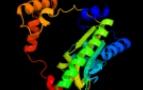
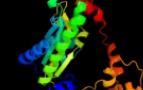
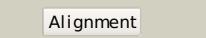
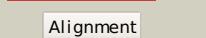
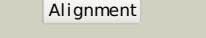
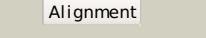
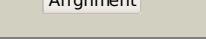


Phyre²

Email	i.a.kelley@imperial.ac.uk
Description	P17117
Date	Thu Jan 5 11:36:00 GMT 2012
Unique Job ID	5806c420884b9571

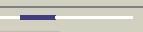
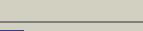
Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	d1f5va_			100.0	100	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
2	d1zcha1			100.0	38	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
3	d1bkja_			100.0	52	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
4	c3n2sD_			100.0	42	PDB header: oxidoreductase Chain: D: PDB Molecule: nadph-dependent nitro/flavin reductase; PDBTitle: structure of nra1 nitroreductase from b. subtilis
5	c3eofB_			100.0	27	PDB header: oxidoreductase Chain: B: PDB Molecule: putative oxidoreductase; PDBTitle: crystal structure of putative oxidoreductase (yp_213212.1) from2 bacteroides fragilis ntc 9343 at 1.99 a resolution
6	c3kwkA_			100.0	24	PDB header: oxidoreductase Chain: A: PDB Molecule: putative nadh dehydrogenase/nad(p)h nitroreductase; PDBTitle: crystal structure of putative nadh dehydrogenase/nad(p)h2 nitroreductase (np_809094.1) from bacteroides thetaiotaomicron vpi-3 5482 at 1.54 a resolution
7	c2isIB_			100.0	22	PDB header: flavoprotein Chain: B: PDB Molecule: blub; PDBTitle: blub bound to reduced flavin (fmnh2) and molecular oxygen.2 (clear crystal form)
8	c3m5kA_			100.0	27	PDB header: oxidoreductase Chain: A: PDB Molecule: putative nadh dehydrogenase/nad(p)h nitroreductase; PDBTitle: crystal structure of putative nadh dehydrogenase/nad(p)h2 nitroreductase (bdi_1728) from parabacteroides distasonis atcc 85033 at 1.86 a resolution
9	c3e39A_			100.0	25	PDB header: oxidoreductase Chain: A: PDB Molecule: putative nitroreductase; PDBTitle: crystal structure of a putative nitroreductase in complex with fmnh2 (dde_0787) from desulfovibrio desulfuricans subsp. at 1.70 a3 resolution
10	c3gagB_			100.0	19	PDB header: oxidoreductase Chain: B: PDB Molecule: putative nadh dehydrogenase, nadph nitroreductase; PDBTitle: crystal structure of a nitroreductase-like protein (smu_346) from streptococcus mutans at 1.70 a resolution
11	d2freA1			100.0	18	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase

12	d1noxa_			100.0	25	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
13	c3gbhC_			100.0	17	PDB header: oxidoreductase Chain: C: PDB Molecule: nad(p)h-flavin oxidoreductase; PDBTitle: crystal structure of a putative nad(p)h:fmn oxidoreductase (se1966)2 from staphylococcus epidermidis atcc 12228 at 2.00 a resolution
14	d2b67a1			100.0	19	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
15	d1vfra_			100.0	15	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
16	c3bemA_			100.0	17	PDB header: oxidoreductase Chain: A: PDB Molecule: putative nad(p)h nitroreductase ydfn; PDBTitle: crystal structure of putative nitroreductase ydfn (2632848) from2 bacillus subtilis at 1.65 a resolution
17	d2ifaal			100.0	13	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
18	c2hayD_			100.0	18	PDB header: oxidoreductase Chain: D: PDB Molecule: putative nad(p)h-flavin oxidoreductase; PDBTitle: the crystal structure of the putative nad(p)h-flavin oxidoreductase2 from streptococcus pyogenes m1 gas
19	c3of4A_			100.0	25	PDB header: oxidoreductase Chain: A: PDB Molecule: nitroreductase; PDBTitle: crystal structure of a fmn/fad- and nad(p)h-dependent nitroreductase2 (fnfb, il2077) from idiomarina loihiensis l2tr at 1.90 a resolution
20	c3e10B_			100.0	20	PDB header: oxidoreductase Chain: B: PDB Molecule: putative nadh oxidase; PDBTitle: crystal structure of putative nadh oxidase (np_348178.1)2 from clostridium acetobutylicum at 1.40 a resolution
21	c2wqfA_		not modelled	100.0	17	PDB header: oxidoreductase Chain: A: PDB Molecule: copper induced nitroreductase d; PDBTitle: crystal structure of the nitroreductase cind from2 lactococcus lactis in complex with fmn
22	d1ywqa1		not modelled	100.0	17	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
23	c3ge6B_		not modelled	100.0	22	PDB header: oxidoreductase Chain: B: PDB Molecule: nitroreductase; PDBTitle: crystal structure of a putative nitroreductase in complex with fmn2 (exig_2970) from exiguobacterium sibiricum 255-15 at 1.85 a3 resolution
24	c3gr3B_		not modelled	100.0	24	PDB header: flavoprotein Chain: B: PDB Molecule: nitroreductase; PDBTitle: crystal structure of a nitroreductase-like family protein (pnba_2 bh06130) from bartonella henselae str. houston-1 at 1.45 a resolution
25	c3ge5A_		not modelled	100.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: putative nad(p)h:fmn oxidoreductase; PDBTitle: crystal structure of a putative nad(p)h:fmn oxidoreductase (pg0310)2 from porphyromonas gingivalis w83 at 1.70 a resolution
26	c3g14B_		not modelled	100.0	20	PDB header: oxidoreductase Chain: B: PDB Molecule: nitroreductase family protein; PDBTitle: crystal structure of nitroreductase family protein (yp_877874.1) from2 clostridium novyi nt at 1.75 a resolution
27	d1ykia1		not modelled	100.0	23	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
						Fold: FMN-dependent nitroreductase-like

28	d1kqba	Alignment	not modelled	100.0	20	Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
29	c3koqC	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: C: PDB Molecule: nitroreductase family protein; PDBTitle: crystal structure of a nitroreductase family protein (cd3355) from2 clostridium difficile 630 at 1.58 a resolution
30	c2wzvB	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: B: PDB Molecule: nfnb protein; PDBTitle: crystal structure of the fmn-dependent nitroreductase nfnb2 from mycobacterium smegmatis
31	c2r01A	Alignment	not modelled	100.0	18	PDB header: oxidoreductase Chain: A: PDB Molecule: nitroreductase family protein; PDBTitle: crystal structure of a putative fmn-dependent nitroreductase (ct0345) from chlorobium tepidum tis at 1.15 a resolution
32	c3eo8A	Alignment	not modelled	100.0	16	PDB header: flavoprotein Chain: A: PDB Molecule: blub-like flavoprotein; PDBTitle: crystal structure of blub-like flavoprotein (yp_001089088.1) from2 clostridium difficile 630 at 1.74 a resolution
33	c2i7hE	Alignment	not modelled	100.0	19	PDB header: oxidoreductase Chain: E: PDB Molecule: nitroreductase-like family protein; PDBTitle: crystal structure of the nitroreductase-like family protein from2 bacillus cereus
34	c3k6hB	Alignment	not modelled	100.0	14	PDB header: oxidoreductase Chain: B: PDB Molecule: nitroreductase family protein; PDBTitle: crystal structure of a nitroreductase family protein from2 agrobacterium tumefaciens str. c58
35	c3pxvD	Alignment	not modelled	100.0	24	PDB header: oxidoreductase Chain: D: PDB Molecule: nitroreductase; PDBTitle: crystal structure of a nitroreductase with bound fmn (dhaf_2018) from2 desulfobacterium hafniense dcb-2 at 2.30 a resolution
36	c2h0uA	Alignment	not modelled	100.0	16	PDB header: oxidoreductase Chain: A: PDB Molecule: nadph-flavin oxidoreductase; PDBTitle: crystal structure of nad(p)h-flavin oxidoreductase from helicobacter2 pylori
37	c3ek3A	Alignment	not modelled	100.0	20	PDB header: flavoprotein Chain: A: PDB Molecule: nitroreductase; PDBTitle: crystal structure of nitroreductase with bound fmn (yp_211706.1) from2 bacteroides fragilis nctc 9343 at 1.70 a resolution
38	c3gh8A	Alignment	not modelled	100.0	18	PDB header: oxidoreductase Chain: A: PDB Molecule: iiodotyrosine dehalogenase 1; PDBTitle: crystal structure of mus musculus iiodotyrosine deiodinase (iyd) bound2 to fmn and di-iodotyrosine (dit)
39	c3gfaB	Alignment	not modelled	100.0	23	PDB header: oxidoreductase Chain: B: PDB Molecule: putative nitroreductase; PDBTitle: crystal structure of a putative nitroreductase in complex with fmn2 (cd3205) from clostridium difficile 630 at 1.35 a resolution
40	c3hj9A	Alignment	not modelled	100.0	27	PDB header: oxidoreductase Chain: A: PDB Molecule: oxidoreductase; PDBTitle: crystal structure of a putative nitroreductase (reut_a1228) from2 ralstonia eutropha jmp134 at 2.00 a resolution
41	c3bm2B	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: B: PDB Molecule: protein ydja; PDBTitle: crystal structure of a minimal nitroreductase ydja from escherichia coli k12 with and without fmn cofactor
42	c3hoiA	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: A: PDB Molecule: fmn-dependent nitroreductase bf3017; PDBTitle: crystal structure of fmn-dependent nitroreductase bf3017 from2 bacteroides fragilis nctc 9343 (yp_212631.1) from bacteroides3 fragilis nctc 9343 at 1.55 a resolution
43	c3eo7A	Alignment	not modelled	100.0	23	PDB header: flavoprotein Chain: A: PDB Molecule: putative nitroreductase; PDBTitle: crystal structure of a putative nitroreductase (ava_2154) from2 anabaena variabilis atcc 29413 at 1.80 a resolution
44	d1vkwa	Alignment	not modelled	99.9	18	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: Putative nitroreductase TM1586
45	c3k4iC	Alignment	not modelled	54.3	23	PDB header: structural genomics, unknown function Chain: C: PDB Molecule: uncharacterized protein; PDBTitle: crystal structure of uncharacterized protein pspt_3204 from2 pseudomonas syringae pv. tomato str. dc3000
46	d1vi4a	Alignment	not modelled	38.9	24	Fold: The "swivelling" beta/beta/alpha domain Superfamily: RraA-like Family: RraA-like
47	c3c8oB	Alignment	not modelled	36.0	15	PDB header: hydrolase regulator Chain: B: PDB Molecule: regulator of ribonuclease activity a; PDBTitle: the crystal structure of rraa from pao1
48	c2c5qE	Alignment	not modelled	35.6	21	PDB header: structural genomics,unknown function Chain: E: PDB Molecule: rraa-like protein yer010c; PDBTitle: crystal structure of yeast yer010cp
49	d1nxja	Alignment	not modelled	34.6	18	Fold: The "swivelling" beta/beta/alpha domain Superfamily: RraA-like Family: RraA-like
50	c1nxjA	Alignment	not modelled	34.6	18	PDB header: unknown function Chain: A: PDB Molecule: probable s-adenosylmethionine:2- PDBTitle: structure of rv3853 from mycobacterium tuberculosis
51	c2pcnA	Alignment	not modelled	33.7	21	PDB header: transferase Chain: A: PDB Molecule: s-adenosylmethionine:2-dimethylmenaquinone PDBTitle: crystal structure of s-adenosylmethionine: 2-dimethylmenaquinone2 methyltransferase (gk_1813) from geobacillus kaustophilus hta426
52	d1q5xa	Alignment	not modelled	33.1	18	Fold: The "swivelling" beta/beta/alpha domain Superfamily: RraA-like

					Family: RraA-like
53	d1j3la	Alignment	not modelled	32.1	Fold: The "swivelling" beta/beta/alpha domain Superfamily: RraA-like Family: RraA-like
54	d1cr6a1	Alignment	not modelled	29.6	Fold: HAD-like Superfamily: HAD-like Family: YihX-like
55	d1oeyj	Alignment	not modelled	29.1	Fold: beta-Grasp (ubiquitin-like) Superfamily: CAD & PB1 domains Family: PB1 domain
56	d2paga1	Alignment	not modelled	18.1	Fold: SM1/KNR4-like Superfamily: SM1/KNR4-like Family: SM1/KNR4-like
57	d2oc6a1	Alignment	not modelled	17.6	Fold: Secretion chaperone-like Superfamily: YdhG-like Family: YdhG-like
58	d1gz0a2	Alignment	not modelled	17.2	Fold: Bacillus chorismate mutase-like Superfamily: L30e-like Family: RNA 2'-O ribose methyltransferase substrate binding domain
59	d1zd3a1	Alignment	not modelled	17.2	Fold: HAD-like Superfamily: HAD-like Family: YihX-like
60	c3nojA	Alignment	not modelled	16.4	PDB header: lyase Chain: A: PDB Molecule: 4-carboxy-4-hydroxy-2-oxoadipate aldolase/oxaloacetate PDBTitle: the structure of hmg/cha aldolase from the protocatechuate degradation2 pathway of pseudomonas putida
61	d1ni8a	Alignment	not modelled	16.2	Fold: H-NS histone-like proteins Superfamily: H-NS histone-like proteins Family: H-NS histone-like proteins
62	c3gyxj	Alignment	not modelled	15.1	PDB header: oxidoreductase Chain: J: PDB Molecule: adenylylsulfate reductase; PDBTitle: crystal structure of adenylylsulfate reductase from2 desulfovibrio gigas
63	c3nr7A	Alignment	not modelled	14.2	PDB header: dna binding protein Chain: A: PDB Molecule: dna-binding protein h-ns; PDBTitle: crystal structure of s. typhimurium h-ns 1-83
64	c3ed5A	Alignment	not modelled	12.4	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: yfnb; PDBTitle: the crystal structure of yfnb from bacillus subtilis subsp. subtilis2 str. 168
65	d1e7la1	Alignment	not modelled	12.4	Fold: LEM/SAP HeH motif Superfamily: Recombination endonuclease VII, C-terminal and dimerization domains Family: Recombination endonuclease VII, C-terminal and dimerization domains
66	c2i6xA	Alignment	not modelled	12.0	PDB header: hydrolase Chain: A: PDB Molecule: hydrolase, haloacid dehalogenase-like family; PDBTitle: the structure of a predicted had-like family hydrolase from2 porphyromonas gingivalis.
67	d2ovra1	Alignment	not modelled	11.9	Fold: Skp1 dimerisation domain-like Superfamily: Skp1 dimerisation domain-like Family: Skp1 dimerisation domain-like
68	d1gz0f2	Alignment	not modelled	11.6	Fold: Bacillus chorismate mutase-like Superfamily: L30e-like Family: RNA 2'-O ribose methyltransferase substrate binding domain
69	d1lr1a	Alignment	not modelled	11.3	Fold: H-NS histone-like proteins Superfamily: H-NS histone-like proteins Family: H-NS histone-like proteins
70	d1nexa1	Alignment	not modelled	11.0	Fold: Skp1 dimerisation domain-like Superfamily: Skp1 dimerisation domain-like Family: Skp1 dimerisation domain-like
71	c3p8bB	Alignment	not modelled	11.0	PDB header: transferase/transcription Chain: B: PDB Molecule: transcription antitermination protein nusg; PDBTitle: x-ray crystal structure of pyrococcus furiosus transcription2 elongation factor spt4/5
72	d1ng6a	Alignment	not modelled	10.0	Fold: GatB/YqeY motif Superfamily: GatB/YqeY motif Family: GatB/YqeY domain
73	c1cr6A	Alignment	not modelled	10.0	PDB header: hydrolase Chain: A: PDB Molecule: epoxide hydrolase; PDBTitle: crystal structure of murine soluble epoxide hydrolase2 complexed with cpu inhibitor
74	d2ogga1	Alignment	not modelled	9.9	Fold: Chorismate lyase-like Superfamily: Chorismate lyase-like Family: UTRA domain
75	d1fs2b1	Alignment	not modelled	9.9	Fold: Skp1 dimerisation domain-like Superfamily: Skp1 dimerisation domain-like Family: Skp1 dimerisation domain-like
76	d1i1qb	Alignment	not modelled	9.9	Fold: Flavodoxin-like Superfamily: Class I glutamine amidotransferase-like Family: Class I glutamine amidotransferases (GAT)
77	d2a2pa1	Alignment	not modelled	9.6	Fold: Thioredoxin fold Superfamily: Thioredoxin-like Family: Selenoprotein W-related
					PDB header: transferase Chain: B: PDB Molecule: archaeosine tRNA-guanine

78	c1iq8B_		Alignment	not modelled	9.3	23	PDB header: transglycosylase; Chain: A: PDB Molecule: crystal structure of archaeosine tRNA-guanine2 transglycosylase from pyrococcus horikoshii
79	d2f1a1		Alignment	not modelled	9.2	19	Fold: HAD-like Superfamily: HAD-like Family: Phosphonoacetaldehyde hydrolase-like
80	d2i8da1		Alignment	not modelled	8.8	19	Fold: Secretion chaperone-like Superfamily: YdhG-like Family: YdhG-like
81	c1l9xA_		Alignment	not modelled	8.8	24	PDB header: hydrolase Chain: A: PDB Molecule: gamma-glutamyl hydrolase; PDBTitle: structure of gamma-glutamyl hydrolase
82	d1l9xa_		Alignment	not modelled	8.8	24	Fold: Flavodoxin-like Superfamily: Class I glutamine amidotransferase-like Family: Class I glutamine amidotransferases (GAT)
83	d1xuba2		Alignment	not modelled	8.6	16	Fold: Diaminopimelate epimerase-like Superfamily: Diaminopimelate epimerase-like Family: PhzC/PhzF-like
84	c1d0rA_		Alignment	not modelled	8.5	12	PDB header: hormone/growth factor Chain: A: PDB Molecule: glucagon-like peptide-1-(7-36)-amide; PDBTitle: solution structure of glucagon-like peptide-1-(7-36)-amide2 in trifluoroethanol/water
85	d1litz2		Alignment	not modelled	8.1	10	Fold: Thiamin diphosphate-binding fold (THDP-binding) Superfamily: Thiamin diphosphate-binding fold (THDP-binding) Family: TK-like Pyr module
86	d1i7qb_		Alignment	not modelled	7.7	19	Fold: Flavodoxin-like Superfamily: Class I glutamine amidotransferase-like Family: Class I glutamine amidotransferases (GAT)
87	d1f2va_		Alignment	not modelled	7.5	28	Fold: Flavodoxin-like Superfamily: Precorrin-8X methylmutase CbiC/CobH Family: Precorrin-8X methylmutase CbiC/CobH
88	d1ov9a_		Alignment	not modelled	7.4	17	Fold: H-NS histone-like proteins Superfamily: H-NS histone-like proteins Family: H-NS histone-like proteins
89	d2i5ha1		Alignment	not modelled	7.3	23	Fold: AF1531-like Superfamily: AF1531-like Family: AF1531-like
90	c2i5hA_		Alignment	not modelled	7.3	23	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: hypothetical protein af1531; PDBTitle: crystal structure of af1531 from archaeoglobus fulgidus,2 pfam duf655
91	c2ds2B_		Alignment	not modelled	6.9	14	PDB header: plant protein Chain: B: PDB Molecule: sweet protein mabinlin-2 chain b; PDBTitle: crystal structure of mabinlin ii
92	c2p1nD_		Alignment	not modelled	6.4	11	PDB header: signaling protein Chain: D: PDB Molecule: skp1-like protein 1a; PDBTitle: mechanism of auxin perception by the tir1 ubiquitin ligase
93	c1vcnA_		Alignment	not modelled	6.2	29	PDB header: ligase Chain: A: PDB Molecule: ctp synthetase; PDBTitle: crystal structure of t.th. hb8 ctp synthetase complex with sulfate2 anion
94	d1ln1a_		Alignment	not modelled	6.2	25	Fold: Cysteine proteinases Superfamily: Cysteine proteinases Family: Adenain-like
95	c3dnjB_		Alignment	not modelled	6.1	12	PDB header: peptide binding protein Chain: B: PDB Molecule: atp-dependent clp protease adapter protein clps; PDBTitle: the structure of the caulobacter crescentus clps protease2 adaptor protein in complex with a n-end rule peptide
96	c3l5kA_		Alignment	not modelled	6.0	24	PDB header: hydrolase Chain: A: PDB Molecule: haloacid dehalogenase-like hydrolase domain; PDBTitle: the crystal structure of human haloacid dehalogenase-like2 hydrolase domain containing 1a (hdhd1a)
97	c1jrjA_		Alignment	not modelled	5.9	12	PDB header: hormone/growth factor Chain: A: PDB Molecule: exendin-4; PDBTitle: solution structure of exendin-4 in 30-vol% trifluoroethanol
98	d1ny8a_		Alignment	not modelled	5.8	11	Fold: Alpha-lytic protease prodomain-like Superfamily: BolA-like Family: BolA-like
99	d1ou0a_		Alignment	not modelled	5.7	22	Fold: Flavodoxin-like Superfamily: Precorrin-8X methylmutase CbiC/CobH Family: Precorrin-8X methylmutase CbiC/CobH