



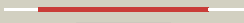



















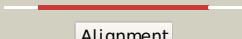






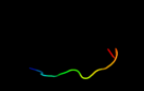

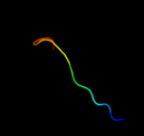

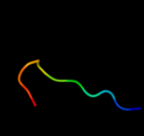


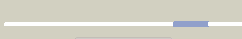


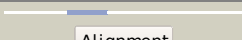
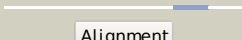
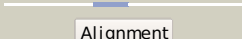


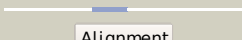
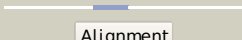
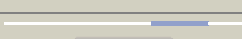


Phyre2

Email	l.a.kelley@imperial.ac.uk
Description	P61517
Date	Thu Jan 5 12:07:22 GMT 2012
Unique Job ID	ce21d88dfa8214ab

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	dli6pa_	 Alignment		100.0	100	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
2	c2a8cE_	 Alignment		100.0	63	PDB header: lyase Chain: E: PDB Molecule: carbonic anhydrase 2; PDBTitle: haemophilus influenzae beta-carbonic anhydrase
3	d1ddza1	 Alignment		100.0	48	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
4	d1ddza2	 Alignment		100.0	45	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
5	c1ddzA_	 Alignment		100.0	47	PDB header: lyase Chain: A: PDB Molecule: carbonic anhydrase; PDBTitle: x-ray structure of a beta-carbonic anhydrase from the red2 alga, porphyridium purpureum r-1
6	c3ucoB_	 Alignment		100.0	39	PDB header: lyase/lyase inhibitor Chain: B: PDB Molecule: carbonic anhydrase; PDBTitle: coccomyxa beta-carbonic anhydrase in complex with iodide
7	c2w3nA_	 Alignment		100.0	33	PDB header: lyase Chain: A: PDB Molecule: carbonic anhydrase 2; PDBTitle: structure and inhibition of the co2-sensing carbonic2 anhydrase can2 from the pathogenic fungus cryptococcus3 neoformans
8	d1ekja_	 Alignment		100.0	25	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
9	c3eyxB_	 Alignment		100.0	30	PDB header: lyase Chain: B: PDB Molecule: carbonic anhydrase; PDBTitle: crystal structure of carbonic anhydrase nce103 from2 saccharomyces cerevisiae
10	c2a5vB_	 Alignment		100.0	28	PDB header: lyase Chain: B: PDB Molecule: carbonic anhydrase (carbonate dehydratase) (carbonic PDBTitle: crystal structure of m. tuberculosis beta carbonic anhydrase, rv3588c,2 tetrameric form
11	c3lasA_	 Alignment		100.0	23	PDB header: lyase Chain: A: PDB Molecule: putative carbonic anhydrase; PDBTitle: crystal structure of carbonic anhydrase from streptococcus mutans to2 1.4 angstrom resolution

12	c1ylkA	 Alignment		100.0	18	PDB header: unknown function Chain: A: PDB Molecule: hypothetical protein rv1284/mt1322; PDBTitle: crystal structure of rv1284 from mycobacterium tuberculosis in complex2 with thiocyanate
13	d1g5ca	 Alignment		100.0	24	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
14	c2hwkA	 Alignment		62.6	26	PDB header: hydrolase Chain: A: PDB Molecule: helicase nsp2; PDBTitle: crystal structure of venezuelan equine encephalitis2 alphavirus nsp2 protease domain
15	d1j2ra	 Alignment		36.5	19	Fold: Isochorismatase-like hydrolases Superfamily: Isochorismatase-like hydrolases Family: Isochorismatase-like hydrolases
16	c3degC	 Alignment		30.9	21	PDB header: ribosome Chain: C: PDB Molecule: gtp-binding protein lepa; PDBTitle: complex of elongating escherichia coli 70s ribosome and ef4(lepa)-2 gmppnp
17	c2h5eB	 Alignment		28.9	21	PDB header: translation Chain: B: PDB Molecule: peptide chain release factor rf-3; PDBTitle: crystal structure of e.coli polypeptide release factor rf3
18	c3i8sC	 Alignment		28.7	27	PDB header: transport protein Chain: C: PDB Molecule: ferrous iron transport protein b; PDBTitle: structure of the cytosolic domain of e. coli feob, nucleotide-free2 form
19	d1n0ua2	 Alignment		28.6	21	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
20	d1fqta	 Alignment		28.2	14	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
21	c2de7E	 Alignment	not modelled	28.0	31	PDB header: oxidoreductase Chain: E: PDB Molecule: ferredoxin component of carbazole; PDBTitle: the substrate-bound complex between oxygenase and2 ferredoxin in carbazole 1,9a-dioxygenase
22	d1zo0a1	 Alignment	not modelled	27.4	21	Fold: Acyl-CoA N-acyltransferases (Nat) Superfamily: Acyl-CoA N-acyltransferases (Nat) Family: Ornithine decarboxylase antizyme-like
23	c3d89A	 Alignment	not modelled	27.3	17	PDB header: electron transport Chain: A: PDB Molecule: rieske domain-containing protein; PDBTitle: crystal structure of a soluble rieske ferredoxin from mus musculus
24	d1nrjb	 Alignment	not modelled	26.8	42	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
25	d1z01a1	 Alignment	not modelled	26.0	29	Fold: ISP domain Superfamily: ISP domain Family: Ring hydroxylating alpha subunit ISP domain
26	d2de6a1	 Alignment	not modelled	25.7	50	Fold: ISP domain Superfamily: ISP domain Family: Ring hydroxylating alpha subunit ISP domain
27	c2ywfA	 Alignment	not modelled	25.2	29	PDB header: translation Chain: A: PDB Molecule: gtp-binding protein lepa; PDBTitle: crystal structure of gmppnp-bound lepa from aquifex aeolicus
28	d2fh5b1	 Alignment	not modelled	24.6	17	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
						PDB header: hydrolase

29	c3trkA	Alignment	not modelled	24.5	16	Chain: A: PDB Molecule: nonstructural polyprotein; PDBTitle: structure of the chikungunya virus nsp2 protease
30	c3ibyA	Alignment	not modelled	24.5	33	PDB header: transport protein Chain: A: PDB Molecule: ferrous iron transport protein b; PDBTitle: structure of cytosolic domain of l. pneumophila feob
31	c3gceA	Alignment	not modelled	24.3	14	PDB header: oxidoreductase Chain: A: PDB Molecule: ferredoxin component of carbazole 1,9a- PDBTitle: ferredoxin of carbazole 1,9a-dioxygenase from nocardioide2 aromaticivorans ic177
32	d1rkba	Alignment	not modelled	24.2	27	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Nucleotide and nucleoside kinases
33	c1d2eA	Alignment	not modelled	24.2	27	PDB header: rna binding protein Chain: A: PDB Molecule: elongation factor tu (ef-tu); PDBTitle: crystal structure of mitochondrial ef-tu in complex with gdp
34	c2qu8A	Alignment	not modelled	23.9	29	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: putative nucleolar gtp-binding protein 1; PDBTitle: crystal structure of putative nucleolar gtp-binding protein 1 pff0625w2 from plasmodium falciparum
35	d2jo6a1	Alignment	not modelled	23.2	25	Fold: ISP domain Superfamily: ISP domain Family: NirD-like
36	c3p27A	Alignment	not modelled	22.9	27	PDB header: signaling protein Chain: A: PDB Molecule: elongation factor 1 alpha-like protein; PDBTitle: crystal structure of a translational gtpase (gdp form)
37	c3k53B	Alignment	not modelled	22.5	15	PDB header: metal transport Chain: B: PDB Molecule: ferrous iron transport protein b; PDBTitle: crystal structure of nfeob from p. furiosus
38	c1mj1A	Alignment	not modelled	22.4	27	PDB header: ribosome Chain: A: PDB Molecule: elongation factor tu; PDBTitle: fitting the ternary complex of ef-tu/trna/gtp and ribosomal proteins2 into a 13 a cryo-em map of the coli 70s ribosome
39	d1s0ua3	Alignment	not modelled	22.3	36	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
40	c3izyP	Alignment	not modelled	21.8	29	PDB header: rna, ribosomal protein Chain: P: PDB Molecule: translation initiation factor if-2, mitochondrial; PDBTitle: mammalian mitochondrial translation initiation factor 2
41	c3tr5C	Alignment	not modelled	21.3	21	PDB header: translation Chain: C: PDB Molecule: peptide chain release factor 3; PDBTitle: structure of a peptide chain release factor 3 (prfc) from coxiella2 burnetii
42	c2bvnB	Alignment	not modelled	21.1	27	PDB header: elongation factor Chain: B: PDB Molecule: elongation factor tu; PDBTitle: e. coli ef-tu:gdnpp in complex with the antibiotic2 enacyloxin iia
43	d1r5ba3	Alignment	not modelled	21.1	36	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
44	c2dy1A	Alignment	not modelled	21.0	29	PDB header: signaling protein, translation Chain: A: PDB Molecule: elongation factor g; PDBTitle: crystal structure of ef-g-2 from thermus thermophilus
45	c1zunB	Alignment	not modelled	20.7	27	PDB header: transferase Chain: B: PDB Molecule: sulfate adenylate transferase, subunit PDBTitle: crystal structure of a gtp-regulated atp sulfurylase2 heterodimer from pseudomonas syringae
46	d1efca3	Alignment	not modelled	20.1	27	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
47	c2qagC	Alignment	not modelled	20.0	27	PDB header: cell cycle, structural protein Chain: C: PDB Molecule: septin-7; PDBTitle: crystal structure of human septin trimer 2/6/7
48	c3oqpB	Alignment	not modelled	19.9	11	PDB header: hydrolase Chain: B: PDB Molecule: putative isochorismatase; PDBTitle: crystal structure of a putative isochorismatase (bx_e_a0706) from2 burkholderia xenovorans lb400 at 1.22 a resolution
49	d1g7sa4	Alignment	not modelled	19.9	20	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
50	c2rauA	Alignment	not modelled	19.3	18	PDB header: hydrolase Chain: A: PDB Molecule: putative esterase; PDBTitle: crystal structure of a putative lipase (np_343859.1) from sulfobolus2 solfataricus at 1.85 a resolution
51	c1r5nA	Alignment	not modelled	19.3	36	PDB header: translation Chain: A: PDB Molecule: eukaryotic peptide chain release factor gtp- PDBTitle: crystal structure analysis of sup35 complexed with gdp
52	c2zxrA	Alignment	not modelled	19.1	24	PDB header: hydrolase Chain: A: PDB Molecule: single-stranded dna specific exonuclease recj; PDBTitle: crystal structure of recj in complex with mg2+ from thermus2 thermophilus hb8
53	c3hb7G	Alignment	not modelled	19.1	14	PDB header: hydrolase Chain: G: PDB Molecule: isochorismatase hydrolase; PDBTitle: the crystal structure of an isochorismatase-like hydrolase from2 alkaliphilus metalliredigens to 2.3a
54	d1ulra	Alignment	not modelled	19.0	14	Fold: Ferredoxin-like Superfamily: Acylphosphatase/BLUF domain-like Family: Acylphosphatase-like

55	c3t5dC_	Alignment	not modelled	18.9	27	PDB header: signaling protein Chain: C: PDB Molecule: septin-7; PDBTitle: crystal structure of septin 7 in complex with gdp
56	c2qpzA_	Alignment	not modelled	18.8	15	PDB header: metal binding protein Chain: A: PDB Molecule: naphthalene 1,2-dioxygenase system ferredoxin PDBTitle: naphthalene 1,2-dioxygenase rieske ferredoxin
57	d1svia_	Alignment	not modelled	18.4	21	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
58	c2xexA_	Alignment	not modelled	18.4	29	PDB header: translation Chain: A: PDB Molecule: elongation factor g; PDBTitle: crystal structure of staphylococcus aureus elongation factor2 g
59	d2ih2a2	Alignment	not modelled	18.2	24	Fold: DNA methylase specificity domain Superfamily: DNA methylase specificity domain Family: TaqI C-terminal domain-like
60	c3br8A_	Alignment	not modelled	17.6	14	PDB header: hydrolase Chain: A: PDB Molecule: probable acylphosphatase; PDBTitle: crystal structure of acylphosphatase from bacillus subtilis
61	c3pqcA_	Alignment	not modelled	17.6	14	PDB header: hydrolase Chain: A: PDB Molecule: probable gtp-binding protein engb; PDBTitle: crystal structure of thermotoga maritima ribosome biogenesis gtp-2 binding protein engb (ysxc/yiha) in complex with gdp
62	c2i7fB_	Alignment	not modelled	17.5	36	PDB header: oxidoreductase Chain: B: PDB Molecule: ferredoxin component of dioxygenase; PDBTitle: sphingomonas yanoikuyae b1 ferredoxin
63	c1s0uA_	Alignment	not modelled	17.3	36	PDB header: translation Chain: A: PDB Molecule: translation initiation factor 2 gamma subunit; PDBTitle: eif2gamma apo
64	d3c0da1	Alignment	not modelled	17.1	9	Fold: ISP domain Superfamily: ISP domain Family: NirD-like
65	c3a1vB_	Alignment	not modelled	17.0	18	PDB header: transport protein Chain: B: PDB Molecule: iron(ii) transport protein b; PDBTitle: crystal structue of the cytosolic domain of t. maritima feob2 iron transporter in apo form
66	c1z01D_	Alignment	not modelled	17.0	27	PDB header: oxidoreductase Chain: D: PDB Molecule: 2-oxo-1,2-dihydroquinoline 8-monooxygenase, PDBTitle: 2-oxoquinoline 8-monooxygenase component: active site2 modulation by rieske-[2fe-2s] center oxidation/reduction
67	d1egaa1	Alignment	not modelled	16.9	40	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
68	d1vm9a_	Alignment	not modelled	16.8	27	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
69	c2wjJB_	Alignment	not modelled	16.5	27	PDB header: metal transport Chain: B: PDB Molecule: ferrous iron transport protein b homolog; PDBTitle: structure and function of the feob g-domain from2 methanococcus jannaschii
70	d2bv3a2	Alignment	not modelled	16.5	29	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
71	c1zo1I_	Alignment	not modelled	16.3	29	PDB header: translation/rna Chain: I: PDB Molecule: translation initiation factor 2; PDBTitle: if2, if1, and trna fitted to cryo-em data of e. coli 70s2 initiation complex
72	d2jzaa1	Alignment	not modelled	16.2	18	Fold: ISP domain Superfamily: ISP domain Family: NirD-like
73	c1g7cA_	Alignment	not modelled	16.1	27	PDB header: translation Chain: A: PDB Molecule: elongation factor 1-alpha; PDBTitle: yeast eef1a:eef1ba in complex with gdpnp
74	c3oqpA_	Alignment	not modelled	16.0	11	PDB header: hydrolase Chain: A: PDB Molecule: putative isochorismatase; PDBTitle: crystal structure of a putative isochorismatase (bx_ea0706) from2 burkholderia xenovorans lb400 at 1.22 a resolution
75	d1udxa2	Alignment	not modelled	15.9	15	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
76	c2plfA_	Alignment	not modelled	15.6	36	PDB header: translation Chain: A: PDB Molecule: translation initiation factor 2 gamma subunit; PDBTitle: the structure of aif2gamma subunit from the archaeon2 sulfolobus solfataricus in the nucleotide-free form.
77	c2x2fD_	Alignment	not modelled	15.6	27	PDB header: hydrolase Chain: D: PDB Molecule: dynammin-1; PDBTitle: dynamin 1 gtpase dimer, short axis form
78	c2zovA_	Alignment	not modelled	15.4	33	PDB header: membrane protein Chain: A: PDB Molecule: chemotaxis protein motb; PDBTitle: structure of the periplasmic domain of motb from salmonella2 (crystal form i)
79	d1apsa_	Alignment	not modelled	14.8	21	Fold: Ferredoxin-like Superfamily: Acylphosphatase/BLUF domain-like Family: Acylphosphatase-like
80	d1w2ia_	Alignment	not modelled	14.7	24	Fold: Ferredoxin-like Superfamily: Acylphosphatase/BLUF domain-like

						Family: Acylphosphatase-like
81	d1viaa_	Alignment	not modelled	14.6	33	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Shikimate kinase (AroK)
82	c2r8bA_	Alignment	not modelled	14.5	13	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized protein atu2452; PDBTitle: the crystal structure of the protein atu2452 of unknown function from2 agrobacterium tumefaciens str. c58
83	c1kk3A_	Alignment	not modelled	14.4	36	PDB header: translation Chain: A: PDB Molecule: eif2 gamma; PDBTitle: structure of the wild-type large gamma subunit of2 initiation factor eif2 from pyrococcus abyssi complexed3 with gdp-mg2+
84	c1wb1C_	Alignment	not modelled	14.4	36	PDB header: protein synthesis Chain: C: PDB Molecule: translation elongation factor selb; PDBTitle: crystal structure of translation elongation factor selb2 from methanococcus maripaludis in complex with gdp
85	d1wf3a1	Alignment	not modelled	14.1	25	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: G proteins
86	c3lxaA_	Alignment	not modelled	13.5	33	PDB header: immune system Chain: A: PDB Molecule: gtpase imap family member 1; PDBTitle: crystal structure of human gtpase imap family member 1
87	d2gc6a1	Alignment	not modelled	13.3	16	Fold: MurD-like peptide ligases, peptide-binding domain Superfamily: MurD-like peptide ligases, peptide-binding domain Family: Folylpolyglutamate synthetase, C-terminal domain
88	c3a1wA_	Alignment	not modelled	13.2	14	PDB header: transport protein Chain: A: PDB Molecule: iron(ii) transport protein b; PDBTitle: crystal structure of the g domain of t. maritima feob iron2 transporter
89	c3lx8A_	Alignment	not modelled	13.0	30	PDB header: metal transport Chain: A: PDB Molecule: ferrous iron uptake transporter protein b; PDBTitle: crystal structure of gdp-bound nfeob from s. thermophilus
90	c2elfA_	Alignment	not modelled	13.0	27	PDB header: translation Chain: A: PDB Molecule: protein translation elongation factor 1a; PDBTitle: crystal structure of the selb-like elongation factor ef-pyl2 from methanosarcina mazei
91	c4proD_	Alignment	not modelled	12.9	10	PDB header: serine protease Chain: D: PDB Molecule: alpha-lytic protease; PDBTitle: alpha-lytic protease complexed with pro region
92	c3o93A_	Alignment	not modelled	12.8	16	PDB header: hydrolase Chain: A: PDB Molecule: nicotinamidase; PDBTitle: high resolution crystal structures of streptococcus pneumoniae2 nicotinamidase with trapped intermediates provide insights into3 catalytic mechanism and inhibition by aldehydes
93	c3dukD_	Alignment	not modelled	12.7	10	PDB header: unknown function Chain: D: PDB Molecule: ntf2-like protein of unknown function; PDBTitle: crystal structure of a ntf2-like protein of unknown function2 (mfla_0564) from methylobacillus flagellatus kt at 2.200 a resolution
94	c3hynA_	Alignment	not modelled	12.6	20	PDB header: signaling protein Chain: A: PDB Molecule: putative signal transduction protein; PDBTitle: crystal structure of a putative signal transduction protein2 (eubrec_0645) from eubacterium rectale atcc 33656 at 1.20 a3 resolution
95	c3gkqB_	Alignment	not modelled	12.6	47	PDB header: oxidoreductase Chain: B: PDB Molecule: terminal oxygenase component of carbazole 1,9a- PDBTitle: terminal oxygenase of carbazole 1,9a-dioxygenase from2 novosphingobium sp. ka1
96	c1gqeD_	Alignment	not modelled	12.6	18	PDB header: hydrolase Chain: D: PDB Molecule: protein (triacylglycerol hydrolase); PDBTitle: new crystal form of pseudomonas glumae (formerly chromobacterium2 viscosum atcc 6918) lipase
97	c2wsmB_	Alignment	not modelled	12.5	29	PDB header: metal binding protein Chain: B: PDB Molecule: hydrogenase expression/formation protein (hyphb); PDBTitle: crystal structure of hydrogenase maturation factor hyphb from2 archaeoglobus fulgidus
98	d2hh8a1	Alignment	not modelled	12.5	13	Fold: YdfO-like Superfamily: YdfO-like Family: YdfO-like
99	c3snhA_	Alignment	not modelled	12.5	27	PDB header: endocytosis Chain: A: PDB Molecule: dynamin-1; PDBTitle: crystal structure of nucleotide-free human dynamin1