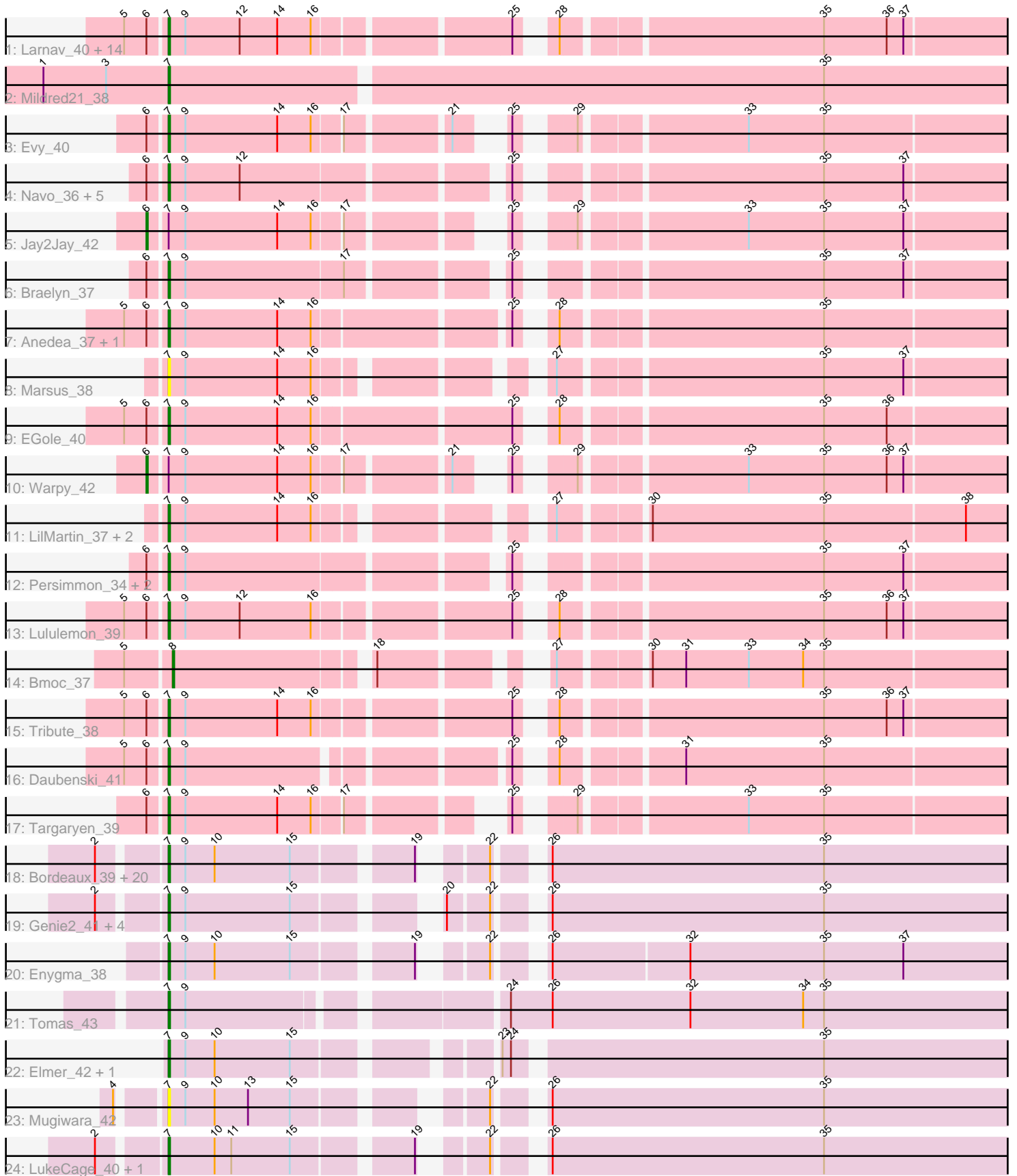


Pham 212562



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 212562 Report

This analysis was run 02/22/25 on database version 588.

Pham number 212562 has 74 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Larnav_40, Watermoore_39, Sushi23_40, Cursive_37, Peebs_39, Cross_40, Shuckle_38, Pepperwood_40, Scheme_40, Teutsch_39, BlueOtter_40, Leo04_40, HangryHippo_40, PacManQ_39, Samisti12_39
- Track 2 : Mildred21_38
- Track 3 : Evy_40
- Track 4 : Navo_36, Paradiddles_34, WhereRU_35, Liandry_37, PinkiePie_36, Squillium_37
- Track 5 : Jay2Jay_42
- Track 6 : Braelyn_37
- Track 7 : Anedea_37, Riptide_38
- Track 8 : Marsus_38
- Track 9 : EGole_40
- Track 10 : Warpy_42
- Track 11 : LilMartin_37, MulchMansion_37, Angela_37
- Track 12 : Persimmon_34, Bartholomune_37, NootNoot_34
- Track 13 : Lululemon_39
- Track 14 : Bmoc_37
- Track 15 : Tribute_38
- Track 16 : Daubenski_41
- Track 17 : Targaryen_39
- Track 18 : Bordeaux_39, SaltySpittoon_41, KentuckyRacer_41, Spilled_41, Amabiko_41, PumpkinSpice_40, MindFlayer_39, Battuta_39, IchabodCrane_38, Birchlyn_38, TomSawyer_39, CeilingFan_40, Starbow_39, JimJam_41, Wipeout_38, Rikishi_44, Karimac_40, Jollison_40, Spelly_41, Quaran19_41, Gibbi_44
- Track 19 : Genie2_41, BoomerJR_41, Stanimal_41, Yaboi_41, Sollertia_41
- Track 20 : Enygma_38
- Track 21 : Tomas_43
- Track 22 : Elmer_42, Wofford_39
- Track 23 : Mugiwara_42
- Track 24 : LukeCage_40, StarPlatinum_40

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

The start number called the most often in the published annotations is 7, it was called in 64 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko_41, Anedea_37, Angela_37, Bartholomune_37, Battuta_39, Birchlyn_38, BlueOtter_40, BoomerJR_41, Bordeaux_39, Braelyn_37, CeilingFan_40, Cross_40, Cursive_37, Daubenski_41, EGole_40, Elmer_42, Enygma_38, Evy_40, Genie2_41, Gibbi_44, HangryHippo_40, IchabodCrane_38, JimJam_41, Jollison_40, Karimac_40, KentuckyRacer_41, Larnav_40, Leo04_40, Liandry_37, LilMartin_37, LukeCage_40, Lululemon_39, Marsus_38, Mildred21_38, MindFlayer_39, Mugiwara_42, MulchMansion_37, Navo_36, NootNoot_34, PacManQ_39, Paradiddles_34, Peebs_39, Pepperwood_40, Persimmon_34, PinkiePie_36, PumpkinSpice_40, Quaran19_41, Rikishi_44, Riptide_38, SaltySpittoon_41, Samisti12_39, Scheme_40, Shuckle_38, Sollertia_41, Spelly_41, Spilled_41, Squillium_37, Stanimal_41, StarPlatinum_40, Starbow_39, Sushi23_40, Targaryen_39, Teutsch_39, TomSawyer_39, Tomas_43, Tribute_38, Watermoore_39, WhereRU_35, Wipeout_38, Wofford_39, Yaboi_41,

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

- Jay2Jay_42, Warpy_42,

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

- Bmoc_37,

Summary by start number:

Start 6:

- Found in 35 of 74 (47.3%) of genes in pham
- Manual Annotations of this start: 2 of 67
- Called 5.7% of time when present
- Phage (with cluster) where this start called: Jay2Jay_42 (BE1), Warpy_42 (BE1),

Start 7:

- Found in 73 of 74 (98.6%) of genes in pham
- Manual Annotations of this start: 64 of 67
- Called 97.3% of time when present
- Phage (with cluster) where this start called: Amabiko_41 (BE2), Anedea_37 (BE1), Angela_37 (BE1), Bartholomune_37 (BE1), Battuta_39 (BE2), Birchlyn_38 (BE2), BlueOtter_40 (BE1), BoomerJR_41 (BE2), Bordeaux_39 (BE2), Braelyn_37 (BE1), CeilingFan_40 (BE2), Cross_40 (BE1), Cursive_37 (BE1), Daubenski_41 (BE1), EGole_40 (BE1), Elmer_42 (BE2), Enygma_38 (BE2), Evy_40 (BE1), Genie2_41 (BE2), Gibbi_44 (BE2), HangryHippo_40 (BE1), IchabodCrane_38 (BE2), JimJam_41 (BE2), Jollison_40 (BE2), Karimac_40 (BE2), KentuckyRacer_41 (BE2), Larnav_40 (BE1), Leo04_40 (BE1), Liandry_37 (BE1), LilMartin_37 (BE1), LukeCage_40 (BE2), Lululemon_39 (BE1), Marsus_38 (BE1), Mildred21_38 (BE1), MindFlayer_39 (BE2), Mugiwara_42 (BE2), MulchMansion_37 (BE1), Navo_36 (BE1), NootNoot_34 (BE1), PacManQ_39 (BE1), Paradiddles_34 (BE1), Peebs_39 (BE1), Pepperwood_40 (BE1), Persimmon_34 (BE1), PinkiePie_36 (BE1), PumpkinSpice_40 (BE2), Quaran19_41 (BE2), Rikishi_44 (BE2), Riptide_38 (BE1), SaltySpittoon_41 (BE2), Samisti12_39 (BE1), Scheme_40 (BE1), Shuckle_38 (BE1), Sollertia_41 (BE2), Spelly_41 (BE2), Spilled_41 (BE2), Squillium_37 (BE1), Stanimal_41 (BE2), StarPlatinum_40 (BE2), Starbow_39 (BE2), Sushi23_40 (BE1), Targaryen_39 (BE1), Teutsch_39 (BE1), TomSawyer_39 (BE2), Tomas_43 (BE2), Tribute_38 (BE1),

Watermoore_39 (BE1), WhereRU_35 (BE1), Wipeout_38 (BE2), Wofford_39 (BE2), Yaboi_41 (BE2),

Start 8:

- Found in 1 of 74 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bmoc_37 (BE1),

Summary by clusters:

There are 2 clusters represented in this pham: BE2, BE1,

Info for manual annotations of cluster BE1:

- Start number 6 was manually annotated 2 times for cluster BE1.
- Start number 7 was manually annotated 34 times for cluster BE1.
- Start number 8 was manually annotated 1 time for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 7 was manually annotated 30 times for cluster BE2.

Gene Information:

Gene: Amabiko_41 Start: 17652, Stop: 17107, Start Num: 7

Candidate Starts for Amabiko_41:

(2, 17694), (Start: 7 @17652 has 64 MA's), (9, 17640), (10, 17619), (15, 17565), (19, 17490), (22, 17460), (26, 17436), (35, 17241),

Gene: Anedea_37 Start: 16674, Stop: 16126, Start Num: 7

Candidate Starts for Anedea_37:

(5, 16701), (Start: 6 @16686 has 2 MA's), (Start: 7 @16674 has 64 MA's), (9, 16662), (14, 16596), (16, 16572), (25, 16446), (28, 16431), (35, 16257),

Gene: Angela_37 Start: 16562, Stop: 16026, Start Num: 7

Candidate Starts for Angela_37:

(Start: 7 @16562 has 64 MA's), (9, 16550), (14, 16484), (16, 16460), (27, 16334), (30, 16280), (35, 16157), (38, 16058),

Gene: Bartholomune_37 Start: 16300, Stop: 15761, Start Num: 7

Candidate Starts for Bartholomune_37:

(Start: 6 @16312 has 2 MA's), (Start: 7 @16300 has 64 MA's), (9, 16288), (25, 16081), (35, 15892), (37, 15835),

Gene: Battuta_39 Start: 17628, Stop: 17083, Start Num: 7

Candidate Starts for Battuta_39:

(2, 17670), (Start: 7 @17628 has 64 MA's), (9, 17616), (10, 17595), (15, 17541), (19, 17466), (22, 17436), (26, 17412), (35, 17217),

Gene: Birchlyn_38 Start: 15509, Stop: 14964, Start Num: 7

Candidate Starts for Birchlyn_38:

(2, 15551), (Start: 7 @15509 has 64 MA's), (9, 15497), (10, 15476), (15, 15422), (19, 15347), (22, 15317), (26, 15293), (35, 15098),

Gene: BlueOtter_40 Start: 17946, Stop: 17398, Start Num: 7

Candidate Starts for BlueOtter_40:

(5, 17973), (Start: 6 @17958 has 2 MA's), (Start: 7 @17946 has 64 MA's), (9, 17934), (12, 17895), (14, 17868), (16, 17844), (25, 17718), (28, 17703), (35, 17529), (36, 17484), (37, 17472),

Gene: Bmoc_37 Start: 16809, Stop: 16282, Start Num: 8

Candidate Starts for Bmoc_37:

(5, 16839), (Start: 8 @16809 has 1 MA's), (18, 16680), (27, 16590), (30, 16536), (31, 16512), (33, 16467), (34, 16428), (35, 16413),

Gene: BoomerJR_41 Start: 17449, Stop: 16904, Start Num: 7

Candidate Starts for BoomerJR_41:

(2, 17491), (Start: 7 @17449 has 64 MA's), (9, 17437), (15, 17362), (20, 17284), (22, 17257), (26, 17233), (35, 17038),

Gene: Bordeaux_39 Start: 17643, Stop: 17098, Start Num: 7

Candidate Starts for Bordeaux_39:

(2, 17685), (Start: 7 @17643 has 64 MA's), (9, 17631), (10, 17610), (15, 17556), (19, 17481), (22, 17451), (26, 17427), (35, 17232),

Gene: Braelyn_37 Start: 16693, Stop: 16154, Start Num: 7

Candidate Starts for Braelyn_37:

(Start: 6 @16705 has 2 MA's), (Start: 7 @16693 has 64 MA's), (9, 16681), (17, 16570), (25, 16474), (35, 16285), (37, 16228),

Gene: CeilingFan_40 Start: 17403, Stop: 16858, Start Num: 7

Candidate Starts for CeilingFan_40:

(2, 17445), (Start: 7 @17403 has 64 MA's), (9, 17391), (10, 17370), (15, 17316), (19, 17241), (22, 17211), (26, 17187), (35, 16992),

Gene: Cross_40 Start: 17947, Stop: 17399, Start Num: 7

Candidate Starts for Cross_40:

(5, 17974), (Start: 6 @17959 has 2 MA's), (Start: 7 @17947 has 64 MA's), (9, 17935), (12, 17896), (14, 17869), (16, 17845), (25, 17719), (28, 17704), (35, 17530), (36, 17485), (37, 17473),

Gene: Cursive_37 Start: 16764, Stop: 16216, Start Num: 7

Candidate Starts for Cursive_37:

(5, 16791), (Start: 6 @16776 has 2 MA's), (Start: 7 @16764 has 64 MA's), (9, 16752), (12, 16713), (14, 16686), (16, 16662), (25, 16536), (28, 16521), (35, 16347), (36, 16302), (37, 16290),

Gene: Daubenski_41 Start: 18191, Stop: 17655, Start Num: 7

Candidate Starts for Daubenski_41:

(5, 18218), (Start: 6 @18203 has 2 MA's), (Start: 7 @18191 has 64 MA's), (9, 18179), (25, 17975), (28, 17960), (31, 17885), (35, 17786),

Gene: EGole_40 Start: 18846, Stop: 18292, Start Num: 7

Candidate Starts for EGole_40:

(5, 18873), (Start: 6 @18858 has 2 MA's), (Start: 7 @18846 has 64 MA's), (9, 18834), (14, 18768), (16, 18744), (25, 18612), (28, 18597), (35, 18423), (36, 18378),

Gene: Elmer_42 Start: 18521, Stop: 17967, Start Num: 7

Candidate Starts for Elmer_42:

(Start: 7 @18521 has 64 MA's), (9, 18509), (10, 18488), (15, 18434), (23, 18317), (24, 18311), (35, 18101),

Gene: Enygma_38 Start: 16815, Stop: 16273, Start Num: 7

Candidate Starts for Enygma_38:

(Start: 7 @16815 has 64 MA's), (9, 16803), (10, 16782), (15, 16728), (19, 16653), (22, 16623), (26, 16599), (32, 16503), (35, 16407), (37, 16350),

Gene: Evy_40 Start: 17788, Stop: 17264, Start Num: 7

Candidate Starts for Evy_40:

(Start: 6 @17800 has 2 MA's), (Start: 7 @17788 has 64 MA's), (9, 17776), (14, 17710), (16, 17686), (17, 17668), (21, 17602), (25, 17584), (29, 17557), (33, 17449), (35, 17395),

Gene: Genie2_41 Start: 17452, Stop: 16907, Start Num: 7

Candidate Starts for Genie2_41:

(2, 17494), (Start: 7 @17452 has 64 MA's), (9, 17440), (15, 17365), (20, 17287), (22, 17260), (26, 17236), (35, 17041),

Gene: Gibbi_44 Start: 17263, Stop: 16718, Start Num: 7

Candidate Starts for Gibbi_44:

(2, 17305), (Start: 7 @17263 has 64 MA's), (9, 17251), (10, 17230), (15, 17176), (19, 17101), (22, 17071), (26, 17047), (35, 16852),

Gene: HangryHippo_40 Start: 17946, Stop: 17398, Start Num: 7

Candidate Starts for HangryHippo_40:

(5, 17973), (Start: 6 @17958 has 2 MA's), (Start: 7 @17946 has 64 MA's), (9, 17934), (12, 17895), (14, 17868), (16, 17844), (25, 17718), (28, 17703), (35, 17529), (36, 17484), (37, 17472),

Gene: IchabodCrane_38 Start: 17355, Stop: 16810, Start Num: 7

Candidate Starts for IchabodCrane_38:

(2, 17397), (Start: 7 @17355 has 64 MA's), (9, 17343), (10, 17322), (15, 17268), (19, 17193), (22, 17163), (26, 17139), (35, 16944),

Gene: Jay2Jay_42 Start: 17989, Stop: 17453, Start Num: 6

Candidate Starts for Jay2Jay_42:

(Start: 6 @17989 has 2 MA's), (Start: 7 @17977 has 64 MA's), (9, 17965), (14, 17899), (16, 17875), (17, 17857), (25, 17773), (29, 17746), (33, 17638), (35, 17584), (37, 17527),

Gene: JimJam_41 Start: 17591, Stop: 17046, Start Num: 7

Candidate Starts for JimJam_41:

(2, 17633), (Start: 7 @17591 has 64 MA's), (9, 17579), (10, 17558), (15, 17504), (19, 17429), (22, 17399), (26, 17375), (35, 17180),

Gene: Jollison_40 Start: 17609, Stop: 17064, Start Num: 7

Candidate Starts for Jollison_40:

(2, 17651), (Start: 7 @17609 has 64 MA's), (9, 17597), (10, 17576), (15, 17522), (19, 17447), (22, 17417), (26, 17393), (35, 17198),

Gene: Karimac_40 Start: 17758, Stop: 17213, Start Num: 7

Candidate Starts for Karimac_40:

(2, 17800), (Start: 7 @17758 has 64 MA's), (9, 17746), (10, 17725), (15, 17671), (19, 17596), (22, 17566), (26, 17542), (35, 17347),

Gene: KentuckyRacer_41 Start: 17404, Stop: 16859, Start Num: 7

Candidate Starts for KentuckyRacer_41:

(2, 17446), (Start: 7 @17404 has 64 MA's), (9, 17392), (10, 17371), (15, 17317), (19, 17242), (22, 17212), (26, 17188), (35, 16993),

Gene: Larnav_40 Start: 17894, Stop: 17346, Start Num: 7

Candidate Starts for Larnav_40:

(5, 17921), (Start: 6 @17906 has 2 MA's), (Start: 7 @17894 has 64 MA's), (9, 17882), (12, 17843), (14, 17816), (16, 17792), (25, 17666), (28, 17651), (35, 17477), (36, 17432), (37, 17420),

Gene: Leo04_40 Start: 17945, Stop: 17397, Start Num: 7

Candidate Starts for Leo04_40:

(5, 17972), (Start: 6 @17957 has 2 MA's), (Start: 7 @17945 has 64 MA's), (9, 17933), (12, 17894), (14, 17867), (16, 17843), (25, 17717), (28, 17702), (35, 17528), (36, 17483), (37, 17471),

Gene: Liandry_37 Start: 16297, Stop: 15758, Start Num: 7

Candidate Starts for Liandry_37:

(Start: 6 @16309 has 2 MA's), (Start: 7 @16297 has 64 MA's), (9, 16285), (12, 16246), (25, 16078), (35, 15889), (37, 15832),

Gene: LilMartin_37 Start: 16509, Stop: 15973, Start Num: 7

Candidate Starts for LilMartin_37:

(Start: 7 @16509 has 64 MA's), (9, 16497), (14, 16431), (16, 16407), (27, 16281), (30, 16227), (35, 16104), (38, 16005),

Gene: LukeCage_40 Start: 17395, Stop: 16850, Start Num: 7

Candidate Starts for LukeCage_40:

(2, 17437), (Start: 7 @17395 has 64 MA's), (10, 17362), (11, 17350), (15, 17308), (19, 17233), (22, 17203), (26, 17179), (35, 16984),

Gene: Lululemon_39 Start: 17326, Stop: 16778, Start Num: 7

Candidate Starts for Lululemon_39:

(5, 17353), (Start: 6 @17338 has 2 MA's), (Start: 7 @17326 has 64 MA's), (9, 17314), (12, 17275), (16, 17224), (25, 17098), (28, 17083), (35, 16909), (36, 16864), (37, 16852),

Gene: Marsus_38 Start: 16373, Stop: 15837, Start Num: 7

Candidate Starts for Marsus_38:

(Start: 7 @16373 has 64 MA's), (9, 16361), (14, 16295), (16, 16271), (27, 16145), (35, 15968), (37, 15911),

Gene: Mildred21_38 Start: 16663, Stop: 16070, Start Num: 7

Candidate Starts for Mildred21_38:

(1, 16753), (3, 16708), (Start: 7 @16663 has 64 MA's), (35, 16204),

Gene: MindFlayer_39 Start: 17262, Stop: 16717, Start Num: 7

Candidate Starts for MindFlayer_39:

(2, 17304), (Start: 7 @17262 has 64 MA's), (9, 17250), (10, 17229), (15, 17175), (19, 17100), (22, 17070), (26, 17046), (35, 16851),

Gene: Mugiwara_42 Start: 17308, Stop: 16763, Start Num: 7

Candidate Starts for Mugiwara_42:

(4, 17335), (Start: 7 @17308 has 64 MA's), (9, 17296), (10, 17275), (13, 17251), (15, 17221), (22, 17116), (26, 17092), (35, 16897),

Gene: MulchMansion_37 Start: 16510, Stop: 15974, Start Num: 7

Candidate Starts for MulchMansion_37:

(Start: 7 @16510 has 64 MA's), (9, 16498), (14, 16432), (16, 16408), (27, 16282), (30, 16228), (35, 16105), (38, 16006),

Gene: Navo_36 Start: 16456, Stop: 15917, Start Num: 7

Candidate Starts for Navo_36:

(Start: 6 @16468 has 2 MA's), (Start: 7 @16456 has 64 MA's), (9, 16444), (12, 16405), (25, 16237), (35, 16048), (37, 15991),

Gene: NootNoot_34 Start: 15479, Stop: 14940, Start Num: 7

Candidate Starts for NootNoot_34:

(Start: 6 @15491 has 2 MA's), (Start: 7 @15479 has 64 MA's), (9, 15467), (25, 15260), (35, 15071), (37, 15014),

Gene: PacManQ_39 Start: 17326, Stop: 16778, Start Num: 7

Candidate Starts for PacManQ_39:

(5, 17353), (Start: 6 @17338 has 2 MA's), (Start: 7 @17326 has 64 MA's), (9, 17314), (12, 17275), (14, 17248), (16, 17224), (25, 17098), (28, 17083), (35, 16909), (36, 16864), (37, 16852),

Gene: Paradiddles_34 Start: 15470, Stop: 14931, Start Num: 7

Candidate Starts for Paradiddles_34:

(Start: 6 @15482 has 2 MA's), (Start: 7 @15470 has 64 MA's), (9, 15458), (12, 15419), (25, 15251), (35, 15062), (37, 15005),

Gene: Peebs_39 Start: 17645, Stop: 17097, Start Num: 7

Candidate Starts for Peebs_39:

(5, 17672), (Start: 6 @17657 has 2 MA's), (Start: 7 @17645 has 64 MA's), (9, 17633), (12, 17594), (14, 17567), (16, 17543), (25, 17417), (28, 17402), (35, 17228), (36, 17183), (37, 17171),

Gene: Pepperwood_40 Start: 17818, Stop: 17270, Start Num: 7

Candidate Starts for Pepperwood_40:

(5, 17845), (Start: 6 @17830 has 2 MA's), (Start: 7 @17818 has 64 MA's), (9, 17806), (12, 17767), (14, 17740), (16, 17716), (25, 17590), (28, 17575), (35, 17401), (36, 17356), (37, 17344),

Gene: Persimmon_34 Start: 15527, Stop: 14988, Start Num: 7

Candidate Starts for Persimmon_34:

(Start: 6 @15539 has 2 MA's), (Start: 7 @15527 has 64 MA's), (9, 15515), (25, 15308), (35, 15119), (37, 15062),

Gene: PinkiePie_36 Start: 16298, Stop: 15759, Start Num: 7

Candidate Starts for PinkiePie_36:

(Start: 6 @16310 has 2 MA's), (Start: 7 @16298 has 64 MA's), (9, 16286), (12, 16247), (25, 16079), (35, 15890), (37, 15833),

Gene: PumpkinSpice_40 Start: 17652, Stop: 17107, Start Num: 7

Candidate Starts for PumpkinSpice_40:

(2, 17694), (Start: 7 @17652 has 64 MA's), (9, 17640), (10, 17619), (15, 17565), (19, 17490), (22, 17460), (26, 17436), (35, 17241),

Gene: Quaran19_41 Start: 17643, Stop: 17098, Start Num: 7

Candidate Starts for Quaran19_41:

(2, 17685), (Start: 7 @17643 has 64 MA's), (9, 17631), (10, 17610), (15, 17556), (19, 17481), (22, 17451), (26, 17427), (35, 17232),

Gene: Rikishi_44 Start: 17558, Stop: 17013, Start Num: 7

Candidate Starts for Rikishi_44:

(2, 17600), (Start: 7 @17558 has 64 MA's), (9, 17546), (10, 17525), (15, 17471), (19, 17396), (22, 17366), (26, 17342), (35, 17147),

Gene: Riptide_38 Start: 16400, Stop: 15852, Start Num: 7

Candidate Starts for Riptide_38:

(5, 16427), (Start: 6 @16412 has 2 MA's), (Start: 7 @16400 has 64 MA's), (9, 16388), (14, 16322), (16, 16298), (25, 16172), (28, 16157), (35, 15983),

Gene: SaltySpittoon_41 Start: 17652, Stop: 17107, Start Num: 7

Candidate Starts for SaltySpittoon_41:

(2, 17694), (Start: 7 @17652 has 64 MA's), (9, 17640), (10, 17619), (15, 17565), (19, 17490), (22, 17460), (26, 17436), (35, 17241),

Gene: Samisti12_39 Start: 18415, Stop: 17867, Start Num: 7

Candidate Starts for Samisti12_39:

(5, 18442), (Start: 6 @18427 has 2 MA's), (Start: 7 @18415 has 64 MA's), (9, 18403), (12, 18364), (14, 18337), (16, 18313), (25, 18187), (28, 18172), (35, 17998), (36, 17953), (37, 17941),

Gene: Scheme_40 Start: 17829, Stop: 17281, Start Num: 7

Candidate Starts for Scheme_40:

(5, 17856), (Start: 6 @17841 has 2 MA's), (Start: 7 @17829 has 64 MA's), (9, 17817), (12, 17778), (14, 17751), (16, 17727), (25, 17601), (28, 17586), (35, 17412), (36, 17367), (37, 17355),

Gene: Shuckle_38 Start: 18098, Stop: 17550, Start Num: 7

Candidate Starts for Shuckle_38:

(5, 18125), (Start: 6 @18110 has 2 MA's), (Start: 7 @18098 has 64 MA's), (9, 18086), (12, 18047), (14, 18020), (16, 17996), (25, 17870), (28, 17855), (35, 17681), (36, 17636), (37, 17624),

Gene: Sollertia_41 Start: 17452, Stop: 16907, Start Num: 7

Candidate Starts for Sollertia_41:

(2, 17494), (Start: 7 @17452 has 64 MA's), (9, 17440), (15, 17365), (20, 17287), (22, 17260), (26, 17236), (35, 17041),

Gene: Spelly_41 Start: 17607, Stop: 17062, Start Num: 7

Candidate Starts for Spelly_41:

(2, 17649), (Start: 7 @17607 has 64 MA's), (9, 17595), (10, 17574), (15, 17520), (19, 17445), (22, 17415), (26, 17391), (35, 17196),

Gene: Spilled_41 Start: 17361, Stop: 16816, Start Num: 7

Candidate Starts for Spilled_41:

(2, 17403), (Start: 7 @17361 has 64 MA's), (9, 17349), (10, 17328), (15, 17274), (19, 17199), (22, 17169), (26, 17145), (35, 16950),

Gene: Squillum_37 Start: 16297, Stop: 15758, Start Num: 7

Candidate Starts for Squillum_37:

(Start: 6 @16309 has 2 MA's), (Start: 7 @16297 has 64 MA's), (9, 16285), (12, 16246), (25, 16078), (35, 15889), (37, 15832),

Gene: Stanimal_41 Start: 17452, Stop: 16907, Start Num: 7

Candidate Starts for Stanimal_41:

(2, 17494), (Start: 7 @17452 has 64 MA's), (9, 17440), (15, 17365), (20, 17287), (22, 17260), (26, 17236), (35, 17041),

Gene: StarPlatinum_40 Start: 17451, Stop: 16906, Start Num: 7

Candidate Starts for StarPlatinum_40:

(2, 17493), (Start: 7 @17451 has 64 MA's), (10, 17418), (11, 17406), (15, 17364), (19, 17289), (22, 17259), (26, 17235), (35, 17040),

Gene: Starbow_39 Start: 17628, Stop: 17083, Start Num: 7

Candidate Starts for Starbow_39:

(2, 17670), (Start: 7 @17628 has 64 MA's), (9, 17616), (10, 17595), (15, 17541), (19, 17466), (22, 17436), (26, 17412), (35, 17217),

Gene: Sushi23_40 Start: 18041, Stop: 17493, Start Num: 7

Candidate Starts for Sushi23_40:

(5, 18068), (Start: 6 @18053 has 2 MA's), (Start: 7 @18041 has 64 MA's), (9, 18029), (12, 17990), (14, 17963), (16, 17939), (25, 17813), (28, 17798), (35, 17624), (36, 17579), (37, 17567),

Gene: Targaryen_39 Start: 18535, Stop: 18011, Start Num: 7

Candidate Starts for Targaryen_39:

(Start: 6 @18547 has 2 MA's), (Start: 7 @18535 has 64 MA's), (9, 18523), (14, 18457), (16, 18433), (17, 18415), (25, 18331), (29, 18304), (33, 18196), (35, 18142),

Gene: Teutsch_39 Start: 17734, Stop: 17186, Start Num: 7

Candidate Starts for Teutsch_39:

(5, 17761), (Start: 6 @17746 has 2 MA's), (Start: 7 @17734 has 64 MA's), (9, 17722), (12, 17683), (14, 17656), (16, 17632), (25, 17506), (28, 17491), (35, 17317), (36, 17272), (37, 17260),

Gene: TomSawyer_39 Start: 17246, Stop: 16701, Start Num: 7

Candidate Starts for TomSawyer_39:

(2, 17288), (Start: 7 @17246 has 64 MA's), (9, 17234), (10, 17213), (15, 17159), (19, 17084), (22, 17054), (26, 17030), (35, 16835),

Gene: Tomas_43 Start: 19506, Stop: 18931, Start Num: 7

Candidate Starts for Tomas_43:

(Start: 7 @19506 has 64 MA's), (9, 19494), (24, 19290), (26, 19260), (32, 19161), (34, 19080), (35, 19065),

Gene: Tribute_38 Start: 17512, Stop: 16964, Start Num: 7

Candidate Starts for Tribute_38:

(5, 17539), (Start: 6 @17524 has 2 MA's), (Start: 7 @17512 has 64 MA's), (9, 17500), (14, 17434), (16, 17410), (25, 17284), (28, 17269), (35, 17095), (36, 17050), (37, 17038),

Gene: Warpy_42 Start: 18009, Stop: 17473, Start Num: 6

Candidate Starts for Warpy_42:

(Start: 6 @18009 has 2 MA's), (Start: 7 @17997 has 64 MA's), (9, 17985), (14, 17919), (16, 17895), (17, 17877), (21, 17811), (25, 17793), (29, 17766), (33, 17658), (35, 17604), (36, 17559), (37, 17547),

Gene: Watermoore_39 Start: 17947, Stop: 17399, Start Num: 7

Candidate Starts for Watermoore_39:

(5, 17974), (Start: 6 @17959 has 2 MA's), (Start: 7 @17947 has 64 MA's), (9, 17935), (12, 17896), (14, 17869), (16, 17845), (25, 17719), (28, 17704), (35, 17530), (36, 17485), (37, 17473),

Gene: WhereRU_35 Start: 15984, Stop: 15445, Start Num: 7

Candidate Starts for WhereRU_35:

(Start: 6 @15996 has 2 MA's), (Start: 7 @15984 has 64 MA's), (9, 15972), (12, 15933), (25, 15765), (35, 15576), (37, 15519),

Gene: Wipeout_38 Start: 17268, Stop: 16723, Start Num: 7

Candidate Starts for Wipeout_38:

(2, 17310), (Start: 7 @17268 has 64 MA's), (9, 17256), (10, 17235), (15, 17181), (19, 17106), (22, 17076), (26, 17052), (35, 16857),

Gene: Wofford_39 Start: 17999, Stop: 17445, Start Num: 7

Candidate Starts for Wofford_39:

(Start: 7 @17999 has 64 MA's), (9, 17987), (10, 17966), (15, 17912), (23, 17795), (24, 17789), (35, 17579),

Gene: Yaboi_41 Start: 17428, Stop: 16883, Start Num: 7

Candidate Starts for Yaboi_41:

(2, 17470), (Start: 7 @17428 has 64 MA's), (9, 17416), (15, 17341), (20, 17263), (22, 17236), (26, 17212), (35, 17017),