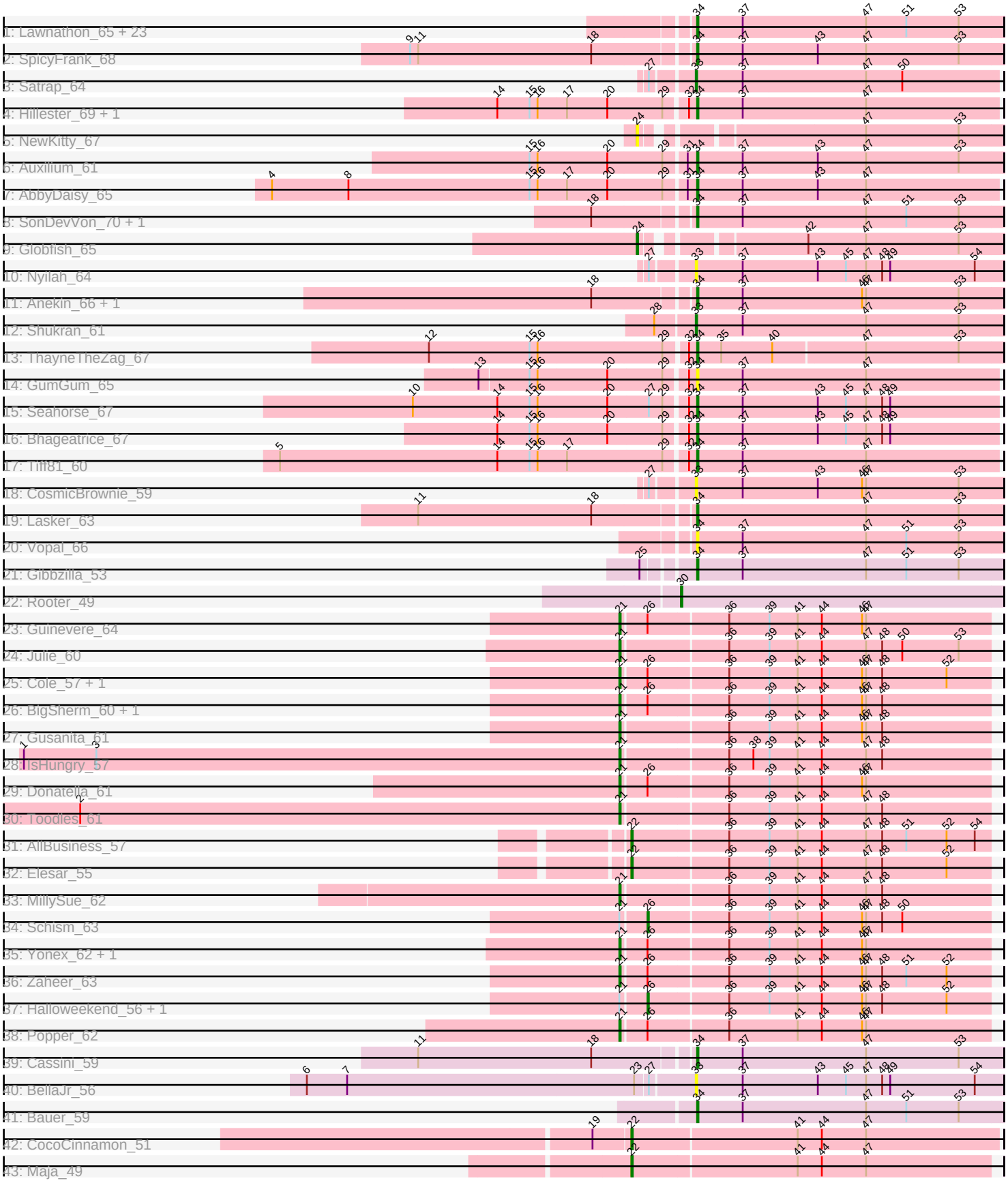
Pham 343939


1: Lawnathon_65 + 23
2: SpicyFrank_68
3: Satrap_64
4: Hillester_69 + 1
6: NewKitty_67
6: Auxilium_61
7: AbbyDaisy_65
8: SonDevVon_70 + 1
9: Globfish_65
10: Nyilah_64
11: Anekin_66 + 1
12: Shukran_61
13: ThayneTheZag_67
14: GumGum_65
15: Seahorse_67
16: Bhageatrice_67
17: Tiffi81_60
18: CosmicBrownie_59
19: Lasker_63
20: Vopal_66
21: Gibbzilla_53
22: Rooter_49
23: Guinevere_64
24: Julie_60
25: Cole_57 + 1
26: BigSherm_60 + 1
27: Gusanita_61
28: IIsHungry_57
29: Donatella_61
30: Toodles_61
31: AllBusiness_57
32: Elesar_55
33: MillySue_62
34: Schism_63
35: Yonex_62 + 1
36: Zaheer_63
37: Halloweekend_56 + 1
38: Popper_62
39: Cassini_59
40: BellaJr_56
41: Bauer_59
42: CocoCinnamon_51
43: Maja_49

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 343939 Report

This analysis was run 11/14/26 on database version 672.

Pham number 343939 has 73 members, 11 are drafts.

Phages represented in each track:
• Track 1 : Lawnathon_65, Kabloowy_64, JellyBread_61, Faja_64, CookieBear_64, MurphyJoseph_61, BlueShadow_64, Gorpy_64, Phrank15_65, YoungHarleezy_64, MidnightRain_68, BasketStar_66, Isolde_63, Aikyam_63, AdaS_60, MaterMagnus_65, Raphaella_63, BillyTP_66, Sporco_67, Windest_66, BenchScraper_63, Mapleville_60, MUWow_64, Sakai_63
• Track 2 : SpicyFrank_68
• Track 3 : Satrap_64
• Track 4 : Hillester_69, RadFad_69
• Track 5 : NewKitty_67
• Track 6 : Auxilium_61
• Track 7 : AbbyDaisy_65
• Track 8 : SonDevVon_70, Richie_68
• Track 9 : Globfish_65
• Track 10 : Nyilah_64
• Track 11 : Anekin_66, BlackSpider_52
• Track 12 : Shukran_61
• Track 13 : ThayneTheZag_67
• Track 14 : GumGum_65
• Track 15 : Seahorse_67
• Track 16 : Bhageatrice_67
• Track 17 : Tiff81_60
• Track 18 : CosmicBrownie_59
• Track 19 : Lasker_63
• Track 20 : Vopal_66
• Track 21 : Gibbzilla_53
• Track 22 : Rooter_49
• Track 23 : Guinevere_64
• Track 24 : Julie_60
• Track 25 : Cole_57, QuinnAvery_63
• Track 26 : BigSherm_60, GoodLuckBabe_63
• Track 27 : Gusanita_61
• Track 28 : IsHungry_57
• Track 29 : Donatella_61
• Track 30 : Toodles_61
• Track 31 : AllBusiness_57
• Track 32 : Elesar_55
• Track 33 : MillySue_62

• Track 34 : Schism_63
• Track 35 : Yonex_62, Ryan_62
• Track 36 : Zaheer_63
• Track 37 : Halloweekend_56, Saintcarr_60
• Track 38 : Popper_62
• Track 39 : Cassini_59
• Track 40 : BellaJr_56
• Track 41 : Bauer_59
• Track 42 : CocoCinnamon_51
• Track 43 : Maja_49

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

The start number called the most often in the published annotations is 34, it was called in 38 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AbbyDaisy_65, AdaS_60, Aikyam_63, Anekin_66, Auxilium_61, BasketStar_66, Bauer_59, BenchScraper_63, Bhageatrice_67, BillyTP_66, BlackSpider_52, BlueShadow_64, Cassini_59, CookieBear_64, Faja_64, Gibbzilla_53, Gorpy_64, GumGum_65, Hillester_69, Isolde_63, JellyBread_61, Kabloowy_64, Lasker_63, Lawnathon_65, MUWow_64, Mapleville_60, MaterMagnus_65, MidnightRain_68, MurphyJoseph_61, Phrank15_65, RadFad_69, Raphaella_63, Richie_68, Sakai_63, Seahorse_67, SonDevVon_70, SpicyFrank_68, Sporco_67, ThayneTheZag_67, Tiff81_60, Vopal_66, Windest_66, YoungHarleezy_64,

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

Genes that do not have the "Most Annotated" start:
• AllBusiness_57, BellaJr_56, BigSherm_60, CocoCinnamon_51, Cole_57, CosmicBrownie_59, Donatella_61, Elesar_55, Globfish_65, GoodLuckBabe_63, Guinevere_64, Gusanita_61, Halloweekend_56, IsHungry_57, Julie_60, Maja_49, MillySue_62, NewKitty_67, Nyilah_64, Popper_62, QuinnAvery_63, Rooter_49, Ryan_62, Saintcarr_60, Satrap_64, Schism_63, Shukran_61, Toodles_61, Yonex_62, Zaheer_63,

Summary by start number:

Start 21:
• Found in 18 of 73 (24.7%) of genes in pham
• Manual Annotations of this start: 14 of 62
• Called 83.3% of time when present
• Phage (with cluster) where this start called: BigSherm_60 (FF), Cole_57 (FF), Donatella_61 (FF), GoodLuckBabe_63 (FF), Guinevere_64 (FF), Gusanita_61 (FF), IsHungry_57 (FF), Julie_60 (FF), MillySue_62 (FF), Popper_62 (FF), QuinnAvery_63 (FF), Ryan_62 (FF), Toodles_61 (FF), Yonex_62 (FF), Zaheer_63 (FF),

Start 22:
• Found in 4 of 73 (5.5%) of genes in pham

• Manual Annotations of this start: 4 of 62
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AllBusiness_57 (FF), CocoCinnamon_51 (FO), Elesar_55 (FF), Maja_49 (FO),

Start 24:
• Found in 2 of 73 (2.7%) 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: Globfish_65 (AY), NewKitty_67 (AY),

Start 26:
• Found in 13 of 73 (17.8%) of genes in pham
• Manual Annotations of this start: 2 of 62
• Called 23.1% of time when present
• Phage (with cluster) where this start called: Halloweekend_56 (FF), Saintcarr_60 (FF), Schism_63 (FF),

Start 30:
• Found in 1 of 73 (1.4%) 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: Rooter_49 (FB),

Start 33:
• Found in 5 of 73 (6.8%) of genes in pham
• Manual Annotations of this start: 2 of 62
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BellaJr_56 (FN), CosmicBrownie_59 (AY), Nyilah_64 (AY), Satrap_64 (AY), Shukran_61 (AY),

Start 34:
• Found in 43 of 73 (58.9%) of genes in pham
• Manual Annotations of this start: 38 of 62
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AbbyDaisy_65 (AY), AdaS_60 (AY), Aikyam_63 (AY), Anekin_66 (AY), Auxilium_61 (AY), BasketStar_66 (AY), Bauer_59 (FN), BenchScraper_63 (AY), Bhageatrice_67 (AY), BillyTP_66 (AY), BlackSpider_52 (FN), BlueShadow_64 (AY), Cassini_59 (FN), CookieBear_64 (AY), Faja_64 (AY), Gibbzilla_53 (FB), Gorpy_64 (AY), GumGum_65 (AY), Hillester_69 (AY), Isolde_63 (AY), JellyBread_61 (AY), Kabloowy_64 (AY), Lasker_63 (AY), Lawnathon_65 (AY), MUWow_64 (AY), Mapleville_60 (AY), MaterMagnus_65 (AY), MidnightRain_68 (AY), MurphyJoseph_61 (AY), Phrank15_65 (AY), RadFad_69 (AY), Raphaella_63 (AY), Richie_68 (AY), Sakai_63 (AY), Seahorse_67 (AY), SonDevVon_70 (AY), SpicyFrank_68 (AY), Sporco_67 (AY), ThayneTheZag_67 (AY), Tiff81_60 (AY), Vopal_66 (AY), Windest_66 (AY), YoungHarleezy_64 (AY),

Summary by clusters:

There are 5 clusters represented in this pham: AY, FB, FN, FF, FO,

Info for manual annotations of cluster AY:
•Start number 24 was manually annotated 1 time for cluster AY.

•Start number 33 was manually annotated 2 times for cluster AY.
•Start number 34 was manually annotated 34 times for cluster AY.

Info for manual annotations of cluster FB:
•Start number 30 was manually annotated 1 time for cluster FB.
•Start number 34 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FF:
•Start number 21 was manually annotated 14 times for cluster FF.
•Start number 22 was manually annotated 2 times for cluster FF.
•Start number 26 was manually annotated 2 times for cluster FF.

Info for manual annotations of cluster FN:
•Start number 34 was manually annotated 3 times for cluster FN.

Info for manual annotations of cluster FO:
•Start number 22 was manually annotated 2 times for cluster FO.

Gene Information:

Gene: AbbyDaisy_65 Start: 35452, Stop: 35673, Start Num: 34
Candidate Starts for AbbyDaisy_65:
(4, 35143), (8, 35200), (15, 35335), (16, 35341), (17, 35362), (20, 35392), (29, 35431), (31, 35446), (Start: 34 @35452 has 38 MA's), (37, 35485), (43, 35539), (47, 35575),

Gene: AdaS_60 Start: 32812, Stop: 33036, Start Num: 34
Candidate Starts for AdaS_60:
(Start: 34 @32812 has 38 MA's), (37, 32845), (47, 32935), (51, 32965), (53, 33004),

Gene: Aikyam_63 Start: 33131, Stop: 33355, Start Num: 34
Candidate Starts for Aikyam_63:
(Start: 34 @33131 has 38 MA's), (37, 33164), (47, 33254), (51, 33284), (53, 33323),

Gene: AllBusiness_57 Start: 38932, Stop: 39195, Start Num: 22
Candidate Starts for AllBusiness_57:
(Start: 22 @38932 has 4 MA's), (36, 39001), (39, 39031), (41, 39052), (44, 39070), (47, 39103), (48, 39115), (51, 39133), (52, 39163), (54, 39184),

Gene: Anekin_66 Start: 35586, Stop: 35810, Start Num: 34
Candidate Starts for Anekin_66:
(18, 35517), (Start: 34 @35586 has 38 MA's), (37, 35619), (46, 35706), (47, 35709), (53, 35778),

Gene: Auxilium_61 Start: 32424, Stop: 32648, Start Num: 34
Candidate Starts for Auxilium_61:
(15, 32307), (16, 32313), (20, 32364), (29, 32403), (31, 32418), (Start: 34 @32424 has 38 MA's), (37, 32457), (43, 32511), (47, 32547), (53, 32616),

Gene: BasketStar_66 Start: 35482, Stop: 35706, Start Num: 34
Candidate Starts for BasketStar_66:
(Start: 34 @35482 has 38 MA's), (37, 35515), (47, 35605), (51, 35635), (53, 35674),

Gene: Bauer_59 Start: 33224, Stop: 33448, Start Num: 34
Candidate Starts for Bauer_59:
(Start: 34 @33224 has 38 MA's), (37, 33257), (47, 33347), (51, 33377), (53, 33416),

Gene: BellaJr_56 Start: 33595, Stop: 33819, Start Num: 33
Candidate Starts for BellaJr_56:
(6, 33313), (7, 33343), (23, 33556), (27, 33565), (Start: 33 @33595 has 2 MA's), (37, 33628), (43, 33682), (45, 33703), (47, 33718), (48, 33730), (49, 33736), (54, 33799),

Gene: BenchScraper_63 Start: 34323, Stop: 34547, Start Num: 34
Candidate Starts for BenchScraper_63:
(Start: 34 @34323 has 38 MA's), (37, 34356), (47, 34446), (51, 34476), (53, 34515),

Gene: Bhageatrice_67 Start: 37265, Stop: 37486, Start Num: 34
Candidate Starts for Bhageatrice_67:
(14, 37124), (15, 37148), (16, 37154), (20, 37205), (29, 37244), (32, 37259), (Start: 34 @37265 has 38 MA's), (37, 37298), (43, 37352), (45, 37373), (47, 37388), (48, 37400), (49, 37406),

Gene: BigSherm_60 Start: 37503, Stop: 37772, Start Num: 21
Candidate Starts for BigSherm_60:
(Start: 21 @37503 has 14 MA's), (Start: 26 @37521 has 2 MA's), (36, 37578), (39, 37608), (41, 37629), (44, 37647), (46, 37677), (47, 37680), (48, 37692),

Gene: BillyTP_66 Start: 36178, Stop: 36402, Start Num: 34
Candidate Starts for BillyTP_66:
(Start: 34 @36178 has 38 MA's), (37, 36211), (47, 36301), (51, 36331), (53, 36370),

Gene: BlackSpider_52 Start: 31839, Stop: 32063, Start Num: 34
Candidate Starts for BlackSpider_52:
(18, 31770), (Start: 34 @31839 has 38 MA's), (37, 31872), (46, 31959), (47, 31962), (53, 32031),

Gene: BlueShadow_64 Start: 34968, Stop: 35192, Start Num: 34
Candidate Starts for BlueShadow_64:
(Start: 34 @34968 has 38 MA's), (37, 35001), (47, 35091), (51, 35121), (53, 35160),

Gene: Cassini_59 Start: 33679, Stop: 33903, Start Num: 34
Candidate Starts for Cassini_59:
(11, 33481), (18, 33610), (Start: 34 @33679 has 38 MA's), (37, 33712), (47, 33802), (53, 33871),

Gene: CocoCinnamon_51 Start: 32603, Stop: 32872, Start Num: 22
Candidate Starts for CocoCinnamon_51:
(19, 32576), (Start: 22 @32603 has 4 MA's), (41, 32723), (44, 32741), (47, 32774),

Gene: Cole_57 Start: 37556, Stop: 37825, Start Num: 21
Candidate Starts for Cole_57:
(Start: 21 @37556 has 14 MA's), (Start: 26 @37574 has 2 MA's), (36, 37631), (39, 37661), (41, 37682), (44, 37700), (46, 37730), (47, 37733), (48, 37745), (52, 37793),

Gene: CookieBear_64 Start: 34562, Stop: 34786, Start Num: 34
Candidate Starts for CookieBear_64:
(Start: 34 @34562 has 38 MA's), (37, 34595), (47, 34685), (51, 34715), (53, 34754),

Gene: CosmicBrownie_59 Start: 33320, Stop: 33544, Start Num: 33

Candidate Starts for CosmicBrownie_59:
(27, 33293), (Start: 33 @33320 has 2 MA's), (37, 33353), (43, 33407), (46, 33440), (47, 33443), (53, 33512),

Gene: Donatella_61 Start: 38470, Stop: 38739, Start Num: 21
Candidate Starts for Donatella_61:
(Start: 21 @38470 has 14 MA's), (Start: 26 @38488 has 2 MA's), (36, 38545), (39, 38575), (41, 38596), (44, 38614), (46, 38644), (47, 38647),

Gene: Elesar_55 Start: 38817, Stop: 39080, Start Num: 22
Candidate Starts for Elesar_55:
(Start: 22 @38817 has 4 MA's), (36, 38886), (39, 38916), (41, 38937), (44, 38955), (47, 38988), (48, 39000), (52, 39048),

Gene: Faja_64 Start: 35937, Stop: 36161, Start Num: 34
Candidate Starts for Faja_64:
(Start: 34 @35937 has 38 MA's), (37, 35970), (47, 36060), (51, 36090), (53, 36129),

Gene: Gibbzilla_53 Start: 30129, Stop: 30353, Start Num: 34
Candidate Starts for Gibbzilla_53:
(25, 30096), (Start: 34 @30129 has 38 MA's), (37, 30162), (47, 30252), (51, 30282), (53, 30321),

Gene: Globfish_65 Start: 35155, Stop: 35400, Start Num: 24
Candidate Starts for Globfish_65:
(Start: 24 @35155 has 1 MA's), (42, 35257), (47, 35299), (53, 35368),

Gene: GoodLuckBabe_63 Start: 38150, Stop: 38419, Start Num: 21
Candidate Starts for GoodLuckBabe_63:
(Start: 21 @38150 has 14 MA's), (Start: 26 @38168 has 2 MA's), (36, 38225), (39, 38255), (41, 38276), (44, 38294), (46, 38324), (47, 38327), (48, 38339),

Gene: Gorpy_64 Start: 35554, Stop: 35778, Start Num: 34
Candidate Starts for Gorpy_64:
(Start: 34 @35554 has 38 MA's), (37, 35587), (47, 35677), (51, 35707), (53, 35746),

Gene: Guinevere_64 Start: 38127, Stop: 38396, Start Num: 21
Candidate Starts for Guinevere_64:
(Start: 21 @38127 has 14 MA's), (Start: 26 @38145 has 2 MA's), (36, 38202), (39, 38232), (41, 38253), (44, 38271), (46, 38301), (47, 38304),

Gene: GumGum_65 Start: 34578, Stop: 34799, Start Num: 34
Candidate Starts for GumGum_65:
(13, 34425), (15, 34461), (16, 34467), (20, 34518), (29, 34557), (32, 34572), (Start: 34 @34578 has 38 MA's), (37, 34611), (47, 34701),

Gene: Gusanita_61 Start: 38513, Stop: 38782, Start Num: 21
Candidate Starts for Gusanita_61:
(Start: 21 @38513 has 14 MA's), (36, 38588), (39, 38618), (41, 38639), (44, 38657), (46, 38687), (47, 38690), (48, 38702),

Gene: Halloweekend_56 Start: 37657, Stop: 37908, Start Num: 26
Candidate Starts for Halloweekend_56:

(Start: 21 @37639 has 14 MA's), (Start: 26 @37657 has 2 MA's), (36, 37714), (39, 37744), (41, 37765), (44, 37783), (46, 37813), (47, 37816), (48, 37828), (52, 37876),

Gene: Hillester_69 Start: 36029, Stop: 36250, Start Num: 34
Candidate Starts for Hillester_69:
(14, 35888), (15, 35912), (16, 35918), (17, 35939), (20, 35969), (29, 36008), (32, 36023), (Start: 34 @36029 has 38 MA's), (37, 36062), (47, 36152),

Gene: IsHungry_57 Start: 36577, Stop: 36846, Start Num: 21
Candidate Starts for IsHungry_57:
(1, 36133), (3, 36187), (Start: 21 @36577 has 14 MA's), (36, 36652), (38, 36670), (39, 36682), (41, 36703), (44, 36721), (47, 36754), (48, 36766),

Gene: Isolde_63 Start: 34231, Stop: 34455, Start Num: 34
Candidate Starts for Isolde_63:
(Start: 34 @34231 has 38 MA's), (37, 34264), (47, 34354), (51, 34384), (53, 34423),

Gene: JellyBread_61 Start: 33583, Stop: 33807, Start Num: 34
Candidate Starts for JellyBread_61:
(Start: 34 @33583 has 38 MA's), (37, 33616), (47, 33706), (51, 33736), (53, 33775),

Gene: Julie_60 Start: 38233, Stop: 38502, Start Num: 21
Candidate Starts for Julie_60:
(Start: 21 @38233 has 14 MA's), (36, 38308), (39, 38338), (41, 38359), (44, 38377), (47, 38410), (48, 38422), (50, 38437), (53, 38479),

Gene: Kabloowy_64 Start: 35503, Stop: 35727, Start Num: 34
Candidate Starts for Kabloowy_64:
(Start: 34 @35503 has 38 MA's), (37, 35536), (47, 35626), (51, 35656), (53, 35695),

Gene: Lasker_63 Start: 35063, Stop: 35287, Start Num: 34
Candidate Starts for Lasker_63:
(11, 34865), (18, 34994), (Start: 34 @35063 has 38 MA's), (47, 35186), (53, 35255),

Gene: Lawnathon_65 Start: 34723, Stop: 34947, Start Num: 34
Candidate Starts for Lawnathon_65:
(Start: 34 @34723 has 38 MA's), (37, 34756), (47, 34846), (51, 34876), (53, 34915),

Gene: MUWow_64 Start: 34898, Stop: 35122, Start Num: 34
Candidate Starts for MUWow_64:
(Start: 34 @34898 has 38 MA's), (37, 34931), (47, 35021), (51, 35051), (53, 35090),

Gene: Maja_49 Start: 33108, Stop: 33371, Start Num: 22
Candidate Starts for Maja_49:
(Start: 22 @33108 has 4 MA's), (41, 33228), (44, 33246), (47, 33279),

Gene: Mapleville_60 Start: 34042, Stop: 34266, Start Num: 34
Candidate Starts for Mapleville_60:
(Start: 34 @34042 has 38 MA's), (37, 34075), (47, 34165), (51, 34195), (53, 34234),

Gene: MaterMagnus_65 Start: 35303, Stop: 35527, Start Num: 34
Candidate Starts for MaterMagnus_65:
(Start: 34 @35303 has 38 MA's), (37, 35336), (47, 35426), (51, 35456), (53, 35495),

Gene: MidnightRain_68 Start: 36072, Stop: 36296, Start Num: 34
Candidate Starts for MidnightRain_68:
(Start: 34 @36072 has 38 MA's), (37, 36105), (47, 36195), (51, 36225), (53, 36264),

Gene: MillySue_62 Start: 37847, Stop: 38116, Start Num: 21
Candidate Starts for MillySue_62:
(Start: 21 @37847 has 14 MA's), (36, 37922), (39, 37952), (41, 37973), (44, 37991), (47, 38024), (48, 38036),

Gene: MurphyJoseph_61 Start: 33801, Stop: 34025, Start Num: 34
Candidate Starts for MurphyJoseph_61:
(Start: 34 @33801 has 38 MA's), (37, 33834), (47, 33924), (51, 33954), (53, 33993),

Gene: NewKitty_67 Start: 34809, Stop: 35054, Start Num: 24
Candidate Starts for NewKitty_67:
(Start: 24 @34809 has 1 MA's), (47, 34953), (53, 35022),

Gene: Nyilah_64 Start: 33476, Stop: 33700, Start Num: 33
Candidate Starts for Nyilah_64:
(27, 33449), (Start: 33 @33476 has 2 MA's), (37, 33509), (43, 33563), (45, 33584), (47, 33599), (48, 33611), (49, 33617), (54, 33680),

Gene: Phrank15_65 Start: 34854, Stop: 35078, Start Num: 34
Candidate Starts for Phrank15_65:
(Start: 34 @34854 has 38 MA's), (37, 34887), (47, 34977), (51, 35007), (53, 35046),

Gene: Popper_62 Start: 37772, Stop: 38041, Start Num: 21
Candidate Starts for Popper_62:
(Start: 21 @37772 has 14 MA's), (Start: 26 @37790 has 2 MA's), (36, 37847), (41, 37898), (44, 37916), (46, 37946), (47, 37949),

Gene: QuinnAvery_63 Start: 39177, Stop: 39446, Start Num: 21
Candidate Starts for QuinnAvery_63:
(Start: 21 @39177 has 14 MA's), (Start: 26 @39195 has 2 MA's), (36, 39252), (39, 39282), (41, 39303), (44, 39321), (46, 39351), (47, 39354), (48, 39366), (52, 39414),

Gene: RadFad_69 Start: 36029, Stop: 36250, Start Num: 34
Candidate Starts for RadFad_69:
(14, 35888), (15, 35912), (16, 35918), (17, 35939), (20, 35969), (29, 36008), (32, 36023), (Start: 34 @36029 has 38 MA's), (37, 36062), (47, 36152),

Gene: Raphaella_63 Start: 34421, Stop: 34645, Start Num: 34
Candidate Starts for Raphaella_63:
(Start: 34 @34421 has 38 MA's), (37, 34454), (47, 34544), (51, 34574), (53, 34613),

Gene: Richie_68 Start: 36226, Stop: 36450, Start Num: 34
Candidate Starts for Richie_68:
(18, 36157), (Start: 34 @36226 has 38 MA's), (37, 36259), (47, 36349), (51, 36379), (53, 36418),

Gene: Rooter_49 Start: 28729, Stop: 28968, Start Num: 30
Candidate Starts for Rooter_49:
(Start: 30 @28729 has 1 MA's),

Gene: Ryan_62 Start: 38945, Stop: 39214, Start Num: 21
Candidate Starts for Ryan_62:
(Start: 21 @38945 has 14 MA's), (Start: 26 @38963 has 2 MA's), (36, 39020), (39, 39050), (41, 39071), (44, 39089), (46, 39119), (47, 39122),

Gene: Saintcarr_60 Start: 38672, Stop: 38923, Start Num: 26
Candidate Starts for Saintcarr_60:
(Start: 21 @38654 has 14 MA's), (Start: 26 @38672 has 2 MA's), (36, 38729), (39, 38759), (41, 38780), (44, 38798), (46, 38828), (47, 38831), (48, 38843), (52, 38891),

Gene: Sakai_63 Start: 34265, Stop: 34489, Start Num: 34
Candidate Starts for Sakai_63:
(Start: 34 @34265 has 38 MA's), (37, 34298), (47, 34388), (51, 34418), (53, 34457),

Gene: Satrap_64 Start: 34695, Stop: 34916, Start Num: 33
Candidate Starts for Satrap_64:
(27, 34668), (Start: 33 @34695 has 2 MA's), (37, 34728), (47, 34818), (50, 34845),

Gene: Schism_63 Start: 38985, Stop: 39236, Start Num: 26
Candidate Starts for Schism_63:
(Start: 21 @38967 has 14 MA's), (Start: 26 @38985 has 2 MA's), (36, 39042), (39, 39072), (41, 39093), (44, 39111), (46, 39141), (47, 39144), (48, 39156), (50, 39171),

Gene: Seahorse_67 Start: 36536, Stop: 36757, Start Num: 34
Candidate Starts for Seahorse_67:
(10, 36332), (14, 36395), (15, 36419), (16, 36425), (20, 36476), (27, 36506), (29, 36515), (32, 36530), (Start: 34 @36536 has 38 MA's), (37, 36569), (43, 36623), (45, 36644), (47, 36659), (48, 36671), (49, 36677),

Gene: Shukran_61 Start: 33238, Stop: 33462, Start Num: 33
Candidate Starts for Shukran_61:
(28, 33211), (Start: 33 @33238 has 2 MA's), (37, 33271), (47, 33361), (53, 33430),

Gene: SonDevVon_70 Start: 35574, Stop: 35798, Start Num: 34
Candidate Starts for SonDevVon_70:
(18, 35505), (Start: 34 @35574 has 38 MA's), (37, 35607), (47, 35697), (51, 35727), (53, 35766),

Gene: SpicyFrank_68 Start: 35824, Stop: 36048, Start Num: 34
Candidate Starts for SpicyFrank_68:
(9, 35620), (11, 35626), (18, 35755), (Start: 34 @35824 has 38 MA's), (37, 35857), (43, 35911), (47, 35947), (53, 36016),

Gene: Sporco_67 Start: 35849, Stop: 36073, Start Num: 34
Candidate Starts for Sporco_67:
(Start: 34 @35849 has 38 MA's), (37, 35882), (47, 35972), (51, 36002), (53, 36041),

Gene: ThayneTheZag_67 Start: 34703, Stop: 34924, Start Num: 34
Candidate Starts for ThayneTheZag_67:
(12, 34511), (15, 34586), (16, 34592), (29, 34682), (32, 34697), (Start: 34 @34703 has 38 MA's), (35, 34721), (40, 34757), (47, 34823), (53, 34892),

Gene: Tiff81_60 Start: 32949, Stop: 33170, Start Num: 34

Candidate Starts for Tiff81_60:
(5, 32646), (14, 32808), (15, 32832), (16, 32838), (17, 32859), (29, 32928), (32, 32943), (Start: 34 @32949 has 38 MA's), (37, 32982), (47, 33072),

Gene: Toodles_61 Start: 38966, Stop: 39235, Start Num: 21
Candidate Starts for Toodles_61:
(2, 38564), (Start: 21 @38966 has 14 MA's), (36, 39041), (39, 39071), (41, 39092), (44, 39110), (47, 39143), (48, 39155),

Gene: Vopal_66 Start: 37754, Stop: 37978, Start Num: 34
Candidate Starts for Vopal_66:
(Start: 34 @37754 has 38 MA's), (37, 37787), (47, 37877), (51, 37907), (53, 37946),

Gene: Windest_66 Start: 33781, Stop: 34005, Start Num: 34
Candidate Starts for Windest_66:
(Start: 34 @33781 has 38 MA's), (37, 33814), (47, 33904), (51, 33934), (53, 33973),

Gene: Yonex_62 Start: 38945, Stop: 39214, Start Num: 21
Candidate Starts for Yonex_62:
(Start: 21 @38945 has 14 MA's), (Start: 26 @38963 has 2 MA's), (36, 39020), (39, 39050), (41, 39071), (44, 39089), (46, 39119), (47, 39122),

Gene: YoungHarleezy_64 Start: 34960, Stop: 35184, Start Num: 34
Candidate Starts for YoungHarleezy_64:
(Start: 34 @34960 has 38 MA's), (37, 34993), (47, 35083), (51, 35113), (53, 35152),

Gene: Zaheer_63 Start: 39067, Stop: 39336, Start Num: 21
Candidate Starts for Zaheer_63:
(Start: 21 @39067 has 14 MA's), (Start: 26 @39085 has 2 MA's), (36, 39142), (39, 39172), (41, 39193), (44, 39211), (46, 39241), (47, 39244), (48, 39256), (51, 39274), (52, 39304),