



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 3, 2024 – 02:55 PM JST

PDB ID : 8KAL
Title : Crystal structure of SpyCas9 in complex with sgRNA and 17nt target DNA
Authors : Chen, Y.; Chen, J.; Liu, L.
Deposited on : 2023-08-03
Resolution : 3.16 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
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (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

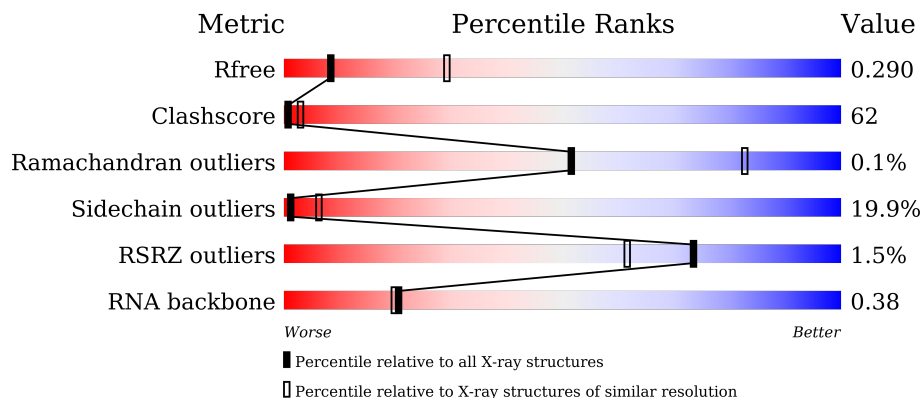
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.16 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.



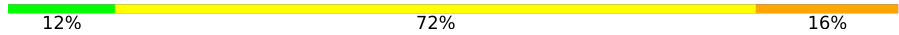


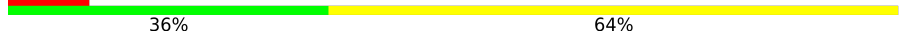
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1665 (3.20-3.12)
Clashscore	141614	1804 (3.20-3.12)
Ramachandran outliers	138981	1770 (3.20-3.12)
Sidechain outliers	138945	1769 (3.20-3.12)
RSRZ outliers	127900	1616 (3.20-3.12)
RNA backbone	3102	1073 (3.50-2.82)

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	98	 11% 48% 32% 5%
1	E	98	 16% 49% 28%
2	B	1368	 2% 30% 52% 14%
2	G	1368	 32% 52% 13%

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Mol	Chain	Length	Quality of chain
3	C	25	
3	H	25	
4	D	11	
4	J	11	

2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 27214 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 (98-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	A	94	Total 2009	C 899	N 362	O 654	P 94	0	0	0
1	E	95	Total 2029	C 908	N 365	O 661	P 95	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 10821	C 6892	N 1877	O 2030	S 22	0	0	0
2	G	1326	Total 10822	C 6892	N 1879	O 2029	S 22	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
G	10	ALA	ASP	engineered mutation	UNP Q99ZW2
G	840	ALA	HIS	engineered mutation	UNP Q99ZW2

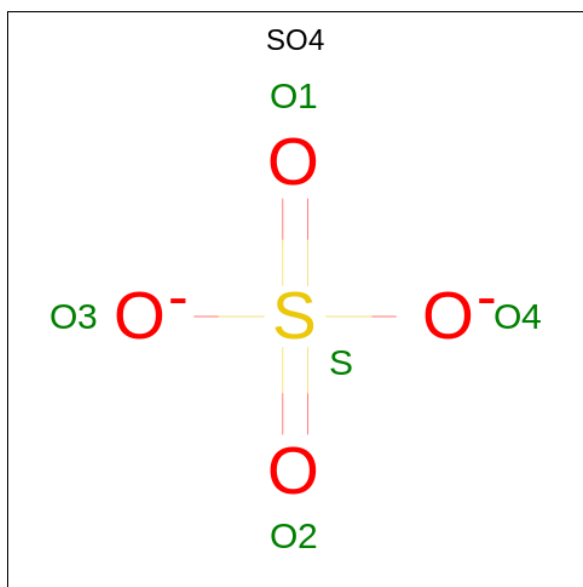
- Molecule 3 is a DNA chain called DNA (25-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
3	C	25	Total 505	C 243	N 93	O 145	P 24	0	0	0
3	H	25	Total 505	C 243	N 93	O 145	P 24	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
4	D	11	Total	C	N	O	P	0	0	0
			225	110	37	68	10			
4	J	11	Total	C	N	O	P	0	0	0
			225	110	37	68	10			

- Molecule 5 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	B	1	Total	O	S	0	0
			5	4	1		
5	G	1	Total	O	S	0	0
			5	4	1		

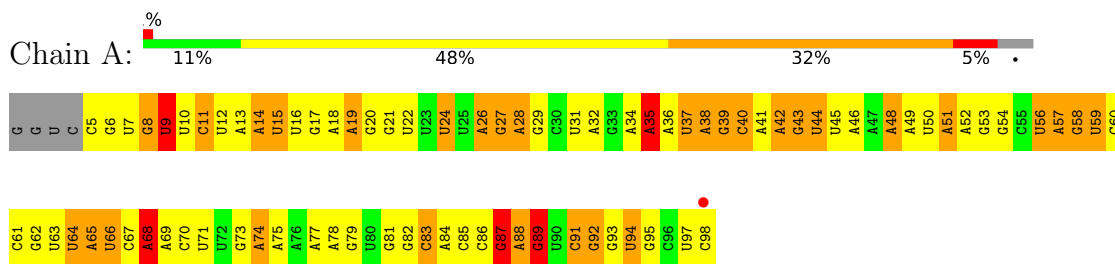
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	3	Total	O	0	0
			3	3		
6	B	26	Total	O	0	0
			26	26		
6	C	1	Total	O	0	0
			1	1		
6	E	3	Total	O	0	0
			3	3		
6	G	29	Total	O	0	0
			29	29		
6	H	1	Total	O	0	0
			1	1		

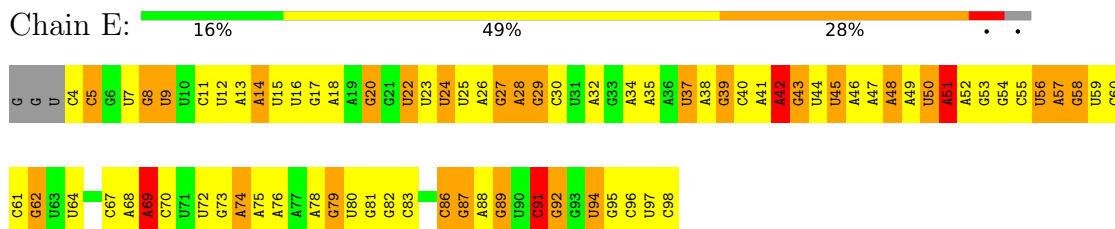
3 Residue-property plots [i](#)

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

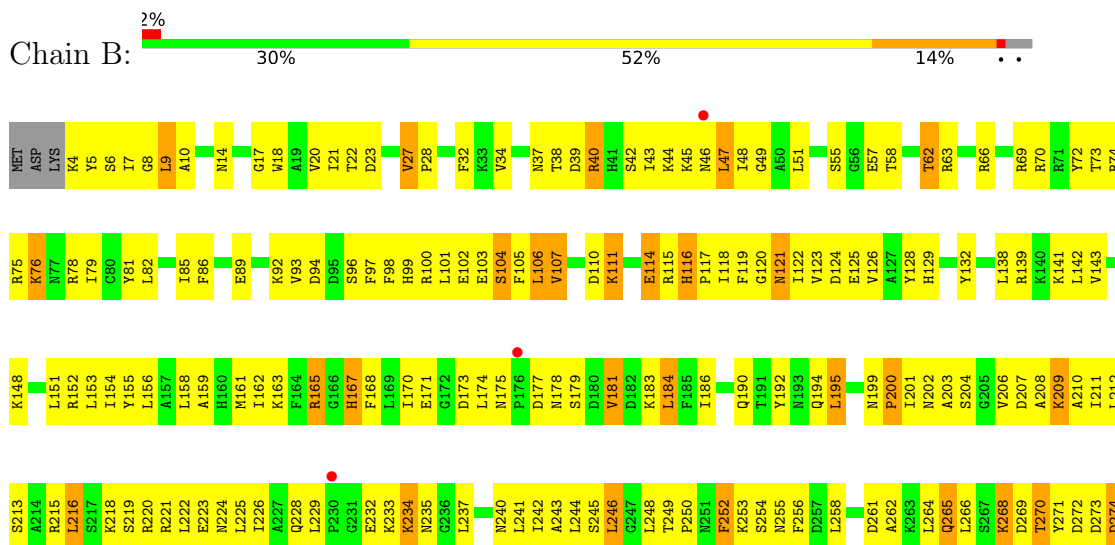
- Molecule 1: RNA (98-MER)



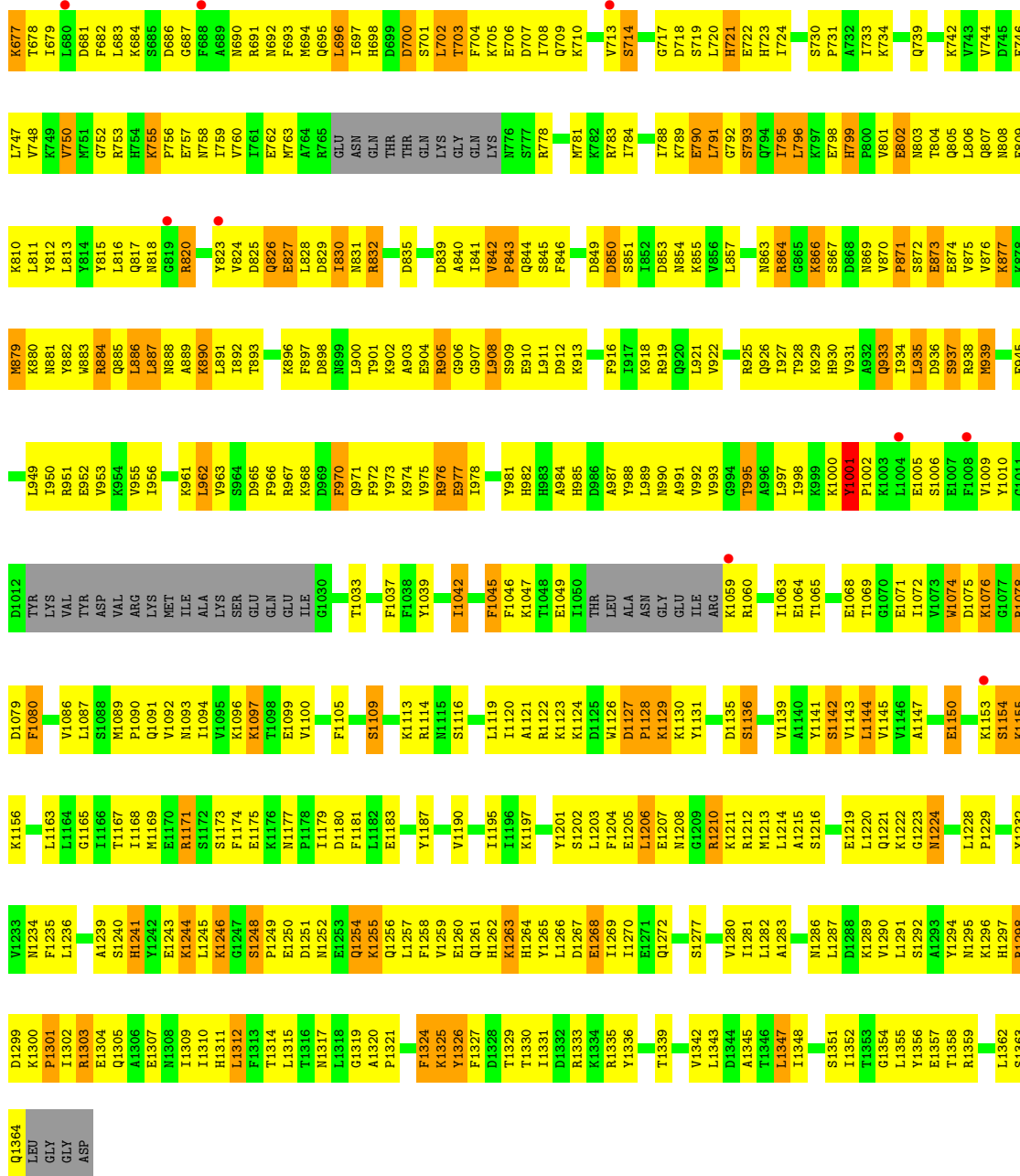
- Molecule 1: RNA (98-MER)



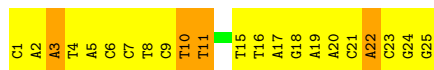
- Molecule 2: CRISPR-associated endonuclease Cas9/Csn1



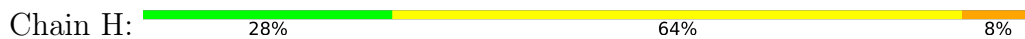
L275	L276	L277	L278	L279	A280	Q281	L282	G283	D284	Q285	D286	A287	D288	L289	F290	L291	A292	A293	K294	N295	L296	S297	D298	A299	I300	L301	L302	S303	D304	I305	L306	V308	T310	E311	I312	T313	K314	A315	P316	L317	S320	K323	R324	H328	L332	T333	L334	L335	K336	A337	L338	V339	R340																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Q341	Q342	P344	E345	K346	Y347	K348	E349	F350	F351	F352	K356	N357	G358	Y359	A360	G361	Y362	I363	D364	S368	Q369	F372	Y373	K374	F375	K377	P378	L379	L380	E381	K382	M383	D384	G385	P448	P449	L448	L449	L450	L451	E387	E388	L389	L390	V391	L392	L393	N394	R395	E396	D397	A463	L398	W464	L399	R400	K401	Q402	K468	S469	T404	V405																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
P406	M407	I410	H411	H412	Q413	L414	H415	L416	G417	E418	L419	H420	A421	I422	L423	R424	R425	F429	Y430	P431	F432	L433	K434	F435	Y436	L440	E441	K442	L443	L444	T445	F446	R447	L448	P449	L449	L450	L451	L452	R457	S460	R461	F462	A463	W464	L465	L466	L467	L468	L469	L470	L471	L472	L473	L474	L475	L476	L477	L478	L479	L480	L481	L482	L483	L484	L485	L486	L487	L488	L489	L490	L491	L492	L493	L494	L495	L496	L497	L498	L499	L500	L501	L502	P503	K506	N507	L508	P509	K510	H511	S512	L513	L514	L515	L516	L517	L518	L519	L520	E523	L524	Y529	V530	T531	G532	L533	Y534	H535	L536	L537	L538	L539	L540	L541	L542	L543	L544	L545	L546	L547	L548	L549	L550	L551	L552	F553	Q554	T555	M556	R557	K558	V559	L560	V561	L562	L563	L564	L565	L566	L567	L568	L569	L570	L571	L572	E573	C574	F575	D576	S577	V578	E579	I580	S581	G582	V583	L584	A585	D586	K587	L588	A589	S590	L591	G592	L593	R594	T595	Y596	H597	G598	W599	D596	L597																																																																																																																																																																																																																																																																																																																																																																																																																												
L598	K599	I600	I601	L602	D603	F606	L607	D608	W609	A610	E611	N612	E613	D614	A615	L616	K617	D618	L619	V620	L621	T622	L623	L624	L625	A626	E627	N628	M629	M630	E634	R635	L636	K637	L638	Y639	A640	V641	D642	L643	D644	V647	M648	K649	Q650	L651	K652	R653	L654	R655	L656	T657	G658	H659	L660	L661	L662	L663	L664	L665	L666	L667	L668	L669	L670	R671	L672	L673	L674	L675	L676	L677	L678	L679	L680	L681	L682	L683	L684	L685	L686	L687	L688	L689	L690	L691	L692	L693	L694	L695	L696	L697	L698	L699	D700	S701	L702	T703	F704	K705	E706	D707	L708	Q709	K710	A711	Q712	D718	R719	S719	L720	R721	Y722	H723	L724	L725	L726	L727	L728	L729	L730	L731	L732	L733	L734	L735	L736	L737	L738	L739	L740	L741	L742	L743	L744	L745	L746	L747	L748	K749	M750	L751	L752	L753	H754	K755	L756	E757	N758	R759	L760	L761	E762	L765	GLU	ASN	GLN	THR	THR	THR	GLN	GLN	LYS	GLY	GLN	GLN	LYS	N776	S777	R778	E779	R780	L781	R782	K783	R784	D785	L786	S787	L788	L789	L790	L791	L792	L793	L794	L795	L796	L797	L798	L799	L800	L801	L802	L803	L804	L805	L806	L807	L808	L809	L810	L811	L812	L813	L814	L815	L816	L817	L818	L819	L820	L821	L822	L823	L824	L825	L826	L827	L828	L829	L830	M831	R832	L833	S834	D835	Y836	D837	W838	D839	A840	L841	W842	R843	Q844	S845	R846	L847	K848	L849	D850	S851	L852	L853	L854	L855	L856	L857	L858	L859	L860	L861	L862	L863	L864	L865	L866	L867	L868	L869	L870	P871	S872	E873	E874	W875	L876	L877	L878	L879	L880	L881	L882	L883	L884	L885	L886	L887	N888	A889	K890	L891	L892	L893	L894	L895	L896	L897	L898	L899	L900	T901	K902	A903	E904	L905	R906	G907	L908	S909	E910	L911	D912	K913	A914	G915	F916	L917	L918	H919	H920	L921	L922	L923	L924	L925	L926	L927	L928	L929	L930	L931	L932	L933	L934	L935	L936	L937	L938	L939	L940	L941	L942	L943	L944	L945	L946	L947	L948	L949	L950	R951	N952	K953	L954	L955	L956	L957	L958	R961	L962	Y963	S964	D965	F966	K967	K968	D969	F970	Q971	F972	Y973	K974	Y975	R976	E977	L978	N979	Y980	Y981	H982	L983	L984	L985	L986	L987	L988	L989	L990	L991	L992	L993	L994	L995	L996	L997	L998	L999	L1000	Q1001	T1002	F1003	S1004	L1005	L1006	L1007	L1008	S1009	I1010	L1011	L1012	L1013	L1014	L1015	L1016	L1017	L1018	L1019	L1020	L1021	L1022	L1023	L1024	L1025	L1026	L1027	L1028	L1029	L1030	L1031	L1032	L1033	L1034	L1035	L1036	L1037	L1038	L1039	L1040	L1041	L1042	L1043	L1044	L1045	L1046	L1047	L1048	L1049	L1050	L1051	L1052	L1053	L1054	L1055	L1056	L1057	L1058	L1059	L1060	L1061	L1062	L1063	L1064	L1065	L1066	L1067	L1068	L1069	L1070	L1071	L1072	L1073	L1074	L1075	L1076	L1077	L1078	L1079	L1080	A1081	T1082	V1083	L1084	L1085	L1086	L1087	S1088	M1089	P1090	Q1091	L1092	M1093	L1094	L1095	L1096	L1097	L1098	L1099	L1100	Q1101	T1102	F1103	L1104	L1105	S1106	L1107	L1108	L1109	L1110	L1111	L1112	L1113	L1114	L1115	L1116	L1117	L1118	L1119	L1120	L1121	L1122	L1123	L1124	L1125	L1126	L1127	L1128	L1129	L1130	L1131	L1132	L1133	L1134	L1135	L1136	L1137	L1138	L1139	L1140	L1141	L1142	L1143	L1144	L1145	L1146	L1147	L1148	L1149	L1150	L1151	L1152	L1153	S1154	L1155	L1156	L1157	L1158	S1159	L1160	L1161	L1162	L1163	L1164	L1165	L1166	L1167	L1168	L1169	E1170	L1171	F1172	E1173	L1174	L1175	L1176	L1177	L1178	L1179	L1180	F1181	L1182	L1183	A1184	L1185	L1186	L1187	L1188	L1189	L1190	L1191	L1192	L1193	L1194	L1195	L1196



• Molecule 3: DNA (25-MER)

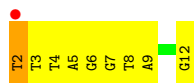
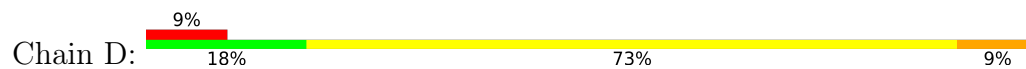


• Molecule 3: DNA (25-MER)

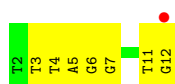




- Molecule 4: DNA (5'-D(*TP*TP*TP*AP*GP*GP*TP*AP*TP*TP*G)-3')



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



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	362.05Å 70.96Å 200.10Å 90.00° 101.52° 90.00°	Depositor
Resolution (Å)	50.17 – 3.16 50.17 – 3.16	Depositor EDS
% Data completeness (in resolution range)	65.6 (50.17-3.16) 65.6 (50.17-3.16)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.79 (at 3.19Å)	Xtrriage
Refinement program	PHENIX 1.17.1_3660	Depositor
R, R_{free}	0.251 , 0.288 0.251 , 0.290	Depositor DCC
R_{free} test set	2797 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å ²)	58.3	Xtrriage
Anisotropy	0.329	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.23 , 35.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.39$, $\langle L^2 \rangle = 0.22$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.85	EDS
Total number of atoms	27214	wwPDB-VP
Average B, all atoms (Å ²)	59.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 43.87 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.6562e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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

Bond lengths and bond angles in the following residue types are not validated in this section: SO4

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	0.87	1/2249 (0.0%)	1.58	39/3503 (1.1%)
1	E	0.84	0/2271	1.55	31/3537 (0.9%)
2	B	0.62	11/11013 (0.1%)	0.73	29/14802 (0.2%)
2	G	0.60	9/11013 (0.1%)	0.71	22/14799 (0.1%)
3	C	1.25	2/566 (0.4%)	1.24	6/870 (0.7%)
3	H	1.38	2/566 (0.4%)	1.21	1/870 (0.1%)
4	D	1.40	2/251 (0.8%)	1.27	0/387
4	J	1.29	2/251 (0.8%)	1.20	0/387
All	All	0.71	29/28180 (0.1%)	0.97	128/39155 (0.3%)

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	H	10	DT	C3'-O3'	-7.60	1.34	1.44
4	J	3	DT	C1'-N1	6.21	1.57	1.49
4	D	3	DT	N1-C2	5.78	1.42	1.38
4	J	4	DT	C3'-O3'	-5.67	1.36	1.44
3	H	14	DA	N9-C4	-5.66	1.34	1.37
2	B	27	VAL	CA-C	5.59	1.67	1.52
3	C	8	DT	C3'-O3'	5.54	1.51	1.44
3	C	15	DT	C1'-N1	-5.35	1.39	1.47
2	B	1002	PRO	N-CD	5.32	1.55	1.47
2	B	431	PRO	N-CD	5.31	1.55	1.47
2	G	1301	PRO	N-CD	5.30	1.55	1.47
2	G	344	PRO	N-CD	5.29	1.55	1.47
1	A	46	A	N9-C4	5.23	1.41	1.37
2	G	843	PRO	N-CD	5.23	1.55	1.47
2	B	344	PRO	N-CD	5.21	1.55	1.47
2	B	475	PRO	N-CD	5.14	1.55	1.47
2	B	1301	PRO	N-CD	5.14	1.55	1.47
2	B	316	PRO	N-CD	5.10	1.54	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1061	PRO	N-CD	5.09	1.54	1.47
2	G	411	PRO	N-CD	5.08	1.54	1.47
2	B	1137	PRO	N-CD	5.08	1.54	1.47
2	G	1249	PRO	N-CD	5.08	1.54	1.47
2	G	475	PRO	N-CD	5.06	1.54	1.47
2	B	1178	PRO	N-CD	5.06	1.54	1.47
2	B	871	PRO	N-CD	5.04	1.54	1.47
4	D	2	DT	N1-C2	5.03	1.42	1.38
2	G	871	PRO	N-CD	5.03	1.54	1.47
2	G	316	PRO	N-CD	5.03	1.54	1.47
2	G	1128	PRO	N-CD	5.00	1.54	1.47

All (128) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	14	A	O5'-P-OP2	-9.27	97.36	105.70
2	B	684	LYS	N-CA-C	-9.20	86.15	111.00
1	E	51	A	C8-N9-C4	-9.21	102.12	105.80
2	G	506	LYS	N-CA-C	-9.19	86.20	111.00
2	G	507	VAL	N-CA-CB	-9.01	91.67	111.50
1	A	15	U	N3-C4-C5	8.94	119.96	114.60
1	A	60	C	C6-N1-C2	-8.76	116.80	120.30
1	A	52	A	N1-C6-N6	-8.74	113.35	118.60
1	E	60	C	C6-N1-C2	-8.71	116.81	120.30
1	E	51	A	N9-C4-C5	8.30	109.12	105.80
1	A	15	U	C6-N1-C2	8.15	125.89	121.00
1	A	50	U	C2-N1-C1'	-8.12	107.96	117.70
1	A	60	C	C2-N1-C1'	7.98	127.58	118.80
1	A	46	A	C8-N9-C4	-7.79	102.68	105.80
1	E	87	G	C8-N9-C4	-7.70	103.32	106.40
1	E	42	A	C8-N9-C4	-7.52	102.79	105.80
3	C	3	DA	O5'-P-OP2	-7.43	99.02	105.70
2	G	506	LYS	CB-CA-C	-7.32	95.75	110.40
1	E	94	U	C6-N1-C2	-7.32	116.61	121.00
1	A	66	U	N3-C4-O4	7.25	124.48	119.40
1	A	52	A	N9-C4-C5	7.20	108.68	105.80
1	A	52	A	C5-C6-N6	7.11	129.38	123.70
1	E	86	C	C6-N1-C2	-7.03	117.49	120.30
1	E	58	G	C8-N9-C4	-6.91	103.64	106.40
1	E	51	A	C5-C6-N6	6.88	129.20	123.70
1	A	15	U	C5-C4-O4	-6.78	121.83	125.90
1	A	64	U	N3-C2-O2	-6.76	117.47	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	80	U	C5-C4-O4	-6.69	121.89	125.90
1	A	52	A	C4-C5-N7	-6.58	107.41	110.70
1	A	38	A	C8-N9-C4	6.50	108.40	105.80
2	B	199	ASN	C-N-CD	6.38	141.81	128.40
1	A	60	C	C5-C6-N1	6.37	124.19	121.00
1	E	18	A	N1-C6-N6	6.29	122.38	118.60
2	B	175	ASN	C-N-CD	6.25	141.52	128.40
2	B	799	HIS	C-N-CD	6.21	141.45	128.40
2	G	502	LEU	C-N-CD	6.21	141.44	128.40
1	E	51	A	N7-C8-N9	6.20	116.90	113.80
2	G	430	TYR	C-N-CD	6.18	141.37	128.40
2	G	199	ASN	C-N-CD	6.14	141.29	128.40
1	E	62	G	N3-C4-C5	6.13	131.67	128.60
1	A	35	A	N1-C6-N6	6.12	122.27	118.60
2	G	175	ASN	C-N-CD	6.11	141.24	128.40
1	A	83	C	C6-N1-C2	-6.11	117.86	120.30
2	B	116	HIS	C-N-CD	6.07	141.15	128.40
2	B	1198	LEU	C-N-CD	6.05	141.11	128.40
1	A	21	G	N3-C4-C5	6.05	131.62	128.60
1	A	19	A	N1-C6-N6	6.04	122.22	118.60
1	E	42	A	N7-C8-N9	6.00	116.80	113.80
2	B	755	LYS	C-N-CD	5.99	140.98	128.40
2	B	536	LYS	C-N-CD	5.98	140.96	128.40
2	G	755	LYS	C-N-CD	5.97	140.94	128.40
2	G	1001	TYR	C-N-CD	5.95	140.89	128.40
2	G	1136	SER	C-N-CD	5.94	140.88	128.40
1	E	79	G	N1-C6-O6	5.94	123.46	119.90
2	G	1127	ASP	C-N-CD	5.93	140.86	128.40
1	A	26	A	N1-C6-N6	5.93	122.16	118.60
1	A	48	A	C8-N9-C4	-5.91	103.44	105.80
2	G	799	HIS	C-N-CD	5.89	140.77	128.40
1	A	68	A	C8-N9-C4	-5.88	103.45	105.80
2	G	1320	ALA	C-N-CD	5.88	140.74	128.40
1	A	58	G	C8-N9-C4	-5.87	104.05	106.40
2	B	377	LYS	C-N-CD	5.87	140.72	128.40
2	B	410	ILE	C-N-CD	5.87	140.72	128.40
2	G	842	VAL	C-N-CD	5.84	140.66	128.40
2	B	1089	MET	C-N-CD	5.83	140.64	128.40
2	B	1228	LEU	C-N-CD	5.82	140.62	128.40
2	B	842	VAL	C-N-CD	5.82	140.61	128.40
2	B	1177	ASN	C-N-CD	5.80	140.59	128.40
1	A	15	U	C2-N3-C4	-5.80	123.52	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	50	U	C6-N1-C1'	5.79	129.31	121.20
2	B	730	SER	C-N-CD	5.78	140.55	128.40
2	B	870	VAL	C-N-CD	5.78	140.53	128.40
2	B	508	LEU	C-N-CD	5.75	140.47	128.40
1	E	64	U	N1-C2-N3	5.74	118.35	114.90
2	G	474	THR	C-N-CD	5.74	140.46	128.40
2	B	684	LYS	CB-CA-C	-5.73	98.95	110.40
2	B	315	ALA	C-N-CD	5.72	140.41	128.40
2	G	315	ALA	C-N-CD	5.70	140.38	128.40
1	A	65	A	N3-C4-C5	-5.70	122.81	126.80
2	B	1300	LYS	C-N-CD	5.70	140.37	128.40
1	A	64	U	N1-C2-N3	5.68	118.31	114.90
2	B	343	LEU	C-N-CD	5.68	140.32	128.40
2	B	1136	SER	C-N-CD	5.67	140.31	128.40
1	E	58	G	N7-C8-N9	5.67	115.93	113.10
1	A	66	U	C5-C4-O4	-5.66	122.51	125.90
2	B	430	TYR	C-N-CD	5.65	140.27	128.40
2	G	410	ILE	C-N-CD	5.64	140.25	128.40
2	B	1060	ARG	C-N-CD	5.63	140.22	128.40
2	G	1300	LYS	C-N-CD	5.62	140.19	128.40
1	A	60	C	N3-C4-C5	-5.61	119.66	121.90
2	B	1001	TYR	C-N-CD	5.56	140.07	128.40
2	G	343	LEU	C-N-CD	5.53	140.01	128.40
1	A	64	U	C6-N1-C2	-5.51	117.69	121.00
1	A	65	A	C2-N3-C4	5.49	113.34	110.60
1	A	87	G	C8-N9-C4	-5.43	104.23	106.40
1	E	51	A	N1-C6-N6	-5.42	115.35	118.60
1	A	89	G	C8-N9-C4	5.40	108.56	106.40
2	G	513	LEU	CA-CB-CG	-5.39	102.91	115.30
1	A	60	C	N3-C4-N4	5.37	121.76	118.00
1	E	94	U	N3-C4-C5	-5.34	111.39	114.60
2	G	229	LEU	C-N-CD	5.33	139.59	128.40
3	C	10	DT	N3-C4-O4	5.32	123.09	119.90
1	E	62	G	C8-N9-C4	5.32	108.53	106.40
2	G	200	PRO	CA-N-CD	-5.30	104.08	111.50
3	C	21	DC	C1'-O4'-C4'	-5.29	104.81	110.10
1	E	17	G	C8-N9-C4	-5.25	104.30	106.40
1	E	72	U	N3-C2-O2	-5.23	118.54	122.20
1	E	94	U	N1-C2-N3	5.22	118.03	114.90
1	E	62	G	N1-C6-O6	5.20	123.02	119.90
1	E	45	U	C5-C4-O4	-5.18	122.79	125.90
1	A	94	U	C6-N1-C2	-5.18	117.89	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	10	DT	C5-C4-O4	-5.17	121.28	124.90
2	B	947	ASP	CB-CG-OD2	5.17	122.95	118.30
1	E	91	C	C6-N1-C2	5.17	122.37	120.30
1	A	14	A	N1-C6-N6	5.16	121.70	118.60
2	B	200	PRO	CA-N-CD	-5.16	104.28	111.50
1	A	9	U	N3-C2-O2	-5.12	118.61	122.20
2	B	906	GLY	N-CA-C	-5.12	100.30	113.10
1	E	48	A	O5'-P-OP1	-5.10	101.11	105.70
1	E	22	U	C6-N1-C2	-5.10	117.94	121.00
3	C	22	DA	O4'-C1'-N9	5.10	111.57	108.00
2	B	1111	LEU	CA-CB-CG	5.09	127.00	115.30
3	C	11	DT	O4'-C4'-C3'	-5.08	102.47	104.50
1	A	89	G	O4'-C1'-N9	-5.06	104.15	108.20
1	A	48	A	N7-C8-N9	5.05	116.32	113.80
3	H	14	DA	O4'-C4'-C3'	-5.04	102.48	104.50
1	E	50	U	N1-C2-O2	-5.01	119.29	122.80
1	E	69	A	N1-C6-N6	5.01	121.60	118.60

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	2009	0	1009	110	0
1	E	2029	0	1020	127	0
2	B	10821	0	10948	1507	0
2	G	10822	0	10967	1594	0
3	C	505	0	283	31	0
3	H	505	0	283	23	0
4	D	225	0	129	18	0
4	J	225	0	129	6	0
5	B	5	0	0	0	0
5	G	5	0	0	1	0
6	A	3	0	0	0	0
6	B	26	0	0	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	C	1	0	0	0	0
6	E	3	0	0	1	0
6	G	29	0	0	10	0
6	H	1	0	0	0	0
All	All	27214	0	24768	3234	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 62.

All (3234) 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:G:530:VAL:CG1	2:G:537:PRO:HB3	1.21	1.65
2:B:181:VAL:HG11	2:B:300:ILE:CD1	1.14	1.59
2:G:279:LEU:CD1	2:G:287:ALA:HB2	1.28	1.59
2:G:279:LEU:HD11	2:G:287:ALA:CB	1.21	1.59
2:G:870:VAL:CG2	2:G:908:LEU:CD2	1.77	1.59
2:B:179:SER:HB2	2:B:310:THR:CG2	1.18	1.57
2:G:747:LEU:HA	2:G:750:VAL:CG2	1.29	1.56
2:B:1270:ILE:HD12	2:B:1294:TYR:CE2	1.37	1.55
2:B:181:VAL:CG1	2:B:300:ILE:CD1	1.83	1.54
2:G:530:VAL:HG13	2:G:537:PRO:CB	1.38	1.53
2:G:870:VAL:CG2	2:G:908:LEU:HD23	1.10	1.52
2:G:278:LEU:CD1	2:G:282:ILE:HD11	1.39	1.51
2:B:1270:ILE:CD1	2:B:1294:TYR:CE2	1.91	1.49
2:B:179:SER:CB	2:B:310:THR:HG21	1.38	1.47
2:B:870:VAL:HG21	2:B:908:LEU:CD2	1.41	1.47
2:G:195:LEU:HD21	2:G:286:TYR:CD2	1.48	1.47
2:G:870:VAL:HG22	2:G:908:LEU:CD2	1.36	1.46
2:B:179:SER:CB	2:B:310:THR:CB	1.93	1.44
2:B:870:VAL:CG2	2:B:908:LEU:CD2	1.87	1.44
2:B:179:SER:CB	2:B:310:THR:CG2	1.88	1.44
2:B:870:VAL:CG2	2:B:908:LEU:HD21	0.97	1.44
2:G:557:ARG:HH12	2:G:599:LYS:NZ	1.14	1.43
2:G:116:HIS:NE2	2:G:122:ILE:HG12	1.29	1.42
2:G:342:GLN:NE2	2:G:383:MET:HB3	1.27	1.42
2:B:981:TYR:CE2	2:B:1092:VAL:CG2	2.02	1.41
2:G:561:VAL:CG2	2:G:585:ASP:O	1.67	1.41
2:B:297:SER:OG	2:B:301:LEU:CD1	1.68	1.41
2:B:1270:ILE:CD1	2:B:1294:TYR:CD2	2.04	1.40
2:G:115:ARG:NH2	2:G:122:ILE:HD11	1.31	1.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:823:TYR:C	2:G:879:MET:CE	1.89	1.40
2:G:887:LEU:N	2:G:892:ILE:HD12	1.30	1.40
2:B:181:VAL:CG1	2:B:300:ILE:HD11	1.40	1.39
2:B:665:LYS:CA	2:B:669:GLY:HA3	1.52	1.39
2:B:369:GLN:NE2	2:B:404:THR:CG2	1.87	1.38
2:G:342:GLN:NE2	2:G:383:MET:CB	1.87	1.38
2:B:979:ASN:ND2	2:B:981:TYR:CD1	1.92	1.38
2:B:981:TYR:CE2	2:B:1092:VAL:HG23	1.55	1.38
2:G:181:VAL:CG1	2:G:300:ILE:HD11	1.55	1.37
2:G:179:SER:CA	2:G:310:THR:HG21	1.55	1.36
2:G:332:LEU:HD22	2:G:359:TYR:CE1	1.58	1.36
2:B:369:GLN:NE2	2:B:404:THR:HG21	1.05	1.36
2:G:195:LEU:CD2	2:G:286:TYR:CE2	2.09	1.36
2:G:747:LEU:CA	2:G:750:VAL:CG2	2.01	1.36
1:E:52:A:OP1	2:G:1123:LYS:CE	1.75	1.35
2:B:179:SER:HB2	2:B:310:THR:CB	1.51	1.34
2:G:179:SER:N	2:G:310:THR:HG21	1.04	1.34
2:G:342:GLN:CD	2:G:383:MET:HB3	1.46	1.34
2:B:179:SER:CB	2:B:310:THR:OG1	1.72	1.34
2:G:618:ASP:CG	2:G:639:TYR:OH	1.66	1.34
2:G:380:LEU:HD22	2:G:386:THR:CG2	1.56	1.33
2:G:823:TYR:C	2:G:879:MET:HE1	1.42	1.33
2:G:332:LEU:CD2	2:G:359:TYR:CE1	2.11	1.32
2:G:25:TYR:CE2	2:G:1074:TRP:HZ3	1.46	1.32
2:B:530:VAL:CG2	2:B:537:PRO:HB3	1.57	1.32
1:E:81:G:N2	2:G:35:LEU:HD11	1.46	1.31
2:B:557:ARG:HH22	2:B:599:LYS:NZ	1.28	1.31
2:G:823:TYR:O	2:G:879:MET:HE1	1.27	1.31
2:G:278:LEU:HD12	2:G:282:ILE:CD1	1.62	1.30
2:G:25:TYR:CE2	2:G:1074:TRP:CZ3	2.21	1.29
2:G:747:LEU:O	2:G:750:VAL:HG23	1.14	1.29
2:G:718:ASP:HB3	2:G:722:GLU:OE1	1.31	1.29
2:G:342:GLN:HE22	2:G:383:MET:CB	1.41	1.28
2:G:195:LEU:CD2	2:G:286:TYR:CD2	2.14	1.28
2:G:718:ASP:CB	2:G:722:GLU:OE1	1.80	1.28
2:B:979:ASN:ND2	2:B:981:TYR:HD1	1.22	1.27
2:B:178:ASN:O	2:B:299:ALA:CB	1.80	1.27
2:B:1060:ARG:NH1	2:B:1064:GLU:OE2	1.66	1.27
2:G:179:SER:N	2:G:310:THR:CG2	1.96	1.27
2:G:195:LEU:HD23	2:G:286:TYR:CE2	1.66	1.27
2:G:1295:ASN:OD1	2:G:1298:ARG:NH2	1.64	1.27

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:178:ASN:O	2:B:299:ALA:HB1	1.14	1.26
2:B:181:VAL:CG2	2:B:209:LYS:CG	2.12	1.26
2:G:846:PHE:CZ	2:G:913:LYS:HD3	1.69	1.26
2:B:178:ASN:HB3	2:B:299:ALA:CB	1.65	1.26
2:G:263:LYS:O	2:G:264:LEU:HD12	1.24	1.26
2:G:697:ILE:O	2:G:705:LYS:HB2	1.28	1.25
2:G:116:HIS:CE1	2:G:122:ILE:HG12	1.69	1.25
2:G:790:GLU:OE1	2:G:889:ALA:HA	1.14	1.24
2:B:195:LEU:HD21	2:B:286:TYR:CD2	1.72	1.24
2:G:115:ARG:NH2	2:G:122:ILE:CD1	2.00	1.24
2:B:179:SER:OG	2:B:310:THR:OG1	1.56	1.23
2:G:886:LEU:CB	2:G:892:ILE:HG13	1.67	1.23
2:G:790:GLU:OE1	2:G:889:ALA:CA	1.86	1.23
2:G:489:GLN:OE1	2:G:635:ARG:NH2	1.72	1.23
2:G:747:LEU:C	2:G:750:VAL:HG23	1.56	1.23
2:B:179:SER:CA	2:B:310:THR:HG21	1.69	1.22
2:G:886:LEU:HB3	2:G:892:ILE:CG1	1.69	1.22
2:G:672:ASP:OD2	2:G:703:THR:HG22	1.07	1.21
2:G:781:MET:HG3	2:G:803:ASN:OD1	1.35	1.21
2:G:1000:LYS:NZ	2:G:1064:GLU:OE1	1.71	1.21
2:B:338:LEU:CD1	2:B:386:THR:HG22	1.70	1.21
2:B:178:ASN:CB	2:B:299:ALA:HB2	1.69	1.20
2:B:665:LYS:HA	2:B:669:GLY:CA	1.70	1.20
2:B:672:ASP:OD1	2:B:703:THR:HG22	1.02	1.20
2:B:780:ARG:NH1	2:B:812:TYR:CD2	2.08	1.20
2:B:342:GLN:HG3	2:B:383:MET:CE	1.71	1.20
2:G:115:ARG:HH21	2:G:122:ILE:CD1	1.54	1.20
2:B:207:ASP:HB3	2:B:210:ALA:CB	1.69	1.19
2:G:1270:ILE:HD12	2:G:1294:TYR:CD2	1.77	1.19
2:G:148:LYS:HB2	2:G:429:PHE:CE1	1.76	1.19
2:G:181:VAL:CG1	2:G:300:ILE:CD1	2.20	1.19
2:G:179:SER:CB	2:G:310:THR:OG1	1.91	1.19
2:G:1265:TYR:HA	2:G:1268:GLU:HG3	1.20	1.19
2:B:1146:VAL:HG11	2:B:1194:LEU:CD1	1.73	1.19
2:G:672:ASP:HB2	2:G:704:PHE:CE2	1.77	1.19
2:G:181:VAL:HG13	2:G:300:ILE:CD1	1.72	1.18
2:G:557:ARG:NH1	2:G:599:LYS:NZ	1.91	1.18
2:B:207:ASP:CB	2:B:210:ALA:HB3	1.74	1.18
2:B:297:SER:OG	2:B:301:LEU:HD12	1.42	1.18
2:B:1251:ASP:HA	2:B:1254:GLN:NE2	1.57	1.18
2:G:179:SER:HB3	2:G:310:THR:OG1	1.02	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1123:LYS:HD2	6:G:1504:HOH:O	1.42	1.18
2:G:672:ASP:OD2	2:G:703:THR:CG2	1.91	1.17
2:G:864:ARG:NH2	2:G:869:ASN:O	1.77	1.17
1:E:41:A:P	2:G:340:ARG:NH2	2.18	1.17
2:G:592:GLY:O	2:G:596:ASP:OD1	1.63	1.17
2:G:1314:THR:HG21	2:G:1324:PHE:CB	1.72	1.17
2:B:195:LEU:CD2	2:B:286:TYR:CD2	2.27	1.16
2:B:755:LYS:NZ	2:B:939:MET:O	1.78	1.16
2:B:981:TYR:CD2	2:B:1092:VAL:HG21	1.81	1.16
2:G:718:ASP:CG	2:G:722:GLU:OE1	1.81	1.16
2:B:870:VAL:HG23	2:B:908:LEU:HD21	1.25	1.16
2:G:961:LYS:NZ	2:G:965:ASP:OD2	1.77	1.16
2:G:1264:HIS:ND1	2:G:1268:GLU:OE2	1.79	1.16
2:B:981:TYR:HE2	2:B:1092:VAL:CG2	1.49	1.15
2:B:1062:LEU:O	2:B:1076:LYS:HG3	1.46	1.15
2:G:672:ASP:HB2	2:G:704:PHE:HE2	1.07	1.15
2:G:1141:TYR:OH	2:G:1175:GLU:OE2	1.64	1.15
1:E:81:G:N2	2:G:35:LEU:CD1	2.09	1.15
2:B:178:ASN:ND2	2:B:298:ASP:HB2	1.62	1.15
2:B:530:VAL:HG22	2:B:537:PRO:HB3	1.23	1.15
2:G:886:LEU:HB2	2:G:892:ILE:CD1	1.76	1.14
2:G:278:LEU:CD1	2:G:282:ILE:CD1	2.22	1.13
2:B:905:ARG:NH1	3:C:24:DG:OP1	1.78	1.13
2:B:1251:ASP:HA	2:B:1254:GLN:CD	1.69	1.13
2:G:617:GLU:HG3	2:G:664:ARG:HH12	1.01	1.13
2:B:297:SER:OG	2:B:301:LEU:HD11	1.43	1.13
1:E:52:A:OP1	2:G:1123:LYS:HE2	0.98	1.13
2:G:545:LYS:HZ1	2:G:690:ASN:ND2	1.45	1.13
2:B:338:LEU:HD12	2:B:386:THR:HG22	1.22	1.12
2:G:143:VAL:HG13	2:G:421:ALA:HB3	1.13	1.12
2:G:263:LYS:C	2:G:264:LEU:HD12	1.70	1.12
2:G:398:LEU:HG	2:G:399:LEU:HD13	1.27	1.12
2:B:178:ASN:ND2	2:B:298:ASP:CB	2.12	1.12
2:G:179:SER:HB3	2:G:310:THR:CB	1.79	1.12
2:G:887:LEU:HA	2:G:892:ILE:HB	1.29	1.12
2:B:672:ASP:OD1	2:B:703:THR:CG2	1.97	1.11
2:B:926:GLN:HA	2:B:929:LYS:HG3	1.21	1.11
2:G:508:LEU:HD21	2:G:664:ARG:CB	1.79	1.11
2:B:810:LYS:O	2:B:833:LEU:CD1	1.99	1.11
2:G:49:GLY:O	2:G:984:ALA:CB	1.97	1.11
2:G:720:LEU:O	2:G:724:ILE:N	1.81	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:806:LEU:HD22	2:B:811:LEU:HD12	1.32	1.11
2:G:29:SER:HB2	2:G:44:LYS:CE	1.79	1.11
2:G:561:VAL:HG23	2:G:585:ASP:O	0.94	1.11
2:B:107:VAL:HG22	2:B:1131:TYR:OH	1.51	1.11
2:G:705:LYS:HG2	2:G:709:GLN:HE21	1.16	1.11
2:B:1205:GLU:O	2:B:1346:THR:OG1	1.69	1.10
2:G:1357:GLU:OE1	2:G:1359:ARG:NH1	1.82	1.10
2:B:181:VAL:CG2	2:B:209:LYS:HG3	1.79	1.10
2:B:179:SER:HB3	2:B:310:THR:CB	1.71	1.10
2:G:106:LEU:O	2:G:111:LYS:HE3	1.49	1.10
2:G:195:LEU:HD21	2:G:286:TYR:CE2	1.80	1.10
2:B:704:PHE:O	2:B:708:ILE:HG12	1.51	1.10
2:G:212:LEU:O	2:G:221:ARG:NH1	1.83	1.10
2:B:378:PRO:HG2	2:B:379:ILE:HD12	1.15	1.09
2:B:195:LEU:CD2	2:B:286:TYR:CE2	2.36	1.09
2:G:278:LEU:CG	2:G:282:ILE:HD11	1.81	1.09
2:B:914:ALA:HB1	2:B:1035:LYS:HD3	1.29	1.09
2:G:672:ASP:CG	2:G:703:THR:HG22	1.72	1.09
2:G:1258:PHE:CE1	2:G:1262:HIS:ND1	2.20	1.09
2:G:1258:PHE:HE1	2:G:1262:HIS:ND1	1.49	1.09
2:G:226:ILE:HA	2:G:229:LEU:CD1	1.83	1.08
2:G:1264:HIS:CE1	2:G:1268:GLU:OE2	2.06	1.08
2:B:870:VAL:HG22	2:B:908:LEU:HD21	1.34	1.08
2:B:1146:VAL:CG1	2:B:1194:LEU:HD12	1.84	1.08
2:B:557:ARG:NH2	2:B:599:LYS:NZ	2.00	1.08
2:B:1270:ILE:HD13	2:B:1294:TYR:CD2	1.80	1.08
2:B:14:ASN:OD1	2:B:55:SER:OG	1.71	1.08
2:G:179:SER:CA	2:G:310:THR:CG2	2.31	1.08
2:G:1314:THR:HG21	2:G:1324:PHE:HB3	1.12	1.08
2:B:278:LEU:HD11	2:B:282:ILE:HD11	1.28	1.07
2:B:551:LEU:O	2:B:555:THR:OG1	1.71	1.07
2:G:1145:VAL:HG21	2:G:1187:TYR:CE1	1.89	1.07
2:G:1312:LEU:HD21	2:G:1326:TYR:HD1	1.12	1.07
2:B:58:THR:HG22	2:B:731:PRO:HG3	1.30	1.07
2:B:181:VAL:CG1	2:B:300:ILE:HD13	1.60	1.07
1:E:41:A:OP1	2:G:340:ARG:CZ	2.03	1.07
2:G:137:HIS:CD2	2:G:322:ILE:CD1	2.37	1.07
2:B:1326:TYR:CE2	2:B:1327:PHE:CE2	2.41	1.07
2:G:707:ASP:OD1	2:G:710:LYS:NZ	1.88	1.07
2:G:887:LEU:N	2:G:892:ILE:CD1	2.18	1.07
2:B:1270:ILE:HD12	2:B:1294:TYR:CD2	1.77	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:180:ASP:HB3	2:G:184:LEU:HG	1.32	1.07
2:G:273:ASP:OD1	2:G:277:ASN:ND2	1.88	1.07
2:G:673:LYS:H	2:G:703:THR:HG21	1.06	1.06
2:G:886:LEU:CB	2:G:892:ILE:CG1	2.27	1.06
2:B:665:LYS:HA	2:B:669:GLY:HA3	1.08	1.06
2:G:525:THR:HG22	2:G:690:ASN:HB3	1.33	1.06
2:B:273:ASP:O	2:B:277:ASN:N	1.88	1.06
2:B:335:LEU:O	2:B:339:VAL:HG23	1.53	1.06
1:E:52:A:H5''	2:G:1123:LYS:HD3	1.31	1.06
2:G:29:SER:HB2	2:G:44:LYS:HE2	1.35	1.06
2:G:508:LEU:CD2	2:G:664:ARG:HB2	1.86	1.06
2:G:747:LEU:O	2:G:750:VAL:CG2	2.04	1.06
2:G:965:ASP:OD1	2:G:968:LYS:NZ	1.88	1.06
2:G:403:ARG:NH2	6:G:1501:HOH:O	1.88	1.06
2:G:545:LYS:NZ	2:G:690:ASN:ND2	2.04	1.06
1:A:63:U:O2'	2:B:62:THR:HG23	1.54	1.06
2:B:1062:LEU:HA	2:B:1076:LYS:HD2	1.36	1.06
2:G:25:TYR:HE2	2:G:1074:TRP:CE3	1.73	1.06
2:G:121:ASN:OD1	2:G:124:ASP:N	1.88	1.06
2:G:195:LEU:HD23	2:G:286:TYR:HE2	0.91	1.06
2:G:756:PRO:O	2:G:953:VAL:HG22	1.52	1.06
2:B:278:LEU:CD1	2:B:282:ILE:HD11	1.86	1.05
2:B:870:VAL:HG23	2:B:908:LEU:CD2	1.76	1.05
2:G:870:VAL:CG2	2:G:908:LEU:HD22	1.81	1.05
2:B:121:ASN:HD21	2:B:124:ASP:HB2	1.15	1.05
2:B:665:LYS:O	2:B:669:GLY:CA	2.04	1.05
2:B:1270:ILE:HD11	2:B:1294:TYR:CE2	1.87	1.05
2:G:1270:ILE:HD12	2:G:1294:TYR:CE2	1.90	1.05
2:B:1292:SER:OG	2:B:1296:LYS:NZ	1.88	1.05
2:G:788:ILE:HG13	2:G:796:LEU:HD21	1.34	1.05
2:B:215:ARG:NE	2:B:215:ARG:O	1.88	1.05
2:B:393:LEU:HD12	2:B:398:LEU:HD12	1.07	1.05
2:B:832:ARG:NH1	2:B:835:ASP:OD2	1.88	1.05
1:E:41:A:OP1	2:G:340:ARG:NH2	1.88	1.05
2:G:25:TYR:HE2	2:G:1074:TRP:CZ3	1.67	1.05
2:G:252:PHE:HE1	2:G:278:LEU:HD21	1.21	1.05
2:G:672:ASP:HA	2:G:703:THR:HG23	1.37	1.05
1:A:19:A:H4'	2:B:407:ASN:O	1.57	1.04
2:B:665:LYS:C	2:B:669:GLY:HA3	1.77	1.04
2:G:380:LEU:HD22	2:G:386:THR:HG23	1.30	1.04
2:G:886:LEU:CB	2:G:892:ILE:CD1	2.35	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:137:HIS:CG	2:G:322:ILE:HD11	1.93	1.04
2:G:886:LEU:HB2	2:G:892:ILE:HD11	1.07	1.04
2:B:70:ARG:NH2	2:B:462:PHE:HD2	1.56	1.04
2:B:339:VAL:HA	2:B:383:MET:HE1	1.39	1.04
2:B:596:ASP:OD2	2:B:656:TYR:OH	1.75	1.04
2:B:1239:ALA:HB1	2:B:1306:ALA:HB1	1.40	1.04
2:B:317:LEU:O	2:B:320:SER:OG	1.76	1.04
2:B:530:VAL:HG22	2:B:537:PRO:CB	1.86	1.04
2:G:380:LEU:CD2	2:G:386:THR:CG2	2.35	1.03
2:G:557:ARG:HH12	2:G:599:LYS:HZ3	1.05	1.03
2:B:846:PHE:O	2:B:916:PHE:HB3	1.57	1.03
2:G:25:TYR:CD2	2:G:1074:TRP:HZ3	1.76	1.03
2:G:279:LEU:HA	2:G:282:ILE:HD13	1.40	1.03
2:G:297:SER:O	2:G:301:LEU:HG	1.55	1.03
2:B:635:ARG:NH1	6:B:1501:HOH:O	1.88	1.02
2:B:672:ASP:HA	2:B:703:THR:CG2	1.89	1.02
2:B:704:PHE:O	2:B:708:ILE:CG1	2.05	1.02
2:B:178:ASN:HB3	2:B:299:ALA:HB2	1.03	1.02
2:B:342:GLN:HG3	2:B:383:MET:HE3	1.41	1.02
2:B:668:ASN:OD1	2:B:678:THR:OG1	1.74	1.02
2:G:342:GLN:HE22	2:G:383:MET:CA	1.71	1.02
1:E:57:A:H5'	2:G:457:ARG:NH2	1.74	1.02
2:G:179:SER:CB	2:G:310:THR:HG1	1.69	1.02
2:G:416:LEU:HD13	2:G:444:LEU:HD22	1.41	1.02
1:A:59:U:OP1	2:B:467:ARG:NH2	1.93	1.02
2:G:103:GLU:O	2:G:106:LEU:HD12	1.60	1.02
2:G:903:ALA:HA	2:G:906:GLY:HA3	1.40	1.01
2:G:106:LEU:HD12	2:G:106:LEU:H	1.21	1.01
2:B:275:LEU:HD12	2:B:279:LEU:HB2	1.40	1.01
2:B:530:VAL:HG21	2:B:537:PRO:HB3	1.42	1.01
2:G:1297:HIS:O	2:G:1305:GLN:NE2	1.92	1.01
2:B:342:GLN:HG3	2:B:383:MET:HE2	1.40	1.01
2:B:179:SER:HB2	2:B:310:THR:HG23	1.43	1.01
2:B:1143:VAL:CG1	2:B:1195:ILE:CG2	2.38	1.01
2:B:340:ARG:O	2:B:344:PRO:HG3	1.61	1.00
2:G:114:GLU:OE2	2:G:115:ARG:N	1.93	1.00
2:G:557:ARG:NH1	2:G:599:LYS:HZ2	1.52	1.00
2:G:1312:LEU:HD21	2:G:1326:TYR:CD1	1.94	1.00
2:G:137:HIS:CD2	2:G:322:ILE:HD12	1.94	1.00
2:G:226:ILE:CA	2:G:229:LEU:HD12	1.92	1.00
2:B:114:GLU:OE2	2:B:120:GLY:O	1.77	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:378:PRO:HG2	2:B:379:ILE:CD1	1.91	1.00
2:B:641:HIS:CD2	2:B:642:LEU:HG	1.95	1.00
2:G:332:LEU:CD2	2:G:359:TYR:CZ	2.43	1.00
2:B:393:LEU:CD1	2:B:398:LEU:HD12	1.91	1.00
2:G:823:TYR:C	2:G:879:MET:HE3	1.77	1.00
2:G:103:GLU:O	2:G:106:LEU:CD1	2.10	1.00
2:B:181:VAL:HG21	2:B:209:LYS:HG2	1.43	0.99
2:G:530:VAL:CG1	2:G:537:PRO:CB	2.12	0.99
2:B:696:LEU:CD1	2:B:702:LEU:CD1	2.40	0.99
2:B:1326:TYR:CE2	2:B:1327:PHE:HE2	1.76	0.99
2:B:376:ILE:HD12	2:B:376:ILE:H	1.27	0.99
2:G:181:VAL:HG13	2:G:300:ILE:HD11	1.02	0.99
2:G:258:LEU:HD11	2:G:281:GLN:CD	1.81	0.99
1:E:52:A:H5''	2:G:1123:LYS:CD	1.91	0.99
2:G:207:ASP:HB2	2:G:210:ALA:HB3	1.42	0.99
2:B:424:ARG:HB3	2:B:424:ARG:HH11	1.25	0.99
2:G:332:LEU:HD21	2:G:359:TYR:CE1	1.94	0.99
2:B:1305:GLN:HA	2:B:1327:PHE:CZ	1.97	0.99
2:G:545:LYS:HZ1	2:G:690:ASN:HD21	1.02	0.99
2:B:393:LEU:HD12	2:B:398:LEU:CD1	1.93	0.99
2:G:530:VAL:HG23	2:G:579:GLU:HB3	1.41	0.99
2:B:195:LEU:HD23	2:B:286:TYR:CE2	1.97	0.98
3:C:23:DC:H2''	3:C:24:DG:H5'	1.44	0.98
2:B:181:VAL:HG12	2:B:300:ILE:CD1	1.94	0.98
2:B:780:ARG:NH1	2:B:812:TYR:HD2	1.53	0.98
2:G:181:VAL:HG11	2:G:300:ILE:CD1	1.93	0.98
2:G:978:ILE:HD12	2:G:1228:LEU:HD23	1.46	0.98
2:B:1062:LEU:CD2	2:B:1063:ILE:HG13	1.93	0.98
2:G:116:HIS:NE2	2:G:122:ILE:CG1	2.25	0.98
2:G:705:LYS:HG2	2:G:709:GLN:NE2	1.77	0.98
2:B:277:ASN:HD22	2:B:653:ARG:HD3	1.27	0.98
2:B:1305:GLN:HA	2:B:1327:PHE:HZ	1.26	0.98
2:B:704:PHE:O	2:B:708:ILE:CD1	2.12	0.98
2:G:870:VAL:HG23	2:G:908:LEU:CD2	1.63	0.98
2:B:945:GLU:N	2:B:945:GLU:OE1	1.94	0.98
2:B:343:LEU:HD21	2:B:346:LYS:HB2	1.44	0.98
2:B:528:LYS:HB2	2:B:581:SER:OG	1.63	0.98
2:B:181:VAL:HG11	2:B:300:ILE:HD13	1.20	0.98
2:G:143:VAL:HG13	2:G:421:ALA:CB	1.92	0.97
2:G:226:ILE:HA	2:G:229:LEU:HD12	0.99	0.97
2:G:1270:ILE:CD1	2:G:1294:TYR:CD2	2.47	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:70:ARG:NH2	2:B:462:PHE:CD2	2.31	0.97
2:G:886:LEU:CB	2:G:892:ILE:HD11	1.94	0.97
2:B:258:LEU:HD11	6:B:1519:HOH:O	1.64	0.97
2:G:362:TYR:HA	2:G:367:ALA:HB3	1.45	0.97
2:B:181:VAL:CG2	2:B:209:LYS:HG2	1.95	0.97
2:B:681:ASP:O	2:B:684:LYS:O	1.83	0.97
2:G:1207:GLU:HG3	2:G:1208:ASN:H	1.26	0.97
2:B:311:GLU:OE1	2:B:311:GLU:N	1.97	0.97
2:B:372:PHE:O	2:B:376:ILE:HD11	1.65	0.97
2:G:179:SER:H	2:G:310:THR:HG21	1.15	0.97
2:B:207:ASP:HB3	2:B:210:ALA:HB3	0.98	0.97
2:G:541:SER:HB2	2:G:544:GLN:HB2	1.47	0.97
2:B:279:LEU:HD11	2:B:287:ALA:HA	1.47	0.96
2:B:195:LEU:HD21	2:B:286:TYR:CE2	1.99	0.96
2:B:1230:SER:HA	2:B:1233:VAL:HG23	1.45	0.96
1:E:57:A:H5'	2:G:457:ARG:HH22	1.29	0.96
2:B:195:LEU:HD23	2:B:286:TYR:HE2	1.29	0.96
2:B:178:ASN:HB3	2:B:299:ALA:CA	1.95	0.96
2:B:279:LEU:HD11	2:B:287:ALA:CA	1.95	0.96
2:B:1148:LYS:HB3	2:B:1158:LYS:O	1.65	0.96
2:B:1224:ASN:CG	2:B:1280:VAL:HG11	1.85	0.96
3:C:24:DG:H2''	3:C:25:DG:H5'	1.47	0.96
2:B:1143:VAL:HG11	2:B:1195:ILE:CG2	1.95	0.96
2:B:340:ARG:O	2:B:344:PRO:CG	2.14	0.96
2:B:1146:VAL:HG11	2:B:1194:LEU:HD12	0.98	0.96
1:E:91:C:C5	2:G:44:LYS:HG2	2.01	0.96
2:G:45:LYS:HD3	2:G:1093:ASN:OD1	1.66	0.95
2:G:617:GLU:HG3	2:G:664:ARG:NH1	1.78	0.95
2:G:747:LEU:HA	2:G:750:VAL:HG21	0.96	0.95
2:B:359:TYR:HE1	2:B:399:LEU:HD23	1.30	0.95
2:G:332:LEU:HD22	2:G:359:TYR:HE1	0.80	0.95
2:G:755:LYS:HG2	2:G:939:MET:CE	1.96	0.95
2:B:179:SER:HB3	2:B:310:THR:HB	1.47	0.95
2:B:184:LEU:HD12	2:B:296:LEU:HA	1.47	0.95
2:B:696:LEU:HD13	2:B:702:LEU:CD1	1.97	0.95
2:G:148:LYS:HB2	2:G:429:PHE:HE1	1.25	0.95
2:G:541:SER:OG	2:G:544:GLN:OE1	1.85	0.95
2:G:1065:THR:OG1	2:G:1071:GLU:O	1.85	0.95
2:B:279:LEU:HD11	2:B:287:ALA:CB	1.95	0.94
2:B:244:LEU:HG	2:B:266:LEU:CD1	1.96	0.94
2:B:278:LEU:HD11	2:B:282:ILE:CD1	1.96	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:432:PHE:O	2:B:436:ASN:ND2	1.99	0.94
2:G:746:GLU:O	2:G:750:VAL:HG22	1.67	0.94
2:B:248:LEU:HD13	2:B:250:PRO:N	1.83	0.94
2:G:49:GLY:O	2:G:984:ALA:HB1	1.67	0.94
2:G:909:SER:OG	2:G:912:ASP:OD2	1.85	0.94
2:B:849:ASP:HB3	2:B:854:ASN:HD22	1.29	0.94
2:B:1313:PHE:O	2:B:1316:THR:OG1	1.85	0.94
2:G:1314:THR:CG2	2:G:1324:PHE:HB3	1.98	0.94
1:A:32:A:N6	1:A:37:U:O4	2.01	0.94
2:B:806:LEU:CD2	2:B:811:LEU:HD12	1.97	0.94
2:B:1135:ASP:OD1	2:B:1136:SER:OG	1.85	0.94
2:G:49:GLY:O	2:G:984:ALA:HB2	1.63	0.94
2:B:310:THR:OG1	2:B:311:GLU:OE1	1.85	0.94
2:B:557:ARG:NH2	2:B:599:LYS:HZ2	1.63	0.94
2:B:844:GLN:HE21	2:B:848:LYS:HG2	1.32	0.94
2:G:279:LEU:CD1	2:G:287:ALA:CB	2.08	0.94
2:G:618:ASP:OD2	2:G:639:TYR:OH	1.82	0.94
1:A:89:G:N1	2:B:1272:GLN:OE1	2.01	0.94
2:B:1326:TYR:HE2	2:B:1327:PHE:HE2	0.98	0.94
2:G:977:GLU:N	2:G:977:GLU:OE2	2.00	0.94
2:B:275:LEU:O	2:B:279:LEU:N	2.01	0.94
2:B:1270:ILE:HD12	2:B:1294:TYR:HE2	1.25	0.94
2:G:116:HIS:CE1	2:G:122:ILE:CG1	2.51	0.93
2:G:179:SER:HB3	2:G:310:THR:HG1	1.14	0.93
2:B:1326:TYR:HE2	2:B:1327:PHE:CE2	1.80	0.93
2:G:672:ASP:CB	2:G:704:PHE:HE2	1.81	0.93
2:B:181:VAL:HG22	2:B:209:LYS:HG3	1.47	0.93
2:B:1204:PHE:CE2	2:B:1214:LEU:HD12	2.03	0.93
2:G:240:ASN:HD21	2:G:252:PHE:HD2	1.12	0.93
2:G:308:VAL:HG12	2:G:309:ASN:H	1.30	0.93
2:G:121:ASN:HD21	2:G:124:ASP:HB2	1.33	0.93
2:G:672:ASP:HA	2:G:703:THR:CG2	1.99	0.93
2:G:137:HIS:CE1	2:G:322:ILE:HD13	2.04	0.93
2:G:252:PHE:CE1	2:G:278:LEU:HD21	2.02	0.93
2:B:703:THR:OG1	2:B:707:ASP:OD2	1.85	0.93
2:B:981:TYR:CD2	2:B:1092:VAL:CG2	2.45	0.93
2:B:1314:THR:HG21	2:B:1324:PHE:CB	1.98	0.93
2:G:317:LEU:O	2:G:320:SER:OG	1.85	0.93
2:B:641:HIS:HD2	2:B:642:LEU:HG	1.30	0.93
2:G:46:ASN:HD22	2:G:1089:MET:CE	1.82	0.93
2:B:1045:PHE:CZ	2:B:1046:PHE:CE2	2.57	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1273:ILE:O	2:B:1277:SER:OG	1.85	0.92
2:G:195:LEU:CD2	2:G:286:TYR:HE2	1.61	0.92
2:G:432:PHE:O	2:G:436:ASN:ND2	2.00	0.92
2:B:1224:ASN:OD1	2:B:1280:VAL:HG11	1.69	0.92
2:G:824:VAL:N	2:G:879:MET:HE3	1.83	0.92
2:G:258:LEU:HD21	2:G:281:GLN:HE22	1.32	0.92
1:E:91:C:N4	2:G:44:LYS:NZ	2.18	0.92
1:A:57:A:H5'	2:B:457:ARG:NH2	1.83	0.92
2:G:668:ASN:OD1	2:G:678:THR:OG1	1.85	0.92
2:G:1222:LYS:N	2:G:1319:GLY:O	2.01	0.92
1:A:24:U:O2	2:B:105:PHE:CD1	2.23	0.92
2:B:978:ILE:HD13	2:B:1228:LEU:HD23	1.50	0.92
2:B:1105:PHE:CD2	2:B:1169:MET:HG3	2.04	0.92
2:G:823:TYR:CA	2:G:879:MET:CE	2.47	0.92
1:A:63:U:H2'	2:B:62:THR:CG2	2.00	0.92
2:B:369:GLN:CD	2:B:404:THR:HG21	1.91	0.92
2:G:798:GLU:HG2	2:G:799:HIS:CE1	2.05	0.92
2:G:747:LEU:CA	2:G:750:VAL:HG22	1.96	0.91
2:B:305:ILE:HD13	2:B:306:LEU:N	1.84	0.91
3:C:23:DC:C2'	3:C:24:DG:H5'	2.01	0.91
2:G:886:LEU:HB3	2:G:892:ILE:HG13	0.92	0.91
2:G:1135:ASP:OD1	2:G:1136:SER:OG	1.85	0.91
2:B:179:SER:HA	2:B:310:THR:HG21	1.50	0.91
2:B:557:ARG:HH11	2:B:557:ARG:HG3	1.34	0.91
2:G:672:ASP:HB3	2:G:675:SER:HB3	1.53	0.91
2:G:673:LYS:N	2:G:703:THR:HG21	1.84	0.91
2:B:209:LYS:O	2:B:213:SER:CB	2.19	0.91
2:G:400:ARG:HH11	2:G:400:ARG:HG3	1.34	0.91
2:B:1114:ARG:NH1	4:D:9:DA:OP1	2.04	0.91
2:B:1230:SER:HA	2:B:1233:VAL:CG2	2.01	0.91
1:E:41:A:OP2	2:G:340:ARG:NH2	2.03	0.91
2:G:902:LYS:O	2:G:906:GLY:N	2.04	0.91
2:B:1171:ARG:HG2	2:B:1171:ARG:HH11	1.33	0.91
2:G:49:GLY:HA2	2:G:1092:VAL:HG12	1.52	0.91
2:B:70:ARG:HH22	2:B:462:PHE:HB2	1.32	0.91
2:B:691:ARG:NH1	2:B:699:ASP:OD2	2.03	0.91
2:B:978:ILE:HD12	2:B:1233:VAL:HG13	1.52	0.91
2:G:297:SER:HB2	2:G:301:LEU:HD11	1.50	0.90
2:G:410:ILE:HG23	2:G:414:ILE:HD11	1.53	0.90
1:A:63:U:C2'	2:B:62:THR:CG2	2.49	0.90
2:B:178:ASN:CA	2:B:299:ALA:HB2	2.01	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:299:ALA:O	2:B:302:LEU:CD2	2.18	0.90
2:G:887:LEU:H	2:G:892:ILE:HD12	0.87	0.90
2:B:784:ILE:HG22	2:B:788:ILE:HD11	1.50	0.90
2:B:1270:ILE:HD11	2:B:1294:TYR:CZ	2.06	0.90
2:G:136:TYR:CD1	2:G:321:MET:HG3	2.06	0.90
2:B:285:GLN:OE1	2:B:285:GLN:N	2.03	0.90
2:B:1091:GLN:NE2	2:B:1091:GLN:O	2.05	0.90
2:G:132:TYR:HB3	2:G:137:HIS:HB2	1.52	0.90
2:G:137:HIS:NE2	2:G:322:ILE:CD1	2.34	0.90
2:B:1243:GLU:O	2:B:1244:LYS:NZ	2.05	0.90
2:G:148:LYS:CB	2:G:429:PHE:CE1	2.54	0.90
2:G:282:ILE:HG22	2:G:286:TYR:CD1	2.05	0.90
2:B:181:VAL:HG21	2:B:209:LYS:CG	1.93	0.90
2:G:195:LEU:HD21	2:G:286:TYR:HD2	1.09	0.90
2:B:849:ASP:OD1	2:B:851:SER:OG	1.88	0.90
2:G:173:ASP:C	2:G:174:LEU:HD13	1.91	0.90
2:B:926:GLN:CA	2:B:929:LYS:HG3	2.02	0.90
2:B:1260:GLU:HA	2:B:1263:LYS:HB2	1.51	0.90
2:G:345:GLU:OE1	2:G:345:GLU:N	2.04	0.90
2:G:706:GLU:HA	2:G:709:GLN:CD	1.92	0.90
2:B:305:ILE:HD13	2:B:306:LEU:H	1.36	0.90
2:G:148:LYS:HB2	2:G:429:PHE:CD1	2.06	0.90
2:G:342:GLN:OE1	2:G:383:MET:HB3	1.70	0.90
2:B:665:LYS:O	2:B:669:GLY:HA3	1.68	0.89
2:B:977:GLU:HG3	2:B:1310:ILE:CG2	2.02	0.89
2:G:253:LYS:HE3	2:G:261:ASP:CA	2.01	0.89
2:G:791:LEU:HD13	2:G:889:ALA:HB2	1.51	0.89
2:B:1031:LYS:NZ	2:G:1068:GLU:OE2	2.05	0.89
2:G:1109:SER:OG	3:H:9:DC:OP2	1.90	0.89
2:B:209:LYS:O	2:B:213:SER:HB3	1.73	0.89
2:G:137:HIS:CE1	2:G:322:ILE:CD1	2.55	0.89
2:B:107:VAL:HG22	2:B:1131:TYR:CZ	2.08	0.89
2:B:297:SER:HG	2:B:301:LEU:HD11	1.37	0.89
1:E:91:C:N4	2:G:44:LYS:HZ3	1.70	0.89
2:G:273:ASP:O	2:G:277:ASN:ND2	2.04	0.89
2:G:933:GLN:O	2:G:937:SER:OG	1.91	0.89
2:G:1277:SER:HB3	2:G:1287:LEU:HD22	1.51	0.89
2:B:181:VAL:HG21	2:B:209:LYS:HA	1.52	0.89
2:B:195:LEU:CD2	2:B:286:TYR:HD2	1.81	0.89
2:G:148:LYS:HG3	2:G:429:PHE:CD1	2.07	0.89
2:B:178:ASN:ND2	2:B:298:ASP:HB3	1.87	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:531:THR:HG22	2:B:534:MET:SD	2.13	0.89
2:G:416:LEU:CD1	2:G:444:LEU:HD22	2.01	0.89
2:B:569:PHE:O	2:B:574:CYS:N	2.04	0.89
2:G:180:ASP:O	2:G:184:LEU:N	2.06	0.89
2:G:194:GLN:OE1	2:G:194:GLN:N	2.06	0.89
2:G:207:ASP:HB2	2:G:210:ALA:CB	2.02	0.89
2:G:380:LEU:CB	2:G:386:THR:HG21	2.03	0.89
1:E:25:U:O2'	2:G:111:LYS:NZ	2.05	0.89
2:G:544:GLN:NE2	2:G:573:GLU:OE1	2.06	0.89
2:G:887:LEU:CA	2:G:892:ILE:HB	2.02	0.89
2:B:143:VAL:HG11	2:B:315:ALA:HB2	1.55	0.89
2:G:1145:VAL:HG21	2:G:1187:TYR:HE1	1.35	0.89
2:G:1251:ASP:O	2:G:1254:GLN:NE2	2.06	0.89
2:G:195:LEU:CD2	2:G:286:TYR:HD2	1.70	0.88
2:B:1062:LEU:HD23	2:B:1063:ILE:H	1.36	0.88
2:G:747:LEU:CA	2:G:750:VAL:HG23	1.87	0.88
2:B:530:VAL:CG2	2:B:537:PRO:CB	2.46	0.88
2:G:530:VAL:HG11	2:G:537:PRO:HB3	1.53	0.88
2:G:781:MET:CG	2:G:803:ASN:OD1	2.19	0.88
1:A:63:U:C2'	2:B:62:THR:HG23	2.02	0.88
2:B:634:GLU:HA	2:B:637:LYS:HE2	1.55	0.88
2:G:179:SER:HB3	2:G:310:THR:CG2	2.03	0.88
2:G:258:LEU:HG	2:G:281:GLN:NE2	1.88	0.88
2:G:383:MET:O	2:G:386:THR:OG1	1.91	0.88
2:G:747:LEU:HA	2:G:750:VAL:HG22	1.48	0.88
2:B:78:ARG:NH1	2:B:162:ILE:O	2.06	0.88
2:B:1221:GLN:NE2	4:D:6:DG:OP2	2.05	0.88
2:G:1290:VAL:HG11	2:G:1312:LEU:HD13	1.56	0.88
2:B:755:LYS:HD3	2:B:939:MET:CE	2.02	0.88
2:G:66:ARG:NH1	2:G:462:PHE:CZ	2.42	0.88
2:G:1277:SER:CB	2:G:1287:LEU:HD22	2.04	0.88
2:G:206:VAL:HG13	2:G:211:ILE:HD11	1.56	0.88
2:B:372:PHE:O	2:B:376:ILE:CD1	2.22	0.88
2:G:148:LYS:CG	2:G:429:PHE:HD1	1.86	0.88
2:G:258:LEU:CD2	2:G:281:GLN:HE22	1.85	0.87
2:G:334:LEU:O	2:G:338:LEU:N	2.06	0.87
2:B:378:PRO:O	2:B:382:LYS:HG2	1.74	0.87
1:E:81:G:H21	2:G:35:LEU:HD11	1.35	0.87
2:G:884:ARG:HG3	2:G:884:ARG:HH11	1.35	0.87
2:G:1204:PHE:CE2	2:G:1342:VAL:HG11	2.09	0.87
2:G:334:LEU:C	2:G:338:LEU:HD12	1.94	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:747:LEU:C	2:G:750:VAL:CG2	2.26	0.87
2:G:870:VAL:HG23	2:G:908:LEU:HD23	0.88	0.87
2:B:914:ALA:HB1	2:B:1035:LYS:CD	2.03	0.87
2:G:148:LYS:CB	2:G:429:PHE:CD1	2.57	0.87
2:B:244:LEU:HD12	2:B:250:PRO:CD	2.04	0.87
2:G:369:GLN:OE1	2:G:400:ARG:CD	2.22	0.87
2:G:692:ASN:CB	2:G:695:GLN:HG3	2.04	0.87
2:G:1251:ASP:HA	2:G:1254:GLN:OE1	1.75	0.87
1:A:24:U:C2	2:B:105:PHE:CE1	2.63	0.87
2:B:909:SER:N	2:B:912:ASP:OD2	2.08	0.87
2:G:234:LYS:HD3	2:G:235:ASN:ND2	1.89	0.87
2:B:70:ARG:O	2:B:74:ARG:HD2	1.75	0.87
2:B:248:LEU:HD13	2:B:249:THR:N	1.89	0.87
2:G:278:LEU:HD12	2:G:282:ILE:HD11	0.88	0.87
2:B:195:LEU:HD22	2:B:289:LEU:CD1	2.05	0.86
2:B:600:ILE:O	2:B:647:VAL:HG13	1.74	0.86
2:B:905:ARG:HG2	2:B:905:ARG:HH11	1.38	0.86
2:G:332:LEU:HD21	2:G:359:TYR:CZ	2.08	0.86
2:G:349:GLU:HG3	2:G:356:LYS:HD2	1.57	0.86
1:A:24:U:O2	2:B:105:PHE:HD1	1.56	0.86
2:B:1326:TYR:CD2	2:B:1327:PHE:CD2	2.63	0.86
2:G:573:GLU:HB3	2:G:575:PHE:CE1	2.10	0.86
2:G:617:GLU:CG	2:G:664:ARG:HH12	1.88	0.86
2:G:824:VAL:N	2:G:879:MET:CE	2.36	0.86
2:G:197:GLU:OE2	6:G:1502:HOH:O	1.93	0.86
2:G:342:GLN:NE2	2:G:383:MET:HB2	1.90	0.86
2:G:499:ASP:CB	2:G:502:LEU:O	2.23	0.86
2:G:846:PHE:HZ	2:G:913:LYS:HD3	1.35	0.86
2:B:279:LEU:CD1	2:B:287:ALA:HB2	2.06	0.86
2:G:139:ARG:O	2:G:143:VAL:HG23	1.75	0.86
2:B:544:GLN:O	2:B:548:ILE:HG13	1.74	0.86
2:B:1062:LEU:HD23	2:B:1063:ILE:N	1.90	0.86
2:G:252:PHE:HE1	2:G:278:LEU:CD2	1.88	0.86
2:G:263:LYS:C	2:G:264:LEU:CD1	2.44	0.86
2:B:1105:PHE:CG	2:B:1169:MET:HG3	2.11	0.86
2:G:882:TYR:O	2:G:886:LEU:HD12	1.74	0.86
1:E:52:A:C5'	2:G:1123:LYS:HD3	2.06	0.86
2:G:263:LYS:O	2:G:264:LEU:CD1	2.19	0.86
2:B:557:ARG:HH22	2:B:599:LYS:HZ3	0.90	0.86
2:B:931:VAL:O	2:B:935:LEU:HD13	1.76	0.86
2:B:181:VAL:CG2	2:B:209:LYS:CB	2.53	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:258:LEU:CG	2:G:281:GLN:NE2	2.38	0.85
1:E:46:A:H5'	2:G:135:ILE:HG21	1.58	0.85
2:B:1357:GLU:OE1	2:B:1359:ARG:NH1	2.09	0.85
2:G:1321:PRO:HB2	2:G:1333:ARG:HD2	1.58	0.85
2:B:121:ASN:HD21	2:B:124:ASP:CB	1.89	0.85
2:B:810:LYS:O	2:B:833:LEU:HD13	1.76	0.85
2:G:495:MET:HG3	3:H:17:DA:H1'	1.57	0.85
2:B:563:GLN:O	2:B:567:ASP:HB2	1.77	0.85
2:B:1305:GLN:CA	2:B:1327:PHE:HZ	1.89	0.85
2:G:275:LEU:HD12	2:G:275:LEU:O	1.76	0.85
2:G:970:PHE:CE1	2:G:1080:PHE:HZ	1.93	0.85
2:B:27:VAL:CG1	2:B:1086:VAL:HG13	2.06	0.85
2:B:1290:VAL:HG22	2:B:1331:ILE:HD13	1.57	0.85
1:E:91:C:H41	2:G:44:LYS:NZ	1.75	0.85
2:G:258:LEU:CD2	2:G:281:GLN:NE2	2.40	0.85
2:B:181:VAL:HG23	2:B:209:LYS:CB	2.06	0.85
2:B:220:ARG:HH11	2:B:220:ARG:HG3	1.40	0.85
2:B:981:TYR:CE2	2:B:1092:VAL:CB	2.59	0.85
2:G:258:LEU:HD21	2:G:281:GLN:NE2	1.91	0.85
2:G:869:ASN:OD1	2:G:908:LEU:HB3	1.76	0.85
3:H:1:DC:H42	4:J:12:DG:H1	1.25	0.85
2:B:1204:PHE:HE2	2:B:1214:LEU:HD12	1.37	0.85
2:G:294:LYS:O	2:G:297:SER:OG	1.94	0.85
2:G:603:ASP:OD1	2:G:606:PHE:N	2.08	0.85
2:B:1045:PHE:CZ	2:B:1046:PHE:HE2	1.95	0.84
1:E:83:C:OP1	2:G:30:LYS:NZ	2.09	0.84
2:G:121:ASN:ND2	2:G:124:ASP:HB2	1.92	0.84
2:G:148:LYS:CG	2:G:429:PHE:CD1	2.60	0.84
2:B:178:ASN:CB	2:B:299:ALA:CA	2.54	0.84
2:B:229:LEU:HD13	2:B:232:GLU:H	1.42	0.84
2:B:704:PHE:O	2:B:708:ILE:HD11	1.77	0.84
2:B:970:PHE:HE1	2:B:1080:PHE:HZ	1.18	0.84
2:B:981:TYR:HE2	2:B:1092:VAL:HG23	0.70	0.84
2:G:380:LEU:HD22	2:G:386:THR:HG22	1.57	0.84
2:B:679:ILE:HD11	2:B:704:PHE:CD1	2.11	0.84
2:B:424:ARG:HH11	2:B:424:ARG:CB	1.91	0.84
2:B:699:ASP:OD1	2:B:701:SER:OG	1.93	0.84
2:G:116:HIS:HE2	2:G:122:ILE:HG12	1.39	0.84
2:G:180:ASP:CB	2:G:184:LEU:HG	2.06	0.84
2:G:215:ARG:O	2:G:215:ARG:NE	2.11	0.84
2:G:178:ASN:O	2:G:181:VAL:HG23	1.78	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:179:SER:CB	2:G:310:THR:CG2	2.56	0.84
2:B:181:VAL:HG12	2:B:300:ILE:HD11	1.52	0.84
2:B:181:VAL:HG23	2:B:209:LYS:CG	2.07	0.84
2:B:248:LEU:CD1	2:B:250:PRO:N	2.40	0.84
2:B:671:ARG:HG3	2:B:678:THR:HG22	1.58	0.84
1:E:52:A:P	2:G:1123:LYS:HE2	2.17	0.84
2:G:252:PHE:CZ	2:G:264:LEU:HD22	2.12	0.84
2:B:672:ASP:HA	2:B:703:THR:HG21	1.59	0.83
2:G:29:SER:CB	2:G:44:LYS:HE2	2.07	0.83
2:G:881:ASN:O	2:G:885:GLN:HG3	1.78	0.83
2:G:1039:TYR:O	2:G:1042:ILE:HG22	1.77	0.83
2:B:1314:THR:HG21	2:B:1324:PHE:HB3	1.58	0.83
2:G:137:HIS:CG	2:G:322:ILE:CD1	2.60	0.83
2:G:492:ILE:HG22	2:G:496:THR:CG2	2.07	0.83
2:G:967:ARG:HG2	2:G:972:PHE:O	1.77	0.83
2:B:436:ASN:O	2:B:440:ILE:HD12	1.78	0.83
2:G:870:VAL:HG12	2:G:871:PRO:HD2	1.58	0.83
1:A:17:G:OP2	2:B:74:ARG:NH1	2.11	0.83
2:B:926:GLN:HA	2:B:929:LYS:CG	2.06	0.83
2:B:1203:LEU:CD1	2:B:1213:MET:HG3	2.08	0.83
2:G:136:TYR:O	2:G:318:SER:OG	1.95	0.83
3:C:19:DA:H8	3:C:19:DA:H5''	1.42	0.83
2:G:988:TYR:O	2:G:992:VAL:HG23	1.77	0.83
2:G:219:SER:O	2:G:222:LEU:HG	1.79	0.83
2:B:870:VAL:HG12	2:B:871:PRO:CD	2.08	0.83
2:G:118:ILE:HB	2:G:119:PHE:CD2	2.14	0.83
2:G:279:LEU:HD11	2:G:287:ALA:CA	2.08	0.83
2:G:317:LEU:O	2:G:317:LEU:HD12	1.79	0.83
2:G:332:LEU:CD2	2:G:359:TYR:HE1	1.64	0.83
2:B:178:ASN:HD22	2:B:298:ASP:CB	1.85	0.83
2:B:806:LEU:HD22	2:B:811:LEU:CD1	2.07	0.83
4:D:6:DG:H2''	4:D:7:DG:H5'	1.61	0.83
1:E:14:A:OP2	2:G:63:ARG:HD3	1.78	0.83
2:B:317:LEU:O	2:B:317:LEU:HD12	1.76	0.83
2:B:569:PHE:HD1	2:B:575:PHE:CD2	1.96	0.83
2:B:679:ILE:HG12	2:B:704:PHE:CE1	2.14	0.83
2:G:148:LYS:HG3	2:G:429:PHE:HD1	1.41	0.83
2:G:380:LEU:CA	2:G:386:THR:HG21	2.09	0.82
2:G:508:LEU:HD21	2:G:664:ARG:HB2	0.92	0.82
2:B:569:PHE:HD1	2:B:575:PHE:HD2	1.26	0.82
2:B:1314:THR:CG2	2:B:1324:PHE:CG	2.62	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:81:G:C2	2:G:35:LEU:HD11	2.12	0.82
2:G:1326:TYR:CE2	2:G:1327:PHE:HD2	1.95	0.82
2:G:398:LEU:O	2:G:399:LEU:HD12	1.79	0.82
2:G:573:GLU:O	2:G:574:CYS:SG	2.37	0.82
2:G:790:GLU:OE1	2:G:889:ALA:N	2.13	0.82
2:G:870:VAL:HG12	2:G:871:PRO:CD	2.09	0.82
2:G:1212:ARG:CZ	2:G:1336:TYR:HE2	1.92	0.82
2:B:359:TYR:CE1	2:B:399:LEU:HD23	2.12	0.82
2:G:332:LEU:CD2	2:G:359:TYR:OH	2.28	0.82
2:G:1047:LYS:HE2	2:G:1049:GLU:O	1.80	0.82
2:G:115:ARG:HH21	2:G:122:ILE:HD11	0.68	0.82
2:G:531:THR:OG1	2:G:534:MET:HG2	1.80	0.82
2:B:99:HIS:O	2:B:103:GLU:HG2	1.80	0.82
2:G:46:ASN:HD22	2:G:1089:MET:HE1	1.44	0.82
2:G:976:ARG:HE	2:G:976:ARG:H	1.23	0.82
2:B:1230:SER:CA	2:B:1233:VAL:HG23	2.09	0.82
1:E:45:U:H2'	1:E:46:A:H8	1.45	0.82
2:G:1204:PHE:CG	2:G:1342:VAL:HG13	2.15	0.82
2:B:107:VAL:CG2	2:B:1131:TYR:OH	2.28	0.82
2:B:395:ARG:O	2:B:396:GLU:HB2	1.79	0.81
2:G:1251:ASP:HA	2:G:1254:GLN:CD	2.00	0.81
2:B:121:ASN:ND2	2:B:124:ASP:HB2	1.93	0.81
2:B:513:LEU:HD11	2:B:616:LEU:CB	2.10	0.81
2:B:1062:LEU:O	2:B:1076:LYS:CG	2.27	0.81
2:B:1143:VAL:CG1	2:B:1195:ILE:HG23	2.09	0.81
2:B:1244:LYS:N	2:B:1244:LYS:HD3	1.94	0.81
2:G:903:ALA:C	2:G:906:GLY:H	1.83	0.81
2:B:733:ILE:O	2:B:737:ILE:HG13	1.80	0.81
2:B:1302:ILE:O	2:B:1306:ALA:CB	2.27	0.81
2:G:806:LEU:HD23	2:G:812:TYR:HA	1.63	0.81
2:B:691:ARG:HB3	2:B:696:LEU:HD22	1.60	0.81
2:B:1107:LYS:NZ	3:C:7:DC:O2	2.13	0.81
2:B:277:ASN:ND2	2:B:653:ARG:HD3	1.94	0.81
2:G:592:GLY:C	2:G:596:ASP:OD1	2.19	0.81
2:B:101:LEU:O	2:B:104:SER:OG	1.97	0.81
2:B:1062:LEU:HD21	2:B:1063:ILE:HG13	1.61	0.81
2:B:1127:ASP:HB3	2:B:1130:LYS:HB2	1.62	0.81
2:G:1256:GLN:HE22	2:G:1260:GLU:HG2	1.46	0.81
2:B:70:ARG:HH21	2:B:462:PHE:HD2	1.26	0.81
2:B:955:VAL:O	2:B:1009:VAL:HG13	1.80	0.81
2:G:218:LYS:H	2:G:218:LYS:HD2	1.44	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1063:ILE:HG23	2:G:1072:ILE:CG2	2.11	0.81
2:G:1204:PHE:CZ	2:G:1342:VAL:HG11	2.14	0.81
2:G:499:ASP:HB3	2:G:502:LEU:H	1.45	0.81
2:G:525:THR:CG2	2:G:690:ASN:HB3	2.10	0.81
2:B:181:VAL:HG11	2:B:300:ILE:HD11	0.83	0.81
2:B:696:LEU:HD12	2:B:702:LEU:HD13	1.60	0.81
2:B:961:LYS:NZ	2:B:965:ASP:OD2	2.10	0.81
2:G:278:LEU:HD12	2:G:278:LEU:O	1.79	0.81
2:G:565:LYS:HG2	2:G:578:VAL:CG1	2.11	0.81
2:B:181:VAL:HG13	2:B:300:ILE:HD13	1.61	0.81
2:B:207:ASP:O	2:B:211:ILE:N	2.14	0.81
2:B:241:LEU:HD21	2:B:290:PHE:HE2	1.45	0.81
2:B:745:ASP:OD2	2:B:938:ARG:NH2	2.14	0.81
2:G:286:TYR:O	2:G:289:LEU:N	2.12	0.81
2:G:541:SER:CB	2:G:544:GLN:HB2	2.11	0.81
2:B:665:LYS:O	2:B:669:GLY:N	2.13	0.80
2:G:179:SER:CB	2:G:310:THR:HG21	2.10	0.80
2:G:492:ILE:HG22	2:G:496:THR:HG23	1.62	0.80
2:G:598:LEU:O	2:G:598:LEU:HD23	1.81	0.80
1:E:78:A:H2'	1:E:79:G:H8	1.47	0.80
2:G:1315:LEU:O	2:G:1315:LEU:HD12	1.80	0.80
2:B:297:SER:C	2:B:301:LEU:HD12	2.01	0.80
2:B:398:LEU:O	2:B:399:LEU:HD12	1.80	0.80
2:B:1251:ASP:HA	2:B:1254:GLN:OE1	1.81	0.80
2:G:278:LEU:CD1	2:G:282:ILE:CG1	2.60	0.80
2:G:297:SER:HB2	2:G:301:LEU:CD1	2.11	0.80
2:G:335:LEU:HA	2:G:338:LEU:HB2	1.62	0.80
2:G:978:ILE:CD1	2:G:1228:LEU:HD23	2.11	0.80
2:B:1086:VAL:O	2:B:1089:MET:HE2	1.81	0.80
2:G:548:ILE:HG23	2:G:552:LEU:HD12	1.62	0.80
1:A:62:G:C8	2:B:69:ARG:NH1	2.49	0.80
2:G:143:VAL:CG1	2:G:421:ALA:HB3	2.05	0.80
2:G:1078:ARG:HB3	2:G:1078:ARG:HH11	1.47	0.80
2:B:249:THR:HG22	2:B:265:GLN:NE2	1.96	0.80
2:B:1312:LEU:HD11	2:B:1326:TYR:CD1	2.16	0.80
2:G:139:ARG:NH1	2:G:418:GLU:OE1	2.15	0.80
2:G:1314:THR:CG2	2:G:1324:PHE:CB	2.58	0.80
1:A:19:A:O2'	2:B:405:PHE:O	2.00	0.80
2:B:165:ARG:HH21	2:B:168:PHE:HZ	1.29	0.80
2:B:1236:LEU:HD22	2:B:1310:ILE:HG13	1.64	0.80
2:B:1302:ILE:O	2:B:1306:ALA:N	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:41:A:OP1	2:G:340:ARG:NE	2.14	0.80
2:G:103:GLU:OE2	2:G:111:LYS:HG2	1.81	0.80
2:G:108:GLU:OE2	2:G:115:ARG:HD3	1.81	0.80
2:G:321:MET:HE1	2:G:402:GLN:O	1.82	0.80
2:G:870:VAL:HG22	2:G:908:LEU:HD21	1.60	0.80
2:G:956:ILE:HD11	2:G:998:ILE:HD13	1.62	0.80
2:G:970:PHE:CE1	2:G:1080:PHE:CZ	2.70	0.80
2:G:1255:LYS:O	2:G:1259:VAL:HG23	1.81	0.80
2:B:89:GLU:O	2:B:93:VAL:HG23	1.81	0.80
2:B:178:ASN:CB	2:B:299:ALA:CB	2.41	0.80
2:G:874:GLU:HA	2:G:877:LYS:NZ	1.96	0.80
1:A:59:U:OP2	2:B:472:THR:HG23	1.81	0.80
2:G:701:SER:OG	2:G:702:LEU:HD23	1.82	0.80
2:B:755:LYS:HD3	2:B:939:MET:HE1	1.63	0.79
2:B:788:ILE:O	2:B:792:GLY:N	2.15	0.79
2:B:1041:ASN:HB3	2:B:1044:ASN:OD1	1.82	0.79
2:B:244:LEU:HG	2:B:266:LEU:HD12	1.62	0.79
2:G:666:LEU:O	2:G:666:LEU:HD23	1.82	0.79
2:G:818:ASN:O	2:G:818:ASN:ND2	2.15	0.79
2:G:886:LEU:C	2:G:892:ILE:HD12	2.02	0.79
2:B:970:PHE:HE1	2:B:1080:PHE:CZ	2.00	0.79
1:E:57:A:OP1	2:G:457:ARG:NH2	2.14	0.79
2:G:1213:MET:HE3	2:G:1221:GLN:HE21	1.47	0.79
2:G:1321:PRO:HB3	2:G:1333:ARG:HB2	1.64	0.79
2:B:212:LEU:HD21	2:B:225:LEU:HD12	1.65	0.79
2:B:518:PHE:CD1	2:B:667:ILE:HG23	2.17	0.79
2:B:842:VAL:HG12	2:B:854:ASN:OD1	1.82	0.79
2:B:1207:GLU:OE2	2:B:1210:ARG:HD3	1.82	0.79
2:G:106:LEU:O	2:G:111:LYS:CE	2.29	0.79
2:B:557:ARG:NH2	2:B:599:LYS:HZ3	1.68	0.79
2:G:1290:VAL:CG1	2:G:1312:LEU:HD13	2.12	0.79
2:B:874:GLU:O	2:B:877:LYS:HG3	1.82	0.79
1:A:24:U:H1'	2:B:105:PHE:CE1	2.18	0.79
2:G:490:SER:O	2:G:494:ARG:HG2	1.83	0.79
2:G:827:GLU:O	2:G:828:LEU:HD23	1.82	0.79
2:B:100:ARG:NE	2:B:117:PRO:O	2.16	0.79
2:B:1143:VAL:HG13	2:B:1195:ILE:HG22	1.65	0.79
2:G:1143:VAL:HG12	2:G:1144:LEU:O	1.83	0.79
2:B:672:ASP:CG	2:B:703:THR:HG22	2.02	0.79
2:B:1179:ILE:O	2:B:1183:GLU:HG3	1.82	0.79
2:G:1239:ALA:O	2:G:1303:ARG:HA	1.82	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1045:PHE:CE1	2:B:1046:PHE:CE2	2.71	0.79
2:G:398:LEU:HG	2:G:399:LEU:CD1	2.12	0.79
1:A:56:U:O2	1:A:58:G:N2	2.15	0.78
2:B:8:GLY:O	2:B:987:ALA:HB1	1.83	0.78
2:B:343:LEU:CD2	2:B:346:LYS:HB2	2.12	0.78
2:G:324:ARG:NH2	2:G:400:ARG:HH12	1.81	0.78
2:G:1075:ASP:O	2:G:1079:ASP:HB2	1.83	0.78
2:B:637:LYS:HA	2:B:640:ALA:HB2	1.63	0.78
2:G:1321:PRO:HG2	2:G:1335:ARG:HA	1.65	0.78
2:B:508:LEU:HD12	2:B:663:SER:C	2.04	0.78
1:E:67:C:OP1	2:G:742:LYS:NZ	2.13	0.78
2:G:256:PHE:CE2	2:G:282:ILE:HG23	2.17	0.78
2:G:332:LEU:HD23	2:G:359:TYR:OH	1.82	0.78
2:G:489:GLN:O	2:G:493:GLU:HG3	1.84	0.78
2:B:114:GLU:HG2	2:B:120:GLY:HA2	1.63	0.78
2:G:672:ASP:CG	2:G:703:THR:CG2	2.45	0.78
2:G:750:VAL:HG11	2:G:1355:LEU:HD12	1.62	0.78
2:G:1270:ILE:CD1	2:G:1294:TYR:CG	2.66	0.78
2:G:1290:VAL:CG1	2:G:1312:LEU:CD1	2.62	0.78
2:B:279:LEU:CD1	2:B:287:ALA:CB	2.61	0.78
2:B:512:SER:OG	2:B:617:GLU:OE1	2.02	0.78
2:B:1303:ARG:O	2:B:1307:GLU:HG3	1.82	0.78
2:G:1312:LEU:CD2	2:G:1326:TYR:HD1	1.94	0.78
2:B:870:VAL:HG12	2:B:871:PRO:HD2	1.66	0.78
2:B:1242:TYR:HD1	2:B:1242:TYR:H	1.32	0.78
2:B:249:THR:CG2	2:B:265:GLN:NE2	2.47	0.78
2:B:279:LEU:HD11	2:B:287:ALA:HB2	1.62	0.78
2:B:219:SER:O	2:B:222:LEU:HG	1.84	0.78
2:G:201:ILE:CD1	2:G:238:PHE:CD1	2.66	0.78
2:G:691:ARG:NH1	2:G:702:LEU:HD21	1.99	0.78
2:G:253:LYS:HE3	2:G:261:ASP:N	1.98	0.78
2:G:351:PHE:O	2:G:360:ALA:HB2	1.84	0.78
2:G:1298:ARG:HA	2:G:1305:GLN:HE22	1.50	0.77
2:B:45:LYS:HE3	2:B:1093:ASN:OD1	1.83	0.77
2:B:1326:TYR:HD2	2:B:1327:PHE:HD2	1.31	0.77
2:G:634:GLU:O	2:G:637:LYS:HG3	1.85	0.77
2:G:839:ASP:OD2	2:G:864:ARG:HD2	1.84	0.77
1:A:41:A:H2'	1:A:42:A:H5''	1.65	0.77
2:B:812:TYR:CE1	2:B:816:LEU:HD21	2.19	0.77
2:B:1274:SER:O	2:B:1278:LYS:HG3	1.84	0.77
2:G:1296:LYS:C	2:G:1297:HIS:HD1	1.88	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:359:TYR:CE2	2:G:363:ILE:HD11	2.20	0.77
2:G:846:PHE:CZ	2:G:913:LYS:CD	2.62	0.77
2:G:747:LEU:CA	2:G:750:VAL:HG21	1.92	0.77
2:B:1287:LEU:HD12	2:B:1287:LEU:O	1.84	0.77
2:G:1348:ILE:CD1	2:G:1359:ARG:NH2	2.47	0.77
1:A:15:U:H2'	1:A:16:U:H6	1.50	0.77
2:B:78:ARG:NE	2:B:165:ARG:HH11	1.83	0.77
2:B:338:LEU:CD1	2:B:386:THR:CG2	2.59	0.77
1:A:24:U:C2	2:B:105:PHE:HE1	2.01	0.77
2:G:78:ARG:NH1	2:G:162:ILE:O	2.17	0.77
2:G:508:LEU:HD11	2:G:664:ARG:HA	1.67	0.77
2:G:672:ASP:OD1	2:G:702:LEU:HA	1.85	0.77
2:G:720:LEU:HA	2:G:723:HIS:HB3	1.67	0.77
2:B:1082:THR:O	2:B:1086:VAL:HG23	1.85	0.77
2:B:1243:GLU:C	2:B:1244:LYS:HD3	2.04	0.77
2:G:100:ARG:NE	2:G:117:PRO:O	2.17	0.77
1:E:20:G:OP2	2:G:403:ARG:NH1	2.16	0.76
2:G:278:LEU:HD11	2:G:282:ILE:CG1	2.14	0.76
2:G:324:ARG:CZ	2:G:400:ARG:NH1	2.48	0.76
2:G:380:LEU:HA	2:G:386:THR:HG21	1.66	0.76
2:G:561:VAL:HG23	2:G:585:ASP:C	2.02	0.76
2:G:970:PHE:HE1	2:G:1080:PHE:HZ	1.32	0.76
2:B:908:LEU:HD23	2:B:908:LEU:H	1.50	0.76
1:E:32:A:N6	1:E:37:U:O4	2.18	0.76
2:G:545:LYS:NZ	2:G:690:ASN:HD22	1.81	0.76
2:G:870:VAL:HG22	2:G:908:LEU:HD23	1.04	0.76
2:B:369:GLN:CD	2:B:404:THR:CG2	2.51	0.76
2:B:398:LEU:HD22	2:B:399:LEU:HD13	1.67	0.76
2:B:483:ASP:OD1	2:B:486:ALA:HB3	1.86	0.76
2:B:1303:ARG:O	2:B:1307:GLU:CG	2.34	0.76
2:G:29:SER:CB	2:G:44:LYS:CE	2.62	0.76
2:B:970:PHE:CE1	2:B:1080:PHE:CZ	2.73	0.76
2:B:45:LYS:CE	2:B:1093:ASN:OD1	2.33	0.76
2:B:1256:GLN:NE2	2:B:1260:GLU:OE2	2.17	0.76
2:B:1290:VAL:HG22	2:B:1331:ILE:CD1	2.15	0.76
2:G:174:LEU:HD21	2:G:413:GLN:HB2	1.67	0.76
2:G:790:GLU:CD	2:G:889:ALA:HA	2.04	0.76
2:B:1143:VAL:CG1	2:B:1195:ILE:HG22	2.13	0.76
2:B:1206:LEU:O	2:B:1207:GLU:HG3	1.84	0.76
2:G:181:VAL:HG22	2:G:299:ALA:HB1	1.67	0.76
2:G:672:ASP:CB	2:G:704:PHE:CE2	2.60	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:706:GLU:HA	2:G:709:GLN:OE1	1.84	0.76
2:B:784:ILE:CG2	2:B:788:ILE:HD11	2.16	0.76
2:G:1145:VAL:HG21	2:G:1187:TYR:CD1	2.21	0.76
2:B:847:LEU:HD21	2:B:849:ASP:HB2	1.66	0.76
2:B:1206:LEU:C	2:B:1207:GLU:HG3	2.06	0.76
2:B:114:GLU:HG2	2:B:120:GLY:CA	2.15	0.75
2:B:621:LEU:O	2:B:625:LEU:HB2	1.85	0.75
2:B:98:PHE:O	2:B:102:GLU:HG3	1.85	0.75
2:B:818:ASN:ND2	2:B:818:ASN:O	2.19	0.75
2:B:842:VAL:CG1	2:B:854:ASN:HD21	1.99	0.75
2:G:321:MET:CE	2:G:402:GLN:O	2.34	0.75
2:G:378:PRO:HG2	2:G:379:ILE:HD12	1.68	0.75
2:G:1114:ARG:HD2	2:G:1116:SER:HB3	1.68	0.75
2:B:100:ARG:NH2	2:B:117:PRO:O	2.19	0.75
2:B:839:ASP:OD1	2:B:864:ARG:NH1	2.18	0.75
2:B:1171:ARG:HG2	2:B:1171:ARG:NH1	2.01	0.75
2:G:174:LEU:HD21	2:G:413:GLN:CB	2.16	0.75
2:G:244:LEU:O	2:G:246:LEU:O	2.04	0.75
2:G:530:VAL:CG2	2:G:579:GLU:HB3	2.17	0.75
2:B:618:ASP:OD2	2:B:639:TYR:OH	2.03	0.75
2:B:914:ALA:CB	2:B:1035:LYS:HD3	2.13	0.75
2:B:963:VAL:HG21	2:B:990:ASN:ND2	2.02	0.75
3:C:19:DA:H5''	3:C:19:DA:C8	2.22	0.75
2:G:705:LYS:O	2:G:709:GLN:HG3	1.86	0.75
2:B:341:GLN:HG3	2:B:342:GLN:HG2	1.69	0.75
2:B:518:PHE:HD1	2:B:667:ILE:HG23	1.51	0.75
2:G:313:THR:OG1	2:G:315:ALA:O	2.04	0.75
1:A:24:U:C2	2:B:105:PHE:CD1	2.75	0.75
2:B:299:ALA:O	2:B:302:LEU:HD22	1.84	0.75
2:B:970:PHE:CE1	2:B:1080:PHE:HZ	2.04	0.75
2:B:1031:LYS:NZ	2:G:1068:GLU:CD	2.39	0.75
1:E:52:A:H5''	2:G:1123:LYS:CE	2.17	0.75
2:G:872:SER:OG	2:G:875:VAL:HG23	1.87	0.75
2:B:106:LEU:O	2:B:111:LYS:HE3	1.84	0.75
2:B:278:LEU:CD1	2:B:282:ILE:CD1	2.59	0.75
2:B:696:LEU:HD12	2:B:702:LEU:CD1	2.15	0.75
2:B:967:ARG:NH1	2:B:974:LYS:HB2	2.01	0.75
2:B:1224:ASN:CG	2:B:1280:VAL:CG1	2.55	0.75
2:G:563:GLN:O	2:G:567:ASP:HB2	1.87	0.75
2:B:234:LYS:HD3	2:B:235:ASN:ND2	2.02	0.75
2:B:908:LEU:HD23	2:B:908:LEU:N	2.02	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:165:ARG:O	2:G:415:HIS:ND1	2.19	0.75
2:G:279:LEU:CA	2:G:282:ILE:HD13	2.15	0.75
2:G:398:LEU:CG	2:G:399:LEU:HD13	2.12	0.75
2:G:515:TYR:HE1	2:G:662:LEU:HB2	1.51	0.75
2:G:1326:TYR:CE2	2:G:1327:PHE:CD2	2.74	0.75
1:A:45:U:H5'	2:B:402:GLN:HG2	1.68	0.74
2:G:400:ARG:HG3	2:G:400:ARG:NH1	1.98	0.74
2:G:989:LEU:O	2:G:993:VAL:HG23	1.87	0.74
2:G:1290:VAL:HG11	2:G:1312:LEU:CD1	2.17	0.74
2:B:1105:PHE:CD2	2:B:1169:MET:CG	2.70	0.74
2:G:297:SER:O	2:G:301:LEU:CG	2.35	0.74
2:G:380:LEU:CD2	2:G:386:THR:HG21	2.17	0.74
2:B:244:LEU:CD1	2:B:250:PRO:CD	2.66	0.74
2:B:679:ILE:HD11	2:B:704:PHE:CE1	2.22	0.74
2:B:1304:GLU:HB3	2:B:1327:PHE:HE1	1.52	0.74
2:G:297:SER:C	2:G:301:LEU:HG	2.08	0.74
2:G:315:ALA:HB1	2:G:418:GLU:OE2	1.86	0.74
1:E:91:C:C6	2:G:44:LYS:HG2	2.22	0.74
2:G:515:TYR:CE1	2:G:662:LEU:HB2	2.22	0.74
2:G:1326:TYR:CD2	2:G:1327:PHE:HD2	2.05	0.74
2:G:798:GLU:HG2	2:G:799:HIS:ND1	2.02	0.74
2:G:874:GLU:HG2	2:G:877:LYS:NZ	2.02	0.74
2:B:780:ARG:HD2	2:B:812:TYR:CE2	2.23	0.74
2:B:78:ARG:NE	2:B:165:ARG:NH1	2.35	0.74
2:B:297:SER:O	2:B:301:LEU:HD12	1.88	0.74
1:E:56:U:O2	1:E:58:G:N2	2.20	0.74
2:G:252:PHE:HZ	2:G:264:LEU:HD22	1.51	0.74
2:G:1078:ARG:HH11	2:G:1078:ARG:CB	1.99	0.74
2:G:1143:VAL:HG11	2:G:1195:ILE:HG23	1.68	0.74
2:G:1311:HIS:O	2:G:1314:THR:HG22	1.88	0.74
2:B:275:LEU:CD1	2:B:279:LEU:HB2	2.15	0.74
2:G:416:LEU:HD12	2:G:444:LEU:HD13	1.69	0.74
2:B:981:TYR:CE2	2:B:1092:VAL:HB	2.22	0.74
2:G:121:ASN:HD21	2:G:124:ASP:CB	2.00	0.74
2:G:561:VAL:HG21	2:G:585:ASP:O	1.82	0.74
2:B:870:VAL:HG21	2:B:908:LEU:HD21	0.75	0.74
2:G:369:GLN:OE1	2:G:400:ARG:HD3	1.86	0.74
2:B:114:GLU:CG	2:B:120:GLY:HA2	2.17	0.73
2:B:244:LEU:HG	2:B:266:LEU:HD11	1.70	0.73
2:B:1221:GLN:NE2	2:B:1320:ALA:HB2	2.03	0.73
2:B:961:LYS:HG2	2:B:965:ASP:OD2	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:672:ASP:CA	2:G:703:THR:CG2	2.66	0.73
2:B:278:LEU:HD12	2:B:278:LEU:O	1.88	0.73
2:G:128:TYR:HD2	2:G:129:HIS:HD2	1.35	0.73
2:G:206:VAL:CG1	2:G:211:ILE:HD11	2.18	0.73
2:G:282:ILE:HG22	2:G:286:TYR:HD1	1.51	0.73
2:G:1256:GLN:HE22	2:G:1260:GLU:CG	2.00	0.73
1:A:63:U:H2'	2:B:62:THR:HG22	1.69	0.73
2:B:340:ARG:C	2:B:344:PRO:HG3	2.08	0.73
2:B:635:ARG:NH1	2:B:635:ARG:HG3	2.04	0.73
2:B:940:ASN:OD1	2:B:951:ARG:HA	1.88	0.73
2:B:1251:ASP:CA	2:B:1254:GLN:NE2	2.39	0.73
2:G:238:PHE:CE2	2:G:242:ILE:HD11	2.24	0.73
2:G:495:MET:HG3	3:H:17:DA:C1'	2.18	0.73
2:G:706:GLU:O	2:G:709:GLN:HB2	1.87	0.73
2:G:1145:VAL:CG2	2:G:1187:TYR:HE1	2.00	0.73
2:B:216:LEU:HD23	2:B:216:LEU:N	2.03	0.73
2:B:244:LEU:HD12	2:B:250:PRO:HD3	1.71	0.73
2:B:981:TYR:HD2	2:B:1092:VAL:HG21	1.48	0.73
1:E:86:C:N4	1:E:92:G:O6	2.19	0.73
2:G:234:LYS:O	2:G:234:LYS:HE3	1.88	0.73
2:G:253:LYS:HE3	2:G:261:ASP:HA	1.69	0.73
2:G:499:ASP:HB3	2:G:502:LEU:O	1.88	0.73
1:E:41:A:P	2:G:340:ARG:HH21	2.09	0.73
2:G:174:LEU:HD22	2:G:174:LEU:H	1.51	0.73
2:G:222:LEU:HD12	2:G:223:GLU:N	2.03	0.73
2:B:181:VAL:HG23	2:B:209:LYS:HB2	1.68	0.73
2:B:273:ASP:OD1	2:B:274:ASP:N	2.22	0.73
2:G:817:GLN:O	2:G:882:TYR:OH	2.06	0.73
2:B:22:THR:HG22	2:B:23:ASP:H	1.54	0.73
2:B:27:VAL:HG12	2:B:1086:VAL:HG13	1.70	0.73
2:B:407:ASN:ND2	2:B:407:ASN:H	1.86	0.73
2:G:631:MET:O	2:G:634:GLU:N	2.21	0.73
2:G:1265:TYR:HA	2:G:1268:GLU:CG	2.11	0.73
2:B:874:GLU:HA	2:B:877:LYS:HD2	1.68	0.73
2:B:1031:LYS:HZ1	2:G:1068:GLU:CD	1.91	0.73
2:B:1127:ASP:O	2:B:1131:TYR:N	2.22	0.73
2:B:1246:LYS:HB2	2:B:1246:LYS:NZ	2.04	0.73
2:G:625:LEU:HG	2:G:626:PHE:CE1	2.24	0.73
2:B:181:VAL:HG22	2:B:209:LYS:CG	2.05	0.73
2:B:209:LYS:O	2:B:213:SER:OG	2.07	0.73
2:B:281:GLN:HB3	6:B:1519:HOH:O	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:302:LEU:HD23	2:B:303:SER:N	2.04	0.73
2:B:340:ARG:NH2	2:B:347:TYR:CE1	2.57	0.73
2:B:842:VAL:HG12	2:B:854:ASN:ND2	2.03	0.73
2:B:1308:ASN:O	2:B:1311:HIS:HB2	1.89	0.73
2:G:47:LEU:N	2:G:47:LEU:HD23	2.02	0.73
2:G:874:GLU:HG2	2:G:877:LYS:HZ1	1.54	0.73
2:B:369:GLN:HE22	2:B:404:THR:CG2	1.73	0.72
2:B:1314:THR:HG21	2:B:1324:PHE:CG	2.22	0.72
1:E:15:U:H2'	1:E:16:U:H6	1.54	0.72
2:G:621:LEU:HD21	2:G:625:LEU:HD22	1.71	0.72
2:G:720:LEU:HA	2:G:723:HIS:CB	2.19	0.72
2:G:790:GLU:OE1	2:G:888:ASN:C	2.27	0.72
2:G:25:TYR:CD2	2:G:1074:TRP:CZ3	2.62	0.72
2:G:830:ILE:N	2:G:830:ILE:HD12	2.04	0.72
1:A:45:U:H5''	2:B:402:GLN:HB2	1.72	0.72
2:B:70:ARG:NH1	2:B:454:PRO:HG3	2.04	0.72
2:B:1272:GLN:C	2:B:1272:GLN:HE21	1.93	0.72
2:B:34:VAL:HG21	2:B:43:ILE:HG13	1.71	0.72
2:B:284:ASP:N	2:B:285:GLN:OE1	2.22	0.72
2:G:278:LEU:HG	2:G:282:ILE:HD11	1.71	0.72
2:G:1256:GLN:NE2	2:G:1256:GLN:O	2.22	0.72
2:G:1265:TYR:CA	2:G:1268:GLU:HG3	2.12	0.72
2:B:178:ASN:HD22	2:B:298:ASP:HB3	1.46	0.72
2:B:178:ASN:HD21	2:B:298:ASP:CB	2.00	0.72
2:B:449:PRO:HD2	2:B:452:VAL:HG21	1.71	0.72
2:B:513:LEU:HD11	2:B:616:LEU:HB3	1.71	0.72
2:B:844:GLN:NE2	2:B:848:LYS:HG2	2.04	0.72
2:B:1135:ASP:OD1	2:B:1136:SER:N	2.22	0.72
2:G:702:LEU:HD23	2:G:702:LEU:N	2.04	0.72
2:G:887:LEU:H	2:G:892:ILE:CD1	1.84	0.72
2:B:241:LEU:HD21	2:B:290:PHE:CE2	2.24	0.72
2:G:977:GLU:HG3	2:G:1310:ILE:HG23	1.71	0.72
2:B:379:ILE:HD12	2:B:379:ILE:H	1.55	0.72
2:G:116:HIS:CD2	2:G:122:ILE:HA	2.23	0.72
2:G:116:HIS:CD2	2:G:122:ILE:HG12	2.23	0.72
2:G:386:THR:O	2:G:390:LEU:HG	1.88	0.72
2:B:841:ILE:HD13	2:B:900:LEU:HD23	1.71	0.72
2:B:1224:ASN:OD1	2:B:1280:VAL:CG1	2.37	0.72
2:G:25:TYR:CE2	2:G:1074:TRP:CE3	2.61	0.72
2:G:297:SER:O	2:G:301:LEU:N	2.21	0.72
2:G:1113:LYS:HB2	2:G:1129:LYS:O	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:178:ASN:HB3	2:B:299:ALA:N	2.04	0.72
1:E:97:U:OP2	1:E:98:C:N4	2.22	0.72
2:G:308:VAL:HG12	2:G:309:ASN:N	2.04	0.72
2:G:510:LYS:HB3	2:G:511:HIS:HD2	1.55	0.72
2:B:27:VAL:HG11	2:B:1086:VAL:HG13	1.70	0.71
2:B:58:THR:HG22	2:B:731:PRO:CG	2.17	0.71
2:B:424:ARG:HB3	2:B:424:ARG:NH1	2.04	0.71
2:B:830:ILE:N	2:B:830:ILE:HD12	2.04	0.71
2:B:842:VAL:HG12	2:B:854:ASN:CG	2.10	0.71
2:G:559:VAL:O	2:G:587:PHE:HD1	1.71	0.71
1:A:24:U:N1	2:B:105:PHE:HE1	1.88	0.71
2:G:841:ILE:HD13	2:G:900:LEU:CD2	2.20	0.71
2:G:1045:PHE:H	2:G:1045:PHE:HD1	1.37	0.71
2:B:248:LEU:HD22	2:B:249:THR:H	1.55	0.71
2:B:338:LEU:HD12	2:B:386:THR:CG2	2.12	0.71
2:B:373:TYR:HA	2:B:376:ILE:HD11	1.71	0.71
2:B:842:VAL:CG1	2:B:854:ASN:ND2	2.54	0.71
2:B:1203:LEU:HD12	2:B:1213:MET:HG3	1.71	0.71
1:E:8:G:H2'	1:E:9:U:C6	2.25	0.71
1:E:15:U:OP1	2:G:70:ARG:NH2	2.22	0.71
2:G:278:LEU:CG	2:G:282:ILE:CD1	2.63	0.71
2:G:874:GLU:HA	2:G:877:LYS:HZ2	1.54	0.71
2:B:489:GLN:HG3	2:B:625:LEU:HD21	1.73	0.71
2:B:810:LYS:C	2:B:833:LEU:HD12	2.11	0.71
2:G:106:LEU:HD12	2:G:106:LEU:N	2.02	0.71
1:A:61:C:OP1	2:B:70:ARG:NH2	2.24	0.71
2:B:181:VAL:HG21	2:B:209:LYS:CA	2.20	0.71
2:B:1252:ASN:HD22	2:B:1252:ASN:N	1.89	0.71
2:G:673:LYS:H	2:G:703:THR:CG2	1.95	0.71
2:G:1060:ARG:HD3	2:G:1064:GLU:OE2	1.90	0.71
2:B:1243:GLU:C	2:B:1244:LYS:HZ2	1.94	0.71
2:G:393:LEU:HD23	2:G:393:LEU:O	1.90	0.71
2:B:1302:ILE:O	2:B:1306:ALA:HB3	1.91	0.71
2:B:340:ARG:O	2:B:344:PRO:HG2	1.91	0.71
1:E:91:C:H41	2:G:44:LYS:HZ3	1.36	0.71
2:G:143:VAL:CG1	2:G:421:ALA:CB	2.67	0.71
2:G:720:LEU:O	2:G:723:HIS:N	2.24	0.71
2:B:148:LYS:HE3	2:B:429:PHE:HB3	1.72	0.71
2:B:379:ILE:HD12	2:B:379:ILE:N	2.05	0.71
2:G:174:LEU:HD13	2:G:174:LEU:N	2.03	0.71
2:G:201:ILE:HD12	2:G:238:PHE:CD1	2.26	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:625:LEU:HG	2:G:626:PHE:HE1	1.56	0.71
2:B:557:ARG:HH22	2:B:599:LYS:HZ2	1.24	0.70
2:B:841:ILE:HD13	2:B:900:LEU:CD2	2.20	0.70
2:G:299:ALA:O	2:G:303:SER:HB3	1.89	0.70
2:B:780:ARG:HH12	2:B:812:TYR:HD2	1.37	0.70
2:B:870:VAL:HG23	2:B:908:LEU:CG	2.20	0.70
2:G:137:HIS:ND1	2:G:322:ILE:HD11	2.06	0.70
2:G:884:ARG:HG3	2:G:884:ARG:NH1	2.03	0.70
2:G:601:ILE:HD12	2:G:603:ASP:H	1.57	0.70
2:G:1063:ILE:CG2	2:G:1072:ILE:HG23	2.21	0.70
2:G:692:ASN:HB3	2:G:695:GLN:HG3	1.73	0.70
2:B:178:ASN:HB2	2:B:299:ALA:HA	1.72	0.70
2:B:557:ARG:HH12	2:B:599:LYS:NZ	1.88	0.70
2:B:746:GLU:O	2:B:750:VAL:HG23	1.90	0.70
2:G:349:GLU:CG	2:G:356:LYS:HD2	2.21	0.70
2:B:75:ARG:NH2	6:B:1502:HOH:O	2.23	0.70
2:B:265:GLN:HB3	2:B:268:LYS:HB2	1.73	0.70
2:B:317:LEU:HB2	2:B:414:ILE:HD12	1.73	0.70
2:B:350:ILE:HG22	2:B:351:PHE:CD2	2.26	0.70
2:B:1143:VAL:HG13	2:B:1195:ILE:CG2	2.17	0.70
2:G:46:ASN:ND2	2:G:1089:MET:HE2	2.07	0.70
2:G:672:ASP:CA	2:G:703:THR:HG23	2.19	0.70
2:G:967:ARG:CG	2:G:972:PHE:O	2.39	0.70
2:G:1321:PRO:CB	2:G:1333:ARG:HB2	2.22	0.70
2:B:870:VAL:HG21	2:B:908:LEU:HD23	1.68	0.70
2:B:967:ARG:HA	2:B:972:PHE:HB2	1.73	0.70
2:B:1344:ASP:OD2	2:B:1344:ASP:N	2.25	0.70
2:G:747:LEU:HD23	2:G:750:VAL:HG21	1.73	0.70
2:G:1258:PHE:CE1	2:G:1262:HIS:CE1	2.80	0.70
2:B:1219:GLU:HG3	2:B:1336:TYR:O	1.91	0.70
2:G:179:SER:HA	2:G:310:THR:CG2	2.21	0.70
2:G:256:PHE:CE2	2:G:282:ILE:CG2	2.75	0.70
2:G:279:LEU:HA	2:G:282:ILE:CD1	2.21	0.70
2:G:893:THR:HG23	2:G:896:LYS:H	1.57	0.70
4:J:11:DT:H2'	4:J:12:DG:H5'	1.73	0.70
2:G:115:ARG:NH2	2:G:122:ILE:HD13	2.01	0.70
2:G:158:LEU:HD21	2:G:422:ILE:HG21	1.73	0.70
2:G:823:TYR:O	2:G:879:MET:CE	2.17	0.70
2:B:167:HIS:ND1	2:B:411:PRO:HA	2.07	0.70
2:B:338:LEU:O	2:B:383:MET:CE	2.40	0.70
2:G:171:GLU:OE2	2:G:269:ASP:HB3	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:178:ASN:HD21	2:B:298:ASP:HB2	1.51	0.69
2:B:679:ILE:CD1	2:B:704:PHE:CE1	2.75	0.69
1:E:24:U:H2'	1:E:25:U:H6	1.57	0.69
2:G:672:ASP:N	2:G:704:PHE:CE2	2.59	0.69
2:G:869:ASN:OD1	2:G:908:LEU:CB	2.39	0.69
2:B:208:ALA:O	2:B:212:LEU:HB2	1.92	0.69
2:B:696:LEU:HD13	2:B:702:LEU:HD12	1.74	0.69
2:G:755:LYS:HD2	2:G:952:GLU:OE1	1.93	0.69
2:B:1239:ALA:HB1	2:B:1306:ALA:CB	2.21	0.69
1:E:81:G:H21	2:G:35:LEU:CD1	1.95	0.69
2:G:240:ASN:OD1	2:G:241:LEU:N	2.25	0.69
2:G:560:THR:OG1	2:G:563:GLN:HB2	1.92	0.69
2:B:1204:PHE:CE1	2:B:1347:LEU:HG	2.28	0.69
1:E:49:A:N3	2:G:1122:ARG:NH1	2.37	0.69
2:G:291:LEU:HD23	2:G:291:LEU:O	1.92	0.69
2:B:940:ASN:HD22	2:B:940:ASN:N	1.90	0.69
2:B:1326:TYR:CD2	2:B:1327:PHE:HD2	2.06	0.69
2:G:278:LEU:HG	2:G:282:ILE:CD1	2.22	0.69
2:G:307:ARG:CZ	2:G:307:ARG:HB2	2.23	0.69
2:G:902:LYS:O	2:G:906:GLY:CA	2.40	0.69
2:B:195:LEU:HD22	2:B:289:LEU:HD13	1.73	0.69
2:B:107:VAL:HG23	2:B:110:ASP:HB2	1.75	0.69
2:B:275:LEU:HD12	2:B:275:LEU:O	1.92	0.69
2:B:339:VAL:CA	2:B:383:MET:HE1	2.20	0.69
2:B:343:LEU:O	2:B:343:LEU:HD23	1.93	0.69
2:B:442:LYS:HE2	2:B:476:TRP:HA	1.75	0.69
2:B:679:ILE:CG1	2:B:704:PHE:CE1	2.75	0.69
2:B:699:ASP:HB3	2:B:702:LEU:HB2	1.75	0.69
2:G:282:ILE:HG22	2:G:286:TYR:CE1	2.27	0.69
2:G:672:ASP:HB2	2:G:704:PHE:CD2	2.26	0.69
2:G:755:LYS:HG2	2:G:939:MET:HE2	1.73	0.69
2:G:886:LEU:C	2:G:892:ILE:CG1	2.60	0.69
2:B:1272:GLN:O	2:B:1272:GLN:NE2	2.26	0.69
2:G:1047:LYS:CE	2:G:1049:GLU:O	2.41	0.69
2:B:70:ARG:HH22	2:B:462:PHE:CB	2.04	0.69
1:E:15:U:H2'	1:E:16:U:C6	2.27	0.69
2:G:208:ALA:CA	2:G:212:LEU:HD23	2.22	0.69
2:B:806:LEU:CD2	2:B:811:LEU:CD1	2.69	0.68
2:B:1315:LEU:HD12	2:B:1315:LEU:O	1.92	0.68
2:G:94:ASP:OD2	2:G:100:ARG:NH2	2.25	0.68
2:G:178:ASN:C	2:G:310:THR:HG21	2.05	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:202:ASN:OD1	2:G:204:SER:N	2.26	0.68
2:G:380:LEU:CB	2:G:386:THR:CG2	2.72	0.68
2:G:809:GLU:O	2:G:813:LEU:HB2	1.92	0.68
2:G:1042:ILE:HD12	2:G:1042:ILE:O	1.93	0.68
1:A:35:A:H2'	1:A:36:A:C8	2.28	0.68
2:B:106:LEU:HD23	2:B:110:ASP:HB3	1.75	0.68
2:B:178:ASN:C	2:B:299:ALA:CB	2.61	0.68
2:B:376:ILE:HD12	2:B:376:ILE:N	2.03	0.68
2:B:696:LEU:HD13	2:B:702:LEU:HD11	1.75	0.68
2:G:691:ARG:HH12	2:G:702:LEU:HD21	1.55	0.68
2:G:864:ARG:NH1	2:G:866:LYS:O	2.25	0.68
2:G:882:TYR:CE2	2:G:886:LEU:HD11	2.28	0.68
2:B:178:ASN:O	2:B:299:ALA:HB2	1.87	0.68
2:B:444:LEU:O	2:B:444:LEU:HD23	1.92	0.68
2:G:342:GLN:HE22	2:G:383:MET:C	1.96	0.68
2:G:631:MET:HA	2:G:634:GLU:HB2	1.76	0.68
2:G:1078:ARG:HB3	2:G:1078:ARG:NH1	2.07	0.68
2:B:433:LEU:O	2:B:437:ARG:N	2.27	0.68
2:B:1243:GLU:HA	2:B:1243:GLU:OE1	1.92	0.68
2:G:49:GLY:C	2:G:984:ALA:CB	2.61	0.68
2:G:629:ARG:HH21	2:G:655:ARG:NH2	1.92	0.68
2:G:1001:TYR:CE2	2:G:1042:ILE:CD1	2.76	0.68
2:G:208:ALA:HA	2:G:212:LEU:HD23	1.76	0.68
2:B:1045:PHE:H	2:B:1045:PHE:HD1	1.41	0.68
2:B:1326:TYR:CE2	2:B:1327:PHE:CD2	2.81	0.68
1:E:24:U:H2'	1:E:25:U:C6	2.27	0.68
1:E:61:C:OP1	2:G:70:ARG:NH1	2.26	0.68
2:G:1001:TYR:CE2	2:G:1042:ILE:HD11	2.28	0.68
2:B:373:TYR:CE1	2:B:398:LEU:HB3	2.28	0.68
2:B:500:LYS:O	2:B:712:GLN:NE2	2.27	0.68
2:B:1236:LEU:HD22	2:B:1310:ILE:CG1	2.23	0.68
2:B:181:VAL:HG23	2:B:209:LYS:HG3	1.67	0.68
2:B:557:ARG:CZ	2:B:599:LYS:NZ	2.55	0.68
2:B:696:LEU:CD1	2:B:702:LEU:HD11	2.24	0.68
2:B:977:GLU:HG3	2:B:1310:ILE:HG23	1.73	0.68
2:B:1062:LEU:CG	2:B:1063:ILE:HG13	2.24	0.68
2:B:1257:LEU:H	2:B:1257:LEU:HD12	1.59	0.68
2:G:32:PHE:CE1	2:G:1355:LEU:HB3	2.29	0.68
2:B:393:LEU:HD23	2:B:393:LEU:C	2.14	0.68
2:B:1246:LYS:HB2	2:B:1246:LYS:HZ2	1.59	0.68
2:G:35:LEU:CD1	2:G:1358:THR:HG22	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:207:ASP:O	2:G:211:ILE:HG13	1.94	0.68
2:G:218:LYS:H	2:G:218:LYS:CD	2.03	0.68
2:B:817:GLN:OE1	2:B:856:VAL:HG13	1.94	0.68
2:G:601:ILE:CD1	2:G:603:ASP:O	2.42	0.68
2:B:495:MET:O	3:C:17:DA:H2''	1.94	0.67
2:B:730:SER:O	2:B:733:ILE:HG22	1.93	0.67
2:B:1063:ILE:HG23	2:B:1074:TRP:O	1.94	0.67
2:G:38:THR:HG22	2:G:39:ASP:N	2.09	0.67
2:G:332:LEU:HD12	2:G:332:LEU:O	1.94	0.67
2:G:378:PRO:O	2:G:382:LYS:HG2	1.93	0.67
2:G:103:GLU:O	2:G:106:LEU:HD13	1.95	0.67
2:G:246:LEU:N	2:G:246:LEU:HD12	2.09	0.67
2:G:469:SER:O	2:G:481:VAL:HG13	1.95	0.67
2:G:976:ARG:NH2	2:G:977:GLU:OE1	2.28	0.67
2:B:51:LEU:HD13	2:B:1352:ILE:HG13	1.75	0.67
2:B:179:SER:HB2	2:B:310:THR:OG1	1.58	0.67
2:B:530:VAL:HG22	2:B:537:PRO:CA	2.25	0.67
2:B:692:ASN:HB3	2:B:695:GLN:HG3	1.76	0.67
2:B:784:ILE:O	2:B:788:ILE:HG12	1.93	0.67
2:G:36:GLY:HA3	2:G:1359:ARG:O	1.94	0.67
2:G:442:LYS:HE3	2:G:476:TRP:HA	1.76	0.67
2:B:507:VAL:HG11	2:B:660:GLY:O	1.93	0.67
2:B:552:LEU:O	2:B:556:ASN:ND2	2.28	0.67
2:G:137:HIS:NE2	2:G:322:ILE:HD13	2.03	0.67
2:G:181:VAL:HG22	2:G:299:ALA:CB	2.24	0.67
2:B:117:PRO:HD2	2:B:125:GLU:OE2	1.93	0.67
2:B:296:LEU:HD23	2:B:296:LEU:C	2.15	0.67
2:B:483:ASP:OD1	2:B:486:ALA:CB	2.42	0.67
2:B:845:SER:O	2:B:920:GLN:NE2	2.27	0.67
2:B:901:THR:O	2:B:904:GLU:HG2	1.95	0.67
2:B:283:GLY:C	2:B:285:GLN:OE1	2.33	0.67
2:B:569:PHE:CD1	2:B:575:PHE:CD2	2.81	0.67
1:E:7:U:H2'	1:E:8:G:H8	1.60	0.67
2:G:28:PRO:O	2:G:47:LEU:HG	1.94	0.67
2:G:174:LEU:HD22	2:G:174:LEU:N	2.09	0.67
2:G:573:GLU:HB3	2:G:575:PHE:CZ	2.30	0.67
2:B:513:LEU:HD11	2:B:616:LEU:HB2	1.75	0.67
2:G:211:ILE:O	2:G:221:ARG:HG2	1.95	0.67
2:G:618:ASP:OD1	2:G:639:TYR:OH	2.13	0.67
2:G:842:VAL:CG1	2:G:854:ASN:HD21	2.06	0.67
2:G:930:HIS:O	2:G:934:ILE:HG13	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1204:PHE:CD2	2:G:1342:VAL:HG13	2.29	0.67
2:B:777:SER:OG	4:D:2:DT:O5'	2.01	0.67
2:B:1060:ARG:NH1	2:B:1064:GLU:CD	2.48	0.67
2:B:1307:GLU:O	2:B:1310:ILE:HB	1.95	0.67
2:G:143:VAL:O	2:G:425:ARG:NE	2.26	0.67
2:G:790:GLU:OE1	2:G:888:ASN:O	2.12	0.67
2:G:1060:ARG:NH1	2:G:1064:GLU:OE2	2.28	0.67
2:G:1143:VAL:CG1	2:G:1195:ILE:HG23	2.24	0.67
4:J:5:DA:H2''	4:J:6:DG:C8	2.30	0.67
2:B:317:LEU:HD23	2:B:414:ILE:HG13	1.77	0.67
2:B:557:ARG:HG3	2:B:557:ARG:NH1	2.09	0.67
2:B:963:VAL:HG21	2:B:990:ASN:CG	2.15	0.67
2:B:1044:ASN:O	2:B:1047:LYS:HG3	1.95	0.67
1:E:78:A:H2'	1:E:79:G:C8	2.28	0.67
2:B:256:PHE:CD2	2:B:282:ILE:HD13	2.31	0.66
2:B:918:LYS:HG3	2:B:1039:TYR:CE2	2.30	0.66
2:B:1281:ILE:HG21	2:B:1315:LEU:HD11	1.77	0.66
2:G:275:LEU:HD12	2:G:275:LEU:C	2.15	0.66
2:G:1232:TYR:HB3	2:G:1269:ILE:HD11	1.77	0.66
2:G:1296:LYS:C	2:G:1297:HIS:ND1	2.48	0.66
1:A:78:A:H2'	1:A:79:G:H8	1.60	0.66
2:B:342:GLN:CG	2:B:383:MET:HE3	2.20	0.66
2:B:557:ARG:NH1	2:B:599:LYS:NZ	2.43	0.66
2:B:939:MET:HE2	2:B:953:VAL:HG21	1.77	0.66
2:G:830:ILE:HD12	2:G:830:ILE:H	1.58	0.66
2:B:275:LEU:HD12	2:B:275:LEU:C	2.15	0.66
2:B:873:GLU:HG2	2:B:874:GLU:N	2.09	0.66
2:G:222:LEU:HD12	2:G:222:LEU:C	2.15	0.66
2:G:633:GLU:HG3	2:G:652:LYS:HD2	1.77	0.66
2:B:340:ARG:NH2	2:B:347:TYR:CZ	2.63	0.66
2:B:1248:SER:O	2:B:1252:ASN:ND2	2.29	0.66
2:B:830:ILE:CD1	2:B:831:ASN:H	2.09	0.66
1:E:41:A:H2'	1:E:42:A:H5''	1.77	0.66
2:G:296:LEU:C	2:G:296:LEU:HD23	2.15	0.66
2:B:1312:LEU:HD11	2:B:1326:TYR:CE1	2.30	0.66
2:G:1244:LYS:O	2:G:1246:LYS:HD2	1.95	0.66
2:B:248:LEU:HD13	2:B:249:THR:C	2.16	0.66
2:B:275:LEU:O	2:B:279:LEU:HB2	1.96	0.66
2:B:93:VAL:HG21	2:B:151:LEU:HD23	1.76	0.66
2:G:573:GLU:C	2:G:574:CYS:SG	2.73	0.66
2:G:585:ASP:OD1	2:G:586:ARG:N	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1314:THR:CG2	2:G:1324:PHE:CG	2.79	0.66
2:B:143:VAL:HG22	2:B:421:ALA:HB3	1.77	0.66
2:B:275:LEU:HD11	2:B:279:LEU:CG	2.26	0.66
2:B:278:LEU:HD12	2:B:278:LEU:C	2.16	0.66
2:B:350:ILE:HG22	2:B:351:PHE:CE2	2.30	0.66
2:B:810:LYS:C	2:B:833:LEU:CD1	2.64	0.66
2:B:970:PHE:CD1	2:B:1080:PHE:CE1	2.84	0.66
2:G:801:VAL:HG13	2:G:815:TYR:OH	1.95	0.66
2:G:886:LEU:C	2:G:892:ILE:HG13	2.16	0.66
2:G:898:ASP:OD2	3:H:23:DC:H2''	1.96	0.66
2:B:141:LYS:HG2	2:B:142:LEU:HD23	1.77	0.66
2:B:229:LEU:CD1	2:B:232:GLU:H	2.09	0.66
2:B:1122:ARG:HD3	2:B:1134:PHE:CE2	2.31	0.66
3:C:24:DG:C2'	3:C:25:DG:H5'	2.25	0.66
2:G:245:SER:O	2:G:301:LEU:HD21	1.96	0.66
2:G:518:PHE:HZ	2:G:693:PHE:CD1	2.14	0.66
2:G:1241:HIS:HE1	2:G:1245:LEU:CD1	2.09	0.66
2:B:302:LEU:HD23	2:B:302:LEU:C	2.16	0.65
2:B:615:ILE:O	2:B:619:ILE:N	2.28	0.65
2:B:755:LYS:HD3	2:B:939:MET:HE3	1.77	0.65
1:E:7:U:H2'	1:E:8:G:C8	2.30	0.65
2:G:489:GLN:HG3	2:G:625:LEU:HD21	1.76	0.65
2:G:705:LYS:CG	2:G:709:GLN:HE21	2.03	0.65
2:B:252:PHE:CZ	2:B:264:LEU:HD13	2.31	0.65
2:B:279:LEU:HD13	2:B:287:ALA:HB2	1.76	0.65
2:B:844:GLN:HE21	2:B:848:LYS:CG	2.08	0.65
2:B:944:ASP:OD1	2:B:946:ASN:O	2.13	0.65
2:B:1256:GLN:NE2	2:B:1260:GLU:CD	2.49	0.65
2:G:380:LEU:HB3	2:G:386:THR:CG2	2.26	0.65
2:G:492:ILE:HD12	2:G:625:LEU:O	1.96	0.65
2:G:1135:ASP:OD1	2:G:1136:SER:N	2.28	0.65
1:A:57:A:H5'	2:B:457:ARG:HH21	1.60	0.65
2:B:100:ARG:CZ	2:B:117:PRO:O	2.45	0.65
2:G:600:ILE:HG22	2:G:647:VAL:HG13	1.78	0.65
2:G:970:PHE:CD1	2:G:1080:PHE:CZ	2.84	0.65
2:G:1324:PHE:CE1	2:G:1331:ILE:HB	2.31	0.65
2:B:1062:LEU:HA	2:B:1076:LYS:CD	2.21	0.65
2:B:1257:LEU:H	2:B:1257:LEU:CD1	2.10	0.65
2:B:1257:LEU:HD12	2:B:1257:LEU:N	2.11	0.65
3:C:19:DA:H2''	3:C:20:DA:O4'	1.97	0.65
3:H:7:DC:H2'	3:H:8:DT:C6	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:317:LEU:HD12	2:G:320:SER:OG	1.96	0.65
2:G:618:ASP:OD2	2:G:639:TYR:CE2	2.50	0.65
2:G:1363:SER:C	2:G:1364:GLN:HG2	2.16	0.65
2:B:1325:LYS:HB2	2:B:1329:THR:O	1.95	0.65
2:B:1220:LEU:HD11	2:B:1339:THR:HA	1.79	0.65
2:G:558:LYS:HE3	2:G:586:ARG:NH1	2.12	0.65
2:G:1063:ILE:CG2	2:G:1072:ILE:CG2	2.74	0.65
2:B:794:GLN:H	2:B:794:GLN:CD	2.00	0.65
2:B:1060:ARG:HH12	2:B:1064:GLU:CD	1.98	0.65
2:B:1230:SER:C	2:B:1233:VAL:HG23	2.17	0.65
1:E:50:U:OP1	6:E:101:HOH:O	2.14	0.65
2:G:103:GLU:HA	2:G:106:LEU:HD11	1.77	0.65
2:G:893:THR:HG22	2:G:896:LYS:HB2	1.79	0.65
2:G:1171:ARG:O	2:G:1175:GLU:HG3	1.96	0.65
1:A:15:U:H2'	1:A:16:U:C6	2.31	0.65
2:B:320:SER:O	2:B:323:LYS:HB3	1.97	0.65
2:B:1045:PHE:CE1	2:B:1046:PHE:CD2	2.85	0.65
2:G:719:SER:O	2:G:723:HIS:N	2.29	0.65
2:G:801:VAL:CG1	2:G:815:TYR:OH	2.44	0.65
2:G:820:ARG:HG3	2:G:827:GLU:HA	1.78	0.65
2:G:1075:ASP:CG	2:G:1078:ARG:HG3	2.18	0.65
2:G:1348:ILE:HD13	2:G:1359:ARG:NH2	2.11	0.65
1:A:59:U:OP1	2:B:473:ILE:HG13	1.97	0.65
2:B:121:ASN:OD1	2:B:124:ASP:N	2.25	0.65
2:B:680:LEU:O	2:B:684:LYS:HG3	1.97	0.65
2:G:214:ALA:HB1	2:G:216:LEU:HD21	1.79	0.65
2:G:886:LEU:C	2:G:892:ILE:CD1	2.62	0.65
2:G:886:LEU:CA	2:G:892:ILE:CD1	2.75	0.65
2:G:956:ILE:HD11	2:G:998:ILE:CD1	2.26	0.65
2:G:970:PHE:HE1	2:G:1080:PHE:CZ	2.11	0.65
2:B:407:ASN:H	2:B:407:ASN:HD22	1.44	0.64
2:B:627:GLU:OE1	2:B:627:GLU:N	2.30	0.64
2:B:1230:SER:O	2:B:1233:VAL:HG23	1.96	0.64
2:G:208:ALA:O	2:G:212:LEU:HB2	1.97	0.64
2:G:600:ILE:HG21	2:G:651:LEU:HG	1.79	0.64
2:G:1348:ILE:HD11	2:G:1359:ARG:NH2	2.10	0.64
2:B:107:VAL:HG22	2:B:1131:TYR:CE1	2.31	0.64
2:B:234:LYS:HE2	2:B:234:LYS:O	1.97	0.64
2:G:240:ASN:ND2	2:G:252:PHE:CD2	2.59	0.64
2:G:393:LEU:HD23	2:G:393:LEU:C	2.17	0.64
2:G:963:VAL:CG2	2:G:990:ASN:OD1	2.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1009:VAL:HG12	2:G:1010:TYR:H	1.62	0.64
2:B:1200:LYS:NZ	4:D:6:DG:OP1	2.31	0.64
2:G:206:VAL:HG21	2:G:228:GLN:HB3	1.78	0.64
2:G:258:LEU:HD11	2:G:281:GLN:OE1	1.96	0.64
2:B:873:GLU:O	2:B:877:LYS:HG2	1.98	0.64
2:B:970:PHE:HD1	2:B:1080:PHE:CE1	2.15	0.64
2:G:618:ASP:OD2	2:G:639:TYR:CZ	2.50	0.64
2:G:682:PHE:CZ	2:G:702:LEU:HD13	2.32	0.64
2:G:873:GLU:HG2	2:G:874:GLU:N	2.13	0.64
2:B:192:TYR:HE1	2:B:237:LEU:HD23	1.62	0.64
2:B:635:ARG:HG3	2:B:635:ARG:HH11	1.60	0.64
2:G:746:GLU:C	2:G:750:VAL:HG22	2.17	0.64
2:B:46:ASN:ND2	2:B:1089:MET:SD	2.71	0.64
2:B:275:LEU:HD11	2:B:279:LEU:HG	1.80	0.64
2:B:441:GLU:O	2:B:445:THR:OG1	2.16	0.64
2:B:1143:VAL:HG11	2:B:1195:ILE:HG21	1.79	0.64
2:G:313:THR:HG21	2:G:316:PRO:HA	1.78	0.64
2:B:264:LEU:HD11	2:B:278:LEU:HD23	1.79	0.64
2:B:525:THR:HG22	2:B:690:ASN:CB	2.28	0.64
2:B:244:LEU:CG	2:B:266:LEU:HD11	2.28	0.64
2:B:341:GLN:NE2	2:B:342:GLN:HG2	2.13	0.64
2:B:1108:GLU:N	3:C:9:DC:OP1	2.30	0.64
2:G:258:LEU:CD1	2:G:281:GLN:CD	2.61	0.64
2:G:321:MET:O	2:G:324:ARG:HB2	1.98	0.64
2:G:578:VAL:HG22	2:G:579:GLU:N	2.13	0.64
2:B:338:LEU:O	2:B:383:MET:HE2	1.97	0.64
2:B:398:LEU:HD22	2:B:399:LEU:CD1	2.27	0.64
2:B:672:ASP:OD2	2:B:675:SER:OG	2.13	0.64
2:G:117:PRO:HD2	2:G:125:GLU:OE2	1.97	0.64
2:G:225:LEU:HD13	2:G:242:ILE:HD12	1.79	0.64
2:G:265:GLN:O	2:G:271:TYR:HB2	1.98	0.64
2:G:841:ILE:HD13	2:G:900:LEU:HD23	1.79	0.64
2:G:1258:PHE:CD1	2:G:1262:HIS:ND1	2.56	0.64
2:B:212:LEU:CD1	2:B:246:LEU:HD21	2.27	0.64
2:B:317:LEU:HD12	2:B:317:LEU:C	2.16	0.64
2:B:614:ASP:OD1	2:B:664:ARG:NH2	2.31	0.64
2:B:972:PHE:CE1	2:B:1083:VAL:HG12	2.33	0.64
3:C:24:DG:H2''	3:C:25:DG:C5'	2.26	0.64
1:E:45:U:H5''	2:G:402:GLN:HB2	1.79	0.64
1:A:28:A:OP2	2:B:126:VAL:HG13	1.97	0.63
2:B:821:ASP:OD1	2:B:858:THR:OG1	2.13	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:118:ILE:HB	2:G:119:PHE:HD2	1.58	0.63
2:G:387:GLU:N	2:G:387:GLU:OE2	2.31	0.63
2:G:756:PRO:HD2	2:G:953:VAL:HG21	1.79	0.63
2:G:898:ASP:O	2:G:905:ARG:NH2	2.31	0.63
2:B:889:ALA:O	2:B:890:LYS:HB2	1.98	0.63
2:B:1007:GLU:N	2:B:1007:GLU:OE2	2.31	0.63
2:G:788:ILE:HG13	2:G:796:LEU:CD2	2.19	0.63
2:B:97:PHE:CE1	2:B:152:ARG:HB3	2.33	0.63
2:B:554:LYS:HD3	2:B:594:TYR:CZ	2.33	0.63
2:B:1260:GLU:HA	2:B:1263:LYS:CB	2.24	0.63
2:B:338:LEU:HD11	2:B:386:THR:HG22	1.72	0.63
2:G:628:ASP:O	2:G:632:ILE:HG13	1.99	0.63
2:G:759:ILE:HG21	2:G:935:LEU:CD2	2.29	0.63
2:G:977:GLU:HG3	2:G:1310:ILE:CG2	2.28	0.63
2:B:557:ARG:HH12	2:B:599:LYS:HZ1	1.45	0.63
2:B:559:VAL:HA	2:B:563:GLN:OE1	1.99	0.63
2:B:737:ILE:HG23	2:B:931:VAL:HG13	1.79	0.63
2:G:698:HIS:HA	2:G:705:LYS:HD3	1.81	0.63
2:G:1000:LYS:NZ	2:G:1064:GLU:HB3	2.13	0.63
2:G:1303:ARG:CG	2:G:1303:ARG:HH11	2.12	0.63
2:B:1062:LEU:HG	2:B:1063:ILE:HG13	1.80	0.63
1:E:45:U:H2'	1:E:46:A:C8	2.31	0.63
2:G:791:LEU:CD1	2:G:889:ALA:HB2	2.28	0.63
2:G:1207:GLU:HG3	2:G:1208:ASN:N	2.07	0.63
2:B:171:GLU:OE1	2:B:269:ASP:HB3	1.98	0.63
2:B:244:LEU:O	2:B:266:LEU:HD13	1.99	0.63
2:B:317:LEU:HD22	2:B:414:ILE:HD11	1.80	0.63
2:B:1325:LYS:CB	2:B:1330:THR:HA	2.29	0.63
2:G:380:LEU:CD2	2:G:386:THR:HG23	2.16	0.63
2:G:1204:PHE:CE2	2:G:1342:VAL:CG1	2.82	0.63
2:G:1298:ARG:CA	2:G:1305:GLN:HE22	2.11	0.63
2:B:179:SER:HB3	2:B:310:THR:CG2	2.00	0.63
2:B:958:LEU:HD22	2:B:962:LEU:HD12	1.78	0.63
2:B:1039:TYR:O	2:B:1042:ILE:HG22	1.99	0.63
2:B:1216:SER:HB2	4:D:6:DG:H3'	1.80	0.63
3:C:10:DT:H2'	3:C:11:DT:C6	2.34	0.63
2:G:514:LEU:O	2:G:518:PHE:N	2.32	0.63
2:G:1123:LYS:CD	6:G:1504:HOH:O	2.17	0.63
2:B:386:THR:O	2:B:389:LEU:HB2	1.98	0.63
2:B:828:LEU:HD13	2:B:836:TYR:CE2	2.34	0.63
2:G:197:GLU:CD	6:G:1502:HOH:O	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:490:SER:HA	2:G:493:GLU:HB2	1.80	0.63
2:G:719:SER:O	2:G:722:GLU:HB2	1.99	0.63
2:G:762:GLU:HG2	2:G:763:MET:N	2.12	0.63
1:A:26:A:OP1	2:B:115:ARG:NH1	2.31	0.62
2:G:29:SER:CB	2:G:44:LYS:HZ1	2.12	0.62
2:G:510:LYS:HB3	2:G:511:HIS:CD2	2.32	0.62
2:G:910:GLU:HG2	2:G:1033:THR:HG22	1.80	0.62
2:B:158:LEU:O	2:B:162:ILE:HG13	1.99	0.62
2:B:178:ASN:HB2	2:B:299:ALA:CA	2.29	0.62
2:B:334:LEU:O	2:B:338:LEU:HB2	1.98	0.62
2:G:530:VAL:CG1	2:G:537:PRO:CA	2.77	0.62
2:G:870:VAL:HG23	2:G:908:LEU:HB2	1.81	0.62
2:G:956:ILE:CD1	2:G:998:ILE:HD13	2.29	0.62
2:B:341:GLN:HE21	2:B:342:GLN:HG2	1.63	0.62
2:B:830:ILE:HD12	2:B:830:ILE:H	1.63	0.62
2:G:593:THR:HG23	2:G:656:TYR:CE2	2.34	0.62
2:B:252:PHE:CE1	2:B:264:LEU:HD13	2.34	0.62
2:B:423:LEU:N	2:B:423:LEU:HD23	2.13	0.62
2:B:1239:ALA:CB	2:B:1306:ALA:HB1	2.25	0.62
2:G:308:VAL:CG1	2:G:309:ASN:H	2.08	0.62
2:G:565:LYS:HE2	2:G:580:ILE:HG12	1.80	0.62
2:G:1244:LYS:HB3	2:G:1244:LYS:HZ3	1.64	0.62
2:B:557:ARG:CZ	2:B:599:LYS:HZ2	2.11	0.62
2:B:841:ILE:CD1	2:B:900:LEU:CD2	2.76	0.62
2:B:974:LYS:NZ	2:B:976:ARG:NH1	2.46	0.62
2:G:34:VAL:HG23	2:G:41:HIS:C	2.20	0.62
2:G:198:GLU:C	2:G:199:ASN:HD22	2.03	0.62
2:G:343:LEU:HD22	2:G:345:GLU:CD	2.18	0.62
2:G:903:ALA:O	2:G:906:GLY:N	2.31	0.62
2:B:930:HIS:O	2:B:934:ILE:HG13	1.97	0.62
2:B:1315:LEU:HB2	2:B:1324:PHE:CZ	2.34	0.62
1:E:46:A:H5'	2:G:135:ILE:CG2	2.29	0.62
2:G:216:LEU:HD23	2:G:216:LEU:H	1.64	0.62
2:G:1235:PHE:CE2	2:G:1266:LEU:HD12	2.35	0.62
2:B:429:PHE:HB2	2:B:430:TYR:CD1	2.34	0.62
2:G:864:ARG:NH1	2:G:864:ARG:HG3	2.13	0.62
2:G:1127:ASP:HB3	2:G:1130:LYS:HB2	1.81	0.62
2:B:269:ASP:N	2:B:269:ASP:OD1	2.33	0.62
2:B:972:PHE:CE1	2:B:1083:VAL:CG1	2.83	0.62
2:B:1079:ASP:HA	2:B:1082:THR:OG1	1.99	0.62
2:G:870:VAL:HG21	2:G:908:LEU:HD22	1.78	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:903:ALA:CA	2:G:906:GLY:HA3	2.26	0.62
2:G:933:GLN:HG2	2:G:1010:TYR:OH	2.00	0.62
2:G:1303:ARG:HG2	2:G:1303:ARG:NH1	2.15	0.62
2:G:557:ARG:O	2:G:590:SER:HB2	2.00	0.62
2:B:167:HIS:CE1	2:B:411:PRO:HA	2.35	0.62
2:B:1150:GLU:HG2	2:B:1157:LEU:HD21	1.81	0.62
2:G:45:LYS:NZ	2:G:1357:GLU:OE2	2.32	0.62
2:G:219:SER:O	2:G:223:GLU:HG3	1.99	0.62
2:G:497:ASN:C	2:G:498:PHE:HD2	2.02	0.62
2:G:545:LYS:O	2:G:549:VAL:HG23	2.00	0.62
2:B:244:LEU:CD2	2:B:266:LEU:HD11	2.30	0.61
2:B:281:GLN:CB	6:B:1519:HOH:O	2.44	0.61
2:B:665:LYS:O	2:B:670:ILE:N	2.33	0.61
2:G:294:LYS:HD3	2:G:295:ASN:N	2.15	0.61
2:G:499:ASP:HB2	2:G:502:LEU:O	1.98	0.61
2:G:692:ASN:HB2	2:G:695:GLN:HG3	1.82	0.61
2:G:1204:PHE:CD2	2:G:1342:VAL:CG1	2.83	0.61
1:A:17:G:O2'	2:B:168:PHE:CD1	2.53	0.61
2:B:665:LYS:C	2:B:669:GLY:CA	2.52	0.61
2:B:945:GLU:CD	2:B:946:ASN:H	2.04	0.61
2:B:1292:SER:O	2:B:1296:LYS:HD2	2.00	0.61
2:G:823:TYR:HA	2:G:879:MET:HE2	1.82	0.61
2:B:184:LEU:CD1	2:B:296:LEU:HA	2.26	0.61
2:B:244:LEU:CD1	2:B:250:PRO:HD2	2.29	0.61
2:G:181:VAL:HG13	2:G:300:ILE:HD13	1.79	0.61
2:G:270:THR:O	2:G:274:ASP:HB2	2.00	0.61
2:G:564:LEU:HD12	2:G:564:LEU:O	1.99	0.61
2:G:1219:GLU:HG3	2:G:1336:TYR:O	2.01	0.61
2:B:356:LYS:O	2:B:357:ASN:HB2	1.98	0.61
2:B:665:LYS:HA	2:B:669:GLY:HA2	1.76	0.61
2:B:1302:ILE:CG2	2:B:1306:ALA:HB2	2.30	0.61
2:G:282:ILE:H	2:G:282:ILE:HD12	1.64	0.61
2:G:291:LEU:HD23	2:G:291:LEU:C	2.21	0.61
2:G:545:LYS:NZ	2:G:690:ASN:HD21	1.80	0.61
2:G:666:LEU:HD23	2:G:666:LEU:C	2.20	0.61
2:G:823:TYR:CA	2:G:879:MET:HE3	2.21	0.61
2:G:1075:ASP:OD2	2:G:1078:ARG:HD2	2.00	0.61
2:B:70:ARG:NH1	2:B:454:PRO:CG	2.63	0.61
2:B:1145:VAL:HG11	2:B:1182:LEU:HD13	1.82	0.61
2:G:358:GLY:O	2:G:362:TYR:N	2.31	0.61
2:G:621:LEU:CD2	2:G:625:LEU:HD22	2.29	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:790:GLU:HG3	2:G:791:LEU:N	2.13	0.61
1:A:8:G:H2'	1:A:9:U:C6	2.36	0.61
2:B:721:HIS:ND1	2:B:738:LEU:HD11	2.15	0.61
2:B:1282:LEU:O	2:B:1282:LEU:HD22	2.00	0.61
2:G:115:ARG:CZ	2:G:116:HIS:HE1	2.13	0.61
2:G:596:ASP:OD1	2:G:596:ASP:N	2.29	0.61
2:G:795:ILE:HG23	2:G:796:LEU:HD22	1.82	0.61
2:G:901:THR:O	2:G:904:GLU:HB3	2.01	0.61
2:G:142:LEU:HB3	2:G:422:ILE:HG12	1.83	0.61
2:G:718:ASP:HB3	2:G:722:GLU:CD	2.18	0.61
2:B:178:ASN:C	2:B:299:ALA:HB2	2.20	0.61
2:B:291:LEU:HD23	2:B:291:LEU:C	2.21	0.61
2:B:655:ARG:HH11	2:B:655:ARG:CG	2.13	0.61
2:G:850:ASP:OD1	2:G:850:ASP:N	2.26	0.61
2:G:1213:MET:CE	2:G:1221:GLN:HE21	2.14	0.61
2:B:195:LEU:HD22	2:B:286:TYR:HD2	1.63	0.61
2:B:791:LEU:HD13	2:B:889:ALA:HB2	1.83	0.61
2:B:1245:LEU:HD12	2:B:1245:LEU:O	2.01	0.61
2:G:505:GLU:OE1	2:G:505:GLU:HA	2.00	0.61
2:G:1303:ARG:HH12	2:G:1304:GLU:HG2	1.65	0.61
2:B:842:VAL:HG13	2:B:854:ASN:HD21	1.64	0.61
2:B:1042:ILE:O	2:B:1042:ILE:HD12	2.01	0.61
2:B:1292:SER:O	2:B:1296:LYS:HE3	2.00	0.61
2:G:697:ILE:O	2:G:705:LYS:CB	2.25	0.61
2:G:981:TYR:CE2	2:G:1092:VAL:HG23	2.36	0.61
2:G:1348:ILE:HD13	2:G:1359:ARG:CZ	2.31	0.61
2:B:275:LEU:HD12	2:B:279:LEU:CB	2.26	0.60
2:B:841:ILE:O	2:B:864:ARG:NH2	2.34	0.60
2:B:923:GLU:OE2	2:B:925:ARG:NE	2.32	0.60
2:B:1079:ASP:O	2:B:1082:THR:OG1	2.16	0.60
2:B:1304:GLU:HB3	2:B:1327:PHE:CE1	2.34	0.60
2:G:369:GLN:OE1	2:G:400:ARG:NE	2.33	0.60
2:G:696:LEU:HD12	2:G:702:LEU:HD12	1.83	0.60
2:G:905:ARG:NH1	3:H:24:DG:OP1	2.32	0.60
2:B:115:ARG:HG3	2:B:116:HIS:ND1	2.16	0.60
2:B:252:PHE:HZ	2:B:264:LEU:HD22	1.66	0.60
2:B:557:ARG:O	2:B:590:SER:HB2	2.01	0.60
2:B:569:PHE:CD1	2:B:575:PHE:HD2	2.13	0.60
2:B:1045:PHE:CE1	2:B:1046:PHE:HE2	2.12	0.60
2:B:1164:LEU:HD22	2:B:1187:TYR:HE2	1.65	0.60
2:G:279:LEU:CD1	2:G:287:ALA:HB1	2.22	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:675:SER:OG	2:G:677:LYS:HG3	2.00	0.60
2:B:297:SER:CB	2:B:301:LEU:HD12	2.30	0.60
2:B:307:ARG:NH1	2:B:323:LYS:NZ	2.50	0.60
2:B:454:PRO:HB2	2:B:463:ALA:HB2	1.84	0.60
2:B:663:SER:OG	2:B:664:ARG:N	2.35	0.60
2:B:727:LEU:O	2:B:734:LYS:HE2	2.01	0.60
2:B:1312:LEU:HD11	2:B:1326:TYR:HD1	1.65	0.60
2:G:201:ILE:HD13	2:G:238:PHE:CD1	2.35	0.60
2:G:379:ILE:O	2:G:383:MET:SD	2.59	0.60
2:G:886:LEU:CA	2:G:892:ILE:HG13	2.30	0.60
2:B:1062:LEU:CA	2:B:1076:LYS:HD2	2.22	0.60
2:B:1266:LEU:O	2:B:1270:ILE:HG13	2.02	0.60
2:G:279:LEU:CA	2:G:282:ILE:CD1	2.79	0.60
2:G:477:ASN:O	2:G:481:VAL:HG23	2.01	0.60
1:A:70:C:H2'	1:A:71:U:C6	2.36	0.60
2:B:720:LEU:O	2:B:724:ILE:HG13	2.01	0.60
2:G:823:TYR:HA	2:G:879:MET:CE	2.30	0.60
2:B:830:ILE:HD13	2:B:831:ASN:OD1	2.01	0.60
2:G:343:LEU:HD22	2:G:345:GLU:OE1	2.02	0.60
2:G:1203:LEU:O	2:G:1347:LEU:HD23	2.02	0.60
2:B:229:LEU:HD22	2:B:232:GLU:HB2	1.82	0.60
2:B:491:PHE:CZ	3:C:16:DT:H1'	2.37	0.60
1:E:52:A:H5''	2:G:1123:LYS:HE2	1.83	0.60
2:G:889:ALA:CB	2:G:891:LEU:HG	2.32	0.60
2:G:1204:PHE:CZ	2:G:1342:VAL:CG1	2.85	0.60
2:B:1075:ASP:OD1	2:B:1078:ARG:N	2.27	0.60
2:B:1166:ILE:HG13	2:B:1174:PHE:CE2	2.37	0.60
2:G:115:ARG:HG2	2:G:116:HIS:ND1	2.16	0.60
2:G:1219:GLU:HG2	2:G:1220:LEU:N	2.15	0.60
2:B:935:LEU:O	2:B:939:MET:HG2	2.00	0.60
2:G:886:LEU:HB2	2:G:892:ILE:CG1	2.16	0.60
2:G:1277:SER:HB2	2:G:1287:LEU:CD2	2.32	0.60
2:G:1303:ARG:HH11	2:G:1303:ARG:HG2	1.67	0.60
3:H:19:DA:H2''	3:H:20:DA:O4'	2.01	0.60
2:B:369:GLN:HE22	2:B:404:THR:HG21	0.78	0.60
2:B:460:SER:OG	2:B:463:ALA:N	2.32	0.60
2:B:524:LEU:CD2	2:B:540:LEU:HD23	2.32	0.60
2:G:169:LEU:HD21	3:H:13:DA:H2''	1.82	0.60
2:G:739:GLN:OE1	2:G:1352:ILE:HD11	2.01	0.60
2:G:1096:LYS:HE2	2:G:1201:TYR:CE2	2.36	0.60
1:A:24:U:C1'	2:B:105:PHE:CE1	2.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:275:LEU:CD1	2:B:279:LEU:HG	2.32	0.59
2:B:870:VAL:CG2	2:B:908:LEU:CG	2.74	0.59
2:B:979:ASN:CG	2:B:981:TYR:HD1	1.99	0.59
2:B:1147:ALA:O	2:B:1160:VAL:HG22	2.01	0.59
2:B:1270:ILE:HD13	2:B:1294:TYR:CG	2.35	0.59
2:B:181:VAL:HG21	2:B:209:LYS:CB	2.26	0.59
2:B:936:ASP:OD2	2:B:951:ARG:NE	2.36	0.59
2:G:131:LYS:HB3	2:G:132:TYR:CE2	2.37	0.59
2:G:718:ASP:HB3	2:G:722:GLU:HB3	1.83	0.59
2:G:1228:LEU:HD12	2:G:1229:PRO:HD2	1.85	0.59
2:G:1251:ASP:HA	2:G:1254:GLN:NE2	2.16	0.59
2:G:1265:TYR:O	2:G:1269:ILE:HG13	2.02	0.59
2:B:106:LEU:O	2:B:111:LYS:CE	2.49	0.59
2:B:170:ILE:O	2:B:413:GLN:NE2	2.35	0.59
2:B:178:ASN:CB	2:B:299:ALA:N	2.64	0.59
2:B:1150:GLU:HG2	2:B:1157:LEU:CD2	2.32	0.59
2:G:411:PRO:O	2:G:414:ILE:HG12	2.02	0.59
2:G:449:PRO:HD2	2:G:452:VAL:HG21	1.83	0.59
2:G:598:LEU:HD23	2:G:598:LEU:C	2.23	0.59
2:G:1143:VAL:HG21	2:G:1174:PHE:CE2	2.37	0.59
2:B:1241:HIS:CD2	2:B:1303:ARG:NH1	2.71	0.59
1:E:43:G:O2'	2:G:363:ILE:HD12	2.02	0.59
2:G:118:ILE:CG2	2:G:119:PHE:CE2	2.86	0.59
2:G:570:LYS:O	2:G:574:CYS:HA	2.01	0.59
2:G:829:ASP:OD1	2:G:832:ARG:N	2.24	0.59
2:G:1241:HIS:CE1	2:G:1245:LEU:CD1	2.85	0.59
2:G:1258:PHE:HE1	2:G:1262:HIS:CE1	2.19	0.59
2:B:508:LEU:HD11	2:B:664:ARG:HB2	1.84	0.59
2:B:672:ASP:CA	2:B:703:THR:CG2	2.74	0.59
2:G:29:SER:HB2	2:G:44:LYS:HE3	1.80	0.59
2:G:178:ASN:C	2:G:310:THR:CG2	2.69	0.59
2:B:812:TYR:HE1	2:B:816:LEU:HD21	1.64	0.59
2:B:830:ILE:HD12	2:B:831:ASN:H	1.67	0.59
2:G:801:VAL:HG11	2:G:815:TYR:CE2	2.38	0.59
2:G:965:ASP:CG	2:G:968:LYS:HZ1	1.98	0.59
1:A:83:C:H2'	1:A:84:A:H8	1.68	0.59
2:B:696:LEU:CD1	2:B:702:LEU:HD13	2.20	0.59
2:G:343:LEU:HD13	2:G:346:LYS:HG3	1.85	0.59
2:G:840:ALA:HA	2:G:854:ASN:O	2.03	0.59
2:G:874:GLU:O	2:G:877:LYS:HG3	2.03	0.59
2:G:1000:LYS:HZ3	2:G:1064:GLU:HB3	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1277:SER:CB	2:G:1287:LEU:CD2	2.81	0.59
1:A:14:A:H5''	2:B:66:ARG:HH12	1.68	0.59
2:B:516:GLU:HA	2:B:519:THR:HG22	1.85	0.59
2:G:22:THR:OG1	2:G:26:LYS:O	2.15	0.59
2:G:124:ASP:O	2:G:127:ALA:HB3	2.03	0.59
2:G:324:ARG:NH1	2:G:400:ARG:NH1	2.50	0.59
2:G:806:LEU:CD2	2:G:812:TYR:HA	2.32	0.59
2:G:864:ARG:HH11	2:G:864:ARG:CG	2.15	0.59
2:G:892:ILE:HG22	2:G:893:THR:N	2.17	0.59
1:A:89:G:C6	2:B:1272:GLN:OE1	2.55	0.59
2:B:309:ASN:N	2:B:309:ASN:OD1	2.36	0.59
2:B:524:LEU:HD23	2:B:540:LEU:HD23	1.85	0.59
2:B:810:LYS:O	2:B:833:LEU:HD11	1.97	0.59
2:B:1095:VAL:HG22	2:B:1350:GLN:OE1	2.03	0.59
2:G:872:SER:O	2:G:876:VAL:HG23	2.03	0.59
2:B:270:THR:OG1	2:B:274:ASP:OD1	2.21	0.59
2:B:1177:ASN:ND2	2:B:1180:ASP:OD2	2.33	0.59
2:G:48:ILE:HD11	2:G:984:ALA:O	2.03	0.59
2:G:345:GLU:CD	2:G:345:GLU:H	2.04	0.59
2:G:565:LYS:HG2	2:G:578:VAL:HG13	1.84	0.59
3:H:3:DA:H2''	3:H:4:DT:O5'	2.03	0.59
1:A:85:C:H2'	1:A:86:C:C6	2.38	0.58
2:B:93:VAL:HG21	2:B:151:LEU:CD2	2.33	0.58
2:B:256:PHE:HD2	2:B:282:ILE:HD13	1.66	0.58
2:B:672:ASP:HA	2:B:703:THR:HG23	1.82	0.58
2:G:208:ALA:HA	2:G:212:LEU:CD2	2.32	0.58
2:G:234:LYS:HE2	2:G:235:ASN:HA	1.85	0.58
2:G:238:PHE:CE2	2:G:242:ILE:CG1	2.86	0.58
2:B:118:ILE:CG2	2:B:119:PHE:CE2	2.86	0.58
2:B:220:ARG:HH11	2:B:220:ARG:CG	2.14	0.58
2:B:341:GLN:HE21	2:B:342:GLN:CG	2.16	0.58
2:B:601:ILE:CD1	2:B:603:ASP:HB3	2.33	0.58
2:B:665:LYS:CB	2:B:669:GLY:HA3	2.30	0.58
2:B:1064:GLU:HB2	2:B:1074:TRP:HB3	1.85	0.58
2:G:128:TYR:CD2	2:G:129:HIS:HD2	2.20	0.58
2:G:788:ILE:O	2:G:792:GLY:N	2.35	0.58
2:G:987:ALA:O	2:G:991:ALA:N	2.31	0.58
1:A:5:C:H42	3:C:24:DG:H1	1.49	0.58
2:B:297:SER:O	2:B:301:LEU:HB2	2.03	0.58
2:B:1254:GLN:HB2	2:B:1255:LYS:HE3	1.84	0.58
2:B:1256:GLN:HE22	2:B:1260:GLU:CD	2.05	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:181:VAL:CG1	2:G:300:ILE:HD13	2.25	0.58
2:G:387:GLU:HA	2:G:390:LEU:HD12	1.84	0.58
2:G:1206:LEU:O	2:G:1207:GLU:HG2	2.04	0.58
2:B:328:HIS:CD2	2:B:399:LEU:HG	2.39	0.58
2:B:526:LYS:NZ	2:B:695:GLN:OE1	2.28	0.58
2:B:675:SER:O	2:B:677:LYS:HG3	2.03	0.58
2:B:902:LYS:O	2:B:905:ARG:N	2.27	0.58
2:G:282:ILE:CG2	2:G:286:TYR:CD1	2.86	0.58
2:G:679:ILE:HD11	2:G:704:PHE:CD1	2.38	0.58
2:B:10:ALA:N	2:B:17:GLY:O	2.28	0.58
2:B:114:GLU:OE1	2:B:115:ARG:N	2.35	0.58
2:B:336:LYS:HD3	2:B:347:TYR:OH	2.03	0.58
2:B:846:PHE:HB3	2:B:916:PHE:CD2	2.39	0.58
2:B:1135:ASP:OD2	4:D:8:DT:C5'	2.52	0.58
2:G:832:ARG:NH1	2:G:835:ASP:OD2	2.37	0.58
2:B:379:ILE:CD1	2:B:379:ILE:H	2.15	0.58
2:G:478:PHE:CE1	2:G:482:VAL:HG21	2.39	0.58
2:G:1343:LEU:O	2:G:1362:LEU:HB3	2.03	0.58
2:B:78:ARG:CD	2:B:165:ARG:NH1	2.67	0.58
2:B:499:ASP:O	2:B:502:LEU:O	2.22	0.58
2:B:905:ARG:NH1	2:B:905:ARG:HG2	2.12	0.58
2:B:977:GLU:HG3	2:B:1310:ILE:HG21	1.86	0.58
2:B:1203:LEU:HD12	2:B:1213:MET:CG	2.33	0.58
1:E:27:G:H1'	2:G:129:HIS:ND1	2.18	0.58
2:G:58:THR:HG22	2:G:731:PRO:HG3	1.86	0.58
2:G:136:TYR:CE1	2:G:321:MET:HG3	2.37	0.58
2:G:174:LEU:CD2	2:G:413:GLN:HB3	2.34	0.58
2:G:1281:ILE:O	2:G:1282:LEU:HB2	2.03	0.58
3:H:9:DC:H2''	3:H:10:DT:H5'	1.86	0.58
2:B:48:ILE:HG12	2:B:49:GLY:N	2.17	0.58
2:B:286:TYR:O	2:B:289:LEU:N	2.37	0.58
2:B:457:ARG:HB2	2:B:467:ARG:HH12	1.68	0.58
2:B:503:PRO:HD3	2:B:711:ALA:HB1	1.86	0.58
2:B:1241:HIS:CD2	2:B:1303:ARG:HH11	2.22	0.58
2:G:373:TYR:CE1	2:G:398:LEU:HB3	2.38	0.58
2:B:674:GLN:OE1	2:B:674:GLN:HA	2.03	0.58
2:B:1216:SER:HB2	4:D:6:DG:C3'	2.34	0.58
2:B:1344:ASP:HA	2:B:1362:LEU:O	2.04	0.58
2:G:759:ILE:CD1	2:G:935:LEU:HD23	2.34	0.58
2:G:864:ARG:HG3	2:G:864:ARG:HH11	1.69	0.58
2:G:1351:SER:HB2	2:G:1356:TYR:O	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:5:C:N4	3:C:24:DG:H1	2.01	0.57
1:A:88:A:C2	2:B:1090:PRO:HD2	2.38	0.57
2:B:525:THR:HG22	2:B:690:ASN:HB3	1.85	0.57
2:G:921:LEU:HB3	2:G:962:LEU:HD21	1.86	0.57
2:B:673:LYS:H	2:B:703:THR:HG21	1.69	0.57
2:B:1255:LYS:HE2	2:B:1255:LYS:CA	2.33	0.57
2:G:926:GLN:O	2:G:929:LYS:N	2.28	0.57
1:A:22:U:O2	2:B:1110:ILE:HD12	2.04	0.57
1:A:85:C:H2'	1:A:86:C:H6	1.68	0.57
2:B:350:ILE:CG2	2:B:351:PHE:CE2	2.88	0.57
2:B:694:MET:O	2:B:697:ILE:HG22	2.04	0.57
2:B:790:GLU:OE2	2:B:888:ASN:O	2.23	0.57
2:G:148:LYS:CA	2:G:429:PHE:CE1	2.86	0.57
2:G:359:TYR:CE2	2:G:363:ILE:CD1	2.86	0.57
2:G:846:PHE:HB3	2:G:916:PHE:CD2	2.39	0.57
2:G:880:LYS:O	2:G:884:ARG:N	2.33	0.57
2:B:38:THR:HG22	2:B:39:ASP:N	2.19	0.57
2:B:596:ASP:CG	2:B:656:TYR:HH	1.96	0.57
2:B:1148:LYS:HE2	2:B:1159:SER:OG	2.04	0.57
2:B:1203:LEU:CD1	2:B:1213:MET:CG	2.80	0.57
2:G:464:TRP:HB3	2:G:494:ARG:NH1	2.19	0.57
2:G:569:PHE:O	2:G:574:CYS:N	2.36	0.57
2:B:244:LEU:HD23	2:B:266:LEU:HD11	1.86	0.57
2:G:49:GLY:C	2:G:984:ALA:HB2	2.25	0.57
2:G:332:LEU:O	2:G:336:LYS:N	2.35	0.57
2:G:412:HIS:CD2	2:G:413:GLN:NE2	2.73	0.57
2:G:545:LYS:HZ3	2:G:690:ASN:HD22	1.52	0.57
2:G:1163:LEU:HD12	2:G:1339:THR:OG1	2.04	0.57
2:B:1202:SER:O	2:B:1213:MET:HA	2.05	0.57
2:G:115:ARG:HH22	2:G:122:ILE:CD1	2.13	0.57
2:G:118:ILE:HG12	2:G:125:GLU:OE1	2.05	0.57
2:G:693:PHE:O	2:G:697:ILE:HG12	2.05	0.57
2:G:1232:TYR:HB3	2:G:1269:ILE:CD1	2.34	0.57
2:G:1336:TYR:N	2:G:1336:TYR:CD1	2.73	0.57
2:G:225:LEU:CD1	2:G:242:ILE:HD12	2.34	0.57
2:G:279:LEU:HD13	2:G:287:ALA:HB2	1.67	0.57
2:G:902:LYS:HA	2:G:905:ARG:NH2	2.20	0.57
2:G:1241:HIS:HE1	2:G:1245:LEU:HD12	1.69	0.57
1:E:81:G:N2	2:G:35:LEU:HD12	2.14	0.57
2:G:35:LEU:HD13	2:G:1358:THR:HG22	1.85	0.57
2:G:491:PHE:O	2:G:494:ARG:HG3	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:524:LEU:HD22	2:G:540:LEU:CD2	2.35	0.57
2:G:846:PHE:CE1	2:G:913:LYS:HD3	2.35	0.57
2:B:244:LEU:HD13	2:B:250:PRO:HG2	1.87	0.57
2:B:843:PRO:HD2	2:B:846:PHE:HD2	1.69	0.57
2:B:973:TYR:HD2	2:B:1234:ASN:OD1	1.88	0.57
2:B:1284:ASP:O	2:B:1285:ALA:C	2.43	0.57
2:G:547:ALA:O	2:G:551:LEU:HB2	2.04	0.57
2:G:668:ASN:O	2:G:678:THR:HG21	2.05	0.57
2:G:1202:SER:O	2:G:1213:MET:HA	2.05	0.57
2:G:1204:PHE:CE1	2:G:1342:VAL:CG1	2.88	0.57
2:B:229:LEU:HD13	2:B:232:GLU:N	2.18	0.57
2:B:339:VAL:O	2:B:342:GLN:O	2.22	0.57
2:B:359:TYR:CE1	2:B:399:LEU:CD2	2.85	0.57
2:B:1304:GLU:CB	2:B:1327:PHE:HE1	2.17	0.57
2:B:1325:LYS:HB2	2:B:1330:THR:HA	1.87	0.57
2:G:35:LEU:HD12	2:G:1358:THR:HG22	1.87	0.57
2:G:435:ASP:N	2:G:435:ASP:OD1	2.35	0.57
2:G:601:ILE:HD12	2:G:603:ASP:O	2.05	0.57
2:B:341:GLN:HE21	2:B:342:GLN:CB	2.18	0.56
2:B:1212:ARG:CZ	2:B:1336:TYR:HE2	2.18	0.56
2:B:1237:TYR:O	2:B:1242:TYR:HE1	1.88	0.56
2:G:78:ARG:NH1	2:G:165:ARG:HD3	2.19	0.56
2:G:131:LYS:HB3	2:G:132:TYR:CD2	2.40	0.56
2:G:135:ILE:O	2:G:138:LEU:N	2.37	0.56
2:G:718:ASP:HB3	2:G:722:GLU:CB	2.35	0.56
2:G:887:LEU:N	2:G:892:ILE:CG1	2.67	0.56
2:G:893:THR:HG22	2:G:896:LYS:CB	2.34	0.56
2:G:278:LEU:HD11	2:G:282:ILE:HG12	1.87	0.56
2:G:692:ASN:H	2:G:695:GLN:HG3	1.70	0.56
2:G:850:ASP:O	2:G:855:LYS:NZ	2.33	0.56
1:A:6:G:H2'	1:A:7:U:O4'	2.05	0.56
2:B:79:ILE:HD12	2:B:159:ALA:HB1	1.87	0.56
2:B:307:ARG:NH1	2:B:323:LYS:HZ3	2.04	0.56
2:B:342:GLN:OE1	2:B:384:ASP:O	2.22	0.56
2:B:655:ARG:HG3	2:B:655:ARG:NH1	2.21	0.56
2:B:905:ARG:HH11	2:B:905:ARG:CG	2.14	0.56
2:G:121:ASN:CG	2:G:124:ASP:HB2	2.24	0.56
2:G:585:ASP:CG	2:G:586:ARG:H	2.09	0.56
2:G:752:GLY:O	2:G:753:ARG:HB2	2.05	0.56
1:A:8:G:H2'	1:A:9:U:H6	1.70	0.56
2:B:128:TYR:HD1	2:B:132:TYR:HD2	1.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:601:ILE:HD11	2:B:603:ASP:HB3	1.87	0.56
1:E:53:G:C4	1:E:62:G:N2	2.73	0.56
2:G:730:SER:HB2	2:G:733:ILE:HB	1.87	0.56
2:G:1336:TYR:N	2:G:1336:TYR:HD1	2.03	0.56
2:B:350:ILE:O	2:B:359:TYR:N	2.39	0.56
2:B:758:ASN:HD22	2:B:995:THR:HG22	1.71	0.56
2:B:824:VAL:O	2:B:824:VAL:HG12	2.05	0.56
2:B:972:PHE:CZ	2:B:1083:VAL:HG11	2.41	0.56
2:B:1272:GLN:HE21	2:B:1272:GLN:CA	2.18	0.56
2:G:5:TYR:O	2:G:757:GLU:HB2	2.05	0.56
2:G:549:VAL:HA	2:G:553:PHE:HB2	1.88	0.56
2:G:623:LEU:HG	2:G:655:ARG:HA	1.86	0.56
2:G:870:VAL:HG22	2:G:908:LEU:HD22	1.51	0.56
2:G:1235:PHE:HE2	2:G:1266:LEU:HD12	1.69	0.56
1:A:27:G:H5'	1:A:28:A:H5''	1.87	0.56
1:A:89:G:N2	2:B:1227:ALA:O	2.39	0.56
2:B:143:VAL:CG1	2:B:315:ALA:HB2	2.31	0.56
2:B:376:ILE:HA	2:B:379:ILE:HD13	1.87	0.56
2:B:822:MET:HG3	2:B:883:TRP:HE1	1.69	0.56
1:E:89:G:H1	2:G:1272:GLN:CD	2.08	0.56
2:G:530:VAL:HG13	2:G:537:PRO:HB3	0.57	0.56
2:G:977:GLU:CG	2:G:1310:ILE:HG23	2.34	0.56
2:B:277:ASN:HB3	2:B:653:ARG:CZ	2.34	0.56
2:B:829:ASP:OD1	2:B:832:ARG:N	2.32	0.56
2:G:163:LYS:HB3	2:G:164:PHE:CD2	2.41	0.56
2:G:163:LYS:HD3	2:G:164:PHE:HE2	1.70	0.56
2:G:333:THR:O	2:G:336:LYS:HB3	2.05	0.56
2:G:492:ILE:O	2:G:496:THR:HG23	2.05	0.56
2:G:1204:PHE:CG	2:G:1342:VAL:CG1	2.88	0.56
2:G:1305:GLN:O	2:G:1309:ILE:HG13	2.06	0.56
2:B:9:LEU:HA	2:B:17:GLY:O	2.06	0.56
2:B:167:HIS:HD1	2:B:411:PRO:HA	1.69	0.56
2:B:273:ASP:HA	2:B:276:ASP:HB3	1.86	0.56
2:G:1314:THR:HG21	2:G:1324:PHE:CG	2.36	0.56
2:B:207:ASP:HB3	2:B:210:ALA:HB2	1.79	0.56
2:G:618:ASP:CB	2:G:639:TYR:OH	2.52	0.56
1:A:17:G:O2'	2:B:168:PHE:HD1	1.89	0.56
2:B:864:ARG:HA	2:B:875:VAL:HG21	1.88	0.56
2:B:1045:PHE:CD1	2:B:1045:PHE:N	2.73	0.56
1:E:51:A:C6	2:G:1105:PHE:CZ	2.94	0.56
1:E:86:C:N3	1:E:92:G:N1	2.48	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1001:TYR:HE2	2:G:1042:ILE:HD11	1.70	0.56
2:B:248:LEU:HD13	2:B:250:PRO:CD	2.36	0.55
2:B:594:TYR:OH	2:B:608:ASP:OD1	2.20	0.55
2:B:843:PRO:HD2	2:B:846:PHE:CD2	2.42	0.55
2:B:1204:PHE:CZ	2:B:1214:LEU:HD12	2.40	0.55
1:E:43:G:N2	2:G:360:ALA:HA	2.21	0.55
2:G:309:ASN:HB3	2:G:311:GLU:OE1	2.05	0.55
2:B:220:ARG:HG3	2:B:220:ARG:NH1	2.14	0.55
2:B:940:ASN:OD1	2:B:952:GLU:N	2.40	0.55
1:E:4:C:OP1	2:G:661:ARG:HG3	2.06	0.55
2:G:25:TYR:HE2	2:G:1074:TRP:HE3	1.47	0.55
2:G:181:VAL:CG2	2:G:299:ALA:HB1	2.36	0.55
2:B:430:TYR:CD1	2:B:430:TYR:N	2.73	0.55
2:B:606:PHE:HE2	2:B:612:ASN:CG	2.10	0.55
2:B:694:MET:SD	2:B:698:HIS:CD2	3.00	0.55
2:G:18:TRP:CZ3	2:G:747:LEU:HD21	2.41	0.55
2:G:361:GLY:O	2:G:365:GLY:N	2.40	0.55
2:B:18:TRP:CZ3	2:B:747:LEU:HD21	2.41	0.55
2:B:51:LEU:CD1	2:B:1352:ILE:HG13	2.35	0.55
2:B:195:LEU:HD22	2:B:289:LEU:HD12	1.87	0.55
2:B:275:LEU:HD11	2:B:279:LEU:HD12	1.88	0.55
2:B:508:LEU:CD1	2:B:663:SER:C	2.75	0.55
2:G:121:ASN:OD1	2:G:124:ASP:HB2	2.05	0.55
2:B:186:ILE:HD11	2:B:203:ALA:HB1	1.88	0.55
2:B:566:GLU:O	2:B:571:LYS:HD2	2.06	0.55
2:B:849:ASP:CB	2:B:854:ASN:HD22	2.13	0.55
2:G:220:ARG:HH11	2:G:220:ARG:HG3	1.71	0.55
2:G:557:ARG:HH12	2:G:599:LYS:HZ1	1.41	0.55
2:G:842:VAL:HG12	2:G:854:ASN:HD21	1.71	0.55
2:G:887:LEU:N	2:G:892:ILE:HB	2.22	0.55
2:G:918:LYS:HG3	2:G:1039:TYR:CE2	2.42	0.55
2:B:635:ARG:HH11	2:B:635:ARG:CG	2.20	0.55
2:G:179:SER:HA	2:G:310:THR:HG23	1.87	0.55
2:G:225:LEU:HD13	2:G:242:ILE:HG21	1.88	0.55
2:G:242:ILE:O	2:G:246:LEU:HD13	2.07	0.55
2:G:559:VAL:O	2:G:587:PHE:CD1	2.58	0.55
2:G:1204:PHE:CD1	2:G:1342:VAL:CG1	2.89	0.55
2:B:27:VAL:HG11	2:B:1089:MET:HE1	1.89	0.55
2:B:457:ARG:HG2	2:B:457:ARG:O	2.07	0.55
2:B:679:ILE:O	2:B:683:LEU:N	2.34	0.55
2:B:823:TYR:CD1	2:B:875:VAL:HG11	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:837:ASP:OD2	2:B:859:ARG:O	2.23	0.55
2:B:1230:SER:O	2:B:1233:VAL:N	2.40	0.55
1:E:86:C:H2'	1:E:87:G:O4'	2.07	0.55
2:G:174:LEU:HD21	2:G:413:GLN:HB3	1.88	0.55
2:G:810:LYS:HD3	2:G:857:LEU:HD12	1.87	0.55
2:G:970:PHE:N	2:G:970:PHE:CD2	2.75	0.55
2:G:1145:VAL:CG2	2:G:1187:TYR:CE1	2.73	0.55
2:B:212:LEU:O	2:B:221:ARG:NH1	2.39	0.55
1:E:4:C:O2'	1:E:5:C:H5'	2.07	0.55
1:E:91:C:C5	2:G:44:LYS:CG	2.85	0.55
2:G:5:TYR:OH	2:G:756:PRO:HG3	2.07	0.55
2:G:167:HIS:CE1	2:G:411:PRO:HA	2.42	0.55
2:G:264:LEU:HD21	2:G:278:LEU:HD23	1.89	0.55
2:G:359:TYR:O	2:G:363:ILE:HG12	2.07	0.55
2:G:499:ASP:O	2:G:502:LEU:O	2.25	0.55
2:G:672:ASP:OD1	2:G:702:LEU:CA	2.54	0.55
2:G:970:PHE:CD1	2:G:1080:PHE:CE1	2.95	0.55
2:B:167:HIS:HE1	2:B:411:PRO:HG3	1.71	0.55
2:B:489:GLN:HG3	2:B:625:LEU:CD2	2.36	0.55
2:B:1048:THR:HA	2:B:1076:LYS:HZ2	1.72	0.55
2:B:1277:SER:HB2	2:B:1287:LEU:HD22	1.88	0.55
2:G:256:PHE:CD2	2:G:282:ILE:HG23	2.41	0.55
2:G:700:ASP:N	2:G:700:ASP:OD1	2.38	0.55
2:G:1179:ILE:HG22	2:G:1183:GLU:HG3	1.88	0.55
2:B:679:ILE:HG12	2:B:704:PHE:HE1	1.71	0.54
2:B:988:TYR:CZ	2:B:1086:VAL:HG21	2.41	0.54
2:B:1284:ASP:OD1	2:B:1284:ASP:N	2.35	0.54
2:G:970:PHE:HD1	2:G:1080:PHE:CE1	2.25	0.54
2:B:161:MET:SD	2:B:419:LEU:HD12	2.46	0.54
2:B:244:LEU:CD1	2:B:250:PRO:CG	2.85	0.54
2:B:249:THR:HG22	2:B:265:GLN:HE21	1.70	0.54
2:B:393:LEU:HB2	2:B:398:LEU:HD12	1.88	0.54
2:B:681:ASP:HA	2:B:684:LYS:HE2	1.89	0.54
2:B:1302:ILE:HG23	2:B:1306:ALA:HB2	1.88	0.54
2:G:334:LEU:HB3	2:G:338:LEU:CD1	2.36	0.54
2:B:178:ASN:CB	2:B:299:ALA:HA	2.30	0.54
2:B:212:LEU:HD12	2:B:246:LEU:HD21	1.88	0.54
2:B:1303:ARG:O	2:B:1307:GLU:HG2	2.06	0.54
1:E:5:C:H5''	2:G:510:LYS:HE2	1.88	0.54
2:G:252:PHE:HZ	2:G:264:LEU:CD2	2.19	0.54
2:G:349:GLU:HG3	2:G:356:LYS:CD	2.34	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:601:ILE:HD12	2:G:603:ASP:N	2.22	0.54
2:G:1009:VAL:HG12	2:G:1010:TYR:N	2.22	0.54
2:G:1063:ILE:HG23	2:G:1072:ILE:HG23	1.82	0.54
2:G:1075:ASP:OD2	2:G:1078:ARG:HG3	2.07	0.54
2:G:1207:GLU:OE2	2:G:1210:ARG:HD3	2.06	0.54
2:G:802:GLU:N	2:G:805:GLN:HG3	2.23	0.54
2:B:207:ASP:CB	2:B:210:ALA:CB	2.56	0.54
2:B:277:ASN:HB3	2:B:653:ARG:NE	2.23	0.54
2:B:495:MET:HB3	3:C:17:DA:H1'	1.89	0.54
2:B:1101:GLN:HB2	2:B:1140:ALA:HA	1.88	0.54
2:B:1305:GLN:CA	2:B:1327:PHE:CZ	2.73	0.54
2:G:70:ARG:HD2	2:G:74:ARG:HH21	1.72	0.54
2:G:163:LYS:HD3	2:G:164:PHE:CE2	2.42	0.54
2:G:334:LEU:HB3	2:G:338:LEU:HD12	1.89	0.54
2:G:368:SER:OG	2:G:371:GLU:N	2.31	0.54
2:G:889:ALA:C	2:G:890:LYS:HG2	2.28	0.54
2:B:37:ASN:OD1	2:B:37:ASN:N	2.39	0.54
2:B:207:ASP:O	2:B:210:ALA:N	2.40	0.54
1:E:67:C:H42	2:G:1100:VAL:N	2.05	0.54
2:G:182:ASP:HA	2:G:208:ALA:HB3	1.88	0.54
2:G:439:LYS:O	2:G:443:ILE:HG13	2.08	0.54
2:G:625:LEU:C	2:G:626:PHE:HD1	2.10	0.54
1:A:19:A:C4'	2:B:407:ASN:O	2.45	0.54
2:B:167:HIS:ND1	2:B:167:HIS:O	2.41	0.54
2:B:360:ALA:O	2:B:364:ASP:HB2	2.08	0.54
2:B:1325:LYS:HG3	2:B:1326:TYR:O	2.08	0.54
2:G:864:ARG:O	2:G:872:SER:HB3	2.08	0.54
2:G:874:GLU:HA	2:G:877:LYS:HZ3	1.72	0.54
2:G:889:ALA:HB3	2:G:891:LEU:HG	1.90	0.54
1:A:81:G:N1	2:B:1356:TYR:HB3	2.23	0.54
2:B:181:VAL:CG2	2:B:209:LYS:CA	2.84	0.54
3:C:17:DA:H2'	3:C:18:DG:C8	2.43	0.54
2:G:201:ILE:HD12	2:G:238:PHE:HD1	1.73	0.54
2:G:278:LEU:HD12	2:G:282:ILE:CG1	2.30	0.54
2:G:988:TYR:CE2	2:G:992:VAL:HG21	2.43	0.54
1:A:91:C:H2'	2:B:44:LYS:O	2.07	0.54
2:B:567:ASP:O	2:B:571:LYS:HB2	2.07	0.54
2:G:240:ASN:O	2:G:244:LEU:N	2.38	0.54
2:G:373:TYR:HE1	2:G:398:LEU:HD23	1.73	0.54
2:G:762:GLU:OE1	2:G:990:ASN:ND2	2.26	0.54
2:G:1290:VAL:CG1	2:G:1312:LEU:HD11	2.35	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:762:GLU:OE1	2:B:990:ASN:ND2	2.41	0.54
1:E:12:U:H2'	1:E:13:A:H8	1.72	0.54
2:G:220:ARG:O	2:G:224:ASN:ND2	2.40	0.54
2:G:253:LYS:CE	2:G:261:ASP:HA	2.37	0.54
2:G:282:ILE:CG2	2:G:286:TYR:HD1	2.21	0.54
2:G:879:MET:O	2:G:883:TRP:CD2	2.60	0.54
2:G:892:ILE:CG2	2:G:893:THR:N	2.71	0.54
2:G:1326:TYR:HE2	2:G:1327:PHE:CD2	2.25	0.54
2:B:58:THR:CG2	2:B:731:PRO:HG3	2.22	0.53
2:B:114:GLU:HG2	2:B:120:GLY:O	2.08	0.53
2:B:270:THR:OG1	2:B:629:ARG:NH1	2.41	0.53
2:B:317:LEU:HD22	2:B:414:ILE:CD1	2.38	0.53
2:B:1146:VAL:O	2:B:1146:VAL:HG13	2.07	0.53
2:G:545:LYS:CE	2:G:690:ASN:ND2	2.71	0.53
2:G:629:ARG:HB2	6:G:1513:HOH:O	2.07	0.53
1:A:42:A:O2'	1:A:43:G:OP1	2.23	0.53
2:B:275:LEU:CD1	2:B:279:LEU:CG	2.86	0.53
2:B:557:ARG:HH11	2:B:557:ARG:CG	2.12	0.53
2:B:569:PHE:CD1	2:B:575:PHE:CE2	2.97	0.53
2:B:927:ILE:O	2:B:931:VAL:HG23	2.08	0.53
2:B:963:VAL:HG21	2:B:990:ASN:OD1	2.08	0.53
2:B:1216:SER:HB2	4:D:6:DG:H5''	1.90	0.53
2:B:1315:LEU:HD12	2:B:1315:LEU:C	2.29	0.53
2:G:442:LYS:HE3	2:G:476:TRP:HD1	1.72	0.53
2:G:617:GLU:CG	2:G:664:ARG:NH1	2.58	0.53
2:G:870:VAL:CG1	2:G:871:PRO:CD	2.83	0.53
2:B:691:ARG:HB3	2:B:696:LEU:CD2	2.35	0.53
2:B:1038:PHE:HD1	2:B:1038:PHE:O	1.92	0.53
2:B:1135:ASP:OD2	4:D:8:DT:H5''	2.09	0.53
3:C:24:DG:C2'	3:C:25:DG:C5'	2.86	0.53
1:E:45:U:O2'	2:G:135:ILE:HG22	2.08	0.53
2:G:40:ARG:C	2:G:41:HIS:HD1	2.12	0.53
2:G:279:LEU:CD2	2:G:283:GLY:O	2.56	0.53
2:G:849:ASP:OD2	2:G:851:SER:OG	2.25	0.53
2:G:870:VAL:HG23	2:G:908:LEU:CG	2.34	0.53
2:B:736:GLY:O	2:B:740:THR:HG22	2.09	0.53
2:B:1220:LEU:HD21	2:B:1342:VAL:HG21	1.89	0.53
2:G:830:ILE:CD1	2:G:831:ASN:H	2.22	0.53
2:B:523:GLU:OE1	2:B:588:ASN:HB2	2.09	0.53
2:G:795:ILE:HG23	2:G:796:LEU:CD2	2.39	0.53
2:G:893:THR:CG2	2:G:896:LYS:HB2	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1142:SER:HB3	2:G:1165:GLY:HA2	1.89	0.53
2:B:81:TYR:O	2:B:85:ILE:HG13	2.09	0.53
1:E:39:G:H5'	1:E:40:C:OP2	2.09	0.53
2:G:1150:GLU:HA	2:G:1156:LYS:O	2.09	0.53
2:B:275:LEU:HD11	2:B:279:LEU:CD1	2.38	0.53
2:G:530:VAL:HG23	2:G:579:GLU:CB	2.27	0.53
2:G:575:PHE:N	2:G:575:PHE:CD1	2.73	0.53
2:G:675:SER:OG	2:G:677:LYS:HD2	2.08	0.53
2:G:1240:SER:O	2:G:1307:GLU:HG3	2.08	0.53
2:G:1241:HIS:CE1	2:G:1245:LEU:HD12	2.43	0.53
2:B:249:THR:CG2	2:B:265:GLN:HE21	2.22	0.53
2:B:1200:LYS:O	2:B:1201:TYR:HB2	2.08	0.53
2:G:50:ALA:HB2	2:G:984:ALA:HB2	1.91	0.53
2:B:1216:SER:CB	4:D:6:DG:H3'	2.38	0.53
2:G:275:LEU:O	2:G:279:LEU:N	2.41	0.53
2:G:1141:TYR:HE2	2:G:1171:ARG:HD2	1.74	0.53
2:G:114:GLU:HG3	2:G:120:GLY:HA2	1.91	0.53
2:G:206:VAL:CG1	2:G:211:ILE:CD1	2.86	0.53
2:G:238:PHE:CE2	2:G:242:ILE:CD1	2.92	0.53
2:G:798:GLU:CG	2:G:799:HIS:CE1	2.85	0.53
2:G:963:VAL:HG21	2:G:990:ASN:CG	2.29	0.53
2:G:1097:LYS:HG3	2:G:1099:GLU:HG3	1.89	0.53
2:G:1244:LYS:HB3	2:G:1244:LYS:NZ	2.24	0.53
2:B:432:PHE:CD1	2:B:433:LEU:N	2.77	0.52
2:B:1203:LEU:HD21	2:B:1211:LYS:CD	2.40	0.52
2:B:1210:ARG:HA	2:B:1280:VAL:HG13	1.90	0.52
2:G:29:SER:CB	2:G:44:LYS:NZ	2.72	0.52
2:G:103:GLU:C	2:G:106:LEU:CD1	2.76	0.52
2:G:140:LYS:O	2:G:144:ASP:HB2	2.08	0.52
2:G:141:LYS:HD3	2:G:142:LEU:HD23	1.91	0.52
2:G:491:PHE:O	2:G:495:MET:HE2	2.07	0.52
2:G:525:THR:HG22	2:G:690:ASN:CB	2.23	0.52
2:G:760:VAL:HG21	2:G:991:ALA:HA	1.92	0.52
2:G:1002:PRO:O	2:G:1005:GLU:HB2	2.08	0.52
2:B:979:ASN:CG	2:B:981:TYR:CD1	2.75	0.52
2:G:252:PHE:CE1	2:G:278:LEU:CD2	2.77	0.52
2:G:626:PHE:N	2:G:626:PHE:CD1	2.73	0.52
2:G:1143:VAL:HG21	2:G:1174:PHE:HE2	1.73	0.52
2:B:69:ARG:O	2:B:73:THR:HG23	2.09	0.52
2:B:165:ARG:O	2:B:415:HIS:ND1	2.42	0.52
2:B:246:LEU:N	2:B:246:LEU:CD1	2.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:268:LYS:HD3	6:B:1520:HOH:O	2.08	0.52
2:B:373:TYR:HA	2:B:376:ILE:CD1	2.40	0.52
2:B:694:MET:SD	2:B:698:HIS:NE2	2.82	0.52
2:B:811:LEU:HD13	2:B:811:LEU:C	2.29	0.52
2:G:24:GLU:O	2:G:25:TYR:HB2	2.09	0.52
2:G:182:ASP:HB3	2:G:209:LYS:H	1.74	0.52
2:G:307:ARG:CZ	2:G:307:ARG:CB	2.87	0.52
2:G:356:LYS:O	2:G:357:ASN:HB2	2.09	0.52
2:G:880:LYS:O	2:G:883:TRP:HB2	2.09	0.52
2:G:1291:LEU:N	2:G:1291:LEU:HD23	2.24	0.52
2:B:277:ASN:O	2:B:281:GLN:NE2	2.42	0.52
2:B:525:THR:HG22	2:B:690:ASN:HB2	1.92	0.52
2:B:553:PHE:CD1	2:B:559:VAL:HG21	2.44	0.52
2:B:911:LEU:HA	2:B:1032:ALA:CB	2.39	0.52
3:C:23:DC:C2'	3:C:24:DG:C5'	2.82	0.52
2:G:313:THR:CG2	2:G:316:PRO:HA	2.39	0.52
2:G:637:LYS:O	2:G:640:ALA:HB3	2.10	0.52
2:G:703:THR:O	2:G:706:GLU:HG2	2.09	0.52
2:G:1126:TRP:N	2:G:1126:TRP:CD1	2.73	0.52
2:B:570:LYS:HA	2:B:574:CYS:HA	1.91	0.52
2:G:332:LEU:HD12	2:G:332:LEU:C	2.30	0.52
2:G:508:LEU:HD21	2:G:664:ARG:CA	2.38	0.52
2:G:806:LEU:HD22	2:G:812:TYR:HD1	1.74	0.52
2:G:1096:LYS:HG2	2:G:1201:TYR:HB3	1.92	0.52
2:G:1123:LYS:CE	6:G:1504:HOH:O	2.54	0.52
2:B:340:ARG:CA	2:B:344:PRO:HG3	2.40	0.52
2:B:379:ILE:CD1	2:B:379:ILE:N	2.73	0.52
2:B:437:ARG:O	2:B:441:GLU:HG3	2.08	0.52
2:B:561:VAL:CG2	2:B:584:GLU:O	2.57	0.52
2:G:565:LYS:HG2	2:G:578:VAL:HG11	1.88	0.52
2:G:578:VAL:CG2	2:G:579:GLU:N	2.73	0.52
2:G:876:VAL:HG13	2:G:901:THR:HG22	1.92	0.52
2:B:520:VAL:HG21	2:B:591:LEU:CD2	2.40	0.52
2:B:963:VAL:CG2	2:B:990:ASN:OD1	2.57	0.52
2:B:1284:ASP:O	2:B:1287:LEU:N	2.43	0.52
2:G:202:ASN:OD1	2:G:203:ALA:N	2.43	0.52
2:G:204:SER:OG	2:G:206:VAL:HG23	2.10	0.52
2:G:455:LEU:N	2:G:455:LEU:CD1	2.73	0.52
1:A:19:A:H4'	2:B:407:ASN:C	2.27	0.52
2:B:393:LEU:HD23	2:B:393:LEU:O	2.10	0.52
2:B:492:ILE:CD1	2:B:625:LEU:O	2.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:759:ILE:HG21	2:B:935:LEU:HD23	1.92	0.52
2:B:974:LYS:HZ3	2:B:976:ARG:HH11	1.57	0.52
2:B:1351:SER:OG	2:B:1356:TYR:HB2	2.10	0.52
2:G:307:ARG:CB	2:G:307:ARG:NH1	2.73	0.52
2:G:501:ASN:O	2:G:502:LEU:HD12	2.10	0.52
2:G:905:ARG:NH1	3:H:24:DG:H5''	2.25	0.52
2:B:7:ILE:O	2:B:759:ILE:HA	2.08	0.52
2:B:40:ARG:NE	2:B:43:ILE:CD1	2.73	0.52
2:B:244:LEU:HD13	2:B:250:PRO:CG	2.40	0.52
2:B:1314:THR:HG23	2:B:1324:PHE:CG	2.43	0.52
2:G:209:LYS:O	2:G:213:SER:HB3	2.09	0.52
2:G:246:LEU:N	2:G:246:LEU:CD1	2.73	0.52
2:G:380:LEU:CG	2:G:386:THR:CG2	2.87	0.52
2:G:730:SER:O	2:G:734:LYS:HG3	2.09	0.52
2:B:66:ARG:NH2	2:B:462:PHE:CE2	2.61	0.52
2:B:261:ASP:OD1	2:B:261:ASP:N	2.38	0.52
2:B:738:LEU:HD23	2:B:738:LEU:C	2.30	0.52
2:B:905:ARG:NH1	2:B:905:ARG:CG	2.73	0.52
1:E:41:A:C2'	1:E:42:A:H5''	2.39	0.52
2:G:66:ARG:NH1	2:G:462:PHE:CE1	2.78	0.52
2:G:132:TYR:CD2	2:G:132:TYR:N	2.77	0.52
2:G:632:ILE:O	2:G:636:LEU:HD23	2.10	0.52
2:G:763:MET:SD	2:G:928:THR:HB	2.49	0.52
2:G:846:PHE:O	2:G:916:PHE:HB3	2.10	0.52
2:B:1255:LYS:N	2:B:1255:LYS:CE	2.73	0.51
2:G:335:LEU:N	2:G:338:LEU:HD12	2.26	0.51
2:G:358:GLY:O	2:G:361:GLY:N	2.42	0.51
2:G:359:TYR:CE2	2:G:363:ILE:HG13	2.44	0.51
2:G:720:LEU:O	2:G:723:HIS:CA	2.58	0.51
2:G:841:ILE:HD13	2:G:900:LEU:HD21	1.93	0.51
2:G:1046:PHE:HD1	2:G:1074:TRP:NE1	2.08	0.51
2:B:226:ILE:HA	2:B:229:LEU:HG	1.92	0.51
2:B:275:LEU:CD1	2:B:279:LEU:CB	2.87	0.51
2:B:558:LYS:HD2	2:B:586:ARG:HD2	1.92	0.51
2:B:870:VAL:CG1	2:B:871:PRO:CD	2.85	0.51
2:B:975:VAL:HG23	2:B:1233:VAL:HG12	1.92	0.51
2:G:718:ASP:OD2	2:G:722:GLU:OE1	2.27	0.51
2:G:1213:MET:HE3	2:G:1221:GLN:NE2	2.23	0.51
2:B:181:VAL:CG2	2:B:209:LYS:HA	2.33	0.51
2:B:830:ILE:CD1	2:B:831:ASN:N	2.73	0.51
1:E:88:A:N3	2:G:1090:PRO:HG2	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:222:LEU:CD1	2:G:223:GLU:N	2.73	0.51
2:G:359:TYR:O	2:G:359:TYR:HD2	1.94	0.51
2:G:560:THR:OG1	2:G:563:GLN:CB	2.58	0.51
2:G:672:ASP:CA	2:G:704:PHE:CE2	2.92	0.51
2:B:429:PHE:N	2:B:429:PHE:HD2	2.09	0.51
2:B:974:LYS:HZ3	2:B:976:ARG:NH1	2.08	0.51
2:B:1048:THR:HA	2:B:1076:LYS:NZ	2.25	0.51
2:B:128:TYR:CD1	2:B:132:TYR:HD2	2.27	0.51
2:B:313:THR:O	2:B:313:THR:HG23	2.10	0.51
2:B:708:ILE:HD13	2:B:708:ILE:N	2.25	0.51
2:B:827:GLU:O	2:B:828:LEU:HD23	2.10	0.51
2:B:844:GLN:HA	2:B:847:LEU:O	2.11	0.51
2:B:870:VAL:HG23	2:B:908:LEU:HG	1.91	0.51
2:B:910:GLU:HG2	2:B:1033:THR:HG22	1.91	0.51
2:B:1203:LEU:HD21	2:B:1211:LYS:HD2	1.92	0.51
2:G:335:LEU:HD12	2:G:339:VAL:HG23	1.92	0.51
2:G:643:PHE:HB3	2:G:647:VAL:HB	1.91	0.51
2:G:672:ASP:CG	2:G:703:THR:H	2.14	0.51
2:G:686:ASP:OD1	2:G:687:GLY:N	2.34	0.51
2:G:720:LEU:HA	2:G:723:HIS:HB2	1.93	0.51
2:G:874:GLU:CA	2:G:877:LYS:HZ3	2.23	0.51
2:G:965:ASP:HA	2:G:968:LYS:NZ	2.26	0.51
2:G:1177:ASN:ND2	2:G:1180:ASP:OD2	2.43	0.51
2:G:1244:LYS:NZ	2:G:1244:LYS:CB	2.73	0.51
2:B:123:VAL:HG13	2:B:124:ASP:N	2.25	0.51
2:B:244:LEU:CG	2:B:266:LEU:CD1	2.78	0.51
1:E:50:U:O4	2:G:75:ARG:NH1	2.39	0.51
2:G:673:LYS:N	2:G:703:THR:CG2	2.63	0.51
2:G:759:ILE:HD13	2:G:935:LEU:HD23	1.93	0.51
2:G:796:LEU:CD2	2:G:796:LEU:N	2.73	0.51
2:G:976:ARG:HB2	2:G:977:GLU:OE2	2.10	0.51
1:A:91:C:H6	2:B:44:LYS:O	1.94	0.51
2:B:153:LEU:HD23	2:B:156:LEU:HD12	1.93	0.51
2:B:274:ASP:O	2:B:278:LEU:HB3	2.11	0.51
2:B:341:GLN:NE2	2:B:342:GLN:CG	2.73	0.51
2:B:530:VAL:HG22	2:B:537:PRO:HA	1.90	0.51
2:B:708:ILE:O	2:B:711:ALA:N	2.44	0.51
2:B:1145:VAL:CG1	2:B:1182:LEU:CD1	2.89	0.51
2:B:1314:THR:HG23	2:B:1324:PHE:CD1	2.46	0.51
1:E:44:U:O2'	2:G:402:GLN:HG2	2.11	0.51
2:G:350:ILE:O	2:G:350:ILE:HG22	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:702:LEU:HD23	2:G:702:LEU:H	1.73	0.51
2:G:892:ILE:HG21	2:G:897:PHE:HB2	1.93	0.51
2:G:1315:LEU:HD12	2:G:1315:LEU:C	2.31	0.51
3:H:24:DG:H2'	3:H:25:DG:H4'	1.93	0.51
1:A:14:A:H5''	2:B:66:ARG:NH1	2.26	0.51
2:B:842:VAL:HG12	2:B:854:ASN:HD21	1.66	0.51
2:B:1262:HIS:O	2:B:1265:TYR:HB2	2.10	0.51
1:E:11:C:N4	1:E:12:U:O4	2.44	0.51
2:G:47:LEU:N	2:G:47:LEU:CD2	2.73	0.51
2:G:297:SER:O	2:G:301:LEU:CB	2.58	0.51
2:G:550:ASP:HA	2:G:554:LYS:HG3	1.93	0.51
2:G:827:GLU:C	2:G:828:LEU:HD23	2.30	0.51
2:G:1277:SER:HB2	2:G:1287:LEU:HD22	1.85	0.51
2:B:40:ARG:NE	2:B:43:ILE:HD11	2.25	0.51
2:B:248:LEU:CD1	2:B:250:PRO:CD	2.89	0.51
2:B:414:ILE:O	2:B:418:GLU:N	2.40	0.51
2:B:788:ILE:HG13	2:B:796:LEU:HG	1.93	0.51
2:G:118:ILE:HG12	2:G:125:GLU:CD	2.30	0.51
2:G:167:HIS:CD2	2:G:169:LEU:HB2	2.46	0.51
2:G:269:ASP:OD1	2:G:270:THR:N	2.44	0.51
2:G:692:ASN:N	2:G:695:GLN:HB2	2.26	0.51
2:G:843:PRO:HD2	2:G:846:PHE:HD2	1.76	0.51
2:B:625:LEU:HD13	2:B:659:TRP:CZ2	2.46	0.51
2:B:801:VAL:HG11	2:B:815:TYR:CE2	2.46	0.51
3:C:1:DC:H42	4:D:12:DG:H1	1.57	0.51
1:E:29:G:H1	1:E:40:C:H42	1.59	0.51
2:G:278:LEU:HD12	2:G:278:LEU:C	2.30	0.51
2:G:864:ARG:NH1	2:G:864:ARG:CG	2.73	0.51
2:B:369:GLN:OE1	2:B:400:ARG:NH1	2.44	0.50
2:B:553:PHE:CD1	2:B:559:VAL:CG2	2.94	0.50
2:B:1031:LYS:HZ2	2:G:1068:GLU:CD	2.12	0.50
2:B:1204:PHE:CD1	2:B:1347:LEU:HG	2.45	0.50
2:B:1242:TYR:CD1	2:B:1242:TYR:N	2.72	0.50
2:B:1250:GLU:O	2:B:1254:GLN:OE1	2.28	0.50
2:G:324:ARG:CZ	2:G:400:ARG:HH12	2.12	0.50
2:G:334:LEU:O	2:G:338:LEU:HD12	2.11	0.50
2:G:696:LEU:HD12	2:G:702:LEU:CD1	2.40	0.50
1:A:83:C:H2'	1:A:84:A:C8	2.46	0.50
2:B:207:ASP:HB2	2:B:210:ALA:HB3	1.84	0.50
2:B:723:HIS:CD2	2:B:727:LEU:HD21	2.47	0.50
2:B:823:TYR:OH	2:B:839:ASP:OD2	2.19	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:162:ILE:HD13	2:G:443:ILE:CG2	2.42	0.50
2:G:240:ASN:O	2:G:243:ALA:HB3	2.11	0.50
2:G:637:LYS:O	2:G:640:ALA:CB	2.59	0.50
2:G:1212:ARG:CZ	2:G:1336:TYR:CE2	2.84	0.50
2:B:186:ILE:CD1	2:B:203:ALA:HB1	2.42	0.50
2:B:240:ASN:ND2	6:B:1503:HOH:O	2.43	0.50
2:B:429:PHE:HB2	2:B:430:TYR:CE1	2.46	0.50
2:B:429:PHE:N	2:B:429:PHE:CD2	2.78	0.50
2:B:1045:PHE:HD1	2:B:1045:PHE:N	2.06	0.50
2:G:136:TYR:HD1	2:G:321:MET:HG3	1.70	0.50
2:G:830:ILE:H	2:G:830:ILE:CD1	2.20	0.50
2:B:492:ILE:HD12	2:B:625:LEU:O	2.11	0.50
2:B:655:ARG:HH11	2:B:655:ARG:HG3	1.76	0.50
2:B:897:PHE:CZ	2:B:901:THR:HG21	2.46	0.50
2:B:1038:PHE:CD1	2:B:1038:PHE:C	2.85	0.50
2:G:234:LYS:HE3	2:G:234:LYS:C	2.31	0.50
2:G:317:LEU:HD12	2:G:317:LEU:C	2.27	0.50
2:G:349:GLU:OE2	2:G:356:LYS:HD2	2.10	0.50
2:G:521:TYR:CE1	2:G:549:VAL:HG21	2.47	0.50
2:G:557:ARG:O	2:G:590:SER:CB	2.60	0.50
2:G:592:GLY:O	2:G:596:ASP:N	2.37	0.50
2:G:781:MET:CB	2:G:803:ASN:OD1	2.60	0.50
2:G:1248:SER:O	2:G:1252:ASN:N	2.39	0.50
2:B:97:PHE:HD2	2:B:98:PHE:CD1	2.30	0.50
2:B:106:LEU:HD23	2:B:110:ASP:CB	2.41	0.50
2:B:114:GLU:CG	2:B:120:GLY:O	2.60	0.50
2:B:971:GLN:HA	2:B:973:TYR:CE2	2.47	0.50
2:G:142:LEU:CB	2:G:422:ILE:HG12	2.41	0.50
2:G:218:LYS:CD	2:G:218:LYS:N	2.73	0.50
2:G:16:VAL:HB	2:G:51:LEU:HD23	1.93	0.50
2:G:38:THR:CG2	2:G:39:ASP:N	2.73	0.50
2:G:359:TYR:C	2:G:359:TYR:CD2	2.85	0.50
2:G:1206:LEU:HD23	2:G:1345:ALA:HB2	1.93	0.50
2:B:302:LEU:O	2:B:305:ILE:HD12	2.11	0.50
2:B:531:THR:CG2	2:B:534:MET:SD	2.94	0.50
2:B:830:ILE:HD13	2:B:831:ASN:CG	2.32	0.50
2:G:148:LYS:N	2:G:429:PHE:CE1	2.79	0.50
3:H:19:DA:H5''	3:H:19:DA:H8	1.76	0.50
2:B:1272:GLN:NE2	2:B:1272:GLN:CA	2.73	0.50
2:G:118:ILE:HB	2:G:119:PHE:CE2	2.45	0.50
2:G:495:MET:CG	3:H:17:DA:H1'	2.36	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:524:LEU:HD23	2:G:527:VAL:HG21	1.94	0.50
2:G:629:ARG:CB	6:G:1513:HOH:O	2.60	0.50
2:G:679:ILE:HA	2:G:682:PHE:HB2	1.94	0.50
2:G:874:GLU:CG	2:G:877:LYS:NZ	2.73	0.50
2:B:78:ARG:CZ	2:B:165:ARG:HH11	2.24	0.50
2:B:296:LEU:HD23	2:B:296:LEU:O	2.11	0.50
2:B:1033:THR:O	2:B:1036:TYR:HB3	2.12	0.50
2:B:1145:VAL:CG1	2:B:1182:LEU:HD13	2.42	0.50
2:G:499:ASP:HB3	2:G:502:LEU:N	2.20	0.50
2:G:541:SER:O	2:G:544:GLN:N	2.45	0.50
2:B:398:LEU:O	2:B:398:LEU:HD23	2.11	0.49
2:B:404:THR:O	2:B:407:ASN:ND2	2.43	0.49
2:B:1235:PHE:C	2:B:1235:PHE:CD2	2.85	0.49
2:G:48:ILE:HG13	2:G:49:GLY:N	2.27	0.49
2:G:271:TYR:C	2:G:271:TYR:CD2	2.85	0.49
2:G:842:VAL:HG13	2:G:842:VAL:O	2.12	0.49
2:G:1241:HIS:HE1	2:G:1245:LEU:HD11	1.76	0.49
3:H:10:DT:H2''	3:H:11:DT:H6	1.76	0.49
2:B:647:VAL:O	2:B:651:LEU:N	2.43	0.49
2:B:870:VAL:CG2	2:B:908:LEU:HD23	2.20	0.49
2:B:910:GLU:CG	2:B:1033:THR:HG22	2.43	0.49
2:B:1062:LEU:HD21	2:B:1063:ILE:CG1	2.39	0.49
2:B:1224:ASN:N	2:B:1224:ASN:ND2	2.60	0.49
2:G:175:ASN:N	2:G:175:ASN:ND2	2.60	0.49
2:G:249:THR:HG22	2:G:265:GLN:HB2	1.93	0.49
2:G:625:LEU:C	2:G:626:PHE:CD1	2.85	0.49
2:G:759:ILE:HD13	2:G:935:LEU:CD2	2.42	0.49
1:A:44:U:N3	2:B:328:HIS:HB3	2.27	0.49
2:B:338:LEU:HD22	2:B:341:GLN:HG2	1.95	0.49
2:B:419:LEU:HD21	2:B:440:ILE:HG22	1.94	0.49
2:B:738:LEU:HD23	2:B:738:LEU:O	2.12	0.49
2:B:1121:ALA:HB2	2:B:1128:PRO:HD3	1.95	0.49
2:G:11:ILE:HB	2:G:763:MET:HG2	1.95	0.49
2:G:143:VAL:HG21	2:G:315:ALA:HB2	1.94	0.49
2:G:167:HIS:CD2	2:G:169:LEU:HD12	2.47	0.49
2:G:405:PHE:C	2:G:405:PHE:CD2	2.85	0.49
2:G:927:ILE:O	2:G:931:VAL:HG23	2.12	0.49
1:A:97:U:H2'	1:A:98:C:O4'	2.11	0.49
2:B:5:TYR:HD2	2:B:20:VAL:HG13	1.77	0.49
2:B:369:GLN:CD	2:B:404:THR:HG22	2.32	0.49
2:B:1031:LYS:O	2:B:1031:LYS:HD3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:359:TYR:CE2	2:G:363:ILE:CG1	2.96	0.49
2:G:625:LEU:CG	2:G:626:PHE:CE1	2.95	0.49
2:G:1047:LYS:NZ	2:G:1049:GLU:O	2.45	0.49
2:G:1215:ALA:HB1	4:J:6:DG:O5'	2.12	0.49
1:A:59:U:O4	2:B:475:PRO:HG3	2.12	0.49
2:B:644:ASP:HB3	2:B:647:VAL:HG23	1.94	0.49
2:B:969:ASP:C	2:B:970:PHE:CD2	2.85	0.49
1:E:48:A:H2'	1:E:49:A:C8	2.47	0.49
2:G:554:LYS:HD3	2:G:594:TYR:CE1	2.47	0.49
2:G:560:THR:OG1	2:G:563:GLN:N	2.37	0.49
2:G:665:LYS:O	2:G:669:GLY:N	2.39	0.49
2:G:874:GLU:O	2:G:877:LYS:HD2	2.12	0.49
2:G:933:GLN:CG	2:G:1010:TYR:OH	2.60	0.49
2:G:1256:GLN:NE2	2:G:1260:GLU:CG	2.73	0.49
1:A:74:A:H3'	1:A:75:A:C8	2.47	0.49
2:B:583:VAL:HG22	2:B:584:GLU:H	1.77	0.49
2:B:844:GLN:NE2	2:B:848:LYS:CD	2.76	0.49
1:E:51:A:C5	2:G:1105:PHE:CE2	3.01	0.49
1:E:96:C:H2'	1:E:97:U:C6	2.48	0.49
2:G:45:LYS:NZ	2:G:1354:GLY:O	2.44	0.49
2:G:103:GLU:CA	2:G:106:LEU:CD1	2.91	0.49
2:G:530:VAL:HG12	2:G:537:PRO:CA	2.42	0.49
2:G:886:LEU:CA	2:G:892:ILE:HD12	2.42	0.49
2:G:1096:LYS:HE2	2:G:1201:TYR:CD2	2.47	0.49
2:G:1219:GLU:CG	2:G:1220:LEU:N	2.75	0.49
2:B:814:TYR:C	2:B:814:TYR:CD1	2.85	0.49
2:B:1241:HIS:CE1	2:B:1244:LYS:C	2.85	0.49
2:B:1286:ASN:O	2:B:1289:LYS:HB3	2.12	0.49
2:G:234:LYS:HE2	2:G:235:ASN:CG	2.33	0.49
2:G:1250:GLU:HG2	2:G:1251:ASP:H	1.77	0.49
2:B:212:LEU:HD21	2:B:225:LEU:CD1	2.41	0.49
2:B:341:GLN:CG	2:B:342:GLN:HG2	2.41	0.49
2:B:410:ILE:HD12	2:B:410:ILE:N	2.27	0.49
2:B:432:PHE:CE1	2:B:433:LEU:HG	2.48	0.49
2:B:1230:SER:HA	2:B:1233:VAL:HG21	1.86	0.49
2:B:1287:LEU:HD12	2:B:1287:LEU:C	2.32	0.49
2:G:6:SER:HG	2:G:757:GLU:HB2	1.77	0.49
2:G:128:TYR:O	2:G:132:TYR:HD2	1.95	0.49
2:G:970:PHE:N	2:G:970:PHE:HD2	2.11	0.49
2:B:94:ASP:HB2	2:B:152:ARG:HD3	1.94	0.49
2:B:114:GLU:CD	2:B:120:GLY:O	2.50	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:181:VAL:HG12	2:B:300:ILE:CG1	2.43	0.49
2:B:606:PHE:CE2	2:B:612:ASN:CG	2.85	0.49
2:B:821:ASP:HB3	2:B:824:VAL:HB	1.95	0.49
2:B:926:GLN:HA	2:B:929:LYS:HE3	1.93	0.49
1:E:16:U:H4'	2:G:448:ILE:O	2.13	0.49
2:G:139:ARG:HB3	2:G:139:ARG:HH11	1.78	0.49
2:G:207:ASP:HB2	2:G:210:ALA:H	1.78	0.49
2:G:419:LEU:HD22	2:G:444:LEU:HD13	1.95	0.49
2:G:702:LEU:N	2:G:702:LEU:CD2	2.73	0.49
1:A:39:G:H5'	1:A:40:C:OP2	2.12	0.49
2:B:508:LEU:CD1	2:B:663:SER:O	2.61	0.49
2:B:1302:ILE:O	2:B:1306:ALA:HB2	2.12	0.49
2:G:1241:HIS:CE1	2:G:1245:LEU:HD11	2.47	0.49
2:G:1324:PHE:N	2:G:1324:PHE:CD1	2.80	0.49
2:B:78:ARG:HD3	2:B:165:ARG:NH1	2.27	0.48
2:B:143:VAL:HG13	2:B:421:ALA:CB	2.43	0.48
2:B:568:TYR:O	2:B:572:ILE:HB	2.12	0.48
2:B:874:GLU:HA	2:B:877:LYS:CD	2.42	0.48
2:B:933:GLN:OE1	2:B:934:ILE:N	2.46	0.48
2:B:1237:TYR:C	2:B:1237:TYR:CD1	2.86	0.48
3:C:1:DC:N4	3:C:2:DA:N1	2.61	0.48
1:E:81:G:H22	2:G:35:LEU:CD1	2.17	0.48
2:G:139:ARG:HH11	2:G:139:ARG:CB	2.26	0.48
2:G:455:LEU:N	2:G:455:LEU:HD12	2.28	0.48
2:G:759:ILE:HG21	2:G:935:LEU:HD23	1.95	0.48
2:G:1212:ARG:NH1	2:G:1336:TYR:HE2	2.09	0.48
2:B:201:ILE:HG22	2:B:202:ASN:N	2.28	0.48
2:G:949:LEU:HG	2:G:950:ILE:N	2.28	0.48
2:B:432:PHE:HD1	2:B:433:LEU:N	2.12	0.48
2:B:790:GLU:OE2	2:B:888:ASN:C	2.50	0.48
2:G:179:SER:CB	2:G:310:THR:CB	2.67	0.48
2:G:195:LEU:HD22	2:G:286:TYR:CD2	2.37	0.48
2:G:286:TYR:O	2:G:289:LEU:HB3	2.13	0.48
2:G:307:ARG:NH1	2:G:307:ARG:HB3	2.29	0.48
2:G:339:VAL:HG13	2:G:343:LEU:O	2.14	0.48
2:G:492:ILE:CG2	2:G:496:THR:CG2	2.86	0.48
2:G:965:ASP:HA	2:G:968:LYS:HZ3	1.77	0.48
2:G:966:PHE:C	2:G:966:PHE:CD2	2.85	0.48
2:G:1325:LYS:HG3	2:G:1330:THR:OG1	2.14	0.48
1:A:16:U:O2	2:B:447:ARG:NH2	2.45	0.48
1:A:26:A:H2'	1:A:27:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:212:LEU:HD12	2:B:246:LEU:HD11	1.96	0.48
2:B:229:LEU:CD2	2:B:232:GLU:HB2	2.43	0.48
2:B:338:LEU:O	2:B:383:MET:HE1	2.13	0.48
2:B:419:LEU:HD13	2:B:444:LEU:HD12	1.95	0.48
2:B:923:GLU:OE2	2:B:925:ARG:NH2	2.46	0.48
1:E:83:C:OP1	2:G:30:LYS:CE	2.62	0.48
2:G:46:ASN:OD1	2:G:46:ASN:N	2.44	0.48
2:G:963:VAL:HG21	2:G:990:ASN:OD1	2.14	0.48
2:G:1204:PHE:CD1	2:G:1342:VAL:HG13	2.48	0.48
2:B:440:ILE:HA	2:B:443:ILE:HD12	1.94	0.48
2:B:523:GLU:OE2	2:B:588:ASN:N	2.35	0.48
2:B:665:LYS:C	2:B:669:GLY:H	2.17	0.48
2:B:776:ASN:N	2:B:776:ASN:ND2	2.60	0.48
2:B:842:VAL:CG1	2:B:847:LEU:HD22	2.44	0.48
2:B:988:TYR:OH	2:B:1086:VAL:HG21	2.13	0.48
1:E:41:A:C3'	1:E:42:A:H5''	2.42	0.48
2:G:116:HIS:HE2	2:G:122:ILE:HG23	1.79	0.48
2:G:351:PHE:C	2:G:360:ALA:HB2	2.34	0.48
2:G:1145:VAL:HG23	2:G:1145:VAL:O	2.12	0.48
1:A:63:U:O2'	2:B:62:THR:CG2	2.42	0.48
2:B:79:ILE:HG13	2:B:163:LYS:HG3	1.96	0.48
2:B:340:ARG:HA	2:B:344:PRO:HG3	1.95	0.48
2:B:583:VAL:HG13	2:B:584:GLU:O	2.13	0.48
2:B:841:ILE:HD11	2:B:900:LEU:HD21	1.95	0.48
2:G:167:HIS:ND1	2:G:411:PRO:HA	2.29	0.48
2:G:870:VAL:HG23	2:G:908:LEU:CB	2.43	0.48
2:G:1251:ASP:OD1	2:G:1254:GLN:NE2	2.26	0.48
2:G:1314:THR:HG21	2:G:1324:PHE:HB2	1.83	0.48
2:G:1321:PRO:HB2	2:G:1333:ARG:CD	2.37	0.48
1:A:68:A:C4	2:B:1350:GLN:O	2.67	0.48
2:B:324:ARG:HD3	2:B:400:ARG:HB3	1.96	0.48
2:B:373:TYR:CA	2:B:376:ILE:HD11	2.40	0.48
2:B:779:GLU:O	2:B:783:ARG:HG3	2.13	0.48
2:G:115:ARG:HH22	2:G:122:ILE:HD13	1.77	0.48
2:G:557:ARG:NH1	2:G:599:LYS:HZ3	1.87	0.48
1:A:13:A:H2'	1:A:14:A:H8	1.78	0.48
2:B:114:GLU:HG2	2:B:120:GLY:C	2.34	0.48
2:B:307:ARG:HH11	2:B:323:LYS:HZ3	1.62	0.48
2:B:665:LYS:CA	2:B:669:GLY:CA	2.41	0.48
2:B:970:PHE:CD1	2:B:1080:PHE:CZ	3.02	0.48
2:B:1304:GLU:C	2:B:1327:PHE:CE1	2.87	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:8:GLY:O	2:G:18:TRP:HA	2.14	0.48
2:G:46:ASN:ND2	2:G:1089:MET:CE	2.58	0.48
2:G:137:HIS:NE2	2:G:322:ILE:HD12	2.15	0.48
2:G:170:ILE:O	2:G:413:GLN:NE2	2.46	0.48
2:G:692:ASN:H	2:G:695:GLN:CG	2.26	0.48
2:B:220:ARG:CG	2:B:220:ARG:NH1	2.73	0.48
2:B:225:LEU:HD13	2:B:242:ILE:HG21	1.95	0.48
2:B:821:ASP:CB	2:B:824:VAL:HB	2.43	0.48
2:B:975:VAL:HG12	2:B:977:GLU:HG2	1.95	0.48
2:B:1219:GLU:CG	2:B:1220:LEU:N	2.77	0.48
2:B:1252:ASN:HD22	2:B:1252:ASN:H	1.61	0.48
2:B:1298:ARG:CA	2:B:1305:GLN:NE2	2.77	0.48
2:G:177:ASP:O	2:G:299:ALA:HB2	2.14	0.48
2:G:214:ALA:HB1	2:G:216:LEU:CD2	2.44	0.48
2:G:464:TRP:HB3	2:G:494:ARG:CZ	2.44	0.48
2:G:697:ILE:HG22	2:G:698:HIS:ND1	2.29	0.48
2:G:1074:TRP:CE3	2:G:1074:TRP:HA	2.49	0.48
2:B:28:PRO:HB2	2:B:47:LEU:HG	1.96	0.48
2:B:78:ARG:CD	2:B:165:ARG:HH11	2.26	0.48
2:B:746:GLU:O	2:B:750:VAL:N	2.33	0.48
2:B:963:VAL:HG21	2:B:990:ASN:HD21	1.76	0.48
2:G:271:TYR:HA	2:G:274:ASP:HB3	1.95	0.48
2:G:309:ASN:H	2:G:309:ASN:ND2	2.12	0.48
2:G:925:ARG:HG3	3:H:21:DC:OP1	2.14	0.48
2:B:1347:LEU:HB3	2:B:1360:ILE:HB	1.96	0.47
2:G:204:SER:O	2:G:206:VAL:HG23	2.13	0.47
2:G:933:GLN:HG2	2:G:1010:TYR:CZ	2.48	0.47
1:A:77:A:OP1	2:B:721:HIS:NE2	2.47	0.47
2:B:6:SER:HB3	2:B:758:ASN:HB2	1.96	0.47
2:B:165:ARG:NH2	2:B:168:PHE:HZ	2.06	0.47
2:B:307:ARG:HH12	2:B:323:LYS:NZ	2.12	0.47
2:B:336:LYS:HG2	2:B:347:TYR:HE2	1.79	0.47
2:B:410:ILE:N	2:B:410:ILE:CD1	2.77	0.47
2:B:469:SER:HB3	2:B:471:GLU:HG2	1.96	0.47
2:G:119:PHE:CD2	2:G:119:PHE:N	2.82	0.47
2:G:225:LEU:HD13	2:G:242:ILE:CG2	2.43	0.47
2:G:629:ARG:HE	2:G:655:ARG:NH2	2.13	0.47
2:G:985:HIS:ND1	2:G:1087:LEU:HD13	2.29	0.47
2:B:66:ARG:CZ	2:B:462:PHE:CZ	2.78	0.47
2:B:118:ILE:HB	2:B:119:PHE:CD2	2.48	0.47
2:B:148:LYS:HD2	2:B:429:PHE:CD1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:250:PRO:HD2	2:B:264:LEU:O	2.15	0.47
2:B:351:PHE:CD2	2:B:351:PHE:N	2.82	0.47
2:B:407:ASN:ND2	2:B:407:ASN:N	2.60	0.47
2:B:529:TYR:CD1	2:B:538:ALA:O	2.68	0.47
2:B:557:ARG:NH1	2:B:557:ARG:CG	2.73	0.47
2:B:1326:TYR:HD2	2:B:1327:PHE:CD2	2.08	0.47
2:G:238:PHE:CE2	2:G:242:ILE:HG13	2.49	0.47
2:G:541:SER:CB	2:G:544:GLN:CB	2.89	0.47
2:G:759:ILE:HD12	2:G:935:LEU:HD23	1.96	0.47
2:G:896:LYS:O	2:G:900:LEU:HG	2.15	0.47
1:A:63:U:H3'	2:B:62:THR:HG21	1.97	0.47
2:B:75:ARG:HA	2:B:78:ARG:NH2	2.29	0.47
2:B:297:SER:CA	2:B:301:LEU:HD12	2.44	0.47
1:E:46:A:H2'	1:E:47:A:C8	2.49	0.47
2:G:157:ALA:O	2:G:161:MET:HG3	2.14	0.47
2:G:594:TYR:OH	2:G:604:LYS:NZ	2.36	0.47
2:B:114:GLU:HG3	2:B:120:GLY:HA2	1.92	0.47
2:B:516:GLU:OE1	2:B:593:THR:N	2.33	0.47
2:B:525:THR:CG2	2:B:690:ASN:HB3	2.44	0.47
2:B:963:VAL:HG13	2:B:989:LEU:HB2	1.97	0.47
2:B:1076:LYS:O	2:B:1080:PHE:HD2	1.97	0.47
1:E:26:A:N6	1:E:27:G:O6	2.48	0.47
2:G:238:PHE:HE2	2:G:242:ILE:HD11	1.78	0.47
2:G:442:LYS:HE3	2:G:476:TRP:CD1	2.49	0.47
2:G:755:LYS:HG2	2:G:939:MET:HE3	1.92	0.47
2:G:802:GLU:O	2:G:805:GLN:HG3	2.14	0.47
2:G:1224:ASN:CG	2:G:1280:VAL:HG11	2.34	0.47
2:G:1324:PHE:N	2:G:1324:PHE:HD1	2.13	0.47
2:B:151:LEU:O	2:B:154:ILE:N	2.48	0.47
2:B:297:SER:O	2:B:301:LEU:CB	2.63	0.47
2:B:358:GLY:O	2:B:361:GLY:N	2.47	0.47
2:B:448:ILE:HG22	2:B:452:VAL:HB	1.96	0.47
2:B:765:ARG:HH22	2:B:848:LYS:HE3	1.79	0.47
2:B:972:PHE:CE1	2:B:1083:VAL:HG11	2.48	0.47
2:B:1204:PHE:CG	2:B:1342:VAL:HG13	2.50	0.47
2:G:179:SER:H	2:G:310:THR:CG2	1.95	0.47
2:G:360:ALA:O	2:G:364:ASP:HB2	2.15	0.47
2:G:427:GLU:HB2	2:G:434:LYS:HB3	1.97	0.47
2:G:492:ILE:HG22	2:G:496:THR:HG21	1.95	0.47
2:G:756:PRO:HD2	2:G:953:VAL:CG2	2.42	0.47
2:G:1235:PHE:CE2	2:G:1266:LEU:CD1	2.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1270:ILE:CD1	2:G:1294:TYR:CE2	2.78	0.47
1:A:49:A:OP2	2:B:76:LYS:HE2	2.15	0.47
1:A:51:A:C6	2:B:1105:PHE:CZ	3.02	0.47
1:A:58:G:H5''	1:A:59:U:OP2	2.14	0.47
2:B:38:THR:HG22	2:B:39:ASP:H	1.79	0.47
2:B:62:THR:O	2:B:66:ARG:HG3	2.15	0.47
2:B:167:HIS:CE1	2:B:411:PRO:CA	2.98	0.47
2:B:248:LEU:HD13	2:B:249:THR:CA	2.45	0.47
2:B:270:THR:O	2:B:274:ASP:HB2	2.15	0.47
2:B:655:ARG:HH11	2:B:655:ARG:CB	2.27	0.47
2:B:699:ASP:HB3	2:B:702:LEU:CB	2.44	0.47
2:B:719:SER:O	2:B:722:GLU:HB2	2.15	0.47
2:B:758:ASN:ND2	2:B:995:THR:HG22	2.29	0.47
2:B:838:VAL:HG11	2:B:855:LYS:HE3	1.95	0.47
2:B:840:ALA:O	2:B:864:ARG:NH1	2.45	0.47
2:B:849:ASP:OD2	2:B:854:ASN:HB2	2.14	0.47
2:B:908:LEU:CD2	2:B:908:LEU:H	2.18	0.47
1:E:27:G:H5'	1:E:28:A:O5'	2.15	0.47
1:E:44:U:O2'	1:E:45:U:H5'	2.15	0.47
1:E:96:C:H2'	1:E:97:U:H6	1.80	0.47
2:G:118:ILE:HG22	2:G:119:PHE:CE2	2.49	0.47
2:G:401:LYS:O	2:G:404:THR:HG23	2.14	0.47
2:G:936:ASP:OD2	2:G:951:ARG:NE	2.46	0.47
2:B:665:LYS:O	2:B:669:GLY:C	2.51	0.47
2:B:755:LYS:CD	2:B:939:MET:HE3	2.45	0.47
2:B:1108:GLU:HB2	3:C:9:DC:H5''	1.96	0.47
2:B:1145:VAL:HG23	2:B:1145:VAL:O	2.15	0.47
2:B:1206:LEU:HD11	2:B:1210:ARG:CZ	2.44	0.47
2:B:1302:ILE:HG22	2:B:1306:ALA:HB2	1.96	0.47
2:G:22:THR:H	2:G:22:THR:HG1	1.42	0.47
2:G:469:SER:O	2:G:481:VAL:CG1	2.62	0.47
2:G:668:ASN:C	2:G:678:THR:HG21	2.35	0.47
2:G:874:GLU:CA	2:G:877:LYS:NZ	2.73	0.47
1:A:59:U:P	2:B:467:ARG:HH22	2.37	0.47
2:B:387:GLU:O	2:B:391:VAL:HG23	2.14	0.47
2:B:477:ASN:ND2	2:B:481:VAL:HG21	2.30	0.47
2:B:655:ARG:H	2:B:655:ARG:HG2	1.46	0.47
2:B:692:ASN:H	2:B:695:GLN:HB2	1.78	0.47
2:B:1042:ILE:HG23	2:B:1043:MET:SD	2.55	0.47
2:B:1179:ILE:HD11	2:B:1192:LYS:HD3	1.97	0.47
2:G:796:LEU:HD23	2:G:796:LEU:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:842:VAL:HG12	2:G:854:ASN:ND2	2.29	0.47
2:G:892:ILE:CG2	2:G:897:PHE:HB2	2.45	0.47
2:B:148:LYS:CD	2:B:429:PHE:CD1	2.72	0.47
2:B:244:LEU:HD12	2:B:250:PRO:CG	2.45	0.47
2:B:491:PHE:CE2	3:C:16:DT:H1'	2.50	0.47
2:B:746:GLU:HA	2:B:749:LYS:HB3	1.96	0.47
2:B:832:ARG:HH11	2:B:835:ASP:CG	2.10	0.47
3:C:6:DC:H2''	3:C:7:DC:O5'	2.15	0.47
1:E:91:C:O2'	1:E:92:G:P	2.72	0.47
2:G:70:ARG:HD2	2:G:74:ARG:NH2	2.30	0.47
2:G:963:VAL:HG23	2:G:990:ASN:OD1	2.15	0.47
2:G:1212:ARG:NH1	2:G:1336:TYR:CE2	2.83	0.47
1:A:27:G:H5'	1:A:28:A:C5'	2.45	0.46
2:B:412:HIS:CD2	2:B:413:GLN:HE21	2.33	0.46
2:B:1206:LEU:HD11	2:B:1210:ARG:NE	2.30	0.46
1:E:52:A:C5'	2:G:1123:LYS:CE	2.90	0.46
2:G:100:ARG:NH2	2:G:117:PRO:O	2.46	0.46
2:G:201:ILE:HD13	2:G:238:PHE:CG	2.50	0.46
2:G:258:LEU:HD11	2:G:281:GLN:CG	2.44	0.46
2:G:264:LEU:CD1	2:G:264:LEU:N	2.73	0.46
2:G:400:ARG:HH11	2:G:400:ARG:CG	2.13	0.46
2:G:488:ALA:O	2:G:491:PHE:HB3	2.14	0.46
2:G:558:LYS:HE3	2:G:586:ARG:HH12	1.79	0.46
2:G:1266:LEU:HD23	2:G:1305:GLN:OE1	2.15	0.46
2:G:1290:VAL:HG22	2:G:1331:ILE:HD12	1.97	0.46
2:B:416:LEU:HD13	2:B:444:LEU:HD13	1.97	0.46
2:G:43:ILE:HG22	2:G:44:LYS:N	2.31	0.46
2:G:81:TYR:CE2	2:G:475:PRO:HD3	2.50	0.46
2:G:208:ALA:O	2:G:212:LEU:HD23	2.15	0.46
2:G:258:LEU:HD21	2:G:281:GLN:CD	2.34	0.46
2:G:359:TYR:HD2	2:G:359:TYR:C	2.18	0.46
2:G:431:PRO:O	2:G:434:LYS:HG2	2.15	0.46
2:G:720:LEU:C	2:G:723:HIS:H	2.19	0.46
2:B:190:GLN:O	2:B:194:GLN:HG2	2.16	0.46
2:B:307:ARG:HH12	2:B:323:LYS:HZ1	1.61	0.46
2:B:637:LYS:O	2:B:640:ALA:HB3	2.15	0.46
2:B:840:ALA:HA	2:B:854:ASN:O	2.15	0.46
2:G:523:GLU:OE1	2:G:588:ASN:HB2	2.15	0.46
2:G:903:ALA:HA	2:G:906:GLY:CA	2.27	0.46
1:A:27:G:N2	1:A:44:U:OP2	2.49	0.46
2:B:143:VAL:HG13	2:B:421:ALA:HB1	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:207:ASP:O	2:B:211:ILE:HG13	2.15	0.46
2:B:299:ALA:O	2:B:302:LEU:HD21	2.12	0.46
2:B:844:GLN:NE2	2:B:848:LYS:CG	2.73	0.46
2:B:940:ASN:N	2:B:940:ASN:ND2	2.60	0.46
2:B:1122:ARG:HD3	2:B:1134:PHE:CZ	2.50	0.46
2:B:1312:LEU:HD21	2:B:1326:TYR:HD1	1.80	0.46
2:B:32:PHE:O	2:B:42:SER:HB2	2.15	0.46
2:B:387:GLU:HA	2:B:387:GLU:OE2	2.15	0.46
2:B:473:ILE:HG12	2:B:481:VAL:HG11	1.98	0.46
2:B:509:PRO:HG2	2:B:621:LEU:HA	1.97	0.46
2:B:992:VAL:HA	2:B:995:THR:OG1	2.16	0.46
2:B:1336:TYR:N	2:B:1336:TYR:CD1	2.83	0.46
2:G:29:SER:HB2	2:G:44:LYS:NZ	2.28	0.46
2:G:429:PHE:CD2	2:G:429:PHE:N	2.83	0.46
1:A:87:G:H1	1:A:91:C:H42	1.63	0.46
2:B:272:ASP:O	2:B:276:ASP:HB2	2.16	0.46
2:B:520:VAL:HG21	2:B:591:LEU:HD23	1.98	0.46
2:B:737:ILE:O	2:B:740:THR:HG23	2.15	0.46
2:B:897:PHE:CE2	2:B:901:THR:HG21	2.50	0.46
2:B:1251:ASP:O	2:B:1254:GLN:HB2	2.14	0.46
1:E:62:G:N7	2:G:69:ARG:NH1	2.63	0.46
2:G:85:ILE:HG22	2:G:86:PHE:HD1	1.81	0.46
2:G:118:ILE:CG1	2:G:125:GLU:OE1	2.63	0.46
2:G:918:LYS:HE3	2:G:922:VAL:HG21	1.97	0.46
2:G:1187:TYR:HD2	2:G:1187:TYR:N	2.14	0.46
2:B:45:LYS:HE2	2:B:1093:ASN:OD1	2.13	0.46
2:B:974:LYS:HZ2	2:B:976:ARG:NH1	2.12	0.46
2:B:1206:LEU:CD1	2:B:1210:ARG:CZ	2.94	0.46
2:G:720:LEU:HG	2:G:721:HIS:N	2.30	0.46
2:G:824:VAL:O	2:G:824:VAL:HG12	2.15	0.46
2:G:889:ALA:HB1	2:G:891:LEU:HG	1.96	0.46
1:A:62:G:N7	2:B:69:ARG:NH1	2.60	0.46
2:B:795:ILE:HG23	2:B:796:LEU:N	2.30	0.46
2:B:1221:GLN:HE21	2:B:1320:ALA:HB2	1.79	0.46
2:G:121:ASN:HD21	2:G:124:ASP:CG	2.18	0.46
2:G:162:ILE:HD13	2:G:443:ILE:HG22	1.98	0.46
2:G:246:LEU:CD1	2:G:246:LEU:H	2.29	0.46
2:G:296:LEU:HD23	2:G:296:LEU:O	2.15	0.46
2:G:309:ASN:N	2:G:309:ASN:ND2	2.60	0.46
2:G:516:GLU:HA	2:G:519:THR:HG22	1.98	0.46
2:G:903:ALA:C	2:G:906:GLY:N	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:925:ARG:HB3	2:G:928:THR:CG2	2.46	0.46
2:G:1357:GLU:O	2:G:1358:THR:HG22	2.16	0.46
2:B:393:LEU:HB2	2:B:398:LEU:CD1	2.46	0.46
2:B:838:VAL:CG2	2:B:857:LEU:HD12	2.45	0.46
2:B:1236:LEU:HD13	2:B:1310:ILE:HG12	1.97	0.46
1:E:52:A:C5'	2:G:1123:LYS:HE2	2.46	0.46
2:G:398:LEU:C	2:G:399:LEU:HD12	2.36	0.46
2:G:618:ASP:OD2	2:G:639:TYR:HE2	1.98	0.46
2:G:823:TYR:N	2:G:879:MET:HE3	2.31	0.46
2:G:1001:TYR:HE2	2:G:1042:ILE:CD1	2.27	0.46
2:G:1114:ARG:HD2	2:G:1116:SER:CB	2.43	0.46
2:B:253:LYS:HD2	2:B:261:ASP:HA	1.98	0.46
2:B:573:GLU:C	2:B:574:CYS:SG	2.94	0.46
2:B:603:ASP:OD1	2:B:606:PHE:HB2	2.15	0.46
2:B:830:ILE:HD13	2:B:831:ASN:H	1.79	0.46
2:B:838:VAL:HG23	2:B:857:LEU:CD1	2.46	0.46
1:E:44:U:N3	2:G:328:HIS:HB3	2.31	0.46
2:G:137:HIS:ND1	2:G:322:ILE:CD1	2.68	0.46
2:G:279:LEU:O	2:G:279:LEU:HD22	2.16	0.46
2:G:313:THR:HG23	2:G:313:THR:O	2.14	0.46
2:G:333:THR:HA	2:G:336:LYS:HB3	1.97	0.46
2:G:336:LYS:O	2:G:340:ARG:HG3	2.15	0.46
2:G:677:LYS:O	2:G:704:PHE:HZ	1.99	0.46
2:G:1251:ASP:CA	2:G:1254:GLN:NE2	2.79	0.46
1:A:65:A:C5	1:A:66:U:C4	3.04	0.45
2:B:492:ILE:O	2:B:496:THR:HG23	2.16	0.45
2:B:1143:VAL:HG22	2:B:1197:LYS:HA	1.98	0.45
1:E:26:A:H5''	2:G:115:ARG:HG3	1.98	0.45
2:G:279:LEU:HD22	2:G:283:GLY:O	2.16	0.45
2:G:565:LYS:CE	2:G:580:ILE:HG12	2.45	0.45
2:G:616:LEU:O	2:G:619:ILE:HG22	2.15	0.45
2:G:955:VAL:O	2:G:1009:VAL:HA	2.16	0.45
2:G:982:HIS:HA	2:G:985:HIS:HB2	1.98	0.45
2:G:1045:PHE:CD1	2:G:1045:PHE:N	2.73	0.45
2:B:89:GLU:OE1	2:B:92:LYS:HD2	2.16	0.45
2:B:568:TYR:HD2	2:B:569:PHE:CD2	2.35	0.45
2:B:641:HIS:HD2	2:B:642:LEU:CG	2.16	0.45
2:B:705:LYS:HB3	2:B:705:LYS:HE2	1.60	0.45
2:B:849:ASP:CG	2:B:854:ASN:HB3	2.37	0.45
2:B:914:ALA:CB	2:B:1035:LYS:CD	2.86	0.45
2:G:416:LEU:HD12	2:G:444:LEU:HD22	1.91	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1256:GLN:NE2	2:G:1260:GLU:HG3	2.32	0.45
1:A:53:G:C4	1:A:62:G:N2	2.84	0.45
2:B:830:ILE:HD13	2:B:831:ASN:N	2.31	0.45
2:B:1100:VAL:HG13	2:B:1140:ALA:O	2.16	0.45
4:D:7:DG:C2	4:D:8:DT:C2	3.04	0.45
2:G:117:PRO:CD	2:G:125:GLU:OE2	2.64	0.45
2:G:207:ASP:CB	2:G:210:ALA:CB	2.86	0.45
2:G:320:SER:O	2:G:323:LYS:HB3	2.15	0.45
2:G:619:ILE:O	2:G:623:LEU:HB2	2.16	0.45
2:G:1119:LEU:HB3	2:G:1128:PRO:HB2	1.98	0.45
2:G:1250:GLU:HG2	2:G:1251:ASP:N	2.32	0.45
2:B:265:GLN:O	2:B:271:TYR:HD1	2.00	0.45
2:B:519:THR:OG1	2:B:589:ALA:HB2	2.16	0.45
2:B:981:TYR:CZ	2:B:1092:VAL:HB	2.50	0.45
2:B:1113:LYS:O	2:B:1113:LYS:HG3	2.16	0.45
2:B:1270:ILE:CD1	2:B:1294:TYR:CG	2.84	0.45
2:B:1298:ARG:HG3	2:B:1298:ARG:HH11	1.81	0.45
2:G:27:VAL:HG12	2:G:1086:VAL:HG22	1.98	0.45
2:G:410:ILE:CG2	2:G:414:ILE:HD11	2.35	0.45
2:G:526:LYS:HA	2:G:526:LYS:HD3	1.81	0.45
2:G:886:LEU:CA	2:G:892:ILE:CG1	2.93	0.45
2:G:1256:GLN:HE22	2:G:1260:GLU:HG3	1.80	0.45
2:B:94:ASP:CB	2:B:152:ARG:HD3	2.47	0.45
2:B:679:ILE:HA	2:B:682:PHE:HB2	1.99	0.45
2:B:1204:PHE:CZ	2:B:1214:LEU:CD1	2.99	0.45
2:G:207:ASP:CB	2:G:210:ALA:HB3	2.29	0.45
2:G:497:ASN:O	2:G:498:PHE:CD2	2.70	0.45
2:G:513:LEU:HD23	2:G:513:LEU:HA	1.62	0.45
2:G:873:GLU:HG2	2:G:874:GLU:H	1.80	0.45
2:G:975:VAL:HB	2:G:978:ILE:HG13	1.97	0.45
2:G:1291:LEU:O	2:G:1295:ASN:N	2.32	0.45
2:B:234:LYS:C	2:B:234:LYS:CD	2.85	0.45
2:B:553:PHE:CE1	2:B:559:VAL:CG2	3.00	0.45
2:B:949:LEU:HD23	2:B:951:ARG:NH2	2.32	0.45
2:B:979:ASN:CG	2:B:981:TYR:HB2	2.24	0.45
2:G:142:LEU:O	2:G:425:ARG:HG2	2.17	0.45
2:G:380:LEU:HB3	2:G:386:THR:HG22	1.99	0.45
2:G:393:LEU:C	2:G:393:LEU:CD2	2.85	0.45
2:G:1174:PHE:CD1	2:G:1181:PHE:CD1	3.04	0.45
1:A:24:U:N1	2:B:105:PHE:CE1	2.74	0.45
2:B:457:ARG:HB2	2:B:467:ARG:NH1	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:531:THR:OG1	2:B:532:GLU:N	2.49	0.45
2:B:658:GLY:C	2:B:659:TRP:CD1	2.90	0.45
2:B:740:THR:O	2:B:743:VAL:HB	2.17	0.45
2:B:1108:GLU:CG	3:C:9:DC:H5''	2.47	0.45
2:G:747:LEU:N	2:G:750:VAL:HG22	2.31	0.45
2:G:798:GLU:C	2:G:799:HIS:HD1	2.20	0.45
2:G:1105:PHE:HD1	2:G:1168:ILE:HB	1.82	0.45
2:B:1038:PHE:HD1	2:B:1038:PHE:C	2.20	0.45
2:B:1252:ASN:N	2:B:1252:ASN:ND2	2.60	0.45
2:G:223:GLU:O	2:G:226:ILE:HG12	2.16	0.45
2:G:537:PRO:O	2:G:537:PRO:HG2	2.17	0.45
2:G:883:TRP:CE2	2:G:900:LEU:HD13	2.51	0.45
2:B:10:ALA:O	2:B:17:GLY:N	2.45	0.45
2:B:223:GLU:HA	2:B:226:ILE:HG12	1.98	0.45
2:B:243:ALA:O	2:B:246:LEU:O	2.35	0.45
2:B:342:GLN:OE1	2:B:383:MET:HG2	2.17	0.45
2:B:393:LEU:HA	2:B:398:LEU:HB2	1.98	0.45
2:B:507:VAL:HG11	2:B:660:GLY:C	2.37	0.45
2:B:1127:ASP:HB3	2:B:1130:LYS:CB	2.41	0.45
2:G:39:ASP:O	2:G:41:HIS:CE1	2.70	0.45
2:G:220:ARG:HH11	2:G:220:ARG:CG	2.29	0.45
2:G:343:LEU:CD2	2:G:345:GLU:CD	2.86	0.45
2:G:373:TYR:OH	2:G:398:LEU:HB3	2.15	0.45
2:G:541:SER:O	2:G:544:GLN:HB3	2.17	0.45
2:G:598:LEU:C	2:G:598:LEU:CD2	2.85	0.45
2:G:666:LEU:C	2:G:666:LEU:CD2	2.85	0.45
2:G:798:GLU:OE1	2:G:799:HIS:CE1	2.70	0.45
2:B:610:GLU:O	2:B:613:GLU:HB3	2.17	0.45
2:B:784:ILE:O	2:B:788:ILE:CG1	2.64	0.45
1:E:73:G:H3'	1:E:74:A:H5''	1.98	0.45
2:G:134:THR:OG1	2:G:137:HIS:CE1	2.70	0.45
2:G:279:LEU:HD12	2:G:287:ALA:CB	2.33	0.45
2:G:545:LYS:HD2	2:G:684:LYS:O	2.17	0.45
2:G:1049:GLU:HA	2:G:1059:LYS:N	2.32	0.45
2:G:1258:PHE:CD1	2:G:1258:PHE:O	2.70	0.45
1:A:61:C:OP1	2:B:70:ARG:CZ	2.66	0.44
2:B:255:ASN:HD22	2:B:256:PHE:HE1	1.65	0.44
2:B:847:LEU:O	2:B:847:LEU:HD23	2.17	0.44
2:B:893:THR:O	2:B:897:PHE:N	2.43	0.44
2:B:1108:GLU:HG3	3:C:9:DC:H5''	1.99	0.44
2:B:1264:HIS:CE1	2:B:1268:GLU:OE2	2.70	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:51:A:C6	2:G:1105:PHE:CE2	3.05	0.44
1:E:52:A:OP1	2:G:1123:LYS:NZ	2.43	0.44
2:G:234:LYS:C	2:G:234:LYS:CE	2.85	0.44
2:G:784:ILE:O	2:G:788:ILE:HG12	2.16	0.44
2:B:156:LEU:HD23	2:B:156:LEU:HA	1.80	0.44
2:B:756:PRO:HD2	2:B:953:VAL:CG2	2.47	0.44
2:G:115:ARG:NE	2:G:116:HIS:HE1	2.15	0.44
2:G:226:ILE:O	2:G:229:LEU:N	2.51	0.44
2:G:256:PHE:CE2	2:G:282:ILE:HG21	2.50	0.44
2:B:830:ILE:CD1	2:B:830:ILE:H	2.25	0.44
2:B:1031:LYS:NZ	2:B:1031:LYS:HB2	2.33	0.44
1:E:46:A:C2	1:E:47:A:C5	3.05	0.44
2:G:181:VAL:HG11	2:G:300:ILE:HD12	1.90	0.44
2:G:206:VAL:HG21	2:G:228:GLN:CB	2.44	0.44
2:G:261:ASP:N	2:G:261:ASP:OD1	2.50	0.44
2:G:265:GLN:O	2:G:271:TYR:CD1	2.70	0.44
2:G:842:VAL:HG12	2:G:854:ASN:OD1	2.17	0.44
2:G:846:PHE:CE1	2:G:913:LYS:CD	2.99	0.44
2:B:70:ARG:HH11	2:B:454:PRO:HG3	1.78	0.44
2:B:452:VAL:HG13	2:B:482:VAL:HG11	1.99	0.44
2:B:782:LYS:O	2:B:786:GLU:HG3	2.17	0.44
2:B:969:ASP:C	2:B:970:PHE:HD2	2.21	0.44
1:E:20:G:P	2:G:403:ARG:NH1	2.90	0.44
2:G:50:ALA:HB3	2:G:1094:ILE:HD13	1.98	0.44
2:G:94:ASP:OD1	2:G:97:PHE:N	2.50	0.44
2:G:128:TYR:HD2	2:G:129:HIS:CD2	2.23	0.44
2:G:380:LEU:CG	2:G:386:THR:HG21	2.47	0.44
2:G:778:ARG:NH1	3:H:12:DC:OP2	2.47	0.44
2:G:1243:GLU:OE1	2:G:1246:LYS:NZ	2.47	0.44
2:B:49:GLY:HA2	2:B:1092:VAL:CG1	2.47	0.44
2:B:317:LEU:CD2	2:B:414:ILE:CD1	2.95	0.44
2:B:350:ILE:CG2	2:B:351:PHE:CD2	2.99	0.44
2:B:400:ARG:HD2	2:B:400:ARG:HA	1.65	0.44
2:B:450:TYR:OH	2:B:627:GLU:HG3	2.17	0.44
2:B:541:SER:O	2:B:545:LYS:HG3	2.18	0.44
2:B:974:LYS:HE2	2:B:982:HIS:CD2	2.53	0.44
2:B:1216:SER:CB	4:D:6:DG:C3'	2.96	0.44
2:G:167:HIS:HD2	2:G:169:LEU:HD12	1.83	0.44
2:G:169:LEU:CD2	3:H:14:DA:H5'	2.47	0.44
2:G:678:THR:O	2:G:681:ASP:HB2	2.18	0.44
2:G:884:ARG:NH1	2:G:884:ARG:CG	2.73	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1187:TYR:N	2:G:1187:TYR:CD2	2.85	0.44
2:G:1267:ASP:OD1	2:G:1294:TYR:OH	2.34	0.44
1:A:15:U:H5''	2:B:70:ARG:NH1	2.33	0.44
2:B:20:VAL:O	2:B:27:VAL:HG23	2.18	0.44
2:B:234:LYS:HD3	2:B:234:LYS:C	2.38	0.44
2:B:847:LEU:HD21	2:B:849:ASP:CB	2.43	0.44
2:B:864:ARG:O	2:B:875:VAL:HG21	2.16	0.44
2:B:1076:LYS:O	2:B:1080:PHE:CD2	2.70	0.44
2:G:34:VAL:HG11	2:G:1359:ARG:CD	2.48	0.44
2:G:211:ILE:O	2:G:221:ARG:CG	2.65	0.44
2:G:382:LYS:HD3	2:G:382:LYS:HA	1.60	0.44
2:G:609:ASN:HB3	2:G:612:ASN:OD1	2.17	0.44
1:A:45:U:C5'	2:B:402:GLN:HG2	2.43	0.44
2:B:153:LEU:HD23	2:B:153:LEU:HA	1.80	0.44
2:B:206:VAL:HG23	2:B:206:VAL:O	2.17	0.44
2:B:341:GLN:HE21	2:B:342:GLN:N	2.16	0.44
2:B:1251:ASP:CA	2:B:1254:GLN:OE1	2.60	0.44
2:B:1292:SER:CA	2:B:1296:LYS:HE3	2.48	0.44
3:C:2:DA:H1'	3:C:3:DA:OP1	2.18	0.44
2:G:350:ILE:C	2:G:351:PHE:HD2	2.20	0.44
2:G:807:GLN:OE1	2:G:807:GLN:HA	2.16	0.44
2:G:970:PHE:O	2:G:971:GLN:HB2	2.16	0.44
1:A:78:A:C5	1:A:79:G:N7	2.85	0.44
2:B:27:VAL:HG11	2:B:1086:VAL:CG1	2.43	0.44
2:B:431:PRO:O	2:B:434:LYS:HG2	2.17	0.44
2:B:1235:PHE:CE2	2:B:1266:LEU:CD1	3.01	0.44
2:G:222:LEU:CG	2:G:223:GLU:N	2.81	0.44
1:A:53:G:OP1	2:B:1123:LYS:HG3	2.18	0.44
2:B:118:ILE:HG22	2:B:119:PHE:CE2	2.52	0.44
2:B:248:LEU:CD1	2:B:249:THR:N	2.73	0.44
2:B:291:LEU:HD23	2:B:292:ALA:N	2.33	0.44
2:B:838:VAL:HG23	2:B:857:LEU:HD12	2.00	0.44
2:B:923:GLU:HG2	2:B:928:THR:OG1	2.17	0.44
2:G:32:PHE:CE1	2:G:1355:LEU:HD13	2.53	0.44
2:G:48:ILE:HG13	2:G:49:GLY:H	1.83	0.44
2:G:631:MET:O	2:G:634:GLU:CB	2.66	0.44
2:G:934:ILE:O	2:G:938:ARG:HB2	2.18	0.44
1:A:64:U:OP1	2:B:1102:THR:OG1	2.26	0.43
2:B:483:ASP:OD1	2:B:486:ALA:HB2	2.18	0.43
2:B:550:ASP:HA	2:B:554:LYS:HG3	1.99	0.43
2:B:556:ASN:O	2:B:595:HIS:NE2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1246:LYS:NZ	2:B:1246:LYS:CB	2.73	0.43
2:B:1292:SER:CB	2:B:1296:LYS:NZ	2.80	0.43
2:B:1324:PHE:O	2:B:1331:ILE:N	2.41	0.43
1:E:42:A:C5'	1:E:42:A:H8	2.31	0.43
2:G:324:ARG:CZ	2:G:400:ARG:HH11	2.29	0.43
2:G:384:ASP:OD1	2:G:384:ASP:N	2.51	0.43
2:G:1126:TRP:HB3	2:G:1131:TYR:CD2	2.53	0.43
2:B:516:GLU:O	2:B:520:VAL:HG23	2.18	0.43
2:B:606:PHE:CE2	2:B:612:ASN:OD1	2.70	0.43
2:B:1062:LEU:CD2	2:B:1063:ILE:N	2.73	0.43
2:G:967:ARG:HG2	2:G:972:PHE:CB	2.48	0.43
2:B:328:HIS:O	2:B:332:LEU:N	2.51	0.43
2:B:513:LEU:O	2:B:516:GLU:HB2	2.18	0.43
2:B:568:TYR:CZ	2:B:573:GLU:OE2	2.70	0.43
2:B:692:ASN:CB	2:B:695:GLN:HG3	2.45	0.43
2:B:812:TYR:O	2:B:812:TYR:CD1	2.71	0.43
2:G:342:GLN:OE1	2:G:383:MET:CB	2.56	0.43
2:G:545:LYS:HZ3	2:G:690:ASN:ND2	2.06	0.43
2:G:717:GLY:O	2:G:718:ASP:OD1	2.36	0.43
2:G:1250:GLU:CG	2:G:1251:ASP:N	2.81	0.43
2:G:1263:LYS:CD	2:G:1263:LYS:C	2.87	0.43
2:G:1281:ILE:HG22	2:G:1283:ALA:H	1.81	0.43
1:A:27:G:H1'	2:B:129:HIS:ND1	2.34	0.43
1:A:49:A:P	2:B:76:LYS:HE2	2.58	0.43
2:B:138:LEU:HD21	2:B:153:LEU:HD22	2.00	0.43
2:B:423:LEU:HD12	2:B:437:ARG:HG3	2.00	0.43
2:B:530:VAL:O	2:B:578:VAL:HG23	2.18	0.43
2:B:568:TYR:CD2	2:B:569:PHE:CD2	3.06	0.43
2:B:683:LEU:HD23	2:B:683:LEU:HA	1.70	0.43
2:B:737:ILE:HD13	2:B:931:VAL:HG22	2.00	0.43
2:B:839:ASP:O	2:B:856:VAL:N	2.47	0.43
4:D:6:DG:H2''	4:D:7:DG:C5'	2.41	0.43
1:E:91:C:N4	2:G:44:LYS:HZ2	2.14	0.43
2:G:246:LEU:HD12	2:G:246:LEU:H	1.80	0.43
2:G:511:HIS:CD2	2:G:511:HIS:N	2.86	0.43
2:G:522:ASN:HA	2:G:683:LEU:HD13	2.01	0.43
2:B:451:TYR:HA	2:B:491:PHE:CD1	2.53	0.43
2:B:625:LEU:HD13	2:B:659:TRP:CH2	2.53	0.43
2:B:641:HIS:CD2	2:B:642:LEU:N	2.87	0.43
2:B:1141:TYR:OH	2:B:1175:GLU:OE2	2.21	0.43
1:E:13:A:H2'	1:E:14:A:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:29:G:H2'	1:E:30:C:H6	1.83	0.43
2:G:128:TYR:CD2	2:G:129:HIS:CD2	3.05	0.43
2:G:291:LEU:C	2:G:291:LEU:CD2	2.87	0.43
2:G:933:GLN:OE1	2:G:937:SER:OG	2.25	0.43
2:B:139:ARG:HH2	2:B:415:HIS:CD2	2.37	0.43
2:B:374:LYS:HG2	2:B:374:LYS:O	2.18	0.43
2:B:499:ASP:HB3	2:B:502:LEU:O	2.19	0.43
2:B:1360:ILE:HG22	2:B:1362:LEU:HD23	2.00	0.43
1:E:54:G:C6	1:E:55:C:N4	2.87	0.43
2:G:106:LEU:H	2:G:106:LEU:CD1	2.02	0.43
2:G:148:LYS:CD	2:G:429:PHE:HD1	2.30	0.43
2:G:499:ASP:OD1	2:G:661:ARG:O	2.36	0.43
2:G:902:LYS:O	2:G:906:GLY:HA2	2.17	0.43
1:A:64:U:O5'	1:A:64:U:H6	2.01	0.43
2:B:1122:ARG:CG	2:B:1134:PHE:HE2	2.31	0.43
2:G:64:LEU:HD12	2:G:64:LEU:HA	1.84	0.43
2:G:253:LYS:CE	2:G:261:ASP:N	2.77	0.43
2:B:464:TRP:HD1	2:B:490:SER:HB3	1.84	0.43
2:B:944:ASP:OD1	2:B:948:LYS:O	2.36	0.43
2:B:1219:GLU:HG3	2:B:1220:LEU:H	1.83	0.43
1:E:14:A:OP1	2:G:66:ARG:NH2	2.51	0.43
2:G:35:LEU:HD12	2:G:1357:GLU:O	2.19	0.43
2:G:107:VAL:HG21	2:G:1130:LYS:HD2	2.01	0.43
2:G:240:ASN:HB2	2:G:250:PRO:HB2	2.01	0.43
2:G:294:LYS:HD3	2:G:295:ASN:OD1	2.19	0.43
2:G:321:MET:H	2:G:321:MET:HG2	1.60	0.43
2:G:810:LYS:HD3	2:G:857:LEU:CD1	2.49	0.43
2:G:825:ASP:N	2:G:879:MET:SD	2.92	0.43
2:G:1224:ASN:HB2	2:G:1280:VAL:HG11	2.00	0.43
1:A:24:U:C1'	2:B:105:PHE:HE1	2.27	0.43
1:A:94:U:H2'	1:A:95:G:C8	2.53	0.43
2:B:224:ASN:O	2:B:228:GLN:NE2	2.52	0.43
2:B:256:PHE:CD2	2:B:282:ILE:HG21	2.54	0.43
2:B:424:ARG:HD2	2:B:424:ARG:HA	1.55	0.43
2:B:432:PHE:CD1	2:B:432:PHE:C	2.91	0.43
2:B:841:ILE:CD1	2:B:900:LEU:HD21	2.47	0.43
2:B:1270:ILE:O	2:B:1274:SER:N	2.47	0.43
1:E:75:A:C2	1:E:76:A:C4	3.07	0.43
1:E:97:U:H3'	1:E:98:C:C6	2.54	0.43
2:G:35:LEU:O	2:G:1359:ARG:N	2.52	0.43
2:B:311:GLU:H	2:B:311:GLU:CD	2.21	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:739:GLN:OE1	2:B:1352:ILE:HD11	2.19	0.43
2:B:1235:PHE:CZ	2:B:1266:LEU:HD13	2.53	0.43
1:E:96:C:O5'	1:E:96:C:H6	2.02	0.43
2:G:720:LEU:O	2:G:723:HIS:C	2.53	0.43
2:G:1302:ILE:H	2:G:1302:ILE:HG12	1.59	0.43
2:G:1312:LEU:O	2:G:1315:LEU:N	2.46	0.43
2:B:849:ASP:OD2	2:B:854:ASN:CB	2.67	0.42
2:G:5:TYR:CZ	2:G:756:PRO:HG3	2.54	0.42
2:G:83:GLN:HG2	2:G:98:PHE:CZ	2.54	0.42
2:G:179:SER:CA	2:G:310:THR:HG23	2.35	0.42
2:G:516:GLU:OE2	2:G:593:THR:OG1	2.36	0.42
2:G:629:ARG:NH2	2:G:655:ARG:NH2	2.63	0.42
2:G:654:ARG:HD2	2:G:654:ARG:HA	1.70	0.42
2:G:720:LEU:HD23	2:G:720:LEU:H	1.84	0.42
2:G:841:ILE:CD1	2:G:900:LEU:HD21	2.49	0.42
2:G:890:LYS:HB3	2:G:890:LYS:HE3	1.58	0.42
3:H:24:DG:H2'	3:H:25:DG:C4'	2.49	0.42
1:A:57:A:H5'	2:B:457:ARG:HH22	1.77	0.42
2:B:48:ILE:HD11	2:B:984:ALA:O	2.19	0.42
2:B:63:ARG:HA	2:B:66:ARG:HD3	2.01	0.42
2:B:256:PHE:CE2	2:B:282:ILE:HD13	2.53	0.42
2:B:296:LEU:C	2:B:296:LEU:CD2	2.85	0.42
2:B:336:LYS:CG	2:B:347:TYR:HE2	2.32	0.42
2:B:359:TYR:CZ	2:B:363:ILE:HD11	2.54	0.42
2:B:1264:HIS:HE1	2:B:1268:GLU:OE2	2.01	0.42
1:E:8:G:N2	1:E:9:U:C2	2.88	0.42
2:G:201:ILE:HG23	2:G:229:LEU:HD23	2.01	0.42
2:G:515:TYR:O	2:G:519:THR:HG22	2.19	0.42
2:G:813:LEU:HD23	2:G:813:LEU:HA	1.83	0.42
2:G:976:ARG:H	2:G:976:ARG:NE	2.04	0.42
2:G:1154:SER:O	2:G:1155:LYS:HB2	2.19	0.42
2:G:1235:PHE:HE2	2:G:1266:LEU:CD1	2.33	0.42
3:H:7:DC:N4	4:J:5:DA:N6	2.67	0.42
1:A:48:A:H2'	1:A:49:A:C8	2.55	0.42
2:B:649:LYS:HA	2:B:652:LYS:HD3	2.00	0.42
2:B:655:ARG:CG	2:B:655:ARG:NH1	2.73	0.42
2:B:1002:PRO:O	2:B:1005:GLU:HB2	2.19	0.42
2:B:1135:ASP:CG	2:B:1136:SER:N	2.72	0.42
2:G:152:ARG:HE	2:G:152:ARG:HB2	1.73	0.42
2:G:218:LYS:HD2	2:G:218:LYS:N	2.22	0.42
2:G:270:THR:HB	2:G:629:ARG:HG3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:271:TYR:O	2:G:274:ASP:N	2.52	0.42
2:G:373:TYR:CZ	2:G:398:LEU:HB3	2.54	0.42
2:G:497:ASN:C	2:G:498:PHE:CD2	2.87	0.42
2:G:816:LEU:HD23	2:G:816:LEU:HA	1.82	0.42
1:A:31:U:H2'	1:A:32:A:O4'	2.20	0.42
2:B:45:LYS:HE3	2:B:45:LYS:HB3	1.78	0.42
2:B:121:ASN:HD21	2:B:124:ASP:CG	2.19	0.42
2:B:244:LEU:CD2	2:B:266:LEU:CD1	2.97	0.42
2:B:345:GLU:HG2	2:B:346:LYS:H	1.83	0.42
2:B:380:LEU:HD11	2:B:398:LEU:HD11	2.00	0.42
2:B:765:ARG:HH22	2:B:848:LYS:CE	2.32	0.42
2:B:883:TRP:CZ3	2:B:900:LEU:HB3	2.54	0.42
2:B:896:LYS:O	2:B:900:LEU:HG	2.20	0.42
2:B:1212:ARG:NH2	2:B:1280:VAL:O	2.53	0.42
1:E:12:U:H2'	1:E:13:A:C8	2.52	0.42
1:E:27:G:N2	1:E:44:U:OP2	2.53	0.42
2:G:100:ARG:CZ	2:G:117:PRO:O	2.67	0.42
2:G:249:THR:CG2	2:G:265:GLN:HB2	2.50	0.42
2:G:483:ASP:O	2:G:484:LYS:C	2.56	0.42
2:G:1264:HIS:O	2:G:1268:GLU:HG2	2.20	0.42
1:A:36:A:C5	1:A:37:U:H1'	2.54	0.42
2:B:333:THR:O	2:B:337:ALA:CB	2.67	0.42
2:B:447:ARG:HG2	2:B:448:ILE:O	2.19	0.42
2:B:1153:LYS:O	2:B:1155:LYS:HG3	2.20	0.42
1:E:69:A:H2'	1:E:70:C:C6	2.54	0.42
2:G:335:LEU:HD12	2:G:335:LEU:O	2.19	0.42
2:G:564:LEU:HD12	2:G:564:LEU:C	2.40	0.42
2:G:830:ILE:HD12	2:G:831:ASN:H	1.83	0.42
2:G:1211:LYS:O	2:G:1223:GLY:HA3	2.20	0.42
2:B:248:LEU:HD22	2:B:249:THR:N	2.28	0.42
2:B:351:PHE:N	2:B:351:PHE:HD2	2.16	0.42
2:B:756:PRO:O	2:B:953:VAL:HG22	2.20	0.42
2:B:760:VAL:HG11	2:B:990:ASN:O	2.20	0.42
2:B:846:PHE:CZ	2:B:913:LYS:HD3	2.54	0.42
2:B:1154:SER:O	2:B:1155:LYS:HB2	2.20	0.42
1:E:94:U:H2'	1:E:95:G:C8	2.55	0.42
2:G:34:VAL:HG11	2:G:1359:ARG:HD2	2.02	0.42
2:G:704:PHE:O	2:G:708:ILE:HG13	2.20	0.42
2:G:839:ASP:O	2:G:855:LYS:HA	2.19	0.42
2:G:928:THR:O	2:G:928:THR:OG1	2.34	0.42
2:G:1256:GLN:NE2	2:G:1256:GLN:C	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1290:VAL:HG13	2:G:1312:LEU:CD1	2.49	0.42
2:B:94:ASP:HB2	2:B:152:ARG:HH11	1.83	0.42
2:B:173:ASP:O	2:B:174:LEU:HD12	2.19	0.42
2:B:184:LEU:CD1	2:B:295:ASN:O	2.66	0.42
2:B:1204:PHE:CE2	2:B:1342:VAL:HG11	2.55	0.42
1:E:34:A:N6	1:E:35:A:C2	2.88	0.42
2:G:177:ASP:HB2	6:G:1510:HOH:O	2.17	0.42
2:G:449:PRO:HB2	2:G:452:VAL:HG23	2.02	0.42
2:G:511:HIS:O	2:G:593:THR:HG21	2.20	0.42
2:G:672:ASP:N	2:G:704:PHE:CZ	2.87	0.42
2:G:1324:PHE:HD1	2:G:1324:PHE:H	1.67	0.42
1:A:45:U:H5'	2:B:402:GLN:CG	2.44	0.42
2:B:119:PHE:CD2	2:B:119:PHE:N	2.87	0.42
2:B:342:GLN:CG	2:B:383:MET:HE2	2.29	0.42
2:B:488:ALA:O	2:B:491:PHE:HB3	2.19	0.42
2:B:1177:ASN:ND2	2:B:1180:ASP:CG	2.73	0.42
2:B:1295:ASN:O	2:B:1298:ARG:HG3	2.19	0.42
2:G:27:VAL:HA	2:G:28:PRO:HD3	1.83	0.42
2:G:211:ILE:O	2:G:221:ARG:CD	2.68	0.42
2:G:412:HIS:HD2	2:G:413:GLN:NE2	2.17	0.42
2:G:824:VAL:HG21	2:G:863:ASN:ND2	2.35	0.42
2:G:1123:LYS:NZ	6:G:1504:HOH:O	2.33	0.42
2:B:216:LEU:HD23	2:B:216:LEU:H	1.82	0.42
2:B:421:ALA:O	2:B:425:ARG:HB2	2.19	0.42
2:B:926:GLN:C	2:B:929:LYS:HG3	2.38	0.42
3:C:3:DA:H2''	3:C:4:DT:O5'	2.20	0.42
2:G:54:ASP:OD2	2:G:1201:TYR:OH	2.23	0.42
2:G:234:LYS:HE2	2:G:235:ASN:CA	2.49	0.42
2:G:274:ASP:HA	2:G:277:ASN:HD22	1.85	0.42
2:G:713:VAL:O	2:G:714:SER:C	2.58	0.42
2:G:973:TYR:HD2	2:G:1234:ASN:HA	1.85	0.42
2:G:1139:VAL:HA	2:G:1167:THR:HA	2.01	0.42
2:G:1264:HIS:HE1	2:G:1268:GLU:OE2	1.89	0.42
1:A:10:U:H2'	1:A:11:C:C6	2.55	0.42
2:B:600:ILE:O	2:B:647:VAL:CG1	2.58	0.42
2:B:829:ASP:OD1	2:B:831:ASN:N	2.53	0.42
2:B:1291:LEU:HD23	2:B:1291:LEU:HA	1.82	0.42
2:B:1325:LYS:HB3	2:B:1330:THR:HA	1.99	0.42
2:G:94:ASP:HB2	2:G:152:ARG:HD3	2.02	0.42
2:G:307:ARG:HB3	2:G:307:ARG:HH11	1.85	0.42
2:G:1210:ARG:HE	2:G:1212:ARG:NH1	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:43:G:O2'	2:B:363:ILE:HG13	2.19	0.41
2:B:249:THR:HG22	2:B:265:GLN:HB2	2.01	0.41
2:B:352:PHE:HD2	2:B:352:PHE:HA	1.75	0.41
2:B:536:LYS:HB2	2:B:536:LYS:HE2	1.83	0.41
2:G:198:GLU:C	2:G:199:ASN:ND2	2.73	0.41
2:G:200:PRO:HD2	2:G:200:PRO:O	2.20	0.41
2:G:277:ASN:HB3	2:G:653:ARG:CZ	2.50	0.41
2:G:756:PRO:O	2:G:953:VAL:CG2	2.42	0.41
2:G:849:ASP:OD1	2:G:854:ASN:CB	2.67	0.41
1:A:67:C:P	2:B:739:GLN:HE22	2.43	0.41
2:B:234:LYS:HD3	2:B:235:ASN:CG	2.41	0.41
2:B:341:GLN:NE2	2:B:341:GLN:C	2.73	0.41
2:B:1031:LYS:HZ2	2:B:1031:LYS:HB2	1.85	0.41
2:B:1245:LEU:HD13	2:B:1252:ASN:OD1	2.20	0.41
4:D:8:DT:H2''	4:D:9:DA:H5'	2.02	0.41
2:G:134:THR:HG23	2:G:325:TYR:CE1	2.55	0.41
2:G:201:ILE:CG2	2:G:229:LEU:HD23	2.49	0.41
2:G:333:THR:HA	2:G:336:LYS:CB	2.50	0.41
2:G:359:TYR:O	2:G:359:TYR:CD2	2.73	0.41
2:G:498:PHE:CD2	2:G:498:PHE:N	2.88	0.41
2:G:554:LYS:HD3	2:G:594:TYR:CZ	2.56	0.41
2:G:790:GLU:CG	2:G:889:ALA:HA	2.51	0.41
2:G:1136:SER:HA	4:J:7:DG:O3'	2.20	0.41
2:G:1210:ARG:HE	2:G:1212:ARG:CZ	2.33	0.41
2:G:1229:PRO:CD	2:G:1272:GLN:OE1	2.67	0.41
1:A:12:U:H2'	1:A:13:A:H8	1.84	0.41
1:A:92:G:C2	1:A:93:G:C4	3.08	0.41
2:B:40:ARG:CZ	2:B:43:ILE:HD13	2.50	0.41
2:B:256:PHE:CE2	2:B:282:ILE:HG21	2.54	0.41
2:G:40:ARG:C	2:G:41:HIS:ND1	2.73	0.41
2:G:118:ILE:C	2:G:119:PHE:CD2	2.94	0.41
2:G:118:ILE:CB	2:G:119:PHE:CD2	2.97	0.41
2:G:321:MET:HB3	2:G:402:GLN:OE1	2.20	0.41
2:G:843:PRO:HD2	2:G:846:PHE:CD2	2.54	0.41
2:G:849:ASP:OD1	2:G:854:ASN:HB2	2.20	0.41
2:G:1147:ALA:HB2	2:G:1190:VAL:HG13	2.03	0.41
2:B:377:LYS:HE3	2:B:377:LYS:HB2	1.78	0.41
2:B:627:GLU:N	2:B:627:GLU:CD	2.73	0.41
2:B:1105:PHE:O	2:B:1137:PRO:HA	2.20	0.41
2:B:1212:ARG:CZ	2:B:1336:TYR:CE2	3.01	0.41
2:B:1213:MET:O	2:B:1221:GLN:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:42:A:H8	1:E:42:A:H5'	1.84	0.41
1:E:89:G:N1	2:G:1272:GLN:NE2	2.68	0.41
2:G:173:ASP:OD1	2:G:173:ASP:N	2.53	0.41
2:G:359:TYR:HE2	2:G:363:ILE:CD1	2.32	0.41
2:G:801:VAL:HG11	2:G:815:TYR:CZ	2.55	0.41
2:G:1076:LYS:HG3	2:G:1080:PHE:CE2	2.55	0.41
2:B:253:LYS:HB2	2:B:262:ALA:H	1.84	0.41
2:B:271:TYR:CD2	2:B:271:TYR:C	2.93	0.41
2:B:350:ILE:CG2	2:B:351:PHE:HE2	2.34	0.41
2:B:623:LEU:HD12	2:B:623:LEU:HA	1.52	0.41
2:B:832:ARG:HD2	2:B:835:ASP:OD2	2.21	0.41
2:B:856:VAL:HG12	2:B:857:LEU:N	2.34	0.41
2:B:925:ARG:C	2:B:929:LYS:HE3	2.41	0.41
2:B:1185:LYS:HA	2:B:1185:LYS:HD2	1.77	0.41
2:B:1205:GLU:HB2	2:B:1211:LYS:HG3	2.02	0.41
2:B:1220:LEU:CD2	2:B:1342:VAL:HG21	2.50	0.41
2:B:1295:ASN:OD1	2:B:1298:ARG:NH2	2.53	0.41
2:B:1304:GLU:C	2:B:1327:PHE:HE1	2.24	0.41
3:C:5:DA:C2	4:D:9:DA:C2	3.08	0.41
2:G:249:THR:CG2	2:G:265:GLN:OE1	2.69	0.41
2:G:349:GLU:CD	2:G:356:LYS:HD2	2.40	0.41
2:G:452:VAL:HG11	2:G:478:PHE:HZ	1.85	0.41
2:G:460:SER:HB3	2:G:463:ALA:HB3	2.02	0.41
2:G:744:VAL:O	2:G:748:VAL:HG23	2.20	0.41
2:G:967:ARG:NE	2:G:972:PHE:O	2.53	0.41
2:B:78:ARG:HG2	2:B:443:ILE:HG23	2.01	0.41
2:B:535:ARG:HG2	2:B:536:LYS:H	1.86	0.41
2:B:601:ILE:HD12	2:B:603:ASP:HB3	2.02	0.41
2:B:1298:ARG:HA	2:B:1305:GLN:NE2	2.35	0.41
2:G:201:ILE:CD1	2:G:238:PHE:CG	3.03	0.41
2:G:1120:ILE:HG22	2:G:1121:ALA:N	2.35	0.41
1:A:8:G:C2	3:C:22:DA:C2	3.09	0.41
1:A:26:A:H2'	1:A:27:G:C8	2.56	0.41
2:B:82:LEU:HB3	2:B:155:TYR:HE1	1.85	0.41
2:B:122:ILE:O	2:B:126:VAL:HG23	2.21	0.41
2:B:186:ILE:CD1	2:B:203:ALA:CB	2.99	0.41
2:B:244:LEU:HD11	2:B:264:LEU:O	2.20	0.41
2:B:252:PHE:CE1	2:B:278:LEU:HD21	2.55	0.41
2:B:286:TYR:O	2:B:289:LEU:HB2	2.21	0.41
2:B:402:GLN:OE1	2:B:402:GLN:HA	2.20	0.41
2:B:454:PRO:HD2	2:B:463:ALA:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:697:ILE:HA	2:B:697:ILE:HD12	1.84	0.41
2:B:842:VAL:HG13	2:B:847:LEU:HD22	2.02	0.41
2:B:1232:TYR:CE1	2:B:1268:GLU:HB2	2.56	0.41
1:E:25:U:HO2'	2:G:111:LYS:NZ	2.12	0.41
1:E:47:A:H2'	1:E:48:A:C8	2.56	0.41
2:G:20:VAL:O	2:G:27:VAL:HG23	2.20	0.41
2:G:333:THR:O	2:G:337:ALA:N	2.31	0.41
2:G:1220:LEU:HG	2:G:1339:THR:HG22	2.03	0.41
2:G:1236:LEU:HA	2:G:1236:LEU:HD23	1.87	0.41
2:B:38:THR:CG2	2:B:39:ASP:N	2.84	0.41
2:B:86:PHE:CE2	2:B:155:TYR:HB2	2.55	0.41
2:B:395:ARG:HG3	2:B:395:ARG:HH11	1.86	0.41
2:B:1232:TYR:OH	2:B:1268:GLU:HB3	2.21	0.41
2:B:1240:SER:OG	2:B:1310:ILE:HD12	2.20	0.41
4:D:4:DT:C4	4:D:5:DA:N1	2.88	0.41
1:E:53:G:C5	1:E:62:G:N2	2.89	0.41
2:G:38:THR:HG22	2:G:40:ARG:HG3	2.02	0.41
2:G:116:HIS:CE1	2:G:122:ILE:CD1	3.03	0.41
2:G:191:THR:HA	2:G:194:GLN:HG2	2.03	0.41
2:G:615:ILE:O	2:G:619:ILE:HB	2.21	0.41
2:G:870:VAL:HG11	2:G:902:LYS:HB3	2.03	0.41
2:G:976:ARG:NH2	2:G:977:GLU:CD	2.73	0.41
2:G:1135:ASP:CG	2:G:1136:SER:N	2.73	0.41
2:G:1263:LYS:HD3	2:G:1263:LYS:O	2.21	0.41
2:G:1301:PRO:HD2	2:G:1304:GLU:OE2	2.20	0.41
1:A:17:G:C2	1:A:18:A:C8	3.09	0.41
2:B:49:GLY:HA2	2:B:1092:VAL:HG13	2.03	0.41
2:B:70:ARG:NH1	2:B:454:PRO:HG2	2.35	0.41
2:B:107:VAL:O	2:B:111:LYS:N	2.54	0.41
2:B:165:ARG:C	2:B:415:HIS:ND1	2.74	0.41
2:B:192:TYR:CE1	2:B:237:LEU:HD23	2.50	0.41
2:B:424:ARG:HH11	2:B:424:ARG:CG	2.30	0.41
2:B:641:HIS:CD2	2:B:642:LEU:H	2.38	0.41
2:B:678:THR:O	2:B:682:PHE:N	2.42	0.41
2:B:746:GLU:OE1	2:B:1352:ILE:HG22	2.21	0.41
2:B:780:ARG:H	2:B:780:ARG:HG2	1.67	0.41
2:B:1257:LEU:O	2:B:1261:GLN:N	2.43	0.41
2:B:1335:ARG:C	2:B:1336:TYR:HD1	2.25	0.41
1:E:11:C:N3	1:E:12:U:C4	2.88	0.41
1:E:26:A:C5	1:E:27:G:N7	2.89	0.41
2:G:38:THR:CG2	2:G:40:ARG:HG3	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:118:ILE:HG12	2:G:118:ILE:H	1.59	0.41
2:G:207:ASP:CB	2:G:210:ALA:H	2.33	0.41
2:G:238:PHE:HE2	2:G:242:ILE:CD1	2.32	0.41
2:G:253:LYS:HE3	2:G:261:ASP:CB	2.51	0.41
2:G:540:LEU:HD23	2:G:545:LYS:HG2	2.02	0.41
2:G:594:TYR:CD2	2:G:594:TYR:C	2.94	0.41
2:G:623:LEU:HD21	2:G:654:ARG:O	2.20	0.41
2:G:631:MET:C	2:G:634:GLU:H	2.22	0.41
2:G:758:ASN:HD22	2:G:995:THR:HG22	1.85	0.41
2:G:783:ARG:NH1	5:G:1401:SO4:O1	2.54	0.41
2:G:1071:GLU:CG	2:G:1072:ILE:N	2.84	0.41
2:G:1206:LEU:C	2:G:1207:GLU:HG2	2.41	0.41
3:H:7:DC:H2''	3:H:8:DT:O4'	2.20	0.41
2:B:294:LYS:O	2:B:297:SER:HB3	2.21	0.41
2:B:449:PRO:HD2	2:B:452:VAL:CG2	2.47	0.41
2:B:616:LEU:O	2:B:619:ILE:HG22	2.21	0.41
2:B:678:THR:O	2:B:681:ASP:HB2	2.21	0.41
2:B:686:ASP:OD2	2:B:691:ARG:HB2	2.20	0.41
2:B:992:VAL:HA	2:B:995:THR:HG1	1.85	0.41
2:B:1244:LYS:NZ	2:B:1244:LYS:HB2	2.36	0.41
1:E:97:U:C4	1:E:98:C:C2	3.08	0.41
2:G:4:LYS:HE2	2:G:4:LYS:HB2	1.90	0.41
2:G:118:ILE:N	2:G:125:GLU:OE1	2.54	0.41
2:G:373:TYR:HA	2:G:376:ILE:HD11	2.02	0.41
2:G:474:THR:N	2:G:477:ASN:OD1	2.49	0.41
2:G:498:PHE:HD2	2:G:498:PHE:N	2.18	0.41
2:G:1047:LYS:HE2	2:G:1047:LYS:HB3	1.84	0.41
2:G:1289:LYS:HD3	2:G:1331:ILE:HG23	2.03	0.41
2:B:249:THR:HA	2:B:264:LEU:O	2.21	0.40
2:B:312:ILE:H	2:B:312:ILE:HG13	1.68	0.40
2:B:666:LEU:HD23	2:B:666:LEU:HA	1.63	0.40
2:B:801:VAL:HG11	2:B:815:TYR:HE2	1.86	0.40
2:B:987:ALA:O	2:B:991:ALA:N	2.50	0.40
2:B:1161:LYS:O	2:B:1343:LEU:HD13	2.22	0.40
1:E:27:G:H4'	1:E:28:A:OP2	2.20	0.40
2:G:169:LEU:HD21	3:H:14:DA:H5'	2.02	0.40
2:B:6:SER:O	2:B:21:ILE:HG12	2.22	0.40
2:B:240:ASN:HB3	2:B:250:PRO:HB2	2.04	0.40
2:B:688:PHE:HD2	2:B:688:PHE:HA	1.76	0.40
2:B:924:THR:O	2:B:929:LYS:CE	2.69	0.40
2:B:1041:ASN:HD22	2:B:1041:ASN:N	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1139:VAL:HA	2:B:1167:THR:HA	2.03	0.40
2:B:1286:ASN:O	2:B:1289:LYS:CB	2.69	0.40
2:G:66:ARG:NH1	2:G:462:PHE:HZ	2.14	0.40
2:G:114:GLU:CG	2:G:120:GLY:HA2	2.49	0.40
2:G:788:ILE:HG22	2:G:793:SER:O	2.22	0.40
2:G:808:ASN:HB3	2:G:811:LEU:HB3	2.03	0.40
2:G:820:ARG:HG2	2:G:826:GLN:O	2.20	0.40
2:G:901:THR:O	2:G:902:LYS:C	2.58	0.40
2:G:981:TYR:CD2	2:G:1092:VAL:CG2	3.04	0.40
2:G:1244:LYS:O	2:G:1246:LYS:HE3	2.22	0.40
2:B:115:ARG:HH11	2:B:115:ARG:HD2	1.78	0.40
2:B:184:LEU:CD1	2:B:295:ASN:C	2.90	0.40
2:B:1091:GLN:NE2	2:B:1091:GLN:C	2.73	0.40
2:B:1255:LYS:HE2	2:B:1255:LYS:N	2.36	0.40
2:G:70:ARG:CZ	2:G:454:PRO:HG3	2.51	0.40
2:G:136:TYR:HA	2:G:139:ARG:HG3	2.02	0.40
2:G:637:LYS:HE3	2:G:637:LYS:HB2	1.76	0.40
1:A:91:C:O2'	1:A:92:G:P	2.80	0.40
2:B:1092:VAL:HG12	2:B:1093:ASN:N	2.37	0.40
2:B:1122:ARG:HG3	2:B:1134:PHE:HE2	1.86	0.40
2:G:103:GLU:CA	2:G:106:LEU:HD11	2.46	0.40
2:G:249:THR:HA	2:G:250:PRO:HD3	1.86	0.40
2:G:269:ASP:OD1	2:G:269:ASP:N	2.53	0.40
2:G:304:ASP:OD1	2:G:304:ASP:N	2.44	0.40
2:G:308:VAL:CG1	2:G:309:ASN:N	2.73	0.40
2:G:530:VAL:HG13	2:G:537:PRO:HB2	1.73	0.40
2:G:906:GLY:HA2	2:G:907:GLY:HA3	1.53	0.40
1:A:19:A:O2'	2:B:407:ASN:O	2.40	0.40
1:A:62:G:H8	2:B:69:ARG:NH1	2.14	0.40
2:B:118:ILE:HB	2:B:119:PHE:CE2	2.57	0.40
2:B:212:LEU:HD13	2:B:212:LEU:HA	1.79	0.40
2:B:282:ILE:HG22	2:B:286:TYR:HE1	1.87	0.40
2:B:290:PHE:O	2:B:293:ALA:HB3	2.20	0.40
2:B:300:ILE:O	2:B:303:SER:CB	2.70	0.40
2:B:342:GLN:CB	2:B:383:MET:HE3	2.50	0.40
2:B:451:TYR:HB2	2:B:488:ALA:HA	2.03	0.40
2:B:561:VAL:HG23	2:B:585:ASP:O	2.21	0.40
2:B:568:TYR:HD2	2:B:569:PHE:CE2	2.40	0.40
2:B:1265:TYR:HA	2:B:1268:GLU:HG3	2.03	0.40
2:B:1321:PRO:HB2	2:B:1333:ARG:HD2	2.02	0.40
1:E:8:G:HO2'	1:E:9:U:P	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:89:GLU:OE1	2:G:92:LYS:HD2	2.20	0.40
2:G:234:LYS:CD	2:G:235:ASN:ND2	2.74	0.40
2:G:249:THR:HG22	2:G:265:GLN:CB	2.52	0.40
2:G:465:MET:CE	2:G:467:ARG:HD2	2.52	0.40
2:G:706:GLU:HA	2:G:709:GLN:CG	2.50	0.40
2:G:789:LYS:HB2	2:G:789:LYS:HE3	1.61	0.40
2:G:1357:GLU:O	2:G:1358:THR:CG2	2.69	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	1318/1368 (96%)	1279 (97%)	38 (3%)	1 (0%)	51 83
2	G	1318/1368 (96%)	1273 (97%)	43 (3%)	2 (0%)	47 78
All	All	2636/2736 (96%)	2552 (97%)	81 (3%)	3 (0%)	51 83

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	200	PRO
2	G	200	PRO
2	G	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	1185/1225 (97%)	943 (80%)	242 (20%)	1	5
2	G	1186/1225 (97%)	957 (81%)	229 (19%)	1	7
All	All	2371/2450 (97%)	1900 (80%)	471 (20%)	1	6

All (471) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	4	LYS
2	B	9	LEU
2	B	40	ARG
2	B	47	LEU
2	B	57	GLU
2	B	62	THR
2	B	72	TYR
2	B	76	LYS
2	B	96	SER
2	B	104	SER
2	B	106	LEU
2	B	107	VAL
2	B	111	LYS
2	B	114	GLU
2	B	121	ASN
2	B	165	ARG
2	B	167	HIS
2	B	177	ASP
2	B	181	VAL
2	B	183	LYS
2	B	184	LEU
2	B	195	LEU
2	B	204	SER
2	B	209	LYS
2	B	216	LEU
2	B	218	LYS
2	B	233	LYS
2	B	234	LYS
2	B	245	SER
2	B	246	LEU
2	B	252	PHE
2	B	254	SER
2	B	265	GLN
2	B	268	LYS

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Mol	Chain	Res	Type
2	B	270	THR
2	B	274	ASP
2	B	275	LEU
2	B	278	LEU
2	B	279	LEU
2	B	289	LEU
2	B	294	LYS
2	B	301	LEU
2	B	302	LEU
2	B	304	ASP
2	B	305	ILE
2	B	309	ASN
2	B	311	GLU
2	B	317	LEU
2	B	320	SER
2	B	323	LYS
2	B	338	LEU
2	B	341	GLN
2	B	342	GLN
2	B	348	LYS
2	B	352	PHE
2	B	368	SER
2	B	376	ILE
2	B	377	LYS
2	B	382	LYS
2	B	383	MET
2	B	384	ASP
2	B	390	LEU
2	B	397	ASP
2	B	398	LEU
2	B	400	ARG
2	B	404	THR
2	B	405	PHE
2	B	407	ASN
2	B	419	LEU
2	B	423	LEU
2	B	424	ARG
2	B	425	ARG
2	B	429	PHE
2	B	432	PHE
2	B	434	LYS
2	B	436	ASN

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Mol	Chain	Res	Type
2	B	442	LYS
2	B	445	THR
2	B	455	LEU
2	B	460	SER
2	B	468	LYS
2	B	469	SER
2	B	479	GLU
2	B	490	SER
2	B	502	LEU
2	B	506	LYS
2	B	508	LEU
2	B	510	LYS
2	B	513	LEU
2	B	514	LEU
2	B	531	THR
2	B	532	GLU
2	B	535	ARG
2	B	536	LYS
2	B	540	LEU
2	B	543	GLU
2	B	546	LYS
2	B	550	ASP
2	B	555	THR
2	B	556	ASN
2	B	557	ARG
2	B	571	LYS
2	B	574	CYS
2	B	577	SER
2	B	580	ILE
2	B	583	VAL
2	B	585	ASP
2	B	598	LEU
2	B	601	ILE
2	B	602	LYS
2	B	610	GLU
2	B	627	GLU
2	B	631	MET
2	B	636	LEU
2	B	653	ARG
2	B	655	ARG
2	B	673	LYS
2	B	675	SER

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Mol	Chain	Res	Type
2	B	677	LYS
2	B	688	PHE
2	B	690	ASN
2	B	691	ARG
2	B	694	MET
2	B	701	SER
2	B	703	THR
2	B	709	GLN
2	B	718	ASP
2	B	719	SER
2	B	730	SER
2	B	740	THR
2	B	751	MET
2	B	753	ARG
2	B	776	ASN
2	B	777	SER
2	B	778	ARG
2	B	779	GLU
2	B	782	LYS
2	B	785	GLU
2	B	788	ILE
2	B	791	LEU
2	B	795	ILE
2	B	796	LEU
2	B	803	ASN
2	B	814	TYR
2	B	820	ARG
2	B	822	MET
2	B	828	LEU
2	B	830	ILE
2	B	833	LEU
2	B	834	SER
2	B	837	ASP
2	B	844	GLN
2	B	845	SER
2	B	847	LEU
2	B	850	ASP
2	B	851	SER
2	B	853	ASP
2	B	859	ARG
2	B	861	ASP
2	B	866	LYS

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Mol	Chain	Res	Type
2	B	867	SER
2	B	877	LYS
2	B	885	GLN
2	B	887	LEU
2	B	893	THR
2	B	895	ARG
2	B	905	ARG
2	B	908	LEU
2	B	910	GLU
2	B	911	LEU
2	B	933	GLN
2	B	938	ARG
2	B	940	ASN
2	B	964	SER
2	B	968	LYS
2	B	974	LYS
2	B	976	ARG
2	B	977	GLU
2	B	979	ASN
2	B	1006	SER
2	B	1007	GLU
2	B	1031	LYS
2	B	1035	LYS
2	B	1038	PHE
2	B	1045	PHE
2	B	1047	LYS
2	B	1060	ARG
2	B	1062	LEU
2	B	1082	THR
2	B	1087	LEU
2	B	1089	MET
2	B	1091	GLN
2	B	1106	SER
2	B	1113	LYS
2	B	1135	ASP
2	B	1136	SER
2	B	1148	LYS
2	B	1150	GLU
2	B	1151	LYS
2	B	1154	SER
2	B	1156	LYS
2	B	1158	LYS

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Mol	Chain	Res	Type
2	B	1171	ARG
2	B	1174	PHE
2	B	1175	GLU
2	B	1191	LYS
2	B	1197	LYS
2	B	1202	SER
2	B	1206	LEU
2	B	1207	GLU
2	B	1214	LEU
2	B	1224	ASN
2	B	1230	SER
2	B	1231	LYS
2	B	1233	VAL
2	B	1241	HIS
2	B	1242	TYR
2	B	1243	GLU
2	B	1244	LYS
2	B	1246	LYS
2	B	1252	ASN
2	B	1254	GLN
2	B	1255	LYS
2	B	1257	LEU
2	B	1266	LEU
2	B	1272	GLN
2	B	1274	SER
2	B	1277	SER
2	B	1282	LEU
2	B	1284	ASP
2	B	1288	ASP
2	B	1291	LEU
2	B	1292	SER
2	B	1296	LYS
2	B	1299	ASP
2	B	1307	GLU
2	B	1311	HIS
2	B	1315	LEU
2	B	1325	LYS
2	B	1329	THR
2	B	1337	THR
2	B	1344	ASP
2	G	22	THR
2	G	29	SER

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Mol	Chain	Res	Type
2	G	33	LYS
2	G	35	LEU
2	G	40	ARG
2	G	42	SER
2	G	44	LYS
2	G	46	ASN
2	G	47	LEU
2	G	48	ILE
2	G	51	LEU
2	G	54	ASP
2	G	57	GLU
2	G	64	LEU
2	G	65	LYS
2	G	106	LEU
2	G	107	VAL
2	G	111	LYS
2	G	112	LYS
2	G	115	ARG
2	G	118	ILE
2	G	124	ASP
2	G	130	GLU
2	G	131	LYS
2	G	132	TYR
2	G	135	ILE
2	G	139	ARG
2	G	141	LYS
2	G	146	THR
2	G	161	MET
2	G	165	ARG
2	G	171	GLU
2	G	174	LEU
2	G	175	ASN
2	G	178	ASN
2	G	194	GLN
2	G	195	LEU
2	G	207	ASP
2	G	209	LYS
2	G	211	ILE
2	G	215	ARG
2	G	216	LEU
2	G	217	SER
2	G	218	LYS

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Mol	Chain	Res	Type
2	G	220	ARG
2	G	229	LEU
2	G	233	LYS
2	G	234	LYS
2	G	248	LEU
2	G	252	PHE
2	G	258	LEU
2	G	269	ASP
2	G	270	THR
2	G	271	TYR
2	G	275	LEU
2	G	276	ASP
2	G	279	LEU
2	G	284	ASP
2	G	294	LYS
2	G	304	ASP
2	G	305	ILE
2	G	307	ARG
2	G	309	ASN
2	G	311	GLU
2	G	314	LYS
2	G	321	MET
2	G	332	LEU
2	G	334	LEU
2	G	335	LEU
2	G	342	GLN
2	G	343	LEU
2	G	345	GLU
2	G	352	PHE
2	G	353	ASP
2	G	354	GLN
2	G	359	TYR
2	G	383	MET
2	G	384	ASP
2	G	386	THR
2	G	387	GLU
2	G	392	LYS
2	G	396	GLU
2	G	397	ASP
2	G	400	ARG
2	G	403	ARG
2	G	409	SER

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Mol	Chain	Res	Type
2	G	432	PHE
2	G	435	ASP
2	G	465	MET
2	G	468	LYS
2	G	469	SER
2	G	473	ILE
2	G	480	GLU
2	G	494	ARG
2	G	495	MET
2	G	497	ASN
2	G	499	ASP
2	G	530	VAL
2	G	532	GLU
2	G	535	ARG
2	G	536	LYS
2	G	539	PHE
2	G	541	SER
2	G	544	GLN
2	G	546	LYS
2	G	550	ASP
2	G	557	ARG
2	G	574	CYS
2	G	593	THR
2	G	596	ASP
2	G	601	ILE
2	G	602	LYS
2	G	605	ASP
2	G	611	GLU
2	G	627	GLU
2	G	631	MET
2	G	634	GLU
2	G	636	LEU
2	G	637	LYS
2	G	645	ASP
2	G	653	ARG
2	G	655	ARG
2	G	661	ARG
2	G	671	ARG
2	G	674	GLN
2	G	677	LYS
2	G	694	MET
2	G	696	LEU

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Mol	Chain	Res	Type
2	G	700	ASP
2	G	702	LEU
2	G	703	THR
2	G	714	SER
2	G	721	HIS
2	G	750	VAL
2	G	790	GLU
2	G	791	LEU
2	G	793	SER
2	G	795	ILE
2	G	796	LEU
2	G	802	GLU
2	G	804	THR
2	G	820	ARG
2	G	826	GLN
2	G	827	GLU
2	G	830	ILE
2	G	832	ARG
2	G	844	GLN
2	G	845	SER
2	G	850	ASP
2	G	853	ASP
2	G	864	ARG
2	G	866	LYS
2	G	867	SER
2	G	873	GLU
2	G	877	LYS
2	G	879	MET
2	G	884	ARG
2	G	886	LEU
2	G	887	LEU
2	G	890	LYS
2	G	905	ARG
2	G	908	LEU
2	G	911	LEU
2	G	919	ARG
2	G	933	GLN
2	G	935	LEU
2	G	937	SER
2	G	939	MET
2	G	945	GLU
2	G	962	LEU

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Mol	Chain	Res	Type
2	G	970	PHE
2	G	974	LYS
2	G	976	ARG
2	G	977	GLU
2	G	995	THR
2	G	997	LEU
2	G	1001	TYR
2	G	1006	SER
2	G	1037	PHE
2	G	1042	ILE
2	G	1045	PHE
2	G	1069	THR
2	G	1074	TRP
2	G	1076	LYS
2	G	1078	ARG
2	G	1080	PHE
2	G	1091	GLN
2	G	1097	LYS
2	G	1109	SER
2	G	1124	LYS
2	G	1129	LYS
2	G	1142	SER
2	G	1144	LEU
2	G	1150	GLU
2	G	1153	LYS
2	G	1154	SER
2	G	1155	LYS
2	G	1169	MET
2	G	1171	ARG
2	G	1173	SER
2	G	1197	LYS
2	G	1205	GLU
2	G	1206	LEU
2	G	1210	ARG
2	G	1214	LEU
2	G	1216	SER
2	G	1224	ASN
2	G	1241	HIS
2	G	1244	LYS
2	G	1246	LYS
2	G	1248	SER
2	G	1254	GLN

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Mol	Chain	Res	Type
2	G	1255	LYS
2	G	1257	LEU
2	G	1261	GLN
2	G	1263	LYS
2	G	1268	GLU
2	G	1286	ASN
2	G	1292	SER
2	G	1298	ARG
2	G	1299	ASP
2	G	1303	ARG
2	G	1312	LEU
2	G	1317	ASN
2	G	1324	PHE
2	G	1325	LYS
2	G	1326	TYR
2	G	1329	THR
2	G	1347	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (48) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	178	ASN
2	B	235	ASN
2	B	265	GLN
2	B	277	ASN
2	B	281	GLN
2	B	295	ASN
2	B	341	GLN
2	B	342	GLN
2	B	407	ASN
2	B	412	HIS
2	B	413	GLN
2	B	641	HIS
2	B	650	GLN
2	B	776	ASN
2	B	844	GLN
2	B	854	ASN
2	B	1041	ASN
2	B	1221	GLN
2	B	1241	HIS
2	B	1252	ASN
2	B	1264	HIS

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Mol	Chain	Res	Type
2	B	1272	GLN
2	B	1317	ASN
2	G	46	ASN
2	G	77	ASN
2	G	129	HIS
2	G	175	ASN
2	G	199	ASN
2	G	235	ASN
2	G	281	GLN
2	G	309	ASN
2	G	328	HIS
2	G	342	GLN
2	G	354	GLN
2	G	412	HIS
2	G	497	ASN
2	G	501	ASN
2	G	690	ASN
2	G	709	GLN
2	G	854	ASN
2	G	894	GLN
2	G	1101	GLN
2	G	1221	GLN
2	G	1241	HIS
2	G	1256	GLN
2	G	1286	ASN
2	G	1305	GLN
2	G	1311	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	93/98 (94%)	31 (33%)	4 (4%)
1	E	94/98 (95%)	24 (25%)	3 (3%)
All	All	187/196 (95%)	55 (29%)	7 (3%)

All (55) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	U
1	A	11	C
1	A	20	G

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Mol	Chain	Res	Type
1	A	24	U
1	A	27	G
1	A	28	A
1	A	29	G
1	A	34	A
1	A	35	A
1	A	37	U
1	A	38	A
1	A	39	G
1	A	40	C
1	A	42	A
1	A	43	G
1	A	44	U
1	A	51	A
1	A	54	G
1	A	56	U
1	A	57	A
1	A	59	U
1	A	68	A
1	A	69	A
1	A	73	G
1	A	74	A
1	A	82	G
1	A	87	G
1	A	88	A
1	A	89	G
1	A	91	C
1	A	92	G
1	E	5	C
1	E	9	U
1	E	20	G
1	E	22	U
1	E	23	U
1	E	24	U
1	E	28	A
1	E	29	G
1	E	37	U
1	E	38	A
1	E	39	G
1	E	42	A
1	E	43	G
1	E	51	A

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Mol	Chain	Res	Type
1	E	56	U
1	E	57	A
1	E	59	U
1	E	68	A
1	E	69	A
1	E	74	A
1	E	82	G
1	E	89	G
1	E	91	C
1	E	92	G

All (7) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	8	G
1	A	27	G
1	A	42	A
1	A	68	A
1	E	8	G
1	E	27	G
1	E	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](#)

2 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	SO4	G	1401	-	4,4,4	0.98	0	6,6,6	1.66	1 (16%)
5	SO4	B	1401	-	4,4,4	0.98	0	6,6,6	1.66	1 (16%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	B	1401	SO4	O4-S-O3	3.83	125.39	109.06
5	G	1401	SO4	O4-S-O3	3.83	125.39	109.06

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	G	1401	SO4	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 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	94/98 (95%)	-0.27	1 (1%) 80 70	27, 56, 107, 151	0
1	E	95/98 (96%)	-0.29	0 100 100	31, 56, 109, 125	0
2	B	1326/1368 (96%)	-0.21	23 (1%) 70 57	24, 57, 90, 137	0
2	G	1326/1368 (96%)	-0.21	18 (1%) 75 63	25, 57, 89, 123	0
3	C	25/25 (100%)	-0.32	0 100 100	32, 47, 96, 107	0
3	H	25/25 (100%)	-0.31	0 100 100	34, 47, 99, 112	0
4	D	11/11 (100%)	0.23	1 (9%) 9 5	48, 65, 121, 133	0
4	J	11/11 (100%)	0.13	1 (9%) 9 5	35, 60, 114, 132	0
All	All	2913/3004 (96%)	-0.21	44 (1%) 73 61	24, 57, 93, 151	0

All (44) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	947	ASP	3.9
2	B	1243	GLU	3.7
2	G	305	ILE	3.6
2	B	1043	MET	3.3
4	D	2	DT	3.3
2	G	1153	LYS	3.1
2	B	398	LEU	3.1
2	B	46	ASN	2.9
2	B	1039	TYR	2.8
2	G	178	ASN	2.8
2	G	713	VAL	2.8
2	B	524	LEU	2.8
2	G	688	PHE	2.8
2	B	1269	ILE	2.7
2	B	1266	LEU	2.7
2	G	225	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	98	C	2.6
2	B	688	PHE	2.6
2	B	1244	LYS	2.5
2	B	1034	ALA	2.5
2	G	680	LEU	2.5
2	B	667	ILE	2.4
2	G	179	SER	2.4
2	G	1059	LYS	2.4
2	G	524	LEU	2.4
2	G	823	TYR	2.3
2	B	998	ILE	2.3
2	G	819	GLY	2.3
2	G	279	LEU	2.3
2	G	1004	LEU	2.3
2	B	539	PHE	2.2
2	B	1309	ILE	2.2
4	J	12	DG	2.2
2	B	1194	LEU	2.2
2	G	398	LEU	2.2
2	B	1070	GLY	2.2
2	B	343	LEU	2.1
2	G	539	PHE	2.1
2	B	230	PRO	2.1
2	G	306	LEU	2.0
2	B	176	PRO	2.0
2	B	1242	TYR	2.0
2	G	1008	PHE	2.0
2	B	654	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](#)

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(\AA^2)	Q<0.9
5	SO4	B	1401	5/5	0.95	0.26	30,30,30,30	0
5	SO4	G	1401	5/5	0.95	0.13	78,81,95,107	0

6.5 Other polymers [i](#)

There are no such residues in this entry.