



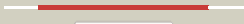

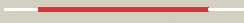


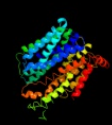






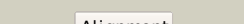
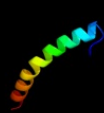






# Phyre2

Email	I.a.kelley@imperial.ac.uk
Description	P31435
Date	Thu Jan 5 11:47:26 GMT 2012
Unique Job ID	5aa47a51c45e8eae

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	<a href="#">d1pv7a_</a>	 Alignment		100.0	12	<b>Fold:</b> MFS general substrate transporter <b>Superfamily:</b> MFS general substrate transporter <b>Family:</b> LacY-like proton/sugar symporter
2	<a href="#">d1pw4a_</a>	 Alignment		99.9	14	<b>Fold:</b> MFS general substrate transporter <b>Superfamily:</b> MFS general substrate transporter <b>Family:</b> Glycerol-3-phosphate transporter
3	<a href="#">c2gfpA_</a>	 Alignment		99.9	11	<b>PDB header:</b> membrane protein <b>Chain:</b> A: <b>PDB Molecule:</b> multidrug resistance protein d; <b>PDBTitle:</b> structure of the multidrug transporter emrd from2 escherichia coli
4	<a href="#">c3o7pA_</a>	 Alignment		99.8	11	<b>PDB header:</b> transport protein <b>Chain:</b> A: <b>PDB Molecule:</b> l-fucose-proton symporter; <b>PDBTitle:</b> crystal structure of the e.coli fucose:proton symporter, fucp (n162a)
5	<a href="#">c2xutC_</a>	 Alignment		99.7	9	<b>PDB header:</b> transport protein <b>Chain:</b> C: <b>PDB Molecule:</b> proton/peptide symporter family protein; <b>PDBTitle:</b> crystal structure of a proton dependent oligopeptide (pot)2 family transporter.
6	<a href="#">c3qngD_</a>	 Alignment		79.1	11	<b>PDB header:</b> membrane protein, transport protein <b>Chain:</b> D: <b>PDB Molecule:</b> pts system, cellobiose-specific iic component; <b>PDBTitle:</b> crystal structure of the transporter chbc, the iic component from the2 n,n'-diacetylchitobiose-specific phosphotransferase system
7	<a href="#">c3hd6A_</a>	 Alignment		34.9	10	<b>PDB header:</b> membrane protein, transport protein <b>Chain:</b> A: <b>PDB Molecule:</b> ammonium transporter rh type c; <b>PDBTitle:</b> crystal structure of the human rhesus glycoprotein rhcg
8	<a href="#">c3b9yA_</a>	 Alignment		29.1	11	<b>PDB header:</b> transport protein <b>Chain:</b> A: <b>PDB Molecule:</b> ammonium transporter family rh-like protein; <b>PDBTitle:</b> crystal structure of the nitrosomonas europaea rh protein
9	<a href="#">d1y7ua1</a>	 Alignment		19.4	12	<b>Fold:</b> Thioesterase/thiol ester dehydrase-isomerase <b>Superfamily:</b> Thioesterase/thiol ester dehydrase-isomerase <b>Family:</b> 4HBT-like
10	<a href="#">c2rdcA_</a>	 Alignment		15.3	21	<b>PDB header:</b> lipid binding protein <b>Chain:</b> A: <b>PDB Molecule:</b> uncharacterized protein; <b>PDBTitle:</b> crystal structure of a putative lipid binding protein (gsu0061) from2 geobacter sulfurreducens pca at 1.80 a resolution
11	<a href="#">d1jyma_</a>	 Alignment		15.3	16	<b>Fold:</b> Peptide deformylase <b>Superfamily:</b> Peptide deformylase <b>Family:</b> Peptide deformylase

12	<a href="#">c1by0A_</a>	Alignment		15.3	15	<b>PDB header:</b> rna binding protein <b>Chain:</b> A: <b>PDB Molecule:</b> protein (hepatitis delta antigen); <b>PDBTitle:</b> n-terminal leucine-repeat region of hepatitis delta antigen
13	<a href="#">c1zxaB_</a>	Alignment		15.2	20	<b>PDB header:</b> transferase <b>Chain:</b> B: <b>PDB Molecule:</b> cgmp-dependent protein kinase 1, alpha isozyme; <b>PDBTitle:</b> solution structure of the coiled-coil domain of cgmp-2 dependent protein kinase ia
14	<a href="#">c3mnfA_</a>	Alignment		14.1	15	<b>PDB header:</b> structural genomics, unknown function <b>Chain:</b> A: <b>PDB Molecule:</b> pac2 family protein; <b>PDBTitle:</b> crystal structure of pac2 family protein from streptomyces avermitilis2 ma
15	<a href="#">c3d9sB_</a>	Alignment		13.5	16	<b>PDB header:</b> membrane protein <b>Chain:</b> B: <b>PDB Molecule:</b> aquaporin-5; <b>PDBTitle:</b> human aquaporin 5 (aqp5) - high resolution x-ray structure
16	<a href="#">d2f23a1</a>	Alignment		12.8	31	<b>Fold:</b> Long alpha-hairpin <b>Superfamily:</b> GreA transcript cleavage protein, N-terminal domain <b>Family:</b> GreA transcript cleavage protein, N-terminal domain
17	<a href="#">c2l2lB_</a>	Alignment		11.6	12	<b>PDB header:</b> transferase <b>Chain:</b> B: <b>PDB Molecule:</b> methyl-cpg-binding domain protein 2; <b>PDBTitle:</b> solution structure of the coiled-coil complex between mbd2 and2 p66alpha
18	<a href="#">d1oqwa_</a>	Alignment		11.0	13	<b>Fold:</b> Pili subunits <b>Superfamily:</b> Pili subunits <b>Family:</b> Pilin
19	<a href="#">d1grja1</a>	Alignment		10.3	14	<b>Fold:</b> Long alpha-hairpin <b>Superfamily:</b> GreA transcript cleavage protein, N-terminal domain <b>Family:</b> GreA transcript cleavage protein, N-terminal domain
20	<a href="#">d1j4na_</a>	Alignment		9.5	17	<b>Fold:</b> Aquaporin-like <b>Superfamily:</b> Aquaporin-like <b>Family:</b> Aquaporin-like
21	<a href="#">c1ymgA_</a>	Alignment	not modelled	9.4	11	<b>PDB header:</b> membrane protein <b>Chain:</b> A: <b>PDB Molecule:</b> lens fiber major intrinsic protein; <b>PDBTitle:</b> the channel architecture of aquaporin o at 2.2 angstrom resolution
22	<a href="#">d1ymga1</a>	Alignment	not modelled	9.4	11	<b>Fold:</b> Aquaporin-like <b>Superfamily:</b> Aquaporin-like <b>Family:</b> Aquaporin-like
23	<a href="#">d2pila_</a>	Alignment	not modelled	9.4	7	<b>Fold:</b> Pili subunits <b>Superfamily:</b> Pili subunits <b>Family:</b> Pilin
24	<a href="#">c3bpqC_</a>	Alignment	not modelled	8.7	13	<b>PDB header:</b> toxin <b>Chain:</b> C: <b>PDB Molecule:</b> antitoxin relb3; <b>PDBTitle:</b> crystal structure of relb-rele antitoxin-toxin complex from2 methanococcus jannaschii
25	<a href="#">c1zvua_</a>	Alignment	not modelled	8.3	13	<b>PDB header:</b> isomerase <b>Chain:</b> A: <b>PDB Molecule:</b> topoisomerase iv subunit a; <b>PDBTitle:</b> structure of the full-length e. coli parc subunit
26	<a href="#">d1f6ga_</a>	Alignment	not modelled	7.8	13	<b>Fold:</b> Voltage-gated potassium channels <b>Superfamily:</b> Voltage-gated potassium channels <b>Family:</b> Voltage-gated potassium channels
27	<a href="#">d1yuwa1</a>	Alignment	not modelled	7.4	13	<b>Fold:</b> Heat shock protein 70kD (HSP70), peptide-binding domain <b>Superfamily:</b> Heat shock protein 70kD (HSP70), peptide-binding domain <b>Family:</b> Heat shock protein 70kD (HSP70), peptide-binding domain
28	<a href="#">c2yxya_</a>	Alignment	not modelled	7.3	27	<b>PDB header:</b> structural genomics, unknown function <b>Chain:</b> A: <b>PDB Molecule:</b> hypothetical conserved protein, gk0453; <b>PDBTitle:</b> crystal structure of hypothetical conserved protein, gk0453
						<b>PDB header:</b> cell cycle protein

29	<a href="#">c1m46B_</a>	Alignment	not modelled	7.3	18	<b>Chain:</b> B: <b>PDB Molecule:</b> iq4 motif from myo2p, a class v myosin; <b>PDBTitle:</b> crystal structure of mlc1p bound to iq4 of myo2p, a class v2 myosin
30	<a href="#">d1cg2a2</a>	Alignment	not modelled	7.3	10	<b>Fold:</b> Ferredoxin-like <b>Superfamily:</b> Bacterial exopeptidase dimerisation domain <b>Family:</b> Bacterial exopeptidase dimerisation domain
31	<a href="#">c2novD_</a>	Alignment	not modelled	7.3	23	<b>PDB header:</b> isomerase <b>Chain:</b> D: <b>PDB Molecule:</b> dna topoisomerase 4 subunit a; <b>PDBTitle:</b> breakage-reunion domain of s.pneumoniae topo iv: crystal2 structure of a gram-positive quinolone target
32	<a href="#">c3he4A_</a>	Alignment	not modelled	7.1	17	<b>PDB header:</b> de novo protein <b>Chain:</b> A: <b>PDB Molecule:</b> synzip6; <b>PDBTitle:</b> heterospecific coiled-coil pair synzip5:synzip6
33	<a href="#">c3qx3B_</a>	Alignment	not modelled	7.0	19	<b>PDB header:</b> isomerase/dna/isomerase inhibitor <b>Chain:</b> B: <b>PDB Molecule:</b> dna topoisomerase 2-beta; <b>PDBTitle:</b> human topoisomerase iibeta in complex with dna and etoposide
34	<a href="#">c2wl2B_</a>	Alignment	not modelled	7.0	16	<b>PDB header:</b> isomerase <b>Chain:</b> B: <b>PDB Molecule:</b> dna gyrase subunit a; <b>PDBTitle:</b> crystal structure of n-terminal domain of gyra with the2 antibiotic simocyclinone d8
35	<a href="#">d1ab4a_</a>	Alignment	not modelled	7.0	16	<b>Fold:</b> Type II DNA topoisomerase <b>Superfamily:</b> Type II DNA topoisomerase <b>Family:</b> Type II DNA topoisomerase
36	<a href="#">c1a92B_</a>	Alignment	not modelled	6.9	15	<b>PDB header:</b> leucine zipper <b>Chain:</b> B: <b>PDB Molecule:</b> delta antigen; <b>PDBTitle:</b> oligomerization domain of hepatitis delta antigen
37	<a href="#">c2y6xA_</a>	Alignment	not modelled	6.9	11	<b>PDB header:</b> photosynthesis <b>Chain:</b> A: <b>PDB Molecule:</b> photosystem ii 11 kd protein; <b>PDBTitle:</b> structure of psb27 from thermosynechococcus elongatus
38	<a href="#">d1lruc_</a>	Alignment	not modelled	6.9	4	<b>Fold:</b> Ntn hydrolase-like <b>Superfamily:</b> N-terminal nucleophile aminohydrolases (Ntn hydrolases) <b>Family:</b> Proteasome subunits
39	<a href="#">d1iwpq_</a>	Alignment	not modelled	6.7	14	<b>Fold:</b> Open three-helical up-and-down bundle <b>Superfamily:</b> Diol dehydratase, gamma subunit <b>Family:</b> Diol dehydratase, gamma subunit
40	<a href="#">d1eexg_</a>	Alignment	not modelled	6.7	19	<b>Fold:</b> Open three-helical up-and-down bundle <b>Superfamily:</b> Diol dehydratase, gamma subunit <b>Family:</b> Diol dehydratase, gamma subunit
41	<a href="#">c1uc5M_</a>	Alignment	not modelled	6.7	19	<b>PDB header:</b> lyase <b>Chain:</b> M: <b>PDB Molecule:</b> diol dehydrase gamma subunit; <b>PDBTitle:</b> structure of diol dehydratase complexed with (r)-1,2-2 propanediol
42	<a href="#">c3sokB_</a>	Alignment	not modelled	6.6	17	<b>PDB header:</b> cell adhesion <b>Chain:</b> B: <b>PDB Molecule:</b> fimbrial protein; <b>PDBTitle:</b> dichelobacter nodosus pilin fima
43	<a href="#">c2w6iG_</a>	Alignment	not modelled	6.6	17	<b>PDB header:</b> hydrolase <b>Chain:</b> G: <b>PDB Molecule:</b> atp synthase subunit gamma, mitochondrial; <b>PDBTitle:</b> low resolution structures of bovine mitochondrial f1-atpase2 during controlled dehydration: hydration state 5.
44	<a href="#">d2f6qa1</a>	Alignment	not modelled	6.5	17	<b>Fold:</b> ClpP/crotonase <b>Superfamily:</b> ClpP/crotonase <b>Family:</b> Crotonase-like
45	<a href="#">c2w8aC_</a>	Alignment	not modelled	6.4	7	<b>PDB header:</b> membrane protein <b>Chain:</b> C: <b>PDB Molecule:</b> glycine betaine transporter betp; <b>PDBTitle:</b> crystal structure of the sodium-coupled glycine betaine2 symporter betp from corynebacterium glutamicum with bound3 substrate
46	<a href="#">d1bjta_</a>	Alignment	not modelled	6.4	16	<b>Fold:</b> Type II DNA topoisomerase <b>Superfamily:</b> Type II DNA topoisomerase <b>Family:</b> Type II DNA topoisomerase
47	<a href="#">c1bjtA_</a>	Alignment	not modelled	6.4	16	<b>PDB header:</b> topoisomerase <b>Chain:</b> A: <b>PDB Molecule:</b> topoisomerase ii; <b>PDBTitle:</b> topoisomerase ii residues 409-1201
48	<a href="#">d2jdig1</a>	Alignment	not modelled	6.3	17	<b>Fold:</b> Pyruvate kinase C-terminal domain-like <b>Superfamily:</b> ATP synthase (F1-ATPase), gamma subunit <b>Family:</b> ATP synthase (F1-ATPase), gamma subunit
49	<a href="#">c3eh0C_</a>	Alignment	not modelled	6.3	24	<b>PDB header:</b> transferase <b>Chain:</b> C: <b>PDB Molecule:</b> udp-3-o-[3-hydroxymyristoyl] glucosamine n- <b>PDBTitle:</b> crystal structure of lpxd from escherichia coli
50	<a href="#">c2hlwA_</a>	Alignment	not modelled	6.3	15	<b>PDB header:</b> ligase, signaling protein <b>Chain:</b> A: <b>PDB Molecule:</b> ubiquitin-conjugating enzyme e2 variant 1; <b>PDBTitle:</b> solution structure of the human ubiquitin-conjugating2 enzyme variant uev1a
51	<a href="#">c1dipA_</a>	Alignment	not modelled	6.1	10	<b>PDB header:</b> acetylation <b>Chain:</b> A: <b>PDB Molecule:</b> delta-sleep-inducing peptide immunoreactive <b>PDBTitle:</b> the solution structure of porcine delta-sleep-inducing2 peptide immunoreactive peptide, nmr, 10 structures
52	<a href="#">d1kqfc_</a>	Alignment	not modelled	6.0	11	<b>Fold:</b> Heme-binding four-helical bundle <b>Superfamily:</b> Transmembrane di-heme cytochromes <b>Family:</b> Formate dehydrogenase N, cytochrome (gamma) subunit
53	<a href="#">d1u69a_</a>	Alignment	not modelled	6.0	27	<b>Fold:</b> Glyoxalase/Bleomycin resistance protein/Dihydroxybiphenyl dioxygenase <b>Superfamily:</b> Glyoxalase/Bleomycin resistance protein/Dihydroxybiphenyl dioxygenase <b>Family:</b> 3-demethylubi quinone-9 3-methyltransferase
54	<a href="#">c1nohB_</a>	Alignment	not modelled	5.9	8	<b>PDB header:</b> viral protein <b>Chain:</b> B: <b>PDB Molecule:</b> head morphogenesis protein; <b>PDBTitle:</b> the structure of bacteriophage phi29 scaffolding

						protein2 gp7 after prohead assembly
55	<a href="#">c2lnrA_</a>	Alignment	not modelled	5.8	19	<b>PDB header:</b> isomerase <b>Chain:</b> A: <b>PDB Molecule:</b> dna topoisomerase 4 subunit a; <b>PDBTitle:</b> crystal structure of a 59 kda fragment of topoisomerase iv subunit a2 (gria) from staphylococcus aureus
56	<a href="#">c2xokG_</a>	Alignment	not modelled	5.8	14	<b>PDB header:</b> hydrolase <b>Chain:</b> G: <b>PDB Molecule:</b> atp synthase subunit gamma, mitochondrial; <b>PDBTitle:</b> refined structure of yeast f1c10 atpase complex to 3 a2 resolution
57	<a href="#">c2kncB_</a>	Alignment	not modelled	5.8	15	<b>PDB header:</b> cell adhesion <b>Chain:</b> B: <b>PDB Molecule:</b> integrin beta-3; <b>PDBTitle:</b> platelet integrin alfa iib-beta3 transmembrane-cytoplasmic2 heterocomplex
58	<a href="#">c2f6qA_</a>	Alignment	not modelled	5.8	17	<b>PDB header:</b> isomerase <b>Chain:</b> A: <b>PDB Molecule:</b> peroxisomal 3,2-trans-enoyl-coa isomerase; <b>PDBTitle:</b> the crystal structure of human peroxisomal delta3, delta2 enoyl coa2 isomerase (peci)
59	<a href="#">d1hr6a2</a>	Alignment	not modelled	5.7	14	<b>Fold:</b> LuxS/MPP-like metallohydrolase <b>Superfamily:</b> LuxS/MPP-like metallohydrolase <b>Family:</b> MPP-like
60	<a href="#">c2owyB_</a>	Alignment	not modelled	5.7	10	<b>PDB header:</b> dna binding protein <b>Chain:</b> B: <b>PDB Molecule:</b> recombination-associated protein rdgc; <b>PDBTitle:</b> the recombination-associated protein rdgc adopts a novel toroidal2 architecture for dna binding
61	<a href="#">d2fgea3</a>	Alignment	not modelled	5.6	10	<b>Fold:</b> LuxS/MPP-like metallohydrolase <b>Superfamily:</b> LuxS/MPP-like metallohydrolase <b>Family:</b> MPP-like
62	<a href="#">c2hjmB_</a>	Alignment	not modelled	5.6	10	<b>PDB header:</b> structural genomics, unknown function <b>Chain:</b> B: <b>PDB Molecule:</b> hypothetical protein pf1176; <b>PDBTitle:</b> crystal structure of a singleton protein pf1176 from p. furiosus
63	<a href="#">c1lq7A_</a>	Alignment	not modelled	5.3	7	<b>PDB header:</b> de novo protein <b>Chain:</b> A: <b>PDB Molecule:</b> alpha3w; <b>PDBTitle:</b> de novo designed protein model of radical enzymes
64	<a href="#">c3ifzA_</a>	Alignment	not modelled	5.2	16	<b>PDB header:</b> isomerase <b>Chain:</b> A: <b>PDB Molecule:</b> dna gyrase subunit a; <b>PDBTitle:</b> crystal structure of the first part of the mycobacterium tuberculosis2 dna gyrase reaction core: the breakage and reunion domain at 2.7 a3 resolution
65	<a href="#">c3l60A_</a>	Alignment	not modelled	5.2	13	<b>PDB header:</b> oxidoreductase <b>Chain:</b> A: <b>PDB Molecule:</b> branched-chain alpha-keto acid dehydrogenase; <b>PDBTitle:</b> crystal structure of branched-chain alpha-keto acid2 dehydrogenase subunit e2 from mycobacterium tuberculosis
66	<a href="#">c2g9pA_</a>	Alignment	not modelled	5.1	17	<b>PDB header:</b> antimicrobial protein <b>Chain:</b> A: <b>PDB Molecule:</b> antimicrobial peptide laticin 2a; <b>PDBTitle:</b> nmr structure of a novel antimicrobial peptide, laticin 2a,2 from spider (lachesana tarabaevi) venom
67	<a href="#">c2pnvA_</a>	Alignment	not modelled	5.1	8	<b>PDB header:</b> membrane protein <b>Chain:</b> A: <b>PDB Molecule:</b> small conductance calcium-activated potassium <b>PDBTitle:</b> crystal structure of the leucine zipper domain of small-2 conductance ca2+-activated k+ (skca) channel from rattus3 norvegicus
68	<a href="#">c1kilE_</a>	Alignment	not modelled	5.1	10	<b>PDB header:</b> membrane protein <b>Chain:</b> E: <b>PDB Molecule:</b> complexin i snare-complex binding region; <b>PDBTitle:</b> three-dimensional structure of the complexin/snare complex
69	<a href="#">c2rkka_</a>	Alignment	not modelled	5.1	10	<b>PDB header:</b> lipid transport <b>Chain:</b> A: <b>PDB Molecule:</b> vacuolar protein sorting-associated protein vta1; <b>PDBTitle:</b> crystal structure of s.cerevisiae vta1 n-terminal domain
70	<a href="#">c2xcqA_</a>	Alignment	not modelled	5.0	16	<b>PDB header:</b> isomerase <b>Chain:</b> A: <b>PDB Molecule:</b> dna gyrase subunit b, dna gyrase subunit a; <b>PDBTitle:</b> the 2.98a crystal structure of the catalytic core (b'a'2 region) of staphylococcus aureus dna gyrase
71	<a href="#">d2cqea1</a>	Alignment	not modelled	5.0	17	<b>Fold:</b> CCCH zinc finger <b>Superfamily:</b> CCCH zinc finger <b>Family:</b> CCCH zinc finger