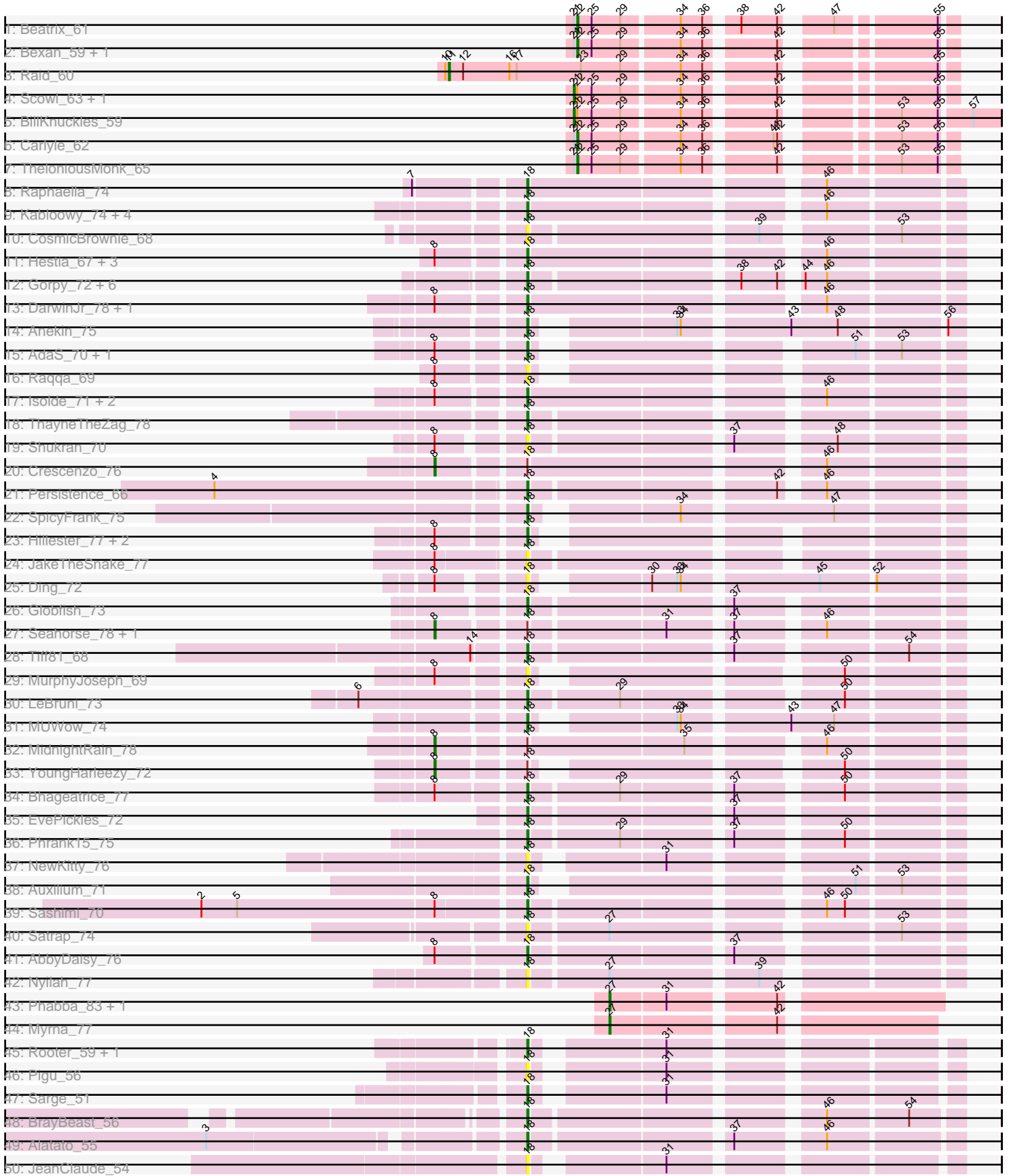
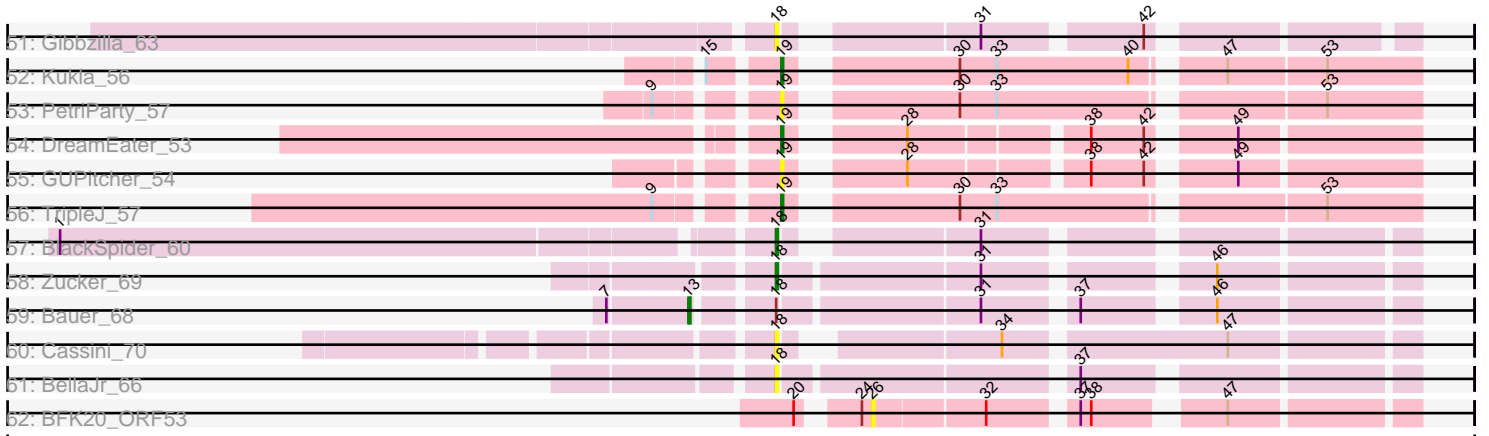


Pham 311479



Pham 311479



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 311479 Report

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

Pham number 311479 has 86 members, 26 are drafts.

Phages represented in each track:

- Track 1 : Beatrix_61
- Track 2 : Bexan_59, StrongArm_60
- Track 3 : Raid_60
- Track 4 : Scowl_63, KBG_63
- Track 5 : BillKnuckles_59
- Track 6 : Carlyle_62
- Track 7 : TheloniousMonk_65
- Track 8 : Raphaella_74
- Track 9 : Kabloowy_74, Mapleville_69, Windest_77, Lawnathon_76, Lasker_74
- Track 10 : CosmicBrownie_68
- Track 11 : Hestia_67, BasketStar_74, Faja_76, JellyBread_71
- Track 12 : Gorpy_72, BlueShadow_72, SonDevVon_80, MaterMagnus_73, Sakai_71, Sporco_76, Aikyam_72
- Track 13 : DarwinJr_78, GumGum_79
- Track 14 : Anekin_75
- Track 15 : AdaS_70, BillyTP_74
- Track 16 : Raqqa_69
- Track 17 : Isolde_71, BenchScraper_73, CookieBear_72
- Track 18 : ThayneTheZag_78
- Track 19 : Shukran_70
- Track 20 : Crescenzo_76
- Track 21 : Persistence_66
- Track 22 : SpicyFrank_75
- Track 23 : Hillester_77, RadFad_77, Vopal_74
- Track 24 : JakeTheSnake_77
- Track 25 : Ding_72
- Track 26 : Globfish_73
- Track 27 : Seahorse_78, Richie_76
- Track 28 : Tiff81_68
- Track 29 : MurphyJoseph_69
- Track 30 : LeBruni_73
- Track 31 : MUWow_74
- Track 32 : MidnightRain_78
- Track 33 : YoungHarleezy_72
- Track 34 : Bhageatrice_77
- Track 35 : EvePickles_72
- Track 36 : Phrank15_75

- Track 37 : NewKitty_76
- Track 38 : Auxilium_71
- Track 39 : Sashimi_70
- Track 40 : Satrap_74
- Track 41 : AbbyDaisy_76
- Track 42 : Nyilah_77
- Track 43 : Phabba_83, Greely_81
- Track 44 : Myrna_77
- Track 45 : Rooter_59, Shoya_56
- Track 46 : Pigu_56
- Track 47 : Sarge_51
- Track 48 : BrayBeast_56
- Track 49 : Alatato_55
- Track 50 : JeanClaude_54
- Track 51 : Gibbzilla_63
- Track 52 : Kukla_56
- Track 53 : PetriParty_57
- Track 54 : DreamEater_53
- Track 55 : GUPitcher_54
- Track 56 : TripleJ_57
- Track 57 : BlackSpider_60
- Track 58 : Zucker_69
- Track 59 : Bauer_68
- Track 60 : Cassini_70
- Track 61 : BellaJr_66
- Track 62 : BFK20_ORF53

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

The start number called the most often in the published annotations is 18, it was called in 40 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• AbbyDaisy_76, AdaS_70, Aikyam_72, Alatato_55, Anekin_75, Auxilium_71, BasketStar_74, BellaJr_66, BenchScraper_73, Bhageatrice_77, BillyTP_74, BlackSpider_60, BlueShadow_72, BrayBeast_56, Cassini_70, CookieBear_72, CosmicBrownie_68, DarwinJr_78, Ding_72, EvePickles_72, Faja_76, Gibbzilla_63, Globfish_73, Gorpy_72, GumGum_79, Hestia_67, Hillester_77, Isolde_71, JakeTheSnake_77, JeanClaude_54, JellyBread_71, Kabloowy_74, Lasker_74, Lawnathon_76, LeBruni_73, MUWow_74, Mapleville_69, MaterMagnus_73, MurphyJoseph_69, NewKitty_76, Nyilah_77, Persistence_66, Phrank15_75, Pigu_56, RadFad_77, Raphaella_74, Raqqa_69, Rooter_59, Sakai_71, Sarge_51, Sashimi_70, Satrap_74, Shoya_56, Shukran_70, SonDevVon_80, SpicyFrank_75, Sporco_76, ThayneTheZag_78, Tiff81_68, Vopal_74, Windest_77, Zucker_69,

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

• Bauer_68, Crescenzo_76, MidnightRain_78, Richie_76, Seahorse_78, YoungHarleezy_72,

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

- BFK20_ORF53, Beatrix_61, Bexan_59, BillKnuckles_59, Carlyle_62, DreamEater_53, GUPitcher_54, Greely_81, KBG_63, Kukla_56, Myrna_77, PetriParty_57, Phabba_83, Raid_60, Scowl_63, StrongArm_60, TheloniousMonk_65, TripleJ_57,

Summary by start number:

Start 8:

- Found in 27 of 86 (31.4%) of genes in pham
- Manual Annotations of this start: 5 of 60
- Called 18.5% of time when present
- Phage (with cluster) where this start called: Crescenzo_76 (AY), MidnightRain_78 (AY), Richie_76 (AY), Seahorse_78 (AY), YoungHarleezy_72 (AY),

Start 11:

- Found in 1 of 86 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Raid_60 (A1),

Start 13:

- Found in 1 of 86 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bauer_68 (FN),

Start 18:

- Found in 68 of 86 (79.1%) of genes in pham
- Manual Annotations of this start: 40 of 60
- Called 91.2% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_76 (AY), AdaS_70 (AY), Aikyam_72 (AY), Alatato_55 (FB), Anekin_75 (AY), Auxilium_71 (AY), BasketStar_74 (AY), BellaJr_66 (FN), BenchScraper_73 (AY), Bhageatrice_77 (AY), BillyTP_74 (AY), BlackSpider_60 (FN), BlueShadow_72 (AY), BrayBeast_56 (FB), Cassini_70 (FN), CookieBear_72 (AY), CosmicBrownie_68 (AY), DarwinJr_78 (AY), Ding_72 (AY), EvePickles_72 (AY), Faja_76 (AY), Gibbzilla_63 (FB), Globfish_73 (AY), Gorpy_72 (AY), GumGum_79 (AY), Hestia_67 (AY), Hillester_77 (AY), Isolde_71 (AY), JakeTheSnake_77 (AY), JeanClaude_54 (FB), JellyBread_71 (AY), Kabloowy_74 (AY), Lasker_74 (AY), Lawnathon_76 (AY), LeBruni_73 (AY), MUWow_74 (AY), Mapleville_69 (AY), MaterMagnus_73 (AY), MurphyJoseph_69 (AY), NewKitty_76 (AY), Nyilah_77 (AY), Persistence_66 (AY), Phrank15_75 (AY), Pigu_56 (FB), RadFad_77 (AY), Raphaella_74 (AY), Raqqa_69 (AY), Rooter_59 (FB), Sakai_71 (AY), Sarge_51 (FB), Sashimi_70 (AY), Satrap_74 (AY), Shoya_56 (FB), Shukran_70 (AY), SonDevVon_80 (AY), SpicyFrank_75 (AY), Sporco_76 (AY), ThayneTheZag_78 (AY), Tiff81_68 (AY), Vopal_74 (AY), Windest_77 (AY), Zucker_69 (FN),

Start 19:

- Found in 5 of 86 (5.8%) of genes in pham
- Manual Annotations of this start: 3 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DreamEater_53 (FJ), GUPitcher_54 (FJ), Kukla_56 (FJ), PetriParty_57 (FJ), TripleJ_57 (FJ),

Start 21:

- Found in 8 of 86 (9.3%) of genes in pham
- Manual Annotations of this start: 3 of 60
- Called 37.5% of time when present
- Phage (with cluster) where this start called: BillKnuckles_59 (A1), KBG_63 (A1), Scowl_63 (A1),

Start 22:

- Found in 8 of 86 (9.3%) of genes in pham
- Manual Annotations of this start: 5 of 60
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Beatrix_61 (A1), Bexan_59 (A1), Carlyle_62 (A1), StrongArm_60 (A1), TheloniousMonk_65 (A1),

Start 26:

- Found in 1 of 86 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BFK20_ORF53 (singleton),

Start 27:

- Found in 5 of 86 (5.8%) of genes in pham
- Manual Annotations of this start: 2 of 60
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Greely_81 (C2), Myrna_77 (C2), Phabba_83 (C2),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, A1, FB, AY, C2, FJ, FN,

Info for manual annotations of cluster A1:

- Start number 11 was manually annotated 1 time for cluster A1.
- Start number 21 was manually annotated 3 times for cluster A1.
- Start number 22 was manually annotated 5 times for cluster A1.

Info for manual annotations of cluster AY:

- Start number 8 was manually annotated 5 times for cluster AY.
- Start number 18 was manually annotated 34 times for cluster AY.

Info for manual annotations of cluster C2:

- Start number 27 was manually annotated 2 times for cluster C2.

Info for manual annotations of cluster FB:

- Start number 18 was manually annotated 4 times for cluster FB.

Info for manual annotations of cluster FJ:

- Start number 19 was manually annotated 3 times for cluster FJ.

Info for manual annotations of cluster FN:

- Start number 13 was manually annotated 1 time for cluster FN.
- Start number 18 was manually annotated 2 times for cluster FN.

Gene Information:

Gene: AbbyDaisy_76 Start: 41022, Stop: 41339, Start Num: 18

Candidate Starts for AbbyDaisy_76:

(Start: 8 @40953 has 5 MA's), (Start: 18 @41022 has 40 MA's), (37, 41172),

Gene: AdaS_70 Start: 36753, Stop: 37049, Start Num: 18

Candidate Starts for AdaS_70:

(Start: 8 @36693 has 5 MA's), (Start: 18 @36753 has 40 MA's), (51, 36969), (53, 37002),

Gene: Aikyam_72 Start: 37441, Stop: 37758, Start Num: 18

Candidate Starts for Aikyam_72:

(Start: 18 @37441 has 40 MA's), (38, 37597), (42, 37627), (44, 37636), (46, 37654),

Gene: Alatato_55 Start: 32020, Stop: 32337, Start Num: 18

Candidate Starts for Alatato_55:

(3, 31789), (Start: 18 @32020 has 40 MA's), (37, 32170), (46, 32233),

Gene: Anekin_75 Start: 40019, Stop: 40330, Start Num: 18

Candidate Starts for Anekin_75:

(Start: 18 @40019 has 40 MA's), (33, 40112), (34, 40115), (43, 40196), (48, 40235), (56, 40316),

Gene: Auxilium_71 Start: 37005, Stop: 37301, Start Num: 18

Candidate Starts for Auxilium_71:

(Start: 18 @37005 has 40 MA's), (51, 37221), (53, 37254),

Gene: BFK20_ORF53 Start: 41569, Stop: 41835, Start Num: 26

Candidate Starts for BFK20_ORF53:

(20, 41539), (24, 41563), (26, 41569), (32, 41629), (37, 41671), (38, 41677), (47, 41737),

Gene: BasketStar_74 Start: 39773, Stop: 40096, Start Num: 18

Candidate Starts for BasketStar_74:

(Start: 8 @39713 has 5 MA's), (Start: 18 @39773 has 40 MA's), (46, 39992),

Gene: Bauer_68 Start: 38091, Stop: 38444, Start Num: 13

Candidate Starts for Bauer_68:

(7, 38049), (Start: 13 @38091 has 1 MA's), (Start: 18 @38127 has 40 MA's), (31, 38232), (37, 38277), (46, 38340),

Gene: Beatrix_61 Start: 42133, Stop: 41867, Start Num: 22

Candidate Starts for Beatrix_61:

(Start: 21 @42136 has 3 MA's), (Start: 22 @42133 has 5 MA's), (25, 42121), (29, 42097), (34, 42052), (36, 42034), (38, 42013), (42, 41983), (47, 41953), (55, 41878),

Gene: BellaJr_66 Start: 38431, Stop: 38748, Start Num: 18

Candidate Starts for BellaJr_66:

(Start: 18 @38431 has 40 MA's), (37, 38581),

Gene: BenchScraper_73 Start: 38140, Stop: 38463, Start Num: 18

Candidate Starts for BenchScraper_73:

(Start: 8 @38080 has 5 MA's), (Start: 18 @38140 has 40 MA's), (46, 38359),

Gene: Bexan_59 Start: 41912, Stop: 41646, Start Num: 22

Candidate Starts for Bexan_59:

(Start: 21 @41915 has 3 MA's), (Start: 22 @41912 has 5 MA's), (25, 41900), (29, 41876), (34, 41831), (36, 41813), (42, 41762), (55, 41657),

Gene: Bhageatrice_77 Start: 41825, Stop: 42142, Start Num: 18

Candidate Starts for Bhageatrice_77:

(Start: 8 @41762 has 5 MA's), (Start: 18 @41825 has 40 MA's), (29, 41894), (37, 41975), (50, 42053),

Gene: BillKnuckles_59 Start: 42435, Stop: 42130, Start Num: 21

Candidate Starts for BillKnuckles_59:

(Start: 21 @42435 has 3 MA's), (Start: 22 @42432 has 5 MA's), (25, 42420), (29, 42396), (34, 42351), (36, 42333), (42, 42282), (53, 42207), (55, 42177), (57, 42153),

Gene: BillyTP_74 Start: 39995, Stop: 40291, Start Num: 18

Candidate Starts for BillyTP_74:

(Start: 8 @39935 has 5 MA's), (Start: 18 @39995 has 40 MA's), (51, 40211), (53, 40244),

Gene: BlackSpider_60 Start: 36140, Stop: 36442, Start Num: 18

Candidate Starts for BlackSpider_60:

(1, 35759), (Start: 18 @36140 has 40 MA's), (31, 36230),

Gene: BlueShadow_72 Start: 39289, Stop: 39606, Start Num: 18

Candidate Starts for BlueShadow_72:

(Start: 18 @39289 has 40 MA's), (38, 39445), (42, 39475), (44, 39484), (46, 39502),

Gene: BrayBeast_56 Start: 31864, Stop: 32181, Start Num: 18

Candidate Starts for BrayBeast_56:

(Start: 18 @31864 has 40 MA's), (46, 32077), (54, 32140),

Gene: Carlyle_62 Start: 39960, Stop: 39694, Start Num: 22

Candidate Starts for Carlyle_62:

(Start: 21 @39963 has 3 MA's), (Start: 22 @39960 has 5 MA's), (25, 39948), (29, 39924), (34, 39879), (36, 39861), (41, 39813), (42, 39810), (53, 39735), (55, 39705),

Gene: Cassini_70 Start: 38385, Stop: 38699, Start Num: 18

Candidate Starts for Cassini_70:

(Start: 18 @38385 has 40 MA's), (34, 38484), (47, 38601),

Gene: CookieBear_72 Start: 38614, Stop: 38937, Start Num: 18

Candidate Starts for CookieBear_72:

(Start: 8 @38554 has 5 MA's), (Start: 18 @38614 has 40 MA's), (46, 38833),

Gene: CosmicBrownie_68 Start: 37819, Stop: 38136, Start Num: 18

Candidate Starts for CosmicBrownie_68:

(Start: 18 @37819 has 40 MA's), (39, 37993), (53, 38089),

Gene: Crescenzo_76 Start: 41349, Stop: 41732, Start Num: 8

Candidate Starts for Crescenzo_76:

(Start: 8 @41349 has 5 MA's), (Start: 18 @41409 has 40 MA's), (46, 41628),

Gene: DarwinJr_78 Start: 41364, Stop: 41687, Start Num: 18
Candidate Starts for DarwinJr_78:
(Start: 8 @41304 has 5 MA's), (Start: 18 @41364 has 40 MA's), (46, 41583),

Gene: Ding_72 Start: 38655, Stop: 38966, Start Num: 18
Candidate Starts for Ding_72:
(Start: 8 @38598 has 5 MA's), (Start: 18 @38655 has 40 MA's), (30, 38727), (33, 38748), (34, 38751),
(45, 38856), (52, 38898),

Gene: DreamEater_53 Start: 35811, Stop: 36119, Start Num: 19
Candidate Starts for DreamEater_53:
(Start: 19 @35811 has 3 MA's), (28, 35862), (38, 35952), (42, 35982), (49, 36021),

Gene: EvePickles_72 Start: 39884, Stop: 40201, Start Num: 18
Candidate Starts for EvePickles_72:
(Start: 18 @39884 has 40 MA's), (37, 40034),

Gene: Faja_76 Start: 40656, Stop: 40979, Start Num: 18
Candidate Starts for Faja_76:
(Start: 8 @40596 has 5 MA's), (Start: 18 @40656 has 40 MA's), (46, 40875),

Gene: GUPitcher_54 Start: 35925, Stop: 36233, Start Num: 19
Candidate Starts for GUPitcher_54:
(Start: 19 @35925 has 3 MA's), (28, 35976), (38, 36066), (42, 36096), (49, 36135),

Gene: Gibbzilla_63 Start: 33193, Stop: 33492, Start Num: 18
Candidate Starts for Gibbzilla_63:
(Start: 18 @33193 has 40 MA's), (31, 33283), (42, 33364),

Gene: Globfish_73 Start: 38348, Stop: 38665, Start Num: 18
Candidate Starts for Globfish_73:
(Start: 18 @38348 has 40 MA's), (37, 38498),

Gene: Gorpy_72 Start: 39861, Stop: 40178, Start Num: 18
Candidate Starts for Gorpy_72:
(Start: 18 @39861 has 40 MA's), (38, 40017), (42, 40047), (44, 40056), (46, 40074),

Gene: Greely_81 Start: 31000, Stop: 31251, Start Num: 27
Candidate Starts for Greely_81:
(Start: 27 @31000 has 2 MA's), (31, 31045), (42, 31126),

Gene: GumGum_79 Start: 39801, Stop: 40124, Start Num: 18
Candidate Starts for GumGum_79:
(Start: 8 @39741 has 5 MA's), (Start: 18 @39801 has 40 MA's), (46, 40020),

Gene: Hestia_67 Start: 36879, Stop: 37202, Start Num: 18
Candidate Starts for Hestia_67:
(Start: 8 @36819 has 5 MA's), (Start: 18 @36879 has 40 MA's), (46, 37098),

Gene: Hillester_77 Start: 39406, Stop: 39702, Start Num: 18
Candidate Starts for Hillester_77:
(Start: 8 @39346 has 5 MA's), (Start: 18 @39406 has 40 MA's),

Gene: Isolde_71 Start: 38725, Stop: 39048, Start Num: 18
Candidate Starts for Isolde_71:
(Start: 8 @38665 has 5 MA's), (Start: 18 @38725 has 40 MA's), (46, 38944),

Gene: JakeTheSnake_77 Start: 41715, Stop: 42032, Start Num: 18
Candidate Starts for JakeTheSnake_77:
(Start: 8 @41652 has 5 MA's), (Start: 18 @41715 has 40 MA's),

Gene: JeanClaude_54 Start: 30349, Stop: 30648, Start Num: 18
Candidate Starts for JeanClaude_54:
(Start: 18 @30349 has 40 MA's), (31, 30439),

Gene: JellyBread_71 Start: 38870, Stop: 39193, Start Num: 18
Candidate Starts for JellyBread_71:
(Start: 8 @38810 has 5 MA's), (Start: 18 @38870 has 40 MA's), (46, 39089),

Gene: KBG_63 Start: 43145, Stop: 42876, Start Num: 21
Candidate Starts for KBG_63:
(Start: 21 @43145 has 3 MA's), (Start: 22 @43142 has 5 MA's), (25, 43130), (29, 43106), (34, 43061),
(36, 43043), (42, 42992), (55, 42887),

Gene: Kabloowy_74 Start: 39754, Stop: 40077, Start Num: 18
Candidate Starts for Kabloowy_74:
(Start: 18 @39754 has 40 MA's), (46, 39973),

Gene: Kukla_56 Start: 35378, Stop: 35701, Start Num: 19
Candidate Starts for Kukla_56:
(15, 35345), (Start: 19 @35378 has 3 MA's), (30, 35459), (33, 35480), (40, 35555), (47, 35594), (53,
35648),

Gene: Lasker_74 Start: 40249, Stop: 40572, Start Num: 18
Candidate Starts for Lasker_74:
(Start: 18 @40249 has 40 MA's), (46, 40468),

Gene: Lawnathon_76 Start: 38975, Stop: 39298, Start Num: 18
Candidate Starts for Lawnathon_76:
(Start: 18 @38975 has 40 MA's), (46, 39194),

Gene: LeBruni_73 Start: 38212, Stop: 38529, Start Num: 18
Candidate Starts for LeBruni_73:
(6, 38089), (Start: 18 @38212 has 40 MA's), (29, 38281), (50, 38440),

Gene: MUWow_74 Start: 40107, Stop: 40418, Start Num: 18
Candidate Starts for MUWow_74:
(Start: 18 @40107 has 40 MA's), (33, 40200), (34, 40203), (43, 40284), (47, 40320),

Gene: Mapleville_69 Start: 38294, Stop: 38617, Start Num: 18
Candidate Starts for Mapleville_69:
(Start: 18 @38294 has 40 MA's), (46, 38513),

Gene: MaterMagnus_73 Start: 39613, Stop: 39930, Start Num: 18
Candidate Starts for MaterMagnus_73:
(Start: 18 @39613 has 40 MA's), (38, 39769), (42, 39799), (44, 39808), (46, 39826),

Gene: MidnightRain_78 Start: 40135, Stop: 40518, Start Num: 8
Candidate Starts for MidnightRain_78:
(Start: 8 @40135 has 5 MA's), (Start: 18 @40195 has 40 MA's), (35, 40321), (46, 40414),

Gene: MurphyJoseph_69 Start: 37141, Stop: 37437, Start Num: 18
Candidate Starts for MurphyJoseph_69:
(Start: 8 @37081 has 5 MA's), (Start: 18 @37141 has 40 MA's), (50, 37348),

Gene: Myrna_77 Start: 30774, Stop: 31019, Start Num: 27
Candidate Starts for Myrna_77:
(Start: 27 @30774 has 2 MA's), (42, 30900),

Gene: NewKitty_76 Start: 40595, Stop: 40897, Start Num: 18
Candidate Starts for NewKitty_76:
(Start: 18 @40595 has 40 MA's), (31, 40685),

Gene: Nyilah_77 Start: 38886, Stop: 39203, Start Num: 18
Candidate Starts for Nyilah_77:
(Start: 18 @38886 has 40 MA's), (Start: 27 @38946 has 2 MA's), (39, 39060),

Gene: Persistence_66 Start: 36801, Stop: 37118, Start Num: 18
Candidate Starts for Persistence_66:
(4, 36561), (Start: 18 @36801 has 40 MA's), (42, 36987), (46, 37014),

Gene: PetriParty_57 Start: 35402, Stop: 35725, Start Num: 19
Candidate Starts for PetriParty_57:
(9, 35351), (Start: 19 @35402 has 3 MA's), (30, 35483), (33, 35504), (53, 35672),

Gene: Phabba_83 Start: 30849, Stop: 31100, Start Num: 27
Candidate Starts for Phabba_83:
(Start: 27 @30849 has 2 MA's), (31, 30894), (42, 30975),

Gene: Phrank15_75 Start: 38696, Stop: 39013, Start Num: 18
Candidate Starts for Phrank15_75:
(Start: 18 @38696 has 40 MA's), (29, 38765), (37, 38846), (50, 38924),

Gene: Pigu_56 Start: 30796, Stop: 31095, Start Num: 18
Candidate Starts for Pigu_56:
(Start: 18 @30796 has 40 MA's), (31, 30886),

Gene: RadFad_77 Start: 39406, Stop: 39702, Start Num: 18
Candidate Starts for RadFad_77:
(Start: 8 @39346 has 5 MA's), (Start: 18 @39406 has 40 MA's),

Gene: Raid_60 Start: 41251, Stop: 40877, Start Num: 11
Candidate Starts for Raid_60:
(10, 41254), (Start: 11 @41251 has 1 MA's), (12, 41239), (16, 41200), (17, 41194), (23, 41140), (29, 41107), (34, 41062), (36, 41044), (42, 40993), (55, 40888),

Gene: Raphaella_74 Start: 38671, Stop: 38994, Start Num: 18
Candidate Starts for Raphaella_74:
(7, 38596), (Start: 18 @38671 has 40 MA's), (46, 38890),

Gene: Raqqa_69 Start: 36817, Stop: 37113, Start Num: 18
Candidate Starts for Raqqa_69:
(Start: 8 @36757 has 5 MA's), (Start: 18 @36817 has 40 MA's),

Gene: Richie_76 Start: 40479, Stop: 40859, Start Num: 8
Candidate Starts for Richie_76:
(Start: 8 @40479 has 5 MA's), (Start: 18 @40542 has 40 MA's), (31, 40647), (37, 40692), (46, 40755),

Gene: Rooter_59 Start: 32237, Stop: 32536, Start Num: 18
Candidate Starts for Rooter_59:
(Start: 18 @32237 has 40 MA's), (31, 32327),

Gene: Sakai_71 Start: 38572, Stop: 38889, Start Num: 18
Candidate Starts for Sakai_71:
(Start: 18 @38572 has 40 MA's), (38, 38728), (42, 38758), (44, 38767), (46, 38785),

Gene: Sarge_51 Start: 30199, Stop: 30498, Start Num: 18
Candidate Starts for Sarge_51:
(Start: 18 @30199 has 40 MA's), (31, 30289),

Gene: Sashimi_70 Start: 38667, Stop: 38984, Start Num: 18
Candidate Starts for Sashimi_70:
(2, 38412), (5, 38442), (Start: 8 @38604 has 5 MA's), (Start: 18 @38667 has 40 MA's), (46, 38880),
(50, 38895),

Gene: Satrap_74 Start: 39319, Stop: 39636, Start Num: 18
Candidate Starts for Satrap_74:
(Start: 18 @39319 has 40 MA's), (Start: 27 @39379 has 2 MA's), (53, 39589),

Gene: Scowl_63 Start: 41099, Stop: 40830, Start Num: 21
Candidate Starts for Scowl_63:
(Start: 21 @41099 has 3 MA's), (Start: 22 @41096 has 5 MA's), (25, 41084), (29, 41060), (34, 41015),
(36, 40997), (42, 40946), (55, 40841),

Gene: Seahorse_78 Start: 41611, Stop: 41991, Start Num: 8
Candidate Starts for Seahorse_78:
(Start: 8 @41611 has 5 MA's), (Start: 18 @41674 has 40 MA's), (31, 41779), (37, 41824), (46, 41887),

Gene: Shoya_56 Start: 31813, Stop: 32112, Start Num: 18
Candidate Starts for Shoya_56:
(Start: 18 @31813 has 40 MA's), (31, 31903),

Gene: Shukran_70 Start: 37615, Stop: 37932, Start Num: 18
Candidate Starts for Shukran_70:
(Start: 8 @37558 has 5 MA's), (Start: 18 @37615 has 40 MA's), (37, 37765), (48, 37837),

Gene: SonDevVon_80 Start: 39621, Stop: 39938, Start Num: 18
Candidate Starts for SonDevVon_80:
(Start: 18 @39621 has 40 MA's), (38, 39777), (42, 39807), (44, 39816), (46, 39834),

Gene: SpicyFrank_75 Start: 38962, Stop: 39276, Start Num: 18
Candidate Starts for SpicyFrank_75:

(Start: 18 @38962 has 40 MA's), (34, 39061), (47, 39178),

Gene: Sporco_76 Start: 40357, Stop: 40674, Start Num: 18

Candidate Starts for Sporco_76:

(Start: 18 @40357 has 40 MA's), (38, 40513), (42, 40543), (44, 40552), (46, 40570),

Gene: StrongArm_60 Start: 42040, Stop: 41774, Start Num: 22

Candidate Starts for StrongArm_60:

(Start: 21 @42043 has 3 MA's), (Start: 22 @42040 has 5 MA's), (25, 42028), (29, 42004), (34, 41959), (36, 41941), (42, 41890), (55, 41785),

Gene: ThayneTheZag_78 Start: 39595, Stop: 39912, Start Num: 18

Candidate Starts for ThayneTheZag_78:

(Start: 18 @39595 has 40 MA's),

Gene: TheloniousMonk_65 Start: 43428, Stop: 43162, Start Num: 22

Candidate Starts for TheloniousMonk_65:

(Start: 21 @43431 has 3 MA's), (Start: 22 @43428 has 5 MA's), (25, 43416), (29, 43392), (34, 43347), (36, 43329), (42, 43278), (53, 43203), (55, 43173),

Gene: Tiff81_68 Start: 37265, Stop: 37582, Start Num: 18

Candidate Starts for Tiff81_68:

(14, 37229), (Start: 18 @37265 has 40 MA's), (37, 37415), (54, 37541),

Gene: TripleJ_57 Start: 35331, Stop: 35654, Start Num: 19

Candidate Starts for TripleJ_57:

(9, 35280), (Start: 19 @35331 has 3 MA's), (30, 35412), (33, 35433), (53, 35601),

Gene: Vopal_74 Start: 40874, Stop: 41170, Start Num: 18

Candidate Starts for Vopal_74:

(Start: 8 @40814 has 5 MA's), (Start: 18 @40874 has 40 MA's),

Gene: Windest_77 Start: 38033, Stop: 38356, Start Num: 18

Candidate Starts for Windest_77:

(Start: 18 @38033 has 40 MA's), (46, 38252),

Gene: YoungHarleezy_72 Start: 38387, Stop: 38743, Start Num: 8

Candidate Starts for YoungHarleezy_72:

(Start: 8 @38387 has 5 MA's), (Start: 18 @38447 has 40 MA's), (50, 38654),

Gene: Zucker_69 Start: 40359, Stop: 40676, Start Num: 18

Candidate Starts for Zucker_69:

(Start: 18 @40359 has 40 MA's), (31, 40464), (46, 40572),