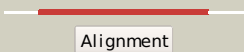

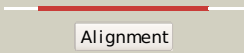







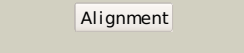

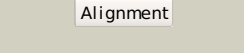

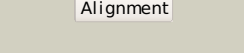



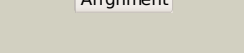

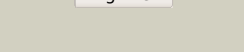








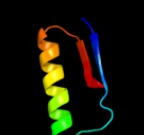


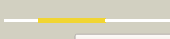
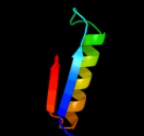




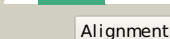
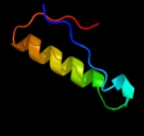
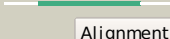
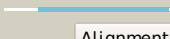
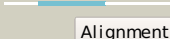
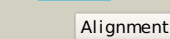

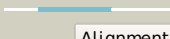
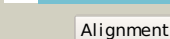



Phyre2

Email	I.a.kelley@imperial.ac.uk
Description	P45531
Date	Thu Jan 5 12:02:56 GMT 2012
Unique Job ID	0051b064266aca12

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	d2d1pb1	 Alignment		100.0	100	Fold: DsrEFH-like Superfamily: DsrEFH-like Family: DsrEF-like
2	d2hy5b1	 Alignment		100.0	28	Fold: DsrEFH-like Superfamily: DsrEFH-like Family: DsrEF-like
3	d2hy5a1	 Alignment		99.9	21	Fold: DsrEFH-like Superfamily: DsrEFH-like Family: DsrEF-like
4	d1jx7a_	 Alignment		99.9	23	Fold: DsrEFH-like Superfamily: DsrEFH-like Family: DsrEF-like
5	d2d1pa1	 Alignment		99.9	23	Fold: DsrEFH-like Superfamily: DsrEFH-like Family: DsrEF-like
6	c3mc3A_	 Alignment		99.8	13	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: dsre/dsrf-like family protein; PDBTitle: crystal structure of dsre/dsrf-like family protein (np_342589.1) from2 sulfolobus solfataricus at 1.49 a resolution
7	c2qs7D_	 Alignment		99.6	8	PDB header: oxidoreductase Chain: D: PDB Molecule: uncharacterized protein; PDBTitle: crystal structure of a putative oxidoreductase of the dsre/dsrf-like2 family (sso1126) from sulfolobus solfataricus p2 at 2.09 a resolution
8	d2hy5c1	 Alignment		99.5	14	Fold: DsrEFH-like Superfamily: DsrEFH-like Family: DsrH-like
9	c3pnxF_	 Alignment		99.5	14	PDB header: transferase Chain: F: PDB Molecule: putative sulfurtransferase dsre; PDBTitle: crystal structure of a putative sulfurtransferase dsre (swol_2425)2 from syntrophomonas wolfei str. goettingen at 1.92 a resolution
10	d2d1pc1	 Alignment		99.1	19	Fold: DsrEFH-like Superfamily: DsrEFH-like Family: DsrH-like
11	d1x9aa_	 Alignment		98.7	14	Fold: DsrEFH-like Superfamily: DsrEFH-like Family: DsrH-like

12	c2pd2A_	 Alignment		98.2	14	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: hypothetical protein st0148; PDBTitle: crystal structure of (st0148) conserved hypothetical from sulfobolus2 tokodaii strain7
13	d1l1sa_	 Alignment		98.2	16	Fold: DsrEFH-like Superfamily: DsrEFH-like Family: DsrEF-like
14	c2fb6A_	 Alignment		98.1	13	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: conserved hypothetical protein; PDBTitle: structure of conserved protein of unknown function bt1422 from2 bacteroides thetaiotaomicron
15	c2r60A_	 Alignment		85.9	13	PDB header: transferase Chain: A: PDB Molecule: glycosyl transferase, group 1; PDBTitle: structure of apo sucrose phosphate synthase (sps) of2 halothermothrix orenii
16	c3ia7A_	 Alignment		82.7	11	PDB header: transferase Chain: A: PDB Molecule: calg4; PDBTitle: crystal structure of calg4, the calicheamicin glycosyltransferase
17	d1qrdA_	 Alignment		78.3	13	Fold: Flavodoxin-like Superfamily: Flavoproteins Family: Quinone reductase
18	c2ejbA_	 Alignment		61.6	20	PDB header: lyase Chain: A: PDB Molecule: probable aromatic acid decarboxylase; PDBTitle: crystal structure of phenylacrylic acid decarboxylase from2 aquifex aeolicus
19	c3oy2A_	 Alignment		53.7	20	PDB header: viral protein,transferase Chain: A: PDB Molecule: glycosyltransferase b736l; PDBTitle: crystal structure of a putative glycosyltransferase from paramecium2 bursaria chlorella virus ny2a
20	d2afhe1	 Alignment		41.5	11	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Nitrogenase iron protein-like
21	c2pz0B_	 Alignment	not modelled	40.7	13	PDB header: hydrolase Chain: B: PDB Molecule: glycerophosphoryl diester phosphodiesterase; PDBTitle: crystal structure of glycerophosphodiester phosphodiesterase (gdpd)2 from t. tengcongensis
22	d1qgoa_	 Alignment	not modelled	38.6	16	Fold: Chelatase-like Superfamily: Chelatase Family: Cobalt chelatase CbiK
23	c1gshA_	 Alignment	not modelled	37.2	13	PDB header: glutathione biosynthesis ligase Chain: A: PDB Molecule: glutathione biosynthetic ligase; PDBTitle: structure of escherichia coli glutathione synthetase at ph 7.5
24	d1gsaa1	 Alignment	not modelled	36.5	14	Fold: PreATP-grasp domain Superfamily: PreATP-grasp domain Family: Prokaryotic glutathione synthetase, N-terminal domain
25	c3okaA_	 Alignment	not modelled	35.6	8	PDB header: transferase Chain: A: PDB Molecule: gdp-mannose-dependent alpha-(1-6)-phosphatidylinositol PDBTitle: crystal structure of corynebacterium glutamicum pimb' in complex with2 gdp-man (triclinic crystal form)
26	d1f0ka_	 Alignment	not modelled	33.2	21	Fold: UDP-Glycosyltransferase/glycogen phosphorylase Superfamily: UDP-Glycosyltransferase/glycogen phosphorylase Family: Peptidoglycan biosynthesis glycosyltransferase MurG
27	d1efva1	 Alignment	not modelled	32.1	12	Fold: Adenine nucleotide alpha hydrolase-like Superfamily: Adenine nucleotide alpha hydrolases-like Family: ETFP subunits
28	c3idfA_	 Alignment	not modelled	31.2	22	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: usp-like protein; PDBTitle: the crystal structure of a usp-like protein from woliniella2 succinoqenes to 2.0a

29	d1t5ba	Alignment	not modelled	29.7	7	Fold: Flavodoxin-like Superfamily: Flavoproteins Family: Quinone reductase
30	d1gpja2	Alignment	not modelled	28.5	16	Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: Aminoacid dehydrogenase-like, C-terminal domain
31	d2bisa1	Alignment	not modelled	28.4	19	Fold: UDP-Glycosyltransferase/glycogen phosphorylase Superfamily: UDP-Glycosyltransferase/glycogen phosphorylase Family: Glycosyl transferases group 1
32	c3l12A	Alignment	not modelled	26.5	19	PDB header: hydrolase Chain: A: PDB Molecule: putative glycerophosphoryl diester phosphodiesterase; PDBTitle: crystal structure of putative glycerophosphoryl diester2 phosphodiesterase (yp_165505.1) from silicibacter pomeroyi dss-3 at3 1.60 a resolution
33	c2l18A	Alignment	not modelled	26.1	29	PDB header: oxidoreductase Chain: A: PDB Molecule: arsenate reductase; PDBTitle: an arsenate reductase in the phosphate binding state
34	c2bekB	Alignment	not modelled	25.7	14	PDB header: chromosome segregation Chain: B: PDB Molecule: segregation protein; PDBTitle: structure of the bacterial chromosome segregation protein2 soj
35	c1t9gR	Alignment	not modelled	25.1	13	PDB header: oxidoreductase, electron transport Chain: R: PDB Molecule: electron transfer flavoprotein alpha-subunit, PDBTitle: structure of the human mcad:etf complex
36	c2zkiH	Alignment	not modelled	23.4	8	PDB header: transcription Chain: H: PDB Molecule: 199aa long hypothetical trp repressor binding PDBTitle: crystal structure of hypothetical trp repressor binding2 protein from sul folobus tokodaii (st0872)
37	d1ycga1	Alignment	not modelled	22.0	8	Fold: Flavodoxin-like Superfamily: Flavoproteins Family: Flavodoxin-related
38	c3no3A	Alignment	not modelled	21.3	15	PDB header: hydrolase Chain: A: PDB Molecule: glycerophosphodiester phosphodiesterase; PDBTitle: crystal structure of a glycerophosphodiester phosphodiesterase2 (bdi_0402) from parabacteroides distasonis atcc 8503 at 1.89 a3 resolution
39	d2gm3a1	Alignment	not modelled	21.3	5	Fold: Adenine nucleotide alpha hydrolase-like Superfamily: Adenine nucleotide alpha hydrolases-like Family: Universal stress protein-like
40	c3etjB	Alignment	not modelled	21.1	23	PDB header: lyase Chain: B: PDB Molecule: phosphoribosylaminoimidazole carboxylase atpase PDBTitle: crystal structure e. coli purk in complex with mg, adp, and2 pi
41	d1ydga	Alignment	not modelled	21.0	23	Fold: Flavodoxin-like Superfamily: Flavoproteins Family: WrbA-like
42	c2i5bC	Alignment	not modelled	20.6	11	PDB header: transferase Chain: C: PDB Molecule: phosphomethylpyrimidine kinase; PDBTitle: the crystal structure of an adp complex of bacillus2 subtilis pyridoxal kinase provides evidence for the3 parallel emergence of enzyme activity during evolution
43	d4pfka	Alignment	not modelled	20.1	19	Fold: Phosphofructokinase Superfamily: Phosphofructokinase Family: Phosphofructokinase
44	d1q77a	Alignment	not modelled	20.1	8	Fold: Adenine nucleotide alpha hydrolase-like Superfamily: Adenine nucleotide alpha hydrolases-like Family: Universal stress protein-like
45	d1o1za	Alignment	not modelled	20.0	12	Fold: TIM beta/alpha-barrel Superfamily: PLC-like phosphodiesterases Family: Glycerophosphoryl diester phosphodiesterase
46	c2x6rA	Alignment	not modelled	19.9	10	PDB header: isomerase Chain: A: PDB Molecule: trehalose-synthase tret; PDBTitle: crystal structure of trehalose synthase tret from p.2 horikoshi produced by soaking in trehalose
47	d2nlva1	Alignment	not modelled	19.4	17	Fold: 7-stranded beta/alpha barrel Superfamily: Glycoside hydrolase/deacetylase Family: Divergent polysaccharide deacetylase
48	c3lcmB	Alignment	not modelled	19.0	18	PDB header: oxidoreductase Chain: B: PDB Molecule: putative oxidoreductase; PDBTitle: crystal structure of smu.1420 from streptococcus mutans ua159
49	c3i10A	Alignment	not modelled	18.8	12	PDB header: hydrolase Chain: A: PDB Molecule: putative glycerophosphoryl diester phosphodiesterase; PDBTitle: crystal structure of putative glycerophosphoryl diester2 phosphodiesterase (np_812074.1) from bacteroides thetaiotaomicron3 vpi-5482 at 1.35 a resolution
50	c3d4oA	Alignment	not modelled	18.7	12	PDB header: oxidoreductase Chain: A: PDB Molecule: dipicolinate synthase subunit a; PDBTitle: crystal structure of dipicolinate synthase subunit a (np_243269.1)2 from bacillus halodurans at 2.10 a resolution
51	c3ouza	Alignment	not modelled	18.6	21	PDB header: ligase Chain: A: PDB Molecule: biotin carboxylase; PDBTitle: crystal structure of biotin carboxylase-adp complex from campylobacter2 jejuni
52	c3mz2A	Alignment	not modelled	17.7	12	PDB header: hydrolase Chain: A: PDB Molecule: glycerophosphoryl diester phosphodiesterase; PDBTitle: crystal structure of a glycerophosphoryl diester phosphodiesterase2 (bdi_3922) from parabacteroides distasonis

					atcc 8503 at 1.55 a3 resolution
53	c3qjgD_	Alignment	not modelled	17.3	11 PDB header: oxidoreductase Chain: D: PDB Molecule: epidermin biosynthesis protein epid; PDBTitle: epidermin biosynthesis protein epid from staphylococcus aureus
54	c1hyqA_	Alignment	not modelled	17.3	17 PDB header: cell cycle Chain: A: PDB Molecule: cell division inhibitor (mind-1); PDBTitle: mind bacterial cell division regulator from a. fulgidus
55	d1hyqa_	Alignment	not modelled	17.3	17 Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Nitrogenase iron protein-like
56	c2rirA_	Alignment	not modelled	17.1	14 PDB header: oxidoreductase Chain: A: PDB Molecule: dipicolinate synthase, a chain; PDBTitle: crystal structure of dipicolinate synthase, a chain, from bacillus2 subtilis
57	c2dzdB_	Alignment	not modelled	16.5	10 PDB header: ligase Chain: B: PDB Molecule: pyruvate carboxylase; PDBTitle: crystal structure of the biotin carboxylase domain of 2 pyruvate carboxylase
58	c3crnA_	Alignment	not modelled	16.4	15 PDB header: signaling protein Chain: A: PDB Molecule: response regulator receiver domain protein, chey-like; PDBTitle: crystal structure of response regulator receiver domain protein (chey-2 like) from methanospirillum hungatei jf-1
59	d1vdca2	Alignment	not modelled	15.9	8 Fold: FAD/NAD(P)-binding domain Superfamily: FAD/NAD(P)-binding domain Family: FAD/NAD-linked reductases, N-terminal and central domains
60	d1rzua_	Alignment	not modelled	15.7	11 Fold: UDP-Glycosyltransferase/glycogen phosphorylase Superfamily: UDP-Glycosyltransferase/glycogen phosphorylase Family: Glycosyl transferases group 1
61	c3c1oA_	Alignment	not modelled	14.9	16 PDB header: oxidoreductase Chain: A: PDB Molecule: eugenol synthase; PDBTitle: the multiple phenylpropene synthases in both clarkia2 breweri and petunia hybrida represent two distinct lineages
62	c3i42A_	Alignment	not modelled	14.8	18 PDB header: structural genomics, unknown function Chain: A: PDB Molecule: response regulator receiver domain protein (chey-like) PDBTitle: structure of response regulator receiver domain (chey-like)2 from methylobacillus flagellatus
63	d3lada2	Alignment	not modelled	14.7	24 Fold: FAD/NAD(P)-binding domain Superfamily: FAD/NAD(P)-binding domain Family: FAD/NAD-linked reductases, N-terminal and central domains
64	c2x0dA_	Alignment	not modelled	14.6	12 PDB header: transferase Chain: A: PDB Molecule: wsaf; PDBTitle: apo structure of wsaf
65	c1gpiA_	Alignment	not modelled	14.6	16 PDB header: reductase Chain: A: PDB Molecule: glutamyl-trna reductase; PDBTitle: glutamyl-trna reductase from methanopyrus kandleri
66	d1rta_	Alignment	not modelled	14.4	10 Fold: Flavodoxin-like Superfamily: Flavoproteins Family: NADPH-dependent FMN reductase
67	c3mt0A_	Alignment	not modelled	14.4	13 PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized protein pa1789; PDBTitle: the crystal structure of a functionally unknown protein pa1789 from2 pseudomonas aeruginosa pao1
68	c1ulzA_	Alignment	not modelled	14.0	13 PDB header: ligase Chain: A: PDB Molecule: pyruvate carboxylase n-terminal domain; PDBTitle: crystal structure of the biotin carboxylase subunit of pyruvate2 carboxylase
69	c2otdC_	Alignment	not modelled	14.0	11 PDB header: hydrolase Chain: C: PDB Molecule: glycerophosphodiester phosphodiesterase; PDBTitle: the crystal structure of the glycerophosphodiester phosphodiesterase2 from shigella flexneri 2a
70	c3g5rA_	Alignment	not modelled	13.9	33 PDB header: transferase Chain: A: PDB Molecule: methylenetetrahydrofolate--trna-(uracil-5-)- PDBTitle: crystal structure of thermus thermophilus trmfo in complex with2 tetrahydrofolate
71	d2qwxal	Alignment	not modelled	13.8	16 Fold: Flavodoxin-like Superfamily: Flavoproteins Family: Quinone reductase
72	d1ebda2	Alignment	not modelled	13.0	16 Fold: FAD/NAD(P)-binding domain Superfamily: FAD/NAD(P)-binding domain Family: FAD/NAD-linked reductases, N-terminal and central domains
73	d1ojta2	Alignment	not modelled	12.8	32 Fold: FAD/NAD(P)-binding domain Superfamily: FAD/NAD(P)-binding domain Family: FAD/NAD-linked reductases, N-terminal and central domains
74	c2qsjB_	Alignment	not modelled	12.6	12 PDB header: transcription Chain: B: PDB Molecule: dna-binding response regulator, luxr family; PDBTitle: crystal structure of a luxr family dna-binding response2 regulator from silicibacter pomeroyi
75	c3ab8B_	Alignment	not modelled	12.6	24 PDB header: unknown function Chain: B: PDB Molecule: putative uncharacterized protein ttha0350; PDBTitle: crystal structure of the hypothetical tandem-type universal stress2 protein ttha0350 complexed with atps.
76	d1ihua1	Alignment	not modelled	12.5	6 Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Nitrogenase iron protein-like
					PDB header: structural genomics, unknown function Chain: A: PDB Molecule: putative glycerophosphodiester

77	c2o55A	Alignment	not modelled	12.5	8	phosphodiesterase; PDBTitle: crystal structure of a putative glycerophosphodiester2 phosphodiesterase from galdieria sulphuraria
78	dlvmea1	Alignment	not modelled	12.4	10	Fold: Flavodoxin-like Superfamily: Flavoproteins Family: Flavodoxin-related
79	c3fozB	Alignment	not modelled	12.2	9	PDB header: transferase/rna Chain: B: PDB Molecule: trna delta(2)-isopentenylpyrophosphate transferase; PDBTitle: structure of e. coli isopentenyl-trna transferase in complex with e.2 coli trna(phe)
80	dlq8ka2	Alignment	not modelled	12.0	29	Fold: Ferredoxin-like Superfamily: eIF-2-alpha, C-terminal domain Family: eIF-2-alpha, C-terminal domain
81	c3a11D	Alignment	not modelled	11.8	12	PDB header: isomerase Chain: D: PDB Molecule: translation initiation factor eif-2b, delta PDBTitle: crystal structure of ribose-1,5-bisphosphate isomerase from2 thermococcus kodakaraensis kod1
82	c2gejA	Alignment	not modelled	11.7	9	PDB header: transferase Chain: A: PDB Molecule: phosphatidylinositol mannosyltransferase (pima); PDBTitle: crystal structure of phosphatidylinositol mannosyltransferase (pima)2 from mycobacterium smegmatis in complex with gdp-man
83	dlcp2a	Alignment	not modelled	11.6	14	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Nitrogenase iron protein-like
84	dlefpa1	Alignment	not modelled	10.9	11	Fold: Adenine nucleotide alpha hydrolase-like Superfamily: Adenine nucleotide alpha hydrolases-like Family: ETFP subunits
85	c2gi4A	Alignment	not modelled	10.7	16	PDB header: hydrolase Chain: A: PDB Molecule: possible phosphotyrosine protein phosphatase; PDBTitle: solution structure of the low molecular weight protein2 tyrosine phosphatase from campylobacter jejuni.
86	c2p76H	Alignment	not modelled	10.7	10	PDB header: hydrolase Chain: H: PDB Molecule: glycerophosphoryl diester phosphodiesterase; PDBTitle: crystal structure of a glycerophosphodiester phosphodiesterase from2 staphylococcus aureus
87	d2iw1a1	Alignment	not modelled	10.5	18	Fold: UDP-Glycosyltransferase/glycogen phosphorylase Superfamily: UDP-Glycosyltransferase/glycogen phosphorylase Family: Glycosyl transferases group 1
88	dlydya1	Alignment	not modelled	10.4	11	Fold: TIM beta/alpha-barrel Superfamily: PLC-like phosphodiesterases Family: Glycerophosphoryl diester phosphodiesterase
89	clydyA	Alignment	not modelled	10.4	11	PDB header: hydrolase Chain: A: PDB Molecule: glycerophosphoryl diester phosphodiesterase; PDBTitle: crystal structure of periplasmic glycerophosphodiester2 phosphodiesterase from escherichia coli
90	c3ks6A	Alignment	not modelled	10.3	18	PDB header: hydrolase Chain: A: PDB Molecule: glycerophosphoryl diester phosphodiesterase; PDBTitle: crystal structure of putative glycerophosphoryl diester2 phosphodiesterase (17743486) from agrobacterium tumefaciens3 str. c58 (dupont) at 1.80 a resolution
91	c3g8cB	Alignment	not modelled	9.9	23	PDB header: ligase Chain: B: PDB Molecule: biotin carboxylase; PDBTitle: crystal structure of biotin carboxylase in complex with2 biotin, bicarbonate, adp and mg ion
92	c3dzcA	Alignment	not modelled	9.9	20	PDB header: isomerase Chain: A: PDB Molecule: udp-n-acetylglucosamine 2-epimerase; PDBTitle: 2.35 angstrom resolution structure of wecb (vc0917), a udp-n-2 acetylglucosamine 2-epimerase from vibrio cholerae.
93	dlfmfa	Alignment	not modelled	9.7	14	Fold: Flavodoxin-like Superfamily: Cobalamin (vitamin B12)-binding domain Family: Cobalamin (vitamin B12)-binding domain
94	c3ch0A	Alignment	not modelled	9.7	8	PDB header: hydrolase Chain: A: PDB Molecule: glycerophosphodiester phosphodiesterase; PDBTitle: crystal structure of glycerophosphoryl diester phosphodiesterase2 (yp_677622.1) from cytophaga hutchinsonii atcc 33406 at 1.50 a3 resolution
95	dl17da2	Alignment	not modelled	9.7	15	Fold: Flavodoxin-like Superfamily: Formate/glycerate dehydrogenase catalytic domain-like Family: L-alanine dehydrogenase-like
96	dlwzua1	Alignment	not modelled	9.6	21	Fold: NadA-like Superfamily: NadA-like Family: NadA-like
97	c2qzsA	Alignment	not modelled	9.5	16	PDB header: transferase Chain: A: PDB Molecule: glycogen synthase; PDBTitle: crystal structure of wild-type e.coli gs in complex with adp2 and glucose(wtgsb)
98	c3eywA	Alignment	not modelled	9.4	4	PDB header: transport protein Chain: A: PDB Molecule: c-terminal domain of glutathione-regulated potassium-efflux PDBTitle: crystal structure of the c-terminal domain of e. coli kefc in complex2 with keff
99	dl1dxa2	Alignment	not modelled	9.4	20	Fold: FAD/NAD(P)-binding domain Superfamily: FAD/NAD(P)-binding domain Family: FAD/NAD-linked reductases, N-terminal and central domains