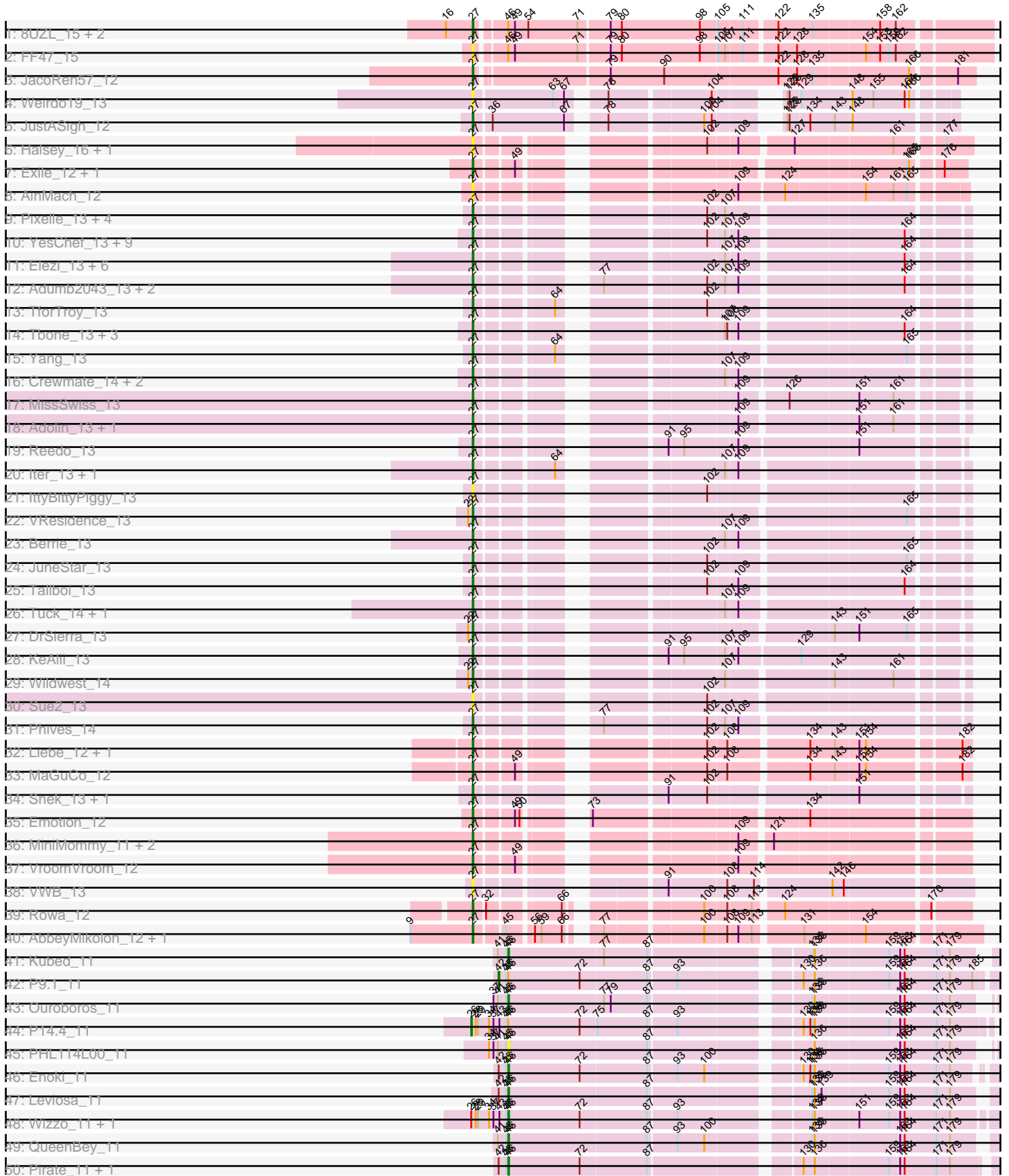
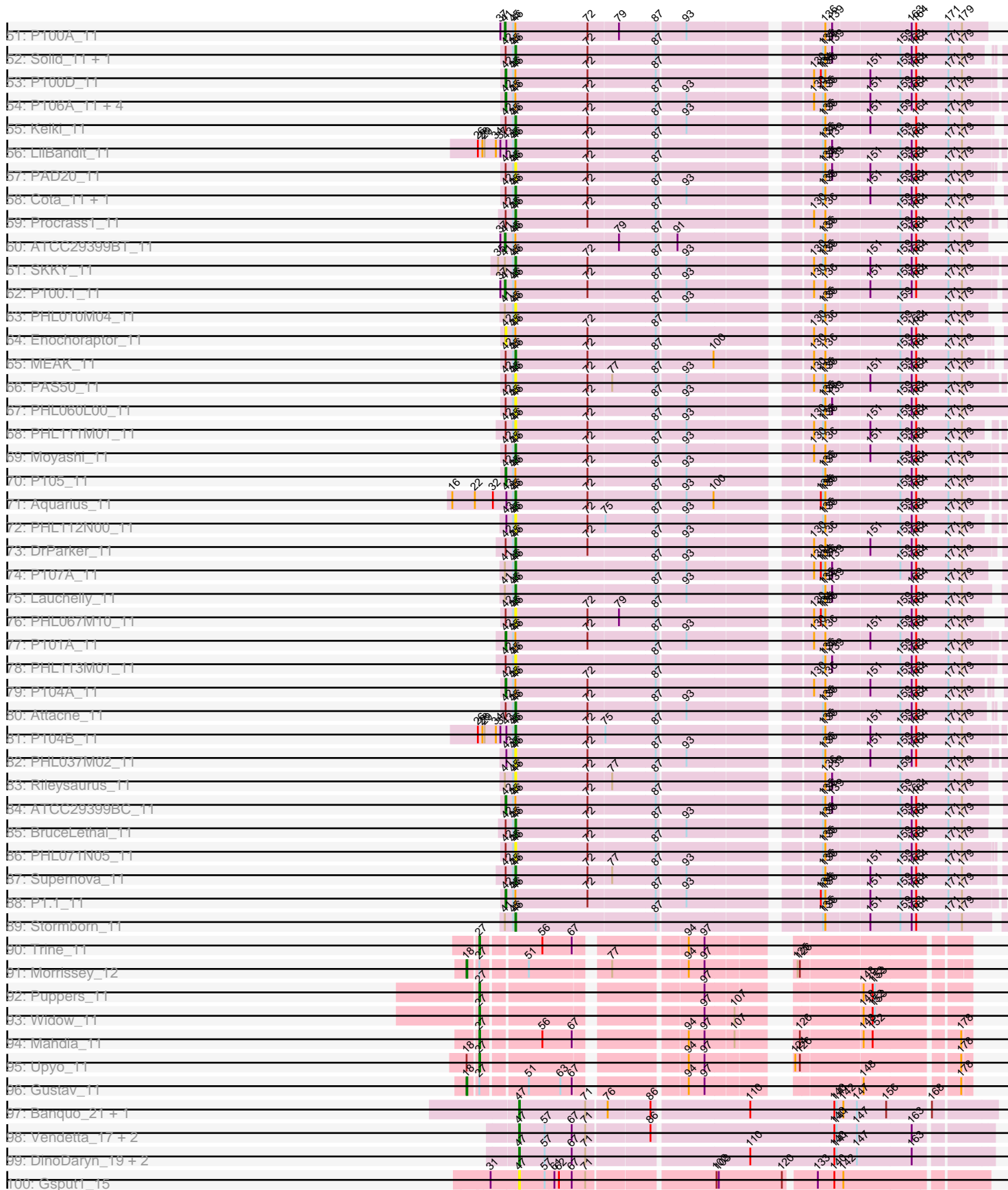


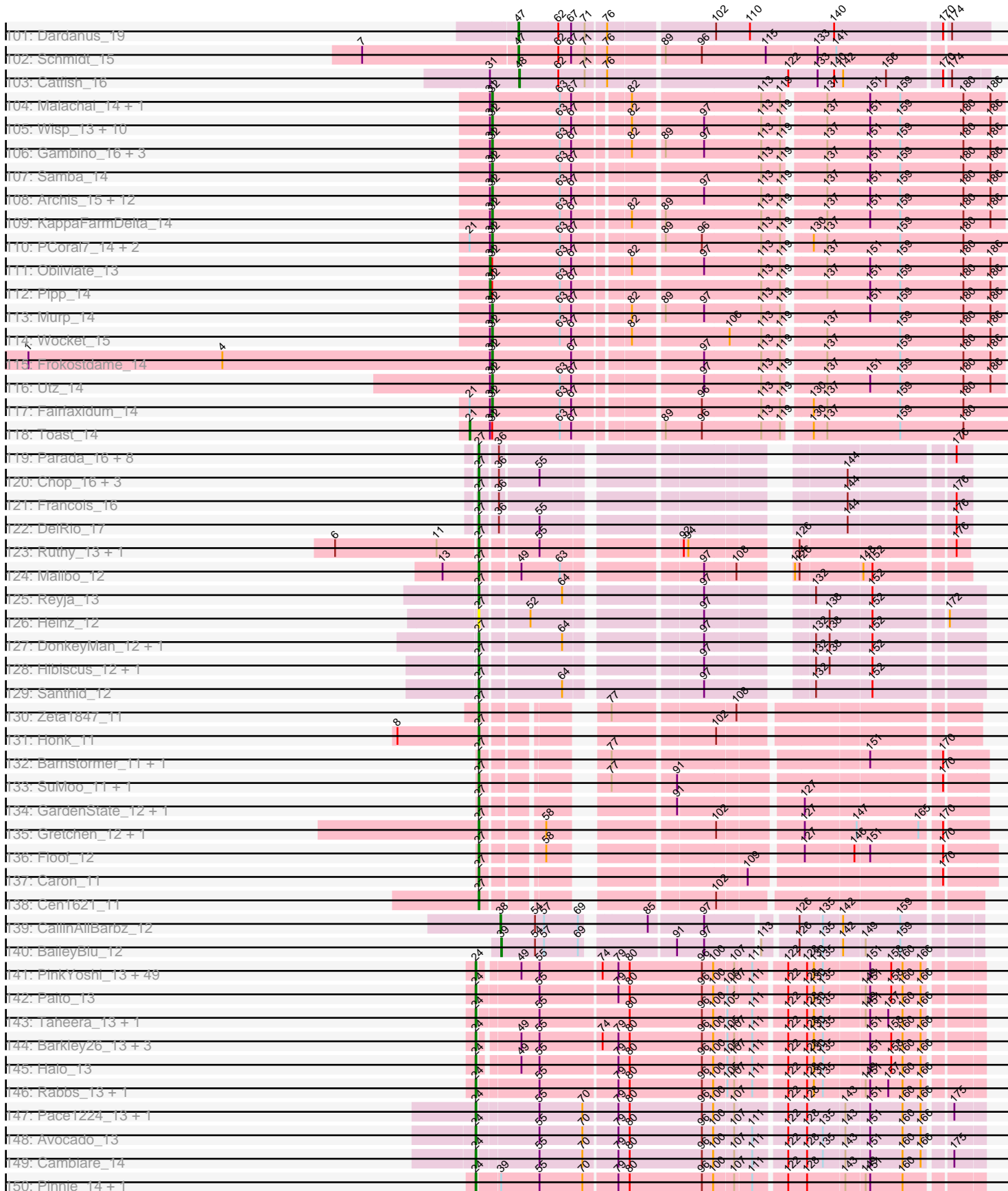
Pham 171099



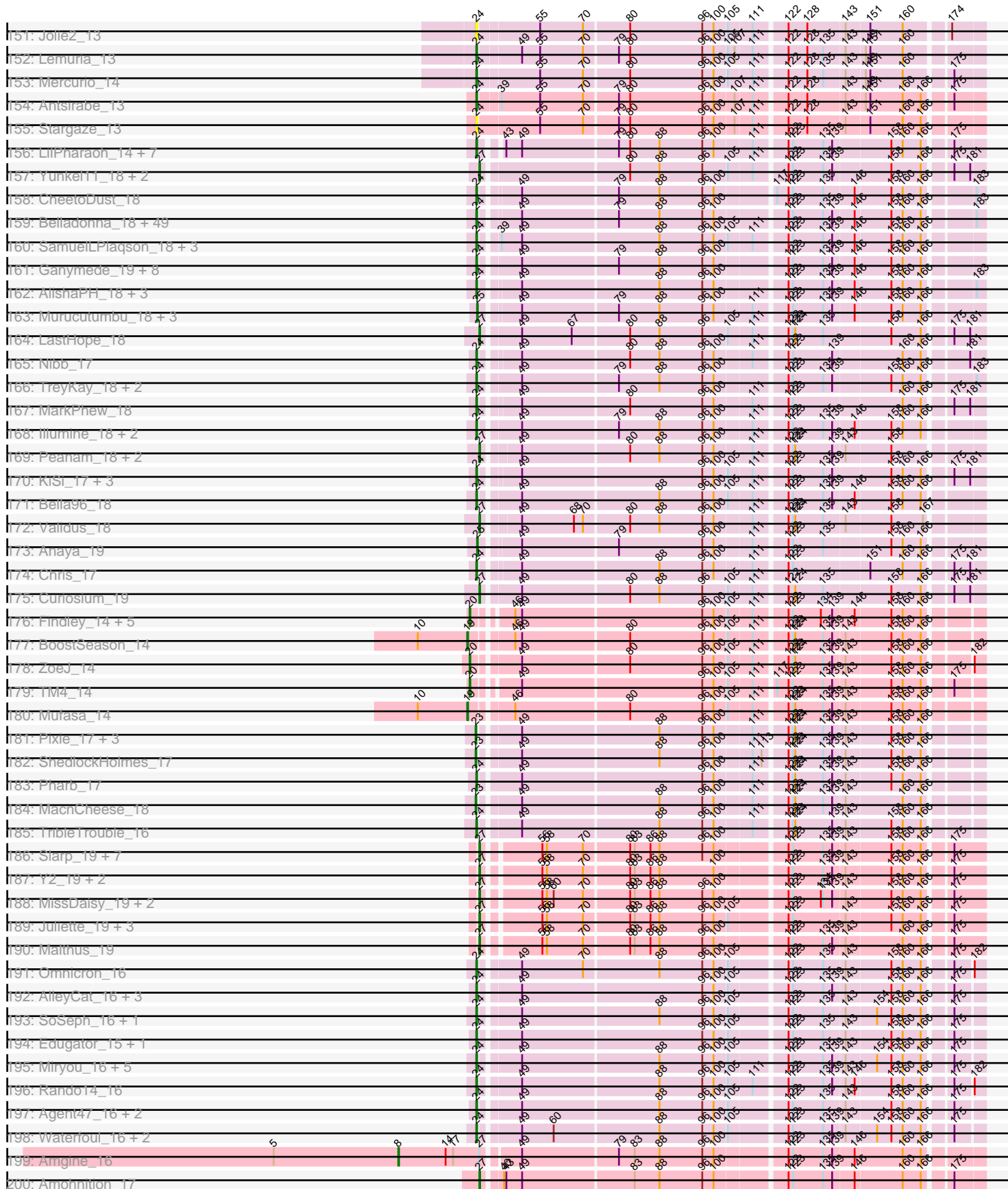
Pham 171099



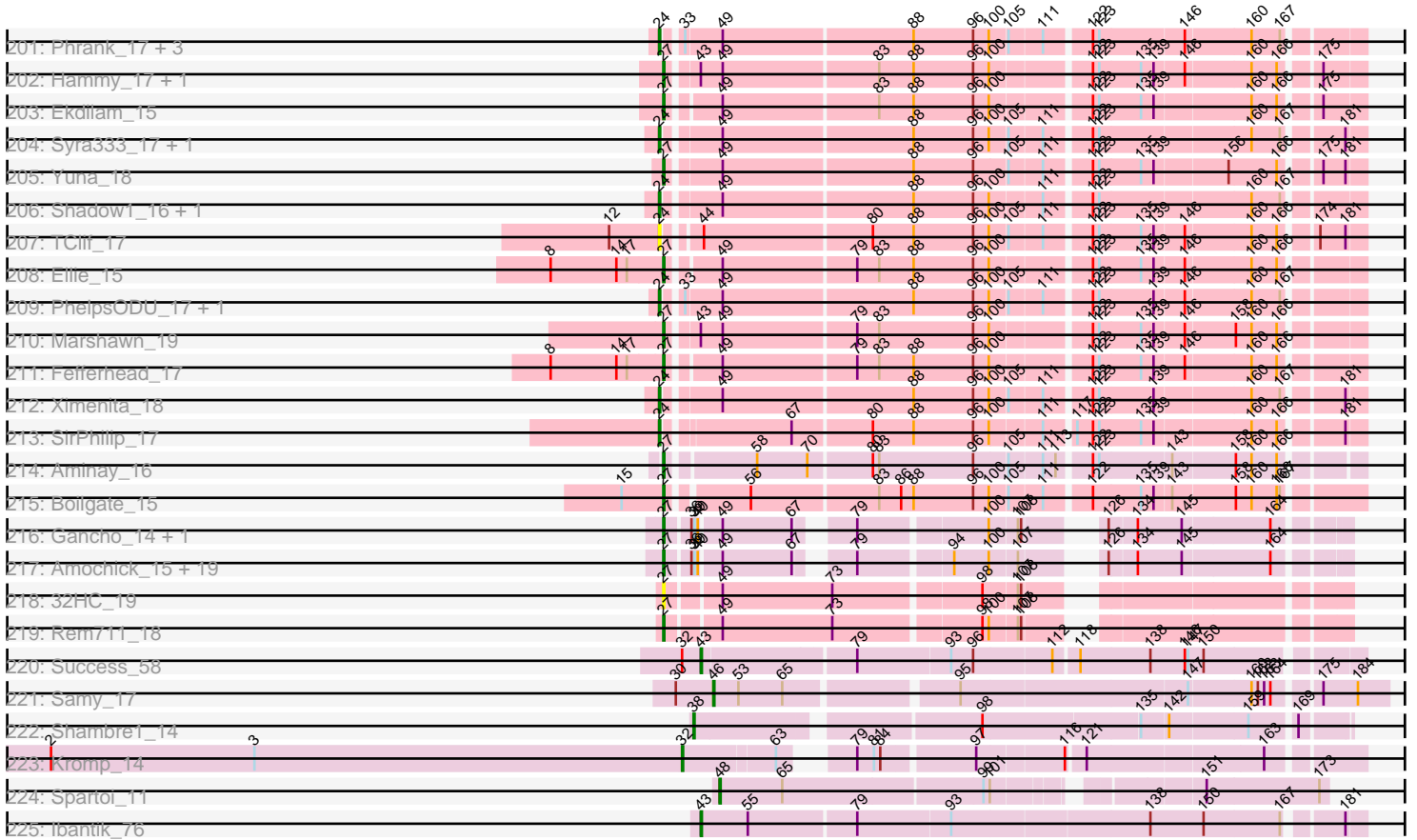
Pham 171099



Pham 171099



Pham 171099



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 171099 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 171099 has 525 members, 56 are drafts.

Phages represented in each track:

- Track 1 : 8UZL\_15, Maco6\_13, Muddy\_15
- Track 2 : FF47\_15
- Track 3 : JacoRen57\_12
- Track 4 : Weirido19\_13
- Track 5 : JustASigh\_12
- Track 6 : Halsey\_16, Moss\_15
- Track 7 : Exile\_12, Soondubu\_12
- Track 8 : AinMach\_12
- Track 9 : Pixelle\_13, Tian\_13, Cassia\_13, Amyev\_13, Pumpkins\_13
- Track 10 : YesChef\_13, Simpson\_14, Joemato\_14, JohnDoe\_13, Lego\_13, Powerpuff\_13, Cyan\_13, Kaylissa\_13, Tutumahutu\_13, AGrandiflora\_13
- Track 11 : Elezi\_13, Jstan\_13, London\_13, Nitro\_13, Niobe\_13, Eraser\_13, Asa16\_13
- Track 12 : Adumb2043\_13, Turab\_13, AEgle\_13
- Track 13 : TforTroy\_13
- Track 14 : Tbone\_13, Mudpuppy\_13, Warda\_13, Lizalica\_13
- Track 15 : Yang\_13
- Track 16 : Crewmate\_14, ObiToo\_13, Janeemi\_14
- Track 17 : MissSwiss\_13
- Track 18 : Adolin\_13, DrManhattan\_13
- Track 19 : Reedo\_13
- Track 20 : Iter\_13, Ascela\_13
- Track 21 : IttyBittyPiggy\_13
- Track 22 : VResidence\_13
- Track 23 : Berrie\_13
- Track 24 : JuneStar\_13
- Track 25 : Tallboi\_13
- Track 26 : Tuck\_14, Community\_14
- Track 27 : DrSierra\_13
- Track 28 : KeAlii\_13
- Track 29 : Wildwest\_14
- Track 30 : Sue2\_13
- Track 31 : Phives\_14

- Track 32 : Liebe\_12, Maureen\_12
- Track 33 : MaGuCo\_12
- Track 34 : Snek\_13, Tweety19\_13
- Track 35 : Emotion\_12
- Track 36 : MiniMommy\_11, JasmineDragon\_12, ShakeltOph\_12
- Track 37 : VroomVroom\_12
- Track 38 : VWB\_13
- Track 39 : Rowa\_12
- Track 40 : AbbeyMikolon\_12, Nesbitt\_12
- Track 41 : Kubed\_11
- Track 42 : P9.1\_11
- Track 43 : Ouroboros\_11
- Track 44 : P14.4\_11
- Track 45 : PHL114L00\_11
- Track 46 : Enoki\_11
- Track 47 : Leviosa\_11
- Track 48 : Wizzo\_11, PA6\_11
- Track 49 : QueenBey\_11
- Track 50 : Pirate\_11, P108C\_11
- Track 51 : P100A\_11
- Track 52 : Solid\_11, P107C\_11
- Track 53 : P100D\_11
- Track 54 : P106A\_11, P106C\_11, P106M\_11, P106L\_11, P106I\_11
- Track 55 : Keiki\_11
- Track 56 : LilBandit\_11
- Track 57 : PAD20\_11
- Track 58 : Cota\_11, MrAK\_11
- Track 59 : Procrass1\_11
- Track 60 : ATCC29399BT\_11
- Track 61 : SKKY\_11
- Track 62 : P100.1\_11
- Track 63 : PHL010M04\_11
- Track 64 : Enochoraptor\_11
- Track 65 : MEAK\_11
- Track 66 : PAS50\_11
- Track 67 : PHL060L00\_11
- Track 68 : PHL111M01\_11
- Track 69 : Moyashi\_11
- Track 70 : P105\_11
- Track 71 : Aquarius\_11
- Track 72 : PHL112N00\_11
- Track 73 : DrParker\_11
- Track 74 : P107A\_11
- Track 75 : Lauchelly\_11
- Track 76 : PHL067M10\_11
- Track 77 : P101A\_11
- Track 78 : PHL113M01\_11
- Track 79 : P104A\_11
- Track 80 : Attacne\_11
- Track 81 : P104B\_11
- Track 82 : PHL037M02\_11
- Track 83 : Rileysaurus\_11
- Track 84 : ATCC29399BC\_11

- Track 85 : BruceLethal\_11
- Track 86 : PHL071N05\_11
- Track 87 : Supernova\_11
- Track 88 : P1.1\_11
- Track 89 : Stormborn\_11
- Track 90 : Trine\_11
- Track 91 : Morrissey\_12
- Track 92 : Puppies\_11
- Track 93 : Widow\_11
- Track 94 : Mahdia\_11
- Track 95 : Upyo\_11
- Track 96 : Gustav\_11
- Track 97 : Banquo\_21, TinaLin\_20
- Track 98 : Vendetta\_17, Splinter\_17, Goib\_18
- Track 99 : DinoDaryn\_19, Huffy\_19, TZGordon\_19
- Track 100 : Gspu1\_15
- Track 101 : Dardanus\_19
- Track 102 : Schmidt\_15
- Track 103 : Catfish\_16
- Track 104 : Malachai\_14, Begonia\_14
- Track 105 : Wisp\_13, Lysidious\_14, Petra\_16, CarolAnn\_14, Jalammah\_15, Mellie\_13, Hitter\_14, PhrostedPhlake\_15, ZiggyZoo\_13, Blino\_14, Walrus\_15
- Track 106 : Gambino\_16, Azula\_16, MissRona\_16, Blueberry\_16
- Track 107 : Samba\_14
- Track 108 : Archis\_15, Barco\_14, JuJu\_14, JasperJr\_14, UmaThurman\_14, MintFen\_14, CaptainKirk2\_14, Melba\_14, BlingBling\_14, Delian\_14, Guacamole\_14, Ferry\_13, Zarbodnamra\_14
- Track 109 : KappaFarmDelta\_14
- Track 110 : PCoral7\_14, William\_14, PrincePatrick\_14
- Track 111 : Obliviate\_13
- Track 112 : Pipp\_14
- Track 113 : Murp\_14
- Track 114 : Wocket\_15
- Track 115 : Frokostdame\_14
- Track 116 : Utz\_14
- Track 117 : Fairfaxidum\_14
- Track 118 : Toast\_14
- Track 119 : Parada\_16, Bock\_16, BetterKatz\_16, NancyRae\_16, Brylie\_16, Nadeem\_16, Mulch\_16, Pimento\_16, WheatThin\_16
- Track 120 : Chop\_16, GrandSlam\_16, Ayotoya\_16, Hamood\_16
- Track 121 : Francois\_16
- Track 122 : DelRio\_17
- Track 123 : Ruthy\_13, DumpsterDude\_13
- Track 124 : Malibo\_12
- Track 125 : Reyja\_13
- Track 126 : Heinz\_12
- Track 127 : DonkeyMan\_12, Tarzan\_12
- Track 128 : Hibiscus\_12, Jojo24\_12
- Track 129 : Santhid\_12
- Track 130 : Zeta1847\_11
- Track 131 : Honk\_11
- Track 132 : Barnstormer\_11, UtzChips\_11
- Track 133 : SuMoo\_11, Mabodamaca\_12



- Track 134 : GardenState\_12, IAmGroot\_12
- Track 135 : Gretchen\_12, Percival\_12
- Track 136 : Floof\_12
- Track 137 : Caron\_11
- Track 138 : Cen1621\_11
- Track 139 : CallinAllBarbz\_12
- Track 140 : BaileyBlu\_12
- Track 141 : PinkYoshi\_13, Jolene\_13, CassieYates\_13, Angel\_13, TomBrady\_13, ECartman\_13, OctaviousRex\_13, Periodt\_13, Avrafan\_13, Schiebel\_13, Sizemore\_13, Hope\_13, Hotshotbaby7\_13, Marmie\_13, Cedasite\_13, Renaissance\_13, Gideon\_13, BPs\_13, ZoMa\_13, BQuat\_13, Coleslaw\_13, DMoney\_13, DNAIII\_0013, JorRay\_13, Plagueis\_13, Aroostook\_13, Mowgli\_13, Kareem\_13, Chance64\_13, BruceB\_13, Crespo\_13, Darionha\_13, Frosty24\_13, Gomashi\_13, CLED96\_13, Remy19\_13, Sweets\_13, Kasen3\_13, Olga\_13, Zombie\_13, LouisV14\_13, Camri\_13, Cherrybomb426\_13, Annihilator\_13, Phreak\_13, ShaboiShabazz\_13, Jane\_13, Jonghyun\_13, Phish\_13, GoldenAsh\_13
- Track 142 : Paito\_13
- Track 143 : Taheera\_13, Terror\_13
- Track 144 : Barkley26\_13, Peeb\_13, Liefie\_13, Grizzly\_13
- Track 145 : Halo\_13
- Track 146 : Rabbs\_13, Sneeze\_13
- Track 147 : Pace1224\_13, FlagStaff\_13
- Track 148 : Avocado\_13
- Track 149 : Cambiare\_14
- Track 150 : Pinnie\_14, MOOREtheMARYer\_13
- Track 151 : Jolie2\_13
- Track 152 : Lemuria\_13
- Track 153 : Mercurio\_14
- Track 154 : Antsirabe\_13
- Track 155 : Stargaze\_13
- Track 156 : LilPharaoh\_14, Nutello\_14, SgtBeansprout\_14, Enkosi\_14, Amelie\_14, Binglebops\_14, Mdavu\_14, Nikao\_14
- Track 157 : Yunkel11\_18, Efra2\_18, Guanica15\_18
- Track 158 : CheetoDust\_18
- Track 159 : Belladonna\_18, Angelica\_18, CrimD\_18, Rosmarinus\_18, CREW\_18, Inky\_18, BaghaKamala\_18, Zavala\_18, Capricorn\_18, Adephegia\_18, Deby\_18, Durfee\_18, Mynx\_18, YoureAdopted\_17, Rapunzel97\_18, Ramen\_18, Jarvi\_18, BGIlluvia\_18, Megsy\_18, Piatt\_18, Boiiii\_18, Hyperbowlee\_18, Slimphazie\_18, Peel\_18, Spock\_18, Twitch\_18, Llorens\_18, Jayhawk\_19, BarrelRoll\_18, CaseJules\_18, Asayake\_18, Lunahalos\_18, Padfoot\_18, Apocalypse\_18, Topper\_18, Zabiza\_19, Joy99\_18, JAWS\_18, Blizzard\_18, BEEST\_18, HedwigODU\_18, Homura\_18, TaiwanKao\_19, MeaningOfLife\_18, ShiaSurprise\_18, Sulley\_18, TruffulaTree\_18, Dalmuri\_18, ActinUp\_18, Jeckyll\_18
- Track 160 : SamuelLPlaqson\_18, Urkel\_18, TiniBug\_18, DrHayes\_18
- Track 161 : Ganymede\_19, Atiba\_18, Tachez\_18, Beezoo\_18, Geraldini\_18, Pokerus\_17, QuincyRose\_17, Tiri\_18, Adonis\_18
- Track 162 : AlishaPH\_18, Emerson\_18, Padpat\_18, Veliki\_18
- Track 163 : Murucutumbu\_18, LaterM\_18, Stinson\_18, Ageofdapage\_18
- Track 164 : LastHope\_18
- Track 165 : Nibb\_17
- Track 166 : TreyKay\_18, Prithvi\_18, LindNT\_18
- Track 167 : MarkPhew\_18
- Track 168 : Illumine\_18, Devera\_18, Dole\_18

- Track 169 : Peanam\_18, Shaobing\_18, Niklas\_18
- Track 170 : KiSi\_17, Oscar\_17, LeMond\_17, Scarlett\_17
- Track 171 : Bella96\_18
- Track 172 : Validus\_18
- Track 173 : Anaya\_19
- Track 174 : Chris\_17
- Track 175 : Curiosium\_19
- Track 176 : Findley\_14, Strobilo\_14, DismalFunk\_14, Milly\_14, DismalStressor\_14, Marcoliusprime\_14
- Track 177 : BoostSeason\_14
- Track 178 : ZoeJ\_14
- Track 179 : TM4\_14
- Track 180 : Mufasa\_14
- Track 181 : Pixie\_17, Keshu\_17, TBond007\_17, Hurricane\_17
- Track 182 : ShedlockHolmes\_17
- Track 183 : Pharb\_17
- Track 184 : MacnCheese\_18
- Track 185 : TripleTrouble\_16
- Track 186 : Slarp\_19, Fionnbharth\_19, OmniCritical\_19, Wintermute\_19, Mitti\_19, Cheetobro\_19, Chancellor\_19, SamScheppers\_17
- Track 187 : Y2\_19, Y10\_19, JF1\_19
- Track 188 : MissDaisy\_19, Reptar3000\_19, Patt\_19
- Track 189 : Juliette\_19, Taquito\_17, Eponine\_19, Ruthiejr\_18
- Track 190 : Malthus\_19
- Track 191 : Omnicron\_16
- Track 192 : AlleyCat\_16, Psycho\_16, Dadosky\_16, Larva\_16
- Track 193 : SoSeph\_16, Heftyboy\_16
- Track 194 : Edugator\_15, Kratio\_15
- Track 195 : Miryou\_16, Guillsminger\_16, Leston\_16, Paola\_16, OkiRoe\_16, Gengar\_16
- Track 196 : Rando14\_16
- Track 197 : Agent47\_16, InvictusManeo\_16, Collard\_16
- Track 198 : Waterfoul\_16, Thyatira\_16, Feyre\_16
- Track 199 : Amgine\_16
- Track 200 : Amohnition\_17
- Track 201 : Phrank\_17, Tierra\_17, Bryler\_17, Cain\_17
- Track 202 : Hammy\_17, DarthP\_17
- Track 203 : Ekdilam\_15
- Track 204 : Syra333\_17, Krueger\_17
- Track 205 : Yuna\_18
- Track 206 : Shadow1\_16, Sunflower1121\_16
- Track 207 : TClif\_17
- Track 208 : Ellie\_15
- Track 209 : PhelpsODU\_17, Unicorn\_17
- Track 210 : Marshawn\_19
- Track 211 : Fefferhead\_17
- Track 212 : Ximenita\_18
- Track 213 : SirPhilip\_17
- Track 214 : Aminay\_16
- Track 215 : Boilgate\_15
- Track 216 : Gancho\_14, Gravaillia\_15
- Track 217 : Amochick\_15, Ubuntu\_15, DeepSoil15\_15, Kinbote\_15, Evanesce\_15, Forge\_15, Ein37\_15, Daegal\_16, Dewey\_15, Hail\_15, Hadrien\_15, OBUpride\_15,

- HH92\_15, Luna22\_15, Amymech\_15, Webster2\_15, Giles\_15, Wishmaker\_15, Luke\_15, LilHazelnut\_15
- Track 218 : 32HC\_19
  - Track 219 : Rem711\_18
  - Track 220 : Success\_58
  - Track 221 : Samy\_17
  - Track 222 : Shambre1\_14
  - Track 223 : Kromp\_14
  - Track 224 : Spartoi\_11
  - Track 225 : Ibantik\_76

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

The start number called the most often in the published annotations is 24, it was called in 187 of the 469 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_18, Adephegia\_18, Adonis\_18, Agent47\_16, AlishaPH\_18, AlleyCat\_16, Amelie\_14, Angel\_13, Angelica\_18, Annihilator\_13, Antsirabe\_13, Apocalypse\_18, Aroostook\_13, Asayake\_18, Atiba\_18, Avocado\_13, Avrafan\_13, BEEST\_18, BGIlluviae\_18, BPs\_13, BQuat\_13, BaghaKamala\_18, Barkley26\_13, BarrelRoll\_18, Beezoo\_18, Bella96\_18, Belladonna\_18, Biglebops\_14, Blizzard\_18, Boiiii\_18, BruceB\_13, Bryler\_17, CLED96\_13, CREW\_18, Cain\_17, Cambiare\_14, Camri\_13, Capricorn\_18, CaseJules\_18, CassieYates\_13, Cedasite\_13, Chance64\_13, CheetoDust\_18, Cherrybomb426\_13, Chris\_17, Coleslaw\_13, Collard\_16, Crespo\_13, CrimD\_18, DMoney\_13, DNAIII\_0013, Dadosky\_16, Dalmuri\_18, Darionha\_13, Deby\_18, Devera\_18, Dole\_18, DrHayes\_18, Durfee\_18, ECartman\_13, Edugator\_15, Emerson\_18, Enkosi\_14, Feyre\_16, FlagStaff\_13, Frosty24\_13, Ganymede\_19, Gengar\_16, Geraldini\_18, Gideon\_13, GoldenAsh\_13, Gomashi\_13, Grizzly\_13, Guillsminger\_16, Halo\_13, HedwigODU\_18, Heftyboy\_16, Homura\_18, Hope\_13, Hotshotbaby7\_13, Hyperbowlee\_18, Illumine\_18, Inky\_18, InvictusManeo\_16, JAWS\_18, Jane\_13, Jarvi\_18, Jayhawk\_19, Jeckyll\_18, Jolene\_13, Jolie2\_13, Jonghyun\_13, JorRay\_13, Joy99\_18, Kareem\_13, Kasen3\_13, KiSi\_17, Kratio\_15, Krueger\_17, Larva\_16, LeMond\_17, Lemuria\_13, Leston\_16, Liefie\_13, LilPharaoh\_14, LindNT\_18, Llorens\_18, LouisV14\_13, Lunahalos\_18, MOOREtheMARYer\_13, MarkPhew\_18, Marmie\_13, Mdavu\_14, MeaningOfLife\_18, Megsy\_18, Mercurio\_14, Miryou\_16, Mowgli\_13, Mynx\_18, Nibb\_17, Nikao\_14, Nutello\_14, OctaviousRex\_13, OkiRoe\_16, Olga\_13, Omnicron\_16, Oscar\_17, Pace1224\_13, Padfoot\_18, Padpat\_18, Paito\_13, Paola\_16, Peeb\_13, Peel\_18, Periodt\_13, Pharb\_17, PhelpsODU\_17, Phish\_13, Phrank\_17, Phreak\_13, Piatt\_18, PinkYoshi\_13, Pinnie\_14, Plagueis\_13, Pokerus\_17, Prithvi\_18, Psycho\_16, QuincyRose\_17, Rabbs\_13, Ramen\_18, Rando14\_16, Rapunzel97\_18, Remy19\_13, Renaissance\_13, Rosmarinus\_18, SamuelLPlaqson\_18, Scarlett\_17, Schiebel\_13, SgtBeansprout\_14, ShaboiShabazz\_13, Shadow1\_16, ShiaSurprise\_18, SirPhilip\_17, Sizemore\_13, Slimphazie\_18, Sneeze\_13, SoSeph\_16, Spock\_18, Stargaze\_13, Sulley\_18, Sunflower1121\_16, Sweets\_13, Syra333\_17, TClif\_17, Tachez\_18, Taheera\_13, TaiwanKao\_19, Terror\_13, Thyatira\_16, Tierra\_17, TiniBug\_18, Tiri\_18, TomBrady\_13, Topper\_18, TreyKay\_18, TribbleTrouble\_16, TruffulaTree\_18, Twitch\_18, Unicorn\_17, Urkel\_18, Veliki\_18, Waterfoul\_16, Ximenita\_18, YoureAdopted\_17, Zabiza\_19, Zavala\_18, ZoMa\_13, Zombie\_13,

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

- 

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

- 32HC\_19, 8UZL\_15, AEgle\_13, AGrandiflora\_13, ATCC29399BC\_11, ATCC29399BT\_11, AbbeyMikolon\_12, Adolin\_13, Adumb2043\_13, Ageofdapage\_18, AinMach\_12, Amgine\_16, Aminay\_16, Amochick\_15, Amohnition\_17, Amyev\_13, Amymech\_15, Anaya\_19, Aquarius\_11, Archis\_15, Asa16\_13, Ascela\_13, Attacne\_11, Ayotoya\_16, Azula\_16, BaileyBlu\_12, Banquo\_21, Barco\_14, Barnstormer\_11, Begonia\_14, Berrie\_13, BetterKatz\_16, BlingBling\_14, Blino\_14, Blueberry\_16, Bock\_16, Boilgate\_15, BoostSeason\_14, BruceLethal\_11, Brylie\_16, CallinAllBarbz\_12, CaptainKirk2\_14, CarolAnn\_14, Caron\_11, Cassia\_13, Catfish\_16, Cen1621\_11, Chancellor\_19, Cheetobro\_19, Chop\_16, Community\_14, Cota\_11, Crewmate\_14, Curiosium\_19, Cyan\_13, Daegal\_16, Dardanus\_19, DarthP\_17, DeepSoil15\_15, DelRio\_17, Delian\_14, Dewey\_15, DinoDaryn\_19, DismalFunk\_14, DismalStressor\_14, DonkeyMan\_12, DrManhattan\_13, DrParker\_11, DrSierra\_13, DumpsterDude\_13, Efra2\_18, Ein37\_15, Ekdilam\_15, Elezi\_13, Ellie\_15, Emotion\_12, Enochoraptor\_11, Enoki\_11, Eponine\_19, Eraser\_13, Evanesce\_15, Exile\_12, FF47\_15, Fairfaxidum\_14, Fefferhead\_17, Fenry\_13, Findley\_14, Fionnbharth\_19, Floof\_12, Forge\_15, Francois\_16, Frokostdame\_14, Gambino\_16, Gancho\_14, GardenState\_12, Giles\_15, Goib\_18, GrandSlam\_16, Gravaillia\_15, Gretchen\_12, Gspu1\_15, Guacamole\_14, Guanica15\_18, Gustav\_11, HH92\_15, Hadrien\_15, Hail\_15, Halsey\_16, Hammy\_17, Hamood\_16, Heinz\_12, Hibiscus\_12, Hitter\_14, Honk\_11, Huffy\_19, Hurricane\_17, IAmGroot\_12, Ibantik\_76, Iter\_13, IttyBittyPiggy\_13, JF1\_19, JacoRen57\_12, Jalammah\_15, Janeemi\_14, JasmineDragon\_12, JasperJr\_14, Joemato\_14, JohnDoe\_13, Jojo24\_12, Jstan\_13, JuJu\_14, Juliette\_19, JuneStar\_13, JustASigh\_12, KappaFarmDelta\_14, Kaylissa\_13, KeAlii\_13, Keiki\_11, Keshu\_17, Kinbote\_15, Kromp\_14, Kubed\_11, LastHope\_18, LaterM\_18, Lauchelly\_11, Lego\_13, Leviosa\_11, Liebe\_12, LilBandit\_11, LilHazelnut\_15, Lizalica\_13, London\_13, Luke\_15, Luna22\_15, Lysidious\_14, MEAK\_11, MaGuCo\_12, Mabodamaca\_12, MacnCheese\_18, Maco6\_13, Mahdia\_11, Malachai\_14, Malibo\_12, Malthus\_19, Marcoliusprime\_14, Marshawn\_19, Maureen\_12, Melba\_14, Mellie\_13, Milly\_14, MiniMommy\_11, MintFen\_14, MissDaisy\_19, MissRona\_16, MissSwiss\_13, Mitti\_19, Morrissey\_12, Moss\_15, Moyashi\_11, MrAK\_11, Muddy\_15, Mudpuppy\_13, Mufasa\_14, Mulch\_16, Murp\_14, Murucutumbu\_18, Nadeem\_16, NancyRae\_16, Nesbitt\_12, Niklas\_18, Niobe\_13, Nitro\_13, OBUpride\_15, ObiToo\_13, Obliviate\_13, OmniCritical\_19, Ouroboros\_11, P1.1\_11, P100.1\_11, P100A\_11, P100D\_11, P101A\_11, P104A\_11, P104B\_11, P105\_11, P106A\_11, P106C\_11, P106I\_11, P106L\_11, P106M\_11, P107A\_11, P107C\_11, P108C\_11, P14.4\_11, P9.1\_11, PA6\_11, PAD20\_11, PAS50\_11, PCoral7\_14, PHL010M04\_11, PHL037M02\_11, PHL060L00\_11, PHL067M10\_11, PHL071N05\_11, PHL111M01\_11, PHL112N00\_11, PHL113M01\_11, PHL114L00\_11, Parada\_16, Patt\_19, Peanam\_18, Percival\_12, Petra\_16, Phives\_14, PhrostedPhlake\_15, Pimento\_16, Pipp\_14, Pirate\_11, Pixelle\_13, Pixie\_17, Powerpuff\_13, PrincePatrick\_14, Procrass1\_11, Pumpkins\_13, Puppies\_11, QueenBey\_11, Reedo\_13, Rem711\_18, Reptar3000\_19, Reyja\_13, Rileysaurus\_11, Rowa\_12, Ruthiejr\_18, Ruthy\_13, SKKY\_11, SamScheppers\_17, Samba\_14, Samy\_17, Santhid\_12, Schmidt\_15, ShakeltOph\_12, Shambre1\_14, Shaobing\_18, ShedlockHolmes\_17, Simpson\_14, Slarp\_19, Sneak\_13, Solid\_11, Soondubu\_12, Spartoi\_11, Splinter\_17, Stinson\_18, Stormborn\_11, Strobilo\_14, SuMoo\_11, Success\_58, Sue2\_13, Supernova\_11, TBond007\_17, TM4\_14,

TZGordon\_19, Tallboi\_13, Taquito\_17, Tarzan\_12, Tbone\_13, TforTroy\_13, Tian\_13, TinaLin\_20, Toast\_14, Trine\_11, Tuck\_14, Turab\_13, Tutumahutu\_13, Tweety19\_13, Ubuntu\_15, UmaThurman\_14, Upyo\_11, UtzChips\_11, Utz\_14, VResidence\_13, VWB\_13, Validus\_18, Vendetta\_17, VroomVroom\_12, Walrus\_15, Warda\_13, Webster2\_15, Weirido19\_13, WheatThin\_16, Widow\_11, Wildwest\_14, William\_14, Wintermute\_19, Wishmaker\_15, Wisp\_13, Wizzo\_11, Wocket\_15, Y10\_19, Y2\_19, Yang\_13, YesChef\_13, Yuna\_18, Yunkel11\_18, Z̄arbodnamra\_14, Zeta1847\_11, ZiggyZoo\_13, ZoeJ\_14,

### Summary by start number:

#### Start 8:

- Found in 4 of 525 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 469
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Amgine\_16 (K6),

#### Start 18:

- Found in 3 of 525 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 2 of 469
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Gustav\_11 (CD), Morrissey\_12 (CD),

#### Start 19:

- Found in 2 of 525 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 469
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BoostSeason\_14 (K2), Mufasa\_14 (K2),

#### Start 20:

- Found in 8 of 525 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 8 of 469
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DismalFunk\_14 (K2), DismalStressor\_14 (K2), Findley\_14 (K2), Marcoliusprime\_14 (K2), Milly\_14 (K2), Strobilo\_14 (K2), TM4\_14 (K2), ZoeJ\_14 (K2),

#### Start 21:

- Found in 5 of 525 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 469
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Toast\_14 (CV),

#### Start 23:

- Found in 6 of 525 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 6 of 469
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hurricane\_17 (K3), Keshu\_17 (K3), MacnCheese\_18 (K3), Pixie\_17 (K3), ShedlockHolmes\_17 (K3), TBond007\_17 (K3),

#### Start 24:

- Found in 198 of 525 ( 37.7% ) of genes in pham
- Manual Annotations of this start: 187 of 469

- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_18 (K1), Adephagia\_18 (K1), Adonis\_18 (K1), Agent47\_16 (K5), AlishaPH\_18 (K1), AlleyCat\_16 (K5), Amelie\_14 (K1), Angel\_13 (G1), Angelica\_18 (K1), Annihilator\_13 (G1), Antsirabe\_13 (G5), Apocalypse\_18 (K1), Aroostook\_13 (G1), Asayake\_18 (K1), Atiba\_18 (K1), Avocado\_13 (G2), Avrafan\_13 (G1), BEEST\_18 (K1), BGlluviae\_18 (K1), BPs\_13 (G1), BQuat\_13 (G1), BaghaKamala\_18 (K1), Barkley26\_13 (G1), BarrelRoll\_18 (K1), Beezoo\_18 (K1), Bella96\_18 (K1), Belladonna\_18 (K1), Biglebops\_14 (K1), Blizzard\_18 (K1), Boiiii\_18 (K1), BruceB\_13 (G1), Bryler\_17 (K6), CLED96\_13 (G1), CREW\_18 (K1), Cain\_17 (K6), Cambiare\_14 (G2), Camri\_13 (G1), Capricorn\_18 (K1), CaseJules\_18 (K1), CassieYates\_13 (G1), Cedasite\_13 (G1), Chance64\_13 (G1), CheetoDust\_18 (K1), Cherrybomb426\_13 (G1), Chris\_17 (K1), Coleslaw\_13 (G1), Collard\_16 (K5), Crespo\_13 (G1), CrimD\_18 (K1), DMoney\_13 (G1), DNAIII\_0013 (G1), Dadosky\_16 (K5), Dalmuri\_18 (K1), Darionha\_13 (G1), Deby\_18 (K1), Devera\_18 (K1), Dole\_18 (K1), DrHayes\_18 (K1), Durfee\_18 (K1), ECartman\_13 (G1), Edugator\_15 (K5), Emerson\_18 (K1), Enkosi\_14 (K1), Feyre\_16 (K5), FlagStaff\_13 (G2), Frosty24\_13 (G1), Ganymede\_19 (K1), Gengar\_16 (K5), Geraldini\_18 (K1), Gideon\_13 (G1), GoldenAsh\_13 (G1), Gomashi\_13 (G1), Grizzly\_13 (G1), Guillsminger\_16 (K5), Halo\_13 (G1), HedwigODU\_18 (K1), Heftyboy\_16 (K5), Homura\_18 (K1), Hope\_13 (G1), Hotshotbaby7\_13 (G1), Hyperbowlee\_18 (K1), Illumine\_18 (K1), Inky\_18 (K1), InvictusManeo\_16 (K5), JAWS\_18 (K1), Jane\_13 (G1), Jarvi\_18 (K1), Jayhawk\_19 (K1), Jeckyll\_18 (K1), Jolene\_13 (G1), Jolie2\_13 (G4), Jonghyun\_13 (G1), JorRay\_13 (G1), Joy99\_18 (K1), Kareem\_13 (G1), Kasen3\_13 (G1), KiSi\_17 (K1), Kratio\_15 (K5), Krueger\_17 (K6), Larva\_16 (K5), LeMond\_17 (K1), Lemuria\_13 (G4), Leston\_16 (K5), Liefie\_13 (G1), LilPharaoh\_14 (K1), LindNT\_18 (K1), Llorens\_18 (K1), LouisV14\_13 (G1), Lunahalos\_18 (K1), MOOREtheMARYer\_13 (G3), MarkPheW\_18 (K1), Marmie\_13 (G1), Mdavu\_14 (K1), MeaningOfLife\_18 (K1), Megsy\_18 (K1), Mercurio\_14 (G4), Miryou\_16 (K5), Mowgli\_13 (G1), Mynx\_18 (K1), Nibb\_17 (K1), Nikao\_14 (K1), Nutello\_14 (K1), OctaviousRex\_13 (G1), OkiRoe\_16 (K5), Olga\_13 (G1), Omnicron\_16 (K5), Oscar\_17 (K1), Pace1224\_13 (G2), Padfoot\_18 (K1), Padpat\_18 (K1), Paito\_13 (G1), Paola\_16 (K5), Peeb\_13 (G1), Peel\_18 (K1), Periodt\_13 (G1), Pharb\_17 (K3), PhelpsODU\_17 (K6), Phish\_13 (G1), Phrank\_17 (K6), Phreak\_13 (G1), Piatt\_18 (K1), PinkYoshi\_13 (G1), Pinnie\_14 (G3), Plagueis\_13 (G1), Pokerus\_17 (K1), Prithvi\_18 (K1), Psycho\_16 (K5), QuincyRose\_17 (K1), Rabbs\_13 (G1), Ramen\_18 (K1), Rando14\_16 (K5), Rapunzel97\_18 (K1), Remy19\_13 (G1), Renaissance\_13 (G1), Rosmarinus\_18 (K1), SamuelLPlaqson\_18 (K1), Scarlett\_17 (K1), Schiebel\_13 (G1), SgtBeansprout\_14 (K1), ShaboiShabazz\_13 (G1), Shadow1\_16 (K6), ShiaSurprise\_18 (K1), SirPhilip\_17 (K6), Sizemore\_13 (G1), Slimphazie\_18 (K1), Sneeze\_13 (G1), SoSeph\_16 (K5), Spock\_18 (K1), Stargaze\_13 (G5), Sulley\_18 (K1), Sunflower1121\_16 (K6), Sweets\_13 (G1), Syra333\_17 (K6), TClif\_17 (K6), Tachez\_18 (K1), Taheera\_13 (G1), TaiwanKao\_19 (K1), Terror\_13 (G1), Thyatira\_16 (K5), Tierra\_17 (K6), TiniBug\_18 (K1), Tiri\_18 (K1), TomBrady\_13 (G1), Topper\_18 (K1), TreyKay\_18 (K1), TribbleTrouble\_16 (K3), TruffulaTree\_18 (K1), Twitch\_18 (K1), Unicorn\_17 (K6), Urkel\_18 (K1), Veliki\_18 (K1), Waterfoul\_16 (K5), Ximenita\_18 (K6), YoureAdopted\_17 (K1), Zabiza\_19 (K1), Zavala\_18 (K1), ZoMa\_13 (G1), Zombie\_13 (G1),

Start 25:

- Found in 5 of 525 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 5 of 469
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Ageofdapage\_18 (K1), Anaya\_19 (K1), LaterM\_18 (K1), Murucutumbu\_18 (K1), Stinson\_18 (K1),

#### Start 26:

- Found in 5 of 525 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 469
- Called 20.0% of time when present
- Phage (with cluster) where this start called: P14.4\_11 (BU),

#### Start 27:

- Found in 186 of 525 ( 35.4% ) of genes in pham
- Manual Annotations of this start: 154 of 469
- Called 98.4% of time when present
- Phage (with cluster) where this start called: 32HC\_19 (Z), 8UZL\_15 (AB), AEgle\_13 (AZ1), AGrandiflora\_13 (AZ1), AbbeyMikolon\_12 (BL), Adolin\_13 (AZ1), Adumb2043\_13 (AZ1), AinMach\_12 (AZ), Aminay\_16 (K7), Amochick\_15 (Q), Amohntion\_17 (K6), Amyev\_13 (AZ1), Amymech\_15 (Q), Asa16\_13 (AZ1), Ascela\_13 (AZ1), Ayotoya\_16 (DI), Barnstormer\_11 (EH), Berrie\_13 (AZ1), BetterKatz\_16 (DI), Bock\_16 (DI), Boilgate\_15 (K8), Brylie\_16 (DI), Caron\_11 (EH), Cassia\_13 (AZ1), Cen1621\_11 (EH), Chancellor\_19 (K4), Cheetobro\_19 (K4), Chop\_16 (DI), Community\_14 (AZ1), Crewmate\_14 (AZ1), Curiosium\_19 (K1), Cyan\_13 (AZ1), Daegal\_16 (Q), DarthP\_17 (K6), DeepSoil15\_15 (Q), DelRio\_17 (DI), Dewey\_15 (Q), DonkeyMan\_12 (DY), DrManhattan\_13 (AZ1), DrSierra\_13 (AZ1), DumpsterDude\_13 (DW), Efra2\_18 (K1), Ein37\_15 (Q), Ekdilam\_15 (K6), Elezi\_13 (AZ1), Ellie\_15 (K6), Emotion\_12 (AZ4), Eponine\_19 (K4), Eraser\_13 (AZ1), Evanesce\_15 (Q), Exile\_12 (AZ), FF47\_15 (AB), Fefferhead\_17 (K6), Fionnbharth\_19 (K4), Floof\_12 (EH), Forge\_15 (Q), Francois\_16 (DI), Gancho\_14 (Q), GardenState\_12 (EH), Giles\_15 (Q), GrandSlam\_16 (DI), Gravaillia\_15 (Q), Gretchen\_12 (EH), Guanica15\_18 (K1), HH92\_15 (Q), Hadrien\_15 (Q), Hail\_15 (Q), Halsey\_16 (AZ), Hammy\_17 (K6), Hamood\_16 (DI), Heinz\_12 (DY), Hibiscus\_12 (DY), Honk\_11 (EH), IAmGroot\_12 (EH), Iter\_13 (AZ1), IttyBittyPiggy\_13 (AZ1), JF1\_19 (K4), JacoRen57\_12 (AB), Janeemi\_14 (AZ1), JasmineDragon\_12 (AZ4), Joemato\_14 (AZ1), JohnDoe\_13 (AZ1), Jojo24\_12 (DY), Jstan\_13 (AZ1), Juliette\_19 (K4), JuneStar\_13 (AZ1), JustASigh\_12 (AH), Kaylissa\_13 (AZ1), KeAlii\_13 (AZ1), Kinbote\_15 (Q), LastHope\_18 (K1), Lego\_13 (AZ1), Liebe\_12 (AZ2), LilHazelNut\_15 (Q), Lizalica\_13 (AZ1), London\_13 (AZ1), Luke\_15 (Q), Luna22\_15 (Q), MaGuCo\_12 (AZ2), Mabodamaca\_12 (EH), Maco6\_13 (AB), Mahdia\_11 (CD), Malibo\_12 (DW), Malthus\_19 (K4), Marshawn\_19 (K6), Maureen\_12 (AZ2), MiniMommy\_11 (AZ4), MissDaisy\_19 (K4), MissSwiss\_13 (AZ1), Mitti\_19 (K4), Moss\_15 (AZ), Muddy\_15 (AB), Mudpuppy\_13 (AZ1), Mulch\_16 (DI), Nadeem\_16 (DI), NancyRae\_16 (DI), Nesbitt\_12 (BL), Niklas\_18 (K1), Niobe\_13 (AZ1), Nitro\_13 (AZ1), OBUpride\_15 (Q), ObiToo\_13 (AZ1), OmniCritical\_19 (K4), Parada\_16 (DI), Patt\_19 (K4), Peanam\_18 (K1), Percival\_12 (EH), Phives\_14 (AZ1), Pimento\_16 (DI), Pixelle\_13 (AZ1), Powerpuff\_13 (AZ1), Pumpkins\_13 (AZ1), Puppies\_11 (CD), Reedo\_13 (AZ1), Rem711\_18 (Z), Reptar3000\_19 (K4), Reyja\_13 (DY), Rowa\_12 (BL), Ruthiejr\_18 (K4), Ruthy\_13 (DW), SamScheppers\_17 (K4), Santhid\_12 (DY), ShakeltOph\_12 (AZ4), Shaobing\_18 (K1), Simpson\_14 (AZ1), Slarp\_19 (K4), Snek\_13 (AZ3), Soondubu\_12 (AZ), SuMoo\_11 (EH), Sue2\_13 (AZ1), Tallboi\_13 (AZ1), Taquito\_17 (K4), Tarzan\_12 (DY), Tbone\_13 (AZ1), TforTroy\_13 (AZ1), Tian\_13 (AZ1), Trine\_11 (CD), Tuck\_14 (AZ1), Turab\_13 (AZ1), Tutumahutu\_13 (AZ1), Tweety19\_13 (AZ3), Ubuntu\_15 (Q), Upyo\_11 (CD), UtzChips\_11 (EH), VResidence\_13 (AZ1), VWB\_13 (BA), Validus\_18 (K1), VroomVroom\_12 (AZ4), Warda\_13 (AZ1), Webster2\_15 (Q), Weirdo19\_13 (AH), WheatThin\_16 (DI), Widow\_11 (CD), Wildwest\_14 (AZ1),

Wintermute\_19 (K4), Wishmaker\_15 (Q), Y10\_19 (K4), Y2\_19 (K4), Yang\_13 (AZ1), YesChef\_13 (AZ1), Yuna\_18 (K6), Yunkel11\_18 (K1), Zeta1847\_11 (EH),

Start 31:

- Found in 45 of 525 ( 8.6% ) of genes in pham
- Manual Annotations of this start: 2 of 469
- Called 4.4% of time when present
- Phage (with cluster) where this start called: Obliviate\_13 (CV), Pipp\_14 (CV),

Start 32:

- Found in 47 of 525 ( 9.0% ) of genes in pham
- Manual Annotations of this start: 40 of 469
- Called 87.2% of time when present
- Phage (with cluster) where this start called: Archis\_15 (CV), Azula\_16 (CV), Barco\_14 (CV), Begonia\_14 (CV), BlingBling\_14 (CV), Blino\_14 (CV), Blueberry\_16 (CV), CaptainKirk2\_14 (CV), CarolAnn\_14 (CV), Delian\_14 (CV), Fairfaxidum\_14 (CV), Fenry\_13 (CV), Frokostdame\_14 (CV), Gambino\_16 (CV), Guacamole\_14 (CV), Hitter\_14 (CV), Jalammah\_15 (CV), JasperJr\_14 (CV), JuJu\_14 (CV), KappaFarmDelta\_14 (CV), Kromp\_14 (singleton), Lysidious\_14 (CV), Malachai\_14 (CV), Melba\_14 (CV), Mellie\_13 (CV), MintFen\_14 (CV), MissRona\_16 (CV), Murp\_14 (CV), PCoral7\_14 (CV), Petra\_16 (CV), PhrostedPhlake\_15 (CV), PrincePatrick\_14 (CV), Samba\_14 (CV), UmaThurman\_14 (CV), Utz\_14 (CV), Walrus\_15 (CV), William\_14 (CV), Wisp\_13 (CV), Wocket\_15 (CV), Zarbodnamra\_14 (CV), ZiggyZoo\_13 (CV),

Start 38:

- Found in 2 of 525 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 469
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CallinAllBarbz\_12 (FP), Shambre1\_14 (singleton),

Start 39:

- Found in 30 of 525 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 1 of 469
- Called 3.3% of time when present
- Phage (with cluster) where this start called: BaileyBlu\_12 (FP),

Start 41:

- Found in 13 of 525 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 3 of 469
- Called 23.1% of time when present
- Phage (with cluster) where this start called: ATCC29399BT\_11 (BU), P100.1\_11 (BU), P100A\_11 (BU),

Start 42:

- Found in 36 of 525 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 12 of 469
- Called 36.1% of time when present
- Phage (with cluster) where this start called: ATCC29399BC\_11 (BU), Enochoraptor\_11 (BU), P1.1\_11 (BU), P100D\_11 (BU), P101A\_11 (BU), P104A\_11 (BU), P105\_11 (BU), P106A\_11 (BU), P106C\_11 (BU), P106I\_11 (BU), P106L\_11 (BU), P106M\_11 (BU), P9.1\_11 (BU),



Start 43:

- Found in 22 of 525 ( 4.2% ) of genes in pham
- Manual Annotations of this start: 2 of 469
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Ibantik\_76 (singleton), Success\_58 (singleton),

Start 46:

- Found in 70 of 525 ( 13.3% ) of genes in pham
- Manual Annotations of this start: 28 of 469
- Called 58.6% of time when present
- Phage (with cluster) where this start called: Aquarius\_11 (BU), Attacne\_11 (BU), BruceLethal\_11 (BU), Cota\_11 (BU), DrParker\_11 (BU), Enoki\_11 (BU), Keiki\_11 (BU), Kubed\_11 (BU), Lauchelly\_11 (BU), Leviosa\_11 (BU), LilBandit\_11 (BU), MEAK\_11 (BU), Moyashi\_11 (BU), MrAK\_11 (BU), Ouroboros\_11 (BU), P104B\_11 (BU), P107A\_11 (BU), P107C\_11 (BU), P108C\_11 (BU), PA6\_11 (BU), PAD20\_11 (BU), PAS50\_11 (BU), PHL010M04\_11 (BU), PHL037M02\_11 (BU), PHL060L00\_11 (BU), PHL067M10\_11 (BU), PHL071N05\_11 (BU), PHL111M01\_11 (BU), PHL112N00\_11 (BU), PHL113M01\_11 (BU), PHL114L00\_11 (BU), Pirate\_11 (BU), Procrass1\_11 (BU), QueenBey\_11 (BU), Rileysaurus\_11 (BU), SKKY\_11 (BU), Samy\_17 (singleton), Solid\_11 (BU), Stormborn\_11 (BU), Supernova\_11 (BU), Wizzo\_11 (BU),

Start 47:

- Found in 11 of 525 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 10 of 469
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo\_21 (CU1), Dardanus\_19 (CU3), DinoDaryn\_19 (CU1), Goib\_18 (CU1), Gsput1\_15 (CU2), Huffy\_19 (CU1), Schmidt\_15 (CU4), Splinter\_17 (CU1), TZGordon\_19 (CU1), TinaLin\_20 (CU1), Vendetta\_17 (CU1),

Start 48:

- Found in 2 of 525 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 469
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Catfish\_16 (CU5), Spartoi\_11 (singleton),

**Summary by clusters:**

There are 38 clusters represented in this pham: FP, singleton, BA, DI, BL, K4, K3, K2, K1, K7, K6, K5, DY, DW, K8, G5, G4, CU3, G2, G1, AB, EH, AH, CU5, CD, Q, CU4, G3, AZ, CV, CU2, CU1, BU, Z, AZ1, AZ2, AZ3, AZ4,

Info for manual annotations of cluster AB:

- Start number 27 was manually annotated 3 times for cluster AB.

Info for manual annotations of cluster AH:

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

Info for manual annotations of cluster AZ:

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

Info for manual annotations of cluster AZ1:

- Start number 27 was manually annotated 39 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 27 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 27 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 27 was manually annotated 3 times for cluster AZ4.

Info for manual annotations of cluster BL:

- Start number 27 was manually annotated 3 times for cluster BL.

Info for manual annotations of cluster BU:

- Start number 26 was manually annotated 1 time for cluster BU.
- Start number 41 was manually annotated 3 times for cluster BU.
- Start number 42 was manually annotated 12 times for cluster BU.
- Start number 46 was manually annotated 27 times for cluster BU.

Info for manual annotations of cluster CD:

- Start number 18 was manually annotated 2 times for cluster CD.
- Start number 27 was manually annotated 5 times for cluster CD.

Info for manual annotations of cluster CU1:

- Start number 47 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 47 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 47 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 48 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CV:

- Start number 21 was manually annotated 1 time for cluster CV.
- Start number 31 was manually annotated 2 times for cluster CV.
- Start number 32 was manually annotated 39 times for cluster CV.

Info for manual annotations of cluster DI:

- Start number 27 was manually annotated 13 times for cluster DI.

Info for manual annotations of cluster DW:

- Start number 27 was manually annotated 3 times for cluster DW.

Info for manual annotations of cluster DY:

- Start number 27 was manually annotated 5 times for cluster DY.

Info for manual annotations of cluster EH:

- Start number 27 was manually annotated 12 times for cluster EH.

Info for manual annotations of cluster FP:

- Start number 38 was manually annotated 1 time for cluster FP.
- Start number 39 was manually annotated 1 time for cluster FP.

Info for manual annotations of cluster G1:

- Start number 24 was manually annotated 58 times for cluster G1.

Info for manual annotations of cluster G2:

- Start number 24 was manually annotated 3 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 24 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 24 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 24 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster K1:

- Start number 24 was manually annotated 86 times for cluster K1.
- Start number 25 was manually annotated 5 times for cluster K1.
- Start number 27 was manually annotated 9 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 19 was manually annotated 2 times for cluster K2.
- Start number 20 was manually annotated 8 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 23 was manually annotated 6 times for cluster K3.
- Start number 24 was manually annotated 2 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 27 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 24 was manually annotated 21 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 8 was manually annotated 1 time for cluster K6.
- Start number 24 was manually annotated 12 times for cluster K6.
- Start number 27 was manually annotated 8 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 27 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

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

Info for manual annotations of cluster Q:

- Start number 27 was manually annotated 22 times for cluster Q.

Info for manual annotations of cluster Z:

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

### **Gene Information:**

Gene: 32HC\_19 Start: 11470, Stop: 12039, Start Num: 27

Candidate Starts for 32HC\_19:

(Start: 27 @11470 has 154 MA's), (49, 11515), (73, 11620), (98, 11752), (107, 11782), (108, 11785),

Gene: 8UZL\_15 Start: 9344, Stop: 9985, Start Num: 27

Candidate Starts for 8UZL\_15:

(16, 9311), (Start: 27 @9344 has 154 MA's), (Start: 46 @9377 has 28 MA's), (49, 9386), (54, 9404), (71, 9470), (79, 9509), (80, 9524), (98, 9629), (105, 9650), (111, 9680), (122, 9719), (135, 9764), (158, 9848), (162, 9869),

Gene: AEgle\_13 Start: 9479, Stop: 10030, Start Num: 27

Candidate Starts for AEgle\_13:

(Start: 27 @9479 has 154 MA's), (77, 9596), (102, 9722), (107, 9743), (109, 9758), (164, 9962),

Gene: AGrandiflora\_13 Start: 9464, Stop: 10015, Start Num: 27

Candidate Starts for AGrandiflora\_13:

(Start: 27 @9464 has 154 MA's), (102, 9707), (107, 9728), (109, 9743), (164, 9947),

Gene: ATCC29399BC\_11 Start: 7150, Stop: 7785, Start Num: 42

Candidate Starts for ATCC29399BC\_11:

(Start: 42 @7150 has 12 MA's), (45, 7159), (Start: 46 @7162 has 28 MA's), (72, 7255), (87, 7342), (135, 7531), (136, 7534), (139, 7543), (159, 7627), (163, 7642), (164, 7648), (171, 7690), (179, 7708),

Gene: ATCC29399BT\_11 Start: 7147, Stop: 7782, Start Num: 41

Candidate Starts for ATCC29399BT\_11:

(37, 7141), (Start: 41 @7147 has 3 MA's), (45, 7156), (Start: 46 @7159 has 28 MA's), (79, 7291), (87, 7339), (91, 7363), (135, 7528), (136, 7531), (159, 7624), (163, 7639), (164, 7645), (171, 7687), (179, 7705),

Gene: AbbeyMikolon\_12 Start: 8168, Stop: 8740, Start Num: 27

Candidate Starts for AbbeyMikolon\_12:

(9, 8084), (Start: 27 @8168 has 154 MA's), (45, 8201), (56, 8228), (59, 8237), (66, 8264), (77, 8291), (100, 8411), (108, 8438), (109, 8450), (113, 8468), (131, 8525), (154, 8600),

Gene: ActinUp\_18 Start: 10504, Stop: 11118, Start Num: 24

Candidate Starts for ActinUp\_18:

(Start: 24 @10504 has 187 MA's), (49, 10549), (79, 10672), (88, 10726), (96, 10783), (100, 10798), (122, 10882), (123, 10888), (135, 10927), (139, 10939), (146, 10966), (158, 11011), (160, 11026), (166, 11050), (183, 11107),

Gene: Adephagia\_18 Start: 10504, Stop: 11118, Start Num: 24

Candidate Starts for Adephagia\_18:

(Start: 24 @10504 has 187 MA's), (49, 10549), (79, 10672), (88, 10726), (96, 10783), (100, 10798), (122, 10882), (123, 10888), (135, 10927), (139, 10939), (146, 10966), (158, 11011), (160, 11026), (166, 11050), (183, 11107),

Gene: Adolin\_13 Start: 9458, Stop: 10006, Start Num: 27

Candidate Starts for Adolin\_13:

(Start: 27 @9458 has 154 MA's), (109, 9737), (151, 9881), (161, 9926),

Gene: Adonis\_18 Start: 10513, Stop: 11127, Start Num: 24

Candidate Starts for Adonis\_18:

(Start: 24 @10513 has 187 MA's), (49, 10558), (79, 10681), (88, 10735), (96, 10792), (100, 10807), (122, 10891), (123, 10897), (135, 10936), (139, 10948), (146, 10975), (158, 11020), (160, 11035), (166, 11059),

Gene: Adumb2043\_13 Start: 9478, Stop: 10029, Start Num: 27

Candidate Starts for Adumb2043\_13:

(Start: 27 @9478 has 154 MA's), (77, 9595), (102, 9721), (107, 9742), (109, 9757), (164, 9961),

Gene: Agent47\_16 Start: 10624, Stop: 11235, Start Num: 24

Candidate Starts for Agent47\_16:

(Start: 24 @10624 has 187 MA's), (49, 10669), (88, 10846), (96, 10903), (100, 10918), (105, 10933), (122, 11002), (123, 11008), (135, 11047), (143, 11074), (158, 11131), (160, 11146), (166, 11170), (175, 11200),

Gene: Ageofdapage\_18 Start: 10435, Stop: 11046, Start Num: 25

Candidate Starts for Ageofdapage\_18:

(Start: 25 @10435 has 5 MA's), (49, 10477), (79, 10600), (88, 10654), (96, 10711), (100, 10726), (111, 10771), (122, 10810), (123, 10816), (135, 10855), (139, 10867), (146, 10894), (158, 10939), (160, 10954), (166, 10978),

Gene: AinMach\_12 Start: 8582, Stop: 9136, Start Num: 27

Candidate Starts for AinMach\_12:

(Start: 27 @8582 has 154 MA's), (109, 8861), (124, 8918), (154, 9017), (161, 9053), (165, 9071),

Gene: AlishaPH\_18 Start: 10503, Stop: 11114, Start Num: 24

Candidate Starts for AlishaPH\_18:

(Start: 24 @10503 has 187 MA's), (49, 10545), (88, 10722), (96, 10779), (100, 10794), (122, 10878), (123, 10884), (135, 10923), (139, 10935), (146, 10962), (158, 11007), (160, 11022), (166, 11046), (183, 11103),

Gene: AlleyCat\_16 Start: 10500, Stop: 11111, Start Num: 24

Candidate Starts for AlleyCat\_16:

(Start: 24 @10500 has 187 MA's), (49, 10545), (96, 10779), (100, 10794), (105, 10809), (122, 10878), (123, 10884), (135, 10923), (139, 10935), (143, 10950), (158, 11007), (160, 11022), (166, 11046), (175, 11076),

Gene: Amelie\_14 Start: 9777, Stop: 10388, Start Num: 24

Candidate Starts for Amelie\_14:

(Start: 24 @9777 has 187 MA's), (Start: 43 @9798 has 2 MA's), (49, 9819), (79, 9942), (80, 9957), (88, 9996), (96, 10053), (100, 10068), (111, 10113), (122, 10152), (123, 10158), (135, 10197), (139, 10209), (158, 10281), (160, 10296), (166, 10320), (175, 10350),

Gene: Amgine\_16 Start: 10111, Stop: 10827, Start Num: 8

Candidate Starts for Amgine\_16:

(5, 9946), (Start: 8 @10111 has 1 MA's), (14, 10174), (17, 10183), (Start: 27 @10216 has 154 MA's), (49, 10258), (79, 10381), (83, 10402), (88, 10435), (96, 10492), (100, 10507), (122, 10591), (123, 10597), (135, 10636), (139, 10648), (146, 10675), (160, 10735), (166, 10759),

Gene: Aminay\_16 Start: 10358, Stop: 10966, Start Num: 27

Candidate Starts for Aminay\_16:

(Start: 27 @10358 has 154 MA's), (58, 10433), (70, 10481), (80, 10538), (83, 10544), (96, 10634), (105, 10664), (111, 10694), (113, 10706), (122, 10733), (123, 10739), (143, 10805), (158, 10862), (160, 10877), (166, 10901),

Gene: Amochick\_15 Start: 9932, Stop: 10471, Start Num: 27

Candidate Starts for Amochick\_15:

(Start: 27 @9932 has 154 MA's), (36, 9953), (Start: 39 @9956 has 1 MA's), (40, 9959), (49, 9977), (67, 10043), (79, 10079), (94, 10160), (100, 10193), (107, 10217), (126, 10265), (134, 10289), (145, 10331), (164, 10412),

Gene: Amohnition\_17 Start: 10531, Stop: 11145, Start Num: 27

Candidate Starts for Amohnition\_17:

(Start: 27 @10531 has 154 MA's), (40, 10552), (Start: 43 @10555 has 2 MA's), (49, 10576), (83, 10720), (88, 10753), (96, 10810), (100, 10825), (122, 10909), (123, 10915), (135, 10954), (139, 10966), (146, 10993), (160, 11053), (166, 11077), (175, 11107),

Gene: Amyev\_13 Start: 9490, Stop: 10041, Start Num: 27

Candidate Starts for Amyev\_13:

(Start: 27 @9490 has 154 MA's), (102, 9733), (107, 9754),

Gene: Amymech\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Amymech\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Anaya\_19 Start: 10513, Stop: 11124, Start Num: 25

Candidate Starts for Anaya\_19:

(Start: 25 @10513 has 5 MA's), (49, 10555), (79, 10678), (96, 10789), (100, 10804), (111, 10849), (122, 10888), (123, 10894), (135, 10933), (158, 11017), (160, 11032), (166, 11056),

Gene: Angel\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Angel\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Angelica\_18 Start: 10475, Stop: 11089, Start Num: 24

Candidate Starts for Angelica\_18:

(Start: 24 @10475 has 187 MA's), (49, 10520), (79, 10643), (88, 10697), (96, 10754), (100, 10769), (122, 10853), (123, 10859), (135, 10898), (139, 10910), (146, 10937), (158, 10982), (160, 10997), (166, 11021), (183, 11078),

Gene: Annihilator\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Annihilator\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Antsirabe\_13 Start: 10190, Stop: 10810, Start Num: 24

Candidate Starts for Antsirabe\_13:

(Start: 24 @10190 has 187 MA's), (Start: 39 @10214 has 1 MA's), (55, 10265), (70, 10322), (79, 10364), (80, 10379), (96, 10475), (100, 10490), (107, 10514), (111, 10535), (122, 10574), (128, 10598), (143, 10646), (149, 10670), (151, 10676), (160, 10718), (166, 10742), (175, 10772),

Gene: Apocalypse\_18 Start: 10479, Stop: 11093, Start Num: 24

Candidate Starts for Apocalypse\_18:

(Start: 24 @10479 has 187 MA's), (49, 10524), (79, 10647), (88, 10701), (96, 10758), (100, 10773), (122, 10857), (123, 10863), (135, 10902), (139, 10914), (146, 10941), (158, 10986), (160, 11001), (166, 11025), (183, 11082),

Gene: Aquarius\_11 Start: 7160, Stop: 7801, Start Num: 46

Candidate Starts for Aquarius\_11:

(16, 7076), (22, 7106), (Start: 32 @7130 has 40 MA's), (Start: 43 @7148 has 2 MA's), (45, 7157), (Start: 46 @7160 has 28 MA's), (72, 7253), (87, 7340), (93, 7376), (100, 7412), (134, 7526), (135, 7529), (136, 7532), (159, 7625), (163, 7640), (164, 7646), (171, 7688), (179, 7706),

Gene: Archis\_15 Start: 8891, Stop: 9529, Start Num: 32

Candidate Starts for Archis\_15:

(Start: 31 @8888 has 2 MA's), (Start: 32 @8891 has 40 MA's), (63, 8981), (67, 8996), (97, 9149), (113, 9224), (119, 9248), (137, 9296), (151, 9353), (159, 9392), (180, 9476), (186, 9512),

Gene: Aroostook\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Aroostook\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Asa16\_13 Start: 9448, Stop: 9999, Start Num: 27

Candidate Starts for Asa16\_13:

(Start: 27 @9448 has 154 MA's), (107, 9712), (109, 9727), (164, 9931),

Gene: Asayake\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Asayake\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Ascela\_13 Start: 9483, Stop: 10034, Start Num: 27

Candidate Starts for Ascela\_13:

(Start: 27 @9483 has 154 MA's), (64, 9570), (107, 9747), (109, 9762),

Gene: Atiba\_18 Start: 10467, Stop: 11081, Start Num: 24

Candidate Starts for Atiba\_18:

(Start: 24 @10467 has 187 MA's), (49, 10512), (79, 10635), (88, 10689), (96, 10746), (100, 10761), (122, 10845), (123, 10851), (135, 10890), (139, 10902), (146, 10929), (158, 10974), (160, 10989), (166, 11013),

Gene: Attacne\_11 Start: 7163, Stop: 7786, Start Num: 46

Candidate Starts for Attacne\_11:

(Start: 42 @7151 has 12 MA's), (45, 7160), (Start: 46 @7163 has 28 MA's), (72, 7256), (87, 7343), (93, 7379), (135, 7532), (136, 7535), (159, 7628), (163, 7643), (164, 7649), (171, 7691), (179, 7709),

Gene: Avocado\_13 Start: 10012, Stop: 10632, Start Num: 24

Candidate Starts for Avocado\_13:

(Start: 24 @10012 has 187 MA's), (55, 10087), (70, 10144), (79, 10186), (80, 10201), (96, 10297), (100, 10312), (107, 10336), (111, 10357), (122, 10396), (128, 10420), (135, 10441), (143, 10468), (151, 10498), (160, 10540), (166, 10564),

Gene: Avrafan\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Avrafan\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Ayotoya\_16 Start: 9985, Stop: 10530, Start Num: 27

Candidate Starts for Ayotoya\_16:

(Start: 27 @9985 has 154 MA's), (36, 10006), (55, 10054), (144, 10384),

Gene: Azula\_16 Start: 9023, Stop: 9661, Start Num: 32

Candidate Starts for Azula\_16:

(Start: 31 @9020 has 2 MA's), (Start: 32 @9023 has 40 MA's), (63, 9113), (67, 9128), (82, 9194), (89, 9230), (97, 9281), (113, 9356), (119, 9380), (137, 9428), (151, 9485), (159, 9524), (180, 9608), (186, 9644),

Gene: BEEST\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for BEEST\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: BGlluviae\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for BGlluviae\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: BPs\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for BPs\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: BQuat\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for BQuat\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: BaghaKamala\_18 Start: 10470, Stop: 11084, Start Num: 24

Candidate Starts for BaghaKamala\_18:



(Start: 24 @10470 has 187 MA's), (49, 10515), (79, 10638), (88, 10692), (96, 10749), (100, 10764), (122, 10848), (123, 10854), (135, 10893), (139, 10905), (146, 10932), (158, 10977), (160, 10992), (166, 11016), (183, 11073),

Gene: BaileyBlu\_12 Start: 7191, Stop: 7754, Start Num: 39

Candidate Starts for BaileyBlu\_12:

(Start: 39 @7191 has 1 MA's), (54, 7236), (57, 7248), (69, 7293), (91, 7398), (97, 7434), (113, 7500), (126, 7539), (135, 7566), (142, 7590), (149, 7617), (159, 7662),

Gene: Banquo\_21 Start: 11777, Stop: 12373, Start Num: 47

Candidate Starts for Banquo\_21:

(Start: 47 @11777 has 10 MA's), (71, 11861), (76, 11885), (86, 11939), (110, 12062), (140, 12173), (141, 12176), (142, 12185), (147, 12203), (156, 12242), (168, 12293),

Gene: Barco\_14 Start: 8679, Stop: 9317, Start Num: 32

Candidate Starts for Barco\_14:

(Start: 31 @8676 has 2 MA's), (Start: 32 @8679 has 40 MA's), (63, 8769), (67, 8784), (97, 8937), (113, 9012), (119, 9036), (137, 9084), (151, 9141), (159, 9180), (180, 9264), (186, 9300),

Gene: Barkley26\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Barkley26\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (105, 10163), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Barnstormer\_11 Start: 8636, Stop: 9199, Start Num: 27

Candidate Starts for Barnstormer\_11:

(Start: 27 @8636 has 154 MA's), (77, 8753), (151, 9059), (170, 9146),

Gene: BarrelRoll\_18 Start: 10496, Stop: 11107, Start Num: 24

Candidate Starts for BarrelRoll\_18:

(Start: 24 @10496 has 187 MA's), (49, 10538), (79, 10661), (88, 10715), (96, 10772), (100, 10787), (122, 10871), (123, 10877), (135, 10916), (139, 10928), (146, 10955), (158, 11000), (160, 11015), (166, 11039), (183, 11096),

Gene: Beezoo\_18 Start: 10524, Stop: 11135, Start Num: 24

Candidate Starts for Beezoo\_18:

(Start: 24 @10524 has 187 MA's), (49, 10566), (79, 10689), (88, 10743), (96, 10800), (100, 10815), (122, 10899), (123, 10905), (135, 10944), (139, 10956), (146, 10983), (158, 11028), (160, 11043), (166, 11067),

Gene: Begonia\_14 Start: 8682, Stop: 9320, Start Num: 32

Candidate Starts for Begonia\_14:

(Start: 31 @8679 has 2 MA's), (Start: 32 @8682 has 40 MA's), (63, 8772), (67, 8787), (82, 8853), (113, 9015), (119, 9039), (137, 9087), (151, 9144), (159, 9183), (180, 9267), (186, 9303),

Gene: Bella96\_18 Start: 10425, Stop: 11039, Start Num: 24

Candidate Starts for Bella96\_18:

(Start: 24 @10425 has 187 MA's), (49, 10470), (88, 10647), (96, 10704), (100, 10719), (105, 10734), (111, 10764), (122, 10803), (123, 10809), (135, 10848), (139, 10860), (146, 10887), (158, 10932), (160, 10947), (166, 10971),

Gene: Belladonna\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Belladonna\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Berrie\_13 Start: 9450, Stop: 10001, Start Num: 27

Candidate Starts for Berrie\_13:

(Start: 27 @9450 has 154 MA's), (107, 9714), (109, 9729),

Gene: BetterKatz\_16 Start: 9953, Stop: 10498, Start Num: 27

Candidate Starts for BetterKatz\_16:

(Start: 27 @9953 has 154 MA's), (36, 9974), (176, 10478),

Gene: Biglebops\_14 Start: 9777, Stop: 10388, Start Num: 24

Candidate Starts for Biglebops\_14:

(Start: 24 @9777 has 187 MA's), (Start: 43 @9798 has 2 MA's), (49, 9819), (79, 9942), (80, 9957), (88, 9996), (96, 10053), (100, 10068), (111, 10113), (122, 10152), (123, 10158), (135, 10197), (139, 10209), (158, 10281), (160, 10296), (166, 10320), (175, 10350),

Gene: BlingBling\_14 Start: 8679, Stop: 9317, Start Num: 32

Candidate Starts for BlingBling\_14:

(Start: 31 @8676 has 2 MA's), (Start: 32 @8679 has 40 MA's), (63, 8769), (67, 8784), (97, 8937), (113, 9012), (119, 9036), (137, 9084), (151, 9141), (159, 9180), (180, 9264), (186, 9300),

Gene: Blino\_14 Start: 8579, Stop: 9217, Start Num: 32

Candidate Starts for Blino\_14:

(Start: 31 @8576 has 2 MA's), (Start: 32 @8579 has 40 MA's), (63, 8669), (67, 8684), (82, 8750), (97, 8837), (113, 8912), (119, 8936), (137, 8984), (151, 9041), (159, 9080), (180, 9164), (186, 9200),

Gene: Blizzard\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Blizzard\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Blueberry\_16 Start: 9023, Stop: 9661, Start Num: 32

Candidate Starts for Blueberry\_16:

(Start: 31 @9020 has 2 MA's), (Start: 32 @9023 has 40 MA's), (63, 9113), (67, 9128), (82, 9194), (89, 9230), (97, 9281), (113, 9356), (119, 9380), (137, 9428), (151, 9485), (159, 9524), (180, 9608), (186, 9644),

Gene: Bock\_16 Start: 9703, Stop: 10248, Start Num: 27

Candidate Starts for Bock\_16:

(Start: 27 @9703 has 154 MA's), (36, 9724), (176, 10228),

Gene: Boiiii\_18 Start: 10546, Stop: 11157, Start Num: 24

Candidate Starts for Boiiii\_18:

(Start: 24 @10546 has 187 MA's), (49, 10588), (79, 10711), (88, 10765), (96, 10822), (100, 10837), (122, 10921), (123, 10927), (135, 10966), (139, 10978), (146, 11005), (158, 11050), (160, 11065), (166, 11089), (183, 11146),

Gene: Boilgate\_15 Start: 10475, Stop: 11086, Start Num: 27

Candidate Starts for Boilgate\_15:

(15, 10436), (Start: 27 @10475 has 154 MA's), (56, 10541), (83, 10658), (86, 10679), (88, 10691), (96, 10748), (100, 10763), (105, 10778), (111, 10808), (122, 10847), (135, 10892), (139, 10904), (143, 10919), (158, 10976), (160, 10991), (166, 11015), (167, 11018),

Gene: BoostSeason\_14 Start: 8528, Stop: 9151, Start Num: 19

Candidate Starts for BoostSeason\_14:

(10, 8462), (Start: 19 @8528 has 2 MA's), (Start: 46 @8576 has 28 MA's), (49, 8585), (80, 8723), (96, 8819), (100, 8834), (105, 8849), (111, 8879), (122, 8918), (123, 8924), (124, 8927), (135, 8963), (139, 8975), (143, 8990), (158, 9047), (160, 9062), (166, 9086),

Gene: BruceB\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for BruceB\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: BruceLethal\_11 Start: 7160, Stop: 7792, Start Num: 46

Candidate Starts for BruceLethal\_11:

(Start: 42 @7148 has 12 MA's), (45, 7157), (Start: 46 @7160 has 28 MA's), (72, 7253), (87, 7340), (93, 7376), (135, 7529), (136, 7532), (159, 7625), (163, 7640), (164, 7646), (171, 7688), (179, 7706),

Gene: Bryler\_17 Start: 9523, Stop: 10137, Start Num: 24

Candidate Starts for Bryler\_17:

(Start: 24 @9523 has 187 MA's), (33, 9535), (49, 9568), (88, 9745), (96, 9802), (100, 9817), (105, 9832), (111, 9862), (122, 9901), (123, 9907), (146, 9985), (160, 10045), (167, 10072),

Gene: Brylie\_16 Start: 9700, Stop: 10245, Start Num: 27

Candidate Starts for Brylie\_16:

(Start: 27 @9700 has 154 MA's), (36, 9721), (176, 10225),

Gene: CLED96\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for CLED96\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: CREW\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for CREW\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Cain\_17 Start: 9511, Stop: 10125, Start Num: 24

Candidate Starts for Cain\_17:

(Start: 24 @9511 has 187 MA's), (33, 9523), (49, 9556), (88, 9733), (96, 9790), (100, 9805), (105, 9820), (111, 9850), (122, 9889), (123, 9895), (146, 9973), (160, 10033), (167, 10060),

Gene: CallinAllBarbz\_12 Start: 7199, Stop: 7762, Start Num: 38

Candidate Starts for CallinAllBarbz\_12:

(Start: 38 @7199 has 2 MA's), (54, 7244), (57, 7256), (69, 7301), (85, 7373), (97, 7442), (126, 7547), (135, 7574), (142, 7598), (159, 7670),

Gene: Cambiare\_14 Start: 10474, Stop: 11094, Start Num: 24

Candidate Starts for Cambiare\_14:

(Start: 24 @10474 has 187 MA's), (55, 10549), (70, 10606), (79, 10648), (80, 10663), (96, 10759), (100, 10774), (107, 10798), (111, 10819), (122, 10858), (128, 10882), (135, 10903), (143, 10930), (151, 10960), (160, 11002), (166, 11026), (175, 11056),

Gene: Camri\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Camri\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Capricorn\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Capricorn\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: CaptainKirk2\_14 Start: 8682, Stop: 9320, Start Num: 32

Candidate Starts for CaptainKirk2\_14:

(Start: 31 @8679 has 2 MA's), (Start: 32 @8682 has 40 MA's), (63, 8772), (67, 8787), (97, 8940), (113, 9015), (119, 9039), (137, 9087), (151, 9144), (159, 9183), (180, 9267), (186, 9303),

Gene: CarolAnn\_14 Start: 8578, Stop: 9216, Start Num: 32

Candidate Starts for CarolAnn\_14:

(Start: 31 @8575 has 2 MA's), (Start: 32 @8578 has 40 MA's), (63, 8668), (67, 8683), (82, 8749), (97, 8836), (113, 8911), (119, 8935), (137, 8983), (151, 9040), (159, 9079), (180, 9163), (186, 9199),

Gene: Caron\_11 Start: 8664, Stop: 9239, Start Num: 27

Candidate Starts for Caron\_11:

(Start: 27 @8664 has 154 MA's), (109, 8943), (170, 9174),

Gene: CaseJules\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for CaseJules\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Cassia\_13 Start: 9565, Stop: 10116, Start Num: 27

Candidate Starts for Cassia\_13:

(Start: 27 @9565 has 154 MA's), (102, 9808), (107, 9829),

Gene: CassieYates\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for CassieYates\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Catfish\_16 Start: 9760, Stop: 10344, Start Num: 48

Candidate Starts for Catfish\_16:

(Start: 31 @9721 has 2 MA's), (Start: 48 @9760 has 2 MA's), (62, 9811), (71, 9844), (76, 9868), (122, 10096), (133, 10135), (140, 10156), (142, 10168), (156, 10225), (170, 10291), (174, 10297),

Gene: Cedasite\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Cedasite\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Cen1621\_11 Start: 7782, Stop: 8339, Start Num: 27

Candidate Starts for Cen1621\_11:

(Start: 27 @7782 has 154 MA's), (102, 8025),

Gene: Chance64\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Chance64\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Chancellor\_19 Start: 11727, Stop: 12338, Start Num: 27

Candidate Starts for Chancellor\_19:

(Start: 27 @11727 has 154 MA's), (56, 11793), (58, 11799), (70, 11847), (80, 11904), (83, 11910), (86, 11931), (88, 11943), (96, 12000), (100, 12015), (122, 12099), (123, 12105), (135, 12144), (139, 12156), (143, 12171), (158, 12228), (160, 12243), (166, 12267), (175, 12297),

Gene: CheetoDust\_18 Start: 10521, Stop: 11132, Start Num: 24

Candidate Starts for CheetoDust\_18:

(Start: 24 @10521 has 187 MA's), (49, 10563), (79, 10686), (88, 10740), (96, 10797), (100, 10812), (117, 10881), (122, 10896), (123, 10902), (135, 10941), (146, 10980), (158, 11025), (160, 11040), (166, 11064), (183, 11121),

Gene: Cheetobro\_19 Start: 11727, Stop: 12338, Start Num: 27

Candidate Starts for Cheetobro\_19:

(Start: 27 @11727 has 154 MA's), (56, 11793), (58, 11799), (70, 11847), (80, 11904), (83, 11910), (86, 11931), (88, 11943), (96, 12000), (100, 12015), (122, 12099), (123, 12105), (135, 12144), (139, 12156), (143, 12171), (158, 12228), (160, 12243), (166, 12267), (175, 12297),

Gene: Cherrybomb426\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Cherrybomb426\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Chop\_16 Start: 9733, Stop: 10278, Start Num: 27

Candidate Starts for Chop\_16:

(Start: 27 @9733 has 154 MA's), (36, 9754), (55, 9802), (144, 10132),

Gene: Chris\_17 Start: 9487, Stop: 10098, Start Num: 24

Candidate Starts for Chris\_17:

(Start: 24 @9487 has 187 MA's), (49, 9529), (88, 9706), (96, 9763), (100, 9778), (111, 9823), (122, 9862), (123, 9868), (151, 9964), (160, 10006), (166, 10030), (175, 10060), (181, 10081),

Gene: Coleslaw\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Coleslaw\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Collard\_16 Start: 10585, Stop: 11196, Start Num: 24

Candidate Starts for Collard\_16:

(Start: 24 @10585 has 187 MA's), (49, 10630), (88, 10807), (96, 10864), (100, 10879), (105, 10894), (122, 10963), (123, 10969), (135, 11008), (143, 11035), (158, 11092), (160, 11107), (166, 11131), (175, 11161),

Gene: Community\_14 Start: 10530, Stop: 11081, Start Num: 27

Candidate Starts for Community\_14:

(Start: 27 @10530 has 154 MA's), (107, 10794), (109, 10809),

Gene: Cota\_11 Start: 7170, Stop: 7796, Start Num: 46

Candidate Starts for Cota\_11:

(Start: 42 @7158 has 12 MA's), (45, 7167), (Start: 46 @7170 has 28 MA's), (72, 7263), (87, 7350), (93, 7386), (135, 7539), (136, 7542), (151, 7596), (159, 7635), (163, 7650), (164, 7656), (171, 7698), (179, 7716),

Gene: Crespo\_13 Start: 9855, Stop: 10469, Start Num: 24

Candidate Starts for Crespo\_13:

(Start: 24 @9855 has 187 MA's), (49, 9900), (55, 9924), (74, 10002), (79, 10023), (80, 10038), (96, 10134), (100, 10149), (107, 10173), (111, 10194), (122, 10233), (128, 10257), (130, 10266), (135, 10278), (151, 10335), (158, 10362), (160, 10377), (166, 10401),

Gene: Crewmate\_14 Start: 9913, Stop: 10470, Start Num: 27

Candidate Starts for Crewmate\_14:

(Start: 27 @9913 has 154 MA's), (107, 10177), (109, 10192),

Gene: CrimD\_18 Start: 10473, Stop: 11087, Start Num: 24

Candidate Starts for CrimD\_18:

(Start: 24 @10473 has 187 MA's), (49, 10518), (79, 10641), (88, 10695), (96, 10752), (100, 10767), (122, 10851), (123, 10857), (135, 10896), (139, 10908), (146, 10935), (158, 10980), (160, 10995), (166, 11019), (183, 11076),

Gene: Curiosium\_19 Start: 9949, Stop: 10563, Start Num: 27

Candidate Starts for Curiosium\_19:

(Start: 27 @9949 has 154 MA's), (49, 9994), (80, 10132), (88, 10171), (96, 10228), (105, 10258), (111, 10288), (122, 10327), (124, 10336), (135, 10372), (158, 10456), (166, 10495), (175, 10525), (181, 10546),

Gene: Cyan\_13 Start: 9468, Stop: 10019, Start Num: 27

Candidate Starts for Cyan\_13:

(Start: 27 @9468 has 154 MA's), (102, 9711), (107, 9732), (109, 9747), (164, 9951),

Gene: DMoney\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for DMoney\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: DNAIII\_0013 Start: 9863, Stop: 10477, Start Num: 24

Candidate Starts for DNAIII\_0013:

(Start: 24 @9863 has 187 MA's), (49, 9908), (55, 9932), (74, 10010), (79, 10031), (80, 10046), (96, 10142), (100, 10157), (107, 10181), (111, 10202), (122, 10241), (128, 10265), (130, 10274), (135,

10286), (151, 10343), (158, 10370), (160, 10385), (166, 10409),

Gene: Dadosky\_16 Start: 10501, Stop: 11112, Start Num: 24

Candidate Starts for Dadosky\_16:

(Start: 24 @10501 has 187 MA's), (49, 10546), (96, 10780), (100, 10795), (105, 10810), (122, 10879), (123, 10885), (135, 10924), (139, 10936), (143, 10951), (158, 11008), (160, 11023), (166, 11047), (175, 11077),

Gene: Daegal\_16 Start: 10229, Stop: 10768, Start Num: 27

Candidate Starts for Daegal\_16:

(Start: 27 @10229 has 154 MA's), (36, 10250), (Start: 39 @10253 has 1 MA's), (40, 10256), (49, 10274), (67, 10340), (79, 10376), (94, 10457), (100, 10490), (107, 10514), (126, 10562), (134, 10586), (145, 10628), (164, 10709),

Gene: Dalmuri\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Dalmuri\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Dardanus\_19 Start: 10822, Stop: 11409, Start Num: 47

Candidate Starts for Dardanus\_19:

(Start: 47 @10822 has 10 MA's), (62, 10873), (67, 10888), (71, 10906), (76, 10930), (102, 11062), (110, 11107), (140, 11218), (170, 11353), (174, 11359),

Gene: Darionha\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Darionha\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: DarthP\_17 Start: 10531, Stop: 11145, Start Num: 27

Candidate Starts for DarthP\_17:

(Start: 27 @10531 has 154 MA's), (Start: 43 @10555 has 2 MA's), (49, 10576), (83, 10720), (88, 10753), (96, 10810), (100, 10825), (122, 10909), (123, 10915), (135, 10954), (139, 10966), (146, 10993), (160, 11053), (166, 11077), (175, 11107),

Gene: Deby\_18 Start: 10475, Stop: 11089, Start Num: 24

Candidate Starts for Deby\_18:

(Start: 24 @10475 has 187 MA's), (49, 10520), (79, 10643), (88, 10697), (96, 10754), (100, 10769), (122, 10853), (123, 10859), (135, 10898), (139, 10910), (146, 10937), (158, 10982), (160, 10997), (166, 11021), (183, 11078),

Gene: DeepSoil15\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for DeepSoil15\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: DelRio\_17 Start: 10210, Stop: 10755, Start Num: 27

Candidate Starts for DelRio\_17:

(Start: 27 @10210 has 154 MA's), (36, 10231), (55, 10279), (144, 10609), (176, 10735),

Gene: Delian\_14 Start: 8682, Stop: 9320, Start Num: 32

Candidate Starts for Delian\_14:

(Start: 31 @8679 has 2 MA's), (Start: 32 @8682 has 40 MA's), (63, 8772), (67, 8787), (97, 8940), (113, 9015), (119, 9039), (137, 9087), (151, 9144), (159, 9183), (180, 9267), (186, 9303),

Gene: Devera\_18 Start: 10492, Stop: 11106, Start Num: 24

Candidate Starts for Devera\_18:

(Start: 24 @10492 has 187 MA's), (49, 10537), (79, 10660), (88, 10714), (96, 10771), (100, 10786), (111, 10831), (122, 10870), (123, 10876), (135, 10915), (139, 10927), (146, 10954), (158, 10999), (160, 11014), (166, 11038),

Gene: Dewey\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Dewey\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: DinoDaryn\_19 Start: 10919, Stop: 11509, Start Num: 47

Candidate Starts for DinoDaryn\_19:

(Start: 47 @10919 has 10 MA's), (57, 10952), (67, 10985), (71, 11003), (110, 11204), (140, 11315), (141, 11318), (147, 11345), (163, 11417),

Gene: DismalFunk\_14 Start: 8532, Stop: 9146, Start Num: 20

Candidate Starts for DismalFunk\_14:

(Start: 20 @8532 has 8 MA's), (Start: 46 @8571 has 28 MA's), (49, 8580), (96, 8814), (100, 8829), (105, 8844), (111, 8874), (122, 8913), (123, 8919), (134, 8955), (139, 8970), (146, 8997), (158, 9042), (160, 9057), (166, 9081),

Gene: DismalStressor\_14 Start: 8532, Stop: 9146, Start Num: 20

Candidate Starts for DismalStressor\_14:

(Start: 20 @8532 has 8 MA's), (Start: 46 @8571 has 28 MA's), (49, 8580), (96, 8814), (100, 8829), (105, 8844), (111, 8874), (122, 8913), (123, 8919), (134, 8955), (139, 8970), (146, 8997), (158, 9042), (160, 9057), (166, 9081),

Gene: Dole\_18 Start: 10494, Stop: 11108, Start Num: 24

Candidate Starts for Dole\_18:

(Start: 24 @10494 has 187 MA's), (49, 10539), (79, 10662), (88, 10716), (96, 10773), (100, 10788), (111, 10833), (122, 10872), (123, 10878), (135, 10917), (139, 10929), (146, 10956), (158, 11001), (160, 11016), (166, 11040),

Gene: DonkeyMan\_12 Start: 7926, Stop: 8492, Start Num: 27

Candidate Starts for DonkeyMan\_12:

(Start: 27 @7926 has 154 MA's), (64, 8025), (97, 8181), (132, 8286), (138, 8304), (152, 8358),

Gene: DrHayes\_18 Start: 10446, Stop: 11060, Start Num: 24

Candidate Starts for DrHayes\_18:

(Start: 24 @10446 has 187 MA's), (Start: 39 @10464 has 1 MA's), (49, 10491), (88, 10668), (96, 10725), (100, 10740), (105, 10755), (111, 10785), (122, 10824), (123, 10830), (135, 10869), (139, 10881), (146, 10908), (158, 10953), (160, 10968), (166, 10992),

Gene: DrManhattan\_13 Start: 9448, Stop: 9996, Start Num: 27

Candidate Starts for DrManhattan\_13:

(Start: 27 @9448 has 154 MA's), (109, 9727), (151, 9871), (161, 9916),



Gene: DrParker\_11 Start: 7185, Stop: 7826, Start Num: 46

Candidate Starts for DrParker\_11:

(Start: 42 @7173 has 12 MA's), (45, 7182), (Start: 46 @7185 has 28 MA's), (72, 7278), (87, 7365), (93, 7401), (130, 7542), (136, 7557), (151, 7611), (159, 7650), (163, 7665), (164, 7671), (171, 7713), (179, 7731),

Gene: DrSierra\_13 Start: 9480, Stop: 10028, Start Num: 27

Candidate Starts for DrSierra\_13:

(22, 9474), (Start: 27 @9480 has 154 MA's), (143, 9873), (151, 9903), (165, 9966),

Gene: DumpsterDude\_13 Start: 8440, Stop: 8982, Start Num: 27

Candidate Starts for DumpsterDude\_13:

(6, 8254), (11, 8389), (Start: 27 @8440 has 154 MA's), (55, 8509), (92, 8668), (94, 8674), (126, 8779), (176, 8965),

Gene: Durfee\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Durfee\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: ECartman\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for ECartman\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Edugator\_15 Start: 10501, Stop: 11112, Start Num: 24

Candidate Starts for Edugator\_15:

(Start: 24 @10501 has 187 MA's), (49, 10546), (96, 10780), (100, 10795), (105, 10810), (122, 10879), (123, 10885), (135, 10924), (143, 10951), (158, 11008), (160, 11023), (166, 11047), (175, 11077),

Gene: Efra2\_18 Start: 9439, Stop: 10053, Start Num: 27

Candidate Starts for Efra2\_18:

(Start: 27 @9439 has 154 MA's), (80, 9622), (88, 9661), (96, 9718), (105, 9748), (111, 9778), (122, 9817), (123, 9823), (135, 9862), (139, 9874), (158, 9946), (166, 9985), (175, 10015), (181, 10036),

Gene: Ein37\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Ein37\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Ekdilam\_15 Start: 10249, Stop: 10860, Start Num: 27

Candidate Starts for Ekdilam\_15:

(Start: 27 @10249 has 154 MA's), (49, 10291), (83, 10435), (88, 10468), (96, 10525), (100, 10540), (122, 10624), (123, 10630), (135, 10669), (139, 10681), (160, 10768), (166, 10792), (175, 10822),

Gene: Elezi\_13 Start: 9449, Stop: 10000, Start Num: 27

Candidate Starts for Elezi\_13:

(Start: 27 @9449 has 154 MA's), (107, 9713), (109, 9728), (164, 9932),

Gene: Ellie\_15 Start: 10291, Stop: 10902, Start Num: 27

Candidate Starts for Ellie\_15:

(Start: 8 @10186 has 1 MA's), (14, 10249), (17, 10258), (Start: 27 @10291 has 154 MA's), (49, 10333), (79, 10456), (83, 10477), (88, 10510), (96, 10567), (100, 10582), (122, 10666), (123, 10672), (135, 10711), (139, 10723), (146, 10750), (160, 10810), (166, 10834),

Gene: Emerson\_18 Start: 10504, Stop: 11115, Start Num: 24

Candidate Starts for Emerson\_18:

(Start: 24 @10504 has 187 MA's), (49, 10546), (88, 10723), (96, 10780), (100, 10795), (122, 10879), (123, 10885), (135, 10924), (139, 10936), (146, 10963), (158, 11008), (160, 11023), (166, 11047), (183, 11104),

Gene: Emotion\_12 Start: 7771, Stop: 8325, Start Num: 27

Candidate Starts for Emotion\_12:

(Start: 27 @7771 has 154 MA's), (49, 7816), (50, 7822), (73, 7873), (134, 8131),

Gene: Enkosi\_14 Start: 9777, Stop: 10388, Start Num: 24

Candidate Starts for Enkosi\_14:

(Start: 24 @9777 has 187 MA's), (Start: 43 @9798 has 2 MA's), (49, 9819), (79, 9942), (80, 9957), (88, 9996), (96, 10053), (100, 10068), (111, 10113), (122, 10152), (123, 10158), (135, 10197), (139, 10209), (158, 10281), (160, 10296), (166, 10320), (175, 10350),

Gene: Enochoraptor\_11 Start: 7162, Stop: 7800, Start Num: 42

Candidate Starts for Enochoraptor\_11:

(Start: 42 @7162 has 12 MA's), (45, 7171), (Start: 46 @7174 has 28 MA's), (72, 7267), (87, 7354), (130, 7531), (136, 7546), (159, 7639), (163, 7654), (164, 7660), (171, 7702), (179, 7720),

Gene: Enoki\_11 Start: 7161, Stop: 7781, Start Num: 46

Candidate Starts for Enoki\_11:

(Start: 42 @7149 has 12 MA's), (45, 7158), (Start: 46 @7161 has 28 MA's), (72, 7254), (87, 7341), (93, 7377), (100, 7413), (130, 7518), (134, 7527), (135, 7530), (136, 7533), (159, 7626), (163, 7641), (164, 7647), (171, 7689), (179, 7707),

Gene: Eponine\_19 Start: 11592, Stop: 12203, Start Num: 27

Candidate Starts for Eponine\_19:

(Start: 27 @11592 has 154 MA's), (56, 11658), (58, 11664), (70, 11712), (80, 11769), (83, 11775), (86, 11796), (88, 11808), (96, 11865), (100, 11880), (105, 11895), (122, 11964), (123, 11970), (143, 12036), (158, 12093), (160, 12108), (166, 12132), (175, 12162),

Gene: Eraser\_13 Start: 9449, Stop: 10000, Start Num: 27

Candidate Starts for Eraser\_13:

(Start: 27 @9449 has 154 MA's), (107, 9713), (109, 9728), (164, 9932),

Gene: Evanesce\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Evanesce\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Exile\_12 Start: 9368, Stop: 9916, Start Num: 27

Candidate Starts for Exile\_12:

(Start: 27 @9368 has 154 MA's), (49, 9413), (165, 9851), (166, 9854), (176, 9887),

Gene: FF47\_15 Start: 9310, Stop: 9951, Start Num: 27

Candidate Starts for FF47\_15:

(Start: 27 @9310 has 154 MA's), (Start: 46 @9343 has 28 MA's), (49, 9352), (71, 9436), (79, 9475), (80, 9490), (98, 9595), (105, 9616), (107, 9625), (111, 9646), (122, 9685), (128, 9709), (154, 9796), (158, 9814), (159, 9826), (162, 9835),

Gene: Fairfaxidum\_14 Start: 8713, Stop: 9366, Start Num: 32

Candidate Starts for Fairfaxidum\_14:

(Start: 21 @8683 has 1 MA's), (Start: 31 @8710 has 2 MA's), (Start: 32 @8713 has 40 MA's), (63, 8803), (67, 8818), (96, 8968), (113, 9046), (119, 9070), (130, 9100), (137, 9118), (159, 9214), (180, 9298),

Gene: Fefferhead\_17 Start: 10458, Stop: 11069, Start Num: 27

Candidate Starts for Fefferhead\_17:

(Start: 8 @10353 has 1 MA's), (14, 10416), (17, 10425), (Start: 27 @10458 has 154 MA's), (49, 10500), (79, 10623), (83, 10644), (88, 10677), (96, 10734), (100, 10749), (122, 10833), (123, 10839), (135, 10878), (139, 10890), (146, 10917), (160, 10977), (166, 11001),

Gene: Fenry\_13 Start: 8428, Stop: 9066, Start Num: 32

Candidate Starts for Fenry\_13:

(Start: 31 @8425 has 2 MA's), (Start: 32 @8428 has 40 MA's), (63, 8518), (67, 8533), (97, 8686), (113, 8761), (119, 8785), (137, 8833), (151, 8890), (159, 8929), (180, 9013), (186, 9049),

Gene: Feyre\_16 Start: 10448, Stop: 11059, Start Num: 24

Candidate Starts for Feyre\_16:

(Start: 24 @10448 has 187 MA's), (49, 10493), (60, 10535), (88, 10670), (96, 10727), (100, 10742), (105, 10757), (122, 10826), (123, 10832), (135, 10871), (139, 10883), (143, 10898), (154, 10937), (158, 10955), (160, 10970), (166, 10994), (175, 11024),

Gene: Findley\_14 Start: 8532, Stop: 9146, Start Num: 20

Candidate Starts for Findley\_14:

(Start: 20 @8532 has 8 MA's), (Start: 46 @8571 has 28 MA's), (49, 8580), (96, 8814), (100, 8829), (105, 8844), (111, 8874), (122, 8913), (123, 8919), (134, 8955), (139, 8970), (146, 8997), (158, 9042), (160, 9057), (166, 9081),

Gene: Fionnbharth\_19 Start: 11717, Stop: 12328, Start Num: 27

Candidate Starts for Fionnbharth\_19:

(Start: 27 @11717 has 154 MA's), (56, 11783), (58, 11789), (70, 11837), (80, 11894), (83, 11900), (86, 11921), (88, 11933), (96, 11990), (100, 12005), (122, 12089), (123, 12095), (135, 12134), (139, 12146), (143, 12161), (158, 12218), (160, 12233), (166, 12257), (175, 12287),

Gene: FlagStaff\_13 Start: 9947, Stop: 10567, Start Num: 24

Candidate Starts for FlagStaff\_13:

(Start: 24 @9947 has 187 MA's), (55, 10022), (70, 10079), (79, 10121), (80, 10136), (96, 10232), (100, 10247), (107, 10271), (122, 10331), (128, 10355), (143, 10403), (151, 10433), (160, 10475), (166, 10499), (175, 10529),

Gene: Floof\_12 Start: 8217, Stop: 8795, Start Num: 27

Candidate Starts for Floof\_12:

(Start: 27 @8217 has 154 MA's), (58, 8286), (127, 8562), (146, 8625), (151, 8643), (170, 8730),

Gene: Forge\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Forge\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Francois\_16 Start: 9714, Stop: 10259, Start Num: 27

Candidate Starts for Francois\_16:

(Start: 27 @9714 has 154 MA's), (36, 9735), (144, 10113), (176, 10239),

Gene: Frokostdame\_14 Start: 8673, Stop: 9311, Start Num: 32

Candidate Starts for Frokostdame\_14:

(1, 8058), (4, 8316), (Start: 31 @8670 has 2 MA's), (Start: 32 @8673 has 40 MA's), (67, 8778), (97, 8931), (113, 9006), (119, 9030), (137, 9078), (159, 9174), (180, 9258), (186, 9294),

Gene: Frosty24\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Frosty24\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Gambino\_16 Start: 9023, Stop: 9661, Start Num: 32

Candidate Starts for Gambino\_16:

(Start: 31 @9020 has 2 MA's), (Start: 32 @9023 has 40 MA's), (63, 9113), (67, 9128), (82, 9194), (89, 9230), (97, 9281), (113, 9356), (119, 9380), (137, 9428), (151, 9485), (159, 9524), (180, 9608), (186, 9644),

Gene: Gancho\_14 Start: 9638, Stop: 10177, Start Num: 27

Candidate Starts for Gancho\_14:

(Start: 27 @9638 has 154 MA's), (36, 9659), (Start: 39 @9662 has 1 MA's), (40, 9665), (49, 9683), (67, 9749), (79, 9785), (100, 9899), (107, 9923), (108, 9926), (126, 9971), (134, 9995), (145, 10037), (164, 10118),

Gene: Ganymede\_19 Start: 10521, Stop: 11135, Start Num: 24

Candidate Starts for Ganymede\_19:

(Start: 24 @10521 has 187 MA's), (49, 10566), (79, 10689), (88, 10743), (96, 10800), (100, 10815), (122, 10899), (123, 10905), (135, 10944), (139, 10956), (146, 10983), (158, 11028), (160, 11043), (166, 11067),

Gene: GardenState\_12 Start: 8881, Stop: 9447, Start Num: 27

Candidate Starts for GardenState\_12:

(Start: 27 @8881 has 154 MA's), (91, 9079), (127, 9226),

Gene: Gengar\_16 Start: 10555, Stop: 11166, Start Num: 24

Candidate Starts for Gengar\_16:

(Start: 24 @10555 has 187 MA's), (49, 10600), (88, 10777), (96, 10834), (100, 10849), (105, 10864), (122, 10933), (123, 10939), (135, 10978), (139, 10990), (143, 11005), (154, 11044), (158, 11062), (160, 11077), (166, 11101), (175, 11131),

Gene: Geraldini\_18 Start: 10524, Stop: 11135, Start Num: 24

Candidate Starts for Geraldini\_18:

(Start: 24 @10524 has 187 MA's), (49, 10566), (79, 10689), (88, 10743), (96, 10800), (100, 10815), (122, 10899), (123, 10905), (135, 10944), (139, 10956), (146, 10983), (158, 11028), (160, 11043), (166, 11067),

Gene: Gideon\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Gideon\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Giles\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Giles\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Goib\_18 Start: 10694, Stop: 11284, Start Num: 47

Candidate Starts for Goib\_18:

(Start: 47 @10694 has 10 MA's), (57, 10727), (67, 10760), (71, 10778), (86, 10856), (140, 11090), (141, 11093), (147, 11120), (163, 11192),

Gene: GoldenAsh\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for GoldenAsh\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Gomashi\_13 Start: 9855, Stop: 10469, Start Num: 24

Candidate Starts for Gomashi\_13:

(Start: 24 @9855 has 187 MA's), (49, 9900), (55, 9924), (74, 10002), (79, 10023), (80, 10038), (96, 10134), (100, 10149), (107, 10173), (111, 10194), (122, 10233), (128, 10257), (130, 10266), (135, 10278), (151, 10335), (158, 10362), (160, 10377), (166, 10401),

Gene: GrandSlam\_16 Start: 9733, Stop: 10278, Start Num: 27

Candidate Starts for GrandSlam\_16:

(Start: 27 @9733 has 154 MA's), (36, 9754), (55, 9802), (144, 10132),

Gene: Gravaillia\_15 Start: 9671, Stop: 10210, Start Num: 27

Candidate Starts for Gravaillia\_15:

(Start: 27 @9671 has 154 MA's), (36, 9692), (Start: 39 @9695 has 1 MA's), (40, 9698), (49, 9716), (67, 9782), (79, 9818), (100, 9932), (107, 9956), (108, 9959), (126, 10004), (134, 10028), (145, 10070), (164, 10151),

Gene: Gretchen\_12 Start: 9764, Stop: 10330, Start Num: 27

Candidate Starts for Gretchen\_12:

(Start: 27 @9764 has 154 MA's), (58, 9833), (102, 10010), (127, 10109), (147, 10175), (165, 10253), (170, 10277),

Gene: Grizzly\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Grizzly\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (105, 10163), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Gspu1\_15 Start: 9141, Stop: 9716, Start Num: 47

Candidate Starts for Gspu1\_15:

(Start: 31 @9105 has 2 MA's), (Start: 47 @9141 has 10 MA's), (57, 9174), (61, 9186), (62, 9192), (67, 9207), (71, 9225), (102, 9381), (103, 9384), (120, 9468), (133, 9504), (140, 9525), (142, 9537),

Gene: Guacamole\_14 Start: 8683, Stop: 9321, Start Num: 32

Candidate Starts for Guacamole\_14:

(Start: 31 @8680 has 2 MA's), (Start: 32 @8683 has 40 MA's), (63, 8773), (67, 8788), (97, 8941), (113, 9016), (119, 9040), (137, 9088), (151, 9145), (159, 9184), (180, 9268), (186, 9304),

Gene: Guanica15\_18 Start: 9455, Stop: 10069, Start Num: 27

Candidate Starts for Guanica15\_18:

(Start: 27 @9455 has 154 MA's), (80, 9638), (88, 9677), (96, 9734), (105, 9764), (111, 9794), (122, 9833), (123, 9839), (135, 9878), (139, 9890), (158, 9962), (166, 10001), (175, 10031), (181, 10052),

Gene: Guillsminger\_16 Start: 10530, Stop: 11141, Start Num: 24

Candidate Starts for Guillsminger\_16:

(Start: 24 @10530 has 187 MA's), (49, 10575), (88, 10752), (96, 10809), (100, 10824), (105, 10839), (122, 10908), (123, 10914), (135, 10953), (139, 10965), (143, 10980), (154, 11019), (158, 11037), (160, 11052), (166, 11076), (175, 11106),

Gene: Gustav\_11 Start: 7634, Stop: 8188, Start Num: 18

Candidate Starts for Gustav\_11:

(Start: 18 @7634 has 2 MA's), (Start: 27 @7646 has 154 MA's), (51, 7700), (63, 7742), (67, 7757), (94, 7880), (97, 7901), (148, 8063), (178, 8177),

Gene: HH92\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for HH92\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Hadrien\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Hadrien\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Hail\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Hail\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Halo\_13 Start: 9849, Stop: 10463, Start Num: 24

Candidate Starts for Halo\_13:

(Start: 24 @9849 has 187 MA's), (49, 9894), (55, 9918), (79, 10017), (80, 10032), (96, 10128), (100, 10143), (105, 10158), (107, 10167), (111, 10188), (122, 10227), (128, 10251), (130, 10260), (135, 10272), (151, 10329), (158, 10356), (160, 10371), (166, 10395),

Gene: Halsey\_16 Start: 8980, Stop: 9540, Start Num: 27

Candidate Starts for Halsey\_16:

(Start: 27 @8980 has 154 MA's), (102, 9223), (109, 9259), (127, 9322), (161, 9448), (177, 9505),

Gene: Hammy\_17 Start: 10525, Stop: 11139, Start Num: 27

Candidate Starts for Hammy\_17:

(Start: 27 @10525 has 154 MA's), (Start: 43 @10549 has 2 MA's), (49, 10570), (83, 10714), (88, 10747), (96, 10804), (100, 10819), (122, 10903), (123, 10909), (135, 10948), (139, 10960), (146, 10987), (160, 11047), (166, 11071), (175, 11101),

Gene: Hamood\_16 Start: 9733, Stop: 10278, Start Num: 27

Candidate Starts for Hamood\_16:

(Start: 27 @9733 has 154 MA's), (36, 9754), (55, 9802), (144, 10132),

Gene: HedwigODU\_18 Start: 10504, Stop: 11118, Start Num: 24

Candidate Starts for HedwigODU\_18:

(Start: 24 @10504 has 187 MA's), (49, 10549), (79, 10672), (88, 10726), (96, 10783), (100, 10798), (122, 10882), (123, 10888), (135, 10927), (139, 10939), (146, 10966), (158, 11011), (160, 11026), (166, 11050), (183, 11107),

Gene: Heftyboy\_16 Start: 10657, Stop: 11268, Start Num: 24

Candidate Starts for Heftyboy\_16:

(Start: 24 @10657 has 187 MA's), (49, 10702), (88, 10879), (96, 10936), (100, 10951), (105, 10966), (122, 11035), (123, 11041), (135, 11080), (143, 11107), (154, 11146), (158, 11164), (160, 11179), (166, 11203), (175, 11233),

Gene: Heinz\_12 Start: 7958, Stop: 8524, Start Num: 27

Candidate Starts for Heinz\_12:

(Start: 27 @7958 has 154 MA's), (52, 8015), (97, 8213), (138, 8336), (152, 8390), (172, 8477),

Gene: Hibiscus\_12 Start: 7938, Stop: 8504, Start Num: 27

Candidate Starts for Hibiscus\_12:

(Start: 27 @7938 has 154 MA's), (97, 8193), (132, 8298), (138, 8316), (152, 8370),

Gene: Hitter\_14 Start: 8679, Stop: 9317, Start Num: 32

Candidate Starts for Hitter\_14:

(Start: 31 @8676 has 2 MA's), (Start: 32 @8679 has 40 MA's), (63, 8769), (67, 8784), (82, 8850), (97, 8937), (113, 9012), (119, 9036), (137, 9084), (151, 9141), (159, 9180), (180, 9264), (186, 9300),

Gene: Homura\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Homura\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Honk\_11 Start: 7750, Stop: 8304, Start Num: 27

Candidate Starts for Honk\_11:

(Start: 8 @7645 has 1 MA's), (Start: 27 @7750 has 154 MA's), (102, 7993),

Gene: Hope\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Hope\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Hotshotbaby7\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Hotshotbaby7\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Huffu\_19 Start: 10919, Stop: 11509, Start Num: 47

Candidate Starts for Huffu\_19:

(Start: 47 @10919 has 10 MA's), (57, 10952), (67, 10985), (71, 11003), (110, 11204), (140, 11315), (141, 11318), (147, 11345), (163, 11417),

Gene: Hurricane\_17 Start: 10577, Stop: 11188, Start Num: 23

Candidate Starts for Hurricane\_17:

(Start: 23 @10577 has 6 MA's), (49, 10622), (88, 10799), (96, 10856), (100, 10871), (111, 10916), (122, 10955), (123, 10961), (124, 10964), (135, 11000), (139, 11012), (143, 11027), (158, 11084), (160, 11099), (166, 11123),

Gene: Hyperbowlee\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Hyperbowlee\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: IAmGroot\_12 Start: 9525, Stop: 10091, Start Num: 27

Candidate Starts for IAmGroot\_12:

(Start: 27 @9525 has 154 MA's), (91, 9723), (127, 9870),

Gene: lbantik\_76 Start: 35791, Stop: 36390, Start Num: 43

Candidate Starts for lbantik\_76:

(Start: 43 @35791 has 2 MA's), (55, 35836), (79, 35935), (93, 36022), (138, 36205), (150, 36256), (167, 36328), (181, 36373),

Gene: Illumine\_18 Start: 10494, Stop: 11108, Start Num: 24

Candidate Starts for Illumine\_18:

(Start: 24 @10494 has 187 MA's), (49, 10539), (79, 10662), (88, 10716), (96, 10773), (100, 10788), (111, 10833), (122, 10872), (123, 10878), (135, 10917), (139, 10929), (146, 10956), (158, 11001), (160, 11016), (166, 11040),

Gene: Inky\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Inky\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: InvictusManeo\_16 Start: 10628, Stop: 11239, Start Num: 24

Candidate Starts for InvictusManeo\_16:

(Start: 24 @10628 has 187 MA's), (49, 10673), (88, 10850), (96, 10907), (100, 10922), (105, 10937), (122, 11006), (123, 11012), (135, 11051), (143, 11078), (158, 11135), (160, 11150), (166, 11174), (175, 11204),

Gene: lter\_13 Start: 9483, Stop: 10034, Start Num: 27

Candidate Starts for lter\_13:

(Start: 27 @9483 has 154 MA's), (64, 9570), (107, 9747), (109, 9762),

Gene: ltyBittyPiggy\_13 Start: 9467, Stop: 10018, Start Num: 27



Candidate Starts for IttyBittyPiggy\_13:  
(Start: 27 @9467 has 154 MA's), (102, 9710),

Gene: JAWS\_18 Start: 10498, Stop: 11109, Start Num: 24  
Candidate Starts for JAWS\_18:  
(Start: 24 @10498 has 187 MA's), (49, 10540), (79, 10663), (88, 10717), (96, 10774), (100, 10789),  
(122, 10873), (123, 10879), (135, 10918), (139, 10930), (146, 10957), (158, 11002), (160, 11017),  
(166, 11041), (183, 11098),

Gene: JF1\_19 Start: 11716, Stop: 12327, Start Num: 27  
Candidate Starts for JF1\_19:  
(Start: 27 @11716 has 154 MA's), (56, 11782), (58, 11788), (70, 11836), (80, 11893), (83, 11899), (86,  
11920), (88, 11932), (100, 12004), (122, 12088), (123, 12094), (135, 12133), (139, 12145), (143,  
12160), (158, 12217), (160, 12232), (166, 12256), (175, 12286),

Gene: JacoRen57\_12 Start: 8388, Stop: 9011, Start Num: 27  
Candidate Starts for JacoRen57\_12:  
(Start: 27 @8388 has 154 MA's), (79, 8550), (90, 8622), (122, 8769), (128, 8793), (135, 8814), (166,  
8937), (181, 8988),

Gene: Jalammah\_15 Start: 8950, Stop: 9588, Start Num: 32  
Candidate Starts for Jalammah\_15:  
(Start: 31 @8947 has 2 MA's), (Start: 32 @8950 has 40 MA's), (63, 9040), (67, 9055), (82, 9121), (97,  
9208), (113, 9283), (119, 9307), (137, 9355), (151, 9412), (159, 9451), (180, 9535), (186, 9571),

Gene: Jane\_13 Start: 9854, Stop: 10468, Start Num: 24  
Candidate Starts for Jane\_13:  
(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96,  
10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135,  
10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Janeemi\_14 Start: 10558, Stop: 11109, Start Num: 27  
Candidate Starts for Janeemi\_14:  
(Start: 27 @10558 has 154 MA's), (107, 10822), (109, 10837),

Gene: Jarvi\_18 Start: 10544, Stop: 11155, Start Num: 24  
Candidate Starts for Jarvi\_18:  
(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835),  
(122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063),  
(166, 11087), (183, 11144),

Gene: JasmineDragon\_12 Start: 7693, Stop: 8247, Start Num: 27  
Candidate Starts for JasmineDragon\_12:  
(Start: 27 @7693 has 154 MA's), (109, 7972), (121, 8008),

Gene: JasperJr\_14 Start: 8683, Stop: 9321, Start Num: 32  
Candidate Starts for JasperJr\_14:  
(Start: 31 @8680 has 2 MA's), (Start: 32 @8683 has 40 MA's), (63, 8773), (67, 8788), (97, 8941),  
(113, 9016), (119, 9040), (137, 9088), (151, 9145), (159, 9184), (180, 9268), (186, 9304),

Gene: Jayhawk\_19 Start: 10505, Stop: 11119, Start Num: 24  
Candidate Starts for Jayhawk\_19:

(Start: 24 @10505 has 187 MA's), (49, 10550), (79, 10673), (88, 10727), (96, 10784), (100, 10799), (122, 10883), (123, 10889), (135, 10928), (139, 10940), (146, 10967), (158, 11012), (160, 11027), (166, 11051), (183, 11108),

Gene: Jeckyll\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Jeckyll\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Joemato\_14 Start: 9468, Stop: 10019, Start Num: 27

Candidate Starts for Joemato\_14:

(Start: 27 @9468 has 154 MA's), (102, 9711), (107, 9732), (109, 9747), (164, 9951),

Gene: JohnDoe\_13 Start: 9466, Stop: 10014, Start Num: 27

Candidate Starts for JohnDoe\_13:

(Start: 27 @9466 has 154 MA's), (102, 9709), (107, 9730), (109, 9745), (164, 9949),

Gene: Jojo24\_12 Start: 7933, Stop: 8499, Start Num: 27

Candidate Starts for Jojo24\_12:

(Start: 27 @7933 has 154 MA's), (97, 8188), (132, 8293), (138, 8311), (152, 8365),

Gene: Jolene\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Jolene\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Jolie2\_13 Start: 9130, Stop: 9750, Start Num: 24

Candidate Starts for Jolie2\_13:

(Start: 24 @9130 has 187 MA's), (55, 9205), (70, 9262), (80, 9319), (96, 9415), (100, 9430), (105, 9445), (111, 9475), (122, 9514), (128, 9538), (143, 9586), (151, 9616), (160, 9658), (174, 9709),

Gene: Jonghyun\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Jonghyun\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: JorRay\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for JorRay\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Joy99\_18 Start: 10470, Stop: 11084, Start Num: 24

Candidate Starts for Joy99\_18:

(Start: 24 @10470 has 187 MA's), (49, 10515), (79, 10638), (88, 10692), (96, 10749), (100, 10764), (122, 10848), (123, 10854), (135, 10893), (139, 10905), (146, 10932), (158, 10977), (160, 10992), (166, 11016), (183, 11073),

Gene: Jstan\_13 Start: 9449, Stop: 10000, Start Num: 27

Candidate Starts for Jstan\_13:

(Start: 27 @9449 has 154 MA's), (107, 9713), (109, 9728), (164, 9932),

Gene: JuJu\_14 Start: 8607, Stop: 9245, Start Num: 32

Candidate Starts for JuJu\_14:

(Start: 31 @8604 has 2 MA's), (Start: 32 @8607 has 40 MA's), (63, 8697), (67, 8712), (97, 8865), (113, 8940), (119, 8964), (137, 9012), (151, 9069), (159, 9108), (180, 9192), (186, 9228),

Gene: Juliette\_19 Start: 11592, Stop: 12203, Start Num: 27

Candidate Starts for Juliette\_19:

(Start: 27 @11592 has 154 MA's), (56, 11658), (58, 11664), (70, 11712), (80, 11769), (83, 11775), (86, 11796), (88, 11808), (96, 11865), (100, 11880), (105, 11895), (122, 11964), (123, 11970), (143, 12036), (158, 12093), (160, 12108), (166, 12132), (175, 12162),

Gene: JuneStar\_13 Start: 9561, Stop: 10112, Start Num: 27

Candidate Starts for JuneStar\_13:

(Start: 27 @9561 has 154 MA's), (102, 9804), (165, 10047),

Gene: JustASigh\_12 Start: 8934, Stop: 9476, Start Num: 27

Candidate Starts for JustASigh\_12:

(Start: 27 @8934 has 154 MA's), (36, 8955), (67, 9051), (78, 9084), (100, 9201), (104, 9210), (125, 9270), (126, 9273), (134, 9297), (143, 9330), (148, 9351),

Gene: KappaFarmDelta\_14 Start: 8832, Stop: 9470, Start Num: 32

Candidate Starts for KappaFarmDelta\_14:

(Start: 31 @8829 has 2 MA's), (Start: 32 @8832 has 40 MA's), (63, 8922), (67, 8937), (82, 9003), (89, 9039), (113, 9165), (119, 9189), (137, 9237), (151, 9294), (159, 9333), (180, 9417), (186, 9453),

Gene: Kareem\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Kareem\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Kasen3\_13 Start: 9855, Stop: 10469, Start Num: 24

Candidate Starts for Kasen3\_13:

(Start: 24 @9855 has 187 MA's), (49, 9900), (55, 9924), (74, 10002), (79, 10023), (80, 10038), (96, 10134), (100, 10149), (107, 10173), (111, 10194), (122, 10233), (128, 10257), (130, 10266), (135, 10278), (151, 10335), (158, 10362), (160, 10377), (166, 10401),

Gene: Kaylissa\_13 Start: 9469, Stop: 10020, Start Num: 27

Candidate Starts for Kaylissa\_13:

(Start: 27 @9469 has 154 MA's), (102, 9712), (107, 9733), (109, 9748), (164, 9952),

Gene: KeAlii\_13 Start: 9493, Stop: 10050, Start Num: 27

Candidate Starts for KeAlii\_13:

(Start: 27 @9493 has 154 MA's), (91, 9688), (95, 9706), (107, 9757), (109, 9772), (129, 9850),

Gene: Keiki\_11 Start: 7170, Stop: 7796, Start Num: 46

Candidate Starts for Keiki\_11:

(Start: 42 @7158 has 12 MA's), (45, 7167), (Start: 46 @7170 has 28 MA's), (72, 7263), (87, 7350), (93, 7386), (135, 7539), (136, 7542), (151, 7596), (159, 7635), (164, 7656), (171, 7698), (179, 7716),

Gene: Keshu\_17 Start: 10564, Stop: 11175, Start Num: 23

Candidate Starts for Keshu\_17:

(Start: 23 @10564 has 6 MA's), (49, 10609), (88, 10786), (96, 10843), (100, 10858), (111, 10903), (122, 10942), (123, 10948), (124, 10951), (135, 10987), (139, 10999), (143, 11014), (158, 11071), (160, 11086), (166, 11110),

Gene: KiSi\_17 Start: 9433, Stop: 10044, Start Num: 24

Candidate Starts for KiSi\_17:

(Start: 24 @9433 has 187 MA's), (49, 9475), (96, 9709), (100, 9724), (105, 9739), (111, 9769), (122, 9808), (123, 9814), (135, 9853), (139, 9865), (158, 9937), (160, 9952), (166, 9976), (175, 10006), (181, 10027),

Gene: Kinbote\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Kinbote\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Kratio\_15 Start: 10255, Stop: 10866, Start Num: 24

Candidate Starts for Kratio\_15:

(Start: 24 @10255 has 187 MA's), (49, 10300), (96, 10534), (100, 10549), (105, 10564), (122, 10633), (123, 10639), (135, 10678), (143, 10705), (158, 10762), (160, 10777), (166, 10801), (175, 10831),

Gene: Kromp\_14 Start: 9809, Stop: 10375, Start Num: 32

Candidate Starts for Kromp\_14:

(2, 9206), (3, 9401), (Start: 32 @9809 has 40 MA's), (63, 9893), (79, 9935), (81, 9950), (84, 9956), (97, 10037), (116, 10115), (121, 10130), (163, 10292),

Gene: Krueger\_17 Start: 9483, Stop: 10097, Start Num: 24

Candidate Starts for Krueger\_17:

(Start: 24 @9483 has 187 MA's), (49, 9528), (88, 9705), (96, 9762), (100, 9777), (105, 9792), (111, 9822), (122, 9861), (123, 9867), (160, 10005), (167, 10032), (181, 10080),

Gene: Kubed\_11 Start: 7161, Stop: 7790, Start Num: 46

Candidate Starts for Kubed\_11:

(Start: 41 @7149 has 3 MA's), (45, 7158), (Start: 46 @7161 has 28 MA's), (77, 7284), (87, 7341), (135, 7530), (136, 7533), (159, 7626), (163, 7641), (164, 7647), (171, 7689), (179, 7707),

Gene: Larva\_16 Start: 10368, Stop: 10979, Start Num: 24

Candidate Starts for Larva\_16:

(Start: 24 @10368 has 187 MA's), (49, 10413), (96, 10647), (100, 10662), (105, 10677), (122, 10746), (123, 10752), (135, 10791), (139, 10803), (143, 10818), (158, 10875), (160, 10890), (166, 10914), (175, 10944),

Gene: LastHope\_18 Start: 9529, Stop: 10143, Start Num: 27

Candidate Starts for LastHope\_18:

(Start: 27 @9529 has 154 MA's), (49, 9574), (67, 9640), (80, 9712), (88, 9751), (96, 9808), (105, 9838), (111, 9868), (122, 9907), (123, 9913), (124, 9916), (135, 9952), (158, 10036), (166, 10075), (175, 10105), (181, 10126),

Gene: LaterM\_18 Start: 10463, Stop: 11074, Start Num: 25

Candidate Starts for LaterM\_18:

(Start: 25 @10463 has 5 MA's), (49, 10505), (79, 10628), (88, 10682), (96, 10739), (100, 10754), (111, 10799), (122, 10838), (123, 10844), (135, 10883), (139, 10895), (146, 10922), (158, 10967), (160,

10982), (166, 11006),

Gene: Lauchelly\_11 Start: 7156, Stop: 7794, Start Num: 46

Candidate Starts for Lauchelly\_11:

(Start: 41 @7144 has 3 MA's), (45, 7153), (Start: 46 @7156 has 28 MA's), (87, 7336), (93, 7372), (135, 7525), (136, 7528), (139, 7537), (163, 7636), (164, 7642), (171, 7684), (179, 7702),

Gene: LeMond\_17 Start: 9505, Stop: 10116, Start Num: 24

Candidate Starts for LeMond\_17:

(Start: 24 @9505 has 187 MA's), (49, 9547), (96, 9781), (100, 9796), (105, 9811), (111, 9841), (122, 9880), (123, 9886), (135, 9925), (139, 9937), (158, 10009), (160, 10024), (166, 10048), (175, 10078), (181, 10099),

Gene: Lego\_13 Start: 9467, Stop: 10018, Start Num: 27

Candidate Starts for Lego\_13:

(Start: 27 @9467 has 154 MA's), (102, 9710), (107, 9731), (109, 9746), (164, 9950),

Gene: Lemuria\_13 Start: 9183, Stop: 9803, Start Num: 24

Candidate Starts for Lemuria\_13:

(Start: 24 @9183 has 187 MA's), (49, 9234), (55, 9258), (70, 9315), (79, 9357), (80, 9372), (96, 9468), (100, 9483), (105, 9498), (107, 9507), (111, 9528), (122, 9567), (128, 9591), (135, 9612), (143, 9639), (149, 9663), (151, 9669), (160, 9711),

Gene: Leston\_16 Start: 10660, Stop: 11271, Start Num: 24

Candidate Starts for Leston\_16:

(Start: 24 @10660 has 187 MA's), (49, 10705), (88, 10882), (96, 10939), (100, 10954), (105, 10969), (122, 11038), (123, 11044), (135, 11083), (139, 11095), (143, 11110), (154, 11149), (158, 11167), (160, 11182), (166, 11206), (175, 11236),

Gene: Leviosa\_11 Start: 7181, Stop: 7813, Start Num: 46

Candidate Starts for Leviosa\_11:

(Start: 42 @7169 has 12 MA's), (45, 7178), (Start: 46 @7181 has 28 MA's), (87, 7361), (135, 7550), (136, 7553), (139, 7562), (159, 7646), (163, 7661), (164, 7667), (171, 7709), (179, 7727),

Gene: Liebe\_12 Start: 7927, Stop: 8487, Start Num: 27

Candidate Starts for Liebe\_12:

(Start: 27 @7927 has 154 MA's), (102, 8170), (108, 8194), (134, 8290), (143, 8323), (151, 8353), (154, 8362), (182, 8476),

Gene: Liefie\_13 Start: 9853, Stop: 10467, Start Num: 24

Candidate Starts for Liefie\_13:

(Start: 24 @9853 has 187 MA's), (49, 9898), (55, 9922), (74, 10000), (79, 10021), (80, 10036), (96, 10132), (100, 10147), (105, 10162), (107, 10171), (111, 10192), (122, 10231), (128, 10255), (130, 10264), (135, 10276), (151, 10333), (158, 10360), (160, 10375), (166, 10399),

Gene: LilBandit\_11 Start: 7167, Stop: 7796, Start Num: 46

Candidate Starts for LilBandit\_11:

(Start: 26 @7119 has 1 MA's), (28, 7125), (29, 7128), (34, 7143), (37, 7149), (Start: 43 @7155 has 2 MA's), (45, 7164), (Start: 46 @7167 has 28 MA's), (72, 7260), (87, 7347), (135, 7536), (136, 7539), (139, 7548), (159, 7632), (163, 7647), (164, 7653), (171, 7695), (179, 7713),

Gene: LilHazelnut\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for LilHazelnut\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: LilPharaoh\_14 Start: 9777, Stop: 10388, Start Num: 24

Candidate Starts for LilPharaoh\_14:

(Start: 24 @9777 has 187 MA's), (Start: 43 @9798 has 2 MA's), (49, 9819), (79, 9942), (80, 9957), (88, 9996), (96, 10053), (100, 10068), (111, 10113), (122, 10152), (123, 10158), (135, 10197), (139, 10209), (158, 10281), (160, 10296), (166, 10320), (175, 10350),

Gene: LindNT\_18 Start: 10468, Stop: 11082, Start Num: 24

Candidate Starts for LindNT\_18:

(Start: 24 @10468 has 187 MA's), (49, 10513), (79, 10636), (88, 10690), (96, 10747), (100, 10762), (122, 10846), (123, 10852), (135, 10891), (139, 10903), (158, 10975), (160, 10990), (166, 11014), (183, 11071),

Gene: Lizalica\_13 Start: 9453, Stop: 10004, Start Num: 27

Candidate Starts for Lizalica\_13:

(Start: 27 @9453 has 154 MA's), (107, 9717), (108, 9720), (109, 9732), (164, 9936),

Gene: Llorens\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Llorens\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: London\_13 Start: 9449, Stop: 10000, Start Num: 27

Candidate Starts for London\_13:

(Start: 27 @9449 has 154 MA's), (107, 9713), (109, 9728), (164, 9932),

Gene: LouisV14\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for LouisV14\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Luke\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Luke\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Luna22\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Luna22\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Lunahalos\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Lunahalos\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Lysidious\_14 Start: 8679, Stop: 9317, Start Num: 32

Candidate Starts for Lysidious\_14:

(Start: 31 @8676 has 2 MA's), (Start: 32 @8679 has 40 MA's), (63, 8769), (67, 8784), (82, 8850), (97, 8937), (113, 9012), (119, 9036), (137, 9084), (151, 9141), (159, 9180), (180, 9264), (186, 9300),

Gene: MEAK\_11 Start: 7162, Stop: 7782, Start Num: 46

Candidate Starts for MEAK\_11:

(Start: 42 @7150 has 12 MA's), (45, 7159), (Start: 46 @7162 has 28 MA's), (72, 7255), (87, 7342), (100, 7414), (130, 7519), (136, 7534), (159, 7627), (163, 7642), (164, 7648), (171, 7690), (179, 7708),

Gene: MOOREtheMARYer\_13 Start: 10071, Stop: 10694, Start Num: 24

Candidate Starts for MOOREtheMARYer\_13:

(Start: 24 @10071 has 187 MA's), (Start: 39 @10098 has 1 MA's), (55, 10149), (70, 10206), (79, 10248), (80, 10263), (96, 10359), (100, 10374), (107, 10398), (111, 10419), (122, 10458), (128, 10482), (143, 10530), (149, 10554), (151, 10560), (160, 10602),

Gene: MaGuCo\_12 Start: 7863, Stop: 8423, Start Num: 27

Candidate Starts for MaGuCo\_12:

(Start: 27 @7863 has 154 MA's), (49, 7908), (102, 8106), (108, 8130), (134, 8226), (143, 8259), (151, 8289), (154, 8298), (182, 8412),

Gene: Mabodamaca\_12 Start: 8972, Stop: 9535, Start Num: 27

Candidate Starts for Mabodamaca\_12:

(Start: 27 @8972 has 154 MA's), (77, 9089), (91, 9167), (170, 9482),

Gene: MacnCheese\_18 Start: 10792, Stop: 11403, Start Num: 23

Candidate Starts for MacnCheese\_18:

(Start: 23 @10792 has 6 MA's), (49, 10837), (88, 11014), (96, 11071), (100, 11086), (111, 11131), (122, 11170), (123, 11176), (124, 11179), (135, 11215), (139, 11227), (143, 11242), (160, 11314), (166, 11338),

Gene: Maco6\_13 Start: 8602, Stop: 9243, Start Num: 27

Candidate Starts for Maco6\_13:

(16, 8569), (Start: 27 @8602 has 154 MA's), (Start: 46 @8635 has 28 MA's), (49, 8644), (54, 8662), (71, 8728), (79, 8767), (80, 8782), (98, 8887), (105, 8908), (111, 8938), (122, 8977), (135, 9022), (158, 9106), (162, 9127),

Gene: Mahdia\_11 Start: 7651, Stop: 8193, Start Num: 27

Candidate Starts for Mahdia\_11:

(Start: 27 @7651 has 154 MA's), (56, 7723), (67, 7762), (94, 7885), (97, 7906), (107, 7942), (126, 7990), (148, 8068), (152, 8080), (178, 8182),

Gene: Malachai\_14 Start: 8682, Stop: 9320, Start Num: 32

Candidate Starts for Malachai\_14:

(Start: 31 @8679 has 2 MA's), (Start: 32 @8682 has 40 MA's), (63, 8772), (67, 8787), (82, 8853), (113, 9015), (119, 9039), (137, 9087), (151, 9144), (159, 9183), (180, 9267), (186, 9303),

Gene: Malibo\_12 Start: 8220, Stop: 8765, Start Num: 27

Candidate Starts for Malibo\_12:

(13, 8172), (Start: 27 @8220 has 154 MA's), (49, 8265), (63, 8316), (97, 8475), (108, 8514), (124, 8553), (126, 8559), (148, 8637), (152, 8649),

Gene: Malthus\_19 Start: 11636, Stop: 12247, Start Num: 27

Candidate Starts for Malthus\_19:

(Start: 27 @11636 has 154 MA's), (56, 11702), (58, 11708), (70, 11756), (80, 11813), (83, 11819), (86, 11840), (88, 11852), (96, 11909), (100, 11924), (122, 12008), (123, 12014), (135, 12053), (139, 12065), (143, 12080), (160, 12152), (166, 12176), (175, 12206),

Gene: Marcoliusprime\_14 Start: 8532, Stop: 9146, Start Num: 20

Candidate Starts for Marcoliusprime\_14:

(Start: 20 @8532 has 8 MA's), (Start: 46 @8571 has 28 MA's), (49, 8580), (96, 8814), (100, 8829), (105, 8844), (111, 8874), (122, 8913), (123, 8919), (134, 8955), (139, 8970), (146, 8997), (158, 9042), (160, 9057), (166, 9081),

Gene: MarkPhew\_18 Start: 9393, Stop: 10004, Start Num: 24

Candidate Starts for MarkPhew\_18:

(Start: 24 @9393 has 187 MA's), (49, 9435), (80, 9573), (96, 9669), (100, 9684), (111, 9729), (122, 9768), (123, 9774), (160, 9912), (166, 9936), (175, 9966), (181, 9987),

Gene: Marmie\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Marmie\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Marshawn\_19 Start: 10081, Stop: 10695, Start Num: 27

Candidate Starts for Marshawn\_19:

(Start: 27 @10081 has 154 MA's), (Start: 43 @10105 has 2 MA's), (49, 10126), (79, 10249), (83, 10270), (96, 10360), (100, 10375), (122, 10459), (123, 10465), (135, 10504), (139, 10516), (146, 10543), (158, 10588), (160, 10603), (166, 10627),

Gene: Maureen\_12 Start: 7927, Stop: 8487, Start Num: 27

Candidate Starts for Maureen\_12:

(Start: 27 @7927 has 154 MA's), (102, 8170), (108, 8194), (134, 8290), (143, 8323), (151, 8353), (154, 8362), (182, 8476),

Gene: Mdavu\_14 Start: 9765, Stop: 10376, Start Num: 24

Candidate Starts for Mdavu\_14:

(Start: 24 @9765 has 187 MA's), (Start: 43 @9786 has 2 MA's), (49, 9807), (79, 9930), (80, 9945), (88, 9984), (96, 10041), (100, 10056), (111, 10101), (122, 10140), (123, 10146), (135, 10185), (139, 10197), (158, 10269), (160, 10284), (166, 10308), (175, 10338),

Gene: MeaningOfLife\_18 Start: 10477, Stop: 11091, Start Num: 24

Candidate Starts for MeaningOfLife\_18:

(Start: 24 @10477 has 187 MA's), (49, 10522), (79, 10645), (88, 10699), (96, 10756), (100, 10771), (122, 10855), (123, 10861), (135, 10900), (139, 10912), (146, 10939), (158, 10984), (160, 10999), (166, 11023), (183, 11080),

Gene: Megsy\_18 Start: 10471, Stop: 11085, Start Num: 24

Candidate Starts for Megsy\_18:

(Start: 24 @10471 has 187 MA's), (49, 10516), (79, 10639), (88, 10693), (96, 10750), (100, 10765), (122, 10849), (123, 10855), (135, 10894), (139, 10906), (146, 10933), (158, 10978), (160, 10993), (166, 11017), (183, 11074),

Gene: Melba\_14 Start: 8679, Stop: 9317, Start Num: 32



Candidate Starts for Melba\_14:

(Start: 31 @8676 has 2 MA's), (Start: 32 @8679 has 40 MA's), (63, 8769), (67, 8784), (97, 8937), (113, 9012), (119, 9036), (137, 9084), (151, 9141), (159, 9180), (180, 9264), (186, 9300),

Gene: Mellie\_13 Start: 8419, Stop: 9057, Start Num: 32

Candidate Starts for Mellie\_13:

(Start: 31 @8416 has 2 MA's), (Start: 32 @8419 has 40 MA's), (63, 8509), (67, 8524), (82, 8590), (97, 8677), (113, 8752), (119, 8776), (137, 8824), (151, 8881), (159, 8920), (180, 9004), (186, 9040),

Gene: Mercurio\_14 Start: 9826, Stop: 10446, Start Num: 24

Candidate Starts for Mercurio\_14:

(Start: 24 @9826 has 187 MA's), (55, 9901), (70, 9958), (80, 10015), (96, 10111), (100, 10126), (105, 10141), (111, 10171), (122, 10210), (128, 10234), (135, 10255), (143, 10282), (149, 10306), (151, 10312), (160, 10354), (175, 10408),

Gene: Milly\_14 Start: 8532, Stop: 9146, Start Num: 20

Candidate Starts for Milly\_14:

(Start: 20 @8532 has 8 MA's), (Start: 46 @8571 has 28 MA's), (49, 8580), (96, 8814), (100, 8829), (105, 8844), (111, 8874), (122, 8913), (123, 8919), (134, 8955), (139, 8970), (146, 8997), (158, 9042), (160, 9057), (166, 9081),

Gene: MiniMommy\_11 Start: 7693, Stop: 8247, Start Num: 27

Candidate Starts for MiniMommy\_11:

(Start: 27 @7693 has 154 MA's), (109, 7972), (121, 8008),

Gene: MintFen\_14 Start: 8679, Stop: 9317, Start Num: 32

Candidate Starts for MintFen\_14:

(Start: 31 @8676 has 2 MA's), (Start: 32 @8679 has 40 MA's), (63, 8769), (67, 8784), (97, 8937), (113, 9012), (119, 9036), (137, 9084), (151, 9141), (159, 9180), (180, 9264), (186, 9300),

Gene: Miryou\_16 Start: 10508, Stop: 11119, Start Num: 24

Candidate Starts for Miryou\_16:

(Start: 24 @10508 has 187 MA's), (49, 10553), (88, 10730), (96, 10787), (100, 10802), (105, 10817), (122, 10886), (123, 10892), (135, 10931), (139, 10943), (143, 10958), (154, 10997), (158, 11015), (160, 11030), (166, 11054), (175, 11084),

Gene: MissDaisy\_19 Start: 11490, Stop: 12101, Start Num: 27

Candidate Starts for MissDaisy\_19:

(Start: 27 @11490 has 154 MA's), (56, 11556), (58, 11562), (60, 11571), (70, 11610), (80, 11667), (83, 11673), (86, 11694), (88, 11706), (96, 11763), (100, 11778), (122, 11862), (123, 11868), (134, 11904), (135, 11907), (139, 11919), (143, 11934), (158, 11991), (160, 12006), (166, 12030), (175, 12060),

Gene: MissRona\_16 Start: 9023, Stop: 9661, Start Num: 32

Candidate Starts for MissRona\_16:

(Start: 31 @9020 has 2 MA's), (Start: 32 @9023 has 40 MA's), (63, 9113), (67, 9128), (82, 9194), (89, 9230), (97, 9281), (113, 9356), (119, 9380), (137, 9428), (151, 9485), (159, 9524), (180, 9608), (186, 9644),

Gene: MissSwiss\_13 Start: 9452, Stop: 10000, Start Num: 27

Candidate Starts for MissSwiss\_13:

(Start: 27 @9452 has 154 MA's), (109, 9731), (126, 9788), (151, 9875), (161, 9920),

Gene: Mitti\_19 Start: 11640, Stop: 12251, Start Num: 27

Candidate Starts for Mitti\_19:

(Start: 27 @11640 has 154 MA's), (56, 11706), (58, 11712), (70, 11760), (80, 11817), (83, 11823), (86, 11844), (88, 11856), (96, 11913), (100, 11928), (122, 12012), (123, 12018), (135, 12057), (139, 12069), (143, 12084), (158, 12141), (160, 12156), (166, 12180), (175, 12210),

Gene: Morrissey\_12 Start: 8032, Stop: 8586, Start Num: 18

Candidate Starts for Morrissey\_12:

(Start: 18 @8032 has 2 MA's), (Start: 27 @8044 has 154 MA's), (51, 8098), (77, 8188), (94, 8278), (97, 8299), (125, 8380), (126, 8383),

Gene: Moss\_15 Start: 8980, Stop: 9540, Start Num: 27

Candidate Starts for Moss\_15:

(Start: 27 @8980 has 154 MA's), (102, 9223), (109, 9259), (127, 9322), (161, 9448), (177, 9505),

Gene: Mowgli\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Mowgli\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Moyashi\_11 Start: 7180, Stop: 7824, Start Num: 46

Candidate Starts for Moyashi\_11:

(Start: 42 @7168 has 12 MA's), (45, 7177), (Start: 46 @7180 has 28 MA's), (72, 7273), (87, 7360), (93, 7396), (130, 7537), (136, 7552), (151, 7606), (159, 7645), (163, 7660), (164, 7666), (171, 7708), (179, 7726),

Gene: MrAK\_11 Start: 7192, Stop: 7836, Start Num: 46

Candidate Starts for MrAK\_11:

(Start: 42 @7180 has 12 MA's), (45, 7189), (Start: 46 @7192 has 28 MA's), (72, 7285), (87, 7372), (93, 7408), (135, 7561), (136, 7564), (151, 7618), (159, 7657), (163, 7672), (164, 7678), (171, 7720), (179, 7738),

Gene: Muddy\_15 Start: 9552, Stop: 10193, Start Num: 27

Candidate Starts for Muddy\_15:

(16, 9519), (Start: 27 @9552 has 154 MA's), (Start: 46 @9585 has 28 MA's), (49, 9594), (54, 9612), (71, 9678), (79, 9717), (80, 9732), (98, 9837), (105, 9858), (111, 9888), (122, 9927), (135, 9972), (158, 10056), (162, 10077),

Gene: Mudpuppy\_13 Start: 9467, Stop: 10018, Start Num: 27

Candidate Starts for Mudpuppy\_13:

(Start: 27 @9467 has 154 MA's), (107, 9731), (108, 9734), (109, 9746), (164, 9950),

Gene: Mufasa\_14 Start: 8522, Stop: 9145, Start Num: 19

Candidate Starts for Mufasa\_14:

(10, 8456), (Start: 19 @8522 has 2 MA's), (Start: 46 @8570 has 28 MA's), (80, 8717), (96, 8813), (100, 8828), (105, 8843), (111, 8873), (122, 8912), (123, 8918), (124, 8921), (135, 8957), (139, 8969), (143, 8984), (158, 9041), (160, 9056), (166, 9080),

Gene: Mulch\_16 Start: 9700, Stop: 10245, Start Num: 27

Candidate Starts for Mulch\_16:

(Start: 27 @9700 has 154 MA's), (36, 9721), (176, 10225),

Gene: Murp\_14 Start: 8672, Stop: 9310, Start Num: 32

Candidate Starts for Murp\_14:

(Start: 31 @8669 has 2 MA's), (Start: 32 @8672 has 40 MA's), (63, 8762), (67, 8777), (82, 8843), (89, 8879), (97, 8930), (113, 9005), (119, 9029), (151, 9134), (159, 9173), (180, 9257), (186, 9293),

Gene: Murucutumbu\_18 Start: 10456, Stop: 11067, Start Num: 25

Candidate Starts for Murucutumbu\_18:

(Start: 25 @10456 has 5 MA's), (49, 10498), (79, 10621), (88, 10675), (96, 10732), (100, 10747), (111, 10792), (122, 10831), (123, 10837), (135, 10876), (139, 10888), (146, 10915), (158, 10960), (160, 10975), (166, 10999),

Gene: Mynx\_18 Start: 10524, Stop: 11138, Start Num: 24

Candidate Starts for Mynx\_18:

(Start: 24 @10524 has 187 MA's), (49, 10569), (79, 10692), (88, 10746), (96, 10803), (100, 10818), (122, 10902), (123, 10908), (135, 10947), (139, 10959), (146, 10986), (158, 11031), (160, 11046), (166, 11070), (183, 11127),

Gene: Nadeem\_16 Start: 9700, Stop: 10245, Start Num: 27

Candidate Starts for Nadeem\_16:

(Start: 27 @9700 has 154 MA's), (36, 9721), (176, 10225),

Gene: NancyRae\_16 Start: 9700, Stop: 10245, Start Num: 27

Candidate Starts for NancyRae\_16:

(Start: 27 @9700 has 154 MA's), (36, 9721), (176, 10225),

Gene: Nesbitt\_12 Start: 8240, Stop: 8812, Start Num: 27

Candidate Starts for Nesbitt\_12:

(9, 8156), (Start: 27 @8240 has 154 MA's), (45, 8273), (56, 8300), (59, 8309), (66, 8336), (77, 8363), (100, 8483), (108, 8510), (109, 8522), (113, 8540), (131, 8597), (154, 8672),

Gene: Nibb\_17 Start: 9545, Stop: 10156, Start Num: 24

Candidate Starts for Nibb\_17:

(Start: 24 @9545 has 187 MA's), (49, 9587), (80, 9725), (88, 9764), (96, 9821), (100, 9836), (111, 9881), (122, 9920), (123, 9926), (139, 9977), (160, 10064), (166, 10088), (181, 10139),

Gene: Nikao\_14 Start: 9777, Stop: 10388, Start Num: 24

Candidate Starts for Nikao\_14:

(Start: 24 @9777 has 187 MA's), (Start: 43 @9798 has 2 MA's), (49, 9819), (79, 9942), (80, 9957), (88, 9996), (96, 10053), (100, 10068), (111, 10113), (122, 10152), (123, 10158), (135, 10197), (139, 10209), (158, 10281), (160, 10296), (166, 10320), (175, 10350),

Gene: Niklas\_18 Start: 9573, Stop: 10184, Start Num: 27

Candidate Starts for Niklas\_18:

(Start: 27 @9573 has 154 MA's), (49, 9615), (80, 9753), (88, 9792), (96, 9849), (100, 9864), (111, 9909), (122, 9948), (123, 9954), (124, 9957), (139, 10005), (143, 10020), (158, 10077),

Gene: Niobe\_13 Start: 9449, Stop: 10000, Start Num: 27

Candidate Starts for Niobe\_13:

(Start: 27 @9449 has 154 MA's), (107, 9713), (109, 9728), (164, 9932),

Gene: Nitro\_13 Start: 9472, Stop: 10023, Start Num: 27

Candidate Starts for Nitro\_13:

(Start: 27 @9472 has 154 MA's), (107, 9736), (109, 9751), (164, 9955),

Gene: Nutello\_14 Start: 9777, Stop: 10388, Start Num: 24

Candidate Starts for Nutello\_14:

(Start: 24 @9777 has 187 MA's), (Start: 43 @9798 has 2 MA's), (49, 9819), (79, 9942), (80, 9957), (88, 9996), (96, 10053), (100, 10068), (111, 10113), (122, 10152), (123, 10158), (135, 10197), (139, 10209), (158, 10281), (160, 10296), (166, 10320), (175, 10350),

Gene: OBUpride\_15 Start: 9932, Stop: 10471, Start Num: 27

Candidate Starts for OBUpride\_15:

(Start: 27 @9932 has 154 MA's), (36, 9953), (Start: 39 @9956 has 1 MA's), (40, 9959), (49, 9977), (67, 10043), (79, 10079), (94, 10160), (100, 10193), (107, 10217), (126, 10265), (134, 10289), (145, 10331), (164, 10412),

Gene: ObiToo\_13 Start: 9650, Stop: 10207, Start Num: 27

Candidate Starts for ObiToo\_13:

(Start: 27 @9650 has 154 MA's), (107, 9914), (109, 9929),

Gene: Obliviate\_13 Start: 8445, Stop: 9086, Start Num: 31

Candidate Starts for Obliviate\_13:

(Start: 31 @8445 has 2 MA's), (Start: 32 @8448 has 40 MA's), (63, 8538), (67, 8553), (82, 8619), (97, 8706), (113, 8781), (119, 8805), (137, 8853), (151, 8910), (159, 8949), (180, 9033), (186, 9069),

Gene: OctaviousRex\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for OctaviousRex\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: OkiRoe\_16 Start: 10530, Stop: 11141, Start Num: 24

Candidate Starts for OkiRoe\_16:

(Start: 24 @10530 has 187 MA's), (49, 10575), (88, 10752), (96, 10809), (100, 10824), (105, 10839), (122, 10908), (123, 10914), (135, 10953), (139, 10965), (143, 10980), (154, 11019), (158, 11037), (160, 11052), (166, 11076), (175, 11106),

Gene: Olga\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Olga\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: OmniCritical\_19 Start: 11627, Stop: 12238, Start Num: 27

Candidate Starts for OmniCritical\_19:

(Start: 27 @11627 has 154 MA's), (56, 11693), (58, 11699), (70, 11747), (80, 11804), (83, 11810), (86, 11831), (88, 11843), (96, 11900), (100, 11915), (122, 11999), (123, 12005), (135, 12044), (139, 12056), (143, 12071), (158, 12128), (160, 12143), (166, 12167), (175, 12197),

Gene: Omnicron\_16 Start: 9598, Stop: 10209, Start Num: 24

Candidate Starts for Omnicron\_16:

(Start: 24 @9598 has 187 MA's), (49, 9643), (70, 9724), (88, 9820), (96, 9877), (100, 9892), (105, 9907), (122, 9976), (123, 9982), (135, 10021), (143, 10048), (158, 10105), (160, 10120), (166, 10144), (175, 10174), (182, 10195),

Gene: Oscar\_17 Start: 9506, Stop: 10117, Start Num: 24

Candidate Starts for Oscar\_17:

(Start: 24 @9506 has 187 MA's), (49, 9548), (96, 9782), (100, 9797), (105, 9812), (111, 9842), (122, 9881), (123, 9887), (135, 9926), (139, 9938), (158, 10010), (160, 10025), (166, 10049), (175, 10079), (181, 10100),

Gene: Ouroboros\_11 Start: 7164, Stop: 7787, Start Num: 46

Candidate Starts for Ouroboros\_11:

(37, 7146), (Start: 41 @7152 has 3 MA's), (45, 7161), (Start: 46 @7164 has 28 MA's), (77, 7287), (79, 7296), (87, 7344), (135, 7533), (136, 7536), (163, 7644), (164, 7650), (171, 7692), (179, 7710),

Gene: P1.1\_11 Start: 7152, Stop: 7793, Start Num: 42

Candidate Starts for P1.1\_11:

(Start: 42 @7152 has 12 MA's), (45, 7161), (Start: 46 @7164 has 28 MA's), (72, 7257), (87, 7344), (93, 7380), (134, 7530), (135, 7533), (136, 7536), (151, 7590), (159, 7629), (163, 7644), (164, 7650), (171, 7692), (179, 7710),

Gene: P100.1\_11 Start: 7148, Stop: 7801, Start Num: 41

Candidate Starts for P100.1\_11:

(37, 7142), (Start: 41 @7148 has 3 MA's), (45, 7157), (Start: 46 @7160 has 28 MA's), (72, 7253), (87, 7340), (93, 7376), (130, 7517), (136, 7532), (151, 7586), (159, 7625), (163, 7640), (164, 7646), (171, 7688), (179, 7706),

Gene: P100A\_11 Start: 7160, Stop: 7795, Start Num: 41

Candidate Starts for P100A\_11:

(37, 7154), (Start: 41 @7160 has 3 MA's), (45, 7169), (Start: 46 @7172 has 28 MA's), (72, 7265), (79, 7304), (87, 7352), (93, 7388), (136, 7544), (139, 7553), (163, 7652), (164, 7658), (171, 7700), (179, 7718),

Gene: P100D\_11 Start: 7145, Stop: 7798, Start Num: 42

Candidate Starts for P100D\_11:

(Start: 42 @7145 has 12 MA's), (45, 7154), (Start: 46 @7157 has 28 MA's), (72, 7250), (87, 7337), (130, 7514), (134, 7523), (135, 7526), (136, 7529), (151, 7583), (159, 7622), (163, 7637), (164, 7643), (171, 7685), (179, 7703),

Gene: P101A\_11 Start: 7152, Stop: 7808, Start Num: 42

Candidate Starts for P101A\_11:

(Start: 42 @7152 has 12 MA's), (45, 7161), (Start: 46 @7164 has 28 MA's), (72, 7257), (87, 7344), (93, 7380), (130, 7521), (136, 7536), (151, 7590), (159, 7629), (163, 7644), (164, 7650), (171, 7692), (179, 7710),

Gene: P104A\_11 Start: 7149, Stop: 7781, Start Num: 42

Candidate Starts for P104A\_11:

(Start: 42 @7149 has 12 MA's), (45, 7158), (Start: 46 @7161 has 28 MA's), (72, 7254), (87, 7341), (130, 7518), (136, 7533), (151, 7587), (159, 7626), (163, 7641), (164, 7647), (171, 7689), (179, 7707),

Gene: P104B\_11 Start: 7169, Stop: 7798, Start Num: 46

Candidate Starts for P104B\_11:

(Start: 26 @7121 has 1 MA's), (28, 7127), (29, 7130), (34, 7145), (37, 7151), (Start: 43 @7157 has 2 MA's), (45, 7166), (Start: 46 @7169 has 28 MA's), (72, 7262), (75, 7283), (87, 7349), (135, 7538), (136, 7541), (151, 7595), (159, 7634), (163, 7649), (164, 7655), (171, 7697), (179, 7715),

Gene: P105\_11 Start: 7140, Stop: 7781, Start Num: 42

Candidate Starts for P105\_11:

(Start: 42 @7140 has 12 MA's), (45, 7149), (Start: 46 @7152 has 28 MA's), (72, 7245), (87, 7332), (93, 7368), (135, 7521), (136, 7524), (159, 7617), (163, 7632), (164, 7638), (171, 7680), (179, 7698),

Gene: P106A\_11 Start: 7168, Stop: 7824, Start Num: 42

Candidate Starts for P106A\_11:

(Start: 42 @7168 has 12 MA's), (45, 7177), (Start: 46 @7180 has 28 MA's), (72, 7273), (87, 7360), (93, 7396), (130, 7537), (135, 7549), (136, 7552), (151, 7606), (159, 7645), (163, 7660), (164, 7666), (171, 7708), (179, 7726),

Gene: P106C\_11 Start: 7168, Stop: 7824, Start Num: 42

Candidate Starts for P106C\_11:

(Start: 42 @7168 has 12 MA's), (45, 7177), (Start: 46 @7180 has 28 MA's), (72, 7273), (87, 7360), (93, 7396), (130, 7537), (135, 7549), (136, 7552), (151, 7606), (159, 7645), (163, 7660), (164, 7666), (171, 7708), (179, 7726),

Gene: P106I\_11 Start: 7168, Stop: 7824, Start Num: 42

Candidate Starts for P106I\_11:

(Start: 42 @7168 has 12 MA's), (45, 7177), (Start: 46 @7180 has 28 MA's), (72, 7273), (87, 7360), (93, 7396), (130, 7537), (135, 7549), (136, 7552), (151, 7606), (159, 7645), (163, 7660), (164, 7666), (171, 7708), (179, 7726),

Gene: P106L\_11 Start: 7168, Stop: 7824, Start Num: 42

Candidate Starts for P106L\_11:

(Start: 42 @7168 has 12 MA's), (45, 7177), (Start: 46 @7180 has 28 MA's), (72, 7273), (87, 7360), (93, 7396), (130, 7537), (135, 7549), (136, 7552), (151, 7606), (159, 7645), (163, 7660), (164, 7666), (171, 7708), (179, 7726),

Gene: P106M\_11 Start: 7168, Stop: 7824, Start Num: 42

Candidate Starts for P106M\_11:

(Start: 42 @7168 has 12 MA's), (45, 7177), (Start: 46 @7180 has 28 MA's), (72, 7273), (87, 7360), (93, 7396), (130, 7537), (135, 7549), (136, 7552), (151, 7606), (159, 7645), (163, 7660), (164, 7666), (171, 7708), (179, 7726),

Gene: P107A\_11 Start: 7168, Stop: 7800, Start Num: 46

Candidate Starts for P107A\_11:

(Start: 41 @7156 has 3 MA's), (45, 7165), (Start: 46 @7168 has 28 MA's), (87, 7348), (93, 7384), (130, 7525), (134, 7534), (135, 7537), (136, 7540), (139, 7549), (159, 7633), (163, 7648), (164, 7654), (171, 7696), (179, 7714),

Gene: P107C\_11 Start: 7162, Stop: 7785, Start Num: 46

Candidate Starts for P107C\_11:

(Start: 42 @7150 has 12 MA's), (45, 7159), (Start: 46 @7162 has 28 MA's), (72, 7255), (87, 7342), (135, 7531), (136, 7534), (139, 7543), (159, 7627), (163, 7642), (164, 7648), (171, 7690), (179, 7708),

Gene: P108C\_11 Start: 7167, Stop: 7793, Start Num: 46

Candidate Starts for P108C\_11:

(Start: 42 @7155 has 12 MA's), (45, 7164), (Start: 46 @7167 has 28 MA's), (72, 7260), (87, 7347), (130, 7524), (136, 7539), (159, 7632), (163, 7647), (164, 7653), (171, 7695), (179, 7713),

Gene: P14.4\_11 Start: 7116, Stop: 7793, Start Num: 26

Candidate Starts for P14.4\_11:

(Start: 26 @7116 has 1 MA's), (28, 7122), (29, 7125), (34, 7140), (37, 7146), (Start: 43 @7152 has 2 MA's), (45, 7161), (Start: 46 @7164 has 28 MA's), (72, 7257), (75, 7278), (87, 7344), (93, 7380), (130,

7521), (134, 7530), (135, 7533), (136, 7536), (159, 7629), (163, 7644), (164, 7650), (171, 7692), (179, 7710),

Gene: P9.1\_11 Start: 7144, Stop: 7788, Start Num: 42

Candidate Starts for P9.1\_11:

(Start: 42 @7144 has 12 MA's), (45, 7153), (Start: 46 @7156 has 28 MA's), (72, 7249), (87, 7336), (93, 7372), (130, 7513), (136, 7528), (159, 7621), (163, 7636), (164, 7642), (171, 7684), (179, 7702), (185, 7732),

Gene: PA6\_11 Start: 7172, Stop: 7813, Start Num: 46

Candidate Starts for PA6\_11:

(Start: 26 @7124 has 1 MA's), (28, 7130), (29, 7133), (34, 7148), (37, 7154), (Start: 43 @7160 has 2 MA's), (45, 7169), (Start: 46 @7172 has 28 MA's), (72, 7265), (87, 7352), (93, 7388), (135, 7541), (136, 7544), (151, 7598), (159, 7637), (163, 7652), (164, 7658), (171, 7700), (179, 7718),

Gene: PAD20\_11 Start: 7164, Stop: 7793, Start Num: 46

Candidate Starts for PAD20\_11:

(Start: 42 @7152 has 12 MA's), (45, 7161), (Start: 46 @7164 has 28 MA's), (72, 7257), (87, 7344), (135, 7533), (136, 7536), (139, 7545), (151, 7590), (159, 7629), (163, 7644), (164, 7650), (171, 7692), (179, 7710),

Gene: PAS50\_11 Start: 7161, Stop: 7799, Start Num: 46

Candidate Starts for PAS50\_11:

(Start: 42 @7149 has 12 MA's), (45, 7158), (Start: 46 @7161 has 28 MA's), (72, 7254), (77, 7284), (87, 7341), (93, 7377), (130, 7518), (135, 7530), (136, 7533), (151, 7587), (159, 7626), (163, 7641), (164, 7647), (171, 7689), (179, 7707),

Gene: PCoral7\_14 Start: 8656, Stop: 9306, Start Num: 32

Candidate Starts for PCoral7\_14:

(Start: 21 @8626 has 1 MA's), (Start: 31 @8653 has 2 MA's), (Start: 32 @8656 has 40 MA's), (63, 8746), (67, 8761), (89, 8863), (96, 8911), (113, 8989), (119, 9013), (130, 9043), (137, 9061), (159, 9157), (180, 9241),

Gene: PHL010M04\_11 Start: 7155, Stop: 7787, Start Num: 46

Candidate Starts for PHL010M04\_11:

(Start: 41 @7143 has 3 MA's), (45, 7152), (Start: 46 @7155 has 28 MA's), (87, 7335), (93, 7371), (135, 7524), (136, 7527), (159, 7620), (171, 7683), (179, 7701),

Gene: PHL037M02\_11 Start: 7161, Stop: 7802, Start Num: 46

Candidate Starts for PHL037M02\_11:

(Start: 43 @7149 has 2 MA's), (45, 7158), (Start: 46 @7161 has 28 MA's), (72, 7254), (87, 7341), (93, 7377), (135, 7530), (136, 7533), (151, 7587), (159, 7626), (163, 7641), (164, 7647), (171, 7689), (179, 7707),

Gene: PHL060L00\_11 Start: 7151, Stop: 7804, Start Num: 46

Candidate Starts for PHL060L00\_11:

(Start: 42 @7139 has 12 MA's), (45, 7148), (Start: 46 @7151 has 28 MA's), (72, 7244), (87, 7331), (93, 7367), (135, 7520), (136, 7523), (139, 7532), (159, 7616), (163, 7631), (164, 7637), (171, 7679), (179, 7697),

Gene: PHL067M10\_11 Start: 7157, Stop: 7771, Start Num: 46

Candidate Starts for PHL067M10\_11:

(Start: 42 @7145 has 12 MA's), (45, 7154), (Start: 46 @7157 has 28 MA's), (72, 7250), (79, 7289), (87, 7337), (130, 7514), (134, 7523), (135, 7526), (136, 7529), (159, 7622), (163, 7637), (164, 7643), (171, 7685), (179, 7703),

Gene: PHL071N05\_11 Start: 7159, Stop: 7797, Start Num: 46

Candidate Starts for PHL071N05\_11:

(Start: 42 @7147 has 12 MA's), (45, 7156), (Start: 46 @7159 has 28 MA's), (72, 7252), (87, 7339), (135, 7528), (136, 7531), (159, 7624), (163, 7639), (164, 7645), (171, 7687), (179, 7705),

Gene: PHL111M01\_11 Start: 7168, Stop: 7788, Start Num: 46

Candidate Starts for PHL111M01\_11:

(Start: 42 @7156 has 12 MA's), (45, 7165), (Start: 46 @7168 has 28 MA's), (72, 7261), (87, 7348), (93, 7384), (130, 7525), (135, 7537), (136, 7540), (151, 7594), (159, 7633), (163, 7648), (164, 7654), (171, 7696), (179, 7714),

Gene: PHL112N00\_11 Start: 7164, Stop: 7784, Start Num: 46

Candidate Starts for PHL112N00\_11:

(Start: 43 @7152 has 2 MA's), (45, 7161), (Start: 46 @7164 has 28 MA's), (72, 7257), (75, 7278), (87, 7344), (93, 7380), (135, 7533), (136, 7536), (159, 7629), (163, 7644), (164, 7650), (171, 7692), (179, 7710),

Gene: PHL113M01\_11 Start: 7172, Stop: 7813, Start Num: 46

Candidate Starts for PHL113M01\_11:

(Start: 42 @7160 has 12 MA's), (45, 7169), (Start: 46 @7172 has 28 MA's), (87, 7352), (135, 7541), (136, 7544), (139, 7553), (159, 7637), (163, 7652), (164, 7658), (171, 7700), (179, 7718),

Gene: PHL114L00\_11 Start: 7168, Stop: 7791, Start Num: 46

Candidate Starts for PHL114L00\_11:

(34, 7144), (37, 7150), (Start: 41 @7156 has 3 MA's), (45, 7165), (Start: 46 @7168 has 28 MA's), (87, 7348), (136, 7540), (163, 7648), (164, 7654), (171, 7696), (179, 7714),

Gene: Pace1224\_13 Start: 9947, Stop: 10567, Start Num: 24

Candidate Starts for Pace1224\_13:

(Start: 24 @9947 has 187 MA's), (55, 10022), (70, 10079), (79, 10121), (80, 10136), (96, 10232), (100, 10247), (107, 10271), (122, 10331), (128, 10355), (143, 10403), (151, 10433), (160, 10475), (166, 10499), (175, 10529),

Gene: Padfoot\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Padfoot\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Padpat\_18 Start: 10504, Stop: 11115, Start Num: 24

Candidate Starts for Padpat\_18:

(Start: 24 @10504 has 187 MA's), (49, 10546), (88, 10723), (96, 10780), (100, 10795), (122, 10879), (123, 10885), (135, 10924), (139, 10936), (146, 10963), (158, 11008), (160, 11023), (166, 11047), (183, 11104),

Gene: Paito\_13 Start: 9962, Stop: 10582, Start Num: 24

Candidate Starts for Paito\_13:

(Start: 24 @9962 has 187 MA's), (55, 10037), (79, 10136), (80, 10151), (96, 10247), (100, 10262), (105, 10277), (107, 10286), (111, 10307), (122, 10346), (128, 10370), (130, 10379), (135, 10391),



(149, 10442), (151, 10448), (158, 10475), (160, 10490), (166, 10514),

Gene: Paola\_16 Start: 10530, Stop: 11141, Start Num: 24

Candidate Starts for Paola\_16:

(Start: 24 @10530 has 187 MA's), (49, 10575), (88, 10752), (96, 10809), (100, 10824), (105, 10839), (122, 10908), (123, 10914), (135, 10953), (139, 10965), (143, 10980), (154, 11019), (158, 11037), (160, 11052), (166, 11076), (175, 11106),

Gene: Parada\_16 Start: 9700, Stop: 10245, Start Num: 27

Candidate Starts for Parada\_16:

(Start: 27 @9700 has 154 MA's), (36, 9721), (176, 10225),

Gene: Patt\_19 Start: 11466, Stop: 12077, Start Num: 27

Candidate Starts for Patt\_19:

(Start: 27 @11466 has 154 MA's), (56, 11532), (58, 11538), (60, 11547), (70, 11586), (80, 11643), (83, 11649), (86, 11670), (88, 11682), (96, 11739), (100, 11754), (122, 11838), (123, 11844), (134, 11880), (135, 11883), (139, 11895), (143, 11910), (158, 11967), (160, 11982), (166, 12006), (175, 12036),

Gene: Peanam\_18 Start: 9573, Stop: 10184, Start Num: 27

Candidate Starts for Peanam\_18:

(Start: 27 @9573 has 154 MA's), (49, 9615), (80, 9753), (88, 9792), (96, 9849), (100, 9864), (111, 9909), (122, 9948), (123, 9954), (124, 9957), (139, 10005), (143, 10020), (158, 10077),

Gene: Peeb\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Peeb\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (105, 10163), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Peel\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Peel\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Percival\_12 Start: 9598, Stop: 10164, Start Num: 27

Candidate Starts for Percival\_12:

(Start: 27 @9598 has 154 MA's), (58, 9667), (102, 9844), (127, 9943), (147, 10009), (165, 10087), (170, 10111),

Gene: Periodt\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Periodt\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Petra\_16 Start: 9059, Stop: 9697, Start Num: 32

Candidate Starts for Petra\_16:

(Start: 31 @9056 has 2 MA's), (Start: 32 @9059 has 40 MA's), (63, 9149), (67, 9164), (82, 9230), (97, 9317), (113, 9392), (119, 9416), (137, 9464), (151, 9521), (159, 9560), (180, 9644), (186, 9680),

Gene: Pharb\_17 Start: 10403, Stop: 11017, Start Num: 24

Candidate Starts for Pharb\_17:

(Start: 24 @10403 has 187 MA's), (49, 10451), (96, 10685), (100, 10700), (111, 10745), (122, 10784), (123, 10790), (124, 10793), (135, 10829), (139, 10841), (143, 10856), (158, 10913), (160, 10928), (166, 10952),

Gene: PhelpsODU\_17 Start: 9556, Stop: 10170, Start Num: 24

Candidate Starts for PhelpsODU\_17:

(Start: 24 @9556 has 187 MA's), (33, 9568), (49, 9601), (88, 9778), (96, 9835), (100, 9850), (105, 9865), (111, 9895), (122, 9934), (123, 9940), (139, 9991), (146, 10018), (160, 10078), (167, 10105),

Gene: Phish\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Phish\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Phives\_14 Start: 10550, Stop: 11101, Start Num: 27

Candidate Starts for Phives\_14:

(Start: 27 @10550 has 154 MA's), (77, 10667), (102, 10793), (107, 10814), (109, 10829),

Gene: Phrank\_17 Start: 9499, Stop: 10113, Start Num: 24

Candidate Starts for Phrank\_17:

(Start: 24 @9499 has 187 MA's), (33, 9511), (49, 9544), (88, 9721), (96, 9778), (100, 9793), (105, 9808), (111, 9838), (122, 9877), (123, 9883), (146, 9961), (160, 10021), (167, 10048),

Gene: Phreak\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Phreak\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: PhrostedPhlake\_15 Start: 9037, Stop: 9675, Start Num: 32

Candidate Starts for PhrostedPhlake\_15:

(Start: 31 @9034 has 2 MA's), (Start: 32 @9037 has 40 MA's), (63, 9127), (67, 9142), (82, 9208), (97, 9295), (113, 9370), (119, 9394), (137, 9442), (151, 9499), (159, 9538), (180, 9622), (186, 9658),

Gene: Piatt\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Piatt\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Pimento\_16 Start: 9904, Stop: 10449, Start Num: 27

Candidate Starts for Pimento\_16:

(Start: 27 @9904 has 154 MA's), (36, 9925), (176, 10429),

Gene: PinkYoshi\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for PinkYoshi\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Pinnie\_14 Start: 10537, Stop: 11160, Start Num: 24

Candidate Starts for Pinnie\_14:

(Start: 24 @10537 has 187 MA's), (Start: 39 @10564 has 1 MA's), (55, 10615), (70, 10672), (79, 10714), (80, 10729), (96, 10825), (100, 10840), (107, 10864), (111, 10885), (122, 10924), (128, 10948), (143, 10996), (149, 11020), (151, 11026), (160, 11068),

Gene: Pipp\_14 Start: 8651, Stop: 9292, Start Num: 31

Candidate Starts for Pipp\_14:

(Start: 31 @8651 has 2 MA's), (Start: 32 @8654 has 40 MA's), (63, 8744), (67, 8759), (113, 8987), (119, 9011), (137, 9059), (151, 9116), (159, 9155), (180, 9239), (186, 9275),

Gene: Pirate\_11 Start: 7156, Stop: 7782, Start Num: 46

Candidate Starts for Pirate\_11:

(Start: 42 @7144 has 12 MA's), (45, 7153), (Start: 46 @7156 has 28 MA's), (72, 7249), (87, 7336), (130, 7513), (136, 7528), (159, 7621), (163, 7636), (164, 7642), (171, 7684), (179, 7702),

Gene: Pixelle\_13 Start: 9493, Stop: 10044, Start Num: 27

Candidate Starts for Pixelle\_13:

(Start: 27 @9493 has 154 MA's), (102, 9736), (107, 9757),

Gene: Pixie\_17 Start: 10319, Stop: 10930, Start Num: 23

Candidate Starts for Pixie\_17:

(Start: 23 @10319 has 6 MA's), (49, 10364), (88, 10541), (96, 10598), (100, 10613), (111, 10658), (122, 10697), (123, 10703), (124, 10706), (135, 10742), (139, 10754), (143, 10769), (158, 10826), (160, 10841), (166, 10865),

Gene: Plagueis\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Plagueis\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Pokerus\_17 Start: 10458, Stop: 11072, Start Num: 24

Candidate Starts for Pokerus\_17:

(Start: 24 @10458 has 187 MA's), (49, 10503), (79, 10626), (88, 10680), (96, 10737), (100, 10752), (122, 10836), (123, 10842), (135, 10881), (139, 10893), (146, 10920), (158, 10965), (160, 10980), (166, 11004),

Gene: Powerpuff\_13 Start: 9518, Stop: 10069, Start Num: 27

Candidate Starts for Powerpuff\_13:

(Start: 27 @9518 has 154 MA's), (102, 9761), (107, 9782), (109, 9797), (164, 10001),

Gene: PrincePatrick\_14 Start: 8714, Stop: 9367, Start Num: 32

Candidate Starts for PrincePatrick\_14:

(Start: 21 @8684 has 1 MA's), (Start: 31 @8711 has 2 MA's), (Start: 32 @8714 has 40 MA's), (63, 8804), (67, 8819), (89, 8921), (96, 8969), (113, 9047), (119, 9071), (130, 9101), (137, 9119), (159, 9215), (180, 9299),

Gene: Prithvi\_18 Start: 10468, Stop: 11082, Start Num: 24

Candidate Starts for Prithvi\_18:

(Start: 24 @10468 has 187 MA's), (49, 10513), (79, 10636), (88, 10690), (96, 10747), (100, 10762), (122, 10846), (123, 10852), (135, 10891), (139, 10903), (158, 10975), (160, 10990), (166, 11014), (183, 11071),

Gene: Procrass1\_11 Start: 7169, Stop: 7795, Start Num: 46

Candidate Starts for Procrass1\_11:

(Start: 42 @7157 has 12 MA's), (45, 7166), (Start: 46 @7169 has 28 MA's), (72, 7262), (87, 7349), (130, 7526), (136, 7541), (159, 7634), (163, 7649), (164, 7655), (171, 7697), (179, 7715),

Gene: Psycho\_16 Start: 10498, Stop: 11109, Start Num: 24

Candidate Starts for Psycho\_16:

(Start: 24 @10498 has 187 MA's), (49, 10543), (96, 10777), (100, 10792), (105, 10807), (122, 10876), (123, 10882), (135, 10921), (139, 10933), (143, 10948), (158, 11005), (160, 11020), (166, 11044), (175, 11074),

Gene: Pumpkins\_13 Start: 9570, Stop: 10121, Start Num: 27

Candidate Starts for Pumpkins\_13:

(Start: 27 @9570 has 154 MA's), (102, 9813), (107, 9834),

Gene: Puppies\_11 Start: 7567, Stop: 8112, Start Num: 27

Candidate Starts for Puppies\_11:

(Start: 27 @7567 has 154 MA's), (97, 7822), (148, 7984), (152, 7996), (153, 7999),

Gene: QueenBey\_11 Start: 7157, Stop: 7789, Start Num: 46

Candidate Starts for QueenBey\_11:

(Start: 41 @7145 has 3 MA's), (45, 7154), (Start: 46 @7157 has 28 MA's), (87, 7337), (93, 7373), (100, 7409), (135, 7526), (136, 7529), (163, 7637), (164, 7643), (171, 7685), (179, 7703),

Gene: QuincyRose\_17 Start: 10521, Stop: 11135, Start Num: 24

Candidate Starts for QuincyRose\_17:

(Start: 24 @10521 has 187 MA's), (49, 10566), (79, 10689), (88, 10743), (96, 10800), (100, 10815), (122, 10899), (123, 10905), (135, 10944), (139, 10956), (146, 10983), (158, 11028), (160, 11043), (166, 11067),

Gene: Rabbs\_13 Start: 9837, Stop: 10457, Start Num: 24

Candidate Starts for Rabbs\_13:

(Start: 24 @9837 has 187 MA's), (55, 9912), (79, 10011), (80, 10026), (96, 10122), (100, 10137), (105, 10152), (107, 10161), (111, 10182), (122, 10221), (128, 10245), (130, 10254), (135, 10266), (149, 10317), (151, 10323), (157, 10347), (160, 10365), (166, 10389),

Gene: Ramen\_18 Start: 10504, Stop: 11118, Start Num: 24

Candidate Starts for Ramen\_18:

(Start: 24 @10504 has 187 MA's), (49, 10549), (79, 10672), (88, 10726), (96, 10783), (100, 10798), (122, 10882), (123, 10888), (135, 10927), (139, 10939), (146, 10966), (158, 11011), (160, 11026), (166, 11050), (183, 11107),

Gene: Rando14\_16 Start: 9500, Stop: 10111, Start Num: 24

Candidate Starts for Rando14\_16:

(Start: 24 @9500 has 187 MA's), (49, 9545), (88, 9722), (96, 9779), (100, 9794), (105, 9809), (111, 9839), (122, 9878), (123, 9884), (135, 9923), (139, 9935), (143, 9950), (146, 9962), (158, 10007), (160, 10022), (166, 10046), (175, 10076), (182, 10097),

Gene: Rapunzel97\_18 Start: 10505, Stop: 11119, Start Num: 24

Candidate Starts for Rapunzel97\_18:

(Start: 24 @10505 has 187 MA's), (49, 10550), (79, 10673), (88, 10727), (96, 10784), (100, 10799), (122, 10883), (123, 10889), (135, 10928), (139, 10940), (146, 10967), (158, 11012), (160, 11027), (166, 11051), (183, 11108),

Gene: Reedo\_13 Start: 9508, Stop: 10059, Start Num: 27

Candidate Starts for Reedo\_13:

(Start: 27 @9508 has 154 MA's), (91, 9703), (95, 9721), (109, 9787), (151, 9937),

Gene: Rem711\_18 Start: 11518, Stop: 12087, Start Num: 27

Candidate Starts for Rem711\_18:

(Start: 27 @11518 has 154 MA's), (49, 11563), (73, 11668), (98, 11800), (100, 11806), (107, 11830), (108, 11833),

Gene: Remy19\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Remy19\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Renaissance\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Renaissance\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Reptar3000\_19 Start: 11468, Stop: 12079, Start Num: 27

Candidate Starts for Reptar3000\_19:

(Start: 27 @11468 has 154 MA's), (56, 11534), (58, 11540), (60, 11549), (70, 11588), (80, 11645), (83, 11651), (86, 11672), (88, 11684), (96, 11741), (100, 11756), (122, 11840), (123, 11846), (134, 11882), (135, 11885), (139, 11897), (143, 11912), (158, 11969), (160, 11984), (166, 12008), (175, 12038),

Gene: Reyja\_13 Start: 8077, Stop: 8643, Start Num: 27

Candidate Starts for Reyja\_13:

(Start: 27 @8077 has 154 MA's), (64, 8176), (97, 8332), (132, 8437), (152, 8509),

Gene: Rileysaurus\_11 Start: 7153, Stop: 7785, Start Num: 46

Candidate Starts for Rileysaurus\_11:

(Start: 41 @7141 has 3 MA's), (45, 7150), (Start: 46 @7153 has 28 MA's), (72, 7246), (77, 7276), (87, 7333), (136, 7525), (139, 7534), (159, 7618), (171, 7681), (179, 7699),

Gene: Rosmarinus\_18 Start: 10532, Stop: 11143, Start Num: 24

Candidate Starts for Rosmarinus\_18:

(Start: 24 @10532 has 187 MA's), (49, 10574), (79, 10697), (88, 10751), (96, 10808), (100, 10823), (122, 10907), (123, 10913), (135, 10952), (139, 10964), (146, 10991), (158, 11036), (160, 11051), (166, 11075), (183, 11132),

Gene: Rowa\_12 Start: 8015, Stop: 8572, Start Num: 27

Candidate Starts for Rowa\_12:

(Start: 27 @8015 has 154 MA's), (Start: 32 @8027 has 40 MA's), (66, 8111), (100, 8258), (108, 8285), (113, 8315), (124, 8348), (170, 8525),

Gene: Ruthiejr\_18 Start: 11323, Stop: 11934, Start Num: 27

Candidate Starts for Ruthiejr\_18:

(Start: 27 @11323 has 154 MA's), (56, 11389), (58, 11395), (70, 11443), (80, 11500), (83, 11506), (86, 11527), (88, 11539), (96, 11596), (100, 11611), (105, 11626), (122, 11695), (123, 11701), (143, 11767), (158, 11824), (160, 11839), (166, 11863), (175, 11893),

Gene: Ruthy\_13 Start: 8511, Stop: 9053, Start Num: 27

Candidate Starts for Ruthy\_13:

(6, 8325), (11, 8460), (Start: 27 @8511 has 154 MA's), (55, 8580), (92, 8739), (94, 8745), (126, 8850), (176, 9036),

Gene: SKKY\_11 Start: 7186, Stop: 7830, Start Num: 46

Candidate Starts for SKKY\_11:

(35, 7165), (Start: 41 @7174 has 3 MA's), (45, 7183), (Start: 46 @7186 has 28 MA's), (72, 7279), (87, 7366), (93, 7402), (130, 7543), (135, 7555), (136, 7558), (151, 7612), (159, 7651), (163, 7666), (164, 7672), (171, 7714), (179, 7732),

Gene: SamScheppers\_17 Start: 11243, Stop: 11854, Start Num: 27

Candidate Starts for SamScheppers\_17:

(Start: 27 @11243 has 154 MA's), (56, 11309), (58, 11315), (70, 11363), (80, 11420), (83, 11426), (86, 11447), (88, 11459), (96, 11516), (100, 11531), (122, 11615), (123, 11621), (135, 11660), (139, 11672), (143, 11687), (158, 11744), (160, 11759), (166, 11783), (175, 11813),

Gene: Samba\_14 Start: 8787, Stop: 9425, Start Num: 32

Candidate Starts for Samba\_14:

(Start: 31 @8784 has 2 MA's), (Start: 32 @8787 has 40 MA's), (63, 8877), (67, 8892), (113, 9120), (119, 9144), (137, 9192), (151, 9249), (159, 9288), (180, 9372), (186, 9408),

Gene: SamuelLPlaqson\_18 Start: 10446, Stop: 11060, Start Num: 24

Candidate Starts for SamuelLPlaqson\_18:

(Start: 24 @10446 has 187 MA's), (Start: 39 @10464 has 1 MA's), (49, 10491), (88, 10668), (96, 10725), (100, 10740), (105, 10755), (111, 10785), (122, 10824), (123, 10830), (135, 10869), (139, 10881), (146, 10908), (158, 10953), (160, 10968), (166, 10992),

Gene: Samy\_17 Start: 9940, Stop: 10539, Start Num: 46

Candidate Starts for Samy\_17:

(30, 9904), (Start: 46 @9940 has 28 MA's), (53, 9964), (65, 10006), (95, 10156), (147, 10366), (160, 10423), (162, 10429), (163, 10435), (164, 10441), (175, 10477), (184, 10510),

Gene: Santhid\_12 Start: 7942, Stop: 8508, Start Num: 27

Candidate Starts for Santhid\_12:

(Start: 27 @7942 has 154 MA's), (64, 8041), (97, 8197), (132, 8302), (152, 8374),

Gene: Scarlett\_17 Start: 9505, Stop: 10116, Start Num: 24

Candidate Starts for Scarlett\_17:

(Start: 24 @9505 has 187 MA's), (49, 9547), (96, 9781), (100, 9796), (105, 9811), (111, 9841), (122, 9880), (123, 9886), (135, 9925), (139, 9937), (158, 10009), (160, 10024), (166, 10048), (175, 10078), (181, 10099),

Gene: Schiebel\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Schiebel\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Schmidt\_15 Start: 9115, Stop: 9729, Start Num: 47

Candidate Starts for Schmidt\_15:

(7, 8911), (Start: 47 @9115 has 10 MA's), (62, 9166), (67, 9181), (71, 9199), (76, 9223), (89, 9289), (96, 9337), (115, 9421), (133, 9487), (141, 9511),

Gene: SgtBeansprout\_14 Start: 9777, Stop: 10388, Start Num: 24

Candidate Starts for SgtBeansprout\_14:

(Start: 24 @9777 has 187 MA's), (Start: 43 @9798 has 2 MA's), (49, 9819), (79, 9942), (80, 9957), (88, 9996), (96, 10053), (100, 10068), (111, 10113), (122, 10152), (123, 10158), (135, 10197), (139, 10209), (158, 10281), (160, 10296), (166, 10320), (175, 10350),

Gene: ShaboiShabazz\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for ShaboiShabazz\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: Shadow1\_16 Start: 9392, Stop: 10006, Start Num: 24

Candidate Starts for Shadow1\_16:

(Start: 24 @9392 has 187 MA's), (49, 9437), (88, 9614), (96, 9671), (100, 9686), (111, 9731), (122, 9770), (123, 9776), (160, 9914), (167, 9941),

Gene: ShakeltOph\_12 Start: 7693, Stop: 8247, Start Num: 27

Candidate Starts for ShakeltOph\_12:

(Start: 27 @7693 has 154 MA's), (109, 7972), (121, 8008),

Gene: Shambre1\_14 Start: 9456, Stop: 10025, Start Num: 38

Candidate Starts for Shambre1\_14:

(Start: 38 @9456 has 2 MA's), (98, 9705), (135, 9849), (142, 9873), (159, 9945), (169, 9984),

Gene: Shaobing\_18 Start: 9573, Stop: 10184, Start Num: 27

Candidate Starts for Shaobing\_18:

(Start: 27 @9573 has 154 MA's), (49, 9615), (80, 9753), (88, 9792), (96, 9849), (100, 9864), (111, 9909), (122, 9948), (123, 9954), (124, 9957), (139, 10005), (143, 10020), (158, 10077),

Gene: ShedlockHolmes\_17 Start: 10567, Stop: 11178, Start Num: 23

Candidate Starts for ShedlockHolmes\_17:

(Start: 23 @10567 has 6 MA's), (49, 10612), (88, 10789), (96, 10846), (100, 10861), (111, 10906), (113, 10918), (122, 10945), (123, 10951), (124, 10954), (135, 10990), (139, 11002), (143, 11017), (158, 11074), (160, 11089), (166, 11113),

Gene: ShiaSurprise\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for ShiaSurprise\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Simpson\_14 Start: 9468, Stop: 10019, Start Num: 27

Candidate Starts for Simpson\_14:

(Start: 27 @9468 has 154 MA's), (102, 9711), (107, 9732), (109, 9747), (164, 9951),

Gene: SirPhilip\_17 Start: 9268, Stop: 9879, Start Num: 24

Candidate Starts for SirPhilip\_17:

(Start: 24 @9268 has 187 MA's), (67, 9376), (80, 9448), (88, 9487), (96, 9544), (100, 9559), (111, 9604), (117, 9628), (122, 9643), (123, 9649), (135, 9688), (139, 9700), (160, 9787), (166, 9811), (181, 9862),

Gene: Sizemore\_13 Start: 9855, Stop: 10469, Start Num: 24

Candidate Starts for Sizemore\_13:

(Start: 24 @9855 has 187 MA's), (49, 9900), (55, 9924), (74, 10002), (79, 10023), (80, 10038), (96, 10134), (100, 10149), (107, 10173), (111, 10194), (122, 10233), (128, 10257), (130, 10266), (135, 10278), (151, 10335), (158, 10362), (160, 10377), (166, 10401),

Gene: Slarp\_19 Start: 11727, Stop: 12338, Start Num: 27

Candidate Starts for Slarp\_19:

(Start: 27 @11727 has 154 MA's), (56, 11793), (58, 11799), (70, 11847), (80, 11904), (83, 11910), (86, 11931), (88, 11943), (96, 12000), (100, 12015), (122, 12099), (123, 12105), (135, 12144), (139, 12156), (143, 12171), (158, 12228), (160, 12243), (166, 12267), (175, 12297),

Gene: Slimphazie\_18 Start: 10505, Stop: 11119, Start Num: 24

Candidate Starts for Slimphazie\_18:

(Start: 24 @10505 has 187 MA's), (49, 10550), (79, 10673), (88, 10727), (96, 10784), (100, 10799), (122, 10883), (123, 10889), (135, 10928), (139, 10940), (146, 10967), (158, 11012), (160, 11027), (166, 11051), (183, 11108),

Gene: Sneeze\_13 Start: 9836, Stop: 10456, Start Num: 24

Candidate Starts for Sneeze\_13:

(Start: 24 @9836 has 187 MA's), (55, 9911), (79, 10010), (80, 10025), (96, 10121), (100, 10136), (105, 10151), (107, 10160), (111, 10181), (122, 10220), (128, 10244), (130, 10253), (135, 10265), (149, 10316), (151, 10322), (157, 10346), (160, 10364), (166, 10388),

Gene: Snek\_13 Start: 8559, Stop: 9110, Start Num: 27

Candidate Starts for Snek\_13:

(Start: 27 @8559 has 154 MA's), (91, 8754), (102, 8802), (151, 8982),

Gene: SoSeph\_16 Start: 10657, Stop: 11268, Start Num: 24

Candidate Starts for SoSeph\_16:

(Start: 24 @10657 has 187 MA's), (49, 10702), (88, 10879), (96, 10936), (100, 10951), (105, 10966), (122, 11035), (123, 11041), (135, 11080), (143, 11107), (154, 11146), (158, 11164), (160, 11179), (166, 11203), (175, 11233),

Gene: Solid\_11 Start: 7163, Stop: 7783, Start Num: 46

Candidate Starts for Solid\_11:

(Start: 42 @7151 has 12 MA's), (45, 7160), (Start: 46 @7163 has 28 MA's), (72, 7256), (87, 7343), (135, 7532), (136, 7535), (139, 7544), (159, 7628), (163, 7643), (164, 7649), (171, 7691), (179, 7709),

Gene: Soondubu\_12 Start: 9369, Stop: 9917, Start Num: 27

Candidate Starts for Soondubu\_12:

(Start: 27 @9369 has 154 MA's), (49, 9414), (165, 9852), (166, 9855), (176, 9888),

Gene: Spartoi\_11 Start: 7044, Stop: 7571, Start Num: 48

Candidate Starts for Spartoi\_11:

(Start: 48 @7044 has 2 MA's), (65, 7104), (99, 7290), (101, 7296), (151, 7458), (173, 7563),

Gene: Splinter\_17 Start: 10694, Stop: 11284, Start Num: 47

Candidate Starts for Splinter\_17:

(Start: 47 @10694 has 10 MA's), (57, 10727), (67, 10760), (71, 10778), (86, 10856), (140, 11090), (141, 11093), (147, 11120), (163, 11192),

Gene: Spock\_18 Start: 10544, Stop: 11155, Start Num: 24



Candidate Starts for Spock\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Stargaze\_13 Start: 10149, Stop: 10772, Start Num: 24

Candidate Starts for Stargaze\_13:

(Start: 24 @10149 has 187 MA's), (55, 10227), (70, 10284), (79, 10326), (80, 10341), (96, 10437), (100, 10452), (107, 10476), (111, 10497), (122, 10536), (128, 10560), (143, 10608), (151, 10638), (160, 10680), (166, 10704),

Gene: Stinson\_18 Start: 10468, Stop: 11079, Start Num: 25

Candidate Starts for Stinson\_18:

(Start: 25 @10468 has 5 MA's), (49, 10510), (79, 10633), (88, 10687), (96, 10744), (100, 10759), (111, 10804), (122, 10843), (123, 10849), (135, 10888), (139, 10900), (146, 10927), (158, 10972), (160, 10987), (166, 11011),

Gene: Stormborn\_11 Start: 7159, Stop: 7797, Start Num: 46

Candidate Starts for Stormborn\_11:

(Start: 41 @7147 has 3 MA's), (45, 7156), (Start: 46 @7159 has 28 MA's), (87, 7339), (135, 7528), (136, 7531), (151, 7585), (159, 7624), (163, 7639), (164, 7645), (171, 7687), (179, 7705),

Gene: Strobilo\_14 Start: 8532, Stop: 9146, Start Num: 20

Candidate Starts for Strobilo\_14:

(Start: 20 @8532 has 8 MA's), (Start: 46 @8571 has 28 MA's), (49, 8580), (96, 8814), (100, 8829), (105, 8844), (111, 8874), (122, 8913), (123, 8919), (134, 8955), (139, 8970), (146, 8997), (158, 9042), (160, 9057), (166, 9081),

Gene: SuMoo\_11 Start: 7932, Stop: 8495, Start Num: 27

Candidate Starts for SuMoo\_11:

(Start: 27 @7932 has 154 MA's), (77, 8049), (91, 8127), (170, 8442),

Gene: Success\_58 Start: 32224, Stop: 32814, Start Num: 43

Candidate Starts for Success\_58:

(Start: 32 @32206 has 40 MA's), (Start: 43 @32224 has 2 MA's), (79, 32362), (93, 32449), (96, 32470), (112, 32542), (118, 32563), (138, 32629), (146, 32662), (147, 32665), (150, 32680),

Gene: Sue2\_13 Start: 9472, Stop: 10023, Start Num: 27

Candidate Starts for Sue2\_13:

(Start: 27 @9472 has 154 MA's), (102, 9715),

Gene: Sulley\_18 Start: 10474, Stop: 11088, Start Num: 24

Candidate Starts for Sulley\_18:

(Start: 24 @10474 has 187 MA's), (49, 10519), (79, 10642), (88, 10696), (96, 10753), (100, 10768), (122, 10852), (123, 10858), (135, 10897), (139, 10909), (146, 10936), (158, 10981), (160, 10996), (166, 11020), (183, 11077),

Gene: Sunflower1121\_16 Start: 9403, Stop: 10017, Start Num: 24

Candidate Starts for Sunflower1121\_16:

(Start: 24 @9403 has 187 MA's), (49, 9448), (88, 9625), (96, 9682), (100, 9697), (111, 9742), (122, 9781), (123, 9787), (160, 9925), (167, 9952),

Gene: Supernova\_11 Start: 7163, Stop: 7804, Start Num: 46

Candidate Starts for Supernova\_11:

(Start: 42 @7151 has 12 MA's), (45, 7160), (Start: 46 @7163 has 28 MA's), (72, 7256), (77, 7286), (87, 7343), (93, 7379), (135, 7532), (136, 7535), (151, 7589), (159, 7628), (163, 7643), (164, 7649), (171, 7691), (179, 7709),

Gene: Sweets\_13 Start: 9849, Stop: 10463, Start Num: 24

Candidate Starts for Sweets\_13:

(Start: 24 @9849 has 187 MA's), (49, 9894), (55, 9918), (74, 9996), (79, 10017), (80, 10032), (96, 10128), (100, 10143), (107, 10167), (111, 10188), (122, 10227), (128, 10251), (130, 10260), (135, 10272), (151, 10329), (158, 10356), (160, 10371), (166, 10395),

Gene: Syra333\_17 Start: 9500, Stop: 10114, Start Num: 24

Candidate Starts for Syra333\_17:

(Start: 24 @9500 has 187 MA's), (49, 9545), (88, 9722), (96, 9779), (100, 9794), (105, 9809), (111, 9839), (122, 9878), (123, 9884), (160, 10022), (167, 10049), (181, 10097),

Gene: TBond007\_17 Start: 10318, Stop: 10929, Start Num: 23

Candidate Starts for TBond007\_17:

(Start: 23 @10318 has 6 MA's), (49, 10363), (88, 10540), (96, 10597), (100, 10612), (111, 10657), (122, 10696), (123, 10702), (124, 10705), (135, 10741), (139, 10753), (143, 10768), (158, 10825), (160, 10840), (166, 10864),

Gene: TClif\_17 Start: 9491, Stop: 10102, Start Num: 24

Candidate Starts for TClif\_17:

(12, 9443), (Start: 24 @9491 has 187 MA's), (44, 9515), (80, 9671), (88, 9710), (96, 9767), (100, 9782), (105, 9797), (111, 9827), (122, 9866), (123, 9872), (135, 9911), (139, 9923), (146, 9950), (160, 10010), (166, 10034), (174, 10061), (181, 10085),

Gene: TM4\_14 Start: 8590, Stop: 9204, Start Num: 20

Candidate Starts for TM4\_14:

(Start: 20 @8590 has 8 MA's), (49, 8638), (96, 8872), (100, 8887), (105, 8902), (111, 8932), (117, 8956), (122, 8971), (123, 8977), (135, 9016), (139, 9028), (143, 9043), (158, 9100), (160, 9115), (166, 9139), (175, 9169),

Gene: TZGordon\_19 Start: 10836, Stop: 11426, Start Num: 47

Candidate Starts for TZGordon\_19:

(Start: 47 @10836 has 10 MA's), (57, 10869), (67, 10902), (71, 10920), (110, 11121), (140, 11232), (141, 11235), (147, 11262), (163, 11334),

Gene: Tachez\_18 Start: 10467, Stop: 11081, Start Num: 24

Candidate Starts for Tachez\_18:

(Start: 24 @10467 has 187 MA's), (49, 10512), (79, 10635), (88, 10689), (96, 10746), (100, 10761), (122, 10845), (123, 10851), (135, 10890), (139, 10902), (146, 10929), (158, 10974), (160, 10989), (166, 11013),

Gene: Taheera\_13 Start: 9846, Stop: 10466, Start Num: 24

Candidate Starts for Taheera\_13:

(Start: 24 @9846 has 187 MA's), (55, 9921), (80, 10035), (96, 10131), (100, 10146), (105, 10161), (111, 10191), (122, 10230), (128, 10254), (130, 10263), (135, 10275), (149, 10326), (151, 10332), (157, 10356), (160, 10374), (166, 10398),

Gene: TaiwanKao\_19 Start: 10474, Stop: 11088, Start Num: 24

Candidate Starts for TaiwanKao\_19:

(Start: 24 @10474 has 187 MA's), (49, 10519), (79, 10642), (88, 10696), (96, 10753), (100, 10768), (122, 10852), (123, 10858), (135, 10897), (139, 10909), (146, 10936), (158, 10981), (160, 10996), (166, 11020), (183, 11077),

Gene: Tallboi\_13 Start: 9476, Stop: 10027, Start Num: 27

Candidate Starts for Tallboi\_13:

(Start: 27 @9476 has 154 MA's), (102, 9719), (109, 9755), (164, 9959),

Gene: Taquito\_17 Start: 11314, Stop: 11925, Start Num: 27

Candidate Starts for Taquito\_17:

(Start: 27 @11314 has 154 MA's), (56, 11380), (58, 11386), (70, 11434), (80, 11491), (83, 11497), (86, 11518), (88, 11530), (96, 11587), (100, 11602), (105, 11617), (122, 11686), (123, 11692), (143, 11758), (158, 11815), (160, 11830), (166, 11854), (175, 11884),

Gene: Tarzan\_12 Start: 7931, Stop: 8497, Start Num: 27

Candidate Starts for Tarzan\_12:

(Start: 27 @7931 has 154 MA's), (64, 8030), (97, 8186), (132, 8291), (138, 8309), (152, 8363),

Gene: Tbone\_13 Start: 9461, Stop: 10012, Start Num: 27

Candidate Starts for Tbone\_13:

(Start: 27 @9461 has 154 MA's), (107, 9725), (108, 9728), (109, 9740), (164, 9944),

Gene: Terror\_13 Start: 9846, Stop: 10466, Start Num: 24

Candidate Starts for Terror\_13:

(Start: 24 @9846 has 187 MA's), (55, 9921), (80, 10035), (96, 10131), (100, 10146), (105, 10161), (111, 10191), (122, 10230), (128, 10254), (130, 10263), (135, 10275), (149, 10326), (151, 10332), (157, 10356), (160, 10374), (166, 10398),

Gene: TforTroy\_13 Start: 9590, Stop: 10141, Start Num: 27

Candidate Starts for TforTroy\_13:

(Start: 27 @9590 has 154 MA's), (64, 9677), (102, 9833),

Gene: Thyatira\_16 Start: 10529, Stop: 11140, Start Num: 24

Candidate Starts for Thyatira\_16:

(Start: 24 @10529 has 187 MA's), (49, 10574), (60, 10616), (88, 10751), (96, 10808), (100, 10823), (105, 10838), (122, 10907), (123, 10913), (135, 10952), (139, 10964), (143, 10979), (154, 11018), (158, 11036), (160, 11051), (166, 11075), (175, 11105),

Gene: Tian\_13 Start: 9490, Stop: 10041, Start Num: 27

Candidate Starts for Tian\_13:

(Start: 27 @9490 has 154 MA's), (102, 9733), (107, 9754),

Gene: Tierra\_17 Start: 10220, Stop: 10834, Start Num: 24

Candidate Starts for Tierra\_17:

(Start: 24 @10220 has 187 MA's), (33, 10232), (49, 10265), (88, 10442), (96, 10499), (100, 10514), (105, 10529), (111, 10559), (122, 10598), (123, 10604), (146, 10682), (160, 10742), (167, 10769),

Gene: TinaLin\_20 Start: 11401, Stop: 11997, Start Num: 47

Candidate Starts for TinaLin\_20:

(Start: 47 @11401 has 10 MA's), (71, 11485), (76, 11509), (86, 11563), (110, 11686), (140, 11797), (141, 11800), (142, 11809), (147, 11827), (156, 11866), (168, 11917),

Gene: TiniBug\_18 Start: 10446, Stop: 11060, Start Num: 24

Candidate Starts for TiniBug\_18:

(Start: 24 @10446 has 187 MA's), (Start: 39 @10464 has 1 MA's), (49, 10491), (88, 10668), (96, 10725), (100, 10740), (105, 10755), (111, 10785), (122, 10824), (123, 10830), (135, 10869), (139, 10881), (146, 10908), (158, 10953), (160, 10968), (166, 10992),

Gene: Tiri\_18 Start: 10513, Stop: 11127, Start Num: 24

Candidate Starts for Tiri\_18:

(Start: 24 @10513 has 187 MA's), (49, 10558), (79, 10681), (88, 10735), (96, 10792), (100, 10807), (122, 10891), (123, 10897), (135, 10936), (139, 10948), (146, 10975), (158, 11020), (160, 11035), (166, 11059),

Gene: Toast\_14 Start: 8626, Stop: 9306, Start Num: 21

Candidate Starts for Toast\_14:

(Start: 21 @8626 has 1 MA's), (Start: 31 @8653 has 2 MA's), (Start: 32 @8656 has 40 MA's), (63, 8746), (67, 8761), (89, 8863), (96, 8911), (113, 8989), (119, 9013), (130, 9043), (137, 9061), (159, 9157), (180, 9241),

Gene: TomBrady\_13 Start: 9855, Stop: 10469, Start Num: 24

Candidate Starts for TomBrady\_13:

(Start: 24 @9855 has 187 MA's), (49, 9900), (55, 9924), (74, 10002), (79, 10023), (80, 10038), (96, 10134), (100, 10149), (107, 10173), (111, 10194), (122, 10233), (128, 10257), (130, 10266), (135, 10278), (151, 10335), (158, 10362), (160, 10377), (166, 10401),

Gene: Topper\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Topper\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: TreyKay\_18 Start: 10468, Stop: 11082, Start Num: 24

Candidate Starts for TreyKay\_18:

(Start: 24 @10468 has 187 MA's), (49, 10513), (79, 10636), (88, 10690), (96, 10747), (100, 10762), (122, 10846), (123, 10852), (135, 10891), (139, 10903), (158, 10975), (160, 10990), (166, 11014), (183, 11071),

Gene: TribbleTrouble\_16 Start: 10378, Stop: 10989, Start Num: 24

Candidate Starts for TribbleTrouble\_16:

(Start: 24 @10378 has 187 MA's), (49, 10423), (88, 10600), (96, 10657), (100, 10672), (111, 10717), (122, 10756), (123, 10762), (124, 10765), (139, 10813), (143, 10828), (158, 10885), (160, 10900), (166, 10924),

Gene: Trine\_11 Start: 7558, Stop: 8103, Start Num: 27

Candidate Starts for Trine\_11:

(Start: 27 @7558 has 154 MA's), (56, 7630), (67, 7669), (94, 7792), (97, 7813),

Gene: TruffulaTree\_18 Start: 10501, Stop: 11115, Start Num: 24

Candidate Starts for TruffulaTree\_18:

(Start: 24 @10501 has 187 MA's), (49, 10546), (79, 10669), (88, 10723), (96, 10780), (100, 10795), (122, 10879), (123, 10885), (135, 10924), (139, 10936), (146, 10963), (158, 11008), (160, 11023), (166, 11047), (183, 11104),

Gene: Tuck\_14 Start: 10510, Stop: 11061, Start Num: 27

Candidate Starts for Tuck\_14:

(Start: 27 @10510 has 154 MA's), (107, 10774), (109, 10789),

Gene: Turab\_13 Start: 9478, Stop: 10029, Start Num: 27

Candidate Starts for Turab\_13:

(Start: 27 @9478 has 154 MA's), (77, 9595), (102, 9721), (107, 9742), (109, 9757), (164, 9961),

Gene: Tutumahutu\_13 Start: 9518, Stop: 10069, Start Num: 27

Candidate Starts for Tutumahutu\_13:

(Start: 27 @9518 has 154 MA's), (102, 9761), (107, 9782), (109, 9797), (164, 10001),

Gene: Tweety19\_13 Start: 8558, Stop: 9109, Start Num: 27

Candidate Starts for Tweety19\_13:

(Start: 27 @8558 has 154 MA's), (91, 8753), (102, 8801), (151, 8981),

Gene: Twitch\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Twitch\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (79, 10709), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Ubuntu\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Ubuntu\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: UmaThurman\_14 Start: 8786, Stop: 9424, Start Num: 32

Candidate Starts for UmaThurman\_14:

(Start: 31 @8783 has 2 MA's), (Start: 32 @8786 has 40 MA's), (63, 8876), (67, 8891), (97, 9044), (113, 9119), (119, 9143), (137, 9191), (151, 9248), (159, 9287), (180, 9371), (186, 9407),

Gene: Unicorn\_17 Start: 9556, Stop: 10170, Start Num: 24

Candidate Starts for Unicorn\_17:

(Start: 24 @9556 has 187 MA's), (33, 9568), (49, 9601), (88, 9778), (96, 9835), (100, 9850), (105, 9865), (111, 9895), (122, 9934), (123, 9940), (139, 9991), (146, 10018), (160, 10078), (167, 10105),

Gene: Upyo\_11 Start: 7576, Stop: 8118, Start Num: 27

Candidate Starts for Upyo\_11:

(Start: 18 @7564 has 2 MA's), (Start: 27 @7576 has 154 MA's), (94, 7810), (97, 7831), (124, 7909), (126, 7915), (178, 8107),

Gene: Urkel\_18 Start: 10446, Stop: 11060, Start Num: 24

Candidate Starts for Urkel\_18:

(Start: 24 @10446 has 187 MA's), (Start: 39 @10464 has 1 MA's), (49, 10491), (88, 10668), (96, 10725), (100, 10740), (105, 10755), (111, 10785), (122, 10824), (123, 10830), (135, 10869), (139, 10881), (146, 10908), (158, 10953), (160, 10968), (166, 10992),

Gene: Utz\_14 Start: 8653, Stop: 9291, Start Num: 32

Candidate Starts for Utz\_14:

(Start: 31 @8650 has 2 MA's), (Start: 32 @8653 has 40 MA's), (63, 8743), (67, 8758), (97, 8911), (113, 8986), (119, 9010), (137, 9058), (151, 9115), (159, 9154), (180, 9238), (186, 9274),

Gene: UtzChips\_11 Start: 8624, Stop: 9187, Start Num: 27

Candidate Starts for UtzChips\_11:

(Start: 27 @8624 has 154 MA's), (77, 8741), (151, 9047), (170, 9134),

Gene: VResidence\_13 Start: 9552, Stop: 10100, Start Num: 27

Candidate Starts for VResidence\_13:

(22, 9546), (Start: 27 @9552 has 154 MA's), (165, 10038),

Gene: VWB\_13 Start: 8668, Stop: 9222, Start Num: 27

Candidate Starts for VWB\_13:

(Start: 27 @8668 has 154 MA's), (91, 8860), (108, 8932), (114, 8965), (142, 9052), (146, 9067),

Gene: Validus\_18 Start: 9492, Stop: 10103, Start Num: 27

Candidate Starts for Validus\_18:

(Start: 27 @9492 has 154 MA's), (49, 9534), (68, 9603), (70, 9615), (80, 9672), (88, 9711), (96, 9768), (100, 9783), (111, 9828), (122, 9867), (123, 9873), (124, 9876), (135, 9912), (143, 9939), (158, 9996), (167, 10038),

Gene: Veliki\_18 Start: 10544, Stop: 11155, Start Num: 24

Candidate Starts for Veliki\_18:

(Start: 24 @10544 has 187 MA's), (49, 10586), (88, 10763), (96, 10820), (100, 10835), (122, 10919), (123, 10925), (135, 10964), (139, 10976), (146, 11003), (158, 11048), (160, 11063), (166, 11087), (183, 11144),

Gene: Vendetta\_17 Start: 10694, Stop: 11284, Start Num: 47

Candidate Starts for Vendetta\_17:

(Start: 47 @10694 has 10 MA's), (57, 10727), (67, 10760), (71, 10778), (86, 10856), (140, 11090), (141, 11093), (147, 11120), (163, 11192),

Gene: VroomVroom\_12 Start: 7705, Stop: 8259, Start Num: 27

Candidate Starts for VroomVroom\_12:

(Start: 27 @7705 has 154 MA's), (49, 7750), (109, 7984),

Gene: Walrus\_15 Start: 8881, Stop: 9519, Start Num: 32

Candidate Starts for Walrus\_15:

(Start: 31 @8878 has 2 MA's), (Start: 32 @8881 has 40 MA's), (63, 8971), (67, 8986), (82, 9052), (97, 9139), (113, 9214), (119, 9238), (137, 9286), (151, 9343), (159, 9382), (180, 9466), (186, 9502),

Gene: Warda\_13 Start: 9464, Stop: 10015, Start Num: 27

Candidate Starts for Warda\_13:

(Start: 27 @9464 has 154 MA's), (107, 9728), (108, 9731), (109, 9743), (164, 9947),

Gene: Waterfoul\_16 Start: 10551, Stop: 11162, Start Num: 24

Candidate Starts for Waterfoul\_16:

(Start: 24 @10551 has 187 MA's), (49, 10596), (60, 10638), (88, 10773), (96, 10830), (100, 10845), (105, 10860), (122, 10929), (123, 10935), (135, 10974), (139, 10986), (143, 11001), (154, 11040), (158, 11058), (160, 11073), (166, 11097), (175, 11127),

Gene: Webster2\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Webster2\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Weirido19\_13 Start: 8705, Stop: 9247, Start Num: 27

Candidate Starts for Weirido19\_13:

(Start: 27 @8705 has 154 MA's), (63, 8807), (67, 8822), (78, 8855), (104, 8981), (125, 9041), (126, 9044), (129, 9056), (148, 9122), (155, 9149), (164, 9191), (166, 9197),

Gene: WheatThin\_16 Start: 9700, Stop: 10245, Start Num: 27

Candidate Starts for WheatThin\_16:

(Start: 27 @9700 has 154 MA's), (36, 9721), (176, 10225),

Gene: Widow\_11 Start: 7558, Stop: 8103, Start Num: 27

Candidate Starts for Widow\_11:

(Start: 27 @7558 has 154 MA's), (97, 7813), (107, 7849), (148, 7975), (152, 7987), (153, 7990),

Gene: Wildwest\_14 Start: 10387, Stop: 10935, Start Num: 27

Candidate Starts for Wildwest\_14:

(22, 10381), (Start: 27 @10387 has 154 MA's), (107, 10651), (143, 10780), (161, 10855),

Gene: William\_14 Start: 8602, Stop: 9252, Start Num: 32

Candidate Starts for William\_14:

(Start: 21 @8572 has 1 MA's), (Start: 31 @8599 has 2 MA's), (Start: 32 @8602 has 40 MA's), (63, 8692), (67, 8707), (89, 8809), (96, 8857), (113, 8935), (119, 8959), (130, 8989), (137, 9007), (159, 9103), (180, 9187),

Gene: Wintermute\_19 Start: 11716, Stop: 12327, Start Num: 27

Candidate Starts for Wintermute\_19:

(Start: 27 @11716 has 154 MA's), (56, 11782), (58, 11788), (70, 11836), (80, 11893), (83, 11899), (86, 11920), (88, 11932), (96, 11989), (100, 12004), (122, 12088), (123, 12094), (135, 12133), (139, 12145), (143, 12160), (158, 12217), (160, 12232), (166, 12256), (175, 12286),

Gene: Wishmaker\_15 Start: 9938, Stop: 10477, Start Num: 27

Candidate Starts for Wishmaker\_15:

(Start: 27 @9938 has 154 MA's), (36, 9959), (Start: 39 @9962 has 1 MA's), (40, 9965), (49, 9983), (67, 10049), (79, 10085), (94, 10166), (100, 10199), (107, 10223), (126, 10271), (134, 10295), (145, 10337), (164, 10418),

Gene: Wisp\_13 Start: 8419, Stop: 9057, Start Num: 32

Candidate Starts for Wisp\_13:

(Start: 31 @8416 has 2 MA's), (Start: 32 @8419 has 40 MA's), (63, 8509), (67, 8524), (82, 8590), (97, 8677), (113, 8752), (119, 8776), (137, 8824), (151, 8881), (159, 8920), (180, 9004), (186, 9040),

Gene: Wizzo\_11 Start: 7174, Stop: 7815, Start Num: 46

Candidate Starts for Wizzo\_11:

(Start: 26 @7126 has 1 MA's), (28, 7132), (29, 7135), (34, 7150), (37, 7156), (Start: 43 @7162 has 2 MA's), (45, 7171), (Start: 46 @7174 has 28 MA's), (72, 7267), (87, 7354), (93, 7390), (135, 7543), (136, 7546), (151, 7600), (159, 7639), (163, 7654), (164, 7660), (171, 7702), (179, 7720),

Gene: Wocket\_15 Start: 8904, Stop: 9542, Start Num: 32

Candidate Starts for Wocket\_15:

(Start: 31 @8901 has 2 MA's), (Start: 32 @8904 has 40 MA's), (63, 8994), (67, 9009), (82, 9075), (106, 9195), (113, 9237), (119, 9261), (137, 9309), (159, 9405), (180, 9489), (186, 9525),

Gene: Ximenita\_18 Start: 9678, Stop: 10292, Start Num: 24

Candidate Starts for Ximenita\_18:

(Start: 24 @9678 has 187 MA's), (49, 9723), (88, 9900), (96, 9957), (100, 9972), (105, 9987), (111, 10017), (122, 10056), (123, 10062), (139, 10113), (160, 10200), (167, 10227), (181, 10275),

Gene: Y10\_19 Start: 11716, Stop: 12327, Start Num: 27

Candidate Starts for Y10\_19:

(Start: 27 @11716 has 154 MA's), (56, 11782), (58, 11788), (70, 11836), (80, 11893), (83, 11899), (86, 11920), (88, 11932), (100, 12004), (122, 12088), (123, 12094), (135, 12133), (139, 12145), (143, 12160), (158, 12217), (160, 12232), (166, 12256), (175, 12286),

Gene: Y2\_19 Start: 11716, Stop: 12327, Start Num: 27

Candidate Starts for Y2\_19:

(Start: 27 @11716 has 154 MA's), (56, 11782), (58, 11788), (70, 11836), (80, 11893), (83, 11899), (86, 11920), (88, 11932), (100, 12004), (122, 12088), (123, 12094), (135, 12133), (139, 12145), (143, 12160), (158, 12217), (160, 12232), (166, 12256), (175, 12286),

Gene: Yang\_13 Start: 9560, Stop: 10111, Start Num: 27

Candidate Starts for Yang\_13:

(Start: 27 @9560 has 154 MA's), (64, 9647), (165, 10046),

Gene: YesChef\_13 Start: 9518, Stop: 10069, Start Num: 27

Candidate Starts for YesChef\_13:

(Start: 27 @9518 has 154 MA's), (102, 9761), (107, 9782), (109, 9797), (164, 10001),

Gene: YoureAdopted\_17 Start: 10477, Stop: 11088, Start Num: 24

Candidate Starts for YoureAdopted\_17:

(Start: 24 @10477 has 187 MA's), (49, 10519), (79, 10642), (88, 10696), (96, 10753), (100, 10768), (122, 10852), (123, 10858), (135, 10897), (139, 10909), (146, 10936), (158, 10981), (160, 10996), (166, 11020), (183, 11077),

Gene: Yuna\_18 Start: 9613, Stop: 10227, Start Num: 27

Candidate Starts for Yuna\_18:

(Start: 27 @9613 has 154 MA's), (49, 9658), (88, 9835), (96, 9892), (105, 9922), (111, 9952), (122, 9991), (123, 9997), (135, 10036), (139, 10048), (156, 10114), (166, 10159), (175, 10189), (181, 10210),

Gene: Yunkel11\_18 Start: 9455, Stop: 10069, Start Num: 27

Candidate Starts for Yunkel11\_18:

(Start: 27 @9455 has 154 MA's), (80, 9638), (88, 9677), (96, 9734), (105, 9764), (111, 9794), (122, 9833), (123, 9839), (135, 9878), (139, 9890), (158, 9962), (166, 10001), (175, 10031), (181, 10052),

Gene: Zabiza\_19 Start: 10502, Stop: 11116, Start Num: 24

Candidate Starts for Zabiza\_19:

(Start: 24 @10502 has 187 MA's), (49, 10547), (79, 10670), (88, 10724), (96, 10781), (100, 10796), (122, 10880), (123, 10886), (135, 10925), (139, 10937), (146, 10964), (158, 11009), (160, 11024), (166, 11048), (183, 11105),

Gene: Zarbodnamra\_14 Start: 8678, Stop: 9316, Start Num: 32

Candidate Starts for Zarbodnamra\_14:

(Start: 31 @8675 has 2 MA's), (Start: 32 @8678 has 40 MA's), (63, 8768), (67, 8783), (97, 8936), (113, 9011), (119, 9035), (137, 9083), (151, 9140), (159, 9179), (180, 9263), (186, 9299),

Gene: Zavala\_18 Start: 10483, Stop: 11097, Start Num: 24

Candidate Starts for Zavala\_18:



(Start: 24 @10483 has 187 MA's), (49, 10528), (79, 10651), (88, 10705), (96, 10762), (100, 10777), (122, 10861), (123, 10867), (135, 10906), (139, 10918), (146, 10945), (158, 10990), (160, 11005), (166, 11029), (183, 11086),

Gene: Zeta1847\_11 Start: 7708, Stop: 8262, Start Num: 27

Candidate Starts for Zeta1847\_11:

(Start: 27 @7708 has 154 MA's), (77, 7825), (108, 7975),

Gene: ZiggyZoo\_13 Start: 8448, Stop: 9086, Start Num: 32

Candidate Starts for ZiggyZoo\_13:

(Start: 31 @8445 has 2 MA's), (Start: 32 @8448 has 40 MA's), (63, 8538), (67, 8553), (82, 8619), (97, 8706), (113, 8781), (119, 8805), (137, 8853), (151, 8910), (159, 8949), (180, 9033), (186, 9069),

Gene: ZoMa\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for ZoMa\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),

Gene: ZoeJ\_14 Start: 8484, Stop: 9104, Start Num: 20

Candidate Starts for ZoeJ\_14:

(Start: 20 @8484 has 8 MA's), (49, 8538), (80, 8676), (96, 8772), (100, 8787), (105, 8802), (111, 8832), (122, 8871), (123, 8877), (124, 8880), (135, 8916), (139, 8928), (143, 8943), (158, 9000), (160, 9015), (166, 9039), (182, 9090),

Gene: Zombie\_13 Start: 9854, Stop: 10468, Start Num: 24

Candidate Starts for Zombie\_13:

(Start: 24 @9854 has 187 MA's), (49, 9899), (55, 9923), (74, 10001), (79, 10022), (80, 10037), (96, 10133), (100, 10148), (107, 10172), (111, 10193), (122, 10232), (128, 10256), (130, 10265), (135, 10277), (151, 10334), (158, 10361), (160, 10376), (166, 10400),