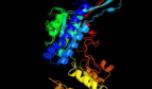
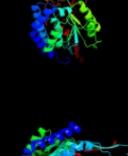
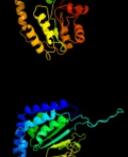
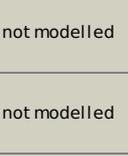


Phyre2

Email	I.a.kelley@imperial.ac.uk
Description	P06988
Date	Thu Jan 5 10:59:46 GMT 2012
Unique Job ID	8791e5b37cf5d74e

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	d1k75a_	 Alignment		100.0	99	Fold: ALDH-like Superfamily: ALDH-like Family: L-histidinol dehydrogenase HisD
2	c2w8qA_	 Alignment		99.1	16	PDB header: oxidoreductase Chain: A: PDB Molecule: succinate-semialdehyde dehydrogenase, PDBTitle: the crystal structure of human ssadh in complex with ssa.
3	d1ky8a_	 Alignment		99.0	18	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
4	d1euha_	 Alignment		98.9	14	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
5	c3ek1C_	 Alignment		98.9	19	PDB header: oxidoreductase Chain: C: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from brucella2 melitensis biovar abortus 2308
6	c3k2wD_	 Alignment		98.9	19	PDB header: oxidoreductase Chain: D: PDB Molecule: betaine-aldehyde dehydrogenase; PDBTitle: crystal structure of betaine-aldehyde dehydrogenase from2 pseudoalteromonas atlantica t6c
7	c3efvC_	 Alignment		98.8	17	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
8	d1o04a_	 Alignment		98.8	17	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
9	c3lnsD_	 Alignment		98.8	15	PDB header: oxidoreductase Chain: D: PDB Molecule: benzaldehyde dehydrogenase; PDBTitle: benzaldehyde dehydrogenase, a class 3 aldehyde dehydrogenase, with2 bound nadp+ and benzoate adduct
10	c2d4eB_	 Alignment		98.8	15	PDB header: oxidoreductase Chain: B: PDB Molecule: 5-carboxymethyl-2-hydroxyuconate semialdehyde PDBTitle: crystal structure of the hpcc from thermus thermophilus hb8
11	c3k9dD_	 Alignment		98.8	16	PDB header: oxidoreductase Chain: D: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of probable aldehyde dehydrogenase from listeria2 monocytogenes egd-e

12	c3jz4C_	Alignment		98.7	21	PDB header: oxidoreductase Chain: C: PDB Molecule: succinate-semialdehyde dehydrogenase [nadp+]; PDBTitle: crystal structure of e. coli nadp dependent enzyme
13	d1ag8a_	Alignment		98.7	18	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
14	c3prlD_	Alignment		98.7	16	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
15	c3rosA_	Alignment		98.7	14	PDB header: oxidoreductase Chain: A: PDB Molecule: nad-dependent aldehyde dehydrogenase; PDBTitle: crystal structure of nad-dependent aldehyde dehydrogenase from2 lactobacillus acidophilus
16	d1ad3a_	Alignment		98.7	14	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
17	c1vluB_	Alignment		98.6	11	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
18	c3r31A_	Alignment		98.6	16	PDB header: oxidoreductase Chain: A: PDB Molecule: betaine aldehyde dehydrogenase; PDBTitle: crystal structure of betaine aldehyde dehydrogenase from agrobacterium2 tumefaciens
19	d1a4sa_	Alignment		98.6	16	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
20	c2hg2A_	Alignment		98.6	16	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase a; PDBTitle: structure of lactaldehyde dehydrogenase
21	c3iwkB_	Alignment	not modelled	98.6	17	PDB header: oxidoreductase Chain: B: PDB Molecule: aminoaldehyde dehydrogenase; PDBTitle: crystal structure of aminoaldehyde dehydrogenase 1 from2 pisum sativum (psamad1)
22	c3ed6B_	Alignment	not modelled	98.6	17	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
23	d1bxsa_	Alignment	not modelled	98.6	15	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
24	c3ifgH_	Alignment	not modelled	98.6	18	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
25	c3pqaA_	Alignment	not modelled	98.5	18	PDB header: oxidoreductase Chain: A: PDB Molecule: lactaldehyde dehydrogenase; PDBTitle: crystal structure of glyceraldehyde-3-phosphate dehydrogenase gapn2 from methanocaldococcus jannaschii dsm 2661
26	d1o20a_	Alignment	not modelled	98.4	13	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
27	c2jg7G_	Alignment	not modelled	98.4	18	PDB header: oxidoreductase Chain: G: PDB Molecule: antiquitin; PDBTitle: crystal structure of seabream antiquitin and elucidation of2 its substrate specificity
28	c3rh9A_	Alignment	not modelled	98.4	16	PDB header: oxidoreductase Chain: A: PDB Molecule: succinate-semialdehyde dehydrogenase (nad(p)(+));

						PDBTitle: the crystal structure of oxidoreductase from marinobacter aquaeolei
29	d1uzba_	Alignment	not modelled	98.4	21	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
30	c3r64A_	Alignment	not modelled	98.4	16	PDB header: oxidoreductase Chain: A: PDB Molecule: nad dependent benzaldehyde dehydrogenase; PDBTitle: crystal structure of a nad-dependent benzaldehyde dehydrogenase from2 corynebacterium glutamicum
31	c3v4cB_	Alignment	not modelled	98.4	16	PDB header: oxidoreductase Chain: B: PDB Molecule: aldehyde dehydrogenase (nadh+); PDBTitle: crystal structure of a semialdehyde dehydrogenase from sinorhizobium2 meliloti 1021
32	d1o9ja_	Alignment	not modelled	98.3	16	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
33	c2o2qA_	Alignment	not modelled	98.3	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
34	c3b4wA_	Alignment	not modelled	98.3	16	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of mycobacterium tuberculosis aldehyde dehydrogenase2 complexed with nad+
35	d1wnda_	Alignment	not modelled	98.2	18	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
36	c3i44A_	Alignment	not modelled	98.2	16	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from bartonella2 henselae at 2.0a resolution
37	c3qanB_	Alignment	not modelled	98.2	18	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
38	c3ju8B_	Alignment	not modelled	98.2	16	PDB header: oxidoreductase Chain: B: PDB Molecule: succinylglutamic semialdehyde dehydrogenase; PDBTitle: crystal structure of succinylglutamic semialdehyde dehydrogenase from2 pseudomonas aeruginosa.
39	c1t90B_	Alignment	not modelled	98.1	19	PDB header: oxidoreductase Chain: B: PDB Molecule: probable methylmalonate-semialdehyde dehydrogenase PDBTitle: crystal structure of methylmalonate semialdehyde2 dehydrogenase from bacillus subtilis
40	d1vlua_	Alignment	not modelled	98.1	12	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
41	d1bi9a_	Alignment	not modelled	98.1	15	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
42	c2ve5H_	Alignment	not modelled	98.1	17	PDB header: oxidoreductase Chain: H: PDB Molecule: betaine aldehyde dehydrogenase; PDBTitle: crystallographic structure of betaine aldehyde2 dehydrogenase from pseudomonas aeruginosa
43	c3hazA_	Alignment	not modelled	98.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: proline dehydrogenase; PDBTitle: crystal structure of bifunctional proline utilization a2 (puta) protein
44	c2h5gA_	Alignment	not modelled	97.9	13	PDB header: oxidoreductase Chain: A: PDB Molecule: delta 1-pyrroline-5-carboxylate synthetase; PDBTitle: crystal structure of human pyrroline-5-carboxylate synthetase
45	c3my7A_	Alignment	not modelled	97.8	16	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
46	d1ez0a_	Alignment	not modelled	97.5	14	Fold: ALDH-like Superfamily: ALDH-like Family: ALDH-like
47	c2vroB_	Alignment	not modelled	96.2	16	PDB header: oxidoreductase Chain: B: PDB Molecule: aldehyde dehydrogenase; PDBTitle: crystal structure of aldehyde dehydrogenase from2 burkholderia xenovorans lb400
48	c2ax3A_	Alignment	not modelled	81.9	18	PDB header: transferase Chain: A: PDB Molecule: hypothetical protein tm0922; PDBTitle: crystal structure of a putative carbohydrate kinase (tm0922) from2 thermotoga maritima msb8 at 2.25 a resolution
49	d2csua2	Alignment	not modelled	80.3	13	Fold: Flavodoxin-like Superfamily: Succinyl-CoA synthetase domains Family: Succinyl-CoA synthetase domains
50	d1jcea1	Alignment	not modelled	66.0	34	Fold: Ribonuclease H-like motif Superfamily: Actin-like ATPase domain Family: Actin/HSP70
51	d2e8aa1	Alignment	not modelled	59.4	23	Fold: Ribonuclease H-like motif Superfamily: Actin-like ATPase domain Family: Actin/HSP70
52	d1bupa1	Alignment	not modelled	58.5	23	Fold: Ribonuclease H-like motif Superfamily: Actin-like ATPase domain Family: Actin/HSP70
53	c1e1cA_	Alignment	not modelled	58.5	20	PDB header: isomerase Chain: A: PDB Molecule: methylmalonyl-coa mutase alpha chain; PDBTitle: methylmalonyl-coa mutase h244a mutant

54	d3bc8a1	Alignment	not modelled	48.7	9	Fold: PLP-dependent transferase-like Superfamily: PLP-dependent transferases Family: SepSecS-like
55	c2q8nB	Alignment	not modelled	42.2	14	PDB header: isomerase Chain: B: PDB Molecule: glucose-6-phosphate isomerase; PDBTitle: crystal structure of glucose-6-phosphate isomerase (ec2 5.3.1.9) (tm1385) from thermotoga maritima at 1.82 a3 resolution
56	c3ljkA	Alignment	not modelled	37.8	16	PDB header: isomerase Chain: A: PDB Molecule: glucose-6-phosphate isomerase; PDBTitle: glucose-6-phosphate isomerase from francisella tularensis.
57	d1oi7a2	Alignment	not modelled	37.6	15	Fold: Flavodoxin-like Superfamily: Succinyl-CoA synthetase domains Family: Succinyl-CoA synthetase domains
58	c2duwA	Alignment	not modelled	36.2	12	PDB header: ligand binding protein Chain: A: PDB Molecule: putative coa-binding protein; PDBTitle: solution structure of putative coa-binding protein of 2 klebsiella pneumoniae
59	c3ic5A	Alignment	not modelled	35.6	23	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: putative saccharopine dehydrogenase; PDBTitle: n-terminal domain of putative saccharopine dehydrogenase from ruegeria2 pomeroyi.
60	c2csuB	Alignment	not modelled	32.5	13	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: 457aa long hypothetical protein; PDBTitle: crystal structure of ph0766 from pyrococcus horikoshii ot3
61	c2dc0A	Alignment	not modelled	32.3	14	PDB header: hydrolase Chain: A: PDB Molecule: probable amidase; PDBTitle: crystal structure of amidase
62	d1vdra	Alignment	not modelled	31.0	18	Fold: Dihydrofolate reductase-like Superfamily: Dihydrofolate reductase-like Family: Dihydrofolate reductases
63	d1mt5a	Alignment	not modelled	30.9	13	Fold: Amidase signature (AS) enzymes Superfamily: Amidase signature (AS) enzymes Family: Amidase signature (AS) enzymes
64	c3ketA	Alignment	not modelled	30.8	17	PDB header: transcription/dna Chain: A: PDB Molecule: redox-sensing transcriptional repressor rex; PDBTitle: crystal structure of a rex-family transcriptional regulatory protein2 from streptococcus agalactiae bound to a palindromic operator
65	d2dt5a2	Alignment	not modelled	29.2	15	Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: Transcriptional repressor Rex, C-terminal domain
66	c3jstA	Alignment	not modelled	27.9	14	PDB header: lyase Chain: A: PDB Molecule: putative pterin-4-alpha-carbinolamine dehydratase; PDBTitle: crystal structure of transcriptional coactivator/pterin dehydratase2 from brucella melitensis
67	d1ulza2	Alignment	not modelled	27.3	27	Fold: PreATP-grasp domain Superfamily: PreATP-grasp domain Family: BC N-terminal domain-like
68	d1dkgd1	Alignment	not modelled	26.9	25	Fold: Ribonuclease H-like motif Superfamily: Actin-like ATPase domain Family: Actin/HSP70
69	d1xpm1	Alignment	not modelled	25.1	13	Fold: Thiolase-like Superfamily: Thiolase-like Family: Chalcone synthase-like
70	c2khoA	Alignment	not modelled	24.7	25	PDB header: chaperone Chain: A: PDB Molecule: heat shock protein 70; PDBTitle: nmr-rdc / xray structure of e. coli hsp70 (dnak) chaperone2 (1-605) complexed with adp and substrate
71	c3lehA	Alignment	not modelled	24.7	13	PDB header: transferase Chain: A: PDB Molecule: putative hydroxymethyl glutaryl-coa synthase; PDBTitle: the crystal structure of smu.943c from streptococcus mutans ua159
72	c1x9eB	Alignment	not modelled	24.4	14	PDB header: lyase Chain: B: PDB Molecule: hmg-coa synthase; PDBTitle: crystal structure of hmg-coa synthase from enterococcus2 faecalis
73	d2iel1	Alignment	not modelled	24.1	29	Fold: Adenine nucleotide alpha hydrolase-like Superfamily: Adenine nucleotide alpha hydrolases-like Family: Universal stress protein-like
74	d1sp8a1	Alignment	not modelled	23.7	16	Fold: Glyoxalase/Bleomycin resistance protein/Dihydroxybiphenyl dioxygenase Superfamily: Glyoxalase/Bleomycin resistance protein/Dihydroxybiphenyl dioxygenase Family: Extradiol dioxygenases
75	c3ilmD	Alignment	not modelled	23.7	19	PDB header: structural genomics, unknown function Chain: D: PDB Molecule: alr3790 protein; PDBTitle: crystal structure of the alr3790 protein from anabaena sp. northeast2 structural genomics consortium target nsr437h
76	c2vyaB	Alignment	not modelled	21.9	13	PDB header: hydrolase Chain: B: PDB Molecule: fatty-acid amide hydrolase 1; PDBTitle: crystal structure of fatty acid amide hydrolase conjugated2 with the drug-like inhibitor pf-750
77	d1k1va	Alignment	not modelled	21.2	11	Fold: A DNA-binding domain in eukaryotic transcription factors Superfamily: A DNA-binding domain in eukaryotic transcription factors Family: A DNA-binding domain in eukaryotic transcription factors
78	d1oi7a1	Alignment	not modelled	20.1	17	Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: CoA-binding domain
						Fold: PreATP-grasp domain

79	d2j9ga2	Alignment	not modelled	19.3	19	Superfamily: PreATP-grasp domain Family: BC N-terminal domain-like
80	c3ff1B	Alignment	not modelled	19.2	24	PDB header: isomerase Chain: B: PDB Molecule: glucose-6-phosphate isomerase; PDBTitle: structure of glucose 6-phosphate isomerase from staphylococcus aureus
81	d1iuka	Alignment	not modelled	18.5	15	Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: CoA-binding domain
82	c3mogA	Alignment	not modelled	18.2	13	PDB header: oxidoreductase Chain: A: PDB Molecule: probable 3-hydroxybutyryl-coa dehydrogenase; PDBTitle: crystal structure of 3-hydroxybutyryl-coa dehydrogenase from2 escherichia coli k12 substr. mg1655
83	c2ebbA	Alignment	not modelled	18.0	21	PDB header: lyase Chain: A: PDB Molecule: pterin-4-alpha-carbinolamine dehydratase; PDBTitle: crystal structure of pterin-4-alpha-carbinolamine2 dehydratase (pterin carbinolamine dehydratase) from3 geobacillus kaustophilus hta426
84	d1y81a1	Alignment	not modelled	17.7	16	Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: CoA-binding domain
85	c3h0rP	Alignment	not modelled	17.6	11	PDB header: ligase Chain: P: PDB Molecule: glutamyl-trna(gln) amidotransferase subunit a; PDBTitle: structure of trna-dependent amidotransferase gatcab from2 aquifex aeolicus
86	c2dt5A	Alignment	not modelled	17.5	13	PDB header: dna binding protein Chain: A: PDB Molecule: at-rich dna-binding protein; PDBTitle: crystal structure of ttha1657 (at-rich dna-binding protein) from2 thermus thermophilus hb8
87	c1xtbB	Alignment	not modelled	17.1	13	PDB header: lyase Chain: B: PDB Molecule: 3-hydroxy-3-methylglutaryl-coa synthase; PDBTitle: staphylococcus aureus 3-hydroxy-3-methylglutaryl-coa2 synthase
88	c1zcyjA	Alignment	not modelled	17.1	10	PDB header: oxidoreductase Chain: A: PDB Molecule: peroxisomal bifunctional enzyme; PDBTitle: crystal structure of 3-hydroxyacyl-coa dehydrogenase
89	c3hl2D	Alignment	not modelled	17.0	11	PDB header: transferase Chain: D: PDB Molecule: o-phosphoseryl-trna(sec) selenium transferase; PDBTitle: the crystal structure of the human sepsecs-trnasec complex
90	d1sqda1	Alignment	not modelled	16.8	13	Fold: Glyoxalase/Bleomycin resistance protein/Dihydroxybiphenyl dioxygenase Superfamily: Glyoxalase/Bleomycin resistance protein/Dihydroxybiphenyl dioxygenase Family: Extradiol dioxygenases
91	c3k2gA	Alignment	not modelled	16.2	22	PDB header: resiniferatoxin binding protein Chain: A: PDB Molecule: resiniferatoxin-binding, phosphotriesterase- PDBTitle: crystal structure of a resiniferatoxin-binding protein from2 rhodobacter sphaeroides
92	d1sqia1	Alignment	not modelled	16.1	7	Fold: Glyoxalase/Bleomycin resistance protein/Dihydroxybiphenyl dioxygenase Superfamily: Glyoxalase/Bleomycin resistance protein/Dihydroxybiphenyl dioxygenase Family: Extradiol dioxygenases
93	d1euca1	Alignment	not modelled	15.9	31	Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: CoA-binding domain
94	c2kw3A	Alignment	not modelled	15.8	31	PDB header: dna binding protein Chain: A: PDB Molecule: dna-binding protein rfx5; PDBTitle: heterotrimeric interaction between rfx5 and rfxap
95	c3nkgA	Alignment	not modelled	15.4	16	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized protein geba250068378; PDBTitle: crystal structure of geba250068378 from sulfurospirillum deleyianum
96	c3en0A	Alignment	not modelled	14.9	15	PDB header: hydrolase Chain: A: PDB Molecule: cyanophycinase; PDBTitle: the structure of cyanophycinase
97	c3tl8K	Alignment	not modelled	14.8	18	PDB header: transferase/ligase Chain: K: PDB Molecule: effector protein hopab2; PDBTitle: the avrptob-bak1 complex reveals two structurally similar2 kinaseinteracting domains in a single type iii effector
98	d2qi3a1	Alignment	not modelled	14.8	17	Fold: Amidase signature (AS) enzymes Superfamily: Amidase signature (AS) enzymes Family: Amidase signature (AS) enzymes
99	c2v6uB	Alignment	not modelled	14.6	10	PDB header: lyase Chain: B: PDB Molecule: pterin-4a-carbinolamine dehydratase; PDBTitle: high resolution crystal structure of pterin-4a-2 carbinolamine dehydratase from toxoplasma gondii