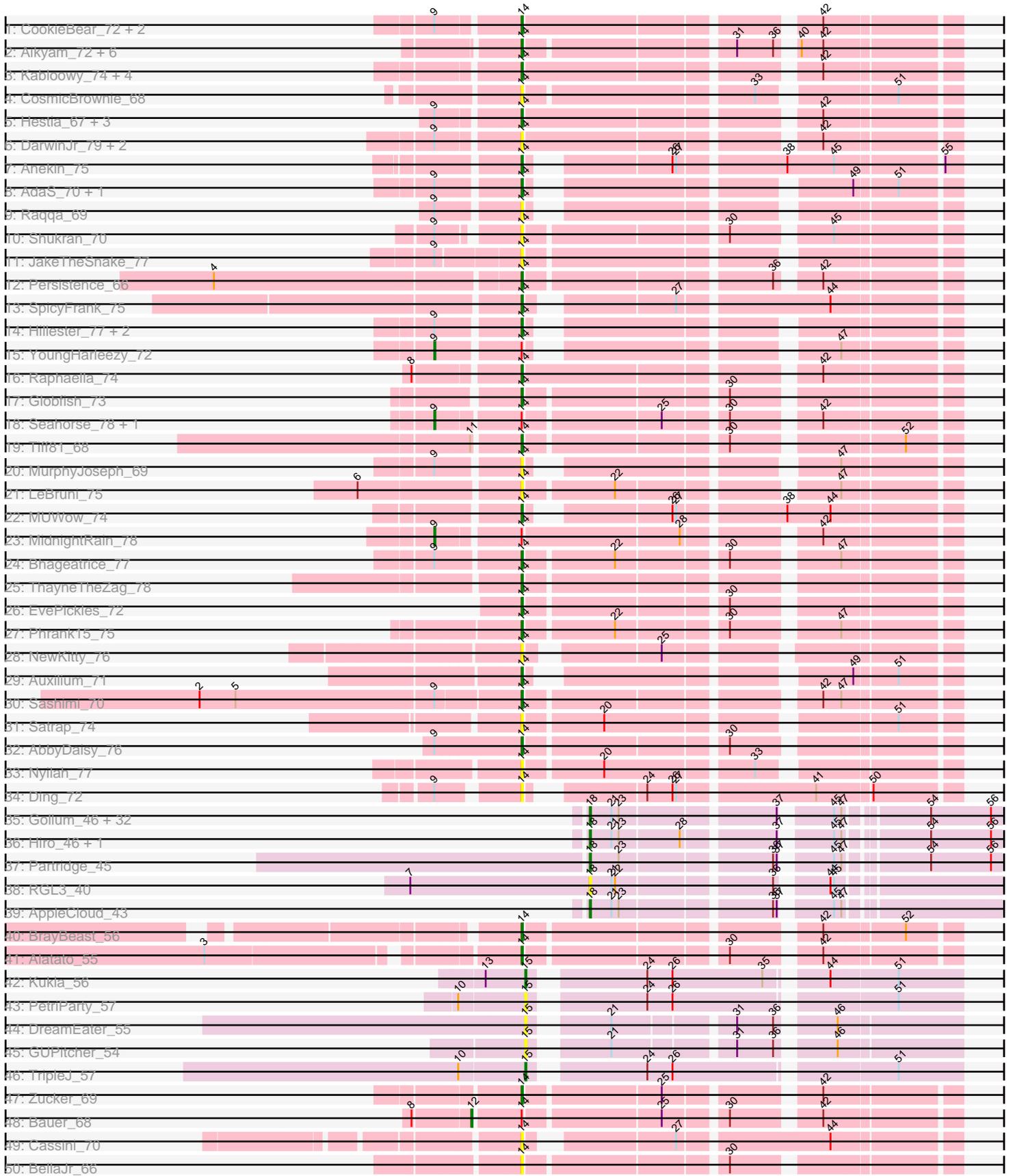


Pham 291005



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 291005 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291005 has 107 members, 28 are drafts.

Phages represented in each track:

- Track 1 : CookieBear_72, Isolde_71, BenchScraper_73
- Track 2 : Aikyam_72, Gorpy_72, BlueShadow_72, SonDevVon_80, MaterMagnus_73, Sakai_71, Sporco_76
- Track 3 : Kabloowy_74, Windest_77, Lawnathon_76, Lasker_76, Mapleville_70
- Track 4 : CosmicBrownie_68
- Track 5 : Hestia_67, BasketStar_74, Faja_76, JellyBread_71
- Track 6 : DarwinJr_79, Crescenzo_78, GumGum_79
- Track 7 : Anekin_75
- Track 8 : AdaS_70, BillyTP_74
- Track 9 : Raqqa_69
- Track 10 : Shukran_70
- Track 11 : JakeTheSnake_77
- Track 12 : Persistence_66
- Track 13 : SpicyFrank_75
- Track 14 : Hillester_77, RadFad_77, Vopal_74
- Track 15 : YoungHarleezy_72
- Track 16 : Raphaella_74
- Track 17 : Globfish_73
- Track 18 : Seahorse_78, Richie_76
- Track 19 : Tiff81_68
- Track 20 : MurphyJoseph_69
- Track 21 : LeBruni_75
- Track 22 : MUWow_74
- Track 23 : MidnightRain_78
- Track 24 : Bhageatrice_77
- Track 25 : ThayneTheZag_78
- Track 26 : EvePickles_72
- Track 27 : Phrank15_75
- Track 28 : NewKitty_76
- Track 29 : Auxilium_71
- Track 30 : Sashimi_70
- Track 31 : Satrap_74
- Track 32 : AbbyDaisy_76
- Track 33 : Nyilah_77
- Track 34 : Ding_72
- Track 35 : Gollum_46, Bradshaw_46, Shuman_46, Dinger_45, CosmicSans_46, UhSalsa_46, Takoda_46, Phrankenstein_46, BobbyDazzler_46, Lillie_46,

Natosaleda_45, Nancinator_46, Alatin_45, Jester_45, Rasputin_46, Bryce_45, Naiad_45, Rhodalysa_46, TWAMP_46, Erik_46, Yogi_45, Alpacados_45, RER2_39, Yoncess_45, Bonanza_46, StCroix_45, Belenaria_46, Espica_46, AngryOrchard_44, Harlequin_45, Krishelle_46, Swann_46, RexFury_45

- Track 36 : Hiro_46, PhailMary_45

- Track 37 : Partridge_45

- Track 38 : RGL3_40

- Track 39 : AppleCloud_43

- Track 40 : BrayBeast_56

- Track 41 : Alatato_55

- Track 42 : Kukla_56

- Track 43 : PetriParty_57

- Track 44 : DreamEater_55

- Track 45 : GUPitcher_54

- Track 46 : TripleJ_57

- Track 47 : Zucker_69

- Track 48 : Bauer_68

- Track 49 : Cassini_70

- Track 50 : BellaJr_66

- Track 51 : BlackSpider_60

- Track 52 : Juicebox_39

- Track 53 : EmiRose_45

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 36 of the 79 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alatin_45, Alpacados_45, AngryOrchard_44, AppleCloud_43, Belenaria_46, BobbyDazzler_46, Bonanza_46, Bradshaw_46, Bryce_45, CosmicSans_46, Dinger_45, Erik_46, Espica_46, Gollum_46, Harlequin_45, Hiro_46, Jester_45, Krishelle_46, Lillie_46, Naiad_45, Nancinator_46, Natosaleda_45, Partridge_45, PhailMary_45, Phrankenstein_46, RER2_39, RGL3_40, Rasputin_46, RexFury_45, Rhodalysa_46, Shuman_46, StCroix_45, Swann_46, TWAMP_46, Takoda_46, UhSalsa_46, Yogi_45, Yoncess_45,

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

- Juicebox_39,

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

- AbbyDaisy_76, AdaS_70, Aikyam_72, Alatato_55, Anekin_75, Auxilium_71, BasketStar_74, Bauer_68, BellaJr_66, BenchScraper_73, Bhageatrice_77, BillyTP_74, BlackSpider_60, BlueShadow_72, BrayBeast_56, Cassini_70, CookieBear_72, CosmicBrownie_68, Crescenzo_78, DarwinJr_79, Ding_72, DreamEater_55, EmiRose_45, EvePickles_72, Faja_76, GUPitcher_54, Globfish_73, Gorpy_72, GumGum_79, Hestia_67, Hillester_77, Isolde_71, JakeTheSnake_77, JellyBread_71, Kabloowy_74, Kukla_56, Lasker_76, Lawnathon_76, LeBruni_75, MUWow_74, Mapleville_70, MaterMagnus_73, MidnightRain_78, MurphyJoseph_69, NewKitty_76, Nyilah_77, Persistence_66, PetriParty_57, Phrank15_75, RadFad_77,

Raphaella_74, Raqqa_69, Richie_76, Sakai_71, Sashimi_70, Satrap_74, Seahorse_78, Shukran_70, SonDevVon_80, SpicyFrank_75, Sporco_76, ThayneTheZag_78, Tiff81_68, TripleJ_57, Vopal_74, Windest_77, YoungHarleezy_72, Zucker_69,

Summary by start number:

Start 9:

- Found in 27 of 107 (25.2%) of genes in pham
- Manual Annotations of this start: 4 of 79
- Called 14.8% of time when present
- Phage (with cluster) where this start called: MidnightRain_78 (AY), Richie_76 (AY), Seahorse_78 (AY), YoungHarleezy_72 (AY),

Start 12:

- Found in 1 of 107 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bauer_68 (FN),

Start 14:

- Found in 62 of 107 (57.9%) of genes in pham
- Manual Annotations of this start: 34 of 79
- Called 91.9% 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), Crescenzo_78 (AY), DarwinJr_79 (AY), Ding_72 (AY), EvePickles_72 (AY), Faja_76 (AY), Globfish_73 (AY), Gorpy_72 (AY), GumGum_79 (AY), Hestia_67 (AY), Hillester_77 (AY), Isolde_71 (AY), JakeTheSnake_77 (AY), JellyBread_71 (AY), Kabloowy_74 (AY), Lasker_76 (AY), Lawnathon_76 (AY), LeBruni_75 (AY), MUWow_74 (AY), Mapleville_70 (AY), MaterMagnus_73 (AY), MurphyJoseph_69 (AY), NewKitty_76 (AY), Nyilah_77 (AY), Persistence_66 (AY), Phrank15_75 (AY), RadFad_77 (AY), Raphaella_74 (AY), Raqqa_69 (AY), Sakai_71 (AY), Sashimi_70 (AY), Satrap_74 (AY), 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 15:

- Found in 5 of 107 (4.7%) of genes in pham
- Manual Annotations of this start: 2 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DreamEater_55 (FJ), GUPitcher_54 (FJ), Kukla_56 (FJ), PetriParty_57 (FJ), TripleJ_57 (FJ),

Start 16:

- Found in 1 of 107 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Juicebox_39 (singleton),

Start 18:

- Found in 39 of 107 (36.4%) of genes in pham
- Manual Annotations of this start: 36 of 79
- Called 97.4% of time when present
- Phage (with cluster) where this start called: Alatin_45 (CA), Alpacados_45 (CA), AngryOrchard_44 (CA), AppleCloud_43 (CA), Belenaria_46 (CA), BobbyDazzler_46 (CA), Bonanza_46 (CA), Bradshaw_46 (CA), Bryce_45 (CA), CosmicSans_46 (CA), Dinger_45 (CA), Erik_46 (CA), Espica_46 (CA), Gollum_46 (CA), Harlequin_45 (CA), Hiro_46 (CA), Jester_45 (CA), Krishelle_46 (CA), Lillie_46 (CA), Naiad_45 (CA), Nancinator_46 (CA), Natosaleda_45 (CA), Partridge_45 (CA), PhailMary_45 (CA), Phrankenstien_46 (CA), RER2_39 (CA), RGL3_40 (CA), Rasputin_46 (CA), RexFury_45 (CA), Rhodalysa_46 (CA), Shuman_46 (CA), StCroix_45 (CA), Swann_46 (CA), TWAMP_46 (CA), Takoda_46 (CA), UhSalsa_46 (CA), Yogi_45 (CA), Yoncess_45 (CA),

Start 19:

- Found in 1 of 107 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EmiRose_45 (singleton),

Summary by clusters:

There are 6 clusters represented in this pham: singleton, CA, FB, AY, FJ, FN,

Info for manual annotations of cluster AY:

- Start number 9 was manually annotated 4 times for cluster AY.
- Start number 14 was manually annotated 30 times for cluster AY.

Info for manual annotations of cluster CA:

- Start number 18 was manually annotated 36 times for cluster CA.

Info for manual annotations of cluster FB:

- Start number 14 was manually annotated 2 times for cluster FB.

Info for manual annotations of cluster FJ:

- Start number 15 was manually annotated 2 times for cluster FJ.

Info for manual annotations of cluster FN:

- Start number 12 was manually annotated 1 time for cluster FN.
- Start number 14 was manually annotated 2 times for cluster FN.

Gene Information:

Gene: AbbyDaisy_76 Start: 41022, Stop: 41339, Start Num: 14

Candidate Starts for AbbyDaisy_76:

(Start: 9 @40953 has 4 MA's), (Start: 14 @41022 has 34 MA's), (30, 41172),

Gene: AdaS_70 Start: 36753, Stop: 37049, Start Num: 14

Candidate Starts for AdaS_70:

(Start: 9 @36693 has 4 MA's), (Start: 14 @36753 has 34 MA's), (49, 36969), (51, 37002),

Gene: Aikyam_72 Start: 37441, Stop: 37758, Start Num: 14

Candidate Starts for Aikyam_72:

(Start: 14 @37441 has 34 MA's), (31, 37597), (36, 37627), (40, 37636), (42, 37654),

Gene: Alatato_55 Start: 32020, Stop: 32337, Start Num: 14

Candidate Starts for Alatato_55:

(3, 31789), (Start: 14 @32020 has 34 MA's), (30, 32170), (42, 32233),

Gene: Alatin_45 Start: 34365, Stop: 34069, Start Num: 18

Candidate Starts for Alatin_45:

(Start: 18 @34365 has 36 MA's), (21, 34347), (23, 34341), (37, 34224), (45, 34191), (47, 34185), (54, 34125), (56, 34077),

Gene: Alpacados_45 Start: 34270, Stop: 33974, Start Num: 18

Candidate Starts for Alpacados_45:

(Start: 18 @34270 has 36 MA's), (21, 34252), (23, 34246), (37, 34129), (45, 34096), (47, 34090), (54, 34030), (56, 33982),

Gene: Anekin_75 Start: 40019, Stop: 40330, Start Num: 14

Candidate Starts for Anekin_75:

(Start: 14 @40019 has 34 MA's), (26, 40112), (27, 40115), (38, 40196), (45, 40235), (55, 40316),

Gene: AngryOrchard_44 Start: 34430, Stop: 34134, Start Num: 18

Candidate Starts for AngryOrchard_44:

(Start: 18 @34430 has 36 MA's), (21, 34412), (23, 34406), (37, 34289), (45, 34256), (47, 34250), (54, 34190), (56, 34142),

Gene: AppleCloud_43 Start: 34089, Stop: 33793, Start Num: 18

Candidate Starts for AppleCloud_43:

(Start: 18 @34089 has 36 MA's), (21, 34071), (23, 34065), (36, 33951), (37, 33948), (45, 33915), (47, 33909),

Gene: Auxilium_71 Start: 37005, Stop: 37301, Start Num: 14

Candidate Starts for Auxilium_71:

(Start: 14 @37005 has 34 MA's), (49, 37221), (51, 37254),

Gene: BasketStar_74 Start: 39773, Stop: 40096, Start Num: 14

Candidate Starts for BasketStar_74:

(Start: 9 @39713 has 4 MA's), (Start: 14 @39773 has 34 MA's), (42, 39992),

Gene: Bauer_68 Start: 38091, Stop: 38444, Start Num: 12

Candidate Starts for Bauer_68:

(8, 38049), (Start: 12 @38091 has 1 MA's), (Start: 14 @38127 has 34 MA's), (25, 38232), (30, 38277), (42, 38340),

Gene: Belenaria_46 Start: 34231, Stop: 33935, Start Num: 18

Candidate Starts for Belenaria_46:

(Start: 18 @34231 has 36 MA's), (21, 34213), (23, 34207), (37, 34090), (45, 34057), (47, 34051), (54, 33991), (56, 33943),

Gene: BellaJr_66 Start: 38431, Stop: 38748, Start Num: 14

Candidate Starts for BellaJr_66:

(Start: 14 @38431 has 34 MA's), (30, 38581),

Gene: BenchScraper_73 Start: 38140, Stop: 38463, Start Num: 14

Candidate Starts for BenchScraper_73:

(Start: 9 @38080 has 4 MA's), (Start: 14 @38140 has 34 MA's), (42, 38359),

Gene: Bhageatrice_77 Start: 41825, Stop: 42142, Start Num: 14

Candidate Starts for Bhageatrice_77:

(Start: 9 @41762 has 4 MA's), (Start: 14 @41825 has 34 MA's), (22, 41894), (30, 41975), (47, 42053),

Gene: BillyTP_74 Start: 39995, Stop: 40291, Start Num: 14

Candidate Starts for BillyTP_74:

(Start: 9 @39935 has 4 MA's), (Start: 14 @39995 has 34 MA's), (49, 40211), (51, 40244),

Gene: BlackSpider_60 Start: 36140, Stop: 36442, Start Num: 14

Candidate Starts for BlackSpider_60:

(1, 35759), (Start: 14 @36140 has 34 MA's), (25, 36230),

Gene: BlueShadow_72 Start: 39289, Stop: 39606, Start Num: 14

Candidate Starts for BlueShadow_72:

(Start: 14 @39289 has 34 MA's), (31, 39445), (36, 39475), (40, 39484), (42, 39502),

Gene: BobbyDazzler_46 Start: 34344, Stop: 34048, Start Num: 18

Candidate Starts for BobbyDazzler_46:

(Start: 18 @34344 has 36 MA's), (21, 34326), (23, 34320), (37, 34203), (45, 34170), (47, 34164), (54, 34104), (56, 34056),

Gene: Bonanza_46 Start: 34272, Stop: 33976, Start Num: 18

Candidate Starts for Bonanza_46:

(Start: 18 @34272 has 36 MA's), (21, 34254), (23, 34248), (37, 34131), (45, 34098), (47, 34092), (54, 34032), (56, 33984),

Gene: Bradshaw_46 Start: 34298, Stop: 34002, Start Num: 18

Candidate Starts for Bradshaw_46:

(Start: 18 @34298 has 36 MA's), (21, 34280), (23, 34274), (37, 34157), (45, 34124), (47, 34118), (54, 34058), (56, 34010),

Gene: BrayBeast_56 Start: 31864, Stop: 32181, Start Num: 14

Candidate Starts for BrayBeast_56:

(Start: 14 @31864 has 34 MA's), (42, 32077), (52, 32140),

Gene: Bryce_45 Start: 34052, Stop: 33756, Start Num: 18

Candidate Starts for Bryce_45:

(Start: 18 @34052 has 36 MA's), (21, 34034), (23, 34028), (37, 33911), (45, 33878), (47, 33872), (54, 33812), (56, 33764),

Gene: Cassini_70 Start: 38385, Stop: 38699, Start Num: 14

Candidate Starts for Cassini_70:

(Start: 14 @38385 has 34 MA's), (27, 38484), (44, 38601),

Gene: CookieBear_72 Start: 38614, Stop: 38937, Start Num: 14

Candidate Starts for CookieBear_72:

(Start: 9 @38554 has 4 MA's), (Start: 14 @38614 has 34 MA's), (42, 38833),

Gene: CosmicBrownie_68 Start: 37819, Stop: 38136, Start Num: 14

Candidate Starts for CosmicBrownie_68:

(Start: 14 @37819 has 34 MA's), (33, 37993), (51, 38089),

Gene: CosmicSans_46 Start: 34298, Stop: 34002, Start Num: 18

Candidate Starts for CosmicSans_46:

(Start: 18 @34298 has 36 MA's), (21, 34280), (23, 34274), (37, 34157), (45, 34124), (47, 34118), (54, 34058), (56, 34010),

Gene: Crescenzo_78 Start: 41409, Stop: 41732, Start Num: 14

Candidate Starts for Crescenzo_78:

(Start: 9 @41349 has 4 MA's), (Start: 14 @41409 has 34 MA's), (42, 41628),

Gene: DarwinJr_79 Start: 41364, Stop: 41687, Start Num: 14

Candidate Starts for DarwinJr_79:

(Start: 9 @41304 has 4 MA's), (Start: 14 @41364 has 34 MA's), (42, 41583),

Gene: Ding_72 Start: 38655, Stop: 38966, Start Num: 14

Candidate Starts for Ding_72:

(Start: 9 @38598 has 4 MA's), (Start: 14 @38655 has 34 MA's), (24, 38727), (26, 38748), (27, 38751), (41, 38856), (50, 38898),

Gene: Dinger_45 Start: 34431, Stop: 34135, Start Num: 18

Candidate Starts for Dinger_45:

(Start: 18 @34431 has 36 MA's), (21, 34413), (23, 34407), (37, 34290), (45, 34257), (47, 34251), (54, 34191), (56, 34143),

Gene: DreamEater_55 Start: 35811, Stop: 36119, Start Num: 15

Candidate Starts for DreamEater_55:

(Start: 15 @35811 has 2 MA's), (21, 35862), (31, 35952), (36, 35982), (46, 36021),

Gene: EmiRose_45 Start: 36642, Stop: 36902, Start Num: 19

Candidate Starts for EmiRose_45:

(Start: 19 @36642 has 1 MA's), (32, 36756), (34, 36765), (47, 36816), (48, 36819),

Gene: Erik_46 Start: 34230, Stop: 33934, Start Num: 18

Candidate Starts for Erik_46:

(Start: 18 @34230 has 36 MA's), (21, 34212), (23, 34206), (37, 34089), (45, 34056), (47, 34050), (54, 33990), (56, 33942),

Gene: Espica_46 Start: 34231, Stop: 33935, Start Num: 18

Candidate Starts for Espica_46:

(Start: 18 @34231 has 36 MA's), (21, 34213), (23, 34207), (37, 34090), (45, 34057), (47, 34051), (54, 33991), (56, 33943),

Gene: EvePickles_72 Start: 39884, Stop: 40201, Start Num: 14

Candidate Starts for EvePickles_72:

(Start: 14 @39884 has 34 MA's), (30, 40034),

Gene: Faja_76 Start: 40656, Stop: 40979, Start Num: 14

Candidate Starts for Faja_76:

(Start: 9 @40596 has 4 MA's), (Start: 14 @40656 has 34 MA's), (42, 40875),

Gene: GUPitcher_54 Start: 35925, Stop: 36233, Start Num: 15

Candidate Starts for GUPitcher_54:

(Start: 15 @35925 has 2 MA's), (21, 35976), (31, 36066), (36, 36096), (46, 36135),

Gene: Globfish_73 Start: 38348, Stop: 38665, Start Num: 14

Candidate Starts for Globfish_73:

(Start: 14 @38348 has 34 MA's), (30, 38498),

Gene: Gollum_46 Start: 34296, Stop: 34000, Start Num: 18

Candidate Starts for Gollum_46:

(Start: 18 @34296 has 36 MA's), (21, 34278), (23, 34272), (37, 34155), (45, 34122), (47, 34116), (54, 34056), (56, 34008),

Gene: Gorpy_72 Start: 39861, Stop: 40178, Start Num: 14

Candidate Starts for Gorpy_72:

(Start: 14 @39861 has 34 MA's), (31, 40017), (36, 40047), (40, 40056), (42, 40074),

Gene: GumGum_79 Start: 39801, Stop: 40124, Start Num: 14

Candidate Starts for GumGum_79:

(Start: 9 @39741 has 4 MA's), (Start: 14 @39801 has 34 MA's), (42, 40020),

Gene: Harlequin_45 Start: 34082, Stop: 33786, Start Num: 18

Candidate Starts for Harlequin_45:

(Start: 18 @34082 has 36 MA's), (21, 34064), (23, 34058), (37, 33941), (45, 33908), (47, 33902), (54, 33842), (56, 33794),

Gene: Hestia_67 Start: 36879, Stop: 37202, Start Num: 14

Candidate Starts for Hestia_67:

(Start: 9 @36819 has 4 MA's), (Start: 14 @36879 has 34 MA's), (42, 37098),

Gene: Hillester_77 Start: 39406, Stop: 39702, Start Num: 14

Candidate Starts for Hillester_77:

(Start: 9 @39346 has 4 MA's), (Start: 14 @39406 has 34 MA's),

Gene: Hiro_46 Start: 34558, Stop: 34262, Start Num: 18

Candidate Starts for Hiro_46:

(Start: 18 @34558 has 36 MA's), (21, 34540), (23, 34534), (28, 34486), (37, 34417), (45, 34384), (47, 34378), (54, 34318), (56, 34270),

Gene: Isolde_71 Start: 38725, Stop: 39048, Start Num: 14

Candidate Starts for Isolde_71:

(Start: 9 @38665 has 4 MA's), (Start: 14 @38725 has 34 MA's), (42, 38944),

Gene: JakeTheSnake_77 Start: 41715, Stop: 42032, Start Num: 14

Candidate Starts for JakeTheSnake_77:

(Start: 9 @41652 has 4 MA's), (Start: 14 @41715 has 34 MA's),

Gene: JellyBread_71 Start: 38870, Stop: 39193, Start Num: 14

Candidate Starts for JellyBread_71:

(Start: 9 @38810 has 4 MA's), (Start: 14 @38870 has 34 MA's), (42, 39089),

Gene: Jester_45 Start: 34013, Stop: 33717, Start Num: 18

Candidate Starts for Jester_45:

(Start: 18 @34013 has 36 MA's), (21, 33995), (23, 33989), (37, 33872), (45, 33839), (47, 33833), (54, 33773), (56, 33725),

Gene: Juicebox_39 Start: 32245, Stop: 32553, Start Num: 16

Candidate Starts for Juicebox_39:

(Start: 16 @32245 has 1 MA's), (17, 32269), (Start: 18 @32281 has 36 MA's), (22, 32302), (23, 32305), (27, 32350), (29, 32368), (35, 32404), (39, 32422), (42, 32443), (43, 32446), (46, 32455), (53, 32518),

Gene: Kabloowy_74 Start: 39754, Stop: 40077, Start Num: 14

Candidate Starts for Kabloowy_74:

(Start: 14 @39754 has 34 MA's), (42, 39973),

Gene: Krishelle_46 Start: 34658, Stop: 34362, Start Num: 18

Candidate Starts for Krishelle_46:

(Start: 18 @34658 has 36 MA's), (21, 34640), (23, 34634), (37, 34517), (45, 34484), (47, 34478), (54, 34418), (56, 34370),

Gene: Kukla_56 Start: 35378, Stop: 35701, Start Num: 15

Candidate Starts for Kukla_56:

(13, 35345), (Start: 15 @35378 has 2 MA's), (24, 35459), (26, 35480), (35, 35555), (44, 35594), (51, 35648),

Gene: Lasker_76 Start: 40249, Stop: 40572, Start Num: 14

Candidate Starts for Lasker_76:

(Start: 14 @40249 has 34 MA's), (42, 40468),

Gene: Lawnathon_76 Start: 38975, Stop: 39298, Start Num: 14

Candidate Starts for Lawnathon_76:

(Start: 14 @38975 has 34 MA's), (42, 39194),

Gene: LeBruni_75 Start: 38212, Stop: 38529, Start Num: 14

Candidate Starts for LeBruni_75:

(6, 38089), (Start: 14 @38212 has 34 MA's), (22, 38281), (47, 38440),

Gene: Lillie_46 Start: 34298, Stop: 34002, Start Num: 18

Candidate Starts for Lillie_46:

(Start: 18 @34298 has 36 MA's), (21, 34280), (23, 34274), (37, 34157), (45, 34124), (47, 34118), (54, 34058), (56, 34010),

Gene: MUWow_74 Start: 40107, Stop: 40418, Start Num: 14

Candidate Starts for MUWow_74:

(Start: 14 @40107 has 34 MA's), (26, 40200), (27, 40203), (38, 40284), (44, 40320),

Gene: Mapleville_70 Start: 38294, Stop: 38617, Start Num: 14

Candidate Starts for Mapleville_70:

(Start: 14 @38294 has 34 MA's), (42, 38513),

Gene: MaterMagnus_73 Start: 39613, Stop: 39930, Start Num: 14

Candidate Starts for MaterMagnus_73:

(Start: 14 @39613 has 34 MA's), (31, 39769), (36, 39799), (40, 39808), (42, 39826),

Gene: MidnightRain_78 Start: 40135, Stop: 40518, Start Num: 9

Candidate Starts for MidnightRain_78:

(Start: 9 @40135 has 4 MA's), (Start: 14 @40195 has 34 MA's), (28, 40321), (42, 40414),

Gene: MurphyJoseph_69 Start: 37141, Stop: 37437, Start Num: 14

Candidate Starts for MurphyJoseph_69:

(Start: 9 @37081 has 4 MA's), (Start: 14 @37141 has 34 MA's), (47, 37348),

Gene: Naiad_45 Start: 34311, Stop: 34015, Start Num: 18

Candidate Starts for Naiad_45:

(Start: 18 @34311 has 36 MA's), (21, 34293), (23, 34287), (37, 34170), (45, 34137), (47, 34131), (54, 34071), (56, 34023),

Gene: Nancinator_46 Start: 34231, Stop: 33935, Start Num: 18

Candidate Starts for Nancinator_46:

(Start: 18 @34231 has 36 MA's), (21, 34213), (23, 34207), (37, 34090), (45, 34057), (47, 34051), (54, 33991), (56, 33943),

Gene: Natosaleda_45 Start: 34230, Stop: 33934, Start Num: 18

Candidate Starts for Natosaleda_45:

(Start: 18 @34230 has 36 MA's), (21, 34212), (23, 34206), (37, 34089), (45, 34056), (47, 34050), (54, 33990), (56, 33942),

Gene: NewKitty_76 Start: 40595, Stop: 40897, Start Num: 14

Candidate Starts for NewKitty_76:

(Start: 14 @40595 has 34 MA's), (25, 40685),

Gene: Nyilah_77 Start: 38886, Stop: 39203, Start Num: 14

Candidate Starts for Nyilah_77:

(Start: 14 @38886 has 34 MA's), (20, 38946), (33, 39060),

Gene: Partridge_45 Start: 34587, Stop: 34291, Start Num: 18

Candidate Starts for Partridge_45:

(Start: 18 @34587 has 36 MA's), (23, 34563), (36, 34449), (37, 34446), (45, 34413), (47, 34407), (54, 34347), (56, 34299),

Gene: Persistence_66 Start: 36801, Stop: 37118, Start Num: 14

Candidate Starts for Persistence_66:

(4, 36561), (Start: 14 @36801 has 34 MA's), (36, 36987), (42, 37014),

Gene: PetriParty_57 Start: 35402, Stop: 35725, Start Num: 15

Candidate Starts for PetriParty_57:

(10, 35351), (Start: 15 @35402 has 2 MA's), (24, 35483), (26, 35504), (51, 35672),

Gene: PhailMary_45 Start: 34620, Stop: 34324, Start Num: 18

Candidate Starts for PhailMary_45:

(Start: 18 @34620 has 36 MA's), (21, 34602), (23, 34596), (28, 34548), (37, 34479), (45, 34446), (47, 34440), (54, 34380), (56, 34332),

Gene: Phrank15_75 Start: 38696, Stop: 39013, Start Num: 14

Candidate Starts for Phrank15_75:

(Start: 14 @38696 has 34 MA's), (22, 38765), (30, 38846), (47, 38924),

Gene: Phrankenstein_46 Start: 34244, Stop: 33948, Start Num: 18

Candidate Starts for Phrankenstein_46:

(Start: 18 @34244 has 36 MA's), (21, 34226), (23, 34220), (37, 34103), (45, 34070), (47, 34064), (54, 34004), (56, 33956),

Gene: RER2_39 Start: 31170, Stop: 30874, Start Num: 18

Candidate Starts for RER2_39:

(Start: 18 @31170 has 36 MA's), (21, 31152), (23, 31146), (37, 31029), (45, 30996), (47, 30990), (54, 30930), (56, 30882),

Gene: RGL3_40 Start: 32103, Stop: 31804, Start Num: 18

Candidate Starts for RGL3_40:

(7, 32253), (Start: 18 @32103 has 36 MA's), (21, 32085), (22, 32082), (36, 31965), (44, 31932), (45, 31929),

Gene: RadFad_77 Start: 39406, Stop: 39702, Start Num: 14

Candidate Starts for RadFad_77:

(Start: 9 @39346 has 4 MA's), (Start: 14 @39406 has 34 MA's),

Gene: Raphaella_74 Start: 38671, Stop: 38994, Start Num: 14

Candidate Starts for Raphaella_74:

(8, 38596), (Start: 14 @38671 has 34 MA's), (42, 38890),

Gene: Raqqa_69 Start: 36817, Stop: 37113, Start Num: 14

Candidate Starts for Raqqa_69:

(Start: 9 @36757 has 4 MA's), (Start: 14 @36817 has 34 MA's),

Gene: Rasputin_46 Start: 34268, Stop: 33972, Start Num: 18

Candidate Starts for Rasputin_46:

(Start: 18 @34268 has 36 MA's), (21, 34250), (23, 34244), (37, 34127), (45, 34094), (47, 34088), (54, 34028), (56, 33980),

Gene: RexFury_45 Start: 34329, Stop: 34033, Start Num: 18

Candidate Starts for RexFury_45:

(Start: 18 @34329 has 36 MA's), (21, 34311), (23, 34305), (37, 34188), (45, 34155), (47, 34149), (54, 34089), (56, 34041),

Gene: Rhodalysa_46 Start: 34298, Stop: 34002, Start Num: 18

Candidate Starts for Rhodalysa_46:

(Start: 18 @34298 has 36 MA's), (21, 34280), (23, 34274), (37, 34157), (45, 34124), (47, 34118), (54, 34058), (56, 34010),

Gene: Richie_76 Start: 40479, Stop: 40859, Start Num: 9

Candidate Starts for Richie_76:

(Start: 9 @40479 has 4 MA's), (Start: 14 @40542 has 34 MA's), (25, 40647), (30, 40692), (42, 40755),

Gene: Sakai_71 Start: 38572, Stop: 38889, Start Num: 14

Candidate Starts for Sakai_71:

(Start: 14 @38572 has 34 MA's), (31, 38728), (36, 38758), (40, 38767), (42, 38785),

Gene: Sashimi_70 Start: 38667, Stop: 38984, Start Num: 14

Candidate Starts for Sashimi_70:

(2, 38412), (5, 38442), (Start: 9 @38604 has 4 MA's), (Start: 14 @38667 has 34 MA's), (42, 38880), (47, 38895),

Gene: Satrap_74 Start: 39319, Stop: 39636, Start Num: 14

Candidate Starts for Satrap_74:

(Start: 14 @39319 has 34 MA's), (20, 39379), (51, 39589),

Gene: Seahorse_78 Start: 41611, Stop: 41991, Start Num: 9

Candidate Starts for Seahorse_78:

(Start: 9 @41611 has 4 MA's), (Start: 14 @41674 has 34 MA's), (25, 41779), (30, 41824), (42, 41887),

Gene: Shukran_70 Start: 37615, Stop: 37932, Start Num: 14

Candidate Starts for Shukran_70:

(Start: 9 @37558 has 4 MA's), (Start: 14 @37615 has 34 MA's), (30, 37765), (45, 37837),

Gene: Shuman_46 Start: 34243, Stop: 33947, Start Num: 18

Candidate Starts for Shuman_46:

(Start: 18 @34243 has 36 MA's), (21, 34225), (23, 34219), (37, 34102), (45, 34069), (47, 34063), (54, 34003), (56, 33955),

Gene: SonDevVon_80 Start: 39621, Stop: 39938, Start Num: 14

Candidate Starts for SonDevVon_80:

(Start: 14 @39621 has 34 MA's), (31, 39777), (36, 39807), (40, 39816), (42, 39834),

Gene: SpicyFrank_75 Start: 38962, Stop: 39276, Start Num: 14

Candidate Starts for SpicyFrank_75:

(Start: 14 @38962 has 34 MA's), (27, 39061), (44, 39178),

Gene: Sporco_76 Start: 40357, Stop: 40674, Start Num: 14

Candidate Starts for Sporco_76:

(Start: 14 @40357 has 34 MA's), (31, 40513), (36, 40543), (40, 40552), (42, 40570),

Gene: StCroix_45 Start: 34311, Stop: 34015, Start Num: 18

Candidate Starts for StCroix_45:

(Start: 18 @34311 has 36 MA's), (21, 34293), (23, 34287), (37, 34170), (45, 34137), (47, 34131), (54, 34071), (56, 34023),

Gene: Swann_46 Start: 34296, Stop: 34000, Start Num: 18

Candidate Starts for Swann_46:

(Start: 18 @34296 has 36 MA's), (21, 34278), (23, 34272), (37, 34155), (45, 34122), (47, 34116), (54, 34056), (56, 34008),

Gene: TWAMP_46 Start: 34298, Stop: 34002, Start Num: 18

Candidate Starts for TWAMP_46:

(Start: 18 @34298 has 36 MA's), (21, 34280), (23, 34274), (37, 34157), (45, 34124), (47, 34118), (54, 34058), (56, 34010),

Gene: Takoda_46 Start: 34472, Stop: 34176, Start Num: 18

Candidate Starts for Takoda_46:

(Start: 18 @34472 has 36 MA's), (21, 34454), (23, 34448), (37, 34331), (45, 34298), (47, 34292), (54, 34232), (56, 34184),

Gene: ThayneTheZag_78 Start: 39595, Stop: 39912, Start Num: 14

Candidate Starts for ThayneTheZag_78:

(Start: 14 @39595 has 34 MA's),

Gene: Tiff81_68 Start: 37265, Stop: 37582, Start Num: 14
Candidate Starts for Tiff81_68:
(11, 37229), (Start: 14 @37265 has 34 MA's), (30, 37415), (52, 37541),

Gene: TripleJ_57 Start: 35331, Stop: 35654, Start Num: 15
Candidate Starts for TripleJ_57:
(10, 35280), (Start: 15 @35331 has 2 MA's), (24, 35412), (26, 35433), (51, 35601),

Gene: UhSalsa_46 Start: 34231, Stop: 33935, Start Num: 18
Candidate Starts for UhSalsa_46:
(Start: 18 @34231 has 36 MA's), (21, 34213), (23, 34207), (37, 34090), (45, 34057), (47, 34051), (54, 33991), (56, 33943),

Gene: Vopal_74 Start: 40874, Stop: 41170, Start Num: 14
Candidate Starts for Vopal_74:
(Start: 9 @40814 has 4 MA's), (Start: 14 @40874 has 34 MA's),

Gene: Windest_77 Start: 38033, Stop: 38356, Start Num: 14
Candidate Starts for Windest_77:
(Start: 14 @38033 has 34 MA's), (42, 38252),

Gene: Yogi_45 Start: 34272, Stop: 33976, Start Num: 18
Candidate Starts for Yogi_45:
(Start: 18 @34272 has 36 MA's), (21, 34254), (23, 34248), (37, 34131), (45, 34098), (47, 34092), (54, 34032), (56, 33984),

Gene: Yoncess_45 Start: 34052, Stop: 33756, Start Num: 18
Candidate Starts for Yoncess_45:
(Start: 18 @34052 has 36 MA's), (21, 34034), (23, 34028), (37, 33911), (45, 33878), (47, 33872), (54, 33812), (56, 33764),

Gene: YoungHarleezy_72 Start: 38387, Stop: 38743, Start Num: 9
Candidate Starts for YoungHarleezy_72:
(Start: 9 @38387 has 4 MA's), (Start: 14 @38447 has 34 MA's), (47, 38654),

Gene: Zucker_69 Start: 40359, Stop: 40676, Start Num: 14
Candidate Starts for Zucker_69:
(Start: 14 @40359 has 34 MA's), (25, 40464), (42, 40572),