



# Full wwPDB X-ray Structure Validation Report ⓘ

May 23, 2020 – 02:11 pm BST

PDB ID : 1TWF  
Title : RNA polymerase II complexed with UTP at 2.3 Å resolution  
Authors : Westover, K.D.; Bushnell, D.A.; Kornberg, R.D.  
Deposited on : 2004-06-30  
Resolution : 2.30 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.11  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.11

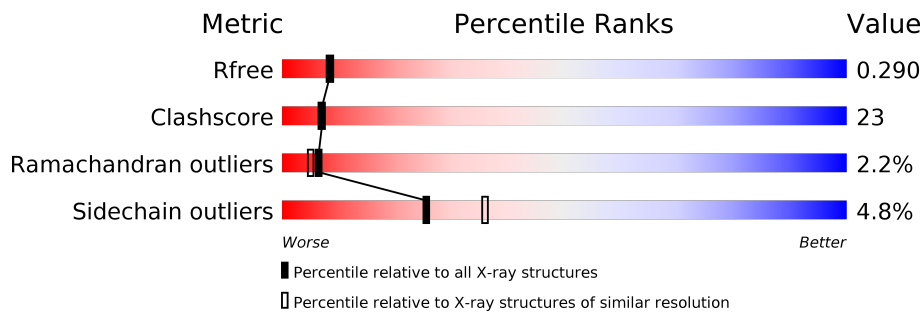
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.30 Å.

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





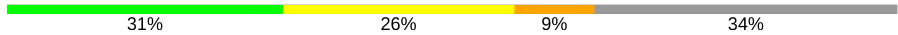
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	5042 (2.30-2.30)
Clashscore	141614	5643 (2.30-2.30)
Ramachandran outliers	138981	5575 (2.30-2.30)
Sidechain outliers	138945	5575 (2.30-2.30)

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

Mol	Chain	Length	Quality of chain
1	A	1733	47% 31% 18%
2	B	1224	51% 36% 11%
3	C	318	44% 37% 16%
4	E	215	66% 33%
5	F	155	33% 21% 46%
6	H	146	45% 40% 7% 9%
7	I	122	68% 29%

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Mol	Chain	Length	Quality of chain
8	J	70	 44% 40% 9% 7%
9	K	120	 54% 38% 5%
10	L	70	 31% 26% 9% 34%

## 2 Entry composition

There are 13 unique types of molecules in this entry. The entry contains 28318 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called DNA-directed RNA polymerase II largest subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	1419	11154	7023	1952	2118	61	0	0	0

- Molecule 2 is a protein called DNA-directed RNA polymerase II 140 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	1094	8711	5525	1519	1614	53	0	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerase II 45 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	266	2095	1317	348	417	13	0	0	0

- Molecule 4 is a protein called DNA-directed RNA polymerases I, II, and III 27 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	E	215	1760	1116	310	322	12	0	0	0

- Molecule 5 is a protein called DNA-directed RNA polymerases I, II, and III 23 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	F	84	679	434	115	127	3	0	0	0

- Molecule 6 is a protein called DNA-directed RNA polymerases I, II, and III 14.5 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	H	133	1068	673	180	211	4	0	0	0

- Molecule 7 is a protein called DNA-directed RNA polymerase II 14.2 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	I	122	997	613	182	191	11	0	0	0

- Molecule 8 is a protein called DNA-directed RNA polymerases I, II, and III 8.3 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	J	65	532	339	93	94	6	0	0	0

- Molecule 9 is a protein called DNA-directed RNA polymerase II 13.6 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	K	114	919	590	156	171	2	0	0	0

- Molecule 10 is a protein called DNA-directed RNA polymerases I, II, and III 7.7 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	L	46	364	224	72	64	4	0	0	0

- Molecule 11 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
11	J	1	Total	Zn	0	0
			1	1		
11	B	1	Total	Zn	0	0
			1	1		
11	I	2	Total	Zn	0	0
			2	2		
11	C	1	Total	Zn	0	0
			1	1		
11	A	2	Total	Zn	0	0
			2	2		

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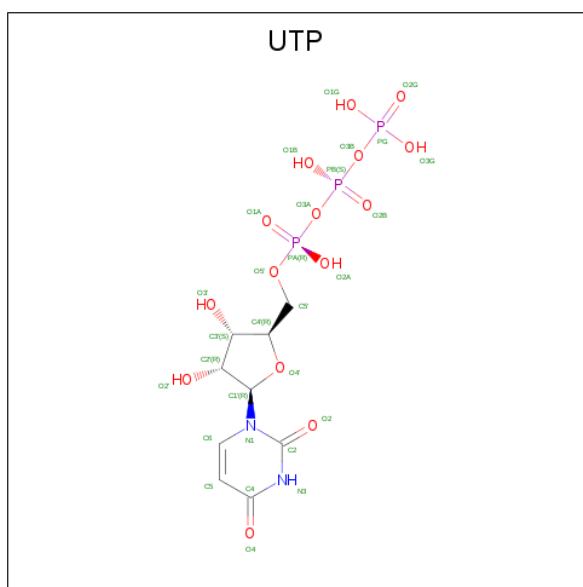
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
11	L	1	Total	Zn	0	0
			1	1		

- Molecule 12 is MANGANESE (II) ION (three-letter code: MN) (formula: Mn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
12	A	2	Total	Mn	0	0
			2	2		

- Molecule 13 is URIDINE 5'-TRIPHOSPHATE (three-letter code: UTP) (formula: C<sub>9</sub>H<sub>15</sub>N<sub>2</sub>O<sub>15</sub>P<sub>3</sub>).

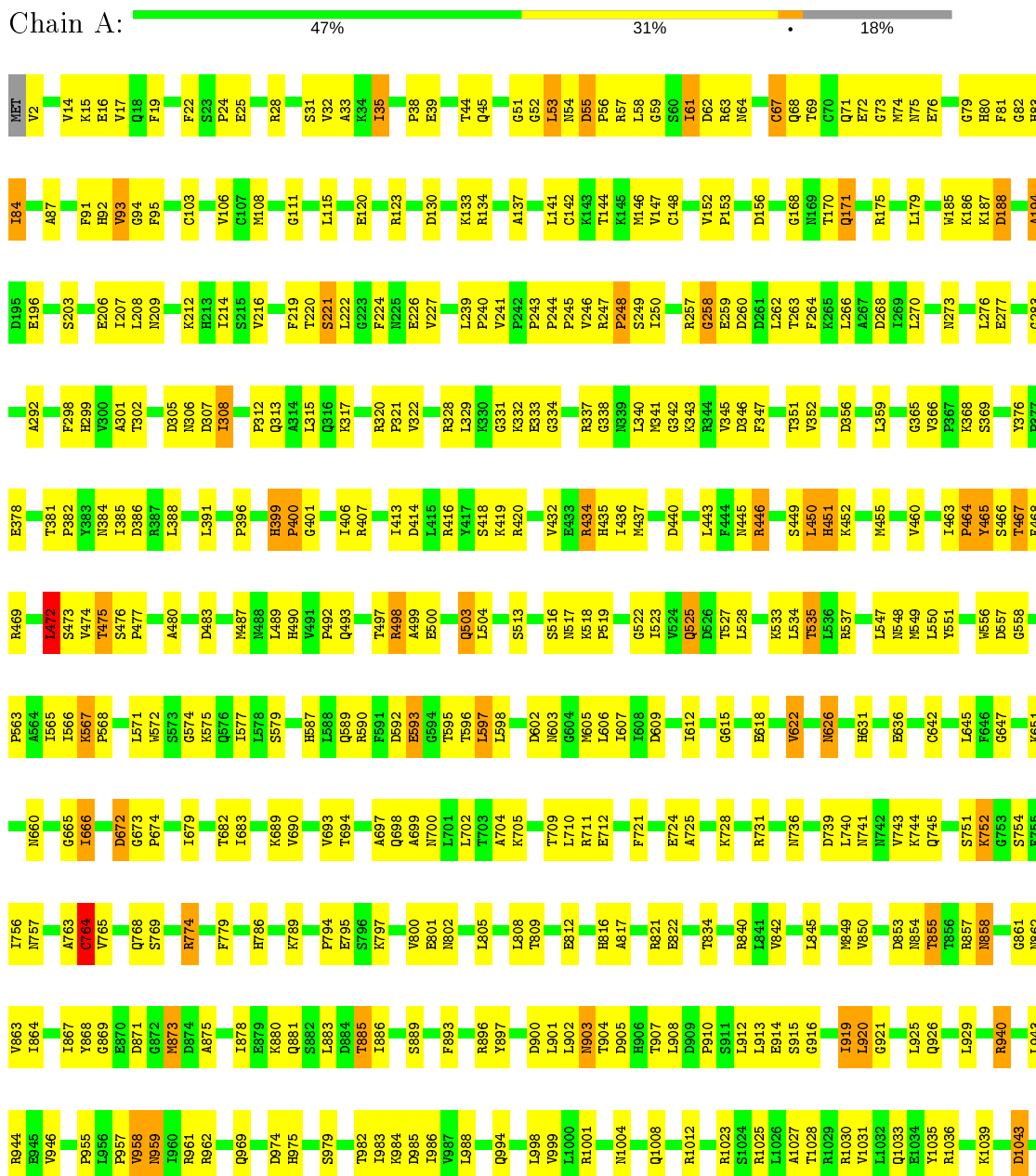


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
13	B	1	29	9	2	15	3	0	0

### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA 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: DNA-directed RNA polymerase II largest subunit



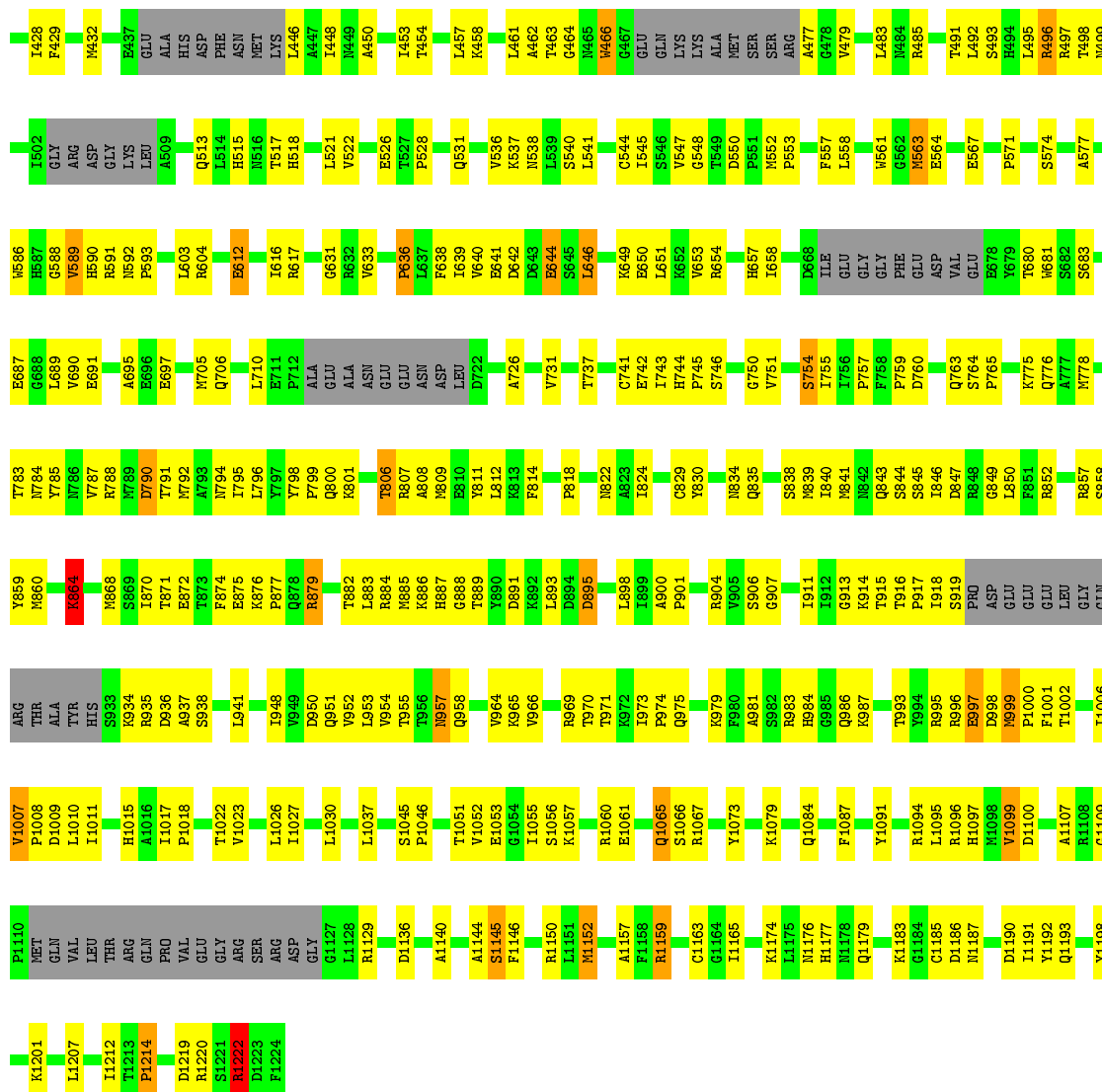
H1048	H1049	V1058	H1059	H1063	V1064	V1066	L1067	A1068	I1072	G1073	E1074	P1075	A1076	T1077	I1078	M1079	L1080	L1081	ASN	THR	PHE	HIS	PHE	ALA	GLY	VAL	ALA	SER	K1092	LEU	S1096	G1097	V1098	P1099	R1100	L1101	K1102	SER	E1103	I1104	L1105	M1106	M1111	P1114	S1115	L1116	T1117	E1118	Y1119	L1120	H1124	D1127
Q1128	E1129	Q1130	A1131	K1132	L1133	I1134	E1139	H1140	K1142	K1144	S1145	V1146	S1150	E1151	I1152	D1155	T1161	I1162	I1163	P1164	E1165	D1166	E1167	Q1171	L1172	H1173	L1176	LEU	ASP	GLU	GLU	ALA	P1099	R1100	L1101	K1102	SER	E1103	I1104	L1105	M1106	M1111	P1114	S1115	L1116	T1117	E1118	Y1119	L1120	H1124	D1127	
K1205	T1208	Q1211	V1212	R1215	I1216	K1217	Q1218	T1219	F1220	K1221	N1222	D1223	I1227	I1238	R1239	V1243	ARG	PRO	LYS	SER	ASP	ASP	ALA	ALA	GLU	THR	GLU	A1254	H1258	M1259	K1262	I1263	E1264	N1265	T1266	M1267	L1268	E1269	M1270	I1271	V1276	E1277	N1278	I1279	E1280	D1281	M1285	K1286	Y1287			
S1293	P1294	T1295	G1296	E1297	V1305	L1306	E1307	T1308	D1309	G1310	F1311	M1312	E1315	T1318	V1319	P1320	G1321	D1322	D1323	P1324	T1325	Y1328	T1329	I1333	E1337	V1338	L1339	I1341	E1342	R1345	L1348	G1437	E1351	V1352	V1355	M1364	Y1365	R1366	L1370	L1371	V1372	D1373	V1374	M1375	T1376	T1377						
S1383	R1386	R1391	S1392	M1393	A1396	L1397	M1398	R1399	C1400	S1401	F1402	E1403	L1409	F1410	A1414	E1417	D1419	E1420	V1424	S1425	E1426	M1427	V1428	G1431	Q1432	M1433	A1434	F1435	I1436	G1437	T1438	F1441	D1446	E1447	E1448	S1449	L1450	VAL	LYS	TYR	GLY	GLY	ALA	THR	THR							
GLU	ILE	GLU	ASP	GLY	GLN	ASP	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	LEU	VAL	ASN	GLY	ASP	ASP	ASP	VAL	LYS	LYS	GLU	LEU	VAL	ASP	ASP	GLY	GLY	GLY	GLY	PHE	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR			
SER	PRO	PHE	GLY	ALA	THR	GLY	GLU	ALA	PRO	THR	PHE	VAL	SER	SER	PRO	PRO	PHE	ALA	LEU	ASP	ASP	VAL	LYS	LYS	GLU	LEU	VAL	ASP	ASP	GLY	GLY	GLY	PHE	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR		
SER	PRO	SER	TYR	SER	PRO	THR	SER	PRO	PRO	TYR	SER	THR	SER	TYR	PRO	PRO	THR	PRO	GLN	ASP	ASP	GLN	LYS	ASN	ASN	PRO	ALA	THR	THR	TYR	PRO	PRO	TYR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
SER	PRO	THR	SER	PRO	THR	SER	PRO	PRO	TYR	SER	THR	SER	TYR	PRO	PRO	ALA	TYR	GLN	ASP	ASP	GLN	LYS	ASN	ASN	PRO	ALA	THR	THR	TYR	PRO	PRO	TYR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
PRO	SER	TYR	SER	THR	SER	PRO	GLY	PRO	PRO	TYR	THR	ALA	SER	PRO	LYS	GLN	ASP	ASP	GLN	LYS	HIS	ASN	ASN	GLU	GLU	ASN	ASN	THR	THR	PRO	PRO	TYR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR

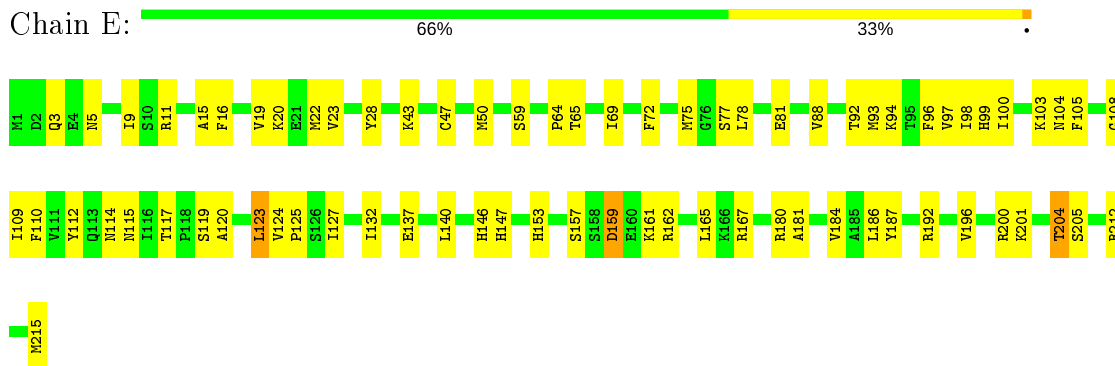
• Molecule 2: DNA-directed RNA polymerase II 140 kDa polypeptide



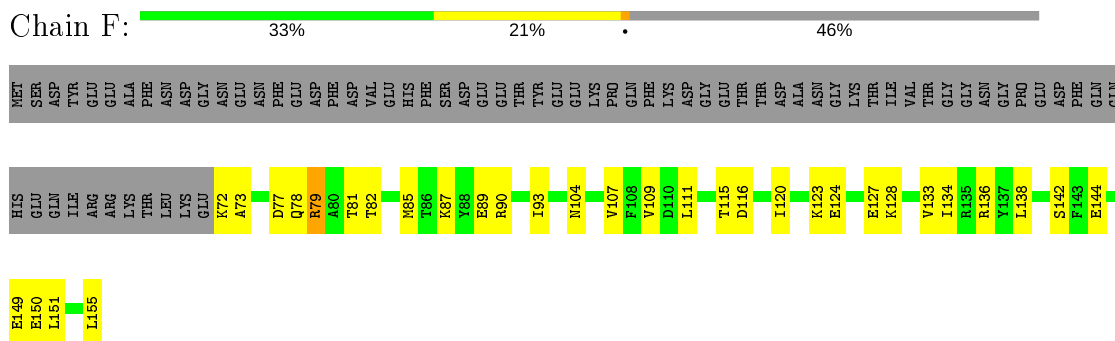
I234	S235	H236	V237	A238	E239	S242	A243	L244	R249	F250	Q255	V256	K257	L258	Y259	G260	R261	E262	A266	R267	T268	K270	P274	Q275	L276	P281	I284	L285	F286	R287	A288	L289	G290	I291	L292	P293	D294	G295	E296	I297	L298	E299	H300	L311	F312	M313	L314	K315	P316				
C317	D320	I324	R327	E328	T329	A330	L331	D332	F333	R336	R337	G338	T339	A340	I343	K344	F345	E346	K347	R348	Y351	I355	L356	Q357	R358	E359	F360	L361	T365	Q366	L367	E371	S372	R373	K374	N383	R384	L385	L386	L387	G402	R405	L420	L424	T425								
ASP	ASN	ILE	SER	LEU	ALA	ARG	LYS	THR	E99	F18	F19	D20	E21	I25	E28	D29	S35	F38	K41	Q46	Q53	F54	T58	L59	Q60	D61	I62	I63	S67	T68	L69	I70	LEU	GLU	GLN	ARG	ILE	ASP	VAL	PRO	GLY	GLY	GLU	LEU	ALA	LYS	GLN	HIS	THR	GLU	LEU	ILE	ALA
GLU	GLU	GLU	ASP	ASP	ASN	GLU	K164	V165	F166	I167	G168	R169	P171	L172	H173	L174	R175	M178	L181	L192	K193	E194	C195	F196	F197	G200	Y202	F203	I204	I205	N206	G207	L212	Q215	E216	R217	S218	A219	I222	V225	F226	E227	A230	P231									



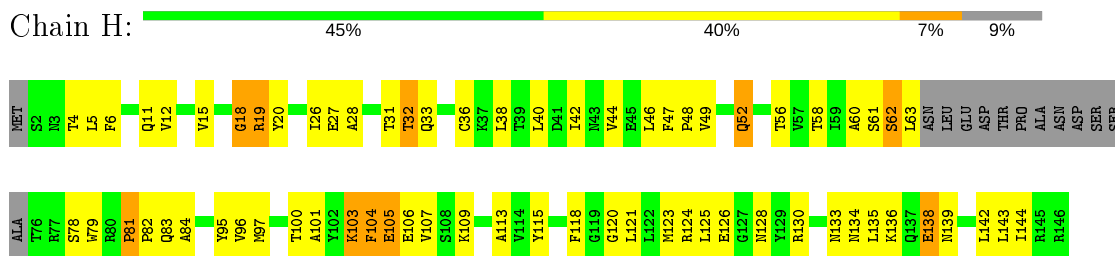




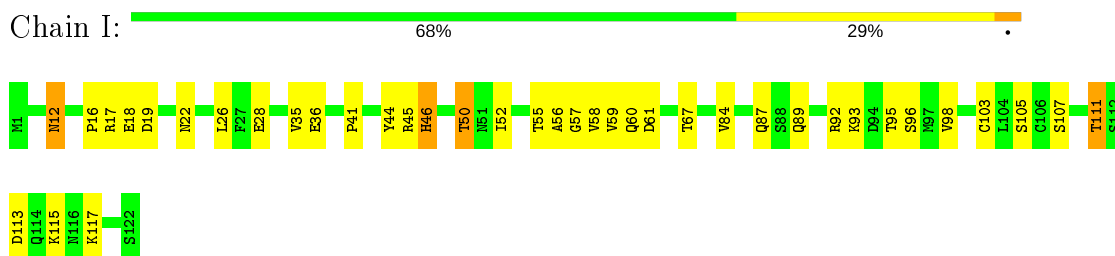
- Molecule 5: DNA-directed RNA polymerases I, II, and III 23 kDa polypeptide



- Molecule 6: DNA-directed RNA polymerases I, II, and III 14.5 kDa polypeptide

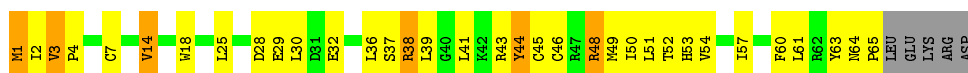


- Molecule 7: DNA-directed RNA polymerase II 14.2 kDa polypeptide



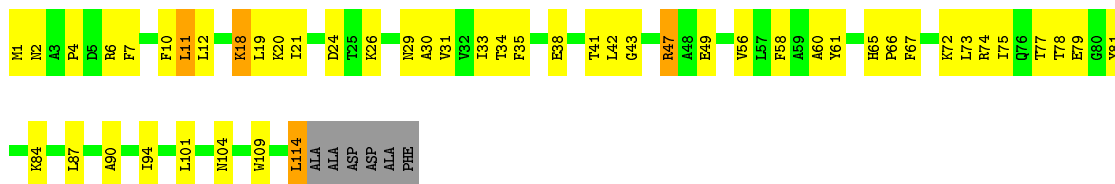
- Molecule 8: DNA-directed RNA polymerases I, II, and III 8.3 kDa polypeptide





- Molecule 9: DNA-directed RNA polymerase II 13.6 kDa polypeptide

Chain K: 54% 38% 5%



- Molecule 10: DNA-directed RNA polymerases I, II, and III 7.7 kDa polypeptide

Chain L: 31% 26% 9% 34%



## 4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	123.00Å 223.00Å 374.00Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 2.30 39.69 – 2.19	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-2.30) 90.5 (39.69-2.19)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	0.95 (at 2.20Å)	Xtrriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.247 , 0.294 0.292 , 0.290	Depositor DCC
$R_{free}$ test set	5166 reflections (2.00%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	47.4	Xtrriage
Anisotropy	0.331	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.33 , 46.7	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.92	EDS
Total number of atoms	28318	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	65.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.09% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

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

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MN, UTP

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.43	1/11352 (0.0%)	0.66	2/15352 (0.0%)
2	B	0.41	0/8882	0.64	1/11976 (0.0%)
3	C	0.41	0/2133	0.60	0/2891
4	E	0.41	0/1796	0.63	1/2416 (0.0%)
5	F	0.44	0/691	0.63	0/933
6	H	0.30	0/1086	0.58	0/1470
7	I	0.40	0/1016	0.60	0/1365
8	J	0.41	0/541	0.65	0/727
9	K	0.39	0/937	0.56	0/1265
10	L	0.37	0/366	0.55	0/485
All	All	0.41	1/28800 (0.0%)	0.64	4/38880 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	764	CYS	CB-SG	-7.44	1.69	1.82

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	472	LEU	CA-CB-CG	-7.72	97.54	115.30
2	B	829	CYS	N-CA-C	-6.17	94.35	111.00
4	E	200	ARG	NE-CZ-NH2	-6.02	117.29	120.30
1	A	779	PHE	N-CA-C	-5.00	97.50	111.00

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts [\(i\)](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	11154	0	11224	555	0
2	B	8711	0	8738	427	0
3	C	2095	0	2051	139	0
4	E	1760	0	1788	53	0
5	F	679	0	701	34	0
6	H	1068	0	1040	57	0
7	I	997	0	953	40	0
8	J	532	0	542	53	0
9	K	919	0	929	62	0
10	L	364	0	389	33	0
11	A	2	0	0	0	0
11	B	1	0	0	0	0
11	C	1	0	0	0	0
11	I	2	0	0	0	0
11	J	1	0	0	0	0
11	L	1	0	0	0	0
12	A	2	0	0	0	0
13	B	29	0	11	1	0
All	All	28318	0	28366	1291	0

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

All (1291) 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)
1:A:855:THR:HG21	1:A:857:ARG:HE	1.09	1.14
6:H:130:ARG:HA	6:H:133:ASN:HD22	1.11	1.11
1:A:1364:ASN:ND2	1:A:1366:ARG:HH11	1.53	1.05
1:A:351:THR:HG22	1:A:352:VAL:H	1.20	1.05
1:A:1364:ASN:HD21	1:A:1366:ARG:NH1	1.58	0.99
1:A:901:LEU:H	1:A:926:GLN:NE2	1.60	0.98
2:B:680:THR:HG22	2:B:681:TRP:H	1.28	0.98
1:A:725:ALA:HA	1:A:728:LYS:HE3	1.48	0.95
9:K:65:HIS:HD2	9:K:67:PHE:H	1.01	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1161:THR:HG22	1:A:1163:ILE:H	1.32	0.93
2:B:118:ARG:NH1	2:B:204:ILE:HD11	1.83	0.93
1:A:1162:VAL:HG11	7:I:41:PRO:HG3	1.51	0.92
3:C:137:LYS:HD2	3:C:137:LYS:H	1.35	0.91
8:J:48:ARG:HG2	8:J:48:ARG:HH11	1.34	0.91
1:A:337:ARG:HG2	1:A:341:MET:HE2	1.51	0.91
1:A:901:LEU:H	1:A:926:GLN:HE21	1.19	0.90
1:A:187:LYS:HB2	1:A:194:ALA:HB1	1.53	0.90
1:A:1376:THR:HG22	4:E:212:ARG:HH22	1.37	0.89
1:A:902:LEU:HG	1:A:926:GLN:HG3	1.55	0.89
1:A:567:LYS:HB2	1:A:568:PRO:CD	2.03	0.88
1:A:446:ARG:HD3	1:A:480:ALA:HB2	1.52	0.88
5:F:81:THR:CG2	5:F:136:ARG:HH11	1.87	0.88
2:B:63:ILE:HB	2:B:95:ILE:HD11	1.55	0.87
1:A:868:TYR:CE1	1:A:1064:VAL:HG11	2.09	0.87
3:C:242:GLN:HE21	3:C:246:ARG:HH21	1.23	0.87
1:A:1116:LEU:HD12	1:A:1329:THR:HB	1.57	0.86
1:A:313:GLN:HE21	1:A:322:VAL:HG12	1.40	0.86
1:A:55:ASP:H	1:A:56:PRO:HD2	1.40	0.86
2:B:999:MET:HG3	2:B:1000:PRO:HD2	1.57	0.86
1:A:351:THR:HG22	1:A:352:VAL:N	1.90	0.86
2:B:705:MET:HE2	2:B:745:PRO:HB3	1.57	0.86
2:B:952:VAL:HB	10:L:58:LYS:HB2	1.56	0.85
1:A:1376:THR:HG22	4:E:212:ARG:NH2	1.91	0.85
1:A:1364:ASN:HD21	1:A:1366:ARG:HH11	0.86	0.85
1:A:875:ALA:HB2	1:A:1366:ARG:HD2	1.58	0.85
1:A:246:VAL:HG12	1:A:328:ARG:HH12	1.39	0.85
2:B:726:ALA:HB1	2:B:1051:THR:HG21	1.57	0.85
5:F:90:ARG:HD3	5:F:155:LEU:HD12	1.58	0.85
2:B:763:GLN:HG2	2:B:765:PRO:HD2	1.58	0.85
1:A:1208:THR:HB	1:A:1211:GLN:HG3	1.59	0.85
1:A:317:LYS:HD2	1:A:321:PRO:HG2	1.57	0.85
1:A:414:ASP:OD1	1:A:416:ARG:HG2	1.76	0.85
3:C:167:HIS:HD2	3:C:169:LYS:H	1.21	0.85
9:K:65:HIS:CD2	9:K:67:PHE:H	1.93	0.84
3:C:73:GLN:HE21	3:C:75:MET:H	1.25	0.84
6:H:101:ALA:HB1	6:H:103:LYS:HG3	1.58	0.84
1:A:901:LEU:HD22	1:A:919:ILE:HG23	1.58	0.84
2:B:29:ASP:HB3	2:B:658:ILE:HD13	1.58	0.84
1:A:1118:VAL:HG22	1:A:1306:LEU:HB2	1.60	0.83
2:B:118:ARG:HH11	2:B:204:ILE:HD11	1.43	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:169:ARG:HB2	2:B:454:THR:HG23	1.59	0.83
2:B:29:ASP:HB3	2:B:658:ILE:CD1	2.08	0.83
2:B:526:GLU:HG2	2:B:538:ASN:ND2	1.93	0.83
3:C:56:THR:HG23	3:C:58:LEU:H	1.42	0.83
5:F:93:ILE:HD11	5:F:134:ILE:HD11	1.60	0.83
2:B:864:LYS:HB3	2:B:871:THR:HA	1.58	0.83
4:E:124:VAL:HG13	4:E:132:ILE:HB	1.59	0.83
5:F:81:THR:HG22	5:F:136:ARG:NH1	1.93	0.82
3:C:258:ILE:HD11	9:K:42:LEU:HD21	1.61	0.82
2:B:1008:PRO:HB3	2:B:1087:PHE:HE1	1.44	0.82
2:B:25:ILE:HD12	2:B:653:VAL:HG23	1.62	0.82
3:C:54:ASN:OD1	3:C:56:THR:HG22	1.80	0.82
1:A:356:ASP:HB3	1:A:359:LEU:HD12	1.62	0.81
1:A:869:GLY:O	4:E:204:THR:HG21	1.80	0.81
1:A:1398:MET:HG3	1:A:1426:GLU:HG2	1.62	0.81
7:I:98:VAL:HG21	7:I:113:ASP:HB2	1.63	0.81
1:A:666:ILE:HD12	2:B:1030:LEU:HD22	1.64	0.80
1:A:871:ASP:HB3	4:E:204:THR:HG23	1.63	0.80
1:A:982:THR:O	1:A:985:ASP:HB2	1.82	0.80
1:A:855:THR:CG2	1:A:857:ARG:HE	1.91	0.80
1:A:1409:LEU:HD13	2:B:1207:LEU:HD21	1.64	0.79
2:B:871:THR:HG22	2:B:872:GLU:H	1.44	0.79
2:B:215:GLN:HE22	2:B:499:ASN:HD22	1.29	0.79
2:B:800:GLN:HB3	8:J:52:THR:CG2	2.13	0.79
1:A:1266:THR:HG23	1:A:1270:ASN:HD22	1.48	0.79
3:C:258:ILE:HD13	9:K:35:PHE:HE2	1.48	0.78
1:A:741:ASN:HD22	1:A:744:LYS:H	1.31	0.78
5:F:81:THR:HG22	5:F:136:ARG:HH11	1.49	0.78
1:A:1446:ASP:HB2	5:F:133:VAL:HG23	1.63	0.78
2:B:882:THR:HG21	2:B:935:ARG:HG2	1.67	0.77
1:A:1398:MET:HG2	1:A:1425:SER:HB2	1.65	0.77
2:B:193:LYS:HE2	8:J:65:PRO:HG3	1.66	0.77
1:A:14:VAL:H	1:A:1432:GLN:HE22	1.30	0.77
2:B:1051:THR:HG22	2:B:1053:GLU:H	1.49	0.77
2:B:1006:ILE:HD11	8:J:43:ARG:HB2	1.67	0.77
3:C:73:GLN:NE2	3:C:75:MET:HB2	2.00	0.77
6:H:26:ILE:HD12	6:H:42:ILE:HD12	1.65	0.76
1:A:472:LEU:HD13	2:B:835:GLN:NE2	1.98	0.76
1:A:672:ASP:H	1:A:736:ASN:ND2	1.84	0.76
1:A:709:THR:HB	1:A:712:GLU:HG3	1.66	0.76
2:B:801:LYS:O	8:J:52:THR:HG23	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:399:HIS:O	1:A:401:GLY:N	2.18	0.76
1:A:855:THR:HG21	1:A:857:ARG:NE	1.94	0.76
1:A:108:MET:H	1:A:171:GLN:NE2	1.83	0.75
1:A:840:ARG:HH11	1:A:1386:ARG:HB3	1.51	0.75
2:B:515:HIS:HD2	2:B:517:THR:H	1.33	0.75
1:A:1410:PHE:HD2	2:B:1212:ILE:HD11	1.52	0.74
2:B:901:PRO:HD3	10:L:58:LYS:HB3	1.69	0.74
2:B:918:ILE:HD12	2:B:935:ARG:HD2	1.68	0.74
3:C:124:LEU:O	3:C:127:ARG:HG2	1.87	0.74
1:A:55:ASP:N	1:A:56:PRO:HD2	2.02	0.74
1:A:445:ASN:HB2	1:A:455:MET:HG2	1.69	0.74
2:B:809:MET:HG2	2:B:814:PHE:HB3	1.70	0.74
1:A:855:THR:HG23	1:A:857:ARG:HG3	1.69	0.74
2:B:680:THR:HG22	2:B:681:TRP:N	2.02	0.74
1:A:179:LEU:HG	1:A:308:ILE:HG21	1.67	0.74
5:F:81:THR:CG2	5:F:136:ARG:NH1	2.50	0.74
1:A:1215:ARG:HA	1:A:1218:GLN:HE21	1.53	0.74
1:A:946:VAL:HG22	4:E:201:LYS:HD2	1.69	0.74
1:A:450:LEU:H	1:A:450:LEU:HD12	1.50	0.73
1:A:666:ILE:HD11	2:B:1030:LEU:HB2	1.69	0.73
2:B:324:ILE:HG12	2:B:329:THR:HG22	1.70	0.73
10:L:38:LEU:HG	10:L:39:SER:H	1.53	0.73
2:B:953:LEU:HD21	2:B:955:THR:HG23	1.68	0.73
2:B:914:LYS:HB3	2:B:937:ALA:O	1.87	0.73
3:C:51:VAL:HG22	3:C:155:LEU:HD22	1.71	0.73
1:A:907:THR:HG22	1:A:908:LEU:H	1.53	0.73
1:A:79:GLY:HA3	1:A:245:PRO:HG3	1.71	0.73
3:C:42:PRO:HB3	3:C:161:LYS:HE3	1.69	0.72
4:E:96:PHE:CZ	4:E:100:ILE:HD11	2.24	0.72
2:B:46:GLN:HE22	2:B:496:ARG:HB3	1.54	0.72
1:A:1151:GLU:HG2	7:I:45:ARG:HD2	1.71	0.72
1:A:567:LYS:HB3	6:H:96:VAL:N	2.05	0.72
3:C:57:VAL:HG11	8:J:60:PHE:HB3	1.72	0.72
1:A:571:LEU:HD22	6:H:46:LEU:HD11	1.71	0.72
9:K:43:GLY:O	9:K:47:ARG:HB2	1.89	0.72
1:A:1342:GLU:OE2	4:E:212:ARG:NH1	2.23	0.72
2:B:294:ASP:H	7:I:12:ASN:ND2	1.87	0.72
3:C:214:ASN:HB2	3:C:217:ASP:OD2	1.90	0.71
2:B:281:PRO:HG2	2:B:284:ILE:HD12	1.71	0.71
2:B:822:ASN:HD22	8:J:52:THR:HG21	1.54	0.71
1:A:103:CYS:SG	1:A:207:ILE:HD12	2.31	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:208:LEU:HD21	1:A:212:LYS:HE3	1.72	0.71
1:A:868:TYR:CE1	1:A:1064:VAL:CG1	2.73	0.71
1:A:1161:THR:HG22	1:A:1163:ILE:N	2.04	0.71
1:A:875:ALA:HB2	1:A:1366:ARG:CD	2.19	0.71
1:A:523:ILE:HB	1:A:622:VAL:HG13	1.73	0.71
2:B:1222:ARG:H	2:B:1222:ARG:HD2	1.55	0.71
2:B:800:GLN:HB3	8:J:52:THR:HG22	1.72	0.71
5:F:72:LYS:N	5:F:142:SER:HA	2.06	0.71
1:A:55:ASP:H	1:A:56:PRO:CD	2.04	0.71
1:A:567:LYS:HB3	6:H:96:VAL:H	1.55	0.71
1:A:1192:LEU:HD11	1:A:1239:ARG:HB2	1.73	0.70
1:A:1438:THR:HG22	2:B:1144:ALA:H	1.56	0.70
2:B:644:GLU:HB2	2:B:654:ARG:HH22	1.55	0.70
1:A:587:HIS:HA	1:A:607:ILE:O	1.91	0.70
2:B:806:THR:HG22	2:B:809:MET:H	1.57	0.70
1:A:567:LYS:HE2	6:H:95:TYR:CZ	2.27	0.70
1:A:246:VAL:HG12	1:A:328:ARG:NH1	2.06	0.70
1:A:407:ARG:HD2	1:A:413:ILE:HD11	1.72	0.70
2:B:705:MET:CE	2:B:745:PRO:HB3	2.21	0.70
1:A:1364:ASN:ND2	1:A:1366:ARG:H	1.89	0.70
1:A:535:THR:HG23	1:A:575:LYS:HG2	1.72	0.70
1:A:754:SER:H	1:A:757:ASN:HD22	1.38	0.70
1:A:340:LEU:HD13	1:A:1399:ARG:HG2	1.74	0.70
1:A:574:GLY:O	1:A:577:ILE:HG13	1.92	0.70
2:B:864:LYS:HG2	2:B:871:THR:HG23	1.73	0.70
1:A:1059:HIS:HE1	5:F:155:LEU:HD22	1.56	0.70
1:A:1276:VAL:HB	1:A:1279:ILE:HD13	1.72	0.70
2:B:824:ILE:HD11	8:J:48:ARG:NH1	2.07	0.70
2:B:200:GLY:HA2	2:B:202:TYR:CE2	2.27	0.69
2:B:324:ILE:HD13	2:B:330:ALA:HA	1.73	0.69
1:A:134:ARG:HD2	1:A:221:SER:O	1.91	0.69
6:H:81:PRO:HB2	6:H:82:PRO:HD3	1.75	0.69
2:B:824:ILE:HD11	8:J:48:ARG:HH12	1.57	0.69
2:B:900:ALA:HB3	10:L:61:THR:HG23	1.73	0.69
1:A:264:PHE:HD1	1:A:315:LEU:HB3	1.58	0.69
3:C:20:PHE:HE1	3:C:22:LEU:HG	1.58	0.69
2:B:755:ILE:HG22	2:B:755:ILE:O	1.91	0.69
2:B:957:ASN:ND2	2:B:958:GLN:H	1.91	0.69
3:C:56:THR:HG21	3:C:63:ILE:HD11	1.73	0.68
1:A:683:ILE:HD11	1:A:764:CYS:HB2	1.74	0.68
1:A:87:ALA:HB3	1:A:276:LEU:HD23	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:172:ILE:HD13	2:B:178:ASN:HB3	1.75	0.68
1:A:381:THR:HG22	5:F:104:ASN:OD1	1.93	0.68
2:B:955:THR:HG22	10:L:55:ILE:HA	1.73	0.68
2:B:955:THR:HG22	10:L:54:ARG:O	1.94	0.68
1:A:533:LYS:NZ	1:A:660:ASN:HD21	1.92	0.68
2:B:102:VAL:HG22	2:B:112:LEU:HB2	1.75	0.68
2:B:67:SER:O	2:B:91:SER:HA	1.93	0.68
1:A:351:THR:CG2	1:A:352:VAL:H	2.01	0.68
1:A:914:GLU:HG3	1:A:979:SER:O	1.94	0.68
2:B:69:LEU:HD21	2:B:425:THR:HG23	1.73	0.68
1:A:567:LYS:HE2	6:H:95:TYR:CE1	2.29	0.68
3:C:114:TYR:CD2	3:C:140:ASN:HB3	2.29	0.68
1:A:53:LEU:HD23	1:A:54:ASN:H	1.58	0.67
2:B:1056:SER:HB3	2:B:1066:SER:HB2	1.76	0.67
1:A:1277:GLU:O	1:A:1278:ASN:HB2	1.92	0.67
1:A:598:LEU:HG	6:H:115:TYR:HE2	1.60	0.67
1:A:786:HIS:HE1	2:B:742:GLU:OE2	1.76	0.67
1:A:853:ASP:OD1	1:A:855:THR:HB	1.95	0.67
1:A:82:GLY:HA3	1:A:241:VAL:HB	1.76	0.67
1:A:567:LYS:HG3	1:A:568:PRO:HD2	1.77	0.67
2:B:879:ARG:HB3	2:B:883:LEU:HD23	1.77	0.67
3:C:73:GLN:HE21	3:C:75:MET:N	1.92	0.67
1:A:567:LYS:HB2	1:A:568:PRO:HD2	1.76	0.67
2:B:268:THR:HG21	2:B:270:LYS:HE3	1.76	0.67
2:B:293:PRO:HG2	2:B:296:GLU:HB2	1.77	0.67
1:A:907:THR:HG22	1:A:908:LEU:N	2.09	0.67
1:A:901:LEU:HD22	1:A:919:ILE:CG2	2.25	0.67
6:H:40:LEU:HD13	6:H:123:MET:HB2	1.76	0.66
1:A:1066:VAL:HG12	2:B:1140:ALA:HB2	1.77	0.66
2:B:950:ASP:HB2	2:B:969:ARG:HB2	1.77	0.66
5:F:109:VAL:HG11	5:F:123:LYS:HG2	1.77	0.66
6:H:79:TRP:CZ3	6:H:81:PRO:HG3	2.30	0.66
2:B:324:ILE:HD11	2:B:333:PHE:HB2	1.76	0.66
3:C:35:ARG:NH1	9:K:41:THR:N	2.43	0.66
1:A:203:SER:OG	1:A:206:GLU:HG3	1.95	0.66
2:B:876:LYS:HE3	2:B:893:LEU:O	1.96	0.66
3:C:166:GLU:HG2	10:L:70:ARG:NH1	2.09	0.66
1:A:472:LEU:O	1:A:475:THR:HB	1.96	0.66
2:B:114:PRO:HG3	2:B:181:LEU:HD11	1.77	0.66
6:H:103:LYS:HB3	6:H:105:GLU:OE2	1.96	0.66
1:A:93:VAL:HG13	1:A:301:ALA:HB1	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:130:ARG:HA	6:H:133:ASN:ND2	1.97	0.66
1:A:31:SER:HB2	1:A:83:HIS:HB2	1.78	0.65
2:B:834:ASN:HB3	2:B:840:ILE:HG13	1.77	0.65
1:A:1124:HIS:HB3	1:A:1130:GLN:HG3	1.77	0.65
1:A:1145:SER:HB2	1:A:1205:LYS:NZ	2.10	0.65
2:B:175:ARG:HB3	2:B:175:ARG:HH11	1.61	0.65
1:A:1098:VAL:N	1:A:1099:PRO:HD2	2.12	0.65
1:A:694:THR:O	1:A:698:GLN:HG3	1.96	0.65
2:B:1065:GLN:NE2	2:B:1067:ARG:H	1.93	0.65
2:B:841:MET:HE2	2:B:1010:LEU:HD11	1.79	0.65
1:A:910:PRO:HA	1:A:916:GLY:HA3	1.78	0.65
2:B:1174:LYS:HD2	2:B:1179:GLN:HB2	1.77	0.65
3:C:39:ALA:HA	3:C:164:ALA:HB3	1.77	0.65
1:A:130:ASP:HB3	1:A:133:LYS:HB2	1.78	0.65
1:A:834:THR:HG21	1:A:1077:THR:HA	1.79	0.65
2:B:864:LYS:CG	2:B:871:THR:HG23	2.27	0.65
3:C:57:VAL:HG11	8:J:60:PHE:CB	2.26	0.65
1:A:567:LYS:CB	1:A:568:PRO:CD	2.75	0.65
2:B:89:GLU:HB2	2:B:137:TYR:HB2	1.79	0.65
1:A:1279:ILE:HD11	1:A:1312:ASN:HB3	1.77	0.65
1:A:867:ILE:HD11	1:A:999:VAL:HG11	1.79	0.65
1:A:998:LEU:HD12	1:A:1001:ARG:NH1	2.10	0.64
1:A:1068:ALA:O	1:A:1072:ILE:HG13	1.97	0.64
5:F:87:LYS:HA	5:F:155:LEU:HD13	1.78	0.64
1:A:1263:ILE:O	1:A:1267:MET:HG3	1.96	0.64
2:B:276:ILE:HG23	2:B:337:ARG:HB2	1.80	0.64
8:J:36:LEU:HD11	8:J:51:LEU:HB2	1.80	0.64
1:A:347:PHE:H	2:B:1107:ALA:HA	1.63	0.64
1:A:673:GLY:N	1:A:674:PRO:HD2	2.12	0.64
5:F:81:THR:HG21	5:F:136:ARG:HH11	1.59	0.64
2:B:872:GLU:HB3	2:B:914:LYS:HD3	1.78	0.64
1:A:534:LEU:HD11	1:A:577:ILE:HD11	1.78	0.64
3:C:196:ASP:HB3	3:C:199:LYS:HB2	1.78	0.64
1:A:1449:SER:HB3	5:F:149:GLU:OE2	1.97	0.64
1:A:903:ASN:ND2	1:A:905:ASP:H	1.95	0.64
2:B:125:SER:HA	2:B:171:PRO:HA	1.80	0.64
2:B:577:ALA:HB1	2:B:589:VAL:HG22	1.80	0.63
2:B:25:ILE:HD13	2:B:658:ILE:HD11	1.80	0.63
1:A:1258:HIS:O	1:A:1262:LYS:HG3	1.98	0.63
2:B:205:ILE:HD11	2:B:461:LEU:HD23	1.80	0.63
3:C:248:ILE:HD13	9:K:101:LEU:HD13	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:754:SER:N	1:A:757:ASN:HD22	1.95	0.63
1:A:986:ILE:HG21	1:A:1028:THR:HA	1.81	0.63
2:B:464:GLY:O	2:B:477:ALA:HB3	1.98	0.63
6:H:4:THR:HA	6:H:60:ALA:HA	1.79	0.63
1:A:789:LYS:HE3	7:I:67:THR:OG1	1.98	0.63
1:A:864:ILE:HD13	1:A:1374:VAL:HG22	1.80	0.63
2:B:550:ASP:OD1	2:B:552:MET:HG3	1.98	0.63
1:A:1151:GLU:CG	7:I:45:ARG:HD2	2.28	0.63
2:B:195:CYS:SG	2:B:783:THR:HG23	2.38	0.63
2:B:839:MET:CE	2:B:1010:LEU:HG	2.28	0.63
1:A:443:LEU:HB3	1:A:490:HIS:HB2	1.80	0.63
1:A:567:LYS:HD3	6:H:96:VAL:H	1.64	0.63
1:A:672:ASP:H	1:A:736:ASN:HD21	1.47	0.63
3:C:22:LEU:HD12	3:C:230:MET:CE	2.29	0.63
2:B:130:VAL:HG12	2:B:131:ASP:H	1.63	0.63
4:E:43:LYS:O	4:E:47:CYS:HB2	1.98	0.63
4:E:64:PRO:HG2	4:E:75:MET:O	1.98	0.63
3:C:242:GLN:NE2	3:C:246:ARG:HH21	1.94	0.62
10:L:27:LEU:HD13	10:L:37:LYS:HE2	1.81	0.62
1:A:728:LYS:HA	1:A:731:ARG:HD2	1.80	0.62
2:B:58:THR:O	2:B:62:ILE:HG13	1.98	0.62
3:C:241:ASP:HB3	9:K:109:TRP:CE2	2.34	0.62
2:B:839:MET:HE1	2:B:1010:LEU:HG	1.82	0.62
1:A:873:MET:HE2	1:A:957:PRO:HG3	1.80	0.62
7:I:59:VAL:HG12	7:I:60:GLN:H	1.65	0.62
1:A:329:LEU:O	1:A:333:GLU:HG2	2.00	0.62
1:A:31:SER:CB	1:A:83:HIS:HB2	2.30	0.62
1:A:873:MET:CE	1:A:957:PRO:HG3	2.30	0.62
1:A:525:GLN:HB2	2:B:835:GLN:OE1	2.00	0.62
1:A:563:PRO:HG3	1:A:572:TRP:CZ2	2.35	0.62
1:A:665:GLY:C	2:B:1026:LEU:HD13	2.20	0.62
3:C:92:CYS:SG	3:C:94:LYS:HB2	2.40	0.62
5:F:79:ARG:HH22	5:F:150:GLU:CD	2.03	0.62
1:A:1318:THR:HG21	4:E:11:ARG:HH12	1.65	0.62
1:A:901:LEU:N	1:A:926:GLN:NE2	2.43	0.62
1:A:1025:ARG:HD3	1:A:1030:ARG:HH21	1.64	0.62
2:B:477:ALA:HB1	2:B:479:VAL:HG23	1.82	0.62
1:A:1195:LEU:HD11	1:A:1267:MET:HE3	1.83	0.61
1:A:867:ILE:HD11	1:A:999:VAL:CG1	2.30	0.61
1:A:1164:PRO:O	1:A:1167:GLU:HG3	1.99	0.61
7:I:50:THR:HG22	7:I:52:ILE:HG22	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:243:PRO:HB2	1:A:245:PRO:HD2	1.81	0.61
3:C:148:ARG:NH1	8:J:64:ASN:HA	2.15	0.61
1:A:137:ALA:O	1:A:141:LEU:HD13	2.00	0.61
1:A:32:VAL:HG11	1:A:68:GLN:HE22	1.65	0.61
1:A:902:LEU:HD23	1:A:921:GLY:HA2	1.82	0.61
2:B:638:PHE:CE1	2:B:743:ILE:HA	2.36	0.61
1:A:59:GLY:HA2	1:A:67:CYS:SG	2.41	0.61
1:A:579:SER:OG	1:A:612:ILE:HG22	2.01	0.61
1:A:1318:THR:CG2	4:E:11:ARG:HH12	2.13	0.61
1:A:567:LYS:CG	1:A:568:PRO:HD2	2.30	0.61
3:C:38:ILE:HG13	3:C:176:ILE:HD12	1.81	0.61
1:A:857:ARG:HG2	1:A:863:VAL:HA	1.81	0.61
3:C:58:LEU:HD11	8:J:2:ILE:CD1	2.31	0.61
9:K:47:ARG:HH11	9:K:47:ARG:HB3	1.66	0.60
10:L:26:THR:HG22	10:L:27:LEU:H	1.65	0.60
9:K:7:PHE:HB2	9:K:11:LEU:HD22	1.82	0.60
1:A:1364:ASN:HD22	1:A:1366:ARG:HG2	1.66	0.60
7:I:59:VAL:HG12	7:I:60:GLN:N	2.16	0.60
1:A:1197:LEU:HD11	1:A:1238:ILE:HD11	1.82	0.60
1:A:187:LYS:HB2	1:A:194:ALA:CB	2.31	0.60
1:A:567:LYS:CB	1:A:568:PRO:HD2	2.31	0.60
1:A:901:LEU:HG	1:A:926:GLN:HE21	1.65	0.60
1:A:345:VAL:HG11	2:B:1129:ARG:HA	1.84	0.60
2:B:981:ALA:HB2	2:B:987:LYS:HA	1.82	0.60
7:I:56:ALA:O	7:I:89:GLN:HG3	2.02	0.60
1:A:535:THR:CG2	1:A:575:LYS:HG2	2.31	0.60
1:A:565:ILE:HG23	1:A:567:LYS:HG2	1.82	0.60
1:A:1219:THR:HG21	1:A:1271:ILE:HG12	1.82	0.60
2:B:1002:THR:HG22	2:B:1006:ILE:H	1.65	0.60
2:B:983:ARG:HH11	2:B:1091:TYR:HB3	1.67	0.60
2:B:531:GLN:H	2:B:531:GLN:CD	2.05	0.60
7:I:45:ARG:HH11	7:I:45:ARG:HG2	1.65	0.60
1:A:1333:ILE:O	1:A:1337:GLU:HG3	2.02	0.60
1:A:535:THR:O	1:A:575:LYS:HE2	2.02	0.60
2:B:515:HIS:H	2:B:518:HIS:CD2	2.19	0.60
3:C:166:GLU:HG2	10:L:70:ARG:HH12	1.67	0.60
2:B:60:GLN:HA	2:B:95:ILE:HD12	1.84	0.60
1:A:1118:VAL:CG2	1:A:1306:LEU:HB2	2.31	0.59
2:B:193:LYS:HD3	2:B:787:VAL:HG11	1.83	0.59
2:B:365:THR:HG22	2:B:367:LEU:H	1.65	0.59
1:A:1323:ASP:OD1	1:A:1325:THR:HB	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:521:LEU:HD22	2:B:633:VAL:HG12	1.84	0.59
3:C:258:ILE:CD1	9:K:42:LEU:HD21	2.31	0.59
1:A:35:ILE:HD12	1:A:35:ILE:N	2.18	0.59
2:B:25:ILE:HD12	2:B:653:VAL:CG2	2.32	0.59
4:E:117:THR:HG22	4:E:119:SER:H	1.67	0.59
8:J:48:ARG:NH1	8:J:48:ARG:HG2	2.11	0.59
1:A:388:LEU:HD22	1:A:432:VAL:HB	1.85	0.59
1:A:61:ILE:HG22	1:A:62:ASP:H	1.67	0.59
1:A:903:ASN:HD22	1:A:904:THR:N	2.00	0.59
2:B:115:GLN:HG2	2:B:193:LYS:HB2	1.84	0.59
2:B:911:ILE:HD11	2:B:941:LEU:HD13	1.84	0.59
9:K:29:ASN:HD21	9:K:79:GLU:HA	1.67	0.59
1:A:399:HIS:HB3	1:A:400:PRO:HD3	1.83	0.59
1:A:80:HIS:O	1:A:243:PRO:HB3	2.02	0.59
2:B:1008:PRO:HB3	2:B:1087:PHE:CE1	2.32	0.59
1:A:903:ASN:C	1:A:903:ASN:HD22	2.06	0.59
2:B:885:MET:HA	2:B:936:ASP:HB2	1.85	0.59
10:L:27:LEU:HB3	10:L:37:LYS:HD3	1.84	0.59
1:A:523:ILE:N	1:A:523:ILE:HD12	2.17	0.59
2:B:755:ILE:CG2	2:B:755:ILE:O	2.50	0.59
1:A:883:LEU:O	1:A:886:ILE:HG22	2.03	0.58
3:C:71:PRO:O	3:C:72:LEU:HD23	2.03	0.58
6:H:6:PHE:O	6:H:58:THR:HG23	2.03	0.58
2:B:239:GLU:CD	2:B:255:GLN:HE21	2.07	0.58
2:B:651:LEU:CD2	2:B:710:LEU:HD11	2.33	0.58
2:B:874:PHE:O	2:B:875:GLU:HG3	2.04	0.58
1:A:1096:SER:O	1:A:1099:PRO:HG2	2.03	0.58
1:A:587:HIS:CE1	1:A:609:ASP:H	2.21	0.58
2:B:130:VAL:HG21	2:B:167:ILE:HD12	1.85	0.58
2:B:792:MET:SD	2:B:857:ARG:NH2	2.76	0.58
1:A:264:PHE:HB3	1:A:315:LEU:HD22	1.85	0.58
1:A:537:ARG:NH1	6:H:120:GLY:O	2.36	0.58
1:A:858:ASN:HD22	1:A:858:ASN:C	2.06	0.58
1:A:598:LEU:HG	6:H:115:TYR:CE2	2.38	0.58
2:B:953:LEU:HD21	2:B:955:THR:CG2	2.33	0.58
3:C:62:PHE:O	3:C:66:ARG:HG3	2.03	0.58
1:A:1064:VAL:HG12	1:A:1370:LEU:CD2	2.34	0.58
1:A:914:GLU:C	1:A:916:GLY:H	2.06	0.58
2:B:791:THR:HG22	2:B:792:MET:HG3	1.85	0.58
3:C:39:ALA:O	3:C:163:ILE:HG23	2.04	0.58
1:A:739:ASP:OD2	6:H:19:ARG:HD2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:523:ILE:HB	1:A:622:VAL:CG1	2.33	0.58
2:B:25:ILE:HG23	2:B:29:ASP:HB2	1.85	0.58
1:A:317:LYS:CD	1:A:321:PRO:HG2	2.31	0.58
9:K:10:PHE:CD1	9:K:11:LEU:HD13	2.38	0.58
2:B:1084:GLN:NE2	3:C:192:TRP:H	2.02	0.58
4:E:180:ARG:HH21	4:E:192:ARG:HB2	1.69	0.57
1:A:451:HIS:CG	1:A:1074:GLU:HG3	2.40	0.57
1:A:986:ILE:HD12	1:A:1028:THR:HG23	1.86	0.57
2:B:757:PRO:HG2	2:B:984:HIS:CE1	2.39	0.57
7:I:17:ARG:HG3	7:I:28:GLU:HG2	1.86	0.57
1:A:913:LEU:HD12	1:A:914:GLU:N	2.19	0.57
1:A:1066:VAL:CG1	2:B:1140:ALA:HB2	2.34	0.57
4:E:15:ALA:O	4:E:19:VAL:HG23	2.03	0.57
9:K:20:LYS:HB2	9:K:34:THR:HB	1.86	0.57
1:A:878:ILE:CG2	1:A:955:PRO:HB2	2.34	0.57
8:J:2:ILE:HG22	8:J:3:VAL:N	2.20	0.57
1:A:1220:PHE:O	1:A:1223:ASP:HB2	2.05	0.57
1:A:1364:ASN:ND2	1:A:1366:ARG:HG2	2.20	0.57
1:A:741:ASN:HD21	1:A:743:VAL:HB	1.70	0.57
2:B:1065:GLN:HE21	2:B:1067:ARG:H	1.52	0.57
1:A:329:LEU:HB3	1:A:333:GLU:HB3	1.86	0.57
1:A:550:LEU:HD22	1:A:556:TRP:NE1	2.19	0.57
1:A:244:PRO:N	1:A:245:PRO:HD2	2.20	0.57
2:B:522:VAL:HG11	2:B:537:LYS:HD2	1.85	0.57
2:B:754:SER:HB3	2:B:812:LEU:HD11	1.87	0.57
2:B:785:TYR:CD2	2:B:795:ILE:HG12	2.40	0.57
2:B:824:ILE:CD1	8:J:48:ARG:HH12	2.18	0.57
2:B:834:ASN:HA	2:B:838:SER:OG	2.05	0.57
1:A:1441:PHE:CZ	5:F:89:GLU:HA	2.40	0.57
2:B:230:ALA:N	2:B:231:PRO:HD2	2.20	0.56
7:I:103:CYS:O	7:I:107:SER:HA	2.05	0.56
2:B:172:ILE:HD11	2:B:178:ASN:HD22	1.70	0.56
1:A:1366:ARG:CZ	1:A:1366:ARG:HB3	2.36	0.56
1:A:913:LEU:HD12	1:A:914:GLU:H	1.68	0.56
2:B:879:ARG:HD3	2:B:883:LEU:HD22	1.88	0.56
1:A:1364:ASN:HD22	1:A:1366:ARG:H	1.53	0.56
1:A:886:ILE:HD12	1:A:943:LEU:HB3	1.87	0.56
2:B:258:LEU:HB2	2:B:385:LEU:HD21	1.88	0.56
1:A:243:PRO:C	1:A:245:PRO:HD2	2.26	0.56
2:B:1065:GLN:O	2:B:1065:GLN:HG3	2.05	0.56
1:A:14:VAL:N	1:A:1432:GLN:HE22	2.00	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:679:ILE:HD13	1:A:763:ALA:HB2	1.88	0.56
2:B:356:LEU:HA	2:B:360:PHE:HB3	1.86	0.56
1:A:858:ASN:ND2	1:A:862:ASN:H	2.03	0.56
2:B:175:ARG:HB3	2:B:175:ARG:NH1	2.21	0.56
2:B:215:GLN:HE22	2:B:499:ASN:ND2	2.03	0.56
1:A:1127:ASP:HB2	1:A:1130:GLN:HB2	1.87	0.56
1:A:849:MET:CE	1:A:1436:ILE:HA	2.35	0.56
1:A:489:LEU:HD23	1:A:489:LEU:C	2.26	0.56
2:B:1159:ARG:HB3	2:B:1159:ARG:HH11	1.71	0.56
4:E:19:VAL:HG22	4:E:140:LEU:HD13	1.87	0.56
1:A:451:HIS:CD2	1:A:1074:GLU:HG3	2.40	0.56
2:B:102:VAL:CG2	2:B:112:LEU:HB2	2.36	0.56
3:C:6:PRO:HG2	9:K:101:LEU:HB2	1.87	0.56
1:A:587:HIS:NE2	1:A:969:GLN:HG2	2.21	0.56
2:B:809:MET:HG2	2:B:814:PHE:CB	2.36	0.56
2:B:751:VAL:HG13	2:B:812:LEU:HD22	1.87	0.55
1:A:1025:ARG:HD3	1:A:1030:ARG:NH2	2.20	0.55
2:B:871:THR:HG22	2:B:872:GLU:N	2.17	0.55
8:J:48:ARG:NE	8:J:49:MET:HE2	2.22	0.55
10:L:38:LEU:HG	10:L:39:SER:N	2.21	0.55
1:A:106:VAL:HG21	1:A:214:ILE:HG12	1.88	0.55
3:C:56:THR:HG23	3:C:58:LEU:N	2.18	0.55
2:B:800:GLN:HB3	8:J:52:THR:HG21	1.88	0.55
6:H:118:PHE:HB2	6:H:121:LEU:HB2	1.88	0.55
1:A:492:PRO:HB2	1:A:497:THR:HG22	1.87	0.55
2:B:680:THR:O	2:B:683:SER:HB2	2.07	0.55
2:B:871:THR:O	2:B:917:PRO:HD2	2.07	0.55
3:C:22:LEU:HD21	9:K:101:LEU:HD21	1.89	0.55
2:B:822:ASN:ND2	8:J:52:THR:HG21	2.21	0.55
9:K:24:ASP:HB3	9:K:30:ALA:HB3	1.89	0.55
1:A:503:GLN:HE21	5:F:90:ARG:HH21	1.55	0.55
2:B:680:THR:CG2	2:B:681:TRP:H	2.09	0.55
2:B:800:GLN:CB	8:J:52:THR:HG22	2.37	0.55
2:B:193:LYS:CE	8:J:65:PRO:HG3	2.35	0.55
2:B:604:ARG:NH1	2:B:691:GLU:OE2	2.39	0.55
5:F:93:ILE:CD1	5:F:134:ILE:HD11	2.35	0.55
6:H:113:ALA:HB1	6:H:124:ARG:HE	1.72	0.55
3:C:248:ILE:HD13	9:K:101:LEU:CD1	2.37	0.55
1:A:901:LEU:O	1:A:920:LEU:HD23	2.07	0.54
1:A:15:LYS:O	1:A:1421:CYS:HB2	2.07	0.54
1:A:273:ASN:O	1:A:277:GLU:HG3	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:841:MET:HG3	2:B:1010:LEU:HD12	1.90	0.54
2:B:859:TYR:OH	2:B:941:LEU:HD12	2.08	0.54
3:C:258:ILE:HD13	9:K:35:PHE:CE2	2.37	0.54
6:H:12:VAL:HA	6:H:28:ALA:HB2	1.88	0.54
7:I:115:LYS:O	7:I:117:LYS:HG3	2.06	0.54
7:I:55:THR:O	7:I:58:VAL:HG23	2.07	0.54
1:A:1101:LEU:HB2	1:A:1355:VAL:HG11	1.89	0.54
1:A:709:THR:HG22	1:A:710:LEU:N	2.22	0.54
2:B:971:THR:OG1	3:C:61:GLU:HG3	2.07	0.54
3:C:11:ARG:HD2	3:C:21:ILE:HD11	1.89	0.54
4:E:5:ASN:O	4:E:9:ILE:HG13	2.07	0.54
2:B:952:VAL:HG22	2:B:966:VAL:HG13	1.90	0.54
1:A:313:GLN:HB3	1:A:320:ARG:C	2.27	0.54
1:A:693:VAL:HG21	1:A:721:PHE:HE1	1.73	0.54
1:A:885:THR:HG22	1:A:893:PHE:HE1	1.73	0.54
2:B:1051:THR:O	2:B:1055:ILE:HG13	2.07	0.54
1:A:1195:LEU:HD11	1:A:1267:MET:CE	2.37	0.54
1:A:519:PRO:HD3	1:A:631:HIS:ND1	2.23	0.54
1:A:567:LYS:HB2	1:A:568:PRO:HD3	1.89	0.54
2:B:172:ILE:CD1	2:B:178:ASN:HD22	2.20	0.54
3:C:43:THR:HG22	3:C:44:LEU:N	2.23	0.54
8:J:48:ARG:NH1	8:J:48:ARG:CG	2.71	0.54
2:B:757:PRO:HD3	2:B:983:ARG:NH2	2.23	0.54
4:E:100:ILE:HG23	4:E:105:PHE:HB2	1.88	0.54
1:A:208:LEU:HD23	1:A:208:LEU:C	2.28	0.54
1:A:697:ALA:HB2	1:A:702:LEU:HD23	1.89	0.54
1:A:896:ARG:HD3	1:A:897:TYR:CE1	2.43	0.54
1:A:816:HIS:CD2	2:B:764:SER:HB2	2.43	0.54
1:A:464:PRO:O	1:A:465:TYR:O	2.25	0.54
7:I:57:GLY:O	7:I:59:VAL:HG23	2.08	0.54
10:L:26:THR:HG22	10:L:27:LEU:N	2.23	0.54
1:A:689:LYS:O	1:A:693:VAL:HG23	2.08	0.54
1:A:929:LEU:HD11	1:A:983:ILE:HD13	1.90	0.54
2:B:1017:ILE:HB	2:B:1018:PRO:HD3	1.90	0.54
2:B:205:ILE:HG21	2:B:462:ALA:HB2	1.89	0.54
2:B:41:LYS:HE2	2:B:544:CYS:SG	2.48	0.54
2:B:644:GLU:CD	2:B:646:LEU:HB2	2.29	0.54
2:B:639:ILE:HD11	2:B:691:GLU:HG3	1.90	0.54
4:E:96:PHE:CE2	4:E:110:PHE:HB2	2.43	0.54
9:K:56:VAL:HA	9:K:77:THR:HG22	1.89	0.54
1:A:1102:LYS:HD3	1:A:1106:ASN:HD21	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:500:GLU:OE2	1:A:1438:THR:HG21	2.08	0.53
1:A:666:ILE:CD1	2:B:1030:LEU:HD22	2.36	0.53
2:B:339:THR:HG23	2:B:343:ILE:HD12	1.89	0.53
5:F:77:ASP:O	5:F:78:GLN:HB2	2.07	0.53
1:A:500:GLU:OE2	2:B:1145:SER:HB2	2.09	0.53
1:A:69:THR:O	2:B:1174:LYS:HG2	2.08	0.53
2:B:281:PRO:HG2	2:B:284:ILE:CD1	2.38	0.53
7:I:50:THR:HB	7:I:92:ARG:HH22	1.73	0.53
1:A:523:ILE:HG23	1:A:527:THR:HB	1.90	0.53
2:B:1023:VAL:HG12	2:B:1027:ILE:HD11	1.90	0.53
3:C:25:VAL:HG23	3:C:228:PHE:HE1	1.73	0.53
5:F:107:VAL:HG11	5:F:111:LEU:HD11	1.90	0.53
8:J:48:ARG:CG	8:J:48:ARG:HH11	2.10	0.53
1:A:868:TYR:HE1	1:A:1064:VAL:HG11	1.71	0.53
1:A:320:ARG:N	1:A:321:PRO:HD3	2.24	0.53
1:A:709:THR:HG22	1:A:711:ARG:H	1.74	0.53
3:C:41:ILE:HB	3:C:172:PRO:HG3	1.91	0.53
4:E:114:ASN:OD1	4:E:115:ASN:N	2.42	0.53
1:A:1111:MET:CE	1:A:1114:PRO:HA	2.38	0.53
1:A:434:ARG:HH21	1:A:437:MET:HG3	1.74	0.53
2:B:515:HIS:H	2:B:518:HIS:HD2	1.56	0.53
2:B:845:SER:HB3	2:B:850:LEU:HD22	1.91	0.53
2:B:868:MET:O	2:B:870:ILE:HG13	2.08	0.53
2:B:954:VAL:O	10:L:55:ILE:O	2.26	0.53
1:A:1199:ARG:HA	1:A:1202:MET:HB2	1.91	0.53
3:C:258:ILE:HD11	9:K:42:LEU:CD2	2.38	0.53
4:E:161:LYS:HE2	4:E:165:LEU:HD11	1.91	0.53
8:J:25:LEU:O	8:J:29:GLU:HA	2.09	0.53
1:A:858:ASN:HD21	1:A:862:ASN:H	1.56	0.53
3:C:27:LEU:HA	3:C:228:PHE:CZ	2.44	0.53
4:E:127:ILE:HD11	4:E:132:ILE:HD11	1.91	0.53
1:A:849:MET:HE3	1:A:1063:MET:SD	2.49	0.53
1:A:366:VAL:HG11	1:A:436:ILE:HD11	1.90	0.53
1:A:499:ALA:O	1:A:503:GLN:HB2	2.08	0.53
2:B:344:LYS:H	2:B:347:LYS:HE3	1.74	0.53
2:B:429:PHE:HA	2:B:432:MET:CE	2.39	0.53
3:C:58:LEU:HD11	8:J:2:ILE:HD12	1.91	0.53
1:A:152:VAL:HG13	1:A:153:PRO:HD2	1.91	0.52
1:A:556:TRP:CZ3	1:A:558:GLY:HA2	2.44	0.52
1:A:55:ASP:N	1:A:56:PRO:CD	2.69	0.52
5:F:128:LYS:HD2	5:F:149:GLU:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1279:ILE:N	1:A:1279:ILE:HD12	2.24	0.52
2:B:636:PRO:HA	2:B:691:GLU:O	2.08	0.52
3:C:21:ILE:HG12	3:C:229:TYR:HD2	1.74	0.52
4:E:181:ALA:HA	4:E:186:LEU:HD21	1.91	0.52
5:F:107:VAL:HG12	5:F:109:VAL:H	1.74	0.52
1:A:1264:GLU:OE1	7:I:44:TYR:HE2	1.93	0.52
7:I:50:THR:CB	7:I:92:ARG:HH22	2.22	0.52
1:A:528:LEU:HD23	1:A:751:SER:HB3	1.91	0.52
1:A:93:VAL:HG22	1:A:301:ALA:HA	1.92	0.52
1:A:516:SER:O	1:A:518:LYS:HG2	2.10	0.52
1:A:533:LYS:NZ	1:A:660:ASN:ND2	2.56	0.52
1:A:901:LEU:HD23	1:A:907:THR:HG23	1.92	0.52
2:B:249:ARG:O	2:B:251:ILE:HG13	2.10	0.52
2:B:296:GLU:O	2:B:300:HIS:HD2	1.93	0.52
2:B:898:LEU:HD21	2:B:964:VAL:HG11	1.92	0.52
4:E:124:VAL:HB	4:E:125:PRO:HD3	1.90	0.52
6:H:81:PRO:HB2	6:H:82:PRO:CD	2.38	0.52
9:K:1:MET:HG3	9:K:2:ASN:N	2.25	0.52
2:B:759:PRO:HG2	2:B:1046:PRO:HB3	1.91	0.52
3:C:242:GLN:OE1	3:C:242:GLN:HA	2.10	0.52
1:A:817:ALA:HA	2:B:764:SER:OG	2.09	0.52
2:B:1002:THR:HG22	2:B:1006:ILE:N	2.24	0.52
4:E:124:VAL:HB	4:E:125:PRO:CD	2.40	0.52
1:A:868:TYR:HE1	1:A:1064:VAL:CG1	2.23	0.52
1:A:492:PRO:CB	1:A:497:THR:HG22	2.40	0.52
2:B:998:ASP:OD1	3:C:35:ARG:NH2	2.43	0.52
2:B:552:MET:N	2:B:553:PRO:HD2	2.25	0.52
2:B:864:LYS:NZ	2:B:864:LYS:HB2	2.25	0.52
3:C:6:PRO:HB2	9:K:101:LEU:HD23	1.92	0.52
1:A:1162:VAL:CG1	7:I:41:PRO:HG3	2.34	0.52
2:B:528:PRO:HG3	2:B:536:VAL:HB	1.92	0.52
1:A:795:GLU:HG2	2:B:731:VAL:CG2	2.40	0.52
2:B:846:ILE:HG12	2:B:974:PRO:HB2	1.92	0.52
3:C:75:MET:HB3	3:C:128:ASN:HB3	1.92	0.52
6:H:44:VAL:HG13	6:H:48:PRO:HA	1.92	0.52
1:A:575:LYS:HD3	1:A:612:ILE:CD1	2.40	0.51
2:B:292:ILE:N	2:B:293:PRO:HD2	2.26	0.51
5:F:109:VAL:HG21	5:F:124:GLU:HA	1.92	0.51
1:A:24:PRO:HG2	1:A:25:GLU:OE2	2.10	0.51
2:B:314:LEU:O	2:B:317:CYS:HB2	2.11	0.51
2:B:885:MET:HA	2:B:936:ASP:CB	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:145:CYS:SG	3:C:146:LYS:N	2.83	0.51
1:A:1345:ARG:HG2	1:A:1372:VAL:CG1	2.41	0.51
2:B:128:LEU:HB3	2:B:167:ILE:O	2.11	0.51
3:C:53:THR:O	3:C:153:LEU:HA	2.10	0.51
2:B:852:ARG:NH2	10:L:70:ARG:O	2.38	0.51
1:A:1376:THR:O	1:A:1376:THR:HG22	2.09	0.51
1:A:384:ASN:OD1	1:A:388:LEU:HD12	2.10	0.51
1:A:673:GLY:N	1:A:674:PRO:CD	2.73	0.51
1:A:465:TYR:CE2	9:K:4:PRO:HD2	2.45	0.51
1:A:1187:GLN:HG3	1:A:1188:GLN:H	1.75	0.51
4:E:23:VAL:HG12	4:E:28:TYR:HB2	1.93	0.51
1:A:1341:ILE:HG23	1:A:1342:GLU:N	2.25	0.51
2:B:1037:LEU:HD21	8:J:44:TYR:HD2	1.75	0.51
2:B:574:SER:HB3	2:B:591:ARG:NH2	2.26	0.51
2:B:859:TYR:O	2:B:965:LYS:HA	2.11	0.51
4:E:93:MET:O	4:E:97:VAL:HG23	2.10	0.51
1:A:840:ARG:NH1	1:A:1386:ARG:HB3	2.23	0.51
1:A:32:VAL:HG23	1:A:33:ALA:N	2.24	0.51
1:A:523:ILE:CG2	1:A:527:THR:HB	2.41	0.51
1:A:705:LYS:HD2	1:A:705:LYS:H	1.75	0.51
2:B:1198:TYR:CE1	2:B:1201:LYS:HD2	2.46	0.51
2:B:577:ALA:HB1	2:B:589:VAL:CG2	2.39	0.51
2:B:653:VAL:HG13	2:B:689:LEU:HB3	1.92	0.51
3:C:18:VAL:HG23	3:C:240:VAL:CG1	2.39	0.51
2:B:291:ILE:HD13	2:B:300:HIS:NE2	2.26	0.51
2:B:788:ARG:NH1	2:B:790:ASP:OD1	2.44	0.51
1:A:1348:LEU:HD21	1:A:1375:MET:CE	2.40	0.51
1:A:216:VAL:HA	1:A:219:PHE:CZ	2.46	0.51
1:A:809:THR:OG1	1:A:812:GLU:HG3	2.11	0.51
1:A:903:ASN:HD22	1:A:905:ASP:H	1.58	0.51
1:A:2:VAL:HG21	2:B:1157:ALA:O	2.11	0.51
2:B:847:ASP:O	3:C:65:HIS:HE1	1.94	0.51
5:F:81:THR:HB	5:F:144:GLU:OE1	2.11	0.51
7:I:98:VAL:CG2	7:I:113:ASP:HB2	2.39	0.51
3:C:58:LEU:HD11	8:J:2:ILE:HD11	1.92	0.51
8:J:57:ILE:O	8:J:61:LEU:HG	2.10	0.51
1:A:95:PHE:CE2	1:A:1414:ALA:HB2	2.46	0.51
1:A:313:GLN:HB2	1:A:320:ARG:HB3	1.93	0.51
2:B:121:ASN:HA	2:B:207:GLY:HA3	1.93	0.51
2:B:913:GLY:HA2	2:B:938:SER:CB	2.41	0.50
3:C:14:SER:HA	9:K:114:LEU:O	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:104:PHE:O	6:H:106:GLU:N	2.44	0.50
9:K:49:GLU:HG3	9:K:94:ILE:CG1	2.41	0.50
1:A:518:LYS:HB2	1:A:519:PRO:HD2	1.93	0.50
1:A:497:THR:HG23	2:B:1146:PHE:HD1	1.76	0.50
1:A:994:GLN:HE22	1:A:1023:ARG:HE	1.59	0.50
1:A:208:LEU:CD2	1:A:212:LYS:HE3	2.41	0.50
1:A:605:MET:HE2	1:A:606:LEU:H	1.75	0.50
2:B:914:LYS:HD2	2:B:937:ALA:HB3	1.92	0.50
10:L:30:ILE:HG13	10:L:59:ALA:HB2	1.93	0.50
1:A:1004:ASN:ND2	4:E:167:ARG:HD2	2.26	0.50
1:A:38:PRO:HB3	1:A:270:LEU:HB3	1.92	0.50
2:B:558:LEU:O	2:B:563:MET:HB2	2.12	0.50
1:A:1391:ARG:NH2	1:A:1417:GLU:OE2	2.44	0.50
1:A:683:ILE:HG21	1:A:801:GLU:HG3	1.92	0.50
1:A:849:MET:HE3	1:A:1436:ILE:HA	1.92	0.50
4:E:65:THR:O	4:E:69:ILE:HG13	2.12	0.50
8:J:64:ASN:N	8:J:65:PRO:HD2	2.26	0.50
1:A:1155:ASP:OD1	1:A:1162:VAL:HG23	2.12	0.50
1:A:1376:THR:O	1:A:1376:THR:CG2	2.59	0.50
3:C:73:GLN:NE2	3:C:75:MET:CB	2.74	0.50
2:B:168:GLY:H	2:B:450:ALA:HB1	1.77	0.50
2:B:38:PHE:HZ	2:B:541:LEU:HB3	1.77	0.50
1:A:147:VAL:HG22	1:A:170:THR:HG22	1.93	0.50
1:A:53:LEU:CD2	1:A:54:ASN:H	2.23	0.50
2:B:169:ARG:O	2:B:457:LEU:HD12	2.11	0.50
2:B:63:ILE:CB	2:B:95:ILE:HD11	2.34	0.50
1:A:1399:ARG:HH11	1:A:1401:SER:HA	1.75	0.49
2:B:1177:HIS:CB	2:B:1179:GLN:HE21	2.23	0.49
2:B:314:LEU:HD21	2:B:386:LEU:HD11	1.92	0.49
10:L:38:LEU:HD13	10:L:48:CYS:HA	1.94	0.49
1:A:1120:LEU:HG	1:A:1134:ILE:HD12	1.94	0.49
1:A:338:GLY:HA2	1:A:343:LYS:HD2	1.94	0.49
4:E:100:ILE:HD13	4:E:108:GLY:HA3	1.94	0.49
4:E:112:TYR:O	4:E:137:GLU:HG3	2.12	0.49
3:C:50:GLU:HB2	3:C:156:THR:HB	1.93	0.49
2:B:901:PRO:CD	10:L:58:LYS:HB3	2.40	0.49
1:A:219:PHE:O	1:A:224:PHE:HB2	2.13	0.49
1:A:786:HIS:CE1	2:B:742:GLU:OE2	2.62	0.49
2:B:492:LEU:O	2:B:496:ARG:HG2	2.12	0.49
1:A:19:PHE:HZ	1:A:1397:LEU:HG	1.78	0.49
2:B:870:ILE:HG23	2:B:917:PRO:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:46:ILE:HB	3:C:68:GLY:HA2	1.93	0.49
6:H:11:GLN:HE21	6:H:52:GLN:HA	1.77	0.49
1:A:1285:MET:HG3	1:A:1307:GLU:OE1	2.13	0.49
1:A:463:ILE:HD11	1:A:469:ARG:HG3	1.94	0.49
2:B:1051:THR:HG22	2:B:1052:VAL:N	2.28	0.49
1:A:17:VAL:HB	1:A:1419:ASP:HB2	1.94	0.49
1:A:434:ARG:NH2	1:A:440:ASP:OD2	2.45	0.49
1:A:724:GLU:O	1:A:728:LYS:HG2	2.13	0.49
1:A:71:GLN:HG2	2:B:1176:ASN:ND2	2.27	0.49
2:B:204:ILE:C	2:B:205:ILE:HD12	2.32	0.49
3:C:177:GLU:HB2	3:C:231:ASN:HB3	1.95	0.49
1:A:1139:GLU:HG3	1:A:1280:GLU:O	2.13	0.49
1:A:1348:LEU:O	1:A:1352:VAL:HG23	2.12	0.49
1:A:58:LEU:HD22	1:A:80:HIS:O	2.12	0.49
1:A:75:ASN:HB2	1:A:76:GLU:OE2	2.13	0.49
2:B:332:ASP:O	2:B:336:ARG:HG3	2.13	0.49
2:B:806:THR:CG2	2:B:808:ALA:H	2.26	0.49
3:C:73:GLN:NE2	3:C:75:MET:N	2.60	0.49
1:A:376:TYR:CZ	1:A:498:ARG:HD2	2.48	0.49
1:A:1438:THR:HG23	2:B:1144:ALA:HB3	1.95	0.49
2:B:219:ALA:HB3	2:B:222:ILE:HD12	1.94	0.49
2:B:650:GLU:HG3	2:B:651:LEU:N	2.28	0.49
3:C:137:LYS:CD	3:C:137:LYS:H	2.10	0.49
1:A:148:CYS:O	1:A:168:GLY:HA2	2.13	0.49
2:B:1001:PHE:CZ	2:B:1073:TYR:HB2	2.48	0.49
2:B:234:ILE:HD13	2:B:257:LYS:HD3	1.95	0.49
2:B:54:PHE:HA	2:B:58:THR:HB	1.95	0.49
2:B:913:GLY:HA2	2:B:938:SER:HB3	1.94	0.49
2:B:918:ILE:CD1	2:B:935:ARG:HD2	2.41	0.49
3:C:12:GLU:HB2	3:C:19:ASP:HB3	1.94	0.49
1:A:1215:ARG:HA	1:A:1218:GLN:HG2	1.95	0.48
1:A:984:LYS:HB3	1:A:988:LEU:HD12	1.94	0.48
2:B:1022:THR:HG23	2:B:1022:THR:O	2.13	0.48
2:B:1084:GLN:HG2	3:C:201:TRP:CZ2	2.48	0.48
1:A:1410:PHE:CD2	2:B:1212:ILE:HD11	2.39	0.48
1:A:1146:VAL:HG12	1:A:1197:LEU:HD22	1.95	0.48
2:B:269:ILE:HD11	2:B:386:LEU:HD21	1.95	0.48
2:B:591:ARG:O	2:B:592:ASN:HB2	2.13	0.48
2:B:843:GLN:HB2	2:B:993:THR:HB	1.94	0.48
9:K:47:ARG:C	9:K:47:ARG:HD2	2.32	0.48
1:A:1116:LEU:HD13	1:A:1311:VAL:HG13	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1341:ILE:HD11	1:A:1376:THR:HG23	1.94	0.48
2:B:25:ILE:HG23	2:B:29:ASP:CB	2.43	0.48
2:B:167:ILE:HG22	2:B:453:ILE:HD12	1.95	0.48
2:B:545:ILE:HG12	2:B:633:VAL:HG22	1.94	0.48
3:C:163:ILE:HG23	3:C:165:LYS:H	1.78	0.48
6:H:95:TYR:CE2	6:H:97:MET:HG3	2.49	0.48
9:K:12:LEU:N	9:K:12:LEU:HD12	2.28	0.48
9:K:20:LYS:O	9:K:33:ILE:HA	2.13	0.48
1:A:597:LEU:H	1:A:597:LEU:HD12	1.78	0.48
2:B:1065:GLN:HE21	2:B:1067:ARG:N	2.11	0.48
1:A:38:PRO:HB3	1:A:270:LEU:HD23	1.95	0.48
1:A:338:GLY:CA	1:A:343:LYS:HD2	2.44	0.48
1:A:534:LEU:O	1:A:574:GLY:HA3	2.14	0.48
1:A:845:LEU:HD22	1:A:1374:VAL:HG21	1.94	0.48
2:B:122:LEU:CD2	2:B:958:GLN:HG2	2.43	0.48
10:L:42:ARG:C	10:L:44:ASP:H	2.17	0.48
10:L:48:CYS:SG	10:L:49:LYS:N	2.87	0.48
1:A:1198:ASP:OD1	1:A:1200:ALA:HB3	2.13	0.48
1:A:765:VAL:HG23	1:A:802:ASN:O	2.14	0.48
1:A:849:MET:CE	1:A:1063:MET:SD	3.01	0.48
2:B:807:ARG:HG2	2:B:1045:SER:OG	2.13	0.48
2:B:298:LEU:HD22	2:B:314:LEU:HD13	1.93	0.48
2:B:864:LYS:HB2	2:B:864:LYS:HZ2	1.77	0.48
2:B:979:LYS:CE	2:B:987:LYS:HD2	2.44	0.48
2:B:979:LYS:HE3	2:B:987:LYS:HD2	1.95	0.48
6:H:26:ILE:HD13	6:H:49:VAL:HG11	1.95	0.48
9:K:61:TYR:HA	9:K:72:LYS:O	2.12	0.48
1:A:1102:LYS:HD3	1:A:1106:ASN:ND2	2.28	0.48
1:A:547:LEU:HD22	9:K:58:PHE:CD1	2.48	0.48
1:A:517:ASN:HB2	1:A:878:ILE:O	2.13	0.48
2:B:315:LYS:N	2:B:316:PRO:HD2	2.27	0.48
2:B:497:ARG:HH22	2:B:775:LYS:HE3	1.78	0.48
2:B:806:THR:HG23	2:B:808:ALA:H	1.79	0.48
1:A:472:LEU:HD21	2:B:835:GLN:HB2	1.96	0.48
1:A:1434:ALA:O	1:A:1436:ILE:N	2.41	0.48
1:A:1447:GLU:OE1	1:A:1447:GLU:HA	2.14	0.48
2:B:324:ILE:HD11	2:B:333:PHE:CB	2.43	0.48
2:B:429:PHE:HA	2:B:432:MET:HE3	1.95	0.48
3:C:134:ILE:HG21	3:C:139:GLY:HA2	1.96	0.48
9:K:30:ALA:HA	9:K:75:ILE:O	2.14	0.48
1:A:249:SER:HB2	1:A:258:GLY:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:953:LEU:C	2:B:953:LEU:HD23	2.34	0.48
2:B:98:THR:HG22	2:B:99:LYS:N	2.28	0.48
6:H:125:LEU:C	6:H:130:ARG:HH12	2.17	0.48
8:J:1:MET:HG3	8:J:60:PHE:HE2	1.78	0.48
1:A:51:GLY:O	1:A:56:PRO:HB3	2.13	0.48
1:A:682:THR:HG21	1:A:728:LYS:HG3	1.96	0.48
1:A:857:ARG:HD3	1:A:861:GLY:O	2.14	0.48
2:B:564:GLU:HB2	2:B:589:VAL:HG12	1.96	0.48
3:C:209:TYR:N	3:C:209:TYR:CD1	2.82	0.48
3:C:238:ILE:HG23	3:C:242:GLN:HB2	1.96	0.48
1:A:740:LEU:HD12	1:A:740:LEU:N	2.29	0.47
2:B:776:GLN:HA	2:B:1096:ARG:NH1	2.29	0.47
2:B:294:ASP:H	7:I:12:ASN:HD22	1.57	0.47
3:C:108:GLU:OE1	3:C:149:LYS:HD3	2.14	0.47
3:C:121:VAL:HG12	3:C:121:VAL:O	2.14	0.47
7:I:50:THR:CB	7:I:92:ARG:HH12	2.27	0.47
1:A:1145:SER:HB2	1:A:1205:LYS:HZ3	1.78	0.47
2:B:285:ILE:O	2:B:289:LEU:HG	2.13	0.47
4:E:99:HIS:O	4:E:103:LYS:HG2	2.15	0.47
3:C:166:GLU:CG	10:L:70:ARG:HH12	2.27	0.47
1:A:1118:VAL:CG2	1:A:1306:LEU:HD12	2.44	0.47
1:A:602:ASP:O	1:A:615:GLY:HA2	2.14	0.47
2:B:911:ILE:HD11	2:B:941:LEU:CD1	2.44	0.47
3:C:22:LEU:HD12	3:C:230:MET:HE1	1.95	0.47
3:C:73:GLN:NE2	3:C:75:MET:H	2.05	0.47
1:A:1279:ILE:HD11	1:A:1312:ASN:CB	2.43	0.47
1:A:1281:ARG:HB2	1:A:1309:ASP:HB2	1.97	0.47
1:A:144:THR:O	1:A:146:MET:HG3	2.14	0.47
2:B:108:VAL:HG12	2:B:109:THR:N	2.29	0.47
2:B:202:TYR:CD2	2:B:202:TYR:N	2.83	0.47
1:A:483:ASP:OD1	13:B:3571:UTP:O1B	2.32	0.47
2:B:528:PRO:CG	2:B:536:VAL:HB	2.44	0.47
2:B:1001:PHE:HE1	3:C:178:PHE:HB3	1.79	0.47
3:C:244:VAL:O	3:C:248:ILE:HG13	2.14	0.47
10:L:58:LYS:O	10:L:59:ALA:HB3	2.14	0.47
1:A:346:ASP:O	1:A:347:PHE:HB2	2.15	0.47
9:K:49:GLU:HG3	9:K:94:ILE:HG12	1.95	0.47
1:A:984:LYS:O	1:A:988:LEU:HB2	2.14	0.47
2:B:1165:ILE:HG13	2:B:1187:ASN:ND2	2.29	0.47
2:B:914:LYS:HG2	2:B:915:THR:N	2.28	0.47
3:C:169:LYS:HZ3	10:L:70:ARG:HG2	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:50:THR:CG2	7:I:52:ILE:HG22	2.45	0.47
7:I:95:THR:HG22	7:I:96:SER:O	2.14	0.47
2:B:955:THR:CG2	10:L:55:ILE:HA	2.43	0.47
1:A:44:THR:O	1:A:45:GLN:HB2	2.14	0.47
1:A:440:ASP:O	1:A:460:VAL:HG23	2.15	0.47
1:A:598:LEU:HD11	6:H:124:ARG:CB	2.44	0.47
1:A:842:VAL:HG11	2:B:1136:ASP:CG	2.35	0.47
3:C:167:HIS:CD2	3:C:169:LYS:H	2.13	0.47
5:F:81:THR:HG21	5:F:136:ARG:HD3	1.96	0.47
6:H:40:LEU:CD1	6:H:123:MET:HB2	2.42	0.47
1:A:1167:GLU:O	1:A:1171:GLN:HG3	2.14	0.47
1:A:1431:GLY:HA2	2:B:1152:MET:CE	2.45	0.47
5:F:109:VAL:HG13	5:F:127:GLU:OE1	2.15	0.47
6:H:100:THR:HG23	6:H:138:GLU:HG3	1.96	0.47
7:I:98:VAL:HG22	7:I:111:THR:HG22	1.97	0.47
8:J:2:ILE:HD11	8:J:57:ILE:CD1	2.45	0.47
2:B:1060:ARG:NH2	3:C:202:PRO:HG3	2.30	0.47
5:F:134:ILE:HD12	5:F:151:LEU:CD1	2.45	0.47
8:J:3:VAL:HG21	8:J:18:TRP:HB2	1.96	0.47
8:J:2:ILE:HD11	8:J:57:ILE:HD12	1.96	0.47
1:A:381:THR:HB	1:A:382:PRO:HD2	1.97	0.47
1:A:880:LYS:HA	1:A:955:PRO:HA	1.95	0.47
2:B:461:LEU:HD12	2:B:466:TRP:HH2	1.80	0.47
1:A:1146:VAL:HG11	1:A:1202:MET:SD	2.55	0.47
1:A:1351:GLU:O	1:A:1355:VAL:HG23	2.14	0.47
1:A:365:GLY:O	1:A:468:PHE:HA	2.14	0.47
1:A:516:SER:O	1:A:517:ASN:C	2.52	0.47
3:C:55:THR:HB	3:C:152:GLU:H	1.80	0.47
4:E:120:ALA:O	4:E:123:LEU:HB2	2.15	0.47
1:A:1064:VAL:HG12	1:A:1370:LEU:HD22	1.97	0.46
1:A:1124:HIS:CB	1:A:1130:GLN:HG3	2.45	0.46
1:A:268:ASP:HB3	1:A:299:HIS:CD2	2.51	0.46
1:A:563:PRO:HG3	1:A:572:TRP:CE2	2.51	0.46
2:B:683:SER:O	2:B:687:GLU:HG3	2.14	0.46
3:C:35:ARG:NH1	9:K:41:THR:H	2.12	0.46
6:H:125:LEU:HB3	6:H:130:ARG:NH1	2.31	0.46
6:H:96:VAL:HG13	6:H:143:LEU:CD2	2.45	0.46
10:L:51:CYS:HB3	10:L:53:HIS:CD2	2.50	0.46
1:A:115:LEU:CD1	1:A:141:LEU:HB3	2.44	0.46
1:A:1277:GLU:O	1:A:1278:ASN:CB	2.61	0.46
2:B:287:ARG:NH1	2:B:324:ILE:O	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:796:LEU:HB3	2:B:799:PRO:HG3	1.97	0.46
2:B:889:THR:HG22	2:B:891:ASP:H	1.80	0.46
7:I:95:THR:HG22	7:I:96:SER:N	2.31	0.46
1:A:1129:GLU:O	1:A:1133:LEU:HG	2.15	0.46
1:A:418:SER:C	1:A:420:ARG:H	2.17	0.46
1:A:565:ILE:HG23	1:A:567:LYS:CG	2.44	0.46
1:A:907:THR:CG2	1:A:908:LEU:H	2.26	0.46
2:B:778:MET:SD	2:B:1094:ARG:HD3	2.56	0.46
2:B:97:VAL:HG12	2:B:178:ASN:HD21	1.80	0.46
2:B:420:LEU:HD13	2:B:453:ILE:HA	1.97	0.46
2:B:60:GLN:O	2:B:63:ILE:HG22	2.16	0.46
2:B:98:THR:O	2:B:126:SER:HB3	2.15	0.46
3:C:162:GLY:HA3	3:C:170:TRP:CE2	2.51	0.46
3:C:44:LEU:HG	3:C:159:ALA:HB1	1.97	0.46
1:A:1293:SER:HB3	1:A:1297:GLU:O	2.15	0.46
2:B:642:ASP:HB3	2:B:649:LYS:HG2	1.98	0.46
2:B:651:LEU:HD23	2:B:710:LEU:HD11	1.96	0.46
1:A:345:VAL:CG1	2:B:1129:ARG:HA	2.46	0.46
1:A:401:GLY:H	1:A:435:HIS:HD1	1.64	0.46
1:A:704:ALA:HB2	1:A:710:LEU:HD12	1.98	0.46
8:J:30:LEU:HD11	8:J:38:ARG:NH2	2.31	0.46
2:B:103:ASN:HB2	2:B:169:ARG:NH1	2.31	0.46
2:B:859:TYR:CD1	2:B:859:TYR:N	2.83	0.46
2:B:884:ARG:O	2:B:936:ASP:HB2	2.16	0.46
6:H:12:VAL:HG13	6:H:26:ILE:HG23	1.98	0.46
6:H:130:ARG:HD3	6:H:134:ASN:HD21	1.81	0.46
1:A:1039:LYS:O	1:A:1043:ASP:OD1	2.34	0.46
1:A:912:LEU:HD22	1:A:1033:GLN:HA	1.97	0.46
3:C:11:ARG:HD2	3:C:21:ILE:CD1	2.46	0.46
1:A:1396:ALA:HB2	1:A:1417:GLU:OE1	2.16	0.46
1:A:226:GLU:HG3	1:A:227:VAL:HG23	1.98	0.46
2:B:174:LEU:O	2:B:200:GLY:O	2.33	0.46
2:B:25:ILE:HG13	2:B:654:ARG:HA	1.97	0.46
2:B:616:ILE:HG13	2:B:697:GLU:HA	1.98	0.46
3:C:102:GLN:OE1	3:C:154:LYS:HE2	2.16	0.46
3:C:242:GLN:HE21	3:C:246:ARG:NH2	2.03	0.46
1:A:1339:LEU:HD13	4:E:147:HIS:CD2	2.51	0.46
3:C:249:ASP:O	3:C:252:GLN:HB3	2.16	0.46
3:C:89:GLU:O	3:C:90:ASP:HB3	2.16	0.46
6:H:12:VAL:HA	6:H:28:ALA:CB	2.46	0.46
1:A:1212:VAL:O	1:A:1216:ILE:HG13	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:666:ILE:HG12	2:B:1026:LEU:HB3	1.98	0.46
2:B:493:SER:OG	2:B:497:ARG:NH2	2.49	0.46
4:E:16:PHE:CZ	4:E:20:LYS:HE2	2.50	0.46
1:A:1152:ILE:HB	7:I:44:TYR:HB3	1.97	0.46
1:A:35:ILE:HD13	1:A:83:HIS:H	1.81	0.45
1:A:795:GLU:HG2	2:B:731:VAL:HG22	1.98	0.45
1:A:752:LYS:HG2	2:B:1015:HIS:O	2.17	0.45
2:B:593:PRO:HG2	2:B:617:ARG:NH2	2.30	0.45
2:B:705:MET:HB3	2:B:706:GLN:NE2	2.31	0.45
10:L:49:LYS:O	10:L:50:ASP:HB2	2.16	0.45
2:B:1191:ILE:HG22	2:B:1192:TYR:N	2.30	0.45
2:B:227:LYS:NZ	2:B:236:HIS:HE1	2.15	0.45
3:C:42:PRO:HG3	3:C:163:ILE:HD11	1.97	0.45
3:C:55:THR:O	3:C:55:THR:HG22	2.16	0.45
4:E:180:ARG:HB2	4:E:215:MET:OXT	2.16	0.45
1:A:1259:MET:O	1:A:1263:ILE:HG13	2.15	0.45
1:A:239:LEU:HD23	1:A:240:PRO:N	2.31	0.45
1:A:62:ASP:HB2	1:A:64:ASN:ND2	2.31	0.45
2:B:1051:THR:HG22	2:B:1053:GLU:N	2.23	0.45
2:B:118:ARG:HG3	2:B:204:ILE:HD13	1.97	0.45
3:C:100:THR:HG22	3:C:101:LEU:N	2.32	0.45
6:H:105:GLU:O	6:H:107:VAL:HG23	2.15	0.45
3:C:6:PRO:CB	9:K:101:LEU:HD23	2.46	0.45
1:A:489:LEU:HD23	1:A:490:HIS:N	2.31	0.45
1:A:565:ILE:HG23	1:A:567:LYS:HE3	1.98	0.45
1:A:853:ASP:O	1:A:854:ASN:HB2	2.17	0.45
6:H:31:THR:HG22	6:H:32:THR:N	2.31	0.45
1:A:1295:THR:HB	1:A:1297:GLU:OE1	2.17	0.45
1:A:1386:ARG:HG3	1:A:1386:ARG:O	2.16	0.45
2:B:113:TYR:CD2	2:B:192:LEU:HD22	2.51	0.45
2:B:904:ARG:HH21	2:B:948:ILE:HD11	1.81	0.45
3:C:70:ILE:HD11	3:C:144:ILE:HG12	1.98	0.45
3:C:57:VAL:O	3:C:57:VAL:HG12	2.17	0.45
3:C:6:PRO:HA	3:C:25:VAL:HG13	1.98	0.45
6:H:56:THR:O	6:H:144:ILE:HA	2.17	0.45
9:K:33:ILE:HD13	9:K:87:LEU:HD22	1.97	0.45
10:L:41:SER:HB2	10:L:42:ARG:HH21	1.82	0.45
1:A:1322:ILE:HG13	1:A:1323:ASP:N	2.31	0.45
1:A:71:GLN:HG2	2:B:1176:ASN:HD22	1.82	0.45
1:A:765:VAL:HB	1:A:800:VAL:CG1	2.47	0.45
1:A:84:ILE:O	1:A:84:ILE:HG23	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:276:ILE:CD1	2:B:355:ILE:HD13	2.47	0.45
1:A:822:GLU:HG3	2:B:513:GLN:HE22	1.81	0.45
2:B:830:TYR:CE1	2:B:1000:PRO:HB3	2.51	0.45
2:B:879:ARG:HG3	2:B:885:MET:HE1	1.97	0.45
1:A:464:PRO:HB2	9:K:4:PRO:HD3	1.98	0.45
10:L:38:LEU:O	10:L:39:SER:HB2	2.17	0.45
1:A:1364:ASN:ND2	1:A:1366:ARG:CG	2.79	0.45
2:B:1084:GLN:NE2	3:C:192:TRP:N	2.65	0.45
3:C:25:VAL:HG23	3:C:228:PHE:CE1	2.49	0.45
9:K:12:LEU:HD12	9:K:12:LEU:H	1.82	0.45
1:A:889:SER:HB3	1:A:1297:GLU:HG3	1.98	0.45
1:A:368:LYS:HB2	1:A:368:LYS:NZ	2.32	0.45
2:B:276:ILE:HD11	2:B:355:ILE:HD13	1.98	0.45
2:B:638:PHE:HB2	2:B:741:CYS:O	2.17	0.45
3:C:48:SER:HB3	3:C:158:VAL:HB	1.99	0.45
8:J:48:ARG:NH2	8:J:49:MET:HE1	2.31	0.45
1:A:329:LEU:HA	1:A:332:LYS:HB2	1.99	0.45
2:B:1023:VAL:O	2:B:1027:ILE:HG13	2.17	0.45
1:A:805:LEU:CD1	2:B:1052:VAL:HG21	2.47	0.45
2:B:1079:LYS:HB2	3:C:27:LEU:HD21	1.97	0.45
2:B:28:GLU:OE1	2:B:807:ARG:NH2	2.50	0.45
4:E:88:VAL:HG13	4:E:92:THR:HB	1.99	0.45
6:H:31:THR:HG22	6:H:32:THR:H	1.81	0.45
8:J:36:LEU:HD21	8:J:50:ILE:HB	1.99	0.45
8:J:14:VAL:HG23	8:J:41:LEU:HD21	1.99	0.45
1:A:388:LEU:HD22	1:A:432:VAL:CB	2.46	0.45
2:B:345:LYS:HA	2:B:348:ARG:NH1	2.32	0.45
2:B:402:GLY:HA2	2:B:695:ALA:HB3	1.99	0.45
2:B:98:THR:HG22	2:B:99:LYS:H	1.82	0.45
9:K:21:ILE:HG12	9:K:33:ILE:HG12	1.97	0.45
1:A:709:THR:HG21	7:I:93:LYS:O	2.17	0.44
1:A:682:THR:HG23	1:A:728:LYS:NZ	2.32	0.44
2:B:757:PRO:HD3	2:B:983:ARG:CZ	2.47	0.44
3:C:261:ALA:O	3:C:265:MET:HB2	2.17	0.44
3:C:71:PRO:C	3:C:72:LEU:HD23	2.38	0.44
5:F:85:MET:O	5:F:155:LEU:HD21	2.17	0.44
10:L:68:GLU:C	10:L:70:ARG:H	2.21	0.44
1:A:1025:ARG:O	1:A:1035:TYR:HE1	2.00	0.44
1:A:1348:LEU:HD21	1:A:1375:MET:HE2	1.99	0.44
1:A:849:MET:CE	1:A:1437:GLY:H	2.31	0.44
2:B:872:GLU:HG2	2:B:916:THR:OG1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:239:PRO:O	3:C:242:GLN:HB2	2.16	0.44
8:J:3:VAL:HG11	8:J:18:TRP:HB2	1.98	0.44
3:C:35:ARG:HH12	9:K:41:THR:H	1.64	0.44
1:A:1150:SER:HB3	1:A:1195:LEU:HD22	2.00	0.44
1:A:208:LEU:HD23	1:A:208:LEU:O	2.17	0.44
1:A:35:ILE:HA	1:A:52:GLY:O	2.17	0.44
1:A:589:GLN:HB2	1:A:961:ARG:NH2	2.32	0.44
1:A:704:ALA:HB2	1:A:710:LEU:HA	1.99	0.44
1:A:1190:PRO:HG3	7:I:18:GLU:OE2	2.18	0.44
1:A:1144:LYS:HB2	1:A:1268:LEU:O	2.18	0.44
1:A:472:LEU:HD13	2:B:835:GLN:HE21	1.82	0.44
1:A:54:ASN:HD21	1:A:259:GLU:HG2	1.83	0.44
1:A:854:ASN:O	1:A:867:ILE:HA	2.17	0.44
2:B:405:ARG:HA	2:B:631:GLY:O	2.17	0.44
4:E:159:ASP:HA	4:E:162:ARG:NH1	2.32	0.44
1:A:1220:PHE:HE1	1:A:1267:MET:HG2	1.83	0.44
1:A:549:MET:HE1	1:A:577:ILE:HD13	1.99	0.44
1:A:940:ARG:O	1:A:944:ARG:HG3	2.18	0.44
2:B:1159:ARG:CG	2:B:1193:GLN:HE21	2.31	0.44
2:B:654:ARG:N	2:B:657:HIS:HD2	2.16	0.44
2:B:744:HIS:HD2	2:B:746:SER:H	1.66	0.44
6:H:42:ILE:HG23	6:H:95:TYR:CE1	2.53	0.44
8:J:45:CYS:O	8:J:48:ARG:HG3	2.18	0.44
1:A:1079:MET:HE3	1:A:1098:VAL:HG22	1.99	0.44
1:A:247:ARG:HD3	1:A:263:THR:OG1	2.17	0.44
2:B:1177:HIS:HB2	2:B:1179:GLN:HE21	1.81	0.44
2:B:238:ALA:HB3	2:B:256:VAL:HB	2.00	0.44
2:B:53:GLN:HB2	2:B:547:VAL:CG2	2.48	0.44
2:B:849:GLY:HA2	2:B:852:ARG:HG3	1.99	0.44
3:C:66:ARG:NH2	8:J:3:VAL:O	2.51	0.44
1:A:1295:THR:O	1:A:1295:THR:HG22	2.18	0.44
1:A:1315:GLU:O	1:A:1318:THR:HG22	2.17	0.44
1:A:1424:VAL:O	1:A:1428:VAL:HG23	2.17	0.44
1:A:248:PRO:O	1:A:260:ASP:HB2	2.17	0.44
1:A:57:ARG:O	1:A:68:GLN:HG3	2.16	0.44
1:A:672:ASP:HB2	1:A:736:ASN:OD1	2.17	0.44
2:B:1009:ASP:O	2:B:1010:LEU:HD12	2.18	0.44
1:A:16:GLU:HG3	2:B:1220:ARG:HA	1.99	0.44
2:B:46:GLN:HE21	2:B:496:ARG:HH11	1.66	0.44
5:F:138:LEU:HD12	5:F:142:SER:OG	2.18	0.44
10:L:61:THR:HB	10:L:63:ARG:HG2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:185:TRP:O	1:A:186:LYS:HB2	2.18	0.44
1:A:302:THR:HG21	1:A:312:PRO:CG	2.48	0.44
2:B:299:GLU:HG2	2:B:571:PRO:HG2	1.98	0.44
2:B:791:THR:O	2:B:857:ARG:HA	2.18	0.44
6:H:81:PRO:HD2	6:H:82:PRO:HD2	1.99	0.44
1:A:445:ASN:ND2	1:A:446:ARG:N	2.65	0.44
5:F:81:THR:HG21	5:F:136:ARG:CD	2.48	0.44
6:H:62:SER:O	6:H:63:LEU:C	2.56	0.44
7:I:50:THR:HB	7:I:92:ARG:HH12	1.82	0.44
1:A:1364:ASN:HD22	1:A:1366:ARG:N	2.15	0.43
1:A:647:GLY:O	1:A:651:LYS:HG3	2.18	0.43
1:A:768:GLN:HG3	1:A:816:HIS:HA	2.00	0.43
2:B:491:THR:O	2:B:495:LEU:HD12	2.18	0.43
2:B:979:LYS:NZ	2:B:987:LYS:HD2	2.33	0.43
8:J:64:ASN:N	8:J:65:PRO:CD	2.81	0.43
1:A:523:ILE:HD13	1:A:622:VAL:HG13	2.00	0.43
2:B:235:SER:OG	2:B:236:HIS:HD2	2.01	0.43
3:C:62:PHE:CD2	3:C:66:ARG:HD2	2.53	0.43
8:J:64:ASN:H	8:J:65:PRO:HD2	1.81	0.43
2:B:900:ALA:HB2	10:L:58:LYS:HD2	2.00	0.43
1:A:1152:ILE:HA	1:A:1192:LEU:O	2.18	0.43
1:A:1328:TYR:CG	1:A:1329:THR:N	2.86	0.43
1:A:642:CYS:O	1:A:645:LEU:HB3	2.19	0.43
1:A:533:LYS:HE3	1:A:745:GLN:HE22	1.83	0.43
1:A:800:VAL:HG22	1:A:812:GLU:HB3	2.00	0.43
1:A:901:LEU:HB2	1:A:926:GLN:HG2	1.99	0.43
2:B:548:GLY:N	2:B:612:GLU:OE2	2.51	0.43
3:C:136:ASP:C	3:C:138:GLU:H	2.21	0.43
3:C:148:ARG:HD2	8:J:61:LEU:O	2.19	0.43
4:E:93:MET:HG3	4:E:97:VAL:HG23	2.00	0.43
7:I:45:ARG:NH1	7:I:45:ARG:HG2	2.28	0.43
1:A:958:VAL:HG11	1:A:1049:ILE:HG23	2.00	0.43
1:A:1074:GLU:N	1:A:1075:PRO:HD2	2.33	0.43
1:A:1341:ILE:CG1	1:A:1376:THR:HG23	2.48	0.43
1:A:276:LEU:HD13	1:A:292:ALA:HB3	2.01	0.43
1:A:1438:THR:CG2	2:B:1144:ALA:H	2.29	0.43
2:B:785:TYR:CE2	2:B:795:ILE:HG12	2.53	0.43
2:B:973:ILE:O	2:B:975:GLN:HG3	2.18	0.43
3:C:38:ILE:CG1	3:C:176:ILE:HD12	2.48	0.43
5:F:116:ASP:O	5:F:120:ILE:HG13	2.18	0.43
2:B:798:TYR:CD2	8:J:4:PRO:HG3	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1104:ILE:HD13	1:A:1351:GLU:HB3	2.01	0.43
1:A:313:GLN:HG2	1:A:322:VAL:HB	2.00	0.43
1:A:446:ARG:HB2	1:A:487:MET:HE2	2.00	0.43
1:A:774:ARG:HB2	1:A:797:LYS:HB3	2.00	0.43
1:A:79:GLY:HA3	1:A:245:PRO:CG	2.45	0.43
2:B:446:LEU:O	2:B:448:ILE:HG13	2.18	0.43
2:B:46:GLN:HE21	2:B:496:ARG:NH1	2.16	0.43
2:B:979:LYS:HE2	2:B:1095:LEU:HD12	2.00	0.43
3:C:185:LYS:HG2	3:C:213:PRO:HB3	2.00	0.43
4:E:204:THR:CG2	4:E:205:SER:N	2.81	0.43
5:F:109:VAL:HG23	5:F:124:GLU:HG2	2.00	0.43
2:B:274:PRO:HG3	2:B:359:GLU:HB3	2.00	0.43
2:B:327:ARG:NH2	2:B:371:GLU:HG2	2.34	0.43
2:B:800:GLN:O	2:B:818:PRO:HB2	2.18	0.43
3:C:242:GLN:NE2	3:C:246:ARG:HE	2.16	0.43
1:A:1264:GLU:HA	1:A:1267:MET:HE2	2.01	0.43
1:A:881:GLN:CD	1:A:959:ASN:HA	2.39	0.43
2:B:195:CYS:SG	2:B:197:PHE:HB2	2.59	0.43
2:B:212:LEU:HD11	2:B:461:LEU:HD11	2.00	0.43
2:B:877:PRO:HB3	2:B:915:THR:CG2	2.48	0.43
2:B:860:MET:HA	2:B:964:VAL:O	2.18	0.43
1:A:1287:TYR:CD1	1:A:1305:VAL:HG21	2.54	0.43
1:A:440:ASP:OD1	1:A:498:ARG:NH2	2.52	0.43
1:A:605:MET:HE3	1:A:612:ILE:HG13	2.01	0.43
2:B:1222:ARG:H	2:B:1222:ARG:CD	2.21	0.43
2:B:561:TRP:O	2:B:590:HIS:HE1	2.02	0.43
2:B:557:PHE:CZ	2:B:603:LEU:HD11	2.54	0.43
3:C:260:LEU:O	3:C:260:LEU:HD12	2.18	0.43
4:E:22:MET:HA	4:E:187:TYR:CZ	2.54	0.43
1:A:1118:VAL:O	1:A:1118:VAL:HG23	2.18	0.43
1:A:262:LEU:O	1:A:266:LEU:HG	2.19	0.43
1:A:566:ILE:O	1:A:567:LYS:O	2.37	0.43
2:B:1212:ILE:O	2:B:1214:PRO:HD3	2.19	0.43
2:B:281:PRO:CG	2:B:284:ILE:HD12	2.46	0.43
2:B:681:TRP:CH2	2:B:690:VAL:HG11	2.54	0.43
2:B:796:LEU:O	2:B:799:PRO:HD3	2.18	0.43
3:C:58:LEU:HD22	3:C:62:PHE:CE2	2.53	0.43
6:H:18:GLY:O	6:H:20:TYR:N	2.52	0.43
7:I:19:ASP:OD1	7:I:22:ASN:HB2	2.19	0.43
1:A:187:LYS:O	1:A:188:ASP:HB2	2.18	0.43
1:A:329:LEU:C	1:A:331:GLY:H	2.21	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:293:PRO:HG2	2:B:296:GLU:CB	2.47	0.43
2:B:986:GLN:NE2	2:B:987:LYS:O	2.48	0.43
3:C:43:THR:O	3:C:161:LYS:HA	2.19	0.43
4:E:153:HIS:CG	4:E:184:VAL:HG11	2.54	0.43
7:I:50:THR:HB	7:I:92:ARG:NH2	2.33	0.43
3:C:169:LYS:NZ	10:L:70:ARG:HG2	2.34	0.42
3:C:63:ILE:O	3:C:67:LEU:HG	2.19	0.42
1:A:550:LEU:HD13	1:A:556:TRP:CZ2	2.54	0.42
1:A:73:GLY:C	1:A:75:ASN:H	2.22	0.42
1:A:914:GLU:C	1:A:916:GLY:N	2.72	0.42
2:B:497:ARG:HG3	2:B:498:THR:H	1.84	0.42
3:C:13:ALA:O	9:K:114:LEU:HB3	2.18	0.42
1:A:1341:ILE:CG2	1:A:1342:GLU:N	2.83	0.42
1:A:914:GLU:O	1:A:916:GLY:N	2.52	0.42
2:B:268:THR:CG2	2:B:270:LYS:HE3	2.46	0.42
2:B:281:PRO:HB3	2:B:320:ASP:OD2	2.19	0.42
3:C:112:ASN:ND2	3:C:146:LYS:HG2	2.34	0.42
4:E:77:SER:HG	4:E:105:PHE:HD2	1.64	0.42
1:A:1173:HIS:NE2	1:A:1227:ILE:HG23	2.35	0.42
2:B:225:VAL:HA	2:B:237:VAL:O	2.20	0.42
2:B:424:LEU:O	2:B:428:ILE:HG13	2.19	0.42
2:B:750:GLY:O	2:B:754:SER:HB2	2.19	0.42
2:B:794:ASN:C	2:B:795:ILE:HD12	2.39	0.42
9:K:78:THR:HG22	9:K:79:GLU:N	2.35	0.42
1:A:1436:ILE:O	1:A:1437:GLY:C	2.58	0.42
1:A:38:PRO:C	1:A:39:GLU:HG3	2.38	0.42
1:A:557:ASP:HA	9:K:26:LYS:HD2	2.02	0.42
1:A:741:ASN:ND2	1:A:743:VAL:HB	2.34	0.42
1:A:974:ASP:HA	6:H:136:LYS:HE2	2.01	0.42
2:B:760:ASP:OD1	2:B:760:ASP:N	2.53	0.42
2:B:784:ASN:HB3	8:J:63:TYR:OH	2.19	0.42
2:B:875:GLU:HG2	2:B:895:ASP:O	2.20	0.42
2:B:953:LEU:CD2	2:B:955:THR:HG23	2.43	0.42
2:B:983:ARG:HH11	2:B:1091:TYR:CB	2.32	0.42
3:C:18:VAL:HG12	3:C:20:PHE:HD2	1.84	0.42
9:K:58:PHE:HE2	9:K:74:ARG:HB3	1.84	0.42
1:A:1008:GLN:O	1:A:1012:ARG:HG3	2.18	0.42
1:A:450:LEU:N	1:A:450:LEU:HD12	2.25	0.42
1:A:636:GLU:OE2	1:A:962:ARG:HD3	2.19	0.42
1:A:699:ALA:O	1:A:700:ASN:HB3	2.20	0.42
1:A:853:ASP:OD1	1:A:855:THR:CB	2.66	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1023:VAL:HG12	2:B:1027:ILE:CD1	2.49	0.42
2:B:244:LEU:HD11	2:B:366:GLN:HE22	1.85	0.42
2:B:46:GLN:NE2	2:B:496:ARG:HB3	2.28	0.42
4:E:16:PHE:CE2	4:E:20:LYS:HE2	2.54	0.42
1:A:342:GLY:O	1:A:345:VAL:HG13	2.20	0.42
1:A:808:LEU:HD12	1:A:808:LEU:N	2.34	0.42
2:B:315:LYS:HB2	2:B:315:LYS:HE3	1.80	0.42
2:B:586:TRP:NE1	2:B:588:GLY:O	2.52	0.42
2:B:957:ASN:ND2	2:B:958:GLN:N	2.65	0.42
3:C:57:VAL:CG1	3:C:57:VAL:O	2.67	0.42
7:I:17:ARG:CG	7:I:28:GLU:HG2	2.48	0.42
9:K:90:ALA:O	9:K:94:ILE:HG13	2.19	0.42
1:A:551:TYR:CE1	9:K:74:ARG:HD3	2.55	0.42
2:B:653:VAL:HG12	2:B:689:LEU:HD13	2.02	0.42
2:B:654:ARG:H	2:B:657:HIS:HD2	1.67	0.42
2:B:950:ASP:O	2:B:951:GLN:HB2	2.20	0.42
3:C:181:ASP:CG	3:C:186:LEU:HD13	2.40	0.42
8:J:32:GLU:CD	8:J:32:GLU:H	2.23	0.42
9:K:21:ILE:HG23	9:K:31:VAL:CG1	2.50	0.42
1:A:329:LEU:HD23	1:A:332:LYS:HB2	2.00	0.42
1:A:92:HIS:CD2	1:A:94:GLY:H	2.38	0.42
2:B:1007:VAL:HG22	2:B:1008:PRO:HD2	2.01	0.42
2:B:102:VAL:HG11	2:B:122:LEU:HD13	2.01	0.42
2:B:174:LEU:HD12	2:B:174:LEU:N	2.35	0.42
4:E:78:LEU:HD11	4:E:109:ILE:HG13	2.02	0.42
1:A:337:ARG:HH12	1:A:1403:GLU:HA	1.85	0.42
1:A:2:VAL:HG13	1:A:2:VAL:O	2.20	0.42
2:B:383:ASN:O	2:B:387:LEU:HB2	2.20	0.42
3:C:58:LEU:HD12	3:C:145:CYS:SG	2.60	0.42
7:I:35:VAL:HG22	7:I:36:GLU:N	2.35	0.42
1:A:834:THR:HG21	1:A:1077:THR:CA	2.47	0.41
2:B:1002:THR:HG21	2:B:1006:ILE:HB	2.02	0.41
2:B:35:SER:HA	2:B:811:TYR:CE2	2.55	0.41
2:B:844:SER:OG	2:B:996:ARG:N	2.43	0.41
3:C:42:PRO:HA	3:C:163:ILE:HD12	2.02	0.41
3:C:43:THR:CG2	3:C:44:LEU:N	2.83	0.41
6:H:97:MET:CE	6:H:142:LEU:HD23	2.50	0.41
1:A:1115:SER:HA	1:A:1308:THR:O	2.21	0.41
1:A:855:THR:CG2	1:A:857:ARG:HG3	2.43	0.41
2:B:858:SER:HA	2:B:966:VAL:O	2.20	0.41
2:B:94:LYS:HD3	2:B:96:TYR:CZ	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:204:THR:HG22	4:E:205:SER:N	2.36	0.41
9:K:18:LYS:HE3	9:K:38:GLU:HG2	2.02	0.41
1:A:975:HIS:ND1	1:A:1036:ARG:HG3	2.35	0.41
1:A:1319:VAL:HG13	1:A:1320:PRO:HD2	2.03	0.41
1:A:391:LEU:HD23	1:A:400:PRO:O	2.20	0.41
1:A:925:LEU:HD13	1:A:983:ILE:HD12	2.02	0.41
2:B:1163:CYS:SG	2:B:1165:ILE:HB	2.61	0.41
3:C:166:GLU:HA	9:K:6:ARG:HB3	2.01	0.41
4:E:59:SER:OG	4:E:81:GLU:HA	2.21	0.41
4:E:88:VAL:HG21	4:E:110:PHE:CE2	2.55	0.41
6:H:125:LEU:HB3	6:H:130:ARG:CZ	2.50	0.41
8:J:52:THR:O	8:J:52:THR:HG22	2.19	0.41
9:K:21:ILE:HD13	9:K:84:LYS:HE2	2.01	0.41
1:A:103:CYS:SG	1:A:207:ILE:HG23	2.60	0.41
2:B:339:THR:CG2	2:B:343:ILE:HB	2.50	0.41
2:B:402:GLY:CA	2:B:695:ALA:HB3	2.49	0.41
2:B:640:VAL:HG22	2:B:651:LEU:CD2	2.50	0.41
3:C:265:MET:HE1	9:K:19:LEU:O	2.20	0.41
4:E:94:LYS:O	4:E:98:ILE:HG13	2.20	0.41
6:H:82:PRO:O	6:H:84:ALA:N	2.52	0.41
1:A:369:SER:CB	9:K:2:ASN:HD21	2.33	0.41
3:C:35:ARG:HH11	9:K:41:THR:N	2.18	0.41
1:A:106:VAL:CG2	1:A:111:GLY:C	2.89	0.41
1:A:1164:PRO:HG2	1:A:1165:GLU:H	1.85	0.41
1:A:246:VAL:O	1:A:328:ARG:NH2	2.54	0.41
1:A:396:PRO:HG3	1:A:416:ARG:HB3	2.02	0.41
1:A:605:MET:CE	1:A:612:ILE:HG13	2.51	0.41
1:A:63:ARG:HA	1:A:74:MET:HE2	2.02	0.41
2:B:121:ASN:HA	2:B:207:GLY:CA	2.51	0.41
2:B:235:SER:HA	2:B:261:ARG:NH2	2.35	0.41
2:B:361:LEU:O	2:B:374:LYS:HE2	2.21	0.41
2:B:875:GLU:O	2:B:877:PRO:HD3	2.21	0.41
2:B:995:ARG:HD2	2:B:997:GLU:OE2	2.20	0.41
8:J:57:ILE:HA	8:J:60:PHE:CD2	2.55	0.41
3:C:22:LEU:CD2	9:K:101:LEU:HD21	2.50	0.41
1:A:356:ASP:OD2	9:K:65:HIS:HE1	2.04	0.41
1:A:476:SER:N	1:A:477:PRO:HD2	2.36	0.41
1:A:556:TRP:CH2	1:A:558:GLY:HA2	2.56	0.41
2:B:1159:ARG:HG3	2:B:1193:GLN:HE21	1.85	0.41
2:B:242:SER:O	2:B:251:ILE:HA	2.19	0.41
2:B:324:ILE:HD11	2:B:333:PHE:CG	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:515:HIS:CD2	2:B:517:THR:H	2.23	0.41
7:I:16:PRO:HA	7:I:26:LEU:O	2.21	0.41
9:K:65:HIS:CD2	9:K:66:PRO:HD2	2.55	0.41
1:A:1345:ARG:HD2	1:A:1373:ASP:OD1	2.21	0.41
1:A:32:VAL:HG23	1:A:33:ALA:H	1.85	0.41
1:A:406:ILE:N	1:A:406:ILE:HD12	2.36	0.41
2:B:1183:LYS:C	2:B:1185:CYS:H	2.24	0.41
2:B:123:THR:OG1	2:B:458:LYS:HE3	2.21	0.41
2:B:757:PRO:HD3	2:B:983:ARG:HH21	1.86	0.41
2:B:886:LYS:C	2:B:888:GLY:H	2.24	0.41
3:C:258:ILE:HG23	9:K:19:LEU:HD11	2.02	0.41
6:H:5:LEU:HD11	6:H:135:LEU:HG	2.03	0.41
1:A:186:LYS:HG2	1:A:187:LYS:H	1.86	0.41
1:A:81:PHE:HA	1:A:243:PRO:HD3	2.03	0.41
1:A:378:GLU:OE1	1:A:434:ARG:HD3	2.21	0.41
2:B:115:GLN:HG2	2:B:193:LYS:CB	2.50	0.41
2:B:339:THR:HG22	2:B:340:ALA:O	2.20	0.41
2:B:870:ILE:HD11	2:B:919:SER:OG	2.21	0.41
6:H:113:ALA:HA	6:H:125:LEU:O	2.21	0.41
6:H:12:VAL:HG13	6:H:26:ILE:CG2	2.51	0.41
7:I:103:CYS:SG	7:I:105:SER:HB2	2.60	0.41
7:I:98:VAL:CG2	7:I:111:THR:HG22	2.50	0.41
10:L:26:THR:C	10:L:27:LEU:HD23	2.41	0.41
1:A:1104:ILE:CD1	1:A:1351:GLU:HB3	2.51	0.41
2:B:165:VAL:HG12	2:B:167:ILE:HG13	2.03	0.41
2:B:97:VAL:HG12	2:B:178:ASN:ND2	2.35	0.41
2:B:351:TYR:CE2	2:B:355:ILE:HD11	2.55	0.41
3:C:163:ILE:CG2	3:C:165:LYS:H	2.33	0.41
3:C:40:GLU:OE2	3:C:254:LYS:NZ	2.44	0.41
3:C:62:PHE:CE2	3:C:66:ARG:HD2	2.55	0.41
4:E:72:PHE:HE2	4:E:157:SER:HA	1.85	0.41
6:H:15:VAL:HG22	6:H:26:ILE:HG12	2.03	0.41
8:J:39:LEU:HD23	8:J:39:LEU:HA	1.92	0.41
1:A:1027:ALA:O	1:A:1031:VAL:HG23	2.21	0.41
1:A:91:PHE:HZ	1:A:207:ILE:HG13	1.86	0.41
1:A:220:THR:O	1:A:222:LEU:O	2.39	0.41
1:A:313:GLN:CB	1:A:320:ARG:HB3	2.51	0.41
1:A:590:ARG:HG2	1:A:590:ARG:HH11	1.86	0.41
1:A:850:VAL:HG21	1:A:1058:VAL:HG21	2.03	0.41
2:B:1006:ILE:HD11	8:J:43:ARG:CB	2.46	0.41
2:B:129:PHE:CZ	2:B:166:PHE:HB2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:36:CYS:HA	6:H:126:GLU:O	2.21	0.41
8:J:41:LEU:HD22	8:J:46:CYS:HB3	2.02	0.41
1:A:1074:GLU:HB3	1:A:1075:PRO:CD	2.51	0.41
1:A:120:GLU:HG3	1:A:123:ARG:NH2	2.36	0.41
1:A:900:ASP:HA	1:A:926:GLN:NE2	2.36	0.41
1:A:901:LEU:HA	1:A:907:THR:HG23	2.03	0.41
2:B:795:ILE:HD12	2:B:795:ILE:N	2.36	0.41
2:B:906:SER:O	2:B:907:GLY:C	2.58	0.41
1:A:946:VAL:CG2	4:E:201:LYS:HD2	2.45	0.41
1:A:1059:HIS:CE1	5:F:155:LEU:HD22	2.45	0.41
9:K:21:ILE:HG21	9:K:84:LYS:HE2	2.03	0.41
1:A:24:PRO:O	1:A:28:ARG:HG3	2.21	0.40
1:A:334:GLY:HA2	1:A:337:ARG:HB3	2.02	0.40
1:A:463:ILE:HB	1:A:464:PRO:HD2	2.03	0.40
1:A:473:SER:OG	1:A:522:GLY:O	2.23	0.40
1:A:548:ASN:HA	9:K:60:ALA:HB1	2.02	0.40
2:B:324:ILE:HG12	2:B:329:THR:CG2	2.45	0.40
6:H:27:GLU:HA	6:H:38:LEU:O	2.20	0.40
9:K:29:ASN:ND2	9:K:79:GLU:HA	2.35	0.40
1:A:1120:LEU:HD21	1:A:1131:ALA:HA	2.02	0.40
1:A:1150:SER:OG	7:I:46:HIS:HB3	2.21	0.40
1:A:849:MET:HE1	1:A:1436:ILE:HA	2.00	0.40
1:A:1140:HIS:HB2	1:A:1276:VAL:O	2.21	0.40
1:A:1345:ARG:NH1	1:A:1373:ASP:OD1	2.54	0.40
1:A:115:LEU:HD12	1:A:142:CYS:SG	2.61	0.40
1:A:302:THR:HG23	1:A:306:ASN:ND2	2.36	0.40
1:A:595:THR:OG1	1:A:603:ASN:HB3	2.21	0.40
2:B:217:ARG:HG2	2:B:218:SER:O	2.21	0.40
4:E:201:LYS:HA	4:E:201:LYS:HD3	1.92	0.40
9:K:18:LYS:HE3	9:K:38:GLU:CG	2.52	0.40
1:A:1365:TYR:C	1:A:1365:TYR:CD2	2.94	0.40
1:A:305:ASP:O	1:A:308:ILE:HD11	2.21	0.40
1:A:690:VAL:HG11	1:A:794:PRO:HD3	2.03	0.40
2:B:1057:LYS:O	2:B:1061:GLU:HG3	2.21	0.40
2:B:344:LYS:HB2	2:B:347:LYS:HE2	2.02	0.40
2:B:483:LEU:HD11	2:B:491:THR:HG23	2.04	0.40
2:B:882:THR:HB	2:B:934:LYS:O	2.22	0.40
3:C:73:GLN:HA	3:C:133:ILE:HD11	2.02	0.40
1:A:1376:THR:CG2	4:E:212:ARG:NH2	2.76	0.40
5:F:107:VAL:HG13	5:F:124:GLU:OE2	2.22	0.40
1:A:298:PHE:CZ	1:A:312:PRO:HD3	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:333:GLU:O	1:A:337:ARG:HB2	2.22	0.40
1:A:592:ASP:O	1:A:593:GLU:C	2.60	0.40
1:A:901:LEU:CD2	1:A:907:THR:HG23	2.51	0.40
2:B:259:TYR:HB2	2:B:268:THR:HG22	2.04	0.40
2:B:311:LEU:HA	2:B:314:LEU:HD12	2.04	0.40
2:B:840:ILE:HB	2:B:1011:ILE:HB	2.04	0.40
2:B:996:ARG:NH2	3:C:174:ALA:O	2.54	0.40
3:C:250:THR:O	3:C:254:LYS:HG3	2.22	0.40
6:H:32:THR:HB	6:H:33:GLN:H	1.54	0.40
8:J:53:HIS:CG	8:J:54:VAL:N	2.90	0.40
3:C:3:GLU:HB2	9:K:104:ASN:OD1	2.21	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1411/1733 (81%)	1250 (89%)	123 (9%)	38 (3%)	5	3
2	B	1074/1224 (88%)	950 (88%)	110 (10%)	14 (1%)	12	12
3	C	264/318 (83%)	236 (89%)	24 (9%)	4 (2%)	10	10
4	E	213/215 (99%)	189 (89%)	22 (10%)	2 (1%)	17	20
5	F	82/155 (53%)	76 (93%)	5 (6%)	1 (1%)	13	14
6	H	129/146 (88%)	93 (72%)	21 (16%)	15 (12%)	0	0
7	I	120/122 (98%)	103 (86%)	17 (14%)	0	100	100
8	J	63/70 (90%)	59 (94%)	3 (5%)	1 (2%)	9	9
9	K	112/120 (93%)	106 (95%)	6 (5%)	0	100	100
10	L	44/70 (63%)	25 (57%)	16 (36%)	3 (7%)	1	0
All	All	3512/4173 (84%)	3087 (88%)	347 (10%)	78 (2%)	6	5

All (78) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	55	ASP
1	A	464	PRO
1	A	465	TYR
1	A	466	SER
1	A	567	LYS
1	A	593	GLU
1	A	1393	ASN
2	B	1222	ARG
6	H	128	ASN
1	A	35	ILE
1	A	307	ASP
1	A	467	THR
1	A	525	GLN
1	A	1398	MET
2	B	646	LEU
2	B	879	ARG
2	B	887	HIS
3	C	4	GLU
3	C	231	ASN
4	E	3	GLN
4	E	50	MET
6	H	18	GLY
6	H	19	ARG
6	H	61	SER
6	H	78	SER
6	H	105	GLU
6	H	138	GLU
1	A	67	CYS
1	A	156	ASP
1	A	258	GLY
1	A	283	GLY
1	A	626	ASN
1	A	915	SER
1	A	958	VAL
1	A	1386	ARG
2	B	165	VAL
2	B	262	GLU
2	B	266	ALA
2	B	1190	ASP
3	C	90	ASP
3	C	137	LYS
5	F	73	ALA

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Mol	Chain	Res	Type
6	H	52	GLN
6	H	81	PRO
6	H	103	LYS
8	J	44	TYR
10	L	39	SER
1	A	72	GLU
1	A	188	ASP
1	A	194	ALA
1	A	196	GLU
1	A	248	PRO
1	A	752	LYS
1	A	764	CYS
2	B	864	LYS
2	B	1100	ASP
6	H	62	SER
10	L	56	LEU
10	L	59	ALA
1	A	257	ARG
1	A	308	ILE
1	A	419	LYS
1	A	959	ASN
1	A	1402	PHE
2	B	90	ILE
2	B	1099	VAL
6	H	83	GLN
6	H	109	LYS
6	H	139	ASN
1	A	250	ILE
6	H	47	PHE
1	A	84	ILE
1	A	399	HIS
2	B	1214	PRO
1	A	61	ILE
2	B	1109	GLY
1	A	1114	PRO
1	A	400	PRO

### 5.3.2 Protein sidechains [i](#)

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



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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1239/1520 (82%)	1180 (95%)	59 (5%)	25	36
2	B	950/1061 (90%)	903 (95%)	47 (5%)	25	35
3	C	234/274 (85%)	226 (97%)	8 (3%)	37	51
4	E	197/197 (100%)	191 (97%)	6 (3%)	41	57
5	F	74/137 (54%)	71 (96%)	3 (4%)	30	43
6	H	117/128 (91%)	115 (98%)	2 (2%)	60	76
7	I	116/116 (100%)	109 (94%)	7 (6%)	19	26
8	J	60/65 (92%)	52 (87%)	8 (13%)	4	4
9	K	99/102 (97%)	93 (94%)	6 (6%)	18	25
10	L	40/57 (70%)	35 (88%)	5 (12%)	4	5
All	All	3126/3657 (86%)	2975 (95%)	151 (5%)	25	36

All (151) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	PHE
1	A	53	LEU
1	A	93	VAL
1	A	171	GLN
1	A	175	ARG
1	A	209	ASN
1	A	221	SER
1	A	385	ILE
1	A	386	ASP
1	A	434	ARG
1	A	446	ARG
1	A	449	SER
1	A	450	LEU
1	A	451	HIS
1	A	452	LYS
1	A	467	THR
1	A	472	LEU
1	A	474	VAL
1	A	475	THR
1	A	493	GLN
1	A	498	ARG
1	A	503	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	504	LEU
1	A	513	SER
1	A	535	THR
1	A	596	THR
1	A	597	LEU
1	A	618	GLU
1	A	622	VAL
1	A	626	ASN
1	A	666	ILE
1	A	672	ASP
1	A	756	ILE
1	A	769	SER
1	A	774	ARG
1	A	821	ARG
1	A	855	THR
1	A	858	ASN
1	A	873	MET
1	A	885	THR
1	A	903	ASN
1	A	919	ILE
1	A	920	LEU
1	A	940	ARG
1	A	1043	ASP
1	A	1048	ASN
1	A	1130	GLN
1	A	1166	ASP
1	A	1222	ASN
1	A	1277	GLU
1	A	1293	SER
1	A	1297	GLU
1	A	1309	ASP
1	A	1318	THR
1	A	1366	ARG
1	A	1372	VAL
1	A	1377	THR
1	A	1383	SER
1	A	1426	GLU
2	B	18	PHE
2	B	20	ASP
2	B	21	GLU
2	B	61	ASP
2	B	121	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	194	GLU
2	B	217	ARG
2	B	261	ARG
2	B	268	THR
2	B	313	MET
2	B	339	THR
2	B	357	GLN
2	B	366	GLN
2	B	372	SER
2	B	463	THR
2	B	466	TRP
2	B	485	ARG
2	B	496	ARG
2	B	540	SER
2	B	563	MET
2	B	567	GLU
2	B	589	VAL
2	B	612	GLU
2	B	636	PRO
2	B	641	GLU
2	B	644	GLU
2	B	737	THR
2	B	754	SER
2	B	790	ASP
2	B	806	THR
2	B	864	LYS
2	B	895	ASP
2	B	957	ASN
2	B	970	THR
2	B	997	GLU
2	B	999	MET
2	B	1007	VAL
2	B	1065	GLN
2	B	1097	HIS
2	B	1099	VAL
2	B	1145	SER
2	B	1150	ARG
2	B	1152	MET
2	B	1159	ARG
2	B	1186	ASP
2	B	1219	ASP
2	B	1222	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	23	SER
3	C	26	ASP
3	C	50	GLU
3	C	77	ILE
3	C	163	ILE
3	C	170	TRP
3	C	209	TYR
3	C	240	VAL
4	E	104	ASN
4	E	123	LEU
4	E	146	HIS
4	E	159	ASP
4	E	196	VAL
4	E	204	THR
5	F	79	ARG
5	F	82	THR
5	F	115	THR
6	H	32	THR
6	H	104	PHE
7	I	12	ASN
7	I	46	HIS
7	I	50	THR
7	I	61	ASP
7	I	84	VAL
7	I	87	GLN
7	I	111	THR
8	J	1	MET
8	J	3	VAL
8	J	7	CYS
8	J	14	VAL
8	J	28	ASP
8	J	37	SER
8	J	38	ARG
8	J	48	ARG
9	K	11	LEU
9	K	18	LYS
9	K	47	ARG
9	K	73	LEU
9	K	81	TYR
9	K	114	LEU
10	L	27	LEU
10	L	38	LEU

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Mol	Chain	Res	Type
10	L	42	ARG
10	L	50	ASP
10	L	64	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (84) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	64	ASN
1	A	68	GLN
1	A	83	HIS
1	A	92	HIS
1	A	171	GLN
1	A	313	GLN
1	A	390	GLN
1	A	394	ASN
1	A	397	ASN
1	A	479	ASN
1	A	503	GLN
1	A	517	ASN
1	A	660	ASN
1	A	736	ASN
1	A	741	ASN
1	A	742	ASN
1	A	745	GLN
1	A	757	ASN
1	A	768	GLN
1	A	854	ASN
1	A	858	ASN
1	A	903	ASN
1	A	906	HIS
1	A	926	GLN
1	A	994	GLN
1	A	1048	ASN
1	A	1052	GLN
1	A	1218	GLN
1	A	1265	ASN
1	A	1270	ASN
1	A	1364	ASN
1	A	1387	HIS
1	A	1432	GLN
2	B	46	GLN
2	B	178	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	215	GLN
2	B	236	HIS
2	B	255	GLN
2	B	325	GLN
2	B	363	HIS
2	B	366	GLN
2	B	465	ASN
2	B	484	ASN
2	B	513	GLN
2	B	515	HIS
2	B	516	ASN
2	B	518	HIS
2	B	587	HIS
2	B	590	HIS
2	B	657	HIS
2	B	706	GLN
2	B	734	HIS
2	B	744	HIS
2	B	786	ASN
2	B	957	ASN
2	B	1015	HIS
2	B	1062	HIS
2	B	1065	GLN
2	B	1084	GLN
2	B	1161	HIS
2	B	1176	ASN
2	B	1179	GLN
2	B	1187	ASN
2	B	1193	GLN
3	C	65	HIS
3	C	73	GLN
3	C	112	ASN
3	C	167	HIS
3	C	242	GLN
4	E	101	GLN
4	E	104	ASN
4	E	113	GLN
4	E	147	HIS
6	H	11	GLN
6	H	133	ASN
6	H	134	ASN
7	I	12	ASN

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Mol	Chain	Res	Type
7	I	116	ASN
8	J	53	HIS
9	K	29	ASN
9	K	65	HIS
9	K	76	GLN
9	K	110	ASN
10	L	53	HIS

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

### 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 carbohydrates in this entry.

### 5.6 Ligand geometry [i](#)

Of 11 ligands modelled in this entry, 10 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
13	UTP	B	3571	12	26,30,30	2.20	5 (19%)	34,47,47	1.30	4 (11%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
13	UTP	B	3571	12	-	5/22/38/38	0/2/2/2

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	B	3571	UTP	C6-C5	-5.93	1.36	1.52
13	B	3571	UTP	C2-N1	5.92	1.44	1.35
13	B	3571	UTP	C6-N1	-4.12	1.39	1.47
13	B	3571	UTP	C1'-N1	3.94	1.54	1.46
13	B	3571	UTP	PB-O1B	-2.09	1.45	1.55

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	B	3571	UTP	C5-C6-N1	3.53	123.25	111.61
13	B	3571	UTP	O4'-C1'-C2'	-2.72	100.70	106.64
13	B	3571	UTP	O4-C4-C5	2.09	126.63	122.17
13	B	3571	UTP	O4'-C1'-N1	2.02	112.05	109.30

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
13	B	3571	UTP	PA-O3A-PB-O2B
13	B	3571	UTP	PB-O3B-PG-O2G
13	B	3571	UTP	PA-O3A-PB-O1B
13	B	3571	UTP	PB-O3B-PG-O1G
13	B	3571	UTP	PB-O3B-PG-O3G

There are no ring outliers.

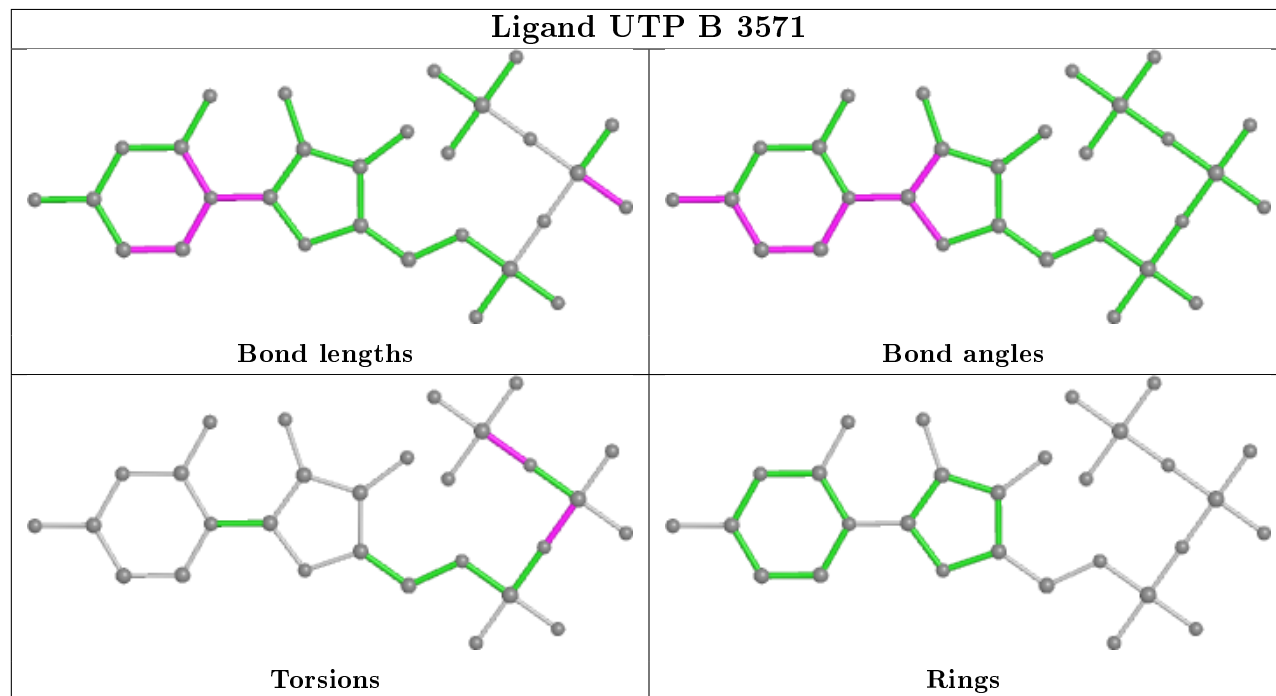
1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
13	B	3571	UTP	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring



in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

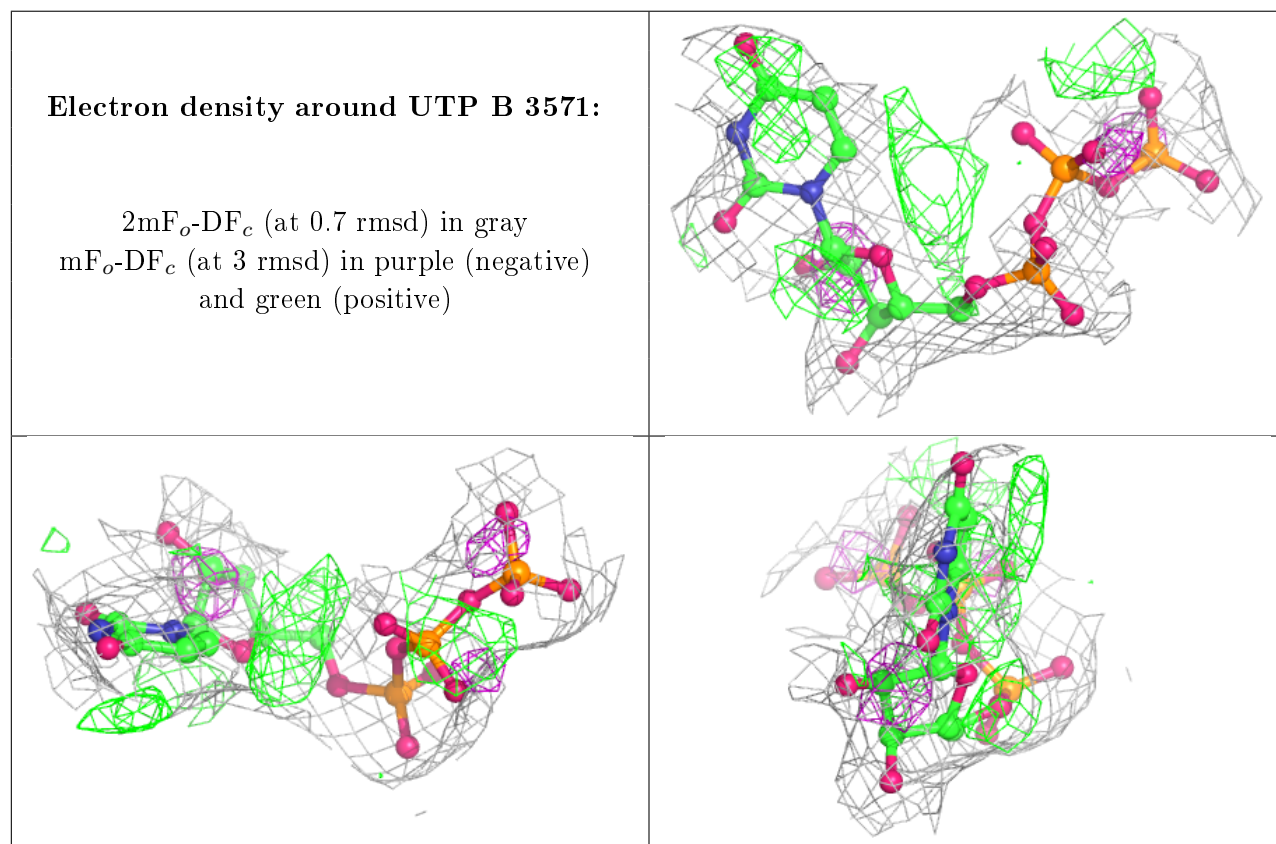
### 6.3 Carbohydrates [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.

### 6.4 Ligands [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.

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



## 6.5 Other polymers

Unable to reproduce the depositors R factor - this section is therefore empty.