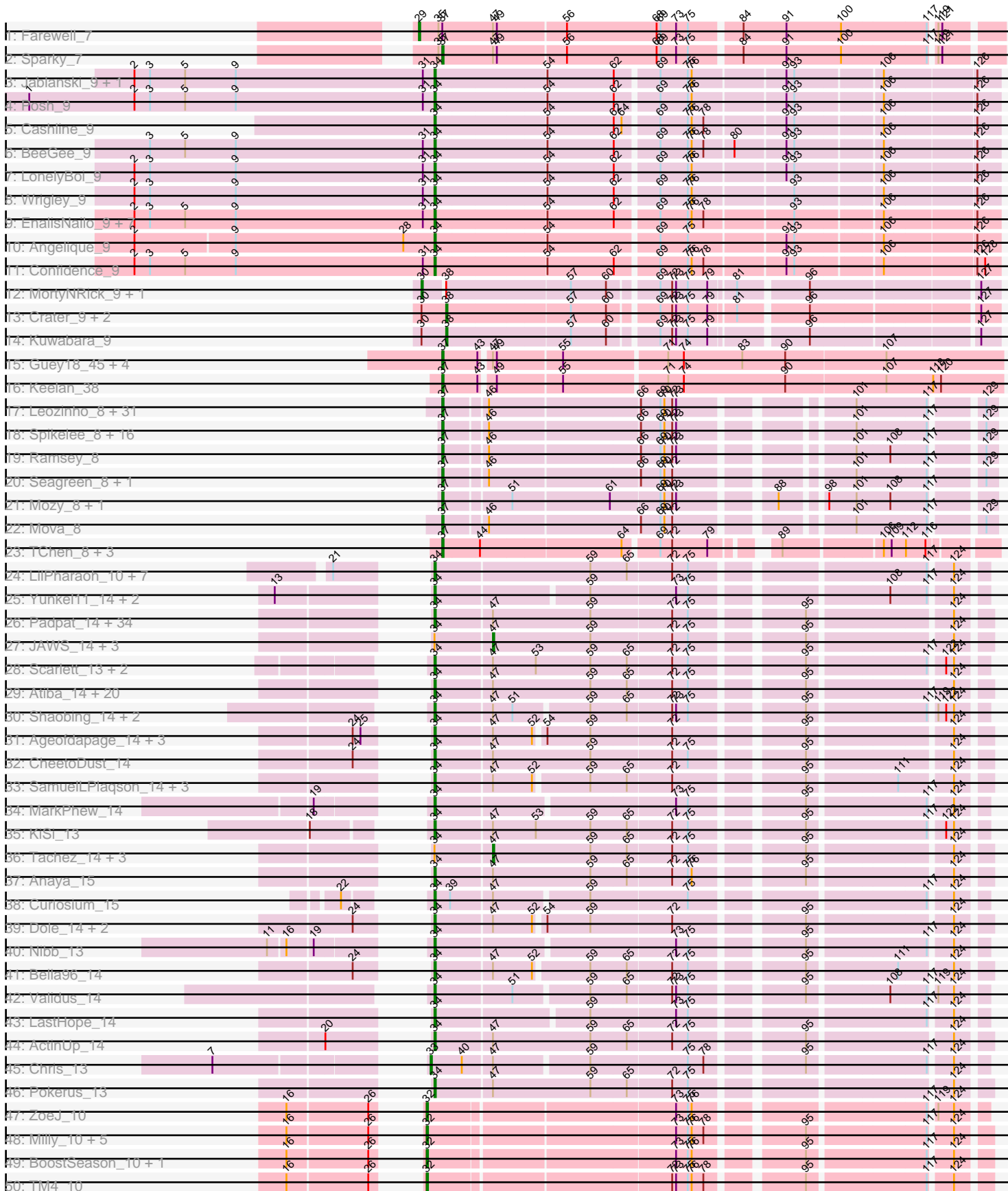
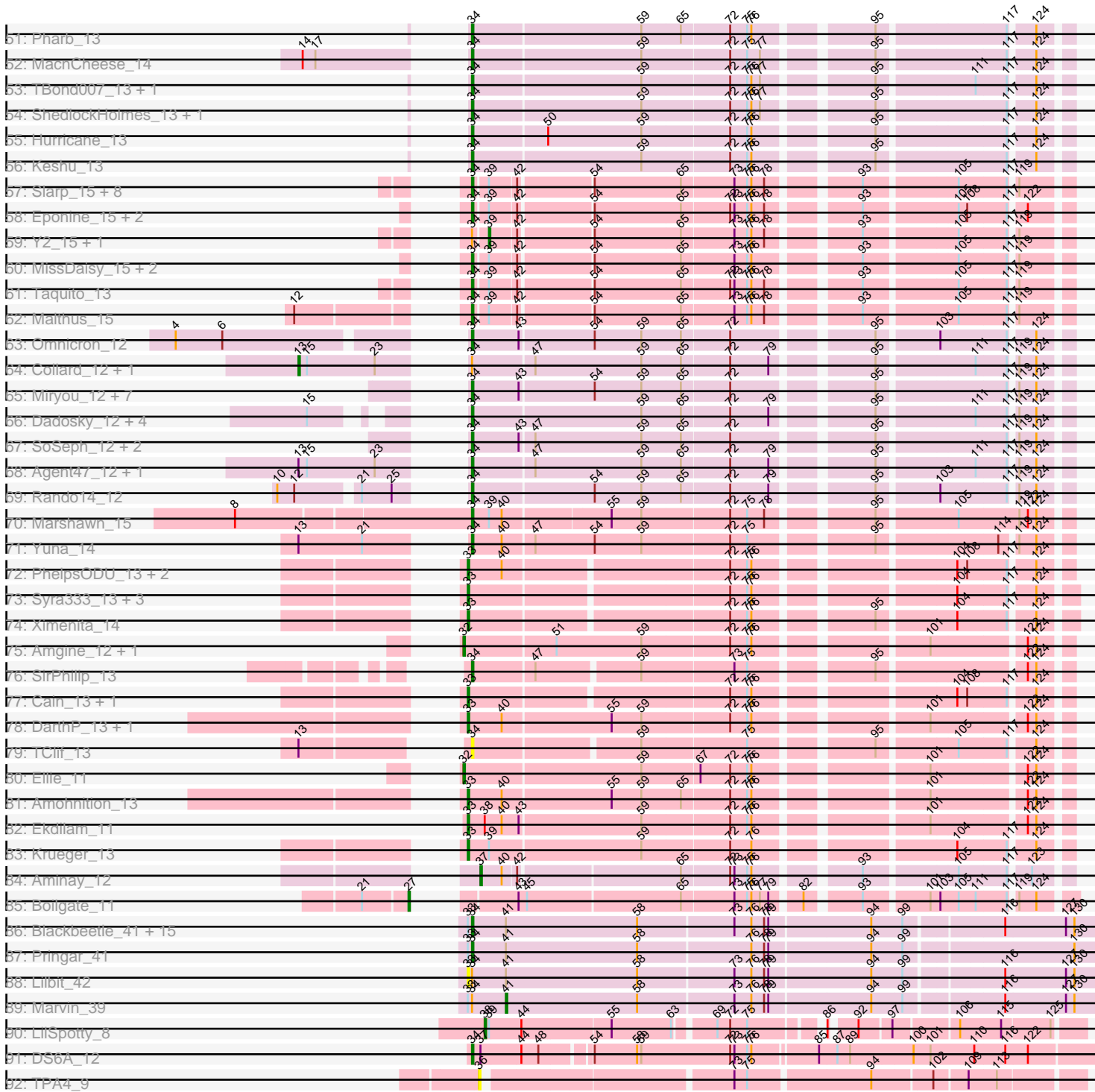


Pham 169647



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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 169647 Report

This analysis was run 07/09/24 on database version 566.

Pham number 169647 has 299 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Farewell\_7
- Track 2 : Sparky\_7
- Track 3 : Jablanski\_9, Pytheas\_9
- Track 4 : Posh\_9
- Track 5 : Cashline\_9
- Track 6 : BeeGee\_9
- Track 7 : LonelyBoi\_9
- Track 8 : Wrigley\_9
- Track 9 : EnalisNailo\_9, EMSquaredA\_9, Lilas\_9, Marteena\_9, BritBrat\_9, Pollux\_9, Floral\_9, Bradissa\_9
- Track 10 : Angelique\_9
- Track 11 : Confidence\_9
- Track 12 : MortyNRick\_9, Apricot\_9
- Track 13 : Crater\_9, BearBQ\_9, Birdsong\_9
- Track 14 : Kuwabara\_9
- Track 15 : Guey18\_45, Volt\_42, Fryberger\_40, Ronaldo\_43, Ziko\_43
- Track 16 : Keelan\_38
- Track 17 : Leozinho\_8, Awesomesauce\_8, Alexphander\_8, Kimberlium\_8, Plumbus\_8, DirtMcgirt\_8, Bobi\_8, OwlsT2W\_8, Girafales\_8, Lorde\_8, BuzzLyseyear\_8, Enby\_8, Boomer\_8, JalFarm20\_8, Rialto\_8, SimranZ1\_8, Stap\_8, Job42\_8, Coco12\_8, Quico\_8, Pollywog\_8, LittleShirley\_8, DosHalletts\_8, Oksu\_8, Marker\_8, DaWorst\_8, Juice456\_8, Drago\_8, Beakin\_8, Totinger\_8, UncleRicky\_8, Tootsieroll\_8
- Track 18 : Spikelee\_8, BigPhil\_8, Kingsley\_8, Flathead\_8, Starcevich\_8, Misha28\_8, ChickenDinner\_8, Piper2020\_8, Cerasum\_8, Hegedechwinu\_8, DocMcStuffins\_8, Madiba\_8, RockyHorror\_8, TootsiePop\_8, Sarma624\_8, Squirty\_8, Velveteen\_8
- Track 19 : Ramsey\_8
- Track 20 : Seagreen\_8, Frankie\_8
- Track 21 : Mozy\_8, Cornucopia\_8
- Track 22 : Mova\_8
- Track 23 : TChen\_8, LunaStella\_8, ThetaBob\_8, Renaud18\_8
- Track 24 : LilPharaoh\_10, Nikao\_10, Amelie\_10, Nutello\_10, Enkosi\_10, Mdavu\_10, SgtBeansprout\_10, Biglebops\_10
- Track 25 : Yunkel11\_14, Guanica15\_14, Efra2\_14
- Track 26 : Padpat\_14, Lunahalos\_14, Capricorn\_14, Blizzard\_14, BEEST\_14, Belladonna\_14, Asayake\_14, Ganymede\_14, Topper\_14, Spock\_14, Twitch\_14,

MeaningOfLife\_14, QuincyRose\_13, ShiaSurprise\_14, Mynx\_14, Emerson\_14,  
 Llorens\_14, Homura\_14, Rosmarinus\_14, CaseJules\_14, Jarvi\_14, Peel\_14,  
 Padfoot\_14, Dalmuri\_14, Hyperbowlee\_14, Inky\_14, CREW\_14, Jeckyll\_14,  
 BaghaKamala\_14, Veliki\_14, Piatt\_14, Zavala\_14, Joy99\_14, BGIlluviae\_14,  
 BarrelRoll\_14

- Track 27 : JAWS\_14, Durfee\_14, AlishaPH\_14, Boiiii\_14
- Track 28 : Scarlett\_13, LeMond\_13, Oscar\_13
- Track 29 : Atiba\_14, Adonis\_14, Adephagia\_14, Angelica\_14, HedwigODU\_14,  
 CrimD\_14, TreyKay\_14, Beezoo\_14, Sulley\_14, Ramen\_14, YoureAdopted\_13,  
 Tiri\_14, TruffulaTree\_14, Geraldini\_14, Megsy\_14, Apocalypse\_14, Rapunzel97\_14,  
 Prithvi\_14, TaiwanKao\_14, LindNT\_14, Slimphazie\_14
- Track 30 : Shaobing\_14, Peanam\_14, Niklas\_14
- Track 31 : Ageofdapage\_14, Stinson\_14, LaterM\_14, Murucutumbu\_14
- Track 32 : CheetoDust\_14
- Track 33 : SamuelLPlaqson\_14, DrHayes\_14, TiniBug\_14, Urkel\_14
- Track 34 : MarkPhew\_14
- Track 35 : KiSi\_13
- Track 36 : Tachez\_14, Jayhawk\_14, Zabiza\_14, Deby\_14
- Track 37 : Anaya\_15
- Track 38 : Curiosium\_15
- Track 39 : Dole\_14, Devera\_14, Illumine\_14
- Track 40 : Nibb\_13
- Track 41 : Bella96\_14
- Track 42 : Validus\_14
- Track 43 : LastHope\_14
- Track 44 : ActinUp\_14
- Track 45 : Chris\_13
- Track 46 : Pokerus\_13
- Track 47 : ZoeJ\_10
- Track 48 : Milly\_10, DismalFunk\_10, Marcoliusprime\_10, Findley\_10, Strobilo\_10,  
 DismalStressor\_10
- Track 49 : BoostSeason\_10, Mufasa\_10
- Track 50 : TM4\_10
- Track 51 : Pharb\_13
- Track 52 : MacnCheese\_14
- Track 53 : TBond007\_13, Pixie\_13
- Track 54 : ShedlockHolmes\_13, TribbleTrouble\_12
- Track 55 : Hurricane\_13
- Track 56 : Keshu\_13
- Track 57 : Slarp\_15, OmniCritical\_15, Mitti\_15, Chancellor\_15, Wintermute\_15,  
 JF1\_15, Fionnbharth\_15, SamScheppers\_13, Cheetobro\_15
- Track 58 : Eponine\_15, Ruthiejr\_14, Juliette\_15
- Track 59 : Y2\_15, Y10\_15
- Track 60 : MissDaisy\_15, Patt\_15, Reptar3000\_15
- Track 61 : Taquito\_13
- Track 62 : Malthus\_15
- Track 63 : Omnicron\_12
- Track 64 : Collard\_12, Kratio\_11
- Track 65 : Miryou\_12, Thyatira\_12, OkiRoe\_12, Waterfoul\_12, Guillsminger\_12,  
 Gengar\_12, Paola\_12, Feyre\_12
- Track 66 : Dadosky\_12, Edugator\_11, AlleyCat\_12, Larva\_12, Psycho\_12
- Track 67 : SoSeph\_12, Heftyboy\_12, Leston\_12
- Track 68 : Agent47\_12, InvictusManeo\_12

- Track 69 : Rando14\_12
- Track 70 : Marshawn\_15
- Track 71 : Yuna\_14
- Track 72 : PhelpsODU\_13, Tierra\_13, Unicorn\_13
- Track 73 : Syra333\_13, Shadow1\_12, Phrank\_13, Sunflower1121\_12
- Track 74 : Ximenita\_14
- Track 75 : Amgine\_12, Fefferhead\_13
- Track 76 : SirPhilip\_13
- Track 77 : Cain\_13, Bryler\_13
- Track 78 : DarthP\_13, Hammy\_13
- Track 79 : TClif\_13
- Track 80 : Ellie\_11
- Track 81 : Amohnition\_13
- Track 82 : Ekdilam\_11
- Track 83 : Krueger\_13
- Track 84 : Aminay\_12
- Track 85 : Boilgate\_11
- Track 86 : Blackbeetle\_41, Corazon\_39, Clarkson\_42, JoieB\_42, Beelzebub\_45, Huphlepuuff\_43, LittleLaf\_41, Gattaca\_40, Raela\_41, Tesla\_40, Poise\_41, RedRaider77\_41, MosMoris\_39, Caprice\_38, FeliMaine\_41, VasuNzinga\_41
- Track 87 : Pringar\_41
- Track 88 : Lilbit\_42
- Track 89 : Marvin\_39
- Track 90 : LilSpotty\_8
- Track 91 : DS6A\_12
- Track 92 : TPA4\_9

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

The start number called the most often in the published annotations is 34, it was called in 173 of the 284 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_14, Adephegia\_14, Adonis\_14, Agent47\_12, Ageofdapage\_14, AlleyCat\_12, Amelie\_10, Anaya\_15, Angelica\_14, Angelique\_9, Apocalypse\_14, Asayake\_14, Atiba\_14, BEEST\_14, BGIluviae\_14, BaghaKamala\_14, BarrelRoll\_14, BeeGee\_9, Beelzebub\_45, Beezoo\_14, Bella96\_14, Belladonna\_14, Biglebops\_10, Blackbeetle\_41, Blizzard\_14, Bradissa\_9, BritBrat\_9, CREW\_14, Caprice\_38, Capricorn\_14, CaseJules\_14, Cashline\_9, Chancellor\_15, CheetoDust\_14, Cheetobro\_15, Clarkson\_42, Confidence\_9, Corazon\_39, CrimD\_14, Curiosium\_15, DS6A\_12, Dadosky\_12, Dalmuri\_14, Devera\_14, Dole\_14, DrHayes\_14, EMSquaredA\_9, Edugator\_11, Efra2\_14, Emerson\_14, EnalisNailo\_9, Enkosi\_10, Eponine\_15, FeliMaine\_41, Feyre\_12, Fionnbharth\_15, Floral\_9, Ganymede\_14, Gattaca\_40, Gengar\_12, Geraldini\_14, Guanica15\_14, Guillsminger\_12, HedwigODU\_14, Heftyboy\_12, Homura\_14, Huphlepuuff\_43, Hurricane\_13, Hyperbowlee\_14, Illumine\_14, Inky\_14, InvictusManeo\_12, JF1\_15, Jablanski\_9, Jarvi\_14, Jeckyll\_14, JoieB\_42, Joy99\_14, Juliette\_15, Keshu\_13, KiSi\_13, Larva\_12, LastHope\_14, LaterM\_14, LeMond\_13, Leston\_12, LilPharaoh\_10, Lilas\_9, LindNT\_14, LittleLaf\_41, Llorens\_14, LonelyBoi\_9, Lunahalos\_14, MacnCheese\_14, Malthus\_15, MarkPhew\_14, Marshawn\_15, Marteena\_9,

Mdavu\_10, MeaningOfLife\_14, Megsy\_14, Miryou\_12, MissDaisy\_15, Mitti\_15, MosMoris\_39, Murucutumbu\_14, Mynx\_14, Nibb\_13, Nikao\_10, Niklas\_14, Nutello\_10, OkiRoe\_12, OmniCritical\_15, Omnicon\_12, Oscar\_13, Padfoot\_14, Padpat\_14, Paola\_12, Patt\_15, Peanam\_14, Peel\_14, Pharb\_13, Piatt\_14, Pixie\_13, Poise\_41, Pokerus\_13, Pollux\_9, Posh\_9, Pringar\_41, Prithvi\_14, Psycho\_12, Pytheas\_9, QuincyRose\_13, Raela\_41, Ramen\_14, Rando14\_12, Rapunzel97\_14, RedRaider77\_41, Reptar3000\_15, Rosmarinus\_14, Ruthiejr\_14, SamScheppers\_13, SamuelLPlaqson\_14, Scarlett\_13, SgtBeansprout\_10, Shaobing\_14, ShedlockHolmes\_13, ShiaSurprise\_14, SirPhilip\_13, Slarp\_15, Slimphazie\_14, SoSeph\_12, Spock\_14, Stinson\_14, Sulley\_14, TBond007\_13, TClif\_13, TaiwanKao\_14, Taquito\_13, Tesla\_40, Thyatira\_12, TiniBug\_14, Tiri\_14, Topper\_14, TreyKay\_14, TribbleTrouble\_12, TruffulaTree\_14, Twitch\_14, Urkel\_14, Validus\_14, VasuNzinga\_41, Veliki\_14, Waterfoul\_12, Wintermute\_15, Wrigley\_9, YoureAdopted\_13, Yuna\_14, Yunkel11\_14, Zavala\_14,

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

- AlishaPH\_14, Boi111\_14, Collard\_12, Deby\_14, Durfee\_14, JAWS\_14, Jayhawk\_14, Kratio\_11, Lilbit\_42, Marvin\_39, Tachez\_14, Y10\_15, Y2\_15, Zabiza\_14,

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

- Alexphander\_8, Amgine\_12, Aminay\_12, Amohntion\_13, Apricot\_9, Awesomesauce\_8, Beakin\_8, BearBQ\_9, BigPhil\_8, Birdsong\_9, Bobi\_8, Boilgate\_11, Boomer\_8, BoostSeason\_10, Bryler\_13, BuzzLyseyear\_8, Cain\_13, Cerasum\_8, ChickenDinner\_8, Chris\_13, Coco12\_8, Cornucopia\_8, Crater\_9, DaWorst\_8, DARTH\_P\_13, DirtMcgirt\_8, DismalFunk\_10, DismalStressor\_10, DocMcStuffins\_8, DosHalletts\_8, Drago\_8, Ekdilam\_11, Ellie\_11, Enby\_8, Farewell\_7, Fefferhead\_13, Findley\_10, Flathead\_8, Frankie\_8, Fryberger\_40, Girafales\_8, Guey18\_45, Hammy\_13, Hegedechwinu\_8, JalFarm20\_8, Job42\_8, Juice456\_8, Keelan\_38, Kimberlium\_8, Kingsley\_8, Krueger\_13, Kuwabara\_9, Leozinho\_8, LilSpotty\_8, LittleShirley\_8, Lorde\_8, LunaStella\_8, Madiba\_8, Marcoliusprime\_10, Marker\_8, Milly\_10, Misha28\_8, MortyNRick\_9, Mova\_8, Mozy\_8, Mufasa\_10, Oksu\_8, OwlsT2W\_8, PhelpsODU\_13, Phrank\_13, Piper2020\_8, Plumbus\_8, Pollywog\_8, Quico\_8, Ramsey\_8, Renaud18\_8, Rialto\_8, RockyHorror\_8, Ronaldo\_43, Sarma624\_8, Seagreen\_8, Shadow1\_12, SimranZ1\_8, Sparky\_7, Spikelee\_8, Squirty\_8, Stap\_8, Starceвич\_8, Strobilo\_10, Sunflower1121\_12, Syra333\_13, TChen\_8, TM4\_10, TPA4\_9, ThetaBob\_8, Tierra\_13, TootsiePop\_8, Tootsieroll\_8, Totinger\_8, UncleRicky\_8, Unicorn\_13, Velveteen\_8, Volt\_42, Ximenita\_14, Ziko\_43, ZoeJ\_10,

### Summary by start number:

Start 13:

- Found in 9 of 299 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 2 of 284
- Called 22.2% of time when present
- Phage (with cluster) where this start called: Collard\_12 (K5), Kratio\_11 (K5),

Start 27:

- Found in 1 of 299 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 284
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boilgate\_11 (K8),

Start 29:

- Found in 1 of 299 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 284
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Farewell\_7 (AF),

Start 30:

- Found in 6 of 299 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 284
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Apricot\_9 (DN3), MortyNRick\_9 (DN),

Start 32:

- Found in 13 of 299 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 13 of 284
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amgine\_12 (K6), BoostSeason\_10 (K2), DismalFunk\_10 (K2), DismalStressor\_10 (K2), Ellie\_11 (K6), Fefferhead\_13 (K6), Findley\_10 (K2), Marcoliusprime\_10 (K2), Milly\_10 (K2), Mufasa\_10 (K2), Strobilo\_10 (K2), TM4\_10 (K2), ZoeJ\_10 (K2),

Start 33:

- Found in 35 of 299 ( 11.7% ) of genes in pham
- Manual Annotations of this start: 16 of 284
- Called 48.6% of time when present
- Phage (with cluster) where this start called: Amohnition\_13 (K6), Bryler\_13 (K6), Cain\_13 (K6), Chris\_13 (K1), DARTH\_13 (K6), Ekdilam\_11 (K6), Hammy\_13 (K6), Krueger\_13 (K6), Lilbit\_42 (S), PhelpsODU\_13 (K6), Phrank\_13 (K6), Shadow1\_12 (K6), Sunflower1121\_12 (K6), Syra333\_13 (K6), Tierra\_13 (K6), Unicorn\_13 (K6), Ximenita\_14 (K6),

Start 34:

- Found in 193 of 299 ( 64.5% ) of genes in pham
- Manual Annotations of this start: 173 of 284
- Called 92.7% of time when present
- Phage (with cluster) where this start called: ActinUp\_14 (K1), Adephagia\_14 (K1), Adonis\_14 (K1), Agent47\_12 (K5), Ageofdapage\_14 (K1), AlleyCat\_12 (K5), Amelie\_10 (K1), Anaya\_15 (K1), Angelica\_14 (K1), Angelique\_9 (CY1), Apocalypse\_14 (K1), Asayake\_14 (K1), Atiba\_14 (K1), BEEST\_14 (K1), BGlluviae\_14 (K1), BaghaKamala\_14 (K1), BarrelRoll\_14 (K1), BeeGee\_9 (CY), Beelzebub\_45 (S), Beezoo\_14 (K1), Bella96\_14 (K1), Belladonna\_14 (K1), Binglebops\_10 (K1), Blackbeetle\_41 (S), Blizzard\_14 (K1), Bradissa\_9 (CY1), BritBrat\_9 (CY2), CREW\_14 (K1), Caprice\_38 (S), Capricorn\_14 (K1), CaseJules\_14 (K1), Cashline\_9 (CY), Chancellor\_15 (K4), CheetoDust\_14 (K1), Cheetobro\_15 (K4), Clarkson\_42 (S), Confidence\_9 (CY1), Corazon\_39 (S), CrimD\_14 (K1), Curiosium\_15 (K1), DS6A\_12 (singleton), Dadosky\_12 (K5), Dalmuri\_14 (K1), Devera\_14 (K1), Dole\_14 (K1), DrHayes\_14 (K1), EMSquaredA\_9 (CY1), Edugator\_11 (K5), Efra2\_14 (K1), Emerson\_14 (K1), EnalisNailo\_9 (CY1), Enkosi\_10 (K1), Eponine\_15 (K4), FeliMaine\_41 (S), Feyre\_12 (K5), Fionnbharth\_15 (K4), Floral\_9 (CY1), Ganymede\_14 (K1), Gattaca\_40 (S), Gengar\_12 (K5), Geraldini\_14 (K1), Guanica15\_14 (K1), Guillsminger\_12 (K5), HedwigODU\_14 (K1), Heftyboy\_12 (K5), Homura\_14 (K1), Huphlepuuff\_43 (S), Hurricane\_13 (K3), Hyperbowlee\_14 (K1), Illumine\_14 (K1), Inky\_14 (K1), InvictusManeo\_12 (K5), JF1\_15 (K4), Jablanski\_9

(CY), Jarvi\_14 (K1), Jeckyll\_14 (K1), JoieB\_42 (S), Joy99\_14 (K1), Juliette\_15 (K4), Keshu\_13 (K3), KiSi\_13 (K1), Larva\_12 (K5), LastHope\_14 (K1), LaterM\_14 (K1), LeMond\_13 (K1), Leston\_12 (K5), LilPharaoh\_10 (K1), Lilas\_9 (CY1), LindNT\_14 (K1), LittleLaf\_41 (S), Llorens\_14 (K1), LonelyBoi\_9 (CY), Lunahalos\_14 (K1), MacnCheese\_14 (K3), Malthus\_15 (K4), MarkPhew\_14 (K1), Marshawn\_15 (K6), Marteena\_9 (CY1), Mdavu\_10 (K1), MeaningOfLife\_14 (K1), Megsy\_14 (K1), Miryou\_12 (K5), MissDaisy\_15 (K4), Mitti\_15 (K4), MosMoris\_39 (S), Murucutumbu\_14 (K1), Mynx\_14 (K1), Nibb\_13 (K1), Nikao\_10 (K1), Niklas\_14 (K1), Nutello\_10 (K1), OkiRoe\_12 (K5), OmniCritical\_15 (K4), Omnicron\_12 (K5), Oscar\_13 (K1), Padfoot\_14 (K1), Padpat\_14 (K1), Paola\_12 (K5), Patt\_15 (K4), Peanam\_14 (K1), Peel\_14 (K1), Pharb\_13 (K3), Piatt\_14 (K1), Pixie\_13 (K3), Poise\_41 (S), Pokerus\_13 (K1), Pollux\_9 (CY1), Posh\_9 (CY), Pringar\_41 (S), Prithvi\_14 (K1), Psycho\_12 (K5), Pytheas\_9 (CY), QuincyRose\_13 (K1), Raela\_41 (S), Ramen\_14 (K1), Rando14\_12 (K5), Rapunzel97\_14 (K1), RedRaider77\_41 (S), Reptar3000\_15 (K4), Rosmarinus\_14 (K1), Ruthiejr\_14 (K4), SamScheppers\_13 (K4), SamuelLPlaqson\_14 (K1), Scarlett\_13 (K1), SgtBeansprout\_10 (K1), Shaobing\_14 (K1), ShedlockHolmes\_13 (K3), ShiaSurprise\_14 (K1), SirPhilip\_13 (K6), Slarp\_15 (K4), Slimphazie\_14 (K1), SoSeph\_12 (K5), Spock\_14 (K1), Stinson\_14 (K1), Sulley\_14 (K1), TBond007\_13 (K3), TClif\_13 (K6), TaiwanKao\_14 (K1), Taquito\_13 (K4), Tesla\_40 (S), Thyatira\_12 (K5), TiniBug\_14 (K1), Tiri\_14 (K1), Topper\_14 (K1), TreyKay\_14 (K1), TribbleTrouble\_12 (K3), TruffulaTree\_14 (K1), Twitch\_14 (K1), Urkel\_14 (K1), Validus\_14 (K1), VasuNzinga\_41 (S), Veliki\_14 (K1), Waterfoul\_12 (K5), Wintermute\_15 (K4), Wrigley\_9 (CY), YoureAdopted\_13 (K1), Yuna\_14 (K6), Yunkel11\_14 (K1), Zavala\_14 (K1),

#### Start 36:

- Found in 1 of 299 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TPA4\_9 (singleton),

#### Start 37:

- Found in 69 of 299 ( 23.1% ) of genes in pham
- Manual Annotations of this start: 63 of 284
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Alexphander\_8 (F1), Aminay\_12 (K7), Awesomesauce\_8 (F1), Beakin\_8 (F1), BigPhil\_8 (F1), Bobi\_8 (F1), Boomer\_8 (F1), BuzzLyseyear\_8 (F1), Cerasum\_8 (F1), ChickenDinner\_8 (F1), Coco12\_8 (F1), Cornucopia\_8 (F1), DaWorst\_8 (F1), DirtMcgirt\_8 (F1), DocMcStuffins\_8 (F1), DosHalletts\_8 (F1), Drago\_8 (F1), Enby\_8 (F1), Flathead\_8 (F1), Frankie\_8 (F1), Fryberger\_40 (DP), Girafales\_8 (F1), Guey18\_45 (DP), Hegedechwinu\_8 (F1), JalFarm20\_8 (F1), Job42\_8 (F1), Juice456\_8 (F1), Keelan\_38 (DP), Kimberlium\_8 (F1), Kingsley\_8 (F1), Leozinho\_8 (F1), LittleShirley\_8 (F1), Lorde\_8 (F1), LunaStella\_8 (F4), Madiba\_8 (F1), Marker\_8 (F1), Misha28\_8 (F1), Mova\_8 (F1), Mozy\_8 (F1), Oksu\_8 (F1), OwlsT2W\_8 (F1), Piper2020\_8 (F1), Plumbus\_8 (F1), Pollywog\_8 (F1), Quico\_8 (F1), Ramsey\_8 (F1), Renaud18\_8 (F4), Rialto\_8 (F1), RockyHorror\_8 (F1), Ronaldo\_43 (DP), Sarma624\_8 (F1), Seagreen\_8 (F1), SimranZ1\_8 (F1), Sparky\_7 (AF), Spikelee\_8 (F1), Squirty\_8 (F3), Stap\_8 (F1), Starceвич\_8 (F1), TChen\_8 (F4), ThetaBob\_8 (F4), TootsiePop\_8 (F1), Tootsieroll\_8 (F1), Totinger\_8 (F1), UncleRicky\_8 (F1), Velveteen\_8 (F1), Volt\_42 (DP), Ziko\_43 (DP),

#### Start 38:



- Found in 8 of 299 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 5 of 284
- Called 62.5% of time when present
- Phage (with cluster) where this start called: BearBQ\_9 (DN), Birdsong\_9 (DN), Crater\_9 (DN3), Kuwabara\_9 (DN4), LilSpotty\_8 (singleton),

Start 39:

- Found in 23 of 299 ( 7.7% ) of genes in pham
- Manual Annotations of this start: 2 of 284
- Called 8.7% of time when present
- Phage (with cluster) where this start called: Y10\_15 (K4), Y2\_15 (K4),

Start 41:

- Found in 19 of 299 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 1 of 284
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Marvin\_39 (S),

Start 47:

- Found in 105 of 299 ( 35.1% ) of genes in pham
- Manual Annotations of this start: 6 of 284
- Called 7.6% of time when present
- Phage (with cluster) where this start called: AlishaPH\_14 (K1), Boiii\_14 (K1), Deby\_14 (K1), Durfee\_14 (K1), JAWS\_14 (K1), Jayhawk\_14 (K1), Tachez\_14 (K1), Zabiza\_14 (K1),

### **Summary by clusters:**

There are 21 clusters represented in this pham: DN, F1, CY1, F3, F4, DN3, AF, S, CY, singleton, CY2, K3, K2, K1, K7, K6, K5, K4, K8, DN4, DP,

Info for manual annotations of cluster AF:

- Start number 29 was manually annotated 1 time for cluster AF.
- Start number 37 was manually annotated 1 time for cluster AF.

Info for manual annotations of cluster CY:

- Start number 34 was manually annotated 7 times for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 34 was manually annotated 9 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 34 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster DN:

- Start number 38 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN3:

- Start number 30 was manually annotated 1 time for cluster DN3.
- Start number 38 was manually annotated 1 time for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 38 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DP:

- Start number 37 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster F1:

- Start number 37 was manually annotated 50 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 37 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 37 was manually annotated 4 times for cluster F4.

Info for manual annotations of cluster K1:

- Start number 33 was manually annotated 1 time for cluster K1.
- Start number 34 was manually annotated 93 times for cluster K1.
- Start number 47 was manually annotated 6 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 32 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 34 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 34 was manually annotated 17 times for cluster K4.
- Start number 39 was manually annotated 2 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 13 was manually annotated 2 times for cluster K5.
- Start number 34 was manually annotated 19 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 32 was manually annotated 3 times for cluster K6.
- Start number 33 was manually annotated 15 times for cluster K6.
- Start number 34 was manually annotated 3 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 37 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 27 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster S:

- Start number 34 was manually annotated 15 times for cluster S.
- Start number 41 was manually annotated 1 time for cluster S.

**Gene Information:**

Gene: ActinUp\_14 Start: 8981, Stop: 9367, Start Num: 34

Candidate Starts for ActinUp\_14:

(20, 8939), (Start: 34 @8981 has 173 MA's), (Start: 47 @9023 has 6 MA's), (59, 9098), (65, 9125), (72, 9158), (75, 9170), (95, 9245), (124, 9344),

Gene: Adephagia\_14 Start: 8981, Stop: 9367, Start Num: 34

Candidate Starts for Adephagia\_14:

(Start: 34 @8981 has 173 MA's), (Start: 47 @9023 has 6 MA's), (59, 9098), (65, 9125), (72, 9158), (75, 9170), (95, 9245), (124, 9344),

Gene: Adonis\_14 Start: 8990, Stop: 9376, Start Num: 34

Candidate Starts for Adonis\_14:

(Start: 34 @8990 has 173 MA's), (Start: 47 @9032 has 6 MA's), (59, 9107), (65, 9134), (72, 9167), (75, 9179), (95, 9254), (124, 9353),

Gene: Agent47\_12 Start: 9178, Stop: 9561, Start Num: 34

Candidate Starts for Agent47\_12:

(Start: 13 @9097 has 2 MA's), (15, 9103), (23, 9151), (Start: 34 @9178 has 173 MA's), (Start: 47 @9220 has 6 MA's), (59, 9295), (65, 9322), (72, 9355), (79, 9382), (95, 9442), (111, 9505), (117, 9526), (119, 9529), (124, 9541),

Gene: Ageofdapage\_14 Start: 8917, Stop: 9297, Start Num: 34

Candidate Starts for Ageofdapage\_14:

(24, 8896), (25, 8902), (Start: 34 @8917 has 173 MA's), (Start: 47 @8959 has 6 MA's), (52, 8989), (54, 8995), (59, 9028), (72, 9088), (95, 9175), (124, 9274),

Gene: Alexphander\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Alexphander\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: AlishaPH\_14 Start: 9022, Stop: 9366, Start Num: 47

Candidate Starts for AlishaPH\_14:

(Start: 34 @8980 has 173 MA's), (Start: 47 @9022 has 6 MA's), (59, 9097), (72, 9157), (75, 9169), (95, 9244), (124, 9343),

Gene: AlleyCat\_12 Start: 9056, Stop: 9439, Start Num: 34

Candidate Starts for AlleyCat\_12:

(15, 9008), (Start: 34 @9056 has 173 MA's), (59, 9173), (65, 9200), (72, 9233), (79, 9260), (95, 9320), (111, 9383), (117, 9404), (119, 9407), (124, 9419),

Gene: Amelie\_10 Start: 8266, Stop: 8649, Start Num: 34

Candidate Starts for Amelie\_10:

(21, 8230), (Start: 34 @8266 has 173 MA's), (59, 8383), (65, 8410), (72, 8443), (75, 8455), (117, 8614), (124, 8629),

Gene: Amgine\_12 Start: 8610, Stop: 8999, Start Num: 32

Candidate Starts for Amgine\_12:

(Start: 32 @8610 has 13 MA's), (51, 8673), (59, 8733), (72, 8793), (75, 8805), (76, 8808), (101, 8913), (122, 8973), (124, 8979),

Gene: Aminay\_12 Start: 8892, Stop: 9263, Start Num: 37

Candidate Starts for Aminay\_12:

(Start: 37 @8892 has 63 MA's), (40, 8907), (42, 8916), (65, 9024), (72, 9057), (73, 9060), (75, 9069), (76, 9072), (93, 9135), (105, 9195), (117, 9228), (123, 9240),

Gene: Amohnition\_13 Start: 8913, Stop: 9299, Start Num: 33

Candidate Starts for Amohnition\_13:

(Start: 33 @8913 has 16 MA's), (40, 8937), (55, 9012), (59, 9033), (65, 9060), (72, 9093), (75, 9105), (76, 9108), (101, 9213), (122, 9273), (124, 9279),

Gene: Anaya\_15 Start: 8982, Stop: 9368, Start Num: 34

Candidate Starts for Anaya\_15:

(Start: 34 @8982 has 173 MA's), (Start: 47 @9024 has 6 MA's), (59, 9099), (65, 9126), (72, 9159), (75, 9171), (76, 9174), (95, 9246), (124, 9345),

Gene: Angelica\_14 Start: 8952, Stop: 9338, Start Num: 34

Candidate Starts for Angelica\_14:

(Start: 34 @8952 has 173 MA's), (Start: 47 @8994 has 6 MA's), (59, 9069), (65, 9096), (72, 9129), (75, 9141), (95, 9216), (124, 9315),

Gene: Angelique\_9 Start: 7078, Stop: 7479, Start Num: 34

Candidate Starts for Angelique\_9:

(2, 6850), (9, 6925), (28, 7054), (Start: 34 @7078 has 173 MA's), (54, 7159), (69, 7240), (75, 7261), (91, 7330), (93, 7336), (106, 7396), (126, 7462),

Gene: Apocalypse\_14 Start: 8956, Stop: 9342, Start Num: 34

Candidate Starts for Apocalypse\_14:

(Start: 34 @8956 has 173 MA's), (Start: 47 @8998 has 6 MA's), (59, 9073), (65, 9100), (72, 9133), (75, 9145), (95, 9220), (124, 9319),

Gene: Apricot\_9 Start: 6396, Stop: 6794, Start Num: 30

Candidate Starts for Apricot\_9:

(Start: 30 @6396 has 1 MA's), (Start: 38 @6411 has 5 MA's), (57, 6501), (60, 6528), (69, 6561), (72, 6570), (73, 6573), (75, 6582), (79, 6597), (81, 6615), (96, 6663), (127, 6780),

Gene: Asayake\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Asayake\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Atiba\_14 Start: 8944, Stop: 9330, Start Num: 34

Candidate Starts for Atiba\_14:

(Start: 34 @8944 has 173 MA's), (Start: 47 @8986 has 6 MA's), (59, 9061), (65, 9088), (72, 9121), (75, 9133), (95, 9208), (124, 9307),

Gene: Awesomesauce\_8 Start: 5931, Stop: 6302, Start Num: 37

Candidate Starts for Awesomesauce\_8:

(Start: 37 @5931 has 63 MA's), (46, 5961), (66, 6072), (69, 6087), (70, 6090), (72, 6096), (73, 6099), (101, 6210), (117, 6261), (129, 6294),

Gene: BEEST\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for BEEST\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: BGlluviae\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for BGlluviae\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: BaghaKamala\_14 Start: 8947, Stop: 9333, Start Num: 34

Candidate Starts for BaghaKamala\_14:

(Start: 34 @8947 has 173 MA's), (Start: 47 @8989 has 6 MA's), (59, 9064), (72, 9124), (75, 9136), (95, 9211), (124, 9310),

Gene: BarrelRoll\_14 Start: 8973, Stop: 9359, Start Num: 34

Candidate Starts for BarrelRoll\_14:

(Start: 34 @8973 has 173 MA's), (Start: 47 @9015 has 6 MA's), (59, 9090), (72, 9150), (75, 9162), (95, 9237), (124, 9336),

Gene: Beakin\_8 Start: 5931, Stop: 6302, Start Num: 37

Candidate Starts for Beakin\_8:

(Start: 37 @5931 has 63 MA's), (46, 5961), (66, 6072), (69, 6087), (70, 6090), (72, 6096), (73, 6099), (101, 6210), (117, 6261), (129, 6294),

Gene: BearBQ\_9 Start: 6411, Stop: 6794, Start Num: 38

Candidate Starts for BearBQ\_9:

(Start: 30 @6396 has 1 MA's), (Start: 38 @6411 has 5 MA's), (57, 6501), (60, 6528), (69, 6561), (72, 6570), (73, 6573), (75, 6582), (79, 6597), (81, 6615), (96, 6663), (127, 6780),

Gene: BeeGee\_9 Start: 7080, Stop: 7481, Start Num: 34

Candidate Starts for BeeGee\_9:

(3, 6861), (5, 6888), (9, 6927), (31, 7071), (Start: 34 @7080 has 173 MA's), (54, 7161), (62, 7212), (69, 7242), (75, 7263), (76, 7266), (78, 7275), (80, 7296), (91, 7332), (93, 7338), (106, 7398), (126, 7464),

Gene: Beelzebub\_45 Start: 17697, Stop: 18122, Start Num: 34

Candidate Starts for Beelzebub\_45:

(Start: 33 @17694 has 16 MA's), (Start: 34 @17697 has 173 MA's), (Start: 41 @17721 has 1 MA's), (58, 17814), (73, 17880), (76, 17892), (78, 17901), (79, 17904), (94, 17973), (99, 17994), (116, 18057), (127, 18099), (130, 18105),

Gene: Beezoo\_14 Start: 9001, Stop: 9387, Start Num: 34

Candidate Starts for Beezoo\_14:

(Start: 34 @9001 has 173 MA's), (Start: 47 @9043 has 6 MA's), (59, 9118), (65, 9145), (72, 9178), (75, 9190), (95, 9265), (124, 9364),

Gene: Bella96\_14 Start: 8908, Stop: 9288, Start Num: 34

Candidate Starts for Bella96\_14:

(24, 8887), (Start: 34 @8908 has 173 MA's), (Start: 47 @8950 has 6 MA's), (52, 8980), (59, 9019), (65, 9046), (72, 9079), (75, 9091), (95, 9166), (111, 9229), (124, 9265),

Gene: Belladonna\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Belladonna\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: BigPhil\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for BigPhil\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: Biglebops\_10 Start: 8266, Stop: 8649, Start Num: 34

Candidate Starts for Biglebops\_10:

(21, 8230), (Start: 34 @8266 has 173 MA's), (59, 8383), (65, 8410), (72, 8443), (75, 8455), (117, 8614), (124, 8629),

Gene: Birdsong\_9 Start: 6411, Stop: 6794, Start Num: 38

Candidate Starts for Birdsong\_9:

(Start: 30 @6396 has 1 MA's), (Start: 38 @6411 has 5 MA's), (57, 6501), (60, 6528), (69, 6561), (72, 6570), (73, 6573), (75, 6582), (79, 6597), (81, 6615), (96, 6663), (127, 6780),

Gene: Blackbeetle\_41 Start: 16716, Stop: 17141, Start Num: 34

Candidate Starts for Blackbeetle\_41:

(Start: 33 @16713 has 16 MA's), (Start: 34 @16716 has 173 MA's), (Start: 41 @16740 has 1 MA's), (58, 16833), (73, 16899), (76, 16911), (78, 16920), (79, 16923), (94, 16992), (99, 17013), (116, 17076), (127, 17118), (130, 17124),

Gene: Blizzard\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Blizzard\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Bobi\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Bobi\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Boiiii\_14 Start: 9065, Stop: 9409, Start Num: 47

Candidate Starts for Boiiii\_14:

(Start: 34 @9023 has 173 MA's), (Start: 47 @9065 has 6 MA's), (59, 9140), (72, 9200), (75, 9212), (95, 9287), (124, 9386),

Gene: Boilgate\_11 Start: 8967, Stop: 9359, Start Num: 27

Candidate Starts for Boilgate\_11:

(21, 8937), (Start: 27 @8967 has 1 MA's), (43, 9006), (45, 9012), (65, 9117), (73, 9153), (75, 9162), (76, 9165), (77, 9171), (79, 9177), (82, 9195), (93, 9228), (101, 9270), (103, 9276), (105, 9288), (111, 9300), (117, 9321), (119, 9324), (124, 9336),

Gene: Boomer\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Boomer\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: BoostSeason\_10 Start: 6968, Stop: 7354, Start Num: 32

Candidate Starts for BoostSeason\_10:

(16, 6899), (26, 6959), (Start: 32 @6968 has 13 MA's), (73, 7148), (75, 7157), (76, 7160), (95, 7232), (117, 7316), (124, 7331),

Gene: Bradissa\_9 Start: 7084, Stop: 7485, Start Num: 34

Candidate Starts for Bradissa\_9:

(2, 6853), (3, 6865), (5, 6892), (9, 6931), (31, 7075), (Start: 34 @7084 has 173 MA's), (54, 7165), (62, 7216), (69, 7246), (75, 7267), (76, 7270), (78, 7279), (93, 7342), (106, 7402), (126, 7468),

Gene: BritBrat\_9 Start: 7086, Stop: 7487, Start Num: 34

Candidate Starts for BritBrat\_9:

(2, 6855), (3, 6867), (5, 6894), (9, 6933), (31, 7077), (Start: 34 @7086 has 173 MA's), (54, 7167), (62, 7218), (69, 7248), (75, 7269), (76, 7272), (78, 7281), (93, 7344), (106, 7404), (126, 7470),

Gene: Bryler\_13 Start: 7935, Stop: 8315, Start Num: 33

Candidate Starts for Bryler\_13:

(Start: 33 @7935 has 16 MA's), (72, 8109), (75, 8121), (76, 8124), (104, 8247), (108, 8253), (117, 8280), (124, 8295),

Gene: BuzzLyseyear\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for BuzzLyseyear\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: CREW\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for CREW\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Cain\_13 Start: 7923, Stop: 8303, Start Num: 33

Candidate Starts for Cain\_13:

(Start: 33 @7923 has 16 MA's), (72, 8097), (75, 8109), (76, 8112), (104, 8235), (108, 8241), (117, 8268), (124, 8283),

Gene: Caprice\_38 Start: 16786, Stop: 17211, Start Num: 34

Candidate Starts for Caprice\_38:

(Start: 33 @16783 has 16 MA's), (Start: 34 @16786 has 173 MA's), (Start: 41 @16810 has 1 MA's), (58, 16903), (73, 16969), (76, 16981), (78, 16990), (79, 16993), (94, 17062), (99, 17083), (116, 17146), (127, 17188), (130, 17194),

Gene: Capricorn\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Capricorn\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: CaseJules\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for CaseJules\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Cashline\_9 Start: 6933, Stop: 7334, Start Num: 34

Candidate Starts for Cashline\_9:

(Start: 34 @6933 has 173 MA's), (54, 7014), (62, 7065), (64, 7071), (69, 7095), (75, 7116), (76, 7119), (78, 7128), (91, 7185), (93, 7191), (106, 7251), (126, 7317),

Gene: Cerasum\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for Cerasum\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: Chancellor\_15 Start: 10244, Stop: 10618, Start Num: 34

Candidate Starts for Chancellor\_15:

(Start: 34 @10244 has 173 MA's), (Start: 39 @10253 has 2 MA's), (42, 10271), (54, 10319), (65, 10379), (73, 10415), (75, 10424), (76, 10427), (78, 10436), (93, 10490), (105, 10550), (117, 10583), (119, 10586),

Gene: CheetoDust\_14 Start: 8998, Stop: 9384, Start Num: 34

Candidate Starts for CheetoDust\_14:

(24, 8977), (Start: 34 @8998 has 173 MA's), (Start: 47 @9040 has 6 MA's), (59, 9115), (72, 9175), (75, 9187), (95, 9262), (124, 9361),

Gene: Cheetobro\_15 Start: 10244, Stop: 10618, Start Num: 34

Candidate Starts for Cheetobro\_15:

(Start: 34 @10244 has 173 MA's), (Start: 39 @10253 has 2 MA's), (42, 10271), (54, 10319), (65, 10379), (73, 10415), (75, 10424), (76, 10427), (78, 10436), (93, 10490), (105, 10550), (117, 10583), (119, 10586),

Gene: ChickenDinner\_8 Start: 5931, Stop: 6302, Start Num: 37

Candidate Starts for ChickenDinner\_8:

(Start: 37 @5931 has 63 MA's), (46, 5961), (66, 6072), (69, 6087), (70, 6090), (72, 6096), (73, 6099), (101, 6210), (117, 6261), (129, 6294),

Gene: Chris\_13 Start: 7918, Stop: 8298, Start Num: 33

Candidate Starts for Chris\_13:

(7, 7798), (Start: 33 @7918 has 16 MA's), (40, 7942), (Start: 47 @7963 has 6 MA's), (59, 8032), (75, 8104), (78, 8116), (95, 8179), (117, 8263), (124, 8278),

Gene: Clarkson\_42 Start: 17398, Stop: 17823, Start Num: 34

Candidate Starts for Clarkson\_42:

(Start: 33 @17395 has 16 MA's), (Start: 34 @17398 has 173 MA's), (Start: 41 @17422 has 1 MA's), (58, 17515), (73, 17581), (76, 17593), (78, 17602), (79, 17605), (94, 17674), (99, 17695), (116, 17758), (127, 17800), (130, 17806),

Gene: Coco12\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Coco12\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Collard\_12 Start: 9058, Stop: 9522, Start Num: 13

Candidate Starts for Collard\_12:

(Start: 13 @9058 has 2 MA's), (15, 9064), (23, 9112), (Start: 34 @9139 has 173 MA's), (Start: 47 @9181 has 6 MA's), (59, 9256), (65, 9283), (72, 9316), (79, 9343), (95, 9403), (111, 9466), (117, 9487), (119, 9490), (124, 9502),

Gene: Confidence\_9 Start: 7080, Stop: 7481, Start Num: 34

Candidate Starts for Confidence\_9:

(2, 6849), (3, 6861), (5, 6888), (9, 6927), (31, 7071), (Start: 34 @7080 has 173 MA's), (54, 7161), (62, 7212), (69, 7242), (75, 7263), (76, 7266), (78, 7275), (91, 7332), (93, 7338), (106, 7398), (126, 7464), (128, 7470),

Gene: Corazon\_39 Start: 17351, Stop: 17776, Start Num: 34

Candidate Starts for Corazon\_39:

(Start: 33 @17348 has 16 MA's), (Start: 34 @17351 has 173 MA's), (Start: 41 @17375 has 1 MA's), (58, 17468), (73, 17534), (76, 17546), (78, 17555), (79, 17558), (94, 17627), (99, 17648), (116, 17711), (127, 17753), (130, 17759),



Gene: Cornucopia\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Cornucopia\_8:

(Start: 37 @5928 has 63 MA's), (51, 5976), (61, 6048), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (88, 6159), (98, 6186), (101, 6207), (108, 6231), (117, 6258),

Gene: Crater\_9 Start: 6411, Stop: 6794, Start Num: 38

Candidate Starts for Crater\_9:

(Start: 30 @6396 has 1 MA's), (Start: 38 @6411 has 5 MA's), (57, 6501), (60, 6528), (69, 6561), (72, 6570), (73, 6573), (75, 6582), (79, 6597), (81, 6615), (96, 6663), (127, 6780),

Gene: CrimD\_14 Start: 8950, Stop: 9336, Start Num: 34

Candidate Starts for CrimD\_14:

(Start: 34 @8950 has 173 MA's), (Start: 47 @8992 has 6 MA's), (59, 9067), (65, 9094), (72, 9127), (75, 9139), (95, 9214), (124, 9313),

Gene: Curiosium\_15 Start: 8430, Stop: 8807, Start Num: 34

Candidate Starts for Curiosium\_15:

(22, 8403), (Start: 34 @8430 has 173 MA's), (Start: 39 @8442 has 2 MA's), (Start: 47 @8472 has 6 MA's), (59, 8541), (75, 8613), (117, 8772), (124, 8787),

Gene: DS6A\_12 Start: 9306, Stop: 9719, Start Num: 34

Candidate Starts for DS6A\_12:

(Start: 34 @9306 has 173 MA's), (Start: 37 @9312 has 63 MA's), (44, 9339), (48, 9351), (54, 9381), (58, 9411), (59, 9414), (72, 9477), (73, 9480), (75, 9489), (76, 9492), (85, 9534), (87, 9546), (89, 9555), (100, 9597), (101, 9609), (110, 9639), (116, 9660), (122, 9675),

Gene: DaWorst\_8 Start: 5929, Stop: 6300, Start Num: 37

Candidate Starts for DaWorst\_8:

(Start: 37 @5929 has 63 MA's), (46, 5959), (66, 6070), (69, 6085), (70, 6088), (72, 6094), (73, 6097), (101, 6208), (117, 6259), (129, 6292),

Gene: Dadosky\_12 Start: 9057, Stop: 9440, Start Num: 34

Candidate Starts for Dadosky\_12:

(15, 9009), (Start: 34 @9057 has 173 MA's), (59, 9174), (65, 9201), (72, 9234), (79, 9261), (95, 9321), (111, 9384), (117, 9405), (119, 9408), (124, 9420),

Gene: Dalmuri\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Dalmuri\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: DarthP\_13 Start: 8913, Stop: 9299, Start Num: 33

Candidate Starts for DarthP\_13:

(Start: 33 @8913 has 16 MA's), (40, 8937), (55, 9012), (59, 9033), (72, 9093), (75, 9105), (76, 9108), (101, 9213), (122, 9273), (124, 9279),

Gene: Deby\_14 Start: 8994, Stop: 9338, Start Num: 47

Candidate Starts for Deby\_14:

(Start: 34 @8952 has 173 MA's), (Start: 47 @8994 has 6 MA's), (59, 9069), (65, 9096), (72, 9129), (75, 9141), (95, 9216), (124, 9315),

Gene: Devera\_14 Start: 8975, Stop: 9355, Start Num: 34

Candidate Starts for Devera\_14:

(24, 8954), (Start: 34 @8975 has 173 MA's), (Start: 47 @9017 has 6 MA's), (52, 9047), (54, 9053), (59, 9086), (72, 9146), (95, 9233), (124, 9332),

Gene: DirtMcgirt\_8 Start: 5930, Stop: 6301, Start Num: 37

Candidate Starts for DirtMcgirt\_8:

(Start: 37 @5930 has 63 MA's), (46, 5960), (66, 6071), (69, 6086), (70, 6089), (72, 6095), (73, 6098), (101, 6209), (117, 6260), (129, 6293),

Gene: DismalFunk\_10 Start: 6976, Stop: 7362, Start Num: 32

Candidate Starts for DismalFunk\_10:

(16, 6907), (26, 6967), (Start: 32 @6976 has 13 MA's), (73, 7156), (75, 7165), (76, 7168), (78, 7177), (95, 7240), (117, 7324), (124, 7339),

Gene: DismalStressor\_10 Start: 6976, Stop: 7362, Start Num: 32

Candidate Starts for DismalStressor\_10:

(16, 6907), (26, 6967), (Start: 32 @6976 has 13 MA's), (73, 7156), (75, 7165), (76, 7168), (78, 7177), (95, 7240), (117, 7324), (124, 7339),

Gene: DocMcStuffins\_8 Start: 5931, Stop: 6302, Start Num: 37

Candidate Starts for DocMcStuffins\_8:

(Start: 37 @5931 has 63 MA's), (46, 5961), (66, 6072), (69, 6087), (70, 6090), (72, 6096), (73, 6099), (101, 6210), (117, 6261), (129, 6294),

Gene: Dole\_14 Start: 8977, Stop: 9357, Start Num: 34

Candidate Starts for Dole\_14:

(24, 8956), (Start: 34 @8977 has 173 MA's), (Start: 47 @9019 has 6 MA's), (52, 9049), (54, 9055), (59, 9088), (72, 9148), (95, 9235), (124, 9334),

Gene: DosHalletts\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for DosHalletts\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: DrHayes\_14 Start: 8929, Stop: 9309, Start Num: 34

Candidate Starts for DrHayes\_14:

(Start: 34 @8929 has 173 MA's), (Start: 47 @8971 has 6 MA's), (52, 9001), (59, 9040), (65, 9067), (72, 9100), (95, 9187), (111, 9250), (124, 9286),

Gene: Drago\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Drago\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Durfee\_14 Start: 9063, Stop: 9407, Start Num: 47

Candidate Starts for Durfee\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: EMsquaredA\_9 Start: 7086, Stop: 7487, Start Num: 34

Candidate Starts for EMsquaredA\_9:

(2, 6855), (3, 6867), (5, 6894), (9, 6933), (31, 7077), (Start: 34 @7086 has 173 MA's), (54, 7167), (62, 7218), (69, 7248), (75, 7269), (76, 7272), (78, 7281), (93, 7344), (106, 7404), (126, 7470),

Gene: Edugator\_11 Start: 9057, Stop: 9440, Start Num: 34

Candidate Starts for Edugator\_11:

(15, 9009), (Start: 34 @9057 has 173 MA's), (59, 9174), (65, 9201), (72, 9234), (79, 9261), (95, 9321), (111, 9384), (117, 9405), (119, 9408), (124, 9420),

Gene: Efra2\_14 Start: 7916, Stop: 8293, Start Num: 34

Candidate Starts for Efra2\_14:

(Start: 13 @7838 has 2 MA's), (Start: 34 @7916 has 173 MA's), (59, 8027), (73, 8090), (75, 8099), (108, 8231), (117, 8258), (124, 8273),

Gene: Ekdilam\_11 Start: 8640, Stop: 9026, Start Num: 33

Candidate Starts for Ekdilam\_11:

(Start: 33 @8640 has 16 MA's), (Start: 38 @8652 has 5 MA's), (40, 8664), (43, 8676), (59, 8760), (72, 8820), (75, 8832), (76, 8835), (101, 8940), (122, 9000), (124, 9006),

Gene: Ellie\_11 Start: 8684, Stop: 9073, Start Num: 32

Candidate Starts for Ellie\_11:

(Start: 32 @8684 has 13 MA's), (59, 8807), (67, 8846), (72, 8867), (75, 8879), (76, 8882), (101, 8987), (122, 9047), (124, 9053),

Gene: Emerson\_14 Start: 8981, Stop: 9367, Start Num: 34

Candidate Starts for Emerson\_14:

(Start: 34 @8981 has 173 MA's), (Start: 47 @9023 has 6 MA's), (59, 9098), (72, 9158), (75, 9170), (95, 9245), (124, 9344),

Gene: EnalisNailo\_9 Start: 7086, Stop: 7487, Start Num: 34

Candidate Starts for EnalisNailo\_9:

(2, 6855), (3, 6867), (5, 6894), (9, 6933), (31, 7077), (Start: 34 @7086 has 173 MA's), (54, 7167), (62, 7218), (69, 7248), (75, 7269), (76, 7272), (78, 7281), (93, 7344), (106, 7404), (126, 7470),

Gene: Enby\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Enby\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Enkosi\_10 Start: 8266, Stop: 8649, Start Num: 34

Candidate Starts for Enkosi\_10:

(21, 8230), (Start: 34 @8266 has 173 MA's), (59, 8383), (65, 8410), (72, 8443), (75, 8455), (117, 8614), (124, 8629),

Gene: Eponine\_15 Start: 10108, Stop: 10482, Start Num: 34

Candidate Starts for Eponine\_15:

(Start: 34 @10108 has 173 MA's), (Start: 39 @10117 has 2 MA's), (42, 10135), (54, 10183), (65, 10243), (72, 10276), (73, 10279), (75, 10288), (76, 10291), (78, 10300), (93, 10354), (105, 10414), (108, 10420), (117, 10447), (122, 10456),

Gene: Farewell\_7 Start: 6385, Stop: 6810, Start Num: 29

Candidate Starts for Farewell\_7:

(Start: 29 @6385 has 1 MA's), (35, 6400), (Start: 37 @6403 has 63 MA's), (Start: 47 @6442 has 6 MA's), (49, 6445), (56, 6496), (68, 6565), (69, 6568), (73, 6580), (75, 6589), (84, 6625), (91, 6658), (100, 6700), (117, 6763), (119, 6766), (121, 6769),

Gene: Fefferhead\_13 Start: 8851, Stop: 9240, Start Num: 32

Candidate Starts for Fefferhead\_13:

(Start: 32 @8851 has 13 MA's), (51, 8914), (59, 8974), (72, 9034), (75, 9046), (76, 9049), (101, 9154), (122, 9214), (124, 9220),

Gene: FeliMaine\_41 Start: 17399, Stop: 17824, Start Num: 34

Candidate Starts for FeliMaine\_41:

(Start: 33 @17396 has 16 MA's), (Start: 34 @17399 has 173 MA's), (Start: 41 @17423 has 1 MA's), (58, 17516), (73, 17582), (76, 17594), (78, 17603), (79, 17606), (94, 17675), (99, 17696), (116, 17759), (127, 17801), (130, 17807),

Gene: Feyre\_12 Start: 9005, Stop: 9388, Start Num: 34

Candidate Starts for Feyre\_12:

(Start: 34 @9005 has 173 MA's), (43, 9038), (54, 9089), (59, 9122), (65, 9149), (72, 9182), (95, 9269), (117, 9353), (119, 9356), (124, 9368),

Gene: Findley\_10 Start: 6976, Stop: 7362, Start Num: 32

Candidate Starts for Findley\_10:

(16, 6907), (26, 6967), (Start: 32 @6976 has 13 MA's), (73, 7156), (75, 7165), (76, 7168), (78, 7177), (95, 7240), (117, 7324), (124, 7339),

Gene: Fionnbharth\_15 Start: 10234, Stop: 10608, Start Num: 34

Candidate Starts for Fionnbharth\_15:

(Start: 34 @10234 has 173 MA's), (Start: 39 @10243 has 2 MA's), (42, 10261), (54, 10309), (65, 10369), (73, 10405), (75, 10414), (76, 10417), (78, 10426), (93, 10480), (105, 10540), (117, 10573), (119, 10576),

Gene: Flathead\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for Flathead\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: Floral\_9 Start: 7086, Stop: 7487, Start Num: 34

Candidate Starts for Floral\_9:

(2, 6855), (3, 6867), (5, 6894), (9, 6933), (31, 7077), (Start: 34 @7086 has 173 MA's), (54, 7167), (62, 7218), (69, 7248), (75, 7269), (76, 7272), (78, 7281), (93, 7344), (106, 7404), (126, 7470),

Gene: Frankie\_8 Start: 6121, Stop: 6492, Start Num: 37

Candidate Starts for Frankie\_8:

(Start: 37 @6121 has 63 MA's), (46, 6151), (66, 6262), (69, 6277), (70, 6280), (72, 6286), (101, 6400), (117, 6451), (129, 6484),

Gene: Fryberger\_40 Start: 15313, Stop: 15726, Start Num: 37

Candidate Starts for Fryberger\_40:

(Start: 37 @15313 has 63 MA's), (43, 15340), (Start: 47 @15346 has 6 MA's), (49, 15349), (55, 15397), (71, 15472), (74, 15484), (83, 15529), (90, 15562), (107, 15637),

Gene: Ganymede\_14 Start: 8998, Stop: 9384, Start Num: 34

Candidate Starts for Ganymede\_14:

(Start: 34 @8998 has 173 MA's), (Start: 47 @9040 has 6 MA's), (59, 9115), (72, 9175), (75, 9187), (95, 9262), (124, 9361),

Gene: Gattaca\_40 Start: 16578, Stop: 17003, Start Num: 34

Candidate Starts for Gattaca\_40:

(Start: 33 @16575 has 16 MA's), (Start: 34 @16578 has 173 MA's), (Start: 41 @16602 has 1 MA's), (58, 16695), (73, 16761), (76, 16773), (78, 16782), (79, 16785), (94, 16854), (99, 16875), (116, 16938), (127, 16980), (130, 16986),

Gene: Gengar\_12 Start: 9112, Stop: 9495, Start Num: 34

Candidate Starts for Gengar\_12:

(Start: 34 @9112 has 173 MA's), (43, 9145), (54, 9196), (59, 9229), (65, 9256), (72, 9289), (95, 9376), (117, 9460), (119, 9463), (124, 9475),

Gene: Geraldini\_14 Start: 9001, Stop: 9387, Start Num: 34

Candidate Starts for Geraldini\_14:

(Start: 34 @9001 has 173 MA's), (Start: 47 @9043 has 6 MA's), (59, 9118), (65, 9145), (72, 9178), (75, 9190), (95, 9265), (124, 9364),

Gene: Girafales\_8 Start: 5923, Stop: 6294, Start Num: 37

Candidate Starts for Girafales\_8:

(Start: 37 @5923 has 63 MA's), (46, 5953), (66, 6064), (69, 6079), (70, 6082), (72, 6088), (73, 6091), (101, 6202), (117, 6253), (129, 6286),

Gene: Guanica15\_14 Start: 7932, Stop: 8309, Start Num: 34

Candidate Starts for Guanica15\_14:

(Start: 13 @7854 has 2 MA's), (Start: 34 @7932 has 173 MA's), (59, 8043), (73, 8106), (75, 8115), (108, 8247), (117, 8274), (124, 8289),

Gene: Guey18\_45 Start: 16506, Stop: 16919, Start Num: 37

Candidate Starts for Guey18\_45:

(Start: 37 @16506 has 63 MA's), (43, 16533), (Start: 47 @16539 has 6 MA's), (49, 16542), (55, 16590), (71, 16665), (74, 16677), (83, 16722), (90, 16755), (107, 16830),

Gene: Guillsminger\_12 Start: 9087, Stop: 9470, Start Num: 34

Candidate Starts for Guillsminger\_12:

(Start: 34 @9087 has 173 MA's), (43, 9120), (54, 9171), (59, 9204), (65, 9231), (72, 9264), (95, 9351), (117, 9435), (119, 9438), (124, 9450),

Gene: Hammy\_13 Start: 8907, Stop: 9293, Start Num: 33

Candidate Starts for Hammy\_13:

(Start: 33 @8907 has 16 MA's), (40, 8931), (55, 9006), (59, 9027), (72, 9087), (75, 9099), (76, 9102), (101, 9207), (122, 9267), (124, 9273),

Gene: HedwigODU\_14 Start: 8981, Stop: 9367, Start Num: 34

Candidate Starts for HedwigODU\_14:

(Start: 34 @8981 has 173 MA's), (Start: 47 @9023 has 6 MA's), (59, 9098), (65, 9125), (72, 9158), (75, 9170), (95, 9245), (124, 9344),

Gene: Heftyboy\_12 Start: 9214, Stop: 9597, Start Num: 34

Candidate Starts for Heftyboy\_12:

(Start: 34 @9214 has 173 MA's), (43, 9247), (Start: 47 @9256 has 6 MA's), (59, 9331), (65, 9358), (72, 9391), (95, 9478), (117, 9562), (119, 9565), (124, 9577),

Gene: Hegedechwinu\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for Hegedechwinu\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: Homura\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Homura\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Huphlepuuff\_43 Start: 17203, Stop: 17628, Start Num: 34

Candidate Starts for Huphlepuuff\_43:

(Start: 33 @17200 has 16 MA's), (Start: 34 @17203 has 173 MA's), (Start: 41 @17227 has 1 MA's), (58, 17320), (73, 17386), (76, 17398), (78, 17407), (79, 17410), (94, 17479), (99, 17500), (116, 17563), (127, 17605), (130, 17611),

Gene: Hurricane\_13 Start: 9000, Stop: 9383, Start Num: 34

Candidate Starts for Hurricane\_13:

(Start: 34 @9000 has 173 MA's), (50, 9051), (59, 9117), (72, 9177), (75, 9189), (76, 9192), (95, 9264), (117, 9348), (124, 9363),

Gene: Hyperbowlee\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Hyperbowlee\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Illumine\_14 Start: 8977, Stop: 9357, Start Num: 34

Candidate Starts for Illumine\_14:

(24, 8956), (Start: 34 @8977 has 173 MA's), (Start: 47 @9019 has 6 MA's), (52, 9049), (54, 9055), (59, 9088), (72, 9148), (95, 9235), (124, 9334),

Gene: Inky\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Inky\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: InvictusManeo\_12 Start: 9182, Stop: 9565, Start Num: 34

Candidate Starts for InvictusManeo\_12:

(Start: 13 @9101 has 2 MA's), (15, 9107), (23, 9155), (Start: 34 @9182 has 173 MA's), (Start: 47 @9224 has 6 MA's), (59, 9299), (65, 9326), (72, 9359), (79, 9386), (95, 9446), (111, 9509), (117, 9530), (119, 9533), (124, 9545),

Gene: JAWS\_14 Start: 9017, Stop: 9361, Start Num: 47

Candidate Starts for JAWS\_14:

(Start: 34 @8975 has 173 MA's), (Start: 47 @9017 has 6 MA's), (59, 9092), (72, 9152), (75, 9164), (95, 9239), (124, 9338),

Gene: JF1\_15 Start: 10233, Stop: 10607, Start Num: 34

Candidate Starts for JF1\_15:

(Start: 34 @10233 has 173 MA's), (Start: 39 @10242 has 2 MA's), (42, 10260), (54, 10308), (65, 10368), (73, 10404), (75, 10413), (76, 10416), (78, 10425), (93, 10479), (105, 10539), (117, 10572), (119, 10575),

Gene: Jablanski\_9 Start: 6933, Stop: 7334, Start Num: 34

Candidate Starts for Jablanski\_9:

(2, 6702), (3, 6714), (5, 6741), (9, 6780), (31, 6924), (Start: 34 @6933 has 173 MA's), (54, 7014), (62, 7065), (69, 7095), (75, 7116), (76, 7119), (91, 7185), (93, 7191), (106, 7251), (126, 7317),

Gene: JalFarm20\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for JalFarm20\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Jarvi\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Jarvi\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Jayhawk\_14 Start: 9024, Stop: 9368, Start Num: 47

Candidate Starts for Jayhawk\_14:

(Start: 34 @8982 has 173 MA's), (Start: 47 @9024 has 6 MA's), (59, 9099), (65, 9126), (72, 9159), (75, 9171), (95, 9246), (124, 9345),

Gene: Jeckyll\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Jeckyll\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Job42\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Job42\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: JoieB\_42 Start: 17422, Stop: 17847, Start Num: 34

Candidate Starts for JoieB\_42:

(Start: 33 @17419 has 16 MA's), (Start: 34 @17422 has 173 MA's), (Start: 41 @17446 has 1 MA's), (58, 17539), (73, 17605), (76, 17617), (78, 17626), (79, 17629), (94, 17698), (99, 17719), (116, 17782), (127, 17824), (130, 17830),

Gene: Joy99\_14 Start: 8947, Stop: 9333, Start Num: 34

Candidate Starts for Joy99\_14:

(Start: 34 @8947 has 173 MA's), (Start: 47 @8989 has 6 MA's), (59, 9064), (72, 9124), (75, 9136), (95, 9211), (124, 9310),

Gene: Juice456\_8 Start: 5929, Stop: 6300, Start Num: 37

Candidate Starts for Juice456\_8:

(Start: 37 @5929 has 63 MA's), (46, 5959), (66, 6070), (69, 6085), (70, 6088), (72, 6094), (73, 6097), (101, 6208), (117, 6259), (129, 6292),

Gene: Juliette\_15 Start: 10108, Stop: 10482, Start Num: 34

Candidate Starts for Juliette\_15:

(Start: 34 @10108 has 173 MA's), (Start: 39 @10117 has 2 MA's), (42, 10135), (54, 10183), (65, 10243), (72, 10276), (73, 10279), (75, 10288), (76, 10291), (78, 10300), (93, 10354), (105, 10414), (108, 10420), (117, 10447), (122, 10456),

Gene: Keelan\_38 Start: 15288, Stop: 15701, Start Num: 37

Candidate Starts for Keelan\_38:

(Start: 37 @15288 has 63 MA's), (43, 15315), (49, 15324), (55, 15372), (71, 15447), (74, 15459), (90, 15537), (107, 15612), (118, 15648), (120, 15654),

Gene: Keshu\_13 Start: 8987, Stop: 9370, Start Num: 34

Candidate Starts for Keshu\_13:

(Start: 34 @8987 has 173 MA's), (59, 9104), (72, 9164), (75, 9176), (76, 9179), (95, 9251), (117, 9335), (124, 9350),

Gene: KiSi\_13 Start: 7852, Stop: 8235, Start Num: 34

Candidate Starts for KiSi\_13:

(18, 7804), (Start: 34 @7852 has 173 MA's), (Start: 47 @7894 has 6 MA's), (53, 7927), (59, 7969), (65, 7996), (72, 8029), (75, 8041), (95, 8116), (117, 8200), (122, 8209), (124, 8215),

Gene: Kimberlium\_8 Start: 5929, Stop: 6300, Start Num: 37

Candidate Starts for Kimberlium\_8:

(Start: 37 @5929 has 63 MA's), (46, 5959), (66, 6070), (69, 6085), (70, 6088), (72, 6094), (73, 6097), (101, 6208), (117, 6259), (129, 6292),

Gene: Kingsley\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for Kingsley\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: Kratio\_11 Start: 8728, Stop: 9192, Start Num: 13

Candidate Starts for Kratio\_11:

(Start: 13 @8728 has 2 MA's), (15, 8734), (23, 8782), (Start: 34 @8809 has 173 MA's), (Start: 47 @8851 has 6 MA's), (59, 8926), (65, 8953), (72, 8986), (79, 9013), (95, 9073), (111, 9136), (117, 9157), (119, 9160), (124, 9172),

Gene: Krueger\_13 Start: 7907, Stop: 8293, Start Num: 33

Candidate Starts for Krueger\_13:

(Start: 33 @7907 has 16 MA's), (Start: 39 @7922 has 2 MA's), (59, 8027), (72, 8087), (76, 8102), (104, 8225), (117, 8258), (124, 8273),

Gene: Kuwabara\_9 Start: 6411, Stop: 6794, Start Num: 38

Candidate Starts for Kuwabara\_9:

(Start: 30 @6396 has 1 MA's), (Start: 38 @6411 has 5 MA's), (57, 6501), (60, 6528), (69, 6561), (72, 6570), (73, 6573), (75, 6582), (79, 6597), (96, 6663), (127, 6780),

Gene: Larva\_12 Start: 8924, Stop: 9307, Start Num: 34

Candidate Starts for Larva\_12:

(15, 8876), (Start: 34 @8924 has 173 MA's), (59, 9041), (65, 9068), (72, 9101), (79, 9128), (95, 9188), (111, 9251), (117, 9272), (119, 9275), (124, 9287),

Gene: LastHope\_14 Start: 8004, Stop: 8381, Start Num: 34

Candidate Starts for LastHope\_14:

(Start: 34 @8004 has 173 MA's), (59, 8115), (73, 8178), (75, 8187), (117, 8346), (124, 8361),

Gene: LaterM\_14 Start: 8945, Stop: 9325, Start Num: 34

Candidate Starts for LaterM\_14:

(24, 8924), (25, 8930), (Start: 34 @8945 has 173 MA's), (Start: 47 @8987 has 6 MA's), (52, 9017), (54, 9023), (59, 9056), (72, 9116), (95, 9203), (124, 9302),



Gene: LeMond\_13 Start: 7924, Stop: 8307, Start Num: 34

Candidate Starts for LeMond\_13:

(Start: 34 @7924 has 173 MA's), (Start: 47 @7966 has 6 MA's), (53, 7999), (59, 8041), (65, 8068), (72, 8101), (75, 8113), (95, 8188), (117, 8272), (122, 8281), (124, 8287),

Gene: Leozinho\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Leozinho\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Leston\_12 Start: 9217, Stop: 9600, Start Num: 34

Candidate Starts for Leston\_12:

(Start: 34 @9217 has 173 MA's), (43, 9250), (Start: 47 @9259 has 6 MA's), (59, 9334), (65, 9361), (72, 9394), (95, 9481), (117, 9565), (119, 9568), (124, 9580),

Gene: LilPharaoh\_10 Start: 8266, Stop: 8649, Start Num: 34

Candidate Starts for LilPharaoh\_10:

(21, 8230), (Start: 34 @8266 has 173 MA's), (59, 8383), (65, 8410), (72, 8443), (75, 8455), (117, 8614), (124, 8629),

Gene: LilSpotty\_8 Start: 6103, Stop: 6471, Start Num: 38

Candidate Starts for LilSpotty\_8:

(Start: 38 @6103 has 5 MA's), (Start: 39 @6106 has 2 MA's), (44, 6127), (55, 6187), (63, 6229), (69, 6253), (72, 6262), (75, 6274), (86, 6316), (92, 6331), (97, 6352), (106, 6391), (115, 6418), (125, 6451),

Gene: Lilas\_9 Start: 7086, Stop: 7487, Start Num: 34

Candidate Starts for Lilas\_9:

(2, 6855), (3, 6867), (5, 6894), (9, 6933), (31, 7077), (Start: 34 @7086 has 173 MA's), (54, 7167), (62, 7218), (69, 7248), (75, 7269), (76, 7272), (78, 7281), (93, 7344), (106, 7404), (126, 7470),

Gene: Lilbit\_42 Start: 17396, Stop: 17824, Start Num: 33

Candidate Starts for Lilbit\_42:

(Start: 33 @17396 has 16 MA's), (Start: 34 @17399 has 173 MA's), (Start: 41 @17423 has 1 MA's), (58, 17516), (73, 17582), (76, 17594), (78, 17603), (79, 17606), (94, 17675), (99, 17696), (116, 17759), (127, 17801), (130, 17807),

Gene: LindNT\_14 Start: 8945, Stop: 9331, Start Num: 34

Candidate Starts for LindNT\_14:

(Start: 34 @8945 has 173 MA's), (Start: 47 @8987 has 6 MA's), (59, 9062), (65, 9089), (72, 9122), (75, 9134), (95, 9209), (124, 9308),

Gene: LittleLaf\_41 Start: 17128, Stop: 17553, Start Num: 34

Candidate Starts for LittleLaf\_41:

(Start: 33 @17125 has 16 MA's), (Start: 34 @17128 has 173 MA's), (Start: 41 @17152 has 1 MA's), (58, 17245), (73, 17311), (76, 17323), (78, 17332), (79, 17335), (94, 17404), (99, 17425), (116, 17488), (127, 17530), (130, 17536),

Gene: LittleShirley\_8 Start: 5929, Stop: 6300, Start Num: 37

Candidate Starts for LittleShirley\_8:

(Start: 37 @5929 has 63 MA's), (46, 5959), (66, 6070), (69, 6085), (70, 6088), (72, 6094), (73, 6097), (101, 6208), (117, 6259), (129, 6292),

Gene: Llorens\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Llorens\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: LonelyBoi\_9 Start: 6933, Stop: 7334, Start Num: 34

Candidate Starts for LonelyBoi\_9:

(2, 6702), (3, 6714), (9, 6780), (31, 6924), (Start: 34 @6933 has 173 MA's), (54, 7014), (62, 7065), (69, 7095), (75, 7116), (76, 7119), (91, 7185), (93, 7191), (106, 7251), (126, 7317),

Gene: Lorde\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Lorde\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: LunaStella\_8 Start: 6532, Stop: 6906, Start Num: 37

Candidate Starts for LunaStella\_8:

(Start: 37 @6532 has 63 MA's), (44, 6559), (64, 6664), (69, 6688), (72, 6697), (79, 6724), (89, 6760), (106, 6829), (109, 6835), (112, 6844), (116, 6859),

Gene: Lunahalos\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Lunahalos\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: MacnCheese\_14 Start: 9215, Stop: 9598, Start Num: 34

Candidate Starts for MacnCheese\_14:

(14, 9137), (17, 9146), (Start: 34 @9215 has 173 MA's), (59, 9332), (72, 9392), (75, 9404), (77, 9413), (95, 9479), (117, 9563), (124, 9578),

Gene: Madiba\_8 Start: 5926, Stop: 6297, Start Num: 37

Candidate Starts for Madiba\_8:

(Start: 37 @5926 has 63 MA's), (46, 5956), (66, 6067), (69, 6082), (70, 6085), (72, 6091), (73, 6094), (101, 6205), (117, 6256), (129, 6289),

Gene: Malthus\_15 Start: 10153, Stop: 10527, Start Num: 34

Candidate Starts for Malthus\_15:

(12, 10069), (Start: 34 @10153 has 173 MA's), (Start: 39 @10162 has 2 MA's), (42, 10180), (54, 10228), (65, 10288), (73, 10324), (75, 10333), (76, 10336), (78, 10345), (93, 10399), (105, 10459), (117, 10492), (119, 10495),

Gene: Marcoliusprime\_10 Start: 6976, Stop: 7362, Start Num: 32

Candidate Starts for Marcoliusprime\_10:

(16, 6907), (26, 6967), (Start: 32 @6976 has 13 MA's), (73, 7156), (75, 7165), (76, 7168), (78, 7177), (95, 7240), (117, 7324), (124, 7339),

Gene: MarkPhew\_14 Start: 7826, Stop: 8203, Start Num: 34

Candidate Starts for MarkPhew\_14:

(19, 7775), (Start: 34 @7826 has 173 MA's), (73, 8000), (75, 8009), (95, 8084), (117, 8168), (124, 8183),

Gene: Marker\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for Marker\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: Marshawn\_15 Start: 8512, Stop: 8898, Start Num: 34

Candidate Starts for Marshawn\_15:

(8, 8353), (Start: 34 @8512 has 173 MA's), (Start: 39 @8524 has 2 MA's), (40, 8533), (55, 8605), (59, 8626), (72, 8686), (75, 8698), (78, 8710), (95, 8773), (105, 8824), (119, 8866), (122, 8872), (124, 8878),

Gene: Marteena\_9 Start: 7086, Stop: 7487, Start Num: 34

Candidate Starts for Marteena\_9:

(2, 6855), (3, 6867), (5, 6894), (9, 6933), (31, 7077), (Start: 34 @7086 has 173 MA's), (54, 7167), (62, 7218), (69, 7248), (75, 7269), (76, 7272), (78, 7281), (93, 7344), (106, 7404), (126, 7470),

Gene: Marvin\_39 Start: 17422, Stop: 17823, Start Num: 41

Candidate Starts for Marvin\_39:

(Start: 33 @17395 has 16 MA's), (Start: 34 @17398 has 173 MA's), (Start: 41 @17422 has 1 MA's), (58, 17515), (73, 17581), (76, 17593), (78, 17602), (79, 17605), (94, 17674), (99, 17695), (116, 17758), (127, 17800), (130, 17806),

Gene: Mdavu\_10 Start: 8254, Stop: 8637, Start Num: 34

Candidate Starts for Mdavu\_10:

(21, 8218), (Start: 34 @8254 has 173 MA's), (59, 8371), (65, 8398), (72, 8431), (75, 8443), (117, 8602), (124, 8617),

Gene: MeaningOfLife\_14 Start: 8954, Stop: 9340, Start Num: 34

Candidate Starts for MeaningOfLife\_14:

(Start: 34 @8954 has 173 MA's), (Start: 47 @8996 has 6 MA's), (59, 9071), (72, 9131), (75, 9143), (95, 9218), (124, 9317),

Gene: Megsy\_14 Start: 8948, Stop: 9334, Start Num: 34

Candidate Starts for Megsy\_14:

(Start: 34 @8948 has 173 MA's), (Start: 47 @8990 has 6 MA's), (59, 9065), (65, 9092), (72, 9125), (75, 9137), (95, 9212), (124, 9311),

Gene: Milly\_10 Start: 6976, Stop: 7362, Start Num: 32

Candidate Starts for Milly\_10:

(16, 6907), (26, 6967), (Start: 32 @6976 has 13 MA's), (73, 7156), (75, 7165), (76, 7168), (78, 7177), (95, 7240), (117, 7324), (124, 7339),

Gene: Miryou\_12 Start: 9065, Stop: 9448, Start Num: 34

Candidate Starts for Miryou\_12:

(Start: 34 @9065 has 173 MA's), (43, 9098), (54, 9149), (59, 9182), (65, 9209), (72, 9242), (95, 9329), (117, 9413), (119, 9416), (124, 9428),

Gene: Misha28\_8 Start: 5931, Stop: 6302, Start Num: 37

Candidate Starts for Misha28\_8:

(Start: 37 @5931 has 63 MA's), (46, 5961), (66, 6072), (69, 6087), (70, 6090), (72, 6096), (73, 6099), (101, 6210), (117, 6261), (129, 6294),

Gene: MissDaisy\_15 Start: 10007, Stop: 10381, Start Num: 34

Candidate Starts for MissDaisy\_15:

(Start: 34 @10007 has 173 MA's), (Start: 39 @10016 has 2 MA's), (42, 10034), (54, 10082), (65, 10142), (73, 10178), (75, 10187), (76, 10190), (93, 10253), (105, 10313), (117, 10346), (119, 10349),

Gene: Mitti\_15 Start: 10157, Stop: 10531, Start Num: 34

Candidate Starts for Mitti\_15:

(Start: 34 @10157 has 173 MA's), (Start: 39 @10166 has 2 MA's), (42, 10184), (54, 10232), (65, 10292), (73, 10328), (75, 10337), (76, 10340), (78, 10349), (93, 10403), (105, 10463), (117, 10496), (119, 10499),

Gene: MortyNRick\_9 Start: 6396, Stop: 6794, Start Num: 30

Candidate Starts for MortyNRick\_9:

(Start: 30 @6396 has 1 MA's), (Start: 38 @6411 has 5 MA's), (57, 6501), (60, 6528), (69, 6561), (72, 6570), (73, 6573), (75, 6582), (79, 6597), (81, 6615), (96, 6663), (127, 6780),

Gene: MosMoris\_39 Start: 16578, Stop: 17003, Start Num: 34

Candidate Starts for MosMoris\_39:

(Start: 33 @16575 has 16 MA's), (Start: 34 @16578 has 173 MA's), (Start: 41 @16602 has 1 MA's), (58, 16695), (73, 16761), (76, 16773), (78, 16782), (79, 16785), (94, 16854), (99, 16875), (116, 16938), (127, 16980), (130, 16986),

Gene: Mova\_8 Start: 5930, Stop: 6301, Start Num: 37

Candidate Starts for Mova\_8:

(Start: 37 @5930 has 63 MA's), (46, 5960), (66, 6071), (69, 6086), (70, 6089), (72, 6095), (101, 6209), (117, 6260), (129, 6293),

Gene: Mozy\_8 Start: 5926, Stop: 6297, Start Num: 37

Candidate Starts for Mozy\_8:

(Start: 37 @5926 has 63 MA's), (51, 5974), (61, 6046), (69, 6082), (70, 6085), (72, 6091), (73, 6094), (88, 6157), (98, 6184), (101, 6205), (108, 6229), (117, 6256),

Gene: Mufasa\_10 Start: 6962, Stop: 7348, Start Num: 32

Candidate Starts for Mufasa\_10:

(16, 6893), (26, 6953), (Start: 32 @6962 has 13 MA's), (73, 7142), (75, 7151), (76, 7154), (95, 7226), (117, 7310), (124, 7325),

Gene: Murucutumbu\_14 Start: 8938, Stop: 9318, Start Num: 34

Candidate Starts for Murucutumbu\_14:

(24, 8917), (25, 8923), (Start: 34 @8938 has 173 MA's), (Start: 47 @8980 has 6 MA's), (52, 9010), (54, 9016), (59, 9049), (72, 9109), (95, 9196), (124, 9295),

Gene: Mynx\_14 Start: 9001, Stop: 9387, Start Num: 34

Candidate Starts for Mynx\_14:

(Start: 34 @9001 has 173 MA's), (Start: 47 @9043 has 6 MA's), (59, 9118), (72, 9178), (75, 9190), (95, 9265), (124, 9364),

Gene: Nibb\_13 Start: 7968, Stop: 8345, Start Num: 34

Candidate Starts for Nibb\_13:

(11, 7887), (16, 7899), (19, 7917), (Start: 34 @7968 has 173 MA's), (73, 8142), (75, 8151), (95, 8226), (117, 8310), (124, 8325),

Gene: Nikao\_10 Start: 8266, Stop: 8649, Start Num: 34

Candidate Starts for Nikao\_10:

(21, 8230), (Start: 34 @8266 has 173 MA's), (59, 8383), (65, 8410), (72, 8443), (75, 8455), (117, 8614), (124, 8629),

Gene: Niklas\_14 Start: 8056, Stop: 8433, Start Num: 34

Candidate Starts for Niklas\_14:

(Start: 34 @8056 has 173 MA's), (Start: 47 @8098 has 6 MA's), (51, 8113), (59, 8167), (65, 8194), (72, 8227), (73, 8230), (75, 8239), (95, 8314), (117, 8398), (119, 8401), (122, 8407), (124, 8413),

Gene: Nutello\_10 Start: 8266, Stop: 8649, Start Num: 34

Candidate Starts for Nutello\_10:

(21, 8230), (Start: 34 @8266 has 173 MA's), (59, 8383), (65, 8410), (72, 8443), (75, 8455), (117, 8614), (124, 8629),

Gene: OkiRoe\_12 Start: 9087, Stop: 9470, Start Num: 34

Candidate Starts for OkiRoe\_12:

(Start: 34 @9087 has 173 MA's), (43, 9120), (54, 9171), (59, 9204), (65, 9231), (72, 9264), (95, 9351), (117, 9435), (119, 9438), (124, 9450),

Gene: Oksu\_8 Start: 5929, Stop: 6300, Start Num: 37

Candidate Starts for Oksu\_8:

(Start: 37 @5929 has 63 MA's), (46, 5959), (66, 6070), (69, 6085), (70, 6088), (72, 6094), (73, 6097), (101, 6208), (117, 6259), (129, 6292),

Gene: OmniCritical\_15 Start: 10144, Stop: 10518, Start Num: 34

Candidate Starts for OmniCritical\_15:

(Start: 34 @10144 has 173 MA's), (Start: 39 @10153 has 2 MA's), (42, 10171), (54, 10219), (65, 10279), (73, 10315), (75, 10324), (76, 10327), (78, 10336), (93, 10390), (105, 10450), (117, 10483), (119, 10486),

Gene: Omnicron\_12 Start: 8147, Stop: 8530, Start Num: 34

Candidate Starts for Omnicron\_12:

(4, 7988), (6, 8021), (Start: 34 @8147 has 173 MA's), (43, 8180), (54, 8231), (59, 8264), (65, 8291), (72, 8324), (95, 8411), (103, 8450), (117, 8495), (124, 8510),

Gene: Oscar\_13 Start: 7925, Stop: 8308, Start Num: 34

Candidate Starts for Oscar\_13:

(Start: 34 @7925 has 173 MA's), (Start: 47 @7967 has 6 MA's), (53, 8000), (59, 8042), (65, 8069), (72, 8102), (75, 8114), (95, 8189), (117, 8273), (122, 8282), (124, 8288),

Gene: OwlsT2W\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for OwlsT2W\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Padfoot\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Padfoot\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Padpat\_14 Start: 8981, Stop: 9367, Start Num: 34

Candidate Starts for Padpat\_14:

(Start: 34 @8981 has 173 MA's), (Start: 47 @9023 has 6 MA's), (59, 9098), (72, 9158), (75, 9170), (95, 9245), (124, 9344),

Gene: Paola\_12 Start: 9087, Stop: 9470, Start Num: 34

Candidate Starts for Paola\_12:

(Start: 34 @9087 has 173 MA's), (43, 9120), (54, 9171), (59, 9204), (65, 9231), (72, 9264), (95, 9351), (117, 9435), (119, 9438), (124, 9450),

Gene: Patt\_15 Start: 9983, Stop: 10357, Start Num: 34

Candidate Starts for Patt\_15:

(Start: 34 @9983 has 173 MA's), (Start: 39 @9992 has 2 MA's), (42, 10010), (54, 10058), (65, 10118), (73, 10154), (75, 10163), (76, 10166), (93, 10229), (105, 10289), (117, 10322), (119, 10325),

Gene: Peanam\_14 Start: 8056, Stop: 8433, Start Num: 34

Candidate Starts for Peanam\_14:

(Start: 34 @8056 has 173 MA's), (Start: 47 @8098 has 6 MA's), (51, 8113), (59, 8167), (65, 8194), (72, 8227), (73, 8230), (75, 8239), (95, 8314), (117, 8398), (119, 8401), (122, 8407), (124, 8413),

Gene: Peel\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Peel\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Pharb\_13 Start: 8835, Stop: 9218, Start Num: 34

Candidate Starts for Pharb\_13:

(Start: 34 @8835 has 173 MA's), (59, 8952), (65, 8979), (72, 9012), (75, 9024), (76, 9027), (95, 9099), (117, 9183), (124, 9198),

Gene: PhelpsODU\_13 Start: 7967, Stop: 8347, Start Num: 33

Candidate Starts for PhelpsODU\_13:

(Start: 33 @7967 has 16 MA's), (40, 7991), (72, 8141), (75, 8153), (76, 8156), (104, 8279), (108, 8285), (117, 8312), (124, 8327),

Gene: Phrank\_13 Start: 7911, Stop: 8291, Start Num: 33

Candidate Starts for Phrank\_13:

(Start: 33 @7911 has 16 MA's), (72, 8085), (75, 8097), (76, 8100), (104, 8223), (117, 8256), (124, 8271),

Gene: Piatt\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Piatt\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Piper2020\_8 Start: 5930, Stop: 6301, Start Num: 37

Candidate Starts for Piper2020\_8:

(Start: 37 @5930 has 63 MA's), (46, 5960), (66, 6071), (69, 6086), (70, 6089), (72, 6095), (73, 6098), (101, 6209), (117, 6260), (129, 6293),

Gene: Pixie\_13 Start: 8739, Stop: 9122, Start Num: 34

Candidate Starts for Pixie\_13:

(Start: 34 @8739 has 173 MA's), (59, 8856), (72, 8916), (75, 8928), (76, 8931), (77, 8937), (95, 9003), (111, 9066), (117, 9087), (124, 9102),

Gene: Plumbus\_8 Start: 5929, Stop: 6300, Start Num: 37

Candidate Starts for Plumbus\_8:

(Start: 37 @5929 has 63 MA's), (46, 5959), (66, 6070), (69, 6085), (70, 6088), (72, 6094), (73, 6097), (101, 6208), (117, 6259), (129, 6292),

Gene: Poise\_41 Start: 16716, Stop: 17141, Start Num: 34

Candidate Starts for Poise\_41:

(Start: 33 @16713 has 16 MA's), (Start: 34 @16716 has 173 MA's), (Start: 41 @16740 has 1 MA's), (58, 16833), (73, 16899), (76, 16911), (78, 16920), (79, 16923), (94, 16992), (99, 17013), (116, 17076), (127, 17118), (130, 17124),

Gene: Pokerus\_13 Start: 8935, Stop: 9321, Start Num: 34

Candidate Starts for Pokerus\_13:

(Start: 34 @8935 has 173 MA's), (Start: 47 @8977 has 6 MA's), (59, 9052), (65, 9079), (72, 9112), (75, 9124), (124, 9298),

Gene: Pollux\_9 Start: 7086, Stop: 7487, Start Num: 34

Candidate Starts for Pollux\_9:

(2, 6855), (3, 6867), (5, 6894), (9, 6933), (31, 7077), (Start: 34 @7086 has 173 MA's), (54, 7167), (62, 7218), (69, 7248), (75, 7269), (76, 7272), (78, 7281), (93, 7344), (106, 7404), (126, 7470),

Gene: Pollywog\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Pollywog\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Posh\_9 Start: 7080, Stop: 7481, Start Num: 34

Candidate Starts for Posh\_9:

(1, 6768), (2, 6849), (3, 6861), (5, 6888), (9, 6927), (31, 7071), (Start: 34 @7080 has 173 MA's), (54, 7161), (62, 7212), (69, 7242), (75, 7263), (76, 7266), (91, 7332), (93, 7338), (106, 7398), (126, 7464),

Gene: Pringar\_41 Start: 17028, Stop: 17453, Start Num: 34

Candidate Starts for Pringar\_41:

(Start: 33 @17025 has 16 MA's), (Start: 34 @17028 has 173 MA's), (Start: 41 @17052 has 1 MA's), (58, 17145), (76, 17223), (78, 17232), (79, 17235), (94, 17304), (99, 17325), (130, 17436),

Gene: Prithvi\_14 Start: 8945, Stop: 9331, Start Num: 34

Candidate Starts for Prithvi\_14:

(Start: 34 @8945 has 173 MA's), (Start: 47 @8987 has 6 MA's), (59, 9062), (65, 9089), (72, 9122), (75, 9134), (95, 9209), (124, 9308),

Gene: Psycho\_12 Start: 9054, Stop: 9437, Start Num: 34

Candidate Starts for Psycho\_12:

(15, 9006), (Start: 34 @9054 has 173 MA's), (59, 9171), (65, 9198), (72, 9231), (79, 9258), (95, 9318), (111, 9381), (117, 9402), (119, 9405), (124, 9417),

Gene: Pytheas\_9 Start: 6933, Stop: 7334, Start Num: 34

Candidate Starts for Pytheas\_9:

(2, 6702), (3, 6714), (5, 6741), (9, 6780), (31, 6924), (Start: 34 @6933 has 173 MA's), (54, 7014), (62, 7065), (69, 7095), (75, 7116), (76, 7119), (91, 7185), (93, 7191), (106, 7251), (126, 7317),

Gene: Quico\_8 Start: 5923, Stop: 6294, Start Num: 37

Candidate Starts for Quico\_8:

(Start: 37 @5923 has 63 MA's), (46, 5953), (66, 6064), (69, 6079), (70, 6082), (72, 6088), (73, 6091), (101, 6202), (117, 6253), (129, 6286),

Gene: QuincyRose\_13 Start: 8998, Stop: 9384, Start Num: 34

Candidate Starts for QuincyRose\_13:

(Start: 34 @8998 has 173 MA's), (Start: 47 @9040 has 6 MA's), (59, 9115), (72, 9175), (75, 9187), (95, 9262), (124, 9361),

Gene: Raela\_41 Start: 17271, Stop: 17696, Start Num: 34

Candidate Starts for Raela\_41:

(Start: 33 @17268 has 16 MA's), (Start: 34 @17271 has 173 MA's), (Start: 41 @17295 has 1 MA's), (58, 17388), (73, 17454), (76, 17466), (78, 17475), (79, 17478), (94, 17547), (99, 17568), (116, 17631), (127, 17673), (130, 17679),

Gene: Ramen\_14 Start: 8981, Stop: 9367, Start Num: 34

Candidate Starts for Ramen\_14:

(Start: 34 @8981 has 173 MA's), (Start: 47 @9023 has 6 MA's), (59, 9098), (65, 9125), (72, 9158), (75, 9170), (95, 9245), (124, 9344),

Gene: Ramsey\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for Ramsey\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (108, 6230), (117, 6257), (129, 6290),

Gene: Rando14\_12 Start: 8049, Stop: 8432, Start Num: 34

Candidate Starts for Rando14\_12:

(10, 7962), (12, 7974), (21, 8013), (25, 8034), (Start: 34 @8049 has 173 MA's), (54, 8133), (59, 8166), (65, 8193), (72, 8226), (79, 8253), (95, 8313), (103, 8352), (117, 8397), (119, 8400), (124, 8412),

Gene: Rapunzel97\_14 Start: 8982, Stop: 9368, Start Num: 34

Candidate Starts for Rapunzel97\_14:

(Start: 34 @8982 has 173 MA's), (Start: 47 @9024 has 6 MA's), (59, 9099), (65, 9126), (72, 9159), (75, 9171), (95, 9246), (124, 9345),

Gene: RedRaider77\_41 Start: 17172, Stop: 17597, Start Num: 34

Candidate Starts for RedRaider77\_41:

(Start: 33 @17169 has 16 MA's), (Start: 34 @17172 has 173 MA's), (Start: 41 @17196 has 1 MA's), (58, 17289), (73, 17355), (76, 17367), (78, 17376), (79, 17379), (94, 17448), (99, 17469), (116, 17532), (127, 17574), (130, 17580),

Gene: Renaud18\_8 Start: 6412, Stop: 6783, Start Num: 37

Candidate Starts for Renaud18\_8:

(Start: 37 @6412 has 63 MA's), (44, 6436), (64, 6541), (69, 6565), (72, 6574), (79, 6601), (89, 6637), (106, 6706), (109, 6712), (112, 6721), (116, 6736),

Gene: Reptar3000\_15 Start: 9985, Stop: 10359, Start Num: 34

Candidate Starts for Reptar3000\_15:

(Start: 34 @9985 has 173 MA's), (Start: 39 @9994 has 2 MA's), (42, 10012), (54, 10060), (65, 10120), (73, 10156), (75, 10165), (76, 10168), (93, 10231), (105, 10291), (117, 10324), (119, 10327),

Gene: Rialto\_8 Start: 5929, Stop: 6300, Start Num: 37

Candidate Starts for Rialto\_8:

(Start: 37 @5929 has 63 MA's), (46, 5959), (66, 6070), (69, 6085), (70, 6088), (72, 6094), (73, 6097), (101, 6208), (117, 6259), (129, 6292),



Gene: RockyHorror\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for RockyHorror\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: Ronaldo\_43 Start: 16243, Stop: 16656, Start Num: 37

Candidate Starts for Ronaldo\_43:

(Start: 37 @16243 has 63 MA's), (43, 16270), (Start: 47 @16276 has 6 MA's), (49, 16279), (55, 16327), (71, 16402), (74, 16414), (83, 16459), (90, 16492), (107, 16567),

Gene: Rosmarinus\_14 Start: 9009, Stop: 9395, Start Num: 34

Candidate Starts for Rosmarinus\_14:

(Start: 34 @9009 has 173 MA's), (Start: 47 @9051 has 6 MA's), (59, 9126), (72, 9186), (75, 9198), (95, 9273), (124, 9372),

Gene: Ruthiejr\_14 Start: 9839, Stop: 10213, Start Num: 34

Candidate Starts for Ruthiejr\_14:

(Start: 34 @9839 has 173 MA's), (Start: 39 @9848 has 2 MA's), (42, 9866), (54, 9914), (65, 9974), (72, 10007), (73, 10010), (75, 10019), (76, 10022), (78, 10031), (93, 10085), (105, 10145), (108, 10151), (117, 10178), (122, 10187),

Gene: SamScheppers\_13 Start: 9760, Stop: 10134, Start Num: 34

Candidate Starts for SamScheppers\_13:

(Start: 34 @9760 has 173 MA's), (Start: 39 @9769 has 2 MA's), (42, 9787), (54, 9835), (65, 9895), (73, 9931), (75, 9940), (76, 9943), (78, 9952), (93, 10006), (105, 10066), (117, 10099), (119, 10102),

Gene: SamuelLPlaqson\_14 Start: 8929, Stop: 9309, Start Num: 34

Candidate Starts for SamuelLPlaqson\_14:

(Start: 34 @8929 has 173 MA's), (Start: 47 @8971 has 6 MA's), (52, 9001), (59, 9040), (65, 9067), (72, 9100), (95, 9187), (111, 9250), (124, 9286),

Gene: Sarma624\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for Sarma624\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: Scarlett\_13 Start: 7924, Stop: 8307, Start Num: 34

Candidate Starts for Scarlett\_13:

(Start: 34 @7924 has 173 MA's), (Start: 47 @7966 has 6 MA's), (53, 7999), (59, 8041), (65, 8068), (72, 8101), (75, 8113), (95, 8188), (117, 8272), (122, 8281), (124, 8287),

Gene: Seagreen\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Seagreen\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (101, 6207), (117, 6258), (129, 6291),

Gene: SgtBeansprout\_10 Start: 8266, Stop: 8649, Start Num: 34

Candidate Starts for SgtBeansprout\_10:

(21, 8230), (Start: 34 @8266 has 173 MA's), (59, 8383), (65, 8410), (72, 8443), (75, 8455), (117, 8614), (124, 8629),

Gene: Shadow1\_12 Start: 7822, Stop: 8202, Start Num: 33

Candidate Starts for Shadow1\_12:

(Start: 33 @7822 has 16 MA's), (72, 7996), (75, 8008), (76, 8011), (104, 8134), (117, 8167), (124, 8182),

Gene: Shaobing\_14 Start: 8056, Stop: 8433, Start Num: 34

Candidate Starts for Shaobing\_14:

(Start: 34 @8056 has 173 MA's), (Start: 47 @8098 has 6 MA's), (51, 8113), (59, 8167), (65, 8194), (72, 8227), (73, 8230), (75, 8239), (95, 8314), (117, 8398), (119, 8401), (122, 8407), (124, 8413),

Gene: ShedlockHolmes\_13 Start: 8987, Stop: 9370, Start Num: 34

Candidate Starts for ShedlockHolmes\_13:

(Start: 34 @8987 has 173 MA's), (59, 9104), (72, 9164), (75, 9176), (76, 9179), (77, 9185), (95, 9251), (117, 9335), (124, 9350),

Gene: ShiaSurprise\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for ShiaSurprise\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: SimranZ1\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for SimranZ1\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: SirPhilip\_13 Start: 7688, Stop: 8065, Start Num: 34

Candidate Starts for SirPhilip\_13:

(Start: 34 @7688 has 173 MA's), (Start: 47 @7730 has 6 MA's), (59, 7799), (73, 7862), (75, 7871), (95, 7946), (122, 8039), (124, 8045),

Gene: Slarp\_15 Start: 10244, Stop: 10618, Start Num: 34

Candidate Starts for Slarp\_15:

(Start: 34 @10244 has 173 MA's), (Start: 39 @10253 has 2 MA's), (42, 10271), (54, 10319), (65, 10379), (73, 10415), (75, 10424), (76, 10427), (78, 10436), (93, 10490), (105, 10550), (117, 10583), (119, 10586),

Gene: Slimphazie\_14 Start: 8982, Stop: 9368, Start Num: 34

Candidate Starts for Slimphazie\_14:

(Start: 34 @8982 has 173 MA's), (Start: 47 @9024 has 6 MA's), (59, 9099), (65, 9126), (72, 9159), (75, 9171), (95, 9246), (124, 9345),

Gene: SoSeph\_12 Start: 9214, Stop: 9597, Start Num: 34

Candidate Starts for SoSeph\_12:

(Start: 34 @9214 has 173 MA's), (43, 9247), (Start: 47 @9256 has 6 MA's), (59, 9331), (65, 9358), (72, 9391), (95, 9478), (117, 9562), (119, 9565), (124, 9577),

Gene: Sparky\_7 Start: 6404, Stop: 6811, Start Num: 37

Candidate Starts for Sparky\_7:

(35, 6401), (Start: 37 @6404 has 63 MA's), (Start: 47 @6443 has 6 MA's), (49, 6446), (56, 6497), (68, 6566), (69, 6569), (73, 6581), (75, 6590), (84, 6626), (91, 6659), (100, 6701), (117, 6764), (119, 6767), (121, 6770),

Gene: Spikelee\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Spikelee\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Spock\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Spock\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Squirty\_8 Start: 5926, Stop: 6297, Start Num: 37

Candidate Starts for Squirty\_8:

(Start: 37 @5926 has 63 MA's), (46, 5956), (66, 6067), (69, 6082), (70, 6085), (72, 6091), (73, 6094), (101, 6205), (117, 6256), (129, 6289),

Gene: Stap\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Stap\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Starcevich\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Starcevich\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Stinson\_14 Start: 8950, Stop: 9330, Start Num: 34

Candidate Starts for Stinson\_14:

(24, 8929), (25, 8935), (Start: 34 @8950 has 173 MA's), (Start: 47 @8992 has 6 MA's), (52, 9022), (54, 9028), (59, 9061), (72, 9121), (95, 9208), (124, 9307),

Gene: Strobilo\_10 Start: 6976, Stop: 7362, Start Num: 32

Candidate Starts for Strobilo\_10:

(16, 6907), (26, 6967), (Start: 32 @6976 has 13 MA's), (73, 7156), (75, 7165), (76, 7168), (78, 7177), (95, 7240), (117, 7324), (124, 7339),

Gene: Sulley\_14 Start: 8951, Stop: 9337, Start Num: 34

Candidate Starts for Sulley\_14:

(Start: 34 @8951 has 173 MA's), (Start: 47 @8993 has 6 MA's), (59, 9068), (65, 9095), (72, 9128), (75, 9140), (95, 9215), (124, 9314),

Gene: Sunflower1121\_12 Start: 7833, Stop: 8213, Start Num: 33

Candidate Starts for Sunflower1121\_12:

(Start: 33 @7833 has 16 MA's), (72, 8007), (75, 8019), (76, 8022), (104, 8145), (117, 8178), (124, 8193),

Gene: Syra333\_13 Start: 7926, Stop: 8309, Start Num: 33

Candidate Starts for Syra333\_13:

(Start: 33 @7926 has 16 MA's), (72, 8100), (75, 8112), (76, 8115), (104, 8238), (117, 8271), (124, 8286),

Gene: TBond007\_13 Start: 8738, Stop: 9121, Start Num: 34

Candidate Starts for TBond007\_13:

(Start: 34 @8738 has 173 MA's), (59, 8855), (72, 8915), (75, 8927), (76, 8930), (77, 8936), (95, 9002), (111, 9065), (117, 9086), (124, 9101),

Gene: TChen\_8 Start: 6532, Stop: 6906, Start Num: 37

Candidate Starts for TChen\_8:

(Start: 37 @6532 has 63 MA's), (44, 6559), (64, 6664), (69, 6688), (72, 6697), (79, 6724), (89, 6760), (106, 6829), (109, 6835), (112, 6844), (116, 6859),

Gene: TClif\_13 Start: 7920, Stop: 8297, Start Num: 34

Candidate Starts for TClif\_13:

(Start: 13 @7842 has 2 MA's), (Start: 34 @7920 has 173 MA's), (59, 8031), (75, 8103), (95, 8178), (105, 8229), (117, 8262), (124, 8277),

Gene: TM4\_10 Start: 7028, Stop: 7414, Start Num: 32

Candidate Starts for TM4\_10:

(16, 6959), (26, 7019), (Start: 32 @7028 has 13 MA's), (72, 7205), (73, 7208), (75, 7217), (76, 7220), (78, 7229), (95, 7292), (117, 7376), (124, 7391),

Gene: TPA4\_9 Start: 7567, Stop: 7953, Start Num: 36

Candidate Starts for TPA4\_9:

(36, 7567), (73, 7729), (75, 7738), (94, 7819), (102, 7858), (109, 7879), (113, 7897),

Gene: Tachez\_14 Start: 8986, Stop: 9330, Start Num: 47

Candidate Starts for Tachez\_14:

(Start: 34 @8944 has 173 MA's), (Start: 47 @8986 has 6 MA's), (59, 9061), (65, 9088), (72, 9121), (75, 9133), (95, 9208), (124, 9307),

Gene: TaiwanKao\_14 Start: 8951, Stop: 9337, Start Num: 34

Candidate Starts for TaiwanKao\_14:

(Start: 34 @8951 has 173 MA's), (Start: 47 @8993 has 6 MA's), (59, 9068), (65, 9095), (72, 9128), (75, 9140), (95, 9215), (124, 9314),

Gene: Taquito\_13 Start: 9830, Stop: 10204, Start Num: 34

Candidate Starts for Taquito\_13:

(Start: 34 @9830 has 173 MA's), (Start: 39 @9839 has 2 MA's), (42, 9857), (54, 9905), (65, 9965), (72, 9998), (73, 10001), (75, 10010), (76, 10013), (78, 10022), (93, 10076), (105, 10136), (117, 10169), (119, 10172),

Gene: Tesla\_40 Start: 17021, Stop: 17446, Start Num: 34

Candidate Starts for Tesla\_40:

(Start: 33 @17018 has 16 MA's), (Start: 34 @17021 has 173 MA's), (Start: 41 @17045 has 1 MA's), (58, 17138), (73, 17204), (76, 17216), (78, 17225), (79, 17228), (94, 17297), (99, 17318), (116, 17381), (127, 17423), (130, 17429),

Gene: ThetaBob\_8 Start: 6412, Stop: 6786, Start Num: 37

Candidate Starts for ThetaBob\_8:

(Start: 37 @6412 has 63 MA's), (44, 6439), (64, 6544), (69, 6568), (72, 6577), (79, 6604), (89, 6640), (106, 6709), (109, 6715), (112, 6724), (116, 6739),

Gene: Thyatira\_12 Start: 9086, Stop: 9469, Start Num: 34

Candidate Starts for Thyatira\_12:

(Start: 34 @9086 has 173 MA's), (43, 9119), (54, 9170), (59, 9203), (65, 9230), (72, 9263), (95, 9350), (117, 9434), (119, 9437), (124, 9449),

Gene: Tierra\_13 Start: 8632, Stop: 9012, Start Num: 33

Candidate Starts for Tierra\_13:

(Start: 33 @8632 has 16 MA's), (40, 8656), (72, 8806), (75, 8818), (76, 8821), (104, 8944), (108, 8950), (117, 8977), (124, 8992),

Gene: TiniBug\_14 Start: 8929, Stop: 9309, Start Num: 34

Candidate Starts for TiniBug\_14:

(Start: 34 @8929 has 173 MA's), (Start: 47 @8971 has 6 MA's), (52, 9001), (59, 9040), (65, 9067), (72, 9100), (95, 9187), (111, 9250), (124, 9286),

Gene: Tiri\_14 Start: 8990, Stop: 9376, Start Num: 34

Candidate Starts for Tiri\_14:

(Start: 34 @8990 has 173 MA's), (Start: 47 @9032 has 6 MA's), (59, 9107), (65, 9134), (72, 9167), (75, 9179), (95, 9254), (124, 9353),

Gene: TootsiePop\_8 Start: 5931, Stop: 6302, Start Num: 37

Candidate Starts for TootsiePop\_8:

(Start: 37 @5931 has 63 MA's), (46, 5961), (66, 6072), (69, 6087), (70, 6090), (72, 6096), (73, 6099), (101, 6210), (117, 6261), (129, 6294),

Gene: Tootsieroll\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for Tootsieroll\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Topper\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Topper\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Totinger\_8 Start: 5929, Stop: 6300, Start Num: 37

Candidate Starts for Totinger\_8:

(Start: 37 @5929 has 63 MA's), (46, 5959), (66, 6070), (69, 6085), (70, 6088), (72, 6094), (73, 6097), (101, 6208), (117, 6259), (129, 6292),

Gene: TreyKay\_14 Start: 8945, Stop: 9331, Start Num: 34

Candidate Starts for TreyKay\_14:

(Start: 34 @8945 has 173 MA's), (Start: 47 @8987 has 6 MA's), (59, 9062), (65, 9089), (72, 9122), (75, 9134), (95, 9209), (124, 9308),

Gene: TribbleTrouble\_12 Start: 8796, Stop: 9179, Start Num: 34

Candidate Starts for TribbleTrouble\_12:

(Start: 34 @8796 has 173 MA's), (59, 8913), (72, 8973), (75, 8985), (76, 8988), (77, 8994), (95, 9060), (117, 9144), (124, 9159),

Gene: TruffulaTree\_14 Start: 8978, Stop: 9364, Start Num: 34

Candidate Starts for TruffulaTree\_14:

(Start: 34 @8978 has 173 MA's), (Start: 47 @9020 has 6 MA's), (59, 9095), (65, 9122), (72, 9155), (75, 9167), (95, 9242), (124, 9341),

Gene: Twitch\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Twitch\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: UncleRicky\_8 Start: 5928, Stop: 6299, Start Num: 37

Candidate Starts for UncleRicky\_8:

(Start: 37 @5928 has 63 MA's), (46, 5958), (66, 6069), (69, 6084), (70, 6087), (72, 6093), (73, 6096), (101, 6207), (117, 6258), (129, 6291),

Gene: Unicorn\_13 Start: 7967, Stop: 8347, Start Num: 33

Candidate Starts for Unicorn\_13:

(Start: 33 @7967 has 16 MA's), (40, 7991), (72, 8141), (75, 8153), (76, 8156), (104, 8279), (108, 8285), (117, 8312), (124, 8327),

Gene: Urkel\_14 Start: 8929, Stop: 9309, Start Num: 34

Candidate Starts for Urkel\_14:

(Start: 34 @8929 has 173 MA's), (Start: 47 @8971 has 6 MA's), (52, 9001), (59, 9040), (65, 9067), (72, 9100), (95, 9187), (111, 9250), (124, 9286),

Gene: Validus\_14 Start: 7976, Stop: 8353, Start Num: 34

Candidate Starts for Validus\_14:

(Start: 34 @7976 has 173 MA's), (51, 8033), (59, 8087), (65, 8114), (72, 8147), (73, 8150), (75, 8159), (95, 8234), (108, 8291), (117, 8318), (119, 8321), (124, 8333),

Gene: VasuNzinga\_41 Start: 16605, Stop: 17030, Start Num: 34

Candidate Starts for VasuNzinga\_41:

(Start: 33 @16602 has 16 MA's), (Start: 34 @16605 has 173 MA's), (Start: 41 @16629 has 1 MA's), (58, 16722), (73, 16788), (76, 16800), (78, 16809), (79, 16812), (94, 16881), (99, 16902), (116, 16965), (127, 17007), (130, 17013),

Gene: Veliki\_14 Start: 9021, Stop: 9407, Start Num: 34

Candidate Starts for Veliki\_14:

(Start: 34 @9021 has 173 MA's), (Start: 47 @9063 has 6 MA's), (59, 9138), (72, 9198), (75, 9210), (95, 9285), (124, 9384),

Gene: Velveteen\_8 Start: 5927, Stop: 6298, Start Num: 37

Candidate Starts for Velveteen\_8:

(Start: 37 @5927 has 63 MA's), (46, 5957), (66, 6068), (69, 6083), (70, 6086), (72, 6092), (73, 6095), (101, 6206), (117, 6257), (129, 6290),

Gene: Volt\_42 Start: 16243, Stop: 16656, Start Num: 37

Candidate Starts for Volt\_42:

(Start: 37 @16243 has 63 MA's), (43, 16270), (Start: 47 @16276 has 6 MA's), (49, 16279), (55, 16327), (71, 16402), (74, 16414), (83, 16459), (90, 16492), (107, 16567),

Gene: Waterfoul\_12 Start: 9108, Stop: 9491, Start Num: 34

Candidate Starts for Waterfoul\_12:

(Start: 34 @9108 has 173 MA's), (43, 9141), (54, 9192), (59, 9225), (65, 9252), (72, 9285), (95, 9372), (117, 9456), (119, 9459), (124, 9471),

Gene: Wintermute\_15 Start: 10233, Stop: 10607, Start Num: 34

Candidate Starts for Wintermute\_15:

(Start: 34 @10233 has 173 MA's), (Start: 39 @10242 has 2 MA's), (42, 10260), (54, 10308), (65, 10368), (73, 10404), (75, 10413), (76, 10416), (78, 10425), (93, 10479), (105, 10539), (117, 10572), (119, 10575),

Gene: Wrigley\_9 Start: 6930, Stop: 7331, Start Num: 34

Candidate Starts for Wrigley\_9:

(2, 6699), (3, 6711), (9, 6777), (31, 6921), (Start: 34 @6930 has 173 MA's), (54, 7011), (62, 7062), (69, 7092), (75, 7113), (76, 7116), (93, 7188), (106, 7248), (126, 7314),

Gene: Ximenita\_14 Start: 8105, Stop: 8488, Start Num: 33

Candidate Starts for Ximenita\_14:

(Start: 33 @8105 has 16 MA's), (72, 8279), (75, 8291), (76, 8294), (95, 8366), (104, 8417), (117, 8450), (124, 8465),

Gene: Y10\_15 Start: 10242, Stop: 10607, Start Num: 39

Candidate Starts for Y10\_15:

(Start: 34 @10233 has 173 MA's), (Start: 39 @10242 has 2 MA's), (42, 10260), (54, 10308), (65, 10368), (73, 10404), (75, 10413), (76, 10416), (78, 10425), (93, 10479), (105, 10539), (117, 10572), (119, 10575),

Gene: Y2\_15 Start: 10242, Stop: 10607, Start Num: 39

Candidate Starts for Y2\_15:

(Start: 34 @10233 has 173 MA's), (Start: 39 @10242 has 2 MA's), (42, 10260), (54, 10308), (65, 10368), (73, 10404), (75, 10413), (76, 10416), (78, 10425), (93, 10479), (105, 10539), (117, 10572), (119, 10575),

Gene: YoureAdopted\_13 Start: 8954, Stop: 9340, Start Num: 34

Candidate Starts for YoureAdopted\_13:

(Start: 34 @8954 has 173 MA's), (Start: 47 @8996 has 6 MA's), (59, 9071), (65, 9098), (72, 9131), (75, 9143), (95, 9218), (124, 9317),

Gene: Yuna\_14 Start: 8096, Stop: 8479, Start Num: 34

Candidate Starts for Yuna\_14:

(Start: 13 @8015 has 2 MA's), (21, 8060), (Start: 34 @8096 has 173 MA's), (40, 8117), (Start: 47 @8138 has 6 MA's), (54, 8180), (59, 8213), (72, 8273), (75, 8285), (95, 8360), (114, 8438), (119, 8447), (124, 8459),

Gene: Yunkel11\_14 Start: 7932, Stop: 8309, Start Num: 34

Candidate Starts for Yunkel11\_14:

(Start: 13 @7854 has 2 MA's), (Start: 34 @7932 has 173 MA's), (59, 8043), (73, 8106), (75, 8115), (108, 8247), (117, 8274), (124, 8289),

Gene: Zabiza\_14 Start: 9021, Stop: 9365, Start Num: 47

Candidate Starts for Zabiza\_14:

(Start: 34 @8979 has 173 MA's), (Start: 47 @9021 has 6 MA's), (59, 9096), (65, 9123), (72, 9156), (75, 9168), (95, 9243), (124, 9342),

Gene: Zavala\_14 Start: 8960, Stop: 9346, Start Num: 34

Candidate Starts for Zavala\_14:

(Start: 34 @8960 has 173 MA's), (Start: 47 @9002 has 6 MA's), (59, 9077), (72, 9137), (75, 9149), (95, 9224), (124, 9323),

Gene: Ziko\_43 Start: 16183, Stop: 16596, Start Num: 37

Candidate Starts for Ziko\_43:

(Start: 37 @16183 has 63 MA's), (43, 16210), (Start: 47 @16216 has 6 MA's), (49, 16219), (55, 16267), (71, 16342), (74, 16354), (83, 16399), (90, 16432), (107, 16507),

Gene: ZoeJ\_10 Start: 6927, Stop: 7310, Start Num: 32

Candidate Starts for ZoeJ\_10:

(16, 6858), (26, 6918), (Start: 32 @6927 has 13 MA's), (73, 7107), (75, 7116), (76, 7119), (117, 7275),  
(119, 7278), (124, 7290),