



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 3, 2024 – 03:19 PM JST

PDB ID : 8KAJ
Title : Crystal structure of SpyCas9-crRNA-tracrRNA complex bound to 16nt target DNA
Authors : Chen, Y.; Chen, J.; Liu, L.
Deposited on : 2023-08-03
Resolution : 3.42 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.36.2
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

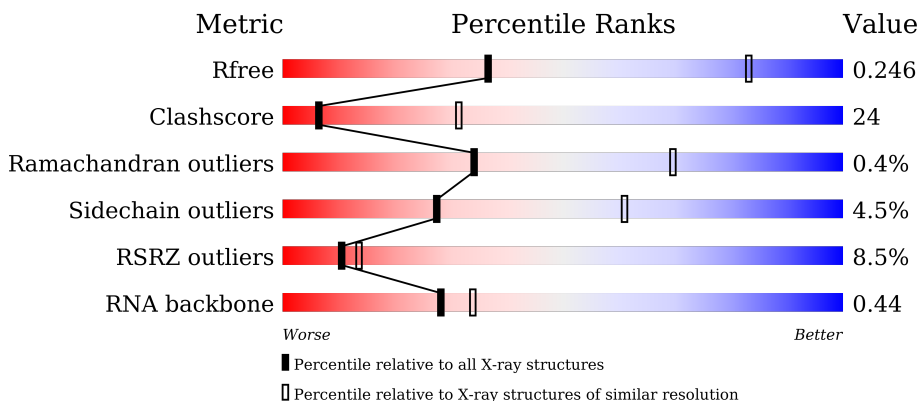
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.42 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	1486 (3.50-3.34)
Clashscore	141614	1572 (3.50-3.34)
Ramachandran outliers	138981	1534 (3.50-3.34)
Sidechain outliers	138945	1535 (3.50-3.34)
RSRZ outliers	127900	1395 (3.50-3.34)
RNA backbone	3102	1012 (3.88-2.96)

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	34	
1	E	34	
2	B	1368	
2	F	1368	

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Mol	Chain	Length	Quality of chain
3	C	24	<p>25% 63% 12%</p>
3	G	24	<p>4% 50% 38% 12%</p>
4	D	11	<p>9% 45% 45% 9%</p>
4	H	11	<p>9% 64% 36%</p>
5	I	65	<p>2% 15% 49% 28% 5%</p>
5	J	65	<p>2% 17% 45% 29% 6%</p>

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 26963 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 (34-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	A	34	Total 725	C 325	N 127	O 239	P 34	0	0	0
1	E	31	Total 663	C 297	N 118	O 217	P 31	0	0	0

- Molecule 2 is a protein called CRISPR-associated endonuclease Cas9/Csn1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	1326	Total 10769	C 6854	N 1869	O 2024	S 22	0	0	0
2	F	1327	Total 10698	C 6816	N 1845	O 2014	S 23	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	10	ALA	ASP	engineered mutation	UNP Q99ZW2
B	840	ALA	HIS	engineered mutation	UNP Q99ZW2
F	10	ALA	ASP	engineered mutation	UNP Q99ZW2
F	840	ALA	HIS	engineered mutation	UNP Q99ZW2

- Molecule 3 is a DNA chain called DNA (5'-D(*CP*AP*AP*TP*AP*CP*CP*TP*TP*TP*TP*AP*TP*CP*CP*AP*TP*AP*AP*AP*TP*TP*CP*G)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
3	C	24	Total 481	C 234	N 81	O 143	P 23	0	0	0
3	G	24	Total 481	C 234	N 81	O 143	P 23	0	0	0

- Molecule 4 is a DNA chain called DNA (5'-D(*TP*TP*TP*AP*GP*GP*TP*AP*TP*TP*G)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
4	D	11	Total 225	110	37	68	10	0	0	0
4	H	11	Total 225	110	37	68	10	0	0	0

- Molecule 5 is a RNA chain called RNA (65-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
5	I	63	Total 1348	603	245	437	63	0	0	0
5	J	63	Total 1348	603	245	437	63	0	0	0

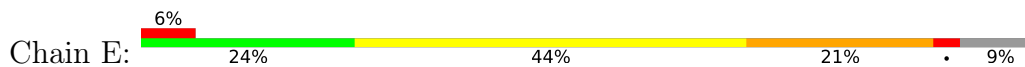
3 Residue-property plots

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.

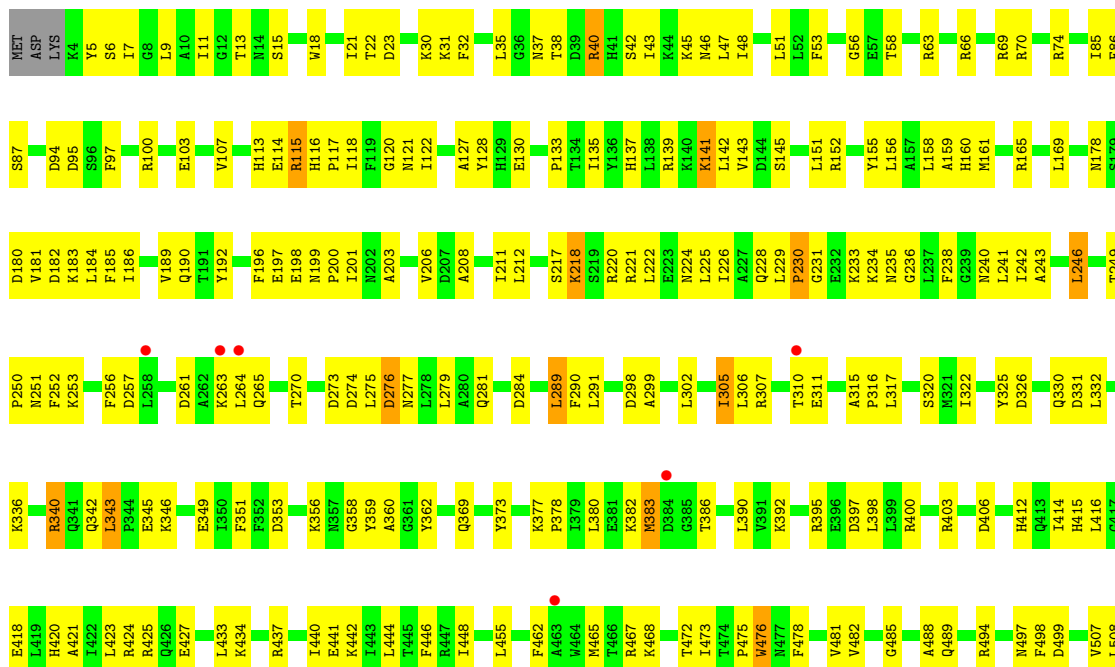
- Molecule 1: RNA (34-MER)

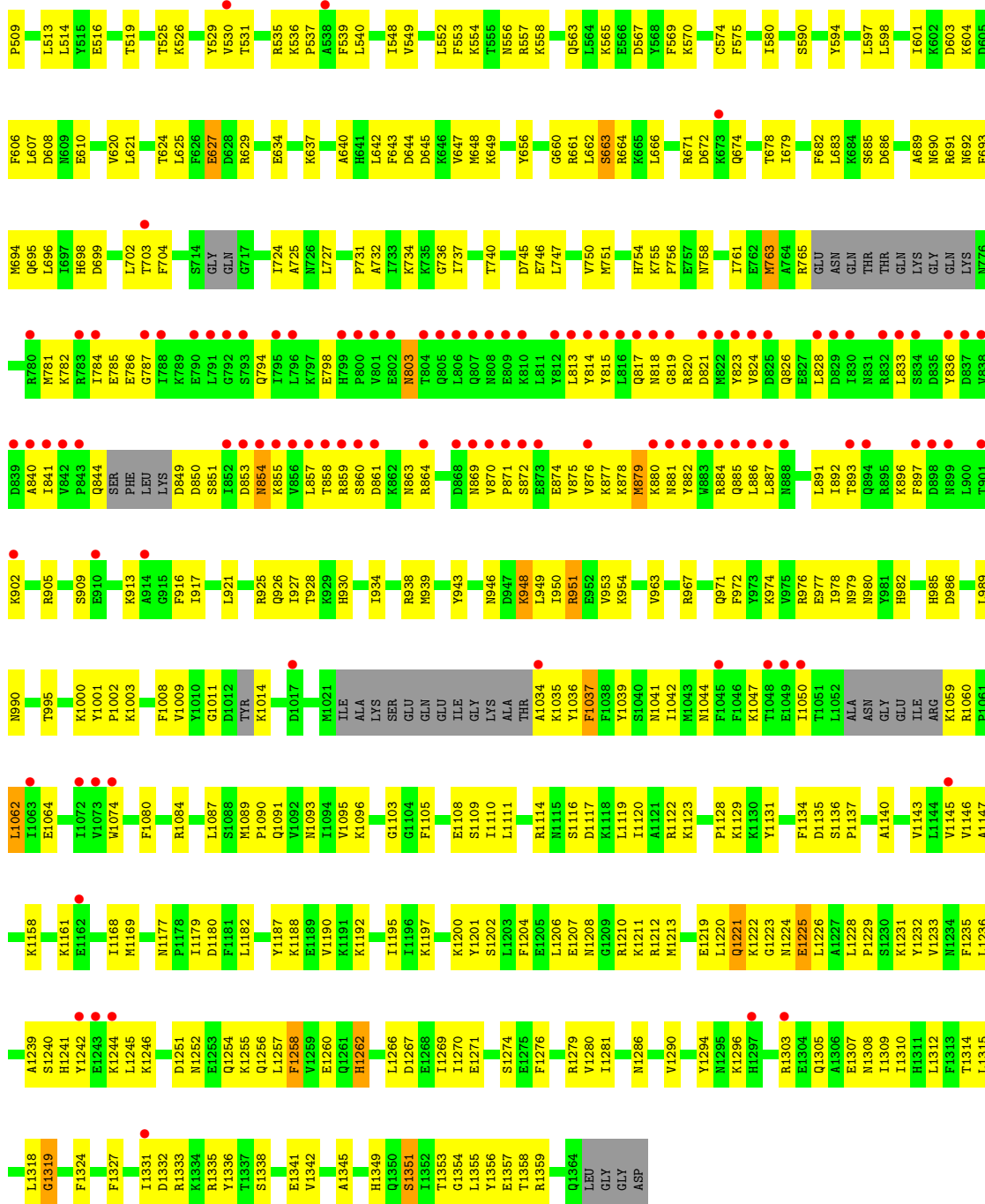


- Molecule 1: RNA (34-MER)

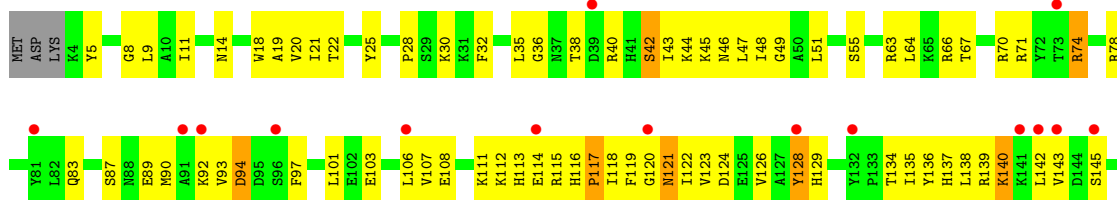


- Molecule 2: CRISPR-associated endonuclease Cas9/Csn1

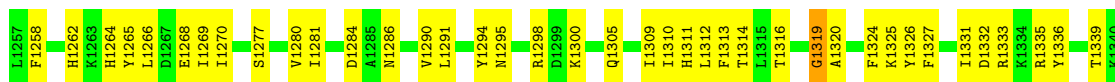




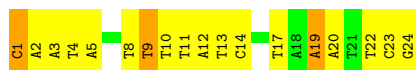
• Molecule 2: CRISPR-associated endonuclease Cas9/Csn1



A149	L292	F290	I376	F462	K545	D699	S846	R925	E1007	V1092	R1171
D150	E223	L291	I377	A463	K546	D628	F846	R926	E1008	M1093	E1175
L151	N224	A292	L380	W464	E630	R629	L847	T928	F1009	I1094	I1176
R152	L225	M295	M383	M465	E631	E702	K348	D936	V1018	V1095	P1178
L153	I226	N296	M384	T466	L632	M631	R780	D937	R1019	K1096	I1179
I154	A227	L296	D384	R467	L633	L632	F704	R938	K1020	T1098	I1180
L158	U298	S297	G386	K468	E634	R635	M781	K855	M1021	T1099	E1183
A159	L229	I300	T386	S469	F553	R636	R782	R856	V1100	V1100	E1184
H160	G231	L301	G387	E470	L636	L636	K783	R857	A1023	Q1101	K1188
M161	E232	L302	L389	E471	L637	L637	R785	T858	LYS	L1102	E1189
K162	K233	L305	L390	I473	T638	T638	E786	R859	SER	G1103	V1190
F164	K234	L306	D397	T474	K558	A640	K789	S860	GLY	F1105	
R166	L237	R307	L398	W476	V559	H641	Q794	N863	GLN	S1106	K1197
G166	F238	V308	L399	W477	T560	L642	I795	R864	ILE	K1107	L1198
H167	F239	N309	R400	N478	V561	F643	L796	R865	GLY	E1108	P1199
F168	L241	T310	K401	F478	K562	D644	L720	S867	LYS	S1109	K1200
L169	T242	E311	Q402	Q402	O563	D645	K797	D868	ALA	V1110	Y1201
I170	A243	T312	R403	V481	L584	K646	I724	N869	THR	L1111	S1202
E171	G246	T313	N407	V482	K565	V647	L727	K377	A1034	P1112	L1203
G172	Q247	K314	I410	D483	E566	R648	L727	K378	K1035	K1113	F1204
D173	L248	A315	I411	D484	D567	K649	P731	K379	Y1036	R1114	E1205
L174	T249	L317	H412	K485	K570	O650	Q805	M879	F1037	M1115	L1206
M178	K253	S320	H413	Q489	F575	L652	L806	N881	LYS	L1116	E1207
S179	D256	N321	Q413	S490	K582	K653	Q807	Y882	THR	D1117	N1208
D180	D257	I322	H415	F491	G582	R654	N808	Y883	GLU	K1118	G1209
V181	D258	K323	H416	S492	E584	R655	E809	N884	ILE	L1119	R1210
D182	A259	R324	G417	R494	E585	R656	L738	R885	LYS	I1120	K1211
K183	E260	R325	E418	D499	D586	L666	W740	L886	ALA	A1121	R1212
L184	D261	D326	I422	K500	F587	L666	V741	L887	THR	R1122	N1208
V189	A262	H328	I425	N501	M588	R671	K742	L887	GLY	K1123	G1209
Y192	LYS	R328	R425	E505	A589	D672	D745	N888	GLN	K1124	E1225
N199	LEU	L332	Q426	K506	A589	D673	E746	K890	GLU	L1125	A1217
P200	LEU	T333	E427	V507	T593	K673	L747	L891	ILE	D1126	G1218
I201	S267	L334	D428	L508	Y594	S674	W748	G819	LYS	F1127	E1219
N202	Y271	L335	F429	P509	L597	O675	K749	R820	LYS	K1128	L1220
A203	D272	L336	A430	H511	L598	R675	V750	D821	LYS	K1129	Q1221
S204	D273	L338	P431	H511	K599	L679	M751	R822	LYS	K1130	G1222
GLY	D274	V339	F432	L514	I600	F682	H754	R825	LYS	Y1131	N1224
VAL	L276	Q342	L433	L514	I601	L683	K755	Q826	LYS	F1134	E1225
D207	L276	K346	L434	N522	R602	L684	P756	E827	LYS	D1135	E1225
A208	D276	K346	E438	E523	L607	S685	V760	L828	LYS	S1136	L1228
K209	N277	Y347	E441	L524	L607	D686	I761	L829	LYS	P1137	V1233
A210	L278	Y347	K442	T525	L615	F687	E762	I830	LYS	S1154	L1236
I211	L279	I350	F446	K526	D618	F688	M763	R832	LYS	K1155	Y1237
L212	K280	F351	I447	V527	V619	N690	A764	L833	LYS	K1156	S1240
ALA	I282	F351	I448	V530	T619	R691	GLU	Y836	LYS	S1159	H1241
ARG	D284	Y359	I449	V530	V620	N692	ASN	Y836	LYS	L1163	Y1242
LEU	O285	Y362	P450	V531	L621	F693	GLN	D839	LYS	L1167	K1243
SER	Y286	Y362	Y451	V532	T622	R694	THR	K918	LYS	T1167	L1245
LYS	A287	Q369	V451	M534	L623	Q695	THR	L921	LYS	M1168	L1246
S219	I287	Y373	V452	R535	T624	L696	GLN	V922	LYS	M1169	K1246
R221	L289	Y373	L455	E537	T625	L697	LYS	R844	LYS	E1170	G1247



- Molecule 3: DNA (5'-D(*CP*AP*AP*TP*AP*CP*CP*TP*TP*TP*TP*AP*TP*CP*CP*AP*TP*AP*AP*AP*TP*TP*CP*G)-3')



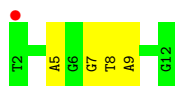
- Molecule 3: DNA (5'-D(*CP*AP*AP*TP*AP*CP*CP*TP*TP*TP*TP*AP*TP*CP*CP*AP*TP*AP*AP*AP*TP*TP*CP*G)-3')



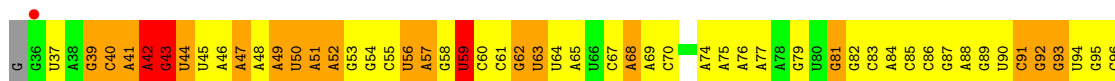
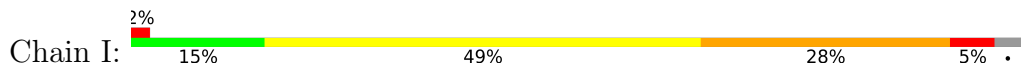
- Molecule 4: DNA (5'-D(*TP*TP*TP*AP*GP*GP*TP*AP*TP*TP*G)-3')




- Molecule 4: DNA (5'-D(*TP*TP*TP*AP*GP*GP*TP*AP*TP*TP*G)-3')



- Molecule 5: RNA (65-MER)



- Molecule 5: RNA (65-MER)

Chain J:  2%
17% 45% 29% 6%



4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	144.74Å 131.10Å 146.63Å 90.00° 103.68° 90.00°	Depositor
Resolution (Å)	48.03 – 3.42 48.05 – 3.42	Depositor EDS
% Data completeness (in resolution range)	69.1 (48.03-3.42) 79.6 (48.05-3.42)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.38 (at 3.40Å)	Xtrriage
Refinement program	PHENIX 1.17.1_3660	Depositor
R, R_{free}	0.237 , 0.246 0.237 , 0.246	Depositor DCC
R_{free} test set	1993 reflections (3.37%)	wwPDB-VP
Wilson B-factor (Å ²)	52.1	Xtrriage
Anisotropy	0.048	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.24 , 38.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.29$	Xtrriage
Estimated twinning fraction	0.034 for l,-k,h	Xtrriage
F_o, F_c correlation	0.83	EDS
Total number of atoms	26963	wwPDB-VP
Average B, all atoms (Å ²)	68.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.92% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	1.15	4/811 (0.5%)	1.97	39/1261 (3.1%)
1	E	0.83	0/742	1.61	14/1154 (1.2%)
2	B	0.59	3/10954 (0.0%)	0.79	8/14725 (0.1%)
2	F	0.59	0/10882	0.78	9/14639 (0.1%)
3	C	1.52	8/537 (1.5%)	1.53	8/825 (1.0%)
3	G	1.30	2/537 (0.4%)	1.36	6/825 (0.7%)
4	D	1.51	1/251 (0.4%)	1.36	2/387 (0.5%)
4	H	1.37	1/251 (0.4%)	1.33	0/387
5	I	1.06	7/1509 (0.5%)	1.84	63/2350 (2.7%)
5	J	0.97	1/1509 (0.1%)	1.77	46/2350 (2.0%)
All	All	0.74	27/27983 (0.1%)	1.09	195/38903 (0.5%)

All (27) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1103	GLY	C-O	9.66	1.39	1.23
1	A	26	A	N9-C4	-9.26	1.32	1.37
4	H	5	DA	C3'-O3'	-7.84	1.33	1.44
4	D	5	DA	C3'-O3'	-7.05	1.34	1.44
3	C	11	DT	C1'-N1	6.10	1.57	1.49
1	A	18	A	N3-C4	-5.99	1.31	1.34
3	C	8	DT	C3'-O3'	-5.97	1.36	1.44
5	I	47	A	N9-C4	-5.94	1.34	1.37
3	C	9	DT	N1-C6	-5.91	1.34	1.38
2	B	627	GLU	CB-CG	5.80	1.63	1.52
2	B	627	GLU	CG-CD	5.72	1.60	1.51
3	G	19	DA	C3'-O3'	-5.70	1.36	1.44
3	C	9	DT	C1'-N1	-5.57	1.39	1.47
5	I	47	A	C6-N1	-5.49	1.31	1.35
3	C	19	DA	C3'-O3'	-5.42	1.36	1.44
5	I	65	A	N7-C5	-5.40	1.36	1.39
5	I	46	A	N7-C5	-5.37	1.36	1.39
1	A	18	A	C6-N1	-5.35	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	12	DA	C5'-C4'	5.22	1.57	1.51
5	I	43	G	N9-C4	5.19	1.42	1.38
5	I	47	A	C6-N6	-5.16	1.29	1.33
3	C	9	DT	N3-C4	-5.10	1.34	1.38
5	I	47	A	P-O5'	-5.08	1.54	1.59
3	G	18	DA	N3-C4	-5.07	1.31	1.34
1	A	18	A	N7-C5	-5.03	1.36	1.39
3	C	10	DT	C4-C5	-5.02	1.40	1.45
5	J	88	A	C5-C6	-5.01	1.36	1.41

All (195) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	5	C	C6-N1-C2	-11.04	115.89	120.30
5	J	79	G	C8-N9-C4	9.88	110.35	106.40
5	J	61	C	C6-N1-C2	-9.65	116.44	120.30
5	J	89	G	N1-C6-O6	9.63	125.68	119.90
5	I	52	A	N1-C6-N6	-9.50	112.90	118.60
3	C	14	DC	O4'-C4'-C3'	-9.30	100.42	106.00
5	J	91	C	N3-C2-O2	9.29	128.40	121.90
5	J	89	G	C5-C6-O6	-8.99	123.20	128.60
5	I	52	A	N9-C4-C5	8.91	109.36	105.80
1	A	18	A	C4-C5-C6	8.83	121.42	117.00
5	I	59	U	O5'-P-OP2	-8.81	97.77	105.70
1	A	27	G	C5-C6-O6	-8.72	123.37	128.60
1	E	15	G	C8-N9-C4	8.68	109.87	106.40
1	A	18	A	N1-C2-N3	8.39	133.50	129.30
5	I	43	G	N3-C4-C5	-8.36	124.42	128.60
1	A	13	U	N1-C2-O2	-8.23	117.04	122.80
5	J	81	G	C5-C6-O6	-8.18	123.69	128.60
2	F	246	LEU	CA-CB-CG	8.13	133.99	115.30
1	A	22	U	C6-N1-C2	-8.11	116.13	121.00
5	I	49	A	C8-N9-C4	-8.10	102.56	105.80
1	A	26	A	N3-C4-C5	8.09	132.47	126.80
5	I	53	G	C5-C6-N1	-8.08	107.46	111.50
5	J	89	G	C6-C5-N7	-7.98	125.61	130.40
2	B	343	LEU	CA-CB-CG	7.91	133.49	115.30
5	I	63	U	C5-C4-O4	-7.89	121.17	125.90
5	I	52	A	C8-N9-C4	-7.86	102.66	105.80
1	A	26	A	C2-N3-C4	-7.64	106.78	110.60
5	I	41	A	C2-N3-C4	-7.63	106.79	110.60
1	E	16	A	C8-N9-C4	7.59	108.84	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	I	43	G	C2-N3-C4	7.56	115.68	111.90
1	A	13	U	N3-C2-O2	7.37	127.36	122.20
1	A	29	G	N1-C6-O6	7.16	124.20	119.90
1	A	24	U	N3-C4-O4	7.12	124.38	119.40
2	B	305	ILE	CG1-CB-CG2	-7.10	95.79	111.40
3	G	14	DC	O4'-C4'-C3'	-7.09	101.66	104.50
5	I	49	A	C5-N7-C8	-7.05	100.37	103.90
1	A	27	G	C4-C5-N7	6.93	113.57	110.80
1	A	5	C	C5-C6-N1	6.92	124.46	121.00
1	A	13	U	N3-C4-O4	6.89	124.23	119.40
5	J	73	G	C8-N9-C4	-6.89	103.64	106.40
5	I	57	A	O5'-P-OP1	-6.85	99.54	105.70
2	F	1043	MET	CB-CG-SD	-6.81	91.97	112.40
1	A	21	G	C8-N9-C4	-6.77	103.69	106.40
2	F	1319	GLY	C-N-CA	-6.77	104.78	121.70
5	I	56	U	O5'-P-OP1	-6.77	99.61	105.70
5	J	59	U	C6-N1-C2	6.75	125.05	121.00
5	J	47	A	N1-C6-N6	6.74	122.64	118.60
5	J	91	C	C6-N1-C2	6.69	122.98	120.30
1	A	7	A	N1-C6-N6	-6.67	114.60	118.60
5	I	41	A	N1-C6-N6	6.67	122.60	118.60
5	I	57	A	N9-C4-C5	6.59	108.44	105.80
3	C	11	DT	O4'-C1'-N1	6.56	112.59	108.00
1	A	19	A	OP1-P-OP2	-6.55	109.77	119.60
5	J	88	A	C2-N3-C4	-6.54	107.33	110.60
1	A	18	A	OP2-P-O3'	6.54	119.58	105.20
1	E	11	U	N3-C2-O2	-6.51	117.64	122.20
1	E	21	G	N3-C2-N2	6.51	124.46	119.90
3	G	12	DA	O4'-C1'-N9	6.51	112.56	108.00
3	C	13	DT	O4'-C4'-C3'	-6.50	101.90	104.50
1	A	21	G	C2-N3-C4	6.46	115.13	111.90
1	E	22	U	O4'-C1'-N1	6.42	113.33	108.20
5	J	87	G	C5-C6-O6	6.41	132.45	128.60
5	I	76	A	C8-N9-C4	6.41	108.36	105.80
1	A	22	U	N3-C4-C5	-6.40	110.76	114.60
3	C	8	DT	O5'-P-OP2	-6.40	99.94	105.70
3	C	13	DT	O5'-P-OP1	-6.40	99.94	105.70
5	J	81	G	N3-C4-C5	-6.39	125.40	128.60
5	I	93	G	C8-N9-C4	-6.39	103.84	106.40
5	I	63	U	O5'-P-OP2	-6.32	100.02	105.70
1	A	23	U	C5-C4-O4	-6.30	122.12	125.90
1	E	15	G	N7-C8-N9	-6.25	109.97	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	J	66	U	N1-C2-O2	-6.24	118.43	122.80
5	J	81	G	N1-C6-O6	6.24	123.64	119.90
4	D	6	DG	C1'-O4'-C4'	-6.20	103.90	110.10
5	J	81	G	C6-C5-N7	-6.18	126.69	130.40
5	I	41	A	O5'-P-OP1	6.15	118.08	110.70
1	A	26	A	C8-N9-C4	6.12	108.25	105.80
1	A	22	U	C5-C6-N1	6.09	125.74	122.70
1	A	26	A	C4-C5-N7	6.09	113.74	110.70
5	J	94	U	C5-C4-O4	-6.05	122.27	125.90
1	E	11	U	C5-C4-O4	6.01	129.51	125.90
5	J	79	G	N7-C8-N9	-6.01	110.09	113.10
5	J	91	C	C4-C5-C6	-6.01	114.40	117.40
5	I	64	U	N3-C4-C5	-6.00	111.00	114.60
5	I	46	A	OP2-P-O3'	5.96	118.32	105.20
3	G	6	DC	O4'-C1'-N1	5.95	112.17	108.00
5	I	43	G	C8-N9-C4	-5.95	104.02	106.40
5	J	53	G	C8-N9-C4	-5.95	104.02	106.40
2	F	30	LYS	CD-CE-NZ	5.94	125.37	111.70
5	J	81	G	C8-N9-C4	-5.93	104.03	106.40
5	I	52	A	C6-N1-C2	-5.92	115.05	118.60
5	J	82	G	N1-C6-O6	5.91	123.44	119.90
5	I	96	C	C6-N1-C2	-5.90	117.94	120.30
5	J	61	C	C5-C6-N1	5.90	123.95	121.00
5	J	82	G	C4-C5-N7	5.88	113.15	110.80
2	F	625	LEU	CA-CB-CG	5.87	128.79	115.30
5	I	46	A	C6-N1-C2	-5.86	115.08	118.60
1	A	17	U	C5-C4-O4	-5.82	122.41	125.90
5	I	45	U	OP1-P-OP2	-5.82	110.88	119.60
1	A	21	G	N3-C4-C5	-5.81	125.69	128.60
5	I	67	C	C6-N1-C2	5.81	122.62	120.30
5	I	42	A	C8-N9-C4	-5.80	103.48	105.80
1	A	20	A	O5'-P-OP1	5.71	117.56	110.70
5	I	64	U	C6-N1-C2	-5.68	117.59	121.00
2	B	1319	GLY	C-N-CA	-5.66	107.55	121.70
1	A	12	A	C4-C5-N7	5.65	113.53	110.70
5	I	58	G	N3-C4-C5	-5.65	125.78	128.60
5	J	81	G	C6-N1-C2	-5.63	121.72	125.10
5	J	61	C	N3-C4-C5	-5.62	119.65	121.90
1	A	26	A	C5-N7-C8	-5.62	101.09	103.90
5	I	51	A	C4-C5-C6	5.61	119.81	117.00
1	A	22	U	C2-N3-C4	5.60	130.36	127.00
1	E	21	G	N1-C6-O6	-5.60	116.54	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	J	91	C	C5-C4-N4	-5.60	116.28	120.20
1	A	13	U	C5-C4-O4	-5.58	122.55	125.90
3	C	1	DC	O4'-C1'-N1	5.56	111.89	108.00
2	F	74	ARG	NE-CZ-NH1	-5.56	117.52	120.30
5	I	41	A	C8-N9-C4	5.55	108.02	105.80
5	I	62	G	N3-C2-N2	5.54	123.78	119.90
5	I	46	A	C5-C6-N1	5.53	120.46	117.70
5	J	82	G	C6-C5-N7	-5.52	127.09	130.40
5	I	75	A	C8-N9-C4	5.51	108.00	105.80
5	I	63	U	C2-N3-C4	-5.51	123.69	127.00
3	G	10	DT	O4'-C1'-N1	5.50	111.85	108.00
5	I	43	G	C4-C5-N7	-5.50	108.60	110.80
1	A	24	U	C5-C4-O4	-5.49	122.61	125.90
2	B	115	ARG	NE-CZ-NH2	-5.49	117.56	120.30
1	E	16	A	N7-C8-N9	-5.48	111.06	113.80
1	E	11	U	N1-C2-O2	5.47	126.63	122.80
5	I	53	G	C4-C5-C6	5.45	122.07	118.80
5	J	66	U	N3-C4-C5	-5.45	111.33	114.60
1	A	7	A	N9-C4-C5	5.41	107.96	105.80
5	I	96	C	N3-C4-N4	5.40	121.78	118.00
1	E	22	U	C5-C4-O4	5.38	129.13	125.90
5	J	66	U	N3-C4-O4	5.37	123.16	119.40
5	J	91	C	N1-C2-N3	-5.37	115.44	119.20
5	I	44	U	OP2-P-O3'	5.36	116.99	105.20
5	J	94	U	OP2-P-O3'	5.34	116.95	105.20
5	I	47	A	C5-N7-C8	-5.34	101.23	103.90
5	I	54	G	C6-C5-N7	-5.33	127.20	130.40
1	E	22	U	N3-C2-O2	-5.33	118.47	122.20
5	I	49	A	C4-C5-N7	5.31	113.36	110.70
5	I	43	G	N9-C4-C5	5.30	107.52	105.40
5	I	49	A	N7-C8-N9	5.30	116.45	113.80
5	I	52	A	C2-N3-C4	5.29	113.24	110.60
5	J	50	U	C6-N1-C2	5.28	124.17	121.00
2	F	21	ILE	CG1-CB-CG2	-5.27	99.80	111.40
2	B	289	LEU	CA-CB-CG	5.26	127.41	115.30
1	A	12	A	C5-N7-C8	-5.26	101.27	103.90
1	A	16	A	N1-C6-N6	-5.25	115.45	118.60
5	I	52	A	C4-C5-N7	-5.24	108.08	110.70
5	J	79	G	N9-C4-C5	-5.23	103.31	105.40
5	J	88	A	N1-C6-N6	5.23	121.74	118.60
1	A	18	A	N9-C4-C5	5.22	107.89	105.80
1	A	20	A	O5'-P-OP2	-5.22	101.00	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	514	LEU	CA-CB-CG	5.22	127.31	115.30
5	I	62	G	OP2-P-O3'	5.22	116.68	105.20
5	J	53	G	N9-C4-C5	5.22	107.49	105.40
4	D	7	DG	OP1-P-OP2	5.20	127.40	119.60
3	G	10	DT	N3-C4-O4	5.19	123.02	119.90
5	J	70	C	O5'-P-OP1	5.18	116.92	110.70
5	J	59	U	C5-C6-N1	-5.18	120.11	122.70
5	J	73	G	C6-C5-N7	-5.18	127.29	130.40
5	I	42	A	C2'-C3'-O3'	5.18	121.98	113.70
5	J	61	C	N3-C2-O2	-5.18	118.28	121.90
1	A	5	C	N3-C4-C5	-5.17	119.83	121.90
5	J	73	G	N7-C8-N9	5.16	115.68	113.10
5	I	57	A	C4-C5-N7	-5.15	108.12	110.70
5	J	50	U	C5-C6-N1	-5.14	120.13	122.70
5	I	79	G	C5-C6-O6	-5.14	125.52	128.60
1	E	27	G	P-O3'-C3'	5.13	125.86	119.70
5	I	55	C	C5-C4-N4	-5.12	116.61	120.20
2	F	289	LEU	CA-CB-CG	5.12	127.07	115.30
5	J	89	G	C4-C5-C6	5.11	121.87	118.80
5	I	90	U	C2-N3-C4	5.11	130.07	127.00
5	J	88	A	C6-C5-N7	-5.10	128.73	132.30
5	I	76	A	N9-C4-C5	-5.09	103.76	105.80
5	I	65	A	C4-C5-C6	5.09	119.54	117.00
1	A	13	U	O5'-P-OP2	-5.08	101.13	105.70
5	I	45	U	C5-C6-N1	5.08	125.24	122.70
5	I	51	A	N1-C2-N3	5.08	131.84	129.30
5	I	64	U	OP2-P-O3'	5.06	116.33	105.20
5	I	81	G	C5-C6-N1	5.06	114.03	111.50
2	B	169	LEU	CB-CG-CD1	-5.05	102.41	111.00
2	F	380	LEU	CA-CB-CG	5.05	126.93	115.30
3	G	9	DT	N3-C4-O4	5.05	122.93	119.90
5	I	53	G	C2-N3-C4	-5.04	109.38	111.90
5	J	65	A	C4-C5-N7	5.04	113.22	110.70
3	C	1	DC	C1'-O4'-C4'	-5.03	105.07	110.10
2	B	169	LEU	CA-CB-CG	-5.02	103.75	115.30
3	C	10	DT	N3-C4-O4	5.02	122.91	119.90
5	I	45	U	C6-N1-C2	-5.02	117.99	121.00
5	I	57	A	C4-C5-C6	5.02	119.51	117.00
5	I	50	U	N3-C4-O4	5.01	122.91	119.40
1	E	15	G	C5-C6-O6	-5.00	125.60	128.60

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	725	0	362	21	0
1	E	663	0	331	26	0
2	B	10769	0	10864	508	0
2	F	10698	0	10745	605	0
3	C	481	0	275	11	0
3	G	481	0	275	10	0
4	D	225	0	129	3	0
4	H	225	0	129	7	0
5	I	1348	0	678	43	0
5	J	1348	0	678	68	0
All	All	26963	0	24466	1217	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 24.

All (1217) 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)
2:B:243:ALA:CA	2:B:246:LEU:HD23	1.44	1.38
2:B:243:ALA:HA	2:B:246:LEU:CD2	1.64	1.28
2:B:980:ASN:HB2	2:B:1225:GLU:OE2	1.39	1.21
2:F:1207:GLU:OE2	2:F:1210:ARG:NH1	1.79	1.14
2:B:243:ALA:CA	2:B:246:LEU:CD2	2.22	1.13
2:B:525:THR:HG23	2:B:690:ASN:HB3	1.12	1.12
2:F:525:THR:HG23	2:F:690:ASN:HB2	1.22	1.11
2:F:249:THR:HG1	2:F:267:SER:N	1.48	1.11
2:B:525:THR:CG2	2:B:690:ASN:HB3	1.89	1.02
2:B:1224:ASN:HB2	2:B:1280:VAL:HG11	1.38	1.02
2:B:270:THR:OG1	2:B:274:ASP:OD2	1.78	1.00
2:F:1060:ARG:HH11	2:F:1060:ARG:HB3	1.23	0.98
2:B:539:PHE:HB3	2:B:690:ASN:ND2	1.80	0.97
2:F:545:LYS:HZ2	2:F:690:ASN:HD22	1.11	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1123:LYS:HD2	5:J:53:G:OP1	1.66	0.95
2:B:1120:ILE:HD11	2:B:1137:PRO:HG3	1.49	0.95
2:F:1045:PHE:HB2	2:F:1064:GLU:HG2	1.46	0.95
2:F:226:ILE:HG13	2:F:232:GLU:HG2	1.49	0.94
2:B:539:PHE:HB3	2:B:690:ASN:HD22	1.32	0.94
2:F:63:ARG:HA	2:F:66:ARG:HG3	1.49	0.94
2:F:380:LEU:HD11	2:F:390:LEU:HG	1.51	0.93
2:F:1210:ARG:NH2	2:F:1341:GLU:OE1	2.01	0.93
2:F:425:ARG:HG3	2:F:426:GLN:HG2	1.51	0.93
2:F:485:GLY:HA3	2:F:631:MET:HG3	1.49	0.91
1:A:2:U:H3	1:A:4:A:H3'	1.37	0.89
2:F:978:ILE:HD12	2:F:1228:LEU:HD23	1.52	0.89
2:B:1308:ASN:HD22	2:B:1327:PHE:H	1.19	0.89
2:F:525:THR:CG2	2:F:690:ASN:HB2	2.02	0.88
2:B:980:ASN:CB	2:B:1225:GLU:OE2	2.20	0.88
2:F:70:ARG:NE	5:J:61:C:OP2	2.07	0.87
2:F:545:LYS:HZ2	2:F:690:ASN:ND2	1.72	0.87
2:F:184:LEU:HD13	2:F:295:ASN:HB3	1.54	0.87
2:F:142:LEU:HD22	2:F:422:ILE:HG23	1.57	0.87
2:F:1294:TYR:HE1	2:F:1305:GLN:HE21	1.21	0.87
2:F:978:ILE:HD13	2:F:1233:VAL:HG22	1.59	0.85
2:F:1060:ARG:HH11	2:F:1060:ARG:CB	1.89	0.84
2:F:221:ARG:HA	2:F:224:ASN:HB2	1.58	0.84
2:B:46:ASN:ND2	2:B:1091:GLN:OE1	2.10	0.84
1:E:15:G:OP1	2:F:66:ARG:NH2	2.10	0.83
2:B:530:VAL:HG22	2:B:537:PRO:HB3	1.60	0.83
2:B:246:LEU:H	2:B:246:LEU:HD22	1.44	0.83
2:B:548:ILE:HG23	2:B:552:LEU:HD12	1.60	0.82
5:J:46:A:H2'	5:J:47:A:C8	2.15	0.82
2:F:525:THR:OG1	2:F:545:LYS:NZ	2.13	0.82
2:F:1212:ARG:NH2	2:F:1280:VAL:O	2.13	0.81
2:F:70:ARG:NH2	5:J:61:C:OP1	2.13	0.81
2:F:451:TYR:O	2:F:464:TRP:NE1	2.14	0.80
2:B:725:ALA:O	2:B:734:LYS:NZ	2.14	0.80
2:F:1045:PHE:O	2:F:1076:LYS:NZ	2.14	0.80
2:F:777:SER:HA	2:F:807:GLN:HE21	1.46	0.79
2:F:545:LYS:NZ	2:F:690:ASN:HD22	1.81	0.79
2:B:137:HIS:HA	2:B:322:ILE:HD11	1.64	0.79
2:F:826:GLN:OE1	2:F:859:ARG:NH1	2.15	0.79
2:F:829:ASP:OD1	2:F:832:ARG:N	2.10	0.79
2:B:1207:GLU:CD	2:B:1210:ARG:HH11	1.85	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1210:ARG:NH2	2:B:1341:GLU:OE1	2.17	0.78
2:B:1211:LYS:O	2:B:1223:GLY:HA3	1.83	0.78
2:F:525:THR:HG23	2:F:690:ASN:CB	2.09	0.78
2:F:1091:GLN:HG3	5:J:91:C:H5''	1.66	0.78
2:B:9:LEU:HD12	2:B:761:ILE:HG22	1.64	0.78
2:B:220:ARG:O	2:B:224:ASN:ND2	2.14	0.77
2:B:539:PHE:CD2	2:B:689:ALA:HA	2.18	0.77
2:B:823:TYR:HA	2:B:875:VAL:HG11	1.66	0.77
2:F:249:THR:OG1	2:F:267:SER:N	2.18	0.77
1:E:27:G:N2	5:J:44:U:OP2	2.17	0.77
1:A:27:G:H5'	1:A:28:A:H5''	1.67	0.77
2:F:1266:LEU:HD12	2:F:1309:ILE:HD12	1.67	0.77
2:B:902:LYS:HA	2:B:905:ARG:HE	1.50	0.76
2:F:1051:THR:HG22	2:F:1053:ALA:H	1.50	0.76
2:F:467:ARG:HA	2:F:482:VAL:HG22	1.67	0.76
2:B:270:THR:O	2:B:274:ASP:OD2	2.03	0.76
2:F:672:ASP:OD1	2:F:703:THR:HG22	1.85	0.76
2:F:886:LEU:HA	2:F:891:LEU:HD21	1.68	0.76
2:F:522:ASN:OD1	2:F:692:ASN:ND2	2.19	0.76
2:F:253:LYS:HB2	2:F:262:ALA:H	1.49	0.76
2:B:243:ALA:C	2:B:246:LEU:HD23	2.05	0.75
2:F:94:ASP:HB3	2:F:97:PHE:HB2	1.67	0.75
2:B:342:GLN:HE22	2:B:383:MET:HA	1.51	0.75
2:F:844:GLN:HG3	2:F:848:LYS:HD2	1.67	0.75
2:B:114:GLU:HG3	2:B:116:HIS:H	1.50	0.75
2:F:878:LYS:HB3	2:F:879:MET:SD	2.26	0.75
2:B:1147:ALA:HB2	2:B:1190:VAL:HA	1.67	0.75
2:B:727:LEU:HD12	2:B:927:ILE:HD12	1.69	0.75
2:F:918:LYS:HZ2	2:F:1018:VAL:HG11	1.52	0.75
1:E:32:A:N6	5:J:37:U:O4	2.20	0.74
2:F:527:VAL:HA	2:F:582:GLY:HA3	1.67	0.74
2:B:1135:ASP:OD1	2:B:1136:SER:N	2.20	0.74
2:F:918:LYS:HZ2	2:F:1018:VAL:CG1	2.00	0.74
2:B:400:ARG:NH2	2:B:406:ASP:OD2	2.20	0.74
2:F:89:GLU:OE2	2:F:92:LYS:NZ	2.21	0.74
2:B:1110:ILE:HD12	2:B:1122:ARG:HD2	1.69	0.73
2:F:145:SER:O	2:F:425:ARG:NH1	2.21	0.73
2:B:540:LEU:O	2:B:690:ASN:ND2	2.20	0.73
2:B:909:SER:O	2:B:913:LYS:N	2.21	0.73
2:B:913:LYS:HA	2:B:916:PHE:HD2	1.54	0.73
2:F:143:VAL:O	2:F:425:ARG:CZ	2.37	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:262:ALA:HB1	2:F:278:LEU:HG	1.70	0.72
2:F:892:ILE:HB	2:F:896:LYS:HE2	1.71	0.72
2:B:601:ILE:HD11	2:B:607:LEU:HD21	1.70	0.72
2:F:178:ASN:ND2	2:F:295:ASN:OD1	2.22	0.72
2:B:1357:GLU:OE1	2:B:1359:ARG:NH1	2.22	0.72
2:F:846:PHE:O	2:F:1040:SER:OG	2.08	0.72
2:F:1041:ASN:O	2:F:1043:MET:N	2.17	0.72
2:B:1037:PHE:CE1	2:B:1039:TYR:CD2	2.78	0.72
2:F:841:ILE:HD12	2:F:854:ASN:HA	1.72	0.72
2:B:763:MET:SD	2:B:928:THR:HG22	2.30	0.71
2:F:1124:LYS:N	5:J:53:G:OP1	2.16	0.71
2:B:229:LEU:HB2	2:B:230:PRO:HD2	1.71	0.71
2:F:1108:GLU:HB2	3:G:9:DT:H5''	1.72	0.71
2:F:646:LYS:O	2:F:650:GLN:NE2	2.17	0.71
2:B:243:ALA:HA	2:B:246:LEU:HD23	0.74	0.71
2:F:180:ASP:HB2	2:F:184:LEU:HG	1.73	0.71
2:B:644:ASP:HB3	2:B:647:VAL:HG23	1.71	0.70
2:F:90:MET:HA	2:F:151:LEU:HD21	1.71	0.70
2:F:121:ASN:HB2	2:F:123:VAL:HG12	1.72	0.70
2:B:249:THR:HG22	2:B:265:GLN:HB2	1.73	0.70
2:B:860:SER:OG	2:B:863:ASN:OD1	2.08	0.70
2:B:1037:PHE:HE1	2:B:1039:TYR:CD2	2.10	0.70
2:B:1241:HIS:CE1	2:B:1244:LYS:HA	2.26	0.70
2:F:893:THR:HG23	2:F:896:LYS:H	1.57	0.70
1:E:23:U:H5''	2:F:1112:PRO:HG3	1.72	0.70
2:F:165:ARG:HD2	2:F:168:PHE:HE1	1.56	0.70
2:F:913:LYS:HG3	2:F:1040:SER:HB3	1.74	0.70
2:F:531:THR:HG21	2:F:575:PHE:CE1	2.26	0.70
2:F:545:LYS:HD2	2:F:690:ASN:ND2	2.07	0.69
2:F:1060:ARG:HB3	2:F:1060:ARG:NH1	2.04	0.69
2:B:1333:ARG:NH1	2:B:1335:ARG:HD2	2.07	0.69
2:F:918:LYS:NZ	2:F:1018:VAL:CG1	2.55	0.69
2:F:978:ILE:CD1	2:F:1233:VAL:HG22	2.22	0.69
1:A:14:G:OP2	2:B:63:ARG:NH1	2.25	0.69
2:B:1041:ASN:HB2	2:B:1044:ASN:HD21	1.57	0.69
2:B:558:LYS:HE3	2:B:590:SER:HB3	1.75	0.69
2:F:675:SER:CB	2:F:682:PHE:HZ	2.06	0.69
2:F:174:LEU:HD11	2:F:302:LEU:HD21	1.73	0.68
2:B:45:LYS:NZ	2:B:1357:GLU:OE2	2.22	0.68
2:B:1207:GLU:OE2	2:B:1210:ARG:NH1	2.26	0.68
1:E:15:G:P	2:F:66:ARG:HH22	2.17	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:776:ASN:O	2:F:780:ARG:HG2	1.92	0.68
2:F:1236:LEU:HD11	2:F:1269:ILE:HD13	1.76	0.68
2:F:818:ASN:ND2	2:F:818:ASN:O	2.26	0.68
2:F:1312:LEU:HD21	2:F:1326:TYR:HD1	1.59	0.68
2:B:22:THR:HG22	2:B:23:ASP:H	1.59	0.68
2:B:242:ILE:HG22	2:B:246:LEU:HD21	1.75	0.68
2:F:649:LYS:O	2:F:653:ARG:NE	2.27	0.68
2:B:516:GLU:O	2:B:519:THR:HG22	1.94	0.67
5:J:44:U:O2'	5:J:45:U:H5'	1.94	0.67
2:B:94:ASP:OD2	2:B:100:ARG:NH2	2.27	0.67
2:B:1258:PHE:HE1	2:B:1262:HIS:CD2	2.13	0.67
3:C:22:DT:H2''	3:C:23:DC:O5'	1.94	0.67
2:F:137:HIS:HA	2:F:322:ILE:HD11	1.76	0.67
2:B:526:LYS:HE2	2:B:692:ASN:HB2	1.76	0.67
2:F:967:ARG:NH1	2:F:974:LYS:HE3	2.10	0.67
2:B:982:HIS:HA	2:B:985:HIS:HB2	1.77	0.67
1:E:18:A:N7	2:F:71:ARG:NH2	2.43	0.67
2:F:737:ILE:O	2:F:740:THR:HG22	1.95	0.67
5:J:73:G:H5'	5:J:74:A:OP2	1.95	0.67
2:F:1215:ALA:HB2	2:F:1221:GLN:HG3	1.77	0.67
2:B:1179:ILE:HD11	2:B:1192:LYS:HD2	1.77	0.67
2:F:999:LYS:HB3	2:F:1073:VAL:HG12	1.77	0.66
2:F:413:GLN:O	2:F:417:GLY:N	2.22	0.66
2:F:821:ASP:HB2	2:F:828:LEU:HD21	1.77	0.66
2:B:1037:PHE:HD1	2:B:1039:TYR:H	1.43	0.66
2:F:1097:LYS:HD3	2:F:1099:GLU:OE2	1.95	0.66
1:A:1:U:H5	2:B:661:ARG:HH12	1.43	0.66
2:B:746:GLU:OE2	2:B:1353:THR:OG1	2.09	0.66
2:F:46:ASN:ND2	2:F:1089:MET:SD	2.69	0.66
2:F:302:LEU:HD22	2:F:306:LEU:HD22	1.78	0.66
2:B:662:LEU:HD23	2:B:666:LEU:HD22	1.78	0.66
2:B:1109:SER:OG	3:C:9:DT:OP2	2.09	0.66
2:B:679:ILE:O	2:B:683:LEU:HD13	1.96	0.66
2:B:1236:LEU:HD11	2:B:1269:ILE:HD13	1.77	0.66
1:E:25:U:H5'	2:F:107:VAL:HG12	1.77	0.65
2:F:545:LYS:HD2	2:F:690:ASN:HD21	1.61	0.65
2:B:1333:ARG:CZ	2:B:1335:ARG:HD2	2.26	0.65
2:F:998:ILE:HG22	2:F:1008:PHE:HE1	1.59	0.65
2:F:936:ASP:OD1	2:F:940:ASN:ND2	2.29	0.65
2:B:594:TYR:OH	2:B:608:ASP:OD1	2.15	0.65
2:B:70:ARG:NH2	5:I:61:C:OP1	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:545:LYS:NZ	2:F:683:LEU:O	2.29	0.65
2:B:70:ARG:HH21	5:I:61:C:P	2.19	0.65
2:B:226:ILE:HA	2:B:229:LEU:HG	1.78	0.65
2:B:787:GLY:HA3	2:B:891:LEU:HD21	1.78	0.65
2:B:824:VAL:HG11	2:B:859:ARG:HH12	1.61	0.65
2:B:1207:GLU:CD	2:B:1210:ARG:NH1	2.51	0.64
2:B:69:ARG:HD3	5:I:62:G:N7	2.12	0.64
2:B:1226:LEU:HB2	2:B:1276:PHE:CE2	2.32	0.64
5:J:94:U:H2'	5:J:95:G:C8	2.32	0.64
2:F:139:ARG:NH2	2:F:418:GLU:OE1	2.25	0.64
2:F:1206:LEU:HD11	2:F:1210:ARG:NH2	2.12	0.64
2:B:823:TYR:HD2	2:B:858:THR:HG21	1.62	0.64
2:B:1356:TYR:HB3	5:I:81:G:C6	2.33	0.64
2:F:332:LEU:HD11	2:F:336:LYS:HE3	1.79	0.64
2:B:317:LEU:HB2	2:B:414:ILE:HD12	1.80	0.64
2:F:44:LYS:HD3	5:J:92:G:N7	2.13	0.64
2:B:967:ARG:HE	2:B:974:LYS:HB2	1.63	0.64
2:F:63:ARG:HG3	2:F:66:ARG:NH1	2.11	0.64
2:F:760:VAL:HG22	2:F:956:ILE:HD12	1.80	0.64
2:F:328:HIS:NE2	2:F:359:TYR:OH	2.30	0.64
2:F:666:LEU:HD21	2:F:693:PHE:CZ	2.33	0.64
1:A:22:U:O2'	2:B:1110:ILE:HB	1.97	0.63
2:F:505:GLU:HG3	2:F:665:LYS:HB2	1.80	0.63
2:F:530:VAL:HG22	2:F:537:PRO:HB3	1.80	0.63
2:F:1203:LEU:HD23	2:F:1348:ILE:HB	1.80	0.63
2:B:1271:GLU:O	2:B:1274:SER:OG	2.16	0.63
2:F:189:VAL:HG13	2:F:201:ILE:HG22	1.79	0.63
2:F:226:ILE:CG1	2:F:232:GLU:HG2	2.25	0.63
2:B:116:HIS:CE1	2:B:122:ILE:HG12	2.33	0.63
2:B:818:ASN:O	2:B:818:ASN:ND2	2.32	0.63
2:F:309:ASN:OD1	2:F:312:ILE:HG23	1.99	0.63
2:F:234:LYS:H	2:F:234:LYS:HD3	1.62	0.63
2:F:972:PHE:CE1	2:F:1084:ARG:HG2	2.34	0.63
1:E:14:G:OP2	2:F:63:ARG:HD3	1.99	0.63
2:F:601:ILE:HD11	2:F:607:LEU:HD11	1.81	0.63
2:B:183:LYS:NZ	2:B:311:GLU:OE2	2.31	0.63
2:F:1216:SER:OG	4:H:7:DG:OP1	2.16	0.63
2:F:138:LEU:HD21	2:F:153:LEU:HD21	1.81	0.62
2:F:272:ASP:HA	2:F:275:LEU:HB3	1.80	0.62
2:B:781:MET:HG3	2:B:803:ASN:ND2	2.14	0.62
2:F:158:LEU:HA	2:F:161:MET:SD	2.40	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1224:ASN:CB	2:B:1280:VAL:HG11	2.22	0.62
2:F:70:ARG:HH21	5:J:61:C:P	2.22	0.62
2:F:745:ASP:OD2	2:F:938:ARG:NH2	2.33	0.62
2:F:1241:HIS:CE1	2:F:1244:LYS:HA	2.35	0.62
2:B:5:TYR:CE2	2:B:756:PRO:HB3	2.35	0.62
2:B:930:HIS:O	2:B:934:ILE:HG13	1.98	0.62
2:B:745:ASP:OD2	2:B:938:ARG:NH2	2.33	0.61
2:B:1147:ALA:HB1	2:B:1188:LYS:O	2.00	0.61
2:F:626:PHE:CE1	2:F:635:ARG:NH1	2.68	0.61
2:B:281:GLN:OE1	2:B:281:GLN:N	2.27	0.61
2:B:1000:LYS:HB3	2:B:1001:TYR:CE2	2.36	0.61
2:F:35:LEU:HB2	2:F:1358:THR:HG22	1.80	0.61
2:F:918:LYS:HE3	2:F:1018:VAL:HG11	1.81	0.61
2:F:1207:GLU:CD	2:F:1210:ARG:NH1	2.54	0.61
2:F:635:ARG:HG3	2:F:635:ARG:HH11	1.64	0.61
2:F:671:ARG:H	2:F:671:ARG:HD3	1.65	0.61
2:F:918:LYS:HZ3	2:F:1007:GLU:CD	2.03	0.61
2:F:163:LYS:HG2	2:F:164:PHE:CE1	2.36	0.61
2:F:380:LEU:HD11	2:F:390:LEU:CG	2.29	0.61
2:F:918:LYS:NZ	2:F:1018:VAL:HG11	2.14	0.61
5:I:88:A:N6	5:I:91:C:H42	1.99	0.61
2:F:258:LEU:HD22	2:F:260:GLU:H	1.65	0.61
2:F:671:ARG:HD3	2:F:671:ARG:N	2.16	0.61
2:B:472:THR:HG23	5:I:59:U:OP2	2.01	0.61
2:B:926:GLN:HG2	3:C:20:DA:P	2.40	0.61
2:F:867:SER:HB2	2:F:1054:ASN:N	2.16	0.61
2:B:340:ARG:HH21	5:I:41:A:P	2.24	0.61
2:B:1308:ASN:HD22	2:B:1327:PHE:N	1.96	0.61
2:F:139:ARG:HG3	2:F:139:ARG:HH11	1.65	0.60
2:F:1167:THR:HG23	2:F:1170:GLU:H	1.66	0.60
2:F:1326:TYR:HE2	2:F:1327:PHE:HD2	1.47	0.60
2:B:448:ILE:HD13	2:B:455:LEU:HD13	1.83	0.60
2:F:824:VAL:HG12	2:F:825:ASP:H	1.65	0.60
2:F:841:ILE:HD11	2:F:896:LYS:HG3	1.82	0.60
2:B:243:ALA:C	2:B:246:LEU:CD2	2.69	0.60
2:B:554:LYS:HG2	2:B:594:TYR:CE2	2.35	0.60
2:F:918:LYS:NZ	2:F:1018:VAL:HG12	2.15	0.60
2:B:893:THR:HG23	2:B:896:LYS:H	1.65	0.60
2:B:1002:PRO:HD2	2:B:1036:TYR:OH	2.01	0.60
2:B:539:PHE:HD2	2:B:689:ALA:HA	1.67	0.60
2:F:985:HIS:CD2	2:F:1087:LEU:HD22	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:514:LEU:HD21	2:F:664:ARG:HH21	1.66	0.60
2:F:1206:LEU:HD11	2:F:1210:ARG:HH22	1.66	0.60
2:B:694:MET:HG3	2:B:698:HIS:CD2	2.37	0.60
2:B:813:LEU:HD11	2:B:855:LYS:HB3	1.84	0.60
2:B:1286:ASN:ND2	2:B:1332:ASP:O	2.34	0.60
2:F:690:ASN:OD1	2:F:690:ASN:N	2.35	0.60
5:I:52:A:OP2	5:I:62:G:N2	2.34	0.60
2:B:879:MET:HG3	2:B:882:TYR:HB3	1.81	0.60
2:F:489:GLN:HG3	2:F:625:LEU:HD21	1.83	0.60
2:F:853:ASP:OD1	2:F:893:THR:HG21	2.01	0.60
2:F:632:ILE:O	2:F:636:LEU:HD13	2.01	0.59
5:J:88:A:C2	5:J:91:C:N3	2.70	0.59
2:B:620:VAL:HG13	2:B:656:TYR:HD2	1.67	0.59
2:B:881:ASN:OD1	2:B:885:GLN:NE2	2.27	0.59
2:B:1236:LEU:HA	2:B:1239:ALA:HB3	1.83	0.59
2:F:165:ARG:HD2	2:F:168:PHE:CE1	2.36	0.59
2:F:180:ASP:HB3	2:F:183:LYS:HD2	1.85	0.59
2:F:958:LEU:HD22	2:F:962:LEU:HD12	1.84	0.59
2:F:1061:PRO:O	2:F:1076:LYS:HE2	2.02	0.59
2:B:386:THR:O	2:B:386:THR:HG22	2.01	0.59
2:B:427:GLU:HB2	2:B:434:LYS:HB2	1.83	0.59
2:F:1347:LEU:N	2:F:1360:ILE:O	2.34	0.59
2:B:794:GLN:HG2	2:B:798:GLU:HG3	1.84	0.59
2:B:1037:PHE:CE1	2:B:1039:TYR:CG	2.90	0.59
2:B:1207:GLU:HG3	2:B:1208:ASN:H	1.67	0.59
2:B:21:ILE:HD11	2:B:995:THR:HG21	1.83	0.59
2:B:1108:GLU:N	3:C:9:DT:OP1	2.31	0.59
2:F:40:ARG:NE	2:F:43:ILE:HD11	2.18	0.59
2:B:212:LEU:O	2:B:221:ARG:HD2	2.02	0.59
2:B:1356:TYR:HB3	5:I:81:G:N1	2.17	0.59
2:F:923:GLU:HG2	2:F:928:THR:HG21	1.85	0.59
2:F:1110:ILE:HD13	2:F:1122:ARG:CZ	2.32	0.59
2:F:1120:ILE:HD11	2:F:1137:PRO:HD3	1.84	0.59
2:F:1236:LEU:O	2:F:1240:SER:OG	2.14	0.59
5:J:40:C:H2'	5:J:41:A:C8	2.38	0.59
2:B:380:LEU:O	2:B:386:THR:HG21	2.02	0.59
2:F:149:ALA:H	2:F:426:GLN:HE22	1.51	0.58
2:F:1224:ASN:HB2	2:F:1280:VAL:HG11	1.85	0.58
2:F:1290:VAL:HG22	2:F:1331:ILE:HD13	1.85	0.58
2:B:107:VAL:HG22	2:B:1131:TYR:OH	2.02	0.58
2:B:979:ASN:OD1	2:B:980:ASN:N	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:317:LEU:HD22	2:B:414:ILE:HD11	1.84	0.58
2:B:1120:ILE:HB	2:B:1134:PHE:HB2	1.84	0.58
2:F:189:VAL:HG13	2:F:201:ILE:CG2	2.32	0.58
2:B:1011:GLY:O	2:B:1014:LYS:N	2.36	0.58
2:F:14:ASN:OD1	2:F:55:SER:OG	2.19	0.58
1:A:2:U:N3	1:A:4:A:H3'	2.13	0.58
2:B:48:ILE:O	2:B:1093:ASN:ND2	2.33	0.58
2:F:207:ASP:O	2:F:211:ILE:HG12	2.03	0.58
2:F:1219:GLU:OE1	2:F:1335:ARG:NH2	2.28	0.58
2:B:5:TYR:OH	2:B:754:HIS:O	2.21	0.58
2:F:967:ARG:NH1	2:F:986:ASP:OD1	2.36	0.58
5:J:40:C:H2'	5:J:41:A:H8	1.68	0.58
2:B:1123:LYS:NZ	5:I:52:A:OP1	2.37	0.58
2:B:1206:LEU:HB3	2:B:1345:ALA:HB2	1.84	0.58
2:F:821:ASP:HA	2:F:828:LEU:HD11	1.86	0.58
2:B:621:LEU:O	2:B:625:LEU:HB2	2.03	0.58
2:F:25:TYR:O	2:F:988:TYR:OH	2.21	0.58
2:F:860:SER:OG	2:F:863:ASN:OD1	2.20	0.58
2:B:181:VAL:O	2:B:185:PHE:N	2.31	0.58
2:B:305:ILE:HG13	2:B:306:LEU:N	2.19	0.57
2:B:343:LEU:HD21	2:B:346:LYS:HG3	1.85	0.57
2:B:620:VAL:HG13	2:B:656:TYR:CD2	2.39	0.57
2:F:954:LYS:NZ	2:F:998:ILE:HD13	2.19	0.57
2:B:118:ILE:O	2:B:152:ARG:HD2	2.04	0.57
2:B:1251:ASP:HB3	2:B:1255:LYS:HE2	1.85	0.57
2:B:1256:GLN:O	2:B:1256:GLN:NE2	2.38	0.57
2:F:178:ASN:HB3	2:F:184:LEU:HD11	1.87	0.57
2:F:220:ARG:O	2:F:224:ASN:N	2.32	0.57
2:B:233:LYS:HG2	2:B:235:ASN:H	1.69	0.57
2:F:48:ILE:HG12	2:F:984:ALA:HB1	1.86	0.57
2:F:258:LEU:HD12	2:F:281:GLN:HE22	1.68	0.57
1:A:27:G:H5'	1:A:28:A:C5'	2.33	0.57
2:B:640:ALA:HA	2:B:648:MET:HE2	1.86	0.57
2:B:1235:PHE:O	2:B:1239:ALA:N	2.32	0.57
2:F:63:ARG:HG3	2:F:66:ARG:HH12	1.69	0.57
2:F:697:ILE:HD11	2:F:708:ILE:HG13	1.86	0.57
1:A:12:A:H61	3:C:17:DT:H3	1.51	0.57
2:F:843:PRO:HG3	2:F:864:ARG:HH22	1.68	0.57
5:J:91:C:O2'	5:J:92:G:P	2.63	0.57
2:B:143:VAL:HG13	2:B:421:ALA:CB	2.33	0.57
2:B:699:ASP:HB3	2:B:702:LEU:HD12	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:823:TYR:HA	2:B:875:VAL:CG1	2.31	0.57
2:B:184:LEU:HD12	2:B:299:ALA:HB2	1.86	0.57
2:B:525:THR:CG2	2:B:690:ASN:CB	2.75	0.57
2:B:1140:ALA:HB2	2:B:1168:ILE:HG12	1.85	0.57
2:F:867:SER:HB2	2:F:1053:ALA:C	2.25	0.57
2:F:1096:LYS:HG2	2:F:1201:TYR:CD2	2.40	0.57
2:B:373:TYR:OH	2:B:398:LEU:N	2.31	0.57
2:F:979:ASN:OD1	2:F:981:TYR:N	2.31	0.57
2:B:686:ASP:HB3	2:B:690:ASN:HA	1.86	0.57
2:B:353:ASP:CG	2:B:356:LYS:HG2	2.25	0.57
2:B:465:MET:HE2	2:B:467:ARG:HG2	1.87	0.57
2:B:1074:TRP:HZ2	2:B:1080:PHE:CE2	2.23	0.57
2:F:165:ARG:O	2:F:415:HIS:HD2	1.87	0.57
2:B:977:GLU:N	2:B:977:GLU:OE1	2.38	0.56
2:F:312:ILE:HG13	2:F:313:THR:N	2.19	0.56
2:F:646:LYS:HG3	2:F:650:GLN:NE2	2.20	0.56
2:F:918:LYS:CE	2:F:1018:VAL:HG11	2.35	0.56
2:B:1315:LEU:HB2	2:B:1324:PHE:CE1	2.40	0.56
2:F:1060:ARG:HH11	2:F:1060:ARG:CG	2.16	0.56
2:B:978:ILE:HD12	2:B:1233:VAL:HG22	1.85	0.56
2:B:1200:LYS:HG2	2:B:1201:TYR:CD1	2.40	0.56
2:F:737:ILE:HA	2:F:740:THR:HG22	1.87	0.56
2:F:750:VAL:HG21	2:F:1355:LEU:HD12	1.87	0.56
2:B:634:GLU:OE2	2:B:637:LYS:NZ	2.38	0.56
2:F:199:ASN:O	2:F:201:ILE:CD1	2.53	0.56
2:F:1108:GLU:N	3:G:9:DT:OP1	2.30	0.56
3:G:3:DA:N6	4:H:9:DA:H61	2.04	0.56
2:B:985:HIS:ND1	2:B:1087:LEU:HD13	2.20	0.56
2:B:1314:THR:HG21	2:B:1324:PHE:HB3	1.87	0.56
2:F:643:PHE:HD1	2:F:647:VAL:HG11	1.71	0.56
2:F:886:LEU:HD22	2:F:891:LEU:HD11	1.88	0.56
2:B:465:MET:CE	2:B:467:ARG:HG2	2.35	0.56
2:F:446:PHE:HE2	2:F:448:ILE:HD13	1.70	0.56
2:B:672:ASP:HA	2:B:703:THR:HG22	1.88	0.56
2:B:864:ARG:HB2	2:B:871:PRO:HA	1.88	0.56
2:B:1116:SER:OG	2:B:1117:ASP:N	2.38	0.56
2:B:1228:LEU:HD12	2:B:1229:PRO:HD2	1.88	0.56
2:F:841:ILE:CD1	2:F:896:LYS:HG3	2.36	0.56
2:F:1095:VAL:HG13	2:F:1350:GLN:OE1	2.06	0.56
2:F:1326:TYR:HE2	2:F:1327:PHE:CD2	2.23	0.56
2:F:621:LEU:O	2:F:625:LEU:HB2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:644:ASP:HB3	2:F:647:VAL:HG23	1.88	0.56
2:B:358:GLY:O	2:B:362:TYR:N	2.34	0.56
2:B:1177:ASN:ND2	2:B:1180:ASP:OD2	2.38	0.56
2:B:45:LYS:NZ	2:B:1354:GLY:O	2.36	0.55
2:B:315:ALA:HB1	2:B:418:GLU:OE2	2.06	0.55
2:F:535:ARG:HD2	2:F:535:ARG:H	1.71	0.55
2:F:633:GLU:O	2:F:637:LYS:N	2.38	0.55
2:B:427:GLU:OE1	2:B:437:ARG:NH1	2.38	0.55
2:F:1349:HIS:CE1	5:J:69:A:H5'	2.40	0.55
2:B:1211:LYS:C	2:B:1223:GLY:HA3	2.27	0.55
2:F:139:ARG:HG3	2:F:139:ARG:NH1	2.21	0.55
2:F:839:ASP:OD2	2:F:864:ARG:HD2	2.06	0.55
2:B:565:LYS:HE2	2:B:580:ILE:HG12	1.88	0.55
2:F:448:ILE:HD12	2:F:455:LEU:HD11	1.88	0.55
2:F:468:LYS:HE3	2:F:483:ASP:HB3	1.88	0.55
2:B:30:LYS:HD3	5:I:83:C:P	2.46	0.55
2:B:302:LEU:HA	2:B:305:ILE:HG12	1.88	0.55
2:F:939:MET:HG3	2:F:953:VAL:HG11	1.89	0.55
2:F:1264:HIS:O	2:F:1268:GLU:HG3	2.07	0.55
5:J:88:A:C6	5:J:91:C:N4	2.72	0.55
2:F:1207:GLU:CD	2:F:1210:ARG:HH11	2.08	0.55
2:F:1270:ILE:HG13	2:F:1294:TYR:CD2	2.42	0.55
2:B:672:ASP:HA	2:B:703:THR:CG2	2.37	0.55
2:B:489:GLN:HG3	2:B:625:LEU:HD21	1.87	0.55
2:F:369:GLN:HG2	2:F:373:TYR:HE2	1.71	0.55
2:F:977:GLU:HG3	2:F:1310:ILE:CG2	2.37	0.55
2:F:675:SER:HB2	2:F:682:PHE:HZ	1.71	0.55
3:G:6:DC:H2''	3:G:7:DC:O5'	2.06	0.55
2:F:887:LEU:HD21	2:F:894:GLN:HG2	1.88	0.55
2:B:833:LEU:HD22	2:B:857:LEU:HD21	1.89	0.54
2:F:199:ASN:O	2:F:201:ILE:HD11	2.06	0.54
2:F:972:PHE:HE1	2:F:1084:ARG:HG2	1.71	0.54
5:J:83:C:H2'	5:J:84:A:H8	1.72	0.54
2:F:755:LYS:HD3	2:F:939:MET:HE3	1.89	0.54
2:B:139:ARG:NH2	2:B:161:MET:HG2	2.22	0.54
2:B:1060:ARG:NH1	2:B:1064:GLU:OE2	2.40	0.54
2:B:1222:LYS:NZ	2:B:1315:LEU:O	2.34	0.54
2:F:794:GLN:H	2:F:794:GLN:CD	2.10	0.54
2:F:943:TYR:CE2	2:F:949:LEU:HD13	2.42	0.54
2:F:1135:ASP:OD1	2:F:1136:SER:N	2.40	0.54
2:F:1347:LEU:HB3	2:F:1360:ILE:HB	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:978:ILE:CD1	2:B:1233:VAL:HG22	2.37	0.54
2:F:618:ASP:HB3	2:F:639:TYR:OH	2.08	0.54
2:B:218:LYS:H	2:B:218:LYS:HD2	1.73	0.54
2:B:345:GLU:N	2:B:345:GLU:OE1	2.39	0.54
2:F:350:ILE:O	2:F:359:TYR:N	2.40	0.54
2:B:531:THR:HG21	2:B:575:PHE:CE2	2.43	0.54
2:B:814:TYR:CE2	2:B:819:GLY:HA2	2.43	0.54
2:B:116:HIS:HE1	2:B:122:ILE:HG12	1.70	0.54
1:E:6:G:H1	3:G:23:DC:H42	1.55	0.54
2:F:672:ASP:HB3	2:F:675:SER:HB2	1.88	0.54
2:F:962:LEU:HB3	2:F:1043:MET:CE	2.38	0.54
2:F:1147:ALA:HB2	2:F:1190:VAL:HA	1.89	0.54
2:B:1062:LEU:HD23	2:B:1062:LEU:H	1.72	0.54
2:F:140:LYS:HE3	2:F:313:THR:OG1	2.07	0.54
2:B:118:ILE:HG12	2:B:156:LEU:HD11	1.90	0.54
2:B:853:ASP:CG	2:B:893:THR:HG21	2.28	0.54
2:B:1105:PHE:CG	2:B:1169:MET:HG3	2.43	0.54
2:F:90:MET:SD	2:F:151:LEU:HD23	2.47	0.54
2:F:324:ARG:O	2:F:327:GLU:HB2	2.08	0.54
2:F:868:ASP:O	2:F:869:ASN:HB2	2.08	0.54
2:F:1207:GLU:HG3	2:F:1208:ASN:H	1.72	0.54
2:F:1347:LEU:HD23	2:F:1348:ILE:N	2.23	0.54
1:A:8:A:H2'	1:A:9:U:C6	2.43	0.53
2:F:1019:ARG:O	2:F:1021:MET:N	2.35	0.53
2:B:233:LYS:HB3	2:B:236:GLY:H	1.74	0.53
2:B:240:ASN:HB3	2:B:252:PHE:CE2	2.44	0.53
2:F:1106:SER:HA	2:F:1137:PRO:HA	1.91	0.53
2:B:38:THR:HG22	2:B:40:ARG:H	1.73	0.53
2:B:165:ARG:NH2	2:B:446:PHE:O	2.40	0.53
2:B:305:ILE:HD11	2:B:414:ILE:HG21	1.91	0.53
2:B:597:LEU:O	2:B:601:ILE:HG12	2.07	0.53
2:F:971:GLN:HG2	2:F:973:TYR:CE2	2.43	0.53
2:B:1206:LEU:HD11	2:B:1210:ARG:NH2	2.24	0.53
2:F:351:PHE:HD1	5:J:43:G:O6	1.91	0.53
2:F:923:GLU:OE2	2:F:925:ARG:NH1	2.41	0.53
2:F:1205:GLU:OE1	2:F:1359:ARG:NH2	2.36	0.53
2:B:526:LYS:NZ	2:B:690:ASN:O	2.28	0.53
2:B:951:ARG:NH2	2:B:1011:GLY:HA2	2.23	0.53
2:F:1123:LYS:HD2	5:J:53:G:P	2.49	0.53
2:B:279:LEU:HD11	2:B:284:ASP:HA	1.91	0.53
2:F:174:LEU:CD1	2:F:302:LEU:HD21	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:165:ARG:O	2:B:415:HIS:HD2	1.91	0.53
2:F:167:HIS:CD2	2:F:169:LEU:HB2	2.43	0.53
2:F:323:LYS:HE3	2:F:327:GLU:OE2	2.08	0.53
5:J:94:U:H2'	5:J:95:G:H8	1.73	0.53
2:B:455:LEU:HD23	2:B:473:ILE:HD12	1.91	0.53
2:B:1236:LEU:O	2:B:1240:SER:OG	2.23	0.53
2:B:1266:LEU:O	2:B:1270:ILE:HG12	2.09	0.53
2:F:154:ILE:HG23	2:F:158:LEU:HG	1.89	0.53
2:F:554:LYS:HB3	2:F:594:TYR:CE2	2.44	0.53
2:F:1286:ASN:O	2:F:1290:VAL:HG23	2.08	0.53
2:B:143:VAL:HG13	2:B:421:ALA:HB1	1.90	0.53
2:B:273:ASP:N	2:B:273:ASP:OD1	2.37	0.53
2:F:167:HIS:HD2	2:F:169:LEU:H	1.57	0.53
2:F:563:GLN:O	2:F:567:ASP:HB2	2.08	0.53
2:F:1326:TYR:CE2	2:F:1327:PHE:HD2	2.26	0.53
2:F:794:GLN:HE21	2:F:798:GLU:CD	2.13	0.53
2:F:911:LEU:HD12	2:F:911:LEU:H	1.74	0.53
2:B:203:ALA:O	2:B:206:VAL:HG22	2.08	0.52
2:B:530:VAL:CG2	2:B:537:PRO:HB3	2.36	0.52
2:B:531:THR:HG21	2:B:575:PHE:HE2	1.73	0.52
2:B:784:ILE:HD13	2:B:815:TYR:HB3	1.91	0.52
2:B:1114:ARG:NH1	4:D:9:DA:OP1	2.42	0.52
2:F:1221:GLN:NE2	2:F:1320:ALA:HB2	2.24	0.52
5:I:83:C:H2'	5:I:84:A:H8	1.74	0.52
2:B:251:ASN:HD21	2:B:253:LYS:HB3	1.74	0.52
2:F:338:LEU:HB3	2:F:383:MET:HE3	1.90	0.52
2:B:94:ASP:HB3	2:B:97:PHE:HB2	1.91	0.52
2:B:925:ARG:HB3	2:B:928:THR:HG23	1.91	0.52
2:F:226:ILE:HD11	2:F:232:GLU:OE1	2.09	0.52
2:F:253:LYS:HG3	2:F:261:ASP:HA	1.91	0.52
2:F:1002:PRO:HD2	2:F:1036:TYR:OH	2.09	0.52
2:F:699:ASP:OD1	2:F:701:SER:OG	2.27	0.52
2:F:1326:TYR:CE2	2:F:1327:PHE:CD2	2.97	0.52
2:F:1167:THR:CG2	2:F:1170:GLU:HG3	2.40	0.52
5:J:96:C:C4	5:J:97:U:C4	2.97	0.52
1:A:25:U:H2'	1:A:26:A:H8	1.74	0.52
2:B:736:GLY:O	2:B:740:THR:N	2.32	0.52
2:F:90:MET:HA	2:F:151:LEU:CD2	2.39	0.52
2:F:795:ILE:HA	2:F:798:GLU:HB2	1.91	0.52
2:B:217:SER:HB2	2:B:220:ARG:HG2	1.92	0.52
2:B:727:LEU:HD12	2:B:927:ILE:CD1	2.37	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:737:ILE:O	2:B:740:THR:HG22	2.09	0.52
1:E:11:U:C2	1:E:12:A:C8	2.97	0.52
1:E:18:A:OP2	2:F:71:ARG:HD2	2.09	0.52
2:F:820:ARG:HG3	2:F:826:GLN:O	2.09	0.52
2:B:186:ILE:O	2:B:190:GLN:N	2.37	0.52
2:B:946:ASN:HB3	2:B:948:LYS:HD2	1.92	0.52
2:B:1241:HIS:ND1	2:B:1244:LYS:HA	2.25	0.52
2:F:923:GLU:CG	2:F:928:THR:HG21	2.39	0.52
2:B:180:ASP:HB3	2:B:183:LYS:HB2	1.92	0.52
2:B:369:GLN:HE22	2:B:400:ARG:HD2	1.74	0.52
2:F:1212:ARG:CZ	2:F:1336:TYR:HE2	2.23	0.52
3:G:3:DA:H61	4:H:9:DA:N6	2.07	0.52
2:B:137:HIS:HE1	2:B:325:TYR:CD2	2.28	0.51
2:B:416:LEU:HB2	2:B:444:LEU:HD22	1.92	0.51
2:F:38:THR:HG22	2:F:40:ARG:H	1.75	0.51
2:F:869:ASN:HD21	2:F:907:GLY:HA3	1.75	0.51
2:B:473:ILE:HG12	2:B:481:VAL:HG11	1.92	0.51
2:F:122:ILE:O	2:F:126:VAL:HG23	2.11	0.51
2:F:918:LYS:HE3	2:F:1018:VAL:CG1	2.39	0.51
2:F:1313:PHE:O	2:F:1316:THR:N	2.43	0.51
5:J:85:C:H2'	5:J:86:C:C6	2.45	0.51
5:J:91:C:HO2'	5:J:92:G:P	2.33	0.51
1:E:27:G:H5'	1:E:28:A:C5'	2.41	0.51
2:B:256:PHE:O	2:B:257:ASP:OD1	2.29	0.51
2:F:619:ILE:HD11	2:F:651:LEU:HD11	1.92	0.51
2:F:1205:GLU:HB2	2:F:1348:ILE:HD11	1.91	0.51
3:G:3:DA:H61	4:H:9:DA:H61	1.58	0.51
2:B:1037:PHE:HE2	2:B:1060:ARG:HH21	1.53	0.51
3:C:19:DA:H2'	3:C:20:DA:C8	2.45	0.51
2:F:138:LEU:CD2	2:F:153:LEU:HD11	2.41	0.51
2:F:226:ILE:CG2	2:F:230:PRO:HA	2.41	0.51
2:B:943:TYR:CZ	2:B:949:LEU:HD13	2.46	0.51
2:F:275:LEU:O	2:F:279:LEU:N	2.42	0.51
5:J:79:G:O2'	5:J:80:U:H5'	2.10	0.51
2:F:1207:GLU:HG3	2:F:1208:ASN:N	2.26	0.51
2:F:74:ARG:O	2:F:78:ARG:HG3	2.11	0.51
2:F:137:HIS:HA	2:F:322:ILE:CD1	2.39	0.51
2:F:998:ILE:HG22	2:F:1008:PHE:CE1	2.45	0.51
2:F:1205:GLU:CD	2:F:1359:ARG:HH22	2.14	0.51
1:E:19:A:H4'	2:F:407:ASN:C	2.31	0.51
2:F:666:LEU:HD21	2:F:693:PHE:CE1	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1312:LEU:HD21	2:F:1326:TYR:CD1	2.44	0.51
1:A:16:A:H4'	2:B:448:ILE:O	2.11	0.51
2:B:135:ILE:HG21	2:B:160:HIS:NE2	2.25	0.51
2:B:325:TYR:HD1	5:I:44:U:C2	2.28	0.51
2:B:724:ILE:O	2:B:727:LEU:HB2	2.11	0.51
2:F:511:HIS:O	2:F:593:THR:OG1	2.26	0.51
2:F:671:ARG:H	2:F:671:ARG:CD	2.21	0.51
2:F:853:ASP:CG	2:F:893:THR:HG21	2.31	0.51
2:F:135:ILE:HG21	5:J:46:A:H5'	1.92	0.50
2:F:338:LEU:HD13	2:F:386:THR:HG22	1.93	0.50
2:F:620:VAL:O	2:F:624:THR:N	2.37	0.50
2:F:1347:LEU:HD22	2:F:1349:HIS:CD2	2.46	0.50
2:B:1041:ASN:HB2	2:B:1044:ASN:ND2	2.23	0.50
2:B:1208:ASN:OD1	2:B:1279:ARG:HG3	2.10	0.50
2:F:334:LEU:O	2:F:338:LEU:HG	2.11	0.50
2:F:508:LEU:HD11	2:F:664:ARG:HB2	1.94	0.50
2:F:1357:GLU:O	5:J:81:G:N2	2.38	0.50
2:F:1060:ARG:NH1	2:F:1060:ARG:CG	2.73	0.50
2:F:1135:ASP:OD1	4:H:8:DT:H5''	2.11	0.50
2:B:473:ILE:HD13	2:B:482:VAL:HG23	1.92	0.50
2:F:442:LYS:HB3	2:F:476:TRP:CD1	2.46	0.50
2:F:1241:HIS:ND1	2:F:1244:LYS:HA	2.26	0.50
5:J:91:C:O2'	5:J:92:G:O5'	2.29	0.50
2:B:249:THR:HG22	2:B:265:GLN:CB	2.39	0.50
2:F:108:GLU:HG3	2:F:115:ARG:HD3	1.94	0.50
2:F:138:LEU:HD22	2:F:153:LEU:HD11	1.94	0.50
3:G:7:DC:O2	4:H:7:DG:N2	2.45	0.50
5:I:42:A:H8	5:I:42:A:H5''	1.77	0.50
5:I:83:C:H2'	5:I:84:A:C8	2.47	0.50
5:J:96:C:H2'	5:J:97:U:O4'	2.12	0.50
1:A:31:U:N3	1:A:32:A:N7	2.59	0.50
2:B:331:ASP:OD2	2:B:392:LYS:NZ	2.41	0.50
1:E:27:G:H5'	1:E:28:A:O5'	2.10	0.50
2:F:979:ASN:OD1	2:F:980:ASN:N	2.44	0.50
2:F:853:ASP:HB3	2:F:895:ARG:HD3	1.93	0.50
2:B:661:ARG:HB2	2:B:662:LEU:HD12	1.93	0.50
2:B:939:MET:HG3	2:B:953:VAL:HG11	1.94	0.50
2:F:226:ILE:HG23	2:F:230:PRO:HA	1.93	0.50
2:F:465:MET:SD	2:F:482:VAL:HG21	2.51	0.50
2:F:884:ARG:HG3	2:F:884:ARG:HH11	1.76	0.50
2:F:1198:LEU:HD21	2:F:1347:LEU:HD11	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1240:SER:HB2	2:B:1242:TYR:CD1	2.47	0.50
2:F:167:HIS:HD2	2:F:169:LEU:HB2	1.77	0.50
2:F:923:GLU:HA	2:F:923:GLU:OE1	2.12	0.50
2:F:961:LYS:HA	2:F:964:SER:HB3	1.94	0.50
2:B:761:ILE:HG13	2:B:761:ILE:O	2.11	0.49
2:B:874:GLU:HA	2:B:877:LYS:HE3	1.94	0.49
2:F:566:GLU:O	2:F:570:LYS:HB3	2.11	0.49
2:B:198:GLU:HG2	2:B:199:ASN:N	2.27	0.49
2:B:917:ILE:HD11	2:B:1042:ILE:HG22	1.95	0.49
2:B:40:ARG:NE	2:B:43:ILE:HD11	2.27	0.49
2:B:310:THR:OG1	2:B:316:PRO:HB3	2.13	0.49
2:B:943:TYR:CE1	2:B:949:LEU:HD13	2.47	0.49
2:F:271:TYR:O	2:F:275:LEU:N	2.42	0.49
2:B:1037:PHE:HE1	2:B:1039:TYR:CG	2.27	0.49
2:F:180:ASP:HB3	2:F:183:LYS:CD	2.41	0.49
2:F:1333:ARG:CZ	2:F:1335:ARG:HD2	2.41	0.49
2:B:121:ASN:H	2:B:121:ASN:ND2	2.10	0.49
2:B:448:ILE:HD13	2:B:455:LEU:CD1	2.41	0.49
2:B:679:ILE:HD13	2:B:704:PHE:CE2	2.48	0.49
2:B:841:ILE:HD11	2:B:896:LYS:HG3	1.94	0.49
2:F:9:LEU:HD13	2:F:740:THR:OG1	2.12	0.49
2:F:19:ALA:HB2	2:F:48:ILE:HG13	1.93	0.49
2:F:32:PHE:CE1	2:F:1355:LEU:HB3	2.47	0.49
2:F:362:TYR:OH	2:F:401:LYS:HG3	2.13	0.49
2:B:420:HIS:ND1	2:B:441:GLU:OE2	2.46	0.49
2:B:31:LYS:HG2	2:B:42:SER:OG	2.12	0.49
2:B:336:LYS:NZ	5:I:43:G:O6	2.46	0.49
2:B:603:ASP:OD1	2:B:606:PHE:N	2.40	0.49
2:F:925:ARG:HB3	2:F:928:THR:HG22	1.94	0.49
2:F:1216:SER:HB3	2:F:1219:GLU:H	1.77	0.49
2:B:967:ARG:NE	2:B:974:LYS:HB2	2.26	0.49
2:B:1290:VAL:HG22	2:B:1331:ILE:HD13	1.94	0.49
2:B:1305:GLN:O	2:B:1309:ILE:HG13	2.12	0.49
2:F:473:ILE:HG12	2:F:481:VAL:HG11	1.93	0.49
2:F:692:ASN:O	2:F:696:LEU:HG	2.13	0.49
2:B:939:MET:HE2	2:B:953:VAL:HG21	1.94	0.49
2:B:1314:THR:CG2	2:B:1324:PHE:HB3	2.43	0.49
2:F:139:ARG:NH2	2:F:161:MET:HG3	2.27	0.49
2:F:226:ILE:HD11	2:F:232:GLU:CD	2.32	0.49
2:F:628:ASP:O	2:F:632:ILE:HG13	2.13	0.49
2:F:962:LEU:HB3	2:F:1043:MET:HE1	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:182:ASP:O	2:B:186:ILE:HG12	2.12	0.49
2:F:221:ARG:HA	2:F:224:ASN:CB	2.38	0.49
2:F:601:ILE:CD1	2:F:607:LEU:HD21	2.43	0.49
1:A:31:U:C2	1:A:32:A:C8	3.00	0.48
2:F:471:GLU:OE2	2:F:481:VAL:HG22	2.13	0.48
2:F:641:HIS:CD2	2:F:642:LEU:HG	2.48	0.48
2:F:755:LYS:NZ	2:F:939:MET:O	2.35	0.48
2:F:1311:HIS:O	2:F:1314:THR:HG22	2.12	0.48
1:A:20:A:OP2	2:B:403:ARG:NH1	2.46	0.48
2:B:499:ASP:OD2	2:B:663:SER:N	2.39	0.48
2:F:467:ARG:HH21	2:F:473:ILE:HD11	1.79	0.48
2:F:583:VAL:HG22	2:F:584:GLU:N	2.27	0.48
2:F:918:LYS:CE	2:F:1018:VAL:CG1	2.92	0.48
2:B:253:LYS:O	2:B:257:ASP:N	2.43	0.48
2:B:380:LEU:HB3	2:B:386:THR:HG21	1.94	0.48
2:B:645:ASP:O	2:B:649:LYS:HE2	2.14	0.48
2:F:336:LYS:HG2	2:F:351:PHE:CE1	2.49	0.48
5:J:42:A:O2'	5:J:43:G:OP1	2.26	0.48
2:F:629:ARG:HH11	2:F:629:ARG:HG2	1.79	0.48
2:F:1245:LEU:HA	2:F:1245:LEU:HD23	1.59	0.48
2:B:1179:ILE:HD11	2:B:1192:LYS:CD	2.43	0.48
2:F:36:GLY:HA3	2:F:1359:ARG:O	2.13	0.48
2:F:963:VAL:HG21	2:F:990:ASN:OD1	2.13	0.48
5:J:48:A:H2'	5:J:49:A:C8	2.48	0.48
2:B:63:ARG:HG3	2:B:66:ARG:HH21	1.79	0.48
2:B:263:LYS:C	2:B:264:LEU:HD12	2.34	0.48
2:B:971:GLN:O	2:B:971:GLN:HG2	2.13	0.48
1:A:25:U:H2'	1:A:26:A:C8	2.49	0.48
2:B:840:ALA:HA	2:B:854:ASN:O	2.12	0.48
2:B:1207:GLU:HG3	2:B:1208:ASN:N	2.29	0.48
1:E:21:G:H2'	1:E:22:U:O4'	2.14	0.48
2:F:652:LYS:HE3	2:F:652:LYS:HB2	1.62	0.48
2:F:828:LEU:HD22	2:F:836:TYR:CE2	2.49	0.48
2:B:570:LYS:O	2:B:574:CYS:HA	2.14	0.48
2:B:1336:TYR:N	2:B:1336:TYR:CD1	2.81	0.48
2:F:143:VAL:HG22	2:F:422:ILE:HG12	1.95	0.48
2:F:891:LEU:H	2:F:891:LEU:HD23	1.79	0.48
2:F:1284:ASP:OD1	2:F:1284:ASP:N	2.35	0.48
2:B:35:LEU:HB2	2:B:1358:THR:HG22	1.96	0.48
2:B:229:LEU:O	2:B:231:GLY:N	2.47	0.48
2:B:563:GLN:O	2:B:567:ASP:HB2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:25:U:H2'	1:E:26:A:H8	1.79	0.48
2:F:63:ARG:CA	2:F:66:ARG:HG3	2.33	0.48
2:B:275:LEU:O	2:B:279:LEU:N	2.35	0.48
2:B:977:GLU:HG3	2:B:1310:ILE:HG23	1.96	0.48
2:F:545:LYS:CD	2:F:690:ASN:ND2	2.77	0.48
2:B:241:LEU:HD11	2:B:289:LEU:HD21	1.96	0.47
2:F:316:PRO:O	2:F:320:SER:N	2.46	0.47
2:F:359:TYR:CE1	2:F:399:LEU:HD13	2.49	0.47
2:F:746:GLU:HG2	2:F:1353:THR:CG2	2.44	0.47
5:J:53:G:N3	5:J:62:G:C2	2.82	0.47
2:B:1035:LYS:HA	2:B:1035:LYS:HD3	1.71	0.47
2:B:1041:ASN:O	2:B:1044:ASN:ND2	2.47	0.47
2:F:22:THR:HG22	2:F:28:PRO:HG3	1.95	0.47
2:F:180:ASP:HB3	2:F:183:LYS:HB2	1.96	0.47
2:F:691:ARG:HG2	2:F:695:GLN:NE2	2.29	0.47
2:F:882:TYR:CD2	2:F:883:TRP:CD1	3.02	0.47
2:F:164:PHE:CZ	2:F:403:ARG:NH2	2.83	0.47
2:B:199:ASN:N	2:B:200:PRO:HD3	2.29	0.47
2:F:514:LEU:H	2:F:514:LEU:HD12	1.79	0.47
2:B:967:ARG:HB3	2:B:972:PHE:O	2.15	0.47
1:E:18:A:N7	2:F:71:ARG:CZ	2.78	0.47
2:F:114:GLU:HG2	2:F:120:GLY:HA2	1.96	0.47
2:F:410:ILE:HG21	2:F:415:HIS:NE2	2.29	0.47
2:F:943:TYR:HE2	2:F:949:LEU:HD13	1.80	0.47
2:F:954:LYS:HZ3	2:F:998:ILE:HD13	1.78	0.47
2:F:1054:ASN:C	2:F:1056:GLU:H	2.17	0.47
2:B:325:TYR:CD1	5:I:44:U:C2	3.03	0.47
2:B:1349:HIS:HB3	5:I:68:A:N3	2.30	0.47
3:C:1:DC:H2'	3:C:2:DA:C8	2.49	0.47
2:F:5:TYR:CZ	2:F:751:MET:HG3	2.50	0.47
2:F:466:THR:O	2:F:482:VAL:HG13	2.15	0.47
2:F:531:THR:HG22	2:F:534:MET:HG2	1.96	0.47
2:F:1182:LEU:HD13	2:F:1190:VAL:HG11	1.96	0.47
2:B:6:SER:HB3	2:B:758:ASN:HB2	1.97	0.47
2:B:277:ASN:O	2:B:281:GLN:NE2	2.43	0.47
2:B:369:GLN:NE2	2:B:400:ARG:HD2	2.28	0.47
2:B:1050:ILE:HG12	2:B:1059:LYS:N	2.29	0.47
2:F:137:HIS:HA	2:F:322:ILE:CG1	2.45	0.47
2:F:143:VAL:HG22	2:F:422:ILE:CG1	2.44	0.47
2:F:297:SER:HA	2:F:300:ILE:HD12	1.96	0.47
2:F:784:ILE:HD13	2:F:815:TYR:HB3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:824:VAL:HG12	2:F:825:ASP:N	2.30	0.47
2:F:921:LEU:HD21	2:F:1008:PHE:HE2	1.79	0.47
2:F:949:LEU:HD23	2:F:951:ARG:HH22	1.79	0.47
5:J:85:C:C2	5:J:86:C:C5	3.02	0.47
2:B:107:VAL:HG13	2:B:1131:TYR:CE1	2.49	0.47
2:B:208:ALA:O	2:B:212:LEU:HD23	2.15	0.47
2:B:671:ARG:HG3	2:B:678:THR:HG22	1.97	0.47
2:B:917:ILE:O	2:B:921:LEU:HG	2.15	0.47
2:B:1003:LYS:HE3	2:B:1034:ALA:HB1	1.97	0.47
2:B:1251:ASP:O	2:B:1254:GLN:HG3	2.15	0.47
2:F:328:HIS:ND1	5:J:44:U:C2	2.83	0.47
2:F:813:LEU:O	2:F:817:GLN:HG3	2.14	0.47
2:F:1221:GLN:HB3	2:F:1319:GLY:O	2.15	0.47
2:B:22:THR:HG22	2:B:23:ASP:N	2.29	0.47
2:B:249:THR:HG22	2:B:265:GLN:CG	2.45	0.47
2:F:212:LEU:HD13	2:F:300:ILE:HG12	1.97	0.47
2:F:223:GLU:O	2:F:227:ALA:N	2.48	0.47
2:F:307:ARG:HG2	2:F:307:ARG:HH11	1.80	0.47
2:F:427:GLU:OE1	2:F:434:LYS:HA	2.14	0.47
2:F:597:LEU:O	2:F:601:ILE:HG12	2.15	0.47
2:F:1035:LYS:HA	2:F:1035:LYS:HD3	1.71	0.47
5:I:85:C:H42	5:I:93:G:H1	1.62	0.47
2:B:139:ARG:O	2:B:143:VAL:HG23	2.15	0.47
2:B:141:LYS:HD3	2:B:142:LEU:HD23	1.97	0.47
2:B:155:TYR:CE1	2:B:159:ALA:HB2	2.49	0.47
2:B:252:PHE:CE1	2:B:290:PHE:HE2	2.32	0.47
2:B:724:ILE:HA	2:B:727:LEU:HD23	1.98	0.47
2:B:813:LEU:O	2:B:817:GLN:HG3	2.15	0.47
2:B:1270:ILE:HG13	2:B:1294:TYR:CE2	2.50	0.47
2:F:465:MET:SD	2:F:482:VAL:HG11	2.55	0.47
2:F:720:LEU:HD13	2:F:938:ARG:HD2	1.97	0.47
2:B:823:TYR:CD2	2:B:858:THR:HG21	2.46	0.46
2:B:1204:PHE:CG	2:B:1342:VAL:HG13	2.50	0.46
1:E:27:G:H5'	1:E:28:A:H5''	1.96	0.46
2:F:478:PHE:HE2	2:F:482:VAL:HB	1.80	0.46
2:F:679:ILE:HG12	2:F:704:PHE:CE2	2.51	0.46
2:F:889:ALA:HB3	2:F:891:LEU:CD2	2.45	0.46
2:F:1167:THR:OG1	2:F:1168:ILE:N	2.48	0.46
2:F:1270:ILE:HG13	2:F:1294:TYR:CE2	2.50	0.46
2:B:114:GLU:HG2	2:B:120:GLY:O	2.15	0.46
2:B:624:THR:HA	2:B:656:TYR:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:69:A:H2'	5:I:70:C:C6	2.51	0.46
2:B:58:THR:HG22	2:B:731:PRO:CG	2.46	0.46
2:B:925:ARG:HG2	2:B:927:ILE:HG22	1.98	0.46
2:F:119:PHE:CD2	2:F:124:ASP:HB3	2.50	0.46
2:F:467:ARG:HD3	2:F:470:GLU:HA	1.97	0.46
2:F:978:ILE:CD1	2:F:1233:VAL:CG2	2.92	0.46
5:J:43:G:O2'	5:J:44:U:H5'	2.14	0.46
2:B:74:ARG:HH21	5:I:60:C:P	2.39	0.46
2:B:525:THR:O	2:B:690:ASN:HB2	2.14	0.46
2:B:1119:LEU:HD12	2:B:1119:LEU:HA	1.75	0.46
2:F:143:VAL:O	2:F:425:ARG:NH1	2.48	0.46
2:F:921:LEU:HG	2:F:1008:PHE:HD2	1.79	0.46
2:F:969:ASP:HB2	2:F:970:PHE:CD2	2.49	0.46
2:F:1286:ASN:ND2	2:F:1332:ASP:O	2.48	0.46
5:J:45:U:C2	5:J:46:A:C8	3.02	0.46
1:A:8:A:H2'	1:A:9:U:H6	1.79	0.46
2:B:976:ARG:HD3	2:B:982:HIS:NE2	2.31	0.46
2:B:1145:VAL:HG11	2:B:1187:TYR:CD2	2.51	0.46
2:B:1357:GLU:O	5:I:81:G:N2	2.40	0.46
3:C:2:DA:H2'	3:C:3:DA:C8	2.51	0.46
3:C:2:DA:H2''	3:C:3:DA:OP1	2.14	0.46
2:F:138:LEU:HD11	2:F:153:LEU:HD21	1.98	0.46
2:F:253:LYS:HA	2:F:256:PHE:HD2	1.80	0.46
2:F:1042:ILE:HD12	2:F:1042:ILE:HA	1.66	0.46
2:F:1094:ILE:HG21	2:F:1225:GLU:OE2	2.16	0.46
5:J:45:U:H2'	5:J:46:A:O4'	2.15	0.46
2:B:516:GLU:HA	2:B:519:THR:HG22	1.97	0.46
2:B:1296:LYS:HA	2:B:1296:LYS:HD3	1.82	0.46
2:F:137:HIS:HE1	2:F:325:TYR:HB3	1.80	0.46
2:F:1314:THR:HG21	2:F:1324:PHE:HB3	1.98	0.46
5:I:47:A:H2'	5:I:48:A:H8	1.81	0.46
2:F:1127:ASP:HB3	2:F:1130:LYS:HE2	1.97	0.46
2:B:332:LEU:HD13	2:B:359:TYR:CE1	2.51	0.46
2:F:243:ALA:O	2:F:246:LEU:HB3	2.16	0.46
2:F:1000:LYS:HB2	2:F:1073:VAL:HG21	1.98	0.46
2:F:1087:LEU:HD23	2:F:1087:LEU:HA	1.57	0.46
5:J:91:C:H6	5:J:91:C:H2'	1.44	0.46
2:B:349:GLU:HG3	2:B:356:LYS:HG3	1.98	0.46
2:B:373:TYR:HH	2:B:398:LEU:H	1.57	0.46
2:B:509:PRO:HB3	2:B:624:THR:HG21	1.98	0.46
2:B:530:VAL:HG22	2:B:537:PRO:CB	2.40	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:913:LYS:O	2:B:916:PHE:HB2	2.16	0.46
2:B:1312:LEU:O	2:B:1315:LEU:HB3	2.16	0.46
2:F:855:LYS:NZ	2:F:1246:LYS:O	2.41	0.46
2:F:1291:LEU:HA	2:F:1291:LEU:HD23	1.75	0.46
2:F:1349:HIS:ND1	5:J:69:A:H5'	2.31	0.46
2:F:258:LEU:HB3	2:F:260:GLU:O	2.16	0.46
2:F:373:TYR:O	2:F:376:ILE:HG22	2.15	0.46
2:F:553:PHE:CD2	2:F:559:VAL:HG21	2.51	0.46
2:F:1062:LEU:O	2:F:1062:LEU:HG	2.14	0.46
5:J:96:C:H2'	5:J:97:U:C6	2.51	0.46
2:B:192:TYR:O	2:B:196:PHE:HB2	2.16	0.45
2:B:1111:LEU:HD12	2:B:1135:ASP:HB2	1.98	0.45
2:B:1143:VAL:HG13	2:B:1195:ILE:HG23	1.98	0.45
2:F:40:ARG:HD3	2:F:43:ILE:HD11	1.98	0.45
2:F:167:HIS:CD2	2:F:169:LEU:H	2.34	0.45
2:F:510:LYS:HG2	2:F:511:HIS:CD2	2.51	0.45
2:F:626:PHE:O	2:F:655:ARG:NH1	2.49	0.45
2:F:1219:GLU:O	2:F:1220:LEU:HD23	2.16	0.45
2:B:18:TRP:HZ2	2:B:1353:THR:O	1.99	0.45
2:B:1105:PHE:CD1	2:B:1169:MET:HG3	2.51	0.45
2:F:165:ARG:C	2:F:415:HIS:HD2	2.19	0.45
2:F:167:HIS:HD2	2:F:169:LEU:CB	2.29	0.45
2:F:289:LEU:O	2:F:292:ALA:HB3	2.15	0.45
2:F:802:GLU:HB2	2:F:805:GLN:HG3	1.97	0.45
2:B:340:ARG:NH2	5:I:41:A:P	2.87	0.45
2:B:666:LEU:HD21	2:B:693:PHE:CZ	2.51	0.45
2:B:989:LEU:HD21	2:B:1087:LEU:HD21	1.98	0.45
2:B:1089:MET:HA	2:B:1090:PRO:HD3	1.71	0.45
1:E:10:U:C4	1:E:11:U:C4	3.05	0.45
2:F:111:LYS:HD3	2:F:115:ARG:HA	1.97	0.45
2:F:1205:GLU:CB	2:F:1348:ILE:HD11	2.46	0.45
2:F:1212:ARG:CZ	2:F:1336:TYR:CE2	2.99	0.45
2:B:1254:GLN:HA	2:B:1257:LEU:HB2	1.97	0.45
4:D:4:DT:H2''	4:D:5:DA:C8	2.52	0.45
2:F:549:VAL:HA	2:F:553:PHE:HB2	1.98	0.45
2:F:867:SER:C	2:F:869:ASN:H	2.20	0.45
2:F:897:PHE:CZ	2:F:901:THR:HG21	2.51	0.45
2:B:13:THR:O	2:B:53:PHE:HE1	1.99	0.45
2:B:15:SER:HA	2:B:51:LEU:O	2.16	0.45
2:B:85:ILE:HD12	2:B:440:ILE:HG12	1.98	0.45
2:B:963:VAL:HG21	2:B:990:ASN:OD1	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1119:LEU:HD23	2:B:1128:PRO:HB2	1.97	0.45
1:E:25:U:O2'	2:F:111:LYS:NZ	2.50	0.45
2:F:339:VAL:HG12	2:F:347:TYR:HB2	1.99	0.45
2:B:317:LEU:O	2:B:320:SER:HB3	2.17	0.45
2:F:562:LYS:O	2:F:566:GLU:HB2	2.17	0.45
2:F:731:PRO:HA	2:F:734:LYS:HE3	1.99	0.45
2:B:114:GLU:HG3	2:B:116:HIS:N	2.27	0.45
2:B:158:LEU:HD11	2:B:423:LEU:HD21	1.98	0.45
2:B:558:LYS:HD3	2:B:558:LYS:HA	1.76	0.45
2:B:949:LEU:HD12	2:B:950:ILE:H	1.81	0.45
2:F:478:PHE:CE2	2:F:482:VAL:HB	2.52	0.45
2:F:1038:PHE:CD2	2:F:1039:TYR:CE1	3.05	0.45
5:J:53:G:C4	5:J:62:G:N2	2.85	0.45
5:J:85:C:H2'	5:J:86:C:H6	1.81	0.45
1:A:10:U:H2'	1:A:11:U:C6	2.51	0.45
2:B:378:PRO:O	2:B:382:LYS:NZ	2.36	0.45
2:B:1003:LYS:HG2	2:B:1036:TYR:OH	2.16	0.45
2:F:583:VAL:HG22	2:F:584:GLU:H	1.81	0.45
2:B:103:GLU:OE2	2:B:113:HIS:N	2.47	0.45
2:B:864:ARG:NH2	2:B:869:ASN:O	2.50	0.45
2:B:874:GLU:O	2:B:878:LYS:HG3	2.16	0.45
2:F:143:VAL:HG21	2:F:315:ALA:HB2	1.98	0.45
2:F:411:PRO:HB2	2:F:413:GLN:OE1	2.17	0.45
2:F:135:ILE:CG2	5:J:46:A:H5'	2.47	0.45
2:F:615:ILE:HG23	2:F:639:TYR:CE1	2.52	0.45
2:F:823:TYR:CD2	2:F:858:THR:HG21	2.52	0.45
5:I:85:C:H2'	5:I:86:C:C6	2.52	0.45
5:J:95:G:C6	5:J:96:C:N4	2.85	0.45
2:F:51:LEU:HD12	2:F:1095:VAL:HB	2.00	0.44
2:F:803:ASN:OD1	2:F:803:ASN:N	2.50	0.44
2:F:842:VAL:HG23	2:F:908:LEU:HD11	1.99	0.44
5:J:95:G:H2'	5:J:96:C:C6	2.52	0.44
2:B:640:ALA:HA	2:B:648:MET:CE	2.46	0.44
2:B:824:VAL:HG11	2:B:859:ARG:NH1	2.30	0.44
2:B:977:GLU:HG3	2:B:1310:ILE:CG2	2.47	0.44
2:B:1318:LEU:HD23	2:B:1319:GLY:N	2.32	0.44
2:F:11:ILE:HB	2:F:763:MET:HE3	1.98	0.44
2:F:118:ILE:HG21	2:F:128:TYR:HE2	1.82	0.44
2:F:369:GLN:HG2	2:F:373:TYR:CE2	2.51	0.44
2:F:1120:ILE:HB	2:F:1134:PHE:HB2	1.98	0.44
2:B:135:ILE:HG21	2:B:160:HIS:CD2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:887:LEU:HD12	2:B:897:PHE:CG	2.52	0.44
2:B:1232:TYR:HA	2:B:1235:PHE:HB3	1.99	0.44
2:B:1308:ASN:ND2	2:B:1327:PHE:H	2.01	0.44
2:B:1349:HIS:ND1	5:I:69:A:H4'	2.33	0.44
2:F:1167:THR:HG22	2:F:1170:GLU:HG3	1.99	0.44
2:F:1171:ARG:O	2:F:1175:GLU:HG3	2.16	0.44
5:I:92:G:H2'	5:I:93:G:C8	2.52	0.44
5:J:86:C:C4	5:J:87:G:C8	3.04	0.44
2:B:189:VAL:HG22	2:B:238:PHE:HZ	1.83	0.44
2:B:724:ILE:HD13	2:B:934:ILE:HD13	1.99	0.44
2:B:954:LYS:HG2	2:B:1009:VAL:HG21	1.99	0.44
2:B:1146:VAL:HG23	2:B:1161:LYS:HB2	1.98	0.44
2:B:1226:LEU:HD13	2:B:1276:PHE:CG	2.53	0.44
2:F:481:VAL:HG12	2:F:482:VAL:HG23	1.99	0.44
2:F:727:LEU:N	2:F:727:LEU:HD23	2.32	0.44
2:F:844:GLN:CG	2:F:848:LYS:HD2	2.43	0.44
2:F:5:TYR:CE2	2:F:751:MET:HG3	2.52	0.44
2:F:103:GLU:OE2	2:F:113:HIS:N	2.47	0.44
2:F:201:ILE:N	2:F:201:ILE:HD12	2.33	0.44
2:F:256:PHE:CD1	2:F:282:ILE:HD11	2.52	0.44
2:F:398:LEU:CD1	2:F:399:LEU:HG	2.48	0.44
2:F:553:PHE:HZ	2:F:587:PHE:CD2	2.36	0.44
2:F:600:ILE:HD13	2:F:651:LEU:HA	2.00	0.44
2:F:649:LYS:HB3	2:F:653:ARG:HH21	1.83	0.44
2:F:1265:TYR:O	2:F:1268:GLU:N	2.50	0.44
2:B:1201:TYR:CD1	2:B:1201:TYR:N	2.85	0.44
2:F:1200:LYS:HG2	2:F:1201:TYR:CD1	2.51	0.44
2:B:118:ILE:HD13	2:B:128:TYR:CD2	2.53	0.44
2:B:377:LYS:N	2:B:378:PRO:HD2	2.33	0.44
2:B:850:ASP:HB3	2:B:855:LYS:NZ	2.33	0.44
2:B:872:SER:O	2:B:876:VAL:HG23	2.18	0.44
2:B:967:ARG:NH1	2:B:989:LEU:HD12	2.33	0.44
2:B:972:PHE:HE1	2:B:1084:ARG:HB2	1.82	0.44
2:F:83:GLN:O	2:F:87:SER:HB3	2.17	0.44
2:F:112:LYS:O	2:F:113:HIS:ND1	2.39	0.44
2:F:425:ARG:HE	2:F:425:ARG:HB3	1.62	0.44
2:F:962:LEU:HD22	2:F:1043:MET:HE1	1.99	0.44
2:F:1084:ARG:CZ	2:F:1084:ARG:HB3	2.46	0.44
2:F:1114:ARG:O	2:F:1129:LYS:HA	2.18	0.44
2:B:11:ILE:O	2:B:763:MET:HA	2.18	0.44
2:F:174:LEU:HD13	2:F:174:LEU:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:58:G:C6	5:J:60:C:C2	3.06	0.44
2:B:875:VAL:HA	2:B:878:LYS:HD2	2.00	0.44
2:F:44:LYS:HG2	5:J:91:C:C5	2.53	0.44
2:F:551:LEU:O	2:F:555:THR:OG1	2.20	0.44
2:F:809:GLU:OE2	2:F:1246:LYS:HG3	2.17	0.44
2:F:958:LEU:HA	2:F:958:LEU:HD23	1.70	0.44
2:F:967:ARG:CZ	2:F:974:LYS:HB2	2.48	0.44
3:G:22:DT:H2''	3:G:23:DC:O5'	2.18	0.44
5:I:39:G:H5'	5:I:40:C:OP2	2.18	0.44
2:B:6:SER:HB2	2:B:21:ILE:CG1	2.48	0.43
2:B:133:PRO:HG2	2:B:137:HIS:ND1	2.33	0.43
2:B:943:TYR:HA	2:B:950:ILE:HG13	2.00	0.43
2:B:1145:VAL:HG11	2:B:1187:TYR:CE2	2.52	0.43
1:E:25:U:O4	1:E:26:A:N6	2.51	0.43
2:F:90:MET:SD	2:F:151:LEU:CD2	3.06	0.43
2:F:154:ILE:CG2	2:F:158:LEU:HG	2.47	0.43
2:F:342:GLN:HB2	2:F:383:MET:HG2	1.99	0.43
2:F:1019:ARG:C	2:F:1021:MET:H	2.21	0.43
2:F:1169:MET:HE3	5:J:52:A:H1'	2.00	0.43
5:I:92:G:H2'	5:I:93:G:H8	1.82	0.43
2:B:165:ARG:O	2:B:412:HIS:HA	2.18	0.43
2:B:276:ASP:HA	2:B:279:LEU:HB3	1.99	0.43
2:B:526:LYS:NZ	2:B:695:GLN:OE1	2.29	0.43
2:B:1202:SER:O	2:B:1213:MET:HA	2.17	0.43
2:F:430:TYR:HB3	2:F:432:PHE:CE2	2.53	0.43
2:F:650:GLN:O	2:F:653:ARG:HG2	2.17	0.43
2:F:742:LYS:NZ	5:J:68:A:OP1	2.51	0.43
2:B:406:ASP:OD1	2:B:406:ASP:N	2.47	0.43
2:B:755:LYS:NZ	2:B:939:MET:O	2.29	0.43
2:B:782:LYS:O	2:B:786:GLU:HG3	2.18	0.43
2:B:917:ILE:HD12	2:B:917:ILE:HA	1.82	0.43
2:B:1047:LYS:HB2	2:B:1050:ILE:HG22	1.99	0.43
5:J:51:A:C2	5:J:62:G:H2'	2.53	0.43
1:A:20:A:P	2:B:403:ARG:NH1	2.92	0.43
2:B:594:TYR:O	2:B:598:LEU:N	2.48	0.43
2:F:514:LEU:CD2	2:F:664:ARG:HH21	2.31	0.43
2:F:1277:SER:O	2:F:1281:ILE:N	2.46	0.43
2:B:497:ASN:OD1	2:B:498:PHE:N	2.51	0.43
2:B:1200:LYS:HG2	2:B:1201:TYR:CE1	2.53	0.43
1:E:25:U:H6	1:E:25:U:O5'	2.00	0.43
1:E:32:A:N6	5:J:37:U:C4	2.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:140:LYS:HB3	2:F:322:ILE:HD12	2.00	0.43
2:F:274:ASP:O	2:F:277:ASN:OD1	2.36	0.43
2:F:475:PRO:HG3	5:J:59:U:O4	2.17	0.43
2:F:647:VAL:O	2:F:651:LEU:HB2	2.18	0.43
2:F:972:PHE:HE1	2:F:1084:ARG:CG	2.31	0.43
5:I:47:A:H2'	5:I:48:A:C8	2.54	0.43
2:B:682:PHE:CB	2:B:696:LEU:HD11	2.49	0.43
2:B:781:MET:O	2:B:785:GLU:HB2	2.18	0.43
2:B:1246:LYS:HB2	2:B:1246:LYS:HE2	1.79	0.43
2:B:1280:VAL:HG12	2:B:1281:ILE:HD13	2.01	0.43
2:F:282:ILE:HG22	2:F:286:TYR:CD1	2.54	0.43
2:F:438:GLU:HA	2:F:441:GLU:OE1	2.19	0.43
2:F:836:TYR:HB2	2:F:857:LEU:HD11	2.01	0.43
2:F:1204:PHE:CG	2:F:1342:VAL:HG13	2.53	0.43
2:B:158:LEU:CD1	2:B:423:LEU:HD21	2.48	0.43
2:B:197:GLU:HA	2:B:200:PRO:HG3	2.01	0.43
2:B:201:ILE:HD12	2:B:238:PHE:CD1	2.53	0.43
2:B:836:TYR:N	2:B:836:TYR:CD1	2.86	0.43
2:B:1270:ILE:HG13	2:B:1294:TYR:CD2	2.54	0.43
2:F:8:GLY:O	2:F:987:ALA:HB1	2.19	0.43
2:F:523:GLU:OE1	2:F:589:ALA:N	2.51	0.43
2:F:978:ILE:HD12	2:F:1228:LEU:CD2	2.37	0.43
2:B:351:PHE:C	2:B:360:ALA:HB2	2.39	0.43
2:B:540:LEU:HA	2:B:540:LEU:HD12	1.54	0.43
2:B:861:ASP:O	2:B:864:ARG:HG2	2.18	0.43
2:B:913:LYS:HA	2:B:916:PHE:CD2	2.44	0.43
2:F:275:LEU:HD13	2:F:279:LEU:HG	2.01	0.43
2:F:821:ASP:OD1	2:F:823:TYR:N	2.40	0.43
2:F:1178:PRO:O	2:F:1182:LEU:HG	2.18	0.43
1:A:5:C:H42	3:C:24:DG:H1	1.67	0.43
2:B:7:ILE:HD13	2:B:747:LEU:HD12	2.00	0.43
2:B:37:ASN:OD1	2:B:37:ASN:N	2.52	0.43
2:B:485:GLY:O	2:B:488:ALA:N	2.52	0.43
2:B:644:ASP:HB3	2:B:647:VAL:CG2	2.44	0.43
2:B:1169:MET:HE1	5:I:52:A:H1'	2.00	0.43
2:F:623:LEU:HD11	2:F:654:ARG:O	2.18	0.43
2:F:1154:SER:OG	2:F:1156:LYS:HE2	2.18	0.43
5:J:52:A:N7	5:J:53:G:H1'	2.34	0.43
2:B:246:LEU:CD2	2:B:246:LEU:H	2.19	0.43
2:B:475:PRO:HG3	5:I:59:U:O4	2.19	0.43
2:B:844:GLN:C	2:B:1041:ASN:OD1	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:886:LEU:HD22	2:B:891:LEU:HD12	2.01	0.43
2:B:892:ILE:HB	2:B:896:LYS:HD3	2.01	0.43
2:F:332:LEU:HD13	2:F:359:TYR:CE1	2.54	0.43
2:F:977:GLU:HG3	2:F:1310:ILE:HG22	2.00	0.43
2:B:1111:LEU:HD12	2:B:1135:ASP:CB	2.49	0.42
2:F:531:THR:HG21	2:F:575:PHE:HE1	1.76	0.42
2:F:842:VAL:HG12	2:F:854:ASN:OD1	2.19	0.42
2:F:1147:ALA:HB1	2:F:1188:LYS:O	2.19	0.42
2:F:1156:LYS:HE2	2:F:1156:LYS:HB2	1.78	0.42
2:F:1197:LYS:O	2:F:1199:PRO:HD3	2.19	0.42
2:B:32:PHE:CZ	2:B:1355:LEU:HD13	2.54	0.42
2:B:340:ARG:NH2	5:I:41:A:OP2	2.52	0.42
2:B:1074:TRP:HZ2	2:B:1080:PHE:CD2	2.37	0.42
1:E:27:G:H22	5:J:44:U:P	2.42	0.42
2:F:66:ARG:NH2	2:F:462:PHE:CG	2.87	0.42
2:F:258:LEU:HD23	2:F:259:ALA:H	1.84	0.42
5:J:49:A:H2'	5:J:50:U:O4'	2.19	0.42
2:B:1207:GLU:CG	2:B:1210:ARG:HH11	2.32	0.42
2:B:1219:GLU:HG3	2:B:1220:LEU:N	2.34	0.42
2:F:40:ARG:CD	2:F:43:ILE:HD11	2.49	0.42
2:F:140:LYS:HB3	2:F:322:ILE:CD1	2.49	0.42
2:F:649:LYS:HB2	2:F:650:GLN:NE2	2.33	0.42
2:F:746:GLU:HG2	2:F:1353:THR:HG23	2.01	0.42
1:A:29:G:C4	5:I:41:A:C2	3.07	0.42
2:B:69:ARG:HE	2:B:69:ARG:HB2	1.53	0.42
2:B:395:ARG:NH2	2:B:397:ASP:OD2	2.52	0.42
2:F:237:LEU:HD12	2:F:238:PHE:N	2.35	0.42
2:F:291:LEU:HD12	2:F:291:LEU:HA	1.88	0.42
2:F:561:VAL:HG12	2:F:565:LYS:HD3	2.00	0.42
2:F:1103:GLY:HA2	5:J:63:U:H1'	2.01	0.42
2:B:275:LEU:O	2:B:279:LEU:HB2	2.19	0.42
2:B:876:VAL:O	2:B:880:LYS:N	2.50	0.42
2:B:1143:VAL:HG22	2:B:1197:LYS:HG3	2.01	0.42
2:F:134:THR:O	2:F:137:HIS:HB2	2.19	0.42
2:F:139:ARG:O	2:F:143:VAL:HG23	2.19	0.42
2:F:258:LEU:CD1	2:F:281:GLN:HE22	2.29	0.42
2:F:761:ILE:HG21	2:F:761:ILE:HD13	1.85	0.42
2:F:883:TRP:HB3	2:F:897:PHE:HD1	1.84	0.42
2:F:1060:ARG:HA	2:F:1060:ARG:HD2	1.87	0.42
2:F:909:SER:N	2:F:912:ASP:HB2	2.34	0.42
2:F:958:LEU:CD2	2:F:962:LEU:HD12	2.47	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:32:PHE:N	2:B:43:ILE:O	2.38	0.42
2:B:217:SER:HB2	2:B:220:ARG:H	1.84	0.42
2:B:390:LEU:HD23	2:B:390:LEU:HA	1.72	0.42
2:B:507:VAL:HG12	2:B:508:LEU:O	2.20	0.42
2:F:165:ARG:O	2:F:412:HIS:HA	2.20	0.42
2:F:323:LYS:O	2:F:327:GLU:HG2	2.19	0.42
2:F:739:GLN:NE2	2:F:1097:LYS:HE3	2.35	0.42
2:F:980:ASN:HB2	2:F:1225:GLU:OE2	2.19	0.42
2:F:1093:ASN:O	2:F:1094:ILE:HD13	2.19	0.42
1:A:24:U:H2'	1:A:25:U:O4'	2.19	0.42
2:B:643:PHE:HB2	2:B:648:MET:HE2	2.02	0.42
2:B:686:ASP:OD1	2:B:691:ARG:HB2	2.20	0.42
2:B:727:LEU:HD21	2:B:934:ILE:HD11	2.01	0.42
2:B:1000:LYS:O	2:B:1000:LYS:HD3	2.19	0.42
2:B:1212:ARG:CZ	2:B:1336:TYR:CE2	3.03	0.42
2:B:1235:PHE:CE1	2:B:1239:ALA:HB2	2.54	0.42
2:F:93:VAL:HG11	2:F:150:ASP:OD1	2.20	0.42
2:F:168:PHE:CB	2:F:447:ARG:HH11	2.33	0.42
2:F:645:ASP:O	2:F:649:LYS:HG2	2.20	0.42
2:B:51:LEU:HD13	2:B:1095:VAL:HG23	2.02	0.42
2:B:114:GLU:HG3	2:B:115:ARG:N	2.33	0.42
2:B:252:PHE:CD1	2:B:264:LEU:HD13	2.55	0.42
2:B:507:VAL:HG11	2:B:660:GLY:O	2.20	0.42
2:B:1228:LEU:HD12	2:B:1229:PRO:CD	2.50	0.42
2:F:5:TYR:OH	2:F:756:PRO:HG3	2.20	0.42
2:F:20:VAL:HG11	2:F:751:MET:CE	2.50	0.42
2:F:44:LYS:HZ1	5:J:85:C:N4	2.17	0.42
2:F:305:ILE:HG13	2:F:306:LEU:HD13	2.02	0.42
2:F:491:PHE:O	2:F:494:ARG:HG2	2.19	0.42
2:F:922:VAL:HG12	2:F:1007:GLU:HB3	2.01	0.42
2:F:976:ARG:HA	2:F:982:HIS:CD2	2.55	0.42
2:F:1064:GLU:OE1	2:F:1065:THR:N	2.51	0.42
2:F:1101:GLN:O	2:F:1168:ILE:HD11	2.19	0.42
5:J:43:G:H3'	5:J:44:U:H6	1.85	0.42
2:B:30:LYS:HD3	5:I:83:C:OP1	2.19	0.42
2:B:165:ARG:O	2:B:415:HIS:CD2	2.71	0.42
2:B:225:LEU:HD13	2:B:242:ILE:HG21	2.01	0.42
2:B:869:ASN:OD1	2:B:870:VAL:N	2.52	0.42
2:F:44:LYS:NZ	5:J:85:C:H42	2.18	0.42
2:F:47:LEU:HD11	2:F:750:VAL:HG11	2.02	0.42
2:F:939:MET:CE	2:F:953:VAL:HG21	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:58:THR:HG22	2:B:731:PRO:HG3	2.00	0.41
2:B:526:LYS:NZ	2:B:691:ARG:HA	2.35	0.41
2:B:821:ASP:HB3	2:B:828:LEU:HD11	2.02	0.41
2:B:1212:ARG:HA	2:B:1212:ARG:HD3	1.87	0.41
2:B:1231:LYS:HE3	2:B:1232:TYR:CE2	2.54	0.41
2:F:32:PHE:HD1	2:F:45:LYS:HD3	1.84	0.41
2:F:106:LEU:HD22	2:F:1131:TYR:OH	2.19	0.41
2:F:546:LYS:HE3	2:F:546:LYS:HB3	1.84	0.41
2:B:47:LEU:HD11	2:B:750:VAL:HG11	2.02	0.41
2:B:508:LEU:HD21	2:B:664:ARG:HB2	2.02	0.41
2:B:849:ASP:OD1	2:B:851:SER:OG	2.38	0.41
2:B:1303:ARG:O	2:B:1307:GLU:HG2	2.19	0.41
2:B:1349:HIS:CE1	5:I:69:A:H4'	2.55	0.41
3:C:4:DT:H2''	3:C:5:DA:O5'	2.20	0.41
4:D:10:DT:H6	4:D:10:DT:H2'	1.73	0.41
2:F:258:LEU:HD23	2:F:259:ALA:N	2.35	0.41
2:F:882:TYR:HD2	2:F:883:TRP:CD1	2.38	0.41
2:F:1262:HIS:HB3	2:F:1265:TYR:CD2	2.55	0.41
2:B:70:ARG:HH22	2:B:462:PHE:HD2	1.68	0.41
2:F:18:TRP:CZ2	2:F:49:GLY:HA3	2.55	0.41
2:F:427:GLU:HA	2:F:433:LEU:HB2	2.02	0.41
2:F:795:ILE:O	2:F:795:ILE:HG13	2.20	0.41
5:I:48:A:O2'	5:I:49:A:H5'	2.20	0.41
2:B:151:LEU:HD12	2:B:151:LEU:HA	1.77	0.41
2:B:549:VAL:HA	2:B:553:PHE:HD2	1.85	0.41
2:B:594:TYR:CE1	2:B:607:LEU:HB3	2.55	0.41
2:B:976:ARG:HH11	2:B:982:HIS:HE2	1.68	0.41
2:B:986:ASP:O	2:B:990:ASN:ND2	2.53	0.41
2:B:1096:LYS:HG2	2:B:1201:TYR:CD2	2.55	0.41
2:B:1182:LEU:HD23	2:B:1182:LEU:HA	1.94	0.41
2:F:328:HIS:CG	5:J:44:U:C2	3.08	0.41
2:F:646:LYS:O	2:F:650:GLN:HG2	2.21	0.41
2:F:748:VAL:HG13	2:F:754:HIS:O	2.21	0.41
2:F:971:GLN:HG2	2:F:973:TYR:CZ	2.56	0.41
3:G:19:DA:H2'	3:G:20:DA:C8	2.55	0.41
5:I:94:U:H2'	5:I:95:G:H8	1.86	0.41
2:B:56:GLY:O	2:B:732:ALA:HB2	2.21	0.41
2:B:241:LEU:HA	2:B:241:LEU:HD23	1.81	0.41
2:B:442:LYS:HE3	2:B:476:TRP:HA	2.02	0.41
2:B:921:LEU:HB3	2:B:1008:PHE:HZ	1.84	0.41
2:B:1000:LYS:HB3	2:B:1001:TYR:CD2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1231:LYS:H	2:B:1231:LYS:HG2	1.71	0.41
2:B:1251:ASP:O	2:B:1255:LYS:HG3	2.20	0.41
2:F:140:LYS:HE3	2:F:313:THR:CB	2.50	0.41
2:F:1300:LYS:HG3	2:F:1327:PHE:CZ	2.56	0.41
2:B:326:ASP:O	2:B:330:GLN:HG3	2.20	0.41
2:B:954:LYS:HB2	2:B:954:LYS:HE3	1.71	0.41
2:B:1351:SER:HA	5:I:68:A:N7	2.35	0.41
2:F:499:ASP:OD2	2:F:663:SER:HB3	2.20	0.41
2:F:1105:PHE:CD1	2:F:1169:MET:HG3	2.55	0.41
2:B:86:PHE:O	2:B:87:SER:C	2.59	0.41
2:B:253:LYS:HD3	2:B:261:ASP:HA	2.02	0.41
2:B:642:LEU:HB2	2:B:643:PHE:CD2	2.55	0.41
2:B:1114:ARG:O	2:B:1129:LYS:HA	2.20	0.41
2:F:89:GLU:HG3	2:F:432:PHE:CD2	2.55	0.41
2:F:140:LYS:CB	2:F:322:ILE:HD12	2.50	0.41
2:F:622:THR:HG23	2:F:626:PHE:CD1	2.56	0.41
2:F:1116:SER:HB3	2:F:1119:LEU:HB2	2.02	0.41
2:B:661:ARG:CB	2:B:662:LEU:HD12	2.50	0.41
2:B:1206:LEU:H	2:B:1206:LEU:HD23	1.86	0.41
2:B:1221:GLN:HG2	2:B:1319:GLY:O	2.20	0.41
2:F:308:VAL:HG11	2:F:316:PRO:O	2.21	0.41
2:F:335:LEU:O	2:F:339:VAL:HG23	2.20	0.41
2:F:921:LEU:HG	2:F:1008:PHE:CD2	2.56	0.41
2:F:1266:LEU:O	2:F:1270:ILE:HG12	2.20	0.41
2:B:35:LEU:HD23	2:B:35:LEU:HA	1.80	0.41
2:B:127:ALA:O	2:B:130:GLU:HB2	2.20	0.41
2:B:178:ASN:O	2:B:302:LEU:HD11	2.20	0.41
2:B:424:ARG:NH1	2:B:437:ARG:CZ	2.83	0.41
2:B:478:PHE:CE1	2:B:482:VAL:HG21	2.56	0.41
2:B:820:ARG:HA	2:B:826:GLN:O	2.21	0.41
2:B:824:VAL:HG22	2:B:863:ASN:HD22	1.85	0.41
2:B:1226:LEU:HB2	2:B:1276:PHE:CZ	2.56	0.41
2:B:1252:ASN:HA	2:B:1255:LYS:HD2	2.03	0.41
1:E:25:U:C4	1:E:26:A:N7	2.89	0.41
2:F:32:PHE:O	2:F:42:SER:HA	2.21	0.41
2:F:35:LEU:HB2	2:F:1358:THR:CG2	2.50	0.41
2:F:199:ASN:O	2:F:201:ILE:HD12	2.21	0.41
2:F:429:PHE:N	2:F:429:PHE:CD1	2.87	0.41
2:F:449:PRO:HB2	2:F:452:VAL:HG23	2.03	0.41
2:F:455:LEU:O	5:J:60:C:H5'	2.21	0.41
2:F:510:LYS:HG2	2:F:511:HIS:HD2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:684:LYS:C	2:F:685:SER:HG	2.21	0.41
2:F:724:ILE:O	2:F:727:LEU:HG	2.20	0.41
2:F:902:LYS:NZ	2:F:912:ASP:OD2	2.49	0.41
2:F:973:TYR:CG	2:F:1237:TYR:HD1	2.38	0.41
2:F:1163:LEU:HD23	2:F:1163:LEU:HA	1.90	0.41
2:F:1179:ILE:O	2:F:1183:GLU:HG3	2.21	0.41
2:F:1295:ASN:OD1	2:F:1298:ARG:NH1	2.46	0.41
5:I:84:A:C2	5:I:85:C:C2	3.09	0.41
2:B:30:LYS:HD3	5:I:83:C:OP2	2.21	0.41
2:B:529:TYR:CD2	2:B:569:PHE:HE1	2.39	0.41
2:B:666:LEU:HD21	2:B:693:PHE:CE1	2.56	0.41
2:F:939:MET:HE2	2:F:953:VAL:HG21	2.03	0.41
5:J:46:A:C2	5:J:47:A:C5	3.09	0.41
5:J:76:A:C5	5:J:77:A:H1'	2.55	0.41
2:B:222:LEU:HD21	2:B:234:LYS:HG3	2.03	0.40
2:B:298:ASP:O	2:B:302:LEU:HG	2.21	0.40
2:B:513:LEU:HA	2:B:513:LEU:HD23	1.83	0.40
2:B:951:ARG:HH21	2:B:1011:GLY:HA2	1.84	0.40
2:B:1245:LEU:HD12	2:B:1245:LEU:O	2.22	0.40
2:F:97:PHE:HE1	2:F:118:ILE:HA	1.86	0.40
2:B:536:LYS:HG2	2:B:537:PRO:O	2.21	0.40
2:B:1307:GLU:O	2:B:1310:ILE:HB	2.20	0.40
2:F:140:LYS:O	2:F:140:LYS:HE2	2.22	0.40
2:F:223:GLU:HA	2:F:226:ILE:HB	2.03	0.40
2:F:359:TYR:HE1	2:F:399:LEU:HD13	1.86	0.40
2:F:666:LEU:O	2:F:679:ILE:HD12	2.21	0.40
2:F:782:LYS:HA	2:F:785:GLU:HB2	2.03	0.40
2:F:975:VAL:CG1	2:F:978:ILE:CG2	2.98	0.40
2:F:975:VAL:HG11	2:F:978:ILE:HG22	2.03	0.40
5:I:94:U:H2'	5:I:95:G:C8	2.57	0.40
5:J:46:A:C2	5:J:47:A:C6	3.09	0.40
1:E:27:G:H1'	2:F:129:HIS:CD2	2.56	0.40
2:F:136:TYR:CZ	2:F:160:HIS:NE2	2.88	0.40
2:F:998:ILE:CG2	2:F:1008:PHE:HE1	2.30	0.40
4:H:7:DG:H2''	4:H:8:DT:O5'	2.22	0.40
2:B:211:ILE:HD11	2:B:228:GLN:HG3	2.03	0.40
2:F:64:LEU:O	2:F:67:THR:HB	2.21	0.40
2:F:101:LEU:HD12	2:F:117:PRO:HB2	2.04	0.40
2:F:317:LEU:HD21	2:F:410:ILE:HD13	2.04	0.40
2:F:478:PHE:HD2	2:F:478:PHE:O	2.03	0.40
2:F:506:LYS:H	2:F:506:LYS:HG2	1.48	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1110:ILE:HG21	2:F:1122:ARG:NH2	2.37	0.40
2:F:1336:TYR:N	2:F:1336:TYR:CD1	2.89	0.40
5:I:47:A:C5	5:I:48:A:N7	2.89	0.40
2:B:142:LEU:HD23	2:B:142:LEU:HA	1.78	0.40
2:B:433:LEU:HD23	2:B:433:LEU:HA	1.78	0.40
2:B:539:PHE:CB	2:B:690:ASN:ND2	2.68	0.40
2:B:882:TYR:O	2:B:886:LEU:HG	2.21	0.40
2:F:169:LEU:O	2:F:170:ILE:HD12	2.22	0.40
2:F:258:LEU:CD2	2:F:260:GLU:H	2.33	0.40
2:F:275:LEU:CD1	2:F:279:LEU:HG	2.52	0.40
2:F:632:ILE:HG22	2:F:636:LEU:HD22	2.04	0.40
2:F:1200:LYS:HG2	2:F:1201:TYR:CE1	2.57	0.40
2:F:1217:ALA:O	2:F:1339:THR:HG21	2.21	0.40
5:J:54:G:C6	5:J:55:C:N4	2.89	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
2	B	1312/1368 (96%)	1275 (97%)	34 (3%)	3 (0%)	47 80
2	F	1313/1368 (96%)	1265 (96%)	40 (3%)	8 (1%)	25 61
All	All	2625/2736 (96%)	2540 (97%)	74 (3%)	11 (0%)	34 69

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	F	1042	ILE
2	F	585	ASP
2	F	869	ASN
2	F	1020	LYS

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Mol	Chain	Res	Type
2	F	1055	GLY
2	F	202	ASN
2	F	117	PRO
2	F	868	ASP
2	B	117	PRO
2	B	250	PRO
2	B	230	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	
2	B	1173/1225 (96%)	1128 (96%)	45 (4%)	33	64
2	F	1156/1225 (94%)	1097 (95%)	59 (5%)	24	57
All	All	2329/2450 (95%)	2225 (96%)	104 (4%)	27	61

All (104) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	40	ARG
2	B	95	ASP
2	B	141	LYS
2	B	145	SER
2	B	218	LYS
2	B	246	LEU
2	B	276	ASP
2	B	291	LEU
2	B	307	ARG
2	B	340	ARG
2	B	383	MET
2	B	425	ARG
2	B	468	LYS
2	B	476	TRP
2	B	494	ARG
2	B	535	ARG

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Mol	Chain	Res	Type
2	B	556	ASN
2	B	557	ARG
2	B	604	LYS
2	B	610	GLU
2	B	627	GLU
2	B	629	ARG
2	B	663	SER
2	B	674	GLN
2	B	685	SER
2	B	751	MET
2	B	763	MET
2	B	765	ARG
2	B	803	ASN
2	B	854	ASN
2	B	879	MET
2	B	884	ARG
2	B	948	LYS
2	B	951	ARG
2	B	1037	PHE
2	B	1062	LEU
2	B	1158	LYS
2	B	1221	GLN
2	B	1225	GLU
2	B	1258	PHE
2	B	1260	GLU
2	B	1262	HIS
2	B	1267	ASP
2	B	1338	SER
2	B	1351	SER
2	F	42	SER
2	F	94	ASP
2	F	116	HIS
2	F	121	ASN
2	F	128	TYR
2	F	140	LYS
2	F	161	MET
2	F	183	LYS
2	F	224	ASN
2	F	229	LEU
2	F	234	LYS
2	F	237	LEU
2	F	241	LEU

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Mol	Chain	Res	Type
2	F	253	LYS
2	F	271	TYR
2	F	279	LEU
2	F	284	ASP
2	F	285	GLN
2	F	383	MET
2	F	384	ASP
2	F	425	ARG
2	F	426	GLN
2	F	467	ARG
2	F	478	PHE
2	F	494	ARG
2	F	510	LYS
2	F	532	GLU
2	F	535	ARG
2	F	567	ASP
2	F	629	ARG
2	F	630	GLU
2	F	631	MET
2	F	635	ARG
2	F	646	LYS
2	F	654	ARG
2	F	671	ARG
2	F	686	ASP
2	F	690	ASN
2	F	803	ASN
2	F	826	GLN
2	F	844	GLN
2	F	891	LEU
2	F	912	ASP
2	F	948	LYS
2	F	977	GLU
2	F	978	ILE
2	F	979	ASN
2	F	1037	PHE
2	F	1060	ARG
2	F	1080	PHE
2	F	1125	ASP
2	F	1202	SER
2	F	1206	LEU
2	F	1210	ARG
2	F	1222	LYS

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Mol	Chain	Res	Type
2	F	1246	LYS
2	F	1256	GLN
2	F	1258	PHE
2	F	1325	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	137	HIS
2	B	342	GLN
2	B	415	HIS
2	B	818	ASN
2	B	1044	ASN
2	B	1066	ASN
2	B	1262	HIS
2	B	1308	ASN
2	B	1350	GLN
2	F	167	HIS
2	F	255	ASN
2	F	281	GLN
2	F	415	HIS
2	F	426	GLN
2	F	690	ASN
2	F	726	ASN
2	F	794	GLN
2	F	807	GLN
2	F	985	HIS
2	F	1252	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	33/34 (97%)	10 (30%)	3 (9%)
1	E	30/34 (88%)	9 (30%)	1 (3%)
5	I	62/65 (95%)	19 (30%)	1 (1%)
5	J	62/65 (95%)	18 (29%)	1 (1%)
All	All	187/198 (94%)	56 (29%)	6 (3%)

All (56) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	2	U
1	A	4	A
1	A	5	C
1	A	6	G
1	A	9	U
1	A	20	A
1	A	28	A
1	A	29	G
1	A	32	A
1	A	33	U
1	E	5	C
1	E	6	G
1	E	9	U
1	E	20	A
1	E	24	U
1	E	28	A
1	E	29	G
1	E	32	A
1	E	33	U
5	I	37	U
5	I	39	G
5	I	40	C
5	I	42	A
5	I	43	G
5	I	50	U
5	I	51	A
5	I	56	U
5	I	57	A
5	I	59	U
5	I	63	U
5	I	68	A
5	I	74	A
5	I	77	A
5	I	82	G
5	I	87	G
5	I	89	G
5	I	91	C
5	I	92	G
5	J	37	U
5	J	39	G
5	J	40	C
5	J	42	A
5	J	43	G

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Mol	Chain	Res	Type
5	J	50	U
5	J	51	A
5	J	56	U
5	J	57	A
5	J	59	U
5	J	63	U
5	J	68	A
5	J	74	A
5	J	82	G
5	J	87	G
5	J	89	G
5	J	91	C
5	J	92	G

All (6) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	8	A
1	A	27	G
1	A	28	A
1	E	27	G
5	I	42	A
5	J	42	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](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	A	34/34 (100%)	0.13	2 (5%) 22 24	7, 28, 140, 153	0
1	E	31/34 (91%)	0.53	2 (6%) 18 21	29, 64, 167, 193	0
2	B	1326/1368 (96%)	0.38	113 (8%) 10 13	4, 56, 173, 204	0
2	F	1327/1368 (97%)	0.48	127 (9%) 8 10	3, 82, 129, 161	0
3	C	24/24 (100%)	-0.47	0 100 100	16, 28, 79, 123	0
3	G	24/24 (100%)	-0.25	1 (4%) 36 36	38, 48, 89, 139	0
4	D	11/11 (100%)	0.62	1 (9%) 9 12	24, 29, 129, 152	0
4	H	11/11 (100%)	0.51	1 (9%) 9 12	29, 48, 101, 160	0
5	I	63/65 (96%)	-0.20	1 (1%) 72 71	6, 58, 102, 134	0
5	J	63/65 (96%)	0.03	1 (1%) 72 71	18, 40, 134, 165	0
All	All	2914/3004 (97%)	0.39	249 (8%) 10 13	3, 63, 149, 204	0

All (249) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	801	VAL	15.1
2	B	809	GLU	12.2
2	B	858	THR	12.1
2	B	817	GLN	11.3
2	B	833	LEU	10.6
2	F	1243	GLU	9.6
2	B	822	MET	9.6
2	B	841	ILE	9.1
2	B	881	ASN	8.9
2	B	810	LYS	8.8
2	B	842	VAL	8.8
2	B	812	TYR	8.7
4	D	2	DT	8.4

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Mol	Chain	Res	Type	RSRZ
2	B	857	LEU	8.4
2	B	823	TYR	8.0
2	B	872	SER	8.0
2	F	209	LYS	8.0
2	B	854	ASN	7.9
2	B	883	TRP	7.7
2	B	894	GLN	7.3
4	H	2	DT	7.1
2	F	308	VAL	7.1
2	F	698	HIS	7.0
1	E	34	G	6.9
2	B	814	TYR	6.7
2	F	697	ILE	6.7
2	B	818	ASN	6.4
2	F	207	ASP	6.4
2	B	813	LEU	6.4
2	B	1243	GLU	6.2
2	B	859	ARG	6.2
2	F	306	LEU	6.1
2	B	852	ILE	6.1
2	B	888	ASN	6.1
2	B	871	PRO	6.0
2	B	824	VAL	6.0
2	B	784	ILE	5.9
2	F	145	SER	5.8
2	B	807	GLN	5.5
2	B	834	SER	5.5
2	B	885	GLN	5.5
2	B	791	LEU	5.4
2	F	210	ALA	5.3
2	F	314	LYS	5.3
2	F	703	THR	5.2
2	B	856	VAL	5.2
2	B	898	ASP	5.2
2	B	861	ASP	5.1
2	B	1050	ILE	5.1
2	F	39	ASP	5.1
2	B	836	TYR	5.0
2	B	1073	VAL	4.9
2	F	1246	LYS	4.9
2	F	305	ILE	4.8
2	F	673	LYS	4.8

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Mol	Chain	Res	Type	RSRZ
2	F	307	ARG	4.7
2	B	829	ASP	4.7
2	F	709	GLN	4.7
2	F	705	LYS	4.5
2	F	286	TYR	4.5
2	B	793	SER	4.5
5	J	36	G	4.5
2	B	853	ASP	4.4
2	F	557	ARG	4.4
2	B	795	ILE	4.4
2	F	1242	TYR	4.4
2	B	838	VAL	4.3
2	B	837	ASP	4.3
2	B	310	THR	4.3
2	F	257	ASP	4.2
2	F	212	LEU	4.2
2	F	700	ASP	4.1
2	F	947	ASP	4.0
2	B	882	TYR	3.9
2	F	400	ARG	3.9
2	F	818	ASN	3.9
2	F	315	ALA	3.9
1	A	1	U	3.9
2	F	141	LYS	3.9
2	F	228	GLN	3.8
2	B	886	LEU	3.8
2	B	910	GLU	3.8
2	F	789	LYS	3.8
2	F	627	GLU	3.7
2	F	877	LYS	3.7
2	F	683	LEU	3.7
2	F	888	ASN	3.6
2	F	682	PHE	3.6
2	B	819	GLY	3.6
2	B	832	ARG	3.6
2	F	679	ILE	3.6
2	F	691	ARG	3.6
2	B	884	ARG	3.5
2	B	808	ASN	3.5
2	B	821	ASP	3.5
1	E	28	A	3.5
2	B	843	PRO	3.4

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Mol	Chain	Res	Type	RSRZ
2	B	1034	ALA	3.4
2	F	674	GLN	3.4
2	F	301	LEU	3.4
2	B	1045	PHE	3.4
2	F	181	VAL	3.3
2	F	224	ASN	3.3
1	A	34	G	3.3
2	B	783	ARG	3.3
2	B	815	TYR	3.3
2	F	1247	GLY	3.3
2	F	402	GLN	3.2
2	B	880	LYS	3.2
2	B	897	PHE	3.2
2	F	706	GLU	3.2
2	F	431	PRO	3.2
2	B	830	ILE	3.2
2	F	881	ASN	3.2
2	F	558	LYS	3.1
2	F	142	LEU	3.1
2	F	284	ASP	3.1
2	B	899	ASN	3.1
2	B	816	LEU	3.1
2	F	809	GLU	3.1
3	G	24	DG	3.1
2	B	839	ASP	3.1
2	F	362	TYR	3.1
2	B	796	LEU	3.0
2	F	182	ASP	3.0
2	B	673	LYS	3.0
2	B	800	PRO	3.0
2	F	225	LEU	3.0
2	B	1048	THR	3.0
2	F	91	ALA	3.0
2	F	701	SER	3.0
2	B	780	ARG	3.0
2	B	860	SER	3.0
2	B	914	ALA	2.9
2	F	211	ILE	2.9
2	F	311	GLU	2.9
2	B	868	ASP	2.9
2	B	806	LEU	2.9
2	F	501	ASN	2.9

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Mol	Chain	Res	Type	RSRZ
2	B	887	LEU	2.9
2	B	840	ALA	2.9
2	F	399	LEU	2.9
2	F	413	GLN	2.9
2	F	833	LEU	2.9
2	F	699	ASP	2.9
2	F	796	LEU	2.9
2	B	802	GLU	2.9
2	F	230	PRO	2.9
2	B	828	LEU	2.8
2	F	536	LYS	2.8
2	F	73	THR	2.8
2	F	588	ASN	2.8
2	F	708	ILE	2.8
2	B	893	THR	2.8
2	B	263	LYS	2.7
2	F	247	GLY	2.7
2	B	1017	ASP	2.7
2	F	359	TYR	2.7
2	B	1049	GLU	2.7
2	B	804	THR	2.7
2	F	346	LYS	2.7
2	F	594	TYR	2.7
2	B	799	HIS	2.7
2	F	347	TYR	2.6
2	F	202	ASN	2.6
2	F	889	ALA	2.6
2	B	1303	ARG	2.6
2	F	287	ALA	2.6
2	B	788	ILE	2.6
2	F	887	LEU	2.6
2	F	81	TYR	2.6
2	F	587	PHE	2.6
2	B	805	GLN	2.5
2	B	787	GLY	2.5
2	B	869	ASN	2.5
2	F	666	LEU	2.5
2	B	870	VAL	2.5
2	B	1244	LYS	2.5
2	B	825	ASP	2.4
2	B	876	VAL	2.4
2	B	463	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
2	F	128	TYR	2.4
2	F	132	TYR	2.4
2	B	1063	ILE	2.4
2	F	120	GLY	2.4
2	B	1331	ILE	2.4
2	F	232	GLU	2.4
2	B	1162	GLU	2.4
2	F	694	MET	2.4
2	B	901	THR	2.4
2	F	688	PHE	2.3
2	F	804	THR	2.3
2	F	281	GLN	2.3
2	F	203	ALA	2.3
2	F	806	LEU	2.3
2	F	189	VAL	2.3
2	F	1159	SER	2.3
2	F	114	GLU	2.3
2	B	538	ALA	2.3
2	B	1072	ILE	2.3
2	F	1118	LYS	2.3
2	F	776	ASN	2.3
2	B	264	LEU	2.3
2	F	815	TYR	2.3
2	F	563	GLN	2.3
2	F	786	GLU	2.3
2	F	602	LYS	2.3
2	F	693	PHE	2.3
2	B	790	GLU	2.3
2	F	389	LEU	2.3
2	F	231	GLY	2.2
2	F	172	GLY	2.2
2	B	902	LYS	2.2
5	I	36	G	2.2
2	F	473	ILE	2.2
2	F	537	PRO	2.2
2	B	873	GLU	2.2
2	F	675	SER	2.2
2	F	695	GLN	2.2
2	B	384	ASP	2.2
2	B	1145	VAL	2.2
2	F	143	VAL	2.2
2	B	258	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
2	F	830	ILE	2.2
2	F	106	LEU	2.2
2	F	598	LEU	2.2
2	F	782	LYS	2.2
2	F	651	LEU	2.2
2	B	855	LYS	2.2
2	F	553	PHE	2.1
2	B	703	THR	2.1
2	B	1297	HIS	2.1
2	F	369	GLN	2.1
2	F	227	ALA	2.1
2	F	785	GLU	2.1
2	B	1242	TYR	2.1
2	F	883	TRP	2.1
2	F	96	SER	2.1
2	F	297	SER	2.1
2	B	1074	TRP	2.1
2	B	530	VAL	2.1
2	F	397	ASP	2.0
2	F	243	ALA	2.0
2	B	864	ARG	2.0
2	B	792	GLY	2.0
2	F	92	LYS	2.0
2	F	192	TYR	2.0
2	F	867	SER	2.0
2	F	884	ARG	2.0

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

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

6.3 Carbohydrates [\(i\)](#)

There are no monosaccharides in this entry.

6.4 Ligands [\(i\)](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.