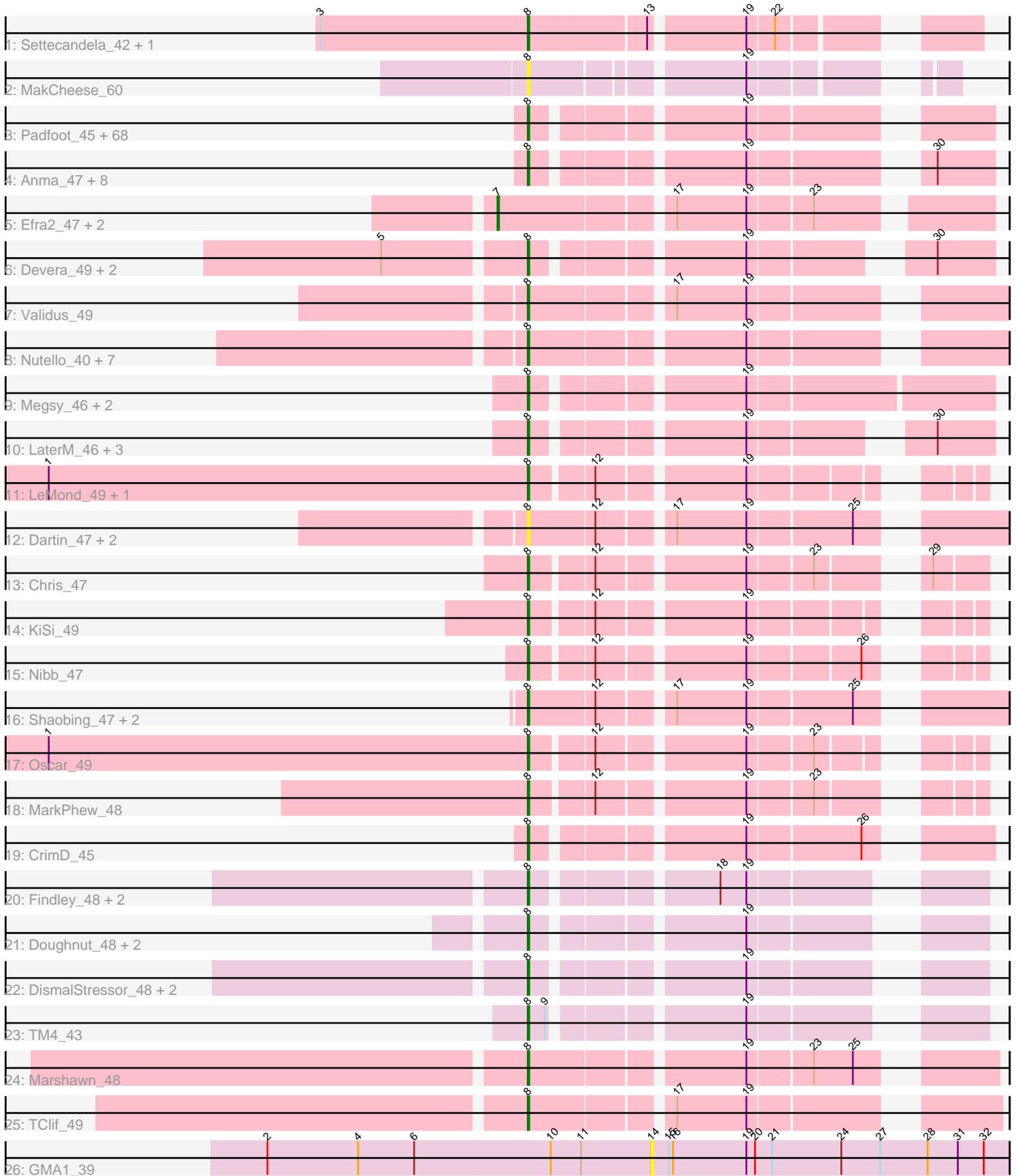


Pham 283598



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 283598 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283598 has 130 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Settecandela\_42, Phrappuccino\_42
- Track 2 : MakCheese\_60
- Track 3 : Padfoot\_45, ActinUp\_45, Llorens\_45, Topper\_45, BEEST\_45, Jayhawk\_46, BarrelRoll\_45, Ramen\_45, Dalmuri\_45, CaseJules\_46, Tiri\_46, Jeckyll\_45, AlishaPH\_45, Rosmarinus\_45, Prithvi\_46, CREW\_45, Geraldini\_47, TruffulaTree\_45, BaghaKamala\_44, Boiii\_45, Angelica\_45, BGlluviae\_45, Joy99\_45, MacKat\_40, Apocalypse\_48, Asayake\_45, CheetoDust\_44, Bern\_46, Blizzard\_45, Atiba\_45, Veliki\_45, Rapunzel97\_45, Beezoo\_47, Adephagia\_45, Zavala\_46, Zabiza\_40, Mynx\_46, Homura\_45, Pokerus\_44, Inky\_45, Padpat\_46, JAWS\_45, Lunahalos\_45, Spock\_45, TreyKay\_46, Capricorn\_45, Anaya\_47, Hyperbowlee\_45, HedwigODU\_45, MeaningOfLife\_46, Ganymede\_46, Deby\_45, QuincyRose\_44, CallaLilly\_45, ShiaSurprise\_46, Durfee\_45, YoureAdopted\_44, Piatt\_45, Sulley\_45, Tachez\_45, Chavito\_48, Clipper\_48, Belladonna\_45, Jarvi\_45, Twitch\_45, Adonis\_45, Peel\_45, Emerson\_46, Slimphazie\_45
- Track 4 : Anma\_47, DartGoblin\_47, Pisa4\_39, Bella96\_46, Urkel\_46, Pisa1\_45, SamuelLPlaqson\_46, TiniBug\_46, DrHayes\_46
- Track 5 : Efra2\_47, Yunkel11\_47, Guanica15\_47
- Track 6 : Devera\_49, Illumine\_48, Dole\_48
- Track 7 : Validus\_49
- Track 8 : Nutello\_40, Nikao\_43, LilPharaoh\_40, Amelie\_40, SgtBeansprout\_40, Torres\_43, Binglebops\_40, Mdavu\_41
- Track 9 : Megsy\_46, ZoeJ\_47, TaiwanKao\_47
- Track 10 : LaterM\_46, Ageofdapage\_47, Stinson\_46, Murucutumbu\_46
- Track 11 : LeMond\_49, Scarlett\_49
- Track 12 : Dartin\_47, McMater\_47, Richo\_47
- Track 13 : Chris\_47
- Track 14 : KiSi\_49
- Track 15 : Nibb\_47
- Track 16 : Shaobing\_47, Niklas\_47, Peanam\_47
- Track 17 : Oscar\_49
- Track 18 : MarkPhew\_48
- Track 19 : CrimD\_45
- Track 20 : Findley\_48, Strobilo\_48, Milly\_48
- Track 21 : Doughnut\_48, BoostSeason\_48, Mufasa\_48
- Track 22 : DismalStressor\_48, Marcoliusprime\_48, DismalFunk\_48
- Track 23 : TM4\_43
- Track 24 : Marshawn\_48

- Track 25 : TClif\_49
- Track 26 : GMA1\_39

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

The start number called the most often in the published annotations is 8, it was called in 116 of the 119 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_45, Adephegia\_45, Adonis\_45, Ageofdapage\_47, AlishaPH\_45, Amelie\_40, Anaya\_47, Angelica\_45, Anma\_47, Apocalypse\_48, Asayake\_45, Atiba\_45, BEEST\_45, BGlluviae\_45, BaghaKamala\_44, BarrelRoll\_45, Beezoo\_47, Bella96\_46, Belladonna\_45, Bern\_46, Biglebops\_40, Blizzard\_45, Boiiii\_45, BoostSeason\_48, CREW\_45, CallaLilly\_45, Capricorn\_45, CaseJules\_46, Chavito\_48, CheetoDust\_44, Chris\_47, Clipper\_48, CrimD\_45, Dalmuri\_45, DartGoblin\_47, Dartin\_47, Deby\_45, Devera\_49, DismalFunk\_48, DismalStressor\_48, Dole\_48, Doughnut\_48, DrHayes\_46, Durfee\_45, Emerson\_46, Findley\_48, Ganymede\_46, Geraldini\_47, HedwigODU\_45, Homura\_45, Hyperbowlee\_45, Illumine\_48, Inky\_45, JAWS\_45, Jarvi\_45, Jayhawk\_46, Jeckyll\_45, Joy99\_45, KiSi\_49, LaterM\_46, LeMond\_49, LilPharaoh\_40, Llorens\_45, Lunahalos\_45, MacKat\_40, MakCheese\_60, Marcoliusprime\_48, MarkPhew\_48, Marshawn\_48, McMater\_47, Mdavu\_41, MeaningOfLife\_46, Megsy\_46, Milly\_48, Mufasa\_48, Murucutumbu\_46, Mynx\_46, Nibb\_47, Nikao\_43, Niklas\_47, Nutello\_40, Oscar\_49, Padfoot\_45, Padpat\_46, Peanam\_47, Peel\_45, Phrappuccino\_42, Piatt\_45, Pisa1\_45, Pisa4\_39, Pokerus\_44, Prithvi\_46, QuincyRose\_44, Ramen\_45, Rapunzel97\_45, Richo\_47, Rosmarinus\_45, SamuelLPlaqson\_46, Scarlett\_49, Settecandela\_42, SgtBeansprout\_40, Shaobing\_47, ShiaSurprise\_46, Slimphazie\_45, Spock\_45, Stinson\_46, Strobilo\_48, Sulley\_45, TClif\_49, TM4\_43, Tachez\_45, TaiwanKao\_47, TiniBug\_46, Tiri\_46, Topper\_45, Torres\_43, TreyKay\_46, TruffulaTree\_45, Twitch\_45, Urkel\_46, Validus\_49, Veliki\_45, YoureAdopted\_44, Zabiza\_40, Zavala\_46, ZoeJ\_47,

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

- 

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

- Efra2\_47, GMA1\_39, Guanica15\_47, Yunkel11\_47,

### **Summary by start number:**

Start 7:

- Found in 3 of 130 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 3 of 119
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Efra2\_47 (K1), Guanica15\_47 (K1), Yunkel11\_47 (K1),

Start 8:

- Found in 126 of 130 ( 96.9% ) of genes in pham
- Manual Annotations of this start: 116 of 119

- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_45 (K1), Adephagia\_45 (K1), Adonis\_45 (K1), Ageofdapage\_47 (K1), AlishaPH\_45 (K1), Amelie\_40 (K1), Anaya\_47 (K1), Angelica\_45 (K1), Anma\_47 (K1), Apocalypse\_48 (K1), Asayake\_45 (K1), Atiba\_45 (K1), BEEST\_45 (K1), BGIlluviae\_45 (K1), BaghaKamala\_44 (K1), BarrelRoll\_45 (K1), Beezoo\_47 (K1), Bella96\_46 (K1), Belladonna\_45 (K1), Bern\_46 (K1), Binglebops\_40 (K1), Blizzard\_45 (K1), Boiiii\_45 (K1), BoostSeason\_48 (K2), CREW\_45 (K1), CallaLilly\_45 (K1), Capricorn\_45 (K1), CaseJules\_46 (K1), Chavito\_48 (K1), CheetoDust\_44 (K1), Chris\_47 (K1), Clipper\_48 (K1), CrimD\_45 (K1), Dalmuri\_45 (K1), DartGoblin\_47 (K1), Dartin\_47 (K1), Deby\_45 (K1), Devera\_49 (K1), DismalFunk\_48 (K2), DismalStressor\_48 (K2), Dole\_48 (K1), Doughnut\_48 (K2), DrHayes\_46 (K1), Durfee\_45 (K1), Emerson\_46 (K1), Findley\_48 (K2), Ganymede\_46 (K1), Geraldini\_47 (K1), HedwigODU\_45 (K1), Homura\_45 (K1), Hyperbowlee\_45 (K1), Illumine\_48 (K1), Inky\_45 (K1), JAWS\_45 (K1), Jarvi\_45 (K1), Jayhawk\_46 (K1), Jeckyll\_45 (K1), Joy99\_45 (K1), KiSi\_49 (K1), LaterM\_46 (K1), LeMond\_49 (K1), LilPharaoh\_40 (K1), Llorens\_45 (K1), Lunahalos\_45 (K1), MacKat\_40 (K1), MakCheese\_60 (DW), Marcoliusprime\_48 (K2), MarkPhew\_48 (K1), Marshawn\_48 (K6), McMater\_47 (K1), Mdavu\_41 (K1), MeaningOfLife\_46 (K1), Megsy\_46 (K1), Milly\_48 (K2), Mufasa\_48 (K2), Murucutumbu\_46 (K1), Mynx\_46 (K1), Nibb\_47 (K1), Nikao\_43 (K1), Niklas\_47 (K1), Nutello\_40 (K1), Oscar\_49 (K1), Padfoot\_45 (K1), Padpat\_46 (K1), Peanam\_47 (K1), Peel\_45 (K1), Phrappuccino\_42 (AA), Piatt\_45 (K1), Pisa1\_45 (K1), Pisa4\_39 (K1), Pokerus\_44 (K1), Prithvi\_46 (K1), QuincyRose\_44 (K1), Ramen\_45 (K1), Rapunzel97\_45 (K1), Richo\_47 (K1), Rosmarinus\_45 (K1), SamuelLPlaqson\_46 (K1), Scarlett\_49 (K1), Settecandela\_42 (AA), SgtBeansprout\_40 (K1), Shaobing\_47 (K1), ShiaSurprise\_46 (K1), Slimphazie\_45 (K1), Spock\_45 (K1), Stinson\_46 (K1), Strobilo\_48 (K2), Sulley\_45 (K1), TClif\_49 (K6), TM4\_43 (K2), Tachez\_45 (K1), TaiwanKao\_47 (K1), TiniBug\_46 (K1), Tiri\_46 (K1), Topper\_45 (K1), Torres\_43 (K1), TreyKay\_46 (K1), TruffulaTree\_45 (K1), Twitch\_45 (K1), Urkel\_46 (K1), Validus\_49 (K1), Veliki\_45 (K1), YoureAdopted\_44 (K1), Zabiza\_40 (K1), Zavala\_46 (K1), ZoeJ\_47 (K2),

Start 14:

- Found in 1 of 130 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA1\_39 (singleton),

### Summary by clusters:

There are 6 clusters represented in this pham: AA, singleton, K2, K1, K6, DW,

Info for manual annotations of cluster AA:

- Start number 8 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster K1:

- Start number 7 was manually annotated 3 times for cluster K1.
- Start number 8 was manually annotated 101 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 8 was manually annotated 11 times for cluster K2.

Info for manual annotations of cluster K6:

- Start number 8 was manually annotated 2 times for cluster K6.

**Gene Information:**

Gene: ActinUp\_45 Start: 35398, Stop: 35664, Start Num: 8  
Candidate Starts for ActinUp\_45:  
(Start: 8 @35398 has 116 MA's), (19, 35527),

Gene: Adephagia\_45 Start: 35395, Stop: 35661, Start Num: 8  
Candidate Starts for Adephagia\_45:  
(Start: 8 @35395 has 116 MA's), (19, 35524),

Gene: Adonis\_45 Start: 35693, Stop: 35959, Start Num: 8  
Candidate Starts for Adonis\_45:  
(Start: 8 @35693 has 116 MA's), (19, 35822),

Gene: Ageofdapage\_47 Start: 36366, Stop: 36659, Start Num: 8  
Candidate Starts for Ageofdapage\_47:  
(Start: 8 @36366 has 116 MA's), (19, 36495), (30, 36621),

Gene: AlishaPH\_45 Start: 35668, Stop: 35934, Start Num: 8  
Candidate Starts for AlishaPH\_45:  
(Start: 8 @35668 has 116 MA's), (19, 35797),

Gene: Amelie\_40 Start: 34981, Stop: 35265, Start Num: 8  
Candidate Starts for Amelie\_40:  
(Start: 8 @34981 has 116 MA's), (19, 35119),

Gene: Anaya\_47 Start: 36005, Stop: 36271, Start Num: 8  
Candidate Starts for Anaya\_47:  
(Start: 8 @36005 has 116 MA's), (19, 36134),

Gene: Angelica\_45 Start: 35625, Stop: 35891, Start Num: 8  
Candidate Starts for Angelica\_45:  
(Start: 8 @35625 has 116 MA's), (19, 35754),

Gene: Anma\_47 Start: 36292, Stop: 36558, Start Num: 8  
Candidate Starts for Anma\_47:  
(Start: 8 @36292 has 116 MA's), (19, 36421), (30, 36520),

Gene: Apocalypse\_48 Start: 36410, Stop: 36676, Start Num: 8  
Candidate Starts for Apocalypse\_48:  
(Start: 8 @36410 has 116 MA's), (19, 36539),

Gene: Asayake\_45 Start: 35710, Stop: 35976, Start Num: 8  
Candidate Starts for Asayake\_45:  
(Start: 8 @35710 has 116 MA's), (19, 35839),

Gene: Atiba\_45 Start: 35358, Stop: 35624, Start Num: 8  
Candidate Starts for Atiba\_45:  
(Start: 8 @35358 has 116 MA's), (19, 35487),

Gene: BEEST\_45 Start: 35710, Stop: 35976, Start Num: 8  
Candidate Starts for BEEST\_45:  
(Start: 8 @35710 has 116 MA's), (19, 35839),

Gene: BGlluviae\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for BGlluviae\_45:  
(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: BaghaKamala\_44 Start: 34833, Stop: 35099, Start Num: 8  
Candidate Starts for BaghaKamala\_44:  
(Start: 8 @34833 has 116 MA's), (19, 34962),

Gene: BarrelRoll\_45 Start: 35381, Stop: 35647, Start Num: 8  
Candidate Starts for BarrelRoll\_45:  
(Start: 8 @35381 has 116 MA's), (19, 35510),

Gene: Beezoo\_47 Start: 36356, Stop: 36622, Start Num: 8  
Candidate Starts for Beezoo\_47:  
(Start: 8 @36356 has 116 MA's), (19, 36485),

Gene: Bella96\_46 Start: 36247, Stop: 36513, Start Num: 8  
Candidate Starts for Bella96\_46:  
(Start: 8 @36247 has 116 MA's), (19, 36376), (30, 36475),

Gene: Belladonna\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for Belladonna\_45:  
(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: Bern\_46 Start: 34428, Stop: 34694, Start Num: 8  
Candidate Starts for Bern\_46:  
(Start: 8 @34428 has 116 MA's), (19, 34557),

Gene: Biglebops\_40 Start: 34981, Stop: 35265, Start Num: 8  
Candidate Starts for Biglebops\_40:  
(Start: 8 @34981 has 116 MA's), (19, 35119),

Gene: Blizzard\_45 Start: 35710, Stop: 35976, Start Num: 8  
Candidate Starts for Blizzard\_45:  
(Start: 8 @35710 has 116 MA's), (19, 35839),

Gene: Boiiii\_45 Start: 35712, Stop: 35978, Start Num: 8  
Candidate Starts for Boiiii\_45:  
(Start: 8 @35712 has 116 MA's), (19, 35841),

Gene: BoostSeason\_48 Start: 37105, Stop: 37362, Start Num: 8  
Candidate Starts for BoostSeason\_48:  
(Start: 8 @37105 has 116 MA's), (19, 37234),

Gene: CREW\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for CREW\_45:  
(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: CallaLilly\_45 Start: 35436, Stop: 35702, Start Num: 8  
Candidate Starts for CallaLilly\_45:  
(Start: 8 @35436 has 116 MA's), (19, 35565),

Gene: Capricorn\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for Capricorn\_45:  
(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: CaseJules\_46 Start: 35710, Stop: 35976, Start Num: 8  
Candidate Starts for CaseJules\_46:  
(Start: 8 @35710 has 116 MA's), (19, 35839),

Gene: Chavito\_48 Start: 36764, Stop: 37048, Start Num: 8  
Candidate Starts for Chavito\_48:  
(Start: 8 @36764 has 116 MA's), (19, 36902),

Gene: CheetoDust\_44 Start: 34882, Stop: 35148, Start Num: 8  
Candidate Starts for CheetoDust\_44:  
(Start: 8 @34882 has 116 MA's), (19, 35011),

Gene: Chris\_47 Start: 36192, Stop: 36452, Start Num: 8  
Candidate Starts for Chris\_47:  
(Start: 8 @36192 has 116 MA's), (12, 36231), (19, 36324), (23, 36366), (29, 36417),

Gene: Clipper\_48 Start: 36029, Stop: 36295, Start Num: 8  
Candidate Starts for Clipper\_48:  
(Start: 8 @36029 has 116 MA's), (19, 36158),

Gene: CrimD\_45 Start: 35636, Stop: 35902, Start Num: 8  
Candidate Starts for CrimD\_45:  
(Start: 8 @35636 has 116 MA's), (19, 35765), (26, 35840),

Gene: Dalmuri\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for Dalmuri\_45:  
(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: DartGoblin\_47 Start: 36240, Stop: 36506, Start Num: 8  
Candidate Starts for DartGoblin\_47:  
(Start: 8 @36240 has 116 MA's), (19, 36369), (30, 36468),

Gene: Dartin\_47 Start: 36102, Stop: 36386, Start Num: 8  
Candidate Starts for Dartin\_47:  
(Start: 8 @36102 has 116 MA's), (12, 36147), (17, 36192), (19, 36240), (25, 36309),

Gene: Deby\_45 Start: 35641, Stop: 35907, Start Num: 8  
Candidate Starts for Deby\_45:  
(Start: 8 @35641 has 116 MA's), (19, 35770),

Gene: Devera\_49 Start: 36174, Stop: 36440, Start Num: 8  
Candidate Starts for Devera\_49:  
(5, 36081), (Start: 8 @36174 has 116 MA's), (19, 36303), (30, 36402),

Gene: DismalFunk\_48 Start: 37539, Stop: 37796, Start Num: 8

Candidate Starts for DismalFunk\_48:  
(Start: 8 @37539 has 116 MA's), (19, 37668),

Gene: DismalStressor\_48 Start: 37539, Stop: 37796, Start Num: 8  
Candidate Starts for DismalStressor\_48:  
(Start: 8 @37539 has 116 MA's), (19, 37668),

Gene: Dole\_48 Start: 36176, Stop: 36442, Start Num: 8  
Candidate Starts for Dole\_48:  
(5, 36083), (Start: 8 @36176 has 116 MA's), (19, 36305), (30, 36404),

Gene: Doughnut\_48 Start: 37152, Stop: 37409, Start Num: 8  
Candidate Starts for Doughnut\_48:  
(Start: 8 @37152 has 116 MA's), (19, 37281),

Gene: DrHayes\_46 Start: 36292, Stop: 36558, Start Num: 8  
Candidate Starts for DrHayes\_46:  
(Start: 8 @36292 has 116 MA's), (19, 36421), (30, 36520),

Gene: Durfee\_45 Start: 35710, Stop: 35976, Start Num: 8  
Candidate Starts for Durfee\_45:  
(Start: 8 @35710 has 116 MA's), (19, 35839),

Gene: Efra2\_47 Start: 35223, Stop: 35528, Start Num: 7  
Candidate Starts for Efra2\_47:  
(Start: 7 @35223 has 3 MA's), (17, 35334), (19, 35382), (23, 35424),

Gene: Emerson\_46 Start: 35389, Stop: 35655, Start Num: 8  
Candidate Starts for Emerson\_46:  
(Start: 8 @35389 has 116 MA's), (19, 35518),

Gene: Findley\_48 Start: 37532, Stop: 37789, Start Num: 8  
Candidate Starts for Findley\_48:  
(Start: 8 @37532 has 116 MA's), (18, 37643), (19, 37661),

Gene: GMA1\_39 Start: 28155, Stop: 28403, Start Num: 14  
Candidate Starts for GMA1\_39:  
(2, 27891), (4, 27954), (6, 27993), (10, 28086), (11, 28107), (14, 28155), (15, 28167), (16, 28170), (19, 28221), (20, 28227), (21, 28239), (24, 28287), (27, 28314), (28, 28347), (31, 28368), (32, 28386),

Gene: Ganymede\_46 Start: 35828, Stop: 36094, Start Num: 8  
Candidate Starts for Ganymede\_46:  
(Start: 8 @35828 has 116 MA's), (19, 35957),

Gene: Geraldini\_47 Start: 36445, Stop: 36711, Start Num: 8  
Candidate Starts for Geraldini\_47:  
(Start: 8 @36445 has 116 MA's), (19, 36574),

Gene: Guanica15\_47 Start: 35180, Stop: 35485, Start Num: 7  
Candidate Starts for Guanica15\_47:  
(Start: 7 @35180 has 3 MA's), (17, 35291), (19, 35339), (23, 35381),

Gene: HedwigODU\_45 Start: 35398, Stop: 35664, Start Num: 8

Candidate Starts for HedwigODU\_45:  
(Start: 8 @35398 has 116 MA's), (19, 35527),

Gene: Homura\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for Homura\_45:  
(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: Hyperbowlee\_45 Start: 35710, Stop: 35976, Start Num: 8  
Candidate Starts for Hyperbowlee\_45:  
(Start: 8 @35710 has 116 MA's), (19, 35839),

Gene: Illumine\_48 Start: 36176, Stop: 36442, Start Num: 8  
Candidate Starts for Illumine\_48:  
(5, 36083), (Start: 8 @36176 has 116 MA's), (19, 36305), (30, 36404),

Gene: Inky\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for Inky\_45:  
(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: JAWS\_45 Start: 35387, Stop: 35653, Start Num: 8  
Candidate Starts for JAWS\_45:  
(Start: 8 @35387 has 116 MA's), (19, 35516),

Gene: Jarvi\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for Jarvi\_45:  
(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: Jayhawk\_46 Start: 35396, Stop: 35662, Start Num: 8  
Candidate Starts for Jayhawk\_46:  
(Start: 8 @35396 has 116 MA's), (19, 35525),

Gene: Jeckyll\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for Jeckyll\_45:  
(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: Joy99\_45 Start: 35442, Stop: 35708, Start Num: 8  
Candidate Starts for Joy99\_45:  
(Start: 8 @35442 has 116 MA's), (19, 35571),

Gene: KiSi\_49 Start: 36597, Stop: 36851, Start Num: 8  
Candidate Starts for KiSi\_49:  
(Start: 8 @36597 has 116 MA's), (12, 36636), (19, 36729),

Gene: LaterM\_46 Start: 36290, Stop: 36556, Start Num: 8  
Candidate Starts for LaterM\_46:  
(Start: 8 @36290 has 116 MA's), (19, 36419), (30, 36518),

Gene: LeMond\_49 Start: 36581, Stop: 36835, Start Num: 8  
Candidate Starts for LeMond\_49:  
(1, 36248), (Start: 8 @36581 has 116 MA's), (12, 36620), (19, 36713),

Gene: LilPharaoh\_40 Start: 34709, Stop: 34993, Start Num: 8  
Candidate Starts for LilPharaoh\_40:

(Start: 8 @34709 has 116 MA's), (19, 34847),

Gene: Llorens\_45 Start: 35513, Stop: 35779, Start Num: 8

Candidate Starts for Llorens\_45:

(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: Lunahalos\_45 Start: 35513, Stop: 35779, Start Num: 8

Candidate Starts for Lunahalos\_45:

(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: MacKat\_40 Start: 30913, Stop: 31179, Start Num: 8

Candidate Starts for MacKat\_40:

(Start: 8 @30913 has 116 MA's), (19, 31042),

Gene: MakCheese\_60 Start: 40842, Stop: 41078, Start Num: 8

Candidate Starts for MakCheese\_60:

(Start: 8 @40842 has 116 MA's), (19, 40974),

Gene: Marcoliusprime\_48 Start: 37539, Stop: 37796, Start Num: 8

Candidate Starts for Marcoliusprime\_48:

(Start: 8 @37539 has 116 MA's), (19, 37668),

Gene: MarkPhew\_48 Start: 36023, Stop: 36280, Start Num: 8

Candidate Starts for MarkPhew\_48:

(Start: 8 @36023 has 116 MA's), (12, 36062), (19, 36155), (23, 36197),

Gene: Marshawn\_48 Start: 36429, Stop: 36707, Start Num: 8

Candidate Starts for Marshawn\_48:

(Start: 8 @36429 has 116 MA's), (19, 36567), (23, 36609), (25, 36636),

Gene: McMater\_47 Start: 36102, Stop: 36386, Start Num: 8

Candidate Starts for McMater\_47:

(Start: 8 @36102 has 116 MA's), (12, 36147), (17, 36192), (19, 36240), (25, 36309),

Gene: Mdavu\_41 Start: 34970, Stop: 35254, Start Num: 8

Candidate Starts for Mdavu\_41:

(Start: 8 @34970 has 116 MA's), (19, 35108),

Gene: MeaningOfLife\_46 Start: 36322, Stop: 36588, Start Num: 8

Candidate Starts for MeaningOfLife\_46:

(Start: 8 @36322 has 116 MA's), (19, 36451),

Gene: Megsy\_46 Start: 35638, Stop: 35928, Start Num: 8

Candidate Starts for Megsy\_46:

(Start: 8 @35638 has 116 MA's), (19, 35767),

Gene: Milly\_48 Start: 37512, Stop: 37769, Start Num: 8

Candidate Starts for Milly\_48:

(Start: 8 @37512 has 116 MA's), (18, 37623), (19, 37641),

Gene: Mufasa\_48 Start: 37096, Stop: 37353, Start Num: 8

Candidate Starts for Mufasa\_48:

(Start: 8 @37096 has 116 MA's), (19, 37225),

Gene: Murucutumbu\_46 Start: 36383, Stop: 36649, Start Num: 8

Candidate Starts for Murucutumbu\_46:

(Start: 8 @36383 has 116 MA's), (19, 36512), (30, 36611),

Gene: Mynx\_46 Start: 35714, Stop: 35980, Start Num: 8

Candidate Starts for Mynx\_46:

(Start: 8 @35714 has 116 MA's), (19, 35843),

Gene: Nibb\_47 Start: 35735, Stop: 35992, Start Num: 8

Candidate Starts for Nibb\_47:

(Start: 8 @35735 has 116 MA's), (12, 35774), (19, 35867), (26, 35939),

Gene: Nikao\_43 Start: 37594, Stop: 37878, Start Num: 8

Candidate Starts for Nikao\_43:

(Start: 8 @37594 has 116 MA's), (19, 37732),

Gene: Niklas\_47 Start: 36163, Stop: 36447, Start Num: 8

Candidate Starts for Niklas\_47:

(Start: 8 @36163 has 116 MA's), (12, 36208), (17, 36253), (19, 36301), (25, 36370),

Gene: Nutello\_40 Start: 34981, Stop: 35265, Start Num: 8

Candidate Starts for Nutello\_40:

(Start: 8 @34981 has 116 MA's), (19, 35119),

Gene: Oscar\_49 Start: 36483, Stop: 36737, Start Num: 8

Candidate Starts for Oscar\_49:

(1, 36150), (Start: 8 @36483 has 116 MA's), (12, 36522), (19, 36615), (23, 36657),

Gene: Padfoot\_45 Start: 35710, Stop: 35976, Start Num: 8

Candidate Starts for Padfoot\_45:

(Start: 8 @35710 has 116 MA's), (19, 35839),

Gene: Padpat\_46 Start: 35389, Stop: 35655, Start Num: 8

Candidate Starts for Padpat\_46:

(Start: 8 @35389 has 116 MA's), (19, 35518),

Gene: Peanam\_47 Start: 36121, Stop: 36405, Start Num: 8

Candidate Starts for Peanam\_47:

(Start: 8 @36121 has 116 MA's), (12, 36166), (17, 36211), (19, 36259), (25, 36328),

Gene: Peel\_45 Start: 35515, Stop: 35781, Start Num: 8

Candidate Starts for Peel\_45:

(Start: 8 @35515 has 116 MA's), (19, 35644),

Gene: Phrappuccino\_42 Start: 23385, Stop: 23648, Start Num: 8

Candidate Starts for Phrappuccino\_42:

(3, 23241), (Start: 8 @23385 has 116 MA's), (13, 23463), (19, 23523), (22, 23541),

Gene: Piatt\_45 Start: 35710, Stop: 35976, Start Num: 8

Candidate Starts for Piatt\_45:

(Start: 8 @35710 has 116 MA's), (19, 35839),

Gene: Pisa1\_45 Start: 36683, Stop: 36949, Start Num: 8  
Candidate Starts for Pisa1\_45:  
(Start: 8 @36683 has 116 MA's), (19, 36812), (30, 36911),

Gene: Pisa4\_39 Start: 32052, Stop: 32318, Start Num: 8  
Candidate Starts for Pisa4\_39:  
(Start: 8 @32052 has 116 MA's), (19, 32181), (30, 32280),

Gene: Pokerus\_44 Start: 35436, Stop: 35702, Start Num: 8  
Candidate Starts for Pokerus\_44:  
(Start: 8 @35436 has 116 MA's), (19, 35565),

Gene: Prithvi\_46 Start: 35579, Stop: 35869, Start Num: 8  
Candidate Starts for Prithvi\_46:  
(Start: 8 @35579 has 116 MA's), (19, 35708),

Gene: QuincyRose\_44 Start: 35828, Stop: 36094, Start Num: 8  
Candidate Starts for QuincyRose\_44:  
(Start: 8 @35828 has 116 MA's), (19, 35957),

Gene: Ramen\_45 Start: 35400, Stop: 35666, Start Num: 8  
Candidate Starts for Ramen\_45:  
(Start: 8 @35400 has 116 MA's), (19, 35529),

Gene: Rapunzel97\_45 Start: 35396, Stop: 35662, Start Num: 8  
Candidate Starts for Rapunzel97\_45:  
(Start: 8 @35396 has 116 MA's), (19, 35525),

Gene: Richo\_47 Start: 36102, Stop: 36386, Start Num: 8  
Candidate Starts for Richo\_47:  
(Start: 8 @36102 has 116 MA's), (12, 36147), (17, 36192), (19, 36240), (25, 36309),

Gene: Rosmarinus\_45 Start: 35501, Stop: 35767, Start Num: 8  
Candidate Starts for Rosmarinus\_45:  
(Start: 8 @35501 has 116 MA's), (19, 35630),

Gene: SamuelLPlaqson\_46 Start: 36292, Stop: 36558, Start Num: 8  
Candidate Starts for SamuelLPlaqson\_46:  
(Start: 8 @36292 has 116 MA's), (19, 36421), (30, 36520),

Gene: Scarlett\_49 Start: 36475, Stop: 36729, Start Num: 8  
Candidate Starts for Scarlett\_49:  
(1, 36142), (Start: 8 @36475 has 116 MA's), (12, 36514), (19, 36607),

Gene: Settecandela\_42 Start: 23385, Stop: 23648, Start Num: 8  
Candidate Starts for Settecandela\_42:  
(3, 23241), (Start: 8 @23385 has 116 MA's), (13, 23463), (19, 23523), (22, 23541),

Gene: SgtBeansprout\_40 Start: 34981, Stop: 35265, Start Num: 8  
Candidate Starts for SgtBeansprout\_40:  
(Start: 8 @34981 has 116 MA's), (19, 35119),

Gene: Shaobing\_47 Start: 36138, Stop: 36422, Start Num: 8

Candidate Starts for Shaobing\_47:  
(Start: 8 @36138 has 116 MA's), (12, 36183), (17, 36228), (19, 36276), (25, 36345),

Gene: ShiaSurprise\_46 Start: 35710, Stop: 35976, Start Num: 8  
Candidate Starts for ShiaSurprise\_46:  
(Start: 8 @35710 has 116 MA's), (19, 35839),

Gene: Slimphazie\_45 Start: 35396, Stop: 35662, Start Num: 8  
Candidate Starts for Slimphazie\_45:  
(Start: 8 @35396 has 116 MA's), (19, 35525),

Gene: Spock\_45 Start: 35514, Stop: 35780, Start Num: 8  
Candidate Starts for Spock\_45:  
(Start: 8 @35514 has 116 MA's), (19, 35643),

Gene: Stinson\_46 Start: 35903, Stop: 36169, Start Num: 8  
Candidate Starts for Stinson\_46:  
(Start: 8 @35903 has 116 MA's), (19, 36032), (30, 36131),

Gene: Strobilo\_48 Start: 37514, Stop: 37771, Start Num: 8  
Candidate Starts for Strobilo\_48:  
(Start: 8 @37514 has 116 MA's), (18, 37625), (19, 37643),

Gene: Sulley\_45 Start: 35640, Stop: 35906, Start Num: 8  
Candidate Starts for Sulley\_45:  
(Start: 8 @35640 has 116 MA's), (19, 35769),

Gene: TClif\_49 Start: 36567, Stop: 36848, Start Num: 8  
Candidate Starts for TClif\_49:  
(Start: 8 @36567 has 116 MA's), (17, 36657), (19, 36705),

Gene: TM4\_43 Start: 31897, Stop: 32154, Start Num: 8  
Candidate Starts for TM4\_43:  
(Start: 8 @31897 has 116 MA's), (9, 31909), (19, 32026),

Gene: Tachez\_45 Start: 35358, Stop: 35624, Start Num: 8  
Candidate Starts for Tachez\_45:  
(Start: 8 @35358 has 116 MA's), (19, 35487),

Gene: TaiwanKao\_47 Start: 35635, Stop: 35925, Start Num: 8  
Candidate Starts for TaiwanKao\_47:  
(Start: 8 @35635 has 116 MA's), (19, 35764),

Gene: TiniBug\_46 Start: 36288, Stop: 36554, Start Num: 8  
Candidate Starts for TiniBug\_46:  
(Start: 8 @36288 has 116 MA's), (19, 36417), (30, 36516),

Gene: Tiri\_46 Start: 35688, Stop: 35954, Start Num: 8  
Candidate Starts for Tiri\_46:  
(Start: 8 @35688 has 116 MA's), (19, 35817),

Gene: Topper\_45 Start: 35513, Stop: 35779, Start Num: 8  
Candidate Starts for Topper\_45:

(Start: 8 @35513 has 116 MA's), (19, 35642),

Gene: Torres\_43 Start: 37595, Stop: 37879, Start Num: 8

Candidate Starts for Torres\_43:

(Start: 8 @37595 has 116 MA's), (19, 37733),

Gene: TreyKay\_46 Start: 35579, Stop: 35869, Start Num: 8

Candidate Starts for TreyKay\_46:

(Start: 8 @35579 has 116 MA's), (19, 35708),

Gene: TruffulaTree\_45 Start: 35392, Stop: 35658, Start Num: 8

Candidate Starts for TruffulaTree\_45:

(Start: 8 @35392 has 116 MA's), (19, 35521),

Gene: Twitch\_45 Start: 35515, Stop: 35781, Start Num: 8

Candidate Starts for Twitch\_45:

(Start: 8 @35515 has 116 MA's), (19, 35644),

Gene: Urkel\_46 Start: 36292, Stop: 36558, Start Num: 8

Candidate Starts for Urkel\_46:

(Start: 8 @36292 has 116 MA's), (19, 36421), (30, 36520),

Gene: Validus\_49 Start: 36187, Stop: 36471, Start Num: 8

Candidate Starts for Validus\_49:

(Start: 8 @36187 has 116 MA's), (17, 36277), (19, 36325),

Gene: Veliki\_45 Start: 35432, Stop: 35698, Start Num: 8

Candidate Starts for Veliki\_45:

(Start: 8 @35432 has 116 MA's), (19, 35561),

Gene: YoureAdopted\_44 Start: 35597, Stop: 35863, Start Num: 8

Candidate Starts for YoureAdopted\_44:

(Start: 8 @35597 has 116 MA's), (19, 35726),

Gene: Yunkel11\_47 Start: 35179, Stop: 35484, Start Num: 7

Candidate Starts for Yunkel11\_47:

(Start: 7 @35179 has 3 MA's), (17, 35290), (19, 35338), (23, 35380),

Gene: Zabiza\_40 Start: 31703, Stop: 31969, Start Num: 8

Candidate Starts for Zabiza\_40:

(Start: 8 @31703 has 116 MA's), (19, 31832),

Gene: Zavala\_46 Start: 35674, Stop: 35940, Start Num: 8

Candidate Starts for Zavala\_46:

(Start: 8 @35674 has 116 MA's), (19, 35803),

Gene: ZoeJ\_47 Start: 36989, Stop: 37246, Start Num: 8

Candidate Starts for ZoeJ\_47:

(Start: 8 @36989 has 116 MA's), (19, 37118),