



wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 15, 2017 – 05:20 am GMT

PDB ID : 1K0U
Title : Inhibition of S-adenosylhomocysteine Hydrolase by "acyclic sugar" Adenosine Analogue D-eritadenine
Authors : Takusagawa, F.; Huang, Y.; Komoto, J.; Takata, Y.; Gomi, T.; Ogawa, H.; Fujioka, M.; Powell, D.
Deposited on : 2001-09-20
Resolution : 3.00 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

A user guide is available at

<http://wwpdb.org/validation/2016/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity	:	4.02b-467
Mogul	:	1.7.2 (RC1), CSD as538be (2017)
Xtriage (Phenix)	:	1.9-1692
EDS	:	trunk28620
Percentile statistics	:	20161228.v01 (using entries in the PDB archive December 28th 2016)
Refmac	:	5.8.0135
CCP4	:	6.5.0
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	recalc28949

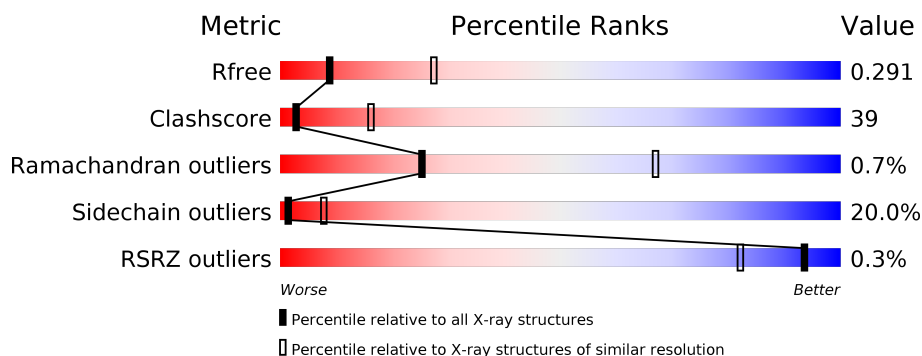
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 Å.

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




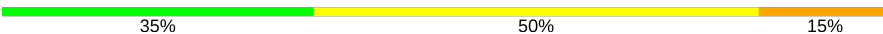
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	100719	1692 (3.00-3.00)
Clashscore	112137	2037 (3.00-3.00)
Ramachandran outliers	110173	1973 (3.00-3.00)
Sidechain outliers	110143	1976 (3.00-3.00)
RSRZ outliers	101464	1716 (3.00-3.00)

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 ≥ 3 , 2, 1 and 0 types of geometric quality criteria. 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	431	<div> <div>47%</div> <div>41%</div> <div>11%</div> </div>
1	B	431	<div> <div>46%</div> <div>43%</div> <div>10%</div> </div>
1	C	431	<div> <div>49%</div> <div>41%</div> <div>9%</div> </div>
1	D	431	<div> <div>46%</div> <div>42%</div> <div>11%</div> </div>
1	E	431	<div> <div>35%</div> <div>52%</div> <div>13%</div> </div>
1	F	431	<div> <div>37%</div> <div>52%</div> <div>11%</div> </div>

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Mol	Chain	Length	Quality of chain
1	G	431	 34% 52% 13%
1	H	431	 35% 50% 15%

2 Entry composition

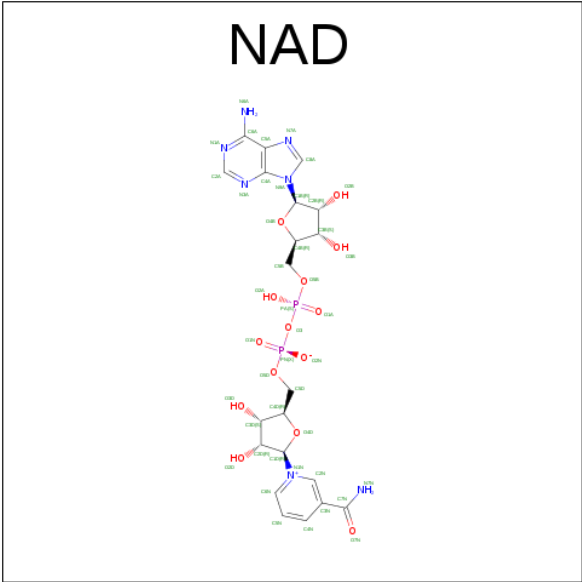
There are 4 unique types of molecules in this entry. The entry contains 27522 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE.

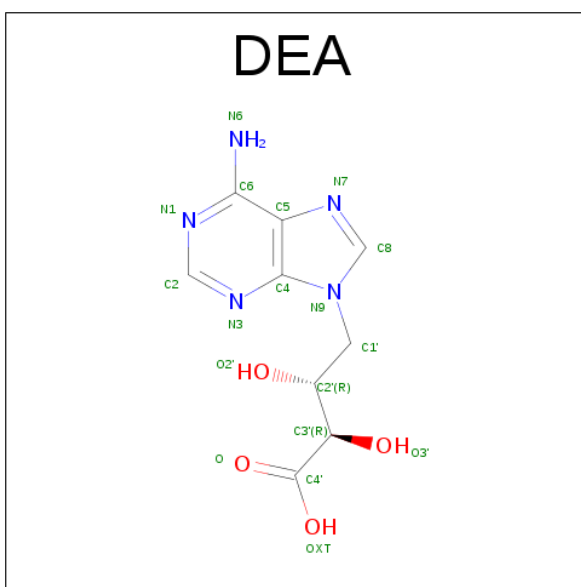
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	430	Total	C	N	O	S	0	0	0
			3319	2108	571	615	25			
1	B	430	Total	C	N	O	S	0	0	0
			3319	2108	571	615	25			
1	C	430	Total	C	N	O	S	0	0	0
			3319	2108	571	615	25			
1	D	430	Total	C	N	O	S	0	0	0
			3319	2108	571	615	25			
1	E	430	Total	C	N	O	S	0	0	0
			3319	2108	571	615	25			
1	F	430	Total	C	N	O	S	0	0	0
			3319	2108	571	615	25			
1	G	430	Total	C	N	O	S	0	0	0
			3319	2108	571	615	25			
1	H	430	Total	C	N	O	S	0	0	0
			3319	2108	571	615	25			

- Molecule 2 is NICOTINAMIDE-ADENINE-DINUCLEOTIDE (three-letter code: NAD) (formula: C₂₁H₂₇N₇O₁₄P₂).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	B	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	C	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	D	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	E	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	F	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	G	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	H	1	Total	C	N	O	P	0	0
			44	21	7	14	2		

- Molecule 3 is D-ERITADENINE (three-letter code: DEA) (formula: C₉H₁₁N₅O₄).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			18	9	5	4		
3	B	1	Total	C	N	O	0	0
			18	9	5	4		
3	C	1	Total	C	N	O	0	0
			18	9	5	4		
3	D	1	Total	C	N	O	0	0
			18	9	5	4		
3	E	1	Total	C	N	O	0	0
			18	9	5	4		
3	F	1	Total	C	N	O	0	0
			18	9	5	4		
3	G	1	Total	C	N	O	0	0
			18	9	5	4		
3	H	1	Total	C	N	O	0	0
			18	9	5	4		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	69	Total	O	0	0
			69	69		
4	B	52	Total	O	0	0
			52	52		
4	C	53	Total	O	0	0
			53	53		
4	D	51	Total	O	0	0
			51	51		

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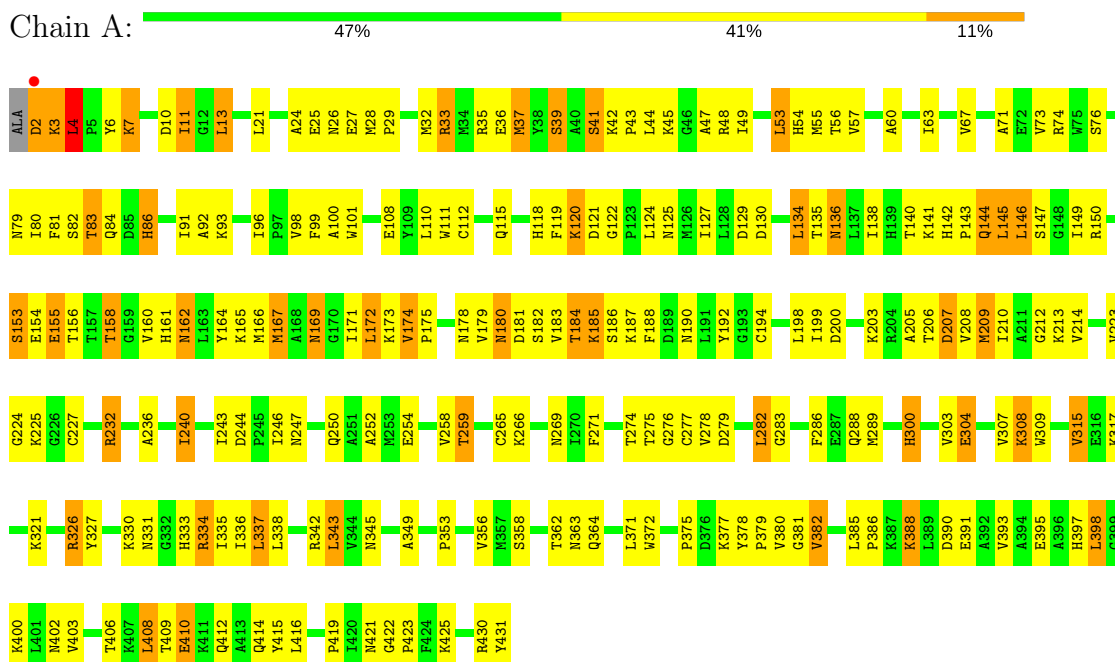
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	E	68	Total 68	O 68	0	0
4	F	68	Total 68	O 68	0	0
4	G	57	Total 57	O 57	0	0
4	H	56	Total 56	O 56	0	0

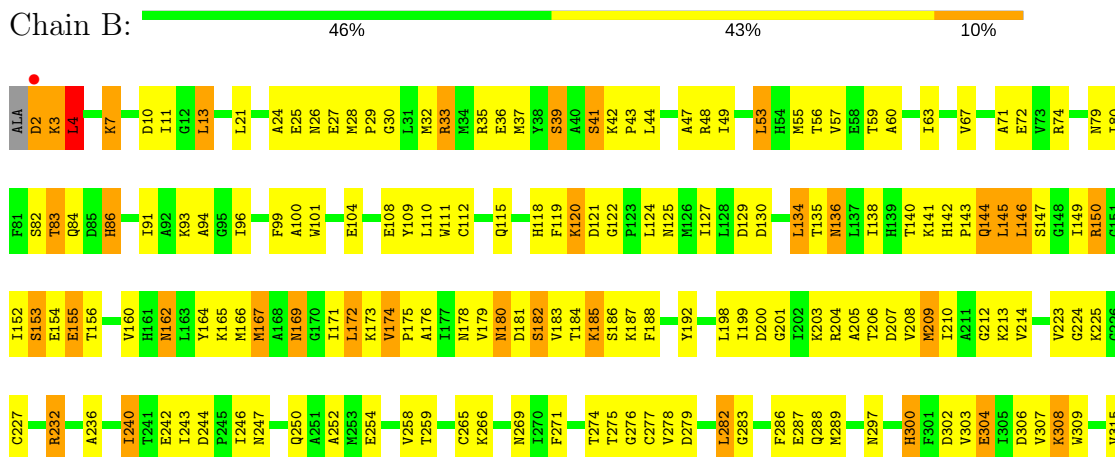
3 Residue-property plots

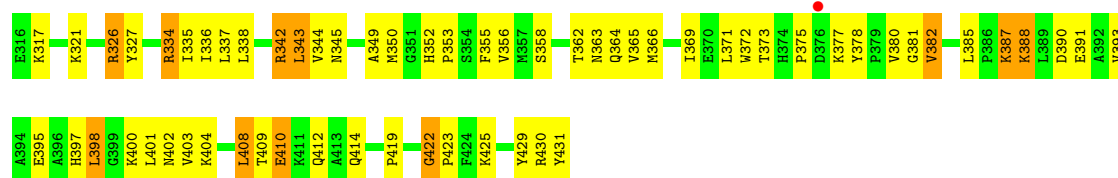
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are 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: S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE

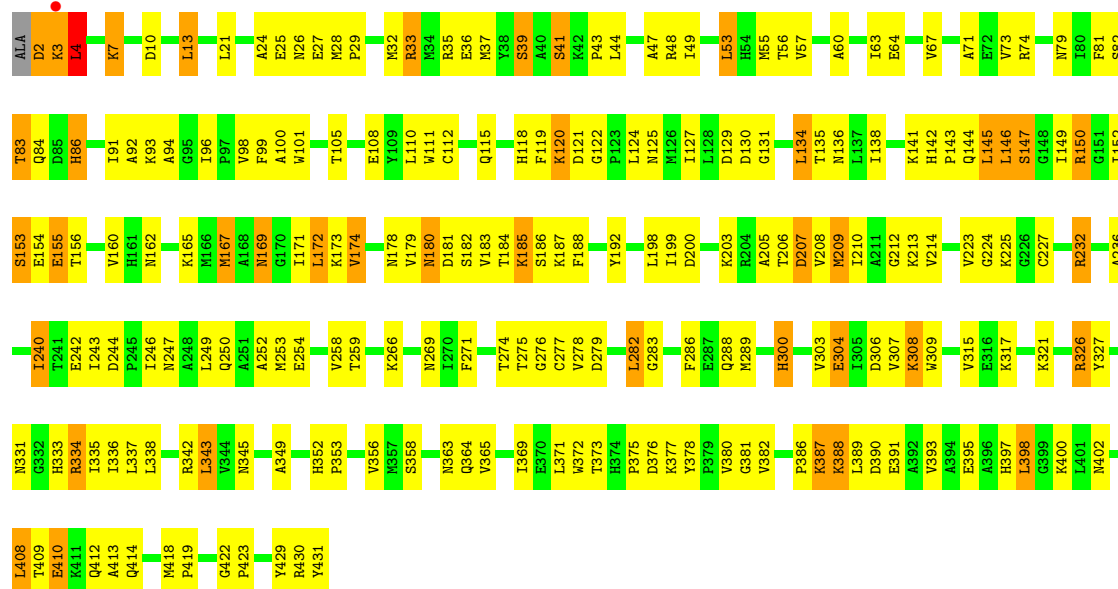


• Molecule 1: S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE

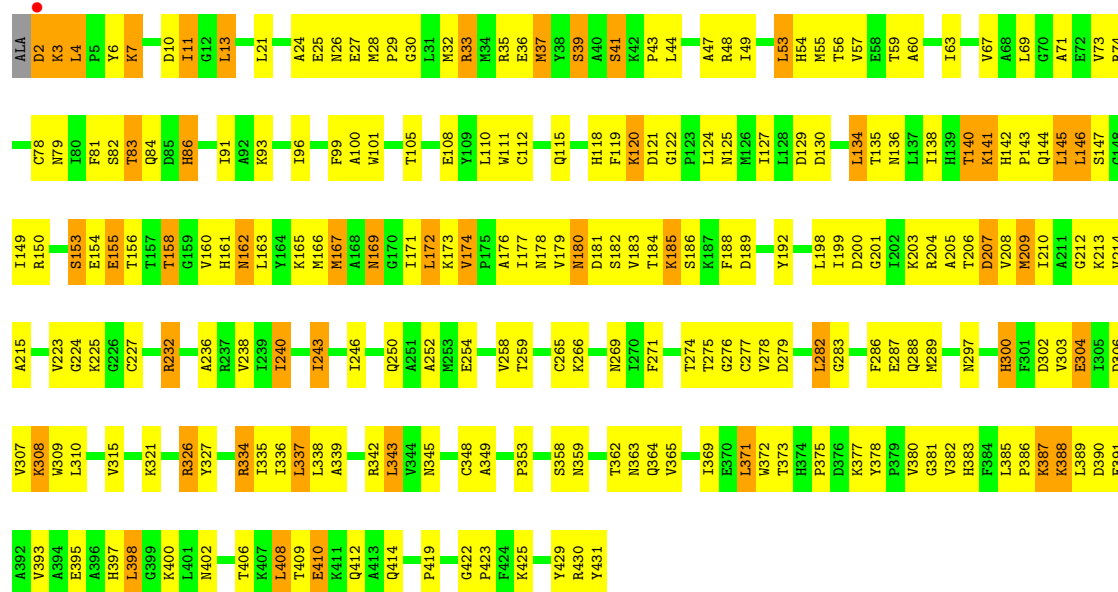




• Molecule 1: S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE

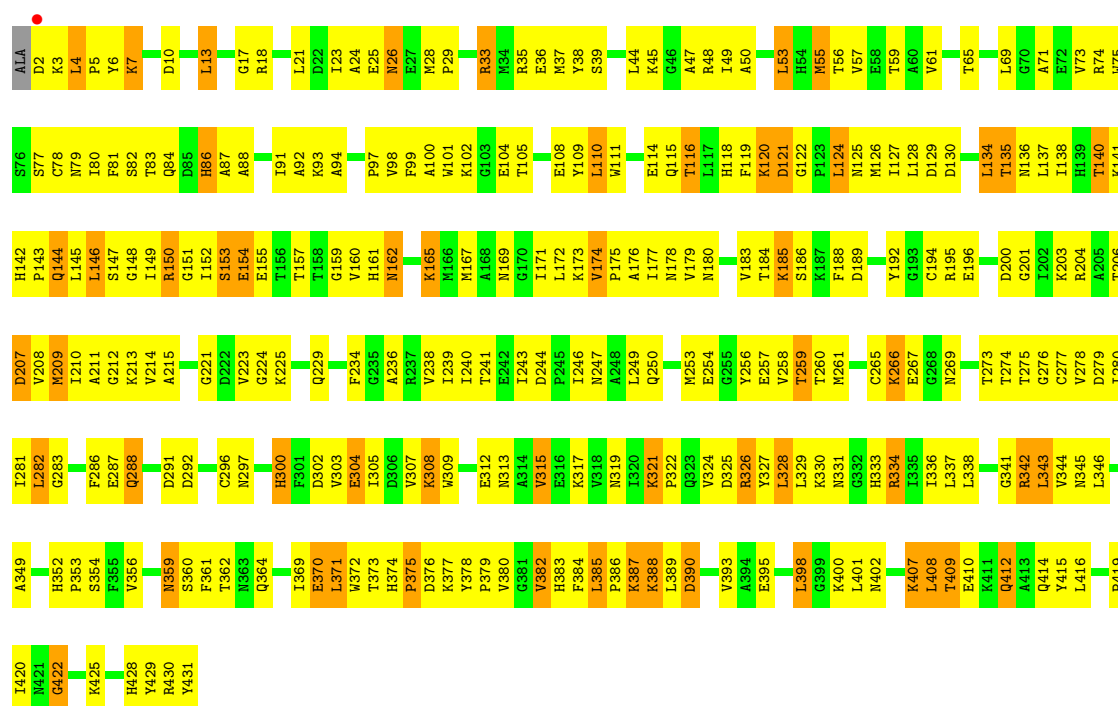


• Molecule 1: S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE



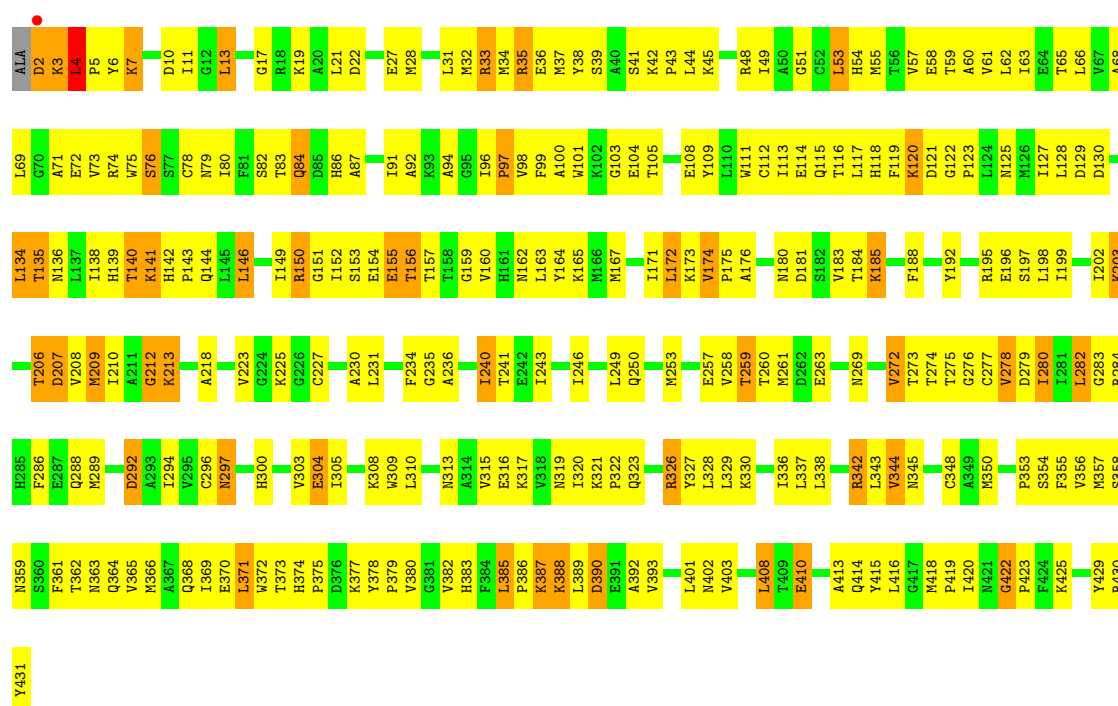
• Molecule 1: S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE

Chain E: 



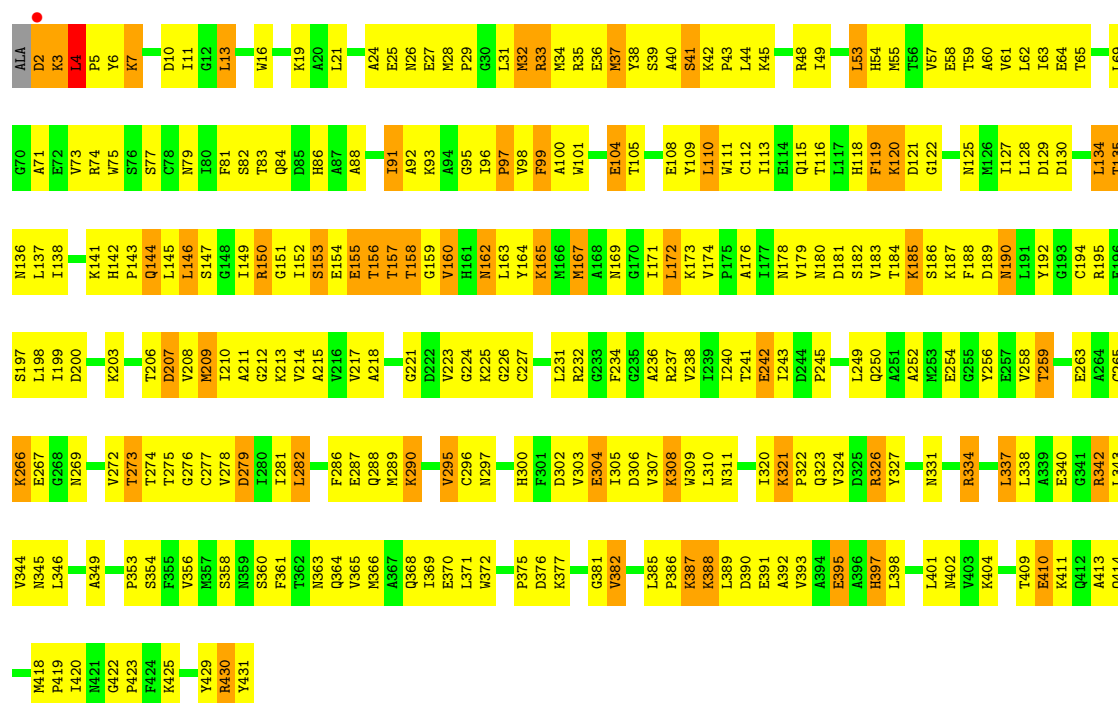
• Molecule 1: S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE

Chain F: 



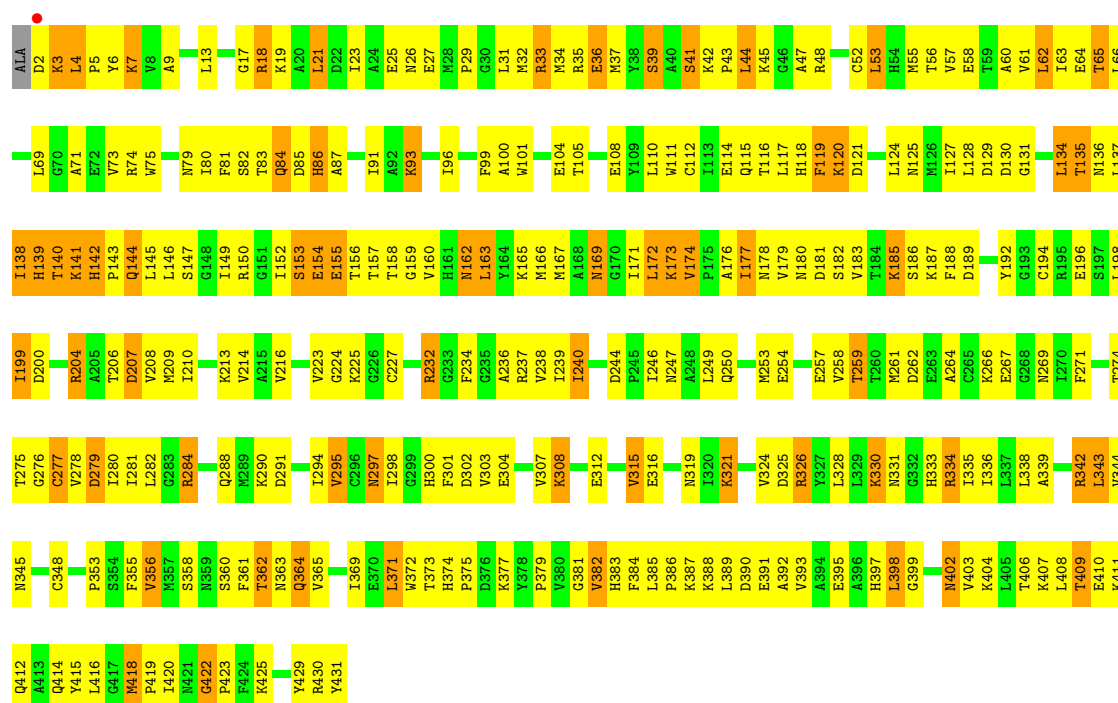
• Molecule 1: S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE

Chain G: 



• Molecule 1: S-ADENOSYL-L-HOMOCYSTEINE HYDROLASE

Chain H: 35% 50% 15%



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	89.87Å 177.37Å 112.16Å 90.00° 107.60° 90.00°	Depositor
Resolution (Å)	10.00 – 3.00 91.56 – 2.99	Depositor EDS
% Data completeness (in resolution range)	85.0 (10.00-3.00) 87.4 (91.56-2.99)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	0.09	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.14 (at 3.01Å)	Xtriage
Refinement program	X-PLOR 3.851	Depositor
R, R_{free}	0.183 , 0.265 0.215 , 0.291	Depositor DCC
R_{free} test set	5965 reflections (10.15%)	DCC
Wilson B-factor (Å ²)	20.1	Xtriage
Anisotropy	0.541	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 58.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.88	EDS
Total number of atoms	27522	wwPDB-VP
Average B, all atoms (Å ²)	2.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 18.71% of the height of the origin peak. No significant pseudotranslation is detected.*

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](#)

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

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	0.32	0/3384	0.55	0/4579
1	B	0.33	0/3384	0.55	0/4579
1	C	0.33	0/3384	0.54	0/4579
1	D	0.33	0/3384	0.55	0/4579
1	E	0.33	0/3384	0.59	0/4579
1	F	0.33	0/3384	0.59	0/4579
1	G	0.34	0/3384	0.58	0/4579
1	H	0.35	0/3384	0.61	0/4579
All	All	0.33	0/27072	0.57	0/36632

There are no bond length outliers.

There are no bond angle outliers.

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	3319	0	3341	242	0
1	B	3319	0	3341	246	0
1	C	3319	0	3341	230	0
1	D	3319	0	3341	238	0
1	E	3319	0	3341	305	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	F	3319	0	3341	284	0
1	G	3319	0	3341	341	0
1	H	3319	0	3341	324	0
2	A	44	0	26	2	0
2	B	44	0	26	3	0
2	C	44	0	26	3	0
2	D	44	0	26	2	0
2	E	44	0	26	3	0
2	F	44	0	26	2	0
2	G	44	0	26	6	0
2	H	44	0	26	5	0
3	A	18	0	10	0	0
3	B	18	0	10	0	0
3	C	18	0	10	0	0
3	D	18	0	10	0	0
3	E	18	0	10	0	0
3	F	18	0	10	1	0
3	G	18	0	10	0	0
3	H	18	0	10	0	0
4	A	69	0	0	0	0
4	B	52	0	0	1	0
4	C	53	0	0	0	0
4	D	51	0	0	0	0
4	E	68	0	0	0	0
4	F	68	0	0	0	0
4	G	57	0	0	0	0
4	H	56	0	0	0	0
All	All	27522	0	27016	2082	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 39.

The worst 5 of 2082 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:H:33:ARG:HE	1:H:33:ARG:HA	0.99	1.13
1:D:33:ARG:HH21	1:D:36:GLU:HB2	1.17	1.09
1:F:150:ARG:HD3	1:F:375:PRO:HB3	1.33	1.09
1:F:33:ARG:HG3	1:F:33:ARG:HH11	0.95	1.09
1:H:33:ARG:NE	1:H:33:ARG:HA	1.64	1.07

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	428/431 (99%)	399 (93%)	27 (6%)	2 (0%)	32	74
1	B	428/431 (99%)	395 (92%)	30 (7%)	3 (1%)	25	67
1	C	428/431 (99%)	401 (94%)	23 (5%)	4 (1%)	20	62
1	D	428/431 (99%)	402 (94%)	25 (6%)	1 (0%)	51	86
1	E	428/431 (99%)	395 (92%)	28 (6%)	5 (1%)	15	53
1	F	428/431 (99%)	395 (92%)	29 (7%)	4 (1%)	20	62
1	G	428/431 (99%)	394 (92%)	30 (7%)	4 (1%)	20	62
1	H	428/431 (99%)	400 (94%)	27 (6%)	1 (0%)	51	86
All	All	3424/3448 (99%)	3181 (93%)	219 (6%)	24 (1%)	25	67

5 of 24 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	F	4	LEU
1	F	212	GLY
1	B	300	HIS
1	C	300	HIS
1	D	300	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	353/353 (100%)	286 (81%)	67 (19%)	2	9
1	B	353/353 (100%)	287 (81%)	66 (19%)	2	10
1	C	353/353 (100%)	290 (82%)	63 (18%)	2	11
1	D	353/353 (100%)	284 (80%)	69 (20%)	1	8
1	E	353/353 (100%)	283 (80%)	70 (20%)	1	8
1	F	353/353 (100%)	285 (81%)	68 (19%)	1	9
1	G	353/353 (100%)	277 (78%)	76 (22%)	1	6
1	H	353/353 (100%)	268 (76%)	85 (24%)	1	4
All	All	2824/2824 (100%)	2260 (80%)	564 (20%)	1	8

5 of 564 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	371	LEU
1	E	337	LEU
1	H	173	LYS
1	D	402	ASN
1	E	150	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 99 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	383	HIS
1	E	288	GLN
1	H	269	ASN
1	D	414	GLN
1	E	136	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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](#)

16 ligands are 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	NAD	A	1432	-	41,48,48	2.08	8 (19%)	43,73,73	1.65	6 (13%)
3	DEA	A	1433	-	14,19,19	0.95	0	12,27,27	0.98	0
2	NAD	B	2432	-	41,48,48	1.99	7 (17%)	43,73,73	1.66	6 (13%)
3	DEA	B	2433	-	14,19,19	1.00	0	12,27,27	1.03	1 (8%)
2	NAD	C	3432	-	41,48,48	2.06	8 (19%)	43,73,73	1.62	6 (13%)
3	DEA	C	3433	-	14,19,19	0.89	0	12,27,27	1.08	1 (8%)
2	NAD	D	4432	-	41,48,48	2.10	7 (17%)	43,73,73	1.66	6 (13%)
3	DEA	D	4433	-	14,19,19	1.22	2 (14%)	12,27,27	1.11	1 (8%)
2	NAD	E	5432	-	41,48,48	1.99	6 (14%)	43,73,73	1.60	5 (11%)
3	DEA	E	5433	-	14,19,19	0.87	0	12,27,27	1.15	1 (8%)
2	NAD	F	6432	-	41,48,48	2.08	8 (19%)	43,73,73	1.60	7 (16%)
3	DEA	F	6433	-	14,19,19	0.96	0	12,27,27	1.06	0
2	NAD	G	7432	-	41,48,48	2.09	8 (19%)	43,73,73	1.64	5 (11%)
3	DEA	G	7433	-	14,19,19	1.19	2 (14%)	12,27,27	1.03	0
2	NAD	H	8432	-	41,48,48	1.98	5 (12%)	43,73,73	1.64	5 (11%)
3	DEA	H	8433	-	14,19,19	0.94	0	12,27,27	1.05	1 (8%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAD	A	1432	-	-	0/22/62/62	0/5/5/5

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	DEA	A	1433	-	-	0/6/12/12	0/2/2/2
2	NAD	B	2432	-	-	0/22/62/62	0/5/5/5
3	DEA	B	2433	-	-	0/6/12/12	0/2/2/2
2	NAD	C	3432	-	-	0/22/62/62	0/5/5/5
3	DEA	C	3433	-	-	0/6/12/12	0/2/2/2
2	NAD	D	4432	-	-	0/22/62/62	0/5/5/5
3	DEA	D	4433	-	-	0/6/12/12	0/2/2/2
2	NAD	E	5432	-	-	0/22/62/62	0/5/5/5
3	DEA	E	5433	-	-	0/6/12/12	0/2/2/2
2	NAD	F	6432	-	-	0/22/62/62	0/5/5/5
3	DEA	F	6433	-	-	0/6/12/12	0/2/2/2
2	NAD	G	7432	-	-	0/22/62/62	0/5/5/5
3	DEA	G	7433	-	-	0/6/12/12	0/2/2/2
2	NAD	H	8432	-	-	0/22/62/62	0/5/5/5
3	DEA	H	8433	-	-	0/6/12/12	0/2/2/2

The worst 5 of 61 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	5432	NAD	O4B-C1B	-4.39	1.35	1.41
2	G	7432	NAD	O4B-C1B	-4.26	1.35	1.41
2	F	6432	NAD	O4B-C1B	-4.04	1.35	1.41
2	C	3432	NAD	O4B-C1B	-3.88	1.35	1.41
2	A	1432	NAD	O4B-C1B	-3.87	1.35	1.41

The worst 5 of 51 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	7432	NAD	O7N-C7N-C3N	-5.77	112.88	119.62
2	A	1432	NAD	O7N-C7N-C3N	-5.59	113.09	119.62
2	D	4432	NAD	O7N-C7N-C3N	-5.56	113.13	119.62
2	B	2432	NAD	O7N-C7N-C3N	-5.55	113.13	119.62
2	C	3432	NAD	O7N-C7N-C3N	-5.53	113.16	119.62

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

9 monomers are involved in 27 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	1432	NAD	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	2432	NAD	3	0
2	C	3432	NAD	3	0
2	D	4432	NAD	2	0
2	E	5432	NAD	3	0
2	F	6432	NAD	2	0
3	F	6433	DEA	1	0
2	G	7432	NAD	6	0
2	H	8432	NAD	5	0

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, 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	430/431 (99%)	-0.37	1 (0%) 94 85	2, 3, 4, 6	0
1	B	430/431 (99%)	-0.28	2 (0%) 90 74	2, 3, 4, 7	0
1	C	430/431 (99%)	-0.33	1 (0%) 94 85	2, 3, 4, 6	0
1	D	430/431 (99%)	-0.33	1 (0%) 94 85	2, 3, 4, 7	0
1	E	430/431 (99%)	-0.43	1 (0%) 94 85	2, 2, 4, 5	0
1	F	430/431 (99%)	-0.43	1 (0%) 94 85	2, 2, 4, 7	0
1	G	430/431 (99%)	-0.42	1 (0%) 94 85	2, 2, 4, 6	0
1	H	430/431 (99%)	-0.42	1 (0%) 94 85	2, 2, 4, 7	0
All	All	3440/3448 (99%)	-0.38	9 (0%) 93 82	2, 2, 4, 7	0

The worst 5 of 9 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	2	ASP	3.6
1	H	2	ASP	3.4
1	A	2	ASP	3.2
1	B	2	ASP	3.1
1	F	2	ASP	2.9

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

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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th 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	LLDF	B-factors(Å ²)	Q<0.9
3	DEA	H	8433	18/18	0.91	0.21	1.80	2,2,3,3	0
3	DEA	G	7433	18/18	0.90	0.22	1.31	2,2,5,6	0
3	DEA	C	3433	18/18	0.89	0.24	0.97	2,2,5,5	0
3	DEA	B	2433	18/18	0.89	0.21	0.83	2,2,4,5	0
3	DEA	A	1433	18/18	0.92	0.21	0.79	2,2,4,5	0
3	DEA	E	5433	18/18	0.94	0.19	0.46	2,2,3,3	0
3	DEA	D	4433	18/18	0.91	0.20	0.05	2,2,3,4	0
3	DEA	F	6433	18/18	0.91	0.18	0.02	2,2,4,4	0
2	NAD	H	8432	44/44	0.95	0.17	-0.23	2,2,4,5	0
2	NAD	A	1432	44/44	0.94	0.18	-0.25	2,2,3,4	0
2	NAD	C	3432	44/44	0.95	0.18	-0.31	2,2,3,3	0
2	NAD	B	2432	44/44	0.95	0.17	-0.32	2,2,3,4	0
2	NAD	F	6432	44/44	0.96	0.16	-0.73	2,2,3,4	0
2	NAD	E	5432	44/44	0.95	0.16	-0.80	2,2,3,4	0
2	NAD	G	7432	44/44	0.95	0.15	-1.03	2,2,3,3	0
2	NAD	D	4432	44/44	0.95	0.14	-1.10	2,2,3,3	0

6.5 Other polymers

There are no such residues in this entry.