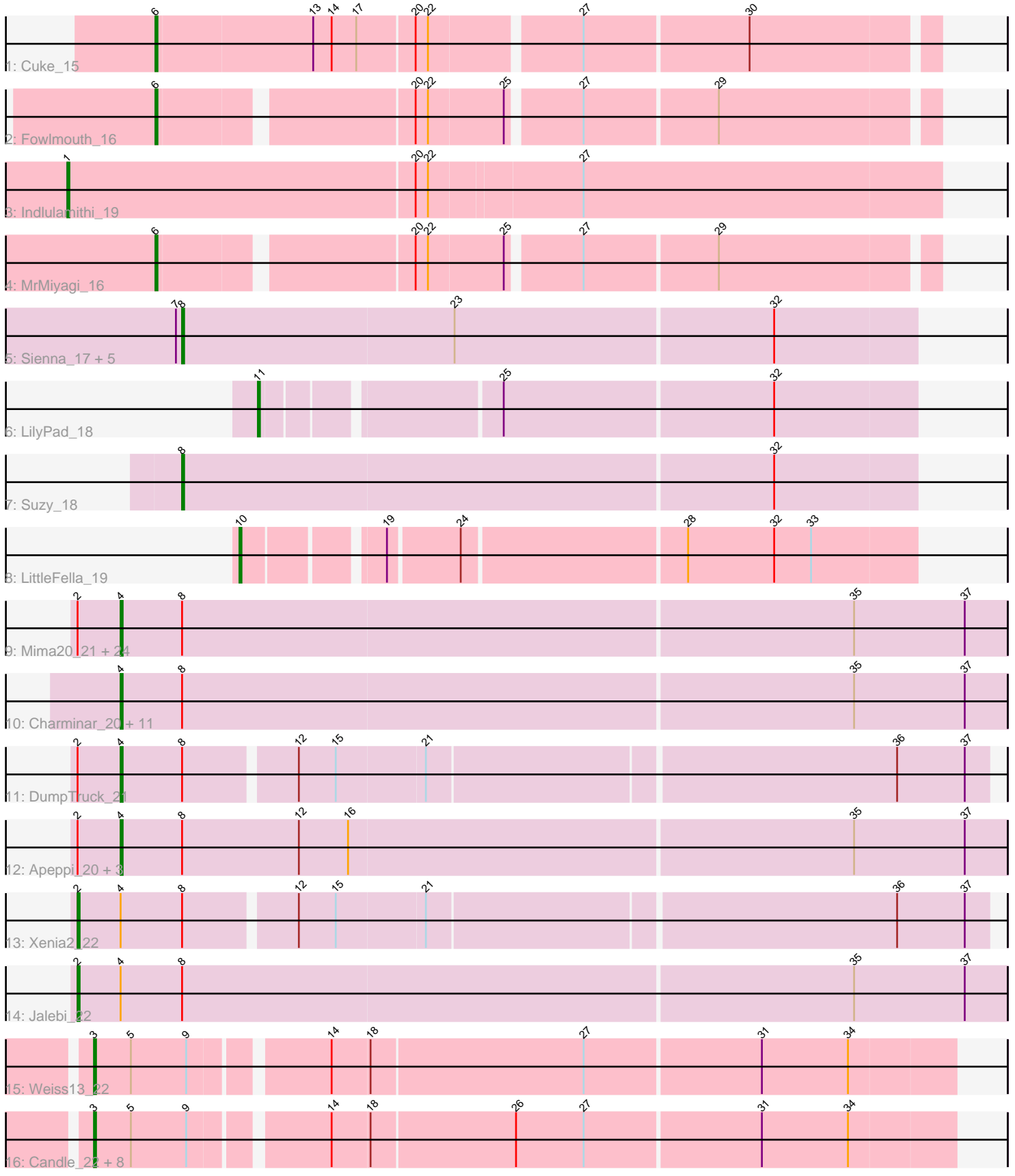


Pham 311579



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 311579 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311579 has 67 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Cuke_15
- Track 2 : Fowlmouth_16
- Track 3 : Indlulamithi_19
- Track 4 : MrMiyagi_16
- Track 5 : Sienna_17, Djokovic_17, Madi_17, BiteSize_17, Beyoncage_17, Terapin_17
- Track 6 : LilyPad_18
- Track 7 : Suzy_18
- Track 8 : LittleFella_19
- Track 9 : Mima20_21, Erutan_22, Gibbin_23, GretelLyn_22, Rukungu_22, LavAbarElk_20, BirthdayBoy_23, Lila22_22, Pywacket_21, GOATification_23, Sadboi_22, OtterstedtS21_22, Zany_21, Fulcrum_23, MoiGyank_24, Yikes_23, Ranch_22, Patos_23, ParvusTarda_22, NorManre_23, Rota_21, Alephilan_20, Sampudon_22, DaviePasture_22, DoobyDoo_21
- Track 10 : Charminar_20, Alyssamiracle_21, Rumi_21, Riduram_20, Avian_20, Genamy16_21, Lambo_22, NovaSharks_21, Jamemuya19_20, Stormer_20, Astralis_20, RazorC_20
- Track 11 : DumpTruck_21
- Track 12 : Apeppi_20, Wojtek_21, LuckyLeo_21, Tillicus_22
- Track 13 : Xenia2_22
- Track 14 : Jalebi_22
- Track 15 : Weiss13_22
- Track 16 : Candle_22, Riparian_22, MontyDev_22, Zenon_23, Yelo_22, Papyrus_22, Send513_22, Rope_22, Nilo_23

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 4, it was called in 37 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alephilan_20, Alyssamiracle_21, Apeppi_20, Astralis_20, Avian_20, BirthdayBoy_23, Charminar_20, DaviePasture_22, DoobyDoo_21, DumpTruck_21, Erutan_22, Fulcrum_23, GOATification_23, Genamy16_21, Gibbin_23, GretelLyn_22,

Jamemuya19_20, Lambo_22, LavAbarElk_20, Lila22_22, LuckyLeo_21, Mima20_21, MoiGyank_24, NorManre_23, NovaSharks_21, OtterstedtS21_22, ParvusTarda_22, Patos_23, Pywacket_21, Ranch_22, RazorC_20, Riduram_20, Rota_21, Rukungu_22, Rumi_21, Sadboi_22, Sampudon_22, Stormer_20, Tillicus_22, Wojtek_21, Yikes_23, Zany_21,

Genes that have the "Most Annotated" start but do not call it:

- Jalebi_22, Xenia2_22,

Genes that do not have the "Most Annotated" start:

- Beyoncage_17, BiteSize_17, Candle_22, Cuke_15, Djokovic_17, Fowlmouth_16, Indlulamithi_19, LilyPad_18, LittleFella_19, Madi_17, MontyDev_22, MrMiyagi_16, Nilo_23, Papyrus_22, Riparian_22, Rope_22, Send513_22, Sienna_17, Suzy_18, Terapin_17, Weiss13_22, Yelo_22, Zenon_23,

Summary by start number:

Start 1:

- Found in 1 of 67 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Indlulamithi_19 (AC),

Start 2:

- Found in 32 of 67 (47.8%) of genes in pham
- Manual Annotations of this start: 2 of 62
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Jalebi_22 (DV), Xenia2_22 (DV),

Start 3:

- Found in 10 of 67 (14.9%) of genes in pham
- Manual Annotations of this start: 10 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Candle_22 (R), MontyDev_22 (R), Nilo_23 (R), Papyrus_22 (R), Riparian_22 (R), Rope_22 (R), Send513_22 (R), Weiss13_22 (R), Yelo_22 (R), Zenon_23 (R),

Start 4:

- Found in 44 of 67 (65.7%) of genes in pham
- Manual Annotations of this start: 37 of 62
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Alephilan_20 (DV), Alyssamiracle_21 (DV), Apeppi_20 (DV), Astralis_20 (DV), Avian_20 (DV), BirthdayBoy_23 (DV), Charminar_20 (DV), DaviePasture_22 (DV), DoobyDoo_21 (DV), DumpTruck_21 (DV), Erutan_22 (DV), Fulcrum_23 (DV), GOATification_23 (DV), Genamy16_21 (DV), Gibbin_23 (DV), GretelLyn_22 (DV), Jamemuya19_20 (DV), Lambo_22 (DV), LavAbarElk_20 (DV), Lila22_22 (DV), LuckyLeo_21 (DV), Mima20_21 (DV), MoiGyank_24 (DV), NorManre_23 (DV), NovaSharks_21 (DV), OtterstedtS21_22 (DV), ParvusTarda_22 (DV), Patos_23 (DV), Pywacket_21 (DV), Ranch_22 (DV), RazorC_20 (DV), Riduram_20 (DV), Rota_21 (DV), Rukungu_22 (DV), Rumi_21 (DV), Sadboi_22 (DV), Sampudon_22 (DV), Stormer_20 (DV), Tillicus_22 (DV), Wojtek_21 (DV), Yikes_23 (DV), Zany_21 (DV),

Start 6:

- Found in 3 of 67 (4.5%) of genes in pham
- Manual Annotations of this start: 3 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cuke_15 (AC), Fowlmouth_16 (AC), MrMiyagi_16 (AC),

Start 8:

- Found in 51 of 67 (76.1%) of genes in pham
- Manual Annotations of this start: 7 of 62
- Called 13.7% of time when present
- Phage (with cluster) where this start called: Beyoncage_17 (DG1), BiteSize_17 (DG1), Djokovic_17 (DG1), Madi_17 (DG1), Sienna_17 (DG1), Suzy_18 (DG1), Terapin_17 (DG1),

Start 10:

- Found in 1 of 67 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleFella_19 (DG2),

Start 11:

- Found in 1 of 67 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilyPad_18 (DG1),

Summary by clusters:

There are 5 clusters represented in this pham: DV, DG2, AC, R, DG1,

Info for manual annotations of cluster AC:

- Start number 1 was manually annotated 1 time for cluster AC.
- Start number 6 was manually annotated 3 times for cluster AC.

Info for manual annotations of cluster DG1:

- Start number 8 was manually annotated 7 times for cluster DG1.
- Start number 11 was manually annotated 1 time for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 10 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

- Start number 2 was manually annotated 2 times for cluster DV.
- Start number 4 was manually annotated 37 times for cluster DV.

Info for manual annotations of cluster R:

- Start number 3 was manually annotated 10 times for cluster R.

Gene Information:

Gene: Alephilan_20 Start: 14429, Stop: 14857, Start Num: 4
Candidate Starts for Alephilan_20:
(Start: 2 @14408 has 2 MA's), (Start: 4 @14429 has 37 MA's), (Start: 8 @14459 has 7 MA's), (35, 14783), (37, 14837),

Gene: Alyssamiracle_21 Start: 12835, Stop: 13263, Start Num: 4
Candidate Starts for Alyssamiracle_21:
(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: Apeppi_20 Start: 14551, Stop: 14979, Start Num: 4
Candidate Starts for Apeppi_20:
(Start: 2 @14530 has 2 MA's), (Start: 4 @14551 has 37 MA's), (Start: 8 @14581 has 7 MA's), (12, 14638), (16, 14662), (35, 14905), (37, 14959),

Gene: Astralis_20 Start: 12835, Stop: 13263, Start Num: 4
Candidate Starts for Astralis_20:
(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: Avian_20 Start: 12835, Stop: 13263, Start Num: 4
Candidate Starts for Avian_20:
(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: Beyoncage_17 Start: 10309, Stop: 10662, Start Num: 8
Candidate Starts for Beyoncage_17:
(7, 10306), (Start: 8 @10309 has 7 MA's), (23, 10441), (32, 10594),

Gene: BirthdayBoy_23 Start: 15282, Stop: 15710, Start Num: 4
Candidate Starts for BirthdayBoy_23:
(Start: 2 @15261 has 2 MA's), (Start: 4 @15282 has 37 MA's), (Start: 8 @15312 has 7 MA's), (35, 15636), (37, 15690),

Gene: BiteSize_17 Start: 10309, Stop: 10662, Start Num: 8
Candidate Starts for BiteSize_17:
(7, 10306), (Start: 8 @10309 has 7 MA's), (23, 10441), (32, 10594),

Gene: Candle_22 Start: 14349, Stop: 14750, Start Num: 3
Candidate Starts for Candle_22:
(Start: 3 @14349 has 10 MA's), (5, 14367), (9, 14394), (14, 14454), (18, 14472), (26, 14541), (27, 14574), (31, 14658), (34, 14700),

Gene: Charminar_20 Start: 12835, Stop: 13263, Start Num: 4
Candidate Starts for Charminar_20:
(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: Cuke_15 Start: 9542, Stop: 9904, Start Num: 6
Candidate Starts for Cuke_15:
(Start: 6 @9542 has 3 MA's), (13, 9617), (14, 9626), (17, 9638), (20, 9665), (22, 9671), (27, 9740), (30, 9818),

Gene: DaviePasture_22 Start: 15039, Stop: 15467, Start Num: 4
Candidate Starts for DaviePasture_22:
(Start: 2 @15018 has 2 MA's), (Start: 4 @15039 has 37 MA's), (Start: 8 @15069 has 7 MA's), (35, 15393), (37, 15447),

Gene: Djokovic_17 Start: 10309, Stop: 10662, Start Num: 8
Candidate Starts for Djokovic_17:
(7, 10306), (Start: 8 @10309 has 7 MA's), (23, 10441), (32, 10594),

Gene: DoobyDoo_21 Start: 14216, Stop: 14644, Start Num: 4
Candidate Starts for DoobyDoo_21:
(Start: 2 @14195 has 2 MA's), (Start: 4 @14216 has 37 MA's), (Start: 8 @14246 has 7 MA's), (35, 14570), (37, 14624),

Gene: DumpTruck_21 Start: 14470, Stop: 14877, Start Num: 4
Candidate Starts for DumpTruck_21:
(Start: 2 @14449 has 2 MA's), (Start: 4 @14470 has 37 MA's), (Start: 8 @14500 has 7 MA's), (12, 14551), (15, 14569), (21, 14611), (36, 14833), (37, 14866),

Gene: Erutan_22 Start: 14729, Stop: 15157, Start Num: 4
Candidate Starts for Erutan_22:
(Start: 2 @14708 has 2 MA's), (Start: 4 @14729 has 37 MA's), (Start: 8 @14759 has 7 MA's), (35, 15083), (37, 15137),

Gene: Fowlmouth_16 Start: 9713, Stop: 10066, Start Num: 6
Candidate Starts for Fowlmouth_16:
(Start: 6 @9713 has 3 MA's), (20, 9827), (22, 9833), (25, 9869), (27, 9902), (29, 9965),

Gene: Fulcrum_23 Start: 15262, Stop: 15690, Start Num: 4
Candidate Starts for Fulcrum_23:
(Start: 2 @15241 has 2 MA's), (Start: 4 @15262 has 37 MA's), (Start: 8 @15292 has 7 MA's), (35, 15616), (37, 15670),

Gene: GOATification_23 Start: 15262, Stop: 15690, Start Num: 4
Candidate Starts for GOATification_23:
(Start: 2 @15241 has 2 MA's), (Start: 4 @15262 has 37 MA's), (Start: 8 @15292 has 7 MA's), (35, 15616), (37, 15670),

Gene: Genamy16_21 Start: 12835, Stop: 13263, Start Num: 4
Candidate Starts for Genamy16_21:
(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: Gibbin_23 Start: 15322, Stop: 15750, Start Num: 4
Candidate Starts for Gibbin_23:
(Start: 2 @15301 has 2 MA's), (Start: 4 @15322 has 37 MA's), (Start: 8 @15352 has 7 MA's), (35, 15676), (37, 15730),

Gene: Gretellyn_22 Start: 15596, Stop: 16024, Start Num: 4
Candidate Starts for Gretellyn_22:
(Start: 2 @15575 has 2 MA's), (Start: 4 @15596 has 37 MA's), (Start: 8 @15626 has 7 MA's), (35, 15950), (37, 16004),

Gene: Indlulamithi_19 Start: 11796, Stop: 12215, Start Num: 1
Candidate Starts for Indlulamithi_19:
(Start: 1 @11796 has 1 MA's), (20, 11964), (22, 11970), (27, 12042),

Gene: Jalebi_22 Start: 15751, Stop: 16200, Start Num: 2

Candidate Starts for Jalebi_22:

(Start: 2 @15751 has 2 MA's), (Start: 4 @15772 has 37 MA's), (Start: 8 @15802 has 7 MA's), (35, 16126), (37, 16180),

Gene: Jamemuya19_20 Start: 12835, Stop: 13263, Start Num: 4

Candidate Starts for Jamemuya19_20:

(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: Lambo_22 Start: 15265, Stop: 15693, Start Num: 4

Candidate Starts for Lambo_22:

(Start: 4 @15265 has 37 MA's), (Start: 8 @15295 has 7 MA's), (35, 15619), (37, 15673),

Gene: LavAbarElk_20 Start: 13699, Stop: 14127, Start Num: 4

Candidate Starts for LavAbarElk_20:

(Start: 2 @13678 has 2 MA's), (Start: 4 @13699 has 37 MA's), (Start: 8 @13729 has 7 MA's), (35, 14053), (37, 14107),

Gene: Lila22_22 Start: 15220, Stop: 15648, Start Num: 4

Candidate Starts for Lila22_22:

(Start: 2 @15199 has 2 MA's), (Start: 4 @15220 has 37 MA's), (Start: 8 @15250 has 7 MA's), (35, 15574), (37, 15628),

Gene: LilyPad_18 Start: 11024, Stop: 11326, Start Num: 11

Candidate Starts for LilyPad_18:

(Start: 11 @11024 has 1 MA's), (25, 11129), (32, 11258),

Gene: LittleFella_19 Start: 12893, Stop: 13201, Start Num: 10

Candidate Starts for LittleFella_19:

(Start: 10 @12893 has 1 MA's), (19, 12953), (24, 12986), (28, 13091), (32, 13133), (33, 13151),

Gene: LuckyLeo_21 Start: 14551, Stop: 14979, Start Num: 4

Candidate Starts for LuckyLeo_21:

(Start: 2 @14530 has 2 MA's), (Start: 4 @14551 has 37 MA's), (Start: 8 @14581 has 7 MA's), (12, 14638), (16, 14662), (35, 14905), (37, 14959),

Gene: Madi_17 Start: 10309, Stop: 10662, Start Num: 8

Candidate Starts for Madi_17:

(7, 10306), (Start: 8 @10309 has 7 MA's), (23, 10441), (32, 10594),

Gene: Mima20_21 Start: 14949, Stop: 15377, Start Num: 4

Candidate Starts for Mima20_21:

(Start: 2 @14928 has 2 MA's), (Start: 4 @14949 has 37 MA's), (Start: 8 @14979 has 7 MA's), (35, 15303), (37, 15357),

Gene: MoiGyank_24 Start: 15633, Stop: 16061, Start Num: 4

Candidate Starts for MoiGyank_24:

(Start: 2 @15612 has 2 MA's), (Start: 4 @15633 has 37 MA's), (Start: 8 @15663 has 7 MA's), (35, 15987), (37, 16041),

Gene: MontyDev_22 Start: 14007, Stop: 14408, Start Num: 3

Candidate Starts for MontyDev_22:

(Start: 3 @14007 has 10 MA's), (5, 14025), (9, 14052), (14, 14112), (18, 14130), (26, 14199), (27, 14232), (31, 14316), (34, 14358),

Gene: MrMiyagi_16 Start: 9714, Stop: 10067, Start Num: 6

Candidate Starts for MrMiyagi_16:

(Start: 6 @9714 has 3 MA's), (20, 9828), (22, 9834), (25, 9870), (27, 9903), (29, 9966),

Gene: Nilo_23 Start: 14346, Stop: 14747, Start Num: 3

Candidate Starts for Nilo_23:

(Start: 3 @14346 has 10 MA's), (5, 14364), (9, 14391), (14, 14451), (18, 14469), (26, 14538), (27, 14571), (31, 14655), (34, 14697),

Gene: NorManre_23 Start: 14828, Stop: 15256, Start Num: 4

Candidate Starts for NorManre_23:

(Start: 2 @14807 has 2 MA's), (Start: 4 @14828 has 37 MA's), (Start: 8 @14858 has 7 MA's), (35, 15182), (37, 15236),

Gene: NovaSharks_21 Start: 12835, Stop: 13263, Start Num: 4

Candidate Starts for NovaSharks_21:

(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: OtterstedtS21_22 Start: 14918, Stop: 15346, Start Num: 4

Candidate Starts for OtterstedtS21_22:

(Start: 2 @14897 has 2 MA's), (Start: 4 @14918 has 37 MA's), (Start: 8 @14948 has 7 MA's), (35, 15272), (37, 15326),

Gene: Papyrus_22 Start: 14008, Stop: 14409, Start Num: 3

Candidate Starts for Papyrus_22:

(Start: 3 @14008 has 10 MA's), (5, 14026), (9, 14053), (14, 14113), (18, 14131), (26, 14200), (27, 14233), (31, 14317), (34, 14359),

Gene: ParvusTarda_22 Start: 14400, Stop: 14828, Start Num: 4

Candidate Starts for ParvusTarda_22:

(Start: 2 @14379 has 2 MA's), (Start: 4 @14400 has 37 MA's), (Start: 8 @14430 has 7 MA's), (35, 14754), (37, 14808),

Gene: Patos_23 Start: 14828, Stop: 15256, Start Num: 4

Candidate Starts for Patos_23:

(Start: 2 @14807 has 2 MA's), (Start: 4 @14828 has 37 MA's), (Start: 8 @14858 has 7 MA's), (35, 15182), (37, 15236),

Gene: Pywacket_21 Start: 15757, Stop: 16185, Start Num: 4

Candidate Starts for Pywacket_21:

(Start: 2 @15736 has 2 MA's), (Start: 4 @15757 has 37 MA's), (Start: 8 @15787 has 7 MA's), (35, 16111), (37, 16165),

Gene: Ranch_22 Start: 13766, Stop: 14194, Start Num: 4

Candidate Starts for Ranch_22:

(Start: 2 @13745 has 2 MA's), (Start: 4 @13766 has 37 MA's), (Start: 8 @13796 has 7 MA's), (35, 14120), (37, 14174),

Gene: RazorC_20 Start: 12835, Stop: 13263, Start Num: 4

Candidate Starts for RazorC_20:

(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: Riduram_20 Start: 12805, Stop: 13233, Start Num: 4
Candidate Starts for Riduram_20:
(Start: 4 @12805 has 37 MA's), (Start: 8 @12835 has 7 MA's), (35, 13159), (37, 13213),

Gene: Riparian_22 Start: 13807, Stop: 14208, Start Num: 3
Candidate Starts for Riparian_22:
(Start: 3 @13807 has 10 MA's), (5, 13825), (9, 13852), (14, 13912), (18, 13930), (26, 13999), (27, 14032), (31, 14116), (34, 14158),

Gene: Rope_22 Start: 13999, Stop: 14400, Start Num: 3
Candidate Starts for Rope_22:
(Start: 3 @13999 has 10 MA's), (5, 14017), (9, 14044), (14, 14104), (18, 14122), (26, 14191), (27, 14224), (31, 14308), (34, 14350),

Gene: Rota_21 Start: 14724, Stop: 15152, Start Num: 4
Candidate Starts for Rota_21:
(Start: 2 @14703 has 2 MA's), (Start: 4 @14724 has 37 MA's), (Start: 8 @14754 has 7 MA's), (35, 15078), (37, 15132),

Gene: Rukungu_22 Start: 15465, Stop: 15893, Start Num: 4
Candidate Starts for Rukungu_22:
(Start: 2 @15444 has 2 MA's), (Start: 4 @15465 has 37 MA's), (Start: 8 @15495 has 7 MA's), (35, 15819), (37, 15873),

Gene: Rumi_21 Start: 12835, Stop: 13263, Start Num: 4
Candidate Starts for Rumi_21:
(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: Sadboi_22 Start: 15596, Stop: 16024, Start Num: 4
Candidate Starts for Sadboi_22:
(Start: 2 @15575 has 2 MA's), (Start: 4 @15596 has 37 MA's), (Start: 8 @15626 has 7 MA's), (35, 15950), (37, 16004),

Gene: Sampudon_22 Start: 15772, Stop: 16200, Start Num: 4
Candidate Starts for Sampudon_22:
(Start: 2 @15751 has 2 MA's), (Start: 4 @15772 has 37 MA's), (Start: 8 @15802 has 7 MA's), (35, 16126), (37, 16180),

Gene: Send513_22 Start: 14349, Stop: 14750, Start Num: 3
Candidate Starts for Send513_22:
(Start: 3 @14349 has 10 MA's), (5, 14367), (9, 14394), (14, 14454), (18, 14472), (26, 14541), (27, 14574), (31, 14658), (34, 14700),

Gene: Sienna_17 Start: 10309, Stop: 10662, Start Num: 8
Candidate Starts for Sienna_17:
(7, 10306), (Start: 8 @10309 has 7 MA's), (23, 10441), (32, 10594),

Gene: Stormer_20 Start: 12835, Stop: 13263, Start Num: 4
Candidate Starts for Stormer_20:
(Start: 4 @12835 has 37 MA's), (Start: 8 @12865 has 7 MA's), (35, 13189), (37, 13243),

Gene: Suzy_18 Start: 11536, Stop: 11889, Start Num: 8
Candidate Starts for Suzy_18:

(Start: 8 @11536 has 7 MA's), (32, 11821),

Gene: Terapin_17 Start: 10309, Stop: 10662, Start Num: 8

Candidate Starts for Terapin_17:

(7, 10306), (Start: 8 @10309 has 7 MA's), (23, 10441), (32, 10594),

Gene: Tillicus_22 Start: 14145, Stop: 14573, Start Num: 4

Candidate Starts for Tillicus_22:

(Start: 2 @14124 has 2 MA's), (Start: 4 @14145 has 37 MA's), (Start: 8 @14175 has 7 MA's), (12, 14232), (16, 14256), (35, 14499), (37, 14553),

Gene: Weiss13_22 Start: 14039, Stop: 14440, Start Num: 3

Candidate Starts for Weiss13_22:

(Start: 3 @14039 has 10 MA's), (5, 14057), (9, 14084), (14, 14144), (18, 14162), (27, 14264), (31, 14348), (34, 14390),

Gene: Wojtek_21 Start: 14473, Stop: 14901, Start Num: 4

Candidate Starts for Wojtek_21:

(Start: 2 @14452 has 2 MA's), (Start: 4 @14473 has 37 MA's), (Start: 8 @14503 has 7 MA's), (12, 14560), (16, 14584), (35, 14827), (37, 14881),

Gene: Xenia2_22 Start: 14491, Stop: 14919, Start Num: 2

Candidate Starts for Xenia2_22:

(Start: 2 @14491 has 2 MA's), (Start: 4 @14512 has 37 MA's), (Start: 8 @14542 has 7 MA's), (12, 14593), (15, 14611), (21, 14653), (36, 14875), (37, 14908),

Gene: Yelo_22 Start: 14349, Stop: 14750, Start Num: 3

Candidate Starts for Yelo_22:

(Start: 3 @14349 has 10 MA's), (5, 14367), (9, 14394), (14, 14454), (18, 14472), (26, 14541), (27, 14574), (31, 14658), (34, 14700),

Gene: Yikes_23 Start: 15857, Stop: 16285, Start Num: 4

Candidate Starts for Yikes_23:

(Start: 2 @15836 has 2 MA's), (Start: 4 @15857 has 37 MA's), (Start: 8 @15887 has 7 MA's), (35, 16211), (37, 16265),

Gene: Zany_21 Start: 14986, Stop: 15414, Start Num: 4

Candidate Starts for Zany_21:

(Start: 2 @14965 has 2 MA's), (Start: 4 @14986 has 37 MA's), (Start: 8 @15016 has 7 MA's), (35, 15340), (37, 15394),

Gene: Zenon_23 Start: 14351, Stop: 14752, Start Num: 3

Candidate Starts for Zenon_23:

(Start: 3 @14351 has 10 MA's), (5, 14369), (9, 14396), (14, 14456), (18, 14474), (26, 14543), (27, 14576), (31, 14660), (34, 14702),