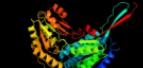
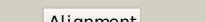
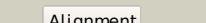
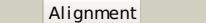
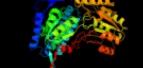
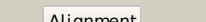
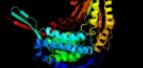
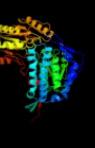
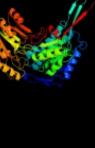


Phyre²

Email	i.a.kelley@imperial.ac.uk
Description	P23883
Date	Thu Jan 5 11:40:20 GMT 2012
Unique Job ID	f78caa86feaf3ebd

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c3ed6B_			100.0	37	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
2	d1bxsa_			100.0	40	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
3	d1o9ja_			100.0	38	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
4	c2o2qA_			100.0	37	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
5	d1a4sa_			100.0	33	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
6	d1o04a_			100.0	42	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
7	d1ag8a_			100.0	42	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
8	c2ve5H_			100.0	40	PDB header: oxidoreductase Chain: H; PDB Molecule: betaine aldehyde dehydrogenase; PDBTitle: crystallographic structure of betaine aldehyde2 dehydrogenase from pseudomonas aeruginosa
9	c3iwkB_			100.0	38	PDB header: oxidoreductase Chain: B; PDB Molecule: aminoaldehyde dehydrogenase; PDBTitle: crystal structure of aminoaldehyde dehydrogenase 1 from2 pisum sativum (psamadh1)
10	c2d4eB_			100.0	43	PDB header: oxidoreductase Chain: B; PDB Molecule: 5-carboxymethyl-2-hydroxymuconate semialdehyde PDBTitle: crystal structure of the hpcc from thermus thermophilus hb8
11	c2jg7G_			100.0	25	PDB header: oxidoreductase Chain: G; PDB Molecule: antiquitin; PDBTitle: crystal structure of seabream antiquitin and elucidation of2 its substrate specificity

12	c3b4wA	Alignment		100.0	37	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of mycobacterium tuberculosis aldehyde dehydrogenase2 complexed with nad+
13	c3r31A	Alignment		100.0	38	PDB header: oxidoreductase Chain: A: PDB Molecule: betaine aldehyde dehydrogenase; PDBTitle: crystal structure of betaine aldehyde dehydrogenase from agrobacterium2 tumefaciens
14	c3ek1C	Alignment		100.0	33	PDB header: oxidoreductase Chain: C: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from brucella2 melitensis biovar abortus 2308
15	c3rh9A	Alignment		100.0	31	PDB header: oxidoreductase Chain: A: PDB Molecule: succinate-semialdehyde dehydrogenase (nad(p)+); PDBTitle: the crystal structure of oxidoreductase from marinobacter aquaeolei
16	d1wnda	Alignment		100.0	37	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
17	d1uzba	Alignment		100.0	30	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
18	c3ganB	Alignment		100.0	30	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
19	c3ifgH	Alignment		100.0	35	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
20	c3jz4C	Alignment		100.0	36	PDB header: oxidoreductase Chain: C: PDB Molecule: succinate-semialdehyde dehydrogenase [nadp+]; PDBTitle: crystal structure of e. coli nadp dependent enzyme
21	c3k2wD	Alignment	not modelled	100.0	32	PDB header: oxidoreductase Chain: D: PDB Molecule: betaine-aldehyde dehydrogenase; PDBTitle: crystal structure of betaine-aldehyde dehydrogenase from2 pseudoalteromonas atlantica t6c
22	c3i44A	Alignment	not modelled	100.0	35	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from bartonellla2 henselae at 2.0a resolution
23	c2hg2A	Alignment	not modelled	100.0	30	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase a; PDBTitle: structure of lactaldehyde dehydrogenase
24	d1euha	Alignment	not modelled	100.0	33	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
25	c2w8qA	Alignment	not modelled	100.0	33	PDB header: oxidoreductase Chain: A: PDB Molecule: succinate-semialdehyde dehydrogenase, PDBTitle: the crystal structure of human ssadh in complex with ssa.
26	c3prlD	Alignment	not modelled	100.0	32	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	c1t90B	Alignment	not modelled	100.0	31	PDB header: oxidoreductase Chain: B: PDB Molecule: probable methylmalonate-semialdehyde PDBTitle: crystal structure of methylmalonate semialdehyde2 dehydrogenase from bacillus subtilis
28	d1ky8a	Alignment	not modelled	100.0	29	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like

29	d1bi9a	Alignment	not modelled	100.0	40	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
30	c3hazA	Alignment	not modelled	100.0	31	PDB header: oxidoreductase Chain: A: PDB Molecule: proline dehydrogenase; PDBTitle: crystal structure of bifunctional proline utilization a2 (puta) protein
31	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.
32	c3rosA	Alignment	not modelled	100.0	30	PDB header: oxidoreductase Chain: A: PDB Molecule: nad-dependent aldehyde dehydrogenase; PDBTitle: crystal structure of nad-dependent aldehyde dehydrogenase from2 lactobacillus acidophilus
33	c3efvC	Alignment	not modelled	100.0	35	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
34	c2vroB	Alignment	not modelled	100.0	25	PDB header: oxidoreductase Chain: B: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from2 burkholderia xenovorans lb400
35	c3r64A	Alignment	not modelled	100.0	30	PDB header: oxidoreductase Chain: A: PDB Molecule: nad dependent benzaldehyde dehydrogenase; PDBTitle: crystal structure of a nad-dependent benzaldehyde dehydrogenase from2 corynebacterium glutamicum
36	c3pqA	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	29	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
38	c3v4cb	Alignment	not modelled	100.0	27	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	22	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
40	c3InsD	Alignment	not modelled	100.0	28	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	17	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	18	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
43	c3my7A	Alignment	not modelled	100.0	18	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	21	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	19	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
46	c1vluB	Alignment	not modelled	100.0	19	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	98.5	19	Fold: ALDH-like Superfamily: ALDH-like Family: L-histidinol dehydrogenase HisD
48	d1y5ea1	Alignment	not modelled	51.5	29	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
49	d2g2ca1	Alignment	not modelled	35.2	16	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
50	c2yvgA	Alignment	not modelled	34.5	15	PDB header: ligase Chain: A: PDB Molecule: carbamoyl-phosphate synthase; PDBTitle: crystal structure of mgs domain of carbamoyl-phosphate2 synthetase from homo sapiens
51	c3i0pA	Alignment	not modelled	33.3	14	PDB header: oxidoreductase Chain: A: PDB Molecule: malate dehydrogenase; PDBTitle: crystal structure of malate dehydrogenase from entamoeba histolytica
52	d1s7ia	Alignment	not modelled	33.0	17	Fold: ferredoxin-like Superfamily: Dimeric alpha+beta barrel Family: DGPF domain (Pfam 04946)
53	c1v9nA	Alignment	not modelled	29.5	19	PDB header: oxidoreductase Chain: A: PDB Molecule: malate dehydrogenase; PDBTitle: structure of malate dehydrogenase from pyrococcus horikoshii ot3

					PDB header: de novo protein Chain: A: PDB Molecule: rosmann 2x3 fold protein; PDBTitle: solution nmr structure of de novo designed protein, p-loop ntpase2 fold, northeast structural genomics consortium target or28
54	c2i69A	Alignment	not modelled	29.2	19 Fold: L-sulfolactate dehydrogenase-like Superfamily: L-sulfolactate dehydrogenase-like Family: L-sulfolactate dehydrogenase-like
55	d1rfma	Alignment	not modelled	29.0	21 Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
56	d1wu2a3	Alignment	not modelled	27.7	21 PDB header: protein binding Chain: B: PDB Molecule: adapter protein meca 1; PDBTitle: crystal structure of the c-terminal domain of meca
57	c3jtpB	Alignment	not modelled	27.3	21 PDB header: oxidoreductase Chain: A: PDB Molecule: type 2 malate/lactate dehydrogenase; PDBTitle: crystal structure of type 2 malate/lactate dehydrogenase from thermus2 thermophilus hb8
58	c1vbiA	Alignment	not modelled	27.0	26 Fold: NAD kinase/diacylglycerol kinase-like Superfamily: NAD kinase/diacylglycerol kinase-like Family: Diacylglycerol kinase-like
59	d2bona1	Alignment	not modelled	26.9	17 Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: Moga-like
60	d1mkza	Alignment	not modelled	26.8	25 Fold: NAD kinase/diacylglycerol kinase-like Superfamily: NAD kinase/diacylglycerol kinase-like Family: NAD kinase-like
61	d1u0ta	Alignment	not modelled	26.1	11 Fold: DCoH-like Superfamily: C-terminal domain of arginine repressor Family: C-terminal domain of arginine repressor
62	d1xxaa	Alignment	not modelled	25.6	24 PDB header: dna binding protein Chain: A: PDB Molecule: arginine repressor; PDBTitle: 1.60 angstrom resolution crystal structure of an arginine repressor2 from vibrio vulnificus cmcp6
63	c3v4gA	Alignment	not modelled	24.9	14 Fold: L-sulfolactate dehydrogenase-like Superfamily: L-sulfolactate dehydrogenase-like Family: L-sulfolactate dehydrogenase-like
64	d1xrha	Alignment	not modelled	24.3	18 Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
65	d1uz5a3	Alignment	not modelled	23.8	15 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 sulfobolbus tokodaii
66	c2pjka	Alignment	not modelled	22.8	23 Fold: L-sulfolactate dehydrogenase-like Superfamily: L-sulfolactate dehydrogenase-like Family: L-sulfolactate dehydrogenase-like
67	d1nxua	Alignment	not modelled	22.7	21 PDB header: structural protein Chain: A: PDB Molecule: molybdopterin biosynthesis enzyme, moab; PDBTitle: crystal structure of the molybdopterin biosynthesis enzyme moab2 (ttha0341) from thermus theromophilus hb8
68	c2is8A	Alignment	not modelled	22.1	12 PDB header: oxidoreductase Chain: B: PDB Molecule: dehydrogenase; PDBTitle: the crystal structure of dehydrogenase from sinorhizobium meliloti
69	c3uoeb	Alignment	not modelled	21.7	11 Fold: Dystroglycan, domain 2 Superfamily: Dystroglycan, domain 2 Family: Dystroglycan, domain 2
70	d1u2ca2	Alignment	not modelled	20.2	20 Fold: Methylglyoxal synthase-like Superfamily: Methylglyoxal synthase-like Family: Methylglyoxal synthase, MgsA
71	d1wo8a1	Alignment	not modelled	19.6	15 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
72	c2ec4A	Alignment	not modelled	19.1	16 Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
73	d2ftsa3	Alignment	not modelled	19.1	23 PDB header: oxidoreductase Chain: B: PDB Molecule: ureidoglycolate dehydrogenase; PDBTitle: crystal structure of delta1-piperideine-2-carboxylate2 reductase from pseudomonas syringae pvar.tomato
74	c1wtjb	Alignment	not modelled	19.1	14 Fold: Methylglyoxal synthase-like Superfamily: Methylglyoxal synthase-like Family: Carbamoyl phosphate synthetase, large subunit allosteric, C-terminal domain
75	d1a9xa2	Alignment	not modelled	19.1	18 PDB header: structural genomics, unknown function Chain: A: PDB Molecule: probable signal peptide protein; PDBTitle: three-dimensional structure of the phospholipid-binding protein from2 ralstonia solanacearum q8xv73_ralsq in complex with a phospholipid at3 the resolution 1.53 a. northeast structural genomics consortium4 target rsr89
76	c2qguA	Alignment	not modelled	18.4	18 PDB header: represor Chain: A: PDB Molecule: arginine repressor; PDBTitle: structure of the arginine repressor from bacillus stearothermophilus
77	c1b4aA	Alignment	not modelled	17.7	11 PDB header: oxidoreductase Chain: A: PDB Molecule: malate dehydrogenase; PDBTitle: crystal structure of agrobacterium tumefaciens malate2 dehydrogenase, new york structural genomics consortium
78	c1z2ia	Alignment	not modelled	17.5	18 Fold: Rap/Ran-GAP

79	d1srqa_	Alignment	not modelled	17.4	14	Superfamily: Rap/Ran-GAP Family: Rap/Ran-GAP
80	c2v9vA_	Alignment	not modelled	16.9	10	PDB header: transcription Chain: A: PDB Molecule: selenocysteine-specific elongation factor; PDBTitle: crystal structure of moorella thermoacetica selb(377-511)
81	c2yukA_	Alignment	not modelled	16.1	24	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
82	c1gr0A_	Alignment	not modelled	16.1	16	PDB header: isomerase Chain: A: PDB Molecule: inositol-3-phosphate synthase; PDBTitle: myo-inositol 1-phosphate synthase from mycobacterium2 tuberculosis in complex with nad and zinc.
83	c2crjA_	Alignment	not modelled	15.7	18	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
84	c3g3hA_	Alignment	not modelled	15.6	18	PDB header: transferase Chain: A: PDB Molecule: hmw1c-like glycosyltransferase; PDBTitle: crystal structure of the actinobacillus pleuropneumoniae hmw1c2 glycosyltransferase in complex with udp-glc
85	c3ereD_	Alignment	not modelled	15.6	16	PDB header: dna binding protein/dna Chain: D: PDB Molecule: arginine repressor; PDBTitle: crystal structure of the arginine repressor protein from mycobacterium2 tuberculosis in complex with the dna operator
86	d2ioja1	Alignment	not modelled	15.5	11	Fold: MurF and HprK N-domain-like Superfamily: HprK N-terminal domain-like Family: DRTGG domain
87	c3e7hA_	Alignment	not modelled	15.2	17	PDB header: transferase Chain: A: PDB Molecule: dna-directed rna polymerase subunit beta; PDBTitle: the crystal structure of the beta subunit of the dna-2 directed rna polymerase from vibrio cholerae o1 biovar3 eltor
88	c3rfqC_	Alignment	not modelled	14.7	23	PDB header: biosynthetic protein Chain: C: PDB Molecule: pterin-4-alpha-carbinolamine dehydratase moab2; PDBTitle: crystal structure of pterin-4-alpha-carbinolamine dehydratase moab2 from mycobacterium marinum
89	c2bonB_	Alignment	not modelled	13.9	15	PDB header: transferase Chain: B: PDB Molecule: lipid kinase; PDBTitle: structure of an escherichia coli lipid kinase (yegs)
90	c3cinA_	Alignment	not modelled	13.7	23	PDB header: isomerase Chain: A: PDB Molecule: myo-inositol-1-phosphate synthase-related protein; PDBTitle: crystal structure of a myo-inositol-1-phosphate synthase-related2 protein (tm_1419) from thermotoga maritima msb8 at 1.70 a resolution
91	c2nqqA_	Alignment	not modelled	13.5	13	PDB header: biosynthetic protein Chain: A: PDB Molecule: molybdopterin biosynthesis protein moea; PDBTitle: moea r137q
92	d2f7wa1	Alignment	not modelled	13.4	17	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
93	c2g8yB_	Alignment	not modelled	12.8	16	PDB header: oxidoreductase Chain: B: PDB Molecule: malate/l-lactate dehydrogenases; PDBTitle: the structure of a putative malate/lactate dehydrogenase from e. coll.
94	d2p1ra1	Alignment	not modelled	12.7	12	Fold: NAD kinase/diacylglycerol kinase-like Superfamily: NAD kinase/diacylglycerol kinase-like Family: Diacylglycerol kinase-like
95	d1jlja_	Alignment	not modelled	12.7	24	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
96	d1xi8a3	Alignment	not modelled	12.6	22	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
97	c2g4rB_	Alignment	not modelled	12.6	18	PDB header: biosynthetic protein Chain: B: PDB Molecule: molybdopterin biosynthesis mog protein; PDBTitle: anomalous substructure of moga
98	c2h47F_	Alignment	not modelled	12.6	14	PDB header: oxidoreductase/electron transport Chain: F: PDB Molecule: aromatic amine dehydrogenase; PDBTitle: crystal structure of an electron transfer complex between2 aromatic amine dehydrogenase and azurin from alcaligenes3 faecalis (form 1)
99	c1uz5A_	Alignment	not modelled	12.4	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