







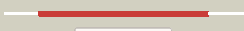




















Phyre2

Email	mdejesus@rockefeller.edu
Description	RVBD2939_(papA5)_3274959_3276227
Date	Thu Aug 8 16:20:09 BST 2019
Unique Job ID	ae887adfa735d6a3

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c1q9jA_	 Alignment		100.0	98	PDB header: ligase Chain: A; PDB Molecule: polyketide synthase associated protein 5; PDBTitle: structure of polyketide synthase associated protein 5 from2 mycobacterium tuberculosis
2	c6n8eA_	 Alignment		100.0	12	PDB header: hydrolase Chain: A; PDB Molecule: holo-obif1; PDBTitle: crystal structure of holo-obif1, a five domain nonribosomal peptide2 synthetase from burkholderia diffusa
3	c2vsqA_	 Alignment		100.0	10	PDB header: ligase Chain: A; PDB Molecule: surfactin synthetase subunit 3; PDBTitle: structure of surfactin a synthetase c (srfa-c), a nonribosomal peptide2 synthetase termination module
4	c6p1jA_	 Alignment		100.0	16	PDB header: biosynthetic protein Chain: A; PDB Molecule: txo2; PDBTitle: the structure of condensation and adenylation domains of teixobactin-2 producing nonribosomal peptide synthetase txo2 serine module
5	c4zxiA_	 Alignment		100.0	11	PDB header: biosynthetic protein Chain: A; PDB Molecule: tyrocidine synthetase 3; PDBTitle: crystal structure of holo-ab3403 a four domain nonribosomal peptide2 synthetase bound to amp and glycine
6	c5ja2A_	 Alignment		100.0	14	PDB header: ligase Chain: A; PDB Molecule: enterobactin synthase component f; PDBTitle: entf, a terminal nonribosomal peptide synthetase module bound to the2 non-native mbth-like protein pa2412
7	c4zxiA_	 Alignment		100.0	15	PDB header: biosynthetic protein Chain: A; PDB Molecule: enterobactin synthase component f; PDBTitle: crystal structure of holo-entf a nonribosomal peptide synthetase in2 the thioester-forming conformation
8	c5u89A_	 Alignment		100.0	12	PDB header: hydrolase/inhibitor Chain: A; PDB Molecule: amino acid adenylation domain protein; PDBTitle: crystal structure of a cross-module fragment from the dimodular nrps2 dhbf
9	c6cgoB_	 Alignment		100.0	12	PDB header: biosynthetic protein Chain: B; PDB Molecule: condensation domain protein; PDBTitle: molecular basis for condensation domain-mediated chain release from2 the enacyloxin polyketide synthase
10	c5t81A_	 Alignment		100.0	12	PDB header: biosynthetic protein Chain: A; PDB Molecule: epob; PDBTitle: rhombohedral crystal form of the epob nrps cyclization-docking2 bidomain from sorangium cellulosum
11	c4znmB_	 Alignment		100.0	11	PDB header: ligase Chain: B; PDB Molecule: c-domain type ii peptide synthetase; PDBTitle: crystal structure of sgcc5 protein from streptomyces globisporus (apo2 form)

12	c6aefB_	Alignment		100.0	11	PDB header: transferase Chain: B: PDB Molecule: polyketide synthase associated protein papa2; PDBTitle: papa2 acyl transferase
13	c2jgpA_	Alignment		100.0	13	PDB header: ligase Chain: A: PDB Molecule: tyrocidine synthetase 3; PDBTitle: structure of the tycc5-6 pcp-c bidomain of the tyrocidine synthetase2 tycc
14	c5t3eA_	Alignment		100.0	8	PDB header: ligase Chain: A: PDB Molecule: bacillamide synthetase heterocyclization domain; PDBTitle: crystal structure of a nonribosomal peptide synthetase2 heterocyclization domain.
15	c4tx3B_	Alignment		100.0	12	PDB header: oxidoreductase Chain: B: PDB Molecule: peptide synthetase, module 7; PDBTitle: complex of the x-domain and oxyb from teicoplanin biosynthesis
16	c5m6pB_	Alignment		100.0	13	PDB header: isomerase Chain: B: PDB Molecule: tyrocidine synthase 2; PDBTitle: crystal structure of the epimerization domain from module 3 of2 tyrocidine synthetase b, tycb3(e)
17	c4jn3B_	Alignment		100.0	13	PDB header: biosynthetic protein Chain: B: PDB Molecule: cda peptide synthetase i; PDBTitle: crystal structures of the first condensation domain of the cda2 synthetase
18	c2xhgA_	Alignment		100.0	12	PDB header: isomerase Chain: A: PDB Molecule: tyrocidine synthetase a; PDBTitle: crystal structure of the epimerization domain from the initiation2 module of tyrocidine biosynthesis
19	c6m7iB_	Alignment		100.0	12	PDB header: biosynthetic protein Chain: B: PDB Molecule: putative non-ribosomal peptide synthetase; PDBTitle: complex of oxa with the x-domain from gpa biosynthesis
20	c6ozvA_	Alignment		100.0	17	PDB header: biosynthetic protein Chain: A: PDB Molecule: txo1; PDBTitle: the structure of condensation and adenylation domains of teixobactin-2 producing nonribosomal peptide synthetase txo1 serine module in3 complex with amp
21	c6ad3A_	Alignment	not modelled	100.0	11	PDB header: biosynthetic protein Chain: A: PDB Molecule: lovastatin nonaketide synthase moka; PDBTitle: structural characterization of the condensation domain from monacolin2 k polyketide synthase moka
22	c1i5aA_	Alignment	not modelled	100.0	10	PDB header: biosynthetic protein Chain: A: PDB Molecule: amide synthase; PDBTitle: crystal structure of vibh, an nrps condensation enzyme
23	c5dijA_	Alignment	not modelled	100.0	11	PDB header: unknown function Chain: A: PDB Molecule: tqaa; PDBTitle: the crystal structure of ct
24	c4hvmC_	Alignment	not modelled	100.0	11	PDB header: biosynthetic protein Chain: C: PDB Molecule: tlmii; PDBTitle: crystal structure of tallsomycin biosynthesis protein tlmii
25	c3fotA_	Alignment	not modelled	100.0	12	PDB header: transferase Chain: A: PDB Molecule: 15-o-acetyltransferase; PDBTitle: structural and functional characterization of tri3 trichothecene 15-o-2 acetyltransferase from fusarium sportrichioides
26	d1q9ja2	Alignment	not modelled	100.0	97	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: NRPS condensation domain (amide synthase)
27	c6chjB_	Alignment	not modelled	100.0	12	PDB header: transferase Chain: B: PDB Molecule: diacylglycerol o-acyltransferase; PDBTitle: wax ester synthase/diacylglycerol acyltransferase from marinobacter2 aquaeolei vt8
28	d1q9ja1	Alignment	not modelled	100.0	100	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: NRPS condensation domain (amide synthase)

29	c6dd2A	Alignment	not modelled	100.0	14	PDB header: transferase Chain: A: PDB Molecule: probable hydroxycinnamoyl transferase; PDBTitle: crystal structure of selaginella moellendorffii hct
30	d1l5aa1	Alignment	not modelled	99.9	12	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: NRPS condensation domain (amide synthase)
31	c4g0bA	Alignment	not modelled	99.9	16	PDB header: transferase Chain: A: PDB Molecule: hydroxycinnamoyl-coa shikimate/quinate PDBTitle: structure of native hct from coffea canephora
32	d1l5aa2	Alignment	not modelled	99.9	9	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: NRPS condensation domain (amide synthase)
33	c2bghA	Alignment	not modelled	99.8	16	PDB header: transferase Chain: A: PDB Molecule: vinorine synthase; PDBTitle: crystal structure of vinorine synthase
34	c2e1uA	Alignment	not modelled	99.8	10	PDB header: transferase Chain: A: PDB Molecule: acyl transferase; PDBTitle: crystal structure of dendranthema morifolium dmat
35	c2xr7A	Alignment	not modelled	99.7	10	PDB header: transferase Chain: A: PDB Molecule: malonyltransferase; PDBTitle: crystal structure of nicotiana tabacum malonyltransferase (ntmat1)2 complexed with malonyl-coa
36	c4ke4A	Alignment	not modelled	99.5	17	PDB header: transferase Chain: A: PDB Molecule: hydroxycinnamoyl-coa:shikimate hydroxycinnamoyl PDBTitle: elucidation of the structure and reaction mechanism of sorghum bicolor2 hydroxycinnamoyltransferase and its structural relationship to other3 coa-dependent transferases and synthases
37	c3b2sA	Alignment	not modelled	99.4	15	PDB header: transferase Chain: A: PDB Molecule: trichothecene 3-o-acetyltransferase; PDBTitle: crystal structure of f. graminearum tri101 complexed with coenzyme a2 and deoxynivalenol
38	c2zbaD	Alignment	not modelled	99.3	15	PDB header: transferase Chain: D: PDB Molecule: trichothecene 3-o-acetyltransferase; PDBTitle: crystal structure of f. sporotrichioides tri101 complexed with2 coenzyme a and t-2
39	c6eqoB	Alignment	not modelled	99.0	12	PDB header: oxidoreductase Chain: B: PDB Molecule: acetyl-coenzyme a synthetase; PDBTitle: tri-functional propionyl-coa synthase of erythrobacter sp. nap1 with2 bound nadp+ and phosphomethylphosphonic acid adenylate ester
40	c5es8A	Alignment	not modelled	97.4	9	PDB header: ligase Chain: A: PDB Molecule: linear gramicidin synthetase subunit a; PDBTitle: crystal structure of the initiation module of lgra in the thiolation2 state
41	c2i9dC	Alignment	not modelled	91.6	17	PDB header: transferase Chain: C: PDB Molecule: chloramphenicol acetyltransferase; PDBTitle: chloramphenicol acetyltransferase
42	c3rqcB	Alignment	not modelled	91.1	19	PDB header: transferase Chain: B: PDB Molecule: probable lipoamide acyltransferase; PDBTitle: crystal structure of the catalytic core of the 2-oxoacid dehydrogenase2 multienzyme complex from thermoplasma acidophilum
43	d1q23a	Alignment	not modelled	84.3	25	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: CAT-like
44	d3claa	Alignment	not modelled	81.6	31	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: CAT-like
45	c3maeA	Alignment	not modelled	76.9	14	PDB header: transferase Chain: A: PDB Molecule: 2-oxoisovalerate dehydrogenase e2 component, PDBTitle: crystal structure of probable dihydrolipoamide acetyltransferase from2 listeria monocytogenes 4b f2365
46	c6h60A	Alignment	not modelled	72.5	8	PDB header: oxidoreductase Chain: A: PDB Molecule: pyruvate dehydrogenase protein x component, mitochondrial; PDBTitle: pseudo-atomic structural model of the e3bp component of the human2 pyruvate dehydrogenase multienzyme complex
47	d1scza	Alignment	not modelled	69.4	21	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: CAT-like
48	c4n72B	Alignment	not modelled	62.4	24	PDB header: transferase Chain: B: PDB Molecule: pyruvate dehydrogenase (dihydrolipoyltransacetylase) PDBTitle: catalytic domain from dihydrolipoamide acetyltransferase of pyruvate2 dehydrogenase from escherichia coli
49	d1p94a	Alignment	not modelled	55.2	10	Fold: Ribbon-helix-helix Superfamily: Ribbon-helix-helix Family: CopG-like
50	c3b8kA	Alignment	not modelled	47.3	30	PDB header: transferase Chain: A: PDB Molecule: dihydrolipoyllysine-residue acetyltransferase; PDBTitle: structure of the truncated human dihydrolipoyl acetyltransferase (e2)
51	c2ii4C	Alignment	not modelled	44.4	14	PDB header: transferase Chain: C: PDB Molecule: lipoamide acyltransferase component of branched-chain PDBTitle: crystal structure of a cubic core of the dihydrolipoamide2 acyltransferase (e2b) component in the branched-chain alpha-ketoacid3 dehydrogenase complex (bckdc), coenzyme a-bound form
52	d1b5sa	Alignment	not modelled	42.9	24	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: CAT-like
						Fold: Hypothetical protein YjiA, C-terminal domain

53	d1nija2	Alignment	not modelled	42.8	21	Superfamily: Hypothetical protein YjIA, C-terminal domain Family: Hypothetical protein YjIA, C-terminal domain
54	d1dpba	Alignment	not modelled	39.0	19	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: CAT-like
55	d2cpga	Alignment	not modelled	39.0	26	Fold: Ribbon-helix-helix Superfamily: Ribbon-helix-helix Family: CopG-like
56	c1ea4K	Alignment	not modelled	39.0	26	PDB header: gene regulation/dna Chain: K: PDB Molecule: transcriptional repressor copg; PDBTitle: transcriptional repressor copg/22bp dsdna complex
57	c2k5jB	Alignment	not modelled	27.0	15	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: uncharacterized protein yjif; PDBTitle: solution structure of protein yjif from shigella flexneri2 serotype 5b (strain 8401) . northeast structural genomics3 consortium target sft1
58	c6g1nB	Alignment	not modelled	24.7	10	PDB header: antitoxin Chain: B: PDB Molecule: antitoxin hicb; PDBTitle: crystal structure of the burkholderia pseudomallei antitoxin hicb
59	c1xl8B	Alignment	not modelled	23.7	12	PDB header: transferase Chain: B: PDB Molecule: peroxisomal carnitine o-octanoyltransferase; PDBTitle: crystal structure of mouse carnitine octanoyltransferase in2 complex with octanoylcarnitine
60	c2vsnB	Alignment	not modelled	23.7	14	PDB header: transferase Chain: B: PDB Molecule: xcogt; PDBTitle: structure and topological arrangement of an o-glcna2 transferase homolog: insight into molecular control of f3 intracellular glycosylation
61	c3l60A	Alignment	not modelled	23.6	20	PDB header: oxidoreductase Chain: A: PDB Molecule: branched-chain alpha-keto acid dehydrogenase; PDBTitle: crystal structure of branched-chain alpha-keto acid dehydrogenase2 subunit e2 from mycobacterium tuberculosis
62	c6iyaD	Alignment	not modelled	21.4	10	PDB header: antitoxin Chain: D: PDB Molecule: transcriptional regulator copg family; PDBTitle: structure of the dna binding domain of antitoxin copaso
63	c2k9iB	Alignment	not modelled	20.2	17	PDB header: dna binding protein Chain: B: PDB Molecule: uncharacterized protein orf56; PDBTitle: nmr structure of plasmid copy control protein orf56 from sulfobolus2 islandicus
64	c2fy2A	Alignment	not modelled	19.8	25	PDB header: transferase Chain: A: PDB Molecule: choline o-acetyltransferase; PDBTitle: structures of ligand bound human choline acetyltransferase provide2 insight into regulation of acetylcholine synthesis
65	c3fwcO	Alignment	not modelled	19.5	31	PDB header: cell cycle, transcription Chain: O: PDB Molecule: protein sus1; PDBTitle: sac3:sus1:cdc31 complex
66	d2ay0a1	Alignment	not modelled	18.9	10	Fold: Ribbon-helix-helix Superfamily: Ribbon-helix-helix Family: PutA pre-N-terminal region-like
67	c2k29A	Alignment	not modelled	16.4	5	PDB header: transcription Chain: A: PDB Molecule: antitoxin relb; PDBTitle: structure of the dbd domain of e. coli antitoxin relb
68	c1nija	Alignment	not modelled	15.8	19	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: hypothetical protein yjia; PDBTitle: yjia protein
69	c3kk4B	Alignment	not modelled	15.7	6	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: uncharacterized protein bp1543; PDBTitle: uncharacterized protein bp1543 from bordetella pertussis tohama i
70	c2jvwA	Alignment	not modelled	15.3	36	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized protein; PDBTitle: solution nmr structure of uncharacterized protein q5e7h1 from vibrio2 fischeri. northeast structural genomics target vfr117
71	d1mnta	Alignment	not modelled	14.9	8	Fold: Ribbon-helix-helix Superfamily: Ribbon-helix-helix Family: Arc/Mnt-like phage repressors
72	c4fxeB	Alignment	not modelled	14.8	5	PDB header: toxin/toxin inhibitor Chain: B: PDB Molecule: antitoxin relb; PDBTitle: crystal structure of the intact e. coli relbe toxin-antitoxin complex
73	c6gtsC	Alignment	not modelled	14.0	8	PDB header: transcription Chain: C: PDB Molecule: duf1778 domain-containing protein; PDBTitle: structure of the atat-atar complex bound dna
74	c2h4tB	Alignment	not modelled	13.9	15	PDB header: transferase Chain: B: PDB Molecule: carnitine o-palmitoyltransferase ii, mitochondrial; PDBTitle: crystal structure of rat carnitine palmitoyltransferase ii
75	c2rbfB	Alignment	not modelled	13.8	10	PDB header: oxidoreductase/dna Chain: B: PDB Molecule: bifunctional protein puta; PDBTitle: structure of the ribbon-helix-helix domain of escherichia coli puta2 (puta52) complexed with operator dna (o2)
76	c2kelB	Alignment	not modelled	13.6	15	PDB header: transcription repressor Chain: B: PDB Molecule: uncharacterized protein 56b; PDBTitle: structure of the transcription regulator svtr from the2 hyperthermophilic archaeal virus sirv1
77	c2fyoA	Alignment	not modelled	13.1	15	PDB header: transferase Chain: A: PDB Molecule: carnitine o-palmitoyltransferase ii, mitochondrial; PDBTitle: crystal structure of rat carnitine palmitoyltransferase 2 in space2 group p43212
						PDB header: transport protein/dna binding protein

78	c4dhxC_	Alignment	not modelled	12.9	38	Chain: C: PDB Molecule: enhancer or yellow Z transcription factor homolog; PDBTitle: eny2:ganp complex
79	d1t1ua2	Alignment	not modelled	12.3	17	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: Choline/Carnitine O-acyltransferase
80	c4q2uM_	Alignment	not modelled	11.3	8	PDB header: toxin/toxin repressor Chain: M: PDB Molecule: antitoxin dinj; PDBTitle: crystal structure of the e. coli dinj-yafq toxin-antitoxin complex
81	d1nm8a2	Alignment	not modelled	11.3	21	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: Choline/Carnitine O-acyltransferase
82	c5cw9A_	Alignment	not modelled	11.0	25	PDB header: de novo protein Chain: A: PDB Molecule: de novo designed ferredoxin-ferredoxin domain insertion PDBTitle: crystal structure of de novo designed ferredoxin-ferredoxin domain2 insertion protein
83	c1t7qA_	Alignment	not modelled	10.3	17	PDB header: transferase Chain: A: PDB Molecule: carnitine acetyltransferase; PDBTitle: crystal structure of the f565a mutant of murine carnitine2 acetyltransferase in complex with carnitine and coa
84	d1ndba2	Alignment	not modelled	10.1	21	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: Choline/Carnitine O-acyltransferase
85	c6ajnF_	Alignment	not modelled	10.1	10	PDB header: toxin Chain: F: PDB Molecule: duf1778 domain-containing protein; PDBTitle: crystal structure of atatr bound with accoa
86	c6noyB_	Alignment	not modelled	9.4	15	PDB header: structural protein Chain: B: PDB Molecule: maintenance of carboxysome positioning b protein, mcsb; PDBTitle: structure of cyanothecce mcdb
87	c5wmmA_	Alignment	not modelled	8.6	19	PDB header: biosynthetic protein Chain: A: PDB Molecule: nrps; PDBTitle: crystal structure of an adenylation domain interrupted by a2 methylation domain (ama4) from nonribosomal peptide synthetase tios
88	c3luyA_	Alignment	not modelled	8.4	11	PDB header: isomerase Chain: A: PDB Molecule: probable chorismate mutase; PDBTitle: putative chorismate mutase from bifidobacterium adolescentis
89	d1wh7a_	Alignment	not modelled	7.1	10	Fold: DNA/RNA-binding 3-helical bundle Superfamily: Homeodomain-like Family: Homeodomain
90	c6h6pA_	Alignment	not modelled	7.0	13	PDB header: lipid binding protein Chain: A: PDB Molecule: ubiquinone biosynthesis protein ubij; PDBTitle: ubij-scp2 ubiquinone synthesis protein
91	c3cjeA_	Alignment	not modelled	6.7	12	PDB header: oxidoreductase Chain: A: PDB Molecule: osmc-like protein; PDBTitle: crystal structure of an osmc-like hydroperoxide resistance protein2 (jann_2040) from jannaschia sp. ccs1 at 1.70 a resolution
92	d2qmwa2	Alignment	not modelled	6.5	14	Fold: Ferredoxin-like Superfamily: ACT-like Family: Phenylalanine metabolism regulatory domain
93	d2dy1a4	Alignment	not modelled	6.1	21	Fold: Ferredoxin-like Superfamily: EF-G C-terminal domain-like Family: EF-G/eEF-2 domains III and V
94	d1xl7a2	Alignment	not modelled	6.1	15	Fold: CoA-dependent acyltransferases Superfamily: CoA-dependent acyltransferases Family: Choline/Carnitine O-acyltransferase
95	c1vs3B_	Alignment	not modelled	6.0	30	PDB header: isomerase Chain: B: PDB Molecule: trna pseudouridine synthase a; PDBTitle: crystal structure of the trna pseudouridine synthase trua from thermus2 thermophilus hb8
96	c2mdvB_	Alignment	not modelled	6.0	29	PDB header: de novo protein Chain: B: PDB Molecule: designed protein; PDBTitle: nmr structure of beta alpha alpha 38
97	d1y9ba1	Alignment	not modelled	5.8	16	Fold: Ribbon-helix-helix Superfamily: Ribbon-helix-helix Family: VCA0319-like
98	c3eerA_	Alignment	not modelled	5.8	6	PDB header: oxidoreductase Chain: A: PDB Molecule: organic hydroperoxide resistance protein, putative; PDBTitle: high resolution structure of putative organic hydroperoxide resistance2 protein from vibrio cholerae o1 biovar eltor str. n16961
99	d1myla_	Alignment	not modelled	5.5	11	Fold: Ribbon-helix-helix Superfamily: Ribbon-helix-helix Family: Arc/Mnt-like phage repressors