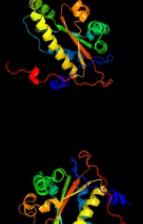
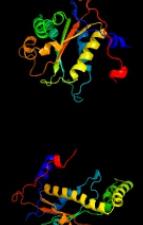
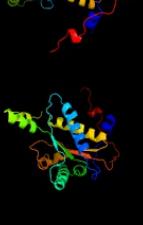


Phyre²

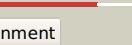
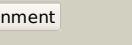
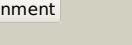
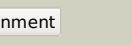
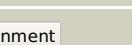
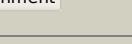
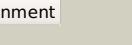
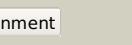
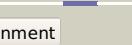
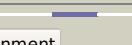
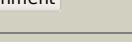
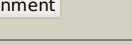
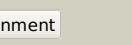
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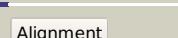
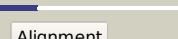
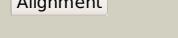
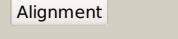
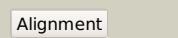
Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c2ymvA_	Alignment		100.0	33	PDB header: oxidoreductase Chain: A: PDB Molecule: acg nitroreductase; PDBTitle: structure of reduced m smegmatis 5246, a homologue of m.2 tuberculosis acg
2	c3gr3B_	Alignment		100.0	16	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
3	c2wzvB_	Alignment		100.0	18	PDB header: oxidoreductase Chain: B: PDB Molecule: fnfb protein; PDBTitle: crystal structure of the fmn-dependent nitroreductase fnfb2 from mycobacterium smegmatis
4	c3gh8A_	Alignment		100.0	15	PDB header: oxidoreductase Chain: A: PDB Molecule: iodotyrosine dehalogenase 1; PDBTitle: crystal structure of mus musculus iodotyrosine deiodinase (iyd) bound2 to fmn and di-iodotyrosine (dit)
5	c2islB_	Alignment		100.0	16	PDB header: flavoprotein Chain: B: PDB Molecule: blub; PDBTitle: blub bound to reduced flavin (fmnh2) and molecular oxygen.2 (clear crystal form)
6	c4eo3A_	Alignment		100.0	25	PDB header: oxidoreductase Chain: A: PDB Molecule: bacterioferritin comigratory protein/nadh dehydrogenase; PDBTitle: peroxiredoxin nitroreductase fusion enzyme
7	c5ko8B_	Alignment		99.9	14	PDB header: oxidoreductase Chain: B: PDB Molecule: nitroreductase; PDBTitle: crystal structure of haliscomenobacter hydrossis iodotyrosine2 deiodinase (iyd) bound to fmn and mono-iodotyrosine (i-tyr)
8	c3eo8A_	Alignment		99.9	14	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
9	d1vfra_	Alignment		99.9	11	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
10	d1zcha1	Alignment		99.9	14	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
11	d1noxa_	Alignment		99.9	21	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase

12	c5hdjA	Alignment		99.9	21	PDB header: oxidoreductase Chain: A: PDB Molecule: nfra1; PDBTitle: structure of b. megaterium nfra1
13	c3k6hB	Alignment		99.9	20	PDB header: oxidoreductase Chain: B: PDB Molecule: nitroreductase family protein; PDBTitle: crystal structure of a nitroreductase family protein from2 agrobacterium tumefaciens str. c58
14	c5heiE	Alignment		99.9	19	PDB header: oxidoreductase Chain: E: PDB Molecule: nfra2; PDBTitle: structure of b. megaterium nfra2
15	d1bkja	Alignment		99.9	22	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
16	c3bemA	Alignment		99.9	19	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	c2hayD	Alignment		99.9	15	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
18	c6czpH	Alignment		99.9	12	PDB header: oxidoreductase Chain: H: PDB Molecule: oxygen-insensitive nad(p)h nitroreductase; PDBTitle: 2.2 angstrom resolution crystal structure oxygen-insensitive nad(p)h-2 dependent nitroreductase nfsb from vibrio vulnificus in complex with3 fmn
19	c3n2sD	Alignment		99.9	19	PDB header: oxidoreductase Chain: D: PDB Molecule: nadph-dependent nitro/flavin reductase; PDBTitle: structure of nfra1 nitroreductase from b. subtilis
20	c3ek3A	Alignment		99.9	15	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
21	d1ykia1	Alignment	not modelled	99.9	12	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
22	c2i7hE	Alignment	not modelled	99.9	13	PDB header: oxidoreductase Chain: E: PDB Molecule: nitroreductase-like family protein; PDBTitle: crystal structure of the nitroreductase-like family protein from2 bacillus cereus
23	c3eofB	Alignment	not modelled	99.9	17	PDB header: oxidoreductase Chain: B: PDB Molecule: putative oxidoreductase; PDBTitle: crystal structure of putative oxidoreductase (yp_213212.1) from2 bacteroides fragilis nctc 9343 at 1.99 a resolution
24	c3gfaB	Alignment	not modelled	99.9	14	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
25	c3ge6B	Alignment	not modelled	99.9	14	PDB header: oxidoreductase Chain: B: PDB Molecule: nitroreductase; PDBTitle: crystal structure of a putative nitroreductase in complex with fmn2 (exig_2970) from exigubacterium sibiricum 255-15 at 1.85 a3 resolution
26	d1f5va	Alignment	not modelled	99.9	24	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
27	c4xomB	Alignment	not modelled	99.9	17	PDB header: unknown function Chain: B: PDB Molecule: coenzyme f420:l-glutamate ligase; PDBTitle: coenzyme f420:l-glutamate ligase (fbib) from mycobacterium2 tuberculosis (c-terminal domain).
28	c3ge5A	Alignment	not modelled	99.9	16	PDB header: oxidoreductase Chain: A: PDB Molecule: putative nad(p)h:fmn oxidoreductase; PDBTitle: crystal structure of a putative nad(p)h:fmn

29	c3gbhC	Alignment	not modelled	99.9	12	oxidoreductase (pg0310)2 from porphyromonas gingivalis w83 at 1.70 a resolution 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
30	c3e39A	Alignment	not modelled	99.9	19	PDB header: oxidoreductase Chain: A: PDB Molecule: putative nitroreductase; PDBTitle: crystal structure of a putative nitroreductase in complex with fmn2 (dde_0787) from desulfovibrio desulfuricans subsp. at 1.70 a3 resolution
31	c3to0A	Alignment	not modelled	99.9	17	PDB header: oxidoreductase Chain: A: PDB Molecule: iodotyrosine deiodinase 1; PDBTitle: crystal structure of mus musculus iodotyrosine deiodinase (iyd) c217a,2 c239a bound to fmn
32	c4qlyB	Alignment	not modelled	99.9	14	PDB header: oxidoreductase Chain: B: PDB Molecule: enone reductase cla-er; PDBTitle: crystal structure of cla-er, a novel enone reductase catalyzing a key2 step of a gut-bacterial fatty acid saturation metabolism,3 biohydrogenation
33	c3gagB	Alignment	not modelled	99.9	16	PDB header: oxidoreductase Chain: B: PDB Molecule: putative nadh dehydrogenase, nadph nitroreductase; PDBTitle: crystal structure of a nitroreductase-like protein (smu_346) from2 streptococcus mutans at 1.70 a resolution
34	c3of4A	Alignment	not modelled	99.9	16	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
35	d2b67a1	Alignment	not modelled	99.9	14	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
36	c3pxvD	Alignment	not modelled	99.9	15	PDB header: oxidoreductase Chain: D: PDB Molecule: nitroreductase; PDBTitle: crystal structure of a nitroreductase with bound fmn (dhaf_2018) from2 desulfitobacterium hafniense dcb-2 at 2.30 a resolution
37	d1kqba	Alignment	not modelled	99.9	14	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
38	c3kwkA	Alignment	not modelled	99.9	17	PDB header: oxidoreductase Chain: A: PDB Molecule: putative nadh dehydrogenase/nad(p)h nitroreductase; PDBTitle: crystal structure of putative nadh dehydrogenase/nad(p)h nitroreductase (np_809094.1) from bacteroides thetaiotaomicron vpi-3 5482 at 1.54 a resolution
39	d1ywqa1	Alignment	not modelled	99.9	11	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
40	c3koqC	Alignment	not modelled	99.9	19	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
41	d2ifaa1	Alignment	not modelled	99.9	11	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
42	c2h0uA	Alignment	not modelled	99.9	12	PDB header: oxidoreductase Chain: A: PDB Molecule: nadph-flavin oxidoreductase; PDBTitle: crystal structure of nad(p)h-flavin oxidoreductase from helicobacter pylori
43	c2r01A	Alignment	not modelled	99.9	15	PDB header: oxidoreductase Chain: A: PDB Molecule: nitroreductase family protein; PDBTitle: crystal structure of a putative fmn-dependent nitroreductase (ct0345)2 from chlorobium tepidum tls at 1.15 a resolution
44	c3m5kA	Alignment	not modelled	99.9	17	PDB header: oxidoreductase Chain: A: PDB Molecule: putative nadh dehydrogenase/nad(p)h nitroreductase; PDBTitle: crystal structure of putative nadh dehydrogenase/nad(p)h nitroreductase (bdi_1728) from parabacteroides distasonis atcc 85033 at 1.86 a resolution
45	c4dn2A	Alignment	not modelled	99.9	17	PDB header: oxidoreductase Chain: A: PDB Molecule: nitroreductase; PDBTitle: crystal structure of putative nitroreductase from geobacter2 metallireducens gs-15
46	d2frea1	Alignment	not modelled	99.9	14	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: NADH oxidase/flavin reductase
47	c3qdID	Alignment	not modelled	99.9	13	PDB header: oxidoreductase Chain: D: PDB Molecule: oxygen-insensitive nadph nitroreductase; PDBTitle: crystal structure of rdx4 from helicobacter pylori
48	c3e10B	Alignment	not modelled	99.9	16	PDB header: oxidoreductase Chain: B: PDB Molecule: putative nadh oxidase; PDBTitle: crystal structure of putative nadh oxidase (np_348178.1) from2 clostridium acetobutylicum at 1.40 a resolution
49	c3g14B	Alignment	not modelled	99.9	14	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
50	c2wqfA	Alignment	not modelled	99.9	12	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
51	c5j6cA	Alignment	not modelled	99.9	20	PDB header: oxidoreductase Chain: A: PDB Molecule: putative reductase; PDBTitle: fmn-dependent nitroreductase (cdr20291_0767) from clostridium2 difficile r20291

52	c3bm2B		Alignment	not modelled	99.9	18	PDB header: oxidoreductase Chain: B: PDB Molecule: protein ydja; PDBTitle: crystal structure of a minimal nitroreductase ydja from escherichia2 coli k12 with and without fmn cofactor
53	c5j62B		Alignment	not modelled	99.9	18	PDB header: oxidoreductase Chain: B: PDB Molecule: putative reductase; PDBTitle: fmn-dependent nitroreductase (cdr20291_0684) from clostridium2 difficile r20291
54	c3hj9A		Alignment	not modelled	99.8	15	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
55	c3hoiA		Alignment	not modelled	99.8	16	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
56	c4urpB		Alignment	not modelled	99.8	14	PDB header: oxidoreductase Chain: B: PDB Molecule: fatty acid repression mutant protein 2; PDBTitle: the crystal structure of nitroreductase from saccharomyces2 cerevisiae
57	d1vkwa		Alignment	not modelled	99.7	21	Fold: FMN-dependent nitroreductase-like Superfamily: FMN-dependent nitroreductase-like Family: Putative nitroreductase TM1586
58	c3eo7A		Alignment	not modelled	99.7	20	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
59	c5lq4B		Alignment	not modelled	99.7	21	PDB header: oxidoreductase Chain: B: PDB Molecule: cyagox; PDBTitle: the structure of thcox, the first oxidase protein from the cyanobactin2 pathways
60	c6gosC		Alignment	not modelled	98.6	13	PDB header: antibiotic/inhibitor Chain: C: PDB Molecule: microcin b17-processing protein mcbc; PDBTitle: e. coli microcin synthetase mccbcd complex with pro-mccb17 bound
61	c3vteA		Alignment	not modelled	55.4	7	PDB header: oxidoreductase Chain: A: PDB Molecule: tetrahydrocannabinolic acid synthase; PDBTitle: crystal structure of tetrahydrocannabinolic acid synthase from2 cannabis sativa
62	d1f3ub		Alignment	not modelled	24.8	38	Fold: triple barrel Superfamily: Rap30/74 interaction domains Family: Rap30/74 interaction domains
63	c4kdiC		Alignment	not modelled	21.2	38	PDB header: signaling protein/hydrolase Chain: C: PDB Molecule: ubiquitin thioesterase otu1; PDBTitle: crystal structure of p97/vcp n in complex with otu1 ubx1
64	c3fwaA		Alignment	not modelled	18.5	9	PDB header: flavoprotein Chain: A: PDB Molecule: reticuline oxidase; PDBTitle: structure of berberine bridge enzyme, c166a variant in complex with2 (s)-reticuline
65	c5sxpF		Alignment	not modelled	18.3	50	PDB header: signaling protein/ligase Chain: F: PDB Molecule: e3 ubiquitin-protein ligase itchy homolog; PDBTitle: structural basis for the interaction between itch prr and beta-pix
66	d2pnwa1		Alignment	not modelled	15.8	13	Fold: Double psi beta-barrel Superfamily: Barwin-like endoglucanases Family: MLTA-like
67	c5sxpG		Alignment	not modelled	11.8	50	PDB header: signaling protein/ligase Chain: G: PDB Molecule: e3 ubiquitin-protein ligase itchy homolog; PDBTitle: structural basis for the interaction between itch prr and beta-pix
68	d2g5da1		Alignment	not modelled	10.0	15	Fold: Double psi beta-barrel Superfamily: Barwin-like endoglucanases Family: MLTA-like
69	c3d2hA		Alignment	not modelled	10.0	9	PDB header: oxidoreductase Chain: A: PDB Molecule: berberine bridge-forming enzyme; PDBTitle: structure of berberine bridge enzyme from eschscholzia californica,2 monoclinic crystal form
70	d2qmsa1		Alignment	not modelled	8.8	50	Fold: SH2-like Superfamily: SH2 domain Family: SH2 domain
71	d2fcia1		Alignment	not modelled	8.5	40	Fold: SH2-like Superfamily: SH2 domain Family: SH2 domain
72	c3r74B		Alignment	not modelled	8.5	21	PDB header: lyase, biosynthetic protein Chain: B: PDB Molecule: anthranilate/para-aminobenzoate synthases component i; PDBTitle: crystal structure of 2-amino-2-desoxyisochorismate synthase (adic)2 synthase phze from burkholderia lata 383
73	c1lqlE		Alignment	not modelled	8.4	7	PDB header: unknown function Chain: E: PDB Molecule: osmical inducible protein c like family; PDBTitle: crystal structure of osmc like protein from mycoplasma2 pneumoniae
74	d1lqla		Alignment	not modelled	8.4	7	Fold: OsmC-like Superfamily: OsmC-like Family: Ohr/OsmC resistance proteins
75	d1kjqa2		Alignment	not modelled	8.1	7	Fold: PreATP-grasp domain Superfamily: PreATP-grasp domain Family: BC N-terminal domain-like
76	c6hq9A		Alignment	not modelled	8.1	50	PDB header: hydrolase Chain: A: PDB Molecule: dna excision repair protein ercc-6-like 2; PDBTitle: crystal structure of the tudor domain of human ercc6-l2
77	c3fafA		Alignment	not modelled	7.9	35	PDB header: structural protein Chain: A: PDB Molecule: putative uncharacterized protein; PDBTitle: structure of the structural protein p131 of the archaeal virus2 acidianus two-tailed virus (atv)

78	d1ecfa2		Alignment	not modelled	7.5	14	Fold: Ntn hydrolase-like Superfamily: N-terminal nucleophile aminohydrolases (Ntn hydrolases) Family: Class II glutamine amidotransferases
79	d1lf6a2		Alignment	not modelled	6.9	17	Fold: Supersandwich Superfamily: Galactose mutarotase-like Family: Bacterial glucomannan N-terminal domain-like
80	c2aapA_		Alignment	not modelled	6.2	50	PDB header: toxin Chain: A: PDB Molecule: jingzhaotoxin-vii; PDBTitle: solution structure of jingzhaotoxin-vii
81	d1kona_		Alignment	not modelled	6.2	14	Fold: YebC-like Superfamily: YebC-like Family: YebC-like
82	c3tsjA_		Alignment	not modelled	6.1	12	PDB header: allergen, oxidoreductase Chain: A: PDB Molecule: pollen allergen phl p 4; PDBTitle: crystal structure of phl p 4, a grass pollen allergen with glucose2 dehydrogenase activity
83	d2r4qa1		Alignment	not modelled	5.8	25	Fold: Phosphotyrosine protein phosphatases I-like Superfamily: PTS system IIB component-like Family: PTS system, Fructose specific IIB subunit-like
84	c4ml8C_		Alignment	not modelled	5.8	5	PDB header: oxidoreductase Chain: C: PDB Molecule: cytokinin oxidase 2; PDBTitle: structure of maize cytokinin oxidase/dehydrogenase 2 (zmcko2)
85	d1ki0a1		Alignment	not modelled	5.6	27	Fold: Kringle-like Superfamily: Kringle-like Family: Kringle modules
86	c2l2rA_		Alignment	not modelled	5.4	57	PDB header: antimicrobial protein Chain: A: PDB Molecule: antimicrobial peptide ecamp1; PDBTitle: helical hairpin structure of a novel antimicrobial peptide ecamp1 from2 seeds of barnyard grass (echinochloa crus-galli)
87	c5abxB_		Alignment	not modelled	5.3	18	PDB header: translation Chain: B: PDB Molecule: 4e-binding protein mextli; PDBTitle: complex of c. elegans eif4e-3 with the 4e-binding protein2 mextli and cap analog
88	c2xu8B_		Alignment	not modelled	5.3	33	PDB header: structural genomics Chain: B: PDB Molecule: pa1645; PDBTitle: structure of pa1645
89	d2bkwa1		Alignment	not modelled	5.2	10	Fold: PLP-dependent transferase-like Superfamily: PLP-dependent transferases Family: Cystathione synthase-like