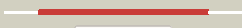



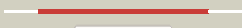


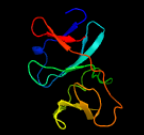


















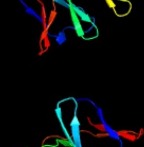
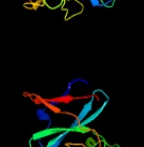


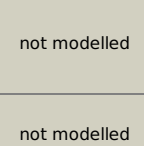


Phyre2

Email	mdejesus@rockefeller.edu
Description	RVBD0253_(nirD)_305453_305809
Date	Tue Jul 23 14:50:31 BST 2019
Unique Job ID	9fee5df921b782c4

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c4aivA_	 Alignment		100.0	100	PDB header: oxidoreductase Chain: A: PDB Molecule: probable nitrite reductase [nad(p)h] small subunit nirD; PDBTitle: crystal structure of putative nadh-dependent nitrite reductase small2 subunit from mycobacterium tuberculosis
2	d2jo6a1	 Alignment		100.0	41	Fold: ISP domain Superfamily: ISP domain Family: NirD-like
3	d3c0da1	 Alignment		100.0	38	Fold: ISP domain Superfamily: ISP domain Family: NirD-like
4	d2jzaa1	 Alignment		100.0	44	Fold: ISP domain Superfamily: ISP domain Family: NirD-like
5	d1vm9a_	 Alignment		100.0	18	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
6	c3gceA_	 Alignment		99.9	25	PDB header: oxidoreductase Chain: A: PDB Molecule: ferredoxin component of carbazole 1,9a- PDBTitle: ferredoxin of carbazole 1,9a-dioxygenase from nocardioiodes2 aromaticivorans lc177
7	c2de7E_	 Alignment		99.9	24	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
8	c4qdfA_	 Alignment		99.9	17	PDB header: oxidoreductase/oxidoreductase inhibitor Chain: A: PDB Molecule: 3-ketosteroid 9alpha-hydroxylase oxygenase; PDBTitle: crystal structure of apo ksha5 and ksha1 in complex with 1,4-30q-coa2 from r. rhodochrous
9	c4qdfB_	 Alignment		99.9	15	PDB header: oxidoreductase/oxidoreductase inhibitor Chain: B: PDB Molecule: 3-ketosteroid 9alpha-hydroxylase oxygenase; PDBTitle: crystal structure of apo ksha5 and ksha1 in complex with 1,4-30q-coa2 from r. rhodochrous
10	c2qpzA_	 Alignment		99.9	24	PDB header: metal binding protein Chain: A: PDB Molecule: naphthalene 1,2-dioxygenase system ferredoxin PDBTitle: naphthalene 1,2-dioxygenase rieske ferredoxin
11	d1fqta_	 Alignment		99.9	19	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)

12	c2zylA	Alignment		99.9	21	PDB header: oxidoreductase Chain: A: PDB Molecule: possible oxidoreductase; PDBTitle: crystal structure of 3-ketosteroid-9-alpha-hydroxylase2 (ksha) from m. tuberculosis
13	c2de7B	Alignment		99.9	16	PDB header: oxidoreductase Chain: B: PDB Molecule: terminal oxygenase component of carbazole; PDBTitle: the substrate-bound complex between oxygenase and2 ferredoxin in carbazole 1,9a-dioxygenase
14	c3gkqB	Alignment		99.9	24	PDB header: oxidoreductase Chain: B: PDB Molecule: terminal oxygenase component of carbazole 1,9a-dioxygenase; PDBTitle: terminal oxygenase of carbazole 1,9a-dioxygenase from novosphingobium2 sp. ka1
15	c3d89A	Alignment		99.9	20	PDB header: electron transport Chain: A: PDB Molecule: rieske domain-containing protein; PDBTitle: crystal structure of a soluble rieske ferredoxin from mus musculus
16	d2de6a1	Alignment		99.9	15	Fold: ISP domain Superfamily: ISP domain Family: Ring hydroxylating alpha subunit ISP domain
17	d1z01a1	Alignment		99.9	20	Fold: ISP domain Superfamily: ISP domain Family: Ring hydroxylating alpha subunit ISP domain
18	c3gcfC	Alignment		99.9	24	PDB header: oxidoreductase Chain: C: PDB Molecule: terminal oxygenase component of carbazole 1,9a- PDBTitle: terminal oxygenase of carbazole 1,9a-dioxygenase from2 nocardioides aromaticivorans ic177
19	c3n0qA	Alignment		99.9	19	PDB header: oxidoreductase Chain: A: PDB Molecule: putative aromatic-ring hydroxylating dioxygenase; PDBTitle: crystal structure of a putative aromatic-ring hydroxylating2 dioxygenase (tm1040_3219) from silicibacter sp. tm1040 at 1.80 a3 resolution
20	c3vcaA	Alignment		99.9	21	PDB header: oxidoreductase Chain: A: PDB Molecule: ring-hydroxylating dioxygenase; PDBTitle: quaternary ammonium oxidative demethylation: x-ray crystallographic,2 resonance raman and uv-visible spectroscopic analysis of a rieske-3 type demethylase
21	c1z01D	Alignment	not modelled	99.9	20	PDB header: oxidoreductase Chain: D: PDB Molecule: 2-oxo-1,2-dihydroquinoline 8-monoxygenase, oxygenase PDBTitle: 2-oxoquinoline 8-monoxygenase component: active site modulation by2 rieske-[2fe-2s] center oxidation/reduction
22	c3gteB	Alignment	not modelled	99.9	27	PDB header: electron transport, oxidoreductase Chain: B: PDB Molecule: ddmc; PDBTitle: crystal structure of dicamba monoxygenase with non-heme iron
23	c2i7fB	Alignment	not modelled	99.9	17	PDB header: oxidoreductase Chain: B: PDB Molecule: ferredoxin component of dioxygenase; PDBTitle: sphingomonas yanoikuyae b1 ferredoxin
24	c3dqyA	Alignment	not modelled	99.9	22	PDB header: oxidoreductase Chain: A: PDB Molecule: toluene 1,2-dioxygenase system ferredoxin PDBTitle: crystal structure of toluene 2,3-dioxygenase ferredoxin
25	d1ulia1	Alignment	not modelled	99.9	14	Fold: ISP domain Superfamily: ISP domain Family: Ring hydroxylating alpha subunit ISP domain
26	d1wqla1	Alignment	not modelled	99.9	14	Fold: ISP domain Superfamily: ISP domain Family: Ring hydroxylating alpha subunit ISP domain
27	c5cxmC	Alignment	not modelled	99.9	15	PDB header: metal binding protein Chain: C: PDB Molecule: cytochrome b6/f complex iron-sulfur subunit; PDBTitle: crystal structure of the cyanobacterial plasma membrane rieske protein2 petc3 from synechocystis pcc 6803
28	d2bmoa1	Alignment	not modelled	99.9	17	Fold: ISP domain Superfamily: ISP domain Family: Ring hydroxylating alpha subunit ISP domain

29	c1uljA_	Alignment	not modelled	99.9	15	PDB header: oxidoreductase Chain: A: PDB Molecule: biphenyl dioxygenase large subunit; PDBTitle: biphenyl dioxygenase (bpha1a2) in complex with the substrate
30	c1wqlA_	Alignment	not modelled	99.9	15	PDB header: oxidoreductase Chain: A: PDB Molecule: iron-sulfur protein large subunit of cumene dioxygenase; PDBTitle: cumene dioxygenase (cuma1a2) from pseudomonas fluorescens ip01
31	d2b1xa1	Alignment	not modelled	99.9	17	Fold: ISP domain Superfamily: ISP domain Family: Ring hydroxylating alpha subunit ISP domain
32	d1o7na1	Alignment	not modelled	99.9	17	Fold: ISP domain Superfamily: ISP domain Family: Ring hydroxylating alpha subunit ISP domain
33	c2gbxE_	Alignment	not modelled	99.9	20	PDB header: oxidoreductase Chain: E: PDB Molecule: biphenyl 2,3-dioxygenase alpha subunit; PDBTitle: crystal structure of biphenyl 2,3-dioxygenase from sphingomonas2 yanoikuyae b1 bound to biphenyl
34	c2hmnA_	Alignment	not modelled	99.9	17	PDB header: oxidoreductase Chain: A: PDB Molecule: naphthalene 1,2-dioxygenase alpha subunit; PDBTitle: crystal structure of the naphthalene 1,2-dioxygenase f352v2 mutant bound to anthracene.
35	c2b1xE_	Alignment	not modelled	99.9	17	PDB header: oxidoreductase Chain: E: PDB Molecule: naphthalene dioxygenase large subunit; PDBTitle: crystal structure of naphthalene 1,2-dioxygenase from rhodococcus sp.
36	c4aayH_	Alignment	not modelled	99.9	19	PDB header: oxidoreductase Chain: H: PDB Molecule: arob; PDBTitle: crystal structure of the arsenite oxidase protein complex2 from rhizobium species strain nt-26
37	d1rfsa_	Alignment	not modelled	99.8	14	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
38	d1g8kb_	Alignment	not modelled	99.8	14	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
39	d1q90c_	Alignment	not modelled	99.8	13	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
40	d3cx5e1	Alignment	not modelled	99.8	14	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
41	d2e74d1	Alignment	not modelled	99.8	14	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
42	d1riea_	Alignment	not modelled	99.7	14	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
43	d1nyka_	Alignment	not modelled	99.7	21	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
44	c2e76D_	Alignment	not modelled	99.6	14	PDB header: photosynthesis Chain: D: PDB Molecule: cytochrome b6-f complex iron-sulfur subunit; PDBTitle: crystal structure of the cytochrome b6f complex with tridecyl-2 stigmatellin (tds) from m.laminosus
45	c2fyuE_	Alignment	not modelled	99.6	13	PDB header: oxidoreductase Chain: E: PDB Molecule: ubiquinol-cytochrome c reductase iron-sulfur subunit, PDBTitle: crystal structure of bovine heart mitochondrial bc1 with jg1442 inhibitor
46	c1p84E_	Alignment	not modelled	99.6	16	PDB header: oxidoreductase Chain: E: PDB Molecule: ubiquinol-cytochrome c reductase iron-sulfur subunit; PDBTitle: hdbt inhibited yeast cytochrome bc1 complex
47	c2fynO_	Alignment	not modelled	99.5	19	PDB header: oxidoreductase Chain: O: PDB Molecule: ubiquinol-cytochrome c reductase iron-sulfur PDBTitle: crystal structure analysis of the double mutant rhodobacter2 sphaeroides bc1 complex
48	c2nvgA_	Alignment	not modelled	99.5	25	PDB header: oxidoreductase Chain: A: PDB Molecule: ubiquinol-cytochrome c reductase iron-sulfur subunit; PDBTitle: soluble domain of rieske iron sulfur protein.
49	d1jm1a_	Alignment	not modelled	99.4	22	Fold: ISP domain Superfamily: ISP domain Family: Rieske iron-sulfur protein (ISP)
50	c6hwhB_	Alignment	not modelled	99.4	13	PDB header: electron transport Chain: B: PDB Molecule: ubiquinol-cytochrome c reductase iron-sulfur subunit; PDBTitle: structure of a functional obligate respiratory supercomplex from2 mycobacterium smegmatis
51	c6fo2R_	Alignment	not modelled	98.9	16	PDB header: membrane protein Chain: R: PDB Molecule: cytochrome b-c1 complex subunit rieske, mitochondrial; PDBTitle: cryoem structure of bovine cytochrome bc1 with no ligand bound
52	d2hf1a1	Alignment	not modelled	57.0	19	Fold: Trm112p-like Superfamily: Trm112p-like Family: Trm112p-like
53	d2jnya1	Alignment	not modelled	56.9	19	Fold: Trm112p-like Superfamily: Trm112p-like Family: Trm112p-like

54	d2pk7a1	Alignment	not modelled	53.6	16	Fold: Trm112p-like Superfamily: Trm112p-like Family: Trm112p-like
55	c2jr6A	Alignment	not modelled	48.5	22	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: upf0434 protein nma0874; PDBTitle: solution structure of upf0434 protein nma0874. northeast structural2 genomics target mr32
56	c2kpiA	Alignment	not modelled	46.9	19	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized protein sco3027; PDBTitle: solution nmr structure of streptomyces coelicolor sco30272 modeled with zn+2 bound, northeast structural genomics3 consortium target rr58
57	c2js4A	Alignment	not modelled	46.0	22	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: upf0434 protein bb2007; PDBTitle: solution nmr structure of bordetella bronchiseptica protein2 bb2007. northeast structural genomics consortium target3 bor54
58	c6f5zC	Alignment	not modelled	40.0	13	PDB header: transferase Chain: C: PDB Molecule: upf0434 family protein; PDBTitle: complex between the haloferax volcanii trm112 methyltransferase2 activator and the hvo_0019 putative methyltransferase
59	c3tenD	Alignment	not modelled	33.5	0	PDB header: hydrolase Chain: D: PDB Molecule: cs2 hydrolase; PDBTitle: holo form of carbon disulfide hydrolase
60	c4esiA	Alignment	not modelled	31.0	19	PDB header: hydrolase/dna Chain: A: PDB Molecule: type-2 restriction enzyme dpni; PDBTitle: restriction endonuclease dpni in complex with target dna
61	c3wvnB	Alignment	not modelled	27.3	13	PDB header: metal binding protein/transferase Chain: B: PDB Molecule: orff; PDBTitle: crystal structure of lysz from thermus thermophilus complex with lysw
62	c3vrkA	Alignment	not modelled	25.4	17	PDB header: hydrolase Chain: A: PDB Molecule: carbonyl sulfide hydrolase; PDBTitle: crystal structure of thiobacillus thioparus thi115 carbonyl sulfide2 hydrolase / thiocyanate complex
63	c3vpbF	Alignment	not modelled	23.5	15	PDB header: ligase Chain: F: PDB Molecule: alpha-aminoadipate carrier protein lysw; PDBTitle: argx from sulfolobus tokodaii complexed with2 lysw/glu/adp/mg/zn/sulfate
64	c3lasA	Alignment	not modelled	22.7	17	PDB header: lyase Chain: A: PDB Molecule: putative carbonic anhydrase; PDBTitle: crystal structure of carbonic anhydrase from streptococcus mutans to2 1.4 angstrom resolution
65	c5ztpB	Alignment	not modelled	22.2	8	PDB header: lyase Chain: B: PDB Molecule: carbonic anhydrase; PDBTitle: carbonic anhydrase from glaciozyma antarctica
66	c2k5hA	Alignment	not modelled	22.2	21	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: conserved protein; PDBTitle: solution nmr structure of protein encoded by mth693 from2 methanobacterium thermoautotrophicum: northeast structural3 genomics consortium target tt824a
67	c2w3nA	Alignment	not modelled	20.9	17	PDB header: lyase Chain: A: PDB Molecule: carbonic anhydrase 2; PDBTitle: structure and inhibition of the co2-sensing carbonic anhydrase can22 from the pathogenic fungus cryptococcus neoformans
68	d2exda1	Alignment	not modelled	20.9	22	Fold: OB-fold Superfamily: NfeD domain-like Family: NfeD domain-like
69	d1ddza2	Alignment	not modelled	19.8	21	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
70	c6gwuB	Alignment	not modelled	19.4	8	PDB header: lyase Chain: B: PDB Molecule: carbonic anhydrase; PDBTitle: carbonic anhydrase cance103p from candida albicans
71	c6g4wr	Alignment	not modelled	18.5	22	PDB header: ribosome Chain: R: PDB Molecule: 40s ribosomal protein s17; PDBTitle: cryo-em structure of a late human pre-40s ribosomal subunit - state a
72	c3cp0A	Alignment	not modelled	18.4	17	PDB header: membrane protein Chain: A: PDB Molecule: membrane protein implicated in regulation of membrane PDBTitle: crystal structure of the soluble domain of membrane protein implicated2 in regulation of membrane protease activity from corynebacterium3 glutamicum
73	c2a8cE	Alignment	not modelled	18.2	17	PDB header: lyase Chain: E: PDB Molecule: carbonic anhydrase 2; PDBTitle: haemophilus influenzae beta-carbonic anhydrase
74	d1ddza1	Alignment	not modelled	18.0	17	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
75	c1ylkA	Alignment	not modelled	18.0	17	PDB header: unknown function Chain: A: PDB Molecule: hypothetical protein rv1284/mt1322; PDBTitle: crystal structure of rv1284 from mycobacterium tuberculosis in complex2 with thiocyanate
76	c5cxkG	Alignment	not modelled	18.0	17	PDB header: lyase Chain: G: PDB Molecule: carbonic anhydrase; PDBTitle: crystal structure of beta carbonic anhydrase from vibrio cholerae
77	d2nn6g3	Alignment	not modelled	17.9	21	Fold: Eukaryotic type KH-domain (KH-domain type I) Superfamily: Eukaryotic type KH-domain (KH-domain type I) Family: Eukaryotic type KH-domain (KH-domain type I)
78	c3eyxB	Alignment	not modelled	17.7	17	PDB header: lyase Chain: B: PDB Molecule: carbonic anhydrase; PDBTitle: crystal structure of carbonic anhydrase nce103 from2

						saccharomyces cerevisiae
79	c5swcE	Alignment	not modelled	17.7	8	PDB header: lyase Chain: E: PDB Molecule: carbonic anhydrase; PDBTitle: the structure of the beta-carbonic anhydrase ccaa
80	c1ddzA	Alignment	not modelled	17.3	21	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
81	c3ucoB	Alignment	not modelled	17.0	8	PDB header: lyase/lyase inhibitor Chain: B: PDB Molecule: carbonic anhydrase; PDBTitle: coccomyxa beta-carbonic anhydrase in complex with iodide
82	c2a5vB	Alignment	not modelled	16.7	33	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
83	d2aqaa1	Alignment	not modelled	16.5	20	Fold: Rubredoxin-like Superfamily: Nop10-like SnoRNP Family: Nucleolar RNA-binding protein Nop10-like
84	c2j6aA	Alignment	not modelled	16.4	6	PDB header: transferase Chain: A: PDB Molecule: protein trm112; PDBTitle: crystal structure of s. cerevisiae ynr046w, a zinc finger2 protein from the erf1 methyltransferase complex.
85	d1ekja	Alignment	not modelled	16.0	17	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
86	c5cm2M	Alignment	not modelled	16.0	0	PDB header: transferase Chain: M: PDB Molecule: trna methyltransferase activator subunit; PDBTitle: insights into molecular plasticity in protein complexes from trm9-2 trm112 trna modifying enzyme crystal structure
87	c4rxyA	Alignment	not modelled	15.3	17	PDB header: lyase Chain: A: PDB Molecule: carbonic anhydrase; PDBTitle: crystal structure of the beta carbonic anhydrase psca3 isolated from2 pseudomonas aeruginosa
88	d1i6pa	Alignment	not modelled	15.2	25	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
89	d1g5ca	Alignment	not modelled	14.4	8	Fold: Resolvase-like Superfamily: beta-carbonic anhydrase, cab Family: beta-carbonic anhydrase, cab
90	c6g5iy	Alignment	not modelled	14.3	13	PDB header: ribosome Chain: Y: PDB Molecule: 40s ribosomal protein s24; PDBTitle: cryo-em structure of a late human pre-40s ribosomal subunit - state r
91	d2apob1	Alignment	not modelled	12.6	19	Fold: Rubredoxin-like Superfamily: Nop10-like SnoRNP Family: Nucleolar RNA-binding protein Nop10-like
92	c3j20R	Alignment	not modelled	12.6	20	PDB header: ribosome Chain: R: PDB Molecule: 30s ribosomal protein s17p; PDBTitle: promiscuous behavior of proteins in archaeal ribosomes revealed by2 cryo-em: implications for evolution of eukaryotic ribosomes (30s3 ribosomal subunit)
93	d2ey4e1	Alignment	not modelled	12.5	19	Fold: Rubredoxin-like Superfamily: Nop10-like SnoRNP Family: Nucleolar RNA-binding protein Nop10-like
94	c4o1kA	Alignment	not modelled	12.4	25	PDB header: lyase Chain: A: PDB Molecule: carbonic anhydrase; PDBTitle: crystal structures of two tetrameric beta-carbonic anhydrases from the2 filamentous ascomycete sordaria macrospora.
95	d2j7ja2	Alignment	not modelled	12.0	33	Fold: beta-beta-alpha zinc fingers Superfamily: beta-beta-alpha zinc fingers Family: Classic zinc finger, C2H2
96	c2jrrA	Alignment	not modelled	11.8	15	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized protein; PDBTitle: solution nmr structure of q5lls5 from silicibacter2 pomeroyi. northeast structural genomics consortium target3 sir90
97	c4o1jB	Alignment	not modelled	11.6	17	PDB header: lyase Chain: B: PDB Molecule: carbonic anhydrase; PDBTitle: crystal structures of two tetrameric beta-carbonic anhydrases from the2 filamentous ascomycete sordaria macrospora.
98	d2c42a2	Alignment	not modelled	11.2	0	Fold: Thiamin diphosphate-binding fold (THDP-binding) Superfamily: Thiamin diphosphate-binding fold (THDP-binding) Family: PFOR PP module
99	d1ubdc1	Alignment	not modelled	10.3	33	Fold: beta-beta-alpha zinc fingers Superfamily: beta-beta-alpha zinc fingers Family: Classic zinc finger, C2H2