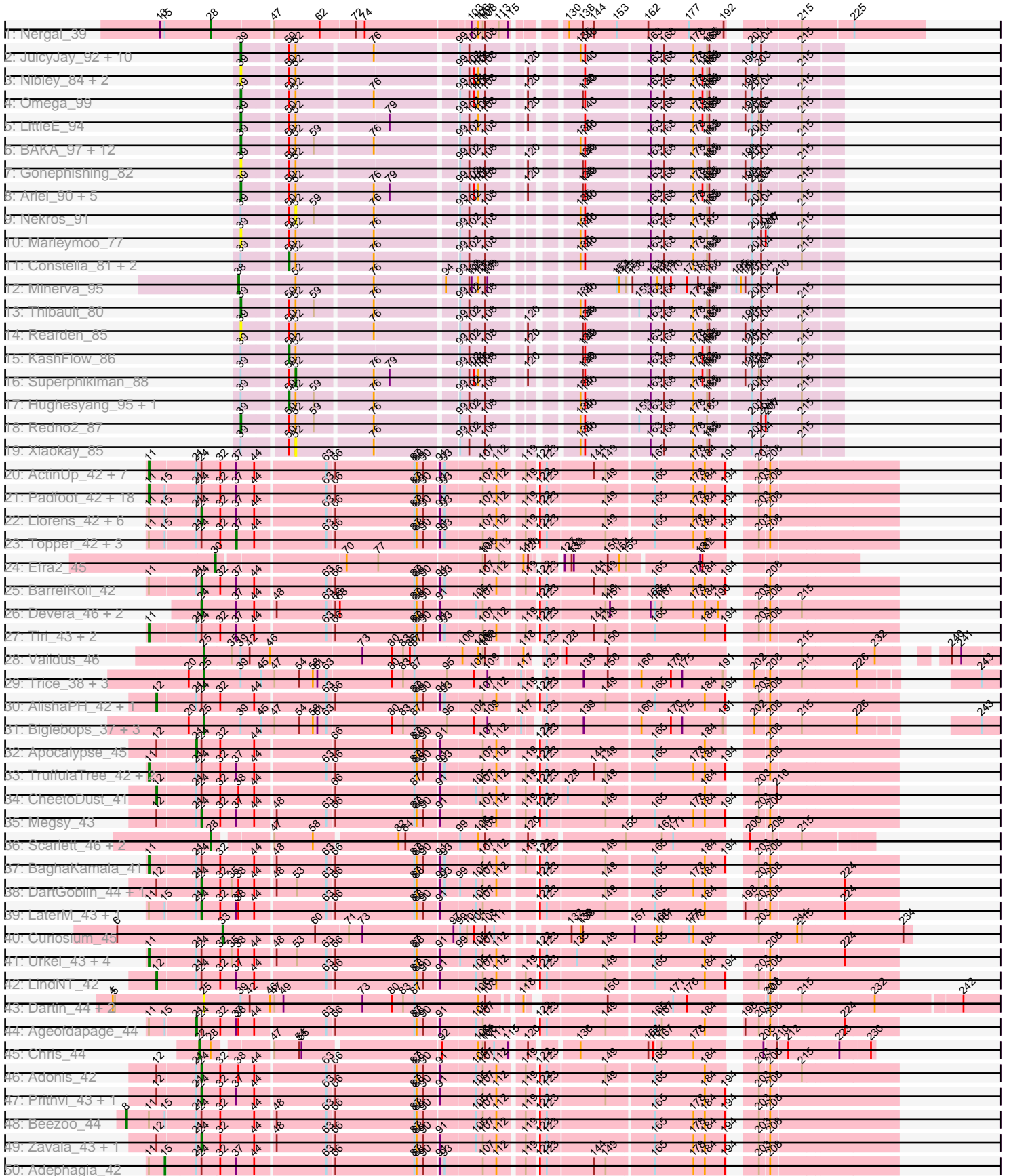
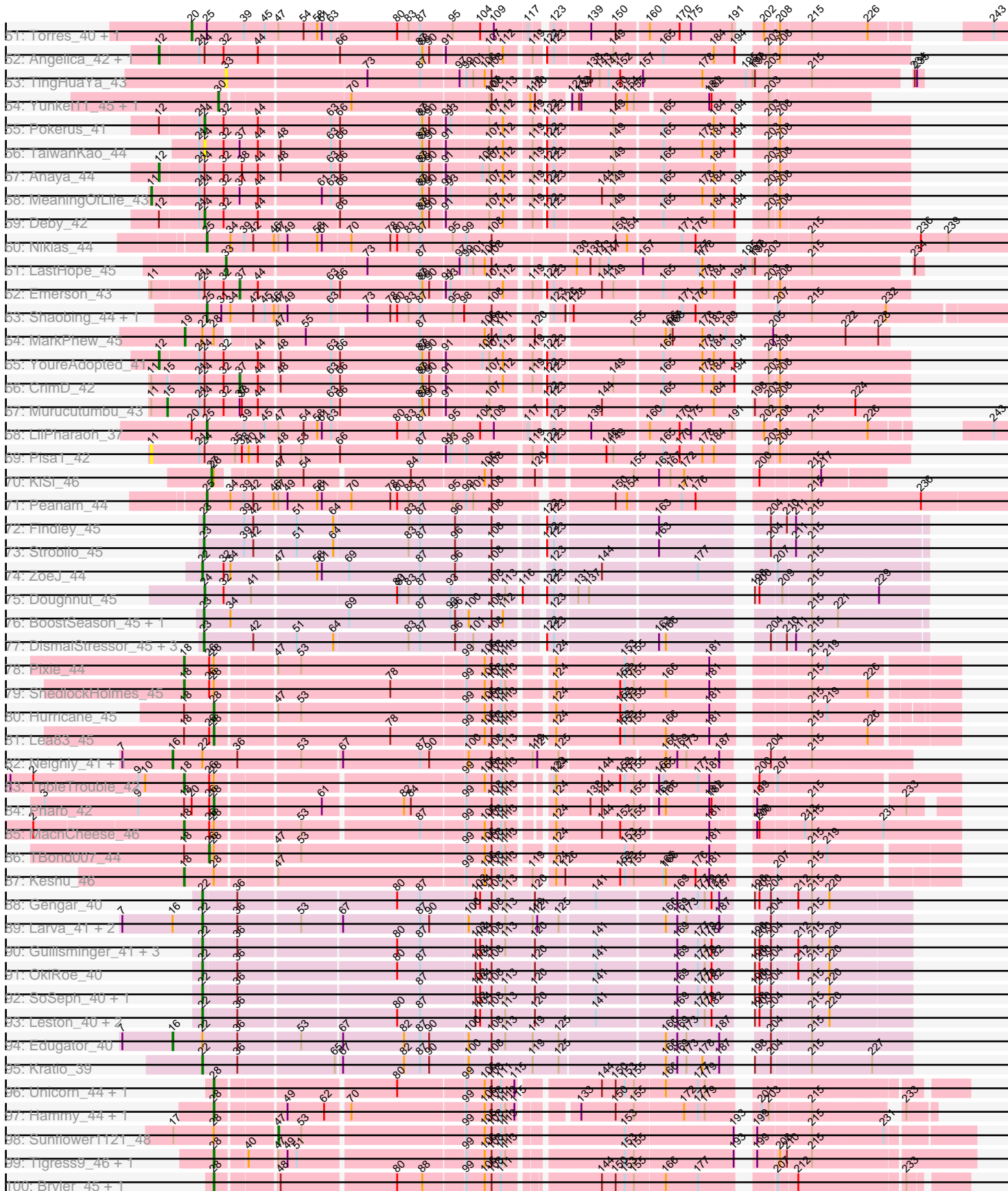


Pham 304697



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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 304697 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304697 has 230 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Nergal\_39
- Track 2 : JuicyJay\_92, Optimus\_89, Bombitas\_84, Duke13\_91, Beem\_96, Ejimix\_89, Klein\_96, Hidrated\_81, Wanda\_99, NihilNomen\_97, Dallas\_97
- Track 3 : Nibley\_84, BronnyJames\_89, Shaboozey\_88
- Track 4 : Omega\_99
- Track 5 : LittleE\_94
- Track 6 : BAKA\_97, EricMillard\_89, Bobby\_87, Pound\_87, Odette\_95, Schatzie\_90, DmpstrDiver\_97, ThreeRngTarjay\_92, Halley\_97, Phoebus\_97, Yeet\_88, Kalah2\_89, HokkenD\_84
- Track 7 : Gonephishing\_82
- Track 8 : Ariel\_90, Squint\_89, Courthouse\_86, Porcelain\_89, Lucky2013\_88, MiaZeal\_91
- Track 9 : Nekros\_91
- Track 10 : Marleymoo\_77
- Track 11 : Constella\_81, Bagrid\_94, Zelink\_92
- Track 12 : Minerva\_95
- Track 13 : Thibault\_80
- Track 14 : Rearden\_85
- Track 15 : KashFlow\_86
- Track 16 : Superphikiman\_88
- Track 17 : Hughesyang\_95, Hannaconda\_82
- Track 18 : Redno2\_87
- Track 19 : Xiaokay\_85
- Track 20 : ActinUp\_42, Jayhawk\_43, Ramen\_42, Atiba\_42, HedwigODU\_42, Padpat\_43, Tachez\_42, Veliki\_42
- Track 21 : Padfoot\_42, BGlluviae\_42, Dalmuri\_42, Jeckyll\_42, CREW\_42, Asayake\_42, Blizzard\_42, BEEST\_42, Durfee\_42, Inky\_42, Spock\_42, ShiaSurprise\_43, Lunahalos\_42, JAWS\_42, Belladonna\_42, Clipper\_45, Jarvi\_42, Twitch\_42, Peel\_42
- Track 22 : Llorens\_42, CaseJules\_43, Boiiii\_42, Joy99\_42, Homura\_42, Capricorn\_42, CallaLilly\_42
- Track 23 : Topper\_42, Hyperbowlee\_42, Rosmarinus\_42, Piatt\_42
- Track 24 : Efra2\_45
- Track 25 : BarrelRoll\_42
- Track 26 : Devera\_46, Illumine\_45, Dole\_45
- Track 27 : Tiri\_43, Ganymede\_43, QuincyRose\_41
- Track 28 : Validus\_46

- Track 29 : Trice\_38, Teejan\_40, Mdavu\_38, Enkosi\_40
- Track 30 : AlishaPH\_42, Geraldini\_44
- Track 31 : Biglebops\_37, Amelie\_37, SgtBeansprout\_37, Nutello\_37
- Track 32 : Apocalypse\_45
- Track 33 : TruffulaTree\_42, Slimphazie\_42, Rapunzel97\_42
- Track 34 : CheetoDust\_41
- Track 35 : Megsy\_43
- Track 36 : Scarlett\_46, LeMond\_46, Oscar\_46
- Track 37 : BaghaKamala\_41
- Track 38 : DartGoblin\_44, Bella96\_43
- Track 39 : LaterM\_43, Stinson\_43
- Track 40 : Curiosium\_45
- Track 41 : Urkel\_43, Anma\_44, SamuelLPlaqson\_43, TiniBug\_43, DrHayes\_43
- Track 42 : LindNT\_42
- Track 43 : Dartin\_44, McMater\_44, Richo\_44
- Track 44 : Ageofdapage\_44
- Track 45 : Chris\_44
- Track 46 : Adonis\_42
- Track 47 : Prithvi\_43, TreyKay\_43
- Track 48 : Beezoo\_44
- Track 49 : Zavala\_43, Mynx\_43
- Track 50 : Adephegia\_42
- Track 51 : Torres\_40, Nikao\_40
- Track 52 : Angelica\_42, Sulley\_42
- Track 53 : TingHuaYa\_43
- Track 54 : Yunkel11\_45, Guanica15\_45
- Track 55 : Pokerus\_41
- Track 56 : TaiwanKao\_44
- Track 57 : Anaya\_44
- Track 58 : MeaningOfLife\_43
- Track 59 : Deby\_42
- Track 60 : Niklas\_44
- Track 61 : LastHope\_45
- Track 62 : Emerson\_43
- Track 63 : Shaobing\_44, Chavito\_45
- Track 64 : MarkPhew\_45
- Track 65 : YoureAdopted\_41
- Track 66 : CrimD\_42
- Track 67 : Murucutumbu\_43
- Track 68 : LilPharaoh\_37
- Track 69 : Pisa1\_42
- Track 70 : KiSi\_46
- Track 71 : Peanam\_44
- Track 72 : Findley\_45
- Track 73 : Strobilo\_45
- Track 74 : ZoeJ\_44
- Track 75 : Doughnut\_45
- Track 76 : BoostSeason\_45, Mufasa\_45
- Track 77 : DismalStressor\_45, DismalFunk\_45, Milly\_45, Marcoliusprime\_45
- Track 78 : Pixie\_44
- Track 79 : ShedlockHolmes\_45
- Track 80 : Hurricane\_45
- Track 81 : Lea83\_45

- Track 82 : Neighly\_41, Psycho\_41
- Track 83 : TribbleTrouble\_42
- Track 84 : Pharb\_42
- Track 85 : MacnCheese\_46
- Track 86 : TBond007\_44
- Track 87 : Keshu\_46
- Track 88 : Gengar\_40
- Track 89 : Larva\_41, AlleyCat\_41, Dadosky\_41
- Track 90 : Guillsminger\_41, Paola\_40, Feyre\_40, Miryou\_42
- Track 91 : OkiRoe\_40
- Track 92 : SoSeph\_40, Heftyboy\_40
- Track 93 : Leston\_40, Thyatira\_42, Waterfoul\_41
- Track 94 : Edugator\_40
- Track 95 : Kratio\_39
- Track 96 : Unicorn\_44, PhelpsODU\_44
- Track 97 : Hammy\_44, DarthP\_44
- Track 98 : Sunflower1121\_48
- Track 99 : Tigress9\_46, Krueger\_48
- Track 100 : Bryler\_45, Cain\_45
- Track 101 : November\_42
- Track 102 : Tierra\_45
- Track 103 : Syra333\_47
- Track 104 : Applecrisp\_41, Ellie\_40
- Track 105 : Ekdilam\_41
- Track 106 : SirPhilip\_44
- Track 107 : Marshawn\_45
- Track 108 : TClif\_46
- Track 109 : Yuna\_48
- Track 110 : Ximenita\_48
- Track 111 : Phrank\_45
- Track 112 : Amohnition\_44
- Track 113 : Amgine\_42, Lavahound\_40
- Track 114 : Fefferhead\_42
- Track 115 : Shadow1\_47
- Track 116 : Aminay\_45

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

The start number called the most often in the published annotations is 11, it was called in 39 of the 208 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• ActinUp\_42, Anma\_44, Asayake\_42, Atiba\_42, BEEST\_42, BGlluviae\_42, BaghaKamala\_41, Belladonna\_42, Blizzard\_42, CREW\_42, Clipper\_45, Dalmuri\_42, DrHayes\_43, Durfee\_42, Ganymede\_43, HedwigODU\_42, Inky\_42, JAWS\_42, Jarvi\_42, Jayhawk\_43, Jeckyll\_42, Lunahalos\_42, MeaningOfLife\_43, Padfoot\_42, Padpat\_43, Peel\_42, Pisa1\_42, QuincyRose\_41, Ramen\_42, Rapunzel97\_42, SamuelLPlaqson\_43, ShiaSurprise\_43, Slimphazie\_42, Spock\_42, Tachez\_42, TiniBug\_43, Tiri\_43, TruffulaTree\_42, Twitch\_42, Urkel\_43, Veliki\_42,

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

- Adephegia\_42, Ageofdapage\_44, BarrelRoll\_42, Beezoo\_44, Boiiii\_42, CallaLilly\_42, Capricorn\_42, CaseJules\_43, CrimD\_42, Emerson\_43, Homura\_42, Hyperbowlee\_42, Joy99\_42, LaterM\_43, Llorens\_42, Murucutumbu\_43, Piatt\_42, Rosmarinus\_42, Stinson\_43, Topper\_42,

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

- Adonis\_42, AlishaPH\_42, AlleyCat\_41, Amelie\_37, Amgine\_42, Aminay\_45, Amohntion\_44, Anaya\_44, Angelica\_42, Apocalypse\_45, Applecrisp\_41, Ariel\_90, BAKA\_97, Bagrid\_94, Beem\_96, Bella96\_43, Binglebops\_37, Bobby\_87, Bombitas\_84, BoostSeason\_45, BronnyJames\_89, Bryler\_45, Cain\_45, Chavito\_45, CheetoDust\_41, Chris\_44, Constella\_81, Courthouse\_86, Curiosium\_45, Dadosky\_41, Dallas\_97, DartGoblin\_44, DarthP\_44, Dartin\_44, Deby\_42, Devera\_46, DismalFunk\_45, DismalStressor\_45, DmpstrDiver\_97, Dole\_45, Doughnut\_45, Duke13\_91, Edugator\_40, Efra2\_45, Ejimix\_89, Ekdilam\_41, Ellie\_40, Enkosi\_40, EricMillard\_89, Fefferhead\_42, Feyre\_40, Findley\_45, Gengar\_40, Geraldini\_44, Gonephishing\_82, Guanica15\_45, Guillsminger\_41, Halley\_97, Hammy\_44, Hannaconda\_82, Heftyboy\_40, Hidrated\_81, HokkenD\_84, Hughesyang\_95, Hurricane\_45, Illumine\_45, JuicyJay\_92, Kalah2\_89, KashFlow\_86, Keshu\_46, KiSi\_46, Klein\_96, Kratio\_39, Krueger\_48, Larva\_41, LastHope\_45, Lavahound\_40, LeMond\_46, Lea83\_45, Leston\_40, LilPharaoh\_37, LindNT\_42, LittleE\_94, Lucky2013\_88, MacnCheese\_46, Marcoliusprime\_45, MarkPhew\_45, Marleymoo\_77, Marshawn\_45, McMater\_44, Mdavu\_38, Megsy\_43, MiaZeal\_91, Milly\_45, Minerva\_95, Miryou\_42, Mufasa\_45, Mynx\_43, Neighly\_41, Nekros\_91, Nergal\_39, Nibley\_84, NihilNomen\_97, Nikao\_40, Niklas\_44, November\_42, Nutello\_37, Odette\_95, OkiRoe\_40, Omega\_99, Optimus\_89, Oscar\_46, Paola\_40, Peanam\_44, Pharb\_42, PhelpsODU\_44, Phoebus\_97, Phrank\_45, Pixie\_44, Pokerus\_41, Porcelain\_89, Pound\_87, Prithvi\_43, Psycho\_41, Rearden\_85, Redno2\_87, Richo\_44, Scarlett\_46, Schatzie\_90, SgtBeansprout\_37, Shaboozey\_88, Shadow1\_47, Shaobing\_44, ShedlockHolmes\_45, SirPhilip\_44, SoSeph\_40, Squint\_89, Strobilo\_45, Sulley\_42, Sunflower1121\_48, Superphikiman\_88, Syra333\_47, TBond007\_44, TClif\_46, TaiwanKao\_44, Teejan\_40, Thibault\_80, ThreeRngTarjay\_92, Thyatira\_42, Tierra\_45, Tigress9\_46, TingHuaYa\_43, Torres\_40, TreyKay\_43, TripleTrouble\_42, Trice\_38, Unicorn\_44, Validus\_46, Wanda\_99, Waterfoul\_41, Xiaokay\_85, Ximenita\_48, Yeet\_88, YoureAdopted\_41, Yuna\_48, Yunkel11\_45, Zavala\_43, Zelink\_92, ZoeJ\_44,

### Summary by start number:

Start 8:

- Found in 1 of 230 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beezoo\_44 (K1),

Start 11:

- Found in 61 of 230 ( 26.5% ) of genes in pham
- Manual Annotations of this start: 39 of 208
- Called 67.2% of time when present
- Phage (with cluster) where this start called: ActinUp\_42 (K1), Anma\_44 (K1), Asayake\_42 (K1), Atiba\_42 (K1), BEEST\_42 (K1), BGlluviae\_42 (K1), BaghaKamala\_41 (K1), Belladonna\_42 (K1), Blizzard\_42 (K1), CREW\_42 (K1), Clipper\_45 (K1), Dalmuri\_42 (K1), DrHayes\_43 (K1), Durfee\_42 (K1), Ganymede\_43

(K1), HedwigODU\_42 (K1), Inky\_42 (K1), JAWS\_42 (K1), Jarvi\_42 (K1), Jayhawk\_43 (K1), Jeckyll\_42 (K1), Lunahalos\_42 (K1), MeaningOfLife\_43 (K1), Padfoot\_42 (K1), Padpat\_43 (K1), Peel\_42 (K1), Pisa1\_42 (K1), QuincyRose\_41 (K1), Ramen\_42 (K1), Rapunzel97\_42 (K1), SamuelLPlaqson\_43 (K1), ShiaSurprise\_43 (K1), Slimphazie\_42 (K1), Spock\_42 (K1), Tachez\_42 (K1), TiniBug\_43 (K1), Tiri\_43 (K1), TruffulaTree\_42 (K1), Twitch\_42 (K1), Urkel\_43 (K1), Veliki\_42 (K1),

Start 12:

- Found in 19 of 230 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 8 of 208
- Called 42.1% of time when present
- Phage (with cluster) where this start called: AlishaPH\_42 (K1), Anaya\_44 (K1), Angelica\_42 (K1), CheetoDust\_41 (K1), Geraldini\_44 (K1), LindNT\_42 (K1), Sulley\_42 (K1), YoureAdopted\_41 (K1),

Start 15:

- Found in 38 of 230 ( 16.5% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Adephagia\_42 (K1), Murucutumbu\_43 (K1),

Start 16:

- Found in 6 of 230 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Edugator\_40 (K5), Neighly\_41 (K3), Psycho\_41 (K5),

Start 18:

- Found in 10 of 230 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 5 of 208
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Keshu\_46 (K3), MacnCheese\_46 (K3), Pixie\_44 (K3), ShedlockHolmes\_45 (K3), TribbleTrouble\_42 (K3),

Start 19:

- Found in 1 of 230 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MarkPhew\_45 (K1),

Start 20:

- Found in 12 of 230 ( 5.2% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Nikao\_40 (K1), Torres\_40 (K1),

Start 21:

- Found in 81 of 230 ( 35.2% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 2.5% of time when present

- Phage (with cluster) where this start called: Ageofdapage\_44 (K1), Apocalypse\_45 (K1),

#### Start 22:

- Found in 21 of 230 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 17 of 208
- Called 81.0% of time when present
- Phage (with cluster) where this start called: AlleyCat\_41 (K5), Chris\_44 (K1), Dadosky\_41 (K5), Feyre\_40 (K5), Gengar\_40 (K5), Guillsminger\_41 (K5), Heftyboy\_40 (K5), Kratio\_39 (K5), Larva\_41 (K5), Leston\_40 (K5), Miryou\_42 (K5), OkiRoe\_40 (K5), Paola\_40 (K5), SoSeph\_40 (K5), Thyatira\_42 (K5), Waterfoul\_41 (K5), ZoeJ\_44 (K2),

#### Start 23:

- Found in 8 of 230 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 8 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BoostSeason\_45 (K2), DismalFunk\_45 (K2), DismalStressor\_45 (K2), Findley\_45 (K2), Marcoliusprime\_45 (K2), Milly\_45 (K2), Mufasa\_45 (K2), Strobilo\_45 (K2),

#### Start 24:

- Found in 86 of 230 ( 37.4% ) of genes in pham
- Manual Annotations of this start: 25 of 208
- Called 30.2% of time when present
- Phage (with cluster) where this start called: Adonis\_42 (K1), BarrelRoll\_42 (K1), Bella96\_43 (K1), Boiiii\_42 (K1), CallaLilly\_42 (K1), Capricorn\_42 (K1), CaseJules\_43 (K1), DartGoblin\_44 (K1), Deby\_42 (K1), Devera\_46 (K1), Dole\_45 (K1), Doughnut\_45 (K2), Homura\_42 (K1), Illumine\_45 (K1), Joy99\_42 (K1), LaterM\_43 (K1), Llorens\_42 (K1), Marshawn\_45 (K6), Megsy\_43 (K1), Mynx\_43 (K1), Pokerus\_41 (K1), Prithvi\_43 (K1), Stinson\_43 (K1), TaiwanKao\_44 (K1), TreyKay\_43 (K1), Zavala\_43 (K1),

#### Start 25:

- Found in 20 of 230 ( 8.7% ) of genes in pham
- Manual Annotations of this start: 12 of 208
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Amelie\_37 (K1), Binglebops\_37 (K1), Chavito\_45 (K1), Dartin\_44 (K1), Enkosi\_40 (K1), LilPharaoh\_37 (K1), McMater\_44 (K1), Mdavu\_38 (K1), Niklas\_44 (K1), Nutello\_37 (K1), Peanam\_44 (K1), Richo\_44 (K1), SgtBeansprout\_37 (K1), Shaobing\_44 (K1), TClif\_46 (K6), Teejan\_40 (K1), Trice\_38 (K1), Validus\_46 (K1),

#### Start 26:

- Found in 7 of 230 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 14.3% of time when present
- Phage (with cluster) where this start called: TBond007\_44 (K3),

#### Start 27:

- Found in 1 of 230 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present

- Phage (with cluster) where this start called: KiSi\_46 (K1),

#### Start 28:

- Found in 35 of 230 ( 15.2% ) of genes in pham
- Manual Annotations of this start: 25 of 208
- Called 71.4% of time when present
- Phage (with cluster) where this start called: Amohnition\_44 (K6), Bryler\_45 (K6), Cain\_45 (K6), DarthP\_44 (K6), Ekdilam\_41 (K6), Hammy\_44 (K6), Hurricane\_45 (K3), Krueger\_48 (K6), LeMond\_46 (K1), Lea83\_45 (K3), Nergal\_39 (AG), November\_42 (K6), Oscar\_46 (K1), Pharb\_42 (K3), PhelpsODU\_44 (K6), Phrank\_45 (K6), Scarlett\_46 (K1), Shadow1\_47 (K6), SirPhilip\_44 (K6), Syra333\_47 (K6), Tierra\_45 (K6), Tigress9\_46 (K6), Unicorn\_44 (K6), Ximenita\_48 (K6), Yuna\_48 (K6),

#### Start 29:

- Found in 1 of 230 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aminay\_45 (K7),

#### Start 30:

- Found in 9 of 230 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 8 of 208
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Amgine\_42 (K6), Applecrisp\_41 (K6), Efra2\_45 (K1), Ellie\_40 (K6), Fefferhead\_42 (K6), Guanica15\_45 (K1), Lavahound\_40 (K6), Yunkel11\_45 (K1),

#### Start 33:

- Found in 3 of 230 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 2 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Curiosium\_45 (K1), LastHope\_45 (K1), TingHuaYa\_43 (K1),

#### Start 37:

- Found in 62 of 230 ( 27.0% ) of genes in pham
- Manual Annotations of this start: 6 of 208
- Called 9.7% of time when present
- Phage (with cluster) where this start called: CrimD\_42 (K1), Emerson\_43 (K1), Hyperbowlee\_42 (K1), Piatt\_42 (K1), Rosmarinus\_42 (K1), Topper\_42 (K1),

#### Start 38:

- Found in 17 of 230 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Minerva\_95 (J),

#### Start 39:

- Found in 70 of 230 ( 30.4% ) of genes in pham
- Manual Annotations of this start: 32 of 208
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Ariel\_90 (J), BAKA\_97 (J), Beem\_96 (J), Bobby\_87 (J), Bombitas\_84 (J), BronnyJames\_89 (J), Courthouse\_86 (J), Dallas\_97

(J), DmpstrDiver\_97 (J), Duke13\_91 (J), Ejimix\_89 (J), EricMillard\_89 (J), Gonephishing\_82 (J), Halley\_97 (J), Hidrated\_81 (J), HokkenD\_84 (J), JuicyJay\_92 (J), Kalah2\_89 (J), Klein\_96 (J), LittleE\_94 (J), Lucky2013\_88 (J), Marleymoo\_77 (J), MiaZeal\_91 (J), Nibley\_84 (J), NihilNomen\_97 (J), Odette\_95 (J), Omega\_99 (J), Optimus\_89 (J), Phoebus\_97 (J), Porcelain\_89 (J), Pound\_87 (J), Rearden\_85 (J), Redno2\_87 (J), Schatzie\_90 (J), Shaboozey\_88 (J), Squint\_89 (J), Thibault\_80 (J), ThreeRngTarjay\_92 (J), Wanda\_99 (J), Yeet\_88 (J),

Start 47:

- Found in 43 of 230 ( 18.7% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 2.3% of time when present
- Phage (with cluster) where this start called: Sunflower1121\_48 (K6),

Start 50:

- Found in 49 of 230 ( 21.3% ) of genes in pham
- Manual Annotations of this start: 5 of 208
- Called 12.2% of time when present
- Phage (with cluster) where this start called: Bagrid\_94 (J), Constella\_81 (J), Hannaconda\_82 (J), Hughesyang\_95 (J), KashFlow\_86 (J), Zelink\_92 (J),

Start 52:

- Found in 50 of 230 ( 21.7% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 6.0% of time when present
- Phage (with cluster) where this start called: Nekros\_91 (J), Superphikiman\_88 (J), Xiaokay\_85 (J),

### **Summary by clusters:**

There are 8 clusters represented in this pham: AG, J, K3, K2, K1, K7, K6, K5,

Info for manual annotations of cluster AG:

- Start number 28 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster J:

- Start number 38 was manually annotated 1 time for cluster J.
- Start number 39 was manually annotated 32 times for cluster J.
- Start number 50 was manually annotated 5 times for cluster J.
- Start number 52 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster K1:

- Start number 8 was manually annotated 1 time for cluster K1.
- Start number 11 was manually annotated 39 times for cluster K1.
- Start number 12 was manually annotated 8 times for cluster K1.
- Start number 15 was manually annotated 2 times for cluster K1.
- Start number 19 was manually annotated 1 time for cluster K1.
- Start number 20 was manually annotated 2 times for cluster K1.
- Start number 21 was manually annotated 2 times for cluster K1.
- Start number 22 was manually annotated 1 time for cluster K1.
- Start number 24 was manually annotated 23 times for cluster K1.
- Start number 25 was manually annotated 11 times for cluster K1.
- Start number 27 was manually annotated 1 time for cluster K1.

- Start number 28 was manually annotated 3 times for cluster K1.
- Start number 30 was manually annotated 3 times for cluster K1.
- Start number 33 was manually annotated 2 times for cluster K1.
- Start number 37 was manually annotated 6 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 22 was manually annotated 1 time for cluster K2.
- Start number 23 was manually annotated 8 times for cluster K2.
- Start number 24 was manually annotated 1 time for cluster K2.

Info for manual annotations of cluster K3:

- Start number 18 was manually annotated 5 times for cluster K3.
- Start number 26 was manually annotated 1 time for cluster K3.
- Start number 28 was manually annotated 3 times for cluster K3.

Info for manual annotations of cluster K5:

- Start number 16 was manually annotated 2 times for cluster K5.
- Start number 22 was manually annotated 15 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 24 was manually annotated 1 time for cluster K6.
- Start number 25 was manually annotated 1 time for cluster K6.
- Start number 28 was manually annotated 18 times for cluster K6.
- Start number 30 was manually annotated 5 times for cluster K6.
- Start number 47 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster K7:

- Start number 29 was manually annotated 1 time for cluster K7.

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

Gene: ActinUp\_42 Start: 34574, Stop: 33672, Start Num: 11

Candidate Starts for ActinUp\_42:

(Start: 11 @34574 has 39 MA's), (Start: 21 @34517 has 2 MA's), (Start: 24 @34511 has 25 MA's), (32, 34487), (Start: 37 @34466 has 6 MA's), (44, 34442), (63, 34352), (66, 34343), (87, 34238), (88, 34235), (90, 34226), (91, 34208), (93, 34202), (107, 34154), (112, 34136), (119, 34106), (122, 34094), (123, 34085), (144, 34028), (149, 34013), (165, 33956), (178, 33905), (184, 33890), (194, 33863), (203, 33842), (208, 33830),

Gene: Adephagia\_42 Start: 34550, Stop: 33669, Start Num: 15

Candidate Starts for Adephagia\_42:

(Start: 11 @34571 has 39 MA's), (Start: 15 @34550 has 2 MA's), (Start: 21 @34514 has 2 MA's), (Start: 24 @34508 has 25 MA's), (32, 34484), (Start: 37 @34463 has 6 MA's), (44, 34439), (63, 34349), (66, 34340), (87, 34235), (88, 34232), (90, 34223), (91, 34205), (93, 34199), (107, 34151), (112, 34133), (119, 34103), (122, 34091), (123, 34082), (144, 34025), (149, 34010), (165, 33953), (178, 33902), (184, 33887), (194, 33860), (203, 33839), (208, 33827),

Gene: Adonis\_42 Start: 34806, Stop: 33967, Start Num: 24

Candidate Starts for Adonis\_42:

(Start: 12 @34860 has 8 MA's), (Start: 21 @34812 has 2 MA's), (Start: 24 @34806 has 25 MA's), (32, 34782), (Start: 38 @34758 has 1 MA's), (44, 34737), (63, 34647), (66, 34638), (87, 34533), (88,

34530), (90, 34521), (91, 34503), (105, 34458), (107, 34449), (112, 34431), (119, 34401), (122, 34389), (123, 34380), (149, 34308), (165, 34251), (184, 34185), (203, 34137), (208, 34125), (215, 34086),

Gene: Ageofdapage\_44 Start: 35489, Stop: 34644, Start Num: 21

Candidate Starts for Ageofdapage\_44:

(Start: 11 @35546 has 39 MA's), (Start: 15 @35525 has 2 MA's), (Start: 21 @35489 has 2 MA's), (Start: 24 @35483 has 25 MA's), (32, 35459), (Start: 37 @35438 has 6 MA's), (Start: 38 @35435 has 1 MA's), (44, 35414), (63, 35324), (66, 35315), (87, 35210), (88, 35207), (90, 35198), (91, 35180), (105, 35135), (107, 35126), (122, 35066), (123, 35057), (149, 34985), (165, 34928), (167, 34919), (184, 34862), (198, 34832), (203, 34814), (208, 34802), (224, 34712),

Gene: AlishaPH\_42 Start: 34836, Stop: 33943, Start Num: 12

Candidate Starts for AlishaPH\_42:

(Start: 12 @34836 has 8 MA's), (Start: 21 @34788 has 2 MA's), (Start: 24 @34782 has 25 MA's), (32, 34758), (44, 34713), (63, 34623), (66, 34614), (87, 34509), (88, 34506), (90, 34497), (91, 34479), (93, 34473), (107, 34425), (112, 34407), (119, 34377), (122, 34365), (123, 34356), (149, 34284), (165, 34227), (184, 34161), (194, 34134), (203, 34113), (208, 34101),

Gene: AlleyCat\_41 Start: 33853, Stop: 33002, Start Num: 22

Candidate Starts for AlleyCat\_41:

(7, 33955), (Start: 16 @33889 has 2 MA's), (Start: 22 @33853 has 17 MA's), (36, 33808), (53, 33730), (67, 33682), (87, 33583), (90, 33571), (100, 33523), (108, 33493), (113, 33475), (119, 33439), (121, 33433), (125, 33406), (166, 33280), (169, 33265), (173, 33253), (187, 33211), (204, 33172), (215, 33124),

Gene: Amelie\_37 Start: 34082, Stop: 33180, Start Num: 25

Candidate Starts for Amelie\_37:

(Start: 20 @34100 has 2 MA's), (Start: 25 @34082 has 12 MA's), (Start: 39 @34034 has 32 MA's), (45, 34007), (Start: 47 @33989 has 1 MA's), (54, 33956), (58, 33938), (61, 33932), (63, 33920), (80, 33836), (83, 33821), (87, 33806), (95, 33764), (104, 33728), (109, 33710), (117, 33668), (123, 33650), (139, 33611), (160, 33542), (170, 33503), (175, 33488), (191, 33434), (202, 33416), (208, 33398), (215, 33359), (226, 33293), (243, 33203),

Gene: Amgine\_42 Start: 35522, Stop: 34689, Start Num: 30

Candidate Starts for Amgine\_42:

(Start: 30 @35522 has 8 MA's), (43, 35483), (Start: 47 @35459 has 1 MA's), (53, 35429), (99, 35228), (106, 35204), (108, 35195), (111, 35183), (113, 35177), (115, 35165), (124, 35132), (130, 35105), (153, 35042), (155, 35030), (177, 34946), (204, 34877), (210, 34859), (212, 34847), (215, 34829),

Gene: Aminay\_45 Start: 36061, Stop: 35288, Start Num: 29

Candidate Starts for Aminay\_45:

(Start: 29 @36061 has 1 MA's), (Start: 38 @36025 has 1 MA's), (57, 35938), (60, 35929), (75, 35857), (85, 35809), (86, 35806), (87, 35800), (89, 35794), (96, 35758), (108, 35716), (123, 35647), (134, 35614), (135, 35611), (142, 35596), (151, 35572), (158, 35545), (161, 35530), (177, 35476), (202, 35416), (204, 35407),

Gene: Amohnition\_44 Start: 35581, Stop: 34757, Start Num: 28

Candidate Starts for Amohnition\_44:

(Start: 28 @35581 has 25 MA's), (62, 35452), (70, 35425), (72, 35413), (99, 35281), (105, 35260), (106, 35257), (108, 35248), (111, 35236), (113, 35230), (115, 35218), (120, 35203), (133, 35161), (155, 35092), (177, 35011), (193, 34966), (205, 34939), (215, 34894),

Gene: Anaya\_44 Start: 35172, Stop: 34279, Start Num: 12

Candidate Starts for Anaya\_44:

(Start: 12 @35172 has 8 MA's), (Start: 21 @35124 has 2 MA's), (Start: 24 @35118 has 25 MA's), (32, 35094), (Start: 38 @35070 has 1 MA's), (44, 35049), (48, 35025), (63, 34959), (66, 34950), (87, 34845), (88, 34842), (90, 34833), (91, 34815), (105, 34770), (107, 34761), (112, 34743), (119, 34713), (122, 34701), (123, 34692), (149, 34620), (165, 34563), (184, 34497), (203, 34449), (208, 34437),

Gene: Angelica\_42 Start: 34792, Stop: 33899, Start Num: 12

Candidate Starts for Angelica\_42:

(Start: 12 @34792 has 8 MA's), (Start: 21 @34744 has 2 MA's), (Start: 24 @34738 has 25 MA's), (32, 34714), (44, 34669), (66, 34570), (87, 34465), (88, 34462), (90, 34453), (91, 34435), (107, 34381), (112, 34363), (119, 34333), (122, 34321), (123, 34312), (149, 34240), (165, 34183), (184, 34117), (194, 34090), (203, 34069), (208, 34057),

Gene: Anma\_44 Start: 35473, Stop: 34568, Start Num: 11

Candidate Starts for Anma\_44:

(Start: 11 @35473 has 39 MA's), (Start: 21 @35413 has 2 MA's), (Start: 24 @35407 has 25 MA's), (32, 35383), (35, 35368), (Start: 38 @35359 has 1 MA's), (44, 35338), (48, 35314), (53, 35287), (63, 35248), (66, 35239), (87, 35134), (88, 35131), (91, 35104), (99, 35080), (105, 35059), (107, 35050), (112, 35032), (122, 34990), (123, 34981), (135, 34945), (149, 34909), (165, 34852), (184, 34786), (208, 34726), (224, 34636),

Gene: Apocalypse\_45 Start: 35530, Stop: 34685, Start Num: 21

Candidate Starts for Apocalypse\_45:

(Start: 12 @35578 has 8 MA's), (Start: 21 @35530 has 2 MA's), (Start: 24 @35524 has 25 MA's), (32, 35500), (44, 35455), (66, 35356), (87, 35251), (88, 35248), (90, 35239), (91, 35221), (107, 35167), (112, 35149), (122, 35107), (123, 35098), (165, 34969), (184, 34903), (208, 34843),

Gene: Applecrisp\_41 Start: 35019, Stop: 34186, Start Num: 30

Candidate Starts for Applecrisp\_41:

(Start: 30 @35019 has 8 MA's), (43, 34980), (Start: 47 @34956 has 1 MA's), (53, 34926), (99, 34725), (106, 34701), (108, 34692), (111, 34680), (113, 34674), (115, 34662), (124, 34629), (127, 34608), (130, 34602), (136, 34587), (153, 34539), (155, 34527), (204, 34374), (210, 34356), (212, 34344), (215, 34326),

Gene: Ariel\_90 Start: 53471, Stop: 52764, Start Num: 39

Candidate Starts for Ariel\_90:

(Start: 39 @53471 has 32 MA's), (Start: 50 @53417 has 5 MA's), (Start: 52 @53408 has 1 MA's), (76, 53312), (79, 53294), (99, 53213), (102, 53201), (104, 53195), (106, 53189), (108, 53180), (120, 53138), (138, 53087), (140, 53084), (163, 53003), (168, 52985), (178, 52946), (182, 52934), (185, 52928), (186, 52925), (198, 52883), (201, 52874), (203, 52865), (204, 52862), (215, 52811),

Gene: Asayake\_42 Start: 34886, Stop: 33984, Start Num: 11

Candidate Starts for Asayake\_42:

(Start: 11 @34886 has 39 MA's), (Start: 15 @34865 has 2 MA's), (Start: 21 @34829 has 2 MA's), (Start: 24 @34823 has 25 MA's), (32, 34799), (Start: 37 @34778 has 6 MA's), (44, 34754), (63, 34664), (66, 34655), (87, 34550), (88, 34547), (90, 34538), (91, 34520), (93, 34514), (107, 34466), (112, 34448), (119, 34418), (122, 34406), (123, 34397), (149, 34325), (165, 34268), (178, 34217), (184, 34202), (194, 34175), (203, 34154), (208, 34142),

Gene: Atiba\_42 Start: 34534, Stop: 33632, Start Num: 11

Candidate Starts for Atiba\_42:

(Start: 11 @34534 has 39 MA's), (Start: 21 @34477 has 2 MA's), (Start: 24 @34471 has 25 MA's), (32, 34447), (Start: 37 @34426 has 6 MA's), (44, 34402), (63, 34312), (66, 34303), (87, 34198), (88, 34195), (90, 34186), (91, 34168), (93, 34162), (107, 34114), (112, 34096), (119, 34066), (122, 34054), (123, 34045), (144, 33988), (149, 33973), (165, 33916), (178, 33865), (184, 33850), (194, 33823), (203, 33802), (208, 33790),

Gene: BAKA\_97 Start: 59373, Stop: 58666, Start Num: 39

Candidate Starts for BAKA\_97:

(Start: 39 @59373 has 32 MA's), (Start: 50 @59319 has 5 MA's), (Start: 52 @59310 has 1 MA's), (59, 59286), (76, 59214), (99, 59115), (102, 59103), (108, 59082), (136, 58992), (140, 58986), (163, 58905), (168, 58887), (178, 58848), (185, 58830), (186, 58827), (201, 58776), (204, 58764), (215, 58713),

Gene: BEEST\_42 Start: 34886, Stop: 33984, Start Num: 11

Candidate Starts for BEEST\_42:

(Start: 11 @34886 has 39 MA's), (Start: 15 @34865 has 2 MA's), (Start: 21 @34829 has 2 MA's), (Start: 24 @34823 has 25 MA's), (32, 34799), (Start: 37 @34778 has 6 MA's), (44, 34754), (63, 34664), (66, 34655), (87, 34550), (88, 34547), (90, 34538), (91, 34520), (93, 34514), (107, 34466), (112, 34448), (119, 34418), (122, 34406), (123, 34397), (149, 34325), (165, 34268), (178, 34217), (184, 34202), (194, 34175), (203, 34154), (208, 34142),

Gene: BGlluviae\_42 Start: 34689, Stop: 33787, Start Num: 11

Candidate Starts for BGlluviae\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: BaghaKamala\_41 Start: 34011, Stop: 33109, Start Num: 11

Candidate Starts for BaghaKamala\_41:

(Start: 11 @34011 has 39 MA's), (Start: 21 @33954 has 2 MA's), (Start: 24 @33948 has 25 MA's), (32, 33924), (44, 33879), (48, 33855), (63, 33789), (66, 33780), (87, 33675), (88, 33672), (90, 33663), (91, 33645), (93, 33639), (107, 33591), (112, 33573), (119, 33543), (122, 33531), (123, 33522), (149, 33450), (165, 33393), (184, 33327), (194, 33300), (203, 33279), (208, 33267),

Gene: Bagrid\_94 Start: 58185, Stop: 57532, Start Num: 50

Candidate Starts for Bagrid\_94:

(Start: 39 @58239 has 32 MA's), (Start: 50 @58185 has 5 MA's), (Start: 52 @58176 has 1 MA's), (76, 58080), (99, 57981), (102, 57969), (108, 57948), (136, 57858), (140, 57852), (163, 57771), (168, 57753), (178, 57714), (185, 57696), (186, 57693), (201, 57642), (204, 57630), (215, 57579),

Gene: BarrelRoll\_42 Start: 34494, Stop: 33655, Start Num: 24

Candidate Starts for BarrelRoll\_42:

(Start: 11 @34557 has 39 MA's), (Start: 21 @34500 has 2 MA's), (Start: 24 @34494 has 25 MA's), (32, 34470), (Start: 37 @34449 has 6 MA's), (44, 34425), (63, 34335), (66, 34326), (87, 34221), (88, 34218), (90, 34209), (91, 34191), (93, 34185), (107, 34137), (112, 34119), (119, 34089), (122, 34077), (123, 34068), (144, 34011), (149, 33996), (165, 33939), (178, 33888), (184, 33873), (194, 33846), (208, 33813),

Gene: Beem\_96 Start: 59100, Stop: 58393, Start Num: 39

Candidate Starts for Beem\_96:

(Start: 39 @59100 has 32 MA's), (Start: 50 @59046 has 5 MA's), (Start: 52 @59037 has 1 MA's), (76, 58941), (99, 58842), (102, 58830), (108, 58809), (136, 58719), (140, 58713), (163, 58632), (168, 58614), (178, 58575), (185, 58557), (186, 58554), (201, 58503), (204, 58491), (215, 58440),

Gene: Beezoo\_44 Start: 35566, Stop: 34634, Start Num: 8

Candidate Starts for Beezoo\_44:

(Start: 8 @35566 has 1 MA's), (Start: 11 @35536 has 39 MA's), (Start: 15 @35515 has 2 MA's), (Start: 21 @35479 has 2 MA's), (Start: 24 @35473 has 25 MA's), (32, 35449), (44, 35404), (48, 35380), (63, 35314), (66, 35305), (87, 35200), (88, 35197), (90, 35188), (105, 35125), (107, 35116), (112, 35098), (119, 35068), (122, 35056), (123, 35047), (165, 34918), (178, 34867), (184, 34852), (194, 34825), (203, 34804), (208, 34792),

Gene: Bella96\_43 Start: 35364, Stop: 34525, Start Num: 24

Candidate Starts for Bella96\_43:

(Start: 12 @35418 has 8 MA's), (Start: 21 @35370 has 2 MA's), (Start: 24 @35364 has 25 MA's), (32, 35340), (35, 35325), (Start: 38 @35316 has 1 MA's), (44, 35295), (48, 35271), (53, 35244), (63, 35205), (66, 35196), (87, 35091), (88, 35088), (91, 35061), (93, 35055), (99, 35037), (105, 35016), (107, 35007), (112, 34989), (122, 34947), (123, 34938), (149, 34866), (165, 34809), (178, 34758), (184, 34743), (203, 34695), (208, 34683), (224, 34593),

Gene: Belladonna\_42 Start: 34689, Stop: 33787, Start Num: 11

Candidate Starts for Belladonna\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: Biglebops\_37 Start: 34082, Stop: 33180, Start Num: 25

Candidate Starts for Biglebops\_37:

(Start: 20 @34100 has 2 MA's), (Start: 25 @34082 has 12 MA's), (Start: 39 @34034 has 32 MA's), (45, 34007), (Start: 47 @33989 has 1 MA's), (54, 33956), (58, 33938), (61, 33932), (63, 33920), (80, 33836), (83, 33821), (87, 33806), (95, 33764), (104, 33728), (109, 33710), (117, 33668), (123, 33650), (139, 33611), (160, 33542), (170, 33503), (175, 33488), (191, 33434), (202, 33416), (208, 33398), (215, 33359), (226, 33293), (243, 33203),

Gene: Blizzard\_42 Start: 34886, Stop: 33984, Start Num: 11

Candidate Starts for Blizzard\_42:

(Start: 11 @34886 has 39 MA's), (Start: 15 @34865 has 2 MA's), (Start: 21 @34829 has 2 MA's), (Start: 24 @34823 has 25 MA's), (32, 34799), (Start: 37 @34778 has 6 MA's), (44, 34754), (63, 34664), (66, 34655), (87, 34550), (88, 34547), (90, 34538), (91, 34520), (93, 34514), (107, 34466), (112, 34448), (119, 34418), (122, 34406), (123, 34397), (149, 34325), (165, 34268), (178, 34217), (184, 34202), (194, 34175), (203, 34154), (208, 34142),

Gene: Bobby\_87 Start: 57466, Stop: 56759, Start Num: 39

Candidate Starts for Bobby\_87:

(Start: 39 @57466 has 32 MA's), (Start: 50 @57412 has 5 MA's), (Start: 52 @57403 has 1 MA's), (59, 57379), (76, 57307), (99, 57208), (102, 57196), (108, 57175), (136, 57085), (140, 57079), (163, 56998), (168, 56980), (178, 56941), (185, 56923), (186, 56920), (201, 56869), (204, 56857), (215, 56806),

Gene: Boiiii\_42 Start: 34825, Stop: 33986, Start Num: 24

Candidate Starts for Boiiii\_42:

(Start: 11 @34888 has 39 MA's), (Start: 15 @34867 has 2 MA's), (Start: 21 @34831 has 2 MA's), (Start: 24 @34825 has 25 MA's), (32, 34801), (Start: 37 @34780 has 6 MA's), (44, 34756), (63, 34666), (66, 34657), (87, 34552), (88, 34549), (90, 34540), (91, 34522), (93, 34516), (107, 34468), (112, 34450), (119, 34420), (122, 34408), (123, 34399), (149, 34327), (165, 34270), (178, 34219), (184, 34204), (194, 34177), (203, 34156), (208, 34144),

Gene: Bombitas\_84 Start: 56263, Stop: 55556, Start Num: 39

Candidate Starts for Bombitas\_84:

(Start: 39 @56263 has 32 MA's), (Start: 50 @56209 has 5 MA's), (Start: 52 @56200 has 1 MA's), (76, 56104), (99, 56005), (102, 55993), (108, 55972), (136, 55882), (140, 55876), (163, 55795), (168, 55777), (178, 55738), (185, 55720), (186, 55717), (201, 55666), (204, 55654), (215, 55603),

Gene: BoostSeason\_45 Start: 36162, Stop: 35314, Start Num: 23

Candidate Starts for BoostSeason\_45:

(Start: 23 @36162 has 8 MA's), (34, 36129), (69, 35979), (87, 35886), (93, 35847), (96, 35841), (100, 35826), (108, 35796), (112, 35781), (123, 35736), (215, 35451), (221, 35421),

Gene: BronnyJames\_89 Start: 53953, Stop: 53246, Start Num: 39

Candidate Starts for BronnyJames\_89:

(Start: 39 @53953 has 32 MA's), (Start: 50 @53899 has 5 MA's), (Start: 52 @53890 has 1 MA's), (99, 53695), (102, 53683), (104, 53677), (106, 53671), (108, 53662), (120, 53620), (140, 53566), (163, 53485), (168, 53467), (178, 53428), (182, 53416), (185, 53410), (186, 53407), (198, 53365), (203, 53347), (215, 53293),

Gene: Bryler\_45 Start: 34405, Stop: 33539, Start Num: 28

Candidate Starts for Bryler\_45:

(Start: 28 @34405 has 25 MA's), (48, 34333), (80, 34189), (88, 34156), (99, 34105), (106, 34081), (108, 34072), (111, 34060), (144, 33955), (150, 33937), (153, 33925), (155, 33913), (166, 33874), (177, 33832), (207, 33757), (212, 33733), (233, 33607),

Gene: CREW\_42 Start: 34689, Stop: 33787, Start Num: 11

Candidate Starts for CREW\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: Cain\_45 Start: 34393, Stop: 33527, Start Num: 28

Candidate Starts for Cain\_45:

(Start: 28 @34393 has 25 MA's), (48, 34321), (80, 34177), (88, 34144), (99, 34093), (106, 34069), (108, 34060), (111, 34048), (144, 33943), (150, 33925), (153, 33913), (155, 33901), (166, 33862), (177, 33820), (207, 33745), (212, 33721), (233, 33595),

Gene: CallaLilly\_42 Start: 34549, Stop: 33710, Start Num: 24

Candidate Starts for CallaLilly\_42:

(Start: 11 @34612 has 39 MA's), (Start: 15 @34591 has 2 MA's), (Start: 21 @34555 has 2 MA's), (Start: 24 @34549 has 25 MA's), (32, 34525), (Start: 37 @34504 has 6 MA's), (44, 34480), (63, 34390), (66, 34381), (87, 34276), (88, 34273), (90, 34264), (91, 34246), (93, 34240), (107, 34192), (112, 34174), (119, 34144), (122, 34132), (123, 34123), (149, 34051), (165, 33994), (178, 33943), (184, 33928), (194, 33901), (203, 33880), (208, 33868),

Gene: Capricorn\_42 Start: 34626, Stop: 33787, Start Num: 24

Candidate Starts for Capricorn\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: CaseJules\_43 Start: 34823, Stop: 33984, Start Num: 24

Candidate Starts for CaseJules\_43:

(Start: 11 @34886 has 39 MA's), (Start: 15 @34865 has 2 MA's), (Start: 21 @34829 has 2 MA's), (Start: 24 @34823 has 25 MA's), (32, 34799), (Start: 37 @34778 has 6 MA's), (44, 34754), (63, 34664), (66, 34655), (87, 34550), (88, 34547), (90, 34538), (91, 34520), (93, 34514), (107, 34466), (112, 34448), (119, 34418), (122, 34406), (123, 34397), (149, 34325), (165, 34268), (178, 34217), (184, 34202), (194, 34175), (203, 34154), (208, 34142),

Gene: Chavito\_45 Start: 35800, Stop: 34844, Start Num: 25

Candidate Starts for Chavito\_45:

(Start: 25 @35800 has 12 MA's), (31, 35782), (34, 35770), (42, 35740), (45, 35725), (46, 35713), (Start: 47 @35707 has 1 MA's), (49, 35695), (63, 35638), (73, 35593), (78, 35563), (80, 35554), (83, 35539), (87, 35524), (95, 35482), (98, 35467), (108, 35431), (123, 35377), (126, 35365), (128, 35359), (171, 35227), (176, 35209), (207, 35131), (215, 35089), (232, 34999),

Gene: CheetoDust\_41 Start: 34052, Stop: 33159, Start Num: 12

Candidate Starts for CheetoDust\_41:

(Start: 12 @34052 has 8 MA's), (Start: 21 @34004 has 2 MA's), (Start: 24 @33998 has 25 MA's), (32, 33974), (Start: 38 @33950 has 1 MA's), (44, 33929), (66, 33830), (87, 33725), (91, 33695), (105, 33650), (107, 33641), (112, 33623), (119, 33593), (122, 33581), (123, 33572), (129, 33548), (149, 33500), (184, 33377), (203, 33329), (210, 33308),

Gene: Chris\_44 Start: 35259, Stop: 34477, Start Num: 22

Candidate Starts for Chris\_44:

(Start: 22 @35259 has 17 MA's), (Start: 28 @35244 has 25 MA's), (Start: 47 @35181 has 1 MA's), (54, 35148), (55, 35145), (92, 34971), (106, 34926), (107, 34920), (108, 34917), (111, 34905), (115, 34887), (120, 34872), (136, 34821), (162, 34731), (164, 34725), (167, 34716), (178, 34674), (205, 34608), (210, 34593), (212, 34581), (223, 34518), (230, 34482),

Gene: Clipper\_45 Start: 35207, Stop: 34305, Start Num: 11

Candidate Starts for Clipper\_45:

(Start: 11 @35207 has 39 MA's), (Start: 15 @35186 has 2 MA's), (Start: 21 @35150 has 2 MA's), (Start: 24 @35144 has 25 MA's), (32, 35120), (Start: 37 @35099 has 6 MA's), (44, 35075), (63, 34985), (66, 34976), (87, 34871), (88, 34868), (90, 34859), (91, 34841), (93, 34835), (107, 34787), (112, 34769), (119, 34739), (122, 34727), (123, 34718), (149, 34646), (165, 34589), (178, 34538), (184, 34523), (194, 34496), (203, 34475), (208, 34463),

Gene: Constella\_81 Start: 53215, Stop: 52562, Start Num: 50

Candidate Starts for Constella\_81:

(Start: 39 @53269 has 32 MA's), (Start: 50 @53215 has 5 MA's), (Start: 52 @53206 has 1 MA's), (76, 53110), (99, 53011), (102, 52999), (108, 52978), (136, 52888), (140, 52882), (163, 52801), (168, 52783), (178, 52744), (185, 52726), (186, 52723), (201, 52672), (204, 52660), (215, 52609),

Gene: Courthouse\_86 Start: 53071, Stop: 52364, Start Num: 39

Candidate Starts for Courthouse\_86:

(Start: 39 @53071 has 32 MA's), (Start: 50 @53017 has 5 MA's), (Start: 52 @53008 has 1 MA's), (76, 52912), (79, 52894), (99, 52813), (102, 52801), (104, 52795), (106, 52789), (108, 52780), (120, 52738), (138, 52687), (140, 52684), (163, 52603), (168, 52585), (178, 52546), (182, 52534), (185, 52528), (186, 52525), (198, 52483), (201, 52474), (203, 52465), (204, 52462), (215, 52411),

Gene: CrimD\_42 Start: 34709, Stop: 33915, Start Num: 37

Candidate Starts for CrimD\_42:

(Start: 11 @34817 has 39 MA's), (Start: 15 @34796 has 2 MA's), (Start: 21 @34760 has 2 MA's), (Start: 24 @34754 has 25 MA's), (32, 34730), (Start: 37 @34709 has 6 MA's), (44, 34685), (48, 34661), (63, 34595), (66, 34586), (87, 34481), (88, 34478), (90, 34469), (91, 34451), (107, 34397), (112, 34379), (119, 34349), (122, 34337), (123, 34328), (149, 34256), (165, 34199), (178, 34148), (184, 34133), (194, 34106), (203, 34085), (208, 34073),

Gene: Curiosium\_45 Start: 33580, Stop: 32717, Start Num: 33

Candidate Starts for Curiosium\_45:

(6, 33718), (Start: 33 @33580 has 2 MA's), (60, 33463), (71, 33421), (73, 33403), (97, 33286), (99, 33280), (101, 33271), (104, 33262), (108, 33247), (111, 33238), (132, 33160), (136, 33148), (138, 33145), (157, 33076), (166, 33046), (167, 33040), (177, 33004), (178, 32998), (203, 32911), (214, 32860), (215, 32854), (234, 32728),

Gene: Dadosky\_41 Start: 33855, Stop: 33004, Start Num: 22

Candidate Starts for Dadosky\_41:

(7, 33957), (Start: 16 @33891 has 2 MA's), (Start: 22 @33855 has 17 MA's), (36, 33810), (53, 33732), (67, 33684), (87, 33585), (90, 33573), (100, 33525), (108, 33495), (113, 33477), (119, 33441), (121, 33435), (125, 33408), (166, 33282), (169, 33267), (173, 33255), (187, 33213), (204, 33174), (215, 33126),

Gene: Dallas\_97 Start: 59108, Stop: 58401, Start Num: 39

Candidate Starts for Dallas\_97:

(Start: 39 @59108 has 32 MA's), (Start: 50 @59054 has 5 MA's), (Start: 52 @59045 has 1 MA's), (76, 58949), (99, 58850), (102, 58838), (108, 58817), (136, 58727), (140, 58721), (163, 58640), (168, 58622), (178, 58583), (185, 58565), (186, 58562), (201, 58511), (204, 58499), (215, 58448),

Gene: Dalmuri\_42 Start: 34689, Stop: 33787, Start Num: 11

Candidate Starts for Dalmuri\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: DartGoblin\_44 Start: 35358, Stop: 34519, Start Num: 24

Candidate Starts for DartGoblin\_44:

(Start: 12 @35412 has 8 MA's), (Start: 21 @35364 has 2 MA's), (Start: 24 @35358 has 25 MA's), (32, 35334), (35, 35319), (Start: 38 @35310 has 1 MA's), (44, 35289), (48, 35265), (53, 35238), (63, 35199), (66, 35190), (87, 35085), (88, 35082), (91, 35055), (93, 35049), (99, 35031), (105, 35010), (107, 35001), (112, 34983), (122, 34941), (123, 34932), (149, 34860), (165, 34803), (178, 34752), (184, 34737), (203, 34689), (208, 34677), (224, 34587),

Gene: DarthP\_44 Start: 35487, Stop: 34669, Start Num: 28

Candidate Starts for DarthP\_44:

(Start: 28 @35487 has 25 MA's), (49, 35406), (62, 35358), (70, 35331), (99, 35187), (106, 35163), (108, 35154), (111, 35142), (113, 35136), (115, 35124), (133, 35067), (150, 35022), (155, 34998),

(172, 34935), (177, 34917), (179, 34908), (201, 34860), (203, 34851), (215, 34800), (233, 34704),

Gene: Dartin\_44 Start: 35155, Stop: 34205, Start Num: 25

Candidate Starts for Dartin\_44:

(4, 35275), (5, 35272), (Start: 25 @35155 has 12 MA's), (Start: 39 @35107 has 32 MA's), (42, 35095), (46, 35068), (Start: 47 @35062 has 1 MA's), (49, 35050), (73, 34948), (80, 34909), (83, 34894), (87, 34879), (106, 34795), (108, 34786), (118, 34750), (150, 34669), (171, 34588), (176, 34570), (207, 34492), (208, 34489), (215, 34450), (232, 34360), (242, 34252),

Gene: Deby\_42 Start: 34754, Stop: 33915, Start Num: 24

Candidate Starts for Deby\_42:

(Start: 12 @34808 has 8 MA's), (Start: 21 @34760 has 2 MA's), (Start: 24 @34754 has 25 MA's), (32, 34730), (44, 34685), (66, 34586), (87, 34481), (88, 34478), (90, 34469), (91, 34451), (107, 34397), (112, 34379), (119, 34349), (122, 34337), (123, 34328), (149, 34256), (165, 34199), (184, 34133), (194, 34106), (203, 34085), (208, 34073),

Gene: Devera\_46 Start: 35291, Stop: 34452, Start Num: 24

Candidate Starts for Devera\_46:

(Start: 24 @35291 has 25 MA's), (Start: 37 @35246 has 6 MA's), (44, 35222), (48, 35198), (63, 35132), (66, 35123), (68, 35117), (87, 35018), (88, 35015), (90, 35006), (91, 34988), (105, 34943), (107, 34934), (122, 34874), (123, 34865), (149, 34793), (151, 34787), (163, 34742), (165, 34736), (167, 34727), (178, 34685), (184, 34670), (190, 34652), (203, 34622), (208, 34610), (215, 34571),

Gene: DismalFunk\_45 Start: 36592, Stop: 35744, Start Num: 23

Candidate Starts for DismalFunk\_45:

(Start: 23 @36592 has 8 MA's), (42, 36529), (51, 36478), (64, 36430), (83, 36334), (87, 36319), (96, 36274), (101, 36253), (108, 36229), (122, 36178), (123, 36169), (163, 36049), (166, 36040), (204, 35932), (210, 35914), (211, 35905), (215, 35884),

Gene: DismalStressor\_45 Start: 36592, Stop: 35744, Start Num: 23

Candidate Starts for DismalStressor\_45:

(Start: 23 @36592 has 8 MA's), (42, 36529), (51, 36478), (64, 36430), (83, 36334), (87, 36319), (96, 36274), (101, 36253), (108, 36229), (122, 36178), (123, 36169), (163, 36049), (166, 36040), (204, 35932), (210, 35914), (211, 35905), (215, 35884),

Gene: DmpstrDiver\_97 Start: 58533, Stop: 57826, Start Num: 39

Candidate Starts for DmpstrDiver\_97:

(Start: 39 @58533 has 32 MA's), (Start: 50 @58479 has 5 MA's), (Start: 52 @58470 has 1 MA's), (59, 58446), (76, 58374), (99, 58275), (102, 58263), (108, 58242), (136, 58152), (140, 58146), (163, 58065), (168, 58047), (178, 58008), (185, 57990), (186, 57987), (201, 57936), (204, 57924), (215, 57873),

Gene: Dole\_45 Start: 35293, Stop: 34454, Start Num: 24

Candidate Starts for Dole\_45:

(Start: 24 @35293 has 25 MA's), (Start: 37 @35248 has 6 MA's), (44, 35224), (48, 35200), (63, 35134), (66, 35125), (68, 35119), (87, 35020), (88, 35017), (90, 35008), (91, 34990), (105, 34945), (107, 34936), (122, 34876), (123, 34867), (149, 34795), (151, 34789), (163, 34744), (165, 34738), (167, 34729), (178, 34687), (184, 34672), (190, 34654), (203, 34624), (208, 34612), (215, 34573),

Gene: Doughnut\_45 Start: 36199, Stop: 35345, Start Num: 24

Candidate Starts for Doughnut\_45:

(Start: 24 @36199 has 25 MA's), (32, 36175), (41, 36139), (80, 35956), (81, 35953), (83, 35941), (87, 35926), (93, 35887), (108, 35836), (113, 35818), (116, 35803), (122, 35785), (123, 35776), (131,

35752), (137, 35740), (198, 35560), (200, 35554), (209, 35527), (215, 35491), (229, 35410),

Gene: DrHayes\_43 Start: 35473, Stop: 34568, Start Num: 11

Candidate Starts for DrHayes\_43:

(Start: 11 @35473 has 39 MA's), (Start: 21 @35413 has 2 MA's), (Start: 24 @35407 has 25 MA's), (32, 35383), (35, 35368), (Start: 38 @35359 has 1 MA's), (44, 35338), (48, 35314), (53, 35287), (63, 35248), (66, 35239), (87, 35134), (88, 35131), (91, 35104), (99, 35080), (105, 35059), (107, 35050), (112, 35032), (122, 34990), (123, 34981), (135, 34945), (149, 34909), (165, 34852), (184, 34786), (208, 34726), (224, 34636),

Gene: Duke13\_91 Start: 57040, Stop: 56333, Start Num: 39

Candidate Starts for Duke13\_91:

(Start: 39 @57040 has 32 MA's), (Start: 50 @56986 has 5 MA's), (Start: 52 @56977 has 1 MA's), (76, 56881), (99, 56782), (102, 56770), (108, 56749), (136, 56659), (140, 56653), (163, 56572), (168, 56554), (178, 56515), (185, 56497), (186, 56494), (201, 56443), (204, 56431), (215, 56380),

Gene: Durfee\_42 Start: 34886, Stop: 33984, Start Num: 11

Candidate Starts for Durfee\_42:

(Start: 11 @34886 has 39 MA's), (Start: 15 @34865 has 2 MA's), (Start: 21 @34829 has 2 MA's), (Start: 24 @34823 has 25 MA's), (32, 34799), (Start: 37 @34778 has 6 MA's), (44, 34754), (63, 34664), (66, 34655), (87, 34550), (88, 34547), (90, 34538), (91, 34520), (93, 34514), (107, 34466), (112, 34448), (119, 34418), (122, 34406), (123, 34397), (149, 34325), (165, 34268), (178, 34217), (184, 34202), (194, 34175), (203, 34154), (208, 34142),

Gene: Edugator\_40 Start: 34316, Stop: 33429, Start Num: 16

Candidate Starts for Edugator\_40:

(7, 34382), (Start: 16 @34316 has 2 MA's), (Start: 22 @34280 has 17 MA's), (36, 34235), (53, 34157), (67, 34109), (82, 34031), (87, 34010), (90, 33998), (100, 33950), (108, 33920), (113, 33902), (119, 33866), (125, 33833), (166, 33707), (169, 33692), (173, 33680), (187, 33638), (204, 33599), (215, 33551),

Gene: Efra2\_45 Start: 34522, Stop: 33767, Start Num: 30

Candidate Starts for Efra2\_45:

(Start: 30 @34522 has 8 MA's), (70, 34366), (77, 34324), (107, 34192), (108, 34189), (113, 34171), (118, 34147), (120, 34141), (127, 34114), (132, 34105), (133, 34102), (150, 34057), (154, 34042), (155, 34033), (181, 33943), (182, 33940),

Gene: Ejimix\_89 Start: 58827, Stop: 58120, Start Num: 39

Candidate Starts for Ejimix\_89:

(Start: 39 @58827 has 32 MA's), (Start: 50 @58773 has 5 MA's), (Start: 52 @58764 has 1 MA's), (76, 58668), (99, 58569), (102, 58557), (108, 58536), (136, 58446), (140, 58440), (163, 58359), (168, 58341), (178, 58302), (185, 58284), (186, 58281), (201, 58230), (204, 58218), (215, 58167),

Gene: Ekdilam\_41 Start: 35048, Stop: 34230, Start Num: 28

Candidate Starts for Ekdilam\_41:

(Start: 28 @35048 has 25 MA's), (49, 34967), (62, 34919), (70, 34892), (72, 34880), (88, 34799), (99, 34748), (106, 34724), (108, 34715), (111, 34703), (113, 34697), (115, 34685), (145, 34598), (155, 34559), (173, 34493), (176, 34481), (179, 34469), (193, 34433), (200, 34424), (212, 34379), (215, 34361), (216, 34355),

Gene: Ellie\_40 Start: 34710, Stop: 33877, Start Num: 30

Candidate Starts for Ellie\_40:

(Start: 30 @34710 has 8 MA's), (43, 34671), (Start: 47 @34647 has 1 MA's), (53, 34617), (99, 34416), (106, 34392), (108, 34383), (111, 34371), (113, 34365), (115, 34353), (124, 34320), (127, 34299), (130, 34293), (136, 34278), (153, 34230), (155, 34218), (204, 34065), (210, 34047), (212, 34035), (215, 34017),

Gene: Emerson\_43 Start: 34457, Stop: 33663, Start Num: 37

Candidate Starts for Emerson\_43:

(Start: 11 @34565 has 39 MA's), (Start: 21 @34508 has 2 MA's), (Start: 24 @34502 has 25 MA's), (32, 34478), (Start: 37 @34457 has 6 MA's), (44, 34433), (63, 34343), (66, 34334), (87, 34229), (88, 34226), (90, 34217), (91, 34199), (93, 34193), (107, 34145), (112, 34127), (119, 34097), (122, 34085), (123, 34076), (144, 34019), (149, 34004), (165, 33947), (178, 33896), (184, 33881), (194, 33854), (203, 33833), (208, 33821),

Gene: Enkosi\_40 Start: 36695, Stop: 35793, Start Num: 25

Candidate Starts for Enkosi\_40:

(Start: 20 @36713 has 2 MA's), (Start: 25 @36695 has 12 MA's), (Start: 39 @36647 has 32 MA's), (45, 36620), (Start: 47 @36602 has 1 MA's), (54, 36569), (58, 36551), (61, 36545), (63, 36533), (80, 36449), (83, 36434), (87, 36419), (95, 36377), (104, 36341), (109, 36323), (117, 36281), (123, 36263), (139, 36224), (150, 36194), (160, 36155), (170, 36116), (175, 36101), (191, 36047), (202, 36029), (208, 36011), (215, 35972), (226, 35906), (243, 35816),

Gene: EricMillard\_89 Start: 58168, Stop: 57461, Start Num: 39

Candidate Starts for EricMillard\_89:

(Start: 39 @58168 has 32 MA's), (Start: 50 @58114 has 5 MA's), (Start: 52 @58105 has 1 MA's), (59, 58081), (76, 58009), (99, 57910), (102, 57898), (108, 57877), (136, 57787), (140, 57781), (163, 57700), (168, 57682), (178, 57643), (185, 57625), (186, 57622), (201, 57571), (204, 57559), (215, 57508),

Gene: Fefferhead\_42 Start: 34661, Stop: 33828, Start Num: 30

Candidate Starts for Fefferhead\_42:

(Start: 30 @34661 has 8 MA's), (43, 34622), (Start: 47 @34598 has 1 MA's), (53, 34568), (99, 34367), (106, 34343), (108, 34334), (111, 34322), (113, 34316), (115, 34304), (124, 34271), (127, 34250), (130, 34244), (153, 34181), (155, 34169), (177, 34085), (204, 34016), (210, 33998), (212, 33986), (215, 33968),

Gene: Feyre\_40 Start: 33712, Stop: 32870, Start Num: 22

Candidate Starts for Feyre\_40:

(Start: 22 @33712 has 17 MA's), (36, 33670), (80, 33475), (87, 33445), (102, 33376), (104, 33370), (108, 33355), (113, 33337), (120, 33301), (141, 33229), (169, 33130), (177, 33103), (179, 33094), (182, 33085), (198, 33058), (200, 33052), (204, 33037), (212, 33007), (215, 32989), (220, 32968),

Gene: Findley\_45 Start: 36585, Stop: 35737, Start Num: 23

Candidate Starts for Findley\_45:

(Start: 23 @36585 has 8 MA's), (Start: 39 @36534 has 32 MA's), (42, 36522), (51, 36471), (64, 36423), (83, 36327), (87, 36312), (96, 36267), (108, 36222), (122, 36171), (123, 36162), (163, 36042), (204, 35925), (210, 35907), (211, 35898), (215, 35877),

Gene: Ganymede\_43 Start: 35009, Stop: 34107, Start Num: 11

Candidate Starts for Ganymede\_43:

(Start: 11 @35009 has 39 MA's), (Start: 21 @34952 has 2 MA's), (Start: 24 @34946 has 25 MA's), (32, 34922), (Start: 37 @34901 has 6 MA's), (44, 34877), (63, 34787), (66, 34778), (87, 34673), (88, 34670), (90, 34661), (91, 34643), (93, 34637), (107, 34589), (112, 34571), (119, 34541), (122, 34529), (123, 34520), (144, 34463), (149, 34448), (165, 34391), (184, 34325), (194, 34298), (203, 34277),

(208, 34265),

Gene: Gengar\_40 Start: 33822, Stop: 32980, Start Num: 22

Candidate Starts for Gengar\_40:

(Start: 22 @33822 has 17 MA's), (36, 33780), (80, 33585), (87, 33555), (102, 33486), (104, 33480), (108, 33465), (113, 33447), (120, 33411), (141, 33339), (169, 33240), (177, 33213), (179, 33204), (182, 33195), (187, 33186), (198, 33168), (200, 33162), (204, 33147), (212, 33117), (215, 33099), (220, 33078),

Gene: Geraldini\_44 Start: 35613, Stop: 34720, Start Num: 12

Candidate Starts for Geraldini\_44:

(Start: 12 @35613 has 8 MA's), (Start: 21 @35565 has 2 MA's), (Start: 24 @35559 has 25 MA's), (32, 35535), (44, 35490), (63, 35400), (66, 35391), (87, 35286), (88, 35283), (90, 35274), (91, 35256), (93, 35250), (107, 35202), (112, 35184), (119, 35154), (122, 35142), (123, 35133), (149, 35061), (165, 35004), (184, 34938), (194, 34911), (203, 34890), (208, 34878),

Gene: Gonephishing\_82 Start: 52633, Stop: 51926, Start Num: 39

Candidate Starts for Gonephishing\_82:

(Start: 39 @52633 has 32 MA's), (Start: 50 @52579 has 5 MA's), (Start: 52 @52570 has 1 MA's), (99, 52375), (102, 52363), (108, 52342), (120, 52300), (138, 52249), (140, 52246), (163, 52165), (168, 52147), (178, 52108), (185, 52090), (186, 52087), (198, 52045), (201, 52036), (204, 52024), (215, 51973),

Gene: Guanica15\_45 Start: 34479, Stop: 33724, Start Num: 30

Candidate Starts for Guanica15\_45:

(Start: 30 @34479 has 8 MA's), (70, 34323), (107, 34149), (108, 34146), (113, 34128), (118, 34104), (120, 34098), (127, 34071), (132, 34062), (133, 34059), (150, 34014), (154, 33999), (155, 33990), (181, 33900), (182, 33897), (203, 33846),

Gene: Guillsminger\_41 Start: 33793, Stop: 32951, Start Num: 22

Candidate Starts for Guillsminger\_41:

(Start: 22 @33793 has 17 MA's), (36, 33751), (80, 33556), (87, 33526), (102, 33457), (104, 33451), (108, 33436), (113, 33418), (120, 33382), (141, 33310), (169, 33211), (177, 33184), (179, 33175), (182, 33166), (198, 33139), (200, 33133), (204, 33118), (212, 33088), (215, 33070), (220, 33049),

Gene: Halley\_97 Start: 59101, Stop: 58394, Start Num: 39

Candidate Starts for Halley\_97:

(Start: 39 @59101 has 32 MA's), (Start: 50 @59047 has 5 MA's), (Start: 52 @59038 has 1 MA's), (59, 59014), (76, 58942), (99, 58843), (102, 58831), (108, 58810), (136, 58720), (140, 58714), (163, 58633), (168, 58615), (178, 58576), (185, 58558), (186, 58555), (201, 58504), (204, 58492), (215, 58441),

Gene: Hammy\_44 Start: 35475, Stop: 34657, Start Num: 28

Candidate Starts for Hammy\_44:

(Start: 28 @35475 has 25 MA's), (49, 35394), (62, 35346), (70, 35319), (99, 35175), (106, 35151), (108, 35142), (111, 35130), (113, 35124), (115, 35112), (133, 35055), (150, 35010), (155, 34986), (172, 34923), (177, 34905), (179, 34896), (201, 34848), (203, 34839), (215, 34788), (233, 34692),

Gene: Hannaconda\_82 Start: 51989, Stop: 51336, Start Num: 50

Candidate Starts for Hannaconda\_82:

(Start: 39 @52043 has 32 MA's), (Start: 50 @51989 has 5 MA's), (Start: 52 @51980 has 1 MA's), (59, 51956), (76, 51884), (99, 51785), (102, 51773), (108, 51752), (136, 51662), (140, 51656), (163, 51575), (168, 51557), (178, 51518), (185, 51500), (186, 51497), (201, 51446), (204, 51434), (215,

51383),

Gene: HedwigODU\_42 Start: 34574, Stop: 33672, Start Num: 11

Candidate Starts for HedwigODU\_42:

(Start: 11 @34574 has 39 MA's), (Start: 21 @34517 has 2 MA's), (Start: 24 @34511 has 25 MA's), (32, 34487), (Start: 37 @34466 has 6 MA's), (44, 34442), (63, 34352), (66, 34343), (87, 34238), (88, 34235), (90, 34226), (91, 34208), (93, 34202), (107, 34154), (112, 34136), (119, 34106), (122, 34094), (123, 34085), (144, 34028), (149, 34013), (165, 33956), (178, 33905), (184, 33890), (194, 33863), (203, 33842), (208, 33830),

Gene: Heftyboy\_40 Start: 33939, Stop: 33097, Start Num: 22

Candidate Starts for Heftyboy\_40:

(Start: 22 @33939 has 17 MA's), (36, 33897), (87, 33672), (102, 33603), (104, 33597), (108, 33582), (113, 33564), (120, 33528), (141, 33456), (169, 33357), (177, 33330), (179, 33321), (182, 33312), (198, 33285), (200, 33279), (204, 33264), (215, 33216), (220, 33195),

Gene: Hidrated\_81 Start: 56990, Stop: 56283, Start Num: 39

Candidate Starts for Hidrated\_81:

(Start: 39 @56990 has 32 MA's), (Start: 50 @56936 has 5 MA's), (Start: 52 @56927 has 1 MA's), (76, 56831), (99, 56732), (102, 56720), (108, 56699), (136, 56609), (140, 56603), (163, 56522), (168, 56504), (178, 56465), (185, 56447), (186, 56444), (201, 56393), (204, 56381), (215, 56330),

Gene: HokkenD\_84 Start: 57370, Stop: 56663, Start Num: 39

Candidate Starts for HokkenD\_84:

(Start: 39 @57370 has 32 MA's), (Start: 50 @57316 has 5 MA's), (Start: 52 @57307 has 1 MA's), (59, 57283), (76, 57211), (99, 57112), (102, 57100), (108, 57079), (136, 56989), (140, 56983), (163, 56902), (168, 56884), (178, 56845), (185, 56827), (186, 56824), (201, 56773), (204, 56761), (215, 56710),

Gene: Homura\_42 Start: 34626, Stop: 33787, Start Num: 24

Candidate Starts for Homura\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: Hughesyang\_95 Start: 59005, Stop: 58352, Start Num: 50

Candidate Starts for Hughesyang\_95:

(Start: 39 @59059 has 32 MA's), (Start: 50 @59005 has 5 MA's), (Start: 52 @58996 has 1 MA's), (59, 58972), (76, 58900), (99, 58801), (102, 58789), (108, 58768), (136, 58678), (140, 58672), (163, 58591), (168, 58573), (178, 58534), (185, 58516), (186, 58513), (201, 58462), (204, 58450), (215, 58399),

Gene: Hurricane\_45 Start: 35158, Stop: 34283, Start Num: 28

Candidate Starts for Hurricane\_45:

(Start: 18 @35194 has 5 MA's), (Start: 28 @35158 has 25 MA's), (Start: 47 @35089 has 1 MA's), (53, 35059), (99, 34849), (106, 34825), (108, 34816), (111, 34804), (113, 34798), (124, 34750), (152, 34669), (153, 34663), (155, 34651), (181, 34552), (215, 34447), (219, 34429),

Gene: Hyperbowlee\_42 Start: 34778, Stop: 33984, Start Num: 37

Candidate Starts for Hyperbowlee\_42:

(Start: 11 @34886 has 39 MA's), (Start: 15 @34865 has 2 MA's), (Start: 21 @34829 has 2 MA's), (Start: 24 @34823 has 25 MA's), (32, 34799), (Start: 37 @34778 has 6 MA's), (44, 34754), (63, 34664), (66, 34655), (87, 34550), (88, 34547), (90, 34538), (91, 34520), (93, 34514), (107, 34466), (112, 34448), (119, 34418), (122, 34406), (123, 34397), (149, 34325), (165, 34268), (178, 34217), (184, 34202), (194, 34175), (203, 34154), (208, 34142),

Gene: Illumine\_45 Start: 35293, Stop: 34454, Start Num: 24

Candidate Starts for Illumine\_45:

(Start: 24 @35293 has 25 MA's), (Start: 37 @35248 has 6 MA's), (44, 35224), (48, 35200), (63, 35134), (66, 35125), (68, 35119), (87, 35020), (88, 35017), (90, 35008), (91, 34990), (105, 34945), (107, 34936), (122, 34876), (123, 34867), (149, 34795), (151, 34789), (163, 34744), (165, 34738), (167, 34729), (178, 34687), (184, 34672), (190, 34654), (203, 34624), (208, 34612), (215, 34573),

Gene: Inky\_42 Start: 34689, Stop: 33787, Start Num: 11

Candidate Starts for Inky\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: JAWS\_42 Start: 34563, Stop: 33661, Start Num: 11

Candidate Starts for JAWS\_42:

(Start: 11 @34563 has 39 MA's), (Start: 15 @34542 has 2 MA's), (Start: 21 @34506 has 2 MA's), (Start: 24 @34500 has 25 MA's), (32, 34476), (Start: 37 @34455 has 6 MA's), (44, 34431), (63, 34341), (66, 34332), (87, 34227), (88, 34224), (90, 34215), (91, 34197), (93, 34191), (107, 34143), (112, 34125), (119, 34095), (122, 34083), (123, 34074), (149, 34002), (165, 33945), (178, 33894), (184, 33879), (194, 33852), (203, 33831), (208, 33819),

Gene: Jarvi\_42 Start: 34689, Stop: 33787, Start Num: 11

Candidate Starts for Jarvi\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: Jayhawk\_43 Start: 34572, Stop: 33670, Start Num: 11

Candidate Starts for Jayhawk\_43:

(Start: 11 @34572 has 39 MA's), (Start: 21 @34515 has 2 MA's), (Start: 24 @34509 has 25 MA's), (32, 34485), (Start: 37 @34464 has 6 MA's), (44, 34440), (63, 34350), (66, 34341), (87, 34236), (88, 34233), (90, 34224), (91, 34206), (93, 34200), (107, 34152), (112, 34134), (119, 34104), (122, 34092), (123, 34083), (144, 34026), (149, 34011), (165, 33954), (178, 33903), (184, 33888), (194, 33861), (203, 33840), (208, 33828),

Gene: Jeckyll\_42 Start: 34689, Stop: 33787, Start Num: 11

Candidate Starts for Jeckyll\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: Joy99\_42 Start: 34555, Stop: 33716, Start Num: 24

Candidate Starts for Joy99\_42:

(Start: 11 @34618 has 39 MA's), (Start: 15 @34597 has 2 MA's), (Start: 21 @34561 has 2 MA's), (Start: 24 @34555 has 25 MA's), (32, 34531), (Start: 37 @34510 has 6 MA's), (44, 34486), (63, 34396), (66, 34387), (87, 34282), (88, 34279), (90, 34270), (91, 34252), (93, 34246), (107, 34198), (112, 34180), (119, 34150), (122, 34138), (123, 34129), (149, 34057), (165, 34000), (178, 33949), (184, 33934), (194, 33907), (203, 33886), (208, 33874),

Gene: JuicyJay\_92 Start: 60235, Stop: 59528, Start Num: 39

Candidate Starts for JuicyJay\_92:

(Start: 39 @60235 has 32 MA's), (Start: 50 @60181 has 5 MA's), (Start: 52 @60172 has 1 MA's), (76, 60076), (99, 59977), (102, 59965), (108, 59944), (136, 59854), (140, 59848), (163, 59767), (168, 59749), (178, 59710), (185, 59692), (186, 59689), (201, 59638), (204, 59626), (215, 59575),

Gene: Kalah2\_89 Start: 58394, Stop: 57687, Start Num: 39

Candidate Starts for Kalah2\_89:

(Start: 39 @58394 has 32 MA's), (Start: 50 @58340 has 5 MA's), (Start: 52 @58331 has 1 MA's), (59, 58307), (76, 58235), (99, 58136), (102, 58124), (108, 58103), (136, 58013), (140, 58007), (163, 57926), (168, 57908), (178, 57869), (185, 57851), (186, 57848), (201, 57797), (204, 57785), (215, 57734),

Gene: KashFlow\_86 Start: 53547, Stop: 52894, Start Num: 50

Candidate Starts for KashFlow\_86:

(Start: 39 @53601 has 32 MA's), (Start: 50 @53547 has 5 MA's), (Start: 52 @53538 has 1 MA's), (99, 53343), (102, 53331), (108, 53310), (120, 53268), (138, 53217), (140, 53214), (163, 53133), (168, 53115), (178, 53076), (182, 53064), (185, 53058), (186, 53055), (198, 53013), (201, 53004), (204, 52992), (215, 52941),

Gene: Keshu\_46 Start: 35253, Stop: 34336, Start Num: 18

Candidate Starts for Keshu\_46:

(Start: 18 @35253 has 5 MA's), (Start: 28 @35217 has 25 MA's), (Start: 47 @35148 has 1 MA's), (99, 34908), (106, 34884), (108, 34875), (111, 34863), (113, 34857), (119, 34830), (124, 34809), (126, 34797), (152, 34728), (153, 34722), (155, 34710), (165, 34671), (166, 34668), (176, 34629), (181, 34611), (207, 34548), (215, 34506),

Gene: KiSi\_46 Start: 35654, Stop: 34881, Start Num: 27

Candidate Starts for KiSi\_46:

(Start: 27 @35654 has 1 MA's), (Start: 28 @35651 has 25 MA's), (Start: 47 @35588 has 1 MA's), (54, 35555), (84, 35423), (106, 35333), (108, 35324), (120, 35279), (155, 35168), (163, 35135), (167, 35120), (172, 35102), (200, 35030), (215, 34967), (217, 34955),

Gene: Klein\_96 Start: 58101, Stop: 57394, Start Num: 39

Candidate Starts for Klein\_96:

(Start: 39 @58101 has 32 MA's), (Start: 50 @58047 has 5 MA's), (Start: 52 @58038 has 1 MA's), (76, 57942), (99, 57843), (102, 57831), (108, 57810), (136, 57720), (140, 57714), (163, 57633), (168, 57615), (178, 57576), (185, 57558), (186, 57555), (201, 57504), (204, 57492), (215, 57441),

Gene: Kratio\_39 Start: 33552, Stop: 32701, Start Num: 22

Candidate Starts for Kratio\_39:

(Start: 22 @33552 has 17 MA's), (36, 33507), (65, 33387), (67, 33381), (82, 33303), (87, 33282), (90, 33270), (100, 33222), (108, 33192), (119, 33138), (125, 33105), (166, 32979), (169, 32964), (173, 32952), (178, 32931), (187, 32910), (198, 32892), (204, 32871), (215, 32823), (227, 32751),

Gene: Krueger\_48 Start: 35401, Stop: 34511, Start Num: 28

Candidate Starts for Krueger\_48:

(Start: 28 @35401 has 25 MA's), (40, 35365), (Start: 47 @35332 has 1 MA's), (49, 35320), (51, 35308), (99, 35101), (106, 35077), (108, 35068), (111, 35056), (113, 35050), (153, 34918), (155, 34906), (193, 34780), (199, 34774), (208, 34747), (210, 34738), (215, 34708),

Gene: Larva\_41 Start: 33722, Stop: 32871, Start Num: 22

Candidate Starts for Larva\_41:

(7, 33824), (Start: 16 @33758 has 2 MA's), (Start: 22 @33722 has 17 MA's), (36, 33677), (53, 33599), (67, 33551), (87, 33452), (90, 33440), (100, 33392), (108, 33362), (113, 33344), (119, 33308), (121, 33302), (125, 33275), (166, 33149), (169, 33134), (173, 33122), (187, 33080), (204, 33041), (215, 32993),

Gene: LastHope\_45 Start: 33885, Stop: 33040, Start Num: 33

Candidate Starts for LastHope\_45:

(Start: 33 @33885 has 2 MA's), (73, 33708), (87, 33639), (97, 33591), (99, 33585), (101, 33576), (106, 33561), (108, 33552), (130, 33468), (138, 33450), (143, 33438), (147, 33426), (157, 33381), (177, 33309), (178, 33303), (195, 33246), (197, 33237), (198, 33234), (203, 33216), (215, 33159), (234, 33051),

Gene: LaterM\_43 Start: 35407, Stop: 34568, Start Num: 24

Candidate Starts for LaterM\_43:

(Start: 11 @35470 has 39 MA's), (Start: 15 @35449 has 2 MA's), (Start: 21 @35413 has 2 MA's), (Start: 24 @35407 has 25 MA's), (32, 35383), (Start: 37 @35362 has 6 MA's), (Start: 38 @35359 has 1 MA's), (44, 35338), (63, 35248), (66, 35239), (87, 35134), (88, 35131), (90, 35122), (91, 35104), (105, 35059), (107, 35050), (122, 34990), (123, 34981), (149, 34909), (165, 34852), (184, 34786), (198, 34756), (203, 34738), (208, 34726), (224, 34636),

Gene: Lavahound\_40 Start: 35643, Stop: 34810, Start Num: 30

Candidate Starts for Lavahound\_40:

(Start: 30 @35643 has 8 MA's), (43, 35604), (Start: 47 @35580 has 1 MA's), (53, 35550), (99, 35349), (106, 35325), (108, 35316), (111, 35304), (113, 35298), (115, 35286), (124, 35253), (130, 35226), (153, 35163), (155, 35151), (177, 35067), (204, 34998), (210, 34980), (212, 34968), (215, 34950),

Gene: LeMond\_46 Start: 35651, Stop: 34884, Start Num: 28

Candidate Starts for LeMond\_46:

(Start: 28 @35651 has 25 MA's), (Start: 47 @35588 has 1 MA's), (58, 35537), (82, 35432), (84, 35423), (99, 35357), (106, 35333), (108, 35324), (120, 35279), (155, 35168), (167, 35120), (171, 35105), (200, 35030), (209, 35003), (215, 34967),

Gene: Lea83\_45 Start: 35192, Stop: 34311, Start Num: 28

Candidate Starts for Lea83\_45:

(Start: 18 @35228 has 5 MA's), (Start: 26 @35198 has 1 MA's), (Start: 28 @35192 has 25 MA's), (78, 34976), (99, 34883), (106, 34859), (108, 34850), (111, 34838), (113, 34832), (124, 34784), (152, 34703), (153, 34697), (155, 34685), (166, 34643), (181, 34586), (215, 34481), (226, 34415),

Gene: Leston\_40 Start: 33923, Stop: 33081, Start Num: 22

Candidate Starts for Leston\_40:

(Start: 22 @33923 has 17 MA's), (36, 33881), (80, 33686), (87, 33656), (102, 33587), (104, 33581), (108, 33566), (113, 33548), (120, 33512), (141, 33440), (169, 33341), (177, 33314), (179, 33305), (182, 33296), (198, 33269), (200, 33263), (204, 33248), (215, 33200), (220, 33179),

Gene: LilPharaoh\_37 Start: 34082, Stop: 33180, Start Num: 25

Candidate Starts for LilPharaoh\_37:

(Start: 20 @34100 has 2 MA's), (Start: 25 @34082 has 12 MA's), (Start: 39 @34034 has 32 MA's), (45, 34007), (Start: 47 @33989 has 1 MA's), (54, 33956), (58, 33938), (61, 33932), (63, 33920), (80, 33836), (83, 33821), (87, 33806), (95, 33764), (104, 33728), (109, 33710), (117, 33668), (123, 33650), (139, 33611), (160, 33542), (170, 33503), (175, 33488), (191, 33434), (202, 33416), (208, 33398), (215, 33359), (226, 33293), (243, 33203),

Gene: LindNT\_42 Start: 34750, Stop: 33857, Start Num: 12

Candidate Starts for LindNT\_42:

(Start: 12 @34750 has 8 MA's), (Start: 21 @34702 has 2 MA's), (Start: 24 @34696 has 25 MA's), (32, 34672), (Start: 37 @34651 has 6 MA's), (44, 34627), (63, 34537), (66, 34528), (87, 34423), (88, 34420), (90, 34411), (91, 34393), (105, 34348), (107, 34339), (112, 34321), (119, 34291), (122, 34279), (123, 34270), (149, 34198), (165, 34141), (184, 34075), (194, 34048), (203, 34027), (208, 34015),

Gene: LittleE\_94 Start: 57167, Stop: 56460, Start Num: 39

Candidate Starts for LittleE\_94:

(Start: 39 @57167 has 32 MA's), (Start: 50 @57113 has 5 MA's), (Start: 52 @57104 has 1 MA's), (79, 56990), (99, 56909), (102, 56897), (106, 56885), (108, 56876), (120, 56834), (140, 56780), (163, 56699), (168, 56681), (178, 56642), (182, 56630), (185, 56624), (186, 56621), (198, 56579), (201, 56570), (203, 56561), (204, 56558), (215, 56507),

Gene: Llorens\_42 Start: 34626, Stop: 33787, Start Num: 24

Candidate Starts for Llorens\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: Lucky2013\_88 Start: 53487, Stop: 52780, Start Num: 39

Candidate Starts for Lucky2013\_88:

(Start: 39 @53487 has 32 MA's), (Start: 50 @53433 has 5 MA's), (Start: 52 @53424 has 1 MA's), (76, 53328), (79, 53310), (99, 53229), (102, 53217), (104, 53211), (106, 53205), (108, 53196), (120, 53154), (138, 53103), (140, 53100), (163, 53019), (168, 53001), (178, 52962), (182, 52950), (185, 52944), (186, 52941), (198, 52899), (201, 52890), (203, 52881), (204, 52878), (215, 52827),

Gene: Lunahalos\_42 Start: 34689, Stop: 33787, Start Num: 11

Candidate Starts for Lunahalos\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: MacnCheese\_46 Start: 36148, Stop: 35237, Start Num: 18

Candidate Starts for MacnCheese\_46:

(2, 36340), (Start: 18 @36148 has 5 MA's), (Start: 26 @36118 has 1 MA's), (Start: 28 @36112 has 25 MA's), (53, 36013), (87, 35866), (99, 35812), (106, 35788), (108, 35779), (111, 35767), (113, 35761), (124, 35719), (144, 35662), (152, 35638), (155, 35620), (181, 35527), (199, 35491), (200, 35488), (213, 35434), (215, 35425), (231, 35338),

Gene: Marcoliusprime\_45 Start: 36592, Stop: 35744, Start Num: 23

Candidate Starts for Marcoliusprime\_45:

(Start: 23 @36592 has 8 MA's), (42, 36529), (51, 36478), (64, 36430), (83, 36334), (87, 36319), (96, 36274), (101, 36253), (108, 36229), (122, 36178), (123, 36169), (163, 36049), (166, 36040), (204, 35932), (210, 35914), (211, 35905), (215, 35884),

Gene: MarkPhew\_45 Start: 35124, Stop: 34315, Start Num: 19

Candidate Starts for MarkPhew\_45:

(Start: 19 @35124 has 1 MA's), (Start: 22 @35103 has 17 MA's), (Start: 28 @35088 has 25 MA's), (Start: 47 @35025 has 1 MA's), (55, 34989), (87, 34848), (106, 34770), (108, 34761), (111, 34749), (120, 34716), (155, 34605), (166, 34563), (167, 34557), (168, 34554), (178, 34515), (183, 34503), (189, 34485), (205, 34449), (222, 34362), (228, 34326),

Gene: Marleymoo\_77 Start: 55256, Stop: 54549, Start Num: 39

Candidate Starts for Marleymoo\_77:

(Start: 39 @55256 has 32 MA's), (Start: 50 @55202 has 5 MA's), (Start: 52 @55193 has 1 MA's), (76, 55097), (99, 54998), (102, 54986), (108, 54965), (136, 54875), (140, 54869), (163, 54788), (168, 54770), (178, 54731), (185, 54713), (201, 54659), (204, 54647), (206, 54641), (207, 54638), (215, 54596),

Gene: Marshawn\_45 Start: 35460, Stop: 34612, Start Num: 24

Candidate Starts for Marshawn\_45:

(14, 35508), (Start: 24 @35460 has 25 MA's), (Start: 37 @35415 has 6 MA's), (Start: 39 @35409 has 32 MA's), (43, 35394), (63, 35301), (80, 35217), (87, 35187), (88, 35184), (104, 35109), (108, 35094), (115, 35064), (123, 35031), (131, 35007), (139, 34992), (148, 34968), (169, 34887), (173, 34875), (184, 34839), (198, 34812), (200, 34806), (215, 34743), (221, 34713), (226, 34677),

Gene: McMater\_44 Start: 35155, Stop: 34205, Start Num: 25

Candidate Starts for McMater\_44:

(4, 35275), (5, 35272), (Start: 25 @35155 has 12 MA's), (Start: 39 @35107 has 32 MA's), (42, 35095), (46, 35068), (Start: 47 @35062 has 1 MA's), (49, 35050), (73, 34948), (80, 34909), (83, 34894), (87, 34879), (106, 34795), (108, 34786), (118, 34750), (150, 34669), (171, 34588), (176, 34570), (207, 34492), (208, 34489), (215, 34450), (232, 34360), (242, 34252),

Gene: Mdavu\_38 Start: 34071, Stop: 33169, Start Num: 25

Candidate Starts for Mdavu\_38:

(Start: 20 @34089 has 2 MA's), (Start: 25 @34071 has 12 MA's), (Start: 39 @34023 has 32 MA's), (45, 33996), (Start: 47 @33978 has 1 MA's), (54, 33945), (58, 33927), (61, 33921), (63, 33909), (80, 33825), (83, 33810), (87, 33795), (95, 33753), (104, 33717), (109, 33699), (117, 33657), (123, 33639), (139, 33600), (150, 33570), (160, 33531), (170, 33492), (175, 33477), (191, 33423), (202, 33405), (208, 33387), (215, 33348), (226, 33282), (243, 33192),

Gene: MeaningOfLife\_43 Start: 35503, Stop: 34601, Start Num: 11

Candidate Starts for MeaningOfLife\_43:

(Start: 11 @35503 has 39 MA's), (Start: 21 @35446 has 2 MA's), (Start: 24 @35440 has 25 MA's), (32, 35416), (Start: 37 @35395 has 6 MA's), (44, 35371), (61, 35293), (63, 35281), (66, 35272), (87, 35167), (88, 35164), (90, 35155), (91, 35137), (93, 35131), (107, 35083), (112, 35065), (119, 35035), (122, 35023), (123, 35014), (144, 34957), (149, 34942), (165, 34885), (178, 34834), (184, 34819), (194, 34792), (203, 34771), (208, 34759),

Gene: Megsy\_43 Start: 34755, Stop: 33916, Start Num: 24

Candidate Starts for Megsy\_43:

(Start: 12 @34809 has 8 MA's), (Start: 21 @34761 has 2 MA's), (Start: 24 @34755 has 25 MA's), (32, 34731), (Start: 37 @34710 has 6 MA's), (44, 34686), (48, 34662), (63, 34596), (66, 34587), (87,

34482), (88, 34479), (90, 34470), (91, 34452), (107, 34398), (112, 34380), (119, 34350), (122, 34338), (123, 34329), (149, 34257), (165, 34200), (178, 34149), (184, 34134), (194, 34107), (203, 34086), (208, 34074),

Gene: MiaZeal\_91 Start: 54143, Stop: 53436, Start Num: 39

Candidate Starts for MiaZeal\_91:

(Start: 39 @54143 has 32 MA's), (Start: 50 @54089 has 5 MA's), (Start: 52 @54080 has 1 MA's), (76, 53984), (79, 53966), (99, 53885), (102, 53873), (104, 53867), (106, 53861), (108, 53852), (120, 53810), (138, 53759), (140, 53756), (163, 53675), (168, 53657), (178, 53618), (182, 53606), (185, 53600), (186, 53597), (198, 53555), (201, 53546), (203, 53537), (204, 53534), (215, 53483),

Gene: Milly\_45 Start: 36565, Stop: 35717, Start Num: 23

Candidate Starts for Milly\_45:

(Start: 23 @36565 has 8 MA's), (42, 36502), (51, 36451), (64, 36403), (83, 36307), (87, 36292), (96, 36247), (101, 36226), (108, 36202), (122, 36151), (123, 36142), (163, 36022), (166, 36013), (204, 35905), (210, 35887), (211, 35878), (215, 35857),

Gene: Minerva\_95 Start: 59047, Stop: 58340, Start Num: 38

Candidate Starts for Minerva\_95:

(Start: 38 @59047 has 1 MA's), (Start: 52 @58984 has 1 MA's), (76, 58888), (94, 58804), (99, 58789), (102, 58777), (103, 58774), (106, 58765), (108, 58756), (109, 58753), (153, 58618), (154, 58615), (155, 58606), (156, 58603), (163, 58579), (166, 58570), (168, 58561), (170, 58552), (176, 58531), (180, 58516), (186, 58501), (195, 58471), (196, 58465), (198, 58459), (201, 58450), (204, 58438), (210, 58417),

Gene: Miryou\_42 Start: 36125, Stop: 35283, Start Num: 22

Candidate Starts for Miryou\_42:

(Start: 22 @36125 has 17 MA's), (36, 36083), (80, 35888), (87, 35858), (102, 35789), (104, 35783), (108, 35768), (113, 35750), (120, 35714), (141, 35642), (169, 35543), (177, 35516), (179, 35507), (182, 35498), (198, 35471), (200, 35465), (204, 35450), (212, 35420), (215, 35402), (220, 35381),

Gene: Mufasa\_45 Start: 36153, Stop: 35305, Start Num: 23

Candidate Starts for Mufasa\_45:

(Start: 23 @36153 has 8 MA's), (34, 36120), (69, 35970), (87, 35877), (93, 35838), (96, 35832), (100, 35817), (108, 35787), (112, 35772), (123, 35727), (215, 35442), (221, 35412),

Gene: Murucutumbu\_43 Start: 35542, Stop: 34661, Start Num: 15

Candidate Starts for Murucutumbu\_43:

(Start: 11 @35563 has 39 MA's), (Start: 15 @35542 has 2 MA's), (Start: 21 @35506 has 2 MA's), (Start: 24 @35500 has 25 MA's), (32, 35476), (Start: 37 @35455 has 6 MA's), (Start: 38 @35452 has 1 MA's), (44, 35431), (63, 35341), (66, 35332), (87, 35227), (88, 35224), (90, 35215), (91, 35197), (107, 35143), (122, 35083), (123, 35074), (144, 35017), (165, 34945), (184, 34879), (198, 34849), (203, 34831), (208, 34819), (224, 34729),

Gene: Mynx\_43 Start: 34830, Stop: 33991, Start Num: 24

Candidate Starts for Mynx\_43:

(Start: 12 @34884 has 8 MA's), (Start: 21 @34836 has 2 MA's), (Start: 24 @34830 has 25 MA's), (32, 34806), (44, 34761), (48, 34737), (63, 34671), (66, 34662), (87, 34557), (88, 34554), (90, 34545), (91, 34527), (105, 34482), (107, 34473), (112, 34455), (119, 34425), (122, 34413), (123, 34404), (165, 34275), (178, 34224), (184, 34209), (194, 34182), (203, 34161), (208, 34149),

Gene: Neighly\_41 Start: 33757, Stop: 32870, Start Num: 16

Candidate Starts for Neighly\_41:

(7, 33823), (Start: 16 @33757 has 2 MA's), (Start: 22 @33721 has 17 MA's), (36, 33676), (53, 33598), (67, 33550), (87, 33451), (90, 33439), (100, 33391), (108, 33361), (113, 33343), (119, 33307), (121, 33301), (125, 33274), (166, 33148), (169, 33133), (173, 33121), (187, 33079), (204, 33040), (215, 32992),

Gene: Nekros\_91 Start: 57042, Stop: 56398, Start Num: 52

Candidate Starts for Nekros\_91:

(Start: 39 @57105 has 32 MA's), (Start: 50 @57051 has 5 MA's), (Start: 52 @57042 has 1 MA's), (59, 57018), (76, 56946), (99, 56847), (102, 56835), (108, 56814), (136, 56724), (140, 56718), (163, 56637), (168, 56619), (178, 56580), (185, 56562), (186, 56559), (201, 56508), (204, 56496), (215, 56445),

Gene: Nergal\_39 Start: 33105, Stop: 32251, Start Num: 28

Candidate Starts for Nergal\_39:

(13, 33171), (Start: 15 @33165 has 2 MA's), (Start: 28 @33105 has 25 MA's), (Start: 47 @33030 has 1 MA's), (62, 32970), (72, 32925), (74, 32913), (103, 32781), (106, 32772), (107, 32766), (108, 32763), (113, 32745), (115, 32733), (130, 32682), (138, 32664), (144, 32649), (153, 32619), (162, 32577), (177, 32523), (192, 32478), (215, 32406), (225, 32343),

Gene: Nibley\_84 Start: 53530, Stop: 52823, Start Num: 39

Candidate Starts for Nibley\_84:

(Start: 39 @53530 has 32 MA's), (Start: 50 @53476 has 5 MA's), (Start: 52 @53467 has 1 MA's), (99, 53272), (102, 53260), (104, 53254), (106, 53248), (108, 53239), (120, 53197), (140, 53143), (163, 53062), (168, 53044), (178, 53005), (182, 52993), (185, 52987), (186, 52984), (198, 52942), (203, 52924), (215, 52870),

Gene: NihilNomen\_97 Start: 59187, Stop: 58480, Start Num: 39

Candidate Starts for NihilNomen\_97:

(Start: 39 @59187 has 32 MA's), (Start: 50 @59133 has 5 MA's), (Start: 52 @59124 has 1 MA's), (76, 59028), (99, 58929), (102, 58917), (108, 58896), (136, 58806), (140, 58800), (163, 58719), (168, 58701), (178, 58662), (185, 58644), (186, 58641), (201, 58590), (204, 58578), (215, 58527),

Gene: Nikao\_40 Start: 36713, Stop: 35793, Start Num: 20

Candidate Starts for Nikao\_40:

(Start: 20 @36713 has 2 MA's), (Start: 25 @36695 has 12 MA's), (Start: 39 @36647 has 32 MA's), (45, 36620), (Start: 47 @36602 has 1 MA's), (54, 36569), (58, 36551), (61, 36545), (63, 36533), (80, 36449), (83, 36434), (87, 36419), (95, 36377), (104, 36341), (109, 36323), (117, 36281), (123, 36263), (139, 36224), (150, 36194), (160, 36155), (170, 36116), (175, 36101), (191, 36047), (202, 36029), (208, 36011), (215, 35972), (226, 35906), (243, 35816),

Gene: Niklas\_44 Start: 35225, Stop: 34236, Start Num: 25

Candidate Starts for Niklas\_44:

(Start: 25 @35225 has 12 MA's), (34, 35195), (Start: 39 @35177 has 32 MA's), (42, 35165), (46, 35138), (Start: 47 @35132 has 1 MA's), (49, 35120), (58, 35081), (61, 35075), (70, 35039), (78, 34988), (80, 34979), (83, 34964), (87, 34949), (95, 34907), (99, 34889), (108, 34856), (150, 34709), (154, 34694), (171, 34628), (176, 34610), (215, 34490), (236, 34355), (239, 34319),

Gene: November\_42 Start: 35191, Stop: 34367, Start Num: 28

Candidate Starts for November\_42:

(Start: 28 @35191 has 25 MA's), (32, 35179), (62, 35062), (72, 35023), (99, 34891), (106, 34867), (108, 34858), (111, 34846), (113, 34840), (115, 34828), (133, 34771), (145, 34741), (155, 34702), (177, 34621), (179, 34612), (193, 34576), (212, 34522), (215, 34504), (226, 34438), (233, 34402), (237, 34378),

Gene: Nutello\_37 Start: 34082, Stop: 33180, Start Num: 25

Candidate Starts for Nutello\_37:

(Start: 20 @34100 has 2 MA's), (Start: 25 @34082 has 12 MA's), (Start: 39 @34034 has 32 MA's), (45, 34007), (Start: 47 @33989 has 1 MA's), (54, 33956), (58, 33938), (61, 33932), (63, 33920), (80, 33836), (83, 33821), (87, 33806), (95, 33764), (104, 33728), (109, 33710), (117, 33668), (123, 33650), (139, 33611), (160, 33542), (170, 33503), (175, 33488), (191, 33434), (202, 33416), (208, 33398), (215, 33359), (226, 33293), (243, 33203),

Gene: Odette\_95 Start: 58230, Stop: 57523, Start Num: 39

Candidate Starts for Odette\_95:

(Start: 39 @58230 has 32 MA's), (Start: 50 @58176 has 5 MA's), (Start: 52 @58167 has 1 MA's), (59, 58143), (76, 58071), (99, 57972), (102, 57960), (108, 57939), (136, 57849), (140, 57843), (163, 57762), (168, 57744), (178, 57705), (185, 57687), (186, 57684), (201, 57633), (204, 57621), (215, 57570),

Gene: OkiRoe\_40 Start: 33795, Stop: 32953, Start Num: 22

Candidate Starts for OkiRoe\_40:

(Start: 22 @33795 has 17 MA's), (36, 33753), (80, 33558), (87, 33528), (102, 33459), (104, 33453), (108, 33438), (120, 33384), (141, 33312), (169, 33213), (177, 33186), (179, 33177), (182, 33168), (198, 33141), (200, 33135), (204, 33120), (212, 33090), (215, 33072), (220, 33051),

Gene: Omega\_99 Start: 58940, Stop: 58233, Start Num: 39

Candidate Starts for Omega\_99:

(Start: 39 @58940 has 32 MA's), (Start: 50 @58886 has 5 MA's), (Start: 52 @58877 has 1 MA's), (76, 58781), (99, 58682), (102, 58670), (104, 58664), (106, 58658), (108, 58649), (120, 58607), (138, 58556), (140, 58553), (163, 58472), (168, 58454), (178, 58415), (182, 58403), (185, 58397), (186, 58394), (198, 58352), (201, 58343), (204, 58331), (215, 58280),

Gene: Optimus\_89 Start: 57722, Stop: 57015, Start Num: 39

Candidate Starts for Optimus\_89:

(Start: 39 @57722 has 32 MA's), (Start: 50 @57668 has 5 MA's), (Start: 52 @57659 has 1 MA's), (76, 57563), (99, 57464), (102, 57452), (108, 57431), (136, 57341), (140, 57335), (163, 57254), (168, 57236), (178, 57197), (185, 57179), (186, 57176), (201, 57125), (204, 57113), (215, 57062),

Gene: Oscar\_46 Start: 35554, Stop: 34787, Start Num: 28

Candidate Starts for Oscar\_46:

(Start: 28 @35554 has 25 MA's), (Start: 47 @35491 has 1 MA's), (58, 35440), (82, 35335), (84, 35326), (99, 35260), (106, 35236), (108, 35227), (120, 35182), (155, 35071), (167, 35023), (171, 35008), (200, 34933), (209, 34906), (215, 34870),

Gene: Padfoot\_42 Start: 34886, Stop: 33984, Start Num: 11

Candidate Starts for Padfoot\_42:

(Start: 11 @34886 has 39 MA's), (Start: 15 @34865 has 2 MA's), (Start: 21 @34829 has 2 MA's), (Start: 24 @34823 has 25 MA's), (32, 34799), (Start: 37 @34778 has 6 MA's), (44, 34754), (63, 34664), (66, 34655), (87, 34550), (88, 34547), (90, 34538), (91, 34520), (93, 34514), (107, 34466), (112, 34448), (119, 34418), (122, 34406), (123, 34397), (149, 34325), (165, 34268), (178, 34217), (184, 34202), (194, 34175), (203, 34154), (208, 34142),

Gene: Padpat\_43 Start: 34565, Stop: 33663, Start Num: 11

Candidate Starts for Padpat\_43:

(Start: 11 @34565 has 39 MA's), (Start: 21 @34508 has 2 MA's), (Start: 24 @34502 has 25 MA's), (32, 34478), (Start: 37 @34457 has 6 MA's), (44, 34433), (63, 34343), (66, 34334), (87, 34229), (88,

34226), (90, 34217), (91, 34199), (93, 34193), (107, 34145), (112, 34127), (119, 34097), (122, 34085), (123, 34076), (144, 34019), (149, 34004), (165, 33947), (178, 33896), (184, 33881), (194, 33854), (203, 33833), (208, 33821),

Gene: Paola\_40 Start: 33793, Stop: 32951, Start Num: 22

Candidate Starts for Paola\_40:

(Start: 22 @33793 has 17 MA's), (36, 33751), (80, 33556), (87, 33526), (102, 33457), (104, 33451), (108, 33436), (113, 33418), (120, 33382), (141, 33310), (169, 33211), (177, 33184), (179, 33175), (182, 33166), (198, 33139), (200, 33133), (204, 33118), (212, 33088), (215, 33070), (220, 33049),

Gene: Peanam\_44 Start: 35181, Stop: 34210, Start Num: 25

Candidate Starts for Peanam\_44:

(Start: 25 @35181 has 12 MA's), (34, 35151), (Start: 39 @35133 has 32 MA's), (42, 35121), (46, 35094), (Start: 47 @35088 has 1 MA's), (49, 35076), (58, 35037), (61, 35031), (70, 34995), (78, 34944), (80, 34935), (83, 34920), (87, 34905), (95, 34863), (99, 34845), (101, 34836), (108, 34812), (150, 34680), (154, 34665), (171, 34599), (176, 34581), (215, 34461), (236, 34326),

Gene: Peel\_42 Start: 34691, Stop: 33789, Start Num: 11

Candidate Starts for Peel\_42:

(Start: 11 @34691 has 39 MA's), (Start: 15 @34670 has 2 MA's), (Start: 21 @34634 has 2 MA's), (Start: 24 @34628 has 25 MA's), (32, 34604), (Start: 37 @34583 has 6 MA's), (44, 34559), (63, 34469), (66, 34460), (87, 34355), (88, 34352), (90, 34343), (91, 34325), (93, 34319), (107, 34271), (112, 34253), (119, 34223), (122, 34211), (123, 34202), (149, 34130), (165, 34073), (178, 34022), (184, 34007), (194, 33980), (203, 33959), (208, 33947),

Gene: Pharb\_42 Start: 33912, Stop: 33067, Start Num: 28

Candidate Starts for Pharb\_42:

(3, 34131), (9, 34008), (Start: 18 @33948 has 5 MA's), (Start: 20 @33939 has 2 MA's), (Start: 26 @33918 has 1 MA's), (Start: 28 @33912 has 25 MA's), (61, 33786), (82, 33687), (84, 33678), (99, 33612), (108, 33579), (111, 33567), (113, 33561), (124, 33519), (138, 33477), (144, 33462), (155, 33420), (163, 33393), (166, 33384), (181, 33327), (182, 33324), (199, 33291), (215, 33225), (233, 33117),

Gene: PhelpsODU\_44 Start: 34427, Stop: 33552, Start Num: 28

Candidate Starts for PhelpsODU\_44:

(Start: 28 @34427 has 25 MA's), (80, 34211), (99, 34127), (106, 34103), (108, 34094), (111, 34082), (115, 34064), (144, 33971), (150, 33953), (153, 33941), (155, 33929), (166, 33890), (177, 33848), (179, 33839),

Gene: Phoebus\_97 Start: 60370, Stop: 59663, Start Num: 39

Candidate Starts for Phoebus\_97:

(Start: 39 @60370 has 32 MA's), (Start: 50 @60316 has 5 MA's), (Start: 52 @60307 has 1 MA's), (59, 60283), (76, 60211), (99, 60112), (102, 60100), (108, 60079), (136, 59989), (140, 59983), (163, 59902), (168, 59884), (178, 59845), (185, 59827), (186, 59824), (201, 59773), (204, 59761), (215, 59710),

Gene: Phrank\_45 Start: 34384, Stop: 33518, Start Num: 28

Candidate Starts for Phrank\_45:

(Start: 28 @34384 has 25 MA's), (48, 34312), (80, 34168), (88, 34135), (99, 34084), (106, 34060), (108, 34051), (111, 34039), (115, 34021), (144, 33934), (150, 33916), (153, 33904), (155, 33892), (166, 33853), (177, 33811), (188, 33778), (212, 33712), (233, 33586),

Gene: Piatt\_42 Start: 34778, Stop: 33984, Start Num: 37

Candidate Starts for Piatt\_42:

(Start: 11 @34886 has 39 MA's), (Start: 15 @34865 has 2 MA's), (Start: 21 @34829 has 2 MA's), (Start: 24 @34823 has 25 MA's), (32, 34799), (Start: 37 @34778 has 6 MA's), (44, 34754), (63, 34664), (66, 34655), (87, 34550), (88, 34547), (90, 34538), (91, 34520), (93, 34514), (107, 34466), (112, 34448), (119, 34418), (122, 34406), (123, 34397), (149, 34325), (165, 34268), (178, 34217), (184, 34202), (194, 34175), (203, 34154), (208, 34142),

Gene: Pisa1\_42 Start: 35864, Stop: 34959, Start Num: 11

Candidate Starts for Pisa1\_42:

(Start: 11 @35864 has 39 MA's), (Start: 21 @35804 has 2 MA's), (Start: 24 @35798 has 25 MA's), (35, 35759), (Start: 38 @35750 has 1 MA's), (40, 35741), (44, 35729), (48, 35705), (53, 35678), (66, 35630), (87, 35525), (91, 35495), (93, 35489), (99, 35471), (119, 35393), (122, 35381), (123, 35372), (146, 35309), (149, 35300), (165, 35243), (170, 35222), (178, 35192), (184, 35177), (203, 35129), (208, 35117),

Gene: Pixie\_44 Start: 34706, Stop: 33786, Start Num: 18

Candidate Starts for Pixie\_44:

(Start: 18 @34706 has 5 MA's), (Start: 26 @34676 has 1 MA's), (Start: 28 @34670 has 25 MA's), (Start: 47 @34601 has 1 MA's), (53, 34571), (99, 34361), (106, 34337), (108, 34328), (111, 34316), (113, 34310), (124, 34262), (153, 34175), (155, 34163), (181, 34064), (215, 33959), (219, 33941),

Gene: Pokerus\_41 Start: 34547, Stop: 33708, Start Num: 24

Candidate Starts for Pokerus\_41:

(Start: 12 @34601 has 8 MA's), (Start: 21 @34553 has 2 MA's), (Start: 24 @34547 has 25 MA's), (32, 34523), (44, 34478), (63, 34388), (66, 34379), (87, 34274), (88, 34271), (90, 34262), (91, 34244), (93, 34238), (107, 34190), (112, 34172), (119, 34142), (122, 34130), (123, 34121), (149, 34049), (165, 33992), (184, 33926), (194, 33899), (203, 33878), (208, 33866),

Gene: Porcelain\_89 Start: 54143, Stop: 53436, Start Num: 39

Candidate Starts for Porcelain\_89:

(Start: 39 @54143 has 32 MA's), (Start: 50 @54089 has 5 MA's), (Start: 52 @54080 has 1 MA's), (76, 53984), (79, 53966), (99, 53885), (102, 53873), (104, 53867), (106, 53861), (108, 53852), (120, 53810), (138, 53759), (140, 53756), (163, 53675), (168, 53657), (178, 53618), (182, 53606), (185, 53600), (186, 53597), (198, 53555), (201, 53546), (203, 53537), (204, 53534), (215, 53483),

Gene: Pound\_87 Start: 58399, Stop: 57692, Start Num: 39

Candidate Starts for Pound\_87:

(Start: 39 @58399 has 32 MA's), (Start: 50 @58345 has 5 MA's), (Start: 52 @58336 has 1 MA's), (59, 58312), (76, 58240), (99, 58141), (102, 58129), (108, 58108), (136, 58018), (140, 58012), (163, 57931), (168, 57913), (178, 57874), (185, 57856), (186, 57853), (201, 57802), (204, 57790), (215, 57739),

Gene: Prithvi\_43 Start: 34696, Stop: 33857, Start Num: 24

Candidate Starts for Prithvi\_43:

(Start: 12 @34750 has 8 MA's), (Start: 21 @34702 has 2 MA's), (Start: 24 @34696 has 25 MA's), (32, 34672), (Start: 37 @34651 has 6 MA's), (44, 34627), (63, 34537), (66, 34528), (87, 34423), (88, 34420), (90, 34411), (91, 34393), (105, 34348), (107, 34339), (112, 34321), (119, 34291), (122, 34279), (123, 34270), (149, 34198), (165, 34141), (184, 34075), (194, 34048), (203, 34027), (208, 34015),

Gene: Psycho\_41 Start: 33888, Stop: 33001, Start Num: 16

Candidate Starts for Psycho\_41:

(7, 33954), (Start: 16 @33888 has 2 MA's), (Start: 22 @33852 has 17 MA's), (36, 33807), (53, 33729), (67, 33681), (87, 33582), (90, 33570), (100, 33522), (108, 33492), (113, 33474), (119, 33438), (121, 33432), (125, 33405), (166, 33279), (169, 33264), (173, 33252), (187, 33210), (204, 33171), (215, 33123),

Gene: QuincyRose\_41 Start: 35009, Stop: 34107, Start Num: 11

Candidate Starts for QuincyRose\_41:

(Start: 11 @35009 has 39 MA's), (Start: 21 @34952 has 2 MA's), (Start: 24 @34946 has 25 MA's), (32, 34922), (Start: 37 @34901 has 6 MA's), (44, 34877), (63, 34787), (66, 34778), (87, 34673), (88, 34670), (90, 34661), (91, 34643), (93, 34637), (107, 34589), (112, 34571), (119, 34541), (122, 34529), (123, 34520), (144, 34463), (149, 34448), (165, 34391), (184, 34325), (194, 34298), (203, 34277), (208, 34265),

Gene: Ramen\_42 Start: 34576, Stop: 33674, Start Num: 11

Candidate Starts for Ramen\_42:

(Start: 11 @34576 has 39 MA's), (Start: 21 @34519 has 2 MA's), (Start: 24 @34513 has 25 MA's), (32, 34489), (Start: 37 @34468 has 6 MA's), (44, 34444), (63, 34354), (66, 34345), (87, 34240), (88, 34237), (90, 34228), (91, 34210), (93, 34204), (107, 34156), (112, 34138), (119, 34108), (122, 34096), (123, 34087), (144, 34030), (149, 34015), (165, 33958), (178, 33907), (184, 33892), (194, 33865), (203, 33844), (208, 33832),

Gene: Rapunzel97\_42 Start: 34572, Stop: 33670, Start Num: 11

Candidate Starts for Rapunzel97\_42:

(Start: 11 @34572 has 39 MA's), (Start: 21 @34515 has 2 MA's), (Start: 24 @34509 has 25 MA's), (32, 34485), (Start: 37 @34464 has 6 MA's), (44, 34440), (63, 34350), (66, 34341), (87, 34236), (88, 34233), (90, 34224), (91, 34206), (93, 34200), (107, 34152), (112, 34134), (119, 34104), (122, 34092), (123, 34083), (144, 34026), (149, 34011), (165, 33954), (178, 33903), (184, 33888), (194, 33861), (208, 33828),

Gene: Rearden\_85 Start: 54332, Stop: 53625, Start Num: 39

Candidate Starts for Rearden\_85:

(Start: 39 @54332 has 32 MA's), (Start: 50 @54278 has 5 MA's), (Start: 52 @54269 has 1 MA's), (76, 54173), (99, 54074), (102, 54062), (108, 54041), (120, 53999), (138, 53948), (140, 53945), (163, 53864), (168, 53846), (178, 53807), (185, 53789), (186, 53786), (198, 53744), (201, 53735), (204, 53723), (215, 53672),

Gene: Redno2\_87 Start: 54921, Stop: 54214, Start Num: 39

Candidate Starts for Redno2\_87:

(Start: 39 @54921 has 32 MA's), (Start: 50 @54867 has 5 MA's), (Start: 52 @54858 has 1 MA's), (59, 54834), (76, 54762), (99, 54663), (102, 54651), (108, 54630), (136, 54540), (140, 54534), (159, 54468), (163, 54453), (168, 54435), (178, 54396), (185, 54378), (201, 54324), (204, 54312), (206, 54306), (207, 54303), (215, 54261),

Gene: Richo\_44 Start: 35155, Stop: 34205, Start Num: 25

Candidate Starts for Richo\_44:

(4, 35275), (5, 35272), (Start: 25 @35155 has 12 MA's), (Start: 39 @35107 has 32 MA's), (42, 35095), (46, 35068), (Start: 47 @35062 has 1 MA's), (49, 35050), (73, 34948), (80, 34909), (83, 34894), (87, 34879), (106, 34795), (108, 34786), (118, 34750), (150, 34669), (171, 34588), (176, 34570), (207, 34492), (208, 34489), (215, 34450), (232, 34360), (242, 34252),

Gene: Rosmarinus\_42 Start: 34569, Stop: 33775, Start Num: 37

Candidate Starts for Rosmarinus\_42:

(Start: 11 @34677 has 39 MA's), (Start: 15 @34656 has 2 MA's), (Start: 21 @34620 has 2 MA's), (Start: 24 @34614 has 25 MA's), (32, 34590), (Start: 37 @34569 has 6 MA's), (44, 34545), (63, 34455), (66, 34446), (87, 34341), (88, 34338), (90, 34329), (91, 34311), (93, 34305), (107, 34257), (112, 34239), (119, 34209), (122, 34197), (123, 34188), (149, 34116), (165, 34059), (178, 34008), (184, 33993), (194, 33966), (203, 33945), (208, 33933),

Gene: SamuelLPlaqson\_43 Start: 35473, Stop: 34568, Start Num: 11

Candidate Starts for SamuelLPlaqson\_43:

(Start: 11 @35473 has 39 MA's), (Start: 21 @35413 has 2 MA's), (Start: 24 @35407 has 25 MA's), (32, 35383), (35, 35368), (Start: 38 @35359 has 1 MA's), (44, 35338), (48, 35314), (53, 35287), (63, 35248), (66, 35239), (87, 35134), (88, 35131), (91, 35104), (99, 35080), (105, 35059), (107, 35050), (112, 35032), (122, 34990), (123, 34981), (135, 34945), (149, 34909), (165, 34852), (184, 34786), (208, 34726), (224, 34636),

Gene: Scarlett\_46 Start: 35546, Stop: 34779, Start Num: 28

Candidate Starts for Scarlett\_46:

(Start: 28 @35546 has 25 MA's), (Start: 47 @35483 has 1 MA's), (58, 35432), (82, 35327), (84, 35318), (99, 35252), (106, 35228), (108, 35219), (120, 35174), (155, 35063), (167, 35015), (171, 35000), (200, 34925), (209, 34898), (215, 34862),

Gene: Schatzie\_90 Start: 57977, Stop: 57270, Start Num: 39

Candidate Starts for Schatzie\_90:

(Start: 39 @57977 has 32 MA's), (Start: 50 @57923 has 5 MA's), (Start: 52 @57914 has 1 MA's), (59, 57890), (76, 57818), (99, 57719), (102, 57707), (108, 57686), (136, 57596), (140, 57590), (163, 57509), (168, 57491), (178, 57452), (185, 57434), (186, 57431), (201, 57380), (204, 57368), (215, 57317),

Gene: SgtBeansprout\_37 Start: 34082, Stop: 33180, Start Num: 25

Candidate Starts for SgtBeansprout\_37:

(Start: 20 @34100 has 2 MA's), (Start: 25 @34082 has 12 MA's), (Start: 39 @34034 has 32 MA's), (45, 34007), (Start: 47 @33989 has 1 MA's), (54, 33956), (58, 33938), (61, 33932), (63, 33920), (80, 33836), (83, 33821), (87, 33806), (95, 33764), (104, 33728), (109, 33710), (117, 33668), (123, 33650), (139, 33611), (160, 33542), (170, 33503), (175, 33488), (191, 33434), (202, 33416), (208, 33398), (215, 33359), (226, 33293), (243, 33203),

Gene: Shaboozey\_88 Start: 53974, Stop: 53267, Start Num: 39

Candidate Starts for Shaboozey\_88:

(Start: 39 @53974 has 32 MA's), (Start: 50 @53920 has 5 MA's), (Start: 52 @53911 has 1 MA's), (99, 53716), (102, 53704), (104, 53698), (106, 53692), (108, 53683), (120, 53641), (140, 53587), (163, 53506), (168, 53488), (178, 53449), (182, 53437), (185, 53431), (186, 53428), (198, 53386), (203, 53368), (215, 53314),

Gene: Shadow1\_47 Start: 35548, Stop: 34661, Start Num: 28

Candidate Starts for Shadow1\_47:

(17, 35599), (Start: 28 @35548 has 25 MA's), (40, 35512), (Start: 47 @35479 has 1 MA's), (53, 35449), (99, 35248), (106, 35224), (108, 35215), (111, 35203), (113, 35197), (153, 35065), (193, 34927), (199, 34921), (215, 34855), (231, 34768),

Gene: Shaobing\_44 Start: 35188, Stop: 34232, Start Num: 25

Candidate Starts for Shaobing\_44:

(Start: 25 @35188 has 12 MA's), (31, 35170), (34, 35158), (42, 35128), (45, 35113), (46, 35101), (Start: 47 @35095 has 1 MA's), (49, 35083), (63, 35026), (73, 34981), (78, 34951), (80, 34942), (83, 34927), (87, 34912), (95, 34870), (98, 34855), (108, 34819), (123, 34765), (126, 34753), (128, 34747),

(171, 34615), (176, 34597), (207, 34519), (215, 34477), (232, 34387),

Gene: ShedlockHolmes\_45 Start: 35232, Stop: 34315, Start Num: 18

Candidate Starts for ShedlockHolmes\_45:

(Start: 18 @35232 has 5 MA's), (Start: 26 @35202 has 1 MA's), (Start: 28 @35196 has 25 MA's), (78, 34980), (99, 34887), (106, 34863), (108, 34854), (111, 34842), (113, 34836), (124, 34788), (152, 34707), (153, 34701), (155, 34689), (166, 34647), (181, 34590), (215, 34485), (226, 34419),

Gene: ShiaSurprise\_43 Start: 34886, Stop: 33984, Start Num: 11

Candidate Starts for ShiaSurprise\_43:

(Start: 11 @34886 has 39 MA's), (Start: 15 @34865 has 2 MA's), (Start: 21 @34829 has 2 MA's), (Start: 24 @34823 has 25 MA's), (32, 34799), (Start: 37 @34778 has 6 MA's), (44, 34754), (63, 34664), (66, 34655), (87, 34550), (88, 34547), (90, 34538), (91, 34520), (93, 34514), (107, 34466), (112, 34448), (119, 34418), (122, 34406), (123, 34397), (149, 34325), (165, 34268), (178, 34217), (184, 34202), (194, 34175), (203, 34154), (208, 34142),

Gene: SirPhilip\_44 Start: 35758, Stop: 34889, Start Num: 28

Candidate Starts for SirPhilip\_44:

(Start: 28 @35758 has 25 MA's), (Start: 30 @35752 has 8 MA's), (32, 35746), (Start: 47 @35689 has 1 MA's), (78, 35551), (99, 35458), (105, 35437), (106, 35434), (108, 35425), (111, 35413), (152, 35284), (155, 35266), (166, 35227), (174, 35197), (207, 35110), (232, 34978), (238, 34927),

Gene: Slimphazie\_42 Start: 34572, Stop: 33670, Start Num: 11

Candidate Starts for Slimphazie\_42:

(Start: 11 @34572 has 39 MA's), (Start: 21 @34515 has 2 MA's), (Start: 24 @34509 has 25 MA's), (32, 34485), (Start: 37 @34464 has 6 MA's), (44, 34440), (63, 34350), (66, 34341), (87, 34236), (88, 34233), (90, 34224), (91, 34206), (93, 34200), (107, 34152), (112, 34134), (119, 34104), (122, 34092), (123, 34083), (144, 34026), (149, 34011), (165, 33954), (178, 33903), (184, 33888), (194, 33861), (208, 33828),

Gene: SoSeph\_40 Start: 33939, Stop: 33097, Start Num: 22

Candidate Starts for SoSeph\_40:

(Start: 22 @33939 has 17 MA's), (36, 33897), (87, 33672), (102, 33603), (104, 33597), (108, 33582), (113, 33564), (120, 33528), (141, 33456), (169, 33357), (177, 33330), (179, 33321), (182, 33312), (198, 33285), (200, 33279), (204, 33264), (215, 33216), (220, 33195),

Gene: Spock\_42 Start: 34690, Stop: 33788, Start Num: 11

Candidate Starts for Spock\_42:

(Start: 11 @34690 has 39 MA's), (Start: 15 @34669 has 2 MA's), (Start: 21 @34633 has 2 MA's), (Start: 24 @34627 has 25 MA's), (32, 34603), (Start: 37 @34582 has 6 MA's), (44, 34558), (63, 34468), (66, 34459), (87, 34354), (88, 34351), (90, 34342), (91, 34324), (93, 34318), (107, 34270), (112, 34252), (119, 34222), (122, 34210), (123, 34201), (149, 34129), (165, 34072), (178, 34021), (184, 34006), (194, 33979), (203, 33958), (208, 33946),

Gene: Squint\_89 Start: 54262, Stop: 53555, Start Num: 39

Candidate Starts for Squint\_89:

(Start: 39 @54262 has 32 MA's), (Start: 50 @54208 has 5 MA's), (Start: 52 @54199 has 1 MA's), (76, 54103), (79, 54085), (99, 54004), (102, 53992), (104, 53986), (106, 53980), (108, 53971), (120, 53929), (138, 53878), (140, 53875), (163, 53794), (168, 53776), (178, 53737), (182, 53725), (185, 53719), (186, 53716), (198, 53674), (201, 53665), (203, 53656), (204, 53653), (215, 53602),

Gene: Stinson\_43 Start: 35020, Stop: 34181, Start Num: 24

Candidate Starts for Stinson\_43:

(Start: 11 @35083 has 39 MA's), (Start: 15 @35062 has 2 MA's), (Start: 21 @35026 has 2 MA's), (Start: 24 @35020 has 25 MA's), (32, 34996), (Start: 37 @34975 has 6 MA's), (Start: 38 @34972 has 1 MA's), (44, 34951), (63, 34861), (66, 34852), (87, 34747), (88, 34744), (90, 34735), (91, 34717), (105, 34672), (107, 34663), (122, 34603), (123, 34594), (149, 34522), (165, 34465), (184, 34399), (198, 34369), (203, 34351), (208, 34339), (224, 34249),

Gene: Strobilo\_45 Start: 36567, Stop: 35719, Start Num: 23

Candidate Starts for Strobilo\_45:

(Start: 23 @36567 has 8 MA's), (Start: 39 @36516 has 32 MA's), (42, 36504), (51, 36453), (64, 36405), (83, 36309), (87, 36294), (96, 36249), (108, 36204), (122, 36153), (123, 36144), (163, 36024), (204, 35907), (211, 35880), (215, 35859),

Gene: Sulley\_42 Start: 34807, Stop: 33914, Start Num: 12

Candidate Starts for Sulley\_42:

(Start: 12 @34807 has 8 MA's), (Start: 21 @34759 has 2 MA's), (Start: 24 @34753 has 25 MA's), (32, 34729), (44, 34684), (66, 34585), (87, 34480), (88, 34477), (90, 34468), (91, 34450), (107, 34396), (112, 34378), (119, 34348), (122, 34336), (123, 34327), (149, 34255), (165, 34198), (184, 34132), (194, 34105), (203, 34084), (208, 34072),

Gene: Sunflower1121\_48 Start: 35580, Stop: 34762, Start Num: 47

Candidate Starts for Sunflower1121\_48:

(17, 35700), (Start: 28 @35649 has 25 MA's), (Start: 47 @35580 has 1 MA's), (53, 35550), (99, 35349), (106, 35325), (108, 35316), (111, 35304), (113, 35298), (153, 35166), (193, 35028), (199, 35022), (215, 34956), (231, 34869),

Gene: Superphikiman\_88 Start: 53290, Stop: 52646, Start Num: 52

Candidate Starts for Superphikiman\_88:

(Start: 39 @53353 has 32 MA's), (Start: 50 @53299 has 5 MA's), (Start: 52 @53290 has 1 MA's), (76, 53194), (79, 53176), (99, 53095), (102, 53083), (104, 53077), (106, 53071), (108, 53062), (120, 53020), (138, 52969), (140, 52966), (163, 52885), (168, 52867), (178, 52828), (182, 52816), (185, 52810), (186, 52807), (198, 52765), (201, 52756), (203, 52747), (204, 52744), (215, 52693),

Gene: Syra333\_47 Start: 35315, Stop: 34425, Start Num: 28

Candidate Starts for Syra333\_47:

(Start: 28 @35315 has 25 MA's), (Start: 47 @35246 has 1 MA's), (49, 35234), (53, 35216), (61, 35189), (99, 35015), (106, 34991), (108, 34982), (111, 34970), (113, 34964), (153, 34832), (155, 34820), (193, 34694), (199, 34688), (201, 34682), (215, 34622), (231, 34535),

Gene: TBond007\_44 Start: 34675, Stop: 33785, Start Num: 26

Candidate Starts for TBond007\_44:

(Start: 18 @34705 has 5 MA's), (Start: 26 @34675 has 1 MA's), (Start: 28 @34669 has 25 MA's), (Start: 47 @34600 has 1 MA's), (53, 34570), (99, 34360), (106, 34336), (108, 34327), (111, 34315), (113, 34309), (124, 34261), (153, 34174), (155, 34162), (181, 34063), (215, 33958), (219, 33940),

Gene: TClif\_46 Start: 35608, Stop: 34700, Start Num: 25

Candidate Starts for TClif\_46:

(Start: 25 @35608 has 12 MA's), (31, 35590), (Start: 39 @35560 has 32 MA's), (80, 35368), (83, 35353), (87, 35338), (110, 35242), (139, 35140), (173, 35023), (184, 34987), (215, 34894), (218, 34879),

Gene: Tachez\_42 Start: 34534, Stop: 33632, Start Num: 11

Candidate Starts for Tachez\_42:

(Start: 11 @34534 has 39 MA's), (Start: 21 @34477 has 2 MA's), (Start: 24 @34471 has 25 MA's), (32, 34447), (Start: 37 @34426 has 6 MA's), (44, 34402), (63, 34312), (66, 34303), (87, 34198), (88, 34195), (90, 34186), (91, 34168), (93, 34162), (107, 34114), (112, 34096), (119, 34066), (122, 34054), (123, 34045), (144, 33988), (149, 33973), (165, 33916), (178, 33865), (184, 33850), (194, 33823), (203, 33802), (208, 33790),

Gene: TaiwanKao\_44 Start: 34752, Stop: 33913, Start Num: 24

Candidate Starts for TaiwanKao\_44:

(Start: 21 @34758 has 2 MA's), (Start: 24 @34752 has 25 MA's), (32, 34728), (Start: 37 @34707 has 6 MA's), (44, 34683), (48, 34659), (63, 34593), (66, 34584), (87, 34479), (88, 34476), (90, 34467), (91, 34449), (107, 34395), (112, 34377), (119, 34347), (122, 34335), (123, 34326), (149, 34254), (165, 34197), (178, 34146), (184, 34131), (194, 34104), (203, 34083), (208, 34071),

Gene: Teejan\_40 Start: 36695, Stop: 35793, Start Num: 25

Candidate Starts for Teejan\_40:

(Start: 20 @36713 has 2 MA's), (Start: 25 @36695 has 12 MA's), (Start: 39 @36647 has 32 MA's), (45, 36620), (Start: 47 @36602 has 1 MA's), (54, 36569), (58, 36551), (61, 36545), (63, 36533), (80, 36449), (83, 36434), (87, 36419), (95, 36377), (104, 36341), (109, 36323), (117, 36281), (123, 36263), (139, 36224), (150, 36194), (160, 36155), (170, 36116), (175, 36101), (191, 36047), (202, 36029), (208, 36011), (215, 35972), (226, 35906), (243, 35816),

Gene: Thibault\_80 Start: 53886, Stop: 53179, Start Num: 39

Candidate Starts for Thibault\_80:

(Start: 39 @53886 has 32 MA's), (Start: 50 @53832 has 5 MA's), (Start: 52 @53823 has 1 MA's), (59, 53799), (76, 53727), (99, 53628), (102, 53616), (108, 53595), (136, 53505), (140, 53499), (159, 53433), (163, 53418), (168, 53400), (178, 53361), (185, 53343), (186, 53340), (201, 53289), (204, 53277), (215, 53226),

Gene: ThreeRngTarjay\_92 Start: 59262, Stop: 58555, Start Num: 39

Candidate Starts for ThreeRngTarjay\_92:

(Start: 39 @59262 has 32 MA's), (Start: 50 @59208 has 5 MA's), (Start: 52 @59199 has 1 MA's), (59, 59175), (76, 59103), (99, 59004), (102, 58992), (108, 58971), (136, 58881), (140, 58875), (163, 58794), (168, 58776), (178, 58737), (185, 58719), (186, 58716), (201, 58665), (204, 58653), (215, 58602),

Gene: Thyatira\_42 Start: 36140, Stop: 35298, Start Num: 22

Candidate Starts for Thyatira\_42:

(Start: 22 @36140 has 17 MA's), (36, 36098), (80, 35903), (87, 35873), (102, 35804), (104, 35798), (108, 35783), (113, 35765), (120, 35729), (141, 35657), (169, 35558), (177, 35531), (179, 35522), (182, 35513), (198, 35486), (200, 35480), (204, 35465), (215, 35417), (220, 35396),

Gene: Tierra\_45 Start: 35195, Stop: 34329, Start Num: 28

Candidate Starts for Tierra\_45:

(Start: 28 @35195 has 25 MA's), (48, 35123), (80, 34979), (88, 34946), (99, 34895), (106, 34871), (108, 34862), (111, 34850), (144, 34745), (150, 34727), (153, 34715), (155, 34703), (166, 34664), (177, 34622), (188, 34589), (207, 34547), (212, 34523), (233, 34397),

Gene: Tigress9\_46 Start: 35401, Stop: 34511, Start Num: 28

Candidate Starts for Tigress9\_46:

(Start: 28 @35401 has 25 MA's), (40, 35365), (Start: 47 @35332 has 1 MA's), (49, 35320), (51, 35308), (99, 35101), (106, 35077), (108, 35068), (111, 35056), (113, 35050), (153, 34918), (155, 34906), (193, 34780), (199, 34774), (208, 34747), (210, 34738), (215, 34708),

Gene: TingHuaYa\_43 Start: 33668, Stop: 32823, Start Num: 33

Candidate Starts for TingHuaYa\_43:

(Start: 33 @33668 has 2 MA's), (73, 33491), (87, 33422), (97, 33374), (99, 33368), (101, 33359), (106, 33344), (108, 33335), (138, 33233), (143, 33221), (147, 33209), (152, 33194), (157, 33164), (178, 33086), (195, 33029), (197, 33020), (198, 33017), (203, 32999), (215, 32942), (234, 32834), (235, 32831),

Gene: TiniBug\_43 Start: 35469, Stop: 34564, Start Num: 11

Candidate Starts for TiniBug\_43:

(Start: 11 @35469 has 39 MA's), (Start: 21 @35409 has 2 MA's), (Start: 24 @35403 has 25 MA's), (32, 35379), (35, 35364), (Start: 38 @35355 has 1 MA's), (44, 35334), (48, 35310), (53, 35283), (63, 35244), (66, 35235), (87, 35130), (88, 35127), (91, 35100), (99, 35076), (105, 35055), (107, 35046), (112, 35028), (122, 34986), (123, 34977), (135, 34941), (149, 34905), (165, 34848), (184, 34782), (208, 34722), (224, 34632),

Gene: Tiri\_43 Start: 34869, Stop: 33967, Start Num: 11

Candidate Starts for Tiri\_43:

(Start: 11 @34869 has 39 MA's), (Start: 21 @34812 has 2 MA's), (Start: 24 @34806 has 25 MA's), (32, 34782), (Start: 37 @34761 has 6 MA's), (44, 34737), (63, 34647), (66, 34638), (87, 34533), (88, 34530), (90, 34521), (91, 34503), (93, 34497), (107, 34449), (112, 34431), (119, 34401), (122, 34389), (123, 34380), (144, 34323), (149, 34308), (165, 34251), (184, 34185), (194, 34158), (203, 34137), (208, 34125),

Gene: Topper\_42 Start: 34581, Stop: 33787, Start Num: 37

Candidate Starts for Topper\_42:

(Start: 11 @34689 has 39 MA's), (Start: 15 @34668 has 2 MA's), (Start: 21 @34632 has 2 MA's), (Start: 24 @34626 has 25 MA's), (32, 34602), (Start: 37 @34581 has 6 MA's), (44, 34557), (63, 34467), (66, 34458), (87, 34353), (88, 34350), (90, 34341), (91, 34323), (93, 34317), (107, 34269), (112, 34251), (119, 34221), (122, 34209), (123, 34200), (149, 34128), (165, 34071), (178, 34020), (184, 34005), (194, 33978), (203, 33957), (208, 33945),

Gene: Torres\_40 Start: 36714, Stop: 35794, Start Num: 20

Candidate Starts for Torres\_40:

(Start: 20 @36714 has 2 MA's), (Start: 25 @36696 has 12 MA's), (Start: 39 @36648 has 32 MA's), (45, 36621), (Start: 47 @36603 has 1 MA's), (54, 36570), (58, 36552), (61, 36546), (63, 36534), (80, 36450), (83, 36435), (87, 36420), (95, 36378), (104, 36342), (109, 36324), (117, 36282), (123, 36264), (139, 36225), (150, 36195), (160, 36156), (170, 36117), (175, 36102), (191, 36048), (202, 36030), (208, 36012), (215, 35973), (226, 35907), (243, 35817),

Gene: TreyKay\_43 Start: 34696, Stop: 33857, Start Num: 24

Candidate Starts for TreyKay\_43:

(Start: 12 @34750 has 8 MA's), (Start: 21 @34702 has 2 MA's), (Start: 24 @34696 has 25 MA's), (32, 34672), (Start: 37 @34651 has 6 MA's), (44, 34627), (63, 34537), (66, 34528), (87, 34423), (88, 34420), (90, 34411), (91, 34393), (105, 34348), (107, 34339), (112, 34321), (119, 34291), (122, 34279), (123, 34270), (149, 34198), (165, 34141), (184, 34075), (194, 34048), (203, 34027), (208, 34015),

Gene: TribbleTrouble\_42 Start: 34597, Stop: 33695, Start Num: 18

Candidate Starts for TribbleTrouble\_42:

(1, 34825), (2, 34795), (9, 34657), (10, 34648), (Start: 18 @34597 has 5 MA's), (Start: 26 @34567 has 1 MA's), (Start: 28 @34561 has 25 MA's), (99, 34261), (106, 34237), (108, 34228), (111, 34216), (113, 34210), (123, 34171), (124, 34168), (144, 34111), (152, 34087), (153, 34081), (155, 34069), (163, 34042), (165, 34036), (177, 33991), (181, 33976), (200, 33934), (207, 33913),

Gene: Trice\_38 Start: 34083, Stop: 33181, Start Num: 25

Candidate Starts for Trice\_38:

(Start: 20 @34101 has 2 MA's), (Start: 25 @34083 has 12 MA's), (Start: 39 @34035 has 32 MA's), (45, 34008), (Start: 47 @33990 has 1 MA's), (54, 33957), (58, 33939), (61, 33933), (63, 33921), (80, 33837), (83, 33822), (87, 33807), (95, 33765), (104, 33729), (109, 33711), (117, 33669), (123, 33651), (139, 33612), (150, 33582), (160, 33543), (170, 33504), (175, 33489), (191, 33435), (202, 33417), (208, 33399), (215, 33360), (226, 33294), (243, 33204),

Gene: TruffulaTree\_42 Start: 34568, Stop: 33666, Start Num: 11

Candidate Starts for TruffulaTree\_42:

(Start: 11 @34568 has 39 MA's), (Start: 21 @34511 has 2 MA's), (Start: 24 @34505 has 25 MA's), (32, 34481), (Start: 37 @34460 has 6 MA's), (44, 34436), (63, 34346), (66, 34337), (87, 34232), (88, 34229), (90, 34220), (91, 34202), (93, 34196), (107, 34148), (112, 34130), (119, 34100), (122, 34088), (123, 34079), (144, 34022), (149, 34007), (165, 33950), (178, 33899), (184, 33884), (194, 33857), (208, 33824),

Gene: Twitch\_42 Start: 34691, Stop: 33789, Start Num: 11

Candidate Starts for Twitch\_42:

(Start: 11 @34691 has 39 MA's), (Start: 15 @34670 has 2 MA's), (Start: 21 @34634 has 2 MA's), (Start: 24 @34628 has 25 MA's), (32, 34604), (Start: 37 @34583 has 6 MA's), (44, 34559), (63, 34469), (66, 34460), (87, 34355), (88, 34352), (90, 34343), (91, 34325), (93, 34319), (107, 34271), (112, 34253), (119, 34223), (122, 34211), (123, 34202), (149, 34130), (165, 34073), (178, 34022), (184, 34007), (194, 33980), (203, 33959), (208, 33947),

Gene: Unicorn\_44 Start: 34427, Stop: 33552, Start Num: 28

Candidate Starts for Unicorn\_44:

(Start: 28 @34427 has 25 MA's), (80, 34211), (99, 34127), (106, 34103), (108, 34094), (111, 34082), (115, 34064), (144, 33971), (150, 33953), (153, 33941), (155, 33929), (166, 33890), (177, 33848), (179, 33839),

Gene: Urkel\_43 Start: 35473, Stop: 34568, Start Num: 11

Candidate Starts for Urkel\_43:

(Start: 11 @35473 has 39 MA's), (Start: 21 @35413 has 2 MA's), (Start: 24 @35407 has 25 MA's), (32, 35383), (35, 35368), (Start: 38 @35359 has 1 MA's), (44, 35338), (48, 35314), (53, 35287), (63, 35248), (66, 35239), (87, 35134), (88, 35131), (91, 35104), (99, 35080), (105, 35059), (107, 35050), (112, 35032), (122, 34990), (123, 34981), (135, 34945), (149, 34909), (165, 34852), (184, 34786), (208, 34726), (224, 34636),

Gene: Validus\_46 Start: 35225, Stop: 34305, Start Num: 25

Candidate Starts for Validus\_46:

(Start: 25 @35225 has 12 MA's), (35, 35189), (Start: 39 @35177 has 32 MA's), (42, 35165), (46, 35138), (73, 35018), (80, 34979), (83, 34964), (86, 34955), (87, 34949), (100, 34886), (106, 34865), (107, 34859), (108, 34856), (118, 34817), (123, 34805), (128, 34787), (150, 34736), (215, 34517), (232, 34427), (240, 34364), (241, 34352),

Gene: Veliki\_42 Start: 34608, Stop: 33706, Start Num: 11

Candidate Starts for Veliki\_42:

(Start: 11 @34608 has 39 MA's), (Start: 21 @34551 has 2 MA's), (Start: 24 @34545 has 25 MA's), (32, 34521), (Start: 37 @34500 has 6 MA's), (44, 34476), (63, 34386), (66, 34377), (87, 34272), (88, 34269), (90, 34260), (91, 34242), (93, 34236), (107, 34188), (112, 34170), (119, 34140), (122, 34128), (123, 34119), (144, 34062), (149, 34047), (165, 33990), (178, 33939), (184, 33924), (194, 33897), (203, 33876), (208, 33864),

Gene: Wanda\_99 Start: 58379, Stop: 57672, Start Num: 39

Candidate Starts for Wanda\_99:

(Start: 39 @58379 has 32 MA's), (Start: 50 @58325 has 5 MA's), (Start: 52 @58316 has 1 MA's), (76, 58220), (99, 58121), (102, 58109), (108, 58088), (136, 57998), (140, 57992), (163, 57911), (168, 57893), (178, 57854), (185, 57836), (186, 57833), (201, 57782), (204, 57770), (215, 57719),

Gene: Waterfoul\_41 Start: 34034, Stop: 33192, Start Num: 22

Candidate Starts for Waterfoul\_41:

(Start: 22 @34034 has 17 MA's), (36, 33992), (80, 33797), (87, 33767), (102, 33698), (104, 33692), (108, 33677), (113, 33659), (120, 33623), (141, 33551), (169, 33452), (177, 33425), (179, 33416), (182, 33407), (198, 33380), (200, 33374), (204, 33359), (215, 33311), (220, 33290),

Gene: Xiaokay\_85 Start: 55067, Stop: 54423, Start Num: 52

Candidate Starts for Xiaokay\_85:

(Start: 39 @55130 has 32 MA's), (Start: 50 @55076 has 5 MA's), (Start: 52 @55067 has 1 MA's), (76, 54971), (99, 54872), (102, 54860), (108, 54839), (136, 54749), (140, 54743), (163, 54662), (168, 54644), (178, 54605), (185, 54587), (186, 54584), (201, 54533), (204, 54521), (215, 54470),

Gene: Ximenita\_48 Start: 35501, Stop: 34620, Start Num: 28

Candidate Starts for Ximenita\_48:

(Start: 28 @35501 has 25 MA's), (Start: 47 @35432 has 1 MA's), (49, 35420), (53, 35402), (54, 35399), (99, 35201), (106, 35177), (108, 35168), (111, 35156), (113, 35150), (153, 35018), (155, 35006), (193, 34880), (199, 34874), (201, 34868), (215, 34808), (231, 34721),

Gene: Yeet\_88 Start: 57479, Stop: 56772, Start Num: 39

Candidate Starts for Yeet\_88:

(Start: 39 @57479 has 32 MA's), (Start: 50 @57425 has 5 MA's), (Start: 52 @57416 has 1 MA's), (59, 57392), (76, 57320), (99, 57221), (102, 57209), (108, 57188), (136, 57098), (140, 57092), (163, 57011), (168, 56993), (178, 56954), (185, 56936), (186, 56933), (201, 56882), (204, 56870), (215, 56819),

Gene: YoureAdopted\_41 Start: 34767, Stop: 33874, Start Num: 12

Candidate Starts for YoureAdopted\_41:

(Start: 12 @34767 has 8 MA's), (Start: 21 @34719 has 2 MA's), (Start: 24 @34713 has 25 MA's), (32, 34689), (44, 34644), (48, 34620), (63, 34554), (66, 34545), (87, 34440), (88, 34437), (90, 34428), (91, 34410), (105, 34365), (107, 34356), (112, 34338), (119, 34308), (122, 34296), (123, 34287), (165, 34158), (178, 34107), (184, 34092), (194, 34065), (203, 34044), (208, 34032),

Gene: Yuna\_48 Start: 36294, Stop: 35452, Start Num: 28

Candidate Starts for Yuna\_48:

(Start: 18 @36330 has 5 MA's), (Start: 28 @36294 has 25 MA's), (32, 36282), (Start: 47 @36225 has 1 MA's), (55, 36189), (56, 36186), (78, 36087), (99, 35994), (105, 35973), (106, 35970), (108, 35961), (111, 35949), (113, 35943), (114, 35934), (115, 35931), (136, 35862), (155, 35802), (172, 35739), (177, 35721), (178, 35715), (205, 35649), (215, 35604), (229, 35523), (233, 35490),

Gene: Yunkel11\_45 Start: 34478, Stop: 33723, Start Num: 30

Candidate Starts for Yunkel11\_45:

(Start: 30 @34478 has 8 MA's), (70, 34322), (107, 34148), (108, 34145), (113, 34127), (118, 34103), (120, 34097), (127, 34070), (132, 34061), (133, 34058), (150, 34013), (154, 33998), (155, 33989), (181, 33899), (182, 33896), (203, 33845),

Gene: Zavala\_43 Start: 34790, Stop: 33951, Start Num: 24

Candidate Starts for Zavala\_43:

(Start: 12 @34844 has 8 MA's), (Start: 21 @34796 has 2 MA's), (Start: 24 @34790 has 25 MA's), (32, 34766), (44, 34721), (48, 34697), (63, 34631), (66, 34622), (87, 34517), (88, 34514), (90, 34505), (91, 34487), (105, 34442), (107, 34433), (112, 34415), (119, 34385), (122, 34373), (123, 34364), (165, 34235), (178, 34184), (184, 34169), (194, 34142), (203, 34121), (208, 34109),

Gene: Zelink\_92 Start: 59519, Stop: 58866, Start Num: 50

Candidate Starts for Zelink\_92:

(Start: 39 @59573 has 32 MA's), (Start: 50 @59519 has 5 MA's), (Start: 52 @59510 has 1 MA's), (76, 59414), (99, 59315), (102, 59303), (108, 59282), (136, 59192), (140, 59186), (163, 59105), (168, 59087), (178, 59048), (185, 59030), (186, 59027), (201, 58976), (204, 58964), (215, 58913),

Gene: ZoeJ\_44 Start: 36029, Stop: 35175, Start Num: 22

Candidate Starts for ZoeJ\_44:

(Start: 22 @36029 has 17 MA's), (32, 36002), (34, 35993), (Start: 47 @35936 has 1 MA's), (58, 35885), (61, 35879), (69, 35843), (87, 35750), (96, 35705), (108, 35660), (123, 35600), (144, 35549), (177, 35429), (207, 35357), (215, 35315),