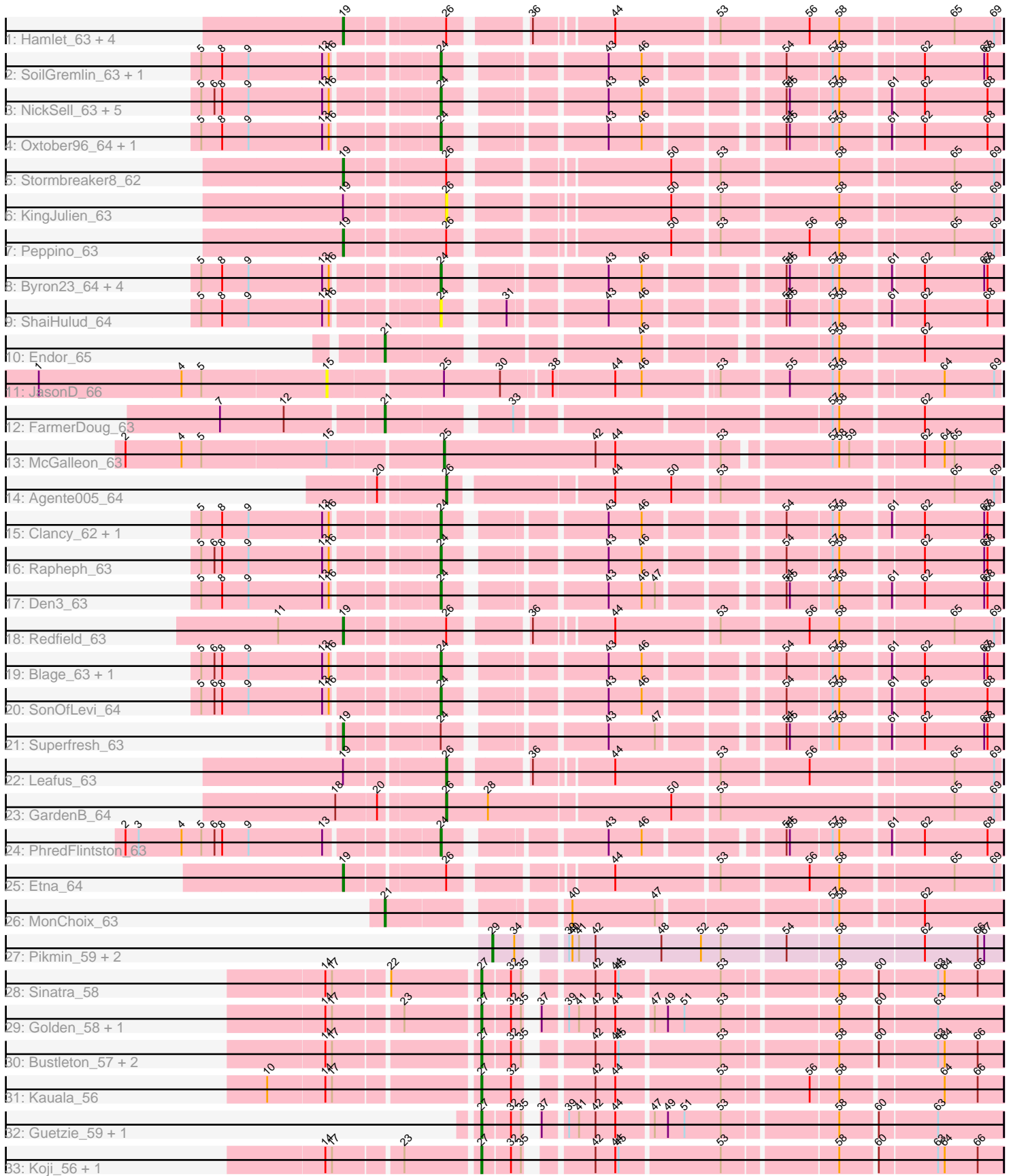


Pham 196575



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 196575 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196575 has 57 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Hamlet_63, Schnapsidee_63, BeeBee8_65, Balsa_62, Raccoon_63
- Track 2 : SoilGremlin_63, OldNelly_63
- Track 3 : NickSell_63, Jerbirus_64, Kurt1_63, MrWorldwide_63, JeriBeth_64, Phiderman_63
- Track 4 : Öxtober96_64, Lovelyunicorn_63
- Track 5 : Stormbreaker8_62
- Track 6 : KingJulien_63
- Track 7 : Peppino_63
- Track 8 : Byron23_64, Janus167_62, Sedgewig_62, HankSprout_63, StirfryIV_62
- Track 9 : ShaiHulud_64
- Track 10 : Endor_65
- Track 11 : JasonD_66
- Track 12 : FarmerDoug_63
- Track 13 : McGalleon_63
- Track 14 : Agente005_64
- Track 15 : Clancy_62, Figueroism_63
- Track 16 : Rapheph_63
- Track 17 : Den3_63
- Track 18 : Redfield_63
- Track 19 : Blage_63, Velene_63
- Track 20 : SonOfLevi_64
- Track 21 : Superfresh_63
- Track 22 : Leafus_63
- Track 23 : GardenB_64
- Track 24 : PhredFlintston_63
- Track 25 : Etna_64
- Track 26 : MonChoix_63
- Track 27 : Pikmin_59, Casey_59, Pajaza_59
- Track 28 : Sinatra_58
- Track 29 : Golden_58, Lucky3_58
- Track 30 : Bustleton_57, BouleyBill_56, Pherbot_57
- Track 31 : Kauala_56
- Track 32 : Guetzie_59, SirVictor_59
- Track 33 : Koji_56, PrincePhergus_57

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

The start number called the most often in the published annotations is 24, it was called in 20 of the 51 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Blage_63, Byron23_64, Clancy_62, Den3_63, Figueroism_63, HankSprout_63, Janus167_62, Jerbirus_64, JeriBeth_64, Kurt1_63, Lovelyunicorn_63, MrWorldwide_63, NickSell_63, OldNelly_63, Oxtober96_64, Phiderman_63, PhredFlintston_63, Rapheph_63, Sedgewig_62, ShaiHulud_64, SoilGremlin_63, SonOfLevi_64, StirfryIV_62, Velene_63,

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

- Superfresh_63,

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

- Agente005_64, Balsa_62, BeeBee8_65, BouleyBill_56, Bustleton_57, Casey_59, Endor_65, Etna_64, FarmerDoug_63, GardenB_64, Golden_58, Guetzie_59, Hamlet_63, JasonD_66, Kauala_56, KingJulien_63, Koji_56, Leafus_63, Lucky3_58, McGalleon_63, MonChoix_63, Pajaza_59, Peppino_63, Pherbot_57, Pikmin_59, PrincePhergus_57, Raccoon_63, Redfield_63, Schnapsidee_63, Sinatra_58, SirVictor_59, Stormbreaker8_62,

Summary by start number:

Start 15:

- Found in 2 of 57 (3.5%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: JasonD_66 (EA1),

Start 19:

- Found in 12 of 57 (21.1%) of genes in pham
- Manual Annotations of this start: 10 of 51
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Balsa_62 (EA1), BeeBee8_65 (EA1), Etna_64 (EA1), Hamlet_63 (EA1), Peppino_63 (EA1), Raccoon_63 (EA1), Redfield_63 (EA1), Schnapsidee_63 (EA1), Stormbreaker8_62 (EA1), Superfresh_63 (EA1),

Start 21:

- Found in 3 of 57 (5.3%) of genes in pham
- Manual Annotations of this start: 3 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Endor_65 (EA1), FarmerDoug_63 (EA1), MonChoix_63 (EA1),

Start 24:

- Found in 25 of 57 (43.9%) of genes in pham
- Manual Annotations of this start: 20 of 51
- Called 96.0% of time when present

- Phage (with cluster) where this start called: Blage_63 (EA1), Byron23_64 (EA1), Clancy_62 (EA1), Den3_63 (EA1), Figueroism_63 (EA1), HankSprout_63 (EA1), Janus167_62 (EA1), Jerbirus_64 (EA1), JeriBeth_64 (EA1), Kurt1_63 (EA1), Lovelyunicorn_63 (EA1), MrWorldwide_63 (EA1), NickSell_63 (EA1), OldNelly_63 (EA1), Oxtober96_64 (EA1), Phiderman_63 (EA1), PhredFlintston_63 (EA1), Rapheph_63 (EA1), Sedgewig_62 (EA1), ShaiHulud_64 (EA1), SoilGremlin_63 (EA1), SonOfLevi_64 (EA1), StirfryIV_62 (EA1), Velene_63 (EA1),

Start 25:

- Found in 2 of 57 (3.5%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 50.0% of time when present
- Phage (with cluster) where this start called: McGalleon_63 (EA1),

Start 26:

- Found in 13 of 57 (22.8%) of genes in pham
- Manual Annotations of this start: 3 of 51
- Called 30.8% of time when present
- Phage (with cluster) where this start called: Agente005_64 (EA1), GardenB_64 (EA1), KingJulien_63 (EA1), Leafus_63 (EA1),

Start 27:

- Found in 11 of 57 (19.3%) of genes in pham
- Manual Annotations of this start: 11 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BouleyBill_56 (EA4), Bustleton_57 (EA4), Golden_58 (EA4), Guetzie_59 (EA4), Kauala_56 (EA4), Koji_56 (EA4), Lucky3_58 (EA4), Pherbot_57 (EA4), PrincePhergus_57 (EA4), Sinatra_58 (EA4), SirVictor_59 (EA4),

Start 29:

- Found in 3 of 57 (5.3%) of genes in pham
- Manual Annotations of this start: 3 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Casey_59 (EA3), Pajaza_59 (EA3), Pikmin_59 (EA3),

Summary by clusters:

There are 3 clusters represented in this pham: EA1, EA3, EA4,

Info for manual annotations of cluster EA1:

- Start number 19 was manually annotated 10 times for cluster EA1.
- Start number 21 was manually annotated 3 times for cluster EA1.
- Start number 24 was manually annotated 20 times for cluster EA1.
- Start number 25 was manually annotated 1 time for cluster EA1.
- Start number 26 was manually annotated 3 times for cluster EA1.

Info for manual annotations of cluster EA3:

- Start number 29 was manually annotated 3 times for cluster EA3.

Info for manual annotations of cluster EA4:

- Start number 27 was manually annotated 11 times for cluster EA4.

Gene Information:

Gene: Agente005_64 Start: 41218, Stop: 41679, Start Num: 26

Candidate Starts for Agente005_64:

(20, 41164), (Start: 26 @41218 has 3 MA's), (44, 41350), (50, 41401), (53, 41440), (65, 41638), (69, 41674),

Gene: Balsa_62 Start: 41165, Stop: 41695, Start Num: 19

Candidate Starts for Balsa_62:

(Start: 19 @41165 has 10 MA's), (Start: 26 @41246 has 3 MA's), (36, 41303), (44, 41366), (53, 41456), (56, 41531), (58, 41558), (65, 41654), (69, 41690),

Gene: BeeBee8_65 Start: 41330, Stop: 41860, Start Num: 19

Candidate Starts for BeeBee8_65:

(Start: 19 @41330 has 10 MA's), (Start: 26 @41411 has 3 MA's), (36, 41468), (44, 41531), (53, 41621), (56, 41696), (58, 41723), (65, 41819), (69, 41855),

Gene: Blage_63 Start: 41170, Stop: 41613, Start Num: 24

Candidate Starts for Blage_63:

(5, 40972), (6, 40984), (8, 40990), (9, 41014), (13, 41080), (16, 41086), (Start: 24 @41170 has 20 MA's), (43, 41293), (46, 41323), (54, 41428), (57, 41467), (58, 41473), (61, 41515), (62, 41542), (67, 41596), (68, 41599),

Gene: BouleyBill_56 Start: 38730, Stop: 39152, Start Num: 27

Candidate Starts for BouleyBill_56:

(14, 38604), (17, 38610), (Start: 27 @38730 has 11 MA's), (32, 38754), (35, 38763), (42, 38808), (44, 38826), (45, 38829), (53, 38916), (58, 39012), (60, 39042), (63, 39093), (64, 39099), (66, 39129),

Gene: Bustleton_57 Start: 38699, Stop: 39121, Start Num: 27

Candidate Starts for Bustleton_57:

(14, 38573), (17, 38579), (Start: 27 @38699 has 11 MA's), (32, 38723), (35, 38732), (42, 38777), (44, 38795), (45, 38798), (53, 38885), (58, 38981), (60, 39011), (63, 39062), (64, 39068), (66, 39098),

Gene: Byron23_64 Start: 41180, Stop: 41623, Start Num: 24

Candidate Starts for Byron23_64:

(5, 40982), (8, 41000), (9, 41024), (13, 41090), (16, 41096), (Start: 24 @41180 has 20 MA's), (43, 41303), (46, 41333), (54, 41438), (55, 41441), (57, 41477), (58, 41483), (61, 41525), (62, 41552), (67, 41606), (68, 41609),

Gene: Casey_59 Start: 38795, Stop: 39223, Start Num: 29

Candidate Starts for Casey_59:

(Start: 29 @38795 has 3 MA's), (34, 38813), (39, 38840), (40, 38843), (41, 38849), (42, 38864), (48, 38924), (52, 38960), (53, 38978), (54, 39032), (58, 39077), (62, 39152), (66, 39200), (67, 39206),

Gene: Clancy_62 Start: 40928, Stop: 41371, Start Num: 24

Candidate Starts for Clancy_62:

(5, 40730), (8, 40748), (9, 40772), (13, 40838), (16, 40844), (Start: 24 @40928 has 20 MA's), (43, 41051), (46, 41081), (54, 41186), (57, 41225), (58, 41231), (61, 41273), (62, 41300), (67, 41354), (68, 41357),

Gene: Den3_63 Start: 41173, Stop: 41616, Start Num: 24

Candidate Starts for Den3_63:

(5, 40975), (8, 40993), (9, 41017), (13, 41083), (16, 41089), (Start: 24 @41173 has 20 MA's), (43, 41296), (46, 41326), (47, 41338), (54, 41431), (55, 41434), (57, 41470), (58, 41476), (61, 41518), (62, 41545), (67, 41599), (68, 41602),

Gene: Endor_65 Start: 41639, Stop: 42139, Start Num: 21

Candidate Starts for Endor_65:

(Start: 21 @41639 has 3 MA's), (46, 41843), (57, 41990), (58, 41996), (62, 42068),

Gene: Etna_64 Start: 41211, Stop: 41741, Start Num: 19

Candidate Starts for Etna_64:

(Start: 19 @41211 has 10 MA's), (Start: 26 @41292 has 3 MA's), (44, 41412), (53, 41502), (56, 41577), (58, 41604), (65, 41700), (69, 41736),

Gene: FarmerDoug_63 Start: 41088, Stop: 41597, Start Num: 21

Candidate Starts for FarmerDoug_63:

(7, 40950), (12, 41007), (Start: 21 @41088 has 3 MA's), (33, 41187), (57, 41448), (58, 41454), (62, 41526),

Gene: Figueroism_63 Start: 41220, Stop: 41663, Start Num: 24

Candidate Starts for Figueroism_63:

(5, 41022), (8, 41040), (9, 41064), (13, 41130), (16, 41136), (Start: 24 @41220 has 20 MA's), (43, 41343), (46, 41373), (54, 41478), (57, 41517), (58, 41523), (61, 41565), (62, 41592), (67, 41646), (68, 41649),

Gene: GardenB_64 Start: 41481, Stop: 41960, Start Num: 26

Candidate Starts for GardenB_64:

(18, 41391), (20, 41427), (Start: 26 @41481 has 3 MA's), (28, 41517), (50, 41676), (53, 41715), (65, 41919), (69, 41955),

Gene: Golden_58 Start: 39155, Stop: 39577, Start Num: 27

Candidate Starts for Golden_58:

(14, 39029), (17, 39035), (23, 39092), (Start: 27 @39155 has 11 MA's), (32, 39179), (35, 39188), (37, 39191), (39, 39209), (41, 39218), (42, 39233), (44, 39251), (47, 39281), (49, 39293), (51, 39308), (53, 39341), (58, 39437), (60, 39467), (63, 39518),

Gene: Guetzie_59 Start: 39273, Stop: 39695, Start Num: 27

Candidate Starts for Guetzie_59:

(Start: 27 @39273 has 11 MA's), (32, 39297), (35, 39306), (37, 39309), (39, 39327), (41, 39336), (42, 39351), (44, 39369), (47, 39399), (49, 39411), (51, 39426), (53, 39459), (58, 39555), (60, 39585), (63, 39636),

Gene: Hamlet_63 Start: 41237, Stop: 41767, Start Num: 19

Candidate Starts for Hamlet_63:

(Start: 19 @41237 has 10 MA's), (Start: 26 @41318 has 3 MA's), (36, 41375), (44, 41438), (53, 41528), (56, 41603), (58, 41630), (65, 41726), (69, 41762),

Gene: HankSprout_63 Start: 40794, Stop: 41237, Start Num: 24

Candidate Starts for HankSprout_63:

(5, 40596), (8, 40614), (9, 40638), (13, 40704), (16, 40710), (Start: 24 @40794 has 20 MA's), (43, 40917), (46, 40947), (54, 41052), (55, 41055), (57, 41091), (58, 41097), (61, 41139), (62, 41166), (67, 41220), (68, 41223),

Gene: Janus167_62 Start: 40903, Stop: 41346, Start Num: 24

Candidate Starts for Janus167_62:

(5, 40705), (8, 40723), (9, 40747), (13, 40813), (16, 40819), (Start: 24 @40903 has 20 MA's), (43, 41026), (46, 41056), (54, 41161), (55, 41164), (57, 41200), (58, 41206), (61, 41248), (62, 41275), (67, 41329), (68, 41332),

Gene: JasonD_66 Start: 41391, Stop: 41957, Start Num: 15

Candidate Starts for JasonD_66:

(1, 41133), (4, 41262), (5, 41280), (15, 41391), (Start: 25 @41487 has 1 MA's), (30, 41538), (38, 41577), (44, 41631), (46, 41655), (53, 41718), (55, 41775), (57, 41814), (58, 41820), (64, 41907), (69, 41952),

Gene: Jerbirus_64 Start: 40919, Stop: 41362, Start Num: 24

Candidate Starts for Jerbirus_64:

(5, 40721), (6, 40733), (8, 40739), (9, 40763), (13, 40829), (16, 40835), (Start: 24 @40919 has 20 MA's), (43, 41042), (46, 41072), (54, 41177), (55, 41180), (57, 41216), (58, 41222), (61, 41264), (62, 41291), (68, 41348),

Gene: JeriBeth_64 Start: 40807, Stop: 41250, Start Num: 24

Candidate Starts for JeriBeth_64:

(5, 40609), (6, 40621), (8, 40627), (9, 40651), (13, 40717), (16, 40723), (Start: 24 @40807 has 20 MA's), (43, 40930), (46, 40960), (54, 41065), (55, 41068), (57, 41104), (58, 41110), (61, 41152), (62, 41179), (68, 41236),

Gene: Kauala_56 Start: 38890, Stop: 39315, Start Num: 27

Candidate Starts for Kauala_56:

(10, 38713), (14, 38764), (17, 38770), (Start: 27 @38890 has 11 MA's), (32, 38917), (42, 38971), (44, 38989), (53, 39079), (56, 39151), (58, 39175), (64, 39262), (66, 39292),

Gene: KingJulien_63 Start: 41134, Stop: 41583, Start Num: 26

Candidate Starts for KingJulien_63:

(Start: 19 @41053 has 10 MA's), (Start: 26 @41134 has 3 MA's), (50, 41305), (53, 41344), (58, 41446), (65, 41542), (69, 41578),

Gene: Koji_56 Start: 38918, Stop: 39340, Start Num: 27

Candidate Starts for Koji_56:

(14, 38792), (17, 38798), (23, 38855), (Start: 27 @38918 has 11 MA's), (32, 38942), (35, 38951), (42, 38996), (44, 39014), (45, 39017), (53, 39104), (58, 39200), (60, 39230), (63, 39281), (64, 39287), (66, 39317),

Gene: Kurt1_63 Start: 41176, Stop: 41619, Start Num: 24

Candidate Starts for Kurt1_63:

(5, 40978), (6, 40990), (8, 40996), (9, 41020), (13, 41086), (16, 41092), (Start: 24 @41176 has 20 MA's), (43, 41299), (46, 41329), (54, 41434), (55, 41437), (57, 41473), (58, 41479), (61, 41521), (62, 41548), (68, 41605),

Gene: Leafus_63 Start: 41384, Stop: 41833, Start Num: 26

Candidate Starts for Leafus_63:

(Start: 19 @41303 has 10 MA's), (Start: 26 @41384 has 3 MA's), (36, 41441), (44, 41504), (53, 41594), (56, 41669), (65, 41792), (69, 41828),

Gene: Lovelyunicorn_63 Start: 41171, Stop: 41614, Start Num: 24

Candidate Starts for Lovelyunicorn_63:

(5, 40973), (8, 40991), (9, 41015), (13, 41081), (16, 41087), (Start: 24 @41171 has 20 MA's), (43, 41294), (46, 41324), (54, 41429), (55, 41432), (57, 41468), (58, 41474), (61, 41516), (62, 41543), (68, 41600),

Gene: Lucky3_58 Start: 39155, Stop: 39577, Start Num: 27

Candidate Starts for Lucky3_58:

(14, 39029), (17, 39035), (23, 39092), (Start: 27 @39155 has 11 MA's), (32, 39179), (35, 39188), (37, 39191), (39, 39209), (41, 39218), (42, 39233), (44, 39251), (47, 39281), (49, 39293), (51, 39308), (53, 39341), (58, 39437), (60, 39467), (63, 39518),

Gene: McGalleon_63 Start: 41920, Stop: 42396, Start Num: 25

Candidate Starts for McGalleon_63:

(2, 41641), (4, 41692), (5, 41710), (15, 41821), (Start: 25 @41920 has 1 MA's), (42, 42058), (44, 42076), (53, 42166), (57, 42253), (58, 42259), (59, 42268), (62, 42328), (64, 42346), (65, 42355),

Gene: MonChoix_63 Start: 41006, Stop: 41509, Start Num: 21

Candidate Starts for MonChoix_63:

(Start: 21 @41006 has 3 MA's), (40, 41144), (47, 41219), (57, 41363), (58, 41369), (62, 41438),

Gene: MrWorldwide_63 Start: 41183, Stop: 41626, Start Num: 24

Candidate Starts for MrWorldwide_63:

(5, 40985), (6, 40997), (8, 41003), (9, 41027), (13, 41093), (16, 41099), (Start: 24 @41183 has 20 MA's), (43, 41306), (46, 41336), (54, 41441), (55, 41444), (57, 41480), (58, 41486), (61, 41528), (62, 41555), (68, 41612),

Gene: NickSell_63 Start: 41186, Stop: 41629, Start Num: 24

Candidate Starts for NickSell_63:

(5, 40988), (6, 41000), (8, 41006), (9, 41030), (13, 41096), (16, 41102), (Start: 24 @41186 has 20 MA's), (43, 41309), (46, 41339), (54, 41444), (55, 41447), (57, 41483), (58, 41489), (61, 41531), (62, 41558), (68, 41615),

Gene: OldNelly_63 Start: 40973, Stop: 41416, Start Num: 24

Candidate Starts for OldNelly_63:

(5, 40775), (8, 40793), (9, 40817), (13, 40883), (16, 40889), (Start: 24 @40973 has 20 MA's), (43, 41096), (46, 41126), (54, 41231), (57, 41270), (58, 41276), (62, 41345), (67, 41399), (68, 41402),

Gene: Oxtober96_64 Start: 41171, Stop: 41614, Start Num: 24

Candidate Starts for Oxtober96_64:

(5, 40973), (8, 40991), (9, 41015), (13, 41081), (16, 41087), (Start: 24 @41171 has 20 MA's), (43, 41294), (46, 41324), (54, 41429), (55, 41432), (57, 41468), (58, 41474), (61, 41516), (62, 41543), (68, 41600),

Gene: Pajaza_59 Start: 38795, Stop: 39223, Start Num: 29

Candidate Starts for Pajaza_59:

(Start: 29 @38795 has 3 MA's), (34, 38813), (39, 38840), (40, 38843), (41, 38849), (42, 38864), (48, 38924), (52, 38960), (53, 38978), (54, 39032), (58, 39077), (62, 39152), (66, 39200), (67, 39206),

Gene: Peppino_63 Start: 41235, Stop: 41765, Start Num: 19

Candidate Starts for Peppino_63:

(Start: 19 @41235 has 10 MA's), (Start: 26 @41316 has 3 MA's), (50, 41487), (53, 41526), (56, 41601), (58, 41628), (65, 41724), (69, 41760),

Gene: Pherbot_57 Start: 38686, Stop: 39108, Start Num: 27

Candidate Starts for Pherbot_57:

(14, 38560), (17, 38566), (Start: 27 @38686 has 11 MA's), (32, 38710), (35, 38719), (42, 38764), (44, 38782), (45, 38785), (53, 38872), (58, 38968), (60, 38998), (63, 39049), (64, 39055), (66, 39085),

Gene: Phiderman_63 Start: 41172, Stop: 41615, Start Num: 24

Candidate Starts for Phiderman_63:

(5, 40974), (6, 40986), (8, 40992), (9, 41016), (13, 41082), (16, 41088), (Start: 24 @41172 has 20 MA's), (43, 41295), (46, 41325), (54, 41430), (55, 41433), (57, 41469), (58, 41475), (61, 41517), (62, 41544), (68, 41601),

Gene: PhredFlintston_63 Start: 41176, Stop: 41619, Start Num: 24

Candidate Starts for PhredFlintston_63:

(2, 40909), (3, 40921), (4, 40960), (5, 40978), (6, 40990), (8, 40996), (9, 41020), (13, 41086), (Start: 24 @41176 has 20 MA's), (43, 41299), (46, 41329), (54, 41434), (55, 41437), (57, 41473), (58, 41479), (61, 41521), (62, 41548), (68, 41605),

Gene: Pikmin_59 Start: 38795, Stop: 39223, Start Num: 29

Candidate Starts for Pikmin_59:

(Start: 29 @38795 has 3 MA's), (34, 38813), (39, 38840), (40, 38843), (41, 38849), (42, 38864), (48, 38924), (52, 38960), (53, 38978), (54, 39032), (58, 39077), (62, 39152), (66, 39200), (67, 39206),

Gene: PrincePhergus_57 Start: 38703, Stop: 39128, Start Num: 27

Candidate Starts for PrincePhergus_57:

(14, 38577), (17, 38583), (23, 38640), (Start: 27 @38703 has 11 MA's), (32, 38730), (35, 38739), (42, 38784), (44, 38802), (45, 38805), (53, 38892), (58, 38988), (60, 39018), (63, 39069), (64, 39075), (66, 39105),

Gene: Raccoon_63 Start: 41197, Stop: 41727, Start Num: 19

Candidate Starts for Raccoon_63:

(Start: 19 @41197 has 10 MA's), (Start: 26 @41278 has 3 MA's), (36, 41335), (44, 41398), (53, 41488), (56, 41563), (58, 41590), (65, 41686), (69, 41722),

Gene: Rapheph_63 Start: 41176, Stop: 41619, Start Num: 24

Candidate Starts for Rapheph_63:

(5, 40978), (6, 40990), (8, 40996), (9, 41020), (13, 41086), (16, 41092), (Start: 24 @41176 has 20 MA's), (43, 41299), (46, 41329), (54, 41434), (57, 41473), (58, 41479), (62, 41548), (67, 41602), (68, 41605),

Gene: Redfield_63 Start: 41233, Stop: 41763, Start Num: 19

Candidate Starts for Redfield_63:

(11, 41176), (Start: 19 @41233 has 10 MA's), (Start: 26 @41314 has 3 MA's), (36, 41371), (44, 41434), (53, 41524), (56, 41599), (58, 41626), (65, 41722), (69, 41758),

Gene: Schnapsidee_63 Start: 41175, Stop: 41705, Start Num: 19

Candidate Starts for Schnapsidee_63:

(Start: 19 @41175 has 10 MA's), (Start: 26 @41256 has 3 MA's), (36, 41313), (44, 41376), (53, 41466), (56, 41541), (58, 41568), (65, 41664), (69, 41700),

Gene: Sedgewig_62 Start: 40878, Stop: 41321, Start Num: 24

Candidate Starts for Sedgewig_62:

(5, 40680), (8, 40698), (9, 40722), (13, 40788), (16, 40794), (Start: 24 @40878 has 20 MA's), (43, 41001), (46, 41031), (54, 41136), (55, 41139), (57, 41175), (58, 41181), (61, 41223), (62, 41250), (67,

41304), (68, 41307),

Gene: ShaiHulud_64 Start: 41185, Stop: 41628, Start Num: 24

Candidate Starts for ShaiHulud_64:

(5, 40987), (8, 41005), (9, 41029), (13, 41095), (16, 41101), (Start: 24 @41185 has 20 MA's), (31, 41230), (43, 41308), (46, 41338), (54, 41443), (55, 41446), (57, 41482), (58, 41488), (61, 41530), (62, 41557), (68, 41614),

Gene: Sinatra_58 Start: 38698, Stop: 39120, Start Num: 27

Candidate Starts for Sinatra_58:

(14, 38572), (17, 38578), (22, 38623), (Start: 27 @38698 has 11 MA's), (32, 38722), (35, 38731), (42, 38776), (44, 38794), (45, 38797), (53, 38884), (58, 38980), (60, 39010), (63, 39061), (64, 39067), (66, 39097),

Gene: SirVictor_59 Start: 39273, Stop: 39695, Start Num: 27

Candidate Starts for SirVictor_59:

(Start: 27 @39273 has 11 MA's), (32, 39297), (35, 39306), (37, 39309), (39, 39327), (41, 39336), (42, 39351), (44, 39369), (47, 39399), (49, 39411), (51, 39426), (53, 39459), (58, 39555), (60, 39585), (63, 39636),

Gene: SoilGremlin_63 Start: 40969, Stop: 41412, Start Num: 24

Candidate Starts for SoilGremlin_63:

(5, 40771), (8, 40789), (9, 40813), (13, 40879), (16, 40885), (Start: 24 @40969 has 20 MA's), (43, 41092), (46, 41122), (54, 41227), (57, 41266), (58, 41272), (62, 41341), (67, 41395), (68, 41398),

Gene: SonOfLevi_64 Start: 40946, Stop: 41389, Start Num: 24

Candidate Starts for SonOfLevi_64:

(5, 40748), (6, 40760), (8, 40766), (9, 40790), (13, 40856), (16, 40862), (Start: 24 @40946 has 20 MA's), (43, 41069), (46, 41099), (54, 41204), (57, 41243), (58, 41249), (61, 41291), (62, 41318), (68, 41375),

Gene: StirfryIV_62 Start: 40892, Stop: 41335, Start Num: 24

Candidate Starts for StirfryIV_62:

(5, 40694), (8, 40712), (9, 40736), (13, 40802), (16, 40808), (Start: 24 @40892 has 20 MA's), (43, 41015), (46, 41045), (54, 41150), (55, 41153), (57, 41189), (58, 41195), (61, 41237), (62, 41264), (67, 41318), (68, 41321),

Gene: Stormbreaker8_62 Start: 41054, Stop: 41584, Start Num: 19

Candidate Starts for Stormbreaker8_62:

(Start: 19 @41054 has 10 MA's), (Start: 26 @41135 has 3 MA's), (50, 41306), (53, 41345), (58, 41447), (65, 41543), (69, 41579),

Gene: Superfresh_63 Start: 41155, Stop: 41676, Start Num: 19

Candidate Starts for Superfresh_63:

(Start: 19 @41155 has 10 MA's), (Start: 24 @41233 has 20 MA's), (43, 41356), (47, 41398), (54, 41491), (55, 41494), (57, 41530), (58, 41536), (61, 41578), (62, 41605), (67, 41659), (68, 41662),

Gene: Velene_63 Start: 41171, Stop: 41614, Start Num: 24

Candidate Starts for Velene_63:

(5, 40973), (6, 40985), (8, 40991), (9, 41015), (13, 41081), (16, 41087), (Start: 24 @41171 has 20 MA's), (43, 41294), (46, 41324), (54, 41429), (57, 41468), (58, 41474), (61, 41516), (62, 41543), (67, 41597), (68, 41600),