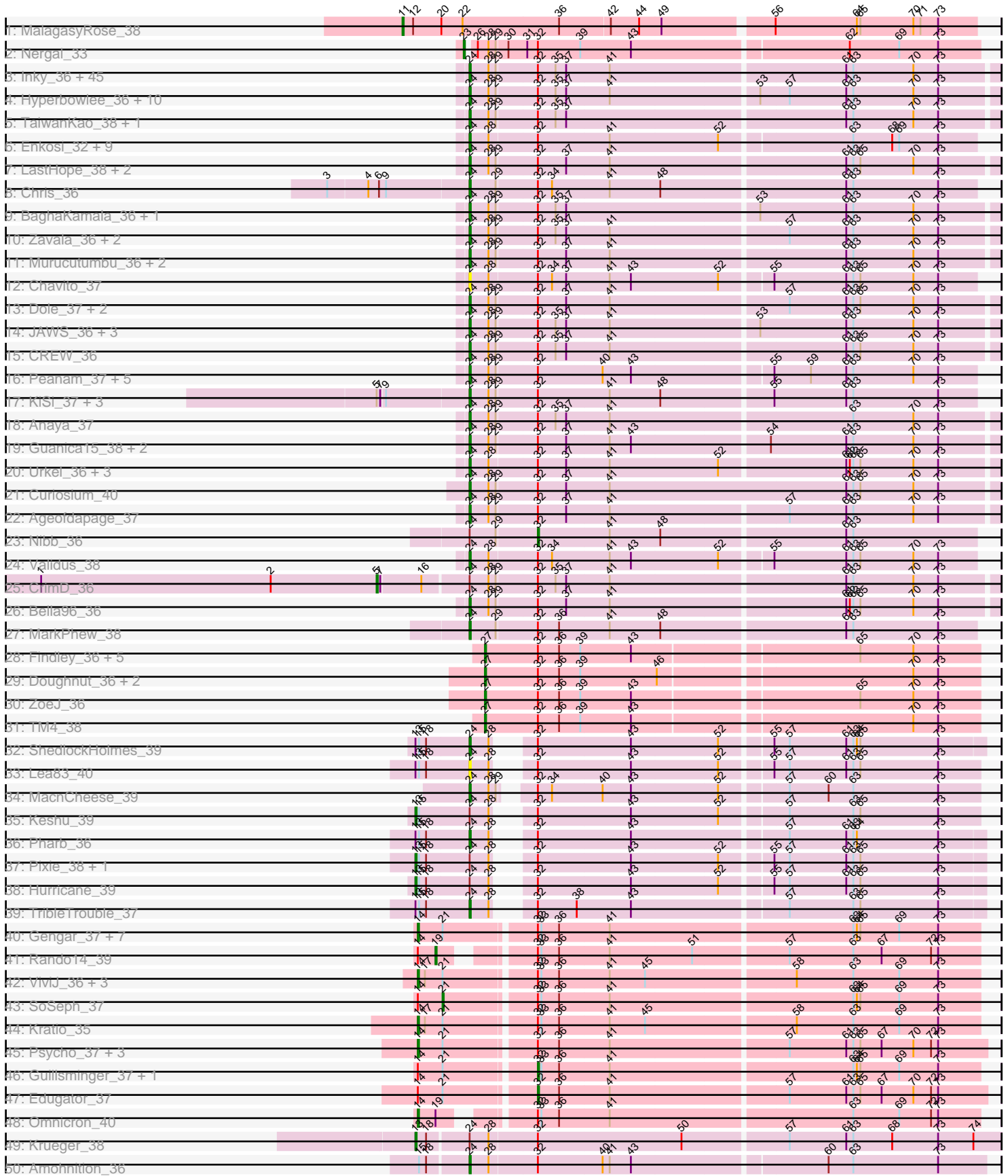
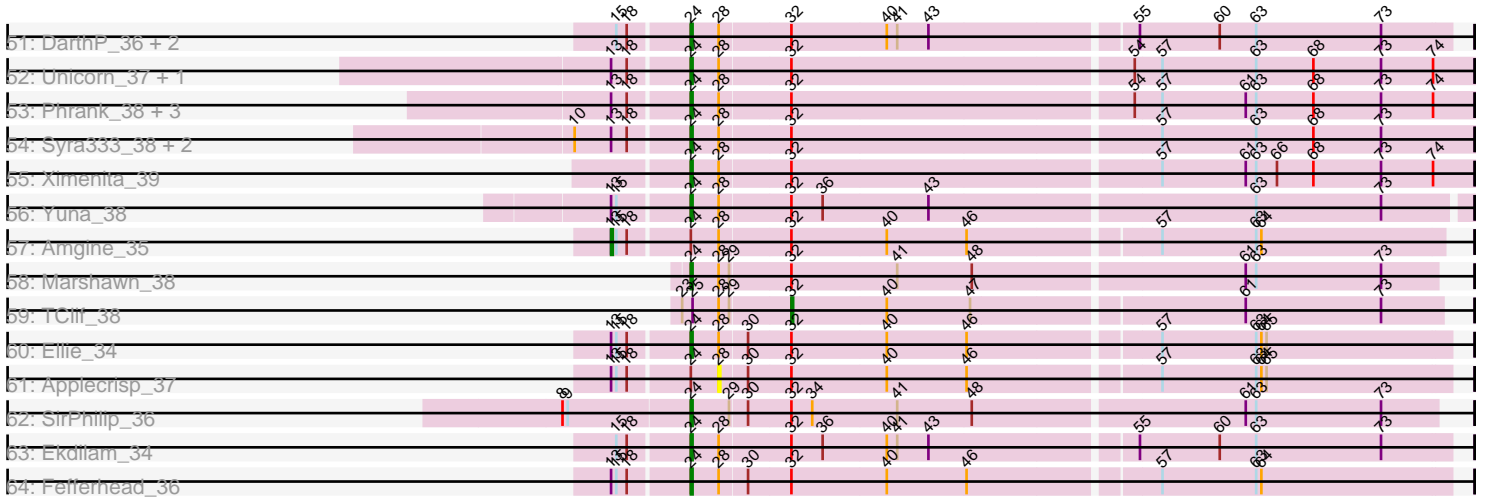


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 219448 Report

This analysis was run 03/28/25 on database version 593.

Pham number 219448 has 184 members, 17 are drafts.

Phages represented in each track:

- Track 1 : MalagasyRose\_38
- Track 2 : Nergal\_33
- Track 3 : Inky\_36, LindNT\_36, Geraldini\_36, Spock\_36, Rosmarinus\_36, QuincyRose\_35, Deby\_36, Sulley\_36, Apocalypse\_37, Jayhawk\_37, Slimphazie\_36, Joy99\_36, Belladonna\_36, TreyKay\_36, BGIlluviae\_36, Capricorn\_36, Adonis\_36, CallaLilly\_38, Angelica\_36, Tachez\_36, HedwigODU\_36, Topper\_36, Dalmuri\_36, Ganymede\_37, Jeckyll\_36, Twitch\_36, Zabiza\_36, MeaningOfLife\_36, Beezoo\_36, Emerson\_37, ActinUp\_36, Atiba\_36, Veliki\_36, Pokerus\_35, Padpat\_37, TruffulaTree\_36, Peel\_36, Prithvi\_36, Lunahalos\_36, Llorens\_36, BarrelRoll\_36, Rapunzel97\_36, Adephagia\_36, Homura\_36, Jarvi\_36, YoureAdopted\_35
- Track 4 : Hyperbowlee\_36, ShiaSurprise\_37, BEEST\_36, Piatt\_36, Padfoot\_36, Asayake\_36, Durfee\_36, AlishaPH\_36, CaseJules\_37, Blizzard\_36, Boiiii\_36
- Track 5 : TaiwanKao\_38, Megsy\_37
- Track 6 : Enkosi\_32, Amelie\_32, Biglebops\_32, SgtBeansprout\_32, Torres\_32, LilPharaoh\_32, Mdavu\_32, Nikao\_32, Teejan\_32, Nutello\_32
- Track 7 : LastHope\_38, TingHuaYa\_37, Bern\_38
- Track 8 : Chris\_36
- Track 9 : BaghaKamala\_36, CheetoDust\_36
- Track 10 : Zavala\_36, Tiri\_37, Mynx\_36
- Track 11 : Murucutumbu\_36, LaterM\_36, Stinson\_37
- Track 12 : Chavito\_37
- Track 13 : Dole\_37, Illumine\_37, Devera\_38
- Track 14 : JAWS\_36, MacKat\_37, Ramen\_36, Clipper\_38
- Track 15 : CREW\_36
- Track 16 : Peanam\_37, Richo\_37, Shaobing\_37, Dartin\_37, Niklas\_37, McMater\_37
- Track 17 : KiSi\_37, Oscar\_37, LeMond\_37, Scarlett\_37
- Track 18 : Anaya\_37
- Track 19 : Guanica15\_38, Yunkel11\_38, Efra2\_38
- Track 20 : Urkel\_36, SamuelLPlaqson\_36, TiniBug\_36, DrHayes\_36
- Track 21 : Curiosium\_40
- Track 22 : Ageofdapage\_37
- Track 23 : Nibb\_36
- Track 24 : Validus\_38
- Track 25 : CrimD\_36
- Track 26 : Bella96\_36
- Track 27 : MarkPhew\_38

- Track 28 : Findley\_36, DismalStressor\_36, Strobilo\_36, DismalFunk\_36, Milly\_36, Marcoliusprime\_36
- Track 29 : Doughnut\_36, Mufasa\_36, BoostSeason\_36
- Track 30 : ZoeJ\_36
- Track 31 : TM4\_38
- Track 32 : ShedlockHolmes\_39
- Track 33 : Lea83\_40
- Track 34 : MacnCheese\_39
- Track 35 : Keshu\_39
- Track 36 : Pharb\_36
- Track 37 : Pixie\_38, TBond007\_38
- Track 38 : Hurricane\_39
- Track 39 : TribbleTrouble\_37
- Track 40 : Gengar\_37, Paola\_37, Feyre\_37, OkiRoe\_37, Waterfoul\_38, Miryou\_37, Thyatira\_37, Heftyboy\_37
- Track 41 : Rando14\_39
- Track 42 : ViviJ\_36, Collard\_36, InvictusManeo\_36, Agent47\_37
- Track 43 : SoSeph\_37
- Track 44 : Kratio\_35
- Track 45 : Psycho\_37, Dadosky\_37, AlleyCat\_37, Larva\_37
- Track 46 : Guillsminger\_37, Leston\_37
- Track 47 : Edugator\_37
- Track 48 : Omnicron\_40
- Track 49 : Krueger\_38
- Track 50 : Amohnition\_36
- Track 51 : DarthP\_36, November\_36, Hammy\_36
- Track 52 : Unicorn\_37, PhelpsODU\_37
- Track 53 : Phrank\_38, Bryler\_38, Tierra\_38, Cain\_38
- Track 54 : Syra333\_38, Sunflower1121\_37, Shadow1\_37
- Track 55 : Ximenita\_39
- Track 56 : Yuna\_38
- Track 57 : Amgine\_35
- Track 58 : Marshawn\_38
- Track 59 : TClif\_38
- Track 60 : Ellie\_34
- Track 61 : Applecrisp\_37
- Track 62 : SirPhilip\_36
- Track 63 : Ekdilam\_34
- Track 64 : Fefferhead\_36

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

The start number called the most often in the published annotations is 24, it was called in 124 of the 167 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_36, Adephegia\_36, Adonis\_36, Ageofdapage\_37, AlishaPH\_36, Amelie\_32, Amohnition\_36, Anaya\_37, Angelica\_36, Apocalypse\_37, Asayake\_36, Atiba\_36, BEEST\_36, BGlluviae\_36, BaghaKamala\_36, BarrelRoll\_36, Beezoo\_36, Bella96\_36, Belladonna\_36, Bern\_38, Binglebops\_32, Blizzard\_36, Boiiii\_36,

Bryler\_38, CREW\_36, Cain\_38, CallaLilly\_38, Capricorn\_36, CaseJules\_37, Chavito\_37, CheetoDust\_36, Chris\_36, Clipper\_38, Curiosium\_40, Dalmuri\_36, DarthP\_36, Dartin\_37, Deby\_36, Devera\_38, Dole\_37, DrHayes\_36, Durfee\_36, Efra2\_38, Ekdilam\_34, Ellie\_34, Emerson\_37, Enkosi\_32, Fefferhead\_36, Ganymede\_37, Geraldini\_36, Guanica15\_38, Hammy\_36, HedwigODU\_36, Homura\_36, Hyperbowlee\_36, Illumine\_37, Inky\_36, JAWS\_36, Jarvi\_36, Jayhawk\_37, Jeckyll\_36, Joy99\_36, KiSi\_37, LastHope\_38, LaterM\_36, LeMond\_37, Lea83\_40, LilPharaoh\_32, LindNT\_36, Llorens\_36, Lunahalos\_36, MacKat\_37, MacnCheese\_39, MarkPhew\_38, Marshawn\_38, McMater\_37, Mdavu\_32, MeaningOfLife\_36, Megsy\_37, Murucutumbu\_36, Mynx\_36, Nikao\_32, Niklas\_37, November\_36, Nutello\_32, Oscar\_37, Padfoot\_36, Padpat\_37, Peanam\_37, Peel\_36, Pharb\_36, PhelpsODU\_37, Phrank\_38, Piatt\_36, Pokerus\_35, Prithvi\_36, QuincyRose\_35, Ramen\_36, Rapunzel97\_36, Richo\_37, Rosmarinus\_36, SamuelLPlaqson\_36, Scarlett\_37, SgtBeansprout\_32, Shadow1\_37, Shaobing\_37, ShedlockHolmes\_39, ShiaSurprise\_37, SirPhilip\_36, Slimphazie\_36, Spock\_36, Stinson\_37, Sulley\_36, Sunflower1121\_37, Syra333\_38, Tachez\_36, TaiwanKao\_38, Teejan\_32, Tierra\_38, TingHuaYa\_37, TiniBug\_36, Tiri\_37, Topper\_36, Torres\_32, TreyKay\_36, TribbleTrouble\_37, TruffulaTree\_36, Twitch\_36, Unicorn\_37, Urkel\_36, Validus\_38, Veliki\_36, Ximenita\_39, YoureAdopted\_35, Yuna\_38, Yunkel11\_38, Zabiza\_36, Zavala\_36,

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

- Amgine\_35, Applecrisp\_37, CrimD\_36, Hurricane\_39, Keshu\_39, Krueger\_38, Nibb\_36, Pixie\_38, TBond007\_38,

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

- Agent47\_37, AlleyCat\_37, BoostSeason\_36, Collard\_36, Dadosky\_37, DismalFunk\_36, DismalStressor\_36, Doughnut\_36, Edugator\_37, Feyre\_37, Findley\_36, Gengar\_37, Guillsminger\_37, Heftyboy\_37, InvictusManeo\_36, Kratio\_35, Larva\_37, Leston\_37, MalagasyRose\_38, Marcoliusprime\_36, Milly\_36, Miryou\_37, Mufasa\_36, Nergal\_33, OkiRoe\_37, Omnicron\_40, Paola\_37, Psycho\_37, Rando14\_39, SoSeph\_37, Strobilo\_36, TClif\_38, TM4\_38, Thyatira\_37, ViviJ\_36, Waterfoul\_38, ZoeJ\_36,

### Summary by start number:

Start 5:

- Found in 5 of 184 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 1 of 167
- Called 20.0% of time when present
- Phage (with cluster) where this start called: CrimD\_36 (K1),

Start 11:

- Found in 1 of 184 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 167
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_38 (AG),

Start 13:

- Found in 23 of 184 ( 12.5% ) of genes in pham
- Manual Annotations of this start: 6 of 167
- Called 26.1% of time when present

- Phage (with cluster) where this start called: Amgine\_35 (K6), Hurricane\_39 (K3), Keshu\_39 (K3), Krueger\_38 (K6), Pixie\_38 (K3), TBond007\_38 (K3),

#### Start 14:

- Found in 23 of 184 ( 12.5% ) of genes in pham
- Manual Annotations of this start: 17 of 167
- Called 78.3% of time when present
- Phage (with cluster) where this start called: Agent47\_37 (K5), AlleyCat\_37 (K5), Collard\_36 (K5), Dadosky\_37 (K5), Feyre\_37 (K5), Gengar\_37 (K5), Heftyboy\_37 (K5), InvictusManeo\_36 (K5), Kratio\_35 (K5), Larva\_37 (K5), Miryou\_37 (K5), OkiRoe\_37 (K5), Omnicron\_40 (K5), Paola\_37 (K5), Psycho\_37 (K5), Thyatira\_37 (K5), ViviJ\_36 (K5), Waterfoul\_38 (K5),

#### Start 19:

- Found in 2 of 184 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 167
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Rando14\_39 (K5),

#### Start 21:

- Found in 21 of 184 ( 11.4% ) of genes in pham
- Manual Annotations of this start: 1 of 167
- Called 4.8% of time when present
- Phage (with cluster) where this start called: SoSeph\_37 (K5),

#### Start 23:

- Found in 2 of 184 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 167
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Nergal\_33 (AG),

#### Start 24:

- Found in 147 of 184 ( 79.9% ) of genes in pham
- Manual Annotations of this start: 124 of 167
- Called 93.9% of time when present
- Phage (with cluster) where this start called: ActinUp\_36 (K1), Adephegia\_36 (K1), Adonis\_36 (K1), Ageofdapage\_37 (K1), AlishaPH\_36 (K1), Amelie\_32 (K1), Amohntion\_36 (K6), Anaya\_37 (K1), Angelica\_36 (K1), Apocalypse\_37 (K1), Asayake\_36 (K1), Atiba\_36 (K1), BEEEST\_36 (K1), BGIluviae\_36 (K1), BaghaKamala\_36 (K1), BarrelRoll\_36 (K1), Beezoo\_36 (K1), Bella96\_36 (K1), Belladonna\_36 (K1), Bern\_38 (K1), Binglebops\_32 (K1), Blizzard\_36 (K1), Boiiii\_36 (K1), Bryler\_38 (K6), CREW\_36 (K1), Cain\_38 (K6), CallaLilly\_38 (K1), Capricorn\_36 (K1), CaseJules\_37 (K1), Chavito\_37 (K1), CheetoDust\_36 (K1), Chris\_36 (K1), Clipper\_38 (K1), Curiosium\_40 (K1), Dalmuri\_36 (K1), DarthP\_36 (K6), Dartin\_37 (K1), Deby\_36 (K1), Devera\_38 (K1), Dole\_37 (K1), DrHayes\_36 (K1), Durfee\_36 (K1), Efra2\_38 (K1), Ekdilam\_34 (K6), Ellie\_34 (K6), Emerson\_37 (K1), Enkosi\_32 (K1), Fefferhead\_36 (K6), Ganymede\_37 (K1), Geraldini\_36 (K1), Guanica15\_38 (K1), Hammy\_36 (K6), HedwigODU\_36 (K1), Homura\_36 (K1), Hyperbowlee\_36 (K1), Illumine\_37 (K1), Inky\_36 (K1), JAWS\_36 (K1), Jarvi\_36 (K1), Jayhawk\_37 (K1), Jeckyll\_36 (K1), Joy99\_36 (K1), KiSi\_37 (K1), LastHope\_38 (K1), LaterM\_36 (K1), LeMond\_37 (K1), Lea83\_40 (K3), LilPharaoh\_32 (K1), LindNT\_36 (K1), Llorens\_36 (K1), Lunahalos\_36 (K1), MacKat\_37 (K1), MacnCheese\_39 (K3), MarkPhew\_38 (K1), Marshawn\_38 (K6), McMater\_37 (K1), Mdavu\_32 (K1),

MeaningOfLife\_36 (K1), Megsy\_37 (K1), Murucutumbu\_36 (K1), Mynx\_36 (K1), Nikao\_32 (K1), Niklas\_37 (K1), November\_36 (K6), Nutello\_32 (K1), Oscar\_37 (K1), Padfoot\_36 (K1), Padpat\_37 (K1), Peanam\_37 (K1), Peel\_36 (K1), Pharb\_36 (K3), PhelpsODU\_37 (K6), Phrank\_38 (K6), Piatt\_36 (K1), Pokerus\_35 (K1), Prithvi\_36 (K1), QuincyRose\_35 (K1), Ramen\_36 (K1), Rapunzel97\_36 (K1), Richo\_37 (K1), Rosmarinus\_36 (K1), SamuelLPlaqson\_36 (K1), Scarlett\_37 (K1), SgtBeansprout\_32 (K1), Shadow1\_37 (K6), Shaobing\_37 (K1), ShedlockHolmes\_39 (K3), ShiaSurprise\_37 (K1), SirPhilip\_36 (K6), Slimphazie\_36 (K1), Spock\_36 (K1), Stinson\_37 (K1), Sulley\_36 (K1), Sunflower1121\_37 (K6), Syra333\_38 (K6), Tachez\_36 (K1), TaiwanKao\_38 (K1), Teejan\_32 (K1), Tierra\_38 (K6), TingHuaYa\_37 (K1), TiniBug\_36 (K1), Tiri\_37 (K1), Topper\_36 (K1), Torres\_32 (K1), TreyKay\_36 (K1), TribbleTrouble\_37 (K3), TruffulaTree\_36 (K1), Twitch\_36 (K1), Unicorn\_37 (K6), Urkel\_36 (K1), Validus\_38 (K1), Veliki\_36 (K1), Ximenita\_39 (K6), YoureAdopted\_35 (K1), Yuna\_38 (K6), Yunkel11\_38 (K1), Zabiza\_36 (K1), Zavala\_36 (K1),

#### Start 27:

- Found in 11 of 184 ( 6.0% ) of genes in pham
- Manual Annotations of this start: 10 of 167
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BoostSeason\_36 (K2), DismalFunk\_36 (K2), DismalStressor\_36 (K2), Doughnut\_36 (K2), Findley\_36 (K2), Marcoliusprime\_36 (K2), Milly\_36 (K2), Mufasa\_36 (K2), Strobilo\_36 (K2), TM4\_38 (K2), ZoeJ\_36 (K2),

#### Start 28:

- Found in 145 of 184 ( 78.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.7% of time when present
- Phage (with cluster) where this start called: Applecrisp\_37 (K6),

#### Start 32:

- Found in 183 of 184 ( 99.5% ) of genes in pham
- Manual Annotations of this start: 5 of 167
- Called 2.7% of time when present
- Phage (with cluster) where this start called: Edugator\_37 (K5), Guillsminger\_37 (K5), Leston\_37 (K5), Nibb\_36 (K1), TClif\_38 (K6),

### Summary by clusters:

There are 6 clusters represented in this pham: AG, K3, K2, K1, K6, K5,

#### Info for manual annotations of cluster AG:

- Start number 11 was manually annotated 1 time for cluster AG.
- Start number 23 was manually annotated 1 time for cluster AG.

#### Info for manual annotations of cluster K1:

- Start number 5 was manually annotated 1 time for cluster K1.
- Start number 24 was manually annotated 101 times for cluster K1.
- Start number 32 was manually annotated 1 time for cluster K1.

#### Info for manual annotations of cluster K2:

- Start number 27 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 13 was manually annotated 4 times for cluster K3.
- Start number 24 was manually annotated 4 times for cluster K3.

Info for manual annotations of cluster K5:

- Start number 14 was manually annotated 17 times for cluster K5.
- Start number 19 was manually annotated 1 time for cluster K5.
- Start number 21 was manually annotated 1 time for cluster K5.
- Start number 32 was manually annotated 3 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 13 was manually annotated 2 times for cluster K6.
- Start number 24 was manually annotated 19 times for cluster K6.
- Start number 32 was manually annotated 1 time for cluster K6.

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

Gene: ActinUp\_36 Start: 29763, Stop: 30194, Start Num: 24

Candidate Starts for ActinUp\_36:

(Start: 24 @29763 has 124 MA's), (28, 29778), (29, 29784), (Start: 32 @29817 has 5 MA's), (35, 29832), (37, 29841), (41, 29877), (61, 30069), (63, 30075), (70, 30126), (73, 30147),

Gene: Adephagia\_36 Start: 29760, Stop: 30191, Start Num: 24

Candidate Starts for Adephagia\_36:

(Start: 24 @29760 has 124 MA's), (28, 29775), (29, 29781), (Start: 32 @29814 has 5 MA's), (35, 29829), (37, 29838), (41, 29874), (61, 30066), (63, 30072), (70, 30123), (73, 30144),

Gene: Adonis\_36 Start: 29775, Stop: 30206, Start Num: 24

Candidate Starts for Adonis\_36:

(Start: 24 @29775 has 124 MA's), (28, 29790), (29, 29796), (Start: 32 @29829 has 5 MA's), (35, 29844), (37, 29853), (41, 29889), (61, 30081), (63, 30087), (70, 30138), (73, 30159),

Gene: Agent47\_37 Start: 30643, Stop: 31101, Start Num: 14

Candidate Starts for Agent47\_37:

(Start: 14 @30643 has 17 MA's), (17, 30649), (Start: 21 @30664 has 1 MA's), (Start: 32 @30736 has 5 MA's), (33, 30739), (36, 30754), (41, 30796), (45, 30826), (58, 30946), (63, 30994), (69, 31033), (73, 31066),

Gene: Ageofdapage\_37 Start: 29721, Stop: 30152, Start Num: 24

Candidate Starts for Ageofdapage\_37:

(Start: 24 @29721 has 124 MA's), (28, 29736), (29, 29742), (Start: 32 @29775 has 5 MA's), (37, 29799), (41, 29835), (57, 29979), (61, 30027), (63, 30033), (70, 30084), (73, 30105),

Gene: AlishaPH\_36 Start: 29753, Stop: 30184, Start Num: 24

Candidate Starts for AlishaPH\_36:

(Start: 24 @29753 has 124 MA's), (28, 29768), (29, 29774), (Start: 32 @29807 has 5 MA's), (35, 29822), (37, 29831), (41, 29867), (53, 29987), (57, 30011), (61, 30059), (63, 30065), (70, 30116), (73, 30137),

Gene: AlleyCat\_37 Start: 30489, Stop: 30953, Start Num: 14



Candidate Starts for AlleyCat\_37:

(Start: 14 @30489 has 17 MA's), (Start: 21 @30510 has 1 MA's), (Start: 32 @30582 has 5 MA's), (36, 30600), (41, 30642), (57, 30786), (61, 30834), (63, 30840), (65, 30846), (67, 30864), (70, 30891), (72, 30906), (73, 30912),

Gene: Amelie\_32 Start: 29116, Stop: 29529, Start Num: 24

Candidate Starts for Amelie\_32:

(Start: 24 @29116 has 124 MA's), (28, 29131), (Start: 32 @29170 has 5 MA's), (41, 29230), (52, 29320), (63, 29425), (68, 29458), (69, 29464), (73, 29497),

Gene: Amgine\_35 Start: 29864, Stop: 30322, Start Num: 13

Candidate Starts for Amgine\_35:

(Start: 13 @29864 has 6 MA's), (15, 29867), (18, 29873), (Start: 24 @29906 has 124 MA's), (28, 29921), (Start: 32 @29960 has 5 MA's), (40, 30014), (46, 30059), (57, 30161), (63, 30215), (64, 30218),

Gene: Amohnition\_36 Start: 30303, Stop: 30722, Start Num: 24

Candidate Starts for Amohnition\_36:

(15, 30264), (18, 30270), (Start: 24 @30303 has 124 MA's), (28, 30318), (Start: 32 @30357 has 5 MA's), (40, 30411), (41, 30417), (43, 30435), (60, 30591), (63, 30612), (73, 30684),

Gene: Anaya\_37 Start: 29788, Stop: 30219, Start Num: 24

Candidate Starts for Anaya\_37:

(Start: 24 @29788 has 124 MA's), (28, 29803), (29, 29809), (Start: 32 @29842 has 5 MA's), (35, 29857), (37, 29866), (41, 29902), (63, 30100), (70, 30151), (73, 30172),

Gene: Angelica\_36 Start: 29710, Stop: 30141, Start Num: 24

Candidate Starts for Angelica\_36:

(Start: 24 @29710 has 124 MA's), (28, 29725), (29, 29731), (Start: 32 @29764 has 5 MA's), (35, 29779), (37, 29788), (41, 29824), (61, 30016), (63, 30022), (70, 30073), (73, 30094),

Gene: Apocalypse\_37 Start: 29731, Stop: 30162, Start Num: 24

Candidate Starts for Apocalypse\_37:

(Start: 24 @29731 has 124 MA's), (28, 29746), (29, 29752), (Start: 32 @29785 has 5 MA's), (35, 29800), (37, 29809), (41, 29845), (61, 30037), (63, 30043), (70, 30094), (73, 30115),

Gene: Applecrisp\_37 Start: 30343, Stop: 30747, Start Num: 28

Candidate Starts for Applecrisp\_37:

(Start: 13 @30286 has 6 MA's), (15, 30289), (18, 30295), (Start: 24 @30328 has 124 MA's), (28, 30343), (30, 30358), (Start: 32 @30382 has 5 MA's), (40, 30436), (46, 30481), (57, 30583), (63, 30637), (64, 30640), (65, 30643),

Gene: Asayake\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Asayake\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (53, 30028), (57, 30052), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Atiba\_36 Start: 29723, Stop: 30154, Start Num: 24

Candidate Starts for Atiba\_36:

(Start: 24 @29723 has 124 MA's), (28, 29738), (29, 29744), (Start: 32 @29777 has 5 MA's), (35, 29792), (37, 29801), (41, 29837), (61, 30029), (63, 30035), (70, 30086), (73, 30107),

Gene: BEEST\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for BEEST\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (53, 30028), (57, 30052), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: BGlluviae\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for BGlluviae\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: BaghaKamala\_36 Start: 29723, Stop: 30154, Start Num: 24

Candidate Starts for BaghaKamala\_36:

(Start: 24 @29723 has 124 MA's), (28, 29738), (29, 29744), (Start: 32 @29777 has 5 MA's), (35, 29792), (37, 29801), (53, 29957), (61, 30029), (63, 30035), (70, 30086), (73, 30107),

Gene: BarrelRoll\_36 Start: 29746, Stop: 30177, Start Num: 24

Candidate Starts for BarrelRoll\_36:

(Start: 24 @29746 has 124 MA's), (28, 29761), (29, 29767), (Start: 32 @29800 has 5 MA's), (35, 29815), (37, 29824), (41, 29860), (61, 30052), (63, 30058), (70, 30109), (73, 30130),

Gene: Beezoo\_36 Start: 29770, Stop: 30201, Start Num: 24

Candidate Starts for Beezoo\_36:

(Start: 24 @29770 has 124 MA's), (28, 29785), (29, 29791), (Start: 32 @29824 has 5 MA's), (35, 29839), (37, 29848), (41, 29884), (61, 30076), (63, 30082), (70, 30133), (73, 30154),

Gene: Bella96\_36 Start: 29663, Stop: 30094, Start Num: 24

Candidate Starts for Bella96\_36:

(Start: 24 @29663 has 124 MA's), (28, 29678), (29, 29684), (Start: 32 @29717 has 5 MA's), (37, 29741), (41, 29777), (61, 29969), (62, 29972), (63, 29975), (65, 29981), (70, 30026), (73, 30047),

Gene: Belladonna\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Belladonna\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Bern\_38 Start: 29702, Stop: 30133, Start Num: 24

Candidate Starts for Bern\_38:

(Start: 24 @29702 has 124 MA's), (28, 29717), (29, 29723), (Start: 32 @29756 has 5 MA's), (37, 29780), (41, 29816), (61, 30008), (63, 30014), (65, 30020), (70, 30065), (73, 30086),

Gene: Biglebops\_32 Start: 29116, Stop: 29529, Start Num: 24

Candidate Starts for Biglebops\_32:

(Start: 24 @29116 has 124 MA's), (28, 29131), (Start: 32 @29170 has 5 MA's), (41, 29230), (52, 29320), (63, 29425), (68, 29458), (69, 29464), (73, 29497),

Gene: Blizzard\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Blizzard\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (53, 30028), (57, 30052), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Boiiii\_36 Start: 29796, Stop: 30227, Start Num: 24

Candidate Starts for Boiii\_36:

(Start: 24 @29796 has 124 MA's), (28, 29811), (29, 29817), (Start: 32 @29850 has 5 MA's), (35, 29865), (37, 29874), (41, 29910), (53, 30030), (57, 30054), (61, 30102), (63, 30108), (70, 30159), (73, 30180),

Gene: BoostSeason\_36 Start: 29094, Stop: 29498, Start Num: 27

Candidate Starts for BoostSeason\_36:

(Start: 27 @29094 has 10 MA's), (Start: 32 @29139 has 5 MA's), (36, 29157), (39, 29175), (46, 29238), (70, 29442), (73, 29463),

Gene: Bryler\_38 Start: 29452, Stop: 29889, Start Num: 24

Candidate Starts for Bryler\_38:

(Start: 13 @29410 has 6 MA's), (18, 29419), (Start: 24 @29452 has 124 MA's), (28, 29467), (Start: 32 @29506 has 5 MA's), (54, 29695), (57, 29710), (61, 29758), (63, 29764), (68, 29797), (73, 29836), (74, 29866),

Gene: CREW\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for CREW\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (65, 30112), (70, 30157), (73, 30178),

Gene: Cain\_38 Start: 29440, Stop: 29877, Start Num: 24

Candidate Starts for Cain\_38:

(Start: 13 @29398 has 6 MA's), (18, 29407), (Start: 24 @29440 has 124 MA's), (28, 29455), (Start: 32 @29494 has 5 MA's), (54, 29683), (57, 29698), (61, 29746), (63, 29752), (68, 29785), (73, 29824), (74, 29854),

Gene: CallaLilly\_38 Start: 29717, Stop: 30148, Start Num: 24

Candidate Starts for CallaLilly\_38:

(Start: 24 @29717 has 124 MA's), (28, 29732), (29, 29738), (Start: 32 @29771 has 5 MA's), (35, 29786), (37, 29795), (41, 29831), (61, 30023), (63, 30029), (70, 30080), (73, 30101),

Gene: Capricorn\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Capricorn\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: CaseJules\_37 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for CaseJules\_37:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (53, 30028), (57, 30052), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Chavito\_37 Start: 29536, Stop: 29949, Start Num: 24

Candidate Starts for Chavito\_37:

(Start: 24 @29536 has 124 MA's), (28, 29551), (Start: 32 @29590 has 5 MA's), (34, 29602), (37, 29614), (41, 29650), (43, 29668), (52, 29740), (55, 29779), (61, 29839), (63, 29845), (65, 29851), (70, 29896), (73, 29917),

Gene: CheetoDust\_36 Start: 29771, Stop: 30202, Start Num: 24

Candidate Starts for CheetoDust\_36:

(Start: 24 @29771 has 124 MA's), (28, 29786), (29, 29792), (Start: 32 @29825 has 5 MA's), (35, 29840), (37, 29849), (53, 30005), (61, 30077), (63, 30083), (70, 30134), (73, 30155),

Gene: Chris\_36 Start: 29430, Stop: 29846, Start Num: 24

Candidate Starts for Chris\_36:

(3, 29313), (4, 29346), (6, 29355), (9, 29361), (Start: 24 @29430 has 124 MA's), (29, 29451), (Start: 32 @29484 has 5 MA's), (34, 29496), (41, 29544), (48, 29586), (61, 29736), (63, 29742), (73, 29814),

Gene: Clipper\_38 Start: 29771, Stop: 30202, Start Num: 24

Candidate Starts for Clipper\_38:

(Start: 24 @29771 has 124 MA's), (28, 29786), (29, 29792), (Start: 32 @29825 has 5 MA's), (35, 29840), (37, 29849), (41, 29885), (53, 30005), (61, 30077), (63, 30083), (70, 30134), (73, 30155),

Gene: Collard\_36 Start: 30604, Stop: 31062, Start Num: 14

Candidate Starts for Collard\_36:

(Start: 14 @30604 has 17 MA's), (17, 30610), (Start: 21 @30625 has 1 MA's), (Start: 32 @30697 has 5 MA's), (33, 30700), (36, 30715), (41, 30757), (45, 30787), (58, 30907), (63, 30955), (69, 30994), (73, 31027),

Gene: CrimD\_36 Start: 29657, Stop: 30160, Start Num: 5

Candidate Starts for CrimD\_36:

(1, 29372), (2, 29567), (Start: 5 @29657 has 1 MA's), (7, 29660), (16, 29693), (Start: 24 @29729 has 124 MA's), (28, 29744), (29, 29750), (Start: 32 @29783 has 5 MA's), (35, 29798), (37, 29807), (41, 29843), (61, 30035), (63, 30041), (70, 30092), (73, 30113),

Gene: Curiosium\_40 Start: 29997, Stop: 30434, Start Num: 24

Candidate Starts for Curiosium\_40:

(Start: 24 @29997 has 124 MA's), (28, 30012), (29, 30018), (Start: 32 @30051 has 5 MA's), (37, 30075), (41, 30111), (61, 30309), (63, 30315), (65, 30321), (70, 30366), (73, 30387),

Gene: Dadosky\_37 Start: 30491, Stop: 30955, Start Num: 14

Candidate Starts for Dadosky\_37:

(Start: 14 @30491 has 17 MA's), (Start: 21 @30512 has 1 MA's), (Start: 32 @30584 has 5 MA's), (36, 30602), (41, 30644), (57, 30788), (61, 30836), (63, 30842), (65, 30848), (67, 30866), (70, 30893), (72, 30908), (73, 30914),

Gene: Dalmuri\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Dalmuri\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: DarthP\_36 Start: 30225, Stop: 30644, Start Num: 24

Candidate Starts for DarthP\_36:

(15, 30186), (18, 30192), (Start: 24 @30225 has 124 MA's), (28, 30240), (Start: 32 @30279 has 5 MA's), (40, 30333), (41, 30339), (43, 30357), (55, 30468), (60, 30513), (63, 30534), (73, 30606),

Gene: Dartin\_37 Start: 29224, Stop: 29637, Start Num: 24

Candidate Starts for Dartin\_37:

(Start: 24 @29224 has 124 MA's), (28, 29239), (29, 29245), (Start: 32 @29278 has 5 MA's), (40, 29332), (43, 29356), (55, 29467), (59, 29497), (61, 29527), (63, 29533), (70, 29584), (73, 29605),

Gene: Deby\_36 Start: 29728, Stop: 30159, Start Num: 24

Candidate Starts for Deby\_36:

(Start: 24 @29728 has 124 MA's), (28, 29743), (29, 29749), (Start: 32 @29782 has 5 MA's), (35, 29797), (37, 29806), (41, 29842), (61, 30034), (63, 30040), (70, 30091), (73, 30112),

Gene: Devera\_38 Start: 29919, Stop: 30350, Start Num: 24

Candidate Starts for Devera\_38:

(Start: 24 @29919 has 124 MA's), (28, 29934), (29, 29940), (Start: 32 @29973 has 5 MA's), (37, 29997), (41, 30033), (57, 30177), (61, 30225), (63, 30231), (65, 30237), (70, 30282), (73, 30303),

Gene: DismalFunk\_36 Start: 29437, Stop: 29841, Start Num: 27

Candidate Starts for DismalFunk\_36:

(Start: 27 @29437 has 10 MA's), (Start: 32 @29482 has 5 MA's), (36, 29500), (39, 29518), (43, 29560), (65, 29740), (70, 29785), (73, 29806),

Gene: DismalStressor\_36 Start: 29437, Stop: 29841, Start Num: 27

Candidate Starts for DismalStressor\_36:

(Start: 27 @29437 has 10 MA's), (Start: 32 @29482 has 5 MA's), (36, 29500), (39, 29518), (43, 29560), (65, 29740), (70, 29785), (73, 29806),

Gene: Dole\_37 Start: 29921, Stop: 30352, Start Num: 24

Candidate Starts for Dole\_37:

(Start: 24 @29921 has 124 MA's), (28, 29936), (29, 29942), (Start: 32 @29975 has 5 MA's), (37, 29999), (41, 30035), (57, 30179), (61, 30227), (63, 30233), (65, 30239), (70, 30284), (73, 30305),

Gene: Doughnut\_36 Start: 29087, Stop: 29491, Start Num: 27

Candidate Starts for Doughnut\_36:

(Start: 27 @29087 has 10 MA's), (Start: 32 @29132 has 5 MA's), (36, 29150), (39, 29168), (46, 29231), (70, 29435), (73, 29456),

Gene: DrHayes\_36 Start: 29703, Stop: 30134, Start Num: 24

Candidate Starts for DrHayes\_36:

(Start: 24 @29703 has 124 MA's), (28, 29718), (Start: 32 @29757 has 5 MA's), (37, 29781), (41, 29817), (52, 29907), (61, 30009), (62, 30012), (63, 30015), (65, 30021), (70, 30066), (73, 30087),

Gene: Durfee\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Durfee\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (53, 30028), (57, 30052), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Edugator\_37 Start: 31009, Stop: 31380, Start Num: 32

Candidate Starts for Edugator\_37:

(Start: 14 @30916 has 17 MA's), (Start: 21 @30937 has 1 MA's), (Start: 32 @31009 has 5 MA's), (36, 31027), (41, 31069), (57, 31213), (61, 31261), (63, 31267), (65, 31273), (67, 31291), (70, 31318), (72, 31333), (73, 31339),

Gene: Efra2\_38 Start: 29443, Stop: 29874, Start Num: 24

Candidate Starts for Efra2\_38:

(Start: 24 @29443 has 124 MA's), (28, 29458), (29, 29464), (Start: 32 @29497 has 5 MA's), (37, 29521), (41, 29557), (43, 29575), (54, 29686), (61, 29749), (63, 29755), (70, 29806), (73, 29827),

Gene: Ekdilam\_34 Start: 29980, Stop: 30399, Start Num: 24

Candidate Starts for Ekdilam\_34:

(15, 29941), (18, 29947), (Start: 24 @29980 has 124 MA's), (28, 29995), (Start: 32 @30034 has 5 MA's), (36, 30052), (40, 30088), (41, 30094), (43, 30112), (55, 30223), (60, 30268), (63, 30289), (73, 30361),

Gene: Ellie\_34 Start: 30019, Stop: 30438, Start Num: 24

Candidate Starts for Ellie\_34:

(Start: 13 @29977 has 6 MA's), (15, 29980), (18, 29986), (Start: 24 @30019 has 124 MA's), (28, 30034), (30, 30049), (Start: 32 @30073 has 5 MA's), (40, 30127), (46, 30172), (57, 30274), (63, 30328), (64, 30331), (65, 30334),

Gene: Emerson\_37 Start: 29754, Stop: 30185, Start Num: 24

Candidate Starts for Emerson\_37:

(Start: 24 @29754 has 124 MA's), (28, 29769), (29, 29775), (Start: 32 @29808 has 5 MA's), (35, 29823), (37, 29832), (41, 29868), (61, 30060), (63, 30066), (70, 30117), (73, 30138),

Gene: Enkosi\_32 Start: 29116, Stop: 29529, Start Num: 24

Candidate Starts for Enkosi\_32:

(Start: 24 @29116 has 124 MA's), (28, 29131), (Start: 32 @29170 has 5 MA's), (41, 29230), (52, 29320), (63, 29425), (68, 29458), (69, 29464), (73, 29497),

Gene: Fefferhead\_36 Start: 30219, Stop: 30638, Start Num: 24

Candidate Starts for Fefferhead\_36:

(Start: 13 @30177 has 6 MA's), (15, 30180), (18, 30186), (Start: 24 @30219 has 124 MA's), (28, 30234), (30, 30249), (Start: 32 @30273 has 5 MA's), (40, 30327), (46, 30372), (57, 30474), (63, 30528), (64, 30531),

Gene: Feyre\_37 Start: 30555, Stop: 31013, Start Num: 14

Candidate Starts for Feyre\_37:

(Start: 14 @30555 has 17 MA's), (Start: 21 @30576 has 1 MA's), (Start: 32 @30648 has 5 MA's), (33, 30651), (36, 30666), (41, 30708), (63, 30906), (64, 30909), (65, 30912), (69, 30945), (73, 30978),

Gene: Findley\_36 Start: 29430, Stop: 29834, Start Num: 27

Candidate Starts for Findley\_36:

(Start: 27 @29430 has 10 MA's), (Start: 32 @29475 has 5 MA's), (36, 29493), (39, 29511), (43, 29553), (65, 29733), (70, 29778), (73, 29799),

Gene: Ganymede\_37 Start: 29783, Stop: 30214, Start Num: 24

Candidate Starts for Ganymede\_37:

(Start: 24 @29783 has 124 MA's), (28, 29798), (29, 29804), (Start: 32 @29837 has 5 MA's), (35, 29852), (37, 29861), (41, 29897), (61, 30089), (63, 30095), (70, 30146), (73, 30167),

Gene: Gengar\_37 Start: 30665, Stop: 31123, Start Num: 14

Candidate Starts for Gengar\_37:

(Start: 14 @30665 has 17 MA's), (Start: 21 @30686 has 1 MA's), (Start: 32 @30758 has 5 MA's), (33, 30761), (36, 30776), (41, 30818), (63, 31016), (64, 31019), (65, 31022), (69, 31055), (73, 31088),

Gene: Geraldini\_36 Start: 29770, Stop: 30201, Start Num: 24

Candidate Starts for Geraldini\_36:

(Start: 24 @29770 has 124 MA's), (28, 29785), (29, 29791), (Start: 32 @29824 has 5 MA's), (35, 29839), (37, 29848), (41, 29884), (61, 30076), (63, 30082), (70, 30133), (73, 30154),

Gene: Guanica15\_38 Start: 29399, Stop: 29830, Start Num: 24

Candidate Starts for Guanica15\_38:

(Start: 24 @29399 has 124 MA's), (28, 29414), (29, 29420), (Start: 32 @29453 has 5 MA's), (37, 29477), (41, 29513), (43, 29531), (54, 29642), (61, 29705), (63, 29711), (70, 29762), (73, 29783),

Gene: Guillsminger\_37 Start: 30729, Stop: 31094, Start Num: 32

Candidate Starts for Guillsminger\_37:

(Start: 14 @30636 has 17 MA's), (Start: 21 @30657 has 1 MA's), (Start: 32 @30729 has 5 MA's), (33, 30732), (36, 30747), (41, 30789), (63, 30987), (64, 30990), (65, 30993), (69, 31026), (73, 31059),

Gene: Hammy\_36 Start: 30216, Stop: 30635, Start Num: 24

Candidate Starts for Hammy\_36:

(15, 30177), (18, 30183), (Start: 24 @30216 has 124 MA's), (28, 30231), (Start: 32 @30270 has 5 MA's), (40, 30324), (41, 30330), (43, 30348), (55, 30459), (60, 30504), (63, 30525), (73, 30597),

Gene: HedwigODU\_36 Start: 29763, Stop: 30194, Start Num: 24

Candidate Starts for HedwigODU\_36:

(Start: 24 @29763 has 124 MA's), (28, 29778), (29, 29784), (Start: 32 @29817 has 5 MA's), (35, 29832), (37, 29841), (41, 29877), (61, 30069), (63, 30075), (70, 30126), (73, 30147),

Gene: Heftyboy\_37 Start: 30782, Stop: 31240, Start Num: 14

Candidate Starts for Heftyboy\_37:

(Start: 14 @30782 has 17 MA's), (Start: 21 @30803 has 1 MA's), (Start: 32 @30875 has 5 MA's), (33, 30878), (36, 30893), (41, 30935), (63, 31133), (64, 31136), (65, 31139), (69, 31172), (73, 31205),

Gene: Homura\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Homura\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Hurricane\_39 Start: 30950, Stop: 31390, Start Num: 13

Candidate Starts for Hurricane\_39:

(Start: 13 @30950 has 6 MA's), (15, 30953), (18, 30959), (Start: 24 @30995 has 124 MA's), (28, 31010), (Start: 32 @31025 has 5 MA's), (43, 31103), (52, 31175), (55, 31214), (57, 31226), (61, 31274), (63, 31280), (65, 31286), (73, 31352),

Gene: Hyperbowlee\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Hyperbowlee\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (53, 30028), (57, 30052), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Illumine\_37 Start: 29921, Stop: 30352, Start Num: 24

Candidate Starts for Illumine\_37:

(Start: 24 @29921 has 124 MA's), (28, 29936), (29, 29942), (Start: 32 @29975 has 5 MA's), (37, 29999), (41, 30035), (57, 30179), (61, 30227), (63, 30233), (65, 30239), (70, 30284), (73, 30305),

Gene: Inky\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Inky\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: InvictusManeo\_36 Start: 30647, Stop: 31105, Start Num: 14

Candidate Starts for InvictusManeo\_36:

(Start: 14 @30647 has 17 MA's), (17, 30653), (Start: 21 @30668 has 1 MA's), (Start: 32 @30740 has 5 MA's), (33, 30743), (36, 30758), (41, 30800), (45, 30830), (58, 30950), (63, 30998), (69, 31037), (73, 31070),

Gene: JAWS\_36 Start: 29747, Stop: 30178, Start Num: 24

Candidate Starts for JAWS\_36:

(Start: 24 @29747 has 124 MA's), (28, 29762), (29, 29768), (Start: 32 @29801 has 5 MA's), (35, 29816), (37, 29825), (41, 29861), (53, 29981), (61, 30053), (63, 30059), (70, 30110), (73, 30131),

Gene: Jarvi\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Jarvi\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Jayhawk\_37 Start: 29761, Stop: 30192, Start Num: 24

Candidate Starts for Jayhawk\_37:

(Start: 24 @29761 has 124 MA's), (28, 29776), (29, 29782), (Start: 32 @29815 has 5 MA's), (35, 29830), (37, 29839), (41, 29875), (61, 30067), (63, 30073), (70, 30124), (73, 30145),

Gene: Jeckyll\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Jeckyll\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Joy99\_36 Start: 29723, Stop: 30154, Start Num: 24

Candidate Starts for Joy99\_36:

(Start: 24 @29723 has 124 MA's), (28, 29738), (29, 29744), (Start: 32 @29777 has 5 MA's), (35, 29792), (37, 29801), (41, 29837), (61, 30029), (63, 30035), (70, 30086), (73, 30107),

Gene: Keshu\_39 Start: 30941, Stop: 31378, Start Num: 13

Candidate Starts for Keshu\_39:

(Start: 13 @30941 has 6 MA's), (15, 30944), (Start: 24 @30986 has 124 MA's), (28, 31001), (Start: 32 @31016 has 5 MA's), (43, 31094), (52, 31166), (57, 31217), (63, 31271), (65, 31277), (73, 31343),

Gene: KiSi\_37 Start: 29539, Stop: 29955, Start Num: 24

Candidate Starts for KiSi\_37:

(Start: 5 @29464 has 1 MA's), (7, 29467), (9, 29470), (Start: 24 @29539 has 124 MA's), (28, 29554), (29, 29560), (Start: 32 @29593 has 5 MA's), (41, 29653), (48, 29695), (55, 29785), (61, 29845), (63, 29851), (73, 29923),

Gene: Kratio\_35 Start: 30195, Stop: 30653, Start Num: 14

Candidate Starts for Kratio\_35:

(Start: 14 @30195 has 17 MA's), (17, 30201), (Start: 21 @30216 has 1 MA's), (Start: 32 @30288 has 5 MA's), (33, 30291), (36, 30306), (41, 30348), (45, 30378), (58, 30498), (63, 30546), (69, 30585), (73, 30618),

Gene: Krueger\_38 Start: 29243, Stop: 29722, Start Num: 13

Candidate Starts for Krueger\_38:

(Start: 13 @29243 has 6 MA's), (18, 29252), (Start: 24 @29285 has 124 MA's), (28, 29300), (Start: 32 @29339 has 5 MA's), (50, 29459), (57, 29543), (61, 29591), (63, 29597), (68, 29630), (73, 29669), (74, 29699),

Gene: Larva\_37 Start: 30358, Stop: 30822, Start Num: 14

Candidate Starts for Larva\_37:

(Start: 14 @30358 has 17 MA's), (Start: 21 @30379 has 1 MA's), (Start: 32 @30451 has 5 MA's), (36, 30469), (41, 30511), (57, 30655), (61, 30703), (63, 30709), (65, 30715), (67, 30733), (70, 30760), (72, 30775), (73, 30781),



Gene: LastHope\_38 Start: 29285, Stop: 29716, Start Num: 24

Candidate Starts for LastHope\_38:

(Start: 24 @29285 has 124 MA's), (28, 29300), (29, 29306), (Start: 32 @29339 has 5 MA's), (37, 29363), (41, 29399), (61, 29591), (63, 29597), (65, 29603), (70, 29648), (73, 29669),

Gene: LaterM\_36 Start: 29708, Stop: 30139, Start Num: 24

Candidate Starts for LaterM\_36:

(Start: 24 @29708 has 124 MA's), (28, 29723), (29, 29729), (Start: 32 @29762 has 5 MA's), (37, 29786), (41, 29822), (61, 30014), (63, 30020), (70, 30071), (73, 30092),

Gene: LeMond\_37 Start: 29610, Stop: 30026, Start Num: 24

Candidate Starts for LeMond\_37:

(Start: 5 @29535 has 1 MA's), (7, 29538), (9, 29541), (Start: 24 @29610 has 124 MA's), (28, 29625), (29, 29631), (Start: 32 @29664 has 5 MA's), (41, 29724), (48, 29766), (55, 29856), (61, 29916), (63, 29922), (73, 29994),

Gene: Lea83\_40 Start: 31068, Stop: 31460, Start Num: 24

Candidate Starts for Lea83\_40:

(Start: 13 @31023 has 6 MA's), (15, 31026), (18, 31032), (Start: 24 @31068 has 124 MA's), (28, 31083), (Start: 32 @31098 has 5 MA's), (43, 31176), (52, 31248), (55, 31287), (57, 31299), (61, 31347), (63, 31353), (65, 31359), (73, 31425),

Gene: Leston\_37 Start: 30859, Stop: 31224, Start Num: 32

Candidate Starts for Leston\_37:

(Start: 14 @30766 has 17 MA's), (Start: 21 @30787 has 1 MA's), (Start: 32 @30859 has 5 MA's), (33, 30862), (36, 30877), (41, 30919), (63, 31117), (64, 31120), (65, 31123), (69, 31156), (73, 31189),

Gene: LilPharaoh\_32 Start: 29116, Stop: 29529, Start Num: 24

Candidate Starts for LilPharaoh\_32:

(Start: 24 @29116 has 124 MA's), (28, 29131), (Start: 32 @29170 has 5 MA's), (41, 29230), (52, 29320), (63, 29425), (68, 29458), (69, 29464), (73, 29497),

Gene: LindNT\_36 Start: 29724, Stop: 30155, Start Num: 24

Candidate Starts for LindNT\_36:

(Start: 24 @29724 has 124 MA's), (28, 29739), (29, 29745), (Start: 32 @29778 has 5 MA's), (35, 29793), (37, 29802), (41, 29838), (61, 30030), (63, 30036), (70, 30087), (73, 30108),

Gene: Llorens\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Llorens\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Lunahalos\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Lunahalos\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: MacKat\_37 Start: 29771, Stop: 30202, Start Num: 24

Candidate Starts for MacKat\_37:

(Start: 24 @29771 has 124 MA's), (28, 29786), (29, 29792), (Start: 32 @29825 has 5 MA's), (35, 29840), (37, 29849), (41, 29885), (53, 30005), (61, 30077), (63, 30083), (70, 30134), (73, 30155),

Gene: MacnCheese\_39 Start: 31034, Stop: 31432, Start Num: 24  
Candidate Starts for MacnCheese\_39:  
(Start: 24 @31034 has 124 MA's), (28, 31049), (29, 31055), (Start: 32 @31070 has 5 MA's), (34, 31082), (40, 31124), (43, 31148), (52, 31220), (57, 31271), (60, 31304), (63, 31325), (73, 31397),

Gene: MalagasyRose\_38 Start: 29776, Stop: 30249, Start Num: 11  
Candidate Starts for MalagasyRose\_38:  
(Start: 11 @29776 has 1 MA's), (12, 29785), (20, 29809), (22, 29827), (36, 29908), (42, 29950), (44, 29974), (49, 29992), (56, 30079), (64, 30148), (65, 30151), (70, 30196), (71, 30202), (73, 30217),

Gene: Marcoliusprime\_36 Start: 29437, Stop: 29841, Start Num: 27  
Candidate Starts for Marcoliusprime\_36:  
(Start: 27 @29437 has 10 MA's), (Start: 32 @29482 has 5 MA's), (36, 29500), (39, 29518), (43, 29560), (65, 29740), (70, 29785), (73, 29806),

Gene: MarkPhew\_38 Start: 29502, Stop: 29918, Start Num: 24  
Candidate Starts for MarkPhew\_38:  
(Start: 24 @29502 has 124 MA's), (29, 29523), (Start: 32 @29556 has 5 MA's), (36, 29574), (41, 29616), (48, 29658), (61, 29808), (63, 29814), (73, 29886),

Gene: Marshawn\_38 Start: 29915, Stop: 30331, Start Num: 24  
Candidate Starts for Marshawn\_38:  
(Start: 24 @29915 has 124 MA's), (28, 29930), (29, 29936), (Start: 32 @29969 has 5 MA's), (41, 30029), (48, 30071), (61, 30221), (63, 30227), (73, 30299),

Gene: McMater\_37 Start: 29224, Stop: 29637, Start Num: 24  
Candidate Starts for McMater\_37:  
(Start: 24 @29224 has 124 MA's), (28, 29239), (29, 29245), (Start: 32 @29278 has 5 MA's), (40, 29332), (43, 29356), (55, 29467), (59, 29497), (61, 29527), (63, 29533), (70, 29584), (73, 29605),

Gene: Mdavu\_32 Start: 29104, Stop: 29517, Start Num: 24  
Candidate Starts for Mdavu\_32:  
(Start: 24 @29104 has 124 MA's), (28, 29119), (Start: 32 @29158 has 5 MA's), (41, 29218), (52, 29308), (63, 29413), (68, 29446), (69, 29452), (73, 29485),

Gene: MeaningOfLife\_36 Start: 29739, Stop: 30170, Start Num: 24  
Candidate Starts for MeaningOfLife\_36:  
(Start: 24 @29739 has 124 MA's), (28, 29754), (29, 29760), (Start: 32 @29793 has 5 MA's), (35, 29808), (37, 29817), (41, 29853), (61, 30045), (63, 30051), (70, 30102), (73, 30123),

Gene: Megsy\_37 Start: 29727, Stop: 30158, Start Num: 24  
Candidate Starts for Megsy\_37:  
(Start: 24 @29727 has 124 MA's), (28, 29742), (29, 29748), (Start: 32 @29781 has 5 MA's), (35, 29796), (37, 29805), (61, 30033), (63, 30039), (70, 30090), (73, 30111),

Gene: Milly\_36 Start: 29410, Stop: 29814, Start Num: 27  
Candidate Starts for Milly\_36:  
(Start: 27 @29410 has 10 MA's), (Start: 32 @29455 has 5 MA's), (36, 29473), (39, 29491), (43, 29533), (65, 29713), (70, 29758), (73, 29779),

Gene: Miryou\_37 Start: 30621, Stop: 31079, Start Num: 14  
Candidate Starts for Miryou\_37:

(Start: 14 @30621 has 17 MA's), (Start: 21 @30642 has 1 MA's), (Start: 32 @30714 has 5 MA's), (33, 30717), (36, 30732), (41, 30774), (63, 30972), (64, 30975), (65, 30978), (69, 31011), (73, 31044),

Gene: Mufasa\_36 Start: 29087, Stop: 29491, Start Num: 27

Candidate Starts for Mufasa\_36:

(Start: 27 @29087 has 10 MA's), (Start: 32 @29132 has 5 MA's), (36, 29150), (39, 29168), (46, 29231), (70, 29435), (73, 29456),

Gene: Murucutumbu\_36 Start: 29727, Stop: 30158, Start Num: 24

Candidate Starts for Murucutumbu\_36:

(Start: 24 @29727 has 124 MA's), (28, 29742), (29, 29748), (Start: 32 @29781 has 5 MA's), (37, 29805), (41, 29841), (61, 30033), (63, 30039), (70, 30090), (73, 30111),

Gene: Mynx\_36 Start: 29776, Stop: 30207, Start Num: 24

Candidate Starts for Mynx\_36:

(Start: 24 @29776 has 124 MA's), (28, 29791), (29, 29797), (Start: 32 @29830 has 5 MA's), (35, 29845), (37, 29854), (41, 29890), (57, 30034), (61, 30082), (63, 30088), (70, 30139), (73, 30160),

Gene: Nergal\_33 Start: 27673, Stop: 28089, Start Num: 23

Candidate Starts for Nergal\_33:

(Start: 23 @27673 has 1 MA's), (26, 27679), (28, 27688), (29, 27694), (30, 27703), (31, 27718), (Start: 32 @27727 has 5 MA's), (39, 27763), (43, 27805), (62, 27979), (69, 28021), (73, 28054),

Gene: Nibb\_36 Start: 29121, Stop: 29483, Start Num: 32

Candidate Starts for Nibb\_36:

(Start: 24 @29067 has 124 MA's), (29, 29088), (Start: 32 @29121 has 5 MA's), (41, 29181), (48, 29223), (61, 29373), (63, 29379),

Gene: Nikao\_32 Start: 29116, Stop: 29529, Start Num: 24

Candidate Starts for Nikao\_32:

(Start: 24 @29116 has 124 MA's), (28, 29131), (Start: 32 @29170 has 5 MA's), (41, 29230), (52, 29320), (63, 29425), (68, 29458), (69, 29464), (73, 29497),

Gene: Niklas\_37 Start: 29227, Stop: 29640, Start Num: 24

Candidate Starts for Niklas\_37:

(Start: 24 @29227 has 124 MA's), (28, 29242), (29, 29248), (Start: 32 @29281 has 5 MA's), (40, 29335), (43, 29359), (55, 29470), (59, 29500), (61, 29530), (63, 29536), (70, 29587), (73, 29608),

Gene: November\_36 Start: 30144, Stop: 30563, Start Num: 24

Candidate Starts for November\_36:

(15, 30105), (18, 30111), (Start: 24 @30144 has 124 MA's), (28, 30159), (Start: 32 @30198 has 5 MA's), (40, 30252), (41, 30258), (43, 30276), (55, 30387), (60, 30432), (63, 30453), (73, 30525),

Gene: Nutello\_32 Start: 29116, Stop: 29529, Start Num: 24

Candidate Starts for Nutello\_32:

(Start: 24 @29116 has 124 MA's), (28, 29131), (Start: 32 @29170 has 5 MA's), (41, 29230), (52, 29320), (63, 29425), (68, 29458), (69, 29464), (73, 29497),

Gene: OkiRoe\_37 Start: 30638, Stop: 31096, Start Num: 14

Candidate Starts for OkiRoe\_37:

(Start: 14 @30638 has 17 MA's), (Start: 21 @30659 has 1 MA's), (Start: 32 @30731 has 5 MA's), (33, 30734), (36, 30749), (41, 30791), (63, 30989), (64, 30992), (65, 30995), (69, 31028), (73, 31061),

Gene: Omnicron\_40 Start: 30280, Stop: 30720, Start Num: 14

Candidate Starts for Omnicron\_40:

(Start: 14 @30280 has 17 MA's), (Start: 19 @30295 has 1 MA's), (Start: 32 @30355 has 5 MA's), (33, 30358), (36, 30373), (41, 30415), (63, 30613), (69, 30652), (72, 30679), (73, 30685),

Gene: Oscar\_37 Start: 29612, Stop: 30028, Start Num: 24

Candidate Starts for Oscar\_37:

(Start: 5 @29537 has 1 MA's), (7, 29540), (9, 29543), (Start: 24 @29612 has 124 MA's), (28, 29627), (29, 29633), (Start: 32 @29666 has 5 MA's), (41, 29726), (48, 29768), (55, 29858), (61, 29918), (63, 29924), (73, 29996),

Gene: Padfoot\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Padfoot\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (53, 30028), (57, 30052), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Padpat\_37 Start: 29754, Stop: 30185, Start Num: 24

Candidate Starts for Padpat\_37:

(Start: 24 @29754 has 124 MA's), (28, 29769), (29, 29775), (Start: 32 @29808 has 5 MA's), (35, 29823), (37, 29832), (41, 29868), (61, 30060), (63, 30066), (70, 30117), (73, 30138),

Gene: Paola\_37 Start: 30636, Stop: 31094, Start Num: 14

Candidate Starts for Paola\_37:

(Start: 14 @30636 has 17 MA's), (Start: 21 @30657 has 1 MA's), (Start: 32 @30729 has 5 MA's), (33, 30732), (36, 30747), (41, 30789), (63, 30987), (64, 30990), (65, 30993), (69, 31026), (73, 31059),

Gene: Peanam\_37 Start: 29224, Stop: 29637, Start Num: 24

Candidate Starts for Peanam\_37:

(Start: 24 @29224 has 124 MA's), (28, 29239), (29, 29245), (Start: 32 @29278 has 5 MA's), (40, 29332), (43, 29356), (55, 29467), (59, 29497), (61, 29527), (63, 29533), (70, 29584), (73, 29605),

Gene: Peel\_36 Start: 29796, Stop: 30227, Start Num: 24

Candidate Starts for Peel\_36:

(Start: 24 @29796 has 124 MA's), (28, 29811), (29, 29817), (Start: 32 @29850 has 5 MA's), (35, 29865), (37, 29874), (41, 29910), (61, 30102), (63, 30108), (70, 30159), (73, 30180),

Gene: Pharb\_36 Start: 30071, Stop: 30466, Start Num: 24

Candidate Starts for Pharb\_36:

(Start: 13 @30026 has 6 MA's), (15, 30029), (18, 30035), (Start: 24 @30071 has 124 MA's), (28, 30086), (Start: 32 @30101 has 5 MA's), (43, 30179), (57, 30302), (61, 30350), (63, 30356), (64, 30359), (73, 30428),

Gene: PhelpsODU\_37 Start: 29478, Stop: 29915, Start Num: 24

Candidate Starts for PhelpsODU\_37:

(Start: 13 @29436 has 6 MA's), (18, 29445), (Start: 24 @29478 has 124 MA's), (28, 29493), (Start: 32 @29532 has 5 MA's), (54, 29721), (57, 29736), (63, 29790), (68, 29823), (73, 29862), (74, 29892),

Gene: Phrank\_38 Start: 29429, Stop: 29866, Start Num: 24

Candidate Starts for Phrank\_38:

(Start: 13 @29387 has 6 MA's), (18, 29396), (Start: 24 @29429 has 124 MA's), (28, 29444), (Start: 32 @29483 has 5 MA's), (54, 29672), (57, 29687), (61, 29735), (63, 29741), (68, 29774), (73, 29813), (74, 29843),

Gene: Piatt\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Piatt\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (53, 30028), (57, 30052), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Pixie\_38 Start: 30492, Stop: 30932, Start Num: 13

Candidate Starts for Pixie\_38:

(Start: 13 @30492 has 6 MA's), (15, 30495), (18, 30501), (Start: 24 @30537 has 124 MA's), (28, 30552), (Start: 32 @30567 has 5 MA's), (43, 30645), (52, 30717), (55, 30756), (57, 30768), (61, 30816), (63, 30822), (65, 30828), (73, 30894),

Gene: Pokerus\_35 Start: 29710, Stop: 30141, Start Num: 24

Candidate Starts for Pokerus\_35:

(Start: 24 @29710 has 124 MA's), (28, 29725), (29, 29731), (Start: 32 @29764 has 5 MA's), (35, 29779), (37, 29788), (41, 29824), (61, 30016), (63, 30022), (70, 30073), (73, 30094),

Gene: Prithvi\_36 Start: 29724, Stop: 30155, Start Num: 24

Candidate Starts for Prithvi\_36:

(Start: 24 @29724 has 124 MA's), (28, 29739), (29, 29745), (Start: 32 @29778 has 5 MA's), (35, 29793), (37, 29802), (41, 29838), (61, 30030), (63, 30036), (70, 30087), (73, 30108),

Gene: Psycho\_37 Start: 30488, Stop: 30952, Start Num: 14

Candidate Starts for Psycho\_37:

(Start: 14 @30488 has 17 MA's), (Start: 21 @30509 has 1 MA's), (Start: 32 @30581 has 5 MA's), (36, 30599), (41, 30641), (57, 30785), (61, 30833), (63, 30839), (65, 30845), (67, 30863), (70, 30890), (72, 30905), (73, 30911),

Gene: QuincyRose\_35 Start: 29783, Stop: 30214, Start Num: 24

Candidate Starts for QuincyRose\_35:

(Start: 24 @29783 has 124 MA's), (28, 29798), (29, 29804), (Start: 32 @29837 has 5 MA's), (35, 29852), (37, 29861), (41, 29897), (61, 30089), (63, 30095), (70, 30146), (73, 30167),

Gene: Ramen\_36 Start: 29759, Stop: 30190, Start Num: 24

Candidate Starts for Ramen\_36:

(Start: 24 @29759 has 124 MA's), (28, 29774), (29, 29780), (Start: 32 @29813 has 5 MA's), (35, 29828), (37, 29837), (41, 29873), (53, 29993), (61, 30065), (63, 30071), (70, 30122), (73, 30143),

Gene: Rando14\_39 Start: 29866, Stop: 30291, Start Num: 19

Candidate Starts for Rando14\_39:

(Start: 14 @29851 has 17 MA's), (Start: 19 @29866 has 1 MA's), (Start: 32 @29926 has 5 MA's), (33, 29929), (36, 29944), (41, 29986), (51, 30055), (57, 30130), (63, 30184), (67, 30208), (72, 30250), (73, 30256),

Gene: Rapunzel97\_36 Start: 29761, Stop: 30192, Start Num: 24

Candidate Starts for Rapunzel97\_36:

(Start: 24 @29761 has 124 MA's), (28, 29776), (29, 29782), (Start: 32 @29815 has 5 MA's), (35, 29830), (37, 29839), (41, 29875), (61, 30067), (63, 30073), (70, 30124), (73, 30145),

Gene: Richo\_37 Start: 29224, Stop: 29637, Start Num: 24

Candidate Starts for Richo\_37:

(Start: 24 @29224 has 124 MA's), (28, 29239), (29, 29245), (Start: 32 @29278 has 5 MA's), (40, 29332), (43, 29356), (55, 29467), (59, 29497), (61, 29527), (63, 29533), (70, 29584), (73, 29605),

Gene: Rosmarinus\_36 Start: 29782, Stop: 30213, Start Num: 24

Candidate Starts for Rosmarinus\_36:

(Start: 24 @29782 has 124 MA's), (28, 29797), (29, 29803), (Start: 32 @29836 has 5 MA's), (35, 29851), (37, 29860), (41, 29896), (61, 30088), (63, 30094), (70, 30145), (73, 30166),

Gene: SamuelLPlaqson\_36 Start: 29703, Stop: 30134, Start Num: 24

Candidate Starts for SamuelLPlaqson\_36:

(Start: 24 @29703 has 124 MA's), (28, 29718), (Start: 32 @29757 has 5 MA's), (37, 29781), (41, 29817), (52, 29907), (61, 30009), (62, 30012), (63, 30015), (65, 30021), (70, 30066), (73, 30087),

Gene: Scarlett\_37 Start: 29612, Stop: 30028, Start Num: 24

Candidate Starts for Scarlett\_37:

(Start: 5 @29537 has 1 MA's), (7, 29540), (9, 29543), (Start: 24 @29612 has 124 MA's), (28, 29627), (29, 29633), (Start: 32 @29666 has 5 MA's), (41, 29726), (48, 29768), (55, 29858), (61, 29918), (63, 29924), (73, 29996),

Gene: SgtBeansprout\_32 Start: 29116, Stop: 29529, Start Num: 24

Candidate Starts for SgtBeansprout\_32:

(Start: 24 @29116 has 124 MA's), (28, 29131), (Start: 32 @29170 has 5 MA's), (41, 29230), (52, 29320), (63, 29425), (68, 29458), (69, 29464), (73, 29497),

Gene: Shadow1\_37 Start: 29188, Stop: 29625, Start Num: 24

Candidate Starts for Shadow1\_37:

(10, 29125), (Start: 13 @29146 has 6 MA's), (18, 29155), (Start: 24 @29188 has 124 MA's), (28, 29203), (Start: 32 @29242 has 5 MA's), (57, 29446), (63, 29500), (68, 29533), (73, 29572),

Gene: Shaobing\_37 Start: 29224, Stop: 29637, Start Num: 24

Candidate Starts for Shaobing\_37:

(Start: 24 @29224 has 124 MA's), (28, 29239), (29, 29245), (Start: 32 @29278 has 5 MA's), (40, 29332), (43, 29356), (55, 29467), (59, 29497), (61, 29527), (63, 29533), (70, 29584), (73, 29605),

Gene: ShedlockHolmes\_39 Start: 31068, Stop: 31463, Start Num: 24

Candidate Starts for ShedlockHolmes\_39:

(Start: 13 @31023 has 6 MA's), (15, 31026), (18, 31032), (Start: 24 @31068 has 124 MA's), (28, 31083), (Start: 32 @31098 has 5 MA's), (43, 31176), (52, 31248), (55, 31287), (57, 31299), (61, 31347), (63, 31353), (64, 31356), (65, 31359), (73, 31425),

Gene: ShiaSurprise\_37 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for ShiaSurprise\_37:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (53, 30028), (57, 30052), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: SirPhilip\_36 Start: 28708, Stop: 29124, Start Num: 24

Candidate Starts for SirPhilip\_36:

(8, 28636), (9, 28639), (Start: 24 @28708 has 124 MA's), (29, 28729), (30, 28738), (Start: 32 @28762 has 5 MA's), (34, 28774), (41, 28822), (48, 28864), (61, 29014), (63, 29020), (73, 29092),

Gene: Slimphazie\_36 Start: 29761, Stop: 30192, Start Num: 24

Candidate Starts for Slimphazie\_36:

(Start: 24 @29761 has 124 MA's), (28, 29776), (29, 29782), (Start: 32 @29815 has 5 MA's), (35, 29830), (37, 29839), (41, 29875), (61, 30067), (63, 30073), (70, 30124), (73, 30145),

Gene: SoSeph\_37 Start: 30803, Stop: 31240, Start Num: 21

Candidate Starts for SoSeph\_37:

(Start: 14 @30782 has 17 MA's), (Start: 21 @30803 has 1 MA's), (Start: 32 @30875 has 5 MA's), (33, 30878), (36, 30893), (41, 30935), (63, 31133), (64, 31136), (65, 31139), (69, 31172), (73, 31205),

Gene: Spock\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Spock\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Stinson\_37 Start: 29996, Stop: 30427, Start Num: 24

Candidate Starts for Stinson\_37:

(Start: 24 @29996 has 124 MA's), (28, 30011), (29, 30017), (Start: 32 @30050 has 5 MA's), (37, 30074), (41, 30110), (61, 30302), (63, 30308), (70, 30359), (73, 30380),

Gene: Strobilo\_36 Start: 29411, Stop: 29815, Start Num: 27

Candidate Starts for Strobilo\_36:

(Start: 27 @29411 has 10 MA's), (Start: 32 @29456 has 5 MA's), (36, 29474), (39, 29492), (43, 29534), (65, 29714), (70, 29759), (73, 29780),

Gene: Sulley\_36 Start: 29727, Stop: 30158, Start Num: 24

Candidate Starts for Sulley\_36:

(Start: 24 @29727 has 124 MA's), (28, 29742), (29, 29748), (Start: 32 @29781 has 5 MA's), (35, 29796), (37, 29805), (41, 29841), (61, 30033), (63, 30039), (70, 30090), (73, 30111),

Gene: Sunflower1121\_37 Start: 29281, Stop: 29718, Start Num: 24

Candidate Starts for Sunflower1121\_37:

(10, 29218), (Start: 13 @29239 has 6 MA's), (18, 29248), (Start: 24 @29281 has 124 MA's), (28, 29296), (Start: 32 @29335 has 5 MA's), (57, 29539), (63, 29593), (68, 29626), (73, 29665),

Gene: Syra333\_38 Start: 29207, Stop: 29644, Start Num: 24

Candidate Starts for Syra333\_38:

(10, 29144), (Start: 13 @29165 has 6 MA's), (18, 29174), (Start: 24 @29207 has 124 MA's), (28, 29222), (Start: 32 @29261 has 5 MA's), (57, 29465), (63, 29519), (68, 29552), (73, 29591),

Gene: TBond007\_38 Start: 30491, Stop: 30931, Start Num: 13

Candidate Starts for TBond007\_38:

(Start: 13 @30491 has 6 MA's), (15, 30494), (18, 30500), (Start: 24 @30536 has 124 MA's), (28, 30551), (Start: 32 @30566 has 5 MA's), (43, 30644), (52, 30716), (55, 30755), (57, 30767), (61, 30815), (63, 30821), (65, 30827), (73, 30893),

Gene: TClif\_38 Start: 29736, Stop: 30098, Start Num: 32

Candidate Starts for TClif\_38:

(Start: 23 @29676 has 1 MA's), (25, 29682), (28, 29697), (29, 29703), (Start: 32 @29736 has 5 MA's), (40, 29790), (47, 29838), (61, 29985), (73, 30063),

Gene: TM4\_38 Start: 29183, Stop: 29587, Start Num: 27

Candidate Starts for TM4\_38:

(Start: 27 @29183 has 10 MA's), (Start: 32 @29228 has 5 MA's), (36, 29246), (39, 29264), (43, 29306), (70, 29531), (73, 29552),

Gene: Tachez\_36 Start: 29723, Stop: 30154, Start Num: 24

Candidate Starts for Tachez\_36:

(Start: 24 @29723 has 124 MA's), (28, 29738), (29, 29744), (Start: 32 @29777 has 5 MA's), (35, 29792), (37, 29801), (41, 29837), (61, 30029), (63, 30035), (70, 30086), (73, 30107),

Gene: TaiwanKao\_38 Start: 29724, Stop: 30155, Start Num: 24

Candidate Starts for TaiwanKao\_38:

(Start: 24 @29724 has 124 MA's), (28, 29739), (29, 29745), (Start: 32 @29778 has 5 MA's), (35, 29793), (37, 29802), (61, 30030), (63, 30036), (70, 30087), (73, 30108),

Gene: Teejan\_32 Start: 29116, Stop: 29529, Start Num: 24

Candidate Starts for Teejan\_32:

(Start: 24 @29116 has 124 MA's), (28, 29131), (Start: 32 @29170 has 5 MA's), (41, 29230), (52, 29320), (63, 29425), (68, 29458), (69, 29464), (73, 29497),

Gene: Thyatira\_37 Start: 30636, Stop: 31094, Start Num: 14

Candidate Starts for Thyatira\_37:

(Start: 14 @30636 has 17 MA's), (Start: 21 @30657 has 1 MA's), (Start: 32 @30729 has 5 MA's), (33, 30732), (36, 30747), (41, 30789), (63, 30987), (64, 30990), (65, 30993), (69, 31026), (73, 31059),

Gene: Tierra\_38 Start: 30149, Stop: 30586, Start Num: 24

Candidate Starts for Tierra\_38:

(Start: 13 @30107 has 6 MA's), (18, 30116), (Start: 24 @30149 has 124 MA's), (28, 30164), (Start: 32 @30203 has 5 MA's), (54, 30392), (57, 30407), (61, 30455), (63, 30461), (68, 30494), (73, 30533), (74, 30563),

Gene: TingHuaYa\_37 Start: 29139, Stop: 29570, Start Num: 24

Candidate Starts for TingHuaYa\_37:

(Start: 24 @29139 has 124 MA's), (28, 29154), (29, 29160), (Start: 32 @29193 has 5 MA's), (37, 29217), (41, 29253), (61, 29445), (63, 29451), (65, 29457), (70, 29502), (73, 29523),

Gene: TiniBug\_36 Start: 29699, Stop: 30130, Start Num: 24

Candidate Starts for TiniBug\_36:

(Start: 24 @29699 has 124 MA's), (28, 29714), (Start: 32 @29753 has 5 MA's), (37, 29777), (41, 29813), (52, 29903), (61, 30005), (62, 30008), (63, 30011), (65, 30017), (70, 30062), (73, 30083),

Gene: Tiri\_37 Start: 29775, Stop: 30206, Start Num: 24

Candidate Starts for Tiri\_37:

(Start: 24 @29775 has 124 MA's), (28, 29790), (29, 29796), (Start: 32 @29829 has 5 MA's), (35, 29844), (37, 29853), (41, 29889), (57, 30033), (61, 30081), (63, 30087), (70, 30138), (73, 30159),

Gene: Topper\_36 Start: 29794, Stop: 30225, Start Num: 24

Candidate Starts for Topper\_36:

(Start: 24 @29794 has 124 MA's), (28, 29809), (29, 29815), (Start: 32 @29848 has 5 MA's), (35, 29863), (37, 29872), (41, 29908), (61, 30100), (63, 30106), (70, 30157), (73, 30178),

Gene: Torres\_32 Start: 29116, Stop: 29529, Start Num: 24

Candidate Starts for Torres\_32:

(Start: 24 @29116 has 124 MA's), (28, 29131), (Start: 32 @29170 has 5 MA's), (41, 29230), (52, 29320), (63, 29425), (68, 29458), (69, 29464), (73, 29497),

Gene: TreyKay\_36 Start: 29724, Stop: 30155, Start Num: 24



Candidate Starts for TreyKay\_36:

(Start: 24 @29724 has 124 MA's), (28, 29739), (29, 29745), (Start: 32 @29778 has 5 MA's), (35, 29793), (37, 29802), (41, 29838), (61, 30030), (63, 30036), (70, 30087), (73, 30108),

Gene: TribelTrouble\_37 Start: 30616, Stop: 31011, Start Num: 24

Candidate Starts for TribelTrouble\_37:

(Start: 13 @30571 has 6 MA's), (15, 30574), (18, 30580), (Start: 24 @30616 has 124 MA's), (28, 30631), (Start: 32 @30646 has 5 MA's), (38, 30679), (43, 30724), (57, 30847), (63, 30901), (65, 30907), (73, 30973),

Gene: TruffulaTree\_36 Start: 29757, Stop: 30188, Start Num: 24

Candidate Starts for TruffulaTree\_36:

(Start: 24 @29757 has 124 MA's), (28, 29772), (29, 29778), (Start: 32 @29811 has 5 MA's), (35, 29826), (37, 29835), (41, 29871), (61, 30063), (63, 30069), (70, 30120), (73, 30141),

Gene: Twitch\_36 Start: 29796, Stop: 30227, Start Num: 24

Candidate Starts for Twitch\_36:

(Start: 24 @29796 has 124 MA's), (28, 29811), (29, 29817), (Start: 32 @29850 has 5 MA's), (35, 29865), (37, 29874), (41, 29910), (61, 30102), (63, 30108), (70, 30159), (73, 30180),

Gene: Unicorn\_37 Start: 29478, Stop: 29915, Start Num: 24

Candidate Starts for Unicorn\_37:

(Start: 13 @29436 has 6 MA's), (18, 29445), (Start: 24 @29478 has 124 MA's), (28, 29493), (Start: 32 @29532 has 5 MA's), (54, 29721), (57, 29736), (63, 29790), (68, 29823), (73, 29862), (74, 29892),

Gene: Urkel\_36 Start: 29703, Stop: 30134, Start Num: 24

Candidate Starts for Urkel\_36:

(Start: 24 @29703 has 124 MA's), (28, 29718), (Start: 32 @29757 has 5 MA's), (37, 29781), (41, 29817), (52, 29907), (61, 30009), (62, 30012), (63, 30015), (65, 30021), (70, 30066), (73, 30087),

Gene: Validus\_38 Start: 29156, Stop: 29569, Start Num: 24

Candidate Starts for Validus\_38:

(Start: 24 @29156 has 124 MA's), (28, 29171), (Start: 32 @29210 has 5 MA's), (34, 29222), (41, 29270), (43, 29288), (52, 29360), (55, 29399), (61, 29459), (63, 29465), (65, 29471), (70, 29516), (73, 29537),

Gene: Veliki\_36 Start: 29797, Stop: 30228, Start Num: 24

Candidate Starts for Veliki\_36:

(Start: 24 @29797 has 124 MA's), (28, 29812), (29, 29818), (Start: 32 @29851 has 5 MA's), (35, 29866), (37, 29875), (41, 29911), (61, 30103), (63, 30109), (70, 30160), (73, 30181),

Gene: ViviJ\_36 Start: 30404, Stop: 30862, Start Num: 14

Candidate Starts for ViviJ\_36:

(Start: 14 @30404 has 17 MA's), (17, 30410), (Start: 21 @30425 has 1 MA's), (Start: 32 @30497 has 5 MA's), (33, 30500), (36, 30515), (41, 30557), (45, 30587), (58, 30707), (63, 30755), (69, 30794), (73, 30827),

Gene: Waterfoul\_38 Start: 30877, Stop: 31335, Start Num: 14

Candidate Starts for Waterfoul\_38:

(Start: 14 @30877 has 17 MA's), (Start: 21 @30898 has 1 MA's), (Start: 32 @30970 has 5 MA's), (33, 30973), (36, 30988), (41, 31030), (63, 31228), (64, 31231), (65, 31234), (69, 31267), (73, 31300),

Gene: Ximenita\_39 Start: 29392, Stop: 29829, Start Num: 24

Candidate Starts for Ximenita\_39:

(Start: 24 @29392 has 124 MA's), (28, 29407), (Start: 32 @29446 has 5 MA's), (57, 29650), (61, 29698), (63, 29704), (66, 29716), (68, 29737), (73, 29776), (74, 29806),

Gene: YoureAdopted\_35 Start: 29728, Stop: 30159, Start Num: 24

Candidate Starts for YoureAdopted\_35:

(Start: 24 @29728 has 124 MA's), (28, 29743), (29, 29749), (Start: 32 @29782 has 5 MA's), (35, 29797), (37, 29806), (41, 29842), (61, 30034), (63, 30040), (70, 30091), (73, 30112),

Gene: Yuna\_38 Start: 29755, Stop: 30186, Start Num: 24

Candidate Starts for Yuna\_38:

(Start: 13 @29713 has 6 MA's), (15, 29716), (Start: 24 @29755 has 124 MA's), (28, 29770), (Start: 32 @29809 has 5 MA's), (36, 29827), (43, 29887), (63, 30067), (73, 30139),

Gene: Yunkel11\_38 Start: 29398, Stop: 29829, Start Num: 24

Candidate Starts for Yunkel11\_38:

(Start: 24 @29398 has 124 MA's), (28, 29413), (29, 29419), (Start: 32 @29452 has 5 MA's), (37, 29476), (41, 29512), (43, 29530), (54, 29641), (61, 29704), (63, 29710), (70, 29761), (73, 29782),

Gene: Zabiza\_36 Start: 29761, Stop: 30192, Start Num: 24

Candidate Starts for Zabiza\_36:

(Start: 24 @29761 has 124 MA's), (28, 29776), (29, 29782), (Start: 32 @29815 has 5 MA's), (35, 29830), (37, 29839), (41, 29875), (61, 30067), (63, 30073), (70, 30124), (73, 30145),

Gene: Zavala\_36 Start: 29735, Stop: 30166, Start Num: 24

Candidate Starts for Zavala\_36:

(Start: 24 @29735 has 124 MA's), (28, 29750), (29, 29756), (Start: 32 @29789 has 5 MA's), (35, 29804), (37, 29813), (41, 29849), (57, 29993), (61, 30041), (63, 30047), (70, 30098), (73, 30119),

Gene: ZoeJ\_36 Start: 29156, Stop: 29560, Start Num: 27

Candidate Starts for ZoeJ\_36:

(Start: 27 @29156 has 10 MA's), (Start: 32 @29201 has 5 MA's), (36, 29219), (39, 29237), (43, 29279), (65, 29459), (70, 29504), (73, 29525),