLU:HG2	2.02	0.41
1:X:1332:G:C2	1:X:1333:G:N2	2.89	0.41
1:X:1359:G:C6	1:X:1617:G:C6	3.09	0.41
1:X:1421:U:H2'	1:X:1422:C:C6	2.55	0.41
1:X:1454:U:H2'	1:X:1455:C:H6	1.82	0.41
1:X:1631:C:H5	1:X:1633:C:C2	2.36	0.41
1:X:1716:G:N1	1:X:1754:G:C4	2.89	0.41
1:X:2210:C:H2'	1:X:2211:U:C6	2.55	0.41
1:X:2290:A:C8	1:X:2291:U:C5	3.08	0.41
1:X:2375:G:C2	1:X:2376:G:C8	3.09	0.41
1:X:2729:A:OP1	7:E:6:LYS:NZ	2.50	0.41
31:X:3169:SPD:HN6	31:X:3169:SPD:H32	1.38	0.41
3:A:60:ARG:HD3	3:A:86:PRO:HB2	2.02	0.41
3:A:132:PRO:HG2	3:A:135:PHE:HD1	1.85	0.41
5:C:146:GLU:OE1	5:C:185:ARG:HD2	2.21	0.41
6:D:57:LEU:HD22	6:D:89:VAL:HG21	2.02	0.41
1:X:14:A:HO2'	25:Z:21:SER:HG	1.67	0.41
1:X:27:G:N2	1:X:522:G:H1'	2.35	0.41
1:X:203:G:H21	1:X:205:A:H62	1.69	0.41
1:X:356:A:O2'	1:X:357:A:C8	2.71	0.41
1:X:474:G:C2	1:X:478:G:C5	3.09	0.41
1:X:487:G:H22	1:X:490:A:C5'	2.34	0.41
1:X:705:C:C2	1:X:706:A:N7	2.89	0.41
1:X:716:U:C4	1:X:717:G:C6	3.09	0.41
1:X:825:C:H1'	1:X:1263:G:C2	2.56	0.41
1:X:862:A:H2'	1:X:863:C:H6	1.82	0.41
1:X:915:C:H2'	1:X:916:U:H6	1.86	0.41
1:X:929:A:H2	2:Y:81:C:O2	2.04	0.41
1:X:992:A:N1	1:X:2011:U:H5'	2.36	0.41
1:X:1131:G:C6	1:X:1132:C:C4	3.09	0.41
1:X:1171:A:H1'	16:O:7:THR:CG2	2.51	0.41
1:X:1271:C:OP1	5:C:72:ARG:NH1	2.41	0.41
1:X:1409:U:H5'	1:X:1409:U:H6	1.86	0.41
1:X:1673:C:C2	1:X:1674:C:C5	3.09	0.41
1:X:1726:C:H1'	1:X:2835:A:H1'	2.03	0.41
1:X:1800:A:C6	1:X:1802:A:C6	3.09	0.41
1:X:1986:G:C6	1:X:1987:G:C8	3.08	0.41
1:X:2248:A:N3	1:X:2248:A:H2'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2401:A:C5	1:X:2403:C:C4	3.08	0.41
1:X:2525:U:H4'	1:X:2545:A:H2	1.86	0.41
1:X:2543:A:C5	1:X:2544:A:N1	2.88	0.41
1:X:2717:G:H2'	1:X:2718:A:C8	2.55	0.41
1:X:2784:A:N6	1:X:2866:A:C8	2.89	0.41
2:Y:47:A:C4	2:Y:48:A:C8	3.09	0.41
3:A:52:ARG:H	3:A:52:ARG:HG2	1.45	0.41
3:A:133:LEU:HD21	3:A:145:LEU:HD11	2.03	0.41
4:B:3:GLY:O	4:B:84:PHE:HE2	2.03	0.41
4:B:6:GLY:HA3	4:B:27:LEU:O	2.21	0.41
5:C:56:ARG:HB2	5:C:57:LYS:H	1.54	0.41
6:D:34:ILE:HD11	6:D:156:ILE:HG23	2.03	0.41
6:D:61:THR:HA	6:D:99:PHE:CE1	2.56	0.41
7:E:102:ALA:HB2	7:E:116:GLU:OE2	2.21	0.41
9:H:104:GLU:HA	9:H:125:LYS:HG3	2.03	0.41
10:I:63:ARG:HE	10:I:63:ARG:HB2	1.60	0.41
11:J:6:LYS:HD3	11:J:49:GLU:HG2	2.02	0.41
11:J:40:PRO:HA	11:J:98:VAL:O	2.21	0.41
13:L:37:HIS:ND1	13:L:37:HIS:O	2.53	0.41
14:M:81:PHE:HB3	14:M:88:VAL:HG21	2.02	0.41
18:Q:86:GLN:HB2	18:Q:87:SER:H	1.56	0.41
20:S:142:ASN:HB3	20:S:145:ASP:OD2	2.21	0.41
20:S:172:LEU:HD12	20:S:173:PRO:HD2	2.03	0.41
28:3:21:LYS:NZ	28:3:53:ALA:HB2	2.35	0.41
28:3:32:GLN:HA	28:3:32:GLN:HE21	1.86	0.41
1:X:94:C:O2'	23:V:40:PRO:HD2	2.21	0.41
1:X:144:U:O2'	1:X:145:C:H5'	2.21	0.41
1:X:219:G:O2'	1:X:220:U:P	2.78	0.41
1:X:754:G:C2	1:X:755:C:C4	3.09	0.41
1:X:795:A:O2'	3:A:225:ALA:HB1	2.20	0.41
1:X:2042:A:O3'	5:C:63:GLY:HA2	2.20	0.41
1:X:2232:G:C2	1:X:2233:C:C2	3.08	0.41
1:X:2268:G:N3	1:X:2268:G:H2'	2.36	0.41
1:X:2408:G:H3'	1:X:2408:G:H8	1.86	0.41
1:X:2869:U:H2'	1:X:2870:C:O4'	2.21	0.41
31:X:3170:SPD:H42	31:X:3170:SPD:H71	1.90	0.41
3:A:63:ARG:HH12	3:A:88:ARG:NH1	2.19	0.41
3:A:108:PRO:HD2	3:A:111:LEU:HD12	2.03	0.41
4:B:116:VAL:HB	4:B:122:PHE:CG	2.56	0.41
9:H:10:VAL:HG23	9:H:17:ARG:C	2.42	0.41
10:I:58:ALA:O	10:I:59:ARG:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:27:ALA:O	12:K:31:GLU:HG3	2.21	0.41
14:M:41:GLU:HB3	14:M:44:ARG:NH2	2.37	0.41
16:O:54:TYR:N	16:O:54:TYR:CD1	2.89	0.41
1:X:438:G:H2'	1:X:439:C:H6	1.86	0.40
1:X:573:C:O4'	15:N:37:GLN:NE2	2.54	0.40
1:X:630:G:H3'	1:X:631:G:H21	1.85	0.40
1:X:630:G:H3'	1:X:631:G:N2	2.36	0.40
1:X:694:G:H2'	1:X:695:G:O4'	2.22	0.40
1:X:759:C:O2'	29:X:2901:MIV:H271	2.21	0.40
1:X:849:G:C5	1:X:850:C:C4	3.09	0.40
1:X:921:A:H4'	11:J:15:ARG:HH22	1.86	0.40
1:X:1160:C:H2'	1:X:1161:U:O4'	2.21	0.40
1:X:1255:A:C6	1:X:1256:C:N4	2.89	0.40
1:X:1302:C:O2'	1:X:1303:U:H5'	2.21	0.40
1:X:1366:A:C5	1:X:1391:A:N6	2.90	0.40
1:X:1643:A:H1'	1:X:1657:A:C2	2.55	0.40
1:X:1659:G:H2'	1:X:1660:G:O4'	2.21	0.40
1:X:1665:C:C4	1:X:1666:G:N7	2.89	0.40
1:X:1685:A:O2'	1:X:1691:G:N7	2.45	0.40
1:X:1888:C:H4'	1:X:1912:G:C8	2.56	0.40
1:X:2457:A:N7	1:X:2508:G:N1	2.69	0.40
1:X:2710:C:H4'	4:B:168:GLN:O	2.20	0.40
4:B:135:HIS:CB	4:B:136:ARG:HG2	2.44	0.40
4:B:181:LEU:HD13	4:B:181:LEU:HA	1.81	0.40
5:C:116:LYS:NZ	5:C:188:ILE:HD13	2.36	0.40
6:D:17:MET:HE3	6:D:17:MET:HB3	1.82	0.40
8:G:113:GLU:HG3	8:G:113:GLU:H	1.70	0.40
9:H:114:VAL:HG22	9:H:133:VAL:HG12	2.03	0.40
9:H:125:LYS:CD	9:H:125:LYS:N	2.84	0.40
9:H:132:GLU:HB2	14:M:73:PHE:HE2	1.86	0.40
11:J:6:LYS:HB2	11:J:45:SER:CB	2.50	0.40
11:J:62:GLY:O	20:S:112:LEU:HD11	2.21	0.40
20:S:115:ILE:HG12	20:S:169:VAL:HG12	2.02	0.40
24:W:25:LEU:HB3	24:W:30:ASP:CB	2.52	0.40
28:3:48:PHE:N	28:3:48:PHE:HD1	2.18	0.40
1:X:69:G:H5"	1:X:111:G:H1'	2.02	0.40
1:X:177:U:O4	1:X:225:G:C2	2.74	0.40
1:X:193:A:C8	1:X:445:A:N6	2.89	0.40
1:X:405:C:C2	1:X:406:G:C8	3.09	0.40
1:X:461:A:C4	1:X:462:G:C8	3.09	0.40
1:X:485:G:C6	1:X:520:C:N4	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:614:G:C6	1:X:636:G:C6	3.09	0.40
1:X:940:G:HO2'	1:X:941:U:P	2.41	0.40
1:X:1162:A:H2'	1:X:1163:C:H6	1.86	0.40
1:X:2021:G:H2'	1:X:2022:C:C6	2.55	0.40
3:A:89:SER:O	3:A:159:ALA:HB2	2.21	0.40
5:C:15:ILE:O	5:C:17:LEU:HD22	2.21	0.40
5:C:28:HIS:ND1	10:I:8:PRO:HB3	2.36	0.40
5:C:148:VAL:HB	5:C:167:VAL:HG12	2.02	0.40
7:E:53:GLU:HG2	7:E:54:ARG:N	2.36	0.40
7:E:67:LEU:O	7:E:71:LEU:HG	2.21	0.40
8:G:99:VAL:HA	8:G:115:ALA:CA	2.50	0.40
11:J:66:TYR:HB2	11:J:106:GLU:OE1	2.22	0.40
14:M:99:VAL:CG2	14:M:104:LEU:HD21	2.51	0.40
17:P:79:ALA:HB1	17:P:90:LEU:HD21	2.02	0.40
17:P:103:LEU:HB3	17:P:105:ARG:HH12	1.86	0.40
18:Q:10:PRO:HD3	23:V:30:PHE:HA	2.03	0.40
19:R:57:ASN:HB2	19:R:60:PRO:CG	2.52	0.40
1:X:2:G:H2'	1:X:3:U:H6	1.85	0.40
1:X:12:U:H6	1:X:12:U:H2'	1.64	0.40
1:X:324:C:H2'	1:X:325:U:O4'	2.20	0.40
1:X:1058:G:OP2	1:X:1058:G:H8	2.03	0.40
1:X:1213:U:H2'	1:X:1214:C:C6	2.57	0.40
1:X:1273:G:C6	1:X:1274:C:C4	3.10	0.40
1:X:1661:C:O2	1:X:1661:C:H2'	2.22	0.40
1:X:2034:A:OP2	4:B:137:ARG:NH2	2.43	0.40
1:X:2250:G:H5'	21:T:20:TYR:CD2	2.56	0.40
1:X:2340:C:P	28:3:27:SER:HG	2.44	0.40
1:X:2357:A:H4'	13:L:26:ARG:NH2	2.36	0.40
3:A:252:LYS:NZ	3:A:252:LYS:H	2.20	0.40
7:E:121:VAL:HG11	7:E:144:VAL:HG11	2.03	0.40
9:H:3:MET:HG3	9:H:4:PRO:O	2.22	0.40
14:M:98:LYS:HD3	14:M:99:VAL:H	1.86	0.40
19:R:49:GLU:H	19:R:49:GLU:HG3	1.63	0.40
19:R:105:ARG:HA	19:R:105:ARG:NE	2.36	0.40
1:X:26:G:H1'	1:X:524:A:N6	2.36	0.40
1:X:328:A:C6	1:X:329:C:C4	3.10	0.40
1:X:459:A:N3	1:X:484:G:C8	2.90	0.40
1:X:575:U:H2'	1:X:576:A:O4'	2.22	0.40
1:X:583:C:N4	1:X:2017:U:OP1	2.45	0.40
1:X:773:G:O2'	1:X:774[B]:A:OP1	2.37	0.40
1:X:836:G:C6	1:X:837:U:C4	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1047:G:C6	1:X:1131:G:C5	3.09	0.40
1:X:1167:A:N7	15:N:51:ARG:HD3	2.37	0.40
1:X:1695:U:C5	1:X:1696:C:C5	3.09	0.40
1:X:2045:A:H61	29:X:2901:MIV:H102	1.86	0.40
1:X:2350:G:H2'	1:X:2351:G:O4'	2.21	0.40
1:X:2793:G:N1	1:X:2804:G:C6	2.89	0.40
2:Y:39:C:H5"	2:Y:40:C:C6	2.57	0.40
4:B:17:ASN:HB3	4:B:18:ASP:H	1.67	0.40
5:C:118:VAL:HG23	5:C:190:ALA:HB2	2.04	0.40
6:D:87:ILE:HG13	6:D:87:ILE:H	1.59	0.40
7:E:44:ARG:NH2	7:E:44:ARG:HB2	2.36	0.40
7:E:55:PRO:HG2	7:E:61:HIS:CE1	2.57	0.40
26:1:20:PHE:CE2	26:1:42:PRO:HG2	2.56	0.40
28:3:38:GLY:O	28:3:41:ILE:HG22	2.21	0.40
1:X:400:U:H6	1:X:400:U:H5"	1.86	0.40
1:X:759:C:OP1	1:X:2591:C:C5	2.75	0.40
1:X:820:U:H2'	1:X:821:A:O4'	2.22	0.40
1:X:851:C:C2	1:X:952:A:C6	3.10	0.40
1:X:1009:C:H2'	1:X:1010:U:O4'	2.21	0.40
1:X:1300:A:N7	12:K:106:ASP:HB3	2.37	0.40
1:X:1704:G:C2	1:X:1719:G:O6	2.74	0.40
1:X:1716:G:C2	1:X:1754:G:C2	3.10	0.40
1:X:2061:C:H2'	1:X:2062:U:H6	1.86	0.40
1:X:2407:G:H8	1:X:2407:G:O5'	2.04	0.40
1:X:2443:C:H2'	1:X:2444:C:H6	1.87	0.40
1:X:2597:G:C6	1:X:2598:C:C4	3.09	0.40
1:X:2662:C:O2'	1:X:2663:U:H5'	2.22	0.40
1:X:2824:C:N3	1:X:2842:C:H5'	2.36	0.40
3:A:257:LEU:HD23	3:A:257:LEU:HA	1.82	0.40
4:B:133:LYS:HB2	4:B:137:ARG:HB2	2.03	0.40
19:R:38:LEU:HD23	19:R:38:LEU:HA	1.86	0.40
20:S:96:VAL:HG22	20:S:97:PRO:O	2.21	0.40
22:U:22:GLY:H	22:U:39:LYS:CB	2.35	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	A	269/271 (99%)	234 (87%)	26 (10%)	9 (3%)	4	22
4	B	204/206 (99%)	176 (86%)	22 (11%)	6 (3%)	4	24
5	C	193/195 (99%)	168 (87%)	14 (7%)	11 (6%)	1	12
6	D	174/176 (99%)	147 (84%)	21 (12%)	6 (3%)	3	21
7	E	169/171 (99%)	156 (92%)	11 (6%)	2 (1%)	13	41
8	G	140/142 (99%)	121 (86%)	14 (10%)	5 (4%)	3	21
9	H	132/134 (98%)	122 (92%)	8 (6%)	2 (2%)	10	36
10	I	135/137 (98%)	103 (76%)	22 (16%)	10 (7%)	1	7
11	J	132/134 (98%)	105 (80%)	22 (17%)	5 (4%)	3	19
12	K	113/115 (98%)	103 (91%)	7 (6%)	3 (3%)	5	26
13	L	102/104 (98%)	83 (81%)	17 (17%)	2 (2%)	7	30
14	M	116/118 (98%)	102 (88%)	10 (9%)	4 (3%)	3	21
15	N	115/117 (98%)	110 (96%)	5 (4%)	0	100	100
16	O	96/98 (98%)	79 (82%)	13 (14%)	4 (4%)	3	18
17	P	127/129 (98%)	118 (93%)	7 (6%)	2 (2%)	9	34
18	Q	91/93 (98%)	79 (87%)	9 (10%)	3 (3%)	4	22
19	R	108/110 (98%)	92 (85%)	11 (10%)	5 (5%)	2	15
20	S	172/175 (98%)	147 (86%)	19 (11%)	6 (4%)	3	21
21	T	70/72 (97%)	64 (91%)	5 (7%)	1 (1%)	11	37
22	U	72/74 (97%)	55 (76%)	13 (18%)	4 (6%)	2	12
23	V	52/54 (96%)	49 (94%)	2 (4%)	1 (2%)	8	31
24	W	53/55 (96%)	51 (96%)	2 (4%)	0	100	100
25	Z	55/57 (96%)	50 (91%)	4 (7%)	1 (2%)	8	32
26	1	47/49 (96%)	35 (74%)	7 (15%)	5 (11%)	0	3
27	2	44/46 (96%)	41 (93%)	3 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	3	61/63 (97%)	46 (75%)	13 (21%)	2 (3%)	4	22
All	All	3042/3095 (98%)	2636 (87%)	307 (10%)	99 (3%)	4	22

All (99) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	30	GLU
3	A	247	VAL
3	A	254	THR
4	B	131	SER
4	B	147	PRO
4	B	149	ARG
5	C	18	PRO
5	C	120	VAL
6	D	126	GLY
8	G	69	ASP
8	G	110	LEU
8	G	111	LYS
10	I	30	ALA
10	I	43	ALA
10	I	105	PRO
10	I	130	ILE
11	J	80	ALA
11	J	86	LYS
12	K	3	HIS
13	L	33	ARG
14	M	25	PRO
14	M	28	ARG
14	M	41	GLU
19	R	78	ALA
19	R	85	ASP
20	S	18	MET
20	S	76	ARG
26	1	30	ASN
26	1	42	PRO
28	3	13	ARG
3	A	56	GLY
3	A	151	LYS
5	C	13	ARG
5	C	126	ALA
5	C	172	VAL
6	D	127	ASN

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Mol	Chain	Res	Type
7	E	7	GLN
10	I	83	LEU
11	J	89	GLY
12	K	88	ALA
13	L	38	ILE
14	M	42	GLY
16	O	8	GLY
18	Q	88	ILE
20	S	19	ILE
22	U	35	THR
26	1	24	THR
26	1	34	LYS
3	A	156	ALA
4	B	143	GLN
5	C	6	VAL
5	C	23	ASN
6	D	40	LEU
6	D	122	PHE
7	E	12	PRO
8	G	34	PRO
9	H	61	ARG
9	H	123	PHE
16	O	36	LYS
16	O	80	TYR
19	R	84	VAL
20	S	91	PRO
28	3	29	LYS
4	B	128	SER
5	C	8	GLY
6	D	73	SER
8	G	68	PRO
10	I	28	LYS
10	I	91	ASP
10	I	92	THR
11	J	136	GLU
16	O	10	LYS
17	P	20	LEU
21	T	47	ALA
22	U	37	ILE
25	Z	53	ASP
6	D	20	PHE
12	K	4	GLY

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Mol	Chain	Res	Type
18	Q	3	HIS
18	Q	12	ILE
20	S	66	VAL
22	U	24	ALA
22	U	46	LEU
26	1	45	LYS
3	A	235	GLY
19	R	108	VAL
4	B	52	ALA
5	C	70	GLY
10	I	61	PRO
11	J	71	PRO
10	I	60	LEU
19	R	41	PRO
23	V	43	VAL
3	A	38	PRO
3	A	121	PRO
5	C	114	GLY
5	C	174	GLY
20	S	127	PRO
17	P	61	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	A	196/212 (92%)	168 (86%)	28 (14%)	3	13
4	B	155/155 (100%)	120 (77%)	35 (23%)	1	2
5	C	150/155 (97%)	127 (85%)	23 (15%)	2	11
6	D	147/152 (97%)	111 (76%)	36 (24%)	0	2
7	E	136/136 (100%)	109 (80%)	27 (20%)	1	4
8	G	116/118 (98%)	89 (77%)	27 (23%)	1	2
9	H	102/103 (99%)	79 (78%)	23 (22%)	1	2
10	I	93/105 (89%)	72 (77%)	21 (23%)	1	2

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles		
11	J	103/109 (94%)	76 (74%)	27 (26%)	0	1	
12	K	92/92 (100%)	63 (68%)	29 (32%)	0	1	
13	L	68/74 (92%)	55 (81%)	13 (19%)	1	4	
14	M	97/101 (96%)	72 (74%)	25 (26%)	0	2	
15	N	93/96 (97%)	75 (81%)	18 (19%)	1	4	
16	O	71/77 (92%)	51 (72%)	20 (28%)	0	1	
17	P	109/111 (98%)	82 (75%)	27 (25%)	0	2	
18	Q	73/75 (97%)	49 (67%)	24 (33%)	0	1	
19	R	84/91 (92%)	57 (68%)	27 (32%)	0	1	
20	S	137/149 (92%)	111 (81%)	26 (19%)	1	4	
21	T	54/54 (100%)	41 (76%)	13 (24%)	0	2	
22	U	52/59 (88%)	35 (67%)	17 (33%)	0	1	
23	V	43/43 (100%)	36 (84%)	7 (16%)	2	9	
24	W	48/48 (100%)	30 (62%)	18 (38%)	0	0	
25	Z	50/51 (98%)	33 (66%)	17 (34%)	0	1	
26	1	23/44 (52%)	15 (65%)	8 (35%)	0	1	
27	2	39/39 (100%)	33 (85%)	6 (15%)	2	11	
28	3	45/50 (90%)	24 (53%)	21 (47%)	0	0	
All	All	2376/2499 (95%)	1813 (76%)	563 (24%)	1	2	

All (563) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	10	THR
3	A	18	THR
3	A	24	LEU
3	A	52	ARG
3	A	54	ILE
3	A	63	ARG
3	A	69	ARG
3	A	71	ASP
3	A	92	ILE
3	A	111	LEU
3	A	147	LEU
3	A	148	VAL
3	A	157	ARG

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Mol	Chain	Res	Type
3	A	169	GLU
3	A	171	ASP
3	A	185	VAL
3	A	203	ASN
3	A	206	LEU
3	A	211	ARG
3	A	221	GLN
3	A	230	ASP
3	A	240	THR
3	A	245	VAL
3	A	252	LYS
3	A	254	THR
3	A	265	THR
3	A	266	SER
3	A	269	PHE
4	B	2	LYS
4	B	11	MET
4	B	14	ILE
4	B	18	ASP
4	B	19	ARG
4	B	21	ILE
4	B	23	VAL
4	B	24	THR
4	B	25	VAL
4	B	38	THR
4	B	40	GLN
4	B	42	ASP
4	B	48	GLN
4	B	49	ILE
4	B	58	LYS
4	B	63	MET
4	B	66	HIS
4	B	69	LYS
4	B	77	ILE
4	B	84	PHE
4	B	90	SER
4	B	92	ASN
4	B	94	ASP
4	B	98	GLU
4	B	116	VAL
4	B	119	ARG
4	B	129	HIS

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Mol	Chain	Res	Type
4	B	135	HIS
4	B	137	ARG
4	B	143	GLN
4	B	149	ARG
4	B	156	MET
4	B	163	GLU
4	B	184	VAL
4	B	199	ARG
5	C	4	ILE
5	C	16	GLU
5	C	17	LEU
5	C	44	SER
5	C	45	THR
5	C	46	ARG
5	C	52	SER
5	C	53	LYS
5	C	56	ARG
5	C	62	LYS
5	C	74	VAL
5	C	76	THR
5	C	90	SER
5	C	92	ASP
5	C	95	LEU
5	C	104	LEU
5	C	116	LYS
5	C	118	VAL
5	C	129	LYS
5	C	136	TRP
5	C	153	ASP
5	C	163	ASN
5	C	181	LEU
6	D	10	ASP
6	D	18	GLN
6	D	20	PHE
6	D	30	ARG
6	D	31	ILE
6	D	38	GLU
6	D	42	SER
6	D	44	LYS
6	D	51	ASP
6	D	57	LEU
6	D	62	LEU

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Mol	Chain	Res	Type
6	D	64	LYS
6	D	67	ILE
6	D	72	LYS
6	D	79	LEU
6	D	81	GLN
6	D	87	ILE
6	D	96	MET
6	D	102	LYS
6	D	103	LEU
6	D	104	ILE
6	D	108	LEU
6	D	111	ILE
6	D	114	PHE
6	D	117	ILE
6	D	123	ASP
6	D	125	ARG
6	D	128	TYR
6	D	130	LEU
6	D	141	ILE
6	D	148	LYS
6	D	149	THR
6	D	150	ARG
6	D	158	THR
6	D	159	THR
6	D	163	ASP
7	E	6	LYS
7	E	9	ILE
7	E	11	VAL
7	E	24	PHE
7	E	33	LEU
7	E	40	GLU
7	E	44	ARG
7	E	45	GLN
7	E	46	ASP
7	E	49	GLN
7	E	50	LEU
7	E	51	LEU
7	E	62	ARG
7	E	67	LEU
7	E	69	ARG
7	E	84	THR
7	E	85	ILE

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Mol	Chain	Res	Type
7	E	86	ASN
7	E	87	LEU
7	E	89	LEU
7	E	113	VAL
7	E	127	GLU
7	E	129	THR
7	E	132	ASP
7	E	140	LEU
7	E	153	LYS
7	E	169	ILE
8	G	33	ILE
8	G	35	LYS
8	G	43	VAL
8	G	44	VAL
8	G	51	LEU
8	G	60	SER
8	G	63	ARG
8	G	67	ARG
8	G	71	THR
8	G	78	ASP
8	G	91	THR
8	G	94	LYS
8	G	95	LEU
8	G	100	TYR
8	G	102	ARG
8	G	116	ARG
8	G	119	LEU
8	G	121	LYS
8	G	124	GLU
8	G	132	PHE
8	G	137	LYS
8	G	140	GLN
8	G	142	ARG
8	G	154	GLU
8	G	159	SER
8	G	165	VAL
8	G	166	LEU
9	H	7	ARG
9	H	10	VAL
9	H	23	ARG
9	H	35	THR
9	H	47	VAL

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Mol	Chain	Res	Type
9	H	51	ILE
9	H	56	LYS
9	H	70	VAL
9	H	76	ARG
9	H	78	SER
9	H	81	ILE
9	H	83	ARG
9	H	87	SER
9	H	97	VAL
9	H	104	GLU
9	H	108	THR
9	H	114	VAL
9	H	120	ASP
9	H	121	ARG
9	H	125	LYS
9	H	126	ILE
9	H	127	VAL
9	H	133	VAL
10	I	4	HIS
10	I	5	ASP
10	I	19	VAL
10	I	21	ARG
10	I	38	LYS
10	I	45	LYS
10	I	54	SER
10	I	55	ARG
10	I	56	LEU
10	I	57	ILE
10	I	63	ARG
10	I	71	THR
10	I	77	LEU
10	I	80	LEU
10	I	81	GLN
10	I	87	THR
10	I	89	ASP
10	I	90	ARG
10	I	93	LEU
10	I	103	ASN
10	I	109	LEU
11	J	6	LYS
11	J	9	LYS
11	J	18	MET

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Mol	Chain	Res	Type
11	J	19	THR
11	J	23	LYS
11	J	38	MET
11	J	44	LYS
11	J	46	ASN
11	J	48	ILE
11	J	52	ARG
11	J	64	LYS
11	J	69	ILE
11	J	77	LYS
11	J	84	MET
11	J	86	LYS
11	J	88	LYS
11	J	91	VAL
11	J	95	VAL
11	J	96	SER
11	J	106	GLU
11	J	112	GLU
11	J	116	LYS
11	J	121	LEU
11	J	130	THR
11	J	134	LYS
11	J	135	ARG
11	J	136	GLU
12	K	1	MET
12	K	2	ARG
12	K	5	LYS
12	K	8	ARG
12	K	9	LYS
12	K	12	ARG
12	K	28	LEU
12	K	36	THR
12	K	37	THR
12	K	39	THR
12	K	45	ARG
12	K	52	ILE
12	K	59	ASP
12	K	63	ARG
12	K	64	ARG
12	K	70	ILE
12	K	71	HIS
12	K	75	VAL

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Mol	Chain	Res	Type
12	K	76	VAL
12	K	83	VAL
12	K	89	GLU
12	K	95	THR
12	K	97	ILE
12	K	98	LEU
12	K	99	ARG
12	K	102	THR
12	K	104	ARG
12	K	109	THR
12	K	110	MET
13	L	8	ARG
13	L	9	ARG
13	L	14	ARG
13	L	17	VAL
13	L	19	THR
13	L	20	THR
13	L	31	VAL
13	L	34	SER
13	L	43	ILE
13	L	46	SER
13	L	47	ARG
13	L	85	LYS
13	L	94	TYR
14	M	5	ILE
14	M	7	ILE
14	M	11	GLU
14	M	14	ARG
14	M	18	GLN
14	M	24	LEU
14	M	26	ASP
14	M	27	PHE
14	M	31	ASP
14	M	38	LYS
14	M	41	GLU
14	M	44	ARG
14	M	46	ARG
14	M	50	PHE
14	M	55	ILE
14	M	57	ILE
14	M	85	SER
14	M	87	LEU

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Mol	Chain	Res	Type
14	M	93	ILE
14	M	95	GLU
14	M	98	LYS
14	M	109	GLU
14	M	113	LYS
14	M	116	ARG
14	M	119	SER
15	N	8	ILE
15	N	15	LYS
15	N	18	LEU
15	N	22	LYS
15	N	28	ARG
15	N	34	ASN
15	N	51	ARG
15	N	53	LYS
15	N	58	ARG
15	N	60	LEU
15	N	64	ARG
15	N	80	ILE
15	N	84	LYS
15	N	85	ARG
15	N	88	ILE
15	N	94	VAL
15	N	101	ARG
15	N	113	SER
16	O	4	ILE
16	O	11	GLN
16	O	16	GLU
16	O	20	ILE
16	O	22	VAL
16	O	24	SER
16	O	25	LEU
16	O	26	GLN
16	O	31	ASP
16	O	33	VAL
16	O	35	LEU
16	O	54	TYR
16	O	65	ARG
16	O	72	ARG
16	O	81	ARG
16	O	83	ARG
16	O	84	THR

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Mol	Chain	Res	Type
16	O	87	ARG
16	O	89	ASN
16	O	96	LEU
17	P	12	LYS
17	P	17	GLN
17	P	20	LEU
17	P	21	ARG
17	P	22	LYS
17	P	32	ARG
17	P	34	SER
17	P	36	ARG
17	P	41	VAL
17	P	43	ASP
17	P	46	ARG
17	P	49	SER
17	P	51	GLN
17	P	55	ASP
17	P	57	LEU
17	P	61	PRO
17	P	62	ARG
17	P	63	SER
17	P	65	SER
17	P	86	LEU
17	P	104	LYS
17	P	106	LEU
17	P	107	ILE
17	P	113	SER
17	P	117	ILE
17	P	118	LYS
17	P	125	THR
18	Q	3	HIS
18	Q	5	ASP
18	Q	8	GLN
18	Q	13	SER
18	Q	14	GLU
18	Q	18	SER
18	Q	27	PHE
18	Q	29	VAL
18	Q	32	LYS
18	Q	34	THR
18	Q	36	THR
18	Q	38	ILE

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Mol	Chain	Res	Type
18	Q	40	ASP
18	Q	49	ARG
18	Q	51	ILE
18	Q	56	MET
18	Q	64	ARG
18	Q	65	VAL
18	Q	72	ARG
18	Q	80	VAL
18	Q	86	GLN
18	Q	88	ILE
18	Q	89	GLU
18	Q	91	LEU
19	R	5	SER
19	R	14	LEU
19	R	15	HIS
19	R	16	PHE
19	R	21	THR
19	R	25	LEU
19	R	26	SER
19	R	30	LYS
19	R	38	LEU
19	R	44	GLN
19	R	49	GLU
19	R	52	ASN
19	R	56	LYS
19	R	57	ASN
19	R	58	VAL
19	R	64	ASN
19	R	70	GLU
19	R	74	LEU
19	R	80	LYS
19	R	84	VAL
19	R	85	ASP
19	R	87	GLU
19	R	88	THR
19	R	92	THR
19	R	102	LYS
19	R	104	VAL
19	R	113	THR
20	S	13	LYS
20	S	31	SER
20	S	37	LYS

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Mol	Chain	Res	Type
20	S	48	THR
20	S	49	THR
20	S	51	LEU
20	S	53	ASP
20	S	56	VAL
20	S	57	GLU
20	S	60	GLU
20	S	61	THR
20	S	65	LEU
20	S	74	ARG
20	S	90	GLU
20	S	93	GLU
20	S	99	HIS
20	S	104	SER
20	S	117	VAL
20	S	120	LEU
20	S	121	GLN
20	S	128	ARG
20	S	130	ILE
20	S	132	GLN
20	S	146	HIS
20	S	159	THR
20	S	169	VAL
21	T	12	ASN
21	T	19	LYS
21	T	20	TYR
21	T	37	LEU
21	T	38	VAL
21	T	46	LYS
21	T	57	HIS
21	T	59	LEU
21	T	62	LEU
21	T	64	ASP
21	T	68	VAL
21	T	72	LYS
21	T	77	ARG
22	U	6	TYR
22	U	11	LYS
22	U	17	SER
22	U	19	ILE
22	U	20	ARG
22	U	34	THR

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Mol	Chain	Res	Type
22	U	40	ARG
22	U	43	ARG
22	U	46	LEU
22	U	54	ASN
22	U	57	VAL
22	U	58	LYS
22	U	60	VAL
22	U	62	LEU
22	U	63	SER
22	U	65	ASN
22	U	78	ILE
23	V	19	ASP
23	V	25	LEU
23	V	26	MET
23	V	28	LEU
23	V	37	LEU
23	V	53	LEU
23	V	57	LYS
24	W	2	LYS
24	W	4	LYS
24	W	5	LEU
24	W	10	ILE
24	W	12	ARG
24	W	17	VAL
24	W	20	VAL
24	W	23	LEU
24	W	25	LEU
24	W	26	ARG
24	W	27	LYS
24	W	28	ILE
24	W	30	ASP
24	W	31	SER
24	W	34	VAL
24	W	35	SER
24	W	41	ARG
24	W	45	LYS
25	Z	4	HIS
25	Z	15	LYS
25	Z	16	ARG
25	Z	18	MET
25	Z	19	ARG
25	Z	31	THR

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Mol	Chain	Res	Type
25	Z	32	GLU
25	Z	33	CYS
25	Z	36	CYS
25	Z	41	LEU
25	Z	42	SER
25	Z	45	ILE
25	Z	46	CYS
25	Z	53	ASP
25	Z	56	GLN
25	Z	57	VAL
25	Z	58	LEU
26	1	7	ARG
26	1	8	ILE
26	1	9	ILE
26	1	20	PHE
26	1	30	ASN
26	1	36	GLU
26	1	41	ASP
26	1	54	LYS
27	2	12	ARG
27	2	14	LYS
27	2	19	ARG
27	2	21	ARG
27	2	24	THR
27	2	42	LEU
28	3	5	LYS
28	3	8	LYS
28	3	11	LYS
28	3	14	ILE
28	3	31	HIS
28	3	32	GLN
28	3	34	THR
28	3	36	LYS
28	3	39	ASP
28	3	40	GLU
28	3	44	LYS
28	3	46	LYS
28	3	48	PHE
28	3	49	VAL
28	3	50	LEU
28	3	52	LYS
28	3	58	MET

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Mol	Chain	Res	Type
28	3	59	LYS
28	3	60	LEU
28	3	61	MET
28	3	64	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (14) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	231	HIS
4	B	66	HIS
5	C	3	GLN
6	D	76	ASN
7	E	45	GLN
8	G	140	GLN
9	H	5	GLN
9	H	102	GLN
14	M	2	GLN
15	N	31	GLN
15	N	72	HIS
21	T	71	ASN
22	U	47	HIS
28	3	32	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	X	2685/2699 (99%)	770 (28%)	65 (2%)
2	Y	121/122 (99%)	28 (23%)	4 (3%)
All	All	2806/2821 (99%)	798 (28%)	69 (2%)

All (798) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	X	2	G
1	X	13	A
1	X	19	C
1	X	23	G
1	X	25	U
1	X	28	A
1	X	34	U

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Mol	Chain	Res	Type
1	X	39	C
1	X	45	C
1	X	49	U
1	X	50	G
1	X	51	A
1	X	54	G
1	X	56	C
1	X	59	G
1	X	60	A
1	X	63	A
1	X	69	G
1	X	70	A
1	X	71	A
1	X	72	A
1	X	73	A
1	X	74	G
1	X	83	A
1	X	87	G
1	X	89	A
1	X	98	U
1	X	99	U
1	X	100	G
1	X	101	A
1	X	102	C
1	X	106	G
1	X	107	G
1	X	108	G
1	X	109	A
1	X	111	G
1	X	116	A
1	X	118	U
1	X	119	G
1	X	126	C
1	X	127	C
1	X	132	U
1	X	133	C
1	X	134	G
1	X	138	G
1	X	146	C
1	X	147	G
1	X	148	C
1	X	149	A

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Mol	Chain	Res	Type
1	X	150	A
1	X	158	A
1	X	170	U
1	X	173	A
1	X	176	A
1	X	181	A
1	X	192	G
1	X	193	A
1	X	198	A
1	X	199	A
1	X	200	A
1	X	201	G
1	X	202	A
1	X	205	A
1	X	206	U
1	X	207	U
1	X	210	A
1	X	219	G
1	X	220	U
1	X	222	G
1	X	225	G
1	X	229	G
1	X	241	C
1	X	242	A
1	X	243	G
1	X	245	C
1	X	249	A
1	X	253	A
1	X	255	A
1	X	256	C
1	X	257	G
1	X	259	U
1	X	260	U
1	X	261	G
1	X	262	C
1	X	263	G
1	X	264	U
1	X	265	U
1	X	266	U
1	X	268	G
1	X	272	U
1	X	273	U

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Mol	Chain	Res	Type
1	X	274	G
1	X	275	U
1	X	276	A
1	X	277	G
1	X	279	A
1	X	280	C
1	X	303	C
1	X	304	A
1	X	305	A
1	X	306	G
1	X	310	A
1	X	319	G
1	X	321	A
1	X	322	A
1	X	327	C
1	X	340	G
1	X	341	A
1	X	342	G
1	X	344	G
1	X	349	G
1	X	358	C
1	X	360	A
1	X	362	C
1	X	384	A
1	X	385	G
1	X	386	U
1	X	387	A
1	X	399	G
1	X	400	U
1	X	401	G
1	X	403	A
1	X	405	C
1	X	408	U
1	X	409	G
1	X	413	G
1	X	416	U
1	X	418	C
1	X	419	G
1	X	424	G
1	X	425	A
1	X	441	A
1	X	456	C

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Mol	Chain	Res	Type
1	X	461	A
1	X	463	C
1	X	467	U
1	X	469	G
1	X	478	G
1	X	482	A
1	X	483	A
1	X	484	G
1	X	486	U
1	X	492	G
1	X	508	G
1	X	514	G
1	X	515	A
1	X	516	G
1	X	518	A
1	X	519	C
1	X	520	C
1	X	521	U
1	X	526	C
1	X	534	U
1	X	537	C
1	X	540	G
1	X	541	C
1	X	542	A
1	X	543	G
1	X	544	U
1	X	551	A
1	X	553	C
1	X	554	U
1	X	555	U
1	X	556	A
1	X	559	C
1	X	560	G
1	X	571	U
1	X	572	G
1	X	577	U
1	X	578	U
1	X	580	A
1	X	582	G
1	X	584	A
1	X	587	A
1	X	589	C

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Mol	Chain	Res	Type
1	X	595	A
1	X	596	C
1	X	600	G
1	X	601	A
1	X	613	A
1	X	614	G
1	X	615	C
1	X	624	A
1	X	625	A
1	X	626	A
1	X	627	A
1	X	628	A
1	X	631	G
1	X	632	A
1	X	642	A
1	X	645	G
1	X	646	C
1	X	648	A
1	X	649	G
1	X	653	G
1	X	654	A
1	X	655	A
1	X	657	A
1	X	665	A
1	X	666	U
1	X	667	U
1	X	668	A
1	X	682	G
1	X	699	G
1	X	733	G
1	X	743	A
1	X	747	A
1	X	752	G
1	X	753	U
1	X	754	G
1	X	759	C
1	X	760	U
1	X	761	G
1	X	766	A
1	X	767	G
1	X	775	U
1	X	778	G

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Mol	Chain	Res	Type
1	X	788	G
1	X	789	G
1	X	795	A
1	X	797	A
1	X	798	G
1	X	802	A
1	X	803	C
1	X	804	C
1	X	805	G
1	X	806	A
1	X	818	G
1	X	825	C
1	X	832	A
1	X	840	U
1	X	841	G
1	X	843	G
1	X	844	G
1	X	859	U
1	X	860	U
1	X	872	G
1	X	877	G
1	X	878	C
1	X	879	A
1	X	887	G
1	X	890	U
1	X	891	A
1	X	921	A
1	X	922	A
1	X	924	C
1	X	926	C
1	X	927	C
1	X	929	A
1	X	939	C
1	X	941	U
1	X	945	G
1	X	949	G
1	X	952	A
1	X	955	G
1	X	957	G
1	X	961	G
1	X	964	A
1	X	969	U

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Mol	Chain	Res	Type
1	X	970	A
1	X	972	C
1	X	973	U
1	X	983	G
1	X	984	A
1	X	985	G
1	X	994	A
1	X	995	A
1	X	1000	G
1	X	1004	A
1	X	1006	C
1	X	1007	A
1	X	1010	U
1	X	1014	G
1	X	1016	C
1	X	1017	C
1	X	1021	A
1	X	1022	A
1	X	1023	U
1	X	1024	G
1	X	1027	C
1	X	1033	G
1	X	1034	U
1	X	1036	G
1	X	1042	G
1	X	1043	A
1	X	1044	U
1	X	1047	G
1	X	1049	C
1	X	1054	C
1	X	1055	A
1	X	1056	U
1	X	1057	A
1	X	1058	G
1	X	1060	C
1	X	1061	A
1	X	1064	C
1	X	1068	A
1	X	1069	G
1	X	1070	G
1	X	1071	U
1	X	1073	G

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Mol	Chain	Res	Type
1	X	1075	C
1	X	1076	U
1	X	1081	A
1	X	1082	G
1	X	1083	C
1	X	1084	A
1	X	1085	G
1	X	1087	C
1	X	1090	C
1	X	1094	C
1	X	1097	A
1	X	1098	G
1	X	1099	A
1	X	1100	G
1	X	1101	U
1	X	1102	G
1	X	1103	C
1	X	1105	U
1	X	1106	A
1	X	1114	A
1	X	1115	C
1	X	1122	A
1	X	1123	G
1	X	1124	U
1	X	1127	C
1	X	1128	G
1	X	1129	A
1	X	1130	U
1	X	1142	G
1	X	1146	G
1	X	1152	C
1	X	1153	A
1	X	1154	A
1	X	1155	G
1	X	1156	U
1	X	1161	U
1	X	1180	A
1	X	1182	U
1	X	1183	C
1	X	1192	A
1	X	1193	G
1	X	1223	G

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Mol	Chain	Res	Type
1	X	1224	A
1	X	1225	G
1	X	1227	A
1	X	1231	A
1	X	1232	U
1	X	1234	C
1	X	1240	G
1	X	1247	U
1	X	1249	G
1	X	1251	G
1	X	1253	C
1	X	1260	A
1	X	1261	G
1	X	1263	G
1	X	1266	G
1	X	1267	A
1	X	1268	U
1	X	1269	G
1	X	1284	G
1	X	1285	A
1	X	1288	A
1	X	1300	A
1	X	1301	U
1	X	1302	C
1	X	1311	C
1	X	1313	U
1	X	1314	A
1	X	1315	A
1	X	1319	C
1	X	1326	U
1	X	1332	G
1	X	1334	A
1	X	1337	G
1	X	1342	U
1	X	1345	G
1	X	1351	G
1	X	1354	A
1	X	1365	U
1	X	1372	A
1	X	1377	G
1	X	1378	A
1	X	1379	A

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Mol	Chain	Res	Type
1	X	1381	G
1	X	1391	A
1	X	1392	U
1	X	1393	G
1	X	1398	G
1	X	1403	U
1	X	1404	C
1	X	1405	A
1	X	1408	A
1	X	1409	U
1	X	1410	U
1	X	1428	G
1	X	1429	A
1	X	1430	G
1	X	1432	G
1	X	1433	A
1	X	1434	U
1	X	1435	G
1	X	1440	G
1	X	1442	C
1	X	1443	G
1	X	1447	U
1	X	1460	G
1	X	1463	A
1	X	1466	C
1	X	1467	U
1	X	1468	A
1	X	1469	U
1	X	1470	G
1	X	1471	G
1	X	1474	A
1	X	1476	G
1	X	1482	U
1	X	1490	U
1	X	1497	C
1	X	1498	G
1	X	1500	U
1	X	1505	U
1	X	1509	A
1	X	1513	U
1	X	1519	G
1	X	1522	C

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Mol	Chain	Res	Type
1	X	1529	C
1	X	1531	C
1	X	1544	A
1	X	1545	G
1	X	1562	G
1	X	1571	G
1	X	1574	A
1	X	1575	C
1	X	1576	G
1	X	1581	C
1	X	1582	A
1	X	1585	A
1	X	1594	U
1	X	1599	G
1	X	1601	U
1	X	1602	G
1	X	1603	A
1	X	1623	C
1	X	1624	A
1	X	1626	A
1	X	1632	A
1	X	1642	G
1	X	1648	C
1	X	1651	U
1	X	1656	U
1	X	1657	A
1	X	1660	G
1	X	1661	C
1	X	1662	G
1	X	1664	G
1	X	1665	C
1	X	1668	G
1	X	1669	A
1	X	1670	G
1	X	1671	A
1	X	1676	U
1	X	1688	U
1	X	1689	U
1	X	1691	G
1	X	1692	C
1	X	1693	A
1	X	1695	U

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Mol	Chain	Res	Type
1	X	1699	A
1	X	1705	U
1	X	1710	U
1	X	1713	G
1	X	1714	A
1	X	1717	A
1	X	1739	G
1	X	1747	G
1	X	1749	G
1	X	1753	A
1	X	1754	G
1	X	1755	G
1	X	1764	A
1	X	1770	U
1	X	1771	A
1	X	1772	C
1	X	1773	C
1	X	1782	A
1	X	1788	C
1	X	1790	G
1	X	1791	C
1	X	1792	C
1	X	1793	A
1	X	1799	A
1	X	1801	C
1	X	1802	A
1	X	1805	G
1	X	1807	A
1	X	1808	C
1	X	1811	A
1	X	1819	U
1	X	1821	A
1	X	1825	C
1	X	1826	U
1	X	1827	G
1	X	1830	C
1	X	1831	G
1	X	1832	G
1	X	1835	C
1	X	1839	A
1	X	1840	A
1	X	1850	G

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Mol	Chain	Res	Type
1	X	1855	G
1	X	1857	G
1	X	1867	A
1	X	1871	G
1	X	1872	A
1	X	1883	A
1	X	1885	C
1	X	1887	G
1	X	1888	C
1	X	1889	G
1	X	1890	G
1	X	1891	C
1	X	1909	U
1	X	1910	A
1	X	1911	A
1	X	1912	G
1	X	1920	A
1	X	1921	A
1	X	1922	U
1	X	1924	C
1	X	1928	G
1	X	1934	U
1	X	1938	U
1	X	1939	U
1	X	1945	C
1	X	1946	U
1	X	1947	G
1	X	1948	C
1	X	1949	A
1	X	1950	C
1	X	1951	G
1	X	1953	A
1	X	1954	A
1	X	1955	G
1	X	1957	C
1	X	1958	G
1	X	1959	U
1	X	1960	A
1	X	1965	U
1	X	1971	C
1	X	1975	G
1	X	1976	U

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Mol	Chain	Res	Type
1	X	1979	C
1	X	1980	A
1	X	1993	G
1	X	2003	A
1	X	2006	G
1	X	2014	A
1	X	2015	G
1	X	2026	C
1	X	2033	C
1	X	2038	C
1	X	2039	G
1	X	2043	A
1	X	2044	G
1	X	2046	C
1	X	2047	C
1	X	2052	G
1	X	2076	G
1	X	2077	G
1	X	2079	A
1	X	2082	C
1	X	2088	U
1	X	2089	C
1	X	2090	U
1	X	2167	A
1	X	2168	A
1	X	2170	C
1	X	2171	U
1	X	2172	U
1	X	2176	U
1	X	2181	A
1	X	2188	A
1	X	2189	A
1	X	2190	A
1	X	2191	A
1	X	2192	U
1	X	2196	U
1	X	2197	U
1	X	2198	U
1	X	2199	C
1	X	2204	A
1	X	2205	C
1	X	2217	G

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Mol	Chain	Res	Type
1	X	2218	G
1	X	2222	U
1	X	2226	A
1	X	2231	G
1	X	2245	A
1	X	2247	A
1	X	2252	A
1	X	2258	G
1	X	2262	C
1	X	2265	A
1	X	2266	A
1	X	2267	A
1	X	2268	G
1	X	2269	G
1	X	2274	C
1	X	2275	U
1	X	2283	G
1	X	2284	U
1	X	2286	G
1	X	2287	G
1	X	2290	A
1	X	2294	U
1	X	2298	U
1	X	2299	A
1	X	2301	A
1	X	2304	G
1	X	2305	C
1	X	2306	A
1	X	2307	A
1	X	2313	G
1	X	2314	A
1	X	2315	A
1	X	2322	U
1	X	2323	U
1	X	2324	G
1	X	2326	C
1	X	2329	C
1	X	2331	A
1	X	2333	A
1	X	2339	A
1	X	2351	G
1	X	2358	C

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Mol	Chain	Res	Type
1	X	2361	G
1	X	2362	G
1	X	2363	G
1	X	2364	C
1	X	2367	A
1	X	2368	G
1	X	2369	U
1	X	2373	C
1	X	2375	G
1	X	2386	G
1	X	2389	G
1	X	2399	C
1	X	2401	A
1	X	2402	U
1	X	2403	C
1	X	2404	A
1	X	2407	G
1	X	2408	G
1	X	2409	A
1	X	2410	U
1	X	2413	A
1	X	2415	G
1	X	2420	C
1	X	2424	G
1	X	2426	G
1	X	2427	A
1	X	2429	A
1	X	2449	G
1	X	2452	U
1	X	2455	A
1	X	2461	G
1	X	2464	G
1	X	2466	G
1	X	2468	G
1	X	2469	G
1	X	2471	U
1	X	2473	G
1	X	2477	C
1	X	2479	U
1	X	2480	C
1	X	2481	G
1	X	2482	A

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Mol	Chain	Res	Type
1	X	2483	U
1	X	2484	G
1	X	2486	C
1	X	2492	G
1	X	2497	A
1	X	2508	G
1	X	2509	A
1	X	2522	G
1	X	2528	G
1	X	2531	U
1	X	2533	U
1	X	2535	C
1	X	2543	A
1	X	2545	A
1	X	2546	G
1	X	2548	G
1	X	2551	A
1	X	2552	C
1	X	2553	G
1	X	2556	A
1	X	2559	U
1	X	2560	G
1	X	2561	G
1	X	2564	U
1	X	2565	C
1	X	2566	A
1	X	2573	C
1	X	2578	G
1	X	2579	A
1	X	2580	C
1	X	2588	U
1	X	2591	C
1	X	2609	G
1	X	2611	A
1	X	2619	G
1	X	2621	G
1	X	2633	A
1	X	2660	C
1	X	2668	U
1	X	2677	U
1	X	2678	C
1	X	2692	A

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Mol	Chain	Res	Type
1	X	2693	U
1	X	2694	G
1	X	2697	G
1	X	2698	G
1	X	2705	A
1	X	2706	U
1	X	2707	G
1	X	2711	G
1	X	2713	A
1	X	2714	A
1	X	2728	A
1	X	2731	G
1	X	2732	C
1	X	2736	U
1	X	2737	A
1	X	2738	A
1	X	2743	G
1	X	2744	A
1	X	2745	A
1	X	2746	G
1	X	2751	C
1	X	2757	G
1	X	2758	A
1	X	2759	U
1	X	2760	G
1	X	2769	C
1	X	2771	C
1	X	2772	U
1	X	2783	U
1	X	2792	C
1	X	2795	A
1	X	2796	A
1	X	2807	U
1	X	2808	U
1	X	2809	A
1	X	2810	A
1	X	2825	A
1	X	2838	U
1	X	2843	A
1	X	2847	G
1	X	2851	G
1	X	2855	C

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Mol	Chain	Res	Type
1	X	2858	A
1	X	2860	C
1	X	2861	A
1	X	2864	C
1	X	2866	A
1	X	2867	G
1	X	2868	G
2	Y	3	A
2	Y	6	C
2	Y	15	A
2	Y	16	U
2	Y	17	A
2	Y	18	G
2	Y	26	G
2	Y	27	A
2	Y	28	A
2	Y	29	C
2	Y	37	C
2	Y	39	C
2	Y	40	C
2	Y	43	G
2	Y	44	C
2	Y	45	C
2	Y	49	C
2	Y	54	U
2	Y	58	G
2	Y	68	A
2	Y	69	G
2	Y	84	G
2	Y	102	A
2	Y	108	G
2	Y	112	A
2	Y	121	G
2	Y	122	U
2	Y	123	U

All (69) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	X	38	G
1	X	48	A
1	X	50	G

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Mol	Chain	Res	Type
1	X	100	G
1	X	148	C
1	X	209	G
1	X	219	G
1	X	265	U
1	X	341	A
1	X	343	A
1	X	490	A
1	X	518	A
1	X	537	C
1	X	540	G
1	X	555	U
1	X	559	C
1	X	600	G
1	X	751	G
1	X	759	C
1	X	788	G
1	X	797	A
1	X	803	C
1	X	804	C
1	X	813	A
1	X	843	G
1	X	859	U
1	X	890	U
1	X	971	A
1	X	972	C
1	X	994	A
1	X	1053	G
1	X	1086	C
1	X	1096	A
1	X	1122	A
1	X	1145	C
1	X	1153	A
1	X	1299	A
1	X	1391	A
1	X	1403	U
1	X	1439	G
1	X	1473	U
1	X	1475	U
1	X	1496	G
1	X	1691	G
1	X	1749	G

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Mol	Chain	Res	Type
1	X	1790	G
1	X	1800	A
1	X	1830	C
1	X	1909	U
1	X	1910	A
1	X	2043	A
1	X	2180	U
1	X	2190	A
1	X	2312	A
1	X	2322	U
1	X	2323	U
1	X	2402	U
1	X	2414	A
1	X	2437	G
1	X	2460	G
1	X	2469	G
1	X	2564	U
1	X	2705	A
1	X	2807	U
1	X	2848	A
2	Y	14	C
2	Y	28	A
2	Y	36	A
2	Y	68	A

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)

Of 285 ligands modelled in this entry, 277 are monoatomic - leaving 8 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$\|Z\| > 2$	Counts	RMSZ	#$\|Z\| > 2$
29	MIV	X	2901	-	51,51,51	0.72	2 (3%)	62,71,71	1.42	7 (11%)
31	SPD	X	3166	-	9,9,9	0.38	0	8,8,8	0.64	0
31	SPD	X	3167	1	9,9,9	0.32	0	8,8,8	1.00	0
31	SPD	X	3168	1	9,9,9	0.42	0	8,8,8	0.96	0
31	SPD	X	3170	1	9,9,9	0.47	0	8,8,8	1.19	1 (12%)
31	SPD	X	3171	-	9,9,9	0.28	0	8,8,8	0.66	0
31	SPD	V	101	-	9,9,9	0.29	0	8,8,8	0.85	0
31	SPD	X	3169	1	9,9,9	0.37	0	8,8,8	1.08	1 (12%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
29	MIV	X	2901	-	-	25/55/91/91	0/2/3/3
31	SPD	X	3166	-	-	3/7/7/7	-
31	SPD	X	3167	1	-	2/7/7/7	-
31	SPD	X	3168	1	-	3/7/7/7	-
31	SPD	X	3170	1	-	4/7/7/7	-
31	SPD	X	3171	-	-	3/7/7/7	-
31	SPD	V	101	-	-	5/7/7/7	-
31	SPD	X	3169	1	-	3/7/7/7	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	2901	MIV	O6-C24	2.84	1.40	1.34
29	X	2901	MIV	C31-C33	2.81	1.58	1.52

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2901	MIV	O6-C25-C26	-5.97	97.39	106.92
29	X	2901	MIV	O6-C25-C28	4.22	116.68	107.42
29	X	2901	MIV	C32-O8-C31	3.85	124.64	114.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	2901	MIV	O11-C30-C31	3.55	116.55	109.51
31	X	3170	SPD	C8-C7-N6	2.87	119.88	112.14
29	X	2901	MIV	C30-O11-C36	2.23	117.50	113.67
31	X	3169	SPD	C7-N6-C5	2.16	123.65	113.45
29	X	2901	MIV	C13-C14-N	2.03	116.71	110.83
29	X	2901	MIV	C27-C26-C25	-2.03	107.69	113.27

There are no chirality outliers.

All (48) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
29	X	2901	MIV	C17-C14-N-C15
29	X	2901	MIV	C13-C14-N-C15
29	X	2901	MIV	C5-C6-C8-C9
29	X	2901	MIV	O1-C5-C6-C7
29	X	2901	MIV	C4-C5-C6-C7
29	X	2901	MIV	C2-C1-C28-C29
29	X	2901	MIV	O6-C25-C28-C1
29	X	2901	MIV	C26-C25-C28-C1
29	X	2901	MIV	C26-C25-C28-C29
29	X	2901	MIV	C1-C28-C29-O7
29	X	2901	MIV	C25-C28-C29-O7
29	X	2901	MIV	O11-C30-O7-C29
29	X	2901	MIV	C30-C31-O8-C32
31	X	3170	SPD	C4-C5-N6-C7
31	X	3171	SPD	C4-C5-N6-C7
31	V	101	SPD	C3-C4-C5-N6
31	X	3168	SPD	C2-C3-C4-C5
29	X	2901	MIV	C17-C14-N-C16
29	X	2901	MIV	C31-C30-O7-C29
31	X	3169	SPD	C3-C4-C5-N6
29	X	2901	MIV	C11-C20-C22-C23
31	V	101	SPD	C7-C8-C9-N10
31	X	3169	SPD	C2-C3-C4-C5
29	X	2901	MIV	C1-C2-C3-C4
29	X	2901	MIV	C22-C23-C24-O6
31	X	3166	SPD	C2-C3-C4-C5
31	X	3170	SPD	C2-C3-C4-C5
31	X	3166	SPD	N6-C7-C8-C9
29	X	2901	MIV	C21-C20-C22-C23
31	X	3169	SPD	C7-C8-C9-N10
31	X	3166	SPD	N1-C2-C3-C4

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Mol	Chain	Res	Type	Atoms
29	X	2901	MIV	C22-C23-C24-O5
29	X	2901	MIV	C7-C6-C8-C9
29	X	2901	MIV	C2-C1-C28-C25
29	X	2901	MIV	O1-C5-C6-C8
31	X	3167	SPD	C7-C8-C9-N10
31	X	3170	SPD	C7-C8-C9-N10
31	X	3171	SPD	C2-C3-C4-C5
31	X	3170	SPD	C8-C7-N6-C5
31	X	3171	SPD	C8-C7-N6-C5
29	X	2901	MIV	C6-C8-C9-C10
31	V	101	SPD	C8-C7-N6-C5
31	X	3168	SPD	N1-C2-C3-C4
31	X	3167	SPD	C2-C3-C4-C5
31	X	3168	SPD	C8-C7-N6-C5
31	V	101	SPD	C4-C5-N6-C7
31	V	101	SPD	N6-C7-C8-C9
29	X	2901	MIV	C28-C25-C26-C27

There are no ring outliers.

6 monomers are involved in 23 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
29	X	2901	MIV	8	0
31	X	3167	SPD	6	0
31	X	3168	SPD	3	0
31	X	3170	SPD	3	0
31	X	3171	SPD	2	0
31	X	3169	SPD	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand MIV X 2901

Bond lengths

Bond angles

Torsions

Rings
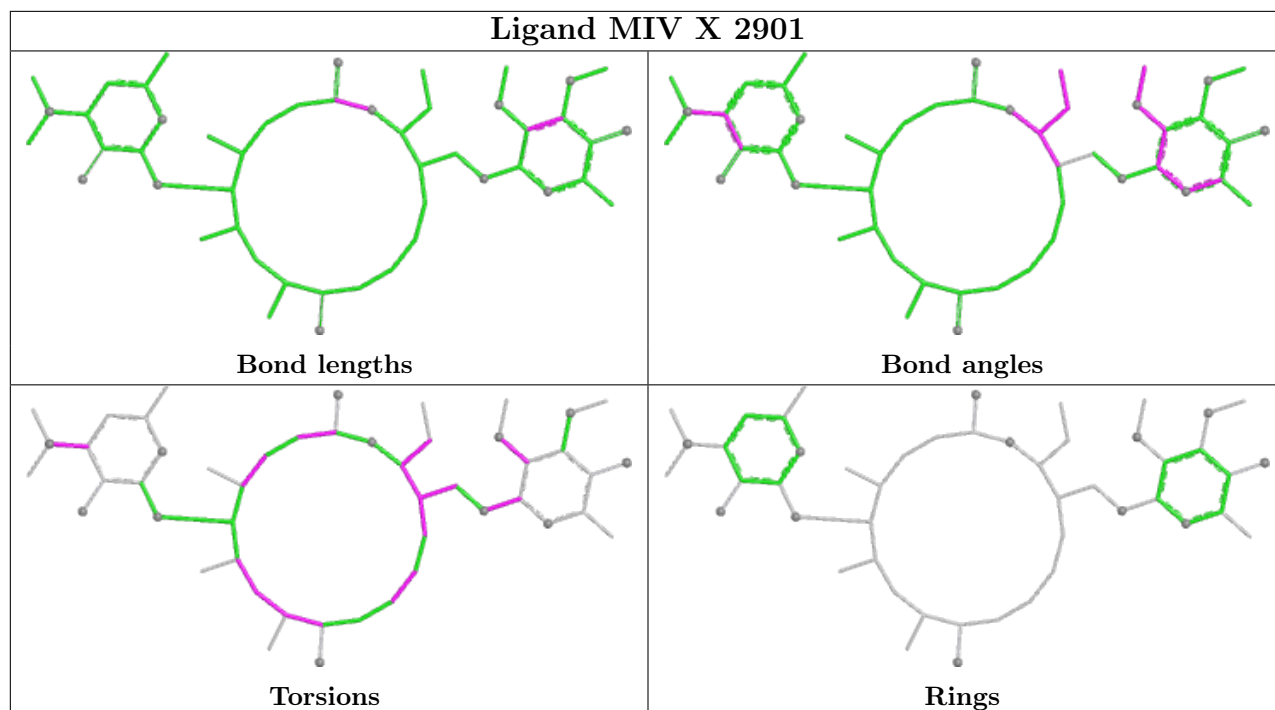
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	X	12

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	X	282:A	O3'	302:U	P	65.10
1	X	362:C	O3'	380:C	P	54.16
1	X	2090:U	O3'	2165:A	P	19.14
1	X	1184:G	O3'	1191:G	P	18.52
1	X	2773:G	O3'	2779:A	P	17.92
1	X	1522:C	O3'	1526:U	P	17.66
1	X	725:C	O3'	732:G	P	16.37
1	X	1546:C	O3'	1558:C	P	15.65
1	X	1891:C	O3'	1908:C	P	14.39
1	X	1732:U	O3'	1735:G	P	9.97
1	X	891:A	O3'	911:A	P	7.98

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	X	724:C	O3'	725:C	P	4.77

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	X	2699/2699 (100%)	0.43	183 (6%)	17	19	37, 96, 191, 312	0
2	Y	122/122 (100%)	0.51	10 (8%)	11	13	95, 183, 226, 251	0
3	A	271/271 (100%)	0.76	39 (14%)	2	3	79, 131, 162, 170	0
4	B	206/206 (100%)	0.16	8 (3%)	39	38	40, 64, 80, 85	0
5	C	195/195 (100%)	0.47	22 (11%)	5	6	60, 122, 150, 159	0
6	D	176/176 (100%)	0.80	33 (18%)	1	1	168, 207, 227, 235	0
7	E	171/171 (100%)	0.76	35 (20%)	1	1	98, 144, 186, 190	0
8	G	142/142 (100%)	0.22	5 (3%)	44	43	60, 95, 107, 115	0
9	H	134/134 (100%)	0.04	2 (1%)	73	72	46, 57, 64, 69	0
10	I	137/137 (100%)	0.78	21 (15%)	2	2	67, 141, 180, 192	0
11	J	134/134 (100%)	0.43	9 (6%)	17	19	71, 103, 126, 132	0
12	K	115/115 (100%)	-0.01	0	100	100	40, 47, 54, 58	0
13	L	104/104 (100%)	0.72	18 (17%)	1	1	159, 198, 226, 237	0
14	M	118/118 (100%)	-0.14	1 (0%)	86	85	46, 56, 69, 74	0
15	N	117/117 (100%)	0.42	5 (4%)	35	35	59, 94, 121, 127	0
16	O	98/98 (100%)	0.32	6 (6%)	21	22	66, 114, 134, 138	0
17	P	129/129 (100%)	-0.13	0	100	100	49, 59, 82, 97	0
18	Q	93/93 (100%)	0.34	6 (6%)	18	20	85, 109, 125, 126	0
19	R	110/110 (100%)	0.35	9 (8%)	11	13	86, 103, 146, 156	0
20	S	175/175 (100%)	1.15	48 (27%)	0	0	113, 157, 176, 182	0
21	T	72/72 (100%)	0.54	6 (8%)	11	13	87, 133, 147, 153	0
22	U	74/74 (100%)	0.88	12 (16%)	1	2	106, 144, 175, 178	0
23	V	54/54 (100%)	0.48	6 (11%)	5	6	116, 127, 154, 162	0
24	W	55/55 (100%)	0.83	7 (12%)	3	4	88, 108, 128, 133	0

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Mol	Chain	Analysed	\<RSRZ\>	#RSRZ>2			OWAB(Å²)	Q<0.9
25	Z	57/57 (100%)	0.02	0	100	100	47, 56, 70, 74	0
26	1	49/49 (100%)	0.69	8 (16%)	1	2	132, 148, 166, 168	0
27	2	46/46 (100%)	0.11	0	100	100	63, 86, 94, 96	0
28	3	63/63 (100%)	0.44	0	100	100	105, 115, 128, 134	0
All	All	5916/5916 (100%)	0.45	499 (8%)	11	13	37, 105, 203, 312	0

All (499) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
20	S	82	ASP	9.5
1	X	248	A	8.9
7	E	123	PHE	8.6
6	D	153	ASP	8.6
1	X	1095	A	8.1
20	S	93	GLU	7.8
1	X	1602	G	7.7
1	X	1072	U	7.7
1	X	2089	C	7.5
10	I	67	ASN	7.4
20	S	68	ALA	7.3
3	A	101	GLU	7.1
3	A	100	GLY	7.0
1	X	1085	G	6.9
13	L	30	SER	6.8
1	X	1115	C	6.7
3	A	99	ASP	6.7
13	L	97	HIS	6.6
1	X	250	C	6.6
20	S	81	VAL	6.4
6	D	94	GLU	6.4
10	I	72	TYR	6.3
13	L	40	ALA	6.1
1	X	1099	A	6.1
4	B	206	ALA	6.1
20	S	67	LYS	5.9
20	S	86	VAL	5.8
1	X	1080	A	5.6
1	X	1073	G	5.6
20	S	83	PHE	5.6
1	X	2088	U	5.5
1	X	249	A	5.5

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Mol	Chain	Res	Type	RSRZ
20	S	92	VAL	5.5
1	X	1068	A	5.4
1	X	2166	G	5.4
6	D	39	GLY	5.3
1	X	1116	U	5.3
19	R	68	GLY	5.2
11	J	82	THR	5.2
1	X	2169	A	5.1
1	X	1516	A	5.1
22	U	47	HIS	5.1
3	A	98	ALA	5.1
20	S	51	LEU	5.0
1	X	263	G	5.0
5	C	94	THR	4.9
1	X	74	G	4.9
10	I	115	SER	4.9
19	R	69	GLN	4.9
6	D	23	SER	4.9
1	X	1081	A	4.8
20	S	3	LEU	4.8
19	R	56	LYS	4.8
1	X	192	G	4.8
7	E	120	GLY	4.7
1	X	75	C	4.7
1	X	2090	U	4.7
6	D	22	TYR	4.7
1	X	251	C	4.7
10	I	68	VAL	4.7
20	S	30	VAL	4.7
22	U	50	ALA	4.7
1	X	427	C	4.7
3	A	171	ASP	4.7
20	S	69	VAL	4.7
22	U	7	LEU	4.7
1	X	1059	A	4.7
26	1	40	TYR	4.6
1	X	247	A	4.6
6	D	20	PHE	4.6
6	D	25	VAL	4.6
3	A	97	TYR	4.6
20	S	130	ILE	4.6
20	S	114	ASP	4.6

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Mol	Chain	Res	Type	RSRZ
2	Y	2	C	4.5
19	R	54	ILE	4.5
1	X	1060	C	4.5
1	X	1071	U	4.4
1	X	1057	A	4.4
1	X	2170	C	4.4
7	E	133	VAL	4.4
26	1	24	THR	4.4
1	X	1098	G	4.4
1	X	1082	G	4.3
1	X	1507	A	4.3
20	S	171	VAL	4.3
3	A	72	LYS	4.3
1	X	2290	A	4.3
20	S	65	LEU	4.2
1	X	2082	C	4.2
16	O	23	GLU	4.2
20	S	14	LEU	4.2
1	X	1603	A	4.1
20	S	21	ALA	4.1
24	W	43	MET	4.1
6	D	136	LEU	4.1
13	L	34	SER	4.1
24	W	40	VAL	4.1
6	D	144	ASP	4.1
22	U	61	TRP	4.1
11	J	122	ALA	4.1
1	X	2171	U	4.0
7	E	15	VAL	4.0
7	E	68	THR	4.0
10	I	103	ASN	4.0
6	D	129	ASN	3.9
3	A	21	PHE	3.9
5	C	92	ASP	3.9
13	L	31	VAL	3.8
1	X	1084	A	3.8
15	N	91	ASN	3.8
23	V	36	GLN	3.8
1	X	2270	U	3.7
24	W	7	ARG	3.7
4	B	139	GLY	3.7
1	X	1079	G	3.7

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Mol	Chain	Res	Type	RSRZ
1	X	2280	A	3.7
10	I	24	GLY	3.7
7	E	136	ILE	3.7
5	C	44	SER	3.7
22	U	35	THR	3.7
1	X	2167	A	3.7
1	X	1117	G	3.6
10	I	48	PHE	3.6
2	Y	111	C	3.6
1	X	1094	C	3.6
1	X	1515	U	3.6
4	B	135	HIS	3.6
3	A	19	ALA	3.6
13	L	8	ARG	3.6
3	A	132	PRO	3.5
1	X	1888	C	3.5
26	1	27	ASN	3.5
1	X	1114	A	3.5
1	X	2174	G	3.5
3	A	12	SER	3.5
5	C	45	THR	3.5
5	C	193	LEU	3.5
7	E	135	GLY	3.5
26	1	21	TYR	3.5
10	I	92	THR	3.5
9	H	20	MET	3.5
1	X	2731	G	3.4
6	D	141	ILE	3.4
19	R	55	THR	3.4
20	S	148	THR	3.4
10	I	49	PHE	3.4
18	Q	17	TYR	3.4
1	X	1090	C	3.4
1	X	431	G	3.4
1	X	260	U	3.4
1	X	76	C	3.4
6	D	72	LYS	3.4
10	I	47	ALA	3.4
8	G	91	THR	3.3
20	S	63	PRO	3.3
22	U	49	LYS	3.3
23	V	48	ARG	3.3

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Mol	Chain	Res	Type	RSRZ
5	C	133	PHE	3.3
1	X	429	C	3.3
20	S	15	ASP	3.3
1	X	2078	G	3.3
13	L	96	TYR	3.3
13	L	89	PHE	3.3
2	Y	42	U	3.3
24	W	23	LEU	3.3
15	N	89	ASP	3.3
3	A	90	ALA	3.3
1	X	430	C	3.3
10	I	63	ARG	3.3
20	S	166	LEU	3.3
1	X	2165	A	3.3
5	C	161	ALA	3.3
22	U	58	LYS	3.3
1	X	2279	G	3.3
1	X	2610	G	3.3
21	T	37	LEU	3.3
4	B	84	PHE	3.3
5	C	81	GLY	3.3
8	G	171	LEU	3.3
6	D	71	LYS	3.3
6	D	119	PRO	3.3
7	E	131	ILE	3.3
20	S	19	ILE	3.3
24	W	26	ARG	3.2
16	O	22	VAL	3.2
13	L	52	ALA	3.2
1	X	1517	C	3.2
1	X	1913	G	3.2
3	A	162	SER	3.2
5	C	123	PHE	3.2
1	X	1877	C	3.2
1	X	1604	A	3.2
1	X	160	C	3.2
21	T	22	GLY	3.2
6	D	3	GLN	3.2
1	X	1062	G	3.2
1	X	1599	G	3.2
1	X	2444	C	3.2
1	X	259	U	3.2

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Mol	Chain	Res	Type	RSRZ
1	X	1069	G	3.2
1	X	2168	A	3.2
10	I	65	PHE	3.2
1	X	1183	C	3.2
3	A	170	SER	3.2
1	X	2087	U	3.1
1	X	48	A	3.1
1	X	1077	U	3.1
7	E	43	VAL	3.1
1	X	1083	C	3.1
1	X	190	A	3.1
1	X	1086	C	3.1
24	W	22	ALA	3.1
20	S	22	VAL	3.1
7	E	134	SER	3.1
18	Q	93	GLY	3.1
7	E	34	THR	3.0
1	X	1087	C	3.0
11	J	123	GLY	3.0
22	U	73	GLY	3.0
1	X	362	C	3.0
7	E	174	GLY	3.0
1	X	271	G	3.0
11	J	84	MET	3.0
1	X	1097	A	3.0
20	S	20	ALA	3.0
1	X	426	C	3.0
3	A	137	PRO	3.0
1	X	381	C	3.0
3	A	242	ALA	3.0
26	1	14	SER	3.0
1	X	2361	G	3.0
10	I	69	GLY	3.0
5	C	95	LEU	3.0
1	X	732	G	2.9
1	X	667	U	2.9
11	J	121	LEU	2.9
24	W	39	ALA	2.9
1	X	1526	U	2.9
7	E	83	TYR	2.9
1	X	2291	U	2.9
1	X	725	C	2.9

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Mol	Chain	Res	Type	RSRZ
1	X	2390	A	2.9
1	X	278	G	2.9
5	C	96	PRO	2.9
16	O	78	VAL	2.9
1	X	1514	C	2.9
10	I	19	VAL	2.9
1	X	1513	U	2.9
1	X	1845	A	2.9
7	E	121	VAL	2.8
6	D	120	ASN	2.8
1	X	1120	C	2.8
10	I	15	ASP	2.8
22	U	60	VAL	2.8
1	X	1050	G	2.8
4	B	138	PRO	2.8
6	D	152	MET	2.8
1	X	382	U	2.8
11	J	14	PHE	2.8
1	X	1912	G	2.8
26	1	41	ASP	2.8
7	E	67	LEU	2.8
4	B	205	SER	2.8
3	A	254	THR	2.8
1	X	653	G	2.8
1	X	1430	G	2.8
6	D	26	MET	2.8
13	L	86	GLN	2.7
2	Y	123	U	2.7
6	D	145	MET	2.7
13	L	51	LEU	2.7
20	S	31	SER	2.7
7	E	16	THR	2.7
1	X	1154	A	2.7
3	A	91	ARG	2.7
20	S	85	MET	2.7
7	E	52	VAL	2.7
13	L	32	TYR	2.7
1	X	1427	G	2.7
2	Y	43	G	2.7
3	A	136	VAL	2.7
1	X	1844	C	2.7
13	L	39	TYR	2.7

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Mol	Chain	Res	Type	RSRZ
3	A	76	ASN	2.7
3	A	77	ALA	2.7
10	I	73	GLU	2.7
13	L	55	SER	2.7
2	Y	29	C	2.7
19	R	53	VAL	2.7
3	A	172	TYR	2.6
3	A	186	HIS	2.7
10	I	18	ARG	2.6
3	A	229	VAL	2.6
7	E	175	LYS	2.6
11	J	80	ALA	2.6
3	A	102	LYS	2.6
7	E	27	LYS	2.6
1	X	191	G	2.6
11	J	107	VAL	2.6
19	R	57	ASN	2.6
1	X	2077	G	2.6
1	X	1522	C	2.6
10	I	81	GLN	2.6
1	X	1887	G	2.6
6	D	30	ARG	2.6
5	C	91	TYR	2.6
22	U	46	LEU	2.6
1	X	2323	U	2.6
7	E	41	LEU	2.6
7	E	42	THR	2.6
6	D	177	PHE	2.5
5	C	43	ALA	2.5
1	X	2084	G	2.5
13	L	99	ARG	2.5
20	S	24	TYR	2.5
6	D	84	PRO	2.5
15	N	2	PRO	2.5
10	I	41	SER	2.5
1	X	116	A	2.5
1	X	428	A	2.5
1	X	2199	C	2.5
1	X	1508	G	2.5
15	N	88	ILE	2.5
2	Y	68	A	2.5
20	S	66	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
1	X	1056	U	2.5
1	X	2389	G	2.5
1	X	435	A	2.5
1	X	1063	C	2.5
1	X	1089	C	2.5
3	A	228	PRO	2.5
20	S	144	GLY	2.5
1	X	225	G	2.5
6	D	132	ILE	2.5
6	D	85	VAL	2.4
7	E	140	LEU	2.4
19	R	67	GLY	2.4
20	S	80	HIS	2.4
1	X	1390	G	2.4
26	1	52	GLU	2.4
7	E	101	LYS	2.4
20	S	2	GLU	2.4
1	X	1106	A	2.4
20	S	147	ILE	2.4
4	B	168	GLN	2.4
7	E	64	LEU	2.4
20	S	87	THR	2.4
1	X	2326	C	2.4
5	C	84	PHE	2.4
19	R	28	LYS	2.4
1	X	665	A	2.4
1	X	1367	A	2.4
7	E	50	LEU	2.4
20	S	94	VAL	2.4
7	E	124	ALA	2.4
1	X	436	A	2.4
23	V	52	GLN	2.4
7	E	60	LYS	2.4
6	D	92	ARG	2.4
7	E	122	THR	2.4
1	X	1832	G	2.4
1	X	1023	U	2.4
8	G	90	LEU	2.4
1	X	1100	G	2.4
23	V	17	GLU	2.4
3	A	45	ASN	2.4
1	X	2182	A	2.3

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Mol	Chain	Res	Type	RSRZ
1	X	2325	A	2.3
3	A	168	LYS	2.3
1	X	1096	A	2.3
16	O	6	GLN	2.3
1	X	275	U	2.3
3	A	133	LEU	2.3
3	A	58	HIS	2.3
6	D	122	PHE	2.3
8	G	43	VAL	2.3
3	A	82	ILE	2.3
20	S	172	LEU	2.3
6	D	62	LEU	2.3
20	S	50	GLY	2.3
1	X	154	U	2.3
7	E	150	LYS	2.3
11	J	126	LEU	2.3
20	S	23	ALA	2.3
26	1	35	LEU	2.3
6	D	162	THR	2.3
1	X	878	C	2.3
1	X	1049	C	2.3
20	S	112	LEU	2.3
13	L	33	ARG	2.3
21	T	61	ALA	2.3
1	X	246	C	2.3
7	E	30	LYS	2.3
1	X	2269	G	2.3
3	A	9	TYR	2.3
20	S	84	TYR	2.3
5	C	157	THR	2.3
9	H	8	LEU	2.3
1	X	1872	A	2.3
22	U	6	TYR	2.3
1	X	1067	G	2.2
1	X	184	A	2.2
1	X	270	G	2.2
3	A	59	LYS	2.2
23	V	37	LEU	2.2
18	Q	50	VAL	2.2
1	X	2198	U	2.2
1	X	1078	A	2.2
1	X	1406	A	2.2

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Mol	Chain	Res	Type	RSRZ
13	L	104	ALA	2.2
3	A	73	SER	2.2
1	X	2866	A	2.2
3	A	224	SER	2.2
20	S	54	ILE	2.2
20	S	108	VAL	2.2
1	X	2085	G	2.2
1	X	2197	U	2.2
14	M	88	VAL	2.2
21	T	38	VAL	2.2
1	X	151	G	2.2
1	X	1066	G	2.2
5	C	54	THR	2.2
3	A	96	HIS	2.2
1	X	1030	U	2.2
5	C	173	ALA	2.2
5	C	20	PRO	2.2
20	S	70	GLN	2.2
1	X	2173	G	2.2
20	S	149	ALA	2.2
20	S	109	GLN	2.2
15	N	44	THR	2.2
1	X	1118	G	2.2
5	C	169	VAL	2.2
23	V	51	ALA	2.1
1	X	1494	G	2.1
1	X	2328	G	2.1
7	E	89	LEU	2.1
7	E	69	ARG	2.1
1	X	1585	A	2.1
2	Y	58	G	2.1
6	D	93	GLY	2.1
20	S	58	GLY	2.1
6	D	143	TYR	2.1
7	E	143	GLN	2.1
1	X	724	C	2.1
1	X	2359	U	2.1
7	E	37	TYR	2.1
7	E	26	VAL	2.1
5	C	80	GLY	2.1
20	S	6	LYS	2.1
16	O	47	PHE	2.1

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Mol	Chain	Res	Type	RSRZ
1	X	238	G	2.1
1	X	1058	G	2.1
1	X	1831	G	2.1
1	X	863	C	2.1
1	X	1885	C	2.1
5	C	42	THR	2.1
1	X	86	U	2.1
1	X	2385	U	2.1
1	X	2433	G	2.1
6	D	155	THR	2.1
18	Q	13	SER	2.1
5	C	99	VAL	2.1
13	L	48	GLY	2.1
18	Q	94	GLN	2.1
16	O	7	THR	2.1
1	X	424	G	2.1
1	X	1589	G	2.1
20	S	141	MET	2.1
10	I	118	VAL	2.1
3	A	24	LEU	2.1
3	A	145	LEU	2.1
3	A	236	GLY	2.1
6	D	128	TYR	2.1
10	I	70	THR	2.1
18	Q	31	PRO	2.1
1	X	1512	A	2.1
1	X	1920	A	2.1
4	B	144	ARG	2.0
1	X	1121	G	2.0
1	X	199	A	2.0
2	Y	41	A	2.0
1	X	1104	G	2.0
1	X	1384	G	2.0
2	Y	23	G	2.0
1	X	277	G	2.0
1	X	361	G	2.0
1	X	2353	G	2.0
1	X	303	C	2.0
1	X	420	C	2.0
1	X	2329	C	2.0
6	D	40	LEU	2.0
8	G	78	ASP	2.0

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Mol	Chain	Res	Type	RSRZ
21	T	24	LYS	2.0
21	T	21	LEU	2.0
22	U	36	GLY	2.0
1	X	1061	A	2.0
1	X	1952	A	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	2976	1/1	0.39	0.78	125,125,125,125	0
30	MG	X	3060	1/1	0.40	0.85	54,54,54,54	0
30	MG	X	3097	1/1	0.44	0.64	102,102,102,102	0
30	MG	X	3154	1/1	0.46	1.29	74,74,74,74	0
30	MG	X	3050	1/1	0.54	0.63	108,108,108,108	0
31	SPD	X	3166	10/10	0.56	0.69	92,95,99,99	0
30	MG	X	3104	1/1	0.58	1.46	119,119,119,119	0
30	MG	X	3002	1/1	0.59	0.48	138,138,138,138	0
30	MG	X	3096	1/1	0.61	0.44	71,71,71,71	0
30	MG	X	3146	1/1	0.61	0.82	178,178,178,178	0
30	MG	Y	202	1/1	0.62	0.58	98,98,98,98	0
30	MG	X	3074	1/1	0.63	0.46	59,59,59,59	0
30	MG	X	3121	1/1	0.63	0.38	79,79,79,79	0
30	MG	X	3090	1/1	0.64	0.55	81,81,81,81	0
31	SPD	V	101	10/10	0.67	0.28	126,128,135,136	0
30	MG	X	3109	1/1	0.68	0.54	63,63,63,63	0
30	MG	X	3122	1/1	0.68	0.52	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3141	1/1	0.68	0.44	145,145,145,145	0
30	MG	X	3115	1/1	0.68	0.73	54,54,54,54	0
30	MG	X	3144	1/1	0.69	1.39	105,105,105,105	0
30	MG	X	3151	1/1	0.69	0.89	53,53,53,53	0
30	MG	X	3163	1/1	0.70	0.52	60,60,60,60	0
30	MG	X	3113	1/1	0.70	0.39	55,55,55,55	0
30	MG	X	2969	1/1	0.73	0.81	55,55,55,55	0
30	MG	X	3102	1/1	0.73	0.76	112,112,112,112	0
30	MG	X	3130	1/1	0.73	0.39	60,60,60,60	0
30	MG	X	2950	1/1	0.73	0.45	88,88,88,88	0
30	MG	X	3052	1/1	0.74	0.74	105,105,105,105	0
30	MG	X	3057	1/1	0.74	0.51	80,80,80,80	0
30	MG	X	2984	1/1	0.74	0.36	62,62,62,62	0
30	MG	X	3071	1/1	0.75	0.54	95,95,95,95	0
30	MG	X	3131	1/1	0.76	0.59	98,98,98,98	0
30	MG	X	3149	1/1	0.76	0.56	83,83,83,83	0
30	MG	X	3086	1/1	0.76	0.72	78,78,78,78	0
30	MG	X	3045	1/1	0.76	0.55	92,92,92,92	0
30	MG	X	2979	1/1	0.77	0.71	83,83,83,83	0
30	MG	X	3116	1/1	0.77	0.26	60,60,60,60	0
30	MG	X	3105	1/1	0.78	0.54	69,69,69,69	0
30	MG	X	3017	1/1	0.79	0.34	114,114,114,114	0
30	MG	X	3159	1/1	0.79	0.49	93,93,93,93	0
30	MG	X	3018	1/1	0.79	0.30	76,76,76,76	0
30	MG	X	2988	1/1	0.79	0.35	87,87,87,87	0
30	MG	2	101	1/1	0.79	1.45	80,80,80,80	0
30	MG	X	3048	1/1	0.79	0.30	124,124,124,124	0
30	MG	X	2925	1/1	0.79	0.71	50,50,50,50	0
30	MG	X	3046	1/1	0.80	0.47	78,78,78,78	0
30	MG	X	3145	1/1	0.80	0.37	77,77,77,77	0
30	MG	X	3123	1/1	0.81	0.34	85,85,85,85	0
30	MG	X	3110	1/1	0.81	0.71	41,41,41,41	0
30	MG	X	3032	1/1	0.81	0.74	112,112,112,112	0
30	MG	X	3051	1/1	0.81	0.37	118,118,118,118	0
30	MG	X	2958	1/1	0.81	0.46	77,77,77,77	0
30	MG	X	3120	1/1	0.81	0.37	78,78,78,78	0
30	MG	X	3026	1/1	0.81	0.43	81,81,81,81	0
30	MG	X	3030	1/1	0.81	0.40	48,48,48,48	0
30	MG	X	2944	1/1	0.82	1.21	102,102,102,102	0
30	MG	X	3091	1/1	0.82	0.90	53,53,53,53	0
30	MG	X	3139	1/1	0.82	0.41	182,182,182,182	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3095	1/1	0.82	0.40	65,65,65,65	0
30	MG	X	3164	1/1	0.82	0.42	39,39,39,39	0
30	MG	X	3082	1/1	0.82	0.86	112,112,112,112	0
30	MG	X	3003	1/1	0.82	0.25	77,77,77,77	0
30	MG	X	3098	1/1	0.82	0.36	120,120,120,120	0
30	MG	X	3124	1/1	0.82	0.81	67,67,67,67	0
30	MG	X	3021	1/1	0.83	0.63	73,73,73,73	0
30	MG	3	101	1/1	0.83	1.69	126,126,126,126	0
30	MG	X	2989	1/1	0.83	0.39	103,103,103,103	0
31	SPD	X	3170	10/10	0.83	0.29	62,63,64,64	0
30	MG	X	3044	1/1	0.83	0.55	73,73,73,73	0
30	MG	X	2923	1/1	0.84	0.34	75,75,75,75	0
30	MG	Y	203	1/1	0.84	0.45	132,132,132,132	0
30	MG	N	201	1/1	0.84	1.01	75,75,75,75	0
30	MG	Q	101	1/1	0.84	0.56	104,104,104,104	0
30	MG	X	3153	1/1	0.84	0.57	47,47,47,47	0
30	MG	X	2914	1/1	0.84	0.31	65,65,65,65	0
30	MG	X	2920	1/1	0.84	0.55	74,74,74,74	0
30	MG	X	3077	1/1	0.84	1.50	56,56,56,56	0
30	MG	X	3093	1/1	0.84	0.23	117,117,117,117	0
30	MG	X	3117	1/1	0.85	0.26	48,48,48,48	0
30	MG	X	3152	1/1	0.85	0.65	49,49,49,49	0
30	MG	X	2903	1/1	0.85	0.54	60,60,60,60	0
30	MG	X	3055	1/1	0.85	0.39	66,66,66,66	0
30	MG	X	2939	1/1	0.85	0.26	50,50,50,50	0
30	MG	X	2990	1/1	0.85	0.15	62,62,62,62	0
30	MG	X	3040	1/1	0.85	0.60	103,103,103,103	0
30	MG	X	2971	1/1	0.85	0.49	59,59,59,59	0
30	MG	X	3010	1/1	0.86	0.52	111,111,111,111	0
30	MG	X	3034	1/1	0.86	0.16	66,66,66,66	0
30	MG	X	3036	1/1	0.86	0.28	75,75,75,75	0
30	MG	X	2924	1/1	0.86	0.26	80,80,80,80	0
30	MG	X	2959	1/1	0.86	0.49	78,78,78,78	0
30	MG	W	101	1/1	0.86	0.32	111,111,111,111	0
30	MG	X	2999	1/1	0.86	0.61	81,81,81,81	0
30	MG	X	3111	1/1	0.86	0.30	53,53,53,53	0
30	MG	X	3065	1/1	0.86	0.46	99,99,99,99	0
30	MG	X	2986	1/1	0.86	0.47	57,57,57,57	0
30	MG	X	2961	1/1	0.86	0.39	78,78,78,78	0
30	MG	X	3004	1/1	0.87	0.52	61,61,61,61	0
30	MG	X	3158	1/1	0.87	0.25	64,64,64,64	0
30	MG	X	3009	1/1	0.87	0.31	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å²)	Q<0.9
30	MG	X	2981	1/1	0.87	0.30	79,79,79,79	0
30	MG	X	3140	1/1	0.87	0.20	159,159,159,159	0
30	MG	Y	201	1/1	0.87	0.33	114,114,114,114	0
30	MG	X	2934	1/1	0.87	0.18	58,58,58,58	0
30	MG	X	2964	1/1	0.87	0.34	67,67,67,67	0
30	MG	X	2982	1/1	0.88	0.15	101,101,101,101	0
30	MG	X	3023	1/1	0.88	0.75	70,70,70,70	0
30	MG	X	3056	1/1	0.88	0.32	47,47,47,47	0
30	MG	X	2937	1/1	0.88	0.42	83,83,83,83	0
30	MG	X	3035	1/1	0.88	0.39	104,104,104,104	0
30	MG	Q	102	1/1	0.88	0.44	75,75,75,75	0
30	MG	X	2917	1/1	0.89	0.40	71,71,71,71	0
30	MG	X	2985	1/1	0.89	0.23	63,63,63,63	0
30	MG	X	3062	1/1	0.89	0.30	109,109,109,109	0
30	MG	X	3022	1/1	0.89	0.12	64,64,64,64	0
30	MG	X	3119	1/1	0.89	0.30	69,69,69,69	0
30	MG	X	2977	1/1	0.89	0.23	66,66,66,66	0
30	MG	X	2957	1/1	0.89	0.70	73,73,73,73	0
30	MG	X	3008	1/1	0.89	0.32	49,49,49,49	0
29	MIV	X	2901	49/49	0.89	0.26	52,53,57,58	0
30	MG	X	2936	1/1	0.89	0.25	69,69,69,69	0
30	MG	X	3127	1/1	0.89	0.16	49,49,49,49	0
30	MG	X	3016	1/1	0.89	0.73	72,72,72,72	0
30	MG	X	2993	1/1	0.89	0.26	128,128,128,128	0
30	MG	X	3160	1/1	0.89	0.50	40,40,40,40	0
30	MG	X	3069	1/1	0.90	0.27	90,90,90,90	0
30	MG	Y	204	1/1	0.90	0.28	151,151,151,151	0
30	MG	A	301	1/1	0.90	0.69	94,94,94,94	0
30	MG	X	3112	1/1	0.90	0.60	54,54,54,54	0
30	MG	X	2962	1/1	0.90	0.70	97,97,97,97	0
30	MG	X	2911	1/1	0.90	0.36	39,39,39,39	0
30	MG	X	3143	1/1	0.90	0.72	133,133,133,133	0
30	MG	X	3007	1/1	0.90	0.19	71,71,71,71	0
30	MG	X	3125	1/1	0.90	0.62	71,71,71,71	0
30	MG	X	3126	1/1	0.90	0.51	76,76,76,76	0
31	SPD	X	3167	10/10	0.90	0.32	56,56,57,57	0
30	MG	X	2912	1/1	0.90	0.80	64,64,64,64	0
30	MG	X	3068	1/1	0.90	0.27	97,97,97,97	0
30	MG	X	3033	1/1	0.91	0.24	45,45,45,45	0
30	MG	X	3132	1/1	0.91	0.28	88,88,88,88	0
30	MG	X	2908	1/1	0.91	0.47	39,39,39,39	0
30	MG	X	2910	1/1	0.91	0.37	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	2978	1/1	0.91	0.85	85,85,85,85	0
30	MG	X	3094	1/1	0.91	1.22	69,69,69,69	0
30	MG	X	2913	1/1	0.91	0.36	59,59,59,59	0
30	MG	X	2927	1/1	0.91	0.60	69,69,69,69	0
30	MG	X	3067	1/1	0.91	0.21	94,94,94,94	0
30	MG	X	3000	1/1	0.91	0.26	67,67,67,67	0
30	MG	X	2928	1/1	0.91	0.20	68,68,68,68	0
30	MG	X	2983	1/1	0.91	0.56	89,89,89,89	0
30	MG	2	102	1/1	0.91	0.57	62,62,62,62	0
30	MG	X	2956	1/1	0.91	0.35	69,69,69,69	0
30	MG	X	2970	1/1	0.91	0.34	61,61,61,61	0
30	MG	X	2921	1/1	0.91	0.46	66,66,66,66	0
30	MG	X	3129	1/1	0.91	0.15	86,86,86,86	0
31	SPD	X	3171	10/10	0.91	0.26	45,47,50,50	0
30	MG	X	3084	1/1	0.91	0.79	82,82,82,82	0
30	MG	X	3059	1/1	0.92	0.36	55,55,55,55	0
30	MG	X	3006	1/1	0.92	0.32	44,44,44,44	0
30	MG	X	3061	1/1	0.92	0.18	95,95,95,95	0
30	MG	X	2922	1/1	0.92	0.76	51,51,51,51	0
30	MG	X	3092	1/1	0.92	0.20	77,77,77,77	0
30	MG	X	2902	1/1	0.92	0.64	82,82,82,82	0
30	MG	X	2951	1/1	0.92	0.39	54,54,54,54	0
30	MG	X	2942	1/1	0.92	0.28	49,49,49,49	0
30	MG	X	3012	1/1	0.92	0.31	47,47,47,47	0
30	MG	X	3118	1/1	0.92	0.54	45,45,45,45	0
30	MG	X	3053	1/1	0.92	0.22	53,53,53,53	0
30	MG	X	3039	1/1	0.92	0.29	67,67,67,67	0
31	SPD	X	3169	10/10	0.92	0.21	77,79,80,81	0
30	MG	X	3165	1/1	0.92	0.29	39,39,39,39	0
30	MG	X	3015	1/1	0.92	0.66	105,105,105,105	0
30	MG	X	3028	1/1	0.92	0.76	69,69,69,69	0
30	MG	X	2987	1/1	0.93	0.26	54,54,54,54	0
30	MG	X	3064	1/1	0.93	0.30	113,113,113,113	0
30	MG	X	3088	1/1	0.93	0.17	78,78,78,78	0
30	MG	X	3108	1/1	0.93	0.31	61,61,61,61	0
30	MG	X	2906	1/1	0.93	0.33	75,75,75,75	0
30	MG	X	2941	1/1	0.93	0.23	73,73,73,73	0
30	MG	X	2918	1/1	0.93	0.91	71,71,71,71	0
30	MG	X	3147	1/1	0.93	1.02	95,95,95,95	0
30	MG	X	2963	1/1	0.93	0.48	96,96,96,96	0
30	MG	X	3058	1/1	0.93	0.36	63,63,63,63	0
30	MG	X	3128	1/1	0.93	0.45	95,95,95,95	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3073	1/1	0.93	0.20	118,118,118,118	0
30	MG	X	2995	1/1	0.93	0.23	54,54,54,54	0
30	MG	X	3156	1/1	0.93	0.44	71,71,71,71	0
30	MG	X	2930	1/1	0.93	0.52	50,50,50,50	0
30	MG	X	2948	1/1	0.93	0.40	83,83,83,83	0
31	SPD	X	3168	10/10	0.93	0.43	44,45,46,46	0
30	MG	X	3134	1/1	0.93	0.40	39,39,39,39	0
30	MG	X	3161	1/1	0.93	0.47	38,38,38,38	0
30	MG	X	3162	1/1	0.93	0.43	69,69,69,69	0
30	MG	X	3136	1/1	0.93	0.27	79,79,79,79	0
30	MG	X	3080	1/1	0.94	0.28	51,51,51,51	0
30	MG	X	3107	1/1	0.94	0.17	83,83,83,83	0
30	MG	X	2947	1/1	0.94	0.15	87,87,87,87	0
30	MG	X	3150	1/1	0.94	0.18	70,70,70,70	0
30	MG	I	201	1/1	0.94	0.27	81,81,81,81	0
30	MG	X	3014	1/1	0.94	0.49	75,75,75,75	0
30	MG	X	2974	1/1	0.94	0.20	61,61,61,61	0
30	MG	X	3031	1/1	0.94	0.55	38,38,38,38	0
30	MG	X	3049	1/1	0.94	0.56	124,124,124,124	0
30	MG	X	2953	1/1	0.94	0.28	57,57,57,57	0
30	MG	X	2968	1/1	0.94	0.47	75,75,75,75	0
30	MG	X	2915	1/1	0.94	0.47	57,57,57,57	0
30	MG	X	2996	1/1	0.94	0.27	76,76,76,76	0
30	MG	X	2935	1/1	0.94	0.33	90,90,90,90	0
30	MG	X	3072	1/1	0.94	0.15	115,115,115,115	0
30	MG	X	2980	1/1	0.94	0.50	88,88,88,88	0
30	MG	X	3024	1/1	0.94	0.31	41,41,41,41	0
30	MG	X	3076	1/1	0.94	0.43	65,65,65,65	0
30	MG	X	3042	1/1	0.94	0.20	58,58,58,58	0
30	MG	X	2972	1/1	0.95	0.40	81,81,81,81	0
30	MG	X	2946	1/1	0.95	0.21	51,51,51,51	0
30	MG	X	3078	1/1	0.95	0.22	59,59,59,59	0
30	MG	X	3037	1/1	0.95	0.36	104,104,104,104	0
30	MG	X	3038	1/1	0.95	0.30	67,67,67,67	0
30	MG	X	2975	1/1	0.95	0.32	84,84,84,84	0
30	MG	X	3029	1/1	0.95	0.39	66,66,66,66	0
30	MG	X	3001	1/1	0.95	0.08	91,91,91,91	0
30	MG	X	3089	1/1	0.95	0.29	61,61,61,61	0
30	MG	X	3019	1/1	0.95	0.45	91,91,91,91	0
30	MG	X	2992	1/1	0.95	0.55	73,73,73,73	0
30	MG	X	2904	1/1	0.95	0.32	49,49,49,49	0
30	MG	X	2931	1/1	0.95	0.42	68,68,68,68	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3135	1/1	0.96	0.18	148,148,148,148	0
30	MG	X	2938	1/1	0.96	0.17	52,52,52,52	0
30	MG	X	3137	1/1	0.96	0.12	83,83,83,83	0
30	MG	X	3066	1/1	0.96	0.37	81,81,81,81	0
30	MG	X	2998	1/1	0.96	0.47	78,78,78,78	0
30	MG	X	2960	1/1	0.96	0.37	62,62,62,62	0
30	MG	X	3011	1/1	0.96	0.48	53,53,53,53	0
30	MG	X	3070	1/1	0.96	0.14	136,136,136,136	0
30	MG	X	3025	1/1	0.96	0.64	38,38,38,38	0
30	MG	X	3054	1/1	0.96	0.26	101,101,101,101	0
30	MG	X	2926	1/1	0.96	0.28	55,55,55,55	0
30	MG	X	2954	1/1	0.96	0.42	56,56,56,56	0
30	MG	X	3101	1/1	0.96	0.26	95,95,95,95	0
30	MG	X	3041	1/1	0.96	0.17	114,114,114,114	0
30	MG	X	2940	1/1	0.96	0.38	60,60,60,60	0
30	MG	X	2905	1/1	0.96	0.48	62,62,62,62	0
30	MG	X	2966	1/1	0.96	0.49	101,101,101,101	0
30	MG	X	2994	1/1	0.96	0.29	88,88,88,88	0
30	MG	X	3047	1/1	0.96	0.38	92,92,92,92	0
30	MG	X	3063	1/1	0.96	0.16	112,112,112,112	0
30	MG	X	3087	1/1	0.96	0.68	116,116,116,116	0
30	MG	X	3133	1/1	0.96	0.13	50,50,50,50	0
30	MG	X	2919	1/1	0.96	0.54	44,44,44,44	0
30	MG	X	3100	1/1	0.97	0.11	77,77,77,77	0
30	MG	X	2929	1/1	0.97	0.20	71,71,71,71	0
30	MG	X	2952	1/1	0.97	0.51	52,52,52,52	0
30	MG	X	2945	1/1	0.97	1.19	104,104,104,104	0
30	MG	X	2916	1/1	0.97	0.96	62,62,62,62	0
30	MG	X	2965	1/1	0.97	0.51	117,117,117,117	0
30	MG	X	2973	1/1	0.97	0.41	69,69,69,69	0
30	MG	X	3083	1/1	0.97	0.63	79,79,79,79	0
30	MG	X	2955	1/1	0.97	0.23	68,68,68,68	0
30	MG	X	3085	1/1	0.97	0.53	75,75,75,75	0
30	MG	X	3005	1/1	0.97	0.17	101,101,101,101	0
30	MG	X	2997	1/1	0.97	0.18	99,99,99,99	0
30	MG	X	3099	1/1	0.97	0.21	69,69,69,69	0
30	MG	X	3027	1/1	0.98	0.10	50,50,50,50	0
30	MG	X	3020	1/1	0.98	0.20	88,88,88,88	0
30	MG	X	3114	1/1	0.98	0.38	48,48,48,48	0
30	MG	X	3103	1/1	0.98	0.12	61,61,61,61	0
30	MG	X	3138	1/1	0.98	0.10	39,39,39,39	0
30	MG	X	2907	1/1	0.98	0.45	46,46,46,46	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å²)	Q<0.9
30	MG	X	2949	1/1	0.98	0.65	56,56,56,56	0
30	MG	X	2991	1/1	0.98	0.09	80,80,80,80	0
30	MG	X	2943	1/1	0.98	0.35	67,67,67,67	0
30	MG	X	2967	1/1	0.98	0.24	86,86,86,86	0
30	MG	X	2909	1/1	0.98	0.18	44,44,44,44	0
30	MG	X	3043	1/1	0.98	0.09	47,47,47,47	0
30	MG	X	3013	1/1	0.99	0.24	62,62,62,62	0
30	MG	X	2933	1/1	0.99	0.25	61,61,61,61	0
30	MG	X	3155	1/1	0.99	0.15	54,54,54,54	0
30	MG	X	3079	1/1	0.99	0.07	55,55,55,55	0
30	MG	X	3157	1/1	0.99	0.10	45,45,45,45	0
30	MG	X	3075	1/1	0.99	0.21	72,72,72,72	0
30	MG	X	3148	1/1	0.99	0.13	72,72,72,72	0
30	MG	X	3081	1/1	0.99	0.14	76,76,76,76	0
30	MG	X	3106	1/1	0.99	0.21	64,64,64,64	0
30	MG	X	3142	1/1	0.99	0.10	83,83,83,83	0
30	MG	X	2932	1/1	0.99	0.31	49,49,49,49	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around MIV X 2901:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative) and green (positive)

6.5 Other polymers ⓘ

There are no such residues in this entry.