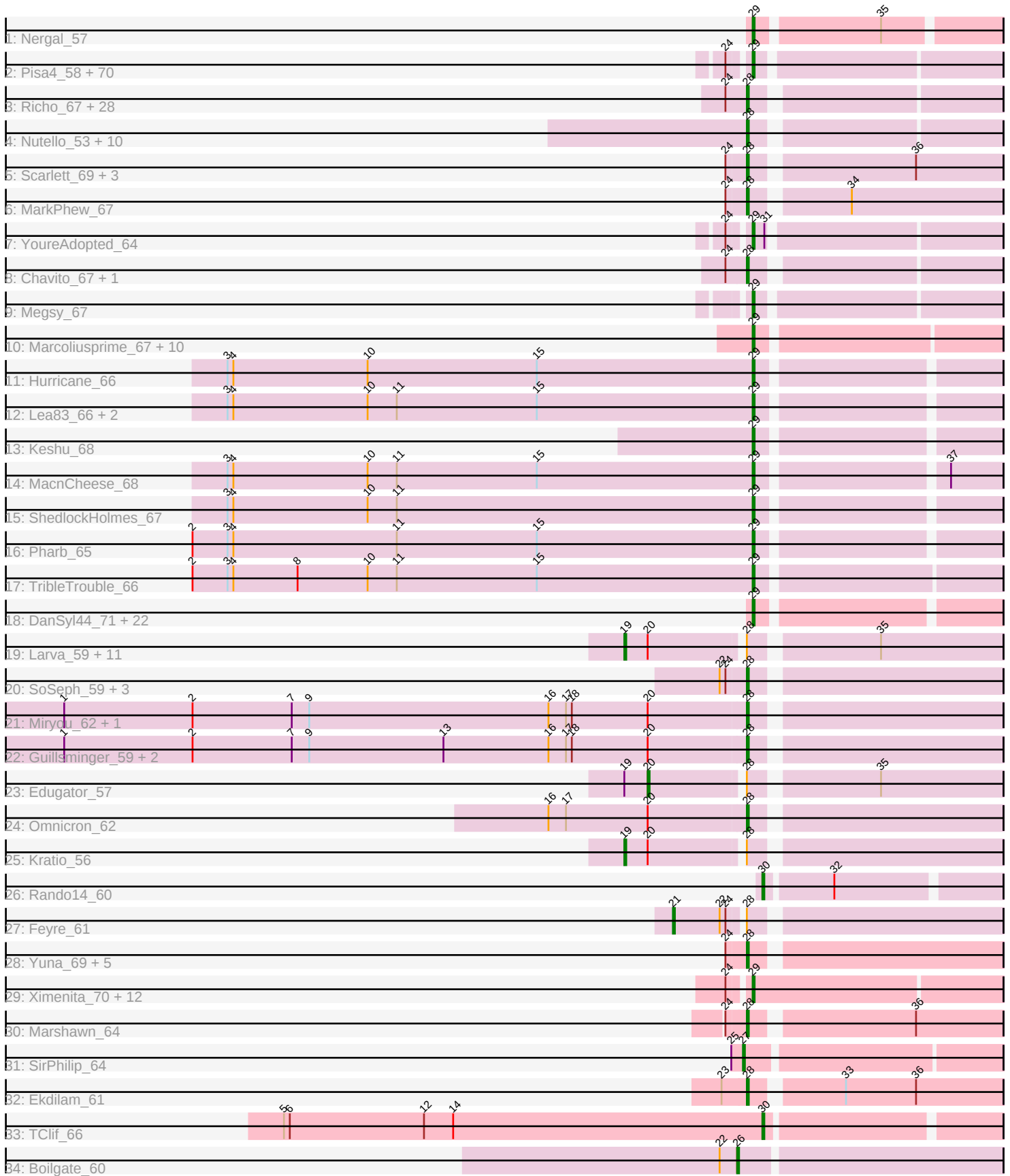


## Pham 330480



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 330480 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330480 has 214 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Nergal\_57
- Track 2 : Pisa4\_58, DartGoblin\_66, Dalmuri\_64, Tachez\_64, BGlluviae\_64, LaterM\_65, Stinson\_66, Anma\_65, Inky\_64, Ageofdapage\_68, Jarvi\_64, Twitch\_64, TiniBug\_65, Prithvi\_66, Beezoo\_66, Blizzard\_64, Devera\_72, CallaLilly\_64, DrHayes\_65, Atiba\_65, Hyperbowlee\_64, Llorens\_64, Asayake\_64, Urkel\_65, Zabiza\_59, BarrelRoll\_65, Rapunzel97\_66, Homura\_64, Pokerus\_64, CaseJules\_66, TruffulaTree\_65, Spock\_64, Pisa1\_64, SamuelLPlaqson\_65, Jeckyll\_64, Rosmarinus\_64, ShiaSurprise\_65, Deby\_65, Lunahalos\_64, Boiiii\_64, Apocalypse\_67, Durfee\_64, Piatt\_64, Sulley\_64, TaiwanKao\_67, ActinUp\_64, Bella96\_65, Murucutumbu\_66, Joy99\_64, CrimD\_66, Slimphazie\_65, Dole\_70, Tiri\_65, Padfoot\_64, Peel\_64, Belladonna\_64, Adonis\_64, Topper\_64, Angelica\_64, Jayhawk\_66, LindNT\_64, TreyKay\_66, Ramen\_65, Capricorn\_64, Illumine\_70, MeaningOfLife\_65, AlishaPH\_64, HedwigODU\_64, Geraldini\_67, CREW\_64, BEEST\_64
- Track 3 : Richo\_67, Veliki\_66, Lavahound\_62, MacKat\_60, Amgine\_63, JAWS\_65, Padpat\_67, Dartin\_67, Fefferhead\_62, Bern\_66, Emerson\_66, Chris\_67, BaghaKamala\_64, Niklas\_67, Ellie\_60, Efra2\_70, Clipper\_68, Shaobing\_67, Applecrisp\_61, Anaya\_67, McMater\_67, CheetoDust\_64, Peanam\_67, Zavala\_67, Yunkel11\_69, LastHope\_69, Guanica15\_69, Mynx\_66, Curiosium\_68
- Track 4 : Nutello\_53, LilPharaoh\_54, Teejan\_55, Binglebops\_53, Torres\_56, Nikao\_56, Trice\_53, Mdavu\_54, Enkosi\_55, Amelie\_53, SgtBeansprout\_54
- Track 5 : Scarlett\_69, KiSi\_69, Oscar\_68, LeMond\_68
- Track 6 : MarkPhew\_67
- Track 7 : YoureAdopted\_64
- Track 8 : Chavito\_67, Validus\_69
- Track 9 : Megsy\_67
- Track 10 : Marcoliusprime\_67, DismalFunk\_67, Mufasa\_67, Doughnut\_67, BoostSeason\_67, Milly\_67, TM4\_65, Findley\_67, ZoeJ\_66, DismalStressor\_67, Strobilo\_68
- Track 11 : Hurricane\_66
- Track 12 : Lea83\_66, Pixie\_65, TBond007\_62
- Track 13 : Keshu\_68
- Track 14 : MacnCheese\_68
- Track 15 : ShedlockHolmes\_67
- Track 16 : Pharb\_65
- Track 17 : TribbleTrouble\_66

- Track 18 : DanSyl44\_71, Slarp\_68, Cheetobro\_68, Ruthiejr\_69, Reptar3000\_65, Malthus\_69, Taquito\_67, YasnayaPolyana\_67, MissDaisy\_65, Bobquesha\_69, Fionnbharth\_68, Mitti\_68, Patt\_64, Wintermute\_68, Qhanda\_70, Kraw\_68, SamScheppers\_66, Chancellor\_68, OmniCritical\_67, Lebo14\_67, Eponine\_70, Juliette\_70, JF1\_68
- Track 19 : Larva\_59, AlleyCat\_60, InvictusManeo\_56, DoubleChamp\_55, Agent47\_58, Collard\_56, BananenDer11\_58, Neighly\_60, LilDirt\_57, Psycho\_58, Dadosky\_60, ViviJ\_57
- Track 20 : SoSepH\_59, Heftyboy\_59, Waterfoul\_60, Thyatira\_61
- Track 21 : Miryou\_62, Gengar\_58
- Track 22 : Guillsminger\_59, Leston\_58, Paola\_58
- Track 23 : Edugator\_57
- Track 24 : Omnicron\_62
- Track 25 : Kratio\_56
- Track 26 : Rando14\_60
- Track 27 : Feyre\_61
- Track 28 : Yuna\_69, Hammy\_64, Nibb\_67, November\_62, Amohnition\_64, DarthP\_64
- Track 29 : Ximenita\_70, Tierra\_68, Krueger\_69, Cain\_68, PhelpsODU\_66, Shadow1\_69, Phrank\_68, Bryler\_68, Syra333\_68, Unicorn\_66, TingHuaYa\_68, Sunflower1121\_70, Tigress9\_69
- Track 30 : Marshawn\_64
- Track 31 : SirPhilip\_64
- Track 32 : Ekdilam\_61
- Track 33 : TClif\_66
- Track 34 : Boilgate\_60

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

The start number called the most often in the published annotations is 29, it was called in 123 of the 202 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_64, Adonis\_64, Ageofdapage\_68, AlishaPH\_64, Angelica\_64, Anma\_65, Apocalypse\_67, Asayake\_64, Atiba\_65, BEEST\_64, BGlluviae\_64, BarrelRoll\_65, Beezoo\_66, Bella96\_65, Belladonna\_64, Blizzard\_64, Bobquesha\_69, Boiiii\_64, BoostSeason\_67, Bryler\_68, CREW\_64, Cain\_68, CallaLilly\_64, Capricorn\_64, CaseJules\_66, Chancellor\_68, Cheetobro\_68, CrimD\_66, Dalmuri\_64, DanSyl44\_71, DartGoblin\_66, Deby\_65, Devera\_72, DismalFunk\_67, DismalStressor\_67, Dole\_70, Doughnut\_67, DrHayes\_65, Durfee\_64, Eponine\_70, Findley\_67, Fionnbharth\_68, Geraldini\_67, HedwigODU\_64, Homura\_64, Hurricane\_66, Hyperbowlee\_64, Illumine\_70, Inky\_64, JF1\_68, Jarvi\_64, Jayhawk\_66, Jeckyll\_64, Joy99\_64, Juliette\_70, Keshu\_68, Kraw\_68, Krueger\_69, LaterM\_65, Lea83\_66, Lebo14\_67, LindNT\_64, Llorens\_64, Lunahalos\_64, MacnCheese\_68, Malthus\_69, Marcoliusprime\_67, MeaningOfLife\_65, Megsy\_67, Milly\_67, MissDaisy\_65, Mitti\_68, Mufasa\_67, Murucutumbu\_66, Nergal\_57, OmniCritical\_67, Padfoot\_64, Patt\_64, Peel\_64, Pharb\_65, PhelpsODU\_66, Phrank\_68, Piatt\_64, Pisa1\_64, Pisa4\_58, Pixie\_65, Pokerus\_64, Prithvi\_66, Qhanda\_70, Ramen\_65, Rapunzel97\_66, Reptar3000\_65, Rosmarinus\_64, Ruthiejr\_69, SamScheppers\_66, SamuelLPlaqsom\_65, Shadow1\_69, ShedlockHolmes\_67, ShiaSurprise\_65,

Slarp\_68, Slimphazie\_65, Spock\_64, Stinson\_66, Strobilo\_68, Sulley\_64, Sunflower1121\_70, Syra333\_68, TBond007\_62, TM4\_65, Tachez\_64, TaiwanKao\_67, Taquito\_67, Tierra\_68, Tigress9\_69, TingHuaYa\_68, TiniBug\_65, Tiri\_65, Topper\_64, TreyKay\_66, TripleTrouble\_66, TruffulaTree\_65, Twitch\_64, Unicorn\_66, Urkel\_65, Wintermute\_68, Ximenita\_70, YasnayaPolyana\_67, YoureAdopted\_64, Zabiza\_59, ZoeJ\_66,

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

- 

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

- Agent47\_58, AlleyCat\_60, Amelie\_53, Amgine\_63, Amohnition\_64, Anaya\_67, Applecrisp\_61, BaghaKamala\_64, BananenDer11\_58, Bern\_66, Binglebops\_53, Boilgate\_60, Chavito\_67, CheetoDust\_64, Chris\_67, Clipper\_68, Collard\_56, Curiosium\_68, Dadosky\_60, DarthP\_64, Dartin\_67, DoubleChamp\_55, Edugator\_57, Efra2\_70, Ekdilam\_61, Ellie\_60, Emerson\_66, Enkosi\_55, Fefferhead\_62, Feyre\_61, Gengar\_58, Guanica15\_69, Guillsminger\_59, Hammy\_64, Heftyboy\_59, InvictusManeo\_56, JAWS\_65, KiSi\_69, Kratio\_56, Larva\_59, LastHope\_69, Lavahound\_62, LeMond\_68, Leston\_58, LilDirt\_57, LilPharaoh\_54, MacKat\_60, MarkPhew\_67, Marshawn\_64, McMatr\_67, Mdavu\_54, Miryou\_62, Mynx\_66, Neighly\_60, Nibb\_67, Nikao\_56, Niklas\_67, November\_62, Nutello\_53, Omnicron\_62, Oscar\_68, Padpat\_67, Paola\_58, Peanam\_67, Psycho\_58, Rando14\_60, Richo\_67, Scarlett\_69, SgtBeansprout\_54, Shaobing\_67, SirPhilip\_64, SoSeph\_59, TClif\_66, Teejan\_55, Thyatira\_61, Torres\_56, Trice\_53, Validus\_69, Veliki\_66, ViviJ\_57, Waterfoul\_60, Yuna\_69, Yunkel11\_69, Zavala\_67,

### Summary by start number:

Start 19:

- Found in 14 of 214 ( 6.5% ) of genes in pham
- Manual Annotations of this start: 11 of 202
- Called 92.9% of time when present
- Phage (with cluster) where this start called: Agent47\_58 (K5), AlleyCat\_60 (K5), BananenDer11\_58 (K5), Collard\_56 (K5), Dadosky\_60 (K5), DoubleChamp\_55 (K5), InvictusManeo\_56 (K5), Kratio\_56 (K5), Larva\_59 (K5), LilDirt\_57 (K5), Neighly\_60 (K3), Psycho\_58 (K5), ViviJ\_57 (K5),

Start 20:

- Found in 20 of 214 ( 9.3% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Edugator\_57 (K5),

Start 21:

- Found in 1 of 214 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Feyre\_61 (K5),

Start 26:

- Found in 1 of 214 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Boilgate\_60 (K8),

Start 27:

- Found in 1 of 214 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SirPhilip\_64 (K6),

Start 28:

- Found in 80 of 214 ( 37.4% ) of genes in pham
- Manual Annotations of this start: 62 of 202
- Called 81.2% of time when present
- Phage (with cluster) where this start called: Amelie\_53 (K1), Amgine\_63 (K6), Amohnition\_64 (K6), Anaya\_67 (K1), Applecrisp\_61 (K6), BaghaKamala\_64 (K1), Bern\_66 (K1), Binglebops\_53 (K1), Chavito\_67 (K1), CheetoDust\_64 (K1), Chris\_67 (K1), Clipper\_68 (K1), Curiosium\_68 (K1), DarthP\_64 (K6), Dartin\_67 (K1), Efra2\_70 (K1), Ekdilam\_61 (K6), Ellie\_60 (K6), Emerson\_66 (K1), Enkosi\_55 (K1), Fefferhead\_62 (K6), Gengar\_58 (K5), Guanica15\_69 (K1), Guillsminger\_59 (K5), Hammy\_64 (K6), Heftyboy\_59 (K5), JAWS\_65 (K1), KiSi\_69 (K1), LastHope\_69 (K1), Lavahound\_62 (K6), LeMond\_68 (K1), Leston\_58 (K5), LilPharaoh\_54 (K1), MacKat\_60 (K1), MarkPhew\_67 (K1), Marshawn\_64 (K6), McMater\_67 (K1), Mdavu\_54 (K1), Miryou\_62 (K5), Mynx\_66 (K1), Nibb\_67 (K1), Nikao\_56 (K1), Niklas\_67 (K1), November\_62 (K6), Nutello\_53 (K1), Omnicron\_62 (K5), Oscar\_68 (K1), Padpat\_67 (K1), Paola\_58 (K5), Peanam\_67 (K1), Richo\_67 (K1), Scarlett\_69 (K1), SgtBeansprout\_54 (K1), Shaobing\_67 (K1), SoSeph\_59 (K5), Teejan\_55 (K1), Thyatira\_61 (K5), Torres\_56 (K1), Trice\_53 (K1), Validus\_69 (K1), Veliki\_66 (K1), Waterfoul\_60 (K5), Yuna\_69 (K6), Yunkel11\_69 (K1), Zavala\_67 (K1),

Start 29:

- Found in 130 of 214 ( 60.7% ) of genes in pham
- Manual Annotations of this start: 123 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_64 (K1), Adonis\_64 (K1), Ageofdapage\_68 (K1), AlishaPH\_64 (K1), Angelica\_64 (K1), Anma\_65 (K1), Apocalypse\_67 (K1), Asayake\_64 (K1), Atiba\_65 (K1), BEEST\_64 (K1), BGluviae\_64 (K1), BarrelRoll\_65 (K1), Beezoo\_66 (K1), Bella96\_65 (K1), Belladonna\_64 (K1), Blizzard\_64 (K1), Bobquesha\_69 (K4), Boiii\_64 (K1), BoostSeason\_67 (K2), Bryler\_68 (K6), CREW\_64 (K1), Cain\_68 (K6), CallaLilly\_64 (K1), Capricorn\_64 (K1), CaseJules\_66 (K1), Chancellor\_68 (K4), Cheetobro\_68 (K4), CrimD\_66 (K1), Dalmuri\_64 (K1), DanSyl44\_71 (K4), DartGoblin\_66 (K1), Deby\_65 (K1), Devera\_72 (K1), DismalFunk\_67 (K2), DismalStressor\_67 (K2), Dole\_70 (K1), Doughnut\_67 (K2), DrHayes\_65 (K1), Durfee\_64 (K1), Eponine\_70 (K4), Findley\_67 (K2), Fionnbharth\_68 (K4), Geraldini\_67 (K1), HedwigODU\_64 (K1), Homura\_64 (K1), Hurricane\_66 (K3), Hyperbowlee\_64 (K1), Illumine\_70 (K1), Inky\_64 (K1), JF1\_68 (K4), Jarvi\_64 (K1), Jayhawk\_66 (K1), Jeckyll\_64 (K1), Joy99\_64 (K1), Juliette\_70 (K4), Keshu\_68 (K3), Kraw\_68 (K4), Krueger\_69 (K6), LaterM\_65 (K1), Lea83\_66 (K3), Lebo14\_67 (K4), LindNT\_64 (K1), Llorens\_64 (K1), Lunahalos\_64 (K1), MacnCheese\_68 (K3), Malthus\_69 (K4), Marcoliusprime\_67 (K2), MeaningOfLife\_65 (K1), Megsy\_67 (K1), Milly\_67 (K2), MissDaisy\_65 (K4), Mitti\_68 (K4), Mufasa\_67 (K2), Murucutumbu\_66 (K1), Nergal\_57 (AG), OmniCritical\_67 (K4), Padfoot\_64 (K1), Patt\_64 (K4), Peel\_64 (K1), Pharb\_65 (K3), PhelpsODU\_66 (K6), Phrank\_68 (K6), Piatt\_64 (K1), Pisa1\_64 (K1), Pisa4\_58 (K1), Pixie\_65 (K3), Pokerus\_64 (K1), Prithvi\_66 (K1), Qhanda\_70 (K4), Ramen\_65 (K1), Rapunzel97\_66 (K1),

Reptar3000\_65 (K4), Rosmarinus\_64 (K1), Ruthiejr\_69 (K4), SamScheppers\_66 (K4), SamuelLPlaqson\_65 (K1), Shadow1\_69 (K6), ShedlockHolmes\_67 (K3), ShiaSurprise\_65 (K1), Slarp\_68 (K4), Slimphazie\_65 (K1), Spock\_64 (K1), Stinson\_66 (K1), Strobilo\_68 (K2), Sulley\_64 (K1), Sunflower1121\_70 (K6), Syra333\_68 (K6), TBond007\_62 (K3), TM4\_65 (K2), Tachez\_64 (K1), TaiwanKao\_67 (K1), Taquito\_67 (K4), Tierra\_68 (K6), Tigress9\_69 (K6), TingHuaYa\_68 (K1), TiniBug\_65 (K1), Tiri\_65 (K1), Topper\_64 (K1), TreyKay\_66 (K1), TribbleTrouble\_66 (K3), TruffulaTree\_65 (K1), Twitch\_64 (K1), Unicorn\_66 (K6), Urkel\_65 (K1), Wintermute\_68 (K4), Ximenita\_70 (K6), YasnayaPolyana\_67 (K4), YoureAdopted\_64 (K1), Zabiza\_59 (K1), ZoeJ\_66 (K2),

Start 30:

- Found in 2 of 214 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rando14\_60 (K5), TClif\_66 (K6),

### Summary by clusters:

There are 8 clusters represented in this pham: AG, K3, K2, K1, K6, K5, K4, K8,

Info for manual annotations of cluster AG:

- Start number 29 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster K1:

- Start number 28 was manually annotated 40 times for cluster K1.
- Start number 29 was manually annotated 70 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 29 was manually annotated 11 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 29 was manually annotated 9 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 29 was manually annotated 20 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 19 was manually annotated 11 times for cluster K5.
- Start number 20 was manually annotated 1 time for cluster K5.
- Start number 21 was manually annotated 1 time for cluster K5.
- Start number 28 was manually annotated 10 times for cluster K5.
- Start number 30 was manually annotated 1 time for cluster K5.

Info for manual annotations of cluster K6:

- Start number 27 was manually annotated 1 time for cluster K6.
- Start number 28 was manually annotated 12 times for cluster K6.
- Start number 29 was manually annotated 12 times for cluster K6.
- Start number 30 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster K8:

- Start number 26 was manually annotated 1 time for cluster K8.

**Gene Information:**

Gene: ActinUp\_64 Start: 42655, Stop: 42774, Start Num: 29

Candidate Starts for ActinUp\_64:

(24, 42646), (Start: 29 @42655 has 123 MA's),

Gene: Adonis\_64 Start: 42927, Stop: 43046, Start Num: 29

Candidate Starts for Adonis\_64:

(24, 42918), (Start: 29 @42927 has 123 MA's),

Gene: Agent47\_58 Start: 39821, Stop: 40000, Start Num: 19

Candidate Starts for Agent47\_58:

(Start: 19 @39821 has 11 MA's), (Start: 20 @39833 has 1 MA's), (Start: 28 @39878 has 62 MA's), (35, 39938),

Gene: Ageofdapage\_68 Start: 44083, Stop: 44202, Start Num: 29

Candidate Starts for Ageofdapage\_68:

(24, 44074), (Start: 29 @44083 has 123 MA's),

Gene: AlishaPH\_64 Start: 42953, Stop: 43072, Start Num: 29

Candidate Starts for AlishaPH\_64:

(24, 42944), (Start: 29 @42953 has 123 MA's),

Gene: AlleyCat\_60 Start: 40119, Stop: 40298, Start Num: 19

Candidate Starts for AlleyCat\_60:

(Start: 19 @40119 has 11 MA's), (Start: 20 @40131 has 1 MA's), (Start: 28 @40176 has 62 MA's), (35, 40236),

Gene: Amelie\_53 Start: 40121, Stop: 40240, Start Num: 28

Candidate Starts for Amelie\_53:

(Start: 28 @40121 has 62 MA's),

Gene: Amgine\_63 Start: 43756, Stop: 43878, Start Num: 28

Candidate Starts for Amgine\_63:

(24, 43750), (Start: 28 @43756 has 62 MA's),

Gene: Amohnition\_64 Start: 43291, Stop: 43416, Start Num: 28

Candidate Starts for Amohnition\_64:

(24, 43285), (Start: 28 @43291 has 62 MA's),

Gene: Anaya\_67 Start: 43635, Stop: 43757, Start Num: 28

Candidate Starts for Anaya\_67:

(24, 43629), (Start: 28 @43635 has 62 MA's),

Gene: Angelica\_64 Start: 42844, Stop: 42963, Start Num: 29

Candidate Starts for Angelica\_64:

(24, 42835), (Start: 29 @42844 has 123 MA's),

Gene: Anma\_65 Start: 43543, Stop: 43662, Start Num: 29

Candidate Starts for Anma\_65:

(24, 43534), (Start: 29 @43543 has 123 MA's),

Gene: Apocalypse\_67 Start: 43610, Stop: 43729, Start Num: 29  
Candidate Starts for Apocalypse\_67:  
(24, 43601), (Start: 29 @43610 has 123 MA's),

Gene: Applecrisp\_61 Start: 42886, Stop: 43008, Start Num: 28  
Candidate Starts for Applecrisp\_61:  
(24, 42880), (Start: 28 @42886 has 62 MA's),

Gene: Asayake\_64 Start: 43007, Stop: 43126, Start Num: 29  
Candidate Starts for Asayake\_64:  
(24, 42998), (Start: 29 @43007 has 123 MA's),

Gene: Atiba\_65 Start: 42655, Stop: 42774, Start Num: 29  
Candidate Starts for Atiba\_65:  
(24, 42646), (Start: 29 @42655 has 123 MA's),

Gene: BEEST\_64 Start: 43007, Stop: 43126, Start Num: 29  
Candidate Starts for BEEST\_64:  
(24, 42998), (Start: 29 @43007 has 123 MA's),

Gene: BGlluviae\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for BGlluviae\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: BaghaKamala\_64 Start: 42468, Stop: 42593, Start Num: 28  
Candidate Starts for BaghaKamala\_64:  
(24, 42462), (Start: 28 @42468 has 62 MA's),

Gene: BananenDer11\_58 Start: 39782, Stop: 39961, Start Num: 19  
Candidate Starts for BananenDer11\_58:  
(Start: 19 @39782 has 11 MA's), (Start: 20 @39794 has 1 MA's), (Start: 28 @39839 has 62 MA's), (35, 39899),

Gene: BarrelRoll\_65 Start: 43092, Stop: 43211, Start Num: 29  
Candidate Starts for BarrelRoll\_65:  
(24, 43083), (Start: 29 @43092 has 123 MA's),

Gene: Beezoo\_66 Start: 43604, Stop: 43723, Start Num: 29  
Candidate Starts for Beezoo\_66:  
(24, 43595), (Start: 29 @43604 has 123 MA's),

Gene: Bella96\_65 Start: 43388, Stop: 43507, Start Num: 29  
Candidate Starts for Bella96\_65:  
(24, 43379), (Start: 29 @43388 has 123 MA's),

Gene: Belladonna\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for Belladonna\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: Bern\_66 Start: 42061, Stop: 42186, Start Num: 28  
Candidate Starts for Bern\_66:  
(24, 42055), (Start: 28 @42061 has 62 MA's),

Gene: Binglebops\_53 Start: 40121, Stop: 40240, Start Num: 28  
Candidate Starts for Binglebops\_53:  
(Start: 28 @40121 has 62 MA's),

Gene: Blizzard\_64 Start: 43007, Stop: 43126, Start Num: 29  
Candidate Starts for Blizzard\_64:  
(24, 42998), (Start: 29 @43007 has 123 MA's),

Gene: Bobquesha\_69 Start: 41304, Stop: 41420, Start Num: 29  
Candidate Starts for Bobquesha\_69:  
(Start: 29 @41304 has 123 MA's),

Gene: Boiiii\_64 Start: 43009, Stop: 43128, Start Num: 29  
Candidate Starts for Boiiii\_64:  
(24, 43000), (Start: 29 @43009 has 123 MA's),

Gene: Boilgate\_60 Start: 43391, Stop: 43522, Start Num: 26  
Candidate Starts for Boilgate\_60:  
(22, 43382), (Start: 26 @43391 has 1 MA's),

Gene: BoostSeason\_67 Start: 44874, Stop: 44993, Start Num: 29  
Candidate Starts for BoostSeason\_67:  
(Start: 29 @44874 has 123 MA's),

Gene: Bryler\_68 Start: 42635, Stop: 42760, Start Num: 29  
Candidate Starts for Bryler\_68:  
(24, 42626), (Start: 29 @42635 has 123 MA's),

Gene: CREW\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for CREW\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: Cain\_68 Start: 42623, Stop: 42748, Start Num: 29  
Candidate Starts for Cain\_68:  
(24, 42614), (Start: 29 @42623 has 123 MA's),

Gene: CallaLilly\_64 Start: 42733, Stop: 42852, Start Num: 29  
Candidate Starts for CallaLilly\_64:  
(24, 42724), (Start: 29 @42733 has 123 MA's),

Gene: Capricorn\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for Capricorn\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: CaseJules\_66 Start: 43007, Stop: 43126, Start Num: 29  
Candidate Starts for CaseJules\_66:  
(24, 42998), (Start: 29 @43007 has 123 MA's),

Gene: Chancellor\_68 Start: 42414, Stop: 42530, Start Num: 29  
Candidate Starts for Chancellor\_68:  
(Start: 29 @42414 has 123 MA's),

Gene: Chavito\_67 Start: 43838, Stop: 43957, Start Num: 28

Candidate Starts for Chavito\_67:

(24, 43832), (Start: 28 @43838 has 62 MA's),

Gene: CheetoDust\_64 Start: 42515, Stop: 42640, Start Num: 28

Candidate Starts for CheetoDust\_64:

(24, 42509), (Start: 28 @42515 has 62 MA's),

Gene: Cheetobro\_68 Start: 42411, Stop: 42527, Start Num: 29

Candidate Starts for Cheetobro\_68:

(Start: 29 @42411 has 123 MA's),

Gene: Chris\_67 Start: 43864, Stop: 43986, Start Num: 28

Candidate Starts for Chris\_67:

(24, 43858), (Start: 28 @43864 has 62 MA's),

Gene: Clipper\_68 Start: 43706, Stop: 43828, Start Num: 28

Candidate Starts for Clipper\_68:

(24, 43700), (Start: 28 @43706 has 62 MA's),

Gene: Collard\_56 Start: 39782, Stop: 39961, Start Num: 19

Candidate Starts for Collard\_56:

(Start: 19 @39782 has 11 MA's), (Start: 20 @39794 has 1 MA's), (Start: 28 @39839 has 62 MA's), (35, 39899),

Gene: CrimD\_66 Start: 43631, Stop: 43750, Start Num: 29

Candidate Starts for CrimD\_66:

(24, 43622), (Start: 29 @43631 has 123 MA's),

Gene: Curiosium\_68 Start: 42320, Stop: 42442, Start Num: 28

Candidate Starts for Curiosium\_68:

(24, 42314), (Start: 28 @42320 has 62 MA's),

Gene: Dadosky\_60 Start: 40121, Stop: 40300, Start Num: 19

Candidate Starts for Dadosky\_60:

(Start: 19 @40121 has 11 MA's), (Start: 20 @40133 has 1 MA's), (Start: 28 @40178 has 62 MA's), (35, 40238),

Gene: Dalmuri\_64 Start: 42810, Stop: 42929, Start Num: 29

Candidate Starts for Dalmuri\_64:

(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: DanSyl44\_71 Start: 43605, Stop: 43721, Start Num: 29

Candidate Starts for DanSyl44\_71:

(Start: 29 @43605 has 123 MA's),

Gene: DartGoblin\_66 Start: 43360, Stop: 43479, Start Num: 29

Candidate Starts for DartGoblin\_66:

(24, 43351), (Start: 29 @43360 has 123 MA's),

Gene: DarthP\_64 Start: 43145, Stop: 43270, Start Num: 28

Candidate Starts for DarthP\_64:

(24, 43139), (Start: 28 @43145 has 62 MA's),

Gene: Dartin\_67 Start: 43293, Stop: 43412, Start Num: 28  
Candidate Starts for Dartin\_67:  
(24, 43284), (Start: 28 @43293 has 62 MA's),

Gene: Deby\_65 Start: 43293, Stop: 43412, Start Num: 29  
Candidate Starts for Deby\_65:  
(24, 43284), (Start: 29 @43293 has 123 MA's),

Gene: Devera\_72 Start: 44646, Stop: 44765, Start Num: 29  
Candidate Starts for Devera\_72:  
(24, 44637), (Start: 29 @44646 has 123 MA's),

Gene: DismalFunk\_67 Start: 45299, Stop: 45418, Start Num: 29  
Candidate Starts for DismalFunk\_67:  
(Start: 29 @45299 has 123 MA's),

Gene: DismalStressor\_67 Start: 45299, Stop: 45418, Start Num: 29  
Candidate Starts for DismalStressor\_67:  
(Start: 29 @45299 has 123 MA's),

Gene: Dole\_70 Start: 44649, Stop: 44768, Start Num: 29  
Candidate Starts for Dole\_70:  
(24, 44640), (Start: 29 @44649 has 123 MA's),

Gene: DoubleChamp\_55 Start: 39782, Stop: 39961, Start Num: 19  
Candidate Starts for DoubleChamp\_55:  
(Start: 19 @39782 has 11 MA's), (Start: 20 @39794 has 1 MA's), (Start: 28 @39839 has 62 MA's), (35, 39899),

Gene: Doughnut\_67 Start: 44916, Stop: 45035, Start Num: 29  
Candidate Starts for Doughnut\_67:  
(Start: 29 @44916 has 123 MA's),

Gene: DrHayes\_65 Start: 43543, Stop: 43662, Start Num: 29  
Candidate Starts for DrHayes\_65:  
(24, 43534), (Start: 29 @43543 has 123 MA's),

Gene: Durfee\_64 Start: 43007, Stop: 43126, Start Num: 29  
Candidate Starts for Durfee\_64:  
(24, 42998), (Start: 29 @43007 has 123 MA's),

Gene: Edugator\_57 Start: 41554, Stop: 41721, Start Num: 20  
Candidate Starts for Edugator\_57:  
(Start: 19 @41542 has 11 MA's), (Start: 20 @41554 has 1 MA's), (Start: 28 @41599 has 62 MA's), (35, 41659),

Gene: Efra2\_70 Start: 43373, Stop: 43498, Start Num: 28  
Candidate Starts for Efra2\_70:  
(24, 43367), (Start: 28 @43373 has 62 MA's),

Gene: Ekdilam\_61 Start: 43378, Stop: 43500, Start Num: 28  
Candidate Starts for Ekdilam\_61:

(23, 43369), (Start: 28 @43378 has 62 MA's), (33, 43420), (36, 43456),

Gene: Ellie\_60 Start: 42616, Stop: 42738, Start Num: 28

Candidate Starts for Ellie\_60:

(24, 42610), (Start: 28 @42616 has 62 MA's),

Gene: Emerson\_66 Start: 43124, Stop: 43246, Start Num: 28

Candidate Starts for Emerson\_66:

(24, 43118), (Start: 28 @43124 has 62 MA's),

Gene: Enkosi\_55 Start: 42734, Stop: 42853, Start Num: 28

Candidate Starts for Enkosi\_55:

(Start: 28 @42734 has 62 MA's),

Gene: Eponine\_70 Start: 43257, Stop: 43373, Start Num: 29

Candidate Starts for Eponine\_70:

(Start: 29 @43257 has 123 MA's),

Gene: Fefferhead\_62 Start: 42525, Stop: 42647, Start Num: 28

Candidate Starts for Fefferhead\_62:

(24, 42519), (Start: 28 @42525 has 62 MA's),

Gene: Feyre\_61 Start: 43526, Stop: 43681, Start Num: 21

Candidate Starts for Feyre\_61:

(Start: 21 @43526 has 1 MA's), (22, 43550), (24, 43553), (Start: 28 @43559 has 62 MA's),

Gene: Findley\_67 Start: 45292, Stop: 45411, Start Num: 29

Candidate Starts for Findley\_67:

(Start: 29 @45292 has 123 MA's),

Gene: Fionnbharth\_68 Start: 42655, Stop: 42771, Start Num: 29

Candidate Starts for Fionnbharth\_68:

(Start: 29 @42655 has 123 MA's),

Gene: Gengar\_58 Start: 41577, Stop: 41699, Start Num: 28

Candidate Starts for Gengar\_58:

(1, 41232), (2, 41298), (7, 41349), (9, 41358), (16, 41481), (17, 41490), (18, 41493), (Start: 20 @41532 has 1 MA's), (Start: 28 @41577 has 62 MA's),

Gene: Geraldini\_67 Start: 43689, Stop: 43808, Start Num: 29

Candidate Starts for Geraldini\_67:

(24, 43680), (Start: 29 @43689 has 123 MA's),

Gene: Guanica15\_69 Start: 43114, Stop: 43239, Start Num: 28

Candidate Starts for Guanica15\_69:

(24, 43108), (Start: 28 @43114 has 62 MA's),

Gene: Guillsminger\_59 Start: 41548, Stop: 41670, Start Num: 28

Candidate Starts for Guillsminger\_59:

(1, 41203), (2, 41269), (7, 41320), (9, 41329), (13, 41398), (16, 41452), (17, 41461), (18, 41464), (Start: 20 @41503 has 1 MA's), (Start: 28 @41548 has 62 MA's),

Gene: Hammy\_64 Start: 43133, Stop: 43258, Start Num: 28

Candidate Starts for Hammy\_64:  
(24, 43127), (Start: 28 @43133 has 62 MA's),

Gene: HedwigODU\_64 Start: 42655, Stop: 42774, Start Num: 29  
Candidate Starts for HedwigODU\_64:  
(24, 42646), (Start: 29 @42655 has 123 MA's),

Gene: Heftyboy\_59 Start: 41921, Stop: 42043, Start Num: 28  
Candidate Starts for Heftyboy\_59:  
(22, 41912), (24, 41915), (Start: 28 @41921 has 62 MA's),

Gene: Homura\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for Homura\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: Hurricane\_66 Start: 43292, Stop: 43408, Start Num: 29  
Candidate Starts for Hurricane\_66:  
(3, 43022), (4, 43025), (10, 43094), (15, 43181), (Start: 29 @43292 has 123 MA's),

Gene: Hyperbowlee\_64 Start: 43007, Stop: 43126, Start Num: 29  
Candidate Starts for Hyperbowlee\_64:  
(24, 42998), (Start: 29 @43007 has 123 MA's),

Gene: Illumine\_70 Start: 44648, Stop: 44767, Start Num: 29  
Candidate Starts for Illumine\_70:  
(24, 44639), (Start: 29 @44648 has 123 MA's),

Gene: Inky\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for Inky\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: InvictusManeo\_56 Start: 39825, Stop: 40004, Start Num: 19  
Candidate Starts for InvictusManeo\_56:  
(Start: 19 @39825 has 11 MA's), (Start: 20 @39837 has 1 MA's), (Start: 28 @39882 has 62 MA's), (35, 39942),

Gene: JAWS\_65 Start: 43083, Stop: 43205, Start Num: 28  
Candidate Starts for JAWS\_65:  
(24, 43077), (Start: 28 @43083 has 62 MA's),

Gene: JF1\_68 Start: 42572, Stop: 42688, Start Num: 29  
Candidate Starts for JF1\_68:  
(Start: 29 @42572 has 123 MA's),

Gene: Jarvi\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for Jarvi\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: Jayhawk\_66 Start: 43152, Stop: 43271, Start Num: 29  
Candidate Starts for Jayhawk\_66:  
(24, 43143), (Start: 29 @43152 has 123 MA's),

Gene: Jeckyll\_64 Start: 42810, Stop: 42929, Start Num: 29

Candidate Starts for Jeckyll\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: Joy99\_64 Start: 42739, Stop: 42858, Start Num: 29  
Candidate Starts for Joy99\_64:  
(24, 42730), (Start: 29 @42739 has 123 MA's),

Gene: Juliette\_70 Start: 42719, Stop: 42835, Start Num: 29  
Candidate Starts for Juliette\_70:  
(Start: 29 @42719 has 123 MA's),

Gene: Keshu\_68 Start: 43390, Stop: 43506, Start Num: 29  
Candidate Starts for Keshu\_68:  
(Start: 29 @43390 has 123 MA's),

Gene: KiSi\_69 Start: 43845, Stop: 43967, Start Num: 28  
Candidate Starts for KiSi\_69:  
(24, 43839), (Start: 28 @43845 has 62 MA's), (36, 43923),

Gene: Kratio\_56 Start: 39561, Stop: 39740, Start Num: 19  
Candidate Starts for Kratio\_56:  
(Start: 19 @39561 has 11 MA's), (Start: 20 @39573 has 1 MA's), (Start: 28 @39618 has 62 MA's),

Gene: Kraw\_68 Start: 42407, Stop: 42523, Start Num: 29  
Candidate Starts for Kraw\_68:  
(Start: 29 @42407 has 123 MA's),

Gene: Krueger\_69 Start: 42911, Stop: 43036, Start Num: 29  
Candidate Starts for Krueger\_69:  
(24, 42902), (Start: 29 @42911 has 123 MA's),

Gene: Larva\_59 Start: 40993, Stop: 41172, Start Num: 19  
Candidate Starts for Larva\_59:  
(Start: 19 @40993 has 11 MA's), (Start: 20 @41005 has 1 MA's), (Start: 28 @41050 has 62 MA's), (35, 41110),

Gene: LastHope\_69 Start: 42234, Stop: 42359, Start Num: 28  
Candidate Starts for LastHope\_69:  
(24, 42228), (Start: 28 @42234 has 62 MA's),

Gene: LaterM\_65 Start: 43502, Stop: 43621, Start Num: 29  
Candidate Starts for LaterM\_65:  
(24, 43493), (Start: 29 @43502 has 123 MA's),

Gene: Lavahound\_62 Start: 43893, Stop: 44015, Start Num: 28  
Candidate Starts for Lavahound\_62:  
(24, 43887), (Start: 28 @43893 has 62 MA's),

Gene: LeMond\_68 Start: 43479, Stop: 43601, Start Num: 28  
Candidate Starts for LeMond\_68:  
(24, 43473), (Start: 28 @43479 has 62 MA's), (36, 43557),

Gene: Lea83\_66 Start: 43327, Stop: 43443, Start Num: 29

Candidate Starts for Lea83\_66:  
(3, 43057), (4, 43060), (10, 43129), (11, 43144), (15, 43216), (Start: 29 @43327 has 123 MA's),

Gene: Lebo14\_67 Start: 42740, Stop: 42856, Start Num: 29  
Candidate Starts for Lebo14\_67:  
(Start: 29 @42740 has 123 MA's),

Gene: Leston\_58 Start: 41677, Stop: 41799, Start Num: 28  
Candidate Starts for Leston\_58:  
(1, 41332), (2, 41398), (7, 41449), (9, 41458), (13, 41527), (16, 41581), (17, 41590), (18, 41593),  
(Start: 20 @41632 has 1 MA's), (Start: 28 @41677 has 62 MA's),

Gene: LilDirt\_57 Start: 39583, Stop: 39762, Start Num: 19  
Candidate Starts for LilDirt\_57:  
(Start: 19 @39583 has 11 MA's), (Start: 20 @39595 has 1 MA's), (Start: 28 @39640 has 62 MA's), (35, 39700),

Gene: LilPharaoh\_54 Start: 39849, Stop: 39968, Start Num: 28  
Candidate Starts for LilPharaoh\_54:  
(Start: 28 @39849 has 62 MA's),

Gene: LindNT\_64 Start: 43297, Stop: 43416, Start Num: 29  
Candidate Starts for LindNT\_64:  
(24, 43288), (Start: 29 @43297 has 123 MA's),

Gene: Llorens\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for Llorens\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: Lunahalos\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for Lunahalos\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: MacKat\_60 Start: 38590, Stop: 38712, Start Num: 28  
Candidate Starts for MacKat\_60:  
(24, 38584), (Start: 28 @38590 has 62 MA's),

Gene: MacnCheese\_68 Start: 43909, Stop: 44025, Start Num: 29  
Candidate Starts for MacnCheese\_68:  
(3, 43639), (4, 43642), (10, 43711), (11, 43726), (15, 43798), (Start: 29 @43909 has 123 MA's), (37, 43999),

Gene: Malthus\_69 Start: 42407, Stop: 42523, Start Num: 29  
Candidate Starts for Malthus\_69:  
(Start: 29 @42407 has 123 MA's),

Gene: Marcoliusprime\_67 Start: 45299, Stop: 45418, Start Num: 29  
Candidate Starts for Marcoliusprime\_67:  
(Start: 29 @45299 has 123 MA's),

Gene: MarkPhew\_67 Start: 42979, Stop: 43101, Start Num: 28  
Candidate Starts for MarkPhew\_67:  
(24, 42973), (Start: 28 @42979 has 62 MA's), (34, 43024),

Gene: Marshawn\_64 Start: 43329, Stop: 43451, Start Num: 28  
Candidate Starts for Marshawn\_64:  
(24, 43323), (Start: 28 @43329 has 62 MA's), (36, 43407),

Gene: McMater\_67 Start: 43293, Stop: 43412, Start Num: 28  
Candidate Starts for McMater\_67:  
(24, 43284), (Start: 28 @43293 has 62 MA's),

Gene: Mdavu\_54 Start: 40110, Stop: 40229, Start Num: 28  
Candidate Starts for Mdavu\_54:  
(Start: 28 @40110 has 62 MA's),

Gene: MeaningOfLife\_65 Start: 43562, Stop: 43681, Start Num: 29  
Candidate Starts for MeaningOfLife\_65:  
(24, 43553), (Start: 29 @43562 has 123 MA's),

Gene: Megsy\_67 Start: 43218, Stop: 43337, Start Num: 29  
Candidate Starts for Megsy\_67:  
(Start: 29 @43218 has 123 MA's),

Gene: Milly\_67 Start: 45272, Stop: 45391, Start Num: 29  
Candidate Starts for Milly\_67:  
(Start: 29 @45272 has 123 MA's),

Gene: Miryou\_62 Start: 44274, Stop: 44396, Start Num: 28  
Candidate Starts for Miryou\_62:  
(1, 43929), (2, 43995), (7, 44046), (9, 44055), (16, 44178), (17, 44187), (18, 44190), (Start: 20 @44229 has 1 MA's), (Start: 28 @44274 has 62 MA's),

Gene: MissDaisy\_65 Start: 41319, Stop: 41435, Start Num: 29  
Candidate Starts for MissDaisy\_65:  
(Start: 29 @41319 has 123 MA's),

Gene: Mitti\_68 Start: 42586, Stop: 42702, Start Num: 29  
Candidate Starts for Mitti\_68:  
(Start: 29 @42586 has 123 MA's),

Gene: Mufasa\_67 Start: 44859, Stop: 44978, Start Num: 29  
Candidate Starts for Mufasa\_67:  
(Start: 29 @44859 has 123 MA's),

Gene: Murucutumbu\_66 Start: 44077, Stop: 44196, Start Num: 29  
Candidate Starts for Murucutumbu\_66:  
(24, 44068), (Start: 29 @44077 has 123 MA's),

Gene: Mynx\_66 Start: 43419, Stop: 43541, Start Num: 28  
Candidate Starts for Mynx\_66:  
(24, 43413), (Start: 28 @43419 has 62 MA's),

Gene: Neighly\_60 Start: 40992, Stop: 41171, Start Num: 19  
Candidate Starts for Neighly\_60:

(Start: 19 @40992 has 11 MA's), (Start: 20 @41004 has 1 MA's), (Start: 28 @41049 has 62 MA's), (35, 41109),

Gene: Nergal\_57 Start: 39643, Stop: 39759, Start Num: 29  
Candidate Starts for Nergal\_57:  
(Start: 29 @39643 has 123 MA's), (35, 39703),

Gene: Nibb\_67 Start: 43190, Stop: 43312, Start Num: 28  
Candidate Starts for Nibb\_67:  
(24, 43184), (Start: 28 @43190 has 62 MA's),

Gene: Nikao\_56 Start: 42734, Stop: 42853, Start Num: 28  
Candidate Starts for Nikao\_56:  
(Start: 28 @42734 has 62 MA's),

Gene: Niklas\_67 Start: 43354, Stop: 43473, Start Num: 28  
Candidate Starts for Niklas\_67:  
(24, 43345), (Start: 28 @43354 has 62 MA's),

Gene: November\_62 Start: 43043, Stop: 43168, Start Num: 28  
Candidate Starts for November\_62:  
(24, 43037), (Start: 28 @43043 has 62 MA's),

Gene: Nutello\_53 Start: 40121, Stop: 40240, Start Num: 28  
Candidate Starts for Nutello\_53:  
(Start: 28 @40121 has 62 MA's),

Gene: OmniCritical\_67 Start: 42434, Stop: 42550, Start Num: 29  
Candidate Starts for OmniCritical\_67:  
(Start: 29 @42434 has 123 MA's),

Gene: Omnicron\_62 Start: 42057, Stop: 42179, Start Num: 28  
Candidate Starts for Omnicron\_62:  
(16, 41961), (17, 41970), (Start: 20 @42012 has 1 MA's), (Start: 28 @42057 has 62 MA's),

Gene: Oscar\_68 Start: 43396, Stop: 43518, Start Num: 28  
Candidate Starts for Oscar\_68:  
(24, 43390), (Start: 28 @43396 has 62 MA's), (36, 43474),

Gene: Padfoot\_64 Start: 43007, Stop: 43126, Start Num: 29  
Candidate Starts for Padfoot\_64:  
(24, 42998), (Start: 29 @43007 has 123 MA's),

Gene: Padpat\_67 Start: 43124, Stop: 43246, Start Num: 28  
Candidate Starts for Padpat\_67:  
(24, 43118), (Start: 28 @43124 has 62 MA's),

Gene: Paola\_58 Start: 41548, Stop: 41670, Start Num: 28  
Candidate Starts for Paola\_58:  
(1, 41203), (2, 41269), (7, 41320), (9, 41329), (13, 41398), (16, 41452), (17, 41461), (18, 41464),  
(Start: 20 @41503 has 1 MA's), (Start: 28 @41548 has 62 MA's),

Gene: Patt\_64 Start: 41043, Stop: 41159, Start Num: 29

Candidate Starts for Patt\_64:  
(Start: 29 @41043 has 123 MA's),

Gene: Peanam\_67 Start: 43312, Stop: 43431, Start Num: 28  
Candidate Starts for Peanam\_67:  
(24, 43303), (Start: 28 @43312 has 62 MA's),

Gene: Peel\_64 Start: 42812, Stop: 42931, Start Num: 29  
Candidate Starts for Peel\_64:  
(24, 42803), (Start: 29 @42812 has 123 MA's),

Gene: Pharb\_65 Start: 42639, Stop: 42755, Start Num: 29  
Candidate Starts for Pharb\_65:  
(2, 42351), (3, 42369), (4, 42372), (11, 42456), (15, 42528), (Start: 29 @42639 has 123 MA's),

Gene: PhelpsODU\_66 Start: 42549, Stop: 42674, Start Num: 29  
Candidate Starts for PhelpsODU\_66:  
(24, 42540), (Start: 29 @42549 has 123 MA's),

Gene: Phrank\_68 Start: 42613, Stop: 42738, Start Num: 29  
Candidate Starts for Phrank\_68:  
(24, 42604), (Start: 29 @42613 has 123 MA's),

Gene: Piatt\_64 Start: 43007, Stop: 43126, Start Num: 29  
Candidate Starts for Piatt\_64:  
(24, 42998), (Start: 29 @43007 has 123 MA's),

Gene: Pisa1\_64 Start: 43625, Stop: 43744, Start Num: 29  
Candidate Starts for Pisa1\_64:  
(24, 43616), (Start: 29 @43625 has 123 MA's),

Gene: Pisa4\_58 Start: 38994, Stop: 39113, Start Num: 29  
Candidate Starts for Pisa4\_58:  
(24, 38985), (Start: 29 @38994 has 123 MA's),

Gene: Pixie\_65 Start: 42812, Stop: 42928, Start Num: 29  
Candidate Starts for Pixie\_65:  
(3, 42542), (4, 42545), (10, 42614), (11, 42629), (15, 42701), (Start: 29 @42812 has 123 MA's),

Gene: Pokerus\_64 Start: 43152, Stop: 43271, Start Num: 29  
Candidate Starts for Pokerus\_64:  
(24, 43143), (Start: 29 @43152 has 123 MA's),

Gene: Prithvi\_66 Start: 43297, Stop: 43416, Start Num: 29  
Candidate Starts for Prithvi\_66:  
(24, 43288), (Start: 29 @43297 has 123 MA's),

Gene: Psycho\_58 Start: 40118, Stop: 40297, Start Num: 19  
Candidate Starts for Psycho\_58:  
(Start: 19 @40118 has 11 MA's), (Start: 20 @40130 has 1 MA's), (Start: 28 @40175 has 62 MA's), (35, 40235),

Gene: Qhanda\_70 Start: 42423, Stop: 42539, Start Num: 29

Candidate Starts for Qhanda\_70:  
(Start: 29 @42423 has 123 MA's),

Gene: Ramen\_65 Start: 42657, Stop: 42776, Start Num: 29  
Candidate Starts for Ramen\_65:  
(24, 42648), (Start: 29 @42657 has 123 MA's),

Gene: Rando14\_60 Start: 39783, Stop: 39896, Start Num: 30  
Candidate Starts for Rando14\_60:  
(Start: 30 @39783 has 2 MA's), (32, 39816),

Gene: Rapunzel97\_66 Start: 43107, Stop: 43226, Start Num: 29  
Candidate Starts for Rapunzel97\_66:  
(24, 43098), (Start: 29 @43107 has 123 MA's),

Gene: Reptar3000\_65 Start: 41031, Stop: 41147, Start Num: 29  
Candidate Starts for Reptar3000\_65:  
(Start: 29 @41031 has 123 MA's),

Gene: Richo\_67 Start: 43293, Stop: 43412, Start Num: 28  
Candidate Starts for Richo\_67:  
(24, 43284), (Start: 28 @43293 has 62 MA's),

Gene: Rosmarinus\_64 Start: 42798, Stop: 42917, Start Num: 29  
Candidate Starts for Rosmarinus\_64:  
(24, 42789), (Start: 29 @42798 has 123 MA's),

Gene: Ruthiejr\_69 Start: 42457, Stop: 42573, Start Num: 29  
Candidate Starts for Ruthiejr\_69:  
(Start: 29 @42457 has 123 MA's),

Gene: SamScheppers\_66 Start: 42886, Stop: 43002, Start Num: 29  
Candidate Starts for SamScheppers\_66:  
(Start: 29 @42886 has 123 MA's),

Gene: SamuelLPlaqson\_65 Start: 43543, Stop: 43662, Start Num: 29  
Candidate Starts for SamuelLPlaqson\_65:  
(24, 43534), (Start: 29 @43543 has 123 MA's),

Gene: Scarlett\_69 Start: 43726, Stop: 43848, Start Num: 28  
Candidate Starts for Scarlett\_69:  
(24, 43720), (Start: 28 @43726 has 62 MA's), (36, 43804),

Gene: SgtBeansprout\_54 Start: 40121, Stop: 40240, Start Num: 28  
Candidate Starts for SgtBeansprout\_54:  
(Start: 28 @40121 has 62 MA's),

Gene: Shadow1\_69 Start: 43064, Stop: 43189, Start Num: 29  
Candidate Starts for Shadow1\_69:  
(24, 43055), (Start: 29 @43064 has 123 MA's),

Gene: Shaobing\_67 Start: 43330, Stop: 43449, Start Num: 28  
Candidate Starts for Shaobing\_67:

(24, 43321), (Start: 28 @43330 has 62 MA's),

Gene: ShedlockHolmes\_67 Start: 43331, Stop: 43447, Start Num: 29

Candidate Starts for ShedlockHolmes\_67:

(3, 43061), (4, 43064), (10, 43133), (11, 43148), (Start: 29 @43331 has 123 MA's),

Gene: ShiaSurprise\_65 Start: 43007, Stop: 43126, Start Num: 29

Candidate Starts for ShiaSurprise\_65:

(24, 42998), (Start: 29 @43007 has 123 MA's),

Gene: SirPhilip\_64 Start: 43484, Stop: 43609, Start Num: 27

Candidate Starts for SirPhilip\_64:

(25, 43478), (Start: 27 @43484 has 1 MA's),

Gene: Slarp\_68 Start: 42414, Stop: 42530, Start Num: 29

Candidate Starts for Slarp\_68:

(Start: 29 @42414 has 123 MA's),

Gene: Slimphazie\_65 Start: 43107, Stop: 43226, Start Num: 29

Candidate Starts for Slimphazie\_65:

(24, 43098), (Start: 29 @43107 has 123 MA's),

Gene: SoSeph\_59 Start: 41921, Stop: 42043, Start Num: 28

Candidate Starts for SoSeph\_59:

(22, 41912), (24, 41915), (Start: 28 @41921 has 62 MA's),

Gene: Spock\_64 Start: 42811, Stop: 42930, Start Num: 29

Candidate Starts for Spock\_64:

(24, 42802), (Start: 29 @42811 has 123 MA's),

Gene: Stinson\_66 Start: 43435, Stop: 43554, Start Num: 29

Candidate Starts for Stinson\_66:

(24, 43426), (Start: 29 @43435 has 123 MA's),

Gene: Strobilo\_68 Start: 45274, Stop: 45393, Start Num: 29

Candidate Starts for Strobilo\_68:

(Start: 29 @45274 has 123 MA's),

Gene: Sulley\_64 Start: 42871, Stop: 42990, Start Num: 29

Candidate Starts for Sulley\_64:

(24, 42862), (Start: 29 @42871 has 123 MA's),

Gene: Sunflower1121\_70 Start: 43210, Stop: 43335, Start Num: 29

Candidate Starts for Sunflower1121\_70:

(24, 43201), (Start: 29 @43210 has 123 MA's),

Gene: Syra333\_68 Start: 42923, Stop: 43048, Start Num: 29

Candidate Starts for Syra333\_68:

(24, 42914), (Start: 29 @42923 has 123 MA's),

Gene: TBond007\_62 Start: 42811, Stop: 42927, Start Num: 29

Candidate Starts for TBond007\_62:

(3, 42541), (4, 42544), (10, 42613), (11, 42628), (15, 42700), (Start: 29 @42811 has 123 MA's),

Gene: TClif\_66 Start: 42904, Stop: 43017, Start Num: 30  
Candidate Starts for TClif\_66:  
(5, 42658), (6, 42661), (12, 42730), (14, 42745), (Start: 30 @42904 has 2 MA's),

Gene: TM4\_65 Start: 39937, Stop: 40056, Start Num: 29  
Candidate Starts for TM4\_65:  
(Start: 29 @39937 has 123 MA's),

Gene: Tachez\_64 Start: 42655, Stop: 42774, Start Num: 29  
Candidate Starts for Tachez\_64:  
(24, 42646), (Start: 29 @42655 has 123 MA's),

Gene: TaiwanKao\_67 Start: 43359, Stop: 43478, Start Num: 29  
Candidate Starts for TaiwanKao\_67:  
(24, 43350), (Start: 29 @43359 has 123 MA's),

Gene: Taquito\_67 Start: 42649, Stop: 42765, Start Num: 29  
Candidate Starts for Taquito\_67:  
(Start: 29 @42649 has 123 MA's),

Gene: Teejan\_55 Start: 42734, Stop: 42853, Start Num: 28  
Candidate Starts for Teejan\_55:  
(Start: 28 @42734 has 62 MA's),

Gene: Thyatira\_61 Start: 43879, Stop: 44001, Start Num: 28  
Candidate Starts for Thyatira\_61:  
(22, 43870), (24, 43873), (Start: 28 @43879 has 62 MA's),

Gene: Tierra\_68 Start: 43424, Stop: 43549, Start Num: 29  
Candidate Starts for Tierra\_68:  
(24, 43415), (Start: 29 @43424 has 123 MA's),

Gene: Tigress9\_69 Start: 43240, Stop: 43365, Start Num: 29  
Candidate Starts for Tigress9\_69:  
(24, 43231), (Start: 29 @43240 has 123 MA's),

Gene: TingHuaYa\_68 Start: 42606, Stop: 42725, Start Num: 29  
Candidate Starts for TingHuaYa\_68:  
(24, 42597), (Start: 29 @42606 has 123 MA's),

Gene: TiniBug\_65 Start: 43539, Stop: 43658, Start Num: 29  
Candidate Starts for TiniBug\_65:  
(24, 43530), (Start: 29 @43539 has 123 MA's),

Gene: Tiri\_65 Start: 42943, Stop: 43062, Start Num: 29  
Candidate Starts for Tiri\_65:  
(24, 42934), (Start: 29 @42943 has 123 MA's),

Gene: Topper\_64 Start: 42810, Stop: 42929, Start Num: 29  
Candidate Starts for Topper\_64:  
(24, 42801), (Start: 29 @42810 has 123 MA's),

Gene: Torres\_56 Start: 42735, Stop: 42854, Start Num: 28

Candidate Starts for Torres\_56:

(Start: 28 @42735 has 62 MA's),

Gene: TreyKay\_66 Start: 43297, Stop: 43416, Start Num: 29

Candidate Starts for TreyKay\_66:

(24, 43288), (Start: 29 @43297 has 123 MA's),

Gene: TribbleTrouble\_66 Start: 43811, Stop: 43930, Start Num: 29

Candidate Starts for TribbleTrouble\_66:

(2, 43523), (3, 43541), (4, 43544), (8, 43577), (10, 43613), (11, 43628), (15, 43700), (Start: 29 @43811 has 123 MA's),

Gene: Trice\_53 Start: 40122, Stop: 40241, Start Num: 28

Candidate Starts for Trice\_53:

(Start: 28 @40122 has 62 MA's),

Gene: TruffulaTree\_65 Start: 43103, Stop: 43222, Start Num: 29

Candidate Starts for TruffulaTree\_65:

(24, 43094), (Start: 29 @43103 has 123 MA's),

Gene: Twitch\_64 Start: 42812, Stop: 42931, Start Num: 29

Candidate Starts for Twitch\_64:

(24, 42803), (Start: 29 @42812 has 123 MA's),

Gene: Unicorn\_66 Start: 42549, Stop: 42674, Start Num: 29

Candidate Starts for Unicorn\_66:

(24, 42540), (Start: 29 @42549 has 123 MA's),

Gene: Urkel\_65 Start: 43543, Stop: 43662, Start Num: 29

Candidate Starts for Urkel\_65:

(24, 43534), (Start: 29 @43543 has 123 MA's),

Gene: Validus\_69 Start: 43672, Stop: 43791, Start Num: 28

Candidate Starts for Validus\_69:

(24, 43666), (Start: 28 @43672 has 62 MA's),

Gene: Veliki\_66 Start: 43074, Stop: 43196, Start Num: 28

Candidate Starts for Veliki\_66:

(24, 43068), (Start: 28 @43074 has 62 MA's),

Gene: ViviJ\_57 Start: 39582, Stop: 39761, Start Num: 19

Candidate Starts for ViviJ\_57:

(Start: 19 @39582 has 11 MA's), (Start: 20 @39594 has 1 MA's), (Start: 28 @39639 has 62 MA's), (35, 39699),

Gene: Waterfoul\_60 Start: 41983, Stop: 42105, Start Num: 28

Candidate Starts for Waterfoul\_60:

(22, 41974), (24, 41977), (Start: 28 @41983 has 62 MA's),

Gene: Wintermute\_68 Start: 42644, Stop: 42760, Start Num: 29

Candidate Starts for Wintermute\_68:

(Start: 29 @42644 has 123 MA's),

Gene: Ximenita\_70 Start: 43249, Stop: 43374, Start Num: 29  
Candidate Starts for Ximenita\_70:  
(24, 43240), (Start: 29 @43249 has 123 MA's),

Gene: YasnayaPolyana\_67 Start: 42497, Stop: 42613, Start Num: 29  
Candidate Starts for YasnayaPolyana\_67:  
(Start: 29 @42497 has 123 MA's),

Gene: YoureAdopted\_64 Start: 43223, Stop: 43342, Start Num: 29  
Candidate Starts for YoureAdopted\_64:  
(24, 43214), (Start: 29 @43223 has 123 MA's), (31, 43229),

Gene: Yuna\_69 Start: 44370, Stop: 44492, Start Num: 28  
Candidate Starts for Yuna\_69:  
(24, 44364), (Start: 28 @44370 has 62 MA's),

Gene: Yunkel11\_69 Start: 43119, Stop: 43244, Start Num: 28  
Candidate Starts for Yunkel11\_69:  
(24, 43113), (Start: 28 @43119 has 62 MA's),

Gene: Zabiza\_59 Start: 38960, Stop: 39079, Start Num: 29  
Candidate Starts for Zabiza\_59:  
(24, 38951), (Start: 29 @38960 has 123 MA's),

Gene: Zavala\_67 Start: 43379, Stop: 43501, Start Num: 28  
Candidate Starts for Zavala\_67:  
(24, 43373), (Start: 28 @43379 has 62 MA's),

Gene: ZoeJ\_66 Start: 44678, Stop: 44797, Start Num: 29  
Candidate Starts for ZoeJ\_66:  
(Start: 29 @44678 has 123 MA's),