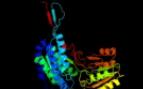
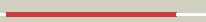
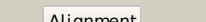
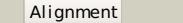
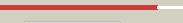
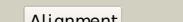
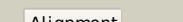
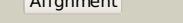
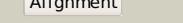
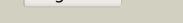
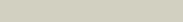


Phyre²

Email	i.a.kelley@imperial.ac.uk
Description	P77445
Date	Thu Jan 5 12:29:23 GMT 2012
Unique Job ID	03ddb17dec36591d

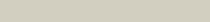
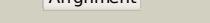
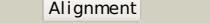
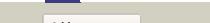
Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c3haza_			100.0	20	PDB header: oxidoreductase Chain: A; PDB Molecule: proline dehydrogenase; PDBTitle: crystal structure of bifunctional proline utilization a2 (puta) protein
2	c2jg7G_			100.0	16	PDB header: oxidoreductase Chain: G; PDB Molecule: antiquitin; PDBTitle: crystal structure of seabream antiquitin and elucidation of its substrate specificity
3	c3qanB_			100.0	18	PDB header: oxidoreductase Chain: B; PDB Molecule: 1-pyrroline-5-carboxylate dehydrogenase 1; PDBTitle: crystal structure of 1-pyrroline-5-carboxylate dehydrogenase from bacillus halodurans
4	d1uzba_			100.0	19	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
5	d1a4sa_			100.0	14	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
6	c3ed6B_			100.0	16	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
7	c3prlD_			100.0	20	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
8	d1bxsa_			100.0	17	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
9	c2o2qA_			100.0	17	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	c2ve5H_			100.0	17	PDB header: oxidoreductase Chain: H; PDB Molecule: betaine aldehyde dehydrogenase; PDBTitle: crystallographic structure of betaine aldehyde2 dehydrogenase from pseudomonas aeruginosa
11	d1euha_			100.0	17	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like

12	d1o9ja_			100.0	16	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
13	c3iwkB_			100.0	21	PDB header: oxidoreductase Chain: B: PDB Molecule: aminoaldehyde dehydrogenase; PDBTitle: crystal structure of aminoaldehyde dehydrogenase 1 from2 pisum sativum (psamadh1)
14	d1o04a_			100.0	14	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
15	c2d4eB_			100.0	19	PDB header: oxidoreductase Chain: B: PDB Molecule: 5-carboxymethyl-2-hydroxymuconate semialdehyde PDBTitle: crystal structure of the hpcc from thermus thermophilus hb8
16	c3rh9A_			100.0	14	PDB header: oxidoreductase Chain: A: PDB Molecule: succinate-semialdehyde dehydrogenase (nad(p)(+)); PDBTitle: the crystal structure of oxidoreductase from marinobacter aquaeolei
17	d1ky8a_			100.0	17	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
18	d1ag8a_			100.0	15	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
19	c3ek1C_			100.0	18	PDB header: oxidoreductase Chain: C: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from brucella2 melitensis biovar abortus 2308
20	d1wnda_			100.0	16	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
21	c3ifgH_		not modelled	100.0	19	PDB header: oxidoreductase Chain: H: PDB Molecule: succinate-semialdehyde dehydrogenase (nadh+); PDBTitle: crystal structure of succinate-semialdehyde dehydrogenase from2 burkholderia pseudomallei, part 1 of 2
22	c2w8qA_		not modelled	100.0	16	PDB header: oxidoreductase Chain: A: PDB Molecule: succinate-semialdehyde dehydrogenase, ssadha; PDBTitle: the crystal structure of human ssadh in complex with ssa.
23	c1t90B_		not modelled	100.0	19	PDB header: oxidoreductase Chain: B: PDB Molecule: probable methylmalonate-semialdehyde dehydrogenase PDBTitle: crystal structure of methylmalonate semialdehyde2 dehydrogenase from bacillus subtilis
24	c3r31A_		not modelled	100.0	16	PDB header: oxidoreductase Chain: A: PDB Molecule: betaine aldehyde dehydrogenase; PDBTitle: crystal structure of betaine aldehyde dehydrogenase from agrobacterium2 tumefaciens
25	c3b4wA_		not modelled	100.0	19	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of mycobacterium tuberculosis aldehyde dehydrogenase2 complexed with nad+
26	c3pqmA_		not modelled	100.0	16	PDB header: oxidoreductase Chain: A: PDB Molecule: lactaldehyde dehydrogenase; PDBTitle: crystal structure of glyceraldehyde-3-phosphate dehydrogenase gapn2 from methanocaldococcus jannaschii dsm 2661
27	c3i44A_		not modelled	100.0	19	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from bartonella2 henselae at 2.0a resolution
28	c3k2wd		not modelled	100.0	18	PDB header: oxidoreductase Chain: D: PDB Molecule: betaine-aldehyde dehydrogenase;

28	c3kzwD	Alignment	not modelled	100.0	18	PDBTitle: crystal structure of betaine-aldehyde dehydrogenase from2 <i>pseudoalteromonas atlantica</i> t6c PDB header: oxidoreductase Chain: C: PDB Molecule: succinate-semialdehyde dehydrogenase [nadp+]; PDBTitle: crystal structure of e. coli nadp dependent enzyme
29	c3jz4C	Alignment	not modelled	100.0	17	PDB header: oxidoreductase Chain: C: PDB Molecule: putative succinate-semialdehyde dehydrogenase; PDBTitle: crystal structure of a putative succinate-semialdehyde dehydrogenase2 from <i>salmonella typhimurium</i> lt2 with bound nad
30	c3efvC	Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: nad-dependent aldehyde dehydrogenase; PDBTitle: crystal structure of nad-dependent aldehyde dehydrogenase from2 <i>lactobacillus acidophilus</i>
31	c3rosA	Alignment	not modelled	100.0	19	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase a; PDBTitle: structure of lactaldehyde dehydrogenase
32	c2hg2A	Alignment	not modelled	100.0	16	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase a; PDBTitle: structure of lactaldehyde dehydrogenase
33	c3ju8B	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: B: PDB Molecule: succinylglutamic semialdehyde dehydrogenase; PDBTitle: crystal structure of succinylglutamic semialdehyde dehydrogenase from2 <i>pseudomonas aeruginosa</i> .
34	d1bi9a	Alignment	not modelled	100.0	16	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
35	d1ez0a	Alignment	not modelled	100.0	20	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
36	d1ad3a	Alignment	not modelled	100.0	19	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
37	c3k9dD	Alignment	not modelled	100.0	27	PDB header: oxidoreductase Chain: D: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of probable aldehyde dehydrogenase from <i>listeria monocytogenes</i> egd-e PDB header: oxidoreductase
38	c3v4cB	Alignment	not modelled	100.0	19	Chain: B: PDB Molecule: aldehyde dehydrogenase (nadp+); PDBTitle: crystal structure of a semialdehyde dehydrogenase from <i>sinorhizobium meliloti</i> 1021
39	c3r64A	Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: nad dependent benzaldehyde dehydrogenase; PDBTitle: crystal structure of a nad-dependent benzaldehyde dehydrogenase from2 <i>corynebacterium glutamicum</i>
40	c2vroB	Alignment	not modelled	100.0	15	PDB header: oxidoreductase Chain: B: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from2 <i>burkholderia xenovorans</i> lb400
41	d1o20a	Alignment	not modelled	100.0	18	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
42	c3my7A	Alignment	not modelled	100.0	29	PDB header: oxidoreductase Chain: A: PDB Molecule: alcohol dehydrogenase/acetaldehyde dehydrogenase; PDBTitle: the crystal structure of the acdh domain of an alcohol dehydrogenase2 from <i>vibrio parahaemolyticus</i> to 2.25a
43	c3InsD	Alignment	not modelled	100.0	17	PDB header: oxidoreductase Chain: D: PDB Molecule: benzaldehyde dehydrogenase; PDBTitle: benzaldehyde dehydrogenase, a class 3 aldehyde dehydrogenase, with2 bound nadp+ and benzoate adduct
44	d1vlua	Alignment	not modelled	100.0	21	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
45	c2h5gA	Alignment	not modelled	100.0	16	PDB header: oxidoreductase Chain: A: PDB Molecule: delta 1-pyrroline-5-carboxylate synthetase; PDBTitle: crystal structure of human pyrroline-5-carboxylate synthetase
46	c1vlub	Alignment	not modelled	100.0	18	PDB header: oxidoreductase Chain: B: PDB Molecule: gamma-glutamyl phosphate reductase; PDBTitle: crystal structure of gamma-glutamyl phosphate reductase (yor323c) from2 <i>saccharomyces cerevisiae</i> at 2.40 a resolution
47	d1k75a	Alignment	not modelled	97.4	15	Fold: ALDH-like Superfamily: ALDH-like Family: L-histidinol dehydrogenase HisD
48	d1y5ea1	Alignment	not modelled	42.3	13	Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
49	c2yvqA	Alignment	not modelled	26.5	13	PDB header: ligase Chain: A: PDB Molecule: carbamoyl-phosphate synthase; PDBTitle: crystal structure of mgs domain of carbamoyl-phosphate2 synthetase from homo sapiens
50	c3iv4A	Alignment	not modelled	24.8	6	PDB header: oxidoreductase Chain: A: PDB Molecule: putative oxidoreductase; PDBTitle: a putative oxidoreductase with a thioredoxin fold
51	d1np7a2	Alignment	not modelled	22.1	10	Fold: Cryptochrome/photolyase, N-terminal domain Superfamily: Cryptochrome/photolyase, N-terminal domain Family: Cryptochrome/photolyase, N-terminal domain
52	c3jtpB	Alignment	not modelled	19.2	24	PDB header: protein binding Chain: B: PDB Molecule: adapter protein meca 1; PDBTitle: crystal structure of the c-terminal domain of meca
53	d1a9xa2	Alignment	not modelled	19.0	15	Fold: Methylglyoxal synthase-like Superfamily: Methylglyoxal synthase-like Family: Carbamoyl phosphate synthetase, large subunit allosteric,

					C-terminal domain
54	d2g2ca1	Alignment	not modelled	18.7	14 Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
55	d1wo8a1	Alignment	not modelled	18.4	10 Fold: Methylglyoxal synthase-like Superfamily: Methylglyoxal synthase-like Family: Methylglyoxal synthase, MgsA
56	d1s7ia_	Alignment	not modelled	17.1	15 Fold: Ferredoxin-like Superfamily: Dimeric alpha+beta barrel Family: DGPF domain (Pfam 04946)
57	c2is8A_	Alignment	not modelled	15.5	12 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
58	d2j07a2	Alignment	not modelled	14.0	13 Fold: Cryptochrome/photolyase, N-terminal domain Superfamily: Cryptochrome/photolyase, N-terminal domain Family: Cryptochrome/photolyase, N-terminal domain
59	d1oy0a_	Alignment	not modelled	13.7	21 Fold: TIM beta/alpha-barrel Superfamily: Phosphoenolpyruvate/pyruvate domain Family: Ketopantoate hydroxymethyltransferase PanB
60	c3labA_	Alignment	not modelled	12.5	27 PDB header: structural genomics, unknown function Chain: A: PDB Molecule: putative kdpg (2-keto-3-deoxy-6-phosphogluconate) PDBTitle: crystal structure of a putative kdpg (2-keto-3-deoxy-6-phosphogluconate) aldolase from oleispira antarctica
61	d1o66a_	Alignment	not modelled	11.6	18 Fold: TIM beta/alpha-barrel Superfamily: Phosphoenolpyruvate/pyruvate domain Family: Ketopantoate hydroxymethyltransferase PanB
62	c3q3hA_	Alignment	not modelled	10.7	22 PDB header: transferase Chain: A: PDB Molecule: hmw1c-like glycosyltransferase; PDBTitle: crystal structure of the actinobacillus pleuropneumoniae hmw1c2 glycosyltransferase in complex with udp-gluc
63	d1uz5a3	Alignment	not modelled	9.5	15 Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
64	d1g99a2	Alignment	not modelled	8.6	19 Fold: Ribonuclease H-like motif Superfamily: Actin-like ATPase domain Family: Acetokinase-like
65	c3ibpA_	Alignment	not modelled	8.5	13 PDB header: cell cycle Chain: A: PDB Molecule: chromosome partition protein mukB; PDBTitle: the crystal structure of the dimerization domain of escherichia coli2 structural maintenance of chromosomes protein mukB
66	d1mkza_	Alignment	not modelled	8.5	15 Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
67	c2pjka_	Alignment	not modelled	8.5	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 sulfolobus tokodaii
68	c2xigA_	Alignment	not modelled	8.0	8 PDB header: transcription Chain: A: PDB Molecule: ferric uptake regulation protein; PDBTitle: the structure of the helicobacter pylori ferric uptake2 regulator fur reveals three functional metal binding sites
69	d2e1za2	Alignment	not modelled	7.7	19 Fold: Ribonuclease H-like motif Superfamily: Actin-like ATPase domain Family: Acetokinase-like
70	c2g4rb_	Alignment	not modelled	7.3	12 PDB header: biosynthetic protein Chain: B: PDB Molecule: molybdopterin biosynthesis mog protein; PDBTitle: anomalous substructure of moga
71	c2ec4A_	Alignment	not modelled	7.3	12 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	cluz5A_	Alignment	not modelled	7.2	18 PDB header: molybdopterin biosynthesis Chain: A: PDB Molecule: 402aa long hypothetical molybdopterin PDBTitle: the crystal structure of molybdopterin biosynthesis moea2 protein from pyrococcus horikosii
73	d1ydua1	Alignment	not modelled	7.1	13 Fold: At5g01610-like Superfamily: At5g01610-like Family: At5g01610-like
74	d1hkya_	Alignment	not modelled	7.1	21 Fold: Hairpin loop containing domain-like Superfamily: Hairpin loop containing domain-like Family: Pan module (APPLE domain)
75	c2vpia_	Alignment	not modelled	6.9	14 PDB header: ligase Chain: A: PDB Molecule: gmp synthase; PDBTitle: human gmp synthetase - glutaminase domain
76	d1xxaa_	Alignment	not modelled	6.5	29 Fold: DCoH-like Superfamily: C-terminal domain of arginine repressor Family: C-terminal domain of arginine repressor
77	c2hw2A_	Alignment	not modelled	6.5	17 PDB header: transferase Chain: A: PDB Molecule: rifampin adp-ribosyl transferase; PDBTitle: crystal structure of rifampin adp-ribosyl transferase in2 complex with rifampin
78	d2f7wa1	Alignment	not modelled	6.4	15 Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MogA-like
79	c1gr0A_	Alignment	not modelled	6.3	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.
80	c3jtoE_		Alignment	not modelled	6.0	13 PDB header: protein binding Chain: E: PDB Molecule: adapter protein meca 2; PDBTitle: crystal structure of the c-terminal domain of ypbh
81	d1v8da_		Alignment	not modelled	5.9	14 Fold: TTHA0583/YokD-like Superfamily: TTHA0583/YokD-like Family: Hypothetical protein TT1679
82	c2iirJ_		Alignment	not modelled	5.9	19 PDB header: transferase Chain: J: PDB Molecule: acetate kinase; PDBTitle: acetate kinase from a hypothermophile thermotoga maritima
83	d2ey4c1		Alignment	not modelled	5.7	33 Fold: Reductase/isomerase/elongation factor common domain Superfamily: Translation proteins Family: Gar1-like SnoRNP
84	c2hvyB_		Alignment	not modelled	5.5	33 PDB header: isomerase/biosynthetic protein/rna Chain: B: PDB Molecule: small nucleolar rnp similar to gar1; PDBTitle: crystal structure of an h/aca box rnp from pyrococcus furiosus
85	d2ftsa3		Alignment	not modelled	5.5	20 Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like
86	c3v4gA_		Alignment	not modelled	5.4	29 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
87	d1ovma2		Alignment	not modelled	5.3	9 Fold: Thiamin diphosphate-binding fold (THDP-binding) Superfamily: Thiamin diphosphate-binding fold (THDP-binding) Family: Pyruvate oxidase and decarboxylase Pyr module
88	c3rfqC_		Alignment	not modelled	5.2	23 PDB header: biosynthetic protein Chain: C: PDB Molecule: pterin-4-alpha-carbinolamine dehydratase moab2; PDBTitle: crystal structure of pterin-4-alpha-carbinolamine dehydratase moab22 from mycobacterium marinum
89	d1jx6a_		Alignment	not modelled	5.2	12 Fold: Periplasmic binding protein-like I Superfamily: Periplasmic binding protein-like I Family: L-arabinose binding protein-like