Full wwPDB EM Validation Report ⓘ

Jun 16, 2025 – 02:54 PM JST

PDB ID	:	9VD9 / pdb_00009vd9
EMDB ID	:	EMD-39339
Title	:	Cryo-EM structure of the human DSS1-INTAC-PEC complex
Authors	:	Zheng, H.; Xu, Y.; Cheng, J.
Deposited on	:	2025-06-07
Resolution	:	4.60 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:

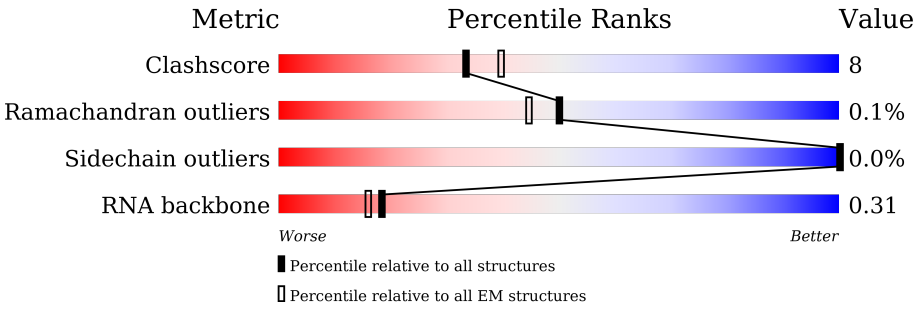
EMDB validation analysis	:	FAILED
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	FAILED
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

1 Overall quality at a glance

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

The reported resolution of this entry is 4.60 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5%

Mol	Chain	Length	Quality of chain
1	0	70	31% 14% 54%
2	I	658	74% 22% .
3	K	600	79% 19% .
4	c	21	38% 52% 10%
5	B	1204	71% 17% 12%
6	D	963	69% 16% 14%
7	G	962	78% 16% 5%
8	m	14	100%

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Mol	Chain	Length	Quality of chain
9	n	8	62% 38%
10	P	589	71% 28%
11	Q	309	72% 23% 5%
12	1	1970	55% 17% 28%
13	2	1300	67% 19% 14%
14	3	275	74% 20% 6%
15	4	210	78% 22%
16	5	127	44% 20% 36%
17	6	150	71% 28%
18	7	125	72% 22% 6%
19	8	67	78% 22%
20	9	117	79% 21%
21	a	58	60% 19% 21%
22	b	48	58% 17% 25%
23	d	45	73% 27%
24	e	528	27% 7% 65%
25	f	580	82% 17%
26	g	590	74% 16% 9%
27	h	22	100%
28	i	117	80% 19%
29	j	1087	34% 10% 56%
30	k	172	79% 20%
31	l	142	66% 25% 9%
32	A	2190	69% 12% 19%
33	E	1019	70% 9% 22%

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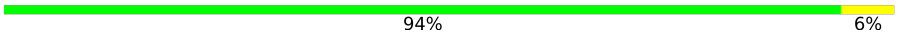
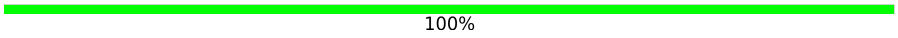
Mol	Chain	Length	Quality of chain
34	F	887	
35	H	995	
36	M	17	
37	p	4	
38	o	8	

2 Entry composition (i)

There are 41 unique types of molecules in this entry. The entry contains 113214 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 26S proteasome complex subunit SEM1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	0	32	275	169	47	58	1	0	0

- Molecule 2 is a protein called Integrator complex subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	I	633	4985	3210	815	926	34	0	0

- Molecule 3 is a protein called Integrator complex subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	K	590	4646	2964	806	841	35	0	0

- Molecule 4 is a RNA chain called RNA (5'-R(P*UP*AP*AP*CP*CP*GP*GP*AP*GP*AP *GP*GP*GP*AP*AP*CP*CP*CP*AP*CP*U)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	c	21	452	202	87	142	21	0	0

- Molecule 5 is a protein called Integrator complex subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	B	1061	8328	5322	1412	1530	64	0	0

- Molecule 6 is a protein called Integrator complex subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	D	828	6199	3928	1082	1158	31	0	0

- Molecule 7 is a protein called Integrator complex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	910	Total	C	N	O	S	0	0
			6914	4373	1211	1289	41		

- Molecule 8 is a protein called DNA-directed RNA polymerase II subunit RPB1.

Mol	Chain	Residues	Atoms				AltConf	Trace
8	m	14	Total	C	N	O	0	0
			102	64	14	24		

- Molecule 9 is a protein called THR-SER-PRO-SER-TYR-SER-PRO-THR.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	n	8	Total	C	N	O	0	0
			58	36	8	14		

- Molecule 10 is a protein called Serine/threonine-protein phosphatase 2A 65 kDa regulatory subunit A alpha isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	P	581	Total	C	N	O	S	0	0
			4527	2877	763	860	27		

- Molecule 11 is a protein called Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	Q	293	Total	C	N	O	S	0	0
			2366	1497	405	449	15		

- Molecule 12 is a protein called DNA-directed RNA polymerase II subunit RPB1.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	1	1417	Total	C	N	O	S	0	0
			11125	6999	1999	2059	68		

- Molecule 13 is a protein called DNA-directed RNA polymerase subunit beta,DNA-directed RNA polymerase II subunit RPB2.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	2	1113	Total	C	N	O	S	0	0
			8649	5489	1515	1581	64		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
2	882	GLY	SER	conflict	UNP P30876

- Molecule 14 is a protein called DNA-directed RNA polymerase II subunit RPB3.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	3	259	Total	C	N	O	S	0	0
			2047	1289	354	398	6		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
3	74	THR	ILE	conflict	UNP P19387
3	140	SER	ASN	conflict	UNP P19387

- Molecule 15 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	4	209	Total	C	N	O	S	0	0
			1721	1089	300	324	8		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
4	44	PHE	SER	conflict	UNP P19388

- Molecule 16 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	5	81	Total	C	N	O	S	0	0
			649	413	111	120	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
5	126	SER	THR	conflict	UNP P61218

- Molecule 17 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC3.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	6	148	Total	C	N	O	S	0	0
			1186	750	194	237	5		

- Molecule 18 is a protein called DNA-directed RNA polymerase II subunit RPB9.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	7	117	Total	C	N	O	S	0	0
			950	587	169	183	11		

- Molecule 19 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC5.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	8	67	Total	C	N	O	S	0	0
			533	345	90	92	6		

- Molecule 20 is a protein called DNA-directed RNA polymerase II subunit RPB11-a.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	9	117	Total	C	N	O	S	0	0
			937	604	154	177	2		

- Molecule 21 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC4.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	a	46	Total	C	N	O	S	0	0
			389	241	75	67	6		

- Molecule 22 is a DNA chain called DNA (48-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
22	b	36	Total	C	N	O	P	0	0
			752	351	153	212	36		

- Molecule 23 is a DNA chain called DNA (45-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
23	d	45	Total	C	N	O	P	0	0
			909	431	157	276	45		

- Molecule 24 is a protein called Negative elongation factor A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	e	183	Total	C	N	O	S	0	0
			1410	895	239	269	7		

- Molecule 25 is a protein called Negative elongation factor B.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	f	480	Total	C	N	O	0	0
			1920	960	480	480		

- Molecule 26 is a protein called Negative elongation factor C/D.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	g	534	Total	C	N	O	S	0	0
			3764	2382	653	710	19		

- Molecule 27 is a protein called Negative elongation factor E.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	h	22	Total	C	N	O	0	0
			110	66	22	22		

- Molecule 28 is a protein called Transcription elongation factor SPT4.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	i	116	Total	C	N	O	S	0	0
			911	570	159	173	9		

- Molecule 29 is a protein called Transcription elongation factor SPT5.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	j	482	Total	C	N	O	S	0	0
			3854	2448	681	708	17		

- Molecule 30 is a protein called DNA-directed RNA polymerase II subunit RPB7.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	k	171	Total	C	N	O	S	0	0
			1299	849	205	238	7		

- Molecule 31 is a protein called DNA-directed RNA polymerase II subunit RPB4.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	l	129	Total	C	N	O	S	0	1
			998	629	170	195	4		

- Molecule 32 is a protein called Integrator complex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	A	1779	Total	C	N	O	S	0	0
			13054	8226	2322	2432	74		

- Molecule 33 is a protein called Integrator complex subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	E	798	Total	C	N	O	S	0	0
			5244	3284	988	958	14		

- Molecule 34 is a protein called Integrator complex subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	F	564	Total	C	N	O	S	0	0
			4333	2766	745	800	22		

- Molecule 35 is a protein called Integrator complex subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	H	937	Total	C	N	O	S	0	0
			7440	4761	1274	1361	44		

- Molecule 36 is a protein called Unknown2.

Mol	Chain	Residues	Atoms				AltConf	Trace
36	M	17	Total	C	N	O	0	0
			85	51	17	17		

- Molecule 37 is a protein called SER-PRO-THR-SER.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	p	4	Total	C	N	O	0	0
			20	12	4	4		

- Molecule 38 is a protein called SER-PRO-LYS-TYR-SER-PRO-THR-SER.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	o	8	Total 60	C 38	N 9	O 13	0	0

- Molecule 39 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
39	K	2	Total 2	Zn 2	0
39	1	2	Total 2	Zn 2	0
39	2	1	Total 1	Zn 1	0
39	3	1	Total 1	Zn 1	0
39	7	2	Total 2	Zn 2	0
39	8	1	Total 1	Zn 1	0
39	a	1	Total 1	Zn 1	0

- Molecule 40 is MANGANESE (II) ION (CCD ID: MN) (formula: Mn).

Mol	Chain	Residues	Atoms		AltConf
40	Q	2	Total 2	Mn 2	0

- Molecule 41 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

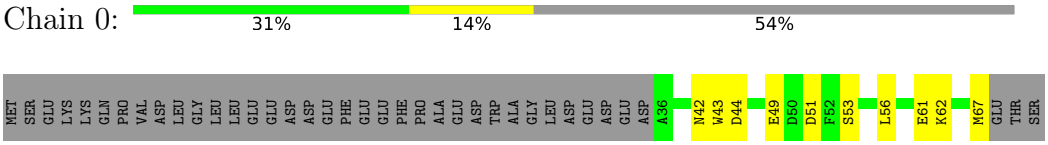
Mol	Chain	Residues	Atoms		AltConf
41	1	1	Total 1	Mg 1	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. 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. 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.

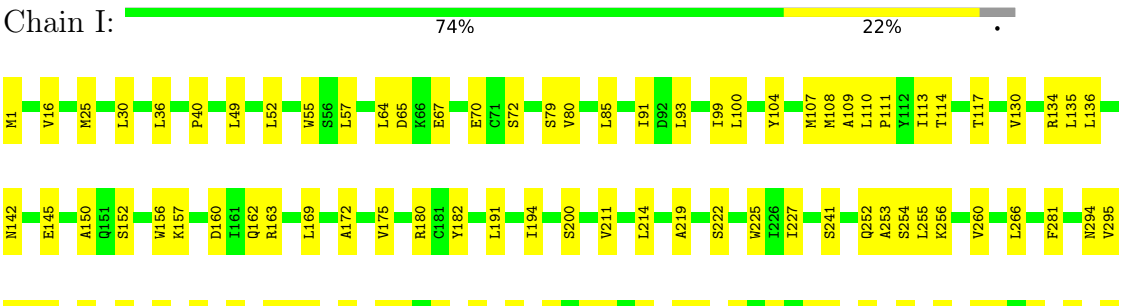
• Molecule 1: 26S proteasome complex subunit SEM1

Chain 0:



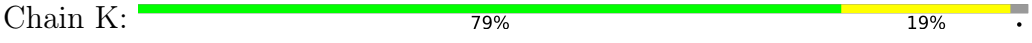
• Molecule 2: Integrator complex subunit 9

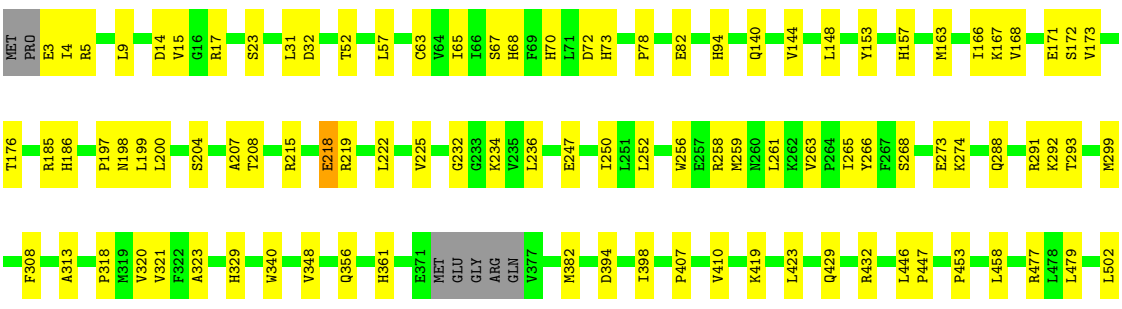
Chain I:



• Molecule 3: Integrator complex subunit 11

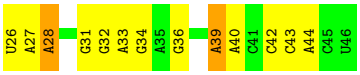
Chain K:





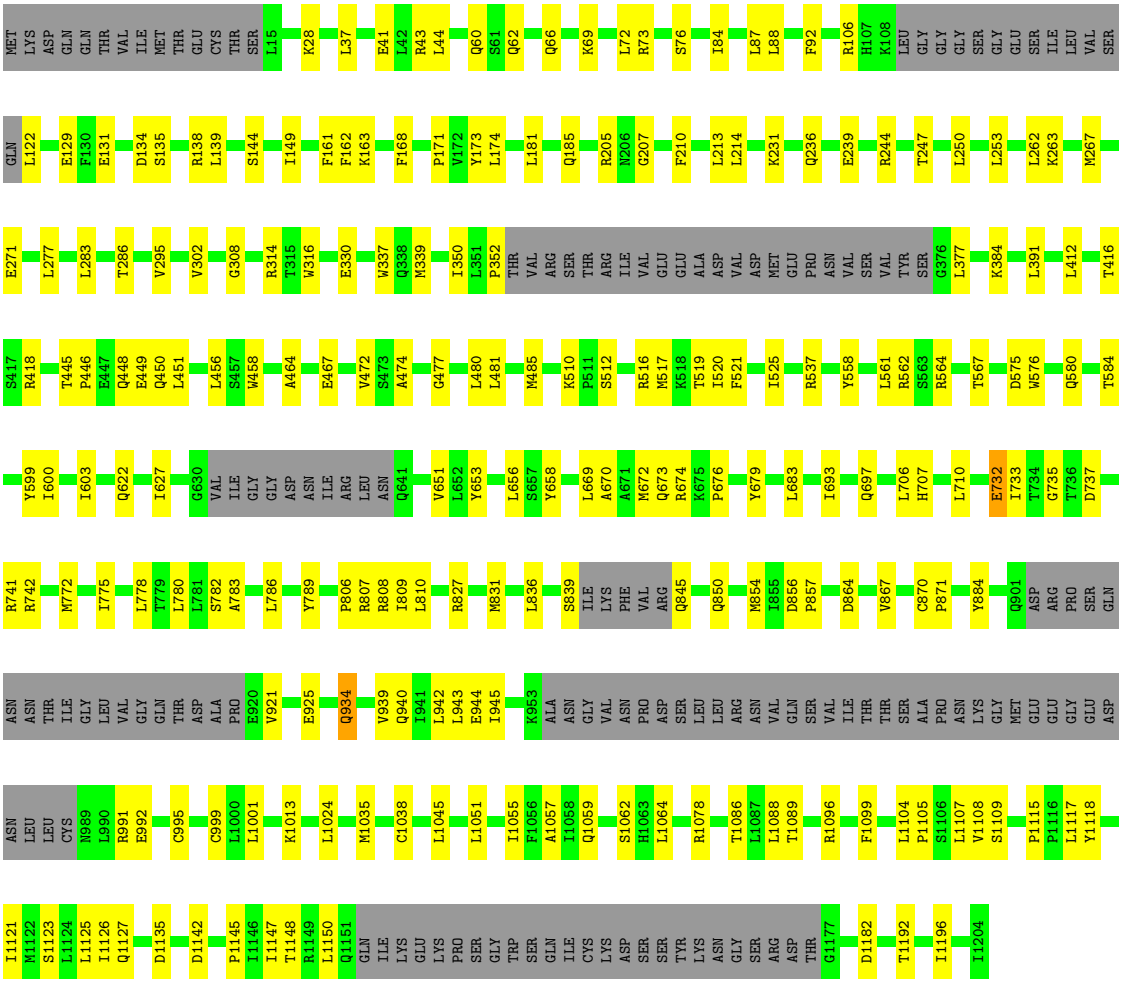
• Molecule 4: RNA (5'-R(P*UP*AP*AP*CP*CP*GP*GP*AP*GP*AP*GP*GP*GP*AP*AP*CP*CP*CP*AP*CP*U)-3')

Chain c:



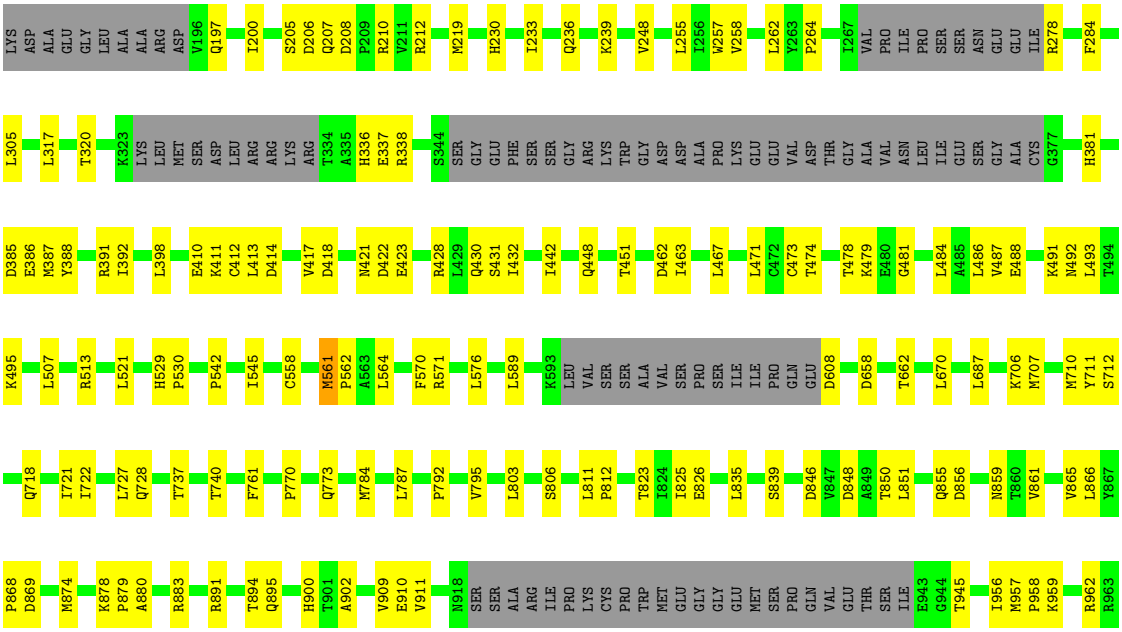
• Molecule 5: Integrator complex subunit 2

Chain B:



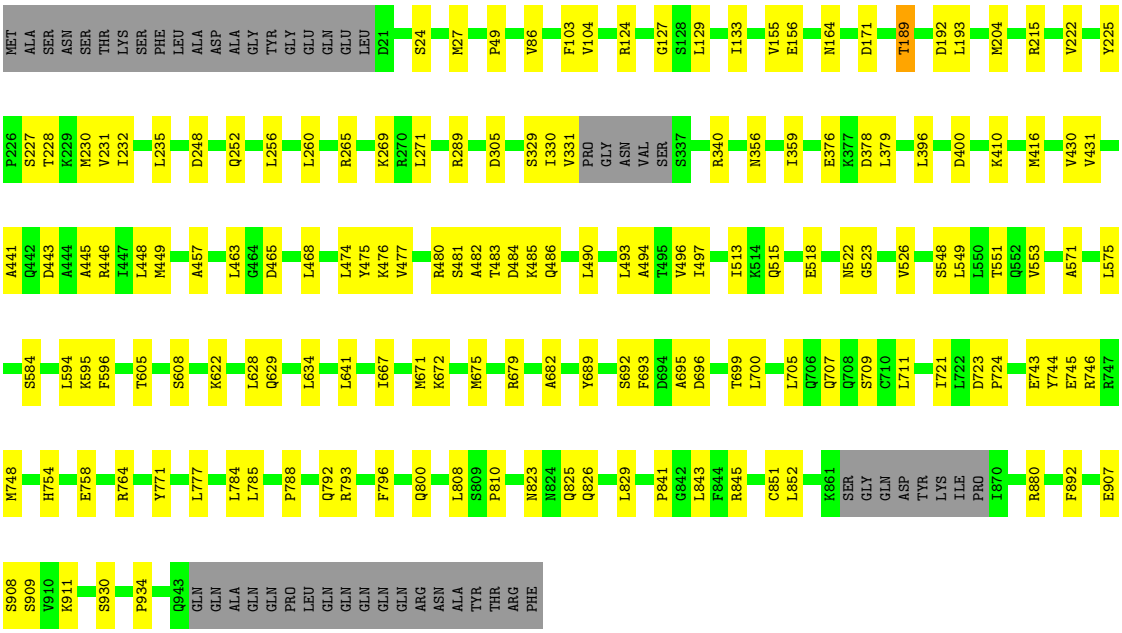
• Molecule 6: Integrator complex subunit 4

Chain D:



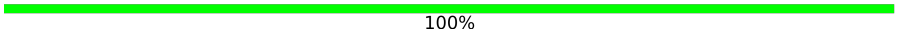
• Molecule 7: Integrator complex subunit 7

Chain G:



• Molecule 8: DNA-directed RNA polymerase II subunit RPB1

Chain m:



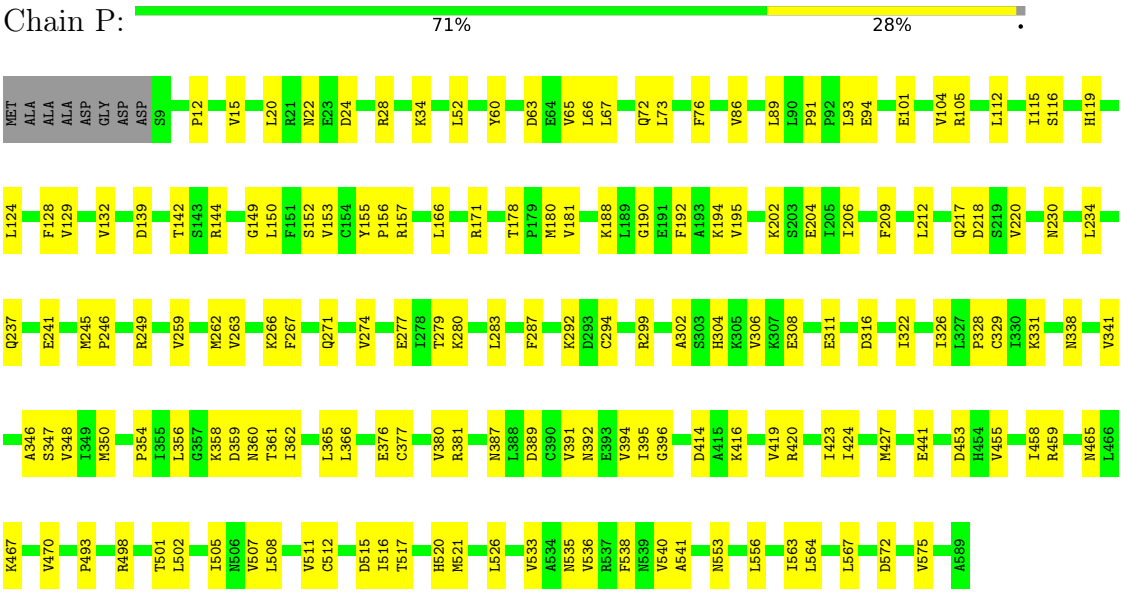
There are no outlier residues recorded for this chain.

• Molecule 9: THR-SER-PRO-SER-TYR-SER-PRO-THR

Chain n:

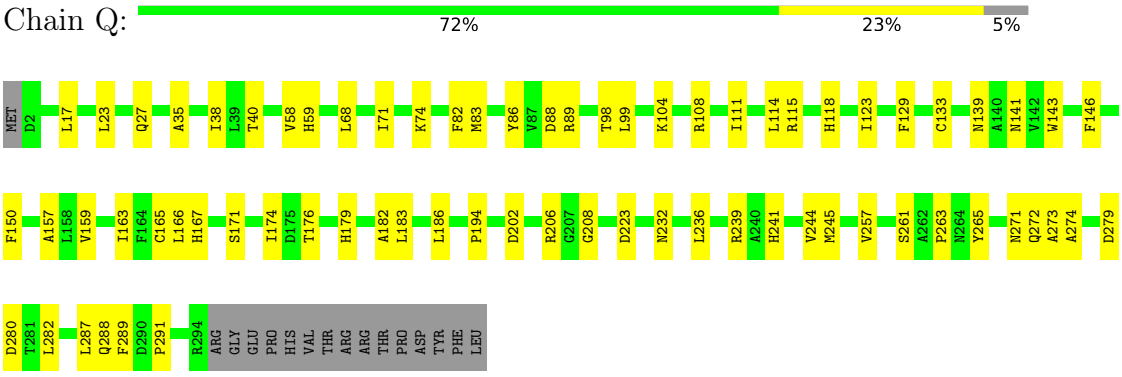
• Molecule 10: Serine/threonine-protein phosphatase 2A 65 kDa regulatory subunit A alpha isoform

Chain P:



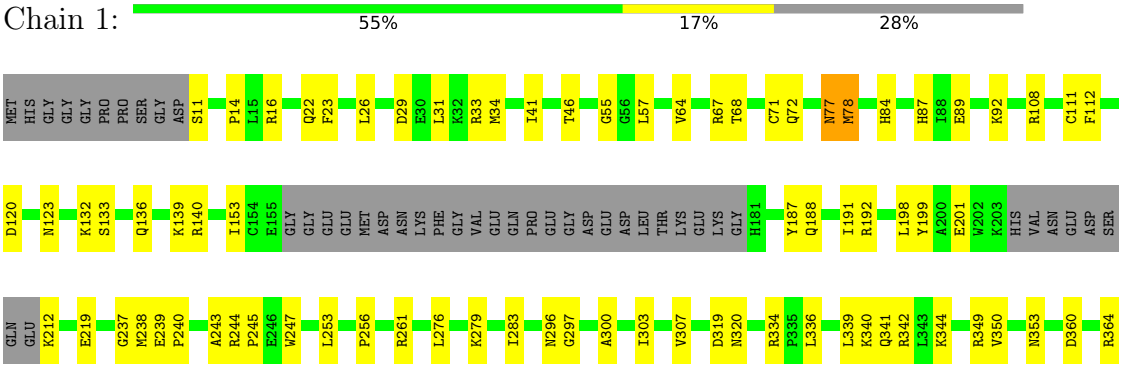
• Molecule 11: Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform

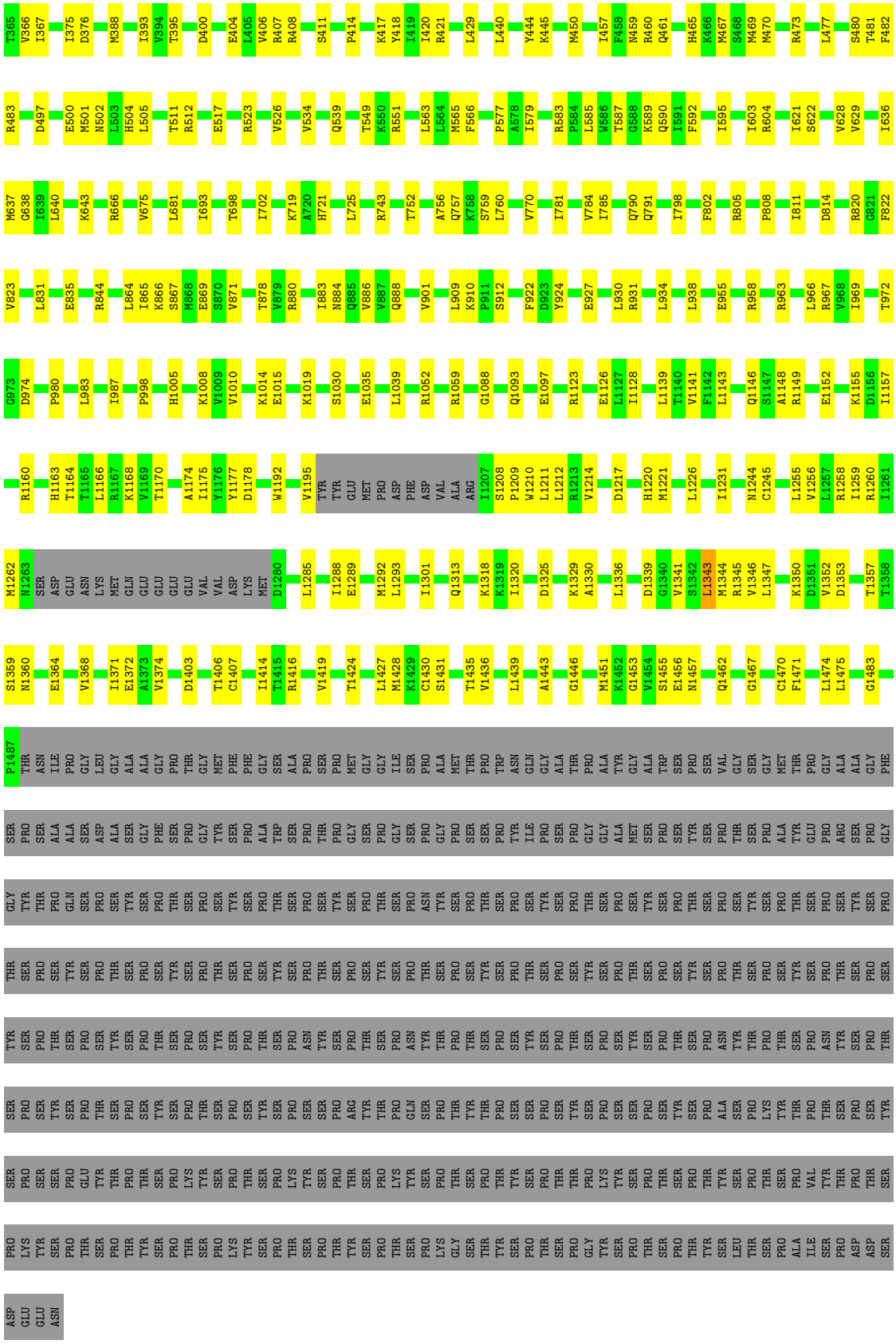
Chain Q:



• Molecule 12: DNA-directed RNA polymerase II subunit RPB1

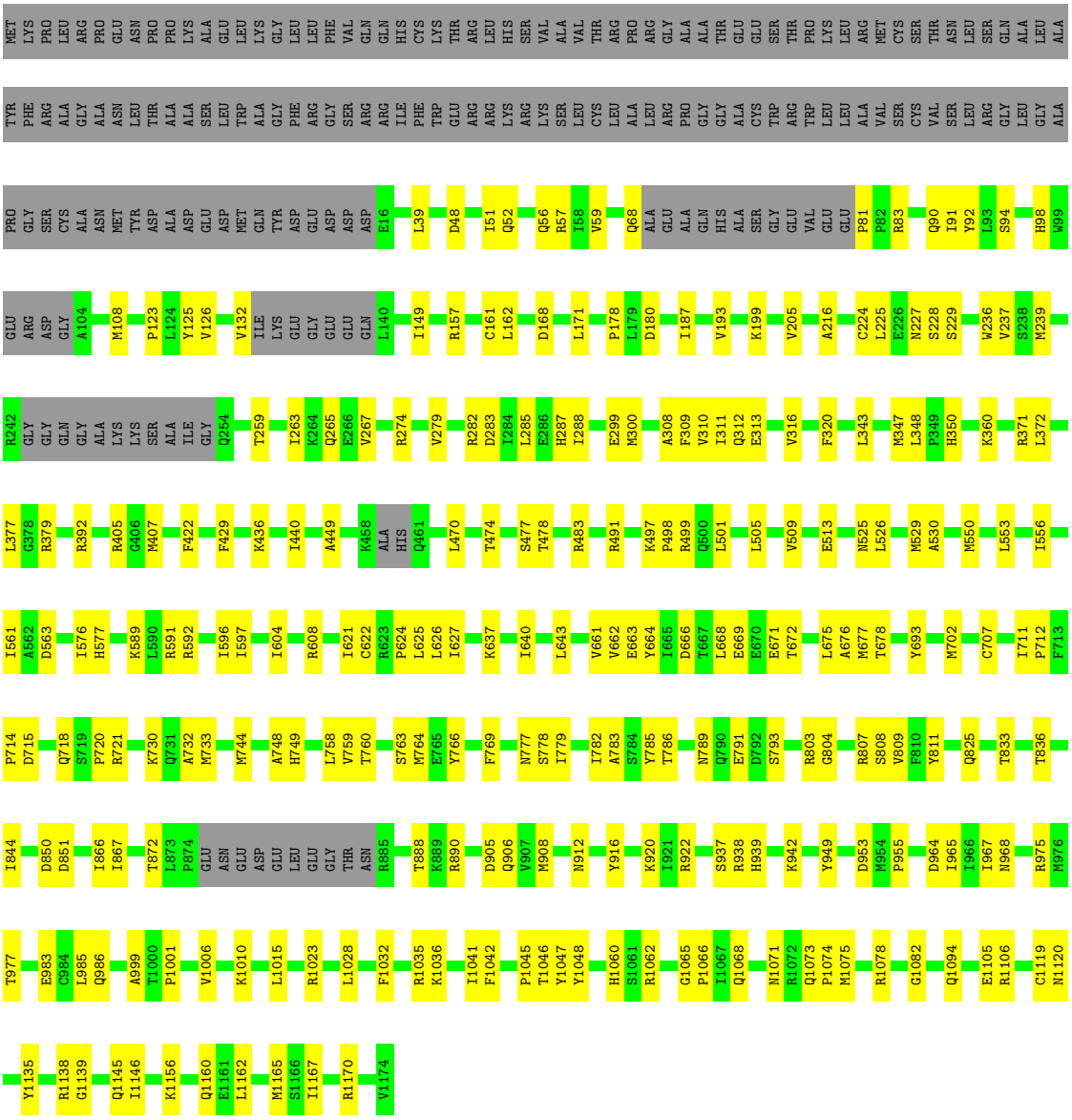
Chain 1:





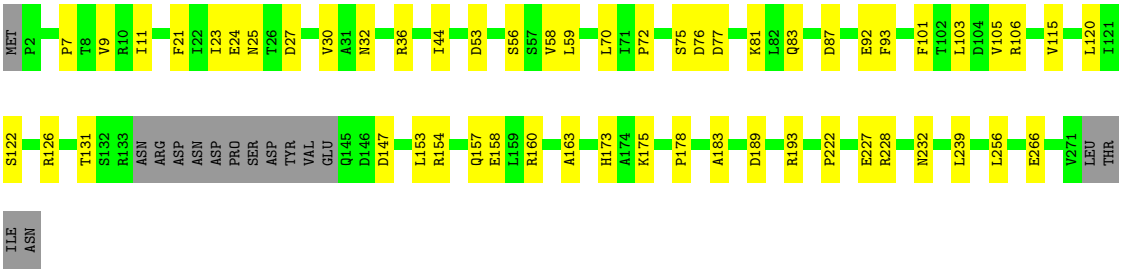
• Molecule 13: DNA-directed RNA polymerase subunit beta,DNA-directed RNA polymerase II subunit RPB2

Chain 2:



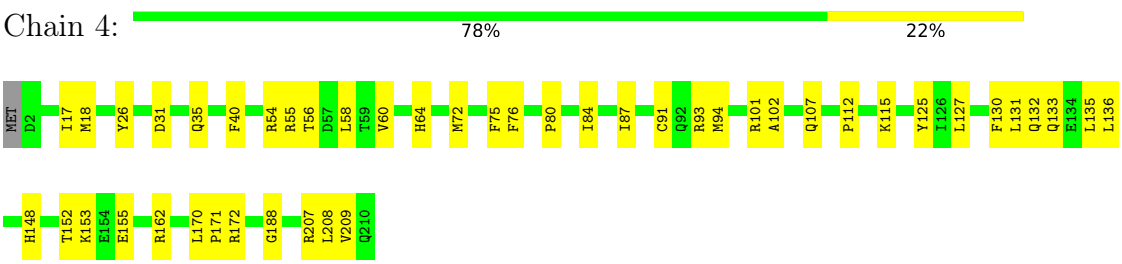
• Molecule 14: DNA-directed RNA polymerase II subunit RPB3

Chain 3:



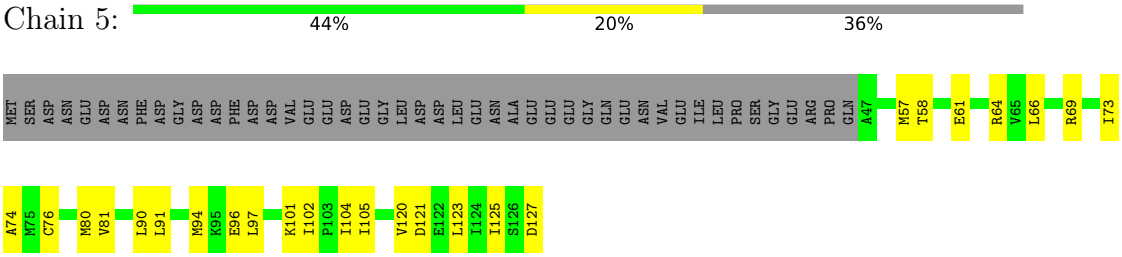
• Molecule 15: DNA-directed RNA polymerases I, II, and III subunit RPABC1

Chain 4:



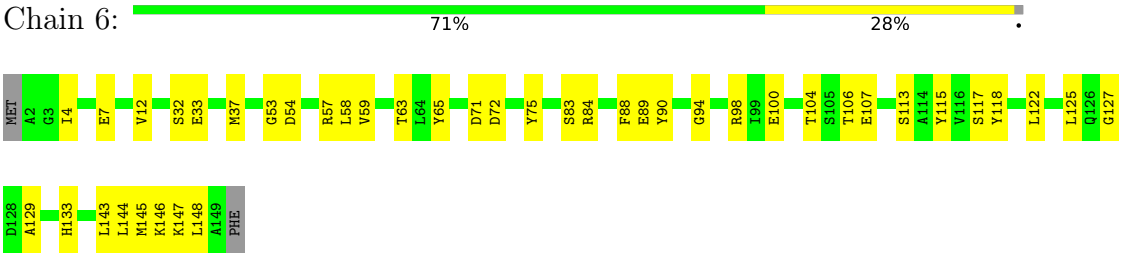
• Molecule 16: DNA-directed RNA polymerases I, II, and III subunit RPABC2

Chain 5:



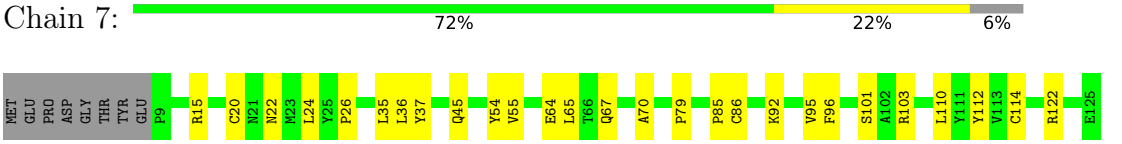
• Molecule 17: DNA-directed RNA polymerases I, II, and III subunit RPABC3

Chain 6:



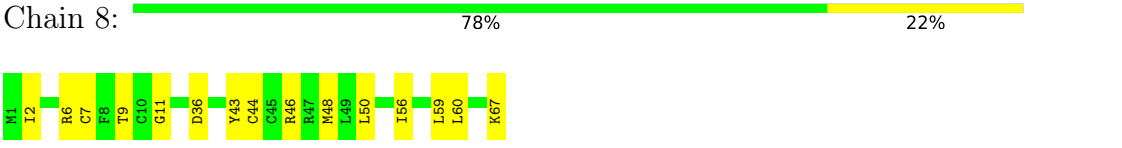
• Molecule 18: DNA-directed RNA polymerase II subunit RPB9

Chain 7:



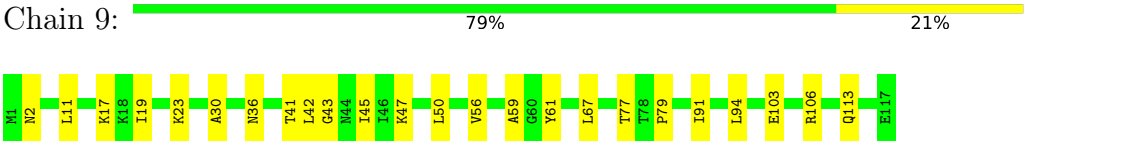
• Molecule 19: DNA-directed RNA polymerases I, II, and III subunit RPABC5

Chain 8:



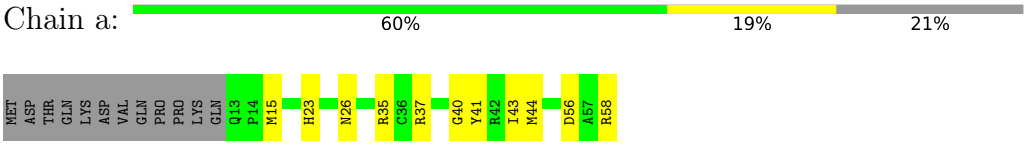
• Molecule 20: DNA-directed RNA polymerase II subunit RPB11-a

Chain 9:



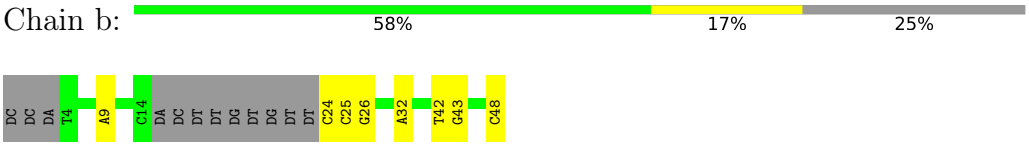
• Molecule 21: DNA-directed RNA polymerases I, II, and III subunit RPABC4

Chain a:



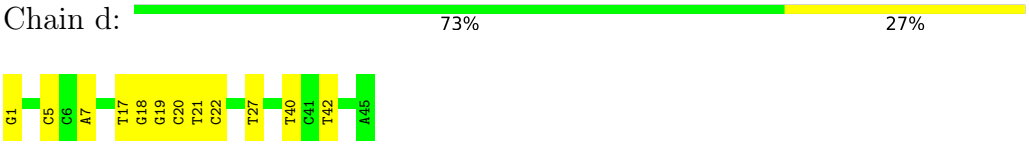
• Molecule 22: DNA (48-MER)

Chain b:



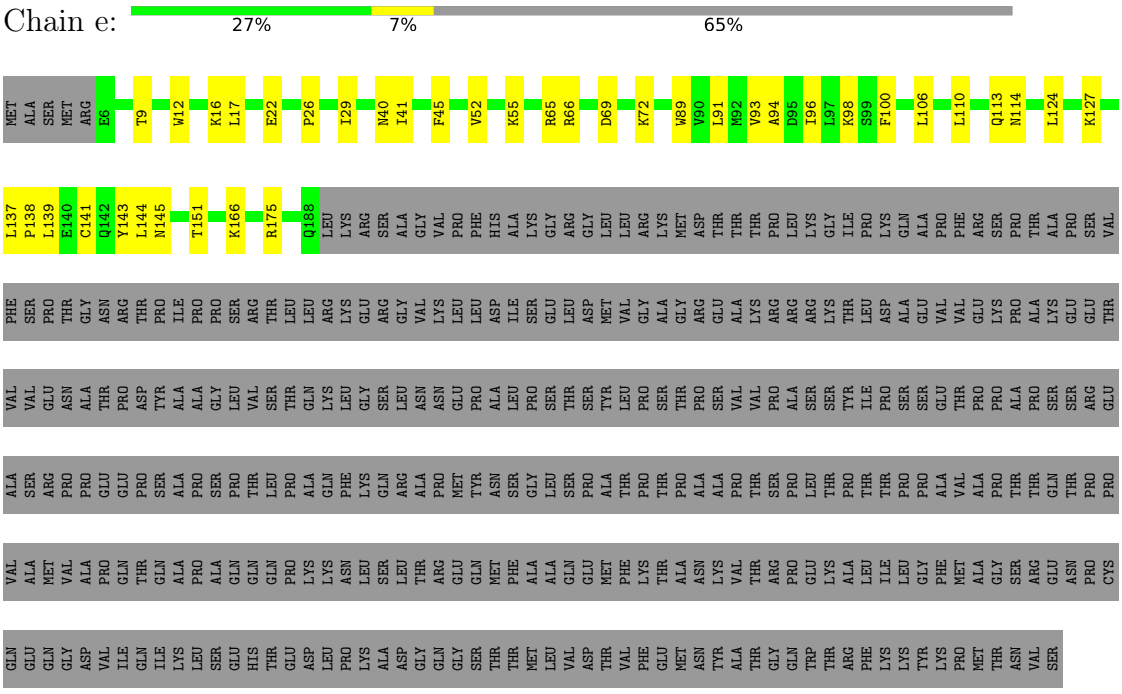
• Molecule 23: DNA (45-MER)

Chain d:



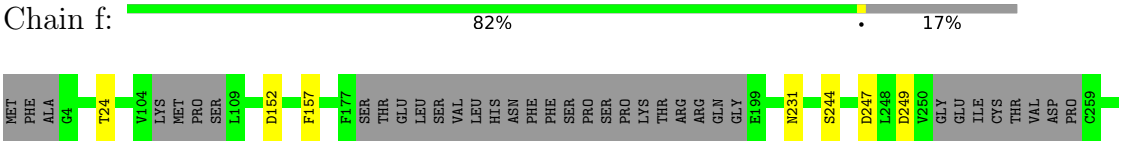
• Molecule 24: Negative elongation factor A

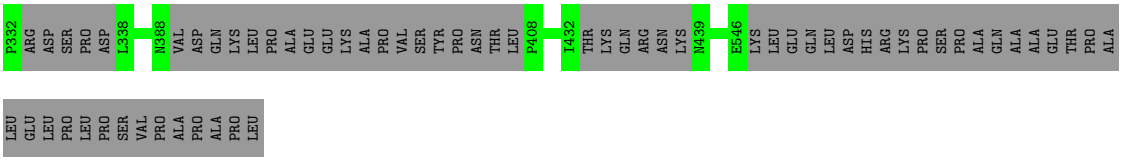
Chain e:



• Molecule 25: Negative elongation factor B

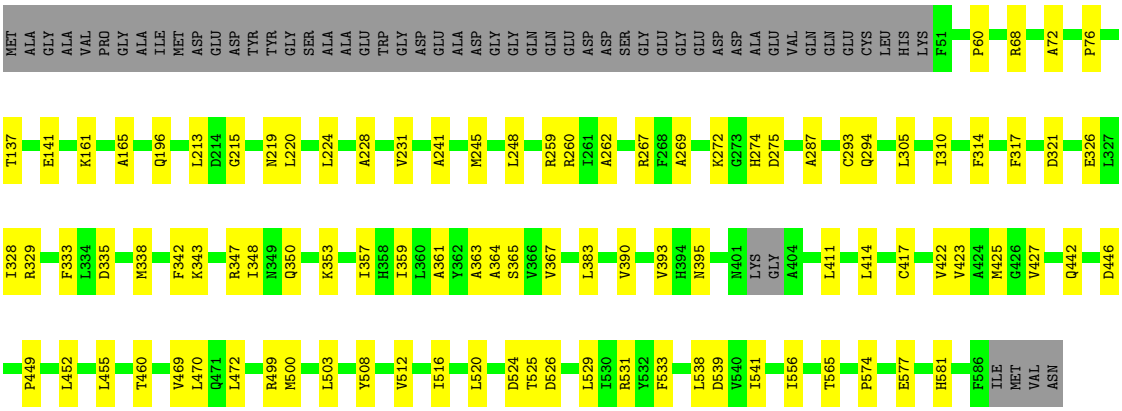
Chain f:





• Molecule 26: Negative elongation factor C/D

Chain g:



• Molecule 27: Negative elongation factor E

Chain h:

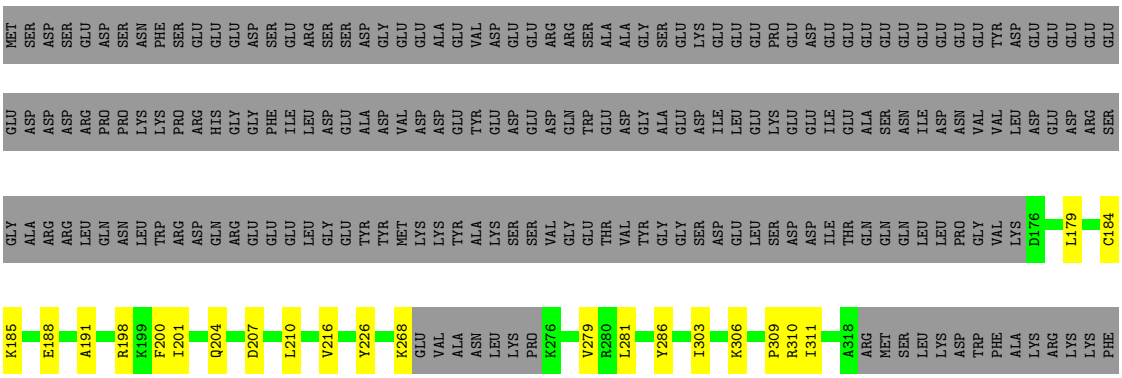
There are no outlier residues recorded for this chain.

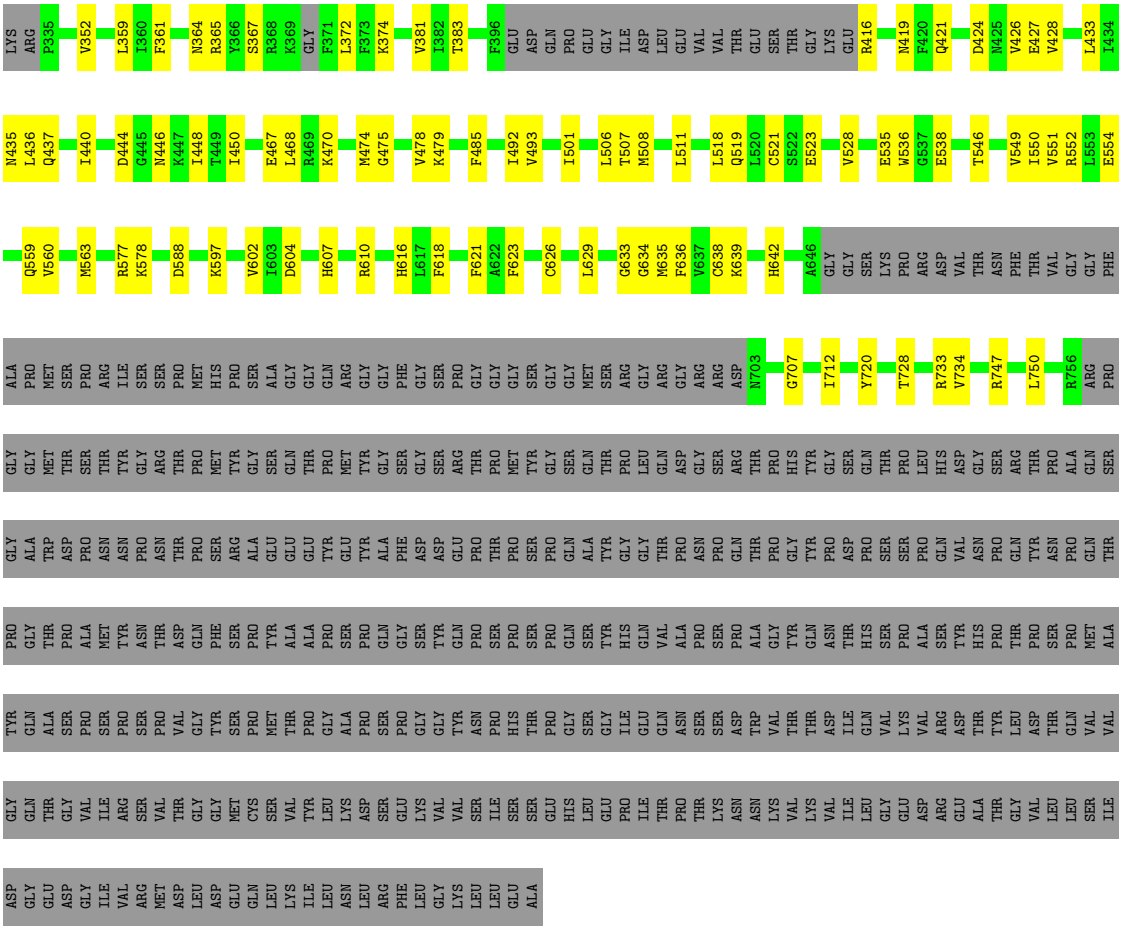
• Molecule 28: Transcription elongation factor SPT4

Chain i:

• Molecule 29: Transcription elongation factor SPT5

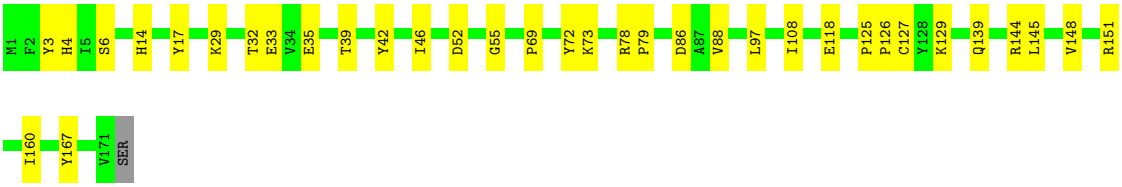
Chain j:





• Molecule 30: DNA-directed RNA polymerase II subunit RPB7

Chain k:



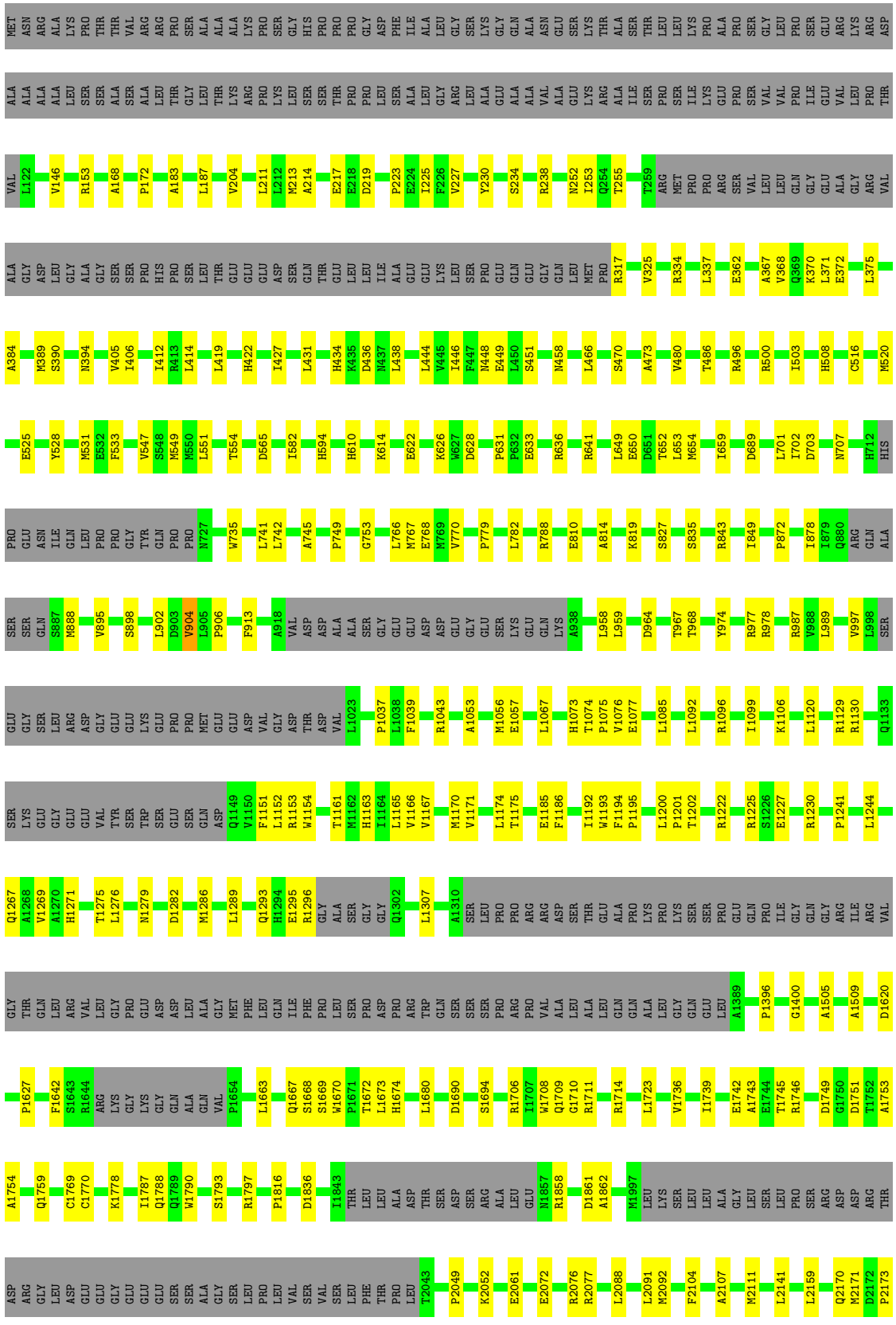
• Molecule 31: DNA-directed RNA polymerase II subunit RPB4

Chain l:

• Molecule 32: Integrator complex subunit 1

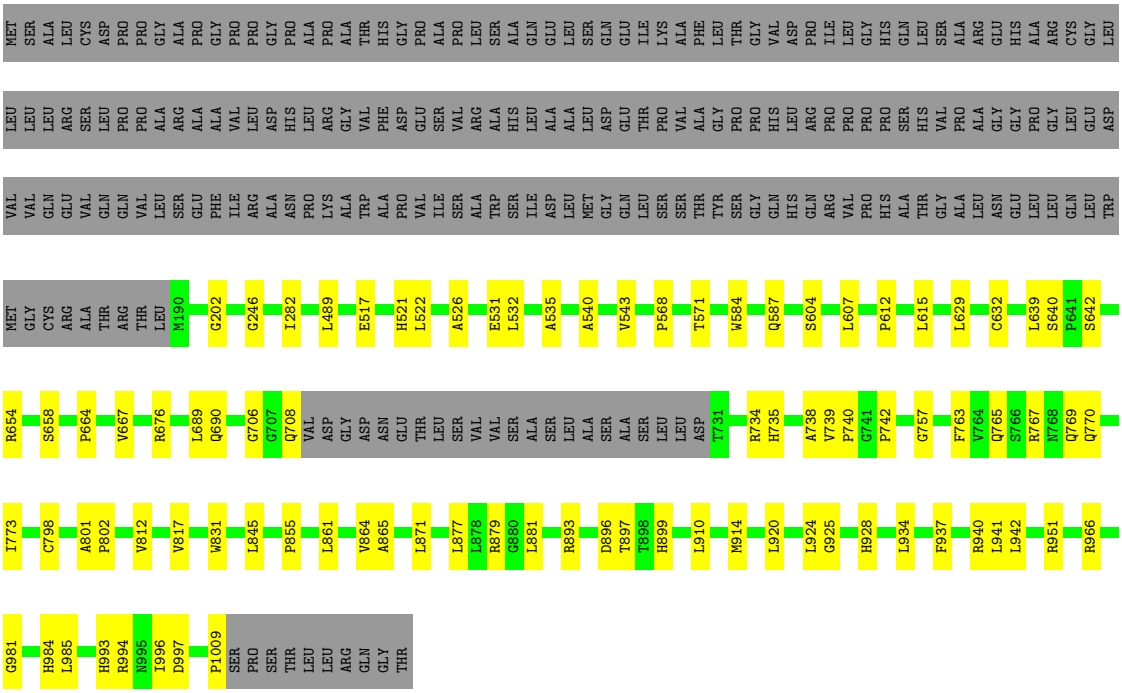
Chain A:


69%
12%
19%


MET ASN ARG ALA LYS PRO THR THR VAL ARG ARG PRO SER ALA ALA ALA LYS PRO SER GLY HIS PRO PRO PRO GLY ASP PHE ILE ALA LEU GLY SER LYS GLY GLN ALA ASN GLU SER LYS THR ALA SER THR LEU LEU LYS PRO ALA PRO SER GLY LEU PRO SER GLU ARG LYS ARG ASP
ALA ALA ALA ALA LEU SER SER ALA SER ALA LEU THR GLY LEU THR LYS ARG PRO LYS LEU SER SER THR PRO PRO LEU SER ALA LEU GLY ARG LEU ALA GLU ALA ALA VAL ALA GLU LYS ARG ALA ILE SER PRO SER ILE LYS GLU PRO SER VAL VAL PRO ILE GLU VAL LEU PRO THR
VAL L122 V146 R153 A168 P172 A183 L187 V204 L211 L212 M213 A214 E217 E218 D219 P223 E224 I225 F226 V227 Y230 S234 R238 N252 I253 Q254 T255 T259 ARG MET PRO PRO ARG SER VAL LEU LEU GLN GLY GLU ALA GLY ARG VAL
ALA GLY ASP LEU GLY ALA GLY SER SER PRO HIS PRO SER LEU THR GLU GLU GLU ASP SER GLN THR GLU LEU LEU ILE ALA GLU GLU LYS LEU SER PRO GLU GLN GLU GLY GLN LEU MET PRO R317 V325 R334 L337 E362 A367 V368 Q369 K370 L371 E372 L375
A384 M389 S390 N394 V405 I406 I412 R413 L414 L419 H422 I427 L431 H434 K435 D436 N437 L438 L444 V445 I446 F447 N448 E449 L450 S451 N458 L466 S470 A473 V480 T486 R496 R500 I503 H508 C516 M520
E525 Y528 M531 E532 F533 V547 S548 M549 M550 L551 T554 D565 I582 H594 H610 K614 E622 K626 W627 D628 P631 P632 E633 R636 R641 L649 E650 D651 T652 L653 M654 I659 D689 L701 I702 D703 N707 H712 HIS
PRO GLU ASN ILE GLN LEU PRO PRO GLY TYR GLN GLN PRO PRO N727 W735 L741 L742 A745 P749 G753 L766 M767 E768 M769 V770 P779 L782 R788 E810 A814 K819 S827 S835 R843 I849 P872 I878 I879 Q880 ARG GLN ALA
SER SER GLN S887 M888 V895 S898 L902 D903 V904 L905 P906 F913 A918 VAL ASP ASP ALA ALA SER GLY GLU GLU ASP ASP GLU GLY GLU SER LYS GLU GLN LYS A938 L958 L959 D964 T967 T968 Y974 R977 R978 R987 V988 L989 V997 L998 SER
GLU GLY SER LEU ARG ASP GLY GLU GLU LYS GLU GLU PRO PRO MET GLU GLU ASP VAL GLY ASP THR ASP VAL L1023 P1037 L1038 F1039 R1043 A1053 M1056 E1057 L1067 H1073 T1074 P1075 V1076 E1077 L1085 L1092 R1096 I1099 K1106 L1120 R1129 R1130 Q1133
SER LYS GLU GLY GLU GLU VAL TYR SER TRP SER GLU SER GLN ASP Q1149 V1150 F1151 L1152 R1153 W1154 T1161 M1162 H1163 I1164 L1165 V1166 V1167 M1170 V1171 L1174 T1175 E1185 F1186 I1192 W1193 F1194 P1195 L1200 P1201 T1202 R1222 R1225 S1226 E1227 R1230 P1241 L1244
Q1267 A1268 V1269 A1270 H1271 T1275 L1276 N1279 D1282 M1286 L1289 Q1293 H1294 E1295 R1296 GLY ALA SER GLY GLY Q1302 L1307 A1310 SER LEU PRO PRO ARG ARG ASP SER THR GLU ALA PRO LYS PRO LYS SER SER PRO GLU GLN GLN PRO ILE GLY GLN GLY ARG ILE ARG VAL
GLY THR GLN LEU ARG VAL LEU GLY PRO GLU ASP ASP LEU ALA GLY MET PHE LEU GLN ILE PHE PRO LEU SER PRO ASP PRO ARG TRP GLN SER SER SER PRO ARG PRO VAL ALA LEU ALA LEU GLN GLN ALA LEU GLY GLN GLU LEU A1389 P1396 G1400 A1505 A1509 D1620
P1627 F1642 S1643 R1644 ARG LYS GLY LYS GLY GLN ALA GLN VAL P1654 L1663 Q1667 S1668 S1669 W1670 P1671 T1672 L1673 H1674 L1680 D1690 S1694 R1706 I1707 W1708 Q1709 G1710 R1711 R1714 L1723 V1736 I1739 E1742 A1743 E1744 T1745 R1746 D1749 G1750 D1751 T1752 A1753
A1754 Q1759 C1769 C1770 K1778 I1787 Q1788 Q1789 W1790 S1793 R1797 P1816 D1836 I1843 THR LEU LEU ALA ASP THR SER ASP SER ARG ALA LEU GLU N1857 R1858 D1861 A1862 N1997 LEU LYS SER LEU LEU LEU ALA GLY LEU SER LEU PRO SER ARG ASP ASP ARG THR
ASP ARG GLY LEU ASP GLU GLU GLY GLU GLU SER ALA GLY SER LEU PRO LEU VAL SER VAL SER LEU PHE THR PRO LEU T2043 P2049 K2052 E2061 E2072 R2076 R2077 L2088 L2091 M2092 F2104 A2107 M2111 L2141 L2159 Q2170 M2171 D2172 P2173

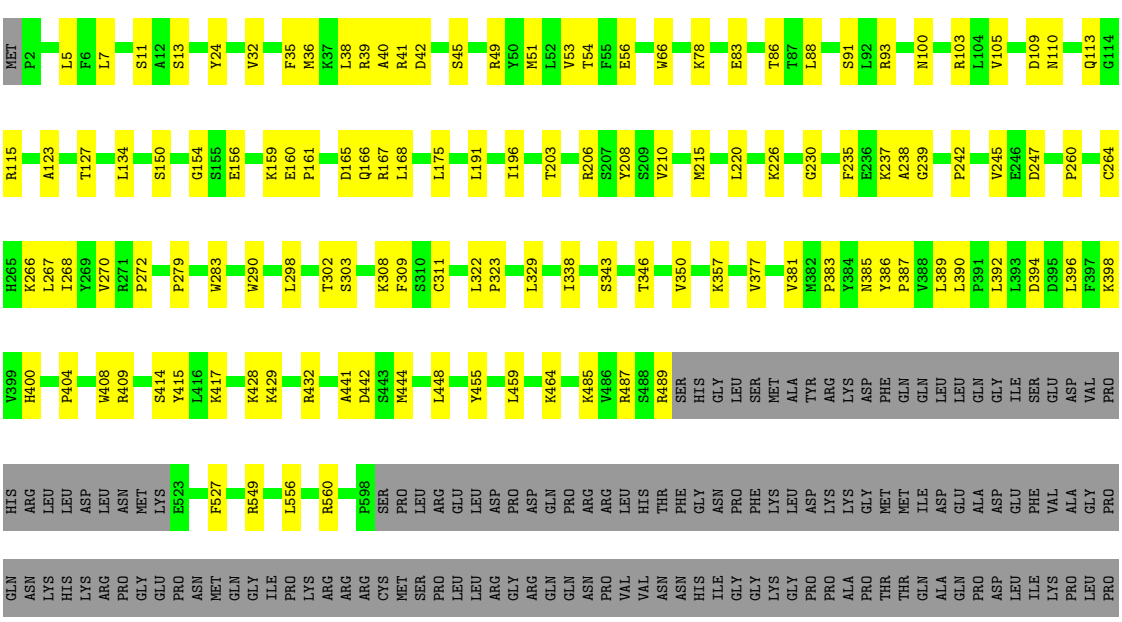
• Molecule 33: Integrator complex subunit 5

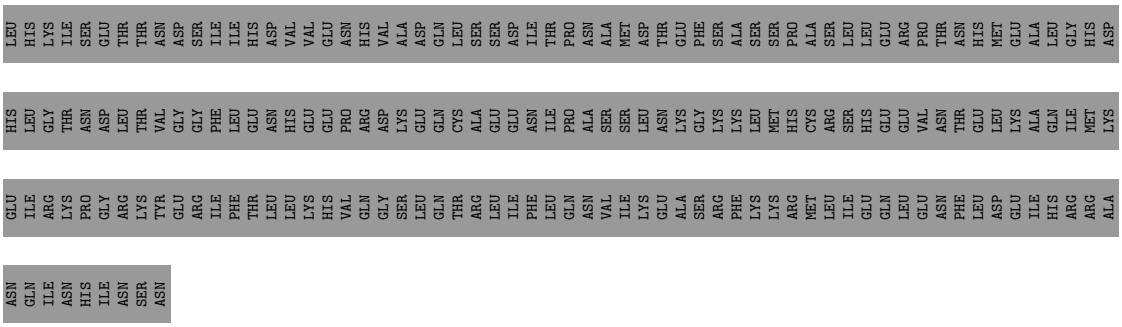
Chain E:



• Molecule 34: Integrator complex subunit 6

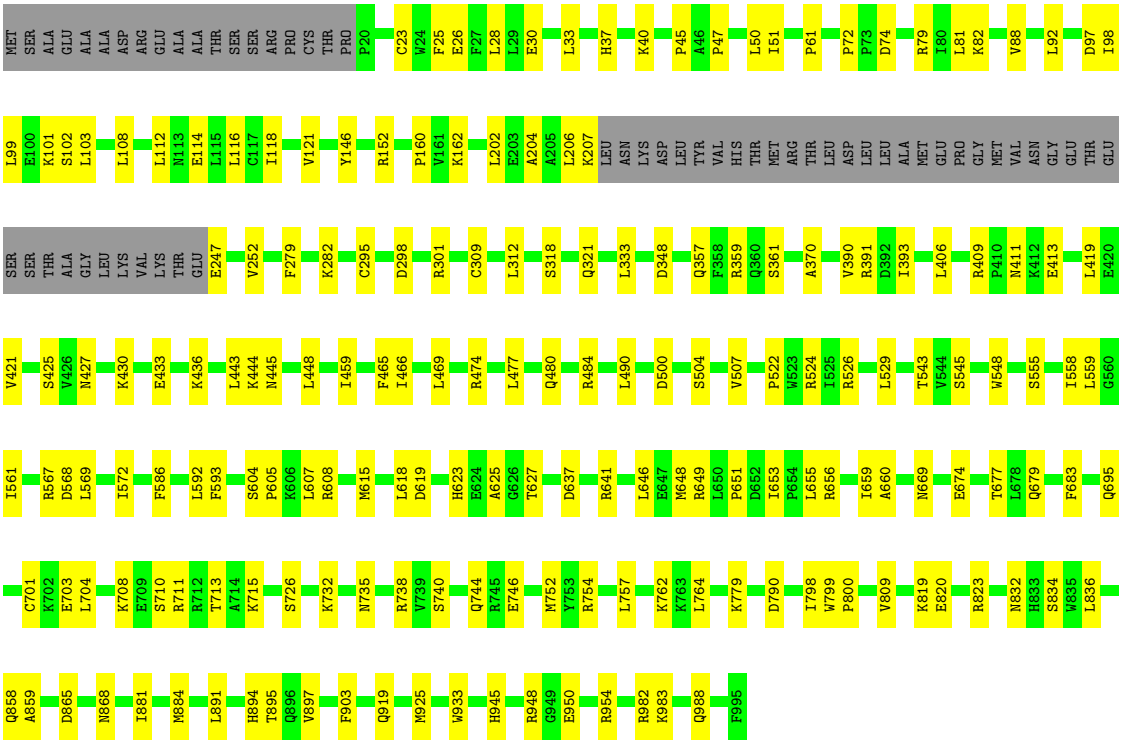
Chain F:





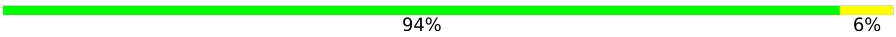
• Molecule 35: Integrator complex subunit 8

Chain H:



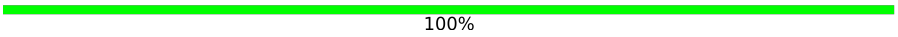
• Molecule 36: Unknown2

Chain M:



• Molecule 37: SER-PRO-THR-SER

Chain p:



There are no outlier residues recorded for this chain.

• Molecule 38: SER-PRO-LYS-TYR-SER-PRO-THR-SER

Chain o:

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	26882	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, MN, 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	0	0.28	0/282	0.68	0/381
2	I	0.25	0/5110	0.58	1/6959 (0.0%)
3	K	0.22	0/4747	0.54	1/6412 (0.0%)
4	c	0.14	0/506	0.35	0/787
5	B	0.29	0/8474	0.57	3/11498 (0.0%)
6	D	0.29	0/6309	0.62	1/8576 (0.0%)
7	G	0.30	0/7023	0.62	2/9512 (0.0%)
8	m	0.29	0/107	0.79	0/149
9	n	0.29	0/60	0.73	0/83
10	P	0.24	0/4601	0.60	2/6246 (0.0%)
11	Q	0.29	0/2423	0.60	0/3285
12	1	0.20	1/11325 (0.0%)	0.53	7/15293 (0.0%)
13	2	0.21	0/8823	0.52	0/11947
14	3	0.22	0/2090	0.47	0/2843
15	4	0.20	0/1752	0.53	0/2366
16	5	0.21	0/659	0.62	0/889
17	6	0.18	0/1207	0.49	0/1628
18	7	0.18	0/973	0.47	0/1316
19	8	0.23	0/542	0.51	0/730
20	9	0.24	0/956	0.64	3/1294 (0.2%)
21	a	0.24	0/395	0.57	0/524
22	b	0.16	0/846	0.28	0/1304
23	d	0.19	0/1014	0.34	0/1560
24	e	0.19	0/1434	0.51	0/1948
25	f	0.13	0/1913	0.36	0/2379
26	g	0.22	0/3830	0.58	2/5236 (0.0%)
28	i	0.14	0/927	0.39	0/1250
29	j	0.16	0/3920	0.41	0/5276
30	k	0.18	0/1330	0.47	1/1813 (0.1%)
31	l	0.17	0/1012	0.43	0/1366
32	A	0.20	0/13264	0.50	2/18049 (0.0%)
33	E	0.22	0/5344	0.53	2/7312 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
34	F	0.20	0/4441	0.47	0/6045
35	H	0.20	0/7583	0.49	0/10280
37	p	0.13	0/19	0.35	0/25
38	o	0.30	0/62	0.58	0/84
All	All	0.23	1/115303 (0.0%)	0.53	27/156645 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
35	H	0	1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	1	526	VAL	C-N	5.83	1.42	1.33

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	g	76	PRO	N-CA-CB	10.38	109.76	102.81
2	I	396	GLY	N-CA-C	7.09	120.73	112.50
6	D	248	VAL	N-CA-C	-6.54	104.38	110.53
5	B	732	GLU	CB-CA-C	-6.36	107.44	116.34
10	P	441	GLU	CA-C-N	-6.09	112.76	122.08
10	P	441	GLU	C-N-CA	-6.09	112.76	122.08
26	g	60	PRO	N-CA-CB	6.03	110.19	103.44
20	9	79	PRO	CA-C-N	5.64	136.10	125.66
20	9	79	PRO	C-N-CA	5.64	136.10	125.66
3	K	218	GLU	N-CA-CB	5.50	119.36	110.40
32	A	2072	GLU	CA-C-N	-5.43	113.80	122.66
32	A	2072	GLU	C-N-CA	-5.43	113.80	122.66
5	B	786	LEU	CA-C-N	5.37	124.62	120.33
5	B	786	LEU	C-N-CA	5.37	124.62	120.33
30	k	33	GLU	N-CA-CB	5.31	118.11	110.20
12	1	909	LEU	CA-C-N	5.30	134.74	121.80
12	1	909	LEU	C-N-CA	5.30	134.74	121.80
12	1	1343	LEU	CA-C-N	5.24	131.55	121.54
12	1	1343	LEU	C-N-CA	5.24	131.55	121.54
20	9	113	GLN	N-CA-CB	5.22	118.92	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	1	526	VAL	CA-C-N	5.18	128.56	120.68
12	1	526	VAL	C-N-CA	5.18	128.56	120.68
33	E	770	GLN	CA-C-N	5.07	131.23	121.54
33	E	770	GLN	C-N-CA	5.07	131.23	121.54
7	G	551	THR	CA-C-N	-5.06	114.68	121.71
7	G	551	THR	C-N-CA	-5.06	114.68	121.71
12	1	1451	MET	CA-CB-CG	5.05	124.20	114.10

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
35	H	543	THR	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	275	0	231	8	0
2	I	4985	0	5013	94	0
3	K	4646	0	4663	78	0
4	c	452	0	230	6	0
5	B	8328	0	8566	146	0
6	D	6199	0	5896	105	0
7	G	6914	0	6898	105	0
8	m	102	0	92	0	0
9	n	58	0	54	2	0
10	P	4527	0	4633	104	0
11	Q	2366	0	2269	49	0
12	1	11125	0	11187	226	0
13	2	8649	0	8462	164	0
14	3	2047	0	1985	38	0
15	4	1721	0	1737	31	0
16	5	649	0	676	20	0
17	6	1186	0	1147	34	0
18	7	950	0	879	19	0
19	8	533	0	553	14	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	9	937	0	959	18	0
21	a	389	0	393	9	0
22	b	752	0	401	7	0
23	d	909	0	506	11	0
24	e	1410	0	1455	33	0
25	f	1920	0	504	3	0
26	g	3764	0	3378	70	0
27	h	110	0	24	0	0
28	i	911	0	908	13	0
29	j	3854	0	3913	69	0
30	k	1299	0	1258	24	0
31	l	998	0	953	24	0
32	A	13054	0	12233	165	0
33	E	5244	0	4501	64	0
34	F	4333	0	4240	73	0
35	H	7440	0	7530	116	0
36	M	85	0	19	1	0
37	p	20	0	9	0	0
38	o	60	0	60	1	0
39	1	2	0	0	0	0
39	2	1	0	0	0	0
39	3	1	0	0	0	0
39	7	2	0	0	0	0
39	8	1	0	0	0	0
39	K	2	0	0	0	0
39	a	1	0	0	0	0
40	Q	2	0	0	0	0
41	1	1	0	0	0	0
All	All	113214	0	108415	1768	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 8.

All (1768) 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)
29:j:626:CYS:O	29:j:634:GLY:HA3	1.55	1.07
12:1:11:SER:N	13:2:1135:TYR:HH	1.57	1.01
13:2:825:GLN:HA	13:2:872:THR:O	1.61	0.99
10:P:188:LYS:O	10:P:192:PHE:HB2	1.63	0.98
12:1:23:PHE:O	12:1:1446:GLY:HA2	1.68	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:6:59:VAL:O	17:6:144:LEU:HB2	1.66	0.94
32:A:1053:ALA:O	32:A:1057:GLU:HB2	1.69	0.91
7:G:851:CYS:O	7:G:909:SER:HB2	1.75	0.84
3:K:70:HIS:CE1	3:K:157:HIS:HE2	1.91	0.83
3:K:70:HIS:CE1	3:K:157:HIS:NE2	2.48	0.82
15:4:91:CYS:HG	15:4:125:TYR:HH	1.26	0.81
26:g:161:LYS:O	26:g:165:ALA:HB2	1.81	0.81
32:A:367:ALA:O	32:A:371:LEU:HB2	1.82	0.80
11:Q:159:VAL:HB	11:Q:163:ILE:HB	1.66	0.78
24:e:143:TYR:HA	26:g:425:MET:HE1	1.66	0.78
13:2:721:ARG:HD2	13:2:975:ARG:HB3	1.65	0.77
6:D:264:PRO:HB2	6:D:278:ARG:HH22	1.50	0.76
26:g:68:ARG:O	26:g:72:ALA:HB2	1.83	0.76
13:2:92:TYR:HB2	13:2:125:TYR:HB2	1.68	0.75
26:g:259:ARG:HH22	26:g:326:GLU:HB2	1.53	0.74
5:B:733:ILE:HD11	7:G:156:GLU:HB3	1.71	0.73
5:B:1104:LEU:HB3	5:B:1192:THR:HG21	1.71	0.73
10:P:279:THR:HA	10:P:283:LEU:HB2	1.70	0.73
12:1:1221:MET:HE3	12:1:1255:LEU:HD12	1.69	0.72
31:l:16:ASP:H	31:l:19:GLN:HE21	1.35	0.72
32:A:1039:PHE:O	32:A:1043:ARG:HB2	1.89	0.72
12:1:71:CYS:SG	12:1:84:HIS:CD2	2.69	0.72
32:A:1746:ARG:HE	32:A:1749:ASP:HB2	1.54	0.72
6:D:230:HIS:H	6:D:233:ILE:HD13	1.53	0.72
20:9:103:GLU:HG3	20:9:106:ARG:HH21	1.52	0.72
3:K:258:ARG:HH12	6:D:423:GLU:HA	1.55	0.71
32:A:1663:LEU:O	32:A:1667:GLN:HB2	1.89	0.71
5:B:741:ARG:HG3	5:B:780:LEU:HD11	1.71	0.71
17:6:90:TYR:HB3	17:6:145:MET:HB2	1.73	0.71
3:K:288:GLN:HA	3:K:291:ARG:HG2	1.72	0.71
7:G:225:TYR:HB3	7:G:230:MET:HG3	1.73	0.71
12:1:1407:CYS:HA	15:4:207:ARG:HH22	1.56	0.71
33:E:664:PRO:HA	33:E:667:VAL:HG22	1.73	0.70
34:F:51:MET:HE3	34:F:66:TRP:HA	1.73	0.70
11:Q:263:PRO:HB2	11:Q:291:PRO:HD3	1.74	0.70
22:b:42:DT:H3	23:d:7:DA:H61	1.38	0.69
7:G:689:TYR:HE1	7:G:700:LEU:HB2	1.58	0.69
10:P:124:LEU:O	10:P:128:PHE:HB3	1.92	0.69
14:3:106:ARG:HD3	14:3:158:GLU:HB3	1.73	0.69
13:2:778:SER:O	13:2:1045:PRO:HA	1.92	0.69
6:D:866:LEU:HB3	6:D:910:GLU:HB2	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:793:ARG:O	7:G:796:PHE:C	2.36	0.69
28:i:61:ILE:HB	28:i:63:MET:HE3	1.75	0.69
32:A:213:MET:O	32:A:217:GLU:HB2	1.93	0.69
7:G:441:ALA:HB3	7:G:446:ARG:HE	1.57	0.69
15:4:31:ASP:O	15:4:35:GLN:HB3	1.93	0.69
5:B:295:VAL:HG22	5:B:384:LYS:HG3	1.74	0.68
12:1:459:ASN:HB3	12:1:469:MET:HB3	1.75	0.68
32:A:1043:ARG:HD2	32:A:1073:HIS:HB3	1.76	0.68
34:F:238:ALA:HB2	34:F:308:LYS:HB3	1.76	0.68
2:I:135:LEU:HD12	2:I:332:VAL:HB	1.76	0.68
26:g:422:VAL:HA	26:g:425:MET:HE2	1.74	0.68
13:2:782:ILE:HB	13:2:1042:PHE:HB3	1.74	0.68
2:I:544:LEU:HG	3:K:477:ARG:HH21	1.59	0.68
18:7:85:PRO:HB3	18:7:92:LYS:HD2	1.74	0.68
7:G:127:GLY:O	7:G:164:ASN:ND2	2.26	0.67
13:2:236:TRP:HB2	13:2:259:THR:HB	1.77	0.67
24:e:41:ILE:O	24:e:45:PHE:HB2	1.94	0.67
12:1:1467:GLY:H	12:1:1470:CYS:HB2	1.59	0.67
35:H:651:PRO:HG2	35:H:653:ILE:HG12	1.76	0.67
13:2:596:ILE:HG23	13:2:597:ILE:HD12	1.75	0.67
7:G:671:MET:HG3	7:G:721:ILE:HG21	1.77	0.67
2:I:108:MET:HE1	2:I:136:LEU:HB3	1.76	0.67
11:Q:183:LEU:HD11	11:Q:194:PRO:HB2	1.77	0.66
2:I:55:TRP:HB2	2:I:70:GLU:HB3	1.77	0.66
6:D:826:GLU:HB3	6:D:848:ASP:HB2	1.77	0.66
12:1:111:CYS:SG	12:1:112:PHE:N	2.69	0.66
12:1:1143:LEU:HB2	12:1:1148:ALA:HB2	1.75	0.66
2:I:40:PRO:HG3	2:I:401:ARG:HE	1.60	0.66
6:D:571:ARG:NH2	32:A:1714:ARG:O	2.28	0.66
7:G:416:MET:HE1	7:G:430:VAL:HB	1.77	0.66
6:D:558:CYS:HB2	6:D:561:MET:HE1	1.76	0.66
12:1:1146:GLN:HA	12:1:1149:ARG:HB2	1.77	0.66
13:2:804:GLY:HA2	13:2:807:ARG:HD3	1.78	0.66
12:1:132:LYS:HG2	12:1:139:LYS:HZ1	1.61	0.66
12:1:1483:GLY:HA2	16:5:80:MET:HB3	1.78	0.66
11:Q:166:LEU:O	11:Q:239:ARG:HA	1.96	0.66
12:1:46:THR:HA	12:1:57:LEU:HB2	1.77	0.66
11:Q:176:THR:HG23	11:Q:179:HIS:H	1.61	0.66
2:I:298:PRO:HB2	2:I:398:PRO:HA	1.77	0.65
3:K:185:ARG:NH1	3:K:218:GLU:OE2	2.29	0.65
33:E:708:GLN:HB3	33:E:765:GLN:HG2	1.76	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:H:593:PHE:HB3	35:H:615:MET:HE1	1.78	0.65
7:G:483:THR:HA	7:G:486:GLN:HE21	1.62	0.65
5:B:733:ILE:HG22	5:B:735:GLY:H	1.60	0.65
5:B:672:MET:HG2	5:B:674:ARG:HB2	1.77	0.65
29:j:552:ARG:HB3	29:j:559:GLN:HB2	1.78	0.65
13:2:955:PRO:HB2	13:2:1028:LEU:HD12	1.79	0.65
32:A:446:ILE:HG21	32:A:480:VAL:HG11	1.79	0.65
35:H:677:THR:HG22	35:H:695:GLN:HB3	1.78	0.65
17:6:63:THR:O	17:6:84:ARG:NH2	2.30	0.65
12:1:1428:MET:HE1	12:1:1455:SER:HB3	1.78	0.64
17:6:94:GLY:HA3	17:6:118:TYR:HA	1.79	0.64
18:7:70:ALA:HB2	18:7:122:ARG:HH21	1.62	0.64
12:1:702:ILE:HD12	12:1:752:THR:HG23	1.79	0.64
3:K:78:PRO:O	3:K:82:GLU:HB2	1.97	0.64
6:D:161:ASP:HB2	6:D:166:VAL:HG12	1.78	0.64
12:1:1427:LEU:HB2	12:1:1456:GLU:HG2	1.79	0.64
14:3:7:PRO:HA	14:3:25:ASN:HB3	1.78	0.64
32:A:633:GLU:HA	32:A:636:ARG:HD2	1.78	0.64
3:K:268:SER:HB2	3:K:323:ALA:HA	1.78	0.64
3:K:215:ARG:NH1	6:D:422:ASP:OD1	2.31	0.64
5:B:467:GLU:HB2	5:B:474:ALA:HB2	1.80	0.64
12:1:411:SER:OG	29:j:733:ARG:NH1	2.31	0.64
12:1:1143:LEU:HD11	12:1:1157:ILE:HG21	1.80	0.64
35:H:390:VAL:HA	35:H:393:ILE:HD12	1.79	0.64
2:I:1:MET:HG3	2:I:507:LEU:HB2	1.80	0.63
5:B:1108:VAL:HG12	5:B:1196:ILE:HG13	1.79	0.63
6:D:337:GLU:OE2	6:D:338:ARG:NH1	2.31	0.63
7:G:934:PRO:HG2	14:3:122:SER:HB3	1.80	0.63
12:1:1177:TYR:HE1	12:1:1209:PRO:HB2	1.64	0.63
32:A:1680:LEU:HD21	32:A:1694:SER:HB2	1.79	0.63
35:H:945:HIS:ND1	35:H:950:GLU:OE1	2.31	0.63
2:I:522:LEU:HB2	2:I:555:PRO:HD3	1.78	0.63
3:K:429:GLN:O	3:K:432:ARG:NH1	2.31	0.63
5:B:850:GLN:HG3	5:B:854:MET:HE1	1.80	0.63
34:F:160:GLU:HB2	34:F:303:SER:HB3	1.79	0.63
6:D:473:CYS:HA	6:D:513:ARG:HH22	1.63	0.63
12:1:808:PRO:HB2	13:2:675:LEU:HD23	1.79	0.63
34:F:168:LEU:HB3	34:F:203:THR:HG21	1.79	0.63
7:G:340:ARG:NH2	7:G:378:ASP:O	2.32	0.63
11:Q:89:ARG:NH2	38:o:4:TYR:O	2.32	0.63
13:2:1060:HIS:HB3	13:2:1078:ARG:HE	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A:904:VAL:HG12	32:A:906:PRO:HD2	1.80	0.63
5:B:446:PRO:O	5:B:450:GLN:NE2	2.31	0.63
34:F:49:ARG:HB3	34:F:51:MET:HE2	1.81	0.62
2:I:25:MET:HE3	2:I:99:ILE:HG12	1.79	0.62
12:1:469:MET:HE1	13:2:1094:GLN:HG2	1.81	0.62
32:A:1074:THR:HG21	32:A:1085:LEU:HD22	1.81	0.62
32:A:1076:VAL:O	32:A:1130:ARG:NH1	2.32	0.62
34:F:103:ARG:NH1	34:F:165:ASP:OD2	2.32	0.62
11:Q:83:MET:HA	11:Q:114:LEU:HB2	1.81	0.62
12:1:375:ILE:HG12	12:1:666:ARG:HG3	1.80	0.62
15:4:132:GLN:O	15:4:136:LEU:HB2	2.00	0.62
34:F:83:GLU:OE2	35:H:954:ARG:NH1	2.33	0.62
35:H:318:SER:O	35:H:321:GLN:C	2.43	0.62
22:b:9:DA:H61	23:d:40:DT:H3	1.46	0.62
29:j:306:LYS:HA	29:j:372:LEU:O	1.99	0.62
14:3:266:GLU:HG3	20:9:19:ILE:HB	1.81	0.62
33:E:584:TRP:O	33:E:587:GLN:O	2.17	0.62
15:4:55:ARG:NH2	15:4:132:GLN:OE1	2.33	0.62
26:g:393:VAL:HG21	26:g:423:VAL:HG13	1.81	0.62
29:j:536:TRP:NE1	29:j:551:VAL:O	2.33	0.62
2:I:214:LEU:HD11	2:I:254:SER:HB2	1.82	0.62
14:3:131:THR:HG21	14:3:147:ASP:HA	1.81	0.62
30:k:108:ILE:HD11	30:k:145:LEU:HD22	1.80	0.62
16:5:69:ARG:HD3	16:5:96:GLU:HG2	1.81	0.62
32:A:146:VAL:HG11	32:A:183:ALA:HB1	1.82	0.62
26:g:452:LEU:HB3	26:g:499:ARG:HD2	1.82	0.62
10:P:391:VAL:HB	10:P:395:ILE:HD12	1.82	0.61
11:Q:279:ASP:O	11:Q:282:LEU:N	2.33	0.61
12:1:883:ILE:HD11	12:1:1424:THR:HA	1.82	0.61
5:B:934:GLN:HA	34:F:556:LEU:HD11	1.82	0.61
12:1:497:ASP:HB2	13:2:942:LYS:HE2	1.80	0.61
13:2:407:MET:HE2	13:2:440:ILE:HD12	1.81	0.61
34:F:103:ARG:HD2	34:F:166:GLN:HE22	1.65	0.61
13:2:556:ILE:HG12	13:2:576:ILE:HD11	1.82	0.61
32:A:622:GLU:O	32:A:626:LYS:HB3	2.00	0.61
13:2:274:ARG:HG2	13:2:279:VAL:HA	1.81	0.61
29:j:428:VAL:O	29:j:435:ASN:N	2.33	0.61
34:F:385:ASN:HB3	34:F:415:TYR:HE1	1.66	0.61
2:I:160:ASP:OD1	2:I:163:ARG:NH1	2.34	0.61
5:B:991:ARG:NH1	5:B:995:CYS:SG	2.74	0.61
3:K:5:ARG:HB2	3:K:23:SER:HB2	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:856:ASP:OD1	34:F:560:ARG:NH1	2.33	0.61
12:1:153:ILE:HG22	12:1:187:TYR:HA	1.82	0.61
26:g:326:GLU:HA	26:g:329:ARG:HB2	1.83	0.61
12:1:465:HIS:HB3	12:1:1097:GLU:HG3	1.82	0.61
12:1:628:VAL:HA	12:1:638:GLY:HA3	1.81	0.61
32:A:1642:PHE:HB3	32:A:1690:ASP:H	1.66	0.61
35:H:561:ILE:HB	35:H:567:ARG:HB3	1.83	0.61
2:I:200:SER:HB2	3:K:140:GLN:HG3	1.83	0.60
6:D:172:GLN:O	6:D:176:ASN:ND2	2.34	0.60
29:j:179:LEU:HD22	29:j:226:TYR:HB3	1.82	0.60
32:A:2170:GLN:HB3	35:H:891:LEU:HD11	1.82	0.60
10:P:414:ASP:O	10:P:420:ARG:NH1	2.34	0.60
15:4:131:LEU:HD23	15:4:133:GLN:H	1.66	0.60
5:B:62:GLN:O	5:B:66:GLN:NE2	2.35	0.60
12:1:784:VAL:HG13	12:1:785:ILE:HG13	1.83	0.60
12:1:934:LEU:HD23	12:1:938:LEU:HB3	1.84	0.60
12:1:461:GLN:OE1	12:1:502:ASN:ND2	2.34	0.60
17:6:12:VAL:O	17:6:53:GLY:N	2.32	0.60
30:k:78:ARG:NH1	30:k:79:PRO:O	2.34	0.60
5:B:1045:LEU:HG	5:B:1057:ALA:HB2	1.83	0.60
6:D:484:LEU:HA	6:D:487:VAL:HG22	1.82	0.60
7:G:265:ARG:NH1	32:A:1620:ASP:OD2	2.34	0.60
10:P:194:LYS:HD3	10:P:234:LEU:HD21	1.82	0.60
13:2:57:ARG:HG3	13:2:227:ASN:HD22	1.66	0.60
29:j:361:PHE:O	29:j:365:ARG:HB2	2.01	0.60
29:j:626:CYS:O	29:j:634:GLY:CA	2.42	0.60
33:E:489:LEU:HD21	33:E:522:LEU:HG	1.82	0.60
5:B:850:GLN:NE2	5:B:854:MET:SD	2.75	0.60
6:D:770:PRO:O	6:D:773:GLN:NE2	2.33	0.60
7:G:709:SER:HB2	7:G:784:LEU:HD21	1.83	0.60
26:g:500:MET:HE3	26:g:512:VAL:HG13	1.84	0.60
35:H:669:ASN:HD21	35:H:764:LEU:HA	1.66	0.60
6:D:410:GLU:OE2	6:D:411:LYS:NZ	2.35	0.60
6:D:381:HIS:O	6:D:385:ASP:HB3	2.02	0.60
11:Q:271:ASN:ND2	11:Q:272:GLN:O	2.34	0.60
12:1:1208:SER:O	12:1:1260:ARG:NH1	2.34	0.60
13:2:94:SER:HB2	13:2:123:PRO:HG2	1.83	0.60
7:G:443:ASP:OD1	7:G:446:ARG:NH1	2.35	0.60
10:P:86:VAL:HA	10:P:89:LEU:HG	1.84	0.60
24:e:145:ASN:ND2	26:g:364:ALA:O	2.35	0.60
31:l:86:LEU:O	31:l:90:LYS:NZ	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:623:GLU:OE1	3:K:514:ARG:NH2	2.35	0.59
5:B:481:LEU:HG	5:B:485:MET:HE1	1.83	0.59
2:I:309:LEU:HD13	2:I:364:HIS:HB3	1.84	0.59
5:B:732:GLU:O	7:G:124:ARG:NH1	2.33	0.59
12:1:637:MET:HE3	17:6:117:SER:HB2	1.84	0.59
33:E:925:GLY:O	33:E:928:HIS:ND1	2.27	0.59
6:D:448:GLN:HE21	6:D:484:LEU:HD21	1.67	0.59
9:n:4:SER:OG	9:n:5:TYR:N	2.34	0.59
10:P:424:ILE:O	10:P:465:ASN:ND2	2.35	0.59
12:1:34:MET:HG3	13:2:1138:ARG:HB3	1.84	0.59
12:1:719:LYS:HE2	12:1:725:LEU:HA	1.84	0.59
12:1:256:PRO:O	12:1:261:ARG:NH1	2.35	0.59
34:F:260:PRO:O	34:F:264:CYS:HB3	2.02	0.59
10:P:453:ASP:O	10:P:459:ARG:NH1	2.36	0.59
16:5:57:MET:HB3	16:5:123:LEU:HD22	1.83	0.59
2:I:134:ARG:HH21	2:I:191:LEU:HD12	1.68	0.59
13:2:777:ASN:HA	13:2:1046:THR:O	2.03	0.59
14:3:24:GLU:OE2	14:3:228:ARG:NH1	2.35	0.59
15:4:188:GLY:N	15:4:209:VAL:O	2.35	0.59
17:6:98:ARG:HB3	17:6:115:TYR:HB2	1.84	0.59
29:j:216:VAL:HB	29:j:226:TYR:HB2	1.84	0.59
31:l:86:LEU:HD13	31:l:137:LYS:HE2	1.84	0.59
12:1:1005:HIS:HB2	12:1:1008:LYS:HD3	1.85	0.59
29:j:184:CYS:SG	29:j:185:LYS:N	2.76	0.59
32:A:2141:LEU:HD11	32:A:2173:PRO:HB3	1.84	0.59
3:K:186:HIS:ND1	3:K:247:GLU:OE1	2.31	0.59
20:9:23:LYS:HZ3	20:9:30:ALA:H	1.51	0.59
29:j:616:HIS:HB2	29:j:623:PHE:HB2	1.85	0.59
34:F:38:LEU:HD23	34:F:41:ARG:HE	1.68	0.59
12:1:1347:LEU:HA	12:1:1352:VAL:HG11	1.84	0.59
29:j:629:LEU:HB3	29:j:634:GLY:HA2	1.83	0.59
32:A:438:LEU:HD11	32:A:473:ALA:HB2	1.85	0.59
3:K:265:ILE:HG22	3:K:320:VAL:HB	1.84	0.58
10:P:347:SER:HA	10:P:350:MET:HE2	1.84	0.58
18:7:86:CYS:HB2	18:7:114:CYS:SG	2.43	0.58
35:H:504:SER:HB2	35:H:507:VAL:HG12	1.85	0.58
32:A:531:MET:HG2	32:A:533:PHE:H	1.68	0.58
7:G:104:VAL:HG21	7:G:133:ILE:HG21	1.86	0.58
7:G:594:LEU:HD11	7:G:628:LEU:HB3	1.85	0.58
12:1:1416:ARG:NH2	23:d:22:DC:O2	2.36	0.58
19:8:9:THR:OG1	19:8:44:CYS:SG	2.61	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:E:966:ARG:NH1	35:H:370:ALA:O	2.37	0.58
2:I:348:CYS:SG	2:I:349:HIS:N	2.75	0.58
7:G:476:LYS:O	7:G:480:ARG:NH1	2.36	0.58
10:P:116:SER:O	10:P:157:ARG:NH1	2.36	0.58
11:Q:115:ARG:NH1	11:Q:150:PHE:O	2.36	0.58
32:A:1293:GLN:OE1	32:A:1296:ARG:NH1	2.35	0.58
35:H:309:CYS:HA	35:H:312:LEU:HD12	1.86	0.58
2:I:639:ASN:HB3	3:K:592:LYS:HE3	1.84	0.58
5:B:1088:LEU:HD21	5:B:1127:GLN:HG2	1.85	0.58
6:D:478:THR:HG23	6:D:481:GLY:H	1.68	0.58
10:P:119:HIS:O	10:P:157:ARG:NH1	2.36	0.58
32:A:168:ALA:HB2	32:A:211:LEU:HD23	1.86	0.58
33:E:640:SER:OG	35:H:858:GLN:NE2	2.37	0.58
6:D:869:ASP:OD2	6:D:900:HIS:NE2	2.30	0.58
13:2:783:ALA:HB2	13:2:1041:ILE:HG23	1.86	0.58
2:I:157:LYS:NZ	2:I:175:VAL:O	2.36	0.58
12:1:395:THR:HG1	16:5:76:CYS:HG	1.52	0.58
13:2:626:LEU:HA	13:2:662:VAL:HG12	1.86	0.58
32:A:368:VAL:HG11	32:A:405:VAL:HA	1.85	0.58
5:B:445:THR:OG1	5:B:448:GLN:OE1	2.20	0.58
18:7:95:VAL:O	18:7:112:TYR:HA	2.04	0.58
26:g:411:LEU:HD12	26:g:414:LEU:HD23	1.85	0.58
12:1:1163:HIS:ND1	12:1:1301:ILE:O	2.34	0.58
34:F:100:ASN:ND2	34:F:161:PRO:O	2.33	0.58
10:P:508:LEU:O	10:P:512:CYS:HB2	2.04	0.58
16:5:102:ILE:HB	16:5:120:VAL:HG21	1.86	0.58
35:H:623:HIS:O	35:H:627:THR:OG1	2.22	0.58
2:I:388:ARG:HG2	6:D:962:ARG:HD2	1.85	0.57
13:2:985:LEU:HD11	13:2:1015:LEU:HD11	1.86	0.57
5:B:308:GLY:O	5:B:314:ARG:NH2	2.32	0.57
5:B:1123:SER:OG	34:F:489:ARG:NH2	2.37	0.57
7:G:800:GLN:NE2	7:G:845:ARG:O	2.38	0.57
12:1:551:ARG:NH2	12:1:622:SER:O	2.37	0.57
13:2:229:SER:HA	13:2:405:ARG:HD3	1.86	0.57
14:3:75:SER:HB2	14:3:239:LEU:HD11	1.86	0.57
16:5:58:THR:HG23	16:5:61:GLU:H	1.68	0.57
5:B:564:ARG:HH21	5:B:567:THR:HG21	1.68	0.57
10:P:60:TYR:HB2	10:P:66:LEU:HD21	1.85	0.57
34:F:283:TRP:NE1	34:F:323:PRO:O	2.29	0.57
12:1:350:VAL:HG11	12:1:1435:THR:HG21	1.86	0.57
15:4:40:PHE:HZ	15:4:58:LEU:HD22	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A:1836:ASP:HA	32:A:1862:ALA:HB1	1.86	0.57
5:B:782:SER:OG	5:B:783:ALA:N	2.37	0.57
12:1:64:VAL:HG11	12:1:78:MET:H	1.68	0.57
15:4:55:ARG:HD2	15:4:76:PHE:HB3	1.87	0.57
2:I:30:LEU:HB2	2:I:109:ALA:HB2	1.87	0.57
2:I:150:ALA:O	2:I:180:ARG:NH2	2.34	0.57
12:1:467:MET:HG2	12:1:534:VAL:HG21	1.87	0.57
13:2:491:ARG:HA	13:2:499:ARG:HH22	1.69	0.57
13:2:505:LEU:HD22	13:2:509:VAL:HB	1.87	0.57
32:A:888:MET:SD	32:A:978:ARG:NH1	2.77	0.57
10:P:394:VAL:HG13	10:P:395:ILE:HG13	1.86	0.57
12:1:133:SER:O	12:1:140:ARG:NH2	2.33	0.57
34:F:123:ALA:HB3	34:F:166:GLN:HG3	1.86	0.57
10:P:526:LEU:HD22	10:P:563:ILE:HG13	1.87	0.57
11:Q:236:LEU:HD11	11:Q:257:VAL:HG23	1.85	0.57
18:7:96:PHE:HB2	18:7:110:LEU:HD12	1.84	0.57
32:A:1106:LYS:NZ	32:A:1227:GLU:OE2	2.37	0.57
33:E:881:LEU:HD23	33:E:910:LEU:HD13	1.85	0.57
2:I:57:LEU:HB2	2:I:64:LEU:HD12	1.86	0.57
7:G:724:PRO:O	7:G:764:ARG:NH2	2.37	0.57
10:P:354:PRO:HA	10:P:394:VAL:HG21	1.87	0.57
32:A:654:MET:HE3	32:A:701:LEU:HD22	1.85	0.57
33:E:865:ALA:HA	33:E:871:LEU:HD21	1.86	0.57
5:B:558:TYR:OH	5:B:562:ARG:NH2	2.38	0.57
5:B:807:ARG:HA	5:B:810:LEU:HB2	1.85	0.57
7:G:330:ILE:HG22	7:G:331:VAL:HG23	1.87	0.57
20:9:17:LYS:O	20:9:36:ASN:ND2	2.35	0.57
30:k:127:CYS:SG	30:k:129:LYS:NZ	2.75	0.57
34:F:86:THR:HG22	34:F:134:LEU:HD13	1.86	0.57
34:F:103:ARG:NH2	34:F:109:ASP:OD1	2.38	0.57
12:1:417:LYS:HG3	12:1:418:TYR:HD1	1.70	0.56
15:4:170:LEU:HD23	15:4:208:LEU:HB2	1.86	0.56
19:8:7:CYS:HB3	19:8:11:GLY:H	1.69	0.56
32:A:230:TYR:HB2	32:A:253:ILE:HD13	1.87	0.56
33:E:584:TRP:HA	33:E:587:GLN:HE21	1.70	0.56
29:j:286:TYR:HE1	29:j:310:ARG:H	1.52	0.56
32:A:500:ARG:HG2	32:A:551:LEU:HD21	1.87	0.56
3:K:4:ILE:HD12	3:K:446:LEU:HD22	1.85	0.56
3:K:519:ASP:O	3:K:570:LYS:NZ	2.39	0.56
12:1:349:ARG:HA	12:1:353:ASN:HB2	1.86	0.56
12:1:367:ILE:HG22	12:1:482:PHE:HB2	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:2:216:ALA:N	13:2:239:MET:O	2.37	0.56
13:2:561:ILE:HG13	13:2:576:ILE:HD13	1.87	0.56
13:2:637:LYS:HA	13:2:640:ILE:HG12	1.86	0.56
17:6:33:GLU:O	24:e:12:TRP:NE1	2.33	0.56
32:A:337:LEU:O	32:A:370:LYS:NZ	2.38	0.56
32:A:516:CYS:O	32:A:520:MET:HB2	2.05	0.56
2:I:79:SER:OG	2:I:80:VAL:N	2.37	0.56
11:Q:163:ILE:HD13	11:Q:236:LEU:HB3	1.87	0.56
14:3:183:ALA:HB3	14:3:232:ASN:HB2	1.86	0.56
17:6:129:ALA:O	17:6:133:HIS:ND1	2.39	0.56
35:H:711:ARG:NH1	35:H:798:ILE:O	2.36	0.56
29:j:618:PHE:HB3	29:j:621:PHE:HB2	1.88	0.56
31:l:135:GLN:OE1	31:l:138:ARG:NH1	2.38	0.56
32:A:234:SER:HA	32:A:238:ARG:HG2	1.87	0.56
33:E:522:LEU:O	33:E:526:ALA:HB2	2.04	0.56
33:E:817:VAL:HG22	33:E:877:LEU:HD23	1.88	0.56
35:H:762:LYS:NZ	35:H:820:GLU:OE2	2.38	0.56
10:P:572:ASP:HB3	10:P:575:VAL:HG12	1.88	0.56
12:1:592:PHE:HA	12:1:595:ILE:HD12	1.88	0.56
32:A:782:LEU:O	32:A:788:ARG:NH1	2.39	0.56
5:B:943:LEU:HB3	5:B:1024:LEU:HD13	1.87	0.56
6:D:784:MET:HA	6:D:787:LEU:HD12	1.87	0.56
10:P:424:ILE:HG23	10:P:465:ASN:HD22	1.70	0.56
6:D:410:GLU:HA	6:D:413:LEU:HD12	1.87	0.56
6:D:421:ASN:HA	6:D:428:ARG:HE	1.71	0.56
7:G:228:THR:OG1	7:G:265:ARG:NH1	2.39	0.56
11:Q:186:LEU:HD11	33:E:893:ARG:HH11	1.71	0.56
13:2:422:PHE:HD2	13:2:429:PHE:HA	1.70	0.56
15:4:102:ALA:HB3	15:4:127:LEU:HD22	1.88	0.56
28:i:42:MET:HA	28:i:48:MET:HE1	1.88	0.56
13:2:591:ARG:NH2	13:2:664:TYR:O	2.39	0.56
31:l:129:GLN:NE2	31:l:133:ASP:OD2	2.39	0.56
32:A:1787:ILE:HG13	32:A:1788:GLN:HG2	1.86	0.56
12:1:831:LEU:HB3	12:1:835:GLU:HG3	1.88	0.56
13:2:744:MET:HG3	13:2:922:ARG:HD3	1.88	0.56
17:6:12:VAL:O	17:6:53:GLY:CA	2.54	0.56
35:H:97:ASP:OD1	35:H:152:ARG:NH2	2.39	0.56
5:B:521:PHE:HA	5:B:525:ILE:HD12	1.86	0.55
6:D:957:MET:HE1	6:D:959:LYS:HG3	1.88	0.55
12:1:681:LEU:HD12	13:2:786:THR:HA	1.88	0.55
17:6:32:SER:O	24:e:16:LYS:NZ	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:551:VAL:HB	3:K:558:LEU:HB2	1.88	0.55
5:B:37:LEU:HD12	5:B:41:GLU:HG3	1.88	0.55
10:P:139:ASP:O	10:P:144:ARG:NH2	2.40	0.55
12:1:539:GLN:NE2	13:2:791:GLU:OE1	2.39	0.55
3:K:153:TYR:HB2	3:K:163:MET:HB2	1.88	0.55
12:1:340:LYS:HG2	12:1:1436:VAL:HG21	1.88	0.55
12:1:1289:GLU:HA	12:1:1292:MET:HG2	1.88	0.55
35:H:359:ARG:HH11	35:H:391:ARG:HH11	1.52	0.55
7:G:376:GLU:HB2	7:G:379:LEU:HD23	1.89	0.55
11:Q:280:ASP:OD1	11:Q:280:ASP:N	2.39	0.55
12:1:577:PRO:HD3	17:6:75:TYR:HB2	1.88	0.55
12:1:871:VAL:HB	12:1:1088:GLY:HA3	1.89	0.55
32:A:735:TRP:HB3	32:A:849:ILE:HG13	1.89	0.55
10:P:391:VAL:HA	10:P:394:VAL:HG12	1.87	0.55
12:1:360:ASP:O	13:2:1106:ARG:NH1	2.39	0.55
12:1:404:GLU:OE2	12:1:407:ARG:NH2	2.40	0.55
29:j:728:THR:O	29:j:747:ARG:NH1	2.40	0.55
32:A:649:LEU:HB2	32:A:652:THR:HG23	1.87	0.55
34:F:110:ASN:HB2	34:F:113:GLN:HB2	1.87	0.55
34:F:268:ILE:HG12	34:F:329:LEU:HG	1.87	0.55
10:P:22:ASN:ND2	10:P:24:ASP:OD1	2.40	0.55
13:2:529:MET:HB3	13:2:624:PRO:HD2	1.88	0.55
35:H:480:GLN:OE1	35:H:484:ARG:NH1	2.39	0.55
1:0:49:GLU:OE2	1:0:53:SER:OG	2.19	0.55
12:1:621:ILE:HG13	17:6:122:LEU:HD13	1.88	0.55
13:2:789:ASN:HA	13:2:793:SER:HB2	1.89	0.55
13:2:1035:ARG:NH1	13:2:1036:LYS:O	2.39	0.55
33:E:831:TRP:HA	33:E:879:ARG:HH21	1.70	0.55
5:B:940:GLN:OE1	34:F:549:ARG:NH2	2.37	0.55
12:1:420:ILE:HB	12:1:445:LYS:HB2	1.87	0.55
13:2:793:SER:H	13:2:968:ASN:HD21	1.54	0.55
31:l:19:GLN:HE22	31:l:21:ILE:HG12	1.72	0.55
2:I:528:PRO:HA	2:I:538:ALA:HB2	1.89	0.55
3:K:576:TRP:HE1	3:K:581:GLU:HG3	1.72	0.55
7:G:171:ASP:OD1	7:G:171:ASP:N	2.38	0.55
10:P:277:GLU:HA	10:P:280:LYS:HD2	1.89	0.55
11:Q:157:ALA:HB3	11:Q:165:CYS:HB2	1.89	0.55
13:2:677:MET:SD	13:2:678:THR:OG1	2.64	0.55
18:7:64:GLU:HA	18:7:67:GLN:HB2	1.89	0.55
26:g:228:ALA:HA	26:g:231:VAL:HG22	1.89	0.55
32:A:2076:ARG:HH11	32:A:2077:ARG:HD3	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:H:894:HIS:HA	35:H:897:VAL:HG12	1.88	0.55
2:I:93:LEU:HB2	2:I:117:THR:HG21	1.90	0.54
3:K:32:ASP:OD2	3:K:73:HIS:ND1	2.30	0.54
5:B:231:LYS:NZ	5:B:271:GLU:OE2	2.40	0.54
13:2:850:ASP:HB2	21:a:15:MET:HE1	1.89	0.54
35:H:593:PHE:HD2	35:H:618:LEU:HD22	1.73	0.54
2:I:387:PHE:O	6:D:962:ARG:NH1	2.40	0.54
5:B:44:LEU:HB3	5:B:213:LEU:HD11	1.88	0.54
29:j:506:LEU:HG	29:j:507:THR:HG23	1.90	0.54
2:I:36:LEU:HD11	2:I:427:PHE:HB3	1.88	0.54
12:1:364:ARG:NH1	23:d:27:DT:O3'	2.40	0.54
26:g:361:ALA:O	26:g:365:SER:HB2	2.07	0.54
7:G:880:ARG:HH21	7:G:911:LYS:HD3	1.71	0.54
12:1:87:HIS:NE2	12:1:89:GLU:OE2	2.39	0.54
32:A:888:MET:HE2	32:A:989:LEU:HD13	1.89	0.54
35:H:586:PHE:HE2	35:H:625:ALA:HB3	1.72	0.54
3:K:204:SER:HB2	3:K:207:ALA:HB2	1.89	0.54
15:4:152:THR:OG1	15:4:155:GLU:OE1	2.26	0.54
34:F:93:ARG:HH22	34:F:150:SER:HB3	1.73	0.54
2:I:85:LEU:O	2:I:501:ARG:NH2	2.41	0.54
3:K:232:GLY:HA2	3:K:318:PRO:HB3	1.89	0.54
3:K:258:ARG:HD3	6:D:428:ARG:HH22	1.73	0.54
5:B:60:GLN:H	7:G:771:TYR:HE1	1.56	0.54
7:G:431:VAL:HG21	7:G:463:LEU:HD13	1.89	0.54
10:P:322:ILE:HG21	10:P:356:LEU:HD21	1.88	0.54
24:e:66:ARG:NH1	26:g:294:GLN:OE1	2.40	0.54
32:A:631:PRO:O	32:A:636:ARG:NE	2.40	0.54
2:I:162:GLN:NE2	2:I:169:LEU:O	2.41	0.54
11:Q:88:ASP:OD2	11:Q:118:HIS:ND1	2.32	0.54
12:1:1160:ARG:HH12	12:1:1350:LYS:HB3	1.73	0.54
13:2:938:ARG:NH2	13:2:983:GLU:OE2	2.41	0.54
24:e:137:LEU:O	26:g:260:ARG:NH1	2.38	0.54
30:k:39:THR:HG23	30:k:42:TYR:H	1.72	0.54
34:F:485:LYS:O	34:F:487:ARG:NH1	2.37	0.54
6:D:865:VAL:HG12	6:D:911:VAL:HG22	1.89	0.54
10:P:377:CYS:HB3	10:P:380:VAL:HG12	1.89	0.54
13:2:377:LEU:O	18:7:103:ARG:NH1	2.41	0.54
26:g:452:LEU:HB3	26:g:499:ARG:HH11	1.72	0.54
11:Q:38:ILE:HD11	11:Q:108:ARG:HB3	1.88	0.54
20:9:42:LEU:HD13	20:9:45:ILE:HD11	1.90	0.54
7:G:260:LEU:O	7:G:269:LYS:NZ	2.31	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:1:1015:GLU:OE1	12:1:1019:LYS:NZ	2.34	0.54
29:j:303:ILE:HD11	29:j:381:VAL:HG21	1.90	0.54
33:E:202:GLY:HA2	33:E:246:GLY:HA3	1.90	0.54
33:E:517:GLU:O	33:E:521:HIS:ND1	2.41	0.54
33:E:522:LEU:HD22	33:E:535:ALA:HB2	1.90	0.54
2:I:152:SER:HB2	2:I:180:ARG:HH21	1.72	0.53
2:I:590:PRO:HG2	2:I:593:GLN:HB3	1.88	0.53
12:1:465:HIS:HA	12:1:1093:GLN:NE2	2.23	0.53
13:2:157:ARG:NH1	13:2:180:ASP:OD2	2.40	0.53
13:2:497:LYS:HG3	13:2:498:PRO:HD3	1.89	0.53
29:j:577:ARG:NH1	29:j:578:LYS:O	2.42	0.53
32:A:1043:ARG:HH21	32:A:1075:PRO:HG3	1.74	0.53
6:D:721:ILE:HG21	6:D:811:LEU:HD13	1.90	0.53
10:P:150:LEU:HA	10:P:153:VAL:HG12	1.90	0.53
11:Q:104:LYS:NZ	11:Q:108:ARG:O	2.35	0.53
13:2:59:VAL:HG11	13:2:91:ILE:HD11	1.89	0.53
29:j:440:ILE:HG23	29:j:450:ILE:HD11	1.90	0.53
29:j:479:LYS:NZ	29:j:521:CYS:O	2.41	0.53
32:A:779:PRO:O	32:A:788:ARG:NH1	2.41	0.53
3:K:576:TRP:NE1	3:K:581:GLU:HG3	2.23	0.53
5:B:352:PRO:HG2	5:B:377:LEU:HA	1.90	0.53
5:B:464:ALA:HB3	5:B:537:ARG:HH21	1.73	0.53
7:G:575:LEU:HD11	7:G:785:LEU:HB3	1.90	0.53
10:P:517:THR:HA	10:P:521:MET:HE2	1.89	0.53
16:5:125:ILE:HG22	16:5:127:ASP:H	1.72	0.53
32:A:372:GLU:HB2	32:A:412:ILE:HG12	1.90	0.53
32:A:496:ARG:HG2	32:A:547:VAL:HG21	1.90	0.53
35:H:674:GLU:O	35:H:679:GLN:NE2	2.41	0.53
3:K:329:HIS:NE2	4:c:28:A:N7	2.44	0.53
12:1:26:LEU:HD13	12:1:31:LEU:HD21	1.90	0.53
12:1:388:MET:HE3	12:1:505:LEU:HD23	1.91	0.53
12:1:1035:GLU:O	12:1:1039:LEU:HB2	2.09	0.53
35:H:819:LYS:HZ3	35:H:823:ARG:HH21	1.55	0.53
2:I:546:THR:O	6:D:207:GLN:NE2	2.33	0.53
10:P:52:LEU:HD11	10:P:89:LEU:HA	1.91	0.53
10:P:292:LYS:NZ	10:P:329:CYS:SG	2.71	0.53
13:2:313:GLU:HG3	13:2:316:VAL:H	1.74	0.53
33:E:801:ALA:HB2	35:H:406:LEU:HD13	1.91	0.53
34:F:11:SER:OG	34:F:13:SER:OG	2.27	0.53
26:g:357:ILE:HD12	26:g:390:VAL:HG12	1.89	0.53
28:i:64:MET:HA	28:i:82:PRO:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:E:763:PHE:HZ	33:E:767:ARG:HH12	1.57	0.53
34:F:441:ALA:HB3	34:F:444:MET:HE1	1.90	0.53
6:D:413:LEU:HD11	6:D:442:ILE:HD12	1.89	0.53
11:Q:40:THR:HG23	33:E:893:ARG:HD2	1.90	0.53
12:1:339:LEU:HB2	13:2:1165:MET:HE2	1.91	0.53
12:1:400:ASP:OD1	12:1:400:ASP:N	2.41	0.53
13:2:1119:CYS:HA	13:2:1146:ILE:HA	1.91	0.53
26:g:455:LEU:HD11	26:g:472:LEU:HD23	1.91	0.53
29:j:419:ASN:OD1	29:j:421:GLN:NE2	2.42	0.53
32:A:1670:TRP:O	32:A:1674:HIS:ND1	2.36	0.53
33:E:584:TRP:O	33:E:587:GLN:C	2.52	0.53
33:E:798:CYS:SG	35:H:411:ASN:ND2	2.82	0.53
6:D:902:ALA:HA	6:D:958:PRO:HB2	1.89	0.53
7:G:723:ASP:N	7:G:723:ASP:OD1	2.41	0.53
28:i:21:LEU:HG	28:i:23:LYS:HG3	1.91	0.53
32:A:749:PRO:HA	32:A:753:GLY:HA3	1.91	0.53
32:A:1096:ARG:HD3	32:A:1099:ILE:HD12	1.90	0.53
5:B:263:LYS:HG2	5:B:267:MET:HE1	1.90	0.53
13:2:83:ARG:NH1	13:2:132:VAL:O	2.42	0.53
32:A:895:VAL:O	32:A:898:SER:C	2.52	0.53
32:A:1077:GLU:O	32:A:1130:ARG:NH2	2.39	0.53
5:B:1096:ARG:NH1	5:B:1135:ASP:OD2	2.42	0.53
13:2:171:LEU:HD23	13:2:178:PRO:HA	1.90	0.53
13:2:237:VAL:HG13	13:2:372:LEU:HD22	1.92	0.53
26:g:267:ARG:NH1	26:g:335:ASP:OD2	2.41	0.53
32:A:633:GLU:OE1	32:A:636:ARG:NH1	2.42	0.53
12:1:29:ASP:OD1	12:1:29:ASP:N	2.41	0.52
12:1:901:VAL:HA	12:1:980:PRO:HA	1.91	0.52
12:1:1217:ASP:OD2	12:1:1220:HIS:ND1	2.42	0.52
33:E:831:TRP:O	33:E:951:ARG:NH1	2.42	0.52
10:P:553:ASN:HA	10:P:556:LEU:HD12	1.92	0.52
34:F:35:PHE:HB2	34:F:220:LEU:HD11	1.90	0.52
34:F:394:ASP:O	34:F:398:LYS:HB2	2.09	0.52
5:B:679:TYR:HB3	5:B:683:LEU:HD23	1.90	0.52
12:1:1149:ARG:NH2	26:g:525:THR:O	2.41	0.52
13:2:748:ALA:HB3	13:2:811:TYR:HB2	1.91	0.52
32:A:223:PRO:HB2	32:A:225:ILE:HG22	1.91	0.52
34:F:283:TRP:CE2	34:F:383:PRO:HD3	2.44	0.52
34:F:343:SER:OG	34:F:346:THR:OG1	2.26	0.52
35:H:903:PHE:CE1	35:H:983:LYS:HG2	2.44	0.52
2:I:142:ASN:O	2:I:145:GLU:C	2.53	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:793:ARG:O	7:G:796:PHE:O	2.27	0.52
10:P:72:GLN:O	10:P:76:PHE:HB2	2.09	0.52
13:2:975:ARG:HB2	13:2:977:THR:HG23	1.91	0.52
24:e:124:LEU:HD13	26:g:248:LEU:HD11	1.91	0.52
28:i:14:ARG:NH1	28:i:53:THR:OG1	2.42	0.52
32:A:1282:ASP:H	32:A:1286:MET:HE1	1.75	0.52
7:G:232:ILE:HG13	7:G:271:LEU:HD22	1.91	0.52
12:1:579:ILE:HB	12:1:585:LEU:HB2	1.91	0.52
13:2:1138:ARG:HH21	29:j:523:GLU:HG3	1.74	0.52
24:e:89:TRP:NE1	26:g:196:GLN:O	2.41	0.52
26:g:328:ILE:HD11	26:g:359:ILE:HG23	1.92	0.52
31:l:84:ARG:O	31:l:88:LEU:HB2	2.09	0.52
32:A:1706:ARG:HA	32:A:1709:GLN:HG2	1.92	0.52
17:6:143:LEU:HG	17:6:145:MET:HE3	1.92	0.52
31:l:34:ASN:O	31:l:68:THR:OG1	2.27	0.52
32:A:486:THR:HG21	32:A:528:TYR:HD1	1.74	0.52
35:H:247:GLU:HB3	35:H:295:CYS:HB2	1.92	0.52
3:K:200:LEU:HB3	3:K:410:VAL:HG12	1.92	0.52
10:P:202:LYS:HA	10:P:206:ILE:HD12	1.92	0.52
10:P:361:THR:HG22	10:P:365:LEU:HD12	1.92	0.52
13:2:126:VAL:HG13	13:2:149:ILE:HD11	1.91	0.52
18:7:26:PRO:HB2	18:7:35:LEU:HD11	1.90	0.52
30:k:46:ILE:HD12	31:l:64:THR:HG21	1.91	0.52
32:A:414:LEU:HD13	32:A:419:LEU:HG	1.91	0.52
6:D:413:LEU:HD11	6:D:442:ILE:HG23	1.92	0.52
10:P:12:PRO:HA	10:P:15:VAL:HG22	1.92	0.52
12:1:805:ARG:NH2	13:2:671:GLU:O	2.42	0.52
26:g:275:ASP:OD1	26:g:275:ASP:N	2.43	0.52
29:j:367:SER:HB2	29:j:372:LEU:HD23	1.91	0.52
2:I:462:LYS:O	2:I:465:GLN:NE2	2.43	0.52
12:1:341:GLN:HA	12:1:344:LYS:HG2	1.91	0.52
15:4:56:THR:OG1	15:4:76:PHE:O	2.28	0.52
20:9:56:VAL:HA	20:9:77:THR:HA	1.91	0.52
29:j:198:ARG:HA	29:j:201:ILE:HD12	1.92	0.52
32:A:1759:GLN:HG3	32:A:1797:ARG:HH22	1.74	0.52
5:B:131:GLU:HB2	5:B:173:TYR:HE2	1.75	0.52
12:1:339:LEU:HD13	12:1:342:ARG:HH11	1.74	0.52
12:1:972:THR:HA	12:1:1320:ILE:HD12	1.92	0.52
17:6:147:LYS:NZ	17:6:148:LEU:O	2.41	0.52
32:A:1858:ARG:NH2	32:A:1861:ASP:OD2	2.41	0.52
35:H:559:LEU:HD22	35:H:567:ARG:HH21	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:106:ARG:NH2	5:B:144:SER:OG	2.43	0.51
7:G:482:ALA:O	7:G:486:GLN:NE2	2.42	0.51
13:2:379:ARG:HA	18:7:101:SER:HB2	1.92	0.51
24:e:22:GLU:O	24:e:55:LYS:NZ	2.44	0.51
2:I:347:LEU:O	2:I:352:GLN:NE2	2.44	0.51
5:B:1078:ARG:HE	5:B:1117:LEU:HD13	1.73	0.51
7:G:475:TYR:HE2	7:G:513:ILE:HA	1.76	0.51
10:P:416:LYS:HB2	10:P:419:VAL:HG22	1.91	0.51
11:Q:223:ASP:OD1	11:Q:223:ASP:N	2.43	0.51
12:1:296:ASN:OD1	12:1:297:GLY:N	2.42	0.51
12:1:1403:ASP:O	12:1:1407:CYS:HB3	2.10	0.51
26:g:348:ILE:HG23	26:g:350:GLN:H	1.76	0.51
33:E:994:ARG:HD3	35:H:160:PRO:HD2	1.91	0.51
34:F:88:LEU:HD21	34:F:196:ILE:HD13	1.92	0.51
3:K:197:PRO:HG2	3:K:407:PRO:HB3	1.93	0.51
3:K:292:LYS:NZ	6:D:388:TYR:OH	2.43	0.51
3:K:348:VAL:HG13	3:K:382:MET:HE2	1.92	0.51
12:1:191:ILE:HG22	12:1:198:LEU:HD12	1.92	0.51
12:1:604:ARG:NH2	12:1:643:LYS:O	2.44	0.51
14:3:36:ARG:HE	20:9:41:THR:HB	1.75	0.51
18:7:24:LEU:HB3	18:7:37:TYR:HB3	1.92	0.51
5:B:72:LEU:O	32:A:1296:ARG:NH2	2.44	0.51
6:D:839:SER:HB2	6:D:902:ALA:HB2	1.92	0.51
7:G:215:ARG:NH1	7:G:248:ASP:OD2	2.44	0.51
10:P:67:LEU:HB2	10:P:104:VAL:HG12	1.91	0.51
12:1:511:THR:HG21	13:2:1105:GLU:HG2	1.92	0.51
13:2:1071:ASN:ND2	13:2:1073:GLN:OE1	2.43	0.51
15:4:130:PHE:HB3	15:4:135:LEU:HD23	1.93	0.51
21:a:56:ASP:OD2	21:a:58:ARG:NH2	2.42	0.51
28:i:3:LEU:HD13	29:j:201:ILE:HG21	1.92	0.51
32:A:219:ASP:O	32:A:317:ARG:NH1	2.44	0.51
5:B:247:THR:HA	5:B:277:LEU:HD12	1.92	0.51
6:D:421:ASN:OD1	6:D:428:ARG:NH2	2.44	0.51
25:f:152:ASP:O	25:f:157:PHE:N	2.41	0.51
31:l:33:LEU:HD11	31:l:84:ARG:HH11	1.74	0.51
32:A:702:ILE:HG23	32:A:741:LEU:HD13	1.92	0.51
34:F:191:LEU:HD21	34:F:206:ARG:HG2	1.92	0.51
2:I:64:LEU:HA	2:I:67:GLU:HB2	1.93	0.51
12:1:120:ASP:O	12:1:123:ASN:ND2	2.41	0.51
13:2:39:LEU:O	13:2:483:ARG:NH1	2.43	0.51
30:k:97:LEU:HD23	30:k:108:ILE:HD12	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:H:318:SER:O	35:H:321:GLN:O	2.28	0.51
35:H:445:ASN:HA	35:H:448:LEU:HD12	1.90	0.51
2:I:515:LYS:HE2	3:K:453:PRO:HB3	1.91	0.51
3:K:266:TYR:HB2	3:K:321:VAL:HG22	1.92	0.51
5:B:1145:PRO:HA	5:B:1148:THR:HB	1.92	0.51
10:P:308:GLU:HA	10:P:311:GLU:HG3	1.93	0.51
24:e:127:LYS:HZ2	26:g:213:LEU:HB3	1.75	0.51
33:E:920:LEU:HD12	33:E:924:LEU:HG	1.91	0.51
10:P:128:PHE:HZ	10:P:150:LEU:HD22	1.76	0.51
13:2:661:VAL:HG12	13:2:662:VAL:HG13	1.92	0.51
14:3:154:ARG:HB2	19:8:60:LEU:HG	1.92	0.51
26:g:470:LEU:HD22	26:g:508:TYR:HE2	1.75	0.51
32:A:987:ARG:HH11	32:A:1056:MET:HE1	1.76	0.51
34:F:24:TYR:OH	34:F:175:LEU:O	2.29	0.51
2:I:104:TYR:HA	2:I:107:MET:HG3	1.93	0.51
3:K:67:SER:OG	3:K:68:HIS:ND1	2.43	0.51
5:B:171:PRO:HA	5:B:174:LEU:HG	1.92	0.51
7:G:800:GLN:HB2	7:G:843:LEU:HD12	1.93	0.51
10:P:271:GLN:HA	10:P:274:VAL:HG22	1.93	0.51
15:4:91:CYS:SG	15:4:125:TYR:OH	2.52	0.51
32:A:1174:LEU:HA	32:A:1186:PHE:HE1	1.75	0.51
34:F:7:LEU:O	34:F:127:THR:HA	2.10	0.51
2:I:211:VAL:HG12	2:I:227:ILE:HG12	1.93	0.51
5:B:807:ARG:HH21	32:A:1706:ARG:NH1	2.09	0.51
12:1:244:ARG:HE	12:1:245:PRO:HD2	1.76	0.51
13:2:348:LEU:HG	13:2:350:HIS:HE1	1.76	0.51
13:2:1006:VAL:HG23	13:2:1010:LYS:HD3	1.93	0.51
29:j:493:VAL:HB	29:j:501:ILE:HG23	1.92	0.51
32:A:448:ASN:O	32:A:451:SER:C	2.53	0.51
32:A:768:GLU:HG2	32:A:878:ILE:HD11	1.93	0.51
6:D:856:ASP:OD1	6:D:859:ASN:ND2	2.45	0.50
12:1:408:ARG:HE	12:1:414:PRO:HG2	1.76	0.50
12:1:864:LEU:HD21	12:1:1128:ILE:HD12	1.94	0.50
14:3:76:ASP:OD2	14:3:126:ARG:NH2	2.43	0.50
17:6:4:ILE:HG23	17:6:59:VAL:HG13	1.93	0.50
26:g:314:PHE:O	26:g:317:PHE:C	2.54	0.50
2:I:16:VAL:HG11	2:I:91:ILE:HD13	1.93	0.50
5:B:939:VAL:HG13	5:B:1001:LEU:HD11	1.93	0.50
7:G:189:THR:HB	7:G:193:LEU:HD23	1.93	0.50
7:G:693:PHE:O	7:G:845:ARG:NH2	2.44	0.50
13:2:483:ARG:HB3	13:2:526:LEU:HB3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:8:36:ASP:OD1	19:8:46:ARG:NH1	2.44	0.50
29:j:427:GLU:OE1	29:j:437:GLN:NE2	2.44	0.50
2:I:135:LEU:HD11	2:I:335:SER:HB2	1.93	0.50
2:I:650:LEU:HA	2:I:653:LYS:HE3	1.94	0.50
6:D:561:MET:HA	6:D:564:LEU:HD13	1.92	0.50
11:Q:186:LEU:HD11	33:E:893:ARG:HD3	1.93	0.50
14:3:189:ASP:OD1	14:3:189:ASP:N	2.43	0.50
17:6:32:SER:HB3	17:6:37:MET:H	1.76	0.50
32:A:1053:ALA:O	32:A:1057:GLU:CB	2.52	0.50
32:A:1396:PRO:O	32:A:1400:GLY:N	2.38	0.50
35:H:433:GLU:HA	35:H:436:LYS:HD2	1.94	0.50
10:P:470:VAL:HG13	10:P:511:VAL:HG11	1.93	0.50
12:1:1474:LEU:HB2	16:5:105:ILE:HG23	1.92	0.50
13:2:285:LEU:HD13	13:2:288:ILE:HD11	1.93	0.50
31:l:37:VAL:HG12	31:l:68:THR:HG21	1.94	0.50
5:B:1105:PRO:HA	5:B:1108:VAL:HG22	1.94	0.50
7:G:465:ASP:HA	7:G:468:LEU:HG	1.94	0.50
7:G:695:ALA:HB1	7:G:699:THR:HB	1.94	0.50
21:a:26:ASN:HB2	21:a:37:ARG:HE	1.77	0.50
35:H:444:LYS:HE3	35:H:477:LEU:HD21	1.93	0.50
5:B:416:THR:HG21	5:B:451:LEU:HG	1.94	0.50
5:B:670:ALA:O	5:B:673:GLN:NE2	2.44	0.50
5:B:808:ARG:NH1	32:A:1667:GLN:OE1	2.44	0.50
5:B:1107:LEU:HD22	5:B:1121:ILE:HD12	1.93	0.50
6:D:493:LEU:HD21	6:D:542:PRO:HB2	1.93	0.50
11:Q:17:LEU:HD11	11:Q:98:THR:HG22	1.92	0.50
11:Q:83:MET:O	11:Q:167:HIS:ND1	2.39	0.50
29:j:588:ASP:OD1	29:j:588:ASP:N	2.45	0.50
32:A:448:ASN:O	32:A:451:SER:O	2.30	0.50
32:A:1222:ARG:HA	32:A:1225:ARG:HG2	1.94	0.50
2:I:614:GLY:HA3	2:I:628:ILE:O	2.12	0.50
6:D:414:ASP:HA	6:D:417:VAL:HG22	1.94	0.50
10:P:322:ILE:HA	10:P:326:ILE:HB	1.93	0.50
12:1:831:LEU:H	13:2:715:ASP:HB2	1.76	0.50
13:2:589:LYS:HA	13:2:592:ARG:HD2	1.93	0.50
6:D:803:LEU:HA	6:D:806:SER:HB3	1.94	0.50
12:1:604:ARG:HB2	12:1:628:VAL:HB	1.93	0.50
12:1:756:ALA:O	12:1:759:SER:C	2.55	0.50
13:2:669:GLU:OE1	13:2:669:GLU:N	2.45	0.50
13:2:937:SER:OG	13:2:938:ARG:N	2.44	0.50
13:2:1120:ASN:HB2	13:2:1145:GLN:HB3	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:3:53:ASP:HB2	14:3:160:ARG:HG2	1.93	0.50
32:A:1769:CYS:SG	32:A:1770:CYS:N	2.85	0.50
33:E:985:LEU:HD13	33:E:1009:PRO:HG3	1.93	0.50
6:D:718:GLN:O	6:D:722:ILE:HG12	2.12	0.50
6:D:846:ASP:N	6:D:846:ASP:OD1	2.43	0.50
7:G:222:VAL:HG13	7:G:231:VAL:HG22	1.94	0.50
7:G:477:VAL:O	7:G:481:SER:OG	2.29	0.50
7:G:682:ALA:O	7:G:707:GLN:NE2	2.45	0.50
10:P:350:MET:HE3	10:P:387:ASN:HB3	1.93	0.50
3:K:273:GLU:HG2	3:K:274:LYS:HD3	1.94	0.49
15:4:172:ARG:O	15:4:207:ARG:NH1	2.45	0.49
26:g:137:THR:O	26:g:141:GLU:CB	2.60	0.49
29:j:424:ASP:HB2	29:j:440:ILE:HD12	1.94	0.49
32:A:531:MET:HE2	32:A:533:PHE:HB2	1.93	0.49
35:H:881:ILE:HA	35:H:884:MET:HE3	1.94	0.49
5:B:66:GLN:HA	5:B:69:LYS:HG2	1.94	0.49
6:D:428:ARG:O	6:D:431:SER:OG	2.28	0.49
31:l:112:LYS:NZ	31:l:124:ASP:OD1	2.39	0.49
32:A:2159:LEU:HD12	32:A:2177:ILE:HG23	1.92	0.49
3:K:167:LYS:HA	3:K:171:GLU:O	2.11	0.49
3:K:259:MET:HE3	3:K:261:LEU:HD21	1.95	0.49
6:D:284:PHE:HE2	6:D:320:THR:HG21	1.77	0.49
6:D:727:LEU:HD11	6:D:761:PHE:CG	2.47	0.49
7:G:396:LEU:O	7:G:400:ASP:HB2	2.12	0.49
7:G:792:GLN:HG3	7:G:793:ARG:H	1.78	0.49
13:2:149:ILE:HG22	13:2:440:ILE:HG21	1.95	0.49
31:l:31:THR:HB	31:l:94:LYS:HD3	1.94	0.49
32:A:565:ASP:OD2	32:A:641:ARG:NH2	2.45	0.49
32:A:703:ASP:O	32:A:707:ASN:ND2	2.46	0.49
33:E:802:PRO:HG3	35:H:409:ARG:HE	1.77	0.49
3:K:163:MET:HE3	3:K:176:THR:HG22	1.93	0.49
10:P:304:HIS:HA	10:P:348:VAL:HG21	1.93	0.49
10:P:455:VAL:HG13	11:Q:71:ILE:HA	1.94	0.49
12:1:880:ARG:HB3	12:1:884:ASN:HA	1.94	0.49
12:1:1245:CYS:HA	12:1:1258:ARG:O	2.12	0.49
12:1:1329:LYS:NZ	12:1:1330:ALA:O	2.44	0.49
24:e:143:TYR:OH	26:g:335:ASP:OD1	2.30	0.49
32:A:1175:THR:HG21	32:A:1222:ARG:HG2	1.95	0.49
35:H:701:CYS:HA	35:H:704:LEU:HD12	1.94	0.49
35:H:744:GLN:HG3	35:H:746:GLU:HG2	1.93	0.49
2:I:297:VAL:HG22	2:I:421:ILE:HB	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:511:ARG:HB2	3:K:458:LEU:HD13	1.93	0.49
6:D:166:VAL:O	6:D:169:LYS:N	2.46	0.49
6:D:479:LYS:HG3	6:D:521:LEU:HD11	1.93	0.49
12:1:460:ARG:HD2	12:1:501:MET:HE1	1.94	0.49
12:1:922:PHE:H	12:1:1052:ARG:HH11	1.59	0.49
13:2:912:ASN:OD1	13:2:916:TYR:N	2.45	0.49
14:3:76:ASP:N	14:3:76:ASP:OD1	2.44	0.49
29:j:364:ASN:O	29:j:374:LYS:NZ	2.44	0.49
32:A:594:HIS:HB2	32:A:659:ILE:HD11	1.93	0.49
2:I:364:HIS:HA	2:I:367:LEU:HB2	1.94	0.49
2:I:464:VAL:HG23	2:I:466:PRO:HD3	1.93	0.49
6:D:825:ILE:HD11	6:D:891:ARG:HH22	1.77	0.49
12:1:261:ARG:HB3	12:1:276:LEU:HD23	1.94	0.49
13:2:785:TYR:CZ	13:2:955:PRO:HD3	2.48	0.49
14:3:11:ILE:HG23	14:3:21:PHE:HB3	1.94	0.49
32:A:172:PRO:HB3	32:A:214:ALA:HB1	1.95	0.49
32:A:1174:LEU:HD11	32:A:1193:TRP:HD1	1.77	0.49
10:P:217:GLN:HB2	10:P:220:VAL:HG22	1.94	0.49
12:1:77:ASN:O	12:1:77:ASN:ND2	2.44	0.49
19:8:43:TYR:HA	19:8:46:ARG:HB2	1.93	0.49
24:e:145:ASN:HD21	26:g:365:SER:HA	1.77	0.49
2:I:532:LYS:NZ	3:K:502:LEU:O	2.46	0.49
2:I:621:GLU:HG2	2:I:643:LEU:HD11	1.95	0.49
5:B:934:GLN:CA	5:B:934:GLN:HE21	2.25	0.49
10:P:356:LEU:HB3	10:P:360:ASN:HB2	1.95	0.49
13:2:513:GLU:OE2	13:2:525:ASN:ND2	2.46	0.49
18:7:20:CYS:SG	18:7:22:ASN:ND2	2.76	0.49
28:i:14:ARG:HH21	28:i:25:ILE:HG13	1.77	0.49
34:F:115:ARG:NH2	34:F:302:THR:O	2.45	0.49
35:H:30:GLU:OE1	35:H:33:LEU:N	2.43	0.49
6:D:462:ASP:OD1	6:D:463:ILE:N	2.46	0.49
12:1:1010:VAL:HG12	12:1:1014:LYS:HE2	1.94	0.49
30:k:52:ASP:H	30:k:72:TYR:HA	1.76	0.49
32:A:1736:VAL:HA	32:A:1739:ILE:HG22	1.95	0.49
6:D:317:LEU:O	6:D:320:THR:OG1	2.24	0.49
10:P:294:CYS:O	10:P:299:ARG:NH2	2.45	0.49
12:1:963:ARG:HE	12:1:967:ARG:HH21	1.61	0.49
16:5:121:ASP:OD1	16:5:121:ASP:N	2.46	0.49
24:e:17:LEU:HB2	24:e:52:VAL:HG13	1.94	0.49
29:j:309:PRO:HB2	29:j:311:ILE:HG12	1.94	0.49
33:E:690:GLN:OE1	35:H:988:GLN:NE2	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:737:THR:HA	6:D:740:THR:HG22	1.95	0.48
7:G:641:LEU:HA	7:G:667:ILE:HG21	1.95	0.48
12:1:974:ASP:OD1	12:1:974:ASP:N	2.46	0.48
12:1:1166:LEU:HD23	12:1:1293:LEU:HD23	1.93	0.48
12:1:1359:SER:OG	12:1:1360:ASN:N	2.43	0.48
13:2:470:LEU:HD21	13:2:478:THR:HG23	1.95	0.48
21:a:41:TYR:CE2	21:a:43:ILE:HB	2.48	0.48
29:j:474:MET:HA	29:j:492:ILE:HD11	1.95	0.48
32:A:389:MET:HE3	32:A:422:HIS:CE1	2.48	0.48
1:0:62:LYS:HE2	5:B:472:VAL:HG22	1.95	0.48
2:I:72:SER:OG	2:I:437:GLN:O	2.31	0.48
2:I:253:ALA:O	2:I:256:LYS:NZ	2.45	0.48
3:K:172:SER:N	3:K:198:ASN:OD1	2.46	0.48
5:B:934:GLN:HE21	5:B:934:GLN:C	2.21	0.48
10:P:115:ILE:O	10:P:119:HIS:HB2	2.13	0.48
11:Q:133:CYS:SG	11:Q:143:TRP:HB2	2.53	0.48
12:1:1457:ASN:OD1	12:1:1462:GLN:NE2	2.46	0.48
13:2:782:ILE:HG12	13:2:967:ILE:HD11	1.96	0.48
32:A:449:GLU:OE2	32:A:458:ASN:ND2	2.37	0.48
3:K:515:VAL:HG11	3:K:591:LEU:HB3	1.94	0.48
5:B:28:LYS:HE3	7:G:584:SER:HB2	1.94	0.48
5:B:185:GLN:HG2	5:B:214:LEU:HD11	1.95	0.48
5:B:827:ARG:HB3	5:B:831:MET:HE1	1.94	0.48
5:B:1086:THR:O	5:B:1089:THR:OG1	2.25	0.48
6:D:868:PRO:HD3	6:D:909:VAL:HG22	1.96	0.48
10:P:541:ALA:HB2	10:P:567:LEU:HD23	1.95	0.48
11:Q:139:ASN:ND2	11:Q:141:ASN:OD1	2.46	0.48
12:1:1343:LEU:HD11	12:1:1364:GLU:HB3	1.94	0.48
30:k:4:HIS:HB2	31:l:32:LEU:HD11	1.94	0.48
30:k:14:HIS:HB3	30:k:17:TYR:HD2	1.78	0.48
30:k:29:LYS:O	30:k:32:THR:OG1	2.21	0.48
33:E:735:HIS:O	33:E:739:VAL:CB	2.61	0.48
2:I:526:LEU:O	36:M:654:UNK:N	2.44	0.48
2:I:614:GLY:CA	2:I:628:ILE:O	2.61	0.48
5:B:250:LEU:HD23	5:B:253:LEU:HD12	1.94	0.48
5:B:330:GLU:OE2	5:B:337:TRP:NE1	2.47	0.48
6:D:386:GLU:CD	6:D:387:MET:H	2.21	0.48
7:G:305:ASP:OD1	7:G:305:ASP:N	2.44	0.48
7:G:497:ILE:HD13	7:G:513:ILE:HD11	1.95	0.48
12:1:790:GLN:NE2	12:1:791:GLN:O	2.39	0.48
12:1:823:VAL:HG22	12:1:835:GLU:HB2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:2:474:THR:OG1	13:2:732:ALA:O	2.25	0.48
29:j:546:THR:HG23	29:j:563:MET:HB2	1.96	0.48
35:H:202:LEU:HD22	35:H:252:VAL:HG13	1.95	0.48
5:B:992:GLU:OE2	32:A:1706:ARG:NH2	2.46	0.48
11:Q:118:HIS:HA	11:Q:123:ILE:HG21	1.96	0.48
11:Q:202:ASP:OD1	11:Q:202:ASP:N	2.46	0.48
13:2:1075:MET:HB2	13:2:1082:GLY:HA2	1.95	0.48
17:6:65:TYR:HA	17:6:83:SER:HA	1.96	0.48
29:j:416:ARG:NH2	29:j:446:ASN:OD1	2.47	0.48
29:j:444:ASP:H	29:j:448:ILE:HG12	1.77	0.48
32:A:1241:PRO:HA	32:A:1244:LEU:HD12	1.95	0.48
33:E:996:ILE:HD12	35:H:301:ARG:HB2	1.94	0.48
35:H:726:SER:HA	35:H:809:VAL:HA	1.94	0.48
6:D:474:THR:O	6:D:513:ARG:NH1	2.46	0.48
7:G:356:ASN:HB3	7:G:359:ILE:HD12	1.95	0.48
10:P:22:ASN:O	10:P:28:ARG:NH2	2.46	0.48
12:1:721:HIS:ND1	18:7:110:LEU:HD21	2.28	0.48
12:1:1174:ALA:HB2	18:7:55:VAL:HG23	1.94	0.48
12:1:1212:LEU:HD11	12:1:1289:GLU:HB3	1.95	0.48
12:1:1313:GLN:O	12:1:1318:LYS:NZ	2.45	0.48
26:g:342:PHE:HZ	26:g:390:VAL:HG13	1.79	0.48
32:A:1163:HIS:HB3	32:A:1166:VAL:HG23	1.95	0.48
6:D:398:LEU:HD21	6:D:412:CYS:HB2	1.96	0.48
13:2:91:ILE:HD13	13:2:126:VAL:HG12	1.96	0.48
13:2:1032:PHE:O	14:3:32:ASN:ND2	2.46	0.48
21:a:35:ARG:HB3	21:a:40:GLY:HA2	1.96	0.48
29:j:433:LEU:HB3	29:j:436:LEU:HD12	1.95	0.48
32:A:334:ARG:NH2	32:A:362:GLU:OE1	2.39	0.48
4:c:39:A:O2'	12:1:334:ARG:NH1	2.46	0.48
10:P:218:ASP:N	10:P:218:ASP:OD1	2.46	0.48
12:1:866:LYS:NZ	12:1:1431:SER:OG	2.33	0.48
15:4:80:PRO:HA	15:4:107:GLN:HB2	1.95	0.48
32:A:959:LEU:HD23	32:A:1037:PRO:HD3	1.94	0.48
34:F:39:ARG:NH1	34:F:42:ASP:OD2	2.46	0.48
35:H:604:SER:HB3	35:H:607:LEU:HD23	1.95	0.48
3:K:522:LYS:O	3:K:526:THR:N	2.47	0.48
5:B:1115:PRO:HA	5:B:1118:TYR:HD2	1.79	0.48
7:G:49:PRO:HG3	7:G:86:VAL:HG13	1.96	0.48
10:P:156:PRO:HG3	10:P:195:VAL:HG21	1.96	0.48
12:1:1453:GLY:O	12:1:1457:ASN:ND2	2.47	0.48
14:3:9:VAL:HG22	14:3:23:ILE:HD12	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:5:81:VAL:HG12	16:5:101:LYS:HE2	1.96	0.48
22:b:48:DC:H42	23:d:1:DG:H1	1.60	0.48
24:e:166:LYS:NZ	26:g:539:ASP:O	2.47	0.48
30:k:3:TYR:HB3	31:l:29:ALA:HB1	1.95	0.48
30:k:126:PRO:O	30:k:139:GLN:NE2	2.46	0.48
32:A:1711:ARG:HH12	32:A:1723:LEU:HD13	1.78	0.48
35:H:419:LEU:HD11	35:H:459:ILE:HD12	1.95	0.48
3:K:512:THR:HA	3:K:574:VAL:O	2.13	0.48
7:G:744:TYR:O	7:G:748:MET:HG2	2.13	0.48
10:P:376:GLU:O	10:P:381:ARG:NH2	2.47	0.48
13:2:1156:LYS:HD3	13:2:1160:GLN:HE22	1.78	0.48
17:6:104:THR:HG23	17:6:106:THR:H	1.79	0.48
26:g:446:ASP:HB3	26:g:449:PRO:HB3	1.96	0.48
29:j:712:ILE:HD11	29:j:734:VAL:HG21	1.96	0.48
30:k:88:VAL:HG21	31:l:70:ARG:HD2	1.95	0.48
32:A:1742:GLU:O	32:A:1745:THR:OG1	2.27	0.48
34:F:54:THR:HG23	34:F:56:GLU:H	1.79	0.48
35:H:51:ILE:HD11	35:H:88:VAL:HB	1.96	0.48
35:H:99:LEU:HB3	35:H:108:LEU:HD11	1.95	0.48
35:H:102:SER:HB2	35:H:103:LEU:HD12	1.96	0.48
13:2:309:PHE:O	13:2:312:GLN:NE2	2.43	0.47
13:2:627:ILE:HD11	13:2:663:GLU:HB3	1.96	0.47
15:4:72:MET:HA	15:4:101:ARG:O	2.14	0.47
24:e:151:THR:HG21	26:g:367:VAL:HB	1.96	0.47
5:B:446:PRO:HA	5:B:449:GLU:HB3	1.96	0.47
10:P:287:PHE:HE2	10:P:306:VAL:HG12	1.79	0.47
12:1:1372:GLU:OE2	15:4:148:HIS:NE2	2.41	0.47
13:2:714:PRO:HD2	13:2:1001:PRO:HB3	1.96	0.47
30:k:118:GLU:N	30:k:129:LYS:O	2.44	0.47
35:H:522:PRO:HB3	35:H:592:LEU:HD23	1.95	0.47
35:H:708:LYS:NZ	35:H:710:SER:OG	2.39	0.47
7:G:526:VAL:HG13	7:G:549:LEU:HD21	1.95	0.47
10:P:155:TYR:HD1	10:P:166:LEU:HD11	1.79	0.47
11:Q:282:LEU:HD23	33:E:757:GLY:HA2	1.97	0.47
12:1:636:ILE:O	12:1:637:MET:HE2	2.14	0.47
13:2:833:THR:HB	13:2:836:THR:HB	1.95	0.47
32:A:227:VAL:HG11	32:A:325:VAL:HG13	1.94	0.47
3:K:67:SER:OG	3:K:68:HIS:N	2.46	0.47
3:K:236:LEU:HB3	3:K:348:VAL:HG12	1.95	0.47
6:D:706:LYS:HG3	6:D:710:MET:HE3	1.96	0.47
6:D:792:PRO:HA	6:D:795:VAL:HB	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:823:THR:OG1	6:D:850:THR:OG1	2.31	0.47
12:1:319:ASP:HB3	12:1:340:LYS:HD3	1.95	0.47
12:1:983:LEU:O	12:1:987:ILE:HG12	2.14	0.47
30:k:6:SER:HA	30:k:73:LYS:HA	1.96	0.47
35:H:619:ASP:OD2	35:H:641:ARG:NH1	2.46	0.47
12:1:244:ARG:HB2	12:1:247:TRP:CG	2.50	0.47
12:1:1244:ASN:HB2	12:1:1262:MET:HE1	1.94	0.47
26:g:321:ASP:N	26:g:321:ASP:OD1	2.46	0.47
26:g:417:CYS:HB3	26:g:423:VAL:HG11	1.95	0.47
26:g:516:ILE:HG13	26:g:533:PHE:CE2	2.49	0.47
32:A:1751:ASP:OD1	32:A:1751:ASP:N	2.46	0.47
35:H:74:ASP:O	35:H:79:ARG:NH2	2.47	0.47
35:H:703:GLU:OE1	35:H:713:THR:OG1	2.31	0.47
2:I:603:PHE:HB3	2:I:606:ILE:HD11	1.97	0.47
5:B:207:GLY:HA2	5:B:210:PHE:HB2	1.95	0.47
5:B:477:GLY:HA2	5:B:480:LEU:HD12	1.96	0.47
5:B:697:GLN:HG3	5:B:707:HIS:HE1	1.80	0.47
12:1:1123:ARG:NH1	12:1:1126:GLU:OE2	2.47	0.47
12:1:1211:LEU:HD21	12:1:1258:ARG:HB3	1.97	0.47
32:A:1154:TRP:HE1	32:A:1192:ILE:HG23	1.79	0.47
32:A:1505:ALA:HB1	32:A:1509:ALA:HB2	1.97	0.47
2:I:329:ILE:HD13	2:I:379:ILE:HG22	1.97	0.47
2:I:400:LEU:HD23	2:I:432:ALA:HB1	1.96	0.47
5:B:653:TYR:HB2	5:B:710:LEU:HD21	1.96	0.47
10:P:502:LEU:HD11	10:P:540:VAL:HG22	1.97	0.47
10:P:508:LEU:O	10:P:512:CYS:CB	2.63	0.47
12:1:320:ASN:ND2	12:1:336:LEU:O	2.42	0.47
13:2:310:VAL:HG13	13:2:311:ILE:HD12	1.96	0.47
17:6:104:THR:HG22	17:6:107:GLU:HG3	1.97	0.47
20:9:17:LYS:NZ	20:9:19:ILE:O	2.43	0.47
24:e:9:THR:HA	24:e:12:TRP:HB3	1.95	0.47
26:g:220:LEU:HA	26:g:224:LEU:HD23	1.95	0.47
26:g:455:LEU:HD12	26:g:469:VAL:HG13	1.96	0.47
28:i:94:PRO:HD2	28:i:97:ILE:HD12	1.97	0.47
34:F:5:LEU:HD11	34:F:53:VAL:HG23	1.97	0.47
34:F:210:VAL:HA	34:F:215:MET:HE1	1.97	0.47
34:F:386:TYR:HB2	34:F:390:LEU:HD13	1.96	0.47
35:H:605:PRO:HA	35:H:608:ARG:HG3	1.97	0.47
5:B:733:ILE:HG22	5:B:735:GLY:N	2.29	0.47
6:D:687:LEU:HD13	7:G:711:LEU:HD12	1.96	0.47
7:G:754:HIS:NE2	7:G:758:GLU:OE2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:1:966:LEU:HA	12:1:969:ILE:HG22	1.96	0.47
13:2:224:CYS:SG	13:2:228:SER:OG	2.72	0.47
13:2:228:SER:O	13:2:405:ARG:NH1	2.48	0.47
32:A:1129:ARG:NH2	32:A:1185:GLU:OE1	2.45	0.47
35:H:648:MET:SD	35:H:649:ARG:N	2.88	0.47
2:I:281:PHE:HD1	2:I:421:ILE:HG21	1.79	0.47
5:B:857:PRO:HB3	5:B:884:TYR:HB3	1.97	0.47
12:1:300:ALA:HA	12:1:303:ILE:HB	1.96	0.47
12:1:366:VAL:O	12:1:481:THR:OG1	2.32	0.47
12:1:693:ILE:HG21	13:2:1023:ARG:HE	1.79	0.47
12:1:924:TYR:HA	12:1:930:LEU:HD21	1.96	0.47
16:5:69:ARG:HE	16:5:73:ILE:HG12	1.80	0.47
19:8:67:LYS:HB3	21:a:23:HIS:HB3	1.97	0.47
5:B:807:ARG:HH21	32:A:1706:ARG:HH12	1.63	0.47
10:P:34:LYS:HZ1	35:H:25:PHE:HB2	1.79	0.47
13:2:550:MET:HG3	13:2:577:HIS:HB2	1.97	0.47
13:2:733:MET:HE3	13:2:749:HIS:CD2	2.50	0.47
25:f:244:SER:O	25:f:247:ASP:C	2.58	0.47
32:A:745:ALA:HB1	32:A:753:GLY:HA2	1.97	0.47
32:A:958:LEU:HD12	32:A:997:VAL:HG11	1.98	0.47
5:B:669:LEU:HD11	5:B:676:PRO:HD3	1.96	0.46
6:D:255:LEU:HA	6:D:258:VAL:HG12	1.97	0.46
7:G:692:SER:OG	7:G:693:PHE:N	2.47	0.46
7:G:823:ASN:HD21	7:G:930:SER:C	2.23	0.46
14:3:27:ASP:HB2	14:3:30:VAL:HG23	1.97	0.46
26:g:287:ALA:HA	26:g:293:CYS:HB2	1.96	0.46
33:E:769:GLN:O	33:E:773:ILE:HD12	2.15	0.46
35:H:348:ASP:OD2	35:H:359:ARG:NH1	2.47	0.46
3:K:31:LEU:HD13	3:K:65:ILE:HB	1.97	0.46
3:K:208:THR:HG23	3:K:419:LYS:HG3	1.96	0.46
4:c:43:C:H2'	4:c:44:A:C8	2.50	0.46
5:B:517:MET:HA	5:B:520:ILE:HD12	1.96	0.46
6:D:208:ASP:OD2	6:D:210:ARG:NH2	2.35	0.46
7:G:410:LYS:HE2	7:G:448:LEU:HD11	1.97	0.46
12:1:22:GLN:O	13:2:1170:ARG:N	2.48	0.46
12:1:1192:TRP:HA	12:1:1195:VAL:HG12	1.97	0.46
30:k:55:GLY:HA3	30:k:69:PRO:HG2	1.96	0.46
6:D:336:HIS:NE2	6:D:418:ASP:OD2	2.44	0.46
10:P:105:ARG:HD3	10:P:142:THR:HB	1.97	0.46
12:1:460:ARG:HB2	12:1:501:MET:SD	2.54	0.46
12:1:955:GLU:HA	12:1:958:ARG:HE	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:2:225:LEU:HB2	13:2:228:SER:HB3	1.96	0.46
13:2:866:ILE:HG22	13:2:867:ILE:HG13	1.97	0.46
14:3:58:VAL:HG21	19:8:59:LEU:HD12	1.97	0.46
5:B:418:ARG:HE	5:B:458:TRP:CD1	2.34	0.46
5:B:1013:LYS:NZ	9:n:3:PRO:O	2.36	0.46
6:D:236:GLN:HA	6:D:239:LYS:HG2	1.97	0.46
7:G:800:GLN:HE22	7:G:845:ARG:H	1.63	0.46
7:G:808:LEU:HG	7:G:810:PRO:HD3	1.96	0.46
13:2:477:SER:HB2	13:2:730:LYS:HA	1.97	0.46
16:5:80:MET:HE1	16:5:101:LYS:HB3	1.97	0.46
34:F:404:PRO:HG2	34:F:409:ARG:HH21	1.80	0.46
35:H:466:ILE:HG12	35:H:474:ARG:HH11	1.81	0.46
5:B:1051:LEU:HD11	5:B:1099:PHE:HB2	1.96	0.46
6:D:388:TYR:HA	6:D:391:ARG:HD2	1.98	0.46
10:P:302:ALA:O	10:P:306:VAL:HG13	2.16	0.46
13:2:764:MET:HE2	13:2:769:PHE:HB3	1.97	0.46
22:b:25:DC:H2"	22:b:26:DG:H8	1.81	0.46
32:A:767:MET:HA	32:A:770:VAL:HG22	1.98	0.46
32:A:1736:VAL:HG11	32:A:1778:LYS:HD3	1.96	0.46
34:F:396:LEU:HA	34:F:400:HIS:HB2	1.97	0.46
35:H:637:ASP:N	35:H:637:ASP:OD1	2.48	0.46
1:0:61:GLU:HG2	7:G:522:ASN:HD21	1.81	0.46
2:I:130:VAL:HG21	2:I:194:ILE:HG12	1.97	0.46
5:B:302:VAL:HG12	5:B:391:LEU:HD11	1.97	0.46
6:D:529:HIS:HA	6:D:530:PRO:HD3	1.83	0.46
7:G:486:GLN:O	7:G:490:LEU:HB2	2.15	0.46
10:P:73:LEU:HA	10:P:76:PHE:HB3	1.98	0.46
11:Q:89:ARG:NH2	11:Q:265:TYR:OH	2.46	0.46
29:j:538:GLU:O	29:j:549:VAL:HA	2.15	0.46
31:l:20:LEU:HB2	31:l:22:PHE:HE2	1.79	0.46
32:A:153:ARG:HA	32:A:204:VAL:HG21	1.97	0.46
32:A:1154:TRP:HA	32:A:1201:PRO:HB3	1.97	0.46
33:E:940:ARG:HD3	33:E:941:LEU:HD22	1.98	0.46
1:0:43:TRP:CD1	7:G:793:ARG:HH11	2.34	0.46
2:I:381:GLY:O	2:I:384:SER:OG	2.24	0.46
5:B:1055:ILE:HD11	5:B:1099:PHE:HA	1.97	0.46
12:1:798:ILE:O	12:1:820:ARG:NH1	2.48	0.46
13:2:263:ILE:HG22	13:2:265:GLN:H	1.81	0.46
20:9:103:GLU:HA	20:9:106:ARG:HE	1.80	0.46
25:f:244:SER:O	25:f:249:ASP:N	2.49	0.46
30:k:97:LEU:HB3	30:k:108:ILE:HB	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A:1749:ASP:HB3	32:A:1753:ALA:HB3	1.98	0.46
35:H:112:LEU:HB3	35:H:146:TYR:HD1	1.79	0.46
3:K:398:ILE:HG21	3:K:423:LEU:HD11	1.97	0.46
5:B:1035:MET:HB3	5:B:1035:MET:HE2	1.74	0.46
12:1:603:ILE:HG12	12:1:629:VAL:HG22	1.98	0.46
12:1:1149:ARG:NH1	26:g:524:ASP:OD2	2.48	0.46
14:3:105:VAL:HG11	14:3:115:VAL:HG22	1.96	0.46
16:5:96:GLU:HG3	16:5:102:ILE:HG13	1.97	0.46
24:e:17:LEU:HD13	24:e:55:LYS:HB2	1.97	0.46
28:i:16:CYS:SG	28:i:17:LEU:N	2.89	0.46
33:E:928:HIS:HE1	35:H:361:SER:HB3	1.81	0.46
33:E:993:HIS:HA	33:E:996:ILE:HG23	1.96	0.46
35:H:116:LEU:HG	35:H:121:VAL:HB	1.98	0.46
35:H:298:ASP:HB3	35:H:301:ARG:HD2	1.98	0.46
2:I:49:LEU:HA	2:I:52:LEU:HG	1.97	0.46
2:I:590:PRO:O	2:I:594:PHE:HB2	2.15	0.46
5:B:43:ARG:O	5:B:43:ARG:NH1	2.46	0.46
5:B:806:PRO:HD2	5:B:809:ILE:HD13	1.98	0.46
10:P:359:ASP:N	10:P:359:ASP:OD1	2.49	0.46
12:1:886:VAL:HG23	15:4:171:PRO:HD3	1.98	0.46
12:1:1139:LEU:HB2	12:1:1341:VAL:HG23	1.98	0.46
13:2:803:ARG:NH1	19:8:7:CYS:O	2.49	0.46
13:2:1028:LEU:HD23	13:2:1041:ILE:HB	1.98	0.46
35:H:655:LEU:HD21	35:H:660:ALA:HB2	1.97	0.46
3:K:52:THR:HG21	3:K:57:LEU:HA	1.98	0.46
10:P:316:ASP:N	10:P:316:ASP:OD1	2.46	0.46
12:1:1030:SER:OG	15:4:162:ARG:NE	2.43	0.46
20:9:47:LYS:HG3	20:9:61:TYR:CD1	2.51	0.46
24:e:9:THR:HG21	24:e:40:ASN:HB3	1.96	0.46
5:B:161:PHE:HE2	5:B:163:LYS:HB2	1.81	0.45
7:G:192:ASP:OD1	7:G:193:LEU:N	2.49	0.45
12:1:1301:ILE:HB	12:1:1345:ARG:HE	1.81	0.45
12:1:1416:ARG:HA	12:1:1419:VAL:HG12	1.98	0.45
13:2:1138:ARG:HD3	13:2:1139:GLY:H	1.81	0.45
23:d:18:DG:H2"	23:d:19:DG:C8	2.52	0.45
30:k:35:GLU:OE2	31:l:44:ARG:NH2	2.49	0.45
35:H:649:ARG:NH2	35:H:683:PHE:O	2.50	0.45
35:H:836:LEU:HB3	35:H:859:ALA:HB2	1.98	0.45
3:K:14:ASP:OD1	3:K:15:VAL:N	2.43	0.45
3:K:72:ASP:OD1	3:K:72:ASP:N	2.47	0.45
10:P:346:ALA:HB2	10:P:380:VAL:HG23	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:1:395:THR:OG1	16:5:76:CYS:SG	2.63	0.45
12:1:563:LEU:HA	12:1:563:LEU:HD23	1.84	0.45
24:e:139:LEU:H	26:g:260:ARG:HD3	1.81	0.45
35:H:61:PRO:HA	35:H:72:PRO:HD3	1.97	0.45
12:1:480:SER:HB3	20:9:2:ASN:HB2	1.98	0.45
12:1:1344:MET:SD	12:1:1368:VAL:HG11	2.56	0.45
12:1:1471:PHE:CZ	16:5:64:ARG:HD3	2.52	0.45
13:2:669:GLU:HA	13:2:672:THR:HG22	1.98	0.45
17:6:54:ASP:HB3	17:6:147:LYS:HE2	1.99	0.45
26:g:531:ARG:HG3	26:g:565:THR:HG22	1.97	0.45
29:j:602:VAL:HG21	29:j:636:PHE:HE2	1.81	0.45
35:H:279:PHE:HA	35:H:282:LYS:HE3	1.99	0.45
35:H:919:GLN:HB2	35:H:948:ARG:HH22	1.81	0.45
2:I:412:TRP:HB3	2:I:441:MET:HE1	1.99	0.45
7:G:155:VAL:HG11	7:G:193:LEU:HD21	1.98	0.45
10:P:266:LYS:HA	10:P:266:LYS:HD2	1.78	0.45
13:2:908:MET:HB3	13:2:920:LYS:HB2	1.98	0.45
24:e:65:ARG:HD2	24:e:65:ARG:HA	1.76	0.45
24:e:100:PHE:HB2	24:e:106:LEU:HD23	1.99	0.45
34:F:206:ARG:HD3	34:F:208:TYR:HE1	1.80	0.45
35:H:82:LYS:HB3	35:H:114:GLU:HG2	1.98	0.45
2:I:93:LEU:HD22	2:I:113:ILE:HD11	1.97	0.45
2:I:629:GLU:HB2	2:I:632:SER:HB3	1.98	0.45
3:K:234:LYS:HD3	3:K:340:TRP:CE2	2.51	0.45
5:B:1150:LEU:HD12	33:E:612:PRO:HG2	1.99	0.45
6:D:894:THR:OG1	6:D:895:GLN:N	2.49	0.45
7:G:494:ALA:HA	7:G:497:ILE:HG22	1.98	0.45
7:G:851:CYS:O	7:G:908:SER:O	2.34	0.45
10:P:63:ASP:N	10:P:63:ASP:OD1	2.50	0.45
10:P:338:ASN:HB3	10:P:341:VAL:HG22	1.98	0.45
12:1:92:LYS:NZ	12:1:219:GLU:OE2	2.40	0.45
13:2:205:VAL:HG11	13:2:371:ARG:HG3	1.98	0.45
13:2:718:GLN:HG2	13:2:720:PRO:HD2	1.98	0.45
13:2:763:SER:HA	13:2:766:TYR:HD2	1.82	0.45
17:6:72:ASP:OD1	17:6:72:ASP:N	2.50	0.45
26:g:329:ARG:NE	26:g:363:ALA:O	2.37	0.45
5:B:599:TYR:CZ	5:B:603:ILE:HD11	2.52	0.45
5:B:775:ILE:HA	5:B:778:LEU:HB2	1.98	0.45
11:Q:23:LEU:HD23	11:Q:27:GLN:HB3	1.98	0.45
11:Q:74:LYS:HD3	11:Q:74:LYS:HA	1.78	0.45
11:Q:171:SER:HB3	11:Q:174:ILE:HG12	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:6:100:GLU:HG3	17:6:113:SER:HB2	1.98	0.45
24:e:138:PRO:HA	26:g:260:ARG:HB2	1.99	0.45
26:g:328:ILE:HG13	26:g:333:PHE:HE2	1.82	0.45
32:A:525:GLU:HB2	32:A:528:TYR:CD2	2.52	0.45
32:A:902:LEU:HD23	32:A:913:PHE:HD2	1.81	0.45
2:I:468:HIS:NE2	2:I:508:PRO:O	2.50	0.45
3:K:510:ARG:HE	3:K:575:SER:HG	1.58	0.45
5:B:456:LEU:HD23	5:B:456:LEU:HA	1.83	0.45
13:2:949:TYR:HB3	13:2:953:ASP:HB2	1.97	0.45
14:3:83:GLN:HE22	14:3:87:ASP:HB3	1.81	0.45
17:6:7:GLU:HA	17:6:58:LEU:O	2.17	0.45
17:6:89:GLU:OE2	17:6:147:LYS:N	2.48	0.45
26:g:538:LEU:HD13	26:g:574:PRO:HB2	1.98	0.45
29:j:479:LYS:N	29:j:519:GLN:O	2.41	0.45
35:H:656:ARG:HB3	35:H:659:ILE:HG13	1.98	0.45
2:I:543:VAL:N	2:I:554:GLN:O	2.43	0.45
3:K:256:TRP:CH2	3:K:263:VAL:HB	2.52	0.45
5:B:84:ILE:HD13	5:B:87:LEU:HD12	1.98	0.45
6:D:205:SER:OG	6:D:239:LYS:NZ	2.49	0.45
20:9:45:ILE:HD12	20:9:94:LEU:HD21	1.98	0.45
20:9:47:LYS:HZ1	20:9:59:ALA:HB1	1.82	0.45
32:A:814:ALA:O	32:A:819:LYS:N	2.46	0.45
32:A:2171:MET:N	32:A:2171:MET:SD	2.90	0.45
33:E:937:PHE:CD2	35:H:162:LYS:HB3	2.52	0.45
34:F:298:LEU:HD11	34:F:448:LEU:HD21	1.98	0.45
2:I:544:LEU:HD23	3:K:479:LEU:HD11	1.98	0.45
7:G:522:ASN:OD1	7:G:523:GLY:N	2.50	0.45
11:Q:239:ARG:HH21	11:Q:241:HIS:HB3	1.80	0.45
11:Q:272:GLN:OE1	11:Q:288:GLN:NE2	2.49	0.45
13:2:764:MET:HB2	13:2:769:PHE:HB3	1.98	0.45
13:2:965:ILE:HG21	13:2:1048:TYR:HE2	1.82	0.45
17:6:37:MET:SD	17:6:127:GLY:HA3	2.57	0.45
23:d:42:DT:H6	23:d:42:DT:H2'	1.60	0.45
33:E:604:SER:HA	33:E:607:LEU:HG	1.98	0.45
34:F:245:VAL:HG12	34:F:247:ASP:H	1.81	0.45
34:F:429:LYS:HD3	34:F:432:ARG:HE	1.82	0.45
5:B:921:VAL:O	5:B:925:GLU:HG2	2.17	0.45
5:B:1038:CYS:HB2	5:B:1064:LEU:HD11	1.99	0.45
10:P:362:ILE:HA	10:P:366:LEU:HD23	1.99	0.45
32:A:1269:VAL:HG22	32:A:1307:LEU:HD13	1.99	0.45
2:I:409:MET:HE2	2:I:409:MET:HB3	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:219:ARG:NH2	6:D:421:ASN:HB2	2.32	0.44
7:G:431:VAL:HG11	7:G:463:LEU:HB3	1.98	0.44
11:Q:261:SER:HA	11:Q:273:ALA:HB1	1.99	0.44
12:1:406:VAL:HG21	12:1:440:LEU:HD11	1.98	0.44
13:2:759:VAL:HG11	13:2:986:GLN:HG2	1.99	0.44
32:A:1151:PHE:HB2	32:A:1161:THR:HG22	1.98	0.44
32:A:2092:MET:HE1	32:A:2104:PHE:CD1	2.52	0.44
33:E:706:GLY:HA3	33:E:855:PRO:HD2	1.98	0.44
33:E:734:ARG:HH12	33:E:738:ALA:HB3	1.82	0.44
35:H:298:ASP:OD2	35:H:301:ARG:N	2.44	0.44
35:H:648:MET:HE1	35:H:651:PRO:HD3	1.98	0.44
3:K:70:HIS:CE1	4:c:26:U:H5'	2.53	0.44
3:K:148:LEU:HA	3:K:168:VAL:HG22	1.99	0.44
5:B:87:LEU:HD22	5:B:139:LEU:HD21	1.99	0.44
5:B:135:SER:HA	5:B:138:ARG:HD2	1.99	0.44
6:D:570:PHE:CD1	6:D:589:LEU:HD23	2.52	0.44
7:G:457:ALA:HA	7:G:463:LEU:HD12	1.98	0.44
12:1:998:PRO:O	12:1:1059:ARG:NH1	2.49	0.44
13:2:193:VAL:HG21	13:2:470:LEU:HD13	1.98	0.44
14:3:44:ILE:HG21	14:3:178:PRO:HB3	1.99	0.44
14:3:173:HIS:HB3	14:3:175:LYS:HG2	1.99	0.44
24:e:138:PRO:HA	26:g:260:ARG:HD3	1.99	0.44
32:A:466:LEU:HD12	32:A:470:SER:HA	1.99	0.44
32:A:1241:PRO:HB3	32:A:1276:LEU:HD13	1.99	0.44
33:E:532:LEU:HD23	35:H:490:LEU:HD21	1.98	0.44
1:0:42:ASN:ND2	1:0:44:ASP:O	2.46	0.44
5:B:1147:ILE:HG21	33:E:615:LEU:HD13	1.98	0.44
6:D:206:ASP:O	6:D:212:ARG:NH2	2.51	0.44
13:2:360:LYS:HG2	13:2:553:LEU:HD21	1.99	0.44
30:k:86:ASP:O	31:l:67:TYR:OH	2.35	0.44
31:l:41:LEU:HB3	31:l:65:LEU:HD13	1.99	0.44
32:A:835:SER:OG	32:A:843:ARG:NH1	2.47	0.44
32:A:958:LEU:HD22	32:A:968:THR:HG23	1.99	0.44
32:A:2088:LEU:HD13	32:A:2091:LEU:HD11	2.00	0.44
35:H:752:MET:HG3	35:H:757:LEU:HB3	1.99	0.44
2:I:113:ILE:HG23	2:I:114:THR:HG23	1.98	0.44
12:1:33:ARG:HE	13:2:1139:GLY:HA2	1.82	0.44
13:2:905:ASP:OD1	13:2:906:GLN:N	2.51	0.44
26:g:241:ALA:O	26:g:245:MET:HG2	2.17	0.44
32:A:406:ILE:HG22	32:A:444:LEU:HD12	2.00	0.44
32:A:1067:LEU:HD22	32:A:1120:LEU:HD21	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:H:26:GLU:HB3	35:H:33:LEU:HD13	1.99	0.44
5:B:122:LEU:HD13	5:B:129:GLU:HG3	1.99	0.44
5:B:575:ASP:OD1	5:B:576:TRP:N	2.49	0.44
6:D:608:ASP:OD1	6:D:608:ASP:N	2.48	0.44
12:1:483:ARG:HH22	20:9:67:LEU:HD12	1.81	0.44
14:3:77:ASP:OD1	14:3:126:ARG:NH2	2.48	0.44
35:H:526:ARG:HG3	35:H:569:LEU:HD21	1.99	0.44
10:P:34:LYS:HZ3	35:H:25:PHE:HD2	1.65	0.44
10:P:206:ILE:HA	10:P:209:PHE:HB3	2.00	0.44
11:Q:17:LEU:HD13	11:Q:99:LEU:HA	2.00	0.44
12:1:912:SER:OG	12:1:1325:ASP:O	2.30	0.44
12:1:1141:VAL:HB	12:1:1336:LEU:HB2	2.00	0.44
13:2:789:ASN:OD1	13:2:789:ASN:N	2.50	0.44
29:j:478:VAL:HB	29:j:518:LEU:HD22	2.00	0.44
32:A:1092:LEU:HD12	32:A:1096:ARG:HD2	2.00	0.44
33:E:928:HIS:CD2	35:H:357:GLN:HB3	2.52	0.44
33:E:942:LEU:HD23	33:E:942:LEU:HA	1.76	0.44
2:I:626:ILE:HG23	2:I:635:ILE:HG13	2.00	0.44
2:I:626:ILE:HD11	2:I:647:LEU:HD11	2.00	0.44
3:K:173:VAL:HG13	3:K:199:LEU:HB3	1.99	0.44
3:K:222:LEU:HA	3:K:225:VAL:HG12	1.99	0.44
5:B:1062:SER:HB2	5:B:1109:SER:HB3	1.98	0.44
10:P:262:MET:HB3	10:P:262:MET:HE3	1.73	0.44
12:1:421:ARG:NH1	12:1:444:TYR:OH	2.50	0.44
13:2:187:ILE:HG21	13:2:449:ALA:HB2	1.99	0.44
13:2:274:ARG:NH1	13:2:308:ALA:O	2.51	0.44
14:3:72:PRO:HB3	19:8:6:ARG:HH21	1.82	0.44
29:j:352:VAL:HG23	29:j:359:LEU:HD21	1.99	0.44
33:E:629:LEU:O	33:E:676:ARG:NH2	2.50	0.44
33:E:642:SER:H	35:H:858:GLN:HE21	1.66	0.44
35:H:411:ASN:ND2	35:H:413:GLU:OE1	2.50	0.44
3:K:546:LEU:HB2	3:K:550:SER:HB3	1.99	0.44
5:B:283:LEU:HD11	5:B:339:MET:HB3	2.00	0.44
6:D:839:SER:N	6:D:959:LYS:O	2.51	0.44
11:Q:58:VAL:HB	11:Q:86:TYR:HB3	1.99	0.44
14:3:256:LEU:HD12	20:9:91:ILE:HG23	1.99	0.44
18:7:65:LEU:HD12	18:7:122:ARG:HG3	2.00	0.44
24:e:94:ALA:O	24:e:98:LYS:HB3	2.18	0.44
35:H:28:LEU:HD21	35:H:81:LEU:HG	2.00	0.44
3:K:308:PHE:HZ	3:K:313:ALA:HB2	1.83	0.44
3:K:561:ALA:HB2	3:K:573:LEU:HG	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:942:LEU:HA	5:B:945:ILE:HD12	1.99	0.44
6:D:442:ILE:HD13	6:D:442:ILE:HA	1.87	0.44
6:D:880:ALA:O	6:D:883:ARG:NH1	2.51	0.44
12:1:867:SER:HB2	12:1:1414:ILE:HG23	2.00	0.44
12:1:922:PHE:HA	12:1:1052:ARG:HD3	2.00	0.44
13:2:56:GLN:HA	13:2:59:VAL:HG12	2.00	0.44
26:g:338:MET:O	26:g:338:MET:HE3	2.17	0.44
32:A:434:HIS:CD2	32:A:436:ASP:HB2	2.53	0.44
32:A:1167:VAL:HA	32:A:1170:MET:HE2	1.99	0.44
33:E:897:THR:OG1	33:E:934:LEU:O	2.30	0.44
34:F:230:GLY:HA3	34:F:267:LEU:HD21	1.99	0.44
2:I:382:ASP:OD1	2:I:382:ASP:N	2.50	0.43
4:c:39:A:H2'	4:c:40:A:C8	2.53	0.43
6:D:658:ASP:OD2	6:D:711:TYR:OH	2.35	0.43
10:P:129:VAL:HA	10:P:132:VAL:HG22	1.99	0.43
10:P:564:LEU:HD23	10:P:564:LEU:HA	1.87	0.43
11:Q:35:ALA:HA	11:Q:38:ILE:HG22	1.99	0.43
12:1:376:ASP:OD2	12:1:473:ARG:NH2	2.51	0.43
12:1:583:ARG:NH1	14:3:222:PRO:O	2.51	0.43
13:2:48:ASP:O	13:2:52:GLN:HB2	2.18	0.43
24:e:26:PRO:HG2	24:e:29:ILE:HG13	1.99	0.43
28:i:75:GLN:O	28:i:111:ARG:NH1	2.51	0.43
29:j:367:SER:HA	29:j:372:LEU:HA	2.00	0.43
32:A:1673:LEU:HD12	32:A:1673:LEU:HA	1.87	0.43
5:B:283:LEU:HA	5:B:286:THR:HG22	1.99	0.43
5:B:1125:LEU:HD23	5:B:1125:LEU:HA	1.78	0.43
6:D:662:THR:HG23	6:D:707:MET:HE2	2.00	0.43
10:P:34:LYS:NZ	35:H:23:CYS:HB2	2.33	0.43
12:1:108:ARG:NH2	22:b:32:DA:OP1	2.47	0.43
12:1:450:MET:SD	12:1:450:MET:N	2.91	0.43
32:A:742:LEU:HD13	32:A:766:LEU:HB3	1.99	0.43
32:A:987:ARG:HD3	32:A:1056:MET:HE1	1.99	0.43
34:F:167:ARG:NH2	34:F:226:LYS:O	2.42	0.43
34:F:338:ILE:HD13	34:F:377:VAL:HG11	2.00	0.43
2:I:260:VAL:HG11	2:I:507:LEU:HD13	2.00	0.43
3:K:207:ALA:H	3:K:419:LYS:HD2	1.83	0.43
5:B:1182:ASP:N	5:B:1182:ASP:OD1	2.49	0.43
6:D:197:GLN:HA	6:D:200:ILE:HG12	1.99	0.43
7:G:493:LEU:HA	7:G:496:VAL:HG12	2.00	0.43
7:G:672:LYS:HE2	7:G:672:LYS:HB2	1.84	0.43
12:1:1339:ASP:OD1	12:1:1339:ASP:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:2:171:LEU:HD12	13:2:171:LEU:HA	1.86	0.43
14:3:92:GLU:CD	14:3:93:PHE:H	2.26	0.43
18:7:36:LEU:HD11	18:7:45:GLN:HB3	2.00	0.43
26:g:305:LEU:HD12	26:g:310:ILE:HD12	2.00	0.43
28:i:23:LYS:HB2	28:i:28:PHE:CE1	2.53	0.43
30:k:151:ARG:HH12	30:k:160:ILE:HG13	1.84	0.43
35:H:47:PRO:O	35:H:51:ILE:HG12	2.18	0.43
2:I:110:LEU:O	2:I:114:THR:OG1	2.34	0.43
2:I:156:TRP:CE2	2:I:157:LYS:HG3	2.54	0.43
2:I:597:THR:HG21	2:I:654:PHE:CZ	2.53	0.43
5:B:772:MET:HE3	5:B:772:MET:HB3	1.79	0.43
5:B:1142:ASP:OD1	5:B:1142:ASP:N	2.48	0.43
7:G:829:LEU:HB2	7:G:892:PHE:HB2	2.00	0.43
10:P:144:ARG:HD2	10:P:181:VAL:HG11	2.01	0.43
12:1:1430:CYS:HB2	12:1:1439:LEU:HG	1.99	0.43
14:3:81:LYS:HB3	14:3:81:LYS:HE2	1.75	0.43
26:g:469:VAL:HG12	26:g:503:LEU:HD21	2.00	0.43
29:j:607:HIS:HB3	29:j:610:ARG:HD2	2.00	0.43
32:A:964:ASP:OD1	32:A:967:THR:OG1	2.28	0.43
34:F:156:GLU:OE2	34:F:455:TYR:OH	2.35	0.43
34:F:230:GLY:HA2	34:F:270:VAL:HG23	2.00	0.43
35:H:37:HIS:HD2	35:H:40:LYS:HD2	1.83	0.43
2:I:252:GLN:HA	2:I:255:LEU:HB2	1.99	0.43
2:I:344:ALA:HB1	2:I:355:VAL:HG21	2.01	0.43
5:B:88:LEU:HA	5:B:92:PHE:HZ	1.83	0.43
5:B:836:LEU:HD23	5:B:836:LEU:HA	1.86	0.43
6:D:262:LEU:HD23	6:D:262:LEU:HA	1.88	0.43
7:G:622:LYS:HE3	7:G:622:LYS:HB2	1.80	0.43
10:P:263:VAL:O	10:P:267:PHE:HB2	2.19	0.43
11:Q:59:HIS:HD1	11:Q:265:TYR:HE1	1.67	0.43
12:1:770:VAL:HG21	12:1:781:ILE:HD11	2.01	0.43
14:3:59:LEU:HD21	19:8:2:ILE:HG13	2.00	0.43
15:4:91:CYS:HA	15:4:94:MET:HE2	2.01	0.43
20:9:43:GLY:O	20:9:47:LYS:HG2	2.18	0.43
23:d:17:DT:H2"	23:d:18:DG:C8	2.54	0.43
24:e:69:ASP:OD1	24:e:72:LYS:NZ	2.40	0.43
32:A:610:HIS:CE1	32:A:614:LYS:HE2	2.53	0.43
32:A:2107:ALA:O	32:A:2111:MET:HG2	2.18	0.43
34:F:414:SER:HA	34:F:417:LYS:HD2	1.99	0.43
2:I:281:PHE:CD1	2:I:421:ILE:HG21	2.53	0.43
2:I:636:ILE:HG13	3:K:512:THR:HB	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:31:LEU:HD11	3:K:166:ILE:HD11	2.00	0.43
5:B:73:ARG:HH12	32:A:1295:GLU:C	2.26	0.43
5:B:236:GLN:NE2	5:B:316:TRP:O	2.51	0.43
7:G:705:LEU:HD21	7:G:745:GLU:HG3	2.00	0.43
10:P:178:THR:OG1	10:P:180:MET:SD	2.75	0.43
10:P:358:LYS:HE2	10:P:396:GLY:H	1.84	0.43
10:P:533:VAL:HB	10:P:536:VAL:HG12	2.01	0.43
12:1:14:PRO:HG2	12:1:16:ARG:HH21	1.82	0.43
12:1:253:LEU:HD13	12:1:283:ILE:HG21	2.00	0.43
12:1:781:ILE:HG23	12:1:785:ILE:HD12	1.99	0.43
12:1:1164:THR:HA	12:1:1168:LYS:HZ3	1.83	0.43
12:1:1403:ASP:HA	12:1:1406:THR:HG22	2.00	0.43
14:3:101:PHE:HB2	14:3:163:ALA:HB3	2.01	0.43
19:8:56:ILE:HD12	19:8:56:ILE:HA	1.81	0.43
35:H:204:ALA:HA	35:H:207:LYS:HD2	2.01	0.43
35:H:732:LYS:HD3	35:H:738:ARG:HE	1.84	0.43
35:H:832:ASN:OD1	35:H:834:SER:OG	2.24	0.43
2:I:219:ALA:H	2:I:222:SER:HB3	1.84	0.43
6:D:448:GLN:HA	6:D:451:THR:HG22	2.00	0.43
6:D:467:LEU:HD23	6:D:467:LEU:HA	1.81	0.43
12:1:92:LYS:HE2	12:1:92:LYS:HB2	1.89	0.43
12:1:587:THR:HG23	12:1:590:GLN:H	1.82	0.43
12:1:922:PHE:HB2	12:1:1052:ARG:HB2	2.01	0.43
12:1:1475:LEU:HA	16:5:104:ILE:HD13	2.01	0.43
16:5:91:LEU:HA	16:5:94:MET:HG3	1.99	0.43
29:j:279:VAL:HG12	29:j:383:THR:HA	2.00	0.43
32:A:375:LEU:HD22	32:A:384:ALA:HB1	2.00	0.43
32:A:390:SER:O	32:A:394:ASN:ND2	2.39	0.43
32:A:650:GLU:HA	32:A:653:LEU:HD12	1.99	0.43
2:I:294:ASN:N	2:I:418:ASN:OD1	2.51	0.43
2:I:296:LEU:HD21	2:I:405:VAL:HG23	2.00	0.43
5:B:76:SER:HB2	32:A:1296:ARG:CZ	2.49	0.43
5:B:149:ILE:HG12	5:B:163:LYS:HG2	2.00	0.43
6:D:670:LEU:HD11	6:D:728:GLN:HG2	2.01	0.43
6:D:869:ASP:OD1	6:D:869:ASP:N	2.49	0.43
7:G:235:LEU:HD23	7:G:235:LEU:HA	1.87	0.43
11:Q:206:ARG:NH1	11:Q:208:GLY:O	2.51	0.43
12:1:201:GLU:HA	12:1:212:LYS:O	2.19	0.43
13:2:836:THR:O	13:2:888:THR:OG1	2.36	0.43
14:3:25:ASN:N	14:3:227:GLU:OE1	2.46	0.43
14:3:193:ARG:HD3	14:3:193:ARG:HA	1.85	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A:2049:PRO:HA	32:A:2052:LYS:HE2	2.01	0.43
33:E:639:LEU:HD12	33:E:639:LEU:HA	1.90	0.43
2:I:441:MET:HE2	2:I:441:MET:HB2	1.80	0.43
5:B:350:ILE:HD11	5:B:384:LYS:HD2	2.00	0.43
7:G:204:MET:HE2	7:G:204:MET:HB2	1.88	0.43
13:2:622:CYS:HB3	13:2:666:ASP:HB3	2.01	0.43
24:e:91:LEU:HD21	24:e:113:GLN:HE22	1.84	0.43
29:j:535:GLU:H	29:j:538:GLU:HG3	1.84	0.43
35:H:524:ARG:HA	35:H:524:ARG:HD2	1.76	0.43
6:D:545:ILE:HD12	6:D:576:LEU:HD11	2.00	0.43
12:1:477:LEU:HD22	12:1:483:ARG:HG3	2.00	0.43
12:1:565:MET:SD	12:1:565:MET:N	2.92	0.43
12:1:698:THR:O	12:1:702:ILE:HG12	2.18	0.43
13:2:285:LEU:HA	13:2:288:ILE:HG12	2.01	0.43
13:2:758:LEU:HD23	13:2:758:LEU:HA	1.90	0.43
14:3:44:ILE:HD13	14:3:178:PRO:HB3	2.00	0.43
19:8:48:MET:HE2	19:8:48:MET:HB3	1.92	0.43
20:9:50:LEU:HD23	20:9:50:LEU:HA	1.89	0.43
32:A:146:VAL:HG13	32:A:187:LEU:HG	2.00	0.43
33:E:996:ILE:HD11	35:H:301:ARG:HH21	1.84	0.43
34:F:309:PHE:HB3	34:F:350:VAL:HG12	2.00	0.43
35:H:555:SER:HA	35:H:558:ILE:HG22	2.01	0.43
3:K:63:CYS:HB3	3:K:144:VAL:HG11	2.00	0.42
5:B:693:ILE:HD11	5:B:710:LEU:HB3	2.01	0.42
5:B:778:LEU:HD11	5:B:789:TYR:CD2	2.54	0.42
6:D:166:VAL:HA	6:D:169:LYS:HE2	2.01	0.42
6:D:835:LEU:HB3	6:D:956:ILE:HD13	2.01	0.42
7:G:24:SER:HA	7:G:27:MET:SD	2.59	0.42
7:G:227:SER:HB3	7:G:230:MET:HG2	2.01	0.42
10:P:259:VAL:HA	10:P:262:MET:HE3	2.01	0.42
12:1:67:ARG:HG2	12:1:68:THR:HG23	2.00	0.42
12:1:814:ASP:OD1	12:1:814:ASP:N	2.50	0.42
12:1:1139:LEU:HD13	12:1:1359:SER:HB2	2.00	0.42
13:2:39:LEU:HD12	13:2:483:ARG:HD2	2.01	0.42
13:2:530:ALA:HB1	13:2:621:ILE:HD11	2.01	0.42
13:2:712:PRO:HG2	13:2:939:HIS:CE1	2.54	0.42
15:4:18:MET:HE1	15:4:60:VAL:HG21	2.00	0.42
24:e:93:VAL:HA	24:e:96:ILE:HG22	2.01	0.42
26:g:353:LYS:NZ	26:g:395:ASN:OD1	2.46	0.42
32:A:689:ASP:OD1	32:A:689:ASP:N	2.52	0.42
34:F:386:TYR:CG	34:F:387:PRO:HD3	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:F:428:LYS:NZ	34:F:442:ASP:OD1	2.38	0.42
6:D:811:LEU:HD12	6:D:812:PRO:HD2	2.00	0.42
6:D:874:MET:HE1	6:D:945:THR:HG21	2.01	0.42
10:P:246:PRO:HG3	10:P:249:ARG:HH21	1.84	0.42
12:1:421:ARG:HD2	12:1:444:TYR:CZ	2.54	0.42
12:1:757:GLN:HA	12:1:760:LEU:HG	2.01	0.42
12:1:1371:ILE:HA	12:1:1374:VAL:HG22	2.01	0.42
13:2:299:GLU:HG2	13:2:300:MET:SD	2.59	0.42
31:l:59:GLU:HA	31:l:62:MET:HE2	2.00	0.42
32:A:252:ASN:O	32:A:255:THR:OG1	2.29	0.42
32:A:427:ILE:O	32:A:431:LEU:HG	2.18	0.42
32:A:1152:LEU:HD11	32:A:1167:VAL:HG21	2.01	0.42
32:A:1708:TRP:HE3	32:A:1711:ARG:HD3	1.84	0.42
33:E:658:SER:OG	33:E:667:VAL:HG12	2.20	0.42
34:F:237:LYS:NZ	34:F:239:GLY:O	2.51	0.42
34:F:272:PRO:HA	34:F:279:PRO:HA	2.01	0.42
2:I:219:ALA:HB3	2:I:222:SER:HB2	2.02	0.42
2:I:241:SER:O	2:I:241:SER:OG	2.36	0.42
7:G:851:CYS:HB2	7:G:909:SER:HB2	2.01	0.42
10:P:93:LEU:HB3	10:P:112:LEU:HD21	2.00	0.42
11:Q:176:THR:HA	11:Q:232:ASN:HD21	1.84	0.42
11:Q:274:ALA:HA	11:Q:287:LEU:O	2.19	0.42
12:1:92:LYS:HD2	12:1:307:VAL:HG21	2.01	0.42
13:2:643:LEU:HD12	13:2:643:LEU:HA	1.86	0.42
13:2:808:SER:OG	13:2:809:VAL:N	2.50	0.42
17:6:12:VAL:O	17:6:53:GLY:HA2	2.19	0.42
29:j:428:VAL:HG13	29:j:467:GLU:HG2	2.01	0.42
32:A:974:TYR:HA	32:A:977:ARG:HG2	2.01	0.42
32:A:1746:ARG:HD2	32:A:1754:ALA:HB2	2.01	0.42
33:E:896:ASP:HB3	33:E:899:HIS:CE1	2.54	0.42
35:H:98:ILE:HA	35:H:101:LYS:HG2	2.01	0.42
6:D:428:ARG:O	6:D:432:ILE:HG12	2.19	0.42
6:D:486:LEU:HD12	6:D:486:LEU:HA	1.85	0.42
7:G:103:PHE:CE2	7:G:129:LEU:HD21	2.54	0.42
7:G:515:GLN:O	7:G:518:GLU:HG2	2.20	0.42
7:G:571:ALA:HB2	7:G:596:PHE:HB2	2.00	0.42
10:P:91:PRO:HA	10:P:94:GLU:HG3	2.01	0.42
12:1:239:GLU:HA	12:1:240:PRO:HD3	1.92	0.42
13:2:90:GLN:NE2	13:2:91:ILE:O	2.45	0.42
21:a:35:ARG:HE	21:a:40:GLY:C	2.28	0.42
21:a:58:ARG:NH2	29:j:720:TYR:OH	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:g:524:ASP:OD1	26:g:524:ASP:N	2.49	0.42
32:A:496:ARG:NH2	32:A:628:ASP:OD1	2.53	0.42
32:A:1790:TRP:O	32:A:1793:SER:OG	2.22	0.42
5:B:263:LYS:HZ2	7:G:629:GLN:HG2	1.83	0.42
10:P:171:ARG:HH21	10:P:204:GLU:HG2	1.84	0.42
10:P:237:GLN:HG2	10:P:241:GLU:HG2	2.00	0.42
10:P:493:PRO:O	10:P:498:ARG:NH2	2.51	0.42
10:P:535:ASN:HA	10:P:538:PHE:CE2	2.54	0.42
12:1:72:GLN:HA	29:j:528:VAL:HG11	2.00	0.42
12:1:457:ILE:HG22	12:1:504:HIS:HB2	2.02	0.42
12:1:517:GLU:O	12:1:523:ARG:NE	2.50	0.42
12:1:790:GLN:HA	12:1:822:PHE:HA	2.01	0.42
12:1:1226:LEU:HB3	12:1:1231:ILE:HD11	2.01	0.42
13:2:888:THR:O	13:2:890:ARG:NH2	2.36	0.42
26:g:361:ALA:HB1	26:g:383:LEU:HB2	2.01	0.42
29:j:200:PHE:O	29:j:204:GLN:HB3	2.19	0.42
32:A:549:MET:SD	32:A:582:ILE:HD12	2.59	0.42
1:0:53:SER:HA	1:0:56:LEU:HB3	2.02	0.42
3:K:3:GLU:HG3	3:K:447:PRO:HA	2.02	0.42
5:B:168:PHE:HE1	5:B:181:LEU:HD11	1.83	0.42
5:B:510:LYS:HZ2	5:B:512:SER:H	1.66	0.42
5:B:516:ARG:O	5:B:519:THR:OG1	2.31	0.42
12:1:1210:TRP:CD1	12:1:1285:LEU:HD22	2.54	0.42
13:2:1062:ARG:CZ	13:2:1065:GLY:H	2.33	0.42
13:2:1062:ARG:NH2	13:2:1066:PRO:O	2.51	0.42
16:5:66:LEU:HD13	16:5:97:LEU:HD22	2.02	0.42
19:8:46:ARG:O	19:8:50:LEU:HB2	2.19	0.42
29:j:554:GLU:OE2	29:j:559:GLN:NE2	2.52	0.42
32:A:1153:ARG:NE	32:A:1202:THR:OG1	2.52	0.42
32:A:1171:VAL:HA	32:A:1174:LEU:HD12	2.02	0.42
35:H:529:LEU:HD23	35:H:569:LEU:HD12	2.02	0.42
35:H:545:SER:HB3	35:H:548:TRP:CE3	2.54	0.42
35:H:933:TRP:HB3	35:H:982:ARG:HD2	2.02	0.42
2:I:356:TYR:OH	3:K:94:HIS:ND1	2.52	0.42
3:K:70:HIS:HE1	3:K:157:HIS:NE2	2.03	0.42
5:B:1059:GLN:O	5:B:1062:SER:OG	2.30	0.42
6:D:561:MET:H	6:D:562:PRO:HD2	1.84	0.42
7:G:474:LEU:HA	7:G:477:VAL:HG22	2.01	0.42
10:P:20:LEU:HD13	10:P:60:TYR:HE1	1.84	0.42
10:P:455:VAL:HB	10:P:458:ILE:HG12	2.01	0.42
12:1:1166:LEU:HG	12:1:1170:THR:HG23	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:1:1212:LEU:HD22	12:1:1259:ILE:HD13	2.01	0.42
13:2:68:GLN:HB3	13:2:81:PRO:HB2	2.00	0.42
13:2:779:ILE:O	13:2:964:ASP:N	2.45	0.42
15:4:84:ILE:HA	15:4:87:ILE:HG12	2.02	0.42
15:4:125:TYR:HD2	15:4:127:LEU:HD21	1.85	0.42
26:g:577:GLU:O	26:g:581:HIS:ND1	2.53	0.42
29:j:426:VAL:HG12	29:j:470:LYS:HA	2.01	0.42
4:c:42:C:H2'	4:c:43:C:C6	2.55	0.42
5:B:263:LYS:NZ	7:G:594:LEU:HD23	2.34	0.42
5:B:580:GLN:O	5:B:584:THR:OG1	2.32	0.42
6:D:471:LEU:HD23	6:D:471:LEU:HA	1.83	0.42
6:D:712:SER:HA	6:D:855:GLN:HE22	1.85	0.42
6:D:878:LYS:HA	6:D:879:PRO:HD3	1.92	0.42
10:P:467:LYS:HB2	10:P:507:VAL:HG11	2.01	0.42
12:1:41:ILE:HG22	12:1:55:GLY:HA2	2.02	0.42
12:1:549:THR:HG21	12:1:640:LEU:H	1.84	0.42
12:1:811:ILE:HD12	18:7:79:PRO:HB3	2.02	0.42
13:2:1046:THR:OG1	13:2:1047:TYR:N	2.53	0.42
26:g:414:LEU:HD11	26:g:427:VAL:HG21	2.01	0.42
29:j:200:PHE:CD1	29:j:210:LEU:HB2	2.55	0.42
32:A:1163:HIS:HE1	32:A:1165:LEU:HD23	1.85	0.42
3:K:293:THR:HG21	3:K:299:MET:HE2	2.02	0.42
10:P:190:GLY:O	10:P:230:ASN:ND2	2.53	0.42
12:1:140:ARG:HD2	12:1:237:GLY:HA3	2.01	0.42
13:2:168:ASP:N	13:2:168:ASP:OD1	2.53	0.42
17:6:88:PHE:CD1	17:6:146:LYS:HG3	2.55	0.42
35:H:469:LEU:HD23	35:H:469:LEU:HA	1.87	0.42
35:H:715:LYS:HG2	35:H:800:PRO:HG3	2.02	0.42
5:B:622:GLN:HE21	5:B:622:GLN:HB3	1.72	0.42
7:G:441:ALA:O	7:G:446:ARG:NH2	2.53	0.42
7:G:800:GLN:NE2	7:G:841:PRO:O	2.53	0.42
7:G:852:LEU:HA	7:G:907:GLU:O	2.20	0.42
11:Q:129:PHE:HZ	11:Q:146:PHE:HD2	1.68	0.42
12:1:566:PHE:HB2	12:1:675:VAL:HG12	2.02	0.42
13:2:844:ILE:HD11	29:j:707:GLY:HA2	2.02	0.42
13:2:1162:LEU:HD22	13:2:1167:ILE:HG21	2.02	0.42
15:4:17:ILE:HG22	15:4:18:MET:HE2	2.02	0.42
24:e:110:LEU:O	24:e:114:ASN:ND2	2.35	0.42
29:j:638:CYS:SG	29:j:639:LYS:N	2.93	0.42
32:A:1194:PHE:O	32:A:1230:ARG:NH2	2.34	0.42
34:F:322:LEU:HD23	34:F:322:LEU:HA	1.94	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:H:206:LEU:HD23	35:H:206:LEU:HA	1.91	0.42
35:H:865:ASP:O	35:H:868:ASN:ND2	2.53	0.42
1:0:51:ASP:OD1	1:0:51:ASP:N	2.53	0.41
5:B:742:ARG:HH12	5:B:782:SER:HB2	1.85	0.41
6:D:410:GLU:HG2	6:D:411:LYS:HG3	2.02	0.41
12:1:192:ARG:NH1	12:1:199:TYR:HB2	2.35	0.41
12:1:551:ARG:HA	12:1:589:LYS:HZ1	1.85	0.41
13:2:199:LYS:O	13:2:392:ARG:N	2.45	0.41
13:2:676:ALA:HB2	13:2:693:TYR:HB3	2.02	0.41
13:2:707:CYS:O	13:2:711:ILE:HG13	2.20	0.41
23:d:21:DT:H2"	23:d:22:DC:H5'	2.02	0.41
24:e:141:CYS:HA	24:e:144:LEU:HG	2.01	0.41
29:j:508:MET:SD	29:j:633:GLY:HA2	2.60	0.41
29:j:550:ILE:HA	29:j:560:VAL:HG22	2.01	0.41
29:j:747:ARG:HA	29:j:750:LEU:HD12	2.02	0.41
32:A:1669:SER:O	32:A:1672:THR:OG1	2.26	0.41
34:F:290:TRP:CG	34:F:357:LYS:HG3	2.55	0.41
5:B:412:LEU:HG	5:B:448:GLN:HG2	2.02	0.41
5:B:807:ARG:HH12	32:A:1668:SER:C	2.28	0.41
7:G:825:GLN:HG3	7:G:826:GLN:H	1.85	0.41
12:1:136:GLN:HB3	12:1:139:LYS:HB3	2.02	0.41
12:1:366:VAL:HA	12:1:500:GLU:HA	2.02	0.41
12:1:1152:GLU:HG2	12:1:1155:LYS:HE3	2.01	0.41
12:1:1214:VAL:O	12:1:1256:VAL:HA	2.20	0.41
12:1:1353:ASP:O	12:1:1357:THR:OG1	2.29	0.41
14:3:70:LEU:HD23	14:3:175:LYS:HB3	2.01	0.41
26:g:269:ALA:HB1	26:g:274:HIS:HB2	2.01	0.41
26:g:520:LEU:HD13	26:g:556:ILE:HD12	2.00	0.41
29:j:475:GLY:HA3	30:k:148:VAL:HG22	2.02	0.41
32:A:749:PRO:HB2	32:A:872:PRO:HD2	2.02	0.41
32:A:1743:ALA:O	32:A:1746:ARG:NH1	2.53	0.41
34:F:487:ARG:HH22	34:F:527:PHE:HD2	1.67	0.41
35:H:427:ASN:HB3	35:H:430:LYS:HG3	2.02	0.41
35:H:646:LEU:O	35:H:649:ARG:NE	2.53	0.41
5:B:263:LYS:HE2	5:B:263:LYS:HB2	1.91	0.41
5:B:627:ILE:HD13	5:B:651:VAL:HG21	2.02	0.41
5:B:706:LEU:HG	5:B:710:LEU:HD23	2.03	0.41
5:B:807:ARG:HH12	32:A:1668:SER:N	2.17	0.41
5:B:940:GLN:O	5:B:944:GLU:HG2	2.20	0.41
6:D:116:ASN:O	6:D:120:ASN:CB	2.68	0.41
10:P:501:THR:O	10:P:505:ILE:HG12	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:1:1211:LEU:HD21	12:1:1258:ARG:HE	1.84	0.41
13:2:625:LEU:HD13	13:2:675:LEU:HD11	2.01	0.41
15:4:75:PHE:HE1	15:4:93:ARG:HD3	1.85	0.41
17:6:118:TYR:HE2	17:6:143:LEU:HD13	1.85	0.41
20:9:11:LEU:HD23	20:9:11:LEU:HA	1.85	0.41
31:l:90:LYS:HE2	31:l:130:ILE:HG12	2.02	0.41
33:E:910:LEU:HG	33:E:914:MET:HE1	2.03	0.41
2:I:157:LYS:HG2	2:I:175:VAL:HG22	2.02	0.41
2:I:162:GLN:HE21	2:I:172:ALA:HB3	1.85	0.41
6:D:851:LEU:HD13	6:D:861:VAL:HG21	2.02	0.41
10:P:28:ARG:HB2	10:P:65:VAL:HG11	2.02	0.41
11:Q:82:PHE:HE2	11:Q:111:ILE:HD11	1.85	0.41
12:1:11:SER:N	13:2:1135:TYR:OH	2.37	0.41
13:2:436:LYS:HE3	13:2:436:LYS:HB3	1.76	0.41
13:2:608:ARG:HA	13:2:608:ARG:HD2	1.82	0.41
13:2:1068:GLN:NE2	13:2:1074:PRO:O	2.45	0.41
17:6:71:ASP:OD1	17:6:71:ASP:N	2.52	0.41
29:j:485:PHE:HB3	29:j:511:LEU:HD13	2.03	0.41
29:j:597:LYS:HA	29:j:597:LYS:HD3	1.89	0.41
30:k:151:ARG:NH1	30:k:160:ILE:HG13	2.35	0.41
33:E:632:CYS:O	33:E:676:ARG:NH2	2.50	0.41
1:0:67:MET:SD	7:G:548:SER:OG	2.73	0.41
2:I:295:VAL:HA	2:I:419:THR:O	2.20	0.41
3:K:250:ILE:HD13	3:K:250:ILE:HA	1.89	0.41
6:D:233:ILE:HA	6:D:236:GLN:HG2	2.02	0.41
6:D:257:TRP:CD2	6:D:305:LEU:HD12	2.55	0.41
6:D:392:ILE:HD12	6:D:430:GLN:HG3	2.03	0.41
10:P:328:PRO:HA	10:P:331:LYS:HG2	2.01	0.41
10:P:366:LEU:HD21	10:P:395:ILE:HD13	2.01	0.41
12:1:23:PHE:HB3	12:1:1443:ALA:HA	2.03	0.41
12:1:469:MET:O	12:1:470:MET:HE2	2.20	0.41
12:1:760:LEU:HD23	12:1:760:LEU:HA	1.93	0.41
12:1:1175:ILE:HD11	18:7:54:TYR:HB3	2.02	0.41
13:2:161:CYS:SG	13:2:162:LEU:N	2.94	0.41
13:2:563:ASP:OD1	13:2:563:ASP:N	2.54	0.41
13:2:759:VAL:HG12	13:2:999:ALA:HB2	2.02	0.41
14:3:103:LEU:HD13	14:3:120:LEU:HD23	2.03	0.41
17:6:57:ARG:HB2	17:6:148:LEU:HD23	2.02	0.41
29:j:207:ASP:OD1	29:j:207:ASP:N	2.54	0.41
29:j:281:LEU:HD23	29:j:286:TYR:HB2	2.02	0.41
30:k:144:ARG:NE	30:k:167:TYR:O	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:E:540:ALA:HA	33:E:543:VAL:HG12	2.03	0.41
34:F:266:LYS:HD3	34:F:266:LYS:HA	1.83	0.41
2:I:65:ASP:OD1	2:I:65:ASP:N	2.53	0.41
3:K:477:ARG:H	3:K:477:ARG:HD3	1.86	0.41
5:B:162:PHE:CE1	5:B:205:ARG:HB2	2.56	0.41
5:B:600:ILE:HD11	5:B:658:TYR:CD1	2.56	0.41
7:G:289:ARG:NH2	7:G:329:SER:O	2.53	0.41
7:G:743:GLU:HA	7:G:746:ARG:HH11	1.85	0.41
10:P:389:ASP:HA	10:P:392:ASN:HB3	2.02	0.41
13:2:760:THR:O	13:2:999:ALA:N	2.45	0.41
17:6:88:PHE:CE2	17:6:144:LEU:HD23	2.55	0.41
19:8:56:ILE:HG13	19:8:60:LEU:HD13	2.03	0.41
22:b:43:DG:O6	23:d:5:DC:N4	2.53	0.41
24:e:137:LEU:HA	24:e:138:PRO:HD3	1.95	0.41
26:g:215:GLY:HA3	26:g:219:ASN:HD22	1.85	0.41
26:g:353:LYS:O	26:g:357:ILE:HG12	2.20	0.41
32:A:434:HIS:NE2	32:A:436:ASP:HB2	2.36	0.41
32:A:1163:HIS:CE1	32:A:1165:LEU:HD23	2.56	0.41
33:E:861:LEU:HA	33:E:864:VAL:HB	2.01	0.41
33:E:981:GLY:O	33:E:984:HIS:ND1	2.31	0.41
33:E:997:ASP:OD1	33:E:997:ASP:N	2.54	0.41
34:F:40:ALA:HA	34:F:45:SER:HB2	2.02	0.41
35:H:500:ASP:OD1	35:H:500:ASP:N	2.52	0.41
35:H:735:ASN:OD1	35:H:740:SER:OG	2.38	0.41
5:B:239:GLU:O	5:B:244:ARG:NH2	2.54	0.41
7:G:605:THR:O	7:G:608:SER:OG	2.31	0.41
7:G:634:LEU:HD21	7:G:777:LEU:HD23	2.01	0.41
10:P:245:MET:HB3	10:P:246:PRO:HD3	2.02	0.41
10:P:427:MET:SD	10:P:465:ASN:ND2	2.91	0.41
11:Q:244:VAL:C	11:Q:245:MET:HE2	2.46	0.41
13:2:282:ARG:HA	13:2:282:ARG:HD3	1.90	0.41
26:g:272:LYS:HD3	26:g:272:LYS:HA	1.87	0.41
29:j:635:MET:HE3	29:j:636:PHE:N	2.36	0.41
32:A:508:HIS:CD2	32:A:554:THR:HG22	2.56	0.41
33:E:689:LEU:HD13	33:E:812:VAL:HG23	2.01	0.41
34:F:32:VAL:O	34:F:36:MET:HG2	2.20	0.41
34:F:105:VAL:HG13	34:F:464:LYS:HE2	2.03	0.41
2:I:111:PRO:HG2	2:I:182:TYR:CE2	2.56	0.41
5:B:262:LEU:HD12	7:G:595:LYS:HG3	2.02	0.41
5:B:806:PRO:HG2	32:A:1627:PRO:HB2	2.02	0.41
6:D:387:MET:HB3	6:D:388:TYR:H	1.65	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:252:GLN:HE21	7:G:256:LEU:HD11	1.86	0.41
12:1:465:HIS:HD2	12:1:467:MET:HB2	1.86	0.41
12:1:844:ARG:HG3	13:2:501:LEU:HD22	2.03	0.41
14:3:56:SER:HB2	14:3:157:GLN:HB2	2.03	0.41
29:j:188:GLU:HG2	29:j:191:ALA:HB3	2.03	0.41
35:H:118:ILE:HD12	35:H:118:ILE:HA	1.97	0.41
3:K:252:LEU:HA	3:K:252:LEU:HD23	1.84	0.41
3:K:356:GLN:HA	3:K:361:HIS:HB2	2.03	0.41
5:B:174:LEU:HD22	5:B:210:PHE:HZ	1.84	0.41
5:B:561:LEU:HD23	5:B:561:LEU:HA	1.84	0.41
5:B:999:CYS:SG	32:A:1710:GLY:HA3	2.61	0.41
7:G:484:ASP:OD1	7:G:485:LYS:N	2.53	0.41
7:G:675:MET:SD	7:G:679:ARG:NH2	2.94	0.41
7:G:696:ASP:OD1	7:G:696:ASP:N	2.54	0.41
10:P:149:GLY:O	10:P:152:SER:OG	2.29	0.41
12:1:878:THR:OG1	12:1:888:GLN:O	2.32	0.41
12:1:927:GLU:O	12:1:931:ARG:HG2	2.21	0.41
12:1:1343:LEU:HA	12:1:1346:VAL:HG12	2.03	0.41
14:3:153:LEU:HD23	14:3:153:LEU:HA	1.79	0.41
15:4:54:ARG:HD2	15:4:55:ARG:O	2.21	0.41
18:7:112:TYR:O	18:7:122:ARG:HA	2.21	0.41
23:d:20:DC:H2”	23:d:21:DT:C5	2.55	0.41
29:j:268:LYS:HE3	29:j:268:LYS:HB3	1.91	0.41
31:l:33:LEU:HB2	31:l:36:GLU:H	1.86	0.41
31:l:33:LEU:HD12	31:l:80:ILE:HG23	2.02	0.41
32:A:503:ILE:HD12	32:A:551:LEU:HD13	2.02	0.41
32:A:1195:PRO:HD2	32:A:1200:LEU:HD23	2.03	0.41
33:E:489:LEU:HD22	33:E:531:GLU:HG2	2.03	0.41
33:E:914:MET:HB3	33:E:920:LEU:HD23	2.02	0.41
34:F:283:TRP:HB2	34:F:381:VAL:HG12	2.03	0.41
35:H:779:LYS:HG2	35:H:799:TRP:HB2	2.02	0.41
35:H:790:ASP:N	35:H:790:ASP:OD1	2.52	0.41
5:B:656:LEU:HA	5:B:656:LEU:HD23	1.76	0.41
5:B:864:ASP:HB2	5:B:867:VAL:HG23	2.03	0.41
6:D:219:MET:HB3	6:D:255:LEU:HD11	2.02	0.41
12:1:865:ILE:O	12:1:869:GLU:HG3	2.21	0.41
13:2:529:MET:HG2	13:2:702:MET:HB3	2.02	0.41
15:4:112:PRO:HA	15:4:115:LYS:HB2	2.03	0.41
17:6:7:GLU:HB2	17:6:59:VAL:HG22	2.03	0.41
18:7:15:ARG:HG3	18:7:37:TYR:CD2	2.56	0.41
22:b:24:DC:H2”	22:b:25:DC:H5”	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:g:526:ASP:HB3	26:g:529:LEU:HD23	2.02	0.41
29:j:450:ILE:HG21	29:j:468:LEU:HD11	2.03	0.41
33:E:568:PRO:HA	33:E:571:THR:HG22	2.03	0.41
34:F:392:LEU:O	34:F:408:TRP:NE1	2.51	0.41
35:H:45:PRO:HD2	35:H:50:LEU:HD21	2.03	0.41
35:H:333:LEU:HD23	35:H:333:LEU:HA	1.95	0.41
35:H:421:VAL:O	35:H:425:SER:OG	2.27	0.41
35:H:443:LEU:HD13	35:H:465:PHE:CD2	2.56	0.41
35:H:895:THR:OG1	35:H:925:MET:HG3	2.21	0.41
3:K:394:ASP:OD1	3:K:394:ASP:N	2.45	0.40
7:G:103:PHE:HE2	7:G:129:LEU:HD21	1.85	0.40
7:G:667:ILE:O	7:G:671:MET:HG2	2.21	0.40
10:P:212:LEU:HD23	10:P:212:LEU:HA	1.98	0.40
11:Q:206:ARG:HG3	34:F:78:LYS:HB2	2.02	0.40
12:1:393:ILE:HG21	16:5:74:ALA:HB1	2.02	0.40
12:1:512:ARG:HH12	16:5:90:LEU:HD21	1.86	0.40
12:1:743:ARG:HG2	26:g:442:GLN:HB2	2.03	0.40
12:1:802:PHE:HB2	12:1:805:ARG:HG3	2.03	0.40
13:2:267:VAL:HG23	13:2:320:PHE:HE2	1.86	0.40
15:4:26:TYR:HA	15:4:64:HIS:HA	2.04	0.40
15:4:153:LYS:HE2	15:4:153:LYS:HB2	1.97	0.40
32:A:810:GLU:OE1	32:A:827:SER:OG	2.31	0.40
32:A:1289:LEU:O	32:A:1293:GLN:HG2	2.21	0.40
33:E:654:ARG:HA	33:E:654:ARG:HD2	1.88	0.40
34:F:7:LEU:HD11	34:F:91:SER:HB2	2.02	0.40
35:H:47:PRO:HB2	35:H:92:LEU:HD11	2.03	0.40
35:H:568:ASP:O	35:H:572:ILE:HG12	2.21	0.40
2:I:266:LEU:HB2	2:I:475:TYR:CZ	2.56	0.40
5:B:737:ASP:OD1	5:B:737:ASP:N	2.51	0.40
5:B:870:CYS:HA	5:B:871:PRO:HD3	1.93	0.40
5:B:1064:LEU:HD23	5:B:1064:LEU:HA	1.83	0.40
6:D:507:LEU:HA	6:D:507:LEU:HD23	1.90	0.40
7:G:445:ALA:O	7:G:449:MET:HG2	2.21	0.40
10:P:423:ILE:HD13	10:P:423:ILE:HA	1.84	0.40
10:P:516:ILE:O	10:P:520:HIS:HB2	2.21	0.40
12:1:1285:LEU:HD12	12:1:1288:ILE:HD11	2.03	0.40
13:2:908:MET:HE1	21:a:44:MET:H	1.86	0.40
24:e:175:ARG:HH22	26:g:460:THR:HG21	1.87	0.40
26:g:411:LEU:HA	26:g:414:LEU:HB3	2.03	0.40
28:i:24:THR:OG1	28:i:27:GLN:OE1	2.32	0.40
32:A:1275:THR:O	32:A:1279:ASN:ND2	2.53	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A:1293:GLN:HA	32:A:1296:ARG:HB2	2.03	0.40
32:A:2061:GLU:OE2	35:H:754:ARG:NH1	2.54	0.40
34:F:242:PRO:HB3	34:F:311:CYS:HB3	2.03	0.40
2:I:100:LEU:HD13	2:I:225:TRP:CD2	2.57	0.40
5:B:772:MET:HA	5:B:775:ILE:HG12	2.04	0.40
5:B:934:GLN:HA	5:B:934:GLN:HE21	1.86	0.40
6:D:488:GLU:HA	6:D:491:LYS:HB2	2.03	0.40
6:D:492:ASN:C	6:D:492:ASN:HD22	2.29	0.40
11:Q:68:LEU:HD12	11:Q:289:PHE:HZ	1.85	0.40
12:1:238:MET:SD	12:1:243:ALA:HB3	2.61	0.40
12:1:1139:LEU:HD21	12:1:1346:VAL:HG11	2.03	0.40
13:2:48:ASP:HA	13:2:51:ILE:HG22	2.03	0.40
13:2:98:HIS:ND1	13:2:108:MET:SD	2.88	0.40
13:2:604:ILE:HD12	13:2:668:LEU:HB3	2.03	0.40
26:g:245:MET:HE2	26:g:262:ALA:HB2	2.03	0.40
29:j:604:ASP:HB2	29:j:642:HIS:HB3	2.02	0.40
30:k:125:PRO:HA	30:k:126:PRO:HD3	1.93	0.40
34:F:159:LYS:HD2	34:F:159:LYS:HA	1.83	0.40
34:F:235:PHE:HZ	34:F:268:ILE:HD11	1.86	0.40
3:K:9:LEU:O	3:K:17:ARG:NH1	2.52	0.40
5:B:839:SER:HA	5:B:845:GLN:HE21	1.86	0.40
7:G:628:LEU:HA	7:G:628:LEU:HD23	1.81	0.40
10:P:515:ASP:OD1	10:P:515:ASP:N	2.54	0.40
12:1:279:LYS:HD3	12:1:279:LYS:HA	1.78	0.40
12:1:417:LYS:HA	12:1:429:LEU:HB2	2.04	0.40
13:2:283:ASP:O	13:2:287:HIS:ND1	2.45	0.40
17:6:37:MET:HB3	17:6:125:LEU:HD11	2.03	0.40
26:g:343:LYS:O	26:g:347:ARG:NH2	2.54	0.40
26:g:538:LEU:HA	26:g:541:ILE:HG12	2.02	0.40
28:i:14:ARG:HH12	28:i:49:VAL:HG12	1.86	0.40
34:F:389:LEU:HB2	34:F:415:TYR:CZ	2.56	0.40
5:B:134:ASP:N	5:B:134:ASP:OD1	2.54	0.40
5:B:1126:ILE:HD12	5:B:1126:ILE:HA	1.91	0.40
6:D:495:LYS:HE2	6:D:495:LYS:HB2	1.87	0.40
10:P:101:GLU:HB2	10:P:104:VAL:HG22	2.02	0.40
11:Q:182:ALA:HB2	33:E:845:LEU:HD11	2.02	0.40
12:1:1178:ASP:O	12:1:1260:ARG:NH2	2.54	0.40
13:2:343:LEU:HD23	13:2:347:MET:HG3	2.03	0.40
13:2:851:ASP:OD1	13:2:851:ASP:N	2.54	0.40
32:A:1267:GLN:O	32:A:1271:HIS:ND1	2.35	0.40
34:F:154:GLY:HA3	34:F:459:LEU:HD21	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	0	30/70 (43%)	28 (93%)	2 (7%)	0	100	100
2	I	629/658 (96%)	598 (95%)	30 (5%)	1 (0%)	44	78
3	K	586/600 (98%)	554 (94%)	32 (6%)	0	100	100
5	B	1045/1204 (87%)	1004 (96%)	41 (4%)	0	100	100
6	D	814/963 (84%)	748 (92%)	61 (8%)	5 (1%)	22	59
7	G	904/962 (94%)	839 (93%)	62 (7%)	3 (0%)	37	72
8	m	12/14 (86%)	9 (75%)	3 (25%)	0	100	100
9	n	6/8 (75%)	5 (83%)	1 (17%)	0	100	100
10	P	579/589 (98%)	568 (98%)	11 (2%)	0	100	100
11	Q	291/309 (94%)	272 (94%)	19 (6%)	0	100	100
12	1	1407/1970 (71%)	1341 (95%)	63 (4%)	3 (0%)	44	78
13	2	1099/1300 (84%)	1040 (95%)	59 (5%)	0	100	100
14	3	255/275 (93%)	242 (95%)	13 (5%)	0	100	100
15	4	207/210 (99%)	199 (96%)	8 (4%)	0	100	100
16	5	79/127 (62%)	76 (96%)	3 (4%)	0	100	100
17	6	146/150 (97%)	138 (94%)	8 (6%)	0	100	100
18	7	115/125 (92%)	113 (98%)	2 (2%)	0	100	100
19	8	65/67 (97%)	61 (94%)	4 (6%)	0	100	100
20	9	115/117 (98%)	111 (96%)	4 (4%)	0	100	100
21	a	44/58 (76%)	43 (98%)	1 (2%)	0	100	100
24	e	181/528 (34%)	177 (98%)	4 (2%)	0	100	100
25	f	466/580 (80%)	436 (94%)	28 (6%)	2 (0%)	30	68

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	g	530/590 (90%)	490 (92%)	40 (8%)	0	100	100
28	i	114/117 (97%)	112 (98%)	2 (2%)	0	100	100
29	j	470/1087 (43%)	447 (95%)	23 (5%)	0	100	100
30	k	169/172 (98%)	165 (98%)	4 (2%)	0	100	100
31	l	127/142 (89%)	124 (98%)	3 (2%)	0	100	100
32	A	1755/2190 (80%)	1671 (95%)	82 (5%)	2 (0%)	48	83
33	E	794/1019 (78%)	728 (92%)	63 (8%)	3 (0%)	30	68
34	F	560/887 (63%)	539 (96%)	21 (4%)	0	100	100
35	H	933/995 (94%)	888 (95%)	45 (5%)	0	100	100
37	p	2/4 (50%)	2 (100%)	0	0	100	100
38	o	6/8 (75%)	5 (83%)	1 (17%)	0	100	100
All	All	14535/18095 (80%)	13773 (95%)	743 (5%)	19 (0%)	50	83

All (19) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	I	358	PRO
6	D	63	PRO
6	D	106	SER
6	D	561	MET
7	G	553	VAL
12	1	910	LYS
32	A	1816	PRO
33	E	282	ILE
33	E	740	PRO
33	E	742	PRO
6	D	141	LEU
25	f	231	ASN
32	A	904	VAL
7	G	788	PRO
12	1	78	MET
25	f	24	THR
12	1	188	GLN
7	G	189	THR
6	D	147	ILE

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	0	29/63 (46%)	29 (100%)	0	100	100
2	I	575/600 (96%)	575 (100%)	0	100	100
3	K	505/520 (97%)	505 (100%)	0	100	100
5	B	946/1072 (88%)	945 (100%)	1 (0%)	92	94
6	D	616/845 (73%)	616 (100%)	0	100	100
7	G	741/840 (88%)	741 (100%)	0	100	100
8	m	14/14 (100%)	14 (100%)	0	100	100
9	n	8/8 (100%)	8 (100%)	0	100	100
10	P	508/512 (99%)	508 (100%)	0	100	100
11	Q	259/274 (94%)	259 (100%)	0	100	100
12	1	1217/1748 (70%)	1216 (100%)	1 (0%)	92	94
13	2	908/1127 (81%)	908 (100%)	0	100	100
14	3	227/252 (90%)	227 (100%)	0	100	100
15	4	191/192 (100%)	191 (100%)	0	100	100
16	5	70/111 (63%)	70 (100%)	0	100	100
17	6	129/131 (98%)	129 (100%)	0	100	100
18	7	105/112 (94%)	105 (100%)	0	100	100
19	8	56/56 (100%)	56 (100%)	0	100	100
20	9	106/106 (100%)	106 (100%)	0	100	100
21	a	43/55 (78%)	43 (100%)	0	100	100
24	e	158/451 (35%)	158 (100%)	0	100	100
26	g	339/513 (66%)	339 (100%)	0	100	100
28	i	102/103 (99%)	102 (100%)	0	100	100
29	j	425/940 (45%)	425 (100%)	0	100	100
30	k	136/153 (89%)	136 (100%)	0	100	100
31	l	104/126 (82%)	104 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
32	A	1253/1907 (66%)	1253 (100%)	0	100	100
33	E	395/812 (49%)	395 (100%)	0	100	100
34	F	466/796 (58%)	466 (100%)	0	100	100
35	H	822/896 (92%)	822 (100%)	0	100	100
38	o	8/8 (100%)	8 (100%)	0	100	100
All	All	11461/15343 (75%)	11459 (100%)	2 (0%)	100	100

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	B	934	GLN
12	1	77	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (115) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	54	ASN
2	I	74	HIS
2	I	284	ASN
2	I	294	ASN
2	I	369	GLN
2	I	493	GLN
2	I	545	HIS
2	I	551	HIS
3	K	124	GLN
3	K	296	GLN
3	K	332	GLN
3	K	356	GLN
3	K	467	GLN
3	K	518	HIS
3	K	545	HIS
3	K	597	GLN
5	B	82	ASN
5	B	97	GLN
5	B	338	GLN
5	B	413	GLN
5	B	450	GLN
5	B	707	HIS
5	B	756	GLN

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Mol	Chain	Res	Type
5	B	758	GLN
5	B	770	GLN
5	B	777	HIS
5	B	851	ASN
5	B	934	GLN
5	B	989	ASN
5	B	1036	HIS
5	B	1048	GLN
6	D	221	GLN
6	D	430	GLN
6	D	492	ASN
6	D	572	HIS
6	D	644	GLN
6	D	650	GLN
6	D	800	GLN
6	D	895	GLN
7	G	62	ASN
7	G	141	HIS
7	G	185	GLN
7	G	428	GLN
7	G	486	GLN
7	G	823	ASN
10	P	119	HIS
10	P	211	ASN
10	P	312	ASN
10	P	465	ASN
10	P	557	GLN
11	Q	139	ASN
11	Q	141	ASN
11	Q	232	ASN
11	Q	288	GLN
12	1	22	GLN
12	1	77	ASN
12	1	441	GLN
12	1	757	GLN
12	1	804	HIS
12	1	825	ASN
12	1	1194	ASN
12	1	1248	ASN
13	2	486	ASN
13	2	518	HIS
13	2	525	ASN

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Mol	Chain	Res	Type
13	2	593	GLN
13	2	649	ASN
13	2	725	GLN
13	2	838	GLN
13	2	980	HIS
13	2	992	ASN
13	2	1013	ASN
14	3	60	HIS
14	3	223	ASN
14	3	260	GLN
15	4	174	GLN
18	7	118	HIS
20	9	22	ASN
20	9	65	HIS
24	e	118	GLN
24	e	145	ASN
26	g	197	GLN
26	g	233	HIS
29	j	425	ASN
31	l	19	GLN
31	l	38	HIS
31	l	47	GLN
31	l	102	ASN
32	A	210	ASN
32	A	221	ASN
32	A	508	HIS
32	A	727	ASN
32	A	852	GLN
32	A	871	ASN
32	A	1249	GLN
32	A	1278	GLN
32	A	1294	HIS
32	A	1788	GLN
32	A	2152	GLN
33	E	708	GLN
33	E	888	HIS
33	E	899	HIS
33	E	903	HIS
34	F	16	GLN
34	F	217	ASN
35	H	91	HIS
35	H	179	GLN

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Mol	Chain	Res	Type
35	H	194	GLN
35	H	267	ASN
35	H	540	GLN
35	H	613	ASN
35	H	858	GLN
35	H	892	ASN
35	H	919	GLN
35	H	922	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
4	c	20/21 (95%)	8 (40%)	0

All (8) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
4	c	27	A
4	c	28	A
4	c	31	G
4	c	32	G
4	c	33	A
4	c	34	G
4	c	36	G
4	c	39	A

There are no RNA pucker outliers to report.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 13 ligands modelled in this entry, 13 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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.