



Full wwPDB EM Validation Report ⓘ

Nov 21, 2022 – 12:20 pm GMT

PDB ID : 7Z12
EMDB ID : EMD-14438
Title : VAR2 complex with PAM1.4
Authors : Raghavan, S.S.R.; Wang, K.T.
Deposited on : 2022-02-24
Resolution : 3.00 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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

EMDB validation analysis : 0.0.0.dev97
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.26

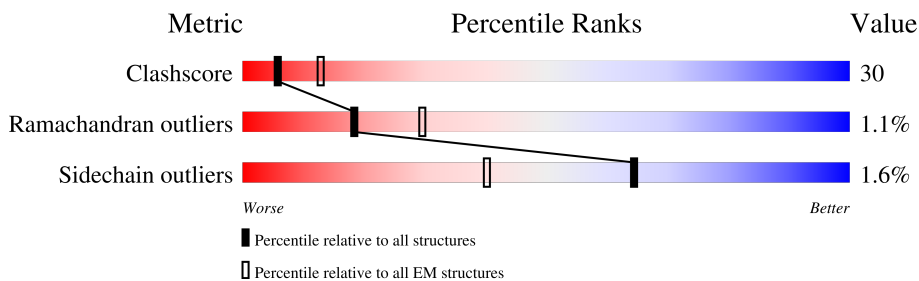
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.00 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	B	472	
2	C	233	
3	A	2040	

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 18352 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 PAM1.4, Heavy Chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	B	221	1650	1042	283	319	6	0	0

- Molecule 2 is a protein called PAM1.4, light Chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	212	1631	1021	279	326	5	0	0

- Molecule 3 is a protein called VAR2CSA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	A	1853	15071	9402	2597	2973	99	0	0

M1	D2	S3	T4	S5	T6	I7	A8	N9	K10	E11	E12	E13	Y14																																																				
W80	K81	C82	Q83	Q84	N85	D88	P93	N95	E94	I96	C97	V98	A17	K18	P100	R101	S19	I24	D25	L28	K29	A30	D31	P32	S33	E34	V35	E36	Y37	Y38	R39	D45	Y46	L47	K48	I51	T55	H58	S59	D60	Y64	D65	P66	C67	S148	A217	K69	M150	L155	E156	R157	S158													
F159	A160	D164	I165	I166	R167	G168	T169	D170	T175	M176	S177	M178	L179	P180	E181	K181	R102	L183	K184	Q185	M186	F187	A188	K189	C259	R191	E192	N193	D194	K195	V196	L197	Q198	D199	K200	Y201	P202	K203	D204	Q205	K206	Y207	L208	T209	K209	L210	R133	E211	E212	A213	W214	W215	N216	R217	E218	K291	N218	R219	G220	K221	V222	N233	L294	I295	K389
V225	L226	R231	D234	L235	L236	T237	R238	M175	S244	S247	D248	R249	K250	K251	N252	P253	E254	L255	C256	F257	K258	C259	R191	E192	N193	D194	K195	V196	L270	D271	Y272	V273	P274	Q275	F276	L277	D278	W279	L280	T281	E282	W283	L284	E285	F374	E375	K376	N380	R289	E290	N218	Q292	N293	L294	I295	K389									
D297	M298	E299	C319	C322	K323	D324	K325	K327	K328	Y329	C332	V333	K334	K335	W336	K337	T338	E339	W340	E341	N342	Q343	E344	N345	K346	Y347	K348	D349	L350	E352	K355	R365	Y366	D367	D368	Y369	V370	K371	D372	F373	F374	E375	K376	N380	R289	E290	N218	Q292	N293	L294	I295	K389													
C380	D391	Y397	N412	P413	S414	G415	GLU	THR	ALA	ASN	HIS	ASN	ASP	GLU	ALA	CYS	ASN	CYS	ASP	GLU	VAL	GLY	ASP	ILE	SER	GLY	VAL	GLN	ALA	GLN	THR	SER	GLY	PRO	SER	ASN	THR	LYS	THR	CYS	ILE	LYS	THR	ASN	HIS	SER	ILE	LYS	GLY	LYS	GLY	GLU	CYS	LYS	ASP	VAL									
LYS	LEU	GLY	VAL	ARG	GLU	ASN	ASP	THR	ALA	ASN	HIS	ASN	ASP	GLU	ALA	CYS	ASN	CYS	ASP	GLU	VAL	GLY	ASP	ILE	SER	GLY	VAL	GLN	ALA	GLN	THR	SER	GLY	PRO	SER	ASN	THR	LYS	THR	CYS	ILE	LYS	THR	ASN	HIS	SER	ILE	LYS	GLY	LYS	GLY	GLU	CYS	LYS	ASP	VAL									
S541	TYR	LYS	CYS	ASP	GLU	ASN	ASP	THR	THR	ILE	CYS	VAL	ILE	GLU	ASP	THR	SER	LEU	GLY	VAL	ASP	ASP	ASN	ASN	CYS	GLY	VAL	ALA	L498	L499	E504	E505	N509	K510	R511	G512	R513	S514	N521	K522	N523	Q524	D525	E526	C527	Q528	K529	K530	P531	E600	K603	D604	R610												
L614	A615	Q616	C617	L618	L619	W620	E624	K629	K630	R631	Y632	P633	Q634	N635	K636	N637	S638	G639	M640	Y650	A653	D654	Y655	E568	Q571	S572	E573	Y574	A575	N576	T577	S578	G579	L580	P581	P582	R583	T584	Q585	N589	L592	P593	E600	K603	D604	R610																			
T694	A695	E696	Q697	D698	T699	S700	Y701	S702	S703	E706	L707	R708	E709	S710	W711	W712	N713	Y714	W715	K716	K717	Y718	W720	T721	A722	W723	K724	W725	G726	A727	E728	N730	I731	T732	N735	ALA	ASP	GLY	SER	VAL	N679	N680	F681	Y588	L589	G590	N591	F684	F685	K687	Y688	K689	R690	N692	P757	N693									
R761	F762	L763	Q764	E765	W766	Y767	F770	K779	I782	T783	K786	S787	E790	C795	E798	C799	K802	G803	K804	D805	E806	C807	C817	G825	P830	Q837	I838	R841	Y842	S843	R844	H845	I846	E847	K850	R851	N852	R853	K854	T857	K858	N859	C860	G861																					
T862	S863	S864	T865	T866	N867	A868	A869	A870	S871	D873	E874	I882	L889	R890	D891	L894	P897	S898	Y900	I901	S902	N903	Y904	L905	D906	T909	K914	T924	T925	T926	E927	K928	N930	K931	E932	R933	D934	K935	S936	K937	S938	Q939	R953	S940	S941	S942	T943	L944	Y945	Y946															
V947	N948	V949	P950	S951	P952	L953	T956	P957	Y958	R959	Y960	C964	Q965	K967	I968	P969	T970	N971	E972	C975	R978	K979	E980	N981	N982	N983	Q984	W985	S986	C987	G988	S989	A990	R991	T992	M993	K994	R995	G996	Y997	K998	N999	D1000	M1001	Y1002	E1003	L1004	C1005	K1006	N941	S942	T943	L944	Y945	Y946										
V1012	K1013	T1014	T1015	R1018	S1019	G1026	V1029	H1033	E1041	I1042	Q1045	I1046	E1047	Y1049	M1050	A1053	H1054	I1055	S1056	C1057	I1058	D1059	GLU	LYS	GLU	VAL	LEU	ASP	SER	VAL	SER	SER	ASP	GLU	GLY	THR	PRO	LYS	VAL	ARG	GLY	GLY	GLY	TYR	GLU	ASP	GLY	GLY	ASN	ASN	ASN	THR	ASP												
GLN	GLY	THR	M1092	K1094	E1095	K1096	K1097	K1098	C1099	K1100	Y1101	L1102	W1103	K1106	I1107	Q1108	D1109	Q1110	W1111	G1112	K1113	K1114	K1115	D1116	M1117	Y1118	A1198	E1199	K1200	F1201	R1202	S1203	K1204	N1205	E1206	S1207	T1208	D1209	T1210	N1211	N1212	N1213	K1214	S1215	E1216	T1217	S1218	C1219	D1220	L1221	T1224	N1225	Y1226	I1227	Y1235	C1149	W1150								
I1154	Q1155	K1156	D1161	K1164	I1165	K1166	N1167	I1168	E1174	F1175	L1176	I1177	S1184	G1187	I1190	E1193	K1194	M1197	A1198	E1199	K1200	F1201	R1202	S1203	K1204	N1205	E1206	S1207	T1208	D1209	T1210	N1211	N1212	N1213	K1214	S1215	E1216	T1217	S1218	C1219	D1220	L1221	T1224	N1225	Y1226	I1227	Y1235	C1149	W1150																

TRP	K1860	I1756	I1638	K1525	P1442	Q1373	E1308	G1237
ASN	C1961	R1757	L1640	Y1526	T1443	E1374	L1310	F1240
ASP	T1962	Q1758	I1641	Y1530	G1444	D1375	L1311	L1241
MET	E1963	K1642	K1642	Y1530	M1445	I1376	Y1312	P1241
LEU	V1964	I1866	L1655	L1538	D1446	K1377	E1313	G1242
LEU	Y1965	D1762	L1655	L1538	Q1449	K1378	Y1314	K1243
ARG	L1966	A1763	E1656	M1542	Q1449	I1379	H1315	E1246
GLY	E1967	M1764	T1657	Y1543	F1454	I1380	D1316	K1247
THR	H1968	Q1785	I1660	Y1543	F1454	E1381	T1317	K1248
TYR	V1969	R1786	V1661	C1546	K1455	E1382	G1318	G1249
ASN	Q1972	R1789	A1662	C1546	W1457	G1383	T1319	W1249
LYS	L1973	Y1770	A1663	M1550	Q1460	T1384	A1320	I1250
LYS	L1973	Y1770	A1663	M1550	Q1460	P1385	I1321	C1251
GLY	I1976	P1780	R1664	M1556	Q1460	Q1386	L1322	K1252
VAL	D1977	L1781	E1665	M1556	E1464	K1390	S1323	H1257
LEU	M1978	C1782	A1666	Y1561	R1465	I1391	K1324	K1260
ILE	A1979	M1783	Y1667	Y1561	R1466	I1391	M1325	M1261
ILE	V1888	I1788	Y1668	Y1564	L1466	V1394	K1328	G1262
PRD	I1889	I1788	L1668	Y1564	Y1467	G1395	K1329	
	K1981	G1789	M1670	Y1564	Y1467	S1396	Q1330	
	D1982	I1790	K1671	D1569	Q1470	S1397	K1333	
	K1983	A1791	Q1672	S1572	M1471	T1398	M1334	
	K1984	Q1794	C1688	I1573	I1472	E1399	R1267	
	Y1985	Q1794	C1688	I1573	I1472	N1400	R1268	
	Y1986	R1797	R1692	Q1578	E1474	V1401	T1269	
	P1987	W1798	Y1696	Y1581	A1475	A1402	Q1270	
	L1988	L1799	Y1696	Y1581	A1475	A1403	M1271	
	D1989	L1799	D1697	Y1582	C1476	A1403	L1339	
	R1990	E1800	L1698	K1583	T1477	M1404	P1340	
	CYS	E1801	L1698	K1583	I1478	M1405	K1341	
	PHE	S1919	I1701	Y1584	M1479	K1406	C1273	
	ASP	F1814	I1701	Y1584	M1479	K1406	V1274	
	ASP	T1921	D1706	E1588	G1480	G1407	G1275	
	GLN	V1922	K1589	K1590	E1483	I1408	E1276	
	THR	K1818	K1589	K1590	K1484	E1409	L1277	
	LYS	C1821	E1711	S1594	K1485	R1410	L1278	
	MET	D1822	Y1712	L1595	K1485	E1411	D1279	
	LYS	P1823	Y1712	L1595	K1485	M1412	K1280	
	VAL	P1824	Y1715	C1596	K1489	W1413	S1281	
	CYS	K1825	Y1715	C1596	K1490	D1414	Y1282	
	ASP	R1826	K1719	K1599	K1496	A1415	R1285	
	LEU	A1827	L1720	K1599	K1497	V1416	I1352	
	ILE	D1828	M1721	K1612	Q1498	R1417	S1286	
	ALA	T1829	E1722	K1612	G1499	C1418	N1287	
	ASP	C1830	I1723	M1615	A1500	A1419	I1288	
	ALA	H1831	S1726	G1616	C1501	I1421	E1294	
	ILE	D1832	S1726	R1617	K1502	K1422	I1358	
	GLY	M1833	T1729	P1626	R1503	I1423	L1296	
	CYS	C1838	T1729	R1627	K1504	N1424	K1297	
	ASP	K1839	R1738	R1628	K1504	K1425	E1298	
	LYS	A1843	W1741	Q1629	K1507	K1426	K1299	
	LYS	M1847	T1746	Q1630	Y1508	N1427	I1300	
	ASP	Y1954	T1746	Y1511	Y1511	N1428	K1301	
	LEU	K1952	T1746	Y1511	Y1511	M1429	M1364	
	LEU	Y1954	L1633	L1633	W1519	N1429	M1302	
	GLU	R1853	D1752	E1635	W1519	S1430	A1303	
	ASP	I1854	R1753	L1636	D1520	I1431	I1304	
	LEU	E1855	K1754	F1637	K1522	E1436	H1305	
	GLU	M1959	T1755	P1638	Q1522	C1437	K1306	
							L1307	
							T1308	

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	50000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor

5 Model quality i

5.1 Standard geometry i

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	B	0.39	0/1688	0.53	0/2297
2	C	0.36	0/1665	0.51	0/2263
3	A	0.38	0/15370	0.57	2/20668 (0.0%)
All	All	0.38	0/18723	0.56	2/25228 (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
2	C	0	1
3	A	0	31
All	All	0	32

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	562	LYS	CB-CA-C	-7.20	95.99	110.40
3	A	1203	LYS	N-CA-C	6.14	127.59	111.00

There are no chirality outliers.

All (32) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	A	1125	GLN	Peptide
3	A	1134	GLN	Peptide
3	A	1136	LYS	Peptide
3	A	1184	SER	Peptide
3	A	1201	LYS	Peptide
3	A	1202	CYS	Peptide

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Mol	Chain	Res	Type	Group
3	A	1299	LYS	Peptide
3	A	1308	THR	Peptide
3	A	1365	ILE	Peptide
3	A	1399	GLU	Peptide
3	A	1403	ALA	Peptide
3	A	1408	ILE	Peptide
3	A	1409	GLU	Peptide
3	A	1822	ASP	Peptide
3	A	201	TYR	Peptide
3	A	236	LEU	Peptide
3	A	239	ARG	Peptide
3	A	278	ARG	Peptide
3	A	298	MET	Peptide
3	A	338	THR	Peptide
3	A	349	ASP	Peptide
3	A	355	LYS	Peptide
3	A	37	TYR	Peptide
3	A	529	LYS	Peptide
3	A	533	LYS	Peptide
3	A	698	ASP	Peptide
3	A	728	GLU	Peptide
3	A	786	LYS	Peptide
3	A	952	PRO	Peptide
3	A	965	GLN	Peptide
3	A	966	CYS	Peptide
2	C	48	ILE	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	B	1650	0	1628	59	0
2	C	1631	0	1599	60	0
3	A	15071	0	14624	984	0
All	All	18352	0	17851	1093	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 30.

All (1093) 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)
3:A:924:THR:HA	3:A:946:VAL:O	1.27	1.31
3:A:251:LYS:HB3	3:A:566:ASN:HB2	1.21	1.12
3:A:325:LYS:O	3:A:329:TYR:HB2	1.60	0.99
3:A:83:GLN:HB3	3:A:95:ASN:HD21	1.28	0.97
3:A:559:ILE:HG22	3:A:561:LYS:HG2	1.48	0.95
3:A:328:LYS:HG3	3:A:332:CYS:HB3	1.50	0.94
3:A:1413:TRP:HA	3:A:1416:VAL:HG12	1.50	0.94
3:A:340:TRP:O	3:A:344:GLU:HB3	1.68	0.93
3:A:1154:ILE:HG21	3:A:1164:LYS:HG3	1.51	0.93
3:A:691:LYS:HB3	3:A:694:THR:HA	1.50	0.92
3:A:1307:GLU:HA	3:A:1310:LEU:HB2	1.54	0.90
3:A:333:VAL:HA	3:A:337:LYS:HB2	1.52	0.89
3:A:1302:ASN:HA	3:A:1305:HIS:HB2	1.54	0.89
3:A:19:SER:HA	3:A:216:ASN:HB3	1.55	0.88
3:A:133:ARG:HH12	3:A:137:GLU:HB3	1.38	0.87
3:A:278:ARG:O	3:A:282:GLU:HB2	1.73	0.87
3:A:499:LEU:HD13	3:A:701:TYR:HE1	1.37	0.86
3:A:191:ARG:NH2	3:A:205:GLN:O	2.08	0.85
3:A:186:MET:SD	3:A:189:LYS:NZ	2.49	0.85
3:A:1356:ASN:HB3	3:A:1449:GLN:HE21	1.42	0.85
3:A:338:THR:HA	3:A:342:ASN:HB2	1.59	0.84
3:A:610:LYS:HA	3:A:684:LEU:HD21	1.60	0.84
3:A:1257:HIS:ND1	3:A:1364:ASN:O	2.09	0.83
3:A:1301:LYS:HD3	3:A:1422:LYS:HD2	1.60	0.83
3:A:365:ARG:HH12	3:A:374:PHE:HB2	1.43	0.83
3:A:1199:GLU:HB3	3:A:1203:LYS:HG3	1.60	0.83
3:A:717:LYS:HA	3:A:750:ILE:HD11	1.59	0.82
3:A:294:LEU:HA	3:A:298:MET:HB2	1.61	0.82
3:A:854:LYS:HA	3:A:869:ALA:HB3	1.60	0.82
3:A:725:HIS:HA	3:A:730:ASN:HD21	1.43	0.81
3:A:1352:ILE:HD11	3:A:1442:PRO:HG2	1.62	0.81
3:A:562:LYS:HB2	3:A:575:ALA:HB1	1.60	0.81
3:A:276:PHE:O	3:A:280:LEU:N	2.13	0.81
3:A:235:LEU:HA	3:A:258:LYS:HG2	1.60	0.81
3:A:1278:TRP:HB2	3:A:1372:LEU:HD11	1.63	0.81
3:A:345:ASN:HB3	3:A:352:GLU:H	1.47	0.80
3:A:795:CYS:HB3	3:A:967:LYS:HD2	1.64	0.80
3:A:942:ASP:HA	3:A:946:VAL:HA	1.61	0.80
3:A:96:ILE:HD11	3:A:346:LYS:HB3	1.63	0.80
3:A:1125:GLN:HG3	3:A:1128:ASP:HB3	1.64	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:153:LEU:HB3	2:C:137:PHE:HD1	1.47	0.79
3:A:1193:GLU:O	3:A:1197:ASN:N	2.15	0.79
1:B:117:ARG:NH1	1:B:131:ASN:OD1	2.14	0.79
3:A:281:THR:HG23	3:A:285:GLU:HB3	1.64	0.79
3:A:1013:LYS:HB2	3:A:1018:ARG:HH22	1.47	0.79
3:A:989:SER:O	3:A:1110:GLN:NE2	2.16	0.79
3:A:1396:SER:HA	3:A:1399:GLU:HG2	1.63	0.78
3:A:1497:ILE:HG22	3:A:1499:GLY:H	1.47	0.78
3:A:1376:ILE:HD13	3:A:1380:ILE:HG13	1.66	0.78
3:A:1375:ASP:O	3:A:1379:ILE:N	2.16	0.78
3:A:1125:GLN:HA	3:A:1128:ASP:H	1.49	0.78
3:A:997:TYR:H	3:A:1003:GLU:HG3	1.48	0.77
3:A:234:ASP:O	3:A:238:LYS:NZ	2.17	0.77
3:A:925:THR:H	3:A:946:VAL:HG12	1.49	0.77
3:A:251:LYS:HB3	3:A:566:ASN:CB	2.08	0.77
3:A:524:GLN:HG3	3:A:527:CYS:HB2	1.67	0.76
3:A:872:THR:OG1	3:A:874:GLU:O	2.02	0.76
3:A:530:LYS:HD2	3:A:531:LEU:HB2	1.67	0.76
3:A:164:ASP:OD1	3:A:167:ARG:NH1	2.19	0.75
3:A:188:ALA:HA	3:A:191:ARG:HG2	1.68	0.75
3:A:1424:ASN:ND2	3:A:1430:SER:O	2.15	0.75
3:A:1471:ASN:HB3	3:A:1504:LYS:HD2	1.68	0.75
3:A:1126:ILE:O	3:A:1130:ASN:ND2	2.19	0.75
3:A:927:GLU:HB2	3:A:943:THR:HA	1.69	0.75
3:A:1933:CYS:H	3:A:1934:GLU:HG3	1.51	0.75
3:A:987:CYS:SG	3:A:995:ARG:N	2.57	0.75
3:A:1356:ASN:O	3:A:1360:GLY:N	2.20	0.75
3:A:499:LEU:HD13	3:A:701:TYR:CE1	2.20	0.74
3:A:1826:ARG:HG3	3:A:1831:GLY:HA2	1.67	0.74
3:A:1422:LYS:HA	3:A:1425:LYS:HG2	1.68	0.74
3:A:102:ARG:HH22	3:A:282:GLU:HG3	1.53	0.74
3:A:1627:ARG:NH2	3:A:1801:GLU:OE2	2.15	0.73
3:A:121:ASN:HA	3:A:124:PHE:HB3	1.69	0.73
1:B:220:THR:OG1	1:B:221:GLN:OE1	2.07	0.73
3:A:38:TYR:O	3:A:39:ARG:NH1	2.19	0.73
3:A:188:ALA:O	3:A:192:GLU:N	2.22	0.73
3:A:1355:LYS:HE3	3:A:1406:LYS:HE3	1.71	0.73
3:A:113:LEU:H	3:A:182:ASN:HD21	1.35	0.72
3:A:25:ASP:HA	3:A:28:LEU:HB3	1.70	0.72
1:B:49:ASP:OD2	1:B:93:ASN:ND2	2.22	0.72
3:A:802:LYS:O	3:A:805:ASP:N	2.17	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1408:ILE:O	3:A:1412:MET:N	2.23	0.72
3:A:275:GLN:HG3	3:A:279:TRP:CZ3	2.25	0.72
3:A:563:SER:O	3:A:564:SER:C	2.28	0.72
3:A:830:PRO:HG3	3:A:928:LYS:HD3	1.70	0.72
3:A:939:GLN:H	3:A:943:THR:HG21	1.53	0.71
3:A:1268:ARG:NH2	3:A:1353:ASP:OD2	2.16	0.71
3:A:1380:ILE:O	3:A:1384:THR:OG1	2.08	0.71
3:A:195:LYS:HD3	3:A:201:TYR:HE1	1.54	0.71
3:A:277:LEU:HA	3:A:280:LEU:HB2	1.72	0.71
3:A:1356:ASN:HA	3:A:1359:LEU:HG	1.71	0.71
3:A:324:ASP:OD1	3:A:325:LYS:N	2.24	0.71
3:A:33:SER:HA	3:A:48:LYS:NZ	2.06	0.71
3:A:1042:ILE:HD11	3:A:1107:ILE:HD12	1.71	0.71
3:A:80:TRP:HA	3:A:97:CYS:HA	1.71	0.70
3:A:698:ASP:H	3:A:699:THR:HB	1.54	0.70
3:A:1893:ASN:ND2	3:A:1933:CYS:O	2.22	0.70
3:A:73:PRO:O	3:A:104:ARG:NH1	2.24	0.70
3:A:344:GLU:HA	3:A:347:TYR:HB2	1.73	0.70
3:A:972:GLU:HA	3:A:1102:LEU:HD21	1.74	0.70
3:A:1315:HIS:HD2	3:A:1342:GLY:HA3	1.56	0.70
3:A:1136:LYS:HE2	3:A:1140:SER:H	1.57	0.70
2:C:49:ALA:O	2:C:85:GLN:NE2	2.24	0.70
3:A:1485:LYS:HE2	3:A:1489:SER:HB2	1.74	0.69
3:A:1252:LYS:HG3	3:A:1521:LYS:HG3	1.75	0.69
2:C:149:ALA:HB3	2:C:200:LEU:H	1.58	0.68
3:A:1594:SER:O	3:A:1664:ARG:NH2	2.27	0.68
3:A:573:GLU:OE2	3:A:841:ARG:NH1	2.26	0.68
3:A:1310:LEU:O	3:A:1314:TYR:HB3	1.93	0.68
3:A:1359:LEU:O	3:A:1373:GLN:NE2	2.25	0.68
3:A:111:GLU:HA	3:A:179:LEU:HD13	1.74	0.68
3:A:529:LYS:NZ	3:A:531:LEU:O	2.27	0.68
3:A:576:ASN:O	3:A:837:GLN:NE2	2.27	0.68
3:A:206:LYS:HB3	3:A:209:LYS:HB3	1.76	0.68
3:A:273:VAL:HG13	3:A:277:LEU:HD23	1.74	0.68
3:A:850:LYS:HZ1	3:A:890:ILE:HD13	1.57	0.68
3:A:987:CYS:HB2	3:A:1005:CYS:HA	1.73	0.68
3:A:637:ASN:ND2	3:A:640:ASN:O	2.22	0.68
3:A:251:LYS:CB	3:A:566:ASN:HB2	2.14	0.68
3:A:271:ASP:O	3:A:278:ARG:NH2	2.26	0.68
3:A:583:ARG:NH2	3:A:765:GLU:OE1	2.27	0.67
3:A:1136:LYS:HE2	3:A:1139:VAL:HA	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1411:GLU:HA	3:A:1414:ASP:HB2	1.75	0.67
3:A:691:LYS:HB3	3:A:694:THR:CA	2.21	0.67
3:A:293:ASN:HA	3:A:296:ASP:HB2	1.76	0.67
3:A:1823:PRO:HB3	3:A:1828:ASP:HB2	1.76	0.67
3:A:1325:ASN:O	3:A:1467:ARG:NH2	2.27	0.67
3:A:236:LEU:HD13	3:A:259:CYS:HA	1.76	0.67
3:A:1933:CYS:HB2	3:A:1934:GLU:HA	1.75	0.67
1:B:174:TYR:HE2	1:B:178:PRO:HA	1.60	0.67
3:A:864:SER:HA	3:A:1790:ILE:HG21	1.75	0.66
3:A:1246:GLU:O	3:A:1248:GLN:NE2	2.28	0.66
3:A:701:TYR:HB3	3:A:706:GLU:OE1	1.95	0.66
1:B:184:ASN:HD22	1:B:188:LEU:HD13	1.60	0.66
3:A:504:GLU:HG3	3:A:521:ASN:HD21	1.60	0.66
1:B:173:ASP:HA	1:B:204:LEU:HB3	1.76	0.66
3:A:984:GLN:HB3	3:A:1007:TYR:CE2	2.30	0.66
3:A:1154:ILE:HG22	3:A:1161:ASP:HA	1.78	0.66
3:A:1125:GLN:HG2	3:A:1137:LYS:O	1.96	0.65
3:A:1988:LEU:HG	3:A:1989:ASP:H	1.60	0.65
3:A:1827:ALA:O	3:A:1830:CYS:N	2.27	0.65
3:A:689:ILE:HD12	3:A:701:TYR:HB2	1.79	0.65
3:A:1412:MET:HA	3:A:1415:ALA:HB3	1.77	0.65
3:A:1938:GLY:O	3:A:1940:LEU:N	2.29	0.65
3:A:1013:LYS:O	3:A:1018:ARG:NH1	2.21	0.65
3:A:181:LYS:HA	3:A:184:LYS:HE2	1.77	0.65
3:A:1594:SER:OG	3:A:1635:GLU:OE2	2.12	0.65
3:A:1692:ARG:NH2	3:A:1903:ASN:OD1	2.27	0.65
3:A:698:ASP:N	3:A:699:THR:HB	2.10	0.65
3:A:951:SER:O	3:A:953:LEU:N	2.26	0.65
3:A:1411:GLU:O	3:A:1415:ALA:N	2.29	0.65
2:C:229:ASN:HB3	2:C:232:GLU:HG3	1.77	0.65
3:A:244:SER:O	3:A:257:ARG:NH2	2.30	0.65
3:A:529:LYS:HG3	3:A:530:LYS:H	1.60	0.65
3:A:1321:ILE:HG21	3:A:1460:GLN:HG2	1.77	0.65
3:A:1252:LYS:NZ	3:A:1261:ASN:O	2.30	0.64
3:A:842:TYR:OH	3:A:889:LEU:HD21	1.97	0.64
1:B:110:THR:HG23	1:B:139:ILE:HA	1.78	0.64
3:A:256:CYS:HA	3:A:257:ARG:HG2	1.80	0.64
3:A:562:LYS:O	3:A:564:SER:N	2.31	0.64
3:A:1305:HIS:HE1	3:A:1423:ILE:HA	1.62	0.64
3:A:333:VAL:O	3:A:338:THR:OG1	2.15	0.64
3:A:560:TRP:HA	3:A:579:GLY:HA2	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1096:LYS:HD2	3:A:1201:LYS:HG2	1.79	0.64
1:B:221:GLN:NE2	1:B:223:TYR:OH	2.31	0.64
3:A:1127:TYR:O	3:A:1131:LYS:NZ	2.24	0.63
3:A:1251:CYS:SG	3:A:1252:LYS:N	2.71	0.63
3:A:1496:LYS:NZ	3:A:1497:ILE:O	2.29	0.63
3:A:325:LYS:HA	3:A:328:LYS:HB3	1.80	0.63
3:A:600:GLU:O	3:A:603:LYS:NZ	2.27	0.63
3:A:583:ARG:NH1	3:A:654:ASP:OD2	2.31	0.63
3:A:587:LEU:HD13	3:A:655:TYR:HE1	1.62	0.63
3:A:32:PRO:O	3:A:48:LYS:NZ	2.23	0.63
3:A:274:PRO:O	3:A:278:ARG:N	2.25	0.63
3:A:924:THR:OG1	3:A:945:VAL:HG22	1.99	0.63
3:A:1202:CYS:N	3:A:1204:GLU:HA	2.13	0.63
3:A:1295:LEU:O	3:A:1299:LYS:N	2.25	0.63
3:A:1409:GLU:HA	3:A:1412:MET:HB3	1.81	0.63
3:A:1058:ILE:HG23	3:A:1201:LYS:HB2	1.81	0.63
1:B:70:ILE:HD13	1:B:91:ARG:HG3	1.81	0.62
3:A:1166:LYS:HD3	3:A:1168:ILE:HG12	1.81	0.62
3:A:1313:GLU:O	3:A:1317:THR:OG1	2.12	0.62
3:A:1260:THR:HA	3:A:1363:VAL:HG12	1.81	0.62
3:A:1307:GLU:O	3:A:1311:LEU:N	2.33	0.62
1:B:121:ASN:ND2	3:A:958:TYR:OH	2.22	0.62
3:A:1320:ALA:HB3	3:A:1323:SER:HB3	1.80	0.62
3:A:1391:ILE:O	3:A:1400:ASN:ND2	2.32	0.62
3:A:80:TRP:O	3:A:81:LYS:HD2	2.00	0.62
3:A:149:SER:HA	3:A:238:LYS:HD3	1.81	0.62
3:A:799:CYS:HB2	3:A:802:LYS:HA	1.82	0.62
3:A:1280:LYS:O	3:A:1285:ARG:NH1	2.32	0.62
3:A:1418:CYS:HA	3:A:1421:THR:HG22	1.81	0.62
3:A:583:ARG:NH2	3:A:650:TYR:HB3	2.14	0.62
3:A:1484:LYS:HE2	3:A:1573:ILE:HG13	1.82	0.62
3:A:587:LEU:HD12	3:A:590:GLY:H	1.64	0.62
3:A:857:THR:OG1	3:A:871:SER:O	2.18	0.62
3:A:83:GLN:N	3:A:95:ASN:OD1	2.32	0.62
3:A:332:CYS:SG	3:A:336:TRP:N	2.73	0.62
2:C:141:ASP:OD2	2:C:142:GLU:N	2.32	0.62
3:A:65:ASP:OD1	3:A:66:PRO:HD2	2.00	0.62
3:A:236:LEU:HB2	3:A:259:CYS:N	2.14	0.61
3:A:852:ASN:ND2	3:A:854:LYS:O	2.33	0.61
3:A:1304:ILE:HA	3:A:1307:GLU:HB3	1.81	0.61
1:B:229:HIS:CD2	1:B:231:PRO:HD2	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1843:ALA:O	3:A:1847:ASN:ND2	2.33	0.61
3:A:132:ALA:HB1	3:A:226:ILE:HB	1.83	0.61
3:A:1550:ASN:HD22	3:A:1711:GLU:HG2	1.65	0.61
3:A:1863:TYR:HA	3:A:1866:ILE:HG22	1.81	0.61
3:A:1274:VAL:HG12	3:A:1278:TRP:H	1.65	0.61
3:A:1187:GLY:O	3:A:1190:ILE:HG22	2.00	0.61
3:A:200:LYS:NZ	3:A:209:LYS:O	2.33	0.61
3:A:1314:TYR:HA	3:A:1319:THR:OG1	2.01	0.61
3:A:1469:GLU:OE2	3:A:1473:ARG:NE	2.25	0.61
3:A:1581:TYR:N	3:A:1656:GLU:OE1	2.27	0.61
3:A:568:GLU:HG3	3:A:667:ASN:HB3	1.83	0.61
3:A:1296:LEU:O	3:A:1300:ILE:N	2.34	0.61
3:A:1301:LYS:HG2	3:A:1419:ALA:HA	1.82	0.61
3:A:278:ARG:HA	3:A:281:THR:HB	1.83	0.61
1:B:184:ASN:HD21	1:B:223:TYR:HD1	1.47	0.61
3:A:38:TYR:HE1	3:A:118:ILE:HB	1.65	0.61
3:A:182:ASN:OD1	3:A:185:GLN:NE2	2.34	0.61
3:A:983:ASN:HA	3:A:991:ARG:HB3	1.83	0.61
3:A:555:LYS:HD2	3:A:585:GLN:HG3	1.82	0.60
3:A:1402:ASN:HB3	3:A:1406:LYS:HD3	1.83	0.60
2:C:54:TRP:CZ3	2:C:107:CYS:HB3	2.36	0.60
3:A:861:GLY:N	3:A:891:ASP:OD1	2.33	0.60
3:A:1237:GLY:H	3:A:1246:GLU:HA	1.67	0.60
3:A:925:THR:N	3:A:946:VAL:H	1.98	0.60
3:A:176:ASN:O	3:A:180:GLU:N	2.27	0.60
3:A:176:ASN:HA	3:A:179:LEU:HB3	1.82	0.60
3:A:873:ASP:OD1	3:A:874:GLU:N	2.33	0.60
3:A:990:ALA:C	3:A:991:ARG:HE	2.05	0.60
3:A:1212:ILE:O	3:A:1417:ARG:NH1	2.34	0.60
3:A:13:GLU:HA	3:A:17:ALA:HB2	1.83	0.60
3:A:81:LYS:N	3:A:96:ILE:O	2.25	0.60
3:A:287:PHE:CD1	3:A:291:LYS:HE2	2.37	0.60
3:A:850:LYS:CE	3:A:890:ILE:HG21	2.32	0.60
3:A:1053:ALA:O	3:A:1059:ASP:HB2	2.00	0.60
3:A:1272:LEU:HB2	3:A:1354:TYR:HE1	1.67	0.60
3:A:277:LEU:HD12	3:A:280:LEU:HB2	1.84	0.60
3:A:1125:GLN:HB3	3:A:1129:ALA:CB	2.31	0.60
3:A:1564:TYR:CD2	3:A:1594:SER:HA	2.36	0.60
3:A:288:TYR:O	3:A:292:GLN:HB2	2.01	0.59
2:C:113:ALA:HB3	2:C:114:PRO:HD3	1.83	0.59
3:A:155:LEU:HD11	3:A:226:ILE:HG12	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:182:ASN:HA	3:A:185:GLN:HG3	1.84	0.59
3:A:689:ILE:HD13	3:A:707:LEU:HB2	1.84	0.59
3:A:1348:GLN:NE2	3:A:1437:CYS:SG	2.62	0.59
3:A:30:ALA:HB3	3:A:125:LEU:HD22	1.84	0.59
3:A:231:ARG:N	3:A:234:ASP:OD2	2.32	0.59
3:A:236:LEU:HB2	3:A:259:CYS:H	1.67	0.59
3:A:805:ASP:OD1	3:A:806:GLU:N	2.35	0.59
3:A:45:ASP:OD2	3:A:1901:ASN:ND2	2.35	0.59
3:A:1454:PHE:CE1	3:A:1522:GLN:HB3	2.38	0.59
3:A:1497:ILE:HG21	3:A:1501:CYS:HB3	1.85	0.59
3:A:1590:LYS:O	3:A:1664:ARG:NH1	2.35	0.59
3:A:787:SER:N	3:A:790:GLU:O	2.36	0.59
3:A:1274:VAL:HG11	3:A:1278:TRP:HB3	1.85	0.59
3:A:88:ASP:HB2	3:A:93:PRO:HA	1.83	0.59
3:A:1361:THR:OG1	3:A:1449:GLN:OE1	2.11	0.59
3:A:1655:LEU:HD13	3:A:1756:ILE:HD12	1.84	0.59
2:C:38:VAL:HG11	2:C:123:LEU:HD21	1.83	0.59
3:A:125:LEU:HG	3:A:129:LEU:HD13	1.83	0.59
3:A:275:GLN:OE1	3:A:278:ARG:NH1	2.35	0.59
3:A:509:ASN:HD22	3:A:513:SER:HB3	1.68	0.59
3:A:850:LYS:NZ	3:A:890:ILE:HD13	2.17	0.59
3:A:1147:PHE:CE2	3:A:1969:VAL:HG22	2.38	0.59
2:C:164:LYS:NZ	2:C:166:GLN:OE1	2.34	0.58
3:A:99:PRO:HD2	3:A:282:GLU:OE2	2.03	0.58
3:A:191:ARG:NH1	3:A:207:TYR:HA	2.18	0.58
3:A:1406:LYS:HA	3:A:1409:GLU:HB3	1.85	0.58
3:A:1412:MET:O	3:A:1416:VAL:N	2.34	0.58
2:C:204:ASP:HA	2:C:207:LYS:HB2	1.85	0.58
3:A:33:SER:HA	3:A:48:LYS:HZ1	1.68	0.58
3:A:281:THR:O	3:A:285:GLU:N	2.37	0.58
3:A:659:ILE:HD11	3:A:712:TRP:HE3	1.67	0.58
2:C:40:ILE:HD12	2:C:92:LEU:HD23	1.85	0.58
3:A:1050:MET:HE3	3:A:1198:ALA:HA	1.85	0.58
3:A:1304:ILE:HG22	3:A:1308:THR:HG23	1.84	0.58
3:A:1:MET:SD	3:A:2:ASP:N	2.77	0.58
3:A:1316:ASP:HB2	3:A:1340:PRO:HG3	1.86	0.58
3:A:1889:ILE:HD13	3:A:1941:ASP:HA	1.84	0.58
1:B:67:VAL:HG13	1:B:83:VAL:HG21	1.84	0.58
3:A:690:LYS:O	3:A:692:ASN:N	2.34	0.58
3:A:867:ASN:C	3:A:867:ASN:HD22	2.06	0.58
3:A:7:ILE:HG22	3:A:387:TYR:CE2	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:924:THR:CA	3:A:946:VAL:O	2.24	0.58
3:A:254:GLU:O	3:A:258:LYS:N	2.37	0.58
3:A:985:TRP:H	3:A:991:ARG:HG3	1.69	0.58
3:A:339:GLU:HA	3:A:343:GLN:HB2	1.85	0.58
3:A:1901:ASN:OD1	3:A:1902:GLY:N	2.37	0.58
3:A:725:HIS:HA	3:A:730:ASN:ND2	2.17	0.57
3:A:1096:LYS:HA	3:A:1100:TYR:HB3	1.85	0.57
3:A:1202:CYS:N	3:A:1204:GLU:OE1	2.38	0.57
3:A:1883:ILE:O	3:A:1883:ILE:HG13	2.05	0.57
1:B:217:SER:HB2	1:B:221:GLN:HE22	1.69	0.57
3:A:336:TRP:HA	3:A:339:GLU:HB3	1.85	0.57
3:A:1929:LYS:HB3	3:A:1930:GLU:HG3	1.87	0.57
1:B:87:PHE:CZ	1:B:102:MET:HG2	2.39	0.57
3:A:1050:MET:CE	3:A:1198:ALA:HA	2.34	0.57
3:A:1201:LYS:HD3	3:A:1204:GLU:HB3	1.86	0.57
3:A:1715:TYR:OH	3:A:1719:LYS:NZ	2.23	0.57
3:A:293:ASN:OD1	3:A:297:ASP:HB2	2.03	0.57
3:A:562:LYS:C	3:A:564:SER:N	2.56	0.57
3:A:1818:LYS:HA	3:A:1957:HIS:HE1	1.69	0.57
3:A:689:ILE:CD1	3:A:707:LEU:HB2	2.34	0.57
3:A:1282:TYR:HB3	3:A:1285:ARG:HB2	1.85	0.57
1:B:94:PRO:HB2	3:A:1055:ILE:HG12	1.86	0.57
3:A:341:GLU:O	3:A:345:ASN:ND2	2.38	0.57
3:A:659:ILE:HD11	3:A:712:TRP:CE3	2.40	0.57
3:A:863:SER:HB3	3:A:1879:ASP:OD1	2.05	0.57
3:A:118:ILE:HD11	3:A:124:PHE:HB2	1.86	0.57
3:A:562:LYS:HB2	3:A:575:ALA:CB	2.34	0.57
3:A:575:ALA:O	3:A:577:THR:OG1	2.19	0.57
3:A:1235:TYR:HD1	3:A:1271:ASN:HD21	1.53	0.57
3:A:11:ILE:HA	3:A:14:TYR:HD2	1.70	0.56
3:A:178:ASN:O	3:A:182:ASN:HB2	2.06	0.56
3:A:689:ILE:HD11	3:A:703:SER:O	2.06	0.56
3:A:9:ASN:H	3:A:387:TYR:HE1	1.53	0.56
3:A:10:LYS:H	3:A:387:TYR:HE1	1.54	0.56
3:A:990:ALA:HA	3:A:1107:ILE:HD11	1.86	0.56
1:B:128:ALA:HB1	2:C:65:LEU:HD11	1.87	0.56
3:A:342:ASN:O	3:A:346:LYS:NZ	2.24	0.56
3:A:757:PRO:HB3	3:A:882:ILE:HD12	1.88	0.56
3:A:1120:LYS:O	3:A:1124:LYS:HG2	2.04	0.56
3:A:1320:ALA:O	3:A:1323:SER:OG	2.22	0.56
3:A:1386:GLN:HE21	3:A:1390:LYS:HA	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:184:LYS:HG3	3:A:207:TYR:CZ	2.40	0.56
3:A:591:ASN:HA	3:A:669:TYR:HD2	1.70	0.56
3:A:862:THR:HG22	3:A:1871:ASN:ND2	2.21	0.56
3:A:1339:LEU:HD22	3:A:1343:PHE:HD2	1.71	0.56
3:A:384:LEU:HB2	3:A:388:ILE:HG13	1.86	0.56
3:A:858:LYS:HD3	3:A:860:CYS:SG	2.46	0.56
3:A:1405:TRP:O	3:A:1409:GLU:HB2	2.06	0.56
3:A:862:THR:HG22	3:A:1871:ASN:HD21	1.71	0.56
3:A:1143:ASN:HB3	3:A:1973:LEU:HD21	1.88	0.55
3:A:1543:TYR:HB2	3:A:1546:CYS:SG	2.46	0.55
3:A:949:VAL:HG11	3:A:1867:TYR:OH	2.06	0.55
3:A:1118:TYR:OH	3:A:1139:VAL:O	2.16	0.55
3:A:1339:LEU:HD22	3:A:1343:PHE:CD2	2.40	0.55
3:A:1402:ASN:HA	3:A:1405:TRP:HB3	1.88	0.55
3:A:1402:ASN:O	3:A:1406:LYS:HB2	2.05	0.55
3:A:1436:GLU:HG2	3:A:1437:CYS:H	1.69	0.55
3:A:85:ASN:HD21	3:A:94:GLU:HB2	1.70	0.55
3:A:1125:GLN:HA	3:A:1128:ASP:N	2.20	0.55
3:A:1345:HIS:HB3	3:A:1349:ARG:HG3	1.88	0.55
3:A:577:THR:CG2	3:A:841:ARG:HB2	2.36	0.55
2:C:166:GLN:HE21	2:C:167:TRP:H	1.54	0.55
3:A:80:TRP:O	3:A:94:GLU:HG2	2.06	0.55
3:A:328:LYS:O	3:A:332:CYS:N	2.36	0.55
1:B:71:ASN:O	1:B:91:ARG:NH1	2.40	0.55
3:A:82:CYS:H	3:A:95:ASN:H	1.55	0.55
3:A:113:LEU:H	3:A:182:ASN:ND2	2.03	0.55
3:A:279:TRP:CD1	3:A:282:GLU:HB3	2.41	0.55
3:A:286:ASP:O	3:A:290:GLU:HG3	2.07	0.55
3:A:1308:THR:HA	3:A:1311:LEU:CB	2.36	0.55
3:A:127:ASP:OD1	3:A:128:VAL:N	2.40	0.55
3:A:686:GLY:O	3:A:687:LYS:C	2.45	0.55
3:A:187:PHE:HA	3:A:190:ILE:HG12	1.89	0.55
3:A:557:LYS:O	3:A:558:TRP:C	2.45	0.55
3:A:1299:LYS:HA	3:A:1303:ALA:H	1.72	0.55
3:A:1333:LYS:HE2	3:A:1341:LYS:HE2	1.88	0.55
3:A:113:LEU:HB2	3:A:186:MET:HG3	1.89	0.54
3:A:1199:GLU:C	3:A:1201:LYS:H	2.11	0.54
3:A:1315:HIS:CD2	3:A:1342:GLY:HA3	2.41	0.54
3:A:1599:LYS:HB2	3:A:1672:GLN:HB2	1.89	0.54
3:A:279:TRP:HB3	3:A:283:TRP:NE1	2.22	0.54
3:A:1053:ALA:C	3:A:1055:ILE:H	2.11	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:275:GLN:O	3:A:279:TRP:N	2.41	0.54
3:A:841:ARG:HE	3:A:845:HIS:CD2	2.26	0.54
3:A:1316:ASP:C	3:A:1330:GLN:HG3	2.28	0.54
3:A:55:THR:H	3:A:58:HIS:CD2	2.26	0.54
3:A:180:GLU:HG2	3:A:184:LYS:HZ3	1.72	0.54
3:A:1310:LEU:O	3:A:1314:TYR:CB	2.55	0.54
3:A:1396:SER:O	3:A:1400:ASN:ND2	2.40	0.54
3:A:1465:ARG:NH1	3:A:1569:ASP:OD2	2.40	0.54
3:A:1719:LYS:O	3:A:1723:ILE:HG12	2.07	0.54
3:A:28:LEU:O	3:A:121:ASN:ND2	2.41	0.54
3:A:1821:CYS:SG	3:A:1838:CYS:HB2	2.47	0.54
2:C:52:LEU:HD13	2:C:90:PHE:CG	2.43	0.54
3:A:259:CYS:SG	3:A:262:TYR:HB2	2.48	0.54
3:A:691:LYS:CB	3:A:694:THR:HA	2.32	0.54
3:A:862:THR:HG21	3:A:891:ASP:H	1.72	0.54
2:C:186:ASP:OD2	2:C:188:LYS:HG2	2.08	0.54
3:A:80:TRP:O	3:A:94:GLU:HA	2.08	0.54
3:A:1029:VAL:HG21	3:A:1959:MET:HE2	1.89	0.54
3:A:1298:GLU:O	3:A:1302:ASN:N	2.22	0.54
3:A:1409:GLU:HG3	3:A:1412:MET:HB3	1.90	0.54
3:A:287:PHE:HD1	3:A:291:LYS:HB2	1.72	0.54
3:A:1305:HIS:CE1	3:A:1423:ILE:HA	2.43	0.54
3:A:1305:HIS:HA	3:A:1308:THR:OG1	2.08	0.54
3:A:1372:LEU:O	3:A:1376:ILE:HG12	2.07	0.54
3:A:31:ASP:O	3:A:33:SER:N	2.41	0.54
3:A:121:ASN:CB	3:A:214:TRP:HE1	2.21	0.54
3:A:288:TYR:HB3	3:A:397:TYR:OH	2.07	0.54
3:A:295:ILE:HA	3:A:299:GLU:HB2	1.90	0.54
3:A:691:LYS:HZ1	3:A:700:SER:HB3	1.73	0.54
3:A:939:GLN:N	3:A:943:THR:HG21	2.23	0.54
3:A:112:ASN:HB3	3:A:114:LYS:NZ	2.22	0.53
3:A:926:THR:HG22	3:A:944:LEU:HD12	1.89	0.53
3:A:1364:ASN:HB3	3:A:1369:ILE:HG22	1.91	0.53
3:A:1445:ASN:O	3:A:1530:TYR:OH	2.25	0.53
3:A:1483:GLU:OE2	3:A:1578:GLN:N	2.41	0.53
1:B:71:ASN:HB2	1:B:76:ASP:HB3	1.90	0.53
2:C:127:ARG:NE	2:C:128:THR:O	2.38	0.53
3:A:113:LEU:N	3:A:182:ASN:HD21	2.06	0.53
3:A:1396:SER:HB3	3:A:1400:ASN:ND2	2.22	0.53
3:A:1413:TRP:CH2	3:A:1442:PRO:HD3	2.43	0.53
3:A:1936:GLU:HB2	3:A:1939:PRO:HA	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:256:CYS:SG	3:A:257:ARG:NH1	2.81	0.53
3:A:337:LYS:HB3	3:A:341:GLU:OE2	2.08	0.53
3:A:345:ASN:HA	3:A:350:LEU:HA	1.91	0.53
3:A:927:GLU:OE2	3:A:933:ARG:N	2.33	0.53
2:C:27:PRO:HG2	2:C:30:LEU:HB2	1.89	0.53
3:A:191:ARG:NH1	3:A:210:LEU:HB3	2.24	0.53
3:A:281:THR:O	3:A:286:ASP:N	2.33	0.53
3:A:984:GLN:H	3:A:991:ARG:HB3	1.73	0.53
3:A:1240:PHE:CD1	3:A:1241:PRO:HA	2.43	0.53
2:C:111:ASN:ND2	2:C:112:ASN:OD1	2.42	0.53
3:A:1219:CYS:HB3	3:A:1422:LYS:HE2	1.91	0.53
3:A:1417:ARG:HA	3:A:1420:ILE:HG22	1.90	0.53
1:B:153:LEU:HB3	2:C:137:PHE:CD1	2.36	0.53
3:A:59:SER:OG	3:A:60:ASP:N	2.41	0.53
3:A:129:LEU:HD23	3:A:225:VAL:HG21	1.90	0.53
3:A:262:TYR:CE2	3:A:573:GLU:HB2	2.42	0.53
3:A:1006:LYS:NZ	3:A:1011:ASP:HA	2.23	0.53
3:A:1385:PRO:HB3	3:A:1404:TRP:CE3	2.44	0.53
3:A:1615:ASN:ND2	3:A:1875:GLU:OE2	2.42	0.53
3:A:1984:LYS:HE3	3:A:1984:LYS:HA	1.89	0.53
3:A:1:MET:SD	3:A:3:SER:N	2.82	0.53
3:A:36:GLU:HG2	3:A:1781:LEU:HB3	1.91	0.53
2:C:168:LYS:HB3	2:C:171:ASN:HA	1.90	0.53
3:A:239:ARG:HH12	3:A:249:ARG:HH12	1.57	0.53
3:A:993:MET:HG2	3:A:1008:ASN:HD21	1.73	0.53
3:A:1368:HIS:ND1	3:A:1371:LYS:HB3	2.24	0.53
3:A:38:TYR:HA	3:A:117:LYS:HE3	1.90	0.53
3:A:215:TRP:HZ3	3:A:272:TYR:HE1	1.57	0.53
3:A:940:SER:O	3:A:943:THR:HG22	2.09	0.53
3:A:1121:PHE:O	3:A:1125:GLN:OE1	2.26	0.53
3:A:562:LYS:C	3:A:564:SER:H	2.11	0.53
3:A:964:CYS:O	3:A:965:GLN:HG3	2.08	0.53
3:A:1369:ILE:HD12	3:A:1372:LEU:HD12	1.90	0.53
3:A:235:LEU:HD21	3:A:675:LEU:HD13	1.90	0.52
3:A:1015:THR:O	3:A:1018:ARG:NH1	2.41	0.52
3:A:1596:CYS:SG	3:A:1664:ARG:HG2	2.48	0.52
3:A:88:ASP:C	3:A:93:PRO:HB3	2.29	0.52
3:A:289:ARG:O	3:A:293:ASN:HB2	2.09	0.52
3:A:524:GLN:O	3:A:526:GLU:N	2.42	0.52
3:A:528:GLN:NE2	3:A:718:TYR:OH	2.42	0.52
3:A:587:LEU:HD13	3:A:655:TYR:CE1	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1202:CYS:H	3:A:1204:GLU:HA	1.72	0.52
3:A:279:TRP:HB3	3:A:283:TRP:CD1	2.45	0.52
3:A:499:LEU:HD11	3:A:522:LYS:HB3	1.91	0.52
3:A:1215:SER:HB3	3:A:1216:GLU:HG3	1.91	0.52
2:C:109:LYS:NZ	2:C:114:PRO:HD2	2.25	0.52
3:A:164:ASP:OD2	3:A:278:ARG:NH1	2.41	0.52
3:A:270:LEU:O	3:A:273:VAL:HB	2.09	0.52
3:A:632:TYR:O	3:A:637:ASN:N	2.41	0.52
3:A:1092:ASN:HA	3:A:1097:CYS:HB3	1.90	0.52
3:A:1269:THR:O	3:A:1272:LEU:HD22	2.09	0.52
3:A:1752:ASP:OD1	3:A:1753:ARG:N	2.37	0.52
3:A:180:GLU:HG2	3:A:184:LYS:NZ	2.24	0.52
3:A:1298:GLU:HA	3:A:1301:LYS:HD2	1.90	0.52
3:A:102:ARG:HH12	3:A:282:GLU:CD	2.13	0.52
3:A:121:ASN:O	3:A:125:LEU:N	2.43	0.52
3:A:850:LYS:HD2	3:A:864:SER:HB2	1.92	0.52
3:A:1129:ALA:O	3:A:1133:SER:N	2.43	0.52
3:A:1314:TYR:CD2	3:A:1320:ALA:HB2	2.45	0.52
3:A:1474:GLU:HA	3:A:1478:ILE:HB	1.90	0.52
3:A:1741:TRP:HA	3:A:1746:THR:HG21	1.91	0.52
3:A:29:LYS:HB3	3:A:217:ALA:HB1	1.91	0.52
3:A:1314:TYR:HA	3:A:1319:THR:HG1	1.75	0.52
3:A:1345:HIS:NE2	3:A:1543:TYR:HE1	2.07	0.52
3:A:1636:LEU:O	3:A:1640:ILE:HG12	2.10	0.52
3:A:680:ASN:C	3:A:682:GLY:N	2.62	0.52
3:A:159:PHE:HE1	3:A:222:VAL:HG13	1.74	0.52
3:A:207:TYR:HB3	3:A:211:ARG:NH1	2.25	0.52
3:A:852:ASN:OD1	3:A:853:ARG:N	2.41	0.52
3:A:1277:LEU:O	3:A:1288:ILE:HG23	2.10	0.51
3:A:1420:ILE:HD12	3:A:1423:ILE:HB	1.92	0.51
3:A:1984:LYS:C	3:A:1986:TYR:H	2.14	0.51
3:A:1356:ASN:HD22	3:A:1359:LEU:HD11	1.74	0.51
3:A:82:CYS:HB2	3:A:96:ILE:HB	1.93	0.51
3:A:511:ARG:O	3:A:512:GLY:C	2.49	0.51
3:A:1666:ALA:HB2	3:A:1764:MET:SD	2.49	0.51
3:A:935:LYS:HG3	3:A:936:SER:N	2.25	0.51
3:A:1627:ARG:NH1	3:A:1697:ASP:OD2	2.32	0.51
3:A:510:LYS:HE2	3:A:510:LYS:HA	1.91	0.51
3:A:559:ILE:HG22	3:A:561:LYS:CG	2.31	0.51
3:A:562:LYS:HZ3	3:A:576:ASN:HB2	1.76	0.51
3:A:1821:CYS:HA	3:A:1838:CYS:HB2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:631:ARG:O	3:A:635:ASN:HB3	2.09	0.51
3:A:804:LYS:NZ	3:A:966:CYS:SG	2.82	0.51
1:B:119:LEU:HD12	1:B:120:ARG:HG3	1.91	0.51
3:A:207:TYR:O	3:A:211:ARG:HG2	2.10	0.51
3:A:251:LYS:HE3	3:A:566:ASN:O	2.11	0.51
3:A:1125:GLN:CA	3:A:1129:ALA:H	2.24	0.51
3:A:1550:ASN:ND2	3:A:1711:GLU:O	2.43	0.51
3:A:1814:PHE:CE2	3:A:1953:LYS:HE2	2.45	0.51
3:A:529:LYS:HB3	3:A:614:LEU:HD23	1.92	0.51
3:A:942:ASP:OD1	3:A:947:VAL:N	2.43	0.51
3:A:1436:GLU:OE1	3:A:1436:GLU:N	2.38	0.51
2:C:21:ILE:HG21	2:C:46:GLN:HG2	1.93	0.51
3:A:688:TYR:O	3:A:689:ILE:C	2.50	0.51
1:B:46:PHE:HE1	1:B:117:ARG:HE	1.58	0.50
1:B:48:PHE:HD2	1:B:96:SER:HA	1.75	0.50
3:A:537:SER:O	3:A:538:LEU:HG	2.11	0.50
3:A:988:GLY:HA2	3:A:1110:GLN:HG3	1.93	0.50
3:A:1262:GLY:HA2	3:A:1525:LYS:HE3	1.93	0.50
1:B:117:ARG:HD3	1:B:131:ASN:HB2	1.93	0.50
3:A:787:SER:OG	3:A:798:GLU:OE2	2.14	0.50
3:A:1199:GLU:HA	3:A:1202:CYS:O	2.11	0.50
3:A:1204:GLU:N	3:A:1205:ASN:HA	2.25	0.50
2:C:177:ASN:ND2	2:C:198:LEU:HD11	2.26	0.50
3:A:191:ARG:NE	3:A:205:GLN:HB3	2.26	0.50
3:A:277:LEU:HD22	3:A:373:PHE:CZ	2.46	0.50
3:A:562:LYS:NZ	3:A:576:ASN:HB2	2.26	0.50
3:A:1237:GLY:N	3:A:1246:GLU:HG3	2.26	0.50
3:A:1356:ASN:HB3	3:A:1449:GLN:NE2	2.21	0.50
3:A:925:THR:O	3:A:946:VAL:HG12	2.10	0.50
3:A:231:ARG:HG2	3:A:234:ASP:CG	2.32	0.50
3:A:770:PHE:CZ	3:A:953:LEU:HD23	2.47	0.50
3:A:1305:HIS:CE1	3:A:1427:ASN:HB2	2.47	0.50
3:A:1839:LYS:HG3	3:A:1964:VAL:HG22	1.93	0.50
3:A:38:TYR:CE1	3:A:118:ILE:HB	2.44	0.50
3:A:80:TRP:CD1	3:A:94:GLU:HB3	2.46	0.50
3:A:291:LYS:HD2	3:A:339:GLU:OE2	2.12	0.50
3:A:694:THR:O	3:A:695:ALA:HB2	2.10	0.50
3:A:905:LEU:HD22	3:A:909:ILE:HD11	1.94	0.50
3:A:1056:SER:HB3	3:A:1057:CYS:HB2	1.93	0.50
3:A:1124:LYS:O	3:A:1127:TYR:HB3	2.12	0.50
3:A:1721:ASN:OD1	3:A:1738:ARG:NH1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1939:PRO:O	3:A:1941:ASP:N	2.45	0.50
3:A:1977:ASP:OD1	3:A:1978:ASN:N	2.44	0.50
1:B:31:VAL:HG21	1:B:105:LEU:HD12	1.93	0.50
2:C:23:MET:SD	2:C:109:LYS:HG2	2.52	0.50
3:A:504:GLU:HG3	3:A:521:ASN:ND2	2.27	0.50
3:A:894:LEU:HD11	3:A:903:ASN:HD22	1.75	0.50
3:A:1209:ASP:HB3	3:A:1210:THR:OG1	2.11	0.50
3:A:1285:ARG:HG2	3:A:1287:ASN:HA	1.94	0.50
1:B:119:LEU:HB3	1:B:130:GLY:HA3	1.93	0.50
3:A:51:ILE:HG12	3:A:221:LYS:HE3	1.94	0.50
3:A:219:ARG:HH21	3:A:266:VAL:HG21	1.76	0.50
3:A:1657:THR:HA	3:A:1660:ILE:HG22	1.94	0.50
3:A:235:LEU:HD12	3:A:258:LYS:HG2	1.94	0.49
3:A:968:ILE:HB	3:A:969:PRO:HD2	1.94	0.49
3:A:1142:SER:HB3	3:A:1187:GLY:H	1.77	0.49
3:A:1414:ASP:O	3:A:1417:ARG:HG2	2.12	0.49
3:A:1489:SER:HA	3:A:1498:GLN:HG2	1.94	0.49
3:A:1538:LEU:O	3:A:1542:ASN:ND2	2.44	0.49
3:A:290:GLU:OE2	3:A:291:LYS:HG3	2.12	0.49
3:A:1215:SER:HB3	3:A:1216:GLU:CG	2.42	0.49
3:A:1359:LEU:HD12	3:A:1360:GLY:N	2.28	0.49
3:A:1376:ILE:HA	3:A:1380:ILE:HB	1.92	0.49
3:A:95:ASN:ND2	3:A:346:LYS:HE3	2.27	0.49
3:A:256:CYS:HA	3:A:257:ARG:CG	2.41	0.49
3:A:287:PHE:HD1	3:A:291:LYS:HE2	1.77	0.49
3:A:560:TRP:O	3:A:576:ASN:HA	2.11	0.49
3:A:562:LYS:CB	3:A:575:ALA:HB1	2.36	0.49
3:A:563:SER:O	3:A:565:GLY:N	2.45	0.49
3:A:697:GLN:N	3:A:699:THR:HB	2.27	0.49
3:A:1398:THR:O	3:A:1402:ASN:HB2	2.12	0.49
3:A:1308:THR:HB	3:A:1429:ASN:HD21	1.77	0.49
3:A:1310:LEU:HD22	3:A:1314:TYR:HB2	1.93	0.49
3:A:1325:ASN:HD21	3:A:1328:LYS:CG	2.25	0.49
3:A:558:TRP:HB2	3:A:825:GLY:O	2.13	0.49
3:A:690:LYS:C	3:A:692:ASN:H	2.15	0.49
2:C:206:GLU:HG3	2:C:230:ARG:NH1	2.28	0.49
3:A:1307:GLU:C	3:A:1311:LEU:H	2.16	0.49
3:A:1485:LYS:HB2	3:A:1489:SER:HB2	1.94	0.49
3:A:1933:CYS:SG	3:A:1936:GLU:HB3	2.51	0.49
3:A:674:GLU:OE2	3:A:708:ARG:NH1	2.27	0.49
3:A:1500:ALA:O	3:A:1503:ARG:NH1	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:25:GLU:HA	1:B:40:SER:O	2.13	0.49
1:B:181:VAL:HG22	1:B:227:VAL:HG12	1.93	0.49
3:A:216:ASN:O	3:A:219:ARG:HG2	2.13	0.49
3:A:699:THR:HG23	3:A:700:SER:O	2.13	0.49
3:A:1373:GLN:O	3:A:1377:LYS:HG2	2.12	0.49
3:A:1377:LYS:O	3:A:1381:GLU:HB2	2.13	0.49
3:A:1582:TYR:CD2	3:A:1589:LYS:HB2	2.47	0.49
3:A:817:CYS:SG	3:A:930:ASN:HB2	2.52	0.49
3:A:982:MET:H	3:A:991:ARG:NH1	2.11	0.49
2:C:31:SER:OG	2:C:124:GLU:OE2	2.28	0.48
3:A:76:ASP:HB2	3:A:104:ARG:HH22	1.77	0.48
3:A:289:ARG:O	3:A:293:ASN:CB	2.61	0.48
3:A:633:PRO:HA	3:A:634:GLN:HA	1.60	0.48
3:A:1626:PRO:O	3:A:1630:GLN:HG2	2.13	0.48
3:A:160:ALA:HB1	3:A:278:ARG:CZ	2.43	0.48
3:A:255:LEU:O	3:A:257:ARG:NH1	2.38	0.48
3:A:1822:ASP:CG	3:A:1823:PRO:HD3	2.33	0.48
2:C:135:PHE:HB2	2:C:154:LEU:HB3	1.95	0.48
3:A:559:ILE:HD11	3:A:585:GLN:OE1	2.13	0.48
3:A:559:ILE:C	3:A:561:LYS:H	2.16	0.48
3:A:1049:TYR:C	3:A:1053:ALA:HA	2.34	0.48
3:A:1118:TYR:HA	3:A:1121:PHE:HB3	1.94	0.48
3:A:1406:LYS:HA	3:A:1409:GLU:CB	2.42	0.48
2:C:206:GLU:HA	2:C:230:ARG:CZ	2.43	0.48
3:A:116:ASP:HB3	3:A:119:ARG:HH22	1.78	0.48
3:A:524:GLN:HB2	3:A:701:TYR:OH	2.13	0.48
3:A:1133:SER:HB2	3:A:1134:GLN:HG2	1.95	0.48
3:A:1311:LEU:HD21	3:A:1339:LEU:HB2	1.95	0.48
3:A:1688:CYS:SG	3:A:1783:MET:HG2	2.54	0.48
2:C:108:GLN:HG3	2:C:117:PHE:CE1	2.49	0.48
3:A:524:GLN:OE1	3:A:701:TYR:CZ	2.67	0.48
3:A:559:ILE:CG2	3:A:561:LYS:HG2	2.30	0.48
3:A:1443:THR:OG1	3:A:1446:ASP:OD2	2.23	0.48
3:A:1457:TRP:CH2	3:A:1519:TRP:HB2	2.49	0.48
3:A:513:SER:O	3:A:514:SER:C	2.52	0.48
3:A:767:VAL:HG11	3:A:901:LEU:HD21	1.94	0.48
3:A:1106:LYS:HB3	3:A:1110:GLN:NE2	2.28	0.48
3:A:1202:CYS:H	3:A:1204:GLU:CD	2.16	0.48
1:B:58:GLN:HB2	1:B:64:LEU:HD23	1.95	0.48
3:A:125:LEU:HG	3:A:129:LEU:CD1	2.43	0.48
3:A:1005:CYS:HB2	3:A:1114:GLN:NE2	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1497:ILE:HB	3:A:1502:LYS:HE2	1.95	0.48
3:A:375:GLU:HA	3:A:380:ASN:HB3	1.95	0.48
3:A:1057:CYS:SG	3:A:1058:ILE:HB	2.53	0.48
3:A:1149:CYS:SG	3:A:1150:TRP:N	2.87	0.48
3:A:1408:ILE:HB	3:A:1411:GLU:HB3	1.94	0.48
3:A:60:ASP:O	3:A:64:TYR:HB3	2.13	0.48
3:A:1420:ILE:HG12	3:A:1436:GLU:HA	1.95	0.48
2:C:55:TYR:HE1	2:C:108:GLN:HB3	1.79	0.48
2:C:163:ALA:HB2	2:C:217:HIS:HD2	1.79	0.48
3:A:591:ASN:HA	3:A:669:TYR:CD2	2.48	0.48
3:A:1726:SER:N	3:A:1729:THR:OG1	2.46	0.48
3:A:102:ARG:NH2	3:A:282:GLU:HG3	2.27	0.47
3:A:560:TRP:HH2	3:A:838:ILE:CG1	2.27	0.47
3:A:1308:THR:HA	3:A:1311:LEU:HB2	1.96	0.47
3:A:5:SER:HB3	3:A:384:LEU:HD21	1.96	0.47
3:A:168:GLY:HA3	3:A:211:ARG:HH21	1.78	0.47
3:A:580:LEU:O	3:A:585:GLN:NE2	2.46	0.47
3:A:691:LYS:HB3	3:A:694:THR:HG23	1.95	0.47
3:A:1339:LEU:HD22	3:A:1343:PHE:HB3	1.95	0.47
1:B:228:ASN:HB3	1:B:230:LYS:NZ	2.29	0.47
3:A:689:ILE:HD11	3:A:703:SER:C	2.34	0.47
3:A:1404:TRP:O	3:A:1408:ILE:HG12	2.14	0.47
3:A:1757:ARG:NH2	3:A:1788:ILE:O	2.47	0.47
3:A:166:ILE:O	3:A:211:ARG:HD2	2.14	0.47
3:A:277:LEU:HD22	3:A:373:PHE:CE1	2.49	0.47
3:A:1408:ILE:C	3:A:1412:MET:H	2.16	0.47
3:A:1824:PRO:HG2	3:A:1832:ASP:H	1.79	0.47
3:A:275:GLN:O	3:A:275:GLN:NE2	2.44	0.47
3:A:687:LYS:O	3:A:688:TYR:C	2.53	0.47
3:A:1799:LEU:HD21	3:A:1888:VAL:HG23	1.95	0.47
1:B:224:ILE:HG22	1:B:239:LYS:HA	1.96	0.47
3:A:79:GLN:OE1	3:A:81:LYS:NZ	2.43	0.47
3:A:235:LEU:HD23	3:A:238:LYS:HE3	1.97	0.47
3:A:255:LEU:O	3:A:257:ARG:HD3	2.14	0.47
3:A:632:TYR:HB2	3:A:633:PRO:HD2	1.97	0.47
3:A:1250:ILE:HG12	3:A:1265:ILE:HB	1.95	0.47
3:A:1418:CYS:O	3:A:1422:LYS:HG2	2.14	0.47
3:A:1476:CYS:HA	3:A:1480:GLY:HA3	1.97	0.47
1:B:146:LYS:HD2	1:B:147:GLY:O	2.14	0.47
3:A:111:GLU:OE1	3:A:175:THR:OG1	2.33	0.47
3:A:187:PHE:HE2	3:A:191:ARG:HH11	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1316:ASP:O	3:A:1330:GLN:HG3	2.14	0.47
3:A:1324:LYS:HB3	3:A:1467:ARG:NH2	2.29	0.47
3:A:1454:PHE:HE1	3:A:1522:GLN:HB3	1.79	0.47
2:C:109:LYS:HZ2	2:C:114:PRO:HD2	1.80	0.47
3:A:202:PRO:HB2	3:A:206:LYS:HG2	1.97	0.47
3:A:258:LYS:HZ3	3:A:671:LYS:HA	1.79	0.47
3:A:691:LYS:O	3:A:694:THR:N	2.48	0.47
3:A:1111:TRP:O	3:A:1115:LYS:N	2.29	0.47
3:A:1274:VAL:CG1	3:A:1278:TRP:H	2.28	0.47
3:A:1278:TRP:HA	3:A:1287:ASN:HB3	1.95	0.47
3:A:1633:LEU:HD11	3:A:1712:TYR:HB3	1.96	0.47
3:A:33:SER:HA	3:A:48:LYS:HZ2	1.79	0.47
3:A:102:ARG:HA	3:A:105:LEU:CD1	2.45	0.47
3:A:254:GLU:HB3	3:A:258:LYS:O	2.15	0.47
3:A:365:ARG:NH2	3:A:370:VAL:O	2.48	0.47
3:A:562:LYS:HE2	3:A:576:ASN:ND2	2.30	0.47
3:A:617:CYS:HA	3:A:620:VAL:HG12	1.97	0.47
3:A:1499:GLY:HA2	3:A:1502:LYS:HB2	1.97	0.47
3:A:80:TRP:HB3	3:A:97:CYS:SG	2.55	0.47
3:A:164:ASP:O	3:A:168:GLY:N	2.48	0.47
3:A:236:LEU:HD22	3:A:260:GLY:N	2.30	0.47
3:A:1550:ASN:ND2	3:A:1711:GLU:HG2	2.30	0.47
3:A:1754:LYS:NZ	3:A:1762:ASP:OD2	2.38	0.47
3:A:18:LYS:HB3	3:A:216:ASN:ND2	2.30	0.46
3:A:167:ARG:C	3:A:211:ARG:HE	2.19	0.46
3:A:925:THR:O	3:A:946:VAL:HB	2.14	0.46
3:A:1397:SER:O	3:A:1401:VAL:HG22	2.15	0.46
2:C:151:VAL:HB	2:C:198:LEU:HB3	1.97	0.46
3:A:1114:GLN:NE2	3:A:1117:ASN:HD22	2.13	0.46
3:A:1305:HIS:CE1	3:A:1423:ILE:HG12	2.50	0.46
3:A:1312:TYR:O	3:A:1316:ASP:HB3	2.15	0.46
3:A:1419:ALA:O	3:A:1423:ILE:HG13	2.15	0.46
3:A:99:PRO:HB2	3:A:101:ARG:HB3	1.97	0.46
3:A:666:ASP:OD2	3:A:671:LYS:HE2	2.15	0.46
3:A:967:LYS:NZ	3:A:968:ILE:HG12	2.30	0.46
3:A:1348:GLN:O	3:A:1352:ILE:HB	2.16	0.46
1:B:175:PHE:HB3	1:B:204:LEU:HD13	1.97	0.46
3:A:12:GLU:OE1	3:A:12:GLU:N	2.44	0.46
3:A:252:ASN:OD1	3:A:253:PHE:N	2.43	0.46
3:A:290:GLU:OE2	3:A:291:LYS:NZ	2.45	0.46
3:A:632:TYR:HA	3:A:636:LYS:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:689:ILE:HG13	3:A:702:SER:O	2.14	0.46
3:A:798:GLU:HG3	3:A:966:CYS:HB3	1.97	0.46
3:A:999:ASN:ND2	3:A:1001:ASN:O	2.49	0.46
2:C:143:GLN:O	2:C:146:SER:OG	2.15	0.46
3:A:365:ARG:HH12	3:A:374:PHE:CB	2.21	0.46
3:A:1092:ASN:HB3	3:A:1094:LYS:O	2.14	0.46
3:A:1133:SER:HA	3:A:1134:GLN:HA	1.68	0.46
3:A:1203:LYS:HB3	3:A:1205:ASN:OD1	2.16	0.46
1:B:93:ASN:ND2	3:A:1615:ASN:OD1	2.49	0.46
3:A:85:ASN:ND2	3:A:94:GLU:HB2	2.30	0.46
3:A:112:ASN:HB3	3:A:114:LYS:HZ3	1.81	0.46
3:A:1096:LYS:HD2	3:A:1201:LYS:CG	2.45	0.46
3:A:1106:LYS:HE3	3:A:1110:GLN:HE22	1.80	0.46
3:A:1257:HIS:CD2	3:A:1265:ILE:HG13	2.51	0.46
1:B:145:THR:HA	1:B:176:PRO:HD3	1.97	0.46
1:B:212:THR:HG21	2:C:156:ASN:ND2	2.30	0.46
3:A:95:ASN:CG	3:A:346:LYS:HE3	2.36	0.46
3:A:200:LYS:HE3	3:A:210:LEU:HD13	1.98	0.46
3:A:291:LYS:O	3:A:294:LEU:HB2	2.15	0.46
3:A:388:ILE:HG22	3:A:389:LYS:HG2	1.98	0.46
3:A:614:LEU:O	3:A:618:LEU:HD23	2.16	0.46
3:A:615:ALA:O	3:A:619:ILE:HG12	2.15	0.46
3:A:1794:GLN:HG3	3:A:1797:ARG:NH2	2.31	0.46
3:A:1954:TYR:OH	3:A:1961:CYS:SG	2.59	0.46
2:C:184:GLU:HA	2:C:184:GLU:OE2	2.16	0.46
3:A:83:GLN:HB3	3:A:95:ASN:ND2	2.12	0.46
3:A:170:ASP:HA	3:A:279:TRP:HH2	1.81	0.46
3:A:203:LYS:HA	3:A:204:ASP:C	2.36	0.46
3:A:258:LYS:HE2	3:A:674:GLU:HG2	1.98	0.46
3:A:682:GLY:O	3:A:683:LYS:C	2.54	0.46
3:A:864:SER:HA	3:A:1790:ILE:CG2	2.44	0.46
3:A:978:ARG:HG3	3:A:980:GLU:OE2	2.16	0.46
3:A:24:ILE:HG22	3:A:24:ILE:O	2.16	0.46
3:A:148:SER:O	3:A:150:ASN:N	2.42	0.46
3:A:653:ALA:HB2	3:A:753:ILE:HG23	1.98	0.46
3:A:767:VAL:HG21	3:A:901:LEU:HD21	1.98	0.46
3:A:1094:LYS:HD2	3:A:1096:LYS:HE2	1.98	0.46
3:A:1670:TRP:CH2	3:A:1780:PRO:HG3	2.49	0.46
3:A:1822:ASP:HB3	3:A:1957:HIS:CE1	2.50	0.46
2:C:158:PHE:HD2	2:C:217:HIS:HE2	1.64	0.46
3:A:1123:SER:C	3:A:1126:ILE:H	2.19	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1125:GLN:HA	3:A:1129:ALA:H	1.81	0.46
3:A:1424:ASN:HA	3:A:1430:SER:O	2.16	0.46
3:A:1824:PRO:HD2	3:A:1828:ASP:HA	1.98	0.46
3:A:273:VAL:HG13	3:A:277:LEU:CD2	2.45	0.45
3:A:690:LYS:HE3	3:A:690:LYS:HB3	1.37	0.45
3:A:1667:TYR:OH	3:A:1671:LYS:NZ	2.42	0.45
3:A:319:CYS:HA	3:A:322:CYS:SG	2.57	0.45
3:A:779:LYS:O	3:A:783:THR:HG23	2.16	0.45
3:A:939:GLN:H	3:A:943:THR:CG2	2.25	0.45
3:A:1214:LYS:HG3	3:A:1414:ASP:OD2	2.16	0.45
3:A:38:TYR:CD2	3:A:59:SER:HA	2.52	0.45
3:A:185:GLN:NE2	3:A:186:MET:HG2	2.30	0.45
3:A:350:LEU:CB	3:A:355:LYS:H	2.30	0.45
3:A:894:LEU:HA	3:A:899:SER:OG	2.16	0.45
3:A:1136:LYS:HE2	3:A:1139:VAL:CA	2.46	0.45
3:A:1252:LYS:HG3	3:A:1521:LYS:HE2	1.97	0.45
2:C:40:ILE:O	2:C:91:THR:HA	2.16	0.45
3:A:367:ASP:HB3	3:A:371:LYS:HB2	1.98	0.45
3:A:998:LYS:HD2	3:A:998:LYS:HA	1.78	0.45
3:A:1311:LEU:HG	3:A:1340:PRO:HG2	1.99	0.45
3:A:32:PRO:HB2	3:A:47:LEU:HD23	1.98	0.45
3:A:1814:PHE:CZ	3:A:1953:LYS:HB3	2.51	0.45
3:A:1965:TYR:O	3:A:1969:VAL:HG23	2.17	0.45
2:C:144:LEU:HD11	2:C:205:TYR:CE2	2.52	0.45
3:A:562:LYS:HE2	3:A:576:ASN:HD22	1.82	0.45
3:A:582:PRO:HA	3:A:585:GLN:HG2	1.99	0.45
3:A:859:ASN:N	3:A:891:ASP:OD2	2.46	0.45
3:A:971:ASN:HB3	3:A:1098:LYS:HG2	1.97	0.45
3:A:993:MET:HG3	3:A:994:LYS:N	2.30	0.45
3:A:1224:THR:OG1	3:A:1225:ASN:N	2.49	0.45
3:A:1325:ASN:HD21	3:A:1328:LYS:HG2	1.82	0.45
3:A:1409:GLU:HA	3:A:1412:MET:CB	2.46	0.45
1:B:166:ALA:HB3	2:C:137:PHE:HZ	1.82	0.45
3:A:111:GLU:HG2	3:A:179:LEU:HB2	1.98	0.45
3:A:1103:TRP:HA	3:A:1106:LYS:HB2	1.97	0.45
3:A:1855:GLU:O	3:A:1859:MET:HG3	2.17	0.45
3:A:1960:LYS:HA	3:A:1963:GLU:HG2	1.98	0.45
3:A:989:SER:H	3:A:1110:GLN:CD	2.21	0.45
3:A:1299:LYS:HB3	3:A:1303:ALA:HB2	1.98	0.45
1:B:200:GLN:HG2	1:B:204:LEU:O	2.17	0.45
2:C:208:HIS:O	2:C:230:ARG:NE	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:327:LYS:HA	3:A:327:LYS:HD2	1.76	0.45
3:A:690:LYS:O	3:A:690:LYS:HG2	2.16	0.45
3:A:935:LYS:HE2	3:A:938:SER:O	2.16	0.45
3:A:247:SER:OG	3:A:391:ASP:OD1	2.30	0.45
3:A:293:ASN:O	3:A:297:ASP:N	2.48	0.45
3:A:680:ASN:C	3:A:682:GLY:H	2.19	0.45
3:A:345:ASN:HD22	3:A:352:GLU:HG3	1.82	0.44
3:A:679:ASN:O	3:A:683:LYS:HG2	2.17	0.44
3:A:984:GLN:H	3:A:991:ARG:CB	2.30	0.44
3:A:1007:TYR:HB3	3:A:1010:VAL:HG12	1.99	0.44
2:C:161:ARG:HH12	2:C:182:VAL:HG11	1.81	0.44
3:A:509:ASN:HD22	3:A:513:SER:CB	2.31	0.44
3:A:1455:LYS:HB3	3:A:1543:TYR:OH	2.17	0.44
3:A:710:SER:O	3:A:714:THR:HG22	2.17	0.44
3:A:712:TRP:O	3:A:716:LYS:HB3	2.17	0.44
3:A:997:TYR:N	3:A:1003:GLU:HG3	2.24	0.44
3:A:1033:ASN:OD1	3:A:1958:LYS:HD2	2.17	0.44
3:A:1520:ASP:OD2	3:A:1521:LYS:N	2.50	0.44
3:A:1706:ASP:OD1	3:A:1794:GLN:NE2	2.29	0.44
3:A:1972:GLN:O	3:A:1976:ILE:HG13	2.18	0.44
1:B:116:ALA:HB1	1:B:129:LEU:HB3	1.98	0.44
3:A:64:TYR:CE1	3:A:109:ASN:HB2	2.52	0.44
3:A:691:LYS:O	3:A:692:ASN:C	2.55	0.44
3:A:843:SER:O	3:A:847:GLU:HG2	2.17	0.44
3:A:956:THR:O	3:A:958:TYR:N	2.47	0.44
3:A:975:CYS:SG	3:A:1099:CYS:HA	2.57	0.44
3:A:1109:ASP:OD2	3:A:1113:LYS:NZ	2.47	0.44
3:A:1201:LYS:NZ	3:A:1207:SER:OG	2.50	0.44
3:A:1946:VAL:HA	3:A:1951:ASP:OD1	2.17	0.44
1:B:230:LYS:HA	1:B:230:LYS:HD3	1.72	0.44
2:C:48:ILE:HA	3:A:510:LYS:HD2	1.99	0.44
3:A:201:TYR:N	3:A:202:PRO:HD3	2.32	0.44
3:A:657:ASP:OD2	3:A:761:ARG:NH2	2.43	0.44
3:A:867:ASN:C	3:A:867:ASN:ND2	2.71	0.44
3:A:1000:ASP:HA	3:A:1120:LYS:HD3	2.00	0.44
3:A:1347:VAL:O	3:A:1351:PHE:HB3	2.17	0.44
3:A:589:LEU:HD13	3:A:620:VAL:HG21	1.99	0.44
3:A:1058:ILE:HG21	3:A:1200:LYS:HD3	1.98	0.44
3:A:1100:TYR:C	3:A:1102:LEU:H	2.20	0.44
3:A:1130:ASN:OD1	3:A:1131:LYS:N	2.51	0.44
1:B:25:GLU:N	1:B:25:GLU:OE1	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:34:GLU:HG2	3:A:37:TYR:HE1	1.83	0.44
3:A:150:ASN:N	3:A:238:LYS:HD3	2.33	0.44
3:A:184:LYS:HG3	3:A:207:TYR:CE2	2.53	0.44
3:A:940:SER:H	3:A:943:THR:CG2	2.31	0.44
1:B:170:LEU:HA	1:B:208:SER:HA	2.00	0.44
2:C:54:TRP:CE3	2:C:107:CYS:HB3	2.52	0.44
3:A:30:ALA:HB1	3:A:122:ASN:HA	2.00	0.44
3:A:285:GLU:HA	3:A:288:TYR:HB2	1.98	0.44
3:A:366:TYR:CE1	3:A:368:ASP:HB2	2.52	0.44
3:A:993:MET:HG3	3:A:994:LYS:H	1.83	0.44
3:A:1143:ASN:HB3	3:A:1973:LEU:CD2	2.48	0.44
3:A:7:ILE:HG22	3:A:387:TYR:CZ	2.52	0.44
3:A:561:LYS:HB2	3:A:561:LYS:HE3	1.75	0.44
3:A:1635:GLU:O	3:A:1638:PRO:HD2	2.18	0.44
3:A:1755:THR:HG23	3:A:1758:GLN:H	1.83	0.44
2:C:55:TYR:O	2:C:105:TYR:HA	2.18	0.43
3:A:1277:LEU:O	3:A:1287:ASN:HB3	2.18	0.43
3:A:1476:CYS:HB3	3:A:1484:LYS:HG3	2.00	0.43
1:B:32:ARG:HH21	1:B:142:SER:HA	1.83	0.43
2:C:159:TYR:CG	2:C:160:PRO:HA	2.53	0.43
3:A:561:LYS:CG	3:A:562:LYS:N	2.80	0.43
3:A:659:ILE:O	3:A:708:ARG:NH2	2.45	0.43
3:A:782:ILE:HD13	3:A:960:TYR:CE2	2.53	0.43
3:A:799:CYS:HB2	3:A:802:LYS:CA	2.45	0.43
3:A:945:VAL:O	3:A:945:VAL:HG13	2.18	0.43
3:A:1006:LYS:HZ1	3:A:1011:ASP:HA	1.82	0.43
3:A:1125:GLN:HB3	3:A:1129:ALA:HB3	1.98	0.43
3:A:1939:PRO:O	3:A:1942:LEU:N	2.33	0.43
1:B:175:PHE:CZ	1:B:176:PRO:HB3	2.53	0.43
3:A:25:ASP:N	3:A:25:ASP:OD1	2.50	0.43
3:A:80:TRP:C	3:A:81:LYS:HD2	2.38	0.43
3:A:235:LEU:O	3:A:238:LYS:HG3	2.17	0.43
3:A:251:LYS:HE2	3:A:566:ASN:OD1	2.17	0.43
3:A:288:TYR:OH	3:A:348:LYS:HD3	2.17	0.43
3:A:807:CYS:HB2	3:A:964:CYS:SG	2.59	0.43
3:A:1428:ASN:HB3	3:A:1431:ILE:HD11	2.01	0.43
3:A:1761:TRP:HE1	3:A:1765:GLN:HE21	1.65	0.43
2:C:149:ALA:HB3	2:C:200:LEU:N	2.30	0.43
3:A:97:CYS:HB2	3:A:291:LYS:HD3	1.99	0.43
3:A:181:LYS:HA	3:A:184:LYS:HB2	2.00	0.43
3:A:235:LEU:HA	3:A:258:LYS:CG	2.39	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:629:LYS:HD3	3:A:728:GLU:HG3	2.01	0.43
3:A:1335:ASP:HB2	3:A:1336:PRO:HD2	2.00	0.43
1:B:183:TRP:CH2	1:B:225:CYS:HB3	2.54	0.43
2:C:126:LYS:HA	2:C:159:TYR:OH	2.18	0.43
3:A:231:ARG:HG2	3:A:234:ASP:OD2	2.18	0.43
3:A:1268:ARG:NH1	3:A:1350:SER:HA	2.33	0.43
3:A:1305:HIS:CE1	3:A:1427:ASN:HD22	2.36	0.43
3:A:1355:LYS:HA	3:A:1358:ILE:HD12	2.00	0.43
3:A:1526:TYR:CE1	3:A:1538:LEU:HD22	2.54	0.43
3:A:1823:PRO:CB	3:A:1828:ASP:HB2	2.47	0.43
3:A:167:ARG:HG3	3:A:212:GLU:HA	2.01	0.43
3:A:897:PRO:O	3:A:901:LEU:HB2	2.18	0.43
3:A:1136:LYS:HE2	3:A:1140:SER:N	2.30	0.43
3:A:1227:ILE:HG13	3:A:1299:LYS:HE3	2.00	0.43
3:A:1866:ILE:HD11	3:A:1880:TYR:CE1	2.54	0.43
3:A:38:TYR:HD2	3:A:59:SER:HA	1.84	0.43
3:A:763:LEU:HD13	3:A:838:ILE:HG21	2.01	0.43
3:A:850:LYS:HE3	3:A:890:ILE:HG21	1.99	0.43
3:A:934:ASP:O	3:A:935:LYS:HB2	2.18	0.43
3:A:1422:LYS:HB3	3:A:1422:LYS:HE3	1.81	0.43
1:B:113:TYR:O	1:B:135:GLY:HA2	2.18	0.43
3:A:8:ALA:N	3:A:387:TYR:OH	2.46	0.43
3:A:102:ARG:HA	3:A:105:LEU:HD12	2.01	0.43
3:A:588:TYR:CD2	3:A:620:VAL:HG23	2.54	0.43
3:A:1146:PHE:CD2	3:A:1184:SER:HB3	2.53	0.43
3:A:1164:LYS:HD3	3:A:1972:GLN:CD	2.39	0.43
3:A:1297:LYS:HE2	3:A:1297:LYS:HB3	1.87	0.43
3:A:1297:LYS:HG2	3:A:1301:LYS:HE2	2.01	0.43
2:C:147:GLY:HA2	2:C:202:LYS:NZ	2.34	0.43
3:A:35:VAL:HB	3:A:36:GLU:OE1	2.19	0.43
3:A:624:GLU:HB2	3:A:655:TYR:OH	2.19	0.43
3:A:905:LEU:HD23	3:A:905:LEU:HA	1.85	0.43
3:A:982:MET:SD	3:A:982:MET:N	2.92	0.43
3:A:1209:ASP:HA	3:A:1210:THR:HA	1.80	0.43
3:A:1346:ALA:O	3:A:1351:PHE:N	2.37	0.43
2:C:166:GLN:NE2	2:C:167:TRP:H	2.17	0.42
3:A:338:THR:HG22	3:A:338:THR:O	2.19	0.42
3:A:567:GLU:CD	3:A:567:GLU:H	2.21	0.42
3:A:1047:GLU:OE2	3:A:1194:LYS:HE3	2.19	0.42
3:A:1507:LYS:HG3	3:A:1508:TYR:N	2.33	0.42
3:A:1933:CYS:CB	3:A:1934:GLU:HA	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:48:PHE:CD2	1:B:96:SER:HA	2.54	0.42
2:C:122:ARG:HH22	2:C:161:ARG:HE	1.67	0.42
2:C:199:THR:O	2:C:200:LEU:HD23	2.19	0.42
3:A:69:LYS:HE2	3:A:69:LYS:HB3	1.86	0.42
3:A:604:ASP:OD1	3:A:604:ASP:N	2.52	0.42
3:A:618:LEU:HD13	3:A:722:ALA:HB2	2.00	0.42
3:A:637:ASN:OD1	3:A:638:SER:N	2.52	0.42
3:A:680:ASN:O	3:A:682:GLY:N	2.52	0.42
3:A:862:THR:HG21	3:A:890:ILE:HG13	2.00	0.42
3:A:1164:LYS:HD3	3:A:1972:GLN:NE2	2.34	0.42
3:A:1409:GLU:HA	3:A:1412:MET:H	1.83	0.42
3:A:1584:TYR:CE2	3:A:1769:ARG:HD2	2.54	0.42
3:A:1929:LYS:HA	3:A:1930:GLU:HA	1.62	0.42
1:B:61:GLY:O	1:B:62:LYS:HD2	2.19	0.42
2:C:132:PRO:HB3	2:C:158:PHE:HB3	2.01	0.42
3:A:29:LYS:HA	3:A:218:ASN:ND2	2.34	0.42
3:A:683:LYS:HE3	3:A:683:LYS:HB3	1.68	0.42
3:A:727:ALA:O	3:A:728:GLU:HG3	2.19	0.42
3:A:853:ARG:O	3:A:868:ALA:N	2.52	0.42
3:A:980:GLU:HB2	3:A:981:TYR:CE2	2.54	0.42
3:A:1266:PRO:O	3:A:1270:GLN:HG3	2.19	0.42
3:A:1556:ASN:HB2	3:A:1561:TYR:CD2	2.55	0.42
1:B:120:ARG:HG2	3:A:914:LYS:HB3	2.01	0.42
2:C:174:GLN:HB3	2:C:177:ASN:HD21	1.83	0.42
3:A:101:ARG:HD2	3:A:158:SER:OG	2.19	0.42
3:A:325:LYS:O	3:A:329:TYR:CB	2.48	0.42
3:A:344:GLU:HA	3:A:347:TYR:CD2	2.55	0.42
3:A:802:LYS:O	3:A:804:LYS:N	2.52	0.42
3:A:1216:GLU:HB3	3:A:1218:SER:H	1.83	0.42
3:A:1261:ASN:O	3:A:1525:LYS:HG3	2.19	0.42
3:A:1394:VAL:HA	3:A:1397:SER:HB3	2.01	0.42
1:B:37:LEU:HD23	1:B:138:VAL:HG13	2.00	0.42
3:A:81:LYS:HA	3:A:94:GLU:HA	2.01	0.42
3:A:346:LYS:HD3	3:A:346:LYS:N	2.34	0.42
3:A:376:LYS:HA	3:A:381:TYR:O	2.19	0.42
3:A:593:PRO:O	3:A:676:ASN:ND2	2.52	0.42
3:A:689:ILE:HA	3:A:701:TYR:O	2.20	0.42
3:A:731:ILE:HG23	3:A:732:THR:N	2.33	0.42
3:A:850:LYS:NZ	3:A:890:ILE:HG21	2.34	0.42
3:A:857:THR:OG1	3:A:872:THR:HB	2.19	0.42
3:A:1174:GLU:HG2	3:A:1175:PHE:H	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1464:GLU:HG3	3:A:1511:TYR:OH	2.19	0.42
3:A:104:ARG:HA	3:A:108:TYR:OH	2.20	0.42
3:A:342:ASN:O	3:A:345:ASN:HB2	2.20	0.42
3:A:497:ASP:HB2	3:A:526:GLU:OE2	2.20	0.42
3:A:610:LYS:N	3:A:684:LEU:HD11	2.35	0.42
3:A:1288:ILE:O	3:A:1288:ILE:HG13	2.20	0.42
3:A:1318:GLY:HA2	3:A:1323:SER:OG	2.20	0.42
3:A:1635:GLU:HB2	3:A:1661:VAL:CG2	2.50	0.42
3:A:1225:ASN:HB2	3:A:1295:LEU:HD21	2.01	0.42
3:A:1307:GLU:O	3:A:1307:GLU:HG3	2.19	0.42
3:A:1914:ALA:O	3:A:1953:LYS:HG3	2.20	0.42
3:A:194:ASP:HB2	3:A:197:LEU:HD11	2.02	0.42
3:A:332:CYS:SG	3:A:335:LYS:HB3	2.59	0.42
3:A:344:GLU:OE2	3:A:348:LYS:HE2	2.20	0.42
3:A:380:ASN:OD1	3:A:381:TYR:N	2.52	0.42
3:A:529:LYS:HG3	3:A:530:LYS:N	2.30	0.42
3:A:690:LYS:C	3:A:692:ASN:N	2.73	0.42
3:A:798:GLU:HB2	3:A:966:CYS:SG	2.60	0.42
3:A:853:ARG:O	3:A:869:ALA:N	2.43	0.42
3:A:949:VAL:O	3:A:949:VAL:HG13	2.20	0.42
3:A:1273:CYS:SG	3:A:1306:LYS:NZ	2.69	0.42
3:A:1397:SER:OG	3:A:1398:THR:N	2.53	0.42
3:A:1409:GLU:O	3:A:1413:TRP:HB2	2.20	0.42
3:A:1981:LYS:HE2	3:A:1988:LEU:HD23	2.01	0.42
2:C:155:LEU:HB2	2:C:194:LEU:HB3	2.02	0.42
3:A:7:ILE:HG12	3:A:7:ILE:O	2.19	0.42
3:A:8:ALA:H	3:A:387:TYR:HH	1.67	0.42
3:A:279:TRP:HA	3:A:282:GLU:HB3	2.02	0.42
3:A:1125:GLN:HB3	3:A:1129:ALA:HB2	2.01	0.42
3:A:1125:GLN:CA	3:A:1128:ASP:H	2.27	0.42
3:A:1300:ILE:HD13	3:A:1351:PHE:CE1	2.54	0.42
3:A:1484:LYS:HG2	3:A:1573:ILE:O	2.19	0.42
1:B:50:ASP:HA	1:B:72:TRP:HB2	2.02	0.42
3:A:39:ARG:HG2	3:A:115:PHE:CE2	2.55	0.42
3:A:928:LYS:HG3	3:A:931:LYS:O	2.20	0.42
3:A:1106:LYS:HB3	3:A:1106:LYS:HE3	1.75	0.42
3:A:1129:ALA:HA	3:A:1132:GLY:H	1.85	0.42
3:A:1308:THR:HA	3:A:1311:LEU:H	1.85	0.42
3:A:1315:HIS:HA	3:A:1323:SER:HB3	2.02	0.42
3:A:1833:ASN:CB	3:A:1838:CYS:HB3	2.50	0.42
3:A:1839:LYS:HD3	3:A:1968:HIS:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:274:PRO:HG2	3:A:373:PHE:CE2	2.55	0.41
3:A:1059:ASP:CG	3:A:1096:LYS:HD3	2.40	0.41
3:A:1919:SER:HA	3:A:1920:GLY:HA2	1.49	0.41
3:A:1982:ASP:HA	3:A:1990:ARG:C	2.40	0.41
3:A:365:ARG:NH1	3:A:374:PHE:HB2	2.23	0.41
3:A:688:TYR:O	3:A:700:SER:HB2	2.20	0.41
3:A:932:GLU:OE2	3:A:936:SER:OG	2.29	0.41
3:A:995:ARG:NH1	3:A:997:TYR:OH	2.53	0.41
3:A:1124:LYS:O	3:A:1128:ASP:N	2.53	0.41
3:A:1696:TYR:CD1	3:A:1791:ALA:HB2	2.54	0.41
3:A:1988:LEU:CG	3:A:1989:ASP:H	2.30	0.41
3:A:67:CYS:HA	3:A:108:TYR:HD2	1.85	0.41
3:A:236:LEU:HD22	3:A:260:GLY:H	1.85	0.41
3:A:287:PHE:HA	3:A:291:LYS:HZ3	1.85	0.41
3:A:342:ASN:HA	3:A:345:ASN:ND2	2.36	0.41
3:A:986:SER:HA	3:A:993:MET:HB3	2.02	0.41
3:A:1311:LEU:O	3:A:1316:ASP:N	2.53	0.41
3:A:1365:ILE:O	3:A:1365:ILE:HG23	2.20	0.41
1:B:179:VAL:HG12	1:B:229:HIS:HA	2.03	0.41
3:A:975:CYS:SG	3:A:1102:LEU:HD23	2.60	0.41
3:A:1617:ARG:HD3	3:A:1617:ARG:HA	1.72	0.41
3:A:1922:VAL:HG23	3:A:1922:VAL:O	2.20	0.41
3:A:339:GLU:HA	3:A:343:GLN:CB	2.50	0.41
3:A:1469:GLU:O	3:A:1473:ARG:HG2	2.20	0.41
3:A:1741:TRP:O	3:A:1746:THR:OG1	2.35	0.41
3:A:65:ASP:O	3:A:109:ASN:HB3	2.21	0.41
3:A:1041:GLU:OE1	3:A:1853:ARG:NH2	2.52	0.41
3:A:1097:CYS:HA	3:A:1101:LYS:HE3	2.03	0.41
3:A:1201:LYS:HD3	3:A:1201:LYS:HA	1.76	0.41
3:A:1626:PRO:HA	3:A:1629:GLN:HG2	2.02	0.41
3:A:7:ILE:HG13	3:A:376:LYS:HB2	2.02	0.41
3:A:97:CYS:HB2	3:A:291:LYS:CE	2.51	0.41
3:A:344:GLU:HA	3:A:347:TYR:CB	2.45	0.41
3:A:365:ARG:HH21	3:A:370:VAL:HG22	1.85	0.41
3:A:380:ASN:CG	3:A:381:TYR:H	2.23	0.41
3:A:687:LYS:HD2	3:A:688:TYR:CD2	2.55	0.41
3:A:1092:ASN:C	3:A:1094:LYS:H	2.23	0.41
3:A:1420:ILE:HA	3:A:1423:ILE:HD12	2.02	0.41
3:A:1572:SER:O	3:A:1642:LYS:HD2	2.20	0.41
3:A:1698:LEU:HD12	3:A:1698:LEU:HA	1.84	0.41
3:A:1978:ASN:HA	3:A:1981:LYS:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:174:TYR:OH	1:B:207:LEU:HD23	2.21	0.41
1:B:185:SER:H	1:B:226:ASN:ND2	2.19	0.41
3:A:284:ILE:O	3:A:287:PHE:HB3	2.21	0.41
3:A:1136:LYS:CE	3:A:1140:SER:H	2.31	0.41
3:A:1227:ILE:HD13	3:A:1276:GLU:OE2	2.20	0.41
3:A:1236:ASP:O	3:A:1243:LYS:NZ	2.31	0.41
3:A:1276:GLU:O	3:A:1287:ASN:ND2	2.53	0.41
3:A:1317:THR:HA	3:A:1330:GLN:NE2	2.35	0.41
1:B:175:PHE:CE2	1:B:176:PRO:HB3	2.56	0.41
2:C:108:GLN:HG3	2:C:117:PHE:CZ	2.55	0.41
2:C:169:VAL:HG13	2:C:211:TYR:HE1	1.86	0.41
3:A:25:ASP:O	3:A:29:LYS:HG3	2.21	0.41
3:A:109:ASN:OD1	3:A:110:LEU:N	2.52	0.41
3:A:111:GLU:HG2	3:A:179:LEU:HD22	2.03	0.41
3:A:236:LEU:CB	3:A:260:GLY:H	2.34	0.41
3:A:412:ASN:HB3	3:A:413:PRO:HD2	2.02	0.41
3:A:533:LYS:HB3	3:A:534:VAL:H	1.65	0.41
3:A:559:ILE:C	3:A:561:LYS:N	2.74	0.41
3:A:696:GLU:C	3:A:699:THR:HB	2.41	0.41
3:A:698:ASP:N	3:A:699:THR:CB	2.81	0.41
3:A:720:TRP:NE1	3:A:724:LYS:HE2	2.35	0.41
3:A:925:THR:N	3:A:946:VAL:N	2.66	0.41
3:A:1019:SER:OG	3:A:1026:GLY:HA2	2.21	0.41
3:A:1049:TYR:O	3:A:1053:ALA:HA	2.19	0.41
3:A:1058:ILE:HA	3:A:1059:ASP:HA	1.67	0.41
3:A:1174:GLU:O	3:A:1177:ILE:HG13	2.21	0.41
3:A:1221:LEU:HB3	3:A:1224:THR:HA	2.02	0.41
3:A:1379:ILE:O	3:A:1382:LYS:HG2	2.21	0.41
1:B:46:PHE:CE1	1:B:117:ARG:NE	2.88	0.41
2:C:55:TYR:CE1	2:C:108:GLN:HB3	2.56	0.41
2:C:201:SER:O	2:C:205:TYR:HB2	2.21	0.41
3:A:1029:VAL:HG21	3:A:1959:MET:CE	2.50	0.41
3:A:1355:LYS:O	3:A:1358:ILE:HB	2.21	0.41
3:A:1588:GLU:HG2	3:A:1770:TYR:OH	2.21	0.41
3:A:1933:CYS:HB2	3:A:1935:GLU:HA	2.03	0.41
2:C:34:ILE:HD12	2:C:34:ILE:H	1.85	0.40
3:A:34:GLU:OE1	3:A:34:GLU:N	2.55	0.40
3:A:334:LYS:HA	3:A:338:THR:OG1	2.21	0.40
3:A:562:LYS:O	3:A:563:SER:C	2.60	0.40
3:A:935:LYS:HG2	3:A:938:SER:C	2.42	0.40
3:A:1247:LYS:HD2	3:A:1271:ASN:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:70:ILE:HG13	1:B:77:LYS:HG2	2.03	0.40
3:A:156:GLU:OE1	3:A:270:LEU:HD22	2.21	0.40
3:A:529:LYS:HE3	3:A:718:TYR:CZ	2.56	0.40
3:A:1322:ILE:H	3:A:1322:ILE:HD12	1.86	0.40
3:A:1663:GLU:HB2	3:A:1763:ALA:HB1	2.04	0.40
3:A:1884:MET:O	3:A:1884:MET:HG2	2.20	0.40
3:A:1912:ILE:HG12	3:A:1913:GLY:N	2.37	0.40
3:A:344:GLU:C	3:A:347:TYR:H	2.25	0.40
3:A:853:ARG:HH2	3:A:866:THR:HG22	1.86	0.40
3:A:1294:GLU:O	3:A:1297:LYS:HB3	2.22	0.40
3:A:1313:GLU:HA	3:A:1317:THR:HG23	2.03	0.40
3:A:1612:LYS:HB2	3:A:1612:LYS:HE2	1.68	0.40
3:A:1943:MET:HA	3:A:1946:VAL:HG12	2.03	0.40
1:B:102:MET:HE3	1:B:105:LEU:HD21	2.04	0.40
3:A:277:LEU:HD13	3:A:373:PHE:CE1	2.56	0.40
3:A:560:TRP:HH2	3:A:838:ILE:HG13	1.87	0.40
3:A:584:THR:O	3:A:587:LEU:HG	2.22	0.40
3:A:731:ILE:HG23	3:A:732:THR:H	1.85	0.40
3:A:1045:GLN:NE2	3:A:1049:TYR:CD2	2.90	0.40
3:A:1109:ASP:O	3:A:1113:LYS:HG2	2.22	0.40
3:A:1424:ASN:O	3:A:1431:ILE:HG12	2.21	0.40
3:A:1596:CYS:HB2	3:A:1668:TYR:CD2	2.56	0.40
3:A:1697:ASP:O	3:A:1701:ILE:HG13	2.22	0.40
3:A:496:GLN:HB3	3:A:497:ASP:H	1.74	0.40
3:A:925:THR:O	3:A:946:VAL:CG1	2.70	0.40
3:A:1296:LEU:O	3:A:1300:ILE:HG13	2.22	0.40
3:A:1688:CYS:O	3:A:1692:ARG:HG2	2.22	0.40
3:A:1966:LEU:HD13	3:A:1966:LEU:HA	1.79	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	B	219/472 (46%)	205 (94%)	14 (6%)	0	100	100
2	C	210/233 (90%)	189 (90%)	21 (10%)	0	100	100
3	A	1843/2040 (90%)	1512 (82%)	305 (16%)	26 (1%)	11	43
All	All	2272/2745 (83%)	1906 (84%)	340 (15%)	26 (1%)	18	50

All (26) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	563	SER
3	A	566	ASN
3	A	683	LYS
3	A	690	LYS
3	A	699	THR
3	A	966	CYS
3	A	967	LYS
3	A	533	LYS
3	A	561	LYS
3	A	564	SER
3	A	695	ALA
3	A	512	GLY
3	A	525	ASP
3	A	556	LYS
3	A	571	GLN
3	A	687	LYS
3	A	688	TYR
3	A	691	LYS
3	A	702	SER
3	A	93	PRO
3	A	350	LEU
3	A	514	SER
3	A	965	GLN
3	A	906	ASP
3	A	237	ILE
3	A	682	GLY

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	B	181/411 (44%)	180 (99%)	1 (1%)	86	95
2	C	184/201 (92%)	182 (99%)	2 (1%)	73	90
3	A	1674/1839 (91%)	1644 (98%)	30 (2%)	59	85
All	All	2039/2451 (83%)	2006 (98%)	33 (2%)	64	86

All (33) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	22	ARG
2	C	109	LYS
2	C	143	GLN
3	A	29	LYS
3	A	138	LYS
3	A	198	GLN
3	A	514	SER
3	A	530	LYS
3	A	555	LYS
3	A	556	LYS
3	A	557	LYS
3	A	559	ILE
3	A	561	LYS
3	A	562	LYS
3	A	568	GLU
3	A	683	LYS
3	A	687	LYS
3	A	689	ILE
3	A	690	LYS
3	A	691	LYS
3	A	693	ASN
3	A	694	THR
3	A	696	GLU
3	A	699	THR
3	A	700	SER
3	A	858	LYS
3	A	867	ASN
3	A	890	ILE
3	A	1156	LYS
3	A	1490	LYS
3	A	1503	ARG
3	A	1628	ARG

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Mol	Chain	Res	Type
3	A	1980	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	198	GLN
3	A	353	GLN
3	A	509	ASN
3	A	1114	GLN
3	A	1305	HIS
3	A	1315	HIS
3	A	1348	GLN
3	A	1400	ASN
3	A	1427	ASN
3	A	1957	HIS
3	A	1972	GLN

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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-14438. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal surface views

This section was not generated.

6.5 Mask visualisation

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

7 Map analysis

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

7.1 Map-value distribution

This section was not generated.

7.2 Volume estimate versus contour level

This section was not generated.

7.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation

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

9 Map-model fit

This section was not generated.