



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 21, 2023 – 04:05 PM EST

PDB ID : 8G4U
Title : Final ketosynthase+acyltransferase of the erythromycin modular polyketide synthase
Authors : Keatinge-Clay, A.T.
Deposited on : 2023-02-10
Resolution : 2.90 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 : 2.32.1
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) : 2.32.1

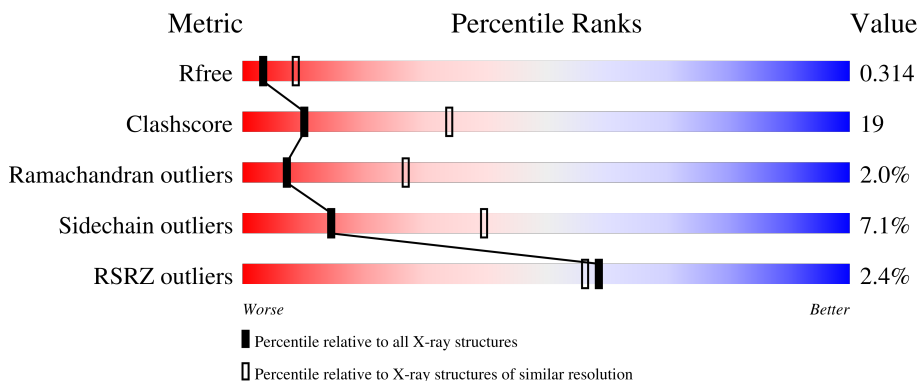
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

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	881	 4% 56% 34% 7%
1	B	881	 1% 51% 34% 5% 11%
1	C	881	 4% 52% 31% 15%
1	D	881	 2% 57% 32% 7%

2 Entry composition i

There are 2 unique types of molecules in this entry. The entry contains 22987 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 EryAIII.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	818	5950	3723	1077	1131	19	0	0	0
1	B	786	5696	3567	1032	1079	18	0	0	0
1	C	750	5423	3396	990	1021	16	0	0	0
1	D	815	5910	3696	1072	1123	19	0	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1480	GLY	-	expression tag	UNP Q5UNP4
A	1481	SER	-	expression tag	UNP Q5UNP4
A	1482	HIS	-	expression tag	UNP Q5UNP4
A	1483	MET	-	expression tag	UNP Q5UNP4
A	2357	GLN	ALA	engineered mutation	UNP Q5UNP4
B	1480	GLY	-	expression tag	UNP Q5UNP4
B	1481	SER	-	expression tag	UNP Q5UNP4
B	1482	HIS	-	expression tag	UNP Q5UNP4
B	1483	MET	-	expression tag	UNP Q5UNP4
B	2357	GLN	ALA	engineered mutation	UNP Q5UNP4
C	1480	GLY	-	expression tag	UNP Q5UNP4
C	1481	SER	-	expression tag	UNP Q5UNP4
C	1482	HIS	-	expression tag	UNP Q5UNP4
C	1483	MET	-	expression tag	UNP Q5UNP4
C	2357	GLN	ALA	engineered mutation	UNP Q5UNP4
D	1480	GLY	-	expression tag	UNP Q5UNP4
D	1481	SER	-	expression tag	UNP Q5UNP4
D	1482	HIS	-	expression tag	UNP Q5UNP4
D	1483	MET	-	expression tag	UNP Q5UNP4
D	2357	GLN	ALA	engineered mutation	UNP Q5UNP4

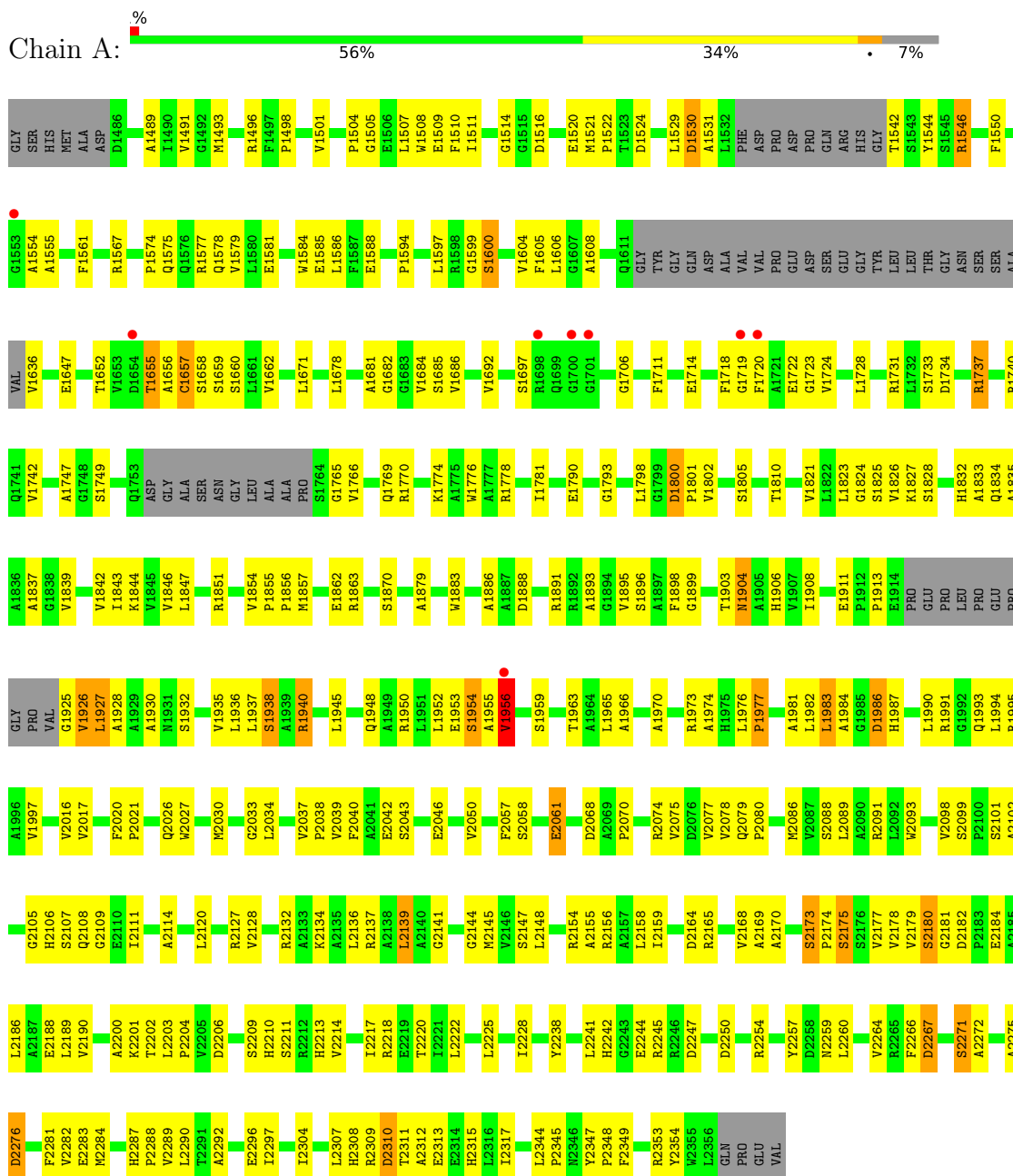
- Molecule 2 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total O 1 1	0	0
2	B	3	Total O 3 3	0	0
2	C	3	Total O 3 3	0	0
2	D	1	Total O 1 1	0	0

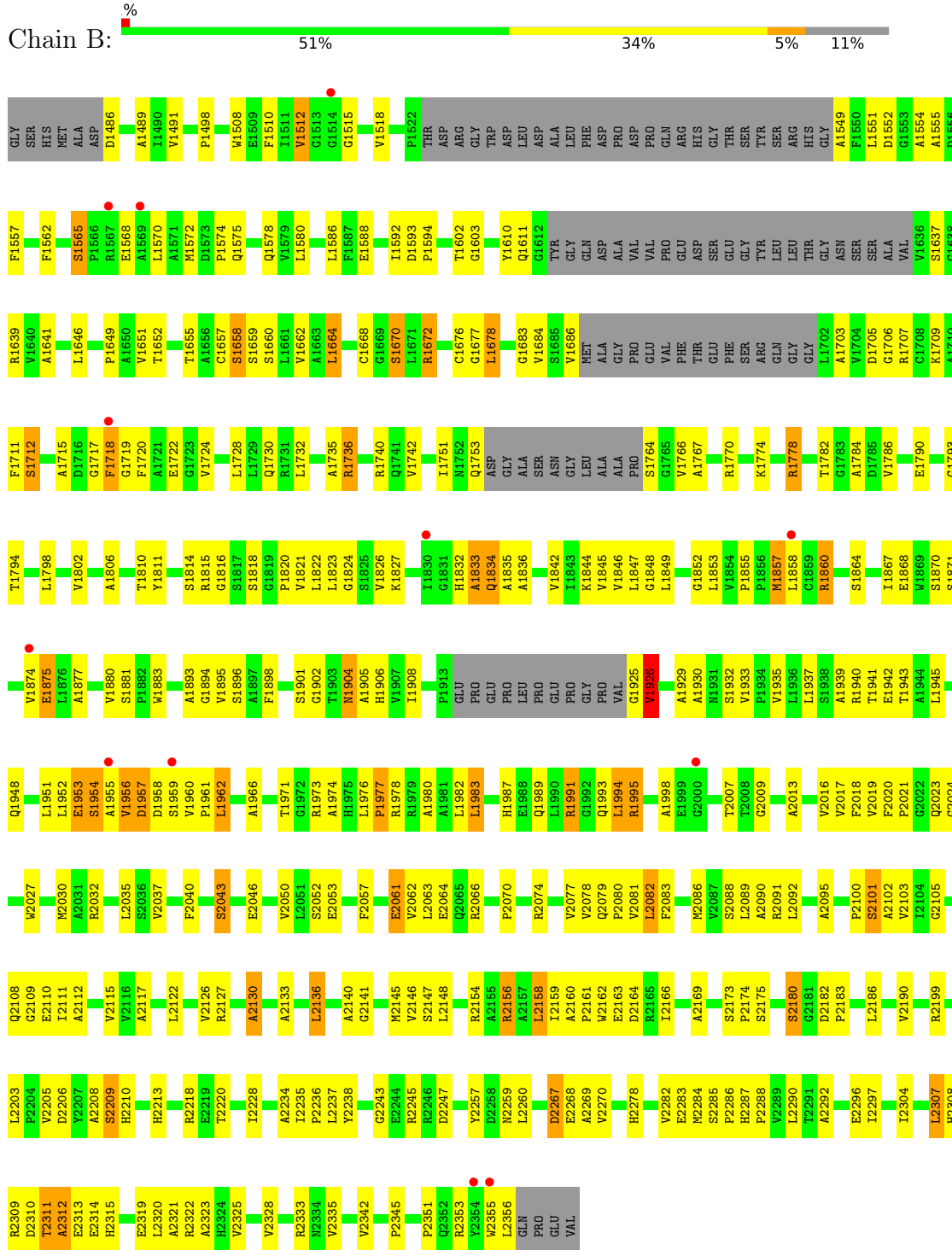
3 Residue-property plots

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.

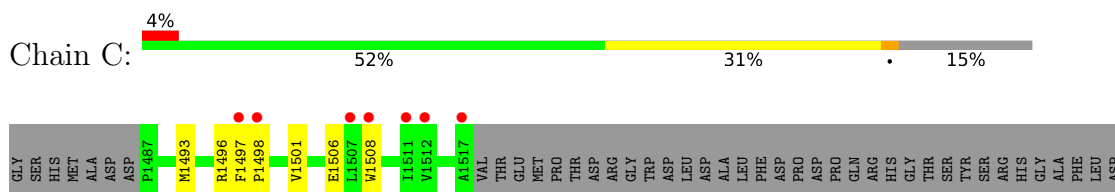
• Molecule 1: EryAIII

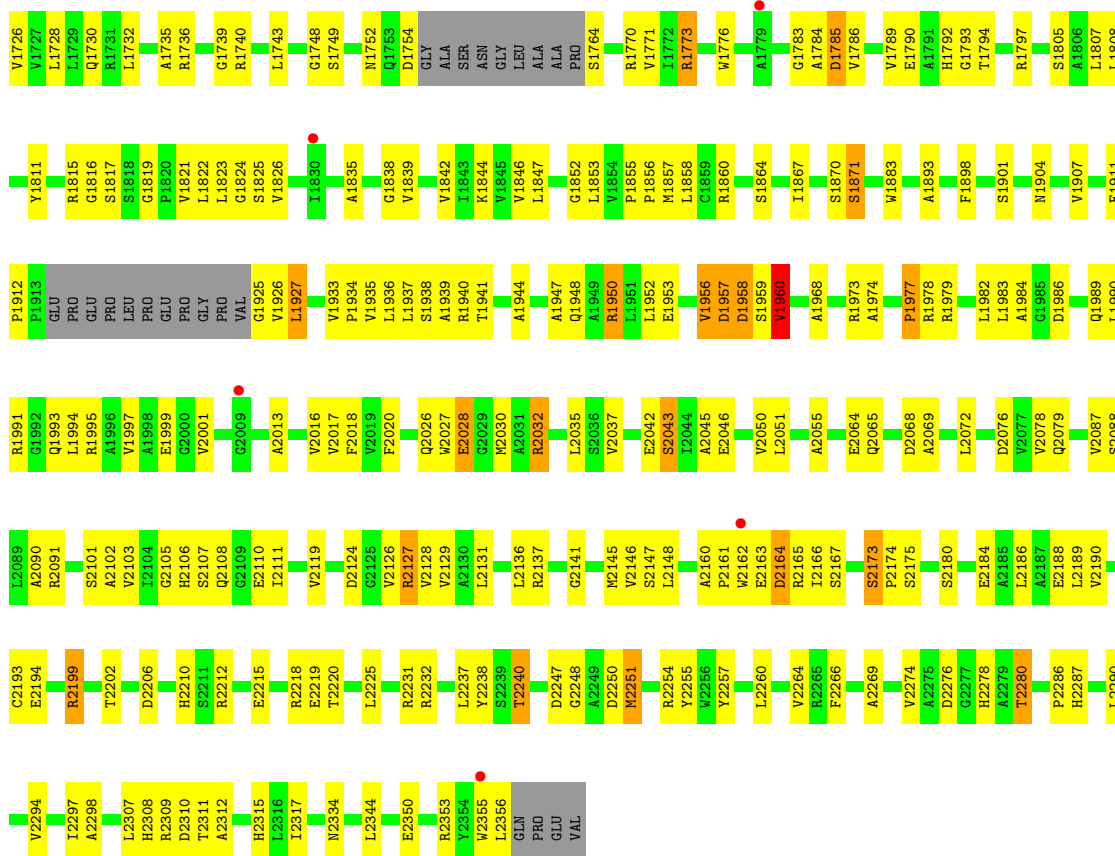


- Molecule 1: EryAIII



- Molecule 1: EryAIII





4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	71.21Å 167.94Å 184.23Å 90.00° 99.43° 90.00°	Depositor
Resolution (Å)	76.23 – 2.90 76.23 – 2.76	Depositor EDS
% Data completeness (in resolution range)	99.2 (76.23-2.90) 82.7 (76.23-2.76)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.53 (at 2.77Å)	Xtrriage
Refinement program	PHENIX 1.20.1_4487	Depositor
R, R_{free}	0.239 , 0.314 0.239 , 0.314	Depositor DCC
R_{free} test set	2006 reflections (1.85%)	wwPDB-VP
Wilson B-factor (Å ²)	41.5	Xtrriage
Anisotropy	0.649	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 59.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.28$	Xtrriage
Estimated twinning fraction	0.035 for h,-k,-h-l	Xtrriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	22987	wwPDB-VP
Average B, all atoms (Å ²)	60.0	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 39.64 % 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 3.0818e-04. 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	0.53	0/6065	0.77	7/8264 (0.1%)
1	B	0.54	0/5803	0.77	8/7908 (0.1%)
1	C	0.44	0/5522	0.70	0/7517
1	D	0.45	0/6024	0.70	0/8208
All	All	0.49	0/23414	0.74	15/31897 (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	B	0	2
1	D	0	1
All	All	0	5

There are no bond length outliers.

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	2148	LEU	CA-CB-CG	6.56	130.39	115.30
1	A	1986	ASP	CB-CG-OD2	6.48	124.13	118.30
1	B	2335	VAL	C-N-CA	6.14	137.05	121.70
1	A	2139	LEU	CA-CB-CG	6.09	129.31	115.30
1	A	1520	GLU	C-N-CA	-6.07	106.53	121.70
1	A	2276	ASP	CB-CG-OD1	-5.86	113.03	118.30
1	B	2203	LEU	CA-CB-CG	5.74	128.49	115.30
1	B	1664	LEU	CA-CB-CG	5.67	128.34	115.30
1	A	2148	LEU	CB-CG-CD2	-5.35	101.90	111.00
1	B	1983	LEU	CA-CB-CG	-5.34	103.02	115.30
1	B	2307	LEU	CB-CG-CD2	-5.32	101.95	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	1994	LEU	CB-CG-CD1	-5.23	102.11	111.00
1	A	2250	ASP	CB-CG-OD1	5.11	122.90	118.30
1	A	1983	LEU	CA-CB-CG	-5.01	103.76	115.30
1	B	1962	LEU	CA-CB-CG	-5.00	103.79	115.30

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1657	CYS	Peptide
1	A	1954	SER	Peptide
1	B	1953	GLU	Peptide
1	B	1956	VAL	Peptide
1	D	1957	ASP	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5950	0	5885	217	0
1	B	5696	0	5658	227	0
1	C	5423	0	5410	214	1
1	D	5910	0	5845	215	1
2	A	1	0	0	0	0
2	B	3	0	0	0	0
2	C	3	0	0	0	0
2	D	1	0	0	0	0
All	All	22987	0	22798	865	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 19.

All (865) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1934:PRO:HD3	1:D:2317:ILE:HD11	1.42	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1926:VAL:HG11	1:B:2037:VAL:HG22	1.48	0.96
1:C:2308:HIS:ND1	1:C:2309:ARG:O	2.05	0.89
1:B:1826:VAL:HB	1:B:1844:LYS:HD2	1.53	0.88
1:C:2064:GLU:OE1	1:C:2066:ARG:NH1	2.06	0.88
1:D:1572:MET:HE2	1:D:1577:ARG:HG2	1.57	0.87
1:A:2308:HIS:ND1	1:A:2309:ARG:O	2.07	0.87
1:A:1660:SER:OG	1:A:1835:ALA:O	1.92	0.86
1:A:1655:THR:O	1:A:1657:CYS:N	2.09	0.85
1:A:2145:MET:HG2	1:A:2180:SER:HB2	1.57	0.84
1:D:1682:GLY:HA2	1:D:1839:VAL:HG21	1.60	0.84
1:C:1815:ARG:HH12	1:C:1821:VAL:HB	1.43	0.83
1:C:2145:MET:HE2	1:C:2209:SER:H	1.43	0.83
1:C:2282:VAL:HG13	1:C:2304:ILE:HG22	1.59	0.83
1:C:1686:VAL:HA	1:C:1722:GLU:HG2	1.59	0.83
1:B:1574:PRO:HB2	1:B:1686:VAL:HG11	1.60	0.83
1:C:1926:VAL:HG13	1:C:1927:LEU:H	1.43	0.83
1:C:1682:GLY:HA2	1:C:1839:VAL:HG21	1.62	0.82
1:D:2308:HIS:ND1	1:D:2309:ARG:O	2.13	0.82
1:A:1935:VAL:HG12	1:A:1966:ALA:HB2	1.62	0.81
1:B:1945:LEU:HD21	1:B:1980:ALA:HB2	1.61	0.81
1:A:2058:SER:HB2	1:A:2061:GLU:HG3	1.63	0.81
1:A:2218:ARG:HB2	1:A:2257:TYR:CE1	2.15	0.81
1:D:1999:GLU:OE1	1:D:1999:GLU:N	2.13	0.81
1:C:1883:TRP:CD1	1:C:1891:ARG:HB3	2.17	0.80
1:D:1927:LEU:HD21	1:D:1933:VAL:HG12	1.62	0.79
1:B:2017:VAL:HG22	1:B:2102:ALA:HB3	1.63	0.79
1:C:2023:GLN:HG3	1:C:2108:GLN:HE21	1.43	0.79
1:B:1660:SER:OG	1:B:1835:ALA:O	2.02	0.78
1:D:2286:PRO:HA	1:D:2307:LEU:HB2	1.65	0.78
1:A:2132:ARG:HH12	1:A:2259:ASN:HD22	1.32	0.77
1:B:1925:GLY:O	1:B:1926:VAL:HG13	1.83	0.77
1:A:1496:ARG:NH2	1:A:1581:GLU:HB3	2.00	0.77
1:A:1658:SER:HB3	1:A:1903:THR:HB	1.67	0.76
1:A:1660:SER:HB3	1:A:1839:VAL:HG23	1.67	0.76
1:A:1976:LEU:HB3	1:A:1977:PRO:HD2	1.68	0.76
1:A:2021:PRO:HB3	1:A:2290:LEU:HD12	1.69	0.75
1:A:2027:TRP:CD1	1:A:2309:ARG:HB3	2.22	0.75
1:D:2105:GLY:HA3	1:D:2110:GLU:HG2	1.69	0.74
1:A:1926:VAL:O	1:A:1928:ALA:N	2.21	0.74
1:C:1806:ALA:O	1:C:1810:THR:OG1	2.06	0.74
1:B:2267:ASP:HB2	1:B:2297:ILE:HG12	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2145:MET:HE2	1:B:2209:SER:H	1.52	0.74
1:C:2076:ASP:HA	1:C:2133:ALA:HB1	1.69	0.74
1:C:2103:VAL:HG21	1:C:2117:ALA:HB2	1.68	0.73
1:C:1594:PRO:HD2	1:C:1974:ALA:HB2	1.70	0.73
1:B:2043:SER:HA	1:B:2046:GLU:HG3	1.70	0.73
1:B:1637:SER:H	1:B:1652:THR:HG22	1.55	0.72
1:C:2154:ARG:HH22	1:C:2196:GLU:HG2	1.54	0.72
1:D:1655:THR:HG21	1:D:1835:ALA:HB2	1.72	0.72
1:C:1827:LYS:HG2	1:C:1832:HIS:HA	1.72	0.71
1:A:2114:ALA:HB1	1:A:2120:LEU:HD12	1.71	0.71
1:A:2154:ARG:NH1	1:A:2158:LEU:HD11	2.05	0.71
1:B:1954:SER:OG	1:B:1955:ALA:N	2.22	0.71
1:C:1935:VAL:HG21	1:C:1990:LEU:HD11	1.71	0.71
1:A:2038:PRO:O	1:A:2042:GLU:HG3	1.91	0.71
1:A:2086:MET:HG2	1:A:2284:MET:O	1.90	0.71
1:C:1496:ARG:NH2	1:C:1585:GLU:OE2	2.23	0.71
1:A:1844:LYS:HE3	1:A:1855:PRO:HB2	1.73	0.71
1:B:1937:LEU:HD23	1:B:1948:GLN:HB3	1.72	0.70
1:D:1657:CYS:O	1:D:1901:SER:OG	2.10	0.70
1:D:1937:LEU:HD23	1:D:1948:GLN:HB3	1.73	0.70
1:D:1593:ASP:O	1:D:1596:SER:OG	2.06	0.69
1:A:2046:GLU:OE2	1:A:2091:ARG:NH2	2.25	0.69
1:C:2218:ARG:NH1	1:D:2250:ASP:OD1	2.26	0.69
1:B:1711:PHE:CE1	1:B:1823:LEU:HD21	2.28	0.69
1:C:2154:ARG:NH2	1:C:2196:GLU:HG2	2.08	0.69
1:A:1734:ASP:HA	1:A:1737:ARG:HG2	1.75	0.68
1:A:2217:ILE:O	1:A:2220:THR:HG22	1.92	0.68
1:C:2267:ASP:HB2	1:C:2297:ILE:HG12	1.74	0.68
1:A:2106:HIS:CE1	1:A:2264:VAL:HG11	2.28	0.68
1:C:1842:VAL:HG22	1:C:1895:VAL:HG11	1.73	0.68
1:D:2199:ARG:H	1:D:2199:ARG:HD2	1.58	0.68
1:A:1842:VAL:O	1:A:1846:VAL:HG23	1.93	0.68
1:B:1842:VAL:O	1:B:1846:VAL:HG23	1.94	0.68
1:A:2107:SER:OG	1:A:2108:GLN:N	2.21	0.68
1:B:2286:PRO:HA	1:B:2307:LEU:HB2	1.76	0.68
1:A:2267:ASP:O	1:A:2271:SER:OG	2.12	0.68
1:B:2282:VAL:HG22	1:B:2304:ILE:HB	1.74	0.68
1:D:1511:ILE:HG13	1:D:1512:VAL:N	2.09	0.68
1:B:1774:LYS:HG3	1:B:1778:ARG:HH21	1.59	0.67
1:C:1797:ARG:HH11	1:C:1866:LEU:HD11	1.59	0.67
1:C:2017:VAL:HG22	1:C:2102:ALA:HB3	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1982:LEU:HD13	1:C:1993:GLN:HB3	1.77	0.67
1:B:1751:ILE:HG22	1:B:1905:ALA:HB2	1.76	0.67
1:C:1967:SER:O	1:C:1971:THR:HG22	1.94	0.67
1:C:1844:LYS:HE3	1:C:1855:PRO:HB2	1.77	0.67
1:A:1692:VAL:HG22	1:A:1720:PHE:CE2	2.29	0.66
1:B:1586:LEU:HD21	1:B:1728:LEU:HB2	1.76	0.66
1:C:1856:PRO:HB3	1:C:1879:ALA:HA	1.76	0.66
1:D:2145:MET:HG2	1:D:2180:SER:HB2	1.78	0.66
1:B:1845:VAL:O	1:B:1849:LEU:HD12	1.96	0.66
1:D:1947:ALA:O	1:D:1950:ARG:HG3	1.95	0.66
1:A:1938:SER:HB3	1:A:1976:LEU:H	1.60	0.65
1:C:1845:VAL:HB	1:C:1909:ILE:HD11	1.78	0.65
1:C:1935:VAL:HG12	1:C:1966:ALA:HB2	1.77	0.65
1:B:2105:GLY:HA3	1:B:2110:GLU:HG2	1.79	0.65
1:B:2043:SER:OG	1:B:2088:SER:OG	2.12	0.65
1:A:2292:ALA:O	1:A:2296:GLU:HG3	1.97	0.65
1:B:1941:THR:OG1	1:B:1943:THR:OG1	2.14	0.64
1:C:1841:GLY:O	1:C:1845:VAL:HG23	1.97	0.64
1:D:1883:TRP:HZ2	1:D:1893:ALA:HB2	1.62	0.64
1:B:2019:VAL:HG12	1:B:2021:PRO:HD3	1.77	0.64
1:D:1754:ASP:HB2	1:D:1764:SER:HB3	1.79	0.64
1:A:2027:TRP:CH2	1:A:2030:MET:HA	2.33	0.64
1:C:2018:PHE:CG	1:C:2100:PRO:HB3	2.33	0.64
1:D:2050:VAL:HB	1:D:2126:VAL:HG21	1.79	0.64
1:C:1776:TRP:HB3	1:C:1781:ILE:O	1.97	0.64
1:C:1604:VAL:HG12	1:C:1637:SER:HB2	1.79	0.64
1:B:1821:VAL:HG12	1:B:1874:VAL:HG22	1.79	0.63
1:C:1580:LEU:HG	1:C:1640:VAL:HG12	1.80	0.63
1:D:2027:TRP:O	1:D:2030:MET:HG2	1.98	0.63
1:B:1798:LEU:O	1:B:1802:VAL:HG23	1.98	0.63
1:C:1842:VAL:O	1:C:1846:VAL:HG23	1.98	0.63
1:D:2119:VAL:HG21	1:D:2251:MET:HE2	1.79	0.63
1:C:1570:LEU:HD13	1:C:1577:ARG:HH22	1.63	0.63
1:C:2058:SER:HB2	1:C:2061:GLU:H	1.64	0.63
1:C:1952:LEU:HD13	1:C:1952:LEU:O	1.98	0.63
1:A:1883:TRP:CD1	1:A:1891:ARG:HB3	2.34	0.63
1:B:2086:MET:HG2	1:B:2284:MET:O	1.99	0.63
1:B:2169:ALA:HB2	1:B:2180:SER:HB3	1.80	0.63
1:D:1692:VAL:HG12	1:D:1720:PHE:CE1	2.34	0.63
1:D:1503:ASN:ND2	1:D:1506:GLU:H	1.96	0.62
1:B:1952:LEU:HB3	1:B:1994:LEU:HD13	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1982:LEU:HD12	1:C:1994:LEU:HD23	1.80	0.62
1:A:2147:SER:OG	1:A:2203:LEU:HD21	1.99	0.62
1:C:1643:VAL:HG13	1:C:1644:LEU:HD12	1.80	0.62
1:D:1508:TRP:HB2	1:D:1847:LEU:HD13	1.81	0.62
1:C:1883:TRP:HZ2	1:C:1893:ALA:HB2	1.64	0.61
1:D:2103:VAL:HG23	1:D:2237:LEU:HD13	1.81	0.61
1:D:1807:LEU:HD13	1:D:1823:LEU:HD11	1.82	0.61
1:C:1573:ASP:HB3	1:C:1575:GLN:HE22	1.64	0.61
1:B:1784:ALA:HB2	1:B:1815:ARG:HA	1.82	0.61
1:A:2132:ARG:HH22	1:A:2259:ASN:ND2	1.98	0.61
1:D:1864:SER:HB3	1:D:1867:ILE:HD12	1.83	0.61
1:B:1718:PHE:HB3	1:B:1794:THR:HG22	1.81	0.61
1:C:1605:PHE:O	1:C:1606:LEU:HD23	2.01	0.61
1:D:1687:MET:CE	1:D:1720:PHE:HB3	2.31	0.61
1:D:1824:GLY:HA2	1:D:1857:MET:HE2	1.81	0.61
1:D:1570:LEU:HG	1:D:2356:LEU:HD21	1.81	0.60
1:B:2159:ILE:HD12	1:B:2166:ILE:HG22	1.83	0.60
1:B:1491:VAL:HB	1:B:1740:ARG:HG2	1.83	0.60
1:B:1637:SER:H	1:B:1652:THR:CG2	2.13	0.60
1:A:2114:ALA:CB	1:A:2120:LEU:HD12	2.31	0.60
1:A:1671:LEU:O	1:A:1731:ARG:NH1	2.35	0.60
1:D:1736:ARG:O	1:D:1739:GLY:N	2.31	0.60
1:B:2186:LEU:O	1:B:2190:VAL:HG13	2.02	0.60
1:C:2016:VAL:N	1:C:2101:SER:OG	2.34	0.60
1:D:2107:SER:HB3	1:D:2210:HIS:NE2	2.16	0.59
1:B:1610:TYR:O	1:B:1611:GLN:HG3	2.02	0.59
1:C:1952:LEU:HD21	1:C:1969:LEU:HD11	1.84	0.59
1:C:1926:VAL:H	1:C:2037:VAL:HG11	1.67	0.59
1:B:1720:PHE:HE1	1:B:1834:GLN:HB2	1.68	0.59
1:B:1953:GLU:O	1:B:1956:VAL:HG23	2.03	0.59
1:C:2163:GLU:HG3	1:D:2276:ASP:OD2	2.02	0.59
1:B:2287:HIS:ND1	1:B:2309:ARG:HG2	2.18	0.59
1:B:1826:VAL:HB	1:B:1844:LYS:CD	2.31	0.59
1:A:2186:LEU:O	1:A:2190:VAL:HG23	2.02	0.59
1:B:1570:LEU:HB2	1:B:2356:LEU:HD11	1.85	0.59
1:C:1581:GLU:O	1:C:1585:GLU:HG3	2.02	0.59
1:D:1512:VAL:HG23	1:D:1856:PRO:HG3	1.84	0.59
1:A:1790:GLU:HB3	1:A:1895:VAL:HG22	1.84	0.58
1:B:2050:VAL:HG23	1:B:2126:VAL:HG11	1.84	0.58
1:A:1983:LEU:O	1:A:1993:GLN:NE2	2.27	0.58
1:C:2104:ILE:HG12	1:C:2238:TYR:HB2	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1883:TRP:CZ2	1:B:1893:ALA:HB2	2.38	0.58
1:A:1898:PHE:CD1	1:A:1904:ASN:HB3	2.38	0.58
1:B:2208:ALA:HB3	1:B:2213:HIS:CD2	2.37	0.58
1:C:2155:ALA:O	1:C:2159:ILE:HG12	2.04	0.58
1:A:1491:VAL:HG23	1:A:1728:LEU:HD23	1.85	0.58
1:A:2267:ASP:HB2	1:A:2297:ILE:HG12	1.85	0.58
1:B:1811:TYR:OH	1:B:1906:HIS:NE2	2.29	0.58
1:C:2023:GLN:HG3	1:C:2108:GLN:NE2	2.17	0.58
1:B:1956:VAL:O	1:B:1957:ASP:HB2	2.03	0.58
1:A:1511:ILE:O	1:A:1514:GLY:N	2.36	0.58
1:A:1599:GLY:HA2	1:A:1647:GLU:HG3	1.86	0.58
1:A:2201:LYS:HD3	1:A:2202:THR:N	2.18	0.58
1:A:1932:SER:OG	1:A:1984:ALA:N	2.37	0.58
1:D:1937:LEU:HD11	1:D:1952:LEU:HD22	1.86	0.58
1:D:2173:SER:O	1:D:2175:SER:N	2.36	0.58
1:C:1497:PHE:HB2	1:C:1501:VAL:HG13	1.86	0.57
1:B:2308:HIS:ND1	1:B:2309:ARG:O	2.37	0.57
1:C:1576:GLN:HG3	1:C:1636:VAL:HG13	1.85	0.57
1:C:2321:ALA:O	1:C:2325:VAL:HG23	2.05	0.57
1:D:1709:LYS:HG2	1:D:1860:ARG:HG3	1.86	0.57
1:A:2287:HIS:ND1	1:A:2288:PRO:HD2	2.20	0.57
1:B:2018:PHE:CG	1:B:2100:PRO:HB3	2.40	0.57
1:C:2067:PRO:HD2	1:C:2068:ASP:H	1.69	0.57
1:A:2034:LEU:HD11	1:A:2307:LEU:HD21	1.87	0.57
1:D:1489:ALA:HB2	1:D:1732:LEU:HD13	1.86	0.57
1:D:1936:LEU:O	1:D:1937:LEU:HD12	2.04	0.57
1:D:2027:TRP:CH2	1:D:2030:MET:HA	2.40	0.57
1:D:2218:ARG:NH1	1:D:2219:GLU:OE2	2.37	0.57
1:C:2124:ASP:O	1:C:2128:VAL:HG23	2.05	0.57
1:D:2274:VAL:HG21	1:D:2298:ALA:HB2	1.86	0.57
1:C:1945:LEU:HD11	1:C:1980:ALA:HB2	1.87	0.57
1:A:1586:LEU:HD21	1:A:1728:LEU:HB2	1.85	0.56
1:C:1575:GLN:O	1:C:1579:VAL:HG12	2.05	0.56
1:D:1864:SER:HB3	1:D:1867:ILE:CD1	2.34	0.56
1:A:2017:VAL:HG22	1:A:2102:ALA:HB3	1.87	0.56
1:D:2218:ARG:HD3	1:D:2257:TYR:CE2	2.41	0.56
1:A:2132:ARG:NH1	1:A:2259:ASN:HD22	2.01	0.56
1:A:2165:ARG:HB3	1:A:2182:ASP:HB2	1.88	0.56
1:A:1493:MET:CE	1:A:1843:ILE:HG23	2.36	0.56
1:C:1883:TRP:CZ2	1:C:1893:ALA:HB2	2.40	0.56
1:B:1720:PHE:CE1	1:B:1834:GLN:HB2	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1956:VAL:HG21	1:D:1991:ARG:HG2	1.88	0.56
1:D:2232:ARG:NH1	1:D:2247:ASP:OD2	2.39	0.56
1:C:1684:VAL:HG23	1:C:1724:VAL:HB	1.88	0.56
1:C:2140:ALA:HA	1:C:2207:TYR:HB3	1.88	0.56
1:D:1692:VAL:HG12	1:D:1720:PHE:HE1	1.71	0.55
1:B:1942:GLU:HG3	1:B:1978:ARG:HD2	1.87	0.55
1:D:1926:VAL:H	1:D:2037:VAL:HG22	1.71	0.55
1:C:2282:VAL:HG13	1:C:2304:ILE:CG2	2.34	0.55
1:D:2128:VAL:HG13	1:D:2225:LEU:HD13	1.88	0.55
1:B:1712:SER:OG	1:B:1860:ARG:O	2.12	0.55
1:A:1747:ALA:HB3	1:A:1908:ILE:HG22	1.88	0.55
1:A:2046:GLU:CD	1:A:2091:ARG:HH22	2.10	0.55
1:A:2276:ASP:OD2	1:B:2163:GLU:HG3	2.07	0.55
1:B:2043:SER:HG	1:B:2088:SER:HG	1.48	0.55
1:B:1489:ALA:HB1	1:B:1742:VAL:HG13	1.88	0.55
1:C:1826:VAL:HG22	1:C:1830:ILE:HD12	1.89	0.55
1:B:2057:PHE:HB2	1:B:2061:GLU:OE1	2.07	0.55
1:D:2124:ASP:O	1:D:2128:VAL:HG23	2.07	0.55
1:C:1557:PHE:CD2	1:C:1577:ARG:HD3	2.42	0.55
1:C:1684:VAL:HB	1:C:1724:VAL:HG23	1.89	0.55
1:D:1695:GLU:O	1:D:1698:ARG:HG2	2.06	0.55
1:D:2016:VAL:HG23	1:D:2280:THR:HB	1.89	0.55
1:D:2035:LEU:HD12	1:D:2035:LEU:H	1.72	0.55
1:B:1657:CYS:HA	1:B:1901:SER:HB3	1.89	0.54
1:C:2040:PHE:HD2	1:C:2092:LEU:HD12	1.71	0.54
1:A:1682:GLY:HA2	1:A:1839:VAL:HG21	1.90	0.54
1:B:1565:SER:HB3	1:B:1568:GLU:OE2	2.07	0.54
1:B:2173:SER:O	1:B:2175:SER:N	2.39	0.54
1:C:1845:VAL:O	1:C:1849:LEU:HD12	2.06	0.54
1:D:1603:GLY:HA2	1:D:1649:PRO:O	2.07	0.54
1:D:1635:VAL:HG13	1:D:1639:ARG:HD3	1.88	0.54
1:C:2218:ARG:HH12	1:D:2250:ASP:HA	1.72	0.54
1:B:2112:ALA:O	1:B:2115:VAL:HG22	2.08	0.54
1:B:2154:ARG:NH1	1:B:2158:LEU:HD11	2.21	0.54
1:D:1952:LEU:O	1:D:1956:VAL:HG23	2.06	0.54
1:A:1581:GLU:O	1:A:1585:GLU:HG3	2.08	0.54
1:B:1896:SER:OG	1:B:1906:HIS:ND1	2.32	0.54
1:B:2021:PRO:HB3	1:B:2290:LEU:HD12	1.90	0.54
1:B:2210:HIS:ND1	1:B:2260:LEU:O	2.41	0.54
1:D:1594:PRO:HD2	1:D:1974:ALA:HB2	1.88	0.54
1:C:2283:GLU:O	1:C:2285:SER:N	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1824:GLY:HA2	1:B:1857:MET:HE2	1.89	0.54
1:D:1605:PHE:O	1:D:1681:ALA:HA	2.07	0.54
1:A:2033:GLY:HA3	1:A:2313:GLU:CD	2.28	0.54
1:D:1984:ALA:HB2	1:D:1993:GLN:OE1	2.08	0.54
1:D:2287:HIS:HE1	1:D:2308:HIS:CE1	2.26	0.54
1:A:1706:GLY:O	1:A:1719:GLY:HA3	2.08	0.54
1:A:2145:MET:HE2	1:A:2209:SER:H	1.73	0.54
1:B:2077:VAL:O	1:B:2080:PRO:HD2	2.08	0.54
1:C:1575:GLN:HB2	1:C:1684:VAL:HG13	1.90	0.54
1:A:2136:LEU:HD12	1:A:2139:LEU:HG	1.90	0.54
1:B:1486:ASP:N	1:B:1672:ARG:NH2	2.55	0.54
1:C:1580:LEU:HD21	1:C:1643:VAL:HG11	1.89	0.54
1:D:1959:SER:O	1:D:1960:VAL:HG12	2.07	0.54
1:D:2311:THR:OG1	1:D:2315:HIS:HB2	2.07	0.54
1:B:1678:LEU:HD12	1:B:1730:GLN:HB2	1.90	0.53
1:B:2321:ALA:O	1:B:2325:VAL:HG23	2.07	0.53
1:C:1497:PHE:HB2	1:C:1501:VAL:CG1	2.39	0.53
1:C:1671:LEU:HB3	1:C:1731:ARG:HG2	1.90	0.53
1:C:1715:ALA:HB1	1:C:1795:GLY:O	2.09	0.53
1:D:1706:GLY:O	1:D:1719:GLY:HA3	2.08	0.53
1:D:2128:VAL:HG13	1:D:2225:LEU:CD1	2.38	0.53
1:C:2218:ARG:NE	1:C:2219:GLU:OE1	2.36	0.53
1:D:1522:PRO:HB2	1:D:1525:ARG:HD2	1.89	0.53
1:D:1944:ALA:HB2	1:D:2350:GLU:OE1	2.07	0.53
1:D:2266:PHE:O	1:D:2269:ALA:N	2.40	0.53
1:A:1883:TRP:NE1	1:A:1891:ARG:HB3	2.23	0.53
1:B:1510:PHE:CZ	1:B:1515:GLY:HA2	2.44	0.53
1:B:1871:SER:OG	1:B:1871:SER:O	2.27	0.53
1:C:1563:GLY:O	1:C:1564:ILE:HD13	2.09	0.53
1:C:1794:THR:OG1	1:C:1795:GLY:N	2.40	0.53
1:D:1599:GLY:HA2	1:D:1647:GLU:HG3	1.91	0.53
1:A:1544:TYR:HD1	1:A:1697:SER:HG	1.57	0.53
1:B:2046:GLU:CD	1:B:2091:ARG:HH12	2.12	0.53
1:B:2108:GLN:O	1:B:2111:ILE:HD12	2.08	0.53
1:B:2117:ALA:HA	1:B:2235:ILE:HD13	1.90	0.53
1:B:2130:ALA:O	1:B:2133:ALA:N	2.41	0.53
1:D:1935:VAL:HG21	1:D:1990:LEU:HD11	1.90	0.53
1:D:2164:ASP:O	1:D:2166:ILE:N	2.39	0.53
1:A:1973:ARG:HH22	1:A:2344:LEU:HB2	1.74	0.53
1:C:1946:ALA:HB1	1:C:1998:ALA:O	2.09	0.53
1:B:1572:MET:CE	1:B:1639:ARG:HD3	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1554:ALA:HA	1:D:1578:GLN:NE2	2.23	0.53
1:A:1856:PRO:HB3	1:A:1879:ALA:HA	1.91	0.53
1:D:1740:ARG:HB2	1:D:1740:ARG:NH1	2.23	0.53
1:D:1784:ALA:HA	1:D:1815:ARG:HH21	1.73	0.53
1:D:2076:ASP:CG	1:D:2137:ARG:HD3	2.29	0.53
1:D:2184:GLU:HG2	1:D:2188:GLU:OE2	2.09	0.53
1:B:1641:ALA:HA	1:B:1646:LEU:HD12	1.90	0.53
1:B:1790:GLU:OE2	1:B:1826:VAL:HG12	2.09	0.53
1:C:1498:PRO:HD3	1:C:1722:GLU:O	2.09	0.53
1:A:2164:ASP:OD1	1:A:2165:ARG:N	2.41	0.52
1:B:1786:VAL:HG13	1:B:1893:ALA:HA	1.91	0.52
1:D:1941:THR:CG2	1:D:1944:ALA:H	2.22	0.52
1:B:1592:ILE:HD11	1:B:1740:ARG:NH1	2.24	0.52
1:B:1989:GLN:HG2	1:B:1993:GLN:HE21	1.74	0.52
1:A:1489:ALA:HB1	1:A:1742:VAL:HG13	1.92	0.52
1:A:1883:TRP:HZ2	1:A:1893:ALA:HB2	1.75	0.52
1:B:1822:LEU:HB3	1:B:1877:ALA:HB2	1.91	0.52
1:D:2290:LEU:O	1:D:2294:VAL:HG23	2.09	0.52
1:A:1824:GLY:HA2	1:A:1857:MET:HG2	1.91	0.52
1:A:2214:VAL:HG11	1:A:2260:LEU:HG	1.91	0.52
1:B:2292:ALA:O	1:B:2296:GLU:HG3	2.10	0.52
1:C:1938:SER:HB3	1:C:1976:LEU:H	1.74	0.52
1:D:1941:THR:HG23	1:D:1944:ALA:H	1.74	0.52
1:A:2017:VAL:HB	1:A:2281:PHE:CD1	2.45	0.52
1:B:1593:ASP:OD2	1:B:1974:ALA:HA	2.09	0.52
1:B:1953:GLU:N	1:B:1953:GLU:OE1	2.43	0.52
1:C:2048:ASP:O	1:C:2052:SER:N	2.31	0.52
1:D:1786:VAL:HG13	1:D:1893:ALA:HA	1.90	0.52
1:B:2062:VAL:HG11	1:B:2081:VAL:HG21	1.91	0.52
1:D:1511:ILE:HG13	1:D:1512:VAL:H	1.73	0.52
1:B:2309:ARG:O	1:B:2309:ARG:HG3	2.09	0.52
1:C:1576:GLN:HE21	1:C:1636:VAL:HA	1.75	0.52
1:D:1842:VAL:O	1:D:1846:VAL:HG22	2.10	0.52
1:A:1684:VAL:HG23	1:A:1724:VAL:HG22	1.92	0.52
1:B:1705:ASP:O	1:B:1707:ARG:NH1	2.42	0.52
1:B:2103:VAL:HG21	1:B:2117:ALA:HB2	1.92	0.52
1:B:1557:PHE:HZ	1:B:1580:LEU:HD23	1.75	0.52
1:C:1798:LEU:O	1:C:1802:VAL:HG23	2.10	0.52
1:A:1930:ALA:HB2	1:A:2317:ILE:HD13	1.92	0.52
1:B:2140:ALA:HA	1:B:2206:ASP:O	2.08	0.52
1:D:1749:SER:HB3	1:D:1907:VAL:HG23	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2018:PHE:HB3	1:D:2020:PHE:CE1	2.45	0.52
1:A:1597:LEU:O	1:A:1600:SER:HB2	2.10	0.51
1:C:1555:ALA:O	1:C:1577:ARG:NH1	2.43	0.51
1:C:1576:GLN:NE2	1:C:1636:VAL:HA	2.25	0.51
1:C:1807:LEU:HD13	1:C:1823:LEU:HD11	1.92	0.51
1:C:1993:GLN:O	1:C:1997:VAL:HG23	2.10	0.51
1:D:1925:GLY:O	1:D:1926:VAL:HG12	2.10	0.51
1:A:1983:LEU:HD21	1:A:2317:ILE:HG22	1.92	0.51
1:A:1987:HIS:O	1:A:1991:ARG:HG3	2.10	0.51
1:A:1575:GLN:O	1:A:1579:VAL:HG12	2.11	0.51
1:A:1827:LYS:HE3	1:A:1832:HIS:ND1	2.26	0.51
1:A:1886:ALA:HB3	1:A:1888:ASP:OD1	2.11	0.51
1:A:1936:LEU:HD12	1:A:1970:ALA:HA	1.91	0.51
1:A:2079:GLN:HB2	1:A:2080:PRO:HD3	1.93	0.51
1:A:2168:VAL:HA	1:A:2179:VAL:HG12	1.92	0.51
1:C:1579:VAL:HG21	1:C:1606:LEU:HD11	1.92	0.51
1:C:2254:ARG:HD3	1:D:2254:ARG:HG2	1.92	0.51
1:D:1634:ALA:HA	1:D:1652:THR:HB	1.92	0.51
1:D:2032:ARG:HA	1:D:2035:LEU:CD1	2.41	0.51
1:A:1594:PRO:HD2	1:A:1974:ALA:HB2	1.91	0.51
1:A:1765:GLY:O	1:A:1769:GLN:HG3	2.11	0.51
1:B:1594:PRO:HD2	1:B:1974:ALA:HB2	1.93	0.51
1:C:1981:ALA:C	1:C:1982:LEU:HD23	2.31	0.51
1:B:2218:ARG:HB2	1:B:2257:TYR:CE1	2.46	0.51
1:A:1498:PRO:HB3	1:A:1550:PHE:O	2.10	0.51
1:A:1678:LEU:HD21	1:A:1728:LEU:HD11	1.91	0.51
1:A:1774:LYS:HZ2	1:A:1778:ARG:HD3	1.76	0.51
1:A:2184:GLU:O	1:A:2188:GLU:HG3	2.11	0.51
1:C:1501:VAL:HG23	1:C:1506:GLU:CB	2.41	0.51
1:A:2225:LEU:O	1:A:2228:ILE:HG12	2.11	0.50
1:B:1898:PHE:CD1	1:B:1904:ASN:HB3	2.46	0.50
1:B:1973:ARG:HH11	1:B:1973:ARG:HG2	1.76	0.50
1:C:1671:LEU:O	1:C:1731:ARG:HD3	2.11	0.50
1:A:1948:GLN:HG3	1:A:2348:PRO:HD2	1.93	0.50
1:B:1956:VAL:HG12	1:B:1987:HIS:HB3	1.94	0.50
1:B:2023:GLN:HG3	1:B:2024:GLY:N	2.26	0.50
1:C:2186:LEU:O	1:C:2190:VAL:HG13	2.12	0.50
1:A:1950:ARG:HG2	1:A:1995:ARG:HH12	1.76	0.50
1:A:2134:LYS:O	1:A:2137:ARG:HB2	2.11	0.50
1:B:1518:VAL:HG22	1:B:1549:ALA:HB2	1.93	0.50
1:B:1926:VAL:HG11	1:B:2037:VAL:CG2	2.33	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1935:VAL:HG12	1:B:1966:ALA:HB2	1.92	0.50
1:C:1968:ALA:HB1	1:C:2344:LEU:HD11	1.94	0.50
1:C:1709:LYS:HG2	1:C:1860:ARG:HD2	1.94	0.50
1:D:1789:VAL:HG23	1:D:1823:LEU:HD12	1.93	0.50
1:A:1862:GLU:HG2	1:A:1863:ARG:H	1.76	0.50
1:B:2162:TRP:O	1:B:2164:ASP:O	2.29	0.50
1:C:2067:PRO:CD	1:C:2068:ASP:H	2.24	0.50
1:A:2244:GLU:OE1	1:B:2156:ARG:NH1	2.43	0.50
1:B:2173:SER:C	1:B:2175:SER:H	2.15	0.50
1:B:2304:ILE:HD13	1:B:2322:ARG:NH2	2.27	0.50
1:D:1740:ARG:HB2	1:D:1740:ARG:CZ	2.42	0.50
1:B:2027:TRP:CD1	1:B:2309:ARG:HB3	2.47	0.50
1:B:2243:GLY:HA3	1:B:2268:GLU:HB3	1.92	0.50
1:C:1926:VAL:CG1	1:C:1927:LEU:H	2.19	0.50
1:C:1944:ALA:O	1:C:1948:GLN:HG3	2.12	0.50
1:C:2148:LEU:HB2	1:C:2177:VAL:HG23	1.93	0.50
1:D:1857:MET:HG2	1:D:1858:LEU:N	2.26	0.50
1:A:1925:GLY:HA3	1:A:2037:VAL:HG13	1.92	0.50
1:B:1883:TRP:HZ2	1:B:1893:ALA:HB2	1.75	0.50
1:C:1797:ARG:NH1	1:C:1866:LEU:HD11	2.24	0.50
1:C:2023:GLN:H	1:C:2108:GLN:HE21	1.58	0.50
1:D:2017:VAL:HG13	1:D:2102:ALA:HB3	1.94	0.50
1:B:1989:GLN:O	1:B:1993:GLN:HG3	2.12	0.50
1:C:1570:LEU:HD13	1:C:1577:ARG:NH2	2.26	0.50
1:C:1662:VAL:HG13	1:C:1663:ALA:H	1.77	0.50
1:C:2347:TYR:HE1	1:C:2349:PHE:HA	1.76	0.50
1:B:1637:SER:OG	1:B:1651:VAL:O	2.19	0.49
1:C:1604:VAL:CG1	1:C:1637:SER:HB2	2.41	0.49
1:C:1990:LEU:HG	1:C:1994:LEU:HD11	1.92	0.49
1:D:1657:CYS:HA	1:D:1901:SER:HB3	1.93	0.49
1:B:1720:PHE:CZ	1:B:1832:HIS:CD2	2.99	0.49
1:D:1718:PHE:CD1	1:D:1720:PHE:HE2	2.30	0.49
1:D:2111:ILE:HG21	1:D:2129:VAL:HB	1.93	0.49
1:A:1555:ALA:HB1	1:A:2353:ARG:HG3	1.92	0.49
1:B:1572:MET:HE2	1:B:1639:ARG:HD3	1.94	0.49
1:C:1863:ARG:HD3	1:C:1869:TRP:CD1	2.47	0.49
1:C:1573:ASP:HB3	1:C:1575:GLN:NE2	2.27	0.49
1:D:1488:ILE:HG21	1:D:1668:CYS:SG	2.53	0.49
1:D:1677:GLY:O	1:D:1730:GLN:HG3	2.12	0.49
1:D:2136:LEU:HD13	1:D:2260:LEU:HD21	1.94	0.49
1:A:1824:GLY:HA2	1:A:1857:MET:CG	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2201:LYS:HD3	1:A:2202:THR:H	1.75	0.49
1:C:2020:PHE:O	1:C:2109:GLY:HA3	2.13	0.49
1:D:1525:ARG:HG2	1:D:2355:TRP:CZ2	2.48	0.49
1:C:2159:ILE:HG22	1:C:2189:LEU:HD22	1.95	0.49
1:D:1911:GLU:HG2	1:D:1912:PRO:HD2	1.93	0.49
1:D:2119:VAL:O	1:D:2231:ARG:HG2	2.12	0.49
1:D:2237:LEU:HD12	1:D:2238:TYR:N	2.27	0.49
1:A:2027:TRP:CZ2	1:A:2030:MET:HA	2.47	0.49
1:A:1636:VAL:HG12	1:A:1652:THR:HG23	1.95	0.49
1:A:1883:TRP:CZ2	1:A:1893:ALA:HB2	2.48	0.49
1:A:2170:ALA:HB3	1:A:2178:VAL:HB	1.95	0.49
1:C:1665:HIS:CD2	1:C:1751:ILE:HG12	2.48	0.49
1:C:1768:GLN:O	1:C:1772:ILE:HG13	2.12	0.49
1:C:2079:GLN:HB2	1:C:2080:PRO:HD3	1.94	0.49
1:A:1956:VAL:HG21	1:A:1965:LEU:CD1	2.43	0.49
1:C:2013:ALA:H	1:C:2327:GLY:HA3	1.77	0.49
1:D:1883:TRP:CZ2	1:D:1893:ALA:HB2	2.45	0.49
1:A:1898:PHE:HD1	1:A:1904:ASN:HB3	1.78	0.49
1:B:1939:ALA:HB2	1:B:1948:GLN:OE1	2.13	0.49
1:B:2311:THR:HB	1:B:2315:HIS:HB2	1.93	0.49
1:C:1822:LEU:HB3	1:C:1877:ALA:HB2	1.94	0.49
1:D:1659:SER:O	1:D:1661:LEU:N	2.46	0.49
1:B:2018:PHE:HA	1:B:2282:VAL:O	2.13	0.48
1:C:1936:LEU:HD21	1:C:2332:TRP:CZ2	2.48	0.48
1:C:2124:ASP:HB3	1:C:2228:ILE:HD12	1.94	0.48
1:D:1852:GLY:O	1:D:1853:LEU:HD23	2.12	0.48
1:D:1986:ASP:OD1	1:D:1989:GLN:N	2.30	0.48
1:A:1493:MET:HE3	1:A:1843:ILE:HG23	1.94	0.48
1:A:2020:PHE:HB2	1:A:2105:GLY:HA2	1.93	0.48
1:B:2245:ARG:HE	1:B:2245:ARG:HB3	1.41	0.48
1:B:2304:ILE:HG23	1:B:2319:GLU:OE1	2.13	0.48
1:A:1896:SER:OG	1:A:1906:HIS:ND1	2.36	0.48
1:B:2092:LEU:O	1:B:2095:ALA:HB3	2.12	0.48
1:C:2018:PHE:HB3	1:C:2020:PHE:CE1	2.49	0.48
1:A:2155:ALA:O	1:A:2159:ILE:HG12	2.14	0.48
1:C:2165:ARG:HD3	1:C:2185:ALA:HB2	1.95	0.48
1:D:1568:GLU:O	1:D:1572:MET:HG3	2.13	0.48
1:A:2308:HIS:CE1	1:A:2309:ARG:O	2.65	0.48
1:A:2311:THR:OG1	1:A:2315:HIS:HB2	2.14	0.48
1:B:2070:PRO:HB2	1:B:2077:VAL:HG21	1.95	0.48
1:D:1844:LYS:HE3	1:D:1855:PRO:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2141:GLY:N	1:A:2206:ASP:O	2.46	0.48
1:B:1857:MET:HG2	1:B:1858:LEU:N	2.28	0.48
1:B:2090:ALA:HA	1:B:2284:MET:SD	2.53	0.48
1:C:1790:GLU:OE1	1:C:1826:VAL:N	2.46	0.48
1:D:2017:VAL:HG22	1:D:2278:HIS:ND1	2.28	0.48
1:D:2190:VAL:HA	1:D:2193:CYS:SG	2.53	0.48
1:A:1584:TRP:CZ2	1:A:1594:PRO:HG2	2.49	0.48
1:B:1958:ASP:O	1:B:1960:VAL:N	2.47	0.48
1:C:1725:ALA:HB1	1:C:1843:ILE:HD12	1.95	0.48
1:D:1824:GLY:HA2	1:D:1857:MET:CE	2.43	0.48
1:D:1935:VAL:HG23	1:D:1982:LEU:HB2	1.95	0.48
1:A:1505:GLY:O	1:A:1509:GLU:HG3	2.14	0.48
1:A:2241:LEU:HD22	1:A:2242:HIS:CE1	2.49	0.48
1:C:2317:ILE:HD12	1:C:2318:ALA:N	2.28	0.48
1:C:1866:LEU:HD12	1:C:1866:LEU:H	1.79	0.48
1:D:2026:GLN:OE1	1:D:2026:GLN:N	2.46	0.48
1:B:1956:VAL:HB	1:B:1991:ARG:HE	1.78	0.48
1:B:1971:THR:HG21	1:B:2333:ARG:HH11	1.79	0.48
1:A:1981:ALA:O	1:A:1982:LEU:HD23	2.14	0.47
1:C:1496:ARG:HB2	1:C:1724:VAL:CG1	2.44	0.47
1:C:1662:VAL:HG13	1:C:1663:ALA:N	2.29	0.47
1:D:2079:GLN:HG2	1:D:2108:GLN:OE1	2.13	0.47
1:A:1798:LEU:O	1:A:1801:PRO:HD2	2.14	0.47
1:B:2083:PHE:O	1:B:2086:MET:N	2.47	0.47
1:C:1493:MET:HG2	1:C:1727:VAL:HG12	1.96	0.47
1:D:1730:GLN:OE1	1:D:1740:ARG:NH1	2.47	0.47
1:D:2218:ARG:HB2	1:D:2257:TYR:CE1	2.49	0.47
1:A:1685:SER:N	1:A:1723:GLY:O	2.45	0.47
1:A:1798:LEU:O	1:A:1802:VAL:HG23	2.14	0.47
1:B:1858:LEU:HG	1:B:1860:ARG:HD2	1.95	0.47
1:B:1929:ALA:HB1	1:B:2313:GLU:HG2	1.96	0.47
1:C:1496:ARG:NH2	1:C:1581:GLU:HB3	2.29	0.47
1:C:1781:ILE:HD12	1:C:1785:ASP:HB2	1.97	0.47
1:A:2165:ARG:O	1:A:2181:GLY:HA3	2.13	0.47
1:C:1843:ILE:O	1:C:1847:LEU:HG	2.14	0.47
1:C:2031:ALA:HB2	1:C:2307:LEU:HD11	1.97	0.47
1:A:1508:TRP:HB2	1:A:1847:LEU:HD13	1.97	0.47
1:A:2210:HIS:ND1	1:A:2260:LEU:O	2.45	0.47
1:C:2055:ALA:HB1	1:C:2057:PHE:CE1	2.49	0.47
1:D:1680:VAL:HG22	1:D:1728:LEU:HD12	1.96	0.47
1:A:1554:ALA:HA	1:A:1578:GLN:NE2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1936:LEU:O	1:A:1937:LEU:HG	2.13	0.47
1:A:2089:LEU:HD23	1:A:2089:LEU:HA	1.79	0.47
1:A:2169:ALA:HB1	1:A:2210:HIS:HB2	1.97	0.47
1:B:1491:VAL:HG23	1:B:1728:LEU:HD23	1.96	0.47
1:B:1518:VAL:HG13	1:B:1549:ALA:N	2.30	0.47
1:B:2020:PHE:O	1:B:2109:GLY:HA3	2.14	0.47
1:B:2308:HIS:CE1	1:B:2309:ARG:O	2.67	0.47
1:C:1508:TRP:CZ3	1:C:1848:GLY:HA2	2.50	0.47
1:C:2172:ASN:O	1:C:2267:ASP:HB3	2.14	0.47
1:D:1562:PHE:HB2	1:D:1564:ILE:HD12	1.97	0.47
1:D:1743:LEU:HA	1:D:1743:LEU:HD23	1.58	0.47
1:D:1793:GLY:HA3	1:D:1825:SER:HB2	1.95	0.47
1:A:2173:SER:C	1:A:2175:SER:H	2.18	0.47
1:A:2218:ARG:HB2	1:A:2257:TYR:CZ	2.49	0.47
1:B:1790:GLU:HB3	1:B:1895:VAL:HG22	1.97	0.47
1:B:1962:LEU:HD23	1:B:1962:LEU:HA	1.55	0.47
1:A:2043:SER:HG	1:A:2088:SER:HG	1.62	0.47
1:B:1806:ALA:O	1:B:1810:THR:OG1	2.25	0.47
1:C:1878:GLU:H	1:C:1878:GLU:CD	2.18	0.47
1:C:2187:ALA:O	1:C:2190:VAL:HG22	2.13	0.47
1:A:1686:VAL:HA	1:A:1722:GLU:HG2	1.97	0.47
1:A:2266:PHE:CE2	1:A:2290:LEU:HD22	2.50	0.47
1:B:1709:LYS:HB2	1:B:1715:ALA:HA	1.97	0.47
1:B:1816:GLY:C	1:B:1818:SER:H	2.19	0.47
1:C:1936:LEU:O	1:C:1937:LEU:HD12	2.15	0.47
1:A:1952:LEU:HD23	1:A:1994:LEU:HD11	1.97	0.46
1:B:2032:ARG:HG3	1:B:2063:LEU:O	2.15	0.46
1:C:2086:MET:HG2	1:C:2284:MET:O	2.16	0.46
1:D:1579:VAL:O	1:D:1583:THR:OG1	2.31	0.46
1:D:1659:SER:C	1:D:1661:LEU:N	2.68	0.46
1:D:1784:ALA:HA	1:D:1815:ARG:NH2	2.30	0.46
1:D:2294:VAL:HA	1:D:2297:ILE:HD12	1.97	0.46
1:B:1815:ARG:NH1	1:B:1821:VAL:HB	2.31	0.46
1:B:1824:GLY:HA2	1:B:1857:MET:CE	2.44	0.46
1:B:2027:TRP:O	1:B:2030:MET:HG2	2.15	0.46
1:C:1677:GLY:O	1:C:1730:GLN:HG3	2.16	0.46
1:C:1883:TRP:NE1	1:C:1891:ARG:HB3	2.31	0.46
1:C:1953:GLU:HG3	1:C:1995:ARG:NH1	2.29	0.46
1:C:2286:PRO:HA	1:C:2307:LEU:HB2	1.97	0.46
1:A:2241:LEU:HD23	1:A:2241:LEU:O	2.15	0.46
1:C:1580:LEU:HD21	1:C:1643:VAL:CG1	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1695:GLU:HG3	1:D:1698:ARG:NH1	2.31	0.46
1:D:2141:GLY:N	1:D:2206:ASP:O	2.49	0.46
1:B:2019:VAL:HG12	1:B:2283:GLU:HG3	1.96	0.46
1:D:1659:SER:C	1:D:1661:LEU:H	2.19	0.46
1:D:2028:GLU:OE1	1:D:2065:GLN:HG2	2.15	0.46
1:D:2240:THR:HG22	1:D:2266:PHE:HA	1.96	0.46
1:A:1496:ARG:HH22	1:A:1581:GLU:HB3	1.75	0.46
1:A:2070:PRO:HB2	1:A:2077:VAL:HG21	1.97	0.46
1:A:2147:SER:O	1:A:2200:ALA:HA	2.16	0.46
1:B:1551:LEU:HD23	1:B:1551:LEU:HA	1.79	0.46
1:B:2355:TRP:C	1:B:2356:LEU:HD12	2.36	0.46
1:A:1883:TRP:HB3	1:A:1891:ARG:HE	1.81	0.46
1:A:2021:PRO:HD3	1:A:2283:GLU:HG3	1.97	0.46
1:B:1670:SER:HB3	1:B:1676:CYS:SG	2.56	0.46
1:D:1554:ALA:HA	1:D:1578:GLN:HE21	1.81	0.46
1:B:1588:GLU:HB3	1:B:1973:ARG:NH2	2.31	0.46
1:C:1716:ASP:N	1:C:1716:ASP:OD1	2.46	0.46
1:C:2184:GLU:O	1:C:2188:GLU:HG3	2.16	0.46
1:A:2057:PHE:CZ	1:A:2077:VAL:HG22	2.51	0.46
1:A:2211:SER:OG	1:A:2213:HIS:HB2	2.15	0.46
1:C:1586:LEU:HD22	1:C:1726:VAL:HG23	1.98	0.46
1:D:2131:LEU:HD13	1:D:2131:LEU:HA	1.77	0.46
1:A:1508:TRP:CE2	1:A:1851:ARG:HD3	2.51	0.45
1:A:1926:VAL:HG22	1:A:2317:ILE:HD11	1.98	0.45
1:A:2282:VAL:HG12	1:A:2304:ILE:HB	1.97	0.45
1:B:1820:PRO:HB2	1:B:1875:GLU:OE1	2.16	0.45
1:C:2169:ALA:HB1	1:C:2210:HIS:HB2	1.99	0.45
1:B:1575:GLN:HG2	1:B:1686:VAL:HG13	1.98	0.45
1:B:1844:LYS:HE2	1:B:1855:PRO:HB2	1.99	0.45
1:C:1559:ALA:HB1	1:C:1564:ILE:HB	1.98	0.45
1:C:1660:SER:HB3	1:C:1838:GLY:HA3	1.98	0.45
1:A:2272:ALA:O	1:A:2275:ALA:HB3	2.16	0.45
1:B:1973:ARG:HG2	1:B:1973:ARG:NH1	2.32	0.45
1:C:1753:GLN:OE1	1:C:1753:GLN:N	2.49	0.45
1:C:1969:LEU:HD23	1:C:1969:LEU:HA	1.80	0.45
1:A:1658:SER:HB3	1:A:1903:THR:CB	2.42	0.45
1:A:1800:ASP:HB2	1:A:1801:PRO:HD3	1.98	0.45
1:A:1953:GLU:OE2	1:A:1995:ARG:HB2	2.17	0.45
1:B:1833:ALA:HB1	1:B:1836:ALA:HB3	1.98	0.45
1:B:2009:GLY:HA3	1:B:2325:VAL:HG12	1.98	0.45
1:B:2234:ALA:HB3	1:B:2235:ILE:HD12	1.96	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1926:VAL:HG13	1:C:1927:LEU:N	2.21	0.45
1:D:2046:GLU:CD	1:D:2091:ARG:HH22	2.20	0.45
1:A:1956:VAL:HG21	1:A:1965:LEU:HD11	1.99	0.45
1:B:2023:GLN:HG3	1:B:2024:GLY:H	1.82	0.45
1:D:1718:PHE:CD1	1:D:1720:PHE:CE2	3.05	0.45
1:D:1785:ASP:OD1	1:D:1785:ASP:N	2.49	0.45
1:D:2072:LEU:HD22	1:D:2078:VAL:HG23	1.98	0.45
1:A:1658:SER:HB2	1:A:1662:VAL:HG21	1.98	0.45
1:A:2136:LEU:HD12	1:A:2136:LEU:HA	1.79	0.45
1:D:1838:GLY:O	1:D:1842:VAL:HG23	2.16	0.45
1:D:1927:LEU:HD21	1:D:1933:VAL:CG1	2.42	0.45
1:D:1968:ALA:CB	1:D:2344:LEU:HD11	2.47	0.45
1:D:2210:HIS:HA	1:D:2260:LEU:O	2.16	0.45
1:D:2248:GLY:O	1:D:2251:MET:HG3	2.16	0.45
1:A:2089:LEU:O	1:A:2093:TRP:HD1	2.00	0.45
1:B:1736:ARG:O	1:B:1736:ARG:HD3	2.16	0.45
1:C:1825:SER:O	1:C:1828:SER:HB3	2.17	0.45
1:A:1774:LYS:NZ	1:A:1778:ARG:HH11	2.15	0.45
1:A:2309:ARG:O	1:A:2310:ASP:HB2	2.17	0.45
1:B:2210:HIS:HA	1:B:2260:LEU:O	2.17	0.45
1:D:1748:GLY:O	1:D:1907:VAL:HG23	2.17	0.45
1:C:1867:ILE:HB	1:C:1869:TRP:CE2	2.51	0.45
1:D:1941:THR:HG21	1:D:2350:GLU:OE2	2.17	0.45
1:D:2160:ALA:HB3	1:D:2161:PRO:HD3	1.99	0.45
1:A:1833:ALA:HB3	1:A:1837:ALA:HA	1.98	0.45
1:A:2033:GLY:HA3	1:A:2313:GLU:OE2	2.17	0.45
1:B:1557:PHE:CZ	1:B:1580:LEU:HD23	2.52	0.45
1:B:1960:VAL:O	1:B:1987:HIS:HE1	2.00	0.45
1:C:2276:ASP:OD2	1:D:2163:GLU:HG3	2.16	0.45
1:A:1501:VAL:HG11	1:A:1507:LEU:HB2	1.98	0.44
1:B:1767:ALA:HA	1:B:1770:ARG:HG3	1.98	0.44
1:B:1857:MET:HE2	1:B:1857:MET:HB2	1.91	0.44
1:C:1501:VAL:HG23	1:C:1506:GLU:HB3	1.99	0.44
1:D:1565:SER:OG	1:D:1568:GLU:HG3	2.17	0.44
1:D:2190:VAL:O	1:D:2194:GLU:HG3	2.17	0.44
1:B:1602:THR:HG23	1:B:1678:LEU:O	2.17	0.44
1:B:2320:LEU:HA	1:B:2320:LEU:HD23	1.50	0.44
1:C:1938:SER:CB	1:C:1976:LEU:H	2.29	0.44
1:D:1573:ASP:O	1:D:1576:GLN:HB2	2.18	0.44
1:A:1927:LEU:HD23	1:A:1927:LEU:HA	1.65	0.44
1:A:2139:LEU:HD13	1:A:2213:HIS:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1951:LEU:O	1:B:2345:PRO:HG3	2.17	0.44
1:B:2074:ARG:O	1:B:2078:VAL:HG12	2.18	0.44
1:C:1976:LEU:O	1:C:1979:ARG:HG3	2.18	0.44
1:D:1592:ILE:HG21	1:D:1597:LEU:HD11	1.99	0.44
1:A:1711:PHE:CZ	1:A:1823:LEU:HD21	2.53	0.44
1:A:1774:LYS:HZ2	1:A:1778:ARG:CD	2.30	0.44
1:A:2039:VAL:HG13	1:A:2040:PHE:N	2.32	0.44
1:A:2154:ARG:HH11	1:A:2158:LEU:HD11	1.83	0.44
1:D:1898:PHE:CD1	1:D:1904:ASN:HB3	2.52	0.44
1:B:1592:ILE:O	1:B:1594:PRO:HD3	2.16	0.44
1:C:2128:VAL:HA	1:C:2225:LEU:HD22	1.99	0.44
1:C:2147:SER:OG	1:C:2203:LEU:HD21	2.17	0.44
1:A:2039:VAL:HG13	1:A:2040:PHE:H	1.82	0.44
1:B:1575:GLN:CG	1:B:1686:VAL:HG22	2.48	0.44
1:C:1496:ARG:HB2	1:C:1724:VAL:HG12	1.99	0.44
1:C:1597:LEU:N	1:C:1597:LEU:HD22	2.33	0.44
1:C:1990:LEU:O	1:C:1994:LEU:HG	2.16	0.44
1:D:1953:GLU:HA	1:D:1994:LEU:HD13	1.99	0.44
1:A:2177:VAL:HG12	1:A:2178:VAL:N	2.33	0.44
1:B:1960:VAL:O	1:B:1960:VAL:HG13	2.17	0.44
1:C:1508:TRP:HZ3	1:C:1848:GLY:HA2	1.83	0.44
1:C:2050:VAL:O	1:C:2053:GLU:N	2.48	0.44
1:D:1871:SER:O	1:D:1871:SER:OG	2.35	0.44
1:D:2162:TRP:CH2	1:D:2189:LEU:HA	2.52	0.44
1:A:1749:SER:O	1:A:1778:ARG:NH2	2.51	0.44
1:B:1976:LEU:HB3	1:B:1977:PRO:HD2	2.00	0.44
1:C:1575:GLN:HB3	1:C:1686:VAL:HG22	1.99	0.44
1:C:1586:LEU:HD22	1:C:1726:VAL:CG2	2.47	0.44
1:C:2347:TYR:CE1	1:C:2349:PHE:HA	2.52	0.44
1:D:2042:GLU:O	1:D:2045:ALA:HB3	2.17	0.44
1:D:2145:MET:HG2	1:D:2180:SER:CB	2.48	0.44
1:A:1577:ARG:NH1	1:A:2354:TYR:HB2	2.33	0.44
1:A:2159:ILE:HG22	1:A:2189:LEU:HD22	1.99	0.44
1:C:2218:ARG:NH1	1:D:2250:ASP:HA	2.32	0.44
1:D:1770:ARG:HD2	1:D:1770:ARG:HA	1.26	0.44
1:D:2251:MET:HA	1:D:2255:TYR:HB2	1.99	0.44
1:B:2017:VAL:HG23	1:B:2278:HIS:ND1	2.33	0.43
1:C:1776:TRP:HH2	1:C:1810:THR:O	2.00	0.43
1:D:1732:LEU:O	1:D:1735:ALA:N	2.51	0.43
1:B:1684:VAL:HG23	1:B:1724:VAL:HG22	2.01	0.43
1:B:2323:ALA:HB1	1:B:2328:VAL:HG21	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1555:ALA:O	1:D:1577:ARG:NH1	2.51	0.43
1:D:1659:SER:O	1:D:1662:VAL:HG12	2.18	0.43
1:A:1561:PHE:HA	1:A:1940:ARG:HD2	2.00	0.43
1:A:1938:SER:CB	1:A:1976:LEU:H	2.28	0.43
1:B:2182:ASP:HA	1:B:2183:PRO:HD3	1.91	0.43
1:C:2172:ASN:HA	1:C:2266:PHE:HB3	1.99	0.43
1:D:1564:ILE:HG23	1:D:1568:GLU:HB2	2.00	0.43
1:D:1570:LEU:HD11	1:D:2355:TRP:N	2.33	0.43
1:A:2043:SER:OG	1:A:2088:SER:OG	2.36	0.43
1:A:2074:ARG:O	1:A:2078:VAL:HG12	2.19	0.43
1:A:2222:LEU:HD21	1:A:2254:ARG:HA	1.99	0.43
1:C:1797:ARG:HH11	1:C:1866:LEU:CD1	2.27	0.43
1:C:2265:ARG:HD3	1:C:2268:GLU:OE2	2.17	0.43
1:B:1864:SER:HB3	1:B:1867:ILE:HD12	2.00	0.43
1:C:1784:ALA:HB2	1:C:1815:ARG:HD2	2.01	0.43
1:C:1827:LYS:HG2	1:C:1832:HIS:CA	2.46	0.43
1:D:1632:SER:HB3	1:D:1635:VAL:HG23	1.99	0.43
1:A:1608:ALA:HA	1:A:1835:ALA:CB	2.48	0.43
1:A:1636:VAL:HG12	1:A:1652:THR:CG2	2.49	0.43
1:B:2082:LEU:HD23	1:B:2082:LEU:HA	1.69	0.43
1:C:1853:LEU:HD23	1:C:1880:VAL:HG13	2.00	0.43
1:C:2136:LEU:HA	1:C:2136:LEU:HD23	1.84	0.43
1:D:1792:HIS:CD2	1:D:1794:THR:HG23	2.53	0.43
1:D:2027:TRP:CZ2	1:D:2030:MET:HA	2.53	0.43
1:A:1973:ARG:HH12	1:A:2344:LEU:HD12	1.82	0.43
1:A:2111:ILE:HD13	1:A:2128:VAL:HG12	2.00	0.43
1:A:2241:LEU:HD23	1:A:2241:LEU:C	2.39	0.43
1:D:1551:LEU:HD23	1:D:1551:LEU:HA	1.82	0.43
1:B:1753:GLN:HA	1:B:1902:GLY:O	2.19	0.43
1:C:2110:GLU:OE2	1:C:2240:THR:N	2.40	0.43
1:D:2173:SER:C	1:D:2175:SER:H	2.22	0.43
1:D:1690:PRO:O	1:D:1694:THR:HG23	2.19	0.43
1:D:1752:ASN:ND2	1:D:1771:VAL:HB	2.33	0.43
1:D:2087:VAL:O	1:D:2090:ALA:HB3	2.18	0.43
1:D:2251:MET:HA	1:D:2255:TYR:CB	2.49	0.43
1:A:1521:MET:HG3	1:A:1546:ARG:O	2.18	0.43
1:C:1867:ILE:HB	1:C:1869:TRP:NE1	2.33	0.43
1:D:1521:MET:HE3	1:D:1550:PHE:CZ	2.53	0.43
1:D:2043:SER:HG	1:D:2088:SER:HG	1.66	0.43
1:A:2287:HIS:O	1:A:2289:VAL:HG13	2.19	0.42
1:A:2347:TYR:HE1	1:A:2349:PHE:HA	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1664:LEU:HD23	1:B:1668:CYS:SG	2.59	0.42
1:B:1894:GLY:HA2	1:B:1908:ILE:HD13	2.00	0.42
1:B:2027:TRP:CH2	1:B:2030:MET:HA	2.53	0.42
1:B:2032:ARG:HA	1:B:2035:LEU:CD1	2.49	0.42
1:B:2238:TYR:HB3	1:B:2269:ALA:HB1	2.01	0.42
1:C:1595:HIS:CD2	1:C:1974:ALA:HB1	2.54	0.42
1:C:1785:ASP:O	1:C:1892:ARG:HB2	2.18	0.42
1:D:1660:SER:HB3	1:D:1835:ALA:O	2.19	0.42
1:D:1939:ALA:HB2	1:D:1948:GLN:OE1	2.19	0.42
1:A:2144:GLY:O	1:A:2186:LEU:HD11	2.18	0.42
1:A:2209:SER:HB2	1:A:2260:LEU:HD11	2.02	0.42
1:A:2238:TYR:HA	1:A:2245:ARG:HA	2.00	0.42
1:B:2136:LEU:HA	1:B:2136:LEU:HD23	1.76	0.42
1:C:2058:SER:CB	1:C:2061:GLU:HG3	2.48	0.42
1:C:2107:SER:OG	1:C:2108:GLN:N	2.52	0.42
1:D:1977:PRO:O	1:D:1979:ARG:HG3	2.18	0.42
1:A:1507:LEU:O	1:A:1510:PHE:N	2.50	0.42
1:A:1531:ALA:O	1:A:1542:THR:HG22	2.19	0.42
1:A:1781:ILE:HD11	1:A:1908:ILE:HG12	2.00	0.42
1:B:2101:SER:O	1:B:2236:PRO:HD2	2.19	0.42
1:D:1705:ASP:OD1	1:D:1709:LYS:NZ	2.53	0.42
1:D:1815:ARG:HD3	1:D:1819:GLY:O	2.19	0.42
1:A:1657:CYS:O	1:A:1899:GLY:HA3	2.19	0.42
1:A:1955:ALA:HB1	1:A:2345:PRO:HD3	2.01	0.42
1:A:2156:ARG:HD2	1:A:2156:ARG:HA	1.75	0.42
1:B:1706:GLY:O	1:B:1719:GLY:HA3	2.19	0.42
1:C:2083:PHE:O	1:C:2087:VAL:HG12	2.20	0.42
1:D:2212:ARG:O	1:D:2215:GLU:HG3	2.18	0.42
1:A:2020:PHE:O	1:A:2109:GLY:HA3	2.19	0.42
1:A:2282:VAL:HA	1:A:2304:ILE:O	2.19	0.42
1:B:1655:THR:OG1	1:B:1834:GLN:NE2	2.53	0.42
1:B:1827:LYS:HD3	1:B:1832:HIS:HA	2.00	0.42
1:B:1852:GLY:O	1:B:1853:LEU:HD23	2.18	0.42
1:B:1995:ARG:O	1:B:1998:ALA:HB3	2.20	0.42
1:C:1784:ALA:HA	1:C:1815:ARG:NE	2.34	0.42
1:C:2061:GLU:HA	1:C:2066:ARG:HG3	2.02	0.42
1:D:2199:ARG:H	1:D:2199:ARG:CD	2.26	0.42
1:B:1508:TRP:CZ3	1:B:1848:GLY:HA2	2.54	0.42
1:C:2048:ASP:O	1:C:2052:SER:HB3	2.19	0.42
1:D:1958:ASP:OD1	1:D:1991:ARG:NH2	2.34	0.42
1:A:1983:LEU:CD2	1:A:2317:ILE:HG22	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1512:VAL:HG13	1:B:1880:VAL:HG21	2.01	0.42
1:B:2079:GLN:HB2	1:B:2080:PRO:HD3	2.01	0.42
1:C:1561:PHE:HZ	1:C:1584:TRP:CZ2	2.38	0.42
1:C:1670:SER:HB3	1:C:1676:CYS:SG	2.58	0.42
1:D:1681:ALA:O	1:D:1726:VAL:HA	2.20	0.42
1:D:2027:TRP:CZ3	1:D:2030:MET:HA	2.54	0.42
1:A:1891:ARG:HD2	1:A:1911:GLU:OE2	2.20	0.42
1:A:2075:VAL:HA	1:A:2078:VAL:HG12	2.01	0.42
1:B:1659:SER:OG	1:B:1660:SER:N	2.52	0.42
1:B:1933:VAL:HG11	1:B:1962:LEU:HB3	2.01	0.42
1:D:2051:LEU:HD12	1:D:2055:ALA:HB3	2.01	0.42
1:D:2076:ASP:OD2	1:D:2137:ARG:HD3	2.19	0.42
1:B:1958:ASP:C	1:B:1960:VAL:H	2.22	0.42
1:B:2160:ALA:HB3	1:B:2161:PRO:HD3	2.02	0.42
1:C:2034:LEU:O	1:C:2037:VAL:HG22	2.20	0.42
1:D:1783:GLY:O	1:D:1815:ARG:NH2	2.49	0.42
1:D:2106:HIS:CE1	1:D:2264:VAL:HG11	2.55	0.42
1:A:1678:LEU:CD2	1:A:1728:LEU:HD11	2.49	0.42
1:B:1498:PRO:HD3	1:B:1722:GLU:O	2.20	0.42
1:A:1521:MET:HG3	1:A:1546:ARG:C	2.41	0.41
1:A:1926:VAL:HG22	1:A:1927:LEU:H	1.85	0.41
1:B:1832:HIS:C	1:B:1834:GLN:H	2.23	0.41
1:B:1930:ALA:HB1	1:B:2314:GLU:HG3	2.02	0.41
1:C:1734:ASP:HA	1:C:1737:ARG:HB3	2.01	0.41
1:C:1866:LEU:HD12	1:C:1866:LEU:N	2.35	0.41
1:D:1575:GLN:NE2	1:D:1611:GLN:OE1	2.53	0.41
1:D:1598:ARG:CZ	1:D:1598:ARG:HB3	2.50	0.41
1:D:2353:ARG:CZ	1:D:2355:TRP:HB3	2.50	0.41
1:A:1604:VAL:HG12	1:A:1606:LEU:HG	2.01	0.41
1:A:1692:VAL:O	1:A:1720:PHE:HE2	2.03	0.41
1:B:1554:ALA:HA	1:B:1578:GLN:NE2	2.35	0.41
1:B:1898:PHE:HD1	1:B:1904:ASN:HB3	1.83	0.41
1:B:2141:GLY:N	1:B:2206:ASP:O	2.48	0.41
1:C:2347:TYR:HA	1:C:2348:PRO:HD2	1.94	0.41
1:D:1557:PHE:CD1	1:D:1577:ARG:HB3	2.55	0.41
1:D:2032:ARG:NH2	1:D:2064:GLU:O	2.53	0.41
1:D:2126:VAL:HA	1:D:2129:VAL:HG12	2.01	0.41
1:D:2248:GLY:HA2	1:D:2251:MET:HG3	2.02	0.41
1:A:1793:GLY:HA3	1:A:1825:SER:HB2	2.01	0.41
1:B:1603:GLY:HA2	1:B:1649:PRO:O	2.20	0.41
1:B:1732:LEU:O	1:B:1735:ALA:N	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2018:PHE:CD2	1:B:2100:PRO:HB3	2.55	0.41
1:B:2050:VAL:HA	1:B:2053:GLU:HB2	2.03	0.41
1:C:2131:LEU:HD23	1:C:2131:LEU:HA	1.79	0.41
1:A:1678:LEU:HD21	1:A:1728:LEU:HD21	2.01	0.41
1:A:1857:MET:HB3	1:A:1857:MET:HE3	1.68	0.41
1:B:2105:GLY:CA	1:B:2110:GLU:HG2	2.48	0.41
1:C:2182:ASP:OD1	1:C:2213:HIS:NE2	2.52	0.41
1:D:1953:GLU:HB2	1:D:1994:LEU:HB3	2.01	0.41
1:D:2119:VAL:HG11	1:D:2251:MET:HE3	2.02	0.41
1:A:1529:LEU:HD12	1:A:1530:ASP:N	2.34	0.41
1:A:1605:PHE:O	1:A:1681:ALA:HA	2.21	0.41
1:A:1862:GLU:HG2	1:A:1863:ARG:N	2.35	0.41
1:B:1508:TRP:CE3	1:B:1847:LEU:HB3	2.56	0.41
1:B:2057:PHE:CZ	1:B:2077:VAL:HG22	2.56	0.41
1:C:1808:LEU:HB3	1:C:1871:SER:HB2	2.01	0.41
1:C:1839:VAL:O	1:C:1843:ILE:HG13	2.20	0.41
1:C:2017:VAL:HG11	1:C:2104:ILE:HD12	2.02	0.41
1:D:2127:ARG:HG3	1:D:2131:LEU:HD23	2.03	0.41
1:B:1659:SER:O	1:B:1662:VAL:HG23	2.20	0.41
1:B:2270:VAL:HB	1:B:2297:ILE:HD13	2.02	0.41
1:B:2285:SER:OG	1:B:2287:HIS:O	2.28	0.41
1:C:1718:PHE:CE1	1:C:1720:PHE:CZ	3.09	0.41
1:B:1562:PHE:CE2	1:B:1580:LEU:HG	2.55	0.41
1:B:1658:SER:HB3	1:B:1662:VAL:HG21	2.02	0.41
1:C:2241:LEU:HD23	1:C:2241:LEU:O	2.21	0.41
1:D:1968:ALA:HB1	1:D:2344:LEU:HD11	2.01	0.41
1:A:1574:PRO:HA	1:A:1577:ARG:HG3	2.02	0.41
1:A:1766:VAL:O	1:A:1770:ARG:HG3	2.21	0.41
1:A:1990:LEU:O	1:A:1994:LEU:HB2	2.21	0.41
1:B:1518:VAL:O	1:B:1707:ARG:NH2	2.53	0.41
1:C:2031:ALA:HB2	1:C:2307:LEU:CD1	2.50	0.41
1:D:1572:MET:HE3	1:D:1572:MET:HB3	1.89	0.41
1:D:1575:GLN:HB3	1:D:1684:VAL:HG13	2.02	0.41
1:D:1811:TYR:HB3	1:D:1821:VAL:HG11	2.03	0.41
1:D:2105:GLY:CA	1:D:2110:GLU:HG2	2.45	0.41
1:A:1834:GLN:HE21	1:A:1834:GLN:HB3	1.69	0.41
1:A:2016:VAL:O	1:A:2101:SER:N	2.51	0.41
1:C:1945:LEU:HD23	1:C:1945:LEU:O	2.20	0.41
1:C:2018:PHE:CD2	1:C:2100:PRO:HB3	2.54	0.41
1:C:2092:LEU:O	1:C:2095:ALA:N	2.54	0.41
1:D:1639:ARG:O	1:D:1643:VAL:HG23	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2146:VAL:HG12	1:D:2202:THR:HA	2.03	0.41
1:D:2175:SER:O	1:D:2175:SER:OG	2.33	0.41
1:A:1588:GLU:HG2	1:A:1973:ARG:NE	2.36	0.41
1:B:1508:TRP:CD1	1:B:1508:TRP:C	2.94	0.41
1:B:2146:VAL:HG23	1:B:2186:LEU:HD22	2.01	0.41
1:C:2148:LEU:HB2	1:C:2177:VAL:CG2	2.51	0.41
1:A:1522:PRO:HD3	1:A:1550:PHE:CE1	2.56	0.40
1:A:1826:VAL:HB	1:A:1844:LYS:HD3	2.02	0.40
1:C:1575:GLN:CD	1:C:1575:GLN:H	2.24	0.40
1:C:2040:PHE:CD2	1:C:2092:LEU:HD12	2.54	0.40
1:D:1635:VAL:CG1	1:D:1639:ARG:HD3	2.50	0.40
1:D:1776:TRP:HZ2	1:D:1811:TYR:CE1	2.39	0.40
1:D:1786:VAL:O	1:D:1815:ARG:NH2	2.47	0.40
1:D:1999:GLU:HG2	1:D:2001:VAL:HG13	2.04	0.40
1:D:2186:LEU:O	1:D:2190:VAL:HG13	2.21	0.40
1:B:1555:ALA:HB3	1:B:2353:ARG:HG3	2.03	0.40
1:B:1683:GLY:HA3	1:B:1835:ALA:O	2.21	0.40
1:B:1703:ALA:HB2	1:B:1717:GLY:O	2.21	0.40
1:B:2040:PHE:CE1	1:B:2089:LEU:HD23	2.56	0.40
1:B:2133:ALA:HA	1:B:2136:LEU:HB2	2.03	0.40
1:B:2287:HIS:CG	1:B:2288:PRO:HD2	2.56	0.40
1:B:2311:THR:O	1:B:2312:ALA:C	2.59	0.40
1:D:2027:TRP:CD1	1:D:2309:ARG:HB3	2.56	0.40
1:D:2105:GLY:HA3	1:D:2110:GLU:HA	2.03	0.40
1:B:1575:GLN:CD	1:B:1686:VAL:HG22	2.42	0.40
1:B:1766:VAL:O	1:B:1770:ARG:HG3	2.22	0.40
1:B:2064:GLU:OE1	1:B:2066:ARG:NE	2.51	0.40
1:C:1580:LEU:HA	1:C:1580:LEU:HD23	1.78	0.40
1:A:1776:TRP:HB3	1:A:1781:ILE:O	2.20	0.40
1:A:1854:VAL:HA	1:A:1855:PRO:HD2	1.93	0.40
1:B:1508:TRP:HB2	1:B:1847:LEU:HD13	2.03	0.40
1:B:1677:GLY:O	1:B:1678:LEU:HB2	2.21	0.40
1:C:1575:GLN:HB2	1:C:1684:VAL:CG1	2.51	0.40
1:C:1982:LEU:CD1	1:C:1994:LEU:HD23	2.49	0.40
1:C:2308:HIS:HB2	1:C:2315:HIS:ND1	2.37	0.40
1:D:1790:GLU:OE2	1:D:1826:VAL:HB	2.22	0.40
1:A:2093:TRP:O	1:A:2098:VAL:N	2.52	0.40
1:A:2309:ARG:O	1:A:2310:ASP:CB	2.69	0.40
1:B:2173:SER:C	1:B:2175:SER:N	2.75	0.40
1:B:2237:LEU:C	1:B:2237:LEU:HD23	2.41	0.40
1:C:1556:ASP:HB3	1:C:2351:PRO:HB3	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2074:ARG:O	1:C:2078:VAL:HG12	2.22	0.40
1:C:2143:GLY:HA2	1:C:2183:PRO:HD3	2.04	0.40
1:D:1495:CYS:HB2	1:D:1497:PHE:CE2	2.57	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)
1:C:2054:VAL:O	1:D:1773:ARG:NH1[2_656]	1.85	0.35

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	808/881 (92%)	725 (90%)	68 (8%)	15 (2%)	8	28
1	B	774/881 (88%)	687 (89%)	67 (9%)	20 (3%)	5	20
1	C	734/881 (83%)	666 (91%)	54 (7%)	14 (2%)	8	28
1	D	805/881 (91%)	733 (91%)	59 (7%)	13 (2%)	9	32
All	All	3121/3524 (89%)	2811 (90%)	248 (8%)	62 (2%)	7	27

All (62) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1656	ALA
1	A	1913	PRO
1	A	1926	VAL
1	A	2026	GLN
1	A	2310	ASP
1	A	2312	ALA
1	B	1793	GLY

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Mol	Chain	Res	Type
1	B	1926	VAL
1	B	1954	SER
1	B	1957	ASP
1	B	2310	ASP
1	B	2312	ALA
1	C	1793	GLY
1	C	1794	THR
1	C	1880	VAL
1	C	2069	ALA
1	C	2312	ALA
1	D	1957	ASP
1	D	2069	ALA
1	D	2310	ASP
1	D	2312	ALA
1	A	1927	LEU
1	A	1956	VAL
1	B	1977	PRO
1	B	2174	PRO
1	C	1926	VAL
1	C	2023	GLN
1	C	2284	MET
1	C	2310	ASP
1	D	1956	VAL
1	A	2061	GLU
1	A	2175	SER
1	B	1833	ALA
1	B	2013	ALA
1	B	2061	GLU
1	B	2127	ARG
1	C	1977	PRO
1	D	1816	GLY
1	D	2174	PRO
1	A	1977	PRO
1	B	1678	LEU
1	B	1959	SER
1	B	2130	ALA
1	C	1795	GLY
1	D	1660	SER
1	D	1960	VAL
1	D	2013	ALA
1	A	1504	PRO
1	A	1655	THR

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Mol	Chain	Res	Type
1	B	1834	GLN
1	D	1977	PRO
1	D	2068	ASP
1	A	2174	PRO
1	C	2174	PRO
1	C	2253	PRO
1	C	2307	LEU
1	D	1658	SER
1	B	2351	PRO
1	B	2228	ILE
1	A	2204	PRO
1	B	1512	VAL
1	B	1961	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	595/643 (92%)	558 (94%)	37 (6%)	18	47
1	B	569/643 (88%)	522 (92%)	47 (8%)	11	32
1	C	540/643 (84%)	504 (93%)	36 (7%)	16	43
1	D	590/643 (92%)	547 (93%)	43 (7%)	14	38
All	All	2294/2572 (89%)	2131 (93%)	163 (7%)	14	40

All (163) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1516	ASP
1	A	1524	ASP
1	A	1530	ASP
1	A	1546	ARG
1	A	1567	ARG
1	A	1600	SER
1	A	1659	SER
1	A	1714	GLU

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Mol	Chain	Res	Type
1	A	1718	PHE
1	A	1733	SER
1	A	1737	ARG
1	A	1740	ARG
1	A	1800	ASP
1	A	1805	SER
1	A	1810	THR
1	A	1821	VAL
1	A	1828	SER
1	A	1870	SER
1	A	1904	ASN
1	A	1938	SER
1	A	1940	ARG
1	A	1945	LEU
1	A	1954	SER
1	A	1956	VAL
1	A	1959	SER
1	A	1963	THR
1	A	1986	ASP
1	A	1997	VAL
1	A	2050	VAL
1	A	2068	ASP
1	A	2099	SER
1	A	2127	ARG
1	A	2173	SER
1	A	2180	SER
1	A	2247	ASP
1	A	2267	ASP
1	A	2271	SER
1	B	1552	ASP
1	B	1565	SER
1	B	1658	SER
1	B	1670	SER
1	B	1672	ARG
1	B	1712	SER
1	B	1718	PHE
1	B	1736	ARG
1	B	1764	SER
1	B	1778	ARG
1	B	1782	THR
1	B	1814	SER
1	B	1857	MET

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Mol	Chain	Res	Type
1	B	1860	ARG
1	B	1868	GLU
1	B	1870	SER
1	B	1875	GLU
1	B	1881	SER
1	B	1904	ASN
1	B	1926	VAL
1	B	1932	SER
1	B	1940	ARG
1	B	1982	LEU
1	B	1983	LEU
1	B	1991	ARG
1	B	1995	ARG
1	B	2007	THR
1	B	2016	VAL
1	B	2043	SER
1	B	2052	SER
1	B	2082	LEU
1	B	2101	SER
1	B	2122	LEU
1	B	2136	LEU
1	B	2147	SER
1	B	2156	ARG
1	B	2158	LEU
1	B	2180	SER
1	B	2199	ARG
1	B	2205	VAL
1	B	2209	SER
1	B	2220	THR
1	B	2247	ASP
1	B	2259	ASN
1	B	2267	ASP
1	B	2311	THR
1	B	2342	VAL
1	C	1658	SER
1	C	1660	SER
1	C	1661	LEU
1	C	1685	SER
1	C	1686	VAL
1	C	1707	ARG
1	C	1712	SER
1	C	1733	SER

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Mol	Chain	Res	Type
1	C	1737	ARG
1	C	1778	ARG
1	C	1821	VAL
1	C	1827	LYS
1	C	1863	ARG
1	C	1864	SER
1	C	1870	SER
1	C	1878	GLU
1	C	1940	ARG
1	C	1943	THR
1	C	1950	ARG
1	C	1963	THR
1	C	1978	ARG
1	C	1999	GLU
1	C	2007	THR
1	C	2032	ARG
1	C	2052	SER
1	C	2058	SER
1	C	2068	ASP
1	C	2082	LEU
1	C	2099	SER
1	C	2101	SER
1	C	2137	ARG
1	C	2147	SER
1	C	2229	SER
1	C	2245	ARG
1	C	2247	ASP
1	C	2267	ASP
1	D	1511	ILE
1	D	1565	SER
1	D	1633	SER
1	D	1639	ARG
1	D	1670	SER
1	D	1712	SER
1	D	1773	ARG
1	D	1785	ASP
1	D	1797	ARG
1	D	1805	SER
1	D	1808	LEU
1	D	1817	SER
1	D	1822	LEU
1	D	1870	SER

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Mol	Chain	Res	Type
1	D	1871	SER
1	D	1927	LEU
1	D	1938	SER
1	D	1940	ARG
1	D	1950	ARG
1	D	1958	ASP
1	D	1960	VAL
1	D	1973	ARG
1	D	1978	ARG
1	D	1983	LEU
1	D	1995	ARG
1	D	1997	VAL
1	D	2028	GLU
1	D	2032	ARG
1	D	2043	SER
1	D	2101	SER
1	D	2127	ARG
1	D	2147	SER
1	D	2148	LEU
1	D	2164	ASP
1	D	2165	ARG
1	D	2167	SER
1	D	2173	SER
1	D	2199	ARG
1	D	2220	THR
1	D	2240	THR
1	D	2251	MET
1	D	2280	THR
1	D	2334	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1904	ASN
1	A	2259	ASN
1	A	2287	HIS
1	B	1730	GLN
1	B	1832	HIS
1	B	2352	GLN
1	C	1589	ASN
1	C	1832	HIS
1	C	2108	GLN

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Mol	Chain	Res	Type
1	D	1503	ASN
1	D	1575	GLN
1	D	1578	GLN
1	D	1989	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [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	818/881 (92%)	0.10	8 (0%) 82 82	25, 48, 77, 99	0
1	B	786/881 (89%)	0.10	12 (1%) 73 73	24, 49, 81, 98	0
1	C	750/881 (85%)	0.44	39 (5%) 27 23	41, 74, 103, 119	0
1	D	815/881 (92%)	0.22	17 (2%) 63 61	40, 63, 85, 109	0
All	All	3169/3524 (89%)	0.21	76 (2%) 59 56	24, 59, 91, 119	0

All (76) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	1720	PHE	9.9
1	C	1511	ILE	8.4
1	C	1817	SER	5.5
1	C	1872	GLY	5.4
1	B	2000	GLY	4.6
1	B	1959	SER	4.6
1	C	1871	SER	4.4
1	C	1719	GLY	4.2
1	C	1940	ARG	4.0
1	C	1830	ILE	3.9
1	D	1631	ASN	3.8
1	D	1527	TRP	3.8
1	C	1889	GLY	3.7
1	A	1700	GLY	3.6
1	A	1956	VAL	3.5
1	C	1557	PHE	3.5
1	D	2355	TRP	3.4
1	C	2025	ALA	3.3
1	C	1711	PHE	3.3
1	D	1526	GLY	3.3
1	C	1562	PHE	3.2

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Mol	Chain	Res	Type	RSRZ
1	B	1567	ARG	3.2
1	C	1708	CYS	3.2
1	B	1718	PHE	3.2
1	B	2355	TRP	3.1
1	A	1720	PHE	3.0
1	C	1575	GLN	3.0
1	C	1606	LEU	3.0
1	C	1823	LEU	2.9
1	C	1865	PRO	2.9
1	A	1701	GLY	2.8
1	C	1569	ALA	2.7
1	D	1688	ALA	2.7
1	C	1497	PHE	2.7
1	C	1718	PHE	2.7
1	D	1552	ASP	2.7
1	C	1508	TRP	2.6
1	B	2354	TYR	2.6
1	D	1830	ILE	2.6
1	B	1874	VAL	2.5
1	C	1712	SER	2.5
1	C	1640	VAL	2.4
1	B	1830	ILE	2.4
1	D	1722	GLU	2.4
1	C	1952	LEU	2.4
1	D	2009	GLY	2.4
1	B	1514	GLY	2.3
1	D	1525	ARG	2.3
1	B	1858	LEU	2.3
1	D	1671	LEU	2.3
1	C	1567	ARG	2.3
1	B	1569	ALA	2.3
1	A	1553	GLY	2.2
1	D	1701	GLY	2.2
1	C	1573	ASP	2.2
1	D	1693	PHE	2.2
1	B	1955	ALA	2.2
1	C	1709	LYS	2.2
1	D	2162	TRP	2.1
1	C	1507	LEU	2.1
1	C	2001	VAL	2.1
1	C	1976	LEU	2.1
1	D	1779	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	1498	PRO	2.1
1	C	1512	VAL	2.1
1	C	1798	LEU	2.1
1	C	1887	ALA	2.1
1	D	1689	GLY	2.1
1	C	2224	ASP	2.0
1	A	1698	ARG	2.0
1	A	1654	ASP	2.0
1	A	1719	GLY	2.0
1	C	1937	LEU	2.0
1	D	1499	GLY	2.0
1	C	1908	ILE	2.0
1	C	1517	ALA	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.