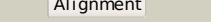
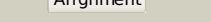
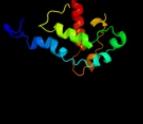
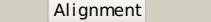
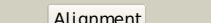
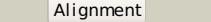
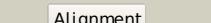
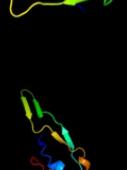


Phyre²

Email	I.a.kelley@imperial.ac.uk
Description	P52074
Date	Thu Jan 5 12:05:10 GMT 2012
Unique Job ID	6ed281a43094a21f

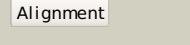
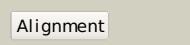
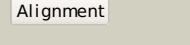
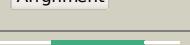
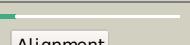
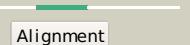
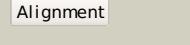
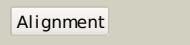
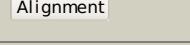
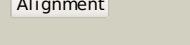
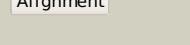
Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c3kwIA_			99.7	10	PDB header: unknown function Chain: A: PDB Molecule: uncharacterized protein; PDBTitle: crystal structure of a hypothetical protein from helicobacter pylori
2	c2h89B_			99.6	23	PDB header: oxidoreductase Chain: B: PDB Molecule: succinate dehydrogenase ip subunit; PDBTitle: avian respiratory complex ii with malonate bound
3	c1nekB_			99.5	21	PDB header: oxidoreductase/electron transport Chain: B: PDB Molecule: succinate dehydrogenase iron-sulfur protein; PDBTitle: complex ii (succinate dehydrogenase) from e. coli with2 ubiquinone bound
4	d1nekB1			99.5	21	Fold: Globin-like Superfamily: alpha-helical ferredoxin Family: Fumarate reductase/Succinate dehydogenase iron-sulfur protein, C-terminal domain
5	c2b76N_			99.5	19	PDB header: oxidoreductase Chain: N: PDB Molecule: fumarate reductase iron-sulfur protein; PDBTitle: e. coli quinol fumarate reductase frda e49q mutation
6	d1kf6b1			99.5	20	Fold: Globin-like Superfamily: alpha-helical ferredoxin Family: Fumarate reductase/Succinate dehydogenase iron-sulfur protein, C-terminal domain
7	c2bs2E_			99.4	18	PDB header: oxidoreductase Chain: E: PDB Molecule: quinol-fumarate reductase iron-sulfur subunit b; PDBTitle: quinol:fumarate reductase from wolinella succinogenes
8	d2bs2b1			99.4	19	Fold: Globin-like Superfamily: alpha-helical ferredoxin Family: Fumarate reductase/Succinate dehydogenase iron-sulfur protein, C-terminal domain
9	c3cf4A_			99.1	17	PDB header: oxidoreductase Chain: A: PDB Molecule: acetyl-coa decarboxylase/synthase alpha subunit; PDBTitle: structure of the codh component of the m. barkeri acds complex
10	c1gx7A_			98.2	17	PDB header: oxidoreductase Chain: A: PDB Molecule: periplasmic [fe] hydrogenase large subunit; PDBTitle: best model of the electron transfer complex between2 cytochrome c3 and [fe]-hydrogenase
11	c1hfel_			98.1	17	PDB header: hydrogenase Chain: L: PDB Molecule: protein (fe-only hydrogenase (e.c.1.18.99.1) PDBTitle: 1.6 a resolution structure of the fe-only hydrogenase from2 desulfovibrio desulfuricans

12	c1c4cA	Alignment		98.0	14	PDB header: oxidoreductase Chain: A: PDB Molecule: protein (fe-only hydrogenase); PDBTitle: binding of exogenously added carbon monoxide at the active2 site of the fe-only hydrogenase (cpi) from clostridium pasteurianum
13	d2c42a5	Alignment		97.6	22	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
14	d1jb0c	Alignment		97.4	31	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: 7-Fe ferredoxin
15	d2fug91	Alignment		97.4	28	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
16	c2fugG	Alignment		97.4	28	PDB header: oxidoreductase Chain: G: PDB Molecule: nadh-quinone oxidoreductase chain 9; PDBTitle: crystal structure of the hydrophilic domain of respiratory complex i2 from thermus thermophilus
17	d3c8ya3	Alignment		97.3	19	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
18	c2c3yA	Alignment		97.3	38	PDB header: oxidoreductase Chain: A: PDB Molecule: pyruvate-ferredoxin oxidoreductase; PDBTitle: crystal structure of the radical form of2 pyruvate:ferredoxin oxidoreductase from desulfovibrio3 africanus
19	d1xera	Alignment		97.1	20	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Archaeal ferredoxins
20	c2vdcl	Alignment		97.0	15	PDB header: oxidoreductase Chain: I: PDB Molecule: glutamate synthase [nadph] small chain; PDBTitle: the 9.5 a resolution structure of glutamate synthase from2 cryo-electron microscopy and its oligomerization behavior3 in solution: functional implications.
21	d1gtea5	Alignment	not modelled	97.0	29	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
22	c1gthD	Alignment	not modelled	97.0	35	PDB header: oxidoreductase Chain: D: PDB Molecule: dihydropyrimidine dehydrogenase; PDBTitle: dihydropyrimidine dehydrogenase (dpd) from pig, ternary2 complex with nadph and 5-iodouracil
23	c2gmhA	Alignment	not modelled	96.9	23	PDB header: oxidoreductase Chain: A: PDB Molecule: electron transfer flavoprotein-ubiquinone PDBTitle: structure of porcine electron transfer flavoprotein-2 ubiquinone oxidoreductase in complexed with ubiquinone
24	d1hfel2	Alignment	not modelled	96.8	30	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
25	d2fug34	Alignment	not modelled	96.8	22	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
26	d1rgva	Alignment	not modelled	96.8	18	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Short-chain ferredoxins
27	c1kqfB	Alignment	not modelled	96.8	32	PDB header: oxidoreductase Chain: B: PDB Molecule: formate dehydrogenase, nitrate-inducible, iron-sulfur PDBTitle: formate dehydrogenase n from e. coli
28	d1blua	Alignment	not modelled	96.7	18	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Short-chain ferredoxins
29	d2fdna	Alignment	not modelled	96.7	33	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Short-chain ferredoxins

30	c2fgoA	Alignment	not modelled	96.6	20	PDB header: electron transport Chain: A: PDB Molecule: ferredoxin; PDBTitle: structure of the 2[4fe-4s] ferredoxin from pseudomonas2 aeruginosa
31	d7fd1a	Alignment	not modelled	96.5	36	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: 7-Fe ferredoxin
32	d1bc6a	Alignment	not modelled	96.5	31	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: 7-Fe ferredoxin
33	d1dura	Alignment	not modelled	96.5	32	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Short-chain ferredoxins
34	d1clf1a	Alignment	not modelled	96.4	40	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Short-chain ferredoxins
35	c2zvsB	Alignment	not modelled	96.3	31	PDB header: electron transport Chain: B: PDB Molecule: uncharacterized ferredoxin-like protein yfhl; PDBTitle: crystal structure of the 2[4fe-4s] ferredoxin from escherichia coli
36	d1fcaa	Alignment	not modelled	96.3	31	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Short-chain ferredoxins
37	c2ivfB	Alignment	not modelled	96.3	43	PDB header: oxidoreductase Chain: B: PDB Molecule: ethylbenzene dehydrogenase beta-subunit; PDBTitle: ethylbenzene dehydrogenase from aromatoleum aromaticum
38	d1y5ib1	Alignment	not modelled	96.3	43	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
39	c2fugC	Alignment	not modelled	96.1	24	PDB header: oxidoreductase Chain: C: PDB Molecule: nadh-quinone oxidoreductase chain 3; PDBTitle: crystal structure of the hydrophilic domain of respiratory complex i2 from thermus thermophilus
40	d1h98a	Alignment	not modelled	96.0	29	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: 7-Fe ferredoxin
41	c3gyxl	Alignment	not modelled	95.9	33	PDB header: oxidoreductase Chain: J: PDB Molecule: adenylylsulfate reductase; PDBTitle: crystal structure of adenylylsulfate reductase from2 desulfovibrio gigas
42	d1kqfb1	Alignment	not modelled	95.8	32	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
43	d1h0hb	Alignment	not modelled	95.8	16	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
44	d2gmha3	Alignment	not modelled	95.8	22	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: ETF-QO domain-like
45	d1jnrh	Alignment	not modelled	95.7	29	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
46	c1ti2F	Alignment	not modelled	95.5	27	PDB header: oxidoreductase Chain: F: PDB Molecule: pyrogallol hydroxytransferase small subunit; PDBTitle: crystal structure of pyrogallol-phloroglucinol2 transhydroxylase from pelobacter acidigallici
47	d1vln2	Alignment	not modelled	95.4	27	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
48	c3c7bE	Alignment	not modelled	95.1	31	PDB header: oxidoreductase Chain: E: PDB Molecule: sulfite reductase, dissimilatory-type subunit beta; PDBTitle: structure of the dissimilatory sulfite reductase from archaeoglobus2 fulgidus
49	c2vpvB	Alignment	not modelled	95.0	30	PDB header: oxidoreductase Chain: B: PDB Molecule: nfc protein; PDBTitle: polysulfide reductase with bound quinone inhibitor,2 pentachlorophenol (pcp)
50	d1vjwa	Alignment	not modelled	94.7	30	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Single 4Fe-4S cluster ferredoxin
51	c2v2kB	Alignment	not modelled	94.7	34	PDB header: electron transport Chain: B: PDB Molecule: ferredoxin; PDBTitle: the crystal structure of fdxa, a 7fe ferredoxin from2 mycobacterium smegmatis
52	c1dwIA	Alignment	not modelled	94.5	21	PDB header: electron transfer Chain: A: PDB Molecule: ferredoxin i; PDBTitle: the ferredoxin-cytochrome complex using heteronuclear nmr2 and docking simulation
53	c2v4jE	Alignment	not modelled	94.1	26	PDB header: oxidoreductase Chain: E: PDB Molecule: sulfite reductase, dissimilatory-type subunit PDBTitle: the crystal structure of desulfovibrio vulgaris2 dissimilatory sulfite reductase bound to dsrc provides3 novel insights into the mechanism of sulfate respiration
54	d1iqza	Alignment	not modelled	94.0	18	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Single 4Fe-4S cluster ferredoxin
						Fold: Ferredoxin-like

55	d1sj1a_	Alignment	not modelled	93.4	18	Superfamily: 4Fe-4S ferredoxins Family: Single 4Fe-4S cluster ferredoxin
56	c2fugA_	Alignment	not modelled	92.8	14	PDB header: oxidoreductase Chain: A: PDB Molecule: nadh-quinone oxidoreductase chain 1; PDBTitle: crystal structure of the hydrophilic domain of respiratory complex i2 from thermus thermophilus
57	d3c7bb1	Alignment	not modelled	92.5	32	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
58	d1gtea1	Alignment	not modelled	91.0	20	Fold: Globin-like Superfamily: alpha-helical ferredoxin Family: Dihydropyrimidine dehydrogenase, N-terminal domain
59	c3c7bA_	Alignment	not modelled	90.0	17	PDB header: oxidoreductase Chain: A: PDB Molecule: sulfite reductase, dissimilatory-type subunit alpha; PDBTitle: structure of the dissimilatory sulfite reductase from archaeoglobus2 fulgidus
60	d1fxra_	Alignment	not modelled	89.4	17	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Single 4Fe-4S cluster ferredoxin
61	d1jfia1	Alignment	not modelled	85.2	14	Fold: ATC-like Superfamily: Aspartate/glutamate racemase Family: Aspartate/glutamate racemase
62	c3bk7A_	Alignment	not modelled	83.5	28	PDB header: hydrolyase/translation Chain: A: PDB Molecule: abc transporter atp-binding protein; PDBTitle: structure of the complete abce1/rnase-l inhibitor protein2 from pyrococcus abyssi
63	c2v4jA_	Alignment	not modelled	83.2	23	PDB header: oxidoreductase Chain: A: PDB Molecule: sulfite reductase, dissimilatory-type subunit PDBTitle: the crystal structure of desulfovibrio vulgaris2 dissimilatory sulfite reductase bound to dsrc provides3 novel insights into the mechanism of sulfate respiration
64	c2zskA_	Alignment	not modelled	79.7	18	PDB header: unknown function Chain: A: PDB Molecule: 226aa long hypothetical aspartate racemase; PDBTitle: crystal structure of ph1733, an aspartate racemase2 homologue, from pyrococcus horikoshii ot3
65	c2jfzB_	Alignment	not modelled	79.2	15	PDB header: isomerase Chain: B: PDB Molecule: glutamate racemase; PDBTitle: crystal structure of helicobacter pylori glutamate racemase2 in complex with d-glutamate and an inhibitor
66	c3hfrA_	Alignment	not modelled	78.9	16	PDB header: isomerase Chain: A: PDB Molecule: glutamate racemase; PDBTitle: crystal structure of glutamate racemase from listeria monocytogenes
67	c2ohoA_	Alignment	not modelled	76.3	17	PDB header: isomerase Chain: A: PDB Molecule: glutamate racemase; PDBTitle: structural basis for glutamate racemase inhibitor
68	d2v4jb1	Alignment	not modelled	73.7	32	Fold: Ferredoxin-like Superfamily: 4Fe-4S ferredoxins Family: Ferredoxin domains from multidomain proteins
69	c2jfoB_	Alignment	not modelled	73.0	16	PDB header: isomerase Chain: B: PDB Molecule: glutamate racemase; PDBTitle: crystal structure of enterococcus faecalis glutamate2 racemase in complex with d- and l-glutamate
70	c1zuwA_	Alignment	not modelled	72.8	7	PDB header: isomerase Chain: A: PDB Molecule: glutamate racemase 1; PDBTitle: crystal structure of b.subtilis glutamate racemase (race) with d-glu
71	c3outC_	Alignment	not modelled	70.9	10	PDB header: isomerase Chain: C: PDB Molecule: glutamate racemase; PDBTitle: crystal structure of glutamate racemase from francisella tularensis2 subsp. tularensis schu s4 in complex with d-glutamate.
72	c3ojcD_	Alignment	not modelled	70.9	18	PDB header: isomerase Chain: D: PDB Molecule: putative aspartate/glutamate racemase; PDBTitle: crystal structure of a putative asp/glu racemase from yersinia pestis
73	c2dwuA_	Alignment	not modelled	70.7	12	PDB header: isomerase Chain: A: PDB Molecule: glutamate racemase; PDBTitle: crystal structure of glutamate racemase isoform race1 from bacillus2 anthracis
74	c2jfqa_	Alignment	not modelled	68.7	17	PDB header: isomerase Chain: A: PDB Molecule: glutamate racemase; PDBTitle: crystal structure of staphylococcus aureus glutamate2 racemase in complex with d-glutamate
75	c2jfnA_	Alignment	not modelled	67.6	12	PDB header: isomerase Chain: A: PDB Molecule: glutamate racemase; PDBTitle: crystal structure of escherichia coli glutamate racemase2 in complex with l-glutamate and activator udp-murnaca-al-a
76	c1b74A_	Alignment	not modelled	66.8	15	PDB header: isomerase Chain: A: PDB Molecule: glutamate racemase; PDBTitle: glutamate racemase from aquifex pyrophilus
77	c3gjzB_	Alignment	not modelled	66.3	13	PDB header: immune system Chain: B: PDB Molecule: microcin immunity protein mcff; PDBTitle: crystal structure of microcin immunity protein mcff from bacillus2 anthracis str. ames
78	c2yv4A_	Alignment	not modelled	62.3	16	PDB header: rna binding protein Chain: A: PDB Molecule: hypothetical protein pho435; PDBTitle: crystal structure of c-terminal sua5 domain from pyrococcus horikoshii2 hypothetical sua5 protein pho435
79	c2vdcF_	Alignment	not modelled	57.6	53	PDB header: oxidoreductase Chain: F: PDB Molecule: glutamate synthase [nadph] large chain; PDBTitle: the 9.5 a resolution structure of glutamate synthase from2 cryo-electron microscopy and its oligomerization behavior3 in solution: functional implications. PDB header: isomerase

80	c2gzmB_		Alignment	not modelled	56.0	12	Chain: B; PDB Molecule: glutamate racemase; PDBTitle: crystal structure of the glutamate racemase from bacillus2 anthracis
81	c1lm1A_		Alignment	not modelled	55.2	53	PDB header: oxidoreductase Chain: A; PDB Molecule: ferredoxin-dependent glutamate synthase; PDBTitle: structural studies on the synchronization of catalytic centers in2 glutamate synthase: native enzyme
82	c2dx7B_		Alignment	not modelled	55.2	16	PDB header: isomerase Chain: B; PDB Molecule: aspartate racemase; PDBTitle: crystal structure of pyrococcus horikoshii ot3 aspartate racemase2 complex with citric acid
83	c1zrsB_		Alignment	not modelled	54.0	15	PDB header: hydrolase Chain: B; PDB Molecule: hypothetical protein; PDBTitle: wild-type Id-carboxypeptidase
84	d2auna2		Alignment	not modelled	52.4	15	Fold: Flavodoxin-like Superfamily: Class I glutamine amidotransferase-like Family: LD-carboxypeptidase A N-terminal domain-like
85	d1ofda2		Alignment	not modelled	50.2	53	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
86	c2vibC_		Alignment	not modelled	45.6	11	PDB header: lyase Chain: C; PDB Molecule: arylmalonate decarboxylase; PDBTitle: structure of unliganded arylmalonate decarboxylase
87	d2fzva1		Alignment	not modelled	42.4	13	Fold: Flavodoxin-like Superfamily: Flavoproteins Family: NADPH-dependent FMN reductase
88	c1g8jC_		Alignment	not modelled	41.0	33	PDB header: oxidoreductase Chain: C; PDB Molecule: arsenate oxidase; PDBTitle: crystal structure analysis of arsenite oxidase from2 alcaligenes faecalis
89	c3l4eA_		Alignment	not modelled	40.0	15	PDB header: hydrolase Chain: A; PDB Molecule: uncharacterized peptidase lmo0363; PDBTitle: 1.5a crystal structure of a putative peptidase e protein from listeria2 monocytogenes egd-e
90	d2dx7a1		Alignment	not modelled	39.6	14	Fold: ATC-like Superfamily: Aspartate/glutamate racemase Family: Aspartate/glutamate racemase
91	c3irmB_		Alignment	not modelled	36.5	8	PDB header: hydrolase Chain: B; PDB Molecule: alpha-galactosidase 1; PDBTitle: structure of alfa-galactosidase from saccharomyces cerevisiae with2 raffinose
92	d1zl0a2		Alignment	not modelled	36.1	14	Fold: Flavodoxin-like Superfamily: Class I glutamine amidotransferase-like Family: LD-carboxypeptidase A N-terminal domain-like
93	d1ea0a2		Alignment	not modelled	35.3	53	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
94	d2c4ka2		Alignment	not modelled	31.3	11	Fold: PRTase-like Superfamily: PRTase-like Family: Phosphoribosylpyrophosphate synthetase-like
95	c3s81A_		Alignment	not modelled	25.7	11	PDB header: isomerase Chain: A; PDB Molecule: putative aspartate racemase; PDBTitle: crystal structure of putative aspartate racemase from salmonella2 typhimurium
96	d1b74a2		Alignment	not modelled	25.2	16	Fold: ATC-like Superfamily: Aspartate/glutamate racemase Family: Aspartate/glutamate racemase
97	d1i60a_		Alignment	not modelled	24.8	10	Fold: TIM beta/alpha-barrel Superfamily: Xylose isomerase-like Family: loll-like
98	d1lxja_		Alignment	not modelled	23.9	4	Fold: Ferredoxin-like Superfamily: MTH1187/YkoF-like Family: MTH1187-like
99	c3rotA_		Alignment	not modelled	22.7	12	PDB header: transport protein Chain: A; PDB Molecule: abc sugar transporter, periplasmic sugar binding protein; PDBTitle: crystal structure of abc sugar transporter (periplasmic sugar binding2 protein) from legionella pneumophila
100	d1ei9a_		Alignment	not modelled	21.6	13	Fold: alpha/beta-Hydrolases Superfamily: alpha/beta-Hydrolases Family: Thioesterases
101	c2kvgA_		Alignment	not modelled	20.8	42	PDB header: transcription Chain: A; PDB Molecule: zinc finger and btb domain-containing protein 32; PDBTitle: structure of the three-cys2his2 domain of mouse testis zinc2 finger protein