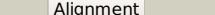
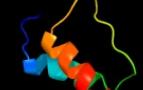
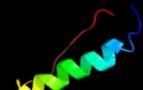
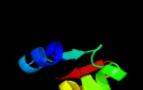
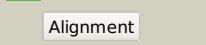
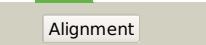
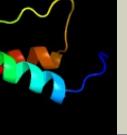
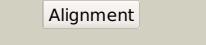
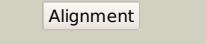
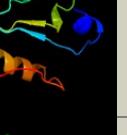
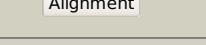
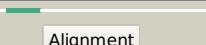
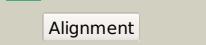


Phyre²

Email	mdejesus@rockefeller.edu
Description	RVBD1594_(nadA)_1794763_1795812
Date	Fri Aug 2 13:30:18 BST 2019
Unique Job ID	375bb001322147d0

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c4p3xA			100.0	38	PDB header: transferase Chain: A: PDB Molecule: quinolinate synthase a; PDBTitle: structure of the fe4s4 quinolinate synthase nadA from thermotoga2 maritima
2	c2gs0A			100.0	42	PDB header: biosynthetic protein Chain: A: PDB Molecule: quinolinate synthetase a; PDBTitle: quinolinate synthase from pyrococcus furiosus
3	d1wzua1			100.0	43	Fold: NadA-like Superfamily: NadA-like Family: NadA-like
4	c6mgdA			84.4	14	PDB header: transferase Chain: A: PDB Molecule: capsular polysaccharide export system protein kpsc; PDBTitle: thermosulfurimonas dismutans kpsc, beta kdo 2,4 transferase
5	c5ldrA			71.5	19	PDB header: hydrolase Chain: A: PDB Molecule: beta-d-galactosidase; PDBTitle: crystal structure of a cold-adapted dimeric beta-d-galactosidase from2 paracoccus sp. 32d strain in complex with galactose
6	c6j7aB			66.8	20	PDB header: oxidoreductase Chain: B: PDB Molecule: heme oxygenase 1,nadph--cytochrome p450 reductase; PDBTitle: fusion protein of heme oxygenase-1 and nadph cytochrome p450 reductase2 (17aa)
7	d1xhja			62.4	24	Fold: Alpha-lytic protease prodomain-like Superfamily: Fe-S cluster assembly (FSCA) domain-like Family: NifU C-terminal domain-like
8	c1zq1B			59.6	27	PDB header: lyase Chain: B: PDB Molecule: glutamyl-trna(gln) amidotransferase subunit d; PDBTitle: structure of gatde trna-dependent amidotransferase from2 pyrococcus abyssi
9	d1j97a			58.2	18	Fold: HAD-like Superfamily: HAD-like Family: Phosphoserine phosphatase
10	c3p04B			56.6	17	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: uncharacterized bcr; PDBTitle: crystal structure of the bcr protein from corynebacterium glutamicum.2 northeast structural genomics consortium target cgr8
11	c6b6IB			54.5	26	PDB header: hydrolase Chain: B: PDB Molecule: glycosyl hydrolase family 2, sugar binding domain protein; PDBTitle: the crystal structure of glycosyl hydrolase family 2 (gh2) member from2 bacteroides cellulosilyticus dsm 14838

12	c5t9gD_			54.1	24	PDB header: hydrolase Chain: D: PDB Molecule: glycoside hydrolase; PDBTitle: crystal structure of bugh2cwt in complex with galactoisofagomine
13	d1hrua_			53.9	14	Fold: YrdC/RibB Superfamily: YrdC/RibB Family: YrdC-like
14	c3zihB_			52.8	19	PDB header: cell cycle Chain: B: PDB Molecule: cell division protein sepf; PDBTitle: bacillus subtilis sepf, c-terminal domain
15	c6dxuB_			51.9	21	PDB header: hydrolase Chain: B: PDB Molecule: glycosyl hydrolase family 2, tim barrel domain protein; PDBTitle: crystal structure of parabacteroides merdae beta-glucuronidase (gus)
16	c3fn9B_			49.6	17	PDB header: hydrolase Chain: B: PDB Molecule: putative beta-galactosidase; PDBTitle: crystal structure of putative beta-galactosidase from bacteroides2 fragilis
17	c6d8kD_			49.5	20	PDB header: hydrolase Chain: D: PDB Molecule: glycosyl hydrolase family 2, sugar binding domain protein; PDBTitle: bacteroides multiple species beta-glucuronidase
18	c5nkzC_			48.7	16	PDB header: transferase Chain: C: PDB Molecule: peroxin 22; PDBTitle: crystal structure of h. polymorpha ubiquitin conjugating enzyme pex4p2 in complex with soluble domain of pex22p
19	c3cmgA_			48.6	21	PDB header: hydrolase Chain: A: PDB Molecule: putative beta-galactosidase; PDBTitle: crystal structure of putative beta-galactosidase from bacteroides2 fragilis
20	c3p04A_			48.6	17	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized bcr; PDBTitle: crystal structure of the bcr protein from corynebacterium glutamicum.2 northeast structural genomics consortium target cgr8
21	d1pswa_		not modelled	47.5	16	Fold: UDP-Glycosyltransferase/glycogen phosphorylase Superfamily: UDP-Glycosyltransferase/glycogen phosphorylase Family: ADP-heptose LPS heptosyltransferase II
22	c2e55D_		not modelled	47.0	20	PDB header: transferase Chain: D: PDB Molecule: uracil phosphoribosyltransferase; PDBTitle: structure of aq2163 protein from aquifex aeolicus
23	d1veha_		not modelled	44.6	11	Fold: Alpha-lytic protease prodomain-like Superfamily: Fe-S cluster assembly (FSCA) domain-like Family: NifU C-terminal domain-like
24	c5un8B_		not modelled	43.8	17	PDB header: hydrolase Chain: B: PDB Molecule: protein o-glcnacase; PDBTitle: crystal structure of human o-glcnacase in complex with glycopeptide2 p53
25	c4ypjB_		not modelled	42.9	17	PDB header: hydrolase Chain: B: PDB Molecule: beta galactosidase; PDBTitle: x-ray structure of the mutant of glycoside hydrolase
26	c6mvgB_		not modelled	42.7	21	PDB header: hydrolase Chain: B: PDB Molecule: beta-glucuronidase; PDBTitle: crystal structure of fmn-binding beta-glucuronidase from ruminococcus2 gnarus
27	c2q5cA_		not modelled	42.5	13	PDB header: transcription Chain: A: PDB Molecule: ntrc family transcriptional regulator; PDBTitle: crystal structure of ntrc family transcriptional regulator from2 clostridium acetobutylicum
28	c3hbmA_		not modelled	42.2	9	PDB header: hydrolase Chain: A: PDB Molecule: udp-sugar hydrolase; PDBTitle: crystal structure of pseg from campylobacter jejuni
29	c3nq7A_		not modelled	42.2	22	PDB header: ligase Chain: A: PDB Molecule: uroporphyrinogen iii cosynthase (hemd);

29	c3p2cm	Alignment	not modelled	42.2	22	PDBTitle: crystal structure of uroporphyrinogen-iii synthetase from helicobacter2 pylori 26695 PDB header: hydrolase Chain: A: PDB Molecule: beta-galactosidase; PDBTitle: unravelling the multiple functions of the architecturally intricate2 streptococcus pneumoniae beta-galactosidase, bgaa.
30	c4cucA	Alignment	not modelled	41.0	12	PDB header: hydrolase Chain: A: PDB Molecule: glycosyl hydrolases family 2, sugar binding domain protein; PDBTitle: crystal structure of bacteroides uniformis beta-glucuronidase
31	c5uij6A	Alignment	not modelled	41.0	18	PDB header: hydrolase Chain: A: PDB Molecule: lip1, secretory lipase (family 3); PDBTitle: crystal structure of mono- and diacylglycerol lipase from malassezia2 globosa
32	c3ueueA	Alignment	not modelled	40.5	7	PDB header: transport protein Chain: B: PDB Molecule: large-conductance mechanosensitive channel; PDBTitle: structure of the c-terminal domain of the e. coli mechanosensitive2 channel of large conductance
33	c4lkuB	Alignment	not modelled	40.0	24	PDB header: transport protein Chain: A: PDB Molecule: large-conductance mechanosensitive channel; PDBTitle: structure of the c-terminal domain of the e. coli mechanosensitive2 channel of large conductance
34	c4lkuA	Alignment	not modelled	40.0	24	PDB header: transferase Chain: A: PDB Molecule: aminotransferase class-iii; PDBTitle: structure of thermostable omega-transaminase
35	c5d95A	Alignment	not modelled	39.8	13	PDB header: unknown function Chain: A: PDB Molecule: uncharacterized protein mxan_0049; PDBTitle: solution structure of mxan_0049
36	c6a4cA	Alignment	not modelled	39.3	25	PDB header: transferase Chain: A: PDB Molecule: capsular polysaccharide export system protein kpsc; PDBTitle: thermosulfurimonas dismutans kpsc, beta kdo 2,4 transferase
37	c6mgbA	Alignment	not modelled	39.1	29	PDB header: hydrolase Chain: B: PDB Molecule: glycosyl hydrolases family 2, sugar binding domain protein; PDBTitle: apo structure of bacteroides uniformis beta-glucuronidase 3
38	c6d1pB	Alignment	not modelled	36.9	21	PDB header: hydrolase Chain: B: PDB Molecule: glycosyl hydrolase family 2, sugar binding domain protein; PDBTitle: bacteroides dorei beta-glucuronidase
39	c6ed1B	Alignment	not modelled	36.8	24	PDB header: Chelatase-like Superfamily: PrpR receptor domain-like Family: PrpR receptor domain-like
40	d2pjua1	Alignment	not modelled	36.5	17	PDB header: hydrolase Chain: A: PDB Molecule: beta-galactosidase/beta-glucuronidase; PDBTitle: crystal structure of fmn-binding beta-glucuronidase from2 facaelibacterium prausnitzii l2-6
41	c6mvfA	Alignment	not modelled	35.5	21	PDB header: hydrolase Chain: A: PDB Molecule: l-asparaginase; PDBTitle: crystal structure of linker less pyrococcus furiosus l-asparaginase
42	c4ra6A	Alignment	not modelled	35.3	25	PDB header: ligase Chain: D: PDB Molecule: e3 ubiquitin-protein ligase dtx3l; PDBTitle: the carboxyl terminal domain of human deltex 3-like
43	c3pg6D	Alignment	not modelled	35.1	32	PDB header: transferase Chain: B: PDB Molecule: glycosyl transferase family 9; PDBTitle: the crystal structure of the glycosyl transferase family 9 from2 veillonella parvula dsm 2008
44	c3tovB	Alignment	not modelled	34.1	11	PDB header: hydrolase Chain: A: PDB Molecule: glycosyl hydrolase family 2, tim barrel domain protein; PDBTitle: crystal structure of parabacteroides merdae beta-glucuronidase (gus)
45	c6dxuA	Alignment	not modelled	33.9	21	PDB header: hydrolase Chain: C: PDB Molecule: bifunctional oligoribonuclease and pap phosphatase rnaa; PDBTitle: structure of bacillus nanornase a (wt)
46	c5j21C	Alignment	not modelled	32.8	19	PDB header: hydrolase Chain: C: PDB Molecule: beta-galactosidase; PDBTitle: e. coli (lacZ) beta-galactosidase in complex with galacto-2 tetrazole
47	c1jz6C	Alignment	not modelled	31.5	19	Fold: PLP-dependent transferase-like Superfamily: PLP-dependent transferases Family: GABA-aminotransferase-like
48	d1z7da1	Alignment	not modelled	31.3	10	PDB header: hydrolase Chain: A: PDB Molecule: glycoside hydrolase family 2, candidate beta-glycosidase; PDBTitle: crystal structure of a beta-glycosidase from bacteroides vulgatus
49	c3gm8A	Alignment	not modelled	31.1	24	Fold: Heme oxygenase-like Superfamily: Heme oxygenase-like Family: Eukaryotic type heme oxygenase
50	d1woval	Alignment	not modelled	30.7	23	PDB header: transferase Chain: D: PDB Molecule: 4-aminobutyrate transaminase; PDBTitle: directed evolution of transaminases by ancestral reconstruction. using2 old proteins for new chemistries
51	c5kqwD	Alignment	not modelled	30.7	9	PDB header: hydrolase Chain: A: PDB Molecule: beta-galactosidase; PDBTitle: beta-galactosidase - construct 33-930
52	c5dmvA	Alignment	not modelled	29.3	21	PDB header: hydrolase Chain: A: PDB Molecule: putative deoxyribonuclease tatdn3; PDBTitle: crystal structure of the human tatd-domain protein 3 (tatdn3)
53	c2y1hA	Alignment	not modelled	27.4	15	

54	c2ekcA	Alignment	not modelled	26.8	20	PDB header: lyase Chain: A: PDB Molecule: tryptophan synthase alpha chain; PDBTitle: structural study of project id aq_1548 from aquifex aeolicus vf5
55	c4lkuD	Alignment	not modelled	26.7	24	PDB header: transport protein Chain: D: PDB Molecule: large-conductance mechanosensitive channel; PDBTitle: structure of the c-terminal domain of the e. coli mechanosensitive2 channel of large conductance
56	c5gw8A	Alignment	not modelled	26.5	13	PDB header: hydrolase Chain: A: PDB Molecule: hypothetical secretory lipase (family 3); PDBTitle: crystal structure of a putative dag-like lipase (mgmdl2) from2 malassezia globosa
57	c4lkuC	Alignment	not modelled	26.5	24	PDB header: transport protein Chain: C: PDB Molecule: large-conductance mechanosensitive channel; PDBTitle: structure of the c-terminal domain of the e. coli mechanosensitive2 channel of large conductance
58	c5g2pA	Alignment	not modelled	25.6	20	PDB header: transferase Chain: A: PDB Molecule: transaminase; PDBTitle: the crystal structure of a s-selective transaminase from2 arthrobacter sp.
59	c6oviA	Alignment	not modelled	25.6	20	PDB header: lyase Chain: A: PDB Molecule: keto-deoxy-phosphogluconate aldolase; PDBTitle: crystal structure of kdpg aldolase from legionella pneumophila with 2 pyruvate captured at low ph as a covalent carbinolamine intermediate
60	c2d6fA	Alignment	not modelled	25.6	30	PDB header: ligase/rna Chain: A: PDB Molecule: glutamyl-trna(gln) amidotransferase subunit d; PDBTitle: crystal structure of glu-trna(gln) amidotransferase in the2 complex with trna(gln)
61	c2xsbA	Alignment	not modelled	25.3	18	PDB header: hydrolase Chain: A: PDB Molecule: hyaluronoglucosaminidase; PDBTitle: ogoga pugnac complex
62	c6j9mF	Alignment	not modelled	25.0	50	PDB header: hydrolase/hydrolase inhibitor Chain: F: PDB Molecule: crispr-associated endonuclease cas9; PDBTitle: nmebh+acriic2
63	c5t98B	Alignment	not modelled	24.9	19	PDB header: hydrolase Chain: B: PDB Molecule: glycoside hydrolase; PDBTitle: crystal structure of bugh2awt
64	c6iz9B	Alignment	not modelled	24.7	19	PDB header: transferase Chain: B: PDB Molecule: beta-transaminase; PDBTitle: crystal structure of the apo form of a beta-transaminase from2 mesorhizobium sp. strain luk
65	c3nm3D	Alignment	not modelled	24.7	24	PDB header: transferase Chain: D: PDB Molecule: thiamine biosynthetic bifunctional enzyme; PDBTitle: the crystal structure of candida glabrata thi6, a bifunctional enzyme2 involved in thiamin biosynthesis of eukaryotes
66	c3mv14	Alignment	not modelled	23.9	19	PDB header: hydrolase Chain: 4: PDB Molecule: beta-galactosidase; PDBTitle: e.coli (lacZ) beta-galactosidase (r599a) in complex with guanidinium
67	c6j9mA	Alignment	not modelled	23.9	50	PDB header: hydrolase/hydrolase inhibitor Chain: A: PDB Molecule: crispr-associated endonuclease cas9; PDBTitle: nmebh+acriic2
68	c2cjda	Alignment	not modelled	23.8	16	PDB header: transferase Chain: A: PDB Molecule: l-lysine-epsilon aminotransferase; PDBTitle: lysine aminotransferase from m. tuberculosis in external aldimine form
69	d1agxa	Alignment	not modelled	23.6	27	Fold: Glutaminase/Asparaginase Superfamily: Glutaminase/Asparaginase Family: Glutaminase/Asparaginase
70	c2gzxB	Alignment	not modelled	23.5	15	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: putative tadt related dnase; PDBTitle: crystal structure of the tadt deoxyribonuclease mw0446 from2 staphylococcus aureus. northeast structural genomics consortium3 target zr237.
71	d1zq1a2	Alignment	not modelled	23.2	24	Fold: Glutaminase/Asparaginase Superfamily: Glutaminase/Asparaginase Family: Glutaminase/Asparaginase
72	c5ey5A	Alignment	not modelled	23.2	20	PDB header: lyase Chain: A: PDB Molecule: lbcats-a; PDBTitle: lbcats
73	d1jcua	Alignment	not modelled	23.1	17	Fold: YrdC/RibB Superfamily: YrdC/RibB Family: YrdC-like
74	c2r8zC	Alignment	not modelled	23.1	9	PDB header: hydrolase Chain: C: PDB Molecule: 3-deoxy-d-manno-octulosonate 8-phosphate phosphatase; PDBTitle: crystal structure of yrb phosphatase from escherichia coli in complex2 with a phosphate and a calcium ion
75	c5wmiA	Alignment	not modelled	22.2	18	PDB header: transferase Chain: A: PDB Molecule: bifunctional aspartate aminotransferase and PDBTitle: arabidopsis thaliana prephenate aminotransferase mutant- t84v
76	c3m1pA	Alignment	not modelled	22.1	11	PDB header: isomerase Chain: A: PDB Molecule: ribose 5-phosphate isomerase; PDBTitle: structure of ribose 5-phosphate isomerase type b from trypanosoma2 cruzi, soaked with allose-6-phosphate
77	c3k7pA	Alignment	not modelled	22.1	11	PDB header: isomerase Chain: A: PDB Molecule: ribose 5-phosphate isomerase; PDBTitle: structure of mutant of ribose 5-phosphate isomerase type b from2 trypanosoma cruzi.
78	d1xi3a	Alignment	not modelled	21.7	14	Fold: TIM beta/alpha-barrel Superfamily: Thiamin phosphate synthase

					Family: Thiamin phosphate synthase
79	c3sggA_	Alignment	not modelled	21.5	PDB header: hydrolase Chain: A: PDB Molecule: hypothetical hydrolase; PDBTitle: crystal structure of a putative hydrolase (bt_2193) from bacteroides2 thetaiotaomicron vpi-5482 at 1.25 a resolution
80	c1nijA_	Alignment	not modelled	21.5	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: hypothetical protein yjia; PDBTitle: yjia protein
81	c3iz6A_	Alignment	not modelled	21.5	PDB header: ribosome Chain: A: PDB Molecule: 40s ribosomal protein sa (s2p); PDBTitle: localization of the small subunit ribosomal proteins into a 5.5 a2 cryo-em map of triticum aestivum translating 80s ribosome
82	c5diyB_	Alignment	not modelled	20.8	PDB header: hydrolase Chain: B: PDB Molecule: hyaluronidase; PDBTitle: thermobaculum terrenum o-glcncac hydrolase mutant - d120n
83	c3bgaB_	Alignment	not modelled	20.2	PDB header: hydrolase Chain: B: PDB Molecule: beta-galactosidase; PDBTitle: crystal structure of beta-galactosidase from bacteroides2 thetaiotaomicron vpi-5482
84	c4ikuE_	Alignment	not modelled	19.9	PDB header: transport protein Chain: E: PDB Molecule: large-conductance mechanosensitive channel; PDBTitle: structure of the c-terminal domain of the e. coli mechanosensitive2 channel of large conductance
85	c4rajA_	Alignment	not modelled	19.9	PDB header: oxidoreductase Chain: A: PDB Molecule: heme oxygenase; PDBTitle: crystal structure of heme oxygenase 2 from chlamydomonas reinhardtii2 without heme.
86	c3ssoE_	Alignment	not modelled	19.8	PDB header: transferase Chain: E: PDB Molecule: methyltransferase; PDBTitle: myc methyltransferase from the mycinamycin biosynthetic pathway in2 complex with mg and sah, crystal form 2
87	d1jr2a_	Alignment	not modelled	19.7	Fold: HemD-like Superfamily: HemD-like Family: HemD-like
88	c1jr2A_	Alignment	not modelled	19.7	PDB header: lyase Chain: A: PDB Molecule: uroporphyrinogen-iii synthase; PDBTitle: structure of uroporphyrinogen iii synthase
89	c5xxuM_	Alignment	not modelled	18.9	PDB header: ribosome Chain: M: PDB Molecule: ribosomal protein es12; PDBTitle: small subunit of toxoplasma gondii ribosome
90	c2zsmA_	Alignment	not modelled	18.8	PDB header: isomerase Chain: A: PDB Molecule: glutamate-1-semialdehyde 2,1-aminomutase; PDBTitle: crystal structure of glutamate-1-semialdehyde 2,1-2 aminomutase from aeropyrum pernix, hexagonal form
91	d1ojra_	Alignment	not modelled	18.8	Fold: AraD/HMP-PK domain-like Superfamily: AraD/HMP-PK domain-like Family: AraD-like aldolase/epimerase
92	c6etzA_	Alignment	not modelled	18.8	PDB header: hydrolase Chain: A: PDB Molecule: beta-galactosidase; PDBTitle: cold-adapted beta-d-galactosidase from arthrobacter sp. 32cb
93	d1pj3a1	Alignment	not modelled	18.1	Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: Aminoacid dehydrogenase-like, C-terminal domain
94	c3g7nA_	Alignment	not modelled	18.0	PDB header: hydrolase Chain: A: PDB Molecule: lipase; PDBTitle: crystal structure of a triacylglycerol lipase from penicillium2 expansum at 1.3
95	d1k7ja_	Alignment	not modelled	17.9	Fold: YrdC/RibB Superfamily: YrdC/RibB Family: YrdC-like
96	c3m1yA_	Alignment	not modelled	17.8	PDB header: hydrolase Chain: A: PDB Molecule: phosphoserine phosphatase (serb); PDBTitle: crystal structure of a phosphoserine phosphatase (serb) from helicobacter pylori
97	c5cgaC_	Alignment	not modelled	17.4	PDB header: transferase Chain: C: PDB Molecule: hydroxyethylthiazole kinase; PDBTitle: structure of hydroxyethylthiazole kinase thim from staphylococcus2 aureus in complex with substrate analog 2-(1,3,5-trimethyl-1h-3 pyrazole-4-yl)ethanol
98	c3l7mc_	Alignment	not modelled	17.3	PDB header: structural protein Chain: C: PDB Molecule: teichoic acid biosynthesis protein f; PDBTitle: structure of the wall teichoic acid polymerase tagf, h548a
99	c1yq2C_	Alignment	not modelled	16.9	PDB header: hydrolase Chain: C: PDB Molecule: beta-galactosidase; PDBTitle: beta-galactosidase from arthrobacter sp. c2-2 (isoenzyme c2-2 2-1)