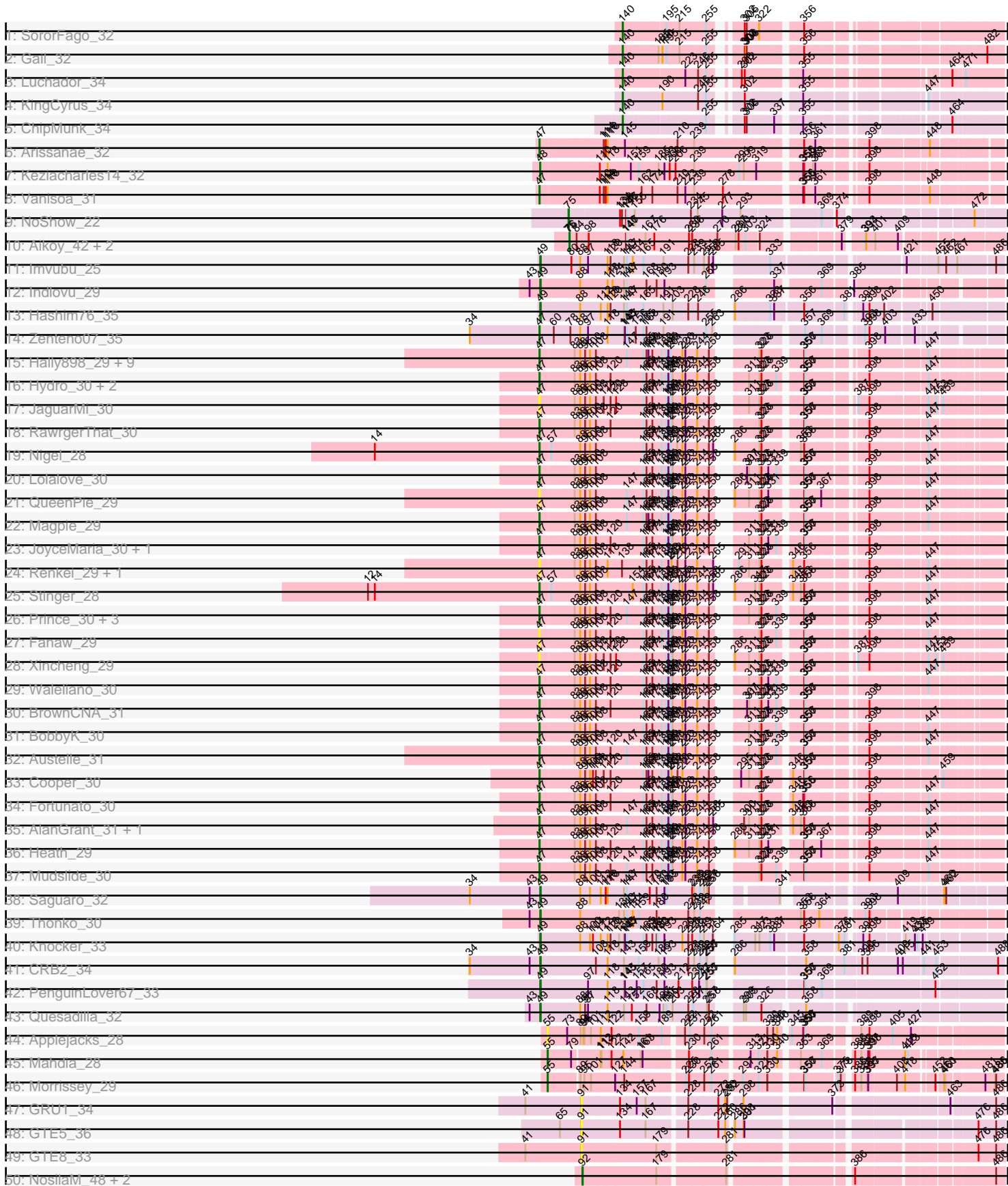
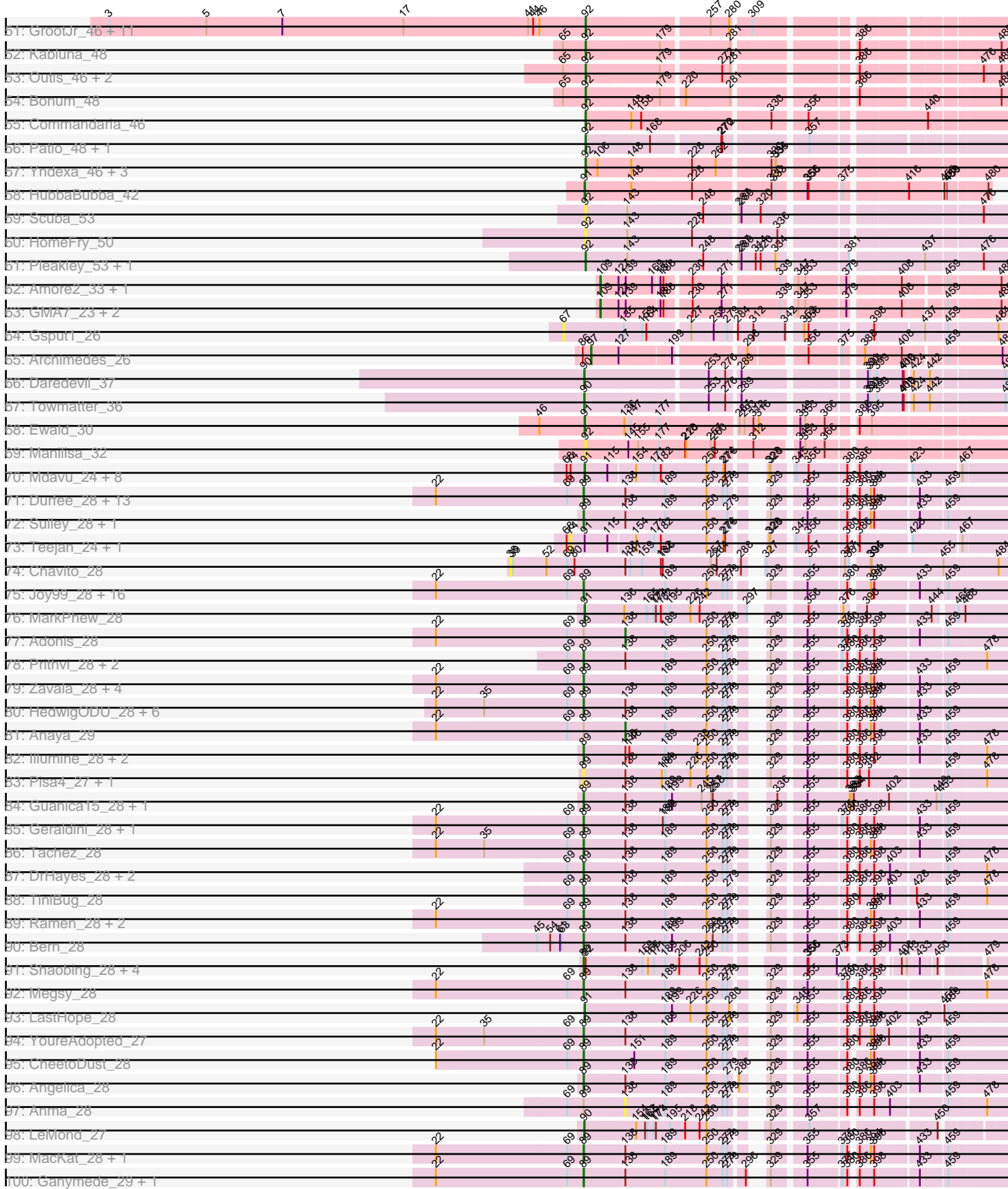


Pham 294345



Pham 294345







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 294345 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294345 has 388 members, 55 are drafts.

Phages represented in each track:

- Track 1 : SororFago\_32
- Track 2 : Gail\_32
- Track 3 : Luchador\_34
- Track 4 : KingCyrus\_34
- Track 5 : ChipMunk\_34
- Track 6 : Arissanae\_32
- Track 7 : Keziacharles14\_32
- Track 8 : Vanisoa\_31
- Track 9 : NoShow\_22
- Track 10 : Aikoy\_42, Onyinye\_43, Leopard\_42
- Track 11 : Imvubu\_25
- Track 12 : Indlovu\_29
- Track 13 : Hashim76\_35
- Track 14 : Zenteno07\_35
- Track 15 : Hally898\_29, Antihero\_29, Ahwei\_29, Poster\_29, JAMaL\_30, ChrisnMich\_29, Lambano\_29, Epah\_29, GinPorsche\_29, Nanao\_29
- Track 16 : Hydro\_30, Mithril\_30, Zemanar\_31
- Track 17 : JaguarMi\_30
- Track 18 : RawrgerThat\_30
- Track 19 : Nigel\_28
- Track 20 : Lolalove\_30
- Track 21 : QueenPie\_29
- Track 22 : Magpie\_29
- Track 23 : JoyceMaria\_30, Hangman\_30
- Track 24 : Renkei\_29, LittleDigger\_29
- Track 25 : Stinger\_28
- Track 26 : Prince\_30, VioletZ\_30, Apex\_30, Frederick\_30
- Track 27 : Fanaw\_29
- Track 28 : Xincheng\_29
- Track 29 : Waleliano\_30
- Track 30 : BrownCNA\_31
- Track 31 : BobbyK\_30
- Track 32 : Austelle\_31
- Track 33 : Cooper\_30
- Track 34 : Fortunato\_30
- Track 35 : AlanGrant\_31, Vincenzo\_31
- Track 36 : Heath\_29

- Track 37 : Mudslide\_30
- Track 38 : Saguaro\_32
- Track 39 : Thonko\_30
- Track 40 : Knocker\_33
- Track 41 : CRB2\_34
- Track 42 : PenguinLover67\_33
- Track 43 : Quesadilla\_32
- Track 44 : Applejacks\_28
- Track 45 : Mahdia\_28
- Track 46 : Morrissey\_29
- Track 47 : GRU1\_34
- Track 48 : GTE5\_36
- Track 49 : GTE8\_33
- Track 50 : NosilaM\_48, Buggaboo\_46, SuperSulley\_46
- Track 51 : GrootJr\_46, Emianna\_44, Kurt\_44, NovumRegina\_44, Tracker\_44, Arti\_44, NatB6\_44, KidneyBean\_44, Phomeo\_43, Foxboro\_45, Wheezy\_44, Jifall16\_43
- Track 52 : Kabluna\_48
- Track 53 : Outis\_46, MerCougar\_46, StarStruck\_46
- Track 54 : Bonum\_48
- Track 55 : Commandaria\_46
- Track 56 : Patio\_48, Ennea\_51
- Track 57 : Yndexa\_46, BiPauneto\_47, Sukkupi\_46, Pemberton\_48
- Track 58 : HubbaBubba\_42
- Track 59 : Scuba\_53
- Track 60 : HomeFry\_50
- Track 61 : Pleakley\_53, Fury\_53
- Track 62 : Amore2\_33, GTE7\_23
- Track 63 : GMA7\_23, HayZem\_32, Austin\_33
- Track 64 : Gspu1\_26
- Track 65 : Archimedes\_26
- Track 66 : Daredevil\_37
- Track 67 : Towmatter\_36
- Track 68 : Ewald\_30
- Track 69 : Manilisa\_32
- Track 70 : Mdavu\_24, Enkosi\_24, Amelie\_24, Nikao\_24, LilPharaoh\_24, Binglebops\_24, Torres\_24, SgtBeansprout\_24, Nutello\_24
- Track 71 : Durfee\_28, Pokerus\_27, Boiiii\_28, Padfoot\_28, Asayake\_28, AlishaPH\_28, CaseJules\_28, BaghaKamala\_28, Piatt\_28, BEEST\_28, Hyperbowlee\_28, Blizzard\_28, Homura\_28, ShiaSurprise\_28
- Track 72 : Sulley\_28, Deby\_28
- Track 73 : Teejan\_24, Trice\_24
- Track 74 : Chavito\_28
- Track 75 : Joy99\_28, Dalmuri\_28, Inky\_28, Jeckyll\_28, Capricorn\_28, BGlluviae\_28, CallaLilly\_28, Belladonna\_28, Peel\_28, Twitch\_28, Llorens\_28, Jarvi\_28, Spock\_28, Topper\_28, CREW\_28, Rosmarinus\_28, Lunahalos\_28
- Track 76 : MarkPhew\_28
- Track 77 : Adonis\_28
- Track 78 : Prithvi\_28, TreyKay\_28, LindNT\_28
- Track 79 : Zavala\_28, Mynx\_28, TruffulaTree\_28, Emerson\_28, Padpat\_28
- Track 80 : HedwigODU\_28, Veliki\_28, Zabiza\_28, Rapunzel97\_28, Jayhawk\_28, Adephagia\_28, Slimphazie\_28
- Track 81 : Anaya\_29

- Track 82 : Illumine\_28, Devera\_28, Dole\_28
- Track 83 : Pisa4\_27, Pisa1\_27
- Track 84 : Guanica15\_28, Yunkel11\_28
- Track 85 : Geraldini\_28, MeaningOfLife\_28
- Track 86 : Tachez\_28
- Track 87 : DrHayes\_28, Urkel\_28, SamuelLPlaqson\_28
- Track 88 : TiniBug\_28
- Track 89 : Ramen\_28, BarrelRoll\_28, JAWS\_28
- Track 90 : Bern\_28
- Track 91 : Shaobing\_28, Dartin\_28, McMater\_28, Richo\_28, Niklas\_28
- Track 92 : Megsy\_28
- Track 93 : LastHope\_28
- Track 94 : YoureAdopted\_27
- Track 95 : CheetoDust\_28
- Track 96 : Angelica\_28
- Track 97 : Anma\_28
- Track 98 : LeMond\_27
- Track 99 : MacKat\_28, Clipper\_28
- Track 100 : Ganymede\_29, QuincyRose\_27
- Track 101 : Stinson\_29
- Track 102 : TingHuaYa\_28
- Track 103 : Apocalypse\_28
- Track 104 : Bella96\_28
- Track 105 : TaiwanKao\_29
- Track 106 : Peanam\_28
- Track 107 : Murucutumbu\_28
- Track 108 : Beezoo\_28
- Track 109 : DartGoblin\_28
- Track 110 : Efra2\_28
- Track 111 : CrimD\_28
- Track 112 : Tiri\_28
- Track 113 : Chris\_27
- Track 114 : KiSi\_27, Oscar\_27, Scarlett\_27
- Track 115 : Validus\_28
- Track 116 : LaterM\_28
- Track 117 : ActinUp\_28
- Track 118 : Ageofdapage\_28
- Track 119 : Atiba\_28
- Track 120 : Nibb\_27
- Track 121 : Findley\_25
- Track 122 : Milly\_25, Marcoliusprime\_25, DismalStressor\_25
- Track 123 : TM4\_25
- Track 124 : ZoeJ\_25
- Track 125 : DismalFunk\_25
- Track 126 : Mufasa\_25
- Track 127 : BoostSeason\_25, Doughnut\_25
- Track 128 : Strobilo\_25
- Track 129 : MacnCheese\_29
- Track 130 : TBond007\_28
- Track 131 : Pixie\_28
- Track 132 : ShedlockHolmes\_28, Lea83\_28
- Track 133 : Pharb\_27
- Track 134 : Hurricane\_28

- Track 135 : TripleTrouble\_27
- Track 136 : Keshu\_28
- Track 137 : Bobquesha\_30
- Track 138 : Kraw\_29, Fionnbharth\_29, Y10\_29, JF1\_29, Y2\_29
- Track 139 : Reptar3000\_29
- Track 140 : MissDaisy\_29
- Track 141 : Slarp\_29, Cheetobro\_29, Qhanda\_30, Chancellor\_29
- Track 142 : Mitti\_29
- Track 143 : Patt\_29
- Track 144 : OmniCritical\_29
- Track 145 : YasnayaPolyana\_29
- Track 146 : Wintermute\_29
- Track 147 : Lebo14\_29
- Track 148 : Malthus\_30
- Track 149 : Ekdilam\_25
- Track 150 : Bryler\_28, Phrank\_28, Cain\_28
- Track 151 : Yuna\_29
- Track 152 : Shadow1\_27
- Track 153 : Amohnition\_27
- Track 154 : Unicorn\_28, PhelpsODU\_28
- Track 155 : Krueger\_28, Tigress9\_29
- Track 156 : DarthP\_27
- Track 157 : Tierra\_28
- Track 158 : Marshawn\_29
- Track 159 : Hammy\_27
- Track 160 : Applecrisp\_26
- Track 161 : Syra333\_28
- Track 162 : TClif\_28
- Track 163 : Ximenita\_29
- Track 164 : Sunflower1121\_27
- Track 165 : November\_26
- Track 166 : Amgine\_26
- Track 167 : SirPhilip\_27
- Track 168 : Lavahound\_26
- Track 169 : Ellie\_25
- Track 170 : Fefferhead\_27
- Track 171 : Poochiewood\_21, Tyson\_21, AvadaKedavra\_21, Silverleaf\_21, Acquire49\_21, OhShagHennessy\_21, Wamburggrxpress\_21, Enceladus\_21, Rose5\_21, Halena\_21, Wyatt2\_21, MAckerman\_21, DirkDirk\_21
- Track 172 : UPIE\_21, LeBron\_21, Appletree2\_21, CicholasNage\_21, JoeDirt\_21
- Track 173 : Calm\_21, Zaria\_21
- Track 174 : MiniLon\_22, Lolly9\_22
- Track 175 : MiniMac\_22
- Track 176 : Douzhi\_21, Sheng711\_21, BrainDrainer\_22
- Track 177 : FarmResident\_21
- Track 178 : Chaser\_21
- Track 179 : Bromden\_23
- Track 180 : Kropertea\_21, DyoEdafos\_22
- Track 181 : Quby\_21
- Track 182 : ChutneyChips\_21
- Track 183 : PYPDinur\_21
- Track 184 : Douge\_21
- Track 185 : RoseMarie\_32

- Track 186 : Rey\_35
- Track 187 : GardenSalsa\_35
- Track 188 : GenevaB15\_35, Aziz\_35
- Track 189 : MrMagoo\_35
- Track 190 : Estes\_36
- Track 191 : Nanosmite\_35
- Track 192 : Tessdabest\_21, Silvy\_22, Magsby\_22, Schnauzer\_22, Xerxes\_22, Duplicity\_22, Journey\_22, Tapioca\_22, Melville\_22, Gex\_22, MulchSalad\_20, EGUnicorn\_22, Chewbacca\_22, Silvafighter\_22, Parmesanjohn\_22, Cubone\_22, LilSpotty\_25, Tortoise12\_22, Smurph\_22
- Track 193 : Bosection6\_22, Charlie\_22, Carcharodon\_22, Aggie\_22, Philonius\_22, Pipsqueaks\_22
- Track 194 : Amymech\_27, Webster2\_27, Giles\_27, Gravaillia\_27, LilHazelNut\_27, Kinbote\_27, BloominB\_27, Hadrien\_27, Evanesce\_27, HH92\_27, Wishmaker\_27, Ein37\_27, Dewey\_27, Hail\_27, Ubuntu\_27, DeepSoil15\_27, OBUpride\_27
- Track 195 : Forge\_27, Luke\_27
- Track 196 : NovoPizza\_24
- Track 197 : Gancho\_26
- Track 198 : Daegal\_28, Amochick\_27
- Track 199 : Luna22\_27
- Track 200 : P3MA\_24

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

The start number called the most often in the published annotations is 89, it was called in 97 of the 333 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adephegia\_28, Ageofdapage\_28, AlishaPH\_28, Amgine\_26, Amohnition\_27, Angelica\_28, Apocalypse\_28, Applecrisp\_26, Asayake\_28, Atiba\_28, BEEST\_28, BGIluvia\_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, DarthP\_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, Applejacks\_28, DartGoblin\_28, Morrissey\_29, TaiwanKao\_29,

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

- Acquire49\_21, Aggie\_22, Ahwei\_29, Aikoy\_42, AlanGrant\_31, Amelie\_24, Amochick\_27, Amore2\_33, Amymech\_27, Antihero\_29, Apex\_30, Appletree2\_21, Archimedes\_26, Arissanae\_32, Arti\_44, Austelle\_31, Austin\_33, AvadaKedavra\_21, Aziz\_35, BiPauneto\_47, Binglebops\_24, BloominB\_27, BobbyK\_30, Bobquesha\_30, Bonum\_48, BoostSeason\_25, Bosection6\_22, BrainDrainer\_22, Bromden\_23, BrownCNA\_31, Bryler\_28, Buggaboo\_46, CRB2\_34, Cain\_28, Calm\_21, Carcharodon\_22, Chancellor\_29, Charlie\_22, Chaser\_21, Chavito\_28, Cheetobro\_29, Chewbacca\_22, ChipMunk\_34, Chris\_27, ChrisnMich\_29, ChutneyChips\_21, CicholasNage\_21, Commandaria\_46, Cooper\_30, Cubone\_22, Daegal\_28, Daredevil\_37, DeepSoil15\_27, Dewey\_27, DirkDirk\_21, DismalFunk\_25, DismalStressor\_25, Douge\_21, Doughnut\_25, Douzhi\_21, Duplicity\_22, DyoEdafos\_22, EGUnicorn\_22, Ein37\_27, Emianna\_44, Enceladus\_21, Enkosi\_24, Ennea\_51, Epah\_29, Estes\_36, Evanesce\_27, Ewald\_30, Fanaw\_29, FarmResident\_21, Findley\_25, Fionnbharth\_29, Forge\_27, Fortunato\_30, Foxboro\_45, Frederick\_30, Fury\_53, GMA7\_23, GRU1\_34, GTE5\_36, GTE7\_23, GTE8\_33, Gail\_32, Gancho\_26, GardenSalsa\_35, GenevaB15\_35, Gex\_22, Giles\_27, GinPorsche\_29, Gravaiilla\_27, GrootJr\_46, Gspu1\_26, HH92\_27, Hadrien\_27, Hail\_27, Halena\_21, Hally898\_29, Hangman\_30, Hashim76\_35, HayZem\_32, Heath\_29, HomeFry\_50, HubbaBubba\_42, Hurricane\_28, Hydro\_30, Imvubu\_25, Indlovu\_29, JAMaL\_30, JF1\_29, JaguarMi\_30, Jifall16\_43, JoeDirt\_21, Journey\_22, JoyceMaria\_30, Kabluna\_48, Keshu\_28, Keziacharles14\_32, KiSi\_27, KidneyBean\_44, Kinbote\_27, KingCyrus\_34, Knocker\_33, Kraw\_29, Kropertea\_21, Krueger\_28, Kurt\_44, Lambano\_29, LastHope\_28, LeBron\_21, LeMond\_27, Lea83\_28, Lebo14\_29, Leopard\_42, LilHazelNut\_27, LilPharaoh\_24, LilSpotty\_25, LittleDigger\_29, Lolalove\_30, Lolly9\_22, Luchador\_34, Luke\_27, Luna22\_27, MAckerman\_21, MacnCheese\_29, Magpie\_29, Magsby\_22, Mahdia\_28, Malthus\_30, Manilisa\_32, Marcoliusprime\_25, MarkPhew\_28, Marshawn\_29, Mdavu\_24, Melville\_22, MerCougar\_46, Milly\_25, MiniLon\_22, MiniMac\_22, MissDaisy\_29, Mithril\_30, Mitti\_29, MrMagoo\_35, Mudslide\_30, Mufasa\_25, MulchSalad\_20, Nanao\_29, Nanosmite\_35, NatB6\_44, Nibb\_27, Nigel\_28, Nikao\_24, NoShow\_22, NosilaM\_48, NovoPizza\_24, NovumRegina\_44, Nutello\_24, OBUpride\_27, OhShagHennessy\_21, OmniCritical\_29, Onyinye\_43, Oscar\_27, Outis\_46, P3MA\_24, PYPDinur\_21, Parmesanjohn\_22, Patio\_48, Patt\_29, Pemberton\_48, PenguinLover67\_33, Pharb\_27, PhelpsODU\_28, Philonius\_22, Phomeo\_43, Phrank\_28, Pipsqueaks\_22, Pixie\_28, Pleakley\_53, Poochiewood\_21, Poster\_29, Prince\_30, Qhanda\_30, Quby\_21, QueenPie\_29, Quesadilla\_32, RawrgerThat\_30, Renkei\_29, Reptar3000\_29, Rey\_35, Rose5\_21, RoseMarie\_32, Saguario\_32, Scarlett\_27, Schnauzer\_22, Scuba\_53, SgtBeansprout\_24, Shadow1\_27, ShedlockHolmes\_28, Sheng711\_21, Silvafighter\_22, Silverleaf\_21, Silvy\_22, SirPhilip\_27, Slarp\_29, Smurph\_22, SororFago\_32, StarStruck\_46, Stinger\_28, Strobilo\_25, Sukkupi\_46, Sunflower1121\_27, SuperSulley\_46, Syra333\_28, TBond007\_28, TClif\_28, TM4\_25, Tapioca\_22, Teejan\_24, Tessdabest\_21, Thonko\_30, Tierra\_28, Tigress9\_29, TingHuaYa\_28, Torres\_24, Tortoise12\_22, Towmatter\_36, Tracker\_44, TribbleTrouble\_27, Trice\_24, Tyson\_21, UPIE\_21, Ubuntu\_27, Unicorn\_28, Vanisoa\_31, Vincenzo\_31, VioletZ\_30, Waleliano\_30, Wamburgrxpress\_21, Webster2\_27, Wheezy\_44, Wintermute\_29, Wishmaker\_27, Wyatt2\_21, Xerxes\_22, Ximenita\_29, Xincheng\_29, Y10\_29, Y2\_29, YasnayaPolyana\_29, Yndexa\_46, Zaria\_21, Zemanar\_31, Zenteno07\_35, ZoeJ\_25,

**Summary by start number:**

Start 38:

- Found in 13 of 388 ( 3.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Chavito\_28 (K1),

Start 41:

- Found in 37 of 388 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 22 of 333
- Called 62.2% of time when present
- Phage (with cluster) where this start called: Amochick\_27 (Q), Amymech\_27 (Q), BloominB\_27 (Q), Daegal\_28 (Q), DeepSoil15\_27 (Q), Dewey\_27 (Q), Ein37\_27 (Q), Evanesce\_27 (Q), Forge\_27 (Q), Gancho\_26 (Q), Giles\_27 (Q), Gravaillia\_27 (Q), HH92\_27 (Q), Hadrien\_27 (Q), Hail\_27 (Q), Kinbote\_27 (Q), LilHazelNut\_27 (Q), Luke\_27 (Q), Luna22\_27 (Q), OBUpride\_27 (Q), Ubuntu\_27 (Q), Webster2\_27 (Q), Wishmaker\_27 (Q),

Start 42:

- Found in 1 of 388 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NovoPizza\_24 (Q),

Start 47:

- Found in 63 of 388 ( 16.2% ) of genes in pham
- Manual Annotations of this start: 34 of 333
- Called 76.2% of time when present
- Phage (with cluster) where this start called: Ahwei\_29 (B4), AlanGrant\_31 (B4), Antihero\_29 (B4), Apex\_30 (B4), Appletree2\_21 (L1), Arissanae\_32 (A9), Austelle\_31 (B4), BobbyK\_30 (B4), BrownCNA\_31 (B4), ChrisnMich\_29 (B4), CicholasNage\_21 (L1), Cooper\_30 (B4), Epah\_29 (B4), Fanaw\_29 (B4), Fortunato\_30 (B4), Frederick\_30 (B4), GinPorsche\_29 (B4), Hally898\_29 (B4), Hangman\_30 (B4), Heath\_29 (B4), Hydro\_30 (B4), JAMaL\_30 (B4), JaguarMi\_30 (B4), JoeDirt\_21 (L1), JoyceMaria\_30 (B4), Lambano\_29 (B4), LeBron\_21 (L1), LittleDigger\_29 (B4), Lolalove\_30 (B4), Magpie\_29 (B4), Mithril\_30 (B4), Mudslide\_30 (B4), Nanao\_29 (B4), Nigel\_28 (B4), Poster\_29 (B4), Prince\_30 (B4), QueenPie\_29 (B4), RawrgerThat\_30 (B4), Renkei\_29 (B4), Stinger\_28 (B4), UPIE\_21 (L1), Vanisoa\_31 (A9), Vincenzo\_31 (B4), VioletZ\_30 (B4), Waleliano\_30 (B4), Xincheng\_29 (B4), Zemanar\_31 (B4), Zenteno07\_35 (B13),

Start 48:

- Found in 1 of 388 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Keziacharles14\_32 (A9),

Start 49:

- Found in 37 of 388 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 27 of 333
- Called 86.5% of time when present
- Phage (with cluster) where this start called: Acquire49\_21 (L1), AvadaKedavra\_21 (L1), BrainDrainer\_22 (L4), CRB2\_34 (B9), Calm\_21 (L1), DirkDirk\_21 (L1), Douzhi\_21 (L4), Enceladus\_21 (L1), Halena\_21 (L1), Hashim76\_35 (B13),

Imvubu\_25 (B10), Indlovu\_29 (B11), Knocker\_33 (B9), Lolly9\_22 (L3), MAckerman\_21 (L1), MiniLon\_22 (L3), MiniMac\_22 (L3), OhShagHennessy\_21 (L1), P3MA\_24 (singleton), PYPDinur\_21 (L4), PenguinLover67\_33 (B9), Poochiewood\_21 (L1), Quesadilla\_32 (B9), Rose5\_21 (L1), Saguaro\_32 (B7), Sheng711\_21 (L4), Silverleaf\_21 (L1), Thonko\_30 (B8), Tyson\_21 (L1), Wamburgxpress\_21 (L1), Wyatt2\_21 (L1), Zaria\_21 (L1),

Start 53:

- Found in 2 of 388 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nanosmite\_35 (M3), RoseMarie\_32 (M1),

Start 55:

- Found in 3 of 388 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Applejacks\_28 (CD), Mahdia\_28 (CD), Morrissey\_29 (CD),

Start 66:

- Found in 8 of 388 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 4 of 333
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Bromden\_23 (L4), Chaser\_21 (L4), Douge\_21 (L4), DyoEdafos\_22 (L4), Kropertea\_21 (L4),

Start 67:

- Found in 1 of 388 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gspu1\_26 (CU2),

Start 74:

- Found in 11 of 388 ( 2.8% ) 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 75:

- Found in 27 of 388 ( 7.0% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 3.7% of time when present
- Phage (with cluster) where this start called: NoShow\_22 (AB),

Start 76:

- Found in 3 of 388 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 3 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aikoy\_42 (AE), Leopard\_42 (AE), Onyinye\_43 (AE),

Start 81:

- Found in 6 of 388 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 6 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aziz\_35 (M2), Estes\_36 (M2), GardenSalsa\_35 (M2), GenevaB15\_35 (M2), MrMagoo\_35 (M2), Rey\_35 (M2),

Start 87:

- Found in 1 of 388 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pharb\_27 (K3),

Start 89:

- Found in 111 of 388 ( 28.6% ) of genes in pham
- Manual Annotations of this start: 97 of 333
- Called 92.8% 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), BGlluviae\_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), MacKat\_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 90:

- Found in 6 of 388 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 6 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Daredevil\_37 (DL), KiSi\_27 (K1), LeMond\_27 (K1), Oscar\_27 (K1), Scarlett\_27 (K1), Towmatter\_36 (DL),

Start 91:

- Found in 97 of 388 ( 25.0% ) of genes in pham
- Manual Annotations of this start: 64 of 333
- Called 73.2% of time when present

- Phage (with cluster) where this start called: Amelie\_24 (K1), Binglebops\_24 (K1), Bobquesha\_30 (K4), BoostSeason\_25 (K2), Bryler\_28 (K6), Cain\_28 (K6), Chancellor\_29 (K4), Cheetobro\_29 (K4), Chris\_27 (K1), DismalFunk\_25 (K2), DismalStressor\_25 (K2), Doughnut\_25 (K2), Enkosi\_24 (K1), Ewald\_30 (DT), Findley\_25 (K2), Fionnbharth\_29 (K4), GRU1\_34 (CR1), GTE5\_36 (CR1), GTE8\_33 (CR2), HubbaBubba\_42 (CR4), Hurricane\_28 (K3), JF1\_29 (K4), Keshu\_28 (K3), Kraw\_29 (K4), 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), 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), TClif\_28 (K6), TM4\_25 (K2), Tierra\_28 (K6), Tigress9\_29 (K6), TingHuaYa\_28 (K1), Torres\_24 (K1), TribbleTrouble\_27 (K3), Unicorn\_28 (K6), Wintermute\_29 (K4), Ximenita\_29 (K6), Y10\_29 (K4), Y2\_29 (K4), ZoeJ\_25 (K2),

Start 92:

- Found in 39 of 388 ( 10.1% ) of genes in pham
- Manual Annotations of this start: 28 of 333
- Called 82.1% 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), Foxboro\_45 (CR2), Fury\_53 (CR5), GrootJr\_46 (CR2), HomeFry\_50 (CR5), Jifall16\_43 (CR2), Kabluna\_48 (CR2), KidneyBean\_44 (CR2), Kurt\_44 (CR2), Manilisa\_32 (DT), 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), Scuba\_53 (CR5), StarStruck\_46 (CR2), Sukkupi\_46 (CR4), SuperSulley\_46 (CR2), Tracker\_44 (CR2), Wheezy\_44 (CR2), Yndexa\_46 (CR4),

Start 97:

- Found in 25 of 388 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 4.0% of time when present
- Phage (with cluster) where this start called: Archimedes\_26 (DA),

Start 99:

- Found in 5 of 388 ( 1.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 60.0% of time when present
- Phage (with cluster) where this start called: ChutneyChips\_21 (L4), FarmResident\_21 (L4), Quby\_21 (L4),

Start 101:

- Found in 28 of 388 ( 7.2% ) of genes in pham
- Manual Annotations of this start: 6 of 333
- Called 21.4% of time when present
- Phage (with cluster) where this start called: Aggie\_22 (N), Bosection6\_22 (N), Carcharodon\_22 (N), Charlie\_22 (N), Philonius\_22 (N), Pipsqueaks\_22 (N),

Start 102:

- Found in 25 of 388 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 16 of 333
- Called 76.0% of time when present
- Phage (with cluster) where this start called: Chewbacca\_22 (N), Cubone\_22 (N), Duplicity\_22 (N), EGUnicorn\_22 (N), Gex\_22 (N), Journey\_22 (N), LilSpotty\_25 (singleton), Magsby\_22 (N), Melville\_22 (N), MulchSalad\_20 (F7), Parmesanjohn\_22 (N), Schnauzer\_22 (N), Silvafighter\_22 (N), Silvy\_22 (N), Smurph\_22 (N), Tapioca\_22 (N), Tessdabest\_21 (N), Tortoise12\_22 (N), Xerxes\_22 (N),

Start 109:

- Found in 5 of 388 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 3 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amore2\_33 (CS1), Austin\_33 (CS1), GMA7\_23 (CS1), GTE7\_23 (CS1), HayZem\_32 (CS1),

Start 117:

- Found in 8 of 388 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 12.5% of time when present
- Phage (with cluster) where this start called: YasnayaPolyana\_29 (K4),

Start 138:

- Found in 82 of 388 ( 21.1% ) of genes in pham
- Manual Annotations of this start: 3 of 333
- Called 7.3% 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 140:

- Found in 5 of 388 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 5 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChipMunk\_34 (A2), Gail\_32 (A14), KingCyrus\_34 (A2), Luchador\_34 (A14), SororFago\_32 (A14),

### Summary by clusters:

There are 38 clusters represented in this pham: singleton, B10, M2, DL, DA, K3, K2, K1, B11, K6, M3, K4, DT, A14, CU2, A2, A9, CS1, AB, AE, N, Q, L4, L3, L1, CD, CR2, CR3, CR1, CR4, CR5, F7, B4, B7, M1, B8, B9, B13,

Info for manual annotations of cluster A14:

- Start number 140 was manually annotated 3 times for cluster A14.

Info for manual annotations of cluster A2:

- Start number 140 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A9:

- Start number 47 was manually annotated 2 times for cluster A9.
- Start number 48 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster AB:

- Start number 75 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster AE:

- Start number 76 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster B10:

- Start number 49 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 49 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B13:

- Start number 47 was manually annotated 1 time for cluster B13.
- Start number 49 was manually annotated 1 time for cluster B13.

Info for manual annotations of cluster B4:

- Start number 47 was manually annotated 26 times for cluster B4.

Info for manual annotations of cluster B7:

- Start number 49 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 49 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 49 was manually annotated 4 times for cluster B9.

Info for manual annotations of cluster CD:

- Start number 55 was manually annotated 2 times for cluster CD.

Info for manual annotations of cluster CR2:

- Start number 92 was manually annotated 21 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 92 was manually annotated 2 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 91 was manually annotated 1 time for cluster CR4.
- Start number 92 was manually annotated 3 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 92 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CS1:

- Start number 109 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster DA:

- Start number 97 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DL:

- Start number 90 was manually annotated 2 times for cluster DL.

Info for manual annotations of cluster DT:

- Start number 91 was manually annotated 1 time for cluster DT.

Info for manual annotations of cluster K1:

- Start number 89 was manually annotated 87 times for cluster K1.
- Start number 90 was manually annotated 4 times for cluster K1.
- Start number 91 was manually annotated 13 times for cluster K1.
- Start number 138 was manually annotated 3 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 91 was manually annotated 11 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 87 was manually annotated 1 time for cluster K3.
- Start number 91 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 91 was manually annotated 16 times for cluster K4.
- Start number 117 was manually annotated 1 time for cluster K4.

Info for manual annotations of cluster K6:

- Start number 89 was manually annotated 10 times for cluster K6.
- Start number 91 was manually annotated 14 times for cluster K6.

Info for manual annotations of cluster L1:

- Start number 47 was manually annotated 5 times for cluster L1.
- Start number 49 was manually annotated 14 times for cluster L1.

Info for manual annotations of cluster L3:

- Start number 49 was manually annotated 3 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 66 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster M2:

- Start number 81 was manually annotated 6 times for cluster M2.

Info for manual annotations of cluster M3:

- Start number 53 was manually annotated 1 time for cluster M3.

Info for manual annotations of cluster N:

- Start number 101 was manually annotated 6 times for cluster N.
- Start number 102 was manually annotated 15 times for cluster N.

Info for manual annotations of cluster Q:

- Start number 41 was manually annotated 22 times for cluster Q.
- Start number 42 was manually annotated 1 time for cluster Q.

### **Gene Information:**

Gene: Acquire49\_21 Start: 21688, Stop: 22860, Start Num: 49

Candidate Starts for Acquire49\_21:

(Start: 47 @21685 has 34 MA's), (Start: 49 @21688 has 27 MA's), (Start: 97 @21814 has 1 MA's), (113, 21856), (116, 21868), (118, 21871), (131, 21904), (141, 21916), (159, 21964), (166, 21982), (180, 22018), (189, 22033), (215, 22084), (232, 22114), (253, 22156), (266, 22180), (297, 22216), (302, 22222), (317, 22249), (326, 22267), (357, 22360), (358, 22363), (378, 22447), (411, 22585), (424, 22603), (459, 22687),

Gene: ActinUp\_28 Start: 23436, Stop: 24338, Start Num: 138

Candidate Starts for ActinUp\_28:

(22, 22881), (35, 23028), (69, 23280), (Start: 89 @23325 has 97 MA's), (Start: 138 @23436 has 3 MA's), (189, 23550), (250, 23667), (273, 23709), (279, 23721), (329, 23775), (355, 23853), (380, 23949), (386, 23961), (394, 23991), (398, 24000), (433, 24114), (459, 24183),

Gene: Adephagia\_28 Start: 23322, Stop: 24335, Start Num: 89

Candidate Starts for Adephagia\_28:

(22, 22878), (35, 23025), (69, 23277), (Start: 89 @23322 has 97 MA's), (Start: 138 @23433 has 3 MA's), (189, 23547), (250, 23664), (273, 23706), (279, 23718), (329, 23772), (355, 23850), (380, 23946), (386, 23958), (394, 23988), (398, 23997), (433, 24111), (459, 24180),

Gene: Adonis\_28 Start: 23439, Stop: 24341, Start Num: 138

Candidate Starts for Adonis\_28:

(22, 22884), (69, 23283), (Start: 89 @23328 has 97 MA's), (Start: 138 @23439 has 3 MA's), (189, 23553), (250, 23670), (273, 23712), (279, 23724), (329, 23778), (355, 23856), (375, 23940), (380, 23952), (386, 23964), (398, 24003), (433, 24117), (459, 24186),

Gene: Ageofdapage\_28 Start: 23272, Stop: 24285, Start Num: 89

Candidate Starts for Ageofdapage\_28:

(Start: 89 @23272 has 97 MA's), (Start: 138 @23383 has 3 MA's), (189, 23497), (250, 23614), (273, 23656), (329, 23722), (333, 23731), (355, 23800), (380, 23896), (386, 23908), (390, 23926), (398, 23947), (433, 24061), (459, 24130), (478, 24226),

Gene: Aggie\_22 Start: 20221, Stop: 21438, Start Num: 101

Candidate Starts for Aggie\_22:

(36, 19894), (56, 20092), (Start: 101 @20221 has 6 MA's), (Start: 102 @20224 has 16 MA's), (214, 20485), (286, 20656), (343, 20806), (350, 20845), (372, 20947), (381, 20989), (474, 21361),

Gene: Ahwei\_29 Start: 31578, Stop: 32735, Start Num: 47

Candidate Starts for Ahwei\_29:

(Start: 47 @31578 has 34 MA's), (83, 31671), (88, 31686), (96, 31701), (100, 31713), (108, 31731), (147, 31821), (165, 31872), (168, 31881), (169, 31887), (174, 31899), (189, 31926), (195, 31941), (199, 31947), (201, 31953), (220, 31986), (223, 31995), (244, 32028), (258, 32061), (323, 32151), (326, 32157), (356, 32256), (357, 32259), (398, 32403), (447, 32556),

Gene: Aikoy\_42 Start: 32875, Stop: 34014, Start Num: 76

Candidate Starts for Aikoy\_42:

(Start: 75 @32872 has 1 MA's), (Start: 76 @32875 has 3 MA's), (84, 32896), (98, 32932), (146, 33046), (147, 33049), (167, 33103), (176, 33130), (230, 33235), (236, 33244), (270, 33316), (287, 33367), (290, 33376), (303, 33397), (324, 33433), (379, 33619), (393, 33661), (394, 33664), (401, 33688), (409, 33754),

Gene: AlanGrant\_31 Start: 33326, Stop: 34483, Start Num: 47

Candidate Starts for AlanGrant\_31:

(Start: 47 @33326 has 34 MA's), (83, 33419), (88, 33434), (96, 33449), (100, 33461), (108, 33479), (147, 33569), (165, 33620), (168, 33629), (174, 33647), (189, 33674), (195, 33689), (199, 33695), (201, 33701), (220, 33734), (223, 33743), (244, 33776), (258, 33809), (265, 33821), (300, 33854), (311, 33869), (323, 33899), (326, 33905), (346, 33971), (353, 33995), (356, 34004), (398, 34151), (447, 34304),

Gene: AlishaPH\_28 Start: 23315, Stop: 24328, Start Num: 89

Candidate Starts for AlishaPH\_28:

(22, 22871), (69, 23270), (Start: 89 @23315 has 97 MA's), (Start: 138 @23426 has 3 MA's), (189, 23540), (250, 23657), (273, 23699), (279, 23711), (329, 23765), (355, 23843), (380, 23939), (386, 23951), (394, 23981), (398, 23990), (433, 24104), (459, 24173),

Gene: Amelie\_24 Start: 22900, Stop: 23907, Start Num: 91

Candidate Starts for Amelie\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: Amgine\_26 Start: 23356, Stop: 24351, Start Num: 89

Candidate Starts for Amgine\_26:

(71, 23320), (Start: 89 @23356 has 97 MA's), (126, 23446), (Start: 138 @23467 has 3 MA's), (186, 23575), (189, 23581), (199, 23602), (206, 23623), (338, 23830), (355, 23884), (356, 23887), (376, 23971), (377, 23974), (432, 24139),

Gene: Amochick\_27 Start: 23377, Stop: 24615, Start Num: 41

Candidate Starts for Amochick\_27:

(8, 22765), (9, 22831), (12, 22921), (13, 22924), (20, 23074), (27, 23161), (28, 23164), (37, 23302), (Start: 41 @23377 has 22 MA's), (62, 23473), (72, 23500), (Start: 75 @23506 has 1 MA's), (Start: 91 @23545 has 64 MA's), (95, 23554), (110, 23599), (114, 23611), (131, 23650), (159, 23707), (190, 23773), (206, 23812), (229, 23845), (242, 23866), (245, 23872), (262, 23908), (271, 23920), (273, 23923), (294, 23971), (297, 23977), (299, 23980), (306, 23989), (355, 24127), (380, 24220), (400, 24277), (401, 24283), (422, 24367), (429, 24382), (431, 24385), (456, 24451), (463, 24484),

Gene: Amohnition\_27 Start: 23778, Stop: 24782, Start Num: 89

Candidate Starts for Amohnition\_27:

(Start: 89 @23778 has 97 MA's), (194, 24015), (250, 24120), (347, 24279), (373, 24381), (377, 24393), (410, 24528), (419, 24546), (459, 24639), (472, 24705), (476, 24717),

Gene: Amore2\_33 Start: 36453, Stop: 37457, Start Num: 109

Candidate Starts for Amore2\_33:

(Start: 109 @36453 has 3 MA's), (127, 36501), (139, 36519), (169, 36597), (181, 36615), (188, 36624), (230, 36690), (271, 36771), (339, 36924), (347, 36951), (353, 36972), (379, 37074), (408, 37200), (459, 37302), (486, 37434),

Gene: Amymech\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Amymech\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380,

24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Anaya\_29 Start: 23452, Stop: 24354, Start Num: 138

Candidate Starts for Anaya\_29:

(22, 22897), (69, 23296), (Start: 89 @23341 has 97 MA's), (Start: 138 @23452 has 3 MA's), (189, 23566), (250, 23683), (273, 23725), (279, 23737), (329, 23791), (355, 23869), (380, 23965), (386, 23977), (394, 24007), (398, 24016), (433, 24130), (459, 24199),

Gene: Angelica\_28 Start: 23290, Stop: 24303, Start Num: 89

Candidate Starts for Angelica\_28:

(Start: 89 @23290 has 97 MA's), (Start: 138 @23401 has 3 MA's), (189, 23515), (250, 23632), (279, 23686), (286, 23704), (329, 23740), (355, 23818), (380, 23914), (386, 23926), (394, 23956), (398, 23965), (433, 24079), (459, 24148),

Gene: Anma\_28 Start: 23395, Stop: 24297, Start Num: 138

Candidate Starts for Anma\_28:

(69, 23239), (Start: 89 @23284 has 97 MA's), (Start: 138 @23395 has 3 MA's), (189, 23509), (250, 23626), (273, 23668), (279, 23680), (329, 23734), (355, 23812), (380, 23908), (386, 23920), (398, 23959), (403, 23995), (459, 24142), (478, 24238),

Gene: Antihero\_29 Start: 31578, Stop: 32735, Start Num: 47

Candidate Starts for Antihero\_29:

(Start: 47 @31578 has 34 MA's), (83, 31671), (88, 31686), (96, 31701), (100, 31713), (108, 31731), (147, 31821), (165, 31872), (168, 31881), (169, 31887), (174, 31899), (189, 31926), (195, 31941), (199, 31947), (201, 31953), (220, 31986), (223, 31995), (244, 32028), (258, 32061), (323, 32151), (326, 32157), (356, 32256), (357, 32259), (398, 32403), (447, 32556),

Gene: Apex\_30 Start: 32785, Stop: 33942, Start Num: 47

Candidate Starts for Apex\_30:

(Start: 47 @32785 has 34 MA's), (83, 32878), (88, 32893), (96, 32908), (100, 32920), (108, 32938), (120, 32980), (147, 33028), (165, 33079), (168, 33088), (174, 33106), (189, 33133), (195, 33148), (199, 33154), (201, 33160), (203, 33166), (220, 33193), (223, 33202), (244, 33235), (258, 33268), (311, 33328), (323, 33358), (326, 33364), (339, 33409), (356, 33463), (357, 33466), (398, 33610), (447, 33763),

Gene: Apocalypse\_28 Start: 23293, Stop: 24306, Start Num: 89

Candidate Starts for Apocalypse\_28:

(Start: 89 @23293 has 97 MA's), (Start: 138 @23404 has 3 MA's), (189, 23518), (250, 23635), (273, 23677), (279, 23689), (329, 23743), (355, 23821), (380, 23917), (386, 23929), (398, 23968), (424, 24064), (433, 24082), (459, 24151),

Gene: Applecrisp\_26 Start: 23767, Stop: 24774, Start Num: 89

Candidate Starts for Applecrisp\_26:

(71, 23731), (Start: 89 @23767 has 97 MA's), (126, 23857), (Start: 138 @23878 has 3 MA's), (171, 23959), (189, 23992), (199, 24013), (356, 24298), (363, 24337), (377, 24382), (472, 24697), (488, 24757),

Gene: Applejacks\_28 Start: 21142, Stop: 22308, Start Num: 55

Candidate Starts for Applejacks\_28:

(Start: 55 @21142 has 2 MA's), (73, 21202), (Start: 89 @21241 has 97 MA's), (94, 21250), (95, 21253), (Start: 101 @21271 has 6 MA's), (112, 21298), (122, 21331), (159, 21409), (189, 21478), (222, 21526), (231, 21541), (252, 21580), (261, 21601), (330, 21739), (336, 21757), (340, 21769), (345, 21784),

(355, 21817), (356, 21820), (357, 21823), (389, 21943), (398, 21967), (405, 22027), (427, 22075),

Gene: Appletree2\_21 Start: 21628, Stop: 22803, Start Num: 47

Candidate Starts for Appletree2\_21:

(Start: 47 @21628 has 34 MA's), (Start: 49 @21631 has 27 MA's), (Start: 97 @21757 has 1 MA's), (113, 21799), (116, 21811), (118, 21814), (131, 21847), (141, 21859), (159, 21907), (166, 21925), (180, 21961), (189, 21976), (215, 22027), (232, 22057), (253, 22099), (266, 22123), (297, 22159), (302, 22165), (317, 22192), (326, 22210), (357, 22303), (358, 22306), (378, 22390), (411, 22528), (424, 22546), (459, 22630),

Gene: Archimedes\_26 Start: 23367, Stop: 24368, Start Num: 97

Candidate Starts for Archimedes\_26:

(86, 23343), (Start: 97 @23367 has 1 MA's), (127, 23445), (199, 23595), (298, 23766), (356, 23898), (375, 23982), (388, 24018), (408, 24114), (459, 24213), (487, 24348),

Gene: Arissanae\_32 Start: 24817, Stop: 26022, Start Num: 47

Candidate Starts for Arissanae\_32:

(Start: 47 @24817 has 34 MA's), (114, 24994), (116, 25000), (118, 25003), (145, 25054), (210, 25210), (239, 25258), (356, 25552), (361, 25585), (398, 25696), (448, 25852),

Gene: Arti\_44 Start: 34961, Stop: 36019, Start Num: 92

Candidate Starts for Arti\_44:

(3, 33521), (5, 33818), (7, 34049), (17, 34418), (Start: 41 @34796 has 22 MA's), (44, 34811), (46, 34829), (Start: 92 @34961 has 28 MA's), (257, 35306), (280, 35357), (309, 35405),

Gene: Asayake\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Asayake\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Atiba\_28 Start: 23285, Stop: 24298, Start Num: 89

Candidate Starts for Atiba\_28:

(22, 22841), (35, 22988), (69, 23240), (Start: 89 @23285 has 97 MA's), (151, 23417), (189, 23510), (250, 23627), (273, 23669), (279, 23681), (329, 23735), (355, 23813), (380, 23909), (394, 23951), (398, 23960), (433, 24074), (459, 24143),

Gene: Austelle\_31 Start: 33241, Stop: 34398, Start Num: 47

Candidate Starts for Austelle\_31:

(Start: 47 @33241 has 34 MA's), (83, 33334), (88, 33349), (96, 33364), (100, 33376), (108, 33394), (120, 33436), (147, 33484), (165, 33535), (168, 33544), (174, 33562), (189, 33589), (195, 33604), (199, 33610), (201, 33616), (203, 33622), (220, 33649), (223, 33658), (244, 33691), (258, 33724), (311, 33784), (323, 33814), (326, 33820), (339, 33865), (356, 33919), (357, 33922), (398, 34066), (447, 34219),

Gene: Austin\_33 Start: 36453, Stop: 37457, Start Num: 109

Candidate Starts for Austin\_33:

(Start: 109 @36453 has 3 MA's), (127, 36501), (139, 36519), (181, 36615), (188, 36624), (230, 36690), (271, 36771), (339, 36924), (347, 36951), (353, 36972), (379, 37074), (408, 37200), (459, 37302), (486, 37434),

Gene: AvadaKedavra\_21 Start: 21698, Stop: 22870, Start Num: 49

Candidate Starts for AvadaKedavra\_21:

(Start: 47 @21695 has 34 MA's), (Start: 49 @21698 has 27 MA's), (Start: 97 @21824 has 1 MA's), (113, 21866), (116, 21878), (118, 21881), (131, 21914), (141, 21926), (159, 21974), (166, 21992), (180, 22028), (189, 22043), (215, 22094), (232, 22124), (253, 22166), (266, 22190), (297, 22226), (302, 22232), (317, 22259), (326, 22277), (357, 22370), (358, 22373), (378, 22457), (411, 22595), (424, 22613), (459, 22697),

Gene: Aziz\_35 Start: 27886, Stop: 28968, Start Num: 81

Candidate Starts for Aziz\_35:

(69, 27865), (77, 27880), (Start: 81 @27886 has 6 MA's), (111, 27961), (130, 28006), (132, 28012), (137, 28018), (149, 28036), (153, 28045), (171, 28096), (180, 28111), (197, 28135), (205, 28156), (237, 28210), (241, 28216), (265, 28270), (334, 28426), (462, 28837),

Gene: BEEST\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for BEEST\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: BGlluviae\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for BGlluviae\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: BaghaKamala\_28 Start: 23285, Stop: 24298, Start Num: 89

Candidate Starts for BaghaKamala\_28:

(22, 22841), (69, 23240), (Start: 89 @23285 has 97 MA's), (Start: 138 @23396 has 3 MA's), (189, 23510), (250, 23627), (273, 23669), (279, 23681), (329, 23735), (355, 23813), (380, 23909), (386, 23921), (394, 23951), (398, 23960), (433, 24074), (459, 24143),

Gene: BarrelRoll\_28 Start: 23308, Stop: 24321, Start Num: 89

Candidate Starts for BarrelRoll\_28:

(22, 22864), (69, 23263), (Start: 89 @23308 has 97 MA's), (Start: 138 @23419 has 3 MA's), (189, 23533), (250, 23650), (273, 23692), (279, 23704), (329, 23758), (355, 23836), (380, 23932), (394, 23974), (398, 23983), (433, 24097), (459, 24166),

Gene: Beezoo\_28 Start: 23333, Stop: 24346, Start Num: 89

Candidate Starts for Beezoo\_28:

(Start: 89 @23333 has 97 MA's), (Start: 138 @23444 has 3 MA's), (189, 23558), (205, 23597), (250, 23675), (273, 23717), (279, 23729), (329, 23783), (355, 23861), (375, 23945), (380, 23957), (386, 23969), (398, 24008), (433, 24122), (459, 24191),

Gene: Bella96\_28 Start: 23266, Stop: 24279, Start Num: 89

Candidate Starts for Bella96\_28:

(69, 23221), (Start: 89 @23266 has 97 MA's), (103, 23299), (Start: 138 @23377 has 3 MA's), (189, 23491), (250, 23608), (273, 23650), (279, 23662), (329, 23716), (355, 23794), (375, 23878), (380, 23890), (386, 23902), (388, 23914), (398, 23941), (403, 23977), (459, 24124), (478, 24220),

Gene: Belladonna\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Belladonna\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Bern\_28 Start: 23278, Stop: 24291, Start Num: 89

Candidate Starts for Bern\_28:

(45, 23140), (54, 23179), (61, 23209), (63, 23215), (Start: 89 @23278 has 97 MA's), (Start: 138 @23389 has 3 MA's), (189, 23503), (199, 23524), (250, 23620), (258, 23638), (273, 23662), (279, 23674), (329, 23728), (355, 23806), (380, 23902), (386, 23914), (398, 23953), (403, 23989), (459, 24136),

Gene: BiPauneto\_47 Start: 34721, Stop: 35812, Start Num: 92

Candidate Starts for BiPauneto\_47:

(Start: 92 @34721 has 28 MA's), (106, 34754), (148, 34850), (228, 35033), (262, 35102), (330, 35240), (334, 35252), (335, 35255),

Gene: Biglebops\_24 Start: 22900, Stop: 23907, Start Num: 91

Candidate Starts for Biglebops\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: Blizzard\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Blizzard\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: BloominB\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for BloominB\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: BobbyK\_30 Start: 32610, Stop: 33767, Start Num: 47

Candidate Starts for BobbyK\_30:

(Start: 47 @32610 has 34 MA's), (83, 32703), (88, 32718), (96, 32733), (100, 32745), (108, 32763), (165, 32904), (168, 32913), (174, 32931), (189, 32958), (195, 32973), (199, 32979), (201, 32985), (203, 32991), (220, 33018), (223, 33027), (244, 33060), (258, 33093), (311, 33153), (323, 33183), (326, 33189), (339, 33234), (356, 33288), (357, 33291), (398, 33435), (447, 33588),

Gene: Bobquesha\_30 Start: 24333, Stop: 25337, Start Num: 91

Candidate Starts for Bobquesha\_30:

(Start: 91 @24333 has 64 MA's), (166, 24501), (186, 24546), (189, 24552), (215, 24606), (260, 24696), (274, 24717), (279, 24726), (355, 24858), (356, 24861), (395, 24999), (406, 25068), (476, 25272),

Gene: Boiiii\_28 Start: 23358, Stop: 24371, Start Num: 89

Candidate Starts for Boiiii\_28:

(22, 22914), (69, 23313), (Start: 89 @23358 has 97 MA's), (Start: 138 @23469 has 3 MA's), (189, 23583), (250, 23700), (273, 23742), (279, 23754), (329, 23808), (355, 23886), (380, 23982), (386, 23994), (394, 24024), (398, 24033), (433, 24147), (459, 24216),

Gene: Bonum\_48 Start: 35639, Stop: 36694, Start Num: 92

Candidate Starts for Bonum\_48:

(65, 35576), (Start: 92 @35639 has 28 MA's), (179, 35852), (220, 35909), (281, 36035), (386, 36323), (486, 36668),

Gene: BoostSeason\_25 Start: 21308, Stop: 22333, Start Num: 91

Candidate Starts for BoostSeason\_25:

(50, 21224), (Start: 91 @21308 has 64 MA's), (134, 21413), (162, 21473), (186, 21527), (189, 21533), (229, 21614), (233, 21620), (242, 21635), (243, 21638), (357, 21842), (484, 22301), (486, 22310),

Gene: Bosection6\_22 Start: 20220, Stop: 21437, Start Num: 101

Candidate Starts for Bosection6\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: BrainDrainer\_22 Start: 21566, Stop: 22720, Start Num: 49

Candidate Starts for BrainDrainer\_22:

(Start: 49 @21566 has 27 MA's), (85, 21668), (93, 21680), (118, 21749), (159, 21842), (180, 21896), (195, 21926), (200, 21935), (221, 21974), (256, 22022), (276, 22046), (283, 22058), (294, 22082), (335, 22172), (370, 22289), (376, 22325), (380, 22334), (399, 22391), (403, 22430),

Gene: Bromden\_23 Start: 22120, Stop: 23205, Start Num: 66

Candidate Starts for Bromden\_23:

(Start: 66 @22120 has 4 MA's), (70, 22132), (173, 22375), (192, 22411), (211, 22450), (217, 22459), (232, 22483), (317, 22594), (325, 22609), (357, 22711), (371, 22756), (383, 22810), (398, 22849), (469, 23092),

Gene: BrownCNA\_31 Start: 32871, Stop: 34028, Start Num: 47

Candidate Starts for BrownCNA\_31:

(Start: 47 @32871 has 34 MA's), (83, 32964), (88, 32979), (96, 32994), (100, 33006), (108, 33024), (120, 33066), (165, 33165), (168, 33174), (174, 33192), (189, 33219), (195, 33234), (199, 33240), (201, 33246), (203, 33252), (220, 33279), (223, 33288), (244, 33321), (258, 33354), (307, 33408), (311, 33414), (323, 33444), (326, 33450), (331, 33471), (339, 33495), (356, 33549), (357, 33552), (398, 33696),

Gene: Bryler\_28 Start: 22694, Stop: 23755, Start Num: 91

Candidate Starts for Bryler\_28:

(Start: 91 @22694 has 64 MA's), (123, 22772), (125, 22775), (134, 22793), (182, 22901), (195, 22928), (199, 22934), (250, 23030), (257, 23042), (310, 23144), (328, 23195), (360, 23312), (438, 23555), (446, 23573), (459, 23612),

Gene: Buggaboo\_46 Start: 36118, Stop: 37173, Start Num: 92

Candidate Starts for Buggaboo\_46:

(Start: 92 @36118 has 28 MA's), (179, 36331), (281, 36514), (386, 36802), (486, 37147),

Gene: CRB2\_34 Start: 34225, Stop: 35433, Start Num: 49

Candidate Starts for CRB2\_34:

(34, 34009), (43, 34192), (Start: 49 @34225 has 27 MA's), (108, 34387), (118, 34423), (143, 34471), (159, 34516), (185, 34576), (193, 34594), (228, 34660), (239, 34678), (249, 34696), (255, 34711), (257, 34714), (286, 34738), (358, 34933), (381, 35023), (390, 35068), (396, 35083), (409, 35170), (415, 35185), (441, 35236), (453, 35269), (488, 35416),

Gene: CREW\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for CREW\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Cain\_28 Start: 22682, Stop: 23743, Start Num: 91

Candidate Starts for Cain\_28:

(Start: 91 @22682 has 64 MA's), (123, 22760), (125, 22763), (134, 22781), (182, 22889), (195, 22916), (199, 22922), (250, 23018), (257, 23030), (310, 23132), (328, 23183), (360, 23300), (438, 23543), (446, 23561), (459, 23600),

Gene: CallaLilly\_28 Start: 23279, Stop: 24292, Start Num: 89

Candidate Starts for CallaLilly\_28:

(22, 22835), (69, 23234), (Start: 89 @23279 has 97 MA's), (189, 23504), (250, 23621), (273, 23663), (279, 23675), (329, 23729), (355, 23807), (380, 23903), (394, 23945), (398, 23954), (433, 24068), (459, 24137),

Gene: Calm\_21 Start: 21702, Stop: 22874, Start Num: 49

Candidate Starts for Calm\_21:

(Start: 47 @21699 has 34 MA's), (Start: 49 @21702 has 27 MA's), (Start: 97 @21828 has 1 MA's), (113, 21870), (116, 21882), (118, 21885), (131, 21918), (141, 21930), (146, 21939), (159, 21978), (166, 21996), (180, 22032), (189, 22047), (215, 22098), (232, 22128), (253, 22170), (266, 22194), (297, 22230), (302, 22236), (317, 22263), (326, 22281), (357, 22374), (358, 22377), (378, 22461), (411, 22599), (424, 22617), (459, 22701),

Gene: Capricorn\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Capricorn\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Carcharodon\_22 Start: 20220, Stop: 21437, Start Num: 101

Candidate Starts for Carcharodon\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: CaseJules\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for CaseJules\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Chancellor\_29 Start: 24596, Stop: 25600, Start Num: 91

Candidate Starts for Chancellor\_29:

(Start: 91 @24596 has 64 MA's), (166, 24764), (186, 24809), (189, 24815), (215, 24869), (220, 24878), (260, 24959), (274, 24980), (277, 24986), (279, 24989), (355, 25121), (356, 25124), (390, 25247),

Gene: Charlie\_22 Start: 20220, Stop: 21437, Start Num: 101

Candidate Starts for Charlie\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Chaser\_21 Start: 21531, Stop: 22616, Start Num: 66

Candidate Starts for Chaser\_21:

(Start: 66 @21531 has 4 MA's), (171, 21783), (192, 21822), (196, 21831), (198, 21834), (211, 21861), (217, 21870), (232, 21894), (264, 21945), (286, 21951), (317, 22005), (383, 22221), (398, 22260), (444, 22401), (454, 22434), (469, 22503),

Gene: Chavito\_28 Start: 22750, Stop: 24003, Start Num: 38

Candidate Starts for Chavito\_28:

(38, 22750), (39, 22756), (52, 22858), (69, 22921), (80, 22939), (Start: 138 @23074 has 3 MA's), (147, 23089), (159, 23125), (182, 23182), (186, 23188), (257, 23323), (264, 23341), (288, 23389), (327, 23407), (357, 23503), (377, 23584), (381, 23593), (394, 23632), (395, 23635), (455, 23833), (484, 23968),

Gene: CheetoDust\_28 Start: 23333, Stop: 24346, Start Num: 89

Candidate Starts for CheetoDust\_28:

(22, 22889), (69, 23288), (Start: 89 @23333 has 97 MA's), (151, 23465), (189, 23558), (250, 23675), (273, 23717), (279, 23729), (329, 23783), (355, 23861), (380, 23957), (394, 23999), (398, 24008), (433, 24122), (459, 24191),

Gene: Cheetobro\_29 Start: 24593, Stop: 25597, Start Num: 91

Candidate Starts for Cheetobro\_29:

(Start: 91 @24593 has 64 MA's), (166, 24761), (186, 24806), (189, 24812), (215, 24866), (220, 24875), (260, 24956), (274, 24977), (277, 24983), (279, 24986), (355, 25118), (356, 25121), (390, 25244),

Gene: Chewbacca\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Chewbacca\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: ChipMunk\_34 Start: 25662, Stop: 26558, Start Num: 140

Candidate Starts for ChipMunk\_34:

(Start: 140 @25662 has 5 MA's), (255, 25893), (302, 25956), (306, 25962), (337, 26034), (355, 26088), (464, 26424),

Gene: Chris\_27 Start: 22610, Stop: 23596, Start Num: 91

Candidate Starts for Chris\_27:

(Start: 91 @22610 has 64 MA's), (136, 22715), (165, 22778), (171, 22799), (189, 22832), (195, 22847), (226, 22907), (277, 23000), (297, 23039), (356, 23138), (371, 23189), (390, 23261), (398, 23282), (421, 23363), (465, 23465),

Gene: ChrisnMich\_29 Start: 31570, Stop: 32727, Start Num: 47

Candidate Starts for ChrisnMich\_29:

(Start: 47 @31570 has 34 MA's), (83, 31663), (88, 31678), (96, 31693), (100, 31705), (108, 31723), (147, 31813), (165, 31864), (168, 31873), (169, 31879), (174, 31891), (189, 31918), (195, 31933), (199, 31939), (201, 31945), (220, 31978), (223, 31987), (244, 32020), (258, 32053), (323, 32143), (326, 32149), (356, 32248), (357, 32251), (398, 32395), (447, 32548),

Gene: ChutneyChips\_21 Start: 21798, Stop: 22802, Start Num: 99

Candidate Starts for ChutneyChips\_21:

(Start: 66 @21717 has 4 MA's), (99, 21798), (163, 21945), (171, 21969), (186, 21996), (192, 22008), (198, 22020), (211, 22047), (232, 22080), (298, 22158), (317, 22191), (358, 22311), (371, 22353), (383, 22407), (444, 22587), (454, 22620), (462, 22644), (469, 22689),

Gene: CicholasNage\_21 Start: 21687, Stop: 22862, Start Num: 47

Candidate Starts for CicholasNage\_21:

(Start: 47 @21687 has 34 MA's), (Start: 49 @21690 has 27 MA's), (Start: 97 @21816 has 1 MA's), (113, 21858), (116, 21870), (118, 21873), (131, 21906), (141, 21918), (159, 21966), (166, 21984), (180, 22020), (189, 22035), (215, 22086), (232, 22116), (253, 22158), (266, 22182), (297, 22218), (302, 22224), (317, 22251), (326, 22269), (357, 22362), (358, 22365), (378, 22449), (411, 22587), (424, 22605), (459, 22689),

Gene: Clipper\_28 Start: 23333, Stop: 24346, Start Num: 89

Candidate Starts for Clipper\_28:

(22, 22889), (69, 23288), (Start: 89 @23333 has 97 MA's), (Start: 138 @23444 has 3 MA's), (189, 23558), (250, 23675), (273, 23717), (279, 23729), (329, 23783), (355, 23861), (375, 23945), (380, 23957), (386, 23969), (394, 23999), (398, 24008), (433, 24122), (459, 24191),

Gene: Commandaria\_46 Start: 36317, Stop: 37420, Start Num: 92

Candidate Starts for Commandaria\_46:

(Start: 92 @36317 has 28 MA's), (148, 36446), (158, 36476), (330, 36836), (356, 36917), (440, 37220),

Gene: Cooper\_30 Start: 31786, Stop: 32946, Start Num: 47

Candidate Starts for Cooper\_30:

(Start: 47 @31786 has 34 MA's), (88, 31894), (96, 31909), (100, 31921), (104, 31930), (108, 31939), (114, 31963), (120, 31981), (165, 32080), (168, 32089), (169, 32095), (174, 32107), (189, 32134), (195, 32149), (199, 32155), (201, 32161), (202, 32164), (210, 32182), (220, 32197), (244, 32239), (258, 32272), (295, 32308), (311, 32332), (323, 32362), (326, 32368), (346, 32434), (356, 32467), (357, 32470), (398, 32614), (459, 32803),

Gene: CrimD\_28 Start: 23294, Stop: 24307, Start Num: 89

Candidate Starts for CrimD\_28:

(Start: 89 @23294 has 97 MA's), (Start: 138 @23405 has 3 MA's), (189, 23519), (250, 23636), (273, 23678), (279, 23690), (329, 23744), (355, 23822), (375, 23906), (380, 23918), (386, 23930), (398, 23969), (478, 24248),

Gene: Cubone\_22 Start: 20245, Stop: 21459, Start Num: 102

Candidate Starts for Cubone\_22:

(36, 19915), (56, 20113), (Start: 101 @20242 has 6 MA's), (Start: 102 @20245 has 16 MA's), (214, 20506), (286, 20677), (343, 20827), (350, 20866), (372, 20968), (381, 21010), (474, 21382),

Gene: Daegal\_28 Start: 23665, Stop: 24903, Start Num: 41

Candidate Starts for Daegal\_28:

(8, 23053), (9, 23119), (12, 23209), (13, 23212), (20, 23362), (27, 23449), (28, 23452), (37, 23590), (Start: 41 @23665 has 22 MA's), (62, 23761), (72, 23788), (Start: 75 @23794 has 1 MA's), (Start: 91 @23833 has 64 MA's), (95, 23842), (110, 23887), (114, 23899), (131, 23938), (159, 23995), (190, 24061), (206, 24100), (229, 24133), (242, 24154), (245, 24160), (262, 24196), (271, 24208), (273, 24211), (294, 24259), (297, 24265), (299, 24268), (306, 24277), (355, 24415), (380, 24508), (400, 24565), (401, 24571), (422, 24655), (429, 24670), (431, 24673), (456, 24739), (463, 24772),

Gene: Dalmuri\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Dalmuri\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Daredevil\_37 Start: 34603, Stop: 35670, Start Num: 90

Candidate Starts for Daredevil\_37:

(Start: 90 @34603 has 6 MA's), (253, 34948), (276, 34993), (289, 35023), (391, 35314), (393, 35320), (399, 35338), (409, 35404), (410, 35407), (424, 35425), (442, 35473), (489, 35659),

Gene: DartGoblin\_28 Start: 23374, Stop: 24276, Start Num: 138

Candidate Starts for DartGoblin\_28:

(69, 23218), (Start: 89 @23263 has 97 MA's), (103, 23296), (Start: 138 @23374 has 3 MA's), (189, 23488), (250, 23605), (273, 23647), (279, 23659), (329, 23713), (355, 23791), (375, 23875), (380, 23887), (386, 23899), (398, 23938), (403, 23974), (459, 24121), (478, 24217),

Gene: DarthP\_27 Start: 23700, Stop: 24704, Start Num: 89

Candidate Starts for DarthP\_27:

(Start: 89 @23700 has 97 MA's), (250, 24042), (338, 24174), (347, 24201), (377, 24315), (419, 24468), (459, 24561), (460, 24564), (472, 24627), (476, 24639),

Gene: Dartin\_28 Start: 22728, Stop: 23693, Start Num: 89

Candidate Starts for Dartin\_28:

(Start: 89 @22728 has 97 MA's), (Start: 92 @22734 has 28 MA's), (159, 22887), (166, 22905), (171, 22923), (189, 22956), (206, 22998), (242, 23058), (250, 23073), (355, 23259), (356, 23262), (373, 23334), (398, 23403), (408, 23451), (413, 23466), (433, 23499), (450, 23538), (479, 23637),

Gene: Deby\_28 Start: 23290, Stop: 24303, Start Num: 89

Candidate Starts for Deby\_28:

(Start: 89 @23290 has 97 MA's), (Start: 138 @23401 has 3 MA's), (189, 23515), (250, 23632), (279, 23686), (329, 23740), (355, 23818), (380, 23914), (386, 23926), (394, 23956), (398, 23965), (433, 24079), (459, 24148),

Gene: DeepSoil15\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for DeepSoil15\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Devera\_28 Start: 23337, Stop: 24350, Start Num: 89

Candidate Starts for Devera\_28:

(Start: 89 @23337 has 97 MA's), (Start: 138 @23448 has 3 MA's), (146, 23457), (189, 23562), (238, 23658), (250, 23679), (273, 23721), (279, 23733), (329, 23787), (355, 23865), (380, 23961), (386, 23973), (398, 24012), (433, 24126), (459, 24195), (478, 24291),

Gene: Dewey\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Dewey\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: DirkDirk\_21 Start: 21671, Stop: 22843, Start Num: 49

Candidate Starts for DirkDirk\_21:

(Start: 47 @21668 has 34 MA's), (Start: 49 @21671 has 27 MA's), (Start: 97 @21797 has 1 MA's), (113, 21839), (116, 21851), (118, 21854), (131, 21887), (141, 21899), (159, 21947), (166, 21965), (180, 22001), (189, 22016), (215, 22067), (232, 22097), (253, 22139), (266, 22163), (297, 22199), (302, 22205), (317, 22232), (326, 22250), (357, 22343), (358, 22346), (378, 22430), (411, 22568), (424, 22586), (459, 22670),

Gene: DismalFunk\_25 Start: 21282, Stop: 22277, Start Num: 91

Candidate Starts for DismalFunk\_25:

(32, 20961), (38, 21099), (50, 21198), (Start: 91 @21282 has 64 MA's), (121, 21363), (134, 21387), (162, 21447), (186, 21501), (189, 21507), (242, 21609), (243, 21612), (269, 21660), (273, 21666), (291, 21708), (329, 21732), (357, 21816), (377, 21900), (398, 21957), (486, 22254),

Gene: DismalStressor\_25 Start: 21282, Stop: 22277, Start Num: 91

Candidate Starts for DismalStressor\_25:

(38, 21099), (50, 21198), (Start: 91 @21282 has 64 MA's), (121, 21363), (134, 21387), (162, 21447), (186, 21501), (189, 21507), (242, 21609), (243, 21612), (269, 21660), (273, 21666), (291, 21708), (329, 21732), (357, 21816), (377, 21900), (398, 21957), (486, 22254),

Gene: Dole\_28 Start: 23339, Stop: 24352, Start Num: 89

Candidate Starts for Dole\_28:

(Start: 89 @23339 has 97 MA's), (Start: 138 @23450 has 3 MA's), (146, 23459), (189, 23564), (238, 23660), (250, 23681), (273, 23723), (279, 23735), (329, 23789), (355, 23867), (380, 23963), (386, 23975), (398, 24014), (433, 24128), (459, 24197), (478, 24293),

Gene: Douge\_21 Start: 21469, Stop: 22554, Start Num: 66

Candidate Starts for Douge\_21:

(Start: 66 @21469 has 4 MA's), (99, 21547), (171, 21721), (192, 21760), (211, 21799), (232, 21832), (298, 21910), (317, 21943), (371, 22105), (444, 22339), (454, 22372), (462, 22396), (469, 22441),

Gene: Doughnut\_25 Start: 21302, Stop: 22327, Start Num: 91

Candidate Starts for Doughnut\_25:

(50, 21218), (Start: 91 @21302 has 64 MA's), (134, 21407), (162, 21467), (186, 21521), (189, 21527), (229, 21608), (233, 21614), (242, 21629), (243, 21632), (357, 21836), (484, 22295), (486, 22304),

Gene: Douzhi\_21 Start: 21427, Stop: 22581, Start Num: 49

Candidate Starts for Douzhi\_21:

(Start: 49 @21427 has 27 MA's), (85, 21529), (93, 21541), (118, 21610), (159, 21703), (180, 21757), (195, 21787), (200, 21796), (221, 21835), (256, 21883), (276, 21907), (283, 21919), (294, 21943), (335, 22033), (370, 22150), (376, 22186), (380, 22195), (399, 22252), (403, 22291),

Gene: DrHayes\_28 Start: 23284, Stop: 24297, Start Num: 89

Candidate Starts for DrHayes\_28:

(69, 23239), (Start: 89 @23284 has 97 MA's), (Start: 138 @23395 has 3 MA's), (189, 23509), (250, 23626), (273, 23668), (279, 23680), (329, 23734), (355, 23812), (380, 23908), (386, 23920), (398, 23959), (403, 23995), (459, 24142), (478, 24238),

Gene: Duplicity\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Duplicity\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Durfee\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Durfee\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: DyoEdafos\_22 Start: 21679, Stop: 22761, Start Num: 66

Candidate Starts for DyoEdafos\_22:

(Start: 66 @21679 has 4 MA's), (171, 21931), (192, 21970), (196, 21979), (198, 21982), (211, 22009), (217, 22018), (232, 22042), (284, 22096), (286, 22099), (317, 22153), (358, 22273), (362, 22306), (363, 22309), (383, 22369), (398, 22408), (401, 22423), (436, 22534), (454, 22582),

Gene: EGUunicorn\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for EGUunicorn\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Efra2\_28 Start: 22526, Stop: 23587, Start Num: 89

Candidate Starts for Efra2\_28:

(Start: 89 @22526 has 97 MA's), (Start: 138 @22640 has 3 MA's), (189, 22754), (199, 22775), (240, 22853), (245, 22862), (257, 22883), (258, 22889), (336, 22997), (355, 23057), (382, 23177), (383, 23183), (384, 23189), (402, 23279), (449, 23405), (453, 23420),

Gene: Ein37\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Ein37\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Ekdilam\_25 Start: 23459, Stop: 24463, Start Num: 89

Candidate Starts for Ekdilam\_25:

(Start: 89 @23459 has 97 MA's), (171, 23651), (182, 23672), (199, 23705), (215, 23738), (250, 23801), (338, 23933), (347, 23960), (377, 24074), (419, 24227), (459, 24320), (472, 24386),

Gene: Ellie\_25 Start: 23458, Stop: 24465, Start Num: 89

Candidate Starts for Ellie\_25:

(Start: 89 @23458 has 97 MA's), (126, 23548), (Start: 138 @23569 has 3 MA's), (171, 23650), (189, 23683), (199, 23704), (356, 23989), (363, 24028), (472, 24388), (488, 24448),

Gene: Emerson\_28 Start: 23316, Stop: 24329, Start Num: 89

Candidate Starts for Emerson\_28:

(22, 22872), (69, 23271), (Start: 89 @23316 has 97 MA's), (189, 23541), (250, 23658), (273, 23700), (279, 23712), (329, 23766), (355, 23844), (380, 23940), (386, 23952), (394, 23982), (398, 23991), (433, 24105), (459, 24174),

Gene: Emianna\_44 Start: 35974, Stop: 37032, Start Num: 92

Candidate Starts for Emianna\_44:

(3, 34534), (5, 34831), (7, 35062), (17, 35431), (Start: 41 @35809 has 22 MA's), (44, 35824), (46, 35842), (Start: 92 @35974 has 28 MA's), (257, 36319), (280, 36370), (309, 36418),

Gene: Enceladus\_21 Start: 21672, Stop: 22844, Start Num: 49

Candidate Starts for Enceladus\_21:

(Start: 47 @21669 has 34 MA's), (Start: 49 @21672 has 27 MA's), (Start: 97 @21798 has 1 MA's), (113, 21840), (116, 21852), (118, 21855), (131, 21888), (141, 21900), (159, 21948), (166, 21966), (180, 22002), (189, 22017), (215, 22068), (232, 22098), (253, 22140), (266, 22164), (297, 22200), (302, 22206), (317, 22233), (326, 22251), (357, 22344), (358, 22347), (378, 22431), (411, 22569), (424, 22587), (459, 22671),

Gene: Enkosi\_24 Start: 22900, Stop: 23907, Start Num: 91

Candidate Starts for Enkosi\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: Ennea\_51 Start: 36974, Stop: 38035, Start Num: 92

Candidate Starts for Ennea\_51:

(Start: 92 @36974 has 28 MA's), (168, 37160), (270, 37346), (272, 37349), (357, 37559),

Gene: Epah\_29 Start: 31578, Stop: 32735, Start Num: 47

Candidate Starts for Epah\_29:

(Start: 47 @31578 has 34 MA's), (83, 31671), (88, 31686), (96, 31701), (100, 31713), (108, 31731), (147, 31821), (165, 31872), (168, 31881), (169, 31887), (174, 31899), (189, 31926), (195, 31941), (199, 31947), (201, 31953), (220, 31986), (223, 31995), (244, 32028), (258, 32061), (323, 32151), (326, 32157), (356, 32256), (357, 32259), (398, 32403), (447, 32556),

Gene: Estes\_36 Start: 28017, Stop: 29099, Start Num: 81

Candidate Starts for Estes\_36:

(77, 28011), (Start: 81 @28017 has 6 MA's), (111, 28092), (130, 28137), (132, 28143), (137, 28149), (149, 28167), (167, 28212), (171, 28227), (180, 28242), (197, 28266), (205, 28287), (237, 28341), (241, 28347), (254, 28377), (318, 28521),

Gene: Evanesce\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Evanesce\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Ewald\_30 Start: 26639, Stop: 27724, Start Num: 91

Candidate Starts for Ewald\_30:

(46, 26504), (Start: 91 @26639 has 64 MA's), (136, 26744), (147, 26762), (177, 26849), (287, 27062), (293, 27077), (312, 27104), (316, 27119), (349, 27212), (353, 27227), (366, 27284), (386, 27344), (395, 27377),

Gene: Fanaw\_29 Start: 32276, Stop: 33433, Start Num: 47

Candidate Starts for Fanaw\_29:

(Start: 47 @32276 has 34 MA's), (83, 32369), (88, 32384), (96, 32399), (100, 32411), (108, 32429), (120, 32471), (165, 32570), (168, 32579), (174, 32597), (189, 32624), (195, 32639), (199, 32645), (201, 32651), (203, 32657), (220, 32684), (223, 32693), (244, 32726), (258, 32759), (323, 32849), (326, 32855), (339, 32900), (356, 32954), (357, 32957), (398, 33101), (447, 33254),

Gene: FarmResident\_21 Start: 21591, Stop: 22598, Start Num: 99

Candidate Starts for FarmResident\_21:

(Start: 66 @21513 has 4 MA's), (99, 21591), (171, 21765), (192, 21804), (211, 21843), (230, 21873), (232, 21876), (298, 21954), (317, 21987), (371, 22149), (444, 22383), (454, 22416), (462, 22440), (469, 22485),

Gene: Fefferhead\_27 Start: 23613, Stop: 24665, Start Num: 89

Candidate Starts for Fefferhead\_27:

(71, 23577), (Start: 89 @23613 has 97 MA's), (126, 23703), (Start: 138 @23724 has 3 MA's), (154, 23751), (189, 23838), (199, 23859), (206, 23880), (310, 24069), (338, 24147), (356, 24204), (360, 24237), (366, 24252), (451, 24507), (459, 24522), (473, 24603), (486, 24642),

Gene: Findley\_25 Start: 21282, Stop: 22307, Start Num: 91

Candidate Starts for Findley\_25:

(38, 21099), (50, 21198), (Start: 91 @21282 has 64 MA's), (121, 21363), (134, 21387), (162, 21447), (186, 21501), (189, 21507), (229, 21588), (233, 21594), (242, 21609), (243, 21612), (357, 21816), (484, 22275), (486, 22284),

Gene: Fionnbharth\_29 Start: 24586, Stop: 25590, Start Num: 91

Candidate Starts for Fionnbharth\_29:

(Start: 91 @24586 has 64 MA's), (Start: 117 @24655 has 1 MA's), (166, 24754), (186, 24799), (189, 24805), (215, 24859), (220, 24868), (242, 24904), (260, 24949), (274, 24970), (277, 24976), (279, 24979), (355, 25111), (356, 25114), (390, 25237), (398, 25258), (476, 25525),

Gene: Forge\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Forge\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Fortunato\_30 Start: 32604, Stop: 33761, Start Num: 47

Candidate Starts for Fortunato\_30:

(Start: 47 @32604 has 34 MA's), (83, 32697), (88, 32712), (96, 32727), (100, 32739), (108, 32757), (120, 32799), (165, 32898), (168, 32907), (174, 32925), (189, 32952), (195, 32967), (199, 32973), (201, 32979), (203, 32985), (220, 33012), (223, 33021), (244, 33054), (258, 33087), (323, 33177), (326, 33183), (346, 33249), (355, 33279), (356, 33282), (398, 33429), (447, 33582),

Gene: Foxboro\_45 Start: 36480, Stop: 37538, Start Num: 92

Candidate Starts for Foxboro\_45:

(3, 35040), (5, 35337), (7, 35568), (17, 35937), (Start: 41 @36315 has 22 MA's), (44, 36330), (46, 36348), (Start: 92 @36480 has 28 MA's), (257, 36825), (280, 36876), (309, 36924),

Gene: Frederick\_30 Start: 32610, Stop: 33767, Start Num: 47

Candidate Starts for Frederick\_30:

(Start: 47 @32610 has 34 MA's), (83, 32703), (88, 32718), (96, 32733), (100, 32745), (108, 32763), (120, 32805), (147, 32853), (165, 32904), (168, 32913), (174, 32931), (189, 32958), (195, 32973), (199, 32979), (201, 32985), (203, 32991), (220, 33018), (223, 33027), (244, 33060), (258, 33093), (311, 33153), (323, 33183), (326, 33189), (339, 33234), (356, 33288), (357, 33291), (398, 33435), (447, 33588),

Gene: Fury\_53 Start: 35397, Stop: 36479, Start Num: 92

Candidate Starts for Fury\_53:

(Start: 92 @35397 has 28 MA's), (143, 35514), (248, 35742), (287, 35826), (289, 35832), (314, 35871), (320, 35886), (334, 35928), (381, 36093), (437, 36273), (476, 36411),

Gene: GMA7\_23 Start: 30667, Stop: 31671, Start Num: 109

Candidate Starts for GMA7\_23:

(Start: 109 @30667 has 3 MA's), (127, 30715), (139, 30733), (181, 30829), (188, 30838), (230, 30904), (271, 30985), (339, 31138), (347, 31165), (353, 31186), (379, 31288), (408, 31414), (459, 31516), (486, 31648),

Gene: GRU1\_34 Start: 28214, Stop: 29290, Start Num: 91

Candidate Starts for GRU1\_34:

(Start: 41 @28052 has 22 MA's), (Start: 91 @28214 has 64 MA's), (134, 28322), (157, 28373), (167, 28400), (228, 28508), (272, 28592), (280, 28613), (282, 28619), (298, 28646), (373, 28874), (463, 29153), (486, 29264),

Gene: GTE5\_36 Start: 29539, Stop: 30600, Start Num: 91

Candidate Starts for GTE5\_36:

(65, 29476), (Start: 91 @29539 has 64 MA's), (134, 29647), (167, 29725), (228, 29833), (272, 29917), (280, 29938), (286, 29950), (298, 29971), (301, 29974), (476, 30529), (486, 30574),

Gene: GTE7\_23 Start: 30698, Stop: 31702, Start Num: 109

Candidate Starts for GTE7\_23:

(Start: 109 @30698 has 3 MA's), (127, 30746), (139, 30764), (169, 30842), (181, 30860), (188, 30869), (230, 30935), (271, 31016), (339, 31169), (347, 31196), (353, 31217), (379, 31319), (408, 31445), (459, 31547), (486, 31679),

Gene: GTE8\_33 Start: 29229, Stop: 30287, Start Num: 91

Candidate Starts for GTE8\_33:

(Start: 41 @29067 has 22 MA's), (Start: 91 @29229 has 64 MA's), (179, 29445), (281, 29628), (476, 30216), (486, 30261),

Gene: Gail\_32 Start: 24477, Stop: 25421, Start Num: 140

Candidate Starts for Gail\_32:

(Start: 140 @24477 has 5 MA's), (185, 24582), (190, 24588), (195, 24600), (215, 24636), (255, 24711), (302, 24774), (304, 24777), (306, 24780), (356, 24915), (482, 25371),

Gene: Gancho\_26 Start: 23095, Stop: 24333, Start Num: 41

Candidate Starts for Gancho\_26:

(8, 22483), (9, 22549), (13, 22642), (20, 22792), (27, 22879), (28, 22882), (37, 23020), (Start: 41 @23095 has 22 MA's), (62, 23191), (72, 23218), (Start: 75 @23224 has 1 MA's), (Start: 91 @23263 has 64 MA's), (95, 23272), (110, 23317), (114, 23329), (131, 23368), (159, 23425), (182, 23476), (190, 23491), (206, 23530), (229, 23563), (242, 23584), (245, 23590), (262, 23626), (271, 23638), (273, 23641), (294, 23689), (297, 23695), (299, 23698), (306, 23707), (355, 23845), (380, 23938), (400, 23995), (401, 24001), (422, 24085), (429, 24100), (431, 24103), (456, 24169), (463, 24202),

Gene: Ganymede\_29 Start: 23336, Stop: 24349, Start Num: 89

Candidate Starts for Ganymede\_29:

(22, 22892), (69, 23291), (Start: 89 @23336 has 97 MA's), (Start: 138 @23447 has 3 MA's), (189, 23561), (250, 23678), (273, 23720), (279, 23732), (296, 23771), (329, 23786), (355, 23864), (375, 23948), (380, 23960), (386, 23972), (398, 24011), (433, 24125), (459, 24194),

Gene: GardenSalsa\_35 Start: 27841, Stop: 28923, Start Num: 81

Candidate Starts for GardenSalsa\_35:

(77, 27835), (Start: 81 @27841 has 6 MA's), (111, 27916), (130, 27961), (132, 27967), (137, 27973), (149, 27991), (167, 28036), (171, 28051), (180, 28066), (197, 28090), (205, 28111), (237, 28165), (241, 28171), (254, 28201), (318, 28345), (334, 28381), (483, 28879),

Gene: GenevaB15\_35 Start: 27886, Stop: 28968, Start Num: 81

Candidate Starts for GenevaB15\_35:

(69, 27865), (77, 27880), (Start: 81 @27886 has 6 MA's), (111, 27961), (130, 28006), (132, 28012), (137, 28018), (149, 28036), (153, 28045), (171, 28096), (180, 28111), (197, 28135), (205, 28156), (237, 28210), (241, 28216), (265, 28270), (334, 28426), (462, 28837),

Gene: Geraldini\_28 Start: 23332, Stop: 24345, Start Num: 89

Candidate Starts for Geraldini\_28:

(22, 22888), (69, 23287), (Start: 89 @23332 has 97 MA's), (Start: 138 @23443 has 3 MA's), (186, 23551), (189, 23557), (250, 23674), (273, 23716), (279, 23728), (329, 23782), (355, 23860), (375, 23944), (380, 23956), (386, 23968), (398, 24007), (433, 24121), (459, 24190),

Gene: Gex\_22 Start: 20219, Stop: 21433, Start Num: 102

Candidate Starts for Gex\_22:

(36, 19889), (56, 20087), (Start: 101 @20216 has 6 MA's), (Start: 102 @20219 has 16 MA's), (214, 20480), (286, 20651), (343, 20801), (350, 20840), (372, 20942), (381, 20984), (474, 21356),

Gene: Giles\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Giles\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: GinPorsche\_29 Start: 31578, Stop: 32735, Start Num: 47

Candidate Starts for GinPorsche\_29:

(Start: 47 @31578 has 34 MA's), (83, 31671), (88, 31686), (96, 31701), (100, 31713), (108, 31731), (147, 31821), (165, 31872), (168, 31881), (169, 31887), (174, 31899), (189, 31926), (195, 31941), (199, 31947), (201, 31953), (220, 31986), (223, 31995), (244, 32028), (258, 32061), (323, 32151), (326, 32157), (356, 32256), (357, 32259), (398, 32403), (447, 32556),

Gene: Gravaillia\_27 Start: 23101, Stop: 24339, Start Num: 41

Candidate Starts for Gravaillia\_27:

(8, 22489), (9, 22555), (12, 22645), (13, 22648), (20, 22798), (27, 22885), (28, 22888), (37, 23026), (Start: 41 @23101 has 22 MA's), (62, 23197), (72, 23224), (Start: 75 @23230 has 1 MA's), (Start: 91 @23269 has 64 MA's), (95, 23278), (110, 23323), (114, 23335), (131, 23374), (159, 23431), (182, 23482), (190, 23497), (206, 23536), (229, 23569), (242, 23590), (245, 23596), (262, 23632), (271, 23644), (273, 23647), (294, 23695), (297, 23701), (299, 23704), (306, 23713), (355, 23851), (380, 23944), (400, 24001), (401, 24007), (422, 24091), (429, 24106), (431, 24109), (456, 24175), (463, 24208),

Gene: GrootJr\_46 Start: 35356, Stop: 36414, Start Num: 92

Candidate Starts for GrootJr\_46:

(3, 33916), (5, 34213), (7, 34444), (17, 34813), (Start: 41 @35191 has 22 MA's), (44, 35206), (46, 35224), (Start: 92 @35356 has 28 MA's), (257, 35701), (280, 35752), (309, 35800),

Gene: Gspu1\_26 Start: 21693, Stop: 22775, Start Num: 67

Candidate Starts for Gspu1\_26:

(67, 21693), (135, 21855), (159, 21903), (164, 21915), (227, 22017), (259, 22077), (279, 22110), (284, 22125), (312, 22164), (342, 22248), (352, 22278), (356, 22290), (398, 22437), (437, 22563), (459, 22620), (484, 22743),

Gene: Guanica15\_28 Start: 22542, Stop: 23603, Start Num: 89

Candidate Starts for Guanica15\_28:

(Start: 89 @22542 has 97 MA's), (Start: 138 @22656 has 3 MA's), (189, 22770), (199, 22791), (245, 22878), (257, 22899), (258, 22905), (336, 23013), (355, 23073), (382, 23193), (383, 23199), (384, 23205), (402, 23295), (449, 23421), (453, 23436),

Gene: HH92\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for HH92\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Hadrien\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Hadrien\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Hail\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Hail\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Halena\_21 Start: 21699, Stop: 22871, Start Num: 49

Candidate Starts for Halena\_21:

(Start: 47 @21696 has 34 MA's), (Start: 49 @21699 has 27 MA's), (Start: 97 @21825 has 1 MA's), (113, 21867), (116, 21879), (118, 21882), (131, 21915), (141, 21927), (159, 21975), (166, 21993), (180, 22029), (189, 22044), (215, 22095), (232, 22125), (253, 22167), (266, 22191), (297, 22227), (302, 22233), (317, 22260), (326, 22278), (357, 22371), (358, 22374), (378, 22458), (411, 22596), (424, 22614), (459, 22698),

Gene: Hally898\_29 Start: 31590, Stop: 32747, Start Num: 47

Candidate Starts for Hally898\_29:

(Start: 47 @31590 has 34 MA's), (83, 31683), (88, 31698), (96, 31713), (100, 31725), (108, 31743), (147, 31833), (165, 31884), (168, 31893), (169, 31899), (174, 31911), (189, 31938), (195, 31953), (199, 31959), (201, 31965), (220, 31998), (223, 32007), (244, 32040), (258, 32073), (323, 32163), (326, 32169), (356, 32268), (357, 32271), (398, 32415), (447, 32568),

Gene: Hammy\_27 Start: 23691, Stop: 24695, Start Num: 89

Candidate Starts for Hammy\_27:

(Start: 89 @23691 has 97 MA's), (219, 23976), (250, 24033), (338, 24165), (347, 24192), (377, 24306), (419, 24459), (459, 24552), (460, 24555), (472, 24618), (476, 24630),

Gene: Hangman\_30 Start: 32602, Stop: 33759, Start Num: 47

Candidate Starts for Hangman\_30:

(Start: 47 @32602 has 34 MA's), (83, 32695), (88, 32710), (96, 32725), (100, 32737), (108, 32755), (120, 32797), (165, 32896), (168, 32905), (174, 32923), (195, 32965), (199, 32971), (201, 32977), (203, 32983), (220, 33010), (223, 33019), (244, 33052), (258, 33085), (311, 33145), (323, 33175), (326, 33181), (331, 33202), (339, 33226), (356, 33280), (357, 33283), (398, 33427),

Gene: Hashim76\_35 Start: 31239, Stop: 32393, Start Num: 49

Candidate Starts for Hashim76\_35:

(Start: 49 @31239 has 27 MA's), (88, 31356), (112, 31416), (118, 31437), (120, 31446), (143, 31485), (147, 31494), (165, 31545), (191, 31605), (203, 31632), (228, 31674), (246, 31704), (286, 31752), (333, 31854), (337, 31866), (356, 31941), (381, 32037), (391, 32067), (398, 32085), (402, 32121), (450, 32223),

Gene: HayZem\_32 Start: 36450, Stop: 37454, Start Num: 109

Candidate Starts for HayZem\_32:

(Start: 109 @36450 has 3 MA's), (127, 36498), (139, 36516), (181, 36612), (188, 36621), (230, 36687), (271, 36768), (339, 36921), (347, 36948), (353, 36969), (379, 37071), (408, 37197), (459, 37299), (486, 37431),

Gene: Heath\_29 Start: 32206, Stop: 33363, Start Num: 47

Candidate Starts for Heath\_29:

(Start: 47 @32206 has 34 MA's), (83, 32299), (88, 32314), (96, 32329), (100, 32341), (108, 32359), (120, 32401), (165, 32500), (168, 32509), (174, 32527), (189, 32554), (195, 32569), (199, 32575), (201, 32581), (203, 32587), (220, 32614), (223, 32623), (244, 32656), (258, 32689), (286, 32707), (311, 32749), (323, 32779), (326, 32785), (331, 32806), (356, 32884), (357, 32887), (367, 32932), (398, 33031), (447, 33184),

Gene: HedwigODU\_28 Start: 23325, Stop: 24338, Start Num: 89

Candidate Starts for HedwigODU\_28:

(22, 22881), (35, 23028), (69, 23280), (Start: 89 @23325 has 97 MA's), (Start: 138 @23436 has 3 MA's), (189, 23550), (250, 23667), (273, 23709), (279, 23721), (329, 23775), (355, 23853), (380, 23949), (386, 23961), (394, 23991), (398, 24000), (433, 24114), (459, 24183),

Gene: HomeFry\_50 Start: 34029, Stop: 35111, Start Num: 92

Candidate Starts for HomeFry\_50:

(Start: 92 @34029 has 28 MA's), (143, 34146), (228, 34341), (336, 34566),

Gene: Homura\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Homura\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: HubbaBubba\_42 Start: 31720, Stop: 32760, Start Num: 91

Candidate Starts for HubbaBubba\_42:

(Start: 91 @31720 has 64 MA's), (148, 31852), (228, 32035), (330, 32242), (333, 32251), (355, 32320), (356, 32323), (375, 32407), (416, 32560), (456, 32644), (458, 32653), (459, 32656), (480, 32752),

Gene: Hurricane\_28 Start: 23950, Stop: 24975, Start Num: 91

Candidate Starts for Hurricane\_28:

(16, 23398), (18, 23464), (21, 23527), (24, 23560), (30, 23602), (38, 23761), (50, 23860), (64, 23917), (Start: 91 @23950 has 64 MA's), (150, 24073), (154, 24082), (162, 24109), (182, 24157), (189, 24169), (199, 24190), (224, 24241), (242, 24271), (340, 24424), (347, 24445), (365, 24517), (375, 24553), (381, 24568), (395, 24610), (398, 24616), (415, 24706), (454, 24805), (455, 24808), (475, 24907), (488, 24958),

Gene: Hydro\_30 Start: 32619, Stop: 33776, Start Num: 47

Candidate Starts for Hydro\_30:

(Start: 47 @32619 has 34 MA's), (83, 32712), (88, 32727), (96, 32742), (100, 32754), (108, 32772), (120, 32814), (165, 32913), (168, 32922), (174, 32940), (189, 32967), (195, 32982), (199, 32988), (201, 32994), (203, 33000), (220, 33027), (223, 33036), (244, 33069), (258, 33102), (311, 33162), (323, 33192), (326, 33198), (339, 33243), (356, 33297), (357, 33300), (398, 33444), (447, 33597),

Gene: Hyperbowlee\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Hyperbowlee\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Illumine\_28 Start: 23339, Stop: 24352, Start Num: 89

Candidate Starts for Illumine\_28:

(Start: 89 @23339 has 97 MA's), (Start: 138 @23450 has 3 MA's), (146, 23459), (189, 23564), (238, 23660), (250, 23681), (273, 23723), (279, 23735), (329, 23789), (355, 23867), (380, 23963), (386, 23975), (398, 24014), (433, 24128), (459, 24197), (478, 24293),

Gene: Imvubu\_25 Start: 28919, Stop: 30094, Start Num: 49

Candidate Starts for Imvubu\_25:

(Start: 49 @28919 has 27 MA's), (80, 29009), (88, 29036), (Start: 97 @29057 has 1 MA's), (118, 29117), (120, 29126), (143, 29165), (147, 29174), (154, 29192), (165, 29225), (191, 29285), (228, 29354), (239, 29372), (251, 29399), (258, 29414), (265, 29426), (333, 29534), (421, 29858), (455, 29933), (462, 29954), (467, 29984), (486, 30071),

Gene: Indlovu\_29 Start: 31250, Stop: 32386, Start Num: 49

Candidate Starts for Indlovu\_29:

(43, 31217), (Start: 49 @31250 has 27 MA's), (88, 31367), (118, 31448), (124, 31463), (143, 31496), (147, 31505), (168, 31565), (180, 31595), (193, 31619), (255, 31736), (337, 31877), (369, 31985), (385, 32042),

Gene: Inky\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Inky\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145),

(459, 24214),

Gene: JAMaL\_30 Start: 32789, Stop: 33946, Start Num: 47

Candidate Starts for JAMaL\_30:

(Start: 47 @32789 has 34 MA's), (83, 32882), (88, 32897), (96, 32912), (100, 32924), (108, 32942), (147, 33032), (165, 33083), (168, 33092), (169, 33098), (174, 33110), (189, 33137), (195, 33152), (199, 33158), (201, 33164), (220, 33197), (223, 33206), (244, 33239), (258, 33272), (323, 33362), (326, 33368), (356, 33467), (357, 33470), (398, 33614), (447, 33767),

Gene: JAWS\_28 Start: 23310, Stop: 24323, Start Num: 89

Candidate Starts for JAWS\_28:

(22, 22866), (69, 23265), (Start: 89 @23310 has 97 MA's), (Start: 138 @23421 has 3 MA's), (189, 23535), (250, 23652), (273, 23694), (279, 23706), (329, 23760), (355, 23838), (380, 23934), (394, 23976), (398, 23985), (433, 24099), (459, 24168),

Gene: JF1\_29 Start: 24585, Stop: 25589, Start Num: 91

Candidate Starts for JF1\_29:

(Start: 91 @24585 has 64 MA's), (Start: 117 @24654 has 1 MA's), (166, 24753), (186, 24798), (189, 24804), (215, 24858), (220, 24867), (242, 24903), (260, 24948), (274, 24969), (277, 24975), (279, 24978), (355, 25110), (356, 25113), (390, 25236), (398, 25257), (476, 25524),

Gene: JaguarMi\_30 Start: 32084, Stop: 33241, Start Num: 47

Candidate Starts for JaguarMi\_30:

(Start: 47 @32084 has 34 MA's), (83, 32177), (88, 32192), (96, 32207), (100, 32219), (108, 32237), (114, 32261), (120, 32279), (128, 32294), (165, 32378), (168, 32387), (174, 32405), (195, 32447), (199, 32453), (201, 32459), (203, 32465), (220, 32492), (223, 32501), (244, 32534), (258, 32567), (311, 32627), (323, 32657), (326, 32663), (356, 32762), (357, 32765), (387, 32876), (398, 32909), (447, 33062), (453, 33086), (459, 33098),

Gene: Jarvi\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Jarvi\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Jayhawk\_28 Start: 23323, Stop: 24336, Start Num: 89

Candidate Starts for Jayhawk\_28:

(22, 22879), (35, 23026), (69, 23278), (Start: 89 @23323 has 97 MA's), (Start: 138 @23434 has 3 MA's), (189, 23548), (250, 23665), (273, 23707), (279, 23719), (329, 23773), (355, 23851), (380, 23947), (386, 23959), (394, 23989), (398, 23998), (433, 24112), (459, 24181),

Gene: Jeckyll\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Jeckyll\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Jifall16\_43 Start: 35628, Stop: 36686, Start Num: 92

Candidate Starts for Jifall16\_43:

(3, 34188), (5, 34485), (7, 34716), (17, 35085), (Start: 41 @35463 has 22 MA's), (44, 35478), (46, 35496), (Start: 92 @35628 has 28 MA's), (257, 35973), (280, 36024), (309, 36072),

Gene: JoeDirt\_21 Start: 21667, Stop: 22842, Start Num: 47

Candidate Starts for JoeDirt\_21:

(Start: 47 @21667 has 34 MA's), (Start: 49 @21670 has 27 MA's), (Start: 97 @21796 has 1 MA's), (113, 21838), (116, 21850), (118, 21853), (131, 21886), (141, 21898), (159, 21946), (166, 21964), (180, 22000), (189, 22015), (215, 22066), (232, 22096), (253, 22138), (266, 22162), (297, 22198), (302, 22204), (317, 22231), (326, 22249), (357, 22342), (358, 22345), (378, 22429), (411, 22567), (424, 22585), (459, 22669),

Gene: Journey\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Journey\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Joy99\_28 Start: 23285, Stop: 24298, Start Num: 89

Candidate Starts for Joy99\_28:

(22, 22841), (69, 23240), (Start: 89 @23285 has 97 MA's), (189, 23510), (250, 23627), (273, 23669), (279, 23681), (329, 23735), (355, 23813), (380, 23909), (394, 23951), (398, 23960), (433, 24074), (459, 24143),

Gene: JoyceMaria\_30 Start: 32605, Stop: 33762, Start Num: 47

Candidate Starts for JoyceMaria\_30:

(Start: 47 @32605 has 34 MA's), (83, 32698), (88, 32713), (96, 32728), (100, 32740), (108, 32758), (120, 32800), (165, 32899), (168, 32908), (174, 32926), (195, 32968), (199, 32974), (201, 32980), (203, 32986), (220, 33013), (223, 33022), (244, 33055), (258, 33088), (311, 33148), (323, 33178), (326, 33184), (331, 33205), (339, 33229), (356, 33283), (357, 33286), (398, 33430),

Gene: Kabluna\_48 Start: 35054, Stop: 36109, Start Num: 92

Candidate Starts for Kabluna\_48:

(65, 34991), (Start: 92 @35054 has 28 MA's), (179, 35267), (281, 35450), (386, 35738), (486, 36083),

Gene: Keshu\_28 Start: 23942, Stop: 24964, Start Num: 91

Candidate Starts for Keshu\_28:

(38, 23753), (50, 23852), (64, 23909), (Start: 91 @23942 has 64 MA's), (159, 24092), (182, 24149), (224, 24233), (242, 24263), (347, 24434), (356, 24464), (395, 24599), (413, 24692), (415, 24695), (426, 24716), (454, 24794), (471, 24863), (473, 24893),

Gene: Keziacharles14\_32 Start: 24883, Stop: 26085, Start Num: 48

Candidate Starts for Keziacharles14\_32:

(Start: 48 @24883 has 1 MA's), (110, 25045), (118, 25066), (151, 25135), (159, 25159), (185, 25219), (193, 25237), (200, 25252), (206, 25267), (239, 25321), (291, 25453), (299, 25468), (319, 25504), (355, 25612), (356, 25615), (359, 25642), (361, 25648), (398, 25759),

Gene: KiSi\_27 Start: 22512, Stop: 23480, Start Num: 90

Candidate Starts for KiSi\_27:

(Start: 90 @22512 has 6 MA's), (162, 22674), (165, 22680), (171, 22701), (174, 22707), (195, 22749), (218, 22794), (242, 22836), (250, 22851), (329, 22959), (357, 23043), (450, 23319),

Gene: KidneyBean\_44 Start: 35752, Stop: 36810, Start Num: 92

Candidate Starts for KidneyBean\_44:

(3, 34312), (5, 34609), (7, 34840), (17, 35209), (Start: 41 @35587 has 22 MA's), (44, 35602), (46, 35620), (Start: 92 @35752 has 28 MA's), (257, 36097), (280, 36148), (309, 36196),

Gene: Kinbote\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Kinbote\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: KingCyrus\_34 Start: 25662, Stop: 26561, Start Num: 140

Candidate Starts for KingCyrus\_34:

(Start: 140 @25662 has 5 MA's), (190, 25773), (246, 25875), (255, 25896), (302, 25959), (355, 26091), (447, 26373),

Gene: Knocker\_33 Start: 33872, Stop: 35014, Start Num: 49

Candidate Starts for Knocker\_33:

(Start: 49 @33872 has 27 MA's), (88, 33989), (100, 34016), (104, 34025), (112, 34049), (118, 34070), (120, 34079), (131, 34103), (143, 34118), (145, 34121), (147, 34127), (165, 34178), (168, 34187), (174, 34205), (180, 34217), (183, 34220), (193, 34241), (220, 34292), (228, 34307), (236, 34319), (249, 34343), (251, 34352), (264, 34379), (285, 34385), (317, 34445), (323, 34457), (333, 34487), (337, 34499), (356, 34574), (376, 34658), (381, 34670), (391, 34700), (398, 34718), (419, 34799), (433, 34826), (435, 34829), (439, 34838),

Gene: Kraw\_29 Start: 24509, Stop: 25513, Start Num: 91

Candidate Starts for Kraw\_29:

(Start: 91 @24509 has 64 MA's), (Start: 117 @24578 has 1 MA's), (166, 24677), (186, 24722), (189, 24728), (215, 24782), (220, 24791), (242, 24827), (260, 24872), (274, 24893), (277, 24899), (279, 24902), (355, 25034), (356, 25037), (390, 25160), (398, 25181), (476, 25448),

Gene: Kropertea\_21 Start: 21486, Stop: 22568, Start Num: 66

Candidate Starts for Kropertea\_21:

(Start: 66 @21486 has 4 MA's), (171, 21738), (192, 21777), (196, 21786), (198, 21789), (211, 21816), (217, 21825), (232, 21849), (284, 21903), (286, 21906), (317, 21960), (358, 22080), (362, 22113), (363, 22116), (383, 22176), (398, 22215), (401, 22230), (436, 22341), (454, 22389),

Gene: Krueger\_28 Start: 22638, Stop: 23633, Start Num: 91

Candidate Starts for Krueger\_28:

(50, 22548), (Start: 91 @22638 has 64 MA's), (134, 22737), (Start: 138 @22743 has 3 MA's), (204, 22893), (250, 22974), (260, 22998), (355, 23160), (356, 23163), (376, 23247), (392, 23292), (477, 23571), (483, 23592), (486, 23610),

Gene: Kurt\_44 Start: 35989, Stop: 37047, Start Num: 92

Candidate Starts for Kurt\_44:

(3, 34549), (5, 34846), (7, 35077), (17, 35446), (Start: 41 @35824 has 22 MA's), (44, 35839), (46, 35857), (Start: 92 @35989 has 28 MA's), (257, 36334), (280, 36385), (309, 36433),

Gene: Lambano\_29 Start: 31590, Stop: 32747, Start Num: 47

Candidate Starts for Lambano\_29:

(Start: 47 @31590 has 34 MA's), (83, 31683), (88, 31698), (96, 31713), (100, 31725), (108, 31743), (147, 31833), (165, 31884), (168, 31893), (169, 31899), (174, 31911), (189, 31938), (195, 31953), (199, 31959), (201, 31965), (220, 31998), (223, 32007), (244, 32040), (258, 32073), (323, 32163), (326, 32169), (356, 32268), (357, 32271), (398, 32415), (447, 32568),

Gene: LastHope\_28 Start: 22491, Stop: 23498, Start Num: 91

Candidate Starts for LastHope\_28:

(Start: 91 @22491 has 64 MA's), (189, 22710), (199, 22731), (226, 22785), (250, 22827), (280, 22887), (329, 22935), (346, 22983), (355, 23013), (380, 23109), (386, 23121), (398, 23160), (456, 23331), (459, 23343),

Gene: LaterM\_28 Start: 23256, Stop: 24269, Start Num: 89

Candidate Starts for LaterM\_28:

(Start: 89 @23256 has 97 MA's), (Start: 138 @23367 has 3 MA's), (189, 23481), (250, 23598), (273, 23640), (279, 23652), (329, 23706), (355, 23784), (380, 23880), (386, 23892), (398, 23931), (412, 24012), (433, 24045), (459, 24114), (478, 24210),

Gene: Lavahound\_26 Start: 23365, Stop: 24360, Start Num: 89

Candidate Starts for Lavahound\_26:

(71, 23329), (Start: 89 @23365 has 97 MA's), (126, 23455), (Start: 138 @23476 has 3 MA's), (186, 23584), (189, 23590), (199, 23611), (206, 23632), (338, 23839), (355, 23893), (356, 23896), (376, 23980), (377, 23983), (398, 24040), (432, 24148),

Gene: LeBron\_21 Start: 21711, Stop: 22886, Start Num: 47

Candidate Starts for LeBron\_21:

(Start: 47 @21711 has 34 MA's), (Start: 49 @21714 has 27 MA's), (Start: 97 @21840 has 1 MA's), (113, 21882), (116, 21894), (118, 21897), (131, 21930), (141, 21942), (159, 21990), (166, 22008), (180, 22044), (189, 22059), (215, 22110), (232, 22140), (253, 22182), (266, 22206), (297, 22242), (302, 22248), (317, 22275), (326, 22293), (357, 22386), (358, 22389), (378, 22473), (411, 22611), (424, 22629), (459, 22713),

Gene: LeMond\_27 Start: 22583, Stop: 23551, Start Num: 90

Candidate Starts for LeMond\_27:

(Start: 90 @22583 has 6 MA's), (154, 22718), (162, 22745), (165, 22751), (171, 22772), (174, 22778), (195, 22820), (218, 22865), (242, 22907), (250, 22922), (329, 23030), (357, 23114), (450, 23390),

Gene: Lea83\_28 Start: 23930, Stop: 24949, Start Num: 91

Candidate Starts for Lea83\_28:

(25, 23549), (26, 23561), (31, 23597), (33, 23621), (38, 23741), (50, 23840), (64, 23897), (Start: 91 @23930 has 64 MA's), (105, 23963), (154, 24062), (155, 24068), (159, 24080), (182, 24137), (186, 24143), (215, 24203), (250, 24266), (255, 24275), (275, 24311), (282, 24332), (288, 24344), (333, 24383), (355, 24452), (381, 24551), (398, 24599), (403, 24635), (425, 24698), (443, 24740), (459, 24788), (468, 24830), (486, 24926),

Gene: Lebo14\_29 Start: 24599, Stop: 25603, Start Num: 91

Candidate Starts for Lebo14\_29:

(Start: 91 @24599 has 64 MA's), (166, 24767), (169, 24779), (186, 24812), (189, 24818), (215, 24872), (220, 24881), (260, 24962), (274, 24983), (277, 24989), (279, 24992), (355, 25124), (356, 25127), (390, 25250),

Gene: Leopard\_42 Start: 33163, Stop: 34302, Start Num: 76

Candidate Starts for Leopard\_42:

(Start: 75 @33160 has 1 MA's), (Start: 76 @33163 has 3 MA's), (84, 33184), (98, 33220), (146, 33334), (147, 33337), (167, 33391), (176, 33418), (230, 33523), (236, 33532), (270, 33604), (287, 33655), (290, 33664), (303, 33685), (324, 33721), (379, 33907), (393, 33949), (394, 33952), (401, 33976), (409, 34042),

Gene: LilHazelnut\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for LilHazelnut\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: LilPharaoh\_24 Start: 22900, Stop: 23907, Start Num: 91

Candidate Starts for LilPharaoh\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: LilSpotty\_25 Start: 21191, Stop: 22405, Start Num: 102

Candidate Starts for LilSpotty\_25:

(36, 20861), (56, 21059), (Start: 101 @21188 has 6 MA's), (Start: 102 @21191 has 16 MA's), (214, 21452), (286, 21623), (343, 21773), (350, 21812), (372, 21914), (381, 21956), (474, 22328),

Gene: LindNT\_28 Start: 23290, Stop: 24303, Start Num: 89

Candidate Starts for LindNT\_28:

(69, 23245), (Start: 89 @23290 has 97 MA's), (Start: 138 @23401 has 3 MA's), (189, 23515), (250, 23632), (273, 23674), (279, 23686), (329, 23740), (355, 23818), (375, 23902), (380, 23914), (386, 23926), (398, 23965), (478, 24244),

Gene: LittleDigger\_29 Start: 31609, Stop: 32769, Start Num: 47

Candidate Starts for LittleDigger\_29:

(Start: 47 @31609 has 34 MA's), (83, 31702), (88, 31717), (96, 31732), (100, 31744), (108, 31762), (118, 31795), (Start: 138 @31837 has 3 MA's), (165, 31903), (168, 31912), (174, 31930), (189, 31957), (199, 31978), (201, 31984), (202, 31987), (210, 32005), (223, 32029), (244, 32062), (265, 32107), (291, 32125), (311, 32155), (323, 32185), (326, 32191), (346, 32257), (356, 32290), (398, 32437), (447, 32590),

Gene: Llorens\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Llorens\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Lolalove\_30 Start: 32616, Stop: 33773, Start Num: 47

Candidate Starts for Lolalove\_30:

(Start: 47 @32616 has 34 MA's), (83, 32709), (88, 32724), (96, 32739), (100, 32751), (108, 32769), (165, 32910), (168, 32919), (174, 32937), (189, 32964), (195, 32979), (199, 32985), (201, 32991), (203, 32997), (220, 33024), (223, 33033), (244, 33066), (258, 33099), (307, 33153), (311, 33159), (323, 33189), (326, 33195), (331, 33216), (339, 33240), (356, 33294), (357, 33297), (398, 33441), (447, 33594),

Gene: Lolly9\_22 Start: 22045, Stop: 23244, Start Num: 49

Candidate Starts for Lolly9\_22:

(Start: 49 @22045 has 27 MA's), (59, 22072), (93, 22159), (100, 22177), (104, 22186), (116, 22225), (143, 22276), (145, 22279), (159, 22321), (169, 22351), (171, 22357), (174, 22363), (195, 22405), (258, 22525), (265, 22537), (267, 22543), (326, 22681), (355, 22774), (361, 22810), (378, 22864), (383, 22882), (448, 23074), (473, 23182),

Gene: Luchador\_34 Start: 25731, Stop: 26627, Start Num: 140

Candidate Starts for Luchador\_34:

(Start: 140 @25731 has 5 MA's), (223, 25905), (246, 25941), (255, 25962), (296, 26016), (302, 26025), (355, 26157), (464, 26493), (471, 26523),

Gene: Luke\_27 Start: 23371, Stop: 24564, Start Num: 41

Candidate Starts for Luke\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (110, 23548), (114, 23560), (131, 23599), (159, 23656), (182, 23707), (190, 23722), (206, 23761), (229, 23794), (242, 23815), (245, 23821), (262, 23857), (271, 23869), (273, 23872), (294, 23920), (297, 23926), (299, 23929), (306, 23938), (355, 24076), (380, 24169), (400, 24226), (401, 24232), (422, 24316), (429, 24331), (431, 24334), (456, 24400), (463, 24433),

Gene: Luna22\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Luna22\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (19, 23038), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Lunahalos\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Lunahalos\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: MAckerman\_21 Start: 21688, Stop: 22860, Start Num: 49

Candidate Starts for MAckerman\_21:

(Start: 47 @21685 has 34 MA's), (Start: 49 @21688 has 27 MA's), (Start: 97 @21814 has 1 MA's), (113, 21856), (116, 21868), (118, 21871), (131, 21904), (141, 21916), (159, 21964), (166, 21982), (180, 22018), (189, 22033), (215, 22084), (232, 22114), (253, 22156), (266, 22180), (297, 22216), (302, 22222), (317, 22249), (326, 22267), (357, 22360), (358, 22363), (378, 22447), (411, 22585), (424, 22603), (459, 22687),

Gene: MacKat\_28 Start: 23333, Stop: 24346, Start Num: 89

Candidate Starts for MacKat\_28:

(22, 22889), (69, 23288), (Start: 89 @23333 has 97 MA's), (Start: 138 @23444 has 3 MA's), (189, 23558), (250, 23675), (273, 23717), (279, 23729), (329, 23783), (355, 23861), (375, 23945), (380, 23957), (386, 23969), (394, 23999), (398, 24008), (433, 24122), (459, 24191),

Gene: MacnCheese\_29 Start: 24319, Stop: 25308, Start Num: 91

Candidate Starts for MacnCheese\_29:

(50, 24199), (64, 24256), (Start: 91 @24319 has 64 MA's), (105, 24352), (154, 24448), (155, 24454), (184, 24526), (260, 24676), (275, 24697), (286, 24724), (356, 24841), (375, 24919), (380, 24931), (381, 24934), (472, 25231),

Gene: Magpie\_29 Start: 32448, Stop: 33605, Start Num: 47

Candidate Starts for Magpie\_29:

(Start: 47 @32448 has 34 MA's), (83, 32541), (88, 32556), (96, 32571), (100, 32583), (108, 32601), (147, 32691), (165, 32742), (168, 32751), (169, 32757), (174, 32769), (189, 32796), (195, 32811), (199, 32817), (201, 32823), (220, 32856), (223, 32865), (244, 32898), (258, 32931), (323, 33021), (326, 33027), (356, 33126), (357, 33129), (398, 33273), (447, 33426),

Gene: Magsby\_22 Start: 20220, Stop: 21434, Start Num: 102

Candidate Starts for Magsby\_22:

(36, 19890), (56, 20088), (Start: 101 @20217 has 6 MA's), (Start: 102 @20220 has 16 MA's), (214, 20481), (286, 20652), (343, 20802), (350, 20841), (372, 20943), (381, 20985), (474, 21357),

Gene: Mahdia\_28 Start: 21227, Stop: 22375, Start Num: 55

Candidate Starts for Mahdia\_28:

(Start: 55 @21227 has 2 MA's), (79, 21299), (112, 21374), (113, 21377), (122, 21407), (142, 21440), (161, 21491), (163, 21497), (230, 21617), (261, 21683), (313, 21776), (321, 21800), (330, 21824), (340, 21854), (353, 21896), (369, 21956), (386, 22013), (389, 22028), (397, 22049), (398, 22052), (418, 22136), (423, 22145),

Gene: Malthus\_30 Start: 24509, Stop: 25513, Start Num: 91

Candidate Starts for Malthus\_30:

(Start: 91 @24509 has 64 MA's), (Start: 117 @24578 has 1 MA's), (166, 24677), (186, 24722), (189, 24728), (215, 24782), (220, 24791), (242, 24827), (260, 24872), (274, 24893), (277, 24899), (279, 24902), (355, 25034), (356, 25037), (390, 25160), (398, 25181), (456, 25352), (476, 25448),

Gene: Manilisa\_32 Start: 27398, Stop: 28474, Start Num: 92

Candidate Starts for Manilisa\_32:

(Start: 92 @27398 has 28 MA's), (145, 27515), (155, 27545), (177, 27608), (218, 27683), (220, 27686), (257, 27755), (260, 27767), (312, 27860), (349, 27962), (353, 27977), (366, 28034),

Gene: Marcoliusprime\_25 Start: 21282, Stop: 22277, Start Num: 91

Candidate Starts for Marcoliusprime\_25:

(38, 21099), (50, 21198), (Start: 91 @21282 has 64 MA's), (121, 21363), (134, 21387), (162, 21447), (186, 21501), (189, 21507), (242, 21609), (243, 21612), (269, 21660), (273, 21666), (291, 21708), (329, 21732), (357, 21816), (377, 21900), (398, 21957), (486, 22254),

Gene: MarkPhew\_28 Start: 22462, Stop: 23448, Start Num: 91

Candidate Starts for MarkPhew\_28:

(Start: 91 @22462 has 64 MA's), (136, 22567), (165, 22630), (171, 22651), (174, 22657), (182, 22672), (195, 22699), (226, 22759), (242, 22786), (297, 22891), (356, 22990), (376, 23074), (390, 23113), (444, 23263), (465, 23317), (468, 23332),

Gene: Marshawn\_29 Start: 23145, Stop: 24104, Start Num: 91

Candidate Starts for Marshawn\_29:

(Start: 91 @23145 has 64 MA's), (103, 23175), (160, 23301), (166, 23316), (182, 23355), (195, 23382), (245, 23475), (250, 23484), (273, 23526), (329, 23592), (355, 23670), (356, 23673), (381, 23766), (408, 23874), (433, 23910),

Gene: McMater\_28 Start: 22728, Stop: 23693, Start Num: 89

Candidate Starts for McMater\_28:

(Start: 89 @22728 has 97 MA's), (Start: 92 @22734 has 28 MA's), (159, 22887), (166, 22905), (171, 22923), (189, 22956), (206, 22998), (242, 23058), (250, 23073), (355, 23259), (356, 23262), (373, 23334), (398, 23403), (408, 23451), (413, 23466), (433, 23499), (450, 23538), (479, 23637),

Gene: Mdavu\_24 Start: 22888, Stop: 23895, Start Num: 91

Candidate Starts for Mdavu\_24:

(68, 22837), (74, 22849), (Start: 91 @22888 has 64 MA's), (115, 22948), (154, 23020), (171, 23074), (182, 23095), (250, 23224), (274, 23269), (276, 23272), (328, 23329), (329, 23332), (345, 23377), (356, 23413), (380, 23509), (386, 23521), (423, 23641), (467, 23773),

Gene: MeaningOfLife\_28 Start: 23292, Stop: 24305, Start Num: 89

Candidate Starts for MeaningOfLife\_28:

(22, 22848), (69, 23247), (Start: 89 @23292 has 97 MA's), (Start: 138 @23403 has 3 MA's), (186, 23511), (189, 23517), (250, 23634), (273, 23676), (279, 23688), (329, 23742), (355, 23820), (375, 23904), (380, 23916), (386, 23928), (398, 23967), (433, 24081), (459, 24150),

Gene: Megsy\_28 Start: 23293, Stop: 24306, Start Num: 89

Candidate Starts for Megsy\_28:

(22, 22849), (69, 23248), (Start: 89 @23293 has 97 MA's), (Start: 138 @23404 has 3 MA's), (189, 23518), (250, 23635), (273, 23677), (279, 23689), (329, 23743), (355, 23821), (375, 23905), (380, 23917), (386, 23929), (398, 23968), (478, 24247),

Gene: Melville\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Melville\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: MerCougar\_46 Start: 36238, Stop: 37293, Start Num: 92

Candidate Starts for MerCougar\_46:

(65, 36175), (Start: 92 @36238 has 28 MA's), (179, 36451), (272, 36610), (281, 36634), (386, 36922), (476, 37222), (486, 37267),

Gene: Milly\_25 Start: 21282, Stop: 22277, Start Num: 91

Candidate Starts for Milly\_25:

(38, 21099), (50, 21198), (Start: 91 @21282 has 64 MA's), (121, 21363), (134, 21387), (162, 21447), (186, 21501), (189, 21507), (242, 21609), (243, 21612), (269, 21660), (273, 21666), (291, 21708), (329, 21732), (357, 21816), (377, 21900), (398, 21957), (486, 22254),

Gene: MiniLon\_22 Start: 22045, Stop: 23244, Start Num: 49

Candidate Starts for MiniLon\_22:

(Start: 49 @22045 has 27 MA's), (59, 22072), (93, 22159), (100, 22177), (104, 22186), (116, 22225), (143, 22276), (145, 22279), (159, 22321), (169, 22351), (171, 22357), (174, 22363), (195, 22405), (258, 22525), (265, 22537), (267, 22543), (326, 22681), (355, 22774), (361, 22810), (378, 22864), (383, 22882), (448, 23074), (473, 23182),

Gene: MiniMac\_22 Start: 22046, Stop: 23245, Start Num: 49

Candidate Starts for MiniMac\_22:

(Start: 49 @22046 has 27 MA's), (59, 22073), (93, 22160), (100, 22178), (116, 22226), (143, 22277), (145, 22280), (159, 22322), (169, 22352), (171, 22358), (174, 22364), (195, 22406), (258, 22526), (265, 22538), (267, 22544), (326, 22682), (355, 22775), (361, 22811), (378, 22865), (383, 22883), (448, 23075), (473, 23183),

Gene: MissDaisy\_29 Start: 24351, Stop: 25355, Start Num: 91

Candidate Starts for MissDaisy\_29:

(Start: 91 @24351 has 64 MA's), (166, 24519), (186, 24564), (189, 24570), (215, 24624), (260, 24714), (274, 24735), (279, 24744), (355, 24876), (356, 24879), (390, 25002), (398, 25023), (476, 25290),

Gene: Mithril\_30 Start: 32620, Stop: 33777, Start Num: 47

Candidate Starts for Mithril\_30:

(Start: 47 @32620 has 34 MA's), (83, 32713), (88, 32728), (96, 32743), (100, 32755), (108, 32773), (120, 32815), (165, 32914), (168, 32923), (174, 32941), (189, 32968), (195, 32983), (199, 32989), (201, 32995), (203, 33001), (220, 33028), (223, 33037), (244, 33070), (258, 33103), (311, 33163), (323, 33193), (326, 33199), (339, 33244), (356, 33298), (357, 33301), (398, 33445), (447, 33598),

Gene: Mitti\_29 Start: 24509, Stop: 25513, Start Num: 91

Candidate Starts for Mitti\_29:

(Start: 91 @24509 has 64 MA's), (166, 24677), (186, 24722), (189, 24728), (215, 24782), (260, 24872), (274, 24893), (279, 24902), (355, 25034), (356, 25037), (373, 25112), (398, 25181), (466, 25391),

Gene: Morrissey\_29 Start: 22778, Stop: 23920, Start Num: 55

Candidate Starts for Morrissey\_29:

(Start: 55 @22778 has 2 MA's), (Start: 89 @22868 has 97 MA's), (95, 22880), (Start: 101 @22898 has 6 MA's), (127, 22967), (144, 22994), (225, 23159), (230, 23168), (252, 23213), (261, 23234), (297, 23303), (321, 23351), (330, 23375), (356, 23450), (357, 23453), (375, 23534), (378, 23540), (386, 23558), (389, 23573), (395, 23591), (397, 23594), (408, 23666), (418, 23681), (452, 23750), (460, 23768), (461, 23771), (481, 23867), (485, 23894), (486, 23897),

Gene: MrMagoo\_35 Start: 27841, Stop: 28923, Start Num: 81

Candidate Starts for MrMagoo\_35:

(77, 27835), (Start: 81 @27841 has 6 MA's), (111, 27916), (130, 27961), (132, 27967), (137, 27973), (149, 27991), (167, 28036), (171, 28051), (180, 28066), (197, 28090), (205, 28111), (237, 28165), (241, 28171), (254, 28201), (268, 28234), (318, 28345), (334, 28381), (483, 28879),

Gene: Mudslide\_30 Start: 32852, Stop: 34009, Start Num: 47

Candidate Starts for Mudslide\_30:

(Start: 47 @32852 has 34 MA's), (83, 32945), (88, 32960), (96, 32975), (100, 32987), (108, 33005), (120, 33047), (147, 33095), (165, 33146), (168, 33155), (174, 33173), (189, 33200), (195, 33215), (199, 33221), (201, 33227), (203, 33233), (220, 33260), (223, 33269), (244, 33302), (258, 33335), (323, 33425), (326, 33431), (339, 33476), (356, 33530), (357, 33533), (398, 33677), (447, 33830),

Gene: Mufasa\_25 Start: 21302, Stop: 22327, Start Num: 91

Candidate Starts for Mufasa\_25:

(50, 21218), (Start: 91 @21302 has 64 MA's), (134, 21407), (162, 21467), (186, 21521), (189, 21527), (229, 21608), (233, 21614), (242, 21629), (243, 21632), (357, 21836), (484, 22295),

Gene: MulchSalad\_20 Start: 19992, Stop: 21206, Start Num: 102

Candidate Starts for MulchSalad\_20:

(36, 19662), (56, 19860), (Start: 101 @19989 has 6 MA's), (Start: 102 @19992 has 16 MA's), (214, 20253), (286, 20424), (343, 20574), (350, 20613), (372, 20715), (381, 20757), (474, 21129),

Gene: Murucutumbu\_28 Start: 23275, Stop: 24288, Start Num: 89

Candidate Starts for Murucutumbu\_28:

(Start: 89 @23275 has 97 MA's), (Start: 138 @23386 has 3 MA's), (189, 23500), (250, 23617), (273, 23659), (329, 23725), (355, 23803), (356, 23806), (380, 23899), (386, 23911), (390, 23929), (398, 23950), (433, 24064), (459, 24133), (478, 24229),

Gene: Mynx\_28 Start: 23339, Stop: 24352, Start Num: 89

Candidate Starts for Mynx\_28:

(22, 22895), (69, 23294), (Start: 89 @23339 has 97 MA's), (189, 23564), (250, 23681), (273, 23723), (279, 23735), (329, 23789), (355, 23867), (380, 23963), (386, 23975), (394, 24005), (398, 24014), (433, 24128), (459, 24197),

Gene: Nanao\_29 Start: 31577, Stop: 32734, Start Num: 47

Candidate Starts for Nanao\_29:

(Start: 47 @31577 has 34 MA's), (83, 31670), (88, 31685), (96, 31700), (100, 31712), (108, 31730), (147, 31820), (165, 31871), (168, 31880), (169, 31886), (174, 31898), (189, 31925), (195, 31940), (199, 31946), (201, 31952), (220, 31985), (223, 31994), (244, 32027), (258, 32060), (323, 32150), (326, 32156), (356, 32255), (357, 32258), (398, 32402), (447, 32555),

Gene: Nanosmite\_35 Start: 27723, Stop: 28895, Start Num: 53

Candidate Starts for Nanosmite\_35:

(51, 27717), (Start: 53 @27723 has 1 MA's), (85, 27828), (88, 27831), (100, 27858), (154, 27984), (172, 28038), (175, 28044), (178, 28053), (207, 28113), (228, 28146), (246, 28176), (249, 28182), (294, 28242), (317, 28284), (397, 28539), (404, 28593), (447, 28689), (454, 28716), (457, 28722),

Gene: NatB6\_44 Start: 35025, Stop: 36083, Start Num: 92

Candidate Starts for NatB6\_44:

(3, 33585), (5, 33882), (7, 34113), (17, 34482), (Start: 41 @34860 has 22 MA's), (44, 34875), (46, 34893), (Start: 92 @35025 has 28 MA's), (257, 35370), (280, 35421), (309, 35469),

Gene: Nibb\_27 Start: 22603, Stop: 23589, Start Num: 91

Candidate Starts for Nibb\_27:

(Start: 91 @22603 has 64 MA's), (136, 22708), (160, 22759), (165, 22771), (171, 22792), (174, 22798), (182, 22813), (195, 22840), (226, 22900), (242, 22927), (288, 23020), (297, 23032), (352, 23119), (356, 23131), (376, 23215), (390, 23254), (399, 23281), (411, 23350), (444, 23404),

Gene: Nigel\_28 Start: 31491, Stop: 32651, Start Num: 47

Candidate Starts for Nigel\_28:

(14, 30987), (Start: 47 @31491 has 34 MA's), (57, 31518), (88, 31602), (96, 31617), (100, 31629), (108, 31647), (165, 31788), (168, 31797), (174, 31815), (189, 31842), (195, 31857), (199, 31863), (201, 31869), (209, 31887), (220, 31902), (223, 31911), (244, 31944), (258, 31977), (265, 31989), (286, 31995), (323, 32067), (326, 32073), (353, 32163), (356, 32172), (398, 32319), (447, 32472),

Gene: Nikao\_24 Start: 22900, Stop: 23907, Start Num: 91

Candidate Starts for Nikao\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: Niklas\_28 Start: 22731, Stop: 23696, Start Num: 89

Candidate Starts for Niklas\_28:

(Start: 89 @22731 has 97 MA's), (Start: 92 @22737 has 28 MA's), (159, 22890), (166, 22908), (171, 22926), (189, 22959), (206, 23001), (242, 23061), (250, 23076), (355, 23262), (356, 23265), (373, 23337), (398, 23406), (408, 23454), (413, 23469), (433, 23502), (450, 23541), (479, 23640),

Gene: NoShow\_22 Start: 21146, Stop: 22273, Start Num: 75

Candidate Starts for NoShow\_22:

(Start: 75 @21146 has 1 MA's), (134, 21290), (Start: 138 @21296 has 3 MA's), (146, 21308), (147, 21311), (155, 21335), (234, 21506), (245, 21527), (277, 21599), (293, 21647), (369, 21845), (374, 21878), (472, 22193),

Gene: NosilaM\_48 Start: 35951, Stop: 37006, Start Num: 92

Candidate Starts for NosilaM\_48:

(Start: 92 @35951 has 28 MA's), (179, 36164), (281, 36347), (386, 36635), (486, 36980),

Gene: November\_26 Start: 23628, Stop: 24632, Start Num: 89

Candidate Starts for November\_26:

(29, 23256), (71, 23592), (Start: 89 @23628 has 97 MA's), (131, 23730), (182, 23841), (199, 23874), (250, 23970), (347, 24129), (377, 24243), (419, 24396), (459, 24489),

Gene: NovoPizza\_24 Start: 24478, Stop: 25725, Start Num: 42

Candidate Starts for NovoPizza\_24:

(1, 22918), (2, 23035), (4, 23296), (6, 23614), (10, 23929), (11, 23953), (15, 24055), (40, 24454), (Start: 42 @24478 has 1 MA's), (44, 24487), (58, 24550), (82, 24616), (99, 24661), (100, 24664), (145, 24763), (159, 24805), (213, 24916), (219, 24925), (286, 25054), (346, 25195), (354, 25216), (380, 25321), (381, 25324), (391, 25348), (420, 25462), (470, 25615), (488, 25705),

Gene: NovumRegina\_44 Start: 35355, Stop: 36413, Start Num: 92

Candidate Starts for NovumRegina\_44:

(3, 33915), (5, 34212), (7, 34443), (17, 34812), (Start: 41 @35190 has 22 MA's), (44, 35205), (46, 35223), (Start: 92 @35355 has 28 MA's), (257, 35700), (280, 35751), (309, 35799),

Gene: Nutello\_24 Start: 22900, Stop: 23907, Start Num: 91

Candidate Starts for Nutello\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: OBUpride\_27 Start: 23365, Stop: 24603, Start Num: 41

Candidate Starts for OBUpride\_27:

(8, 22753), (9, 22819), (12, 22909), (13, 22912), (20, 23062), (27, 23149), (28, 23152), (37, 23290), (Start: 41 @23365 has 22 MA's), (62, 23461), (72, 23488), (Start: 75 @23494 has 1 MA's), (Start: 91 @23533 has 64 MA's), (95, 23542), (110, 23587), (114, 23599), (131, 23638), (159, 23695), (182, 23746), (190, 23761), (206, 23800), (229, 23833), (242, 23854), (245, 23860), (262, 23896), (271, 23908), (273, 23911), (294, 23959), (297, 23965), (299, 23968), (306, 23977), (355, 24115), (380, 24208), (400, 24265), (401, 24271), (422, 24355), (429, 24370), (431, 24373), (456, 24439), (463, 24472),

Gene: OhShagHennessy\_21 Start: 21653, Stop: 22825, Start Num: 49

Candidate Starts for OhShagHennessy\_21:

(Start: 47 @21650 has 34 MA's), (Start: 49 @21653 has 27 MA's), (Start: 97 @21779 has 1 MA's), (113, 21821), (116, 21833), (118, 21836), (131, 21869), (141, 21881), (159, 21929), (166, 21947), (180, 21983), (189, 21998), (215, 22049), (232, 22079), (253, 22121), (266, 22145), (297, 22181), (302, 22187), (317, 22214), (326, 22232), (357, 22325), (358, 22328), (378, 22412), (411, 22550), (424, 22568), (459, 22652),

Gene: OmniCritical\_29 Start: 24494, Stop: 25498, Start Num: 91

Candidate Starts for OmniCritical\_29:

(Start: 91 @24494 has 64 MA's), (166, 24662), (186, 24707), (189, 24713), (215, 24767), (220, 24776), (260, 24857), (274, 24878), (277, 24884), (279, 24887), (355, 25019), (356, 25022), (390, 25145), (466, 25376),

Gene: Onyinye\_43 Start: 33042, Stop: 34181, Start Num: 76

Candidate Starts for Onyinye\_43:

(Start: 75 @33039 has 1 MA's), (Start: 76 @33042 has 3 MA's), (84, 33063), (98, 33099), (146, 33213), (147, 33216), (167, 33270), (176, 33297), (230, 33402), (236, 33411), (270, 33483), (287, 33534), (290, 33543), (303, 33564), (324, 33600), (379, 33786), (393, 33828), (394, 33831), (401, 33855),

(409, 33921),

Gene: Oscar\_27 Start: 22584, Stop: 23552, Start Num: 90

Candidate Starts for Oscar\_27:

(Start: 90 @22584 has 6 MA's), (162, 22746), (165, 22752), (171, 22773), (174, 22779), (195, 22821), (218, 22866), (242, 22908), (250, 22923), (329, 23031), (357, 23115), (450, 23391),

Gene: Outis\_46 Start: 35932, Stop: 36987, Start Num: 92

Candidate Starts for Outis\_46:

(65, 35869), (Start: 92 @35932 has 28 MA's), (179, 36145), (272, 36304), (281, 36328), (386, 36616), (476, 36916), (486, 36961),

Gene: P3MA\_24 Start: 20823, Stop: 21977, Start Num: 49

Candidate Starts for P3MA\_24:

(Start: 49 @20823 has 27 MA's), (100, 20955), (Start: 101 @20958 has 6 MA's), (116, 21003), (118, 21006), (120, 21015), (131, 21039), (151, 21075), (152, 21078), (154, 21081), (174, 21141), (189, 21168), (203, 21201), (215, 21219), (265, 21315), (286, 21321), (292, 21336), (317, 21381), (348, 21471), (353, 21489), (398, 21645), (407, 21711),

Gene: PYPDinur\_21 Start: 21427, Stop: 22581, Start Num: 49

Candidate Starts for PYPDinur\_21:

(Start: 49 @21427 has 27 MA's), (85, 21529), (93, 21541), (118, 21610), (159, 21703), (180, 21757), (195, 21787), (200, 21796), (221, 21835), (256, 21883), (276, 21907), (283, 21919), (294, 21943), (326, 22003), (335, 22033), (370, 22150), (376, 22186), (380, 22195), (399, 22252), (403, 22291),

Gene: Padfoot\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Padfoot\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Padpat\_28 Start: 23316, Stop: 24329, Start Num: 89

Candidate Starts for Padpat\_28:

(22, 22872), (69, 23271), (Start: 89 @23316 has 97 MA's), (189, 23541), (250, 23658), (273, 23700), (279, 23712), (329, 23766), (355, 23844), (380, 23940), (386, 23952), (394, 23982), (398, 23991), (433, 24105), (459, 24174),

Gene: Parmesanjohn\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Parmesanjohn\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Patio\_48 Start: 36198, Stop: 37259, Start Num: 92

Candidate Starts for Patio\_48:

(Start: 92 @36198 has 28 MA's), (168, 36384), (270, 36570), (272, 36573), (357, 36783),

Gene: Patt\_29 Start: 24327, Stop: 25331, Start Num: 91

Candidate Starts for Patt\_29:

(Start: 91 @24327 has 64 MA's), (166, 24495), (186, 24540), (189, 24546), (215, 24600), (260, 24690), (274, 24711), (279, 24720), (355, 24852), (356, 24855), (395, 24993), (406, 25062),

Gene: Peanam\_28 Start: 22728, Stop: 23693, Start Num: 89

Candidate Starts for Peanam\_28:

(Start: 89 @22728 has 97 MA's), (Start: 92 @22734 has 28 MA's), (159, 22887), (166, 22905), (171, 22923), (189, 22956), (206, 22998), (242, 23058), (250, 23073), (279, 23127), (355, 23259), (356, 23262), (373, 23334), (398, 23403), (408, 23451), (413, 23466), (433, 23499), (450, 23538), (479, 23637),

Gene: Peel\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Peel\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Pemberton\_48 Start: 33038, Stop: 34129, Start Num: 92

Candidate Starts for Pemberton\_48:

(Start: 92 @33038 has 28 MA's), (106, 33071), (148, 33167), (228, 33350), (262, 33419), (330, 33557), (334, 33569), (335, 33572),

Gene: PenguinLover67\_33 Start: 33434, Stop: 34648, Start Num: 49

Candidate Starts for PenguinLover67\_33:

(Start: 49 @33434 has 27 MA's), (Start: 97 @33572 has 1 MA's), (118, 33632), (143, 33680), (145, 33683), (157, 33719), (165, 33740), (180, 33779), (193, 33803), (212, 33842), (236, 33881), (247, 33902), (255, 33920), (257, 33923), (356, 34136), (357, 34139), (369, 34184), (452, 34478),

Gene: Pharb\_27 Start: 23529, Stop: 24596, Start Num: 87

Candidate Starts for Pharb\_27:

(Start: 87 @23529 has 1 MA's), (105, 23565), (107, 23568), (Start: 138 @23634 has 3 MA's), (154, 23661), (169, 23709), (182, 23736), (189, 23748), (199, 23769), (233, 23835), (279, 23919), (308, 23976), (310, 23979), (355, 24111), (356, 24114), (360, 24147), (368, 24162), (397, 24255), (414, 24345),

Gene: PhelpsODU\_28 Start: 22720, Stop: 23781, Start Num: 91

Candidate Starts for PhelpsODU\_28:

(50, 22630), (64, 22687), (Start: 91 @22720 has 64 MA's), (134, 22819), (182, 22927), (189, 22939), (199, 22960), (250, 23056), (310, 23170), (328, 23221), (360, 23338), (438, 23581), (446, 23599), (459, 23638),

Gene: Philonius\_22 Start: 20220, Stop: 21437, Start Num: 101

Candidate Starts for Philonius\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Phomeo\_43 Start: 35624, Stop: 36682, Start Num: 92

Candidate Starts for Phomeo\_43:

(3, 34184), (5, 34481), (7, 34712), (17, 35081), (Start: 41 @35459 has 22 MA's), (44, 35474), (46, 35492), (Start: 92 @35624 has 28 MA's), (257, 35969), (280, 36020), (309, 36068),

Gene: Phrank\_28 Start: 22670, Stop: 23731, Start Num: 91

Candidate Starts for Phrank\_28:

(Start: 91 @22670 has 64 MA's), (123, 22748), (125, 22751), (134, 22769), (182, 22877), (195, 22904), (199, 22910), (250, 23006), (257, 23018), (310, 23120), (328, 23171), (360, 23288), (438, 23531), (446, 23549), (459, 23588),

Gene: Piatt\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Piatt\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Pipsqueaks\_22 Start: 20220, Stop: 21437, Start Num: 101

Candidate Starts for Pipsqueaks\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Pisa1\_27 Start: 23391, Stop: 24404, Start Num: 89

Candidate Starts for Pisa1\_27:

(Start: 89 @23391 has 97 MA's), (Start: 138 @23502 has 3 MA's), (184, 23607), (189, 23616), (226, 23691), (250, 23733), (273, 23775), (279, 23787), (329, 23841), (355, 23919), (380, 24015), (386, 24027), (392, 24051), (459, 24249), (478, 24345),

Gene: Pisa4\_27 Start: 23391, Stop: 24404, Start Num: 89

Candidate Starts for Pisa4\_27:

(Start: 89 @23391 has 97 MA's), (Start: 138 @23502 has 3 MA's), (184, 23607), (189, 23616), (226, 23691), (250, 23733), (273, 23775), (279, 23787), (329, 23841), (355, 23919), (380, 24015), (386, 24027), (392, 24051), (459, 24249), (478, 24345),

Gene: Pixie\_28 Start: 23724, Stop: 24788, Start Num: 91

Candidate Starts for Pixie\_28:

(16, 23172), (18, 23238), (21, 23301), (23, 23313), (24, 23334), (30, 23376), (38, 23535), (50, 23634), (64, 23691), (Start: 91 @23724 has 64 MA's), (154, 23856), (155, 23862), (182, 23931), (186, 23937), (215, 23997), (226, 24018), (235, 24033), (277, 24111), (355, 24303), (360, 24339), (375, 24387), (390, 24429), (430, 24555),

Gene: Pleakley\_53 Start: 35398, Stop: 36480, Start Num: 92

Candidate Starts for Pleakley\_53:

(Start: 92 @35398 has 28 MA's), (143, 35515), (248, 35743), (287, 35827), (289, 35833), (314, 35872), (320, 35887), (334, 35929), (381, 36094), (437, 36274), (476, 36412),

Gene: Pokerus\_27 Start: 23273, Stop: 24286, Start Num: 89

Candidate Starts for Pokerus\_27:

(22, 22829), (69, 23228), (Start: 89 @23273 has 97 MA's), (Start: 138 @23384 has 3 MA's), (189, 23498), (250, 23615), (273, 23657), (279, 23669), (329, 23723), (355, 23801), (380, 23897), (386, 23909), (394, 23939), (398, 23948), (433, 24062), (459, 24131),

Gene: Pochiewood\_21 Start: 21688, Stop: 22860, Start Num: 49

Candidate Starts for Pochiewood\_21:

(Start: 47 @21685 has 34 MA's), (Start: 49 @21688 has 27 MA's), (Start: 97 @21814 has 1 MA's), (113, 21856), (116, 21868), (118, 21871), (131, 21904), (141, 21916), (159, 21964), (166, 21982), (180, 22018), (189, 22033), (215, 22084), (232, 22114), (253, 22156), (266, 22180), (297, 22216), (302, 22222), (317, 22249), (326, 22267), (357, 22360), (358, 22363), (378, 22447), (411, 22585), (424, 22603), (459, 22687),

Gene: Poster\_29 Start: 31578, Stop: 32735, Start Num: 47

Candidate Starts for Poster\_29:

(Start: 47 @31578 has 34 MA's), (83, 31671), (88, 31686), (96, 31701), (100, 31713), (108, 31731), (147, 31821), (165, 31872), (168, 31881), (169, 31887), (174, 31899), (189, 31926), (195, 31941), (199, 31947), (201, 31953), (220, 31986), (223, 31995), (244, 32028), (258, 32061), (323, 32151), (326, 32157), (356, 32256), (357, 32259), (398, 32403), (447, 32556),

Gene: Prince\_30 Start: 32761, Stop: 33918, Start Num: 47

Candidate Starts for Prince\_30:

(Start: 47 @32761 has 34 MA's), (83, 32854), (88, 32869), (96, 32884), (100, 32896), (108, 32914), (120, 32956), (147, 33004), (165, 33055), (168, 33064), (174, 33082), (189, 33109), (195, 33124), (199, 33130), (201, 33136), (203, 33142), (220, 33169), (223, 33178), (244, 33211), (258, 33244), (311, 33304), (323, 33334), (326, 33340), (339, 33385), (356, 33439), (357, 33442), (398, 33586), (447, 33739),

Gene: Prithvi\_28 Start: 23290, Stop: 24303, Start Num: 89

Candidate Starts for Prithvi\_28:

(69, 23245), (Start: 89 @23290 has 97 MA's), (Start: 138 @23401 has 3 MA's), (189, 23515), (250, 23632), (273, 23674), (279, 23686), (329, 23740), (355, 23818), (375, 23902), (380, 23914), (386, 23926), (398, 23965), (478, 24244),

Gene: Qhanda\_30 Start: 24605, Stop: 25609, Start Num: 91

Candidate Starts for Qhanda\_30:

(Start: 91 @24605 has 64 MA's), (166, 24773), (186, 24818), (189, 24824), (215, 24878), (220, 24887), (260, 24968), (274, 24989), (277, 24995), (279, 24998), (355, 25130), (356, 25133), (390, 25256),

Gene: Quby\_21 Start: 21546, Stop: 22553, Start Num: 99

Candidate Starts for Quby\_21:

(Start: 66 @21468 has 4 MA's), (99, 21546), (171, 21720), (192, 21759), (211, 21798), (232, 21831), (298, 21909), (317, 21942), (371, 22104), (444, 22338), (454, 22371), (462, 22395), (469, 22440),

Gene: QueenPie\_29 Start: 32702, Stop: 33859, Start Num: 47

Candidate Starts for QueenPie\_29:

(Start: 47 @32702 has 34 MA's), (83, 32795), (88, 32810), (96, 32825), (100, 32837), (108, 32855), (147, 32945), (165, 32996), (168, 33005), (174, 33023), (189, 33050), (195, 33065), (199, 33071), (201, 33077), (203, 33083), (220, 33110), (223, 33119), (244, 33152), (258, 33185), (286, 33203), (311, 33245), (323, 33275), (326, 33281), (331, 33302), (356, 33380), (357, 33383), (367, 33428), (398, 33527), (447, 33680),

Gene: Quesadilla\_32 Start: 33335, Stop: 34516, Start Num: 49

Candidate Starts for Quesadilla\_32:

(43, 33302), (Start: 49 @33335 has 27 MA's), (88, 33452), (96, 33467), (Start: 97 @33473 has 1 MA's), (118, 33533), (143, 33581), (152, 33605), (168, 33650), (187, 33689), (191, 33701), (195, 33710), (203, 33728), (228, 33770), (237, 33785), (257, 33824), (258, 33830), (299, 33875), (305, 33881), (326, 33926), (358, 34028),

Gene: QuincyRose\_27 Start: 23336, Stop: 24349, Start Num: 89

Candidate Starts for QuincyRose\_27:

(22, 22892), (69, 23291), (Start: 89 @23336 has 97 MA's), (Start: 138 @23447 has 3 MA's), (189, 23561), (250, 23678), (273, 23720), (279, 23732), (296, 23771), (329, 23786), (355, 23864), (375, 23948), (380, 23960), (386, 23972), (398, 24011), (433, 24125), (459, 24194),

Gene: Ramen\_28 Start: 23322, Stop: 24335, Start Num: 89

Candidate Starts for Ramen\_28:

(22, 22878), (69, 23277), (Start: 89 @23322 has 97 MA's), (Start: 138 @23433 has 3 MA's), (189, 23547), (250, 23664), (273, 23706), (279, 23718), (329, 23772), (355, 23850), (380, 23946), (394, 23988), (398, 23997), (433, 24111), (459, 24180),

Gene: Rapunzel97\_28 Start: 23323, Stop: 24336, Start Num: 89

Candidate Starts for Rapunzel97\_28:

(22, 22879), (35, 23026), (69, 23278), (Start: 89 @23323 has 97 MA's), (Start: 138 @23434 has 3 MA's), (189, 23548), (250, 23665), (273, 23707), (279, 23719), (329, 23773), (355, 23851), (380, 23947), (386, 23959), (394, 23989), (398, 23998), (433, 24112), (459, 24181),

Gene: RawrgerThat\_30 Start: 32607, Stop: 33764, Start Num: 47

Candidate Starts for RawrgerThat\_30:

(Start: 47 @32607 has 34 MA's), (83, 32700), (88, 32715), (96, 32730), (100, 32742), (108, 32760), (120, 32802), (165, 32901), (168, 32910), (174, 32928), (189, 32955), (195, 32970), (199, 32976), (201, 32982), (203, 32988), (220, 33015), (223, 33024), (244, 33057), (258, 33090), (323, 33180), (326, 33186), (356, 33285), (357, 33288), (398, 33432), (447, 33585),

Gene: Renkei\_29 Start: 31609, Stop: 32769, Start Num: 47

Candidate Starts for Renkei\_29:

(Start: 47 @31609 has 34 MA's), (83, 31702), (88, 31717), (96, 31732), (100, 31744), (108, 31762), (118, 31795), (Start: 138 @31837 has 3 MA's), (165, 31903), (168, 31912), (174, 31930), (189, 31957), (199, 31978), (201, 31984), (202, 31987), (210, 32005), (223, 32029), (244, 32062), (265, 32107), (291, 32125), (311, 32155), (323, 32185), (326, 32191), (346, 32257), (356, 32290), (398, 32437), (447, 32590),

Gene: Reptar3000\_29 Start: 24320, Stop: 25324, Start Num: 91

Candidate Starts for Reptar3000\_29:

(Start: 91 @24320 has 64 MA's), (166, 24488), (186, 24533), (189, 24539), (215, 24593), (220, 24602), (260, 24683), (274, 24704), (279, 24713), (355, 24845), (356, 24848), (395, 24986), (406, 25055), (476, 25259),

Gene: Rey\_35 Start: 28073, Stop: 29155, Start Num: 81

Candidate Starts for Rey\_35:

(77, 28067), (Start: 81 @28073 has 6 MA's), (111, 28148), (130, 28193), (137, 28205), (149, 28223), (153, 28232), (171, 28283), (180, 28298), (197, 28322), (205, 28343), (241, 28403), (337, 28622), (462, 29024),

Gene: Richo\_28 Start: 22728, Stop: 23693, Start Num: 89

Candidate Starts for Richo\_28:

(Start: 89 @22728 has 97 MA's), (Start: 92 @22734 has 28 MA's), (159, 22887), (166, 22905), (171, 22923), (189, 22956), (206, 22998), (242, 23058), (250, 23073), (355, 23259), (356, 23262), (373, 23334), (398, 23403), (408, 23451), (413, 23466), (433, 23499), (450, 23538), (479, 23637),

Gene: Rose5\_21 Start: 21688, Stop: 22860, Start Num: 49

Candidate Starts for Rose5\_21:

(Start: 47 @21685 has 34 MA's), (Start: 49 @21688 has 27 MA's), (Start: 97 @21814 has 1 MA's), (113, 21856), (116, 21868), (118, 21871), (131, 21904), (141, 21916), (159, 21964), (166, 21982), (180, 22018), (189, 22033), (215, 22084), (232, 22114), (253, 22156), (266, 22180), (297, 22216), (302, 22222), (317, 22249), (326, 22267), (357, 22360), (358, 22363), (378, 22447), (411, 22585), (424, 22603), (459, 22687),

Gene: RoseMarie\_32 Start: 29180, Stop: 30352, Start Num: 53

Candidate Starts for RoseMarie\_32:

(51, 29174), (Start: 53 @29180 has 1 MA's), (88, 29288), (100, 29315), (120, 29375), (129, 29393), (147, 29423), (154, 29441), (157, 29453), (172, 29495), (189, 29528), (202, 29558), (239, 29621), (249, 29639), (291, 29693), (315, 29735), (317, 29741), (322, 29753), (339, 29804), (391, 29981),

Gene: Rosmarinus\_28 Start: 23344, Stop: 24357, Start Num: 89

Candidate Starts for Rosmarinus\_28:

(22, 22900), (69, 23299), (Start: 89 @23344 has 97 MA's), (189, 23569), (250, 23686), (273, 23728), (279, 23740), (329, 23794), (355, 23872), (380, 23968), (394, 24010), (398, 24019), (433, 24133), (459, 24202),

Gene: Saguaro\_32 Start: 33436, Stop: 34548, Start Num: 49

Candidate Starts for Saguaro\_32:

(34, 33223), (43, 33406), (Start: 49 @33436 has 27 MA's), (88, 33550), (100, 33577), (112, 33610), (116, 33625), (118, 33631), (143, 33679), (147, 33688), (170, 33757), (180, 33778), (193, 33802), (195, 33808), (236, 33883), (239, 33889), (249, 33907), (251, 33916), (257, 33925), (258, 33931), (341, 34051), (409, 34303), (460, 34411), (462, 34417),

Gene: SamuelLPlaqson\_28 Start: 23284, Stop: 24297, Start Num: 89

Candidate Starts for SamuelLPlaqson\_28:

(69, 23239), (Start: 89 @23284 has 97 MA's), (Start: 138 @23395 has 3 MA's), (189, 23509), (250, 23626), (273, 23668), (279, 23680), (329, 23734), (355, 23812), (380, 23908), (386, 23920), (398, 23959), (403, 23995), (459, 24142), (478, 24238),

Gene: Scarlett\_27 Start: 22586, Stop: 23545, Start Num: 90

Candidate Starts for Scarlett\_27:

(Start: 90 @22586 has 6 MA's), (162, 22748), (165, 22754), (171, 22775), (174, 22781), (195, 22823), (218, 22868), (242, 22910), (250, 22925), (329, 23033), (357, 23117), (450, 23393),

Gene: Schnauzer\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Schnauzer\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Scuba\_53 Start: 35472, Stop: 36554, Start Num: 92

Candidate Starts for Scuba\_53:

(Start: 92 @35472 has 28 MA's), (143, 35589), (248, 35817), (287, 35901), (289, 35907), (320, 35961), (476, 36486),

Gene: SgtBeansprout\_24 Start: 22900, Stop: 23907, Start Num: 91

Candidate Starts for SgtBeansprout\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: Shadow1\_27 Start: 22543, Stop: 23604, Start Num: 91

Candidate Starts for Shadow1\_27:

(50, 22453), (Start: 91 @22543 has 64 MA's), (125, 22624), (134, 22642), (182, 22750), (189, 22762), (199, 22783), (250, 22879), (310, 22993), (328, 23044), (360, 23161), (368, 23176), (386, 23233), (398, 23272), (459, 23461),

Gene: Shaobing\_28 Start: 22728, Stop: 23693, Start Num: 89

Candidate Starts for Shaobing\_28:

(Start: 89 @22728 has 97 MA's), (Start: 92 @22734 has 28 MA's), (159, 22887), (166, 22905), (171, 22923), (189, 22956), (206, 22998), (242, 23058), (250, 23073), (355, 23259), (356, 23262), (373, 23334), (398, 23403), (408, 23451), (413, 23466), (433, 23499), (450, 23538), (479, 23637),

Gene: ShedlockHolmes\_28 Start: 23930, Stop: 24949, Start Num: 91

Candidate Starts for ShedlockHolmes\_28:

(25, 23549), (26, 23561), (31, 23597), (33, 23621), (38, 23741), (50, 23840), (64, 23897), (Start: 91 @23930 has 64 MA's), (105, 23963), (154, 24062), (155, 24068), (159, 24080), (182, 24137), (186, 24143), (215, 24203), (250, 24266), (255, 24275), (275, 24311), (282, 24332), (288, 24344), (333, 24383), (355, 24452), (381, 24551), (398, 24599), (403, 24635), (425, 24698), (443, 24740), (459, 24788), (468, 24830), (486, 24926),

Gene: Sheng711\_21 Start: 21427, Stop: 22581, Start Num: 49

Candidate Starts for Sheng711\_21:

(Start: 49 @21427 has 27 MA's), (85, 21529), (93, 21541), (118, 21610), (159, 21703), (180, 21757), (195, 21787), (200, 21796), (221, 21835), (256, 21883), (276, 21907), (283, 21919), (294, 21943), (335, 22033), (370, 22150), (376, 22186), (380, 22195), (399, 22252), (403, 22291),

Gene: ShiaSurprise\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for ShiaSurprise\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (Start: 138 @23467 has 3 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (386, 23992), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Silvafighter\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Silvafighter\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Silverleaf\_21 Start: 21688, Stop: 22860, Start Num: 49

Candidate Starts for Silverleaf\_21:

(Start: 47 @21685 has 34 MA's), (Start: 49 @21688 has 27 MA's), (Start: 97 @21814 has 1 MA's), (113, 21856), (116, 21868), (118, 21871), (131, 21904), (141, 21916), (159, 21964), (166, 21982), (180, 22018), (189, 22033), (215, 22084), (232, 22114), (253, 22156), (266, 22180), (297, 22216), (302, 22222), (317, 22249), (326, 22267), (357, 22360), (358, 22363), (378, 22447), (411, 22585), (424, 22603), (459, 22687),

Gene: Silvy\_22 Start: 20224, Stop: 21438, Start Num: 102

Candidate Starts for Silvy\_22:

(36, 19894), (56, 20092), (Start: 101 @20221 has 6 MA's), (Start: 102 @20224 has 16 MA's), (214, 20485), (286, 20656), (343, 20806), (350, 20845), (372, 20947), (381, 20989), (474, 21361),

Gene: SirPhilip\_27 Start: 22229, Stop: 23257, Start Num: 91

Candidate Starts for SirPhilip\_27:

(Start: 91 @22229 has 64 MA's), (166, 22400), (171, 22418), (195, 22466), (226, 22526), (250, 22568), (258, 22586), (273, 22610), (326, 22661), (333, 22685), (351, 22742), (356, 22757), (373, 22829), (398, 22898),

Gene: Slarp\_29 Start: 24596, Stop: 25600, Start Num: 91

Candidate Starts for Slarp\_29:

(Start: 91 @24596 has 64 MA's), (166, 24764), (186, 24809), (189, 24815), (215, 24869), (220, 24878), (260, 24959), (274, 24980), (277, 24986), (279, 24989), (355, 25121), (356, 25124), (390, 25247),

Gene: Slimphazie\_28 Start: 23323, Stop: 24336, Start Num: 89

Candidate Starts for Slimphazie\_28:

(22, 22879), (35, 23026), (69, 23278), (Start: 89 @23323 has 97 MA's), (Start: 138 @23434 has 3 MA's), (189, 23548), (250, 23665), (273, 23707), (279, 23719), (329, 23773), (355, 23851), (380, 23947), (386, 23959), (394, 23989), (398, 23998), (433, 24112), (459, 24181),

Gene: Smurph\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Smurph\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: SororFago\_32 Start: 24455, Stop: 25399, Start Num: 140

Candidate Starts for SororFago\_32:

(Start: 140 @24455 has 5 MA's), (195, 24578), (215, 24614), (255, 24689), (302, 24752), (306, 24758), (322, 24791), (356, 24893),

Gene: Spock\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Spock\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: StarStruck\_46 Start: 35932, Stop: 36987, Start Num: 92

Candidate Starts for StarStruck\_46:

(65, 35869), (Start: 92 @35932 has 28 MA's), (179, 36145), (272, 36304), (281, 36328), (386, 36616), (476, 36916), (486, 36961),

Gene: Stinger\_28 Start: 31182, Stop: 32339, Start Num: 47

Candidate Starts for Stinger\_28:

(12, 30657), (14, 30678), (Start: 47 @31182 has 34 MA's), (57, 31209), (88, 31290), (96, 31305), (100, 31317), (108, 31335), (154, 31443), (165, 31476), (168, 31485), (174, 31503), (189, 31530), (195, 31545), (199, 31551), (201, 31557), (215, 31581), (220, 31590), (223, 31599), (244, 31632), (258, 31665), (265, 31677), (286, 31683), (317, 31743), (323, 31755), (326, 31761), (346, 31827), (353, 31851), (356, 31860), (398, 32007), (447, 32160),

Gene: Stinson\_29 Start: 23565, Stop: 24578, Start Num: 89

Candidate Starts for Stinson\_29:

(Start: 89 @23565 has 97 MA's), (Start: 138 @23676 has 3 MA's), (189, 23790), (250, 23907), (273, 23949), (329, 24015), (333, 24024), (355, 24093), (380, 24189), (386, 24201), (433, 24354), (459, 24423), (478, 24519),

Gene: Strobilo\_25 Start: 21282, Stop: 22277, Start Num: 91

Candidate Starts for Strobilo\_25:

(50, 21198), (Start: 91 @21282 has 64 MA's), (121, 21363), (134, 21387), (162, 21447), (186, 21501), (189, 21507), (242, 21609), (243, 21612), (269, 21660), (273, 21666), (328, 21729), (329, 21732), (344, 21774), (357, 21816), (377, 21900), (398, 21957), (486, 22254),

Gene: Sukkupi\_46 Start: 34612, Stop: 35703, Start Num: 92

Candidate Starts for Sukkupi\_46:

(Start: 92 @34612 has 28 MA's), (106, 34645), (148, 34741), (228, 34924), (262, 34993), (330, 35131), (334, 35143), (335, 35146),

Gene: Sulley\_28 Start: 23289, Stop: 24302, Start Num: 89

Candidate Starts for Sulley\_28:

(Start: 89 @23289 has 97 MA's), (Start: 138 @23400 has 3 MA's), (189, 23514), (250, 23631), (279, 23685), (329, 23739), (355, 23817), (380, 23913), (386, 23925), (394, 23955), (398, 23964), (433, 24078), (459, 24147),

Gene: Sunflower1121\_27 Start: 22555, Stop: 23616, Start Num: 91

Candidate Starts for Sunflower1121\_27:

(50, 22465), (Start: 91 @22555 has 64 MA's), (125, 22636), (134, 22654), (182, 22762), (189, 22774), (199, 22795), (250, 22891), (310, 23005), (328, 23056), (360, 23173), (386, 23245), (398, 23284), (434, 23404), (459, 23473),

Gene: SuperSulley\_46 Start: 36118, Stop: 37173, Start Num: 92

Candidate Starts for SuperSulley\_46:

(Start: 92 @36118 has 28 MA's), (179, 36331), (281, 36514), (386, 36802), (486, 37147),

Gene: Syra333\_28 Start: 22645, Stop: 23640, Start Num: 91

Candidate Starts for Syra333\_28:

(50, 22555), (Start: 91 @22645 has 64 MA's), (134, 22744), (Start: 138 @22750 has 3 MA's), (204, 22900), (250, 22981), (355, 23167), (356, 23170), (376, 23254), (380, 23263), (392, 23299), (445, 23449), (483, 23599), (486, 23617),

Gene: TBond007\_28 Start: 23723, Stop: 24787, Start Num: 91

Candidate Starts for TBond007\_28:

(16, 23171), (18, 23237), (21, 23300), (24, 23333), (30, 23375), (38, 23534), (50, 23633), (64, 23690), (Start: 91 @23723 has 64 MA's), (154, 23855), (155, 23861), (182, 23930), (186, 23936), (215, 23996), (226, 24017), (235, 24032), (277, 24110), (355, 24302), (360, 24338), (375, 24386), (390, 24428), (430, 24554),

Gene: TClif\_28 Start: 22714, Stop: 23739, Start Num: 91

Candidate Starts for TClif\_28:

(Start: 91 @22714 has 64 MA's), (131, 22813), (134, 22816), (162, 22876), (179, 22921), (199, 22957), (243, 23041), (269, 23089), (332, 23173), (340, 23197), (356, 23248), (375, 23329), (460, 23581), (468, 23620), (486, 23716),

Gene: TM4\_25 Start: 21422, Stop: 22426, Start Num: 91

Candidate Starts for TM4\_25:

(Start: 91 @21422 has 64 MA's), (134, 21527), (162, 21587), (166, 21596), (186, 21641), (189, 21647), (215, 21701), (245, 21755), (277, 21815), (291, 21848), (329, 21872), (356, 21953), (357, 21956), (377, 22040), (390, 22076), (486, 22403),

Gene: Tachez\_28 Start: 23285, Stop: 24298, Start Num: 89

Candidate Starts for Tachez\_28:

(22, 22841), (35, 22988), (69, 23240), (Start: 89 @23285 has 97 MA's), (Start: 138 @23396 has 3 MA's), (189, 23510), (250, 23627), (273, 23669), (279, 23681), (329, 23735), (355, 23813), (380, 23909), (386, 23921), (394, 23951), (398, 23960), (433, 24074), (459, 24143),

Gene: TaiwanKao\_29 Start: 23407, Stop: 24309, Start Num: 138

Candidate Starts for TaiwanKao\_29:

(69, 23251), (Start: 89 @23296 has 97 MA's), (Start: 138 @23407 has 3 MA's), (189, 23521), (250, 23638), (273, 23680), (279, 23692), (329, 23746), (355, 23824), (375, 23908), (380, 23920), (386, 23932), (398, 23971), (422, 24061), (478, 24250),

Gene: Tapioca\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Tapioca\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Teejan\_24 Start: 22861, Stop: 23907, Start Num: 74

Candidate Starts for Teejan\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: Tessdabest\_21 Start: 20220, Stop: 21434, Start Num: 102

Candidate Starts for Tessdabest\_21:

(36, 19890), (56, 20088), (Start: 101 @20217 has 6 MA's), (Start: 102 @20220 has 16 MA's), (214, 20481), (286, 20652), (343, 20802), (350, 20841), (372, 20943), (381, 20985), (474, 21357),

Gene: Thonko\_30 Start: 29614, Stop: 30771, Start Num: 49

Candidate Starts for Thonko\_30:

(43, 29584), (Start: 49 @29614 has 27 MA's), (88, 29728), (131, 29845), (143, 29860), (147, 29869), (154, 29887), (159, 29905), (180, 29959), (228, 30049), (239, 30067), (249, 30085), (353, 30319), (356, 30328), (364, 30370), (393, 30460), (398, 30472),

Gene: Tierra\_28 Start: 23391, Stop: 24452, Start Num: 91

Candidate Starts for Tierra\_28:

(Start: 91 @23391 has 64 MA's), (123, 23469), (125, 23472), (134, 23490), (156, 23532), (182, 23598), (199, 23631), (250, 23727), (257, 23739), (310, 23841), (328, 23892), (360, 24009), (438, 24252), (446, 24270), (459, 24309),

Gene: Tigress9\_29 Start: 22638, Stop: 23633, Start Num: 91

Candidate Starts for Tigress9\_29:

(50, 22548), (Start: 91 @22638 has 64 MA's), (134, 22737), (Start: 138 @22743 has 3 MA's), (204, 22893), (250, 22974), (260, 22998), (355, 23160), (356, 23163), (376, 23247), (392, 23292), (477, 23571), (483, 23592), (486, 23610),

Gene: TingHuaYa\_28 Start: 22494, Stop: 23501, Start Num: 91

Candidate Starts for TingHuaYa\_28:

(Start: 91 @22494 has 64 MA's), (133, 22593), (189, 22713), (199, 22734), (250, 22830), (329, 22938), (355, 23016), (380, 23112), (386, 23124), (398, 23163), (456, 23334), (459, 23346),

Gene: TiniBug\_28 Start: 23281, Stop: 24294, Start Num: 89

Candidate Starts for TiniBug\_28:

(69, 23236), (Start: 89 @23281 has 97 MA's), (Start: 138 @23392 has 3 MA's), (189, 23506), (250, 23623), (279, 23677), (329, 23731), (355, 23809), (380, 23905), (386, 23917), (398, 23956), (403, 23992), (428, 24061), (459, 24139), (478, 24235),

Gene: Tiri\_28 Start: 23328, Stop: 24341, Start Num: 89

Candidate Starts for Tiri\_28:

(22, 22884), (69, 23283), (Start: 89 @23328 has 97 MA's), (Start: 138 @23439 has 3 MA's), (189, 23553), (250, 23670), (273, 23712), (279, 23724), (329, 23778), (355, 23856), (375, 23940), (380, 23952), (386, 23964), (398, 24003), (433, 24117), (459, 24186),

Gene: Topper\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Topper\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Torres\_24 Start: 22900, Stop: 23907, Start Num: 91

Candidate Starts for Torres\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: Tortoise12\_22 Start: 20223, Stop: 21437, Start Num: 102

Candidate Starts for Tortoise12\_22:

(36, 19893), (56, 20091), (Start: 101 @20220 has 6 MA's), (Start: 102 @20223 has 16 MA's), (214, 20484), (286, 20655), (343, 20805), (350, 20844), (372, 20946), (381, 20988), (474, 21360),

Gene: Towmatter\_36 Start: 34440, Stop: 35507, Start Num: 90

Candidate Starts for Towmatter\_36:

(Start: 90 @34440 has 6 MA's), (253, 34785), (276, 34830), (289, 34860), (391, 35151), (393, 35157), (399, 35175), (409, 35241), (410, 35244), (424, 35262), (442, 35310), (489, 35496),

Gene: Tracker\_44 Start: 34752, Stop: 35810, Start Num: 92

Candidate Starts for Tracker\_44:

(3, 33312), (5, 33609), (7, 33840), (17, 34209), (Start: 41 @34587 has 22 MA's), (44, 34602), (46, 34620), (Start: 92 @34752 has 28 MA's), (257, 35097), (280, 35148), (309, 35196),

Gene: TreyKay\_28 Start: 23290, Stop: 24303, Start Num: 89

Candidate Starts for TreyKay\_28:

(69, 23245), (Start: 89 @23290 has 97 MA's), (Start: 138 @23401 has 3 MA's), (189, 23515), (250, 23632), (273, 23674), (279, 23686), (329, 23740), (355, 23818), (375, 23902), (380, 23914), (386, 23926), (398, 23965), (478, 24244),

Gene: TribbleTrouble\_27 Start: 23874, Stop: 24935, Start Num: 91

Candidate Starts for TribbleTrouble\_27:

(50, 23769), (Start: 91 @23874 has 64 MA's), (105, 23907), (119, 23946), (150, 23997), (154, 24006), (162, 24033), (182, 24081), (215, 24147), (235, 24183), (243, 24198), (253, 24216), (255, 24219), (260, 24234), (308, 24321), (360, 24492), (459, 24792),

Gene: Trice\_24 Start: 22861, Stop: 23907, Start Num: 74

Candidate Starts for Trice\_24:

(68, 22849), (74, 22861), (Start: 91 @22900 has 64 MA's), (115, 22960), (154, 23032), (171, 23086), (182, 23107), (250, 23236), (274, 23281), (276, 23284), (328, 23341), (329, 23344), (345, 23389), (356, 23425), (380, 23521), (386, 23533), (423, 23653), (467, 23785),

Gene: TruffulaTree\_28 Start: 23319, Stop: 24332, Start Num: 89

Candidate Starts for TruffulaTree\_28:

(22, 22875), (69, 23274), (Start: 89 @23319 has 97 MA's), (189, 23544), (250, 23661), (273, 23703), (279, 23715), (329, 23769), (355, 23847), (380, 23943), (386, 23955), (394, 23985), (398, 23994), (433, 24108), (459, 24177),

Gene: Twitch\_28 Start: 23356, Stop: 24369, Start Num: 89

Candidate Starts for Twitch\_28:

(22, 22912), (69, 23311), (Start: 89 @23356 has 97 MA's), (189, 23581), (250, 23698), (273, 23740), (279, 23752), (329, 23806), (355, 23884), (380, 23980), (394, 24022), (398, 24031), (433, 24145), (459, 24214),

Gene: Tyson\_21 Start: 21688, Stop: 22860, Start Num: 49

Candidate Starts for Tyson\_21:

(Start: 47 @21685 has 34 MA's), (Start: 49 @21688 has 27 MA's), (Start: 97 @21814 has 1 MA's), (113, 21856), (116, 21868), (118, 21871), (131, 21904), (141, 21916), (159, 21964), (166, 21982),

(180, 22018), (189, 22033), (215, 22084), (232, 22114), (253, 22156), (266, 22180), (297, 22216), (302, 22222), (317, 22249), (326, 22267), (357, 22360), (358, 22363), (378, 22447), (411, 22585), (424, 22603), (459, 22687),

Gene: UPIE\_21 Start: 21683, Stop: 22858, Start Num: 47

Candidate Starts for UPIE\_21:

(Start: 47 @21683 has 34 MA's), (Start: 49 @21686 has 27 MA's), (Start: 97 @21812 has 1 MA's), (113, 21854), (116, 21866), (118, 21869), (131, 21902), (141, 21914), (159, 21962), (166, 21980), (180, 22016), (189, 22031), (215, 22082), (232, 22112), (253, 22154), (266, 22178), (297, 22214), (302, 22220), (317, 22247), (326, 22265), (357, 22358), (358, 22361), (378, 22445), (411, 22583), (424, 22601), (459, 22685),

Gene: Ubuntu\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Ubuntu\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Unicorn\_28 Start: 22720, Stop: 23781, Start Num: 91

Candidate Starts for Unicorn\_28:

(50, 22630), (64, 22687), (Start: 91 @22720 has 64 MA's), (134, 22819), (182, 22927), (189, 22939), (199, 22960), (250, 23056), (310, 23170), (328, 23221), (360, 23338), (438, 23581), (446, 23599), (459, 23638),

Gene: Urkel\_28 Start: 23284, Stop: 24297, Start Num: 89

Candidate Starts for Urkel\_28:

(69, 23239), (Start: 89 @23284 has 97 MA's), (Start: 138 @23395 has 3 MA's), (189, 23509), (250, 23626), (273, 23668), (279, 23680), (329, 23734), (355, 23812), (380, 23908), (386, 23920), (398, 23959), (403, 23995), (459, 24142), (478, 24238),

Gene: Validus\_28 Start: 22666, Stop: 23631, Start Num: 89

Candidate Starts for Validus\_28:

(71, 22630), (Start: 89 @22666 has 97 MA's), (Start: 92 @22672 has 28 MA's), (Start: 138 @22780 has 3 MA's), (154, 22807), (171, 22861), (206, 22936), (258, 23029), (286, 23083), (355, 23197), (356, 23200), (377, 23284), (398, 23341), (410, 23395), (433, 23437), (450, 23476),

Gene: Vanisoa\_31 Start: 24621, Stop: 25826, Start Num: 47

Candidate Starts for Vanisoa\_31:

(Start: 47 @24621 has 34 MA's), (110, 24786), (114, 24798), (116, 24804), (118, 24807), (162, 24909), (174, 24942), (210, 25014), (223, 25038), (239, 25062), (278, 25146), (355, 25353), (356, 25356), (361, 25389), (398, 25500), (448, 25656),

Gene: Veliki\_28 Start: 23359, Stop: 24372, Start Num: 89

Candidate Starts for Veliki\_28:

(22, 22915), (35, 23062), (69, 23314), (Start: 89 @23359 has 97 MA's), (Start: 138 @23470 has 3 MA's), (189, 23584), (250, 23701), (273, 23743), (279, 23755), (329, 23809), (355, 23887), (380, 23983), (386, 23995), (394, 24025), (398, 24034), (433, 24148), (459, 24217),

Gene: Vincenzo\_31 Start: 33326, Stop: 34483, Start Num: 47

Candidate Starts for Vincenzo\_31:

(Start: 47 @33326 has 34 MA's), (83, 33419), (88, 33434), (96, 33449), (100, 33461), (108, 33479), (147, 33569), (165, 33620), (168, 33629), (174, 33647), (189, 33674), (195, 33689), (199, 33695), (201, 33701), (220, 33734), (223, 33743), (244, 33776), (258, 33809), (265, 33821), (300, 33854), (311, 33869), (323, 33899), (326, 33905), (346, 33971), (353, 33995), (356, 34004), (398, 34151), (447, 34304),

Gene: VioletZ\_30 Start: 32678, Stop: 33835, Start Num: 47

Candidate Starts for VioletZ\_30:

(Start: 47 @32678 has 34 MA's), (83, 32771), (88, 32786), (96, 32801), (100, 32813), (108, 32831), (120, 32873), (147, 32921), (165, 32972), (168, 32981), (174, 32999), (189, 33026), (195, 33041), (199, 33047), (201, 33053), (203, 33059), (220, 33086), (223, 33095), (244, 33128), (258, 33161), (311, 33221), (323, 33251), (326, 33257), (339, 33302), (356, 33356), (357, 33359), (398, 33503), (447, 33656),

Gene: Waleliano\_30 Start: 32605, Stop: 33762, Start Num: 47

Candidate Starts for Waleliano\_30:

(Start: 47 @32605 has 34 MA's), (83, 32698), (88, 32713), (96, 32728), (100, 32740), (108, 32758), (120, 32800), (165, 32899), (168, 32908), (174, 32926), (189, 32953), (195, 32968), (199, 32974), (201, 32980), (203, 32986), (220, 33013), (223, 33022), (244, 33055), (258, 33088), (311, 33148), (323, 33178), (326, 33184), (331, 33205), (339, 33229), (356, 33283), (357, 33286), (447, 33583),

Gene: Wamburgxpress\_21 Start: 21701, Stop: 22873, Start Num: 49

Candidate Starts for Wamburgxpress\_21:

(Start: 47 @21698 has 34 MA's), (Start: 49 @21701 has 27 MA's), (Start: 97 @21827 has 1 MA's), (113, 21869), (116, 21881), (118, 21884), (131, 21917), (141, 21929), (159, 21977), (166, 21995), (180, 22031), (189, 22046), (215, 22097), (232, 22127), (253, 22169), (266, 22193), (297, 22229), (302, 22235), (317, 22262), (326, 22280), (357, 22373), (358, 22376), (378, 22460), (411, 22598), (424, 22616), (459, 22700),

Gene: Webster2\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Webster2\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Wheezy\_44 Start: 34957, Stop: 36015, Start Num: 92

Candidate Starts for Wheezy\_44:

(3, 33517), (5, 33814), (7, 34045), (17, 34414), (Start: 41 @34792 has 22 MA's), (44, 34807), (46, 34825), (Start: 92 @34957 has 28 MA's), (257, 35302), (280, 35353), (309, 35401),

Gene: Wintermute\_29 Start: 24585, Stop: 25589, Start Num: 91

Candidate Starts for Wintermute\_29:

(Start: 91 @24585 has 64 MA's), (Start: 117 @24654 has 1 MA's), (166, 24753), (186, 24798), (215, 24858), (220, 24867), (242, 24903), (260, 24948), (274, 24969), (277, 24975), (279, 24978), (355, 25110), (356, 25113), (390, 25236), (398, 25257), (476, 25524),

Gene: Wishmaker\_27 Start: 23371, Stop: 24609, Start Num: 41

Candidate Starts for Wishmaker\_27:

(8, 22759), (9, 22825), (12, 22915), (13, 22918), (20, 23068), (27, 23155), (28, 23158), (37, 23296), (Start: 41 @23371 has 22 MA's), (62, 23467), (72, 23494), (Start: 75 @23500 has 1 MA's), (Start: 91 @23539 has 64 MA's), (95, 23548), (110, 23593), (114, 23605), (131, 23644), (159, 23701), (182, 23752), (190, 23767), (206, 23806), (229, 23839), (242, 23860), (245, 23866), (262, 23902), (271, 23914), (273, 23917), (294, 23965), (297, 23971), (299, 23974), (306, 23983), (355, 24121), (380, 24214), (400, 24271), (401, 24277), (422, 24361), (429, 24376), (431, 24379), (456, 24445), (463, 24478),

Gene: Wyatt2\_21 Start: 21688, Stop: 22860, Start Num: 49

Candidate Starts for Wyatt2\_21:

(Start: 47 @21685 has 34 MA's), (Start: 49 @21688 has 27 MA's), (Start: 97 @21814 has 1 MA's), (113, 21856), (116, 21868), (118, 21871), (131, 21904), (141, 21916), (159, 21964), (166, 21982), (180, 22018), (189, 22033), (215, 22084), (232, 22114), (253, 22156), (266, 22180), (297, 22216), (302, 22222), (317, 22249), (326, 22267), (357, 22360), (358, 22363), (378, 22447), (411, 22585), (424, 22603), (459, 22687),

Gene: Xerxes\_22 Start: 20220, Stop: 21434, Start Num: 102

Candidate Starts for Xerxes\_22:

(36, 19890), (56, 20088), (Start: 101 @20217 has 6 MA's), (Start: 102 @20220 has 16 MA's), (214, 20481), (286, 20652), (343, 20802), (350, 20841), (372, 20943), (381, 20985), (474, 21357),

Gene: Ximenita\_29 Start: 22823, Stop: 23818, Start Num: 91

Candidate Starts for Ximenita\_29:

(50, 22733), (Start: 91 @22823 has 64 MA's), (134, 22922), (Start: 138 @22928 has 3 MA's), (204, 23078), (250, 23159), (355, 23345), (356, 23348), (376, 23432), (445, 23627), (477, 23756), (483, 23777), (486, 23795),

Gene: Xincheng\_29 Start: 32060, Stop: 33217, Start Num: 47

Candidate Starts for Xincheng\_29:

(Start: 47 @32060 has 34 MA's), (83, 32153), (88, 32168), (96, 32183), (100, 32195), (108, 32213), (114, 32237), (120, 32255), (128, 32270), (165, 32354), (168, 32363), (174, 32381), (195, 32423), (199, 32429), (201, 32435), (203, 32441), (220, 32468), (223, 32477), (244, 32510), (258, 32543), (286, 32561), (311, 32603), (323, 32633), (326, 32639), (356, 32738), (357, 32741), (387, 32852), (398, 32885), (447, 33038), (453, 33062), (459, 33074),

Gene: Y10\_29 Start: 24585, Stop: 25589, Start Num: 91

Candidate Starts for Y10\_29:

(Start: 91 @24585 has 64 MA's), (Start: 117 @24654 has 1 MA's), (166, 24753), (186, 24798), (189, 24804), (215, 24858), (220, 24867), (242, 24903), (260, 24948), (274, 24969), (277, 24975), (279, 24978), (355, 25110), (356, 25113), (390, 25236), (398, 25257), (476, 25524),

Gene: Y2\_29 Start: 24585, Stop: 25589, Start Num: 91

Candidate Starts for Y2\_29:

(Start: 91 @24585 has 64 MA's), (Start: 117 @24654 has 1 MA's), (166, 24753), (186, 24798), (189, 24804), (215, 24858), (220, 24867), (242, 24903), (260, 24948), (274, 24969), (277, 24975), (279, 24978), (355, 25110), (356, 25113), (390, 25236), (398, 25257), (476, 25524),

Gene: YasnayaPolyana\_29 Start: 24655, Stop: 25590, Start Num: 117

Candidate Starts for YasnayaPolyana\_29:

(Start: 91 @24586 has 64 MA's), (Start: 117 @24655 has 1 MA's), (166, 24754), (186, 24799), (215, 24859), (220, 24868), (242, 24904), (260, 24949), (274, 24970), (277, 24976), (279, 24979), (355, 25111), (356, 25114), (390, 25237), (398, 25258), (476, 25525),

Gene: Yndexa\_46 Start: 34612, Stop: 35703, Start Num: 92

Candidate Starts for Yndexa\_46:

(Start: 92 @34612 has 28 MA's), (106, 34645), (148, 34741), (228, 34924), (262, 34993), (330, 35131), (334, 35143), (335, 35146),

Gene: YoureAdopted\_27 Start: 23292, Stop: 24305, Start Num: 89

Candidate Starts for YoureAdopted\_27:

(22, 22848), (35, 22995), (69, 23247), (Start: 89 @23292 has 97 MA's), (Start: 138 @23403 has 3 MA's), (189, 23517), (250, 23634), (273, 23676), (279, 23688), (329, 23742), (355, 23820), (380, 23916), (386, 23928), (394, 23958), (398, 23967), (402, 24000), (433, 24081), (459, 24150),

Gene: Yuna\_29 Start: 23206, Stop: 24168, Start Num: 89

Candidate Starts for Yuna\_29:

(Start: 89 @23206 has 97 MA's), (208, 23476), (216, 23485), (233, 23518), (240, 23530), (245, 23539), (258, 23566), (340, 23689), (356, 23740), (373, 23809), (381, 23830), (417, 23950),

Gene: Yunkel11\_28 Start: 22542, Stop: 23603, Start Num: 89

Candidate Starts for Yunkel11\_28:

(Start: 89 @22542 has 97 MA's), (Start: 138 @22656 has 3 MA's), (189, 22770), (199, 22791), (245, 22878), (257, 22899), (258, 22905), (336, 23013), (355, 23073), (382, 23193), (383, 23199), (384, 23205), (402, 23295), (449, 23421), (453, 23436),

Gene: Zabiza\_28 Start: 23323, Stop: 24336, Start Num: 89

Candidate Starts for Zabiza\_28:

(22, 22879), (35, 23026), (69, 23278), (Start: 89 @23323 has 97 MA's), (Start: 138 @23434 has 3 MA's), (189, 23548), (250, 23665), (273, 23707), (279, 23719), (329, 23773), (355, 23851), (380, 23947), (386, 23959), (394, 23989), (398, 23998), (433, 24112), (459, 24181),

Gene: Zaria\_21 Start: 21702, Stop: 22874, Start Num: 49

Candidate Starts for Zaria\_21:

(Start: 47 @21699 has 34 MA's), (Start: 49 @21702 has 27 MA's), (Start: 97 @21828 has 1 MA's), (113, 21870), (116, 21882), (118, 21885), (131, 21918), (141, 21930), (146, 21939), (159, 21978), (166, 21996), (180, 22032), (189, 22047), (215, 22098), (232, 22128), (253, 22170), (266, 22194), (297, 22230), (302, 22236), (317, 22263), (326, 22281), (357, 22374), (358, 22377), (378, 22461), (411, 22599), (424, 22617), (459, 22701),

Gene: Zavala\_28 Start: 23298, Stop: 24311, Start Num: 89

Candidate Starts for Zavala\_28:

(22, 22854), (69, 23253), (Start: 89 @23298 has 97 MA's), (189, 23523), (250, 23640), (273, 23682), (279, 23694), (329, 23748), (355, 23826), (380, 23922), (386, 23934), (394, 23964), (398, 23973), (433, 24087), (459, 24156),

Gene: Zemanar\_31 Start: 32608, Stop: 33765, Start Num: 47

Candidate Starts for Zemanar\_31:

(Start: 47 @32608 has 34 MA's), (83, 32701), (88, 32716), (96, 32731), (100, 32743), (108, 32761), (120, 32803), (165, 32902), (168, 32911), (174, 32929), (189, 32956), (195, 32971), (199, 32977), (201, 32983), (203, 32989), (220, 33016), (223, 33025), (244, 33058), (258, 33091), (311, 33151), (323, 33181), (326, 33187), (339, 33232), (356, 33286), (357, 33289), (398, 33433), (447, 33586),

Gene: Zenteno07\_35 Start: 31167, Stop: 32306, Start Num: 47

Candidate Starts for Zenteno07\_35:

(34, 30954), (Start: 47 @31167 has 34 MA's), (60, 31209), (78, 31257), (88, 31287), (Start: 97 @31308 has 1 MA's), (118, 31368), (143, 31416), (145, 31419), (147, 31425), (156, 31452), (165, 31476), (168,

31485), (191, 31536), (255, 31656), (263, 31674), (357, 31860), (369, 31905), (393, 31989), (398, 32001), (403, 32040), (433, 32118),

Gene: ZoeJ\_25 Start: 21223, Stop: 22245, Start Num: 91

Candidate Starts for ZoeJ\_25:

(38, 21040), (50, 21139), (Start: 91 @21223 has 64 MA's), (134, 21325), (160, 21379), (162, 21385), (186, 21439), (189, 21445), (190, 21448), (229, 21526), (242, 21547), (243, 21550), (273, 21604), (357, 21754), (484, 22213), (486, 22222),