


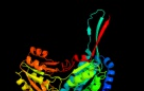




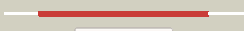




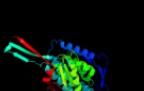

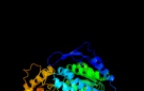










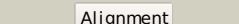
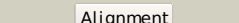
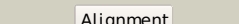
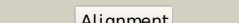
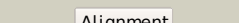
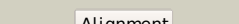
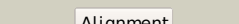
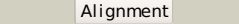
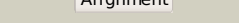





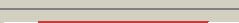
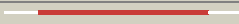

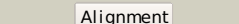
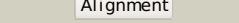
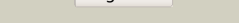
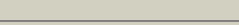


Phyre2

Email	I.a.kelley@imperial.ac.uk
Description	P25526
Date	Thu Jan 5 11:41:57 GMT 2012
Unique Job ID	ca21018d0f78e0a9

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c3jz4C_	 Alignment		100.0	100	PDB header: oxidoreductase Chain: C: PDB Molecule: succinate-semialdehyde dehydrogenase (nadp+); PDBTitle: crystal structure of e. coli nadp dependent enzyme
2	c3ifgH_	 Alignment		100.0	66	PDB header: oxidoreductase Chain: H: PDB Molecule: succinate-semialdehyde dehydrogenase (nadp+); PDBTitle: crystal structure of succinate-semialdehyde dehydrogenase from2 burkholderia pseudomallei, part 1 of 2
3	c3ek1C_	 Alignment		100.0	66	PDB header: oxidoreductase Chain: C: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from brucella2 melitensis biovar abortus 2308
4	c3ed6B_	 Alignment		100.0	34	PDB header: oxidoreductase Chain: B: PDB Molecule: betaine aldehyde dehydrogenase; PDBTitle: 1.7 angstrom resolution crystal structure of betaine aldehyde2 dehydrogenase (betb) from staphylococcus aureus
5	d1bxsA_	 Alignment		100.0	37	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
6	d1a4sa_	 Alignment		100.0	35	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
7	d1o9ja_	 Alignment		100.0	36	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
8	c3rh9A_	 Alignment		100.0	43	PDB header: oxidoreductase Chain: A: PDB Molecule: succinate-semialdehyde dehydrogenase (nad(p)(+)); PDBTitle: the crystal structure of oxidoreductase from marinobacter aquaeolei
9	c2o2qA_	 Alignment		100.0	38	PDB header: oxidoreductase Chain: A: PDB Molecule: formyltetrahydrofolate dehydrogenase; PDBTitle: crystal structure of the c-terminal domain of rat2 10'formyltetrahydrofolate dehydrogenase in complex with nadp
10	c2w8qA_	 Alignment		100.0	55	PDB header: oxidoreductase Chain: A: PDB Molecule: succinate-semialdehyde dehydrogenase, PDBTitle: the crystal structure of human ssadh in complex with ssa.
11	c2d4eB_	 Alignment		100.0	35	PDB header: oxidoreductase Chain: B: PDB Molecule: 5-carboxymethyl-2-hydroxymuconate semialdehyde PDBTitle: crystal structure of the hpcc from thermus thermophilus hb8

12	d1o04a_	Alignment		100.0	35	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
13	d1ag8a_	Alignment		100.0	35	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
14	c2jg7G_	Alignment		100.0	30	PDB header: oxidoreductase Chain: G: PDB Molecule: anti quitin; PDBTitle: crystal structure of seabream anti quitin and elucidation of2 its substrate specificity
15	c3k2wD_	Alignment		100.0	38	PDB header: oxidoreductase Chain: D: PDB Molecule: betaine-aldehyde dehydrogenase; PDBTitle: crystal structure of betaine-aldehyde dehydrogenase from2 pseudoalteromonas atlantica t6c
16	c2ve5H_	Alignment		100.0	37	PDB header: oxidoreductase Chain: H: PDB Molecule: betaine aldehyde dehydrogenase; PDBTitle: crystallographic structure of betaine aldehyde2 dehydrogenase from pseudomonas aeruginosa
17	c3iwkB_	Alignment		100.0	38	PDB header: oxidoreductase Chain: B: PDB Molecule: aminoaldehyde dehydrogenase; PDBTitle: crystal structure of aminoaldehyde dehydrogenase 1 from2 pisum sativum (psamadhl)
18	d1wnda_	Alignment		100.0	37	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
19	c1t90B_	Alignment		100.0	32	PDB header: oxidoreductase Chain: B: PDB Molecule: probable methylmalonate-semialdehyde PDBTitle: crystal structure of methylmalonate semialdehyde2 dehydrogenase from bacillus subtilis
20	c2hg2A_	Alignment		100.0	38	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase a; PDBTitle: structure of lactaldehyde dehydrogenase
21	c3qanB_	Alignment	not modelled	100.0	31	PDB header: oxidoreductase Chain: B: PDB Molecule: 1-pyrroline-5-carboxylate dehydrogenase 1; PDBTitle: crystal structure of 1-pyrroline-5-carboxylate dehydrogenase from2 bacillus halodurans
22	c3r31A_	Alignment	not modelled	100.0	36	PDB header: oxidoreductase Chain: A: PDB Molecule: betaine aldehyde dehydrogenase; PDBTitle: crystal structure of betaine aldehyde dehydrogenase from agrobacterium2 tumefaciens
23	c3i44A_	Alignment	not modelled	100.0	32	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from bartonella2 henselae at 2.0a resolution
24	d1uzba_	Alignment	not modelled	100.0	30	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
25	c3b4wA_	Alignment	not modelled	100.0	35	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of mycobacterium tuberculosis aldehyde dehydrogenase2 complexed with nad+
26	c3prlD_	Alignment	not modelled	100.0	37	PDB header: oxidoreductase Chain: D: PDB Molecule: nadp-dependent glyceraldehyde-3-phosphate dehydrogenase; PDBTitle: crystal structure of nadp-dependent glyceraldehyde-3-phosphate2 dehydrogenase from bacillus halodurans c-125
27	d1euha_	Alignment	not modelled	100.0	35	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
28	d1ky8a_	Alignment	not modelled	100.0	30	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like

29	c3ju8B_	 Alignment	not modelled	100.0	32	PDB header: oxidoreductase Chain: B: PDB Molecule: succinylglutamic semialdehyde dehydrogenase; PDBTitle: crystal structure of succinylglutamic semialdehyde dehydrogenase from2 pseudomonas aeruginosa.
30	d1bi9a_	 Alignment	not modelled	100.0	36	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
31	c3rosA_	 Alignment	not modelled	100.0	32	PDB header: oxidoreductase Chain: A: PDB Molecule: nad-dependent aldehyde dehydrogenase; PDBTitle: crystal structure of nad-dependent aldehyde dehydrogenase from2 lactobacillus acidophilus
32	c3efvC_	 Alignment	not modelled	100.0	32	PDB header: oxidoreductase Chain: C: PDB Molecule: putative succinate-semialdehyde dehydrogenase; PDBTitle: crystal structure of a putative succinate-semialdehyde dehydrogenase2 from salmonella typhimurium lt2 with bound nad
33	c3hazA_	 Alignment	not modelled	100.0	30	PDB header: oxidoreductase Chain: A: PDB Molecule: proline dehydrogenase; PDBTitle: crystal structure of bifunctional proline utilization a2 (puta) protein
34	c3r64A_	 Alignment	not modelled	100.0	32	PDB header: oxidoreductase Chain: A: PDB Molecule: nad dependent benzaldehyde dehydrogenase; PDBTitle: crystal structure of a nad-dependent benzaldehyde dehydrogenase from2 corynebacterium glutamicum
35	c2vroB_	 Alignment	not modelled	100.0	23	PDB header: oxidoreductase Chain: B: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from2 burkholderia xenovorans lb400
36	c3pqaA_	 Alignment	not modelled	100.0	35	PDB header: oxidoreductase Chain: A: PDB Molecule: lactaldehyde dehydrogenase; PDBTitle: crystal structure of glyceraldehyde-3-phosphate dehydrogenase gapn2 from methanocaldococcus jannaschii dsm 2661
37	d1ad3a_	 Alignment	not modelled	100.0	25	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
38	c3v4cB_	 Alignment	not modelled	100.0	26	PDB header: oxidoreductase Chain: B: PDB Molecule: aldehyde dehydrogenase (nadp+); PDBTitle: crystal structure of a semialdehyde dehydrogenase from sinorhizobium2 meliloti 1021
39	d1ez0a_	 Alignment	not modelled	100.0	23	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
40	c3lnsD_	 Alignment	not modelled	100.0	25	PDB header: oxidoreductase Chain: D: PDB Molecule: benzaldehyde dehydrogenase; PDBTitle: benzaldehyde dehydrogenase, a class 3 aldehyde dehydrogenase, with2 bound nadp+ and benzoate adduct
41	c3k9dD_	 Alignment	not modelled	100.0	18	PDB header: oxidoreductase Chain: D: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of probable aldehyde dehydrogenase from listeria2 monocytogenes egd-e
42	d1o20a_	 Alignment	not modelled	100.0	17	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
43	c3my7A_	 Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: alcohol dehydrogenase/acetaldehyde dehydrogenase; PDBTitle: the crystal structure of the acdh domain of an alcohol dehydrogenase2 from vibrio parahaemolyticus to 2.25a
44	c2h5gA_	 Alignment	not modelled	100.0	19	PDB header: oxidoreductase Chain: A: PDB Molecule: delta 1-pyrroline-5-carboxylate synthetase; PDBTitle: crystal structure of human pyrroline-5-carboxylate synthetase
45	d1vlua_	 Alignment	not modelled	100.0	16	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
46	c1vlub_	 Alignment	not modelled	100.0	16	PDB header: oxidoreductase Chain: B: PDB Molecule: gamma-glutamyl phosphate reductase; PDBTitle: crystal structure of gamma-glutamyl phosphate reductase (yor323c) from2 saccharomyces cerevisiae at 2.40 a resolution
47	d1k75a_	 Alignment	not modelled	98.7	20	Fold: ALDH-like Superfamily: ALDH-like Family: L-histidinol dehydrogenase HisD
48	c2yvqA_	 Alignment	not modelled	70.6	8	PDB header: ligase Chain: A: PDB Molecule: carbamoyl-phosphate synthase; PDBTitle: crystal structure of mgs domain of carbamoyl-phosphate2 synthetase from homo sapiens
49	d1wo8a1	 Alignment	not modelled	68.0	15	Fold: Methylglyoxal synthase-like Superfamily: Methylglyoxal synthase-like Family: Methylglyoxal synthase, MgsA
50	d1a9xa2	 Alignment	not modelled	62.3	17	Fold: Methylglyoxal synthase-like Superfamily: Methylglyoxal synthase-like Family: Carbamoyl phosphate synthetase, large subunit allosteric, C-terminal domain
51	d1y5ea1	 Alignment	not modelled	53.1	22	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
52	c3e5bB_	 Alignment	not modelled	35.8	15	PDB header: lyase Chain: B: PDB Molecule: isocitrate lyase; PDBTitle: 2.4 a crystal structure of isocitrate lyase from brucella2 melitensis
53	c3oqbF_	 Alignment	not modelled	34.6	17	PDB header: oxidoreductase Chain: F: PDB Molecule: oxidoreductase; PDBTitle: crystal structure of putative oxidoreductase from

						bradyrhizobium2 japonicum usda 110
54	d2ioja1	Alignment	not modelled	33.7	22	Fold: MurF and HprK N-domain-like Superfamily: HprK N-terminal domain-like Family: DRTGG domain
55	d2ftsa3	Alignment	not modelled	31.3	16	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
56	c3gfgB_	Alignment	not modelled	30.2	13	PDB header: oxidoreductase Chain: B: PDB Molecule: uncharacterized oxidoreductase yvaa; PDBTitle: structure of putative oxidoreductase yvaa from bacillus subtilis in2 triclinic form
57	c3f4f_	Alignment	not modelled	29.2	13	PDB header: oxidoreductase Chain: F: PDB Molecule: putative oxidoreductase yhhx; PDBTitle: crystal structure of a probable oxidoreductase yhhx in2 triclinic form. northeast structural genomics target er647
58	d2g2ca1	Alignment	not modelled	28.9	18	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
59	c2is8A_	Alignment	not modelled	25.7	14	PDB header: structural protein Chain: A: PDB Molecule: molybdopterin biosynthesis enzyme, moab; PDBTitle: crystal structure of the molybdopterin biosynthesis enzyme moab2 (tha0341) from thermus thermophilus hb8
60	d1k99a_	Alignment	not modelled	25.6	14	Fold: HMG-box Superfamily: HMG-box Family: HMG-box
61	d1jr2a_	Alignment	not modelled	25.3	16	Fold: HemD-like Superfamily: HemD-like Family: HemD-like
62	c1jr2A_	Alignment	not modelled	25.3	16	PDB header: lyase Chain: A: PDB Molecule: uroporphyrinogen-iii synthase; PDBTitle: structure of uroporphyrinogen iii synthase
63	d1uz5a3	Alignment	not modelled	25.3	15	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
64	d2bona1	Alignment	not modelled	24.4	20	Fold: NAD kinase/diacylglycerol kinase-like Superfamily: NAD kinase/diacylglycerol kinase-like Family: Diacylglycerol kinase-like
65	c2crlA_	Alignment	not modelled	24.0	13	PDB header: gene regulation Chain: A: PDB Molecule: swi/snf-related matrix-associated actin- PDBTitle: solution structure of the hmg domain of mouse hmg domain2 protein hmgx2
66	c1zh8B_	Alignment	not modelled	23.2	16	PDB header: oxidoreductase Chain: B: PDB Molecule: oxidoreductase; PDBTitle: crystal structure of oxidoreductase (tm0312) from thermotoga maritima2 at 2.50 a resolution
67	c3d8tB_	Alignment	not modelled	22.8	13	PDB header: lyase Chain: B: PDB Molecule: uroporphyrinogen-iii synthase; PDBTitle: thermus thermophilus uroporphyrinogen iii synthase
68	d2b8ea1	Alignment	not modelled	22.5	13	Fold: HAD-like Superfamily: HAD-like Family: Meta-cation ATPase, catalytic domain P
69	c1uz5A_	Alignment	not modelled	22.3	14	PDB header: molybdopterin biosynthesis Chain: A: PDB Molecule: 402aa long hypothetical molybdopterin PDBTitle: the crystal structure of molybdopterin biosynthesis moea2 protein from pyrococcus horikosii
70	c2pjka_	Alignment	not modelled	21.2	19	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: 178aa long hypothetical molybdenum cofactor PDBTitle: structure of hypothetical molybdenum cofactor biosynthesis2 protein b from sulfobolus tokodaii
71	c3fghA_	Alignment	not modelled	21.2	8	PDB header: transcription Chain: A: PDB Molecule: transcription factor a, mitochondrial; PDBTitle: human mitochondrial transcription factor a box b
72	d1sgva1	Alignment	not modelled	20.6	23	Fold: PUA domain-like Superfamily: PUA domain-like Family: PUA domain
73	c2ixaA_	Alignment	not modelled	20.0	11	PDB header: hydrolase Chain: A: PDB Molecule: alpha-n-acetyl galactosaminidase; PDBTitle: a-zyne, n-acetyl galactosaminidase
74	d1mkza_	Alignment	not modelled	19.7	21	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
75	c2eqzA_	Alignment	not modelled	19.6	8	PDB header: transcription Chain: A: PDB Molecule: high mobility group protein b3; PDBTitle: solution structure of the first hmg-box domain from high2 mobility group protein b3
76	c3kuxA_	Alignment	not modelled	18.8	9	PDB header: oxidoreductase Chain: A: PDB Molecule: putative oxidoreductase; PDBTitle: structure of the ypo2259 putative oxidoreductase from yersinia pestis
77	c3m2ta_	Alignment	not modelled	18.5	10	PDB header: oxidoreductase Chain: A: PDB Molecule: probable dehydrogenase; PDBTitle: the crystal structure of dehydrogenase from chromobacterium2 violaceum
78	d1s7ia_	Alignment	not modelled	18.3	11	Fold: Ferredoxin-like Superfamily: Dimeric alpha+beta barrel Family: DGPF domain (Pfam 04946)
79	c2ec4A_	Alignment	not modelled	17.9	14	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: fas-associated factor 1; PDBTitle: solution structure of the uas domain from human fas-2 associated factor 1

80	d1j3xa_	Alignment	not modelled	17.5	11	Fold: HMG-box Superfamily: HMG-box Family: HMG-box
81	c1j3xA	Alignment	not modelled	17.5	11	PDB header: dna binding protein Chain: A: PDB Molecule: high mobility group protein 2; PDBTitle: solution structure of the n-terminal domain of the hmgb2
82	c1ofgF_	Alignment	not modelled	16.8	12	PDB header: oxidoreductase Chain: F: PDB Molecule: glucose-fructose oxidoreductase; PDBTitle: glucose-fructose oxidoreductase
83	c1h6dL_	Alignment	not modelled	16.8	12	PDB header: protein translocation Chain: L: PDB Molecule: precursor form of glucose-fructose PDBTitle: oxidized precursor form of glucose-fructose oxidoreductase2 from zymomonas mobilis complexed with glycerol
84	c2yukA_	Alignment	not modelled	16.7	19	PDB header: transferase Chain: A: PDB Molecule: myeloid/lymphoid or mixed-lineage leukemia PDBTitle: solution structure of the hmg box of human myeloid/lymphoid2 or mixed-lineage leukemia protein 3 homolog
85	d1u0ta_	Alignment	not modelled	16.6	13	Fold: NAD kinase/diacylglycerol kinase-like Superfamily: NAD kinase/diacylglycerol kinase-like Family: NAD kinase-like
86	c2nqgA_	Alignment	not modelled	16.1	12	PDB header: biosynthetic protein Chain: A: PDB Molecule: molybdopterin biosynthesis protein moea; PDBTitle: moea r137q
87	d1xxaa_	Alignment	not modelled	15.7	18	Fold: DCoH-like Superfamily: C-terminal domain of arginine repressor Family: C-terminal domain of arginine repressor
88	c2cs1A_	Alignment	not modelled	15.2	16	PDB header: dna binding protein Chain: A: PDB Molecule: pms1 protein homolog 1; PDBTitle: solution structure of the hmg domain of human dna mismatch2 repair protein
89	c3fhLC_	Alignment	not modelled	15.0	16	PDB header: oxidoreductase Chain: C: PDB Molecule: putative oxidoreductase; PDBTitle: crystal structure of a putative oxidoreductase from bacteroides2 fragilis nctc 9343
90	c2glxD_	Alignment	not modelled	14.8	16	PDB header: oxidoreductase Chain: D: PDB Molecule: 1,5-anhydro-d-fructose reductase; PDBTitle: crystal structure analysis of bacterial 1,5-af reductase
91	d1wu2a3	Alignment	not modelled	14.8	11	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
92	d1hsma_	Alignment	not modelled	14.6	18	Fold: HMG-box Superfamily: HMG-box Family: HMG-box
93	d1lc0a1	Alignment	not modelled	14.4	9	Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: Glyceraldehyde-3-phosphate dehydrogenase-like, N-terminal domain
94	d1j46a_	Alignment	not modelled	14.3	17	Fold: HMG-box Superfamily: HMG-box Family: HMG-box
95	d1v64a_	Alignment	not modelled	14.3	16	Fold: HMG-box Superfamily: HMG-box Family: HMG-box
96	d2lefa_	Alignment	not modelled	14.2	17	Fold: HMG-box Superfamily: HMG-box Family: HMG-box
97	d2nqra3	Alignment	not modelled	14.2	12	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
98	d1lwma_	Alignment	not modelled	14.1	13	Fold: HMG-box Superfamily: HMG-box Family: HMG-box
99	c3moiA_	Alignment	not modelled	14.1	9	PDB header: oxidoreductase Chain: A: PDB Molecule: probable dehydrogenase; PDBTitle: the crystal structure of the putative dehydrogenase from bordetella2 bronchiseptica rb50