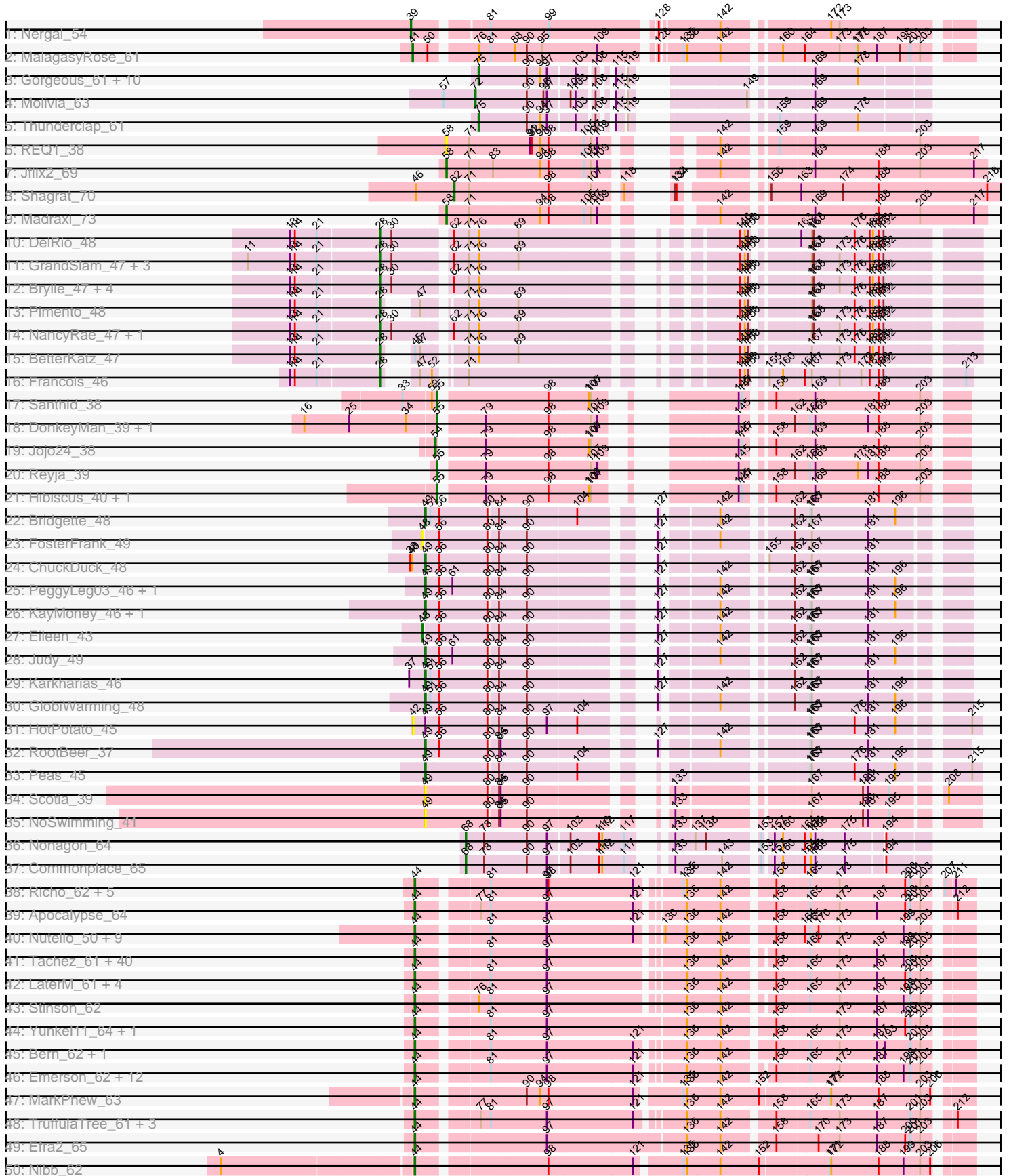
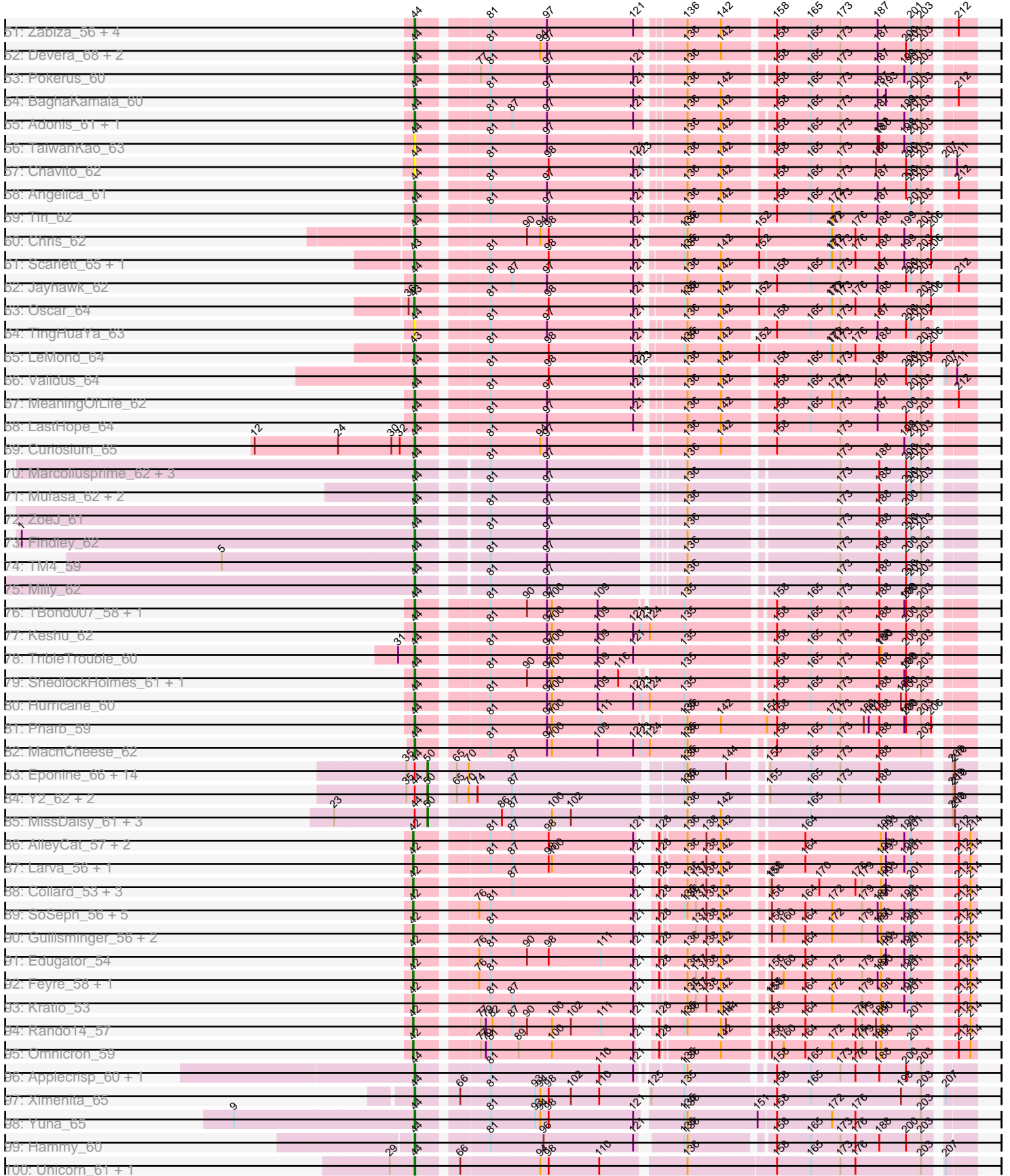


Pham 224223



Pham 224223





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 224223 Report

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

Pham number 224223 has 303 members, 36 are drafts.

Phages represented in each track:

- Track 1 : Nergal\_54
- Track 2 : MalagasyRose\_61
- Track 3 : Gorgeous\_61, Rings\_62, Jaek\_61, Amigo\_62, Heylee\_64, Ichor\_61, SorJuana\_61, Amavida\_63, Yeezus\_61, Boersma\_64, Anansi\_61
- Track 4 : Molivia\_63
- Track 5 : Thunderclap\_61
- Track 6 : REQ1\_38
- Track 7 : Jflix2\_69
- Track 8 : Shagrat\_70
- Track 9 : Madraxi\_73
- Track 10 : DelRio\_48
- Track 11 : GrandSlam\_47, Ayotoya\_47, Hamood\_47, Chop\_47
- Track 12 : Brylie\_47, Mulch\_47, WheatThin\_47, Nadeem\_47, Parada\_47
- Track 13 : Pimento\_48
- Track 14 : NancyRae\_47, Bock\_47
- Track 15 : BetterKatz\_47
- Track 16 : Francois\_46
- Track 17 : Santhid\_38
- Track 18 : DonkeyMan\_39, Tarzan\_39
- Track 19 : Jojo24\_38
- Track 20 : Reyja\_39
- Track 21 : Hibiscus\_40, Heinz\_40
- Track 22 : Bridgette\_48
- Track 23 : FosterFrank\_49
- Track 24 : ChuckDuck\_48
- Track 25 : PeggyLeg03\_46, Pucara\_43
- Track 26 : KayMoney\_46, Constance\_46
- Track 27 : Eileen\_43
- Track 28 : Judy\_49
- Track 29 : Karkharias\_46
- Track 30 : GlobiWarming\_48
- Track 31 : HotPotato\_45
- Track 32 : RootBeer\_37
- Track 33 : Peas\_45
- Track 34 : Scotia\_39
- Track 35 : NoSwimming\_41
- Track 36 : Nonagon\_64

- Track 37 : Commonplace\_65
- Track 38 : Richo\_62, Dartin\_62, Niklas\_62, Shaobing\_62, McMater\_62, Peanam\_62
- Track 39 : Apocalypse\_64
- Track 40 : Nutello\_50, Teejan\_52, Nikao\_53, Torres\_52, Biglebops\_50, LilPharaoh\_50, Enkosi\_52, Amelie\_50, Mdavu\_51, SgtBeansprout\_50
- Track 41 : Tachez\_61, BGlluviae\_61, Jarvi\_61, TiniBug\_62, Blizzard\_61, DrHayes\_62, Joy99\_61, Atiba\_62, Hyperbowlee\_61, Adephegia\_61, LindNT\_60, Llorens\_61, Homura\_61, CaseJules\_63, Spock\_61, Capricorn\_61, Rosmarinus\_61, ShiaSurprise\_62, Lunahalos\_61, Boiiii\_61, Bella96\_62, SamuelLPlaqson\_62, CrimD\_62, Urkel\_62, Padfoot\_61, Durfee\_61, Peel\_61, Belladonna\_61, Topper\_61, Piatt\_61, Dalmuri\_61, Inky\_61, Asayake\_61, TreyKay\_62, CallaLilly\_63, Jeckyll\_61, Twitch\_61, AlishaPH\_61, BEEST\_61, CREW\_61, Prithvi\_62
- Track 42 : LaterM\_61, Ageofdapage\_64, Megsy\_63, Sulley\_61, Murucutumbu\_62
- Track 43 : Stinson\_62
- Track 44 : Yunkel11\_64, Guanica15\_64
- Track 45 : Bern\_62, CheetoDust\_60
- Track 46 : Emerson\_62, Clipper\_65, MacKat\_56, QuincyRose\_60, Anaya\_63, YoureAdopted\_60, JAWS\_61, Veliki\_62, Mynx\_62, Beezoo\_63, Ganymede\_62, Padpat\_63, Geraldini\_64
- Track 47 : MarkPhew\_63
- Track 48 : TruffulaTree\_61, BarrelRoll\_61, Rapunzel97\_62, Slimphazie\_61
- Track 49 : Efra2\_65
- Track 50 : Nibb\_62
- Track 51 : Zabiza\_56, Deby\_61, Ramen\_62, ActinUp\_61, HedwigODU\_61
- Track 52 : Devera\_68, Dole\_66, Illumine\_66
- Track 53 : Pokerus\_60
- Track 54 : BaghaKamala\_60
- Track 55 : Adonis\_61, Zavala\_63
- Track 56 : TaiwanKao\_63
- Track 57 : Chavito\_62
- Track 58 : Angelica\_61
- Track 59 : Tiri\_62
- Track 60 : Chris\_62
- Track 61 : Scarlett\_65, KiSi\_65
- Track 62 : Jayhawk\_62
- Track 63 : Oscar\_64
- Track 64 : TingHuaYa\_63
- Track 65 : LeMond\_64
- Track 66 : Validus\_64
- Track 67 : MeaningOfLife\_62
- Track 68 : LastHope\_64
- Track 69 : Curiosium\_65
- Track 70 : Marcoliusprime\_62, DismalFunk\_62, DismalStressor\_62, Strobilo\_63
- Track 71 : Mufasa\_62, Doughnut\_63, BoostSeason\_62
- Track 72 : ZoeJ\_61
- Track 73 : Findley\_62
- Track 74 : TM4\_59
- Track 75 : Milly\_62
- Track 76 : TBond007\_58, Pixie\_59
- Track 77 : Keshu\_62
- Track 78 : TribbleTrouble\_60
- Track 79 : ShedlockHolmes\_61, Lea83\_61
- Track 80 : Hurricane\_60

- Track 81 : Pharb\_59
- Track 82 : MacnCheese\_62
- Track 83 : Eponine\_66, Juliette\_66, Lebo14\_65, Ruthiejr\_65, Malthus\_65, Taquito\_63, Mitti\_64, Fionnbharth\_64, Slarp\_64, Wintermute\_64, Kraw\_65, SamScheppers\_62, OmniCritical\_63, Chancellor\_64, Cheetobro\_64
- Track 84 : Y2\_62, Y10\_62, JF1\_64
- Track 85 : MissDaisy\_61, Bobquesha\_65, Patt\_60, Reptar3000\_61
- Track 86 : AlleyCat\_57, Psycho\_55, Dadosky\_57
- Track 87 : Larva\_56, Neighly\_57
- Track 88 : Collard\_53, Agent47\_55, InvictusManeo\_53, ViviJ\_53
- Track 89 : SoSeph\_56, Heftyboy\_56, Gengar\_55, Waterfoul\_57, OkiRoe\_56, Miryou\_59
- Track 90 : Guillsminger\_56, Paola\_55, Leston\_55
- Track 91 : Edugator\_54
- Track 92 : Feyre\_58, Thyatira\_58
- Track 93 : Kratio\_53
- Track 94 : Rando14\_57
- Track 95 : Omnicron\_59
- Track 96 : Applecrisp\_60, Fefferhead\_58
- Track 97 : Ximenita\_65
- Track 98 : Yuna\_65
- Track 99 : Hammy\_60
- Track 100 : Unicorn\_61, PhelpsODU\_61
- Track 101 : Cain\_63, Bryler\_63, Phrank\_63, Tierra\_63
- Track 102 : Shadow1\_64, Sunflower1121\_65
- Track 103 : Ekdilam\_58
- Track 104 : November\_60
- Track 105 : Amgine\_59
- Track 106 : Ellie\_56
- Track 107 : DarthP\_60
- Track 108 : SirPhilip\_61
- Track 109 : Amohnition\_60
- Track 110 : Krueger\_64
- Track 111 : Syra333\_63
- Track 112 : Marshawn\_60
- Track 113 : TClif\_61
- Track 114 : Aminay\_61
- Track 115 : Boilgate\_56
- Track 116 : Catdawg\_12, JangDynasty\_12, SchoolBus\_12, Alkhayr\_13, FoulBall\_12, Idergollasper\_12, Blessica\_12, Vorrrps\_13, KingPhillip3\_12, Murai\_13, Bora\_13, Familton\_13, YungJamal\_14, Zebo\_12, Vagabond\_13, Shida\_13, Ryadel\_15, Mori\_13, Firecracker\_13, Wogge42\_13, NiebruSaylor\_13, TelAviv\_12
- Track 117 : Dylan\_13, Zakhe101\_14, Ashwin\_14, Wildflower\_13
- Track 118 : Schuy\_14, Krili\_13, MadKillah\_14
- Track 119 : Corndog\_15
- Track 120 : Smooch\_14
- Track 121 : Winget\_13
- Track 122 : GMA4\_40
- Track 123 : TinyDot\_44
- Track 124 : Yappy\_87
- Track 125 : Shambre1\_40
- Track 126 : TPA4\_47

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

The start number called the most often in the published annotations is 44, it was called in 138 of the 267 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_61, Adephagia\_61, Adonis\_61, Ageofdapage\_64, AlishaPH\_61, Amelie\_50, Amgine\_59, Amohnition\_60, Anaya\_63, Angelica\_61, Apocalypse\_64, Applecrisp\_60, Asayake\_61, Atiba\_62, BEEST\_61, BGIlluviae\_61, BaghaKamala\_60, BarrelRoll\_61, Beezoo\_63, Bella96\_62, Belladonna\_61, Bern\_62, Biglebops\_50, Blizzard\_61, Boiiii\_61, BoostSeason\_62, Bryler\_63, CREW\_61, Cain\_63, CallaLilly\_63, Capricorn\_61, CaseJules\_63, Chavito\_62, CheetoDust\_60, Chris\_62, Clipper\_65, CrimD\_62, Curiosium\_65, Dalmuri\_61, DarthP\_60, Dartin\_62, Deby\_61, Devera\_68, DismalFunk\_62, DismalStressor\_62, Dole\_66, Doughnut\_63, DrHayes\_62, Durfee\_61, Efra2\_65, Ekdilam\_58, Ellie\_56, Emerson\_62, Enkosi\_52, Fefferhead\_58, Findley\_62, Ganymede\_62, Geraldini\_64, Guanica15\_64, Hammy\_60, HedwigODU\_61, Homura\_61, Hurricane\_60, Hyperbowlee\_61, Illumine\_66, Inky\_61, JAWS\_61, Jarvi\_61, Jayhawk\_62, Jeckyll\_61, Joy99\_61, Keshu\_62, Krueger\_64, LastHope\_64, LaterM\_61, Lea83\_61, LilPharaoh\_50, LindNT\_60, Llorens\_61, Lunahalos\_61, MacKat\_56, MacnCheese\_62, Marcoliusprime\_62, MarkPhew\_63, McMater\_62, Mdavu\_51, MeaningOfLife\_62, Megsy\_63, Milly\_62, Mufasa\_62, Murucutumbu\_62, Mynx\_62, Nibb\_62, Nikao\_53, Niklas\_62, November\_60, Nutello\_50, Padfoot\_61, Padpat\_63, Peanam\_62, Peel\_61, Pharb\_59, PhelpsODU\_61, Phrank\_63, Piatt\_61, Pixie\_59, Pokerus\_60, Prithvi\_62, QuincyRose\_60, Ramen\_62, Rapunzel97\_62, Richo\_62, Rosmarinus\_61, SamuelLPlaqson\_62, SgtBeansprout\_50, Shadow1\_64, Shaobing\_62, ShedlockHolmes\_61, ShiaSurprise\_62, SirPhilip\_61, Slimphazie\_61, Spock\_61, Stinson\_62, Strobilo\_63, Sulley\_61, Sunflower1121\_65, Syra333\_63, TBond007\_58, TClif\_61, TM4\_59, Tachez\_61, TaiwanKao\_63, Teejan\_52, Tierra\_63, TingHuaYa\_63, TiniBug\_62, Tiri\_62, Topper\_61, Torres\_52, TreyKay\_62, TribbleTrouble\_60, TruffulaTree\_61, Twitch\_61, Unicorn\_61, Urkel\_62, Validus\_64, Veliki\_62, Ximenita\_65, YoureAdopted\_60, Yuna\_65, Yunkel11\_64, Zabiza\_56, Zavala\_63, ZoeJ\_61,

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

- Aminay\_61, Bobquesha\_65, Chancellor\_64, Cheetobro\_64, Eponine\_66, Fionnbharth\_64, JF1\_64, Juliette\_66, Kraw\_65, Lebo14\_65, Malthus\_65, MissDaisy\_61, Mitti\_64, OmniCritical\_63, Patt\_60, Reptar3000\_61, Ruthiejr\_65, SamScheppers\_62, Slarp\_64, Taquito\_63, Wintermute\_64, Y10\_62, Y2\_62,

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

- Agent47\_55, Alkhayr\_13, AlleyCat\_57, Amavida\_63, Amigo\_62, Anansi\_61, Ashwin\_14, Ayotoya\_47, BetterKatz\_47, Blessica\_12, Bock\_47, Boersma\_64, Boilgate\_56, Bora\_13, Bridgette\_48, Brylie\_47, Catdawg\_12, Chop\_47, ChuckDuck\_48, Collard\_53, Commonplace\_65, Constance\_46, Corndog\_15, Dadosky\_57, DelRio\_48, DonkeyMan\_39, Dylan\_13, Edugator\_54, Eileen\_43, Familton\_13, Feyre\_58, Firecracker\_13, FosterFrank\_49, FoulBall\_12, Francois\_46, GMA4\_40, Gengar\_55, GlobiWarming\_48, Gorgeous\_61, GrandSlam\_47, Guillsminger\_56, Hamood\_47, Heftyboy\_56, Heinz\_40, Heylee\_64, Hibiscus\_40, HotPotato\_45, Ichor\_61, Idergollasper\_12, InvictusManeo\_53, Jaek\_61,

JangDynasty\_12, Jflix2\_69, Jojo24\_38, Judy\_49, Karkharias\_46, KayMoney\_46, KiSi\_65, KingPhillip3\_12, Kratio\_53, Krili\_13, Larva\_56, LeMond\_64, Leston\_55, MadKillah\_14, Madraxi\_73, MalagasyRose\_61, Marshawn\_60, Miryou\_59, Molivia\_63, Mori\_13, Mulch\_47, Murai\_13, Nadeem\_47, NancyRae\_47, Neighly\_57, Nergal\_54, NiebruSaylor\_13, NoSwimming\_41, Nonagon\_64, OkiRoe\_56, Omnicron\_59, Oscar\_64, Paola\_55, Parada\_47, Peas\_45, PeggyLeg03\_46, Pimento\_48, Psycho\_55, Pucara\_43, REQ1\_38, Rando14\_57, Reyja\_39, Rings\_62, RootBeer\_37, Ryadel\_15, Santhid\_38, Scarlett\_65, SchoolBus\_12, Schuy\_14, Scotia\_39, Shagrat\_70, Shambre1\_40, Shida\_13, Smooch\_14, SoSeph\_56, SorJuana\_61, TPA4\_47, Tarzan\_39, TelAviv\_12, Thunderclap\_61, Thyatira\_58, TinyDot\_44, Vagabond\_13, ViviJ\_53, Vorrrps\_13, Waterfoul\_57, WheatThin\_47, Wildflower\_13, Winget\_13, Wogge42\_13, Yappy\_87, Yeezus\_61, YungJamal\_14, Zakhe101\_14, Zebo\_12,

### Summary by start number:

#### Start 28:

- Found in 15 of 303 ( 5.0% ) of genes in pham
- Manual Annotations of this start: 15 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ayotoya\_47 (DI), BetterKatz\_47 (DI), Bock\_47 (DI), Brylie\_47 (DI), Chop\_47 (DI), DelRio\_48 (DI), Francois\_46 (DI), GrandSlam\_47 (DI), Hamood\_47 (DI), Mulch\_47 (DI), Nadeem\_47 (DI), NancyRae\_47 (DI), Parada\_47 (DI), Pimento\_48 (DI), WheatThin\_47 (DI),

#### Start 39:

- Found in 1 of 303 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nergal\_54 (AG),

#### Start 41:

- Found in 1 of 303 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_61 (AG),

#### Start 42:

- Found in 25 of 303 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 22 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agent47\_55 (K5), AlleyCat\_57 (K5), Collard\_53 (K5), Dadosky\_57 (K5), Edugator\_54 (K5), Feyre\_58 (K5), Gengar\_55 (K5), Guillsminger\_56 (K5), Heftyboy\_56 (K5), HotPotato\_45 (FA), InvictusManeo\_53 (K5), Kratio\_53 (K5), Larva\_56 (K5), Leston\_55 (K5), Miryou\_59 (K5), Neighly\_57 (K3), OkiRoe\_56 (K5), Omnicron\_59 (K5), Paola\_55 (K5), Psycho\_55 (K5), Rando14\_57 (K5), SoSeph\_56 (K5), Thyatira\_58 (K5), ViviJ\_53 (K5), Waterfoul\_57 (K5),

#### Start 43:

- Found in 5 of 303 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 5 of 267
- Called 100.0% of time when present



- Phage (with cluster) where this start called: KiSi\_65 (K1), LeMond\_64 (K1), Marshawn\_60 (K6), Oscar\_64 (K1), Scarlett\_65 (K1),

#### Start 44:

- Found in 177 of 303 ( 58.4% ) of genes in pham
- Manual Annotations of this start: 138 of 267
- Called 87.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_61 (K1), Adephagia\_61 (K1), Adonis\_61 (K1), Ageofdapage\_64 (K1), AlishaPH\_61 (K1), Amelie\_50 (K1), Amgine\_59 (K6), Amohntion\_60 (K6), Anaya\_63 (K1), Angelica\_61 (K1), Apocalypse\_64 (K1), Applecrisp\_60 (K6), Asayake\_61 (K1), Atiba\_62 (K1), BEEST\_61 (K1), BGlluviae\_61 (K1), BaghaKamala\_60 (K1), BarrelRoll\_61 (K1), Beezoo\_63 (K1), Bella96\_62 (K1), Belladonna\_61 (K1), Bern\_62 (K1), Biglebops\_50 (K1), Blizzard\_61 (K1), Boiiii\_61 (K1), BoostSeason\_62 (K2), Bryler\_63 (K6), CREW\_61 (K1), Cain\_63 (K6), CallaLilly\_63 (K1), Capricorn\_61 (K1), CaseJules\_63 (K1), Chavito\_62 (K1), CheetoDust\_60 (K1), Chris\_62 (K1), Clipper\_65 (K1), CrimD\_62 (K1), Curiosium\_65 (K1), Dalmuri\_61 (K1), DarthP\_60 (K6), Dartin\_62 (K1), Deby\_61 (K1), Devera\_68 (K1), DismalFunk\_62 (K2), DismalStressor\_62 (K2), Dole\_66 (K1), Doughnut\_63 (K2), DrHayes\_62 (K1), Durfee\_61 (K1), Efra2\_65 (K1), Ekdilam\_58 (K6), Ellie\_56 (K6), Emerson\_62 (K1), Enkosi\_52 (K1), Fefferhead\_58 (K6), Findley\_62 (K2), Ganymede\_62 (K1), Geraldini\_64 (K1), Guanica15\_64 (K1), Hammy\_60 (K6), HedwigODU\_61 (K1), Homura\_61 (K1), Hurricane\_60 (K3), Hyperbowlee\_61 (K1), Illumine\_66 (K1), Inky\_61 (K1), JAWS\_61 (K1), Jarvi\_61 (K1), Jayhawk\_62 (K1), Jeckyll\_61 (K1), Joy99\_61 (K1), Keshu\_62 (K3), Krueger\_64 (K6), LastHope\_64 (K1), LaterM\_61 (K1), Lea83\_61 (K3), LilPharaoh\_50 (K1), LindNT\_60 (K1), Llorens\_61 (K1), Lunahalos\_61 (K1), MacKat\_56 (K1), MacnCheese\_62 (K3), Marcoliusprime\_62 (K2), MarkPhew\_63 (K1), McMater\_62 (K1), Mdavu\_51 (K1), MeaningOfLife\_62 (K1), Megsy\_63 (K1), Milly\_62 (K2), Mufasa\_62 (K2), Murucutumbu\_62 (K1), Mynx\_62 (K1), Nibb\_62 (K1), Nikao\_53 (K1), Niklas\_62 (K1), November\_60 (K6), Nutello\_50 (K1), Padfoot\_61 (K1), Padpat\_63 (K1), Peanam\_62 (K1), Peel\_61 (K1), Pharb\_59 (K3), PhelpsODU\_61 (K6), Phrank\_63 (K6), Piatt\_61 (K1), Pixie\_59 (K3), Pokerus\_60 (K1), Prithvi\_62 (K1), QuincyRose\_60 (K1), Ramen\_62 (K1), Rapunzel97\_62 (K1), Richo\_62 (K1), Rosmarinus\_61 (K1), SamuelLPlaqson\_62 (K1), SgtBeansprout\_50 (K1), Shadow1\_64 (K6), Shaobing\_62 (K1), ShedlockHolmes\_61 (K3), ShiaSurprise\_62 (K1), SirPhilip\_61 (K6), Slimphazie\_61 (K1), Spock\_61 (K1), Stinson\_62 (K1), Strobilo\_63 (K2), Sulley\_61 (K1), Sunflower1121\_65 (K6), Syra333\_63 (K6), TBond007\_58 (K3), TClif\_61 (K6), TM4\_59 (K2), Tachez\_61 (K1), TaiwanKao\_63 (K1), Teejan\_52 (K1), Tierra\_63 (K6), TingHuaYa\_63 (K1), TiniBug\_62 (K1), Tiri\_62 (K1), Topper\_61 (K1), Torres\_52 (K1), TreyKay\_62 (K1), TribbleTrouble\_60 (K3), TruffulaTree\_61 (K1), Twitch\_61 (K1), Unicorn\_61 (K6), Urkel\_62 (K1), Validus\_64 (K1), Veliki\_62 (K1), Ximenita\_65 (K6), YoureAdopted\_60 (K1), Yuna\_65 (K6), Yunkel11\_64 (K1), Zabiza\_56 (K1), Zavala\_63 (K1), ZoeJ\_61 (K2),

#### Start 48:

- Found in 2 of 303 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Eileen\_43 (FA), FosterFrank\_49 (FA),

#### Start 49:

- Found in 14 of 303 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 9 of 267

- Called 92.9% of time when present
- Phage (with cluster) where this start called: Bridgette\_48 (FA), ChuckDuck\_48 (FA), Constance\_46 (FA), GlobiWarming\_48 (FA), Judy\_49 (FA), Karkharias\_46 (FA), KayMoney\_46 (FA), NoSwimming\_41 (FO), Peas\_45 (FA), PeggyLeg03\_46 (FA), Pucara\_43 (FA), RootBeer\_37 (FA), Scotia\_39 (FO),

#### Start 50:

- Found in 25 of 303 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 21 of 267
- Called 96.0% of time when present
- Phage (with cluster) where this start called: Aminay\_61 (K7), Bobquesha\_65 (K4), Boilgate\_56 (K8), Chancellor\_64 (K4), Cheetobro\_64 (K4), Eponine\_66 (K4), Fionnbharth\_64 (K4), JF1\_64 (K4), Juliette\_66 (K4), Kraw\_65 (K4), Lebo14\_65 (K4), Malthus\_65 (K4), MissDaisy\_61 (K4), Mitti\_64 (K4), OmniCritical\_63 (K4), Patt\_60 (K4), Reptar3000\_61 (K4), Ruthiejr\_65 (K4), SamScheppers\_62 (K4), Slarp\_64 (K4), Taquito\_63 (K4), Wintermute\_64 (K4), Y10\_62 (K4), Y2\_62 (K4),

#### Start 53:

- Found in 1 of 303 ( 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\_47 (singleton),

#### Start 54:

- Found in 1 of 303 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jojo24\_38 (DY),

#### Start 55:

- Found in 6 of 303 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 4 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DonkeyMan\_39 (DY), Heinz\_40 (DY), Hibiscus\_40 (DY), Reyja\_39 (DY), Santhid\_38 (DY), Tarzan\_39 (DY),

#### Start 56:

- Found in 14 of 303 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 7.1% of time when present
- Phage (with cluster) where this start called: Shambre1\_40 (singleton),

#### Start 58:

- Found in 3 of 303 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jflix2\_69 (CF), Madraxi\_73 (CF), REQ1\_38 (CF),

#### Start 59:

- Found in 1 of 303 ( 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: GMA4\_40 (singleton),

#### Start 60:

- Found in 32 of 303 ( 10.6% ) of genes in pham
- Manual Annotations of this start: 28 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alkhayr\_13 (O), Ashwin\_14 (O), Blessica\_12 (O), Bora\_13 (O), Catdawg\_12 (O), Corndog\_15 (O), Dylan\_13 (O), Familton\_13 (O), Firecracker\_13 (O), FoulBall\_12 (O), Idergollasper\_12 (O), JangDynasty\_12 (O), KingPhillip3\_12 (O), Krili\_13 (O), MadKillah\_14 (O), Mori\_13 (O), Murai\_13 (O), NiebruSaylor\_13 (O), Ryadel\_15 (O), SchoolBus\_12 (O), Schuy\_14 (O), Shida\_13 (O), Smooch\_14 (O), TelAviv\_12 (O), Vagabond\_13 (O), Vorrrps\_13 (O), Wildflower\_13 (O), Winget\_13 (O), Wogge42\_13 (O), YungJamal\_14 (O), Zakhe101\_14 (O), Zebo\_12 (O),

#### Start 62:

- Found in 13 of 303 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Shagrat\_70 (CF),

#### Start 63:

- Found in 1 of 303 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TinyDot\_44 (singleton),

#### Start 68:

- Found in 2 of 303 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Commonplace\_65 (JD), Nonagon\_64 (JD),

#### Start 72:

- Found in 1 of 303 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Molivia\_63 (AQ),

#### Start 73:

- Found in 1 of 303 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yappy\_87 (singleton),

#### Start 75:

- Found in 12 of 303 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 12 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amavida\_63 (AQ), Amigo\_62 (AQ), Anansi\_61 (AQ), Boersma\_64 (AQ), Gorgeous\_61 (AQ), Heylee\_64 (AQ), Ichor\_61 (AQ), Jaek\_61 (AQ), Rings\_62 (AQ), SorJuana\_61 (AQ), Thunderclap\_61 (AQ),

Yeezus\_61 (AQ),

### **Summary by clusters:**

There are 18 clusters represented in this pham: AQ, singleton, AG, K2, DI, CF, O, K4, K3, FA, K1, K7, K6, K5, DY, JD, K8, FO,

Info for manual annotations of cluster AG:

- Start number 39 was manually annotated 1 time for cluster AG.
- Start number 41 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster AQ:

- Start number 72 was manually annotated 1 time for cluster AQ.
- Start number 75 was manually annotated 12 times for cluster AQ.

Info for manual annotations of cluster CF:

- Start number 58 was manually annotated 2 times for cluster CF.
- Start number 62 was manually annotated 1 time for cluster CF.

Info for manual annotations of cluster DI:

- Start number 28 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DY:

- Start number 54 was manually annotated 1 time for cluster DY.
- Start number 55 was manually annotated 4 times for cluster DY.

Info for manual annotations of cluster FA:

- Start number 48 was manually annotated 1 time for cluster FA.
- Start number 49 was manually annotated 9 times for cluster FA.

Info for manual annotations of cluster JD:

- Start number 68 was manually annotated 2 times for cluster JD.

Info for manual annotations of cluster K1:

- Start number 43 was manually annotated 4 times for cluster K1.
- Start number 44 was manually annotated 99 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 44 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 44 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 50 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 42 was manually annotated 22 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 43 was manually annotated 1 time for cluster K6.
- Start number 44 was manually annotated 21 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 50 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 50 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster O:

- Start number 60 was manually annotated 28 times for cluster O.

### **Gene Information:**

Gene: ActinUp\_61 Start: 41286, Stop: 42173, Start Num: 44

Candidate Starts for ActinUp\_61:

(Start: 44 @41286 has 138 MA's), (81, 41397), (97, 41496), (121, 41646), (136, 41718), (142, 41772), (158, 41856), (165, 41913), (173, 41961), (187, 42027), (201, 42087), (203, 42102), (212, 42144),

Gene: Adephagia\_61 Start: 41293, Stop: 42171, Start Num: 44

Candidate Starts for Adephagia\_61:

(Start: 44 @41293 has 138 MA's), (81, 41404), (97, 41503), (136, 41725), (142, 41779), (158, 41854), (165, 41911), (173, 41959), (187, 42025), (199, 42073), (201, 42085), (203, 42100),

Gene: Adonis\_61 Start: 41528, Stop: 42406, Start Num: 44

Candidate Starts for Adonis\_61:

(Start: 44 @41528 has 138 MA's), (81, 41639), (87, 41675), (97, 41738), (121, 41888), (136, 41960), (142, 42014), (158, 42089), (165, 42146), (173, 42194), (187, 42260), (199, 42308), (201, 42320), (203, 42335),

Gene: Agent47\_55 Start: 38528, Stop: 39388, Start Num: 42

Candidate Starts for Agent47\_55:

(Start: 42 @38528 has 22 MA's), (87, 38678), (121, 38891), (128, 38903), (136, 38942), (137, 38954), (138, 38972), (142, 38996), (155, 39059), (156, 39062), (170, 39143), (176, 39203), (179, 39215), (190, 39248), (193, 39257), (201, 39302), (212, 39359), (214, 39380),

Gene: Ageofdapage\_64 Start: 42266, Stop: 43153, Start Num: 44

Candidate Starts for Ageofdapage\_64:

(Start: 44 @42266 has 138 MA's), (81, 42377), (97, 42476), (136, 42698), (142, 42752), (158, 42836), (165, 42893), (173, 42941), (187, 43007), (200, 43058), (201, 43067), (203, 43082),

Gene: AlishaPH\_61 Start: 41554, Stop: 42432, Start Num: 44

Candidate Starts for AlishaPH\_61:

(Start: 44 @41554 has 138 MA's), (81, 41665), (97, 41764), (136, 41986), (142, 42040), (158, 42115), (165, 42172), (173, 42220), (187, 42286), (199, 42334), (201, 42346), (203, 42361),

Gene: Alkhayr\_13 Start: 5075, Stop: 5824, Start Num: 60

Candidate Starts for Alkhayr\_13:

(Start: 60 @5075 has 28 MA's), (81, 5141), (93, 5219), (98, 5243), (105, 5303), (114, 5345), (131, 5381), (142, 5441), (165, 5570), (173, 5618), (179, 5657), (195, 5705),

Gene: AlleyCat\_57 Start: 38832, Stop: 39692, Start Num: 42

Candidate Starts for AlleyCat\_57:

(Start: 42 @38832 has 22 MA's), (81, 38946), (87, 38982), (98, 39048), (121, 39195), (128, 39207), (136, 39246), (138, 39276), (142, 39300), (164, 39423), (190, 39552), (193, 39561), (199, 39594), (201, 39606), (212, 39663), (214, 39684),

Gene: Amavida\_63 Start: 41647, Stop: 41006, Start Num: 75

Candidate Starts for Amavida\_63:

(Start: 75 @41647 has 12 MA's), (90, 41560), (94, 41539), (97, 41527), (103, 41485), (108, 41458), (115, 41446), (119, 41431), (169, 41197), (178, 41122),

Gene: Amelie\_50 Start: 38595, Stop: 39482, Start Num: 44

Candidate Starts for Amelie\_50:

(Start: 44 @38595 has 138 MA's), (81, 38706), (97, 38805), (121, 38955), (130, 38988), (136, 39027), (142, 39081), (158, 39165), (164, 39213), (165, 39222), (170, 39237), (173, 39270), (199, 39384), (203, 39411),

Gene: Amgine\_59 Start: 41956, Stop: 42834, Start Num: 44

Candidate Starts for Amgine\_59:

(Start: 44 @41956 has 138 MA's), (81, 42067), (110, 42256), (121, 42316), (122, 42319), (135, 42382), (136, 42388), (158, 42517), (165, 42574), (173, 42622), (176, 42649), (188, 42691), (200, 42739), (203, 42763), (212, 42805),

Gene: Amigo\_62 Start: 41862, Stop: 41221, Start Num: 75

Candidate Starts for Amigo\_62:

(Start: 75 @41862 has 12 MA's), (90, 41775), (94, 41754), (97, 41742), (103, 41700), (108, 41673), (115, 41661), (119, 41646), (169, 41412), (178, 41337),

Gene: Aminay\_61 Start: 40983, Stop: 41852, Start Num: 50

Candidate Starts for Aminay\_61:

(Start: 44 @40962 has 138 MA's), (Start: 50 @40983 has 21 MA's), (67, 41019), (116, 41292), (142, 41448), (160, 41535), (165, 41580), (171, 41610), (187, 41694), (200, 41745), (210, 41808),

Gene: Amohndition\_60 Start: 41578, Stop: 42447, Start Num: 44

Candidate Starts for Amohndition\_60:

(Start: 44 @41578 has 138 MA's), (81, 41689), (121, 41938), (135, 41998), (136, 42004), (158, 42133), (165, 42190), (173, 42238), (176, 42265), (188, 42307), (200, 42355), (203, 42379),

Gene: Anansi\_61 Start: 41469, Stop: 40828, Start Num: 75

Candidate Starts for Anansi\_61:

(Start: 75 @41469 has 12 MA's), (90, 41382), (94, 41361), (97, 41349), (103, 41307), (108, 41280), (115, 41268), (119, 41253), (169, 41019), (178, 40944),

Gene: Anaya\_63 Start: 41812, Stop: 42690, Start Num: 44

Candidate Starts for Anaya\_63:

(Start: 44 @41812 has 138 MA's), (81, 41923), (97, 42022), (121, 42172), (136, 42244), (142, 42298), (158, 42373), (165, 42430), (173, 42478), (187, 42544), (199, 42592), (201, 42604), (203, 42619),

Gene: Angelica\_61 Start: 41436, Stop: 42323, Start Num: 44

Candidate Starts for Angelica\_61:

(Start: 44 @41436 has 138 MA's), (81, 41547), (97, 41646), (121, 41796), (136, 41868), (142, 41922), (158, 42006), (165, 42063), (173, 42111), (187, 42177), (200, 42228), (201, 42237), (203, 42252), (212, 42294),

Gene: Apocalypse\_64 Start: 42202, Stop: 43089, Start Num: 44

Candidate Starts for Apocalypse\_64:

(Start: 44 @42202 has 138 MA's), (77, 42295), (81, 42313), (97, 42412), (121, 42562), (136, 42634), (142, 42688), (158, 42772), (165, 42829), (173, 42877), (187, 42943), (200, 42994), (201, 43003), (203, 43018), (212, 43060),

Gene: Applecrisp\_60 Start: 41096, Stop: 41974, Start Num: 44

Candidate Starts for Applecrisp\_60:

(Start: 44 @41096 has 138 MA's), (81, 41207), (110, 41396), (121, 41456), (135, 41522), (136, 41528), (158, 41657), (165, 41714), (173, 41762), (176, 41789), (188, 41831), (200, 41879), (203, 41903),

Gene: Asayake\_61 Start: 41608, Stop: 42486, Start Num: 44

Candidate Starts for Asayake\_61:

(Start: 44 @41608 has 138 MA's), (81, 41719), (97, 41818), (136, 42040), (142, 42094), (158, 42169), (165, 42226), (173, 42274), (187, 42340), (199, 42388), (201, 42400), (203, 42415),

Gene: Ashwin\_14 Start: 5310, Stop: 6059, Start Num: 60

Candidate Starts for Ashwin\_14:

(Start: 60 @5310 has 28 MA's), (81, 5376), (93, 5454), (98, 5478), (105, 5538), (114, 5580), (120, 5601), (131, 5616), (142, 5676), (165, 5805), (173, 5853), (179, 5892), (195, 5940),

Gene: Atiba\_62 Start: 41256, Stop: 42134, Start Num: 44

Candidate Starts for Atiba\_62:

(Start: 44 @41256 has 138 MA's), (81, 41367), (97, 41466), (136, 41688), (142, 41742), (158, 41817), (165, 41874), (173, 41922), (187, 41988), (199, 42036), (201, 42048), (203, 42063),

Gene: Ayotoya\_47 Start: 34657, Stop: 35544, Start Num: 28

Candidate Starts for Ayotoya\_47:

(11, 34429), (13, 34504), (14, 34513), (21, 34552), (Start: 28 @34657 has 15 MA's), (30, 34678), (Start: 62 @34768 has 1 MA's), (71, 34795), (76, 34813), (89, 34882), (146, 35167), (148, 35176), (150, 35182), (167, 35269), (168, 35272), (173, 35314), (176, 35341), (182, 35368), (184, 35374), (188, 35383), (192, 35392),

Gene: BEEST\_61 Start: 41608, Stop: 42486, Start Num: 44

Candidate Starts for BEEST\_61:

(Start: 44 @41608 has 138 MA's), (81, 41719), (97, 41818), (136, 42040), (142, 42094), (158, 42169), (165, 42226), (173, 42274), (187, 42340), (199, 42388), (201, 42400), (203, 42415),

Gene: BGlluviae\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for BGlluviae\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: BaghaKamala\_60 Start: 40637, Stop: 41524, Start Num: 44

Candidate Starts for BaghaKamala\_60:

(Start: 44 @40637 has 138 MA's), (81, 40748), (97, 40847), (121, 40997), (136, 41069), (142, 41123), (158, 41207), (165, 41264), (173, 41312), (187, 41378), (193, 41393), (201, 41438), (203, 41453), (212, 41495),

Gene: BarrelRoll\_61 Start: 41260, Stop: 42147, Start Num: 44

Candidate Starts for BarrelRoll\_61:

(Start: 44 @41260 has 138 MA's), (77, 41353), (81, 41371), (97, 41470), (121, 41620), (136, 41692), (142, 41746), (158, 41830), (165, 41887), (173, 41935), (187, 42001), (201, 42061), (203, 42076), (212, 42118),

Gene: Beezoo\_63 Start: 42244, Stop: 43122, Start Num: 44

Candidate Starts for Beezoo\_63:

(Start: 44 @42244 has 138 MA's), (81, 42355), (97, 42454), (121, 42604), (136, 42676), (142, 42730), (158, 42805), (165, 42862), (173, 42910), (187, 42976), (199, 43024), (201, 43036), (203, 43051),

Gene: Bella96\_62 Start: 42019, Stop: 42900, Start Num: 44

Candidate Starts for Bella96\_62:

(Start: 44 @42019 has 138 MA's), (81, 42130), (97, 42229), (136, 42454), (142, 42508), (158, 42583), (165, 42640), (173, 42688), (187, 42754), (199, 42802), (201, 42814), (203, 42829),

Gene: Belladonna\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Belladonna\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: Bern\_62 Start: 40230, Stop: 41117, Start Num: 44

Candidate Starts for Bern\_62:

(Start: 44 @40230 has 138 MA's), (81, 40341), (97, 40440), (121, 40590), (136, 40662), (142, 40716), (158, 40800), (165, 40857), (173, 40905), (187, 40971), (193, 40986), (201, 41031), (203, 41046),

Gene: BetterKatz\_47 Start: 34191, Stop: 35018, Start Num: 28

Candidate Starts for BetterKatz\_47:

(13, 34029), (14, 34038), (21, 34077), (Start: 28 @34191 has 15 MA's), (45, 34206), (47, 34215), (71, 34269), (76, 34287), (89, 34356), (146, 34641), (148, 34650), (150, 34656), (167, 34743), (173, 34788), (176, 34815), (182, 34842), (184, 34848), (188, 34857), (192, 34866),

Gene: Biglebops\_50 Start: 38595, Stop: 39482, Start Num: 44

Candidate Starts for Biglebops\_50:

(Start: 44 @38595 has 138 MA's), (81, 38706), (97, 38805), (121, 38955), (130, 38988), (136, 39027), (142, 39081), (158, 39165), (164, 39213), (165, 39222), (170, 39237), (173, 39270), (199, 39384), (203, 39411),

Gene: Blessica\_12 Start: 4707, Stop: 5456, Start Num: 60

Candidate Starts for Blessica\_12:

(Start: 60 @4707 has 28 MA's), (81, 4773), (93, 4851), (98, 4875), (105, 4935), (114, 4977), (131, 5013), (142, 5073), (165, 5202), (173, 5250), (179, 5289), (195, 5337),

Gene: Blizzard\_61 Start: 41608, Stop: 42486, Start Num: 44

Candidate Starts for Blizzard\_61:

(Start: 44 @41608 has 138 MA's), (81, 41719), (97, 41818), (136, 42040), (142, 42094), (158, 42169), (165, 42226), (173, 42274), (187, 42340), (199, 42388), (201, 42400), (203, 42415),

Gene: Bobquesha\_65 Start: 39808, Stop: 40671, Start Num: 50

Candidate Starts for Bobquesha\_65:

(23, 39643), (Start: 44 @39787 has 138 MA's), (Start: 50 @39808 has 21 MA's), (86, 39919), (87, 39937), (100, 40009), (102, 40039), (136, 40222), (142, 40276), (165, 40408), (209, 40633), (210, 40636),

Gene: Bock\_47 Start: 33880, Stop: 34767, Start Num: 28

Candidate Starts for Bock\_47:

(13, 33727), (14, 33736), (21, 33775), (Start: 28 @33880 has 15 MA's), (30, 33901), (Start: 62 @33991 has 1 MA's), (71, 34018), (76, 34036), (89, 34105), (146, 34390), (148, 34399), (150, 34405), (167,



34492), (168, 34495), (173, 34537), (176, 34564), (182, 34591), (184, 34597), (188, 34606), (192, 34615),

Gene: Boersma\_64 Start: 41862, Stop: 41221, Start Num: 75

Candidate Starts for Boersma\_64:

(Start: 75 @41862 has 12 MA's), (90, 41775), (94, 41754), (97, 41742), (103, 41700), (108, 41673), (115, 41661), (119, 41646), (169, 41412), (178, 41337),

Gene: Boiiii\_61 Start: 41610, Stop: 42488, Start Num: 44

Candidate Starts for Boiiii\_61:

(Start: 44 @41610 has 138 MA's), (81, 41721), (97, 41820), (136, 42042), (142, 42096), (158, 42171), (165, 42228), (173, 42276), (187, 42342), (199, 42390), (201, 42402), (203, 42417),

Gene: Boilgate\_56 Start: 40641, Stop: 41474, Start Num: 50

Candidate Starts for Boilgate\_56:

(Start: 50 @40641 has 21 MA's), (81, 40722), (158, 41154), (160, 41166), (165, 41211), (193, 41340), (199, 41373),

Gene: BoostSeason\_62 Start: 42960, Stop: 43817, Start Num: 44

Candidate Starts for BoostSeason\_62:

(Start: 44 @42960 has 138 MA's), (81, 43065), (97, 43164), (136, 43374), (173, 43608), (188, 43677), (200, 43725), (201, 43734), (203, 43749),

Gene: Bora\_13 Start: 5108, Stop: 5857, Start Num: 60

Candidate Starts for Bora\_13:

(Start: 60 @5108 has 28 MA's), (81, 5174), (93, 5252), (98, 5276), (105, 5336), (114, 5378), (131, 5414), (142, 5474), (165, 5603), (173, 5651), (179, 5690), (195, 5738),

Gene: Bridgette\_48 Start: 31057, Stop: 31863, Start Num: 49

Candidate Starts for Bridgette\_48:

(Start: 49 @31057 has 9 MA's), (51, 31066), (Start: 56 @31081 has 1 MA's), (80, 31168), (84, 31180), (90, 31228), (104, 31312), (127, 31393), (142, 31480), (162, 31588), (165, 31612), (167, 31615), (181, 31711), (196, 31759),

Gene: Bryler\_63 Start: 40754, Stop: 41653, Start Num: 44

Candidate Starts for Bryler\_63:

(6, 40424), (17, 40571), (18, 40577), (29, 40715), (Start: 44 @40754 has 138 MA's), (66, 40814), (81, 40865), (93, 40943), (94, 40952), (98, 40967), (110, 41054), (135, 41180), (136, 41186), (158, 41336), (165, 41393), (173, 41441), (176, 41468), (203, 41582), (207, 41606),

Gene: Brylie\_47 Start: 33927, Stop: 34814, Start Num: 28

Candidate Starts for Brylie\_47:

(13, 33774), (14, 33783), (21, 33822), (Start: 28 @33927 has 15 MA's), (30, 33948), (Start: 62 @34038 has 1 MA's), (71, 34065), (76, 34083), (146, 34437), (148, 34446), (150, 34452), (167, 34539), (168, 34542), (173, 34584), (176, 34611), (182, 34638), (184, 34644), (188, 34653), (192, 34662),

Gene: CREW\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for CREW\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: Cain\_63 Start: 40742, Stop: 41641, Start Num: 44

Candidate Starts for Cain\_63:

(6, 40412), (17, 40559), (18, 40565), (29, 40703), (Start: 44 @40742 has 138 MA's), (66, 40802), (81, 40853), (93, 40931), (94, 40940), (98, 40955), (110, 41042), (135, 41168), (136, 41174), (158, 41324), (165, 41381), (173, 41429), (176, 41456), (203, 41570), (207, 41594),

Gene: CallaLilly\_63 Start: 41334, Stop: 42212, Start Num: 44

Candidate Starts for CallaLilly\_63:

(Start: 44 @41334 has 138 MA's), (81, 41445), (97, 41544), (136, 41766), (142, 41820), (158, 41895), (165, 41952), (173, 42000), (187, 42066), (199, 42114), (201, 42126), (203, 42141),

Gene: Capricorn\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Capricorn\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: CaseJules\_63 Start: 41608, Stop: 42486, Start Num: 44

Candidate Starts for CaseJules\_63:

(Start: 44 @41608 has 138 MA's), (81, 41719), (97, 41818), (136, 42040), (142, 42094), (158, 42169), (165, 42226), (173, 42274), (187, 42340), (199, 42388), (201, 42400), (203, 42415),

Gene: Catdawg\_12 Start: 4747, Stop: 5496, Start Num: 60

Candidate Starts for Catdawg\_12:

(Start: 60 @4747 has 28 MA's), (81, 4813), (93, 4891), (98, 4915), (105, 4975), (114, 5017), (131, 5053), (142, 5113), (165, 5242), (173, 5290), (179, 5329), (195, 5377),

Gene: Chancellor\_64 Start: 40918, Stop: 41781, Start Num: 50

Candidate Starts for Chancellor\_64:

(35, 40882), (Start: 44 @40897 has 138 MA's), (Start: 50 @40918 has 21 MA's), (65, 40951), (70, 40972), (87, 41047), (135, 41326), (136, 41332), (144, 41395), (155, 41449), (165, 41518), (173, 41566), (188, 41635), (209, 41743), (210, 41746),

Gene: Chavito\_62 Start: 42011, Stop: 42898, Start Num: 44

Candidate Starts for Chavito\_62:

(Start: 44 @42011 has 138 MA's), (81, 42122), (98, 42224), (121, 42371), (123, 42383), (136, 42443), (142, 42497), (158, 42581), (165, 42638), (173, 42686), (186, 42749), (200, 42803), (201, 42812), (203, 42827), (207, 42851), (211, 42866),

Gene: CheetoDust\_60 Start: 40684, Stop: 41571, Start Num: 44

Candidate Starts for CheetoDust\_60:

(Start: 44 @40684 has 138 MA's), (81, 40795), (97, 40894), (121, 41044), (136, 41116), (142, 41170), (158, 41254), (165, 41311), (173, 41359), (187, 41425), (193, 41440), (201, 41485), (203, 41500),

Gene: Cheetobro\_64 Start: 40915, Stop: 41778, Start Num: 50

Candidate Starts for Cheetobro\_64:

(35, 40879), (Start: 44 @40894 has 138 MA's), (Start: 50 @40915 has 21 MA's), (65, 40948), (70, 40969), (87, 41044), (135, 41323), (136, 41329), (144, 41392), (155, 41446), (165, 41515), (173, 41563), (188, 41632), (209, 41740), (210, 41743),

Gene: Chop\_47 Start: 34404, Stop: 35291, Start Num: 28

Candidate Starts for Chop\_47:

(11, 34176), (13, 34251), (14, 34260), (21, 34299), (Start: 28 @34404 has 15 MA's), (30, 34425), (Start: 62 @34515 has 1 MA's), (71, 34542), (76, 34560), (89, 34629), (146, 34914), (148, 34923), (150, 34929), (167, 35016), (168, 35019), (173, 35061), (176, 35088), (182, 35115), (184, 35121), (188, 35130), (192, 35139),

Gene: Chris\_62 Start: 41865, Stop: 42770, Start Num: 44

Candidate Starts for Chris\_62:

(Start: 44 @41865 has 138 MA's), (90, 42039), (94, 42063), (98, 42078), (121, 42225), (135, 42294), (136, 42300), (152, 42426), (171, 42540), (172, 42543), (176, 42585), (188, 42627), (199, 42672), (203, 42699), (206, 42717),

Gene: ChuckDuck\_48 Start: 30497, Stop: 31303, Start Num: 49

Candidate Starts for ChuckDuck\_48:

(38, 30470), (40, 30473), (Start: 49 @30497 has 9 MA's), (Start: 56 @30521 has 1 MA's), (80, 30608), (84, 30620), (90, 30668), (127, 30833), (155, 30983), (162, 31028), (167, 31055), (181, 31151),

Gene: Clipper\_65 Start: 41859, Stop: 42737, Start Num: 44

Candidate Starts for Clipper\_65:

(Start: 44 @41859 has 138 MA's), (81, 41970), (97, 42069), (121, 42219), (136, 42291), (142, 42345), (158, 42420), (165, 42477), (173, 42525), (187, 42591), (199, 42639), (201, 42651), (203, 42666),

Gene: Collard\_53 Start: 38489, Stop: 39349, Start Num: 42

Candidate Starts for Collard\_53:

(Start: 42 @38489 has 22 MA's), (87, 38639), (121, 38852), (128, 38864), (136, 38903), (137, 38915), (138, 38933), (142, 38957), (155, 39020), (156, 39023), (170, 39104), (176, 39164), (179, 39176), (190, 39209), (193, 39218), (201, 39263), (212, 39320), (214, 39341),

Gene: Commonplace\_65 Start: 42761, Stop: 42051, Start Num: 68

Candidate Starts for Commonplace\_65:

(Start: 68 @42761 has 2 MA's), (78, 42728), (90, 42653), (97, 42617), (102, 42587), (110, 42536), (112, 42530), (117, 42491), (133, 42455), (143, 42377), (153, 42323), (157, 42308), (160, 42293), (164, 42257), (166, 42245), (169, 42239), (175, 42188), (194, 42125),

Gene: Constance\_46 Start: 30686, Stop: 31492, Start Num: 49

Candidate Starts for Constance\_46:

(Start: 49 @30686 has 9 MA's), (Start: 56 @30710 has 1 MA's), (80, 30797), (84, 30809), (90, 30857), (127, 31022), (142, 31109), (162, 31217), (165, 31241), (167, 31244), (181, 31340), (196, 31388),

Gene: Corndog\_15 Start: 5422, Stop: 6171, Start Num: 60

Candidate Starts for Corndog\_15:

(Start: 60 @5422 has 28 MA's), (81, 5488), (93, 5566), (98, 5590), (105, 5650), (114, 5692), (131, 5728), (142, 5788), (165, 5917), (173, 5965), (179, 6004), (195, 6052),

Gene: CrimD\_62 Start: 41817, Stop: 42695, Start Num: 44

Candidate Starts for CrimD\_62:

(Start: 44 @41817 has 138 MA's), (81, 41928), (97, 42027), (136, 42249), (142, 42303), (158, 42378), (165, 42435), (173, 42483), (187, 42549), (199, 42597), (201, 42609), (203, 42624),

Gene: Curiosium\_65 Start: 40936, Stop: 41826, Start Num: 44

Candidate Starts for Curiosium\_65:

(12, 40654), (24, 40804), (30, 40900), (32, 40915), (Start: 44 @40936 has 138 MA's), (81, 41047), (94, 41134), (97, 41146), (136, 41371), (142, 41425), (158, 41509), (173, 41614), (199, 41728), (201, 41740), (203, 41755),

Gene: Dadosky\_57 Start: 38834, Stop: 39694, Start Num: 42

Candidate Starts for Dadosky\_57:

(Start: 42 @38834 has 22 MA's), (81, 38948), (87, 38984), (98, 39050), (121, 39197), (128, 39209), (136, 39248), (138, 39278), (142, 39302), (164, 39425), (190, 39554), (193, 39563), (199, 39596), (201, 39608), (212, 39665), (214, 39686),

Gene: Dalmuri\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Dalmuri\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: DarthP\_60 Start: 41432, Stop: 42301, Start Num: 44

Candidate Starts for DarthP\_60:

(Start: 44 @41432 has 138 MA's), (81, 41543), (121, 41792), (135, 41852), (136, 41858), (158, 41987), (165, 42044), (173, 42092), (176, 42119), (188, 42161), (200, 42209), (203, 42233),

Gene: Dartin\_62 Start: 41510, Stop: 42397, Start Num: 44

Candidate Starts for Dartin\_62:

(Start: 44 @41510 has 138 MA's), (81, 41621), (97, 41720), (98, 41723), (121, 41870), (135, 41936), (136, 41942), (142, 41996), (158, 42080), (165, 42137), (173, 42185), (200, 42302), (201, 42311), (203, 42326), (207, 42350), (211, 42365),

Gene: Deby\_61 Start: 41461, Stop: 42348, Start Num: 44

Candidate Starts for Deby\_61:

(Start: 44 @41461 has 138 MA's), (81, 41572), (97, 41671), (121, 41821), (136, 41893), (142, 41947), (158, 42031), (165, 42088), (173, 42136), (187, 42202), (201, 42262), (203, 42277), (212, 42319),

Gene: DelRio\_48 Start: 35109, Stop: 35996, Start Num: 28

Candidate Starts for DelRio\_48:

(13, 34956), (14, 34965), (21, 35004), (Start: 28 @35109 has 15 MA's), (30, 35130), (Start: 62 @35220 has 1 MA's), (71, 35247), (76, 35265), (89, 35334), (146, 35619), (148, 35628), (150, 35634), (163, 35703), (167, 35721), (168, 35724), (176, 35793), (182, 35820), (184, 35826), (188, 35835), (192, 35844),

Gene: Devera\_68 Start: 42823, Stop: 43710, Start Num: 44

Candidate Starts for Devera\_68:

(Start: 44 @42823 has 138 MA's), (81, 42934), (94, 43021), (97, 43033), (136, 43255), (142, 43309), (158, 43393), (165, 43450), (173, 43498), (187, 43564), (200, 43615), (201, 43624), (203, 43639),

Gene: DismalFunk\_62 Start: 43382, Stop: 44239, Start Num: 44

Candidate Starts for DismalFunk\_62:

(Start: 44 @43382 has 138 MA's), (81, 43487), (97, 43586), (136, 43796), (173, 44030), (188, 44099), (200, 44147), (201, 44156), (203, 44171),

Gene: DismalStressor\_62 Start: 43382, Stop: 44239, Start Num: 44

Candidate Starts for DismalStressor\_62:

(Start: 44 @43382 has 138 MA's), (81, 43487), (97, 43586), (136, 43796), (173, 44030), (188, 44099), (200, 44147), (201, 44156), (203, 44171),

Gene: Dole\_66 Start: 42826, Stop: 43713, Start Num: 44

Candidate Starts for Dole\_66:

(Start: 44 @42826 has 138 MA's), (81, 42937), (94, 43024), (97, 43036), (136, 43258), (142, 43312), (158, 43396), (165, 43453), (173, 43501), (187, 43567), (200, 43618), (201, 43627), (203, 43642),

Gene: DonkeyMan\_39 Start: 29056, Stop: 29817, Start Num: 55

Candidate Starts for DonkeyMan\_39:

(16, 28825), (25, 28906), (34, 29005), (Start: 55 @29056 has 4 MA's), (79, 29122), (98, 29233), (107, 29308), (109, 29320), (145, 29464), (162, 29539), (165, 29563), (169, 29572), (181, 29662), (188, 29680), (203, 29752),

Gene: Doughnut\_63 Start: 43001, Stop: 43858, Start Num: 44

Candidate Starts for Doughnut\_63:

(Start: 44 @43001 has 138 MA's), (81, 43106), (97, 43205), (136, 43415), (173, 43649), (188, 43718), (200, 43766), (201, 43775), (203, 43790),

Gene: DrHayes\_62 Start: 42174, Stop: 43055, Start Num: 44

Candidate Starts for DrHayes\_62:

(Start: 44 @42174 has 138 MA's), (81, 42285), (97, 42384), (136, 42609), (142, 42663), (158, 42738), (165, 42795), (173, 42843), (187, 42909), (199, 42957), (201, 42969), (203, 42984),

Gene: Durfee\_61 Start: 41608, Stop: 42486, Start Num: 44

Candidate Starts for Durfee\_61:

(Start: 44 @41608 has 138 MA's), (81, 41719), (97, 41818), (136, 42040), (142, 42094), (158, 42169), (165, 42226), (173, 42274), (187, 42340), (199, 42388), (201, 42400), (203, 42415),

Gene: Dylan\_13 Start: 5310, Stop: 6059, Start Num: 60

Candidate Starts for Dylan\_13:

(Start: 60 @5310 has 28 MA's), (81, 5376), (93, 5454), (98, 5478), (105, 5538), (114, 5580), (120, 5601), (131, 5616), (142, 5676), (165, 5805), (173, 5853), (179, 5892), (195, 5940),

Gene: Edugator\_54 Start: 40255, Stop: 41115, Start Num: 42

Candidate Starts for Edugator\_54:

(Start: 42 @40255 has 22 MA's), (76, 40348), (81, 40369), (90, 40432), (98, 40471), (111, 40561), (121, 40618), (128, 40630), (136, 40669), (138, 40699), (142, 40723), (164, 40846), (190, 40975), (193, 40984), (199, 41017), (201, 41029), (212, 41086), (214, 41107),

Gene: Efra2\_65 Start: 41374, Stop: 42279, Start Num: 44

Candidate Starts for Efra2\_65:

(Start: 44 @41374 has 138 MA's), (97, 41584), (136, 41824), (142, 41878), (158, 41962), (170, 42034), (173, 42067), (187, 42133), (200, 42184), (201, 42193), (203, 42208),

Gene: Eileen\_43 Start: 29004, Stop: 29810, Start Num: 48

Candidate Starts for Eileen\_43:

(Start: 48 @29004 has 1 MA's), (Start: 56 @29028 has 1 MA's), (80, 29115), (84, 29127), (90, 29175), (127, 29340), (142, 29427), (162, 29535), (165, 29559), (167, 29562), (181, 29658),

Gene: Ekdilam\_58 Start: 41462, Stop: 42331, Start Num: 44

Candidate Starts for Ekdilam\_58:

(2, 40907), (8, 41147), (Start: 44 @41462 has 138 MA's), (81, 41573), (121, 41822), (126, 41834), (135, 41882), (136, 41888), (158, 42017), (165, 42074), (173, 42122), (176, 42149), (188, 42191), (200, 42239), (203, 42263),

Gene: Ellie\_56 Start: 40800, Stop: 41699, Start Num: 44

Candidate Starts for Ellie\_56:

(Start: 44 @40800 has 138 MA's), (81, 40911), (90, 40974), (100, 41019), (110, 41100), (121, 41160), (135, 41226), (136, 41232), (158, 41382), (165, 41439), (173, 41487), (181, 41538), (188, 41556), (200, 41604), (202, 41622), (203, 41628),

Gene: Emerson\_62 Start: 41277, Stop: 42155, Start Num: 44

Candidate Starts for Emerson\_62:

(Start: 44 @41277 has 138 MA's), (81, 41388), (97, 41487), (121, 41637), (136, 41709), (142, 41763), (158, 41838), (165, 41895), (173, 41943), (187, 42009), (199, 42057), (201, 42069), (203, 42084),

Gene: Enkosi\_52 Start: 41208, Stop: 42095, Start Num: 44

Candidate Starts for Enkosi\_52:

(Start: 44 @41208 has 138 MA's), (81, 41319), (97, 41418), (121, 41568), (130, 41601), (136, 41640), (142, 41694), (158, 41778), (164, 41826), (165, 41835), (170, 41850), (173, 41883), (199, 41997), (203, 42024),

Gene: Eponine\_66 Start: 41761, Stop: 42624, Start Num: 50

Candidate Starts for Eponine\_66:

(35, 41725), (Start: 44 @41740 has 138 MA's), (Start: 50 @41761 has 21 MA's), (65, 41794), (70, 41815), (87, 41890), (135, 42169), (136, 42175), (144, 42238), (155, 42292), (165, 42361), (173, 42409), (188, 42478), (209, 42586), (210, 42589),

Gene: Familton\_13 Start: 4748, Stop: 5497, Start Num: 60

Candidate Starts for Familton\_13:

(Start: 60 @4748 has 28 MA's), (81, 4814), (93, 4892), (98, 4916), (105, 4976), (114, 5018), (131, 5054), (142, 5114), (165, 5243), (173, 5291), (179, 5330), (195, 5378),

Gene: Fefferhead\_58 Start: 40735, Stop: 41613, Start Num: 44

Candidate Starts for Fefferhead\_58:

(Start: 44 @40735 has 138 MA's), (81, 40846), (110, 41035), (121, 41095), (135, 41161), (136, 41167), (158, 41296), (165, 41353), (173, 41401), (176, 41428), (188, 41470), (200, 41518), (203, 41542),

Gene: Feyre\_58 Start: 42214, Stop: 43074, Start Num: 42

Candidate Starts for Feyre\_58:

(Start: 42 @42214 has 22 MA's), (76, 42307), (81, 42328), (121, 42577), (128, 42589), (136, 42628), (137, 42640), (138, 42658), (142, 42682), (156, 42748), (160, 42769), (164, 42805), (172, 42847), (179, 42901), (187, 42928), (190, 42934), (199, 42976), (201, 42988), (212, 43045), (214, 43066),

Gene: Findley\_62 Start: 43375, Stop: 44232, Start Num: 44

Candidate Starts for Findley\_62:

(1, 42673), (Start: 44 @43375 has 138 MA's), (81, 43480), (97, 43579), (136, 43789), (173, 44023), (188, 44092), (200, 44140), (201, 44149), (203, 44164),

Gene: Fionnbharth\_64 Start: 41159, Stop: 42022, Start Num: 50

Candidate Starts for Fionnbharth\_64:

(35, 41123), (Start: 44 @41138 has 138 MA's), (Start: 50 @41159 has 21 MA's), (65, 41192), (70, 41213), (87, 41288), (135, 41567), (136, 41573), (144, 41636), (155, 41690), (165, 41759), (173, 41807), (188, 41876), (209, 41984), (210, 41987),

Gene: Firecracker\_13 Start: 5043, Stop: 5792, Start Num: 60

Candidate Starts for Firecracker\_13:

(Start: 60 @5043 has 28 MA's), (81, 5109), (93, 5187), (98, 5211), (105, 5271), (114, 5313), (131, 5349), (142, 5409), (165, 5538), (173, 5586), (179, 5625), (195, 5673),

Gene: FosterFrank\_49 Start: 30685, Stop: 31491, Start Num: 48

Candidate Starts for FosterFrank\_49:

(Start: 48 @30685 has 1 MA's), (Start: 56 @30709 has 1 MA's), (80, 30796), (84, 30808), (90, 30856), (127, 31021), (142, 31108), (162, 31216), (167, 31243), (181, 31339),

Gene: FoulBall\_12 Start: 4748, Stop: 5497, Start Num: 60

Candidate Starts for FoulBall\_12:

(Start: 60 @4748 has 28 MA's), (81, 4814), (93, 4892), (98, 4916), (105, 4976), (114, 5018), (131, 5054), (142, 5114), (165, 5243), (173, 5291), (179, 5330), (195, 5378),

Gene: Francois\_46 Start: 34002, Stop: 34811, Start Num: 28

Candidate Starts for Francois\_46:

(13, 33849), (14, 33858), (21, 33897), (Start: 28 @34002 has 15 MA's), (47, 34026), (52, 34044), (71, 34080), (146, 34452), (148, 34461), (150, 34467), (155, 34482), (160, 34506), (164, 34542), (167, 34554), (173, 34599), (179, 34638), (182, 34653), (188, 34668), (192, 34677), (213, 34800),

Gene: GMA4\_40 Start: 30065, Stop: 30856, Start Num: 59

Candidate Starts for GMA4\_40:

(10, 29687), (20, 29828), (22, 29849), (59, 30065), (69, 30098), (81, 30137), (103, 30284), (109, 30323), (141, 30437), (156, 30503), (169, 30578), (171, 30599), (172, 30602), (185, 30677), (197, 30716), (214, 30815),

Gene: Ganymede\_62 Start: 41672, Stop: 42550, Start Num: 44

Candidate Starts for Ganymede\_62:

(Start: 44 @41672 has 138 MA's), (81, 41783), (97, 41882), (121, 42032), (136, 42104), (142, 42158), (158, 42233), (165, 42290), (173, 42338), (187, 42404), (199, 42452), (201, 42464), (203, 42479),

Gene: Gengar\_55 Start: 40233, Stop: 41093, Start Num: 42

Candidate Starts for Gengar\_55:

(Start: 42 @40233 has 22 MA's), (76, 40326), (81, 40347), (121, 40596), (128, 40608), (135, 40641), (136, 40647), (137, 40659), (138, 40677), (142, 40701), (156, 40767), (164, 40824), (172, 40866), (179, 40920), (187, 40947), (190, 40953), (199, 40995), (201, 41007), (212, 41064), (214, 41085),

Gene: Geraldini\_64 Start: 42329, Stop: 43207, Start Num: 44

Candidate Starts for Geraldini\_64:

(Start: 44 @42329 has 138 MA's), (81, 42440), (97, 42539), (121, 42689), (136, 42761), (142, 42815), (158, 42890), (165, 42947), (173, 42995), (187, 43061), (199, 43109), (201, 43121), (203, 43136),

Gene: GlobiWarming\_48 Start: 30454, Stop: 31260, Start Num: 49

Candidate Starts for GlobiWarming\_48:

(Start: 49 @30454 has 9 MA's), (51, 30463), (Start: 56 @30478 has 1 MA's), (80, 30565), (84, 30577), (90, 30625), (127, 30790), (142, 30877), (162, 30985), (165, 31009), (167, 31012), (181, 31108), (196, 31156),

Gene: Gorgeous\_61 Start: 41469, Stop: 40828, Start Num: 75

Candidate Starts for Gorgeous\_61:

(Start: 75 @41469 has 12 MA's), (90, 41382), (94, 41361), (97, 41349), (103, 41307), (108, 41280), (115, 41268), (119, 41253), (169, 41019), (178, 40944),

Gene: GrandSlam\_47 Start: 34404, Stop: 35291, Start Num: 28

Candidate Starts for GrandSlam\_47:

(11, 34176), (13, 34251), (14, 34260), (21, 34299), (Start: 28 @34404 has 15 MA's), (30, 34425), (Start: 62 @34515 has 1 MA's), (71, 34542), (76, 34560), (89, 34629), (146, 34914), (148, 34923), (150, 34929), (167, 35016), (168, 35019), (173, 35061), (176, 35088), (182, 35115), (184, 35121), (188, 35130), (192, 35139),

Gene: Guanica15\_64 Start: 41115, Stop: 42020, Start Num: 44

Candidate Starts for Guanica15\_64:

(Start: 44 @41115 has 138 MA's), (81, 41226), (97, 41325), (136, 41565), (142, 41619), (158, 41703), (173, 41808), (187, 41874), (200, 41925), (201, 41934), (203, 41949),

Gene: Guillsminger\_56 Start: 40204, Stop: 41064, Start Num: 42

Candidate Starts for Guillsminger\_56:

(Start: 42 @40204 has 22 MA's), (81, 40318), (121, 40567), (128, 40579), (137, 40630), (138, 40648), (142, 40672), (156, 40738), (160, 40759), (164, 40795), (172, 40837), (179, 40891), (187, 40918), (190, 40924), (199, 40966), (201, 40978), (212, 41035), (214, 41056),

Gene: Hammy\_60 Start: 41420, Stop: 42289, Start Num: 44

Candidate Starts for Hammy\_60:

(Start: 44 @41420 has 138 MA's), (81, 41531), (96, 41624), (121, 41780), (135, 41840), (136, 41846), (158, 41975), (165, 42032), (173, 42080), (176, 42107), (188, 42149), (200, 42197), (203, 42221),

Gene: Hamood\_47 Start: 34404, Stop: 35291, Start Num: 28

Candidate Starts for Hamood\_47:

(11, 34176), (13, 34251), (14, 34260), (21, 34299), (Start: 28 @34404 has 15 MA's), (30, 34425), (Start: 62 @34515 has 1 MA's), (71, 34542), (76, 34560), (89, 34629), (146, 34914), (148, 34923), (150, 34929), (167, 35016), (168, 35019), (173, 35061), (176, 35088), (182, 35115), (184, 35121), (188, 35130), (192, 35139),

Gene: HedwigODU\_61 Start: 41286, Stop: 42173, Start Num: 44

Candidate Starts for HedwigODU\_61:

(Start: 44 @41286 has 138 MA's), (81, 41397), (97, 41496), (121, 41646), (136, 41718), (142, 41772), (158, 41856), (165, 41913), (173, 41961), (187, 42027), (201, 42087), (203, 42102), (212, 42144),

Gene: Heftyboy\_56 Start: 40576, Stop: 41436, Start Num: 42

Candidate Starts for Heftyboy\_56:

(Start: 42 @40576 has 22 MA's), (76, 40669), (81, 40690), (121, 40939), (128, 40951), (135, 40984), (136, 40990), (137, 41002), (138, 41020), (142, 41044), (156, 41110), (164, 41167), (172, 41209), (179, 41263), (187, 41290), (190, 41296), (199, 41338), (201, 41350), (212, 41407), (214, 41428),

Gene: Heinz\_40 Start: 27117, Stop: 27878, Start Num: 55

Candidate Starts for Heinz\_40:

(Start: 55 @27117 has 4 MA's), (79, 27183), (98, 27294), (106, 27366), (107, 27369), (145, 27525), (147, 27531), (158, 27567), (169, 27633), (188, 27741), (203, 27813),

Gene: Heylee\_64 Start: 41647, Stop: 41006, Start Num: 75

Candidate Starts for Heylee\_64:

(Start: 75 @41647 has 12 MA's), (90, 41560), (94, 41539), (97, 41527), (103, 41485), (108, 41458), (115, 41446), (119, 41431), (169, 41197), (178, 41122),

Gene: Hibiscus\_40 Start: 27066, Stop: 27827, Start Num: 55

Candidate Starts for Hibiscus\_40:

(Start: 55 @27066 has 4 MA's), (79, 27132), (98, 27243), (106, 27315), (107, 27318), (145, 27474), (147, 27480), (158, 27516), (169, 27582), (188, 27690), (203, 27762),

Gene: Homura\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Homura\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),



Gene: HotPotato\_45 Start: 30670, Stop: 31515, Start Num: 42

Candidate Starts for HotPotato\_45:

(Start: 42 @30670 has 22 MA's), (Start: 49 @30691 has 9 MA's), (Start: 56 @30715 has 1 MA's), (80, 30802), (84, 30814), (90, 30862), (97, 30898), (104, 30946), (165, 31246), (167, 31249), (176, 31321), (181, 31345), (196, 31393), (215, 31498),

Gene: Hurricane\_60 Start: 41376, Stop: 42275, Start Num: 44

Candidate Starts for Hurricane\_60:

(Start: 44 @41376 has 138 MA's), (81, 41487), (97, 41586), (100, 41595), (109, 41673), (121, 41736), (123, 41748), (124, 41766), (135, 41823), (158, 41958), (165, 42015), (173, 42063), (188, 42132), (198, 42171), (200, 42180), (203, 42204),

Gene: Hyperbowlee\_61 Start: 41608, Stop: 42486, Start Num: 44

Candidate Starts for Hyperbowlee\_61:

(Start: 44 @41608 has 138 MA's), (81, 41719), (97, 41818), (136, 42040), (142, 42094), (158, 42169), (165, 42226), (173, 42274), (187, 42340), (199, 42388), (201, 42400), (203, 42415),

Gene: Ichor\_61 Start: 41862, Stop: 41221, Start Num: 75

Candidate Starts for Ichor\_61:

(Start: 75 @41862 has 12 MA's), (90, 41775), (94, 41754), (97, 41742), (103, 41700), (108, 41673), (115, 41661), (119, 41646), (169, 41412), (178, 41337),

Gene: Idergollasper\_12 Start: 4748, Stop: 5497, Start Num: 60

Candidate Starts for Idergollasper\_12:

(Start: 60 @4748 has 28 MA's), (81, 4814), (93, 4892), (98, 4916), (105, 4976), (114, 5018), (131, 5054), (142, 5114), (165, 5243), (173, 5291), (179, 5330), (195, 5378),

Gene: Illumine\_66 Start: 42825, Stop: 43712, Start Num: 44

Candidate Starts for Illumine\_66:

(Start: 44 @42825 has 138 MA's), (81, 42936), (94, 43023), (97, 43035), (136, 43257), (142, 43311), (158, 43395), (165, 43452), (173, 43500), (187, 43566), (200, 43617), (201, 43626), (203, 43641),

Gene: Inky\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Inky\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: InvictusManeo\_53 Start: 38532, Stop: 39392, Start Num: 42

Candidate Starts for InvictusManeo\_53:

(Start: 42 @38532 has 22 MA's), (87, 38682), (121, 38895), (128, 38907), (136, 38946), (137, 38958), (138, 38976), (142, 39000), (155, 39063), (156, 39066), (170, 39147), (176, 39207), (179, 39219), (190, 39252), (193, 39261), (201, 39306), (212, 39363), (214, 39384),

Gene: JAWS\_61 Start: 41260, Stop: 42138, Start Num: 44

Candidate Starts for JAWS\_61:

(Start: 44 @41260 has 138 MA's), (81, 41371), (97, 41470), (121, 41620), (136, 41692), (142, 41746), (158, 41821), (165, 41878), (173, 41926), (187, 41992), (199, 42040), (201, 42052), (203, 42067),

Gene: JF1\_64 Start: 41076, Stop: 41939, Start Num: 50

Candidate Starts for JF1\_64:

(35, 41040), (Start: 44 @41055 has 138 MA's), (Start: 50 @41076 has 21 MA's), (65, 41109), (70, 41130), (74, 41145), (87, 41205), (135, 41484), (136, 41490), (155, 41607), (165, 41676), (173, 41724), (188, 41793), (209, 41901), (210, 41904),

Gene: Jaek\_61 Start: 41862, Stop: 41221, Start Num: 75

Candidate Starts for Jaek\_61:

(Start: 75 @41862 has 12 MA's), (90, 41775), (94, 41754), (97, 41742), (103, 41700), (108, 41673), (115, 41661), (119, 41646), (169, 41412), (178, 41337),

Gene: JangDynasty\_12 Start: 4837, Stop: 5586, Start Num: 60

Candidate Starts for JangDynasty\_12:

(Start: 60 @4837 has 28 MA's), (81, 4903), (93, 4981), (98, 5005), (105, 5065), (114, 5107), (131, 5143), (142, 5203), (165, 5332), (173, 5380), (179, 5419), (195, 5467),

Gene: Jarvi\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Jarvi\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: Jayhawk\_62 Start: 41281, Stop: 42168, Start Num: 44

Candidate Starts for Jayhawk\_62:

(Start: 44 @41281 has 138 MA's), (81, 41392), (87, 41428), (97, 41491), (121, 41641), (136, 41713), (142, 41767), (158, 41851), (165, 41908), (173, 41956), (187, 42022), (200, 42073), (201, 42082), (203, 42097), (212, 42139),

Gene: Jeckyll\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Jeckyll\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: Jflix2\_69 Start: 43814, Stop: 44623, Start Num: 58

Candidate Starts for Jflix2\_69:

(Start: 58 @43814 has 2 MA's), (71, 43853), (83, 43892), (94, 43976), (98, 43988), (105, 44051), (107, 44063), (109, 44075), (142, 44183), (169, 44324), (188, 44432), (203, 44507), (217, 44600),

Gene: Jojo24\_38 Start: 27664, Stop: 28428, Start Num: 54

Candidate Starts for Jojo24\_38:

(Start: 54 @27664 has 1 MA's), (79, 27733), (98, 27844), (106, 27916), (107, 27919), (145, 28075), (147, 28081), (158, 28117), (169, 28183), (188, 28291), (203, 28363),

Gene: Joy99\_61 Start: 41340, Stop: 42218, Start Num: 44

Candidate Starts for Joy99\_61:

(Start: 44 @41340 has 138 MA's), (81, 41451), (97, 41550), (136, 41772), (142, 41826), (158, 41901), (165, 41958), (173, 42006), (187, 42072), (199, 42120), (201, 42132), (203, 42147),

Gene: Judy\_49 Start: 31513, Stop: 32319, Start Num: 49

Candidate Starts for Judy\_49:

(Start: 49 @31513 has 9 MA's), (Start: 56 @31537 has 1 MA's), (61, 31561), (80, 31624), (84, 31636), (90, 31684), (127, 31849), (142, 31936), (162, 32044), (165, 32068), (167, 32071), (181, 32167), (196, 32215),

Gene: Juliette\_66 Start: 41223, Stop: 42086, Start Num: 50

Candidate Starts for Juliette\_66:

(35, 41187), (Start: 44 @41202 has 138 MA's), (Start: 50 @41223 has 21 MA's), (65, 41256), (70, 41277), (87, 41352), (135, 41631), (136, 41637), (144, 41700), (155, 41754), (165, 41823), (173, 41871), (188, 41940), (209, 42048), (210, 42051),

Gene: Karkharias\_46 Start: 30610, Stop: 31416, Start Num: 49

Candidate Starts for Karkharias\_46:

(37, 30586), (Start: 49 @30610 has 9 MA's), (51, 30619), (Start: 56 @30634 has 1 MA's), (80, 30721), (84, 30733), (90, 30781), (127, 30946), (162, 31141), (165, 31165), (167, 31168), (181, 31264),

Gene: KayMoney\_46 Start: 30029, Stop: 30835, Start Num: 49

Candidate Starts for KayMoney\_46:

(Start: 49 @30029 has 9 MA's), (Start: 56 @30053 has 1 MA's), (80, 30140), (84, 30152), (90, 30200), (127, 30365), (142, 30452), (162, 30560), (165, 30584), (167, 30587), (181, 30683), (196, 30731),

Gene: Keshu\_62 Start: 41474, Stop: 42373, Start Num: 44

Candidate Starts for Keshu\_62:

(Start: 44 @41474 has 138 MA's), (81, 41585), (97, 41684), (100, 41693), (109, 41771), (121, 41834), (123, 41846), (124, 41864), (135, 41921), (158, 42056), (165, 42113), (173, 42161), (188, 42230), (200, 42278), (203, 42302),

Gene: KiSi\_65 Start: 42230, Stop: 43150, Start Num: 43

Candidate Starts for KiSi\_65:

(Start: 43 @42230 has 5 MA's), (81, 42341), (98, 42443), (121, 42590), (135, 42656), (136, 42662), (142, 42716), (152, 42785), (171, 42899), (172, 42902), (173, 42917), (176, 42944), (188, 42986), (199, 43031), (203, 43058), (206, 43076),

Gene: KingPhillip3\_12 Start: 4748, Stop: 5497, Start Num: 60

Candidate Starts for KingPhillip3\_12:

(Start: 60 @4748 has 28 MA's), (81, 4814), (93, 4892), (98, 4916), (105, 4976), (114, 5018), (131, 5054), (142, 5114), (165, 5243), (173, 5291), (179, 5330), (195, 5378),

Gene: Kratio\_53 Start: 38274, Stop: 39134, Start Num: 42

Candidate Starts for Kratio\_53:

(Start: 42 @38274 has 22 MA's), (81, 38388), (87, 38424), (121, 38637), (136, 38688), (137, 38700), (138, 38718), (142, 38742), (155, 38805), (156, 38808), (164, 38865), (172, 38907), (179, 38961), (190, 38994), (199, 39036), (201, 39048), (212, 39105), (214, 39126),

Gene: Kraw\_65 Start: 40911, Stop: 41774, Start Num: 50

Candidate Starts for Kraw\_65:

(35, 40875), (Start: 44 @40890 has 138 MA's), (Start: 50 @40911 has 21 MA's), (65, 40944), (70, 40965), (87, 41040), (135, 41319), (136, 41325), (144, 41388), (155, 41442), (165, 41511), (173, 41559), (188, 41628), (209, 41736), (210, 41739),

Gene: Krili\_13 Start: 5076, Stop: 5825, Start Num: 60

Candidate Starts for Krili\_13:

(Start: 60 @5076 has 28 MA's), (81, 5142), (93, 5220), (98, 5244), (105, 5304), (114, 5346), (131, 5382), (142, 5442), (165, 5571), (173, 5619), (179, 5658), (195, 5706),

Gene: Krueger\_64 Start: 41010, Stop: 41909, Start Num: 44

Candidate Starts for Krueger\_64:

(15, 40815), (29, 40971), (Start: 44 @41010 has 138 MA's), (66, 41070), (81, 41121), (93, 41199), (94, 41208), (98, 41223), (110, 41310), (125, 41382), (135, 41436), (158, 41592), (165, 41649), (198, 41805), (199, 41811), (203, 41838), (207, 41862),

Gene: Larva\_56 Start: 39706, Stop: 40566, Start Num: 42

Candidate Starts for Larva\_56:

(Start: 42 @39706 has 22 MA's), (81, 39820), (87, 39856), (98, 39922), (100, 39928), (121, 40069), (128, 40081), (136, 40120), (138, 40150), (142, 40174), (164, 40297), (190, 40426), (193, 40435), (199, 40468), (201, 40480), (212, 40537), (214, 40558),

Gene: LastHope\_64 Start: 40454, Stop: 41341, Start Num: 44

Candidate Starts for LastHope\_64:

(Start: 44 @40454 has 138 MA's), (81, 40565), (97, 40664), (121, 40814), (136, 40886), (142, 40940), (158, 41024), (165, 41081), (173, 41129), (187, 41195), (200, 41246), (203, 41270),

Gene: LaterM\_61 Start: 41874, Stop: 42761, Start Num: 44

Candidate Starts for LaterM\_61:

(Start: 44 @41874 has 138 MA's), (81, 41985), (97, 42084), (136, 42306), (142, 42360), (158, 42444), (165, 42501), (173, 42549), (187, 42615), (200, 42666), (201, 42675), (203, 42690),

Gene: LeMond\_64 Start: 41861, Stop: 42784, Start Num: 43

Candidate Starts for LeMond\_64:

(Start: 43 @41861 has 5 MA's), (81, 41972), (98, 42074), (121, 42221), (135, 42287), (136, 42293), (142, 42350), (152, 42419), (171, 42533), (172, 42536), (173, 42551), (176, 42578), (188, 42620), (203, 42692), (206, 42710),

Gene: Lea83\_61 Start: 41429, Stop: 42310, Start Num: 44

Candidate Starts for Lea83\_61:

(Start: 44 @41429 has 138 MA's), (81, 41540), (90, 41603), (97, 41639), (100, 41648), (109, 41726), (116, 41762), (135, 41858), (158, 41993), (165, 42050), (173, 42098), (188, 42167), (199, 42212), (200, 42215), (203, 42239),

Gene: Lebo14\_65 Start: 41244, Stop: 42107, Start Num: 50

Candidate Starts for Lebo14\_65:

(35, 41208), (Start: 44 @41223 has 138 MA's), (Start: 50 @41244 has 21 MA's), (65, 41277), (70, 41298), (87, 41373), (135, 41652), (136, 41658), (144, 41721), (155, 41775), (165, 41844), (173, 41892), (188, 41961), (209, 42069), (210, 42072),

Gene: Leston\_55 Start: 40333, Stop: 41193, Start Num: 42

Candidate Starts for Leston\_55:

(Start: 42 @40333 has 22 MA's), (81, 40447), (121, 40696), (128, 40708), (137, 40759), (138, 40777), (142, 40801), (156, 40867), (160, 40888), (164, 40924), (172, 40966), (179, 41020), (187, 41047), (190, 41053), (199, 41095), (201, 41107), (212, 41164), (214, 41185),

Gene: LilPharaoh\_50 Start: 38323, Stop: 39210, Start Num: 44

Candidate Starts for LilPharaoh\_50:

(Start: 44 @38323 has 138 MA's), (81, 38434), (97, 38533), (121, 38683), (130, 38716), (136, 38755), (142, 38809), (158, 38893), (164, 38941), (165, 38950), (170, 38965), (173, 38998), (199, 39112), (203, 39139),

Gene: LindNT\_60 Start: 41483, Stop: 42361, Start Num: 44

Candidate Starts for LindNT\_60:

(Start: 44 @41483 has 138 MA's), (81, 41594), (97, 41693), (136, 41915), (142, 41969), (158, 42044), (165, 42101), (173, 42149), (187, 42215), (199, 42263), (201, 42275), (203, 42290),

Gene: Llorens\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Llorens\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: Lunahalos\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Lunahalos\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: MacKat\_56 Start: 36743, Stop: 37621, Start Num: 44

Candidate Starts for MacKat\_56:

(Start: 44 @36743 has 138 MA's), (81, 36854), (97, 36953), (121, 37103), (136, 37175), (142, 37229), (158, 37304), (165, 37361), (173, 37409), (187, 37475), (199, 37523), (201, 37535), (203, 37550),

Gene: MacnCheese\_62 Start: 41974, Stop: 42873, Start Num: 44

Candidate Starts for MacnCheese\_62:

(Start: 44 @41974 has 138 MA's), (81, 42085), (97, 42184), (100, 42193), (109, 42271), (121, 42334), (123, 42346), (124, 42364), (135, 42421), (136, 42427), (158, 42556), (165, 42613), (173, 42661), (188, 42730), (203, 42802),

Gene: MadKillah\_14 Start: 5097, Stop: 5846, Start Num: 60

Candidate Starts for MadKillah\_14:

(Start: 60 @5097 has 28 MA's), (81, 5163), (93, 5241), (98, 5265), (105, 5325), (114, 5367), (131, 5403), (142, 5463), (165, 5592), (173, 5640), (179, 5679), (195, 5727),

Gene: Madraxi\_73 Start: 46508, Stop: 47317, Start Num: 58

Candidate Starts for Madraxi\_73:

(Start: 58 @46508 has 2 MA's), (71, 46547), (94, 46670), (98, 46682), (105, 46745), (107, 46757), (109, 46769), (142, 46877), (169, 47018), (188, 47126), (203, 47201), (217, 47294),

Gene: MalagasyRose\_61 Start: 40415, Stop: 41278, Start Num: 41

Candidate Starts for MalagasyRose\_61:

(Start: 41 @40415 has 1 MA's), (Start: 50 @40439 has 21 MA's), (76, 40508), (81, 40529), (88, 40571), (90, 40592), (95, 40619), (109, 40715), (128, 40793), (135, 40826), (136, 40832), (142, 40886), (160, 40973), (164, 41009), (173, 41066), (177, 41096), (178, 41099), (187, 41132), (198, 41174), (201, 41192), (203, 41207),

Gene: Malthus\_65 Start: 40911, Stop: 41774, Start Num: 50

Candidate Starts for Malthus\_65:

(35, 40875), (Start: 44 @40890 has 138 MA's), (Start: 50 @40911 has 21 MA's), (65, 40944), (70, 40965), (87, 41040), (135, 41319), (136, 41325), (144, 41388), (155, 41442), (165, 41511), (173, 41559), (188, 41628), (209, 41736), (210, 41739),

Gene: Marcoliusprime\_62 Start: 43382, Stop: 44239, Start Num: 44

Candidate Starts for Marcoliusprime\_62:

(Start: 44 @43382 has 138 MA's), (81, 43487), (97, 43586), (136, 43796), (173, 44030), (188, 44099), (200, 44147), (201, 44156), (203, 44171),

Gene: MarkPhew\_63 Start: 41511, Stop: 42416, Start Num: 44

Candidate Starts for MarkPhew\_63:

(Start: 44 @41511 has 138 MA's), (90, 41685), (94, 41709), (98, 41724), (121, 41871), (135, 41940), (136, 41946), (142, 42003), (152, 42072), (171, 42186), (172, 42189), (188, 42273), (203, 42345), (206, 42363),

Gene: Marshawn\_60 Start: 41598, Stop: 42494, Start Num: 43

Candidate Starts for Marshawn\_60:

(3, 41262), (19, 41436), (27, 41547), (Start: 43 @41598 has 5 MA's), (81, 41709), (94, 41796), (98, 41811), (121, 41958), (135, 42024), (136, 42030), (142, 42084), (152, 42153), (158, 42180), (165, 42237), (203, 42426), (206, 42444),

Gene: McMater\_62 Start: 41510, Stop: 42397, Start Num: 44

Candidate Starts for McMater\_62:

(Start: 44 @41510 has 138 MA's), (81, 41621), (97, 41720), (98, 41723), (121, 41870), (135, 41936), (136, 41942), (142, 41996), (158, 42080), (165, 42137), (173, 42185), (200, 42302), (201, 42311), (203, 42326), (207, 42350), (211, 42365),

Gene: Mdavu\_51 Start: 38584, Stop: 39471, Start Num: 44

Candidate Starts for Mdavu\_51:

(Start: 44 @38584 has 138 MA's), (81, 38695), (97, 38794), (121, 38944), (130, 38977), (136, 39016), (142, 39070), (158, 39154), (164, 39202), (165, 39211), (170, 39226), (173, 39259), (199, 39373), (203, 39400),

Gene: MeaningOfLife\_62 Start: 42154, Stop: 43041, Start Num: 44

Candidate Starts for MeaningOfLife\_62:

(Start: 44 @42154 has 138 MA's), (81, 42265), (97, 42364), (121, 42514), (136, 42586), (142, 42640), (158, 42724), (165, 42781), (172, 42814), (173, 42829), (187, 42895), (201, 42955), (203, 42970), (212, 43012),

Gene: Megsy\_63 Start: 41551, Stop: 42438, Start Num: 44

Candidate Starts for Megsy\_63:

(Start: 44 @41551 has 138 MA's), (81, 41662), (97, 41761), (136, 41983), (142, 42037), (158, 42121), (165, 42178), (173, 42226), (187, 42292), (200, 42343), (201, 42352), (203, 42367),

Gene: Milly\_62 Start: 43355, Stop: 44212, Start Num: 44

Candidate Starts for Milly\_62:

(Start: 44 @43355 has 138 MA's), (81, 43460), (97, 43559), (136, 43769), (173, 44003), (188, 44072), (200, 44120), (201, 44129), (203, 44144),

Gene: Miryou\_59 Start: 42930, Stop: 43790, Start Num: 42

Candidate Starts for Miryou\_59:

(Start: 42 @42930 has 22 MA's), (76, 43023), (81, 43044), (121, 43293), (128, 43305), (135, 43338), (136, 43344), (137, 43356), (138, 43374), (142, 43398), (156, 43464), (164, 43521), (172, 43563), (179, 43617), (187, 43644), (190, 43650), (199, 43692), (201, 43704), (212, 43761), (214, 43782),

Gene: MissDaisy\_61 Start: 39823, Stop: 40686, Start Num: 50

Candidate Starts for MissDaisy\_61:

(23, 39658), (Start: 44 @39802 has 138 MA's), (Start: 50 @39823 has 21 MA's), (86, 39934), (87, 39952), (100, 40024), (102, 40054), (136, 40237), (142, 40291), (165, 40423), (209, 40648), (210, 40651),

Gene: Mitti\_64 Start: 41090, Stop: 41953, Start Num: 50

Candidate Starts for Mitti\_64:

(35, 41054), (Start: 44 @41069 has 138 MA's), (Start: 50 @41090 has 21 MA's), (65, 41123), (70, 41144), (87, 41219), (135, 41498), (136, 41504), (144, 41567), (155, 41621), (165, 41690), (173, 41738), (188, 41807), (209, 41915), (210, 41918),

Gene: Molivia\_63 Start: 40276, Stop: 39626, Start Num: 72

Candidate Starts for Molivia\_63:

(57, 40333), (Start: 72 @40276 has 1 MA's), (90, 40183), (96, 40156), (97, 40150), (102, 40117), (103, 40108), (108, 40081), (115, 40069), (119, 40054), (149, 39913), (169, 39820),

Gene: Mori\_13 Start: 4936, Stop: 5685, Start Num: 60

Candidate Starts for Mori\_13:

(Start: 60 @4936 has 28 MA's), (81, 5002), (93, 5080), (98, 5104), (105, 5164), (114, 5206), (131, 5242), (142, 5302), (165, 5431), (173, 5479), (179, 5518), (195, 5566),

Gene: Mufasa\_62 Start: 42945, Stop: 43802, Start Num: 44

Candidate Starts for Mufasa\_62:

(Start: 44 @42945 has 138 MA's), (81, 43050), (97, 43149), (136, 43359), (173, 43593), (188, 43662), (200, 43710), (201, 43719), (203, 43734),

Gene: Mulch\_47 Start: 33927, Stop: 34814, Start Num: 28

Candidate Starts for Mulch\_47:

(13, 33774), (14, 33783), (21, 33822), (Start: 28 @33927 has 15 MA's), (30, 33948), (Start: 62 @34038 has 1 MA's), (71, 34065), (76, 34083), (146, 34437), (148, 34446), (150, 34452), (167, 34539), (168, 34542), (173, 34584), (176, 34611), (182, 34638), (184, 34644), (188, 34653), (192, 34662),

Gene: Murai\_13 Start: 4936, Stop: 5685, Start Num: 60

Candidate Starts for Murai\_13:

(Start: 60 @4936 has 28 MA's), (81, 5002), (93, 5080), (98, 5104), (105, 5164), (114, 5206), (131, 5242), (142, 5302), (165, 5431), (173, 5479), (179, 5518), (195, 5566),

Gene: Murucutumbu\_62 Start: 42254, Stop: 43141, Start Num: 44

Candidate Starts for Murucutumbu\_62:

(Start: 44 @42254 has 138 MA's), (81, 42365), (97, 42464), (136, 42686), (142, 42740), (158, 42824), (165, 42881), (173, 42929), (187, 42995), (200, 43046), (201, 43055), (203, 43070),

Gene: Mynx\_62 Start: 41596, Stop: 42474, Start Num: 44

Candidate Starts for Mynx\_62:

(Start: 44 @41596 has 138 MA's), (81, 41707), (97, 41806), (121, 41956), (136, 42028), (142, 42082), (158, 42157), (165, 42214), (173, 42262), (187, 42328), (199, 42376), (201, 42388), (203, 42403),

Gene: Nadeem\_47 Start: 33927, Stop: 34814, Start Num: 28

Candidate Starts for Nadeem\_47:

(13, 33774), (14, 33783), (21, 33822), (Start: 28 @33927 has 15 MA's), (30, 33948), (Start: 62 @34038 has 1 MA's), (71, 34065), (76, 34083), (146, 34437), (148, 34446), (150, 34452), (167, 34539), (168, 34542), (173, 34584), (176, 34611), (182, 34638), (184, 34644), (188, 34653), (192, 34662),

Gene: NancyRae\_47 Start: 33937, Stop: 34824, Start Num: 28

Candidate Starts for NancyRae\_47:

(13, 33784), (14, 33793), (21, 33832), (Start: 28 @33937 has 15 MA's), (30, 33958), (Start: 62 @34048 has 1 MA's), (71, 34075), (76, 34093), (89, 34162), (146, 34447), (148, 34456), (150, 34462), (167, 34549), (168, 34552), (173, 34594), (176, 34621), (182, 34648), (184, 34654), (188, 34663), (192, 34672),

Gene: Neighly\_57 Start: 39705, Stop: 40565, Start Num: 42

Candidate Starts for Neighly\_57:

(Start: 42 @39705 has 22 MA's), (81, 39819), (87, 39855), (98, 39921), (100, 39927), (121, 40068), (128, 40080), (136, 40119), (138, 40149), (142, 40173), (164, 40296), (190, 40425), (193, 40434), (199, 40467), (201, 40479), (212, 40536), (214, 40557),

Gene: Nergal\_54 Start: 38056, Stop: 38922, Start Num: 39

Candidate Starts for Nergal\_54:

(Start: 39 @38056 has 1 MA's), (81, 38167), (99, 38269), (128, 38437), (142, 38530), (172, 38695), (173, 38710),

Gene: Nibb\_62 Start: 41203, Stop: 42108, Start Num: 44

Candidate Starts for Nibb\_62:

(4, 40876), (Start: 44 @41203 has 138 MA's), (98, 41416), (121, 41563), (135, 41632), (136, 41638), (142, 41695), (152, 41764), (171, 41878), (172, 41881), (188, 41965), (199, 42010), (203, 42037), (206, 42055),

Gene: NiebruSaylor\_13 Start: 4936, Stop: 5685, Start Num: 60

Candidate Starts for NiebruSaylor\_13:

(Start: 60 @4936 has 28 MA's), (81, 5002), (93, 5080), (98, 5104), (105, 5164), (114, 5206), (131, 5242), (142, 5302), (165, 5431), (173, 5479), (179, 5518), (195, 5566),

Gene: Nikao\_53 Start: 41208, Stop: 42095, Start Num: 44

Candidate Starts for Nikao\_53:

(Start: 44 @41208 has 138 MA's), (81, 41319), (97, 41418), (121, 41568), (130, 41601), (136, 41640), (142, 41694), (158, 41778), (164, 41826), (165, 41835), (170, 41850), (173, 41883), (199, 41997), (203, 42024),

Gene: Niklas\_62 Start: 41571, Stop: 42458, Start Num: 44

Candidate Starts for Niklas\_62:

(Start: 44 @41571 has 138 MA's), (81, 41682), (97, 41781), (98, 41784), (121, 41931), (135, 41997), (136, 42003), (142, 42057), (158, 42141), (165, 42198), (173, 42246), (200, 42363), (201, 42372), (203, 42387), (207, 42411), (211, 42426),

Gene: NoSwimming\_41 Start: 29687, Stop: 30514, Start Num: 49

Candidate Starts for NoSwimming\_41:

(Start: 49 @29687 has 9 MA's), (80, 29798), (84, 29810), (85, 29813), (90, 29858), (133, 30038), (167, 30245), (180, 30332), (181, 30341), (195, 30377),

Gene: Nonagon\_64 Start: 42467, Stop: 41757, Start Num: 68

Candidate Starts for Nonagon\_64:

(Start: 68 @42467 has 2 MA's), (78, 42434), (90, 42359), (97, 42323), (102, 42293), (110, 42242), (112, 42236), (117, 42197), (133, 42161), (137, 42128), (138, 42110), (153, 42029), (157, 42014), (160, 41999), (164, 41963), (166, 41951), (169, 41945), (175, 41894), (194, 41831),

Gene: November\_60 Start: 41306, Stop: 42199, Start Num: 44

Candidate Starts for November\_60:

(Start: 44 @41306 has 138 MA's), (81, 41417), (135, 41726), (136, 41732), (144, 41795), (152, 41855), (158, 41882), (165, 41939), (173, 41987), (176, 42014), (188, 42056), (200, 42104), (203, 42128),

Gene: Nutello\_50 Start: 38595, Stop: 39482, Start Num: 44

Candidate Starts for Nutello\_50:

(Start: 44 @38595 has 138 MA's), (81, 38706), (97, 38805), (121, 38955), (130, 38988), (136, 39027), (142, 39081), (158, 39165), (164, 39213), (165, 39222), (170, 39237), (173, 39270), (199, 39384), (203, 39411),

Gene: OkiRoe\_56 Start: 40601, Stop: 41461, Start Num: 42

Candidate Starts for OkiRoe\_56:



(Start: 42 @40601 has 22 MA's), (76, 40694), (81, 40715), (121, 40964), (128, 40976), (135, 41009), (136, 41015), (137, 41027), (138, 41045), (142, 41069), (156, 41135), (164, 41192), (172, 41234), (179, 41288), (187, 41315), (190, 41321), (199, 41363), (201, 41375), (212, 41432), (214, 41453),

Gene: OmniCritical\_63 Start: 40980, Stop: 41843, Start Num: 50

Candidate Starts for OmniCritical\_63:

(35, 40944), (Start: 44 @40959 has 138 MA's), (Start: 50 @40980 has 21 MA's), (65, 41013), (70, 41034), (87, 41109), (135, 41388), (136, 41394), (144, 41457), (155, 41511), (165, 41580), (173, 41628), (188, 41697), (209, 41805), (210, 41808),

Gene: Omnicron\_59 Start: 40704, Stop: 41564, Start Num: 42

Candidate Starts for Omnicron\_59:

(Start: 42 @40704 has 22 MA's), (77, 40800), (79, 40809), (81, 40818), (89, 40866), (100, 40926), (121, 41067), (128, 41079), (142, 41172), (156, 41238), (160, 41259), (164, 41295), (172, 41337), (176, 41379), (179, 41391), (186, 41415), (190, 41424), (201, 41478), (212, 41535), (214, 41556),

Gene: Oscar\_64 Start: 41778, Stop: 42701, Start Num: 43

Candidate Starts for Oscar\_64:

(36, 41772), (Start: 43 @41778 has 5 MA's), (81, 41889), (98, 41991), (121, 42138), (135, 42204), (136, 42210), (142, 42267), (152, 42336), (171, 42450), (172, 42453), (173, 42468), (176, 42495), (188, 42537), (203, 42609), (206, 42627),

Gene: Padfoot\_61 Start: 41608, Stop: 42486, Start Num: 44

Candidate Starts for Padfoot\_61:

(Start: 44 @41608 has 138 MA's), (81, 41719), (97, 41818), (136, 42040), (142, 42094), (158, 42169), (165, 42226), (173, 42274), (187, 42340), (199, 42388), (201, 42400), (203, 42415),

Gene: Padpat\_63 Start: 41277, Stop: 42155, Start Num: 44

Candidate Starts for Padpat\_63:

(Start: 44 @41277 has 138 MA's), (81, 41388), (97, 41487), (121, 41637), (136, 41709), (142, 41763), (158, 41838), (165, 41895), (173, 41943), (187, 42009), (199, 42057), (201, 42069), (203, 42084),

Gene: Paola\_55 Start: 40204, Stop: 41064, Start Num: 42

Candidate Starts for Paola\_55:

(Start: 42 @40204 has 22 MA's), (81, 40318), (121, 40567), (128, 40579), (137, 40630), (138, 40648), (142, 40672), (156, 40738), (160, 40759), (164, 40795), (172, 40837), (179, 40891), (187, 40918), (190, 40924), (199, 40966), (201, 40978), (212, 41035), (214, 41056),

Gene: Parada\_47 Start: 33927, Stop: 34814, Start Num: 28

Candidate Starts for Parada\_47:

(13, 33774), (14, 33783), (21, 33822), (Start: 28 @33927 has 15 MA's), (30, 33948), (Start: 62 @34038 has 1 MA's), (71, 34065), (76, 34083), (146, 34437), (148, 34446), (150, 34452), (167, 34539), (168, 34542), (173, 34584), (176, 34611), (182, 34638), (184, 34644), (188, 34653), (192, 34662),

Gene: Patt\_60 Start: 39547, Stop: 40410, Start Num: 50

Candidate Starts for Patt\_60:

(23, 39382), (Start: 44 @39526 has 138 MA's), (Start: 50 @39547 has 21 MA's), (86, 39658), (87, 39676), (100, 39748), (102, 39778), (136, 39961), (142, 40015), (165, 40147), (209, 40372), (210, 40375),

Gene: Peanam\_62 Start: 41529, Stop: 42416, Start Num: 44

Candidate Starts for Peanam\_62:

(Start: 44 @41529 has 138 MA's), (81, 41640), (97, 41739), (98, 41742), (121, 41889), (135, 41955), (136, 41961), (142, 42015), (158, 42099), (165, 42156), (173, 42204), (200, 42321), (201, 42330), (203, 42345), (207, 42369), (211, 42384),

Gene: Peas\_45 Start: 31548, Stop: 32372, Start Num: 49

Candidate Starts for Peas\_45:

(Start: 49 @31548 has 9 MA's), (80, 31659), (84, 31671), (90, 31719), (104, 31803), (165, 32103), (167, 32106), (176, 32178), (181, 32202), (196, 32250), (215, 32355),

Gene: Peel\_61 Start: 41413, Stop: 42291, Start Num: 44

Candidate Starts for Peel\_61:

(Start: 44 @41413 has 138 MA's), (81, 41524), (97, 41623), (136, 41845), (142, 41899), (158, 41974), (165, 42031), (173, 42079), (187, 42145), (199, 42193), (201, 42205), (203, 42220),

Gene: PeggyLeg03\_46 Start: 30698, Stop: 31504, Start Num: 49

Candidate Starts for PeggyLeg03\_46:

(Start: 49 @30698 has 9 MA's), (Start: 56 @30722 has 1 MA's), (61, 30746), (80, 30809), (84, 30821), (90, 30869), (127, 31034), (142, 31121), (162, 31229), (165, 31253), (167, 31256), (181, 31352), (196, 31400),

Gene: Pharb\_59 Start: 40578, Stop: 41477, Start Num: 44

Candidate Starts for Pharb\_59:

(Start: 44 @40578 has 138 MA's), (81, 40689), (97, 40788), (100, 40797), (111, 40881), (135, 41004), (136, 41010), (142, 41064), (154, 41142), (158, 41160), (171, 41247), (173, 41265), (180, 41307), (181, 41316), (188, 41334), (199, 41379), (200, 41382), (203, 41406), (206, 41424),

Gene: PhelpsODU\_61 Start: 40671, Stop: 41570, Start Num: 44

Candidate Starts for PhelpsODU\_61:

(29, 40632), (Start: 44 @40671 has 138 MA's), (66, 40731), (94, 40869), (98, 40884), (110, 40971), (136, 41103), (158, 41253), (165, 41310), (173, 41358), (176, 41385), (203, 41499), (207, 41523),

Gene: Phrank\_63 Start: 40732, Stop: 41631, Start Num: 44

Candidate Starts for Phrank\_63:

(6, 40402), (17, 40549), (18, 40555), (29, 40693), (Start: 44 @40732 has 138 MA's), (66, 40792), (81, 40843), (93, 40921), (94, 40930), (98, 40945), (110, 41032), (135, 41158), (136, 41164), (158, 41314), (165, 41371), (173, 41419), (176, 41446), (203, 41560), (207, 41584),

Gene: Piatt\_61 Start: 41608, Stop: 42486, Start Num: 44

Candidate Starts for Piatt\_61:

(Start: 44 @41608 has 138 MA's), (81, 41719), (97, 41818), (136, 42040), (142, 42094), (158, 42169), (165, 42226), (173, 42274), (187, 42340), (199, 42388), (201, 42400), (203, 42415),

Gene: Pimento\_48 Start: 33578, Stop: 34405, Start Num: 28

Candidate Starts for Pimento\_48:

(13, 33425), (14, 33434), (21, 33473), (Start: 28 @33578 has 15 MA's), (47, 33602), (71, 33656), (76, 33674), (89, 33743), (146, 34028), (148, 34037), (150, 34043), (167, 34130), (168, 34133), (176, 34202), (182, 34229), (184, 34235), (188, 34244), (192, 34253),

Gene: Pixie\_59 Start: 40914, Stop: 41795, Start Num: 44

Candidate Starts for Pixie\_59:

(Start: 44 @40914 has 138 MA's), (81, 41025), (90, 41088), (97, 41124), (100, 41133), (109, 41211), (135, 41343), (158, 41478), (165, 41535), (173, 41583), (188, 41652), (199, 41697), (200, 41700), (203, 41724),

Gene: Pokerus\_60 Start: 41329, Stop: 42207, Start Num: 44

Candidate Starts for Pokerus\_60:

(Start: 44 @41329 has 138 MA's), (77, 41422), (81, 41440), (97, 41539), (121, 41689), (136, 41761), (158, 41890), (165, 41947), (173, 41995), (187, 42061), (199, 42109), (201, 42121), (203, 42136),

Gene: Prithvi\_62 Start: 41483, Stop: 42361, Start Num: 44

Candidate Starts for Prithvi\_62:

(Start: 44 @41483 has 138 MA's), (81, 41594), (97, 41693), (136, 41915), (142, 41969), (158, 42044), (165, 42101), (173, 42149), (187, 42215), (199, 42263), (201, 42275), (203, 42290),

Gene: Psycho\_55 Start: 38831, Stop: 39691, Start Num: 42

Candidate Starts for Psycho\_55:

(Start: 42 @38831 has 22 MA's), (81, 38945), (87, 38981), (98, 39047), (121, 39194), (128, 39206), (136, 39245), (138, 39275), (142, 39299), (164, 39422), (190, 39551), (193, 39560), (199, 39593), (201, 39605), (212, 39662), (214, 39683),

Gene: Pucara\_43 Start: 30303, Stop: 31109, Start Num: 49

Candidate Starts for Pucara\_43:

(Start: 49 @30303 has 9 MA's), (Start: 56 @30327 has 1 MA's), (61, 30351), (80, 30414), (84, 30426), (90, 30474), (127, 30639), (142, 30726), (162, 30834), (165, 30858), (167, 30861), (181, 30957), (196, 31005),

Gene: QuincyRose\_60 Start: 41672, Stop: 42550, Start Num: 44

Candidate Starts for QuincyRose\_60:

(Start: 44 @41672 has 138 MA's), (81, 41783), (97, 41882), (121, 42032), (136, 42104), (142, 42158), (158, 42233), (165, 42290), (173, 42338), (187, 42404), (199, 42452), (201, 42464), (203, 42479),

Gene: REQ1\_38 Start: 15432, Stop: 16226, Start Num: 58

Candidate Starts for REQ1\_38:

(Start: 58 @15432 has 2 MA's), (71, 15471), (91, 15576), (92, 15579), (94, 15594), (98, 15606), (105, 15669), (107, 15681), (109, 15693), (142, 15801), (159, 15882), (169, 15942), (203, 16125),

Gene: Ramen\_62 Start: 41288, Stop: 42175, Start Num: 44

Candidate Starts for Ramen\_62:

(Start: 44 @41288 has 138 MA's), (81, 41399), (97, 41498), (121, 41648), (136, 41720), (142, 41774), (158, 41858), (165, 41915), (173, 41963), (187, 42029), (201, 42089), (203, 42104), (212, 42146),

Gene: Rando14\_57 Start: 38404, Stop: 39264, Start Num: 42

Candidate Starts for Rando14\_57:

(Start: 42 @38404 has 22 MA's), (77, 38500), (79, 38509), (82, 38521), (87, 38554), (90, 38581), (100, 38626), (102, 38656), (111, 38710), (121, 38767), (128, 38779), (135, 38812), (136, 38818), (142, 38872), (144, 38881), (156, 38938), (164, 38995), (176, 39079), (179, 39091), (186, 39115), (190, 39124), (201, 39178), (212, 39235), (214, 39256),

Gene: Rapunzel97\_62 Start: 41275, Stop: 42162, Start Num: 44

Candidate Starts for Rapunzel97\_62:

(Start: 44 @41275 has 138 MA's), (77, 41368), (81, 41386), (97, 41485), (121, 41635), (136, 41707), (142, 41761), (158, 41845), (165, 41902), (173, 41950), (187, 42016), (201, 42076), (203, 42091), (212, 42133),

Gene: Reptar3000\_61 Start: 39535, Stop: 40398, Start Num: 50

Candidate Starts for Reptar3000\_61:

(23, 39370), (Start: 44 @39514 has 138 MA's), (Start: 50 @39535 has 21 MA's), (86, 39646), (87, 39664), (100, 39736), (102, 39766), (136, 39949), (142, 40003), (165, 40135), (209, 40360), (210, 40363),

Gene: Reyja\_39 Start: 28104, Stop: 28865, Start Num: 55

Candidate Starts for Reyja\_39:

(Start: 55 @28104 has 4 MA's), (79, 28170), (98, 28281), (107, 28356), (109, 28368), (145, 28512), (162, 28587), (165, 28611), (169, 28620), (178, 28692), (181, 28710), (188, 28728), (203, 28800),

Gene: Richo\_62 Start: 41510, Stop: 42397, Start Num: 44

Candidate Starts for Richo\_62:

(Start: 44 @41510 has 138 MA's), (81, 41621), (97, 41720), (98, 41723), (121, 41870), (135, 41936), (136, 41942), (142, 41996), (158, 42080), (165, 42137), (173, 42185), (200, 42302), (201, 42311), (203, 42326), (207, 42350), (211, 42365),

Gene: Rings\_62 Start: 41910, Stop: 41269, Start Num: 75

Candidate Starts for Rings\_62:

(Start: 75 @41910 has 12 MA's), (90, 41823), (94, 41802), (97, 41790), (103, 41748), (108, 41721), (115, 41709), (119, 41694), (169, 41460), (178, 41385),

Gene: RootBeer\_37 Start: 26799, Stop: 27602, Start Num: 49

Candidate Starts for RootBeer\_37:

(Start: 49 @26799 has 9 MA's), (Start: 56 @26823 has 1 MA's), (80, 26910), (84, 26922), (85, 26925), (90, 26970), (127, 27135), (142, 27222), (165, 27354), (167, 27357), (181, 27453),

Gene: Rosmarinus\_61 Start: 41399, Stop: 42277, Start Num: 44

Candidate Starts for Rosmarinus\_61:

(Start: 44 @41399 has 138 MA's), (81, 41510), (97, 41609), (136, 41831), (142, 41885), (158, 41960), (165, 42017), (173, 42065), (187, 42131), (199, 42179), (201, 42191), (203, 42206),

Gene: Ruthiejr\_65 Start: 40961, Stop: 41824, Start Num: 50

Candidate Starts for Ruthiejr\_65:

(35, 40925), (Start: 44 @40940 has 138 MA's), (Start: 50 @40961 has 21 MA's), (65, 40994), (70, 41015), (87, 41090), (135, 41369), (136, 41375), (144, 41438), (155, 41492), (165, 41561), (173, 41609), (188, 41678), (209, 41786), (210, 41789),

Gene: Ryadel\_15 Start: 5530, Stop: 6279, Start Num: 60

Candidate Starts for Ryadel\_15:

(Start: 60 @5530 has 28 MA's), (81, 5596), (93, 5674), (98, 5698), (105, 5758), (114, 5800), (131, 5836), (142, 5896), (165, 6025), (173, 6073), (179, 6112), (195, 6160),

Gene: SamScheppers\_62 Start: 41390, Stop: 42253, Start Num: 50

Candidate Starts for SamScheppers\_62:

(35, 41354), (Start: 44 @41369 has 138 MA's), (Start: 50 @41390 has 21 MA's), (65, 41423), (70, 41444), (87, 41519), (135, 41798), (136, 41804), (144, 41867), (155, 41921), (165, 41990), (173, 42038), (188, 42107), (209, 42215), (210, 42218),

Gene: SamuelLPlaqson\_62 Start: 42174, Stop: 43055, Start Num: 44

Candidate Starts for SamuelLPlaqson\_62:

(Start: 44 @42174 has 138 MA's), (81, 42285), (97, 42384), (136, 42609), (142, 42663), (158, 42738), (165, 42795), (173, 42843), (187, 42909), (199, 42957), (201, 42969), (203, 42984),

Gene: Santhid\_38 Start: 26389, Stop: 27150, Start Num: 55

Candidate Starts for Santhid\_38:

(33, 26332), (52, 26380), (Start: 55 @26389 has 4 MA's), (98, 26566), (106, 26638), (107, 26641), (145, 26797), (147, 26803), (158, 26839), (169, 26905), (188, 27013), (203, 27085),

Gene: Scarlett\_65 Start: 42108, Stop: 43028, Start Num: 43

Candidate Starts for Scarlett\_65:

(Start: 43 @42108 has 5 MA's), (81, 42219), (98, 42321), (121, 42468), (135, 42534), (136, 42540), (142, 42594), (152, 42663), (171, 42777), (172, 42780), (173, 42795), (176, 42822), (188, 42864), (199, 42909), (203, 42936), (206, 42954),

Gene: SchoolBus\_12 Start: 4748, Stop: 5497, Start Num: 60

Candidate Starts for SchoolBus\_12:

(Start: 60 @4748 has 28 MA's), (81, 4814), (93, 4892), (98, 4916), (105, 4976), (114, 5018), (131, 5054), (142, 5114), (165, 5243), (173, 5291), (179, 5330), (195, 5378),

Gene: Schuy\_14 Start: 5097, Stop: 5846, Start Num: 60

Candidate Starts for Schuy\_14:

(Start: 60 @5097 has 28 MA's), (81, 5163), (93, 5241), (98, 5265), (105, 5325), (114, 5367), (131, 5403), (142, 5463), (165, 5592), (173, 5640), (179, 5679), (195, 5727),

Gene: Scotia\_39 Start: 28728, Stop: 29555, Start Num: 49

Candidate Starts for Scotia\_39:

(Start: 49 @28728 has 9 MA's), (80, 28839), (84, 28851), (85, 28854), (90, 28899), (133, 29079), (167, 29286), (180, 29373), (181, 29382), (195, 29418), (208, 29496),

Gene: SgtBeansprout\_50 Start: 38595, Stop: 39482, Start Num: 44

Candidate Starts for SgtBeansprout\_50:

(Start: 44 @38595 has 138 MA's), (81, 38706), (97, 38805), (121, 38955), (130, 38988), (136, 39027), (142, 39081), (158, 39165), (164, 39213), (165, 39222), (170, 39237), (173, 39270), (199, 39384), (203, 39411),

Gene: Shadow1\_64 Start: 41184, Stop: 42083, Start Num: 44

Candidate Starts for Shadow1\_64:

(Start: 44 @41184 has 138 MA's), (66, 41244), (81, 41295), (93, 41373), (94, 41382), (98, 41397), (110, 41484), (125, 41556), (135, 41610), (136, 41616), (158, 41766), (165, 41823), (198, 41979), (203, 42012), (207, 42036),

Gene: Shagrat\_70 Start: 42104, Stop: 42943, Start Num: 62

Candidate Starts for Shagrat\_70:

(46, 42035), (Start: 62 @42104 has 1 MA's), (71, 42131), (98, 42269), (107, 42344), (118, 42386), (132, 42410), (134, 42413), (156, 42539), (163, 42593), (174, 42662), (188, 42725), (218, 42920),

Gene: Shambre1\_40 Start: 26325, Stop: 27116, Start Num: 56

Candidate Starts for Shambre1\_40:

(Start: 56 @26325 has 1 MA's), (64, 26355), (80, 26412), (82, 26415), (91, 26478), (105, 26568), (129, 26640), (164, 26844), (167, 26856),

Gene: Shaobing\_62 Start: 41547, Stop: 42434, Start Num: 44

Candidate Starts for Shaobing\_62:

(Start: 44 @41547 has 138 MA's), (81, 41658), (97, 41757), (98, 41760), (121, 41907), (135, 41973), (136, 41979), (142, 42033), (158, 42117), (165, 42174), (173, 42222), (200, 42339), (201, 42348), (203, 42363), (207, 42387), (211, 42402),

Gene: ShedlockHolmes\_61 Start: 41433, Stop: 42314, Start Num: 44

Candidate Starts for ShedlockHolmes\_61:

(Start: 44 @41433 has 138 MA's), (81, 41544), (90, 41607), (97, 41643), (100, 41652), (109, 41730), (116, 41766), (135, 41862), (158, 41997), (165, 42054), (173, 42102), (188, 42171), (199, 42216), (200, 42219), (203, 42243),

Gene: ShiaSurprise\_62 Start: 41608, Stop: 42486, Start Num: 44

Candidate Starts for ShiaSurprise\_62:

(Start: 44 @41608 has 138 MA's), (81, 41719), (97, 41818), (136, 42040), (142, 42094), (158, 42169), (165, 42226), (173, 42274), (187, 42340), (199, 42388), (201, 42400), (203, 42415),

Gene: Shida\_13 Start: 5002, Stop: 5751, Start Num: 60

Candidate Starts for Shida\_13:

(Start: 60 @5002 has 28 MA's), (81, 5068), (93, 5146), (98, 5170), (105, 5230), (114, 5272), (131, 5308), (142, 5368), (165, 5497), (173, 5545), (179, 5584), (195, 5632),

Gene: SirPhilip\_61 Start: 41827, Stop: 42729, Start Num: 44

Candidate Starts for SirPhilip\_61:

(Start: 44 @41827 has 138 MA's), (81, 41938), (98, 42040), (110, 42127), (121, 42187), (135, 42253), (136, 42259), (152, 42382), (158, 42409), (165, 42466), (176, 42541), (188, 42583), (200, 42631), (203, 42655),

Gene: Slarp\_64 Start: 40918, Stop: 41781, Start Num: 50

Candidate Starts for Slarp\_64:

(35, 40882), (Start: 44 @40897 has 138 MA's), (Start: 50 @40918 has 21 MA's), (65, 40951), (70, 40972), (87, 41047), (135, 41326), (136, 41332), (144, 41395), (155, 41449), (165, 41518), (173, 41566), (188, 41635), (209, 41743), (210, 41746),

Gene: Slimphazie\_61 Start: 41275, Stop: 42162, Start Num: 44

Candidate Starts for Slimphazie\_61:

(Start: 44 @41275 has 138 MA's), (77, 41368), (81, 41386), (97, 41485), (121, 41635), (136, 41707), (142, 41761), (158, 41845), (165, 41902), (173, 41950), (187, 42016), (201, 42076), (203, 42091), (212, 42133),

Gene: Smooch\_14 Start: 5266, Stop: 6015, Start Num: 60

Candidate Starts for Smooch\_14:

(Start: 60 @5266 has 28 MA's), (81, 5332), (93, 5410), (98, 5434), (105, 5494), (114, 5536), (131, 5572), (142, 5632), (165, 5761), (173, 5809), (195, 5896),

Gene: SoSeph\_56 Start: 40576, Stop: 41436, Start Num: 42

Candidate Starts for SoSeph\_56:

(Start: 42 @40576 has 22 MA's), (76, 40669), (81, 40690), (121, 40939), (128, 40951), (135, 40984), (136, 40990), (137, 41002), (138, 41020), (142, 41044), (156, 41110), (164, 41167), (172, 41209), (179, 41263), (187, 41290), (190, 41296), (199, 41338), (201, 41350), (212, 41407), (214, 41428),

Gene: SorJuana\_61 Start: 41469, Stop: 40828, Start Num: 75

Candidate Starts for SorJuana\_61:

(Start: 75 @41469 has 12 MA's), (90, 41382), (94, 41361), (97, 41349), (103, 41307), (108, 41280), (115, 41268), (119, 41253), (169, 41019), (178, 40944),

Gene: Spock\_61 Start: 41412, Stop: 42290, Start Num: 44

Candidate Starts for Spock\_61:

(Start: 44 @41412 has 138 MA's), (81, 41523), (97, 41622), (136, 41844), (142, 41898), (158, 41973), (165, 42030), (173, 42078), (187, 42144), (199, 42192), (201, 42204), (203, 42219),

Gene: Stinson\_62 Start: 41777, Stop: 42655, Start Num: 44

Candidate Starts for Stinson\_62:

(Start: 44 @41777 has 138 MA's), (76, 41867), (81, 41888), (97, 41987), (136, 42209), (142, 42263), (158, 42338), (165, 42395), (173, 42443), (187, 42509), (199, 42557), (201, 42569), (203, 42584),

Gene: Strobilo\_63 Start: 43357, Stop: 44214, Start Num: 44

Candidate Starts for Strobilo\_63:

(Start: 44 @43357 has 138 MA's), (81, 43462), (97, 43561), (136, 43771), (173, 44005), (188, 44074), (200, 44122), (201, 44131), (203, 44146),

Gene: Sulley\_61 Start: 41463, Stop: 42350, Start Num: 44

Candidate Starts for Sulley\_61:

(Start: 44 @41463 has 138 MA's), (81, 41574), (97, 41673), (136, 41895), (142, 41949), (158, 42033), (165, 42090), (173, 42138), (187, 42204), (200, 42255), (201, 42264), (203, 42279),

Gene: Sunflower1121\_65 Start: 41330, Stop: 42229, Start Num: 44

Candidate Starts for Sunflower1121\_65:

(Start: 44 @41330 has 138 MA's), (66, 41390), (81, 41441), (93, 41519), (94, 41528), (98, 41543), (110, 41630), (125, 41702), (135, 41756), (136, 41762), (158, 41912), (165, 41969), (198, 42125), (203, 42158), (207, 42182),

Gene: Syra333\_63 Start: 41022, Stop: 41921, Start Num: 44

Candidate Starts for Syra333\_63:

(15, 40827), (29, 40983), (Start: 44 @41022 has 138 MA's), (66, 41082), (81, 41133), (93, 41211), (94, 41220), (98, 41235), (110, 41322), (125, 41394), (135, 41448), (158, 41604), (165, 41661), (203, 41850), (207, 41874),

Gene: TBond007\_58 Start: 40913, Stop: 41794, Start Num: 44

Candidate Starts for TBond007\_58:

(Start: 44 @40913 has 138 MA's), (81, 41024), (90, 41087), (97, 41123), (100, 41132), (109, 41210), (135, 41342), (158, 41477), (165, 41534), (173, 41582), (188, 41651), (199, 41696), (200, 41699), (203, 41723),

Gene: TClif\_61 Start: 40980, Stop: 41876, Start Num: 44

Candidate Starts for TClif\_61:

(Start: 44 @40980 has 138 MA's), (81, 41091), (98, 41193), (110, 41280), (121, 41340), (135, 41424), (136, 41430), (158, 41559), (165, 41616), (203, 41805),

Gene: TM4\_59 Start: 37712, Stop: 38569, Start Num: 44

Candidate Starts for TM4\_59:

(5, 37370), (Start: 44 @37712 has 138 MA's), (81, 37817), (97, 37916), (136, 38126), (173, 38360), (188, 38429), (200, 38477), (203, 38501),

Gene: TPA4\_47 Start: 36087, Stop: 36890, Start Num: 53

Candidate Starts for TPA4\_47:

(53, 36087), (95, 36249), (107, 36333), (113, 36360), (146, 36516), (148, 36525), (164, 36606), (165, 36615), (187, 36729), (197, 36768), (216, 36873),

Gene: Tachez\_61 Start: 41256, Stop: 42134, Start Num: 44

Candidate Starts for Tachez\_61:

(Start: 44 @41256 has 138 MA's), (81, 41367), (97, 41466), (136, 41688), (142, 41742), (158, 41817), (165, 41874), (173, 41922), (187, 41988), (199, 42036), (201, 42048), (203, 42063),

Gene: TaiwanKao\_63 Start: 41545, Stop: 42423, Start Num: 44

Candidate Starts for TaiwanKao\_63:

(Start: 44 @41545 has 138 MA's), (81, 41656), (97, 41755), (136, 41977), (142, 42031), (158, 42106), (165, 42163), (173, 42211), (187, 42277), (188, 42280), (199, 42325), (201, 42337), (203, 42352),

Gene: Taquito\_63 Start: 41153, Stop: 42016, Start Num: 50

Candidate Starts for Taquito\_63:

(35, 41117), (Start: 44 @41132 has 138 MA's), (Start: 50 @41153 has 21 MA's), (65, 41186), (70, 41207), (87, 41282), (135, 41561), (136, 41567), (144, 41630), (155, 41684), (165, 41753), (173, 41801), (188, 41870), (209, 41978), (210, 41981),

Gene: Tarzan\_39 Start: 27538, Stop: 28299, Start Num: 55

Candidate Starts for Tarzan\_39:

(16, 27307), (25, 27388), (34, 27487), (Start: 55 @27538 has 4 MA's), (79, 27604), (98, 27715), (107, 27790), (109, 27802), (145, 27946), (162, 28021), (165, 28045), (169, 28054), (181, 28144), (188, 28162), (203, 28234),

Gene: Teejan\_52 Start: 41208, Stop: 42095, Start Num: 44

Candidate Starts for Teejan\_52:

(Start: 44 @41208 has 138 MA's), (81, 41319), (97, 41418), (121, 41568), (130, 41601), (136, 41640), (142, 41694), (158, 41778), (164, 41826), (165, 41835), (170, 41850), (173, 41883), (199, 41997), (203, 42024),

Gene: TelAviv\_12 Start: 4745, Stop: 5494, Start Num: 60

Candidate Starts for TelAviv\_12:

(Start: 60 @4745 has 28 MA's), (81, 4811), (93, 4889), (98, 4913), (105, 4973), (114, 5015), (131, 5051), (142, 5111), (165, 5240), (173, 5288), (179, 5327), (195, 5375),

Gene: Thunderclap\_61 Start: 41891, Stop: 41250, Start Num: 75

Candidate Starts for Thunderclap\_61:

(Start: 75 @41891 has 12 MA's), (90, 41804), (94, 41783), (97, 41771), (103, 41729), (108, 41702), (115, 41690), (119, 41675), (159, 41501), (169, 41441), (178, 41366),

Gene: Thyatira\_58 Start: 42534, Stop: 43394, Start Num: 42

Candidate Starts for Thyatira\_58:

(Start: 42 @42534 has 22 MA's), (76, 42627), (81, 42648), (121, 42897), (128, 42909), (136, 42948), (137, 42960), (138, 42978), (142, 43002), (156, 43068), (160, 43089), (164, 43125), (172, 43167), (179, 43221), (187, 43248), (190, 43254), (199, 43296), (201, 43308), (212, 43365), (214, 43386),

Gene: Tierra\_63 Start: 41543, Stop: 42442, Start Num: 44

Candidate Starts for Tierra\_63:

(6, 41213), (17, 41360), (18, 41366), (29, 41504), (Start: 44 @41543 has 138 MA's), (66, 41603), (81, 41654), (93, 41732), (94, 41741), (98, 41756), (110, 41843), (135, 41969), (136, 41975), (158, 42125), (165, 42182), (173, 42230), (176, 42257), (203, 42371), (207, 42395),

Gene: TingHuaYa\_63 Start: 40622, Stop: 41509, Start Num: 44

Candidate Starts for TingHuaYa\_63:

(Start: 44 @40622 has 138 MA's), (81, 40733), (97, 40832), (121, 40982), (136, 41054), (142, 41108), (158, 41192), (165, 41249), (173, 41297), (187, 41363), (200, 41414), (201, 41423), (203, 41438),



Gene: TiniBug\_62 Start: 42170, Stop: 43051, Start Num: 44

Candidate Starts for TiniBug\_62:

(Start: 44 @42170 has 138 MA's), (81, 42281), (97, 42380), (136, 42605), (142, 42659), (158, 42734), (165, 42791), (173, 42839), (187, 42905), (199, 42953), (201, 42965), (203, 42980),

Gene: TinyDot\_44 Start: 29888, Stop: 30616, Start Num: 63

Candidate Starts for TinyDot\_44:

(7, 29531), (26, 29756), (Start: 63 @29888 has 1 MA's), (97, 30035), (137, 30194), (140, 30230), (145, 30269), (183, 30473),

Gene: Tiri\_62 Start: 41574, Stop: 42461, Start Num: 44

Candidate Starts for Tiri\_62:

(Start: 44 @41574 has 138 MA's), (81, 41685), (97, 41784), (121, 41934), (136, 42006), (142, 42060), (158, 42144), (165, 42201), (172, 42234), (173, 42249), (187, 42315), (201, 42375), (203, 42390),

Gene: Topper\_61 Start: 41411, Stop: 42289, Start Num: 44

Candidate Starts for Topper\_61:

(Start: 44 @41411 has 138 MA's), (81, 41522), (97, 41621), (136, 41843), (142, 41897), (158, 41972), (165, 42029), (173, 42077), (187, 42143), (199, 42191), (201, 42203), (203, 42218),

Gene: Torres\_52 Start: 41209, Stop: 42096, Start Num: 44

Candidate Starts for Torres\_52:

(Start: 44 @41209 has 138 MA's), (81, 41320), (97, 41419), (121, 41569), (130, 41602), (136, 41641), (142, 41695), (158, 41779), (164, 41827), (165, 41836), (170, 41851), (173, 41884), (199, 41998), (203, 42025),

Gene: TreyKay\_62 Start: 41483, Stop: 42361, Start Num: 44

Candidate Starts for TreyKay\_62:

(Start: 44 @41483 has 138 MA's), (81, 41594), (97, 41693), (136, 41915), (142, 41969), (158, 42044), (165, 42101), (173, 42149), (187, 42215), (199, 42263), (201, 42275), (203, 42290),

Gene: TribbleTrouble\_60 Start: 41741, Stop: 42643, Start Num: 44

Candidate Starts for TribbleTrouble\_60:

(31, 41720), (Start: 44 @41741 has 138 MA's), (81, 41852), (97, 41951), (100, 41960), (109, 42038), (121, 42101), (135, 42191), (158, 42326), (165, 42383), (173, 42431), (188, 42500), (190, 42503), (200, 42548), (203, 42572),

Gene: TruffulaTree\_61 Start: 41271, Stop: 42158, Start Num: 44

Candidate Starts for TruffulaTree\_61:

(Start: 44 @41271 has 138 MA's), (77, 41364), (81, 41382), (97, 41481), (121, 41631), (136, 41703), (142, 41757), (158, 41841), (165, 41898), (173, 41946), (187, 42012), (201, 42072), (203, 42087), (212, 42129),

Gene: Twitch\_61 Start: 41413, Stop: 42291, Start Num: 44

Candidate Starts for Twitch\_61:

(Start: 44 @41413 has 138 MA's), (81, 41524), (97, 41623), (136, 41845), (142, 41899), (158, 41974), (165, 42031), (173, 42079), (187, 42145), (199, 42193), (201, 42205), (203, 42220),

Gene: Unicorn\_61 Start: 40671, Stop: 41570, Start Num: 44

Candidate Starts for Unicorn\_61:

(29, 40632), (Start: 44 @40671 has 138 MA's), (66, 40731), (94, 40869), (98, 40884), (110, 40971), (136, 41103), (158, 41253), (165, 41310), (173, 41358), (176, 41385), (203, 41499), (207, 41523),

Gene: Urkel\_62 Start: 42174, Stop: 43055, Start Num: 44

Candidate Starts for Urkel\_62:

(Start: 44 @42174 has 138 MA's), (81, 42285), (97, 42384), (136, 42609), (142, 42663), (158, 42738), (165, 42795), (173, 42843), (187, 42909), (199, 42957), (201, 42969), (203, 42984),

Gene: Vagabond\_13 Start: 5002, Stop: 5751, Start Num: 60

Candidate Starts for Vagabond\_13:

(Start: 60 @5002 has 28 MA's), (81, 5068), (93, 5146), (98, 5170), (105, 5230), (114, 5272), (131, 5308), (142, 5368), (165, 5497), (173, 5545), (179, 5584), (195, 5632),

Gene: Validus\_64 Start: 41893, Stop: 42780, Start Num: 44

Candidate Starts for Validus\_64:

(Start: 44 @41893 has 138 MA's), (81, 42004), (98, 42106), (121, 42253), (123, 42265), (136, 42325), (142, 42379), (158, 42463), (165, 42520), (173, 42568), (186, 42631), (200, 42685), (201, 42694), (203, 42709), (207, 42733), (211, 42748),

Gene: Veliki\_62 Start: 41251, Stop: 42129, Start Num: 44

Candidate Starts for Veliki\_62:

(Start: 44 @41251 has 138 MA's), (81, 41362), (97, 41461), (121, 41611), (136, 41683), (142, 41737), (158, 41812), (165, 41869), (173, 41917), (187, 41983), (199, 42031), (201, 42043), (203, 42058),

Gene: ViviJ\_53 Start: 38289, Stop: 39149, Start Num: 42

Candidate Starts for ViviJ\_53:

(Start: 42 @38289 has 22 MA's), (87, 38439), (121, 38652), (128, 38664), (136, 38703), (137, 38715), (138, 38733), (142, 38757), (155, 38820), (156, 38823), (170, 38904), (176, 38964), (179, 38976), (190, 39009), (193, 39018), (201, 39063), (212, 39120), (214, 39141),

Gene: Vorrps\_13 Start: 4936, Stop: 5685, Start Num: 60

Candidate Starts for Vorrps\_13:

(Start: 60 @4936 has 28 MA's), (81, 5002), (93, 5080), (98, 5104), (105, 5164), (114, 5206), (131, 5242), (142, 5302), (165, 5431), (173, 5479), (179, 5518), (195, 5566),

Gene: Waterfoul\_57 Start: 40638, Stop: 41498, Start Num: 42

Candidate Starts for Waterfoul\_57:

(Start: 42 @40638 has 22 MA's), (76, 40731), (81, 40752), (121, 41001), (128, 41013), (135, 41046), (136, 41052), (137, 41064), (138, 41082), (142, 41106), (156, 41172), (164, 41229), (172, 41271), (179, 41325), (187, 41352), (190, 41358), (199, 41400), (201, 41412), (212, 41469), (214, 41490),

Gene: WheatThin\_47 Start: 33927, Stop: 34814, Start Num: 28

Candidate Starts for WheatThin\_47:

(13, 33774), (14, 33783), (21, 33822), (Start: 28 @33927 has 15 MA's), (30, 33948), (Start: 62 @34038 has 1 MA's), (71, 34065), (76, 34083), (146, 34437), (148, 34446), (150, 34452), (167, 34539), (168, 34542), (173, 34584), (176, 34611), (182, 34638), (184, 34644), (188, 34653), (192, 34662),

Gene: Wildflower\_13 Start: 4962, Stop: 5711, Start Num: 60

Candidate Starts for Wildflower\_13:

(Start: 60 @4962 has 28 MA's), (81, 5028), (93, 5106), (98, 5130), (105, 5190), (114, 5232), (120, 5253), (131, 5268), (142, 5328), (165, 5457), (173, 5505), (179, 5544), (195, 5592),

Gene: Winget\_13 Start: 5001, Stop: 5750, Start Num: 60

Candidate Starts for Winget\_13:

(Start: 60 @5001 has 28 MA's), (81, 5067), (93, 5145), (98, 5169), (105, 5229), (114, 5271), (131, 5307), (142, 5367), (165, 5496), (173, 5544), (179, 5583),

Gene: Wintermute\_64 Start: 41148, Stop: 42011, Start Num: 50

Candidate Starts for Wintermute\_64:

(35, 41112), (Start: 44 @41127 has 138 MA's), (Start: 50 @41148 has 21 MA's), (65, 41181), (70, 41202), (87, 41277), (135, 41556), (136, 41562), (144, 41625), (155, 41679), (165, 41748), (173, 41796), (188, 41865), (209, 41973), (210, 41976),

Gene: Wogge42\_13 Start: 5091, Stop: 5840, Start Num: 60

Candidate Starts for Wogge42\_13:

(Start: 60 @5091 has 28 MA's), (81, 5157), (93, 5235), (98, 5259), (105, 5319), (114, 5361), (131, 5397), (142, 5457), (165, 5586), (173, 5634), (179, 5673), (195, 5721),

Gene: Ximenita\_65 Start: 41348, Stop: 42247, Start Num: 44

Candidate Starts for Ximenita\_65:

(Start: 44 @41348 has 138 MA's), (66, 41408), (81, 41459), (93, 41537), (94, 41546), (98, 41561), (102, 41597), (110, 41648), (125, 41720), (135, 41774), (158, 41930), (165, 41987), (198, 42143), (203, 42176), (207, 42200),

Gene: Y10\_62 Start: 41076, Stop: 41939, Start Num: 50

Candidate Starts for Y10\_62:

(35, 41040), (Start: 44 @41055 has 138 MA's), (Start: 50 @41076 has 21 MA's), (65, 41109), (70, 41130), (74, 41145), (87, 41205), (135, 41484), (136, 41490), (155, 41607), (165, 41676), (173, 41724), (188, 41793), (209, 41901), (210, 41904),

Gene: Y2\_62 Start: 41076, Stop: 41939, Start Num: 50

Candidate Starts for Y2\_62:

(35, 41040), (Start: 44 @41055 has 138 MA's), (Start: 50 @41076 has 21 MA's), (65, 41109), (70, 41130), (74, 41145), (87, 41205), (135, 41484), (136, 41490), (155, 41607), (165, 41676), (173, 41724), (188, 41793), (209, 41901), (210, 41904),

Gene: Yappy\_87 Start: 45148, Stop: 44513, Start Num: 73

Candidate Starts for Yappy\_87:

(Start: 73 @45148 has 1 MA's), (97, 45022), (101, 45004), (139, 44860), (143, 44839), (153, 44785), (161, 44740), (165, 44710), (176, 44632), (184, 44599), (189, 44587), (191, 44584), (204, 44530), (205, 44521),

Gene: Yeezus\_61 Start: 41861, Stop: 41220, Start Num: 75

Candidate Starts for Yeezus\_61:

(Start: 75 @41861 has 12 MA's), (90, 41774), (94, 41753), (97, 41741), (103, 41699), (108, 41672), (115, 41660), (119, 41645), (169, 41411), (178, 41336),

Gene: YoureAdopted\_60 Start: 41400, Stop: 42278, Start Num: 44

Candidate Starts for YoureAdopted\_60:

(Start: 44 @41400 has 138 MA's), (81, 41511), (97, 41610), (121, 41760), (136, 41832), (142, 41886), (158, 41961), (165, 42018), (173, 42066), (187, 42132), (199, 42180), (201, 42192), (203, 42207),

Gene: Yuna\_65 Start: 42443, Stop: 43345, Start Num: 44

Candidate Starts for Yuna\_65:

(9, 42131), (Start: 44 @42443 has 138 MA's), (81, 42554), (93, 42632), (94, 42641), (98, 42656), (121, 42803), (135, 42872), (136, 42878), (151, 42998), (158, 43028), (172, 43118), (176, 43160), (203, 43274),

Gene: YungJamal\_14 Start: 5302, Stop: 6051, Start Num: 60

Candidate Starts for YungJamal\_14:

(Start: 60 @5302 has 28 MA's), (81, 5368), (93, 5446), (98, 5470), (105, 5530), (114, 5572), (131, 5608), (142, 5668), (165, 5797), (173, 5845), (179, 5884), (195, 5932),

Gene: Yunkel11\_64 Start: 41120, Stop: 42025, Start Num: 44

Candidate Starts for Yunkel11\_64:

(Start: 44 @41120 has 138 MA's), (81, 41231), (97, 41330), (136, 41570), (142, 41624), (158, 41708), (173, 41813), (187, 41879), (200, 41930), (201, 41939), (203, 41954),

Gene: Zabiza\_56 Start: 37591, Stop: 38478, Start Num: 44

Candidate Starts for Zabiza\_56:

(Start: 44 @37591 has 138 MA's), (81, 37702), (97, 37801), (121, 37951), (136, 38023), (142, 38077), (158, 38161), (165, 38218), (173, 38266), (187, 38332), (201, 38392), (203, 38407), (212, 38449),

Gene: Zakhe101\_14 Start: 5314, Stop: 6063, Start Num: 60

Candidate Starts for Zakhe101\_14:

(Start: 60 @5314 has 28 MA's), (81, 5380), (93, 5458), (98, 5482), (105, 5542), (114, 5584), (120, 5605), (131, 5620), (142, 5680), (165, 5809), (173, 5857), (179, 5896), (195, 5944),

Gene: Zavala\_63 Start: 41556, Stop: 42434, Start Num: 44

Candidate Starts for Zavala\_63:

(Start: 44 @41556 has 138 MA's), (81, 41667), (87, 41703), (97, 41766), (121, 41916), (136, 41988), (142, 42042), (158, 42117), (165, 42174), (173, 42222), (187, 42288), (199, 42336), (201, 42348), (203, 42363),

Gene: Zebo\_12 Start: 4748, Stop: 5497, Start Num: 60

Candidate Starts for Zebo\_12:

(Start: 60 @4748 has 28 MA's), (81, 4814), (93, 4892), (98, 4916), (105, 4976), (114, 5018), (131, 5054), (142, 5114), (165, 5243), (173, 5291), (179, 5330), (195, 5378),

Gene: ZoeJ\_61 Start: 42753, Stop: 43610, Start Num: 44

Candidate Starts for ZoeJ\_61:

(Start: 44 @42753 has 138 MA's), (81, 42858), (97, 42957), (136, 43167), (173, 43401), (188, 43470), (200, 43518),