



Full wwPDB EM Validation Report ⓘ

Nov 22, 2022 – 01:33 AM JST

PDB ID : 7DVQ
EMDB ID : EMD-30875
Title : Cryo-EM Structure of the Activated Human Minor Spliceosome (minor Bact Complex)
Authors : Bai, R.; Wan, R.; Wang, L.; Xu, K.; Zhang, Q.; Lei, J.; Shi, Y.
Deposited on : 2021-01-14
Resolution : 2.89 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

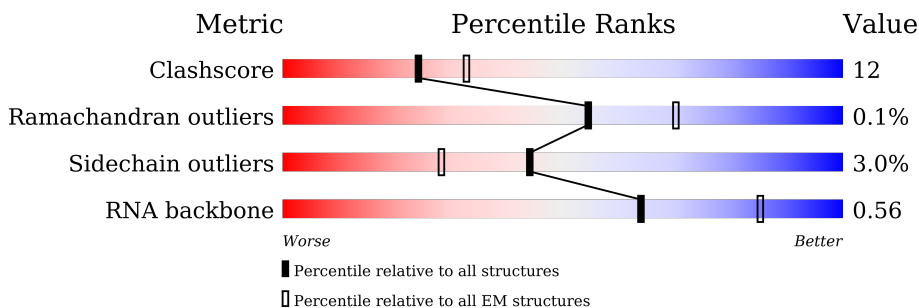
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.89 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	2335	11% (red), 79% (green), 15% (yellow), 5% (grey)
2	B	117	24% (red), 40% (green), 31% (yellow), 6% (orange), 23% (grey)
3	C	972	75% (green), 17% (yellow), 7% (grey)
4	D	2136	55% (red), 78% (green), 6% (orange), 16% (grey)
5	E	357	83% (green), 53% (green), 29% (yellow), 16% (grey)
6	a	126	62% (red), 64% (green), 36% (grey)
6	h	126	63% (red), 63% (green), 37% (grey)






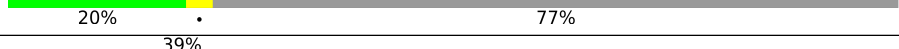
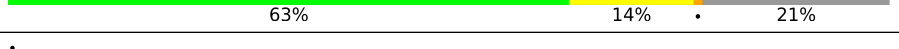

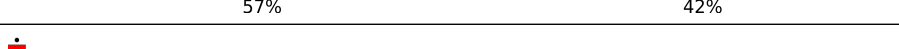
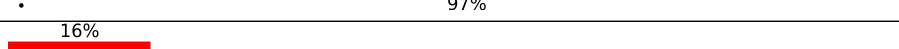
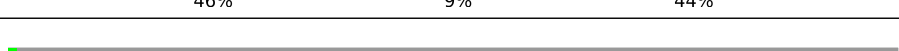






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Mol	Chain	Length	Quality of chain
7	b	240	34% 34% 66%
7	i	240	36% 36% 64%
8	c	119	69% 69% 31%
8	j	119	69% 69% 31%
9	d	118	82% 82% 18%
9	k	118	72% 72% 28%
10	f	86	86% 86% 14%
10	m	86	86% 86% 14%
11	e	92	86% 86% 14%
11	l	92	86% 86% 14%
12	g	76	97% 97%
12	n	76	89% 89% 11%
13	F	124	8% 23% 15% 10% 52%
14	G	142	9% 20% 13% 11% 56%
15	H	150	11% 21% 15% 6% 58%
16	v	230	50% 48%
17	1	1304	62% 12% 24%
18	2	895	6% 21% 76%
19	3	1217	5% 76% 20%
20	4	424	18% 14% 82%
21	5	125	6% 70% 17% 13%
22	6	110	76% 18% 5%
23	7	86	5% 86% 8% 6%
24	L	802	12% 87%
25	J	848	59% 48% 13% 38%

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Mol	Chain	Length	Quality of chain
26	P	229	
27	R	536	
28	T	514	
29	X	396	
30	Y	322	
31	Z	619	
32	9	520	
33	z	472	
34	x	1041	
35	y	476	
36	M	343	
37	U	2752	
38	V	908	
39	8	904	
40	0	101	
41	I	367	
42	K	198	

2 Entry composition [i](#)

There are 49 unique types of molecules in this entry. The entry contains 99906 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Pre-mRNA-processing-splicing factor 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	2223	18354	11832	3206	3236	80	0	0

- Molecule 2 is a RNA chain called U5 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B	90	1898	850	320	638	90	0	0

- Molecule 3 is a protein called 116 kDa U5 small nuclear ribonucleoprotein component.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	902	7125	4560	1185	1345	35	0	0

- Molecule 4 is a protein called U5 small nuclear ribonucleoprotein 200 kDa helicase.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	1803	9215	5522	1841	1851	1	0	0

- Molecule 5 is a protein called U5 small nuclear ribonucleoprotein 40 kDa protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	299	2337	1470	409	445	13	0	0

- Molecule 6 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	a	81	399	237	81	81	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	h	80	392	233	79	80	0	0

- Molecule 7 is a protein called Small nuclear ribonucleoprotein-associated proteins B and B'.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
7	b	82	405	241	82	82	0	0
7	i	86	422	250	86	86	0	0

- Molecule 8 is a protein called Small nuclear ribonucleoprotein Sm D1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
8	c	82	406	242	82	82	0	0
8	j	82	406	242	82	82	0	0

- Molecule 9 is a protein called Small nuclear ribonucleoprotein Sm D2.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
9	d	97	480	286	97	97	0	0
9	k	85	422	252	85	85	0	0

- Molecule 10 is a protein called Small nuclear ribonucleoprotein F.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
10	f	74	361	213	74	74	0	0
10	m	74	361	213	74	74	0	0

- Molecule 11 is a protein called Small nuclear ribonucleoprotein E.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
11	e	79	391	233	79	79	0	0
11	l	79	391	233	79	79	0	0

- Molecule 12 is a protein called Small nuclear ribonucleoprotein G.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	g	74	Total	C	N	O	0	0
			363	215	74	74		
12	n	68	Total	C	N	O	0	0
			334	198	68	68		

- Molecule 13 is a RNA chain called U6atac snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	F	60	Total	C	N	O	P	0	0
			1294	577	242	415	60		

- Molecule 14 is a RNA chain called pre-mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	G	63	Total	C	N	O	P	0	0
			1303	585	197	458	63		

- Molecule 15 is a RNA chain called U12 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	H	63	Total	C	N	O	P	0	0
			1350	604	247	436	63		

- Molecule 16 is a protein called Sodium channel modifier 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	v	119	Total	C	N	O	S	0	0
			963	601	179	178	5		

- Molecule 17 is a protein called Splicing factor 3B subunit 1.

Mol	Chain	Residues	Atoms						AltConf	Trace
17	1	986	Total	C	N	O	P	S	0	0
			7879	5035	1361	1435	1	47		

- Molecule 18 is a protein called Splicing factor 3B subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	2	216	Total	C	N	O	S	0	0
			1674	1067	296	305	6		

- Molecule 19 is a protein called Splicing factor 3B subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	N	O	P			S
19	3	1193	9352	5932	1590	1784	1	45	0	0

- Molecule 20 is a protein called Splicing factor 3B subunit 4.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
20	4	78	383	227	78	78	0	0

- Molecule 21 is a protein called Splicing factor 3B subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	5	109	906	582	157	163	4	0	0

- Molecule 22 is a protein called PHD finger-like domain-containing protein 5A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	6	105	811	502	145	151	13	0	0

- Molecule 23 is a protein called Splicing factor 3B subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	7	81	669	422	117	124	6	0	0

- Molecule 24 is a protein called Cell division cycle 5-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	L	101	843	540	152	147	4	0	0

- Molecule 25 is a protein called Crooked neck-like protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	J	522	3457	2153	654	645	5	0	0

- Molecule 26 is a protein called Spliceosome-associated protein CWC15 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	P	44	Total	C	N	O	S	0	0
			384	243	71	68	2		

- Molecule 27 is a protein called SNW domain-containing protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	R	241	Total	C	N	O	S	0	0
			1923	1191	347	374	11		

- Molecule 28 is a protein called Pleiotropic regulator 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	T	320	Total	C	N	O	S	0	0
			2507	1582	456	462	7		

- Molecule 29 is a protein called Smad nuclear-interacting protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	X	156	Total	C	N	O	S	0	0
			1271	815	227	227	2		

- Molecule 30 is a protein called RNA-binding motif protein, X-linked 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Y	140	Total	C	N	O	S	0	0
			1095	692	192	206	5		

- Molecule 31 is a protein called BUD13 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Z	140	Total	C	N	O	S	0	0
			1129	703	214	207	5		

- Molecule 32 is a protein called RING-type E3 ubiquitin-protein ligase PPIL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	9	409	Total	C	N	O	S	0	0
			2691	1672	487	525	7		

- Molecule 33 is a protein called Peptidyl-prolyl cis-trans isomerase CWC27 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	z	177	Total	C	N	O	S	0	0
			1400	883	245	267	5		

- Molecule 34 is a protein called Pre-mRNA-splicing factor ATP-dependent RNA helicase DHX16.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	x	599	Total	C	N	O	S	0	0
			3007	1794	607	605	1		

- Molecule 35 is a protein called G-patch domain and KOW motifs-containing protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
35	y	13	Total	C	N	O	0	0
			105	66	22	17		

- Molecule 36 is a protein called RING finger protein 113A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	M	191	Total	C	N	O	S	0	0
			1572	983	282	295	12		

- Molecule 37 is a protein called Serine/arginine repetitive matrix protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	U	26	Total	C	N	O	S	0	0
			193	120	36	36	1		

- Molecule 38 is a protein called Pre-mRNA-splicing factor CWC22 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	V	468	Total	C	N	O	S	0	0
			3008	1873	548	574	13		

- Molecule 39 is a protein called Serine/arginine repetitive matrix protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	8	126	Total	C	N	O	S	0	0
			1011	652	168	185	6		

- Molecule 40 is a protein called Cysteine-rich PDZ-binding protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	0	100	770	475	142	144	9	0	0

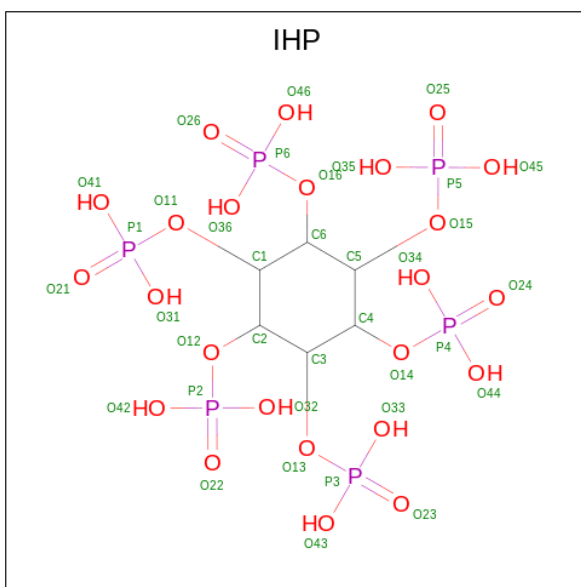
- Molecule 41 is a protein called RNA-binding protein 48.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	I	128	1062	683	184	190	5	0	0

- Molecule 42 is a protein called Armadillo repeat-containing protein 7.

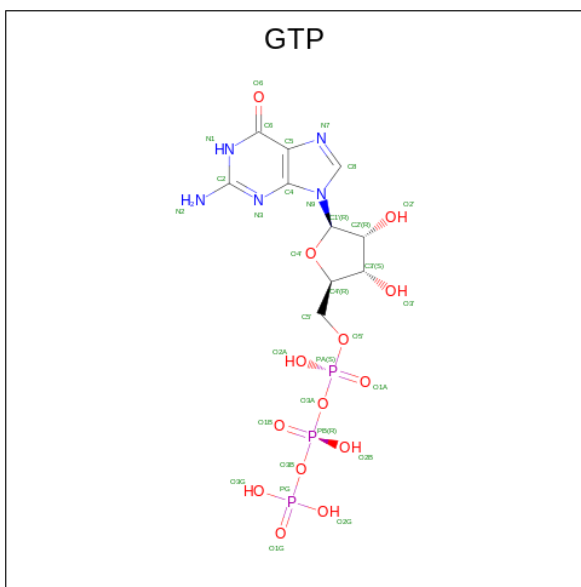
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	K	188	1314	824	229	256	5	0	0

- Molecule 43 is INOSITOL HEXAKISPHOSPHATE (three-letter code: IHP) (formula: $C_6H_{18}O_{24}P_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
43	A	1	36	6	24	6	0

- Molecule 44 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
44	C	1	32	10	5	14	3	0

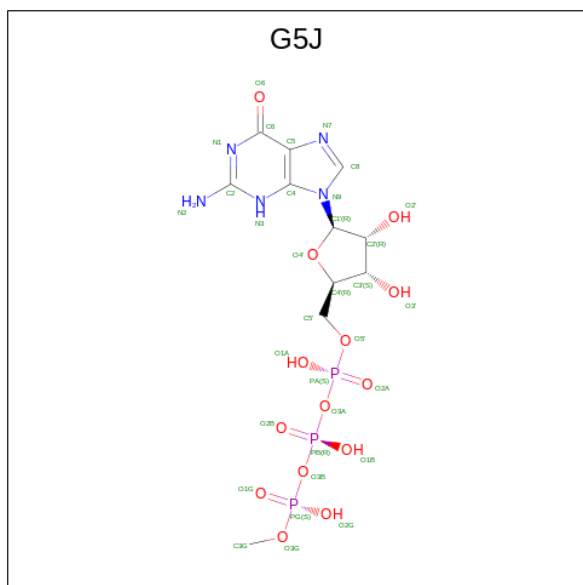
- Molecule 45 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
45	C	1	1	1	0
45	F	4	4	4	0

- Molecule 46 is POTASSIUM ION (three-letter code: K) (formula: K) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
			Total	K	
46	F	2	2	2	0

- Molecule 47 is 5'-O-[(S)-hydroxy{[(R)-hydroxy{[(S)-hydroxy(methoxy)phosphoryl]oxy}phosphoryl]oxy}phosphoryl]guanosine (three-letter code: G5J) (formula: C₁₁H₁₈N₅O₁₄P₃) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
47	F	1	Total	C	N	O	P	0
			33	11	5	14	3	

- Molecule 48 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
48	v	1	Total	Zn	0
			1	1	
48	6	3	Total	Zn	0
			3	3	
48	M	1	Total	Zn	0
			1	1	
48	0	2	Total	Zn	0
			2	2	

- Molecule 49 is water.

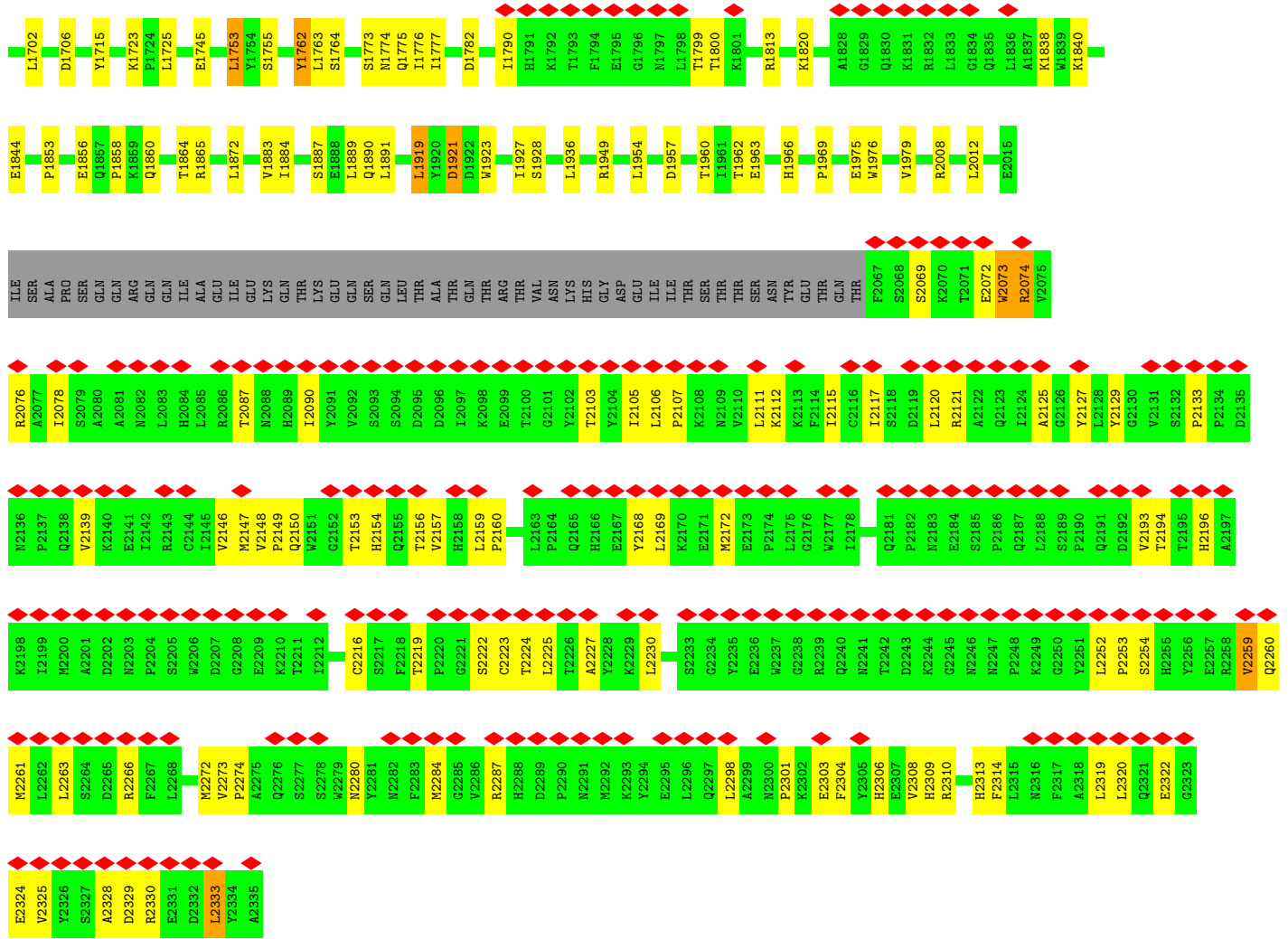
Mol	Chain	Residues	Atoms		AltConf
49	C	3	Total	O	0
			3	3	

3 Residue-property plots i

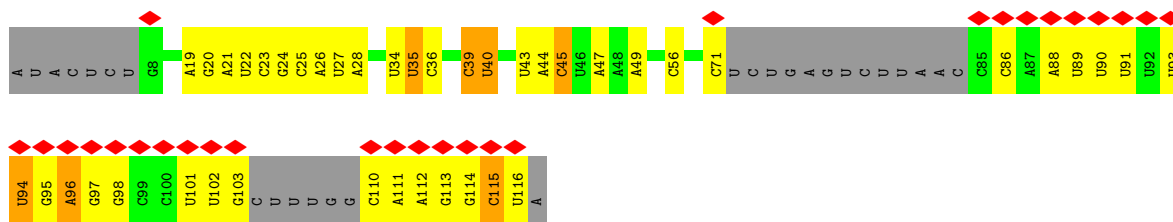
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Pre-mRNA-processing-splicing factor 8

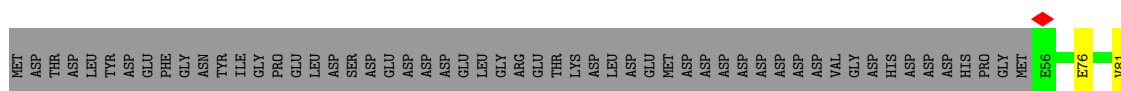
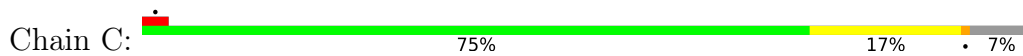


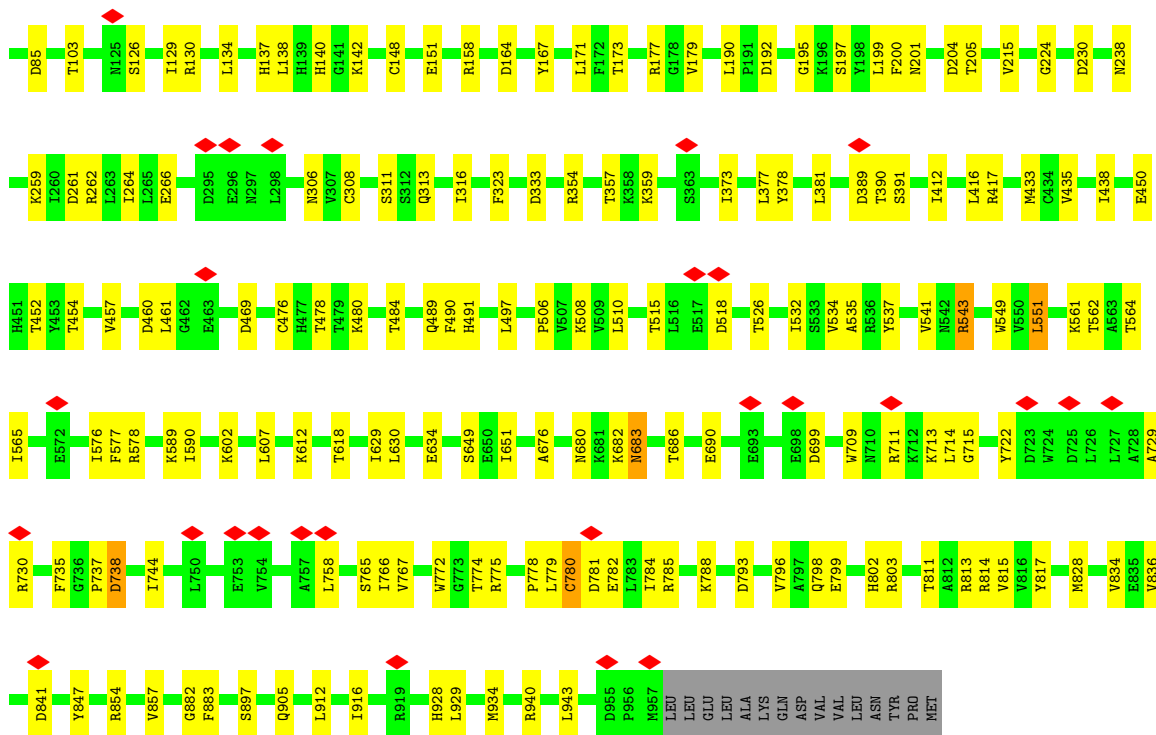


• Molecule 2: U5 snRNA

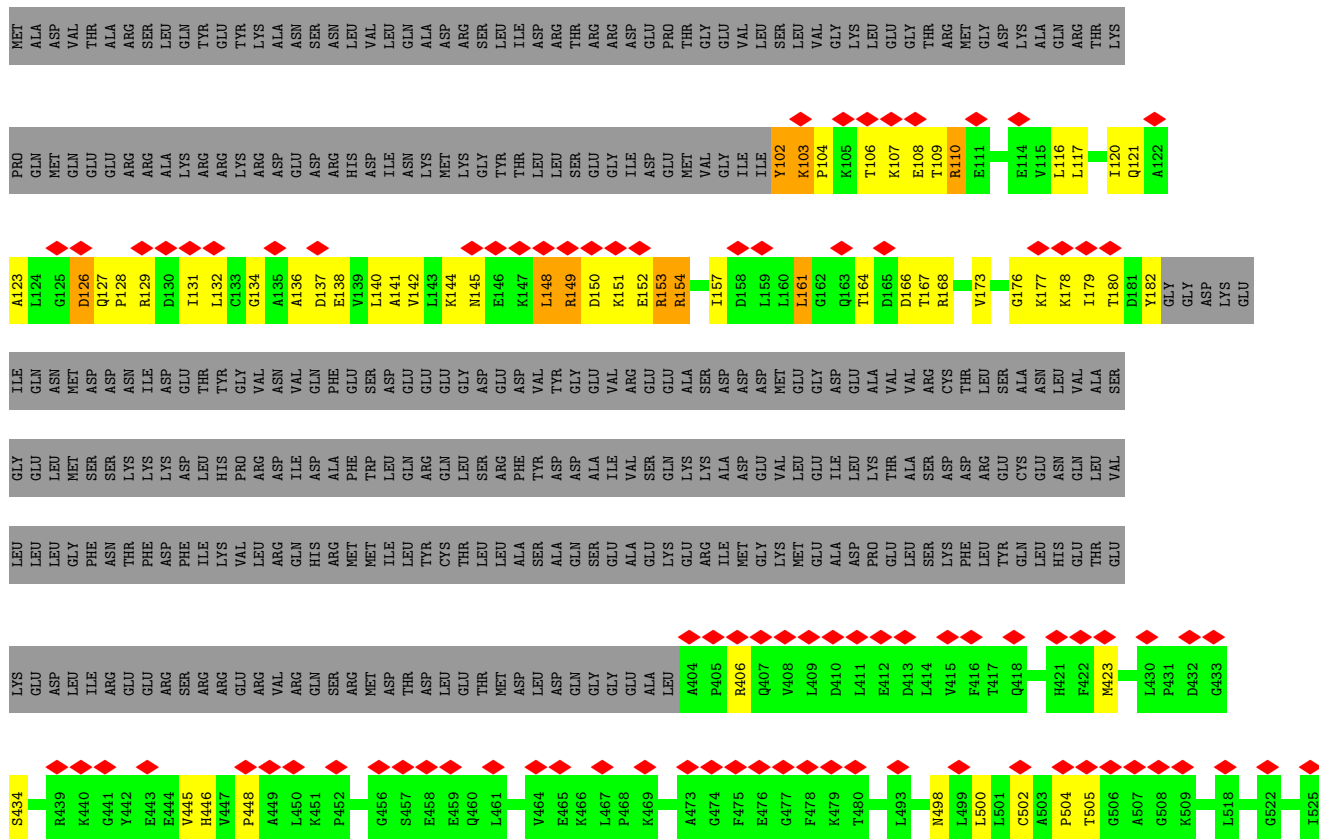
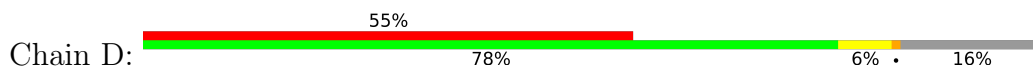


• Molecule 3: 116 kDa U5 small nuclear ribonucleoprotein component





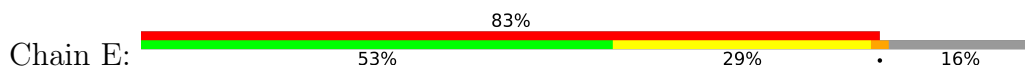
● Molecule 4: U5 small nuclear ribonucleoprotein 200 kDa helicase



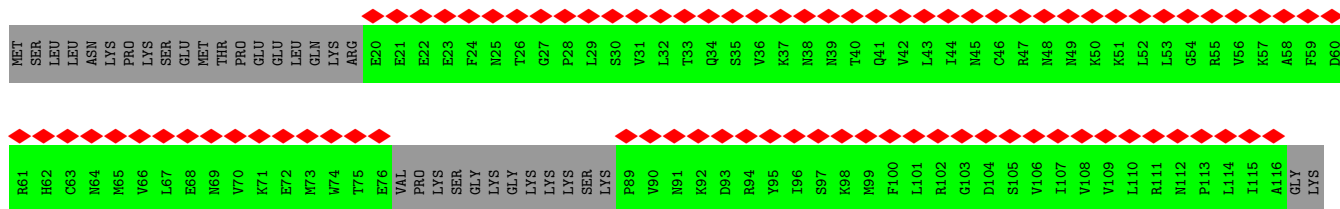
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M526	M527	D528	G529	T530	I531	N532	V533	D534	F535	K537	E538	M544	G553	G556	T561	Y562	G563	I564	T565	V566	A567	E568	L569	T570	G571	D572	H573	Q574	L575	C576	K577	E578	E579	I580	S581	A582	T583	Q584	I585	G600	G601	E602	R603	T604	Q607	I613	E616	L628	E629										
A630	I639	E640	M641	T642	Q643	E644	D645	V646	L651	S652	A653	T654	L655	P656	V661	D668	K671	G672	L673	F674	Y675	F676	R681	E686	D687	T688	T693	E694	K695	Q697	K696	I698	F701	M713	E714	H715	A716	G717	K718	N719	Q720	L721	L722	V725	H726	D740													
L743	E744	K745	D746	T747	L748	G749	L750	F751	L752	R753	E754	G755	S756	A757	T759	E760	E765	N771	D776	A783	A787	G788	M789	L800	K804	H805	I806	S839	Q807	V808	L809	A816	V819	N820	H824	G830	T831	W841	T842	E843	G854	P859	Q860	Y861															
E866	T871	S872	H873	G874	E875	Y878	S881	L882	L883	N884	Q885	I889	E890	T891	D899	L907	G908	N909	V910	K914	N919	A923	Y924	L925	G937	I938	S939	H940	D941	D942	L943	K944	G945	D946	P947	L948	L949	O950	Q951	D955	L956	V957	H958	V970	D973	K974													
K975	T976	G977	N978	F979	Q980	N981	T982	E983	I987	Y991	Y992	N995	D996	T997	K1006	L1009	S1010	E1013	V1017	S1021	S1022	T1028	V1029	R1030	E1031	E1032	E1033	K1034	L1035	E1036	L1037	E1042	R1043	Y1044	P1047	V1048	K1049	E1050	I1052	I1053	L1070	K1071	L1072	E1073	G1074	F1075													
R1090	A1094	W1123	C1127	K1134	L1135	P1136	E1137	E1144	K1145	F1148	P1149	F1150	D1155	R1166	M1167	P1168	K1169	K1183	L1184	E1185	L1186	S1187	V1188	H1189	Q1191	P1192	I1193	R1194	R1195	L1198	K1199	V1200	E1201	L1202	T1203	I1204	T1205	P1206	D1207	F1208	Q1209	W1210	D1211																
E1212	K1213	G1216	S1217	S1218	D1227	V1228	D1229	S1230	E1231	L1234	H1235	K1244	Y1245	A1246	Q1247	D1248	E1249	I1252	T1253	F1254	F1255	V1256	P1257	V1258	F1259	E1260	P1261	L1262	P1263	P1264	Q1265	S1277	C1278	E1279	T1280	T1281	V1284	S1285	F1286	R1287	H1288	L1289	I1290	L1291	P1292	E1293	K1294	Y1295	P1296	P1297	P1298	T1299							
E1300	L1301	L1302	D1303	L1304	Q1305	P1306	L1307	P1309	S1310	A1311	L1312	R1313	M1314	S1315	A1316	F1317	E1318	S1319	L1320	Y1321	Q1322	D1323	K1324	F1325	P1326	F1327	F1328	M1329	P1330	I1331	Q1332	L1333	Q1334	V1335	F1336	M1337	T1338	V1339	Y1340	M1341	S1342	D1343	D1344	M1345	V1346	F1347	G1348	A1350	P1351	T1352	G1353	S1354	G1355	K1356	L1358	C1359			
A1360	E1361	F1362	A1363	T1364	L1365	R1366	M1367	L1368	L1369	Q1370	S1371	S1372	E1373	G1374	R1375	C1376	V1377	Y1378	I1379	T1380	P1381	M1382	E1383	L1384	L1385	A1386	E1387	Q1388	V1389	Y1390	M1391	D1392	W1393	Y1394	E1395	K1396	F1397	Q1398	L1399	R1400	L1401	N1402	K1403	X1404	V1405	V1406	L1407	L1408	T1409	G1410	E1411	T1412	S1413	T1414	D1415	L1416	K1417	L1418	L1419
G1420	K1421	G1422	M1423	I1424	I1425	I1426	S1427	T1428	P1429	E1430	K1431	D1432	I1433	I1434	L1435	S1436	R1437	A1438	W1439	K1440	Q1441	L1442	K1443	L1444	V1445	Q1446	M1447	L1448	M1449	L1450	F1451	V1452	D1454	E1455	V1456	H1457	L1458	I1459	G1460	G1461	E1462	M1463	G1464	L1465	V1466	L1467	E1468	V1469	I1470	C1471	S1472	R1473	M1474	R1475	Y1476	L1477	S1478	S1479	
Q1480	I1481	E1482	R1483	P1484	I1485	R1486	I1487	V1488	A1489	L1490	S1491	S1492	S1493	L1494	S1495	M1496	A1497	K1498	D1499	V1500	A1501	H1502	V1503	L1504	G1505	C1506	S1507	A1508	T1509	S1510	T1511	F1512	F1513	F1514	H1515	P1516	L1517	V1518	R1519	P1520	E1521	P1522	L1523	E1524	L1525	H1526	I1527	Q1528	F1529	F1530	M1531	I1532	S1533	H1534	K1535	Q1536	L1537	R1538	L1539
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Y1600	L1601	E1602	K1603	L1604	S1605	D1606	S1607	H1608	A1609	I1610	E1611	K1612	H1613	S1614	P1615	K1616	V1617	G1618	Y1619	L1620	H1621	E1622	G1623	L1624	S1625	R1626	K1627	E1628	R1629	L1630	L1631	V1632	A1633	I1634	L1635	D1636	L1637	T1638	L1639	C1640	A1641	Q1642	V1643	V1644	V1645	A1646	S1647	L1648	S1649	L1650	C1651	W1652	G1653	K1654	K1655	R1656	Q1657	L1658	L1659

L1660	L1661	L1662	L1663	L1664	L1665	L1666	L1667	L1668	L1669	L1670	L1671	L1672	L1673	L1674	L1675	L1676	L1677	L1678	L1679	L1680	L1681	L1682	L1683	L1684	L1685	L1686	L1687	L1688	L1689	L1690	L1691	L1692	L1693	L1694	L1695	L1696	L1697	L1698	L1699	L1700	L1701	L1702	L1703	L1704	L1705	L1706	L1707	L1708	L1709	L1710	L1711	L1712	L1713	L1714	L1715	L1716	L1717	L1718	L1719
E1720	P1721	L1722	P1723	L1724	E1725	L1726	H1727	L1728	L1729	H1730	C1731	M1732	H1733	D1734	H1735	F1736	L1737	A1738	E1739	L1740	V1741	T1742	K1743	L1744	L1745	E1746	M1747	K1748	Q1749	D1750	A1751	L1752	D1753	L1754	L1755	L1756	W1757	L1758	F1759	L1760	L1761	R1762	R1763	M1764	L1765	Q1766	L1767	P1768	S1769	K1770	Y1771	N1772	F1773	Q1774	L1775	L1776	L1777	L1778	L1779
H1780	L1781	S1782	D1783	H1784	L1785	S1786	L1787	L1788	V1789	L1790	Q1791	T1792	L1793	S1794	D1795	L1796	E1797	Q1798	K1800	C1801	I1802	S1803	L1804	E1805	D1806	E1807	M1808	D1809	V1810	A1811	P1812	L1813	M1814	L1815	G1816	M1817	I1818	A1819	A1820	Y1821	Y1822	Y1823	I1824	M1825	Y1826	L1827	T1828	T1829	E1830	L1831	F1832	S1833	M1834	L1835	L1836	M1837	A1838	K1839	
T1840	K1841	V1842	R1843	G1844	L1845	I1846	E1847	L1848	I1849	S1850	M1851	A1852	A1853	E1854	Y1855	E1856	M1857	I1858	P1859	I1860	R1861	H1862	H1863	E1864	M1865	L1866	L1867	L1868	R1869	Q1870	L1871	A1872	H1873	K1874	L1875	P1876	H1877	K1878	L1879	M1880	M1881	P1882	L1883	F1884	M1885	D1886	P1887	H1888	V1889	K1890	T1891	M1892	L1893	L1894	L1895	Q1896	D1897	H1898	L1899
S1900	R1901	M1902	Q1903	L1904	S1905	A1906	E1907	L1908	Q1909	S1910	D1911	L1912	E1913	E1914	I1915	L1916	S1917	K1918	A1919	I1920	R1921	L1922	I1923	Q1924	A1925	C1926	V1927	D1928	V1929	L1930	S1931	S1932	S1933	L1934	W1935	L1936	S1937	P1938	A1939	L1940	M1941	A1942	M1943	E1944	L1945	A1946	Q1947	M1948	V1949	T1950	Q1951	A1952	M1953	W1954	S1955	K1956	D1957	S1958	Y1959
L1960	K1961	Q1962	L1963	P1964	L1965	F1966	T1967	S1968	L1969	H1970	I1971	K1972	E1973	C1974	T1975	D1976	K1977	G1978	V1979	E1980	S1981	V1982	F1983	D1984	L1985	M1986	E1987	M1988	V1989	D1990	L1991	E1992	R1993	M1994	A1995	L1996	L1997	Q1998	L1999	T2000	D2001	S2002	Q2003	T2004	A2005	D2006	V2007	A2008	F2009	F2010	C2011	M2012	R2013	Y2014	P2015	M2016	T2017	E2018	L2019
S2020	Y2021	E2022	V2023	V2024	D2025	K2026	D2027	S2028	L2029	R2030	S2031	G2032	G2033	P2034	V2035	V2036	V2037	L2038	V2039	Q2040	L2041	E2042	R2043	E2044	E2045	E2046	V2047	T2048	G2049	P2050	V2051	A2052	A2053	P2054	L2055	P2056	F2057	Q2058	K2059	R2060	E2061	E2062	G2063	W2064	W2065	V2066	V2067	L2068	G2069	D2070	A2071	K2072	S2073	N2074	S2075	L2076	I2077	S2078	I2079
K2080	R2081	L2082	T2083	L2084	Q2085	Q2086	K2087	A2088	K2089	V2090	K2091	L2092	D2093	F2094	V2095	A2096	P2097	A2098	T2099	G2100	A2101	H2102	N2103	Y2104	T2105	L2106	Y2107	F2108	M2109	S2110	D2111	A2112	Y2113	M2114	G2115	D2116	Q2118	E2119	Y2120	K2121	F2122	S2123	Y2124	D2125	VAL	LYS	GLU	ALA	THR	ASP	SER	SER	ASP						

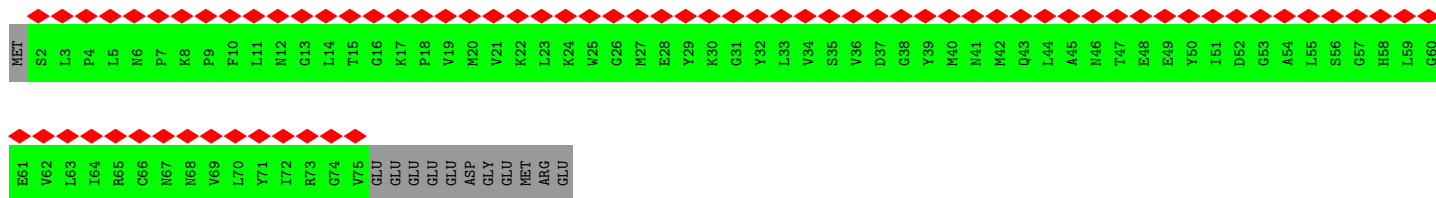
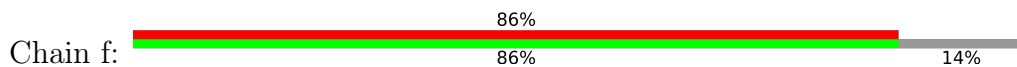
● Molecule 5: U5 small nuclear ribonucleoprotein 40 kDa protein



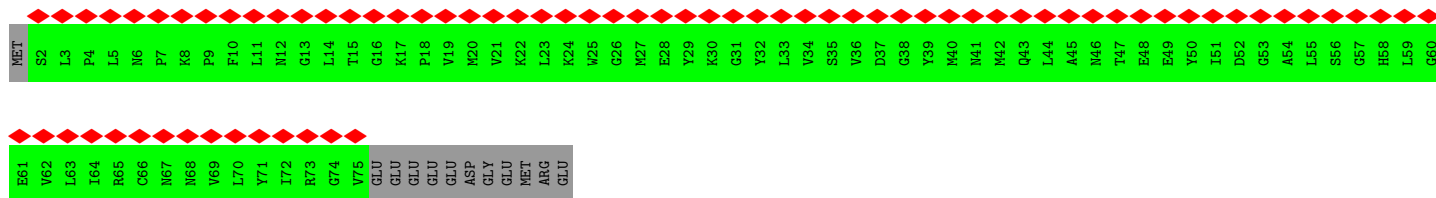
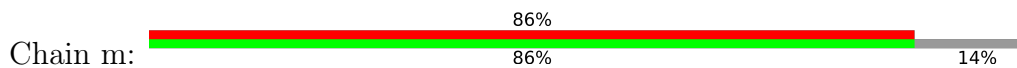
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L61	L62	S63	G64	H65	E66	G67	E68	V69	Y70	C71	C72	K73	F74	H75	P76	M77	G78	S79	T80	L81	A82	S83	A84	G85	F86	D87	R88	L89	I90	L91	L92	W93	N94	V95	Y96	G97	D98	C99	D100	M101	Y102	A103	Q104	L105	L106	G107	H108	S109	G110	A111	V112	M113	E114	L115	H116	Y117	T119	D120	
G121	S122	M123	L124	F125	S126	A127	S128	T129	D130	K131	T132	V133	A134	V135	W136	D137	S138	E139	T140	G141	E142	R143	V144	K145	R146	L147	K148	G149	H150	T151	S152	F153	V154	M155	S156	C157	D158	P159	A160	R161	R162	G163	Q164	Q165	L166	V167	C168	T169	G170	S171	D172	D173	G174	T175	V176	K177	L178	W179	D180
I181	R182	K183	K184	A185	A186	I187	T188	F189	I190	Q191	M192	T193	Y194	Q195	V196	L197	A198	V199	T200	F201	N202	D203	T204	S205	D206	Q207	I208	L209	S210	G211	G212	I213	D214	N215	D216	I217	K218	V219	W220	D221	L222	R223	Q224	M225	K226	L227	T228	Y229	T230	M231	R232	G233	H234	A235	D236	S237	V238	T239	G240



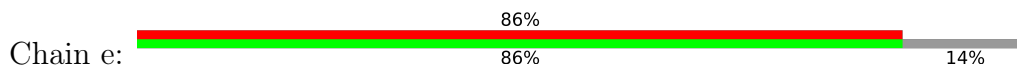
• Molecule 10: Small nuclear ribonucleoprotein F



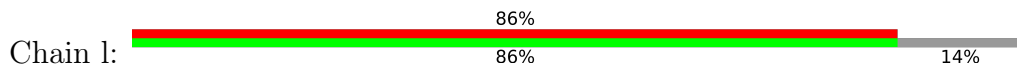
• Molecule 10: Small nuclear ribonucleoprotein F



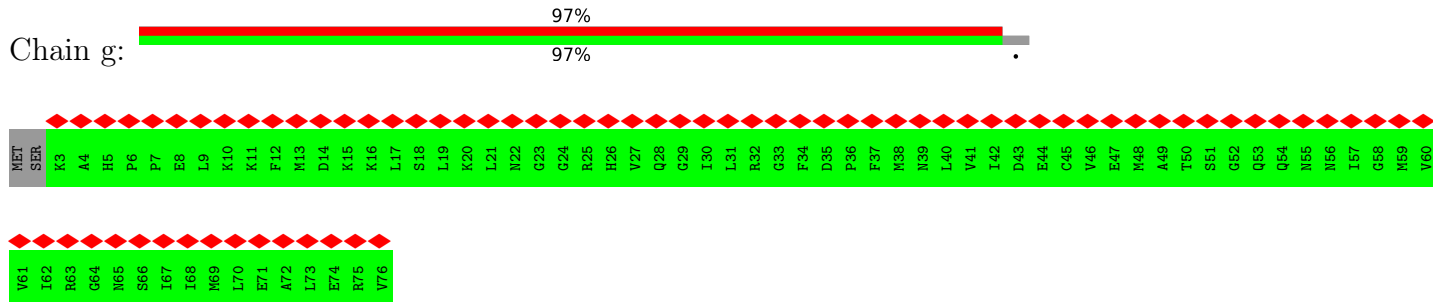
• Molecule 11: Small nuclear ribonucleoprotein E



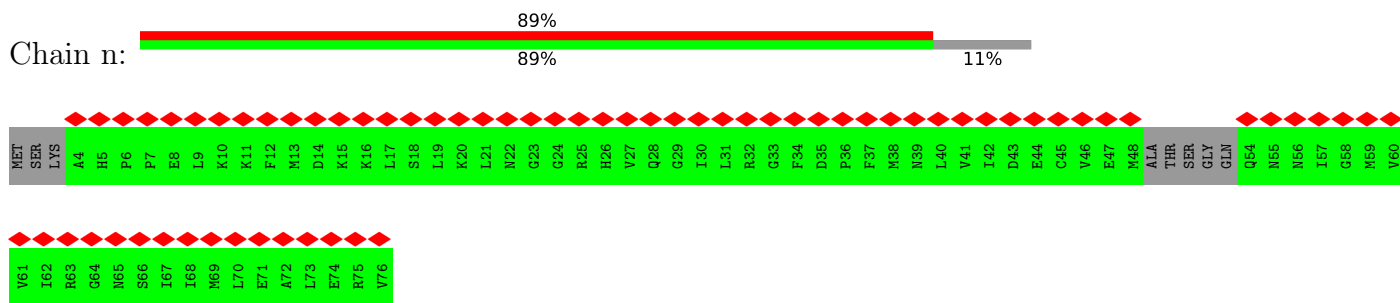
• Molecule 11: Small nuclear ribonucleoprotein E



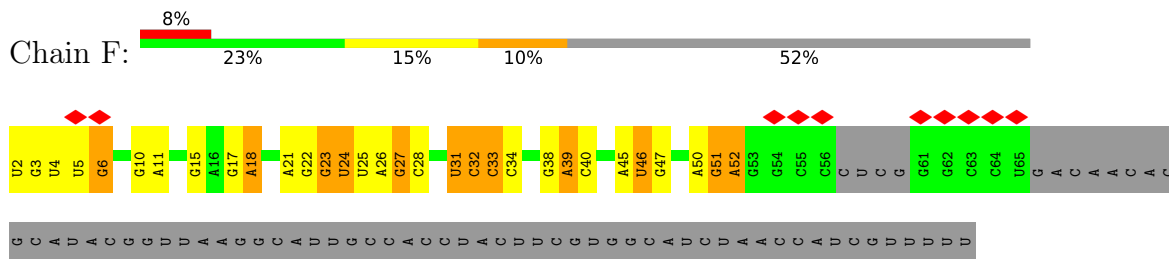
• Molecule 12: Small nuclear ribonucleoprotein G



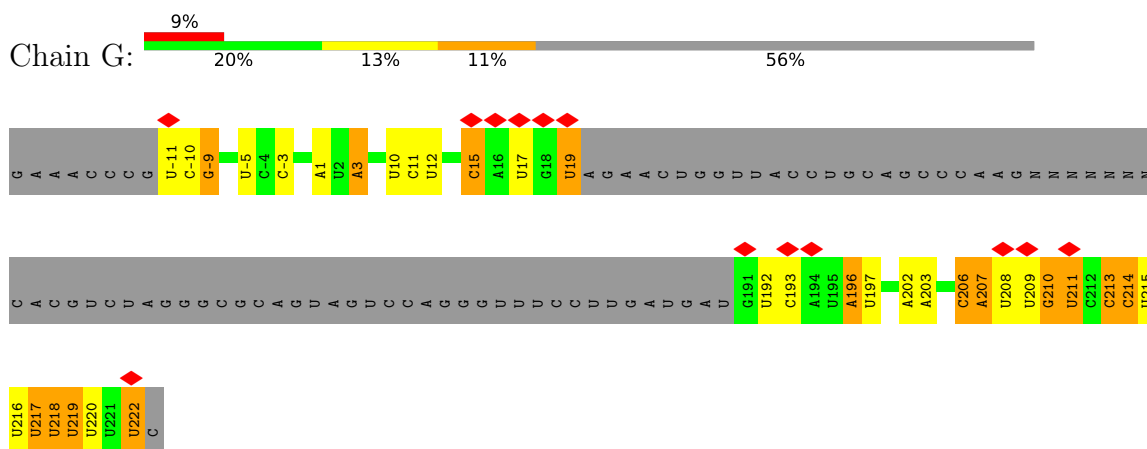
• Molecule 12: Small nuclear ribonucleoprotein G



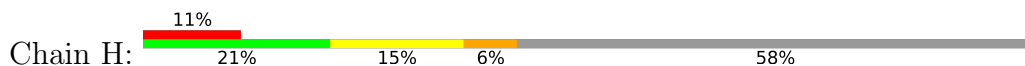
• Molecule 13: U6atac snRNA



• Molecule 14: pre-mRNA

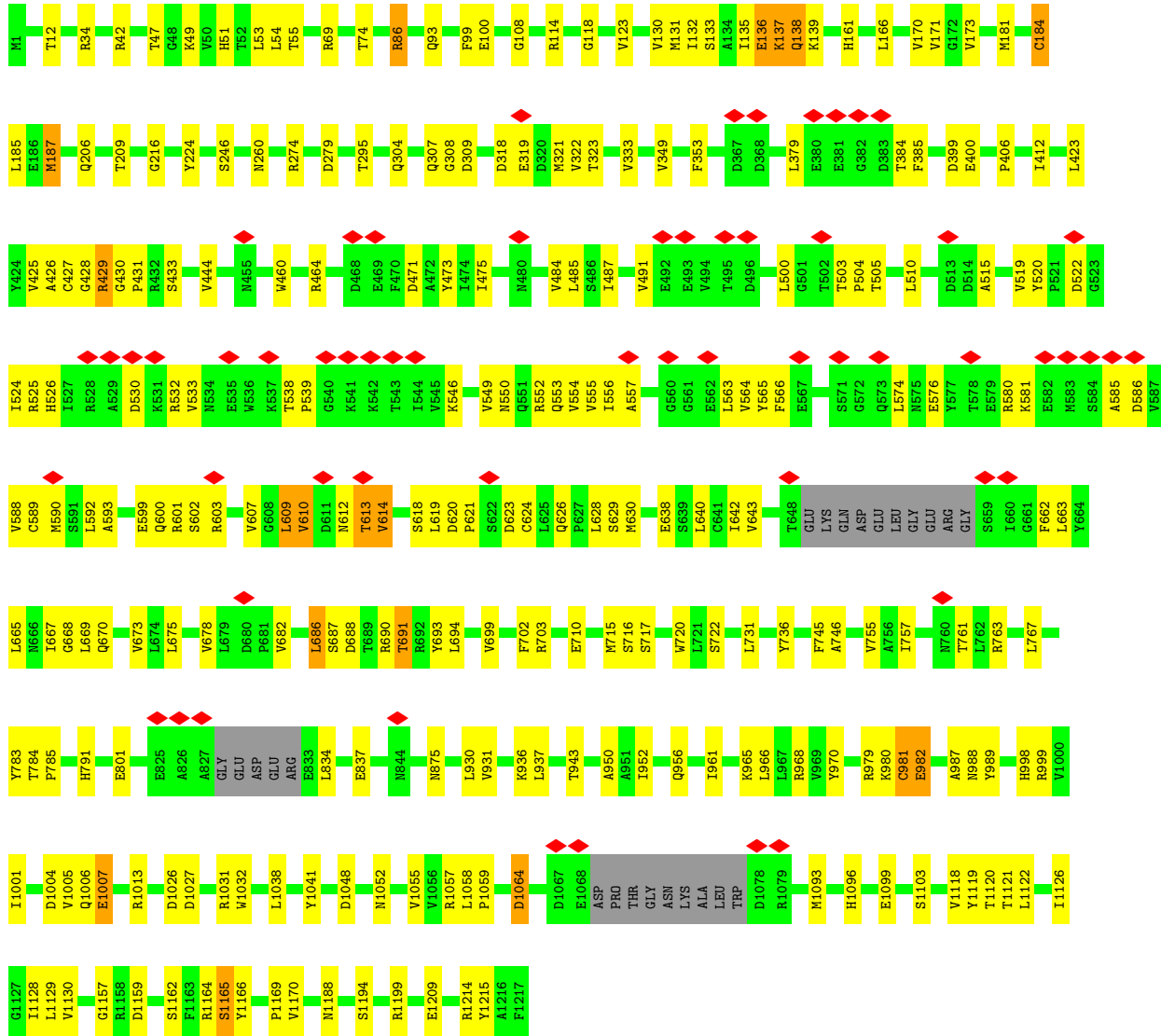
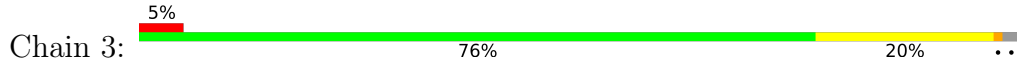


• Molecule 15: U12 snRNA

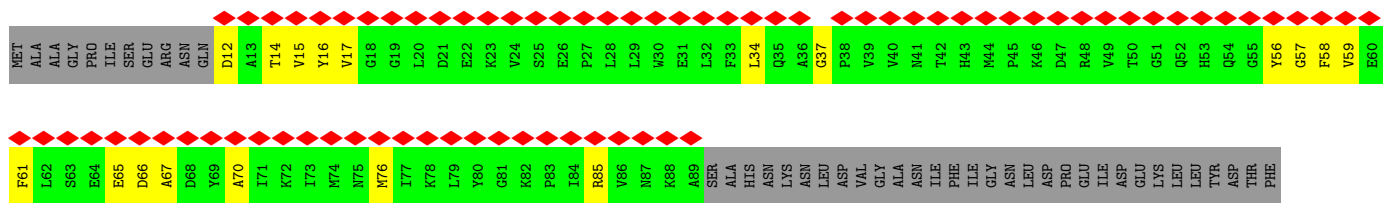


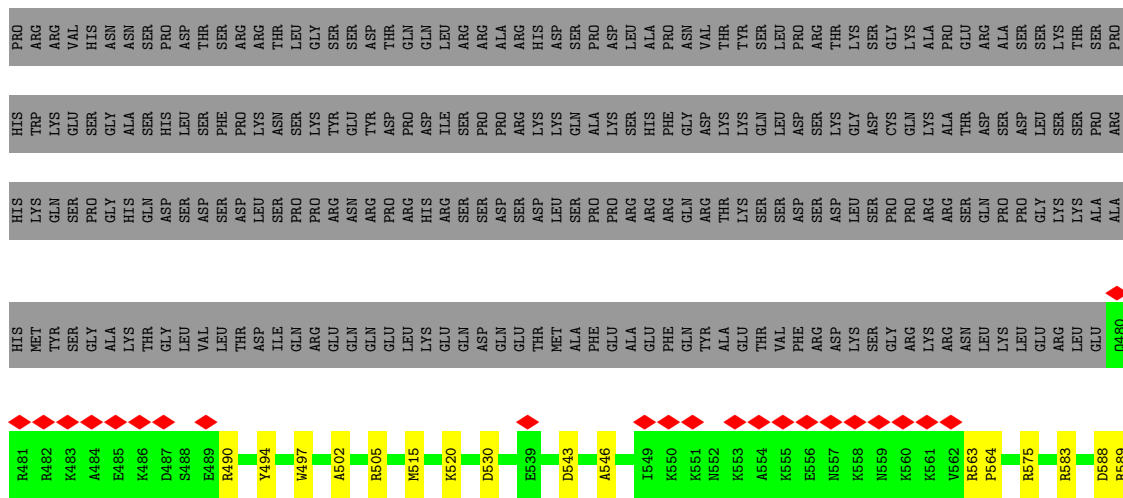
PRO	MET	ALA	ALA	MET	THR	GLN	LYS	TYR	GLU	GLU	GLU	HIS	VAL	ARG	GLU	GLN	ALA	GLN	VAL	GLU	LYS	GLU	ASP	PHE	SER	ASP	MET	VAL	GLU	HIS	ALA	ALA	ALA	LYS	GLN	LYS	GLN	LYS	LYS	ARG	LYS	LYS	ALA	ALA	GLN	PRO	ASP	ASP	SER	ARG	GLY	GLY	SER	LYS	LYS	TYR	LYS	GLU	PHE	LYS	PHE
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

• Molecule 19: Splicing factor 3B subunit 3

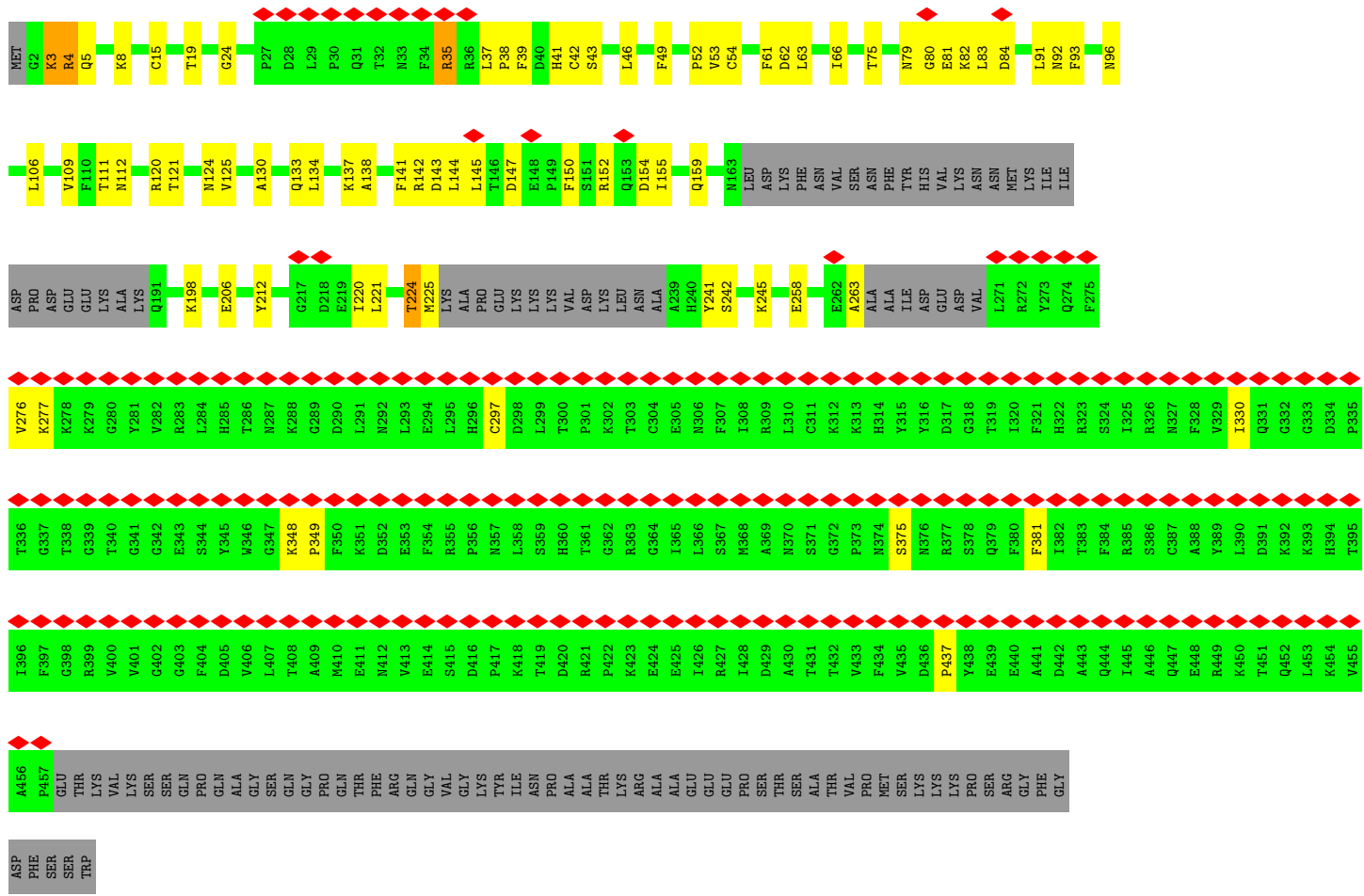
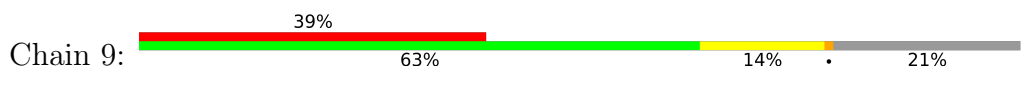


• Molecule 20: Splicing factor 3B subunit 4





• Molecule 32: RING-type E3 ubiquitin-protein ligase PPIL2

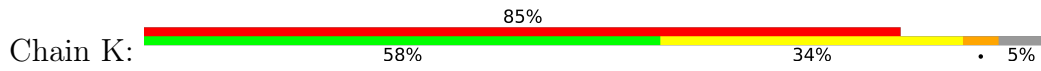


• Molecule 33: Peptidyl-prolyl cis-trans isomerase CWC27 homolog



THR
ALA
ASN
LEU
ILE
ARG
HIS
LYS
LEU
LYS
GLU
VAL
ILE
SER
SER
VAL
PRO
LYS
PRO
PRO
GLU
ASP
LYS
PRO
GLU
ASP
VAL
HIS
THR
SER
HIS
PRO
LEU
LYS
GLN
ARG
ARG
ILE

• Molecule 42: Armadillo repeat-containing protein 7



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	101443	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.134	Depositor
Minimum map value	-0.056	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.014	Depositor
Map size (\AA)	644.52, 644.52, 644.52	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.0742, 1.0742, 1.0742	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: K, SEP, GTP, IHP, TPO, G5J, MG, ZN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	1.19	1/18863 (0.0%)	0.77	0/25599
2	B	0.51	0/2115	0.92	0/3284
3	C	1.03	1/7287 (0.0%)	0.79	0/9902
4	D	0.32	0/9225	0.58	0/12826
5	E	0.60	0/2390	0.75	0/3238
6	a	0.43	0/397	0.58	0/549
6	h	0.47	0/390	0.62	0/539
7	b	0.50	0/404	0.72	0/561
7	i	0.50	0/421	0.73	0/583
8	c	0.58	0/405	0.73	0/563
8	j	0.57	0/405	0.73	0/563
9	d	0.66	0/479	0.82	0/666
9	k	0.67	0/420	0.81	0/583
10	f	0.75	0/360	0.82	0/497
10	m	0.75	0/360	0.81	0/497
11	e	0.65	0/390	0.80	0/542
11	l	0.64	0/390	0.81	0/542
12	g	0.54	0/362	0.71	0/501
12	n	0.54	0/332	0.73	0/458
13	F	0.43	0/1449	0.77	0/2257
14	G	0.31	0/1445	0.71	0/2238
15	H	0.45	0/1511	0.72	0/2351
16	v	0.94	0/984	0.66	0/1326
17	1	1.13	0/8025	0.79	0/10859
18	2	1.01	0/1710	0.70	0/2306
19	3	1.03	0/9531	0.74	0/12931
20	4	0.60	0/382	0.70	0/529
21	5	0.88	0/925	0.71	0/1247
22	6	1.15	0/825	0.77	0/1106
23	7	1.29	0/688	0.85	0/930
24	L	1.26	0/864	0.78	0/1165
25	J	0.35	0/3494	0.52	0/4743

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
26	P	1.18	0/391	0.72	0/517
27	R	0.78	0/1954	0.58	0/2622
28	T	1.28	0/2574	0.84	0/3511
29	X	0.31	0/1304	0.52	0/1760
30	Y	1.05	0/1113	0.72	0/1501
31	Z	1.08	0/1153	0.70	0/1548
32	9	0.57	0/2732	0.60	0/3733
33	z	1.09	0/1434	0.76	0/1941
34	x	0.37	0/2996	0.49	0/4142
35	y	0.25	0/107	0.47	0/141
36	M	1.03	0/1609	0.70	0/2164
37	U	0.91	0/196	0.66	0/265
38	V	0.88	0/3042	0.70	0/4152
39	8	0.95	0/1028	0.75	0/1379
40	0	1.01	0/782	0.68	0/1043
41	I	0.42	0/1083	0.53	0/1454
42	K	0.29	0/1333	0.50	0/1826
All	All	0.91	2/102059 (0.0%)	0.72	0/140180

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	204	ASP	C-N	-5.74	1.20	1.34
1	A	279	PHE	C-N	-5.65	1.21	1.34

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	18354	0	18178	381	0
2	B	1898	0	963	36	0
3	C	7125	0	7130	122	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	D	9215	0	4458	170	0
5	E	2337	0	2272	194	0
6	a	399	0	173	0	0
6	h	392	0	168	0	0
7	b	405	0	170	0	0
7	i	422	0	177	0	0
8	c	406	0	170	0	0
8	j	406	0	170	0	0
9	d	480	0	200	0	0
9	k	422	0	175	0	0
10	f	361	0	158	0	0
10	m	361	0	158	0	0
11	e	391	0	163	0	0
11	l	391	0	163	0	0
12	g	363	0	160	0	0
12	n	334	0	143	0	0
13	F	1294	0	650	41	0
14	G	1303	0	667	46	0
15	H	1350	0	679	30	0
16	v	963	0	945	0	0
17	1	7879	0	8044	165	0
18	2	1674	0	1580	23	0
19	3	9352	0	9273	220	0
20	4	383	0	173	24	0
21	5	906	0	913	31	0
22	6	811	0	788	20	0
23	7	669	0	631	6	0
24	L	843	0	852	15	0
25	J	3457	0	2537	157	0
26	P	384	0	382	10	0
27	R	1923	0	1889	117	0
28	T	2507	0	2451	41	0
29	X	1271	0	1252	92	0
30	Y	1095	0	1083	59	0
31	Z	1129	0	1077	20	0
32	9	2691	0	2121	91	0
33	z	1400	0	1344	0	0
34	x	3007	0	1453	0	0
35	y	105	0	107	0	0
36	M	1572	0	1483	36	0
37	U	193	0	196	3	0
38	V	3008	0	2291	19	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
39	8	1011	0	1035	17	0
40	0	770	0	778	28	0
41	I	1062	0	1067	67	0
42	K	1314	0	1177	100	0
43	A	36	0	6	0	0
44	C	32	0	12	3	0
45	C	1	0	0	0	0
45	F	4	0	0	0	0
46	F	2	0	0	0	0
47	F	33	0	0	3	0
48	0	2	0	0	0	0
48	6	3	0	0	0	0
48	M	1	0	0	0	0
48	v	1	0	0	0	0
49	C	3	0	0	0	0
All	All	99906	0	84285	2086	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 12.

All (2086) 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)
17:1:641:ILE:HD11	17:1:675:MET:CE	1.58	1.34
20:4:14:THR:HA	20:4:59:VAL:O	1.32	1.30
25:J:337:MET:HE2	25:J:346:TRP:CH2	1.69	1.26
5:E:62:LEU:HD12	5:E:351:LEU:CD1	1.66	1.26
5:E:62:LEU:CD1	5:E:351:LEU:HD12	1.68	1.23
5:E:326:HIS:CE1	5:E:346:SER:HB3	1.73	1.22
32:9:3:LYS:HD3	32:9:5:GLN:HB2	1.20	1.18
29:X:345:GLU:OE2	29:X:348:ARG:HD2	1.44	1.17
25:J:337:MET:CE	25:J:346:TRP:CZ3	2.29	1.15
25:J:337:MET:HE2	25:J:346:TRP:CZ3	1.81	1.14
5:E:74:PHE:CE1	5:E:81:LEU:HD21	1.81	1.13
24:L:77:LEU:HD21	32:9:221:LEU:HD11	1.30	1.13
1:A:2168:TYR:CZ	1:A:2298:LEU:HD11	1.83	1.12
25:J:316:TYR:HE1	25:J:332:VAL:HG21	1.15	1.12
4:D:176:GLY:O	4:D:179:ILE:HG22	1.47	1.11
17:1:641:ILE:CD1	17:1:675:MET:CE	2.27	1.11
20:4:12:ASP:CB	20:4:67:ALA:HB1	1.80	1.10
5:E:60:MET:SD	5:E:99:CYS:SG	2.50	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:3:950:ALA:HB2	19:3:989:TYR:OH	1.53	1.08
42:K:119:ILE:HG23	42:K:163:PHE:HD2	1.19	1.08
17:1:641:ILE:HD11	17:1:675:MET:HE2	1.09	1.07
41:I:31:ARG:HB3	41:I:31:ARG:HH11	1.16	1.07
19:3:630:MET:CE	36:M:287:LEU:HD21	1.83	1.07
1:A:1838:LYS:HE3	1:A:1865:ARG:CZ	1.83	1.07
5:E:119:THR:HG21	5:E:161:ARG:HB2	1.37	1.06
20:4:17:VAL:HA	20:4:85:ARG:O	1.53	1.06
39:8:56:VAL:HG21	39:8:68:ILE:HD13	1.39	1.05
5:E:132:THR:CG2	5:E:146:ARG:HB2	1.86	1.04
5:E:258:THR:HG21	5:E:260:ARG:HH11	1.11	1.04
27:R:279:HIS:HA	32:9:224:THR:CG2	1.87	1.04
14:G:222:U:C6	30:Y:119:LYS:HE2	1.91	1.04
19:3:687:SER:O	36:M:306:VAL:HG21	1.55	1.04
29:X:265:LYS:HG3	29:X:364:SER:OG	1.58	1.03
4:D:406:ARG:CB	4:D:955:ASP:HA	1.87	1.03
5:E:326:HIS:CE1	5:E:346:SER:CB	2.40	1.03
27:R:386:ARG:HH12	29:X:353:LYS:HG3	1.20	1.03
5:E:88:ARG:HG2	5:E:110:GLY:O	1.57	1.03
5:E:260:ARG:HD2	5:E:276:ILE:HG12	1.34	1.03
4:D:164:THR:HA	4:D:168:ARG:NH1	1.73	1.03
17:1:971:MET:HE1	17:1:1003:VAL:HG11	1.40	1.03
1:A:2325:VAL:HG13	4:D:788:GLY:O	1.59	1.03
27:R:279:HIS:HA	32:9:224:THR:HG23	1.37	1.02
5:E:193:THR:HG23	5:E:194:TYR:CD1	1.94	1.02
27:R:387:ASP:HB2	29:X:351:GLU:HB2	1.36	1.02
29:X:241:GLY:HA2	29:X:288:ARG:NH2	1.74	1.01
27:R:280:ILE:H	32:9:224:THR:CG2	1.72	1.01
25:J:359:VAL:HG21	25:J:389:HIS:NE2	1.77	1.00
1:A:1122:ASN:HB2	32:9:35:ARG:HH21	1.27	0.99
19:3:1130:VAL:CG1	19:3:1215:TYR:CE1	2.46	0.98
25:J:337:MET:CE	25:J:346:TRP:CH2	2.45	0.97
4:D:120:ILE:HD12	4:D:161:LEU:CD2	1.93	0.97
1:A:1122:ASN:HB2	32:9:35:ARG:NH2	1.79	0.97
1:A:2325:VAL:HG13	4:D:788:GLY:C	1.83	0.97
4:D:148:LEU:CD2	4:D:152:GLU:HB3	1.93	0.96
19:3:47:THR:CG2	19:3:49:LYS:HG2	1.96	0.96
19:3:630:MET:SD	36:M:287:LEU:HD21	2.04	0.96
19:3:630:MET:HE1	36:M:287:LEU:HD21	1.44	0.96
1:A:265:THR:HG23	1:A:327:VAL:HG22	1.48	0.96
17:1:641:ILE:CG1	17:1:675:MET:CE	2.45	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:39:PHE:HE1	21:5:77:LEU:HD21	1.28	0.95
19:3:54:LEU:HD23	19:3:99:PHE:CE2	2.00	0.95
42:K:149:SER:O	42:K:157:ARG:HG2	1.65	0.95
5:E:147:LEU:HD13	5:E:179:TRP:CG	1.99	0.95
17:1:641:ILE:CG1	17:1:675:MET:HE1	1.96	0.95
41:I:37:LYS:HD3	41:I:39:TYR:CZ	2.01	0.94
1:A:2103:THR:HG21	1:A:2260:GLN:OE1	1.66	0.94
5:E:260:ARG:CD	5:E:276:ILE:HG12	1.96	0.94
27:R:386:ARG:NH1	29:X:353:LYS:HG3	1.83	0.94
1:A:1307:MET:SD	1:A:1547:VAL:HG11	2.07	0.94
1:A:2219:THR:HG23	1:A:2224:THR:HG22	1.47	0.94
25:J:316:TYR:CE1	25:J:332:VAL:HG21	2.03	0.94
1:A:1092:ILE:HG22	1:A:1093:ASP:H	1.31	0.93
20:4:12:ASP:CB	20:4:67:ALA:CB	2.47	0.92
25:J:232:GLU:HA	25:J:235:ILE:CG2	2.00	0.92
25:J:313:TRP:CZ3	25:J:336:TRP:NE1	2.37	0.92
39:8:56:VAL:HG21	39:8:68:ILE:CD1	1.98	0.92
1:A:1976:TRP:HA	1:A:1979:VAL:HG22	1.52	0.92
42:K:119:ILE:HG23	42:K:163:PHE:CD2	2.05	0.91
19:3:170:VAL:HG22	19:3:184:CYS:SG	2.10	0.91
25:J:333:PHE:CD1	25:J:349:TYR:CD1	2.58	0.91
19:3:1130:VAL:CG1	19:3:1215:TYR:CZ	2.53	0.91
5:E:62:LEU:HD12	5:E:351:LEU:HD12	0.91	0.91
19:3:586:ASP:OD1	19:3:610:VAL:HG11	1.71	0.91
1:A:1921:ASP:HB3	1:A:1966:HIS:ND1	1.86	0.91
19:3:1004:ASP:OD2	19:3:1007:GLU:HB2	1.70	0.91
19:3:429:ARG:HG2	19:3:429:ARG:HH21	1.35	0.91
5:E:258:THR:HG21	5:E:260:ARG:NH1	1.86	0.90
1:A:2284:MET:SD	1:A:2287:ARG:HD2	2.10	0.90
17:1:1004:ILE:HD11	17:1:1009:MET:SD	2.12	0.90
42:K:78:ILE:HG21	42:K:114:THR:HG23	1.54	0.90
29:X:253:ARG:HH21	29:X:253:ARG:HG3	1.36	0.90
4:D:131:ILE:CG1	4:D:697:ALA:HB1	2.02	0.90
5:E:258:THR:HG22	5:E:260:ARG:HG2	1.53	0.90
27:R:280:ILE:H	32:9:224:THR:HG22	1.35	0.89
4:D:126:ASP:OD2	4:D:1075:PHE:CB	2.20	0.89
42:K:24:PHE:HB2	42:K:36:VAL:HG11	1.53	0.89
5:E:193:THR:CG2	5:E:194:TYR:CD1	2.55	0.89
19:3:1057:ARG:HG3	19:3:1057:ARG:HH11	1.38	0.89
1:A:591:MET:HB3	1:A:598:LEU:CD2	2.02	0.88
27:R:391:VAL:HA	29:X:347:GLN:O	1.72	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:1:614:ARG:O	17:1:614:ARG:HD2	1.74	0.88
42:K:78:ILE:HG12	42:K:117:SER:HB2	1.54	0.88
30:Y:67:LEU:HA	30:Y:80:CYS:HB2	1.56	0.88
29:X:241:GLY:HA2	29:X:288:ARG:CZ	2.04	0.88
29:X:345:GLU:OE2	29:X:348:ARG:CD	2.22	0.88
32:9:3:LYS:CD	32:9:5:GLN:HB2	2.04	0.88
3:C:779:LEU:HD21	3:C:912:LEU:HD11	1.56	0.88
32:9:220:ILE:H	32:9:220:ILE:HD12	1.37	0.87
27:R:438:ARG:HG3	27:R:438:ARG:HH21	1.35	0.87
5:E:145:LYS:HE2	5:E:184:LYS:HE2	1.56	0.87
19:3:630:MET:HE2	36:M:287:LEU:HD11	1.54	0.87
29:X:241:GLY:HA3	29:X:289:ILE:HD11	1.56	0.87
19:3:49:LYS:HG3	19:3:51:HIS:CE1	2.10	0.86
4:D:1589:PHE:O	4:D:1642:GLN:CB	2.23	0.86
5:E:193:THR:CG2	5:E:194:TYR:CE1	2.58	0.86
5:E:326:HIS:ND1	5:E:346:SER:CB	2.38	0.86
4:D:123:ALA:HB3	4:D:161:LEU:HD11	1.56	0.86
5:E:193:THR:HG23	5:E:194:TYR:HD1	1.37	0.86
1:A:1976:TRP:HA	1:A:1979:VAL:CG2	2.05	0.86
4:D:148:LEU:HD21	4:D:152:GLU:HB3	1.55	0.86
18:2:657:ILE:O	18:2:657:ILE:HG22	1.73	0.86
19:3:1130:VAL:HG11	19:3:1215:TYR:CE2	2.09	0.86
1:A:1639:VAL:HG12	1:A:1655:THR:CG2	2.05	0.86
32:9:3:LYS:HD3	32:9:5:GLN:CB	2.04	0.85
1:A:2219:THR:HG23	1:A:2224:THR:CG2	2.05	0.85
4:D:800:LEU:O	4:D:805:HIS:CB	2.24	0.85
25:J:247:LYS:NZ	25:J:247:LYS:HB3	1.92	0.85
19:3:1130:VAL:HG11	19:3:1215:TYR:CD2	2.11	0.85
1:A:1092:ILE:HG22	1:A:1093:ASP:N	1.91	0.85
19:3:1130:VAL:HG13	19:3:1215:TYR:CE1	2.10	0.85
4:D:142:VAL:HA	4:D:145:ASN:ND2	1.90	0.85
1:A:1762:TYR:O	1:A:2008:ARG:HD3	1.77	0.84
4:D:120:ILE:HD12	4:D:161:LEU:HD21	1.55	0.84
20:4:61:PHE:CB	20:4:66:ASP:CB	2.54	0.84
21:5:39:PHE:HE1	21:5:77:LEU:CD2	1.90	0.84
42:K:133:LEU:N	42:K:134:PRO:HD2	1.92	0.84
1:A:2090:ILE:HD12	1:A:2263:LEU:HD11	1.59	0.84
4:D:120:ILE:CD1	4:D:161:LEU:HD22	2.06	0.84
1:A:1122:ASN:HB3	32:9:35:ARG:HD3	1.59	0.84
1:A:2090:ILE:CD1	1:A:2263:LEU:CD1	2.54	0.84
17:1:641:ILE:HG13	17:1:675:MET:HE1	1.57	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:27:PRO:HG2	21:5:83:CYS:HB3	1.60	0.84
41:I:31:ARG:HH11	41:I:31:ARG:CB	1.90	0.84
25:J:245:TRP:CZ3	25:J:264:ILE:HG23	2.11	0.84
1:A:2168:TYR:CE2	1:A:2298:LEU:HD11	2.13	0.84
1:A:2310:ARG:HG2	1:A:2313:HIS:ND1	1.93	0.84
30:Y:67:LEU:HA	30:Y:80:CYS:CB	2.08	0.83
25:J:246:ILE:HD12	25:J:281:LYS:HG3	1.60	0.83
19:3:968:ARG:HG2	19:3:982:GLU:HB2	1.60	0.83
42:K:37:LEU:HD12	42:K:73:LEU:HG	1.60	0.83
1:A:1385:VAL:CG1	1:A:1419:ILE:HD11	2.09	0.83
1:A:1402:ARG:HD3	27:R:408:ASP:HB3	1.61	0.83
19:3:47:THR:HG22	19:3:49:LYS:HG2	1.58	0.82
1:A:1018:ASN:HB2	1:A:1023:ASN:HB3	1.59	0.82
17:1:641:ILE:CD1	17:1:675:MET:HE3	2.10	0.82
21:5:73:ALA:O	21:5:77:LEU:HB3	1.77	0.82
3:C:262:ARG:HD2	3:C:266:GLU:OE2	1.80	0.82
4:D:131:ILE:HG13	4:D:697:ALA:HB1	1.59	0.82
42:K:158:ASN:O	42:K:162:ILE:HG12	1.80	0.82
1:A:1122:ASN:CB	32:9:35:ARG:HD3	2.09	0.82
1:A:2306:HIS:HE1	1:A:2308:VAL:HG23	1.44	0.82
40:0:93:THR:CG2	40:0:98:GLN:HE22	1.93	0.82
17:1:971:MET:HE1	17:1:1003:VAL:CG1	2.09	0.82
5:E:74:PHE:CE2	5:E:343:ILE:HG12	2.15	0.81
5:E:193:THR:HG22	5:E:194:TYR:CE1	2.15	0.81
25:J:238:ASN:HB3	25:J:240:THR:HG22	1.62	0.81
1:A:2090:ILE:HD11	1:A:2263:LEU:CD1	2.10	0.81
1:A:2310:ARG:CG	1:A:2313:HIS:ND1	2.43	0.81
5:E:132:THR:HG21	5:E:146:ARG:HD2	1.60	0.81
5:E:165:GLN:O	5:E:166:LEU:HD23	1.79	0.81
5:E:326:HIS:ND1	5:E:346:SER:HB3	1.95	0.81
19:3:585:ALA:HB3	19:3:609:LEU:CD2	2.10	0.81
42:K:66:LEU:HA	42:K:74:VAL:HG23	1.60	0.81
25:J:236:ARG:NH1	25:J:236:ARG:O	2.14	0.81
4:D:148:LEU:CD2	4:D:152:GLU:CB	2.59	0.81
26:P:212:ASN:HD22	28:T:458:SER:HB3	1.46	0.81
19:3:699:VAL:HG12	19:3:716:SER:HB2	1.63	0.81
27:R:387:ASP:HB2	29:X:351:GLU:CB	2.12	0.80
5:E:74:PHE:CE1	5:E:81:LEU:CD2	2.62	0.80
17:1:641:ILE:HD11	17:1:675:MET:HE3	1.61	0.80
25:J:359:VAL:CG2	25:J:389:HIS:NE2	2.43	0.80
41:I:139:LYS:HZ3	41:I:139:LYS:HB3	1.45	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:1:1058:ILE:HD13	17:1:1058:ILE:O	1.81	0.80
19:3:1130:VAL:HG11	19:3:1215:TYR:CZ	2.15	0.80
5:E:74:PHE:CZ	5:E:81:LEU:HD21	2.16	0.80
5:E:248:SER:HB2	5:E:249:TYR:CD1	2.17	0.80
5:E:265:ARG:H	5:E:272:ARG:NH2	1.80	0.80
27:R:237:MET:CE	27:R:237:MET:H	1.95	0.80
29:X:241:GLY:CA	29:X:288:ARG:NH2	2.44	0.80
39:8:56:VAL:CG2	39:8:68:ILE:CD1	2.60	0.80
5:E:174:GLY:HA3	5:E:192:ASN:O	1.82	0.80
17:1:1260:LYS:O	17:1:1264:VAL:HG12	1.82	0.79
1:A:2219:THR:CG2	1:A:2224:THR:CG2	2.60	0.79
4:D:150:ASP:OD1	17:1:879:LEU:HD22	1.81	0.79
27:R:280:ILE:N	32:9:224:THR:CG2	2.45	0.79
1:A:1385:VAL:CG1	1:A:1419:ILE:CD1	2.61	0.79
5:E:147:LEU:HD13	5:E:179:TRP:CD2	2.17	0.79
27:R:280:ILE:H	32:9:224:THR:HG21	1.47	0.79
4:D:129:ARG:HG2	4:D:841:TRP:HE1	1.45	0.79
5:E:310:TYR:CE1	5:E:322:LYS:HD2	2.18	0.78
15:H:77:U:H5''	15:H:78:U:H5'	1.64	0.78
20:4:17:VAL:O	20:4:56:TYR:HA	1.83	0.78
21:5:39:PHE:CE1	21:5:77:LEU:HD21	2.18	0.78
25:J:232:GLU:HA	25:J:235:ILE:HG22	1.64	0.78
1:A:2219:THR:HG21	1:A:2224:THR:HG21	1.66	0.78
3:C:76:GLU:OE1	3:C:76:GLU:N	2.16	0.78
27:R:403:ASN:HB2	29:X:250:PRO:O	1.82	0.78
41:I:128:VAL:HA	42:K:158:ASN:OD1	1.84	0.78
4:D:123:ALA:CB	4:D:161:LEU:HD11	2.13	0.78
19:3:429:ARG:HG2	19:3:429:ARG:NH2	1.97	0.77
36:M:249:TYR:HB3	40:0:72:TYR:OH	1.83	0.77
1:A:2306:HIS:CE1	1:A:2308:VAL:HG23	2.18	0.77
1:A:2090:ILE:HD11	1:A:2263:LEU:HD13	1.67	0.77
19:3:950:ALA:HB2	19:3:989:TYR:HH	1.50	0.77
28:T:282:ARG:HB2	28:T:320:LYS:HD3	1.67	0.77
1:A:2117:ILE:HD11	1:A:2147:MET:CE	2.15	0.77
5:E:119:THR:CG2	5:E:161:ARG:HB2	2.12	0.77
5:E:148:LYS:O	5:E:179:TRP:HH2	1.67	0.77
25:J:299:TRP:HB3	25:J:316:TYR:HD2	1.47	0.77
42:K:120:THR:HG22	42:K:124:HIS:CD2	2.19	0.77
1:A:598:LEU:HD11	1:A:637:TRP:HZ3	1.50	0.77
1:A:2219:THR:CG2	1:A:2224:THR:HG21	2.15	0.77
1:A:1639:VAL:CG1	1:A:1655:THR:HG23	2.15	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:3:1130:VAL:HG11	19:3:1215:TYR:CG	2.20	0.77
21:5:27:PRO:HG3	21:5:85:ARG:HD2	1.65	0.77
25:J:236:ARG:HH11	25:J:236:ARG:CA	1.98	0.77
5:E:74:PHE:CD1	5:E:81:LEU:CD2	2.67	0.76
19:3:539:PRO:HG2	19:3:580:ARG:HH22	1.48	0.76
30:Y:140:THR:HG22	31:Z:563:ARG:HG3	1.65	0.76
4:D:173:VAL:CG1	4:D:177:LYS:HE2	2.15	0.76
5:E:61:LEU:HD13	5:E:352:TYR:CE1	2.20	0.76
5:E:231:MET:HB3	5:E:262:TRP:CZ3	2.21	0.76
19:3:47:THR:HG21	19:3:49:LYS:HG2	1.67	0.76
1:A:2117:ILE:HD11	1:A:2147:MET:HE1	1.67	0.76
19:3:675:LEU:CD2	19:3:691:THR:HG22	2.15	0.76
4:D:120:ILE:HG21	4:D:136:ALA:HB2	1.65	0.76
5:E:277:PHE:HE2	5:E:300:ILE:CD1	1.98	0.76
17:1:641:ILE:HG13	17:1:675:MET:CE	2.12	0.76
4:D:151:LYS:HE2	4:D:151:LYS:HA	1.65	0.75
30:Y:138:ALA:HB1	31:Z:564:PRO:HD2	1.68	0.75
1:A:2325:VAL:CG1	4:D:788:GLY:O	2.34	0.75
27:R:387:ASP:H	29:X:351:GLU:HB3	1.51	0.75
29:X:238:THR:O	29:X:238:THR:HG23	1.85	0.75
4:D:120:ILE:HD12	4:D:161:LEU:HD22	1.65	0.75
32:9:277:LYS:O	32:9:437:PRO:CB	2.35	0.75
1:A:2090:ILE:HG22	1:A:2223:CYS:HB3	1.68	0.75
4:D:783:ALA:O	4:D:809:LEU:HA	1.85	0.75
25:J:337:MET:CE	25:J:346:TRP:CE3	2.70	0.75
41:I:26:LYS:HG3	41:I:28:ARG:H	1.52	0.75
1:A:1275:ARG:HD2	1:A:1375:TRP:NE1	2.02	0.75
5:E:287:ASN:O	5:E:289:LEU:HD23	1.87	0.74
19:3:1057:ARG:HG3	19:3:1057:ARG:NH1	1.97	0.74
5:E:250:LEU:HD12	5:E:250:LEU:O	1.87	0.74
5:E:326:HIS:CE1	5:E:346:SER:OG	2.39	0.74
25:J:270:ASP:OD1	27:R:223:PRO:CD	2.35	0.74
5:E:62:LEU:HB2	5:E:351:LEU:HB2	1.69	0.74
14:G:222:U:C6	30:Y:119:LYS:CE	2.71	0.74
1:A:1639:VAL:HG12	1:A:1655:THR:HG23	1.69	0.74
5:E:132:THR:HG23	5:E:146:ARG:HB2	1.67	0.74
32:9:220:ILE:HD12	32:9:220:ILE:N	2.02	0.74
41:I:37:LYS:CD	41:I:39:TYR:CZ	2.71	0.74
1:A:1838:LYS:HE3	1:A:1865:ARG:NE	2.03	0.74
19:3:662:PHE:CE2	19:3:678:VAL:HG13	2.23	0.74
20:4:12:ASP:C	20:4:67:ALA:CB	2.56	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:R:410:ARG:HH21	27:R:410:ARG:HG3	1.52	0.74
27:R:410:ARG:HG3	27:R:410:ARG:NH2	2.03	0.74
25:J:238:ASN:HB3	25:J:240:THR:CG2	2.17	0.74
25:J:333:PHE:CD1	25:J:349:TYR:HD1	2.03	0.73
39:8:56:VAL:CG2	39:8:68:ILE:HD11	2.17	0.73
1:A:228:TRP:CH2	1:A:413:LEU:HD11	2.23	0.73
1:A:1923:TRP:O	1:A:1927:ILE:HG12	1.87	0.73
27:R:237:MET:H	27:R:237:MET:HE3	1.53	0.73
14:G:213:C:C4'	14:G:214:C:OP2	2.37	0.73
27:R:387:ASP:CB	29:X:351:GLU:HB2	2.18	0.73
4:D:154:ARG:HH22	4:D:166:ASP:HA	1.53	0.73
19:3:1130:VAL:CG1	19:3:1215:TYR:CD1	2.71	0.73
1:A:51:PHE:CZ	5:E:66:GLU:OE1	2.42	0.73
3:C:81:VAL:HB	26:P:208:LYS:NZ	2.03	0.73
4:D:747:THR:CB	4:D:750:LEU:CB	2.67	0.73
5:E:133:VAL:O	5:E:146:ARG:HA	1.89	0.73
17:1:721:ILE:HD12	17:1:721:ILE:O	1.88	0.73
17:1:968:GLU:HA	17:1:971:MET:HG2	1.71	0.73
38:V:536:ILE:HG23	38:V:544:LEU:HD11	1.71	0.73
17:1:614:ARG:HD2	17:1:614:ARG:C	2.07	0.72
19:3:662:PHE:HE2	19:3:678:VAL:HG13	1.53	0.72
1:A:2069:SER:CB	1:A:2072:GLU:OE1	2.37	0.72
21:5:73:ALA:O	21:5:77:LEU:CB	2.37	0.72
25:J:340:GLN:HG3	25:J:372:VAL:HG21	1.69	0.72
27:R:394:LEU:CD1	29:X:331:LEU:HD22	2.20	0.72
27:R:438:ARG:HG3	27:R:438:ARG:NH2	2.00	0.72
30:Y:17:GLU:OE1	30:Y:28:TRP:HD1	1.71	0.72
1:A:829:PRO:HB3	21:5:86:TYR:CE2	2.25	0.72
3:C:683:ASN:ND2	3:C:683:ASN:H	1.85	0.72
5:E:148:LYS:O	5:E:179:TRP:CH2	2.43	0.72
5:E:260:ARG:CD	5:E:276:ILE:CG1	2.68	0.72
25:J:337:MET:HE1	25:J:346:TRP:CZ3	2.24	0.72
4:D:109:THR:HG22	4:D:180:THR:OG1	1.90	0.72
19:3:1165:SER:OG	19:3:1170:VAL:HG23	1.90	0.72
25:J:231:PHE:O	25:J:235:ILE:HG22	1.89	0.72
1:A:1774:ASN:OD1	1:A:1775:GLN:N	2.23	0.72
1:A:1298:ARG:NH2	2:B:39:C:H3'	2.05	0.71
1:A:2168:TYR:CE1	1:A:2298:LEU:HD11	2.24	0.71
38:V:536:ILE:HD12	38:V:544:LEU:CD1	2.19	0.71
1:A:1122:ASN:CB	32:9:35:ARG:HH21	2.01	0.71
14:G:206:C:O2'	14:G:207:A:OP2	2.07	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:3:47:THR:CG2	19:3:49:LYS:HE3	2.20	0.71
41:I:37:LYS:HD3	41:I:39:TYR:CE1	2.25	0.71
1:A:2324:GLU:HG2	1:A:2330:ARG:HH12	1.54	0.71
5:E:74:PHE:HE2	5:E:343:ILE:HG12	1.54	0.71
5:E:133:VAL:HB	5:E:147:LEU:HG	1.72	0.71
1:A:2074:ARG:NH2	4:D:1044:VAL:O	2.22	0.71
1:A:2090:ILE:HD12	1:A:2263:LEU:CD1	2.18	0.71
4:D:161:LEU:HD12	4:D:161:LEU:O	1.91	0.71
1:A:481:PHE:CZ	27:R:205:ASP:HB3	2.26	0.71
5:E:264:VAL:HA	5:E:272:ARG:HH21	1.55	0.71
17:1:641:ILE:CD1	17:1:675:MET:HE2	2.01	0.71
25:J:313:TRP:CE3	25:J:336:TRP:CE2	2.78	0.71
41:I:28:ARG:HH12	42:K:11:VAL:CG2	2.03	0.71
5:E:268:ALA:HB1	5:E:269:PRO:HD2	1.70	0.71
14:G:213:C:H4'	14:G:214:C:H5'	1.72	0.71
17:1:1075:ARG:HA	17:1:1078:VAL:HG22	1.72	0.71
27:R:386:ARG:HH11	27:R:386:ARG:HG3	1.53	0.71
1:A:1536:LEU:HG	1:A:1572:SER:HB3	1.72	0.71
4:D:121:GLN:HG2	4:D:132:LEU:HD21	1.73	0.71
19:3:550:ASN:HB2	19:3:592:LEU:HD23	1.71	0.71
5:E:74:PHE:CE2	5:E:343:ILE:CG1	2.73	0.70
30:Y:65:ILE:HD13	30:Y:82:LEU:HD21	1.73	0.70
41:I:37:LYS:CD	41:I:39:TYR:CE1	2.74	0.70
18:2:644:SER:CB	20:4:65:GLU:CB	2.69	0.70
29:X:265:LYS:HG3	29:X:364:SER:HG	1.54	0.70
1:A:1921:ASP:HB3	1:A:1966:HIS:CG	2.26	0.70
17:1:1109:ARG:HA	17:1:1112:THR:CG2	2.21	0.70
42:K:51:GLU:HA	42:K:54:ARG:NH2	2.06	0.70
19:3:630:MET:HE1	36:M:287:LEU:CD2	2.21	0.70
22:6:27:ASP:OD2	40:0:20:LYS:CE	2.38	0.70
25:J:386:GLU:O	25:J:390:ALA:N	2.24	0.70
27:R:386:ARG:NH1	27:R:386:ARG:HG3	2.03	0.70
42:K:78:ILE:HD11	42:K:118:ALA:CA	2.21	0.70
19:3:1130:VAL:HG11	19:3:1215:TYR:CD1	2.27	0.70
19:3:585:ALA:HB3	19:3:609:LEU:HD23	1.73	0.70
29:X:345:GLU:OE2	29:X:348:ARG:NH1	2.25	0.70
1:A:2319:LEU:HD22	4:D:1070:LEU:HA	1.72	0.70
4:D:1671:GLY:O	4:D:1885:ASN:CB	2.40	0.70
5:E:326:HIS:ND1	5:E:346:SER:OG	2.25	0.70
19:3:1130:VAL:HG11	19:3:1215:TYR:CE1	2.25	0.70
20:4:12:ASP:C	20:4:67:ALA:HB2	2.12	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:J:261:ALA:HA	25:J:264:ILE:HD12	1.73	0.70
24:L:73:HIS:CD2	32:9:220:ILE:HD13	2.26	0.70
25:J:358:GLU:HG2	25:J:361:ARG:HD3	1.73	0.70
41:I:128:VAL:CA	42:K:158:ASN:OD1	2.40	0.70
1:A:409:ARG:HG2	1:A:410:PRO:HA	1.74	0.70
5:E:264:VAL:HA	5:E:272:ARG:NH2	2.07	0.69
32:9:349:PRO:CB	32:9:375:SER:HA	2.22	0.69
40:0:93:THR:CG2	40:0:98:GLN:NE2	2.55	0.69
1:A:1385:VAL:HG21	1:A:1414:ARG:HB3	1.74	0.69
4:D:1850:SER:O	4:D:1855:TYR:CB	2.40	0.69
17:1:1100:ASN:O	17:1:1103:VAL:HG23	1.92	0.69
1:A:2072:GLU:O	1:A:2076:ARG:HG3	1.92	0.69
1:A:2146:VAL:HG22	1:A:2272:MET:HB2	1.74	0.69
29:X:253:ARG:HG3	29:X:253:ARG:NH2	2.08	0.69
1:A:2127:TYR:OH	1:A:2159:LEU:CD1	2.40	0.69
14:G:215:U:H2'	30:Y:2:ASN:ND2	2.07	0.69
15:H:1:A:H3'	15:H:1:A:N3	2.08	0.69
19:3:138:GLN:HG3	19:3:161:HIS:CE1	2.27	0.69
4:D:131:ILE:HG12	4:D:697:ALA:HB1	1.74	0.69
3:C:454:THR:HG22	3:C:578:ARG:HG3	1.75	0.69
5:E:132:THR:HG22	5:E:146:ARG:HB2	1.72	0.69
42:K:78:ILE:HD11	42:K:118:ALA:N	2.08	0.69
3:C:534:VAL:HB	3:C:537:TYR:O	1.92	0.69
1:A:1275:ARG:HD2	1:A:1375:TRP:CD1	2.28	0.69
5:E:119:THR:HG21	5:E:161:ARG:CB	2.19	0.69
17:1:394:GLU:HG3	17:1:396:ASN:H	1.58	0.69
19:3:54:LEU:HD23	19:3:99:PHE:CD2	2.28	0.69
27:R:280:ILE:N	32:9:224:THR:HG21	2.07	0.69
2:B:23:C:O2	2:B:23:C:H3'	1.93	0.69
5:E:74:PHE:CD1	5:E:81:LEU:HD23	2.28	0.69
25:J:329:ALA:O	25:J:333:PHE:HD2	1.76	0.69
1:A:1385:VAL:HG12	1:A:1419:ILE:HD11	1.73	0.69
4:D:142:VAL:HA	4:D:145:ASN:HD21	1.55	0.69
4:D:423:MET:CB	4:D:878:TYR:CB	2.71	0.69
5:E:243:LEU:HG	5:E:244:SER:O	1.92	0.69
13:F:21:A:C2	24:L:33:ARG:CZ	2.76	0.69
41:I:139:LYS:HB3	41:I:139:LYS:NZ	2.07	0.69
14:G:218:U:C5	30:Y:105:ARG:CZ	2.76	0.68
19:3:586:ASP:OD1	19:3:610:VAL:CG1	2.41	0.68
27:R:134:ARG:HE	28:T:383:ARG:HA	1.55	0.68
1:A:598:LEU:HD11	1:A:637:TRP:CZ3	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1639:VAL:CG1	1:A:1655:THR:CG2	2.72	0.68
3:C:690:GLU:OE2	3:C:788:LYS:NZ	2.25	0.68
41:I:50:ILE:HG12	41:I:119:VAL:HG12	1.73	0.68
1:A:1307:MET:SD	1:A:1547:VAL:CG1	2.80	0.68
13:F:21:A:H3'	13:F:21:A:N3	2.08	0.68
4:D:106:THR:HG22	4:D:107:LYS:N	2.09	0.68
4:D:141:ALA:HA	4:D:182:TYR:OH	1.94	0.68
5:E:178:LEU:CD1	5:E:222:LEU:CD2	2.70	0.68
1:A:1219:GLU:O	1:A:1222:LYS:NZ	2.26	0.68
1:A:1639:VAL:HG12	1:A:1655:THR:HG22	1.74	0.68
1:A:2168:TYR:CZ	1:A:2298:LEU:CD1	2.71	0.68
27:R:390:GLU:OE1	27:R:390:GLU:N	2.20	0.68
1:A:2219:THR:OG1	1:A:2222:SER:HB3	1.93	0.68
41:I:28:ARG:HH12	42:K:11:VAL:HG21	1.58	0.68
4:D:128:PRO:HD2	4:D:131:ILE:HD12	1.75	0.68
31:Z:612:TYR:O	31:Z:616:VAL:HG22	1.94	0.68
1:A:2219:THR:CG2	1:A:2224:THR:HG22	2.23	0.68
4:D:504:PRO:CB	4:D:681:ARG:CB	2.71	0.68
25:J:307:PRO:HB2	25:J:339:TRP:CZ2	2.29	0.68
19:3:970:TYR:HE1	19:3:979:ARG:HB2	1.57	0.67
27:R:386:ARG:HH21	29:X:339:LEU:HD11	1.59	0.67
32:9:120:ARG:HG2	32:9:120:ARG:HH21	1.59	0.67
19:3:114:ARG:HG3	23:7:41:CYS:SG	2.34	0.67
19:3:761:THR:HG21	19:3:763:ARG:HH21	1.59	0.67
27:R:331:ALA:HB2	29:X:355:LYS:HD2	1.76	0.67
3:C:224:GLY:HA3	3:C:438:ILE:HD12	1.75	0.67
5:E:108:HIS:CE1	5:E:128:SER:CB	2.77	0.67
19:3:487:ILE:HA	19:3:491:VAL:HG22	1.76	0.67
5:E:246:GLU:HB2	5:E:248:SER:OG	1.94	0.67
5:E:119:THR:CG2	5:E:161:ARG:CB	2.72	0.67
17:1:632:PHE:HA	17:1:635:VAL:HG13	1.77	0.67
3:C:452:THR:HG22	3:C:577:PHE:HD2	1.58	0.67
30:Y:86:ASP:OD1	31:Z:502:ALA:CB	2.43	0.67
19:3:783:TYR:HB2	19:3:801:GLU:HB3	1.77	0.67
1:A:439:GLN:HB3	1:A:443:VAL:CG2	2.25	0.67
27:R:394:LEU:HD13	29:X:331:LEU:HD22	1.76	0.67
27:R:394:LEU:HD11	29:X:331:LEU:CD2	2.25	0.67
1:A:1773:SER:O	1:A:1813:ARG:NH1	2.28	0.67
30:Y:67:LEU:CA	30:Y:80:CYS:HB2	2.25	0.67
2:B:35:U:OP1	32:9:15:CYS:HB2	1.95	0.66
5:E:116:HIS:O	5:E:124:LEU:HD12	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:R:467:ILE:HG23	31:Z:515:MET:HE2	1.77	0.66
22:6:29:LYS:HD3	22:6:34:ASP:OD1	1.94	0.66
3:C:129:ILE:HG22	3:C:199:LEU:HB3	1.78	0.66
42:K:82:CYS:SG	42:K:120:THR:HB	2.36	0.66
15:H:84:C:O5'	15:H:84:C:H6	1.78	0.66
25:J:232:GLU:O	25:J:235:ILE:HG23	1.95	0.66
27:R:388:ILE:HG23	29:X:350:TYR:CD1	2.30	0.66
1:A:1544:ARG:HH21	36:M:183:ILE:HG12	1.61	0.66
19:3:930:LEU:HD12	19:3:937:LEU:HD23	1.77	0.66
4:D:445:VAL:O	4:D:688:THR:CB	2.43	0.66
5:E:178:LEU:HD11	5:E:222:LEU:CD2	2.26	0.66
5:E:258:THR:HG22	5:E:260:ARG:CG	2.25	0.66
5:E:108:HIS:CE1	5:E:128:SER:HB3	2.31	0.66
1:A:228:TRP:CH2	1:A:413:LEU:CD1	2.78	0.66
4:D:1090:ARG:HG2	4:D:1090:ARG:HH21	1.61	0.66
14:G:210:G:H3'	14:G:210:G:N3	2.11	0.66
17:1:1044:ASP:OD1	17:1:1044:ASP:N	2.28	0.66
19:3:630:MET:CE	36:M:287:LEU:HD11	2.26	0.66
42:K:120:THR:HG22	42:K:124:HIS:HD2	1.60	0.66
5:E:175:THR:CG2	5:E:191:GLN:OE1	2.44	0.65
27:R:281:ASN:O	32:9:221:LEU:HD13	1.96	0.65
5:E:62:LEU:CB	5:E:351:LEU:HB2	2.26	0.65
5:E:268:ALA:HB1	5:E:269:PRO:CD	2.26	0.65
19:3:687:SER:O	36:M:306:VAL:CG2	2.41	0.65
19:3:736:TYR:OH	19:3:763:ARG:NH1	2.28	0.65
13:F:22:G:OP1	24:L:33:ARG:NH1	2.30	0.65
27:R:434:ASP:N	27:R:434:ASP:OD1	2.27	0.65
30:Y:55:VAL:HG13	31:Z:589:ARG:HD2	1.78	0.65
31:Z:530:ASP:OD1	31:Z:530:ASP:N	2.25	0.65
25:J:329:ALA:O	25:J:333:PHE:CD2	2.50	0.65
25:J:340:GLN:HB2	25:J:346:TRP:CZ2	2.31	0.65
1:A:1975:GLU:O	1:A:1979:VAL:HG22	1.97	0.65
14:G:217:U:H6	14:G:217:U:H5'	1.61	0.65
19:3:586:ASP:O	19:3:610:VAL:HG13	1.97	0.65
25:J:349:TYR:HE2	25:J:365:ILE:HG13	1.61	0.65
1:A:413:LEU:HD13	1:A:415:SER:O	1.97	0.65
32:9:37:LEU:HD12	32:9:38:PRO:HD2	1.78	0.65
1:A:213:LEU:HD12	1:A:230:PHE:CE1	2.31	0.65
1:A:977:LEU:C	1:A:977:LEU:HD12	2.17	0.65
5:E:277:PHE:HE2	5:E:300:ILE:HD13	1.61	0.65
47:F:207:G5J:O1G	41:I:37:LYS:HE2	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:J:340:GLN:HB2	25:J:346:TRP:HZ2	1.61	0.65
1:A:977:LEU:HD12	1:A:977:LEU:O	1.97	0.65
25:J:313:TRP:CH2	25:J:336:TRP:CD1	2.85	0.65
27:R:388:ILE:HG23	29:X:350:TYR:CE1	2.30	0.65
30:Y:140:THR:HG22	31:Z:563:ARG:CG	2.25	0.65
14:G:219:U:H6	14:G:219:U:OP1	1.80	0.65
41:I:28:ARG:NH1	42:K:11:VAL:HG21	2.11	0.65
41:I:73:GLU:HB3	41:I:93:LYS:HG2	1.79	0.65
4:D:151:LYS:HE2	4:D:151:LYS:CA	2.27	0.64
17:1:1115:ALA:O	17:1:1119:VAL:HG12	1.97	0.64
19:3:1006:GLN:O	19:3:1006:GLN:HG2	1.96	0.64
1:A:228:TRP:CZ2	1:A:413:LEU:HD11	2.32	0.64
5:E:243:LEU:HD21	5:E:247:GLY:HA2	1.79	0.64
5:E:326:HIS:HD1	5:E:346:SER:CB	2.10	0.64
25:J:340:GLN:HG3	25:J:372:VAL:CG2	2.28	0.64
42:K:78:ILE:HG12	42:K:117:SER:CB	2.26	0.64
25:J:359:VAL:HG21	25:J:389:HIS:CE1	2.33	0.64
1:A:661:GLU:O	27:R:213:LYS:HG3	1.97	0.64
1:A:1385:VAL:HG21	1:A:1414:ARG:CB	2.28	0.64
17:1:95:PRO:HB2	27:R:412:PHE:HE2	1.61	0.64
19:3:47:THR:HG22	19:3:49:LYS:H	1.62	0.64
32:9:220:ILE:H	32:9:220:ILE:CD1	2.11	0.64
2:B:102:U:H6	2:B:102:U:O5'	1.81	0.64
5:E:74:PHE:CD1	5:E:81:LEU:HD21	2.29	0.64
18:2:657:ILE:O	18:2:657:ILE:CG2	2.45	0.64
30:Y:116:ARG:HG2	30:Y:116:ARG:HH11	1.63	0.64
1:A:246:LEU:HD11	1:A:411:PHE:CE2	2.32	0.64
17:1:1180:ARG:HH21	17:1:1180:ARG:HB2	1.62	0.64
22:6:27:ASP:OD2	40:0:20:LYS:NZ	2.31	0.64
1:A:2074:ARG:NH1	4:D:1042:GLU:HA	2.12	0.64
28:T:381:HIS:ND1	28:T:382:PRO:HD2	2.13	0.64
1:A:1544:ARG:NH2	36:M:183:ILE:HG12	2.14	0.63
17:1:1261:VAL:O	17:1:1264:VAL:HG13	1.98	0.63
4:D:1992:GLU:HA	4:D:1995:ALA:HB3	1.81	0.63
5:E:178:LEU:HD21	5:E:208:ILE:CD1	2.28	0.63
14:G:222:U:H6	30:Y:119:LYS:HE2	1.59	0.63
24:L:77:LEU:CD2	32:9:221:LEU:HD11	2.20	0.63
39:8:56:VAL:CG2	39:8:68:ILE:HD13	2.22	0.63
13:F:31:U:O2'	13:F:32:C:P	2.56	0.63
17:1:550:HIS:CE1	22:6:96:THR:HG22	2.33	0.63
17:1:1108:ASN:O	17:1:1112:THR:HG22	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:0:93:THR:HG22	40:0:98:GLN:HE22	1.62	0.63
42:K:151:SER:HB3	42:K:156:LEU:HD23	1.79	0.63
1:A:51:PHE:O	5:E:88:ARG:NH2	2.31	0.63
1:A:2325:VAL:HG13	4:D:788:GLY:CA	2.27	0.63
2:B:96:A:H3'	2:B:96:A:N3	2.13	0.63
1:A:1777:ILE:HG12	1:A:1860:GLN:HB2	1.80	0.63
4:D:148:LEU:HD22	4:D:153:ARG:N	2.13	0.63
17:1:661:ARG:NH1	17:1:696:ASP:OD2	2.30	0.63
1:A:481:PHE:CE1	27:R:205:ASP:HB3	2.34	0.63
1:A:591:MET:HB3	1:A:598:LEU:HD22	1.81	0.63
1:A:1144:LYS:HG3	32:9:46:LEU:HD22	1.80	0.63
17:1:404:LEU:HD23	21:5:47:GLN:OE1	1.98	0.63
1:A:211:GLN:HB3	1:A:214:ARG:HB2	1.81	0.63
3:C:779:LEU:HD21	3:C:912:LEU:CD1	2.27	0.63
19:3:791:HIS:CE1	19:3:930:LEU:HD23	2.34	0.63
21:5:77:LEU:CD2	21:5:89:VAL:HG11	2.29	0.63
1:A:1541:THR:O	1:A:1544:ARG:HG3	1.99	0.63
1:A:1838:LYS:HG3	1:A:1865:ARG:NH2	2.14	0.63
2:B:43:U:OP2	32:9:3:LYS:HE2	1.99	0.63
27:R:280:ILE:HB	32:9:221:LEU:HD22	1.80	0.63
4:D:164:THR:HA	4:D:168:ARG:HH11	1.64	0.62
5:E:251:LEU:HG	5:E:291:CYS:SG	2.39	0.62
17:1:696:ASP:O	17:1:702:ARG:NH1	2.29	0.62
19:3:1164:ARG:O	19:3:1170:VAL:HG22	1.98	0.62
27:R:427:ASP:OD1	27:R:427:ASP:N	2.30	0.62
1:A:2090:ILE:CD1	1:A:2263:LEU:HD13	2.26	0.62
4:D:713:MET:O	4:D:716:ALA:HB2	1.98	0.62
4:D:1948:MET:HA	4:D:1953:MET:O	1.98	0.62
5:E:308:PHE:CE1	5:E:324:PRO:HB3	2.34	0.62
20:4:15:VAL:O	20:4:58:PHE:HA	1.98	0.62
28:T:390:GLY:HA3	28:T:416:ILE:HD11	1.81	0.62
36:M:157:ASN:OD1	36:M:157:ASN:N	2.32	0.62
42:K:82:CYS:SG	42:K:120:THR:CG2	2.87	0.62
4:D:131:ILE:HG21	4:D:701:PHE:CB	2.29	0.62
27:R:404:GLU:N	29:X:253:ARG:HH11	1.97	0.62
32:9:75:THR:HA	32:9:82:LYS:HA	1.81	0.62
41:I:142:VAL:HG11	42:K:86:PRO:HB2	1.79	0.62
5:E:174:GLY:O	5:E:192:ASN:N	2.32	0.62
17:1:1055:TRP:HA	17:1:1058:ILE:HG22	1.81	0.62
25:J:245:TRP:HZ3	25:J:264:ILE:HG23	1.60	0.62
25:J:347:HIS:HA	25:J:350:ILE:HD12	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:325:LYS:HD3	29:X:351:GLU:OE2	1.99	0.62
13:F:23:G:O2'	13:F:24:U:P	2.57	0.62
25:J:560:ALA:O	25:J:564:LEU:CB	2.48	0.62
32:9:112:ASN:O	32:9:159:GLN:NE2	2.32	0.62
1:A:1774:ASN:OD1	1:A:1775:GLN:CG	2.48	0.62
5:E:147:LEU:HD13	5:E:179:TRP:CD1	2.34	0.62
17:1:665:ILE:HG23	17:1:690:ILE:HD12	1.82	0.62
25:J:232:GLU:CA	25:J:235:ILE:HG22	2.30	0.62
29:X:270:LEU:HB3	29:X:271:PRO:HD2	1.81	0.62
1:A:2105:ILE:HD13	1:A:2266:ARG:HH22	1.64	0.62
4:D:406:ARG:CB	4:D:955:ASP:CA	2.71	0.62
13:F:4:U:H5'	41:I:31:ARG:NH2	2.14	0.62
17:1:1083:TYR:CE1	40:0:13:VAL:HG23	2.35	0.62
20:4:12:ASP:O	20:4:67:ALA:CB	2.48	0.62
29:X:233:LEU:HD11	29:X:237:ASN:HD21	1.64	0.62
1:A:2284:MET:HG3	1:A:2284:MET:O	1.99	0.62
18:2:644:SER:HA	20:4:65:GLU:CB	2.30	0.62
19:3:47:THR:HG21	19:3:49:LYS:HE3	1.81	0.62
30:Y:63:VAL:HG11	31:Z:497:TRP:CD1	2.34	0.62
32:9:49:PHE:CD1	32:9:52:PRO:HG3	2.34	0.62
1:A:1385:VAL:HG11	1:A:1419:ILE:CD1	2.29	0.62
3:C:151:GLU:HG2	3:C:158:ARG:HH11	1.64	0.62
30:Y:117:ALA:HB2	31:Z:494:TYR:CE2	2.35	0.62
36:M:127:GLU:O	36:M:136:ARG:NH2	2.30	0.62
42:K:78:ILE:HG21	42:K:114:THR:CG2	2.29	0.62
1:A:1774:ASN:OD1	1:A:1775:GLN:HG2	2.00	0.62
3:C:532:ILE:HD11	3:C:541:VAL:HG11	1.82	0.62
17:1:588:TYR:CZ	22:6:91:LEU:HD21	2.35	0.62
17:1:1109:ARG:O	17:1:1112:THR:HG23	2.00	0.62
19:3:669:LEU:HD12	19:3:673:VAL:HG23	1.82	0.62
27:R:387:ASP:O	29:X:351:GLU:N	2.29	0.62
36:M:279:HIS:ND1	36:M:296:CYS:SG	2.73	0.62
1:A:200:ASP:OD1	1:A:240:ARG:NH2	2.32	0.61
1:A:2328:ALA:CB	4:D:787:ALA:HB3	2.30	0.61
2:B:45:C:C5	32:9:3:LYS:HG3	2.34	0.61
5:E:108:HIS:CE1	5:E:128:SER:HB2	2.35	0.61
13:F:21:A:H2	24:L:33:ARG:CZ	2.13	0.61
4:D:1090:ARG:HH21	4:D:1090:ARG:CG	2.13	0.61
5:E:160:ALA:HB2	5:E:201:PHE:CD2	2.35	0.61
17:1:1224:PRO:HA	17:1:1227:ILE:HG22	1.81	0.61
1:A:213:LEU:HD12	1:A:230:PHE:HE1	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:502:CYS:CB	4:D:654:THR:HA	2.30	0.61
17:1:971:MET:CE	17:1:1003:VAL:HG11	2.23	0.61
29:X:222:GLU:OE1	29:X:222:GLU:N	2.26	0.61
4:D:759:THR:HA	19:3:682:VAL:HG21	1.81	0.61
5:E:178:LEU:HD21	5:E:208:ILE:HD13	1.82	0.61
17:1:719:TYR:HB3	19:3:216:GLY:O	2.00	0.61
1:A:171:ASP:OD1	1:A:521:ASN:ND2	2.29	0.61
4:D:149:ARG:HH11	4:D:149:ARG:CG	2.14	0.61
18:2:599:THR:HG23	18:2:599:THR:O	2.00	0.61
4:D:131:ILE:HG12	4:D:697:ALA:O	1.99	0.61
27:R:280:ILE:N	32:9:224:THR:HG22	2.09	0.61
32:9:49:PHE:CE1	32:9:52:PRO:HG3	2.34	0.61
30:Y:7:VAL:HG22	30:Y:108:ARG:HB3	1.83	0.61
1:A:1864:THR:HA	1:A:1890:GLN:HG2	1.83	0.61
5:E:62:LEU:CG	5:E:351:LEU:HB2	2.30	0.61
5:E:260:ARG:HD3	5:E:276:ILE:HD13	1.82	0.61
13:F:3:G:O6	42:K:13:ARG:HD3	2.00	0.61
19:3:93:GLN:NE2	19:3:100:GLU:OE1	2.34	0.61
19:3:1130:VAL:HG13	19:3:1215:TYR:CD1	2.33	0.61
1:A:466:ALA:HB1	2:B:19:A:C8	2.36	0.61
5:E:277:PHE:HE2	5:E:300:ILE:HD12	1.64	0.61
17:1:1018:PRO:HB2	36:M:223:ARG:HG2	1.82	0.61
19:3:406:PRO:HA	19:3:1122:LEU:O	2.00	0.61
38:V:624:THR:HG23	38:V:643:LEU:HD12	1.83	0.61
1:A:1755:SER:O	17:1:942:ASN:HB2	1.99	0.61
1:A:2227:ALA:HB2	1:A:2261:MET:SD	2.40	0.61
14:G:214:C:OP1	30:Y:2:ASN:HB2	2.01	0.61
17:1:602:LYS:NZ	39:8:9:THR:OG1	2.34	0.61
21:5:76:HIS:O	21:5:76:HIS:ND1	2.27	0.61
25:J:236:ARG:HH11	25:J:236:ARG:CG	2.13	0.61
27:R:410:ARG:HH21	27:R:410:ARG:CG	2.14	0.61
1:A:1923:TRP:HB3	1:A:1927:ILE:HD11	1.83	0.60
3:C:167:TYR:CE2	3:C:535:ALA:HB3	2.36	0.60
14:G:213:C:H4'	14:G:214:C:OP2	1.99	0.60
19:3:86:ARG:HD2	19:3:1157:GLY:O	2.01	0.60
25:J:438:TYR:O	25:J:442:ARG:N	2.32	0.60
27:R:391:VAL:HG23	29:X:347:GLN:HB3	1.82	0.60
29:X:357:VAL:HG22	29:X:368:VAL:HG22	1.83	0.60
4:D:1589:PHE:CA	4:D:1642:GLN:CB	2.79	0.60
25:J:231:PHE:HD2	25:J:248:TYR:HD1	1.49	0.60
25:J:265:TYR:CD2	25:J:282:TYR:HD1	2.20	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:J:333:PHE:CE1	25:J:349:TYR:HD1	2.19	0.60
1:A:2106:LEU:HD12	1:A:2107:PRO:HD2	1.83	0.60
1:A:2117:ILE:CD1	1:A:2147:MET:CE	2.79	0.60
5:E:258:THR:CG2	5:E:260:ARG:HH11	2.01	0.60
1:A:1919:LEU:HD12	1:A:1936:LEU:HD21	1.82	0.60
4:D:129:ARG:HG2	4:D:841:TRP:NE1	2.17	0.60
4:D:173:VAL:HG12	4:D:177:LYS:HE2	1.83	0.60
5:E:265:ARG:H	5:E:272:ARG:HH21	1.47	0.60
17:1:129:SEP:O2P	17:1:572:HIS:ND1	2.29	0.60
5:E:233:GLY:O	5:E:260:ARG:NH2	2.35	0.60
17:1:621:ASP:HB2	17:1:624:VAL:HG22	1.82	0.60
18:2:703:ILE:HG21	18:2:705:ARG:HE	1.66	0.60
1:A:1072:LEU:HD22	1:A:1087:LEU:HD22	1.83	0.60
5:E:260:ARG:CD	5:E:276:ILE:CD1	2.79	0.60
19:3:412:ILE:HG12	19:3:423:LEU:HG	1.82	0.60
1:A:481:PHE:CE2	27:R:205:ASP:HB3	2.36	0.60
5:E:145:LYS:HE2	5:E:184:LYS:CE	2.29	0.60
14:G:206:C:O2'	14:G:207:A:P	2.60	0.60
22:6:22:LEU:HD22	22:6:60:ILE:HD12	1.83	0.60
30:Y:117:ALA:HB2	31:Z:494:TYR:CD2	2.37	0.60
32:9:276:VAL:CB	32:9:297:CYS:CB	2.79	0.60
42:K:119:ILE:CG2	42:K:163:PHE:HD2	2.05	0.60
1:A:150:MET:SD	1:A:153:ARG:HD3	2.42	0.60
25:J:340:GLN:HG2	25:J:340:GLN:O	2.01	0.60
1:A:1762:TYR:O	1:A:2008:ARG:CD	2.50	0.60
3:C:772:TRP:CZ2	32:9:133:GLN:HG3	2.37	0.60
17:1:549:ARG:NH2	17:1:584:ASP:OD2	2.34	0.59
15:H:31:C:H2'	15:H:32:G:H5''	1.83	0.59
1:A:143:GLN:NE2	1:A:207:PHE:O	2.34	0.59
20:4:12:ASP:C	20:4:67:ALA:HB1	2.22	0.59
27:R:279:HIS:CA	32:9:224:THR:CG2	2.73	0.59
29:X:283:LEU:HD11	29:X:292:ILE:HD12	1.83	0.59
3:C:589:LYS:HE2	3:C:940:ARG:HH12	1.67	0.59
17:1:405:ASP:OD1	21:5:49:ARG:NH2	2.35	0.59
1:A:386:PRO:HD2	1:A:389:LYS:HD2	1.85	0.59
1:A:767:VAL:HG11	2:B:39:C:C6	2.37	0.59
1:A:1790:ILE:HG12	1:A:1800:THR:HG22	1.84	0.59
1:A:1976:TRP:CA	1:A:1979:VAL:HG22	2.31	0.59
1:A:2127:TYR:OH	1:A:2159:LEU:HD11	2.02	0.59
5:E:263:ASP:HB3	5:E:274:VAL:HG21	1.84	0.59
25:J:328:GLY:O	25:J:332:VAL:HG23	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1092:ILE:CG2	1:A:1093:ASP:N	2.64	0.59
1:A:1921:ASP:HB3	1:A:1966:HIS:CE1	2.38	0.59
27:R:386:ARG:HH11	27:R:386:ARG:CG	2.14	0.59
3:C:699:ASP:OD2	3:C:722:TYR:OH	2.20	0.59
27:R:237:MET:H	27:R:237:MET:HE2	1.67	0.59
1:A:2090:ILE:HA	1:A:2223:CYS:O	2.03	0.59
41:I:56:VAL:HG23	41:I:58:VAL:HG13	1.84	0.59
3:C:778:PRO:HD3	3:C:817:TYR:CE1	2.38	0.59
17:1:1000:ILE:O	17:1:1004:ILE:HG12	2.03	0.59
17:1:1109:ARG:HA	17:1:1112:THR:HG22	1.83	0.59
5:E:165:GLN:HG3	5:E:181:ILE:HD11	1.85	0.59
3:C:532:ILE:CD1	3:C:541:VAL:HG11	2.33	0.58
4:D:176:GLY:O	4:D:179:ILE:CG2	2.38	0.58
17:1:631:ALA:O	17:1:635:VAL:HG13	2.03	0.58
21:5:24:ARG:HB2	21:5:88:VAL:HB	1.85	0.58
25:J:236:ARG:HH11	25:J:236:ARG:HA	1.68	0.58
29:X:241:GLY:CA	29:X:288:ARG:CZ	2.76	0.58
42:K:62:PHE:O	42:K:66:LEU:HD12	2.03	0.58
19:3:108:GLY:O	22:6:82:ARG:NH1	2.35	0.58
22:6:58:CYS:HB3	22:6:62:GLY:H	1.67	0.58
25:J:333:PHE:CG	25:J:349:TYR:CE1	2.91	0.58
1:A:2319:LEU:HD22	4:D:1070:LEU:CA	2.33	0.58
19:3:471:ASP:OD2	19:3:746:ALA:N	2.34	0.58
29:X:246:TYR:OH	29:X:249:PRO:HD3	2.04	0.58
36:M:296:CYS:SG	36:M:297:TYR:N	2.75	0.58
1:A:855:ARG:HH22	1:A:1522:GLN:HA	1.69	0.58
1:A:1838:LYS:HE3	1:A:1865:ARG:NH2	2.19	0.58
17:1:774:ILE:HD11	17:1:810:ILE:HD13	1.84	0.58
19:3:585:ALA:HB3	19:3:609:LEU:HD22	1.84	0.58
19:3:675:LEU:HD21	19:3:691:THR:HG22	1.85	0.58
21:5:77:LEU:HD23	21:5:89:VAL:HG11	1.84	0.58
1:A:439:GLN:HB3	1:A:443:VAL:HG21	1.84	0.58
3:C:81:VAL:HB	26:P:208:LYS:HZ2	1.68	0.58
17:1:546:ASP:N	17:1:546:ASP:OD1	2.32	0.58
41:I:128:VAL:CG1	42:K:158:ASN:OD1	2.51	0.58
1:A:1547:VAL:HG12	1:A:1548:TYR:HD1	1.69	0.58
1:A:206:TRP:O	1:A:212:PRO:HB3	2.02	0.58
1:A:1549:VAL:O	1:A:1549:VAL:HG12	2.04	0.58
4:D:1825:ASN:CB	4:D:1853:ALA:HB3	2.33	0.58
19:3:47:THR:HG23	19:3:49:LYS:HE3	1.85	0.58
41:I:129:GLU:HB2	41:I:133:LYS:NZ	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:243:LEU:HD11	5:E:247:GLY:HA2	1.83	0.58
5:E:277:PHE:CE2	5:E:300:ILE:CD1	2.85	0.58
5:E:310:TYR:CE1	5:E:322:LYS:CD	2.86	0.58
40:0:93:THR:HB	40:0:98:GLN:NE2	2.19	0.58
42:K:70:ASN:HD22	42:K:73:LEU:HD13	1.69	0.58
4:D:131:ILE:HG23	4:D:698:ILE:HA	1.86	0.58
4:D:1662:ILE:HA	4:D:1703:VAL:O	2.04	0.58
3:C:780:CYS:SG	3:C:782:GLU:CG	2.92	0.58
42:K:78:ILE:HD11	42:K:118:ALA:HB2	1.85	0.58
1:A:977:LEU:HB2	1:A:1175:VAL:HG22	1.85	0.57
3:C:450:GLU:HA	3:C:457:VAL:HG22	1.86	0.57
4:D:164:THR:HA	4:D:168:ARG:HH12	1.67	0.57
19:3:429:ARG:HD2	23:7:58:ASN:OD1	2.04	0.57
13:F:23:G:O2'	13:F:24:U:OP1	2.23	0.57
25:J:247:LYS:HB3	25:J:247:LYS:HZ1	1.69	0.57
27:R:236:LYS:HG2	27:R:237:MET:HE3	1.85	0.57
29:X:283:LEU:HG	29:X:292:ILE:HB	1.85	0.57
40:0:97:LYS:O	40:0:97:LYS:HG3	2.04	0.57
42:K:111:ASN:OD1	42:K:112:GLU:N	2.38	0.57
1:A:1052:VAL:O	1:A:1160:ARG:NH1	2.38	0.57
25:J:333:PHE:CG	25:J:349:TYR:CD1	2.92	0.57
41:I:37:LYS:HD2	41:I:39:TYR:CE1	2.37	0.57
1:A:137:GLU:HG3	1:A:424:ILE:HD13	1.87	0.57
3:C:460:ASP:N	3:C:460:ASP:OD1	2.36	0.57
3:C:711:ARG:NH2	3:C:730:ARG:O	2.37	0.57
4:D:120:ILE:CD1	4:D:161:LEU:CD2	2.67	0.57
14:G:217:U:H5'	14:G:217:U:C6	2.39	0.57
19:3:1130:VAL:HG12	19:3:1215:TYR:CZ	2.36	0.57
27:R:237:MET:O	27:R:237:MET:HG2	2.03	0.57
1:A:822:PHE:CE2	1:A:1000:ILE:HD12	2.40	0.57
1:A:1143:MET:O	1:A:1147:VAL:HG22	2.04	0.57
3:C:715:GLY:HA2	3:C:729:ALA:HB1	1.87	0.57
4:D:1619:TYR:HA	4:D:1645:VAL:O	2.05	0.57
32:9:143:ASP:OD1	32:9:144:LEU:N	2.37	0.57
36:M:141:GLN:NE2	36:M:159:TYR:O	2.38	0.57
41:I:128:VAL:HG12	42:K:158:ASN:OD1	2.03	0.57
42:K:116:LEU:HD23	42:K:159:LEU:HD12	1.85	0.57
17:1:1276:SER:O	17:1:1276:SER:OG	2.19	0.57
21:5:39:PHE:CE1	21:5:77:LEU:CD2	2.80	0.57
19:3:524:ILE:HD11	19:3:556:ILE:HG21	1.87	0.57
5:E:277:PHE:CE2	5:E:300:ILE:HD13	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:T:337:ARG:HG3	28:T:378:VAL:HG23	1.86	0.57
42:K:82:CYS:SG	42:K:120:THR:HG21	2.43	0.57
42:K:82:CYS:HA	42:K:121:THR:HG22	1.86	0.57
13:F:2:U:O2	42:K:42:ASN:HB3	2.05	0.57
25:J:359:VAL:HG11	25:J:389:HIS:CD2	2.40	0.57
25:J:380:ILE:HD13	25:J:414:HIS:ND1	2.19	0.57
1:A:460:LYS:HE2	2:B:49:A:OP2	2.04	0.57
5:E:147:LEU:CD1	5:E:179:TRP:CD1	2.88	0.57
28:T:349:SER:OG	28:T:350:HIS:N	2.37	0.57
28:T:418:THR:HG21	28:T:467:ALA:HA	1.87	0.57
30:Y:17:GLU:OE1	30:Y:28:TRP:CD1	2.55	0.57
1:A:774:LYS:NZ	15:H:5:C:O2'	2.28	0.56
3:C:618:THR:HB	3:C:630:LEU:HB2	1.87	0.56
4:D:140:LEU:HD23	4:D:144:LYS:HG2	1.87	0.56
5:E:194:TYR:CD1	5:E:194:TYR:N	2.73	0.56
17:1:1045:ARG:NH1	40:0:22:GLY:O	2.37	0.56
30:Y:37:TRP:O	30:Y:112:VAL:HG22	2.04	0.56
39:8:34:LEU:HD22	39:8:82:SER:HB2	1.86	0.56
42:K:127:PRO:HG2	42:K:131:SER:HB3	1.87	0.56
42:K:132:PHE:C	42:K:134:PRO:HD2	2.24	0.56
1:A:215:ASP:OD1	1:A:215:ASP:N	2.37	0.56
1:A:1144:LYS:CG	32:9:46:LEU:HD22	2.35	0.56
1:A:2117:ILE:CD1	1:A:2147:MET:HE2	2.36	0.56
1:A:2153:THR:HG22	1:A:2154:HIS:H	1.70	0.56
3:C:389:ASP:OD1	3:C:389:ASP:N	2.33	0.56
25:J:301:ARG:O	25:J:304:THR:HB	2.06	0.56
28:T:350:HIS:HA	28:T:374:SER:HB2	1.88	0.56
38:V:536:ILE:HD12	38:V:544:LEU:HD12	1.87	0.56
1:A:683:LEU:HD12	1:A:683:LEU:O	2.06	0.56
1:A:1125:ILE:HD12	32:9:35:ARG:HG3	1.87	0.56
1:A:1670:ASP:N	1:A:1670:ASP:OD1	2.35	0.56
15:H:38:G:H2'	15:H:39:G:H5'	1.86	0.56
19:3:549:VAL:HG13	19:3:554:VAL:HG22	1.87	0.56
1:A:780:THR:HG22	1:A:898:PHE:CD2	2.41	0.56
17:1:1258:ALA:HB3	17:1:1261:VAL:CG1	2.35	0.56
19:3:565:TYR:OH	19:3:624:CYS:SG	2.62	0.56
19:3:1027:ASP:OD2	19:3:1031:ARG:NH1	2.39	0.56
36:M:262:CYS:SG	36:M:263:PHE:N	2.78	0.56
42:K:53:LEU:HD22	42:K:58:VAL:HG11	1.87	0.56
4:D:448:PRO:C	4:D:686:GLU:CB	2.73	0.56
14:G:192:U:H2'	14:G:193:C:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:R:237:MET:HE3	27:R:237:MET:N	2.20	0.56
1:A:50:LYS:HD2	5:E:88:ARG:HH12	1.71	0.56
1:A:1049:ASP:OD1	1:A:1090:ARG:HD3	2.05	0.56
3:C:381:LEU:HD22	3:C:416:LEU:HD21	1.88	0.56
5:E:88:ARG:HD3	5:E:109:SER:O	2.06	0.56
13:F:31:U:O2'	13:F:32:C:OP1	2.24	0.56
15:H:81:G:H2'	15:H:82:A:H5''	1.87	0.56
25:J:327:ALA:O	25:J:331:GLN:OE1	2.24	0.56
1:A:682:ASP:OD2	15:H:3:G:O2'	2.23	0.56
1:A:704:ASN:ND2	1:A:706:ALA:HB2	2.21	0.56
25:J:297:ASN:O	25:J:300:ASP:HB3	2.05	0.56
27:R:391:VAL:HG23	29:X:347:GLN:CB	2.35	0.56
28:T:216:ASN:HD21	28:T:472:GLN:HB2	1.70	0.56
42:K:78:ILE:HD13	42:K:114:THR:O	2.06	0.56
1:A:1782:ASP:OD2	1:A:1865:ARG:NH2	2.39	0.56
3:C:735:PHE:CE1	3:C:744:ILE:HG12	2.41	0.56
4:D:141:ALA:CA	4:D:182:TYR:OH	2.54	0.56
4:D:178:LYS:O	4:D:178:LYS:HG2	2.05	0.56
19:3:429:ARG:HH21	19:3:429:ARG:CG	2.13	0.56
19:3:1188:ASN:OD1	19:3:1188:ASN:N	2.38	0.56
1:A:774:LYS:HG2	15:H:6:U:C6	2.40	0.55
3:C:709:TRP:HB3	3:C:713:LYS:HE3	1.89	0.55
5:E:114:GLU:CD	5:E:116:HIS:HE2	2.09	0.55
15:H:38:G:H2'	15:H:39:G:C5'	2.36	0.55
42:K:70:ASN:HB3	42:K:73:LEU:HB2	1.88	0.55
1:A:662:GLY:CA	27:R:213:LYS:NZ	2.69	0.55
1:A:1385:VAL:HG21	1:A:1414:ARG:HG2	1.88	0.55
3:C:81:VAL:HB	26:P:208:LYS:HZ3	1.71	0.55
4:D:502:CYS:O	4:D:676:PHE:O	2.23	0.55
5:E:132:THR:CG2	5:E:146:ARG:HD2	2.33	0.55
17:1:855:ASP:N	17:1:855:ASP:OD1	2.34	0.55
19:3:638:GLU:OE2	19:3:670:GLN:HG3	2.06	0.55
1:A:804:GLU:OE2	32:9:212:TYR:OH	2.22	0.55
1:A:2284:MET:O	1:A:2284:MET:CG	2.55	0.55
4:D:142:VAL:O	4:D:145:ASN:OD1	2.24	0.55
19:3:613:TPO:HG21	19:3:613:TPO:O1P	2.04	0.55
25:J:403:VAL:HA	25:J:407:GLY:HA3	1.89	0.55
29:X:264:PHE:N	29:X:264:PHE:CD1	2.73	0.55
1:A:1763:LEU:HD22	1:A:2012:LEU:HD13	1.87	0.55
1:A:2310:ARG:HD2	1:A:2313:HIS:CG	2.41	0.55
4:D:505:THR:CB	4:D:854:GLY:HA3	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Y:86:ASP:OD1	31:Z:502:ALA:HB3	2.06	0.55
41:I:41:ILE:HD13	41:I:138:ARG:HD3	1.89	0.55
5:E:131:LYS:HG2	5:E:152:SER:O	2.06	0.55
5:E:174:GLY:O	5:E:192:ASN:CB	2.54	0.55
25:J:327:ALA:HA	25:J:330:ARG:HG3	1.87	0.55
27:R:390:GLU:H	27:R:390:GLU:CD	2.09	0.55
41:I:18:ARG:NH1	42:K:35:GLN:OE1	2.39	0.55
42:K:133:LEU:N	42:K:134:PRO:CD	2.67	0.55
1:A:1405:LEU:HD23	27:R:411:LEU:HD23	1.87	0.55
5:E:310:TYR:CZ	5:E:322:LYS:HD2	2.42	0.55
15:H:15:U:H3'	24:L:40:ARG:NH1	2.22	0.55
25:J:340:GLN:N	25:J:341:PRO:HD3	2.22	0.55
27:R:463:LEU:O	27:R:467:ILE:HG12	2.06	0.55
29:X:254:ILE:HD13	29:X:279:SER:HB3	1.88	0.55
2:B:47:A:O4'	37:U:11:ARG:NH1	2.40	0.55
4:D:1048:VAL:O	4:D:1050:GLU:N	2.40	0.55
5:E:108:HIS:ND1	5:E:128:SER:CB	2.70	0.55
19:3:525:ARG:HE	19:3:533:VAL:HG21	1.72	0.55
22:6:27:ASP:OD2	40:0:20:LYS:HE3	2.07	0.55
1:A:346:ASP:OD1	1:A:346:ASP:N	2.39	0.55
1:A:2306:HIS:HE1	1:A:2308:VAL:CG2	2.19	0.55
30:Y:85:GLU:OE2	31:Z:505:ARG:NH2	2.40	0.55
38:V:536:ILE:HD12	38:V:544:LEU:HD11	1.89	0.55
40:0:93:THR:HB	40:0:98:GLN:HE21	1.71	0.55
1:A:796:LYS:O	32:9:225:MET:HE1	2.07	0.55
4:D:1589:PHE:HA	4:D:1642:GLN:CB	2.37	0.55
5:E:269:PRO:HD2	5:E:272:ARG:HG2	1.89	0.55
25:J:310:ASN:ND2	25:J:342:GLU:OE1	2.40	0.55
26:P:195:LYS:HD3	32:9:198:LYS:HB3	1.88	0.55
1:A:2320:LEU:HD23	1:A:2322:GLU:H	1.71	0.55
3:C:737:PRO:HG3	3:C:774:THR:O	2.07	0.55
4:D:164:THR:HG22	4:D:168:ARG:HH11	1.72	0.55
4:D:991:TYR:O	4:D:1090:ARG:NH2	2.39	0.55
19:3:678:VAL:O	19:3:686:LEU:HA	2.07	0.55
19:3:1004:ASP:CG	19:3:1007:GLU:HB2	2.27	0.55
32:9:143:ASP:OD1	32:9:145:LEU:N	2.40	0.55
41:I:139:LYS:HD3	42:K:124:HIS:ND1	2.22	0.55
1:A:873:ASN:N	1:A:873:ASN:OD1	2.38	0.54
4:D:1825:ASN:CB	4:D:1853:ALA:CB	2.85	0.54
5:E:260:ARG:HD3	5:E:276:ILE:CD1	2.37	0.54
32:9:53:VAL:HG11	32:9:63:LEU:HD13	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:M:279:HIS:HD1	36:M:296:CYS:HG	1.50	0.54
13:F:21:A:C2	24:L:33:ARG:NH2	2.75	0.54
19:3:618:SER:HB2	19:3:628:LEU:HD11	1.89	0.54
19:3:1103:SER:O	19:3:1119:TYR:HA	2.08	0.54
19:3:1130:VAL:CG1	19:3:1215:TYR:CE2	2.84	0.54
1:A:1820:LYS:NZ	1:A:1844:GLU:OE1	2.40	0.54
17:1:1223:SER:HB3	17:1:1226:VAL:CG1	2.37	0.54
19:3:279:ASP:OD2	19:3:307:GLN:NE2	2.40	0.54
26:P:207:ASP:OD1	26:P:208:LYS:N	2.40	0.54
29:X:238:THR:O	29:X:238:THR:CG2	2.54	0.54
31:Z:543:ASP:HB3	31:Z:546:ALA:HB2	1.90	0.54
1:A:50:LYS:HD2	5:E:88:ARG:NH1	2.22	0.54
1:A:51:PHE:HZ	5:E:66:GLU:OE1	1.91	0.54
5:E:174:GLY:CA	5:E:192:ASN:O	2.54	0.54
3:C:543:ARG:CG	3:C:543:ARG:HH11	2.19	0.54
5:E:326:HIS:HE1	5:E:346:SER:CB	2.13	0.54
13:F:28:C:OP2	13:F:46:U:O2'	2.21	0.54
14:G:213:C:O4'	14:G:214:C:OP2	2.26	0.54
19:3:1165:SER:HB3	19:3:1169:PRO:HA	1.90	0.54
29:X:300:SER:OG	29:X:303:HIS:ND1	2.28	0.54
41:I:47:TYR:HE1	41:I:93:LYS:HD2	1.72	0.54
42:K:78:ILE:CG2	42:K:114:THR:HG23	2.31	0.54
17:1:1128:VAL:HG23	17:1:1128:VAL:O	2.07	0.54
25:J:270:ASP:OD1	27:R:223:PRO:CG	2.56	0.54
30:Y:101:LYS:HG2	30:Y:106:THR:HG22	1.89	0.54
1:A:1604:LEU:HD11	1:A:1725:LEU:HD22	1.88	0.54
30:Y:66:ASN:O	30:Y:80:CYS:HB2	2.08	0.54
3:C:313:GLN:O	3:C:417:ARG:NH1	2.41	0.54
5:E:178:LEU:CD1	5:E:222:LEU:HD22	2.37	0.54
14:G:222:U:H4'	14:G:222:U:OP1	2.08	0.54
25:J:403:VAL:O	25:J:408:ASP:N	2.38	0.54
5:E:147:LEU:CD1	5:E:179:TRP:CG	2.83	0.54
17:1:1058:ILE:HD13	17:1:1058:ILE:C	2.28	0.54
19:3:304:GLN:HE21	19:3:308:GLY:HA2	1.73	0.54
25:J:259:GLN:OE1	25:J:262:ARG:NH1	2.41	0.54
27:R:394:LEU:CD1	29:X:331:LEU:CD2	2.84	0.54
25:J:236:ARG:NH1	25:J:236:ARG:HG3	2.22	0.54
25:J:274:ARG:NE	27:R:229:VAL:HG22	2.22	0.54
1:A:2117:ILE:O	1:A:2304:PHE:HB2	2.07	0.53
1:A:2319:LEU:HD11	4:D:1071:LYS:CB	2.38	0.53
15:H:10:A:C2'	15:H:10:A:N3	2.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:525:PRO:HG2	18:2:528:ILE:HD12	1.89	0.53
19:3:185:LEU:HB3	19:3:206:GLN:HE21	1.73	0.53
19:3:555:VAL:HG22	19:3:565:TYR:HB3	1.90	0.53
19:3:950:ALA:HB2	19:3:989:TYR:CZ	2.42	0.53
25:J:313:TRP:CE3	25:J:336:TRP:NE1	2.76	0.53
28:T:471:ASP:OD1	28:T:471:ASP:N	2.41	0.53
1:A:651:TRP:CD1	13:F:38:G:H1'	2.42	0.53
13:F:31:U:O2'	13:F:32:C:O5'	2.25	0.53
18:2:567:ASP:OD1	18:2:567:ASP:N	2.40	0.53
27:R:279:HIS:HA	32:9:224:THR:HG22	1.86	0.53
41:I:31:ARG:HB3	41:I:31:ARG:NH1	2.01	0.53
41:I:140:ALA:O	41:I:144:LYS:HE2	2.09	0.53
1:A:44:ARG:HA	1:A:49:ARG:NH1	2.23	0.53
1:A:995:ARG:HG3	27:R:291:LEU:HD13	1.89	0.53
1:A:2103:THR:CG2	1:A:2260:GLN:OE1	2.48	0.53
4:D:141:ALA:CB	4:D:182:TYR:OH	2.56	0.53
5:E:229:TYR:CE2	5:E:272:ARG:NH1	2.77	0.53
17:1:550:HIS:CE1	22:6:96:THR:CG2	2.91	0.53
20:4:12:ASP:O	20:4:67:ALA:HB1	2.08	0.53
28:T:307:SER:OG	28:T:308:ARG:N	2.39	0.53
14:G:213:C:H4'	14:G:214:C:C5'	2.37	0.53
38:V:466:SER:OG	38:V:472:CYS:HB2	2.08	0.53
1:A:2328:ALA:HB3	4:D:787:ALA:HB3	1.89	0.53
15:H:10:A:N3	15:H:10:A:H3'	2.23	0.53
18:2:469:VAL:HG12	18:2:471:ARG:H	1.74	0.53
4:D:131:ILE:HG12	4:D:697:ALA:C	2.29	0.53
32:9:106:LEU:HG	32:9:130:ALA:HB2	1.90	0.53
1:A:661:GLU:O	27:R:213:LYS:HA	2.09	0.53
5:E:178:LEU:CD2	5:E:208:ILE:CD1	2.87	0.53
13:F:31:U:C2'	13:F:32:C:O5'	2.56	0.53
17:1:631:ALA:O	17:1:635:VAL:CG1	2.57	0.53
23:7:48:ASP:OD1	23:7:51:ASN:ND2	2.41	0.53
29:X:347:GLN:N	29:X:347:GLN:NE2	2.56	0.53
30:Y:58:GLN:NE2	31:Z:588:ASP:OD1	2.41	0.53
40:0:93:THR:HG21	40:0:98:GLN:NE2	2.23	0.53
1:A:1762:TYR:HD1	1:A:1762:TYR:H	1.56	0.53
1:A:1949:ARG:CD	27:R:463:LEU:HD13	2.39	0.53
2:B:23:C:O2	2:B:23:C:C3'	2.57	0.53
3:C:778:PRO:HD3	3:C:817:TYR:CD1	2.43	0.53
17:1:1174:GLU:OE1	17:1:1210:HIS:NE2	2.36	0.53
19:3:675:LEU:HD21	19:3:691:THR:CG2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:J:313:TRP:CZ3	25:J:336:TRP:CD1	2.97	0.53
28:T:216:ASN:ND2	28:T:472:GLN:HB2	2.24	0.53
42:K:54:ARG:CB	42:K:54:ARG:CZ	2.86	0.53
1:A:58:LYS:NZ	1:A:479:THR:O	2.42	0.53
1:A:1002:ASP:OD2	1:A:1004:ASN:HB2	2.09	0.53
3:C:484:THR:OG1	3:C:489:GLN:O	2.26	0.53
5:E:325:GLY:O	5:E:352:TYR:CE2	2.62	0.53
14:G:196:A:N3	14:G:196:A:H5'	2.23	0.53
15:H:2:U:OP1	15:H:2:U:H2'	2.09	0.53
19:3:460:TRP:CZ3	19:3:505:THR:HG23	2.44	0.53
5:E:260:ARG:NE	5:E:276:ILE:CD1	2.72	0.53
13:F:23:G:C2'	13:F:24:U:O5'	2.57	0.53
17:1:1054:GLU:OE1	17:1:1057:ARG:NH1	2.42	0.53
1:A:2333:LEU:HD21	4:D:544:MET:HA	1.91	0.52
5:E:263:ASP:O	5:E:272:ARG:NE	2.32	0.52
25:J:355:ARG:HB3	25:J:355:ARG:NH1	2.23	0.52
32:9:43:SER:H	32:9:61:PHE:HB3	1.74	0.52
4:D:148:LEU:HD23	4:D:152:GLU:CB	2.39	0.52
5:E:62:LEU:HB2	5:E:351:LEU:CB	2.39	0.52
17:1:680:LEU:HB3	17:1:681:PRO:HD3	1.92	0.52
19:3:970:TYR:CE1	19:3:979:ARG:HB2	2.42	0.52
19:3:1055:VAL:HB	19:3:1093:MET:HB3	1.91	0.52
25:J:337:MET:HE1	25:J:346:TRP:CE3	2.41	0.52
1:A:542:ASN:O	1:A:546:LEU:HB2	2.09	0.52
1:A:2074:ARG:HH12	4:D:1042:GLU:HA	1.72	0.52
3:C:828:MET:HA	3:C:905:GLN:O	2.08	0.52
4:D:1090:ARG:HB2	4:D:1090:ARG:CZ	2.38	0.52
4:D:1948:MET:CB	4:D:1953:MET:O	2.57	0.52
5:E:108:HIS:ND1	5:E:128:SER:HB2	2.24	0.52
5:E:232:ARG:O	5:E:262:TRP:HH2	1.91	0.52
15:H:10:A:N3	15:H:10:A:H2'	2.25	0.52
32:9:120:ARG:NH1	32:9:154:ASP:OD1	2.42	0.52
2:B:115:C:O2	2:B:115:C:H2'	2.09	0.52
14:G:19:U:O2	14:G:19:U:H2'	2.09	0.52
17:1:524:ARG:HH11	17:1:566:LEU:HD11	1.74	0.52
19:3:426:ALA:HB1	19:3:785:PRO:CG	2.39	0.52
31:Z:520:LYS:NZ	31:Z:530:ASP:OD2	2.43	0.52
1:A:422:LEU:O	1:A:635:ARG:NE	2.43	0.52
1:A:2133:PRO:HD2	1:A:2139:VAL:HG13	1.92	0.52
3:C:138:LEU:HD11	3:C:179:VAL:HG23	1.91	0.52
3:C:173:THR:O	3:C:177:ARG:HB3	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:178:LEU:N	5:E:178:LEU:HD23	2.25	0.52
5:E:260:ARG:HD3	5:E:276:ILE:CG1	2.38	0.52
19:3:722:SER:HB3	19:3:731:LEU:HD13	1.92	0.52
25:J:236:ARG:NH1	25:J:236:ARG:HA	2.24	0.52
25:J:368:ARG:HG2	25:J:368:ARG:HH11	1.74	0.52
28:T:381:HIS:CG	28:T:384:HIS:HB2	2.45	0.52
1:A:34:ALA:O	5:E:195:GLN:NE2	2.39	0.52
1:A:1838:LYS:CE	1:A:1865:ARG:NE	2.72	0.52
3:C:164:ASP:OD1	3:C:164:ASP:N	2.33	0.52
4:D:538:ILE:O	4:D:585:ILE:HA	2.09	0.52
5:E:250:LEU:HD11	5:E:262:TRP:HB2	1.91	0.52
17:1:613:MET:CE	17:1:635:VAL:HG11	2.40	0.52
19:3:1159:ASP:HB3	19:3:1162:SER:HB3	1.92	0.52
25:J:349:TYR:CE2	25:J:365:ILE:HG13	2.43	0.52
30:Y:37:TRP:HB3	30:Y:112:VAL:CG2	2.40	0.52
3:C:390:THR:OG1	3:C:391:SER:N	2.42	0.52
19:3:69:ARG:NH2	19:3:74:THR:O	2.43	0.52
21:5:27:PRO:CG	21:5:83:CYS:HB3	2.35	0.52
27:R:408:ASP:OD2	27:R:410:ARG:NH2	2.43	0.52
4:D:1948:MET:CA	4:D:1953:MET:O	2.57	0.52
19:3:209:THR:HA	19:3:224:TYR:O	2.10	0.52
29:X:303:HIS:CE1	29:X:333:SER:HB2	2.44	0.52
1:A:1957:ASP:HB2	1:A:1960:THR:HG23	1.92	0.52
4:D:128:PRO:CD	4:D:131:ILE:HD12	2.39	0.52
4:D:141:ALA:HA	4:D:182:TYR:CZ	2.44	0.52
20:4:16:TYR:HA	20:4:57:GLY:O	2.10	0.52
21:5:77:LEU:HG	21:5:89:VAL:HG11	1.92	0.52
25:J:268:ALA:O	25:J:271:VAL:HG12	2.10	0.52
32:9:92:ASN:OD1	32:9:124:ASN:HA	2.09	0.52
1:A:481:PHE:CD1	27:R:205:ASP:HB3	2.45	0.52
1:A:662:GLY:HA3	27:R:213:LYS:HG3	1.91	0.52
3:C:765:SER:OG	3:C:766:ILE:N	2.42	0.52
5:E:175:THR:HG22	5:E:191:GLN:OE1	2.10	0.52
14:G:210:G:N3	14:G:210:G:C2'	2.73	0.52
3:C:261:ASP:N	3:C:261:ASP:OD1	2.42	0.51
47:F:207:G5J:O1A	41:I:34:ARG:HG3	2.10	0.51
17:1:968:GLU:OE1	17:1:971:MET:SD	2.69	0.51
20:4:12:ASP:O	20:4:67:ALA:HB2	2.10	0.51
27:R:231:HIS:NE2	28:T:371:HIS:O	2.43	0.51
27:R:459:TYR:CE2	27:R:463:LEU:HD12	2.45	0.51
3:C:85:ASP:OD1	3:C:85:ASP:N	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:1:1083:TYR:CZ	40:0:13:VAL:HG23	2.46	0.51
20:4:34:LEU:HA	20:4:37:GLY:O	2.09	0.51
42:K:78:ILE:HD11	42:K:118:ALA:CB	2.40	0.51
1:A:213:LEU:O	1:A:220:VAL:HG22	2.10	0.51
1:A:661:GLU:OE2	27:R:210:PRO:HG2	2.10	0.51
3:C:137:HIS:CE1	3:C:238:ASN:H	2.28	0.51
3:C:682:LYS:HD2	3:C:802:HIS:CD2	2.45	0.51
25:J:386:GLU:OE2	25:J:391:TYR:HB2	2.10	0.51
1:A:466:ALA:HB1	2:B:19:A:N7	2.25	0.51
1:A:976:MET:HE1	1:A:1098:PHE:HD1	1.75	0.51
1:A:2219:THR:HG21	1:A:2224:THR:CG2	2.34	0.51
5:E:231:MET:SD	5:E:262:TRP:CE3	3.04	0.51
14:G:218:U:C6	30:Y:105:ARG:NH1	2.78	0.51
17:1:823:MET:HG2	17:1:833:LEU:HD22	1.92	0.51
18:2:476:GLU:OE1	18:2:478:HIS:NE2	2.43	0.51
19:3:1032:TRP:O	19:3:1048:ASP:HA	2.10	0.51
22:6:22:LEU:HG	22:6:69:ALA:HB2	1.92	0.51
28:T:478:LEU:HD23	28:T:488:VAL:HG22	1.93	0.51
32:9:121:THR:HG23	32:9:154:ASP:OD2	2.11	0.51
41:I:31:ARG:HH11	41:I:31:ARG:CG	2.24	0.51
1:A:1963:GLU:HB2	1:A:1966:HIS:CD2	2.46	0.51
5:E:132:THR:CG2	5:E:146:ARG:CB	2.75	0.51
25:J:439:ALA:HA	25:J:442:ARG:HB3	1.93	0.51
4:D:179:ILE:HG23	4:D:179:ILE:O	2.11	0.51
19:3:464:ARG:NH2	19:3:473:TYR:OH	2.43	0.51
28:T:261:LEU:HB3	28:T:273:TRP:HB2	1.92	0.51
32:9:19:THR:HA	32:9:24:GLY:HA3	1.92	0.51
38:V:536:ILE:HG23	38:V:544:LEU:CD1	2.39	0.51
3:C:134:LEU:O	3:C:205:THR:OG1	2.28	0.51
3:C:735:PHE:HE1	3:C:744:ILE:HG12	1.74	0.51
4:D:106:THR:HG22	4:D:107:LYS:H	1.76	0.51
25:J:336:TRP:CH2	25:J:345:ALA:HB1	2.46	0.51
25:J:349:TYR:CD2	25:J:365:ILE:HG21	2.46	0.51
42:K:50:TYR:CE1	42:K:84:LEU:HD12	2.46	0.51
2:B:111:A:H2'	2:B:112:A:C8	2.46	0.51
4:D:106:THR:CG2	4:D:107:LYS:N	2.73	0.51
17:1:858:LYS:NZ	17:1:894:ASP:OD2	2.37	0.51
42:K:50:TYR:OH	42:K:83:ASN:O	2.29	0.51
1:A:2310:ARG:CD	1:A:2313:HIS:ND1	2.73	0.51
4:D:140:LEU:HD23	4:D:140:LEU:O	2.10	0.51
17:1:933:CYS:SG	17:1:970:LEU:HD21	2.51	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2147:MET:O	1:A:2274:PRO:HD3	2.10	0.51
15:H:12:U:O2'	15:H:13:U:P	2.69	0.51
19:3:522:ASP:O	19:3:538:THR:HG23	2.10	0.51
19:3:678:VAL:HG23	19:3:688:ASP:OD1	2.11	0.51
19:3:703:ARG:HD3	19:3:710:GLU:OE2	2.11	0.51
25:J:236:ARG:HH11	25:J:236:ARG:CB	2.24	0.51
30:Y:87:GLN:O	30:Y:90:THR:OG1	2.25	0.51
36:M:288:GLN:HA	36:M:291:ARG:HD3	1.93	0.51
41:I:128:VAL:N	42:K:158:ASN:OD1	2.44	0.51
1:A:837:LYS:HA	1:A:840:ILE:HG22	1.92	0.50
1:A:2115:ILE:HD11	1:A:2223:CYS:SG	2.51	0.50
2:B:113:G:H2'	2:B:114:G:C8	2.46	0.50
3:C:151:GLU:OE1	3:C:417:ARG:NH2	2.37	0.50
17:1:1256:HIS:ND1	17:1:1261:VAL:HG11	2.26	0.50
19:3:623:ASP:HB2	19:3:626:GLN:HG3	1.93	0.50
20:4:14:THR:CA	20:4:59:VAL:O	2.28	0.50
27:R:129:ASP:O	27:R:133:GLN:HG2	2.11	0.50
29:X:268:GLU:H	29:X:268:GLU:CD	2.13	0.50
29:X:278:GLN:HG2	29:X:281:TYR:CZ	2.46	0.50
1:A:266:SER:OG	1:A:271:MET:O	2.26	0.50
17:1:614:ARG:HB3	17:1:615:PRO:HD3	1.93	0.50
19:3:430:GLY:H	19:3:784:THR:HG22	1.77	0.50
1:A:591:MET:HB3	1:A:598:LEU:HD21	1.87	0.50
2:B:113:G:H2'	2:B:114:G:H8	1.77	0.50
3:C:686:THR:HB	3:C:793:ASP:HB3	1.94	0.50
4:D:1582:ALA:C	4:D:1584:ILE:H	2.15	0.50
4:D:1589:PHE:C	4:D:1642:GLN:CB	2.79	0.50
19:3:428:GLY:HA3	19:3:433:SER:HA	1.93	0.50
19:3:564:VAL:HG22	19:3:580:ARG:HG2	1.93	0.50
28:T:460:ASP:OD1	28:T:460:ASP:N	2.45	0.50
42:K:51:GLU:CA	42:K:54:ARG:NH2	2.74	0.50
42:K:83:ASN:OD1	42:K:84:LEU:N	2.44	0.50
1:A:488:ASP:O	1:A:492:VAL:HG23	2.11	0.50
1:A:2127:TYR:OH	1:A:2159:LEU:HD13	2.11	0.50
3:C:142:LYS:N	44:C:1500:GTP:O1B	2.40	0.50
5:E:175:THR:HG22	5:E:191:GLN:CD	2.31	0.50
13:F:32:C:H4'	25:J:236:ARG:O	2.12	0.50
18:2:700:GLU:HA	18:2:703:ILE:HD12	1.94	0.50
21:5:76:HIS:HD1	21:5:76:HIS:C	2.13	0.50
41:I:17:GLN:OE1	41:I:17:GLN:N	2.45	0.50
3:C:357:THR:OG1	3:C:359:LYS:O	2.20	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:158:TYR:HB2	5:E:199:VAL:O	2.12	0.50
13:F:32:C:O2'	13:F:33:C:OP2	2.27	0.50
19:3:589:CYS:SG	19:3:640:LEU:HD12	2.52	0.50
28:T:420:THR:HG1	28:T:468:CYS:HG	1.59	0.50
42:K:82:CYS:SG	42:K:120:THR:CB	2.99	0.50
1:A:344:ASP:OD1	1:A:344:ASP:N	2.35	0.50
2:B:110:C:H2'	2:B:111:A:H8	1.76	0.50
4:D:134:GLY:O	4:D:138:GLU:HG3	2.12	0.50
5:E:265:ARG:N	5:E:272:ARG:HH21	2.10	0.50
29:X:305:VAL:HB	29:X:329:ILE:CG2	2.42	0.50
30:Y:118:PRO:O	31:Z:490:ARG:NH1	2.45	0.50
32:9:61:PHE:HE1	32:9:66:ILE:HB	1.77	0.50
42:K:51:GLU:HA	42:K:54:ARG:CZ	2.41	0.50
3:C:841:ASP:N	3:C:841:ASP:OD1	2.43	0.50
13:F:21:A:N6	27:R:256:ASN:OD1	2.44	0.50
14:G:206:C:H4'	14:G:207:A:O5'	2.11	0.50
17:1:1075:ARG:HA	17:1:1078:VAL:CG2	2.39	0.50
19:3:716:SER:OG	19:3:717:SER:N	2.45	0.50
28:T:406:ILE:HG22	28:T:407:GLN:HB2	1.94	0.50
1:A:80:LYS:HB2	41:I:116:LEU:HD11	1.92	0.50
1:A:1070:ASP:OD1	1:A:1073:SER:OG	2.29	0.50
1:A:1762:TYR:N	1:A:1762:TYR:CD1	2.80	0.50
2:B:101:U:H2'	2:B:102:U:C6	2.47	0.50
4:D:721:VAL:N	4:D:807:GLN:O	2.42	0.50
5:E:194:TYR:CD2	5:E:214:ASP:HB3	2.47	0.50
5:E:194:TYR:CE2	5:E:214:ASP:OD2	2.64	0.50
25:J:380:ILE:O	25:J:384:ARG:HD3	2.12	0.50
32:9:93:PHE:CD1	32:9:125:VAL:HG11	2.46	0.50
1:A:213:LEU:CD1	1:A:230:PHE:CE1	2.94	0.50
1:A:780:THR:HG22	1:A:898:PHE:HD2	1.75	0.50
1:A:892:LYS:HD2	1:A:912:GLU:HG3	1.94	0.50
1:A:1790:ILE:HA	1:A:1799:THR:O	2.12	0.50
13:F:18:A:H4'	13:F:45:A:C2	2.47	0.50
3:C:564:THR:HG21	3:C:576:ILE:HA	1.94	0.49
5:E:164:PRO:O	5:E:166:LEU:HG	2.12	0.49
13:F:32:C:H5'	25:J:237:LYS:O	2.11	0.49
25:J:232:GLU:HA	25:J:235:ILE:HG21	1.88	0.49
25:J:232:GLU:CA	25:J:235:ILE:CG2	2.81	0.49
28:T:267:ASP:OD1	28:T:267:ASP:N	2.36	0.49
42:K:93:HIS:C	42:K:93:HIS:CD2	2.85	0.49
2:B:96:A:N3	2:B:96:A:C2'	2.74	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:1:619:ASN:OD1	17:1:620:MET:N	2.45	0.49
19:3:118:GLY:HA2	19:3:132:ILE:HD11	1.94	0.49
28:T:223:SER:OG	28:T:224:ALA:N	2.45	0.49
28:T:343:PRO:HG3	28:T:356:LEU:HD23	1.94	0.49
42:K:78:ILE:CG1	42:K:117:SER:HB2	2.35	0.49
2:B:91:U:O5'	2:B:91:U:H6	1.95	0.49
4:D:106:THR:O	4:D:110:ARG:N	2.41	0.49
4:D:116:LEU:HD22	4:D:140:LEU:HD12	1.92	0.49
5:E:74:PHE:HE1	5:E:95:VAL:CG2	2.25	0.49
5:E:277:PHE:CE2	5:E:300:ILE:HD12	2.46	0.49
19:3:384:THR:OG1	19:3:385:PHE:N	2.45	0.49
19:3:546:LYS:HG3	19:3:588:VAL:O	2.13	0.49
19:3:968:ARG:CG	19:3:982:GLU:HB2	2.39	0.49
25:J:280:LEU:O	25:J:284:GLU:HG2	2.13	0.49
27:R:408:ASP:OD1	27:R:408:ASP:N	2.44	0.49
29:X:330:ASP:OD1	29:X:346:PRO:HA	2.12	0.49
32:9:142:ARG:HH11	32:9:147:ASP:HB3	1.76	0.49
42:K:111:ASN:O	42:K:115:VAL:HG23	2.12	0.49
1:A:635:ARG:HH22	2:B:27:U:P	2.34	0.49
1:A:758:ARG:HD3	1:A:779:LEU:HD11	1.94	0.49
14:G:218:U:C5	30:Y:105:ARG:NH2	2.81	0.49
18:2:644:SER:CA	20:4:65:GLU:CB	2.91	0.49
25:J:337:MET:CE	25:J:346:TRP:CZ2	2.95	0.49
42:K:18:GLN:HE21	42:K:22:THR:HG23	1.78	0.49
3:C:737:PRO:HG3	3:C:774:THR:C	2.33	0.49
4:D:1090:ARG:CG	4:D:1090:ARG:NH2	2.73	0.49
5:E:74:PHE:HE1	5:E:95:VAL:HG22	1.76	0.49
14:G:202:A:OP1	17:1:1149:LYS:HE3	2.11	0.49
27:R:388:ILE:CG2	29:X:350:TYR:CE1	2.95	0.49
29:X:235:ASP:OD1	30:Y:103:LYS:HD2	2.12	0.49
1:A:1275:ARG:HD2	1:A:1375:TRP:CE2	2.48	0.49
1:A:1403:LEU:HD12	1:A:1407:ASP:OD2	2.13	0.49
3:C:680:ASN:O	3:C:682:LYS:N	2.44	0.49
4:D:149:ARG:CG	4:D:149:ARG:NH1	2.73	0.49
19:3:630:MET:CE	36:M:287:LEU:CD2	2.73	0.49
27:R:205:ASP:OD1	27:R:208:GLU:HG3	2.12	0.49
29:X:241:GLY:CA	29:X:288:ARG:HH21	2.20	0.49
42:K:122:LEU:HB2	42:K:163:PHE:HE2	1.78	0.49
1:A:444:ARG:HG3	1:A:444:ARG:HH11	1.77	0.49
1:A:487:LEU:HD12	1:A:492:VAL:HG22	1.95	0.49
1:A:2225:LEU:HD13	1:A:2261:MET:CE	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:219:VAL:HB	5:E:229:TYR:HB2	1.95	0.49
14:G:210:G:N3	14:G:210:G:C3'	2.75	0.49
19:3:318:ASP:HB2	19:3:323:THR:HG21	1.94	0.49
19:3:333:VAL:HG11	19:3:349:VAL:HG21	1.94	0.49
29:X:268:GLU:OE1	29:X:268:GLU:N	2.39	0.49
36:M:274:VAL:N	36:M:308:ASN:O	2.41	0.49
40:0:93:THR:HG21	40:0:98:GLN:HE22	1.72	0.49
1:A:137:GLU:HG2	1:A:410:PRO:HG3	1.95	0.49
3:C:515:THR:HG23	3:C:518:ASP:H	1.77	0.49
19:3:552:ARG:HD3	19:3:600:GLN:O	2.12	0.49
25:J:236:ARG:NH1	25:J:236:ARG:CA	2.73	0.49
32:9:54:CYS:HB2	32:9:91:LEU:HD11	1.94	0.49
36:M:286:ALA:HA	36:M:289:HIS:HB3	1.95	0.49
1:A:481:PHE:CD2	27:R:205:ASP:HB3	2.47	0.49
2:B:111:A:H2'	2:B:112:A:H8	1.78	0.49
3:C:683:ASN:H	3:C:683:ASN:HD22	1.57	0.49
4:D:148:LEU:CD2	4:D:152:GLU:HB2	2.42	0.49
4:D:720:GLN:H	4:D:824:HIS:CB	2.25	0.49
19:3:530:ASP:OD1	19:3:532:ARG:HG2	2.13	0.49
30:Y:37:TRP:CB	30:Y:112:VAL:CG2	2.91	0.49
1:A:733:THR:HG23	32:9:241:TYR:HA	1.94	0.49
1:A:1644:LEU:O	1:A:1723:LYS:NZ	2.46	0.49
1:A:1776:ILE:HB	1:A:1858:PRO:HA	1.95	0.49
5:E:308:PHE:HE1	5:E:324:PRO:HB3	1.75	0.49
17:1:562:LYS:HA	17:1:562:LYS:HD2	1.60	0.49
17:1:1180:ARG:HH21	17:1:1180:ARG:CB	2.26	0.49
1:A:213:LEU:HD13	1:A:219:TYR:CB	2.42	0.48
1:A:2314:PHE:HD2	4:D:1123:TRP:CB	2.26	0.48
4:D:713:MET:O	4:D:716:ALA:CB	2.60	0.48
13:F:40:C:O4'	28:T:285:HIS:CE1	2.66	0.48
14:G:197:U:H4'	24:L:12:ARG:HD2	1.95	0.48
14:G:218:U:C5	30:Y:105:ARG:NH1	2.81	0.48
15:H:2:U:O2'	15:H:3:G:P	2.71	0.48
17:1:130:PRO:HG2	17:1:150:ARG:HD2	1.95	0.48
17:1:614:ARG:N	17:1:615:PRO:CD	2.76	0.48
19:3:757:ILE:HG13	19:3:757:ILE:O	2.12	0.48
42:K:122:LEU:HB2	42:K:163:PHE:CE2	2.47	0.48
1:A:2328:ALA:HB1	4:D:787:ALA:HB3	1.94	0.48
3:C:103:THR:HG22	3:C:171:LEU:HD23	1.96	0.48
5:E:263:ASP:OD1	5:E:272:ARG:HB3	2.13	0.48
14:G:211:U:H2'	14:G:213:C:OP2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:1:671:ILE:HG23	17:1:675:MET:HG3	1.95	0.48
19:3:630:MET:SD	36:M:287:LEU:CD2	2.91	0.48
25:J:282:TYR:CE2	25:J:298:ILE:HG21	2.48	0.48
25:J:495:PHE:O	25:J:499:ARG:N	2.46	0.48
29:X:332:GLY:HA2	29:X:346:PRO:HB3	1.96	0.48
32:9:152:ARG:O	32:9:155:ILE:HG22	2.12	0.48
1:A:2149:PRO:O	1:A:2160:PRO:HD3	2.12	0.48
3:C:564:THR:CG2	3:C:576:ILE:HG22	2.43	0.48
3:C:796:VAL:HB	3:C:803:ARG:HH11	1.78	0.48
4:D:104:PRO:HB2	4:D:110:ARG:HG3	1.95	0.48
4:D:423:MET:CB	4:D:878:TYR:HA	2.43	0.48
25:J:299:TRP:HB3	25:J:316:TYR:CD2	2.39	0.48
25:J:349:TYR:HD2	25:J:365:ILE:HG21	1.77	0.48
1:A:828:PRO:HB2	1:A:882:LYS:HE3	1.95	0.48
1:A:1962:THR:HG22	1:A:1969:PRO:HA	1.94	0.48
1:A:2073:TRP:CD1	1:A:2073:TRP:C	2.85	0.48
4:D:1090:ARG:CZ	4:D:1090:ARG:CB	2.91	0.48
5:E:157:CYS:HA	5:E:168:CYS:O	2.13	0.48
19:3:970:TYR:HE1	19:3:979:ARG:CB	2.25	0.48
25:J:316:TYR:CE1	25:J:332:VAL:CG2	2.89	0.48
28:T:188:PRO:HG2	28:T:502:VAL:HG11	1.96	0.48
28:T:227:THR:HG22	28:T:243:THR:HG22	1.95	0.48
28:T:267:ASP:OD2	28:T:269:GLN:NE2	2.46	0.48
28:T:427:LEU:HB3	28:T:439:TRP:HB2	1.95	0.48
1:A:422:LEU:HD23	1:A:422:LEU:H	1.78	0.48
1:A:545:HIS:HB3	1:A:594:TYR:CZ	2.49	0.48
2:B:102:U:H2'	2:B:103:G:C8	2.48	0.48
5:E:129:THR:HB	5:E:153:PHE:CD1	2.48	0.48
5:E:284:PHE:O	5:E:286:LYS:HG2	2.14	0.48
19:3:54:LEU:CD2	19:3:99:PHE:CD2	2.96	0.48
19:3:138:GLN:HG3	19:3:161:HIS:HE1	1.75	0.48
19:3:720:TRP:CE3	19:3:731:LEU:HG	2.49	0.48
22:6:91:LEU:HD13	39:8:6:PHE:CE2	2.49	0.48
29:X:241:GLY:CA	29:X:289:ILE:HD11	2.36	0.48
41:I:78:LEU:HD23	41:I:78:LEU:H	1.78	0.48
2:B:110:C:H2'	2:B:111:A:C8	2.49	0.48
17:1:933:CYS:SG	17:1:970:LEU:HD11	2.54	0.48
19:3:49:LYS:CG	19:3:51:HIS:CE1	2.92	0.48
19:3:123:VAL:HG12	19:3:130:VAL:HG23	1.96	0.48
19:3:1118:VAL:HG22	19:3:1128:ILE:HG22	1.96	0.48
25:J:236:ARG:HH11	25:J:236:ARG:C	2.15	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:I:47:TYR:CE1	41:I:93:LYS:HD2	2.49	0.48
41:I:63:VAL:HG21	41:I:75:TYR:CD2	2.48	0.48
1:A:2252:LEU:HD23	1:A:2253:PRO:HD2	1.96	0.48
4:D:123:ALA:CB	4:D:161:LEU:CD1	2.88	0.48
5:E:175:THR:HG22	5:E:191:GLN:HA	1.95	0.48
5:E:228:THR:HG22	5:E:229:TYR:HD1	1.77	0.48
14:G:215:U:H2'	30:Y:2:ASN:HD21	1.75	0.48
28:T:402:ASP:OD1	28:T:402:ASP:N	2.40	0.48
1:A:2328:ALA:HB1	4:D:787:ALA:CB	2.44	0.48
4:D:721:VAL:O	4:D:808:VAL:HA	2.14	0.48
5:E:62:LEU:HB2	5:E:351:LEU:H	1.79	0.48
5:E:129:THR:HB	5:E:153:PHE:HD1	1.78	0.48
29:X:261:LEU:HG	29:X:275:ILE:HG13	1.95	0.48
30:Y:48:THR:OG1	30:Y:49:GLU:N	2.46	0.48
32:9:37:LEU:HD12	32:9:38:PRO:CD	2.43	0.48
42:K:54:ARG:HB3	42:K:54:ARG:NH1	2.29	0.48
5:E:178:LEU:CD2	5:E:208:ILE:HD13	2.44	0.48
42:K:78:ILE:CD1	42:K:118:ALA:HB2	2.43	0.48
1:A:439:GLN:O	1:A:444:ARG:NH1	2.47	0.48
1:A:1057:ARG:NH1	1:A:1060:GLU:OE1	2.41	0.48
13:F:21:A:H2	24:L:33:ARG:NH2	2.10	0.48
19:3:952:ILE:HG12	19:3:961:ILE:HG12	1.96	0.48
22:6:22:LEU:CD2	22:6:60:ILE:HD12	2.44	0.48
25:J:260:ARG:O	25:J:264:ILE:HG13	2.13	0.48
25:J:274:ARG:HE	27:R:229:VAL:HG22	1.78	0.48
29:X:345:GLU:OE2	29:X:348:ARG:CZ	2.62	0.48
32:9:79:ASN:OD1	32:9:80:GLY:N	2.47	0.48
41:I:91:LEU:HD11	41:I:125:PHE:CE2	2.49	0.48
13:F:31:U:HO2'	13:F:32:C:P	2.35	0.47
17:1:936:VAL:CG2	17:1:954:LEU:HD23	2.44	0.47
29:X:285:ARG:N	29:X:300:SER:O	2.45	0.47
32:9:38:PRO:HB2	32:9:41:HIS:ND1	2.29	0.47
41:I:139:LYS:NZ	41:I:139:LYS:CB	2.73	0.47
42:K:54:ARG:HD3	42:K:90:ASN:ND2	2.29	0.47
1:A:1553:VAL:HG13	36:M:196:ASP:HB2	1.95	0.47
1:A:2129:TYR:HB3	1:A:2172:MET:HE3	1.95	0.47
4:D:759:THR:HA	19:3:682:VAL:CG2	2.43	0.47
17:1:1094:LEU:HD22	17:1:1128:VAL:HB	1.96	0.47
25:J:308:ARG:HG3	27:R:231:HIS:O	2.14	0.47
29:X:253:ARG:NH2	29:X:253:ARG:CG	2.73	0.47
1:A:1407:ASP:OD1	1:A:1407:ASP:N	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2325:VAL:HG22	4:D:788:GLY:O	2.14	0.47
3:C:834:VAL:HG11	3:C:883:PHE:HE2	1.79	0.47
5:E:258:THR:CG2	5:E:260:ARG:CG	2.93	0.47
13:F:32:C:O2'	13:F:33:C:P	2.73	0.47
17:1:1033:GLU:OE1	17:1:1070:LYS:HE2	2.15	0.47
25:J:232:GLU:OE1	25:J:235:ILE:HG21	2.14	0.47
25:J:270:ASP:OD1	27:R:223:PRO:HD3	2.15	0.47
29:X:230:GLY:O	29:X:234:GLU:HG3	2.14	0.47
1:A:651:TRP:CG	13:F:38:G:H1'	2.49	0.47
1:A:1385:VAL:HG11	1:A:1419:ILE:HD12	1.94	0.47
3:C:264:ILE:HG12	3:C:378:TYR:CE1	2.49	0.47
3:C:811:THR:O	3:C:815:VAL:HG23	2.14	0.47
4:D:714:GLU:C	4:D:716:ALA:H	2.17	0.47
5:E:258:THR:CG2	5:E:260:ARG:HG2	2.37	0.47
29:X:364:SER:O	29:X:365:ARG:HG2	2.14	0.47
30:Y:37:TRP:HB3	30:Y:112:VAL:HG21	1.96	0.47
3:C:780:CYS:SG	3:C:782:GLU:HG3	2.54	0.47
4:D:423:MET:CB	4:D:878:TYR:CA	2.92	0.47
5:E:160:ALA:HB2	5:E:201:PHE:CE2	2.50	0.47
14:G:211:U:O2'	14:G:213:C:OP2	2.25	0.47
25:J:313:TRP:CH2	25:J:339:TRP:CD1	3.03	0.47
29:X:329:ILE:O	29:X:329:ILE:HG23	2.13	0.47
32:9:141:PHE:HB3	32:9:150:PHE:O	2.14	0.47
1:A:976:MET:HE1	1:A:1098:PHE:CD1	2.50	0.47
1:A:1762:TYR:HD1	1:A:1762:TYR:N	2.12	0.47
1:A:1872:LEU:HD22	1:A:1884:ILE:HG12	1.96	0.47
3:C:478:THR:O	3:C:562:THR:OG1	2.26	0.47
5:E:88:ARG:CG	5:E:110:GLY:O	2.46	0.47
5:E:248:SER:HB2	5:E:249:TYR:HD1	1.75	0.47
17:1:758:ASP:N	17:1:758:ASP:OD1	2.48	0.47
17:1:1124:SER:O	17:1:1127:THR:OG1	2.30	0.47
18:2:633:LEU:C	18:2:635:ALA:H	2.16	0.47
20:4:67:ALA:O	20:4:70:ALA:HB3	2.15	0.47
27:R:388:ILE:HD13	29:X:350:TYR:HD1	1.79	0.47
29:X:246:TYR:HH	29:X:249:PRO:HD3	1.79	0.47
41:I:81:TYR:HD2	41:I:89:VAL:HG21	1.79	0.47
1:A:152:ARG:NH2	1:A:618:THR:O	2.47	0.47
1:A:206:TRP:HB2	1:A:212:PRO:HB2	1.95	0.47
1:A:974:ASN:HB2	1:A:1178:TYR:HB3	1.95	0.47
14:G:218:U:C4	30:Y:105:ARG:CZ	2.98	0.47
15:H:15:U:H3'	24:L:40:ARG:HH12	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:3:399:ASP:OD1	19:3:400:GLU:N	2.48	0.47
19:3:720:TRP:HE3	19:3:731:LEU:HG	1.80	0.47
21:5:80:PHE:CD2	21:5:82:VAL:HG23	2.50	0.47
22:6:30:CYS:O	22:6:34:ASP:HA	2.15	0.47
28:T:493:ASP:OD1	28:T:493:ASP:N	2.37	0.47
1:A:761:ILE:HD12	1:A:775:ASN:HD22	1.80	0.47
3:C:649:SER:HB3	3:C:651:ILE:HG12	1.95	0.47
3:C:774:THR:HA	3:C:784:ILE:HD12	1.96	0.47
17:1:128:ILE:HB	21:5:96:ARG:HB3	1.97	0.47
17:1:415:LEU:HD23	17:1:415:LEU:HA	1.79	0.47
19:3:629:SER:OG	19:3:686:LEU:HD12	2.15	0.47
19:3:987:ALA:HB3	19:3:1007:GLU:HG2	1.96	0.47
25:J:276:ILE:HD11	25:J:309:VAL:HG11	1.96	0.47
25:J:303:ILE:HD13	25:J:313:TRP:CD1	2.50	0.47
42:K:120:THR:CG2	42:K:124:HIS:CD2	2.96	0.47
1:A:2148:VAL:O	1:A:2150:GLN:HG2	2.14	0.47
2:B:96:A:N3	2:B:96:A:C3'	2.77	0.47
3:C:543:ARG:CG	3:C:543:ARG:NH1	2.77	0.47
4:D:141:ALA:HB2	4:D:182:TYR:OH	2.15	0.47
5:E:277:PHE:N	5:E:277:PHE:CD1	2.82	0.47
15:H:2:U:O2'	15:H:3:G:OP2	2.26	0.47
19:3:353:PHE:HE2	19:3:429:ARG:NH1	2.13	0.47
19:3:1004:ASP:OD2	19:3:1007:GLU:CB	2.55	0.47
29:X:338:PHE:HD2	29:X:359:LYS:HB3	1.79	0.47
30:Y:65:ILE:CD1	30:Y:82:LEU:HD21	2.44	0.47
1:A:662:GLY:HA3	27:R:213:LYS:NZ	2.30	0.47
1:A:1122:ASN:HB2	32:9:35:ARG:HD3	1.94	0.47
1:A:2121:ARG:O	1:A:2154:HIS:HA	2.15	0.47
4:D:1672:LYS:HA	4:D:1885:ASN:O	2.15	0.47
27:R:389:SER:HB3	29:X:349:TYR:HB2	1.97	0.47
32:9:79:ASN:ND2	32:9:81:GLU:HG2	2.30	0.47
3:C:813:ARG:NH1	32:9:106:LEU:HD22	2.30	0.46
17:1:1032:GLN:O	17:1:1036:ILE:HG22	2.15	0.46
18:2:565:ASP:OD1	18:2:565:ASP:N	2.47	0.46
21:5:77:LEU:CG	21:5:89:VAL:HG11	2.45	0.46
27:R:403:ASN:ND2	27:R:403:ASN:O	2.47	0.46
28:T:381:HIS:HD2	28:T:441:TRP:CE2	2.33	0.46
40:0:82:ILE:HA	40:0:89:LYS:HA	1.98	0.46
42:K:113:GLU:HA	42:K:116:LEU:HD12	1.97	0.46
1:A:28:GLU:HG2	1:A:29:LYS:N	2.31	0.46
1:A:642:ARG:HG3	2:B:56:C:H1'	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:881:ILE:HG23	1:A:918:THR:HG23	1.97	0.46
1:A:1093:ASP:N	1:A:1093:ASP:OD2	2.49	0.46
13:F:17:G:O2'	13:F:18:A:N7	2.46	0.46
14:G:-9:G:N2	37:U:5:ILE:O	2.44	0.46
15:H:13:U:H5'	15:H:14:A:C5'	2.45	0.46
15:H:39:G:H2'	15:H:40:G:O4'	2.15	0.46
25:J:232:GLU:O	25:J:235:ILE:CG2	2.63	0.46
25:J:236:ARG:HH11	25:J:236:ARG:HG3	1.79	0.46
27:R:140:ILE:HA	27:R:143:ILE:HG22	1.97	0.46
36:M:249:TYR:HB3	40:0:72:TYR:CZ	2.51	0.46
36:M:287:LEU:O	36:M:291:ARG:HG3	2.14	0.46
39:8:51:TRP:HH2	39:8:104:GLU:HG3	1.79	0.46
39:8:56:VAL:HG23	39:8:68:ILE:HD11	1.96	0.46
40:0:93:THR:CB	40:0:98:GLN:NE2	2.78	0.46
42:K:146:LEU:C	42:K:146:LEU:HD23	2.36	0.46
1:A:1129:ASN:OD1	1:A:1129:ASN:N	2.46	0.46
1:A:1347:ASP:OD1	1:A:1347:ASP:N	2.35	0.46
4:D:498:ASN:O	4:D:672:GLY:O	2.33	0.46
5:E:243:LEU:HD11	5:E:247:GLY:CA	2.44	0.46
17:1:675:MET:HB2	17:1:679:ILE:HG23	1.97	0.46
20:4:12:ASP:CB	20:4:67:ALA:HB3	2.43	0.46
21:5:48:ILE:HG12	21:5:62:VAL:HG22	1.98	0.46
32:9:52:PRO:HB2	32:9:91:LEU:HB2	1.96	0.46
41:I:104:LYS:HG3	41:I:119:VAL:HG23	1.98	0.46
1:A:1415:GLY:O	1:A:1418:ARG:NH1	2.47	0.46
1:A:1853:PRO:HD2	1:A:1856:GLU:HG3	1.98	0.46
19:3:1064:ASP:OD1	19:3:1064:ASP:N	2.28	0.46
1:A:443:VAL:HG11	1:A:614:TYR:CD1	2.51	0.46
5:E:119:THR:CG2	5:E:161:ARG:HB3	2.46	0.46
5:E:178:LEU:HG	5:E:188:GLN:HB2	1.98	0.46
19:3:643:VAL:O	19:3:663:LEU:HD12	2.16	0.46
25:J:236:ARG:NH1	25:J:236:ARG:CG	2.73	0.46
25:J:376:VAL:HG23	25:J:415:LEU:HD12	1.97	0.46
27:R:237:MET:HB2	27:R:241:GLU:OE2	2.16	0.46
29:X:344:ILE:HB	29:X:350:TYR:CE2	2.50	0.46
32:9:75:THR:HG22	32:9:82:LYS:HB3	1.97	0.46
41:I:97:LEU:O	41:I:101:ARG:HG3	2.15	0.46
42:K:139:THR:HB	42:K:141:VAL:HG22	1.96	0.46
3:C:506:PRO:HB3	3:C:526:THR:HG22	1.98	0.46
17:1:129:SEP:O3P	17:1:150:ARG:NH2	2.30	0.46
17:1:933:CYS:O	17:1:937:LEU:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:633:LEU:C	18:2:635:ALA:N	2.69	0.46
41:I:123:PRO:O	41:I:126:GLU:HG2	2.16	0.46
1:A:514:ASN:N	1:A:514:ASN:OD1	2.44	0.46
1:A:1260:VAL:HG21	1:A:1325:LEU:HB3	1.97	0.46
1:A:1527:ASN:HB2	36:M:215:ASP:HB3	1.98	0.46
4:D:783:ALA:O	4:D:809:LEU:CA	2.60	0.46
13:F:6:G:H2'	13:F:6:G:N3	2.30	0.46
17:1:937:LEU:HD23	17:1:937:LEU:HA	1.78	0.46
19:3:55:THR:O	19:3:55:THR:HG23	2.16	0.46
19:3:515:ALA:HB1	19:3:526:HIS:NE2	2.31	0.46
19:3:557:ALA:HB2	19:3:590:MET:HE1	1.98	0.46
25:J:308:ARG:HH21	25:J:341:PRO:HB3	1.80	0.46
29:X:332:GLY:CA	29:X:346:PRO:HB3	2.46	0.46
41:I:78:LEU:HD21	41:I:89:VAL:HG12	1.96	0.46
1:A:1292:GLU:OE2	1:A:1331:GLY:N	2.41	0.46
1:A:1648:SER:HB3	1:A:1883:VAL:HG12	1.97	0.46
4:D:1349:GLY:HA2	4:D:1491:SER:O	2.16	0.46
5:E:250:LEU:CD1	5:E:262:TRP:HB2	2.45	0.46
15:H:38:G:C2'	15:H:39:G:H5''	2.46	0.46
22:6:45:ILE:HD11	22:6:50:ASN:HB3	1.97	0.46
1:A:774:LYS:HZ1	15:H:5:C:HO2'	1.58	0.46
1:A:1000:ILE:HG22	1:A:1001:VAL:HG13	1.96	0.46
17:1:1250:CYS:HA	17:1:1265:TYR:CE2	2.51	0.46
19:3:519:VAL:HG23	19:3:524:ILE:HG12	1.98	0.46
19:3:950:ALA:CB	19:3:989:TYR:OH	2.44	0.46
25:J:270:ASP:OD1	27:R:223:PRO:HG3	2.16	0.46
25:J:366:TYR:CE2	25:J:382:TYR:HA	2.51	0.46
30:Y:67:LEU:HA	30:Y:80:CYS:HB3	1.92	0.46
42:K:123:MET:HE2	42:K:123:MET:HB2	1.73	0.46
1:A:1536:LEU:HD11	1:A:1576:ILE:HD11	1.98	0.46
1:A:2225:LEU:HD13	1:A:2261:MET:HE1	1.98	0.46
3:C:683:ASN:ND2	3:C:683:ASN:N	2.60	0.46
5:E:260:ARG:NE	5:E:276:ILE:HD11	2.31	0.46
18:2:648:LEU:HD12	18:2:649:LYS:H	1.81	0.46
28:T:455:GLN:HG2	28:T:456:PRO:HD2	1.97	0.46
30:Y:67:LEU:CD1	30:Y:80:CYS:HB3	2.45	0.46
38:V:619:ASP:OD1	38:V:620:ASN:N	2.49	0.46
39:8:38:VAL:O	39:8:79:ASN:ND2	2.49	0.46
41:I:28:ARG:HA	41:I:28:ARG:HD2	1.57	0.46
41:I:139:LYS:O	41:I:143:VAL:HG23	2.16	0.46
3:C:126:SER:O	3:C:126:SER:OG	2.25	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:151:LYS:HE2	4:D:151:LYS:N	2.31	0.45
5:E:232:ARG:O	5:E:262:TRP:CH2	2.69	0.45
19:3:614:VAL:HG11	19:3:667:ILE:HD13	1.98	0.45
25:J:286:GLU:HB3	25:J:295:ALA:HB2	1.97	0.45
25:J:436:TYR:CZ	25:J:440:LEU:HD22	2.50	0.45
25:J:439:ALA:O	25:J:443:ILE:HG12	2.15	0.45
29:X:345:GLU:CD	29:X:348:ARG:HH11	2.18	0.45
42:K:143:GLN:H	42:K:143:GLN:HG3	1.53	0.45
1:A:1385:VAL:HG21	1:A:1414:ARG:CG	2.45	0.45
4:D:500:LEU:O	4:D:674:PHE:O	2.34	0.45
5:E:260:ARG:CD	5:E:276:ILE:HD13	2.45	0.45
14:G:11:C:H2'	14:G:12:U:O4'	2.16	0.45
17:1:577:VAL:O	17:1:577:VAL:HG12	2.17	0.45
17:1:716:ALA:O	17:1:719:TYR:N	2.40	0.45
17:1:902:GLU:OE1	27:R:447:ILE:HD12	2.16	0.45
19:3:137:LYS:O	19:3:137:LYS:HD3	2.15	0.45
29:X:287:ARG:HA	29:X:293:PRO:HB3	1.98	0.45
30:Y:140:THR:CG2	31:Z:563:ARG:CG	2.93	0.45
36:M:225:ASP:N	36:M:225:ASP:OD1	2.49	0.45
1:A:34:ALA:HA	5:E:213:ILE:CD1	2.46	0.45
1:A:1404:THR:O	1:A:1407:ASP:OD1	2.35	0.45
1:A:1774:ASN:OD1	1:A:1775:GLN:HG3	2.15	0.45
1:A:1860:GLN:HG2	1:A:1883:VAL:HG22	1.98	0.45
1:A:2196:HIS:HB3	1:A:2230:LEU:HD11	1.98	0.45
3:C:490:PHE:HE2	3:C:612:LYS:HB2	1.80	0.45
5:E:276:ILE:C	5:E:277:PHE:CD1	2.89	0.45
17:1:613:MET:HE3	17:1:635:VAL:HG11	1.98	0.45
19:3:173:VAL:HB	19:3:181:MET:HB2	1.98	0.45
19:3:1004:ASP:OD1	19:3:1005:VAL:N	2.49	0.45
27:R:465:ALA:O	27:R:469:THR:HG23	2.16	0.45
28:T:381:HIS:ND1	28:T:384:HIS:HB2	2.32	0.45
32:9:42:CYS:SG	32:9:61:PHE:HB2	2.56	0.45
1:A:635:ARG:NH2	2:B:26:A:O3'	2.49	0.45
1:A:2169:LEU:HD21	1:A:2272:MET:HG3	1.98	0.45
5:E:178:LEU:CD1	5:E:222:LEU:HD21	2.46	0.45
5:E:276:ILE:C	5:E:277:PHE:HD1	2.19	0.45
19:3:593:ALA:HB3	19:3:602:SER:OG	2.16	0.45
25:J:223:TYR:HA	25:J:226:ARG:NE	2.32	0.45
27:R:391:VAL:O	27:R:391:VAL:HG13	2.17	0.45
1:A:44:ARG:HA	1:A:49:ARG:HH12	1.81	0.45
1:A:79:ARG:O	1:A:82:ARG:HG3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:96:A:N3	2:B:96:A:H2'	2.32	0.45
4:D:131:ILE:HG12	4:D:697:ALA:CB	2.46	0.45
17:1:982:LEU:HD12	17:1:1019:ARG:HG2	1.97	0.45
1:A:2303:GLU:CD	1:A:2303:GLU:H	2.19	0.45
3:C:676:ALA:HB3	3:C:815:VAL:HG22	1.99	0.45
4:D:831:THR:CB	4:D:871:THR:HA	2.47	0.45
5:E:250:LEU:HD12	5:E:250:LEU:C	2.37	0.45
19:3:136:GLU:HB3	19:3:166:LEU:HD23	1.98	0.45
19:3:640:LEU:HD23	19:3:665:LEU:HD11	1.99	0.45
25:J:238:ASN:C	25:J:240:THR:H	2.20	0.45
25:J:251:TRP:CZ2	25:J:255:LEU:HD11	2.52	0.45
42:K:47:PRO:HA	42:K:50:TYR:CD2	2.52	0.45
5:E:133:VAL:O	5:E:147:LEU:N	2.46	0.45
17:1:619:ASN:CG	17:1:624:VAL:HG21	2.37	0.45
19:3:702:PHE:HE2	19:3:715:MET:SD	2.40	0.45
32:9:137:LYS:HA	32:9:137:LYS:HD2	1.76	0.45
42:K:112:GLU:HG3	42:K:116:LEU:HD11	1.97	0.45
4:D:126:ASP:O	4:D:127:GLN:NE2	2.49	0.45
13:F:23:G:HO2'	13:F:24:U:P	2.39	0.45
19:3:185:LEU:HB3	19:3:206:GLN:NE2	2.32	0.45
19:3:675:LEU:HD23	19:3:691:THR:HA	1.99	0.45
5:E:193:THR:HG22	5:E:194:TYR:CD1	2.41	0.45
14:G:222:U:H6	30:Y:119:LYS:CE	2.23	0.45
17:1:1136:TYR:HD1	17:1:1147:VAL:CG2	2.30	0.45
17:1:1303:ILE:HD12	17:1:1303:ILE:HA	1.77	0.45
19:3:444:VAL:HG22	19:3:767:LEU:HD22	1.98	0.45
25:J:337:MET:HE3	25:J:346:TRP:CE2	2.51	0.45
1:A:959:ILE:HD11	1:A:976:MET:HE3	1.99	0.45
3:C:780:CYS:SG	3:C:782:GLU:HB2	2.57	0.45
1:A:1332:HIS:CE1	1:A:1359:HIS:HB3	2.52	0.44
1:A:2280:ASN:HB3	1:A:2309:HIS:CD2	2.52	0.44
4:D:102:TYR:HB3	4:D:103:LYS:H	1.61	0.44
4:D:1090:ARG:NH2	4:D:1090:ARG:CB	2.80	0.44
19:3:187:MET:HE3	19:3:187:MET:HB2	1.79	0.44
25:J:337:MET:HE3	25:J:346:TRP:CZ2	2.53	0.44
29:X:348:ARG:HH11	29:X:348:ARG:HG3	1.81	0.44
1:A:150:MET:O	1:A:153:ARG:HG2	2.17	0.44
2:B:39:C:C4'	2:B:40:U:OP1	2.65	0.44
17:1:641:ILE:HG12	17:1:675:MET:HE1	1.87	0.44
18:2:632:TRP:HB3	20:4:76:MET:CB	2.47	0.44
19:3:638:GLU:OE1	19:3:638:GLU:HA	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:J:223:TYR:N	25:J:226:ARG:HH21	2.15	0.44
25:J:303:ILE:HD13	25:J:313:TRP:HD1	1.81	0.44
25:J:340:GLN:N	25:J:341:PRO:CD	2.80	0.44
27:R:297:LYS:HZ1	32:9:206:GLU:HG3	1.82	0.44
27:R:404:GLU:HB3	29:X:253:ARG:NH1	2.32	0.44
29:X:364:SER:OG	29:X:365:ARG:N	2.50	0.44
1:A:203:VAL:O	1:A:203:VAL:HG13	2.17	0.44
3:C:259:LYS:HG2	44:C:1500:GTP:C6	2.53	0.44
3:C:508:LYS:HE3	3:C:510:LEU:HD21	1.99	0.44
5:E:276:ILE:O	5:E:277:PHE:HD1	2.00	0.44
14:G:210:G:N3	14:G:210:G:H2'	2.32	0.44
17:1:1109:ARG:O	17:1:1112:THR:CG2	2.63	0.44
17:1:1258:ALA:HB3	17:1:1261:VAL:HG12	1.98	0.44
19:3:1052:ASN:OD1	19:3:1052:ASN:N	2.50	0.44
25:J:375:ASP:OD1	25:J:376:VAL:N	2.50	0.44
27:R:132:LEU:O	28:T:385:TYR:HB3	2.18	0.44
1:A:2156:THR:OG1	1:A:2157:VAL:N	2.50	0.44
4:D:102:TYR:HA	4:D:137:ASP:OD2	2.18	0.44
17:1:1044:ASP:HB3	17:1:1083:TYR:CD1	2.52	0.44
17:1:1045:ARG:HH11	40:0:24:ARG:HG3	1.83	0.44
17:1:1287:ILE:HG13	23:7:32:LEU:HD21	2.00	0.44
19:3:485:LEU:HD23	19:3:491:VAL:CG1	2.47	0.44
19:3:1001:ILE:HG13	19:3:1038:LEU:HD11	2.00	0.44
25:J:313:TRP:HH2	25:J:339:TRP:CD1	2.35	0.44
29:X:294:ILE:HD12	29:X:299:CYS:SG	2.58	0.44
30:Y:16:ARG:NH1	30:Y:20:LEU:HD11	2.33	0.44
1:A:410:PRO:O	1:A:413:LEU:HG	2.18	0.44
4:D:144:LYS:HD2	4:D:144:LYS:HA	1.42	0.44
5:E:62:LEU:HD13	5:E:351:LEU:HD12	1.85	0.44
17:1:946:LYS:HA	17:1:946:LYS:HD2	1.79	0.44
17:1:1304:LEU:HD23	17:1:1304:LEU:HA	1.82	0.44
19:3:460:TRP:HZ3	19:3:505:THR:HG23	1.82	0.44
29:X:255:PRO:HB3	29:X:308:TYR:CD1	2.52	0.44
30:Y:38:ILE:O	30:Y:38:ILE:HG13	2.17	0.44
30:Y:40:LEU:HD12	30:Y:80:CYS:SG	2.58	0.44
42:K:151:SER:CB	42:K:156:LEU:HD23	2.46	0.44
1:A:543:ALA:HB3	13:F:38:G:OP1	2.18	0.44
2:B:34:U:O4	32:9:4:ARG:NH1	2.51	0.44
4:D:1308:PRO:C	4:D:1310:SER:H	2.20	0.44
17:1:446:MET:HB2	27:R:299:ARG:HG2	2.00	0.44
25:J:241:VAL:HG22	25:J:244:ASN:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:J:265:TYR:HD2	25:J:282:TYR:HD1	1.66	0.44
38:V:599:LEU:O	38:V:603:LEU:HB2	2.17	0.44
40:0:8:LYS:HB3	40:0:8:LYS:HE2	1.80	0.44
1:A:481:PHE:CG	27:R:205:ASP:HB3	2.51	0.44
1:A:662:GLY:CA	27:R:213:LYS:HZ3	2.29	0.44
1:A:1638:ASN:HB3	1:A:1652:MET:O	2.17	0.44
1:A:2078:ILE:HG23	4:D:1047:PRO:CB	2.47	0.44
3:C:590:ILE:HG22	3:C:629:ILE:HB	1.99	0.44
5:E:92:LEU:O	5:E:101:ASN:OD1	2.36	0.44
19:3:485:LEU:HD23	19:3:491:VAL:HG12	2.00	0.44
19:3:563:LEU:HD12	19:3:581:LYS:HD3	1.99	0.44
29:X:241:GLY:HA3	29:X:288:ARG:NE	2.32	0.44
29:X:262:TYR:HA	29:X:263:PRO:HD3	1.85	0.44
1:A:1421:THR:O	1:A:1424:GLN:HG2	2.18	0.44
17:1:732:TRP:HA	17:1:732:TRP:CE3	2.53	0.44
17:1:936:VAL:HG11	17:1:955:ILE:HG13	2.00	0.44
19:3:12:THR:O	19:3:34:ARG:NH1	2.50	0.44
20:4:12:ASP:CA	20:4:67:ALA:HB1	2.44	0.44
41:I:144:LYS:HB2	41:I:144:LYS:HE3	1.70	0.44
42:K:58:VAL:HG23	42:K:61:LEU:HD13	1.98	0.44
3:C:306:ASN:HA	3:C:433:MET:HG3	2.00	0.44
3:C:847:TYR:CE1	3:C:857:VAL:HG21	2.53	0.44
5:E:237:SER:HB2	5:E:255:MET:HG3	1.98	0.44
5:E:251:LEU:CG	5:E:291:CYS:SG	3.05	0.44
5:E:277:PHE:CE1	5:E:317:ARG:HG2	2.53	0.44
13:F:39:A:OP2	13:F:39:A:H8	2.01	0.44
17:1:884:ILE:HG23	17:1:888:LEU:HD23	2.00	0.44
19:3:42:ARG:HB2	19:3:53:LEU:HD11	1.99	0.44
19:3:318:ASP:HB2	19:3:323:THR:CG2	2.48	0.44
19:3:1057:ARG:HH11	19:3:1057:ARG:CG	2.13	0.44
25:J:259:GLN:OE1	25:J:259:GLN:HA	2.18	0.44
32:9:106:LEU:HD23	32:9:106:LEU:HA	1.77	0.44
1:A:41:GLN:OE1	1:A:41:GLN:HA	2.18	0.43
1:A:1574:ILE:HG22	36:M:220:LEU:HD22	2.00	0.43
3:C:497:LEU:HD23	3:C:497:LEU:HA	1.78	0.43
4:D:505:THR:CB	4:D:854:GLY:CA	2.96	0.43
4:D:1589:PHE:O	4:D:1642:GLN:N	2.49	0.43
14:G:209:U:H4'	14:G:210:G:C5	2.53	0.43
17:1:1262:ARG:NH1	23:7:24:ALA:O	2.47	0.43
18:2:630:PRO:HA	18:2:631:PRO:HD3	1.78	0.43
27:R:466:ARG:HD2	27:R:466:ARG:HA	1.77	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:330:ASP:OD1	29:X:330:ASP:O	2.36	0.43
32:9:134:LEU:O	32:9:138:ALA:HB3	2.17	0.43
42:K:75:GLU:HA	42:K:78:ILE:HG22	2.00	0.43
1:A:662:GLY:CA	27:R:213:LYS:HZ2	2.32	0.43
1:A:1344:LYS:HA	1:A:1344:LYS:HD3	1.78	0.43
1:A:1887:SER:O	1:A:1890:GLN:NE2	2.50	0.43
1:A:2306:HIS:CE1	1:A:2308:VAL:CG2	2.94	0.43
3:C:259:LYS:HD3	44:C:1500:GTP:C4	2.53	0.43
4:D:106:THR:CG2	4:D:107:LYS:H	2.30	0.43
17:1:731:LEU:HD23	17:1:731:LEU:HA	1.90	0.43
17:1:1109:ARG:CA	17:1:1112:THR:HG22	2.47	0.43
17:1:1183:VAL:HA	17:1:1186:GLN:HG2	2.00	0.43
19:3:553:GLN:NE2	19:3:619:LEU:HD13	2.32	0.43
19:3:875:ASN:OD1	19:3:875:ASN:N	2.33	0.43
26:P:189:ASP:OD1	26:P:189:ASP:N	2.34	0.43
29:X:241:GLY:O	29:X:288:ARG:NH2	2.50	0.43
30:Y:38:ILE:HG23	30:Y:90:THR:HG22	1.99	0.43
32:9:245:LYS:HD2	32:9:258:GLU:HG3	2.01	0.43
41:I:128:VAL:O	41:I:131:THR:OG1	2.27	0.43
3:C:758:LEU:HG	3:C:803:ARG:HH12	1.84	0.43
18:2:573:ASP:OD1	18:2:577:LYS:HE3	2.18	0.43
19:3:475:ILE:HD13	19:3:484:VAL:HG23	2.00	0.43
25:J:258:ILE:O	25:J:261:ALA:N	2.51	0.43
25:J:289:ASN:O	25:J:291:GLN:N	2.51	0.43
39:8:86:GLN:HB2	39:8:102:MET:HG3	2.00	0.43
40:0:89:LYS:HE2	40:0:89:LYS:HB3	1.84	0.43
41:I:91:LEU:HD11	41:I:125:PHE:CD2	2.53	0.43
4:D:140:LEU:CD2	4:D:144:LYS:HG2	2.48	0.43
17:1:150:ARG:HH21	17:1:150:ARG:HD3	1.71	0.43
19:3:520:TYR:CD1	19:3:522:ASP:HB2	2.53	0.43
19:3:566:PHE:HD1	19:3:576:GLU:HA	1.83	0.43
28:T:257:ARG:NH2	28:T:301:ASP:OD1	2.51	0.43
1:A:579:GLN:HB3	1:A:630:TRP:HB3	2.00	0.43
1:A:1551:PHE:CD2	36:M:192:THR:OG1	2.72	0.43
2:B:93:U:H4'	2:B:94:U:H5''	2.00	0.43
27:R:238:THR:OG1	27:R:241:GLU:HG3	2.18	0.43
28:T:220:VAL:HG13	28:T:230:ILE:HG12	1.99	0.43
38:V:465:SER:OG	38:V:475:LYS:NZ	2.51	0.43
41:I:36:VAL:HG23	41:I:36:VAL:O	2.19	0.43
1:A:829:PRO:HB3	21:5:86:TYR:CD2	2.52	0.43
1:A:834:HIS:CD2	1:A:1432:TYR:CE1	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:837:LYS:O	1:A:840:ILE:HG22	2.18	0.43
14:G:217:U:H6	14:G:217:U:C5'	2.29	0.43
15:H:38:G:C2'	15:H:39:G:C5'	2.97	0.43
15:H:83:G:H2'	15:H:84:C:C6	2.54	0.43
17:1:563:LEU:HB3	17:1:566:LEU:HD12	2.00	0.43
18:2:495:ARG:NH2	19:3:1026:ASP:OD2	2.52	0.43
19:3:1120:THR:HG22	19:3:1126:ILE:HG12	2.00	0.43
32:9:242:SER:HA	32:9:263:ALA:HA	2.01	0.43
42:K:28:GLN:OE1	42:K:28:GLN:N	2.50	0.43
3:C:192:ASP:OD1	3:C:195:GLY:N	2.39	0.43
3:C:854:ARG:HH21	3:C:854:ARG:HD2	1.70	0.43
17:1:563:LEU:H	17:1:563:LEU:HG	1.52	0.43
17:1:971:MET:CE	17:1:1003:VAL:CG1	2.88	0.43
27:R:403:ASN:HB2	29:X:250:PRO:C	2.39	0.43
41:I:138:ARG:HH21	42:K:83:ASN:HB2	1.83	0.43
1:A:1676:ILE:HD13	1:A:1706:ASP:HB2	2.01	0.43
1:A:1949:ARG:NE	27:R:463:LEU:HD13	2.33	0.43
3:C:323:PHE:CD2	3:C:373:ILE:HG12	2.53	0.43
4:D:123:ALA:HB1	4:D:161:LEU:CD1	2.48	0.43
4:D:1635:LEU:O	4:D:1640:ALA:N	2.51	0.43
5:E:231:MET:CE	5:E:250:LEU:HD21	2.49	0.43
14:G:218:U:H3'	30:Y:3:PRO:HG2	2.00	0.43
17:1:885:ASP:OD1	17:1:885:ASP:N	2.50	0.43
19:3:47:THR:CG2	19:3:49:LYS:CG	2.84	0.43
19:3:956:GLN:HE22	19:3:998:HIS:CE1	2.37	0.43
27:R:148:ARG:HG3	28:T:300:ILE:HG23	2.01	0.43
38:V:617:PRO:O	38:V:624:THR:OG1	2.30	0.43
41:I:67:ALA:HB2	41:I:72:ILE:HD12	2.01	0.43
1:A:1681:ARG:HG3	1:A:1715:TYR:CZ	2.53	0.43
3:C:758:LEU:HD11	3:C:798:GLN:HA	2.00	0.43
13:F:10:G:H1	14:G:10:U:H3	1.67	0.43
19:3:406:PRO:O	19:3:427:CYS:CB	2.67	0.43
19:3:603:ARG:NH1	19:3:620:ASP:HB2	2.33	0.43
19:3:669:LEU:HD12	19:3:673:VAL:CG2	2.47	0.43
25:J:358:GLU:HG2	25:J:361:ARG:HH11	1.83	0.43
42:K:53:LEU:O	42:K:58:VAL:HG12	2.18	0.43
1:A:976:MET:CE	1:A:1098:PHE:HD1	2.32	0.43
1:A:1125:ILE:CD1	32:9:35:ARG:HG3	2.49	0.43
1:A:1639:VAL:O	1:A:1654:SER:HB3	2.19	0.43
1:A:2074:ARG:H	1:A:2074:ARG:HG2	1.54	0.43
3:C:602:LYS:HD2	3:C:651:ILE:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:634:GLU:OE2	3:C:882:GLY:N	2.49	0.43
4:D:434:SER:HA	4:D:446:HIS:O	2.19	0.43
17:1:1023:ILE:O	17:1:1023:ILE:HG22	2.19	0.43
17:1:1050:VAL:HG21	17:1:1055:TRP:CZ2	2.53	0.43
18:2:632:TRP:CB	20:4:76:MET:CB	2.97	0.43
19:3:931:VAL:HG23	19:3:936:LYS:HB3	2.01	0.43
25:J:220:LEU:HD11	25:J:224:LYS:HZ3	1.84	0.43
25:J:336:TRP:HE1	25:J:341:PRO:HG3	1.83	0.43
41:I:135:LEU:HD23	41:I:135:LEU:HA	1.81	0.43
1:A:444:ARG:HG3	1:A:444:ARG:NH1	2.33	0.42
2:B:36:C:O2	37:U:11:ARG:NH2	2.51	0.42
4:D:109:THR:CG2	4:D:180:THR:OG1	2.63	0.42
4:D:406:ARG:CB	4:D:955:ASP:CB	2.97	0.42
5:E:323:LEU:HA	5:E:324:PRO:HD2	1.88	0.42
17:1:550:HIS:CG	22:6:100:TYR:CD2	3.06	0.42
17:1:1129:LEU:HD23	17:1:1129:LEU:HA	1.75	0.42
17:1:1291:ASP:N	17:1:1291:ASP:OD1	2.51	0.42
17:1:1302:TYR:OH	23:7:57:GLU:OE2	2.37	0.42
19:3:965:LYS:HG3	19:3:966:LEU:HD12	2.00	0.42
25:J:438:TYR:CE2	25:J:442:ARG:HD2	2.54	0.42
28:T:213:GLU:HG3	28:T:218:TRP:CZ2	2.54	0.42
32:9:61:PHE:CE1	32:9:66:ILE:HB	2.53	0.42
1:A:946:GLU:OE1	1:A:954:LYS:HD2	2.19	0.42
1:A:2216:CYS:HA	1:A:2225:LEU:HB3	2.01	0.42
2:B:44:A:N7	32:9:3:LYS:NZ	2.62	0.42
2:B:101:U:H6	2:B:101:U:O5'	2.02	0.42
3:C:929:LEU:HD23	3:C:929:LEU:HA	1.78	0.42
4:D:831:THR:CB	4:D:871:THR:CB	2.96	0.42
17:1:1083:TYR:CZ	40:0:13:VAL:CG2	3.02	0.42
24:L:77:LEU:O	24:L:79:PRO:HD3	2.18	0.42
25:J:246:ILE:O	25:J:250:GLN:HG2	2.19	0.42
27:R:405:VAL:HG13	27:R:405:VAL:O	2.18	0.42
30:Y:13:LEU:HD12	30:Y:13:LEU:HA	1.85	0.42
32:9:277:LYS:H	32:9:437:PRO:CB	2.32	0.42
41:I:129:GLU:HB2	41:I:133:LYS:HZ1	1.81	0.42
42:K:34:GLU:HG2	42:K:73:LEU:HD12	2.00	0.42
1:A:38:GLN:HB2	5:E:195:GLN:HE21	1.85	0.42
1:A:92:LEU:HD13	1:A:503:MET:HB3	2.00	0.42
1:A:1023:ASN:N	1:A:1023:ASN:OD1	2.50	0.42
1:A:1499:GLU:OE2	1:A:1928:SER:OG	2.34	0.42
3:C:377:LEU:HD12	3:C:377:LEU:HA	1.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:480:LYS:HA	3:C:480:LYS:HD2	1.84	0.42
4:D:149:ARG:NH1	4:D:149:ARG:HG3	2.34	0.42
15:H:74:A:H5'	15:H:80:U:OP2	2.18	0.42
21:5:35:MET:HE2	21:5:35:MET:HB2	1.89	0.42
25:J:340:GLN:CG	25:J:372:VAL:HG21	2.43	0.42
30:Y:116:ARG:HH11	30:Y:116:ARG:CG	2.30	0.42
30:Y:117:ALA:HA	30:Y:118:PRO:HD3	1.86	0.42
32:9:112:ASN:HA	32:9:159:GLN:HE22	1.84	0.42
39:8:63:GLU:OE1	39:8:63:GLU:N	2.51	0.42
40:0:79:LYS:HB2	40:0:79:LYS:HE2	1.84	0.42
1:A:829:PRO:HA	21:5:86:TYR:HE2	1.83	0.42
15:H:50:A:H2'	15:H:51:A:C8	2.55	0.42
17:1:1119:VAL:HA	17:1:1122:THR:HG22	2.01	0.42
19:3:274:ARG:NH2	19:3:309:ASP:OD1	2.53	0.42
25:J:245:TRP:O	25:J:245:TRP:HE3	2.02	0.42
38:V:533:TYR:HD2	38:V:567:CYS:HG	1.68	0.42
38:V:600:ASN:OD1	38:V:604:LYS:NZ	2.53	0.42
41:I:37:LYS:CD	41:I:39:TYR:OH	2.67	0.42
41:I:65:ARG:O	41:I:68:LEU:HB3	2.19	0.42
1:A:246:LEU:HD11	1:A:411:PHE:HE2	1.82	0.42
1:A:1017:ILE:O	1:A:1023:ASN:HA	2.19	0.42
3:C:333:ASP:OD1	3:C:333:ASP:N	2.50	0.42
19:3:678:VAL:HB	19:3:687:SER:HB3	2.00	0.42
25:J:337:MET:HE3	25:J:346:TRP:CH2	2.49	0.42
1:A:404:LEU:HD23	1:A:404:LEU:HA	1.82	0.42
1:A:1320:LYS:NZ	1:A:1325:LEU:O	2.37	0.42
1:A:1678:ARG:HA	1:A:1678:ARG:HD2	1.80	0.42
1:A:1954:LEU:HA	1:A:1954:LEU:HD23	1.84	0.42
3:C:140:HIS:CD2	3:C:230:ASP:HB2	2.55	0.42
3:C:469:ASP:N	3:C:469:ASP:OD1	2.52	0.42
3:C:506:PRO:HA	3:C:526:THR:HA	2.01	0.42
3:C:737:PRO:HB3	3:C:775:ARG:HB2	2.01	0.42
5:E:321:TYR:OH	5:E:356:ILE:HG23	2.19	0.42
17:1:551:LEU:HA	17:1:551:LEU:HD23	1.87	0.42
17:1:572:HIS:HB2	17:1:612:THR:HG23	2.01	0.42
17:1:1206:ASP:N	17:1:1206:ASP:OD1	2.50	0.42
25:J:337:MET:HE3	25:J:346:TRP:CD2	2.54	0.42
25:J:358:GLU:CG	25:J:361:ARG:HD3	2.46	0.42
26:P:222:LYS:HA	26:P:222:LYS:HD2	1.89	0.42
27:R:147:THR:HG22	27:R:151:LEU:HD23	2.01	0.42
27:R:464:GLU:O	27:R:468:LYS:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:M:279:HIS:CE1	36:M:298:VAL:HB	2.55	0.42
40:O:98:GLN:H	40:O:98:GLN:HG2	1.54	0.42
3:C:454:THR:CG2	3:C:578:ARG:HG3	2.49	0.42
4:D:445:VAL:O	4:D:688:THR:CA	2.67	0.42
5:E:62:LEU:HG	5:E:351:LEU:HB2	2.01	0.42
5:E:174:GLY:O	5:E:192:ASN:CA	2.67	0.42
13:F:26:A:H2'	13:F:27:G:O4'	2.20	0.42
17:1:1125:PRO:O	17:1:1129:LEU:HB2	2.19	0.42
29:X:275:ILE:HG21	29:X:306:PHE:CE2	2.55	0.42
29:X:285:ARG:NH1	29:X:299:CYS:O	2.52	0.42
32:9:62:ASP:OD1	32:9:63:LEU:N	2.53	0.42
39:8:115:ASN:OD1	39:8:116:ILE:N	2.53	0.42
42:K:51:GLU:HG3	42:K:52:TYR:N	2.35	0.42
42:K:83:ASN:O	42:K:86:PRO:HD2	2.20	0.42
3:C:785:ARG:HH11	3:C:785:ARG:HD2	1.68	0.42
4:D:1661:VAL:O	4:D:1702:CYS:HA	2.19	0.42
18:2:710:GLU:OE2	19:3:1057:ARG:NH2	2.53	0.42
19:3:429:ARG:NH2	19:3:429:ARG:CG	2.73	0.42
25:J:274:ARG:NE	27:R:229:VAL:CG2	2.82	0.42
29:X:221:LYS:O	29:X:223:LYS:HG3	2.19	0.42
38:V:461:LEU:HD13	38:V:461:LEU:HA	1.88	0.42
1:A:1425:LYS:HD2	1:A:1425:LYS:O	2.19	0.42
1:A:1580:HIS:O	1:A:1584:LYS:HD3	2.20	0.42
1:A:2112:LYS:HE2	1:A:2112:LYS:HB3	1.67	0.42
3:C:190:LEU:O	3:C:197:SER:HA	2.19	0.42
3:C:510:LEU:HB2	3:C:564:THR:HG23	2.01	0.42
4:D:1582:ALA:C	4:D:1584:ILE:N	2.72	0.42
17:1:721:ILE:HG12	17:1:757:MET:HA	2.02	0.42
19:3:520:TYR:CE1	19:3:522:ASP:HB2	2.55	0.42
19:3:601:ARG:NH2	19:3:621:PRO:HD3	2.35	0.42
19:3:610:VAL:O	19:3:610:VAL:HG23	2.20	0.42
21:5:110:LEU:HA	21:5:110:LEU:HD13	1.87	0.42
25:J:248:TYR:CE2	25:J:264:ILE:HG12	2.54	0.42
25:J:421:LYS:O	25:J:424:GLU:HB3	2.20	0.42
30:Y:7:VAL:CG2	30:Y:108:ARG:HB3	2.49	0.42
30:Y:117:ALA:CB	31:Z:494:TYR:CE2	3.00	0.42
41:I:48:LEU:HD12	41:I:48:LEU:HA	1.89	0.42
42:K:50:TYR:CE1	42:K:84:LEU:HA	2.55	0.42
42:K:127:PRO:CG	42:K:131:SER:HB3	2.48	0.42
1:A:795:LEU:HD23	1:A:795:LEU:HA	1.89	0.42
1:A:2111:LEU:HD21	1:A:2225:LEU:HD21	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:916:ILE:HD13	3:C:928:HIS:HB3	2.02	0.42
13:F:6:G:H1'	14:G:15:C:O2	2.20	0.42
17:1:1114:VAL:O	17:1:1118:ILE:HG12	2.20	0.42
19:3:532:ARG:HE	19:3:532:ARG:HB2	1.68	0.42
32:9:276:VAL:CB	32:9:297:CYS:C	2.89	0.42
42:K:18:GLN:O	42:K:18:GLN:NE2	2.50	0.42
42:K:126:SER:HA	42:K:127:PRO:HD3	1.80	0.42
1:A:137:GLU:O	1:A:141:ILE:HG13	2.20	0.41
1:A:1501:LEU:HD22	1:A:1753:LEU:CD1	2.49	0.41
1:A:1782:ASP:N	1:A:1782:ASP:OD1	2.52	0.41
1:A:2125:ALA:O	1:A:2150:GLN:NE2	2.51	0.41
1:A:2310:ARG:CD	1:A:2313:HIS:CG	3.02	0.41
3:C:607:LEU:HD23	3:C:607:LEU:HA	1.86	0.41
3:C:799:GLU:HG3	3:C:802:HIS:H	1.85	0.41
4:D:148:LEU:HD23	4:D:152:GLU:HB2	2.02	0.41
17:1:505:LYS:HE3	17:1:505:LYS:HB3	1.87	0.41
27:R:388:ILE:HD13	29:X:350:TYR:CD1	2.55	0.41
36:M:131:GLN:O	36:M:135:GLU:HG2	2.20	0.41
38:V:469:PHE:CD1	38:V:469:PHE:C	2.93	0.41
38:V:530:LYS:HG2	38:V:567:CYS:SG	2.60	0.41
41:I:27:TYR:HE2	42:K:36:VAL:HG22	1.85	0.41
42:K:30:GLN:O	42:K:34:GLU:HG3	2.20	0.41
42:K:127:PRO:HB2	42:K:131:SER:HB3	2.02	0.41
1:A:78:ASN:HB3	1:A:80:LYS:HG2	2.01	0.41
1:A:977:LEU:CB	1:A:1175:VAL:HG22	2.48	0.41
1:A:1554:GLN:HG3	1:A:1561:PHE:CE1	2.55	0.41
1:A:2117:ILE:HG21	1:A:2301:PRO:HB2	2.02	0.41
1:A:2120:LEU:HD12	1:A:2120:LEU:N	2.35	0.41
4:D:1589:PHE:CB	4:D:1642:GLN:CB	2.98	0.41
47:F:207:G5J:O1B	41:I:39:TYR:OH	2.27	0.41
17:1:793:LYS:HG3	17:1:839:GLU:HG3	2.02	0.41
17:1:1133:MET:HG2	17:1:1172:LEU:HD22	2.02	0.41
19:3:47:THR:HG21	19:3:49:LYS:CG	2.44	0.41
19:3:628:LEU:O	36:M:309:PRO:HG3	2.20	0.41
19:3:988:ASN:HB2	19:3:1004:ASP:OD1	2.21	0.41
19:3:1099:GLU:HG3	19:3:1121:THR:HG21	2.01	0.41
25:J:423:GLU:HA	25:J:426:GLN:HB3	2.02	0.41
29:X:270:LEU:CB	29:X:271:PRO:HD2	2.47	0.41
1:A:769:LYS:HB3	1:A:1249:MET:HG2	2.01	0.41
1:A:2073:TRP:CD1	1:A:2073:TRP:O	2.73	0.41
1:A:2121:ARG:HD2	1:A:2121:ARG:HA	1.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:491:HIS:CB	3:C:551:LEU:HD22	2.50	0.41
5:E:62:LEU:HD12	5:E:351:LEU:HB2	2.02	0.41
19:3:430:GLY:HA3	19:3:431:PRO:HD2	1.84	0.41
19:3:503:THR:OG1	19:3:504:PRO:HD2	2.21	0.41
25:J:364:THR:O	25:J:367:GLU:HB3	2.20	0.41
36:M:250:GLU:OE2	40:0:88:LYS:HG2	2.20	0.41
41:I:40:THR:CG2	42:K:79:GLY:HA2	2.50	0.41
4:D:148:LEU:HD22	4:D:152:GLU:CB	2.49	0.41
4:D:722:LEU:HA	4:D:809:LEU:O	2.19	0.41
4:D:1580:CYS:O	4:D:1585:GLN:O	2.38	0.41
5:E:132:THR:HG21	5:E:146:ARG:CD	2.41	0.41
5:E:177:LYS:C	5:E:178:LEU:HD23	2.41	0.41
5:E:237:SER:HB2	5:E:255:MET:CG	2.51	0.41
13:F:6:G:N7	41:I:31:ARG:CZ	2.84	0.41
17:1:1014:LYS:HD2	40:0:91:LEU:HD21	2.02	0.41
19:3:1164:ARG:C	19:3:1170:VAL:HG22	2.41	0.41
24:L:12:ARG:HH21	24:L:12:ARG:HD3	1.75	0.41
30:Y:55:VAL:HG22	31:Z:589:ARG:CZ	2.50	0.41
3:C:130:ARG:HE	3:C:435:VAL:HA	1.84	0.41
3:C:311:SER:HB3	3:C:316:ILE:HB	2.03	0.41
3:C:676:ALA:HB1	3:C:814:ARG:HH21	1.86	0.41
5:E:147:LEU:N	5:E:147:LEU:HD23	2.35	0.41
17:1:1118:ILE:HG23	40:0:13:VAL:HG13	2.02	0.41
19:3:246:SER:O	19:3:260:ASN:ND2	2.53	0.41
19:3:642:ILE:HG22	19:3:663:LEU:HD11	2.02	0.41
21:5:27:PRO:HG3	21:5:85:ARG:CD	2.44	0.41
25:J:338:GLU:O	25:J:340:GLN:OE1	2.38	0.41
27:R:391:VAL:CG2	29:X:347:GLN:HB3	2.50	0.41
39:8:24:LEU:HD23	39:8:24:LEU:HA	1.88	0.41
1:A:384:VAL:O	3:C:354:ARG:NH2	2.50	0.41
1:A:413:LEU:C	1:A:413:LEU:HD12	2.41	0.41
1:A:537:LYS:HE2	1:A:537:LYS:HB2	1.86	0.41
3:C:781:ASP:HB2	3:C:943:LEU:HD21	2.02	0.41
4:D:140:LEU:HD23	4:D:140:LEU:C	2.40	0.41
15:H:17:A:H1'	22:6:102:ARG:HH12	1.86	0.41
17:1:929:LEU:HA	17:1:929:LEU:HD23	1.84	0.41
19:3:694:LEU:HD12	19:3:694:LEU:O	2.20	0.41
19:3:745:PHE:HB2	19:3:755:VAL:HG23	2.03	0.41
25:J:313:TRP:CE3	25:J:336:TRP:CZ2	3.08	0.41
27:R:387:ASP:H	29:X:351:GLU:CB	2.29	0.41
30:Y:37:TRP:CB	30:Y:112:VAL:HG22	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:I:139:LYS:HD2	42:K:86:PRO:HB3	2.03	0.41
42:K:49:ASN:O	42:K:53:LEU:HG	2.20	0.41
42:K:120:THR:O	42:K:124:HIS:CD2	2.73	0.41
1:A:1665:GLN:HG3	1:A:1702:LEU:HD21	2.02	0.41
3:C:412:ILE:HD13	3:C:412:ILE:HA	1.87	0.41
3:C:836:VAL:HG22	3:C:897:SER:HB3	2.02	0.41
4:D:128:PRO:HG2	4:D:131:ILE:HD12	2.02	0.41
13:F:45:A:OP2	14:G:3:A:O2'	2.34	0.41
14:G:207:A:O4'	22:6:102:ARG:HG3	2.21	0.41
15:H:79:U:C3'	15:H:80:U:H5'	2.51	0.41
17:1:1200:TYR:CD1	17:1:1239:VAL:O	2.74	0.41
17:1:1245:ARG:O	17:1:1249:TYR:HD1	2.04	0.41
19:3:834:LEU:O	19:3:837:GLU:HB3	2.21	0.41
19:3:1052:ASN:HB3	19:3:1096:HIS:HA	2.03	0.41
22:6:29:LYS:HA	22:6:35:SER:O	2.20	0.41
25:J:440:LEU:HG	25:J:445:LYS:HE2	2.02	0.41
38:V:517:LEU:HD23	38:V:517:LEU:HA	1.90	0.41
3:C:85:ASP:HB3	28:T:238:LEU:HG	2.03	0.41
17:1:619:ASN:ND2	17:1:624:VAL:HG21	2.35	0.41
19:3:138:GLN:HA	19:3:161:HIS:ND1	2.35	0.41
19:3:379:LEU:HD21	19:3:384:THR:HA	2.03	0.41
19:3:574:LEU:HA	19:3:574:LEU:HD23	1.78	0.41
21:5:83:CYS:O	21:5:83:CYS:SG	2.79	0.41
25:J:252:GLU:OE1	25:J:252:GLU:HA	2.21	0.41
25:J:337:MET:HE3	25:J:346:TRP:CE3	2.54	0.41
26:P:206:LYS:HD2	26:P:206:LYS:N	2.35	0.41
29:X:223:LYS:HG3	29:X:223:LYS:H	1.63	0.41
1:A:193:LEU:O	1:A:195:LEU:HD12	2.20	0.41
1:A:259:ASP:OD1	1:A:259:ASP:N	2.48	0.41
1:A:265:THR:HG23	1:A:327:VAL:CG2	2.35	0.41
1:A:456:LEU:HD23	1:A:456:LEU:HA	1.89	0.41
1:A:534:GLU:OE2	13:F:11:A:H5'	2.20	0.41
1:A:1112:ARG:HH11	1:A:1112:ARG:HD3	1.71	0.41
1:A:1425:LYS:HB3	27:R:416:LYS:HA	2.03	0.41
3:C:205:THR:HB	3:C:215:VAL:HG22	2.02	0.41
5:E:90:ILE:HB	5:E:105:LEU:HB2	2.03	0.41
5:E:246:GLU:HB2	5:E:248:SER:HG	1.84	0.41
5:E:274:VAL:C	5:E:275:LYS:HG3	2.39	0.41
14:G:211:U:C2'	14:G:213:C:OP2	2.69	0.41
17:1:157:ARG:NH1	21:5:103:THR:OG1	2.54	0.41
17:1:1167:TYR:CZ	18:2:581:LYS:HE2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:3:1194:SER:HB2	19:3:1199:ARG:O	2.20	0.41
25:J:336:TRP:C	25:J:338:GLU:N	2.75	0.41
25:J:423:GLU:HB2	25:J:432:VAL:HG22	2.03	0.41
27:R:280:ILE:CG2	32:9:221:LEU:HD22	2.50	0.41
38:V:604:LYS:HE3	38:V:604:LYS:HB3	1.86	0.41
39:8:82:SER:HB3	39:8:106:TRP:CH2	2.56	0.41
41:I:98:GLN:HA	41:I:101:ARG:HD3	2.01	0.41
42:K:50:TYR:HE1	42:K:84:LEU:HA	1.86	0.41
1:A:829:PRO:HA	21:5:86:TYR:CE2	2.56	0.41
1:A:1655:THR:OG1	1:A:1656:THR:N	2.54	0.41
4:D:117:LEU:HA	4:D:120:ILE:HG22	2.03	0.41
4:D:121:GLN:HG2	4:D:132:LEU:CD2	2.48	0.41
4:D:144:LYS:HE2	4:D:179:ILE:CG2	2.51	0.41
14:G:197:U:H4'	24:L:12:ARG:CD	2.51	0.41
17:1:476:ASP:N	17:1:476:ASP:OD1	2.51	0.41
19:3:510:LEU:HG	19:3:510:LEU:O	2.20	0.41
19:3:999:ARG:NH1	19:3:1041:TYR:O	2.54	0.41
21:5:87:LEU:HA	21:5:87:LEU:HD12	1.86	0.41
22:6:42:LEU:HD11	22:6:68:ASP:HB3	2.03	0.41
24:L:72:LEU:HA	24:L:72:LEU:HD23	1.85	0.41
25:J:270:ASP:OD1	27:R:223:PRO:HD2	2.17	0.41
32:9:96:ASN:HD21	32:9:109:VAL:HG22	1.86	0.41
32:9:330:ILE:O	32:9:381:PHE:CB	2.69	0.41
36:M:288:GLN:O	36:M:291:ARG:HB2	2.21	0.41
1:A:957:GLN:OE1	1:A:957:GLN:HA	2.21	0.40
1:A:1303:LEU:HD12	1:A:1311:PHE:CE1	2.56	0.40
1:A:1753:LEU:HD23	1:A:1753:LEU:HA	1.87	0.40
1:A:2259:VAL:HG22	1:A:2260:GLN:H	1.86	0.40
4:D:686:GLU:O	4:D:866:GLU:HA	2.21	0.40
4:D:861:TYR:O	19:3:599:GLU:HG3	2.22	0.40
17:1:397:ARG:HD3	17:1:398:PRO:HD2	2.04	0.40
17:1:648:LEU:HA	17:1:648:LEU:HD12	1.90	0.40
17:1:844:VAL:HG11	17:1:848:GLU:HG2	2.03	0.40
17:1:1002:ASN:HD22	17:1:1002:ASN:HA	1.50	0.40
25:J:333:PHE:CB	25:J:349:TYR:CE1	3.04	0.40
27:R:137:GLU:HA	27:R:140:ILE:HG12	2.03	0.40
27:R:237:MET:CE	27:R:237:MET:N	2.75	0.40
28:T:468:CYS:HA	28:T:478:LEU:O	2.21	0.40
29:X:278:GLN:NE2	29:X:291:ASP:OD2	2.54	0.40
30:Y:125:ASP:O	30:Y:129:ARG:HG3	2.20	0.40
42:K:13:ARG:HD3	42:K:13:ARG:HA	1.73	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:200:PHE:HD1	3:C:200:PHE:HA	1.80	0.40
3:C:201:ASN:HB3	3:C:549:TRP:CE3	2.56	0.40
5:E:248:SER:HB2	5:E:249:TYR:CE1	2.53	0.40
13:F:2:U:O2'	42:K:43:PHE:CE1	2.73	0.40
13:F:33:C:H2'	13:F:34:C:O4'	2.21	0.40
17:1:403:GLU:O	17:1:406:ALA:HB3	2.20	0.40
17:1:997:LEU:HD12	17:1:997:LEU:HA	1.81	0.40
19:3:133:SER:HB2	19:3:139:LYS:HG2	2.02	0.40
19:3:500:LEU:HB2	19:3:525:ARG:HH11	1.87	0.40
19:3:673:VAL:HG12	19:3:693:TYR:HA	2.03	0.40
19:3:981:CYS:SG	19:3:981:CYS:O	2.79	0.40
19:3:1129:LEU:HD23	19:3:1129:LEU:HA	1.93	0.40
1:A:79:ARG:HH11	1:A:79:ARG:HG2	1.87	0.40
1:A:767:VAL:HG21	2:B:39:C:C2	2.56	0.40
1:A:1157:ILE:HD13	1:A:1157:ILE:HA	1.92	0.40
1:A:1256:PHE:CE2	1:A:1303:LEU:HD21	2.56	0.40
1:A:1501:LEU:HD22	1:A:1753:LEU:HD11	2.02	0.40
1:A:2320:LEU:HD21	1:A:2322:GLU:CD	2.41	0.40
3:C:461:LEU:HD23	3:C:461:LEU:HA	1.91	0.40
4:D:448:PRO:O	4:D:686:GLU:HA	2.21	0.40
4:D:577:LYS:O	4:D:581:SER:N	2.54	0.40
5:E:178:LEU:CD2	5:E:208:ILE:HD11	2.51	0.40
5:E:307:ARG:HB3	5:E:326:HIS:O	2.22	0.40
13:F:51:G:H4'	13:F:52:A:OP1	2.20	0.40
17:1:86:ALA:HB3	17:1:91:LEU:HD11	2.03	0.40
17:1:860:GLU:HG2	30:Y:26:VAL:HG11	2.03	0.40
17:1:1120:ALA:HB2	17:1:1128:VAL:HG21	2.02	0.40
25:J:228:ARG:HG3	25:J:228:ARG:HH11	1.86	0.40
29:X:329:ILE:HB	29:X:349:TYR:CE1	2.57	0.40
32:9:111:THR:HG22	32:9:112:ASN:N	2.36	0.40
39:8:110:LEU:HD23	39:8:110:LEU:HA	1.91	0.40
41:I:38:VAL:HA	42:K:42:ASN:HD21	1.86	0.40
3:C:780:CYS:SG	3:C:780:CYS:O	2.79	0.40
4:D:991:TYR:O	4:D:1090:ARG:HG2	2.22	0.40
25:J:367:GLU:O	25:J:371:LEU:HG	2.21	0.40
25:J:419:PHE:CE2	25:J:435:ILE:HG21	2.56	0.40
27:R:280:ILE:CB	32:9:221:LEU:HD22	2.48	0.40
32:9:39:PHE:HB3	32:9:159:GLN:OE1	2.21	0.40
32:9:83:LEU:HD12	32:9:84:ASP:N	2.36	0.40
38:V:603:LEU:HD12	38:V:603:LEU:HA	1.79	0.40
42:K:24:PHE:HD2	42:K:61:LEU:HD11	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:K:123:MET:O	42:K:126:SER:HB3	2.20	0.40
1:A:221:ASN:OD1	1:A:222:GLY:N	2.55	0.40
1:A:686:ARG:NH1	15:H:3:G:H4'	2.37	0.40
1:A:686:ARG:HE	1:A:710:LEU:HD13	1.86	0.40
3:C:476:CYS:HB3	3:C:565:ILE:HB	2.03	0.40
3:C:738:ASP:OD1	3:C:738:ASP:N	2.33	0.40
4:D:128:PRO:CG	4:D:131:ILE:HD12	2.51	0.40
17:1:157:ARG:O	17:1:161:LEU:HB2	2.22	0.40
17:1:675:MET:HB2	17:1:679:ILE:CG2	2.51	0.40
17:1:1045:ARG:NH1	40:0:24:ARG:HG3	2.35	0.40
19:3:137:LYS:O	19:3:137:LYS:CG	2.70	0.40
19:3:668:GLY:HA3	19:3:699:VAL:HG23	2.03	0.40
19:3:1058:LEU:HA	19:3:1059:PRO:HD3	1.98	0.40
25:J:433:ARG:HD2	25:J:433:ARG:HA	1.87	0.40
26:P:212:ASN:H	28:T:457:GLY:HA3	1.87	0.40
41:I:31:ARG:NH1	41:I:31:ARG:CG	2.80	0.40
41:I:129:GLU:HB2	41:I:133:LYS:HZ3	1.83	0.40
42:K:149:SER:HA	42:K:160:ALA:HB3	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	2213/2335 (95%)	2146 (97%)	66 (3%)	1 (0%)	100	100
3	C	900/972 (93%)	862 (96%)	38 (4%)	0	100	100
4	D	1799/2136 (84%)	1710 (95%)	84 (5%)	5 (0%)	41	71
5	E	297/357 (83%)	278 (94%)	19 (6%)	0	100	100
6	a	77/126 (61%)	76 (99%)	1 (1%)	0	100	100
6	h	76/126 (60%)	74 (97%)	2 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	b	80/240 (33%)	78 (98%)	2 (2%)	0	100	100
7	i	84/240 (35%)	82 (98%)	2 (2%)	0	100	100
8	c	80/119 (67%)	77 (96%)	3 (4%)	0	100	100
8	j	80/119 (67%)	77 (96%)	3 (4%)	0	100	100
9	d	95/118 (80%)	91 (96%)	4 (4%)	0	100	100
9	k	81/118 (69%)	78 (96%)	3 (4%)	0	100	100
10	f	72/86 (84%)	68 (94%)	4 (6%)	0	100	100
10	m	72/86 (84%)	68 (94%)	4 (6%)	0	100	100
11	e	77/92 (84%)	76 (99%)	1 (1%)	0	100	100
11	l	77/92 (84%)	76 (99%)	1 (1%)	0	100	100
12	g	72/76 (95%)	70 (97%)	2 (3%)	0	100	100
12	n	64/76 (84%)	62 (97%)	2 (3%)	0	100	100
16	v	115/230 (50%)	113 (98%)	2 (2%)	0	100	100
17	1	977/1304 (75%)	961 (98%)	16 (2%)	0	100	100
18	2	206/895 (23%)	198 (96%)	8 (4%)	0	100	100
19	3	1184/1217 (97%)	1136 (96%)	48 (4%)	0	100	100
20	4	76/424 (18%)	71 (93%)	5 (7%)	0	100	100
21	5	107/125 (86%)	104 (97%)	3 (3%)	0	100	100
22	6	103/110 (94%)	98 (95%)	5 (5%)	0	100	100
23	7	79/86 (92%)	78 (99%)	1 (1%)	0	100	100
24	L	99/802 (12%)	93 (94%)	6 (6%)	0	100	100
25	J	483/848 (57%)	447 (92%)	36 (8%)	0	100	100
26	P	42/229 (18%)	37 (88%)	5 (12%)	0	100	100
27	R	229/536 (43%)	219 (96%)	10 (4%)	0	100	100
28	T	318/514 (62%)	310 (98%)	8 (2%)	0	100	100
29	X	154/396 (39%)	137 (89%)	16 (10%)	1 (1%)	25	58
30	Y	138/322 (43%)	135 (98%)	3 (2%)	0	100	100
31	Z	138/619 (22%)	137 (99%)	1 (1%)	0	100	100
32	9	401/520 (77%)	382 (95%)	18 (4%)	1 (0%)	47	78
33	z	175/472 (37%)	169 (97%)	6 (3%)	0	100	100
34	x	575/1041 (55%)	554 (96%)	21 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
35	y	11/476 (2%)	11 (100%)	0	0	100	100
36	M	185/343 (54%)	172 (93%)	13 (7%)	0	100	100
37	U	24/2752 (1%)	24 (100%)	0	0	100	100
38	V	464/908 (51%)	457 (98%)	7 (2%)	0	100	100
39	8	124/904 (14%)	124 (100%)	0	0	100	100
40	0	98/101 (97%)	98 (100%)	0	0	100	100
41	I	124/367 (34%)	120 (97%)	4 (3%)	0	100	100
42	K	186/198 (94%)	183 (98%)	2 (1%)	1 (0%)	29	61
All	All	13111/24253 (54%)	12617 (96%)	485 (4%)	9 (0%)	54	82

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	D	1584	ILE
4	D	1864	GLU
1	A	1092	ILE
29	X	263	PRO
42	K	127	PRO
4	D	1859	PRO
32	9	348	LYS
4	D	745	LYS
4	D	1583	ASP

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1979/2108 (94%)	1924 (97%)	55 (3%)	43	76
3	C	798/866 (92%)	787 (99%)	11 (1%)	67	89
4	D	76/1908 (4%)	62 (82%)	14 (18%)	1	5
5	E	255/300 (85%)	245 (96%)	10 (4%)	32	66

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	v	104/199 (52%)	99 (95%)	5 (5%)	25	58
17	1	854/1103 (77%)	820 (96%)	34 (4%)	31	65
18	2	163/776 (21%)	158 (97%)	5 (3%)	40	74
19	3	1031/1050 (98%)	997 (97%)	34 (3%)	38	72
21	5	97/109 (89%)	96 (99%)	1 (1%)	76	92
22	6	90/95 (95%)	87 (97%)	3 (3%)	38	72
23	7	72/77 (94%)	72 (100%)	0	100	100
24	L	87/709 (12%)	86 (99%)	1 (1%)	73	92
25	J	203/751 (27%)	197 (97%)	6 (3%)	41	75
26	P	42/203 (21%)	41 (98%)	1 (2%)	49	79
27	R	206/459 (45%)	194 (94%)	12 (6%)	20	50
28	T	273/441 (62%)	268 (98%)	5 (2%)	59	85
29	X	134/349 (38%)	127 (95%)	7 (5%)	23	55
30	Y	117/291 (40%)	113 (97%)	4 (3%)	37	71
31	Z	110/545 (20%)	108 (98%)	2 (2%)	59	85
32	9	195/456 (43%)	190 (97%)	5 (3%)	46	77
33	z	152/416 (36%)	152 (100%)	0	100	100
34	x	14/897 (2%)	13 (93%)	1 (7%)	14	40
35	y	11/397 (3%)	11 (100%)	0	100	100
36	M	168/294 (57%)	165 (98%)	3 (2%)	59	85
37	U	21/2432 (1%)	20 (95%)	1 (5%)	25	58
38	V	193/838 (23%)	190 (98%)	3 (2%)	62	86
39	8	111/831 (13%)	111 (100%)	0	100	100
40	0	86/87 (99%)	84 (98%)	2 (2%)	50	80
41	I	112/326 (34%)	108 (96%)	4 (4%)	35	69
42	K	119/171 (70%)	108 (91%)	11 (9%)	9	27
All	All	7873/19484 (40%)	7633 (97%)	240 (3%)	44	75

All (240) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	61	MET
1	A	203	VAL

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Mol	Chain	Res	Type
1	A	204	LEU
1	A	211	GLN
1	A	214	ARG
1	A	227	ARG
1	A	258	PHE
1	A	327	VAL
1	A	419	ARG
1	A	420	ARG
1	A	422	LEU
1	A	426	LEU
1	A	470	ARG
1	A	546	LEU
1	A	606	LYS
1	A	635	ARG
1	A	642	ARG
1	A	658	ARG
1	A	683	LEU
1	A	779	LEU
1	A	818	GLU
1	A	873	ASN
1	A	977	LEU
1	A	978	GLU
1	A	1017	ILE
1	A	1018	ASN
1	A	1022	MET
1	A	1131	LYS
1	A	1231	ARG
1	A	1403	LEU
1	A	1425	LYS
1	A	1499	GLU
1	A	1526	LEU
1	A	1553	VAL
1	A	1639	VAL
1	A	1693	SER
1	A	1745	GLU
1	A	1753	LEU
1	A	1762	TYR
1	A	1764	SER
1	A	1840	LYS
1	A	1889	LEU
1	A	1891	LEU
1	A	1919	LEU

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Mol	Chain	Res	Type
1	A	1921	ASP
1	A	2073	TRP
1	A	2074	ARG
1	A	2087	THR
1	A	2193	VAL
1	A	2194	THR
1	A	2254	SER
1	A	2259	VAL
1	A	2273	VAL
1	A	2329	ASP
1	A	2333	LEU
3	C	148	CYS
3	C	308	CYS
3	C	543	ARG
3	C	551	LEU
3	C	561	LYS
3	C	683	ASN
3	C	714	LEU
3	C	738	ASP
3	C	767	VAL
3	C	780	CYS
3	C	934	MET
4	D	102	TYR
4	D	103	LYS
4	D	108	GLU
4	D	110	ARG
4	D	126	ASP
4	D	148	LEU
4	D	149	ARG
4	D	153	ARG
4	D	154	ARG
4	D	157	ILE
4	D	161	LEU
4	D	167	THR
4	D	992	TYR
4	D	1090	ARG
5	E	62	LEU
5	E	74	PHE
5	E	102	TYR
5	E	152	SER
5	E	156	SER
5	E	194	TYR

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Mol	Chain	Res	Type
5	E	229	TYR
5	E	248	SER
5	E	289	LEU
5	E	290	ARG
16	v	1	MET
16	v	5	ARG
16	v	50	ARG
16	v	197	ARG
16	v	206	ARG
17	1	120	LYS
17	1	412	TYR
17	1	531	LEU
17	1	562	LYS
17	1	563	LEU
17	1	564	ASP
17	1	614	ARG
17	1	651	VAL
17	1	675	MET
17	1	677	CYS
17	1	680	LEU
17	1	721	ILE
17	1	997	LEU
17	1	1002	ASN
17	1	1024	LEU
17	1	1026	ASN
17	1	1038	LEU
17	1	1050	VAL
17	1	1058	ILE
17	1	1112	THR
17	1	1127	THR
17	1	1128	VAL
17	1	1180	ARG
17	1	1182	LEU
17	1	1184	HIS
17	1	1226	VAL
17	1	1227	ILE
17	1	1239	VAL
17	1	1260	LYS
17	1	1261	VAL
17	1	1264	VAL
17	1	1277	GLN
17	1	1301	ASP

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Mol	Chain	Res	Type
17	1	1303	ILE
18	2	498	VAL
18	2	561	MET
18	2	577	LYS
18	2	587	HIS
18	2	599	THR
19	3	86	ARG
19	3	131	MET
19	3	135	ILE
19	3	136	GLU
19	3	137	LYS
19	3	138	GLN
19	3	171	VAL
19	3	184	CYS
19	3	187	MET
19	3	295	THR
19	3	319	GLU
19	3	321	MET
19	3	322	VAL
19	3	425	VAL
19	3	429	ARG
19	3	607	VAL
19	3	609	LEU
19	3	610	VAL
19	3	612	ASN
19	3	614	VAL
19	3	686	LEU
19	3	690	ARG
19	3	691	THR
19	3	943	THR
19	3	980	LYS
19	3	981	CYS
19	3	982	GLU
19	3	1007	GLU
19	3	1013	ARG
19	3	1064	ASP
19	3	1165	SER
19	3	1166	TYR
19	3	1209	GLU
19	3	1214	ARG
21	5	85	ARG
22	6	25	LYS

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Mol	Chain	Res	Type
22	6	35	SER
22	6	95	LYS
24	L	77	LEU
25	J	236	ARG
25	J	245	TRP
25	J	247	LYS
25	J	337	MET
25	J	338	GLU
25	J	360	ASP
26	P	186	ARG
27	R	237	MET
27	R	297	LYS
27	R	323	LYS
27	R	332	ARG
27	R	384	GLU
27	R	386	ARG
27	R	388	ILE
27	R	389	SER
27	R	403	ASN
27	R	406	GLN
27	R	410	ARG
27	R	427	ASP
28	T	220	VAL
28	T	325	THR
28	T	384	HIS
28	T	418	THR
28	T	456	PRO
29	X	239	PHE
29	X	242	VAL
29	X	264	PHE
29	X	268	GLU
29	X	269	VAL
29	X	270	LEU
29	X	348	ARG
30	Y	13	LEU
30	Y	66	ASN
30	Y	80	CYS
30	Y	116	ARG
31	Z	575	ARG
31	Z	583	ARG
32	9	3	LYS
32	9	4	ARG

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Mol	Chain	Res	Type
32	9	8	LYS
32	9	35	ARG
32	9	224	THR
34	x	1028	LYS
36	M	103	THR
36	M	157	ASN
36	M	226	TYR
37	U	20	GLN
38	V	467	LEU
38	V	469	PHE
38	V	471	GLU
40	0	14	ILE
40	0	100	SER
41	I	31	ARG
41	I	37	LYS
41	I	105	ARG
41	I	139	LYS
42	K	13	ARG
42	K	54	ARG
42	K	71	GLU
42	K	74	VAL
42	K	84	LEU
42	K	91	LYS
42	K	123	MET
42	K	136	LEU
42	K	139	THR
42	K	142	VAL
42	K	155	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	704	ASN
1	A	1373	GLN
3	C	683	ASN
3	C	706	GLN
3	C	807	GLN
4	D	127	GLN
5	E	101	ASN
17	1	1252	GLN
19	3	51	HIS
28	T	283	HIS

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Mol	Chain	Res	Type
28	T	285	HIS
29	X	347	GLN
30	Y	66	ASN
39	8	88	ASN
40	0	98	GLN
42	K	70	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
13	F	58/124 (46%)	14 (24%)	3 (5%)
14	G	62/142 (43%)	22 (35%)	5 (8%)
15	H	61/150 (40%)	14 (22%)	0
2	B	87/117 (74%)	21 (24%)	2 (2%)
All	All	268/533 (50%)	71 (26%)	10 (3%)

All (71) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	B	20	G
2	B	21	A
2	B	22	U
2	B	24	G
2	B	25	C
2	B	28	A
2	B	35	U
2	B	39	C
2	B	40	U
2	B	45	C
2	B	71	C
2	B	86	C
2	B	88	A
2	B	89	U
2	B	90	U
2	B	94	U
2	B	95	G
2	B	97	G
2	B	98	G
2	B	115	C
2	B	116	U
13	F	5	U

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Mol	Chain	Res	Type
13	F	6	G
13	F	15	G
13	F	18	A
13	F	24	U
13	F	25	U
13	F	27	G
13	F	32	C
13	F	33	C
13	F	39	A
13	F	46	U
13	F	47	G
13	F	50	A
13	F	52	A
14	G	-10	C
14	G	-9	G
14	G	-5	U
14	G	-3	C
14	G	1	A
14	G	3	A
14	G	15	C
14	G	17	U
14	G	19	U
14	G	196	A
14	G	203	A
14	G	207	A
14	G	208	U
14	G	210	G
14	G	211	U
14	G	214	C
14	G	216	U
14	G	217	U
14	G	218	U
14	G	219	U
14	G	220	U
14	G	222	U
15	H	2	U
15	H	3	G
15	H	8	A
15	H	10	A
15	H	13	U
15	H	14	A
15	H	18	G

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Mol	Chain	Res	Type
15	H	29	A
15	H	31	C
15	H	32	G
15	H	39	G
15	H	44	C
15	H	45	G
15	H	83	G

All (10) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	B	39	C
2	B	96	A
13	F	23	G
13	F	31	U
13	F	51	G
14	G	-11	U
14	G	206	C
14	G	213	C
14	G	217	U
14	G	219	U

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
19	TPO	3	613	19	8,10,11	0.89	0	10,14,16	1.61	2 (20%)
17	SEP	1	129	17	8,9,10	1.07	1 (12%)	8,12,14	1.70	3 (37%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

'-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	TPO	3	613	19	-	2/9/11/13	-
17	SEP	1	129	17	-	4/5/8/10	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	1	129	SEP	P-O1P	2.12	1.57	1.50

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	3	613	TPO	P-OG1-CB	-4.43	109.83	123.21
17	1	129	SEP	P-OG-CB	-2.83	110.49	118.30
19	3	613	TPO	O-C-CA	-2.22	118.95	124.78
17	1	129	SEP	O3P-P-OG	2.17	112.52	106.73
17	1	129	SEP	OG-CB-CA	2.09	110.18	108.14

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
17	1	129	SEP	N-CA-CB-OG
17	1	129	SEP	CB-OG-P-O1P
17	1	129	SEP	CB-OG-P-O2P
17	1	129	SEP	CB-OG-P-O3P
19	3	613	TPO	O-C-CA-CB
19	3	613	TPO	CB-OG1-P-O1P

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	3	613	TPO	1	0
17	1	129	SEP	2	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 17 ligands modelled in this entry, 14 are monoatomic - leaving 3 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
44	GTP	C	1500	45	26,34,34	2.33	11 (42%)	32,54,54	1.91	9 (28%)
47	G5J	F	207	13	25,35,35	0.92	1 (4%)	31,55,55	1.41	3 (9%)
43	IHP	A	3000	-	36,36,36	1.12	3 (8%)	54,60,60	1.06	3 (5%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
44	GTP	C	1500	45	-	4/18/38/38	0/3/3/3
47	G5J	F	207	13	-	6/21/41/41	0/3/3/3
43	IHP	A	3000	-	-	1/30/54/54	0/1/1/1

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	C	1500	GTP	C5-C6	-6.29	1.34	1.47
44	C	1500	GTP	C5-C4	-3.87	1.33	1.43
44	C	1500	GTP	C2'-C1'	-3.54	1.48	1.53
44	C	1500	GTP	O4'-C4'	-2.59	1.39	1.45
44	C	1500	GTP	C6-N1	-2.44	1.34	1.37
44	C	1500	GTP	PG-O2G	-2.37	1.45	1.54
44	C	1500	GTP	PG-O3G	-2.33	1.45	1.54
44	C	1500	GTP	C2'-C3'	-2.19	1.47	1.53
44	C	1500	GTP	O3'-C3'	-2.17	1.37	1.43
44	C	1500	GTP	O2'-C2'	-2.08	1.38	1.43
43	A	3000	IHP	P4-O34	-2.06	1.46	1.54
43	A	3000	IHP	P5-O45	-2.04	1.47	1.54
44	C	1500	GTP	PB-O2B	-2.04	1.45	1.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
43	A	3000	IHP	P1-O31	-2.01	1.47	1.54
47	F	207	G5J	C6-N1	-2.01	1.34	1.39

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	C	1500	GTP	C5-C6-N1	4.60	122.07	113.95
47	F	207	G5J	PG-O3B-PB	-4.55	117.21	132.83
44	C	1500	GTP	C2-N1-C6	-4.29	117.20	125.10
47	F	207	G5J	PB-O3A-PA	-3.93	119.34	132.83
43	A	3000	IHP	C5-C6-C1	-3.74	102.23	110.41
44	C	1500	GTP	PB-O3B-PG	-3.32	121.42	132.83
43	A	3000	IHP	C6-C1-C2	-3.22	103.37	110.41
44	C	1500	GTP	C8-N7-C5	3.18	109.05	102.99
44	C	1500	GTP	O3'-C3'-C2'	-3.01	102.10	111.82
44	C	1500	GTP	PA-O3A-PB	-2.97	122.64	132.83
44	C	1500	GTP	O6-C6-C5	-2.83	118.84	124.37
43	A	3000	IHP	O14-C4-C5	-2.43	102.96	108.69
47	F	207	G5J	C8-N7-C5	2.39	107.55	102.99
44	C	1500	GTP	O3'-C3'-C4'	-2.11	104.95	111.05
44	C	1500	GTP	O4'-C1'-C2'	-2.09	103.88	106.93

There are no chirality outliers.

All (11) torsion outliers are listed below:

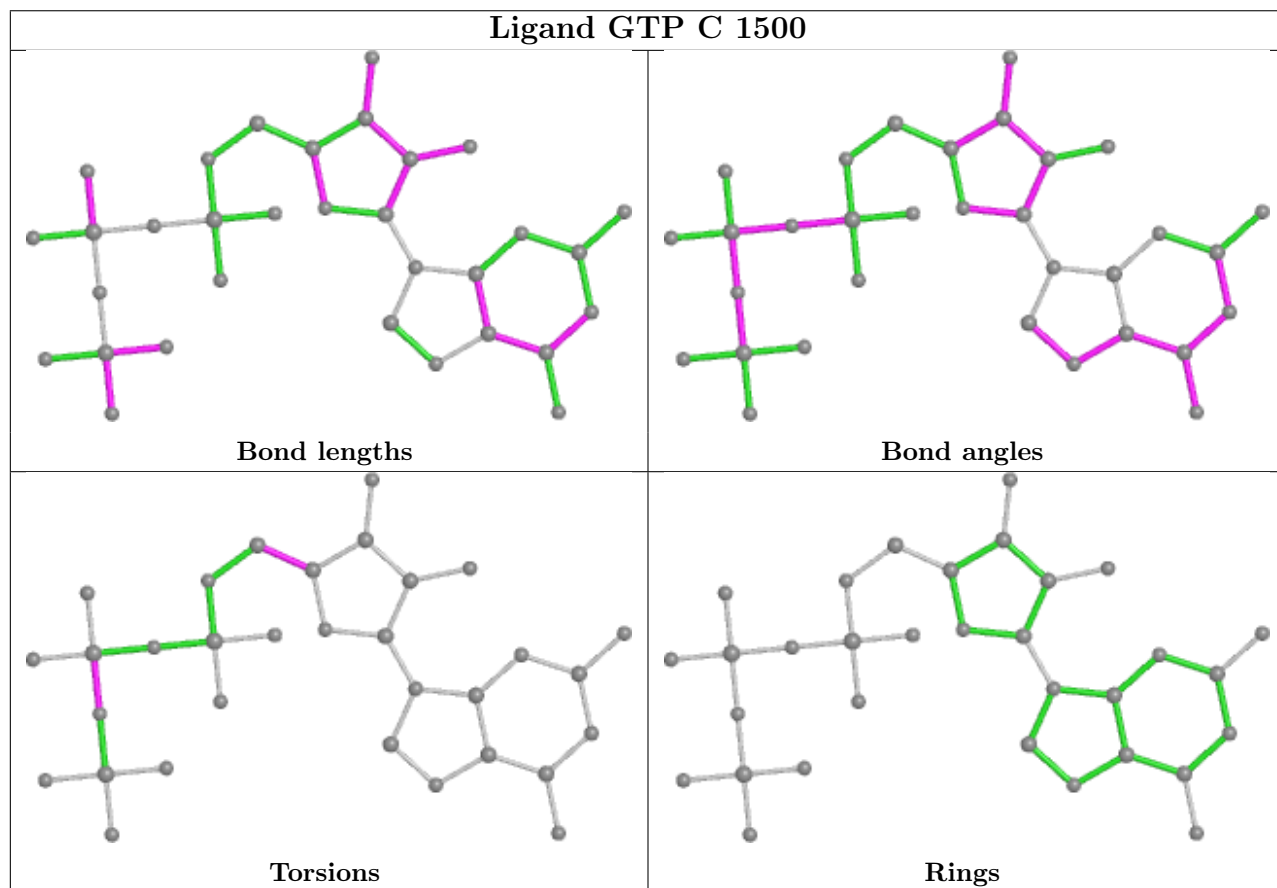
Mol	Chain	Res	Type	Atoms
44	C	1500	GTP	O4'-C4'-C5'-O5'
47	F	207	G5J	C5'-O5'-PA-O3A
47	F	207	G5J	O4'-C4'-C5'-O5'
47	F	207	G5J	C3'-C4'-C5'-O5'
44	C	1500	GTP	C3'-C4'-C5'-O5'
47	F	207	G5J	C3G-O3G-PG-O1G
44	C	1500	GTP	PG-O3B-PB-O1B
47	F	207	G5J	C5'-O5'-PA-O1A
47	F	207	G5J	C3G-O3G-PG-O2G
43	A	3000	IHP	C4-O14-P4-O44
44	C	1500	GTP	PG-O3B-PB-O2B

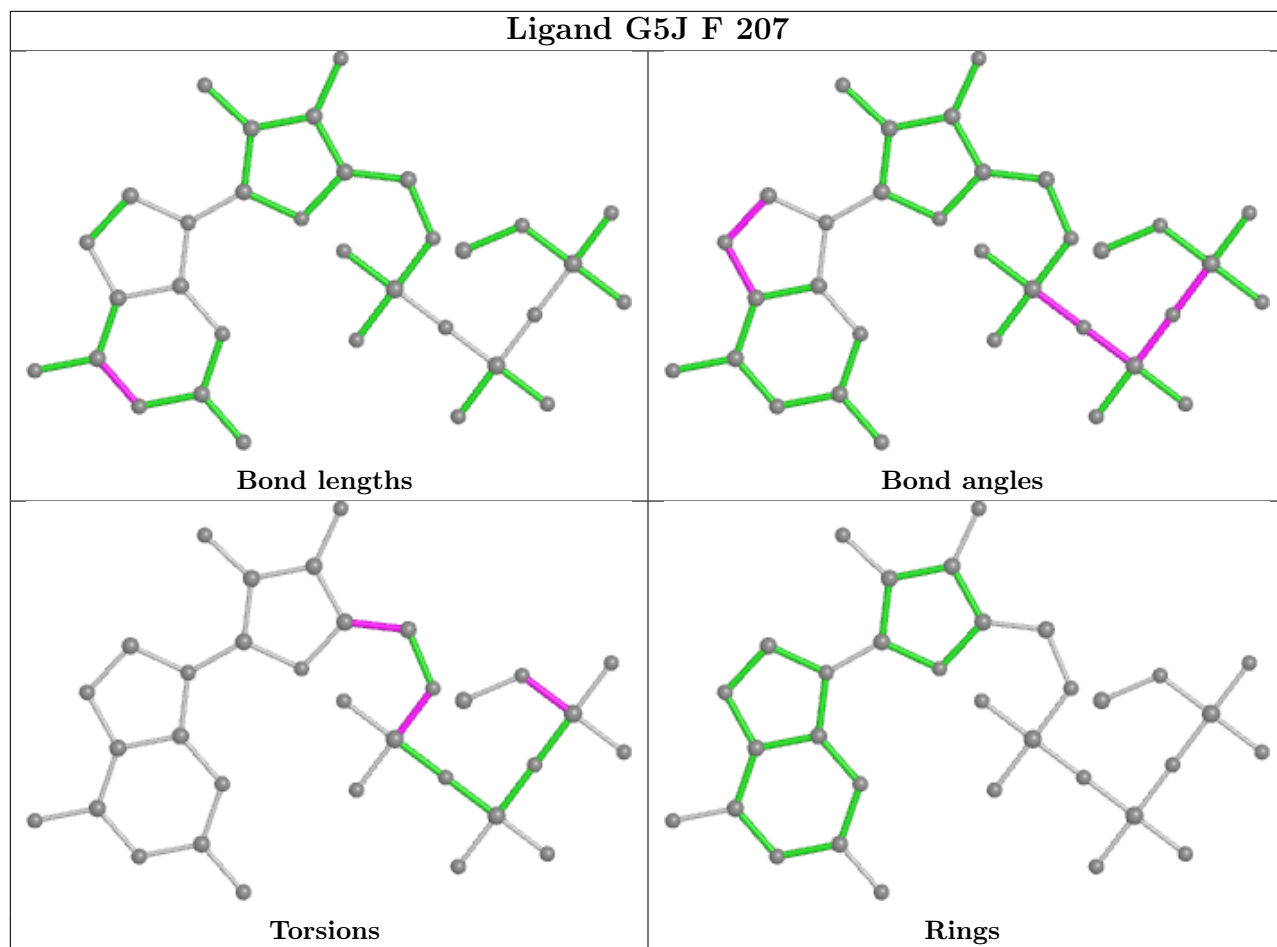
There are no ring outliers.

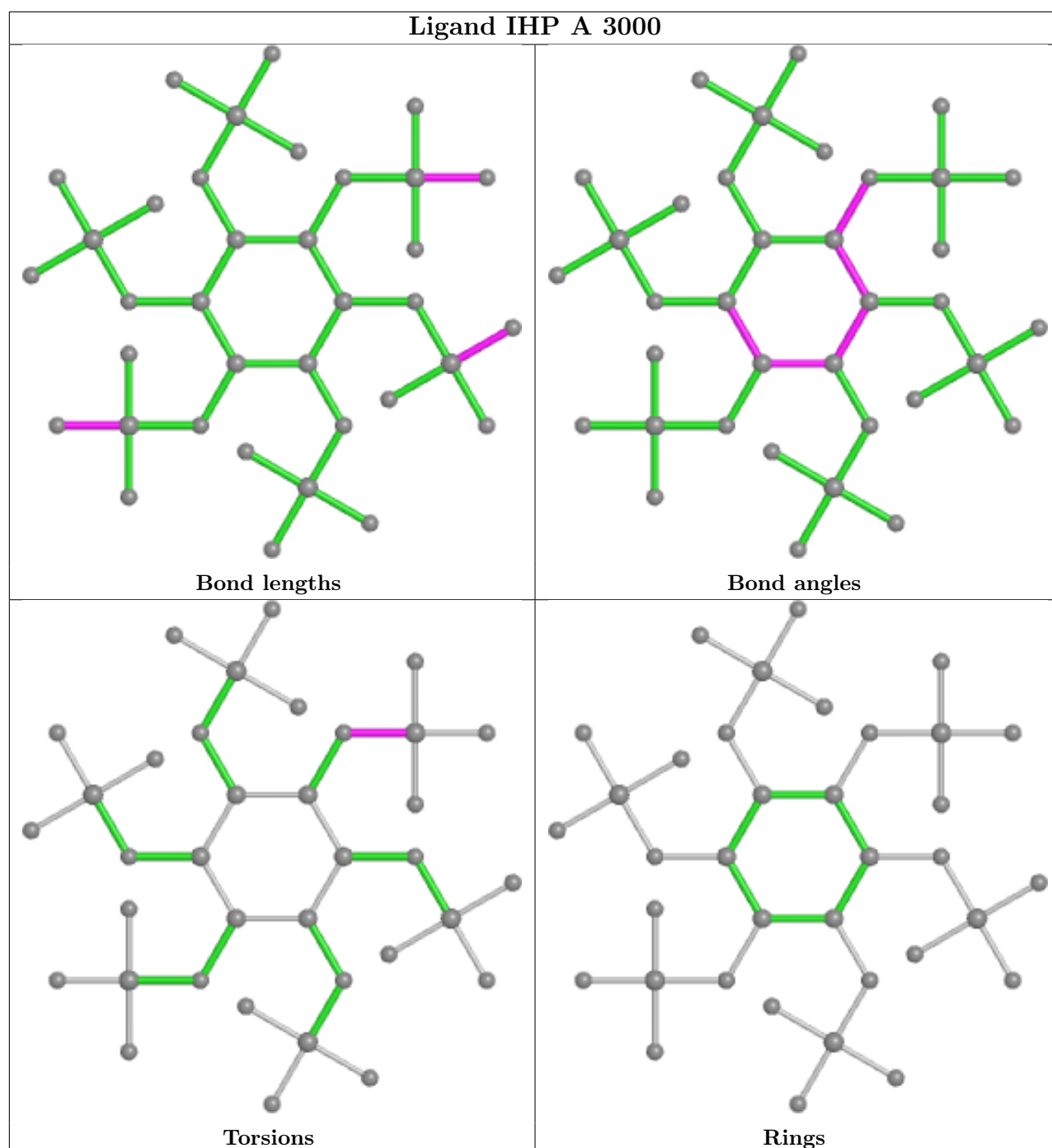
2 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
44	C	1500	GTP	3	0
47	F	207	G5J	3	0

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







5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

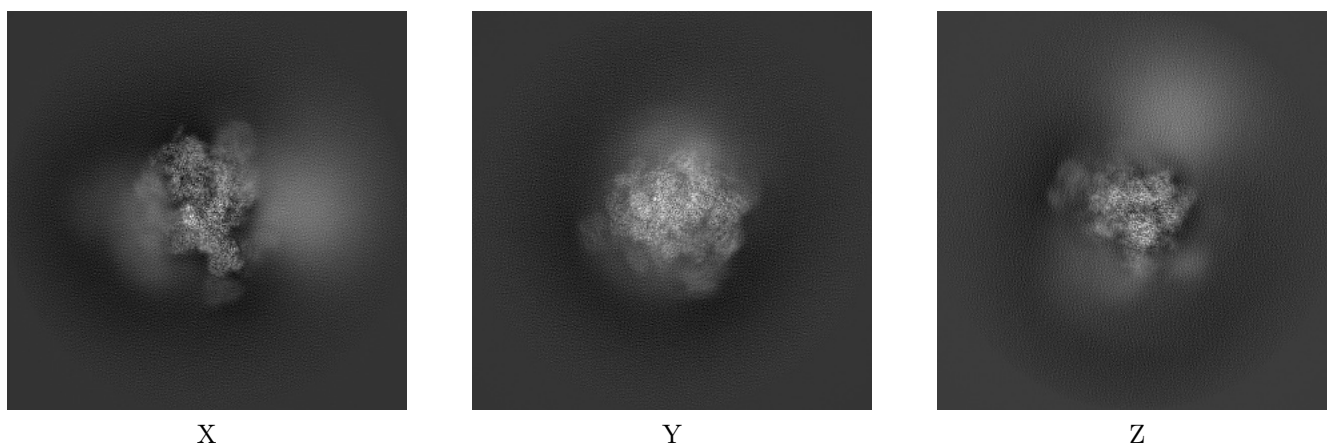
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-30875. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

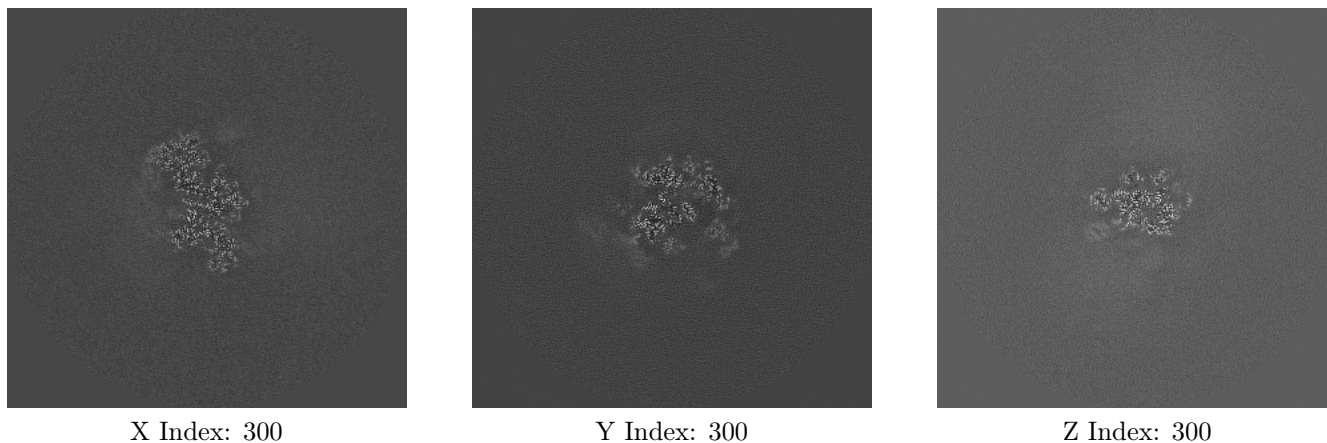
6.1.1 Primary map



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

6.2 Central slices [i](#)

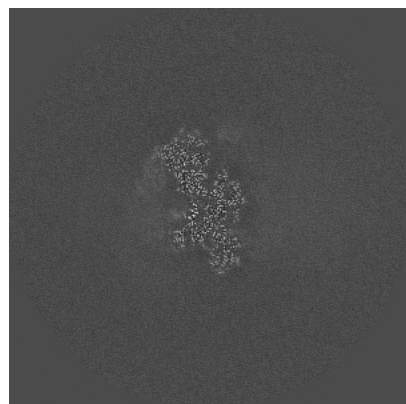
6.2.1 Primary map



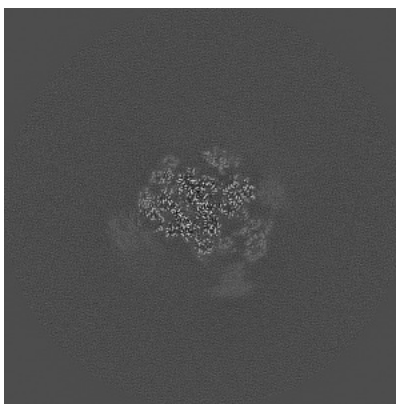
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

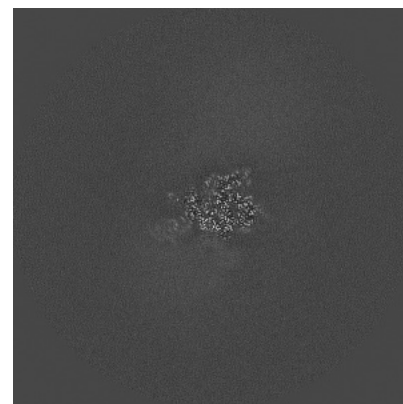
6.3.1 Primary map



X Index: 304



Y Index: 316



Z Index: 284

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

6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.014. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

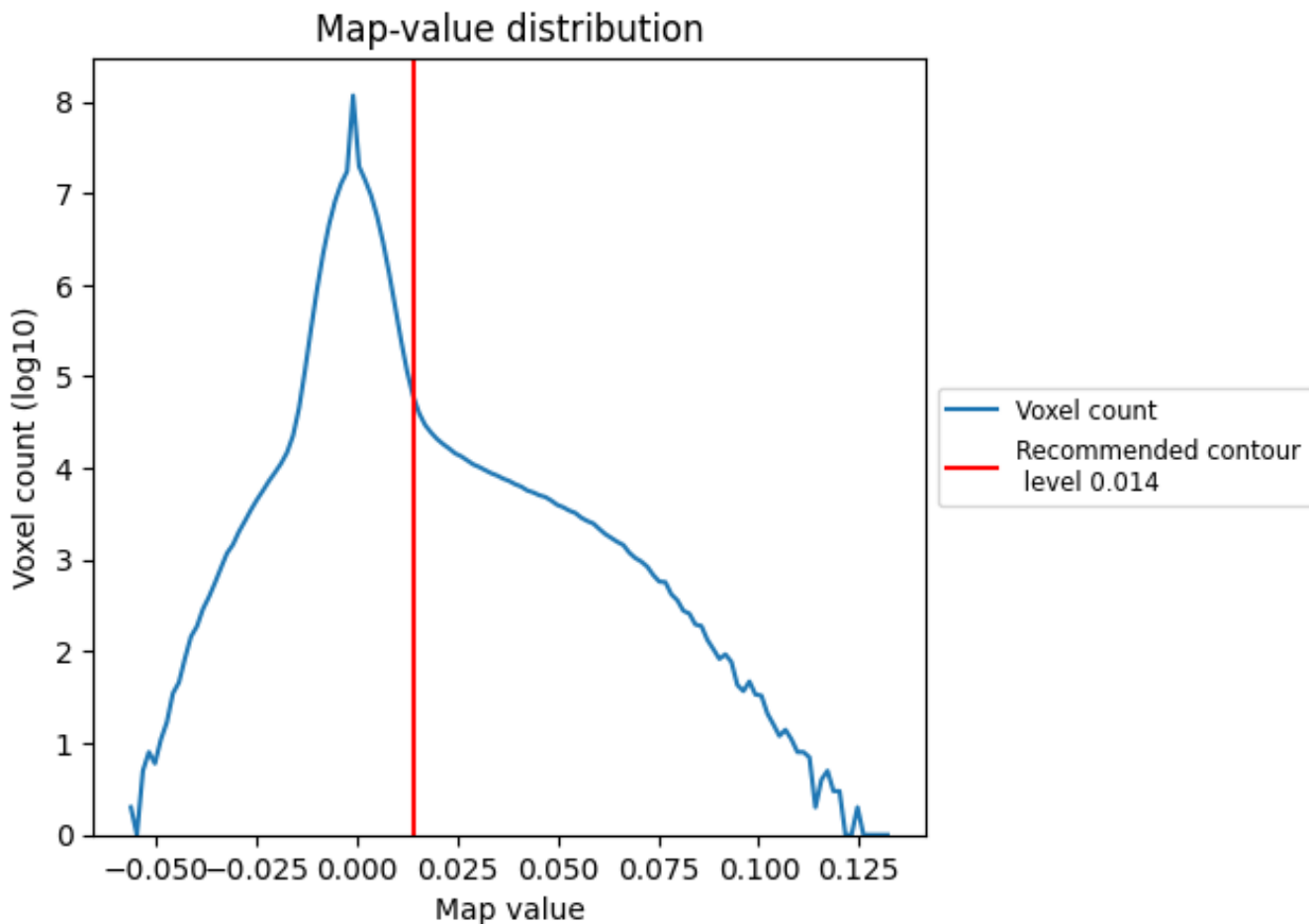
6.5 Mask visualisation

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

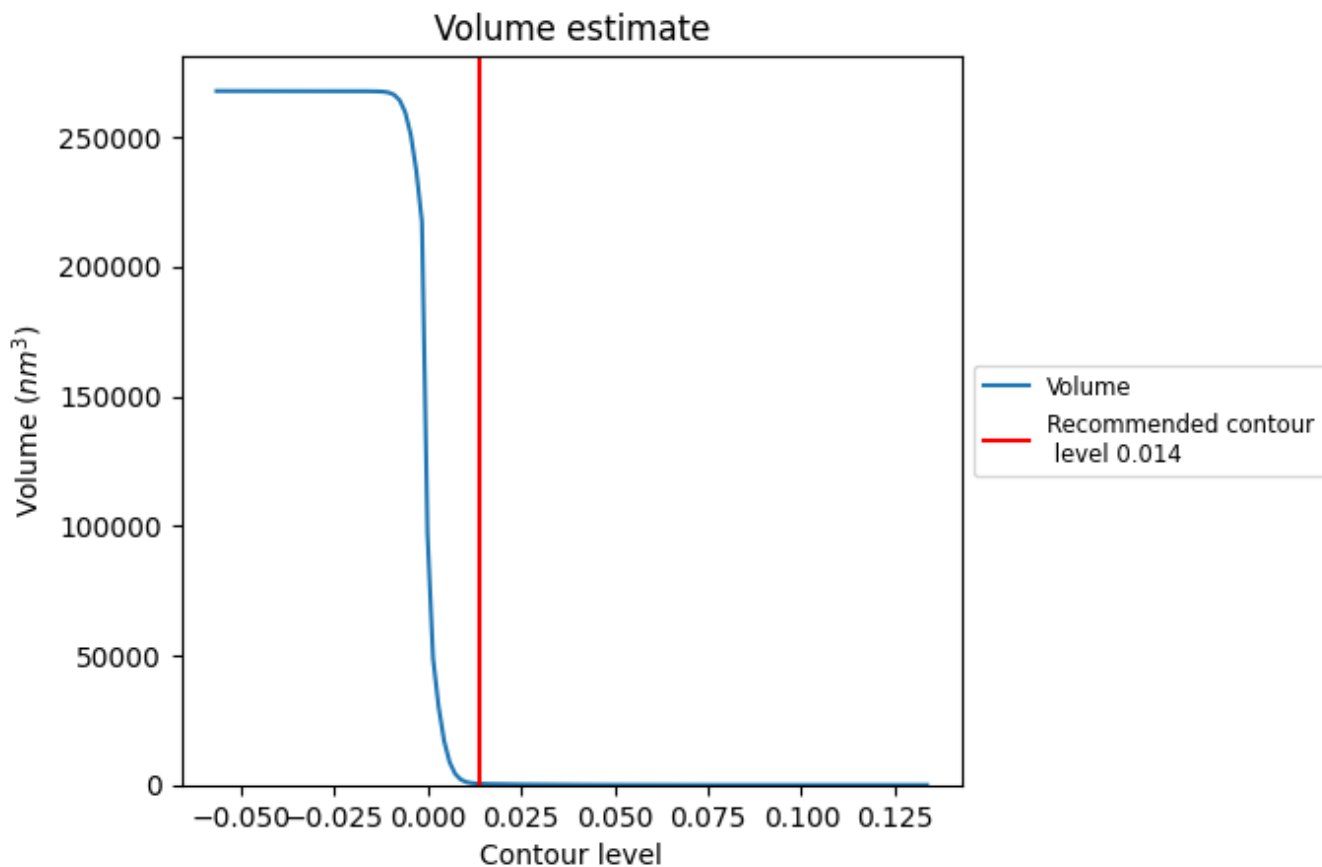
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

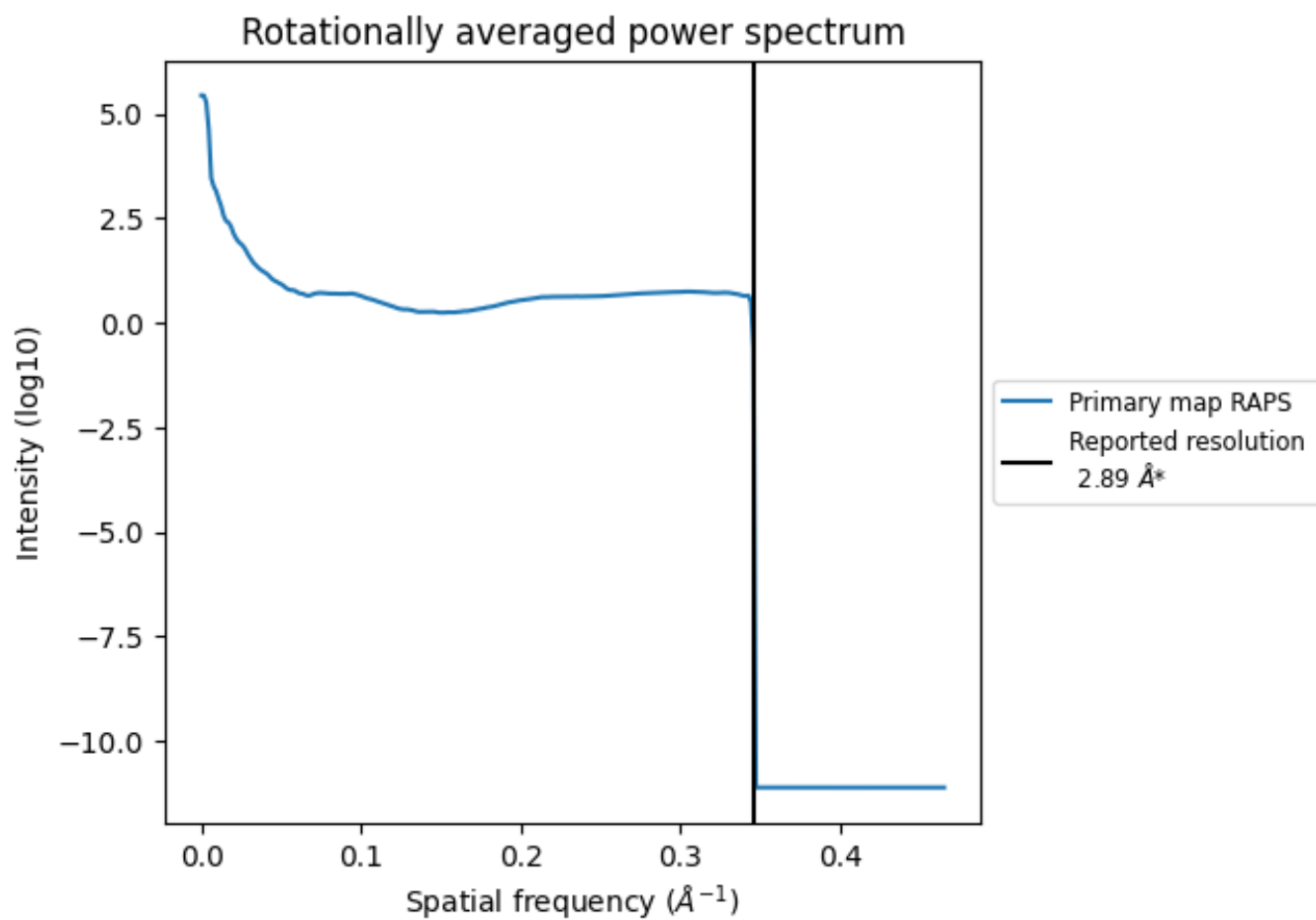
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 486 nm^3 ; this corresponds to an approximate mass of 439 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.346 Å⁻¹

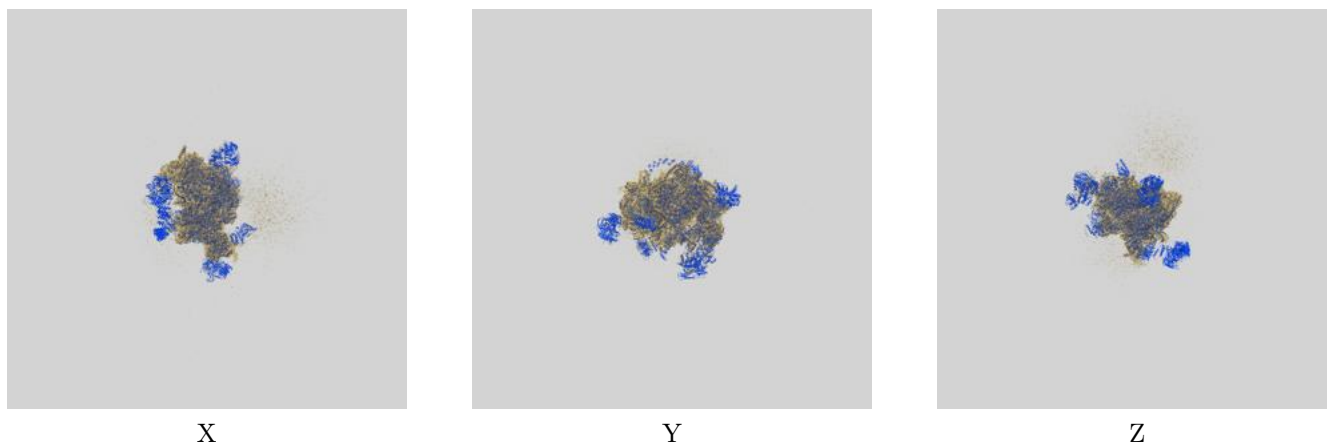
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

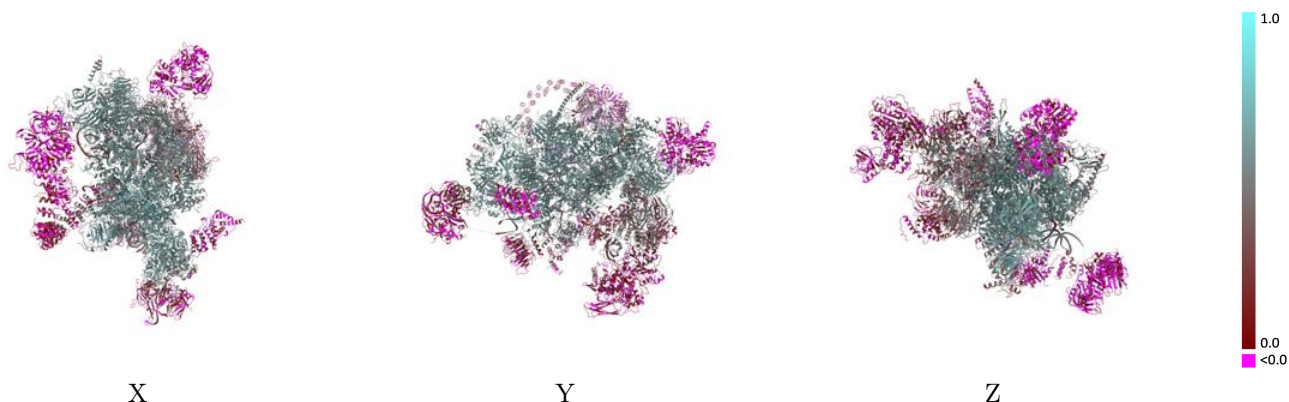
This section contains information regarding the fit between EMDB map EMD-30875 and PDB model 7DVQ. Per-residue inclusion information can be found in section [3](#) on page [14](#).

9.1 Map-model overlay [i](#)



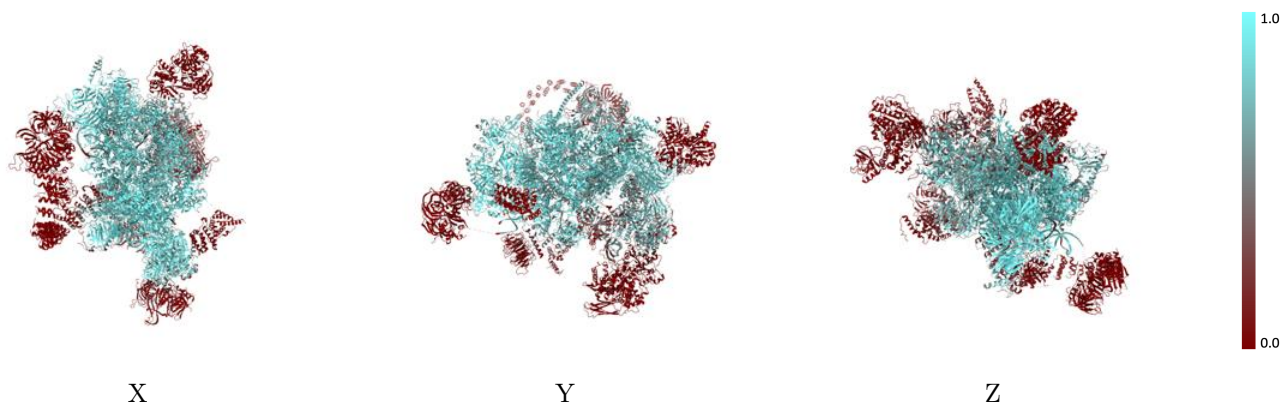
The images above show the 3D surface view of the map at the recommended contour level 0.014 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [\(i\)](#)



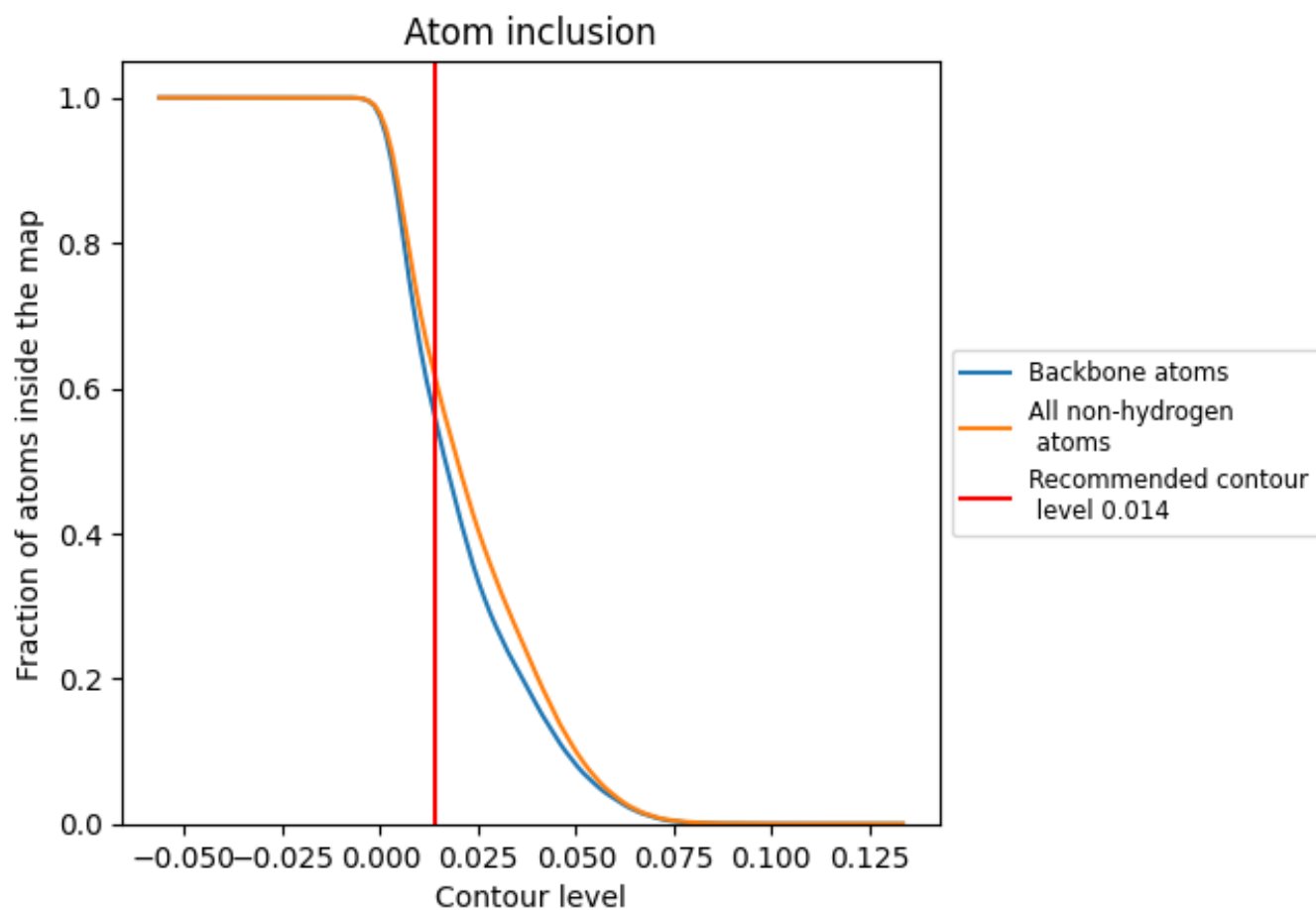
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [\(i\)](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.014).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 56% of all backbone atoms, 62% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.014) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6163	 0.4320
0	 0.8643	 0.6050
1	 0.8839	 0.5900
2	 0.7176	 0.5030
3	 0.8243	 0.5400
4	 0.0496	 0.0180
5	 0.7477	 0.5010
6	 0.9243	 0.6120
7	 0.8853	 0.5890
8	 0.8132	 0.5490
9	 0.5004	 0.3510
A	 0.8242	 0.5630
B	 0.6312	 0.4010
C	 0.8441	 0.5630
D	 0.3162	 0.2360
E	 0.0328	 0.1220
F	 0.7787	 0.4750
G	 0.7183	 0.4570
H	 0.6704	 0.4050
I	 0.4985	 0.3360
J	 0.0754	 0.2170
K	 0.1662	 0.1400
L	 0.8976	 0.5950
M	 0.6271	 0.4630
P	 0.7406	 0.5350
R	 0.6326	 0.5000
T	 0.9425	 0.6110
U	 0.9251	 0.6080
V	 0.4995	 0.3300
X	 0.6767	 0.4420
Y	 0.8184	 0.5610
Z	 0.7386	 0.5420
a	 0.0877	 0.2650
b	 0.0321	 0.1610
c	 0.0197	 0.0820



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Chain	Atom inclusion	Q-score
d	0.0146	0.0700
e	0.0077	0.0930
f	0.0055	0.0620
g	0.0138	0.1750
h	0.0000	-0.0340
i	0.0024	-0.0230
j	0.0000	0.0510
k	0.0024	0.0090
l	0.0026	-0.0030
m	0.0028	0.0080
n	0.0030	-0.0330
v	0.8135	0.5130
x	0.0323	0.0370
y	0.3030	0.2890
z	0.8916	0.5800