Table S1. Predicted proteins, gene starts and annotations of *C. crescentus* phage phiCbK. Upstream sequence is the 25 bp of DNA sequence upstream of the start codon, with the predicted Shine-Dalgarno motif capitalized. S-D is the Shine-Dalgarno motif associated with the gene start, and spacing is the interval (in bp) between the S-D and start codon. Evidence includes detected conserved domains or motifs, BlastP and HHpred hits, and experimental or other evidence as detailed in the text.

Protein name	Strand	Upstream Sequence	Start Codon	S-D	spacing	Predicted product	Evidence
CbK_gp001	+	tggcaaatcaAGGAGccggcg	atg	aggag	6	hypothetical conserved protein	
CbK_gp002	+	cgatttcaAGGgcttatacct	atg	agg	10	hypothetical conserved protein	
CbK_gp003	+	ccagcccttgtGAGGcctcgg	atg	gagg	6	hypothetical conserved protein	
CbK_gp004	+	ccgggcaAGGAGcttcccgcc	atg	aggag	9	hypothetical conserved protein	
CbK_gp005	+	gcgccttcGGAGaaaaccgcc	atg	ggag	9	hypothetical conserved protein	
CbK_gp006	+	cttcaatgacGGGGcggccgg	gtg	gggg	7	hypothetical conserved protein	
CbK_gp007	+	ggccttcaAGGAGtccgcccc	gtg	aggag	8	hypothetical conserved protein	
CbK_gp008	+	ctttcaAGGAttgctcccgtc	atg	agga	11	hypothetical conserved protein	
CbK_gp009	+	gccggccaAGGAtcgcagacc	atg	agga	9	hypothetical conserved protein	
CbK_gp010	+	tcctcgaaAGGAtcgccgacc	atg	agga	9	hypothetical conserved protein	
CbK_gp011	+	gacgacggGGAGGcgtgagcc	gtg	ggagg	8	hypothetical conserved protein	
CbK_gp012	+	gccgcccaAGGAttggaccgc	atg	agga	9	hypothetical conserved protein	
CbK_gp013	+	ccctcgcaAGGAtcgcacccc	atg	agga	9	hypothetical conserved protein	
CbK_gp014	+	ttgggcGGGGgtcgcctccta	atg	gggg	10	hypothetical novel protein	
CbK_gp015	+	catagaagAGGActaaaccca	atg	agga	9	hypothetical conserved protein	
CbK_gp016	+	caaccgaAGGccgcctaagcc	atg	agg	11	hypothetical conserved protein	
CbK_gp017	+	cccgcaAGGAGGcttaagacc	atg	aggagg	9	hypothetical conserved protein	
CbK_gp018	+	ccttccttcGGAGcttccaaa	atg	ggag	8	hypothetical conserved protein	
CbK_gp019	+	cccctctctGGAtcgctcccc	atg	gga	9	hypothetical conserved protein	
CbK_gp020	+	ggtcgcaAGGAGacacccgac	atg	aggag	9	hypothetical conserved protein	
CbK_gp021	+	cacgcaatcgAGGAGcccgtc	atg	aggag	6	hypothetical conserved protein	
CbK_gp022	+	tccgAGGAcggcaagcacgtc	atg	agga	13	hypothetical conserved protein	
CbK_gp023	+	cgcccttGGAGttcccggacg	atg	ggag	10	hypothetical conserved protein	
CbK_gp024	+	caacaaGAGGTaccccgcctg	atg	gaggt	10	putative lipoprotein	LipoP
CbK_gp025	+	acgcttgtttGGAaaatactg	atg	gga	8	hypothetical conserved protein	
CbK_gp026	+	acttcaaccccgtAGGcgtaac	atg	agg	6	hypothetical conserved protein	
CbK_gp027	+	caccagcaacGAGttccattg	atg	gag	8	hypothetical conserved protein	
CbK_gp028	+	catccccatcggaGAGGcctg	atg	gagg	4	hypothetical conserved protein	
CbK_gp029	+	ctacgagcgcgtGGAGGcccc	gtg	ggagg	4	hypothetical conserved protein	
CbK_gp030	+	ggtcccgctGGAGccgctgcc	gtg	ggag	8	hypothetical conserved protein	
CbK_gp031	+	tcgccggcaAGGAGGcgatcc	atg	aggagg	6	hypothetical conserved protein	
CbK_gp032	+	gccccgcaAGGAGcgtgtctt	ttg	aggag	8	hypothetical conserved protein	
CbK_gp033	+	agacgccgcctgaAGGAcatc	atg	agga	4	hypothetical conserved protein	
CbK_gp034	+	tcgccccgtaacgAGGAcccc	atg	agga	4	hypothetical conserved protein	
CbK_gp035	+	ccctgatcaccGAGGcctgac	atg	gagg	6	hypothetical conserved protein	
CbK_gp036	+	gggcatgaagaAGGcgaagtc	atg	agg	7	hypothetical conserved protein	
CbK_gp037	+	gcgcGGAcaactggcggcggc	atg	gga	14	hypothetical conserved protein	
CbK_gp038	+	ggcatcaAGGccgccttcagc	ctg	agg	11	hypothetical conserved protein	
CbK_gp039	+	cgaaactgtGAGGcccattcg	atg	gagg	8	hypothetical conserved protein	
CbK_gp040	-	gctacctcaAGGAGtagcacc	gtg	aggag	7	hypothetical conserved protein	
CbK_gp041	-	gacacttaaGGGGtgtcgatc	atg	gggg	8	putative transglutaminase-like cysteine peptidase	IPR010319
CbK_gp042	+	gcgacctcgcAGGccatctat	ctg	agg	8	portal protein	HHpred vs pdb70_18Aug12, hit 2jes_A, prob 99.9% E=4.9E-23; positional evidence, see text
CbK_gp043	+	cccgaacccgAGGAccgcccg	atg	agga	7	hypothetical conserved protein	
CbK_gp044	+	aaccctagcttgcaGAGtaac	atg	gag	4	hypothetical conserved protein	
CbK_gp045	+	ccgccccaagaaagcgacctg	atg	None	0	hypothetical conserved protein	
CbK_gp046	+	cctccagccttGAGGcgcccc	gtg	gagg	6	hypothetical conserved protein	
CbK_gp047	+	gttaaccacGAGGgcttttcc	atg	gagg	8	hypothetical conserved protein	
CbK_gp048	+	gctcctttcccaGAGGgctcc	atg	gagg	5	hypothetical conserved protein	
CbK_gp049	+	cgaccgcgtgcGGGGcacctg	atg	gggg	6	hypothetical conserved protein	
CbK_gp050	+	tccaagcttAGGAGcccgtcc	atg	aggag	7	hypothetical conserved protein	
CbK_gp051	+	gatcaccgcctcggtcgagac	gtg	None	0	hypothetical conserved protein	
CbK_gp052	+	gaccatctacGAGagcacgcg	atg	gag	6	hypothetical conserved protein	
CbK_gp053	+	ggtgaccttcagGGAagagcc	gtg	gga	6	hypothetical conserved protein	
CbK_gp054	+	tccggtcgAGGAGGgtgacat	ttg	aggagg	7	hypothetical conserved protein	
CbK_gp055	+	gcgcgaagccgccaagcgtcc	atg	None	0	hypothetical conserved protein	
CbK_gp056	+	ttaaccatgacgggctccctg	atg	None	0	hypothetical conserved protein	
CbK_gp057	+	gatgggcgAGGAGcgctacca	gtg	aggag	8	putative HD-domain/PDEase-like protein	SSF109604
CbK_gp058	+	aacgatacGAGaacatccgct	atg	gag	10	hypothetical conserved protein	
CbK_gp059	+	gctatctGGAccgctgagccg	atg	gga	11	hypothetical conserved protein	
CbK_gp060	+	cctgccgaagaAGGccgcctg	atg	agg	7	putative DHH phosphoesterase protein	SSF64182
CbK_gp061	+	caagcgccgggcGGGGacggc	gtg	gggg	5	hypothetical conserved protein	
CbK_gp062	+	tctgccaacAGGAGatcgccg	gtg	aggag	7	hypothetical conserved protein	
CbK_gp063	+	ttccagcacatctAGGAcccc	atg	agga	4	hypothetical conserved protein	
CbK_gp064	+	gattacGAGGcctatcaccac	gtg	gagg	11	hypothetical conserved protein	
CbK_gp065	+	ttcgctgcGAGGccatttctg	atg	gagg	9	hypothetical conserved protein	
CbK_gp066	+	aagccggcgcgcaacttccgg	atg	None	0	putative HNH endonuclease	IPR002711
CbK_gp067	+	ccgtgggtaGAGagaaactgt	atg	gag	7	hypothetical conserved protein	
CbK_gp068	+	cgtgacaaGAGaattccctcg	gtg	gag	10	major capsid protein	experimental evidence, see text
CbK_gp069	+	atctaagcAGGAaatccccag	atg	agga	9	minor capsid protein	experimental evidence, see text
CbK_gp070	+	cccccgaaacGGAaaatcccc	atg	gga	8	hypothetical conserved protein	

CbK_gp071	+	aagcccacggcggcctaagcc	atg	None	0	hypothetical conserved protein	
CbK_gp072	+	atcacccAGGTgaactaagcc	gtg	aggt	10	hypothetical conserved protein	
CbK_gp073	+	caactccgctacgcctaagtc	atg	None	0	hypothetical conserved protein	
CbK_gp074	+	ttcacgaactaagGGAcggcc	atg	gga	5	hypothetical conserved protein	
CbK_gp075	+	acccccccAGGAGccctgaacc	atg	aggag	9	hypothetical conserved protein	
CbK_gp076	+	ccgcctcaAGGgtccttcgcg	ttg	agg	10	putative lectin-like domain protein	IPR013320, IPR008985
CbK_gp077	+	cagacctGGAGGcctaagacc	atg	ggagg	9	hypothetical conserved protein	
CbK_gp078	+	ttccgctcgcaGGGGcgccgc	gtg	gggg	6	hypothetical conserved protein	
CbK_gp079	+	tctGGAGtttcgagcgccatc	atg	ggag	14	hypothetical conserved protein	
CbK_gp080	+	acgcaccgccAGGgcttttcc	atg	agg	8	hypothetical conserved protein	
CbK_gp081	+	ctgcggtcgcgcGAGGcttcc	atg	gagg	5	hypothetical conserved protein	
CbK_gp082	-	tctcaaccttAGGAGcagctt	atg	aggag	6	hypothetical conserved protein	
CbK_gp083	+	ggcggccgttcGAGagctatc	atg	gag	5	hypothetical conserved protein	
CbK_gp084	+	agtcGGGGaccgagagccgtc	atg	gggg	13	hypothetical conserved protein	
CbK_gp085	+	tcctgggtGGAGttttcccta	atg	ggag	9	hypothetical conserved protein	
CbK_gp086	+	cgccatcccagagGGAGcgac	gtg	ggag	4	putative PhoH-like protein	IPR003714, SSF52540, G3DSA:3.40.50.300
CbK_gp087	+	gtgacaaagacgtagcgcacc	atg	None	0	hypothetical conserved protein	
CbK_gp088	+	caagaagatcattcgccacta	atg	None	0	hypothetical conserved protein	
CbK_gp089	+	cagcacgcGGAagaagacccc	gtg	gga	10	hypothetical conserved protein	
CbK_gp090	+	ctcgattaaaGAGGTgttcgg	atg	gaggt	6	hypothetical conserved protein	
CbK_gp091	+	gttttggctgggaGAGGactg	atg	gagg	4	hypothetical conserved protein	
CbK_gp092	+	ccgtGGAttggtgacctgccc	atg	gga	14	major tail tube protein	experimental evidence, see text
CbK_gp093	+	cccgatacGGAatccccgaac	atg	gga	10	putative pre-tape measure chaperone protein	HHpred vs pdb70_18Aug12, hit 2ob9_A, prob 89.3% E=0.82; positional evidence, see text
CbK_gp094	+	cccgatacGGAatccccgaac	atg	gga	10	putative pre-tape measure chaperone protein, frameshifted version	positional evidence, see text; slippery sequence AAAAAAC
CbK_gp095	+	gcGGGGccgccgataggatca	atg	gggg	15	tail tape measure protein	IPR007921, IPR013491, IPR013423; experimental evidence, see text
CbK_gp096	+	tcctttcatggttaatgcccg	atg	None	0	hypothetical conserved protein	IPR011740
CbK_gp097	+	ctggcaaGAGGcccctgacgcc	gtg	gagg	10	virion-associated protein, putative tail protein	IPR019228, IPR018964, IPR011928; experimental evidence, see text
CbK_gp098	+	gcccaacgctccGGAGcagga	atg	ggag	5	putative NlpC/P60 family cell wall peptidase	IPR000064, SSF54001, G3DSA:3.90.1720.10
CbK_gp099	+	ccccggcgttgAGGActaatc	atg	agga	6	virion-associated protein, putative tail protein	IPR007110; experimental evidence, see text
CbK_gp100	+	tgtcataaaagtcgtggaacg	atg	None	0	hypothetical conserved protein	
CbK_gp101	+	cctcaAGGgcgtcatcctgca	atg	agg	13	virion-associated protein, putative tail protein	IPR000421, IPR008979, G3DSA:2.60.120.260; experimental evidence, see text
CbK_gp102	+	accctcaagGGAatccgatag	atg	gga	9	hypothetical conserved protein	
CbK_gp103	+	tcttcatgctcGGAGcctgac	atg	ggag	6	hypothetical conserved protein	
CbK_gp104	+	tcagcacttccGGAattccac	atg	gga	7	putative endolysin	IPR002196, SSF53955, G3DSA:1.10.530.40
CbK_gp105	+	gggcttcaAGGgctgctgatc	atg	agg	10	putative inner membrane spanin component	N-terminal TMD, outer membrane spanin component embedded in +1 frame, see text
CbK_gp106	+	agtaccaaGAGGTtattcacg	atg	gaggt	8	putative outer membrane spanin component	lipoprotein embedded in inner membrane spanin component, see text
CbK_gp107	+	caagctcaaAGGgcagaagca	gtg	agg	9	putative holin protein	predicted 4 TMDs, see text
CbK_gp108	+	cgctatcacGGAGtagggacc	atg	ggag	8	hypothetical conserved protein	
CbK_gp109	-	cgacggacggAGGAGaacgaa	atg	aggag	6	putative HTH domain DNA-binding protein	IPR001387, IPR010982, G3DSA:1.10.260.40
CbK_gp110	-	ttaaccaGAGGcccgaaaata	atg	gagg	10	putative dUTP pyrophosphatase	IPR008181, IPR008180, SSF51283, PTHR11241, G3DSA:2.70.40.10
CbK_gp111	-	tccttttcctGAGacccttc	atg	gag	8	putative ribonucleoside diphosphate reductase beta subunit	IPR012348, IPR012335, IPR000358, IPR002109, IPR009078, IPR012336, IPR011767
CbK_gp112	-	tcgacgcGAGaacGAGacccc	atg	gag	5	putative ribonucleoside diphosphate reductase alpha subunit	IPR006141, IPR003587, IPR000788, IPR013509, IPR008926, SSF51294, SSF51998, G3DSA:2.170.16.10, G3DSA:3.20.70.20
CbK_gp113	-	cggtggttGGGGtggctggcg	ttg	gggg	9	hypothetical conserved protein	
CbK_gp114	-	tcctcatgcagcAGGAatccc	atg	agga	5	hypothetical conserved protein	
CbK_gp115	-	acgacatcaccGGAGccgagc	atg	ggag	6	hypothetical conserved protein	
CbK_gp116	-	gacgccgaccAGGActgaccc	atg	agga	7	putative thymidylate synthase	IPR003669
CbK_gp117	-	atccttcgctAGGAGaacccc	atg	aggag	6	putative dNMP kinase	HHpred vs pdb70_18Aug12, hit 2grj_A, prob 100% E=7.4E-28; SSF52540, G3DSA:3.40.50.300
CbK_gp118	-	aagatcaAGGAcgggcaaccc	ctg	agga	10	putative RecD-like helicase	HHpred vs pdb70_18Aug12, hit 3e1s_A, prob 100% E=1.3E-45; SSF52540, G3DSA:3.40.50.300
CbK_gp119	-	acagaaaatAGGTatcagcaa	atg	aggt	8	hypothetical conserved protein	
CbK_gp120	-	aGAGaaatgtgacggtgcgcg	atg	gag	17	hypothetical conserved protein	
CbK_gp121	-	actcccgaacGAGatcgcccg	atg	gag	8	putative exoribonuclease, Pol III-like	IPR006055, IPR013520, IPR012337, G3DSA:3.30.420.10
CbK_gp122	-	cacctgggcGGAGacgcactg	atg	ggag	8	hypothetical conserved protein	
CbK_gp123	-	atcaaatcctcaAGGTgctcc	atg	aggt	5	putative Pol I DNA polymerase, T7-like	IPR001098, IPR012337, SSF56672, PTHR10133, G3DSA:1.10.150.20, G3DSA:1.20.1060.10, G3DSA:3.30.420.10, G3DSA:3.30.70.370; see text
CbK_gp124	-	acatccgttaaccatagagcc	atg	None	0	putative DNA cytosine methyltransferase	IPR001525, IPR018117, SSF53335, PTHR10629:SF11, G3DSA:3.40.50.150, G3DSA:3.90.120.10
CbK_gp125	-	ggcgcctgtaagcGAGGtccc	atg	gagg	4	hypothetical conserved protein	
CbK_gp126	-	gcgccaaaccGGAGcttctct	atg	ggag	7	putative T5 A1-like protein	blastP to T5 A1 (AAU05157), E=2.81E-89, 34.2% Dice identity; HHpred vs pdb70_18Aug12, hit 1g2h_A, prob 94.0% E=0.049
CbK_gp127	-	tccggatatgccAGGAccccg	ctg	agga	5	putative DNA methylase	IPR002052, SSF53335, G3DSA:3.40.50.150
CbK_gp128	-	aggctccgttcgcgGGActtg	ctg	gga	4	hypothetical conserved protein	
CbK_gp129	-	aaagatcgctatcgttgtcgt	atg	None	0	hypothetical conserved protein	
CbK_gp130	-	catcgcaaAGGTcatggacac	gtg	aggt	9	hypothetical conserved protein	
CbK_gp131	-	cgttaaccacgtgcggcgccc	atg	None	0	putative DNA helicase	IPR014001, IPR001650, IPR000330, IPR014021, SSF52540, PTHR10799, G3DSA:3.40.50.300
CbK_gp132	+	ccggtcacaAGGAGaactatc	atg	aggag	7	hypothetical conserved protein	
CbK_gp133	-	ggaaatcaAGGAagccgcgtg	atg	agga	9	hypothetical conserved protein	
CbK_gp134	-	caccgccgcaaAGGccccctg	atg	agg	7	hypothetical conserved protein	
CbK_gp135	-	acccacGAGGTctcgcgctac	ctg	gaggt	10	hypothetical conserved protein	
CbK_gp136	-	gccttttcaAGGAtcgcttcg	atg	agga	8	hypothetical conserved protein	
CbK_gp137	-	gccggtctcaAGGAGacgacc	atg	aggag	6	Putative rIIb-like protein	PD130832
CbK_gp138	-	gcctgcctttcGGAGtttgcc	atg	ggag	6	putative rIIa-like protein	IPR003594
CbK_gp139	+	ggcaaactccgaaAGGcAGGc	ttg	agg	1	hypothetical conserved protein	
CbK_gp140	+	gcctGAGGcatgctcgtattc	atg	gagg	13	hypothetical conserved protein	
CbK_gp141	+	cgtatggtacgcgAGGAtgac	atg	agga	4	hypothetical conserved protein	
CbK_gp142	+	caccgacgggcgcgtcctcca	ttg	None	0	hypothetical conserved protein	
CbK_gp143	+	acgacaacgaAGGAGGctctc	atg	aggagg	5	putative tyrosine recombinase	IPR013762, IPR002104, IPR011010
CbK_gp144	+	gtcctgcgatAGGAGGgcgcg	atg	aggagg	5	hypothetical conserved protein	

CbK_gp145	+	ccgttagtccAGGAGtacagt	ttg	aggag	6	hypothetical conserved protein	
CbK_gp146	+	acccccgtccgacAGGcttc	atg	agg	4	hypothetical conserved protein	
CbK_gp147	+	atcgctcctGGGGccttttga	gtg	gggg	8	hypothetical conserved protein	
CbK_gp148	+	tcctgtacggtaagGGAaaac	atg	gga	4	hypothetical conserved protein	
CbK_gp149	+	acgattcGGAGtattcatgaa	atg	ggag	10	putative HTH domain protein	IPR001387, G3DSA:1.10.260.40
CbK_gp150	+	cctgtattcctGAGGTcccgc	atg	gaggt	5	putative tRNA amidotransferase domain protein	IPR019004, IPR003789
CbK_gp151	-	acttatcGAGGgaaagttgag	atg	gagg	10	putative DNA ligase	IPR012340, IPR016027, SSF56091, G3DSA:3.30.470.30
CbK_gp152	-	tcgatccGGAGattttcggcg	atg	ggag	10	hypothetical conserved protein	
CbK_gp153	-	gccatcccctctatctccgag	gtg	None	0	hypothetical conserved protein	
CbK_gp154	-	gtttcAGGgcaaatgtcAGGa	atg	agg	1	DUF1643 protein	IPR012441
CbK_gp155	-	gcctcgcccttgaAGGAggca	atg	agga	4	hypothetical conserved protein	
CbK_gp156	-	gaagctaagaagcgggccacg	gtg	None	0	hypothetical conserved protein	
CbK_gp157	-	ctGGAtcgccccggcggcctg	atg	gga	16	hypothetical conserved protein	
CbK_gp158	-	gcttttgAGGAGtttggacgt	atg	aggag	9	hypothetical conserved protein	
CbK_gp159	-	agcaggactAGGAGaaagacc	atg	aggag	7	hypothetical conserved protein	
CbK_gp160	-	cgacgccaAGGAcgtctgcca	atg	agga	9	hypothetical conserved protein	
CbK_gp161	-	ggccggctacGAGatcgcctg	atg	gag	8	putative lipoprotein	LipoP
CbK_gp162	-	cgcttaaaGGGGgacctcatc	atg	gggg	8	putative nicotinate phosphoribosyltransferase	IPR015977, IPR002638, PTHR11098
CbK_gp163	-	cagaatgaGGGGtaagcgata	gtg	gggg	9	putative NUDIX hydrolase domain protein	IPR014729, IPR000086, IPR015797, SSF52374, PS51462, PTHR22769
CbK_gp164	-	aatacaagaacccaaagcgta	gtg	None	0	hypothetical conserved protein	
CbK_gp165	-	cgcaacgcctgGGActcactg	atg	gga	7	putative peptidyl-tRNA hydrolase	IPR002833, SSF102462, PTHR12649, G3DSA:3.40.1490.10
CbK_gp166	-	agcgccggccgccGAGGgctg	atg	gagg	4	hypothetical conserved protein	
CbK_gp167	-	taacctccagcAGGAGaccgc	atg	aggag	5	hypothetical conserved protein	
CbK_gp168	-	acaacgccGGAGGccctttc	atg	ggagg	8	hypothetical conserved protein	
CbK_gp169	-	ccccgatctccGAGaagcccc	atg	gag	7	putative HD-domain/PDEase-like protein	SSF109604
CbK_gp170	-	gggagaattcctGAGGgtcgc	atg	gagg	5	hypothetical conserved protein	
CbK_gp171	-	acgcccagaAGGActaatcct	atg	agga	8	putative DNA-binding domain protein	IPR016177, SSF54060
CbK_gp172	-	gaggcctcGGAGaagtaagcc	atg	ggag	9	hypothetical conserved protein	
CbK_gp173	-	tcttgagaAGGAacaaccctg	atg	agga	9	hypothetical conserved protein	
CbK_gp174	-	tcaacaAGGgcaagaacgccg	atg	agg	12	hypothetical conserved protein	
CbK_gp175	-	caagcAGGcggcgggtctgct	ttg	agg	13	hypothetical conserved protein	
CbK_gp176	-	gctgttcgactGGAGaaaatc	gtg	ggag	6	hypothetical conserved protein	
CbK_gp177	-	ctctgcgtgaAGGgctAGGcc	atg	agg	2	hypothetical conserved protein	
CbK_gp178	-	acaccacagaAGGAGcccgcc	gtg	aggag	6	putative RtcB-like protein	IPR001233
CbK_gp179	-	tacccctttcaAGGTgatcccc	atg	aggt	7	hypothetical conserved protein	
CbK_gp180	-	aacaaagcaAGGAGcaacccc	ttg	aggag	7	putative band 7 lipoprotein	IPR001107
CbK_gp181	-	actcctgaaAGGccgcgccca	atg	agg	9	hypothetical conserved protein	
CbK_gp182	-	gcagcgcgggctcgcggcctg	atg	None	0	hypothetical conserved protein	
CbK_gp183	-	acgacaacgaAGGAGacctcc	atg	aggag	6	hypothetical conserved protein	
CbK_gp184	-	caggatGGAGGccgccgccaa	atg	ggagg	10	hypothetical conserved protein	
CbK_gp185	-	tccgagccaAGGAGcgctgat	ttg	aggag	7	hypothetical conserved protein	
CbK_gp186	-	cgacagcgagAGGAGccgatc	atg	aggag	6	hypothetical conserved protein	
CbK_gp187	-	gcactctggaaaAGGAccacc	atg	agga	5	hypothetical conserved protein	
CbK_gp188	-	ggtcctctcgGGAGacaatcc	atg	ggag	7	hypothetical conserved protein	
CbK_gp189	-	tctgaaAGGctcgacctcctg	atg	agg	12	hypothetical conserved protein	
CbK_gp190	-	cgttccaactcgcAGGTctcc	gtg	aggt	4	hypothetical conserved protein	
CbK_gp191	-	cctgggcctGGAGaagcacct	gtg	ggag	8	hypothetical conserved protein	
CbK_gp192	-	gccctatatGAGcGAGcagca	gtg	gag	5	hypothetical conserved protein	
CbK_gp193	-	gacgacaacgAGGAGGccctg	atg	aggagg	5	putative ArdC-like antirestriction protein	IPR017113, IPR013610
CbK_gp194	-	cgcggcgataatGAGcgcctg	atg	gag	6	hypothetical conserved protein	
CbK_gp195	-	gggccggGGAGGgcgtgcatc	atg	ggagg	9	hypothetical conserved protein	
CbK_gp196	-	cgcctgccaGAGcctcaagtc	atg	gag	9	hypothetical conserved protein	
CbK_gp197	-	aacgacaccagggGGAGagcc	gtg	ggag	4	putative acyl carrier protein	IPR009081, IPR006163, PTHR20863
CbK_gp198	-	tcgacaacggcaAGGAcggct	atg	agga	5	putative HNH endonuclease	IPR002711
CbK_gp199	-	ctcattcgttaAGGAtcgacc	atg	agga	6	hypothetical conserved protein	
CbK_gp200	-	cgttcctgggctatcaaacgg	atg	None	0	hypothetical conserved protein	
CbK_gp201	-	tggGGAGaagctgaagtgagc	atg	ggag	14	hypothetical conserved protein	
CbK_gp202	-	cgccttcGAGGTgcaagcctg	atg	gaggt	9	hypothetical conserved protein	
CbK_gp203	-	tccggacctcGGAGaaggccc	gtg	ggag	7	hypothetical conserved protein	
CbK_gp204	-	gcggttcgAGGAGatcgaggc	ttg	aggag	8	hypothetical conserved protein	
CbK_gp205	-	gacgacaacggaAGGAaccct	atg	agga	5	hypothetical conserved protein	
CbK_gp206	-	cggtgacttcgccaAGGggac	atg	agg	4	hypothetical conserved protein	
CbK_gp207	-	gcgcgaaccgaAGGTcgactg	atg	aggt	6	hypothetical conserved protein	
CbK_gp208	-	gacgacaacaAGGAGGcctcc	atg	aggagg	5	hypothetical conserved protein	
CbK_gp209	-	ctacgtGGAGagccgggcggc	atg	ggag	11	hypothetical conserved protein	
CbK_gp210	-	cgcgcaatttccGGAGtgacc	atg	ggag	5	hypothetical conserved protein	SSF56784
CbK_gp211	-	ggcctgcgcgGGAGccctgtg	atg	ggag	7	hypothetical conserved protein	
CbK_gp212	-	tgcagggcctgGGAGactagg	gtg	ggag	6	hypothetical conserved protein	
CbK_gp213	-	gatcaagtcGAGGccctgagc	atg	gagg	8	hypothetical conserved protein	
CbK_gp214	-	ggctcccgtacAGGAtcacct	atg	agga	6	hypothetical conserved protein	
CbK_gp215	-	caccgggctcgtggcggcctg	atg	None	0	hypothetical conserved protein	
CbK_gp216	-	agcagaAGGAGGaagccgctc	atg	aggagg	9	putative HTH domain DNA-binding protein	IPR010982, IPR001387, G3DSA:1.10.260.40
CbK_gp217	-	aatcgcccAGGgcgccgcctg	atg	agg	10	hypothetical conserved protein	
CbK_gp218	-	acaacgacagaAGGAGGccgc	gtg	aggagg	4	hypothetical conserved protein	

CbK_gp219	-	gaggcgggcgaGGGGcacgtc	gtg	gggg	6	hypothetical conserved protein	
CbK_gp220	-	cactgtccggaAGGTcgagcc	atg	aggt	6	hypothetical conserved protein	
CbK_gp221	-	ggtctatcgccGGAGGgcctg	atg	ggagg	5	putative Pol I DNA polymerase, palm domain	IPR001098, IPR002298, SSF56672, G3DSA:3.30.70.370
CbK_gp222	-	agatcaAGGAGtagtgcaagc	gtg	aggag	10	putative GcrA-like cell cycle regulator	IPR011681; see text
CbK_gp223	-	gccgccaaattcGAGGggaag	atg	gagg	5	hypothetical conserved protein	
CbK_gp224	+	cgacaacgaaAGGAGcctgcc	atg	aggag	6	hypothetical conserved protein	
CbK_gp225	+	cgccgcGAGGctcgcccaatg	atg	gagg	11	hypothetical conserved protein	
CbK_gp226	+	caagatcGAGGaaGAGGtctg	atg	gagg	4	hypothetical conserved protein	
CbK_gp227	+	cattcgcgtgttGGGGctcgg	atg	gggg	5	hypothetical conserved protein	
CbK_gp228	+	caagctcaagaaAGGTcgcct	atg	aggt	5	hypothetical conserved protein	
CbK_gp229	+	cattctcgactAGGAGGaccc	atg	aggagg	4	hypothetical conserved protein	
CbK_gp230	+	tcgatttcctggcgggcgccg	atg	None	0	hypothetical conserved protein	
CbK_gp231	+	gtttctggaAGGTcaggactg	atg	aggt	8	hypothetical conserved protein	
CbK_gp232	+	agcgcgagccgcAGGTctgac	atg	aggt	5	hypothetical conserved protein	
CbK_gp233	+	cgacagcgaaAGGAGcctgcc	ttg	aggag	6	hypothetical conserved protein	
CbK_gp234	+	tcggatgctGGAGGTcgcggc	ttg	ggaggt	6	hypothetical conserved protein	
CbK_gp235	+	cgccgtggAGGAGatgcgccg	gtg	aggag	8	hypothetical conserved protein	
CbK_gp236	+	cgccgacttcaAGGAcaagcg	atg	agga	6	hypothetical conserved protein	
CbK_gp237	+	accgccGGAGGcagacccgac	gtg	ggagg	10	hypothetical conserved protein	
CbK_gp238	+	tcaagctGGAGaccgtctgac	atg	ggag	10	hypothetical conserved protein	
CbK_gp239	+	acgacaacgagAGGAGttccc	atg	aggag	5	hypothetical conserved protein	
CbK_gp240	+	cacggaatgGGAGattttcga	atg	ggag	8	hypothetical conserved protein	
CbK_gp241	+	ggcctGGAGatcatcgcctag	atg	ggag	12	hypothetical conserved protein	
CbK_gp242	+	aagacctgaAGGAagactgac	atg	agga	8	hypothetical conserved protein	
CbK_gp243	+	ggccccccgAGGAgcccaaagc	atg	aggag	8	hypothetical conserved protein	
CbK_gp244	+	ggtcagccAGGAcatgccgtc	gtg	agga	9	hypothetical conserved protein	
CbK_gp245	+	gacgacaacgAGGAGGcttcg	atg	aggagg	5	hypothetical conserved protein	
CbK_gp246	+	gtcaaagAGGAGGcctgagcc	ttg	aggagg	8	hypothetical conserved protein	
CbK_gp247	+	ggctccctacGAGGccccaca	atg	gagg	7	hypothetical conserved protein	
CbK_gp248	+	ccggcgAGGAGGTccgctgac	atg	aggaggt	8	hypothetical conserved protein	
CbK_gp249	+	tggacgacaacAGGAGGgacc	atg	aggagg	4	hypothetical conserved protein	
CbK_gp250	+	ctatgtgaAGGAcctgcgtcg	atg	agga	9	hypothetical conserved protein	
CbK_gp251	+	tcagcgtGGGGgtggctgctg	atg	gggg	9	hypothetical conserved protein	
CbK_gp252	+	gacccaGGGGgttcccgaggc	atg	gggg	10	hypothetical conserved protein	
CbK_gp253	+	cctcgacgcgAGGAaaagctg	atg	agga	7	hypothetical conserved protein	
CbK_gp254	+	cctgaAGGAaggcggaaccga	atg	agga	12	hypothetical conserved protein	
CbK_gp255	+	ttgtcttgagaAGGcccgcac	atg	agg	7	DUF1937 protein	IPR015235, SSF52309
CbK_gp256	+	gagcaccagGGAGattgaagc	gtg	ggag	8	hypothetical conserved protein	
CbK_gp257	+	ggtgtcccaGAGGTaccagcg	atg	gaggt	7	hypothetical conserved protein	
CbK_gp258	+	ccggcgcctatGGAGagagcc	atg	ggag	6	putative TAT signal protein	IPR006311;PRED-TAT
CbK_gp259	+	tctcgatatggcgaaaagcgc	atg	None	0	hypothetical conserved protein	
CbK_gp260	+	acgtcaacaAGGAGcccaccg	atg	aggag	7	hypothetical conserved protein	
CbK_gp261	+	agaagcccggcgggccgagtg	atg	None	0	hypothetical conserved protein	
CbK_gp262	+	gcggtcgaaatcctGGAgacc	ctg	gga	4	hypothetical conserved protein	
CbK_gp263	+	gccgctcgacgggtGGAacgg	atg	gga	4	hypothetical conserved protein	
CbK_gp264	+	cgaggaagAGGAGcgctgctg	atg	aggag	8	putative Ser/Thr protein phosphatase	IPR004843, IPR006186, SSF56300, PTHR11668, G3DSA:3.60.21.10
CbK_gp265	+	gttgatccgcgAGGAcgacgc	atg	agga	6	hypothetical conserved protein	
CbK_gp266	+	gacgacaacgAGGAGGcccac	atg	aggagg	5	hypothetical conserved protein	
CbK_gp267	+	catgaccaaGAGccgcttctg	atg	gag	9	hypothetical conserved protein	
CbK_gp268	+	gatcatcctgGGAGacgccgc	atg	ggag	7	putative TrmB-like transcriptional regulator	IPR002831
CbK_gp269	+	ccgtttcgAGGAGGctcgccc	atg	aggagg	7	hypothetical conserved protein	
CbK_gp270	+	cgcaagAGGAGcccccgagcc	gtg	aggag	10	hypothetical conserved protein	
CbK_gp271	+	gccacggaagAGGAcgcctag	atg	agga	7	hypothetical conserved protein	
CbK_gp272	+	acgagcgacgGGAGGgctgac	atg	ggagg	6	hypothetical conserved protein	
CbK_gp273	+	gagacaaAGGgccttaagtcc	atg	agg	11	hypothetical conserved protein	
CbK_gp274	+	aacggaAGGAcctgaaagacc	atg	agga	11	hypothetical conserved protein	
CbK_gp275	+	caacgccGGAGGccctttttc	atg	ggagg	9	hypothetical conserved protein	
CbK_gp276	+	atactacgccaagcAGGccgc	atg	agg	4	hypothetical conserved protein	
CbK_gp277	+	caacatcgaaGAGttcggcga	atg	gag	8	hypothetical conserved protein	
CbK_gp278	+	ccagatcaAGGAGGcccagac	ttg	aggagg	7	hypothetical conserved protein	
CbK_gp279	+	aatcagcaataGGGGaccagc	atg	gggg	6	hypothetical conserved protein	
CbK_gp280	+	ctgggtccaGGGGaccggcgc	gtg	gggg	8	hypothetical conserved protein	
CbK_gp281	+	cggacatagAGGAGcaccccg	atg	aggag	7	hypothetical conserved protein	
CbK_gp282	+	acgccgcctgAGGAGGacccg	atg	aggagg	5	hypothetical conserved protein	
CbK_gp283	+	gcttgagaAGGcgttcggcca	atg	agg	10	hypothetical conserved protein	
CbK_gp284	+	ccaagcctcGGGGctcttcca	atg	gggg	8	hypothetical conserved protein	
CbK_gp285	+	caccgactactAGGAGGtccc	atg	aggagg	4	hypothetical conserved protein	
CbK_gp286	+	ccgctaggacaAGGAGGtccc	atg	aggagg	4	hypothetical conserved protein	
CbK_gp287	+	acgacaacAGGAGGccccgcc	ttg	aggagg	7	hypothetical conserved protein	
CbK_gp288	+	acgcggtcatgAGGAttcgaa	atg	agga	6	hypothetical conserved protein	
CbK_gp289	+	ccggcggctgacgggtgcgtc	atg	None	0	hypothetical conserved protein	
CbK_gp290	+	gacgacaacgAGGAGGcctcc	atg	aggagg	5	hypothetical conserved protein	
CbK_gp291	+	ggactacatcGAGGTgagcct	gtg	gaggt	6	hypothetical conserved protein	
CbK_gp292	+	gcttggccgGGAGGTgcagcc	ttg	ggaggt	6	hypothetical conserved protein	

CbK_gp293	+	ggcagaaGAGGTcatggcctg	atg	gaggt	9	hypothetical conserved protein	
CbK_gp294	+	tctggaacAGGAGaccgccgc	ttg	aggag	8	hypothetical conserved protein	
CbK_gp295	+	cggcgggatcaAGGTgagcgc	atg	aggt	6	hypothetical conserved protein	
CbK_gp296	+	tttcatcgccGAGGTcctgtc	atg	gaggt	6	hypothetical conserved protein	
CbK_gp297	+	acgctgcgaAGGAGcctcgac	atg	aggag	7	hypothetical conserved protein	
CbK_gp298	+	ccagatcAGGAGGgccgccgc	atg	aggagg	8	hypothetical conserved protein	
CbK_gp299	+	tcgcgacacggcaAGGTacgc	atg	aggt	4	hypothetical conserved protein	
CbK_gp300	+	cggcctgcatgcGAGGggctg	atg	gagg	5	hypothetical conserved protein	
CbK_gp301	+	gatctacaagccggtgcgctg	atg	None	0	hypothetical conserved protein	
CbK_gp302	+	gctcgccaAGGAcgtggtgtg	atg	agga	9	hypothetical conserved protein	
CbK_gp303	+	ccgcctGGAGcttgccgccac	atg	ggag	11	hypothetical conserved protein	
CbK_gp304	+	cctcggctGGAagtcctcgtc	atg	gga	10	hypothetical conserved protein	
CbK_gp305	+	cctggagtatcGGGGtcgggc	gtg	gggg	6	putative HNH homing endonuclease	IPR002711
CbK_gp306	+	cgggctagaccGGAGGccatg	atg	ggagg	5	hypothetical conserved protein	
CbK_gp307	+	gatccttccGGAGGacgcggc	gtg	ggagg	7	hypothetical conserved protein	
CbK_gp308	+	caggctgaaGAGaccgggcgg	atg	gag	9	hypothetical conserved protein	
CbK_gp309	+	caccctcaacaAGGAGcccct	gtg	aggag	5	hypothetical conserved protein	
CbK_gp310	+	ccggtcctgaGAGGccccaag	atg	gagg	7	hypothetical conserved protein	
CbK_gp311	+	taagaatgAGGAaatacatcc	atg	agga	9	hypothetical conserved protein	
CbK_gp312	+	aaggcccctcgGGAGccgccc	atg	ggag	6	hypothetical conserved protein	
CbK_gp313	+	gccatcgcctGAGacccttcc	atg	gag	8	hypothetical conserved protein	
CbK_gp314	+	cgccgacGGGGtggacctgac	gtg	gggg	10	putative RNaseH-like domain protein	IPR012337
CbK_gp315	+	cgacccggcGGAGtttccggc	ttg	ggag	8	hypothetical conserved protein	
CbK_gp316	+	aagacgacGAGGacGAGGacg	atg	gagg	3	hypothetical conserved protein	
CbK_gp317	+	aacgcaccGAGctttaagacc	atg	gag	10	Terminase small subunit	HHpred vs pdb70_18Aug12, hit 3zqp_A, prob 91.6% E=0.1; position relative to terminase large subunit, see text
CbK_gp318	+	tcgcgctgaccctagaacgcc	gtg	None	0	Terminase large subunit	IPR004921, IPR007868, IPR006141, IPR003587, IPR006517, SSF51294, G3DSA:2.170.16.10

Table S2. Predicted proteins, gene starts and annotations of *C. crescentus* phage CcrKarma. Upstream sequence is the 25 bp of DNA sequence upstream of the start codon, with the predicted Shine-Dalgarno motif capitalized. S-D is the Shine-Dalgarno motif associated with the gene start, and spacing is the interval (in bp) between the S-D and start codon. Evidence includes detected conserved domains or motifs, BlastP and HHpred hits, and experimental or other evidence as detailed in the text.

Protein name	Strand	Upstream Sequence	Start Codon	S-D	spacing	Predicted product	Evidence
CcrKarma_gp001	+	tggcaaatcaAGGAGccggcg	atg	aggag	6	hypothetical conserved protein	
CcrKarma_gp002	+	cgatttcaaAGGcttactgcg	atg	agg	9	hypothetical conserved protein	
CcrKarma_gp003	+	ccagcccttgtGAGGcctcgg	atg	gagg	6	hypothetical conserved protein	
CcrKarma_gp004	+	ccgggcaAGGAGcttcccgcc	atg	aggag	9	hypothetical conserved protein	
CcrKarma_gp005	+	gcgccttcGGAGaaaaccgcc	atg	ggag	9	hypothetical conserved protein	
CcrKarma_gp006	+	cttcaatgacggcgcggcgtc	gtg	None	0	hypothetical conserved protein	
CcrKarma_gp007	+	ggccttcaAGGAGtccgcccc	gtg	aggag	8	hypothetical conserved protein	
CcrKarma_gp008	+	ctttcaAGGAttgctcccgtc	atg	agga	11	hypothetical conserved protein	
CcrKarma_gp009	+	gccggccaAGGAtcgcagact	atg	agga	9	hypothetical conserved protein	
CcrKarma_gp010	+	ccctcgaaAGGAtcgccgacc	atg	agga	9	hypothetical conserved protein	
CcrKarma_gp011	+	gacgacggGGAGGcgtgagcc	atg	ggagg	8	hypothetical conserved protein	
CcrKarma_gp012	+	cgcatcttGGAGacagcgccc	atg	ggag	9	hypothetical conserved protein	
CcrKarma_gp013	+	ccctcgcaAGGAtcgcacccc	atg	agga	9	hypothetical conserved protein	
CcrKarma_gp014	+	tcgcctaAGGAGGcccgcccg	atg	aggagg	8	hypothetical conserved protein	
CcrKarma_gp015	+	caaccgaAGGccgcctaagcc	atg	agg	11	hypothetical conserved protein	
CcrKarma_gp016	+	ccgcaAGGAGGcctaaagccc	atg	aggagg	10	hypothetical conserved protein	
CcrKarma_gp017	+	cgccacGGGGgtctaacgccc	gtg	gggg	10	hypothetical novel protein	
CcrKarma_gp018	+	cttccttcGGAGcttctgatc	atg	ggag	9	hypothetical conserved protein	
CcrKarma_gp019	+	ccccttttctGGAtcgctcccc	atg	gga	9	hypothetical conserved protein	
CcrKarma_gp020	+	ggtcgcaAGGAGacacccgac	atg	aggag	9	hypothetical conserved protein	
CcrKarma_gp021	+	cacgcaatcgAGGAGcccgtc	atg	aggag	6	hypothetical conserved protein	
CcrKarma_gp022	+	tccgAGGAcggcaagcacgtc	atg	agga	13	hypothetical conserved protein	
CcrKarma_gp023	+	cgcccttGGAGttcccggacg	atg	ggag	10	hypothetical conserved protein	
CcrKarma_gp024	+	ctacaAGGTggaaaccctctg	atg	aggt	12	putative lipoprotein	LipoP
CcrKarma_gp025	+	atcctgggcctcaAGGTcctg	ctg	aggt	4	hypothetical conserved protein	
CcrKarma_gp026	+	tgaaattgactgaAGGTagac	atg	aggt	4	hypothetical novel protein	
CcrKarma_gp027	+	catcgcgcgcctGGAGGgagc	atg	ggagg	4	hypothetical conserved protein	
CcrKarma_gp028	+	caccagcaacGAGttccattg	atg	gag	8	hypothetical conserved protein	
CcrKarma_gp029	+	catccccatcggaGAGGtctg	atg	gagg	4	hypothetical conserved protein	
CcrKarma_gp030	+	tggaaatcttcGAGGctacct	atg	gagg	6	hypothetical conserved protein	
CcrKarma_gp031	+	ggtcccgctGGAGccgctgcc	gtg	ggag	8	hypothetical conserved protein	
CcrKarma_gp032	+	ttgccggcaAGGAGGTggtcc	atg	aggaggt	5	hypothetical conserved protein	
CcrKarma_gp033	+	gccccgcaAGGAGcgtgtctt	ttg	aggag	8	hypothetical conserved protein	
CcrKarma_gp034	+	agctgccgcctgaAGGAtgcc	atg	agga	4	hypothetical conserved protein	
CcrKarma_gp035	+	tcgccccgtaacgAGGAcccc	atg	agga	4	hypothetical conserved protein	
CcrKarma_gp036	+	ccctgatcaccGAGGcctgag	atg	gagg	6	hypothetical conserved protein	
CcrKarma_gp037	+	gggcatgaagaAGGcgaaacg	atg	agg	7	hypothetical conserved protein	
CcrKarma_gp038	+	gcgtGGAcaaccggcggcggc	atg	gga	14	hypothetical conserved protein	
CcrKarma_gp039	+	gacatcaAGGAcgccttcgcc	ctg	agga	10	hypothetical conserved protein	
CcrKarma_gp040	+	cgaaactgtGAGGcccattcg	atg	gagg	8	hypothetical conserved protein	
CcrKarma_gp041	-	gctacctcaAGGAGtagcacc	gtg	aggag	7	hypothetical conserved protein	
CcrKarma_gp042	-	gacacttaaGGGGtgtcgatc	atg	gggg	8	putative transglutaminase-like cysteine peptidase	IPR010319
CcrKarma_gp043	+	gcgacctcgcAGGccatctat	ctg	agg	8	putative portal protein	HHpred vs pdb70_18Aug12, hit 2jes_A, prob 99.9% E=4.8E-23; positional evidence, see text
CcrKarma_gp044	+	cccgaacccgAGGAccgcccg	atg	agga	7	hypothetical conserved protein	
CcrKarma_gp045	+	aaccctagcttgtaGAGtaac	atg	gag	4	hypothetical conserved protein	
CcrKarma_gp046	+	ccgtcccaagaAGGcgacctg	atg	agg	7	hypothetical conserved protein	
CcrKarma_gp047	+	cctccagccttGAGGcgcccc	gtg	gagg	6	hypothetical conserved protein	
CcrKarma_gp048	+	gttaaccacGAGGgcttttcc	atg	gagg	8	hypothetical conserved protein	
CcrKarma_gp049	+	gctcctttcccaGAGGgctcc	atg	gagg	5	hypothetical conserved protein	
CcrKarma_gp050	+	cgaccgcgtgcGGGGcacctg	atg	gggg	6	hypothetical conserved protein	
CcrKarma_gp051	+	tccaagcttAGGAGcccgtcc	atg	aggag	7	hypothetical conserved protein	
CcrKarma_gp052	+	ggcGAGaagcagtggtggacg	gtg	gag	15	hypothetical conserved protein	
CcrKarma_gp053	+	gaccatctacGAGagcacgcg	atg	gag	6	hypothetical conserved protein	
CcrKarma_gp054	+	ggtgaccttccgGGAGGagcc	gtg	ggagg	4	hypothetical conserved protein	
CcrKarma_gp055	+	tccggtcgAGGAGGgtgacat	ttg	aggagg	7	hypothetical conserved protein	
CcrKarma_gp056	+	gcctatctccGGAccccgccg	atg	gga	8	hypothetical conserved protein	
CcrKarma_gp057	+	ttaaccatgacgggctccccg	atg	None	0	hypothetical conserved protein	
CcrKarma_gp058	+	cctgatgagcGGGGtggacgc	gtg	gggg	7	putative HD-domain/PDEase-like protein	SSF109604
CcrKarma_gp059	+	aacgatacGAGaacatccgct	atg	gag	10	hypothetical conserved protein	
CcrKarma_gp060	+	gctatctGGAtcgctgagccg	atg	gga	11	hypothetical conserved protein	
CcrKarma_gp061	+	cctgccgaagaAGGccgcctg	atg	agg	7	putative DHH phosphoesterase protein	SSF64182
CcrKarma_gp062	+	caagcgtcgggcGGGGacggc	gtg	gggg	5	hypothetical conserved protein	
CcrKarma_gp063	+	tctgccaacAGGAGatcgccg	gtg	aggag	7	hypothetical conserved protein	
CcrKarma_gp064	+	ttccagcacatctAGGAcccc	atg	agga	4	hypothetical conserved protein	
CcrKarma_gp065	+	gattacGAGGcctatcaccac	gtg	gagg	11	hypothetical conserved protein	
CcrKarma_gp066	+	ttcgctgcGAGGccattttctg	atg	gagg	9	hypothetical conserved protein	
CcrKarma_gp067	+	cAGGTctgcgtctcccactac	ctg	aggt	16	putative HNH endonuclease	IPR002711
CcrKarma_gp068	+	ccgtgggaaGAGagaaactgt	atg	gag	7	hypothetical conserved protein	
CcrKarma_gp069	+	aacaccaagAGGAGcaagcca	atg	aggag	7	putative major capsid protein	experimental evidence, see text
CcrKarma_gp070	+	atctaagcAGGAaatccccag	atg	agga	9	putative minor capsid protein	experimental evidence, see text
CcrKarma_gp071	+	ccccgaaacGGAaaatccccc	atg	gga	9	hypothetical conserved protein	
CcrKarma_gp072	+	aagcccacggcggcctaagcc	atg	None	0	hypothetical conserved protein	
CcrKarma_gp073	+	atcacccAGGTgaactaagcc	gtg	aggt	10	hypothetical conserved protein	
CcrKarma_gp074	+	tGGAccgcacgcgctggcgcc	ctg	gga	17	hypothetical conserved protein	
CcrKarma_gp075	+	ttcacgaactaagGGAcggcc	atg	gga	5	hypothetical conserved protein	

CcrKarma_gp076	+	aacccccAGGAGccctgaacc	atg	aggag	9	hypothetical conserved protein	
CcrKarma_gp077	+	gccgcctcaAGGgtcttcgcg	ttg	agg	9	putative lectin-like domain protein	IPR013320, IPR008985
CcrKarma_gp078	+	cagacctGGAGGcctaagacc	atg	ggagg	9	hypothetical conserved protein	
CcrKarma_gp079	+	ttccgctcgcaGGGGcgccgc	gtg	gggg	6	hypothetical conserved protein	
CcrKarma_gp080	+	tctGGAGtttcgagcgccatc	atg	ggag	14	hypothetical conserved protein	
CcrKarma_gp081	+	cgcaccgccAGGgctttccca	atg	agg	9	hypothetical conserved protein	
CcrKarma_gp082	+	ctgcggtcgcgcGAGGcttct	atg	gagg	5	hypothetical conserved protein	
CcrKarma_gp083	+	ggcggccgttcGAGagccatc	atg	gag	5	hypothetical conserved protein	
CcrKarma_gp084	-	atccagccgctGGAGatactt	atg	ggag	6	hypothetical conserved protein	
CcrKarma_gp085	+	agtcGGGGaccgagagccgtc	atg	gggg	13	hypothetical conserved protein	
CcrKarma_gp086	+	tcctgggtGGAGttttcccta	atg	ggag	9	hypothetical conserved protein	
CcrKarma_gp087	+	cgccatcccagagGGAGcgac	gtg	ggag	4	putative PhoH-like protein	IPR003714, SSF52540, G3DSA:3.40.50.300
CcrKarma_gp088	+	cAGGAcggcaAGGAacgtttt	ctg	agga	7	hypothetical conserved protein	
CcrKarma_gp089	+	gtgcgtgatgtcGAGagcggc	gtg	gag	4	hypothetical conserved protein	
CcrKarma_gp090	+	cagcacgcGGAagaagacccc	gtg	gga	10	hypothetical conserved protein	
CcrKarma_gp091	+	ctcgattaaaGAGGTgttcgg	atg	gaggt	6	hypothetical conserved protein	
CcrKarma_gp092	+	gttctggctgggaGAGGactg	atg	gagg	4	hypothetical conserved protein	
CcrKarma_gp093	+	ccgtGGAttggtgacctgccc	atg	gga	14	putative major tail tube protein	experimental evidence, see text
CcrKarma_gp094	+	cccgatacGGAatccccgaac	atg	gga	10	putative pre-tape measure chaperone protein	HHpred vs pdb70_18Aug12, hit 2ob9_A, prob 89.3% E=0.82; positional evidence, see text
CcrKarma_gp095	+	cccgatacGGAatccccgaac	atg	gga	10	putative pre-tape measure chaperone protein, frameshifted version	positional evidence, see text; slippery sequence AAAAAAC
CcrKarma_gp096	+	gcGGGGccgccgataggatca	atg	gggg	15	putative tail tape measure protein	IPR007921, IPR013491, IPR013423; experimental evidence, see text
CcrKarma_gp097	+	tcctttcatggttaatgcccg	atg	None	0	hypothetical conserved protein	IPR011740
CcrKarma_gp098	+	ctggcaaGAGGccctgacgcc	gtg	gagg	10	putative tail protein	IPR019228, IPR018964, IPR011928; experimental evidence, see text
CcrKarma_gp099	+	gcccaacgctccGGAGcagga	atg	ggag	5	putative NlpC/P60 family cell wall peptidase	IPR000064, SSF54001, G3DSA:3.90.1720.10
CcrKarma_gp100	+	ccccggcgttgAGGActaatc	atg	agga	6	putative tail protein	IPR007110; experimental evidence, see text
CcrKarma_gp101	+	tgtcataaaagtcgtggaacg	atg	None	0	hypothetical conserved protein	
CcrKarma_gp102	+	cctcaAGGgcgtcatcctgca	atg	agg	13	putative tail protein	IPR000421, IPR008979, G3DSA:2.60.120.260; experimental evidence, see text
CcrKarma_gp103	+	accctcaagGGAatccgatag	atg	gga	9	hypothetical conserved protein	
CcrKarma_gp104	+	tcttcatgctcGGAGcctgac	atg	ggag	6	hypothetical conserved protein	
CcrKarma_gp105	+	tcagcacttccGGAattccac	atg	gga	7	putative endolysin	IPR002196, SSF53955, G3DSA:1.10.530.40
CcrKarma_gp106	+	gggcttcaAGGgctgctgatc	atg	agg	10	putative inner membrane spanin component	N-terminal TMD, outer membrane spanin component embedded in +1 frame, see text
CcrKarma_gp107	+	agtaccaaGAGGTtattcacg	atg	gaggt	8	putative outer membrane spanin component	lipoprotein embedded in inner membrane spanin component, see text
CcrKarma_gp108	+	caagctcaaGGGGaagacgca	gtg	gggg	8	putative holin protein	predicted 4 TMDs, see text
CcrKarma_gp109	+	cgctatcacGGAGtagggacc	atg	ggag	8	hypothetical conserved protein	
CcrKarma_gp110	-	cgacggacggAGGAGaacgaa	atg	aggag	6	putative HTH domain DNA-binding protein	IPR001387, IPR010982, G3DSA:1.10.260.40
CcrKarma_gp111	-	ttaaccaGAGGcccgaaaata	atg	gagg	10	putative dUTP pyrophosphatase	IPR008181, IPR008180, SSF51283, PTHR11241, G3DSA:2.70.40.10
CcrKarma_gp112	-	tccttttcctGAGacccctttc	atg	gag	8	putative ribonucleoside diphosphate reductase beta subunit	IPR012348, IPR012335, IPR000358, IPR002109, IPR009078, IPR012336, IPR011767
CcrKarma_gp113	-	tcgacgcGAGaacGAGacccc	atg	gag	5	putative ribonucleoside diphosphate reductase alpha subunit	IPR006141, IPR003587, IPR000788, IPR013509, IPR008926, SSF51294, SSF51998, G3DSA:2.170.16.10, G3DSA:3.20.70.20
CcrKarma_gp114	-	cggtggtGGGGgtggctggcg	ttg	gggg	9	hypothetical conserved protein	
CcrKarma_gp115	-	tcctcatgcagcAGGAatccc	atg	agga	5	hypothetical conserved protein	
CcrKarma_gp116	-	acgacatcaccGGAGccgagc	atg	ggag	6	hypothetical conserved protein	
CcrKarma_gp117	-	gacgccgcccAGGActgatcc	atg	agga	7	putative thymidylate synthase	IPR003669
CcrKarma_gp118	-	atccttcgctAGGAGaacccc	atg	aggag	6	putative dNMP kinase	HHpred vs pdb70_18Aug12, hit 2grj_A, prob 99.9% E=3.6E-27; SSF52540, G3DSA:3.40.50.300
CcrKarma_gp119	-	aagatcaAGGAcgggcaaccc	ctg	agga	10	putative RecD-like helicase	HHpred vs pdb70_18Aug12, hit 3e1s_A, prob 100% E=1.3E-45; SSF52540, G3DSA:3.40.50.300
CcrKarma_gp120	-	acagaaaatAGGTatcagcaa	atg	aggt	8	hypothetical conserved protein	
CcrKarma_gp121	-	aGAGaaatgtgacggtgcgcg	atg	gag	17	hypothetical conserved protein	
CcrKarma_gp122	-	caagatgcgGGAGaaggccgc	gtg	ggag	8	hypothetical conserved protein	
CcrKarma_gp123	-	actcccgaacGAGatcgcccg	atg	gag	8	putative exoribonuclease, Pol III-like	IPR006055, IPR013520, IPR012337, G3DSA:3.30.420.10
CcrKarma_gp124	-	cacctgggcGGAGacgcactg	atg	ggag	8	hypothetical conserved protein	
CcrKarma_gp125	-	atcaaatcctcaAGGTgctcc	atg	aggt	5	putative Pol I DNA polymerase, T7-like	IPR001098, IPR012337, SSF56672, PTHR10133, G3DSA:1.10.150.20, G3DSA:1.20.1060.10, G3DSA:3.30.420.10, G3DSA:3.30.70.370; see text
CcrKarma_gp126	-	acatccgttaaccatagagcc	atg	None	0	putative DNA cytosine methyltransferase	IPR001525, IPR018117, SSF53335, PTHR10629:SF11, G3DSA:3.40.50.150, G3DSA:3.90.120.10
CcrKarma_gp127	-	cgaaagccttcAGGAGtaatc	atg	aggag	5	hypothetical conserved protein	
CcrKarma_gp128	-	gcgccaaaccGGAGcttctct	atg	ggag	7	putative T5 A1-like protein	blastP to T5 A1 (AAU05157), E=4.81E-90, 34.2% Dice identity; HHpred vs pdb70_18Aug12, hit 1g2h_A, prob 94.0% E=0.05
CcrKarma_gp129	-	tccggatatgccAGGAccccg	ctg	agga	5	putative DNA methylase	IPR002052, SSF53335, G3DSA:3.40.50.150
CcrKarma_gp130	-	aggctccgttcgcgGGActtg	ctg	gga	4	hypothetical conserved protein	
CcrKarma_gp131	-	aaagatcgctatcgttgtcgc	atg	None	0	hypothetical conserved protein	
CcrKarma_gp132	-	catcgcaaAGGTcatggacac	gtg	aggt	9	hypothetical conserved protein	
CcrKarma_gp133	-	cgttaaccacgtgcggcgccc	atg	None	0	putative DNA helicase	IPR014001, IPR001650, IPR000330, IPR014021, SSF52540, PTHR10799, G3DSA:3.40.50.300
CcrKarma_gp134	+	ccggtcacaAGGAGaactatc	atg	aggag	7	hypothetical conserved protein	
CcrKarma_gp135	-	ggaaatcaAGGAagctgcgtg	atg	agga	9	hypothetical conserved protein	
CcrKarma_gp136	-	ccccgccgcaaAGGccccctg	atg	agg	7	hypothetical conserved protein	
CcrKarma_gp137	-	acccacGAGGTctcgcgttac	ctg	gaggt	10	hypothetical conserved protein	
CcrKarma_gp138	-	cgccttttcaAGGAtcgcccg	atg	agga	7	hypothetical conserved protein	
CcrKarma_gp139	-	gccggtctcaAGGAGacgacc	atg	aggag	6	Putative rIIb-like protein	PD130832
CcrKarma_gp140	-	gcctgcctttcGGAGtttgcc	atg	ggag	6	putative rIIa-like protein	IPR003594
CcrKarma_gp141	+	ggcaaactccgaaAGGcAGGc	ttg	agg	1	hypothetical conserved protein	
CcrKarma_gp142	+	gcctGAGGcatgctcgtattc	atg	gagg	13	hypothetical conserved protein	
CcrKarma_gp143	+	cgtatggtacgcgAGGAtgac	atg	agga	4	hypothetical conserved protein	
CcrKarma_gp144	+	caccgacgggcgcgtcctcca	ttg	None	0	hypothetical conserved protein	
CcrKarma_gp145	+	acgacaacgaAGGAGGTtctc	atg	aggaggt	4	putative tyrosine recombinase	IPR013762, IPR002104, IPR011010
CcrKarma_gp146	+	gtcctgcgatAGGAGGgcgcg	atg	aggagg	5	hypothetical conserved protein	
CcrKarma_gp147	+	ccgctagtccAGGAGtacagt	ttg	aggag	6	hypothetical conserved protein	
CcrKarma_gp148	+	acccccgtccgacAGGcttc	atg	agg	4	hypothetical conserved protein	
CcrKarma_gp149	+	atcgctcctGGGGccttttga	gtg	gggg	8	hypothetical conserved protein	
CcrKarma_gp150	+	tcctgtacggtaagGGAaaac	atg	gga	4	hypothetical conserved protein	
CcrKarma_gp151	+	acgattcGGAGtattcatgaa	atg	ggag	10	putative HTH domain protein	IPR001387, G3DSA:1.10.260.40
CcrKarma_gp152	+	cctgtattcctGAGGTcccgc	atg	gaggt	5	putative tRNA amidotransferase domain protein	IPR019004, IPR003789
CcrKarma_gp153	-	actgatcgaGGGGaagttgag	atg	gggg	8	putative DNA ligase	IPR012340, IPR016027, SSF56091, G3DSA:3.30.470.30
CcrKarma_gp154	-	tcgatccGGAGattttcggcg	atg	ggag	10	hypothetical conserved protein	

CcrKarma_gp155	-	gccatcccctctatctccgag	gtg	None	0	hypothetical conserved protein	
CcrKarma_gp156	-	gtttcAGGgcaaatgtcAGGa	atg	agg	1	DUF1643 protein	IPR012441
CcrKarma_gp157	-	gcctcgccctgaAGGAggca	atg	agga	4	hypothetical conserved protein	
CcrKarma_gp158	-	gAGGccaagaagcgggccacg	gtg	agg	17	hypothetical conserved protein	
CcrKarma_gp159	-	ctGGAtcgccccggcggcctg	atg	gga	16	hypothetical conserved protein	
CcrKarma_gp160	-	gcttttgAGGAGtttggacgt	atg	aggag	9	hypothetical conserved protein	
CcrKarma_gp161	-	agcaggactAGGAGaaagacc	atg	aggag	7	hypothetical conserved protein	
CcrKarma_gp162	-	cgacgccaAGGAcgtctgcca	atg	agga	9	hypothetical conserved protein	
CcrKarma_gp163	-	ggccggctacGAGatcgcctg	atg	gag	8	putative lipoprotein	LipoP
CcrKarma_gp164	-	cgcttaaaGGGGgacctcatc	atg	gggg	8	putative nicotinate phosphoribosyltransferase	IPR015977, IPR002638, PTHR11098
CcrKarma_gp165	-	cagaatgaGGGGtaagcgata	gtg	gggg	9	putative NUDIX hydrolase domain protein	IPR014729, IPR000086, IPR015797, SSF52374, PS51462, PTHR22769
CcrKarma_gp166	-	caaagcgtagtgtcgcgaggc	atg	None	0	hypothetical conserved protein	
CcrKarma_gp167	-	cgcaacgcctgGGActctctg	atg	gga	7	putative peptidyl-tRNA hydrolase	IPR002833
CcrKarma_gp168	-	agcgccggccgccGAGGgctg	atg	gagg	4	hypothetical conserved protein	
CcrKarma_gp169	-	taacctccagcAGGAGaccgc	atg	aggag	5	hypothetical conserved protein	
CcrKarma_gp170	-	acaacgccGGAGGccctttc	atg	ggagg	8	hypothetical conserved protein	
CcrKarma_gp171	-	ccccgatctccGAGaagcccc	atg	gag	7	putative HD-domain/PDEase-like protein	SSF109604
CcrKarma_gp172	-	gggagaattcctGAGGgtcgc	atg	gagg	5	hypothetical conserved protein	
CcrKarma_gp173	-	acgcccagaAGGActaatcct	atg	agga	8	putative DNA-binding domain protein	IPR016177, SSF54060
CcrKarma_gp174	-	gaggcctcGGAGaagtaagcc	atg	ggag	9	hypothetical conserved protein	
CcrKarma_gp175	-	tcttgagaAGGAacaaccctg	atg	agga	9	hypothetical conserved protein	
CcrKarma_gp176	-	tcaacaAGGgcaagaacgccg	atg	agg	12	hypothetical conserved protein	
CcrKarma_gp177	-	caagcAGGcggcgggtctgct	ttg	agg	13	hypothetical conserved protein	
CcrKarma_gp178	-	gctgttcgactGGAGaaaatc	gtg	ggag	6	hypothetical conserved protein	
CcrKarma_gp179	-	ctctgcgtgaAGGgctAGGcc	atg	agg	2	hypothetical conserved protein	
CcrKarma_gp180	-	acaccacagaAGGAGcccgcc	gtg	aggag	6	putative RtcB-like protein	IPR001233
CcrKarma_gp181	-	gtacccctcaAGGTgatcccc	atg	aggt	7	hypothetical conserved protein	
CcrKarma_gp182	-	aacaaagcaAGGAGcaacccc	ttg	aggag	7	putative band 7 lipoprotein	IPR001107
CcrKarma_gp183	-	actcctgaaAGGccgcgccca	atg	agg	9	hypothetical conserved protein	
CcrKarma_gp184	-	gccaccGAGGccatggacgac	atg	gagg	11	hypothetical conserved protein	
CcrKarma_gp185	-	gacgacaacgaAGGAGacccc	atg	aggag	5	hypothetical conserved protein	
CcrKarma_gp186	-	caggatGGAGGccgccgccaa	atg	ggagg	10	hypothetical conserved protein	
CcrKarma_gp187	-	tccgagccaAGGAGcgctgat	ttg	aggag	7	hypothetical conserved protein	
CcrKarma_gp188	-	cgacagcgagAGGAGccgatc	atg	aggag	6	hypothetical conserved protein	
CcrKarma_gp189	-	gcactctggaaaAGGAccacc	atg	agga	5	hypothetical conserved protein	
CcrKarma_gp190	-	ggtcctctcgGGAGacaatcc	atg	ggag	7	hypothetical conserved protein	
CcrKarma_gp191	-	tctgaaAGGctcgacctcctg	atg	agg	12	hypothetical conserved protein	
CcrKarma_gp192	-	cgttccaactcgcAGGTctcc	gtg	aggt	4	hypothetical conserved protein	
CcrKarma_gp193	-	cctgagcctGGAGaagcacct	gtg	ggag	8	hypothetical conserved protein	
CcrKarma_gp194	-	actggcgaAGGTgtcggacca	atg	aggt	9	hypothetical conserved protein	
CcrKarma_gp195	-	acaaccgcagAGGAGaccctc	atg	aggag	6	hypothetical conserved protein	
CcrKarma_gp196	-	cgGGAtgcgttccgggtgag	atg	gga	16	hypothetical conserved protein	
CcrKarma_gp197	-	gcccgagaaAGGcgaAGGccc	atg	agg	3	hypothetical conserved protein	
CcrKarma_gp198	-	cgccgacGGAGagctactgcg	gtg	ggag	10	putative winged-helix HTH DNA binding protein	IPR011991
CcrKarma_gp199	-	gcccgagcAGGTccttggac	atg	aggt	9	hypothetical novel protein	
CcrKarma_gp200	-	ccacccgcgccgcccgaggag	gtg	None	0	hypothetical conserved protein	
CcrKarma_gp201	-	cagcgccggcAGGgtccccgc	atg	agg	8	hypothetical conserved protein	
CcrKarma_gp202	-	aagaggtcgAGGAGGTcgccg	atg	aggaggt	5	hypothetical conserved protein	
CcrKarma_gp203	-	gacgacaacgAGGAGGccctg	atg	aggagg	5	putative ArdC-like antirestriction protein	IPR017113, IPR013610
CcrKarma_gp204	-	cgcggcgataatGAGcgcctg	atg	gag	6	hypothetical conserved protein	
CcrKarma_gp205	-	ggacctGGAGaacaaccgctg	atg	ggag	11	hypothetical conserved protein	
CcrKarma_gp206	-	gggccggGGAGGgcgtgcatc	gtg	ggagg	9	hypothetical conserved protein	
CcrKarma_gp207	-	cgcctgccaGAGcctcaagtc	atg	gag	9	hypothetical conserved protein	
CcrKarma_gp208	-	aacgacaccagggGGAGagcc	gtg	ggag	4	putative acyl carrier protein	IPR009081, IPR006163, PTHR20863
CcrKarma_gp209	-	tcgacaacggcaAGGAcggct	atg	agga	5	putative HNH endonuclease	IPR002711
CcrKarma_gp210	-	ctcattcgttaAGGAtcgacc	atg	agga	6	hypothetical conserved protein	
CcrKarma_gp211	-	ccGGAactccaggcGGAgttc	atg	gga	4	hypothetical conserved protein	
CcrKarma_gp212	-	tggGGAGaagctgaagtgagc	atg	ggag	14	hypothetical conserved protein	
CcrKarma_gp213	-	cgccttcGAGGTgcaagcctg	atg	gaggt	9	hypothetical conserved protein	
CcrKarma_gp214	-	tccggacctcGGAGaaggccc	gtg	ggag	7	hypothetical conserved protein	
CcrKarma_gp215	-	gcggttcgAGGAGatcgaggc	ttg	aggag	8	hypothetical conserved protein	
CcrKarma_gp216	-	gacgacaacggaAGGAaccct	atg	agga	5	hypothetical conserved protein	
CcrKarma_gp217	-	cttcgccaaGGGGacctgacc	atg	gggg	8	hypothetical conserved protein	
CcrKarma_gp218	-	ccaaGGGGgacggctactaac	atg	gggg	12	hypothetical conserved protein	
CcrKarma_gp219	-	gcgcgaaccgaAGGTcgactg	atg	aggt	6	hypothetical conserved protein	
CcrKarma_gp220	-	gacgacaacaAGGAGGcctcc	atg	aggagg	5	hypothetical conserved protein	
CcrKarma_gp221	-	ctacgtGGAGagccgggcggc	atg	ggag	11	hypothetical conserved protein	
CcrKarma_gp222	-	cgcgcaatttccGGAGtgacc	atg	ggag	5	hypothetical conserved protein	SSF56784
CcrKarma_gp223	-	ggcctgcgcgGGAGccctgtg	atg	ggag	7	hypothetical conserved protein	
CcrKarma_gp224	-	gagactagggtGGGGatgcga	ttg	gggg	6	hypothetical conserved protein	
CcrKarma_gp225	-	gatcaagtcGAGGccctgagc	atg	gagg	8	hypothetical conserved protein	
CcrKarma_gp226	-	ggctcccgtacAGGAtcacct	atg	agga	6	hypothetical conserved protein	
CcrKarma_gp227	-	aaaGGGGccgtctatggctcc	ctg	gggg	14	hypothetical conserved protein	
CcrKarma_gp228	-	agcagaAGGAGGaagccgctc	atg	aggagg	9	putative HTH domain DNA-binding protein	IPR010982, IPR001387, G3DSA:1.10.260.40
CcrKarma_gp229	-	aatcgcccAGGgcgccgcctg	atg	agg	10	hypothetical conserved protein	
CcrKarma_gp230	-	acaacgacagaAGGAGGccgc	gtg	aggagg	4	hypothetical conserved protein	
CcrKarma_gp231	-	gaggcgggcgaGGGGcacgtc	gtg	gggg	6	hypothetical conserved protein	
CcrKarma_gp232	-	cactgtccggaAGGTcgagcc	atg	aggt	6	hypothetical conserved protein	
CcrKarma_gp233	-	ggtctatcgccGGAGGgcctg	atg	ggagg	5	putative Pol I DNA polymerase	IPR001098, IPR002298, SSF56672, G3DSA:3.30.70.370

CcrKarma_gp234	-	agatcaAGGAGtagtgcaagc	gtg	aggag	10	putative GcrA-like cell cycle regulator	IPR011681; see text
CcrKarma_gp235	-	gccgccaaattcGAGGggaag	atg	gagg	5	hypothetical conserved protein	
CcrKarma_gp236	+	cgacaacgaaAGGAGcctgcc	atg	aggag	6	hypothetical conserved protein	
CcrKarma_gp237	+	cgccgcGAGGctcgcccaatg	atg	gagg	11	hypothetical conserved protein	
CcrKarma_gp238	+	caagatcGAGGaaGAGGtctg	atg	gagg	4	hypothetical conserved protein	
CcrKarma_gp239	+	cattcgcgtgttGGGGctcgg	atg	gggg	5	hypothetical conserved protein	
CcrKarma_gp240	+	caagctcaagaaAGGTcgcct	atg	aggt	5	hypothetical conserved protein	
CcrKarma_gp241	+	cattctcgactAGGAGGaccc	atg	aggagg	4	hypothetical conserved protein	
CcrKarma_gp242	+	tcgatttcctggcgggcgccg	atg	None	0	hypothetical conserved protein	
CcrKarma_gp243	+	gtttctggaAGGTcaggactg	atg	aggt	8	hypothetical conserved protein	
CcrKarma_gp244	+	agcgcgagccgcAGGActgac	atg	agga	5	hypothetical conserved protein	
CcrKarma_gp245	+	cgacagcgaaAGGAGcctgcc	ttg	aggag	6	hypothetical conserved protein	
CcrKarma_gp246	+	tcggatgctGGAGGTcgcggc	ttg	ggaggt	6	hypothetical conserved protein	
CcrKarma_gp247	+	cgccgtggAGGAGatgcgccg	gtg	aggag	8	hypothetical conserved protein	
CcrKarma_gp248	+	cgcagacttcaAGGgcaagcg	atg	agg	7	hypothetical conserved protein	
CcrKarma_gp249	+	gccgccGGAGGcagacccgac	gtg	ggagg	10	hypothetical conserved protein	
CcrKarma_gp250	+	tcaagctGGAGaccgtctgac	atg	ggag	10	hypothetical conserved protein	
CcrKarma_gp251	+	acgacaacgagAGGAGttccc	atg	aggag	5	hypothetical conserved protein	
CcrKarma_gp252	+	cacggaatgGGAGattttcga	atg	ggag	8	hypothetical conserved protein	
CcrKarma_gp253	+	ggcctGGAGatcatcgcctag	atg	ggag	12	hypothetical conserved protein	
CcrKarma_gp254	+	acctcggacgAGGAGGactaa	atg	aggagg	5	hypothetical conserved protein	
CcrKarma_gp255	+	gaccccGGAGtccaagaccga	atg	ggag	11	hypothetical conserved protein	
CcrKarma_gp256	+	caacgccctgGGAGccgccaa	atg	ggag	7	hypothetical conserved protein	
CcrKarma_gp257	+	ggtcagccAGGAcatgccgtc	gtg	agga	9	hypothetical conserved protein	
CcrKarma_gp258	+	gacgacaacgAGGAGGcttcg	atg	aggagg	5	hypothetical conserved protein	
CcrKarma_gp259	+	gtcaaagAGGAGGcctgagcc	ttg	aggagg	8	hypothetical conserved protein	
CcrKarma_gp260	+	ggcgccctacGAGGccccgca	atg	gagg	7	hypothetical conserved protein	
CcrKarma_gp261	+	ccggcgAGGAGGTccgctgac	atg	aggaggt	8	hypothetical conserved protein	
CcrKarma_gp262	+	tggacgacaacAGGAGGgacc	atg	aggagg	4	hypothetical conserved protein	
CcrKarma_gp263	+	ctacgtcaAGGAcctgcgtcg	atg	agga	9	hypothetical conserved protein	
CcrKarma_gp264	+	tcagcgtgGGAGtggttgctg	atg	ggag	9	hypothetical conserved protein	
CcrKarma_gp265	+	gacccaGGGGgttcccgaggc	atg	gggg	10	hypothetical conserved protein	
CcrKarma_gp266	+	cctcgacgcgAGGAaaagctg	atg	agga	7	hypothetical conserved protein	
CcrKarma_gp267	+	aggccctgaagGGAGagaccg	atg	ggag	6	hypothetical conserved protein	
CcrKarma_gp268	+	gaccaaGGGGgtgcGGGGcaa	atg	gggg	3	hypothetical conserved protein	
CcrKarma_gp269	+	ttgtcttGAGaaagccaacgc	atg	gag	11	DUF1937 protein	IPR015235, SSF52309
CcrKarma_gp270	+	gagcaccagGGAGattgaagc	gtg	ggag	8	hypothetical conserved protein	
CcrKarma_gp271	+	ggtgtcccaGAGGTaccagcg	atg	gaggt	7	hypothetical conserved protein	
CcrKarma_gp272	+	ccggcgcctatGGAGagagcc	atg	ggag	6	putative TAT signal protein	IPR006311; PRED-TAT
CcrKarma_gp273	+	tctcgacatggcgaaaagcgc	atg	None	0	hypothetical conserved protein	
CcrKarma_gp274	+	acgtcaacaAGGAGcccaccg	atg	aggag	7	hypothetical conserved protein	
CcrKarma_gp275	+	agaagcccggcgggccgagtg	atg	None	0	hypothetical conserved protein	
CcrKarma_gp276	+	gcggtcgaaatcctGGAgacc	ctg	gga	4	hypothetical conserved protein	
CcrKarma_gp277	+	gccgctcgacgggtGGAacgg	atg	gga	4	hypothetical conserved protein	
CcrKarma_gp278	+	cgaggaagAGGAGcgctgctg	atg	aggag	8	putative Ser/Thr protein phosphatase	IPR004843, IPR006186, SSF56300, PTHR11668, G3DSA:3.60.21.10
CcrKarma_gp279	+	gttgatccgcgAGGAcgacgc	atg	agga	6	hypothetical conserved protein	
CcrKarma_gp280	+	gacgacaacgAGGAGGgccac	atg	aggagg	5	hypothetical conserved protein	
CcrKarma_gp281	+	catgaccaaGAGccgcttctg	atg	gag	9	hypothetical conserved protein	
CcrKarma_gp282	+	gatcatcctgGGAGacgccgc	atg	ggag	7	hypothetical conserved protein	
CcrKarma_gp283	+	ccgcttcgAGGAGGcccgccc	atg	aggagg	7	hypothetical conserved protein	
CcrKarma_gp284	+	cgacgacaacgAGGAGGcccc	atg	aggagg	4	hypothetical conserved protein	
CcrKarma_gp285	+	ctcgaaGAGGTcgagatcgcc	ctg	gaggt	10	hypothetical novel protein	
CcrKarma_gp286	+	gcgctgaccaAGGgctggtag	atg	agg	8	hypothetical conserved protein	
CcrKarma_gp287	+	acgcgcgacgGGAGGgctaac	atg	ggagg	6	hypothetical conserved protein	
CcrKarma_gp288	+	tccgaaaGAGGccttaagtac	atg	gagg	10	hypothetical conserved protein	
CcrKarma_gp289	+	aacggaAGGAcctgaaagacc	atg	agga	11	hypothetical conserved protein	
CcrKarma_gp290	+	acaacgccGGAGgccctttc	atg	ggagg	8	hypothetical conserved protein	
CcrKarma_gp291	+	gcctggaAGGcggctgacatc	ctg	agg	11	hypothetical conserved protein	
CcrKarma_gp292	+	acgccaagaAGGccgcctgac	atg	agg	9	hypothetical conserved protein	
CcrKarma_gp293	+	ccagatcaAGGAGGcccagtc	ttg	aggagg	7	hypothetical conserved protein	
CcrKarma_gp294	+	aatcagcaataGGGGgccagc	atg	gggg	5	hypothetical conserved protein	
CcrKarma_gp295	+	ctgggccGAGGgctcgccgcg	atg	gagg	10	hypothetical conserved protein	
CcrKarma_gp296	+	cggacatagAGGAGcaacccg	atg	aggag	7	hypothetical conserved protein	
CcrKarma_gp297	+	tcgccgcctgAGGAGGacccg	atg	aggagg	5	hypothetical conserved protein	
CcrKarma_gp298	+	gcttgagaAGGcgttcggcca	atg	agg	10	hypothetical conserved protein	
CcrKarma_gp299	+	ccaagcctcGGGGctgttcca	atg	gggg	8	hypothetical conserved protein	
CcrKarma_gp300	+	caccgactactAGGAGGtccc	atg	aggagg	4	hypothetical conserved protein	
CcrKarma_gp301	+	ccgctaggacaAGGAGGtccc	atg	aggagg	4	hypothetical conserved protein	
CcrKarma_gp302	+	acgacaacAGGAGGccccgcc	ttg	aggagg	7	hypothetical conserved protein	
CcrKarma_gp303	+	ttgcggtcatgAGGAttcgaa	atg	agga	6	hypothetical conserved protein	
CcrKarma_gp304	+	atcGGGGtctgggatttctcg	ctg	gggg	14	hypothetical conserved protein	
CcrKarma_gp305	+	gacgacaacgAGGAGGccccc	atg	aggagg	5	hypothetical conserved protein	
CcrKarma_gp306	+	ggactacatcGAGGTggccct	gtg	gaggt	6	hypothetical conserved protein	
CcrKarma_gp307	+	ccttagccgGGAGGcgcagcc	ttg	ggagg	7	hypothetical conserved protein	
CcrKarma_gp308	+	ggcggcagaaGAGGccatggc	ctg	gagg	7	hypothetical conserved protein	
CcrKarma_gp309	+	ggaacAGGAGaccgccgcctg	atg	aggag	11	hypothetical conserved protein	
CcrKarma_gp310	+	gatcgcgcgactGGAGaacgc	atg	ggag	5	hypothetical conserved protein	
CcrKarma_gp311	+	cggcgggatcaAGGTgagcgc	atg	aggt	6	hypothetical conserved protein	
CcrKarma_gp312	+	tttcatcgccGAGGccctgtc	atg	gagg	7	hypothetical conserved protein	

CcrKarma_gp313	+	acgctgcgaAGGAGcctcgac	ttg	aggag	7	hypothetical conserved protein	
CcrKarma_gp314	+	ccagatcAGGAaggccgccgc	atg	agga	10	hypothetical conserved protein	
CcrKarma_gp315	+	tcgcgacacggcaAGGTacgc	atg	aggt	4	hypothetical conserved protein	
CcrKarma_gp316	+	cggcctgcatgcGAGGggctg	atg	gagg	5	hypothetical conserved protein	
CcrKarma_gp317	+	gatctacaagccggtgcgctg	atg	None	0	hypothetical conserved protein	
CcrKarma_gp318	+	gctcgccaAGGAcgtggtgtg	atg	agga	9	hypothetical conserved protein	
CcrKarma_gp319	+	ccgcctGGAGcttgccgccac	atg	ggag	11	hypothetical conserved protein	
CcrKarma_gp320	+	cctcggctGGAagtcctcgtc	atg	gga	10	hypothetical conserved protein	
CcrKarma_gp321	+	cctggagtatcGGGGtcgggc	gtg	gggg	6	putative HNH homing endonuclease	IPR002711
CcrKarma_gp322	+	aaccgggctagaccGGAggcc	atg	gga	4	hypothetical conserved protein	
CcrKarma_gp323	+	gatccttccGGAGGacgcggc	gtg	ggagg	7	hypothetical conserved protein	
CcrKarma_gp324	+	cagactgaaGAGGcccggcgg	atg	gagg	8	hypothetical conserved protein	
CcrKarma_gp325	+	caccctcaacaAGGAGcccct	gtg	aggag	5	hypothetical conserved protein	
CcrKarma_gp326	+	taagaatgAGGAaatacatcc	atg	agga	9	hypothetical conserved protein	
CcrKarma_gp327	+	aaggcccctcgGGAGccaccc	atg	ggag	6	hypothetical conserved protein	
CcrKarma_gp328	+	ccatcgcctGAGaccctcccc	atg	gag	9	hypothetical conserved protein	
CcrKarma_gp329	+	cgccgacGGGGtcgacctgac	gtg	gggg	10	putative RNaseH-like domain protein	IPR012337
CcrKarma_gp330	+	cgacccggcGGAGtttccggc	ttg	ggag	8	hypothetical conserved protein	
CcrKarma_gp331	+	acgaagccGAGGacGAGGacg	atg	gagg	3	hypothetical conserved protein	
CcrKarma_gp332	+	aaacgcaccGAGctttagatc	atg	gag	9	Terminase small subunit	HHpred vs pdb70_18Aug12, hit 3zqp_A, prob 90.3% E=0.16; position relative to terminase large subunit, see text
CcrKarma_gp333	+	tcgcgctgaccctagaacgcc	gtg	None	0	Terminase large subunit	IPR004921, IPR007868, IPR006141, IPR003587, IPR006517, SSF51294, G3DSA:2.170.16.10

Table S3. Predicted proteins, gene starts and annotations of *C. crescentus* phage CcrMagneto. Upstream sequence is the 25 bp of DNA sequence upstream of the start codon, with the predicted Shine-Dalgarno motif capitalized. S-D is the Shine-Dalgarno motif associated with the gene start, and spacing is the interval (in bp) between the S-D and start codon. Evidence includes detected conserved domains or motifs, BlastP and HHpred hits, and experimental or other evidence as detailed in the text.

Protein name	Strand	Upstream Sequence	Start Codon	S-D	spacing	Predicted product	Evidence
CcrMagneto_gp001	+	agccGGGGaccctggcgaatc	atg	gggg	13	hypothetical conserved protein	
CcrMagneto_gp002	+	cgatttcaaAGGcttactgcg	atg	agg	9	hypothetical conserved protein	
CcrMagneto_gp003	+	ccagcccttgtGAGGcctcgg	atg	gagg	6	hypothetical conserved protein	
CcrMagneto_gp004	+	ccgggcaAGGAGcttcccgcc	atg	aggag	9	hypothetical conserved protein	
CcrMagneto_gp005	+	gcgccttcGGAGaaaaccgcc	atg	ggag	9	hypothetical conserved protein	
CcrMagneto_gp006	+	cttcaatgacGGGGcggccgg	gtg	gggg	7	hypothetical conserved protein	
CcrMagneto_gp007	+	ggccttcaAGGAGtccaaccc	gtg	aggag	8	hypothetical conserved protein	
CcrMagneto_gp008	+	cccgtcatgacctctcattcc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp009	+	gccggccaAGGAtcgcagact	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp010	+	ccctcgaaAGGAtcgccgacc	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp011	+	gacgacggGGAGGcgtgagcc	atg	ggagg	8	hypothetical conserved protein	
CcrMagneto_gp012	+	gccgcccaAGGAttggaccgc	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp013	+	ccctcgcaAGGAtcgcacccc	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp014	+	tcgcctaAGGAGGcccgcccg	atg	aggagg	8	hypothetical conserved protein	
CcrMagneto_gp015	+	caaccgaAGGccgcctaagcc	atg	agg	11	hypothetical conserved protein	
CcrMagneto_gp016	+	ccgcaAGGAGGcctaaagccc	atg	aggagg	10	hypothetical conserved protein	
CcrMagneto_gp017	+	cttccttcGGAGcttctgatc	atg	ggag	9	hypothetical conserved protein	
CcrMagneto_gp018	+	ccccttttctGGAtcgcttccc	atg	gga	9	hypothetical conserved protein	
CcrMagneto_gp019	+	ggtcgcaAGGAGacacccgac	atg	aggag	9	hypothetical conserved protein	
CcrMagneto_gp020	+	cacgcaatcgAGGAGcccgtc	atg	aggag	6	hypothetical conserved protein	
CcrMagneto_gp021	+	acgccgtcccggcctgatccc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp022	+	cgccctGGAGttcccggacg	atg	ggag	10	hypothetical conserved protein	
CcrMagneto_gp023	+	caacaaGAGGTacccgcctg	atg	gaggt	10	putative lipoprotein	LipoP
CcrMagneto_gp024	+	cgaaaccccggcgacgcgctg	atg	None	0	hypothetical novel protein	
CcrMagneto_gp025	+	acttcaacccgtAGGcgtagc	atg	agg	6	hypothetical conserved protein	
CcrMagneto_gp026	+	caccagcaacGAGttccattg	atg	gag	8	hypothetical conserved protein	
CcrMagneto_gp027	+	catccccatcggaGAGGtctg	atg	gagg	4	hypothetical conserved protein	
CcrMagneto_gp028	+	ctacgagcgcgtGGAGGctcc	gtg	ggagg	4	hypothetical conserved protein	
CcrMagneto_gp029	+	ggtgccggcGGAGccgctccc	gtg	ggag	8	hypothetical conserved protein	
CcrMagneto_gp030	+	tcgcgggcaAGGAGGcgatcc	atg	aggagg	6	hypothetical conserved protein	
CcrMagneto_gp031	+	gccccgcaAGGAGcgtgtctt	ttg	aggag	8	hypothetical conserved protein	
CcrMagneto_gp032	+	agctgccgcctgaAGGAcaac	atg	agga	4	hypothetical conserved protein	
CcrMagneto_gp033	+	tcgccccgtaacgAGGAcccc	atg	agga	4	hypothetical conserved protein	
CcrMagneto_gp034	+	ccctgatcaccGAGGcctgac	atg	gagg	6	hypothetical conserved protein	
CcrMagneto_gp035	+	catgaagaGGGgctccaagcg	gtg	agg	10	hypothetical conserved protein	
CcrMagneto_gp036	+	tgGGAacttggtgaagctctg	atg	gga	16	hypothetical conserved protein	
CcrMagneto_gp037	+	cgaaactgtGAGGcccattcg	atg	gagg	8	hypothetical conserved protein	
CcrMagneto_gp038	-	gctacctcaAGGAGtagcacc	gtg	aggag	7	hypothetical conserved protein	
CcrMagneto_gp039	-	atggttaatgacacttaaggg	gtg	None	0	putative transglutaminase-like cysteine peptidase	IPR010319
CcrMagneto_gp040	+	gcgacctcgcAGGccatctat	ctg	agg	8	putative portal protein	HHpred vs pdb70_18Aug12, hit 2jes_A, prob 99.9% E=4.5E-23; positional evidence, see text
CcrMagneto_gp041	+	cccgaacccgAGGAccgcccg	atg	agga	7	hypothetical conserved protein	
CcrMagneto_gp042	+	aaccctagcttgtaGAGtaac	atg	gag	4	hypothetical conserved protein	
CcrMagneto_gp043	+	ccgtcccaagaAGGcgacctg	atg	agg	7	hypothetical conserved protein	
CcrMagneto_gp044	+	cctccagccttGAGGcgcctt	gtg	gagg	6	hypothetical conserved protein	
CcrMagneto_gp045	+	gttaaccacGAGGgctttcc	atg	gagg	8	hypothetical conserved protein	
CcrMagneto_gp046	+	ggctcctttcccGAGGgctcc	atg	gagg	5	hypothetical conserved protein	
CcrMagneto_gp047	+	cgaccgcgtgcGGGGcacctg	atg	gggg	6	hypothetical conserved protein	
CcrMagneto_gp048	+	ttcgtggttGGAGGgcgtaca	atg	ggagg	7	hypothetical conserved protein	
CcrMagneto_gp049	+	gatcaccgcttcggtcaagac	gtg	None	0	hypothetical conserved protein	
CcrMagneto_gp050	+	caccatctacGAGagcacgtg	atg	gag	6	hypothetical conserved protein	
CcrMagneto_gp051	+	gtcgtgaaaccggcccagccc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp052	+	tccggtcgAGGAGGgcgacat	ttg	aggagg	7	hypothetical conserved protein	
CcrMagneto_gp053	+	gcttatctccGGAccccgccg	atg	gga	8	hypothetical conserved protein	
CcrMagneto_gp054	+	ttaaccatgacgggctccccg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp055	+	cctgatgagcGGGGtggacgc	gtg	gggg	7	putative HD-domain/PDEase-like protein	SSF109604
CcrMagneto_gp056	+	aacgatacGAGaacatccgct	atg	gag	10	hypothetical conserved protein	
CcrMagneto_gp057	+	gctatctGGAtcgctgagccg	atg	gga	11	hypothetical conserved protein	
CcrMagneto_gp058	+	cctgccgaagaAGGccgcctg	atg	agg	7	putative DHH phosphoesterase protein	SSF64182
CcrMagneto_gp059	+	caagcgccgggcGGGGacggc	gtg	gggg	5	hypothetical conserved protein	
CcrMagneto_gp060	+	tctgccaacAGGAgatcgccg	gtg	aggag	7	hypothetical conserved protein	
CcrMagneto_gp061	+	ttccagcacatctAGGAcccc	atg	agga	4	hypothetical conserved protein	
CcrMagneto_gp062	+	gattacGAGGcctatcaccac	gtg	gagg	11	hypothetical conserved protein	
CcrMagneto_gp063	+	ttcgctgcGAGGccatttctg	atg	gagg	9	hypothetical conserved protein	
CcrMagneto_gp064	+	aagccggcgcgcaacttccgg	atg	None	0	putative HNH endonuclease	IPR002711
CcrMagneto_gp065	+	ccgtgggaaGAGagaaactgt	atg	gag	7	hypothetical conserved protein	
CcrMagneto_gp066	+	aacaccaagAGGAGcaagcca	atg	aggag	7	putative major capsid protein	experimental evidence, see text
CcrMagneto_gp067	+	atctaagcAGGAaatccccag	atg	agga	9	putative minor capsid protein	experimental evidence, see text
CcrMagneto_gp068	+	ccccgaaacGGAaaatccccc	atg	gga	9	hypothetical conserved protein	
CcrMagneto_gp069	+	aagccacaggcggctaagcc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp070	+	atcacccAGGTgaactaagcc	gtg	aggt	10	hypothetical conserved protein	
CcrMagneto_gp071	+	caactccgctacgcctaagcc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp072	+	ttcacgagctaaGGGGcggcc	atg	gggg	5	hypothetical conserved protein	
CcrMagneto_gp073	+	aacccccAGGAGccctgaacc	atg	aggag	9	hypothetical conserved protein	
CcrMagneto_gp074	+	gccgcctcaAGGgtcttcgcg	ttg	agg	9	putative lectin-like domain protein	IPR013320, IPR008985
CcrMagneto_gp075	+	gctgacctGGAGGcctaagac	atg	ggagg	8	hypothetical conserved protein	
CcrMagneto_gp076	+	cgtggcgatgaagttctaacg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp077	+	tctGGAGtttcgagcgccatc	atg	ggag	14	hypothetical conserved protein	
CcrMagneto_gp078	+	cgcaccgccAGGgctttccca	atg	agg	9	hypothetical conserved protein	
CcrMagneto_gp079	+	ctgcggttgcgcGAGGcttcc	atg	gagg	5	hypothetical conserved protein	
CcrMagneto_gp080	+	ggcgtccgttcGAGagccatc	atg	gag	5	hypothetical conserved protein	
CcrMagneto_gp081	+	agtcGGGGaccgagagccgtc	atg	gggg	13	hypothetical conserved protein	
CcrMagneto_gp082	+	tcctgggtGGAGttttcccta	atg	ggag	9	hypothetical conserved protein	
CcrMagneto_gp083	+	cgccatcccagagGGAGcgac	gtg	ggag	4	putative PhoH-like protein	IPR003714, SSF52540, G3DSA:3.40.50.300
CcrMagneto_gp084	+	gtgacaaagacgtagcgcacc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp085	+	caagaagatcattcgccacta	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp086	+	cagcacgcggaagaAGGcccc	gtg	agg	4	hypothetical conserved protein	
CcrMagneto_gp087	+	ctcgattaaaGAGGTgttcgg	atg	gaggt	6	hypothetical conserved protein	
CcrMagneto_gp088	+	gttttggctgggaGAGGactg	atg	gagg	4	hypothetical conserved protein	
CcrMagneto_gp089	+	ccgtGGAttggtgacctgccc	atg	gga	14	putative major tail tube protein	experimental evidence, see text
CcrMagneto_gp090	+	cccgatacGGAatccccgaac	atg	gga	10	putative pre-tape measure chaperone protein	HHpred vs pdb70_18Aug12, hit 2ob9_A, prob 89.3% E=0.82; positional evidence, see text
CcrMagneto_gp091	+	cccgatacGGAatccccgaac	atg	gga	10	putative pre-tape measure chaperone protein, frameshifted version	positional evidence, see text; slippery sequence AAAAAAC
CcrMagneto_gp092	+	gcGGGGccgccgataggatca	atg	gggg	15	putative tail tape measure protein	IPR007921, IPR013491, IPR013423; experimental evidence, see text
CcrMagneto_gp093	+	tcctttcatggttaatgcccg	atg	None	0	hypothetical conserved protein	IPR011740
CcrMagneto_gp094	+	aaatccgtccccgaagacctg	atg	None	0	putative tail protein	IPR019228, IPR018964, IPR011928; experimental evidence, see text
CcrMagneto_gp095	+	gcccaacgctccGGAGcagga	atg	ggag	5	putative NlpC/P60 family cell wall peptidase	IPR000064, SSF54001, G3DSA:3.90.1720.10
CcrMagneto_gp096	+	ccccggcgttgAGGActaatc	atg	agga	6	putative tail protein	IPR007110; experimental evidence, see text
CcrMagneto_gp097	+	tgtcataaaagtcgtggaacg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp098	+	cctcaAGGgcgtcatcctgca	atg	agg	13	putative tail protein	IPR000421, IPR008979, G3DSA:2.60.120.260; experimental evidence, see text
CcrMagneto_gp099	+	accctcaagGGAatccgatag	atg	gga	9	hypothetical conserved protein	
CcrMagneto_gp100	+	tcttcatgctcGGAGcctgac	atg	ggag	6	hypothetical conserved protein	

CcrMagneto_gp101	+	tcagcacttccGGAattccac	atg	gga	7	putative endolysin	IPR002196, SSF53955, G3DSA:1.10.530.40
CcrMagneto_gp102	+	gggcttcaAGGgctgctgatc	atg	agg	10	putative inner membrane spanin component	N-terminal TMD, outer membrane spanin component embedded in +1 frame, see text
CcrMagneto_gp103	+	agtaccaaGAGGTtattcacg	atg	gaggt	8	putative outer membrane spanin component	lipoprotein embedded in inner membrane spanin component, see text
CcrMagneto_gp104	+	caagctcaaGGGGaagacgca	gtg	gggg	8	putative holin protein	predicted 4 TMDs, see text
CcrMagneto_gp105	+	cgctatcacGGAGtagggacc	atg	ggag	8	hypothetical conserved protein	
CcrMagneto_gp106	-	cgacggacggAGGAGaacgaa	atg	aggag	6	putative HTH domain DNA-binding protein	IPR001387, IPR010982, G3DSA:1.10.260.40
CcrMagneto_gp107	-	ttaaccaGAGGcccgaaaata	atg	gagg	10	putative dUTP pyrophosphatase	IPR008181, IPR008180, SSF51283, PTHR11241, G3DSA:2.70.40.10
CcrMagneto_gp108	-	tccttttcctGAGacccccttc	atg	gag	8	putative ribonucleoside diphosphate reductase beta subunit	IPR012348, IPR012335, IPR000358, IPR002109, IPR009078, IPR012336, IPR011767
CcrMagneto_gp109	-	tcgacgcGAGaacGAGacccc	atg	gag	5	putative ribonucleoside diphosphate reductase alpha subunit	IPR006141, IPR003587, IPR000788, IPR013509, IPR008926, SSF51294, SSF51998, G3DSA:2.170.16.10, G3DSA:3.20.70.20
CcrMagneto_gp110	-	cggtggttGGGGtggctggcg	ttg	gggg	9	hypothetical conserved protein	
CcrMagneto_gp111	-	tcctcatgcagcAGGAatccc	atg	agga	5	hypothetical conserved protein	
CcrMagneto_gp112	-	acgacatcaccGGAGcccggc	atg	ggag	6	hypothetical conserved protein	
CcrMagneto_gp113	-	gacgccgaccAGGActgatcc	atg	agga	7	putative thymidylate synthase	IPR003669
CcrMagneto_gp114	-	atccttcgctAGGAGaacccc	atg	aggag	6	putative dNMP kinase	HHpred vs pdb70_18Aug12, hit 2grj_A, prob 99.9% E=3.6E-27; SSF52540, G3DSA:3.40.50.300
CcrMagneto_gp115	-	cgtctcgtccgaaagtctccg	atg	None	0	putative RecD-like helicase	HHpred vs pdb70_18Aug12, hit 3e1s_A, prob 100% E=1.3E-45; SSF52540, G3DSA:3.40.50.300
CcrMagneto_gp116	-	acagaaaatAGGTatcagcaa	atg	aggt	8	hypothetical conserved protein	
CcrMagneto_gp117	-	aGAGaaatgtgacggtgcgcg	atg	gag	17	hypothetical conserved protein	
CcrMagneto_gp118	-	caagatgcgGGAGaaggccgc	gtg	ggag	8	hypothetical conserved protein	
CcrMagneto_gp119	-	actcccgaacGAGatcgcccg	atg	gag	8	putative exoribonuclease, Pol III-like	IPR006055, IPR013520, IPR012337, G3DSA:3.30.420.10
CcrMagneto_gp120	-	cacctgggcGGAGacgcactg	atg	ggag	8	hypothetical conserved protein	
CcrMagneto_gp121	-	atcaaatcctcaAGGTgctcc	atg	aggt	5	putative Pol I DNA polymerase, T7-like	IPR001098, IPR012337, SSF56672, PTHR10133, G3DSA:1.10.150.20, G3DSA:1.20.1060.10, G3DSA:3.30.420.10, G3DSA:3.30.70.370; see text
CcrMagneto_gp122	-	acatccgttaaccatagagcc	atg	None	0	putative DNA cytosine methyltransferase	IPR001525, IPR018117, SSF53335, PTHR10629:SF11, G3DSA:3.40.50.150, G3DSA:3.90.120.10
CcrMagneto_gp123	-	ggcgcctgtaagcGAGGtccc	atg	gagg	4	hypothetical conserved protein	
CcrMagneto_gp124	-	gcgccaaaccGGAGctttctct	atg	ggag	7	putative T5 A1-like protein	blastP to T5 A1 (AAU05157), E=3.51E-89, 34% Dice identity; HHpred vs pdb70_18Aug12, hit 1g2h_A, prob 94.0% E=0.05
CcrMagneto_gp125	-	gctggtcgcaaagacccctcc	atg	None	0	putative DNA methylase	IPR002052, SSF53335, G3DSA:3.40.50.150
CcrMagneto_gp126	-	cAGGAcctatgacgggttgcc	ctg	agga	16	hypothetical conserved protein	
CcrMagneto_gp127	-	aaagatcgctatcgttgtcgc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp128	-	tatcgcaaAGGTcatggacac	gtg	aggt	9	hypothetical conserved protein	
CcrMagneto_gp129	-	cgttaaccacgtgcggcgccc	atg	None	0	putative DNA helicase	IPR014001, IPR001650, IPR000330, IPR014021, SSF52540, PTHR10799, G3DSA:3.40.50.300
CcrMagneto_gp130	+	ccggtcacaAGGAGaactatc	atg	aggag	7	hypothetical conserved protein	
CcrMagneto_gp131	-	ggaaatcaAGGAGGccgcgtg	atg	aggagg	7	hypothetical conserved protein	
CcrMagneto_gp132	-	ccccgccgtaaAGGccccctg	atg	agg	7	hypothetical conserved protein	
CcrMagneto_gp133	-	acccacGAGGTctcgcgttac	ctg	gaggt	10	hypothetical conserved protein	
CcrMagneto_gp134	-	cgccttttcaAGGAtcgcccg	atg	agga	7	hypothetical conserved protein	
CcrMagneto_gp135	-	gccggtcttcaAGGAGacgacc	atg	aggag	6	Putative rIIb-like protein	PD130832
CcrMagneto_gp136	-	gcctgccttttcGGAGttttgcc	atg	ggag	6	putative rIIa-like protein	IPR003594
CcrMagneto_gp137	+	ggcaaaatccgaaAGGcAGGc	ttg	agg	1	hypothetical conserved protein	
CcrMagneto_gp138	+	gcctGAGGcatgctcgtattc	atg	gagg	13	hypothetical conserved protein	
CcrMagneto_gp139	+	cgtatggtacgcgAGGAtgac	atg	agga	4	hypothetical conserved protein	
CcrMagneto_gp140	+	caccgacgggcgcgtcctcca	ttg	None	0	hypothetical conserved protein	
CcrMagneto_gp141	+	acgacaacgaAGGAGGctctc	atg	aggagg	5	putative tyrosine recombinase	IPR013762, IPR002104, IPR011010
CcrMagneto_gp142	+	gtcctgcgatAGGAGGcgcg	atg	aggagg	5	hypothetical conserved protein	
CcrMagneto_gp143	+	cgctagtcccAGGAGtacagt	ttg	aggag	6	hypothetical conserved protein	
CcrMagneto_gp144	+	acccccgtcccgacAGGcttc	atg	agg	4	hypothetical conserved protein	
CcrMagneto_gp145	+	atcgctcctGGGGccttttga	gtg	gggg	8	hypothetical conserved protein	
CcrMagneto_gp146	+	tcctgtacggtaagGGAaaac	atg	gga	4	hypothetical conserved protein	
CcrMagneto_gp147	+	acgattcGGAGtattcatgaa	atg	ggag	10	putative HTH domain protein	IPR001387, G3DSA:1.10.260.40
CcrMagneto_gp148	+	cctgtattcctGAGGTcccgc	atg	gaggt	5	putative tRNA amidotransferase domain protein	IPR019004, IPR003789
CcrMagneto_gp149	-	actgatcgaGGGGaagttgag	atg	gggg	8	putative DNA ligase	IPR012340, IPR016027, SSF56091, G3DSA:3.30.470.30
CcrMagneto_gp150	-	tcgatccGGAGattttcgggg	atg	ggag	10	hypothetical conserved protein	
CcrMagneto_gp151	-	gccatcccctctatctccgag	gtg	None	0	hypothetical conserved protein	
CcrMagneto_gp152	-	gtttcAGGgcaaatgtcAGGa	atg	agg	1	DUF1643 protein	IPR012441
CcrMagneto_gp153	-	gcctcgcccttgaAGGAggca	atg	agga	4	hypothetical conserved protein	
CcrMagneto_gp154	-	gAGGccaagaagcgggccacg	gtg	agg	17	hypothetical conserved protein	
CcrMagneto_gp155	-	ctGGAtcgccccggcggcctg	atg	gga	16	hypothetical conserved protein	
CcrMagneto_gp156	-	gcttttgAGGAGtttggacgt	atg	aggag	9	hypothetical conserved protein	
CcrMagneto_gp157	-	agcaggactAGGAGaaagacc	atg	aggag	7	hypothetical conserved protein	
CcrMagneto_gp158	-	cgacgccaAGGAcgtctgcca	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp159	-	ggccggctacGAGatcgcctg	atg	gag	8	putative lipoprotein	LipoP
CcrMagneto_gp160	-	cgctaaaGGGGgacctatc	atg	gggg	8	putative nicotinate phosphoribosyltransferase	IPR015977, IPR002638, PTHR11098
CcrMagneto_gp161	-	cagaatgaGGGGtaagcgata	gtg	gggg	9	putative NUDIX hydrolase domain protein	IPR014729, IPR000086, IPR015797, SSF52374, PS51462, PTHR22769
CcrMagneto_gp162	-	caaagcgtagtgtcgcgaggc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp163	-	ctcctacgaaagccgcttttc	atg	None	0	putative peptidyl-tRNA hydrolase	IPR002833, SSF102462, PTHR12649, G3DSA:3.40.1490.10
CcrMagneto_gp164	-	agcgccggccgccGAGGgctg	atg	gagg	4	hypothetical conserved protein	
CcrMagneto_gp165	-	taacctccagcAGGAGaccgc	atg	aggag	5	hypothetical conserved protein	
CcrMagneto_gp166	-	acaacgccGGAGGccctttc	atg	ggagg	8	hypothetical conserved protein	
CcrMagneto_gp167	-	ccccgatctccGAGaagcccc	atg	gag	7	putative HD-domain/PDEase-like protein	SSF109604
CcrMagneto_gp168	-	gggagaattcctGAGGgtcgc	atg	gagg	5	hypothetical conserved protein	
CcrMagneto_gp169	-	acgcccagaAGGActaatcct	atg	agga	8	putative DNA-binding domain protein	IPR016177, SSF54060
CcrMagneto_gp170	-	gaggcctcGGAGaagtaagcc	atg	ggag	9	hypothetical conserved protein	
CcrMagneto_gp171	-	tcttgagaAGGAacaaccctg	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp172	-	tcaacaAGGgcaagaacgccg	atg	agg	12	hypothetical conserved protein	
CcrMagneto_gp173	-	caagcAGGcggcgggtctgct	ttg	agg	13	hypothetical conserved protein	
CcrMagneto_gp174	-	gctgttcgactGGAGaaaatc	gtg	ggag	6	hypothetical conserved protein	
CcrMagneto_gp175	-	ctctgcgtgaAGGgctAGGcc	atg	agg	2	hypothetical conserved protein	
CcrMagneto_gp176	-	acaccacagaAGGAGcccgcc	gtg	aggag	6	putative RtcB-like protein	IPR001233
CcrMagneto_gp177	-	gtacccctcaAGGTgatcccc	atg	aggt	7	hypothetical conserved protein	
CcrMagneto_gp178	-	aacaaagcaAGGAGcaacccc	ttg	aggag	7	putative band 7 lipoprotein	IPR001107
CcrMagneto_gp179	-	actcctgaaAGGccgcgccca	atg	agg	9	hypothetical conserved protein	
CcrMagneto_gp180	-	gcagcgcgggctcgcggcctg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp181	-	gacgacaacgaAGGAGactcc	atg	aggag	5	hypothetical conserved protein	
CcrMagneto_gp182	-	caggatGGAGGccgccgccaa	atg	ggagg	10	hypothetical conserved protein	
CcrMagneto_gp183	-	tccgagccaAGGAGcgctgat	ttg	aggag	7	hypothetical conserved protein	
CcrMagneto_gp184	-	cgacgcgagAGGAGccgatc	atg	aggag	6	hypothetical conserved protein	
CcrMagneto_gp185	-	gcactctGGAaagGGAccgcc	atg	gga	5	hypothetical conserved protein	
CcrMagneto_gp186	-	ggtcctctcgGGAGacaaccc	atg	ggag	7	hypothetical conserved protein	
CcrMagneto_gp187	-	tctgaaAGGctcgacctcctg	atg	agg	12	hypothetical conserved protein	
CcrMagneto_gp188	-	cgttccaactcgcAGGTctcc	gtg	aggt	4	hypothetical conserved protein	
CcrMagneto_gp189	-	cctgggcctGGAGaagcacct	gtg	ggag	8	hypothetical conserved protein	
CcrMagneto_gp190	-	actggcgaAGGTgtcggacca	atg	aggt	9	hypothetical conserved protein	
CcrMagneto_gp191	-	acaaccgcagAGGAGaccctc	gtg	aggag	6	hypothetical conserved protein	
CcrMagneto_gp192	-	cgGGAtgcgttccgggtcgag	atg	gga	16	hypothetical conserved protein	
CcrMagneto_gp193	-	gcccgagaaAGGcgaAGGccc	atg	agg	3	hypothetical conserved protein	
CcrMagneto_gp194	-	cgccgacGGAGaattactgcg	atg	ggag	10	putative winged-helix HTH DNA binding protein	IPR011991
CcrMagneto_gp195	-	ttacgcgccaatGAGcgccag	atg	gag	6	hypothetical conserved protein	
CcrMagneto_gp196	-	ccacccgcgctgcccgaggag	gtg	None	0	hypothetical conserved protein	
CcrMagneto_gp197	-	cagcgcgggcAGGgttcccgc	atg	agg	8	hypothetical conserved protein	
CcrMagneto_gp198	-	aagaggtcgAGGAGGTcgccg	atg	aggaggt	5	hypothetical conserved protein	
CcrMagneto_gp199	-	gacgacaacgAGGAGGTcctg	atg	aggaggt	4	putative ArdC-like antirestriction protein	IPR017113, IPR013610
CcrMagneto_gp200	-	cgcggcgataatGAGcgcctg	atg	gag	6	hypothetical conserved protein	
CcrMagneto_gp201	-	ggacctGGAGaacaccgccg	atg	ggag	11	hypothetical conserved protein	
CcrMagneto_gp202	-	gggccggGGAGGgcgtgcatc	atg	ggagg	9	hypothetical conserved protein	
CcrMagneto_gp203	-	cgcctgccaGAGcctcaagtc	atg	gag	9	hypothetical conserved protein	
CcrMagneto_gp204	-	aacgacaccagggGGAGagcc	gtg	ggag	4	putative acyl carrier protein	IPR009081, IPR006163, PTHR20863

CcrMagneto_gp205	-	tcgacaacggcaAGGAcggct	atg	agga	5	putative HNH endonuclease	IPR002711
CcrMagneto_gp206	-	ctcattcgttaAGGAtcgacc	atg	agga	6	hypothetical conserved protein	
CcrMagneto_gp207	-	cgttcctgggctatcaagccg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp208	-	tggGGAGaagctgaagtgagc	atg	ggag	14	hypothetical conserved protein	
CcrMagneto_gp209	-	cgccttcGAGGTgcaagcctg	atg	gaggt	9	hypothetical conserved protein	
CcrMagneto_gp210	-	tccggacctcGGAGaaggccc	gtg	ggag	7	hypothetical conserved protein	
CcrMagneto_gp211	-	acggttcgAGGAGatcgaggc	ttg	aggag	8	hypothetical conserved protein	
CcrMagneto_gp212	-	gacgacaacggaAGGAaccttt	atg	agga	5	hypothetical conserved protein	
CcrMagneto_gp213	-	cggtgacttcgccaAGGggac	ctg	agg	4	hypothetical conserved protein	
CcrMagneto_gp214	-	gcgcgaaccgaAGGTcgactg	atg	aggt	6	hypothetical conserved protein	
CcrMagneto_gp215	-	gacgacaacaAGGAGGcctcc	atg	aggagg	5	hypothetical conserved protein	
CcrMagneto_gp216	-	ctacgtGGAGagccgggcggc	atg	ggag	11	hypothetical conserved protein	
CcrMagneto_gp217	-	cgcgcaatttccGGAGtgacc	atg	ggag	5	hypothetical conserved protein	SSF56784
CcrMagneto_gp218	-	gtcctgGGAGttcgcggactg	atg	ggag	11	hypothetical conserved protein	
CcrMagneto_gp219	-	gcagggcctGGGGgactgaac	atg	gggg	7	hypothetical novel protein	
CcrMagneto_gp220	-	gatcaagtcGAGGccctgagc	atg	gagg	8	hypothetical conserved protein	
CcrMagneto_gp221	-	ggctcccgtacAGGAtcacct	atg	agga	6	hypothetical conserved protein	
CcrMagneto_gp222	-	caccgggctcgtggcggcctg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp223	-	agcagaAGGAGGaagccgctc	atg	aggagg	9	putative HTH domain DNA-binding protein	IPR010982, IPR001387, G3DSA:1.10.260.40
CcrMagneto_gp224	-	aatcgcccAGGgcgccgcctg	atg	agg	10	hypothetical conserved protein	
CcrMagneto_gp225	-	acaacgacagaAGGAGGccgc	gtg	aggagg	4	hypothetical conserved protein	
CcrMagneto_gp226	-	ggccggcgcggcggcgtccgc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp227	-	cactgtccggaAGGTcgagcc	atg	aggt	6	hypothetical conserved protein	
CcrMagneto_gp228	-	ggtctatcgccGGAGGgcctg	atg	ggagg	5	putative Pol I DNA polymerase	IPR001098, IPR002298, SSF56672, G3DSA:3.30.70.370
CcrMagneto_gp229	-	agatcaAGGAGtagtgcaagc	gtg	aggag	10	putative GcrA-like cell cycle regulator	IPR011681; see text
CcrMagneto_gp230	-	gccgccaaattcGAGGggaag	atg	gagg	5	hypothetical conserved protein	
CcrMagneto_gp231	+	cgacaacgaaAGGAGcctgcc	atg	aggag	6	hypothetical conserved protein	
CcrMagneto_gp232	+	cgccgcGAGGctcgcccaatg	atg	gagg	11	hypothetical conserved protein	
CcrMagneto_gp233	+	caagatcGAGGaaGAGGtctg	atg	gagg	4	hypothetical conserved protein	
CcrMagneto_gp234	+	caagctcaagaaAGGTcgcct	atg	aggt	5	hypothetical conserved protein	
CcrMagneto_gp235	+	cattctcgactAGGAGGaccc	atg	aggagg	4	hypothetical conserved protein	
CcrMagneto_gp236	+	tcgatttcctggcgggcgccg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp237	+	gtttctggaAGGTcaggactg	atg	aggt	8	hypothetical conserved protein	
CcrMagneto_gp238	+	agcgcgagccgcAGGTctgac	atg	aggt	5	hypothetical conserved protein	
CcrMagneto_gp239	+	cgacagcgaaAGGAGcctgcc	ttg	aggag	6	hypothetical conserved protein	
CcrMagneto_gp240	+	ccggatgctcGGAGGTcgcggc	ttg	ggaggt	6	hypothetical conserved protein	
CcrMagneto_gp241	+	actcatggacGGAGccgtctg	atg	ggag	7	hypothetical conserved protein	
CcrMagneto_gp242	+	cgccgacttcaAGGAcaagcg	atg	agga	6	hypothetical conserved protein	
CcrMagneto_gp243	+	gccgccGGAGGcagacccgac	gtg	ggagg	10	hypothetical conserved protein	
CcrMagneto_gp244	+	tcaagctGGAGaccgtctgac	atg	ggag	10	hypothetical conserved protein	
CcrMagneto_gp245	+	acgacaacgagAGGAGttccc	atg	aggag	5	hypothetical conserved protein	
CcrMagneto_gp246	+	cacggaatgGGAGattttcga	atg	ggag	8	hypothetical conserved protein	
CcrMagneto_gp247	+	ggcctGGAGatcatcgcctag	atg	ggag	12	hypothetical conserved protein	
CcrMagneto_gp248	+	acctcggacgAGGAGGactaa	atg	aggagg	5	hypothetical conserved protein	
CcrMagneto_gp249	+	gaccccGGAGtccaagaccga	atg	ggag	11	hypothetical conserved protein	
CcrMagneto_gp250	+	caacgccctgGGAGccgccaa	atg	ggag	7	hypothetical conserved protein	
CcrMagneto_gp251	+	ggtcagccAGGAcatgccgtc	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp252	+	gacgacaacgAGGAGGcttcg	atg	aggagg	5	hypothetical conserved protein	
CcrMagneto_gp253	+	gtcaaagAGGAGGcctgagcc	ttg	aggagg	8	hypothetical conserved protein	
CcrMagneto_gp254	+	ggcgccctacGAGGccccgca	atg	gagg	7	hypothetical conserved protein	
CcrMagneto_gp255	+	ccggcgAGGAGGTgcgctgac	atg	aggaggt	8	hypothetical conserved protein	
CcrMagneto_gp256	+	tggacgacaacAGGAGGgacc	atg	aggagg	4	hypothetical conserved protein	
CcrMagneto_gp257	+	ctacgtgaAGGAcctgcgtcg	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp258	+	tcagcgtGGGGgtggctgctg	atg	gggg	9	hypothetical conserved protein	
CcrMagneto_gp259	+	gacccaGGGGgtttccgaggc	atg	gggg	10	hypothetical conserved protein	
CcrMagneto_gp260	+	cctcgacgcgAGGAaaagctg	atg	agga	7	hypothetical conserved protein	
CcrMagneto_gp261	+	aagccctgaagGGAGagaccg	atg	ggag	6	hypothetical conserved protein	
CcrMagneto_gp262	+	gaccaaGGGGgtgcGGGGcaa	atg	gggg	3	hypothetical conserved protein	
CcrMagneto_gp263	+	ttgtcttGAGaaagccaacgc	atg	gag	11	DUF1937 protein	IPR015235, SSF52309
CcrMagneto_gp264	+	gagccacgGGAGattgaagc	gtg	ggag	8	hypothetical conserved protein	
CcrMagneto_gp265	+	ggtgtcccaGAGGTaccagcg	atg	gaggt	7	hypothetical conserved protein	
CcrMagneto_gp266	+	ccggcgcctatGGAGagagcc	atg	ggag	6	putative TAT signal protein	IPR006311; PRED-TAT
CcrMagneto_gp267	+	tctcgatatggcgaagtccgc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp268	+	acgtcaacaAGGAGcccaccg	atg	aggag	7	hypothetical conserved protein	
CcrMagneto_gp269	+	agaagcccggcgggccgagtg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp270	+	ccaaactcgaccggttctgac	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp271	+	gccgctcgatgggtGGAacgg	atg	gga	4	hypothetical conserved protein	
CcrMagneto_gp272	+	cgaggaagAGGAGcgctgctg	atg	aggag	8	putative Ser/Thr protein phosphatase	IPR004843, IPR006186, SSF56300, PTHR11668, G3DSA:3.60.21.10
CcrMagneto_gp273	+	gttgatccgcgAGGAcgacgc	atg	agga	6	hypothetical conserved protein	
CcrMagneto_gp274	+	gacgacaacgAGGAGGcccac	atg	aggagg	5	hypothetical conserved protein	
CcrMagneto_gp275	+	catgaccaaGAGccgcttctg	atg	gag	9	hypothetical conserved protein	
CcrMagneto_gp276	+	gatcatcctgGGAGatgccgc	atg	ggag	7	hypothetical conserved protein	
CcrMagneto_gp277	+	ccgcttcgAGGAGGccccgccc	atg	aggagg	7	hypothetical conserved protein	
CcrMagneto_gp278	+	acgacaacgAGGAGGcccccc	atg	aggagg	6	hypothetical conserved protein	
CcrMagneto_gp279	+	cttcgtctcgggtgaagcctg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp280	+	ccacGGAagaagacgcctaag	atg	gga	14	hypothetical conserved protein	
CcrMagneto_gp281	+	cGGAGGgctaacgtgagtctg	atg	ggagg	15	hypothetical conserved protein	
CcrMagneto_gp282	+	tccgaaaGGGGccttaagtcc	atg	gggg	10	hypothetical conserved protein	
CcrMagneto_gp283	+	aacggaAGGAcctgaaagacc	atg	agga	11	hypothetical conserved protein	
CcrMagneto_gp284	+	acaacgccGGAGGccctttc	atg	ggagg	8	hypothetical conserved protein	
CcrMagneto_gp285	+	atactacgccaagcAGGccgc	atg	agg	4	hypothetical conserved protein	
CcrMagneto_gp286	+	caacatcgaaGAGttcggcga	atg	gag	8	hypothetical conserved protein	
CcrMagneto_gp287	+	ccagatcaAGGAGGcccagtc	ttg	aggagg	7	hypothetical conserved protein	
CcrMagneto_gp288	+	caatcaggcaatcaGGGGccagc	atg	gggg	5	hypothetical conserved protein	
CcrMagneto_gp289	+	ctgggccGAGGgctcgccgcg	atg	gagg	10	hypothetical conserved protein	
CcrMagneto_gp290	+	cggacatagAGGAGcaacccg	atg	aggag	7	hypothetical conserved protein	
CcrMagneto_gp291	+	tcgccgcctgAGGAGGacccg	atg	aggagg	5	hypothetical conserved protein	
CcrMagneto_gp292	+	gcttgagaAGGcgttcggcca	atg	agg	10	hypothetical conserved protein	
CcrMagneto_gp293	+	ccaagcctcGGGGctcttcca	atg	gggg	8	hypothetical conserved protein	
CcrMagneto_gp294	+	caccgactactAGGAGGtccc	atg	aggagg	4	hypothetical conserved protein	
CcrMagneto_gp295	+	ccgctaggacaAGGAGGtccc	atg	aggagg	4	hypothetical conserved protein	
CcrMagneto_gp296	+	acgacaacAGGAGGccccgcc	ttg	aggagg	7	hypothetical conserved protein	
CcrMagneto_gp297	+	ttgcggtcatgAGGAttcgaa	atg	agga	6	hypothetical conserved protein	
CcrMagneto_gp298	+	ccggcggctgacgggtgcgtc	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp299	+	gacgacaacgAGGAGGccccc	atg	aggagg	5	hypothetical conserved protein	
CcrMagneto_gp300	+	ggactacatcGAGGTgaccct	gtg	gaggt	6	hypothetical conserved protein	
CcrMagneto_gp301	+	ccttagccaaGAGGTgcagcc	ttg	gaggt	6	hypothetical conserved protein	
CcrMagneto_gp302	+	agcggcGGAGGcccttggcctg	atg	ggagg	10	hypothetical conserved protein	
CcrMagneto_gp303	+	ggaacAGGAGaccgccgcctg	atg	aggag	11	hypothetical conserved protein	
CcrMagneto_gp304	+	gatcgcgcgactGGAGaacgc	atg	ggag	5	hypothetical conserved protein	
CcrMagneto_gp305	+	cggcgggatcaAGGTgagcgc	atg	aggt	6	hypothetical conserved protein	
CcrMagneto_gp306	+	tttcatcgccGAGGccctgtc	atg	gagg	7	hypothetical conserved protein	
CcrMagneto_gp307	+	acgctgcgaAGGAGcctcgac	ttg	aggag	7	hypothetical conserved protein	
CcrMagneto_gp308	+	ccagatcAGGAaggccgccgc	atg	agga	10	hypothetical conserved protein	

CcrMagneto_gp309	+	tcgcgacacggcaAGGTacgc	atg	aggt	4	hypothetical conserved protein	
CcrMagneto_gp310	+	cggcctgcatgcGAGGgctg	atg	gagg	5	hypothetical conserved protein	
CcrMagneto_gp311	+	gatctacaagccggtgcgctg	atg	None	0	hypothetical conserved protein	
CcrMagneto_gp312	+	gctcgccaAGGAcgtggtgtg	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp313	+	ccgcctGGAGcttgccgccac	atg	ggag	11	hypothetical conserved protein	
CcrMagneto_gp314	+	cctcggctGGAagtcctcgtc	atg	gga	10	hypothetical conserved protein	
CcrMagneto_gp315	+	cctggagtatcGGGGtcgggc	gtg	gggg	6	putative HNH homing endonuclease	IPR002711
CcrMagneto_gp316	+	cgggctagaccGGAGGccatg	atg	ggagg	5	hypothetical conserved protein	
CcrMagneto_gp317	+	gatccttccGGAGGacgcggc	gtg	ggagg	7	hypothetical conserved protein	
CcrMagneto_gp318	+	caggctgaaGAGaccgggcgg	atg	gag	9	hypothetical conserved protein	
CcrMagneto_gp319	+	caccctaacaAGGAGcccct	gtg	aggag	5	hypothetical conserved protein	
CcrMagneto_gp320	+	tccgcgcctaaAGGAcccccg	atg	agga	6	hypothetical novel protein	
CcrMagneto_gp321	+	taagaatgAGGAaatacatcc	atg	agga	9	hypothetical conserved protein	
CcrMagneto_gp322	+	aaggcccctcgGGAGccaccc	atg	ggag	6	hypothetical conserved protein	
CcrMagneto_gp323	+	gccatcgcctGAGaccctccc	atg	gag	8	hypothetical conserved protein	
CcrMagneto_gp324	+	cgccgacGGGGtcgacctgac	gtg	gggg	10	putative RNaseH-like domain protein	IPR012337
CcrMagneto_gp325	+	cgacccggcGGAGtttccggc	ttg	ggag	8	hypothetical conserved protein	
CcrMagneto_gp326	+	aagaagacGAGGacGAGGacg	atg	gagg	3	hypothetical conserved protein	
CcrMagneto_gp327	+	aaacgcaccGAGctttagatc	atg	gag	9	putative terminase small subunit	HHpred vs pdb70_18Aug12, hit 3zqp_A, prob 90.4% E=0.15; position relative to terminase large subunit, see text
CcrMagneto_gp328	+	tcgcgctgaccctagaacgcc	gtg	None	0	putative terminase large subunit	IPR004921, IPR007868, IPR006141, IPR003587, IPR006517, SSF51294, G3DSA:2.170.16.10

Table S4. Predicted proteins, gene starts and annotations of *C. crescentus* phage CcrSwift. Upstream sequence is the 25 bp of DNA sequence upstream of the start codon, with the predicted Shine-Dalgarno motif capitalized. S-D is the Shine-Dalgarno motif associated with the gene start, and spacing is the interval (in bp) between the S-D and start codon. Evidence includes detected conserved domains or motifs, BlastP and HHpred hits, and experimental or other evidence as detailed in the text.

Protein name	Strand	Upstream Sequence	Start Codon	S-D	spacing	Predicted product	Evidence
CcrSwift_gp001	+	tggcgaatcatGGAGccgacg	atg	ggag	6	hypothetical conserved protein	
CcrSwift_gp002	+	cgaaatcaaAGGcttatcgcc	atg	agg	9	hypothetical conserved protein	
CcrSwift_gp003	+	atcccgttaccGGAcaacccc	atg	gga	7	hypothetical conserved protein	
CcrSwift_gp004	-	cgcgcccttGGAGatcgcccc	atg	ggag	8	hypothetical conserved protein	
CcrSwift_gp005	+	tttgacattgtGAGGcaatcc	atg	gagg	6	hypothetical conserved protein	
CcrSwift_gp006	+	aacccctGGAGGccctgcccc	atg	ggagg	9	hypothetical conserved protein	
CcrSwift_gp007	+	cgacgccgccaAGGTgaaggc	gtg	aggt	6	hypothetical conserved protein	
CcrSwift_gp008	+	gcgtttacttttttgttaagga	atg	None	0	hypothetical conserved protein	
CcrSwift_gp009	+	gccccgctgtcgaaagccgcc	atg	None	0	hypothetical conserved protein	
CcrSwift_gp010	+	cctcacctGGAGattttcccc	atg	ggag	9	hypothetical conserved protein	
CcrSwift_gp011	+	ccgcactGGAaagccaagccc	atg	gga	11	hypothetical conserved protein	
CcrSwift_gp012	+	cccccgcaAGGAtcgcccgac	atg	agga	9	hypothetical conserved protein	
CcrSwift_gp013	+	gGAGccgcaaccatgcccccg	atg	gag	17	hypothetical conserved protein	
CcrSwift_gp014	+	ctgccgaAGGTcgcctaagcc	atg	aggt	10	hypothetical conserved protein	
CcrSwift_gp015	+	caagccaAGGAagcctagacc	atg	agga	10	hypothetical conserved protein	
CcrSwift_gp016	+	cttccttcGGAGcttctgatc	atg	ggag	9	hypothetical conserved protein	
CcrSwift_gp017	+	ccccttttctGGAtcgctcccc	atg	gga	9	hypothetical conserved protein	
CcrSwift_gp018	+	ggtcgcaAGGAGacacccgac	atg	aggag	9	hypothetical conserved protein	
CcrSwift_gp019	+	cacgcaatcgAGGAGcccgtc	atg	aggag	6	hypothetical conserved protein	
CcrSwift_gp020	+	tccgAGGAcggcaagcacgtc	atg	agga	13	hypothetical conserved protein	
CcrSwift_gp021	+	cgcccttGGAGttcccggacg	atg	ggag	10	hypothetical conserved protein	
CcrSwift_gp022	+	caacaaGAGGTaccccgcctg	atg	gaggt	10	putative lipoprotein	LipoP
CcrSwift_gp023	+	acttcaaccccgtAGGcgtatc	atg	agg	6	hypothetical conserved protein	
CcrSwift_gp024	+	caccagcaacGAGttccattg	atg	gag	8	hypothetical conserved protein	
CcrSwift_gp025	+	catccccatcggaGAGGcctg	atg	gagg	4	hypothetical conserved protein	
CcrSwift_gp026	+	ctacgagcgcgtGGAGGctcc	gtg	ggagg	4	hypothetical conserved protein	
CcrSwift_gp027	+	ggtcccgctGGAGcccctgcc	gtg	ggag	8	hypothetical conserved protein	
CcrSwift_gp028	+	ttgccggcaAGGAGGTggtcc	atg	aggaggt	5	hypothetical conserved protein	
CcrSwift_gp029	+	gccccgcaAGGAGcgtgtctt	ttg	aggag	8	hypothetical conserved protein	
CcrSwift_gp030	+	agacgccgcctgaAGGAcaac	atg	agga	4	hypothetical conserved protein	
CcrSwift_gp031	+	tcgccccgtaacgAGGAcccc	atg	agga	4	hypothetical conserved protein	
CcrSwift_gp032	+	ccctgatcaccGAGGcctgac	atg	gagg	6	hypothetical conserved protein	
CcrSwift_gp033	+	gggcatgaagaAGGcgaaacg	atg	agg	7	hypothetical conserved protein	
CcrSwift_gp034	+	gcgcGGAcaaccggcggcggc	atg	gga	14	hypothetical conserved protein	
CcrSwift_gp035	+	gacatcaAGGAcgccttcgcc	ctg	agga	10	hypothetical conserved protein	
CcrSwift_gp036	+	tGAGGTcttgaggaccattcg	atg	gaggt	15	hypothetical novel protein	
CcrSwift_gp037	+	acctgggggcGGAGGTgtatg	atg	ggaggt	5	hypothetical conserved protein	
CcrSwift_gp038	-	gctacctcaAGGAGtagcgac	gtg	aggag	7	hypothetical conserved protein	
CcrSwift_gp039	-	gacacttaaGGGGtgtcgatc	atg	gggg	8	putative transglutaminase-like cysteine peptidase	IPR010319
CcrSwift_gp040	+	gcgacctcgcAGGccatctat	ctg	agg	8	putative portal protein	HHpred vs pdb70_18Aug12, hit 2jes_A, prob 99.9% E=4.9E-23; positional evidence, see text
CcrSwift_gp041	+	cccgaacccgAGGAccgcccg	atg	agga	7	hypothetical conserved protein	
CcrSwift_gp042	+	aaccctagcttgtaGAGtaac	atg	gag	4	hypothetical conserved protein	
CcrSwift_gp043	+	ccgtcccaagaAGGcgacctg	atg	agg	7	hypothetical conserved protein	
CcrSwift_gp044	+	cctccagccttGAGGcgcctt	gtg	gagg	6	hypothetical conserved protein	
CcrSwift_gp045	+	gttaaccacGAGGgcttttcc	atg	gagg	8	hypothetical conserved protein	
CcrSwift_gp046	+	ggctccttttcccGAGGgctct	atg	gagg	5	hypothetical conserved protein	
CcrSwift_gp047	+	cgaccgcgtgcGGGGcacctg	atg	gggg	6	hypothetical conserved protein	
CcrSwift_gp048	+	tccaagcttAGGAGcccgtcc	atg	aggag	7	hypothetical conserved protein	
CcrSwift_gp049	+	gatcaccgcctcggtcaagac	gtg	None	0	hypothetical conserved protein	
CcrSwift_gp050	+	gaccatctacGAGagcacgtg	atg	gag	6	hypothetical conserved protein	
CcrSwift_gp051	+	gccgtgaaaccggcccagccc	atg	None	0	hypothetical conserved protein	
CcrSwift_gp052	+	tccggtcgAGGAGGgcgacat	ttg	aggagg	7	hypothetical conserved protein	
CcrSwift_gp053	+	gcgcgaagccgccaagcgtcc	gtg	None	0	hypothetical conserved protein	
CcrSwift_gp054	+	ttaaccatgacgggctccccg	atg	None	0	hypothetical conserved protein	
CcrSwift_gp055	+	cctgatgagcGGGGtggacgc	gtg	gggg	7	putative HD-domain/PDEase-like protein	SSF109604
CcrSwift_gp056	+	aacgatacGAGaacatccgct	atg	gag	10	hypothetical conserved protein	
CcrSwift_gp057	+	gctatctGGAtcgctgagccg	atg	gga	11	hypothetical conserved protein	
CcrSwift_gp058	+	cctgccgaagaAGGccgcctg	atg	agg	7	putative DHH phosphoesterase protein	SSF64182
CcrSwift_gp059	+	caagcgtcgggcGGGGacggc	gtg	gggg	5	hypothetical conserved protein	
CcrSwift_gp060	+	tctgtcagcAGGAGatcgccg	gtg	aggag	7	hypothetical conserved protein	
CcrSwift_gp061	+	ttccagcacatctAGGAcccc	atg	agga	4	hypothetical conserved protein	
CcrSwift_gp062	+	gattacGAGGcctatcaccac	gtg	gagg	11	hypothetical conserved protein	
CcrSwift_gp063	+	ttcgctgcGAGGccatttctg	atg	gagg	9	hypothetical conserved protein	
CcrSwift_gp064	+	aagccggcgcgcaacttccgg	atg	None	0	putative HNH endonuclease	IPR002711
CcrSwift_gp065	+	ccgtgggaaGAGagaaactgt	atg	gag	7	hypothetical conserved protein	
CcrSwift_gp066	+	acaccaaagAGGAGcaagcca	atg	aggag	7	putative major capsid protein	experimental evidence, see text
CcrSwift_gp067	+	atctaagcAGGAaatccccag	atg	agga	9	putative minor capsid protein	experimental evidence, see text
CcrSwift_gp068	+	ccccgaaacGGAaaatccccc	atg	gga	9	hypothetical conserved protein	
CcrSwift_gp069	+	aagcccacggcggcctaagcc	atg	None	0	hypothetical conserved protein	
CcrSwift_gp070	+	atcacccAGGTgaactaagcc	gtg	aggt	10	hypothetical conserved protein	

CcrSwift_gp071	+	caactccgctacgcctaagcc	atg	None	0	hypothetical conserved protein	
CcrSwift_gp072	+	ttcacgagctaaGGGGcggcc	atg	gggg	5	hypothetical conserved protein	
CcrSwift_gp073	+	aacccccAGGAGccctgaacc	atg	aggag	9	hypothetical conserved protein	
CcrSwift_gp074	+	gccgcctcaAGGgtcttcgcg	ttg	agg	9	putative lectin-like domain protein	IPR013320, IPR008985
CcrSwift_gp075	+	gctgacctGGAGGcctaagac	atg	ggagg	8	hypothetical conserved protein	
CcrSwift_gp076	+	cgtggcgatgaagttctaacg	atg	None	0	hypothetical conserved protein	
CcrSwift_gp077	+	tctGGAGtttcgagcgccatc	atg	ggag	14	hypothetical conserved protein	
CcrSwift_gp078	+	cgcaccgccAGGgctttccca	atg	agg	9	hypothetical conserved protein	
CcrSwift_gp079	+	ggcgtccgttcGAGagccatc	atg	gag	5	hypothetical conserved protein	
CcrSwift_gp080	+	agtcGGGGaccgagagccgtc	atg	gggg	13	hypothetical conserved protein	
CcrSwift_gp081	+	tcctgggtGGAGttttccta	atg	ggag	9	hypothetical conserved protein	
CcrSwift_gp082	+	cgccatcccagagGGAGcgac	gtg	ggag	4	putative PhoH-like protein	IPR003714, SSF52540, G3DSA:3.40.50.300
CcrSwift_gp083	+	gtgacaaagacgtagcgcacc	atg	None	0	hypothetical conserved protein	
CcrSwift_gp084	+	caagaagatcattcgccacta	atg	None	0	hypothetical conserved protein	
CcrSwift_gp085	+	cagcacgcGGAagaagacccc	gtg	gga	10	hypothetical conserved protein	
CcrSwift_gp086	+	ctcgattaaaGAGGTgttcgg	atg	gaggt	6	hypothetical conserved protein	
CcrSwift_gp087	+	gttctggctgggaGAGGactg	atg	gagg	4	hypothetical conserved protein	
CcrSwift_gp088	+	ccgtGGAttggtgacctgccc	atg	gga	14	putative major tail tube protein	experimental evidence, see text
CcrSwift_gp089	+	cccgatacGGAacccccgaac	atg	gga	10	putative pre-tape measure chaperone protein	HHpred vs pdb70_18Aug12, hit 2ob9_A, prob 89.3% E=0.82; positional evidence, see text
CcrSwift_gp090	+	cccgatacGGAacccccgaac	atg	gga	10	putative pre-tape measure chaperone protein, frameshifted version	positional evidence, see text; slippery sequence AAAAAAC
CcrSwift_gp091	+	gcGGGGccgccgataggatca	atg	gggg	15	putative tail tape measure protein	IPR007921, IPR013491, IPR013423; experimental evidence, see text
CcrSwift_gp092	+	tcctttcatggttaatgcccg	atg	None	0	hypothetical conserved protein	IPR011740
CcrSwift_gp093	+	aaatccgtccccgaagacctg	atg	None	0	putative tail protein	IPR019228, IPR018964, IPR011928; experimental evidence, see text
CcrSwift_gp094	+	gcccaacgctccGGAGcagga	atg	ggag	5	putative NlpC/P60 family cell wall peptidase	IPR000064, SSF54001, G3DSA:3.90.1720.10
CcrSwift_gp095	+	ccccggcgttgAGGActaatc	atg	agga	6	putative tail protein	IPR007110; experimental evidence, see text
CcrSwift_gp096	+	tgtcataaaagtcgtggaacg	atg	None	0	hypothetical conserved protein	
CcrSwift_gp097	+	cctcaAGGgcgtcatcctgca	atg	agg	13	putative tail protein	IPR000421, IPR008979, G3DSA:2.60.120.260; experimental evidence, see text
CcrSwift_gp098	+	accctcaagGGAatccgatag	atg	gga	9	hypothetical conserved protein	
CcrSwift_gp099	+	tcttcatgctcGGAGcctgac	atg	ggag	6	hypothetical conserved protein	
CcrSwift_gp100	+	tcagcacttccGGAattccac	atg	gga	7	putative endolysin	IPR002196, SSF53955, G3DSA:1.10.530.40
CcrSwift_gp101	+	gggcttcaAGGgctgctgatc	atg	agg	10	putative inner membrane spanin component	N-terminal TMD, outer membrane spanin component embedded in +1 frame, see text
CcrSwift_gp102	+	agtaccaaGAGGTtattcacg	atg	gaggt	8	putative outer membrane spanin component	lipoprotein embedded in inner membrane spanin component, see text
CcrSwift_gp103	+	caagctcaaGGGGaagacgca	gtg	gggg	8	putative holin protein	predicted 4 TMDs, see text
CcrSwift_gp104	+	cgctatcacGGAGtagggacc	atg	ggag	8	hypothetical conserved protein	
CcrSwift_gp105	-	cgacggacggAGGAGaacgaa	atg	aggag	6	putative HTH domain DNA-binding protein	IPR001387, IPR010982, G3DSA:1.10.260.40
CcrSwift_gp106	-	ttaaccaGAGGcccgaaaata	atg	gagg	10	putative dUTP pyrophosphatase	IPR008181, IPR008180, SSF51283, PTHR11241, G3DSA:2.70.40.10
CcrSwift_gp107	-	tccttttcctGAGacccctte	atg	gag	8	putative ribonucleoside diphosphate reductase beta subunit	IPR012348, IPR012335, IPR000358, IPR002109, IPR009078, IPR012336, IPR011767
CcrSwift_gp108	-	tcgacgcGAGaacGAGacccc	atg	gag	5	putative ribonucleoside diphosphate reductase alpha subunit	IPR006141, IPR003587, IPR000788, IPR013509, IPR008926, SSF51294, SSF51998, G3DSA:2.170.16.10, G3DSA:3.20.70.20
CcrSwift_gp109	-	cggtggttGGGGtggctggcg	ttg	gggg	9	hypothetical conserved protein	
CcrSwift_gp110	-	tcctcatgcagcAGGAatccc	atg	agga	5	hypothetical conserved protein	
CcrSwift_gp111	-	acgacatcaccGGAGccgagc	atg	ggag	6	hypothetical conserved protein	
CcrSwift_gp112	-	gacgccgaccAGGActgatcc	atg	agga	7	putative thymidylate synthase	IPR003669
CcrSwift_gp113	-	atccttcgctAGGAGaacccc	atg	aggag	6	putative dNMP kinase	HHpred vs pdb70_18Aug12, hit 2grj_A, prob 99.9% E=3.6E-27; SSF52540, G3DSA:3.40.50.300
CcrSwift_gp114	-	aagatcaAGGAcgggcaaccc	ctg	agga	10	putative RecD-like helicase	HHpred vs pdb70_18Aug12, hit 3e1s_A, prob 100% E=1.3E-45; SSF52540, G3DSA:3.40.50.300
CcrSwift_gp115	-	acagaaaatAGGTatcagcaa	atg	aggt	8	hypothetical conserved protein	
CcrSwift_gp116	-	aGAGaaatgtgacggtgcgcg	atg	gag	17	hypothetical conserved protein	
CcrSwift_gp117	-	caagatgcgGGAGaaggccgc	gtg	ggag	8	hypothetical conserved protein	
CcrSwift_gp118	-	actcccgaacGAGatcgcccg	atg	gag	8	putative exoribonuclease, Pol III-like	IPR006055, IPR013520, IPR012337, G3DSA:3.30.420.10
CcrSwift_gp119	-	cacctgggcGGAGacgcactg	atg	ggag	8	hypothetical conserved protein	
CcrSwift_gp120	-	atcaaatcctcaAGGTgctcc	atg	aggt	5	putative Pol I DNA polymerase, T7-like	IPR001098, IPR012337, SSF56672, PTHR10133, G3DSA:1.10.150.20, G3DSA:1.20.1060.10, G3DSA:3.30.420.10, G3DSA:3.30.70.370; see text
CcrSwift_gp121	-	acatccgttaaccatagagcc	atg	None	0	putative DNA cytosine methyltransferase	IPR001525, IPR018117, SSF53335, PTHR10629:SF11, G3DSA:3.40.50.150, G3DSA:3.90.120.10
CcrSwift_gp122	-	ggcgcctgtaagcGAGGtccc	atg	gagg	4	hypothetical conserved protein	
CcrSwift_gp123	-	gcgccaaaccGGAGcttctct	atg	ggag	7	putative T5 A1-like protein	blastP to T5 A1 (AAU05157), E=1.71E-89, 34.2% Dice identity; HHpred vs pdb70_18Aug12, hit 1g2h_A, prob 94.0% E=0.05
CcrSwift_gp124	-	tccggatatgccAGGAccccg	ctg	agga	5	putative DNA methylase	IPR002052, SSF53335, G3DSA:3.40.50.150
CcrSwift_gp125	-	cAGGAcctatgacgggttgcc	ctg	agga	16	hypothetical conserved protein	
CcrSwift_gp126	-	aaagatcgctatcgttgtcgc	atg	None	0	hypothetical conserved protein	
CcrSwift_gp127	-	tatcgcaaAGGTcatggacac	gtg	aggt	9	hypothetical conserved protein	
CcrSwift_gp128	-	cgttaaccacgtgcggcgccc	atg	None	0	putative DNA helicase	IPR014001, IPR001650, IPR000330, IPR014021, SSF52540, PTHR10799, G3DSA:3.40.50.300
CcrSwift_gp129	+	ccggtcacaAGGAGaactatc	atg	aggag	7	hypothetical conserved protein	
CcrSwift_gp130	-	ggaaatcaAGGAGGctgcgtg	atg	aggagg	7	hypothetical conserved protein	
CcrSwift_gp131	-	ccccgccgcaaAGGcccctg	atg	agg	7	hypothetical conserved protein	
CcrSwift_gp132	-	acccacGAGGTctcgcgttac	ctg	gaggt	10	hypothetical conserved protein	
CcrSwift_gp133	-	cgccttttcaAGGAtcgcccg	atg	agga	7	hypothetical conserved protein	
CcrSwift_gp134	-	gccggtctcaAGGAGacgacc	atg	aggag	6	Putative rIIb-like protein	PD130832
CcrSwift_gp135	-	gcctgcctttcGGAGtttgcc	atg	ggag	6	putative rIIa-like protein	IPR003594
CcrSwift_gp136	+	ggcaaactccgaaAGGcAGGc	ttg	agg	1	hypothetical conserved protein	
CcrSwift_gp137	+	gcctGAGGcatgctcgtattc	atg	gagg	13	hypothetical conserved protein	
CcrSwift_gp138	+	cgtatggtacgcgAGGAtgac	atg	agga	4	hypothetical conserved protein	
CcrSwift_gp139	+	caccgacgggcgcgtcctcca	ttg	None	0	hypothetical conserved protein	
CcrSwift_gp140	+	acgacaacgaAGGAGGTtctc	atg	aggaggt	4	putative tyrosine recombinase	IPR013762, IPR002104, IPR011010
CcrSwift_gp141	+	gtcctgcgatAGGAGGgcgcg	atg	aggagg	5	hypothetical conserved protein	
CcrSwift_gp142	+	ccgctagtccAGGAGtacagt	ttg	aggag	6	hypothetical conserved protein	
CcrSwift_gp143	+	acccccgtcccgacAGGcttc	atg	agg	4	hypothetical conserved protein	
CcrSwift_gp144	+	atcgctcctGGGGccttttga	gtg	gggg	8	hypothetical conserved protein	

CcrSwift_gp145	+	tcctgtacggtaagGGAaaac	atg	gga	4	hypothetical conserved protein	
CcrSwift_gp146	+	acgattcGGAGtattcatgaa	atg	ggag	10	putative HTH domain protein	IPR001387, G3DSA:1.10.260.40
CcrSwift_gp147	+	cctgtattcctGAGGTcccgc	atg	gaggt	5	putative tRNA amidotransferase domain protein	IPR019004, IPR003789
CcrSwift_gp148	-	actgatcgaGGGGaagttgag	atg	gggg	8	putative DNA ligase	IPR012340, IPR016027, SSF56091, G3DSA:3.30.470.30
CcrSwift_gp149	-	tcgatccGGAGattttcggcg	atg	ggag	10	hypothetical conserved protein	
CcrSwift_gp150	-	gccatcccctctatctccgag	gtg	None	0	hypothetical conserved protein	
CcrSwift_gp151	-	gtttcAGGgcaaatgtcAGGa	atg	agg	1	DUF1643 protein	IPR012441
CcrSwift_gp152	-	gcctcgcccttgaAGGAggca	atg	agga	4	hypothetical conserved protein	
CcrSwift_gp153	-	gAGGccaagaagcgggccacg	gtg	agg	17	hypothetical conserved protein	
CcrSwift_gp154	-	ctGGAtcgccccggcggcctg	atg	gga	16	hypothetical conserved protein	
CcrSwift_gp155	-	gcttttgAGGAGtttggacgt	atg	aggag	9	hypothetical conserved protein	
CcrSwift_gp156	-	agcaggactAGGAGaaagacc	atg	aggag	7	hypothetical conserved protein	
CcrSwift_gp157	-	cgacgccaAGGAcgtctgcca	atg	agga	9	hypothetical conserved protein	
CcrSwift_gp158	-	ggccggctacGAGatcgcctg	atg	gag	8	putative lipoprotein	LipoP
CcrSwift_gp159	-	cgcttaaaGGGGgacctcatc	atg	gggg	8	putative nicotinate phosphoribosyltransferase	IPR015977, IPR002638, PTHR11098
CcrSwift_gp160	-	cagaatgaGGGGtaagcgata	gtg	gggg	9	putative NUDIX hydrolase domain protein	IPR014729, IPR000086, IPR015797, SSF52374, PS51462, PTHR22769
CcrSwift_gp161	-	caaagcgtagtgtcgcgaggc	atg	None	0	hypothetical conserved protein	
CcrSwift_gp162	-	cgcaacgcctgGGActctctg	atg	gga	7	putative peptidyl-tRNA hydrolase	IPR002833, SSF102462, PTHR12649, G3DSA:3.40.1490.10
CcrSwift_gp163	-	agcgccggccgccGAGGgctg	atg	gagg	4	hypothetical conserved protein	
CcrSwift_gp164	-	taacctccagcAGGAGaccgc	atg	aggag	5	hypothetical conserved protein	
CcrSwift_gp165	-	acaacgccGGAGGccctttc	atg	ggagg	8	hypothetical conserved protein	
CcrSwift_gp166	-	ccccgatctccGAGaagcccc	atg	gag	7	putative HD-domain/PDEase-like protein	SSF109604
CcrSwift_gp167	-	gggagaattcctGAGGgtcgc	atg	gagg	5	hypothetical conserved protein	
CcrSwift_gp168	-	acgcccagaAGGActgatcct	atg	agga	8	putative DNA-binding domain protein	IPR016177, SSF54060
CcrSwift_gp169	-	gaggcctcGGAGaagtaagcc	atg	ggag	9	hypothetical conserved protein	
CcrSwift_gp170	-	tcttgagaAGGAacaaccctg	atg	agga	9	hypothetical conserved protein	
CcrSwift_gp171	-	tcaacaAGGgcaagaacgcg	atg	agg	12	hypothetical conserved protein	
CcrSwift_gp172	-	caagcAGGcggcgggtctgct	ttg	agg	13	hypothetical conserved protein	
CcrSwift_gp173	-	gctgttcgactGGAGaaaatc	gtg	ggag	6	hypothetical conserved protein	
CcrSwift_gp174	-	ctctgcgtgaAGGgctAGGcc	atg	agg	2	hypothetical conserved protein	
CcrSwift_gp175	-	acaccacagaAGGAGcccgcc	gtg	aggag	6	putative RtcB-like protein	IPR001233
CcrSwift_gp176	-	cgtacccctcaAGGTgatccc	atg	aggt	6	hypothetical conserved protein	
CcrSwift_gp177	-	cttctgaccgccgtcgccctg	atg	None	0	putative band 7 lipoprotein	IPR001107
CcrSwift_gp178	-	gctcctgaaAGGAcgtgctca	atg	agga	8	hypothetical conserved protein	
CcrSwift_gp179	-	gcagcGGGGgctcgcggcctg	atg	gggg	11	hypothetical conserved protein	
CcrSwift_gp180	-	acgacaacgaAGGAGacctcc	atg	aggag	6	hypothetical conserved protein	
CcrSwift_gp181	-	caggatGGAGGccgccgccaa	atg	ggagg	10	hypothetical conserved protein	
CcrSwift_gp182	-	tccgagccaAGGAGcgctgat	ttg	aggag	7	hypothetical conserved protein	
CcrSwift_gp183	-	cgacagcgagAGGAGccgatc	atg	aggag	6	hypothetical conserved protein	
CcrSwift_gp184	-	gaaacctggagaAGGAccgcc	atg	agga	5	hypothetical conserved protein	
CcrSwift_gp185	-	ggtcctgtcgggcgacaatcc	gtg	None	0	hypothetical conserved protein	
CcrSwift_gp186	-	tctgaaAGGctcgacctcctg	atg	agg	12	hypothetical conserved protein	
CcrSwift_gp187	-	cgttccaactcgcAGGTctcc	gtg	aggt	4	hypothetical conserved protein	
CcrSwift_gp188	-	cctgggcctGGAGaagcacct	gtg	ggag	8	hypothetical conserved protein	
CcrSwift_gp189	-	actggcgaAGGTgtcggacca	atg	aggt	9	hypothetical conserved protein	
CcrSwift_gp190	-	acaaccgcagAGGAGaccctc	gtg	aggag	6	hypothetical conserved protein	
CcrSwift_gp191	-	cgGGAtgcgttccgggtcgag	atg	gga	16	hypothetical conserved protein	
CcrSwift_gp192	-	gcccgagaaAGGcgaAGGccc	atg	agg	3	hypothetical conserved protein	
CcrSwift_gp193	-	cgccgacGGAGagctactgcg	atg	ggag	10	putative winged-helix HTH DNA binding protein	IPR011991
CcrSwift_gp194	-	ttacgcgccaatGAGcgccag	atg	gag	6	hypothetical conserved protein	
CcrSwift_gp195	-	ccacccgcgccgcccgaggag	gtg	None	0	hypothetical conserved protein	
CcrSwift_gp196	-	cagcgcgggcAGGgttcccgc	atg	agg	8	hypothetical conserved protein	
CcrSwift_gp197	-	aagaggtcgAGGAGGTcgccg	atg	aggaggt	5	hypothetical conserved protein	
CcrSwift_gp198	-	gacgacaacgAGGAGGccctg	atg	aggagg	5	putative ArdC-like antirestriction protein	IPR017113, IPR013610
CcrSwift_gp199	-	cgcggcgataatGAGcgcctg	atg	gag	6	hypothetical conserved protein	
CcrSwift_gp200	-	ggacctGGAGaacaaccgccg	atg	ggag	11	hypothetical conserved protein	
CcrSwift_gp201	-	gggccggGGAGGgcgggcatc	atg	ggagg	9	hypothetical conserved protein	
CcrSwift_gp202	-	cgcctgccaGAGcctcaagtc	atg	gag	9	hypothetical conserved protein	
CcrSwift_gp203	-	aacgacaccagggGGAGagcc	gtg	ggag	4	putative acyl carrier protein	IPR009081, IPR006163, PTHR20863
CcrSwift_gp204	-	tcgacaacggcaAGGAcggct	atg	agga	5	putative HNH endonuclease	IPR002711
CcrSwift_gp205	-	ctcattcgttaAGGAtcgacc	atg	agga	6	hypothetical conserved protein	
CcrSwift_gp206	-	cgttcctgggctatcaagccg	atg	None	0	hypothetical conserved protein	
CcrSwift_gp207	-	tggGGAGaagctgaagtgagc	atg	ggag	14	hypothetical conserved protein	
CcrSwift_gp208	-	cgccttcGAGGTgcaagcctg	atg	gaggt	9	hypothetical conserved protein	
CcrSwift_gp209	-	tccggacctcGGAGaaggccc	gtg	ggag	7	hypothetical conserved protein	
CcrSwift_gp210	-	gcggttcgAGGAGatcgaggc	ttg	aggag	8	hypothetical conserved protein	
CcrSwift_gp211	-	gacgacaacggaAGGAacctt	atg	agga	5	hypothetical conserved protein	
CcrSwift_gp212	-	cggtgacttcgccaAGGggac	ctg	agg	4	hypothetical conserved protein	
CcrSwift_gp213	-	ctatcgcttgcAGGAGGctcg	atg	aggagg	4	hypothetical conserved protein	
CcrSwift_gp214	-	cttcaagcgcgAGGAtcaccg	ttg	agga	6	hypothetical conserved protein	
CcrSwift_gp215	-	gacgacaacaAGGAGGcctcc	atg	aggagg	5	hypothetical conserved protein	
CcrSwift_gp216	-	ctacgtGGAGagccgggcggc	atg	ggag	11	hypothetical conserved protein	
CcrSwift_gp217	-	cgcgcaatttccGGAGtgacc	atg	ggag	5	hypothetical conserved protein	SSF56784
CcrSwift_gp218	-	ggcctgcgcgGGAGccctgtg	atg	ggag	7	hypothetical conserved protein	

CcrSwift_gp219	-	gagactagggtGGGGatgcga	ttg	gggg	6	hypothetical conserved protein	
CcrSwift_gp220	-	gatcaagtcGAGGccctgagc	atg	gagg	8	hypothetical conserved protein	
CcrSwift_gp221	-	ggctcccgtacAGGAtcacct	atg	agga	6	hypothetical conserved protein	
CcrSwift_gp222	-	caccgggctcgtggcggcctg	atg	None	0	hypothetical conserved protein	
CcrSwift_gp223	-	agcagaAGGAGGaagccgctc	atg	aggagg	9	putative HTH domain DNA-binding protein	IPR010982, IPR001387, G3DSA:1.10.260.40
CcrSwift_gp224	-	aatcgcccAGGgcgccgcctg	atg	agg	10	hypothetical conserved protein	
CcrSwift_gp225	-	acaacgacagaAGGAGGccgc	gtg	aggagg	4	hypothetical conserved protein	
CcrSwift_gp226	-	gaggcgggcgaGGGGcacgtc	gtg	gggg	6	hypothetical conserved protein	
CcrSwift_gp227	-	cactgtccggaAGGTcgagcc	atg	aggt	6	hypothetical conserved protein	
CcrSwift_gp228	-	ggtctatcgccGGAGGgcctg	atg	ggagg	5	putative Pol I DNA polymerase	IPR001098, IPR002298, SSF56672, G3DSA:3.30.70.370
CcrSwift_gp229	-	agatcaAGGAGtagtgcaagc	gtg	aggag	10	putative GcrA-like cell cycle regulator	IPR011681; see text
CcrSwift_gp230	-	gccgccaaattcGAGGggaag	atg	gagg	5	hypothetical conserved protein	
CcrSwift_gp231	+	cgacaacgaaAGGAGcctgcc	atg	aggag	6	hypothetical conserved protein	
CcrSwift_gp232	+	cgccacGAGGctcgcccaatg	atg	gagg	11	hypothetical conserved protein	
CcrSwift_gp233	+	caagatcGAGGaaGAGGtctg	atg	gagg	4	hypothetical conserved protein	
CcrSwift_gp234	+	caagctcaagaaAGGccgcct	atg	agg	6	hypothetical conserved protein	
CcrSwift_gp235	+	cattctcgactAGGAGGaccc	atg	aggagg	4	hypothetical conserved protein	
CcrSwift_gp236	+	tcgatttcctggcgggcgccg	atg	None	0	hypothetical conserved protein	
CcrSwift_gp237	+	gtttctggaAGGTcaggactg	atg	aggt	8	hypothetical conserved protein	
CcrSwift_gp238	+	agcgcgagccgcAGGActgac	atg	agga	5	hypothetical conserved protein	
CcrSwift_gp239	+	cgacagcgaaAGGAGcctgcc	ttg	aggag	6	hypothetical conserved protein	
CcrSwift_gp240	+	tcggatgctGGAGGTcgcggc	ttg	ggaggt	6	hypothetical conserved protein	
CcrSwift_gp241	+	cgccgtggAGGAGatgcgccg	gtg	aggag	8	hypothetical conserved protein	
CcrSwift_gp242	+	cgccgacttcaAGGAcaagcg	atg	agga	6	hypothetical conserved protein	
CcrSwift_gp243	+	gccgccGGAGGcagacccgac	gtg	ggagg	10	hypothetical conserved protein	
CcrSwift_gp244	+	tcaagctGGAGaccgtctgac	atg	ggag	10	hypothetical conserved protein	
CcrSwift_gp245	+	acgacaacgagAGGAGttccc	atg	aggag	5	hypothetical conserved protein	
CcrSwift_gp246	+	cacggaatgGGAGattttcga	atg	ggag	8	hypothetical conserved protein	
CcrSwift_gp247	+	ggcctGGAGatcatcgcctag	atg	ggag	12	hypothetical conserved protein	
CcrSwift_gp248	+	acctcggacgAGGAGGactaa	atg	aggagg	5	hypothetical conserved protein	
CcrSwift_gp249	+	ggcccccgAGGAacccaaagc	atg	agga	9	hypothetical conserved protein	
CcrSwift_gp250	+	ggtcagccAGGAcatgccgtc	atg	agga	9	hypothetical conserved protein	
CcrSwift_gp251	+	gacgacaacgAGGAGGcttcg	atg	aggagg	5	hypothetical conserved protein	
CcrSwift_gp252	+	gtcaaagAGGAGGcctgagcc	ttg	aggagg	8	hypothetical conserved protein	
CcrSwift_gp253	+	ggcgccctacGAGGccccgca	atg	gagg	7	hypothetical conserved protein	
CcrSwift_gp254	+	ccggcgAGGAGttgcgctgac	atg	aggag	10	hypothetical conserved protein	
CcrSwift_gp255	+	tggacgacaacAGGAGGgacc	atg	aggagg	4	hypothetical conserved protein	
CcrSwift_gp256	+	ctacgtgaAGGAcctgcgtcg	atg	agga	9	hypothetical conserved protein	
CcrSwift_gp257	+	tcagcgtGGGGgtggctgctg	atg	gggg	9	hypothetical conserved protein	
CcrSwift_gp258	+	gacccaGGGGgtttccgaggc	atg	gggg	10	hypothetical conserved protein	
CcrSwift_gp259	+	cctcgacgcgAGGAaaagctg	atg	agga	7	hypothetical conserved protein	
CcrSwift_gp260	+	cctgaAGGAaggcggaaccca	atg	agga	12	hypothetical conserved protein	
CcrSwift_gp261	+	ttgtcttGAGaaagccagcgc	atg	gag	11	DUF1937 protein	IPR015235, SSF52309
CcrSwift_gp262	+	gagcaccagGGAGattgaagc	gtg	ggag	8	hypothetical conserved protein	
CcrSwift_gp263	+	ggtgtcccaGAGGTaccagcg	atg	gaggt	7	hypothetical conserved protein	
CcrSwift_gp264	+	ccggcgcctatGGAGagagcc	atg	ggag	6	putative TAT signal protein	IPR006311; PRED-TAT
CcrSwift_gp265	+	cctGGAtatggcgaagaccgc	atg	gga	15	hypothetical conserved protein	
CcrSwift_gp266	+	acgtcaacaAGGAGcccaccg	atg	aggag	7	hypothetical conserved protein	
CcrSwift_gp267	+	agaagcccggcgggccgagtg	atg	None	0	hypothetical conserved protein	
CcrSwift_gp268	+	gcggtcgaaatcctGGAgacc	ctg	gga	4	hypothetical conserved protein	
CcrSwift_gp269	+	gccgctcgatGGAtGGAacgg	atg	gga	4	hypothetical conserved protein	
CcrSwift_gp270	+	cgaggaagAGGAGcgctgctg	atg	aggag	8	putative Ser/Thr protein phosphatase	IPR004843, IPR006186, SSF56300, PTHR11668, G3DSA:3.60.21.10
CcrSwift_gp271	+	gttgatccgcgAGGAcgacgc	atg	agga	6	hypothetical conserved protein	
CcrSwift_gp272	+	gacgacaacgAGGAGGcccac	atg	aggagg	5	hypothetical conserved protein	
CcrSwift_gp273	+	catgaccaaGAGccgcttctg	atg	gag	9	hypothetical conserved protein	
CcrSwift_gp274	+	gatcatcctgGGAGacgccgc	atg	ggag	7	hypothetical conserved protein	
CcrSwift_gp275	+	cgacgacaacgAGGAGGcccc	atg	aggagg	4	hypothetical conserved protein	
CcrSwift_gp276	+	cttcgtctcgggtgaagcctg	atg	None	0	hypothetical conserved protein	
CcrSwift_gp277	+	gccacggaagAGGAcgcctag	atg	agga	7	hypothetical conserved protein	
CcrSwift_gp278	+	acgagcgacgGGAGGgctgac	atg	ggagg	6	hypothetical conserved protein	
CcrSwift_gp279	+	tccgaaaGGGGccttaagtcc	atg	gggg	10	hypothetical conserved protein	
CcrSwift_gp280	+	aacggaAGGAcctgaaagacc	atg	agga	11	hypothetical conserved protein	
CcrSwift_gp281	+	acaacgccGGAGGccctttttc	atg	ggagg	8	hypothetical conserved protein	
CcrSwift_gp282	+	cgcctttgcgaacctcgccca	atg	None	0	hypothetical conserved protein	
CcrSwift_gp283	+	acgccaagaAGGccgcctgac	atg	agg	9	hypothetical conserved protein	
CcrSwift_gp284	+	ccagatcaAGGAGGcccagtc	ttg	aggagg	7	hypothetical conserved protein	
CcrSwift_gp285	+	caatcagcaataGGGGccagc	atg	gggg	5	hypothetical conserved protein	
CcrSwift_gp286	+	ctgggccGAGGgctcgccgcg	atg	gagg	10	hypothetical conserved protein	
CcrSwift_gp287	+	cggacatagAGGAGcaccccg	atg	aggag	7	hypothetical conserved protein	
CcrSwift_gp288	+	tcgccgcctgAGGAGGacccg	atg	aggagg	5	hypothetical conserved protein	
CcrSwift_gp289	+	gcttgagaAGGcgttcggcca	atg	agg	10	hypothetical conserved protein	
CcrSwift_gp290	+	ccaagcctcGGGGctgttcca	atg	gggg	8	hypothetical conserved protein	
CcrSwift_gp291	+	caccgactactAGGAGGtccc	atg	aggagg	4	hypothetical conserved protein	
CcrSwift_gp292	+	tcgctaggacaAGGAGGcccc	atg	aggagg	4	hypothetical conserved protein	

CcrSwift_gp293	+	acgacaacAGGAGGccccgcc	ttg	aggagg	7	hypothetical conserved protein	
CcrSwift_gp294	+	ttgcggtcatgAGGAttcgaa	atg	agga	6	hypothetical conserved protein	
CcrSwift_gp295	+	ccggcggctgacgggtgcgtc	atg	None	0	hypothetical conserved protein	
CcrSwift_gp296	+	gacgacaacgAGGAGGccccc	atg	aggagg	5	hypothetical conserved protein	
CcrSwift_gp297	+	ggactacatcGAGGTgaccct	gtg	gaggt	6	hypothetical conserved protein	
CcrSwift_gp298	+	ccttagccgGGAGGcgcagcc	ttg	ggagg	7	hypothetical conserved protein	
CcrSwift_gp299	+	gacggcGGAGGccctggcctg	atg	ggagg	10	hypothetical conserved protein	
CcrSwift_gp300	+	ggaacAGGAGaccgccgcctg	atg	aggag	11	hypothetical conserved protein	
CcrSwift_gp301	+	gatcgcgcgactGGAGaacgc	atg	ggag	5	hypothetical conserved protein	
CcrSwift_gp302	+	cggcgggatcaAGGTgagcgc	atg	aggt	6	hypothetical conserved protein	
CcrSwift_gp303	+	tttcatcgccGAGGccctgtc	atg	gagg	7	hypothetical conserved protein	
CcrSwift_gp304	+	acgctgcgaAGGAGcctcgac	ttg	aggag	7	hypothetical conserved protein	
CcrSwift_gp305	+	ccagatcAGGAaggccgccgc	atg	agga	10	hypothetical conserved protein	
CcrSwift_gp306	+	tcgcgacacggcaAGGTacgc	atg	aggt	4	hypothetical conserved protein	
CcrSwift_gp307	+	cggcctgcatgcGAGGggctg	atg	gagg	5	hypothetical conserved protein	
CcrSwift_gp308	+	gatctacaagccggtgcgctg	atg	None	0	hypothetical conserved protein	
CcrSwift_gp309	+	gctcgccaAGGAcgtggtgtg	atg	agga	9	hypothetical conserved protein	
CcrSwift_gp310	+	ccgcctGGAGcttgccgccac	atg	ggag	11	hypothetical conserved protein	
CcrSwift_gp311	+	cctcggctGGAagtcctcgtc	atg	gga	10	hypothetical conserved protein	
CcrSwift_gp312	+	cctggagtatcGGGGtcgggc	gtg	gggg	6	putative HNH homing endonuclease	IPR002711
CcrSwift_gp313	+	aaccgggctagaccGGAggcc	atg	gga	4	hypothetical conserved protein	
CcrSwift_gp314	+	gatccttccGGAGGacgcggc	gtg	ggagg	7	hypothetical conserved protein	
CcrSwift_gp315	+	caggctgaaGAGaccgggcgg	atg	gag	9	hypothetical conserved protein	
CcrSwift_gp316	+	caccctcaacaAGGAGcccct	gtg	aggag	5	hypothetical conserved protein	
CcrSwift_gp317	+	ccggtcctgaGAGGccccaag	atg	gagg	7	hypothetical conserved protein	
CcrSwift_gp318	+	taagaatgAGGAaatacatcc	atg	agga	9	hypothetical conserved protein	
CcrSwift_gp319	+	aaggcccctcgGGAGccaccc	atg	ggag	6	hypothetical conserved protein	
CcrSwift_gp320	+	ccatcgcctGAGaccctcccc	atg	gag	9	hypothetical conserved protein	
CcrSwift_gp321	+	cgccgacGGGGtcgacctgac	gtg	gggg	10	putative RNaseH-like domain protein	IPR012337
CcrSwift_gp322	+	cgacccggcGGAGtttccggc	ttg	ggag	8	hypothetical conserved protein	
CcrSwift_gp323	+	aagaagacGAGGacGAGGacg	atg	gagg	3	hypothetical conserved protein	
CcrSwift_gp324	+	aaacgcaccGAGctttagatc	atg	gag	9	Terminase small subunit	HHpred vs pdb70_18Aug12, hit 3zqp_A, prob 90.4% E=0.15; position relative to terminase large subunit, see text
CcrSwift_gp325	+	tcgcgctgaccctagaacgcc	gtg	None	0	Terminase large subunit	IPR004921, IPR007868, IPR006141, IPR003587, IPR006517, SSF51294, G3DSA:2.170.16.10

Table S5. Predicted proteins, gene starts and annotations of *C. crescentus* phage CcrRogue. Upstream sequence is the 25 bp of DNA sequence upstream of the start codon, with the predicted Shine-Dalgarno motif capitalized. S-D is the Shine-Dalgarno motif associated with the gene start, and spacing is the interval (in bp) between the S-D and start codon. Evidence includes detected conserved domains or motifs, BlastP and HHpred hits, and experimental or other evidence as detailed in the text.

Protein name	Strand	Upstream Sequence	Start Codon	S-D	spacing	Predicted product	Evidence
CcrRogue_gp001	+	tggcaaatcaAGGAGccggcg	atg	aggag	6	hypothetical conserved protein	
CcrRogue_gp002	+	cgaaatcaaAGGcttatcgcc	atg	agg	9	hypothetical conserved protein	
CcrRogue_gp003	+	atcccgttaccGGAcaacccc	atg	gga	7	hypothetical conserved protein	
CcrRogue_gp004	-	cgcgcccttGGAGaacgcccc	atg	ggag	8	hypothetical conserved protein	
CcrRogue_gp005	+	tttgacattgtGAGGcaaccc	atg	gagg	6	hypothetical conserved protein	
CcrRogue_gp006	+	aattccggcctcttgcgcctt	atg	None	0	hypothetical novel protein	
CcrRogue_gp007	+	aacccctGGAGGccctgcccc	atg	ggagg	9	hypothetical conserved protein	
CcrRogue_gp008	+	cgacgccgccaAGGTgaaagc	gtg	aggt	6	hypothetical conserved protein	
CcrRogue_gp009	+	cccggccttGGAGttcttccc	atg	ggag	8	hypothetical conserved protein	
CcrRogue_gp010	+	tccgtgaaAGGAatccatacc	gtg	agga	9	hypothetical conserved protein	
CcrRogue_gp011	+	cctcacctGGAGattttcccc	atg	ggag	9	hypothetical conserved protein	
CcrRogue_gp012	+	gccgcactcGGAaccaagccc	atg	gga	9	hypothetical conserved protein	
CcrRogue_gp013	+	cccccgcaAGGAtcgcccgac	atg	agga	9	hypothetical conserved protein	
CcrRogue_gp014	+	gaaccgaAGGAaccccgcccc	atg	agga	10	hypothetical conserved protein	
CcrRogue_gp015	+	ccctgccgaAGGTcgcctaac	atg	aggt	8	hypothetical conserved protein	
CcrRogue_gp016	+	cacccgaaAGGAcgcctgagc	atg	agga	9	hypothetical conserved protein	
CcrRogue_gp017	+	tccttctctGGAGccgctacc	atg	ggag	8	hypothetical conserved protein	
CcrRogue_gp018	+	tcctctcttGGAtcgctccac	atg	gga	9	hypothetical conserved protein	
CcrRogue_gp019	+	gggtcgcaAGGAGacacccac	atg	aggag	8	hypothetical conserved protein	
CcrRogue_gp020	+	aacgcaagcccAGGAGGctcc	atg	aggagg	4	hypothetical conserved protein	
CcrRogue_gp021	+	cgtcacggcctgatcgtcacc	atg	None	0	hypothetical conserved protein	
CcrRogue_gp022	+	cggcgcctGGGGcaaggtctg	atg	gggg	9	hypothetical conserved protein	
CcrRogue_gp023	+	tcaagcctGGAttctcatctg	atg	gga	10	putative TAT signal protein	PRED-TAT
CcrRogue_gp024	+	gaagaAGGctctggtcgcctg	atg	agg	13	putative lipoprotein	LipoP
CcrRogue_gp025	+	tgtcgacaccccggcccgctg	atg	None	0	putative HTH homeodomain DNA binding protein	IPR009057
CcrRogue_gp026	+	cAGGAagctggaagccaagac	atg	agga	16	hypothetical novel protein	
CcrRogue_gp027	+	aagccgGGAccagaaaatctg	atg	gga	12	hypothetical novel protein	
CcrRogue_gp028	+	cctggaaaaccgcGAGcccgc	atg	gag	5	hypothetical novel protein	
CcrRogue_gp029	+	cgcccggcggccgttggcggc	atg	None	0	hypothetical conserved protein	
CcrRogue_gp030	+	cccgatcGGAGaatcctgacc	atg	ggag	10	hypothetical conserved protein	
CcrRogue_gp031	+	agaccatctttcGAGGcgacct	atg	gagg	6	hypothetical conserved protein	
CcrRogue_gp032	+	gccgcccaAGGAtgccgccgc	gtg	agga	9	hypothetical conserved protein	
CcrRogue_gp033	+	ggtccgcaAGGAGcgcctcta	ttg	aggag	8	hypothetical conserved protein	
CcrRogue_gp034	+	actacaacaAGGcctgatccc	atg	agg	9	hypothetical conserved protein	
CcrRogue_gp035	+	cgcgaaagccGGGGttaacct	gtg	gggg	7	hypothetical novel protein	
CcrRogue_gp036	+	gacccggatgcGGAGGcgtc	gtg	ggagg	5	putative HTH DNA binding protein	IPR001387, IPR010982, G3DSA:1.10.260.40
CcrRogue_gp037	+	ccctgagttcaAGGcctgatc	atg	agg	7	hypothetical novel protein	
CcrRogue_gp038	+	caagctGGAGaagggtgaggc	gtg	ggag	11	hypothetical novel protein	
CcrRogue_gp039	+	gcagcagccgcAGGAagagtc	atg	agga	6	hypothetical conserved protein	
CcrRogue_gp040	+	caacggcgatctggtgaaatt	gtg	None	0	hypothetical novel protein	
CcrRogue_gp041	+	gcgcaacgccctGGGGgttct	gtg	gggg	4	hypothetical novel protein	
CcrRogue_gp042	+	ctatcgcttGAGGgacgccga	gtg	gagg	8	hypothetical conserved protein	
CcrRogue_gp043	-	cgggtatctcaAGGAGtagcc	atg	aggag	5	hypothetical conserved protein	
CcrRogue_gp044	-	tgacatttcGGGGgtgtcgtc	atg	gggg	7	putative transglutaminase-like cysteine peptidase	IPR010319
CcrRogue_gp045	-	ttgacgtgGGAagcccgccgg	atg	gga	10	hypothetical novel protein	
CcrRogue_gp046	+	gcgacctcgcAGGcgatctat	ctg	agg	8	putative portal protein	HHpred vs pdb70_18Aug12, hit 2jes_A, prob 99.9% E=1.7E-23; positional evidence, see text
CcrRogue_gp047	+	atccagcaagcctGAGttcag	atg	gag	5	hypothetical conserved protein	
CcrRogue_gp048	+	gcgcccgaagaaagcggcctg	atg	None	0	hypothetical conserved protein	
CcrRogue_gp049	+	gttaaccacGAGGgctttttc	atg	gagg	8	hypothetical conserved protein	
CcrRogue_gp050	+	caccctttccaaGAGGccctcg	atg	gagg	6	hypothetical conserved protein	
CcrRogue_gp051	+	cgcgtccGGGGgacctgaccc	atg	gggg	9	hypothetical novel protein	
CcrRogue_gp052	+	cacctgcgtcGAGGcctgatc	atg	gagg	7	hypothetical conserved protein	
CcrRogue_gp053	+	gatcgccgcctccgtcaagac	gtg	None	0	hypothetical conserved protein	
CcrRogue_gp054	+	catctacgaaagcaccccgga	atg	None	0	hypothetical conserved protein	
CcrRogue_gp055	+	gctcacgttccgGGAGacgcc	gtg	ggag	5	hypothetical conserved protein	
CcrRogue_gp056	+	gccgatcccGGAcggcgccct	gtg	gga	9	hypothetical conserved protein	
CcrRogue_gp057	+	ttaaccacgacgggctctccg	atg	None	0	hypothetical conserved protein	
CcrRogue_gp058	+	accgagatcaaGGGGtaggcc	atg	gggg	6	putative HD-domain/PDEase-like protein	SSF109604
CcrRogue_gp059	+	gaacgatacGAGaacatgccc	atg	gag	9	hypothetical conserved protein	
CcrRogue_gp060	+	gctatctcgaccgctgatccg	atg	None	0	hypothetical conserved protein	
CcrRogue_gp061	+	catgcctAGGAaggccgcctg	atg	agga	10	putative HNH homing endonuclease	IPR001982, G3DSA:3.10.28.10, SSF55608
CcrRogue_gp062	+	aatgaacaagaGAGGcctata	atg	gagg	6	putative DHH phosphoesterase protein	SSF64182
CcrRogue_gp063	+	cccgtcgcgcgggcaagacca	atg	None	0	hypothetical novel protein	
CcrRogue_gp064	+	agtttgagcAGGAGGTcggcg	gtg	aggaggt	5	hypothetical conserved protein	
CcrRogue_gp065	+	ttccagcacatctGAGGtccc	atg	gagg	4	hypothetical conserved protein	
CcrRogue_gp066	+	tacGAGGcctaccatcacatc	atg	gagg	14	hypothetical conserved protein	
CcrRogue_gp067	+	gtccatcaAGGgctccttctg	atg	agg	10	hypothetical conserved protein	
CcrRogue_gp068	+	aagccccgcgcaactaccgg	atg	None	0	putative HNH endonuclease	IPR002711
CcrRogue_gp069	+	tccgtggaaaGAGagaaacct	atg	gag	6	hypothetical conserved protein	
CcrRogue_gp070	+	aacaccaaaAGGAGcaagcca	atg	aggag	7	putative major capsid protein	experimental evidence, see text
CcrRogue_gp071	+	atctaagcAGGAactccccag	atg	agga	9	putative minor capsid protein	experimental evidence, see text
CcrRogue_gp072	+	ccccgaaacGGAtatttcccc	atg	gga	9	hypothetical conserved protein	
CcrRogue_gp073	+	cgcaAGGcgggcgcctaagcc	atg	agg	14	hypothetical conserved protein	

CcrRogue_gp074	+	atcacccAGGTgaactaaccc	gtg	aggt	10	hypothetical conserved protein		
CcrRogue_gp075	+	caactgcgctacgcctaaccc	atg	None	0	hypothetical conserved protein		
CcrRogue_gp076	+	tcacgaactaaGGGGgcggcc	atg	gggg	5	hypothetical conserved protein		
CcrRogue_gp077	+	taaccctcAGGAGccccaacc	atg	aggag	8	hypothetical conserved protein		
CcrRogue_gp078	+	tcccgtcaaAGGTctcccgcg	ttg	aggt	8	putative lectin-like domain protein	IPR013320, IPR008985	
CcrRogue_gp079	+	gcgaccctGGAGacctaaggc	atg	ggag	9	hypothetical conserved protein		
CcrRogue_gp080	+	ttccggtccGAGGgccgccgc	gtg	gagg	8	hypothetical conserved protein		
CcrRogue_gp081	+	tctGGAGtttcgagcgccacc	atg	ggag	14	hypothetical conserved protein		
CcrRogue_gp082	+	gcctgcatgcacGAGGctacc	atg	gagg	5	hypothetical conserved protein		
CcrRogue_gp083	+	ggtggccagtcGAGagttgtc	atg	gag	5	hypothetical conserved protein		
CcrRogue_gp084	+	aagctggatGAGcttggcgca	atg	gag	9	hypothetical conserved protein		
CcrRogue_gp085	+	tgttcctggGGAGtttcctag	atg	ggag	8	hypothetical conserved protein		
CcrRogue_gp086	+	cgccatcccagagGGAGcgac	gtg	ggag	4	putative PhoH-like protein	IPR003714, SSF52540, G3DSA:3.40.50.300	
CcrRogue_gp087	+	gtgacaaagacgtaGAGcacc	atg	gag	4	hypothetical conserved protein		
CcrRogue_gp088	+	caagaagatcatccggcacta	atg	None	0	hypothetical conserved protein		
CcrRogue_gp089	+	cacctcccGGAtcgtgacgcc	gtg	gga	10	hypothetical conserved protein		
CcrRogue_gp090	+	ttctggctcggGGAGGactag	atg	ggagg	5	hypothetical conserved protein		
CcrRogue_gp091	+	ccctGGAttggtgacctgcac	atg	gga	14	putative major tail tube protein	experimental evidence, see text	
CcrRogue_gp092	+	cgatacatGGActccccgaaa	atg	gga	10	putative pre-tape measure chaperone protein	HHpred vs pdb70_18Aug12, hit 2ob9_A, prob 86.0% E=2.3; positional evidence, see text	
CcrRogue_gp093	+	cgatacatGGActccccgaaa	atg	gga	10	putative pre-tape measure chaperone protein, frameshifted version	positional evidence, see text; slippery sequence AAAAAAC	
CcrRogue_gp094	+	acGGGGccgccgataggatca	atg	gggg	15	putative tail tape measure protein	IPR007921, IPR013491, IPR013423; experimental evidence, see text	
CcrRogue_gp095	+	atccagGGActcccttctcgc	atg	gga	12	hypothetical conserved protein	IPR011740	
CcrRogue_gp096	+	ctatcAGGAGatcatcctccc	gtg	aggag	11	putative tail protein	IPR019228, IPR018964, IPR011928; experimental evidence, see text	
CcrRogue_gp097	+	gcccaacgcgccGGAGcagga	atg	ggag	5	putative NlpC/P60 family cell wall peptidase	IPR000064, SSF54001, G3DSA:3.90.1720.10	
CcrRogue_gp098	+	ccccggcgttgAGGActaagc	atg	agga	6	putative tail protein	IPR007110; experimental evidence, see text	
CcrRogue_gp099	+	tgtcataaaagccgtggaacg	atg	None	0	hypothetical conserved protein		
CcrRogue_gp100	+	cctcaAGGgcgtcatcctgca	atg	agg	13	putative tail protein	IPR000421, IPR008979, G3DSA:2.60.120.260; experimental evidence, see text	
CcrRogue_gp101	+	agcactcccGGAattccccac	atg	gga	9	putative endolysin	IPR002196, SSF53955, G3DSA:1.10.530.40	
CcrRogue_gp102	+	aagccttcaAGGgctgctgac	atg	agg	9	putative inner membrane spanin component	N-terminal TMD, outer membrane spanin component embedded in +1 frame, see text	
CcrRogue_gp103	+	agtaccaaGAGGTtatccaca	atg	gaggt	8	putative outer membrane spanin component	lipoprotein embedded in inner membrane spanin component, see text	
CcrRogue_gp104	+	caagttcaaGGGGaagaagtg	atg	gggg	8	putative holin protein	predicted 4 TMDs, see text	
CcrRogue_gp105	+	cgctatcacGGAGtagggacc	atg	ggag	8	hypothetical novel protein		
CcrRogue_gp106	-	caacggacggAGGAGaacgat	atg	aggag	6	putative HTH domain DNA-binding protein	IPR001387, IPR010982, IPR010982, G3DSA:1.10.260.40	
CcrRogue_gp107	-	ttaaccaGAGGcccgaaaata	atg	gagg	10	putative dUTP pyrophosphatase	IPR008181, IPR008180, SSF51283, PTHR11241, G3DSA:2.70.40.10	
CcrRogue_gp108	-	tcctttcGAGacctcccacac	atg	gag	11	putative ribonucleoside diphosphate reductase beta subunit	IPR012348, IPR012335, IPR000358, IPR002109, IPR009078, IPR012336, IPR011767	
CcrRogue_gp109	-	ttgtcgcGAGaacGAGacccc	atg	gag	5	putative ribonucleoside diphosphate reductase alpha subunit	IPR006141, IPR003587, IPR000788, IPR013509, IPR008926, SSF51294, SSF51998, G3DSA:2.170.16.10, G3DSA:3.20.70.20	
CcrRogue_gp110	-	gcatcgttGGGGtccagggcg	ttg	gggg	9	hypothetical conserved protein		
CcrRogue_gp111	-	tcctcatgcagcAGGAatccc	atg	agga	5	hypothetical conserved protein		
CcrRogue_gp112	-	cgacatccccGGAGccgccc	atg	ggag	6	hypothetical conserved protein		
CcrRogue_gp113	-	tcgtcttcgacaAGGActgac	atg	agga	5	putative thymidylate synthase	IPR003669	
CcrRogue_gp114	-	gtccttcgctAGGAGacccg	atg	aggag	6	putative dNMP kinase	HHpred vs pdb70_18Aug12, hit 2grj_A, prob 99.9% E=7.3E-24; SSF52540, G3DSA:3.40.50.300	
CcrRogue_gp115	-	aagatcaAGGAcggccagcct	ctg	agga	10	putative RecD-like helicase	HHpred vs pdb70_18Aug12, hit 3e1s_A, prob 100% E=4E-47; SSF52540, G3DSA:3.40.50.300	
CcrRogue_gp116	-	cagaaaatAGGcatcagcact	atg	agg	10	hypothetical conserved protein		
CcrRogue_gp117	-	tttatgacggcggtgcgctag	atg	None	0	hypothetical conserved protein		
CcrRogue_gp118	-	ctcccgaacGAGatcgccccg	atg	gag	9	putative exoribonuclease, Pol III-like	IPR006055, IPR013520, IPR012337, G3DSA:3.30.420.10	
CcrRogue_gp119	-	cacctgggccGAGacgcactg	atg	gag	8	hypothetical conserved protein		
CcrRogue_gp120	-	accagattctcaAGGTgctcc	atg	aggt	5	putative Pol I DNA polymerase, T7-like	IPR001098, IPR012337, SSF56672, PTHR10133, G3DSA:1.10.150.20, G3DSA:1.20.1060.10, G3DSA:3.30.420.10, G3DSA:3.30.70.370; see text	
CcrRogue_gp121	-	gacatcggttaaccatacctc	atg	None	0	putative DNA cytosine methyltransferase	IPR001525, IPR018117, SSF53335, PTHR10629:SF11, G3DSA:3.40.50.150, G3DSA:3.90.120.10	
CcrRogue_gp122	-	ggcacctgtaacGAGGccccg	atg	gagg	5	hypothetical conserved protein		
CcrRogue_gp123	-	gcgccaaaccGGAGcttctct	atg	ggag	7	putative T5 A1-like protein	blastP to T5 A1 (AAU05157), E=7.75E-85, 30.8% Dice identity; HHpred vs pdb70_18Aug12, hit 1qgp_A, prob 96.5% E=0.0028	
CcrRogue_gp124	-	tcgggctatgccAGGAaccccc	ttg	agga	5	putative DNA methylase	IPR002052, SSF53335, G3DSA:3.40.50.150	
CcrRogue_gp125	-	taggcgcgGGActgcaaatct	ctg	gga	10	hypothetical novel protein		
CcrRogue_gp126	+	gactttcAGGAGatttgtgtc	gtg	aggag	9	putative cadherin-like domain protein	IPR002126, IPR006626, IPR015919 PTHR10596	
CcrRogue_gp127	-	tttGAGtaagtgtcccaaccc	atg	gag	15	hypothetical conserved protein		
CcrRogue_gp128	-	catcgcgaAGGTcatggacac	gtg	aggt	9	hypothetical conserved protein		
CcrRogue_gp129	-	gcgttaaccacgtgcggaccc	atg	None	0	putative DNA helicase	IPR014001, IPR001650, IPR000330, IPR014021, SSF52540, PTHR10799, G3DSA:3.40.50.300	
CcrRogue_gp130	+	ccggtcacaAGGAGaactacc	atg	aggag	7	hypothetical conserved protein		
CcrRogue_gp131	-	ggaaattaAGGAGGcggcgtg	atg	aggagg	7	hypothetical conserved protein		
CcrRogue_gp132	-	agaagtacaagaagtgagcca	atg	None	0	hypothetical conserved protein		
CcrRogue_gp133	-	tgcaagacctgcgggcggacg	ctg	None	0	hypothetical conserved protein		
CcrRogue_gp134	-	ccacttcagaAGGAtcgcccc	atg	agga	7	hypothetical conserved protein		
CcrRogue_gp135	-	gccgcgagcaAGGAGtctccc	atg	aggag	6	Putative rIIb-like protein	PD130832	
CcrRogue_gp136	-	cactctcctctGGAGttgata	atg	ggag	6	putative rIIa-like protein	IPR003594	
CcrRogue_gp137	+	actccagAGGAGagtggttag	gtg	aggag	9	hypothetical conserved protein		
CcrRogue_gp138	+	tcaatggtacgcgAGGAcgac	atg	agga	4	hypothetical conserved protein		
CcrRogue_gp139	+	ctccgacgggcgcgtgctcaa	ttg	None	0	hypothetical conserved protein		
CcrRogue_gp140	+	acgacaacgaAGGAGGctttc	atg	aggagg	5	putative tyrosine recombinase	IPR013762, IPR002104, IPR011010	
CcrRogue_gp141	+	gtcctgcgataGGGGgcggcg	atg	gggg	5	hypothetical conserved protein		
CcrRogue_gp142	+	gcctgaagtaAGGAGtacagc	ttg	aggag	6	hypothetical conserved protein		
CcrRogue_gp143	+	gggcgcggtggtcgcggcctg	atg	None	0	hypothetical novel protein		
CcrRogue_gp144	+	acccccgtcccgacAGGcttc	atg	agg	4	hypothetical conserved protein		
CcrRogue_gp145	-	ttccgcctctGGAGattttc	atg	ggag	6	hypothetical novel protein		
CcrRogue_gp146	+	cttgtacggtaagGGAaaccg	atg	gga	5	hypothetical conserved protein		
CcrRogue_gp147	+	ccgagacGGAGtattcatgag	atg	ggag	10	putative HTH domain protein	IPR001387, G3DSA:1.10.260.40	
CcrRogue_gp148	+	tctctacgcctgaAGGAcccc	atg	agga	4	putative tRNA amidotransferase domain protein	IPR019004, IPR003789	
CcrRogue_gp149	-	ccaagcaagAGGAcaccgacg	atg	agga	8	hypothetical novel protein		
CcrRogue_gp150	-	gttgatcgaGGGGaaattgag	atg	gggg	8	putative DNA ligase	IPR012340, IPR016027, SSF56091, G3DSA:3.30.470.30	

CcrRogue_gp151	-	tcctcaacccGGAcatcttcg	atg	gga	8	hypothetical conserved protein	
CcrRogue_gp152	-	ggggcgcctagcgcggcgctg	atg	None	0	hypothetical conserved protein	
CcrRogue_gp153	-	gtctcGGGGcaaatgtcagga	atg	gggg	12	DUF1643 protein	IPR012441
CcrRogue_gp154	-	gcacgcgcctaagccgctctg	atg	None	0	hypothetical conserved protein	
CcrRogue_gp155	-	catcagtAGGAGtttggacgt	atg	aggag	9	hypothetical conserved protein	
CcrRogue_gp156	-	aacaggaatAGGAGcagtccc	atg	aggag	7	hypothetical conserved protein	
CcrRogue_gp157	-	cgaccccgtgaAGGTctgcca	atg	aggt	6	hypothetical conserved protein	
CcrRogue_gp158	-	cttcgtcgacGAGcccgcctg	atg	gag	8	hypothetical conserved protein	
CcrRogue_gp159	-	caacgcttaaaGGGGaacctc	atg	gggg	6	putative nicotinate phosphoribosyltransferase	IPR015977, IPR002638, PTHR11098
CcrRogue_gp160	-	cccggcctttAGGAGGTgatg	gtg	aggaggt	4	putative NUDIX hydrolase domain protein	IPR014729, IPR000086, IPR015797, SSF52374, PS51462, PTHR22769
CcrRogue_gp161	-	aaagccGGAGGgaaatcgata	gtg	ggagg	10	hypothetical conserved protein	
CcrRogue_gp162	-	ttgcacgcctgGGAcctcgtg	atg	gga	7	putative peptidyl-tRNA hydrolase	IPR002833, SSF102462, PTHR12649, G3DSA:3.40.1490.10
CcrRogue_gp163	-	ccgacgcccGAGGcctaatcg	gtg	gagg	8	hypothetical conserved protein	
CcrRogue_gp164	-	agcaagtacactcgtctgccc	gtg	None	0	hypothetical conserved protein	
CcrRogue_gp165	-	acaacgccGGAGGccctttc	atg	ggagg	8	hypothetical conserved protein	
CcrRogue_gp166	-	cctgatccccGAGaaaacgtc	atg	gag	8	putative HD-domain/PDEase-like protein	SSF109604
CcrRogue_gp167	-	cgaattcttGAGGgtcgcctg	atg	gagg	8	hypothetical conserved protein	
CcrRogue_gp168	-	acgccaagaAGGAttgatccc	atg	agga	8	putative DNA-binding domain protein	IPR016177, SSF54060
CcrRogue_gp169	-	cctccacgaagtAGGTccgcc	atg	aggt	5	hypothetical conserved protein	
CcrRogue_gp170	-	gctcgaaaAGGAaccgacctg	atg	agga	9	hypothetical conserved protein	
CcrRogue_gp171	-	tcgtcaacaaGGGGtccaagc	atg	gggg	7	hypothetical conserved protein	
CcrRogue_gp172	-	caagcAGGcggcgggcttgct	ttg	agg	13	hypothetical conserved protein	
CcrRogue_gp173	-	cctgttcaagtGGAccaaatc	gtg	gga	7	hypothetical conserved protein	
CcrRogue_gp174	-	ctctgcgtgaAGGgctagtcg	atg	agg	8	hypothetical conserved protein	
CcrRogue_gp175	-	gacaacggcagcgAGGAgcac	atg	agga	4	putative RtcB-like protein	IPR001233
CcrRogue_gp176	-	cgcagcatgctGGAGGacacc	ctg	ggagg	5	hypothetical novel protein	
CcrRogue_gp177	-	aacaagacgAGGAGtaacccc	ttg	aggag	7	putative band 7 lipoprotein	IPR001107
CcrRogue_gp178	-	cattctgaaAGGTcccacctc	gtg	aggt	8	hypothetical conserved protein	
CcrRogue_gp179	-	gcagcGGGGgctcgcgggctg	atg	gggg	11	hypothetical conserved protein	
CcrRogue_gp180	-	acgacaacaAGGAGacccgat	ttg	aggag	7	hypothetical conserved protein	
CcrRogue_gp181	-	gttcggctggtAGGAGGaccc	atg	aggagg	4	hypothetical conserved protein	
CcrRogue_gp182	-	acctgctgatGGAGacccgcc	gtg	ggag	7	hypothetical conserved protein	
CcrRogue_gp183	-	ccgccgagaAGGTgcaggctg	atg	aggt	8	hypothetical novel protein	
CcrRogue_gp184	-	ggaaGAGGccgagcaaagctg	atg	gagg	13	hypothetical novel protein	
CcrRogue_gp185	-	tcctagccgaaaAGGgtcgcc	atg	agg	6	hypothetical conserved protein	
CcrRogue_gp186	-	cgtcctctcgacgatcacgac	atg	None	0	hypothetical conserved protein	
CcrRogue_gp187	-	cacggatagaaAGGAGccaag	atg	aggag	5	hypothetical novel protein	
CcrRogue_gp188	-	cggtgggcgcgaacgcgttcc	atg	None	0	hypothetical conserved protein	
CcrRogue_gp189	-	cctgggcctGGAGaagcacct	gtg	ggag	8	hypothetical conserved protein	
CcrRogue_gp190	-	actggcgaAGGTgtcggcctg	atg	aggt	9	hypothetical conserved protein	
CcrRogue_gp191	-	caacgacagAGGAGacctctc	ttg	aggag	7	hypothetical conserved protein	
CcrRogue_gp192	-	caatcgtccgaGGGGcaagaa	atg	gggg	6	hypothetical conserved protein	
CcrRogue_gp193	-	gacgacaatctGGAGaccgcg	atg	ggag	6	putative winged-helix HTH DNA binding protein	IPR011991
CcrRogue_gp194	-	catgaacgtctcgtgcgggga	atg	None	0	hypothetical novel protein	
CcrRogue_gp195	-	cgacggcGGAGcctacatcct	atg	ggag	10	hypothetical novel protein	
CcrRogue_gp196	-	gaccatgccggtggtccgtcg	atg	None	0	hypothetical novel protein	
CcrRogue_gp197	-	acgacaacgaAGGAGGcccac	gtg	aggagg	5	hypothetical novel protein	
CcrRogue_gp198	-	ggacagtcgctGGGGcactgc	atg	gggg	6	hypothetical conserved protein	
CcrRogue_gp199	-	caacggtGAGaagttcctctg	atg	gag	11	hypothetical novel protein	
CcrRogue_gp200	-	ggaaagtcaaAGGTccgatcg	atg	aggt	7	hypothetical conserved protein	
CcrRogue_gp201	-	tcaagcgGGAcctgaacgtcg	atg	gga	11	hypothetical conserved protein	
CcrRogue_gp202	-	cgtgaccaagcaGAGGgcctg	atg	gagg	5	hypothetical conserved protein	
CcrRogue_gp203	-	tGGAGtgaagtccagatcgcg	gtg	ggag	16	putative acyl carrier protein	IPR009081, IPR006163, PTHR20863
CcrRogue_gp204	-	tcgagaacggcgAGGAcggct	atg	agga	5	putative HNH endonuclease	IPR002711
CcrRogue_gp205	-	cgtcctctactAGGAGacccc	atg	aggag	5	hypothetical conserved protein	
CcrRogue_gp206	-	cgtacctGGGGtatcaggccg	atg	gggg	10	hypothetical conserved protein	
CcrRogue_gp207	-	cggGGAGaagctgaagtgagc	atg	ggag	14	hypothetical conserved protein	
CcrRogue_gp208	-	ccgtgcctcGGAGaaggccct	ttg	ggag	8	hypothetical conserved protein	
CcrRogue_gp209	-	ccgcttcgAGGAGatcacggc	ttg	aggag	8	hypothetical conserved protein	
CcrRogue_gp210	-	cgacgacaacggaAGGAcccg	atg	agga	4	hypothetical conserved protein	
CcrRogue_gp211	-	tttcgccgaGGGGgaccgcac	gtg	gggg	7	hypothetical conserved protein	
CcrRogue_gp212	-	cttcgaaactagGGAGGgctc	atg	ggagg	4	hypothetical conserved protein	
CcrRogue_gp213	-	gcgcccggcgaAGGgccactg	atg	agg	7	hypothetical conserved protein	
CcrRogue_gp214	-	acgacaaccaAGGAGGccccg	atg	aggagg	5	hypothetical conserved protein	
CcrRogue_gp215	-	atacgtGGAGagcaaggcggc	gtg	ggag	11	hypothetical conserved protein	
CcrRogue_gp216	-	actgcgGGAGtgtaactgacc	atg	ggag	11	hypothetical conserved protein	SSF56784
CcrRogue_gp217	-	cgcccaatttccGGAGtagac	atg	ggag	5	hypothetical novel protein	
CcrRogue_gp218	-	atgcagggcctGGGGgactag	gtg	gggg	5	hypothetical conserved protein	
CcrRogue_gp219	-	gctgatcaagtcGAGGccctg	atg	gagg	5	hypothetical conserved protein	
CcrRogue_gp220	-	gcctgccctacAGGAtcacct	atg	agga	6	hypothetical conserved protein	
CcrRogue_gp221	-	gatcgccgggttcgtcgccgc	gtg	None	0	hypothetical conserved protein	
CcrRogue_gp222	-	aaaagaAGGAGGaagccgcca	atg	aggagg	9	putative HTH domain DNA-binding protein	IPR010982, IPR001387
CcrRogue_gp223	-	aatcgcccAGGgcgccgcctg	atg	agg	10	hypothetical conserved protein	
CcrRogue_gp224	-	cgacgacatagAGGAGttccc	gtg	aggag	5	hypothetical conserved protein	
CcrRogue_gp225	-	ccaaacgaataGGGGaccgcc	ttg	gggg	6	hypothetical conserved protein	
CcrRogue_gp226	-	ccgcaagaAGGAccccacggc	atg	agga	9	hypothetical conserved protein	
CcrRogue_gp227	-	cggcaagatcaaGAGGgcctg	atg	gagg	5	putative Pol I DNA polymerase	IPR001098, IPR002298

CcrRogue_gp228	-	agaacAGGAGtagcgtacaag	gtg	aggag	11	putative GcrA-like cell cycle regulator	IPR011681
CcrRogue_gp229	-	cggcgaaaatcgAGGAGcgtc	atg	aggag	4	hypothetical conserved protein	
CcrRogue_gp230	+	cgacaacgaaAGGAGGcgctg	atg	aggagg	5	hypothetical conserved protein	
CcrRogue_gp231	+	cgcccgccAGGAcatggccgc	atg	agga	9	hypothetical conserved protein	
CcrRogue_gp232	+	cgacaagatcGAGGaaGAGGt	ttg	gagg	1	hypothetical conserved protein	
CcrRogue_gp233	+	ttctgccccAGGAGcttctcg	atg	aggag	7	hypothetical conserved protein	
CcrRogue_gp234	+	cattttcgactAGGAGGgacc	atg	aggagg	4	hypothetical conserved protein	
CcrRogue_gp235	+	catcgtcGAGGcgttcGAGGc	gtg	gagg	1	hypothetical conserved protein	
CcrRogue_gp236	+	tcctggagaagcAGGActgac	gtg	agga	5	hypothetical conserved protein	
CcrRogue_gp237	+	cgacaacgcaAGGAGcctgtc	ttg	aggag	6	hypothetical conserved protein	
CcrRogue_gp238	+	gagcctGGAGccggtggcctg	atg	ggag	11	hypothetical conserved protein	
CcrRogue_gp239	+	catgaaaaagagGGAGGgcta	atg	ggagg	4	hypothetical conserved protein	
CcrRogue_gp240	+	cccgccccAGGAGccgccgac	gtg	aggag	8	hypothetical conserved protein	
CcrRogue_gp241	+	tgacctcaagaAGGAaatcca	atg	agga	6	hypothetical conserved protein	
CcrRogue_gp242	+	gacgacaacgAGGAGGccccg	atg	aggagg	5	hypothetical conserved protein	
CcrRogue_gp243	+	cgccggaatgGGAGattcaag	atg	ggag	7	hypothetical conserved protein	
CcrRogue_gp244	+	cggcctggagcttGAGGcctg	atg	gagg	4	hypothetical conserved protein	
CcrRogue_gp245	+	acctggacgAGGAGaactgac	atg	aggag	7	hypothetical conserved protein	
CcrRogue_gp246	+	ggaagatgcGGAGccgaaggt	ttg	ggag	8	hypothetical conserved protein	
CcrRogue_gp247	+	caacgccctgGGAGccgcccg	atg	ggag	7	hypothetical conserved protein	
CcrRogue_gp248	+	cccgaccagcGAGGTcaagcc	atg	gaggt	6	hypothetical novel protein	
CcrRogue_gp249	+	acgacaacgaAGGAGGcttcc	gtg	aggagg	5	hypothetical novel protein	
CcrRogue_gp250	+	gctctcgtgggccaAGGtctg	atg	agg	4	hypothetical conserved protein	
CcrRogue_gp251	+	tggcccatcacGGAGGctgac	atg	ggagg	5	hypothetical novel protein	
CcrRogue_gp252	+	gcacgtGGAGGccaagctctg	atg	ggagg	10	hypothetical conserved protein	
CcrRogue_gp253	+	gatcatcccgccGAGGTtctg	atg	gaggt	4	hypothetical conserved protein	
CcrRogue_gp254	+	gacgacaacaaAGGAGGcccc	atg	aggagg	4	hypothetical conserved protein	
CcrRogue_gp255	+	ctacatcagGGAcatgcgccc	gtg	gga	9	hypothetical conserved protein	
CcrRogue_gp256	+	tcagcgtGGAGGTggctgctg	atg	ggaggt	8	hypothetical conserved protein	
CcrRogue_gp257	+	catggacgcgAGGAagggctg	atg	agga	7	hypothetical conserved protein	
CcrRogue_gp258	+	tgctgcgcgaAGGAGacgacc	ttg	aggag	6	hypothetical conserved protein	
CcrRogue_gp259	+	agccaaaGGGGttcGGGGcaa	atg	gggg	3	hypothetical conserved protein	
CcrRogue_gp260	+	cttcgtcGAGGcggtctccac	gtg	gagg	10	hypothetical conserved protein	
CcrRogue_gp261	+	aacacgtcAGGAacaccagcc	atg	agga	9	putative TAT signal protein	IPR006311; PRED-TAT
CcrRogue_gp262	+	agccaagaAGGcccAGGcctg	atg	agg	4	hypothetical conserved protein	
CcrRogue_gp263	+	acctccagaAGGAGcccacct	atg	aggag	7	hypothetical conserved protein	
CcrRogue_gp264	+	agcccggcggcGGGGcgagta	atg	gggg	6	hypothetical conserved protein	
CcrRogue_gp265	+	ccagcctgaagcgcttctgac	atg	None	0	hypothetical conserved protein	
CcrRogue_gp266	+	accgctcgacgggtGGAacgg	atg	gga	4	putative pleckstrin domain protein	IPR001849
CcrRogue_gp267	+	tgaggaagAGGAGcgctgctg	atg	aggag	8	putative Ser/Thr protein phosphatase	IPR004843, IPR006186, SSF56300, PTHR11668, G3DSA:3.60.21.10
CcrRogue_gp268	+	gctcaagatcacggtgtgacg	atg	None	0	hypothetical conserved protein	
CcrRogue_gp269	+	gacgacaacgAGGAGGgccgc	atg	aggagg	5	hypothetical novel protein	
CcrRogue_gp270	+	cgtcatgaAGGgccgcttcta	atg	agg	10	hypothetical novel protein	
CcrRogue_gp271	+	cggcgcggcgctgccgttcta	atg	None	0	hypothetical conserved protein	
CcrRogue_gp272	+	gacgacaacgAGGAGGccccc	atg	aggagg	5	hypothetical conserved protein	
CcrRogue_gp273	+	gtggcgggcGAGGcctaagcc	atg	gagg	8	hypothetical novel protein	
CcrRogue_gp274	+	ggcgctgacgaAGGgctggtg	atg	agg	7	hypothetical conserved protein	
CcrRogue_gp275	+	taatctggaGAGGgccttaag	ttg	gagg	8	hypothetical conserved protein	
CcrRogue_gp276	+	aagttctAGGAaAGGAagacc	atg	agga	5	hypothetical novel protein	
CcrRogue_gp277	+	acaacgccGGAGGccccttttc	atg	ggagg	8	hypothetical novel protein	
CcrRogue_gp278	+	cgccgcctcGGGGtggttcga	atg	gggg	8	hypothetical novel protein	
CcrRogue_gp279	+	actactagGGAGGaccccgac	atg	ggagg	8	hypothetical novel protein	
CcrRogue_gp280	+	acgacaacgaAGGAGGccccg	atg	aggagg	5	hypothetical novel protein	
CcrRogue_gp281	+	cgaccgcatGGGGtacgccgc	atg	gggg	8	hypothetical novel protein	
CcrRogue_gp282	+	ctcccacgacggctacgatct	gtg	None	0	hypothetical conserved protein	
CcrRogue_gp283	+	gctgctggcgggcgtggacct	gtg	None	0	hypothetical novel protein	
CcrRogue_gp284	+	ccagatgaAGGAGcccgcctc	ttg	aggag	8	hypothetical novel protein	
CcrRogue_gp285	+	acctcagaAGGAGGcccagcc	ttg	aggagg	7	hypothetical novel protein	
CcrRogue_gp286	+	ctctcgtctAGGAGacccgtc	ttg	aggag	7	hypothetical conserved protein	
CcrRogue_gp287	+	ggcctacgcttcggtgagcgc	atg	None	0	hypothetical conserved protein	
CcrRogue_gp288	+	gttctgGGAGGaaggcaatac	gtg	ggagg	10	hypothetical conserved protein	
CcrRogue_gp289	+	cggacataatAGGAGGTccag	atg	aggaggt	4	hypothetical novel protein	
CcrRogue_gp290	+	ggcggtcgaacgcgcggcggg	gtg	None	0	hypothetical conserved protein	
CcrRogue_gp291	+	cttcgcctcGGGGtggttcgc	atg	gggg	8	hypothetical novel protein	
CcrRogue_gp292	+	cgactaccgctAGGAGGtccc	atg	aggagg	4	hypothetical conserved protein	
CcrRogue_gp293	+	cgacgacggAGGAGacctgac	atg	aggag	7	hypothetical novel protein	
CcrRogue_gp294	+	ctccGGAGGcccgacatggca	atg	ggagg	12	hypothetical novel protein	
CcrRogue_gp295	+	catgaAGGgcgtcgacctcgg	atg	agg	13	hypothetical conserved protein	
CcrRogue_gp296	+	cgacgacaacAGGAGGccctc	atg	aggagg	5	hypothetical conserved protein	
CcrRogue_gp297	+	ttgcggctcagAGGAttcgtt	atg	agga	6	hypothetical conserved protein	
CcrRogue_gp298	+	ccggcggctgacgggtgcatc	atg	None	0	hypothetical conserved protein	
CcrRogue_gp299	+	gacgacaacgAGGAGGccccc	atg	aggagg	5	hypothetical conserved protein	
CcrRogue_gp300	+	atcaaggtGGAGGTctaagcc	atg	ggaggt	7	hypothetical novel protein	
CcrRogue_gp301	+	tctggtGGAGGccagcctcgc	atg	ggagg	10	hypothetical novel protein	
CcrRogue_gp302	+	catcgagcagAGGAagcaatc	gtg	agga	7	hypothetical conserved protein	
CcrRogue_gp303	+	gggactgGGAGacgacgactg	atg	ggag	10	hypothetical conserved protein	
CcrRogue_gp304	+	acgctgcgaAGGAGccgccac	gtg	aggag	7	putative winged-helix HTH DNA binding protein	IPR011991

CcrRogue_gp305	+	catgctgaaagagaAGGccgc	atg	agg	4	hypothetical conserved protein	
CcrRogue_gp306	+	ccgcaagctGGAGGccgacct	gtg	ggagg	7	hypothetical conserved protein	
CcrRogue_gp307	+	ccgcgacacggcaAGGAacgc	atg	agga	4	hypothetical conserved protein	
CcrRogue_gp308	+	ccctgcacgcaaGGGGctgac	atg	gggg	5	hypothetical conserved protein	
CcrRogue_gp309	+	gcgctttgatcccgtgacctg	atg	None	0	hypothetical conserved protein	
CcrRogue_gp310	+	cctgcatcgGGAcgtcatctg	atg	gga	9	hypothetical conserved protein	
CcrRogue_gp311	+	cgacgtgccGAGGcggacctg	atg	gagg	8	hypothetical conserved protein	
CcrRogue_gp312	+	cttcgacggctGGAGGTcgtc	atg	ggaggt	4	hypothetical conserved protein	
CcrRogue_gp313	+	tctggagtatcGGGGcgtcca	gtg	gggg	6	putative HNH homing endonuclease	IPR002711
CcrRogue_gp314	+	cgacaacgaAGGAGaccccgc	atg	aggag	7	hypothetical novel protein	
CcrRogue_gp315	+	cgaagccgccgggcgcgccgc	atg	None	0	hypothetical novel protein	
CcrRogue_gp316	+	gatccgctatcatcggggctt	ttg	None	0	hypothetical conserved protein	
CcrRogue_gp317	+	tcgtcgacaacatctggacct	atg	None	0	hypothetical conserved protein	
CcrRogue_gp318	+	gtttctccAGGAGatgttcgc	ttg	aggag	8	hypothetical novel protein	
CcrRogue_gp319	+	cgactactttgggtccggccg	atg	None	0	hypothetical conserved protein	
CcrRogue_gp320	+	cgactaccggctgctgctcgc	atg	None	0	hypothetical novel protein	
CcrRogue_gp321	+	ctacacgttGAGGgcggtgcg	atg	gagg	8	hypothetical novel protein	
CcrRogue_gp322	+	actctctagtaAGGcttcatt	atg	agg	7	hypothetical novel protein	
CcrRogue_gp323	+	tacaagaGGGGaaatatacca	atg	gggg	10	hypothetical conserved protein	
CcrRogue_gp324	+	ttggtccctcgGGAGccgctc	atg	ggag	6	hypothetical conserved protein	
CcrRogue_gp325	+	gccatcgcctaGAGcaggacc	atg	gag	7	hypothetical conserved protein	
CcrRogue_gp326	+	cgacggcgtGGAcgtgaccga	atg	gga	9	hypothetical novel protein	
CcrRogue_gp327	+	tgacgacgctggcggtggtgc	atg	None	0	putative RNaseH-like domain protein	IPR012337
CcrRogue_gp328	+	cgaaccggcGGAGttcccggc	ttg	ggag	8	hypothetical conserved protein	
CcrRogue_gp329	+	aggtcacccAGGAaaaggtcg	atg	agga	8	hypothetical conserved protein	
CcrRogue_gp330	+	agcgcccGGAactctgatccc	atg	gga	11	Terminase small subunit	HHpred vs pdb70_18Aug12, hit 3zqp_A, prob 95.7% E=0.0062; position relative to terminase large subunit, see text
CcrRogue_gp331	+	cgcgctgaccactgatcgtct	atg	None	0	Terminase large subunit	IPR004921, IPR007868, IPR006141, IPR003587, IPR006517, SSF51294, G3DSA:2.170.16.10

Table S6. Predicted proteins, gene starts and annotations of *C. crescentus* phage CcrColossus. Upstream sequence is the 25 bp of DNA sequence upstream of the start codon, with the predicted Shine-Dalgarno motif capitalized. S-D is the Shine-Dalgarno motif associated with the gene start, and spacing is the interval (in bp) between the S-D and start codon. Evidence includes detected conserved domains or motifs, BlastP and HHpred hits, and experimental or other evidence as detailed in the text.

Protein name	Strand	Upstream Sequence	Start Codon	S-D	spacing	Predicted product	Evidence
CcrColossus_gp001	-	cgcgctctccaAGGTgaatcc	atg	aggt	6	hypothetical novel protein	
CcrColossus_gp002	-	tctttgacatcgtGAGGcatc	atg	gagg	4	hypothetical novel protein	
CcrColossus_gp003	+	tcccgcgccctGGAGtctcgc	atg	ggag	6	hypothetical conserved protein	
CcrColossus_gp004	+	gccttcaagtAGGAGtcgccc	gtg	aggag	6	hypothetical novel protein	
CcrColossus_gp005	+	tcccgccctGGAGatgaaccg	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp006	+	ccgcgccctGGAGcaagtcac	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp007	+	ccggctgatccgtGAGGggcg	atg	gagg	4	hypothetical novel protein	
CcrColossus_gp008	+	tcccgccctGGAGaacctgag	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp009	+	gtcccgccGGAGaaaaacgac	atg	ggag	9	hypothetical novel protein	
CcrColossus_gp010	+	gcctctctGGAGcgcaagccc	atg	ggag	9	hypothetical novel protein	
CcrColossus_gp011	+	catcccctGGAGcgcaagccc	atg	ggag	9	hypothetical novel protein	
CcrColossus_gp012	+	accctcgtttgggttgtcgag	ttg	None	0	hypothetical conserved protein	
CcrColossus_gp013	+	ccctcaggacaAGGAGtccgc	atg	aggag	5	hypothetical novel protein	
CcrColossus_gp014	+	cccaaactcacgGGAGGccac	atg	ggagg	4	hypothetical conserved protein	
CcrColossus_gp015	+	ccgcgcccctGGAGaacgcac	atg	ggag	7	hypothetical conserved protein	
CcrColossus_gp016	+	aagccctggaaAGGccctgaa	atg	agg	7	hypothetical novel protein	
CcrColossus_gp017	+	acccctcgGGAGacacccgcc	atg	ggag	9	hypothetical conserved protein	
CcrColossus_gp018	+	tccggcaAGGcggcctagcct	atg	agg	11	hypothetical novel protein	
CcrColossus_gp019	+	atccgcaAGGAagcctaaccg	atg	agga	10	hypothetical novel protein	
CcrColossus_gp020	+	tcgactcgGGAGccctagccc	atg	ggag	9	hypothetical novel protein	
CcrColossus_gp021	+	cctaaccGGAGGaacccgccc	atg	ggagg	9	hypothetical novel protein	
CcrColossus_gp022	+	cagtagaaacaAGGAGttaac	ttg	aggag	5	hypothetical novel protein	
CcrColossus_gp023	+	ctttctgttGGAGcgcagaca	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp024	+	ccgcgccctGGAGaaaatcgg	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp025	+	cgccctaccGGAGcgcctaac	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp026	+	tcacgcctAGGAGGgcctgac	atg	aggagg	7	hypothetical novel protein	
CcrColossus_gp027	+	tcttgttaagaaatAGGccct	atg	agg	4	hypothetical novel protein	
CcrColossus_gp028	+	cccaagccctGGAGtccgctc	atg	ggag	7	hypothetical novel protein	
CcrColossus_gp029	+	ccctagctGGAGcgaaagccc	atg	ggag	9	hypothetical novel protein	
CcrColossus_gp030	+	acaacctcgaaAGGAcaaccc	ttg	agga	6	hypothetical novel protein	
CcrColossus_gp031	+	aatggcctctaGAGtgactac	atg	gag	7	hypothetical novel protein	
CcrColossus_gp032	+	ctaggactGGAGtccttcgca	atg	ggag	9	hypothetical novel protein	
CcrColossus_gp033	+	cttccccgctaGAGtgtgcgt	atg	gag	7	hypothetical novel protein	
CcrColossus_gp034	+	aaggccctAGGAGacaaagcg	atg	aggag	8	hypothetical novel protein	
CcrColossus_gp035	+	cctcacctcGGAGcccctgcc	atg	ggag	8	hypothetical conserved protein	
CcrColossus_gp036	-	tccatcaatcAGGAGattcag	gtg	aggag	6	hypothetical conserved protein	
CcrColossus_gp037	-	tctcctgccGGActtcctgtc	atg	gga	9	putative transglutaminase-like cysteine peptidase	IPR010319, PS51257
CcrColossus_gp038	+	cgcccacttttttcaaaagaac	atg	None	0	putative portal protein	HHpred vs pdb70_18Aug12, hit 2jes_A, prob 99.6% E=9.1E-15; positional evidence, see text
CcrColossus_gp039	+	gccgcaaaatGGAGcgagcta	atg	ggag	7	hypothetical novel protein	
CcrColossus_gp040	+	tccggtgaAGGAcgaagcctg	atg	agga	9	hypothetical novel protein	
CcrColossus_gp041	+	ctccaagcctGGAaagaagaa	gtg	gga	8	hypothetical novel protein	
CcrColossus_gp042	+	ttcagtacccagcgtatcgcc	atg	None	0	hypothetical conserved protein	
CcrColossus_gp043	+	tccgaagaAGGActagccccg	atg	agga	9	hypothetical novel protein	
CcrColossus_gp044	+	tgaaggctaaAGGAGcttccc	gtg	aggag	6	hypothetical novel protein	
CcrColossus_gp045	+	gctgcgtcttcggctaagccg	atg	None	0	hypothetical novel protein	
CcrColossus_gp046	+	cgagtcctgctGGGGtgattg	atg	gggg	6	hypothetical novel protein	
CcrColossus_gp047	+	gttcctgatGGGGctcgcact	atg	gggg	8	hypothetical novel protein	
CcrColossus_gp048	+	ctgcccatttggctgtgacga	atg	None	0	hypothetical novel protein	PD968187
CcrColossus_gp049	+	cttcagtccatGGAGGaataa	atg	ggagg	5	putative ATPase domain protein	SSF52540, G3DSA:3.40.50.300
CcrColossus_gp050	+	ccgccttcagaAGGgttgatc	atg	agg	7	hypothetical conserved protein	
CcrColossus_gp051	+	agtcgcagagGGAGcctaatc	atg	ggag	7	hypothetical novel protein	
CcrColossus_gp052	+	ctcctgcacGAGGTttaagcc	atg	gaggt	7	hypothetical conserved protein	
CcrColossus_gp053	+	cctccgcatcccggtcggctg	atg	None	0	hypothetical novel protein	
CcrColossus_gp054	+	attcgaaagaactggtcagcc	atg	None	0	hypothetical novel protein	
CcrColossus_gp055	+	cctcgccgacgGGAGcatctg	atg	ggag	6	hypothetical novel protein	
CcrColossus_gp056	+	ggtcggccggtAGGAGGagtc	atg	aggagg	4	hypothetical conserved protein	
CcrColossus_gp057	+	attgcctaccgctcAGGaatt	ttg	agg	4	putative Ntn hydrolase domain proetin	SSF56235
CcrColossus_gp058	+	caccctgaagttgcGAGatta	atg	gag	4	hypothetical novel protein	
CcrColossus_gp059	+	tctcttcatgtcGGGGgtcat	gtg	gggg	4	hypothetical conserved protein	
CcrColossus_gp060	+	ggaaatgaaaaAGGTcgcctg	atg	aggt	6	hypothetical conserved protein	
CcrColossus_gp061	+	cgcccccgacGGAGcgaaggc	gtg	ggag	7	hypothetical conserved protein	
CcrColossus_gp062	+	cctccgcccGGAcgccgctgc	atg	gga	9	hypothetical novel protein	
CcrColossus_gp063	+	ggtaccggccgAGGAtaagac	atg	agga	6	hypothetical novel protein	
CcrColossus_gp064	+	ccgccgaagAGGAaaagtagg	atg	agga	8	hypothetical novel protein	
CcrColossus_gp065	+	taacgcttcccggctggtcct	gtg	None	0	hypothetical novel protein	
CcrColossus_gp066	+	tctgcacctGGAGcaagtcca	ttg	ggag	8	hypothetical novel protein	
CcrColossus_gp067	+	tctggtgGGAtgggccgacta	atg	gga	11	hypothetical conserved protein	
CcrColossus_gp068	+	gcacgacccGGAcaagcgctg	atg	gga	9	hypothetical novel protein	
CcrColossus_gp069	+	tcgccaaatGGAGttgccgct	gtg	ggag	8	hypothetical conserved protein	
CcrColossus_gp070	+	cttcgacgaagaAGGcctctg	atg	agg	6	putative DHH phosphoesterase protein	SSF64182
CcrColossus_gp071	+	gatcggctgGGAGGggcgctc	gtg	ggagg	7	hypothetical novel protein	
CcrColossus_gp072	+	atGGAcaacttcGGAcaagcg	ctg	gga	6	hypothetical novel protein	
CcrColossus_gp073	+	agcgctgaAGGAGccctcagc	atg	aggag	8	hypothetical conserved protein	

CcrColossus_gp074	+	caaccgacAGGcggctgcggc	gtg	agg	10	hypothetical novel protein		
CcrColossus_gp075	+	acattatGAGatcGAGcccgc	ttg	gag	5	hypothetical novel protein		
CcrColossus_gp076	+	aggactcaccagtGGAGtcct	atg	ggag	4	hypothetical novel protein		
CcrColossus_gp077	+	cctgcGAGGacttcgttctg	atg	gagg	12	hypothetical conserved protein		
CcrColossus_gp078	+	ccgcgacGAGtaccaccgcta	atg	gag	11	hypothetical conserved protein		
CcrColossus_gp079	+	tccacacgctgctgacaccca	atg	None	0	putative HNH endonuclease	IPR002711, G3DSA:3.90.10.10	
CcrColossus_gp080	+	gccggctctcccAGGgcttg	ttg	agg	5	hypothetical conserved protein		
CcrColossus_gp081	+	accaactaagGGAaagctcta	atg	gga	8	putative major capsid protein	experimental evidence, see text	
CcrColossus_gp082	+	cttttctaAGGgcatctgaag	atg	agg	10	putative minor capsid protein	experimental evidence, see text	
CcrColossus_gp083	-	atagttaaccGGGGttccctc	atg	gggg	7	hypothetical conserved protein		
CcrColossus_gp084	+	ttcctccgccgcAGGAaccac	atg	agga	5	hypothetical novel protein		
CcrColossus_gp085	-	ggcagttcggaAGGTccgcgt	atg	aggt	6	hypothetical novel protein		
CcrColossus_gp086	+	cccctcttggcGGAattttcg	gtg	gga	7	hypothetical conserved protein		
CcrColossus_gp087	+	ccGGAGatcgaaggcggcacc	atg	ggag	15	hypothetical conserved protein		
CcrColossus_gp088	+	gtacagcaactAGGTccaacg	atg	aggt	6	hypothetical conserved protein		
CcrColossus_gp089	+	cactctccttctcgaactaag	atg	None	0	hypothetical conserved protein		
CcrColossus_gp090	+	actttctaaAGGgcaaagccg	atg	agg	9	hypothetical conserved protein		
CcrColossus_gp091	+	tgatcgaagcgcccctgactc	gtg	None	0	putative lectin-like domain protein	IPR013320, IPR008985	
CcrColossus_gp092	+	ctacgtgctggcgaacctcca	atg	None	0	hypothetical conserved protein		
CcrColossus_gp093	+	ctgtttcgcttcAGGTgaact	atg	aggt	5	hypothetical conserved protein		
CcrColossus_gp094	+	cggttttcttgacactgtagg	ttg	None	0	hypothetical novel protein		
CcrColossus_gp095	+	gtcttcggacgggaAGGccat	atg	agg	4	hypothetical novel protein		
CcrColossus_gp096	+	caccgccaAGGTttcgctgaa	atg	aggt	9	hypothetical conserved protein		
CcrColossus_gp097	+	gatcgtccAGGAGGagccagc	atg	aggagg	7	hypothetical novel protein		
CcrColossus_gp098	+	cgcgagcaagGGAGccgcaac	atg	ggag	7	hypothetical novel protein		
CcrColossus_gp099	-	catcaaaccaAGGAataccat	atg	agga	7	hypothetical novel protein		
CcrColossus_gp100	+	tggcgacgctaaactgcgccc	atg	None	0	putative FkbM-like methyltransferase	IPR006342, G3DSA:3.40.50.150	
CcrColossus_gp101	+	cgcaataacgAGGAGacttac	atg	aggag	6	hypothetical conserved protein		
CcrColossus_gp102	+	ccaccgcctcccGGAGcttcc	atg	ggag	5	putative protein metallo-phosphoesterase	IPR004843, SSF56300, G3DSA:3.60.21.10	
CcrColossus_gp103	+	tctggtggtGGAGatttaacg	atg	ggag	8	hypothetical conserved protein		
CcrColossus_gp104	+	cctccAGGAGcagcacgccta	atg	aggag	11	putative peptide formylmethionine deformylase	IPR000181	
CcrColossus_gp105	+	aactctctgcctGGAGtccac	atg	ggag	5	hypothetical conserved protein		
CcrColossus_gp106	+	ctaccgtcGGGGacgaaggct	gtg	gggg	9	hypothetical novel protein		
CcrColossus_gp107	+	gatcgcgtgcgGGAGatcgag	atg	ggag	6	hypothetical novel protein		
CcrColossus_gp108	+	acgcgccctcGGAGGgacac	atg	ggagg	6	hypothetical novel protein		
CcrColossus_gp109	+	tacgccgcaagGGAGcgacgt	ttg	ggag	6	putative PhoH-like protein	IPR003714, SSF52540, G3DSA:3.40.50.300	
CcrColossus_gp110	+	agtcatAGGgtagaacggtcg	atg	agg	12	hypothetical conserved protein		
CcrColossus_gp111	+	aagatcgtccggtcgtaatcc	atg	None	0	hypothetical conserved protein		
CcrColossus_gp112	+	tccagatgcgtgcggcctaac	gtg	None	0	hypothetical conserved protein		
CcrColossus_gp113	+	cgaagctatggcAGGTgtcct	gtg	aggt	5	hypothetical novel protein		
CcrColossus_gp114	+	gctctctgAGGAGacctgacc	gtg	aggag	8	hypothetical conserved protein		
CcrColossus_gp115	+	tgcaacttttggtgggcagaa	atg	None	0	putative major tail tube protein	experimental evidence, see text	
CcrColossus_gp116	+	ccctgacaAGGTaacccgaaa	atg	aggt	9	putative pre-tape measure chaperone protein	HHpred vs pdb70_18Aug12, hit 2ob9_A, prob 60.2% E=27; positional evidence, see text	
CcrColossus_gp117	+	ccctgacaAGGTaacccgaaa	atg	aggt	9	putative pre-tape measure chaperone protein, frameshifted version	positional evidence, see text; slippery sequence AAAAAAC	
CcrColossus_gp118	+	cttcgcggcgctGAGGgatag	atg	gagg	5	putative tail tape measure protein	IPR008258, IPR013491, SSF53955, G3DSA:1.10.530.10; experimental evidence, see text	
CcrColossus_gp119	+	cacaacGAGttaacccccagc	atg	gag	12	DUF2460 protein	IPR011740	
CcrColossus_gp120	+	tgattGGGGgaacctgttcta	atg	gggg	11	putative tail protein	IPR019228, IPR018964, IPR011928; experimental evidence, see text	
CcrColossus_gp121	+	accGGAcgctccgacctcgta	atg	gga	15	putative NlpC/P60 family cell wall peptidase	IPR000064, SSF54001, G3DSA:3.90.1720.10	
CcrColossus_gp122	+	ttccctggcgtGGAGGactaa	atg	ggagg	5	putative tail protein	experimental evidence, see text	
CcrColossus_gp123	+	ccccgtacaccGAGttctaga	atg	gag	7	putative tail protein	experimental evidence, see text	
CcrColossus_gp124	+	gagtcacgtttcggtccaaaa	atg	None	0	hypothetical conserved protein		
CcrColossus_gp125	+	tcaAGGgcgtctacttctaaa	atg	agg	15	putative tail protein	IPR000421, IPR008979, G3DSA:2.60.120.260; experimental evidence, see text	
CcrColossus_gp126	+	ttattgggcacaGAGcttcta	atg	gag	6	putative alpha-2,3-sialyltransferase-like protein	IPR009251	
CcrColossus_gp127	+	tcttcgccttaagacctaggg	atg	None	0	hypothetical novel protein		
CcrColossus_gp128	+	ggtgcccGAGGTggcaagatc	atg	gaggt	9	hypothetical conserved protein		
CcrColossus_gp129	+	gcctgaatttGGAcgccttgc	atg	gga	8	putative nucleotide-diphospho-sugar transferase	SSF53448	
CcrColossus_gp130	+	tGGAttGGAcccgcgctctcc	atg	gga	12	hypothetical conserved protein		
CcrColossus_gp131	+	gcgatcGGAGacgcatgggca	atg	ggag	11	putative family 9 glycosyl transferase	IPR002201, SSF53756, G3DSA:3.40.50.2000	
CcrColossus_gp132	+	gtcggcaattGGAGaaggtcc	atg	ggag	7	hypothetical conserved protein		
CcrColossus_gp133	+	tcaccgaaAGGgcattcatca	atg	agg	10	putative RNA polymerase alpha subunit C-terminal domain protein	IPR011260, G3DSA:1.10.150.20	
CcrColossus_gp134	+	atcttgctGAGcctctctgac	atg	gag	10	putative endolysin	IPR002196, SSF53955, G3DSA:1.10.530.40	
CcrColossus_gp135	+	ggcttGGAGtttcaagggcta	atg	ggag	12	putative holin protein	predicted 4 TMDs, see text	
CcrColossus_gp136	+	caaattcAGGTgaccgactag	atg	aggt	10	putative inner membrane spanin component	N-terminal TMD, outer membrane spanin component embedded in +1 frame, see text	
CcrColossus_gp137	+	ctgaagtGGAcacccttctcg	atg	gga	11	putative outer membrane spanin component	lipoprotein embedded in inner membrane spanin component, see text	
CcrColossus_gp138	+	tcggcaagaAGGAatagcgcc	atg	agga	8	hypothetical novel protein		
CcrColossus_gp139	-	agtagAGGAGccgacccgacc	atg	aggag	11	putative TROVE-like domain protein	IPR008858, SSF140864, SSF53300	
CcrColossus_gp140	-	ggcaccgacaAGGAcgaaggc	atg	agga	7	putative HTH domain DNA-binding protein	IPR001387, IPR010982, G3DSA:1.10.260.40	
CcrColossus_gp141	-	acctacctgaAGGActaaccc	atg	agga	7	putative dUTP pyrophosphatase	IPR008181, IPR008180, SSF51283, PTHR11241, G3DSA:2.70.40.10	
CcrColossus_gp142	-	cctctttttcGAGcgccttta	atg	gag	8	putative ribonucleoside diphosphate reductase beta subunit	IPR012348, IPR012335, IPR000358, IPR002109, IPR011767, IPR009078, IPR012336, PTHR23409:SF5,	
CcrColossus_gp143	-	ccttttttcttcGGAaccgtac	atg	gga	7	putative ribonucleoside diphosphate reductase alpha subunit	IPR000788, IPR013509, IPR003587, IPR006141, IPR008926, SSF51998, SSF51294, G3DSA:3.20.70.20, G3DSA:2.170.16.10	
CcrColossus_gp144	-	tagtcagtaGAGcgtacgcgt	atg	gag	9	hypothetical conserved protein		
CcrColossus_gp145	-	ccgcctcGGAGGaataaggtc	atg	ggagg	9	hypothetical conserved protein		
CcrColossus_gp146	-	caccaccgcctaAGGAccacc	atg	agga	5	hypothetical novel protein		
CcrColossus_gp147	-	tggcaatGAGttcgttcccaa	atg	gag	11	hypothetical conserved protein		
CcrColossus_gp148	-	cccccaacaaaaGAGcgcact	atg	gag	6	hypothetical conserved protein		
CcrColossus_gp149	-	tccgaacGAGcgcctgtaacc	gtg	gag	11	hypothetical novel protein		
CcrColossus_gp150	-	gaaccagtacgaaagccgcgc	atg	None	0	putative thymidylate synthase	IPR003669	

CcrColossus_gp151	-	ccgacgcctAGGAagtcgccc	atg	agga	8	hypothetical novel protein	
CcrColossus_gp152	-	gtcctggtctgAGGAaacacc	atg	agga	6	putative dNMP kinase	HHpred vs pdb70_18Aug12, hit 3ch4_B, prob 99.9% E=8.5E-25; SSF52540, G3DSA:3.40.50.300
CcrColossus_gp153	-	cAGGgcgacgcggttcgcact	gtg	agg	17	putative RecD-like helicase	HHpred vs pdb70_18Aug12, hit 3e1s_A, prob 100% E=1.2E-44; IPR000606, SSF52540, G3DSA:3.40.50.300
CcrColossus_gp154	-	gacttagaagtagaaaaccag	atg	None	0	hypothetical conserved protein	
CcrColossus_gp155	-	cccgcctAGGAGtcacctttc	atg	aggag	9	hypothetical conserved protein	
CcrColossus_gp156	-	gccgaAGGgtggtcgttaatc	atg	agg	13	putative exoribonuclease, Pol III-like	IPR013520, IPR006055, IPR012337, G3DSA:3.30.420.10
CcrColossus_gp157	-	agggcctcctccGAGaacgac	atg	gag	6	hypothetical novel protein	
CcrColossus_gp158	-	ccttcatGAGGctcgcgccta	atg	gagg	10	putative Pol I DNA polymerase, T7-like	IPR001098, IPR012337, SSF56672, PTHR10133, G3DSA:3.30.420.10, G3DSA:1.20.1060.10, G3DSA:3.30.70.370, G3DSA:1.10.150.20; see text
CcrColossus_gp159	-	ccgttaaccataccggccccg	atg	None	0	putative DNA cytosine methyltransferase	IPR001525, IPR018117, SSF53335, PTHR10629:SF11, G3DSA:3.40.50.150, G3DSA:3.90.120.10
CcrColossus_gp160	-	gaacaacGGAaagtggcgcct	gtg	gga	11	hypothetical conserved protein	
CcrColossus_gp161	-	acgccaaggctGAGatgttct	atg	gag	7	putative T5 A1-like protein	blastP to T5 A1 (AAU05157), E=6.5E-90, 34.9% Dice identity; HHpred vs pdb70_18Aug12, hit 1g2h_A, prob 95.7% E=0.0072
CcrColossus_gp162	-	aacggtcaagcctGGAGagaa	atg	ggag	4	putative DNA methylase	IPR002052
CcrColossus_gp163	-	cctgcctcAGGcggcggctcc	atg	agg	10	hypothetical novel protein	
CcrColossus_gp164	-	gctggccGAGacaccgtagaa	atg	gag	11	hypothetical novel protein	
CcrColossus_gp165	-	tcgaAGGTccaagcctgacgc	atg	aggt	13	putative DNA helicase	IPR000330, IPR014001, IPR001650, IPR014021, SSF52540, PTHR10799, G3DSA:3.40.50.300
CcrColossus_gp166	-	ttccagtAGGAGtcacgtttc	gtg	aggag	9	hypothetical conserved protein	
CcrColossus_gp167	-	tgggaaaaccccgAGGAccct	atg	agga	4	putative RNA ligase	IPR021122, IPR012646, SSF56091
CcrColossus_gp168	-	catgcggaAGGAagaacaata	atg	agga	9	hypothetical novel protein	
CcrColossus_gp169	-	ggcggtGGAGatcacccgctg	atg	ggag	11	conserved T4 30.3-like protein	IPR012596, SSF143990
CcrColossus_gp170	-	agacctgGGActcgacttctg	atg	gga	11	hypothetical novel protein	
CcrColossus_gp171	-	cgatgccctAGGAGtcggcta	atg	aggag	7	hypothetical novel protein	
CcrColossus_gp172	-	cagactgacgagAGGAGccct	atg	aggag	4	putative nucleotidyltransferase protein	IPR018775
CcrColossus_gp173	-	caagccacGGAagcggcgcaa	atg	gga	10	hypothetical novel protein	
CcrColossus_gp174	-	gcacgcGGAGaagaaggcctc	atg	ggag	11	hypothetical novel protein	
CcrColossus_gp175	-	cgcacgctgtAGGAGcccgag	atg	aggag	6	hypothetical novel protein	
CcrColossus_gp176	-	gttcgacaAGGAaacgaagca	atg	agga	9	hypothetical novel protein	
CcrColossus_gp177	-	caaggccgacgAGGAtaagtg	atg	agga	6	hypothetical conserved protein	
CcrColossus_gp178	-	caagtccaAGGcctaacgacc	atg	agg	10	putative rIIb-like protein	PD130832
CcrColossus_gp179	-	caagctaaccgggcggggcgt	atg	None	0	putative rIIa-like protein	IPR003594
CcrColossus_gp180	+	tgtctggtatgcgAGGAagaa	ttg	agga	4	hypothetical conserved protein	
CcrColossus_gp181	+	cggcgactcgcgggtgctgaa	ttg	None	0	hypothetical conserved protein	
CcrColossus_gp182	+	acgataacgaAGGAGGccccg	atg	aggagg	5	putative tyrosine recombinase	IPR013762, IPR002104, IPR011010
CcrColossus_gp183	+	ttcgtgaacGGAtGGAcgagg	gtg	gga	5	hypothetical conserved protein	
CcrColossus_gp184	-	ccgcaAGGcgggccgtccctg	atg	agg	13	hypothetical novel protein	
CcrColossus_gp185	-	acctttttGAGGcaaattggaa	atg	gagg	10	hypothetical novel protein	
CcrColossus_gp186	+	atgagtattacAGGAGtttcc	atg	aggag	5	hypothetical conserved protein	
CcrColossus_gp187	+	gtaatgcGGAGagtgcatgaa	atg	ggag	10	hypothetical conserved protein	
CcrColossus_gp188	+	gcgcgctGGAGcgacgctcgc	gtg	ggag	10	hypothetical conserved protein	
CcrColossus_gp189	-	ggctgcctagaagAGGAtatc	atg	agga	4	putative YqeY-like protein	IPR019004
CcrColossus_gp190	-	gcacGGGGaagagcgcgtact	gtg	gggg	13	hypothetical conserved protein	G3DSA:1.10.340.30
CcrColossus_gp191	-	ggccgcaataGGGGaaacgac	atg	gggg	7	putative DNA ligase	IPR012340, IPR012310, IPR016027, SSF56091
CcrColossus_gp192	-	cttctacggtGGAGGccgccg	atg	ggagg	6	hypothetical conserved protein	
CcrColossus_gp193	-	aacccctctGGAGcgtttttg	atg	ggag	8	hypothetical conserved protein	
CcrColossus_gp194	-	cgtctggcgcccGGAGGcgtg	atg	ggagg	4	hypothetical novel protein	
CcrColossus_gp195	-	tgGGAtcatagcctcccGGAg	atg	gga	1	DUF1643 protein	IPR012441
CcrColossus_gp196	-	tggtccagcAGGcgaagatga	atg	agg	9	hypothetical novel protein	
CcrColossus_gp197	-	acaAGGAGaagggcctggacg	ttg	aggag	13	hypothetical novel protein	
CcrColossus_gp198	-	ctgggactaGAGagatcgcag	atg	gag	7	hypothetical conserved protein	
CcrColossus_gp199	-	ccactacacgccggtgaagcc	gtg	None	0	hypothetical novel protein	
CcrColossus_gp200	-	ctcctcgttaagctggctgct	gtg	None	0	hypothetical novel protein	
CcrColossus_gp201	-	ctaagcctGGAGGcggcgatc	atg	ggagg	8	hypothetical novel protein	
CcrColossus_gp202	-	tcaactgtaagcgAGGActcc	atg	agga	4	hypothetical novel protein	
CcrColossus_gp203	-	gccagcttctaGGGGtctccc	atg	gggg	6	putative nicotinate phosphoribosyltransferase	IPR015977, IPR002638, PTHR11098
CcrColossus_gp204	-	atgccgaatcacGGAcgaatg	atg	gga	6	putative NUDIX hydrolase domain protein	IPR014729, IPR000086, IPR004820, IPR015797, IPR020084, SSF52374, PS51462, PTHR22769,
CcrColossus_gp205	-	ccaaaatggcGAGGccgagag	ttg	gagg	7	hypothetical conserved protein	
CcrColossus_gp206	-	atgatagcggccttAGGgtcg	atg	agg	4	hypothetical novel protein	
CcrColossus_gp207	-	tctacaAGGAtaaagagcacc	atg	agga	11	hypothetical novel protein	
CcrColossus_gp208	-	ctggaagaAGGcctagttcgg	gtg	agg	10	hypothetical novel protein	
CcrColossus_gp209	-	aagccttaaatcGAGaccaag	atg	gag	6	hypothetical novel protein	
CcrColossus_gp210	-	gcctcccctGAGtaaccgcag	atg	gag	9	hypothetical novel protein	
CcrColossus_gp211	-	tcaggtcacaacGGAGttccc	atg	ggag	5	hypothetical novel protein	
CcrColossus_gp212	-	ggcgatgcgaaAGGcgctctg	atg	agg	7	putative HD-domain/PDEase-like protein	SSF109604
CcrColossus_gp213	-	tggcggcggtGGAGGTgactg	atg	ggaggt	5	putative protein metallo-phosphoesterase	IPR004843, SSF56300, G3DSA:3.60.21.10
CcrColossus_gp214	-	gatctagcccaAGGAGaacca	atg	aggag	5	hypothetical novel protein	
CcrColossus_gp215	-	ccgtttgtGGGGgacgaagta	atg	gggg	8	hypothetical conserved protein	
CcrColossus_gp216	-	tgactggcatAGGAGagaacg	gtg	aggag	6	putative RtcB-like protein	IPR001233
CcrColossus_gp217	-	tgccatgtctaAGGcttgaag	atg	agg	7	hypothetical novel protein	
CcrColossus_gp218	-	gacGGGGatgaaccccgtccg	ctg	gggg	14	hypothetical novel protein	
CcrColossus_gp219	-	tgacgaaaAGGAGaggatgtc	gtg	aggag	8	putative TerD-like bacterial stress protein	IPR003325, G3DSA:2.60.60.30
CcrColossus_gp220	-	caagcatAGGAGttcaccttc	gtg	aggag	9	DUF475 protein	IPR007427
CcrColossus_gp221	-	aacatttccaggGGAGaaccc	atg	ggag	5	putative von Willebrand A domain protein	IPR002035, SSF53300
CcrColossus_gp222	-	aaggcttaAGGAGcctcatcg	atg	aggag	8	putative TelA-like resistance protein	IPR008863
CcrColossus_gp223	-	cgattgacacAGGAGacccaa	ttg	aggag	6	hypothetical novel protein	
CcrColossus_gp224	-	tcGGAGGcggcctgttcccac	atg	ggagg	14	hypothetical novel protein	
CcrColossus_gp225	+	tgttcgcggcactctatctcc	atg	None	0	hypothetical conserved protein	
CcrColossus_gp226	+	acgacaacgccAGGAGGcacc	atg	aggagg	4	hypothetical conserved protein	
CcrColossus_gp227	+	ttcaccggGGAGaactaaatc	atg	ggag	9	hypothetical novel protein	

CcrColossus_gp228	+	catcgagttcGAGGgcatctg	atg	gagg	7	hypothetical conserved protein	
CcrColossus_gp229	+	catagcagaAGGAcccactcc	gtg	agga	8	putative oxoglutarate oxygenase domain protein	IPR005123, SSF51197, PS51471, G3DSA:2.60.120.590
CcrColossus_gp230	+	aacctacaGGGGactcattca	atg	gggg	9	hypothetical novel protein	
CcrColossus_gp231	+	gctggcttttcctgaagtagg	atg	None	0	hypothetical novel protein	
CcrColossus_gp232	+	ccactagctgaAGGAGtcctc	atg	aggag	5	hypothetical novel protein	
CcrColossus_gp233	+	gacgatcagAGGAGactagac	atg	aggag	7	hypothetical conserved protein	
CcrColossus_gp234	+	tactgtaAGGAGaacgcgtac	atg	aggag	9	hypothetical novel protein	
CcrColossus_gp235	+	cctcacagccccGAGtgattc	atg	gag	6	putative AAA+ ATPase and mitochondrial BCS1 domain protein	IPR014851, IPR003959, IPR003593, IPR003960, SSF52540, PTHR23070, G3DSA:3.40.50.300
CcrColossus_gp236	+	aactggcaagcGGAaccattc	atg	gga	7	hypothetical novel protein	
CcrColossus_gp237	+	ccctaagcccaaaGAGGcctg	atg	gagg	4	UPF0114 protein	IPR005134
CcrColossus_gp238	+	ctctgcggaAGGAcactaaac	atg	agga	8	hypothetical conserved protein	
CcrColossus_gp239	+	cgggggcgacGGAGGctgatc	atg	ggagg	6	hypothetical novel protein	
CcrColossus_gp240	+	cgctacagtctgggccagcat	atg	None	0	hypothetical conserved protein	
CcrColossus_gp241	+	cgaaaggGGAGtcctcaccac	atg	ggag	10	putative lipoprotein	LipoP
CcrColossus_gp242	+	ccgcagcagtaGGGGgcgaac	ttg	gggg	5	putative CsgG-like curli assembly protein	IPR005534
CcrColossus_gp243	+	aaacaaacgacgaAGGAccct	atg	agga	4	hypothetical novel protein	
CcrColossus_gp244	+	tctgatctgacAGGAGacctc	gtg	aggag	5	putative ATPase domain protein	SSF52540, G3DSA:3.40.50.300
CcrColossus_gp245	+	gaaactcatgaaagactgacc	atg	None	0	putative lipoprotein	LipoP
CcrColossus_gp246	+	tgtccagatcaacggcatcca	atg	None	0	hypothetical conserved protein	
CcrColossus_gp247	+	ggacaatggaAGGgtccaaga	atg	agg	8	putative elongation factor EF-Ts domain protein	IPR014039
CcrColossus_gp248	+	tagaccacatcGGAGGgccgt	atg	ggagg	5	hypothetical conserved protein	
CcrColossus_gp249	+	ctccagcttcttcacctgctc	gtg	None	0	hypothetical novel protein	
CcrColossus_gp250	+	ggtcacgttcgAGGAcgtcgc	atg	agga	6	hypothetical novel protein	
CcrColossus_gp251	+	cctGGAGGatgagttcgcctg	atg	ggagg	13	hypothetical novel protein	
CcrColossus_gp252	+	cacaacagAGGAGtttgtccc	atg	aggag	8	putative HTH domain DNA-binding protein	IPR001387, IPR010982, G3DSA:1.10.260.40
CcrColossus_gp253	+	tcagcgcggcaAGGcggcctg	atg	agg	7	hypothetical novel protein	
CcrColossus_gp254	+	ctcatggcggtgaagcactaa	ttg	None	0	hypothetical novel protein	
CcrColossus_gp255	+	ttgaactgAGGAGtctagctc	ttg	aggag	8	hypothetical conserved protein	
CcrColossus_gp256	+	gttcctccgaAGGActaagcc	atg	agga	7	putative ferritin-like protein	IPR012347, IPR003251, IPR009078
CcrColossus_gp257	+	tgacgatcttaAGGAGaccct	atg	aggag	5	hypothetical novel protein	
CcrColossus_gp258	+	agttgcgGGAGGccgtgggcg	atg	ggagg	9	hypothetical novel protein	
CcrColossus_gp259	+	ggacggaaAGGTgttcaaatt	ttg	aggt	9	hypothetical conserved protein	
CcrColossus_gp260	+	agtacGGAGcgcgcgtacgtc	atg	ggag	12	hypothetical novel protein	
CcrColossus_gp261	+	gacgatcacacGGAGGcaatc	atg	ggagg	5	hypothetical conserved protein	
CcrColossus_gp262	+	gatgttcaaGGGGatcgccgc	atg	gggg	8	hypothetical novel protein	
CcrColossus_gp263	+	ccatGAGGcgttcgcgttctt	ctg	gagg	13	hypothetical novel protein	
CcrColossus_gp264	+	gttcgtgctGGAGGgctgagc	atg	ggagg	7	hypothetical novel protein	
CcrColossus_gp265	+	acgatcactgAGGAGGTcccg	atg	aggaggt	4	DUF262 protein	IPR004919
CcrColossus_gp266	+	cgagccgaAGGTggtcgcgtg	atg	aggt	9	hypothetical conserved protein	
CcrColossus_gp267	+	cagcccggaAGGAGGTcgctg	atg	aggaggt	5	hypothetical novel protein	
CcrColossus_gp268	+	tgaacagaAGGAGGcttccgc	atg	aggagg	7	putative dehalogenase hydrolase-like protein	IPR005833, IPR005834, SSF56784, PTHR12725, G3DSA:3.40.50.1000
CcrColossus_gp269	+	ccctgaccGGAGtccttctga	atg	ggag	9	putative phosphoribosyltransferase-like domain protein	SSF53271
CcrColossus_gp270	+	gtctaactgacAGGTaaaacc	atg	aggt	6	hypothetical novel protein	
CcrColossus_gp271	+	gtgacgaagcAGGTcacccgc	atg	aggt	7	hypothetical novel protein	
CcrColossus_gp272	+	gacccttтcAGGAtaaccggc	atg	agga	8	hypothetical novel protein	
CcrColossus_gp273	+	ctaccaattcacGGAGtcctc	atg	ggag	5	hypothetical novel protein	
CcrColossus_gp274	+	atcGAGGTcGAGGTctaggcc	atg	gaggt	7	putative TAT signal protein	IPR006311 ; PRED-TAT
CcrColossus_gp275	+	caagctgaAGGgttcggtctg	atg	agg	10	hypothetical conserved protein	
CcrColossus_gp276	+	tgaacggccttGGAGaagaca	gtg	ggag	6	hypothetical conserved protein	SSF56784, G3DSA:3.40.50.1000
CcrColossus_gp277	+	gtttgatgcgcgggtgcctga	atg	None	0	putative HNH endonuclease	IPR002711
CcrColossus_gp278	+	agaaccagacggtggtggcct	atg	None	0	hypothetical novel protein	
CcrColossus_gp279	+	ctggaataagGGAGcctaacc	ttg	ggag	7	hypothetical conserved protein	
CcrColossus_gp280	+	gttgatcgcggcgaacctctg	atg	None	0	hypothetical conserved protein	
CcrColossus_gp281	+	tttcccgaatAGGAGtctgtt	gtg	aggag	6	hypothetical novel protein	
CcrColossus_gp282	+	tcgaaccgatcaagtagcgcc	atg	None	0	hypothetical novel protein	
CcrColossus_gp283	+	gctttgggtGGAcggctacca	gtg	gga	9	putative radical SAM-like protein	SSF102114, G3DSA:3.80.30.20
CcrColossus_gp284	+	cggcatgttcatGGAGGcgtg	atg	ggagg	4	hypothetical novel protein	
CcrColossus_gp285	+	cgcctgagatGGAatagaacc	atg	gga	8	hypothetical conserved protein	
CcrColossus_gp286	+	tgtacgcgcctGGAGGTgaag	atg	ggaggt	4	hypothetical novel protein	
CcrColossus_gp287	+	cgcgcaccggGGAGaatagaa	atg	ggag	7	hypothetical novel protein	
CcrColossus_gp288	+	cacgtcagctAGGAGGgcgcc	atg	aggagg	5	hypothetical novel protein	
CcrColossus_gp289	+	ccaaactggcAGGTtggcggg	atg	aggt	7	putative tRNA nucleotidyl transferase	IPR002646, PTHR13734, SSF81301, G3DSA:3.30.460.10, G3DSA:1.10.3090.10
CcrColossus_gp290	+	gatcgtgatGGAGGaatggac	ttg	ggagg	7	hypothetical novel protein	
CcrColossus_gp291	+	cgcctggattGGAGccgccag	atg	ggag	7	hypothetical novel protein	
CcrColossus_gp292	+	cgaggcgcGGAGcggcgagtg	atg	ggag	9	hypothetical novel protein	
CcrColossus_gp293	+	cggctttGAGGTgttttaggg	atg	gaggt	9	hypothetical novel protein	
CcrColossus_gp294	+	caagccgaagaAGGcggcctg	atg	agg	7	hypothetical novel protein	
CcrColossus_gp295	+	tcctgggccGGActgcaccgc	atg	gga	9	hypothetical novel protein	
CcrColossus_gp296	+	acgatctcaaAGGAaggccct	gtg	agga	7	hypothetical conserved protein	
CcrColossus_gp297	+	gagcagcggagcGGAGGaagc	atg	ggagg	4	hypothetical conserved protein	
CcrColossus_gp298	+	gatcaatcagaAGGAGGtccc	atg	aggagg	4	hypothetical novel protein	
CcrColossus_gp299	+	ggcgccgacgaaAGGAcacca	atg	agga	5	hypothetical novel protein	
CcrColossus_gp300	+	cacctcgcgggtGGAcgcctg	atg	gga	6	putative tRNA His guanylyltransferase protein	IPR007537
CcrColossus_gp301	+	aacgcatgacAGGTgaagccg	atg	aggt	7	hypothetical novel protein	
CcrColossus_gp302	+	ccaaacttgtAGGAGGTccag	atg	aggaggt	4	hypothetical novel protein	
CcrColossus_gp303	+	gccgatggtcGAGGccgccgc	atg	gagg	7	hypothetical novel protein	
CcrColossus_gp304	+	tgccgtGGAtcaagacgacga	atg	gga	12	hypothetical novel protein	

CcrColossus_gp305	+	gggcctGGAGtggcatccgta	gtg	ggag	11	hypothetical novel protein	
CcrColossus_gp306	+	tactgacgacaAGGAGGcccc	atg	aggagg	4	hypothetical novel protein	
CcrColossus_gp307	+	cgccaagaAGGAcgccgcctg	atg	agga	9	hypothetical conserved protein	
CcrColossus_gp308	+	cggcgtGGAGGaacgctttta	atg	ggagg	10	hypothetical novel protein	
CcrColossus_gp309	+	caagctggcgatGGGGcgctg	atg	gggg	5	hypothetical novel protein	
CcrColossus_gp310	+	tacgatcgcacGGAGacgctg	atg	ggag	6	hypothetical novel protein	
CcrColossus_gp311	+	ttcGGAGcgccggcgccccga	atg	ggag	14	hypothetical novel protein	
CcrColossus_gp312	+	accgaAGGAccgcgtcagcct	gtg	agga	12	hypothetical novel protein	
CcrColossus_gp313	+	aagggctttcGAGGcgaagaa	gtg	gagg	7	hypothetical novel protein	
CcrColossus_gp314	+	gcaattactggcagaccagca	gtg	None	0	hypothetical novel protein	
CcrColossus_gp315	+	ataaacatgaagGGAGcccac	atg	ggag	5	hypothetical novel protein	
CcrColossus_gp316	+	ggtctcgcttatccaagagcc	atg	None	0	hypothetical novel protein	
CcrColossus_gp317	+	gatcaatcagAGGAGacccac	atg	aggag	6	hypothetical novel protein	
CcrColossus_gp318	+	tcctggtctcggtcgactgac	gtg	None	0	hypothetical novel protein	
CcrColossus_gp319	+	tgtgcaatccAGGAGGacccg	atg	aggagg	5	hypothetical novel protein	
CcrColossus_gp320	+	caacgccatGGAGGctttctc	atg	ggagg	7	hypothetical novel protein	
CcrColossus_gp321	+	ccggtcAGGTcggcgtctacg	atg	aggt	11	hypothetical novel protein	
CcrColossus_gp322	+	cggcaccctgccgctcgccgc	gtg	None	0	hypothetical novel protein	
CcrColossus_gp323	+	cgacgaaacgAGGAGGcaccc	atg	aggagg	5	hypothetical novel protein	
CcrColossus_gp324	+	cgtcgcgcctaAGGAccctcc	atg	agga	6	hypothetical conserved protein	
CcrColossus_gp325	+	cctttctggaaAGGAGctaat	atg	aggag	5	hypothetical novel protein	
CcrColossus_gp326	+	tcgcacgctGGAGcgtgcctg	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp327	+	ccgcaatttgAGGAGGcctga	atg	aggagg	5	hypothetical novel protein	
CcrColossus_gp328	+	tcagcaaAGGAGtcacatccc	atg	aggag	9	hypothetical conserved protein	
CcrColossus_gp329	+	cgtcaagaccggcgcgctctg	atg	None	0	hypothetical novel protein	
CcrColossus_gp330	+	ctcctgccggcggcggcctaa	atg	None	0	putative methyltransferase	SSF53335, G3DSA:3.40.50.150
CcrColossus_gp331	+	cctgatcaaaAGGAGccgctg	gtg	aggag	6	hypothetical novel protein	
CcrColossus_gp332	+	cgtcctggcggcgctctgcct	atg	None	0	hypothetical novel protein	
CcrColossus_gp333	+	ctccaacccaaAGGAGccctc	atg	aggag	5	hypothetical conserved protein	
CcrColossus_gp334	+	gcgcggaagaaGAGctaaacc	atg	gag	7	hypothetical conserved protein	
CcrColossus_gp335	+	ctcggtgatggcgaccgtcgg	atg	None	0	hypothetical novel protein	
CcrColossus_gp336	+	tagcccgtactAGGAGGaccg	atg	aggagg	4	hypothetical novel protein	
CcrColossus_gp337	+	tcccgacGGAGccgggctgac	atg	ggag	10	hypothetical novel protein	
CcrColossus_gp338	+	atcacagccatGGAGGctcct	ttg	ggagg	5	hypothetical conserved protein	
CcrColossus_gp339	+	cttcaaggGGAGcttctcctg	atg	ggag	9	hypothetical novel protein	
CcrColossus_gp340	+	caacctgaacctgccattctg	atg	None	0	hypothetical conserved protein	
CcrColossus_gp341	+	cgatcaatgAGGAGGTaggtc	atg	aggaggt	5	hypothetical novel protein	
CcrColossus_gp342	+	tttcgcactgaagGGAGccta	gtg	ggag	4	hypothetical novel protein	
CcrColossus_gp343	+	cttcttccgaaagatcaactg	atg	None	0	hypothetical novel protein	
CcrColossus_gp344	+	cattcgcaaAGGAaagcgcgc	atg	agga	8	hypothetical conserved protein	
CcrColossus_gp345	+	acgatcacaaAGGAGaccctc	atg	aggag	6	hypothetical novel protein	
CcrColossus_gp346	+	gttcatgcGGAcgtagctccg	atg	gga	10	hypothetical conserved protein	
CcrColossus_gp347	+	cgccgcgaAGGAGttggcgca	atg	aggag	8	hypothetical novel protein	
CcrColossus_gp348	+	cgctcagatcatGGGGatcgc	atg	gggg	5	hypothetical novel protein	
CcrColossus_gp349	+	ccAGGcgaacAGGccgccggc	atg	agg	8	hypothetical novel protein	
CcrColossus_gp350	+	atttgcgccggttcGAGtctg	atg	gag	4	hypothetical novel protein	
CcrColossus_gp351	+	gccaacctgaaAGGctgaacc	atg	agg	7	hypothetical conserved protein	
CcrColossus_gp352	+	GGAaccctatgGGAtgtcgaa	gtg	gga	7	hypothetical conserved protein	
CcrColossus_gp353	+	tatgaccttgaGAGGgatgtg	atg	gagg	6	hypothetical conserved protein	
CcrColossus_gp354	+	tcagaagctgaagttcatgtg	atg	None	0	hypothetical novel protein	
CcrColossus_gp355	+	cctcgcGGAGaagaaacgtcg	atg	ggag	11	hypothetical novel protein	
CcrColossus_gp356	+	cgctaaaggGGAGGggctaag	atg	ggagg	7	hypothetical conserved protein	
CcrColossus_gp357	+	cggtaAGGAGtacaagtacac	gtg	aggag	11	hypothetical novel protein	
CcrColossus_gp358	+	tcacagcacAGGAGGcctctc	atg	aggagg	6	putative rRNA methyltransferase	IPR004398, SSF53335, G3DSA:3.40.50.150
CcrColossus_gp359	+	tcatcacgctgtGGAagccgc	atg	gga	6	hypothetical novel protein	
CcrColossus_gp360	+	tacctGGAGGacggcacggtc	atg	ggagg	11	hypothetical novel protein	
CcrColossus_gp361	+	gttagccaacGGAGactaccc	atg	ggag	7	hypothetical novel protein	
CcrColossus_gp362	+	cccgattttgtcAGGcgtgag	atg	agg	6	hypothetical novel protein	
CcrColossus_gp363	-	tcccgaggcctGGAGatcacc	atg	ggag	6	hypothetical novel protein	
CcrColossus_gp364	-	gaacatgctGGAGGgcgcgga	gtg	ggagg	7	hypothetical novel protein	
CcrColossus_gp365	-	cgaactggccGAGGTgtacct	gtg	gaggt	6	hypothetical novel protein	
CcrColossus_gp366	-	tgaagatgcGGAGcgcttcta	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp367	-	ggcgcGAGGgaaggctgccta	atg	gagg	12	hypothetical novel protein	
CcrColossus_gp368	-	cgtgaAGGTcgtggccggcga	ctg	aggt	12	hypothetical novel protein	
CcrColossus_gp369	-	aacaacgaaAGGAGGctcgcc	atg	aggagg	6	hypothetical novel protein	
CcrColossus_gp370	-	gctctatgagaAGGAGGcctc	atg	aggagg	4	hypothetical novel protein	
CcrColossus_gp371	-	cGAGccggtggtgacggcgcc	atg	gag	17	hypothetical conserved protein	
CcrColossus_gp372	-	atacatcgtctAGGAGGgctc	atg	aggagg	4	hypothetical conserved protein	
CcrColossus_gp373	-	tcaacgccaagaaagaagcca	atg	None	0	putative NAD GMP synthase domain protein	IPR014729, IPR022310
CcrColossus_gp374	-	ccaaaacGGGGaagcgatctg	atg	gggg	10	hypothetical novel protein	
CcrColossus_gp375	-	tgacgatcacgAGGAGGccct	atg	aggagg	4	hypothetical conserved protein	
CcrColossus_gp376	-	ggccggcgcGGAGGccgcgtg	atg	ggagg	7	hypothetical novel protein	
CcrColossus_gp377	-	cgaacaacccAGGAGGccctg	atg	aggagg	5	hypothetical novel protein	
CcrColossus_gp378	-	caagaAGGAcacggtgtcgcg	atg	agga	12	hypothetical novel protein	
CcrColossus_gp379	-	gcgatcgccAGGAGccacgcc	atg	aggag	7	hypothetical novel protein	
CcrColossus_gp380	+	ccattaaccaatGAGGccgac	atg	gagg	5	hypothetical novel protein	
CcrColossus_gp381	-	cccgcAGGAGGgaaacgccta	atg	aggagg	10	hypothetical novel protein	

CcrColossus_gp382	-	cgcgacgcgcctGGAcgactg	atg	gga	6	hypothetical novel protein	
CcrColossus_gp383	-	gtggcgtgacAGGAGGcttat	atg	aggagg	5	hypothetical novel protein	
CcrColossus_gp384	-	ctgccgacGGAGttctgacgc	atg	ggag	9	hypothetical novel protein	
CcrColossus_gp385	-	acagcgaaatAGGAGatcagg	atg	aggag	6	hypothetical conserved protein	
CcrColossus_gp386	-	tggacgaacacAGGAGGccct	atg	aggagg	4	hypothetical novel protein	
CcrColossus_gp387	+	aaaaacggctattccacctac	atg	None	0	hypothetical novel protein	
CcrColossus_gp388	+	caaatggcttgaAGGTaaacc	atg	aggt	5	hypothetical novel protein	
CcrColossus_gp389	+	taagtcgtggtgGGAcctctg	atg	gga	6	hypothetical novel protein	
CcrColossus_gp390	+	ggtggcgccggtGGActccca	atg	gga	6	hypothetical novel protein	
CcrColossus_gp391	+	cgaggcgcGGAGcggcgagtg	atg	ggag	9	hypothetical conserved protein	
CcrColossus_gp392	+	cctatttGGAcGGAaacgcac	atg	gga	7	hypothetical conserved protein	
CcrColossus_gp393	+	ttttgaagaAGGctcaaacct	gtg	agg	9	hypothetical novel protein	
CcrColossus_gp394	+	ctcctgcccacAGGAcggcca	atg	agga	6	hypothetical novel protein	
CcrColossus_gp395	+	ccgAGGAGatgaccgagaccg	atg	aggag	13	hypothetical novel protein	
CcrColossus_gp396	+	ctgaaggctGAGtccgcttag	atg	gag	9	hypothetical novel protein	
CcrColossus_gp397	+	ctcctgctgaaGAGtaccacg	atg	gag	7	hypothetical conserved protein	
CcrColossus_gp398	+	tcttcgacaactGAGGgtaca	atg	gagg	5	hypothetical novel protein	
CcrColossus_gp399	+	caccatcgtcacggtggagct	atg	None	0	hypothetical novel protein	
CcrColossus_gp400	+	ccttcctGGAGtattgagccg	atg	ggag	10	hypothetical novel protein	
CcrColossus_gp401	-	tctagccagGGAacaacccgc	atg	gga	9	hypothetical novel protein	
CcrColossus_gp402	-	acgtggtcgaacAGGAaggcg	atg	agga	5	hypothetical novel protein	
CcrColossus_gp403	-	cgtgaccgtcGAGGTggtctc	gtg	gaggt	6	hypothetical novel protein	
CcrColossus_gp404	-	gattaagccggAGGAGGcatg	atg	aggagg	4	hypothetical novel protein	
CcrColossus_gp405	-	cgcgctcatgatGGActgctg	atg	gga	6	hypothetical conserved protein	
CcrColossus_gp406	-	gctgaagcAGGcggctccgca	atg	agg	10	hypothetical novel protein	
CcrColossus_gp407	-	ccgcctgtcGGAGatcacgaa	gtg	ggag	8	hypothetical novel protein	
CcrColossus_gp408	-	ccttgccctGGAGGccgccgc	atg	ggagg	7	hypothetical novel protein	
CcrColossus_gp409	-	cctgctagaAGGTcaaggctg	atg	aggt	8	hypothetical novel protein	
CcrColossus_gp410	-	cggagagaAGGAcccacgctg	gtg	agga	9	hypothetical novel protein	
CcrColossus_gp411	-	gacgatcaagAGGAGaccccg	atg	aggag	6	hypothetical novel protein	
CcrColossus_gp412	-	caagaaggaacGAGGcctcgc	atg	gagg	6	hypothetical novel protein	
CcrColossus_gp413	-	ccgcgctgacGGAGGaaggca	atg	ggagg	6	hypothetical novel protein	
CcrColossus_gp414	-	ctacgtgcgaaAGGAaccctg	atg	agga	6	hypothetical novel protein	
CcrColossus_gp415	-	tgctgggcctGGAGGaattca	ttg	ggagg	6	hypothetical novel protein	
CcrColossus_gp416	-	gacgatcactAGGAGaacctg	atg	aggag	6	hypothetical novel protein	
CcrColossus_gp417	-	tcgacgcGAGGcgcggctgaa	gtg	gagg	10	hypothetical conserved protein	PF09356
CcrColossus_gp418	-	gtatgtttctGGAGaaataacg	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp419	-	cgtgacgccggtggtgctgcc	gtg	None	0	hypothetical novel protein	
CcrColossus_gp420	-	cgccggcacaagGGAatcatg	atg	gga	6	hypothetical novel protein	
CcrColossus_gp421	-	ttcccgaAGGAGGcctgatcc	atg	aggagg	8	hypothetical novel protein	
CcrColossus_gp422	-	cgacgaagcaAGGAGacccgg	atg	aggag	6	hypothetical novel protein	
CcrColossus_gp423	-	gattaatcaAGGAGGgctccg	atg	aggagg	6	hypothetical novel protein	
CcrColossus_gp424	-	caccctggagaAGGAagcctg	atg	agga	6	putative HTH domain DNA-binding protein	IPR001387, IPR010982, PTHR10245, G3DSA:1.10.260.40
CcrColossus_gp425	-	gtaccttgcgGGAGaagaagc	gtg	ggag	7	hypothetical novel protein	
CcrColossus_gp426	-	gctggtctGGAagcgcgagca	atg	gga	10	hypothetical novel protein	
CcrColossus_gp427	-	actcgctcccAGGAGGccccg	atg	aggagg	5	hypothetical novel protein	
CcrColossus_gp428	-	ccggctgtacGAGGTcgagtg	atg	gaggt	6	hypothetical novel protein	
CcrColossus_gp429	-	ccctaactccacgAGGAcatg	atg	agga	4	hypothetical novel protein	
CcrColossus_gp430	-	cgttgcgaatgaAGGTgtgcg	atg	aggt	5	hypothetical novel protein	
CcrColossus_gp431	-	cgatctgcgGGAGatgatcgg	atg	ggag	8	hypothetical novel protein	
CcrColossus_gp432	-	gccgatcgtgttgaagcgccg	atg	None	0	hypothetical novel protein	
CcrColossus_gp433	-	ggtcgccgtGAGcgtgcgctg	atg	gag	9	hypothetical novel protein	
CcrColossus_gp434	-	taacttcaacaAGGAGGcacc	atg	aggagg	4	hypothetical novel protein	
CcrColossus_gp435	-	gacgatcaataAGGAGacccc	atg	aggag	5	hypothetical novel protein	
CcrColossus_gp436	-	gtggcggtccaAGGcgcaatc	atg	agg	7	hypothetical novel protein	
CcrColossus_gp437	-	gacggaagatcGAGtgctgcg	ctg	gag	7	hypothetical novel protein	
CcrColossus_gp438	-	agcgtaggctAGGAGGggttc	atg	aggagg	5	hypothetical novel protein	
CcrColossus_gp439	-	cgggatgcctAGGcggttgtc	atg	agg	8	hypothetical novel protein	
CcrColossus_gp440	+	aactccgaccAGGAttaaccg	atg	agga	7	hypothetical conserved protein	
CcrColossus_gp441	+	cagttaacgctttcAGGtccc	atg	agg	4	hypothetical conserved protein	
CcrColossus_gp442	+	ggcggccaacGGAGccgcgtg	atg	ggag	7	hypothetical novel protein	
CcrColossus_gp443	+	ccgcgaagAGGAGGctgcgca	atg	aggagg	7	hypothetical novel protein	
CcrColossus_gp444	+	tgtcttctggttgtatcactg	atg	None	0	putative RNaseH-like domain protein	IPR012337
CcrColossus_gp445	+	tatcctggtGGAGttccctaa	ttg	ggag	8	hypothetical conserved protein	
CcrColossus_gp446	+	cgccggcccGGAcaagacgcc	atg	gga	9	hypothetical novel protein	
CcrColossus_gp447	+	gccctagcgaagtaaaagaca	ttg	None	0	putative terminase small subunit	HHpred vs pdb70_18Aug12, hit 3zqp_A, prob 97.8% E=8.3E-06; position relative to terminase large subunit, see text
CcrColossus_gp448	+	cggcgacgacgaataatcacc	atg	None	0	putative terminase large subunit	IPR004921, IPR003587, IPR006141, IPR006517, IPR004042, SSF51294, G3DSA:2.170.16.10, G3DSA:3.10.28.10