



# wwPDB X-ray Structure Validation Summary Report ⓘ

May 14, 2020 – 10:22 pm BST

PDB ID : 1OD4  
Title : Acetyl-CoA Carboxylase Carboxyltransferase Domain  
Authors : Zhang, H.; Yang, Z.; Shen, Y.; Tong, L.  
Deposited on : 2003-02-12  
Resolution : 2.70 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

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

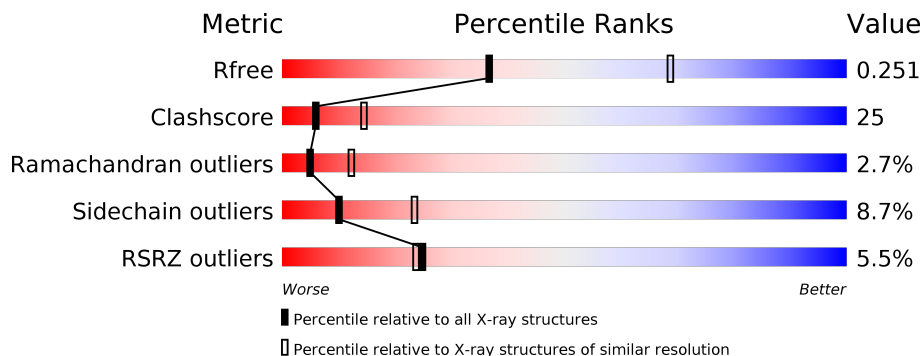
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.70 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	2808 (2.70-2.70)
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . 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	805	 3% 49% 31% 5% 15%
1	B	805	 6% 46% 34% 5% 15%
1	C	805	 4% 47% 30% 5% 17%

## 2 Entry composition [i](#)

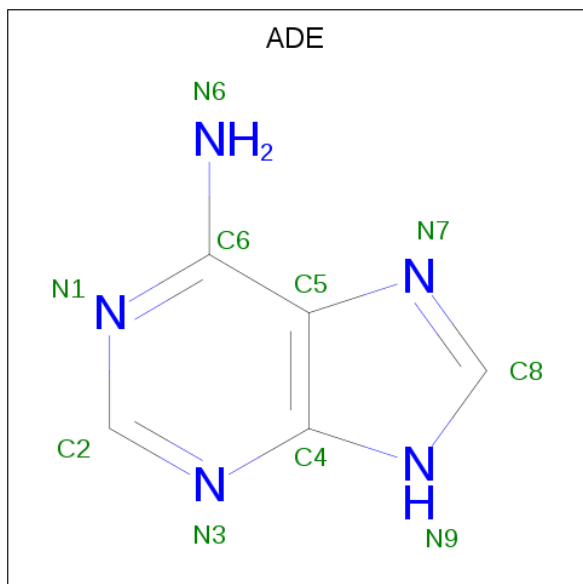
There are 3 unique types of molecules in this entry. The entry contains 16461 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 ACETYL-COENZYME A CARBOXYLASE.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	N	O	S	Se			
1	A	684	Total	C	N	O	S	Se	0	0	1
			5444	3471	936	1018	2	17			
1	B	684	Total	C	N	O	S	Se	0	0	1
			5444	3471	936	1018	2	17			
1	C	672	Total	C	N	O	S	Se	0	0	1
			5347	3406	920	1002	2	17			

- Molecule 2 is ADENINE (three-letter code: ADE) (formula: C<sub>5</sub>H<sub>5</sub>N<sub>5</sub>).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	N		
2	C	1	Total	C	N	0	0
			10	5	5		

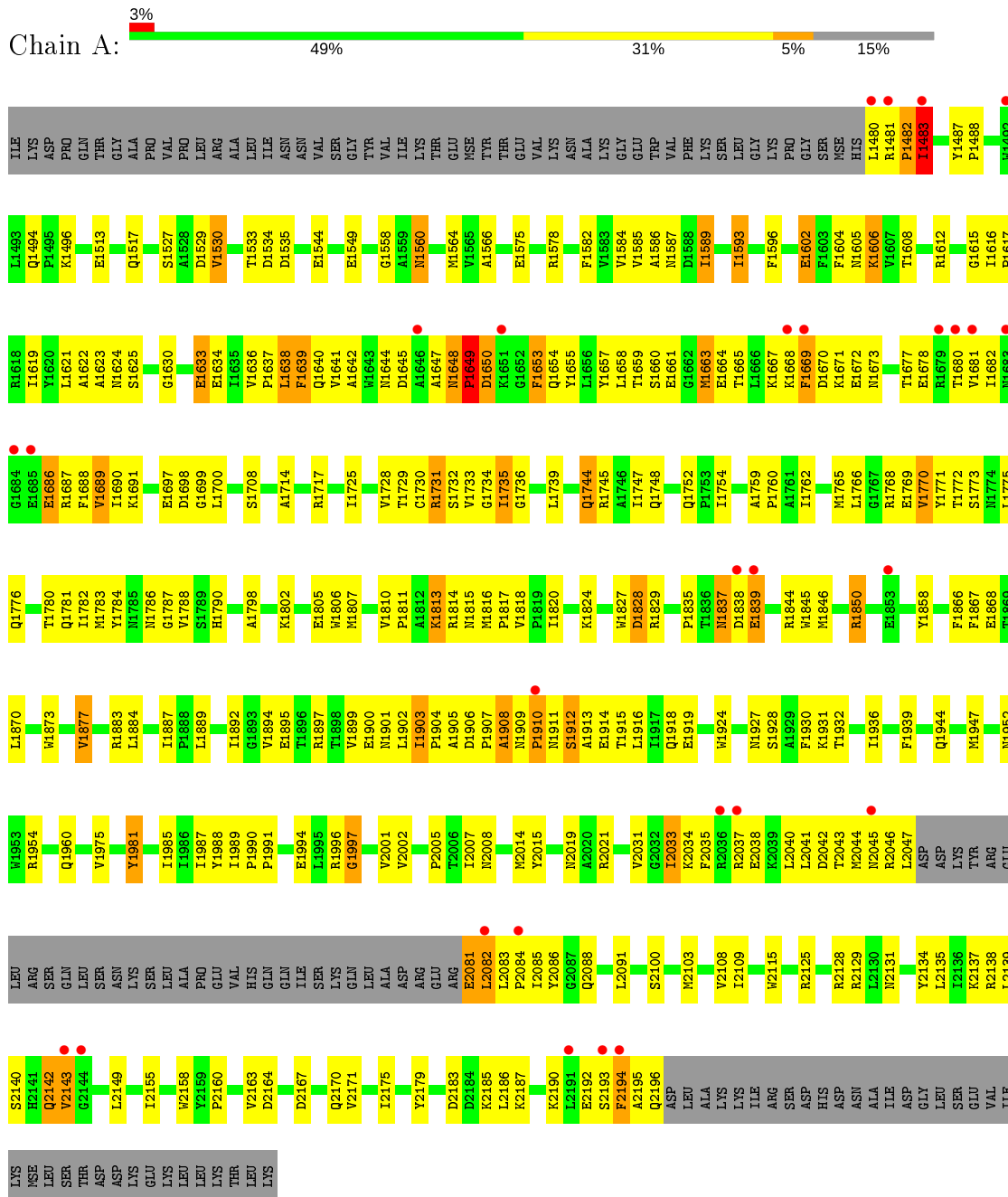
- Molecule 3 is water.

<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>ZeroOcc</b>	<b>AltConf</b>
3	A	86	Total 86	O 86	0	0
3	B	70	Total 70	O 70	0	0
3	C	60	Total 60	O 60	0	0

### 3 Residue-property plots i

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





LEU	ARG	E1602	I1876	I1762	D1842	M1952	ARG	R2128
ALA	GLU	F1603	T1677	M1763	V1843	M1953	GLU	R2129
LYS	LEU	K1606	E1678	L1766	R1844	R1954	LEU	R2130
ILE	ARG	V1607	R1679	L1767	M1845	Q1960	SER	R2131
SER	SER	V1610	T1680	G1768	M1846	R1961	GLN	R2132
ASP	LEU	A1611	V1681	R1769	T1852	D1862	LEU	R2133
HIS	SER	E1616	I1682	E1769	E1853	M1963	SER	R2134
ASN	LYS	P1617	M1683	V1770	E1854	F1964	ASN	R2135
ASP	ASN	R1618	G1684	S1771	G1855	V1967	LYS	R2136
ALA	SER	I1619	E1686	S1772	T1869	Y1981	LEU	R2137
ASP	LEU	A1623	R1687	M1773	L1870	I1987	ALA	R2138
GLY	GLU	M1624	F1688	L1774	K1875	G1876	PRO	R2139
LEU	VAL	S1625	V1689	Q1776	V1877	P1990	GLU	R2140
SER	HIS	I1629	I1693	G1778	I1883	P1991	VAL	R2141
GLU	GLN	A1632	I1694	Q1781	R1883	T1992	HIS	R2142
VAL	GLN	E1633	I1699	I1782	I1887	G1993	GLN	R2143
ILE	ILE	A1634	D1698	M1783	T1896	E1994	ILE	R2144
SER	SER	I1635	G1699	M1786	T1896	L1995	SER	R2145
LEU	LYS	V1636	L1700	G1787	T1896	L1995	LYS	R2146
LEU	GLN	P1637	G1701	V1702	V1899	G1997	GLN	R2147
LEU	LEU	L1638	V1702	V1708	E1900	W2000	LEU	R2148
LEU	ALA	F1639	E1703	T1792	M1901	V2001	ALA	R2149
THR	THR	Q1640	T1728	A1797	M1902	V2002	THR	R2150
LYS	ASP	V1641	T1729	L1797	P1903	F2005	ASP	R2151
ASP	ASP	A1642	R1731	A1798	A1905	M2014	ASP	R2152
ASP	ASP	W1643	Y1735	E1801	D1906	R2021	ASP	R2153
LYS	LYS	D1645	T1735	K1802	P1907	V2024	LYS	R2154
LYS	LYS	A1646	T1735	E1805	A1908	W2024	LYS	R2155
LEU	LEU	M1648	R1731	W1806	M1909	Q2028	LEU	R2156
LEU	LYS	P1649	I1735	M1807	H1911	F2031	LEU	R2157
LEU	LYS	D1650	G1736	S1808	S1912	G2032	LEU	R2158
LEU	LYS	K1651	A1737	Y1809	L1916	I2033	LYS	R2159
LEU	LYS	G1652	G1738	V1810	L1916	L2033	LYS	R2160
LEU	LYS	F1653	L1739	P1811	E1919	K2034	LYS	R2161
LEU	LYS	Q1654	V1740	K1813	E1920	F2035	LYS	R2162
LYS	LYS	Y1655	R1741	R1814	G1921	K2036	LYS	R2163
LYS	LYS	E1664	L1742	M1815	Q1922	R2037	LYS	R2164
LYS	LYS	T1665	G1745	V1818	V1923	E2038	LYS	R2165
LYS	LYS	K1668	A1746	K1824	H1925	K2039	LYS	R2166
LYS	LYS	F1669	I1747	M1827	P1926	L2040	LYS	R2167
LYS	LYS	S1674	I1752	D1828	M1927	L2041	LYS	R2168
LYS	LYS	V1675	P1753	M1827	S1928	E2042	LYS	R2169
LYS	LYS	E1675	I1754	D1828	A1929	T2043	LYS	R2170
LYS	LYS	E1675	I1755	F1833	F1930	M2044	LYS	R2171
LYS	LYS	E1675	I1756	F1833	M1940	M2045	LYS	R2172
LYS	LYS	E1675	I1757	T1836	M1940	R2046	LYS	R2173
LYS	LYS	E1675	I1758	M1837	E1943	L2047	LYS	R2174
LYS	LYS	E1675	I1759	D1838	ASP	L2047	LYS	R2175
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2177
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2178
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2180
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2181
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2182
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2183
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2184
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2185
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2186
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2187
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2188
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2189
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2190
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2191
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2192
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2193
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2194
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2195
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2196
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2197
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2198
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2199
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2200
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2201
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2202
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2203
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2206
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2207
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2208
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2209
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2211
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2213
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2214
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2215
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2216
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2219
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2220
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2221
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2222
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2223
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2224
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2225
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2226
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2227
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2228
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2229
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2230
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2232
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2233
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2234
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2235
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2236
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2237
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2242
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2243
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2244
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2245
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2246
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2257
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2258
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2259
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2262
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LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2265
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2266
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2267
LYS	LYS	E1675	P1760	D1838	ASP	ASP	LYS	R2268

## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	246.91Å 123.91Å 145.07Å 90.00° 94.11° 90.00°	Depositor
Resolution (Å)	30.00 – 2.70 28.94 – 2.69	Depositor EDS
% Data completeness (in resolution range)	94.5 (30.00-2.70) 94.1 (28.94-2.69)	Depositor EDS
$R_{merge}$	0.08	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	5.44 (at 2.68Å)	Xtrriage
Refinement program	CNS 1.1	Depositor
R, $R_{free}$	0.226 , 0.262 0.218 , 0.251	Depositor DCC
$R_{free}$ test set	11315 reflections (9.97%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	42.7	Xtrriage
Anisotropy	0.390	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.34 , 39.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	16461	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	43.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.70% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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



## 5 Model quality [i](#)

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

Bond lengths and bond angles in the following residue types are not validated in this section:  
ADE

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	0.45	0/5549	0.68	1/7491 (0.0%)
1	B	0.46	0/5549	0.68	1/7491 (0.0%)
1	C	0.45	0/5448	0.67	2/7351 (0.0%)
All	All	0.45	0/16546	0.68	4/22333 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1912	SER	N-CA-C	-6.10	94.53	111.00
1	C	1644	ASN	N-CA-C	-5.58	95.95	111.00
1	C	1656	LEU	N-CA-C	-5.33	96.59	111.00
1	B	1912	SER	N-CA-C	-5.02	97.44	111.00

There are no chirality outliers.

There are no planarity outliers.

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5444	0	5388	269	1
1	B	5444	0	5388	292	0
1	C	5347	0	5283	280	0
2	C	10	0	4	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	A	86	0	0	4	0
3	B	70	0	0	4	0
3	C	60	0	0	4	0
All	All	16461	0	16063	804	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 25.

The worst 5 of 804 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:B:1735:ILE:H	1:B:1735:ILE:HD13	1.06	1.21
1:B:1631:MSE:HE2	1:C:2034:LYS:HB3	1.35	1.09
1:C:2014:MSE:HE3	1:C:2109:ILE:HG22	1.36	1.08
1:A:1658:LEU:HD12	1:A:1663:MSE:HE1	1.40	1.03
1:C:1658:LEU:HG	1:C:1690:ILE:HD11	1.42	0.99

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:A:1717:ARG:NH2	1:A:2007:ILE:O[2_555]	2.16	0.04

## 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	680/805 (84%)	589 (87%)	70 (10%)	21 (3%)	<b>4</b> <b>9</b>
1	B	680/805 (84%)	602 (88%)	64 (9%)	14 (2%)	<b>7</b> <b>18</b>
1	C	668/805 (83%)	582 (87%)	66 (10%)	20 (3%)	<b>4</b> <b>10</b>

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	2028/2415 (84%)	1773 (87%)	200 (10%)	55 (3%)	5 12

5 of 55 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1483	ILE
1	A	1530	VAL
1	A	1650	ASP
1	A	1839	GLU
1	B	2037	ARG

### 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	579/668 (87%)	534 (92%)	45 (8%)	12 29
1	B	579/668 (87%)	528 (91%)	51 (9%)	10 23
1	C	568/668 (85%)	513 (90%)	55 (10%)	8 19
All	All	1726/2004 (86%)	1575 (91%)	151 (9%)	10 23

5 of 151 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	1791	LEU
1	B	2100	SER
1	C	1960	GLN
1	B	1797	LEU
1	B	1924	TRP

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 73 such sidechains are listed below:

Mol	Chain	Res	Type
1	B	1624	ASN
1	B	1790	HIS

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Mol	Chain	Res	Type
1	C	1941	ASN
1	B	1752	GLN
1	B	1837	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 carbohydrates in this entry.

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

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	ADE	C	3196	-	9,11,11	1.59	2 (22%)	7,15,15	1.13	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	ADE	C	3196	-	-	-	0/2/2/2

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	3196	ADE	C2-N3	3.18	1.37	1.32
2	C	3196	ADE	C4-N9	2.39	1.39	1.34

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

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

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

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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	667/805 (82%)	-0.05	28 (4%) 36 35	20, 36, 74, 88	0
1	B	667/805 (82%)	0.05	45 (6%) 17 16	21, 38, 77, 94	0
1	C	655/805 (81%)	0.02	36 (5%) 25 24	23, 39, 77, 92	0
All	All	1989/2415 (82%)	0.00	109 (5%) 25 24	20, 38, 76, 94	0

The worst 5 of 109 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1480	LEU	6.7
1	B	2143	VAL	6.5
1	B	2194	PHE	6.4
1	B	2191	LEU	6.3
1	C	2194	PHE	6.3

### 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 carbohydrates in this entry.

### 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled ‘Q< 0.9’ lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
2	ADE	C	3196	10/10	0.69	0.36	86,87,87,88	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.