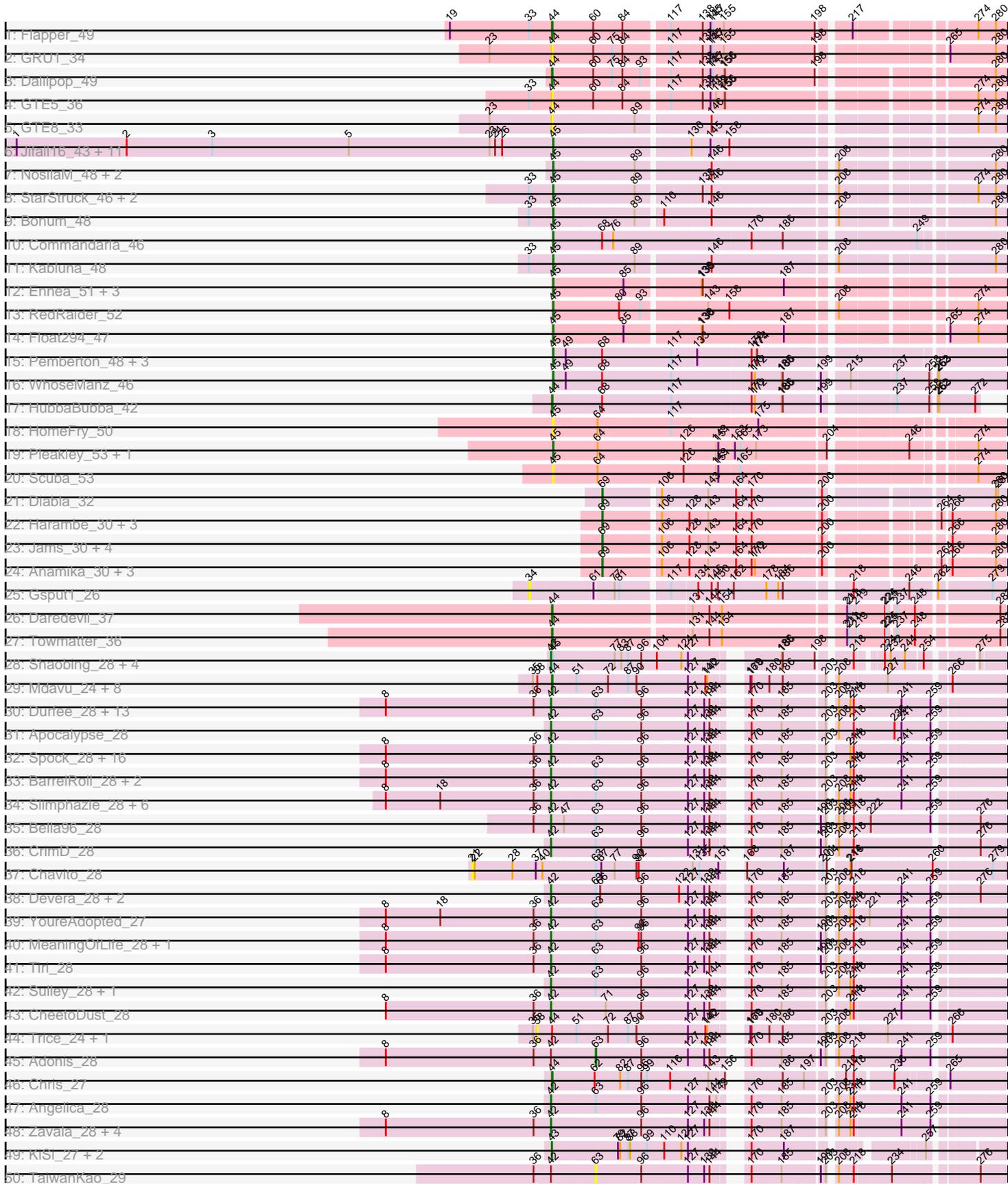
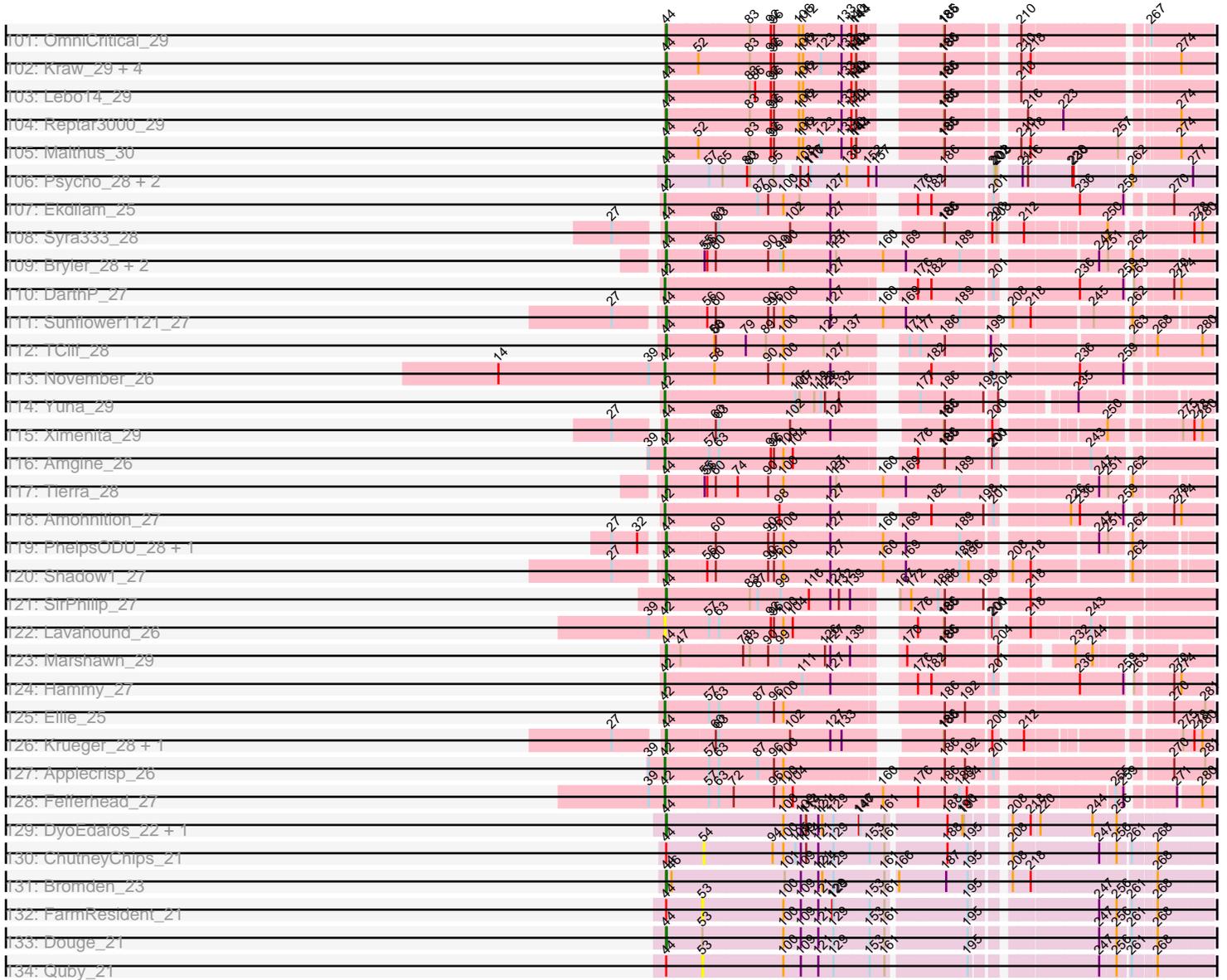


Pham 290802





Pham 290802



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 290802 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290802 has 252 members, 27 are drafts.

Phages represented in each track:

- Track 1 : Flapper\_49
- Track 2 : GRU1\_34
- Track 3 : Dalilpop\_49
- Track 4 : GTE5\_36
- Track 5 : GTE8\_33
- Track 6 : Jifall16\_43, Foxboro\_45, Kurt\_44, GrootJr\_46, NovumRegina\_44, Emianna\_44, KidneyBean\_44, Tracker\_44, Arti\_44, NatB6\_44, Wheezy\_44, Phomeo\_43
- Track 7 : NosilaM\_48, Buggaboo\_46, SuperSulley\_46
- Track 8 : StarStruck\_46, MerCougar\_46, Outis\_46
- Track 9 : Bonum\_48
- Track 10 : Commandaria\_46
- Track 11 : Kabluna\_48
- Track 12 : Ennea\_51, Skysand\_47, Patio\_48, Lollipop1437\_50
- Track 13 : RedRaider\_52
- Track 14 : Float294\_47
- Track 15 : Pemberton\_48, Yndexa\_46, BiPauneto\_47, Sukkupi\_46
- Track 16 : WhoseManz\_46
- Track 17 : HubbaBubba\_42
- Track 18 : HomeFry\_50
- Track 19 : Pleakley\_53, Fury\_53
- Track 20 : Scuba\_53
- Track 21 : Diabla\_32
- Track 22 : Harambe\_30, Luker\_31, Jormungandr\_30, Lahirium\_30
- Track 23 : Jams\_30, Hello\_30, GalacticEye\_30, Teal\_30, Newt\_31
- Track 24 : Anamika\_30, Nimi13\_30, Neoevie\_30, Hail2Pitt\_30
- Track 25 : Gspu1\_26
- Track 26 : Daredevil\_37
- Track 27 : Towmatter\_36
- Track 28 : Shaobing\_28, McMater\_28, Richo\_28, Niklas\_28, Dartin\_28
- Track 29 : Mdavu\_24, Enkosi\_24, Nikao\_24, Binglebops\_24, Amelie\_24, SgtBeansprout\_24, LilPharaoh\_24, Torres\_24, Nutello\_24
- Track 30 : Durfee\_28, BaghaKamala\_28, Piatt\_28, Boiiii\_28, Padfoot\_28, Asayake\_28, AlishaPH\_28, ShiaSurprise\_28, CaseJules\_28, Blizzard\_28, Hyperbowlee\_28, Pokerus\_27, Homura\_28, BEEST\_28
- Track 31 : Apocalypse\_28

- Track 32 : Spock\_28, Joy99\_28, Belladonna\_28, Peel\_28, Topper\_28, Dalmuri\_28, Jeckyll\_28, Capricorn\_28, BGlluviae\_28, CREW\_28, CallaLilly\_28, Jarvi\_28, Rosmarinus\_28, Twitch\_28, Inky\_28, Lunahalos\_28, Llorens\_28
- Track 33 : BarrelRoll\_28, JAWS\_28, Ramen\_28
- Track 34 : Slimphazie\_28, Jayhawk\_28, Veliki\_28, Zabiza\_28, HedwigODU\_28, Rapunzel97\_28, Adephagia\_28
- Track 35 : Bella96\_28
- Track 36 : CrimD\_28
- Track 37 : Chavito\_28
- Track 38 : Devera\_28, Dole\_28, Illumine\_28
- Track 39 : YoureAdopted\_27
- Track 40 : MeaningOfLife\_28, Geraldini\_28
- Track 41 : Tiri\_28
- Track 42 : Sulley\_28, Deby\_28
- Track 43 : CheetoDust\_28
- Track 44 : Trice\_24, Teejan\_24
- Track 45 : Adonis\_28
- Track 46 : Chris\_27
- Track 47 : Angelica\_28
- Track 48 : Zavala\_28, Mynx\_28, Padpat\_28, Emerson\_28, TruffulaTree\_28
- Track 49 : KiSi\_27, Oscar\_27, Scarlett\_27
- Track 50 : TaiwanKao\_29
- Track 51 : MarkPhew\_28
- Track 52 : LeMond\_27
- Track 53 : Peanam\_28
- Track 54 : Anma\_28
- Track 55 : TreyKay\_28, LindNT\_28, Prithvi\_28
- Track 56 : Anaya\_29
- Track 57 : Pisa4\_27, Pisa1\_27
- Track 58 : Guanica15\_28, Yunkel11\_28
- Track 59 : Murucutumbu\_28
- Track 60 : Validus\_28
- Track 61 : MacKat\_28, Clipper\_28
- Track 62 : Ganymede\_29, QuincyRose\_27
- Track 63 : ActinUp\_28
- Track 64 : DartGoblin\_28
- Track 65 : Stinson\_29
- Track 66 : Tachez\_28
- Track 67 : LaterM\_28
- Track 68 : LastHope\_28
- Track 69 : Ageofdapage\_28
- Track 70 : DrHayes\_28, Urkel\_28, SamuelLPlaqson\_28
- Track 71 : TiniBug\_28
- Track 72 : Atiba\_28
- Track 73 : Megsy\_28
- Track 74 : Beezoo\_28
- Track 75 : Nibb\_27
- Track 76 : Efra2\_28
- Track 77 : Bern\_28
- Track 78 : TingHuaYa\_28
- Track 79 : ZoeJ\_25
- Track 80 : Findley\_25
- Track 81 : Mufasa\_25

- Track 82 : Strobilo\_25
- Track 83 : DismalStressor\_25, Milly\_25, Marcoliusprime\_25
- Track 84 : Doughnut\_25, BoostSeason\_25
- Track 85 : DismalFunk\_25
- Track 86 : TM4\_25
- Track 87 : TBond007\_28
- Track 88 : MacnCheese\_29
- Track 89 : Pharb\_27
- Track 90 : Keshu\_28
- Track 91 : Hurricane\_28
- Track 92 : Pixie\_28
- Track 93 : TribbleTrouble\_27
- Track 94 : Lea83\_28, ShedlockHolmes\_28
- Track 95 : MissDaisy\_29
- Track 96 : Slarp\_29, Chancellor\_29, Qhanda\_30, Cheetobro\_29
- Track 97 : Wintermute\_29
- Track 98 : Bobquesha\_30
- Track 99 : Mitti\_29
- Track 100 : Patt\_29
- Track 101 : OmniCritical\_29
- Track 102 : Kraw\_29, Fionnbharth\_29, JF1\_29, Y2\_29, Y10\_29
- Track 103 : Lebo14\_29
- Track 104 : Reptar3000\_29
- Track 105 : Malthus\_30
- Track 106 : Psycho\_28, Dadosky\_28, AlleyCat\_28
- Track 107 : Ekdilam\_25
- Track 108 : Syra333\_28
- Track 109 : Bryler\_28, Phrank\_28, Cain\_28
- Track 110 : DarthP\_27
- Track 111 : Sunflower1121\_27
- Track 112 : TClif\_28
- Track 113 : November\_26
- Track 114 : Yuna\_29
- Track 115 : Ximenita\_29
- Track 116 : Amgine\_26
- Track 117 : Tierra\_28
- Track 118 : Amohnition\_27
- Track 119 : PhelpsODU\_28, Unicorn\_28
- Track 120 : Shadow1\_27
- Track 121 : SirPhilip\_27
- Track 122 : Lavahound\_26
- Track 123 : Marshawn\_29
- Track 124 : Hammy\_27
- Track 125 : Ellie\_25
- Track 126 : Krueger\_28, Tigress9\_29
- Track 127 : Applecrisp\_26
- Track 128 : Fefferhead\_27
- Track 129 : DyoEdafos\_22, Kropertea\_21
- Track 130 : ChutneyChips\_21
- Track 131 : Bromden\_23
- Track 132 : FarmResident\_21
- Track 133 : Douge\_21
- Track 134 : Quby\_21

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

The start number called the most often in the published annotations is 42, it was called in 97 of the 225 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adephagia\_28, Ageofdapage\_28, AlishaPH\_28, Amgine\_26, Amohnition\_27, Angelica\_28, Apocalypse\_28, Applecrisp\_26, Asayake\_28, Atiba\_28, BEEST\_28, BGIluviae\_28, BaghaKamala\_28, BarrelRoll\_28, Beezoo\_28, Bella96\_28, Belladonna\_28, Bern\_28, Blizzard\_28, Boiiii\_28, CREW\_28, CallaLilly\_28, Capricorn\_28, CaseJules\_28, CheetoDust\_28, Clipper\_28, CrimD\_28, Dalmuri\_28, DARTH\_27, Dartin\_28, Deby\_28, Devera\_28, Dole\_28, DrHayes\_28, Durfee\_28, Efra2\_28, Ekdilam\_25, Ellie\_25, Emerson\_28, Fefferhead\_27, Ganymede\_29, Geraldini\_28, Guanica15\_28, Hammy\_27, HedwigODU\_28, Homura\_28, Hyperbowlee\_28, Illumine\_28, Inky\_28, JAWS\_28, Jarvi\_28, Jayhawk\_28, Jeckyll\_28, Joy99\_28, LaterM\_28, Lavahound\_26, LindNT\_28, Llorens\_28, Lunahalos\_28, MacKat\_28, McMater\_28, MeaningOfLife\_28, Megsy\_28, Murucutumbu\_28, Mynx\_28, Niklas\_28, November\_26, Padfoot\_28, Padpat\_28, Peanam\_28, Peel\_28, Piatt\_28, Pisa1\_27, Pisa4\_27, Pokerus\_27, Prithvi\_28, QuincyRose\_27, Ramen\_28, Rapunzel97\_28, Richo\_28, Rosmarinus\_28, SamuelLPlaqson\_28, Shaobing\_28, ShiaSurprise\_28, Slimphazie\_28, Spock\_28, Stinson\_29, Sulley\_28, Tachez\_28, TiniBug\_28, Tiri\_28, Topper\_28, TreyKay\_28, TruffulaTree\_28, Twitch\_28, Urkel\_28, Validus\_28, Veliki\_28, YoureAdopted\_27, Yuna\_29, Yunkel11\_28, Zabiza\_28, Zavala\_28,

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

- ActinUp\_28, Adonis\_28, Anaya\_29, Anma\_28, DartGoblin\_28, TaiwanKao\_29,

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

- AlleyCat\_28, Amelie\_24, Anamika\_30, Arti\_44, BiPauneto\_47, Biglebops\_24, Bobquesha\_30, Bonum\_48, BoostSeason\_25, Bromden\_23, Bryler\_28, Buggaboo\_46, Cain\_28, Chancellor\_29, Chavito\_28, Cheetobro\_29, Chris\_27, ChutneyChips\_21, Commandaria\_46, Dadosky\_28, Dalilpop\_49, Daredevil\_37, Diabla\_32, DismalFunk\_25, DismalStressor\_25, Douge\_21, Doughnut\_25, DyoEdafos\_22, Emianna\_44, Enkosi\_24, Ennea\_51, FarmResident\_21, Findley\_25, Fionnbharth\_29, Flapper\_49, Float294\_47, Foxboro\_45, Fury\_53, GRU1\_34, GTE5\_36, GTE8\_33, GalacticEye\_30, GrootJr\_46, Gsput1\_26, Hail2Pitt\_30, Harambe\_30, Hello\_30, HomeFry\_50, HubbaBubba\_42, Hurricane\_28, JF1\_29, Jams\_30, Jifall16\_43, Jormungandr\_30, Kabluna\_48, Keshu\_28, KiSi\_27, KidneyBean\_44, Kraw\_29, Kropertea\_21, Krueger\_28, Kurt\_44, Lahorium\_30, LastHope\_28, LeMond\_27, Lea83\_28, Lebo14\_29, LilPharaoh\_24, Lollipop1437\_50, Luker\_31, MacnCheese\_29, Malthus\_30, Marcoliusprime\_25, MarkPhew\_28, Marshawn\_29, Mdavu\_24, MerCougar\_46, Milly\_25, MissDaisy\_29, Mitti\_29, Mufasa\_25, NatB6\_44, Neoevie\_30, Newt\_31, Nibb\_27, Nikao\_24, Nimi13\_30, NosilaM\_48, NovumRegina\_44, Nutello\_24, OmniCritical\_29, Oscar\_27, Outis\_46, Patio\_48, Patt\_29, Pemberton\_48, Pharb\_27, PhelpsODU\_28, Phomeo\_43, Phrank\_28, Pixie\_28, Pleakley\_53, Psycho\_28, Qhanda\_30, Quby\_21, RedRaider\_52, Reptar3000\_29, Scarlett\_27, Scuba\_53, SgtBeansprout\_24, Shadow1\_27, ShedlockHolmes\_28, SirPhilip\_27, Skysand\_47, Slarp\_29,

StarStruck\_46, Strobilo\_25, Sukkupi\_46, Sunflower1121\_27, SuperSulley\_46, Syra333\_28, TBond007\_28, TClif\_28, TM4\_25, Teal\_30, Teejan\_24, Tierra\_28, Tigress9\_29, TingHuaYa\_28, Torres\_24, Towmatter\_36, Tracker\_44, TripleTrouble\_27, Trice\_24, Unicorn\_28, Wheezy\_44, WhoseManz\_46, Wintermute\_29, Ximenita\_29, Y10\_29, Y2\_29, Yndexa\_46, ZoeJ\_25,

### Summary by start number:

#### Start 21:

- Found in 1 of 252 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chavito\_28 (K1),

#### Start 34:

- Found in 1 of 252 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gspu1\_26 (CU2),

#### Start 38:

- Found in 11 of 252 ( 4.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 18.2% of time when present
- Phage (with cluster) where this start called: Teejan\_24 (K1), Trice\_24 (K1),

#### Start 41:

- Found in 1 of 252 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 225
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pharb\_27 (K3),

#### Start 42:

- Found in 109 of 252 ( 43.3% ) of genes in pham
- Manual Annotations of this start: 97 of 225
- Called 94.5% of time when present
- Phage (with cluster) where this start called: Adephagia\_28 (K1), Ageofdapage\_28 (K1), AlishaPH\_28 (K1), Amgine\_26 (K6), Amohntion\_27 (K6), Angelica\_28 (K1), Apocalypse\_28 (K1), Applecrisp\_26 (K6), Asayake\_28 (K1), Atiba\_28 (K1), BEEST\_28 (K1), BGlluvia\_28 (K1), BaghaKamala\_28 (K1), BarrelRoll\_28 (K1), Beezoo\_28 (K1), Bella96\_28 (K1), Belladonna\_28 (K1), Bern\_28 (K1), Blizzard\_28 (K1), Boiiii\_28 (K1), CREW\_28 (K1), CallaLilly\_28 (K1), Capricorn\_28 (K1), CaseJules\_28 (K1), CheetoDust\_28 (K1), Clipper\_28 (K1), CrimD\_28 (K1), Dalmuri\_28 (K1), DarthP\_27 (K6), Dartin\_28 (K1), Deby\_28 (K1), Devera\_28 (K1), Dole\_28 (K1), DrHayes\_28 (K1), Durfee\_28 (K1), Efra2\_28 (K1), Ekdilam\_25 (K6), Ellie\_25 (K6), Emerson\_28 (K1), Fefferhead\_27 (K6), Ganymede\_29 (K1), Geraldini\_28 (K1), Guanica15\_28 (K1), Hammy\_27 (K6), HedwigODU\_28 (K1), Homura\_28 (K1), Hyperbowlee\_28 (K1), Illumine\_28 (K1), Inky\_28 (K1), JAWS\_28 (K1), Jarvi\_28 (K1), Jayhawk\_28 (K1), Jeckyll\_28 (K1), Joy99\_28 (K1), LaterM\_28 (K1), Lavahound\_26 (K6), LindNT\_28 (K1), Llorens\_28 (K1), Lunahalos\_28 (K1), MackKat\_28 (K1), McMater\_28 (K1), MeaningOfLife\_28 (K1), Megsy\_28 (K1), Murucutumbu\_28 (K1), Mynx\_28 (K1), Niklas\_28 (K1), November\_26 (K6), Padfoot\_28 (K1), Padpat\_28 (K1), Peanam\_28 (K1), Peel\_28 (K1), Piatt\_28 (K1),

Pisa1\_27 (K1), Pisa4\_27 (K1), Pokerus\_27 (K1), Prithvi\_28 (K1), QuincyRose\_27 (K1), Ramen\_28 (K1), Rapunzel97\_28 (K1), Richo\_28 (K1), Rosmarinus\_28 (K1), SamuelLPlaqson\_28 (K1), Shaobing\_28 (K1), ShiaSurprise\_28 (K1), Slimphazie\_28 (K1), Spock\_28 (K1), Stinson\_29 (K1), Sulley\_28 (K1), Tachez\_28 (K1), TiniBug\_28 (K1), Tiri\_28 (K1), Topper\_28 (K1), TreyKay\_28 (K1), TruffulaTree\_28 (K1), Twitch\_28 (K1), Urkel\_28 (K1), Validus\_28 (K1), Veliki\_28 (K1), YoureAdopted\_27 (K1), Yuna\_29 (K6), Yunkel11\_28 (K1), Zabiza\_28 (K1), Zavala\_28 (K1),

#### Start 43:

- Found in 4 of 252 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 4 of 225
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KiSi\_27 (K1), LeMond\_27 (K1), Oscar\_27 (K1), Scarlett\_27 (K1),

#### Start 44:

- Found in 86 of 252 ( 34.1% ) of genes in pham
- Manual Annotations of this start: 73 of 225
- Called 94.2% of time when present
- Phage (with cluster) where this start called: AlleyCat\_28 (K5), Amelie\_24 (K1), Binglebops\_24 (K1), Bobquesha\_30 (K4), BoostSeason\_25 (K2), Bromden\_23 (L4), Bryler\_28 (K6), Cain\_28 (K6), Chancellor\_29 (K4), Cheetobro\_29 (K4), Chris\_27 (K1), Dadosky\_28 (K5), Dalilpop\_49 (CR1), Daredevil\_37 (DL), DismalFunk\_25 (K2), DismalStressor\_25 (K2), Douge\_21 (L4), Doughnut\_25 (K2), DyoEdafos\_22 (L4), Enkosi\_24 (K1), Findley\_25 (K2), Fionnbharth\_29 (K4), Flapper\_49 (CR1), GRU1\_34 (CR1), GTE5\_36 (CR1), GTE8\_33 (CR2), HubbaBubba\_42 (CR4), Hurricane\_28 (K3), JF1\_29 (K4), Keshu\_28 (K3), Kraw\_29 (K4), Kropertea\_21 (L4), Krueger\_28 (K6), LastHope\_28 (K1), Lea83\_28 (K3), Lebo14\_29 (K4), LilPharaoh\_24 (K1), MacnCheese\_29 (K3), Malthus\_30 (K4), Marcoliusprime\_25 (K2), MarkPhew\_28 (K1), Marshawn\_29 (K6), Mdavu\_24 (K1), Milly\_25 (K2), MissDaisy\_29 (K4), Mitti\_29 (K4), Mufasa\_25 (K2), Nibb\_27 (K1), Nikao\_24 (K1), Nutello\_24 (K1), OmniCritical\_29 (K4), Patt\_29 (K4), PhelpsODU\_28 (K6), Phrank\_28 (K6), Pixie\_28 (K3), Psycho\_28 (K5), Qhanda\_30 (K4), Reptar3000\_29 (K4), SgtBeansprout\_24 (K1), Shadow1\_27 (K6), ShedlockHolmes\_28 (K3), SirPhilip\_27 (K6), Slarp\_29 (K4), Strobilo\_25 (K2), Sunflower1121\_27 (K6), Syra333\_28 (K6), TBond007\_28 (K3), TCIf\_28 (K6), TM4\_25 (K2), Tierra\_28 (K6), Tigress9\_29 (K6), TingHuaYa\_28 (K1), Torres\_24 (K1), Towmatter\_36 (DL), TribbleTrouble\_27 (K3), Unicorn\_28 (K6), Wintermute\_29 (K4), Ximenita\_29 (K6), Y10\_29 (K4), Y2\_29 (K4), ZoeJ\_25 (K2),

#### Start 45:

- Found in 43 of 252 ( 17.1% ) of genes in pham
- Manual Annotations of this start: 33 of 225
- Called 83.7% of time when present
- Phage (with cluster) where this start called: Arti\_44 (CR2), BiPauneto\_47 (CR4), Bonum\_48 (CR2), Buggaboo\_46 (CR2), Commandaria\_46 (CR2), Emianna\_44 (CR2), Ennea\_51 (CR3), Float294\_47 (CR3), Foxboro\_45 (CR2), Fury\_53 (CR5), GrootJr\_46 (CR2), HomeFry\_50 (CR5), Jifall16\_43 (CR2), Kabluna\_48 (CR2), KidneyBean\_44 (CR2), Kurt\_44 (CR2), Lollipop1437\_50 (CR3), MerCougar\_46 (CR2), NatB6\_44 (CR2), NosilaM\_48 (CR2), NovumRegina\_44 (CR2), Outis\_46 (CR2), Patio\_48 (CR3), Pemberton\_48 (CR4), Phomeo\_43 (CR2), Pleakley\_53 (CR5), RedRaider\_52 (CR3), Scuba\_53 (CR5), Skysand\_47 (CR3), StarStruck\_46 (CR2), Sukkupi\_46 (CR4), SuperSulley\_46 (CR2), Tracker\_44 (CR2), Wheezy\_44 (CR2), WhoseManz\_46 (CR4), Yndexa\_46 (CR4),

Start 53:

- Found in 4 of 252 ( 1.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: FarmResident\_21 (L4), Quby\_21 (L4),

Start 54:

- Found in 7 of 252 ( 2.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: ChutneyChips\_21 (L4),

Start 63:

- Found in 79 of 252 ( 31.3% ) of genes in pham
- Manual Annotations of this start: 3 of 225
- Called 7.6% of time when present
- Phage (with cluster) where this start called: ActinUp\_28 (K1), Adonis\_28 (K1), Anaya\_29 (K1), Anma\_28 (K1), DartGoblin\_28 (K1), TaiwanKao\_29 (K1),

Start 69:

- Found in 14 of 252 ( 5.6% ) of genes in pham
- Manual Annotations of this start: 14 of 225
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anamika\_30 (CS3), Diabla\_32 (CS2), GalacticEye\_30 (CS3), Hail2Pitt\_30 (CS3), Harambe\_30 (CS3), Hello\_30 (CS3), Jams\_30 (CS3), Jormungandr\_30 (CS3), Lahirium\_30 (CS3), Luker\_31 (CS3), Neevie\_30 (CS3), Newt\_31 (CS3), Nimi13\_30 (CS3), Teal\_30 (CS3),

**Summary by clusters:**

There are 16 clusters represented in this pham: CR2, CR3, DL, CR1, CU2, CR4, CR5, L4, K3, K2, K1, K6, K5, K4, CS3, CS2,

Info for manual annotations of cluster CR1:

- Start number 44 was manually annotated 2 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 45 was manually annotated 21 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 45 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 44 was manually annotated 1 time for cluster CR4.
- Start number 45 was manually annotated 4 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 45 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CS2:

- Start number 69 was manually annotated 1 time for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 69 was manually annotated 13 times for cluster CS3.

Info for manual annotations of cluster DL:

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

Info for manual annotations of cluster K1:

- Start number 42 was manually annotated 87 times for cluster K1.
- Start number 43 was manually annotated 4 times for cluster K1.
- Start number 44 was manually annotated 13 times for cluster K1.
- Start number 63 was manually annotated 3 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 44 was manually annotated 11 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 41 was manually annotated 1 time for cluster K3.
- Start number 44 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 44 was manually annotated 16 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 44 was manually annotated 3 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 42 was manually annotated 10 times for cluster K6.
- Start number 44 was manually annotated 14 times for cluster K6.

Info for manual annotations of cluster L4:

- Start number 44 was manually annotated 3 times for cluster L4.

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

Gene: ActinUp\_28 Start: 23436, Stop: 24338, Start Num: 63

Candidate Starts for ActinUp\_28:

(8, 22881), (18, 23028), (36, 23280), (Start: 42 @23325 has 97 MA's), (Start: 63 @23436 has 3 MA's), (96, 23550), (127, 23667), (139, 23709), (144, 23721), (170, 23775), (185, 23853), (203, 23949), (208, 23961), (214, 23991), (218, 24000), (241, 24114), (259, 24183),

Gene: Adephagia\_28 Start: 23322, Stop: 24335, Start Num: 42

Candidate Starts for Adephagia\_28:

(8, 22878), (18, 23025), (36, 23277), (Start: 42 @23322 has 97 MA's), (Start: 63 @23433 has 3 MA's), (96, 23547), (127, 23664), (139, 23706), (144, 23718), (170, 23772), (185, 23850), (203, 23946), (208, 23958), (214, 23988), (218, 23997), (241, 24111), (259, 24180),

Gene: Adonis\_28 Start: 23439, Stop: 24341, Start Num: 63

Candidate Starts for Adonis\_28:

(8, 22884), (36, 23283), (Start: 42 @23328 has 97 MA's), (Start: 63 @23439 has 3 MA's), (96, 23553), (127, 23670), (139, 23712), (144, 23724), (170, 23778), (185, 23856), (199, 23940), (203, 23952),

(208, 23964), (218, 24003), (241, 24117), (259, 24186),

Gene: Ageofdapage\_28 Start: 23272, Stop: 24285, Start Num: 42

Candidate Starts for Ageofdapage\_28:

(Start: 42 @23272 has 97 MA's), (Start: 63 @23383 has 3 MA's), (96, 23497), (127, 23614), (139, 23656), (170, 23722), (172, 23731), (185, 23800), (203, 23896), (208, 23908), (210, 23926), (218, 23947), (241, 24061), (259, 24130), (276, 24226),

Gene: AlishaPH\_28 Start: 23315, Stop: 24328, Start Num: 42

Candidate Starts for AlishaPH\_28:

(8, 22871), (36, 23270), (Start: 42 @23315 has 97 MA's), (Start: 63 @23426 has 3 MA's), (96, 23540), (127, 23657), (139, 23699), (144, 23711), (170, 23765), (185, 23843), (203, 23939), (208, 23951), (214, 23981), (218, 23990), (241, 24104), (259, 24173),

Gene: AlleyCat\_28 Start: 24010, Stop: 25074, Start Num: 44

Candidate Starts for AlleyCat\_28:

(Start: 44 @24010 has 73 MA's), (57, 24100), (65, 24130), (80, 24184), (83, 24190), (95, 24238), (108, 24277), (116, 24295), (117, 24298), (136, 24379), (152, 24427), (157, 24445), (186, 24586), (201, 24676), (202, 24679), (203, 24682), (211, 24715), (216, 24727), (228, 24814), (230, 24817), (262, 24913), (277, 25030),

Gene: Amelie\_24 Start: 22900, Stop: 23907, Start Num: 44

Candidate Starts for Amelie\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: Amgine\_26 Start: 23356, Stop: 24351, Start Num: 42

Candidate Starts for Amgine\_26:

(39, 23320), (Start: 42 @23356 has 97 MA's), (57, 23446), (Start: 63 @23467 has 3 MA's), (92, 23575), (96, 23581), (100, 23602), (104, 23623), (176, 23830), (185, 23884), (186, 23887), (200, 23971), (201, 23974), (243, 24139),

Gene: Amohnition\_27 Start: 23778, Stop: 24782, Start Num: 42

Candidate Starts for Amohnition\_27:

(Start: 42 @23778 has 97 MA's), (98, 24015), (127, 24120), (182, 24279), (198, 24381), (201, 24393), (226, 24528), (236, 24546), (259, 24639), (270, 24705), (274, 24717),

Gene: Anamika\_30 Start: 38386, Stop: 39288, Start Num: 69

Candidate Starts for Anamika\_30:

(Start: 69 @38386 has 14 MA's), (106, 38524), (128, 38593), (143, 38641), (164, 38704), (170, 38740), (172, 38749), (200, 38908), (264, 39142), (266, 39160), (280, 39265),

Gene: Anaya\_29 Start: 23452, Stop: 24354, Start Num: 63

Candidate Starts for Anaya\_29:

(8, 22897), (36, 23296), (Start: 42 @23341 has 97 MA's), (Start: 63 @23452 has 3 MA's), (96, 23566), (127, 23683), (139, 23725), (144, 23737), (170, 23791), (185, 23869), (203, 23965), (208, 23977), (214, 24007), (218, 24016), (241, 24130), (259, 24199),

Gene: Angelica\_28 Start: 23290, Stop: 24303, Start Num: 42

Candidate Starts for Angelica\_28:

(Start: 42 @23290 has 97 MA's), (Start: 63 @23401 has 3 MA's), (96, 23515), (127, 23632), (144, 23686), (149, 23704), (170, 23740), (185, 23818), (203, 23914), (208, 23926), (214, 23956), (218,

23965), (241, 24079), (259, 24148),

Gene: Anma\_28 Start: 23395, Stop: 24297, Start Num: 63

Candidate Starts for Anma\_28:

(36, 23239), (Start: 42 @23284 has 97 MA's), (Start: 63 @23395 has 3 MA's), (96, 23509), (127, 23626), (139, 23668), (144, 23680), (170, 23734), (185, 23812), (203, 23908), (208, 23920), (218, 23959), (222, 23995), (259, 24142), (276, 24238),

Gene: Apocalypse\_28 Start: 23293, Stop: 24306, Start Num: 42

Candidate Starts for Apocalypse\_28:

(Start: 42 @23293 has 97 MA's), (Start: 63 @23404 has 3 MA's), (96, 23518), (127, 23635), (139, 23677), (144, 23689), (170, 23743), (185, 23821), (203, 23917), (208, 23929), (218, 23968), (236, 24064), (241, 24082), (259, 24151),

Gene: Applecrisp\_26 Start: 23767, Stop: 24774, Start Num: 42

Candidate Starts for Applecrisp\_26:

(39, 23731), (Start: 42 @23767 has 97 MA's), (57, 23857), (Start: 63 @23878 has 3 MA's), (87, 23959), (96, 23992), (100, 24013), (186, 24298), (192, 24337), (201, 24382), (270, 24697), (281, 24757),

Gene: Arti\_44 Start: 34961, Stop: 36019, Start Num: 45

Candidate Starts for Arti\_44:

(1, 33521), (2, 33818), (3, 34049), (5, 34418), (23, 34796), (24, 34811), (26, 34829), (Start: 45 @34961 has 33 MA's), (130, 35306), (145, 35357), (158, 35405),

Gene: Asayake\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Asayake\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Atiba\_28 Start: 23285, Stop: 24298, Start Num: 42

Candidate Starts for Atiba\_28:

(8, 22841), (18, 22988), (36, 23240), (Start: 42 @23285 has 97 MA's), (71, 23417), (96, 23510), (127, 23627), (139, 23669), (144, 23681), (170, 23735), (185, 23813), (203, 23909), (214, 23951), (218, 23960), (241, 24074), (259, 24143),

Gene: BEEST\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for BEEST\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: BGlluviae\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for BGlluviae\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: BaghaKamala\_28 Start: 23285, Stop: 24298, Start Num: 42

Candidate Starts for BaghaKamala\_28:

(8, 22841), (36, 23240), (Start: 42 @23285 has 97 MA's), (Start: 63 @23396 has 3 MA's), (96, 23510), (127, 23627), (139, 23669), (144, 23681), (170, 23735), (185, 23813), (203, 23909), (208, 23921), (214, 23951), (218, 23960), (241, 24074), (259, 24143),

Gene: BarrelRoll\_28 Start: 23308, Stop: 24321, Start Num: 42

Candidate Starts for BarrelRoll\_28:

(8, 22864), (36, 23263), (Start: 42 @23308 has 97 MA's), (Start: 63 @23419 has 3 MA's), (96, 23533), (127, 23650), (139, 23692), (144, 23704), (170, 23758), (185, 23836), (203, 23932), (214, 23974), (218, 23983), (241, 24097), (259, 24166),

Gene: Beezoo\_28 Start: 23333, Stop: 24346, Start Num: 42

Candidate Starts for Beezoo\_28:

(Start: 42 @23333 has 97 MA's), (Start: 63 @23444 has 3 MA's), (96, 23558), (103, 23597), (127, 23675), (139, 23717), (144, 23729), (170, 23783), (185, 23861), (199, 23945), (203, 23957), (208, 23969), (218, 24008), (241, 24122), (259, 24191),

Gene: Bella96\_28 Start: 23266, Stop: 24279, Start Num: 42

Candidate Starts for Bella96\_28:

(36, 23221), (Start: 42 @23266 has 97 MA's), (47, 23299), (Start: 63 @23377 has 3 MA's), (96, 23491), (127, 23608), (139, 23650), (144, 23662), (170, 23716), (185, 23794), (199, 23878), (203, 23890), (208, 23902), (209, 23914), (218, 23941), (222, 23977), (259, 24124), (276, 24220),

Gene: Belladonna\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Belladonna\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Bern\_28 Start: 23278, Stop: 24291, Start Num: 42

Candidate Starts for Bern\_28:

(25, 23140), (29, 23179), (30, 23209), (31, 23215), (Start: 42 @23278 has 97 MA's), (Start: 63 @23389 has 3 MA's), (96, 23503), (100, 23524), (127, 23620), (132, 23638), (139, 23662), (144, 23674), (170, 23728), (185, 23806), (203, 23902), (208, 23914), (218, 23953), (222, 23989), (259, 24136),

Gene: BiPauneto\_47 Start: 34721, Stop: 35812, Start Num: 45

Candidate Starts for BiPauneto\_47:

(Start: 45 @34721 has 33 MA's), (49, 34754), (68, 34850), (117, 35033), (133, 35102), (170, 35240), (173, 35252), (174, 35255),

Gene: Biglebops\_24 Start: 22900, Stop: 23907, Start Num: 44

Candidate Starts for Biglebops\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: Blizzard\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Blizzard\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Bobquesha\_30 Start: 24333, Stop: 25337, Start Num: 44

Candidate Starts for Bobquesha\_30:

(Start: 44 @24333 has 73 MA's), (83, 24501), (92, 24546), (96, 24552), (106, 24606), (133, 24696), (140, 24717), (144, 24726), (185, 24858), (186, 24861), (216, 24999), (223, 25068), (274, 25272),

Gene: Boiiii\_28 Start: 23358, Stop: 24371, Start Num: 42

Candidate Starts for Boiiii\_28:

(8, 22914), (36, 23313), (Start: 42 @23358 has 97 MA's), (Start: 63 @23469 has 3 MA's), (96, 23583), (127, 23700), (139, 23742), (144, 23754), (170, 23808), (185, 23886), (203, 23982), (208, 23994), (214, 24024), (218, 24033), (241, 24147), (259, 24216),

Gene: Bonum\_48 Start: 35639, Stop: 36694, Start Num: 45

Candidate Starts for Bonum\_48:

(33, 35576), (Start: 45 @35639 has 33 MA's), (89, 35852), (110, 35909), (146, 36035), (208, 36323), (280, 36668),

Gene: BoostSeason\_25 Start: 21308, Stop: 22333, Start Num: 44

Candidate Starts for BoostSeason\_25:

(27, 21224), (Start: 44 @21308 has 73 MA's), (60, 21413), (79, 21473), (92, 21527), (96, 21533), (118, 21614), (119, 21620), (124, 21635), (125, 21638), (187, 21842), (279, 22301), (280, 22310),

Gene: Bromden\_23 Start: 22120, Stop: 23205, Start Num: 44

Candidate Starts for Bromden\_23:

(Start: 44 @22120 has 73 MA's), (46, 22132), (101, 22375), (109, 22411), (121, 22450), (124, 22459), (129, 22483), (161, 22594), (166, 22609), (187, 22711), (195, 22756), (208, 22810), (218, 22849), (268, 23092),

Gene: Bryler\_28 Start: 22694, Stop: 23755, Start Num: 44

Candidate Starts for Bryler\_28:

(Start: 44 @22694 has 73 MA's), (55, 22772), (56, 22775), (60, 22793), (90, 22901), (99, 22928), (100, 22934), (127, 23030), (131, 23042), (160, 23144), (169, 23195), (189, 23312), (247, 23555), (251, 23573), (262, 23612),

Gene: Buggaboo\_46 Start: 36118, Stop: 37173, Start Num: 45

Candidate Starts for Buggaboo\_46:

(Start: 45 @36118 has 33 MA's), (89, 36331), (146, 36514), (208, 36802), (280, 37147),

Gene: CREW\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for CREW\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Cain\_28 Start: 22682, Stop: 23743, Start Num: 44

Candidate Starts for Cain\_28:

(Start: 44 @22682 has 73 MA's), (55, 22760), (56, 22763), (60, 22781), (90, 22889), (99, 22916), (100, 22922), (127, 23018), (131, 23030), (160, 23132), (169, 23183), (189, 23300), (247, 23543), (251, 23561), (262, 23600),

Gene: CallaLilly\_28 Start: 23279, Stop: 24292, Start Num: 42

Candidate Starts for CallaLilly\_28:

(8, 22835), (36, 23234), (Start: 42 @23279 has 97 MA's), (96, 23504), (127, 23621), (139, 23663), (144, 23675), (170, 23729), (185, 23807), (203, 23903), (214, 23945), (218, 23954), (241, 24068), (259, 24137),

Gene: Capricorn\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Capricorn\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: CaseJules\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for CaseJules\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Chancellor\_29 Start: 24596, Stop: 25600, Start Num: 44

Candidate Starts for Chancellor\_29:

(Start: 44 @24596 has 73 MA's), (83, 24764), (92, 24809), (96, 24815), (106, 24869), (112, 24878), (133, 24959), (140, 24980), (143, 24986), (144, 24989), (185, 25121), (186, 25124), (210, 25247),

Gene: Chavito\_28 Start: 22750, Stop: 24003, Start Num: 21

Candidate Starts for Chavito\_28:

(21, 22750), (22, 22756), (28, 22858), (37, 22921), (40, 22939), (Start: 63 @23074 has 3 MA's), (67, 23089), (77, 23125), (90, 23182), (92, 23188), (131, 23323), (135, 23341), (151, 23389), (168, 23407), (187, 23503), (201, 23584), (204, 23593), (214, 23632), (216, 23635), (260, 23833), (279, 23968),

Gene: CheetoDust\_28 Start: 23333, Stop: 24346, Start Num: 42

Candidate Starts for CheetoDust\_28:

(8, 22889), (36, 23288), (Start: 42 @23333 has 97 MA's), (71, 23465), (96, 23558), (127, 23675), (139, 23717), (144, 23729), (170, 23783), (185, 23861), (203, 23957), (214, 23999), (218, 24008), (241, 24122), (259, 24191),

Gene: Cheetobro\_29 Start: 24593, Stop: 25597, Start Num: 44

Candidate Starts for Cheetobro\_29:

(Start: 44 @24593 has 73 MA's), (83, 24761), (92, 24806), (96, 24812), (106, 24866), (112, 24875), (133, 24956), (140, 24977), (143, 24983), (144, 24986), (185, 25118), (186, 25121), (210, 25244),

Gene: Chris\_27 Start: 22610, Stop: 23596, Start Num: 44

Candidate Starts for Chris\_27:

(Start: 44 @22610 has 73 MA's), (62, 22715), (82, 22778), (87, 22799), (96, 22832), (99, 22847), (116, 22907), (143, 23000), (156, 23039), (186, 23138), (197, 23189), (210, 23261), (218, 23282), (236, 23363), (265, 23465),

Gene: ChutneyChips\_21 Start: 21798, Stop: 22802, Start Num: 54

Candidate Starts for ChutneyChips\_21:

(Start: 44 @21717 has 73 MA's), (54, 21798), (94, 21945), (100, 21969), (105, 21996), (109, 22008), (114, 22020), (121, 22047), (129, 22080), (153, 22158), (161, 22191), (188, 22311), (195, 22353), (208, 22407), (247, 22587), (256, 22620), (261, 22644), (268, 22689),

Gene: Clipper\_28 Start: 23333, Stop: 24346, Start Num: 42

Candidate Starts for Clipper\_28:

(8, 22889), (36, 23288), (Start: 42 @23333 has 97 MA's), (Start: 63 @23444 has 3 MA's), (96, 23558), (127, 23675), (139, 23717), (144, 23729), (170, 23783), (185, 23861), (199, 23945), (203, 23957), (208, 23969), (214, 23999), (218, 24008), (241, 24122), (259, 24191),

Gene: Commandaria\_46 Start: 36317, Stop: 37420, Start Num: 45

Candidate Starts for Commandaria\_46:

(Start: 45 @36317 has 33 MA's), (68, 36446), (76, 36476), (170, 36836), (186, 36917), (249, 37220),

Gene: CrimD\_28 Start: 23294, Stop: 24307, Start Num: 42

Candidate Starts for CrimD\_28:

(Start: 42 @23294 has 97 MA's), (Start: 63 @23405 has 3 MA's), (96, 23519), (127, 23636), (139, 23678), (144, 23690), (170, 23744), (185, 23822), (199, 23906), (203, 23918), (208, 23930), (218, 23969), (276, 24248),

Gene: Dadosky\_28 Start: 24011, Stop: 25075, Start Num: 44

Candidate Starts for Dadosky\_28:

(Start: 44 @24011 has 73 MA's), (57, 24101), (65, 24131), (80, 24185), (83, 24191), (95, 24239), (108, 24278), (116, 24296), (117, 24299), (136, 24380), (152, 24428), (157, 24446), (186, 24587), (201, 24677), (202, 24680), (203, 24683), (211, 24716), (216, 24728), (228, 24815), (230, 24818), (262, 24914), (277, 25031),

Gene: Dalilpop\_49 Start: 37250, Stop: 38311, Start Num: 44

Candidate Starts for Dalilpop\_49:

(Start: 44 @37250 has 73 MA's), (60, 37358), (75, 37409), (84, 37436), (93, 37481), (117, 37544), (138, 37628), (145, 37649), (147, 37655), (155, 37682), (156, 37685), (198, 37910), (280, 38285),

Gene: Dalmuri\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Dalmuri\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Daredevil\_37 Start: 34603, Stop: 35670, Start Num: 44

Candidate Starts for Daredevil\_37:

(Start: 44 @34603 has 73 MA's), (131, 34948), (144, 34993), (154, 35023), (211, 35314), (213, 35320), (219, 35338), (224, 35404), (225, 35407), (237, 35425), (248, 35473), (282, 35659),

Gene: DartGoblin\_28 Start: 23374, Stop: 24276, Start Num: 63

Candidate Starts for DartGoblin\_28:

(36, 23218), (Start: 42 @23263 has 97 MA's), (47, 23296), (Start: 63 @23374 has 3 MA's), (96, 23488), (127, 23605), (139, 23647), (144, 23659), (170, 23713), (185, 23791), (199, 23875), (203, 23887), (208, 23899), (218, 23938), (222, 23974), (259, 24121), (276, 24217),

Gene: DarthP\_27 Start: 23700, Stop: 24704, Start Num: 42

Candidate Starts for DarthP\_27:

(Start: 42 @23700 has 97 MA's), (127, 24042), (176, 24174), (182, 24201), (201, 24315), (236, 24468), (259, 24561), (263, 24564), (270, 24627), (274, 24639),

Gene: Dartin\_28 Start: 22728, Stop: 23693, Start Num: 42

Candidate Starts for Dartin\_28:

(Start: 42 @22728 has 97 MA's), (Start: 45 @22734 has 33 MA's), (77, 22887), (83, 22905), (87, 22923), (96, 22956), (104, 22998), (124, 23058), (127, 23073), (185, 23259), (186, 23262), (198, 23334), (218, 23403), (224, 23451), (232, 23466), (244, 23499), (254, 23538), (275, 23637),

Gene: Deby\_28 Start: 23290, Stop: 24303, Start Num: 42

Candidate Starts for Deby\_28:

(Start: 42 @23290 has 97 MA's), (Start: 63 @23401 has 3 MA's), (96, 23515), (127, 23632), (144, 23686), (170, 23740), (185, 23818), (203, 23914), (208, 23926), (214, 23956), (218, 23965), (241, 24079), (259, 24148),

Gene: Devera\_28 Start: 23337, Stop: 24350, Start Num: 42

Candidate Starts for Devera\_28:

(Start: 42 @23337 has 97 MA's), (Start: 63 @23448 has 3 MA's), (66, 23457), (96, 23562), (122, 23658), (127, 23679), (139, 23721), (144, 23733), (170, 23787), (185, 23865), (203, 23961), (208, 23973), (218, 24012), (241, 24126), (259, 24195), (276, 24291),

Gene: Diabla\_32 Start: 37690, Stop: 38598, Start Num: 69

Candidate Starts for Diabla\_32:

(Start: 69 @37690 has 14 MA's), (106, 37825), (143, 37942), (164, 38005), (170, 38041), (200, 38209), (280, 38575), (281, 38581),

Gene: DismalFunk\_25 Start: 21282, Stop: 22277, Start Num: 44

Candidate Starts for DismalFunk\_25:

(16, 20961), (20, 21099), (27, 21198), (Start: 44 @21282 has 73 MA's), (54, 21363), (60, 21387), (79, 21447), (92, 21501), (96, 21507), (124, 21609), (125, 21612), (137, 21660), (139, 21666), (153, 21708), (170, 21732), (187, 21816), (201, 21900), (218, 21957), (279, 22254),

Gene: DismalStressor\_25 Start: 21282, Stop: 22277, Start Num: 44

Candidate Starts for DismalStressor\_25:

(20, 21099), (27, 21198), (Start: 44 @21282 has 73 MA's), (54, 21363), (60, 21387), (79, 21447), (92, 21501), (96, 21507), (124, 21609), (125, 21612), (137, 21660), (139, 21666), (153, 21708), (170, 21732), (187, 21816), (201, 21900), (218, 21957), (279, 22254),

Gene: Dole\_28 Start: 23339, Stop: 24352, Start Num: 42

Candidate Starts for Dole\_28:

(Start: 42 @23339 has 97 MA's), (Start: 63 @23450 has 3 MA's), (66, 23459), (96, 23564), (122, 23660), (127, 23681), (139, 23723), (144, 23735), (170, 23789), (185, 23867), (203, 23963), (208, 23975), (218, 24014), (241, 24128), (259, 24197), (276, 24293),

Gene: Douge\_21 Start: 21469, Stop: 22554, Start Num: 44

Candidate Starts for Douge\_21:

(Start: 44 @21469 has 73 MA's), (53, 21547), (100, 21721), (109, 21760), (121, 21799), (129, 21832), (153, 21910), (161, 21943), (195, 22105), (247, 22339), (256, 22372), (261, 22396), (268, 22441),

Gene: Doughnut\_25 Start: 21302, Stop: 22327, Start Num: 44

Candidate Starts for Doughnut\_25:

(27, 21218), (Start: 44 @21302 has 73 MA's), (60, 21407), (79, 21467), (92, 21521), (96, 21527), (118, 21608), (119, 21614), (124, 21629), (125, 21632), (187, 21836), (279, 22295), (280, 22304),

Gene: DrHayes\_28 Start: 23284, Stop: 24297, Start Num: 42

Candidate Starts for DrHayes\_28:

(36, 23239), (Start: 42 @23284 has 97 MA's), (Start: 63 @23395 has 3 MA's), (96, 23509), (127, 23626), (139, 23668), (144, 23680), (170, 23734), (185, 23812), (203, 23908), (208, 23920), (218, 23959), (222, 23995), (259, 24142), (276, 24238),

Gene: Durfee\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Durfee\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: DyoEdafos\_22 Start: 21679, Stop: 22761, Start Num: 44

Candidate Starts for DyoEdafos\_22:

(Start: 44 @21679 has 73 MA's), (100, 21931), (109, 21970), (113, 21979), (114, 21982), (121, 22009), (124, 22018), (129, 22042), (146, 22096), (147, 22099), (161, 22153), (188, 22273), (190, 22306), (191, 22309), (208, 22369), (218, 22408), (220, 22423), (244, 22534), (256, 22582),

Gene: Efra2\_28 Start: 22526, Stop: 23587, Start Num: 42

Candidate Starts for Efra2\_28:

(Start: 42 @22526 has 97 MA's), (Start: 63 @22640 has 3 MA's), (96, 22754), (100, 22775), (123, 22853), (126, 22862), (131, 22883), (132, 22889), (175, 22997), (185, 23057), (205, 23177), (206, 23183), (207, 23189), (221, 23279), (253, 23405), (256, 23420),

Gene: Ekdilam\_25 Start: 23459, Stop: 24463, Start Num: 42

Candidate Starts for Ekdilam\_25:

(Start: 42 @23459 has 97 MA's), (87, 23651), (90, 23672), (100, 23705), (107, 23738), (127, 23801), (176, 23933), (182, 23960), (201, 24074), (236, 24227), (259, 24320), (270, 24386),

Gene: Ellie\_25 Start: 23458, Stop: 24465, Start Num: 42

Candidate Starts for Ellie\_25:

(Start: 42 @23458 has 97 MA's), (57, 23548), (Start: 63 @23569 has 3 MA's), (87, 23650), (96, 23683), (100, 23704), (186, 23989), (192, 24028), (270, 24388), (281, 24448),

Gene: Emerson\_28 Start: 23316, Stop: 24329, Start Num: 42

Candidate Starts for Emerson\_28:

(8, 22872), (36, 23271), (Start: 42 @23316 has 97 MA's), (96, 23541), (127, 23658), (139, 23700), (144, 23712), (170, 23766), (185, 23844), (203, 23940), (208, 23952), (214, 23982), (218, 23991), (241, 24105), (259, 24174),

Gene: Emianna\_44 Start: 35974, Stop: 37032, Start Num: 45

Candidate Starts for Emianna\_44:

(1, 34534), (2, 34831), (3, 35062), (5, 35431), (23, 35809), (24, 35824), (26, 35842), (Start: 45 @35974 has 33 MA's), (130, 36319), (145, 36370), (158, 36418),

Gene: Enkosi\_24 Start: 22900, Stop: 23907, Start Num: 44

Candidate Starts for Enkosi\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: Ennea\_51 Start: 36974, Stop: 38035, Start Num: 45

Candidate Starts for Ennea\_51:

(Start: 45 @36974 has 33 MA's), (85, 37160), (136, 37346), (138, 37349), (187, 37559),

Gene: FarmResident\_21 Start: 21591, Stop: 22598, Start Num: 53

Candidate Starts for FarmResident\_21:

(Start: 44 @21513 has 73 MA's), (53, 21591), (100, 21765), (109, 21804), (121, 21843), (128, 21873), (129, 21876), (153, 21954), (161, 21987), (195, 22149), (247, 22383), (256, 22416), (261, 22440), (268, 22485),

Gene: Fefferhead\_27 Start: 23613, Stop: 24665, Start Num: 42

Candidate Starts for Fefferhead\_27:

(39, 23577), (Start: 42 @23613 has 97 MA's), (57, 23703), (Start: 63 @23724 has 3 MA's), (72, 23751), (96, 23838), (100, 23859), (104, 23880), (160, 24069), (176, 24147), (186, 24204), (189, 24237), (194, 24252), (255, 24507), (259, 24522), (271, 24603), (280, 24642),

Gene: Findley\_25 Start: 21282, Stop: 22307, Start Num: 44

Candidate Starts for Findley\_25:

(20, 21099), (27, 21198), (Start: 44 @21282 has 73 MA's), (54, 21363), (60, 21387), (79, 21447), (92, 21501), (96, 21507), (118, 21588), (119, 21594), (124, 21609), (125, 21612), (187, 21816), (279, 22275), (280, 22284),

Gene: Fionnbharth\_29 Start: 24586, Stop: 25590, Start Num: 44

Candidate Starts for Fionnbharth\_29:

(Start: 44 @24586 has 73 MA's), (52, 24655), (83, 24754), (92, 24799), (96, 24805), (106, 24859), (112, 24868), (123, 24904), (133, 24949), (140, 24970), (143, 24976), (144, 24979), (185, 25111), (186, 25114), (210, 25237), (218, 25258), (274, 25525),

Gene: Flapper\_49 Start: 36682, Stop: 37743, Start Num: 44

Candidate Starts for Flapper\_49:

(19, 36406), (33, 36619), (Start: 44 @36682 has 73 MA's), (60, 36790), (84, 36868), (117, 36976), (138, 37060), (145, 37081), (147, 37087), (155, 37114), (198, 37342), (217, 37408), (274, 37672), (280, 37717),

Gene: Float294\_47 Start: 36416, Stop: 37477, Start Num: 45

Candidate Starts for Float294\_47:

(Start: 45 @36416 has 33 MA's), (85, 36602), (136, 36788), (138, 36791), (187, 37001), (265, 37340), (274, 37406),

Gene: Foxboro\_45 Start: 36480, Stop: 37538, Start Num: 45

Candidate Starts for Foxboro\_45:

(1, 35040), (2, 35337), (3, 35568), (5, 35937), (23, 36315), (24, 36330), (26, 36348), (Start: 45 @36480 has 33 MA's), (130, 36825), (145, 36876), (158, 36924),

Gene: Fury\_53 Start: 35397, Stop: 36479, Start Num: 45

Candidate Starts for Fury\_53:

(Start: 45 @35397 has 33 MA's), (64, 35514), (126, 35742), (149, 35826), (151, 35832), (163, 35871), (165, 35886), (173, 35928), (204, 36093), (246, 36273), (274, 36411),

Gene: GRU1\_34 Start: 28214, Stop: 29290, Start Num: 44

Candidate Starts for GRU1\_34:

(23, 28052), (Start: 44 @28214 has 73 MA's), (60, 28322), (75, 28373), (84, 28400), (117, 28508), (138, 28592), (145, 28613), (147, 28619), (155, 28646), (198, 28874), (265, 29153), (280, 29264),

Gene: GTE5\_36 Start: 29539, Stop: 30600, Start Num: 44

Candidate Starts for GTE5\_36:

(33, 29476), (Start: 44 @29539 has 73 MA's), (60, 29647), (84, 29725), (117, 29833), (138, 29917), (145, 29938), (149, 29950), (155, 29971), (156, 29974), (274, 30529), (280, 30574),

Gene: GTE8\_33 Start: 29229, Stop: 30287, Start Num: 44

Candidate Starts for GTE8\_33:

(23, 29067), (Start: 44 @29229 has 73 MA's), (89, 29445), (146, 29628), (274, 30216), (280, 30261),

Gene: GalacticEye\_30 Start: 38068, Stop: 38970, Start Num: 69

Candidate Starts for GalacticEye\_30:

(Start: 69 @38068 has 14 MA's), (106, 38206), (128, 38275), (143, 38323), (164, 38386), (170, 38422), (200, 38590), (266, 38842), (280, 38947),

Gene: Ganymede\_29 Start: 23336, Stop: 24349, Start Num: 42

Candidate Starts for Ganymede\_29:

(8, 22892), (36, 23291), (Start: 42 @23336 has 97 MA's), (Start: 63 @23447 has 3 MA's), (96, 23561), (127, 23678), (139, 23720), (144, 23732), (167, 23771), (170, 23786), (185, 23864), (199, 23948), (203, 23960), (208, 23972), (218, 24011), (241, 24125), (259, 24194),

Gene: Geraldini\_28 Start: 23332, Stop: 24345, Start Num: 42

Candidate Starts for Geraldini\_28:

(8, 22888), (36, 23287), (Start: 42 @23332 has 97 MA's), (Start: 63 @23443 has 3 MA's), (92, 23551), (96, 23557), (127, 23674), (139, 23716), (144, 23728), (170, 23782), (185, 23860), (199, 23944), (203, 23956), (208, 23968), (218, 24007), (241, 24121), (259, 24190),

Gene: GrootJr\_46 Start: 35356, Stop: 36414, Start Num: 45

Candidate Starts for GrootJr\_46:

(1, 33916), (2, 34213), (3, 34444), (5, 34813), (23, 35191), (24, 35206), (26, 35224), (Start: 45 @35356 has 33 MA's), (130, 35701), (145, 35752), (158, 35800),

Gene: Gspu1\_26 Start: 21693, Stop: 22775, Start Num: 34

Candidate Starts for Gspu1\_26:

(34, 21693), (61, 21855), (77, 21903), (81, 21915), (117, 22017), (134, 22077), (146, 22110), (150, 22125), (162, 22164), (178, 22248), (184, 22278), (186, 22290), (218, 22437), (246, 22563), (262, 22620), (279, 22743),

Gene: Guanica15\_28 Start: 22542, Stop: 23603, Start Num: 42

Candidate Starts for Guanica15\_28:

(Start: 42 @22542 has 97 MA's), (Start: 63 @22656 has 3 MA's), (96, 22770), (100, 22791), (126, 22878), (131, 22899), (132, 22905), (175, 23013), (185, 23073), (205, 23193), (206, 23199), (207, 23205), (221, 23295), (253, 23421), (256, 23436),

Gene: Hail2Pitt\_30 Start: 38595, Stop: 39497, Start Num: 69

Candidate Starts for Hail2Pitt\_30:

(Start: 69 @38595 has 14 MA's), (106, 38733), (128, 38802), (143, 38850), (164, 38913), (170, 38949), (172, 38958), (200, 39117), (264, 39351), (266, 39369), (280, 39474),

Gene: Hammy\_27 Start: 23691, Stop: 24695, Start Num: 42

Candidate Starts for Hammy\_27:

(Start: 42 @23691 has 97 MA's), (111, 23976), (127, 24033), (176, 24165), (182, 24192), (201, 24306), (236, 24459), (259, 24552), (263, 24555), (270, 24618), (274, 24630),

Gene: Harambe\_30 Start: 38385, Stop: 39287, Start Num: 69

Candidate Starts for Harambe\_30:

(Start: 69 @38385 has 14 MA's), (106, 38523), (128, 38592), (143, 38640), (164, 38703), (170, 38739), (200, 38907), (264, 39141), (266, 39159), (280, 39264),

Gene: HedwigODU\_28 Start: 23325, Stop: 24338, Start Num: 42

Candidate Starts for HedwigODU\_28:

(8, 22881), (18, 23028), (36, 23280), (Start: 42 @23325 has 97 MA's), (Start: 63 @23436 has 3 MA's), (96, 23550), (127, 23667), (139, 23709), (144, 23721), (170, 23775), (185, 23853), (203, 23949), (208, 23961), (214, 23991), (218, 24000), (241, 24114), (259, 24183),

Gene: Hello\_30 Start: 38347, Stop: 39249, Start Num: 69

Candidate Starts for Hello\_30:

(Start: 69 @38347 has 14 MA's), (106, 38485), (128, 38554), (143, 38602), (164, 38665), (170, 38701), (200, 38869), (266, 39121), (280, 39226),

Gene: HomeFry\_50 Start: 34029, Stop: 35111, Start Num: 45

Candidate Starts for HomeFry\_50:

(Start: 45 @34029 has 33 MA's), (64, 34146), (117, 34341), (175, 34566),

Gene: Homura\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Homura\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: HubbaBubba\_42 Start: 31720, Stop: 32760, Start Num: 44

Candidate Starts for HubbaBubba\_42:

(Start: 44 @31720 has 73 MA's), (68, 31852), (117, 32035), (170, 32242), (172, 32251), (185, 32320), (186, 32323), (199, 32407), (237, 32560), (258, 32644), (262, 32653), (263, 32656), (272, 32752),

Gene: Hurricane\_28 Start: 23950, Stop: 24975, Start Num: 44

Candidate Starts for Hurricane\_28:

(4, 23398), (6, 23464), (7, 23527), (10, 23560), (13, 23602), (20, 23761), (27, 23860), (32, 23917), (Start: 44 @23950 has 73 MA's), (70, 24073), (72, 24082), (79, 24109), (90, 24157), (96, 24169), (100, 24190), (115, 24241), (124, 24271), (177, 24424), (182, 24445), (193, 24517), (199, 24553), (204, 24568), (216, 24610), (218, 24616), (233, 24706), (258, 24805), (259, 24808), (273, 24907), (281, 24958),

Gene: Hyperbowlee\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Hyperbowlee\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Illumine\_28 Start: 23339, Stop: 24352, Start Num: 42

Candidate Starts for Illumine\_28:

(Start: 42 @23339 has 97 MA's), (Start: 63 @23450 has 3 MA's), (66, 23459), (96, 23564), (122, 23660), (127, 23681), (139, 23723), (144, 23735), (170, 23789), (185, 23867), (203, 23963), (208, 23975), (218, 24014), (241, 24128), (259, 24197), (276, 24293),

Gene: Inky\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Inky\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: JAWS\_28 Start: 23310, Stop: 24323, Start Num: 42

Candidate Starts for JAWS\_28:

(8, 22866), (36, 23265), (Start: 42 @23310 has 97 MA's), (Start: 63 @23421 has 3 MA's), (96, 23535), (127, 23652), (139, 23694), (144, 23706), (170, 23760), (185, 23838), (203, 23934), (214, 23976), (218, 23985), (241, 24099), (259, 24168),

Gene: JF1\_29 Start: 24585, Stop: 25589, Start Num: 44

Candidate Starts for JF1\_29:

(Start: 44 @24585 has 73 MA's), (52, 24654), (83, 24753), (92, 24798), (96, 24804), (106, 24858), (112, 24867), (123, 24903), (133, 24948), (140, 24969), (143, 24975), (144, 24978), (185, 25110), (186, 25113), (210, 25236), (218, 25257), (274, 25524),

Gene: Jams\_30 Start: 37556, Stop: 38458, Start Num: 69

Candidate Starts for Jams\_30:

(Start: 69 @37556 has 14 MA's), (106, 37694), (128, 37763), (143, 37811), (164, 37874), (170, 37910), (200, 38078), (266, 38330), (280, 38435),

Gene: Jarvi\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Jarvi\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Jayhawk\_28 Start: 23323, Stop: 24336, Start Num: 42

Candidate Starts for Jayhawk\_28:

(8, 22879), (18, 23026), (36, 23278), (Start: 42 @23323 has 97 MA's), (Start: 63 @23434 has 3 MA's), (96, 23548), (127, 23665), (139, 23707), (144, 23719), (170, 23773), (185, 23851), (203, 23947), (208, 23959), (214, 23989), (218, 23998), (241, 24112), (259, 24181),

Gene: Jeckyll\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Jeckyll\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Jifall16\_43 Start: 35628, Stop: 36686, Start Num: 45

Candidate Starts for Jifall16\_43:

(1, 34188), (2, 34485), (3, 34716), (5, 35085), (23, 35463), (24, 35478), (26, 35496), (Start: 45 @35628 has 33 MA's), (130, 35973), (145, 36024), (158, 36072),

Gene: Jormungandr\_30 Start: 38100, Stop: 39002, Start Num: 69

Candidate Starts for Jormungandr\_30:

(Start: 69 @38100 has 14 MA's), (106, 38238), (128, 38307), (143, 38355), (164, 38418), (170, 38454), (200, 38622), (264, 38856), (266, 38874), (280, 38979),

Gene: Joy99\_28 Start: 23285, Stop: 24298, Start Num: 42

Candidate Starts for Joy99\_28:

(8, 22841), (36, 23240), (Start: 42 @23285 has 97 MA's), (96, 23510), (127, 23627), (139, 23669), (144, 23681), (170, 23735), (185, 23813), (203, 23909), (214, 23951), (218, 23960), (241, 24074), (259, 24143),

Gene: Kabluna\_48 Start: 35054, Stop: 36109, Start Num: 45

Candidate Starts for Kabluna\_48:

(33, 34991), (Start: 45 @35054 has 33 MA's), (89, 35267), (146, 35450), (208, 35738), (280, 36083),

Gene: Keshu\_28 Start: 23942, Stop: 24964, Start Num: 44

Candidate Starts for Keshu\_28:

(20, 23753), (27, 23852), (32, 23909), (Start: 44 @23942 has 73 MA's), (77, 24092), (90, 24149), (115, 24233), (124, 24263), (182, 24434), (186, 24464), (216, 24599), (231, 24692), (233, 24695), (240, 24716), (258, 24794), (269, 24863), (271, 24893),

Gene: KiSi\_27 Start: 22512, Stop: 23480, Start Num: 43

Candidate Starts for KiSi\_27:

(Start: 43 @22512 has 4 MA's), (79, 22674), (82, 22680), (87, 22701), (88, 22707), (99, 22749), (110, 22794), (124, 22836), (127, 22851), (170, 22959), (187, 23043), (257, 23319),

Gene: KidneyBean\_44 Start: 35752, Stop: 36810, Start Num: 45

Candidate Starts for KidneyBean\_44:

(1, 34312), (2, 34609), (3, 34840), (5, 35209), (23, 35587), (24, 35602), (26, 35620), (Start: 45 @35752 has 33 MA's), (130, 36097), (145, 36148), (158, 36196),

Gene: Kraw\_29 Start: 24509, Stop: 25513, Start Num: 44

Candidate Starts for Kraw\_29:

(Start: 44 @24509 has 73 MA's), (52, 24578), (83, 24677), (92, 24722), (96, 24728), (106, 24782), (112, 24791), (123, 24827), (133, 24872), (140, 24893), (143, 24899), (144, 24902), (185, 25034), (186, 25037), (210, 25160), (218, 25181), (274, 25448),

Gene: Kropertea\_21 Start: 21486, Stop: 22568, Start Num: 44

Candidate Starts for Kropertea\_21:

(Start: 44 @21486 has 73 MA's), (100, 21738), (109, 21777), (113, 21786), (114, 21789), (121, 21816), (124, 21825), (129, 21849), (146, 21903), (147, 21906), (161, 21960), (188, 22080), (190, 22113), (191, 22116), (208, 22176), (218, 22215), (220, 22230), (244, 22341), (256, 22389),

Gene: Krueger\_28 Start: 22638, Stop: 23633, Start Num: 44

Candidate Starts for Krueger\_28:

(27, 22548), (Start: 44 @22638 has 73 MA's), (60, 22737), (Start: 63 @22743 has 3 MA's), (102, 22893), (127, 22974), (133, 22998), (185, 23160), (186, 23163), (200, 23247), (212, 23292), (275, 23571), (278, 23592), (280, 23610),

Gene: Kurt\_44 Start: 35989, Stop: 37047, Start Num: 45

Candidate Starts for Kurt\_44:

(1, 34549), (2, 34846), (3, 35077), (5, 35446), (23, 35824), (24, 35839), (26, 35857), (Start: 45 @35989 has 33 MA's), (130, 36334), (145, 36385), (158, 36433),

Gene: Lahirium\_30 Start: 38622, Stop: 39524, Start Num: 69

Candidate Starts for Lahirium\_30:

(Start: 69 @38622 has 14 MA's), (106, 38760), (128, 38829), (143, 38877), (164, 38940), (170, 38976), (200, 39144), (264, 39378), (266, 39396), (280, 39501),

Gene: LastHope\_28 Start: 22491, Stop: 23498, Start Num: 44

Candidate Starts for LastHope\_28:

(Start: 44 @22491 has 73 MA's), (96, 22710), (100, 22731), (116, 22785), (127, 22827), (146, 22887), (170, 22935), (181, 22983), (185, 23013), (203, 23109), (208, 23121), (218, 23160), (257, 23331), (259, 23343),

Gene: LaterM\_28 Start: 23256, Stop: 24269, Start Num: 42

Candidate Starts for LaterM\_28:

(Start: 42 @23256 has 97 MA's), (Start: 63 @23367 has 3 MA's), (96, 23481), (127, 23598), (139, 23640), (144, 23652), (170, 23706), (185, 23784), (203, 23880), (208, 23892), (218, 23931), (229, 24012), (241, 24045), (259, 24114), (276, 24210),

Gene: Lavahound\_26 Start: 23365, Stop: 24360, Start Num: 42

Candidate Starts for Lavahound\_26:

(39, 23329), (Start: 42 @23365 has 97 MA's), (57, 23455), (Start: 63 @23476 has 3 MA's), (92, 23584), (96, 23590), (100, 23611), (104, 23632), (176, 23839), (185, 23893), (186, 23896), (200, 23980), (201, 23983), (218, 24040), (243, 24148),

Gene: LeMond\_27 Start: 22583, Stop: 23551, Start Num: 43

Candidate Starts for LeMond\_27:

(Start: 43 @22583 has 4 MA's), (72, 22718), (79, 22745), (82, 22751), (87, 22772), (88, 22778), (99, 22820), (110, 22865), (124, 22907), (127, 22922), (170, 23030), (187, 23114), (257, 23390),

Gene: Lea83\_28 Start: 23930, Stop: 24949, Start Num: 44

Candidate Starts for Lea83\_28:

(11, 23549), (12, 23561), (15, 23597), (17, 23621), (20, 23741), (27, 23840), (32, 23897), (Start: 44 @23930 has 73 MA's), (48, 23963), (72, 24062), (73, 24068), (77, 24080), (90, 24137), (92, 24143), (106, 24203), (127, 24266), (130, 24275), (141, 24311), (148, 24332), (151, 24344), (172, 24383), (185, 24452), (204, 24551), (218, 24599), (222, 24635), (239, 24698), (248, 24740), (262, 24788), (268, 24830), (280, 24926),

Gene: Lebo14\_29 Start: 24599, Stop: 25603, Start Num: 44

Candidate Starts for Lebo14\_29:

(Start: 44 @24599 has 73 MA's), (83, 24767), (86, 24779), (92, 24812), (96, 24818), (106, 24872), (112, 24881), (133, 24962), (140, 24983), (143, 24989), (144, 24992), (185, 25124), (186, 25127), (210, 25250),

Gene: LilPharaoh\_24 Start: 22900, Stop: 23907, Start Num: 44

Candidate Starts for LilPharaoh\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: LindNT\_28 Start: 23290, Stop: 24303, Start Num: 42

Candidate Starts for LindNT\_28:

(36, 23245), (Start: 42 @23290 has 97 MA's), (Start: 63 @23401 has 3 MA's), (96, 23515), (127, 23632), (139, 23674), (144, 23686), (170, 23740), (185, 23818), (199, 23902), (203, 23914), (208, 23926), (218, 23965), (276, 24244),

Gene: Llorens\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Llorens\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Lollipop1437\_50 Start: 36962, Stop: 38023, Start Num: 45

Candidate Starts for Lollipop1437\_50:

(Start: 45 @36962 has 33 MA's), (85, 37148), (136, 37334), (138, 37337), (187, 37547),

Gene: Luker\_31 Start: 38575, Stop: 39477, Start Num: 69

Candidate Starts for Luker\_31:

(Start: 69 @38575 has 14 MA's), (106, 38713), (128, 38782), (143, 38830), (164, 38893), (170, 38929), (200, 39097), (264, 39331), (266, 39349), (280, 39454),

Gene: Lunahalos\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Lunahalos\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: MacKat\_28 Start: 23333, Stop: 24346, Start Num: 42

Candidate Starts for MacKat\_28:

(8, 22889), (36, 23288), (Start: 42 @23333 has 97 MA's), (Start: 63 @23444 has 3 MA's), (96, 23558), (127, 23675), (139, 23717), (144, 23729), (170, 23783), (185, 23861), (199, 23945), (203, 23957), (208, 23969), (214, 23999), (218, 24008), (241, 24122), (259, 24191),

Gene: MacnCheese\_29 Start: 24319, Stop: 25308, Start Num: 44

Candidate Starts for MacnCheese\_29:

(27, 24199), (32, 24256), (Start: 44 @24319 has 73 MA's), (48, 24352), (72, 24448), (73, 24454), (91, 24526), (133, 24676), (141, 24697), (149, 24724), (186, 24841), (199, 24919), (203, 24931), (204, 24934), (270, 25231),

Gene: Malthus\_30 Start: 24509, Stop: 25513, Start Num: 44

Candidate Starts for Malthus\_30:

(Start: 44 @24509 has 73 MA's), (52, 24578), (83, 24677), (92, 24722), (96, 24728), (106, 24782), (112, 24791), (123, 24827), (133, 24872), (140, 24893), (143, 24899), (144, 24902), (185, 25034), (186, 25037), (210, 25160), (218, 25181), (257, 25352), (274, 25448),

Gene: Marcoliusprime\_25 Start: 21282, Stop: 22277, Start Num: 44

Candidate Starts for Marcoliusprime\_25:

(20, 21099), (27, 21198), (Start: 44 @21282 has 73 MA's), (54, 21363), (60, 21387), (79, 21447), (92, 21501), (96, 21507), (124, 21609), (125, 21612), (137, 21660), (139, 21666), (153, 21708), (170, 21732), (187, 21816), (201, 21900), (218, 21957), (279, 22254),

Gene: MarkPhew\_28 Start: 22462, Stop: 23448, Start Num: 44

Candidate Starts for MarkPhew\_28:

(Start: 44 @22462 has 73 MA's), (62, 22567), (82, 22630), (87, 22651), (88, 22657), (90, 22672), (99, 22699), (116, 22759), (124, 22786), (156, 22891), (186, 22990), (200, 23074), (210, 23113), (252, 23263), (265, 23317), (268, 23332),

Gene: Marshawn\_29 Start: 23145, Stop: 24104, Start Num: 44

Candidate Starts for Marshawn\_29:

(Start: 44 @23145 has 73 MA's), (47, 23175), (78, 23301), (83, 23316), (90, 23355), (99, 23382), (126, 23475), (127, 23484), (139, 23526), (170, 23592), (185, 23670), (186, 23673), (204, 23766), (232, 23874), (244, 23910),

Gene: McMater\_28 Start: 22728, Stop: 23693, Start Num: 42

Candidate Starts for McMater\_28:

(Start: 42 @22728 has 97 MA's), (Start: 45 @22734 has 33 MA's), (77, 22887), (83, 22905), (87, 22923), (96, 22956), (104, 22998), (124, 23058), (127, 23073), (185, 23259), (186, 23262), (198, 23334), (218, 23403), (224, 23451), (232, 23466), (244, 23499), (254, 23538), (275, 23637),

Gene: Mdavu\_24 Start: 22888, Stop: 23895, Start Num: 44

Candidate Starts for Mdavu\_24:

(35, 22837), (38, 22849), (Start: 44 @22888 has 73 MA's), (51, 22948), (72, 23020), (87, 23074), (90, 23095), (127, 23224), (140, 23269), (142, 23272), (169, 23329), (170, 23332), (180, 23377), (186, 23413), (203, 23509), (208, 23521), (227, 23641), (266, 23773),

Gene: MeaningOfLife\_28 Start: 23292, Stop: 24305, Start Num: 42

Candidate Starts for MeaningOfLife\_28:

(8, 22848), (36, 23247), (Start: 42 @23292 has 97 MA's), (Start: 63 @23403 has 3 MA's), (92, 23511), (96, 23517), (127, 23634), (139, 23676), (144, 23688), (170, 23742), (185, 23820), (199, 23904), (203, 23916), (208, 23928), (218, 23967), (241, 24081), (259, 24150),

Gene: Megsy\_28 Start: 23293, Stop: 24306, Start Num: 42

Candidate Starts for Megsy\_28:

(8, 22849), (36, 23248), (Start: 42 @23293 has 97 MA's), (Start: 63 @23404 has 3 MA's), (96, 23518), (127, 23635), (139, 23677), (144, 23689), (170, 23743), (185, 23821), (199, 23905), (203, 23917), (208, 23929), (218, 23968), (276, 24247),

Gene: MerCougar\_46 Start: 36238, Stop: 37293, Start Num: 45

Candidate Starts for MerCougar\_46:

(33, 36175), (Start: 45 @36238 has 33 MA's), (89, 36451), (138, 36610), (146, 36634), (208, 36922), (274, 37222), (280, 37267),

Gene: Milly\_25 Start: 21282, Stop: 22277, Start Num: 44

Candidate Starts for Milly\_25:

(20, 21099), (27, 21198), (Start: 44 @21282 has 73 MA's), (54, 21363), (60, 21387), (79, 21447), (92, 21501), (96, 21507), (124, 21609), (125, 21612), (137, 21660), (139, 21666), (153, 21708), (170, 21732), (187, 21816), (201, 21900), (218, 21957), (279, 22254),

Gene: MissDaisy\_29 Start: 24351, Stop: 25355, Start Num: 44

Candidate Starts for MissDaisy\_29:

(Start: 44 @24351 has 73 MA's), (83, 24519), (92, 24564), (96, 24570), (106, 24624), (133, 24714), (140, 24735), (144, 24744), (185, 24876), (186, 24879), (210, 25002), (218, 25023), (274, 25290),

Gene: Mitti\_29 Start: 24509, Stop: 25513, Start Num: 44

Candidate Starts for Mitti\_29:

(Start: 44 @24509 has 73 MA's), (83, 24677), (92, 24722), (96, 24728), (106, 24782), (133, 24872), (140, 24893), (144, 24902), (185, 25034), (186, 25037), (198, 25112), (218, 25181), (267, 25391),

Gene: Mufasa\_25 Start: 21302, Stop: 22327, Start Num: 44

Candidate Starts for Mufasa\_25:

(27, 21218), (Start: 44 @21302 has 73 MA's), (60, 21407), (79, 21467), (92, 21521), (96, 21527), (118, 21608), (119, 21614), (124, 21629), (125, 21632), (187, 21836), (279, 22295),

Gene: Murucutumbu\_28 Start: 23275, Stop: 24288, Start Num: 42

Candidate Starts for Murucutumbu\_28:

(Start: 42 @23275 has 97 MA's), (Start: 63 @23386 has 3 MA's), (96, 23500), (127, 23617), (139, 23659), (170, 23725), (185, 23803), (186, 23806), (203, 23899), (208, 23911), (210, 23929), (218, 23950), (241, 24064), (259, 24133), (276, 24229),

Gene: Mynx\_28 Start: 23339, Stop: 24352, Start Num: 42

Candidate Starts for Mynx\_28:

(8, 22895), (36, 23294), (Start: 42 @23339 has 97 MA's), (96, 23564), (127, 23681), (139, 23723), (144, 23735), (170, 23789), (185, 23867), (203, 23963), (208, 23975), (214, 24005), (218, 24014), (241, 24128), (259, 24197),

Gene: NatB6\_44 Start: 35025, Stop: 36083, Start Num: 45

Candidate Starts for NatB6\_44:

(1, 33585), (2, 33882), (3, 34113), (5, 34482), (23, 34860), (24, 34875), (26, 34893), (Start: 45 @35025 has 33 MA's), (130, 35370), (145, 35421), (158, 35469),

Gene: Neoevie\_30 Start: 38362, Stop: 39264, Start Num: 69

Candidate Starts for Neoevie\_30:

(Start: 69 @38362 has 14 MA's), (106, 38500), (128, 38569), (143, 38617), (164, 38680), (170, 38716), (172, 38725), (200, 38884), (264, 39118), (266, 39136), (280, 39241),

Gene: Newt\_31 Start: 38589, Stop: 39491, Start Num: 69

Candidate Starts for Newt\_31:

(Start: 69 @38589 has 14 MA's), (106, 38727), (128, 38796), (143, 38844), (164, 38907), (170, 38943), (200, 39111), (266, 39363), (280, 39468),

Gene: Nibb\_27 Start: 22603, Stop: 23589, Start Num: 44

Candidate Starts for Nibb\_27:

(Start: 44 @22603 has 73 MA's), (62, 22708), (78, 22759), (82, 22771), (87, 22792), (88, 22798), (90, 22813), (99, 22840), (116, 22900), (124, 22927), (151, 23020), (156, 23032), (184, 23119), (186, 23131), (200, 23215), (210, 23254), (219, 23281), (234, 23350), (252, 23404),

Gene: Nikao\_24 Start: 22900, Stop: 23907, Start Num: 44

Candidate Starts for Nikao\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: Niklas\_28 Start: 22731, Stop: 23696, Start Num: 42

Candidate Starts for Niklas\_28:

(Start: 42 @22731 has 97 MA's), (Start: 45 @22737 has 33 MA's), (77, 22890), (83, 22908), (87, 22926), (96, 22959), (104, 23001), (124, 23061), (127, 23076), (185, 23262), (186, 23265), (198, 23337), (218, 23406), (224, 23454), (232, 23469), (244, 23502), (254, 23541), (275, 23640),

Gene: Nimi13\_30 Start: 38107, Stop: 39009, Start Num: 69

Candidate Starts for Nimi13\_30:

(Start: 69 @38107 has 14 MA's), (106, 38245), (128, 38314), (143, 38362), (164, 38425), (170, 38461), (172, 38470), (200, 38629), (264, 38863), (266, 38881), (280, 38986),

Gene: NosilaM\_48 Start: 35951, Stop: 37006, Start Num: 45

Candidate Starts for NosilaM\_48:

(Start: 45 @35951 has 33 MA's), (89, 36164), (146, 36347), (208, 36635), (280, 36980),

Gene: November\_26 Start: 23628, Stop: 24632, Start Num: 42

Candidate Starts for November\_26:

(14, 23256), (39, 23592), (Start: 42 @23628 has 97 MA's), (58, 23730), (90, 23841), (100, 23874), (127, 23970), (182, 24129), (201, 24243), (236, 24396), (259, 24489),

Gene: NovumRegina\_44 Start: 35355, Stop: 36413, Start Num: 45

Candidate Starts for NovumRegina\_44:

(1, 33915), (2, 34212), (3, 34443), (5, 34812), (23, 35190), (24, 35205), (26, 35223), (Start: 45 @35355 has 33 MA's), (130, 35700), (145, 35751), (158, 35799),

Gene: Nutello\_24 Start: 22900, Stop: 23907, Start Num: 44

Candidate Starts for Nutello\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: OmniCritical\_29 Start: 24494, Stop: 25498, Start Num: 44

Candidate Starts for OmniCritical\_29:

(Start: 44 @24494 has 73 MA's), (83, 24662), (92, 24707), (96, 24713), (106, 24767), (112, 24776), (133, 24857), (140, 24878), (143, 24884), (144, 24887), (185, 25019), (186, 25022), (210, 25145), (267, 25376),

Gene: Oscar\_27 Start: 22584, Stop: 23552, Start Num: 43

Candidate Starts for Oscar\_27:

(Start: 43 @22584 has 4 MA's), (79, 22746), (82, 22752), (87, 22773), (88, 22779), (99, 22821), (110, 22866), (124, 22908), (127, 22923), (170, 23031), (187, 23115), (257, 23391),

Gene: Outis\_46 Start: 35932, Stop: 36987, Start Num: 45

Candidate Starts for Outis\_46:

(33, 35869), (Start: 45 @35932 has 33 MA's), (89, 36145), (138, 36304), (146, 36328), (208, 36616), (274, 36916), (280, 36961),

Gene: Padfoot\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Padfoot\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Padpat\_28 Start: 23316, Stop: 24329, Start Num: 42

Candidate Starts for Padpat\_28:

(8, 22872), (36, 23271), (Start: 42 @23316 has 97 MA's), (96, 23541), (127, 23658), (139, 23700), (144, 23712), (170, 23766), (185, 23844), (203, 23940), (208, 23952), (214, 23982), (218, 23991), (241, 24105), (259, 24174),

Gene: Patio\_48 Start: 36198, Stop: 37259, Start Num: 45

Candidate Starts for Patio\_48:

(Start: 45 @36198 has 33 MA's), (85, 36384), (136, 36570), (138, 36573), (187, 36783),

Gene: Patt\_29 Start: 24327, Stop: 25331, Start Num: 44

Candidate Starts for Patt\_29:

(Start: 44 @24327 has 73 MA's), (83, 24495), (92, 24540), (96, 24546), (106, 24600), (133, 24690), (140, 24711), (144, 24720), (185, 24852), (186, 24855), (216, 24993), (223, 25062),

Gene: Peanam\_28 Start: 22728, Stop: 23693, Start Num: 42

Candidate Starts for Peanam\_28:

(Start: 42 @22728 has 97 MA's), (Start: 45 @22734 has 33 MA's), (77, 22887), (83, 22905), (87, 22923), (96, 22956), (104, 22998), (124, 23058), (127, 23073), (144, 23127), (185, 23259), (186, 23262), (198, 23334), (218, 23403), (224, 23451), (232, 23466), (244, 23499), (254, 23538), (275, 23637),

Gene: Peel\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Peel\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Pemberton\_48 Start: 33038, Stop: 34129, Start Num: 45

Candidate Starts for Pemberton\_48:

(Start: 45 @33038 has 33 MA's), (49, 33071), (68, 33167), (117, 33350), (133, 33419), (170, 33557), (173, 33569), (174, 33572),

Gene: Pharb\_27 Start: 23529, Stop: 24596, Start Num: 41

Candidate Starts for Pharb\_27:

(Start: 41 @23529 has 1 MA's), (48, 23565), (50, 23568), (Start: 63 @23634 has 3 MA's), (72, 23661), (86, 23709), (90, 23736), (96, 23748), (100, 23769), (119, 23835), (144, 23919), (159, 23976), (160, 23979), (185, 24111), (186, 24114), (189, 24147), (196, 24162), (217, 24255), (232, 24345),

Gene: PhelpsODU\_28 Start: 22720, Stop: 23781, Start Num: 44

Candidate Starts for PhelpsODU\_28:

(27, 22630), (32, 22687), (Start: 44 @22720 has 73 MA's), (60, 22819), (90, 22927), (96, 22939), (100, 22960), (127, 23056), (160, 23170), (169, 23221), (189, 23338), (247, 23581), (251, 23599), (262, 23638),

Gene: Phomeo\_43 Start: 35624, Stop: 36682, Start Num: 45

Candidate Starts for Phomeo\_43:

(1, 34184), (2, 34481), (3, 34712), (5, 35081), (23, 35459), (24, 35474), (26, 35492), (Start: 45 @35624 has 33 MA's), (130, 35969), (145, 36020), (158, 36068),

Gene: Phrank\_28 Start: 22670, Stop: 23731, Start Num: 44

Candidate Starts for Phrank\_28:

(Start: 44 @22670 has 73 MA's), (55, 22748), (56, 22751), (60, 22769), (90, 22877), (99, 22904), (100, 22910), (127, 23006), (131, 23018), (160, 23120), (169, 23171), (189, 23288), (247, 23531), (251, 23549), (262, 23588),

Gene: Piatt\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Piatt\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Pisa1\_27 Start: 23391, Stop: 24404, Start Num: 42

Candidate Starts for Pisa1\_27:

(Start: 42 @23391 has 97 MA's), (Start: 63 @23502 has 3 MA's), (91, 23607), (96, 23616), (116, 23691), (127, 23733), (139, 23775), (144, 23787), (170, 23841), (185, 23919), (203, 24015), (208, 24027), (212, 24051), (259, 24249), (276, 24345),

Gene: Pisa4\_27 Start: 23391, Stop: 24404, Start Num: 42

Candidate Starts for Pisa4\_27:

(Start: 42 @23391 has 97 MA's), (Start: 63 @23502 has 3 MA's), (91, 23607), (96, 23616), (116, 23691), (127, 23733), (139, 23775), (144, 23787), (170, 23841), (185, 23919), (203, 24015), (208, 24027), (212, 24051), (259, 24249), (276, 24345),

Gene: Pixie\_28 Start: 23724, Stop: 24788, Start Num: 44

Candidate Starts for Pixie\_28:

(4, 23172), (6, 23238), (7, 23301), (9, 23313), (10, 23334), (13, 23376), (20, 23535), (27, 23634), (32, 23691), (Start: 44 @23724 has 73 MA's), (72, 23856), (73, 23862), (90, 23931), (92, 23937), (106, 23997), (116, 24018), (120, 24033), (143, 24111), (185, 24303), (189, 24339), (199, 24387), (210, 24429), (242, 24555),

Gene: Pleakley\_53 Start: 35398, Stop: 36480, Start Num: 45

Candidate Starts for Pleakley\_53:

(Start: 45 @35398 has 33 MA's), (64, 35515), (126, 35743), (149, 35827), (151, 35833), (163, 35872), (165, 35887), (173, 35929), (204, 36094), (246, 36274), (274, 36412),

Gene: Pokerus\_27 Start: 23273, Stop: 24286, Start Num: 42

Candidate Starts for Pokerus\_27:

(8, 22829), (36, 23228), (Start: 42 @23273 has 97 MA's), (Start: 63 @23384 has 3 MA's), (96, 23498), (127, 23615), (139, 23657), (144, 23669), (170, 23723), (185, 23801), (203, 23897), (208, 23909), (214, 23939), (218, 23948), (241, 24062), (259, 24131),

Gene: Prithvi\_28 Start: 23290, Stop: 24303, Start Num: 42

Candidate Starts for Prithvi\_28:

(36, 23245), (Start: 42 @23290 has 97 MA's), (Start: 63 @23401 has 3 MA's), (96, 23515), (127, 23632), (139, 23674), (144, 23686), (170, 23740), (185, 23818), (199, 23902), (203, 23914), (208, 23926), (218, 23965), (276, 24244),

Gene: Psycho\_28 Start: 24008, Stop: 25072, Start Num: 44

Candidate Starts for Psycho\_28:

(Start: 44 @24008 has 73 MA's), (57, 24098), (65, 24128), (80, 24182), (83, 24188), (95, 24236), (108, 24275), (116, 24293), (117, 24296), (136, 24377), (152, 24425), (157, 24443), (186, 24584), (201, 24674), (202, 24677), (203, 24680), (211, 24713), (216, 24725), (228, 24812), (230, 24815), (262, 24911), (277, 25028),

Gene: Qhanda\_30 Start: 24605, Stop: 25609, Start Num: 44

Candidate Starts for Qhanda\_30:

(Start: 44 @24605 has 73 MA's), (83, 24773), (92, 24818), (96, 24824), (106, 24878), (112, 24887), (133, 24968), (140, 24989), (143, 24995), (144, 24998), (185, 25130), (186, 25133), (210, 25256),

Gene: Quby\_21 Start: 21546, Stop: 22553, Start Num: 53

Candidate Starts for Quby\_21:

(Start: 44 @21468 has 73 MA's), (53, 21546), (100, 21720), (109, 21759), (121, 21798), (129, 21831), (153, 21909), (161, 21942), (195, 22104), (247, 22338), (256, 22371), (261, 22395), (268, 22440),

Gene: QuincyRose\_27 Start: 23336, Stop: 24349, Start Num: 42

Candidate Starts for QuincyRose\_27:

(8, 22892), (36, 23291), (Start: 42 @23336 has 97 MA's), (Start: 63 @23447 has 3 MA's), (96, 23561), (127, 23678), (139, 23720), (144, 23732), (167, 23771), (170, 23786), (185, 23864), (199, 23948), (203, 23960), (208, 23972), (218, 24011), (241, 24125), (259, 24194),

Gene: Ramen\_28 Start: 23322, Stop: 24335, Start Num: 42

Candidate Starts for Ramen\_28:

(8, 22878), (36, 23277), (Start: 42 @23322 has 97 MA's), (Start: 63 @23433 has 3 MA's), (96, 23547), (127, 23664), (139, 23706), (144, 23718), (170, 23772), (185, 23850), (203, 23946), (214, 23988), (218, 23997), (241, 24111), (259, 24180),

Gene: Rapunzel97\_28 Start: 23323, Stop: 24336, Start Num: 42

Candidate Starts for Rapunzel97\_28:

(8, 22879), (18, 23026), (36, 23278), (Start: 42 @23323 has 97 MA's), (Start: 63 @23434 has 3 MA's), (96, 23548), (127, 23665), (139, 23707), (144, 23719), (170, 23773), (185, 23851), (203, 23947), (208, 23959), (214, 23989), (218, 23998), (241, 24112), (259, 24181),

Gene: RedRaider\_52 Start: 38220, Stop: 39278, Start Num: 45

Candidate Starts for RedRaider\_52:

(Start: 45 @38220 has 33 MA's), (80, 38394), (93, 38448), (143, 38610), (158, 38664), (208, 38907), (274, 39207),

Gene: Reptar3000\_29 Start: 24320, Stop: 25324, Start Num: 44

Candidate Starts for Reptar3000\_29:

(Start: 44 @24320 has 73 MA's), (83, 24488), (92, 24533), (96, 24539), (106, 24593), (112, 24602), (133, 24683), (140, 24704), (144, 24713), (185, 24845), (186, 24848), (216, 24986), (223, 25055), (274, 25259),

Gene: Richo\_28 Start: 22728, Stop: 23693, Start Num: 42

Candidate Starts for Richo\_28:

(Start: 42 @22728 has 97 MA's), (Start: 45 @22734 has 33 MA's), (77, 22887), (83, 22905), (87, 22923), (96, 22956), (104, 22998), (124, 23058), (127, 23073), (185, 23259), (186, 23262), (198, 23334), (218, 23403), (224, 23451), (232, 23466), (244, 23499), (254, 23538), (275, 23637),

Gene: Rosmarinus\_28 Start: 23344, Stop: 24357, Start Num: 42

Candidate Starts for Rosmarinus\_28:

(8, 22900), (36, 23299), (Start: 42 @23344 has 97 MA's), (96, 23569), (127, 23686), (139, 23728), (144, 23740), (170, 23794), (185, 23872), (203, 23968), (214, 24010), (218, 24019), (241, 24133), (259, 24202),

Gene: SamuelLPlaqson\_28 Start: 23284, Stop: 24297, Start Num: 42

Candidate Starts for SamuelLPlaqson\_28:

(36, 23239), (Start: 42 @23284 has 97 MA's), (Start: 63 @23395 has 3 MA's), (96, 23509), (127, 23626), (139, 23668), (144, 23680), (170, 23734), (185, 23812), (203, 23908), (208, 23920), (218, 23959), (222, 23995), (259, 24142), (276, 24238),

Gene: Scarlett\_27 Start: 22586, Stop: 23545, Start Num: 43

Candidate Starts for Scarlett\_27:

(Start: 43 @22586 has 4 MA's), (79, 22748), (82, 22754), (87, 22775), (88, 22781), (99, 22823), (110, 22868), (124, 22910), (127, 22925), (170, 23033), (187, 23117), (257, 23393),

Gene: Scuba\_53 Start: 35472, Stop: 36554, Start Num: 45

Candidate Starts for Scuba\_53:

(Start: 45 @35472 has 33 MA's), (64, 35589), (126, 35817), (149, 35901), (151, 35907), (165, 35961), (274, 36486),

Gene: SgtBeansprout\_24 Start: 22900, Stop: 23907, Start Num: 44

Candidate Starts for SgtBeansprout\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: Shadow1\_27 Start: 22543, Stop: 23604, Start Num: 44

Candidate Starts for Shadow1\_27:

(27, 22453), (Start: 44 @22543 has 73 MA's), (56, 22624), (60, 22642), (90, 22750), (96, 22762), (100, 22783), (127, 22879), (160, 22993), (169, 23044), (189, 23161), (196, 23176), (208, 23233), (218, 23272), (262, 23461),

Gene: Shaobing\_28 Start: 22728, Stop: 23693, Start Num: 42

Candidate Starts for Shaobing\_28:

(Start: 42 @22728 has 97 MA's), (Start: 45 @22734 has 33 MA's), (77, 22887), (83, 22905), (87, 22923), (96, 22956), (104, 22998), (124, 23058), (127, 23073), (185, 23259), (186, 23262), (198, 23334), (218, 23403), (224, 23451), (232, 23466), (244, 23499), (254, 23538), (275, 23637),

Gene: ShedlockHolmes\_28 Start: 23930, Stop: 24949, Start Num: 44

Candidate Starts for ShedlockHolmes\_28:

(11, 23549), (12, 23561), (15, 23597), (17, 23621), (20, 23741), (27, 23840), (32, 23897), (Start: 44 @23930 has 73 MA's), (48, 23963), (72, 24062), (73, 24068), (77, 24080), (90, 24137), (92, 24143), (106, 24203), (127, 24266), (130, 24275), (141, 24311), (148, 24332), (151, 24344), (172, 24383), (185, 24452), (204, 24551), (218, 24599), (222, 24635), (239, 24698), (248, 24740), (262, 24788), (268, 24830), (280, 24926),

Gene: ShiaSurprise\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for ShiaSurprise\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (Start: 63 @23467 has 3 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (208, 23992), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: SirPhilip\_27 Start: 22229, Stop: 23257, Start Num: 44

Candidate Starts for SirPhilip\_27:

(Start: 44 @22229 has 73 MA's), (83, 22400), (87, 22418), (99, 22466), (116, 22526), (127, 22568), (132, 22586), (139, 22610), (167, 22661), (172, 22685), (183, 22742), (186, 22757), (198, 22829), (218, 22898),

Gene: Skysand\_47 Start: 36418, Stop: 37479, Start Num: 45

Candidate Starts for Skysand\_47:

(Start: 45 @36418 has 33 MA's), (85, 36604), (136, 36790), (138, 36793), (187, 37003),

Gene: Slarp\_29 Start: 24596, Stop: 25600, Start Num: 44

Candidate Starts for Slarp\_29:

(Start: 44 @24596 has 73 MA's), (83, 24764), (92, 24809), (96, 24815), (106, 24869), (112, 24878), (133, 24959), (140, 24980), (143, 24986), (144, 24989), (185, 25121), (186, 25124), (210, 25247),

Gene: Slimphazie\_28 Start: 23323, Stop: 24336, Start Num: 42

Candidate Starts for Slimphazie\_28:

(8, 22879), (18, 23026), (36, 23278), (Start: 42 @23323 has 97 MA's), (Start: 63 @23434 has 3 MA's), (96, 23548), (127, 23665), (139, 23707), (144, 23719), (170, 23773), (185, 23851), (203, 23947), (208, 23959), (214, 23989), (218, 23998), (241, 24112), (259, 24181),

Gene: Spock\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Spock\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: StarStruck\_46 Start: 35932, Stop: 36987, Start Num: 45

Candidate Starts for StarStruck\_46:

(33, 35869), (Start: 45 @35932 has 33 MA's), (89, 36145), (138, 36304), (146, 36328), (208, 36616), (274, 36916), (280, 36961),

Gene: Stinson\_29 Start: 23565, Stop: 24578, Start Num: 42

Candidate Starts for Stinson\_29:

(Start: 42 @23565 has 97 MA's), (Start: 63 @23676 has 3 MA's), (96, 23790), (127, 23907), (139, 23949), (170, 24015), (172, 24024), (185, 24093), (203, 24189), (208, 24201), (241, 24354), (259, 24423), (276, 24519),

Gene: Strobilo\_25 Start: 21282, Stop: 22277, Start Num: 44

Candidate Starts for Strobilo\_25:

(27, 21198), (Start: 44 @21282 has 73 MA's), (54, 21363), (60, 21387), (79, 21447), (92, 21501), (96, 21507), (124, 21609), (125, 21612), (137, 21660), (139, 21666), (169, 21729), (170, 21732), (179, 21774), (187, 21816), (201, 21900), (218, 21957), (279, 22254),

Gene: Sukkupi\_46 Start: 34612, Stop: 35703, Start Num: 45

Candidate Starts for Sukkupi\_46:

(Start: 45 @34612 has 33 MA's), (49, 34645), (68, 34741), (117, 34924), (133, 34993), (170, 35131), (173, 35143), (174, 35146),

Gene: Sulley\_28 Start: 23289, Stop: 24302, Start Num: 42

Candidate Starts for Sulley\_28:

(Start: 42 @23289 has 97 MA's), (Start: 63 @23400 has 3 MA's), (96, 23514), (127, 23631), (144, 23685), (170, 23739), (185, 23817), (203, 23913), (208, 23925), (214, 23955), (218, 23964), (241, 24078), (259, 24147),

Gene: Sunflower1121\_27 Start: 22555, Stop: 23616, Start Num: 44

Candidate Starts for Sunflower1121\_27:

(27, 22465), (Start: 44 @22555 has 73 MA's), (56, 22636), (60, 22654), (90, 22762), (96, 22774), (100, 22795), (127, 22891), (160, 23005), (169, 23056), (189, 23173), (208, 23245), (218, 23284), (245, 23404), (262, 23473),

Gene: SuperSulley\_46 Start: 36118, Stop: 37173, Start Num: 45

Candidate Starts for SuperSulley\_46:

(Start: 45 @36118 has 33 MA's), (89, 36331), (146, 36514), (208, 36802), (280, 37147),

Gene: Syra333\_28 Start: 22645, Stop: 23640, Start Num: 44

Candidate Starts for Syra333\_28:

(27, 22555), (Start: 44 @22645 has 73 MA's), (60, 22744), (Start: 63 @22750 has 3 MA's), (102, 22900), (127, 22981), (185, 23167), (186, 23170), (200, 23254), (203, 23263), (212, 23299), (250, 23449), (278, 23599), (280, 23617),

Gene: TBond007\_28 Start: 23723, Stop: 24787, Start Num: 44

Candidate Starts for TBond007\_28:

(4, 23171), (6, 23237), (7, 23300), (10, 23333), (13, 23375), (20, 23534), (27, 23633), (32, 23690), (Start: 44 @23723 has 73 MA's), (72, 23855), (73, 23861), (90, 23930), (92, 23936), (106, 23996), (116, 24017), (120, 24032), (143, 24110), (185, 24302), (189, 24338), (199, 24386), (210, 24428), (242, 24554),

Gene: TClif\_28 Start: 22714, Stop: 23739, Start Num: 44

Candidate Starts for TClif\_28:

(Start: 44 @22714 has 73 MA's), (58, 22813), (60, 22816), (79, 22876), (89, 22921), (100, 22957), (125, 23041), (137, 23089), (171, 23173), (177, 23197), (186, 23248), (199, 23329), (263, 23581), (268, 23620), (280, 23716),

Gene: TM4\_25 Start: 21422, Stop: 22426, Start Num: 44

Candidate Starts for TM4\_25:

(Start: 44 @21422 has 73 MA's), (60, 21527), (79, 21587), (83, 21596), (92, 21641), (96, 21647), (106, 21701), (126, 21755), (143, 21815), (153, 21848), (170, 21872), (186, 21953), (187, 21956), (201, 22040), (210, 22076), (279, 22403),

Gene: Tachez\_28 Start: 23285, Stop: 24298, Start Num: 42

Candidate Starts for Tachez\_28:

(8, 22841), (18, 22988), (36, 23240), (Start: 42 @23285 has 97 MA's), (Start: 63 @23396 has 3 MA's), (96, 23510), (127, 23627), (139, 23669), (144, 23681), (170, 23735), (185, 23813), (203, 23909), (208, 23921), (214, 23951), (218, 23960), (241, 24074), (259, 24143),

Gene: TaiwanKao\_29 Start: 23407, Stop: 24309, Start Num: 63

Candidate Starts for TaiwanKao\_29:

(36, 23251), (Start: 42 @23296 has 97 MA's), (Start: 63 @23407 has 3 MA's), (96, 23521), (127, 23638), (139, 23680), (144, 23692), (170, 23746), (185, 23824), (199, 23908), (203, 23920), (208, 23932), (218, 23971), (234, 24061), (276, 24250),

Gene: Teal\_30 Start: 38566, Stop: 39468, Start Num: 69

Candidate Starts for Teal\_30:

(Start: 69 @38566 has 14 MA's), (106, 38704), (128, 38773), (143, 38821), (164, 38884), (170, 38920), (200, 39088), (266, 39340), (280, 39445),

Gene: Teejan\_24 Start: 22861, Stop: 23907, Start Num: 38

Candidate Starts for Teejan\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: Tierra\_28 Start: 23391, Stop: 24452, Start Num: 44

Candidate Starts for Tierra\_28:

(Start: 44 @23391 has 73 MA's), (55, 23469), (56, 23472), (60, 23490), (74, 23532), (90, 23598), (100, 23631), (127, 23727), (131, 23739), (160, 23841), (169, 23892), (189, 24009), (247, 24252), (251, 24270), (262, 24309),

Gene: Tigress9\_29 Start: 22638, Stop: 23633, Start Num: 44

Candidate Starts for Tigress9\_29:

(27, 22548), (Start: 44 @22638 has 73 MA's), (60, 22737), (Start: 63 @22743 has 3 MA's), (102, 22893), (127, 22974), (133, 22998), (185, 23160), (186, 23163), (200, 23247), (212, 23292), (275, 23571), (278, 23592), (280, 23610),

Gene: TingHuaYa\_28 Start: 22494, Stop: 23501, Start Num: 44

Candidate Starts for TingHuaYa\_28:

(Start: 44 @22494 has 73 MA's), (59, 22593), (96, 22713), (100, 22734), (127, 22830), (170, 22938), (185, 23016), (203, 23112), (208, 23124), (218, 23163), (257, 23334), (259, 23346),

Gene: TiniBug\_28 Start: 23281, Stop: 24294, Start Num: 42

Candidate Starts for TiniBug\_28:

(36, 23236), (Start: 42 @23281 has 97 MA's), (Start: 63 @23392 has 3 MA's), (96, 23506), (127, 23623), (144, 23677), (170, 23731), (185, 23809), (203, 23905), (208, 23917), (218, 23956), (222, 23992), (238, 24061), (259, 24139), (276, 24235),

Gene: Tiri\_28 Start: 23328, Stop: 24341, Start Num: 42

Candidate Starts for Tiri\_28:

(8, 22884), (36, 23283), (Start: 42 @23328 has 97 MA's), (Start: 63 @23439 has 3 MA's), (96, 23553), (127, 23670), (139, 23712), (144, 23724), (170, 23778), (185, 23856), (199, 23940), (203, 23952), (208, 23964), (218, 24003), (241, 24117), (259, 24186),

Gene: Topper\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Topper\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Torres\_24 Start: 22900, Stop: 23907, Start Num: 44

Candidate Starts for Torres\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: Towmatter\_36 Start: 34440, Stop: 35507, Start Num: 44

Candidate Starts for Towmatter\_36:

(Start: 44 @34440 has 73 MA's), (131, 34785), (144, 34830), (154, 34860), (211, 35151), (213, 35157), (219, 35175), (224, 35241), (225, 35244), (237, 35262), (248, 35310), (282, 35496),

Gene: Tracker\_44 Start: 34752, Stop: 35810, Start Num: 45

Candidate Starts for Tracker\_44:

(1, 33312), (2, 33609), (3, 33840), (5, 34209), (23, 34587), (24, 34602), (26, 34620), (Start: 45 @34752 has 33 MA's), (130, 35097), (145, 35148), (158, 35196),

Gene: TreyKay\_28 Start: 23290, Stop: 24303, Start Num: 42

Candidate Starts for TreyKay\_28:

(36, 23245), (Start: 42 @23290 has 97 MA's), (Start: 63 @23401 has 3 MA's), (96, 23515), (127, 23632), (139, 23674), (144, 23686), (170, 23740), (185, 23818), (199, 23902), (203, 23914), (208, 23926), (218, 23965), (276, 24244),

Gene: TribbleTrouble\_27 Start: 23874, Stop: 24935, Start Num: 44

Candidate Starts for TribbleTrouble\_27:

(27, 23769), (Start: 44 @23874 has 73 MA's), (48, 23907), (53, 23946), (70, 23997), (72, 24006), (79, 24033), (90, 24081), (106, 24147), (120, 24183), (125, 24198), (129, 24216), (130, 24219), (133, 24234), (159, 24321), (189, 24492), (262, 24792),

Gene: Trice\_24 Start: 22861, Stop: 23907, Start Num: 38

Candidate Starts for Trice\_24:

(35, 22849), (38, 22861), (Start: 44 @22900 has 73 MA's), (51, 22960), (72, 23032), (87, 23086), (90, 23107), (127, 23236), (140, 23281), (142, 23284), (169, 23341), (170, 23344), (180, 23389), (186, 23425), (203, 23521), (208, 23533), (227, 23653), (266, 23785),

Gene: TruffulaTree\_28 Start: 23319, Stop: 24332, Start Num: 42

Candidate Starts for TruffulaTree\_28:

(8, 22875), (36, 23274), (Start: 42 @23319 has 97 MA's), (96, 23544), (127, 23661), (139, 23703), (144, 23715), (170, 23769), (185, 23847), (203, 23943), (208, 23955), (214, 23985), (218, 23994), (241, 24108), (259, 24177),

Gene: Twitch\_28 Start: 23356, Stop: 24369, Start Num: 42

Candidate Starts for Twitch\_28:

(8, 22912), (36, 23311), (Start: 42 @23356 has 97 MA's), (96, 23581), (127, 23698), (139, 23740), (144, 23752), (170, 23806), (185, 23884), (203, 23980), (214, 24022), (218, 24031), (241, 24145), (259, 24214),

Gene: Unicorn\_28 Start: 22720, Stop: 23781, Start Num: 44

Candidate Starts for Unicorn\_28:

(27, 22630), (32, 22687), (Start: 44 @22720 has 73 MA's), (60, 22819), (90, 22927), (96, 22939), (100, 22960), (127, 23056), (160, 23170), (169, 23221), (189, 23338), (247, 23581), (251, 23599), (262, 23638),

Gene: Urkel\_28 Start: 23284, Stop: 24297, Start Num: 42

Candidate Starts for Urkel\_28:

(36, 23239), (Start: 42 @23284 has 97 MA's), (Start: 63 @23395 has 3 MA's), (96, 23509), (127, 23626), (139, 23668), (144, 23680), (170, 23734), (185, 23812), (203, 23908), (208, 23920), (218, 23959), (222, 23995), (259, 24142), (276, 24238),

Gene: Validus\_28 Start: 22666, Stop: 23631, Start Num: 42

Candidate Starts for Validus\_28:

(39, 22630), (Start: 42 @22666 has 97 MA's), (Start: 45 @22672 has 33 MA's), (Start: 63 @22780 has 3 MA's), (72, 22807), (87, 22861), (104, 22936), (132, 23029), (149, 23083), (185, 23197), (186, 23200), (201, 23284), (218, 23341), (226, 23395), (244, 23437), (254, 23476),

Gene: Veliki\_28 Start: 23359, Stop: 24372, Start Num: 42

Candidate Starts for Veliki\_28:

(8, 22915), (18, 23062), (36, 23314), (Start: 42 @23359 has 97 MA's), (Start: 63 @23470 has 3 MA's), (96, 23584), (127, 23701), (139, 23743), (144, 23755), (170, 23809), (185, 23887), (203, 23983), (208, 23995), (214, 24025), (218, 24034), (241, 24148), (259, 24217),

Gene: Wheezy\_44 Start: 34957, Stop: 36015, Start Num: 45

Candidate Starts for Wheezy\_44:

(1, 33517), (2, 33814), (3, 34045), (5, 34414), (23, 34792), (24, 34807), (26, 34825), (Start: 45 @34957 has 33 MA's), (130, 35302), (145, 35353), (158, 35401),

Gene: WhoseManz\_46 Start: 32658, Stop: 33761, Start Num: 45

Candidate Starts for WhoseManz\_46:

(Start: 45 @32658 has 33 MA's), (49, 32691), (68, 32787), (117, 32970), (170, 33177), (172, 33186), (185, 33255), (186, 33258), (199, 33342), (215, 33393), (237, 33495), (258, 33579), (262, 33588), (263, 33591),

Gene: Wintermute\_29 Start: 24585, Stop: 25589, Start Num: 44

Candidate Starts for Wintermute\_29:

(Start: 44 @24585 has 73 MA's), (52, 24654), (83, 24753), (92, 24798), (106, 24858), (112, 24867), (123, 24903), (133, 24948), (140, 24969), (143, 24975), (144, 24978), (185, 25110), (186, 25113), (210, 25236), (218, 25257), (274, 25524),

Gene: Ximenita\_29 Start: 22823, Stop: 23818, Start Num: 44

Candidate Starts for Ximenita\_29:

(27, 22733), (Start: 44 @22823 has 73 MA's), (60, 22922), (Start: 63 @22928 has 3 MA's), (102, 23078), (127, 23159), (185, 23345), (186, 23348), (200, 23432), (250, 23627), (275, 23756), (278, 23777), (280, 23795),

Gene: Y10\_29 Start: 24585, Stop: 25589, Start Num: 44

Candidate Starts for Y10\_29:

(Start: 44 @24585 has 73 MA's), (52, 24654), (83, 24753), (92, 24798), (96, 24804), (106, 24858), (112, 24867), (123, 24903), (133, 24948), (140, 24969), (143, 24975), (144, 24978), (185, 25110), (186, 25113), (210, 25236), (218, 25257), (274, 25524),

Gene: Y2\_29 Start: 24585, Stop: 25589, Start Num: 44

Candidate Starts for Y2\_29:

(Start: 44 @24585 has 73 MA's), (52, 24654), (83, 24753), (92, 24798), (96, 24804), (106, 24858), (112, 24867), (123, 24903), (133, 24948), (140, 24969), (143, 24975), (144, 24978), (185, 25110), (186, 25113), (210, 25236), (218, 25257), (274, 25524),

Gene: Yndexa\_46 Start: 34612, Stop: 35703, Start Num: 45

Candidate Starts for Yndexa\_46:

(Start: 45 @34612 has 33 MA's), (49, 34645), (68, 34741), (117, 34924), (133, 34993), (170, 35131), (173, 35143), (174, 35146),

Gene: YoureAdopted\_27 Start: 23292, Stop: 24305, Start Num: 42

Candidate Starts for YoureAdopted\_27:

(8, 22848), (18, 22995), (36, 23247), (Start: 42 @23292 has 97 MA's), (Start: 63 @23403 has 3 MA's), (96, 23517), (127, 23634), (139, 23676), (144, 23688), (170, 23742), (185, 23820), (203, 23916), (208, 23928), (214, 23958), (218, 23967), (221, 24000), (241, 24081), (259, 24150),

Gene: Yuna\_29 Start: 23206, Stop: 24168, Start Num: 42

Candidate Starts for Yuna\_29:

(Start: 42 @23206 has 97 MA's), (105, 23476), (107, 23485), (119, 23518), (123, 23530), (126, 23539), (132, 23566), (177, 23689), (186, 23740), (198, 23809), (204, 23830), (235, 23950),

Gene: Yunkel11\_28 Start: 22542, Stop: 23603, Start Num: 42

Candidate Starts for Yunkel11\_28:

(Start: 42 @22542 has 97 MA's), (Start: 63 @22656 has 3 MA's), (96, 22770), (100, 22791), (126, 22878), (131, 22899), (132, 22905), (175, 23013), (185, 23073), (205, 23193), (206, 23199), (207, 23205), (221, 23295), (253, 23421), (256, 23436),

Gene: Zabiza\_28 Start: 23323, Stop: 24336, Start Num: 42

Candidate Starts for Zabiza\_28:

(8, 22879), (18, 23026), (36, 23278), (Start: 42 @23323 has 97 MA's), (Start: 63 @23434 has 3 MA's), (96, 23548), (127, 23665), (139, 23707), (144, 23719), (170, 23773), (185, 23851), (203, 23947), (208, 23959), (214, 23989), (218, 23998), (241, 24112), (259, 24181),

Gene: Zavala\_28 Start: 23298, Stop: 24311, Start Num: 42

Candidate Starts for Zavala\_28:

(8, 22854), (36, 23253), (Start: 42 @23298 has 97 MA's), (96, 23523), (127, 23640), (139, 23682), (144, 23694), (170, 23748), (185, 23826), (203, 23922), (208, 23934), (214, 23964), (218, 23973), (241, 24087), (259, 24156),

Gene: ZoeJ\_25 Start: 21223, Stop: 22245, Start Num: 44

Candidate Starts for ZoeJ\_25:

(20, 21040), (27, 21139), (Start: 44 @21223 has 73 MA's), (60, 21325), (78, 21379), (79, 21385), (92, 21439), (96, 21445), (97, 21448), (118, 21526), (124, 21547), (125, 21550), (139, 21604), (187, 21754), (279, 22213), (280, 22222),