



Full wwPDB X-ray Structure Validation Report ⓘ

Dec 12, 2023 – 11:22 am GMT

PDB ID : 3ZEF
Title : Crystal structure of Prp8:Aar2 complex: second crystal form at 3.1 Angstrom resolution
Authors : Galej, W.P.; Oubridge, C.; Newman, A.J.; Nagai, K.
Deposited on : 2012-12-05
Resolution : 3.10 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.36
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

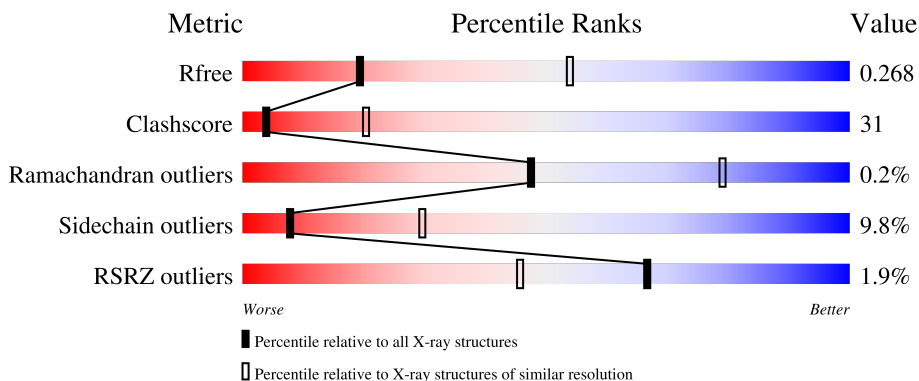
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 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	1094 (3.10-3.10)
Clashscore	141614	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)
RSRZ outliers	127900	1067 (3.10-3.10)

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

Mol	Chain	Length	Quality of chain
1	A	355	 2% 75% 15% 8%
1	D	355	 67% 18% 11%
2	B	1531	 2% 52% 33% 6% 9%
2	E	1531	 2% 58% 29% 5% 7%

2 Entry composition i

There are 2 unique types of molecules in this entry. The entry contains 28285 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 A1 CISTRON-SPLICING FACTOR AAR2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	327	2684	1722	438	508	16	0	0	0
1	D	317	2618	1682	426	493	17	0	0	0

- Molecule 2 is a protein called PRE-MRNA-SPLICING FACTOR 8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	1398	11401	7329	1926	2109	37	0	0	0
2	E	1420	11582	7445	1958	2142	37	0	0	0

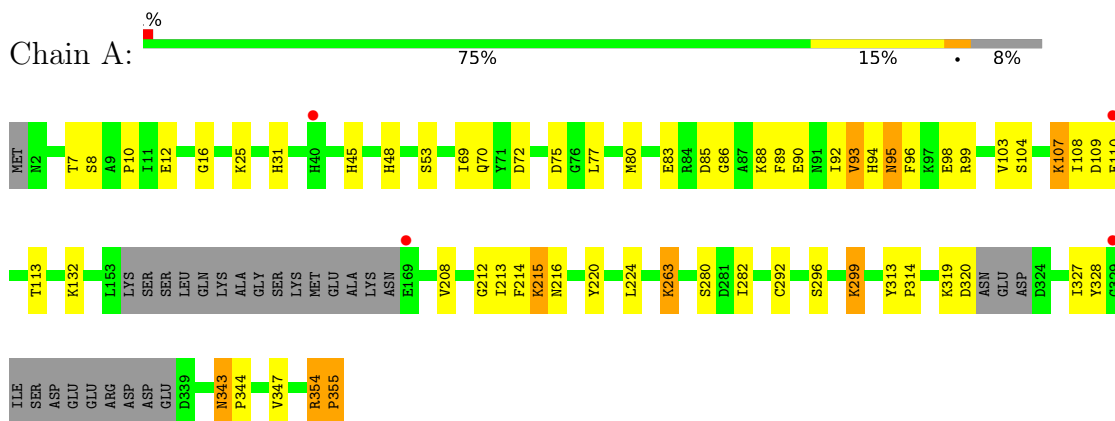
There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	883	SER	-	expression tag	UNP P33334
B	884	GLY	-	expression tag	UNP P33334
B	1961	ASN	LEU	engineered mutation	UNP P33334
B	1999	LEU	ILE	engineered mutation	UNP P33334
E	883	SER	-	expression tag	UNP P33334
E	884	GLY	-	expression tag	UNP P33334
E	1961	ASN	LEU	engineered mutation	UNP P33334
E	1999	LEU	ILE	engineered mutation	UNP P33334

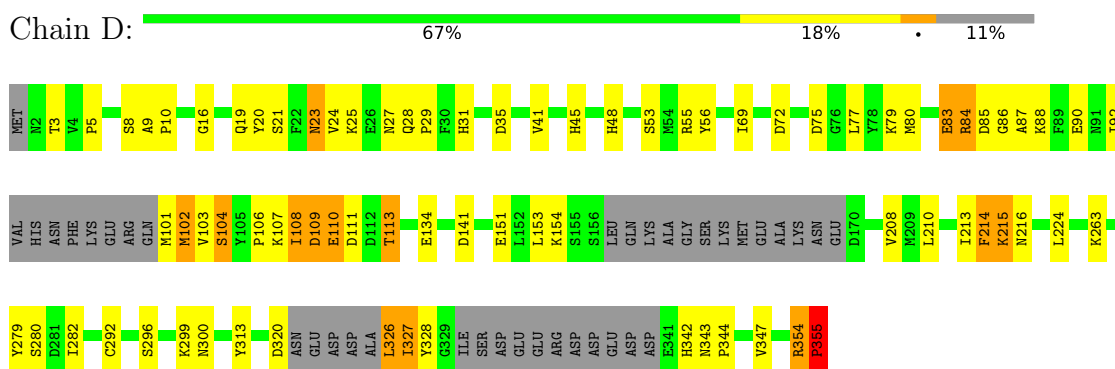
3 Residue-property plots

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

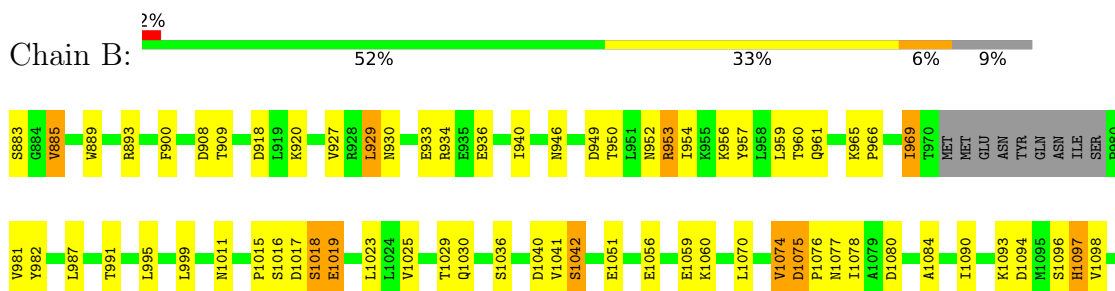
- Molecule 1: A1 CISTRON-SPLICING FACTOR AAR2



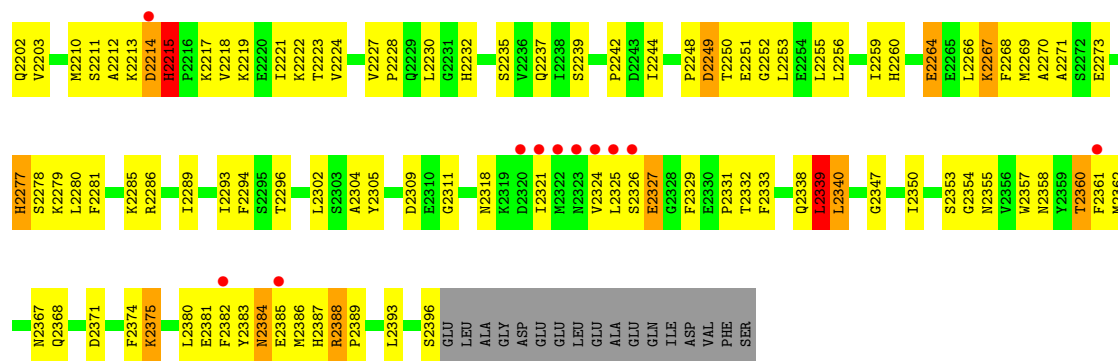
- Molecule 1: A1 CISTRON-SPLICING FACTOR AAR2



- Molecule 2: PRE-MRNA-SPLICING FACTOR 8



M2322	L2360	L2196	N2068	T2003	V1917	E1842	D1747	L1624	R1506	I1340	R1212	I1104
M2323	T2261	S2197	V2069	K2004	V1921	L1843	R1750	V1625	R1509	F1343	M1213	R1106
V2324	Q2262	D2198	N2070	S2006	K1926	F1844	R1750	F1633	I1510	E1348	Q1218	L1107
L2325	E2264	V2199	K2007	L2008	E1928	M1846	Y1759	P1639	R1511	E1354	W1228	F1109
F2329	E2265	K2201	L2009	T2009	E1928	I1848	D1762	T1640	R1512	P1355	W1228	A1110
E2330	L2266	Q2202	L2010	L2011	E1928	K1849	D1762	I1661	K1515	Q1368	R1233	S1111
P2331	K2267	V2203	L2011	L2011	Q1929	L1850	M1785	I1661	R1521	Q1368	R1233	L1121
F2332	F2268	F2206	T2079	L2016	Q1929	F1851	V1764	C1666	R1521	S1377	S1237	L1124
S2333	M2269	F2207	K2080	K2016	K1931	V1852	P1768	C1666	R1521	S1377	S1237	L1125
F2334	A2270	T2206	L2081	T2017	Q1932	D1853	P1768	L1673	Y1542	F1383	L1238	L1125
T2335	E2273	G2208	L2082	N2018	L1941	D1854	T1771	L1673	Y1542	F1383	L1238	L1125
H2336	V2274	E2019	L2084	E2019	L1941	T1855	G1772	D1674	Y1542	F1383	L1238	L1125
A2337	A2275	E2020	G2085	E2020	L1944	M1956	G1772	D1674	Y1542	F1383	L1238	L1125
Q2338	A2275	Q2086	Q2086	K2023	L1944	Q1677	G1772	Q1677	Y1546	V1387	Y1251	P1137
L2339	H2277	Q2086	Q2086	K2023	E1945	L1678	Y1784	L1678	E1558	V1387	S1252	P1137
L2340	H2277	Q2086	Q2086	K2023	E1945	L1678	Y1784	L1678	E1558	V1387	S1252	P1137
L2341	S2278	L2088	L2088	M2024	M1948	D1853	D1785	E1679	E1558	V1387	K1253	N1138
S2342	K2279	L2088	L2088	M2024	M1948	D1853	D1785	E1679	E1558	V1387	K1253	N1138
D2343	L2280	L2088	L2088	M2024	M1948	D1853	D1785	E1679	E1558	V1387	K1253	N1138
R2344	F2281	L2088	L2088	M2024	M1948	D1853	D1785	E1679	E1558	V1387	K1253	N1138
R2345	A2282	E2220	VAL	S2028	R1957	F1866	F1791	E1684	M1568	I1405	G1264	S1149
T2346	D2283	E2220	VAL	S2028	R1957	F1866	F1791	E1684	M1568	I1405	G1264	S1149
G2347	K2284	K2222	ARG	P2030	P1959	H1687	P1796	H1687	M1570	L1406	R1268	E1451
N2348	K2285	T2223	ARG	P2030	P1959	H1687	P1796	H1687	M1570	L1406	R1268	E1451
F2349	R2286	V2224	GLN	T2031	N1961	L1797	L1797	R1688	E1571	T1430	Q1273	V1152
L2350	D2287	V2224	GLN	T2031	N1961	L1797	L1797	R1688	E1571	T1430	Q1273	V1152
I2351	V2227	V2227	LYS	T2033	L1963	I1875	M1800	R1689	F1574	H1431	L1274	K1154
P2352	C2288	A2158	MET	L2034	M1969	M1876	S1801	S1691	M1575	D1433	M1275	A1155
S2353	L2289	P2228	ALA	K2035	M1969	M1876	M1802	S1691	M1575	D1433	M1275	A1155
G2354	D2290	Q2229	LYS	T2035	M1969	M1876	M1802	S1691	M1575	D1433	M1275	A1155
N2355	L2291	L2230	LEU	Y2037	D1972	F1880	T1804	K1693	GLY	E1434	L1276	P1457
V2356	L2292	G2231	GLU	H2038	D1972	F1880	T1804	K1693	GLY	E1434	L1276	P1457
F2357	L2293	H2232	ALA	L2039	L1974	T1881	I1805	M1703	SER	I1437	VAL	I1158
N2358	F2294	V2233	ALA	L2039	L1974	T1881	I1805	M1703	SER	I1437	VAL	I1158
N2358	S2295	G2234	ALA	M2040	L1974	T1881	I1805	M1703	SER	I1437	VAL	I1158
T2296	S2295	G2234	ALA	M2040	L1974	T1881	I1805	M1703	SER	I1437	VAL	I1158
P2297	S2235	S2235	SER	S2042	V1977	T1886	E1708	H1709	THR	E1467	L1288	R1167
F2361	Q2237	Q2237	LYS	T2044	M1979	G1887	E1817	H1709	THR	E1467	L1288	R1167
M2362	I2238	I2237	GLN	D2044	K1980	H1888	E1710	E1710	GLN	E1467	L1288	R1167
N2367	S2301	S2239	ASN	E2046	E1983	L1889	K1821	K1713	PHE	T1463	M1281	T1162
Q2368	L2302	N2240	ASP	Q2047	E1983	F1890	G1822	K1713	PHE	T1463	M1281	T1162
E2369	S2303	L2241	ASP	Q2047	E1983	F1890	G1822	K1713	PHE	T1463	M1281	T1162
G2370	A2304	P2243	GLU	M2048	P1984	L1891	L1823	L1717	LYS	K1464	R1292	Y1169
N2373	Y2305	D2243	GLU	L2049	Q1985	K1892	Q1824	H1718	LEU	Q1466	R1296	D1177
F2374	N2306	I2244	ALA	L2050	M1986	L1893	L1825	L1718	THR	E1467	R1296	D1177
K2375	L2307	G2245	ALA	L2051	V1987	L1894	L1825	L1718	THR	E1467	R1296	D1177
Y2376	D2309	D2246	ALA	E2052	L1988	H1895	T1720	E1719	HIS	Q1471	L1302	E1180
E2310	D2309	D2246	ALA	E2052	L1988	H1895	T1720	E1719	HIS	Q1471	L1302	E1180
G2311	P2248	P2248	THR	Q2054	F1989	T1896	M1721	M1721	ALA	Q1471	L1302	E1180
G2311	P2248	P2248	THR	Q2054	F1989	T1896	M1721	M1721	ALA	Q1471	L1302	E1180
Y2312	L2312	G2245	VAL	M2055	I1991	V1998	VAL	L1727	T1596	R1474	E1308	D1154
Q2313	Q2313	E2251	MET	D2057	D1993	ALA	GLU	L1727	T1596	R1474	E1308	D1154
W2314	W2314	G2252	LYS	L2058	D1994	GLY	PHO	L1728	L1598	A1476	L1187	Y1186
G2315	G2315	L2189	LYS	L2059	W1995	GLN	PHE	T1729	L1598	A1476	L1187	Y1186
E2316	E2316	L2189	LYS	L2059	W1995	GLN	PHE	T1729	L1598	A1476	L1187	Y1186
E2317	E2317	L2189	LYS	L2059	W1995	GLN	PHE	T1729	L1598	A1476	L1187	Y1186
E2317	E2317	L2189	LYS	L2059	W1995	GLN	PHE	T1729	L1598	A1476	L1187	Y1186
M2318	M2318	L2256	ILE	T2061	D1987	L1905	SER	M1732	R1604	R1486	M1321	P1191
K2319	K2319	L2256	ASN	E2062	L1999	L1905	SER	M1732	R1604	R1486	M1321	P1191
D2320	D2320	G2257	ALA	G2064	S2000	Q1907	SER	R1733	R1605	R1486	M1321	P1191
L2321	L2321	E2195	GLY	Y2067	S2001	L1908	ASN	R1739	P1611	F1495	G1324	F1195
L2321	L2321	E2195	GLY	Y2067	S2001	L1908	ASN	R1739	P1611	F1495	G1324	F1195



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	125.42Å 177.84Å 216.60Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	137.45 – 3.10 92.50 – 3.00	Depositor EDS
% Data completeness (in resolution range)	99.8 (137.45-3.10) 99.8 (92.50-3.00)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.69 (at 3.01Å)	Xtrriage
Refinement program	REFMAC 5.8.0016	Depositor
R, R_{free}	0.220 , 0.267 0.221 , 0.268	Depositor DCC
R_{free} test set	4874 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å ²)	79.1	Xtrriage
Anisotropy	0.449	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.28 , 67.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.29$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	28285	wwPDB-VP
Average B, all atoms (Å ²)	96.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 20.50 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 8.5812e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

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	0.55	0/2754	0.72	2/3725 (0.1%)
1	D	0.56	0/2685	0.75	4/3626 (0.1%)
2	B	0.59	1/11671 (0.0%)	0.79	5/15827 (0.0%)
2	E	0.58	3/11856 (0.0%)	0.77	8/16074 (0.0%)
All	All	0.58	4/28966 (0.0%)	0.77	19/39252 (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
1	A	0	2
1	D	0	1
2	B	0	6
2	E	0	5
All	All	0	14

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	1708	GLU	CD-OE1	8.75	1.35	1.25
2	E	1571	GLU	CD-OE1	7.11	1.33	1.25
2	B	1164	TYR	CE2-CZ	-6.19	1.30	1.38
2	E	1708	GLU	CD-OE2	6.10	1.32	1.25

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	2339	LEU	CA-CB-CG	7.05	131.52	115.30
2	E	1105	ARG	NE-CZ-NH1	6.47	123.54	120.30
1	D	355	PRO	CA-N-CD	-6.36	102.59	111.50
1	A	354	ARG	C-N-CD	6.34	141.71	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	1465	ARG	NE-CZ-NH1	6.09	123.35	120.30
2	E	1963	LEU	CA-CB-CG	-6.00	101.50	115.30
1	D	354	ARG	C-N-CD	5.73	140.43	128.40
2	E	1165	LEU	CA-CB-CG	5.71	128.43	115.30
2	E	1604	ARG	NE-CZ-NH1	5.60	123.10	120.30
2	B	1988	LEU	CA-CB-CG	5.45	127.83	115.30
1	A	355	PRO	CA-N-CD	-5.42	103.91	111.50
2	E	1105	ARG	NE-CZ-NH2	-5.39	117.60	120.30
2	B	1105	ARG	NE-CZ-NH1	5.38	122.99	120.30
2	B	1075	ASP	C-N-CD	5.32	139.56	128.40
2	B	1465	ARG	NE-CZ-NH1	5.28	122.94	120.30
2	B	927	VAL	CB-CA-C	-5.25	101.43	111.40
1	D	41	VAL	N-CA-C	-5.23	96.88	111.00
2	E	2182	VAL	CB-CA-C	-5.23	101.47	111.40
1	D	214	PHE	N-CA-C	-5.16	97.06	111.00

There are no chirality outliers.

All (14) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	107	LYS	Peptide
1	A	93	VAL	Peptide
2	B	1164	TYR	Peptide
2	B	1433	ASP	Peptide
2	B	1704	GLU	Peptide
2	B	2152	TRP	Peptide
2	B	2153	ARG	Peptide
2	B	2250	THR	Peptide
1	D	110	GLU	Peptide
2	E	1092	PHE	Peptide
2	E	1572	GLY	Peptide
2	E	1706	VAL	Peptide
2	E	2083	ILE	Peptide
2	E	2215	HIS	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2684	0	2530	54	0
1	D	2618	0	2494	81	0
2	B	11401	0	11345	879	1
2	E	11582	0	11528	721	1
All	All	28285	0	27897	1719	1

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 31.

All (1719) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2043:PHE:CE2	2:B:2051:ILE:HD11	1.31	1.63
2:B:2259:ILE:HD13	2:B:2291:ILE:CB	1.30	1.60
2:B:2183:TYR:CE1	2:B:2219:LYS:HD3	1.45	1.49
2:B:2183:TYR:HE1	2:B:2219:LYS:CD	1.26	1.47
2:B:2236:VAL:HG22	2:B:2238:ILE:CD1	1.44	1.47
2:E:2210:MET:HE1	2:E:2253:LEU:N	1.11	1.43
2:E:2210:MET:HE1	2:E:2252:GLY:C	1.06	1.41
2:B:2259:ILE:CD1	2:B:2291:ILE:HB	1.48	1.40
2:E:2034:ILE:HD12	2:E:2041:PRO:N	1.12	1.40
2:E:2210:MET:CE	2:E:2252:GLY:C	1.89	1.39
2:E:2034:ILE:CD1	2:E:2041:PRO:CA	1.99	1.39
2:E:2080:LYS:HD2	2:E:2083:ILE:CG1	1.49	1.38
2:B:2308:THR:HG23	2:B:2333:PHE:O	1.23	1.36
2:E:2304:ALA:HB2	2:E:2339:LEU:CD2	1.55	1.35
2:E:2011:LEU:HD13	2:E:2040:TRP:CZ3	1.59	1.34
2:E:1995:TRP:CZ3	2:E:2007:ARG:HG2	1.63	1.33
2:B:2044:THR:HG23	2:B:2047:GLN:NE2	1.40	1.33
2:E:2041:PRO:HB2	2:E:2043:PHE:CE1	1.61	1.32
2:B:2182:VAL:HG12	2:B:2338:GLN:CB	1.59	1.32
2:E:1998:ARG:CZ	2:E:2045:ASP:OD2	1.75	1.31
2:B:1125:LEU:O	2:B:1233:ARG:NH1	1.62	1.31
2:E:2018:ASN:ND2	2:E:2058:LEU:HD11	1.41	1.30
2:B:2210:MET:CE	2:B:2253:LEU:HA	1.61	1.29
2:B:2259:ILE:CD1	2:B:2291:ILE:CB	2.04	1.28
2:E:2046:GLU:O	2:E:2049:ILE:HG22	1.24	1.28
2:E:2210:MET:SD	2:E:2252:GLY:O	1.92	1.27
2:E:1392:LYS:NZ	2:E:1599:SER:O	1.67	1.27
2:E:2178:GLU:O	2:E:2217:LYS:NZ	1.68	1.26
2:B:900:PHE:HB2	2:B:1075:ASP:OD2	1.09	1.26
2:E:1472:ASN:O	2:E:2325:LEU:HB2	1.11	1.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1865:THR:HB	2:E:1867:GLU:OE1	1.20	1.25
2:E:2034:ILE:CD1	2:E:2041:PRO:N	1.98	1.25
2:B:2259:ILE:CD1	2:B:2291:ILE:CG2	2.15	1.24
2:E:2011:LEU:CD1	2:E:2040:TRP:CZ3	2.20	1.24
2:E:2043:PHE:CD2	2:E:2051:ILE:HG13	1.71	1.23
2:B:2043:PHE:CE2	2:B:2051:ILE:CD1	2.20	1.23
2:E:2034:ILE:HD11	2:E:2041:PRO:CG	1.68	1.23
2:E:2047:GLN:O	2:E:2050:THR:N	1.70	1.23
2:E:2080:LYS:CD	2:E:2083:ILE:CD1	2.17	1.23
2:B:2259:ILE:HD13	2:B:2291:ILE:CG2	1.68	1.22
2:B:2259:ILE:HD12	2:B:2291:ILE:O	1.39	1.22
2:B:2281:PHE:O	2:B:2286:ARG:HA	1.39	1.22
2:B:2236:VAL:CG2	2:B:2238:ILE:CD1	2.16	1.22
2:B:1604:ARG:NH2	2:B:1822:GLY:O	1.72	1.22
2:E:2018:ASN:HD21	2:E:2058:LEU:CD1	1.51	1.22
2:B:900:PHE:CB	2:B:1075:ASP:OD2	1.87	1.21
2:E:2210:MET:CE	2:E:2253:LEU:N	1.99	1.21
2:B:1993:ASP:OD2	2:B:2038:HIS:HB3	1.39	1.21
2:E:2080:LYS:CD	2:E:2083:ILE:HD11	1.69	1.21
2:E:2043:PHE:CE2	2:E:2051:ILE:HG13	1.74	1.20
2:E:2046:GLU:O	2:E:2049:ILE:CG2	1.90	1.20
2:E:2034:ILE:HD11	2:E:2041:PRO:HG3	1.19	1.19
2:E:2034:ILE:HG23	2:E:2040:TRP:O	1.04	1.18
2:B:1729:THR:HG21	2:B:1771:THR:CG2	1.74	1.18
1:D:86:GLY:O	1:D:90:GLU:HB2	1.43	1.18
2:B:2182:VAL:CG1	2:B:2338:GLN:HB3	1.74	1.18
2:E:2024:MET:CE	2:E:2157:ILE:CG2	2.21	1.18
1:D:19:GLN:NE2	1:D:110:GLU:HG2	1.58	1.17
2:B:2358:ASN:HB3	2:B:2387:HIS:ND1	1.57	1.17
2:B:1993:ASP:CG	2:B:2038:HIS:HB3	1.64	1.16
2:E:2034:ILE:HD12	2:E:2040:TRP:C	1.64	1.16
2:E:2034:ILE:HG23	2:E:2040:TRP:C	1.62	1.16
2:B:2259:ILE:HD11	2:B:2291:ILE:HG22	1.25	1.16
2:B:2281:PHE:O	2:B:2286:ARG:CA	1.93	1.16
2:B:2339:LEU:HD12	2:B:2340:LEU:N	1.57	1.16
2:B:1729:THR:CG2	2:B:1771:THR:HG21	1.75	1.15
2:B:2357:TRP:HH2	2:B:2382:PHE:CE1	1.63	1.15
2:B:2358:ASN:HB3	2:B:2387:HIS:CE1	1.82	1.14
2:B:2052:GLU:O	2:B:2056:ARG:HG3	1.48	1.14
2:E:2034:ILE:HD12	2:E:2041:PRO:CA	1.67	1.14
2:B:2034:ILE:CG1	2:B:2041:PRO:HA	1.75	1.14

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2037:TYR:CD1	2:E:2038:HIS:CD2	2.36	1.13
2:B:2224:VAL:CG1	2:B:2349:PHE:CZ	2.32	1.13
2:B:2210:MET:HG3	2:B:2222:LYS:HD2	1.15	1.13
2:E:1731:LYS:CE	2:E:1768:PRO:HB2	1.77	1.12
2:B:1729:THR:HG21	2:B:1771:THR:HG21	1.19	1.12
2:E:1472:ASN:O	2:E:2325:LEU:CB	1.96	1.12
2:E:2034:ILE:HD13	2:E:2041:PRO:HA	1.13	1.12
2:E:1998:ARG:NE	2:E:2045:ASP:OD2	1.84	1.11
2:E:2018:ASN:HD22	2:E:2058:LEU:HD21	1.10	1.11
2:B:2182:VAL:HG13	2:B:2338:GLN:OE1	1.49	1.10
2:E:2034:ILE:CG2	2:E:2040:TRP:O	1.98	1.10
2:E:1763:ASN:C	2:E:1766:MET:CE	2.20	1.10
2:B:2208:TYR:HB3	2:B:2253:LEU:CD2	1.82	1.10
2:E:1865:THR:CB	2:E:1867:GLU:OE1	1.98	1.10
2:B:2236:VAL:HG22	2:B:2238:ILE:HD13	1.26	1.09
2:E:2080:LYS:HD3	2:E:2083:ILE:HD11	1.10	1.09
2:B:2191:LYS:O	2:B:2195:GLU:HG3	1.51	1.09
2:E:1998:ARG:NH1	2:E:2045:ASP:OD2	1.86	1.08
2:E:2048:TRP:O	2:E:2052:GLU:HB3	1.51	1.08
2:E:2385:GLU:O	2:E:2388:ARG:HB2	1.53	1.08
2:B:2224:VAL:O	2:B:2349:PHE:CD1	2.06	1.08
2:B:2358:ASN:N	2:B:2387:HIS:HE1	1.51	1.08
2:E:2037:TYR:HD1	2:E:2038:HIS:CD2	1.71	1.08
2:B:2339:LEU:O	2:B:2340:LEU:HD12	1.51	1.08
2:B:2357:TRP:CH2	2:B:2382:PHE:CE1	2.42	1.08
2:E:1763:ASN:C	2:E:1766:MET:HE2	1.73	1.07
2:B:2314:TRP:O	2:B:2318:ASN:ND2	1.87	1.07
2:E:2080:LYS:CD	2:E:2083:ILE:CG1	2.33	1.06
2:B:2183:TYR:CE1	2:B:2219:LYS:CD	2.15	1.06
2:B:2208:TYR:HB3	2:B:2253:LEU:HD21	1.34	1.06
2:E:2080:LYS:CD	2:E:2083:ILE:HG13	1.84	1.06
2:B:2159:ASN:OD1	2:B:2199:VAL:HG13	1.56	1.06
2:E:2018:ASN:ND2	2:E:2058:LEU:CD1	2.11	1.05
2:B:2150:ASN:HA	2:B:2152:TRP:CZ3	1.90	1.05
2:B:2210:MET:CE	2:B:2253:LEU:CA	2.34	1.05
2:E:1604:ARG:NH2	2:E:1822:GLY:O	1.90	1.05
2:B:2157:ILE:O	2:B:2160:THR:OG1	1.75	1.05
2:E:1291:GLU:O	2:E:1294:LYS:HE3	1.55	1.05
2:E:2064:GLY:O	2:E:2067:TYR:N	1.89	1.05
2:B:2043:PHE:CZ	2:B:2051:ILE:HD11	1.92	1.04
2:B:2307:LEU:HD12	2:B:2308:THR:N	1.72	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2039:LEU:HB2	2:E:2040:TRP:NE1	1.71	1.04
2:B:2281:PHE:O	2:B:2286:ARG:N	1.90	1.04
2:B:2358:ASN:H	2:B:2387:HIS:CE1	1.74	1.04
2:B:2358:ASN:CB	2:B:2387:HIS:CE1	2.41	1.04
2:E:2255:LEU:O	2:E:2285:LYS:NZ	1.91	1.04
2:B:2034:ILE:HG12	2:B:2041:PRO:HA	1.36	1.04
2:B:2210:MET:HE3	2:B:2253:LEU:CA	1.87	1.03
2:B:2210:MET:SD	2:B:2222:LYS:HD3	1.99	1.03
2:E:1597:GLY:HA2	2:E:1598:LEU:HB3	1.37	1.03
2:E:2039:LEU:HB2	2:E:2040:TRP:CD1	1.94	1.02
2:B:1859:ARG:HD2	2:B:1876:ASN:O	1.59	1.02
2:B:2268:PHE:HD2	2:B:2331:PRO:HB3	1.23	1.02
2:E:1465:ARG:HG2	2:E:1465:ARG:HH11	1.24	1.02
2:E:2024:MET:HE3	2:E:2157:ILE:CG2	1.86	1.02
2:E:2034:ILE:CD1	2:E:2041:PRO:HA	1.71	1.02
2:E:1727:LEU:C	2:E:1728:ILE:HD13	1.81	1.01
2:B:1885:LYS:O	2:B:2001:SER:OG	1.76	1.01
2:E:2048:TRP:O	2:E:2052:GLU:CB	2.08	1.01
2:B:2224:VAL:HB	2:B:2349:PHE:CZ	1.96	1.00
2:E:1731:LYS:HE2	2:E:1768:PRO:HB2	1.02	1.00
1:D:109:ASP:OD1	1:D:111:ASP:N	1.94	1.00
2:E:2024:MET:HE1	2:E:2157:ILE:HG22	1.44	1.00
2:E:2230:LEU:HD12	2:E:2360:THR:HA	1.42	0.99
2:B:2350:ILE:HD13	2:B:2376:TYR:HA	1.44	0.99
2:E:1995:TRP:CZ3	2:E:2007:ARG:CG	2.45	0.99
2:E:1995:TRP:CH2	2:E:2007:ARG:HG2	1.96	0.99
2:E:1705:SER:OG	2:E:1730:ASN:O	1.80	0.99
2:E:2304:ALA:HB2	2:E:2339:LEU:HD23	1.44	0.99
2:E:2353:SER:O	2:E:2375:LYS:NZ	1.95	0.99
2:B:2030:PRO:O	2:B:2033:THR:OG1	1.79	0.99
2:E:2041:PRO:CB	2:E:2043:PHE:CE1	2.44	0.99
2:B:2037:TYR:HB2	2:B:2038:HIS:CD2	1.96	0.99
2:B:2381:GLU:OE1	2:B:2381:GLU:N	1.95	0.99
2:E:2304:ALA:HB2	2:E:2339:LEU:HD22	1.42	0.99
2:B:2024:MET:O	2:B:2028:SER:HB2	1.63	0.99
2:B:2210:MET:CG	2:B:2222:LYS:HD2	1.93	0.98
2:B:2182:VAL:HA	2:B:2338:GLN:HB2	1.43	0.98
2:B:2224:VAL:HG12	2:B:2349:PHE:CE1	1.97	0.98
2:E:2018:ASN:HD21	2:E:2058:LEU:CG	1.76	0.98
2:E:2304:ALA:CB	2:E:2339:LEU:CD2	2.41	0.98
2:B:2224:VAL:HB	2:B:2349:PHE:CE1	1.99	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2294:PHE:HD2	2:B:2301:SER:OG	1.45	0.98
2:B:1011:ASN:ND2	2:B:1142:ASN:O	1.97	0.98
2:E:2034:ILE:CG2	2:E:2040:TRP:C	2.32	0.98
2:E:2024:MET:HE1	2:E:2157:ILE:CG2	1.90	0.97
2:E:2213:LYS:HA	2:E:2215:HIS:H	1.30	0.97
2:B:2236:VAL:CG2	2:B:2238:ILE:HD11	1.94	0.97
2:B:2358:ASN:H	2:B:2387:HIS:HE1	0.98	0.97
2:E:1207:TRP:O	2:E:1212:ARG:NH1	1.96	0.97
2:E:2080:LYS:HD2	2:E:2083:ILE:CD1	1.86	0.97
2:E:1834:PHE:CE2	2:E:1960:GLU:OE2	2.17	0.97
2:B:2236:VAL:HG22	2:B:2238:ILE:HD11	1.41	0.97
2:E:1067:ASN:HD22	2:E:1083:THR:HG21	1.27	0.97
2:E:2024:MET:HE3	2:E:2157:ILE:HG23	1.47	0.96
1:D:327:ILE:HB	1:D:328:TYR:HD1	1.27	0.96
2:B:2259:ILE:CD1	2:B:2291:ILE:HG22	1.84	0.96
2:E:2154:LYS:O	2:E:2157:ILE:N	1.98	0.96
2:E:1324:GLY:HA2	2:E:1325:SER:OG	1.62	0.96
2:B:2224:VAL:CB	2:B:2349:PHE:CE1	2.49	0.96
2:E:2034:ILE:CD1	2:E:2041:PRO:CG	2.44	0.96
2:B:1568:ASN:OD1	2:B:1569:SER:OG	1.84	0.95
2:E:1966:SER:OG	2:E:2016:LYS:HE3	1.66	0.95
2:E:1702:THR:CG2	2:E:1768:PRO:HG3	1.97	0.95
2:E:1762:ASP:OD1	2:E:1763:ASN:ND2	1.99	0.95
2:B:1887:GLY:HA3	2:B:1992:TYR:CD2	2.01	0.95
2:B:2210:MET:HG3	2:B:2222:LYS:CD	1.96	0.95
2:B:2224:VAL:CB	2:B:2349:PHE:CZ	2.50	0.95
2:E:2278:SER:O	2:E:2281:PHE:N	1.98	0.95
2:B:1707:HIS:CD2	2:B:1708:GLU:HB2	2.01	0.95
2:B:2034:ILE:HG12	2:B:2041:PRO:CA	1.97	0.95
2:B:2230:LEU:O	2:B:2236:VAL:HG23	1.66	0.95
2:E:2018:ASN:ND2	2:E:2058:LEU:CG	2.29	0.95
2:B:2043:PHE:HE2	2:B:2051:ILE:HD11	1.24	0.94
2:B:2357:TRP:CH2	2:B:2382:PHE:CD1	2.55	0.94
1:D:151:GLU:OE2	1:D:154:LYS:HE3	1.67	0.94
2:B:2210:MET:HE3	2:B:2253:LEU:HA	0.95	0.94
2:E:2011:LEU:HD13	2:E:2040:TRP:CE3	2.03	0.94
2:E:2041:PRO:HB2	2:E:2043:PHE:HE1	1.23	0.94
2:E:1567:PHE:CZ	2:E:1820:ARG:NH1	2.36	0.94
1:D:107:LYS:HB3	1:D:108:ILE:HG22	1.50	0.94
2:E:1711:VAL:HG12	2:E:1790:TRP:O	1.68	0.94
2:B:2310:GLU:OE1	2:B:2310:GLU:N	2.00	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1252:SER:O	2:B:1274:ARG:NH1	1.99	0.93
2:E:2043:PHE:CD2	2:E:2051:ILE:CG1	2.50	0.93
2:E:1826:TYR:OH	2:E:1938:LYS:NZ	1.99	0.93
2:E:2011:LEU:HD13	2:E:2040:TRP:HZ3	1.23	0.93
2:B:2224:VAL:CG1	2:B:2349:PHE:CE1	2.50	0.93
2:E:1998:ARG:CD	2:E:2045:ASP:OD2	2.16	0.93
2:E:1709:TRP:O	2:E:1729:THR:N	2.01	0.93
1:A:86:GLY:O	1:A:90:GLU:HG2	1.66	0.93
2:B:2011:LEU:HD13	2:B:2040:TRP:CZ3	2.04	0.93
2:E:1684:GLU:OE2	2:E:1702:THR:OG1	1.85	0.93
2:E:2267:LYS:O	2:E:2305:TYR:OH	1.86	0.93
1:D:19:GLN:HE21	1:D:110:GLU:HG2	1.25	0.93
2:B:2192:LYS:O	2:B:2195:GLU:N	2.02	0.92
2:B:1993:ASP:OD2	2:B:2038:HIS:CB	2.17	0.92
2:E:2034:ILE:CD1	2:E:2041:PRO:CB	2.46	0.92
2:E:1731:LYS:HE2	2:E:1768:PRO:CB	1.97	0.92
2:E:2210:MET:CE	2:E:2253:LEU:CA	2.47	0.92
2:E:2034:ILE:HG21	2:E:2040:TRP:N	1.84	0.92
2:E:2304:ALA:CB	2:E:2339:LEU:HD23	2.00	0.92
2:E:2210:MET:HE1	2:E:2253:LEU:CA	1.99	0.92
2:B:1961:ASN:OD1	2:B:2079:ILE:HD11	1.68	0.92
2:E:1826:TYR:H	2:E:1827:GLN:HG3	1.35	0.92
2:B:1887:GLY:HA3	2:B:1992:TYR:HD2	1.33	0.92
2:B:2315:GLY:O	2:B:2318:ASN:N	2.03	0.92
2:E:2210:MET:CE	2:E:2252:GLY:O	2.14	0.92
2:B:2183:TYR:HE1	2:B:2219:LYS:HD2	1.34	0.91
2:E:2041:PRO:CB	2:E:2043:PHE:HE1	1.80	0.91
2:B:2339:LEU:CD1	2:B:2340:LEU:N	2.33	0.91
2:E:2028:SER:O	2:E:2030:PRO:HD3	1.70	0.91
2:E:2019:GLU:O	2:E:2023:LYS:HG3	1.68	0.91
2:E:2030:PRO:HB2	2:E:2153:ARG:NH2	1.85	0.91
2:B:2282:ALA:HB2	2:B:2316:GLU:OE2	1.70	0.91
2:B:2034:ILE:HG13	2:B:2041:PRO:HA	1.51	0.91
2:B:2182:VAL:HG12	2:B:2338:GLN:HB3	0.92	0.90
2:B:2286:ARG:HD3	2:B:2312:TYR:CZ	2.07	0.90
2:E:2202:GLN:HE22	2:E:2235:SER:CA	1.84	0.90
2:B:2357:TRP:HH2	2:B:2382:PHE:CD1	1.87	0.90
2:B:2183:TYR:HE1	2:B:2219:LYS:HD3	0.77	0.90
2:B:2259:ILE:HD11	2:B:2291:ILE:CG2	1.91	0.90
2:B:2182:VAL:CG1	2:B:2338:GLN:CB	2.42	0.90
2:B:2237:GLN:C	2:B:2238:ILE:HD13	1.92	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2224:VAL:HG11	2:B:2349:PHE:HZ	1.35	0.89
2:E:1292:ARG:HD3	2:E:1293:THR:HG23	1.54	0.89
2:B:2339:LEU:CD1	2:B:2340:LEU:H	1.85	0.89
2:E:2050:THR:O	2:E:2053:SER:OG	1.90	0.89
2:B:1961:ASN:OD1	2:B:2079:ILE:CD1	2.20	0.89
2:B:2044:THR:OG1	2:B:2047:GLN:HG3	1.72	0.89
2:E:1834:PHE:HE2	2:E:1960:GLU:OE2	1.51	0.89
2:E:2014:ALA:HA	2:E:2059:ILE:CD1	2.03	0.89
2:B:1983:GLU:HB2	2:B:1984:PRO:HD2	1.52	0.89
2:B:2236:VAL:CG2	2:B:2238:ILE:HD12	2.02	0.89
2:E:2210:MET:HE1	2:E:2252:GLY:O	1.72	0.89
2:B:950:THR:O	2:B:954:ILE:HG13	1.72	0.89
2:B:1848:ILE:HD13	2:B:1928:GLU:O	1.72	0.89
2:E:2011:LEU:HD12	2:E:2040:TRP:CZ3	2.06	0.89
2:B:2182:VAL:CA	2:B:2338:GLN:HB2	2.03	0.88
2:E:1324:GLY:CA	2:E:1325:SER:OG	2.21	0.88
2:B:2019:GLU:O	2:B:2023:LYS:HG3	1.74	0.88
2:B:2259:ILE:HD12	2:B:2291:ILE:C	1.93	0.88
2:B:1594:GLN:OE1	2:B:1595:ARG:N	2.06	0.88
1:D:106:PRO:O	1:D:107:LYS:HG2	1.71	0.88
1:D:31:HIS:O	1:D:102:MET:SD	2.31	0.88
2:E:2037:TYR:CD1	2:E:2038:HIS:NE2	2.42	0.88
2:B:1016:SER:OG	2:B:1018:SER:OG	1.92	0.87
2:B:2282:ALA:CB	2:B:2316:GLU:OE2	2.21	0.87
2:E:2018:ASN:ND2	2:E:2058:LEU:HD21	1.87	0.87
2:E:2018:ASN:HD22	2:E:2058:LEU:CD2	1.86	0.87
1:A:347:VAL:HG21	2:B:1875:ILE:HD11	1.56	0.87
2:E:1762:ASP:OD2	2:E:1764:VAL:HG22	1.75	0.87
2:E:941:GLU:O	2:E:945:ASP:OD1	1.93	0.87
2:B:1849:LYS:O	2:B:1850:LEU:HD23	1.75	0.87
2:B:1015:PRO:HD2	2:B:1165:LEU:HD23	1.54	0.86
2:E:1998:ARG:HD2	2:E:2045:ASP:OD2	1.74	0.86
2:E:2080:LYS:HD2	2:E:2083:ILE:HG13	0.88	0.86
2:B:2286:ARG:HD3	2:B:2312:TYR:CE2	2.11	0.86
2:B:2358:ASN:HB3	2:B:2387:HIS:HD1	1.37	0.86
2:E:1466:GLN:O	2:E:1469:ILE:N	2.09	0.86
2:E:1992:TYR:OH	2:E:2005:PHE:HB2	1.76	0.86
2:B:2020:GLU:OE1	2:B:2165:ARG:NH2	2.07	0.86
2:B:1137:PRO:HG2	2:B:1140:ASN:O	1.76	0.85
2:E:2014:ALA:CA	2:E:2059:ILE:HD11	2.06	0.85
2:E:2030:PRO:HB2	2:E:2153:ARG:HH21	1.41	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:94:HIS:O	1:A:98:GLU:CB	2.24	0.85
2:B:2203:VAL:CG2	2:B:2382:PHE:CE1	2.59	0.85
2:B:2207:ILE:N	2:B:2257:GLY:O	2.09	0.85
1:D:106:PRO:C	1:D:107:LYS:HG2	1.93	0.85
2:B:1868:GLY:O	2:B:1870:VAL:HG23	1.75	0.85
2:B:2182:VAL:CG1	2:B:2338:GLN:OE1	2.24	0.85
2:E:1252:SER:O	2:E:1274:ARG:NH1	2.08	0.85
2:E:2177:VAL:HG23	2:E:2180:GLN:H	1.41	0.85
2:B:2350:ILE:HG23	2:B:2375:LYS:O	1.76	0.85
2:B:2256:LEU:O	2:B:2288:CYS:SG	2.34	0.85
2:E:2011:LEU:CD1	2:E:2040:TRP:CE3	2.59	0.85
2:E:2037:TYR:CD1	2:E:2038:HIS:HD2	1.95	0.85
2:B:2357:TRP:HH2	2:B:2382:PHE:HE1	1.18	0.85
2:E:1757:LEU:O	2:E:1761:THR:HG23	1.77	0.84
2:B:2034:ILE:CG1	2:B:2041:PRO:CA	2.55	0.84
2:B:2178:GLU:O	2:B:2217:LYS:CD	2.24	0.84
2:B:2210:MET:SD	2:B:2222:LYS:CD	2.65	0.84
1:D:327:ILE:HB	1:D:328:TYR:CD1	2.12	0.84
2:E:2065:ARG:NH1	2:E:2065:ARG:HB3	1.93	0.84
2:B:1887:GLY:CA	2:B:1992:TYR:CD2	2.60	0.84
2:B:2157:ILE:O	2:B:2160:THR:N	2.08	0.84
2:B:2281:PHE:CE1	2:B:2288:CYS:HB2	2.13	0.84
2:B:1994:ASP:O	2:B:1997:ASP:HB2	1.78	0.84
2:B:2049:ILE:O	2:B:2053:SER:OG	1.93	0.84
2:B:1686:VAL:HG11	2:B:1690:LYS:HD2	1.60	0.83
2:E:1763:ASN:CA	2:E:1766:MET:HE2	2.08	0.83
2:E:2174:ASP:OD1	2:E:2175:ASP:N	2.10	0.83
2:B:1895:HIS:CD2	2:B:1896:THR:H	1.94	0.83
2:B:2203:VAL:HG22	2:B:2382:PHE:HE1	1.43	0.83
2:B:2208:TYR:CD2	2:B:2253:LEU:HD13	2.12	0.83
2:B:2183:TYR:CE1	2:B:2219:LYS:HD2	2.09	0.83
2:B:2294:PHE:CZ	2:B:2296:THR:CG2	2.61	0.83
2:E:1712:SER:OG	2:E:1713:LYS:O	1.94	0.83
2:E:1763:ASN:O	2:E:1766:MET:CE	2.25	0.83
2:E:2034:ILE:HD13	2:E:2041:PRO:CA	1.80	0.83
2:E:2064:GLY:O	2:E:2068:ASN:N	2.11	0.83
2:E:2210:MET:HE2	2:E:2253:LEU:HA	1.59	0.83
2:B:1999:LEU:HD12	2:B:2000:SER:H	1.43	0.83
2:B:2182:VAL:HA	2:B:2338:GLN:CB	2.08	0.83
2:B:2210:MET:CG	2:B:2222:LYS:CD	2.54	0.83
2:B:2294:PHE:CZ	2:B:2296:THR:HG21	2.13	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2034:ILE:HD12	2:E:2041:PRO:CD	2.09	0.83
2:E:2381:GLU:OE1	2:E:2381:GLU:N	2.10	0.83
2:B:1853:ASP:OD1	2:B:1855:THR:OG1	1.97	0.82
2:B:2256:LEU:C	2:B:2288:CYS:SG	2.58	0.82
2:E:2189:LEU:CD1	2:E:2224:VAL:HG23	2.09	0.82
2:B:2380:LEU:HD13	2:B:2384:ASN:OD1	1.77	0.82
2:E:1711:VAL:CG1	2:E:1790:TRP:O	2.28	0.82
2:B:2224:VAL:O	2:B:2349:PHE:HD1	1.63	0.82
2:B:2224:VAL:C	2:B:2349:PHE:CE1	2.53	0.82
2:B:1848:ILE:CD1	2:B:1928:GLU:O	2.27	0.82
2:B:1999:LEU:HD21	2:B:2003:THR:HG22	1.60	0.82
2:E:2034:ILE:HD11	2:E:2041:PRO:CB	2.07	0.82
2:B:1999:LEU:HD11	2:B:2003:THR:HB	1.60	0.82
2:B:1568:ASN:OD1	2:B:1569:SER:N	2.13	0.82
2:B:2339:LEU:HD12	2:B:2340:LEU:H	1.35	0.82
2:E:1705:SER:OG	2:E:1730:ASN:CA	2.28	0.82
2:E:1987:VAL:HG12	2:E:1989:PHE:CE1	2.15	0.82
2:E:2083:ILE:HG22	2:E:2084:LEU:HD13	1.62	0.81
2:E:2080:LYS:HD3	2:E:2083:ILE:CD1	1.92	0.81
2:B:2192:LYS:O	2:B:2195:GLU:HB2	1.80	0.81
2:E:2024:MET:CE	2:E:2157:ILE:HG23	2.01	0.81
2:B:2224:VAL:HG12	2:B:2349:PHE:HE1	1.45	0.81
2:E:1711:VAL:CB	2:E:1790:TRP:O	2.28	0.81
2:E:2074:LEU:O	2:E:2075:THR:OG1	1.98	0.81
2:B:1895:HIS:CD2	2:B:1896:THR:OG1	2.33	0.81
2:B:1941:LEU:O	2:B:1945:GLU:HG3	1.81	0.81
2:B:2044:THR:HG23	2:B:2047:GLN:CD	2.00	0.81
2:B:2060:LEU:O	2:B:2063:TYR:HB3	1.80	0.81
2:B:2224:VAL:HG11	2:B:2349:PHE:CZ	2.09	0.81
2:B:2358:ASN:CA	2:B:2387:HIS:CE1	2.63	0.81
2:E:1974:LEU:O	2:E:1977:VAL:HG22	1.80	0.81
2:E:2177:VAL:CG2	2:E:2180:GLN:HB2	2.09	0.81
2:B:2047:GLN:O	2:B:2051:ILE:N	2.13	0.81
1:D:107:LYS:HB3	1:D:108:ILE:CG2	2.10	0.81
2:E:1727:LEU:O	2:E:1728:ILE:HD13	1.80	0.81
2:E:2018:ASN:HD21	2:E:2058:LEU:HD11	1.07	0.81
1:D:210:LEU:O	1:D:214:PHE:O	1.99	0.81
2:E:2030:PRO:HG2	2:E:2153:ARG:NE	1.95	0.81
2:B:2182:VAL:HG12	2:B:2338:GLN:CG	2.11	0.81
2:B:2198:ASP:OD1	2:B:2200:LYS:N	2.14	0.81
2:B:2259:ILE:HD12	2:B:2291:ILE:HB	1.63	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2178:GLU:O	2:B:2217:LYS:HD3	1.79	0.80
2:E:1849:LYS:O	2:E:1850:LEU:HD23	1.81	0.80
2:B:2259:ILE:HD13	2:B:2291:ILE:HB	0.81	0.80
2:E:1711:VAL:CG1	2:E:1791:PHE:HB3	2.11	0.80
2:B:1707:HIS:NE2	2:B:1708:GLU:HB2	1.97	0.80
2:E:2202:GLN:NE2	2:E:2235:SER:C	2.34	0.80
2:B:900:PHE:CA	2:B:1075:ASP:OD2	2.28	0.80
2:B:2367:ASN:OD1	2:B:2370:GLY:N	2.15	0.80
2:E:2384:ASN:HD22	2:E:2386:MET:H	1.30	0.80
2:B:2279:LYS:HZ3	2:B:2368:GLN:HE22	1.30	0.80
2:B:2308:THR:CG2	2:B:2333:PHE:O	2.19	0.80
2:E:2037:TYR:HD1	2:E:2038:HIS:NE2	1.77	0.80
2:E:1995:TRP:CE2	2:E:2007:ARG:HD2	2.17	0.80
2:E:2034:ILE:CD1	2:E:2041:PRO:CD	2.59	0.80
2:E:2084:LEU:O	2:E:2084:LEU:HD22	1.81	0.80
2:B:2044:THR:CG2	2:B:2047:GLN:NE2	2.36	0.80
2:E:1995:TRP:CH2	2:E:2007:ARG:CG	2.62	0.80
2:B:2358:ASN:CA	2:B:2387:HIS:HE1	1.95	0.79
2:B:1843:LEU:HD11	2:B:1884:PRO:CG	2.12	0.79
2:E:1987:VAL:CG1	2:E:1989:PHE:CE1	2.65	0.79
2:B:1961:ASN:CG	2:B:2079:ILE:HD11	2.03	0.79
2:B:1976:ASP:O	2:B:1980:LYS:HG3	1.83	0.79
2:B:2176:PHE:HA	2:B:2338:GLN:NE2	1.97	0.79
2:E:2065:ARG:HB3	2:E:2065:ARG:CZ	2.12	0.79
2:B:2035:LYS:HD2	2:B:2037:TYR:CE1	2.17	0.79
2:B:2176:PHE:HA	2:B:2338:GLN:HE21	1.47	0.79
2:E:2202:GLN:NE2	2:E:2235:SER:CA	2.46	0.79
1:D:75:ASP:OD2	1:D:79:LYS:CE	2.31	0.79
2:B:2184:VAL:HG23	2:B:2219:LYS:O	1.83	0.79
2:E:1995:TRP:CD2	2:E:2007:ARG:HD2	2.17	0.79
2:E:2353:SER:HA	2:E:2375:LYS:CD	2.13	0.79
2:B:1895:HIS:CD2	2:B:1896:THR:N	2.51	0.78
2:B:2224:VAL:CG1	2:B:2349:PHE:HZ	1.86	0.78
2:E:2384:ASN:ND2	2:E:2386:MET:H	1.81	0.78
2:E:1703:MET:N	2:E:1732:MET:O	2.17	0.78
2:B:2183:TYR:CD2	2:B:2289:ILE:HD13	2.19	0.78
2:B:1843:LEU:HD12	2:B:1843:LEU:O	1.84	0.78
2:B:2154:LYS:O	2:B:2157:ILE:HB	1.82	0.78
2:E:2034:ILE:CG2	2:E:2040:TRP:N	2.47	0.78
2:E:2043:PHE:HB3	2:E:2047:GLN:HG3	1.66	0.78
2:B:2358:ASN:N	2:B:2387:HIS:CE1	2.39	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:55:ARG:NH2	1:D:279:TYR:CE1	2.51	0.78
2:B:1111:SER:HB2	2:B:1510:ILE:HG12	1.65	0.78
2:B:1348:GLU:OE1	2:B:1447:TRP:N	2.15	0.78
2:E:1727:LEU:HD23	2:E:1728:ILE:H	1.49	0.78
2:B:1797:LEU:O	2:B:1801:SER:OG	2.00	0.77
2:B:1503:ALA:O	2:B:1506:ARG:NH1	2.17	0.77
2:B:2224:VAL:O	2:B:2349:PHE:CE1	2.36	0.77
2:E:2087:ASN:HD22	2:E:2089:LYS:H	1.31	0.77
2:B:2236:VAL:HG21	2:B:2238:ILE:HD12	1.65	0.77
2:B:2279:LYS:NZ	2:B:2368:GLN:NE2	2.33	0.77
2:B:1983:GLU:HB2	2:B:1984:PRO:CD	2.14	0.77
2:B:2268:PHE:CD2	2:B:2331:PRO:HB3	2.15	0.77
1:D:108:ILE:HD13	1:D:109:ASP:H	1.48	0.77
2:E:1562:PHE:O	2:E:1565:THR:OG1	2.02	0.77
2:E:1565:THR:O	2:E:1820:ARG:NH2	2.17	0.77
2:E:2078:GLU:C	2:E:2079:ILE:HD13	2.05	0.77
2:E:2210:MET:CE	2:E:2253:LEU:HA	2.14	0.77
2:B:2157:ILE:C	2:B:2160:THR:HG1	1.85	0.77
2:B:2283:ASP:OD1	2:B:2284:LYS:HA	1.84	0.77
2:E:2080:LYS:CE	2:E:2083:ILE:CD1	2.63	0.77
2:E:1163:ARG:HG3	2:E:1168:ILE:HG22	1.67	0.77
2:E:2201:ILE:HG21	2:E:2382:PHE:CZ	2.20	0.77
2:B:1999:LEU:HD21	2:B:2003:THR:CG2	2.15	0.77
2:B:2357:TRP:CH2	2:B:2382:PHE:HE1	1.95	0.77
2:E:2087:ASN:HD22	2:E:2089:LYS:N	1.83	0.77
2:B:2294:PHE:HD2	2:B:2301:SER:HG	0.78	0.76
2:B:2247:LEU:HD12	2:B:2248:PRO:CD	2.16	0.76
2:E:2201:ILE:HG21	2:E:2382:PHE:HZ	1.49	0.76
2:B:2281:PHE:C	2:B:2286:ARG:HA	2.04	0.76
2:B:2286:ARG:CD	2:B:2312:TYR:CE2	2.68	0.76
2:E:1111:SER:HB2	2:E:1510:ILE:HG12	1.66	0.76
2:E:2057:ASP:O	2:E:2061:THR:N	2.17	0.76
2:B:2244:ILE:O	2:B:2250:THR:HG21	1.85	0.76
1:A:344:PRO:HB3	2:B:1858:TYR:CE1	2.21	0.76
2:B:2280:LEU:HD12	2:B:2281:PHE:CE2	2.21	0.76
2:E:1348:GLU:OE1	2:E:1447:TRP:N	2.19	0.76
2:E:2018:ASN:ND2	2:E:2058:LEU:CD2	2.44	0.76
2:E:2039:LEU:C	2:E:2040:TRP:CD1	2.59	0.76
2:E:2080:LYS:HE3	2:E:2083:ILE:HD12	1.68	0.76
2:E:2210:MET:HE2	2:E:2253:LEU:CA	2.16	0.76
1:A:292:CYS:O	1:A:296:SER:OG	2.03	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1729:THR:HG22	2:B:1771:THR:HG21	1.67	0.75
2:B:1843:LEU:O	2:B:1849:LYS:HE3	1.86	0.75
2:B:1605:ARG:NH2	2:B:1824:GLN:OE1	2.17	0.75
2:B:2177:VAL:H	2:B:2338:GLN:NE2	1.84	0.75
2:B:1477:PHE:CD2	2:B:1495:PHE:CD2	2.73	0.75
2:B:2227:VAL:O	2:B:2229:GLN:HG2	1.87	0.75
2:B:2309:ASP:HA	2:B:2312:TYR:HB2	1.66	0.75
1:D:292:CYS:O	1:D:296:SER:OG	2.04	0.75
2:E:1995:TRP:CH2	2:E:2007:ARG:CD	2.69	0.75
2:E:2189:LEU:HD13	2:E:2224:VAL:HG23	1.66	0.75
2:E:1292:ARG:HD3	2:E:1293:THR:CG2	2.16	0.75
2:B:1207:TRP:O	2:B:1212:ARG:NH1	2.19	0.75
2:E:2041:PRO:CG	2:E:2043:PHE:HE1	1.98	0.75
2:B:1287:ASP:OD2	2:B:1296:ARG:NH2	2.18	0.75
2:B:2183:TYR:CD1	2:B:2219:LYS:HD3	2.20	0.75
2:E:1702:THR:HG21	2:E:1768:PRO:HG3	1.66	0.75
2:E:1964:PRO:HG3	2:E:2013:ARG:NH1	2.02	0.75
2:E:1324:GLY:HA2	2:E:1325:SER:CB	2.16	0.75
2:E:1093:LYS:HG3	2:E:1094:ASP:OD1	1.87	0.74
2:E:1570:TRP:O	2:E:1571:GLU:CD	2.25	0.74
2:B:1895:HIS:HD2	2:B:1896:THR:H	1.32	0.74
2:E:2047:GLN:O	2:E:2050:THR:CA	2.34	0.74
1:A:212:GLY:O	1:A:215:LYS:NZ	2.19	0.74
2:B:1859:ARG:CD	2:B:1876:ASN:O	2.35	0.74
2:B:2232:HIS:N	2:B:2235:SER:O	2.20	0.74
2:B:2236:VAL:CG1	2:B:2238:ILE:HD11	2.17	0.74
2:E:1995:TRP:CE3	2:E:2007:ARG:HD2	2.22	0.74
2:E:2157:ILE:O	2:E:2160:THR:CB	2.34	0.74
2:E:2227:VAL:CG1	2:E:2239:SER:OG	2.35	0.74
2:B:2203:VAL:HG22	2:B:2382:PHE:CE1	2.20	0.74
2:E:1570:TRP:O	2:E:1571:GLU:OE2	2.04	0.74
2:E:2034:ILE:HG21	2:E:2040:TRP:CA	2.17	0.74
2:E:2066:LYS:HB2	2:E:2067:TYR:CD1	2.21	0.74
2:B:2210:MET:HE1	2:B:2253:LEU:CA	2.16	0.74
2:E:2041:PRO:HB2	2:E:2043:PHE:CD1	2.23	0.74
2:E:2162:LEU:CD1	2:E:2194:ILE:O	2.36	0.74
2:E:1418:THR:OG1	2:E:1421:GLY:O	2.05	0.74
2:B:1999:LEU:HG	2:B:2000:SER:O	1.87	0.74
2:B:2309:ASP:OD1	2:B:2309:ASP:N	2.18	0.74
2:B:2185:LEU:HG	2:B:2186:PRO:N	2.00	0.73
2:B:1932:GLN:OE1	2:B:1957:ARG:NH1	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1834:PHE:CD1	2:E:1958:PRO:HG2	2.23	0.73
2:E:1597:GLY:CA	2:E:1598:LEU:HB3	2.18	0.73
2:B:2238:ILE:HD13	2:B:2238:ILE:N	2.03	0.73
2:E:2230:LEU:CD1	2:E:2360:THR:HA	2.17	0.73
2:B:2309:ASP:HA	2:B:2312:TYR:HD2	1.54	0.73
2:E:2047:GLN:C	2:E:2050:THR:H	1.92	0.73
2:B:2034:ILE:HG12	2:B:2040:TRP:C	2.09	0.73
2:B:2209:GLY:HA3	2:B:2256:LEU:HD21	1.70	0.73
2:E:2202:GLN:HE22	2:E:2235:SER:HA	1.53	0.73
2:E:1705:SER:OG	2:E:1730:ASN:C	2.27	0.73
2:E:1987:VAL:HG11	2:E:1989:PHE:CZ	2.23	0.73
2:B:1993:ASP:OD1	2:B:2038:HIS:HB3	1.88	0.73
1:A:88:LYS:O	1:A:92:ILE:HD13	1.89	0.72
2:B:2306:ASN:N	2:B:2335:THR:O	2.17	0.72
2:E:1733:TRP:CE2	2:E:1767:TYR:HD2	2.07	0.72
2:E:2024:MET:CE	2:E:2157:ILE:HG21	2.18	0.72
2:E:2177:VAL:HG21	2:E:2180:GLN:HG3	1.70	0.72
2:B:1679:GLU:N	2:B:1704:GLU:O	2.22	0.72
2:B:2045:ASP:N	2:B:2045:ASP:OD1	2.21	0.72
2:E:1973:LYS:O	2:E:1977:VAL:HG13	1.89	0.72
1:D:75:ASP:OD2	1:D:79:LYS:NZ	2.23	0.72
2:E:2277:HIS:HD1	2:E:2281:PHE:HD2	1.35	0.72
2:E:1711:VAL:HG12	2:E:1791:PHE:HB3	1.70	0.72
2:E:2021:SER:O	2:E:2024:MET:N	2.22	0.72
2:E:2084:LEU:HD13	2:E:2084:LEU:H	1.55	0.72
2:E:1428:GLY:N	2:E:1433:ASP:OD2	2.19	0.72
2:B:2011:LEU:HD13	2:B:2040:TRP:CE3	2.24	0.72
2:B:2037:TYR:HB2	2:B:2038:HIS:HD2	1.55	0.72
2:B:2230:LEU:HD23	2:B:2237:GLN:HG3	1.72	0.72
1:D:19:GLN:NE2	1:D:110:GLU:CG	2.49	0.72
2:B:2034:ILE:HG12	2:B:2040:TRP:O	1.88	0.72
2:E:2178:GLU:C	2:E:2217:LYS:HZ2	1.87	0.72
2:B:2046:GLU:O	2:B:2049:ILE:HG22	1.89	0.71
2:B:2165:ARG:O	2:B:2300:VAL:HG13	1.90	0.71
2:B:1308:GLU:OE2	2:B:1311:LYS:HE3	1.90	0.71
2:B:2247:LEU:HG	2:B:2375:LYS:HA	1.72	0.71
2:B:2279:LYS:HZ3	2:B:2368:GLN:NE2	1.87	0.71
2:E:2162:LEU:HD13	2:E:2194:ILE:O	1.89	0.71
2:B:1996:LEU:HA	2:B:1999:LEU:O	1.89	0.71
2:E:2017:THR:HG22	2:E:2018:ASN:OD1	1.91	0.71
2:E:2048:TRP:O	2:E:2052:GLU:HB2	1.91	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2014:ALA:HA	2:E:2059:ILE:HD11	1.68	0.71
1:D:19:GLN:HE22	1:D:110:GLU:HG2	1.52	0.71
2:E:2043:PHE:CE2	2:E:2051:ILE:CG1	2.64	0.71
2:B:1983:GLU:HG3	2:B:1985:GLN:HE21	1.56	0.71
2:B:2159:ASN:OD1	2:B:2199:VAL:CG1	2.37	0.71
2:E:1291:GLU:O	2:E:1294:LYS:CE	2.37	0.71
2:E:1465:ARG:HG2	2:E:1465:ARG:NH1	1.97	0.71
2:E:1763:ASN:CA	2:E:1766:MET:CE	2.68	0.71
2:B:1731:LYS:HE3	2:B:1768:PRO:HB2	1.73	0.70
2:B:1927:GLU:OE1	2:B:1927:GLU:N	2.24	0.70
2:B:1180:GLU:O	2:B:1184:ASP:OD1	2.09	0.70
2:B:2207:ILE:HB	2:B:2221:ILE:HG23	1.71	0.70
2:E:2210:MET:SD	2:E:2252:GLY:C	2.57	0.70
2:B:2247:LEU:HD12	2:B:2248:PRO:HD2	1.73	0.70
2:E:1679:GLU:HB2	2:E:1706:VAL:HG13	1.74	0.70
2:B:1729:THR:HG21	2:B:1771:THR:HG23	1.73	0.70
2:B:2048:TRP:O	2:B:2052:GLU:HG3	1.92	0.70
1:D:48:HIS:CD2	1:D:53:SER:OG	2.45	0.70
2:B:2044:THR:OG1	2:B:2047:GLN:CG	2.39	0.70
2:B:1974:LEU:O	2:B:1977:VAL:HG12	1.91	0.70
2:B:2188:ASN:HD21	2:B:2346:THR:HB	1.56	0.70
2:B:2224:VAL:HG12	2:B:2349:PHE:CZ	2.17	0.70
2:B:2230:LEU:HB3	2:B:2237:GLN:CG	2.22	0.70
2:B:2307:LEU:HD12	2:B:2308:THR:H	1.55	0.70
2:E:1093:LYS:CG	2:E:1094:ASP:HA	2.21	0.70
2:B:2236:VAL:HG13	2:B:2238:ILE:HD11	1.73	0.70
2:E:1731:LYS:CE	2:E:1768:PRO:CB	2.64	0.70
2:E:2024:MET:HE3	2:E:2157:ILE:HG21	1.74	0.70
2:B:1704:GLU:HG3	2:B:1730:ASN:O	1.92	0.70
2:E:1763:ASN:O	2:E:1766:MET:HE1	1.91	0.70
2:E:1995:TRP:CZ2	2:E:2007:ARG:HD2	2.27	0.70
2:B:1687:HIS:ND1	2:B:1688:PRO:HD2	2.06	0.69
2:B:2044:THR:HG23	2:B:2047:GLN:HE21	1.50	0.69
2:E:2030:PRO:HG2	2:E:2153:ARG:CZ	2.21	0.69
2:E:1093:LYS:HG3	2:E:1094:ASP:HA	1.74	0.69
2:E:1687:HIS:ND1	2:E:1688:PRO:HD2	2.07	0.69
2:B:1722:ASP:OD1	2:B:1722:ASP:N	2.26	0.69
2:E:1711:VAL:HB	2:E:1790:TRP:O	1.92	0.69
2:B:2223:THR:HG23	2:B:2348:ASN:O	1.92	0.69
2:B:2314:TRP:O	2:B:2317:GLU:HB2	1.93	0.69
2:E:2213:LYS:HA	2:E:2215:HIS:N	2.05	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2084:LEU:H	2:E:2084:LEU:CD1	2.05	0.69
2:B:954:ILE:HG23	2:B:991:THR:HG22	1.73	0.69
2:E:1705:SER:HG	2:E:1730:ASN:C	1.93	0.69
2:E:1763:ASN:HA	2:E:1766:MET:HE2	1.75	0.69
2:E:2157:ILE:O	2:E:2160:THR:HB	1.92	0.69
2:B:1017:ASP:HA	2:B:1509:ARG:HG3	1.75	0.69
2:B:2281:PHE:CD1	2:B:2288:CYS:HB2	2.27	0.69
2:E:1274:ARG:O	2:E:1276:GLU:HB3	1.93	0.69
2:B:2152:TRP:HA	2:B:2154:LYS:N	2.07	0.69
2:B:2210:MET:HE2	2:B:2252:GLY:O	1.93	0.69
2:E:2327:GLU:OE1	2:E:2327:GLU:HA	1.93	0.69
2:B:2182:VAL:CG1	2:B:2338:GLN:CD	2.62	0.69
2:B:2207:ILE:HG22	2:B:2224:VAL:HG22	1.75	0.69
2:B:2286:ARG:HD3	2:B:2312:TYR:CE1	2.28	0.69
2:E:1472:ASN:C	2:E:2325:LEU:HB2	2.09	0.69
2:E:2201:ILE:CG2	2:E:2382:PHE:CZ	2.76	0.69
2:B:2268:PHE:HD2	2:B:2331:PRO:CB	2.03	0.68
2:B:1475:LEU:HD12	2:B:1479:GLU:OE2	1.94	0.68
2:B:1704:GLU:HG2	2:B:1705:SER:H	1.58	0.68
2:B:2294:PHE:CZ	2:B:2296:THR:HG23	2.29	0.68
2:E:1705:SER:OG	2:E:1730:ASN:HA	1.92	0.68
2:B:2350:ILE:HD11	2:B:2376:TYR:CD1	2.29	0.68
2:E:2189:LEU:HD13	2:E:2224:VAL:CG2	2.23	0.68
2:B:1961:ASN:CG	2:B:2079:ILE:CD1	2.63	0.68
2:B:2198:ASP:OD1	2:B:2199:VAL:N	2.27	0.68
2:B:2339:LEU:HD12	2:B:2340:LEU:O	1.94	0.68
2:B:1192:ASP:OD2	2:B:1195:PHE:HA	1.94	0.67
2:B:1163:ARG:HG3	2:B:1168:ILE:HG22	1.77	0.67
2:E:1763:ASN:HA	2:E:1766:MET:CE	2.24	0.67
2:E:2018:ASN:HD21	2:E:2058:LEU:HG	1.57	0.67
2:B:1858:TYR:HB2	2:B:1899:TRP:CZ2	2.29	0.67
2:B:1880:PHE:CE2	2:B:1889:LEU:HD11	2.30	0.67
2:B:2309:ASP:HA	2:B:2312:TYR:CD2	2.29	0.67
2:E:1573:LEU:HD22	2:E:1826:TYR:HD2	1.60	0.67
2:E:1834:PHE:CD2	2:E:1960:GLU:HG2	2.28	0.67
2:E:2385:GLU:O	2:E:2388:ARG:CB	2.36	0.67
2:E:1976:ASP:O	2:E:1980:LYS:HG2	1.94	0.67
2:E:1995:TRP:CZ3	2:E:2007:ARG:HD2	2.29	0.67
2:E:2179:GLU:O	2:E:2217:LYS:HD3	1.93	0.67
2:B:1188:ALA:O	2:B:1191:PRO:HD3	1.95	0.67
2:B:2044:THR:N	2:B:2047:GLN:OE1	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2056:ARG:O	2:E:2060:LEU:HG	1.94	0.67
2:B:1686:VAL:HG11	2:B:1690:LYS:CD	2.25	0.67
2:E:1727:LEU:CD2	2:E:1728:ILE:H	2.06	0.67
2:B:2192:LYS:O	2:B:2195:GLU:CB	2.43	0.67
2:E:1707:HIS:HB3	2:E:1730:ASN:HB3	1.76	0.67
1:D:110:GLU:HB2	1:D:113:THR:H	1.59	0.67
2:B:1187:LEU:O	2:B:1191:PRO:HG3	1.95	0.66
1:D:347:VAL:HG21	2:E:1875:ILE:HD11	1.76	0.66
2:E:1017:ASP:HA	2:E:1509:ARG:HG3	1.76	0.66
2:E:2049:ILE:O	2:E:2053:SER:N	2.28	0.66
2:B:1987:VAL:HG12	2:B:1989:PHE:CE2	2.29	0.66
2:B:2277:HIS:HB3	2:B:2307:LEU:HD23	1.75	0.66
2:B:2343:ASP:HB3	2:B:2344:ARG:NH2	2.11	0.66
2:E:2025:ILE:HG23	2:E:2054:GLN:NE2	2.10	0.66
1:D:327:ILE:H	1:D:327:ILE:HD12	1.59	0.66
2:E:1995:TRP:CH2	2:E:2007:ARG:HD2	2.31	0.66
2:B:1040:ASP:OD1	2:B:1042:SER:OG	2.13	0.66
2:E:2014:ALA:HB2	2:E:2059:ILE:HD11	1.78	0.66
2:B:2178:GLU:O	2:B:2217:LYS:CE	2.43	0.66
2:E:1597:GLY:CA	2:E:1599:SER:H	2.08	0.66
2:B:909:THR:OG1	2:B:2175:ASP:OD1	2.13	0.66
2:B:2192:LYS:HA	2:B:2195:GLU:HB2	1.78	0.66
2:B:2277:HIS:NE2	2:B:2288:CYS:O	2.28	0.66
2:E:2202:GLN:NE2	2:E:2235:SER:N	2.43	0.66
2:B:946:ASN:HB3	2:B:949:ASP:OD2	1.96	0.66
2:B:1886:THR:OG1	2:B:1888:HIS:CE1	2.48	0.66
2:E:2014:ALA:CB	2:E:2059:ILE:HD11	2.26	0.66
2:E:2039:LEU:CB	2:E:2040:TRP:CD1	2.77	0.66
2:B:2306:ASN:OD1	2:B:2337:ALA:HB2	1.95	0.66
2:B:2259:ILE:HD12	2:B:2291:ILE:CB	2.17	0.66
2:E:1987:VAL:CG1	2:E:1989:PHE:CZ	2.79	0.66
2:E:2159:ASN:ND2	2:E:2197:SER:O	2.29	0.66
2:B:1727:LEU:HD23	2:B:1728:ILE:H	1.59	0.66
2:B:2208:TYR:CB	2:B:2253:LEU:HD21	2.22	0.66
2:B:2379:PRO:O	2:B:2380:LEU:HD23	1.96	0.66
2:B:2230:LEU:O	2:B:2237:GLN:N	2.27	0.65
1:D:84:ARG:HG3	1:D:84:ARG:HH11	1.60	0.65
2:E:2221:ILE:HD13	2:E:2256:LEU:HD12	1.76	0.65
2:E:1711:VAL:HG12	2:E:1790:TRP:C	2.17	0.65
2:E:2381:GLU:H	2:E:2381:GLU:CD	1.99	0.65
1:A:319:LYS:O	1:A:320:ASP:OD1	2.14	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1186:TYR:HB2	2:B:1228:TRP:CE3	2.30	0.65
2:B:2203:VAL:CG2	2:B:2382:PHE:HE1	2.00	0.65
2:B:2177:VAL:O	2:B:2180:GLN:O	2.14	0.65
2:B:2260:HIS:CD2	2:B:2290:ASP:OD1	2.50	0.65
2:B:2087:ASN:HB3	2:B:2089:LYS:HG3	1.78	0.65
2:B:2368:GLN:HB3	2:B:2369:GLU:OE2	1.95	0.65
2:B:2182:VAL:CA	2:B:2338:GLN:CB	2.71	0.65
1:D:25:LYS:O	1:D:28:GLN:N	2.30	0.65
2:E:2087:ASN:C	2:E:2088:ILE:HG12	2.16	0.65
2:B:2259:ILE:CD1	2:B:2291:ILE:C	2.63	0.65
2:E:1709:TRP:O	2:E:1728:ILE:HA	1.97	0.65
2:E:1097:HIS:HD2	2:E:1098:VAL:O	1.80	0.65
2:E:1763:ASN:C	2:E:1766:MET:HE1	2.17	0.65
2:E:2034:ILE:CG2	2:E:2040:TRP:CA	2.73	0.65
1:A:327:ILE:HG23	2:B:1340:ILE:HD11	1.79	0.65
2:E:1886:THR:HB	2:E:1888:HIS:CE1	2.32	0.65
2:E:1995:TRP:CZ3	2:E:2007:ARG:CD	2.80	0.64
2:B:1598:LEU:O	2:B:1598:LEU:HD22	1.97	0.64
2:B:2182:VAL:CB	2:B:2338:GLN:HB3	2.25	0.64
2:E:1836:ASN:HB2	2:E:1839:ASN:OD1	1.98	0.64
2:B:2192:LYS:O	2:B:2195:GLU:CA	2.44	0.64
2:E:2080:LYS:CE	2:E:2083:ILE:HD12	2.25	0.64
2:E:2178:GLU:O	2:E:2217:LYS:CE	2.46	0.64
2:E:2037:TYR:CE1	2:E:2038:HIS:NE2	2.66	0.64
2:B:2203:VAL:HG21	2:B:2382:PHE:CE1	2.32	0.64
2:B:1605:ARG:NE	2:B:1824:GLN:OE1	2.30	0.64
2:B:1162:THR:HG22	2:B:1169:TYR:HB2	1.79	0.64
2:B:2044:THR:H	2:B:2047:GLN:CD	2.01	0.64
2:E:1763:ASN:ND2	2:E:1763:ASN:H	1.93	0.64
2:E:1867:GLU:CD	2:E:1867:GLU:H	2.01	0.64
1:D:108:ILE:HD13	1:D:109:ASP:N	2.12	0.64
2:B:1961:ASN:OD1	2:B:2079:ILE:HD12	1.96	0.63
2:B:2007:ARG:HG2	2:B:2052:GLU:OE2	1.98	0.63
2:B:2339:LEU:CD1	2:B:2340:LEU:O	2.46	0.63
2:B:2035:LYS:HB3	2:B:2037:TYR:HD1	1.62	0.63
2:B:1149:SER:OG	2:B:1152:VAL:HG12	1.97	0.63
2:B:2230:LEU:HB3	2:B:2237:GLN:HG3	1.79	0.63
1:D:134:GLU:OE1	1:D:134:GLU:N	2.22	0.63
2:E:2384:ASN:HD22	2:E:2385:GLU:N	1.96	0.63
2:B:1105:ARG:HH11	2:B:1105:ARG:HG3	1.62	0.63
2:B:2208:TYR:HB3	2:B:2253:LEU:CD1	2.29	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1091:ASN:HB3	2:E:1093:LYS:CE	2.28	0.63
2:E:2277:HIS:ND1	2:E:2281:PHE:CD2	2.66	0.63
2:B:1999:LEU:HD12	2:B:2000:SER:N	2.12	0.63
2:B:1886:THR:OG1	2:B:1888:HIS:ND1	2.32	0.63
2:B:1999:LEU:HD11	2:B:2003:THR:CB	2.28	0.63
2:B:2159:ASN:ND2	2:B:2198:ASP:HA	2.13	0.63
2:E:2177:VAL:HG22	2:E:2180:GLN:HB2	1.80	0.63
2:E:1961:ASN:OD1	2:E:2079:ILE:HD12	1.98	0.62
2:E:1972:ASP:OD1	2:E:1972:ASP:N	2.32	0.62
2:E:1995:TRP:CZ2	2:E:2007:ARG:CD	2.82	0.62
2:B:2177:VAL:H	2:B:2338:GLN:HE22	1.47	0.62
2:B:2247:LEU:HD12	2:B:2248:PRO:HD3	1.82	0.62
2:E:1887:GLY:HA3	2:E:1992:TYR:CD2	2.34	0.62
2:B:2037:TYR:C	2:B:2038:HIS:HD2	2.03	0.62
1:D:110:GLU:HB3	1:D:113:THR:OG1	1.99	0.62
2:E:1573:LEU:HD22	2:E:1826:TYR:CD2	2.33	0.62
2:B:1477:PHE:CE2	2:B:1495:PHE:HD2	2.17	0.62
2:E:1707:HIS:HB2	2:E:1708:GLU:HG3	1.79	0.62
1:A:94:HIS:O	1:A:98:GLU:N	2.28	0.62
2:B:2153:ARG:HH11	2:B:2153:ARG:CG	2.12	0.62
2:B:2206:PHE:O	2:B:2224:VAL:HA	2.00	0.62
1:D:109:ASP:O	1:D:110:GLU:HB2	1.99	0.62
2:E:950:THR:O	2:E:954:ILE:HG13	2.00	0.62
2:E:1826:TYR:N	2:E:1827:GLN:HG3	2.11	0.62
2:E:1834:PHE:CE1	2:E:1958:PRO:HG2	2.35	0.62
2:E:1991:ILE:CG2	2:E:2008:LEU:HD22	2.29	0.62
2:E:2090:ALA:HB1	2:E:2091:PRO:HD2	1.82	0.62
2:B:918:ASP:OD1	2:B:1515:LYS:NZ	2.27	0.62
2:B:2286:ARG:CD	2:B:2312:TYR:CD2	2.83	0.62
2:E:1162:THR:HG22	2:E:1169:TYR:HB2	1.82	0.62
2:B:1324:GLY:HA2	2:B:1325:SER:CB	2.29	0.61
2:B:1983:GLU:CB	2:B:1984:PRO:HD2	2.27	0.61
2:B:2294:PHE:HZ	2:B:2296:THR:HG21	1.63	0.61
2:E:1839:ASN:O	2:E:1842:GLU:HG3	2.00	0.61
2:B:2046:GLU:O	2:B:2050:THR:N	2.33	0.61
2:E:2157:ILE:O	2:E:2160:THR:OG1	2.18	0.61
2:B:2278:SER:OG	2:B:2316:GLU:HG3	2.00	0.61
1:D:83:GLU:OE1	1:D:83:GLU:HA	1.99	0.61
2:E:1834:PHE:CD2	2:E:1960:GLU:CG	2.84	0.61
2:B:2043:PHE:CD2	2:B:2051:ILE:CD1	2.82	0.61
2:B:2286:ARG:HD3	2:B:2312:TYR:CD2	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1853:ASP:OD1	2:B:1855:THR:N	2.19	0.61
2:E:2039:LEU:HB2	2:E:2040:TRP:HE1	1.59	0.61
2:B:2185:LEU:O	2:B:2341:LEU:HA	2.00	0.61
2:B:2224:VAL:C	2:B:2349:PHE:HE1	2.04	0.61
2:E:2028:SER:O	2:E:2030:PRO:CD	2.46	0.61
2:E:2353:SER:HA	2:E:2375:LYS:HD3	1.82	0.61
2:B:2011:LEU:HD13	2:B:2040:TRP:CH2	2.35	0.61
2:E:1709:TRP:N	2:E:1729:THR:O	2.32	0.61
2:E:2084:LEU:HD13	2:E:2084:LEU:N	2.14	0.61
2:B:1759:TYR:HA	2:B:1762:ASP:HB2	1.82	0.61
2:B:2154:LYS:O	2:B:2157:ILE:HD13	2.01	0.61
2:E:1324:GLY:CA	2:E:1325:SER:CB	2.76	0.60
2:E:1710:GLU:OE2	2:E:1725:LYS:HA	2.01	0.60
2:E:1966:SER:OG	2:E:2016:LYS:CE	2.46	0.60
2:E:2177:VAL:HG21	2:E:2180:GLN:CG	2.31	0.60
2:E:2358:ASN:HB3	2:E:2387:HIS:ND1	2.15	0.60
2:B:1137:PRO:CG	2:B:1140:ASN:O	2.48	0.60
2:B:2305:TYR:HB3	2:B:2334:SER:HB3	1.82	0.60
1:A:354:ARG:HB2	1:A:355:PRO:HD3	1.83	0.60
2:B:1849:LYS:C	2:B:1850:LEU:HD23	2.22	0.60
2:E:1056:GLU:O	2:E:1060:LYS:HG2	2.01	0.60
2:B:1823:LEU:O	2:B:1824:GLN:HB2	2.01	0.60
2:B:1858:TYR:HB2	2:B:1899:TRP:CH2	2.37	0.60
2:E:2304:ALA:CB	2:E:2339:LEU:HD22	2.20	0.60
2:B:2152:TRP:HA	2:B:2154:LYS:H	1.67	0.60
2:B:2277:HIS:HB3	2:B:2307:LEU:CD2	2.31	0.60
2:E:2177:VAL:CG2	2:E:2180:GLN:CB	2.80	0.60
2:E:2214:ASP:N	2:E:2214:ASP:OD1	2.34	0.60
2:B:1030:GLN:HE22	2:B:1288:LEU:HA	1.64	0.60
2:B:1705:SER:HB2	2:B:1730:ASN:O	2.00	0.60
2:E:1467:GLU:OE1	2:E:1470:GLN:NE2	2.35	0.60
2:E:1468:ALA:HB1	2:E:1473:ARG:O	2.02	0.60
2:B:2236:VAL:HG21	2:B:2238:ILE:CD1	2.16	0.60
1:D:342:HIS:O	1:D:343:ASN:ND2	2.31	0.60
2:E:1999:LEU:HD11	2:E:2004:ALA:HB2	1.84	0.60
2:B:2227:VAL:HG12	2:B:2239:SER:HB3	1.84	0.60
2:E:1476:ALA:HB3	2:E:1479:GLU:HG3	1.84	0.60
2:E:1639:PRO:C	2:E:1640:THR:HG23	2.22	0.60
2:E:1706:VAL:HG23	2:E:1706:VAL:O	2.01	0.60
2:B:2182:VAL:HG12	2:B:2338:GLN:CD	2.21	0.59
2:B:2034:ILE:HG12	2:B:2041:PRO:N	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2309:ASP:O	2:B:2312:TYR:HB2	2.02	0.59
1:A:95:ASN:O	1:A:99:ARG:CB	2.51	0.59
1:A:319:LYS:N	1:A:319:LYS:HD2	2.18	0.59
2:B:900:PHE:N	2:B:1075:ASP:OD2	2.35	0.59
2:B:2353:SER:O	2:B:2375:LYS:NZ	2.30	0.59
1:A:314:PRO:HB2	1:A:319:LYS:HB2	1.84	0.59
2:B:1747:ASP:CG	2:B:1750:ARG:HG3	2.23	0.59
2:B:1840:TYR:HH	2:B:2005:PHE:HD2	1.50	0.59
2:E:1731:LYS:NZ	2:E:1768:PRO:HB2	2.17	0.59
1:A:86:GLY:O	1:A:90:GLU:CG	2.46	0.59
2:B:2268:PHE:HA	2:B:2305:TYR:CE2	2.37	0.59
2:E:1702:THR:CG2	2:E:1768:PRO:CG	2.77	0.59
2:E:1761:THR:O	2:E:1761:THR:OG1	2.21	0.59
2:B:2269:MET:HE3	2:B:2273:GLU:HB3	1.82	0.59
2:B:2309:ASP:O	2:B:2313:GLN:N	2.34	0.59
2:E:2080:LYS:CE	2:E:2083:ILE:HD11	2.30	0.59
2:B:1070:LEU:O	2:B:1074:VAL:HG22	2.03	0.59
2:B:1843:LEU:HD11	2:B:1884:PRO:HG2	1.84	0.59
2:B:1887:GLY:O	2:B:1991:ILE:HG22	2.03	0.59
2:E:2353:SER:HA	2:E:2375:LYS:HD2	1.84	0.59
2:B:1324:GLY:HA2	2:B:1325:SER:OG	2.03	0.59
2:B:1733:TRP:NE1	2:B:1771:THR:O	2.35	0.59
2:B:2209:GLY:N	2:B:2254:GLU:O	2.35	0.59
2:B:2302:LEU:HD12	2:B:2302:LEU:N	2.18	0.59
2:B:2350:ILE:HG23	2:B:2375:LYS:C	2.23	0.59
2:E:1034:ASN:OD1	2:E:1291:GLU:N	2.27	0.59
2:E:1067:ASN:HD22	2:E:1083:THR:CG2	2.11	0.59
2:B:1453:ASP:OD2	2:B:1486:ARG:HD2	2.03	0.58
2:B:1690:LYS:HA	2:B:1693:LYS:HG3	1.85	0.58
2:B:2230:LEU:O	2:B:2236:VAL:CG2	2.47	0.58
2:E:1893:ILE:HG12	2:E:1985:GLN:O	2.03	0.58
2:E:2039:LEU:C	2:E:2040:TRP:CG	2.76	0.58
2:B:2041:PRO:HG2	2:B:2043:PHE:CD1	2.38	0.58
2:B:2227:VAL:CG1	2:B:2239:SER:HB3	2.34	0.58
2:B:2265:GLU:O	2:B:2266:LEU:HD23	2.03	0.58
2:E:889:TRP:O	2:E:893:ARG:HG2	2.04	0.58
2:E:1015:PRO:HD2	2:E:1165:LEU:HD23	1.85	0.58
1:A:214:PHE:O	1:A:215:LYS:HB2	2.04	0.58
2:B:1687:HIS:HE1	2:B:1689:ARG:HG3	1.68	0.58
2:E:2267:LYS:O	2:E:2305:TYR:CZ	2.56	0.58
2:B:1727:LEU:CD2	2:B:1728:ILE:H	2.15	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2183:TYR:HD2	2:B:2289:ILE:HD13	1.67	0.58
2:E:2268:PHE:CD2	2:E:2331:PRO:HB3	2.38	0.58
2:E:1999:LEU:HD13	2:E:2003:THR:HB	1.85	0.58
2:B:1983:GLU:CB	2:B:1984:PRO:CD	2.80	0.58
2:B:2221:ILE:HD13	2:B:2256:LEU:HD12	1.85	0.58
2:B:1476:ALA:O	2:B:1479:GLU:HB2	2.03	0.58
2:B:1731:LYS:O	2:B:1771:THR:OG1	2.21	0.58
2:B:2053:SER:HA	2:B:2056:ARG:HD2	1.86	0.58
2:B:1025:VAL:O	2:B:1029:THR:HG23	2.04	0.58
2:B:1056:GLU:O	2:B:1060:LYS:HG2	2.03	0.58
2:B:2038:HIS:CD2	2:B:2038:HIS:N	2.72	0.58
2:E:1091:ASN:HB3	2:E:1093:LYS:HE3	1.84	0.58
1:D:344:PRO:HB3	2:E:1858:TYR:CE2	2.39	0.57
2:B:1186:TYR:HB2	2:B:1228:TRP:CZ3	2.39	0.57
2:E:1709:TRP:HB2	2:E:1729:THR:O	2.04	0.57
2:E:1834:PHE:O	2:E:1839:ASN:ND2	2.34	0.57
2:E:2041:PRO:CG	2:E:2043:PHE:CE1	2.80	0.57
2:E:2066:LYS:HB2	2:E:2067:TYR:HD1	1.69	0.57
2:E:2304:ALA:HB2	2:E:2339:LEU:HD21	1.73	0.57
2:E:1704:GLU:OE1	2:E:1704:GLU:HA	2.05	0.57
2:B:2268:PHE:O	2:B:2268:PHE:HD1	1.88	0.57
2:E:2021:SER:O	2:E:2024:MET:CB	2.53	0.57
2:B:1019:GLU:HB2	2:B:1023:LEU:HD23	1.87	0.57
2:B:2309:ASP:CA	2:B:2312:TYR:HB2	2.35	0.57
1:D:8:SER:OG	1:D:10:PRO:HD3	2.04	0.57
2:E:1251:TYR:OH	2:E:1274:ARG:HD3	2.05	0.57
2:E:1826:TYR:HA	2:E:1827:GLN:HB2	1.86	0.57
2:E:2162:LEU:HD21	2:E:2199:VAL:HG12	1.86	0.57
1:A:327:ILE:HG23	2:B:1340:ILE:CD1	2.34	0.57
2:B:1015:PRO:CD	2:B:1165:LEU:HD23	2.29	0.57
2:B:2185:LEU:HG	2:B:2186:PRO:CD	2.33	0.57
2:B:2194:ILE:HA	2:B:2197:SER:OG	2.04	0.57
2:B:1639:PRO:C	2:B:1640:THR:HG23	2.25	0.57
2:B:2259:ILE:CD1	2:B:2291:ILE:O	2.33	0.57
1:A:8:SER:OG	1:A:10:PRO:HD3	2.05	0.57
2:B:1251:TYR:OH	2:B:1274:ARG:HD3	2.04	0.57
2:B:889:TRP:O	2:B:893:ARG:HG2	2.05	0.57
2:B:2152:TRP:CA	2:B:2154:LYS:H	2.18	0.57
2:B:2221:ILE:HD13	2:B:2256:LEU:CD1	2.35	0.57
1:D:87:ALA:O	1:D:90:GLU:HB3	2.04	0.57
2:E:1324:GLY:HA3	2:E:1325:SER:OG	2.02	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1721:ASN:OD1	2:E:1722:ASP:N	2.38	0.57
2:B:1477:PHE:CE2	2:B:1495:PHE:CD2	2.93	0.57
2:B:2228:PRO:O	2:B:2239:SER:HB3	2.05	0.57
2:E:1687:HIS:HE1	2:E:1689:ARG:HG3	1.69	0.57
2:B:2046:GLU:O	2:B:2049:ILE:N	2.38	0.56
2:E:2018:ASN:CG	2:E:2058:LEU:HD11	2.20	0.56
2:B:1976:ASP:OD1	2:B:1980:LYS:HG3	2.05	0.56
2:B:1977:VAL:HG13	2:B:1978:VAL:N	2.19	0.56
2:B:2191:LYS:C	2:B:2195:GLU:HG3	2.25	0.56
2:B:2307:LEU:HD11	2:B:2311:GLY:HA3	1.88	0.56
2:E:930:ASN:HD22	2:E:933:GLU:HB2	1.70	0.56
2:E:2358:ASN:H	2:E:2387:HIS:CE1	2.22	0.56
2:B:1887:GLY:HA2	2:B:1992:TYR:CE2	2.40	0.56
2:B:2035:LYS:HD2	2:B:2037:TYR:HE1	1.68	0.56
2:B:2281:PHE:CE1	2:B:2288:CYS:CB	2.87	0.56
2:E:1468:ALA:O	2:E:1472:ASN:N	2.38	0.56
2:E:1687:HIS:CE1	2:E:1688:PRO:HD2	2.41	0.56
2:E:1826:TYR:OH	2:E:1938:LYS:CE	2.53	0.56
2:B:2060:LEU:O	2:B:2064:GLY:N	2.38	0.56
2:B:2210:MET:CE	2:B:2253:LEU:N	2.69	0.56
2:E:2277:HIS:CE1	2:E:2281:PHE:CD2	2.94	0.56
2:B:1075:ASP:OD1	2:B:1076:PRO:HD2	2.05	0.56
2:B:1264:GLY:O	2:B:1305:SER:OG	2.24	0.56
2:B:1605:ARG:CZ	2:B:1824:GLN:OE1	2.53	0.56
2:B:1995:TRP:HH2	2:B:2011:LEU:HD11	1.71	0.56
2:E:1431:HIS:C	2:E:1433:ASP:H	2.07	0.56
2:E:2162:LEU:HD12	2:E:2194:ILE:O	2.06	0.56
1:A:108:ILE:HG22	1:A:109:ASP:O	2.04	0.56
2:B:2208:TYR:CB	2:B:2253:LEU:HD11	2.35	0.56
2:B:2235:SER:HB3	2:B:2322:MET:HA	1.88	0.56
2:B:2315:GLY:C	2:B:2318:ASN:H	2.08	0.56
2:E:1973:LYS:HE3	2:E:2038:HIS:O	2.06	0.56
2:E:2182:VAL:HG12	2:E:2338:GLN:CB	2.36	0.56
2:B:2037:TYR:CB	2:B:2038:HIS:CD2	2.79	0.56
2:B:2208:TYR:HB3	2:B:2253:LEU:HD22	1.84	0.56
2:B:2282:ALA:HB1	2:B:2316:GLU:OE2	2.03	0.56
2:E:1711:VAL:HG12	2:E:1791:PHE:CA	2.36	0.56
2:E:1711:VAL:HG12	2:E:1791:PHE:CB	2.34	0.56
2:E:2210:MET:HE1	2:E:2252:GLY:CA	2.22	0.56
2:B:2024:MET:SD	2:B:2157:ILE:HG22	2.46	0.56
2:E:1826:TYR:CZ	2:E:1938:LYS:NZ	2.72	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2043:PHE:CD2	2:B:2047:GLN:OE1	2.59	0.55
2:B:2247:LEU:CG	2:B:2375:LYS:HA	2.35	0.55
2:B:2258:TRP:HD1	2:B:2258:TRP:H	1.52	0.55
2:B:2003:THR:O	2:B:2006:SER:N	2.38	0.55
2:B:2358:ASN:CB	2:B:2387:HIS:ND1	2.47	0.55
1:A:31:HIS:HB3	1:A:96:PHE:CD2	2.41	0.55
2:E:1293:THR:O	2:E:1295:GLN:N	2.39	0.55
2:B:1598:LEU:C	2:B:1598:LEU:HD13	2.26	0.55
2:E:1731:LYS:NZ	2:E:1768:PRO:CB	2.68	0.55
2:E:2178:GLU:O	2:E:2217:LYS:CD	2.55	0.55
1:A:85:ASP:OD1	1:A:88:LYS:N	2.22	0.55
2:B:1687:HIS:CE1	2:B:1688:PRO:HD2	2.41	0.55
2:B:1887:GLY:CA	2:B:1992:TYR:CE2	2.90	0.55
2:E:1293:THR:O	2:E:1293:THR:OG1	2.24	0.55
2:E:2025:ILE:HG23	2:E:2054:GLN:CD	2.26	0.55
2:E:2087:ASN:HD22	2:E:2088:ILE:N	2.04	0.55
2:E:2213:LYS:CA	2:E:2215:HIS:H	2.12	0.55
2:B:1795:LYS:HB3	2:B:1796:PRO:HD3	1.89	0.55
2:B:2183:TYR:HD1	2:B:2219:LYS:HB2	1.71	0.55
2:E:1998:ARG:HD2	2:E:2045:ASP:CG	2.27	0.55
2:E:2278:SER:OG	2:E:2279:LYS:N	2.39	0.55
2:E:1259:LEU:HD23	2:E:1268:ARG:HG3	1.89	0.55
2:B:1866:PHE:HD1	2:B:1866:PHE:H	1.53	0.55
2:B:1895:HIS:NE2	2:B:1896:THR:OG1	2.38	0.55
2:B:2037:TYR:CB	2:B:2038:HIS:HD2	2.15	0.55
1:D:69:ILE:HD13	1:D:80:MET:HA	1.89	0.55
1:A:48:HIS:CE1	1:A:53:SER:HG	2.25	0.55
2:B:2017:THR:CG2	2:B:2062:GLU:HG3	2.37	0.55
2:B:2024:MET:SD	2:B:2157:ILE:CG2	2.95	0.55
2:E:1991:ILE:HG23	2:E:2008:LEU:HD22	1.89	0.55
2:E:2232:HIS:HE1	2:E:2237:GLN:HE21	1.55	0.55
2:B:2208:TYR:CG	2:B:2253:LEU:HD13	2.42	0.55
2:E:2193:PHE:CZ	2:E:2203:VAL:HG12	2.42	0.55
2:E:2244:ILE:O	2:E:2250:THR:HG21	2.06	0.55
2:B:2002:TYR:C	2:B:2002:TYR:CD1	2.80	0.54
2:B:1679:GLU:HB3	2:B:1704:GLU:O	2.07	0.54
2:B:1733:TRP:CE2	2:B:1772:GLY:HA3	2.41	0.54
2:B:2037:TYR:C	2:B:2038:HIS:CD2	2.80	0.54
2:B:2386:MET:HE2	2:B:2387:HIS:N	2.22	0.54
2:E:2034:ILE:CD1	2:E:2040:TRP:C	2.58	0.54
2:B:2061:THR:O	2:B:2064:GLY:N	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2182:VAL:N	2:B:2338:GLN:HB2	2.22	0.54
2:B:934:ARG:HG2	2:B:934:ARG:HH11	1.73	0.54
2:B:1704:GLU:CG	2:B:1705:SER:H	2.20	0.54
2:B:2037:TYR:CD1	2:B:2037:TYR:N	2.76	0.54
2:B:2183:TYR:HD1	2:B:2219:LYS:CB	2.20	0.54
2:B:2209:GLY:HA3	2:B:2256:LEU:CD2	2.35	0.54
2:B:2259:ILE:CD1	2:B:2291:ILE:CA	2.84	0.54
2:B:2262:GLN:N	2:B:2293:ILE:O	2.41	0.54
2:B:2382:PHE:HB3	2:B:2383:TYR:HD1	1.72	0.54
2:E:1598:LEU:C	2:E:1598:LEU:HD22	2.28	0.54
2:E:2179:GLU:HG2	2:E:2180:GLN:N	2.22	0.54
2:B:2192:LYS:HA	2:B:2195:GLU:CG	2.37	0.54
2:E:1710:GLU:HA	2:E:1728:ILE:HA	1.90	0.54
1:A:347:VAL:HG21	2:B:1875:ILE:CD1	2.33	0.54
2:B:1259:LEU:HD23	2:B:1268:ARG:HG3	1.90	0.54
2:B:2192:LYS:CA	2:B:2195:GLU:HB2	2.37	0.54
2:E:1624:LEU:HD23	2:E:1625:VAL:N	2.22	0.54
1:A:12:GLU:HG3	1:A:25:LYS:HA	1.89	0.54
2:B:885:VAL:HG21	2:B:1124:LEU:HD21	1.90	0.54
1:D:35:ASP:OD2	1:D:104:SER:OG	2.25	0.54
2:E:1466:GLN:O	2:E:1469:ILE:HB	2.07	0.54
2:E:1825:ILE:O	2:E:1826:TYR:HB3	2.08	0.54
2:B:1139:ASN:H	2:B:1139:ASN:ND2	2.05	0.54
2:B:2208:TYR:HB3	2:B:2253:LEU:HD11	1.90	0.54
2:E:2079:ILE:HD13	2:E:2079:ILE:N	2.23	0.54
2:B:1598:LEU:H	2:B:1598:LEU:HD12	1.72	0.54
2:B:2050:THR:HA	2:B:2053:SER:OG	2.06	0.54
2:B:2209:GLY:O	2:B:2254:GLU:O	2.25	0.54
2:B:2358:ASN:O	2:B:2387:HIS:ND1	2.41	0.54
1:D:354:ARG:HB2	1:D:355:PRO:HD3	1.89	0.54
2:E:1292:ARG:HG2	2:E:1292:ARG:HH11	1.72	0.54
2:B:1801:SER:O	2:B:1805:ILE:HG23	2.08	0.54
2:B:1882:LEU:CD1	2:B:1991:ILE:HG21	2.37	0.54
2:B:1070:LEU:O	2:B:1074:VAL:CG2	2.56	0.53
2:B:1961:ASN:HA	2:B:2079:ILE:HD12	1.89	0.53
2:B:2007:ARG:HG2	2:B:2052:GLU:CD	2.28	0.53
2:B:2188:ASN:ND2	2:B:2346:THR:HB	2.20	0.53
2:B:2210:MET:HE2	2:B:2252:GLY:C	2.27	0.53
2:B:2278:SER:HB3	2:B:2316:GLU:CG	2.38	0.53
2:B:1190:ASN:N	2:B:1191:PRO:HD3	2.22	0.53
2:B:1866:PHE:N	2:B:1866:PHE:CD1	2.76	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2296:THR:O	2:B:2297:PRO:C	2.44	0.53
2:B:2386:MET:HE2	2:B:2387:HIS:H	1.73	0.53
2:E:1702:THR:HG23	2:E:1768:PRO:HG3	1.85	0.53
2:E:1899:TRP:HA	2:E:1899:TRP:CE3	2.43	0.53
2:B:2007:ARG:NE	2:B:2052:GLU:OE2	2.41	0.53
2:B:2184:VAL:O	2:B:2221:ILE:HG12	2.08	0.53
2:B:2256:LEU:C	2:B:2288:CYS:HG	2.03	0.53
1:A:208:VAL:O	1:A:213:ILE:HD12	2.08	0.53
1:D:347:VAL:HG21	2:E:1875:ILE:CD1	2.38	0.53
2:B:2202:GLN:HG2	2:B:2261:THR:O	2.09	0.53
2:E:1259:LEU:CD2	2:E:1268:ARG:HG3	2.38	0.53
2:E:1801:SER:O	2:E:1805:ILE:HG12	2.09	0.53
2:E:2202:GLN:NE2	2:E:2235:SER:O	2.37	0.53
2:B:950:THR:O	2:B:954:ILE:N	2.40	0.53
2:B:2233:VAL:HG23	2:B:2234:GLY:N	2.24	0.53
2:E:2227:VAL:HG13	2:E:2228:PRO:HD2	1.91	0.53
1:A:109:ASP:OD2	1:A:113:THR:OG1	2.27	0.53
1:D:109:ASP:OD1	1:D:110:GLU:N	2.42	0.53
2:B:2035:LYS:HB3	2:B:2037:TYR:CD1	2.43	0.53
2:E:2003:THR:O	2:E:2006:SER:N	2.42	0.53
2:B:1624:LEU:C	2:B:1624:LEU:HD23	2.29	0.53
2:B:2185:LEU:O	2:B:2342:SER:N	2.37	0.53
2:B:2202:GLN:CG	2:B:2261:THR:O	2.57	0.53
1:A:69:ILE:HD13	1:A:80:MET:HA	1.90	0.53
2:B:1598:LEU:H	2:B:1598:LEU:CD1	2.21	0.53
2:B:2339:LEU:HD12	2:B:2339:LEU:C	2.26	0.53
2:B:2339:LEU:HD13	2:B:2340:LEU:H	1.68	0.53
2:E:1104:ILE:CG2	2:E:1107:LEU:HD13	2.39	0.53
2:E:2384:ASN:ND2	2:E:2385:GLU:N	2.57	0.53
2:B:1259:LEU:CD2	2:B:1268:ARG:HG3	2.39	0.52
2:B:2339:LEU:C	2:B:2340:LEU:HD12	2.24	0.52
1:A:214:PHE:CE1	1:A:220:TYR:HA	2.44	0.52
2:B:1107:LEU:HD23	2:B:1109:PHE:CE1	2.44	0.52
2:B:2273:GLU:OE2	2:B:2290:ASP:OD2	2.26	0.52
2:B:2294:PHE:CD2	2:B:2301:SER:OG	2.36	0.52
2:B:1466:GLN:OE1	2:B:1466:GLN:HA	2.08	0.52
2:B:1719:GLU:OE1	2:B:1719:GLU:HA	2.09	0.52
2:B:2350:ILE:HD13	2:B:2376:TYR:CA	2.30	0.52
2:E:1279:VAL:HG12	2:E:1280:SER:O	2.09	0.52
2:E:2024:MET:O	2:E:2027:LEU:N	2.42	0.52
2:B:1383:PHE:HE2	2:B:1387:VAL:HG21	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1599:SER:C	2:B:1600:GLN:HG2	2.29	0.52
2:B:1721:ASN:CB	2:E:1463:THR:HB	2.39	0.52
2:B:2223:THR:OG1	2:B:2348:ASN:OD1	2.08	0.52
2:E:1966:SER:HG	2:E:2016:LYS:HE3	1.72	0.52
2:E:2014:ALA:HA	2:E:2059:ILE:HD12	1.87	0.52
2:E:2083:ILE:HG22	2:E:2084:LEU:CD1	2.38	0.52
2:E:2043:PHE:HA	2:E:2047:GLN:OE1	2.10	0.52
2:B:1104:ILE:CG2	2:B:1107:LEU:HD13	2.39	0.52
2:B:2183:TYR:CE2	2:B:2289:ILE:HD13	2.44	0.52
2:E:1324:GLY:HA2	2:E:1325:SER:HG	1.71	0.52
2:E:1864:LYS:HG3	2:E:1870:VAL:HG22	1.90	0.52
2:E:2182:VAL:HG12	2:E:2338:GLN:HB2	1.91	0.52
2:E:2267:LYS:O	2:E:2305:TYR:CE1	2.63	0.52
2:E:1767:TYR:N	2:E:1767:TYR:CD1	2.77	0.52
2:E:2060:LEU:O	2:E:2063:TYR:HB3	2.09	0.52
2:B:1848:ILE:O	2:B:1930:PRO:HA	2.09	0.52
2:B:2060:LEU:O	2:B:2063:TYR:CB	2.53	0.52
2:B:2280:LEU:CD1	2:B:2281:PHE:CE2	2.91	0.52
1:D:88:LYS:O	1:D:92:ILE:HG13	2.10	0.52
1:D:106:PRO:C	1:D:107:LYS:CG	2.72	0.52
2:E:918:ASP:OD1	2:E:1515:LYS:NZ	2.39	0.52
2:E:1286:TRP:CE2	2:E:1302:LEU:HD11	2.45	0.52
2:E:1666:CYS:SG	2:E:1683:LYS:HE3	2.50	0.52
2:E:2384:ASN:HD22	2:E:2386:MET:N	2.02	0.52
2:B:1595:ARG:HG3	2:B:1596:THR:N	2.24	0.52
2:B:2357:TRP:CH2	2:B:2382:PHE:HD1	2.22	0.52
2:E:1212:ARG:HG2	2:E:1212:ARG:HH11	1.74	0.52
2:B:2233:VAL:CG2	2:B:2234:GLY:N	2.73	0.52
2:E:2074:LEU:C	2:E:2075:THR:HG1	2.09	0.52
1:A:296:SER:O	1:A:299:LYS:HG2	2.10	0.51
2:B:1093:LYS:HE2	2:B:1094:ASP:OD1	2.10	0.51
2:E:2011:LEU:O	2:E:2014:ALA:HB3	2.09	0.51
2:E:2302:LEU:HD12	2:E:2302:LEU:N	2.24	0.51
2:B:2035:LYS:CD	2:B:2037:TYR:HE1	2.22	0.51
2:B:2152:TRP:HA	2:B:2153:ARG:C	2.29	0.51
2:B:2182:VAL:HG13	2:B:2338:GLN:CD	2.23	0.51
2:B:2286:ARG:HD2	2:B:2312:TYR:CE2	2.45	0.51
2:E:1093:LYS:CD	2:E:1094:ASP:HA	2.41	0.51
1:D:20:TYR:CZ	1:D:106:PRO:HG2	2.44	0.51
2:E:1107:LEU:HD23	2:E:1109:PHE:CE1	2.45	0.51
2:B:2162:LEU:HD23	2:B:2165:ARG:NE	2.24	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2189:LEU:HD21	2:B:2347:GLY:CA	2.40	0.51
2:E:1763:ASN:H	2:E:1763:ASN:HD22	1.58	0.51
2:E:1991:ILE:HG21	2:E:2008:LEU:HD22	1.92	0.51
2:E:2062:GLU:OE2	2:E:2065:ARG:NH2	2.34	0.51
2:E:2064:GLY:O	2:E:2067:TYR:CA	2.58	0.51
2:E:2361:PHE:CZ	2:E:2383:TYR:CE1	2.98	0.51
2:E:1097:HIS:CD2	2:E:1098:VAL:O	2.63	0.51
2:E:1899:TRP:HA	2:E:1899:TRP:HE3	1.75	0.51
2:B:959:LEU:HD12	2:B:1077:ASN:OD1	2.11	0.51
2:E:1767:TYR:N	2:E:1767:TYR:HD1	2.09	0.51
2:B:1041:VAL:HG21	2:B:1253:LYS:HA	1.91	0.51
2:B:2017:THR:HG23	2:B:2062:GLU:OE2	2.11	0.51
2:B:2037:TYR:HB2	2:B:2038:HIS:NE2	2.26	0.51
2:E:1843:LEU:HD22	2:E:1884:PRO:HG3	1.93	0.51
2:E:2357:TRP:H	2:E:2387:HIS:CE1	2.28	0.51
2:B:2155:SER:O	2:B:2156:ALA:HB3	2.10	0.51
2:E:920:LYS:HG3	2:E:940:ILE:HG21	1.92	0.51
2:E:1292:ARG:HG2	2:E:1292:ARG:NH1	2.26	0.51
2:B:1029:THR:HG22	2:B:1260:PHE:CZ	2.46	0.51
2:B:1029:THR:HG22	2:B:1260:PHE:HZ	1.75	0.51
2:B:1105:ARG:HG3	2:B:1105:ARG:NH1	2.25	0.51
2:B:2019:GLU:OE2	2:B:2167:LYS:NZ	2.44	0.51
2:B:2210:MET:HE1	2:B:2253:LEU:CB	2.40	0.51
2:E:1472:ASN:C	2:E:2325:LEU:CB	2.75	0.51
2:E:2025:ILE:CG2	2:E:2054:GLN:CD	2.79	0.51
2:E:2050:THR:HA	2:E:2053:SER:HB3	1.93	0.51
2:B:1687:HIS:CE1	2:B:1689:ARG:HG3	2.46	0.50
2:B:2208:TYR:CB	2:B:2253:LEU:CD1	2.88	0.50
2:E:2041:PRO:HG2	2:E:2043:PHE:CE1	2.46	0.50
2:E:2049:ILE:O	2:E:2053:SER:HB3	2.11	0.50
2:B:1075:ASP:HB3	2:B:1078:ILE:HD12	1.93	0.50
2:B:1317:ARG:O	2:B:1321:MET:HB2	2.12	0.50
2:B:1661:ILE:HG23	2:B:1805:ILE:CD1	2.41	0.50
2:B:2157:ILE:HA	2:B:2160:THR:OG1	2.10	0.50
2:B:2236:VAL:CB	2:B:2238:ILE:HD11	2.41	0.50
2:E:1605:ARG:NH2	2:E:1824:GLN:OE1	2.44	0.50
2:E:2034:ILE:CG2	2:E:2040:TRP:H	2.22	0.50
2:B:1999:LEU:CD1	2:B:2003:THR:HB	2.36	0.50
2:B:2194:ILE:O	2:B:2197:SER:OG	2.28	0.50
2:B:2350:ILE:CD1	2:B:2376:TYR:HA	2.31	0.50
2:E:1599:SER:C	2:E:1600:GLN:HG2	2.31	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2183:TYR:OH	2:B:2219:LYS:NZ	2.37	0.50
2:B:2247:LEU:CD1	2:B:2248:PRO:HD3	2.41	0.50
1:D:55:ARG:NH2	1:D:279:TYR:CZ	2.79	0.50
2:E:1057:MET:CE	2:E:1166:ASP:HB2	2.41	0.50
2:E:1687:HIS:CE1	2:E:1689:ARG:HG3	2.46	0.50
2:E:2227:VAL:HG13	2:E:2239:SER:OG	2.10	0.50
2:E:1343:PHE:HB3	2:E:1444:ILE:CD1	2.40	0.50
2:E:1795:LYS:HB3	2:E:1796:PRO:HD3	1.94	0.50
2:B:1854:ASP:HA	2:B:1857:VAL:HG23	1.94	0.50
2:B:2157:ILE:CA	2:B:2160:THR:OG1	2.60	0.50
2:B:2162:LEU:CD2	2:B:2165:ARG:NE	2.74	0.50
2:E:885:VAL:HG21	2:E:1124:LEU:HD21	1.94	0.50
2:E:1983:GLU:HB2	2:E:1984:PRO:HD2	1.94	0.50
2:E:2040:TRP:CD1	2:E:2040:TRP:N	2.80	0.50
1:A:327:ILE:HB	1:A:328:TYR:CD2	2.47	0.50
2:B:1969:MET:O	2:B:1975:SER:OG	2.30	0.50
2:B:2032:ILE:CD1	2:B:2047:GLN:HE22	2.24	0.50
2:B:2350:ILE:CD1	2:B:2376:TYR:CD1	2.95	0.50
2:E:2018:ASN:ND2	2:E:2058:LEU:HG	2.17	0.50
1:D:153:LEU:HD23	1:D:153:LEU:C	2.32	0.50
1:D:280:SER:HB2	1:D:313:TYR:CE1	2.47	0.50
2:E:1764:VAL:N	2:E:1766:MET:HE2	2.24	0.50
1:A:215:LYS:O	1:A:216:ASN:OD1	2.29	0.50
2:B:1036:SER:HB3	2:B:1154:LYS:HE2	1.93	0.50
2:B:2278:SER:CB	2:B:2316:GLU:HG3	2.42	0.50
2:E:945:ASP:OD1	2:E:945:ASP:N	2.45	0.50
1:D:19:GLN:HE22	1:D:110:GLU:CG	2.18	0.49
2:E:1854:ASP:OD1	2:E:1937:ARG:HD3	2.11	0.49
2:E:2051:ILE:HD13	2:E:2051:ILE:N	2.27	0.49
2:E:2083:ILE:HG22	2:E:2084:LEU:H	1.77	0.49
2:E:2177:VAL:CG2	2:E:2180:GLN:HG3	2.42	0.49
2:E:2182:VAL:HA	2:E:2338:GLN:HB2	1.92	0.49
2:E:2311:GLY:HA2	2:E:2333:PHE:CD1	2.46	0.49
2:B:969:ILE:HA	2:B:981:VAL:O	2.12	0.49
2:B:1666:CYS:SG	2:B:1683:LYS:HE3	2.52	0.49
2:B:1890:PHE:HB3	2:B:1986:MET:SD	2.52	0.49
2:B:2182:VAL:HG23	2:B:2182:VAL:O	2.11	0.49
2:E:1015:PRO:CD	2:E:1165:LEU:HD23	2.42	0.49
2:E:1705:SER:OG	2:E:1730:ASN:CB	2.60	0.49
2:E:2064:GLY:C	2:E:2067:TYR:H	2.11	0.49
2:E:2083:ILE:HG22	2:E:2084:LEU:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:280:SER:HB2	1:A:313:TYR:CE1	2.48	0.49
2:B:1604:ARG:HH22	2:B:1822:GLY:C	2.14	0.49
2:B:2192:LYS:HA	2:B:2195:GLU:CB	2.41	0.49
1:D:151:GLU:OE2	1:D:154:LYS:CE	2.49	0.49
2:B:1015:PRO:CD	2:B:1165:LEU:CD2	2.90	0.49
2:B:2041:PRO:CG	2:B:2043:PHE:CE1	2.96	0.49
2:B:2052:GLU:O	2:B:2056:ARG:CG	2.40	0.49
1:D:77:LEU:C	1:D:77:LEU:HD12	2.33	0.49
2:E:988:GLU:O	2:E:991:THR:HG22	2.12	0.49
2:E:1711:VAL:CA	2:E:1790:TRP:O	2.60	0.49
2:E:2201:ILE:HG22	2:E:2382:PHE:CZ	2.48	0.49
2:B:1463:THR:O	2:B:1467:GLU:HG2	2.12	0.49
2:B:2208:TYR:C	2:B:2253:LEU:HD21	2.33	0.49
2:B:2247:LEU:CD1	2:B:2375:LYS:HA	2.42	0.49
2:E:1394:LEU:HD23	2:E:1570:TRP:CZ2	2.47	0.49
2:E:2163:TYR:CE1	2:E:2164:LEU:CD2	2.96	0.49
2:B:2055:MET:O	2:B:2058:LEU:N	2.45	0.49
2:B:2153:ARG:HA	2:B:2155:SER:O	2.12	0.49
1:D:88:LYS:NZ	1:D:92:ILE:HD11	2.27	0.49
1:D:326:LEU:O	1:D:326:LEU:HG	2.13	0.49
2:E:1766:MET:C	2:E:1767:TYR:HD1	2.16	0.49
1:A:72:ASP:OD2	1:A:75:ASP:HB2	2.13	0.49
1:A:83:GLU:CG	1:A:89:PHE:HB2	2.42	0.49
2:B:1687:HIS:ND1	2:B:1688:PRO:CD	2.76	0.49
2:B:2064:GLY:O	2:B:2068:ASN:N	2.45	0.49
1:D:110:GLU:O	1:D:111:ASP:CB	2.60	0.49
2:E:1036:SER:HB3	2:E:1154:LYS:HE2	1.95	0.49
2:E:1368:GLN:NE2	2:E:1389:TYR:OH	2.44	0.49
2:E:1383:PHE:HE2	2:E:1387:VAL:HG21	1.75	0.49
2:B:1097:HIS:ND1	2:B:1098:VAL:N	2.60	0.49
2:B:1137:PRO:CD	2:B:1140:ASN:O	2.61	0.49
2:B:1324:GLY:CA	2:B:1325:SER:CB	2.91	0.49
2:B:2182:VAL:CB	2:B:2338:GLN:CB	2.89	0.49
2:B:2183:TYR:N	2:B:2338:GLN:O	2.40	0.49
2:B:2284:LYS:HE2	2:B:2285:LYS:CA	2.42	0.49
2:E:1461:TYR:O	2:E:1465:ARG:N	2.44	0.49
2:E:2177:VAL:HG23	2:E:2180:GLN:N	2.19	0.49
2:E:2251:GLU:OE1	2:E:2251:GLU:N	2.46	0.49
2:B:920:LYS:HG3	2:B:940:ILE:HG21	1.94	0.49
2:B:930:ASN:N	2:B:933:GLU:OE1	2.46	0.49
2:B:1624:LEU:HD21	2:B:1633:PHE:CD1	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1808:ALA:O	2:B:1809:ASN:C	2.51	0.49
2:B:1993:ASP:CG	2:B:2038:HIS:CB	2.58	0.49
2:B:2381:GLU:H	2:B:2381:GLU:CD	2.00	0.49
2:E:2087:ASN:ND2	2:E:2088:ILE:N	2.61	0.49
2:B:1465:ARG:HG3	2:B:1465:ARG:NH1	2.28	0.48
2:B:1729:THR:CG2	2:B:1771:THR:CG2	2.54	0.48
2:B:2044:THR:H	2:B:2047:GLN:NE2	2.11	0.48
2:B:2259:ILE:HD13	2:B:2291:ILE:HG21	1.82	0.48
2:B:2259:ILE:HD12	2:B:2291:ILE:CA	2.42	0.48
2:B:2379:PRO:C	2:B:2380:LEU:HD23	2.33	0.48
2:E:2163:TYR:CD1	2:E:2164:LEU:N	2.81	0.48
2:E:2384:ASN:HD22	2:E:2384:ASN:C	2.16	0.48
2:B:2282:ALA:O	2:B:2286:ARG:HG2	2.14	0.48
2:E:1733:TRP:CE2	2:E:1767:TYR:CD2	2.97	0.48
2:E:2163:TYR:CE1	2:E:2164:LEU:HD23	2.48	0.48
2:E:2177:VAL:CG2	2:E:2180:GLN:CG	2.91	0.48
2:E:2183:TYR:CD1	2:E:2289:ILE:HD13	2.48	0.48
2:B:2342:SER:HG	2:B:2344:ARG:H	1.59	0.48
2:B:2208:TYR:OH	2:B:2244:ILE:HG23	2.13	0.48
2:B:2307:LEU:HD12	2:B:2307:LEU:C	2.28	0.48
2:E:1209:LYS:HG2	2:E:1212:ARG:NH2	2.27	0.48
2:E:2269:MET:HE3	2:E:2273:GLU:HB3	1.95	0.48
2:E:2270:ALA:HB1	2:E:2324:VAL:HA	1.95	0.48
2:B:1432:GLU:O	2:B:1433:ASP:CB	2.61	0.48
2:B:2044:THR:O	2:B:2048:TRP:CD1	2.66	0.48
2:B:2284:LYS:C	2:B:2284:LYS:HE3	2.34	0.48
1:D:224:LEU:HD23	1:D:224:LEU:C	2.33	0.48
2:E:1709:TRP:O	2:E:1728:ILE:CA	2.62	0.48
2:E:2183:TYR:CE1	2:E:2289:ILE:HG21	2.48	0.48
2:B:930:ASN:O	2:B:934:ARG:HB2	2.14	0.48
2:B:2280:LEU:HD12	2:B:2281:PHE:CD2	2.49	0.48
2:B:2386:MET:CE	2:B:2387:HIS:N	2.76	0.48
2:B:2210:MET:CE	2:B:2252:GLY:C	2.82	0.48
2:E:1343:PHE:HB3	2:E:1444:ILE:HD13	1.96	0.48
2:E:1762:ASP:CG	2:E:1763:ASN:N	2.66	0.48
2:E:2271:ALA:HA	2:E:2329:PHE:CE1	2.48	0.48
1:A:77:LEU:C	1:A:77:LEU:HD12	2.33	0.48
1:A:77:LEU:HD12	1:A:77:LEU:O	2.14	0.48
2:B:1687:HIS:CG	2:B:1688:PRO:HD2	2.49	0.48
2:B:1899:TRP:HB3	2:B:1905:LEU:HD21	1.95	0.48
2:B:2278:SER:HB3	2:B:2316:GLU:HG2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2384:ASN:HD22	2:B:2385:GLU:N	2.11	0.48
1:D:280:SER:CB	1:D:313:TYR:CE1	2.97	0.48
2:E:1865:THR:OG1	2:E:1867:GLU:OE1	2.31	0.48
2:E:2019:GLU:O	2:E:2019:GLU:HG2	2.14	0.48
2:B:1164:TYR:O	2:B:1167:ARG:N	2.42	0.48
2:B:1188:ALA:O	2:B:1191:PRO:CD	2.62	0.48
2:B:1368:GLN:NE2	2:B:1389:TYR:OH	2.47	0.48
2:B:1959:THR:OG1	2:B:1960:GLU:N	2.47	0.48
2:B:2183:TYR:HE2	2:B:2289:ILE:HG21	1.79	0.48
2:B:2307:LEU:CD1	2:B:2308:THR:O	2.62	0.48
2:B:2358:ASN:CB	2:B:2387:HIS:HE1	2.04	0.48
2:E:2037:TYR:C	2:E:2038:HIS:CD2	2.88	0.48
2:E:2066:LYS:HB2	2:E:2067:TYR:CE1	2.49	0.48
1:A:108:ILE:HD12	1:A:108:ILE:N	2.29	0.47
2:B:936:GLU:O	2:B:940:ILE:CD1	2.61	0.47
2:B:1041:VAL:HG23	2:B:1041:VAL:O	2.13	0.47
2:B:1570:TRP:O	2:B:1571:GLU:HG3	2.14	0.47
2:B:2177:VAL:N	2:B:2338:GLN:NE2	2.59	0.47
2:E:2268:PHE:CD1	2:E:2268:PHE:C	2.87	0.47
2:B:1759:TYR:O	2:B:1762:ASP:CB	2.62	0.47
2:B:2186:PRO:HG3	2:B:2345:ILE:HD12	1.95	0.47
2:B:2267:LYS:O	2:B:2305:TYR:HE2	1.96	0.47
2:E:2277:HIS:O	2:E:2281:PHE:HD2	1.96	0.47
2:B:1895:HIS:CD2	2:B:1896:THR:HG1	2.26	0.47
2:B:2294:PHE:CE1	2:B:2296:THR:HG23	2.48	0.47
2:B:2350:ILE:HD11	2:B:2376:TYR:CE1	2.49	0.47
2:B:1394:LEU:HD23	2:B:1570:TRP:CZ2	2.49	0.47
2:B:1558:GLU:CD	2:B:1563:LYS:HZ1	2.17	0.47
2:B:1624:LEU:HD23	2:B:1625:VAL:N	2.30	0.47
2:B:1677:GLN:OE1	2:B:1706:VAL:HG11	2.15	0.47
2:B:2058:LEU:O	2:B:2059:ILE:C	2.52	0.47
2:B:1189:GLU:C	2:B:1191:PRO:HD3	2.35	0.47
2:B:2025:ILE:HG22	2:B:2025:ILE:O	2.12	0.47
2:B:2268:PHE:CE2	2:B:2331:PRO:HG3	2.49	0.47
1:D:108:ILE:HD13	1:D:108:ILE:H	1.78	0.47
2:E:936:GLU:O	2:E:940:ILE:CD1	2.61	0.47
2:B:953:ARG:HH11	2:B:953:ARG:HG3	1.79	0.47
2:B:2302:LEU:N	2:B:2302:LEU:CD1	2.77	0.47
2:E:1472:ASN:HB3	2:E:2325:LEU:O	2.14	0.47
2:E:1791:PHE:CD1	2:E:1791:PHE:C	2.87	0.47
2:E:2053:SER:OG	2:E:2054:GLN:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1075:ASP:CB	2:B:1078:ILE:HD12	2.45	0.47
2:B:1097:HIS:ND1	2:B:1098:VAL:O	2.48	0.47
2:B:2163:TYR:CD1	2:B:2164:LEU:N	2.83	0.47
2:B:2192:LYS:O	2:B:2196:ILE:N	2.46	0.47
2:B:2215:HIS:HB3	2:B:2218:VAL:HB	1.97	0.47
2:B:2230:LEU:CD2	2:B:2237:GLN:HG3	2.44	0.47
2:B:2247:LEU:HA	2:B:2247:LEU:HD13	1.74	0.47
2:B:2306:ASN:HB2	2:B:2335:THR:OG1	2.14	0.47
1:D:77:LEU:HD12	1:D:77:LEU:O	2.14	0.47
1:D:215:LYS:HD2	1:D:215:LYS:N	2.29	0.47
1:D:320:ASP:OD1	2:E:1330:LYS:HE2	2.15	0.47
2:E:969:ILE:HA	2:E:981:VAL:O	2.15	0.47
2:E:1079:ALA:O	2:E:1083:THR:HG22	2.15	0.47
2:E:1686:VAL:HG11	2:E:1690:LYS:HD2	1.95	0.47
2:E:1886:THR:CB	2:E:1888:HIS:CE1	2.96	0.47
2:E:2004:ALA:O	2:E:2007:ARG:HB3	2.14	0.47
2:E:2339:LEU:O	2:E:2340:LEU:HD12	2.14	0.47
2:B:1471:GLN:O	2:B:1473:ARG:HG3	2.15	0.47
2:B:1791:PHE:CD1	2:B:1791:PHE:C	2.87	0.47
2:B:1857:VAL:HG13	2:B:1894:ILE:HG13	1.97	0.47
2:B:2178:GLU:O	2:B:2217:LYS:CG	2.62	0.47
2:E:1019:GLU:HB2	2:E:1023:LEU:HD23	1.97	0.47
2:E:1687:HIS:ND1	2:E:1688:PRO:CD	2.78	0.47
2:E:2037:TYR:C	2:E:2038:HIS:HD2	2.17	0.47
2:E:2177:VAL:HG23	2:E:2180:GLN:HB2	1.93	0.47
2:B:1984:PRO:O	2:B:1985:GLN:NE2	2.48	0.47
2:B:2208:TYR:CE2	2:B:2244:ILE:HD13	2.50	0.47
2:E:1680:SER:OG	2:E:1704:GLU:HB2	2.15	0.47
2:B:1721:ASN:HB2	2:E:1463:THR:HB	1.96	0.47
2:B:2007:ARG:CG	2:B:2052:GLU:OE2	2.62	0.47
2:E:1067:ASN:ND2	2:E:1083:THR:HG21	2.11	0.47
2:E:2011:LEU:HD12	2:E:2040:TRP:CH2	2.49	0.47
2:E:2210:MET:CE	2:E:2252:GLY:CA	2.85	0.47
2:B:1707:HIS:CG	2:B:1708:GLU:N	2.83	0.46
2:B:1733:TRP:CD1	2:B:1771:THR:O	2.68	0.46
2:B:1840:TYR:OH	2:B:2005:PHE:HD2	1.98	0.46
2:B:2184:VAL:CG2	2:B:2219:LYS:O	2.60	0.46
1:D:208:VAL:O	1:D:213:ILE:HD12	2.15	0.46
2:E:1999:LEU:HD12	2:E:2000:SER:O	2.15	0.46
2:E:2056:ARG:O	2:E:2060:LEU:N	2.42	0.46
2:E:2260:HIS:HE1	2:E:2273:GLU:OE2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:108:ILE:HD12	1:A:108:ILE:H	1.80	0.46
2:B:2032:ILE:HD11	2:B:2047:GLN:HE22	1.80	0.46
2:B:2034:ILE:HG23	2:B:2040:TRP:O	2.15	0.46
2:B:2210:MET:CE	2:B:2253:LEU:CB	2.93	0.46
1:D:75:ASP:OD2	1:D:79:LYS:HE2	2.11	0.46
2:E:1687:HIS:CG	2:E:1688:PRO:HD2	2.50	0.46
2:E:1760:THR:C	2:E:1762:ASP:H	2.19	0.46
2:B:2007:ARG:CD	2:B:2052:GLU:OE2	2.63	0.46
2:B:2153:ARG:CG	2:B:2153:ARG:NH1	2.74	0.46
2:E:1405:ILE:HB	2:E:1437:ILE:HB	1.98	0.46
2:E:1728:ILE:HD13	2:E:1728:ILE:N	2.26	0.46
2:E:1834:PHE:HD2	2:E:1960:GLU:CG	2.28	0.46
1:A:292:CYS:HA	1:A:296:SER:OG	2.15	0.46
2:B:1059:GLU:OE1	2:B:1059:GLU:N	2.48	0.46
2:B:1570:TRP:C	2:B:1571:GLU:HG3	2.36	0.46
2:B:1679:GLU:HB3	2:B:1704:GLU:C	2.36	0.46
1:D:327:ILE:CB	1:D:328:TYR:HD1	2.13	0.46
2:E:965:LYS:HB3	2:E:966:PRO:HD2	1.98	0.46
2:E:1370:ARG:HH11	2:E:1370:ARG:CG	2.28	0.46
2:E:1730:ASN:OD1	2:E:1730:ASN:N	2.49	0.46
2:E:2044:THR:H	2:E:2047:GLN:CD	2.18	0.46
2:E:2047:GLN:O	2:E:2051:ILE:N	2.48	0.46
2:B:1324:GLY:CA	2:B:1325:SER:OG	2.64	0.46
2:B:2227:VAL:CG1	2:B:2239:SER:CB	2.94	0.46
2:B:2247:LEU:CD1	2:B:2248:PRO:CD	2.91	0.46
1:D:354:ARG:HB2	1:D:355:PRO:CD	2.45	0.46
2:E:1378:LYS:HE3	2:E:1623:PHE:CE2	2.50	0.46
2:E:1733:TRP:CZ2	2:E:1767:TYR:CD2	3.04	0.46
2:B:929:LEU:HA	2:B:933:GLU:OE1	2.16	0.46
2:B:1104:ILE:HG22	2:B:1107:LEU:HD13	1.97	0.46
2:B:1465:ARG:HG3	2:B:1465:ARG:HH11	1.81	0.46
2:B:2198:ASP:CG	2:B:2199:VAL:N	2.68	0.46
2:E:1679:GLU:HB3	2:E:1704:GLU:O	2.16	0.46
2:E:1895:HIS:CD2	2:E:1982:THR:C	2.89	0.46
2:E:2159:ASN:HD21	2:E:2198:ASP:HA	1.81	0.46
2:B:936:GLU:O	2:B:940:ILE:HD13	2.15	0.46
2:B:1286:TRP:CE2	2:B:1302:LEU:HD11	2.50	0.46
2:B:2163:TYR:CE1	2:B:2164:LEU:CD2	2.99	0.46
2:E:1104:ILE:HG22	2:E:1107:LEU:HD13	1.97	0.46
2:E:1565:THR:O	2:E:1820:ARG:CZ	2.64	0.46
2:E:2182:VAL:CG1	2:E:2338:GLN:HB2	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1137:PRO:HD2	2:B:1140:ASN:O	2.14	0.46
2:B:1156:HIS:ND1	2:B:1157:PRO:HD2	2.31	0.46
2:B:1991:ILE:HD11	2:B:2008:LEU:HD11	1.98	0.46
2:B:2265:GLU:HG3	2:B:2294:PHE:CG	2.50	0.46
2:B:2367:ASN:OD1	2:B:2370:GLY:CA	2.64	0.46
2:E:1763:ASN:HD22	2:E:1763:ASN:N	2.13	0.46
2:E:2081:ASP:CG	2:E:2082:ILE:HG23	2.37	0.46
2:E:2354:GLY:O	2:E:2355:ASN:HB2	2.16	0.46
2:B:1188:ALA:O	2:B:1191:PRO:CG	2.64	0.46
2:B:1611:SER:N	2:B:1612:PRO:CD	2.79	0.46
2:B:2081:ASP:CG	2:B:2082:ILE:HG23	2.36	0.46
2:B:2209:GLY:HA2	2:B:2220:GLU:O	2.16	0.46
2:E:1542:TYR:CE2	2:E:1546:VAL:HG21	2.51	0.46
2:E:1961:ASN:OD1	2:E:2079:ILE:CD1	2.63	0.46
1:A:103:VAL:HG22	1:A:104:SER:N	2.30	0.46
1:A:327:ILE:HG21	1:A:328:TYR:CE2	2.51	0.46
2:B:2208:TYR:N	2:B:2223:THR:O	2.40	0.46
2:B:2282:ALA:HA	2:B:2286:ARG:HG2	1.98	0.46
2:E:936:GLU:O	2:E:940:ILE:HD13	2.16	0.46
2:E:1425:PHE:CD1	2:E:1425:PHE:N	2.84	0.46
2:E:1887:GLY:CA	2:E:1992:TYR:CD2	2.98	0.46
2:E:2014:ALA:N	2:E:2059:ILE:HD11	2.31	0.46
2:E:2211:SER:HA	2:E:2219:LYS:HA	1.97	0.46
2:E:2212:ALA:HB3	2:E:2218:VAL:HB	1.97	0.46
2:B:1121:ILE:HD13	2:B:1239:THR:CG2	2.46	0.45
2:B:1121:ILE:HD13	2:B:1239:THR:HG21	1.96	0.45
2:B:1177:ASP:O	2:B:1181:GLU:HB2	2.16	0.45
2:E:1597:GLY:CA	2:E:1599:SER:N	2.78	0.45
1:A:86:GLY:O	1:A:90:GLU:N	2.43	0.45
1:A:280:SER:CB	1:A:313:TYR:CE1	2.98	0.45
2:B:1976:ASP:OD1	2:B:1980:LYS:HD2	2.16	0.45
2:B:1996:LEU:HD21	2:B:2001:SER:HA	1.99	0.45
2:B:2041:PRO:CG	2:B:2043:PHE:CD1	2.99	0.45
2:B:2178:GLU:C	2:B:2217:LYS:HZ3	2.18	0.45
2:B:2308:THR:HG23	2:B:2333:PHE:C	2.19	0.45
1:D:84:ARG:HH11	1:D:84:ARG:CG	2.27	0.45
2:E:2002:TYR:C	2:E:2002:TYR:CD1	2.89	0.45
2:B:1727:LEU:C	2:B:1728:ILE:HG12	2.36	0.45
2:B:2070:ASN:O	2:B:2071:ILE:HG23	2.16	0.45
2:B:2176:PHE:CA	2:B:2338:GLN:NE2	2.73	0.45
2:B:2182:VAL:HA	2:B:2338:GLN:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2339:LEU:HD12	2:B:2340:LEU:CA	2.41	0.45
2:E:1459:ALA:O	2:E:1463:THR:HG23	2.17	0.45
2:E:1999:LEU:CD1	2:E:2004:ALA:HB2	2.45	0.45
2:E:2264:GLU:C	2:E:2294:PHE:CD1	2.89	0.45
2:E:2277:HIS:ND1	2:E:2281:PHE:HD2	2.07	0.45
2:B:957:TYR:HD2	2:B:991:THR:HG21	1.80	0.45
2:B:1238:LEU:O	2:B:1239:THR:HG22	2.16	0.45
2:B:1090:ILE:HD11	2:B:1104:ILE:HD11	1.99	0.45
2:B:1707:HIS:NE2	2:B:1708:GLU:OE1	2.50	0.45
2:B:1843:LEU:HD21	2:B:1851:PHE:HE2	1.82	0.45
2:B:2247:LEU:HD23	2:B:2374:PHE:HB2	1.99	0.45
1:D:72:ASP:OD2	1:D:75:ASP:HB2	2.17	0.45
2:E:2047:GLN:HA	2:E:2050:THR:HB	1.97	0.45
2:E:2061:THR:CG2	2:E:2062:GLU:N	2.79	0.45
1:A:354:ARG:CB	1:A:355:PRO:HD3	2.44	0.45
2:B:1097:HIS:CE1	2:B:1098:VAL:O	2.70	0.45
2:B:1844:PHE:CD1	2:B:1844:PHE:N	2.84	0.45
2:B:1977:VAL:CG1	2:B:1978:VAL:N	2.78	0.45
2:B:2177:VAL:N	2:B:2338:GLN:HE22	2.13	0.45
2:B:2208:TYR:CG	2:B:2253:LEU:CD1	3.00	0.45
2:B:2208:TYR:OH	2:B:2244:ILE:CG2	2.65	0.45
2:B:2286:ARG:HD3	2:B:2312:TYR:CD1	2.52	0.45
2:E:1059:GLU:OE1	2:E:1059:GLU:N	2.49	0.45
2:E:2070:ASN:O	2:E:2071:ILE:HG23	2.16	0.45
2:B:2210:MET:SD	2:B:2222:LYS:HD2	2.47	0.45
2:B:2215:HIS:HB3	2:B:2218:VAL:CG2	2.46	0.45
2:B:2386:MET:H	2:B:2386:MET:HG3	1.63	0.45
2:B:1104:ILE:CG2	2:B:1107:LEU:CD1	2.95	0.45
2:B:1472:ASN:HB3	2:B:2325:LEU:O	2.17	0.45
2:B:1886:THR:HG1	2:B:1888:HIS:CE1	2.31	0.45
2:B:2081:ASP:OD1	2:B:2082:ILE:HG23	2.16	0.45
2:B:2208:TYR:CZ	2:B:2244:ILE:HG21	2.52	0.45
2:B:2260:HIS:NE2	2:B:2273:GLU:OE2	2.50	0.45
2:B:2343:ASP:CB	2:B:2344:ARG:NH2	2.79	0.45
1:D:103:VAL:HG22	1:D:104:SER:N	2.31	0.45
2:E:1881:THR:O	2:E:1889:LEU:HD12	2.16	0.45
2:E:1987:VAL:HB	2:E:1989:PHE:HE1	1.81	0.45
2:E:2223:THR:HG21	2:E:2350:ILE:HG12	1.99	0.45
2:B:2159:ASN:HD21	2:B:2198:ASP:HA	1.77	0.45
2:B:2192:LYS:HA	2:B:2195:GLU:HG3	1.99	0.45
1:D:108:ILE:H	1:D:108:ILE:CD1	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1763:ASN:ND2	2:E:1763:ASN:N	2.61	0.45
2:E:1826:TYR:CG	2:E:1826:TYR:O	2.70	0.45
2:E:1837:SER:O	2:E:1840:TYR:HB2	2.17	0.45
2:E:2183:TYR:CE1	2:E:2289:ILE:HD13	2.52	0.45
1:A:263:LYS:HD2	1:A:263:LYS:HA	1.60	0.45
2:B:2185:LEU:HA	2:B:2186:PRO:HD3	1.57	0.45
2:B:2192:LYS:C	2:B:2195:GLU:HB2	2.35	0.45
2:B:2278:SER:HG	2:B:2316:GLU:HG3	1.80	0.45
2:E:1156:HIS:ND1	2:E:1157:PRO:HD2	2.32	0.45
2:E:2081:ASP:OD1	2:E:2082:ILE:HG23	2.17	0.45
1:A:343:ASN:HD22	1:A:343:ASN:HA	1.64	0.44
2:B:2264:GLU:HG2	2:B:2265:GLU:O	2.16	0.44
2:E:1195:PHE:CD1	2:E:1217:ARG:HD2	2.52	0.44
2:E:1684:GLU:CD	2:E:1702:THR:OG1	2.52	0.44
2:E:1996:LEU:CD2	2:E:2001:SER:HA	2.47	0.44
2:E:2037:TYR:CE1	2:E:2038:HIS:CD2	3.01	0.44
2:E:2089:LYS:HA	2:E:2090:ALA:HA	1.66	0.44
1:A:224:LEU:HD23	1:A:224:LEU:C	2.37	0.44
2:B:2240:ASN:O	2:B:2241:ILE:C	2.56	0.44
2:B:2354:GLY:O	2:B:2355:ASN:HB2	2.17	0.44
2:E:1093:LYS:HD3	2:E:1094:ASP:HA	2.00	0.44
2:E:1370:ARG:CG	2:E:1370:ARG:NH1	2.79	0.44
2:E:1710:GLU:HA	2:E:1727:LEU:O	2.17	0.44
2:E:2039:LEU:CA	2:E:2040:TRP:CD1	3.00	0.44
2:B:1999:LEU:HD21	2:B:2003:THR:CB	2.48	0.44
2:B:2210:MET:HE1	2:B:2253:LEU:N	2.31	0.44
2:B:2305:TYR:HB3	2:B:2334:SER:CB	2.47	0.44
2:E:958:LEU:HA	2:E:1081:TYR:CD2	2.52	0.44
2:B:2277:HIS:CE1	2:B:2288:CYS:O	2.70	0.44
2:E:1347:ARG:HD3	2:E:1445:THR:O	2.17	0.44
2:E:1825:ILE:O	2:E:1825:ILE:HG22	2.16	0.44
2:E:2003:THR:O	2:E:2007:ARG:N	2.50	0.44
2:E:2227:VAL:HG12	2:E:2239:SER:OG	2.14	0.44
2:B:2043:PHE:CZ	2:B:2051:ILE:CD1	2.78	0.44
2:B:2178:GLU:O	2:B:2217:LYS:HG2	2.17	0.44
2:B:2277:HIS:ND1	2:B:2307:LEU:HD23	2.32	0.44
2:B:2284:LYS:CE	2:B:2285:LYS:HA	2.47	0.44
2:E:1347:ARG:NH1	2:E:1445:THR:O	2.38	0.44
2:E:1763:ASN:CA	2:E:1766:MET:HE1	2.46	0.44
2:E:2190:LEU:HG	2:E:2190:LEU:O	2.17	0.44
2:B:2048:TRP:HA	2:B:2048:TRP:CE3	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2232:HIS:HB2	2:B:2235:SER:O	2.17	0.44
2:B:2262:GLN:HG2	2:B:2293:ILE:O	2.18	0.44
1:D:263:LYS:HD2	1:D:263:LYS:HA	1.80	0.44
2:E:1362:LYS:O	2:E:1366:ARG:HG3	2.17	0.44
2:E:1431:HIS:C	2:E:1433:ASP:N	2.71	0.44
2:E:1558:GLU:O	2:E:1558:GLU:HG3	2.18	0.44
2:E:2046:GLU:O	2:E:2049:ILE:HG23	2.04	0.44
2:E:2174:ASP:CG	2:E:2175:ASP:H	2.14	0.44
2:E:2248:PRO:C	2:E:2249:ASP:OD1	2.56	0.44
2:E:2357:TRP:H	2:E:2387:HIS:HE1	1.64	0.44
2:B:1343:PHE:HB3	2:B:1444:ILE:CD1	2.48	0.44
2:B:2163:TYR:CE1	2:B:2164:LEU:HD23	2.53	0.44
2:B:2183:TYR:CD1	2:B:2219:LYS:CD	2.90	0.44
2:E:2191:LYS:HE2	2:E:2195:GLU:OE2	2.17	0.44
2:E:2202:GLN:HE22	2:E:2235:SER:N	2.10	0.44
1:A:109:ASP:O	1:A:109:ASP:OD1	2.35	0.44
2:B:965:LYS:HB3	2:B:966:PRO:HD2	1.98	0.44
2:B:1887:GLY:HA2	2:B:1992:TYR:CD2	2.44	0.44
2:B:2301:SER:C	2:B:2302:LEU:HD12	2.39	0.44
2:E:1104:ILE:CG2	2:E:1107:LEU:CD1	2.96	0.44
2:E:2043:PHE:HD2	2:E:2051:ILE:CG1	2.21	0.44
1:A:48:HIS:CG	1:A:53:SER:HG	2.32	0.44
2:B:2067:TYR:N	2:B:2067:TYR:CD1	2.86	0.44
2:E:1090:ILE:HD11	2:E:1104:ILE:HD11	1.99	0.44
2:E:1431:HIS:O	2:E:1433:ASP:N	2.51	0.44
2:B:1784:TYR:CD1	2:B:1806:MET:HG3	2.53	0.43
2:B:2011:LEU:HB3	2:B:2040:TRP:CZ3	2.53	0.43
2:B:2040:TRP:CD1	2:B:2040:TRP:N	2.86	0.43
2:B:2044:THR:CG2	2:B:2047:GLN:CD	2.80	0.43
2:E:908:ASP:OD1	2:E:994:TYR:OH	2.25	0.43
2:E:1059:GLU:OE2	2:E:1105:ARG:NH2	2.51	0.43
2:E:1093:LYS:HD3	2:E:1093:LYS:HA	1.79	0.43
2:E:1624:LEU:HD21	2:E:1633:PHE:HB3	2.00	0.43
2:E:1992:TYR:O	2:E:1993:ASP:HB2	2.18	0.43
2:E:2029:ASP:OD2	2:E:2032:ILE:CD1	2.65	0.43
2:B:1305:SER:O	2:B:1309:ILE:HG13	2.18	0.43
2:B:1354:GLU:N	2:B:1355:PRO:CD	2.81	0.43
2:B:2024:MET:SD	2:B:2157:ILE:HG21	2.58	0.43
2:E:2066:LYS:CB	2:E:2067:TYR:CD1	2.97	0.43
2:E:2242:PRO:CB	2:E:2374:PHE:CE2	3.01	0.43
2:B:953:ARG:HH11	2:B:953:ARG:CG	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1842:GLU:O	2:B:1844:PHE:N	2.51	0.43
2:B:1894:ILE:HD13	2:B:1894:ILE:HA	1.86	0.43
2:B:2045:ASP:O	2:B:2048:TRP:HB2	2.18	0.43
2:B:2179:GLU:HA	2:B:2217:LYS:HE2	2.01	0.43
1:D:20:TYR:CE2	1:D:106:PRO:HG2	2.53	0.43
2:E:1292:ARG:NH1	2:E:1293:THR:HG22	2.33	0.43
2:E:2083:ILE:CG2	2:E:2084:LEU:H	2.32	0.43
2:E:2223:THR:HG21	2:E:2350:ILE:CG1	2.48	0.43
2:B:2017:THR:HG21	2:B:2062:GLU:HG3	1.99	0.43
2:B:2020:GLU:HG3	2:B:2164:LEU:HD12	2.00	0.43
2:B:2054:GLN:HE21	2:B:2054:GLN:HB3	1.64	0.43
2:B:2342:SER:OG	2:B:2344:ARG:N	2.37	0.43
2:B:2358:ASN:CB	2:B:2387:HIS:HD1	2.18	0.43
1:D:25:LYS:O	1:D:28:GLN:CB	2.66	0.43
2:E:930:ASN:ND2	2:E:933:GLU:HB2	2.32	0.43
2:B:1906:SER:O	2:B:1909:ALA:HB3	2.19	0.43
2:B:2087:ASN:CB	2:B:2089:LYS:HG3	2.46	0.43
2:B:2166:LEU:O	2:B:2167:LYS:C	2.56	0.43
2:E:1354:GLU:N	2:E:1355:PRO:CD	2.81	0.43
2:E:1788:GLY:O	2:E:1790:TRP:CD1	2.71	0.43
2:E:2181:ASN:O	2:E:2338:GLN:HG3	2.18	0.43
2:B:1853:ASP:OD1	2:B:1854:ASP:N	2.51	0.43
2:B:2270:ALA:HB1	2:B:2324:VAL:HA	2.00	0.43
1:D:35:ASP:O	1:D:107:LYS:NZ	2.34	0.43
2:E:953:ARG:HG3	2:E:953:ARG:HH11	1.83	0.43
2:E:1784:TYR:CD1	2:E:1806:MET:HG3	2.53	0.43
2:E:2063:TYR:O	2:E:2067:TYR:CD1	2.71	0.43
2:E:2154:LYS:O	2:E:2157:ILE:HB	2.18	0.43
2:B:1542:TYR:CE2	2:B:1546:VAL:HG21	2.53	0.43
2:B:1864:LYS:NZ	2:B:1865:THR:O	2.44	0.43
2:B:2281:PHE:HB3	2:B:2286:ARG:O	2.19	0.43
2:E:2253:LEU:HA	2:E:2253:LEU:HD23	1.90	0.43
2:E:2384:ASN:HB3	2:E:2387:HIS:HD2	1.83	0.43
2:B:1187:LEU:O	2:B:1191:PRO:CG	2.66	0.43
2:B:2085:GLY:HA3	2:B:2086:GLN:HA	1.79	0.43
2:B:2153:ARG:HH11	2:B:2153:ARG:HG3	1.82	0.43
2:B:2178:GLU:HB3	2:B:2217:LYS:HZ2	1.84	0.43
2:B:2231:GLY:O	2:B:2232:HIS:CD2	2.71	0.43
2:B:2329:PHE:C	2:B:2330:GLU:HG2	2.39	0.43
2:B:2357:TRP:CZ3	2:B:2382:PHE:CE1	3.04	0.43
1:D:9:ALA:N	1:D:10:PRO:HD3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2185:LEU:HG	2:B:2186:PRO:HD2	2.00	0.43
2:E:1091:ASN:HB3	2:E:1093:LYS:HE2	2.00	0.43
2:E:2318:ASN:HB3	2:E:2321:ILE:HD11	2.01	0.43
2:B:1704:GLU:CG	2:B:1705:SER:N	2.81	0.43
2:B:1707:HIS:CE1	2:B:1708:GLU:CD	2.92	0.43
1:D:327:ILE:HG21	1:D:328:TYR:HE1	1.84	0.43
2:E:1835:LEU:HB3	2:E:1959:THR:HB	2.00	0.42
2:E:2065:ARG:HB3	2:E:2065:ARG:HH11	1.81	0.42
2:E:2302:LEU:N	2:E:2302:LEU:CD1	2.82	0.42
2:B:1051:GLU:HG3	2:B:1169:TYR:CE2	2.54	0.42
2:B:1383:PHE:CE2	2:B:1387:VAL:HG21	2.54	0.42
2:B:1721:ASN:HB3	2:E:1463:THR:HB	2.00	0.42
2:B:1961:ASN:HA	2:B:2079:ILE:CD1	2.49	0.42
2:B:2076:GLN:OE1	2:B:2076:GLN:HA	2.19	0.42
2:B:2230:LEU:CB	2:B:2237:GLN:HG3	2.47	0.42
2:E:2086:GLN:O	2:E:2088:ILE:HG12	2.20	0.42
2:E:2155:SER:HB3	2:E:2383:TYR:CE2	2.53	0.42
2:B:1847:ASP:O	2:B:1849:LYS:HD2	2.19	0.42
2:B:1917:VAL:O	2:B:1921:VAL:HG23	2.19	0.42
2:B:2189:LEU:HD21	2:B:2347:GLY:HA3	2.01	0.42
2:E:958:LEU:HD23	2:E:1081:TYR:CD2	2.55	0.42
2:E:1596:THR:O	2:E:1598:LEU:HB3	2.19	0.42
2:E:1763:ASN:HD22	2:E:1764:VAL:N	2.17	0.42
2:E:2061:THR:HG22	2:E:2062:GLU:N	2.34	0.42
2:B:1321:MET:HA	2:B:1321:MET:CE	2.49	0.42
2:B:2064:GLY:O	2:B:2068:ASN:HA	2.19	0.42
2:B:2373:ASN:O	2:B:2374:PHE:CG	2.72	0.42
2:E:1567:PHE:CE2	2:E:1820:ARG:NH1	2.84	0.42
2:E:1837:SER:O	2:E:1840:TYR:CB	2.68	0.42
2:E:2087:ASN:O	2:E:2088:ILE:HG12	2.19	0.42
2:B:1097:HIS:ND1	2:B:1097:HIS:C	2.73	0.42
2:B:2063:TYR:CE1	2:B:2081:ASP:O	2.73	0.42
2:E:1435:LYS:HD3	2:E:1549:ALA:O	2.19	0.42
2:E:2075:THR:HG22	2:E:2076:GLN:N	2.34	0.42
2:E:2086:GLN:O	2:E:2086:GLN:HG2	2.19	0.42
2:B:957:TYR:O	2:B:961:GLN:N	2.48	0.42
2:B:1848:ILE:HD11	2:B:1928:GLU:O	2.14	0.42
2:B:1894:ILE:O	2:B:1894:ILE:HG22	2.18	0.42
2:E:1234:VAL:HG11	2:E:1239:THR:CG2	2.49	0.42
2:E:1596:THR:O	2:E:1598:LEU:CB	2.67	0.42
2:E:1604:ARG:HH22	2:E:1822:GLY:C	2.23	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1674:ASP:N	2:E:1674:ASP:OD1	2.52	0.42
2:E:1717:LEU:HB2	2:E:1786:ALA:HB3	2.02	0.42
2:E:1964:PRO:HG3	2:E:2013:ARG:CZ	2.49	0.42
2:E:2020:GLU:HG3	2:E:2164:LEU:HD12	2.02	0.42
2:E:2259:ILE:HD11	2:E:2293:ILE:HD11	2.01	0.42
2:B:1015:PRO:HD2	2:B:1165:LEU:CD2	2.36	0.42
2:B:1661:ILE:HG12	2:B:1805:ILE:CD1	2.50	0.42
2:B:2035:LYS:O	2:B:2037:TYR:N	2.53	0.42
1:D:23:ASN:N	1:D:23:ASN:ND2	2.68	0.42
2:B:1800:ASN:OD1	2:B:1803:ARG:NH1	2.53	0.42
2:B:1854:ASP:CA	2:B:1857:VAL:HG23	2.49	0.42
2:B:1944:LEU:O	2:B:1948:MET:HG2	2.20	0.42
2:B:2208:TYR:HB3	2:B:2253:LEU:CG	2.45	0.42
2:B:2232:HIS:HE1	2:B:2237:GLN:HE21	1.68	0.42
1:D:3:THR:HG22	1:D:5:PRO:HD3	2.01	0.42
2:B:969:ILE:HG22	2:B:982:TYR:CD2	2.55	0.42
2:B:2063:TYR:HE1	2:B:2081:ASP:O	2.02	0.42
2:E:1484:TRP:CH2	2:E:1495:PHE:HB2	2.55	0.42
2:E:2388:ARG:HD3	2:E:2389:PRO:HD2	2.02	0.42
1:A:214:PHE:CD1	1:A:220:TYR:HA	2.55	0.42
2:B:1904:ARG:HD3	2:B:1907:GLN:OE1	2.20	0.42
2:B:2229:GLN:NE2	2:B:2357:TRP:CE3	2.88	0.42
1:D:282:ILE:HD13	2:E:1604:ARG:HD2	2.02	0.42
2:E:2021:SER:O	2:E:2024:MET:HB3	2.20	0.42
2:B:1893:ILE:CG2	2:B:1978:VAL:HG13	2.50	0.41
2:B:2010:LEU:HD12	2:B:2010:LEU:HA	1.82	0.41
2:B:2230:LEU:HD12	2:B:2230:LEU:HA	1.84	0.41
1:D:48:HIS:HE1	1:D:56:TYR:OH	2.03	0.41
2:E:1370:ARG:NH1	2:E:1370:ARG:HG2	2.36	0.41
2:E:1611:SER:N	2:E:1612:PRO:CD	2.83	0.41
2:E:1712:SER:OG	2:E:1713:LYS:N	2.51	0.41
2:E:2078:GLU:O	2:E:2079:ILE:HD13	2.20	0.41
2:B:1717:LEU:HB2	2:B:1786:ALA:HB3	2.02	0.41
2:B:2082:ILE:O	2:B:2083:ILE:CG1	2.69	0.41
2:B:2309:ASP:O	2:B:2312:TYR:N	2.53	0.41
2:E:1849:LYS:C	2:E:1850:LEU:HD23	2.40	0.41
2:B:1674:ASP:OD1	2:B:1674:ASP:N	2.53	0.41
2:B:1843:LEU:HD11	2:B:1884:PRO:HG3	1.94	0.41
2:B:1853:ASP:CG	2:B:1855:THR:OG1	2.57	0.41
2:B:1990:ASN:OD1	2:B:1992:TYR:N	2.52	0.41
2:B:2183:TYR:CD1	2:B:2219:LYS:CB	3.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2309:ASP:N	2:B:2310:GLU:OE1	2.54	0.41
2:B:2351:ILE:HG21	2:B:2379:PRO:HA	2.02	0.41
2:E:2070:ASN:O	2:E:2071:ILE:CG2	2.69	0.41
2:E:2386:MET:C	2:E:2388:ARG:N	2.74	0.41
2:B:2258:TRP:CD1	2:B:2258:TRP:N	2.82	0.41
2:B:2278:SER:OG	2:B:2312:TYR:O	2.38	0.41
2:B:2318:ASN:ND2	2:B:2318:ASN:N	2.68	0.41
1:D:84:ARG:CG	1:D:84:ARG:NH1	2.84	0.41
1:D:328:TYR:CD2	2:E:1543:ARG:NH1	2.89	0.41
2:E:965:LYS:HE3	2:E:985:ASP:CG	2.41	0.41
2:E:995:LEU:O	2:E:999:LEU:HG	2.21	0.41
2:E:2304:ALA:HB3	2:E:2339:LEU:HD23	1.98	0.41
1:A:282:ILE:HD13	2:B:1604:ARG:HD2	2.03	0.41
2:E:986:PRO:O	2:E:990:ILE:HD12	2.20	0.41
2:E:1705:SER:HB3	2:E:1709:TRP:CE3	2.55	0.41
2:E:1762:ASP:CG	2:E:1763:ASN:H	2.23	0.41
2:E:2084:LEU:HD22	2:E:2084:LEU:C	2.37	0.41
2:E:2182:VAL:HG12	2:E:2338:GLN:HB3	2.02	0.41
2:E:2280:LEU:HB2	2:E:2281:PHE:CD2	2.56	0.41
1:A:16:GLY:HA3	1:A:45:HIS:CE1	2.54	0.41
2:B:1435:LYS:NZ	2:E:1351:VAL:HG13	2.36	0.41
2:B:1673:LEU:HA	2:B:1678:ILE:HB	2.03	0.41
2:B:1686:VAL:HG12	2:B:1687:HIS:N	2.36	0.41
2:B:1963:LEU:HD23	2:B:1963:LEU:HA	1.95	0.41
2:E:1624:LEU:CD2	2:E:1625:VAL:N	2.83	0.41
2:E:1996:LEU:HD21	2:E:2001:SER:HA	2.02	0.41
2:B:1137:PRO:O	2:B:1140:ASN:C	2.59	0.41
2:B:1889:LEU:HD23	2:B:1891:LEU:HB2	2.03	0.41
2:B:2307:LEU:HD12	2:B:2308:THR:O	2.21	0.41
2:B:2386:MET:CE	2:B:2387:HIS:CD2	3.03	0.41
2:E:1763:ASN:O	2:E:1766:MET:HE3	2.18	0.41
2:E:2014:ALA:CA	2:E:2059:ILE:CD1	2.72	0.41
2:E:2157:ILE:HD12	2:E:2157:ILE:HA	1.74	0.41
2:E:2189:LEU:HD21	2:E:2347:GLY:C	2.41	0.41
1:A:7:THR:HG21	1:A:70:GLN:OE1	2.21	0.41
1:A:89:PHE:CD1	1:A:89:PHE:C	2.94	0.41
2:B:1080:ASP:O	2:B:1084:ALA:HB2	2.21	0.41
2:B:1150:LYS:HD2	2:B:1292:ARG:HH22	1.84	0.41
2:B:1405:ILE:HB	2:B:1437:ILE:HB	2.02	0.41
2:B:2017:THR:HG23	2:B:2062:GLU:HG3	2.03	0.41
2:E:1279:VAL:HG12	2:E:1280:SER:N	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1826:TYR:CA	2:E:1827:GLN:HB2	2.50	0.41
2:E:1865:THR:OG1	2:E:1869:ASN:HB2	2.20	0.41
2:E:2028:SER:C	2:E:2030:PRO:HD3	2.37	0.41
2:E:2030:PRO:CG	2:E:2153:ARG:NE	2.77	0.41
2:E:2267:LYS:C	2:E:2305:TYR:OH	2.58	0.41
2:B:2157:ILE:C	2:B:2160:THR:OG1	2.44	0.41
2:B:2386:MET:HE1	2:B:2387:HIS:CD2	2.56	0.41
2:E:1826:TYR:CA	2:E:1827:GLN:CB	2.99	0.41
2:E:2067:TYR:N	2:E:2067:TYR:CD1	2.89	0.41
2:B:995:LEU:O	2:B:999:LEU:HG	2.21	0.40
2:B:2247:LEU:HD23	2:B:2374:PHE:CB	2.51	0.40
1:D:16:GLY:HA3	1:D:45:HIS:CE1	2.56	0.40
2:E:1466:GLN:O	2:E:1469:ILE:CA	2.69	0.40
2:E:1766:MET:C	2:E:1767:TYR:CD1	2.94	0.40
2:E:2057:ASP:O	2:E:2061:THR:HB	2.22	0.40
2:E:2230:LEU:HD23	2:E:2237:GLN:NE2	2.36	0.40
2:B:2070:ASN:O	2:B:2071:ILE:CG2	2.69	0.40
2:B:2082:ILE:O	2:B:2083:ILE:HG13	2.21	0.40
2:B:2089:LYS:HA	2:B:2090:ALA:HA	1.74	0.40
2:B:2184:VAL:O	2:B:2221:ILE:CG1	2.69	0.40
2:B:2191:LYS:O	2:B:2195:GLU:CG	2.44	0.40
2:E:946:ASN:HB3	2:E:949:ASP:OD2	2.21	0.40
2:E:1168:ILE:O	2:E:1168:ILE:HG13	2.21	0.40
2:E:1889:LEU:HD12	2:E:1889:LEU:HA	1.86	0.40
2:E:1995:TRP:HZ3	2:E:2007:ARG:HG2	1.58	0.40
2:B:1107:LEU:HD23	2:B:1109:PHE:CZ	2.56	0.40
2:B:1153:GLU:O	2:B:1159:ARG:HD3	2.21	0.40
2:B:1168:ILE:O	2:B:1168:ILE:HG13	2.21	0.40
2:B:1324:GLY:HA2	2:B:1325:SER:HB3	2.03	0.40
2:B:2207:ILE:CG1	2:B:2257:GLY:O	2.70	0.40
1:D:107:LYS:HA	1:D:108:ILE:HA	1.87	0.40
2:E:930:ASN:ND2	2:E:933:GLU:CD	2.74	0.40
2:E:969:ILE:HG22	2:E:982:TYR:CD2	2.57	0.40
2:E:1477:PHE:CD1	2:E:1477:PHE:C	2.94	0.40
2:E:1624:LEU:HD21	2:E:1633:PHE:CD1	2.57	0.40
2:E:1894:ILE:O	2:E:1894:ILE:HG22	2.21	0.40
2:E:2029:ASP:OD2	2:E:2032:ILE:HD11	2.21	0.40
2:B:1187:LEU:HD23	2:B:1187:LEU:HA	1.85	0.40
2:B:2153:ARG:NH1	2:B:2153:ARG:HG2	2.36	0.40
1:D:141:ASP:OD1	1:D:141:ASP:C	2.60	0.40
2:E:1383:PHE:CE2	2:E:1387:VAL:HG21	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1727:LEU:C	2:E:1728:ILE:CD1	2.71	0.40
2:E:2203:VAL:HG22	2:E:2357:TRP:CZ3	2.57	0.40
2:B:1762:ASP:OD1	2:B:1764:VAL:HG22	2.22	0.40
2:B:1893:ILE:HG23	2:B:1978:VAL:HG13	2.02	0.40
2:B:2060:LEU:O	2:B:2063:TYR:CA	2.70	0.40
2:B:2162:LEU:HD23	2:B:2165:ARG:HE	1.86	0.40
2:B:2224:VAL:CA	2:B:2349:PHE:CE1	3.04	0.40
2:E:2177:VAL:HG23	2:E:2177:VAL:O	2.21	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1685:THR:OG1	2:E:2309:ASP:OD2[4_545]	1.96	0.24

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	319/355 (90%)	310 (97%)	9 (3%)	0	100	100
1	D	307/355 (86%)	298 (97%)	8 (3%)	1 (0%)	41	73
2	B	1384/1531 (90%)	1345 (97%)	38 (3%)	1 (0%)	51	83
2	E	1406/1531 (92%)	1360 (97%)	42 (3%)	4 (0%)	41	73
All	All	3416/3772 (91%)	3313 (97%)	97 (3%)	6 (0%)	47	79

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	E	2088	ILE
2	E	2286	ARG

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Mol	Chain	Res	Type
2	B	2088	ILE
1	D	29	PRO
2	E	1726	GLY
2	E	2215	HIS

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	293/326 (90%)	284 (97%)	9 (3%)	40 70
1	D	289/326 (89%)	269 (93%)	20 (7%)	15 45
2	B	1256/1373 (92%)	1108 (88%)	148 (12%)	5 21
2	E	1278/1373 (93%)	1151 (90%)	127 (10%)	8 29
All	All	3116/3398 (92%)	2812 (90%)	304 (10%)	8 29

All (304) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	93	VAL
1	A	95	ASN
1	A	107	LYS
1	A	110	GLU
1	A	132	LYS
1	A	215	LYS
1	A	263	LYS
1	A	299	LYS
1	A	343	ASN
2	B	883	SER
2	B	885	VAL
2	B	908	ASP
2	B	929	LEU
2	B	952	ASN
2	B	953	ARG
2	B	956	LYS
2	B	960	THR

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Mol	Chain	Res	Type
2	B	969	ILE
2	B	987	LEU
2	B	1018	SER
2	B	1019	GLU
2	B	1042	SER
2	B	1074	VAL
2	B	1096	SER
2	B	1097	HIS
2	B	1105	ARG
2	B	1139	ASN
2	B	1165	LEU
2	B	1177	ASP
2	B	1213	MET
2	B	1218	GLN
2	B	1237	SER
2	B	1239	THR
2	B	1273	GLN
2	B	1282	ASP
2	B	1305	SER
2	B	1321	MET
2	B	1348	GLU
2	B	1377	SER
2	B	1406	LEU
2	B	1430	THR
2	B	1465	ARG
2	B	1466	GLN
2	B	1467	GLU
2	B	1478	GLU
2	B	1510	ILE
2	B	1512	ARG
2	B	1521	ARG
2	B	1569	SER
2	B	1571	GLU
2	B	1573	LEU
2	B	1594	GLN
2	B	1595	ARG
2	B	1598	LEU
2	B	1679	GLU
2	B	1691	SER
2	B	1703	MET
2	B	1706	VAL
2	B	1710	GLU

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Mol	Chain	Res	Type
2	B	1713	LYS
2	B	1727	LEU
2	B	1739	ARG
2	B	1742	ASP
2	B	1750	ARG
2	B	1802	MET
2	B	1804	THR
2	B	1805	ILE
2	B	1817	GLU
2	B	1821	LYS
2	B	1842	GLU
2	B	1845	ASN
2	B	1848	ILE
2	B	1849	LYS
2	B	1858	TYR
2	B	1859	ARG
2	B	1864	LYS
2	B	1867	GLU
2	B	1869	ASN
2	B	1882	LEU
2	B	1896	THR
2	B	1897	SER
2	B	1904	ARG
2	B	1926	LYS
2	B	1927	GLU
2	B	1932	GLN
2	B	1962	ARG
2	B	1972	ASP
2	B	1979	MET
2	B	1980	LYS
2	B	1988	LEU
2	B	1997	ASP
2	B	2001	SER
2	B	2002	TYR
2	B	2006	SER
2	B	2016	LYS
2	B	2018	ASN
2	B	2026	LEU
2	B	2032	ILE
2	B	2038	HIS
2	B	2039	LEU
2	B	2044	THR

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Mol	Chain	Res	Type
2	B	2045	ASP
2	B	2047	GLN
2	B	2048	TRP
2	B	2050	THR
2	B	2053	SER
2	B	2054	GLN
2	B	2057	ASP
2	B	2153	ARG
2	B	2155	SER
2	B	2160	THR
2	B	2163	TYR
2	B	2165	ARG
2	B	2187	LYS
2	B	2199	VAL
2	B	2202	GLN
2	B	2210	MET
2	B	2222	LYS
2	B	2237	GLN
2	B	2238	ILE
2	B	2239	SER
2	B	2243	ASP
2	B	2246	ASP
2	B	2247	LEU
2	B	2250	THR
2	B	2253	LEU
2	B	2254	GLU
2	B	2256	LEU
2	B	2258	TRP
2	B	2265	GLU
2	B	2268	PHE
2	B	2277	HIS
2	B	2280	LEU
2	B	2283	ASP
2	B	2284	LYS
2	B	2286	ARG
2	B	2295	SER
2	B	2301	SER
2	B	2303	SER
2	B	2306	ASN
2	B	2307	LEU
2	B	2309	ASP
2	B	2318	ASN

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Mol	Chain	Res	Type
2	B	2332	THR
2	B	2334	SER
2	B	2336	HIS
2	B	2339	LEU
2	B	2341	LEU
2	B	2343	ASP
2	B	2344	ARG
2	B	2345	ILE
2	B	2349	PHE
2	B	2362	MET
2	B	2367	ASN
2	B	2382	PHE
2	B	2384	ASN
2	B	2386	MET
1	D	21	SER
1	D	23	ASN
1	D	24	VAL
1	D	27	ASN
1	D	83	GLU
1	D	84	ARG
1	D	85	ASP
1	D	101	MET
1	D	102	MET
1	D	104	SER
1	D	108	ILE
1	D	109	ASP
1	D	113	THR
1	D	215	LYS
1	D	216	ASN
1	D	299	LYS
1	D	300	ASN
1	D	326	LEU
1	D	327	ILE
1	D	355	PRO
2	E	885	VAL
2	E	908	ASP
2	E	909	THR
2	E	930	ASN
2	E	942	GLU
2	E	945	ASP
2	E	953	ARG
2	E	956	LYS

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Mol	Chain	Res	Type
2	E	969	ILE
2	E	987	LEU
2	E	1093	LYS
2	E	1095	MET
2	E	1096	SER
2	E	1165	LEU
2	E	1166	ASP
2	E	1189	GLU
2	E	1213	MET
2	E	1272	ARG
2	E	1273	GLN
2	E	1275	MET
2	E	1281	ASN
2	E	1282	ASP
2	E	1292	ARG
2	E	1321	MET
2	E	1348	GLU
2	E	1370	ARG
2	E	1377	SER
2	E	1382	ARG
2	E	1426	ARG
2	E	1432	GLU
2	E	1465	ARG
2	E	1477	PHE
2	E	1510	ILE
2	E	1512	ARG
2	E	1530	SER
2	E	1568	ASN
2	E	1574	PHE
2	E	1596	THR
2	E	1598	LEU
2	E	1600	GLN
2	E	1624	LEU
2	E	1679	GLU
2	E	1691	SER
2	E	1693	LYS
2	E	1694	MET
2	E	1702	THR
2	E	1704	GLU
2	E	1707	HIS
2	E	1710	GLU
2	E	1713	LYS

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Mol	Chain	Res	Type
2	E	1715	SER
2	E	1722	ASP
2	E	1723	SER
2	E	1727	LEU
2	E	1729	THR
2	E	1730	ASN
2	E	1732	MET
2	E	1761	THR
2	E	1763	ASN
2	E	1765	SER
2	E	1767	TYR
2	E	1769	SER
2	E	1817	GLU
2	E	1821	LYS
2	E	1842	GLU
2	E	1859	ARG
2	E	1862	VAL
2	E	1882	LEU
2	E	1897	SER
2	E	1927	GLU
2	E	1962	ARG
2	E	1972	ASP
2	E	1985	GLN
2	E	2001	SER
2	E	2002	TYR
2	E	2007	ARG
2	E	2018	ASN
2	E	2020	GLU
2	E	2021	SER
2	E	2033	THR
2	E	2034	ILE
2	E	2035	LYS
2	E	2047	GLN
2	E	2048	TRP
2	E	2059	ILE
2	E	2061	THR
2	E	2065	ARG
2	E	2077	THR
2	E	2080	LYS
2	E	2084	LEU
2	E	2086	GLN
2	E	2087	ASN

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Mol	Chain	Res	Type
2	E	2095	ARG
2	E	2163	TYR
2	E	2172	SER
2	E	2178	GLU
2	E	2179	GLU
2	E	2182	VAL
2	E	2183	TYR
2	E	2189	LEU
2	E	2197	SER
2	E	2201	ILE
2	E	2214	ASP
2	E	2215	HIS
2	E	2222	LYS
2	E	2249	ASP
2	E	2264	GLU
2	E	2266	LEU
2	E	2267	LYS
2	E	2277	HIS
2	E	2296	THR
2	E	2326	SER
2	E	2327	GLU
2	E	2332	THR
2	E	2339	LEU
2	E	2340	LEU
2	E	2360	THR
2	E	2362	MET
2	E	2367	ASN
2	E	2368	GLN
2	E	2371	ASP
2	E	2375	LYS
2	E	2380	LEU
2	E	2384	ASN
2	E	2388	ARG
2	E	2393	LEU
2	E	2396	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (50) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	136	GLN
1	A	343	ASN
2	B	1030	GLN

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Mol	Chain	Res	Type
2	B	1087	ASN
2	B	1139	ASN
2	B	1470	GLN
2	B	1471	GLN
2	B	1863	HIS
2	B	1869	ASN
2	B	1895	HIS
2	B	1985	GLN
2	B	2038	HIS
2	B	2054	GLN
2	B	2087	ASN
2	B	2202	GLN
2	B	2237	GLN
2	B	2318	ASN
2	B	2338	GLN
2	B	2368	GLN
2	B	2373	ASN
2	B	2384	ASN
2	B	2387	HIS
1	D	48	HIS
1	D	219	ASN
1	D	244	HIS
2	E	930	ASN
2	E	1087	ASN
2	E	1091	ASN
2	E	1097	HIS
2	E	1140	ASN
2	E	1218	GLN
2	E	1281	ASN
2	E	1470	GLN
2	E	1540	ASN
2	E	1600	GLN
2	E	1655	GLN
2	E	1763	ASN
2	E	1863	HIS
2	E	1985	GLN
2	E	2018	ASN
2	E	2054	GLN
2	E	2087	ASN
2	E	2159	ASN
2	E	2202	GLN
2	E	2232	HIS

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Mol	Chain	Res	Type
2	E	2237	GLN
2	E	2260	HIS
2	E	2358	ASN
2	E	2373	ASN
2	E	2384	ASN

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 [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	327/355 (92%)	-0.32	4 (1%) 79 61	40, 75, 133, 168	1 (0%)
1	D	317/355 (89%)	-0.37	0 100 100	38, 73, 131, 170	0
2	B	1398/1531 (91%)	-0.10	35 (2%) 57 34	38, 103, 176, 253	0
2	E	1420/1531 (92%)	-0.15	26 (1%) 68 47	37, 90, 160, 245	0
All	All	3462/3772 (91%)	-0.17	65 (1%) 66 46	37, 92, 165, 253	1 (0%)

All (65) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	E	2096	GLN	15.9
2	E	2093	VAL	6.8
2	E	2323	ASN	6.5
2	B	2385	GLU	5.8
2	E	2321	ILE	5.4
2	B	2174	ASP	5.3
2	B	2268	PHE	5.2
2	E	2326	SER	5.1
2	B	2059	ILE	5.1
2	E	2325	LEU	5.0
2	B	2361	PHE	4.7
2	E	2322	MET	4.5
2	B	2221	ILE	3.9
2	B	2251	GLU	3.7
2	B	2322	MET	3.6
2	E	2059	ILE	3.6
2	E	2095	ARG	3.5
2	B	1433	ASP	3.5
2	B	2060	LEU	3.5
2	E	2361	PHE	3.5
1	A	329	GLY	3.4

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Mol	Chain	Res	Type	RSRZ
2	B	1324	GLY	3.4
2	E	2081	ASP	3.2
2	E	1680	SER	3.1
2	E	2082	ILE	3.1
2	B	2320	ASP	3.1
2	E	2057	ASP	3.1
2	E	2324	VAL	3.0
2	B	2052	GLU	2.9
2	B	2072	SER	2.9
2	E	2214	ASP	2.9
2	E	2094	LYS	2.8
2	B	1292	ARG	2.8
2	E	2072	SER	2.8
2	E	2071	ILE	2.7
2	E	2385	GLU	2.7
2	B	1899	TRP	2.7
2	B	2275	ALA	2.6
2	E	2092	SER	2.6
2	B	2262	GLN	2.5
2	B	2384	ASN	2.5
2	B	1238	LEU	2.4
2	B	2288	CYS	2.4
2	B	2179	GLU	2.4
2	B	2091	PRO	2.4
1	A	110	GLU	2.3
2	E	1323	SER	2.3
2	E	2382	PHE	2.3
2	B	2087	ASN	2.3
2	E	1681	VAL	2.3
2	E	2320	ASP	2.2
2	B	1894	ILE	2.2
2	B	2289	ILE	2.2
1	A	40	HIS	2.2
2	B	2183	TYR	2.2
2	B	2264	GLU	2.2
2	B	1674	ASP	2.2
1	A	169	GLU	2.2
2	B	2286	ARG	2.1
2	B	2214	ASP	2.1
2	B	2311	GLY	2.1
2	B	2333	PHE	2.0
2	B	2317	GLU	2.0

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Mol	Chain	Res	Type	RSRZ
2	E	2060	LEU	2.0
2	B	2210	MET	2.0

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.