CDS 1 - 567

/gene="1"

/product="gp1"

/function="adenylate kinase"

/locus tag="Matalotodo\_1"

/note=Original Glimmer call @bp 1 has strength 11.73; Genemark calls start at 1

/note=SSC: 1-567 CP: no SCS: both ST: SS BLAST-Start: [terminase small subunit [Mycobacterium phage Vista] ],,NCBI, q1:s1 100.0% 4.47952E-135 GAP: 0 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.718, -6.387194574314462, no F: adenylate kinase SIF-BLAST: ,,[terminase small subunit [Mycobacterium phage Vista] ],,YP\_009016790,99.4681,4.47952E-135 SIF-HHPRED: SIF-Syn: ABU, Adrianna, Anderson

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 84713

CDS 564 - 2351

/gene="2"

/product="gp2"

/function="terminase"

/locus tag="Matalotodo\_2"

/note=Original Glimmer call @bp 564 has strength 10.85; Genemark calls start at 564

/note=SSC: 564-2351 CP: no SCS: both ST: SS BLAST-Start: [terminase large subunit [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 0.0 GAP: -4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.968, -3.7230958680478965, yes F: terminase SIF-BLAST: ,,[terminase large subunit [Mycobacterium phage PG1] ],,NP\_943780,100.0,0.0 SIF-HHPRED: Terminase, large subunit; phage defense, pattern-recognition receptor, nlr, stand, atpase, ANTIVIRAL PROTEIN; HET: ATP;{Salmonella enterica},,,8DGC\_F,83.3613,100.0 SIF-Syn: Badfish, Buckeye, CamL

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 149949

CDS 2436 - 2651

/gene="3"

/product="gp3"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_3"

/note=Original Glimmer call @bp 2436 has strength 11.26; Genemark calls start at 2436

/note=SSC: 2436-2651 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein M046\_gp03 [Mycobacterium phage Newman] ],,NCBI, q1:s1 100.0% 1.17879E-43 GAP: 84 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 3.217, -2.66590822473965, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein M046\_gp03 [Mycobacterium phage Newman] ],,YP\_008052080,100.0,1.17879E-43 SIF-HHPRED: SIF-Syn: DirtJuice, DoesntMatter, DonSanchon

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 216

CDS 2648 - 3013

/gene="4"

/product="gp4"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_4"

/note=Original Glimmer call @bp 2648 has strength 6.34; Genemark calls start at 2648

/note=SSC: 2648-3013 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_SWISH\_4 [Mycobacterium phage Swish] ],,NCBI, q1:s1 100.0% 5.21618E-83 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.625, -4.16062280240617, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_SWISH\_4 [Mycobacterium phage Swish] ],,YP\_009187514,100.0,5.21618E-83 SIF-HHPRED: SIF-Syn: Badfish, Banjo, Bishoperium, Bluephacebaby

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 84759

CDS 3081 - 3218

/gene="5"

/product="gp5"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_5"

/note=Original Glimmer call @bp 3081 has strength 11.16; Genemark calls start at 3081

/note=SSC: 3081-3218 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_5 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 1.6623E-25 GAP: 67 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.89, -4.9912573797770525, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_5 [Mycobacterium phage PG1] ],,NP\_943783,100.0,1.6623E-25 SIF-HHPRED: SIF-Syn: ABU, Badfish, Buckeye

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 84776

CDS complement (3365 - 3919)

/gene="6"

/product="gp6"

/function="RuvC-like resolvase"

/locus tag="Matalotodo\_6"

/note=Original Glimmer call @bp 3919 has strength 10.4; Genemark calls start at 3874

/note=SSC: 3919-3365 CP: no SCS: both-gl ST: SS BLAST-Start: [RuvC-like Holliday junction resolvase [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 9.10557E-132 GAP: 46 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.718, -5.989254565642423, no F: RuvC-like resolvase SIF-BLAST: ,,[RuvC-like Holliday junction resolvase [Mycobacterium phage PG1] ],,NP\_943784,100.0,9.10557E-132 SIF-HHPRED: c.55.3.6 (A:) RuvC resolvase {Escherichia coli [TaxId: 562]} | CLASS: Alpha and beta proteins (a/b), FOLD: Ribonuclease H-like motif, SUPFAM: Ribonuclease H-like, FAM: RuvC resolvase,,,SCOP\_d1hjra\_,89.6739,99.9 SIF-Syn: GeneCoco, Grand2040, Haimas

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator:157464

CDS 3966 - 4412

/gene="7"

/product="gp7"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_7"

/note=Original Glimmer call @bp 3966 has strength 12.88; Genemark calls start at 3966

/note=SSC: 3966-4412 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_7 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 1.34949E-99 GAP: 46 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.131, -5.157214975885267, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_7 [Mycobacterium phage PG1] ],,NP\_943785,100.0,1.34949E-99 SIF-HHPRED: SIF-Syn: ABU, Badfish, Buckeye

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 157487

CDS 4442 - 6361

/gene="8"

/product="gp8"

/function="portal protein"

/locus tag="Matalotodo\_8"

/note=Original Glimmer call @bp 4442 has strength 11.26; Genemark calls start at 4553

/note=SSC: 4442-6361 CP: no SCS: both-gl ST: SS BLAST-Start: [portal protein [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 0.0 GAP: 29 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.363, -5.137709570437598, no F: portal protein SIF-BLAST: ,,[portal protein [Mycobacterium phage PG1] ],,NP\_943786,100.0,0.0 SIF-HHPRED: SIF-Syn: Grand2040, Haimas, Hamish

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 155968

CDS 6361 - 8934

/gene="9"

/product="gp9"

/function="capsid maturation protease"

/locus tag="Matalotodo\_9"

/note=Original Glimmer call @bp 6361 has strength 10.54; Genemark calls start at 6646

/note=SSC: 6361-8934 CP: no SCS: both-gl ST: SS BLAST-Start: [capsid maturation protease and MuF-like fusion protein [Mycobacterium phage Haimas] ],,NCBI, q1:s1 100.0% 0.0 GAP: -1 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.044, -4.759312672633257, no F: capsid maturation protease SIF-BLAST: ,,[capsid maturation protease and MuF-like fusion protein [Mycobacterium phage Haimas] ],,AUV60413,100.0,0.0 SIF-HHPRED: SIF-Syn:

/note=ask! This is correct. Olivia, please add notes, Vipa

CDS 8944 - 9378

/gene="10"

/product="gp10"

/function="HNH endonuclease"

/locus tag="Matalotodo\_10"

/note=

/note=SSC: 8944-9378 CP: no SCS: neither ST: NI BLAST-Start: [HNH endonuclease [Mycobacterium phage JacAttac] ],,NCBI, q1:s1 100.0% 5.32322E-99 GAP: 9 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.388, -6.354315264641582, no F: HNH endonuclease SIF-BLAST: ,,[HNH endonuclease [Mycobacterium phage JacAttac] ],,YP\_009018323,100.0,5.32322E-99 SIF-HHPRED: SIF-Syn:

/note=This gene has been added by Vipa.

/note=Olivia, please add notes.

CDS 9507 - 9644

/gene="11"

/product="gp11"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_11"

/note=Original Glimmer call @bp 9507 has strength 5.96; Genemark calls start at 9507

/note=SSC: 9507-9644 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_11 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 1.14923E-20 GAP: 128 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.807, -6.259298611403883, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_11 [Mycobacterium phage PG1] ],,NP\_943789,100.0,1.14923E-20 SIF-HHPRED: SIF-Syn: Orion, OSmaximus, PG1

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 84814

CDS 9758 - 11503

/gene="12"

/product="gp12"

/function="major capsid hexamer protein"

/locus tag="Matalotodo\_12"

/note=Original Glimmer call @bp 9758 has strength 11.47; Genemark calls start at 9758

/note=SSC: 9758-11503 CP: no SCS: both ST: SS BLAST-Start: [major head protein [Mycobacterium phage Eremos] ],,NCBI, q1:s1 100.0% 0.0 GAP: 113 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 3.153, -2.794070146961553, yes F: major capsid hexamer protein SIF-BLAST: ,,[major head protein [Mycobacterium phage Eremos] ],,YP\_009191106,100.0,0.0 SIF-HHPRED: SIF-Syn:

/note=ask dr vipa.

/note=Olivia, this is correct, please add notes, Vipa

CDS 11603 - 12400

/gene="13"

/product="gp13"

/function="major capsid pentamer protein"

/locus tag="Matalotodo\_13"

/note=Original Glimmer call @bp 11603 has strength 12.99; Genemark calls start at 11603

/note=SSC: 11603-12400 CP: no SCS: both ST: NI BLAST-Start: [major capsid pentamer protein [Mycobacterium phage Adriana]],,NCBI, q1:s1 100.0% 0.0 GAP: 99 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.736, -3.3472632858563953, yes F: major capsid pentamer protein SIF-BLAST: ,,[major capsid pentamer protein [Mycobacterium phage Adriana]],,QNO12024,100.0,0.0 SIF-HHPRED: SIF-Syn: Adrianna, Anderson, CamL

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 157479

CDS 12412 - 13248

/gene="14"

/product="gp14"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_14"

/note=Original Glimmer call @bp 12412 has strength 11.84; Genemark calls start at 12412

/note=SSC: 12412-13248 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein CL95\_gp014 [Mycobacterium phage JacAttac] ],,NCBI, q1:s1 100.0% 0.0 GAP: 11 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.22, -4.466674028236667, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein CL95\_gp014 [Mycobacterium phage JacAttac] ],,YP\_009018327,100.0,0.0 SIF-HHPRED: SIF-Syn: ABU, Adrianna, JackAttac

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 156038

CDS 13248 - 13637

/gene="15"

/product="gp15"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_15"

/note=Original Glimmer call @bp 13248 has strength 12.15; Genemark calls start at 13248

/note=SSC: 13248-13637 CP: no SCS: both ST: SS BLAST-Start: [tail length tape measure protein [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 2.37514E-83 GAP: -1 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.682, -3.534757715066017, yes F: Hypothetical Protein SIF-BLAST: ,,[tail length tape measure protein [Mycobacterium phage PG1] ],,NP\_943793,100.0,2.37514E-83 SIF-HHPRED: SIF-Syn: OliverWalter, Omniscient, Oosterbaan

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator:157501

CDS 13696 - 13995

/gene="16"

/product="gp16"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_16"

/note=Original Glimmer call @bp 13696 has strength 11.9; Genemark calls start at 13696

/note=SSC: 13696-13995 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein CL79\_gp015 [Mycobacterium phage Oline] ],,NCBI, q1:s18 100.0% 8.7884E-64 GAP: 58 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.627, -6.1738183420872526, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein CL79\_gp015 [Mycobacterium phage Oline] ],,YP\_009014277,85.3448,8.7884E-64 SIF-HHPRED: SIF-Syn: Nicole 21, Numberton, Nyala

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 157776

CDS 13992 - 14468

/gene="17"

/product="gp17"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_17"

/note=Original Glimmer call @bp 13992 has strength 10.5; Genemark calls start at 13992

/note=SSC: 13992-14468 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein SEA\_PINHEADLARRY\_17 [Mycobacterium phage PinheadLarry] ],,NCBI, q1:s1 100.0% 1.73404E-111 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.153, -4.522979412939132, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_PINHEADLARRY\_17 [Mycobacterium phage PinheadLarry] ],,AXH69253,77.451,1.73404E-111 SIF-HHPRED: SIF-Syn: Adrianna, PinheadLarry, ABU

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 157495

CDS 14694 - 15494

/gene="18"

/product="gp18"

/function="major tail protein"

/locus tag="Matalotodo\_18"

/note=Original Glimmer call @bp 14694 has strength 13.23; Genemark calls start at 14694

/note=SSC: 14694-15494 CP: no SCS: both ST: SS BLAST-Start: [major tail protein [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 0.0 GAP: 225 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.493, -3.8362837638757656, no F: major tail protein SIF-BLAST: ,,[major tail protein [Mycobacterium phage PG1] ],,NP\_943796,100.0,0.0 SIF-HHPRED: SIF-Syn: Newman, Nicole21, Numberten

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 155971

CDS complement (15554 - 15784)

/gene="19"

/product="gp19"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_19"

/note=Genemark calls start at 15784

/note=SSC: 15784-15554 CP: no SCS: genemark ST: SS BLAST-Start: [hypothetical protein VISTA\_19 [Mycobacterium phage Vista] ],,NCBI, q1:s1 100.0% 9.51674E-43 GAP: 77 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 3.135, -3.30700010583914, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein VISTA\_19 [Mycobacterium phage Vista] ],,YP\_009016808,100.0,9.51674E-43 SIF-HHPRED: SIF-Syn: Emiris, EmpTee, Eremos

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 76668

CDS complement (15862 - 16638)

/gene="20"

/product="gp20"

/function="dpdA-like tRNA-guanine transglycosylase"

/locus tag="Matalotodo\_20"

/note=Original Glimmer call @bp 16638 has strength 10.92; Genemark calls start at 16638

/note=SSC: 16638-15862 CP: no SCS: both ST: SS BLAST-Start: [queuine tRNA-ribosyltransferase [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 0.0 GAP: 56 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.817, -3.1832926594765674, yes F: dpdA-like tRNA-guanine transglycosylase SIF-BLAST: ,,[queuine tRNA-ribosyltransferase [Mycobacterium phage PG1] ],,NP\_943798,100.0,0.0 SIF-HHPRED: Queuine tRNA-ribosyltransferase; tm1561, Queuine tRNA-ribosyltransferase, tRNA-guanine, Structural Genomics, Joint Center for Structural Genomics, JCSG, Protein Structure Initiative, PSI; HET: EDO; 1.9A {Thermotoga maritima} SCOP: c.1.20.1,,,2ASH\_C,92.2481,99.9 SIF-Syn:

/note=ASK -edited by Vipa- ok

/note=Olivia, please add notes.

CDS complement (16695 - 16958)

/gene="21"

/product="gp21"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_21"

/note=Original Glimmer call @bp 16958 has strength 11.41; Genemark calls start at 16958

/note=SSC: 16958-16695 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_21 [Mycobacterium phage PG1] ],,NCBI, q1:s13 100.0% 7.79423E-53 GAP: 109 bp gap LO: no RBS: Kibler 6, Karlin Medium, 3.135, -3.30700010583914, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_21 [Mycobacterium phage PG1] ],,NP\_943799,87.8788,7.79423E-53 SIF-HHPRED: SIF-Syn: Charles1, Cher, Childish

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 252

CDS 17068 - 17805

/gene="22"

/product="gp22"

/function="head-to-tail adaptor"

/locus tag="Matalotodo\_22"

/note=Original Glimmer call @bp 17068 has strength 14.18; Genemark calls start at 17068

/note=SSC: 17068-17805 CP: no SCS: both ST: NI BLAST-Start: [head-tail adaptor [Mycobacterium phage Vista] ],,NCBI, q1:s1 100.0% 3.58937E-175 GAP: 109 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.872, -5.679831809821832, no F: head-to-tail adaptor SIF-BLAST: ,,[head-tail adaptor [Mycobacterium phage Vista] ],,YP\_009016811,100.0,3.58937E-175 SIF-HHPRED: SIF-Syn: ABU, Adrianna, Anderson

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator:155969

CDS 17805 - 18323

/gene="23"

/product="gp23"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_23"

/note=Original Glimmer call @bp 17805 has strength 7.52; Genemark calls start at 17805

/note=SSC: 17805-18323 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein M046\_gp23 [Mycobacterium phage Newman] ],,NCBI, q1:s1 100.0% 8.17407E-123 GAP: -1 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.132, -4.582905859694018, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein M046\_gp23 [Mycobacterium phage Newman] ],,YP\_008052100,100.0,8.17407E-123 SIF-HHPRED: SIF-Syn: Lasso, LeeLot,Lego3393

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 157480

CDS 18339 - 18668

/gene="24"

/product="gp24"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_24"

/note=Original Glimmer call @bp 18339 has strength 16.71; Genemark calls start at 18333

/note=SSC: 18339-18668 CP: no SCS: both-gl ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_24 [Mycobacterium phage PG1] ],,NCBI, q1:s3 100.0% 1.60604E-72 GAP: 15 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.462, -3.898968357315439, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_24 [Mycobacterium phage PG1] ],,NP\_943802,98.1982,1.60604E-72 SIF-HHPRED: SIF-Syn: Held, Hertubise, Hetaeria, Highstump

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator:155987

CDS 18673 - 19095

/gene="25"

/product="gp25"

/function="tail assembly chaperone"

/locus tag="Matalotodo\_25"

/note=Original Glimmer call @bp 18673 has strength 5.75; Genemark calls start at 18673

/note=SSC: 18673-19095 CP: no SCS: both ST: SS BLAST-Start: [tail assembly chaperone [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 4.40307E-96 GAP: 4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.807, -5.6852673436761645, no F: tail assembly chaperone SIF-BLAST: ,,[tail assembly chaperone [Mycobacterium phage PG1] ],,NP\_943803,100.0,4.40307E-96 SIF-HHPRED: SIF-Syn: Melc17, Mesh1, MitKao

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 157463

/note=Not LORF

CDS 19146 - 19709

/gene="26"

/product="gp26"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_26"

/note=Original Glimmer call @bp 19146 has strength 15.26; Genemark calls start at 19146

/note=SSC: 19146-19709 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein MURDOC\_26 [Mycobacterium phage Murdoc] ],,NCBI, q1:s1 100.0% 8.93187E-130 GAP: 50 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.893, -3.0301037898918786, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein MURDOC\_26 [Mycobacterium phage Murdoc] ],,AEO93968,100.0,8.93187E-130 SIF-HHPRED: SIF-Syn: Cosomolli16, Dati, Etaye

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 152800

/note=not LORF

CDS complement (19774 - 20115)

/gene="27"

/product="gp27"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_27"

/note=Original Glimmer call @bp 20115 has strength 11.19; Genemark calls start at 20115

/note=SSC: 20115-19774 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_27 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 5.12545E-77 GAP: 119 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.893, -3.0301037898918786, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_27 [Mycobacterium phage PG1] ],,NP\_943805,100.0,5.12545E-77 SIF-HHPRED: SIF-Syn: Lumine, Manard, Maru

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator: 84764

/note=not LORF

CDS 20235 - 26213

/gene="28"

/product="gp28"

/function="tape measure protein"

/locus tag="Matalotodo\_28"

/note=Original Glimmer call @bp 20235 has strength 13.08; Genemark calls start at 20235

/note=SSC: 20235-26213 CP: no SCS: both ST: SS BLAST-Start: [tape measure protein [Mycobacterium phage Adriana]],,NCBI, q1:s1 100.0% 0.0 GAP: 119 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 0.939, -7.560645402102623, no F: tape measure protein SIF-BLAST: ,,[tape measure protein [Mycobacterium phage Adriana]],,QNO12039,100.0,0.0 SIF-HHPRED: SIF-Syn: Adrianna, DirtJuice, Oosterbaan

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator:100

CDS 26223 - 27656

/gene="29"

/product="gp29"

/function="minor tail protein"

/locus tag="Matalotodo\_29"

/note=Original Glimmer call @bp 26223 has strength 9.95; Genemark calls start at 26223

/note=SSC: 26223-27656 CP: no SCS: both ST: SS BLAST-Start: [minor tail protein [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 0.0 GAP: 9 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.473, -3.8137921535956054, no F: minor tail protein SIF-BLAST: ,,[minor tail protein [Mycobacterium phage PG1] ],,NP\_943807,100.0,0.0 SIF-HHPRED: SIF-Syn: Lego3393, LemonSlice, LosutandPhound

/note=Primary annotator: Olivia Sidoti

/note=

/note=Secondary annotator: Hsin-Ho Wei

/note=

/note=Starterator:126538

CDS 27653 - 28765

/gene="30"

/product="gp30"

/function="minor tail protein"

/locus tag="Matalotodo\_30"

/note=Original Glimmer call @bp 27653 has strength 12.01; Genemark calls start at 27653

/note=SSC: 27653-28765 CP: no SCS: both ST: SS BLAST-Start: [minor tail protein [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 0.0 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.269, -4.366951073888695, no F: minor tail protein SIF-BLAST: ,,[minor tail protein [Mycobacterium phage PG1] ],,NP\_943808,100.0,0.0 SIF-HHPRED: SIF-Syn: Iridoclysis, Katniss, KingTut

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 137506

CDS 28762 - 31017

/gene="31"

/product="gp31"

/function="minor tail protein"

/locus tag="Matalotodo\_31"

/note=Original Glimmer call @bp 28762 has strength 16.71; Genemark calls start at 28762

/note=SSC: 28762-31017 CP: no SCS: both ST: SS BLAST-Start: [minor tail protein [Mycobacterium phage Vista] ],,NCBI, q1:s1 100.0% 0.0 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.044, -4.741583905672826, no F: minor tail protein SIF-BLAST: ,,[minor tail protein [Mycobacterium phage Vista] ],,YP\_009016820,100.0,0.0 SIF-HHPRED: SIF-Syn: Cannibal, Fang, Inchworm

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 154383

CDS 31021 - 32367

/gene="32"

/product="gp32"

/function="minor tail protein"

/locus tag="Matalotodo\_32"

/note=Original Glimmer call @bp 31021 has strength 12.06; Genemark calls start at 31021

/note=SSC: 31021-32367 CP: no SCS: both ST: SS BLAST-Start: [minor tail protein [Mycobacterium phage Vista] ],,NCBI, q1:s1 100.0% 0.0 GAP: 3 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.565, -3.628472733356124, yes F: minor tail protein SIF-BLAST: ,,[minor tail protein [Mycobacterium phage Vista] ],,YP\_009016821,100.0,0.0 SIF-HHPRED: SIF-Syn: Fang, Giraffe, Inchworm, Lasso

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 141

CDS 32370 - 33530

/gene="33"

/product="gp33"

/function="minor tail protein"

/locus tag="Matalotodo\_33"

/note=Original Glimmer call @bp 32370 has strength 11.52; Genemark calls start at 32370

/note=SSC: 32370-33530 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein ABU\_33 [Mycobacterium phage ABU] ],,NCBI, q1:s1 100.0% 0.0 GAP: 2 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.544, -3.75071250087134, no F: minor tail protein SIF-BLAST: ,,[hypothetical protein ABU\_33 [Mycobacterium phage ABU] ],,AEJ94199,100.0,0.0 SIF-HHPRED: SIF-Syn: Horchata, Usavi, BlackStallion

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157459

CDS 33561 - 33950

/gene="34"

/product="gp34"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_34"

/note=Original Glimmer call @bp 33561 has strength 10.39; Genemark calls start at 33561

/note=SSC: 33561-33950 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein SEA\_ABSOLUTEMADLAD\_33 [Mycobacterium phage AbsoluteMadLad]],,NCBI, q1:s1 100.0% 2.21314E-85 GAP: 30 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.151, -4.52735728736575, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_ABSOLUTEMADLAD\_33 [Mycobacterium phage AbsoluteMadLad]],,QDK02326,100.0,2.21314E-85 SIF-HHPRED: SIF-Syn: Crownjwl, DaddyDaniels, DoesntMatter

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 84641

CDS 33959 - 34345

/gene="35"

/product="gp35"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_35"

/note=Original Glimmer call @bp 33959 has strength 7.65; Genemark calls start at 33959

/note=SSC: 33959-34345 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_35 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 6.39928E-87 GAP: 8 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.879, -3.523800704818996, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_35 [Mycobacterium phage PG1] ],,NP\_943813,100.0,6.39928E-87 SIF-HHPRED: SIF-Syn: ABU, BlackStallion, Chorkpop

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157491

CDS 34345 - 34992

/gene="36"

/product="gp36"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_36"

/note=Original Glimmer call @bp 34345 has strength 11.29; Genemark calls start at 34345

/note=SSC: 34345-34992 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein VISTA\_36 [Mycobacterium phage Vista] ],,NCBI, q1:s2 100.0% 1.7294E-153 GAP: -1 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.921, -5.008614874058139, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein VISTA\_36 [Mycobacterium phage Vista] ],,YP\_009016825,99.537,1.7294E-153 SIF-HHPRED: SIF-Syn: BlackStallion, CheetO, Chorkpop

/note=Not LORF

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157451

CDS 34989 - 35588

/gene="37"

/product="gp37"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_37"

/note=Original Glimmer call @bp 34989 has strength 9.57; Genemark calls start at 34989

/note=SSC: 34989-35588 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_37 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 2.90323E-143 GAP: -4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.704, -3.4892599424135016, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_37 [Mycobacterium phage PG1] ],,NP\_943815,100.0,2.90323E-143 SIF-HHPRED: SIF-Syn: Lasso, KLucky39, LeeLot

/note=Not LORF

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157451

/note=Same Starterator as Gene 37

CDS 35585 - 36208

/gene="38"

/product="gp38"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_38"

/note=Original Glimmer call @bp 35585 has strength 13.65; Genemark calls start at 35585

/note=SSC: 35585-36208 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_38 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 3.69024E-150 GAP: -4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.195, -4.515700363413541, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_38 [Mycobacterium phage PG1] ],,NP\_943816,100.0,3.69024E-150 SIF-HHPRED: SIF-Syn: ABU, Badfish, BlackStallion

/note=Not LORF

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 97496

CDS 36242 - 36610

/gene="39"

/product="gp39"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_39"

/note=Original Glimmer call @bp 36242 has strength 7.52; Genemark calls start at 36242

/note=SSC: 36242-36610 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_39 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 2.47378E-82 GAP: 33 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.267, -4.291708691156382, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_39 [Mycobacterium phage PG1] ],,NP\_943817,100.0,2.47378E-82 SIF-HHPRED: SIF-Syn: Buckeye, Cobra, Giraffe

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 87

CDS 36610 - 36921

/gene="40"

/product="gp40"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_40"

/note=Original Glimmer call @bp 36607 has strength 13.14; Genemark calls start at 36610

/note=SSC: 36610-36921 CP: no SCS: both-gm ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_40 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 7.66081E-71 GAP: -1 bp gap LO: no RBS: Kibler 6, Karlin Medium, 0.855, -7.729469243963458, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_40 [Mycobacterium phage PG1] ],,NP\_943818,100.0,7.66081E-71 SIF-HHPRED: SIF-Syn: Newman, Olive, OliverWalter

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157484

/note=Glimmer and GeneMark do not align

/note=Not LORF

CDS 36961 - 37368

/gene="41"

/product="gp41"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_41"

/note=Original Glimmer call @bp 36961 has strength 13.72; Genemark calls start at 36961

/note=SSC: 36961-37368 CP: no SCS: both ST: SS BLAST-Start: [tail fiber protein [Mycobacterium phage Suffolk] ],,NCBI, q1:s1 100.0% 1.54064E-89 GAP: 39 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 0.964, -7.686541325332291, no F: Hypothetical Protein SIF-BLAST: ,,[tail fiber protein [Mycobacterium phage Suffolk] ],,YP\_009005688,100.0,1.54064E-89 SIF-HHPRED: SIF-Syn: Badfish, BlackStallion, Buckeye

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 81

CDS 37368 - 38489

/gene="42"

/product="gp42"

/function="minor tail protein"

/locus tag="Matalotodo\_42"

/note=Original Glimmer call @bp 37368 has strength 13.97; Genemark calls start at 37368

/note=SSC: 37368-38489 CP: no SCS: both ST: SS BLAST-Start: [minor tail protein [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 0.0 GAP: -1 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.269, -5.832333925337114, no F: minor tail protein SIF-BLAST: ,,[minor tail protein [Mycobacterium phage PG1] ],,NP\_943820,99.7319,0.0 SIF-HHPRED: SIF-Syn: Magic8, Megatron, Morty

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 162

CDS complement (38471 - 38689)

/gene="43"

/product="gp43"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_43"

/note=Original Glimmer call @bp 38689 has strength 7.99; Genemark calls start at 38689

/note=SSC: 38689-38471 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_43 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 1.21385E-45 GAP: 1 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.129, -4.648810450802306, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_43 [Mycobacterium phage PG1] ],,NP\_943821,100.0,1.21385E-45 SIF-HHPRED: SIF-Syn: Nacho, Newman, OliverWalter

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 84773

/note=Not LORF

CDS complement (38691 - 38996)

/gene="44"

/product="gp44"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_44"

/note=Genemark calls start at 38996

/note=SSC: 38996-38691 CP: no SCS: genemark ST: NI BLAST-Start: [hypothetical protein M046\_gp44 [Mycobacterium phage Newman] ],,NCBI, q1:s1 100.0% 1.51801E-67 GAP: -16 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.553, -5.732215622514941, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein M046\_gp44 [Mycobacterium phage Newman] ],,YP\_008052121,100.0,1.51801E-67 SIF-HHPRED: SIF-Syn: Fringe, Gophee, Hamish

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 240

/note=Not LORF

/note=Transmembrane protein?

CDS complement (38981 - 39196)

/gene="45"

/product="gp45"

/function="helix-turn-helix DNA binding domain"

/locus tag="Matalotodo\_45"

/note=Genemark calls start at 39196

/note=SSC: 39196-38981 CP: no SCS: genemark ST: SS BLAST-Start: [DNA binding protein [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 2.80741E-43 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.233, -4.299059343200891, yes F: helix-turn-helix DNA binding domain SIF-BLAST: ,,[DNA binding protein [Mycobacterium phage PG1] ],,NP\_943823,100.0,2.80741E-43 SIF-HHPRED: SIF-Syn: OliverWalter, Phamished, Orion

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157493

CDS complement (39193 - 39720)

/gene="46"

/product="gp46"

/function="helix-turn-helix DNA binding domain"

/locus tag="Matalotodo\_46"

/note=Original Glimmer call @bp 39720 has strength 6.57; Genemark calls start at 39618

/note=SSC: 39720-39193 CP: no SCS: both-gl ST: SS BLAST-Start: [HTH DNA binding protein [Mycobacterium phage Vista] ],,NCBI, q1:s1 100.0% 9.35299E-126 GAP: 0 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.786, -5.199270502016708, no F: helix-turn-helix DNA binding domain SIF-BLAST: ,,[HTH DNA binding protein [Mycobacterium phage Vista] ],,YP\_009016835,100.0,9.35299E-126 SIF-HHPRED: SIF-Syn: BatteryCK, Buckeye, Hamish

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157488

/note=GeneMark and Glimmer don`t match

CDS complement (39721 - 40365)

/gene="47"

/product="gp47"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_47"

/note=Original Glimmer call @bp 40365 has strength 11.81; Genemark calls start at 40281

/note=SSC: 40365-39721 CP: no SCS: both-gl ST: SS BLAST-Start: [hypothetical protein OOSTERBAAN\_47 [Mycobacterium phage Oosterbaan] ],,NCBI, q1:s1 100.0% 7.99521E-154 GAP: 14 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.031, -5.357422825422568, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein OOSTERBAAN\_47 [Mycobacterium phage Oosterbaan] ],,AEK07231,100.0,7.99521E-154 SIF-HHPRED: SIF-Syn: LeeLot, Mosaic, Giraffe

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157500

/note=GeneMark and Glimmer don`t match.

CDS 40380 - 41696

/gene="48"

/product="gp48"

/function="lysin A"

/locus tag="Matalotodo\_48"

/note=Original Glimmer call @bp 40380 has strength 14.06; Genemark calls start at 40389

/note=SSC: 40380-41696 CP: no SCS: both-gl ST: SS BLAST-Start: [endolysin [Mycobacterium phage UncleHowie] ],,NCBI, q1:s1 100.0% 0.0 GAP: 14 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.117, -6.6911890489421815, no F: lysin A SIF-BLAST: ,,[endolysin [Mycobacterium phage UncleHowie] ],,YP\_009168228,100.0,0.0 SIF-HHPRED: SIF-Syn: Cher, Surely, True, LemonSlice

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157506

/note=Not LORF

/note=GeneMark and Glimmer don`t match.

/note=Shares synteny with Matalotodo\_Draft 48

CDS 41706 - 43061

/gene="49"

/product="gp49"

/function="lysin B"

/locus tag="Matalotodo\_49"

/note=Original Glimmer call @bp 41706 has strength 16.19; Genemark calls start at 41706

/note=SSC: 41706-43061 CP: no SCS: both ST: SS BLAST-Start: [lysin B [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 0.0 GAP: 9 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.22, -4.325675514574479, no F: lysin B SIF-BLAST: ,,[lysin B [Mycobacterium phage PG1] ],,NP\_943828,100.0,0.0 SIF-HHPRED: SIF-Syn: Fozzie, Freya, Haleema

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157476

CDS complement (43163 - 43783)

/gene="50"

/product="gp50"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_50"

/note=Original Glimmer call @bp 43783 has strength 11.41; Genemark calls start at 43783

/note=SSC: 43783-43163 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_51 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 8.52675E-148 GAP: 57 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 3.396, -2.305049668942183, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_51 [Mycobacterium phage PG1] ],,NP\_943829,100.0,8.52675E-148 SIF-HHPRED: SIF-Syn: Nacho, Mulan, OliverWalter

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 84763

CDS complement (43841 - 45244)

/gene="51"

/product="gp51"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_51"

/note=Original Glimmer call @bp 45244 has strength 10.33; Genemark calls start at 45244

/note=SSC: 45244-43841 CP: no SCS: both ST: SS BLAST-Start: [exonuclease [Mycobacterium phage Vista] ],,NCBI, q1:s1 100.0% 0.0 GAP: 2 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.842, -4.1725816037952645, no F: Hypothetical Protein SIF-BLAST: ,,[exonuclease [Mycobacterium phage Vista] ],,YP\_009016840,100.0,0.0 SIF-HHPRED: SIF-Syn: Buckeye, Brilliant, ABU

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 155997

/note=Not LORF

/note=

/note=Pham calls for function, but frequency is too low for all of them. BLAST calls for exonuclease.

CDS complement (45247 - 46950)

/gene="52"

/product="gp52"

/function="DNA helicase"

/locus tag="Matalotodo\_52"

/note=Original Glimmer call @bp 46950 has strength 11.88; Genemark calls start at 46926

/note=SSC: 46950-45247 CP: no SCS: both-gl ST: SS BLAST-Start: [DNA helicase [Mycobacterium phage ShiVal] ],,NCBI, q1:s1 100.0% 0.0 GAP: 154 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.03, -5.359635173663297, no F: DNA helicase SIF-BLAST: ,,[DNA helicase [Mycobacterium phage ShiVal] ],,YP\_009189290,100.0,0.0 SIF-HHPRED: SIF-Syn: BlackStallion, Cannibal, Cobra

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 155993

/note=Not LORF

/note=Glimmer and GeneMark don`t match.

CDS complement (47105 - 47320)

/gene="53"

/product="gp53"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_53"

/note=Original Glimmer call @bp 47320 has strength 12.62; Genemark calls start at 47320

/note=SSC: 47320-47105 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein Gyarad\_0053 [Mycobacterium phage Gyarad]],,NCBI, q1:s4 100.0% 8.73963E-44 GAP: -4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.103, -4.702334767722353, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein Gyarad\_0053 [Mycobacterium phage Gyarad]],,AGC34117,95.9459,8.73963E-44 SIF-HHPRED: SIF-Syn: Basato, AltPhacts, Buckeye

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 84757

/note=Not LORF

CDS complement (47317 - 47994)

/gene="54"

/product="gp54"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_54"

/note=Original Glimmer call @bp 47994 has strength 10.83; Genemark calls start at 48003

/note=SSC: 47994-47317 CP: no SCS: both-gl ST: SS BLAST-Start: [hypothetical protein SEA\_DONSANCHON\_53 [Mycobacterium phage DonSanchon]],,NCBI, q1:s4 100.0% 7.10628E-160 GAP: -4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.074, -4.760102963860426, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_DONSANCHON\_53 [Mycobacterium phage DonSanchon]],,AXH67571,97.807,7.10628E-160 SIF-HHPRED: SIF-Syn: LeeLot, Zelda, Banjo

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 84885

/note=Not LORF

/note=Glimmer and GeneMark don`t agree.

/note=Matalotodo\_Draft 54 shows synteny.

CDS complement (47991 - 48362)

/gene="55"

/product="gp55"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_55"

/note=Original Glimmer call @bp 48362 has strength 7.03; Genemark calls start at 48359

/note=SSC: 48362-47991 CP: no SCS: both-gl ST: SS BLAST-Start: [hypothetical protein CL95\_gp057 [Mycobacterium phage JacAttac] ],,NCBI, q1:s1 100.0% 2.04234E-83 GAP: -7 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.268, -7.152505364463731, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein CL95\_gp057 [Mycobacterium phage JacAttac] ],,YP\_009018370,100.0,2.04234E-83 SIF-HHPRED: SIF-Syn: Bishoperium, BluePhaceBaby, BlackStallion

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 155967

/note=Not LORF

/note=GeneMark and Glimmer don`t agree

CDS complement (48356 - 48646)

/gene="56"

/product="gp56"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_56"

/note=Original Glimmer call @bp 48646 has strength 12.96; Genemark calls start at 48646

/note=SSC: 48646-48356 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_58 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 9.76838E-64 GAP: 75 bp gap LO: no RBS: Kibler 6, Karlin Medium, 3.396, -2.0162541296952132, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_58 [Mycobacterium phage PG1] ],,NP\_943836,100.0,9.76838E-64 SIF-HHPRED: SIF-Syn: Kahve, Held, Jillium

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 84614

/note=Not LORF

CDS complement (48722 - 51529)

/gene="57"

/product="gp57"

/function="DNA primase/helicase"

/locus tag="Matalotodo\_57"

/note=Original Glimmer call @bp 51529 has strength 10.89; Genemark calls start at 51469

/note=SSC: 51529-48722 CP: no SCS: both-gl ST: SS BLAST-Start: [DNA primase/helicase [Mycobacterium phage Chah] ],,NCBI, q1:s1 100.0% 0.0 GAP: 78 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.653, -5.549308351661481, no F: DNA primase/helicase SIF-BLAST: ,,[DNA primase/helicase [Mycobacterium phage Chah] ],,ACI12780,100.0,0.0 SIF-HHPRED: SIF-Syn: CamL, Jillium, Gareth

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 84

/note=Glimmer and GeneMark don`t agree

/note=Synteny with Matalotodo\_Draft 57

CDS complement (51608 - 52195)

/gene="58"

/product="gp58"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_58"

/note=Original Glimmer call @bp 52195 has strength 10.4; Genemark calls start at 52195

/note=SSC: 52195-51608 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein KNT94\_gp51 [Mycobacterium phage KingTut] ],,NCBI, q1:s1 100.0% 3.33778E-139 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.723, -3.662072209942156, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein KNT94\_gp51 [Mycobacterium phage KingTut] ],,YP\_010096564,100.0,3.33778E-139 SIF-HHPRED: SIF-Syn: Placalicious, FugateOSU, LostAndPhound

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 156215

CDS complement (52192 - 52707)

/gene="59"

/product="gp59"

/function="HNH endonuclease"

/locus tag="Matalotodo\_59"

/note=Original Glimmer call @bp 52707 has strength 2.2; Genemark calls start at 52572

/note=SSC: 52707-52192 CP: no SCS: both-gl ST: SS BLAST-Start: [HNH endonuclease [Mycobacterium phage KingTut] ],,NCBI, q1:s1 100.0% 5.10169E-123 GAP: 8 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.898, -5.6271655479161415, no F: HNH endonuclease SIF-BLAST: ,,[HNH endonuclease [Mycobacterium phage KingTut] ],,YP\_010096565,100.0,5.10169E-123 SIF-HHPRED: SIF-Syn:

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 84773

/note=Not LORF

/note=Glimmer and GeneMark don`t agree.

CDS complement (52716 - 54575)

/gene="60"

/product="gp60"

/function="DNA polymerase I"

/locus tag="Matalotodo\_60"

/note=Original Glimmer call @bp 54575 has strength 11.11; Genemark calls start at 54575

/note=SSC: 54575-52716 CP: no SCS: both ST: SS BLAST-Start: [DNA polymerase I [Mycobacterium phage KingTut] ],,NCBI, q1:s1 100.0% 0.0 GAP: -4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.972, -4.887586077132851, no F: DNA polymerase I SIF-BLAST: ,,[DNA polymerase I [Mycobacterium phage KingTut] ],,YP\_010096566,100.0,0.0 SIF-HHPRED: SIF-Syn: Buckeye, FugateOSU, Placalicious

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 155949

/note=Not LORF

CDS complement (54572 - 55030)

/gene="61"

/product="gp61"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_61"

/note=Original Glimmer call @bp 55030 has strength 10.56; Genemark calls start at 55030

/note=SSC: 55030-54572 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein Nacho\_0063 [Mycobacterium phage Nacho] ],,NCBI, q1:s1 100.0% 4.1838E-106 GAP: -8 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.394, -6.052573904196192, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein Nacho\_0063 [Mycobacterium phage Nacho] ],,AGC34017,100.0,4.1838E-106 SIF-HHPRED: SIF-Syn: Adriana, ABU, Anderson

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 157499

CDS complement (55023 - 55145)

/gene="62"

/product="gp62"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_62"

/note=Original Glimmer call @bp 55145 has strength 3.8

/note=SSC: 55145-55023 CP: no SCS: glimmer ST: SS BLAST-Start: [hypothetical protein Nacho\_0064 [Mycobacterium phage Nacho] ],,NCBI, q1:s1 100.0% 5.08548E-19 GAP: -23 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.888, -6.29944796767998, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein Nacho\_0064 [Mycobacterium phage Nacho] ],,AGC34018,100.0,5.08548E-19 SIF-HHPRED: SIF-Syn: YouGoGlenCoco, LemonSlice, Katniss

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 861

/note=Not LORF

/note=GeneMark missing

CDS complement (55123 - 55275)

/gene="63"

/product="gp63"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_63"

/note=Genemark calls start at 55275

/note=SSC: 55275-55123 CP: no SCS: genemark ST: NI BLAST-Start: [hypothetical protein AU159\_gp061 [Mycobacterium phage Colbert] ],,NCBI, q1:s1 100.0% 2.31207E-27 GAP: -1 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.544, -3.75071250087134, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein AU159\_gp061 [Mycobacterium phage Colbert] ],,YP\_009191055,100.0,2.31207E-27 SIF-HHPRED: SIF-Syn: Fang, Kimbrough, CheetO

/note=Primary annotator: Isabella Lima

/note=Secondary annotator: Hsin-Ho Wei

/note=Starterator: 274

/note=Not LORF

/note=Glimmer missing

CDS complement (55275 - 55631)

/gene="64"

/product="gp64"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_64"

/note=Original Glimmer call @bp 55631 has strength 12.07; Genemark calls start at 55631

/note=SSC: 55631-55275 CP: no SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_64 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 1.6506E-77 GAP: 112 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.625, -4.16062280240617, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_64 [Mycobacterium phage PG1] ],,NP\_943842,100.0,1.6506E-77 SIF-HHPRED: SIF-Syn: Fang, Freya, FugateOSU

/note=Primary annotator: Vipa Phuntumart

/note=Secondary annotator: Hsin-Ho Wei

/note=Tertiary annotator: Isabella Lima

/note=Staterator: 154439

/note=Not LORF

CDS complement (55744 - 56103)

/gene="65"

/product="gp65"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_65"

/note=Original Glimmer call @bp 56103 has strength 8.19; Genemark calls start at 56103

/note=SSC: 56103-55744 CP: yes SCS: both ST: SS BLAST-Start: [hypothetical protein SEA\_PLACALICIOUS\_66 [Mycobacterium phage Placalicious]],,NCBI, q1:s1 100.0% 2.92979E-79 GAP: 742 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.336, -7.414018157293358, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_PLACALICIOUS\_66 [Mycobacterium phage Placalicious]],,AXH46357,99.1597,2.92979E-79 SIF-HHPRED: SIF-Syn: Synteny with Placalicious, Vista, and Hetaeria.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 151672

CDS 56846 - 57610

/gene="66"

/product="gp66"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_66"

/note=Original Glimmer call @bp 56846 has strength 14.87; Genemark calls start at 56879

/note=SSC: 56846-57610 CP: no SCS: both-gl ST: SS BLAST-Start: [hypothetical protein UNCLEHOWIE\_64 [Mycobacterium phage UncleHowie] ],,NCBI, q1:s1 100.0% 0.0 GAP: 742 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.885, -4.999580582756301, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein UNCLEHOWIE\_64 [Mycobacterium phage UncleHowie] ],,YP\_009168244,100.0,0.0 SIF-HHPRED: SIF-Syn: Synteny with Adriana, AltPhacts, and BlueHusk.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 151661

CDS 57745 - 57924

/gene="67"

/product="gp67"

/function="helix-turn-helix DNA binding domain"

/locus tag="Matalotodo\_67"

/note=Original Glimmer call @bp 57745 has strength 5.37; Genemark calls start at 57787

/note=SSC: 57745-57924 CP: yes SCS: both-gl ST: SS BLAST-Start: [hypothetical protein Gyarad\_0067 [Mycobacterium phage Gyarad] ],,NCBI, q1:s1 100.0% 4.38544E-34 GAP: 134 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.475, -3.8100388651815202, yes F: helix-turn-helix DNA binding domain SIF-BLAST: ,,[hypothetical protein Gyarad\_0067 [Mycobacterium phage Gyarad] ],,AGC34129,100.0,4.38544E-34 SIF-HHPRED: SIF-Syn: Synteny with Altphacts, Basato, and Chorkpop

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 150018

CDS 57927 - 58103

/gene="68"

/product="gp68"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_68"

/note=Original Glimmer call @bp 57927 has strength 10.37; Genemark calls start at 57927

/note=SSC: 57927-58103 CP: yes SCS: both ST: SS BLAST-Start: [hypothetical protein M046\_gp67 [Mycobacterium phage Newman] ],,NCBI, q1:s3 100.0% 7.30658E-34 GAP: 2 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.209, -4.99877661786583, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein M046\_gp67 [Mycobacterium phage Newman] ],,YP\_008052144,96.6667,7.30658E-34 SIF-HHPRED: SIF-Syn: Synteny with Eremos, Fozzie, and Frankicide.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 84796

CDS 58087 - 58311

/gene="69"

/product="gp69"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_69"

/note=Original Glimmer call @bp 58087 has strength 6.66; Genemark calls start at 58096

/note=SSC: 58087-58311 CP: yes SCS: both-gl ST: SS BLAST-Start: [hypothetical protein PIGLET\_0070 [Mycobacterium phage Piglet] ],,NCBI, q1:s1 100.0% 1.65367E-47 GAP: -17 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.656, -4.273662315714763, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PIGLET\_0070 [Mycobacterium phage Piglet] ],,AGC33930,100.0,1.65367E-47 SIF-HHPRED: SIF-Syn: Synteny with GeneCoco, Megatron, and PhatCats2014.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 150204

CDS 58308 - 59015

/gene="70"

/product="gp70"

/function="DNA binding protein"

/locus tag="Matalotodo\_70"

/note=Original Glimmer call @bp 58308 has strength 12.28; Genemark calls start at 58308

/note=SSC: 58308-59015 CP: yes SCS: both ST: SS BLAST-Start: [Rnase E [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 2.08617E-164 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.493, -4.4261092987867166, no F: DNA binding protein SIF-BLAST: ,,[Rnase E [Mycobacterium phage PG1] ],,NP\_943848,100.0,2.08617E-164 SIF-HHPRED: SIF-Syn: Synteny with Badfish, Chah, and Charles1.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 152796

CDS 58996 - 59589

/gene="71"

/product="gp71"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_71"

/note=Original Glimmer call @bp 58996 has strength 9.75; Genemark calls start at 59008

/note=SSC: 58996-59589 CP: yes SCS: both-gl ST: SS BLAST-Start: [hypothetical protein AVV57\_gp71 [Mycobacterium phage Phipps] ],,NCBI, q1:s1 100.0% 4.05816E-140 GAP: -20 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.074, -6.776160445074205, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein AVV57\_gp71 [Mycobacterium phage Phipps] ],,YP\_009211869,100.0,4.05816E-140 SIF-HHPRED: SIF-Syn: Synteny with Empee, FriarPreacher, Phipps.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 84772

CDS 59586 - 60008

/gene="72"

/product="gp72"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_72"

/note=Original Glimmer call @bp 59586 has strength 16.41; Genemark calls start at 59586

/note=SSC: 59586-60008 CP: yes SCS: both ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_72 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 6.28562E-94 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.493, -3.914968956777623, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_72 [Mycobacterium phage PG1] ],,NP\_943850,100.0,6.28562E-94 SIF-HHPRED: SIF-Syn: Synteny with Adriana, Anderson, and Buckeye.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 84781

CDS 60049 - 60177

/gene="73"

/product="gp73"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_73"

/note=Genemark calls start at 60049

/note=SSC: 60049-60177 CP: no SCS: genemark ST: SS BLAST-Start: [gp71 [Mycobacterium phage ShiVal] ],,NCBI, q1:s1 100.0% 4.31693E-22 GAP: 40 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.264, -6.779985282577503, no F: Hypothetical Protein SIF-BLAST: ,,[gp71 [Mycobacterium phage ShiVal] ],,YP\_009189309,100.0,4.31693E-22 SIF-HHPRED: SIF-Syn: Synteny with Aelin, Badfish, and BatteryCK

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 85754

CDS 60089 - 60556

/gene="74"

/product="gp74"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_74"

/note=Original Glimmer call @bp 60089 has strength 11.77; Genemark calls start at 60218

/note=SSC: 60089-60556 CP: no SCS: both-gl ST: SS BLAST-Start: [hypothetical protein SEA\_ADRIANA\_74 [Mycobacterium phage Adriana]],,NCBI, q1:s1 100.0% 1.10394E-101 GAP: -89 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.205, -6.898293885147568, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_ADRIANA\_74 [Mycobacterium phage Adriana]],,QNO12085,98.7097,1.10394E-101 SIF-HHPRED: SIF-Syn: Synteny with Banjo, Beaglebox, and Gophee.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 223

/note=Glimmer (60089) and GeneMark (60218) disagree

CDS 60558 - 61160

/gene="75"

/product="gp75"

/function="HNH endonuclease"

/locus tag="Matalotodo\_75"

/note=Original Glimmer call @bp 60558 has strength 13.51; Genemark calls start at 60558

/note=SSC: 60558-61160 CP: yes SCS: both ST: SS BLAST-Start: [hypothetical protein SEA\_GARETH\_75 [Mycobacterium phage Gareth] ],,NCBI, q1:s1 100.0% 8.89146E-143 GAP: 1 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.493, -6.892906635130683, no F: HNH endonuclease SIF-BLAST: ,,[hypothetical protein SEA\_GARETH\_75 [Mycobacterium phage Gareth] ],,AXC37596,99.5,8.89146E-143 SIF-HHPRED: SIF-Syn: Synteny with cher.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 131722

CDS 61219 - 61455

/gene="76"

/product="gp76"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_76"

/note=Original Glimmer call @bp 61219 has strength 5.76; Genemark calls start at 61219

/note=SSC: 61219-61455 CP: yes SCS: both ST: SS BLAST-Start: [hypothetical protein M046\_gp74 [Mycobacterium phage Newman] ],,NCBI, q1:s1 100.0% 1.34118E-44 GAP: 58 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.577, -6.149685647346648, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein M046\_gp74 [Mycobacterium phage Newman] ],,YP\_008052151,100.0,1.34118E-44 SIF-HHPRED: SIF-Syn: Synteny with Etaye, Fang, and Fozzie.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 150007

CDS complement (61531 - 61740)

/gene="77"

/product="gp77"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_77"

/note=Original Glimmer call @bp 61740 has strength 11.72; Genemark calls start at 61737

/note=SSC: 61740-61531 CP: yes SCS: both-gl ST: SS BLAST-Start: [hypothetical protein SEA\_DERPP\_77 [Mycobacterium phage Derpp] ],,NCBI, q1:s1 100.0% 9.45799E-42 GAP: 66 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.049, -4.731360067354143, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_DERPP\_77 [Mycobacterium phage Derpp] ],,AOQ28638,100.0,9.45799E-42 SIF-HHPRED: SIF-Syn: Synteny with Cobra, Derpp, and Labeouficaum.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 235

CDS complement (61807 - 62241)

/gene="78"

/product="gp78"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_78"

/note=Original Glimmer call @bp 62241 has strength 9.56; Genemark calls start at 62178

/note=SSC: 62241-61807 CP: yes SCS: both-gl ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_78 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 1.37718E-102 GAP: 38 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.993, -4.845388397338397, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_78 [Mycobacterium phage PG1] ],,NP\_943856,100.0,1.37718E-102 SIF-HHPRED: SIF-Syn: Synteny with Banjo, Buckeye, and Chah.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 226

CDS complement (62280 - 62423)

/gene="79"

/product="gp79"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_79"

/note=Genemark calls start at 62423

/note=SSC: 62423-62280 CP: yes SCS: genemark ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_79 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 1.26759E-22 GAP: 54 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.049, -4.669046746593814, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_79 [Mycobacterium phage PG1] ],,NP\_943857,100.0,1.26759E-22 SIF-HHPRED: SIF-Syn: Synteny with Adriana, Aelin, and Antonia.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 84733

CDS complement (62478 - 62741)

/gene="80"

/product="gp80"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_80"

/note=Genemark calls start at 62741

/note=SSC: 62741-62478 CP: yes SCS: genemark ST: SS BLAST-Start: [hypothetical protein PBI\_SUFFOLK\_77 [Mycobacterium phage Suffolk] ],,NCBI, q1:s1 100.0% 3.32879E-56 GAP: -4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.901, -2.952618745997422, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_SUFFOLK\_77 [Mycobacterium phage Suffolk] ],,YP\_009005724,100.0,3.32879E-56 SIF-HHPRED: SIF-Syn: Synteny with Manad, Mcshane, and Mecca.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 84777

CDS complement (62738 - 62899)

/gene="81"

/product="gp81"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_81"

/note=Genemark calls start at 62899

/note=SSC: 62899-62738 CP: yes SCS: genemark ST: SS BLAST-Start: [hypothetical protein SEA\_HAIMAS\_79 [Mycobacterium phage Haimas] ],,NCBI, q1:s1 100.0% 1.57047E-28 GAP: -1 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.972, -4.905314844093283, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_HAIMAS\_79 [Mycobacterium phage Haimas] ],,AUV60482,100.0,1.57047E-28 SIF-HHPRED: SIF-Syn: Synteny with Buckeye, Haimas, and Lulumae.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 324

CDS complement (62899 - 63129)

/gene="82"

/product="gp82"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_82"

/note=Original Glimmer call @bp 63129 has strength 11.75; Genemark calls start at 63129

/note=SSC: 63129-62899 CP: yes SCS: both ST: SS BLAST-Start: [hypothetical protein SEA\_PLACALICIOUS\_81 [Mycobacterium phage Placalicious]],,NCBI, q1:s1 100.0% 9.37277E-47 GAP: -8 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.544, -4.197870532213559, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_PLACALICIOUS\_81 [Mycobacterium phage Placalicious]],,AXH46372,100.0,9.37277E-47 SIF-HHPRED: SIF-Syn: Synteny with Placalicious, Adriana, and Buckeye.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 233

CDS complement (63122 - 63508)

/gene="83"

/product="gp83"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_83"

/note=Original Glimmer call @bp 63508 has strength 12.17; Genemark calls start at 63508

/note=SSC: 63508-63122 CP: yes SCS: both ST: SS BLAST-Start: [gp81 [Mycobacterium phage ShiVal] ],,NCBI, q1:s13 100.0% 4.0693E-87 GAP: 43 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.508, -4.84620968921826, yes F: Hypothetical Protein SIF-BLAST: ,,[gp81 [Mycobacterium phage ShiVal] ],,YP\_009189319,91.4286,4.0693E-87 SIF-HHPRED: SIF-Syn: Synteny with Craff, DaddyDaniels, and Dati.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 145362

CDS complement (63552 - 63854)

/gene="84"

/product="gp84"

/function="HNH endonuclease"

/locus tag="Matalotodo\_84"

/note=Genemark calls start at 63854

/note=SSC: 63854-63552 CP: yes SCS: genemark ST: SS BLAST-Start: [HNH endonuclease [Mycobacterium phage Vista] ],,NCBI, q1:s1 100.0% 8.56804E-66 GAP: 103 bp gap LO: no RBS: Kibler 6, Karlin Medium, 0.734, -7.383583060357374, no F: HNH endonuclease SIF-BLAST: ,,[HNH endonuclease [Mycobacterium phage Vista] ],,YP\_009016872,100.0,8.56804E-66 SIF-HHPRED: SIF-Syn: Synteny with LostAndPhound, LuckyMarjie, and Lulumae.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 148349

CDS complement (63958 - 64137)

/gene="85"

/product="gp85"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_85"

/note=Original Glimmer call @bp 64137 has strength 16.44; Genemark calls start at 64137

/note=SSC: 64137-63958 CP: yes SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_84 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 2.08724E-33 GAP: 12 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.819, -3.2575878860394365, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_84 [Mycobacterium phage PG1] ],,NP\_943862,100.0,2.08724E-33 SIF-HHPRED: SIF-Syn: Synteny with Childish, Cobra, and Cosmolli16.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 145356

CDS complement (64150 - 64383)

/gene="86"

/product="gp86"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_86"

/note=Original Glimmer call @bp 64383 has strength 12.36; Genemark calls start at 64383

/note=SSC: 64383-64150 CP: yes SCS: both ST: SS BLAST-Start: [hypothetical protein FLUFFYNINJA\_88 [Mycobacterium phage FluffyNinja] ],,NCBI, q1:s1 100.0% 8.13646E-48 GAP: 23 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.292, -6.277420236059764, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein FLUFFYNINJA\_88 [Mycobacterium phage FluffyNinja] ],,AJA43197,100.0,8.13646E-48 SIF-HHPRED: SIF-Syn: Synteny with Chunky, Dione, and FluffyNinja.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 150050

CDS complement (64407 - 64604)

/gene="87"

/product="gp87"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_87"

/note=Original Glimmer call @bp 64604 has strength 2.73

/note=SSC: 64604-64407 CP: no SCS: glimmer ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_86 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 2.53424E-38 GAP: -4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.106, -5.605355858791827, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_86 [Mycobacterium phage PG1] ],,NP\_943864,100.0,2.53424E-38 SIF-HHPRED: SIF-Syn: Synteny with Melc17, MelsMeow, and Mesh1.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 302

CDS complement (64601 - 64825)

/gene="88"

/product="gp88"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_88"

/note=Original Glimmer call @bp 64825 has strength 5.82; Genemark calls start at 64822

/note=SSC: 64825-64601 CP: yes SCS: both-gl ST: SS BLAST-Start: [hypothetical protein CL79\_gp088 [Mycobacterium phage Oline] ],,NCBI, q1:s1 100.0% 7.7283E-46 GAP: -7 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.972, -5.3524728754355015, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein CL79\_gp088 [Mycobacterium phage Oline] ],,YP\_009014350,100.0,7.7283E-46 SIF-HHPRED: SIF-Syn: Synteny with Aelin, Altwerkus, and Bishoperium.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 84783

CDS complement (64819 - 65004)

/gene="89"

/product="gp89"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_89"

/note=Original Glimmer call @bp 65004 has strength 8.76; Genemark calls start at 65004

/note=SSC: 65004-64819 CP: yes SCS: both ST: SS BLAST-Start: [hypothetical protein PBI\_PG1\_88 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 2.73704E-35 GAP: -4 bp gap LO: no RBS: Kibler 6, Karlin Medium, 1.694, -5.526354990944362, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_88 [Mycobacterium phage PG1] ],,NP\_943866,100.0,2.73704E-35 SIF-HHPRED: SIF-Syn: Synteny with JangoPhett, Jillium, and Jiminy.

/note=Primary annotator: Sam Rutherford

/note=Secondary annotator: Hsin-Ho Wei

/note=Staterator: 84771

CDS complement (65001 - 65222)

/gene="90"

/product="gp90"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_90"

/note=Original Glimmer call @bp 65222 has strength 15.42; Genemark calls start at 65222

/note=SSC: 65222-65001 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_89 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 9.37119E-46 GAP: 120 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.362, -4.101388555093469, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_89 [Mycobacterium phage PG1] ],,NP\_943867,100.0,9.37119E-46 SIF-HHPRED: SIF-Syn:

/note=Primary annotator: Vipa Phuntumart Hsin-Ho Wei

/note=Secondary annotator, QC: Hsin-Ho Wei

/note=Starterator: 145355

CDS complement (65343 - 65645)

/gene="91"

/product="gp91"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_91"

/note=Original Glimmer call @bp 65645 has strength 10.61; Genemark calls start at 65645

/note=SSC: 65645-65343 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_90 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 6.34902E-67 GAP: 31 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.974, -2.803819842751721, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_90 [Mycobacterium phage PG1] ],,NP\_943868,100.0,6.34902E-67 SIF-HHPRED: SIF-Syn:

CDS complement (65677 - 65874)

/gene="92"

/product="gp92"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_92"

/note=Original Glimmer call @bp 65874 has strength 9.78; Genemark calls start at 65811

/note=SSC: 65874-65677 CP: no SCS: both-gl ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_91 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 3.24837E-39 GAP: 67 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 3.084, -3.109529858048176, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_91 [Mycobacterium phage PG1] ],,NP\_943869,100.0,3.24837E-39 SIF-HHPRED: SIF-Syn:

CDS complement (65942 - 66217)

/gene="93"

/product="gp93"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_93"

/note=Original Glimmer call @bp 66217 has strength 6.53; Genemark calls start at 66202

/note=SSC: 66217-65942 CP: no SCS: both-gl ST: NI BLAST-Start: [hypothetical protein SEA\_LUMINE\_\_95 [Mycobacterium phage Lumine]],,NCBI, q1:s1 100.0% 2.85611E-57 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 2.131, -5.6063075070046855, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_LUMINE\_\_95 [Mycobacterium phage Lumine]],,WKW86272,100.0,2.85611E-57 SIF-HHPRED: SIF-Syn:

CDS complement (66214 - 66459)

/gene="94"

/product="gp94"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_94"

/note=Original Glimmer call @bp 66459 has strength 7.08; Genemark calls start at 66459

/note=SSC: 66459-66214 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_93 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 1.47735E-49 GAP: 38 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.974, -2.8838619304724817, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_93 [Mycobacterium phage PG1] ],,NP\_943871,100.0,1.47735E-49 SIF-HHPRED: SIF-Syn:

CDS complement (66498 - 66854)

/gene="95"

/product="gp95"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_95"

/note=Original Glimmer call @bp 66854 has strength 15.56; Genemark calls start at 66854

/note=SSC: 66854-66498 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein M046\_gp91 [Mycobacterium phage Newman] ],,NCBI, q1:s1 100.0% 1.26786E-81 GAP: 162 bp gap LO: no RBS: Kibler 6, Karlin Medium, 3.295, -2.297359520375101, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein M046\_gp91 [Mycobacterium phage Newman] ],,YP\_008052168,100.0,1.26786E-81 SIF-HHPRED: SIF-Syn:

CDS complement (67017 - 67748)

/gene="96"

/product="gp96"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_96"

/note=Original Glimmer call @bp 67748 has strength 13.62; Genemark calls start at 67748

/note=SSC: 67748-67017 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein SEA\_BUCKEYE\_95 [Mycobacterium phage Buckeye] ],,NCBI, q1:s1 100.0% 1.70537E-173 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.972, -4.905314844093283, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein SEA\_BUCKEYE\_95 [Mycobacterium phage Buckeye] ],,AXH43922,100.0,1.70537E-173 SIF-HHPRED: SIF-Syn:

CDS complement (67745 - 67924)

/gene="97"

/product="gp97"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_97"

/note=Original Glimmer call @bp 67924 has strength 8.99; Genemark calls start at 67924

/note=SSC: 67924-67745 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_96 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 2.10651E-31 GAP: -4 bp gap LO: yes RBS: Kibler 6, Karlin Medium, 1.443, -5.972387497942108, no F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_96 [Mycobacterium phage PG1] ],,NP\_943874,100.0,2.10651E-31 SIF-HHPRED: SIF-Syn:

CDS complement (67921 - 68157)

/gene="98"

/product="gp98"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_98"

/note=Original Glimmer call @bp 68157 has strength 16.12; Genemark calls start at 68157

/note=SSC: 68157-67921 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein PIGLET\_0098 [Mycobacterium phage Piglet] ],,NCBI, q1:s28 100.0% 8.24004E-51 GAP: 52 bp gap LO: no RBS: Kibler 6, Karlin Medium, 3.217, -3.222210725506937, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PIGLET\_0098 [Mycobacterium phage Piglet] ],,AGC33958,74.2857,8.24004E-51 SIF-HHPRED: SIF-Syn:

CDS complement (68210 - 68611)

/gene="99"

/product="gp99"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_99"

/note=Original Glimmer call @bp 68611 has strength 10.64; Genemark calls start at 68611

/note=SSC: 68611-68210 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_98 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 6.23918E-93 GAP: 2 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.565, -3.769471247018311, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_98 [Mycobacterium phage PG1] ],,NP\_943876,100.0,6.23918E-93 SIF-HHPRED: SIF-Syn:

CDS complement (68614 - 68952)

/gene="100"

/product="gp100"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_100"

/note=Original Glimmer call @bp 68952 has strength 14.55; Genemark calls start at 68952

/note=SSC: 68952-68614 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein PBI\_PG1\_99 [Mycobacterium phage PG1] ],,NCBI, q1:s1 100.0% 4.18431E-76 GAP: 64 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.974, -3.6320499574786824, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein PBI\_PG1\_99 [Mycobacterium phage PG1] ],,NP\_943877,100.0,4.18431E-76 SIF-HHPRED: SIF-Syn:

CDS complement (69017 - 69214)

/gene="101"

/product="gp101"

/function="Hypothetical Protein"

/locus tag="Matalotodo\_101"

/note=Original Glimmer call @bp 69214 has strength 11.72; Genemark calls start at 69214

/note=SSC: 69214-69017 CP: no SCS: both ST: NI BLAST-Start: [hypothetical protein M046\_gp97 [Mycobacterium phage Newman] ],,NCBI, q1:s1 100.0% 2.94256E-39 GAP: 0 bp gap LO: no RBS: Kibler 6, Karlin Medium, 2.725, -3.3060637489568596, yes F: Hypothetical Protein SIF-BLAST: ,,[hypothetical protein M046\_gp97 [Mycobacterium phage Newman] ],,YP\_008052174,100.0,2.94256E-39 SIF-HHPRED: SIF-Syn:

BASE COUNT 11662 a 22776 c 23292 g 11593 t

ORIGIN