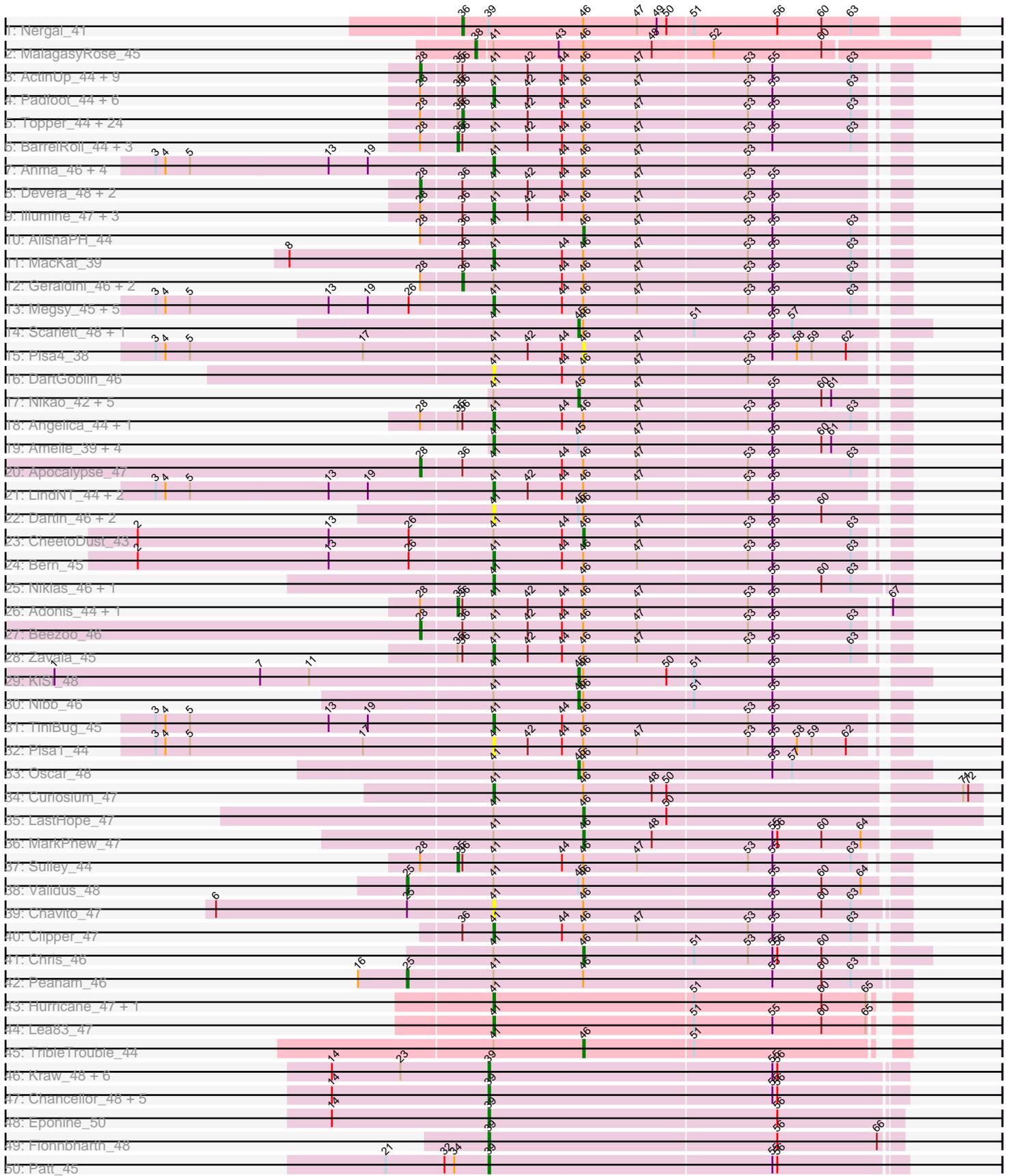


Pham 283496





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 283496 Report

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

Pham number 283496 has 202 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Nergal\_41
- Track 2 : MalagasyRose\_45
- Track 3 : ActinUp\_44, Ramen\_44, CaseJules\_45, Hyperbowlee\_44, Atiba\_44, Joy99\_44, Blizzard\_44, Zabiza\_39, Durfee\_44, Piatt\_44
- Track 4 : Padfoot\_44, Jayhawk\_45, Asayake\_44, Mynx\_45, BEEST\_44, Padpat\_45, ShiaSurprise\_45
- Track 5 : Topper\_44, Llorens\_44, Dalmuri\_44, Jeckyll\_44, Rosmarinus\_44, CREW\_44, Boiii\_44, BGIlluviae\_44, TruffulaTree\_44, CallaLilly\_44, Belladonna\_44, Veliki\_44, Rapunzel97\_44, Homura\_44, Inky\_44, Spock\_44, Lunahalos\_44, Capricorn\_44, HedwigODU\_44, YoureAdopted\_43, Emerson\_45, Jarvi\_44, Twitch\_44, Peel\_44, Slimphazie\_44
- Track 6 : BarrelRoll\_44, Adephagia\_44, Tachez\_44, JAWS\_44
- Track 7 : Anma\_46, Bella96\_45, Urkel\_45, SamuelLPlaqson\_45, DrHayes\_45
- Track 8 : Devera\_48, Ageofdapage\_46, Murucutumbu\_45
- Track 9 : Illumine\_47, LaterM\_45, Stinson\_45, Dole\_47
- Track 10 : AlishaPH\_44
- Track 11 : MacKat\_39
- Track 12 : Geraldini\_46, BaghaKamala\_43, Pokerus\_43
- Track 13 : Megsy\_45, MeaningOfLife\_45, Ganymede\_45, Tiri\_45, QuincyRose\_43, CrimD\_44
- Track 14 : Scarlett\_48, LeMond\_48
- Track 15 : Pisa4\_38
- Track 16 : DartGoblin\_46
- Track 17 : Nikao\_42, Teejan\_42, Torres\_42, SgtBeansprout\_39, Trice\_40, Enkosi\_42
- Track 18 : Angelica\_44, Deby\_44
- Track 19 : Amelie\_39, Binglebops\_39, Nutello\_39, LilPharaoh\_39, Mdavu\_40
- Track 20 : Apocalypse\_47
- Track 21 : LindNT\_44, TreyKay\_45, Prithvi\_45
- Track 22 : Dartin\_46, McMater\_46, Richo\_46
- Track 23 : CheetoDust\_43
- Track 24 : Bern\_45
- Track 25 : Niklas\_46, Shaobing\_46
- Track 26 : Adonis\_44, Anaya\_46
- Track 27 : Beezoo\_46
- Track 28 : Zavala\_45
- Track 29 : KiSi\_48

- Track 30 : Nibb\_46
- Track 31 : TiniBug\_45
- Track 32 : Pisa1\_44
- Track 33 : Oscar\_48
- Track 34 : Curiosium\_47
- Track 35 : LastHope\_47
- Track 36 : MarkPhew\_47
- Track 37 : Sulley\_44
- Track 38 : Validus\_48
- Track 39 : Chavito\_47
- Track 40 : Clipper\_47
- Track 41 : Chris\_46
- Track 42 : Peanam\_46
- Track 43 : Hurricane\_47, Keshu\_48
- Track 44 : Lea83\_47
- Track 45 : TribbleTrouble\_44
- Track 46 : Kraw\_48, Reptar3000\_46, Bobquesha\_50, Juliette\_50, YasnayaPolyana\_48, OmniCritical\_47, Malthus\_49
- Track 47 : Chancellor\_48, Qhanda\_50, Slarp\_48, Cheetobro\_48, Taquito\_48, Mitti\_48
- Track 48 : Eponine\_50
- Track 49 : Fionnbharth\_48
- Track 50 : Patt\_45
- Track 51 : Wintermute\_48
- Track 52 : JF1\_48, Y10\_47, Y2\_47
- Track 53 : MissDaisy\_46
- Track 54 : Hammy\_46
- Track 55 : Ekdilam\_43
- Track 56 : Bryler\_47, Tierra\_47, Cain\_47
- Track 57 : Ellie\_42, Applecrisp\_43, Amgine\_44, Fefferhead\_44, Lavahound\_45
- Track 58 : Tigress9\_50, Krueger\_50
- Track 59 : November\_44
- Track 60 : Amohnition\_46
- Track 61 : Syra333\_49
- Track 62 : PhelpsODU\_46
- Track 63 : SirPhilip\_46
- Track 64 : Marshawn\_47
- Track 65 : TClif\_48
- Track 66 : Ximenita\_50
- Track 67 : Yuna\_50
- Track 68 : Phrank\_47
- Track 69 : Sunflower1121\_50
- Track 70 : Shadow1\_49
- Track 71 : DarthP\_46
- Track 72 : Aminay\_47
- Track 73 : Boilgate\_43
- Track 74 : Vetrix\_41, Underpass\_41, DrSeegs\_41
- Track 75 : Lynnae\_41, Soap141\_41, Hafay\_41, Wilder\_41, OverPar\_42
- Track 76 : GuuelaD\_41, Crossroads\_41, BobsGarage\_41, SoJulia\_42, Gardann\_41, Itos\_40, Rossetti\_41, Finemlucis\_41, Netyap\_41, BigCheese\_41, Miley16\_41, Gabriela\_41, Zakai\_41
- Track 77 : DHan\_42
- Track 78 : Claus\_41

- Track 79 : Bazzle\_41, Archie\_41
- Track 80 : Tourach\_41
- Track 81 : ChutneyChips\_38
- Track 82 : FarmResident\_39
- Track 83 : Quby\_39
- Track 84 : Aegeus\_44, Baudelaire\_44
- Track 85 : Nebkiss\_69, Gaia\_69

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

The start number called the most often in the published annotations is 41, it was called in 65 of the 178 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amelie\_39, Amgine\_44, Amohndition\_46, Angelica\_44, Anma\_46, Applecrisp\_43, Asayake\_44, BEEST\_44, Bella96\_45, Bern\_45, Biglebops\_39, Bryler\_47, Cain\_47, Chavito\_47, Clipper\_47, CrimD\_44, Curiosium\_47, DartGoblin\_46, DarthP\_46, Dartin\_46, Deby\_44, Dole\_47, DrHayes\_45, Ekdilam\_43, Ellie\_42, Fefferhead\_44, Gaia\_69, Ganymede\_45, Hurricane\_47, Illumine\_47, Jayhawk\_45, Keshu\_48, Krueger\_50, LaterM\_45, Lavahound\_45, Lea83\_47, LilPharaoh\_39, LindNT\_44, MacKat\_39, Marshawn\_47, McMater\_46, Mdavu\_40, MeaningOfLife\_45, Megsy\_45, Mynx\_45, Nebkiss\_69, Niklas\_46, November\_44, Nutello\_39, Padfoot\_44, Padpat\_45, PhelpsODU\_46, Phrank\_47, Pisa1\_44, Prithvi\_45, QuincyRose\_43, Richo\_46, SamuelLPlaqson\_45, Shadow1\_49, Shaobing\_46, ShiaSurprise\_45, SirPhilip\_46, Stinson\_45, Sunflower1121\_50, Syra333\_49, TClif\_48, Tierra\_47, Tigress9\_50, TiniBug\_45, Tiri\_45, TreyKay\_45, Urkel\_45, Yuna\_50, Zavala\_45,

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

- ActinUp\_44, Adephegia\_44, Adonis\_44, Aegeus\_44, Ageofdapage\_46, AlishaPH\_44, Anaya\_46, Apocalypse\_47, Atiba\_44, BGlluviae\_44, BaghaKamala\_43, BarrelRoll\_44, Baudelaire\_44, Beezoo\_46, Belladonna\_44, Blizzard\_44, Boiiii\_44, CREW\_44, CallaLilly\_44, Capricorn\_44, CaseJules\_45, CheetoDust\_43, Chris\_46, Dalmuri\_44, Devera\_48, Durfee\_44, Emerson\_45, Enkosi\_42, Geraldini\_46, Hammy\_46, HedwigODU\_44, Homura\_44, Hyperbowlee\_44, Inky\_44, JAWS\_44, Jarvi\_44, Jeckyll\_44, Joy99\_44, KiSi\_48, LastHope\_47, LeMond\_48, Llorens\_44, Lunahalos\_44, MalagasyRose\_45, MarkPhew\_47, Murucutumbu\_45, Nibb\_46, Nikao\_42, Oscar\_48, Peanam\_46, Peel\_44, Piatt\_44, Pisa4\_38, Pokerus\_43, Ramen\_44, Rapunzel97\_44, Rosmarinus\_44, Scarlett\_48, SgtBeansprout\_39, Slimphazie\_44, Spock\_44, Sulley\_44, Tachez\_44, Teejan\_42, Topper\_44, Torres\_42, TribbleTrouble\_44, Trice\_40, TruffulaTree\_44, Twitch\_44, Validus\_48, Veliki\_44, Ximenita\_50, YoureAdopted\_43, Zabiza\_39,

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

- Aminay\_47, Archie\_41, Bazzle\_41, BigCheese\_41, Bobquesha\_50, BobsGarage\_41, Boilgate\_43, Chancellor\_48, Cheetobro\_48, ChutneyChips\_38, Claus\_41, Crossroads\_41, DHan\_42, DrSeegs\_41, Eponine\_50, FarmResident\_39, Finemlucis\_41, Fionnbharth\_48, Gabriela\_41, Gardann\_41, GuuelaD\_41, Hafay\_41, Itos\_40, JF1\_48, Juliette\_50, Kraw\_48, Lynnae\_41, Malthus\_49, Miley16\_41, MissDaisy\_46, Mitti\_48, Nergal\_41, Netyap\_41, OmniCritical\_47, OverPar\_42, Patt\_45, Qhanda\_50, Quby\_39, Reptar3000\_46, Rossetti\_41, Slarp\_48, SoJulia\_42,

Soap141\_41, Taquito\_48, Tourach\_41, Underpass\_41, Vetrix\_41, Wilder\_41, Wintermute\_48, Y10\_47, Y2\_47, YasnayaPolyana\_48, Zakai\_41,

### Summary by start number:

#### Start 15:

- Found in 1 of 202 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 178
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aminay\_47 (K7),

#### Start 25:

- Found in 5 of 202 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 2 of 178
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Peanam\_46 (K1), Validus\_48 (K1),

#### Start 28:

- Found in 64 of 202 ( 31.7% ) of genes in pham
- Manual Annotations of this start: 15 of 178
- Called 23.4% of time when present
- Phage (with cluster) where this start called: ActinUp\_44 (K1), Ageofdapage\_46 (K1), Apocalypse\_47 (K1), Atiba\_44 (K1), Beezoo\_46 (K1), Blizzard\_44 (K1), CaseJules\_45 (K1), Devera\_48 (K1), Durfee\_44 (K1), Hyperbowlee\_44 (K1), Joy99\_44 (K1), Murucutumbu\_45 (K1), Piatt\_44 (K1), Ramen\_44 (K1), Zabiza\_39 (K1),

#### Start 35:

- Found in 53 of 202 ( 26.2% ) of genes in pham
- Manual Annotations of this start: 7 of 178
- Called 13.2% of time when present
- Phage (with cluster) where this start called: Adephagia\_44 (K1), Adonis\_44 (K1), Anaya\_46 (K1), BarrelRoll\_44 (K1), JAWS\_44 (K1), Sulley\_44 (K1), Tachez\_44 (K1),

#### Start 36:

- Found in 69 of 202 ( 34.2% ) of genes in pham
- Manual Annotations of this start: 30 of 178
- Called 43.5% of time when present
- Phage (with cluster) where this start called: BGIluviae\_44 (K1), BaghaKamala\_43 (K1), Belladonna\_44 (K1), Boiii\_44 (K1), CREW\_44 (K1), CallaLilly\_44 (K1), Capricorn\_44 (K1), Dalmuri\_44 (K1), Emerson\_45 (K1), Geraldini\_46 (K1), HedwigODU\_44 (K1), Homura\_44 (K1), Inky\_44 (K1), Jarvi\_44 (K1), Jeckyll\_44 (K1), Llorens\_44 (K1), Lunahalos\_44 (K1), Nergal\_41 (AG), Peel\_44 (K1), Pokerus\_43 (K1), Rapunzel97\_44 (K1), Rosmarinus\_44 (K1), Slimphazie\_44 (K1), Spock\_44 (K1), Topper\_44 (K1), TruffulaTree\_44 (K1), Twitch\_44 (K1), Veliki\_44 (K1), Ximenita\_50 (K6), YoureAdopted\_43 (K1),

#### Start 37:

- Found in 29 of 202 ( 14.4% ) of genes in pham
- Manual Annotations of this start: 5 of 178
- Called 17.2% of time when present
- Phage (with cluster) where this start called: Claus\_41 (L2), DrSeegs\_41 (L2), Tourach\_41 (L2), Underpass\_41 (L2), Vetrix\_41 (L2),

Start 38:

- Found in 1 of 202 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 178
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_45 (AG),

Start 39:

- Found in 23 of 202 ( 11.4% ) of genes in pham
- Manual Annotations of this start: 20 of 178
- Called 95.7% of time when present
- Phage (with cluster) where this start called: Bobquesha\_50 (K4), Boilgate\_43 (K8), Chancellor\_48 (K4), Cheetobro\_48 (K4), Eponine\_50 (K4), Fionnbharth\_48 (K4), JF1\_48 (K4), Juliette\_50 (K4), Kraw\_48 (K4), Malthus\_49 (K4), MissDaisy\_46 (K4), Mitti\_48 (K4), OmniCritical\_47 (K4), Patt\_45 (K4), Qhanda\_50 (K4), Reptar3000\_46 (K4), Slarp\_48 (K4), Taquito\_48 (K4), Wintermute\_48 (K4), Y10\_47 (K4), Y2\_47 (K4), YasnayaPolyana\_48 (K4),

Start 41:

- Found in 149 of 202 ( 73.8% ) of genes in pham
- Manual Annotations of this start: 65 of 178
- Called 49.7% of time when present
- Phage (with cluster) where this start called: Amelie\_39 (K1), Amgine\_44 (K6), Amohntion\_46 (K6), Angelica\_44 (K1), Anma\_46 (K1), Applecrisp\_43 (K6), Asayake\_44 (K1), BEEST\_44 (K1), Bella96\_45 (K1), Bern\_45 (K1), Binglebops\_39 (K1), Bryler\_47 (K6), Cain\_47 (K6), Chavito\_47 (K1), Clipper\_47 (K1), CrimD\_44 (K1), Curiosium\_47 (K1), DartGoblin\_46 (K1), DarthP\_46 (K6), Dartin\_46 (K1), Deby\_44 (K1), Dole\_47 (K1), DrHayes\_45 (K1), Ekdilam\_43 (K6), Ellie\_42 (K6), Fefferhead\_44 (K6), Gaia\_69 (X), Ganymede\_45 (K1), Hurricane\_47 (K3), Illumine\_47 (K1), Jayhawk\_45 (K1), Keshu\_48 (K3), Krueger\_50 (K6), LaterM\_45 (K1), Lavahound\_45 (K6), Lea83\_47 (K3), LilPharaoh\_39 (K1), LindNT\_44 (K1), MackKat\_39 (K1), Marshawn\_47 (K6), McMater\_46 (K1), Mdavu\_40 (K1), MeaningOfLife\_45 (K1), Megsy\_45 (K1), Mynx\_45 (K1), Nebkiss\_69 (X), Niklas\_46 (K1), November\_44 (K6), Nutello\_39 (K1), Padfoot\_44 (K1), Padpat\_45 (K1), PhelpsODU\_46 (K6), Phrank\_47 (K6), Pisa1\_44 (K1), Prithvi\_45 (K1), QuincyRose\_43 (K1), Richo\_46 (K1), SamuelLPlaqson\_45 (K1), Shadow1\_49 (K6), Shaobing\_46 (K1), ShiaSurprise\_45 (K1), SirPhilip\_46 (K6), Stinson\_45 (K1), Sunflower1121\_50 (K6), Syra333\_49 (K6), TClif\_48 (K6), Tierra\_47 (K6), Tigress9\_50 (K6), TiniBug\_45 (K1), Tiri\_45 (K1), TreyKay\_45 (K1), Urkel\_45 (K1), Yuna\_50 (K6), Zavala\_45 (K1),

Start 44:

- Found in 117 of 202 ( 57.9% ) of genes in pham
- Manual Annotations of this start: 16 of 178
- Called 22.2% of time when present
- Phage (with cluster) where this start called: Aegeus\_44 (L5), Archie\_41 (L2), Baudelaire\_44 (L5), Bazzle\_41 (L2), BigCheese\_41 (L2), BobsGarage\_41 (L2), ChutneyChips\_38 (L4), Crossroads\_41 (L2), DHan\_42 (L2), FarmResident\_39 (L4), Finemlucis\_41 (L2), Gabriela\_41 (L2), Gardann\_41 (L2), GuuelaD\_41 (L2), Hafay\_41 (L2), Itos\_40 (L2), Lynnae\_41 (L2), Miley16\_41 (L2), Netyap\_41 (L2), OverPar\_42 (L2), Quby\_39 (L4), Rossetti\_41 (L2), SoJulia\_42 (L2), Soap141\_41 (L2), Wilder\_41 (L2), Zakai\_41 (L2),

Start 45:

- Found in 31 of 202 ( 15.3% ) of genes in pham
- Manual Annotations of this start: 9 of 178
- Called 35.5% of time when present
- Phage (with cluster) where this start called: Enkosi\_42 (K1), KiSi\_48 (K1), LeMond\_48 (K1), Nibb\_46 (K1), Nikao\_42 (K1), Oscar\_48 (K1), Scarlett\_48 (K1), SgtBeansprout\_39 (K1), Teejan\_42 (K1), Torres\_42 (K1), Trice\_40 (K1),

Start 46:

- Found in 121 of 202 ( 59.9% ) of genes in pham
- Manual Annotations of this start: 7 of 178
- Called 6.6% of time when present
- Phage (with cluster) where this start called: AlishaPH\_44 (K1), CheetoDust\_43 (K1), Chris\_46 (K1), Hammy\_46 (K6), LastHope\_47 (K1), MarkPhew\_47 (K1), Pisa4\_38 (K1), TripleTrouble\_44 (K3),

### **Summary by clusters:**

There are 11 clusters represented in this pham: AG, K1, K3, L4, L5, L2, K6, K7, K4, X, K8,

Info for manual annotations of cluster AG:

- Start number 36 was manually annotated 1 time for cluster AG.
- Start number 38 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster K1:

- Start number 25 was manually annotated 2 times for cluster K1.
- Start number 28 was manually annotated 15 times for cluster K1.
- Start number 35 was manually annotated 7 times for cluster K1.
- Start number 36 was manually annotated 28 times for cluster K1.
- Start number 41 was manually annotated 39 times for cluster K1.
- Start number 45 was manually annotated 9 times for cluster K1.
- Start number 46 was manually annotated 5 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 41 was manually annotated 3 times for cluster K3.
- Start number 46 was manually annotated 1 time for cluster K3.

Info for manual annotations of cluster K4:

- Start number 39 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K6:

- Start number 36 was manually annotated 1 time for cluster K6.
- Start number 41 was manually annotated 21 times for cluster K6.
- Start number 46 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster K7:

- Start number 15 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 39 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster L2:

- Start number 37 was manually annotated 5 times for cluster L2.
- Start number 44 was manually annotated 14 times for cluster L2.

Info for manual annotations of cluster L5:

- Start number 44 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster X:

- Start number 41 was manually annotated 2 times for cluster X.

### **Gene Information:**

Gene: ActinUp\_44 Start: 35120, Stop: 35401, Start Num: 28

Candidate Starts for ActinUp\_44:

(Start: 28 @35120 has 15 MA's), (Start: 35 @35141 has 7 MA's), (Start: 36 @35144 has 30 MA's), (Start: 41 @35162 has 65 MA's), (42, 35183), (Start: 44 @35204 has 16 MA's), (Start: 46 @35216 has 7 MA's), (47, 35249), (53, 35315), (55, 35330), (63, 35378),

Gene: Adephagia\_44 Start: 35138, Stop: 35398, Start Num: 35

Candidate Starts for Adephagia\_44:

(Start: 28 @35117 has 15 MA's), (Start: 35 @35138 has 7 MA's), (Start: 36 @35141 has 30 MA's), (Start: 41 @35159 has 65 MA's), (42, 35180), (Start: 44 @35201 has 16 MA's), (Start: 46 @35213 has 7 MA's), (47, 35246), (53, 35312), (55, 35327), (63, 35375),

Gene: Adonis\_44 Start: 35436, Stop: 35696, Start Num: 35

Candidate Starts for Adonis\_44:

(Start: 28 @35415 has 15 MA's), (Start: 35 @35436 has 7 MA's), (Start: 36 @35439 has 30 MA's), (Start: 41 @35457 has 65 MA's), (42, 35478), (Start: 44 @35499 has 16 MA's), (Start: 46 @35511 has 7 MA's), (47, 35544), (53, 35610), (55, 35625), (67, 35685),

Gene: Aegeus\_44 Start: 36838, Stop: 37059, Start Num: 44

Candidate Starts for Aegeus\_44:

(Start: 41 @36796 has 65 MA's), (Start: 44 @36838 has 16 MA's), (Start: 46 @36850 has 7 MA's), (55, 36964), (56, 36967), (68, 37039),

Gene: Ageofdapage\_46 Start: 36088, Stop: 36369, Start Num: 28

Candidate Starts for Ageofdapage\_46:

(Start: 28 @36088 has 15 MA's), (Start: 36 @36112 has 30 MA's), (Start: 41 @36130 has 65 MA's), (42, 36151), (Start: 44 @36172 has 16 MA's), (Start: 46 @36184 has 7 MA's), (47, 36217), (53, 36283), (55, 36298),

Gene: AlishaPH\_44 Start: 35486, Stop: 35671, Start Num: 46

Candidate Starts for AlishaPH\_44:

(Start: 28 @35390 has 15 MA's), (Start: 36 @35414 has 30 MA's), (Start: 41 @35432 has 65 MA's), (Start: 46 @35486 has 7 MA's), (47, 35519), (53, 35585), (55, 35600), (63, 35648),

Gene: Amelie\_39 Start: 34739, Stop: 34984, Start Num: 41

Candidate Starts for Amelie\_39:

(Start: 41 @34739 has 65 MA's), (Start: 45 @34790 has 9 MA's), (47, 34826), (55, 34907), (60, 34937), (61, 34943),

Gene: Amgine\_44 Start: 36236, Stop: 36478, Start Num: 41

Candidate Starts for Amgine\_44:

(Start: 41 @36236 has 65 MA's), (53, 36389),

Gene: Aminay\_47 Start: 36566, Stop: 36913, Start Num: 15

Candidate Starts for Aminay\_47:

(Start: 15 @36566 has 1 MA's), (27, 36599), (29, 36608), (40, 36647), (60, 36845),

Gene: Amohnition\_46 Start: 36255, Stop: 36491, Start Num: 41

Candidate Starts for Amohnition\_46:

(12, 36156), (Start: 41 @36255 has 65 MA's), (53, 36408), (60, 36453), (67, 36480),

Gene: Anaya\_46 Start: 35748, Stop: 36008, Start Num: 35

Candidate Starts for Anaya\_46:

(Start: 28 @35727 has 15 MA's), (Start: 35 @35748 has 7 MA's), (Start: 36 @35751 has 30 MA's),  
(Start: 41 @35769 has 65 MA's), (42, 35790), (Start: 44 @35811 has 16 MA's), (Start: 46 @35823 has  
7 MA's), (47, 35856), (53, 35922), (55, 35937), (67, 35997),

Gene: Angelica\_44 Start: 35389, Stop: 35628, Start Num: 41

Candidate Starts for Angelica\_44:

(Start: 28 @35347 has 15 MA's), (Start: 35 @35368 has 7 MA's), (Start: 36 @35371 has 30 MA's),  
(Start: 41 @35389 has 65 MA's), (Start: 44 @35431 has 16 MA's), (Start: 46 @35443 has 7 MA's), (47,  
35476), (53, 35542), (55, 35557), (63, 35605),

Gene: Anma\_46 Start: 36056, Stop: 36295, Start Num: 41

Candidate Starts for Anma\_46:

(3, 35855), (4, 35861), (5, 35876), (13, 35960), (19, 35984), (Start: 41 @36056 has 65 MA's), (Start: 44  
@36098 has 16 MA's), (Start: 46 @36110 has 7 MA's), (47, 36143), (53, 36209),

Gene: Apocalypse\_47 Start: 36132, Stop: 36413, Start Num: 28

Candidate Starts for Apocalypse\_47:

(Start: 28 @36132 has 15 MA's), (Start: 36 @36156 has 30 MA's), (Start: 41 @36174 has 65 MA's),  
(Start: 44 @36216 has 16 MA's), (Start: 46 @36228 has 7 MA's), (47, 36261), (53, 36327), (55,  
36342), (63, 36390),

Gene: Applecrisp\_43 Start: 35732, Stop: 35974, Start Num: 41

Candidate Starts for Applecrisp\_43:

(Start: 41 @35732 has 65 MA's), (53, 35885),

Gene: Archie\_41 Start: 34671, Stop: 34901, Start Num: 44

Candidate Starts for Archie\_41:

(Start: 37 @34614 has 5 MA's), (Start: 44 @34671 has 16 MA's), (51, 34749), (54, 34791), (55, 34797),  
(57, 34809), (70, 34890),

Gene: Asayake\_44 Start: 35474, Stop: 35713, Start Num: 41

Candidate Starts for Asayake\_44:

(Start: 28 @35432 has 15 MA's), (Start: 35 @35453 has 7 MA's), (Start: 36 @35456 has 30 MA's),  
(Start: 41 @35474 has 65 MA's), (42, 35495), (Start: 44 @35516 has 16 MA's), (Start: 46 @35528 has  
7 MA's), (47, 35561), (53, 35627), (55, 35642), (63, 35690),

Gene: Atiba\_44 Start: 35080, Stop: 35361, Start Num: 28

Candidate Starts for Atiba\_44:

(Start: 28 @35080 has 15 MA's), (Start: 35 @35101 has 7 MA's), (Start: 36 @35104 has 30 MA's), (Start: 41 @35122 has 65 MA's), (42, 35143), (Start: 44 @35164 has 16 MA's), (Start: 46 @35176 has 7 MA's), (47, 35209), (53, 35275), (55, 35290), (63, 35338),

Gene: BEEST\_44 Start: 35474, Stop: 35713, Start Num: 41

Candidate Starts for BEEST\_44:

(Start: 28 @35432 has 15 MA's), (Start: 35 @35453 has 7 MA's), (Start: 36 @35456 has 30 MA's), (Start: 41 @35474 has 65 MA's), (42, 35495), (Start: 44 @35516 has 16 MA's), (Start: 46 @35528 has 7 MA's), (47, 35561), (53, 35627), (55, 35642), (63, 35690),

Gene: BGlluviae\_44 Start: 35259, Stop: 35516, Start Num: 36

Candidate Starts for BGlluviae\_44:

(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's), (Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has 7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: BaghaKamala\_43 Start: 34579, Stop: 34836, Start Num: 36

Candidate Starts for BaghaKamala\_43:

(Start: 28 @34555 has 15 MA's), (Start: 36 @34579 has 30 MA's), (Start: 41 @34597 has 65 MA's), (Start: 44 @34639 has 16 MA's), (Start: 46 @34651 has 7 MA's), (47, 34684), (53, 34750), (55, 34765), (63, 34813),

Gene: BarrelRoll\_44 Start: 35124, Stop: 35384, Start Num: 35

Candidate Starts for BarrelRoll\_44:

(Start: 28 @35103 has 15 MA's), (Start: 35 @35124 has 7 MA's), (Start: 36 @35127 has 30 MA's), (Start: 41 @35145 has 65 MA's), (42, 35166), (Start: 44 @35187 has 16 MA's), (Start: 46 @35199 has 7 MA's), (47, 35232), (53, 35298), (55, 35313), (63, 35361),

Gene: Baudelaire\_44 Start: 36838, Stop: 37059, Start Num: 44

Candidate Starts for Baudelaire\_44:

(Start: 41 @36796 has 65 MA's), (Start: 44 @36838 has 16 MA's), (Start: 46 @36850 has 7 MA's), (55, 36964), (56, 36967), (68, 37039),

Gene: Bazzle\_41 Start: 34703, Stop: 34933, Start Num: 44

Candidate Starts for Bazzle\_41:

(Start: 37 @34646 has 5 MA's), (Start: 44 @34703 has 16 MA's), (51, 34781), (54, 34823), (55, 34829), (57, 34841), (70, 34922),

Gene: Beezoo\_46 Start: 36078, Stop: 36359, Start Num: 28

Candidate Starts for Beezoo\_46:

(Start: 28 @36078 has 15 MA's), (Start: 36 @36102 has 30 MA's), (Start: 41 @36120 has 65 MA's), (42, 36141), (Start: 44 @36162 has 16 MA's), (Start: 46 @36174 has 7 MA's), (47, 36207), (53, 36273), (55, 36288), (63, 36336),

Gene: Bella96\_45 Start: 36011, Stop: 36250, Start Num: 41

Candidate Starts for Bella96\_45:

(3, 35810), (4, 35816), (5, 35831), (13, 35915), (19, 35939), (Start: 41 @36011 has 65 MA's), (Start: 44 @36053 has 16 MA's), (Start: 46 @36065 has 7 MA's), (47, 36098), (53, 36164),

Gene: Belladonna\_44 Start: 35259, Stop: 35516, Start Num: 36

Candidate Starts for Belladonna\_44:

(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's), (Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has

7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: Bern\_45 Start: 34192, Stop: 34431, Start Num: 41

Candidate Starts for Bern\_45:

(2, 33979), (13, 34096), (26, 34144), (Start: 41 @34192 has 65 MA's), (Start: 44 @34234 has 16 MA's), (Start: 46 @34246 has 7 MA's), (47, 34279), (53, 34345), (55, 34360), (63, 34408),

Gene: BigCheese\_41 Start: 34467, Stop: 34697, Start Num: 44

Candidate Starts for BigCheese\_41:

(31, 34392), (33, 34398), (Start: 37 @34410 has 5 MA's), (Start: 44 @34467 has 16 MA's), (54, 34587), (55, 34593), (57, 34605), (70, 34686),

Gene: Biglebops\_39 Start: 34739, Stop: 34984, Start Num: 41

Candidate Starts for Biglebops\_39:

(Start: 41 @34739 has 65 MA's), (Start: 45 @34790 has 9 MA's), (47, 34826), (55, 34907), (60, 34937), (61, 34943),

Gene: Blizzard\_44 Start: 35432, Stop: 35713, Start Num: 28

Candidate Starts for Blizzard\_44:

(Start: 28 @35432 has 15 MA's), (Start: 35 @35453 has 7 MA's), (Start: 36 @35456 has 30 MA's), (Start: 41 @35474 has 65 MA's), (42, 35495), (Start: 44 @35516 has 16 MA's), (Start: 46 @35528 has 7 MA's), (47, 35561), (53, 35627), (55, 35642), (63, 35690),

Gene: Bobquesha\_50 Start: 35544, Stop: 35792, Start Num: 39

Candidate Starts for Bobquesha\_50:

(14, 35448), (23, 35490), (Start: 39 @35544 has 20 MA's), (55, 35715), (56, 35718),

Gene: BobsGarage\_41 Start: 34467, Stop: 34697, Start Num: 44

Candidate Starts for BobsGarage\_41:

(31, 34392), (33, 34398), (Start: 37 @34410 has 5 MA's), (Start: 44 @34467 has 16 MA's), (54, 34587), (55, 34593), (57, 34605), (70, 34686),

Gene: Boiiii\_44 Start: 35458, Stop: 35715, Start Num: 36

Candidate Starts for Boiiii\_44:

(Start: 28 @35434 has 15 MA's), (Start: 35 @35455 has 7 MA's), (Start: 36 @35458 has 30 MA's), (Start: 41 @35476 has 65 MA's), (42, 35497), (Start: 44 @35518 has 16 MA's), (Start: 46 @35530 has 7 MA's), (47, 35563), (53, 35629), (55, 35644), (63, 35692),

Gene: Boilgate\_43 Start: 36328, Stop: 36564, Start Num: 39

Candidate Starts for Boilgate\_43:

(Start: 39 @36328 has 20 MA's), (64, 36550),

Gene: Bryler\_47 Start: 35116, Stop: 35352, Start Num: 41

Candidate Starts for Bryler\_47:

(Start: 41 @35116 has 65 MA's), (Start: 45 @35167 has 9 MA's), (Start: 46 @35170 has 7 MA's), (51, 35236),

Gene: CREW\_44 Start: 35259, Stop: 35516, Start Num: 36

Candidate Starts for CREW\_44:

(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's), (Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has 7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: Cain\_47 Start: 35104, Stop: 35340, Start Num: 41

Candidate Starts for Cain\_47:

(Start: 41 @35104 has 65 MA's), (Start: 45 @35155 has 9 MA's), (Start: 46 @35158 has 7 MA's), (51, 35224),

Gene: CallaLilly\_44 Start: 35182, Stop: 35439, Start Num: 36

Candidate Starts for CallaLilly\_44:

(Start: 28 @35158 has 15 MA's), (Start: 35 @35179 has 7 MA's), (Start: 36 @35182 has 30 MA's), (Start: 41 @35200 has 65 MA's), (42, 35221), (Start: 44 @35242 has 16 MA's), (Start: 46 @35254 has 7 MA's), (47, 35287), (53, 35353), (55, 35368), (63, 35416),

Gene: Capricorn\_44 Start: 35259, Stop: 35516, Start Num: 36

Candidate Starts for Capricorn\_44:

(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's), (Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has 7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: CaseJules\_45 Start: 35432, Stop: 35713, Start Num: 28

Candidate Starts for CaseJules\_45:

(Start: 28 @35432 has 15 MA's), (Start: 35 @35453 has 7 MA's), (Start: 36 @35456 has 30 MA's), (Start: 41 @35474 has 65 MA's), (42, 35495), (Start: 44 @35516 has 16 MA's), (Start: 46 @35528 has 7 MA's), (47, 35561), (53, 35627), (55, 35642), (63, 35690),

Gene: Chancellor\_48 Start: 36169, Stop: 36417, Start Num: 39

Candidate Starts for Chancellor\_48:

(14, 36073), (Start: 39 @36169 has 20 MA's), (55, 36340), (56, 36343),

Gene: Chavito\_47 Start: 36519, Stop: 36767, Start Num: 41

Candidate Starts for Chavito\_47:

(6, 36354), (Start: 25 @36471 has 2 MA's), (Start: 41 @36519 has 65 MA's), (Start: 46 @36573 has 7 MA's), (55, 36687), (60, 36717), (63, 36735),

Gene: CheetoDust\_43 Start: 34700, Stop: 34885, Start Num: 46

Candidate Starts for CheetoDust\_43:

(2, 34433), (13, 34550), (26, 34598), (Start: 41 @34646 has 65 MA's), (Start: 44 @34688 has 16 MA's), (Start: 46 @34700 has 7 MA's), (47, 34733), (53, 34799), (55, 34814), (63, 34862),

Gene: Cheetobro\_48 Start: 36166, Stop: 36414, Start Num: 39

Candidate Starts for Cheetobro\_48:

(14, 36070), (Start: 39 @36166 has 20 MA's), (55, 36337), (56, 36340),

Gene: Chris\_46 Start: 35995, Stop: 36195, Start Num: 46

Candidate Starts for Chris\_46:

(Start: 41 @35941 has 65 MA's), (Start: 46 @35995 has 7 MA's), (51, 36061), (53, 36094), (55, 36109), (56, 36112), (60, 36139),

Gene: ChutneyChips\_38 Start: 33373, Stop: 33615, Start Num: 44

Candidate Starts for ChutneyChips\_38:

(18, 33256), (24, 33277), (30, 33295), (31, 33298), (33, 33304), (Start: 37 @33316 has 5 MA's), (Start: 44 @33373 has 16 MA's), (57, 33511), (69, 33577),

Gene: Claus\_41 Start: 34429, Stop: 34716, Start Num: 37

Candidate Starts for Claus\_41:

(Start: 37 @34429 has 5 MA's), (Start: 44 @34486 has 16 MA's), (50, 34549), (51, 34564), (54, 34606), (55, 34612), (57, 34624),

Gene: Clipper\_47 Start: 35793, Stop: 36032, Start Num: 41

Candidate Starts for Clipper\_47:

(Start: 36 @35775 has 30 MA's), (Start: 41 @35793 has 65 MA's), (Start: 44 @35835 has 16 MA's), (Start: 46 @35847 has 7 MA's), (47, 35880), (53, 35946), (55, 35961), (63, 36009),

Gene: CrimD\_44 Start: 35400, Stop: 35639, Start Num: 41

Candidate Starts for CrimD\_44:

(3, 35199), (4, 35205), (5, 35220), (13, 35304), (19, 35328), (26, 35352), (Start: 41 @35400 has 65 MA's), (Start: 44 @35442 has 16 MA's), (Start: 46 @35454 has 7 MA's), (47, 35487), (53, 35553), (55, 35568), (63, 35616),

Gene: Crossroads\_41 Start: 34469, Stop: 34699, Start Num: 44

Candidate Starts for Crossroads\_41:

(31, 34394), (33, 34400), (Start: 37 @34412 has 5 MA's), (Start: 44 @34469 has 16 MA's), (54, 34589), (55, 34595), (57, 34607), (70, 34688),

Gene: Curiosium\_47 Start: 34347, Stop: 34634, Start Num: 41

Candidate Starts for Curiosium\_47:

(Start: 41 @34347 has 65 MA's), (Start: 46 @34401 has 7 MA's), (48, 34443), (50, 34452), (71, 34623), (72, 34626),

Gene: DHan\_42 Start: 34427, Stop: 34657, Start Num: 44

Candidate Starts for DHan\_42:

(Start: 37 @34370 has 5 MA's), (Start: 44 @34427 has 16 MA's), (50, 34490), (51, 34505), (54, 34547), (55, 34553), (57, 34565), (70, 34646),

Gene: Dalmuri\_44 Start: 35259, Stop: 35516, Start Num: 36

Candidate Starts for Dalmuri\_44:

(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's), (Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has 7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: DartGoblin\_46 Start: 36004, Stop: 36243, Start Num: 41

Candidate Starts for DartGoblin\_46:

(Start: 41 @36004 has 65 MA's), (Start: 44 @36046 has 16 MA's), (Start: 46 @36058 has 7 MA's), (47, 36091), (53, 36157),

Gene: DarthP\_46 Start: 36145, Stop: 36378, Start Num: 41

Candidate Starts for DarthP\_46:

(Start: 41 @36145 has 65 MA's), (Start: 46 @36199 has 7 MA's), (55, 36313), (60, 36343),

Gene: Dartin\_46 Start: 35860, Stop: 36105, Start Num: 41

Candidate Starts for Dartin\_46:

(Start: 41 @35860 has 65 MA's), (Start: 45 @35911 has 9 MA's), (Start: 46 @35914 has 7 MA's), (55, 36028), (60, 36058),

Gene: Deby\_44 Start: 35405, Stop: 35644, Start Num: 41

Candidate Starts for Deby\_44:

(Start: 28 @35363 has 15 MA's), (Start: 35 @35384 has 7 MA's), (Start: 36 @35387 has 30 MA's), (Start: 41 @35405 has 65 MA's), (Start: 44 @35447 has 16 MA's), (Start: 46 @35459 has 7 MA's), (47,

35492), (53, 35558), (55, 35573), (63, 35621),

Gene: Devera\_48 Start: 35896, Stop: 36177, Start Num: 28

Candidate Starts for Devera\_48:

(Start: 28 @35896 has 15 MA's), (Start: 36 @35920 has 30 MA's), (Start: 41 @35938 has 65 MA's), (42, 35959), (Start: 44 @35980 has 16 MA's), (Start: 46 @35992 has 7 MA's), (47, 36025), (53, 36091), (55, 36106),

Gene: Dole\_47 Start: 35940, Stop: 36179, Start Num: 41

Candidate Starts for Dole\_47:

(Start: 28 @35898 has 15 MA's), (Start: 36 @35922 has 30 MA's), (Start: 41 @35940 has 65 MA's), (42, 35961), (Start: 44 @35982 has 16 MA's), (Start: 46 @35994 has 7 MA's), (47, 36027), (53, 36093), (55, 36108),

Gene: DrHayes\_45 Start: 36056, Stop: 36295, Start Num: 41

Candidate Starts for DrHayes\_45:

(3, 35855), (4, 35861), (5, 35876), (13, 35960), (19, 35984), (Start: 41 @36056 has 65 MA's), (Start: 44 @36098 has 16 MA's), (Start: 46 @36110 has 7 MA's), (47, 36143), (53, 36209),

Gene: DrSeegs\_41 Start: 34410, Stop: 34697, Start Num: 37

Candidate Starts for DrSeegs\_41:

(31, 34392), (33, 34398), (Start: 37 @34410 has 5 MA's), (Start: 44 @34467 has 16 MA's), (54, 34587), (55, 34593), (57, 34605), (70, 34686),

Gene: Durfee\_44 Start: 35432, Stop: 35713, Start Num: 28

Candidate Starts for Durfee\_44:

(Start: 28 @35432 has 15 MA's), (Start: 35 @35453 has 7 MA's), (Start: 36 @35456 has 30 MA's), (Start: 41 @35474 has 65 MA's), (42, 35495), (Start: 44 @35516 has 16 MA's), (Start: 46 @35528 has 7 MA's), (47, 35561), (53, 35627), (55, 35642), (63, 35690),

Gene: Ekdilam\_43 Start: 35707, Stop: 35940, Start Num: 41

Candidate Starts for Ekdilam\_43:

(9, 35590), (12, 35608), (Start: 41 @35707 has 65 MA's),

Gene: Ellie\_42 Start: 35424, Stop: 35666, Start Num: 41

Candidate Starts for Ellie\_42:

(Start: 41 @35424 has 65 MA's), (53, 35577),

Gene: Emerson\_45 Start: 35135, Stop: 35392, Start Num: 36

Candidate Starts for Emerson\_45:

(Start: 28 @35111 has 15 MA's), (Start: 35 @35132 has 7 MA's), (Start: 36 @35135 has 30 MA's), (Start: 41 @35153 has 65 MA's), (42, 35174), (Start: 44 @35195 has 16 MA's), (Start: 46 @35207 has 7 MA's), (47, 35240), (53, 35306), (55, 35321), (63, 35369),

Gene: Enkosi\_42 Start: 37403, Stop: 37597, Start Num: 45

Candidate Starts for Enkosi\_42:

(Start: 41 @37352 has 65 MA's), (Start: 45 @37403 has 9 MA's), (47, 37439), (55, 37520), (60, 37550), (61, 37556),

Gene: Eponine\_50 Start: 36922, Stop: 37167, Start Num: 39

Candidate Starts for Eponine\_50:

(14, 36826), (Start: 39 @36922 has 20 MA's), (56, 37096),

Gene: FarmResident\_39 Start: 33175, Stop: 33417, Start Num: 44

Candidate Starts for FarmResident\_39:

(18, 33058), (24, 33079), (30, 33097), (31, 33100), (33, 33106), (Start: 37 @33118 has 5 MA's), (Start: 44 @33175 has 16 MA's), (54, 33295), (57, 33313), (63, 33349),

Gene: Fefferhead\_44 Start: 35375, Stop: 35617, Start Num: 41

Candidate Starts for Fefferhead\_44:

(Start: 41 @35375 has 65 MA's), (53, 35528),

Gene: Finemlucis\_41 Start: 34743, Stop: 34973, Start Num: 44

Candidate Starts for Finemlucis\_41:

(31, 34668), (33, 34674), (Start: 37 @34686 has 5 MA's), (Start: 44 @34743 has 16 MA's), (54, 34863), (55, 34869), (57, 34881), (70, 34962),

Gene: Fionnbharth\_48 Start: 36320, Stop: 36565, Start Num: 39

Candidate Starts for Fionnbharth\_48:

(Start: 39 @36320 has 20 MA's), (56, 36494), (66, 36554),

Gene: Gabriela\_41 Start: 34729, Stop: 34959, Start Num: 44

Candidate Starts for Gabriela\_41:

(31, 34654), (33, 34660), (Start: 37 @34672 has 5 MA's), (Start: 44 @34729 has 16 MA's), (54, 34849), (55, 34855), (57, 34867), (70, 34948),

Gene: Gaia\_69 Start: 45400, Stop: 45705, Start Num: 41

Candidate Starts for Gaia\_69:

(Start: 41 @45400 has 65 MA's), (Start: 46 @45454 has 7 MA's), (47, 45487), (55, 45568), (63, 45616),

Gene: Ganymede\_45 Start: 35592, Stop: 35831, Start Num: 41

Candidate Starts for Ganymede\_45:

(3, 35391), (4, 35397), (5, 35412), (13, 35496), (19, 35520), (26, 35544), (Start: 41 @35592 has 65 MA's), (Start: 44 @35634 has 16 MA's), (Start: 46 @35646 has 7 MA's), (47, 35679), (53, 35745), (55, 35760), (63, 35808),

Gene: Gardann\_41 Start: 34468, Stop: 34698, Start Num: 44

Candidate Starts for Gardann\_41:

(31, 34393), (33, 34399), (Start: 37 @34411 has 5 MA's), (Start: 44 @34468 has 16 MA's), (54, 34588), (55, 34594), (57, 34606), (70, 34687),

Gene: Geraldini\_46 Start: 36191, Stop: 36448, Start Num: 36

Candidate Starts for Geraldini\_46:

(Start: 28 @36167 has 15 MA's), (Start: 36 @36191 has 30 MA's), (Start: 41 @36209 has 65 MA's), (Start: 44 @36251 has 16 MA's), (Start: 46 @36263 has 7 MA's), (47, 36296), (53, 36362), (55, 36377), (63, 36425),

Gene: GuuelaD\_41 Start: 34506, Stop: 34736, Start Num: 44

Candidate Starts for GuuelaD\_41:

(31, 34431), (33, 34437), (Start: 37 @34449 has 5 MA's), (Start: 44 @34506 has 16 MA's), (54, 34626), (55, 34632), (57, 34644), (70, 34725),

Gene: Hafay\_41 Start: 34501, Stop: 34731, Start Num: 44

Candidate Starts for Hafay\_41:

(31, 34426), (33, 34432), (Start: 37 @34444 has 5 MA's), (Start: 44 @34501 has 16 MA's), (54, 34621), (55, 34627), (57, 34639), (67, 34693), (70, 34720),

Gene: Hammy\_46 Start: 36187, Stop: 36366, Start Num: 46

Candidate Starts for Hammy\_46:

(Start: 41 @36133 has 65 MA's), (Start: 46 @36187 has 7 MA's), (55, 36301), (60, 36331),

Gene: HedwigODU\_44 Start: 35144, Stop: 35401, Start Num: 36

Candidate Starts for HedwigODU\_44:

(Start: 28 @35120 has 15 MA's), (Start: 35 @35141 has 7 MA's), (Start: 36 @35144 has 30 MA's),  
(Start: 41 @35162 has 65 MA's), (42, 35183), (Start: 44 @35204 has 16 MA's), (Start: 46 @35216 has  
7 MA's), (47, 35249), (53, 35315), (55, 35330), (63, 35378),

Gene: Homura\_44 Start: 35259, Stop: 35516, Start Num: 36

Candidate Starts for Homura\_44:

(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's),  
(Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has  
7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: Hurricane\_47 Start: 35860, Stop: 36099, Start Num: 41

Candidate Starts for Hurricane\_47:

(Start: 41 @35860 has 65 MA's), (51, 35980), (60, 36058), (65, 36085),

Gene: Hyperbowlee\_44 Start: 35432, Stop: 35713, Start Num: 28

Candidate Starts for Hyperbowlee\_44:

(Start: 28 @35432 has 15 MA's), (Start: 35 @35453 has 7 MA's), (Start: 36 @35456 has 30 MA's),  
(Start: 41 @35474 has 65 MA's), (42, 35495), (Start: 44 @35516 has 16 MA's), (Start: 46 @35528 has  
7 MA's), (47, 35561), (53, 35627), (55, 35642), (63, 35690),

Gene: Illumine\_47 Start: 35940, Stop: 36179, Start Num: 41

Candidate Starts for Illumine\_47:

(Start: 28 @35898 has 15 MA's), (Start: 36 @35922 has 30 MA's), (Start: 41 @35940 has 65 MA's),  
(42, 35961), (Start: 44 @35982 has 16 MA's), (Start: 46 @35994 has 7 MA's), (47, 36027), (53,  
36093), (55, 36108),

Gene: Inky\_44 Start: 35259, Stop: 35516, Start Num: 36

Candidate Starts for Inky\_44:

(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's),  
(Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has  
7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: Itos\_40 Start: 33373, Stop: 33603, Start Num: 44

Candidate Starts for Itos\_40:

(31, 33298), (33, 33304), (Start: 37 @33316 has 5 MA's), (Start: 44 @33373 has 16 MA's), (54, 33493),  
(55, 33499), (57, 33511), (70, 33592),

Gene: JAWS\_44 Start: 35130, Stop: 35390, Start Num: 35

Candidate Starts for JAWS\_44:

(Start: 28 @35109 has 15 MA's), (Start: 35 @35130 has 7 MA's), (Start: 36 @35133 has 30 MA's),  
(Start: 41 @35151 has 65 MA's), (42, 35172), (Start: 44 @35193 has 16 MA's), (Start: 46 @35205 has  
7 MA's), (47, 35238), (53, 35304), (55, 35319), (63, 35367),

Gene: JF1\_48 Start: 36237, Stop: 36485, Start Num: 39

Candidate Starts for JF1\_48:

(Start: 39 @36237 has 20 MA's), (55, 36408), (56, 36411),

Gene: Jarvi\_44 Start: 35259, Stop: 35516, Start Num: 36

Candidate Starts for Jarvi\_44:

(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's),  
(Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has  
7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: Jayhawk\_45 Start: 35160, Stop: 35399, Start Num: 41

Candidate Starts for Jayhawk\_45:

(Start: 28 @35118 has 15 MA's), (Start: 35 @35139 has 7 MA's), (Start: 36 @35142 has 30 MA's),  
(Start: 41 @35160 has 65 MA's), (42, 35181), (Start: 44 @35202 has 16 MA's), (Start: 46 @35214 has  
7 MA's), (47, 35247), (53, 35313), (55, 35328), (63, 35376),

Gene: Jeckyll\_44 Start: 35259, Stop: 35516, Start Num: 36

Candidate Starts for Jeckyll\_44:

(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's),  
(Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has  
7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: Joy99\_44 Start: 35164, Stop: 35445, Start Num: 28

Candidate Starts for Joy99\_44:

(Start: 28 @35164 has 15 MA's), (Start: 35 @35185 has 7 MA's), (Start: 36 @35188 has 30 MA's),  
(Start: 41 @35206 has 65 MA's), (42, 35227), (Start: 44 @35248 has 16 MA's), (Start: 46 @35260 has  
7 MA's), (47, 35293), (53, 35359), (55, 35374), (63, 35422),

Gene: Juliette\_50 Start: 36393, Stop: 36641, Start Num: 39

Candidate Starts for Juliette\_50:

(14, 36297), (23, 36339), (Start: 39 @36393 has 20 MA's), (55, 36564), (56, 36567),

Gene: Keshu\_48 Start: 35918, Stop: 36157, Start Num: 41

Candidate Starts for Keshu\_48:

(Start: 41 @35918 has 65 MA's), (51, 36038), (60, 36116), (65, 36143),

Gene: KiSi\_48 Start: 36394, Stop: 36600, Start Num: 45

Candidate Starts for KiSi\_48:

(1, 36079), (7, 36205), (11, 36235), (Start: 41 @36343 has 65 MA's), (Start: 45 @36394 has 9 MA's),  
(Start: 46 @36397 has 7 MA's), (50, 36448), (51, 36463), (55, 36511),

Gene: Kraw\_48 Start: 36081, Stop: 36329, Start Num: 39

Candidate Starts for Kraw\_48:

(14, 35985), (23, 36027), (Start: 39 @36081 has 20 MA's), (55, 36252), (56, 36255),

Gene: Krueger\_50 Start: 36110, Stop: 36346, Start Num: 41

Candidate Starts for Krueger\_50:

(Start: 41 @36110 has 65 MA's), (Start: 45 @36161 has 9 MA's), (51, 36230), (53, 36263), (55, 36278),  
(57, 36290),

Gene: LastHope\_47 Start: 34715, Stop: 34948, Start Num: 46

Candidate Starts for LastHope\_47:

(Start: 41 @34661 has 65 MA's), (Start: 46 @34715 has 7 MA's), (50, 34766),

Gene: LaterM\_45 Start: 36054, Stop: 36293, Start Num: 41

Candidate Starts for LaterM\_45:

(Start: 28 @36012 has 15 MA's), (Start: 36 @36036 has 30 MA's), (Start: 41 @36054 has 65 MA's), (42, 36075), (Start: 44 @36096 has 16 MA's), (Start: 46 @36108 has 7 MA's), (47, 36141), (53, 36207), (55, 36222),

Gene: Lavahound\_45 Start: 36357, Stop: 36599, Start Num: 41  
Candidate Starts for Lavahound\_45:  
(Start: 41 @36357 has 65 MA's), (53, 36510),

Gene: LeMond\_48 Start: 36378, Stop: 36584, Start Num: 45  
Candidate Starts for LeMond\_48:  
(Start: 41 @36327 has 65 MA's), (Start: 45 @36378 has 9 MA's), (Start: 46 @36381 has 7 MA's), (51, 36447), (55, 36495), (57, 36507),

Gene: Lea83\_47 Start: 35892, Stop: 36131, Start Num: 41  
Candidate Starts for Lea83\_47:  
(Start: 41 @35892 has 65 MA's), (51, 36012), (55, 36060), (60, 36090), (65, 36117),

Gene: LilPharaoh\_39 Start: 34467, Stop: 34712, Start Num: 41  
Candidate Starts for LilPharaoh\_39:  
(Start: 41 @34467 has 65 MA's), (Start: 45 @34518 has 9 MA's), (47, 34554), (55, 34635), (60, 34665), (61, 34671),

Gene: LindNT\_44 Start: 35343, Stop: 35582, Start Num: 41  
Candidate Starts for LindNT\_44:  
(3, 35142), (4, 35148), (5, 35163), (13, 35247), (19, 35271), (Start: 41 @35343 has 65 MA's), (42, 35364), (Start: 44 @35385 has 16 MA's), (Start: 46 @35397 has 7 MA's), (47, 35430), (53, 35496), (55, 35511),

Gene: Llorens\_44 Start: 35259, Stop: 35516, Start Num: 36  
Candidate Starts for Llorens\_44:  
(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's), (Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has 7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: Lunahalos\_44 Start: 35259, Stop: 35516, Start Num: 36  
Candidate Starts for Lunahalos\_44:  
(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's), (Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has 7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: Lynnae\_41 Start: 34456, Stop: 34686, Start Num: 44  
Candidate Starts for Lynnae\_41:  
(31, 34381), (33, 34387), (Start: 37 @34399 has 5 MA's), (Start: 44 @34456 has 16 MA's), (54, 34576), (55, 34582), (57, 34594), (67, 34648), (70, 34675),

Gene: MacKat\_39 Start: 30677, Stop: 30916, Start Num: 41  
Candidate Starts for MacKat\_39:  
(8, 30554), (Start: 36 @30659 has 30 MA's), (Start: 41 @30677 has 65 MA's), (Start: 44 @30719 has 16 MA's), (Start: 46 @30731 has 7 MA's), (47, 30764), (53, 30830), (55, 30845), (63, 30893),

Gene: MalagasyRose\_45 Start: 33899, Stop: 34168, Start Num: 38  
Candidate Starts for MalagasyRose\_45:

(Start: 38 @33899 has 1 MA's), (Start: 41 @33908 has 65 MA's), (43, 33947), (Start: 46 @33962 has 7 MA's), (48, 34004), (52, 34040), (60, 34106),

Gene: Malthus\_49 Start: 36081, Stop: 36329, Start Num: 39

Candidate Starts for Malthus\_49:

(14, 35985), (23, 36027), (Start: 39 @36081 has 20 MA's), (55, 36252), (56, 36255),

Gene: MarkPhew\_47 Start: 35823, Stop: 36026, Start Num: 46

Candidate Starts for MarkPhew\_47:

(Start: 41 @35769 has 65 MA's), (Start: 46 @35823 has 7 MA's), (48, 35865), (55, 35937), (56, 35940), (60, 35967), (64, 35991),

Gene: Marshawn\_47 Start: 36184, Stop: 36432, Start Num: 41

Candidate Starts for Marshawn\_47:

(Start: 41 @36184 has 65 MA's), (42, 36205), (Start: 46 @36238 has 7 MA's), (55, 36352), (60, 36382), (64, 36406),

Gene: McMater\_46 Start: 35860, Stop: 36105, Start Num: 41

Candidate Starts for McMater\_46:

(Start: 41 @35860 has 65 MA's), (Start: 45 @35911 has 9 MA's), (Start: 46 @35914 has 7 MA's), (55, 36028), (60, 36058),

Gene: Mdavu\_40 Start: 34728, Stop: 34973, Start Num: 41

Candidate Starts for Mdavu\_40:

(Start: 41 @34728 has 65 MA's), (Start: 45 @34779 has 9 MA's), (47, 34815), (55, 34896), (60, 34926), (61, 34932),

Gene: MeaningOfLife\_45 Start: 36086, Stop: 36325, Start Num: 41

Candidate Starts for MeaningOfLife\_45:

(3, 35885), (4, 35891), (5, 35906), (13, 35990), (19, 36014), (26, 36038), (Start: 41 @36086 has 65 MA's), (Start: 44 @36128 has 16 MA's), (Start: 46 @36140 has 7 MA's), (47, 36173), (53, 36239), (55, 36254), (63, 36302),

Gene: Megsy\_45 Start: 35402, Stop: 35641, Start Num: 41

Candidate Starts for Megsy\_45:

(3, 35201), (4, 35207), (5, 35222), (13, 35306), (19, 35330), (26, 35354), (Start: 41 @35402 has 65 MA's), (Start: 44 @35444 has 16 MA's), (Start: 46 @35456 has 7 MA's), (47, 35489), (53, 35555), (55, 35570), (63, 35618),

Gene: Miley16\_41 Start: 34467, Stop: 34697, Start Num: 44

Candidate Starts for Miley16\_41:

(31, 34392), (33, 34398), (Start: 37 @34410 has 5 MA's), (Start: 44 @34467 has 16 MA's), (54, 34587), (55, 34593), (57, 34605), (70, 34686),

Gene: MissDaisy\_46 Start: 35556, Stop: 35804, Start Num: 39

Candidate Starts for MissDaisy\_46:

(21, 35493), (32, 35529), (34, 35535), (Start: 39 @35556 has 20 MA's), (55, 35727), (56, 35730),

Gene: Mitti\_48 Start: 36257, Stop: 36505, Start Num: 39

Candidate Starts for Mitti\_48:

(14, 36161), (Start: 39 @36257 has 20 MA's), (55, 36428), (56, 36431),

Gene: Murucutumbu\_45 Start: 36105, Stop: 36386, Start Num: 28

Candidate Starts for Murucutumbu\_45:

(Start: 28 @36105 has 15 MA's), (Start: 36 @36129 has 30 MA's), (Start: 41 @36147 has 65 MA's), (42, 36168), (Start: 44 @36189 has 16 MA's), (Start: 46 @36201 has 7 MA's), (47, 36234), (53, 36300), (55, 36315),

Gene: Mynx\_45 Start: 35478, Stop: 35717, Start Num: 41

Candidate Starts for Mynx\_45:

(Start: 28 @35436 has 15 MA's), (Start: 35 @35457 has 7 MA's), (Start: 36 @35460 has 30 MA's), (Start: 41 @35478 has 65 MA's), (42, 35499), (Start: 44 @35520 has 16 MA's), (Start: 46 @35532 has 7 MA's), (47, 35565), (53, 35631), (55, 35646), (63, 35694),

Gene: Nebkiss\_69 Start: 44011, Stop: 44316, Start Num: 41

Candidate Starts for Nebkiss\_69:

(Start: 41 @44011 has 65 MA's), (Start: 46 @44065 has 7 MA's), (47, 44098), (55, 44179), (63, 44227),

Gene: Nergal\_41 Start: 33794, Stop: 34084, Start Num: 36

Candidate Starts for Nergal\_41:

(Start: 36 @33794 has 30 MA's), (Start: 39 @33809 has 20 MA's), (Start: 46 @33866 has 7 MA's), (47, 33899), (49, 33911), (50, 33917), (51, 33932), (56, 33983), (60, 34010), (63, 34028),

Gene: Netyap\_41 Start: 34467, Stop: 34697, Start Num: 44

Candidate Starts for Netyap\_41:

(31, 34392), (33, 34398), (Start: 37 @34410 has 5 MA's), (Start: 44 @34467 has 16 MA's), (54, 34587), (55, 34593), (57, 34605), (70, 34686),

Gene: Nibb\_46 Start: 35544, Stop: 35738, Start Num: 45

Candidate Starts for Nibb\_46:

(Start: 41 @35493 has 65 MA's), (Start: 45 @35544 has 9 MA's), (Start: 46 @35547 has 7 MA's), (51, 35613), (55, 35661),

Gene: Nikao\_42 Start: 37403, Stop: 37597, Start Num: 45

Candidate Starts for Nikao\_42:

(Start: 41 @37352 has 65 MA's), (Start: 45 @37403 has 9 MA's), (47, 37439), (55, 37520), (60, 37550), (61, 37556),

Gene: Niklas\_46 Start: 35918, Stop: 36166, Start Num: 41

Candidate Starts for Niklas\_46:

(Start: 41 @35918 has 65 MA's), (Start: 46 @35972 has 7 MA's), (55, 36086), (60, 36116), (63, 36134),

Gene: November\_44 Start: 35863, Stop: 36099, Start Num: 41

Candidate Starts for November\_44:

(12, 35764), (Start: 41 @35863 has 65 MA's), (53, 36016), (60, 36061), (67, 36088),

Gene: Nutello\_39 Start: 34739, Stop: 34984, Start Num: 41

Candidate Starts for Nutello\_39:

(Start: 41 @34739 has 65 MA's), (Start: 45 @34790 has 9 MA's), (47, 34826), (55, 34907), (60, 34937), (61, 34943),

Gene: OmniCritical\_47 Start: 36066, Stop: 36314, Start Num: 39

Candidate Starts for OmniCritical\_47:

(14, 35970), (23, 36012), (Start: 39 @36066 has 20 MA's), (55, 36237), (56, 36240),

Gene: Oscar\_48 Start: 36280, Stop: 36486, Start Num: 45

Candidate Starts for Oscar\_48:

(Start: 41 @36229 has 65 MA's), (Start: 45 @36280 has 9 MA's), (Start: 46 @36283 has 7 MA's), (55, 36397), (57, 36409),

Gene: OverPar\_42 Start: 34499, Stop: 34729, Start Num: 44

Candidate Starts for OverPar\_42:

(31, 34424), (33, 34430), (Start: 37 @34442 has 5 MA's), (Start: 44 @34499 has 16 MA's), (54, 34619), (55, 34625), (57, 34637), (67, 34691), (70, 34718),

Gene: Padfoot\_44 Start: 35474, Stop: 35713, Start Num: 41

Candidate Starts for Padfoot\_44:

(Start: 28 @35432 has 15 MA's), (Start: 35 @35453 has 7 MA's), (Start: 36 @35456 has 30 MA's), (Start: 41 @35474 has 65 MA's), (42, 35495), (Start: 44 @35516 has 16 MA's), (Start: 46 @35528 has 7 MA's), (47, 35561), (53, 35627), (55, 35642), (63, 35690),

Gene: Padpat\_45 Start: 35153, Stop: 35392, Start Num: 41

Candidate Starts for Padpat\_45:

(Start: 28 @35111 has 15 MA's), (Start: 35 @35132 has 7 MA's), (Start: 36 @35135 has 30 MA's), (Start: 41 @35153 has 65 MA's), (42, 35174), (Start: 44 @35195 has 16 MA's), (Start: 46 @35207 has 7 MA's), (47, 35240), (53, 35306), (55, 35321), (63, 35369),

Gene: Patt\_45 Start: 35280, Stop: 35528, Start Num: 39

Candidate Starts for Patt\_45:

(21, 35217), (32, 35253), (34, 35259), (Start: 39 @35280 has 20 MA's), (55, 35451), (56, 35454),

Gene: Peanam\_46 Start: 35828, Stop: 36124, Start Num: 25

Candidate Starts for Peanam\_46:

(16, 35798), (Start: 25 @35828 has 2 MA's), (Start: 41 @35876 has 65 MA's), (Start: 46 @35930 has 7 MA's), (55, 36044), (60, 36074), (63, 36092),

Gene: Peel\_44 Start: 35261, Stop: 35518, Start Num: 36

Candidate Starts for Peel\_44:

(Start: 28 @35237 has 15 MA's), (Start: 35 @35258 has 7 MA's), (Start: 36 @35261 has 30 MA's), (Start: 41 @35279 has 65 MA's), (42, 35300), (Start: 44 @35321 has 16 MA's), (Start: 46 @35333 has 7 MA's), (47, 35366), (53, 35432), (55, 35447), (63, 35495),

Gene: PhelpsODU\_46 Start: 35137, Stop: 35373, Start Num: 41

Candidate Starts for PhelpsODU\_46:

(10, 35029), (Start: 41 @35137 has 65 MA's), (Start: 45 @35188 has 9 MA's), (Start: 46 @35191 has 7 MA's), (51, 35257), (53, 35290),

Gene: Phrank\_47 Start: 35094, Stop: 35330, Start Num: 41

Candidate Starts for Phrank\_47:

(Start: 25 @35046 has 2 MA's), (Start: 41 @35094 has 65 MA's), (Start: 45 @35145 has 9 MA's), (Start: 46 @35148 has 7 MA's), (51, 35214),

Gene: Piatt\_44 Start: 35432, Stop: 35713, Start Num: 28

Candidate Starts for Piatt\_44:

(Start: 28 @35432 has 15 MA's), (Start: 35 @35453 has 7 MA's), (Start: 36 @35456 has 30 MA's), (Start: 41 @35474 has 65 MA's), (42, 35495), (Start: 44 @35516 has 16 MA's), (Start: 46 @35528 has 7 MA's), (47, 35561), (53, 35627), (55, 35642), (63, 35690),

Gene: Pisa1\_44 Start: 36447, Stop: 36686, Start Num: 41

Candidate Starts for Pisa1\_44:

(3, 36246), (4, 36252), (5, 36267), (17, 36372), (Start: 41 @36447 has 65 MA's), (42, 36468), (Start: 44 @36489 has 16 MA's), (Start: 46 @36501 has 7 MA's), (47, 36534), (53, 36600), (55, 36615), (58, 36630), (59, 36639), (62, 36660),

Gene: Pisa4\_38 Start: 31870, Stop: 32055, Start Num: 46

Candidate Starts for Pisa4\_38:

(3, 31615), (4, 31621), (5, 31636), (17, 31741), (Start: 41 @31816 has 65 MA's), (42, 31837), (Start: 44 @31858 has 16 MA's), (Start: 46 @31870 has 7 MA's), (47, 31903), (53, 31969), (55, 31984), (58, 31999), (59, 32008), (62, 32029),

Gene: Pokerus\_43 Start: 35182, Stop: 35439, Start Num: 36

Candidate Starts for Pokerus\_43:

(Start: 28 @35158 has 15 MA's), (Start: 36 @35182 has 30 MA's), (Start: 41 @35200 has 65 MA's), (Start: 44 @35242 has 16 MA's), (Start: 46 @35254 has 7 MA's), (47, 35287), (53, 35353), (55, 35368), (63, 35416),

Gene: Prithvi\_45 Start: 35343, Stop: 35582, Start Num: 41

Candidate Starts for Prithvi\_45:

(3, 35142), (4, 35148), (5, 35163), (13, 35247), (19, 35271), (Start: 41 @35343 has 65 MA's), (42, 35364), (Start: 44 @35385 has 16 MA's), (Start: 46 @35397 has 7 MA's), (47, 35430), (53, 35496), (55, 35511),

Gene: Qhanda\_50 Start: 36178, Stop: 36426, Start Num: 39

Candidate Starts for Qhanda\_50:

(14, 36082), (Start: 39 @36178 has 20 MA's), (55, 36349), (56, 36352),

Gene: Quby\_39 Start: 33131, Stop: 33373, Start Num: 44

Candidate Starts for Quby\_39:

(18, 33014), (24, 33035), (30, 33053), (31, 33056), (33, 33062), (Start: 37 @33074 has 5 MA's), (Start: 44 @33131 has 16 MA's), (50, 33194), (54, 33251), (57, 33269), (63, 33305),

Gene: QuincyRose\_43 Start: 35592, Stop: 35831, Start Num: 41

Candidate Starts for QuincyRose\_43:

(3, 35391), (4, 35397), (5, 35412), (13, 35496), (19, 35520), (26, 35544), (Start: 41 @35592 has 65 MA's), (Start: 44 @35634 has 16 MA's), (Start: 46 @35646 has 7 MA's), (47, 35679), (53, 35745), (55, 35760), (63, 35808),

Gene: Ramen\_44 Start: 35122, Stop: 35403, Start Num: 28

Candidate Starts for Ramen\_44:

(Start: 28 @35122 has 15 MA's), (Start: 35 @35143 has 7 MA's), (Start: 36 @35146 has 30 MA's), (Start: 41 @35164 has 65 MA's), (42, 35185), (Start: 44 @35206 has 16 MA's), (Start: 46 @35218 has 7 MA's), (47, 35251), (53, 35317), (55, 35332), (63, 35380),

Gene: Rapunzel97\_44 Start: 35142, Stop: 35399, Start Num: 36

Candidate Starts for Rapunzel97\_44:

(Start: 28 @35118 has 15 MA's), (Start: 35 @35139 has 7 MA's), (Start: 36 @35142 has 30 MA's), (Start: 41 @35160 has 65 MA's), (42, 35181), (Start: 44 @35202 has 16 MA's), (Start: 46 @35214 has 7 MA's), (47, 35247), (53, 35313), (55, 35328), (63, 35376),

Gene: Reptar3000\_46 Start: 35271, Stop: 35519, Start Num: 39

Candidate Starts for Reptar3000\_46:

(14, 35175), (23, 35217), (Start: 39 @35271 has 20 MA's), (55, 35442), (56, 35445),

Gene: Richo\_46 Start: 35860, Stop: 36105, Start Num: 41

Candidate Starts for Richo\_46:

(Start: 41 @35860 has 65 MA's), (Start: 45 @35911 has 9 MA's), (Start: 46 @35914 has 7 MA's), (55, 36028), (60, 36058),

Gene: Rosmarinus\_44 Start: 35247, Stop: 35504, Start Num: 36

Candidate Starts for Rosmarinus\_44:

(Start: 28 @35223 has 15 MA's), (Start: 35 @35244 has 7 MA's), (Start: 36 @35247 has 30 MA's), (Start: 41 @35265 has 65 MA's), (42, 35286), (Start: 44 @35307 has 16 MA's), (Start: 46 @35319 has 7 MA's), (47, 35352), (53, 35418), (55, 35433), (63, 35481),

Gene: Rossetti\_41 Start: 34734, Stop: 34964, Start Num: 44

Candidate Starts for Rossetti\_41:

(31, 34659), (33, 34665), (Start: 37 @34677 has 5 MA's), (Start: 44 @34734 has 16 MA's), (54, 34854), (55, 34860), (57, 34872), (70, 34953),

Gene: SamuelLPlaqson\_45 Start: 36056, Stop: 36295, Start Num: 41

Candidate Starts for SamuelLPlaqson\_45:

(3, 35855), (4, 35861), (5, 35876), (13, 35960), (19, 35984), (Start: 41 @36056 has 65 MA's), (Start: 44 @36098 has 16 MA's), (Start: 46 @36110 has 7 MA's), (47, 36143), (53, 36209),

Gene: Scarlett\_48 Start: 36272, Stop: 36478, Start Num: 45

Candidate Starts for Scarlett\_48:

(Start: 41 @36221 has 65 MA's), (Start: 45 @36272 has 9 MA's), (Start: 46 @36275 has 7 MA's), (51, 36341), (55, 36389), (57, 36401),

Gene: SgtBeansprout\_39 Start: 34790, Stop: 34984, Start Num: 45

Candidate Starts for SgtBeansprout\_39:

(Start: 41 @34739 has 65 MA's), (Start: 45 @34790 has 9 MA's), (47, 34826), (55, 34907), (60, 34937), (61, 34943),

Gene: Shadow1\_49 Start: 36255, Stop: 36491, Start Num: 41

Candidate Starts for Shadow1\_49:

(Start: 41 @36255 has 65 MA's), (Start: 45 @36306 has 9 MA's), (51, 36375), (57, 36435),

Gene: Shaobing\_46 Start: 35893, Stop: 36141, Start Num: 41

Candidate Starts for Shaobing\_46:

(Start: 41 @35893 has 65 MA's), (Start: 46 @35947 has 7 MA's), (55, 36061), (60, 36091), (63, 36109),

Gene: ShiaSurprise\_45 Start: 35474, Stop: 35713, Start Num: 41

Candidate Starts for ShiaSurprise\_45:

(Start: 28 @35432 has 15 MA's), (Start: 35 @35453 has 7 MA's), (Start: 36 @35456 has 30 MA's), (Start: 41 @35474 has 65 MA's), (42, 35495), (Start: 44 @35516 has 16 MA's), (Start: 46 @35528 has 7 MA's), (47, 35561), (53, 35627), (55, 35642), (63, 35690),

Gene: SirPhilip\_46 Start: 36474, Stop: 36710, Start Num: 41

Candidate Starts for SirPhilip\_46:

(20, 36405), (Start: 25 @36426 has 2 MA's), (Start: 41 @36474 has 65 MA's), (Start: 45 @36525 has 9 MA's), (Start: 46 @36528 has 7 MA's), (53, 36627), (60, 36672),

Gene: Slarp\_48 Start: 36169, Stop: 36417, Start Num: 39

Candidate Starts for Slarp\_48:

(14, 36073), (Start: 39 @36169 has 20 MA's), (55, 36340), (56, 36343),

Gene: Slimphazie\_44 Start: 35142, Stop: 35399, Start Num: 36

Candidate Starts for Slimphazie\_44:

(Start: 28 @35118 has 15 MA's), (Start: 35 @35139 has 7 MA's), (Start: 36 @35142 has 30 MA's),  
(Start: 41 @35160 has 65 MA's), (42, 35181), (Start: 44 @35202 has 16 MA's), (Start: 46 @35214 has  
7 MA's), (47, 35247), (53, 35313), (55, 35328), (63, 35376),

Gene: SoJulia\_42 Start: 34727, Stop: 34957, Start Num: 44

Candidate Starts for SoJulia\_42:

(31, 34652), (33, 34658), (Start: 37 @34670 has 5 MA's), (Start: 44 @34727 has 16 MA's), (54, 34847),  
(55, 34853), (57, 34865), (70, 34946),

Gene: Soap141\_41 Start: 34501, Stop: 34731, Start Num: 44

Candidate Starts for Soap141\_41:

(31, 34426), (33, 34432), (Start: 37 @34444 has 5 MA's), (Start: 44 @34501 has 16 MA's), (54, 34621),  
(55, 34627), (57, 34639), (67, 34693), (70, 34720),

Gene: Spock\_44 Start: 35260, Stop: 35517, Start Num: 36

Candidate Starts for Spock\_44:

(Start: 28 @35236 has 15 MA's), (Start: 35 @35257 has 7 MA's), (Start: 36 @35260 has 30 MA's),  
(Start: 41 @35278 has 65 MA's), (42, 35299), (Start: 44 @35320 has 16 MA's), (Start: 46 @35332 has  
7 MA's), (47, 35365), (53, 35431), (55, 35446), (63, 35494),

Gene: Stinson\_45 Start: 35667, Stop: 35906, Start Num: 41

Candidate Starts for Stinson\_45:

(Start: 28 @35625 has 15 MA's), (Start: 36 @35649 has 30 MA's), (Start: 41 @35667 has 65 MA's),  
(42, 35688), (Start: 44 @35709 has 16 MA's), (Start: 46 @35721 has 7 MA's), (47, 35754), (53,  
35820), (55, 35835),

Gene: Sulley\_44 Start: 35383, Stop: 35643, Start Num: 35

Candidate Starts for Sulley\_44:

(Start: 28 @35362 has 15 MA's), (Start: 35 @35383 has 7 MA's), (Start: 36 @35386 has 30 MA's),  
(Start: 41 @35404 has 65 MA's), (Start: 44 @35446 has 16 MA's), (Start: 46 @35458 has 7 MA's), (47,  
35491), (53, 35557), (55, 35572), (63, 35620),

Gene: Sunflower1121\_50 Start: 36356, Stop: 36592, Start Num: 41

Candidate Starts for Sunflower1121\_50:

(Start: 41 @36356 has 65 MA's), (Start: 45 @36407 has 9 MA's), (51, 36476), (55, 36524), (57, 36536),

Gene: Syra333\_49 Start: 36023, Stop: 36259, Start Num: 41

Candidate Starts for Syra333\_49:

(Start: 41 @36023 has 65 MA's), (Start: 45 @36074 has 9 MA's), (51, 36143), (57, 36203),

Gene: TClif\_48 Start: 36322, Stop: 36570, Start Num: 41

Candidate Starts for TClif\_48:

(Start: 41 @36322 has 65 MA's), (47, 36409), (53, 36475), (55, 36490), (60, 36520),

Gene: Tachez\_44 Start: 35101, Stop: 35361, Start Num: 35

Candidate Starts for Tachez\_44:

(Start: 28 @35080 has 15 MA's), (Start: 35 @35101 has 7 MA's), (Start: 36 @35104 has 30 MA's),  
(Start: 41 @35122 has 65 MA's), (42, 35143), (Start: 44 @35164 has 16 MA's), (Start: 46 @35176 has  
7 MA's), (47, 35209), (53, 35275), (55, 35290), (63, 35338),

Gene: Taquito\_48 Start: 36416, Stop: 36664, Start Num: 39  
Candidate Starts for Taquito\_48:  
(14, 36320), (Start: 39 @36416 has 20 MA's), (55, 36587), (56, 36590),

Gene: Teejan\_42 Start: 37403, Stop: 37597, Start Num: 45  
Candidate Starts for Teejan\_42:  
(Start: 41 @37352 has 65 MA's), (Start: 45 @37403 has 9 MA's), (47, 37439), (55, 37520), (60, 37550),  
(61, 37556),

Gene: Tierra\_47 Start: 35905, Stop: 36141, Start Num: 41  
Candidate Starts for Tierra\_47:  
(Start: 41 @35905 has 65 MA's), (Start: 45 @35956 has 9 MA's), (Start: 46 @35959 has 7 MA's), (51,  
36025),

Gene: Tigress9\_50 Start: 36110, Stop: 36346, Start Num: 41  
Candidate Starts for Tigress9\_50:  
(Start: 41 @36110 has 65 MA's), (Start: 45 @36161 has 9 MA's), (51, 36230), (53, 36263), (55, 36278),  
(57, 36290),

Gene: TiniBug\_45 Start: 36052, Stop: 36291, Start Num: 41  
Candidate Starts for TiniBug\_45:  
(3, 35851), (4, 35857), (5, 35872), (13, 35956), (19, 35980), (Start: 41 @36052 has 65 MA's), (Start: 44  
@36094 has 16 MA's), (Start: 46 @36106 has 7 MA's), (53, 36205), (55, 36220),

Gene: Tiri\_45 Start: 35452, Stop: 35691, Start Num: 41  
Candidate Starts for Tiri\_45:  
(3, 35251), (4, 35257), (5, 35272), (13, 35356), (19, 35380), (26, 35404), (Start: 41 @35452 has 65  
MA's), (Start: 44 @35494 has 16 MA's), (Start: 46 @35506 has 7 MA's), (47, 35539), (53, 35605), (55,  
35620), (63, 35668),

Gene: Topper\_44 Start: 35259, Stop: 35516, Start Num: 36  
Candidate Starts for Topper\_44:  
(Start: 28 @35235 has 15 MA's), (Start: 35 @35256 has 7 MA's), (Start: 36 @35259 has 30 MA's),  
(Start: 41 @35277 has 65 MA's), (42, 35298), (Start: 44 @35319 has 16 MA's), (Start: 46 @35331 has  
7 MA's), (47, 35364), (53, 35430), (55, 35445), (63, 35493),

Gene: Torres\_42 Start: 37404, Stop: 37598, Start Num: 45  
Candidate Starts for Torres\_42:  
(Start: 41 @37353 has 65 MA's), (Start: 45 @37404 has 9 MA's), (47, 37440), (55, 37521), (60, 37551),  
(61, 37557),

Gene: Tourach\_41 Start: 34425, Stop: 34712, Start Num: 37  
Candidate Starts for Tourach\_41:  
(18, 34365), (Start: 37 @34425 has 5 MA's), (Start: 44 @34482 has 16 MA's), (51, 34560), (54, 34602),  
(55, 34608), (57, 34620),

Gene: TreyKay\_45 Start: 35343, Stop: 35582, Start Num: 41  
Candidate Starts for TreyKay\_45:  
(3, 35142), (4, 35148), (5, 35163), (13, 35247), (19, 35271), (Start: 41 @35343 has 65 MA's), (42,  
35364), (Start: 44 @35385 has 16 MA's), (Start: 46 @35397 has 7 MA's), (47, 35430), (53, 35496),  
(55, 35511),

Gene: TribelTrouble\_44 Start: 35315, Stop: 35500, Start Num: 46

Candidate Starts for TribelTrouble\_44:

(Start: 41 @35261 has 65 MA's), (Start: 46 @35315 has 7 MA's), (51, 35381),

Gene: Trice\_40 Start: 34791, Stop: 34985, Start Num: 45

Candidate Starts for Trice\_40:

(Start: 41 @34740 has 65 MA's), (Start: 45 @34791 has 9 MA's), (47, 34827), (55, 34908), (60, 34938), (61, 34944),

Gene: TruffulaTree\_44 Start: 35138, Stop: 35395, Start Num: 36

Candidate Starts for TruffulaTree\_44:

(Start: 28 @35114 has 15 MA's), (Start: 35 @35135 has 7 MA's), (Start: 36 @35138 has 30 MA's), (Start: 41 @35156 has 65 MA's), (42, 35177), (Start: 44 @35198 has 16 MA's), (Start: 46 @35210 has 7 MA's), (47, 35243), (53, 35309), (55, 35324), (63, 35372),

Gene: Twitch\_44 Start: 35261, Stop: 35518, Start Num: 36

Candidate Starts for Twitch\_44:

(Start: 28 @35237 has 15 MA's), (Start: 35 @35258 has 7 MA's), (Start: 36 @35261 has 30 MA's), (Start: 41 @35279 has 65 MA's), (42, 35300), (Start: 44 @35321 has 16 MA's), (Start: 46 @35333 has 7 MA's), (47, 35366), (53, 35432), (55, 35447), (63, 35495),

Gene: Underpass\_41 Start: 34411, Stop: 34698, Start Num: 37

Candidate Starts for Underpass\_41:

(31, 34393), (33, 34399), (Start: 37 @34411 has 5 MA's), (Start: 44 @34468 has 16 MA's), (54, 34588), (55, 34594), (57, 34606), (70, 34687),

Gene: Urkel\_45 Start: 36056, Stop: 36295, Start Num: 41

Candidate Starts for Urkel\_45:

(3, 35855), (4, 35861), (5, 35876), (13, 35960), (19, 35984), (Start: 41 @36056 has 65 MA's), (Start: 44 @36098 has 16 MA's), (Start: 46 @36110 has 7 MA's), (47, 36143), (53, 36209),

Gene: Validus\_48 Start: 35897, Stop: 36190, Start Num: 25

Candidate Starts for Validus\_48:

(Start: 25 @35897 has 2 MA's), (Start: 41 @35945 has 65 MA's), (Start: 45 @35996 has 9 MA's), (Start: 46 @35999 has 7 MA's), (55, 36113), (60, 36143), (64, 36167),

Gene: Veliki\_44 Start: 35178, Stop: 35435, Start Num: 36

Candidate Starts for Veliki\_44:

(Start: 28 @35154 has 15 MA's), (Start: 35 @35175 has 7 MA's), (Start: 36 @35178 has 30 MA's), (Start: 41 @35196 has 65 MA's), (42, 35217), (Start: 44 @35238 has 16 MA's), (Start: 46 @35250 has 7 MA's), (47, 35283), (53, 35349), (55, 35364), (63, 35412),

Gene: Vetrix\_41 Start: 34417, Stop: 34704, Start Num: 37

Candidate Starts for Vetrix\_41:

(31, 34399), (33, 34405), (Start: 37 @34417 has 5 MA's), (Start: 44 @34474 has 16 MA's), (54, 34594), (55, 34600), (57, 34612), (70, 34693),

Gene: Wilder\_41 Start: 34473, Stop: 34703, Start Num: 44

Candidate Starts for Wilder\_41:

(31, 34398), (33, 34404), (Start: 37 @34416 has 5 MA's), (Start: 44 @34473 has 16 MA's), (54, 34593), (55, 34599), (57, 34611), (67, 34665), (70, 34692),

Gene: Wintermute\_48 Start: 36318, Stop: 36566, Start Num: 39

Candidate Starts for Wintermute\_48:

(14, 36222), (22, 36258), (Start: 39 @36318 has 20 MA's), (55, 36489), (56, 36492),

Gene: Ximenita\_50 Start: 36194, Stop: 36445, Start Num: 36

Candidate Starts for Ximenita\_50:

(24, 36161), (Start: 35 @36191 has 7 MA's), (Start: 36 @36194 has 30 MA's), (Start: 41 @36209 has 65 MA's), (Start: 46 @36263 has 7 MA's), (51, 36329), (55, 36377), (57, 36389),

Gene: Y10\_47 Start: 36237, Stop: 36485, Start Num: 39

Candidate Starts for Y10\_47:

(Start: 39 @36237 has 20 MA's), (55, 36408), (56, 36411),

Gene: Y2\_47 Start: 36237, Stop: 36485, Start Num: 39

Candidate Starts for Y2\_47:

(Start: 39 @36237 has 20 MA's), (55, 36408), (56, 36411),

Gene: YasnayaPolyana\_48 Start: 36168, Stop: 36416, Start Num: 39

Candidate Starts for YasnayaPolyana\_48:

(14, 36072), (23, 36114), (Start: 39 @36168 has 20 MA's), (55, 36339), (56, 36342),

Gene: YoureAdopted\_43 Start: 35343, Stop: 35600, Start Num: 36

Candidate Starts for YoureAdopted\_43:

(Start: 28 @35319 has 15 MA's), (Start: 35 @35340 has 7 MA's), (Start: 36 @35343 has 30 MA's), (Start: 41 @35361 has 65 MA's), (42, 35382), (Start: 44 @35403 has 16 MA's), (Start: 46 @35415 has 7 MA's), (47, 35448), (53, 35514), (55, 35529), (63, 35577),

Gene: Yuna\_50 Start: 36971, Stop: 37204, Start Num: 41

Candidate Starts for Yuna\_50:

(Start: 41 @36971 has 65 MA's), (51, 37091), (55, 37139), (57, 37151),

Gene: Zabiza\_39 Start: 31425, Stop: 31706, Start Num: 28

Candidate Starts for Zabiza\_39:

(Start: 28 @31425 has 15 MA's), (Start: 35 @31446 has 7 MA's), (Start: 36 @31449 has 30 MA's), (Start: 41 @31467 has 65 MA's), (42, 31488), (Start: 44 @31509 has 16 MA's), (Start: 46 @31521 has 7 MA's), (47, 31554), (53, 31620), (55, 31635), (63, 31683),

Gene: Zakai\_41 Start: 34725, Stop: 34955, Start Num: 44

Candidate Starts for Zakai\_41:

(31, 34650), (33, 34656), (Start: 37 @34668 has 5 MA's), (Start: 44 @34725 has 16 MA's), (54, 34845), (55, 34851), (57, 34863), (70, 34944),

Gene: Zavala\_45 Start: 35438, Stop: 35677, Start Num: 41

Candidate Starts for Zavala\_45:

(Start: 35 @35417 has 7 MA's), (Start: 36 @35420 has 30 MA's), (Start: 41 @35438 has 65 MA's), (42, 35459), (Start: 44 @35480 has 16 MA's), (Start: 46 @35492 has 7 MA's), (47, 35525), (53, 35591), (55, 35606), (63, 35654),