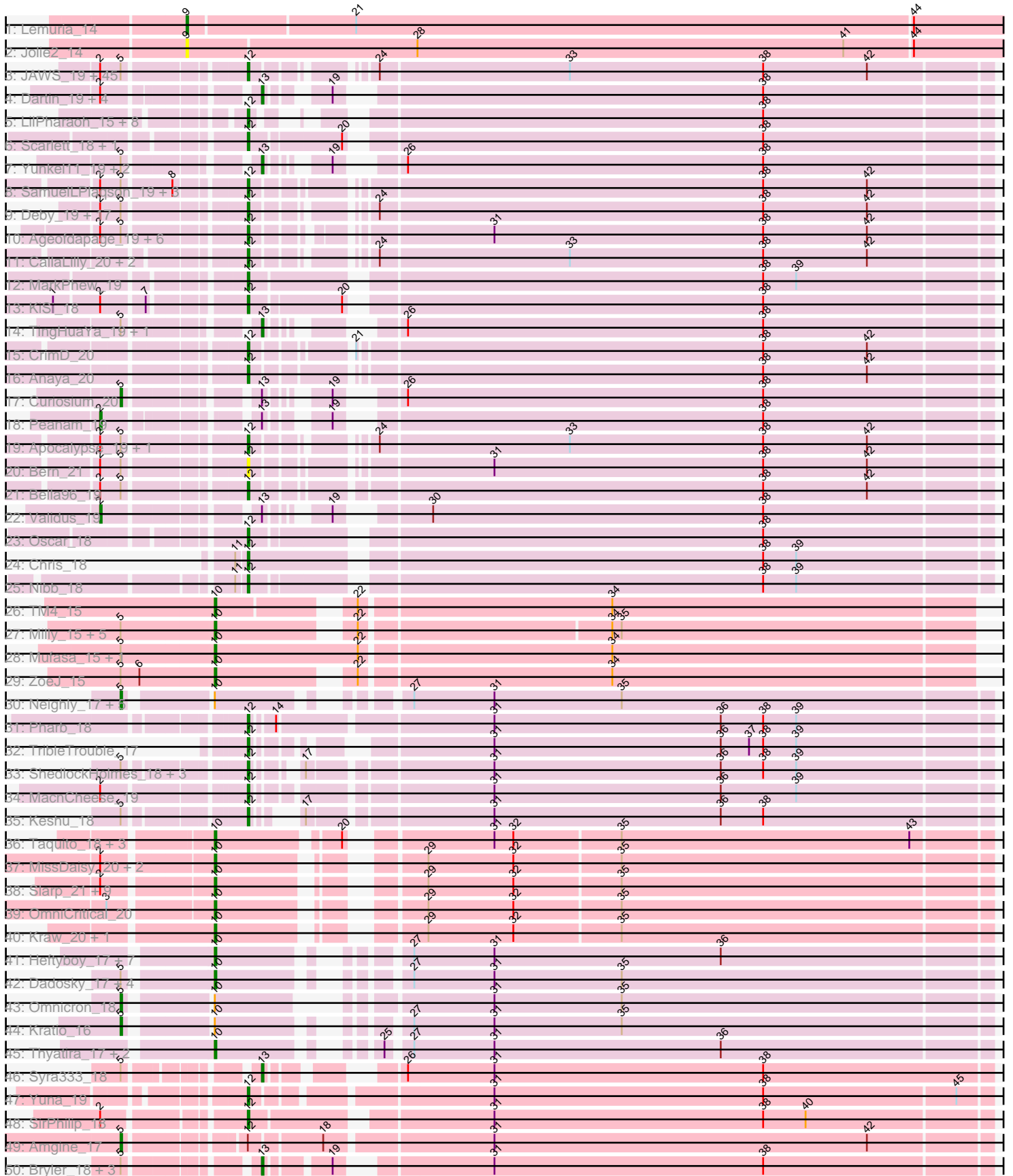
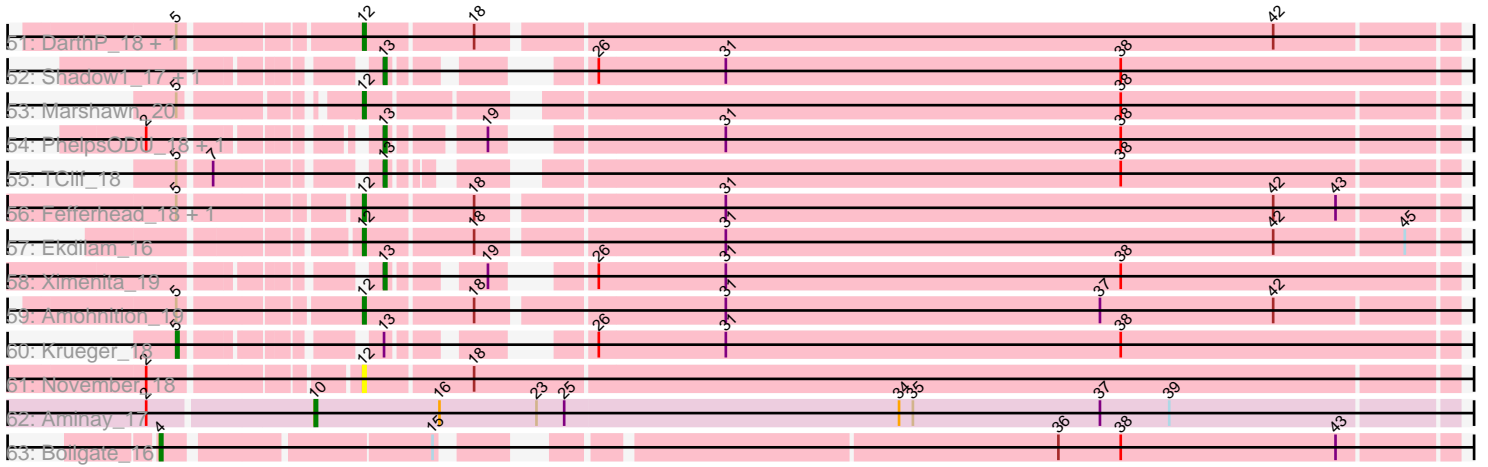


Pham 199950



Pham 199950



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 199950 Report

This analysis was run 01/18/25 on database version 583.

Pham number 199950 has 202 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Lemuria\_14
- Track 2 : Jolie2\_14
- Track 3 : JAWS\_19, Padpat\_19, Capricorn\_19, Blizzard\_19, BEEST\_19, Belladonna\_19, Lunahalos\_19, Adephagia\_19, Tachez\_19, ActinUp\_19, YoureAdopted\_18, Mynx\_19, Homura\_19, Spock\_19, Twitch\_19, MeaningOfLife\_19, Durfee\_19, ShiaSurprise\_19, Llorens\_19, Jayhawk\_19, Rosmarinus\_19, Ramen\_19, CaseJules\_19, Asayake\_19, Jarvi\_19, TruffulaTree\_19, BGlluviae\_19, Peel\_19, CREW\_19, Piatt\_19, Padfoot\_19, Dalmuri\_19, Topper\_19, Boiiii\_19, Rapunzel97\_19, Hyperbowlee\_19, BarrelRoll\_19, Inky\_20, Zabiza\_19, Jeckyll\_19, Atiba\_19, Emerson\_20, Veliki\_19, AlishaPH\_19, Slimphazie\_19, HedwigODU\_19
- Track 4 : Dartin\_19, Shaobing\_19, Richo\_19, McMater\_19, Niklas\_19
- Track 5 : LilPharaoh\_15, Mdavu\_15, Nikao\_15, Nutello\_15, SgtBeansprout\_15, Enkosi\_15, Torres\_15, Biglebops\_15, Amelie\_15
- Track 6 : Scarlett\_18, LeMond\_18
- Track 7 : Yunkel11\_19, Guanica15\_19, Efra2\_19
- Track 8 : SamuelLPlaqson\_19, Urkel\_19, DrHayes\_19, TiniBug\_19
- Track 9 : Deby\_19, CheetoDust\_19, Adonis\_19, Clipper\_21, Angelica\_19, Ganymede\_20, Prithvi\_19, Sulley\_19, Tiri\_19, LindNT\_19, Megsy\_19, MacKat\_20, TreyKay\_19, QuincyRose\_18, BaghaKamala\_19, TaiwanKao\_20, Pokerus\_18, Joy99\_19
- Track 10 : Ageofdapage\_19, Murucutumbu\_19, Stinson\_19, Devera\_19, Illumine\_19, LaterM\_19, Dole\_19
- Track 11 : CallaLilly\_20, Beezoo\_19, Geraldini\_19
- Track 12 : MarkPhew\_19
- Track 13 : KiSi\_18
- Track 14 : TingHuaYa\_19, LastHope\_20
- Track 15 : CrimD\_20
- Track 16 : Anaya\_20
- Track 17 : Curiosium\_20
- Track 18 : Peanam\_19
- Track 19 : Apocalypse\_19, Zavala\_19
- Track 20 : Bern\_21
- Track 21 : Bella96\_19
- Track 22 : Validus\_19
- Track 23 : Oscar\_18
- Track 24 : Chris\_18
- Track 25 : Nibb\_18

- Track 26 : TM4\_15
- Track 27 : Milly\_15, Marcoliusprime\_15, Findley\_15, DismalFunk\_16, Strobilo\_15, DismalStressor\_15
- Track 28 : Mufasa\_15, BoostSeason\_15
- Track 29 : ZoeJ\_15
- Track 30 : Neighly\_17, AlleyCat\_17, Collard\_18, Psycho\_17, Rando14\_17, Larva\_17
- Track 31 : Pharb\_18
- Track 32 : TribbleTrouble\_17
- Track 33 : ShedlockHolmes\_18, TBond007\_18, Hurricane\_18, Pixie\_19
- Track 34 : MacnCheese\_19
- Track 35 : Keshu\_18
- Track 36 : Taquito\_18, Juliette\_20, Ruthiejr\_19, Eponine\_20
- Track 37 : MissDaisy\_20, Patt\_21, Reptar3000\_20
- Track 38 : Slarp\_21, Fionnbharth\_20, Chancellor\_20, JF1\_20, Cheetobro\_20, SamScheppers\_18, Y2\_20, Mitti\_20, Wintermute\_20, Y10\_20
- Track 39 : OmniCritical\_20
- Track 40 : Kraw\_20, Malthus\_20
- Track 41 : Heftyboy\_17, Miryou\_17, SoSeph\_17, OkiRoe\_17, Guillsminger\_18, Gengar\_17, Leston\_17, Paola\_17
- Track 42 : Dadosky\_17, InvictusManeo\_17, Agent47\_17, ViviJ\_16, Edugator\_17
- Track 43 : Omnicron\_18
- Track 44 : Kratio\_16
- Track 45 : Thyatira\_17, Waterfoul\_17, Feyre\_17
- Track 46 : Syra333\_18
- Track 47 : Yuna\_19
- Track 48 : SirPhilip\_18
- Track 49 : Amgine\_17
- Track 50 : Bryler\_18, Cain\_18, Phrank\_18, Tierra\_18
- Track 51 : DARTH\_P\_18, Hammy\_18
- Track 52 : Shadow1\_17, Sunflower1121\_17
- Track 53 : Marshawn\_20
- Track 54 : PhelpsODU\_18, Unicorn\_18
- Track 55 : TClif\_18
- Track 56 : Fefferhead\_18, Ellie\_16
- Track 57 : Ekdilam\_16
- Track 58 : Ximenita\_19
- Track 59 : Amohnition\_19
- Track 60 : Krueger\_18
- Track 61 : November\_18
- Track 62 : Aminay\_17
- Track 63 : Boilgate\_16

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

The start number called the most often in the published annotations is 12, it was called in 111 of the 187 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_19, Adephagia\_19, Adonis\_19, Ageofdapage\_19, AlishaPH\_19, Amelie\_15, Amohnition\_19, Anaya\_20, Angelica\_19, Apocalypse\_19, Asayake\_19, Atiba\_19, BEEST\_19, BGIlluviae\_19, BaghaKamala\_19, BarrelRoll\_19, Beezoo\_19, Bella96\_19, Belladonna\_19, Bern\_21, Binglebops\_15, Blizzard\_19, Boiiii\_19, CREW\_19, CallaLilly\_20, Capricorn\_19, CaseJules\_19, CheetoDust\_19, Chris\_18, Clipper\_21, CrimD\_20, Dalmuri\_19, DarthP\_18, Deby\_19, Devera\_19, Dole\_19, DrHayes\_19, Durfee\_19, Ekdilam\_16, Ellie\_16, Emerson\_20, Enkosi\_15, Fefferhead\_18, Ganymede\_20, Geraldini\_19, Hammy\_18, HedwigODU\_19, Homura\_19, Hurricane\_18, Hyperbowlee\_19, Illumine\_19, Inky\_20, JAWS\_19, Jarvi\_19, Jayhawk\_19, Jeckyll\_19, Joy99\_19, Keshu\_18, KiSi\_18, LaterM\_19, LeMond\_18, LilPharaoh\_15, LindNT\_19, Llorens\_19, Lunahalos\_19, MacKat\_20, MacnCheese\_19, MarkPhew\_19, Marshawn\_20, Mdavu\_15, MeaningOfLife\_19, Megsy\_19, Murucutumbu\_19, Mynx\_19, Nibb\_18, Nikao\_15, November\_18, Nutello\_15, Oscar\_18, Padfoot\_19, Padpat\_19, Peel\_19, Pharb\_18, Piatt\_19, Pixie\_19, Pokerus\_18, Prithvi\_19, QuincyRose\_18, Ramen\_19, Rapunzel97\_19, Rosmarinus\_19, SamuelLPlaqson\_19, Scarlett\_18, SgtBeansprout\_15, ShedlockHolmes\_18, ShiaSurprise\_19, SirPhilip\_18, Slimphazie\_19, Spock\_19, Stinson\_19, Sulley\_19, TBond007\_18, Tachez\_19, TaiwanKao\_20, TiniBug\_19, Tiri\_19, Topper\_19, Torres\_15, TreyKay\_19, TripleTrouble\_17, TruffulaTree\_19, Twitch\_19, Urkel\_19, Veliki\_19, YoureAdopted\_18, Yuna\_19, Zabiza\_19, Zavala\_19,

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

- Amgine\_17,

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

- Agent47\_17, AlleyCat\_17, Aminay\_17, Boilgate\_16, BoostSeason\_15, Bryler\_18, Cain\_18, Chancellor\_20, Cheetobro\_20, Collard\_18, Curiosium\_20, Dadosky\_17, Dartin\_19, DismalFunk\_16, DismalStressor\_15, Edugator\_17, Efra2\_19, Eponine\_20, Feyre\_17, Findley\_15, Fionnbharth\_20, Gengar\_17, Guanica15\_19, Guillsminger\_18, Heftyboy\_17, InvictusManeo\_17, JF1\_20, Jolie2\_14, Juliette\_20, Kratio\_16, Kraw\_20, Krueger\_18, Larva\_17, LastHope\_20, Lemuria\_14, Leston\_17, Malthus\_20, Marcoliusprime\_15, McMater\_19, Milly\_15, Miryou\_17, MissDaisy\_20, Mitti\_20, Mufasa\_15, Neighly\_17, Niklas\_19, OkiRoe\_17, OmniCritical\_20, Omnicron\_18, Paola\_17, Patt\_21, Peanam\_19, PhelpsODU\_18, Phrank\_18, Psycho\_17, Rando14\_17, Reptar3000\_20, Richo\_19, Ruthiejr\_19, SamScheppers\_18, Shadow1\_17, Shaobing\_19, Slarp\_21, SoSeph\_17, Strobilo\_15, Sunflower1121\_17, Syra333\_18, TClif\_18, TM4\_15, Taquito\_18, Thyatira\_17, Tierra\_18, TingHuaYa\_19, Unicorn\_18, Validus\_19, ViviJ\_16, Waterfoul\_17, Wintermute\_20, Ximenita\_19, Y10\_20, Y2\_20, Yunkel11\_19, ZoeJ\_15,

### Summary by start number:

Start 2:

- Found in 106 of 202 ( 52.5% ) of genes in pham
- Manual Annotations of this start: 2 of 187
- Called 1.9% of time when present
- Phage (with cluster) where this start called: Peanam\_19 (K1), Validus\_19 (K1),

Start 4:

- Found in 1 of 202 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boilgate\_16 (K8),

Start 5:

- Found in 126 of 202 ( 62.4% ) of genes in pham
- Manual Annotations of this start: 10 of 187
- Called 8.7% of time when present
- Phage (with cluster) where this start called: AlleyCat\_17 (K5), Amgine\_17 (K6), Collard\_18 (K5), Curiosium\_20 (K1), Kratio\_16 (K5), Krueger\_18 (K6), Larva\_17 (K5), Neighly\_17 (K3), Omnicron\_18 (K5), Psycho\_17 (K5), Rando14\_17 (K5),

Start 9:

- Found in 2 of 202 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jolie2\_14 (G4), Lemuria\_14 (G4),

Start 10:

- Found in 55 of 202 ( 27.2% ) of genes in pham
- Manual Annotations of this start: 45 of 187
- Called 85.5% of time when present
- Phage (with cluster) where this start called: Agent47\_17 (K5), Aminay\_17 (K7), BoostSeason\_15 (K2), Chancellor\_20 (K4), Cheetobro\_20 (K4), Dadosky\_17 (K5), DismalFunk\_16 (K2), DismalStressor\_15 (K2), Edugator\_17 (K5), Eponine\_20 (K4), Feyre\_17 (K5), Findley\_15 (K2), Fionnbharth\_20 (K4), Gengar\_17 (K5), Guillsminger\_18 (K5), Heftyboy\_17 (K5), InvictusManeo\_17 (K5), JF1\_20 (K4), Juliette\_20 (K4), Kraw\_20 (K4), Leston\_17 (K5), Malthus\_20 (K4), Marcoliusprime\_15 (K2), Milly\_15 (K2), Miryou\_17 (K5), MissDaisy\_20 (K4), Mitti\_20 (K4), Mufasa\_15 (K2), OkiRoe\_17 (K5), OmniCritical\_20 (K4), Paola\_17 (K5), Patt\_21 (K4), Reptar3000\_20 (K4), Ruthiejr\_19 (K4), SamScheppers\_18 (K4), Slarp\_21 (K4), SoSeph\_17 (K5), Strobilo\_15 (K2), TM4\_15 (K2), Taquito\_18 (K4), Thyatira\_17 (K5), ViviJ\_16 (K5), Waterfoul\_17 (K5), Wintermute\_20 (K4), Y10\_20 (K4), Y2\_20 (K4), ZoeJ\_15 (K2),

Start 12:

- Found in 119 of 202 ( 58.9% ) of genes in pham
- Manual Annotations of this start: 111 of 187
- Called 99.2% of time when present
- Phage (with cluster) where this start called: ActinUp\_19 (K1), Adephagia\_19 (K1), Adonis\_19 (K1), Ageofdapage\_19 (K1), AlishaPH\_19 (K1), Amelie\_15 (K1), Amohntion\_19 (K6), Anaya\_20 (K1), Angelica\_19 (K1), Apocalypse\_19 (K1), Asayake\_19 (K1), Atiba\_19 (K1), BEEST\_19 (K1), BGIluviae\_19 (K1), BaghaKamala\_19 (K1), BarrelRoll\_19 (K1), Beezoo\_19 (K1), Bella96\_19 (K1), Belladonna\_19 (K1), Bern\_21 (K1), Binglebops\_15 (K1), Blizzard\_19 (K1), Boiiii\_19 (K1), CREW\_19 (K1), CallaLilly\_20 (K1), Capricorn\_19 (K1), CaseJules\_19 (K1), CheetoDust\_19 (K1), Chris\_18 (K1), Clipper\_21 (K1), CrimD\_20 (K1), Dalmuri\_19 (K1), DarthP\_18 (K6), Deby\_19 (K1), Devera\_19 (K1), Dole\_19 (K1), DrHayes\_19 (K1), Durfee\_19 (K1), Ekdilam\_16 (K6), Ellie\_16 (K6), Emerson\_20 (K1), Enkosi\_15 (K1), Fefferhead\_18 (K6), Ganymede\_20 (K1), Geraldini\_19 (K1), Hammy\_18 (K6), HedwigODU\_19 (K1), Homura\_19 (K1), Hurricane\_18 (K3), Hyperbowlee\_19 (K1), Illumine\_19 (K1), Inky\_20 (K1), JAWS\_19 (K1), Jarvi\_19 (K1), Jayhawk\_19 (K1), Jeckyll\_19 (K1), Joy99\_19 (K1), Keshu\_18 (K3), KiSi\_18 (K1), LaterM\_19 (K1), LeMond\_18 (K1), LilPharaoh\_15 (K1), LindNT\_19 (K1), Llorens\_19 (K1), Lunahalos\_19 (K1), MacKat\_20 (K1), MacnCheese\_19 (K3), MarkPhew\_19 (K1), Marshawn\_20 (K6), Mdavu\_15 (K1), MeaningOfLife\_19 (K1), Megsy\_19 (K1),

Murucutumbu\_19 (K1), Mynx\_19 (K1), Nibb\_18 (K1), Nikao\_15 (K1), November\_18 (K6), Nutello\_15 (K1), Oscar\_18 (K1), Padfoot\_19 (K1), Padpat\_19 (K1), Peel\_19 (K1), Pharb\_18 (K3), Piatt\_19 (K1), Pixie\_19 (K3), Pokerus\_18 (K1), Prithvi\_19 (K1), QuincyRose\_18 (K1), Ramen\_19 (K1), Rapunzel97\_19 (K1), Rosmarinus\_19 (K1), SamuelLPlaqson\_19 (K1), Scarlett\_18 (K1), SgtBeansprout\_15 (K1), ShedlockHolmes\_18 (K3), ShiaSurprise\_19 (K1), SirPhilip\_18 (K6), Slimphazie\_19 (K1), Spock\_19 (K1), Stinson\_19 (K1), Sulley\_19 (K1), TBond007\_18 (K3), Tachez\_19 (K1), TaiwanKao\_20 (K1), TiniBug\_19 (K1), Tiri\_19 (K1), Topper\_19 (K1), Torres\_15 (K1), TreyKay\_19 (K1), TribbleTrouble\_17 (K3), TruffulaTree\_19 (K1), Twitch\_19 (K1), Urkel\_19 (K1), Veliki\_19 (K1), YoureAdopted\_18 (K1), Yuna\_19 (K6), Zabiza\_19 (K1), Zavala\_19 (K1),

Start 13:

- Found in 25 of 202 ( 12.4% ) of genes in pham
- Manual Annotations of this start: 17 of 187
- Called 84.0% of time when present
- Phage (with cluster) where this start called: Bryler\_18 (K6), Cain\_18 (K6), Dartin\_19 (K1), Efra2\_19 (K1), Guanica15\_19 (K1), LastHope\_20 (K1), McMater\_19 (K1), Niklas\_19 (K1), PhelpsODU\_18 (K6), Phrank\_18 (K6), Richo\_19 (K1), Shadow1\_17 (K6), Shaobing\_19 (K1), Sunflower1121\_17 (K6), Syra333\_18 (K6), TClif\_18 (K6), Tierra\_18 (K6), TingHuaYa\_19 (K1), Unicorn\_18 (K6), Ximenita\_19 (K6), Yunkel11\_19 (K1),

### **Summary by clusters:**

There are 9 clusters represented in this pham: G4, K3, K2, K1, K7, K6, K5, K4, K8,

Info for manual annotations of cluster G4:

- Start number 9 was manually annotated 1 time for cluster G4.

Info for manual annotations of cluster K1:

- Start number 2 was manually annotated 2 times for cluster K1.
- Start number 5 was manually annotated 1 time for cluster K1.
- Start number 12 was manually annotated 94 times for cluster K1.
- Start number 13 was manually annotated 6 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 10 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 12 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 10 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 5 was manually annotated 7 times for cluster K5.
- Start number 10 was manually annotated 15 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 5 was manually annotated 2 times for cluster K6.
- Start number 12 was manually annotated 9 times for cluster K6.
- Start number 13 was manually annotated 11 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 10 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 4 was manually annotated 1 time for cluster K8.

### **Gene Information:**

Gene: ActinUp\_19 Start: 11232, Stop: 11669, Start Num: 12

Candidate Starts for ActinUp\_19:

(Start: 2 @11154 has 2 MA's), (Start: 5 @11166 has 10 MA's), (Start: 12 @11232 has 111 MA's), (24, 11289), (33, 11406), (38, 11529), (42, 11595),

Gene: Adephagia\_19 Start: 11232, Stop: 11669, Start Num: 12

Candidate Starts for Adephagia\_19:

(Start: 2 @11154 has 2 MA's), (Start: 5 @11166 has 10 MA's), (Start: 12 @11232 has 111 MA's), (24, 11289), (33, 11406), (38, 11529), (42, 11595),

Gene: Adonis\_19 Start: 11241, Stop: 11678, Start Num: 12

Candidate Starts for Adonis\_19:

(Start: 2 @11163 has 2 MA's), (Start: 5 @11175 has 10 MA's), (Start: 12 @11241 has 111 MA's), (24, 11298), (38, 11538), (42, 11604),

Gene: Agent47\_17 Start: 11377, Stop: 11823, Start Num: 10

Candidate Starts for Agent47\_17:

(Start: 5 @11332 has 10 MA's), (Start: 10 @11377 has 45 MA's), (27, 11461), (31, 11512), (35, 11593),

Gene: Ageofdapage\_19 Start: 11170, Stop: 11604, Start Num: 12

Candidate Starts for Ageofdapage\_19:

(Start: 2 @11092 has 2 MA's), (Start: 5 @11104 has 10 MA's), (Start: 12 @11170 has 111 MA's), (31, 11293), (38, 11464), (42, 11530),

Gene: AlishaPH\_19 Start: 11228, Stop: 11665, Start Num: 12

Candidate Starts for AlishaPH\_19:

(Start: 2 @11150 has 2 MA's), (Start: 5 @11162 has 10 MA's), (Start: 12 @11228 has 111 MA's), (24, 11285), (33, 11402), (38, 11525), (42, 11591),

Gene: AlleyCat\_17 Start: 11208, Stop: 11699, Start Num: 5

Candidate Starts for AlleyCat\_17:

(Start: 5 @11208 has 10 MA's), (Start: 10 @11253 has 45 MA's), (27, 11337), (31, 11388), (35, 11469),

Gene: Amelie\_15 Start: 10504, Stop: 10920, Start Num: 12

Candidate Starts for Amelie\_15:

(Start: 12 @10504 has 111 MA's), (38, 10780),

Gene: Amgine\_17 Start: 10940, Stop: 11455, Start Num: 5

Candidate Starts for Amgine\_17:

(Start: 5 @10940 has 10 MA's), (Start: 12 @11003 has 111 MA's), (18, 11045), (31, 11144), (42, 11381),



Gene: Aminay\_17 Start: 11067, Stop: 11555, Start Num: 10

Candidate Starts for Aminay\_17:

(Start: 2 @11001 has 2 MA's), (Start: 10 @11067 has 45 MA's), (16, 11121), (23, 11163), (25, 11175), (34, 11319), (35, 11325), (37, 11406), (39, 11436),

Gene: Amohnition\_19 Start: 11325, Stop: 11780, Start Num: 12

Candidate Starts for Amohnition\_19:

(Start: 5 @11256 has 10 MA's), (Start: 12 @11325 has 111 MA's), (18, 11370), (31, 11469), (37, 11631), (42, 11706),

Gene: Anaya\_20 Start: 11244, Stop: 11687, Start Num: 12

Candidate Starts for Anaya\_20:

(Start: 12 @11244 has 111 MA's), (38, 11547), (42, 11613),

Gene: Angelica\_19 Start: 11203, Stop: 11640, Start Num: 12

Candidate Starts for Angelica\_19:

(Start: 2 @11125 has 2 MA's), (Start: 5 @11137 has 10 MA's), (Start: 12 @11203 has 111 MA's), (24, 11260), (38, 11500), (42, 11566),

Gene: Apocalypse\_19 Start: 11206, Stop: 11643, Start Num: 12

Candidate Starts for Apocalypse\_19:

(Start: 2 @11128 has 2 MA's), (Start: 5 @11140 has 10 MA's), (Start: 12 @11206 has 111 MA's), (24, 11263), (33, 11380), (38, 11503), (42, 11569),

Gene: Asayake\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Asayake\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Atiba\_19 Start: 11195, Stop: 11632, Start Num: 12

Candidate Starts for Atiba\_19:

(Start: 2 @11117 has 2 MA's), (Start: 5 @11129 has 10 MA's), (Start: 12 @11195 has 111 MA's), (24, 11252), (33, 11369), (38, 11492), (42, 11558),

Gene: BEEST\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for BEEST\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: BGlluviae\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for BGlluviae\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: BaghaKamala\_19 Start: 11198, Stop: 11635, Start Num: 12

Candidate Starts for BaghaKamala\_19:

(Start: 2 @11120 has 2 MA's), (Start: 5 @11132 has 10 MA's), (Start: 12 @11198 has 111 MA's), (24, 11255), (38, 11495), (42, 11561),

Gene: BarrelRoll\_19 Start: 11221, Stop: 11658, Start Num: 12

Candidate Starts for BarrelRoll\_19:

(Start: 2 @11143 has 2 MA's), (Start: 5 @11155 has 10 MA's), (Start: 12 @11221 has 111 MA's), (24, 11278), (33, 11395), (38, 11518), (42, 11584),

Gene: Beezoo\_19 Start: 11245, Stop: 11682, Start Num: 12  
Candidate Starts for Beezoo\_19:  
(Start: 12 @11245 has 111 MA's), (24, 11302), (33, 11419), (38, 11542), (42, 11608),

Gene: Bella96\_19 Start: 11152, Stop: 11595, Start Num: 12  
Candidate Starts for Bella96\_19:  
(Start: 2 @11074 has 2 MA's), (Start: 5 @11086 has 10 MA's), (Start: 12 @11152 has 111 MA's), (38, 11455), (42, 11521),

Gene: Belladonna\_19 Start: 11269, Stop: 11706, Start Num: 12  
Candidate Starts for Belladonna\_19:  
(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Bern\_21 Start: 11183, Stop: 11623, Start Num: 12  
Candidate Starts for Bern\_21:  
(Start: 2 @11105 has 2 MA's), (Start: 5 @11117 has 10 MA's), (Start: 12 @11183 has 111 MA's), (31, 11312), (38, 11483), (42, 11549),

Gene: Biglebops\_15 Start: 10504, Stop: 10920, Start Num: 12  
Candidate Starts for Biglebops\_15:  
(Start: 12 @10504 has 111 MA's), (38, 10780),

Gene: Blizzard\_19 Start: 11269, Stop: 11706, Start Num: 12  
Candidate Starts for Blizzard\_19:  
(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Boiiii\_19 Start: 11271, Stop: 11708, Start Num: 12  
Candidate Starts for Boiiii\_19:  
(Start: 2 @11193 has 2 MA's), (Start: 5 @11205 has 10 MA's), (Start: 12 @11271 has 111 MA's), (24, 11328), (33, 11445), (38, 11568), (42, 11634),

Gene: Boilgate\_16 Start: 11192, Stop: 11695, Start Num: 4  
Candidate Starts for Boilgate\_16:  
(Start: 4 @11192 has 1 MA's), (15, 11297), (36, 11528), (38, 11555), (43, 11648),

Gene: BoostSeason\_15 Start: 9260, Stop: 9730, Start Num: 10  
Candidate Starts for BoostSeason\_15:  
(Start: 5 @9203 has 10 MA's), (Start: 10 @9260 has 45 MA's), (22, 9350), (34, 9503),

Gene: Bryler\_18 Start: 10254, Stop: 10676, Start Num: 13  
Candidate Starts for Bryler\_18:  
(Start: 5 @10188 has 10 MA's), (Start: 13 @10254 has 17 MA's), (19, 10287), (31, 10365), (38, 10536),

Gene: CREW\_19 Start: 11269, Stop: 11706, Start Num: 12  
Candidate Starts for CREW\_19:  
(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Cain\_18 Start: 10242, Stop: 10664, Start Num: 13  
Candidate Starts for Cain\_18:

(Start: 5 @10176 has 10 MA's), (Start: 13 @10242 has 17 MA's), (19, 10275), (31, 10353), (38, 10524),

Gene: CallaLilly\_20 Start: 11192, Stop: 11629, Start Num: 12

Candidate Starts for CallaLilly\_20:

(Start: 12 @11192 has 111 MA's), (24, 11249), (33, 11366), (38, 11489), (42, 11555),

Gene: Capricorn\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Capricorn\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: CaseJules\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for CaseJules\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Chancellor\_20 Start: 12441, Stop: 12890, Start Num: 10

Candidate Starts for Chancellor\_20:

(Start: 2 @12378 has 2 MA's), (Start: 10 @12441 has 45 MA's), (29, 12540), (32, 12594), (35, 12660),

Gene: CheetoDust\_19 Start: 11246, Stop: 11683, Start Num: 12

Candidate Starts for CheetoDust\_19:

(Start: 2 @11168 has 2 MA's), (Start: 5 @11180 has 10 MA's), (Start: 12 @11246 has 111 MA's), (24, 11303), (38, 11543), (42, 11609),

Gene: Cheetobro\_20 Start: 12441, Stop: 12890, Start Num: 10

Candidate Starts for Cheetobro\_20:

(Start: 2 @12378 has 2 MA's), (Start: 10 @12441 has 45 MA's), (29, 12540), (32, 12594), (35, 12660),

Gene: Chris\_18 Start: 10215, Stop: 10664, Start Num: 12

Candidate Starts for Chris\_18:

(11, 10209), (Start: 12 @10215 has 111 MA's), (38, 10524), (39, 10545),

Gene: Clipper\_21 Start: 11246, Stop: 11683, Start Num: 12

Candidate Starts for Clipper\_21:

(Start: 2 @11168 has 2 MA's), (Start: 5 @11180 has 10 MA's), (Start: 12 @11246 has 111 MA's), (24, 11303), (38, 11543), (42, 11609),

Gene: Collard\_18 Start: 11293, Stop: 11784, Start Num: 5

Candidate Starts for Collard\_18:

(Start: 5 @11293 has 10 MA's), (Start: 10 @11338 has 45 MA's), (27, 11422), (31, 11473), (35, 11554),

Gene: CrimD\_20 Start: 11200, Stop: 11640, Start Num: 12

Candidate Starts for CrimD\_20:

(Start: 12 @11200 has 111 MA's), (21, 11251), (38, 11500), (42, 11566),

Gene: Curiosium\_20 Start: 10615, Stop: 11094, Start Num: 5

Candidate Starts for Curiosium\_20:

(Start: 5 @10615 has 10 MA's), (Start: 13 @10681 has 17 MA's), (19, 10705), (26, 10729), (38, 10954),

Gene: Dadosky\_17 Start: 11254, Stop: 11700, Start Num: 10

Candidate Starts for Dadosky\_17:

(Start: 5 @11209 has 10 MA's), (Start: 10 @11254 has 45 MA's), (27, 11338), (31, 11389), (35, 11470),

Gene: Dalmuri\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Dalmuri\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: DarthP\_18 Start: 11325, Stop: 11780, Start Num: 12

Candidate Starts for DarthP\_18:

(Start: 5 @11256 has 10 MA's), (Start: 12 @11325 has 111 MA's), (18, 11370), (42, 11706),

Gene: Dartin\_19 Start: 10305, Stop: 10721, Start Num: 13

Candidate Starts for Dartin\_19:

(Start: 2 @10227 has 2 MA's), (Start: 13 @10305 has 17 MA's), (19, 10332), (38, 10581),

Gene: Deby\_19 Start: 11203, Stop: 11640, Start Num: 12

Candidate Starts for Deby\_19:

(Start: 2 @11125 has 2 MA's), (Start: 5 @11137 has 10 MA's), (Start: 12 @11203 has 111 MA's), (24, 11260), (38, 11500), (42, 11566),

Gene: Devera\_19 Start: 11230, Stop: 11664, Start Num: 12

Candidate Starts for Devera\_19:

(Start: 2 @11152 has 2 MA's), (Start: 5 @11164 has 10 MA's), (Start: 12 @11230 has 111 MA's), (31, 11353), (38, 11524), (42, 11590),

Gene: DismalFunk\_16 Start: 9253, Stop: 9702, Start Num: 10

Candidate Starts for DismalFunk\_16:

(Start: 5 @9196 has 10 MA's), (Start: 10 @9253 has 45 MA's), (22, 9325), (34, 9475), (35, 9481),

Gene: DismalStressor\_15 Start: 9253, Stop: 9702, Start Num: 10

Candidate Starts for DismalStressor\_15:

(Start: 5 @9196 has 10 MA's), (Start: 10 @9253 has 45 MA's), (22, 9325), (34, 9475), (35, 9481),

Gene: Dole\_19 Start: 11232, Stop: 11666, Start Num: 12

Candidate Starts for Dole\_19:

(Start: 2 @11154 has 2 MA's), (Start: 5 @11166 has 10 MA's), (Start: 12 @11232 has 111 MA's), (31, 11355), (38, 11526), (42, 11592),

Gene: DrHayes\_19 Start: 11173, Stop: 11613, Start Num: 12

Candidate Starts for DrHayes\_19:

(Start: 2 @11095 has 2 MA's), (Start: 5 @11107 has 10 MA's), (8, 11134), (Start: 12 @11173 has 111 MA's), (38, 11473), (42, 11539),

Gene: Durfee\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Durfee\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Edugator\_17 Start: 11254, Stop: 11700, Start Num: 10

Candidate Starts for Edugator\_17:

(Start: 5 @11209 has 10 MA's), (Start: 10 @11254 has 45 MA's), (27, 11338), (31, 11389), (35, 11470),

Gene: Efra2\_19 Start: 10171, Stop: 10584, Start Num: 13

Candidate Starts for Efra2\_19:

(Start: 5 @10105 has 10 MA's), (Start: 13 @10171 has 17 MA's), (19, 10195), (26, 10219), (38, 10444),

Gene: Ekdilam\_16 Start: 11036, Stop: 11491, Start Num: 12

Candidate Starts for Ekdilam\_16:

(Start: 12 @11036 has 111 MA's), (18, 11081), (31, 11180), (42, 11417), (45, 11471),

Gene: Ellie\_16 Start: 11081, Stop: 11536, Start Num: 12

Candidate Starts for Ellie\_16:

(Start: 5 @11015 has 10 MA's), (Start: 12 @11081 has 111 MA's), (18, 11126), (31, 11225), (42, 11462), (43, 11489),

Gene: Emerson\_20 Start: 11229, Stop: 11666, Start Num: 12

Candidate Starts for Emerson\_20:

(Start: 2 @11151 has 2 MA's), (Start: 5 @11163 has 10 MA's), (Start: 12 @11229 has 111 MA's), (24, 11286), (33, 11403), (38, 11526), (42, 11592),

Gene: Enkosi\_15 Start: 10504, Stop: 10920, Start Num: 12

Candidate Starts for Enkosi\_15:

(Start: 12 @10504 has 111 MA's), (38, 10780),

Gene: Eponine\_20 Start: 12303, Stop: 12755, Start Num: 10

Candidate Starts for Eponine\_20:

(Start: 10 @12303 has 45 MA's), (20, 12372), (31, 12447), (32, 12459), (35, 12525), (43, 12708),

Gene: Fefferhead\_18 Start: 11248, Stop: 11703, Start Num: 12

Candidate Starts for Fefferhead\_18:

(Start: 5 @11182 has 10 MA's), (Start: 12 @11248 has 111 MA's), (18, 11293), (31, 11392), (42, 11629), (43, 11656),

Gene: Feyre\_17 Start: 11196, Stop: 11642, Start Num: 10

Candidate Starts for Feyre\_17:

(Start: 10 @11196 has 45 MA's), (25, 11268), (27, 11280), (31, 11331), (36, 11475),

Gene: Findley\_15 Start: 9253, Stop: 9702, Start Num: 10

Candidate Starts for Findley\_15:

(Start: 5 @9196 has 10 MA's), (Start: 10 @9253 has 45 MA's), (22, 9325), (34, 9475), (35, 9481),

Gene: Fionnbharth\_20 Start: 12431, Stop: 12880, Start Num: 10

Candidate Starts for Fionnbharth\_20:

(Start: 2 @12368 has 2 MA's), (Start: 10 @12431 has 45 MA's), (29, 12530), (32, 12584), (35, 12650),

Gene: Ganymede\_20 Start: 11249, Stop: 11686, Start Num: 12

Candidate Starts for Ganymede\_20:

(Start: 2 @11171 has 2 MA's), (Start: 5 @11183 has 10 MA's), (Start: 12 @11249 has 111 MA's), (24, 11306), (38, 11546), (42, 11612),

Gene: Gengar\_17 Start: 11303, Stop: 11749, Start Num: 10

Candidate Starts for Gengar\_17:

(Start: 10 @11303 has 45 MA's), (27, 11387), (31, 11438), (36, 11582),

Gene: Geraldini\_19 Start: 11245, Stop: 11682, Start Num: 12

Candidate Starts for Geraldini\_19:

(Start: 12 @11245 has 111 MA's), (24, 11302), (33, 11419), (38, 11542), (42, 11608),

Gene: Guanica15\_19 Start: 10187, Stop: 10600, Start Num: 13  
Candidate Starts for Guanica15\_19:  
(Start: 5 @10121 has 10 MA's), (Start: 13 @10187 has 17 MA's), (19, 10211), (26, 10235), (38, 10460),

Gene: Guillsminger\_18 Start: 11278, Stop: 11724, Start Num: 10  
Candidate Starts for Guillsminger\_18:  
(Start: 10 @11278 has 45 MA's), (27, 11362), (31, 11413), (36, 11557),

Gene: Hammy\_18 Start: 11319, Stop: 11774, Start Num: 12  
Candidate Starts for Hammy\_18:  
(Start: 5 @11250 has 10 MA's), (Start: 12 @11319 has 111 MA's), (18, 11364), (42, 11700),

Gene: HedwigODU\_19 Start: 11232, Stop: 11669, Start Num: 12  
Candidate Starts for HedwigODU\_19:  
(Start: 2 @11154 has 2 MA's), (Start: 5 @11166 has 10 MA's), (Start: 12 @11232 has 111 MA's), (24, 11289), (33, 11406), (38, 11529), (42, 11595),

Gene: Heftyboy\_17 Start: 11405, Stop: 11851, Start Num: 10  
Candidate Starts for Heftyboy\_17:  
(Start: 10 @11405 has 45 MA's), (27, 11489), (31, 11540), (36, 11684),

Gene: Homura\_19 Start: 11269, Stop: 11706, Start Num: 12  
Candidate Starts for Homura\_19:  
(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Hurricane\_18 Start: 11360, Stop: 11794, Start Num: 12  
Candidate Starts for Hurricane\_18:  
(Start: 5 @11297 has 10 MA's), (Start: 12 @11360 has 111 MA's), (17, 11378), (31, 11483), (36, 11627), (38, 11654), (39, 11675),

Gene: Hyperbowlee\_19 Start: 11269, Stop: 11706, Start Num: 12  
Candidate Starts for Hyperbowlee\_19:  
(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Illumine\_19 Start: 11232, Stop: 11666, Start Num: 12  
Candidate Starts for Illumine\_19:  
(Start: 2 @11154 has 2 MA's), (Start: 5 @11166 has 10 MA's), (Start: 12 @11232 has 111 MA's), (31, 11355), (38, 11526), (42, 11592),

Gene: Inky\_20 Start: 11269, Stop: 11706, Start Num: 12  
Candidate Starts for Inky\_20:  
(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: InvictusManeo\_17 Start: 11381, Stop: 11827, Start Num: 10  
Candidate Starts for InvictusManeo\_17:  
(Start: 5 @11336 has 10 MA's), (Start: 10 @11381 has 45 MA's), (27, 11465), (31, 11516), (35, 11597),

Gene: JAWS\_19 Start: 11223, Stop: 11660, Start Num: 12  
Candidate Starts for JAWS\_19:

(Start: 2 @11145 has 2 MA's), (Start: 5 @11157 has 10 MA's), (Start: 12 @11223 has 111 MA's), (24, 11280), (33, 11397), (38, 11520), (42, 11586),

Gene: JF1\_20 Start: 12430, Stop: 12879, Start Num: 10

Candidate Starts for JF1\_20:

(Start: 2 @12367 has 2 MA's), (Start: 10 @12430 has 45 MA's), (29, 12529), (32, 12583), (35, 12649),

Gene: Jarvi\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Jarvi\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Jayhawk\_19 Start: 11233, Stop: 11670, Start Num: 12

Candidate Starts for Jayhawk\_19:

(Start: 2 @11155 has 2 MA's), (Start: 5 @11167 has 10 MA's), (Start: 12 @11233 has 111 MA's), (24, 11290), (33, 11407), (38, 11530), (42, 11596),

Gene: Jeckyll\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Jeckyll\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Jolie2\_14 Start: 9852, Stop: 10367, Start Num: 9

Candidate Starts for Jolie2\_14:

(Start: 9 @9852 has 1 MA's), (28, 9996), (41, 10266), (44, 10308),

Gene: Joy99\_19 Start: 11198, Stop: 11635, Start Num: 12

Candidate Starts for Joy99\_19:

(Start: 2 @11120 has 2 MA's), (Start: 5 @11132 has 10 MA's), (Start: 12 @11198 has 111 MA's), (24, 11255), (38, 11495), (42, 11561),

Gene: Juliette\_20 Start: 12303, Stop: 12755, Start Num: 10

Candidate Starts for Juliette\_20:

(Start: 10 @12303 has 45 MA's), (20, 12372), (31, 12447), (32, 12459), (35, 12525), (43, 12708),

Gene: Keshu\_18 Start: 11346, Stop: 11774, Start Num: 12

Candidate Starts for Keshu\_18:

(Start: 5 @11283 has 10 MA's), (Start: 12 @11346 has 111 MA's), (17, 11358), (31, 11463), (36, 11607), (38, 11634),

Gene: KiSi\_18 Start: 10161, Stop: 10604, Start Num: 12

Candidate Starts for KiSi\_18:

(1, 10059), (Start: 2 @10086 has 2 MA's), (7, 10110), (Start: 12 @10161 has 111 MA's), (20, 10215), (38, 10464),

Gene: Kratio\_16 Start: 10964, Stop: 11455, Start Num: 5

Candidate Starts for Kratio\_16:

(Start: 5 @10964 has 10 MA's), (Start: 10 @11009 has 45 MA's), (27, 11093), (31, 11144), (35, 11225),

Gene: Kraw\_20 Start: 12354, Stop: 12803, Start Num: 10

Candidate Starts for Kraw\_20:

(Start: 10 @12354 has 45 MA's), (29, 12453), (32, 12507), (35, 12573),

Gene: Krueger\_18 Start: 10147, Stop: 10632, Start Num: 5  
Candidate Starts for Krueger\_18:  
(Start: 5 @10147 has 10 MA's), (Start: 13 @10210 has 17 MA's), (26, 10264), (31, 10318), (38, 10489),

Gene: Larva\_17 Start: 11076, Stop: 11567, Start Num: 5  
Candidate Starts for Larva\_17:  
(Start: 5 @11076 has 10 MA's), (Start: 10 @11121 has 45 MA's), (27, 11205), (31, 11256), (35, 11337),

Gene: LastHope\_20 Start: 10261, Stop: 10674, Start Num: 13  
Candidate Starts for LastHope\_20:  
(Start: 5 @10195 has 10 MA's), (Start: 13 @10261 has 17 MA's), (26, 10309), (38, 10534),

Gene: LaterM\_19 Start: 11198, Stop: 11632, Start Num: 12  
Candidate Starts for LaterM\_19:  
(Start: 2 @11120 has 2 MA's), (Start: 5 @11132 has 10 MA's), (Start: 12 @11198 has 111 MA's), (31, 11321), (38, 11492), (42, 11558),

Gene: LeMond\_18 Start: 10232, Stop: 10675, Start Num: 12  
Candidate Starts for LeMond\_18:  
(Start: 12 @10232 has 111 MA's), (20, 10286), (38, 10535),

Gene: Lemuria\_14 Start: 9901, Stop: 10413, Start Num: 9  
Candidate Starts for Lemuria\_14:  
(Start: 9 @9901 has 1 MA's), (21, 10003), (44, 10354),

Gene: Leston\_17 Start: 11408, Stop: 11854, Start Num: 10  
Candidate Starts for Leston\_17:  
(Start: 10 @11408 has 45 MA's), (27, 11492), (31, 11543), (36, 11687),

Gene: LilPharaoh\_15 Start: 10504, Stop: 10920, Start Num: 12  
Candidate Starts for LilPharaoh\_15:  
(Start: 12 @10504 has 111 MA's), (38, 10780),

Gene: LindNT\_19 Start: 11196, Stop: 11636, Start Num: 12  
Candidate Starts for LindNT\_19:  
(Start: 2 @11118 has 2 MA's), (Start: 5 @11130 has 10 MA's), (Start: 12 @11196 has 111 MA's), (24, 11256), (38, 11496), (42, 11562),

Gene: Llorens\_19 Start: 11269, Stop: 11706, Start Num: 12  
Candidate Starts for Llorens\_19:  
(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Lunahalos\_19 Start: 11269, Stop: 11706, Start Num: 12  
Candidate Starts for Lunahalos\_19:  
(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: MacKat\_20 Start: 11246, Stop: 11683, Start Num: 12  
Candidate Starts for MacKat\_20:  
(Start: 2 @11168 has 2 MA's), (Start: 5 @11180 has 10 MA's), (Start: 12 @11246 has 111 MA's), (24, 11303), (38, 11543), (42, 11609),



Gene: MacnCheese\_19 Start: 11578, Stop: 12018, Start Num: 12  
Candidate Starts for MacnCheese\_19:  
(Start: 2 @11497 has 2 MA's), (Start: 12 @11578 has 111 MA's), (31, 11707), (36, 11851), (39, 11899),

Gene: Malthus\_20 Start: 12354, Stop: 12803, Start Num: 10  
Candidate Starts for Malthus\_20:  
(Start: 10 @12354 has 45 MA's), (29, 12453), (32, 12507), (35, 12573),

Gene: Marcoliusprime\_15 Start: 9253, Stop: 9702, Start Num: 10  
Candidate Starts for Marcoliusprime\_15:  
(Start: 5 @9196 has 10 MA's), (Start: 10 @9253 has 45 MA's), (22, 9325), (34, 9475), (35, 9481),

Gene: MarkPhew\_19 Start: 10120, Stop: 10566, Start Num: 12  
Candidate Starts for MarkPhew\_19:  
(Start: 12 @10120 has 111 MA's), (38, 10426), (39, 10447),

Gene: Marshawn\_20 Start: 10810, Stop: 11253, Start Num: 12  
Candidate Starts for Marshawn\_20:  
(Start: 5 @10753 has 10 MA's), (Start: 12 @10810 has 111 MA's), (38, 11113),

Gene: McMater\_19 Start: 10305, Stop: 10721, Start Num: 13  
Candidate Starts for McMater\_19:  
(Start: 2 @10227 has 2 MA's), (Start: 13 @10305 has 17 MA's), (19, 10332), (38, 10581),

Gene: Mdavu\_15 Start: 10492, Stop: 10908, Start Num: 12  
Candidate Starts for Mdavu\_15:  
(Start: 12 @10492 has 111 MA's), (38, 10768),

Gene: MeaningOfLife\_19 Start: 11205, Stop: 11642, Start Num: 12  
Candidate Starts for MeaningOfLife\_19:  
(Start: 2 @11127 has 2 MA's), (Start: 5 @11139 has 10 MA's), (Start: 12 @11205 has 111 MA's), (24, 11262), (33, 11379), (38, 11502), (42, 11568),

Gene: Megsy\_19 Start: 11199, Stop: 11639, Start Num: 12  
Candidate Starts for Megsy\_19:  
(Start: 2 @11121 has 2 MA's), (Start: 5 @11133 has 10 MA's), (Start: 12 @11199 has 111 MA's), (24, 11259), (38, 11499), (42, 11565),

Gene: Milly\_15 Start: 9253, Stop: 9702, Start Num: 10  
Candidate Starts for Milly\_15:  
(Start: 5 @9196 has 10 MA's), (Start: 10 @9253 has 45 MA's), (22, 9325), (34, 9475), (35, 9481),

Gene: Miryou\_17 Start: 11256, Stop: 11702, Start Num: 10  
Candidate Starts for Miryou\_17:  
(Start: 10 @11256 has 45 MA's), (27, 11340), (31, 11391), (36, 11535),

Gene: MissDaisy\_20 Start: 12205, Stop: 12654, Start Num: 10  
Candidate Starts for MissDaisy\_20:  
(Start: 2 @12142 has 2 MA's), (Start: 10 @12205 has 45 MA's), (29, 12304), (32, 12358), (35, 12424),

Gene: Mitti\_20 Start: 12354, Stop: 12803, Start Num: 10  
Candidate Starts for Mitti\_20:  
(Start: 2 @12291 has 2 MA's), (Start: 10 @12354 has 45 MA's), (29, 12453), (32, 12507), (35, 12573),

Gene: Mufasa\_15 Start: 9254, Stop: 9724, Start Num: 10

Candidate Starts for Mufasa\_15:

(Start: 5 @9197 has 10 MA's), (Start: 10 @9254 has 45 MA's), (22, 9344), (34, 9497),

Gene: Murucutumbu\_19 Start: 11191, Stop: 11625, Start Num: 12

Candidate Starts for Murucutumbu\_19:

(Start: 2 @11113 has 2 MA's), (Start: 5 @11125 has 10 MA's), (Start: 12 @11191 has 111 MA's), (31, 11314), (38, 11485), (42, 11551),

Gene: Mynx\_19 Start: 11252, Stop: 11689, Start Num: 12

Candidate Starts for Mynx\_19:

(Start: 2 @11174 has 2 MA's), (Start: 5 @11186 has 10 MA's), (Start: 12 @11252 has 111 MA's), (24, 11309), (33, 11426), (38, 11549), (42, 11615),

Gene: Neighly\_17 Start: 11075, Stop: 11566, Start Num: 5

Candidate Starts for Neighly\_17:

(Start: 5 @11075 has 10 MA's), (Start: 10 @11120 has 45 MA's), (27, 11204), (31, 11255), (35, 11336),

Gene: Nibb\_18 Start: 10272, Stop: 10715, Start Num: 12

Candidate Starts for Nibb\_18:

(11, 10266), (Start: 12 @10272 has 111 MA's), (38, 10575), (39, 10596),

Gene: Nikao\_15 Start: 10504, Stop: 10920, Start Num: 12

Candidate Starts for Nikao\_15:

(Start: 12 @10504 has 111 MA's), (38, 10780),

Gene: Niklas\_19 Start: 10305, Stop: 10721, Start Num: 13

Candidate Starts for Niklas\_19:

(Start: 2 @10227 has 2 MA's), (Start: 13 @10305 has 17 MA's), (19, 10332), (38, 10581),

Gene: November\_18 Start: 11163, Stop: 11624, Start Num: 12

Candidate Starts for November\_18:

(Start: 2 @11085 has 2 MA's), (Start: 12 @11163 has 111 MA's), (18, 11208),

Gene: Nutello\_15 Start: 10504, Stop: 10920, Start Num: 12

Candidate Starts for Nutello\_15:

(Start: 12 @10504 has 111 MA's), (38, 10780),

Gene: OkiRoe\_17 Start: 11278, Stop: 11724, Start Num: 10

Candidate Starts for OkiRoe\_17:

(Start: 10 @11278 has 45 MA's), (27, 11362), (31, 11413), (36, 11557),

Gene: OmniCritical\_20 Start: 12342, Stop: 12791, Start Num: 10

Candidate Starts for OmniCritical\_20:

(3, 12282), (Start: 10 @12342 has 45 MA's), (29, 12441), (32, 12495), (35, 12561),

Gene: Omnicron\_18 Start: 10271, Stop: 10759, Start Num: 5

Candidate Starts for Omnicron\_18:

(Start: 5 @10271 has 10 MA's), (Start: 10 @10316 has 45 MA's), (31, 10448), (35, 10529),

Gene: Oscar\_18 Start: 10233, Stop: 10676, Start Num: 12

Candidate Starts for Oscar\_18:

(Start: 12 @10233 has 111 MA's), (38, 10536),

Gene: Padfoot\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Padfoot\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Padpat\_19 Start: 11229, Stop: 11666, Start Num: 12

Candidate Starts for Padpat\_19:

(Start: 2 @11151 has 2 MA's), (Start: 5 @11163 has 10 MA's), (Start: 12 @11229 has 111 MA's), (24, 11286), (33, 11403), (38, 11526), (42, 11592),

Gene: Paola\_17 Start: 11278, Stop: 11724, Start Num: 10

Candidate Starts for Paola\_17:

(Start: 10 @11278 has 45 MA's), (27, 11362), (31, 11413), (36, 11557),

Gene: Patt\_21 Start: 12181, Stop: 12630, Start Num: 10

Candidate Starts for Patt\_21:

(Start: 2 @12118 has 2 MA's), (Start: 10 @12181 has 45 MA's), (29, 12280), (32, 12334), (35, 12400),

Gene: Peanam\_19 Start: 10227, Stop: 10721, Start Num: 2

Candidate Starts for Peanam\_19:

(Start: 2 @10227 has 2 MA's), (Start: 13 @10305 has 17 MA's), (19, 10332), (38, 10581),

Gene: Peel\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Peel\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Pharb\_18 Start: 11150, Stop: 11599, Start Num: 12

Candidate Starts for Pharb\_18:

(Start: 12 @11150 has 111 MA's), (14, 11162), (31, 11288), (36, 11432), (38, 11459), (39, 11480),

Gene: PhelpsODU\_18 Start: 10279, Stop: 10701, Start Num: 13

Candidate Starts for PhelpsODU\_18:

(Start: 2 @10207 has 2 MA's), (Start: 13 @10279 has 17 MA's), (19, 10312), (31, 10390), (38, 10561),

Gene: Phrank\_18 Start: 10230, Stop: 10652, Start Num: 13

Candidate Starts for Phrank\_18:

(Start: 5 @10164 has 10 MA's), (Start: 13 @10230 has 17 MA's), (19, 10263), (31, 10341), (38, 10512),

Gene: Piatt\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Piatt\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Pixie\_19 Start: 11101, Stop: 11535, Start Num: 12

Candidate Starts for Pixie\_19:

(Start: 5 @11038 has 10 MA's), (Start: 12 @11101 has 111 MA's), (17, 11119), (31, 11224), (36, 11368), (38, 11395), (39, 11416),

Gene: Pokerus\_18 Start: 11186, Stop: 11623, Start Num: 12

Candidate Starts for Pokerus\_18:

(Start: 2 @11108 has 2 MA's), (Start: 5 @11120 has 10 MA's), (Start: 12 @11186 has 111 MA's), (24, 11243), (38, 11483), (42, 11549),

Gene: Prithvi\_19 Start: 11196, Stop: 11636, Start Num: 12

Candidate Starts for Prithvi\_19:

(Start: 2 @11118 has 2 MA's), (Start: 5 @11130 has 10 MA's), (Start: 12 @11196 has 111 MA's), (24, 11256), (38, 11496), (42, 11562),

Gene: Psycho\_17 Start: 11206, Stop: 11697, Start Num: 5

Candidate Starts for Psycho\_17:

(Start: 5 @11206 has 10 MA's), (Start: 10 @11251 has 45 MA's), (27, 11335), (31, 11386), (35, 11467),

Gene: QuincyRose\_18 Start: 11249, Stop: 11686, Start Num: 12

Candidate Starts for QuincyRose\_18:

(Start: 2 @11171 has 2 MA's), (Start: 5 @11183 has 10 MA's), (Start: 12 @11249 has 111 MA's), (24, 11306), (38, 11546), (42, 11612),

Gene: Ramen\_19 Start: 11232, Stop: 11669, Start Num: 12

Candidate Starts for Ramen\_19:

(Start: 2 @11154 has 2 MA's), (Start: 5 @11166 has 10 MA's), (Start: 12 @11232 has 111 MA's), (24, 11289), (33, 11406), (38, 11529), (42, 11595),

Gene: Rando14\_17 Start: 10173, Stop: 10661, Start Num: 5

Candidate Starts for Rando14\_17:

(Start: 5 @10173 has 10 MA's), (Start: 10 @10218 has 45 MA's), (27, 10299), (31, 10350), (35, 10431),

Gene: Rapunzel97\_19 Start: 11233, Stop: 11670, Start Num: 12

Candidate Starts for Rapunzel97\_19:

(Start: 2 @11155 has 2 MA's), (Start: 5 @11167 has 10 MA's), (Start: 12 @11233 has 111 MA's), (24, 11290), (33, 11407), (38, 11530), (42, 11596),

Gene: Reptar3000\_20 Start: 12183, Stop: 12632, Start Num: 10

Candidate Starts for Reptar3000\_20:

(Start: 2 @12120 has 2 MA's), (Start: 10 @12183 has 45 MA's), (29, 12282), (32, 12336), (35, 12402),

Gene: Richo\_19 Start: 10305, Stop: 10721, Start Num: 13

Candidate Starts for Richo\_19:

(Start: 2 @10227 has 2 MA's), (Start: 13 @10305 has 17 MA's), (19, 10332), (38, 10581),

Gene: Rosmarinus\_19 Start: 11257, Stop: 11694, Start Num: 12

Candidate Starts for Rosmarinus\_19:

(Start: 2 @11179 has 2 MA's), (Start: 5 @11191 has 10 MA's), (Start: 12 @11257 has 111 MA's), (24, 11314), (33, 11431), (38, 11554), (42, 11620),

Gene: Ruthiejr\_19 Start: 12034, Stop: 12486, Start Num: 10

Candidate Starts for Ruthiejr\_19:

(Start: 10 @12034 has 45 MA's), (20, 12103), (31, 12178), (32, 12190), (35, 12256), (43, 12439),

Gene: SamScheppers\_18 Start: 11957, Stop: 12406, Start Num: 10

Candidate Starts for SamScheppers\_18:

(Start: 2 @11894 has 2 MA's), (Start: 10 @11957 has 45 MA's), (29, 12056), (32, 12110), (35, 12176),

Gene: SamuelLPlaqson\_19 Start: 11173, Stop: 11613, Start Num: 12

Candidate Starts for SamuelLPlaqson\_19:

(Start: 2 @11095 has 2 MA's), (Start: 5 @11107 has 10 MA's), (8, 11134), (Start: 12 @11173 has 111 MA's), (38, 11473), (42, 11539),

Gene: Scarlett\_18 Start: 10232, Stop: 10675, Start Num: 12

Candidate Starts for Scarlett\_18:

(Start: 12 @10232 has 111 MA's), (20, 10286), (38, 10535),

Gene: SgtBeansprout\_15 Start: 10504, Stop: 10920, Start Num: 12

Candidate Starts for SgtBeansprout\_15:

(Start: 12 @10504 has 111 MA's), (38, 10780),

Gene: Shadow1\_17 Start: 10121, Stop: 10543, Start Num: 13

Candidate Starts for Shadow1\_17:

(Start: 13 @10121 has 17 MA's), (26, 10175), (31, 10229), (38, 10400),

Gene: Shaobing\_19 Start: 10305, Stop: 10721, Start Num: 13

Candidate Starts for Shaobing\_19:

(Start: 2 @10227 has 2 MA's), (Start: 13 @10305 has 17 MA's), (19, 10332), (38, 10581),

Gene: ShedlockHolmes\_18 Start: 11349, Stop: 11783, Start Num: 12

Candidate Starts for ShedlockHolmes\_18:

(Start: 5 @11286 has 10 MA's), (Start: 12 @11349 has 111 MA's), (17, 11367), (31, 11472), (36, 11616), (38, 11643), (39, 11664),

Gene: ShiaSurprise\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for ShiaSurprise\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: SirPhilip\_18 Start: 10000, Stop: 10446, Start Num: 12

Candidate Starts for SirPhilip\_18:

(Start: 2 @9922 has 2 MA's), (Start: 12 @10000 has 111 MA's), (31, 10135), (38, 10306), (40, 10333),

Gene: Slarp\_21 Start: 12441, Stop: 12890, Start Num: 10

Candidate Starts for Slarp\_21:

(Start: 2 @12378 has 2 MA's), (Start: 10 @12441 has 45 MA's), (29, 12540), (32, 12594), (35, 12660),

Gene: Slimphazie\_19 Start: 11233, Stop: 11670, Start Num: 12

Candidate Starts for Slimphazie\_19:

(Start: 2 @11155 has 2 MA's), (Start: 5 @11167 has 10 MA's), (Start: 12 @11233 has 111 MA's), (24, 11290), (33, 11407), (38, 11530), (42, 11596),

Gene: SoSeph\_17 Start: 11405, Stop: 11851, Start Num: 10

Candidate Starts for SoSeph\_17:

(Start: 10 @11405 has 45 MA's), (27, 11489), (31, 11540), (36, 11684),

Gene: Spock\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Spock\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Stinson\_19 Start: 11203, Stop: 11637, Start Num: 12

Candidate Starts for Stinson\_19:

(Start: 2 @11125 has 2 MA's), (Start: 5 @11137 has 10 MA's), (Start: 12 @11203 has 111 MA's), (31, 11326), (38, 11497), (42, 11563),

Gene: Strobilo\_15 Start: 9253, Stop: 9702, Start Num: 10

Candidate Starts for Strobilo\_15:

(Start: 5 @9196 has 10 MA's), (Start: 10 @9253 has 45 MA's), (22, 9325), (34, 9475), (35, 9481),

Gene: Sulley\_19 Start: 11202, Stop: 11639, Start Num: 12

Candidate Starts for Sulley\_19:

(Start: 2 @11124 has 2 MA's), (Start: 5 @11136 has 10 MA's), (Start: 12 @11202 has 111 MA's), (24, 11259), (38, 11499), (42, 11565),

Gene: Sunflower1121\_17 Start: 10132, Stop: 10554, Start Num: 13

Candidate Starts for Sunflower1121\_17:

(Start: 13 @10132 has 17 MA's), (26, 10186), (31, 10240), (38, 10411),

Gene: Syra333\_18 Start: 10227, Stop: 10649, Start Num: 13

Candidate Starts for Syra333\_18:

(Start: 5 @10164 has 10 MA's), (Start: 13 @10227 has 17 MA's), (26, 10281), (31, 10335), (38, 10506),

Gene: TBond007\_18 Start: 11100, Stop: 11534, Start Num: 12

Candidate Starts for TBond007\_18:

(Start: 5 @11037 has 10 MA's), (Start: 12 @11100 has 111 MA's), (17, 11118), (31, 11223), (36, 11367), (38, 11394), (39, 11415),

Gene: TClif\_18 Start: 10225, Stop: 10647, Start Num: 13

Candidate Starts for TClif\_18:

(Start: 5 @10156 has 10 MA's), (7, 10168), (Start: 13 @10225 has 17 MA's), (38, 10507),

Gene: TM4\_15 Start: 9314, Stop: 9763, Start Num: 10

Candidate Starts for TM4\_15:

(Start: 10 @9314 has 45 MA's), (22, 9383), (34, 9536),

Gene: Tachez\_19 Start: 11195, Stop: 11632, Start Num: 12

Candidate Starts for Tachez\_19:

(Start: 2 @11117 has 2 MA's), (Start: 5 @11129 has 10 MA's), (Start: 12 @11195 has 111 MA's), (24, 11252), (33, 11369), (38, 11492), (42, 11558),

Gene: TaiwanKao\_20 Start: 11202, Stop: 11642, Start Num: 12

Candidate Starts for TaiwanKao\_20:

(Start: 2 @11124 has 2 MA's), (Start: 5 @11136 has 10 MA's), (Start: 12 @11202 has 111 MA's), (24, 11262), (38, 11502), (42, 11568),

Gene: Taquito\_18 Start: 12025, Stop: 12477, Start Num: 10

Candidate Starts for Taquito\_18:

(Start: 10 @12025 has 45 MA's), (20, 12094), (31, 12169), (32, 12181), (35, 12247), (43, 12430),

Gene: Thyatira\_17 Start: 11277, Stop: 11723, Start Num: 10

Candidate Starts for Thyatira\_17:

(Start: 10 @11277 has 45 MA's), (25, 11349), (27, 11361), (31, 11412), (36, 11556),

Gene: Tierra\_18 Start: 10951, Stop: 11373, Start Num: 13

Candidate Starts for Tierra\_18:

(Start: 5 @10885 has 10 MA's), (Start: 13 @10951 has 17 MA's), (19, 10984), (31, 11062), (38, 11233),

Gene: TingHuaYa\_19 Start: 10264, Stop: 10677, Start Num: 13

Candidate Starts for TingHuaYa\_19:

(Start: 5 @10198 has 10 MA's), (Start: 13 @10264 has 17 MA's), (26, 10312), (38, 10537),

Gene: TiniBug\_19 Start: 11173, Stop: 11613, Start Num: 12

Candidate Starts for TiniBug\_19:

(Start: 2 @11095 has 2 MA's), (Start: 5 @11107 has 10 MA's), (8, 11134), (Start: 12 @11173 has 111 MA's), (38, 11473), (42, 11539),

Gene: Tiri\_19 Start: 11241, Stop: 11678, Start Num: 12

Candidate Starts for Tiri\_19:

(Start: 2 @11163 has 2 MA's), (Start: 5 @11175 has 10 MA's), (Start: 12 @11241 has 111 MA's), (24, 11298), (38, 11538), (42, 11604),

Gene: Topper\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Topper\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Torres\_15 Start: 10504, Stop: 10920, Start Num: 12

Candidate Starts for Torres\_15:

(Start: 12 @10504 has 111 MA's), (38, 10780),

Gene: TreyKay\_19 Start: 11196, Stop: 11636, Start Num: 12

Candidate Starts for TreyKay\_19:

(Start: 2 @11118 has 2 MA's), (Start: 5 @11130 has 10 MA's), (Start: 12 @11196 has 111 MA's), (24, 11256), (38, 11496), (42, 11562),

Gene: TribleTrouble\_17 Start: 11167, Stop: 11592, Start Num: 12

Candidate Starts for TribleTrouble\_17:

(Start: 12 @11167 has 111 MA's), (31, 11281), (36, 11425), (37, 11443), (38, 11452), (39, 11473),

Gene: TruffulaTree\_19 Start: 11229, Stop: 11666, Start Num: 12

Candidate Starts for TruffulaTree\_19:

(Start: 2 @11151 has 2 MA's), (Start: 5 @11163 has 10 MA's), (Start: 12 @11229 has 111 MA's), (24, 11286), (33, 11403), (38, 11526), (42, 11592),

Gene: Twitch\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Twitch\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: Unicorn\_18 Start: 10279, Stop: 10701, Start Num: 13

Candidate Starts for Unicorn\_18:

(Start: 2 @10207 has 2 MA's), (Start: 13 @10279 has 17 MA's), (19, 10312), (31, 10390), (38, 10561),

Gene: Urkel\_19 Start: 11173, Stop: 11613, Start Num: 12

Candidate Starts for Urkel\_19:

(Start: 2 @11095 has 2 MA's), (Start: 5 @11107 has 10 MA's), (8, 11134), (Start: 12 @11173 has 111 MA's), (38, 11473), (42, 11539),

Gene: Validus\_19 Start: 10149, Stop: 10643, Start Num: 2

Candidate Starts for Validus\_19:

(Start: 2 @10149 has 2 MA's), (Start: 13 @10230 has 17 MA's), (19, 10254), (30, 10293), (38, 10503),

Gene: Veliki\_19 Start: 11269, Stop: 11706, Start Num: 12

Candidate Starts for Veliki\_19:

(Start: 2 @11191 has 2 MA's), (Start: 5 @11203 has 10 MA's), (Start: 12 @11269 has 111 MA's), (24, 11326), (33, 11443), (38, 11566), (42, 11632),

Gene: ViviJ\_16 Start: 11138, Stop: 11584, Start Num: 10

Candidate Starts for ViviJ\_16:

(Start: 5 @11093 has 10 MA's), (Start: 10 @11138 has 45 MA's), (27, 11222), (31, 11273), (35, 11354),

Gene: Waterfoul\_17 Start: 11299, Stop: 11745, Start Num: 10

Candidate Starts for Waterfoul\_17:

(Start: 10 @11299 has 45 MA's), (25, 11371), (27, 11383), (31, 11434), (36, 11578),

Gene: Wintermute\_20 Start: 12430, Stop: 12879, Start Num: 10

Candidate Starts for Wintermute\_20:

(Start: 2 @12367 has 2 MA's), (Start: 10 @12430 has 45 MA's), (29, 12529), (32, 12583), (35, 12649),

Gene: Ximenita\_19 Start: 10406, Stop: 10828, Start Num: 13

Candidate Starts for Ximenita\_19:

(Start: 13 @10406 has 17 MA's), (19, 10436), (26, 10460), (31, 10514), (38, 10685),

Gene: Y10\_20 Start: 12430, Stop: 12879, Start Num: 10

Candidate Starts for Y10\_20:

(Start: 2 @12367 has 2 MA's), (Start: 10 @12430 has 45 MA's), (29, 12529), (32, 12583), (35, 12649),

Gene: Y2\_20 Start: 12430, Stop: 12879, Start Num: 10

Candidate Starts for Y2\_20:

(Start: 2 @12367 has 2 MA's), (Start: 10 @12430 has 45 MA's), (29, 12529), (32, 12583), (35, 12649),

Gene: YoureAdopted\_18 Start: 11202, Stop: 11639, Start Num: 12

Candidate Starts for YoureAdopted\_18:

(Start: 2 @11124 has 2 MA's), (Start: 5 @11136 has 10 MA's), (Start: 12 @11202 has 111 MA's), (24, 11259), (33, 11376), (38, 11499), (42, 11565),

Gene: Yuna\_19 Start: 10337, Stop: 10783, Start Num: 12

Candidate Starts for Yuna\_19:

(Start: 12 @10337 has 111 MA's), (31, 10472), (38, 10643), (45, 10763),

Gene: Yunkel11\_19 Start: 10187, Stop: 10600, Start Num: 13

Candidate Starts for Yunkel11\_19:

(Start: 5 @10121 has 10 MA's), (Start: 13 @10187 has 17 MA's), (19, 10211), (26, 10235), (38, 10460),

Gene: Zabiza\_19 Start: 11230, Stop: 11667, Start Num: 12

Candidate Starts for Zabiza\_19:

(Start: 2 @11152 has 2 MA's), (Start: 5 @11164 has 10 MA's), (Start: 12 @11230 has 111 MA's), (24, 11287), (33, 11404), (38, 11527), (42, 11593),

Gene: Zavala\_19 Start: 11210, Stop: 11647, Start Num: 12



Candidate Starts for Zavala\_19:

(Start: 2 @11132 has 2 MA's), (Start: 5 @11144 has 10 MA's), (Start: 12 @11210 has 111 MA's), (24, 11267), (33, 11384), (38, 11507), (42, 11573),

Gene: ZoeJ\_15 Start: 9211, Stop: 9663, Start Num: 10

Candidate Starts for ZoeJ\_15:

(Start: 5 @9154 has 10 MA's), (6, 9166), (Start: 10 @9211 has 45 MA's), (22, 9283), (34, 9436),