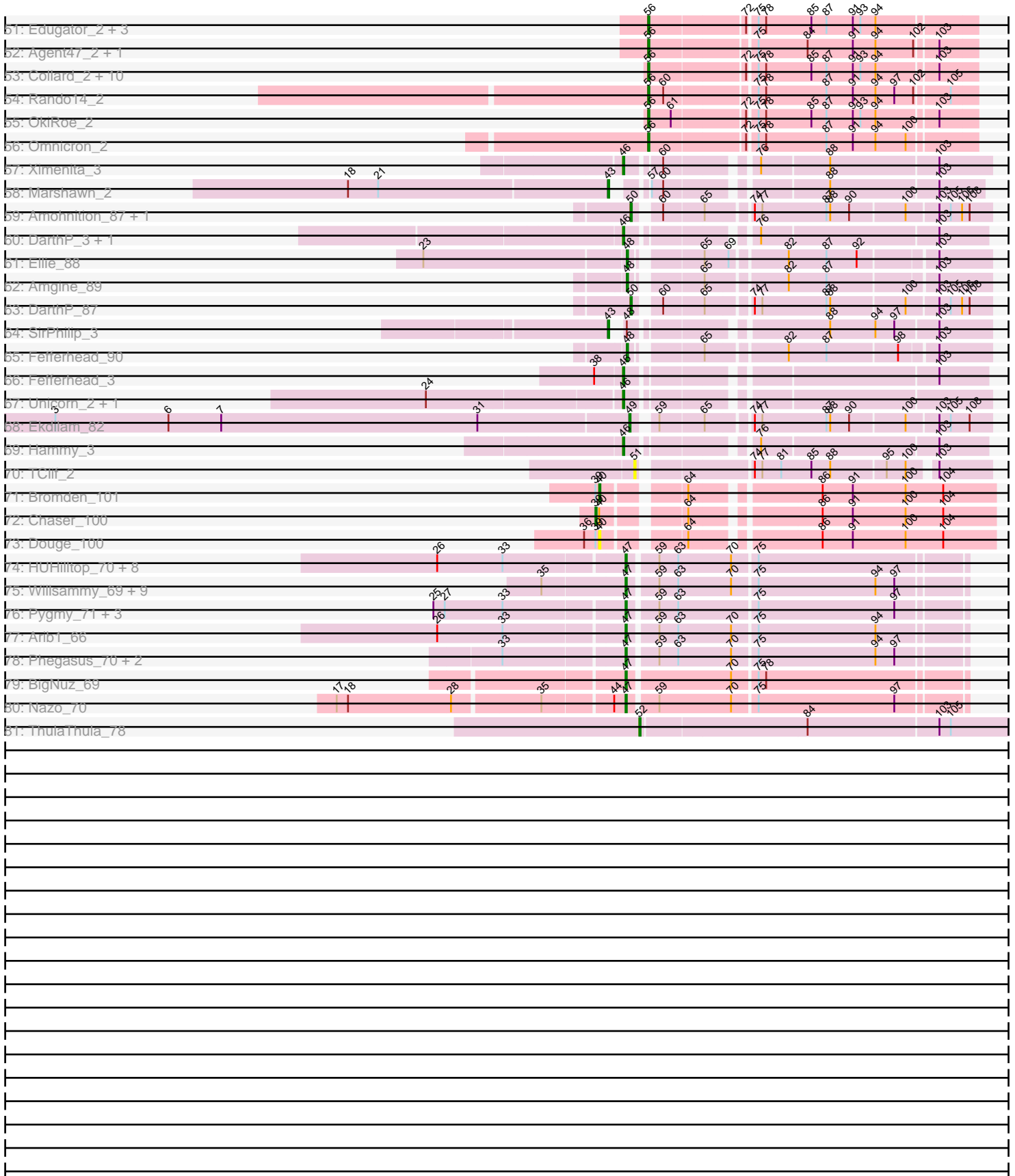




# Pham 171211



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 171211 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171211 has 197 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Terror\_60, Taheera\_60
- Track 2 : Paito\_66
- Track 3 : Pace1224\_68
- Track 4 : Sbash\_80
- Track 5 : Oscar\_2
- Track 6 : Spock\_3, Llorens\_3, Capricorn\_3, Durfee\_3, Blizzard\_3, ShiaSurprise\_3, Homura\_3, Boiiii\_3, Belladonna\_3, Topper\_3, Twitch\_3, Piatt\_3, Dalmuri\_3, Inky\_3, Jarvi\_3, BGIlluvia\_3, BEEST\_3, Lunahalos\_3, Asayake\_3, Hyperbowlee\_3, Jeckyll\_3, Rosmarinus\_3, Peel\_3, CREW\_3, Padfoot\_3, CaseJules\_3
- Track 7 : Megsy\_3, BaghaKamala\_3, Prithvi\_3, LindNT\_3, TreyKay\_3, YoureAdopted\_3, TaiwanKao\_3, MeaningOfLife\_3
- Track 8 : Atiba\_3, Tachez\_3
- Track 9 : Murucutumbu\_3
- Track 10 : Curiosium\_3
- Track 11 : Ganymede\_3, Adonis\_3, QuincyRose\_3, Zavala\_3
- Track 12 : JAWS\_3, BarrelRoll\_3, Anaya\_3, Adephagia\_3, Zabiza\_3, Emerson\_3, HedwigODU\_3, Slimphazie\_3, Jayhawk\_3, Padpat\_3, ActinUp\_3, Rapunzel97\_3, Ramen\_3
- Track 13 : TruffulaTree\_3
- Track 14 : Ageofdapage\_3
- Track 15 : Devera\_3, Dole\_3, Illumine\_3
- Track 16 : Beezoo\_3, Geraldini\_3
- Track 17 : Angelica\_3, Apocalypse\_3, Sulley\_3
- Track 18 : KiSi\_2, LeMond\_2
- Track 19 : Urkel\_3, DrHayes\_3, TiniBug\_3, SamuelLPlaqson\_3
- Track 20 : Scarlett\_2
- Track 21 : Joy99\_3
- Track 22 : Niklas\_3, Shaobing\_3
- Track 23 : CrimD\_3
- Track 24 : Pokerus\_3
- Track 25 : Tiri\_3
- Track 26 : CheetoDust\_3
- Track 27 : Validus\_4
- Track 28 : LaterM\_3, Stinson\_3
- Track 29 : Deby\_3
- Track 30 : Bella96\_3
- Track 31 : Veliki\_3

- Track 32 : Guanica15\_3, Yunkel11\_3
- Track 33 : Mynx\_3
- Track 34 : Nibb\_2
- Track 35 : AlishaPH\_3
- Track 36 : Efra2\_3
- Track 37 : LastHope\_3
- Track 38 : Peanam\_3
- Track 39 : MarkPhew\_2
- Track 40 : Pharb\_89
- Track 41 : MacnCheese\_90
- Track 42 : TBond007\_85, Pixie\_88
- Track 43 : ShedlockHolmes\_91
- Track 44 : Hurricane\_89
- Track 45 : Keshu\_91
- Track 46 : TribbleTrouble\_91
- Track 47 : Eponine\_2, Y2\_02, Y10\_02, Wintermute\_2, Fionnbharth\_2, JF1\_2
- Track 48 : Malthus\_2, Juliette\_2, Ruthiejr\_2
- Track 49 : Chancellor\_2, Cheetobro\_2, Patt\_2, MissDaisy\_2, Taquito\_2, OmniCritical\_2, Slarp\_2, Mitti\_2, SamScheppers\_2
- Track 50 : Reptar3000\_2
- Track 51 : Edugator\_2, AlleyCat\_2, Psycho\_2, Dadosky\_2
- Track 52 : Agent47\_2, InvictusManeo\_2
- Track 53 : Collard\_2, Heftyboy\_2, Paola\_2, Waterfoul\_2, Leston\_2, Thyatira\_2, Gengar\_2, SoSeph\_2, Guillsminger\_2, Feyre\_2, Miryou\_2
- Track 54 : Rando14\_2
- Track 55 : OkiRoe\_2
- Track 56 : Omnicron\_2
- Track 57 : Ximenita\_3
- Track 58 : Marshawn\_2
- Track 59 : Amohnition\_87, Hammy\_87
- Track 60 : DarthP\_3, Amohnition\_3
- Track 61 : Ellie\_88
- Track 62 : Amgine\_89
- Track 63 : DarthP\_87
- Track 64 : SirPhilip\_3
- Track 65 : Fefferhead\_90
- Track 66 : Fefferhead\_3
- Track 67 : Unicorn\_2, PhelpsODU\_2
- Track 68 : Ekdilam\_82
- Track 69 : Hammy\_3
- Track 70 : TClif\_2
- Track 71 : Bromden\_101
- Track 72 : Chaser\_100
- Track 73 : Douge\_100
- Track 74 : HUHilltop\_70, Sonah\_68, Malithi\_67, Bogie\_70, Dynamo\_67, Camster\_68, Necropolis\_65, Phineas\_68, Shipwreck\_70
- Track 75 : Willsammy\_69, Megiddo\_67, Donovan\_67, Kari\_64, Fishburne\_66, StressBall\_67, Glaske\_67, CactusJack\_68, Phalm\_68, KilKor\_68
- Track 76 : Pygmy\_71, Techage\_68, Bartholomew\_63, Venti\_65
- Track 77 : Arib1\_66
- Track 78 : Phegasus\_70, Majeke\_70, Mangethe\_70
- Track 79 : BigNuz\_69
- Track 80 : Nazo\_70

- Track 81 : ThulaThula\_78

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

The start number called the most often in the published annotations is 49, it was called in 82 of the 188 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_3, Adephagia\_3, Adonis\_3, Ageofdapage\_3, AlishaPH\_3, Anaya\_3, Angelica\_3, Apocalypse\_3, Asayake\_3, Atiba\_3, BEEST\_3, BGlluviae\_3, BaghaKamala\_3, BarrelRoll\_3, Beezoo\_3, Bella96\_3, Belladonna\_3, Blizzard\_3, Boiiii\_3, CREW\_3, Capricorn\_3, CaseJules\_3, CheetoDust\_3, CrimD\_3, Curiosium\_3, Dalmuri\_3, Deby\_3, Devera\_3, Dole\_3, DrHayes\_3, Durfee\_3, Efra2\_3, Ekdilam\_82, Emerson\_3, Ganymede\_3, Geraldini\_3, Guanica15\_3, HedwigODU\_3, Homura\_3, Hyperbowlee\_3, Illumine\_3, Inky\_3, JAWS\_3, Jarvi\_3, Jayhawk\_3, Jeckyll\_3, Joy99\_3, LastHope\_3, LaterM\_3, LindNT\_3, Llorens\_3, Lunahalos\_3, MeaningOfLife\_3, Megsy\_3, Murucutumbu\_3, Mynx\_3, Padfoot\_3, Padpat\_3, Peel\_3, Piatt\_3, Pokerus\_3, Prithvi\_3, QuincyRose\_3, Ramen\_3, Rapunzel97\_3, Rosmarinus\_3, SamuelLPlaqson\_3, ShiaSurprise\_3, Slimphazie\_3, Spock\_3, Stinson\_3, Sulley\_3, Tachez\_3, TaiwanKao\_3, TiniBug\_3, Tiri\_3, Topper\_3, TreyKay\_3, TruffulaTree\_3, Twitch\_3, Urkel\_3, Veliki\_3, YoureAdopted\_3, Yunkel11\_3, Zabiza\_3, Zavala\_3,

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

- 

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

- Agent47\_2, AlleyCat\_2, Amgine\_89, Amohnition\_3, Amohnition\_87, Arib1\_66, Bartholomew\_63, BigNuz\_69, Bogie\_70, Bromden\_101, CactusJack\_68, Camster\_68, Chancellor\_2, Chaser\_100, Cheetobro\_2, Collard\_2, Dadosky\_2, DarthP\_3, DarthP\_87, Donovan\_67, Douge\_100, Dynamo\_67, Edugator\_2, Ellie\_88, Eponine\_2, Fefferhead\_3, Fefferhead\_90, Feyre\_2, Fionnbharth\_2, Fishburne\_66, Gengar\_2, Glaske\_67, Guillsminger\_2, HUHilltop\_70, Hammy\_3, Hammy\_87, Heftyboy\_2, Hurricane\_89, InvictusManeo\_2, JF1\_2, Juliette\_2, Kari\_64, Keshu\_91, KiSi\_2, KilKor\_68, LeMond\_2, Leston\_2, MacnCheese\_90, Majeke\_70, Malithi\_67, Malthus\_2, Mangethe\_70, MarkPhew\_2, Marshawn\_2, Megiddo\_67, Miryou\_2, MissDaisy\_2, Mitti\_2, Nazo\_70, Necropolis\_65, Nibb\_2, Niklas\_3, OkiRoe\_2, OmniCritical\_2, Omnicron\_2, Oscar\_2, Pace1224\_68, Paito\_66, Paola\_2, Patt\_2, Peanam\_3, Phalm\_68, Pharb\_89, Phegasus\_70, PhelpsODU\_2, Phineas\_68, Pixie\_88, Psycho\_2, Pygmy\_71, Rando14\_2, Reptar3000\_2, Ruthiejr\_2, SamScheppers\_2, Sbash\_80, Scarlett\_2, Shaobing\_3, ShedlockHolmes\_91, Shipwreck\_70, SirPhilip\_3, Slarp\_2, SoSeph\_2, Sonah\_68, StressBall\_67, TBond007\_85, TClif\_2, Taheera\_60, Taquito\_2, Techage\_68, Terror\_60, ThulaThula\_78, Thyatira\_2, TribbleTrouble\_91, Unicorn\_2, Validus\_4, Venti\_65, Waterfoul\_2, Willsammy\_69, Wintermute\_2, Ximenita\_3, Y10\_02, Y2\_02,

**Summary by start number:**

Start 34:

- Found in 1 of 197 ( 0.5% ) of genes in pham

- Manual Annotations of this start: 1 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sbash\_80 (I2),

Start 39:

- Found in 4 of 197 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 188
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Chaser\_100 (L4),

Start 40:

- Found in 3 of 197 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 1 of 188
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Bromden\_101 (L4), Douge\_100 (L4),

Start 41:

- Found in 4 of 197 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 4 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KiSi\_2 (K1), LeMond\_2 (K1), Oscar\_2 (K1), Scarlett\_2 (K1),

Start 42:

- Found in 2 of 197 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 188
- Called 50.0% of time when present
- Phage (with cluster) where this start called: TripleTrouble\_91 (K3),

Start 43:

- Found in 2 of 197 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Marshawn\_2 (K6), SirPhilip\_3 (K6),

Start 45:

- Found in 1 of 197 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Validus\_4 (K1),

Start 46:

- Found in 9 of 197 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 9 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amohnition\_3 (K6), DARTH\_3 (K6), Fefferhead\_3 (K6), Hammy\_3 (K6), MarkPhew\_2 (K1), Nibb\_2 (K1), PhelpsODU\_2 (K6), Unicorn\_2 (K6), Ximenita\_3 (K6),

Start 47:

- Found in 30 of 197 ( 15.2% ) of genes in pham
- Manual Annotations of this start: 28 of 188
- Called 96.7% of time when present

- Phage (with cluster) where this start called: Arib1\_66 (P1), Bartholomew\_63 (P1), BigNuz\_69 (P4), Bogie\_70 (P1), CactusJack\_68 (P1), Camster\_68 (P1), Donovan\_67 (P1), Dynamo\_67 (P1), Fishburne\_66 (P1), Glaske\_67 (P1), HUHilltop\_70 (P1), Kari\_64 (P1), KilKor\_68 (P1), Majeke\_70 (P1), Malithi\_67 (P1), Mangethe\_70 (P1), Megiddo\_67 (P1), Nazo\_70 (P4), Necropolis\_65 (P1), Phalm\_68 (P1), Phegasus\_70 (P1), Phineas\_68 (P1), Pygmy\_71 (P1), Shipwreck\_70 (P1), Sonah\_68 (P1), StressBall\_67 (P1), Techage\_68 (P1), Venti\_65 (P1), Willsammy\_69 (P1),

#### Start 48:

- Found in 10 of 197 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 9 of 188
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Amgine\_89 (K6), Ellie\_88 (K6), Fefferhead\_90 (K6), Hurricane\_89 (K3), Keshu\_91 (K3), MacnCheese\_90 (K3), Pixie\_88 (K3), ShedlockHolmes\_91 (K3), TBond007\_85 (K3),

#### Start 49:

- Found in 86 of 197 ( 43.7% ) of genes in pham
- Manual Annotations of this start: 82 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_3 (K1), Adephagia\_3 (K1), Adonis\_3 (K1), Ageofdapage\_3 (K1), AlishaPH\_3 (K1), Anaya\_3 (K1), Angelica\_3 (K1), Apocalypse\_3 (K1), Asayake\_3 (K1), Atiba\_3 (K1), BEEST\_3 (K1), BGlluviae\_3 (K1), BaghaKamala\_3 (K1), BarrelRoll\_3 (K1), Beezoo\_3 (K1), Bella96\_3 (K1), Belladonna\_3 (K1), Blizzard\_3 (K1), Boiiii\_3 (K1), CREW\_3 (K1), Capricorn\_3 (K1), CaseJules\_3 (K1), CheetoDust\_3 (K1), CrimD\_3 (K1), Curiosium\_3 (K1), Dalmuri\_3 (K1), Deby\_3 (K1), Devera\_3 (K1), Dole\_3 (K1), DrHayes\_3 (K1), Durfee\_3 (K1), Efra2\_3 (K1), Ekdilam\_82 (K6), Emerson\_3 (K1), Ganymede\_3 (K1), Geraldini\_3 (K1), Guanica15\_3 (K1), HedwigODU\_3 (K1), Homura\_3 (K1), Hyperbowlee\_3 (K1), Illumine\_3 (K1), Inky\_3 (K1), JAWS\_3 (K1), Jarvi\_3 (K1), Jayhawk\_3 (K1), Jeckyll\_3 (K1), Joy99\_3 (K1), LastHope\_3 (K1), LaterM\_3 (K1), LindNT\_3 (K1), Llorens\_3 (K1), Lunahalos\_3 (K1), MeaningOfLife\_3 (K1), Megsy\_3 (K1), Murucutumbu\_3 (K1), Mynx\_3 (K1), Padfoot\_3 (K1), Padpat\_3 (K1), Peel\_3 (K1), Piatt\_3 (K1), Pokerus\_3 (K1), Prithvi\_3 (K1), QuincyRose\_3 (K1), Ramen\_3 (K1), Rapunzel97\_3 (K1), Rosmarinus\_3 (K1), SamuelLPlaqsom\_3 (K1), ShiaSurprise\_3 (K1), Slimphazie\_3 (K1), Spock\_3 (K1), Stinson\_3 (K1), Sulley\_3 (K1), Tachez\_3 (K1), TaiwanKao\_3 (K1), TiniBug\_3 (K1), Tiri\_3 (K1), Topper\_3 (K1), TreyKay\_3 (K1), TruffulaTree\_3 (K1), Twitch\_3 (K1), Urkel\_3 (K1), Veliki\_3 (K1), YoureAdopted\_3 (K1), Yunkel11\_3 (K1), Zabiza\_3 (K1), Zavala\_3 (K1),

#### Start 50:

- Found in 3 of 197 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 3 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amohnition\_87 (K6), DARTH\_P\_87 (K6), Hammy\_87 (K6),

#### Start 51:

- Found in 4 of 197 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 2 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pace1224\_68 (G2), TClif\_2 (K6), Taheera\_60 (G1), Terror\_60 (G1),

Start 52:

- Found in 1 of 197 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ThulaThula\_78 (P5),

Start 53:

- Found in 3 of 197 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 3 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Niklas\_3 (K1), Peanam\_3 (K1), Shaobing\_3 (K1),

Start 54:

- Found in 2 of 197 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 188
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Paito\_66 (G1),

Start 55:

- Found in 2 of 197 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 188
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Pharb\_89 (K3),

Start 56:

- Found in 39 of 197 ( 19.8% ) of genes in pham
- Manual Annotations of this start: 38 of 188
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agent47\_2 (K5), AlleyCat\_2 (K5), Chancellor\_2 (K4), Cheetobro\_2 (K4), Collard\_2 (K5), Dadosky\_2 (K5), Edugator\_2 (K5), Eponine\_2 (K4), Feyre\_2 (K5), Fionnbharth\_2 (K4), Gengar\_2 (K5), Guillsminger\_2 (K5), Heftyboy\_2 (K5), InvictusManeo\_2 (K5), JF1\_2 (K4), Juliette\_2 (K4), Leston\_2 (K5), Malthus\_2 (K4), Miryou\_2 (K5), MissDaisy\_2 (K4), Mitti\_2 (K4), OkiRoe\_2 (K5), OmniCritical\_2 (K4), Omnicron\_2 (K5), Paola\_2 (K5), Patt\_2 (K4), Psycho\_2 (K5), Rando14\_2 (K5), Reptar3000\_2 (K4), Ruthiejr\_2 (K4), SamScheppers\_2 (K4), Slarp\_2 (K4), SoSeph\_2 (K5), Taquito\_2 (K4), Thyatira\_2 (K5), Waterfoul\_2 (K5), Wintermute\_2 (K4), Y10\_02 (K4), Y2\_02 (K4),

**Summary by clusters:**

There are 12 clusters represented in this pham: P1, G1, P4, P5, I2, L4, K3, K1, K6, K5, K4, G2,

Info for manual annotations of cluster G1:

- Start number 51 was manually annotated 2 times for cluster G1.
- Start number 54 was manually annotated 1 time for cluster G1.

Info for manual annotations of cluster I2:

- Start number 34 was manually annotated 1 time for cluster I2.



Info for manual annotations of cluster K1:

- Start number 41 was manually annotated 4 times for cluster K1.
- Start number 45 was manually annotated 1 time for cluster K1.
- Start number 46 was manually annotated 2 times for cluster K1.
- Start number 49 was manually annotated 81 times for cluster K1.
- Start number 53 was manually annotated 3 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 42 was manually annotated 1 time for cluster K3.
- Start number 48 was manually annotated 6 times for cluster K3.
- Start number 55 was manually annotated 1 time for cluster K3.

Info for manual annotations of cluster K4:

- Start number 56 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 56 was manually annotated 19 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 43 was manually annotated 2 times for cluster K6.
- Start number 46 was manually annotated 7 times for cluster K6.
- Start number 48 was manually annotated 3 times for cluster K6.
- Start number 49 was manually annotated 1 time for cluster K6.
- Start number 50 was manually annotated 3 times for cluster K6.

Info for manual annotations of cluster L4:

- Start number 39 was manually annotated 1 time for cluster L4.
- Start number 40 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster P1:

- Start number 47 was manually annotated 26 times for cluster P1.

Info for manual annotations of cluster P4:

- Start number 47 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 52 was manually annotated 1 time for cluster P5.

### ***Gene Information:***

Gene: ActinUp\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for ActinUp\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Adephagia\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Adephagia\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Adonis\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Adonis\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (96, 644), (100, 656), (103, 677),

Gene: Agent47\_2 Start: 300, Stop: 545, Start Num: 56

Candidate Starts for Agent47\_2:

(Start: 56 @300 has 38 MA's), (75, 378), (84, 417), (91, 453), (94, 471), (102, 501), (103, 516),

Gene: Ageofdapage\_3 Start: 435, Stop: 689, Start Num: 49

Candidate Starts for Ageofdapage\_3:

(10, 174), (11, 180), (30, 309), (Start: 49 @435 has 82 MA's), (60, 456), (66, 495), (75, 522), (78, 528), (87, 576), (91, 597), (94, 615), (102, 645), (103, 660),

Gene: AlishaPH\_3 Start: 475, Stop: 729, Start Num: 49

Candidate Starts for AlishaPH\_3:

(30, 349), (Start: 49 @475 has 82 MA's), (60, 496), (68, 544), (75, 562), (78, 568), (87, 616), (90, 634), (91, 637), (94, 655), (96, 667), (100, 679),

Gene: AlleyCat\_2 Start: 300, Stop: 545, Start Num: 56

Candidate Starts for AlleyCat\_2:

(Start: 56 @300 has 38 MA's), (72, 372), (75, 378), (78, 384), (85, 420), (87, 432), (91, 453), (93, 459), (94, 471),

Gene: Amgine\_89 Start: 58064, Stop: 58318, Start Num: 48

Candidate Starts for Amgine\_89:

(Start: 48 @58064 has 9 MA's), (65, 58109), (82, 58166), (87, 58196), (103, 58277),

Gene: Amohnition\_87 Start: 57065, Stop: 57322, Start Num: 50

Candidate Starts for Amohnition\_87:

(Start: 50 @57065 has 3 MA's), (60, 57080), (65, 57110), (74, 57140), (77, 57146), (87, 57197), (88, 57200), (90, 57215), (100, 57257), (103, 57281), (105, 57290), (106, 57299), (108, 57305),

Gene: Amohnition\_3 Start: 416, Stop: 673, Start Num: 46

Candidate Starts for Amohnition\_3:

(Start: 46 @416 has 9 MA's), (76, 500), (103, 635),

Gene: Anaya\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Anaya\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Angelica\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Angelica\_3:

(20, 278), (30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Apocalypse\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Apocalypse\_3:

(20, 278), (30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Arib1\_66 Start: 42262, Stop: 42516, Start Num: 47

Candidate Starts for Arib1\_66:

(26, 42121), (33, 42172), (Start: 47 @42262 has 28 MA's), (59, 42283), (63, 42298), (70, 42340), (75, 42358), (94, 42451),

Gene: Asayake\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Asayake\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Atiba\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Atiba\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (84, 578), (87, 593), (90, 611), (91, 614), (94, 632), (96, 644), (100, 656), (103, 677),

Gene: BEEST\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for BEEST\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: BGlluviae\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for BGlluviae\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: BaghaKamala\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for BaghaKamala\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: BarrelRoll\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for BarrelRoll\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Bartholomew\_63 Start: 41542, Stop: 41796, Start Num: 47

Candidate Starts for Bartholomew\_63:

(25, 41398), (27, 41407), (33, 41452), (Start: 47 @41542 has 28 MA's), (59, 41563), (63, 41578), (75, 41638), (97, 41746),

Gene: Beezoo\_3 Start: 473, Stop: 727, Start Num: 49

Candidate Starts for Beezoo\_3:

(19, 275), (30, 347), (Start: 49 @473 has 82 MA's), (60, 494), (68, 542), (75, 560), (78, 566), (87, 614), (90, 632), (91, 635), (94, 653), (100, 677), (103, 698),

Gene: Bella96\_3 Start: 440, Stop: 694, Start Num: 49

Candidate Starts for Bella96\_3:

(Start: 49 @440 has 82 MA's), (60, 461), (66, 500), (75, 527), (78, 533), (87, 581), (90, 599), (91, 602), (94, 620), (96, 632), (103, 665),

Gene: Belladonna\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Belladonna\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: BigNuz\_69 Start: 44457, Stop: 44711, Start Num: 47  
Candidate Starts for BigNuz\_69:  
(Start: 47 @44457 has 28 MA's), (70, 44535), (75, 44553), (78, 44559),

Gene: Blizzard\_3 Start: 476, Stop: 730, Start Num: 49  
Candidate Starts for Blizzard\_3:  
(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617),  
(91, 638), (94, 656), (100, 680), (103, 701),

Gene: Bogie\_70 Start: 44612, Stop: 44866, Start Num: 47  
Candidate Starts for Bogie\_70:  
(26, 44471), (33, 44522), (Start: 47 @44612 has 28 MA's), (59, 44633), (63, 44648), (70, 44690), (75, 44708),

Gene: Boiiii\_3 Start: 476, Stop: 730, Start Num: 49  
Candidate Starts for Boiiii\_3:  
(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617),  
(91, 638), (94, 656), (100, 680), (103, 701),

Gene: Bromden\_101 Start: 62440, Stop: 62721, Start Num: 40  
Candidate Starts for Bromden\_101:  
(Start: 39 @62437 has 1 MA's), (Start: 40 @62440 has 1 MA's), (64, 62494), (86, 62584), (91, 62608),  
(100, 62650), (104, 62680),

Gene: CREW\_3 Start: 476, Stop: 730, Start Num: 49  
Candidate Starts for CREW\_3:  
(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617),  
(91, 638), (94, 656), (100, 680), (103, 701),

Gene: CactusJack\_68 Start: 44240, Stop: 44494, Start Num: 47  
Candidate Starts for CactusJack\_68:  
(35, 44177), (Start: 47 @44240 has 28 MA's), (59, 44261), (63, 44276), (70, 44318), (75, 44336), (94, 44429), (97, 44444),

Gene: Camster\_68 Start: 43073, Stop: 43327, Start Num: 47  
Candidate Starts for Camster\_68:  
(26, 42932), (33, 42983), (Start: 47 @43073 has 28 MA's), (59, 43094), (63, 43109), (70, 43151), (75, 43169),

Gene: Capricorn\_3 Start: 476, Stop: 730, Start Num: 49  
Candidate Starts for Capricorn\_3:  
(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617),  
(91, 638), (94, 656), (100, 680), (103, 701),

Gene: CaseJules\_3 Start: 476, Stop: 730, Start Num: 49  
Candidate Starts for CaseJules\_3:  
(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617),  
(91, 638), (94, 656), (100, 680), (103, 701),

Gene: Chancellor\_2 Start: 251, Stop: 481, Start Num: 56  
Candidate Starts for Chancellor\_2:  
(Start: 56 @251 has 38 MA's), (83, 356), (84, 365), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Chaser\_100 Start: 61053, Stop: 61337, Start Num: 39

Candidate Starts for Chaser\_100:

(Start: 39 @61053 has 1 MA's), (Start: 40 @61056 has 1 MA's), (64, 61110), (86, 61200), (91, 61224), (100, 61266), (104, 61296),

Gene: CheetoDust\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for CheetoDust\_3:

(Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (96, 644), (100, 656), (103, 677),

Gene: Cheetobro\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Cheetobro\_2:

(Start: 56 @251 has 38 MA's), (83, 356), (84, 365), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Collard\_2 Start: 274, Stop: 519, Start Num: 56

Candidate Starts for Collard\_2:

(Start: 56 @274 has 38 MA's), (72, 346), (75, 352), (78, 358), (85, 394), (87, 406), (91, 427), (93, 433), (94, 445), (103, 490),

Gene: CrimD\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for CrimD\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Curiosium\_3 Start: 517, Stop: 777, Start Num: 49

Candidate Starts for Curiosium\_3:

(30, 391), (Start: 49 @517 has 82 MA's), (60, 544), (66, 583), (68, 592), (72, 604), (75, 610), (78, 616), (87, 664), (90, 682), (91, 685), (94, 703), (103, 748),

Gene: Dadosky\_2 Start: 300, Stop: 545, Start Num: 56

Candidate Starts for Dadosky\_2:

(Start: 56 @300 has 38 MA's), (72, 372), (75, 378), (78, 384), (85, 420), (87, 432), (91, 453), (93, 459), (94, 471),

Gene: Dalmuri\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Dalmuri\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: DarthP\_3 Start: 416, Stop: 673, Start Num: 46

Candidate Starts for DarthP\_3:

(Start: 46 @416 has 9 MA's), (76, 500), (103, 635),

Gene: DarthP\_87 Start: 56918, Stop: 57175, Start Num: 50

Candidate Starts for DarthP\_87:

(Start: 50 @56918 has 3 MA's), (60, 56933), (65, 56963), (74, 56993), (77, 56999), (87, 57050), (88, 57053), (100, 57110), (103, 57134), (105, 57143), (106, 57152), (108, 57158),

Gene: Deby\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Deby\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Devera\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Devera\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (66, 512), (75, 539), (78, 545), (87, 593), (91, 614), (94, 632), (103, 677),

Gene: Dole\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Dole\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (66, 512), (75, 539), (78, 545), (87, 593), (91, 614), (94, 632), (103, 677),

Gene: Donovan\_67 Start: 43202, Stop: 43456, Start Num: 47

Candidate Starts for Donovan\_67:

(35, 43139), (Start: 47 @43202 has 28 MA's), (59, 43223), (63, 43238), (70, 43280), (75, 43298), (94, 43391), (97, 43406),

Gene: Douge\_100 Start: 61124, Stop: 61405, Start Num: 40

Candidate Starts for Douge\_100:

(36, 61112), (Start: 39 @61121 has 1 MA's), (Start: 40 @61124 has 1 MA's), (64, 61178), (86, 61268), (91, 61292), (100, 61334), (104, 61364),

Gene: DrHayes\_3 Start: 440, Stop: 694, Start Num: 49

Candidate Starts for DrHayes\_3:

(16, 215), (30, 314), (Start: 49 @440 has 82 MA's), (60, 461), (66, 500), (75, 527), (78, 533), (87, 581), (90, 599), (94, 620), (96, 632), (103, 665),

Gene: Durfee\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Durfee\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Dynamo\_67 Start: 42646, Stop: 42900, Start Num: 47

Candidate Starts for Dynamo\_67:

(26, 42505), (33, 42556), (Start: 47 @42646 has 28 MA's), (59, 42667), (63, 42682), (70, 42724), (75, 42742),

Gene: Edugator\_2 Start: 300, Stop: 545, Start Num: 56

Candidate Starts for Edugator\_2:

(Start: 56 @300 has 38 MA's), (72, 372), (75, 378), (78, 384), (85, 420), (87, 432), (91, 453), (93, 459), (94, 471),

Gene: Efra2\_3 Start: 445, Stop: 699, Start Num: 49

Candidate Starts for Efra2\_3:

(Start: 49 @445 has 82 MA's), (60, 466), (66, 505), (75, 532), (78, 538), (87, 586), (90, 604), (91, 607), (94, 625), (103, 670), (105, 679),

Gene: Ekdilam\_82 Start: 56617, Stop: 56874, Start Num: 49

Candidate Starts for Ekdilam\_82:

(3, 56164), (6, 56254), (7, 56296), (31, 56500), (Start: 49 @56617 has 82 MA's), (59, 56629), (65, 56662), (74, 56692), (77, 56698), (87, 56749), (88, 56752), (90, 56767), (100, 56809), (103, 56833), (105, 56842), (108, 56857),

Gene: Ellie\_88 Start: 57234, Stop: 57488, Start Num: 48

Candidate Starts for Ellie\_88:

(23, 57078), (Start: 48 @57234 has 9 MA's), (65, 57279), (69, 57297), (82, 57336), (87, 57366), (92, 57390), (103, 57447),

Gene: Emerson\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Emerson\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Eponine\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Eponine\_2:

(Start: 56 @251 has 38 MA's), (59, 260), (83, 356), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Fefferhead\_90 Start: 57025, Stop: 57279, Start Num: 48

Candidate Starts for Fefferhead\_90:

(Start: 48 @57025 has 9 MA's), (65, 57070), (82, 57127), (87, 57157), (98, 57211), (103, 57238),

Gene: Fefferhead\_3 Start: 410, Stop: 667, Start Num: 46

Candidate Starts for Fefferhead\_3:

(38, 389), (Start: 46 @410 has 9 MA's), (103, 629),

Gene: Feyre\_2 Start: 275, Stop: 520, Start Num: 56

Candidate Starts for Feyre\_2:

(Start: 56 @275 has 38 MA's), (72, 347), (75, 353), (78, 359), (85, 395), (87, 407), (91, 428), (93, 434), (94, 446), (103, 491),

Gene: Fionnbharth\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Fionnbharth\_2:

(Start: 56 @251 has 38 MA's), (59, 260), (83, 356), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Fishburne\_66 Start: 43028, Stop: 43282, Start Num: 47

Candidate Starts for Fishburne\_66:

(35, 42965), (Start: 47 @43028 has 28 MA's), (59, 43049), (63, 43064), (70, 43106), (75, 43124), (94, 43217), (97, 43232),

Gene: Ganymede\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Ganymede\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (96, 644), (100, 656), (103, 677),

Gene: Gengar\_2 Start: 300, Stop: 545, Start Num: 56

Candidate Starts for Gengar\_2:

(Start: 56 @300 has 38 MA's), (72, 372), (75, 378), (78, 384), (85, 420), (87, 432), (91, 453), (93, 459), (94, 471), (103, 516),

Gene: Geraldini\_3 Start: 473, Stop: 727, Start Num: 49

Candidate Starts for Geraldini\_3:

(19, 275), (30, 347), (Start: 49 @473 has 82 MA's), (60, 494), (68, 542), (75, 560), (78, 566), (87, 614), (90, 632), (91, 635), (94, 653), (100, 677), (103, 698),

Gene: Glaske\_67 Start: 44240, Stop: 44494, Start Num: 47

Candidate Starts for Glaske\_67:

(35, 44177), (Start: 47 @44240 has 28 MA's), (59, 44261), (63, 44276), (70, 44318), (75, 44336), (94, 44429), (97, 44444),

Gene: Guanica15\_3 Start: 445, Stop: 702, Start Num: 49

Candidate Starts for Guanica15\_3:

(30, 325), (Start: 49 @445 has 82 MA's), (60, 466), (66, 505), (75, 532), (78, 538), (84, 571), (87, 586), (90, 604), (91, 607), (94, 625), (103, 673),

Gene: Guillsminger\_2 Start: 275, Stop: 520, Start Num: 56

Candidate Starts for Guillsminger\_2:

(Start: 56 @275 has 38 MA's), (72, 347), (75, 353), (78, 359), (85, 395), (87, 407), (91, 428), (93, 434), (94, 446), (103, 491),

Gene: HUHilltop\_70 Start: 42869, Stop: 43123, Start Num: 47

Candidate Starts for HUHilltop\_70:

(26, 42728), (33, 42779), (Start: 47 @42869 has 28 MA's), (59, 42890), (63, 42905), (70, 42947), (75, 42965),

Gene: Hammy\_87 Start: 56908, Stop: 57165, Start Num: 50

Candidate Starts for Hammy\_87:

(Start: 50 @56908 has 3 MA's), (60, 56923), (65, 56953), (74, 56983), (77, 56989), (87, 57040), (88, 57043), (90, 57058), (100, 57100), (103, 57124), (105, 57133), (106, 57142), (108, 57148),

Gene: Hammy\_3 Start: 413, Stop: 670, Start Num: 46

Candidate Starts for Hammy\_3:

(Start: 46 @413 has 9 MA's), (76, 497), (103, 632),

Gene: HedwigODU\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for HedwigODU\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Heftyboy\_2 Start: 296, Stop: 541, Start Num: 56

Candidate Starts for Heftyboy\_2:

(Start: 56 @296 has 38 MA's), (72, 368), (75, 374), (78, 380), (85, 416), (87, 428), (91, 449), (93, 455), (94, 467), (103, 512),

Gene: Homura\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Homura\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Hurricane\_89 Start: 56085, Stop: 56348, Start Num: 48

Candidate Starts for Hurricane\_89:

(Start: 48 @56085 has 9 MA's), (63, 56115), (69, 56151), (71, 56157), (81, 56184), (85, 56208), (87, 56220), (92, 56244), (94, 56256), (100, 56280), (101, 56283), (103, 56307), (106, 56325),

Gene: Hyperbowlee\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Hyperbowlee\_3:



(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Illumine\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Illumine\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (66, 512), (75, 539), (78, 545), (87, 593), (91, 614), (94, 632), (103, 677),

Gene: Inky\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Inky\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: InvictusManeo\_2 Start: 300, Stop: 545, Start Num: 56

Candidate Starts for InvictusManeo\_2:

(Start: 56 @300 has 38 MA's), (75, 378), (84, 417), (91, 453), (94, 471), (102, 501), (103, 516),

Gene: JAWS\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for JAWS\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: JF1\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for JF1\_2:

(Start: 56 @251 has 38 MA's), (59, 260), (83, 356), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Jarvi\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Jarvi\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Jayhawk\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Jayhawk\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Jeckyll\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Jeckyll\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Joy99\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Joy99\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (103, 677),

Gene: Juliette\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Juliette\_2:

(Start: 56 @251 has 38 MA's), (59, 260), (83, 356), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Kari\_64 Start: 43025, Stop: 43279, Start Num: 47

Candidate Starts for Kari\_64:

(35, 42962), (Start: 47 @43025 has 28 MA's), (59, 43046), (63, 43061), (70, 43103), (75, 43121), (94, 43214), (97, 43229),

Gene: Keshu\_91 Start: 56377, Stop: 56640, Start Num: 48

Candidate Starts for Keshu\_91:

(Start: 48 @56377 has 9 MA's), (67, 56434), (73, 56455), (77, 56461), (82, 56482), (85, 56500), (92, 56536), (103, 56599), (106, 56617),

Gene: KiSi\_2 Start: 346, Stop: 612, Start Num: 41

Candidate Starts for KiSi\_2:

(4, 1), (21, 187), (Start: 41 @346 has 4 MA's), (88, 487), (94, 523), (97, 538),

Gene: KilKor\_68 Start: 44933, Stop: 45187, Start Num: 47

Candidate Starts for KilKor\_68:

(35, 44870), (Start: 47 @44933 has 28 MA's), (59, 44954), (63, 44969), (70, 45011), (75, 45029), (94, 45122), (97, 45137),

Gene: LastHope\_3 Start: 447, Stop: 701, Start Num: 49

Candidate Starts for LastHope\_3:

(16, 225), (30, 321), (Start: 49 @447 has 82 MA's), (60, 468), (72, 528), (75, 534), (78, 540), (87, 588), (90, 606), (91, 609), (94, 627),

Gene: LaterM\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for LaterM\_3:

(12, 197), (16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (66, 512), (75, 539), (87, 593), (91, 614), (94, 632), (102, 662), (103, 677),

Gene: LeMond\_2 Start: 346, Stop: 612, Start Num: 41

Candidate Starts for LeMond\_2:

(4, 1), (21, 187), (Start: 41 @346 has 4 MA's), (88, 487), (94, 523), (97, 538),

Gene: Leston\_2 Start: 300, Stop: 545, Start Num: 56

Candidate Starts for Leston\_2:

(Start: 56 @300 has 38 MA's), (72, 372), (75, 378), (78, 384), (85, 420), (87, 432), (91, 453), (93, 459), (94, 471), (103, 516),

Gene: LindNT\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for LindNT\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Llorens\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Llorens\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Lunahalos\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Lunahalos\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: MacnCheese\_90 Start: 56613, Stop: 56876, Start Num: 48

Candidate Starts for MacnCheese\_90:

(29, 56478), (Start: 48 @56613 has 9 MA's), (63, 56643), (69, 56679), (71, 56685), (85, 56736), (87, 56748), (92, 56772), (94, 56784), (100, 56808), (103, 56835), (105, 56844), (106, 56853),

Gene: Majeke\_70 Start: 43651, Stop: 43905, Start Num: 47

Candidate Starts for Majeke\_70:

(33, 43561), (Start: 47 @43651 has 28 MA's), (59, 43672), (63, 43687), (70, 43729), (75, 43747), (94, 43840), (97, 43855),

Gene: Malithi\_67 Start: 42795, Stop: 43049, Start Num: 47

Candidate Starts for Malithi\_67:

(26, 42654), (33, 42705), (Start: 47 @42795 has 28 MA's), (59, 42816), (63, 42831), (70, 42873), (75, 42891),

Gene: Malthus\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Malthus\_2:

(Start: 56 @251 has 38 MA's), (59, 260), (83, 356), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Mangethe\_70 Start: 43651, Stop: 43905, Start Num: 47

Candidate Starts for Mangethe\_70:

(33, 43561), (Start: 47 @43651 has 28 MA's), (59, 43672), (63, 43687), (70, 43729), (75, 43747), (94, 43840), (97, 43855),

Gene: MarkPhew\_2 Start: 323, Stop: 568, Start Num: 46

Candidate Starts for MarkPhew\_2:

(Start: 46 @323 has 9 MA's), (62, 359), (76, 410), (88, 461), (100, 521),

Gene: Marshawn\_2 Start: 329, Stop: 583, Start Num: 43

Candidate Starts for Marshawn\_2:

(18, 125), (21, 149), (Start: 43 @329 has 2 MA's), (57, 344), (60, 353), (88, 464), (103, 548),

Gene: MeaningOfLife\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for MeaningOfLife\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Megiddo\_67 Start: 44801, Stop: 45055, Start Num: 47

Candidate Starts for Megiddo\_67:

(35, 44738), (Start: 47 @44801 has 28 MA's), (59, 44822), (63, 44837), (70, 44879), (75, 44897), (94, 44990), (97, 45005),

Gene: Megsy\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Megsy\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Miryou\_2 Start: 275, Stop: 520, Start Num: 56

Candidate Starts for Miryou\_2:

(Start: 56 @275 has 38 MA's), (72, 347), (75, 353), (78, 359), (85, 395), (87, 407), (91, 428), (93, 434), (94, 446), (103, 491),

Gene: MissDaisy\_2 Start: 251, Stop: 427, Start Num: 56

Candidate Starts for MissDaisy\_2:

(Start: 56 @251 has 38 MA's), (83, 302), (84, 311), (87, 326), (88, 329), (89, 338), (96, 368), (107, 419),

Gene: Mitti\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Mitti\_2:

(Start: 56 @251 has 38 MA's), (83, 356), (84, 365), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Murucutumbu\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Murucutumbu\_3:

(14, 206), (16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (86, 590), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Mynx\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Mynx\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (84, 578), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Nazo\_70 Start: 44643, Stop: 44897, Start Num: 47

Candidate Starts for Nazo\_70:

(17, 44427), (18, 44436), (28, 44517), (35, 44583), (44, 44634), (Start: 47 @44643 has 28 MA's), (59, 44664), (70, 44721), (75, 44739), (97, 44847),

Gene: Necropolis\_65 Start: 42235, Stop: 42489, Start Num: 47

Candidate Starts for Necropolis\_65:

(26, 42094), (33, 42145), (Start: 47 @42235 has 28 MA's), (59, 42256), (63, 42271), (70, 42313), (75, 42331),

Gene: Nibb\_2 Start: 333, Stop: 605, Start Num: 46

Candidate Starts for Nibb\_2:

(Start: 46 @333 has 9 MA's), (65, 393), (94, 513), (96, 525), (101, 540),

Gene: Niklas\_3 Start: 469, Stop: 732, Start Num: 53

Candidate Starts for Niklas\_3:

(1, 1), (2, 7), (5, 91), (8, 154), (30, 331), (Start: 53 @469 has 3 MA's), (78, 556), (88, 607), (103, 691),

Gene: OkiRoe\_2 Start: 275, Stop: 520, Start Num: 56

Candidate Starts for OkiRoe\_2:

(Start: 56 @275 has 38 MA's), (61, 293), (72, 347), (75, 353), (78, 359), (85, 395), (87, 407), (91, 428), (93, 434), (94, 446), (103, 491),

Gene: OmniCritical\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for OmniCritical\_2:

(Start: 56 @251 has 38 MA's), (83, 356), (84, 365), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Omnicron\_2 Start: 241, Stop: 486, Start Num: 56

Candidate Starts for Omnicron\_2:

(Start: 56 @241 has 38 MA's), (72, 313), (75, 319), (78, 325), (87, 373), (91, 394), (94, 412), (100, 436),

Gene: Oscar\_2 Start: 346, Stop: 612, Start Num: 41

Candidate Starts for Oscar\_2:

(Start: 41 @346 has 4 MA's), (88, 487), (94, 523), (97, 538),

Gene: Pace1224\_68 Start: 44266, Stop: 44490, Start Num: 51

Candidate Starts for Pace1224\_68:

(9, 43984), (13, 44005), (15, 44026), (22, 44077), (32, 44161), (37, 44233), (Start: 39 @44236 has 1 MA's), (Start: 51 @44266 has 2 MA's), (87, 44410),

Gene: Padfoot\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Padfoot\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Padpat\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Padpat\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Paito\_66 Start: 41579, Stop: 41797, Start Num: 54

Candidate Starts for Paito\_66:

(Start: 54 @41579 has 1 MA's), (73, 41660), (80, 41675), (87, 41717), (95, 41765), (99, 41777),

Gene: Paola\_2 Start: 275, Stop: 520, Start Num: 56

Candidate Starts for Paola\_2:

(Start: 56 @275 has 38 MA's), (72, 347), (75, 353), (78, 359), (85, 395), (87, 407), (91, 428), (93, 434), (94, 446), (103, 491),

Gene: Patt\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Patt\_2:

(Start: 56 @251 has 38 MA's), (83, 356), (84, 365), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Peanam\_3 Start: 469, Stop: 732, Start Num: 53

Candidate Starts for Peanam\_3:

(30, 331), (Start: 53 @469 has 3 MA's), (78, 556), (88, 607), (103, 691),

Gene: Peel\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Peel\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Phalm\_68 Start: 44231, Stop: 44485, Start Num: 47

Candidate Starts for Phalm\_68:

(35, 44168), (Start: 47 @44231 has 28 MA's), (59, 44252), (63, 44267), (70, 44309), (75, 44327), (94, 44420), (97, 44435),

Gene: Pharb\_89 Start: 56013, Stop: 56249, Start Num: 55

Candidate Starts for Pharb\_89:

(Start: 42 @56001 has 1 MA's), (Start: 55 @56013 has 1 MA's), (58, 56016), (77, 56079), (79, 56085), (86, 56124), (91, 56148), (97, 56181), (103, 56214),

Gene: Phegasus\_70 Start: 43618, Stop: 43872, Start Num: 47

Candidate Starts for Phegasus\_70:

(33, 43528), (Start: 47 @43618 has 28 MA's), (59, 43639), (63, 43654), (70, 43696), (75, 43714), (94, 43807), (97, 43822),

Gene: PhelpsODU\_2 Start: 389, Stop: 649, Start Num: 46

Candidate Starts for PhelpsODU\_2:

(24, 242), (Start: 46 @389 has 9 MA's),

Gene: Phineas\_68 Start: 43203, Stop: 43457, Start Num: 47

Candidate Starts for Phineas\_68:

(26, 43062), (33, 43113), (Start: 47 @43203 has 28 MA's), (59, 43224), (63, 43239), (70, 43281), (75, 43299),

Gene: Piatt\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Piatt\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Pixie\_88 Start: 55789, Stop: 56052, Start Num: 48

Candidate Starts for Pixie\_88:

(Start: 48 @55789 has 9 MA's), (63, 55819), (65, 55837), (69, 55855), (71, 55861), (81, 55888), (85, 55912), (86, 55921), (87, 55924), (92, 55948), (94, 55960), (100, 55984), (103, 56011), (106, 56029),

Gene: Pokerus\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Pokerus\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Prithvi\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Prithvi\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Psycho\_2 Start: 300, Stop: 545, Start Num: 56

Candidate Starts for Psycho\_2:

(Start: 56 @300 has 38 MA's), (72, 372), (75, 378), (78, 384), (85, 420), (87, 432), (91, 453), (93, 459), (94, 471),

Gene: Pygmy\_71 Start: 44585, Stop: 44839, Start Num: 47

Candidate Starts for Pygmy\_71:

(25, 44441), (27, 44450), (33, 44495), (Start: 47 @44585 has 28 MA's), (59, 44606), (63, 44621), (75, 44681), (97, 44789),

Gene: QuincyRose\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for QuincyRose\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (96, 644), (100, 656), (103, 677),

Gene: Ramen\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Ramen\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Rando14\_2 Start: 304, Stop: 549, Start Num: 56

Candidate Starts for Rando14\_2:

(Start: 56 @304 has 38 MA's), (60, 316), (75, 382), (78, 388), (87, 436), (91, 457), (94, 475), (97, 490), (102, 505), (105, 529),

Gene: Rapunzel97\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Rapunzel97\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Reptar3000\_2 Start: 250, Stop: 480, Start Num: 56

Candidate Starts for Reptar3000\_2:

(Start: 56 @250 has 38 MA's), (83, 355), (84, 364), (87, 379), (88, 382), (89, 391), (96, 421), (107, 472), (109, 475),

Gene: Rosmarinus\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Rosmarinus\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Ruthiejr\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Ruthiejr\_2:

(Start: 56 @251 has 38 MA's), (59, 260), (83, 356), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: SamScheppers\_2 Start: 250, Stop: 480, Start Num: 56

Candidate Starts for SamScheppers\_2:

(Start: 56 @250 has 38 MA's), (83, 355), (84, 364), (87, 379), (88, 382), (89, 391), (96, 421), (107, 472),

Gene: SamuelLPlaqson\_3 Start: 440, Stop: 694, Start Num: 49

Candidate Starts for SamuelLPlaqson\_3:

(16, 215), (30, 314), (Start: 49 @440 has 82 MA's), (60, 461), (66, 500), (75, 527), (78, 533), (87, 581), (90, 599), (94, 620), (96, 632), (103, 665),

Gene: Sbash\_80 Start: 51476, Stop: 51787, Start Num: 34

Candidate Starts for Sbash\_80:

(Start: 34 @51476 has 1 MA's), (Start: 47 @51536 has 28 MA's), (Start: 54 @51545 has 1 MA's), (70, 51611), (75, 51629), (78, 51635), (94, 51722),

Gene: Scarlett\_2 Start: 346, Stop: 612, Start Num: 41

Candidate Starts for Scarlett\_2:

(21, 187), (Start: 41 @346 has 4 MA's), (88, 487), (94, 523), (97, 538),

Gene: Shaobing\_3 Start: 469, Stop: 732, Start Num: 53

Candidate Starts for Shaobing\_3:

(1, 1), (2, 7), (5, 91), (8, 154), (30, 331), (Start: 53 @469 has 3 MA's), (78, 556), (88, 607), (103, 691),

Gene: ShedlockHolmes\_91 Start: 56212, Stop: 56475, Start Num: 48

Candidate Starts for ShedlockHolmes\_91:

(Start: 48 @56212 has 9 MA's), (63, 56242), (69, 56278), (71, 56284), (81, 56311), (85, 56335), (87, 56347), (92, 56371), (94, 56383), (100, 56407), (103, 56434), (106, 56452),

Gene: ShiaSurprise\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for ShiaSurprise\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Shipwreck\_70 Start: 44643, Stop: 44897, Start Num: 47

Candidate Starts for Shipwreck\_70:

(26, 44502), (33, 44553), (Start: 47 @44643 has 28 MA's), (59, 44664), (63, 44679), (70, 44721), (75, 44739),

Gene: SirPhilip\_3 Start: 468, Stop: 731, Start Num: 43

Candidate Starts for SirPhilip\_3:

(Start: 43 @468 has 2 MA's), (Start: 48 @471 has 9 MA's), (88, 606), (94, 642), (97, 657), (103, 690),

Gene: Slarp\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Slarp\_2:

(Start: 56 @251 has 38 MA's), (83, 356), (84, 365), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Slimphazie\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Slimphazie\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: SoSeph\_2 Start: 296, Stop: 541, Start Num: 56

Candidate Starts for SoSeph\_2:

(Start: 56 @296 has 38 MA's), (72, 368), (75, 374), (78, 380), (85, 416), (87, 428), (91, 449), (93, 455), (94, 467), (103, 512),

Gene: Sonah\_68 Start: 42340, Stop: 42594, Start Num: 47

Candidate Starts for Sonah\_68:

(26, 42199), (33, 42250), (Start: 47 @42340 has 28 MA's), (59, 42361), (63, 42376), (70, 42418), (75, 42436),

Gene: Spock\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Spock\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Stinson\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Stinson\_3:

(12, 197), (16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (66, 512), (75, 539), (87, 593), (91, 614), (94, 632), (102, 662), (103, 677),

Gene: StressBall\_67 Start: 43933, Stop: 44187, Start Num: 47

Candidate Starts for StressBall\_67:

(35, 43870), (Start: 47 @43933 has 28 MA's), (59, 43954), (63, 43969), (70, 44011), (75, 44029), (94, 44122), (97, 44137),

Gene: Sulley\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Sulley\_3:

(20, 278), (30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),



Gene: TBond007\_85 Start: 55787, Stop: 56050, Start Num: 48

Candidate Starts for TBond007\_85:

(Start: 48 @55787 has 9 MA's), (63, 55817), (65, 55835), (69, 55853), (71, 55859), (81, 55886), (85, 55910), (86, 55919), (87, 55922), (92, 55946), (94, 55958), (100, 55982), (103, 56009), (106, 56027),

Gene: TClif\_2 Start: 240, Stop: 494, Start Num: 51

Candidate Starts for TClif\_2:

(Start: 51 @240 has 2 MA's), (74, 318), (77, 324), (81, 339), (85, 363), (88, 378), (95, 420), (100, 435), (103, 453),

Gene: Tachez\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Tachez\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (84, 578), (87, 593), (90, 611), (91, 614), (94, 632), (96, 644), (100, 656), (103, 677),

Gene: Taheera\_60 Start: 40724, Stop: 40945, Start Num: 51

Candidate Starts for Taheera\_60:

(Start: 51 @40724 has 2 MA's), (73, 40808), (80, 40823), (87, 40865), (99, 40925),

Gene: TaiwanKao\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for TaiwanKao\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Taquito\_2 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Taquito\_2:

(Start: 56 @251 has 38 MA's), (83, 356), (84, 365), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Techage\_68 Start: 43134, Stop: 43388, Start Num: 47

Candidate Starts for Techage\_68:

(25, 42990), (27, 42999), (33, 43044), (Start: 47 @43134 has 28 MA's), (59, 43155), (63, 43170), (75, 43230), (97, 43338),

Gene: Terror\_60 Start: 40724, Stop: 40945, Start Num: 51

Candidate Starts for Terror\_60:

(Start: 51 @40724 has 2 MA's), (73, 40808), (80, 40823), (87, 40865), (99, 40925),

Gene: ThulaThula\_78 Start: 49203, Stop: 49487, Start Num: 52

Candidate Starts for ThulaThula\_78:

(Start: 52 @49203 has 1 MA's), (84, 49329), (103, 49431), (105, 49440),

Gene: Thyatira\_2 Start: 275, Stop: 520, Start Num: 56

Candidate Starts for Thyatira\_2:

(Start: 56 @275 has 38 MA's), (72, 347), (75, 353), (78, 359), (85, 395), (87, 407), (91, 428), (93, 434), (94, 446), (103, 491),

Gene: TiniBug\_3 Start: 440, Stop: 694, Start Num: 49

Candidate Starts for TiniBug\_3:

(16, 215), (30, 314), (Start: 49 @440 has 82 MA's), (60, 461), (66, 500), (75, 527), (78, 533), (87, 581), (90, 599), (94, 620), (96, 632), (103, 665),

Gene: Tiri\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Tiri\_3:

(Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (84, 578), (87, 593), (90, 611), (91, 614), (94, 632), (96, 644), (100, 656), (103, 677),

Gene: Topper\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Topper\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: TreyKay\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for TreyKay\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: TribelTrouble\_91 Start: 58049, Stop: 58294, Start Num: 42

Candidate Starts for TribelTrouble\_91:

(Start: 42 @58049 has 1 MA's), (Start: 55 @58061 has 1 MA's), (77, 58124), (91, 58193), (97, 58226), (103, 58259),

Gene: TruffulaTree\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for TruffulaTree\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Twitch\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Twitch\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (66, 536), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Unicorn\_2 Start: 389, Stop: 649, Start Num: 46

Candidate Starts for Unicorn\_2:

(24, 242), (Start: 46 @389 has 9 MA's),

Gene: Urkel\_3 Start: 440, Stop: 694, Start Num: 49

Candidate Starts for Urkel\_3:

(16, 215), (30, 314), (Start: 49 @440 has 82 MA's), (60, 461), (66, 500), (75, 527), (78, 533), (87, 581), (90, 599), (94, 620), (96, 632), (103, 665),

Gene: Validus\_4 Start: 682, Stop: 942, Start Num: 45

Candidate Starts for Validus\_4:

(Start: 45 @682 has 1 MA's), (65, 736), (85, 802), (88, 817), (103, 901),

Gene: Veliki\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Veliki\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (91, 638), (94, 656), (100, 680), (103, 701),

Gene: Venti\_65 Start: 41542, Stop: 41796, Start Num: 47

Candidate Starts for Venti\_65:

(25, 41398), (27, 41407), (33, 41452), (Start: 47 @41542 has 28 MA's), (59, 41563), (63, 41578), (75, 41638), (97, 41746),

Gene: Waterfoul\_2 Start: 296, Stop: 541, Start Num: 56

Candidate Starts for Waterfoul\_2:

(Start: 56 @296 has 38 MA's), (72, 368), (75, 374), (78, 380), (85, 416), (87, 428), (91, 449), (93, 455), (94, 467), (103, 512),

Gene: Willsammy\_69 Start: 44417, Stop: 44671, Start Num: 47

Candidate Starts for Willsammy\_69:

(35, 44354), (Start: 47 @44417 has 28 MA's), (59, 44438), (63, 44453), (70, 44495), (75, 44513), (94, 44606), (97, 44621),

Gene: Wintermute\_2 Start: 250, Stop: 480, Start Num: 56

Candidate Starts for Wintermute\_2:

(Start: 56 @250 has 38 MA's), (59, 259), (83, 355), (87, 379), (88, 382), (89, 391), (96, 421), (107, 472),

Gene: Ximenita\_3 Start: 509, Stop: 769, Start Num: 46

Candidate Starts for Ximenita\_3:

(Start: 46 @509 has 9 MA's), (60, 533), (76, 593), (88, 644), (103, 728),

Gene: Y10\_02 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Y10\_02:

(Start: 56 @251 has 38 MA's), (59, 260), (83, 356), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: Y2\_02 Start: 251, Stop: 481, Start Num: 56

Candidate Starts for Y2\_02:

(Start: 56 @251 has 38 MA's), (59, 260), (83, 356), (87, 380), (88, 383), (89, 392), (96, 422), (107, 473),

Gene: YoureAdopted\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for YoureAdopted\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (100, 656), (103, 677),

Gene: Yunkel11\_3 Start: 445, Stop: 702, Start Num: 49

Candidate Starts for Yunkel11\_3:

(30, 325), (Start: 49 @445 has 82 MA's), (60, 466), (66, 505), (75, 532), (78, 538), (84, 571), (87, 586), (90, 604), (91, 607), (94, 625), (103, 673),

Gene: Zabiza\_3 Start: 476, Stop: 730, Start Num: 49

Candidate Starts for Zabiza\_3:

(30, 350), (Start: 49 @476 has 82 MA's), (60, 497), (68, 545), (75, 563), (78, 569), (87, 617), (90, 635), (91, 638), (94, 656), (96, 668), (100, 680), (103, 701),

Gene: Zavala\_3 Start: 452, Stop: 706, Start Num: 49

Candidate Starts for Zavala\_3:

(16, 227), (30, 326), (Start: 49 @452 has 82 MA's), (60, 473), (68, 521), (75, 539), (78, 545), (87, 593), (90, 611), (91, 614), (94, 632), (96, 644), (100, 656), (103, 677),