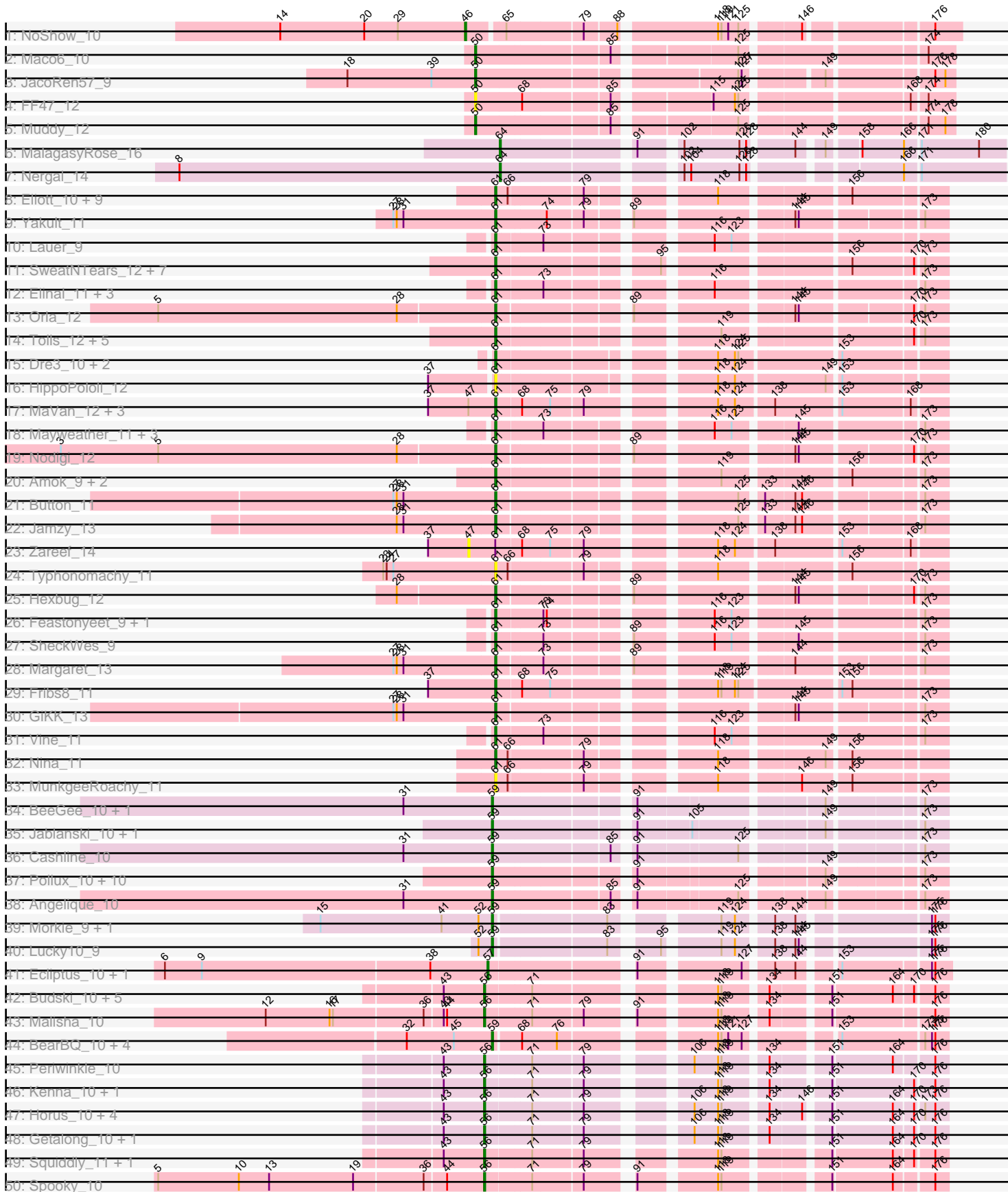


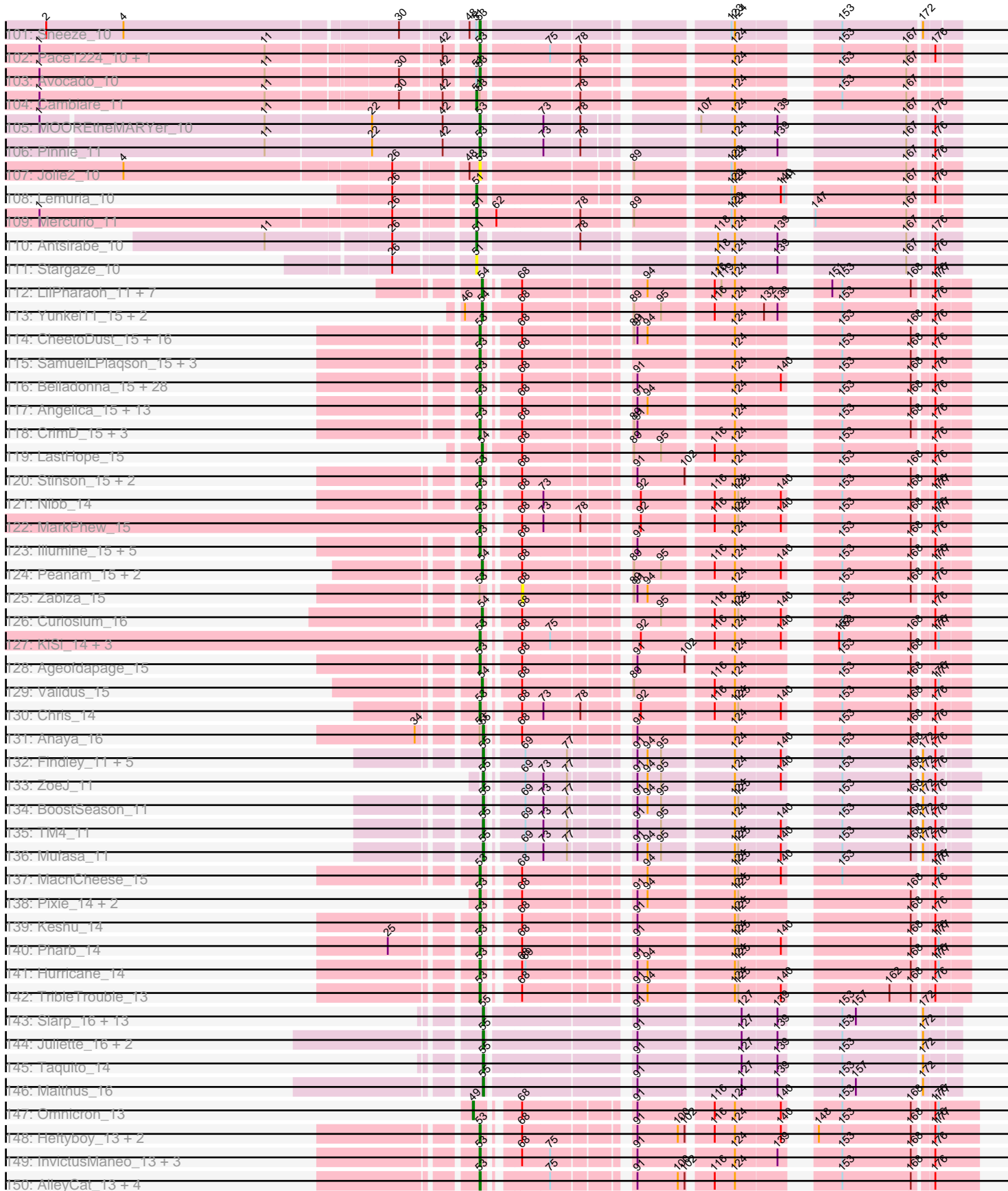
Pham 161453



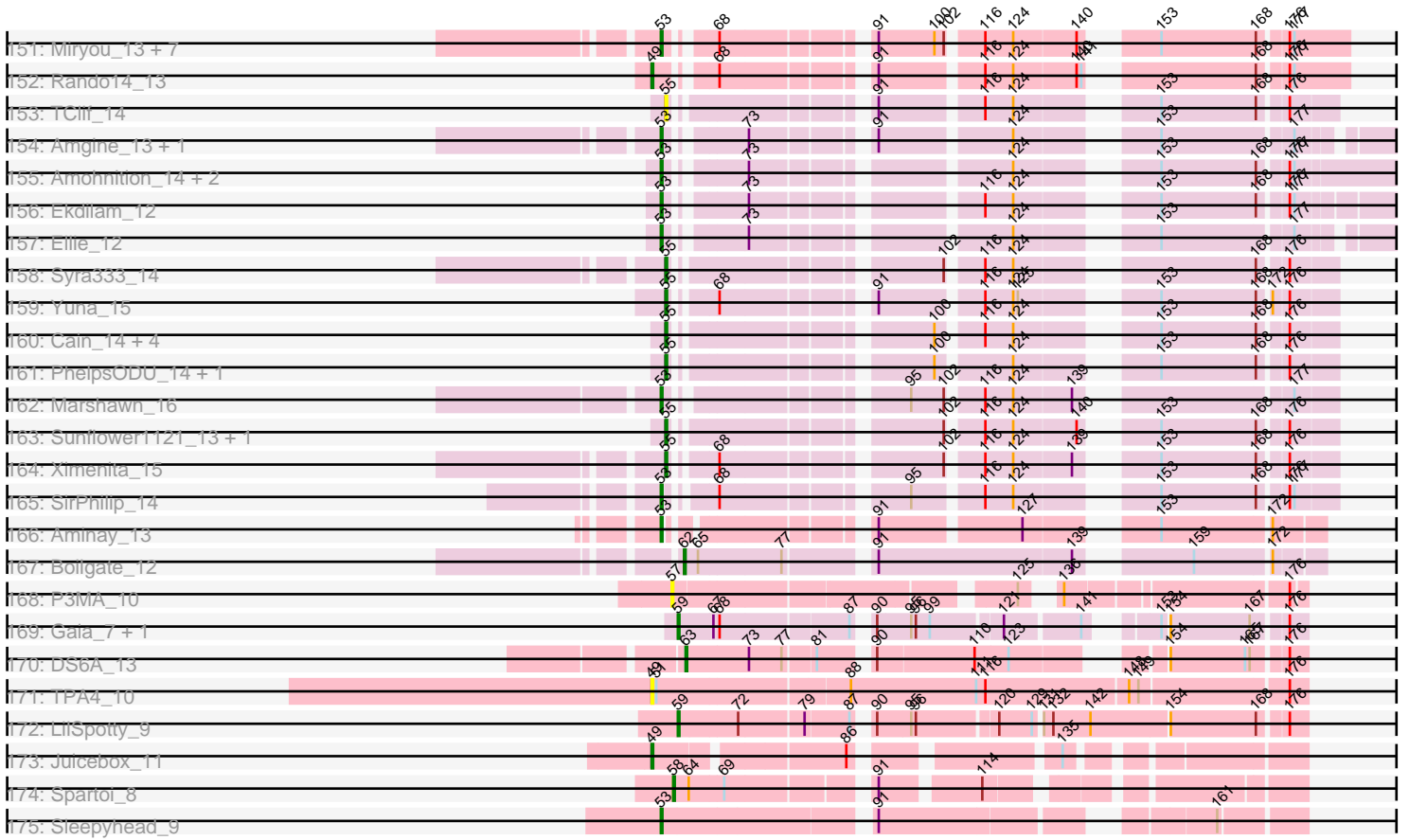
Pham 161453



Pham 161453



Pham 161453



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 161453 Report

This analysis was run 04/28/24 on database version 559.

Pham number 161453 has 626 members, 55 are drafts.

Phages represented in each track:

- Track 1 : NoShow\_10
- Track 2 : Maco6\_10
- Track 3 : JacoRen57\_9
- Track 4 : FF47\_12
- Track 5 : Muddy\_12
- Track 6 : MalagasyRose\_16
- Track 7 : Nergal\_14
- Track 8 : Elliott\_10, Burnsey\_10, Agatha\_10, Cozz\_10, PsychoKiller\_10, Quasar\_10, Sopespian\_10, Axym\_10, RedBaron\_11, GoldHunter\_11
- Track 9 : Yakult\_11
- Track 10 : Lauer\_9
- Track 11 : SweatNTears\_12, MScarn\_12, SketchMex\_9, Horseradish\_11, Yummy\_11, Biskit\_11, Troje\_10, Buttrmlkdreams\_10
- Track 12 : Elinal\_11, KayGee\_9, PotPie\_11, SummitAcademy\_9
- Track 13 : Orla\_12
- Track 14 : Tolls\_12, SteamedHams\_12, GTE2\_08, AndPeggy\_9, BillDoor\_12, Yarn\_9
- Track 15 : Dre3\_10, Cleo\_10, Gibbous\_10
- Track 16 : HippoPololi\_12
- Track 17 : MaVan\_12, Azira\_12, Nibbles\_12, Survivors\_12
- Track 18 : Mayweather\_11, MAnor\_10, CherryonLim\_11, Pons\_10
- Track 19 : Nodigi\_12
- Track 20 : Amok\_9, AikoCarson\_9, Emalyn\_9
- Track 21 : Button\_11
- Track 22 : Jamzy\_13
- Track 23 : Zareef\_14
- Track 24 : Typhonomachy\_11
- Track 25 : Hexbug\_12
- Track 26 : Feastonyeet\_9, BigChungus\_9
- Track 27 : SheckWes\_9
- Track 28 : Margaret\_13
- Track 29 : Fribs8\_11
- Track 30 : GiKK\_13
- Track 31 : Vine\_11
- Track 32 : Nina\_11
- Track 33 : MunkgeeRoachy\_11
- Track 34 : BeeGee\_10, Wrigley\_10

- Track 35 : Jablanski\_10, Pytheas\_10
- Track 36 : Cashline\_10
- Track 37 : Pollux\_10, BritBrat\_10, LonelyBoi\_10, EMSquaredA\_10, Lilas\_10, Posh\_10, Bradissa\_10, Floral\_10, EnalisNailo\_10, Confidence\_10, Marteena\_10
- Track 38 : Angelique\_10
- Track 39 : Morkie\_9, PhorbesPhlower\_9
- Track 40 : Lucky10\_9
- Track 41 : Ecliptus\_10, ODay\_10
- Track 42 : Budski\_10, Phabuloso\_10, CheeseTouch\_10, Holliday\_10, LitninMcQueen\_10, Kamaru\_10
- Track 43 : Malisha\_10
- Track 44 : BearBQ\_10, MortyNRick\_10, Birdsong\_10, Apricot\_10, Crater\_10
- Track 45 : Periwinkle\_10
- Track 46 : Kenna\_10, Lutum\_10
- Track 47 : Horus\_10, BENtherdunthat\_10, Frickyeah\_10, Leroy\_10, Asapag\_10
- Track 48 : Getalong\_10, Whitney\_10
- Track 49 : Squiddly\_11, Phistory\_10
- Track 50 : Spooky\_10
- Track 51 : Kuwabara\_10
- Track 52 : Ziko\_44, Volt\_43, Fryberger\_41, Guey18\_46, Ronaldo\_44
- Track 53 : Keelan\_39
- Track 54 : Rita\_8, Guppsters\_8, Taj\_8, Firehouse51\_8, Kenuha5\_8, SuperGrey\_8, Bipolar\_8, DotProduct\_8, Ms6\_8, SiSi\_8, MilanaBonita\_9, SG4\_8, DLane\_8, QuickMath\_8, KristaRAM\_9, MilleniumForce\_9, DillTech15\_8, Wee\_8, DeadP\_8, Hamulus\_8, Akhila\_9, Emma\_8, Ardmore\_8
- Track 55 : TootsiePop\_9, ChickenDinner\_9, DocMcStuffins\_9, Misha28\_9, Mova\_9, Tootsieroll\_9
- Track 56 : Alexphander\_9, UncleRicky\_9, Drago\_9, Enby\_9, Lorde\_9, Oksu\_9
- Track 57 : Leozinho\_9, Plumbus\_9, Spikelee\_9, Hegedechwinu\_9, Kimberlium\_9, Frankie\_9, OwlsT2W\_9, Squirty\_9, Girafales\_9, Juice456\_9, SimranZ1\_9, Boomer\_9, Starcevich\_9, Beakin\_9, DaWorst\_9, Totinger\_9, Flathead\_9, Rialto\_9, Ramsey\_9, Madiba\_9, Pollywog\_9, LittleShirley\_9, Quico\_9
- Track 58 : DirtMcgirt\_9
- Track 59 : Kingsley\_9, Cerasum\_9, Sarma624\_9, Velveteen\_9, BigPhil\_9
- Track 60 : KingMidas\_8, Nimbo\_8, ByChance\_8, Geralt\_8, Dorothy\_8, OldBen\_8, Doug\_8, Pacc40\_8, Polka14\_8, Scottish\_8, Estave1\_8, Cabrinians\_8, PMC\_8, Leperchaun\_8, Dante\_8, Sandalphon\_8, Minnie\_8, Empress\_8, FreddyB\_8, Inventum\_8, MadMen\_8, Sassafras\_8, DaddyRickover\_8, LilMoolah\_8, Eradicator\_8, RedBird\_8, Phatniss\_8, Koella\_8, Gorge\_8, BlueCrab\_8, Blexus\_8, Radiance\_8, Saal\_8, NormanBulbieJr\_8, Gandalph\_8, TDanisky\_8, DRBy19\_8, Pippy\_8, Deb65\_8, Mahavrat\_8, RitaG\_8, BodEinwohner17\_8, PHappiness\_8, JoeyJr\_8, Llij\_8, Clifton\_8, Sparkdehlily\_8, Doomphist\_8, Brocalys\_8, IbOuu\_8, Daenerys\_8, Rockne\_8, Poenanya\_8, Priscilla\_8
- Track 61 : LunaBlu\_8, Galactic\_8
- Track 62 : Bobi\_9, Stap\_9, BuzzLyseyear\_9, Seagreen\_9, JalFarm20\_9
- Track 63 : BobaPhett\_8, Ochi17\_8, Seabastian\_8, Llama\_8, MulchSalad\_8, James\_8, Modragons\_8, Hlubikazi\_8, Mattes\_8, Fancypants\_8, Strokeseat\_8, LastJedi\_8, AlpineSix\_8, Mandlovu\_8, OfUltron\_8, Jinglebell\_8
- Track 64 : Eish\_8, Latretium\_8, Girr\_8, Phasih\_8, MisterCuddles\_8, Whouxphf\_8, Ruby\_8
- Track 65 : Zerg\_8, VRedHorse\_8, Crumble\_8, GigiOuiOui\_8, Donkeykong\_8, Mantra\_8, Nitzel\_9, Florinda\_8, Bubbles123\_8, OlympiaSaint\_8, Moonbeam\_8

- Track 66 : Ovechkin\_8, Phalconet\_8, PopTart\_8, Melissauren88\_8, Fruitloop\_8, Royals2015\_8, CaptainTrips\_9, Krakatau\_9, PhesterPhotato\_8, MinionDave\_9, Batiatus\_8, Chuckly\_8, Whatsapiecost\_8, Tweety\_8, ShroomBoi\_8, StAnnes\_8, SassyB\_8, XFactor\_8, Filuzino\_8
- Track 67 : lbhubesi\_8, Harley\_8
- Track 68 : Job42\_9
- Track 69 : ShowerHandel\_8, Burwell21\_8, ShiLan\_8, Nivrat\_8, Zizzle\_8, Maravista\_8, Philus\_8, SwagPiggett\_8, Jarcob\_8, Martik\_8, Lizziana\_8
- Track 70 : Sabbb\_8
- Track 71 : Mozy\_9
- Track 72 : Coco12\_9, Marker\_9
- Track 73 : Fastidio\_8
- Track 74 : Ogopogo\_11
- Track 75 : Phanphagia\_8, Shauna1\_8
- Track 76 : Hades\_8
- Track 77 : Juniper1\_8
- Track 78 : Wachhund\_8, Byougenkin\_8, Spoonbill\_8
- Track 79 : Piper2020\_9, Awesomesauce\_9
- Track 80 : Spartacus\_8, IrishSherpFalk\_8, Mutaforma13\_8, WillSterrel\_8
- Track 81 : EleanorGeorge\_8
- Track 82 : Veteran\_8, Karhdo\_8, GUmbie\_8
- Track 83 : Aubs\_8
- Track 84 : Kersh\_8
- Track 85 : Chevrolet\_7, ArcusAngelus\_8
- Track 86 : Che8\_8
- Track 87 : Cornucopia\_9
- Track 88 : Yorick\_8
- Track 89 : RockyHorror\_9
- Track 90 : Demsculpinboyz\_10, Avani\_10, Soul22\_10, Che9d\_10, Zapner\_11, Blarby\_11, Jabbawokkie\_11, Yoshi\_10
- Track 91 : ThetaBob\_9, Renaud18\_9, TChen\_9, LunaStella\_9
- Track 92 : CallinAllBarbz\_9
- Track 93 : BaileyBlu\_9
- Track 94 : PinkYoshi\_10, JorRay\_10, Jolene\_10, CassieYates\_10, Angel\_10, ECartman\_10, Periodt\_10, Schiebel\_10, Barkley26\_10, Hope\_10, Hotshotbaby7\_10, Cedasite\_10, Renaissance\_10, BPs\_10, ZoMa\_10, Marmie\_10, BQuat\_10, Peeb\_10, DMoney\_10, DNAIII\_0010, Plagueis\_10, Kareem\_10, Mowgli\_10, Chance64\_10, BruceB\_10, TomBrady\_10, Liefie\_10, Crespo\_10, Frosty24\_10, Phish\_10, Kasen3\_10, Olga\_10, Camri\_10, Cherrybomb426\_10, ShaboiShabazz\_10, Avrafan\_10, Jonghyun\_10, Sizemore\_10, GoldenAsh\_10, Coleslaw\_10
- Track 95 : Paito\_10
- Track 96 : OctaviousRex\_10, Gideon\_10, LouisV14\_10, Aroostook\_10, Darionha\_10, Gomashi\_10, CLED96\_10, Remy19\_10, Annihilator\_10, Phreak\_10, Jane\_10, Zombie\_10
- Track 97 : Taheera\_10, Terror\_10
- Track 98 : Sweets\_10, Halo\_10
- Track 99 : Rabbs\_10
- Track 100 : Grizzly\_10
- Track 101 : Sneeze\_10
- Track 102 : Pace1224\_10, FlagStaff\_10
- Track 103 : Avocado\_10
- Track 104 : Cambiare\_11
- Track 105 : MOOREtheMARYer\_10

- Track 106 : Pinnie\_11
- Track 107 : Jolie2\_10
- Track 108 : Lemuria\_10
- Track 109 : Mercurio\_11
- Track 110 : Antsirabe\_10
- Track 111 : Stargaze\_10
- Track 112 : LilPharaoh\_11, Nutello\_11, SgtBeansprout\_11, Mdavu\_11, Enkosi\_11, Amelie\_11, Biglebops\_11, Nikao\_11
- Track 113 : Yunkel11\_15, Efra2\_15, Guanica15\_15
- Track 114 : CheetoDust\_15, Mynx\_15, BaghaKamala\_15, Beezoo\_15, Ramen\_15, Rapunzel97\_15, Geraldini\_15, Apocalypse\_15, Joy99\_15, Slimphazie\_15, YoureAdopted\_14, Jayhawk\_15, Adephagia\_15, ActinUp\_15, HedwigODU\_15, MeaningOfLife\_15, TruffulaTree\_15
- Track 115 : SamuelLPlaqson\_15, Urkel\_15, TiniBug\_15, DrHayes\_15
- Track 116 : Belladonna\_15, Durfee\_15, Rosmarinus\_15, Peel\_15, CREW\_15, Inky\_15, Capricorn\_15, Jarvi\_15, Lunahalos\_15, BGlluviae\_15, Piatt\_15, Boiiii\_15, Hyperbowlee\_15, Spock\_15, Twitch\_15, Llorens\_15, BarrelRoll\_15, CaseJules\_15, Asayake\_15, Padfoot\_15, JAWS\_15, Blizzard\_15, BEEST\_15, Homura\_15, ShiaSurprise\_15, Dalmuri\_15, Jeckyll\_15, Veliki\_15, Topper\_15
- Track 117 : Angelica\_15, Ganymede\_15, AlishaPH\_15, Atiba\_15, Zavala\_15, Tachez\_15, Deby\_15, Pokerus\_14, QuincyRose\_14, Emerson\_15, Tiri\_15, Padpat\_15, Adonis\_15, Sulley\_15
- Track 118 : CrimD\_15, Prithvi\_15, TreyKay\_15, LindNT\_15
- Track 119 : LastHope\_15
- Track 120 : Stinson\_15, Murucutumbu\_15, LaterM\_15
- Track 121 : Nibb\_14
- Track 122 : MarkPhew\_15
- Track 123 : Illumine\_15, Megsy\_15, Devera\_15, Bella96\_15, Dole\_15, TaiwanKao\_15
- Track 124 : Peanam\_15, Shaobing\_15, Niklas\_15
- Track 125 : Zabiza\_15
- Track 126 : Curiosium\_16
- Track 127 : KiSi\_14, Oscar\_14, LeMond\_14, Scarlett\_14
- Track 128 : Ageofdapage\_15
- Track 129 : Validus\_15
- Track 130 : Chris\_14
- Track 131 : Anaya\_16
- Track 132 : Findley\_11, Strobilo\_12, DismalStressor\_11, DismalFunk\_11, Milly\_11, Marcoliusprime\_11
- Track 133 : ZoeJ\_11
- Track 134 : BoostSeason\_11
- Track 135 : TM4\_11
- Track 136 : Mufasa\_11
- Track 137 : MacnCheese\_15
- Track 138 : Pixie\_14, ShedlockHolmes\_14, TBond007\_14
- Track 139 : Keshu\_14
- Track 140 : Pharb\_14
- Track 141 : Hurricane\_14
- Track 142 : TripleTrouble\_13
- Track 143 : Slarp\_16, OmniCritical\_16, Y2\_16, MissDaisy\_16, Fionnbharth\_16, Y10\_16, Reptar3000\_16, Wintermute\_16, Mitti\_16, Cheetobro\_16, Patt\_16, JF1\_16, Chancellor\_16, SamScheppers\_14
- Track 144 : Juliette\_16, Eponine\_16, Ruthiejr\_15



- Track 145 : Taquito\_14
- Track 146 : Malthus\_16
- Track 147 : Omnicron\_13
- Track 148 : Heftyboy\_13, SoSeph\_13, Leston\_13
- Track 149 : InvictusManeo\_13, Kratio\_12, Collard\_13, Agent47\_13
- Track 150 : AlleyCat\_13, Edugator\_12, Psycho\_13, Dadosky\_13, Larva\_13
- Track 151 : Miryou\_13, Feyre\_13, Guillsminger\_13, Paola\_13, Thyatira\_13, Gengar\_13, OkiRoe\_13, Waterfoul\_13
- Track 152 : Rando14\_13
- Track 153 : TClif\_14
- Track 154 : Amgine\_13, Fefferhead\_14
- Track 155 : Amohnition\_14, Hammy\_14, DARTH\_P\_14
- Track 156 : Ekdilam\_12
- Track 157 : Ellie\_12
- Track 158 : Syra333\_14
- Track 159 : Yuna\_15
- Track 160 : Cain\_14, Krueger\_14, Tierra\_14, Phrank\_14, Bryler\_14
- Track 161 : PhelpsODU\_14, Unicorn\_14
- Track 162 : Marshawn\_16
- Track 163 : Sunflower1121\_13, Shadow1\_13
- Track 164 : Ximenita\_15
- Track 165 : SirPhilip\_14
- Track 166 : Aminay\_13
- Track 167 : Boilgate\_12
- Track 168 : P3MA\_10
- Track 169 : Gaia\_7, Nebkiss\_7
- Track 170 : DS6A\_13
- Track 171 : TPA4\_10
- Track 172 : LilSpotty\_9
- Track 173 : Juicebox\_11
- Track 174 : Spartoi\_8
- Track 175 : Sleepyhead\_9

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

The start number called the most often in the published annotations is 58, it was called in 207 of the 571 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila\_9, Alexphander\_9, AlpineSix\_8, ArcusAngelus\_8, Ardmore\_8, Aubs\_8, Awesomesauce\_9, Batiatus\_8, Beakin\_9, BigPhil\_9, Bipolar\_8, Blexus\_8, BlueCrab\_8, BobaPhett\_8, Bobi\_9, BodEinwohner17\_8, Boomer\_9, Brocalys\_8, Bubbles123\_8, Burwell21\_8, BuzzLyseyear\_9, ByChance\_8, Byougenkin\_8, Cabrinians\_8, CaptainTrips\_9, Cerasum\_9, Che8\_8, Chevrolet\_7, ChickenDinner\_9, Chuckly\_8, Clifton\_8, Coco12\_9, Cornucopia\_9, Crumble\_8, DLane\_8, DRBy19\_8, DaWorst\_9, DaddyRickover\_8, Daenerys\_8, Dante\_8, DeadP\_8, Deb65\_8, DillTech15\_8, DirtMcGirt\_9, DocMcStuffins\_9, Donkeykong\_8, Doomphist\_8, Dorothy\_8, DotProduct\_8, Doug\_8, Drago\_9, Eish\_8, EleanorGeorge\_8, Emma\_8, Empress\_8, Enby\_9, Eradicator\_8, Estave1\_8, Fancypants\_8, Fastidio\_8, Filuzino\_8, Firehouse51\_8, Flathead\_9, Florinda\_8, Frankie\_9, FreddyB\_8, Fruitloop\_8,

GUmbie\_8, Galactic\_8, Gandalph\_8, Geralt\_8, GigiOuiOui\_8, Girafales\_9, Girr\_8, Gorge\_8, Guppsters\_8, Hades\_8, Hamulus\_8, Harley\_8, Hegedechwinu\_9, Hlubikazi\_8, IbOuu\_8, Ibhubesi\_8, Inventum\_8, IrishSherpFalk\_8, JalFarm20\_9, James\_8, Jarcob\_8, Jinglebell\_8, Job42\_9, JoeyJr\_8, Juice456\_9, Juniper1\_8, Karhdo\_8, Kenuha5\_8, Kersh\_8, Kimberlium\_9, KingMidas\_8, Kingsley\_9, Koella\_8, Krakatau\_9, KristaRAM\_9, LastJedi\_8, Latretium\_8, Leozinho\_9, Leperchaun\_8, LilMoolah\_8, LittleShirley\_9, Lizziana\_8, Llama\_8, Llij\_8, Lorde\_9, LunaBlu\_8, LunaStella\_9, MadMen\_8, Madiba\_9, Mahavrat\_8, Mandlovu\_8, Mantra\_8, Maravista\_8, Marker\_9, Martik\_8, Mattes\_8, Melissauren88\_8, MilanaBonita\_9, MilleniumForce\_9, MinionDave\_9, Minnie\_8, Misha28\_9, MisterCuddles\_8, Modragons\_8, Moonbeam\_8, Mova\_9, Mozy\_9, Ms6\_8, MulchSalad\_8, Mutaforma13\_8, Nimbo\_8, Nitzel\_9, Nivrat\_8, NormanBulbieJr\_8, Ochi17\_8, OfUltron\_8, Ogopogo\_11, Oksu\_9, OldBen\_8, OlympiaSaint\_8, Ovechkin\_8, OwlsT2W\_9, PHappiness\_8, PMC\_8, Pacc40\_8, Phalconet\_8, Phanphagia\_8, Phasih\_8, Phatniss\_8, PhesterPhotato\_8, Philus\_8, Piper2020\_9, Pippy\_8, Plumbus\_9, Poenanya\_8, Polka14\_8, Pollywog\_9, PopTart\_8, Priscilla\_8, QuickMath\_8, Quico\_9, Radiance\_8, Ramsey\_9, RedBird\_8, Renaud18\_9, Rialto\_9, RitaG\_8, Rita\_8, Rockne\_8, RockyHorror\_9, Royals2015\_8, Ruby\_8, SG4\_8, Saal\_8, Sabbb\_8, Sandalphon\_8, Sarma624\_9, Sassafras\_8, SassyB\_8, Scottish\_8, Sebastian\_8, Seagreen\_9, Shauna1\_8, ShiLan\_8, ShowerHandel\_8, ShroomBoi\_8, SiSi\_8, SimranZ1\_9, Sparkdehlily\_8, Spartacus\_8, Spartoi\_8, Spikelee\_9, Spoonbill\_8, Squirry\_9, StAnnes\_8, Stap\_9, Starcevich\_9, Strokeseat\_8, SuperGrey\_8, SwagPiggett\_8, TChen\_9, TDanisky\_8, Taj\_8, ThetaBob\_9, TootsiePop\_9, Tootsieroll\_9, Totinger\_9, Tweety\_8, UncleRicky\_9, VRedHorse\_8, Velveteen\_9, Veteran\_8, Wachhund\_8, Wee\_8, Whatsapiecost\_8, Whouxphf\_8, WillSterrel\_8, XFactor\_8, Yorick\_8, Zerg\_8, Zizzle\_8,

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

- 

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

- ActinUp\_15, Adephegia\_15, Adonis\_15, Agatha\_10, Agent47\_13, Ageofdapage\_15, AikoCarson\_9, AlishaPH\_15, AlleyCat\_13, Amelie\_11, Amgine\_13, Aminay\_13, Amohnition\_14, Amok\_9, Anaya\_16, AndPeggy\_9, Angel\_10, Angelica\_15, Angelique\_10, Annihilator\_10, Antsirabe\_10, Apocalypse\_15, Apricot\_10, Aroostook\_10, Asapag\_10, Asayake\_15, Atiba\_15, Avani\_10, Avocado\_10, Avrafan\_10, Axym\_10, Azira\_12, BEEST\_15, BENtherdunthat\_10, BGlluviae\_15, BPs\_10, BQuat\_10, BaghaKamala\_15, BaileyBlu\_9, Barkley26\_10, BarrelRoll\_15, BearBQ\_10, BeeGee\_10, Beezoo\_15, Bella96\_15, Belladonna\_15, BigChungus\_9, Binglebops\_11, BillDoor\_12, Birdsong\_10, Biskit\_11, Blarby\_11, Blizzard\_15, Boiiii\_15, Boilgate\_12, BoostSeason\_11, Bradissa\_10, BritBrat\_10, BruceB\_10, Bryler\_14, Budski\_10, Burnsey\_10, Button\_11, Buttrmlkdreams\_10, CLED96\_10, CREW\_15, Cain\_14, CallinAllBarbz\_9, Cambiare\_11, Camri\_10, Capricorn\_15, CaseJules\_15, Cashline\_10, CassieYates\_10, Cedasite\_10, Chance64\_10, Chancellor\_16, Che9d\_10, CheeseTouch\_10, CheetoDust\_15, Cheetobro\_16, Cherrybomb426\_10, CherryonLim\_11, Chris\_14, Cleo\_10, Coleslaw\_10, Collard\_13, Confidence\_10, Cozz\_10, Crater\_10, Crespo\_10, CrimD\_15, Curiosium\_16, DMoney\_10, DNAIII\_0010, DS6A\_13, Dadosky\_13, Dalmuri\_15, Darionha\_10, DarthP\_14, Deby\_15, Demsculpinboyz\_10, Devera\_15, DismalFunk\_11, DismalStressor\_11, Dole\_15, DrHayes\_15, Dre3\_10, Durfee\_15, ECartman\_10, EMSquaredA\_10, Ecliptus\_10, Edugator\_12, Efra2\_15, Ekdilam\_12, Elinal\_11, Elliott\_10, Ellie\_12, Emalyn\_9, Emerson\_15, EnalisNailo\_10, Enkosi\_11, Eponine\_16, FF47\_12, Feastonyeet\_9, Fefferhead\_14, Feyre\_13, Findley\_11, Fionnbharth\_16,

FlagStaff\_10, Floral\_10, Fribs8\_11, Frickyeah\_10, Frosty24\_10, Fryberger\_41,  
 GTE2\_08, Gaia\_7, Ganymede\_15, Gengar\_13, Geraldini\_15, Getalong\_10,  
 GiKK\_13, Gibbous\_10, Gideon\_10, GoldHunter\_11, GoldenAsh\_10, Gomashi\_10,  
 Grizzly\_10, Guanica15\_15, Guey18\_46, Guillsminger\_13, Halo\_10, Hammy\_14,  
 HedwigODU\_15, Heftyboy\_13, Hexbug\_12, HippoPololi\_12, Holliday\_10,  
 Homura\_15, Hope\_10, Horseradish\_11, Horus\_10, Hotshotbaby7\_10, Hurricane\_14,  
 Hyperbowlee\_15, Illumine\_15, Inky\_15, InvictusManeo\_13, JAWS\_15, JF1\_16,  
 Jabbawokkie\_11, Jablanski\_10, JacoRen57\_9, Jamzy\_13, Jane\_10, Jarvi\_15,  
 Jayhawk\_15, Jeckyll\_15, Jolene\_10, Jolie2\_10, Jonghyun\_10, JorRay\_10, Joy99\_15,  
 Juicebox\_11, Juliette\_16, Kamaru\_10, Kareem\_10, Kasen3\_10, KayGee\_9,  
 Keelan\_39, Kenna\_10, Keshu\_14, KiSi\_14, Kratio\_12, Krueger\_14, Kuwabara\_10,  
 Larva\_13, LastHope\_15, LaterM\_15, Lauer\_9, LeMond\_14, Lemuria\_10, Leroy\_10,  
 Leston\_13, Liefie\_10, LilPharaoh\_11, LilSpotty\_9, Lilas\_10, LindNT\_15,  
 LitninMcQueen\_10, Llorens\_15, LonelyBoi\_10, LouisV14\_10, Lucky10\_9,  
 Lunahalos\_15, Lutum\_10, MAnor\_10, MOOREtheMARYer\_10, MScarn\_12,  
 MaVan\_12, MacnCheese\_15, Maco6\_10, MalagasyRose\_16, Malisha\_10,  
 Malthus\_16, Marcoliusprime\_11, Margaret\_13, MarkPhew\_15, Marmie\_10,  
 Marshawn\_16, Marteenaa\_10, Mayweather\_11, Mdavu\_11, MeaningOfLife\_15,  
 Megsy\_15, Mercurio\_11, Milly\_11, Miryou\_13, MissDaisy\_16, Mitti\_16, Morkie\_9,  
 MortyNRick\_10, Mowgli\_10, Muddy\_12, Mufasa\_11, MunkgeeRoachy\_11,  
 Murucutumbu\_15, Mynx\_15, Nebkiss\_7, Nergal\_14, Nibb\_14, Nibbles\_12, Nikao\_11,  
 Niklas\_15, Nina\_11, NoShow\_10, Nodigi\_12, Nutello\_11, ODay\_10,  
 OctaviousRex\_10, OkiRoe\_13, Olga\_10, OmniCritical\_16, Omnicron\_13, Orla\_12,  
 Oscar\_14, P3MA\_10, Pace1224\_10, Padfoot\_15, Padpat\_15, Paito\_10, Paola\_13,  
 Patt\_16, Peanam\_15, Peeb\_10, Peel\_15, Periodt\_10, Periwinkle\_10, Phabuloso\_10,  
 Pharb\_14, PhelpsODU\_14, Phish\_10, Phistory\_10, PhorbesPhlower\_9, Phrank\_14,  
 Phreak\_10, Piatt\_15, PinkYoshi\_10, Pinnie\_11, Pixie\_14, Plagueis\_10, Pokerus\_14,  
 Pollux\_10, Pons\_10, Posh\_10, PotPie\_11, Prithvi\_15, PsychoKiller\_10, Psycho\_13,  
 Pytheas\_10, Quasar\_10, QuincyRose\_14, Rabbs\_10, Ramen\_15, Rando14\_13,  
 Rapunzel97\_15, RedBaron\_11, Remy19\_10, Renaissance\_10, Reptar3000\_16,  
 Ronaldo\_44, Rosmarinus\_15, Ruthiejr\_15, SamScheppers\_14, SamuelLPlaqson\_15,  
 Scarlett\_14, Schiebel\_10, SgtBeansprout\_11, ShaboiShabazz\_10, Shadow1\_13,  
 Shaobing\_15, SheckWes\_9, ShedlockHolmes\_14, ShiaSurprise\_15, SirPhilip\_14,  
 Sizemore\_10, SketchMex\_9, Slarp\_16, Sleepyhead\_9, Slimphazie\_15, Sneeze\_10,  
 SoSeph\_13, Sopespian\_10, Soul22\_10, Spock\_15, Spooky\_10, Squiddly\_11,  
 Stargaze\_10, SteamedHams\_12, Stinson\_15, Strobilo\_12, Sulley\_15,  
 SummitAcademy\_9, Sunflower1121\_13, Survivors\_12, SweatNTears\_12,  
 Sweets\_10, Syra333\_14, TBond007\_14, TClif\_14, TM4\_11, TPA4\_10, Tachez\_15,  
 Taheera\_10, TaiwanKao\_15, Taquito\_14, Terror\_10, Thyatira\_13, Tierra\_14,  
 TiniBug\_15, Tiri\_15, Tolls\_12, TomBrady\_10, Topper\_15, TreyKay\_15,  
 TripleTrouble\_13, Troje\_10, TruffulaTree\_15, Twitch\_15, Typhonmacy\_11,  
 Unicorn\_14, Urkel\_15, Validus\_15, Veliki\_15, Vine\_11, Volt\_43, Waterfoul\_13,  
 Whitney\_10, Wintermute\_16, Wrigley\_10, Ximenita\_15, Y10\_16, Y2\_16, Yakult\_11,  
 Yarn\_9, Yoshi\_10, YoureAdopted\_14, Yummy\_11, Yuna\_15, Yunkel11\_15,  
 Zabiza\_15, Zapner\_11, Zareef\_14, Zavala\_15, Ziko\_44, ZoMa\_10, ZoeJ\_11,  
 Zombie\_10,

### Summary by start number:

Start 30:

- Found in 62 of 626 ( 9.9% ) of genes in pham
- Manual Annotations of this start: 2 of 571
- Called 3.2% of time when present

- Phage (with cluster) where this start called: Taheera\_10 (G1), Terror\_10 (G1),

#### Start 46:

- Found in 4 of 626 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 571
- Called 25.0% of time when present
- Phage (with cluster) where this start called: NoShow\_10 (AB),

#### Start 47:

- Found in 5 of 626 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Zareef\_14 (CT),

#### Start 49:

- Found in 4 of 626 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 3 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Juicebox\_11 (singleton), Omnicron\_13 (K5), Rando14\_13 (K5), TPA4\_10 (singleton),

#### Start 50:

- Found in 10 of 626 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 9 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FF47\_12 (AB), Fryberger\_41 (DP), Guey18\_46 (DP), JacoRen57\_9 (AB), Keelan\_39 (DP), Maco6\_10 (AB), Muddy\_12 (AB), Ronaldo\_44 (DP), Volt\_43 (DP), Ziko\_44 (DP),

#### Start 51:

- Found in 64 of 626 ( 10.2% ) of genes in pham
- Manual Annotations of this start: 17 of 571
- Called 28.1% of time when present
- Phage (with cluster) where this start called: Annihilator\_10 (G1), Antsirabe\_10 (G5), Aroostook\_10 (G1), CLED96\_10 (G1), Cambiare\_11 (G2), Darionha\_10 (G1), Gideon\_10 (G1), Gomashi\_10 (G1), Jane\_10 (G1), Lemuria\_10 (G4), LouisV14\_10 (G1), Mercurio\_11 (G4), OctaviousRex\_10 (G1), Phreak\_10 (G1), Rabbs\_10 (G1), Remy19\_10 (G1), Stargaze\_10 (G5), Zombie\_10 (G1),

#### Start 53:

- Found in 195 of 626 ( 31.2% ) of genes in pham
- Manual Annotations of this start: 165 of 571
- Called 89.7% of time when present
- Phage (with cluster) where this start called: ActinUp\_15 (K1), Adephegia\_15 (K1), Adonis\_15 (K1), Agent47\_13 (K5), Ageofdapage\_15 (K1), AlishaPH\_15 (K1), AlleyCat\_13 (K5), Amgine\_13 (K6), Aminay\_13 (K7), Amohntion\_14 (K6), Angel\_10 (G1), Angelica\_15 (K1), Apocalypse\_15 (K1), Asayake\_15 (K1), Atiba\_15 (K1), Avocado\_10 (G2), Avrafan\_10 (G1), BEEST\_15 (K1), BGlluviae\_15 (K1), BPs\_10 (G1), BQuat\_10 (G1), BaghaKamala\_15 (K1), Barkley26\_10 (G1), BarrelRoll\_15 (K1), Beezoo\_15 (K1), Bella96\_15 (K1), Belladonna\_15 (K1), Blizzard\_15 (K1), Boiii\_15 (K1), BruceB\_10 (G1), CREW\_15 (K1), Camri\_10 (G1), Capricorn\_15 (K1), CaseJules\_15 (K1), CassieYates\_10 (G1), Cedasite\_10 (G1), Chance64\_10 (G1), CheetoDust\_15 (K1), Cherrybomb426\_10 (G1), Chris\_14 (K1), Coleslaw\_10 (G1),

Collard\_13 (K5), Crespo\_10 (G1), CrimD\_15 (K1), DMoney\_10 (G1), DNAIII\_0010 (G1), Dadosky\_13 (K5), Dalmuri\_15 (K1), DarthP\_14 (K6), Deby\_15 (K1), Devera\_15 (K1), Dole\_15 (K1), DrHayes\_15 (K1), Durfee\_15 (K1), ECartman\_10 (G1), Edugator\_12 (K5), Ekdilam\_12 (K6), Ellie\_12 (K6), Emerson\_15 (K1), Fefferhead\_14 (K6), Feyre\_13 (K5), FlagStaff\_10 (G2), Frosty24\_10 (G1), Ganymede\_15 (K1), Gengar\_13 (K5), Geraldini\_15 (K1), GoldenAsh\_10 (G1), Grizzly\_10 (G1), Guillsminger\_13 (K5), Halo\_10 (G1), Hammy\_14 (K6), HedwigODU\_15 (K1), Heftyboy\_13 (K5), Homura\_15 (K1), Hope\_10 (G1), Hotshotbaby7\_10 (G1), Hurricane\_14 (K3), Hyperbowlee\_15 (K1), Illumine\_15 (K1), Inky\_15 (K1), InvictusManeo\_13 (K5), JAWS\_15 (K1), Jarvi\_15 (K1), Jayhawk\_15 (K1), Jeckyll\_15 (K1), Jolene\_10 (G1), Jolie2\_10 (G4), Jonghyun\_10 (G1), JorRay\_10 (G1), Joy99\_15 (K1), Kareem\_10 (G1), Kasen3\_10 (G1), Keshu\_14 (K3), KiSi\_14 (K1), Kratio\_12 (K5), Larva\_13 (K5), LaterM\_15 (K1), LeMond\_14 (K1), Leston\_13 (K5), Liefie\_10 (G1), LindNT\_15 (K1), Llorens\_15 (K1), Lunahalos\_15 (K1), MOOREtheMARYer\_10 (G3), MacnCheese\_15 (K3), MarkPhew\_15 (K1), Marmie\_10 (G1), Marshawn\_16 (K6), MeaningOfLife\_15 (K1), Megsy\_15 (K1), Miryou\_13 (K5), Mowgli\_10 (G1), Murucutumbu\_15 (K1), Mynx\_15 (K1), Nibb\_14 (K1), OkiRoe\_13 (K5), Olga\_10 (G1), Oscar\_14 (K1), Pace1224\_10 (G2), Padfoot\_15 (K1), Padpat\_15 (K1), Paito\_10 (G1), Paola\_13 (K5), Peeb\_10 (G1), Peel\_15 (K1), Periodt\_10 (G1), Pharb\_14 (K3), Phish\_10 (G1), Piatt\_15 (K1), PinkYoshi\_10 (G1), Pinnie\_11 (G3), Pixie\_14 (K3), Plagueis\_10 (G1), Pokerus\_14 (K1), Prithvi\_15 (K1), Psycho\_13 (K5), QuincyRose\_14 (K1), Ramen\_15 (K1), Rapunzel97\_15 (K1), Renaissance\_10 (G1), Rosmarinus\_15 (K1), SamuelLPlaqson\_15 (K1), Scarlett\_14 (K1), Schiebel\_10 (G1), ShaboiShabazz\_10 (G1), ShedlockHolmes\_14 (K3), ShiaSurprise\_15 (K1), SirPhilip\_14 (K6), Sizemore\_10 (G1), Sleepyhead\_9 (singleton), Slimphazie\_15 (K1), Sneeze\_10 (G1), SoSeph\_13 (K5), Spock\_15 (K1), Stinson\_15 (K1), Sulley\_15 (K1), Sweets\_10 (G1), TBond007\_14 (K3), Tachez\_15 (K1), TaiwanKao\_15 (K1), Thyatira\_13 (K5), TiniBug\_15 (K1), Tiri\_15 (K1), TomBrady\_10 (G1), Topper\_15 (K1), TreyKay\_15 (K1), TribbleTrouble\_13 (K3), TruffulaTree\_15 (K1), Twitch\_15 (K1), Urkel\_15 (K1), Veliki\_15 (K1), Waterfoul\_13 (K5), YoureAdopted\_14 (K1), Zavala\_15 (K1), ZoMa\_10 (G1),

#### Start 54:

- Found in 17 of 626 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 17 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amelie\_11 (K1), Binglebops\_11 (K1), Curiosium\_16 (K1), Efra2\_15 (K1), Enkosi\_11 (K1), Guanica15\_15 (K1), LastHope\_15 (K1), LilPharaoh\_11 (K1), Mdavu\_11 (K1), Nikao\_11 (K1), Niklas\_15 (K1), Nutello\_11 (K1), Peanam\_15 (K1), SgtBeansprout\_11 (K1), Shaobing\_15 (K1), Validus\_15 (K1), Yunkel11\_15 (K1),

#### Start 55:

- Found in 43 of 626 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 41 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anaya\_16 (K1), BoostSeason\_11 (K2), Bryler\_14 (K6), Cain\_14 (K6), Chancellor\_16 (K4), Cheetobro\_16 (K4), DismalFunk\_11 (K2), DismalStressor\_11 (K2), Eponine\_16 (K4), Findley\_11 (K2), Fionnbharth\_16 (K4), JF1\_16 (K4), Juliette\_16 (K4), Krueger\_14 (K6), Malthus\_16 (K4), Marcoliusprime\_11 (K2), Milly\_11 (K2), MissDaisy\_16 (K4), Mitti\_16 (K4), Mufasa\_11 (K2), OmniCritical\_16 (K4), Patt\_16 (K4), PhelpsODU\_14 (K6), Phrank\_14 (K6), Reptar3000\_16 (K4), Ruthiejr\_15 (K4), SamScheppers\_14 (K4),

Shadow1\_13 (K6), Slarp\_16 (K4), Strobilo\_12 (K2), Sunflower1121\_13 (K6), Syra333\_14 (K6), TClif\_14 (K6), TM4\_11 (K2), Taquito\_14 (K4), Tierra\_14 (K6), Unicorn\_14 (K6), Wintermute\_16 (K4), Ximenita\_15 (K6), Y10\_16 (K4), Y2\_16 (K4), Yuna\_15 (K6), ZoeJ\_11 (K2),

Start 56:

- Found in 20 of 626 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 18 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Asapag\_10 (DN1), BENtherdunthat\_10 (DN1), Budski\_10 (DN), CheeseTouch\_10 (DN1), Frickyeah\_10 (DN1), Getalong\_10 (DN1), Holliday\_10 (DN1), Horus\_10 (DN1), Kamaru\_10 (DN1), Kenna\_10 (DN1), Leroy\_10 (DN1), LitninMcQueen\_10 (DN1), Lutum\_10 (DN1), Malisha\_10 (DN), Periwinkle\_10 (DN1), Phabuloso\_10 (DN1), Phistory\_10 (DN1), Spooky\_10 (DN2), Squiddly\_11 (DN2), Whitney\_10 (DN1),

Start 57:

- Found in 3 of 626 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ecliptus\_10 (DN), ODay\_10 (DN), P3MA\_10 (UNK),

Start 58:

- Found in 228 of 626 ( 36.4% ) of genes in pham
- Manual Annotations of this start: 207 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akhila\_9 (F1), Alexphander\_9 (F1), AlpineSix\_8 (F1), ArcusAngelus\_8 (F1), Ardmore\_8 (F1), Aubs\_8 (F1), Awesomesauce\_9 (F1), Batiatus\_8 (F1), Beakin\_9 (F1), BigPhil\_9 (F1), Bipolar\_8 (F1), Blexus\_8 (F1), BlueCrab\_8 (F1), BobaPhett\_8 (F1), Bobi\_9 (F1), BodEinwohner17\_8 (F1), Boomer\_9 (F1), Brocalys\_8 (F1), Bubbles123\_8 (F1), Burwell21\_8 (F1), BuzzLyseyear\_9 (F1), ByChance\_8 (F1), Byougenkin\_8 (F1), Cabrinians\_8 (F1), CaptainTrips\_9 (F1), Cerasum\_9 (F1), Che8\_8 (F1), Chevrolet\_7 (F1), ChickenDinner\_9 (F1), Chuckly\_8 (F1), Clifton\_8 (F1), Coco12\_9 (F1), Cornucopia\_9 (F1), Crumble\_8 (F1), DLane\_8 (F1), DRBy19\_8 (F1), DaWorst\_9 (F1), DaddyRickover\_8 (F1), Daenerys\_8 (F1), Dante\_8 (F1), DeadP\_8 (F1), Deb65\_8 (F1), DillTech15\_8 (F1), DirtMcgirt\_9 (F1), DocMcStuffins\_9 (F1), Donkeykong\_8 (F1), Doomphist\_8 (F1), Dorothy\_8 (F1), DotProduct\_8 (F1), Doug\_8 (F1), Drago\_9 (F1), Eish\_8 (F1), EleanorGeorge\_8 (F1), Emma\_8 (F1), Empress\_8 (F1), Enby\_9 (F1), Eradicator\_8 (F1), Estave1\_8 (F1), Fancypants\_8 (F1), Fastidio\_8 (F1), Filuzino\_8 (F1), Firehouse51\_8 (F1), Flathead\_9 (F1), Florinda\_8 (F1), Frankie\_9 (F1), FreddyB\_8 (F1), Fruitloop\_8 (F1), GUmbie\_8 (F1), Galactic\_8 (F1), Gandalph\_8 (F1), Geralt\_8 (F1), GigiOuiOui\_8 (F1), Girafales\_9 (F1), Girr\_8 (F1), Gorge\_8 (F1), Guppsters\_8 (F1), Hades\_8 (F1), Hamulus\_8 (F1), Harley\_8 (F1), Hegedechwinu\_9 (F1), Hlubikazi\_8 (F1), IbOuu\_8 (F1), Ibhubesi\_8 (F1), Inventum\_8 (F1), IrishSherpFalk\_8 (F1), JalFarm20\_9 (F1), James\_8 (F1), Jarcob\_8 (F1), Jinglebell\_8 (F1), Job42\_9 (F1), JoeyJr\_8 (F1), Juice456\_9 (F1), Juniper1\_8 (F1), Karhdo\_8 (F1), Kenuha5\_8 (F1), Kersh\_8 (F1), Kimberlium\_9 (F1), KingMidas\_8 (F1), Kingsley\_9 (F1), Koella\_8 (F1), Krakatau\_9 (F1), KristaRAM\_9 (F1), LastJedi\_8 (F1), Latretium\_8 (F1), Leozinho\_9 (F1), Leperchaun\_8 (F1), LilMoolah\_8 (F1), LittleShirley\_9 (F1), Lizziana\_8 (F1), Llama\_8 (F1), Llij\_8 (F1), Lorde\_9 (F1), LunaBlu\_8 (F1), LunaStella\_9 (F4), MadMen\_8 (F1), Madiba\_9 (F1), Mahavrat\_8

(F1), Mandlovu\_8 (F1), Mantra\_8 (F1), Maravista\_8 (F1), Marker\_9 (F1), Martik\_8 (F1), Mattes\_8 (F1), Melissauren88\_8 (F1), MilanaBonita\_9 (F1), MilleniumForce\_9 (F1), MinionDave\_9 (F1), Minnie\_8 (F1), Misha28\_9 (F1), MisterCuddles\_8 (F1), Modragons\_8 (F1), Moonbeam\_8 (F1), Mova\_9 (F1), Mozy\_9 (F1), Ms6\_8 (F1), MulchSalad\_8 (F1), Mutaforma13\_8 (F1), Nimbo\_8 (F1), Nitzel\_9 (F1), Nivrat\_8 (F1), NormanBulbieJr\_8 (F1), Ochi17\_8 (F1), OfUltron\_8 (F1), Ogopogo\_11 (F1), Oksu\_9 (F1), OldBen\_8 (F1), OlympiaSaint\_8 (F1), Ovechkin\_8 (F1), OwisT2W\_9 (F1), PHappiness\_8 (F1), PMC\_8 (F1), Pacc40\_8 (F1), Phalconet\_8 (F1), Phanphagia\_8 (F1), Phasih\_8 (F1), Phatniss\_8 (F1), PhesterPotato\_8 (F1), Philus\_8 (F1), Piper2020\_9 (F1), Pippy\_8 (F1), Plumbus\_9 (F1), Poenanya\_8 (F1), Polka14\_8 (F1), Pollywog\_9 (F1), PopTart\_8 (F1), Priscilla\_8 (F1), QuickMath\_8 (F1), Quico\_9 (F1), Radiance\_8 (F1), Ramsey\_9 (F1), RedBird\_8 (F1), Renaud18\_9 (F4), Rialto\_9 (F1), RitaG\_8 (F1), Rita\_8 (F1), Rockne\_8 (F1), RockyHorror\_9 (F1), Royals2015\_8 (F1), Ruby\_8 (F1), SG4\_8 (F1), Saal\_8 (F1), Sabbb\_8 (F1), Sandalphon\_8 (F1), Sarma624\_9 (F1), Sassafras\_8 (F1), SassyB\_8 (F1), Scottish\_8 (F1), Seabastian\_8 (F1), Seagreen\_9 (F1), Shauna1\_8 (F1), ShiLan\_8 (F1), ShowerHandel\_8 (F1), ShroomBoi\_8 (F1), SiSi\_8 (F1), SimranZ1\_9 (F1), Sparkdehlily\_8 (F1), Spartacus\_8 (F1), Spartoi\_8 (singleton), Spikelee\_9 (F1), Spoonbill\_8 (F1), Squirty\_9 (F3), StAnnes\_8 (F1), Stap\_9 (F1), Starcevich\_9 (F1), Strokeseat\_8 (F1), SuperGrey\_8 (F1), SwagPigglett\_8 (F1), TChen\_9 (F4), TDanisky\_8 (F1), Taj\_8 (F1), ThetaBob\_9 (F4), TootsiePop\_9 (F1), Tootsieroll\_9 (F1), Totinger\_9 (F1), Tweety\_8 (F1), UncleRicky\_9 (F1), VRedHorse\_8 (F1), Velveteen\_9 (F1), Veteran\_8 (F1), Wachhund\_8 (F1), Wee\_8 (F1), Whatsapiecost\_8 (F1), Whouxphf\_8 (F1), WillSterrel\_8 (F1), XFactor\_8 (F1), Yorick\_8 (F1), Zerg\_8 (F1), Zizzle\_8 (F1),

#### Start 59:

- Found in 37 of 626 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 35 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angelique\_10 (CY1), Apricot\_10 (DN3), Avani\_10 (F2), BearBQ\_10 (DN), BeeGee\_10 (CY), Birdsong\_10 (DN), Blarby\_11 (F), Bradissa\_10 (CY1), BritBrat\_10 (CY2), Cashline\_10 (CY), Che9d\_10 (F2), Confidence\_10 (CY1), Crater\_10 (DN3), Demsculpinboyz\_10 (F2), EMsquaredA\_10 (CY1), EnalisNailo\_10 (CY1), Floral\_10 (CY1), Gaia\_7 (X), Jabbawokkie\_11 (F2), Jablanski\_10 (CY), Kuwabara\_10 (DN4), LilSpotty\_9 (singleton), Lilas\_10 (CY1), LonelyBoi\_10 (CY), Lucky10\_9 (DH), Marteena\_10 (CY1), Morkie\_9 (DH), MortyNRick\_10 (DN), Nebkiss\_7 (X), PhorbessPhlower\_9 (DH), Pollux\_10 (CY1), Posh\_10 (CY), Pytheas\_10 (CY), Soul22\_10 (F2), Wrigley\_10 (CY), Yoshi\_10 (F2), Zapner\_11 (F2),

#### Start 60:

- Found in 2 of 626 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 2 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaileyBlu\_9 (FP), CallinAllBarbz\_9 (FP),

#### Start 61:

- Found in 61 of 626 ( 9.7% ) of genes in pham
- Manual Annotations of this start: 48 of 571
- Called 98.4% of time when present
- Phage (with cluster) where this start called: Agatha\_10 (CT), AikoCarson\_9 (CT), Amok\_9 (CT), AndPeggy\_9 (CT), Axym\_10 (CT), Azira\_12 (CT), BigChungus\_9 (CT), BillDoor\_12 (CT), Biskit\_11 (CT), Burnsey\_10 (CT), Button\_11 (CT),

Buttrmlkdreams\_10 (CT), CherryonLim\_11 (CT), Cleo\_10 (CT), Cozz\_10 (CT), Dre3\_10 (CT), Elinal\_11 (CT), Elliott\_10 (CT), Emalyn\_9 (CT), Feastonyeet\_9 (CT), Fribs8\_11 (CT), GTE2\_08 (CT), GiKK\_13 (CT), Gibbous\_10 (CT), GoldHunter\_11 (CT), Hexbug\_12 (CT), HippoPololi\_12 (CT), Horseradish\_11 (CT), Jamzy\_13 (CT), KayGee\_9 (CT), Lauer\_9 (CT), MAnor\_10 (CT), MScarn\_12 (CT), MaVan\_12 (CT), Margaret\_13 (CT), Mayweather\_11 (CT), MunkgeeRoachy\_11 (CT), Nibbles\_12 (CT), Nina\_11 (CT), Nodigi\_12 (CT), Orla\_12 (CT), Pons\_10 (CT), PotPie\_11 (CT), PsychoKiller\_10 (CT), Quasar\_10 (CT), RedBaron\_11 (CT), SheckWes\_9 (CT), SketchMex\_9 (CT), Sopeopian\_10 (CT), SteamedHams\_12 (CT), SummitAcademy\_9 (CT), Survivors\_12 (CT), SweatNTears\_12 (CT), Tolls\_12 (CT), Troje\_10 (CT), Typhonomachy\_11 (CT), Vine\_11 (CT), Yakult\_11 (CT), Yarn\_9 (CT), Yummy\_11 (CT),

#### Start 62:

- Found in 2 of 626 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 571
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Boilgate\_12 (K8),

#### Start 63:

- Found in 1 of 626 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 571
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DS6A\_13 (singleton),

#### Start 64:

- Found in 3 of 626 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 571
- Called 66.7% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_16 (AG), Nergal\_14 (AG),

#### Start 68:

- Found in 429 of 626 ( 68.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.2% of time when present
- Phage (with cluster) where this start called: Zabiza\_15 (K1),

### Summary by clusters:

There are 35 clusters represented in this pham: DN, FP, singleton, DH, K3, K2, K1, K7, K6, K5, K4, K8, DP, G5, G4, G3, G2, G1, DN4, DN1, DN3, DN2, CY2, CY1, AB, AG, F, CY, X, UNK, CT, F1, F2, F3, F4,

#### Info for manual annotations of cluster AB:

- Start number 46 was manually annotated 1 time for cluster AB.
- Start number 50 was manually annotated 3 times for cluster AB.

#### Info for manual annotations of cluster AG:

- Start number 64 was manually annotated 2 times for cluster AG.

#### Info for manual annotations of cluster CT:

- Start number 61 was manually annotated 48 times for cluster CT.



Info for manual annotations of cluster CY:

- Start number 59 was manually annotated 7 times for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 59 was manually annotated 9 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 59 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster DH:

- Start number 59 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster DN:

- Start number 56 was manually annotated 2 times for cluster DN.
- Start number 57 was manually annotated 2 times for cluster DN.
- Start number 59 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 56 was manually annotated 14 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 56 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 59 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 59 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DP:

- Start number 50 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster F1:

- Start number 58 was manually annotated 202 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 59 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 58 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 58 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster FP:

- Start number 60 was manually annotated 2 times for cluster FP.

Info for manual annotations of cluster G1:

- Start number 30 was manually annotated 2 times for cluster G1.
- Start number 51 was manually annotated 13 times for cluster G1.
- Start number 53 was manually annotated 43 times for cluster G1.

Info for manual annotations of cluster G2:

- Start number 51 was manually annotated 1 time for cluster G2.
- Start number 53 was manually annotated 2 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 53 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 51 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 51 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster K1:

- Start number 53 was manually annotated 81 times for cluster K1.
- Start number 54 was manually annotated 17 times for cluster K1.
- Start number 55 was manually annotated 1 time for cluster K1.

Info for manual annotations of cluster K2:

- Start number 55 was manually annotated 9 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 53 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 55 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 49 was manually annotated 2 times for cluster K5.
- Start number 53 was manually annotated 18 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 53 was manually annotated 9 times for cluster K6.
- Start number 55 was manually annotated 12 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 53 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 62 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster X:

- Start number 59 was manually annotated 2 times for cluster X.

**Gene Information:**

Gene: ActinUp\_15 Start: 9364, Stop: 9720, Start Num: 53

Candidate Starts for ActinUp\_15:

(Start: 53 @9364 has 165 MA's), (68, 9388), (89, 9466), (91, 9469), (94, 9478), (124, 9547), (153, 9616), (168, 9676), (176, 9691),

Gene: Adephagia\_15 Start: 9364, Stop: 9720, Start Num: 53

Candidate Starts for Adephagia\_15:

(Start: 53 @9364 has 165 MA's), (68, 9388), (89, 9466), (91, 9469), (94, 9478), (124, 9547), (153, 9616), (168, 9676), (176, 9691),

Gene: Adonis\_15 Start: 9373, Stop: 9729, Start Num: 53

Candidate Starts for Adonis\_15:

(Start: 53 @9373 has 165 MA's), (68, 9397), (91, 9478), (94, 9487), (124, 9556), (153, 9625), (168, 9685), (176, 9700),

Gene: Agatha\_10 Start: 6923, Stop: 7264, Start Num: 61

Candidate Starts for Agatha\_10:

(Start: 61 @6923 has 48 MA's), (66, 6932), (79, 6992), (118, 7085), (156, 7187),

Gene: Agent47\_13 Start: 9561, Stop: 9923, Start Num: 53

Candidate Starts for Agent47\_13:

(Start: 53 @9561 has 165 MA's), (68, 9582), (75, 9606), (91, 9663), (124, 9741), (139, 9777), (153, 9810), (168, 9870), (176, 9885),

Gene: Ageofdapage\_15 Start: 9294, Stop: 9650, Start Num: 53

Candidate Starts for Ageofdapage\_15:

(Start: 53 @9294 has 165 MA's), (68, 9318), (91, 9399), (102, 9441), (124, 9477), (153, 9546), (168, 9606),

Gene: AikoCarson\_9 Start: 6653, Stop: 6994, Start Num: 61

Candidate Starts for AikoCarson\_9:

(Start: 61 @6653 has 48 MA's), (119, 6818), (156, 6917), (173, 6974),

Gene: Akhila\_9 Start: 7094, Stop: 7426, Start Num: 58

Candidate Starts for Akhila\_9:

(Start: 58 @7094 has 207 MA's), (68, 7118), (73, 7136), (81, 7175), (87, 7196), (93, 7211), (97, 7229), (103, 7247), (117, 7271), (123, 7283), (125, 7289), (131, 7301), (132, 7307), (150, 7337), (160, 7370),

Gene: Alexphander\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Alexphander\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: AlishaPH\_15 Start: 9363, Stop: 9719, Start Num: 53

Candidate Starts for AlishaPH\_15:

(Start: 53 @9363 has 165 MA's), (68, 9387), (91, 9468), (94, 9477), (124, 9546), (153, 9615), (168, 9675), (176, 9690),

Gene: AlleyCat\_13 Start: 9439, Stop: 9801, Start Num: 53

Candidate Starts for AlleyCat\_13:

(Start: 53 @9439 has 165 MA's), (75, 9484), (91, 9541), (100, 9577), (102, 9583), (116, 9601), (124, 9619), (153, 9688), (168, 9748), (176, 9763),

Gene: AlpineSix\_8 Start: 6442, Stop: 6771, Start Num: 58

Candidate Starts for AlpineSix\_8:

(7, 6172), (21, 6349), (Start: 58 @6442 has 207 MA's), (68, 6466), (77, 6505), (84, 6538), (90, 6550), (95, 6571), (97, 6577), (98, 6580), (104, 6598), (123, 6631), (131, 6649), (132, 6655), (150, 6685), (153, 6694), (160, 6718), (165, 6745), (167, 6748), (176, 6766),

Gene: Amelie\_11 Start: 8651, Stop: 9004, Start Num: 54

Candidate Starts for Amelie\_11:

(Start: 54 @8651 has 17 MA's), (68, 8672), (94, 8762), (116, 8813), (119, 8819), (124, 8831), (151, 8891), (153, 8900), (168, 8960), (176, 8975), (177, 8978),

Gene: Amgine\_13 Start: 8999, Stop: 9385, Start Num: 53

Candidate Starts for Amgine\_13:

(Start: 53 @8999 has 165 MA's), (73, 9038), (91, 9101), (124, 9179), (153, 9248), (177, 9326),

Gene: Aminay\_13 Start: 9263, Stop: 9607, Start Num: 53

Candidate Starts for Aminay\_13:

(Start: 53 @9263 has 165 MA's), (91, 9365), (127, 9449), (153, 9512), (172, 9578),

Gene: Amohnition\_14 Start: 9299, Stop: 9697, Start Num: 53

Candidate Starts for Amohnition\_14:

(Start: 53 @9299 has 165 MA's), (73, 9338), (124, 9479), (153, 9548), (168, 9608), (176, 9623), (177, 9626),

Gene: Amok\_9 Start: 6653, Stop: 6994, Start Num: 61

Candidate Starts for Amok\_9:

(Start: 61 @6653 has 48 MA's), (119, 6818), (156, 6917), (173, 6974),

Gene: Anaya\_16 Start: 9368, Stop: 9721, Start Num: 55

Candidate Starts for Anaya\_16:

(34, 9323), (Start: 53 @9365 has 165 MA's), (Start: 55 @9368 has 41 MA's), (68, 9389), (91, 9470), (124, 9548), (153, 9617), (168, 9677), (176, 9692),

Gene: AndPeggy\_9 Start: 6941, Stop: 7282, Start Num: 61

Candidate Starts for AndPeggy\_9:

(Start: 61 @6941 has 48 MA's), (119, 7106), (170, 7256), (173, 7262),

Gene: Angel\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Angel\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Angelica\_15 Start: 9335, Stop: 9691, Start Num: 53

Candidate Starts for Angelica\_15:

(Start: 53 @9335 has 165 MA's), (68, 9359), (91, 9440), (94, 9449), (124, 9518), (153, 9587), (168, 9647), (176, 9662),

Gene: Angelique\_10 Start: 7476, Stop: 7823, Start Num: 59

Candidate Starts for Angelique\_10:

(31, 7398), (Start: 59 @7476 has 35 MA's), (85, 7572), (91, 7584), (125, 7668), (149, 7731), (173, 7803),

Gene: Annihilator\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for Annihilator\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Antsirabe\_10 Start: 9102, Stop: 9464, Start Num: 51

Candidate Starts for Antsirabe\_10:

(11, 8934), (26, 9039), (Start: 51 @9102 has 17 MA's), (78, 9183), (118, 9282), (124, 9297), (139, 9333), (167, 9423), (176, 9441),

Gene: Apocalypse\_15 Start: 9339, Stop: 9695, Start Num: 53

Candidate Starts for Apocalypse\_15:

(Start: 53 @9339 has 165 MA's), (68, 9363), (89, 9441), (91, 9444), (94, 9453), (124, 9522), (153, 9591), (168, 9651), (176, 9666),

Gene: Apricot\_10 Start: 6791, Stop: 7132, Start Num: 59

Candidate Starts for Apricot\_10:

(32, 6716), (45, 6758), (Start: 59 @6791 has 35 MA's), (68, 6812), (76, 6842), (118, 6956), (119, 6959), (121, 6965), (127, 6977), (153, 7043), (173, 7112), (175, 7118), (176, 7121),

Gene: ArcusAngelus\_8 Start: 6436, Stop: 6768, Start Num: 58

Candidate Starts for ArcusAngelus\_8:

(Start: 58 @6436 has 207 MA's), (68, 6460), (73, 6478), (87, 6538), (93, 6553), (103, 6589), (117, 6613), (123, 6625), (125, 6631), (131, 6643), (132, 6649), (150, 6679), (160, 6712),

Gene: Ardmore\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Ardmore\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Aroostook\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for Aroostook\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Asapag\_10 Start: 6480, Stop: 6827, Start Num: 56

Candidate Starts for Asapag\_10:

(43, 6444), (Start: 56 @6480 has 18 MA's), (71, 6519), (79, 6561), (106, 6633), (118, 6654), (119, 6657), (134, 6690), (146, 6717), (151, 6735), (164, 6786), (170, 6801), (173, 6807), (176, 6816),

Gene: Asayake\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Asayake\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Atiba\_15 Start: 9327, Stop: 9683, Start Num: 53

Candidate Starts for Atiba\_15:

(Start: 53 @9327 has 165 MA's), (68, 9351), (91, 9432), (94, 9441), (124, 9510), (153, 9579), (168, 9639), (176, 9654),

Gene: Aubs\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Aubs\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722), (176, 6770),

Gene: Avani\_10 Start: 6438, Stop: 6791, Start Num: 59

Candidate Starts for Avani\_10:

(40, 6387), (41, 6393), (Start: 59 @6438 has 35 MA's), (70, 6468), (80, 6519), (119, 6624), (127, 6642), (143, 6675), (170, 6765),

Gene: Avocado\_10 Start: 8948, Stop: 9304, Start Num: 53

Candidate Starts for Avocado\_10:

(1, 8579), (11, 8780), (Start: 30 @8888 has 2 MA's), (42, 8921), (Start: 51 @8945 has 17 MA's), (Start: 53 @8948 has 165 MA's), (78, 9026), (124, 9140), (153, 9209), (167, 9266),

Gene: Avrafan\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Avrafan\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Awesomesauce\_9 Start: 6299, Stop: 6628, Start Num: 58

Candidate Starts for Awesomesauce\_9:

(Start: 58 @6299 has 207 MA's), (68, 6323), (77, 6362), (84, 6395), (95, 6428), (97, 6434), (98, 6437), (104, 6455), (123, 6488), (131, 6506), (132, 6512), (139, 6524), (150, 6542), (153, 6551), (160, 6575), (164, 6593), (165, 6602), (167, 6605), (176, 6623),

Gene: Axym\_10 Start: 6923, Stop: 7264, Start Num: 61

Candidate Starts for Axym\_10:

(Start: 61 @6923 has 48 MA's), (66, 6932), (79, 6992), (118, 7085), (156, 7187),

Gene: Azira\_12 Start: 7820, Stop: 8170, Start Num: 61

Candidate Starts for Azira\_12:

(37, 7760), (47, 7796), (Start: 61 @7820 has 48 MA's), (68, 7838), (75, 7862), (79, 7889), (118, 7985), (124, 8000), (138, 8030), (153, 8084), (168, 8141),

Gene: BEEST\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for BEEST\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: BENtherdunthat\_10 Start: 6480, Stop: 6827, Start Num: 56

Candidate Starts for BENtherdunthat\_10:

(43, 6444), (Start: 56 @6480 has 18 MA's), (71, 6519), (79, 6561), (106, 6633), (118, 6654), (119, 6657), (134, 6690), (146, 6717), (151, 6735), (164, 6786), (170, 6801), (173, 6807), (176, 6816),

Gene: BGlluviae\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for BGlluviae\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: BPs\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for BPs\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: BQuat\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for BQuat\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: BaghaKamala\_15 Start: 9330, Stop: 9686, Start Num: 53

Candidate Starts for BaghaKamala\_15:

(Start: 53 @9330 has 165 MA's), (68, 9354), (89, 9432), (91, 9435), (94, 9444), (124, 9513), (153, 9582), (168, 9642), (176, 9657),

Gene: BaileyBlu\_9 Start: 6175, Stop: 6513, Start Num: 60

Candidate Starts for BaileyBlu\_9:

(Start: 53 @6163 has 165 MA's), (Start: 60 @6175 has 2 MA's), (87, 6277), (101, 6322), (108, 6340), (113, 6346), (130, 6376),

Gene: Barkley26\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Barkley26\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: BarrelRoll\_15 Start: 9356, Stop: 9712, Start Num: 53

Candidate Starts for BarrelRoll\_15:

(Start: 53 @9356 has 165 MA's), (68, 9380), (91, 9461), (124, 9539), (140, 9578), (153, 9608), (168, 9668), (176, 9683),

Gene: Batiatus\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Batiatus\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Beakin\_9 Start: 6299, Stop: 6628, Start Num: 58

Candidate Starts for Beakin\_9:

(Start: 58 @6299 has 207 MA's), (68, 6323), (77, 6362), (84, 6395), (90, 6407), (95, 6428), (97, 6434), (98, 6437), (104, 6455), (123, 6488), (131, 6506), (132, 6512), (139, 6524), (150, 6542), (153, 6551), (160, 6575), (165, 6602), (167, 6605), (176, 6623),

Gene: BearBQ\_10 Start: 6791, Stop: 7132, Start Num: 59

Candidate Starts for BearBQ\_10:

(32, 6716), (45, 6758), (Start: 59 @6791 has 35 MA's), (68, 6812), (76, 6842), (118, 6956), (119, 6959), (121, 6965), (127, 6977), (153, 7043), (173, 7112), (175, 7118), (176, 7121),

Gene: BeeGee\_10 Start: 7478, Stop: 7825, Start Num: 59

Candidate Starts for BeeGee\_10:

(31, 7400), (Start: 59 @7478 has 35 MA's), (91, 7586), (149, 7733), (173, 7805),

Gene: Beezoo\_15 Start: 9384, Stop: 9740, Start Num: 53

Candidate Starts for Beezoo\_15:

(Start: 53 @9384 has 165 MA's), (68, 9408), (89, 9486), (91, 9489), (94, 9498), (124, 9567), (153, 9636), (168, 9696), (176, 9711),

Gene: Bella96\_15 Start: 9285, Stop: 9641, Start Num: 53

Candidate Starts for Bella96\_15:

(Start: 53 @9285 has 165 MA's), (68, 9309), (91, 9390), (124, 9468), (153, 9537), (168, 9597), (176, 9612),

Gene: Belladonna\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Belladonna\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: BigChungus\_9 Start: 6720, Stop: 7061, Start Num: 61

Candidate Starts for BigChungus\_9:

(Start: 61 @6720 has 48 MA's), (73, 6756), (74, 6759), (116, 6879), (123, 6894), (173, 7041),

Gene: BigPhil\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for BigPhil\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Biglebops\_11 Start: 8651, Stop: 9004, Start Num: 54

Candidate Starts for Biglebops\_11:

(Start: 54 @8651 has 17 MA's), (68, 8672), (94, 8762), (116, 8813), (119, 8819), (124, 8831), (151, 8891), (153, 8900), (168, 8960), (176, 8975), (177, 8978),

Gene: BillDoor\_12 Start: 6906, Stop: 7247, Start Num: 61

Candidate Starts for BillDoor\_12:

(Start: 61 @6906 has 48 MA's), (119, 7071), (170, 7221), (173, 7227),

Gene: Bipolar\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Bipolar\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Birdsong\_10 Start: 6791, Stop: 7132, Start Num: 59

Candidate Starts for Birdsong\_10:

(32, 6716), (45, 6758), (Start: 59 @6791 has 35 MA's), (68, 6812), (76, 6842), (118, 6956), (119, 6959), (121, 6965), (127, 6977), (153, 7043), (173, 7112), (175, 7118), (176, 7121),

Gene: Biskit\_11 Start: 6907, Stop: 7248, Start Num: 61

Candidate Starts for Biskit\_11:

(Start: 61 @6907 has 48 MA's), (95, 7030), (156, 7171), (170, 7222), (173, 7228),

Gene: Blarby\_11 Start: 6962, Stop: 7315, Start Num: 59

Candidate Starts for Blarby\_11:

(40, 6911), (41, 6917), (Start: 59 @6962 has 35 MA's), (70, 6992), (80, 7043), (119, 7148), (127, 7166), (143, 7199), (170, 7289),

Gene: Blexus\_8 Start: 6459, Stop: 6788, Start Num: 58

Candidate Starts for Blexus\_8:

(7, 6189), (21, 6366), (Start: 58 @6459 has 207 MA's), (68, 6483), (77, 6522), (84, 6555), (90, 6567), (95, 6588), (97, 6594), (98, 6597), (104, 6615), (123, 6648), (131, 6666), (132, 6672), (139, 6684), (150, 6702), (153, 6711), (160, 6735), (165, 6762), (167, 6765), (176, 6783),

Gene: Blizzard\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Blizzard\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),



Gene: BlueCrab\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for BlueCrab\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: BobaPhett\_8 Start: 6435, Stop: 6764, Start Num: 58

Candidate Starts for BobaPhett\_8:

(7, 6165), (21, 6342), (Start: 58 @6435 has 207 MA's), (68, 6459), (77, 6498), (84, 6531), (90, 6543), (95, 6564), (97, 6570), (98, 6573), (104, 6591), (123, 6624), (131, 6642), (132, 6648), (150, 6678), (153, 6687), (160, 6711), (165, 6738), (167, 6741), (176, 6759),

Gene: Bobi\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Bobi\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (117, 6473), (123, 6485), (131, 6503), (132, 6509), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: BodEinwohner17\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for BodEinwohner17\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Boiiii\_15 Start: 9406, Stop: 9762, Start Num: 53

Candidate Starts for Boiiii\_15:

(Start: 53 @9406 has 165 MA's), (68, 9430), (91, 9511), (124, 9589), (140, 9628), (153, 9658), (168, 9718), (176, 9733),

Gene: Boilgate\_12 Start: 9365, Stop: 9724, Start Num: 62

Candidate Starts for Boilgate\_12:

(Start: 62 @9365 has 1 MA's), (65, 9374), (77, 9425), (91, 9473), (139, 9596), (159, 9650), (172, 9695),

Gene: Boomer\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Boomer\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: BoostSeason\_11 Start: 7354, Stop: 7704, Start Num: 55

Candidate Starts for BoostSeason\_11:

(Start: 55 @7354 has 41 MA's), (69, 7378), (73, 7393), (77, 7414), (91, 7456), (94, 7465), (95, 7477), (124, 7534), (125, 7537), (153, 7603), (168, 7663), (172, 7669), (176, 7678),

Gene: Bradissa\_10 Start: 7482, Stop: 7829, Start Num: 59

Candidate Starts for Bradissa\_10:

(Start: 59 @7482 has 35 MA's), (91, 7590), (149, 7737), (173, 7809),

Gene: BritBrat\_10 Start: 7484, Stop: 7831, Start Num: 59

Candidate Starts for BritBrat\_10:

(Start: 59 @7484 has 35 MA's), (91, 7592), (149, 7739), (173, 7811),

Gene: Brocalys\_8 Start: 6432, Stop: 6761, Start Num: 58

Candidate Starts for Brocalys\_8:

(7, 6162), (21, 6339), (Start: 58 @6432 has 207 MA's), (68, 6456), (77, 6495), (84, 6528), (90, 6540), (95, 6561), (97, 6567), (98, 6570), (104, 6588), (123, 6621), (131, 6639), (132, 6645), (139, 6657), (150, 6675), (153, 6684), (160, 6708), (165, 6735), (167, 6738), (176, 6756),

Gene: BruceB\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for BruceB\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Bryler\_14 Start: 8315, Stop: 8668, Start Num: 55

Candidate Starts for Bryler\_14:

(Start: 55 @8315 has 41 MA's), (100, 8453), (116, 8477), (124, 8495), (153, 8564), (168, 8624), (176, 8639),

Gene: Bubbles123\_8 Start: 6462, Stop: 6791, Start Num: 58

Candidate Starts for Bubbles123\_8:

(7, 6192), (21, 6369), (Start: 58 @6462 has 207 MA's), (68, 6486), (77, 6525), (84, 6558), (95, 6591), (97, 6597), (98, 6600), (104, 6618), (123, 6651), (131, 6669), (132, 6675), (139, 6687), (150, 6705), (153, 6714), (160, 6738), (165, 6765), (167, 6768), (176, 6786),

Gene: Budski\_10 Start: 6485, Stop: 6832, Start Num: 56

Candidate Starts for Budski\_10:

(43, 6449), (Start: 56 @6485 has 18 MA's), (71, 6524), (118, 6659), (119, 6662), (134, 6695), (151, 6740), (164, 6791), (170, 6806), (176, 6821),

Gene: Burnsey\_10 Start: 6924, Stop: 7265, Start Num: 61

Candidate Starts for Burnsey\_10:

(Start: 61 @6924 has 48 MA's), (66, 6933), (79, 6993), (118, 7086), (156, 7188),

Gene: Burwell21\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Burwell21\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (164, 6737), (165, 6746), (167, 6749), (176, 6767),

Gene: Button\_11 Start: 6943, Stop: 7281, Start Num: 61

Candidate Starts for Button\_11:

(27, 6853), (28, 6856), (31, 6862), (Start: 61 @6943 has 48 MA's), (125, 7123), (133, 7138), (144, 7162), (146, 7168), (173, 7261),

Gene: Buttrmlkdreams\_10 Start: 6901, Stop: 7242, Start Num: 61

Candidate Starts for Buttrmlkdreams\_10:

(Start: 61 @6901 has 48 MA's), (95, 7024), (156, 7165), (170, 7216), (173, 7222),

Gene: BuzzLyseyear\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for BuzzLyseyear\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (77, 6358), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (117, 6472), (123, 6484), (131, 6502), (132, 6508), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: ByChance\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for ByChance\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (90, 6553), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (165, 6748), (167, 6751), (176, 6769),

Gene: Byougenkin\_8 Start: 6433, Stop: 6762, Start Num: 58

Candidate Starts for Byougenkin\_8:

(Start: 58 @6433 has 207 MA's), (68, 6457), (77, 6496), (84, 6529), (90, 6541), (95, 6562), (97, 6568), (98, 6571), (104, 6589), (123, 6622), (131, 6640), (132, 6646), (139, 6658), (150, 6676), (153, 6685), (160, 6709), (165, 6736), (167, 6739), (176, 6757),

Gene: CLED96\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for CLED96\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: CREW\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for CREW\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Cabrinians\_8 Start: 6435, Stop: 6764, Start Num: 58

Candidate Starts for Cabrinians\_8:

(7, 6165), (21, 6342), (Start: 58 @6435 has 207 MA's), (68, 6459), (77, 6498), (84, 6531), (90, 6543), (95, 6564), (97, 6570), (98, 6573), (104, 6591), (123, 6624), (131, 6642), (132, 6648), (139, 6660), (150, 6678), (153, 6687), (160, 6711), (165, 6738), (167, 6741), (176, 6759),

Gene: Cain\_14 Start: 8303, Stop: 8656, Start Num: 55

Candidate Starts for Cain\_14:

(Start: 55 @8303 has 41 MA's), (100, 8441), (116, 8465), (124, 8483), (153, 8552), (168, 8612), (176, 8627),

Gene: CallinAllBarbz\_9 Start: 6185, Stop: 6523, Start Num: 60

Candidate Starts for CallinAllBarbz\_9:

(Start: 53 @6173 has 165 MA's), (Start: 60 @6185 has 2 MA's), (84, 6281), (87, 6287), (101, 6332), (108, 6350), (113, 6356), (130, 6386),

Gene: Cambiare\_11 Start: 9407, Stop: 9766, Start Num: 51

Candidate Starts for Cambiare\_11:

(1, 9041), (11, 9242), (Start: 30 @9350 has 2 MA's), (42, 9383), (Start: 51 @9407 has 17 MA's), (Start: 53 @9410 has 165 MA's), (78, 9488), (124, 9602), (153, 9671), (167, 9728),

Gene: Camri\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Camri\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Capricorn\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Capricorn\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: CaptainTrips\_9 Start: 7094, Stop: 7426, Start Num: 58

Candidate Starts for CaptainTrips\_9:

(Start: 58 @7094 has 207 MA's), (68, 7118), (73, 7136), (81, 7175), (87, 7196), (93, 7211), (97, 7229), (103, 7247), (117, 7271), (125, 7289), (131, 7301), (132, 7307), (150, 7337), (160, 7370),

Gene: CaseJules\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for CaseJules\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Cashline\_10 Start: 7331, Stop: 7678, Start Num: 59

Candidate Starts for Cashline\_10:

(31, 7253), (Start: 59 @7331 has 35 MA's), (85, 7427), (91, 7439), (125, 7523), (173, 7658),

Gene: CassieYates\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for CassieYates\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Cedasite\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Cedasite\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Cerasum\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for Cerasum\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Chance64\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Chance64\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Chancellor\_16 Start: 10621, Stop: 10977, Start Num: 55

Candidate Starts for Chancellor\_16:

(Start: 55 @10621 has 41 MA's), (91, 10735), (127, 10819), (139, 10849), (153, 10882), (157, 10894), (172, 10948),

Gene: Che8\_8 Start: 6447, Stop: 6776, Start Num: 58

Candidate Starts for Che8\_8:

(Start: 58 @6447 has 207 MA's), (68, 6471), (77, 6510), (84, 6543), (95, 6576), (97, 6582), (98, 6585), (104, 6603), (123, 6636), (131, 6654), (132, 6660), (139, 6672), (150, 6690), (153, 6699), (160, 6723), (165, 6750), (167, 6753), (176, 6771),

Gene: Che9d\_10 Start: 6447, Stop: 6800, Start Num: 59

Candidate Starts for Che9d\_10:

(40, 6396), (41, 6402), (Start: 59 @6447 has 35 MA's), (70, 6477), (80, 6528), (119, 6633), (127, 6651), (143, 6684), (170, 6774),

Gene: CheeseTouch\_10 Start: 6485, Stop: 6832, Start Num: 56

Candidate Starts for CheeseTouch\_10:

(43, 6449), (Start: 56 @6485 has 18 MA's), (71, 6524), (118, 6659), (119, 6662), (134, 6695), (151, 6740), (164, 6791), (170, 6806), (176, 6821),

Gene: CheetoDust\_15 Start: 9381, Stop: 9737, Start Num: 53

Candidate Starts for CheetoDust\_15:

(Start: 53 @9381 has 165 MA's), (68, 9405), (89, 9483), (91, 9486), (94, 9495), (124, 9564), (153, 9633), (168, 9693), (176, 9708),

Gene: Cheetobro\_16 Start: 10621, Stop: 10977, Start Num: 55

Candidate Starts for Cheetobro\_16:

(Start: 55 @10621 has 41 MA's), (91, 10735), (127, 10819), (139, 10849), (153, 10882), (157, 10894), (172, 10948),

Gene: Cherrybomb426\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Cherrybomb426\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: CherryonLim\_11 Start: 7446, Stop: 7787, Start Num: 61

Candidate Starts for CherryonLim\_11:

(Start: 61 @7446 has 48 MA's), (73, 7482), (116, 7605), (123, 7620), (145, 7668), (173, 7767),

Gene: Chevrolet\_7 Start: 6436, Stop: 6768, Start Num: 58

Candidate Starts for Chevrolet\_7:

(Start: 58 @6436 has 207 MA's), (68, 6460), (73, 6478), (87, 6538), (93, 6553), (103, 6589), (117, 6613), (123, 6625), (125, 6631), (131, 6643), (132, 6649), (150, 6679), (160, 6712),

Gene: ChickenDinner\_9 Start: 6299, Stop: 6628, Start Num: 58

Candidate Starts for ChickenDinner\_9:

(Start: 58 @6299 has 207 MA's), (68, 6323), (77, 6362), (84, 6395), (90, 6407), (95, 6428), (97, 6434), (98, 6437), (104, 6455), (117, 6476), (123, 6488), (131, 6506), (132, 6512), (139, 6524), (150, 6542), (153, 6551), (160, 6575), (165, 6602), (167, 6605), (176, 6623),

Gene: Chris\_14 Start: 8298, Stop: 8651, Start Num: 53

Candidate Starts for Chris\_14:

(Start: 53 @8298 has 165 MA's), (68, 8319), (73, 8337), (78, 8367), (92, 8403), (116, 8460), (124, 8478), (125, 8481), (140, 8517), (153, 8547), (168, 8607), (176, 8622),

Gene: Chuckly\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Chuckly\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Cleo\_10 Start: 7123, Stop: 7470, Start Num: 61

Candidate Starts for Cleo\_10:

(Start: 61 @7123 has 48 MA's), (118, 7285), (124, 7300), (125, 7303), (153, 7384),

Gene: Clifton\_8 Start: 6431, Stop: 6760, Start Num: 58

Candidate Starts for Clifton\_8:

(7, 6161), (21, 6338), (Start: 58 @6431 has 207 MA's), (68, 6455), (77, 6494), (84, 6527), (90, 6539), (95, 6560), (97, 6566), (98, 6569), (104, 6587), (123, 6620), (131, 6638), (132, 6644), (139, 6656), (150, 6674), (153, 6683), (160, 6707), (165, 6734), (167, 6737), (176, 6755),

Gene: Coco12\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Coco12\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Coleslaw\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Coleslaw\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Collard\_13 Start: 9522, Stop: 9884, Start Num: 53

Candidate Starts for Collard\_13:

(Start: 53 @9522 has 165 MA's), (68, 9543), (75, 9567), (91, 9624), (124, 9702), (139, 9738), (153, 9771), (168, 9831), (176, 9846),

Gene: Confidence\_10 Start: 7478, Stop: 7825, Start Num: 59

Candidate Starts for Confidence\_10:

(Start: 59 @7478 has 35 MA's), (91, 7586), (149, 7733), (173, 7805),

Gene: Cornucopia\_9 Start: 6296, Stop: 6628, Start Num: 58

Candidate Starts for Cornucopia\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (73, 6338), (81, 6377), (87, 6398), (97, 6431), (103, 6449), (117, 6473), (123, 6485), (125, 6491), (131, 6503), (132, 6509), (150, 6539), (160, 6572),

Gene: Cozz\_10 Start: 6924, Stop: 7265, Start Num: 61

Candidate Starts for Cozz\_10:

(Start: 61 @6924 has 48 MA's), (66, 6933), (79, 6993), (118, 7086), (156, 7188),

Gene: Crater\_10 Start: 6791, Stop: 7132, Start Num: 59

Candidate Starts for Crater\_10:

(32, 6716), (45, 6758), (Start: 59 @6791 has 35 MA's), (68, 6812), (76, 6842), (118, 6956), (119, 6959), (121, 6965), (127, 6977), (153, 7043), (173, 7112), (175, 7118), (176, 7121),

Gene: Crespo\_10 Start: 8812, Stop: 9168, Start Num: 53

Candidate Starts for Crespo\_10:

(26, 8746), (Start: 30 @8752 has 2 MA's), (48, 8803), (Start: 51 @8809 has 17 MA's), (Start: 53 @8812 has 165 MA's), (68, 8842), (123, 9001), (124, 9004), (157, 9085), (172, 9139),

Gene: CrimD\_15 Start: 9333, Stop: 9689, Start Num: 53

Candidate Starts for CrimD\_15:

(Start: 53 @9333 has 165 MA's), (68, 9357), (89, 9435), (91, 9438), (124, 9516), (153, 9585), (168, 9645), (176, 9660),

Gene: Crumble\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for Crumble\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (165, 6748), (167, 6751), (176, 6769),

Gene: Curiosium\_16 Start: 8809, Stop: 9162, Start Num: 54

Candidate Starts for Curiosium\_16:

(Start: 54 @8809 has 17 MA's), (68, 8830), (95, 8932), (116, 8971), (124, 8989), (125, 8992), (140, 9028), (153, 9058), (176, 9133),

Gene: DLane\_8 Start: 6447, Stop: 6779, Start Num: 58

Candidate Starts for DLane\_8:

(Start: 58 @6447 has 207 MA's), (68, 6471), (73, 6489), (81, 6528), (87, 6549), (93, 6564), (97, 6582), (103, 6600), (117, 6624), (123, 6636), (125, 6642), (131, 6654), (132, 6660), (150, 6690), (160, 6723),

Gene: DMoney\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for DMoney\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: DNAIII\_0010 Start: 8820, Stop: 9176, Start Num: 53

Candidate Starts for DNAIII\_0010:

(26, 8754), (Start: 30 @8760 has 2 MA's), (48, 8811), (Start: 51 @8817 has 17 MA's), (Start: 53 @8820 has 165 MA's), (68, 8850), (123, 9009), (124, 9012), (157, 9093), (172, 9147),

Gene: DRBy19\_8 Start: 6459, Stop: 6788, Start Num: 58

Candidate Starts for DRBy19\_8:

(7, 6189), (21, 6366), (Start: 58 @6459 has 207 MA's), (68, 6483), (77, 6522), (84, 6555), (90, 6567), (95, 6588), (97, 6594), (98, 6597), (104, 6615), (123, 6648), (131, 6666), (132, 6672), (139, 6684), (150, 6702), (153, 6711), (160, 6735), (165, 6762), (167, 6765), (176, 6783),

Gene: DS6A\_13 Start: 9721, Stop: 10056, Start Num: 63

Candidate Starts for DS6A\_13:

(Start: 63 @9721 has 1 MA's), (73, 9760), (77, 9781), (81, 9799), (90, 9826), (110, 9886), (123, 9907), (154, 9976), (165, 10024), (167, 10027), (176, 10045),

Gene: DaWorst\_9 Start: 6297, Stop: 6626, Start Num: 58

Candidate Starts for DaWorst\_9:

(Start: 58 @6297 has 207 MA's), (68, 6321), (77, 6360), (84, 6393), (90, 6405), (95, 6426), (97, 6432), (98, 6435), (104, 6453), (123, 6486), (131, 6504), (132, 6510), (139, 6522), (150, 6540), (153, 6549), (160, 6573), (165, 6600), (167, 6603), (176, 6621),

Gene: DaddyRickover\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for DaddyRickover\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Dadosky\_13 Start: 9440, Stop: 9802, Start Num: 53

Candidate Starts for Dadosky\_13:

(Start: 53 @9440 has 165 MA's), (75, 9485), (91, 9542), (100, 9578), (102, 9584), (116, 9602), (124, 9620), (153, 9689), (168, 9749), (176, 9764),

Gene: Daenerys\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Daenerys\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Dalmuri\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Dalmuri\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Dante\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for Dante\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (90, 6568), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (123, 6649), (131, 6667), (132, 6673), (139, 6685), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Darionha\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for Darionha\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: DarthP\_14 Start: 9299, Stop: 9697, Start Num: 53

Candidate Starts for DarthP\_14:

(Start: 53 @9299 has 165 MA's), (73, 9338), (124, 9479), (153, 9548), (168, 9608), (176, 9623), (177, 9626),

Gene: DeadP\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for DeadP\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Deb65\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Deb65\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Deby\_15 Start: 9335, Stop: 9691, Start Num: 53

Candidate Starts for Deby\_15:

(Start: 53 @9335 has 165 MA's), (68, 9359), (91, 9440), (94, 9449), (124, 9518), (153, 9587), (168, 9647), (176, 9662),

Gene: Demsculpinboyz\_10 Start: 6438, Stop: 6791, Start Num: 59

Candidate Starts for Demsculpinboyz\_10:

(40, 6387), (41, 6393), (Start: 59 @6438 has 35 MA's), (70, 6468), (80, 6519), (119, 6624), (127, 6642), (143, 6675), (170, 6765),

Gene: Devera\_15 Start: 9352, Stop: 9708, Start Num: 53

Candidate Starts for Devera\_15:

(Start: 53 @9352 has 165 MA's), (68, 9376), (91, 9457), (124, 9535), (153, 9604), (168, 9664), (176, 9679),

Gene: DillTech15\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for DillTech15\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: DirtMcgirt\_9 Start: 6298, Stop: 6627, Start Num: 58

Candidate Starts for DirtMcgirt\_9:



(Start: 58 @6298 has 207 MA's), (68, 6322), (77, 6361), (82, 6391), (84, 6394), (90, 6406), (95, 6427), (97, 6433), (98, 6436), (104, 6454), (123, 6487), (131, 6505), (132, 6511), (150, 6541), (153, 6550), (160, 6574), (165, 6601), (167, 6604), (176, 6622),

Gene: DismalFunk\_11 Start: 7362, Stop: 7712, Start Num: 55

Candidate Starts for DismalFunk\_11:

(Start: 55 @7362 has 41 MA's), (69, 7386), (77, 7422), (91, 7464), (94, 7473), (95, 7485), (124, 7542), (140, 7581), (153, 7611), (168, 7671), (172, 7677), (176, 7686),

Gene: DismalStressor\_11 Start: 7362, Stop: 7712, Start Num: 55

Candidate Starts for DismalStressor\_11:

(Start: 55 @7362 has 41 MA's), (69, 7386), (77, 7422), (91, 7464), (94, 7473), (95, 7485), (124, 7542), (140, 7581), (153, 7611), (168, 7671), (172, 7677), (176, 7686),

Gene: DocMcStuffins\_9 Start: 6299, Stop: 6628, Start Num: 58

Candidate Starts for DocMcStuffins\_9:

(Start: 58 @6299 has 207 MA's), (68, 6323), (77, 6362), (84, 6395), (90, 6407), (95, 6428), (97, 6434), (98, 6437), (104, 6455), (117, 6476), (123, 6488), (131, 6506), (132, 6512), (139, 6524), (150, 6542), (153, 6551), (160, 6575), (165, 6602), (167, 6605), (176, 6623),

Gene: Dole\_15 Start: 9354, Stop: 9710, Start Num: 53

Candidate Starts for Dole\_15:

(Start: 53 @9354 has 165 MA's), (68, 9378), (91, 9459), (124, 9537), (153, 9606), (168, 9666), (176, 9681),

Gene: Donkeykong\_8 Start: 6462, Stop: 6791, Start Num: 58

Candidate Starts for Donkeykong\_8:

(7, 6192), (21, 6369), (Start: 58 @6462 has 207 MA's), (68, 6486), (77, 6525), (84, 6558), (95, 6591), (97, 6597), (98, 6600), (104, 6618), (123, 6651), (131, 6669), (132, 6675), (139, 6687), (150, 6705), (153, 6714), (160, 6738), (165, 6765), (167, 6768), (176, 6786),

Gene: Doomphist\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Doomphist\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Dorothy\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Dorothy\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: DotProduct\_8 Start: 6447, Stop: 6779, Start Num: 58

Candidate Starts for DotProduct\_8:

(Start: 58 @6447 has 207 MA's), (68, 6471), (73, 6489), (81, 6528), (87, 6549), (93, 6564), (97, 6582), (103, 6600), (117, 6624), (123, 6636), (125, 6642), (131, 6654), (132, 6660), (150, 6690), (160, 6723),

Gene: Doug\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for Doug\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (90, 6553), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (165, 6748), (167, 6751), (176, 6769),

Gene: DrHayes\_15 Start: 9306, Stop: 9662, Start Num: 53

Candidate Starts for DrHayes\_15:

(Start: 53 @9306 has 165 MA's), (68, 9330), (124, 9489), (153, 9558), (168, 9618), (176, 9633),

Gene: Drago\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Drago\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Dre3\_10 Start: 7070, Stop: 7417, Start Num: 61

Candidate Starts for Dre3\_10:

(Start: 61 @7070 has 48 MA's), (118, 7232), (124, 7247), (125, 7250), (153, 7331),

Gene: Durfee\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Durfee\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: ECartman\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for ECartman\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: EMSquaredA\_10 Start: 7484, Stop: 7831, Start Num: 59

Candidate Starts for EMSquaredA\_10:

(Start: 59 @7484 has 35 MA's), (91, 7592), (149, 7739), (173, 7811),

Gene: Ecliptus\_10 Start: 6513, Stop: 6860, Start Num: 57

Candidate Starts for Ecliptus\_10:

(6, 6228), (9, 6261), (38, 6462), (Start: 57 @6513 has 2 MA's), (91, 6624), (127, 6705), (138, 6726), (144, 6744), (153, 6771), (175, 6843), (176, 6846),

Gene: Edugator\_12 Start: 9440, Stop: 9802, Start Num: 53

Candidate Starts for Edugator\_12:

(Start: 53 @9440 has 165 MA's), (75, 9485), (91, 9542), (100, 9578), (102, 9584), (116, 9602), (124, 9620), (153, 9689), (168, 9749), (176, 9764),

Gene: Efra2\_15 Start: 8295, Stop: 8654, Start Num: 54

Candidate Starts for Efra2\_15:

(Start: 46 @8280 has 1 MA's), (Start: 54 @8295 has 17 MA's), (68, 8322), (89, 8400), (95, 8424), (116, 8463), (124, 8481), (132, 8505), (139, 8517), (153, 8550), (176, 8625),

Gene: Eish\_8 Start: 6433, Stop: 6762, Start Num: 58

Candidate Starts for Eish\_8:

(Start: 58 @6433 has 207 MA's), (68, 6457), (77, 6496), (84, 6529), (90, 6541), (95, 6562), (97, 6568), (98, 6571), (104, 6589), (123, 6622), (131, 6640), (132, 6646), (150, 6676), (153, 6685), (160, 6709), (165, 6736), (167, 6739), (176, 6757),

Gene: Ekdilam\_12 Start: 9026, Stop: 9418, Start Num: 53

Candidate Starts for Ekdilam\_12:

(Start: 53 @9026 has 165 MA's), (73, 9065), (116, 9188), (124, 9206), (153, 9275), (168, 9335), (176, 9350), (177, 9353),

Gene: EleanorGeorge\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for EleanorGeorge\_8:

(37, 6401), (Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Elinal\_11 Start: 6701, Stop: 7042, Start Num: 61

Candidate Starts for Elinal\_11:

(Start: 61 @6701 has 48 MA's), (73, 6737), (116, 6860), (173, 7022),

Gene: Elliott\_10 Start: 6923, Stop: 7264, Start Num: 61

Candidate Starts for Elliott\_10:

(Start: 61 @6923 has 48 MA's), (66, 6932), (79, 6992), (118, 7085), (156, 7187),

Gene: Ellie\_12 Start: 9073, Stop: 9459, Start Num: 53

Candidate Starts for Ellie\_12:

(Start: 53 @9073 has 165 MA's), (73, 9112), (124, 9253), (153, 9322), (177, 9400),

Gene: Emalyn\_9 Start: 6652, Stop: 6993, Start Num: 61

Candidate Starts for Emalyn\_9:

(Start: 61 @6652 has 48 MA's), (119, 6817), (156, 6916), (173, 6973),

Gene: Emerson\_15 Start: 9364, Stop: 9720, Start Num: 53

Candidate Starts for Emerson\_15:

(Start: 53 @9364 has 165 MA's), (68, 9388), (91, 9469), (94, 9478), (124, 9547), (153, 9616), (168, 9676), (176, 9691),

Gene: Emma\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Emma\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Empress\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Empress\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: EnalisNailo\_10 Start: 7484, Stop: 7831, Start Num: 59

Candidate Starts for EnalisNailo\_10:

(Start: 59 @7484 has 35 MA's), (91, 7592), (149, 7739), (173, 7811),

Gene: Enby\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Enby\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Enkosi\_11 Start: 8651, Stop: 9004, Start Num: 54

Candidate Starts for Enkosi\_11:

(Start: 54 @8651 has 17 MA's), (68, 8672), (94, 8762), (116, 8813), (119, 8819), (124, 8831), (151, 8891), (153, 8900), (168, 8960), (176, 8975), (177, 8978),

Gene: Eponine\_16 Start: 10485, Stop: 10841, Start Num: 55

Candidate Starts for Eponine\_16:

(Start: 55 @10485 has 41 MA's), (91, 10599), (127, 10683), (139, 10713), (153, 10746), (172, 10812),

Gene: Eradicator\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for Eradicator\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (90, 6552), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (165, 6747), (167, 6750), (176, 6768),

Gene: Estave1\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for Estave1\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (90, 6553), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (165, 6748), (167, 6751), (176, 6769),

Gene: FF47\_12 Start: 8188, Stop: 8562, Start Num: 50

Candidate Starts for FF47\_12:

(Start: 50 @8188 has 9 MA's), (68, 8227), (85, 8299), (115, 8374), (124, 8392), (125, 8395), (168, 8527), (174, 8539),

Gene: Fancypants\_8 Start: 6447, Stop: 6776, Start Num: 58

Candidate Starts for Fancypants\_8:

(7, 6177), (21, 6354), (Start: 58 @6447 has 207 MA's), (68, 6471), (77, 6510), (84, 6543), (90, 6555), (95, 6576), (97, 6582), (98, 6585), (104, 6603), (123, 6636), (131, 6654), (132, 6660), (150, 6690), (153, 6699), (160, 6723), (165, 6750), (167, 6753), (176, 6771),

Gene: Fastidio\_8 Start: 6446, Stop: 6775, Start Num: 58

Candidate Starts for Fastidio\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (77, 6509), (84, 6542), (90, 6554), (95, 6575), (97, 6581), (98, 6584), (104, 6602), (123, 6635), (131, 6653), (132, 6659), (139, 6671), (150, 6689), (153, 6698), (160, 6722), (164, 6740), (165, 6749), (167, 6752), (176, 6770),

Gene: Feastonyeet\_9 Start: 6720, Stop: 7061, Start Num: 61

Candidate Starts for Feastonyeet\_9:

(Start: 61 @6720 has 48 MA's), (73, 6756), (74, 6759), (116, 6879), (123, 6894), (173, 7041),

Gene: Fefferhead\_14 Start: 9240, Stop: 9626, Start Num: 53

Candidate Starts for Fefferhead\_14:

(Start: 53 @9240 has 165 MA's), (73, 9279), (91, 9342), (124, 9420), (153, 9489), (177, 9567),

Gene: Feyre\_13 Start: 9388, Stop: 9750, Start Num: 53

Candidate Starts for Feyre\_13:

(Start: 53 @9388 has 165 MA's), (68, 9409), (91, 9490), (100, 9526), (102, 9532), (116, 9550), (124, 9568), (140, 9607), (153, 9637), (168, 9697), (176, 9712), (177, 9715),

Gene: Filuzino\_8 Start: 6447, Stop: 6779, Start Num: 58

Candidate Starts for Filuzino\_8:

(Start: 58 @6447 has 207 MA's), (68, 6471), (73, 6489), (81, 6528), (87, 6549), (93, 6564), (97, 6582), (103, 6600), (117, 6624), (125, 6642), (131, 6654), (132, 6660), (150, 6690), (160, 6723),

Gene: Findley\_11 Start: 7362, Stop: 7712, Start Num: 55

Candidate Starts for Findley\_11:

(Start: 55 @7362 has 41 MA's), (69, 7386), (77, 7422), (91, 7464), (94, 7473), (95, 7485), (124, 7542), (140, 7581), (153, 7611), (168, 7671), (172, 7677), (176, 7686),

Gene: Fionnbharth\_16 Start: 10611, Stop: 10967, Start Num: 55

Candidate Starts for Fionnbharth\_16:

(Start: 55 @10611 has 41 MA's), (91, 10725), (127, 10809), (139, 10839), (153, 10872), (157, 10884), (172, 10938),

Gene: Firehouse51\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Firehouse51\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: FlagStaff\_10 Start: 8880, Stop: 9236, Start Num: 53

Candidate Starts for FlagStaff\_10:

(1, 8511), (11, 8712), (42, 8853), (Start: 53 @8880 has 165 MA's), (75, 8934), (78, 8958), (124, 9072), (153, 9141), (167, 9198), (176, 9216),

Gene: Flathead\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for Flathead\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (77, 6358), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Floral\_10 Start: 7484, Stop: 7831, Start Num: 59

Candidate Starts for Floral\_10:

(Start: 59 @7484 has 35 MA's), (91, 7592), (149, 7739), (173, 7811),

Gene: Florinda\_8 Start: 6463, Stop: 6792, Start Num: 58

Candidate Starts for Florinda\_8:

(7, 6193), (21, 6370), (Start: 58 @6463 has 207 MA's), (68, 6487), (77, 6526), (84, 6559), (95, 6592), (97, 6598), (98, 6601), (104, 6619), (123, 6652), (131, 6670), (132, 6676), (139, 6688), (150, 6706), (153, 6715), (160, 6739), (165, 6766), (167, 6769), (176, 6787),

Gene: Frankie\_9 Start: 6489, Stop: 6818, Start Num: 58

Candidate Starts for Frankie\_9:

(Start: 58 @6489 has 207 MA's), (68, 6513), (77, 6552), (84, 6585), (90, 6597), (95, 6618), (97, 6624), (98, 6627), (104, 6645), (123, 6678), (131, 6696), (132, 6702), (139, 6714), (150, 6732), (153, 6741), (160, 6765), (165, 6792), (167, 6795), (176, 6813),

Gene: FreddyB\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for FreddyB\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (90, 6552), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (165, 6747), (167, 6750), (176, 6768),

Gene: Fribs8\_11 Start: 7633, Stop: 7983, Start Num: 61

Candidate Starts for Fribs8\_11:

(37, 7573), (Start: 61 @7633 has 48 MA's), (68, 7651), (75, 7675), (118, 7798), (119, 7801), (124, 7813), (125, 7816), (153, 7897), (156, 7906),

Gene: Frickyeah\_10 Start: 6480, Stop: 6827, Start Num: 56

Candidate Starts for Frickyeah\_10:

(43, 6444), (Start: 56 @6480 has 18 MA's), (71, 6519), (79, 6561), (106, 6633), (118, 6654), (119, 6657), (134, 6690), (146, 6717), (151, 6735), (164, 6786), (170, 6801), (173, 6807), (176, 6816),

Gene: Frosty24\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Frosty24\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Fruitloop\_8 Start: 6447, Stop: 6779, Start Num: 58

Candidate Starts for Fruitloop\_8:

(Start: 58 @6447 has 207 MA's), (68, 6471), (73, 6489), (81, 6528), (87, 6549), (93, 6564), (97, 6582), (103, 6600), (117, 6624), (125, 6642), (131, 6654), (132, 6660), (150, 6690), (160, 6723),

Gene: Fryberger\_41 Start: 15726, Stop: 16106, Start Num: 50

Candidate Starts for Fryberger\_41:

(Start: 50 @15726 has 9 MA's), (87, 15843), (122, 15930), (137, 15969), (155, 16011), (163, 16047), (169, 16065), (174, 16080), (179, 16101),

Gene: GTE2\_08 Start: 6602, Stop: 6943, Start Num: 61

Candidate Starts for GTE2\_08:

(Start: 61 @6602 has 48 MA's), (119, 6767), (170, 6917), (173, 6923),

Gene: GUmbie\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for GUmbie\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (90, 6568), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (117, 6637), (123, 6649), (131, 6667), (132, 6673), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Gaia\_7 Start: 7028, Stop: 7366, Start Num: 59

Candidate Starts for Gaia\_7:

(Start: 59 @7028 has 35 MA's), (67, 7049), (68, 7052), (87, 7130), (90, 7136), (95, 7157), (96, 7160), (99, 7169), (121, 7211), (141, 7256), (153, 7283), (154, 7286), (167, 7337), (176, 7355),

Gene: Galactic\_8 Start: 6420, Stop: 6752, Start Num: 58

Candidate Starts for Galactic\_8:

(Start: 58 @6420 has 207 MA's), (68, 6444), (73, 6462), (81, 6501), (87, 6522), (97, 6555), (103, 6573), (117, 6597), (123, 6609), (125, 6615), (131, 6627), (132, 6633), (150, 6663), (160, 6696),

Gene: Gandalph\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for Gandalph\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (90, 6568), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (123, 6649), (131, 6667), (132, 6673), (139, 6685), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Ganymede\_15 Start: 9381, Stop: 9737, Start Num: 53

Candidate Starts for Ganymede\_15:

(Start: 53 @9381 has 165 MA's), (68, 9405), (91, 9486), (94, 9495), (124, 9564), (153, 9633), (168, 9693), (176, 9708),

Gene: Gengar\_13 Start: 9495, Stop: 9857, Start Num: 53

Candidate Starts for Gengar\_13:

(Start: 53 @9495 has 165 MA's), (68, 9516), (91, 9597), (100, 9633), (102, 9639), (116, 9657), (124, 9675), (140, 9714), (153, 9744), (168, 9804), (176, 9819), (177, 9822),

Gene: Geraldini\_15 Start: 9384, Stop: 9740, Start Num: 53

Candidate Starts for Geraldini\_15:

(Start: 53 @9384 has 165 MA's), (68, 9408), (89, 9486), (91, 9489), (94, 9498), (124, 9567), (153, 9636), (168, 9696), (176, 9711),

Gene: Geralt\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Geralt\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Getalong\_10 Start: 6480, Stop: 6827, Start Num: 56

Candidate Starts for Getalong\_10:

(43, 6444), (Start: 56 @6480 has 18 MA's), (71, 6519), (79, 6561), (106, 6633), (118, 6654), (119, 6657), (134, 6690), (151, 6735), (164, 6786), (170, 6801), (176, 6816),

Gene: GiKK\_13 Start: 7246, Stop: 7584, Start Num: 61

Candidate Starts for GiKK\_13:

(27, 7156), (28, 7159), (31, 7165), (Start: 61 @7246 has 48 MA's), (144, 7465), (145, 7468), (173, 7564),

Gene: Gibbous\_10 Start: 7070, Stop: 7417, Start Num: 61

Candidate Starts for Gibbous\_10:

(Start: 61 @7070 has 48 MA's), (118, 7232), (124, 7247), (125, 7250), (153, 7331),

Gene: Gideon\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for Gideon\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: GigiOuiOui\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for GigiOuiOui\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (123, 6649), (131, 6667), (132, 6673), (139, 6685), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Girafales\_9 Start: 6291, Stop: 6620, Start Num: 58

Candidate Starts for Girafales\_9:

(Start: 58 @6291 has 207 MA's), (68, 6315), (77, 6354), (84, 6387), (90, 6399), (95, 6420), (97, 6426), (98, 6429), (104, 6447), (123, 6480), (131, 6498), (132, 6504), (139, 6516), (150, 6534), (153, 6543), (160, 6567), (165, 6594), (167, 6597), (176, 6615),

Gene: Girr\_8 Start: 6449, Stop: 6778, Start Num: 58

Candidate Starts for Girr\_8:

(Start: 58 @6449 has 207 MA's), (68, 6473), (77, 6512), (84, 6545), (90, 6557), (95, 6578), (97, 6584), (98, 6587), (104, 6605), (123, 6638), (131, 6656), (132, 6662), (150, 6692), (153, 6701), (160, 6725), (165, 6752), (167, 6755), (176, 6773),

Gene: GoldHunter\_11 Start: 6924, Stop: 7265, Start Num: 61

Candidate Starts for GoldHunter\_11:

(Start: 61 @6924 has 48 MA's), (66, 6933), (79, 6993), (118, 7086), (156, 7188),

Gene: GoldenAsh\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for GoldenAsh\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Gomashi\_10 Start: 8809, Stop: 9168, Start Num: 51

Candidate Starts for Gomashi\_10:

(26, 8746), (Start: 30 @8752 has 2 MA's), (48, 8803), (Start: 51 @8809 has 17 MA's), (Start: 53 @8812 has 165 MA's), (68, 8842), (123, 9001), (124, 9004), (157, 9085), (172, 9139),

Gene: Gorge\_8 Start: 6432, Stop: 6761, Start Num: 58

Candidate Starts for Gorge\_8:

(7, 6162), (21, 6339), (Start: 58 @6432 has 207 MA's), (68, 6456), (77, 6495), (84, 6528), (90, 6540), (95, 6561), (97, 6567), (98, 6570), (104, 6588), (123, 6621), (131, 6639), (132, 6645), (139, 6657), (150, 6675), (153, 6684), (160, 6708), (165, 6735), (167, 6738), (176, 6756),

Gene: Grizzly\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Grizzly\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Guanica15\_15 Start: 8311, Stop: 8670, Start Num: 54

Candidate Starts for Guanica15\_15:

(Start: 46 @8296 has 1 MA's), (Start: 54 @8311 has 17 MA's), (68, 8338), (89, 8416), (95, 8440), (116, 8479), (124, 8497), (132, 8521), (139, 8533), (153, 8566), (176, 8641),

Gene: Guey18\_46 Start: 16919, Stop: 17299, Start Num: 50

Candidate Starts for Guey18\_46:

(Start: 50 @16919 has 9 MA's), (87, 17036), (122, 17123), (137, 17162), (155, 17204), (163, 17240), (169, 17258), (174, 17273), (179, 17294),

Gene: Guillsminger\_13 Start: 9470, Stop: 9832, Start Num: 53

Candidate Starts for Guillsminger\_13:

(Start: 53 @9470 has 165 MA's), (68, 9491), (91, 9572), (100, 9608), (102, 9614), (116, 9632), (124, 9650), (140, 9689), (153, 9719), (168, 9779), (176, 9794), (177, 9797),

Gene: Guppsters\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Guppsters\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Hades\_8 Start: 6446, Stop: 6775, Start Num: 58

Candidate Starts for Hades\_8:

(7, 6176), (21, 6353), (Start: 58 @6446 has 207 MA's), (68, 6470), (77, 6509), (84, 6542), (95, 6575), (97, 6581), (98, 6584), (104, 6602), (123, 6635), (131, 6653), (132, 6659), (150, 6689), (153, 6698), (160, 6722), (165, 6749), (167, 6752), (176, 6770),

Gene: Halo\_10 Start: 8806, Stop: 9162, Start Num: 53

Candidate Starts for Halo\_10:



(2, 8443), (4, 8512), (26, 8740), (Start: 30 @8746 has 2 MA's), (48, 8797), (Start: 53 @8806 has 165 MA's), (68, 8836), (123, 8995), (124, 8998), (172, 9133),

Gene: Hammy\_14 Start: 9293, Stop: 9691, Start Num: 53

Candidate Starts for Hammy\_14:

(Start: 53 @9293 has 165 MA's), (73, 9332), (124, 9473), (153, 9542), (168, 9602), (176, 9617), (177, 9620),

Gene: Hamulus\_8 Start: 6447, Stop: 6779, Start Num: 58

Candidate Starts for Hamulus\_8:

(Start: 58 @6447 has 207 MA's), (68, 6471), (73, 6489), (81, 6528), (87, 6549), (93, 6564), (97, 6582), (103, 6600), (117, 6624), (123, 6636), (125, 6642), (131, 6654), (132, 6660), (150, 6690), (160, 6723),

Gene: Harley\_8 Start: 6433, Stop: 6762, Start Num: 58

Candidate Starts for Harley\_8:

(21, 6340), (Start: 58 @6433 has 207 MA's), (68, 6457), (77, 6496), (84, 6529), (90, 6541), (95, 6562), (97, 6568), (98, 6571), (104, 6589), (123, 6622), (131, 6640), (132, 6646), (139, 6658), (150, 6676), (153, 6685), (160, 6709), (165, 6736), (167, 6739), (176, 6757),

Gene: HedwigODU\_15 Start: 9364, Stop: 9720, Start Num: 53

Candidate Starts for HedwigODU\_15:

(Start: 53 @9364 has 165 MA's), (68, 9388), (89, 9466), (91, 9469), (94, 9478), (124, 9547), (153, 9616), (168, 9676), (176, 9691),

Gene: Heftyboy\_13 Start: 9597, Stop: 9959, Start Num: 53

Candidate Starts for Heftyboy\_13:

(Start: 53 @9597 has 165 MA's), (68, 9618), (91, 9699), (100, 9735), (102, 9741), (116, 9759), (124, 9777), (140, 9816), (148, 9825), (153, 9846), (168, 9906), (176, 9921), (177, 9924),

Gene: Hegedechwinu\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for Hegedechwinu\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (77, 6358), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Hexbug\_12 Start: 7932, Stop: 8270, Start Num: 61

Candidate Starts for Hexbug\_12:

(28, 7848), (Start: 61 @7932 has 48 MA's), (89, 8031), (144, 8151), (145, 8154), (170, 8244), (173, 8250),

Gene: HippoPololi\_12 Start: 7722, Stop: 8069, Start Num: 61

Candidate Starts for HippoPololi\_12:

(37, 7668), (Start: 61 @7722 has 48 MA's), (118, 7884), (124, 7899), (149, 7974), (153, 7983),

Gene: Hlubikazi\_8 Start: 6433, Stop: 6762, Start Num: 58

Candidate Starts for Hlubikazi\_8:

(7, 6163), (21, 6340), (Start: 58 @6433 has 207 MA's), (68, 6457), (77, 6496), (84, 6529), (90, 6541), (95, 6562), (97, 6568), (98, 6571), (104, 6589), (123, 6622), (131, 6640), (132, 6646), (150, 6676), (153, 6685), (160, 6709), (165, 6736), (167, 6739), (176, 6757),

Gene: Holliday\_10 Start: 6485, Stop: 6832, Start Num: 56

Candidate Starts for Holliday\_10:

(43, 6449), (Start: 56 @6485 has 18 MA's), (71, 6524), (118, 6659), (119, 6662), (134, 6695), (151, 6740), (164, 6791), (170, 6806), (176, 6821),

Gene: Homura\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Homura\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Hope\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Hope\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Horseradish\_11 Start: 6805, Stop: 7146, Start Num: 61

Candidate Starts for Horseradish\_11:

(Start: 61 @6805 has 48 MA's), (95, 6928), (156, 7069), (170, 7120), (173, 7126),

Gene: Horus\_10 Start: 6480, Stop: 6827, Start Num: 56

Candidate Starts for Horus\_10:

(43, 6444), (Start: 56 @6480 has 18 MA's), (71, 6519), (79, 6561), (106, 6633), (118, 6654), (119, 6657), (134, 6690), (146, 6717), (151, 6735), (164, 6786), (170, 6801), (173, 6807), (176, 6816),

Gene: Hotshotbaby7\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Hotshotbaby7\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Hurricane\_14 Start: 9383, Stop: 9736, Start Num: 53

Candidate Starts for Hurricane\_14:

(Start: 53 @9383 has 165 MA's), (68, 9404), (69, 9407), (91, 9485), (94, 9494), (124, 9563), (125, 9566), (168, 9692), (176, 9707), (177, 9710),

Gene: Hyperbowlee\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Hyperbowlee\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: lbOuu\_8 Start: 6442, Stop: 6771, Start Num: 58

Candidate Starts for lbOuu\_8:

(7, 6172), (21, 6349), (Start: 58 @6442 has 207 MA's), (68, 6466), (77, 6505), (84, 6538), (90, 6550), (95, 6571), (97, 6577), (98, 6580), (104, 6598), (123, 6631), (131, 6649), (132, 6655), (139, 6667), (150, 6685), (153, 6694), (160, 6718), (165, 6745), (167, 6748), (176, 6766),

Gene: lbhubesi\_8 Start: 6433, Stop: 6762, Start Num: 58

Candidate Starts for lbhubesi\_8:

(21, 6340), (Start: 58 @6433 has 207 MA's), (68, 6457), (77, 6496), (84, 6529), (90, 6541), (95, 6562), (97, 6568), (98, 6571), (104, 6589), (123, 6622), (131, 6640), (132, 6646), (139, 6658), (150, 6676), (153, 6685), (160, 6709), (165, 6736), (167, 6739), (176, 6757),

Gene: Illumine\_15 Start: 9354, Stop: 9710, Start Num: 53

Candidate Starts for Illumine\_15:

(Start: 53 @9354 has 165 MA's), (68, 9378), (91, 9459), (124, 9537), (153, 9606), (168, 9666), (176, 9681),

Gene: Inky\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Inky\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Inventum\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Inventum\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: InvictusManeo\_13 Start: 9565, Stop: 9927, Start Num: 53

Candidate Starts for InvictusManeo\_13:

(Start: 53 @9565 has 165 MA's), (68, 9586), (75, 9610), (91, 9667), (124, 9745), (139, 9781), (153, 9814), (168, 9874), (176, 9889),

Gene: IrishSherpFalk\_8 Start: 6434, Stop: 6766, Start Num: 58

Candidate Starts for IrishSherpFalk\_8:

(Start: 58 @6434 has 207 MA's), (67, 6455), (68, 6458), (77, 6497), (87, 6536), (97, 6569), (98, 6572), (112, 6605), (117, 6611), (131, 6641), (132, 6647), (150, 6677), (160, 6710), (165, 6737), (172, 6749), (176, 6758),

Gene: JAWS\_15 Start: 9358, Stop: 9714, Start Num: 53

Candidate Starts for JAWS\_15:

(Start: 53 @9358 has 165 MA's), (68, 9382), (91, 9463), (124, 9541), (140, 9580), (153, 9610), (168, 9670), (176, 9685),

Gene: JF1\_16 Start: 10610, Stop: 10966, Start Num: 55

Candidate Starts for JF1\_16:

(Start: 55 @10610 has 41 MA's), (91, 10724), (127, 10808), (139, 10838), (153, 10871), (157, 10883), (172, 10937),

Gene: Jabbawokkie\_11 Start: 6961, Stop: 7314, Start Num: 59

Candidate Starts for Jabbawokkie\_11:

(40, 6910), (41, 6916), (Start: 59 @6961 has 35 MA's), (70, 6991), (80, 7042), (119, 7147), (127, 7165), (143, 7198), (170, 7288),

Gene: Jablanski\_10 Start: 7331, Stop: 7678, Start Num: 59

Candidate Starts for Jablanski\_10:

(Start: 59 @7331 has 35 MA's), (91, 7439), (105, 7484), (149, 7586), (173, 7658),

Gene: JacoRen57\_9 Start: 7271, Stop: 7642, Start Num: 50

Candidate Starts for JacoRen57\_9:

(18, 7157), (39, 7232), (Start: 50 @7271 has 9 MA's), (125, 7481), (127, 7484), (149, 7541), (176, 7625), (178, 7634),

Gene: JalFarm20\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for JalFarm20\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (117, 6473), (123, 6485), (131, 6503), (132, 6509), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: James\_8 Start: 6435, Stop: 6764, Start Num: 58

Candidate Starts for James\_8:

(7, 6165), (21, 6342), (Start: 58 @6435 has 207 MA's), (68, 6459), (77, 6498), (84, 6531), (90, 6543), (95, 6564), (97, 6570), (98, 6573), (104, 6591), (123, 6624), (131, 6642), (132, 6648), (150, 6678), (153, 6687), (160, 6711), (165, 6738), (167, 6741), (176, 6759),

Gene: Jamzy\_13 Start: 7256, Stop: 7594, Start Num: 61

Candidate Starts for Jamzy\_13:

(28, 7169), (31, 7175), (Start: 61 @7256 has 48 MA's), (125, 7436), (133, 7451), (144, 7475), (146, 7481), (173, 7574),

Gene: Jane\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for Jane\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Jacob\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for Jacob\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (90, 6552), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (164, 6738), (165, 6747), (167, 6750), (176, 6768),

Gene: Jarvi\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Jarvi\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Jayhawk\_15 Start: 9365, Stop: 9721, Start Num: 53

Candidate Starts for Jayhawk\_15:

(Start: 53 @9365 has 165 MA's), (68, 9389), (89, 9467), (91, 9470), (94, 9479), (124, 9548), (153, 9617), (168, 9677), (176, 9692),

Gene: Jeckyll\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Jeckyll\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Jinglebell\_8 Start: 6442, Stop: 6771, Start Num: 58

Candidate Starts for Jinglebell\_8:

(7, 6172), (21, 6349), (Start: 58 @6442 has 207 MA's), (68, 6466), (77, 6505), (84, 6538), (90, 6550), (95, 6571), (97, 6577), (98, 6580), (104, 6598), (123, 6631), (131, 6649), (132, 6655), (150, 6685), (153, 6694), (160, 6718), (165, 6745), (167, 6748), (176, 6766),

Gene: Job42\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Job42\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548), (156, 6554), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: JoeyJr\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for JoeyJr\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668),

(150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Jolene\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Jolene\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Jolie2\_10 Start: 8054, Stop: 8407, Start Num: 53

Candidate Starts for Jolie2\_10:

(4, 7757), (26, 7988), (48, 8045), (Start: 53 @8054 has 165 MA's), (89, 8162), (123, 8240), (124, 8243), (167, 8369), (176, 8387),

Gene: Jonghyun\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Jonghyun\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: JorRay\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for JorRay\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Joy99\_15 Start: 9330, Stop: 9686, Start Num: 53

Candidate Starts for Joy99\_15:

(Start: 53 @9330 has 165 MA's), (68, 9354), (89, 9432), (91, 9435), (94, 9444), (124, 9513), (153, 9582), (168, 9642), (176, 9657),

Gene: Juice456\_9 Start: 6297, Stop: 6626, Start Num: 58

Candidate Starts for Juice456\_9:

(Start: 58 @6297 has 207 MA's), (68, 6321), (77, 6360), (84, 6393), (90, 6405), (95, 6426), (97, 6432), (98, 6435), (104, 6453), (123, 6486), (131, 6504), (132, 6510), (139, 6522), (150, 6540), (153, 6549), (160, 6573), (165, 6600), (167, 6603), (176, 6621),

Gene: Juicebox\_11 Start: 8253, Stop: 8600, Start Num: 49

Candidate Starts for Juicebox\_11:

(Start: 49 @8253 has 3 MA's), (86, 8364), (135, 8472),

Gene: Juliette\_16 Start: 10485, Stop: 10841, Start Num: 55

Candidate Starts for Juliette\_16:

(Start: 55 @10485 has 41 MA's), (91, 10599), (127, 10683), (139, 10713), (153, 10746), (172, 10812),

Gene: Juniper1\_8 Start: 6435, Stop: 6764, Start Num: 58

Candidate Starts for Juniper1\_8:

(Start: 58 @6435 has 207 MA's), (68, 6459), (77, 6498), (84, 6531), (90, 6543), (95, 6564), (97, 6570), (98, 6573), (104, 6591), (117, 6612), (123, 6624), (131, 6642), (132, 6648), (150, 6678), (153, 6687), (160, 6711), (165, 6738), (167, 6741), (176, 6759),

Gene: Kamaru\_10 Start: 6485, Stop: 6832, Start Num: 56

Candidate Starts for Kamaru\_10:

(43, 6449), (Start: 56 @6485 has 18 MA's), (71, 6524), (118, 6659), (119, 6662), (134, 6695), (151, 6740), (164, 6791), (170, 6806), (176, 6821),

Gene: Kareem\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Kareem\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Karhdo\_8 Start: 6447, Stop: 6776, Start Num: 58

Candidate Starts for Karhdo\_8:

(7, 6177), (21, 6354), (Start: 58 @6447 has 207 MA's), (68, 6471), (77, 6510), (84, 6543), (90, 6555), (95, 6576), (97, 6582), (98, 6585), (104, 6603), (117, 6624), (123, 6636), (131, 6654), (132, 6660), (150, 6690), (153, 6699), (160, 6723), (165, 6750), (167, 6753), (176, 6771),

Gene: Kasen3\_10 Start: 8812, Stop: 9168, Start Num: 53

Candidate Starts for Kasen3\_10:

(26, 8746), (Start: 30 @8752 has 2 MA's), (48, 8803), (Start: 51 @8809 has 17 MA's), (Start: 53 @8812 has 165 MA's), (68, 8842), (123, 9001), (124, 9004), (157, 9085), (172, 9139),

Gene: KayGee\_9 Start: 6701, Stop: 7042, Start Num: 61

Candidate Starts for KayGee\_9:

(Start: 61 @6701 has 48 MA's), (73, 6737), (116, 6860), (173, 7022),

Gene: Keelan\_39 Start: 15701, Stop: 16081, Start Num: 50

Candidate Starts for Keelan\_39:

(Start: 50 @15701 has 9 MA's), (137, 15944), (155, 15986), (174, 16055), (179, 16076),

Gene: Kenna\_10 Start: 6480, Stop: 6827, Start Num: 56

Candidate Starts for Kenna\_10:

(43, 6444), (Start: 56 @6480 has 18 MA's), (71, 6519), (79, 6561), (118, 6654), (119, 6657), (134, 6690), (151, 6735), (170, 6801), (176, 6816),

Gene: Kenuha5\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Kenuha5\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Kersh\_8 Start: 6436, Stop: 6765, Start Num: 58

Candidate Starts for Kersh\_8:

(7, 6166), (21, 6343), (Start: 58 @6436 has 207 MA's), (68, 6460), (77, 6499), (84, 6532), (90, 6544), (95, 6565), (97, 6571), (98, 6574), (104, 6592), (117, 6613), (123, 6625), (131, 6643), (132, 6649), (139, 6661), (150, 6679), (153, 6688), (160, 6712), (165, 6739), (167, 6742), (176, 6760),

Gene: Keshu\_14 Start: 9370, Stop: 9723, Start Num: 53

Candidate Starts for Keshu\_14:

(Start: 53 @9370 has 165 MA's), (68, 9391), (91, 9472), (124, 9550), (125, 9553), (168, 9679), (176, 9694),

Gene: KiSi\_14 Start: 8236, Stop: 8589, Start Num: 53

Candidate Starts for KiSi\_14:

(Start: 53 @8236 has 165 MA's), (68, 8257), (75, 8281), (92, 8341), (116, 8398), (124, 8416), (140, 8455), (152, 8482), (153, 8485), (168, 8545), (176, 8560), (177, 8563),

Gene: Kimberlium\_9 Start: 6297, Stop: 6626, Start Num: 58

Candidate Starts for Kimberlium\_9:

(Start: 58 @6297 has 207 MA's), (68, 6321), (77, 6360), (84, 6393), (90, 6405), (95, 6426), (97, 6432), (98, 6435), (104, 6453), (123, 6486), (131, 6504), (132, 6510), (139, 6522), (150, 6540), (153, 6549),

(160, 6573), (165, 6600), (167, 6603), (176, 6621),

Gene: KingMidas\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for KingMidas\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Kingsley\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for Kingsley\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Koella\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Koella\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Krakatau\_9 Start: 7098, Stop: 7430, Start Num: 58

Candidate Starts for Krakatau\_9:

(Start: 58 @7098 has 207 MA's), (68, 7122), (73, 7140), (81, 7179), (87, 7200), (93, 7215), (97, 7233), (103, 7251), (117, 7275), (125, 7293), (131, 7305), (132, 7311), (150, 7341), (160, 7374),

Gene: Kratio\_12 Start: 9192, Stop: 9554, Start Num: 53

Candidate Starts for Kratio\_12:

(Start: 53 @9192 has 165 MA's), (68, 9213), (75, 9237), (91, 9294), (124, 9372), (139, 9408), (153, 9441), (168, 9501), (176, 9516),

Gene: KristaRAM\_9 Start: 7094, Stop: 7426, Start Num: 58

Candidate Starts for KristaRAM\_9:

(Start: 58 @7094 has 207 MA's), (68, 7118), (73, 7136), (81, 7175), (87, 7196), (93, 7211), (97, 7229), (103, 7247), (117, 7271), (123, 7283), (125, 7289), (131, 7301), (132, 7307), (150, 7337), (160, 7370),

Gene: Krueger\_14 Start: 8293, Stop: 8646, Start Num: 55

Candidate Starts for Krueger\_14:

(Start: 55 @8293 has 41 MA's), (100, 8431), (116, 8455), (124, 8473), (153, 8542), (168, 8602), (176, 8617),

Gene: Kuwabara\_10 Start: 6791, Stop: 7132, Start Num: 59

Candidate Starts for Kuwabara\_10:

(32, 6716), (45, 6758), (Start: 59 @6791 has 35 MA's), (68, 6812), (76, 6842), (118, 6956), (119, 6959), (121, 6965), (138, 6998), (153, 7043), (168, 7103), (173, 7112), (175, 7118), (176, 7121),

Gene: Larva\_13 Start: 9307, Stop: 9669, Start Num: 53

Candidate Starts for Larva\_13:

(Start: 53 @9307 has 165 MA's), (75, 9352), (91, 9409), (100, 9445), (102, 9451), (116, 9469), (124, 9487), (153, 9556), (168, 9616), (176, 9631),

Gene: LastHope\_15 Start: 8383, Stop: 8742, Start Num: 54

Candidate Starts for LastHope\_15:

(Start: 54 @8383 has 17 MA's), (68, 8410), (89, 8488), (95, 8512), (116, 8551), (124, 8569), (153, 8638), (176, 8713),

Gene: LastJedi\_8 Start: 6435, Stop: 6764, Start Num: 58

Candidate Starts for LastJedi\_8:

(7, 6165), (21, 6342), (Start: 58 @6435 has 207 MA's), (68, 6459), (77, 6498), (84, 6531), (90, 6543), (95, 6564), (97, 6570), (98, 6573), (104, 6591), (123, 6624), (131, 6642), (132, 6648), (150, 6678), (153, 6687), (160, 6711), (165, 6738), (167, 6741), (176, 6759),

Gene: LaterM\_15 Start: 9322, Stop: 9678, Start Num: 53

Candidate Starts for LaterM\_15:

(Start: 53 @9322 has 165 MA's), (68, 9346), (91, 9427), (102, 9469), (124, 9505), (153, 9574), (168, 9634), (176, 9649),

Gene: Latretium\_8 Start: 6432, Stop: 6761, Start Num: 58

Candidate Starts for Latretium\_8:

(Start: 58 @6432 has 207 MA's), (68, 6456), (77, 6495), (84, 6528), (90, 6540), (95, 6561), (97, 6567), (98, 6570), (104, 6588), (123, 6621), (131, 6639), (132, 6645), (150, 6675), (153, 6684), (160, 6708), (165, 6735), (167, 6738), (176, 6756),

Gene: Lauer\_9 Start: 6750, Stop: 7091, Start Num: 61

Candidate Starts for Lauer\_9:

(Start: 61 @6750 has 48 MA's), (73, 6786), (116, 6909), (123, 6924),

Gene: LeMond\_14 Start: 8308, Stop: 8661, Start Num: 53

Candidate Starts for LeMond\_14:

(Start: 53 @8308 has 165 MA's), (68, 8329), (75, 8353), (92, 8413), (116, 8470), (124, 8488), (140, 8527), (152, 8554), (153, 8557), (168, 8617), (176, 8632), (177, 8635),

Gene: Lemuria\_10 Start: 8104, Stop: 8460, Start Num: 51

Candidate Starts for Lemuria\_10:

(26, 8041), (Start: 51 @8104 has 17 MA's), (123, 8293), (124, 8296), (140, 8335), (141, 8338), (167, 8422), (176, 8440),

Gene: Leozinho\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Leozinho\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Leperchaun\_8 Start: 6432, Stop: 6761, Start Num: 58

Candidate Starts for Leperchaun\_8:

(7, 6162), (21, 6339), (Start: 58 @6432 has 207 MA's), (68, 6456), (77, 6495), (84, 6528), (90, 6540), (95, 6561), (97, 6567), (98, 6570), (104, 6588), (123, 6621), (131, 6639), (132, 6645), (139, 6657), (150, 6675), (153, 6684), (160, 6708), (165, 6735), (167, 6738), (176, 6756),

Gene: Leroy\_10 Start: 6481, Stop: 6828, Start Num: 56

Candidate Starts for Leroy\_10:

(43, 6445), (Start: 56 @6481 has 18 MA's), (71, 6520), (79, 6562), (106, 6634), (118, 6655), (119, 6658), (134, 6691), (146, 6718), (151, 6736), (164, 6787), (170, 6802), (173, 6808), (176, 6817),

Gene: Leston\_13 Start: 9600, Stop: 9962, Start Num: 53

Candidate Starts for Leston\_13:



(Start: 53 @9600 has 165 MA's), (68, 9621), (91, 9702), (100, 9738), (102, 9744), (116, 9762), (124, 9780), (140, 9819), (148, 9828), (153, 9849), (168, 9909), (176, 9924), (177, 9927),

Gene: Liefie\_10 Start: 8810, Stop: 9166, Start Num: 53

Candidate Starts for Liefie\_10:

(26, 8744), (Start: 30 @8750 has 2 MA's), (48, 8801), (Start: 51 @8807 has 17 MA's), (Start: 53 @8810 has 165 MA's), (68, 8840), (123, 8999), (124, 9002), (157, 9083), (172, 9137),

Gene: LilMoolah\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for LilMoolah\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (90, 6552), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (165, 6747), (167, 6750), (176, 6768),

Gene: LilPharaoh\_11 Start: 8651, Stop: 9004, Start Num: 54

Candidate Starts for LilPharaoh\_11:

(Start: 54 @8651 has 17 MA's), (68, 8672), (94, 8762), (116, 8813), (119, 8819), (124, 8831), (151, 8891), (153, 8900), (168, 8960), (176, 8975), (177, 8978),

Gene: LilSpotty\_9 Start: 6468, Stop: 6830, Start Num: 59

Candidate Starts for LilSpotty\_9:

(Start: 59 @6468 has 35 MA's), (72, 6504), (79, 6543), (87, 6570), (90, 6576), (95, 6597), (96, 6600), (120, 6648), (129, 6669), (131, 6672), (132, 6678), (142, 6702), (154, 6750), (168, 6804), (176, 6819),

Gene: Lilas\_10 Start: 7484, Stop: 7831, Start Num: 59

Candidate Starts for Lilas\_10:

(Start: 59 @7484 has 35 MA's), (91, 7592), (149, 7739), (173, 7811),

Gene: LindNT\_15 Start: 9328, Stop: 9684, Start Num: 53

Candidate Starts for LindNT\_15:

(Start: 53 @9328 has 165 MA's), (68, 9352), (89, 9430), (91, 9433), (124, 9511), (153, 9580), (168, 9640), (176, 9655),

Gene: LitninMcQueen\_10 Start: 6485, Stop: 6832, Start Num: 56

Candidate Starts for LitninMcQueen\_10:

(43, 6449), (Start: 56 @6485 has 18 MA's), (71, 6524), (118, 6659), (119, 6662), (134, 6695), (151, 6740), (164, 6791), (170, 6806), (176, 6821),

Gene: LittleShirley\_9 Start: 6297, Stop: 6626, Start Num: 58

Candidate Starts for LittleShirley\_9:

(Start: 58 @6297 has 207 MA's), (68, 6321), (77, 6360), (84, 6393), (90, 6405), (95, 6426), (97, 6432), (98, 6435), (104, 6453), (123, 6486), (131, 6504), (132, 6510), (139, 6522), (150, 6540), (153, 6549), (160, 6573), (165, 6600), (167, 6603), (176, 6621),

Gene: Lizziana\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for Lizziana\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (90, 6553), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (164, 6739), (165, 6748), (167, 6751), (176, 6769),

Gene: Llama\_8 Start: 6442, Stop: 6771, Start Num: 58

Candidate Starts for Llama\_8:

(7, 6172), (21, 6349), (Start: 58 @6442 has 207 MA's), (68, 6466), (77, 6505), (84, 6538), (90, 6550), (95, 6571), (97, 6577), (98, 6580), (104, 6598), (123, 6631), (131, 6649), (132, 6655), (150, 6685), (153, 6694), (160, 6718), (165, 6745), (167, 6748), (176, 6766),

Gene: Llij\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for Llij\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (90, 6568), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (123, 6649), (131, 6667), (132, 6673), (139, 6685), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Llorens\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Llorens\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: LonelyBoi\_10 Start: 7331, Stop: 7678, Start Num: 59

Candidate Starts for LonelyBoi\_10:

(Start: 59 @7331 has 35 MA's), (91, 7439), (149, 7586), (173, 7658),

Gene: Lorde\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Lorde\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: LouisV14\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for LouisV14\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Lucky10\_9 Start: 6000, Stop: 6341, Start Num: 59

Candidate Starts for Lucky10\_9:

(52, 5988), (Start: 59 @6000 has 35 MA's), (83, 6093), (95, 6126), (119, 6168), (124, 6180), (138, 6207), (144, 6225), (145, 6228), (175, 6327), (176, 6330),

Gene: LunaBlu\_8 Start: 6420, Stop: 6752, Start Num: 58

Candidate Starts for LunaBlu\_8:

(Start: 58 @6420 has 207 MA's), (68, 6444), (73, 6462), (81, 6501), (87, 6522), (97, 6555), (103, 6573), (117, 6597), (123, 6609), (125, 6615), (131, 6627), (132, 6633), (150, 6663), (160, 6696),

Gene: LunaStella\_9 Start: 6903, Stop: 7235, Start Num: 58

Candidate Starts for LunaStella\_9:

(Start: 58 @6903 has 207 MA's), (68, 6927), (81, 6987), (87, 7008), (90, 7014), (109, 7074), (117, 7083), (120, 7089), (124, 7095), (153, 7155), (154, 7158), (172, 7218), (176, 7227),

Gene: Lunahalos\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Lunahalos\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Lutum\_10 Start: 6480, Stop: 6827, Start Num: 56

Candidate Starts for Lutum\_10:

(43, 6444), (Start: 56 @6480 has 18 MA's), (71, 6519), (79, 6561), (118, 6654), (119, 6657), (134, 6690), (151, 6735), (170, 6801), (176, 6816),

Gene: MAnor\_10 Start: 6691, Stop: 7032, Start Num: 61

Candidate Starts for MAnor\_10:

(Start: 61 @6691 has 48 MA's), (73, 6727), (116, 6850), (123, 6865), (145, 6913), (173, 7012),

Gene: MOOREtheMARYer\_10 Start: 8995, Stop: 9348, Start Num: 53

Candidate Starts for MOOREtheMARYer\_10:

(1, 8611), (11, 8806), (22, 8899), (42, 8962), (Start: 53 @8995 has 165 MA's), (73, 9043), (78, 9073), (107, 9154), (124, 9184), (139, 9220), (167, 9310), (176, 9328),

Gene: MScarn\_12 Start: 6901, Stop: 7242, Start Num: 61

Candidate Starts for MScarn\_12:

(Start: 61 @6901 has 48 MA's), (95, 7024), (156, 7165), (170, 7216), (173, 7222),

Gene: MaVan\_12 Start: 7820, Stop: 8170, Start Num: 61

Candidate Starts for MaVan\_12:

(37, 7760), (47, 7796), (Start: 61 @7820 has 48 MA's), (68, 7838), (75, 7862), (79, 7889), (118, 7985), (124, 8000), (138, 8030), (153, 8084), (168, 8141),

Gene: MacnCheese\_15 Start: 9598, Stop: 9951, Start Num: 53

Candidate Starts for MacnCheese\_15:

(Start: 53 @9598 has 165 MA's), (68, 9619), (94, 9709), (124, 9778), (125, 9781), (140, 9817), (153, 9847), (176, 9922), (177, 9925),

Gene: Maco6\_10 Start: 7480, Stop: 7854, Start Num: 50

Candidate Starts for Maco6\_10:

(Start: 50 @7480 has 9 MA's), (85, 7591), (125, 7687), (174, 7831),

Gene: MadMen\_8 Start: 6459, Stop: 6788, Start Num: 58

Candidate Starts for MadMen\_8:

(7, 6189), (21, 6366), (Start: 58 @6459 has 207 MA's), (68, 6483), (77, 6522), (84, 6555), (90, 6567), (95, 6588), (97, 6594), (98, 6597), (104, 6615), (123, 6648), (131, 6666), (132, 6672), (139, 6684), (150, 6702), (153, 6711), (160, 6735), (165, 6762), (167, 6765), (176, 6783),

Gene: Madiba\_9 Start: 6294, Stop: 6623, Start Num: 58

Candidate Starts for Madiba\_9:

(Start: 58 @6294 has 207 MA's), (68, 6318), (77, 6357), (84, 6390), (90, 6402), (95, 6423), (97, 6429), (98, 6432), (104, 6450), (123, 6483), (131, 6501), (132, 6507), (139, 6519), (150, 6537), (153, 6546), (160, 6570), (165, 6597), (167, 6600), (176, 6618),

Gene: Mahavrat\_8 Start: 6432, Stop: 6761, Start Num: 58

Candidate Starts for Mahavrat\_8:

(7, 6162), (21, 6339), (Start: 58 @6432 has 207 MA's), (68, 6456), (77, 6495), (84, 6528), (90, 6540), (95, 6561), (97, 6567), (98, 6570), (104, 6588), (123, 6621), (131, 6639), (132, 6645), (139, 6657), (150, 6675), (153, 6684), (160, 6708), (165, 6735), (167, 6738), (176, 6756),

Gene: MalagasyRose\_16 Start: 9681, Stop: 10070, Start Num: 64

Candidate Starts for MalagasyRose\_16:

(Start: 64 @9681 has 2 MA's), (91, 9786), (102, 9816), (126, 9864), (128, 9870), (144, 9906), (149, 9924), (158, 9948), (166, 9984), (171, 9996), (180, 10047),

Gene: Malisha\_10 Start: 7530, Stop: 7877, Start Num: 56

Candidate Starts for Malisha\_10:

(12, 7341), (16, 7398), (17, 7401), (36, 7479), (43, 7494), (44, 7497), (Start: 56 @7530 has 18 MA's), (71, 7569), (79, 7611), (91, 7644), (118, 7704), (119, 7707), (134, 7740), (151, 7785), (176, 7866),

Gene: Malthus\_16 Start: 10530, Stop: 10886, Start Num: 55

Candidate Starts for Malthus\_16:

(Start: 55 @10530 has 41 MA's), (91, 10644), (127, 10728), (139, 10758), (153, 10791), (157, 10803), (172, 10857),

Gene: Mandlovu\_8 Start: 6433, Stop: 6762, Start Num: 58

Candidate Starts for Mandlovu\_8:

(7, 6163), (21, 6340), (Start: 58 @6433 has 207 MA's), (68, 6457), (77, 6496), (84, 6529), (90, 6541), (95, 6562), (97, 6568), (98, 6571), (104, 6589), (123, 6622), (131, 6640), (132, 6646), (150, 6676), (153, 6685), (160, 6709), (165, 6736), (167, 6739), (176, 6757),

Gene: Mantra\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for Mantra\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (123, 6649), (131, 6667), (132, 6673), (139, 6685), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Maravista\_8 Start: 6433, Stop: 6762, Start Num: 58

Candidate Starts for Maravista\_8:

(7, 6163), (21, 6340), (Start: 58 @6433 has 207 MA's), (68, 6457), (77, 6496), (84, 6529), (90, 6541), (95, 6562), (97, 6568), (98, 6571), (104, 6589), (123, 6622), (131, 6640), (132, 6646), (139, 6658), (150, 6676), (153, 6685), (160, 6709), (164, 6727), (165, 6736), (167, 6739), (176, 6757),

Gene: Marcoliusprime\_11 Start: 7362, Stop: 7712, Start Num: 55

Candidate Starts for Marcoliusprime\_11:

(Start: 55 @7362 has 41 MA's), (69, 7386), (77, 7422), (91, 7464), (94, 7473), (95, 7485), (124, 7542), (140, 7581), (153, 7611), (168, 7671), (172, 7677), (176, 7686),

Gene: Margaret\_13 Start: 7641, Stop: 7979, Start Num: 61

Candidate Starts for Margaret\_13:

(27, 7551), (28, 7554), (31, 7560), (Start: 61 @7641 has 48 MA's), (73, 7677), (89, 7740), (144, 7860), (173, 7959),

Gene: MarkPhew\_15 Start: 8204, Stop: 8557, Start Num: 53

Candidate Starts for MarkPhew\_15:

(Start: 53 @8204 has 165 MA's), (68, 8225), (73, 8243), (78, 8273), (92, 8309), (116, 8366), (124, 8384), (125, 8387), (140, 8423), (153, 8453), (168, 8513), (176, 8528), (177, 8531),

Gene: Marker\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for Marker\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (77, 6358), (84, 6391), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Marmie\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Marmie\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Marshawn\_16 Start: 8898, Stop: 9251, Start Num: 53

Candidate Starts for Marshawn\_16:

(Start: 53 @8898 has 165 MA's), (95, 9021), (102, 9042), (116, 9060), (124, 9078), (139, 9114), (177, 9225),

Gene: Marteena\_10 Start: 7484, Stop: 7831, Start Num: 59

Candidate Starts for Marteena\_10:

(Start: 59 @7484 has 35 MA's), (91, 7592), (149, 7739), (173, 7811),

Gene: Martik\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for Martik\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (90, 6553), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (164, 6739), (165, 6748), (167, 6751), (176, 6769),

Gene: Mattes\_8 Start: 6435, Stop: 6764, Start Num: 58

Candidate Starts for Mattes\_8:

(7, 6165), (21, 6342), (Start: 58 @6435 has 207 MA's), (68, 6459), (77, 6498), (84, 6531), (90, 6543), (95, 6564), (97, 6570), (98, 6573), (104, 6591), (123, 6624), (131, 6642), (132, 6648), (150, 6678), (153, 6687), (160, 6711), (165, 6738), (167, 6741), (176, 6759),

Gene: Mayweather\_11 Start: 7324, Stop: 7665, Start Num: 61

Candidate Starts for Mayweather\_11:

(Start: 61 @7324 has 48 MA's), (73, 7360), (116, 7483), (123, 7498), (145, 7546), (173, 7645),

Gene: Mdavu\_11 Start: 8639, Stop: 8992, Start Num: 54

Candidate Starts for Mdavu\_11:

(Start: 54 @8639 has 17 MA's), (68, 8660), (94, 8750), (116, 8801), (119, 8807), (124, 8819), (151, 8879), (153, 8888), (168, 8948), (176, 8963), (177, 8966),

Gene: MeaningOfLife\_15 Start: 9337, Stop: 9693, Start Num: 53

Candidate Starts for MeaningOfLife\_15:

(Start: 53 @9337 has 165 MA's), (68, 9361), (89, 9439), (91, 9442), (94, 9451), (124, 9520), (153, 9589), (168, 9649), (176, 9664),

Gene: Megsy\_15 Start: 9331, Stop: 9687, Start Num: 53

Candidate Starts for Megsy\_15:

(Start: 53 @9331 has 165 MA's), (68, 9355), (91, 9436), (124, 9514), (153, 9583), (168, 9643), (176, 9658),

Gene: Melissauren88\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Melissauren88\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Mercurio\_11 Start: 8738, Stop: 9103, Start Num: 51

Candidate Starts for Mercurio\_11:

(1, 8369), (26, 8675), (Start: 51 @8738 has 17 MA's), (Start: 62 @8756 has 1 MA's), (78, 8825), (89, 8858), (123, 8936), (124, 8939), (147, 8984), (167, 9065),

Gene: MilanaBonita\_9 Start: 7094, Stop: 7426, Start Num: 58

Candidate Starts for MilanaBonita\_9:

(Start: 58 @7094 has 207 MA's), (68, 7118), (73, 7136), (81, 7175), (87, 7196), (93, 7211), (97, 7229), (103, 7247), (117, 7271), (123, 7283), (125, 7289), (131, 7301), (132, 7307), (150, 7337), (160, 7370),

Gene: MilleniumForce\_9 Start: 7094, Stop: 7426, Start Num: 58

Candidate Starts for MilleniumForce\_9:

(Start: 58 @7094 has 207 MA's), (68, 7118), (73, 7136), (81, 7175), (87, 7196), (93, 7211), (97, 7229), (103, 7247), (117, 7271), (123, 7283), (125, 7289), (131, 7301), (132, 7307), (150, 7337), (160, 7370),

Gene: Milly\_11 Start: 7362, Stop: 7712, Start Num: 55

Candidate Starts for Milly\_11:

(Start: 55 @7362 has 41 MA's), (69, 7386), (77, 7422), (91, 7464), (94, 7473), (95, 7485), (124, 7542), (140, 7581), (153, 7611), (168, 7671), (172, 7677), (176, 7686),

Gene: MinionDave\_9 Start: 7094, Stop: 7426, Start Num: 58

Candidate Starts for MinionDave\_9:

(Start: 58 @7094 has 207 MA's), (68, 7118), (73, 7136), (81, 7175), (87, 7196), (93, 7211), (97, 7229), (103, 7247), (117, 7271), (125, 7289), (131, 7301), (132, 7307), (150, 7337), (160, 7370),

Gene: Minnie\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for Minnie\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (90, 6568), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (123, 6649), (131, 6667), (132, 6673), (139, 6685), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Miryou\_13 Start: 9448, Stop: 9810, Start Num: 53

Candidate Starts for Miryou\_13:

(Start: 53 @9448 has 165 MA's), (68, 9469), (91, 9550), (100, 9586), (102, 9592), (116, 9610), (124, 9628), (140, 9667), (153, 9697), (168, 9757), (176, 9772), (177, 9775),

Gene: Misha28\_9 Start: 6299, Stop: 6628, Start Num: 58

Candidate Starts for Misha28\_9:

(Start: 58 @6299 has 207 MA's), (68, 6323), (77, 6362), (84, 6395), (90, 6407), (95, 6428), (97, 6434), (98, 6437), (104, 6455), (117, 6476), (123, 6488), (131, 6506), (132, 6512), (139, 6524), (150, 6542), (153, 6551), (160, 6575), (165, 6602), (167, 6605), (176, 6623),

Gene: MissDaisy\_16 Start: 10384, Stop: 10740, Start Num: 55

Candidate Starts for MissDaisy\_16:

(Start: 55 @10384 has 41 MA's), (91, 10498), (127, 10582), (139, 10612), (153, 10645), (157, 10657), (172, 10711),

Gene: MisterCuddles\_8 Start: 6449, Stop: 6778, Start Num: 58

Candidate Starts for MisterCuddles\_8:

(Start: 58 @6449 has 207 MA's), (68, 6473), (77, 6512), (84, 6545), (90, 6557), (95, 6578), (97, 6584), (98, 6587), (104, 6605), (123, 6638), (131, 6656), (132, 6662), (150, 6692), (153, 6701), (160, 6725), (165, 6752), (167, 6755), (176, 6773),

Gene: Mitti\_16 Start: 10534, Stop: 10890, Start Num: 55

Candidate Starts for Mitti\_16:

(Start: 55 @10534 has 41 MA's), (91, 10648), (127, 10732), (139, 10762), (153, 10795), (157, 10807), (172, 10861),

Gene: Modragons\_8 Start: 6442, Stop: 6771, Start Num: 58

Candidate Starts for Modragons\_8:

(7, 6172), (21, 6349), (Start: 58 @6442 has 207 MA's), (68, 6466), (77, 6505), (84, 6538), (90, 6550), (95, 6571), (97, 6577), (98, 6580), (104, 6598), (123, 6631), (131, 6649), (132, 6655), (150, 6685), (153, 6694), (160, 6718), (165, 6745), (167, 6748), (176, 6766),

Gene: Moonbeam\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for Moonbeam\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (165, 6748), (167, 6751), (176, 6769),

Gene: Morkie\_9 Start: 5962, Stop: 6303, Start Num: 59

Candidate Starts for Morkie\_9:

(15, 5809), (41, 5917), (52, 5950), (Start: 59 @5962 has 35 MA's), (83, 6055), (119, 6130), (124, 6142), (138, 6169), (144, 6187), (175, 6289), (176, 6292),

Gene: MortyNRick\_10 Start: 6791, Stop: 7132, Start Num: 59

Candidate Starts for MortyNRick\_10:

(32, 6716), (45, 6758), (Start: 59 @6791 has 35 MA's), (68, 6812), (76, 6842), (118, 6956), (119, 6959), (121, 6965), (127, 6977), (153, 7043), (173, 7112), (175, 7118), (176, 7121),

Gene: Mova\_9 Start: 6298, Stop: 6627, Start Num: 58

Candidate Starts for Mova\_9:

(Start: 58 @6298 has 207 MA's), (68, 6322), (77, 6361), (84, 6394), (90, 6406), (95, 6427), (97, 6433), (98, 6436), (104, 6454), (117, 6475), (123, 6487), (131, 6505), (132, 6511), (139, 6523), (150, 6541), (153, 6550), (160, 6574), (165, 6601), (167, 6604), (176, 6622),

Gene: Mowgli\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Mowgli\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Mozy\_9 Start: 6294, Stop: 6626, Start Num: 58

Candidate Starts for Mozy\_9:

(Start: 58 @6294 has 207 MA's), (68, 6318), (73, 6336), (87, 6396), (93, 6411), (103, 6447), (117, 6471), (123, 6483), (125, 6489), (131, 6501), (132, 6507), (150, 6537), (160, 6570),

Gene: Ms6\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Ms6\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Muddy\_12 Start: 8430, Stop: 8804, Start Num: 50

Candidate Starts for Muddy\_12:

(Start: 50 @8430 has 9 MA's), (85, 8541), (125, 8637), (174, 8781), (178, 8796),

Gene: Mufasa\_11 Start: 7348, Stop: 7698, Start Num: 55

Candidate Starts for Mufasa\_11:

(Start: 55 @7348 has 41 MA's), (69, 7372), (73, 7387), (77, 7408), (91, 7450), (94, 7459), (95, 7471), (124, 7528), (125, 7531), (140, 7567), (153, 7597), (168, 7657), (172, 7663), (176, 7672),

Gene: MulchSalad\_8 Start: 6446, Stop: 6775, Start Num: 58

Candidate Starts for MulchSalad\_8:

(7, 6176), (21, 6353), (Start: 58 @6446 has 207 MA's), (68, 6470), (77, 6509), (84, 6542), (90, 6554), (95, 6575), (97, 6581), (98, 6584), (104, 6602), (123, 6635), (131, 6653), (132, 6659), (150, 6689), (153, 6698), (160, 6722), (165, 6749), (167, 6752), (176, 6770),

Gene: MunkgeeRoachy\_11 Start: 6971, Stop: 7312, Start Num: 61

Candidate Starts for MunkgeeRoachy\_11:

(Start: 61 @6971 has 48 MA's), (66, 6980), (79, 7040), (118, 7133), (146, 7196), (156, 7235),

Gene: Murucutumbu\_15 Start: 9315, Stop: 9671, Start Num: 53

Candidate Starts for Murucutumbu\_15:

(Start: 53 @9315 has 165 MA's), (68, 9339), (91, 9420), (102, 9462), (124, 9498), (153, 9567), (168, 9627), (176, 9642),

Gene: Mutaforma13\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Mutaforma13\_8:

(Start: 58 @6446 has 207 MA's), (67, 6467), (68, 6470), (77, 6509), (87, 6548), (97, 6581), (98, 6584), (112, 6617), (117, 6623), (131, 6653), (132, 6659), (150, 6689), (160, 6722), (165, 6749), (172, 6761), (176, 6770),

Gene: Mynx\_15 Start: 9384, Stop: 9740, Start Num: 53

Candidate Starts for Mynx\_15:

(Start: 53 @9384 has 165 MA's), (68, 9408), (89, 9486), (91, 9489), (94, 9498), (124, 9567), (153, 9636), (168, 9696), (176, 9711),

Gene: Nebkiss\_7 Start: 7029, Stop: 7367, Start Num: 59

Candidate Starts for Nebkiss\_7:

(Start: 59 @7029 has 35 MA's), (67, 7050), (68, 7053), (87, 7131), (90, 7137), (95, 7158), (96, 7161), (99, 7170), (121, 7212), (141, 7257), (153, 7284), (154, 7287), (167, 7338), (176, 7356),

Gene: Nergal\_14 Start: 10144, Stop: 10533, Start Num: 64

Candidate Starts for Nergal\_14:

(8, 9859), (Start: 64 @10144 has 2 MA's), (102, 10279), (104, 10285), (126, 10327), (128, 10333), (166, 10447), (171, 10459),

Gene: Nibb\_14 Start: 8345, Stop: 8698, Start Num: 53

Candidate Starts for Nibb\_14:

(Start: 53 @8345 has 165 MA's), (68, 8366), (73, 8384), (92, 8450), (116, 8507), (124, 8525), (125, 8528), (140, 8564), (153, 8594), (168, 8654), (176, 8669), (177, 8672),

Gene: Nibbles\_12 Start: 7820, Stop: 8170, Start Num: 61

Candidate Starts for Nibbles\_12:

(37, 7760), (47, 7796), (Start: 61 @7820 has 48 MA's), (68, 7838), (75, 7862), (79, 7889), (118, 7985), (124, 8000), (138, 8030), (153, 8084), (168, 8141),

Gene: Nikao\_11 Start: 8651, Stop: 9004, Start Num: 54

Candidate Starts for Nikao\_11:

(Start: 54 @8651 has 17 MA's), (68, 8672), (94, 8762), (116, 8813), (119, 8819), (124, 8831), (151, 8891), (153, 8900), (168, 8960), (176, 8975), (177, 8978),

Gene: Niklas\_15 Start: 8435, Stop: 8788, Start Num: 54

Candidate Starts for Niklas\_15:

(Start: 54 @8435 has 17 MA's), (68, 8456), (89, 8534), (95, 8558), (116, 8597), (124, 8615), (140, 8654), (153, 8684), (168, 8744), (176, 8759), (177, 8762),



Gene: Nimbo\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Nimbo\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Nina\_11 Start: 7957, Stop: 8298, Start Num: 61

Candidate Starts for Nina\_11:

(Start: 61 @7957 has 48 MA's), (66, 7966), (79, 8026), (118, 8119), (149, 8203), (156, 8221),

Gene: Nitzel\_9 Start: 7096, Stop: 7425, Start Num: 58

Candidate Starts for Nitzel\_9:

(7, 6826), (21, 7003), (Start: 58 @7096 has 207 MA's), (68, 7120), (77, 7159), (84, 7192), (95, 7225), (97, 7231), (98, 7234), (104, 7252), (123, 7285), (131, 7303), (132, 7309), (139, 7321), (150, 7339), (153, 7348), (160, 7372), (165, 7399), (167, 7402), (176, 7420),

Gene: Nivrat\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for Nivrat\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (90, 6552), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (164, 6738), (165, 6747), (167, 6750), (176, 6768),

Gene: NoShow\_10 Start: 7573, Stop: 7956, Start Num: 46

Candidate Starts for NoShow\_10:

(14, 7408), (20, 7483), (29, 7513), (Start: 46 @7573 has 1 MA's), (65, 7603), (79, 7666), (88, 7693), (118, 7771), (119, 7774), (121, 7780), (125, 7789), (146, 7834), (176, 7933),

Gene: Nodigi\_12 Start: 7925, Stop: 8263, Start Num: 61

Candidate Starts for Nodigi\_12:

(3, 7541), (5, 7628), (28, 7841), (Start: 61 @7925 has 48 MA's), (89, 8024), (144, 8144), (145, 8147), (170, 8237), (173, 8243),

Gene: NormanBulbieJr\_8 Start: 6431, Stop: 6760, Start Num: 58

Candidate Starts for NormanBulbieJr\_8:

(7, 6161), (21, 6338), (Start: 58 @6431 has 207 MA's), (68, 6455), (77, 6494), (84, 6527), (90, 6539), (95, 6560), (97, 6566), (98, 6569), (104, 6587), (123, 6620), (131, 6638), (132, 6644), (139, 6656), (150, 6674), (153, 6683), (160, 6707), (165, 6734), (167, 6737), (176, 6755),

Gene: Nutello\_11 Start: 8651, Stop: 9004, Start Num: 54

Candidate Starts for Nutello\_11:

(Start: 54 @8651 has 17 MA's), (68, 8672), (94, 8762), (116, 8813), (119, 8819), (124, 8831), (151, 8891), (153, 8900), (168, 8960), (176, 8975), (177, 8978),

Gene: ODay\_10 Start: 6511, Stop: 6858, Start Num: 57

Candidate Starts for ODay\_10:

(6, 6226), (9, 6259), (38, 6460), (Start: 57 @6511 has 2 MA's), (91, 6622), (127, 6703), (138, 6724), (144, 6742), (153, 6769), (175, 6841), (176, 6844),

Gene: Ochi17\_8 Start: 6442, Stop: 6771, Start Num: 58

Candidate Starts for Ochi17\_8:

(7, 6172), (21, 6349), (Start: 58 @6442 has 207 MA's), (68, 6466), (77, 6505), (84, 6538), (90, 6550), (95, 6571), (97, 6577), (98, 6580), (104, 6598), (123, 6631), (131, 6649), (132, 6655), (150, 6685),

(153, 6694), (160, 6718), (165, 6745), (167, 6748), (176, 6766),

Gene: OctaviousRex\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for OctaviousRex\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: OfUltron\_8 Start: 6442, Stop: 6771, Start Num: 58

Candidate Starts for OfUltron\_8:

(7, 6172), (21, 6349), (Start: 58 @6442 has 207 MA's), (68, 6466), (77, 6505), (84, 6538), (90, 6550), (95, 6571), (97, 6577), (98, 6580), (104, 6598), (123, 6631), (131, 6649), (132, 6655), (150, 6685), (153, 6694), (160, 6718), (165, 6745), (167, 6748), (176, 6766),

Gene: Ogoopogo\_11 Start: 6698, Stop: 7027, Start Num: 58

Candidate Starts for Ogoopogo\_11:

(33, 6647), (35, 6653), (Start: 58 @6698 has 207 MA's), (68, 6722), (77, 6761), (84, 6794), (95, 6827), (97, 6833), (98, 6836), (104, 6854), (123, 6887), (131, 6905), (132, 6911), (139, 6923), (150, 6941), (153, 6950), (160, 6974), (165, 7001), (167, 7004), (176, 7022),

Gene: OkiRoe\_13 Start: 9470, Stop: 9832, Start Num: 53

Candidate Starts for OkiRoe\_13:

(Start: 53 @9470 has 165 MA's), (68, 9491), (91, 9572), (100, 9608), (102, 9614), (116, 9632), (124, 9650), (140, 9689), (153, 9719), (168, 9779), (176, 9794), (177, 9797),

Gene: Oksu\_9 Start: 6297, Stop: 6626, Start Num: 58

Candidate Starts for Oksu\_9:

(Start: 58 @6297 has 207 MA's), (68, 6321), (77, 6360), (84, 6393), (90, 6405), (95, 6426), (97, 6432), (98, 6435), (104, 6453), (123, 6486), (131, 6504), (132, 6510), (150, 6540), (153, 6549), (160, 6573), (165, 6600), (167, 6603), (176, 6621),

Gene: OldBen\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for OldBen\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Olga\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Olga\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: OlympiaSaint\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for OlympiaSaint\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (165, 6747), (167, 6750), (176, 6768),

Gene: OmniCritical\_16 Start: 10521, Stop: 10877, Start Num: 55

Candidate Starts for OmniCritical\_16:

(Start: 55 @10521 has 41 MA's), (91, 10635), (127, 10719), (139, 10749), (153, 10782), (157, 10794), (172, 10848),

Gene: Omnicron\_13 Start: 8530, Stop: 8898, Start Num: 49

Candidate Starts for Omnicron\_13:

(Start: 49 @8530 has 3 MA's), (68, 8557), (91, 8638), (116, 8698), (124, 8716), (140, 8755), (153, 8785), (168, 8845), (176, 8860), (177, 8863),

Gene: Orla\_12 Start: 7929, Stop: 8267, Start Num: 61

Candidate Starts for Orla\_12:

(5, 7632), (28, 7845), (Start: 61 @7929 has 48 MA's), (89, 8028), (144, 8148), (145, 8151), (170, 8241), (173, 8247),

Gene: Oscar\_14 Start: 8309, Stop: 8662, Start Num: 53

Candidate Starts for Oscar\_14:

(Start: 53 @8309 has 165 MA's), (68, 8330), (75, 8354), (92, 8414), (116, 8471), (124, 8489), (140, 8528), (152, 8555), (153, 8558), (168, 8618), (176, 8633), (177, 8636),

Gene: Ovechkin\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Ovechkin\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: OwlsT2W\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for OwlsT2W\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: P3MA\_10 Start: 7100, Stop: 7444, Start Num: 57

Candidate Starts for P3MA\_10:

(Start: 57 @7100 has 2 MA's), (125, 7295), (136, 7307), (176, 7436),

Gene: PHappiness\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for PHappiness\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: PMC\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for PMC\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (90, 6568), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (123, 6649), (131, 6667), (132, 6673), (139, 6685), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Pacc40\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Pacc40\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Pace1224\_10 Start: 8880, Stop: 9236, Start Num: 53

Candidate Starts for Pace1224\_10:

(1, 8511), (11, 8712), (42, 8853), (Start: 53 @8880 has 165 MA's), (75, 8934), (78, 8958), (124, 9072), (153, 9141), (167, 9198), (176, 9216),

Gene: Padfoot\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Padfoot\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Padpat\_15 Start: 9364, Stop: 9720, Start Num: 53

Candidate Starts for Padpat\_15:

(Start: 53 @9364 has 165 MA's), (68, 9388), (91, 9469), (94, 9478), (124, 9547), (153, 9616), (168, 9676), (176, 9691),

Gene: Paito\_10 Start: 8910, Stop: 9266, Start Num: 53

Candidate Starts for Paito\_10:

(Start: 30 @8850 has 2 MA's), (48, 8901), (Start: 53 @8910 has 165 MA's), (76, 8970), (123, 9099), (124, 9102), (153, 9171),

Gene: Paola\_13 Start: 9470, Stop: 9832, Start Num: 53

Candidate Starts for Paola\_13:

(Start: 53 @9470 has 165 MA's), (68, 9491), (91, 9572), (100, 9608), (102, 9614), (116, 9632), (124, 9650), (140, 9689), (153, 9719), (168, 9779), (176, 9794), (177, 9797),

Gene: Patt\_16 Start: 10360, Stop: 10716, Start Num: 55

Candidate Starts for Patt\_16:

(Start: 55 @10360 has 41 MA's), (91, 10474), (127, 10558), (139, 10588), (153, 10621), (157, 10633), (172, 10687),

Gene: Peanam\_15 Start: 8435, Stop: 8788, Start Num: 54

Candidate Starts for Peanam\_15:

(Start: 54 @8435 has 17 MA's), (68, 8456), (89, 8534), (95, 8558), (116, 8597), (124, 8615), (140, 8654), (153, 8684), (168, 8744), (176, 8759), (177, 8762),

Gene: Peeb\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Peeb\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Peel\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Peel\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Periodt\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Periodt\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Periwinkle\_10 Start: 6480, Stop: 6827, Start Num: 56

Candidate Starts for Periwinkle\_10:

(43, 6444), (Start: 56 @6480 has 18 MA's), (71, 6519), (79, 6561), (106, 6633), (118, 6654), (119, 6657), (134, 6690), (151, 6735), (164, 6786), (176, 6816),

Gene: Phabuloso\_10 Start: 6485, Stop: 6832, Start Num: 56

Candidate Starts for Phabuloso\_10:

(43, 6449), (Start: 56 @6485 has 18 MA's), (71, 6524), (118, 6659), (119, 6662), (134, 6695), (151, 6740), (164, 6791), (170, 6806), (176, 6821),

Gene: Phalconet\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Phalconet\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Phanphagia\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Phanphagia\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (157, 6707), (160, 6722),

Gene: Pharb\_14 Start: 9218, Stop: 9571, Start Num: 53

Candidate Starts for Pharb\_14:

(25, 9152), (Start: 53 @9218 has 165 MA's), (68, 9239), (91, 9320), (124, 9398), (125, 9401), (140, 9437), (168, 9527), (176, 9542), (177, 9545),

Gene: Phasih\_8 Start: 6459, Stop: 6788, Start Num: 58

Candidate Starts for Phasih\_8:

(Start: 58 @6459 has 207 MA's), (68, 6483), (77, 6522), (84, 6555), (90, 6567), (95, 6588), (97, 6594), (98, 6597), (104, 6615), (123, 6648), (131, 6666), (132, 6672), (150, 6702), (153, 6711), (160, 6735), (165, 6762), (167, 6765), (176, 6783),

Gene: Phatniss\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Phatniss\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: PhelpsODU\_14 Start: 8347, Stop: 8700, Start Num: 55

Candidate Starts for PhelpsODU\_14:

(Start: 55 @8347 has 41 MA's), (100, 8485), (124, 8527), (153, 8596), (168, 8656), (176, 8671),

Gene: PhesterPhotato\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for PhesterPhotato\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Philus\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for Philus\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (90, 6552), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (164, 6738), (165, 6747), (167, 6750), (176, 6768),

Gene: Phish\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Phish\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Phistory\_10 Start: 6469, Stop: 6816, Start Num: 56

Candidate Starts for Phistory\_10:

(43, 6433), (Start: 56 @6469 has 18 MA's), (71, 6508), (79, 6550), (118, 6643), (119, 6646), (151, 6724), (164, 6775), (170, 6790), (176, 6805),

Gene: PhorbesPhlower\_9 Start: 5962, Stop: 6303, Start Num: 59

Candidate Starts for PhorbesPhlower\_9:

(15, 5809), (41, 5917), (52, 5950), (Start: 59 @5962 has 35 MA's), (83, 6055), (119, 6130), (124, 6142), (138, 6169), (144, 6187), (175, 6289), (176, 6292),

Gene: Phrank\_14 Start: 8291, Stop: 8644, Start Num: 55

Candidate Starts for Phrank\_14:

(Start: 55 @8291 has 41 MA's), (100, 8429), (116, 8453), (124, 8471), (153, 8540), (168, 8600), (176, 8615),

Gene: Phreak\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for Phreak\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Piatt\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Piatt\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: PinkYoshi\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for PinkYoshi\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Pinnie\_11 Start: 9461, Stop: 9814, Start Num: 53

Candidate Starts for Pinnie\_11:

(11, 9272), (22, 9365), (42, 9428), (Start: 53 @9461 has 165 MA's), (73, 9509), (78, 9539), (124, 9650), (139, 9686), (167, 9776), (176, 9794),

Gene: Piper2020\_9 Start: 6298, Stop: 6627, Start Num: 58

Candidate Starts for Piper2020\_9:

(Start: 58 @6298 has 207 MA's), (68, 6322), (77, 6361), (84, 6394), (95, 6427), (97, 6433), (98, 6436), (104, 6454), (123, 6487), (131, 6505), (132, 6511), (139, 6523), (150, 6541), (153, 6550), (160, 6574), (164, 6592), (165, 6601), (167, 6604), (176, 6622),

Gene: Pippy\_8 Start: 6431, Stop: 6760, Start Num: 58

Candidate Starts for Pippy\_8:

(7, 6161), (21, 6338), (Start: 58 @6431 has 207 MA's), (68, 6455), (77, 6494), (84, 6527), (90, 6539), (95, 6560), (97, 6566), (98, 6569), (104, 6587), (123, 6620), (131, 6638), (132, 6644), (139, 6656), (150, 6674), (153, 6683), (160, 6707), (165, 6734), (167, 6737), (176, 6755),

Gene: Pixie\_14 Start: 9122, Stop: 9475, Start Num: 53

Candidate Starts for Pixie\_14:

(Start: 53 @9122 has 165 MA's), (68, 9143), (91, 9224), (94, 9233), (124, 9302), (125, 9305), (168, 9431), (176, 9446),

Gene: Plagueis\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Plagueis\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Plumbus\_9 Start: 6297, Stop: 6626, Start Num: 58

Candidate Starts for Plumbus\_9:

(Start: 58 @6297 has 207 MA's), (68, 6321), (77, 6360), (84, 6393), (90, 6405), (95, 6426), (97, 6432), (98, 6435), (104, 6453), (123, 6486), (131, 6504), (132, 6510), (139, 6522), (150, 6540), (153, 6549), (160, 6573), (165, 6600), (167, 6603), (176, 6621),

Gene: Poenanya\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Poenanya\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Pokerus\_14 Start: 9318, Stop: 9674, Start Num: 53

Candidate Starts for Pokerus\_14:

(Start: 53 @9318 has 165 MA's), (68, 9342), (91, 9423), (94, 9432), (124, 9501), (153, 9570), (168, 9630), (176, 9645),

Gene: Polka14\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for Polka14\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (90, 6552), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (165, 6747), (167, 6750), (176, 6768),

Gene: Pollux\_10 Start: 7484, Stop: 7831, Start Num: 59

Candidate Starts for Pollux\_10:

(Start: 59 @7484 has 35 MA's), (91, 7592), (149, 7739), (173, 7811),

Gene: Pollywog\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Pollywog\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Pons\_10 Start: 6703, Stop: 7044, Start Num: 61

Candidate Starts for Pons\_10:

(Start: 61 @6703 has 48 MA's), (73, 6739), (116, 6862), (123, 6877), (145, 6925), (173, 7024),

Gene: PopTart\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for PopTart\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Posh\_10 Start: 7478, Stop: 7825, Start Num: 59

Candidate Starts for Posh\_10:

(Start: 59 @7478 has 35 MA's), (91, 7586), (149, 7733), (173, 7805),

Gene: PotPie\_11 Start: 7554, Stop: 7895, Start Num: 61

Candidate Starts for PotPie\_11:

(Start: 61 @7554 has 48 MA's), (73, 7590), (116, 7713), (173, 7875),

Gene: Priscilla\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for Priscilla\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (90, 6552), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (165, 6747), (167, 6750), (176, 6768),

Gene: Prithvi\_15 Start: 9328, Stop: 9684, Start Num: 53

Candidate Starts for Prithvi\_15:

(Start: 53 @9328 has 165 MA's), (68, 9352), (89, 9430), (91, 9433), (124, 9511), (153, 9580), (168, 9640), (176, 9655),

Gene: Psycho\_13 Start: 9437, Stop: 9799, Start Num: 53

Candidate Starts for Psycho\_13:

(Start: 53 @9437 has 165 MA's), (75, 9482), (91, 9539), (100, 9575), (102, 9581), (116, 9599), (124, 9617), (153, 9686), (168, 9746), (176, 9761),

Gene: PsychoKiller\_10 Start: 6923, Stop: 7264, Start Num: 61

Candidate Starts for PsychoKiller\_10:

(Start: 61 @6923 has 48 MA's), (66, 6932), (79, 6992), (118, 7085), (156, 7187),

Gene: Pytheas\_10 Start: 7331, Stop: 7678, Start Num: 59

Candidate Starts for Pytheas\_10:

(Start: 59 @7331 has 35 MA's), (91, 7439), (105, 7484), (149, 7586), (173, 7658),

Gene: Quasar\_10 Start: 7538, Stop: 7879, Start Num: 61

Candidate Starts for Quasar\_10:

(Start: 61 @7538 has 48 MA's), (66, 7547), (79, 7607), (118, 7700), (156, 7802),

Gene: QuickMath\_8 Start: 6447, Stop: 6779, Start Num: 58

Candidate Starts for QuickMath\_8:

(Start: 58 @6447 has 207 MA's), (68, 6471), (73, 6489), (81, 6528), (87, 6549), (93, 6564), (97, 6582), (103, 6600), (117, 6624), (123, 6636), (125, 6642), (131, 6654), (132, 6660), (150, 6690), (160, 6723),

Gene: Quico\_9 Start: 6291, Stop: 6620, Start Num: 58

Candidate Starts for Quico\_9:

(Start: 58 @6291 has 207 MA's), (68, 6315), (77, 6354), (84, 6387), (90, 6399), (95, 6420), (97, 6426), (98, 6429), (104, 6447), (123, 6480), (131, 6498), (132, 6504), (139, 6516), (150, 6534), (153, 6543), (160, 6567), (165, 6594), (167, 6597), (176, 6615),

Gene: QuincyRose\_14 Start: 9381, Stop: 9737, Start Num: 53

Candidate Starts for QuincyRose\_14:

(Start: 53 @9381 has 165 MA's), (68, 9405), (91, 9486), (94, 9495), (124, 9564), (153, 9633), (168, 9693), (176, 9708),

Gene: Rabbs\_10 Start: 8791, Stop: 9150, Start Num: 51

Candidate Starts for Rabbs\_10:

(2, 8431), (4, 8500), (Start: 30 @8734 has 2 MA's), (48, 8785), (Start: 51 @8791 has 17 MA's), (Start: 53 @8794 has 165 MA's), (123, 8983), (124, 8986), (153, 9055), (172, 9121),

Gene: Radiance\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Radiance\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),



Gene: Ramen\_15 Start: 9364, Stop: 9720, Start Num: 53

Candidate Starts for Ramen\_15:

(Start: 53 @9364 has 165 MA's), (68, 9388), (89, 9466), (91, 9469), (94, 9478), (124, 9547), (153, 9616), (168, 9676), (176, 9691),

Gene: Ramsey\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for Ramsey\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (77, 6358), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Rando14\_13 Start: 8432, Stop: 8800, Start Num: 49

Candidate Starts for Rando14\_13:

(Start: 49 @8432 has 3 MA's), (68, 8459), (91, 8540), (116, 8600), (124, 8618), (140, 8657), (141, 8660), (168, 8747), (176, 8762), (177, 8765),

Gene: Rapunzel97\_15 Start: 9365, Stop: 9721, Start Num: 53

Candidate Starts for Rapunzel97\_15:

(Start: 53 @9365 has 165 MA's), (68, 9389), (89, 9467), (91, 9470), (94, 9479), (124, 9548), (153, 9617), (168, 9677), (176, 9692),

Gene: RedBaron\_11 Start: 6968, Stop: 7309, Start Num: 61

Candidate Starts for RedBaron\_11:

(Start: 61 @6968 has 48 MA's), (66, 6977), (79, 7037), (118, 7130), (156, 7232),

Gene: RedBird\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for RedBird\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Remy19\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for Remy19\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Renaissance\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Renaissance\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Renaud18\_9 Start: 6780, Stop: 7112, Start Num: 58

Candidate Starts for Renaud18\_9:

(Start: 58 @6780 has 207 MA's), (68, 6804), (81, 6864), (87, 6885), (90, 6891), (109, 6951), (117, 6960), (120, 6966), (124, 6972), (153, 7032), (154, 7035), (172, 7095), (176, 7104),

Gene: Reptar3000\_16 Start: 10362, Stop: 10718, Start Num: 55

Candidate Starts for Reptar3000\_16:

(Start: 55 @10362 has 41 MA's), (91, 10476), (127, 10560), (139, 10590), (153, 10623), (157, 10635), (172, 10689),

Gene: Rialto\_9 Start: 6297, Stop: 6626, Start Num: 58

Candidate Starts for Rialto\_9:

(Start: 58 @6297 has 207 MA's), (68, 6321), (77, 6360), (84, 6393), (90, 6405), (95, 6426), (97, 6432), (98, 6435), (104, 6453), (123, 6486), (131, 6504), (132, 6510), (139, 6522), (150, 6540), (153, 6549), (160, 6573), (165, 6600), (167, 6603), (176, 6621),

Gene: Rita\_8 Start: 6447, Stop: 6779, Start Num: 58

Candidate Starts for Rita\_8:

(Start: 58 @6447 has 207 MA's), (68, 6471), (73, 6489), (81, 6528), (87, 6549), (93, 6564), (97, 6582), (103, 6600), (117, 6624), (123, 6636), (125, 6642), (131, 6654), (132, 6660), (150, 6690), (160, 6723),

Gene: RitaG\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for RitaG\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Rockne\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for Rockne\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (90, 6568), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (123, 6649), (131, 6667), (132, 6673), (139, 6685), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: RockyHorror\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for RockyHorror\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (77, 6358), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (104, 6451), (117, 6472), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Ronaldo\_44 Start: 16656, Stop: 17036, Start Num: 50

Candidate Starts for Ronaldo\_44:

(Start: 50 @16656 has 9 MA's), (87, 16773), (122, 16860), (137, 16899), (155, 16941), (163, 16977), (169, 16995), (174, 17010), (179, 17031),

Gene: Rosmarinus\_15 Start: 9392, Stop: 9748, Start Num: 53

Candidate Starts for Rosmarinus\_15:

(Start: 53 @9392 has 165 MA's), (68, 9416), (91, 9497), (124, 9575), (140, 9614), (153, 9644), (168, 9704), (176, 9719),

Gene: Royals2015\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Royals2015\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Ruby\_8 Start: 6449, Stop: 6778, Start Num: 58

Candidate Starts for Ruby\_8:

(Start: 58 @6449 has 207 MA's), (68, 6473), (77, 6512), (84, 6545), (90, 6557), (95, 6578), (97, 6584), (98, 6587), (104, 6605), (123, 6638), (131, 6656), (132, 6662), (150, 6692), (153, 6701), (160, 6725), (165, 6752), (167, 6755), (176, 6773),

Gene: Ruthiejr\_15 Start: 10216, Stop: 10572, Start Num: 55

Candidate Starts for Ruthiejr\_15:

(Start: 55 @10216 has 41 MA's), (91, 10330), (127, 10414), (139, 10444), (153, 10477), (172, 10543),

Gene: SG4\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for SG4\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Saal\_8 Start: 6432, Stop: 6761, Start Num: 58

Candidate Starts for Saal\_8:

(7, 6162), (21, 6339), (Start: 58 @6432 has 207 MA's), (68, 6456), (77, 6495), (84, 6528), (90, 6540), (95, 6561), (97, 6567), (98, 6570), (104, 6588), (123, 6621), (131, 6639), (132, 6645), (139, 6657), (150, 6675), (153, 6684), (160, 6708), (165, 6735), (167, 6738), (176, 6756),

Gene: Sabbb\_8 Start: 6447, Stop: 6776, Start Num: 58

Candidate Starts for Sabbb\_8:

(Start: 58 @6447 has 207 MA's), (68, 6471), (77, 6510), (84, 6543), (95, 6576), (97, 6582), (98, 6585), (104, 6603), (123, 6636), (131, 6654), (132, 6660), (150, 6690), (153, 6699), (160, 6723), (165, 6750), (167, 6753), (176, 6771),

Gene: SamScheppers\_14 Start: 10137, Stop: 10493, Start Num: 55

Candidate Starts for SamScheppers\_14:

(Start: 55 @10137 has 41 MA's), (91, 10251), (127, 10335), (139, 10365), (153, 10398), (157, 10410), (172, 10464),

Gene: SamuelLPlaqson\_15 Start: 9306, Stop: 9662, Start Num: 53

Candidate Starts for SamuelLPlaqson\_15:

(Start: 53 @9306 has 165 MA's), (68, 9330), (124, 9489), (153, 9558), (168, 9618), (176, 9633),

Gene: Sandalphon\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for Sandalphon\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (90, 6568), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (123, 6649), (131, 6667), (132, 6673), (139, 6685), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Sarma624\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for Sarma624\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Sassafras\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Sassafras\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: SassyB\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for SassyB\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Scarlett\_14 Start: 8308, Stop: 8661, Start Num: 53

Candidate Starts for Scarlett\_14:

(Start: 53 @8308 has 165 MA's), (68, 8329), (75, 8353), (92, 8413), (116, 8470), (124, 8488), (140, 8527), (152, 8554), (153, 8557), (168, 8617), (176, 8632), (177, 8635),

Gene: Schiebel\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for Schiebel\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Scottish\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Scottish\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (165, 6746), (167, 6749), (176, 6767),

Gene: Seabastian\_8 Start: 6442, Stop: 6771, Start Num: 58

Candidate Starts for Seabastian\_8:

(7, 6172), (21, 6349), (Start: 58 @6442 has 207 MA's), (68, 6466), (77, 6505), (84, 6538), (90, 6550), (95, 6571), (97, 6577), (98, 6580), (104, 6598), (123, 6631), (131, 6649), (132, 6655), (150, 6685), (153, 6694), (160, 6718), (165, 6745), (167, 6748), (176, 6766),

Gene: Seagreen\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Seagreen\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (117, 6473), (123, 6485), (131, 6503), (132, 6509), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: SgtBeansprout\_11 Start: 8651, Stop: 9004, Start Num: 54

Candidate Starts for SgtBeansprout\_11:

(Start: 54 @8651 has 17 MA's), (68, 8672), (94, 8762), (116, 8813), (119, 8819), (124, 8831), (151, 8891), (153, 8900), (168, 8960), (176, 8975), (177, 8978),

Gene: ShaboiShabazz\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for ShaboiShabazz\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: Shadow1\_13 Start: 8202, Stop: 8555, Start Num: 55

Candidate Starts for Shadow1\_13:

(Start: 55 @8202 has 41 MA's), (102, 8346), (116, 8364), (124, 8382), (140, 8421), (153, 8451), (168, 8511), (176, 8526),

Gene: Shaobing\_15 Start: 8435, Stop: 8788, Start Num: 54

Candidate Starts for Shaobing\_15:

(Start: 54 @8435 has 17 MA's), (68, 8456), (89, 8534), (95, 8558), (116, 8597), (124, 8615), (140, 8654), (153, 8684), (168, 8744), (176, 8759), (177, 8762),

Gene: Shauna1\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Shauna1\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (157, 6707), (160, 6722),

Gene: SheckWes\_9 Start: 6691, Stop: 7032, Start Num: 61

Candidate Starts for SheckWes\_9:

(Start: 61 @6691 has 48 MA's), (73, 6727), (89, 6790), (116, 6850), (123, 6865), (145, 6913), (173, 7012),

Gene: ShedlockHolmes\_14 Start: 9370, Stop: 9723, Start Num: 53

Candidate Starts for ShedlockHolmes\_14:

(Start: 53 @9370 has 165 MA's), (68, 9391), (91, 9472), (94, 9481), (124, 9550), (125, 9553), (168, 9679), (176, 9694),

Gene: ShiLan\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for ShiLan\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (90, 6552), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (164, 6738), (165, 6747), (167, 6750), (176, 6768),

Gene: ShiaSurprise\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for ShiaSurprise\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: ShowerHandel\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for ShowerHandel\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (90, 6553), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (164, 6739), (165, 6748), (167, 6751), (176, 6769),

Gene: ShroomBoi\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for ShroomBoi\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: SiSi\_8 Start: 6431, Stop: 6763, Start Num: 58

Candidate Starts for SiSi\_8:

(Start: 58 @6431 has 207 MA's), (68, 6455), (73, 6473), (81, 6512), (87, 6533), (93, 6548), (97, 6566), (103, 6584), (117, 6608), (123, 6620), (125, 6626), (131, 6638), (132, 6644), (150, 6674), (160, 6707),

Gene: SimranZ1\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for SimranZ1\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: SirPhilip\_14 Start: 8065, Stop: 8418, Start Num: 53

Candidate Starts for SirPhilip\_14:

(Start: 53 @8065 has 165 MA's), (68, 8086), (95, 8188), (116, 8227), (124, 8245), (153, 8314), (168, 8374), (176, 8389), (177, 8392),

Gene: Sizemore\_10 Start: 8812, Stop: 9168, Start Num: 53

Candidate Starts for Sizemore\_10:

(26, 8746), (Start: 30 @8752 has 2 MA's), (48, 8803), (Start: 51 @8809 has 17 MA's), (Start: 53 @8812 has 165 MA's), (68, 8842), (123, 9001), (124, 9004), (157, 9085), (172, 9139),

Gene: SketchMex\_9 Start: 6907, Stop: 7248, Start Num: 61

Candidate Starts for SketchMex\_9:

(Start: 61 @6907 has 48 MA's), (95, 7030), (156, 7171), (170, 7222), (173, 7228),

Gene: Slarp\_16 Start: 10621, Stop: 10977, Start Num: 55

Candidate Starts for Slarp\_16:

(Start: 55 @10621 has 41 MA's), (91, 10735), (127, 10819), (139, 10849), (153, 10882), (157, 10894), (172, 10948),

Gene: Sleepyhead\_9 Start: 6893, Stop: 7246, Start Num: 53

Candidate Starts for Sleepyhead\_9:

(Start: 53 @6893 has 165 MA's), (91, 7016), (161, 7196),

Gene: Slimphazie\_15 Start: 9365, Stop: 9721, Start Num: 53

Candidate Starts for Slimphazie\_15:

(Start: 53 @9365 has 165 MA's), (68, 9389), (89, 9467), (91, 9470), (94, 9479), (124, 9548), (153, 9617), (168, 9677), (176, 9692),

Gene: Sneeze\_10 Start: 8793, Stop: 9149, Start Num: 53

Candidate Starts for Sneeze\_10:

(2, 8430), (4, 8499), (Start: 30 @8733 has 2 MA's), (48, 8784), (Start: 51 @8790 has 17 MA's), (Start: 53 @8793 has 165 MA's), (123, 8982), (124, 8985), (153, 9054), (172, 9120),

Gene: SoSeph\_13 Start: 9597, Stop: 9959, Start Num: 53

Candidate Starts for SoSeph\_13:

(Start: 53 @9597 has 165 MA's), (68, 9618), (91, 9699), (100, 9735), (102, 9741), (116, 9759), (124, 9777), (140, 9816), (148, 9825), (153, 9846), (168, 9906), (176, 9921), (177, 9924),

Gene: Sopespian\_10 Start: 6923, Stop: 7264, Start Num: 61

Candidate Starts for Sopespian\_10:

(Start: 61 @6923 has 48 MA's), (66, 6932), (79, 6992), (118, 7085), (156, 7187),

Gene: Soul22\_10 Start: 6437, Stop: 6790, Start Num: 59

Candidate Starts for Soul22\_10:

(40, 6386), (41, 6392), (Start: 59 @6437 has 35 MA's), (70, 6467), (80, 6518), (119, 6623), (127, 6641), (143, 6674), (170, 6764),

Gene: Sparkdehlily\_8 Start: 6459, Stop: 6788, Start Num: 58

Candidate Starts for Sparkdehlily\_8:

(7, 6189), (21, 6366), (Start: 58 @6459 has 207 MA's), (68, 6483), (77, 6522), (84, 6555), (90, 6567), (95, 6588), (97, 6594), (98, 6597), (104, 6615), (123, 6648), (131, 6666), (132, 6672), (139, 6684), (150, 6702), (153, 6711), (160, 6735), (165, 6762), (167, 6765), (176, 6783),

Gene: Spartacus\_8 Start: 6434, Stop: 6766, Start Num: 58

Candidate Starts for Spartacus\_8:

(Start: 58 @6434 has 207 MA's), (67, 6455), (68, 6458), (77, 6497), (87, 6536), (97, 6569), (98, 6572), (112, 6605), (117, 6611), (131, 6641), (132, 6647), (150, 6677), (160, 6710), (165, 6737), (172, 6749), (176, 6758),

Gene: Spartoi\_8 Start: 6006, Stop: 6344, Start Num: 58

Candidate Starts for Spartoi\_8:

(Start: 58 @6006 has 207 MA's), (Start: 64 @6015 has 2 MA's), (69, 6036), (91, 6117), (114, 6174),

Gene: Spikelee\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Spikelee\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548),

(160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Spock\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Spock\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Spooky\_10 Start: 6478, Stop: 6825, Start Num: 56

Candidate Starts for Spooky\_10:

(5, 6193), (10, 6265), (13, 6292), (19, 6367), (36, 6427), (44, 6445), (Start: 56 @6478 has 18 MA's), (71, 6517), (79, 6559), (91, 6592), (118, 6652), (119, 6655), (151, 6733), (164, 6784), (176, 6814),

Gene: Spoonbill\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for Spoonbill\_8:

(Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (90, 6553), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (165, 6748), (167, 6751), (176, 6769),

Gene: Squiddly\_11 Start: 7165, Stop: 7512, Start Num: 56

Candidate Starts for Squiddly\_11:

(43, 7129), (Start: 56 @7165 has 18 MA's), (71, 7204), (79, 7246), (118, 7339), (119, 7342), (151, 7420), (164, 7471), (170, 7486), (176, 7501),

Gene: Squirty\_9 Start: 6294, Stop: 6623, Start Num: 58

Candidate Starts for Squirty\_9:

(Start: 58 @6294 has 207 MA's), (68, 6318), (77, 6357), (84, 6390), (90, 6402), (95, 6423), (97, 6429), (98, 6432), (104, 6450), (123, 6483), (131, 6501), (132, 6507), (139, 6519), (150, 6537), (153, 6546), (160, 6570), (165, 6597), (167, 6600), (176, 6618),

Gene: StAnnes\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for StAnnes\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Stap\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Stap\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (117, 6473), (123, 6485), (131, 6503), (132, 6509), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Starcevich\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Starcevich\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Stargaze\_10 Start: 9061, Stop: 9423, Start Num: 51

Candidate Starts for Stargaze\_10:

(26, 8998), (Start: 51 @9061 has 17 MA's), (118, 9241), (124, 9256), (139, 9292), (167, 9382), (176, 9400),

Gene: SteamedHams\_12 Start: 6942, Stop: 7283, Start Num: 61

Candidate Starts for SteamedHams\_12:

(Start: 61 @6942 has 48 MA's), (119, 7107), (170, 7257), (173, 7263),

Gene: Stinson\_15 Start: 9327, Stop: 9683, Start Num: 53

Candidate Starts for Stinson\_15:

(Start: 53 @9327 has 165 MA's), (68, 9351), (91, 9432), (102, 9474), (124, 9510), (153, 9579), (168, 9639), (176, 9654),

Gene: Strobilo\_12 Start: 7362, Stop: 7712, Start Num: 55

Candidate Starts for Strobilo\_12:

(Start: 55 @7362 has 41 MA's), (69, 7386), (77, 7422), (91, 7464), (94, 7473), (95, 7485), (124, 7542), (140, 7581), (153, 7611), (168, 7671), (172, 7677), (176, 7686),

Gene: Strokeseat\_8 Start: 6433, Stop: 6762, Start Num: 58

Candidate Starts for Strokeseat\_8:

(7, 6163), (21, 6340), (Start: 58 @6433 has 207 MA's), (68, 6457), (77, 6496), (84, 6529), (90, 6541), (95, 6562), (97, 6568), (98, 6571), (104, 6589), (123, 6622), (131, 6640), (132, 6646), (150, 6676), (153, 6685), (160, 6709), (165, 6736), (167, 6739), (176, 6757),

Gene: Sulley\_15 Start: 9334, Stop: 9690, Start Num: 53

Candidate Starts for Sulley\_15:

(Start: 53 @9334 has 165 MA's), (68, 9358), (91, 9439), (94, 9448), (124, 9517), (153, 9586), (168, 9646), (176, 9661),

Gene: SummitAcademy\_9 Start: 6769, Stop: 7110, Start Num: 61

Candidate Starts for SummitAcademy\_9:

(Start: 61 @6769 has 48 MA's), (73, 6805), (116, 6928), (173, 7090),

Gene: Sunflower1121\_13 Start: 8213, Stop: 8566, Start Num: 55

Candidate Starts for Sunflower1121\_13:

(Start: 55 @8213 has 41 MA's), (102, 8357), (116, 8375), (124, 8393), (140, 8432), (153, 8462), (168, 8522), (176, 8537),

Gene: SuperGrey\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for SuperGrey\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Survivors\_12 Start: 7674, Stop: 8024, Start Num: 61

Candidate Starts for Survivors\_12:

(37, 7614), (47, 7650), (Start: 61 @7674 has 48 MA's), (68, 7692), (75, 7716), (79, 7743), (118, 7839), (124, 7854), (138, 7884), (153, 7938), (168, 7995),

Gene: SwagPiggett\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for SwagPiggett\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (90, 6553), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (164, 6739), (165, 6748), (167, 6751), (176, 6769),

Gene: SweatNTears\_12 Start: 7427, Stop: 7768, Start Num: 61

Candidate Starts for SweatNTears\_12:

(Start: 61 @7427 has 48 MA's), (95, 7550), (156, 7691), (170, 7742), (173, 7748),

Gene: Sweets\_10 Start: 8806, Stop: 9162, Start Num: 53



Candidate Starts for Sweets\_10:

(2, 8443), (4, 8512), (26, 8740), (Start: 30 @8746 has 2 MA's), (48, 8797), (Start: 53 @8806 has 165 MA's), (68, 8836), (123, 8995), (124, 8998), (172, 9133),

Gene: Syra333\_14 Start: 8309, Stop: 8662, Start Num: 55

Candidate Starts for Syra333\_14:

(Start: 55 @8309 has 41 MA's), (102, 8453), (116, 8471), (124, 8489), (168, 8618), (176, 8633),

Gene: TBond007\_14 Start: 9121, Stop: 9474, Start Num: 53

Candidate Starts for TBond007\_14:

(Start: 53 @9121 has 165 MA's), (68, 9142), (91, 9223), (94, 9232), (124, 9301), (125, 9304), (168, 9430), (176, 9445),

Gene: TChen\_9 Start: 6903, Stop: 7235, Start Num: 58

Candidate Starts for TChen\_9:

(Start: 58 @6903 has 207 MA's), (68, 6927), (81, 6987), (87, 7008), (90, 7014), (109, 7074), (117, 7083), (120, 7089), (124, 7095), (153, 7155), (154, 7158), (172, 7218), (176, 7227),

Gene: TClif\_14 Start: 8297, Stop: 8650, Start Num: 55

Candidate Starts for TClif\_14:

(Start: 55 @8297 has 41 MA's), (91, 8399), (116, 8459), (124, 8477), (153, 8546), (168, 8606), (176, 8621),

Gene: TDanisky\_8 Start: 6459, Stop: 6788, Start Num: 58

Candidate Starts for TDanisky\_8:

(7, 6189), (21, 6366), (Start: 58 @6459 has 207 MA's), (68, 6483), (77, 6522), (84, 6555), (90, 6567), (95, 6588), (97, 6594), (98, 6597), (104, 6615), (123, 6648), (131, 6666), (132, 6672), (139, 6684), (150, 6702), (153, 6711), (160, 6735), (165, 6762), (167, 6765), (176, 6783),

Gene: TM4\_11 Start: 7414, Stop: 7764, Start Num: 55

Candidate Starts for TM4\_11:

(Start: 55 @7414 has 41 MA's), (69, 7438), (73, 7453), (77, 7474), (91, 7516), (95, 7537), (124, 7594), (140, 7633), (153, 7663), (168, 7723), (172, 7729), (176, 7738),

Gene: TPA4\_10 Start: 7947, Stop: 8351, Start Num: 49

Candidate Starts for TPA4\_10:

(Start: 49 @7947 has 3 MA's), (Start: 51 @7950 has 17 MA's), (88, 8067), (111, 8148), (116, 8154), (148, 8244), (149, 8250), (176, 8340),

Gene: Tachez\_15 Start: 9327, Stop: 9683, Start Num: 53

Candidate Starts for Tachez\_15:

(Start: 53 @9327 has 165 MA's), (68, 9351), (91, 9432), (94, 9441), (124, 9510), (153, 9579), (168, 9639), (176, 9654),

Gene: Taheera\_10 Start: 8743, Stop: 9159, Start Num: 30

Candidate Starts for Taheera\_10:

(2, 8440), (4, 8509), (Start: 30 @8743 has 2 MA's), (48, 8794), (Start: 51 @8800 has 17 MA's), (Start: 53 @8803 has 165 MA's), (123, 8992), (124, 8995), (153, 9064), (172, 9130),

Gene: TaiwanKao\_15 Start: 9334, Stop: 9690, Start Num: 53

Candidate Starts for TaiwanKao\_15:

(Start: 53 @9334 has 165 MA's), (68, 9358), (91, 9439), (124, 9517), (153, 9586), (168, 9646), (176, 9661),

Gene: Taj\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Taj\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Taquito\_14 Start: 10207, Stop: 10563, Start Num: 55

Candidate Starts for Taquito\_14:

(Start: 55 @10207 has 41 MA's), (91, 10321), (127, 10405), (139, 10435), (153, 10468), (172, 10534),

Gene: Terror\_10 Start: 8743, Stop: 9159, Start Num: 30

Candidate Starts for Terror\_10:

(2, 8440), (4, 8509), (Start: 30 @8743 has 2 MA's), (48, 8794), (Start: 51 @8800 has 17 MA's), (Start: 53 @8803 has 165 MA's), (123, 8992), (124, 8995), (153, 9064), (172, 9130),

Gene: ThetaBob\_9 Start: 6783, Stop: 7115, Start Num: 58

Candidate Starts for ThetaBob\_9:

(Start: 58 @6783 has 207 MA's), (68, 6807), (81, 6867), (87, 6888), (90, 6894), (109, 6954), (117, 6963), (120, 6969), (124, 6975), (153, 7035), (154, 7038), (172, 7098), (176, 7107),

Gene: Thyatira\_13 Start: 9469, Stop: 9831, Start Num: 53

Candidate Starts for Thyatira\_13:

(Start: 53 @9469 has 165 MA's), (68, 9490), (91, 9571), (100, 9607), (102, 9613), (116, 9631), (124, 9649), (140, 9688), (153, 9718), (168, 9778), (176, 9793), (177, 9796),

Gene: Tierra\_14 Start: 9012, Stop: 9365, Start Num: 55

Candidate Starts for Tierra\_14:

(Start: 55 @9012 has 41 MA's), (100, 9150), (116, 9174), (124, 9192), (153, 9261), (168, 9321), (176, 9336),

Gene: TiniBug\_15 Start: 9306, Stop: 9662, Start Num: 53

Candidate Starts for TiniBug\_15:

(Start: 53 @9306 has 165 MA's), (68, 9330), (124, 9489), (153, 9558), (168, 9618), (176, 9633),

Gene: Tiri\_15 Start: 9373, Stop: 9729, Start Num: 53

Candidate Starts for Tiri\_15:

(Start: 53 @9373 has 165 MA's), (68, 9397), (91, 9478), (94, 9487), (124, 9556), (153, 9625), (168, 9685), (176, 9700),

Gene: Tolls\_12 Start: 6945, Stop: 7286, Start Num: 61

Candidate Starts for Tolls\_12:

(Start: 61 @6945 has 48 MA's), (119, 7110), (170, 7260), (173, 7266),

Gene: TomBrady\_10 Start: 8812, Stop: 9168, Start Num: 53

Candidate Starts for TomBrady\_10:

(26, 8746), (Start: 30 @8752 has 2 MA's), (48, 8803), (Start: 51 @8809 has 17 MA's), (Start: 53 @8812 has 165 MA's), (68, 8842), (123, 9001), (124, 9004), (157, 9085), (172, 9139),

Gene: TootsiePop\_9 Start: 6299, Stop: 6628, Start Num: 58

Candidate Starts for TootsiePop\_9:

(Start: 58 @6299 has 207 MA's), (68, 6323), (77, 6362), (84, 6395), (90, 6407), (95, 6428), (97, 6434), (98, 6437), (104, 6455), (117, 6476), (123, 6488), (131, 6506), (132, 6512), (139, 6524), (150, 6542), (153, 6551), (160, 6575), (165, 6602), (167, 6605), (176, 6623),

Gene: Tootsieroll\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for Tootsieroll\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (117, 6473), (123, 6485), (131, 6503), (132, 6509), (139, 6521), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Topper\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Topper\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Totinger\_9 Start: 6297, Stop: 6626, Start Num: 58

Candidate Starts for Totinger\_9:

(Start: 58 @6297 has 207 MA's), (68, 6321), (77, 6360), (84, 6393), (90, 6405), (95, 6426), (97, 6432), (98, 6435), (104, 6453), (123, 6486), (131, 6504), (132, 6510), (139, 6522), (150, 6540), (153, 6549), (160, 6573), (165, 6600), (167, 6603), (176, 6621),

Gene: TreyKay\_15 Start: 9328, Stop: 9684, Start Num: 53

Candidate Starts for TreyKay\_15:

(Start: 53 @9328 has 165 MA's), (68, 9352), (89, 9430), (91, 9433), (124, 9511), (153, 9580), (168, 9640), (176, 9655),

Gene: TribbleTrouble\_13 Start: 9179, Stop: 9532, Start Num: 53

Candidate Starts for TribbleTrouble\_13:

(Start: 53 @9179 has 165 MA's), (68, 9200), (91, 9281), (94, 9290), (124, 9359), (125, 9362), (140, 9398), (162, 9470), (168, 9488), (176, 9503),

Gene: Troje\_10 Start: 6901, Stop: 7242, Start Num: 61

Candidate Starts for Troje\_10:

(Start: 61 @6901 has 48 MA's), (95, 7024), (156, 7165), (170, 7216), (173, 7222),

Gene: TruffulaTree\_15 Start: 9361, Stop: 9717, Start Num: 53

Candidate Starts for TruffulaTree\_15:

(Start: 53 @9361 has 165 MA's), (68, 9385), (89, 9463), (91, 9466), (94, 9475), (124, 9544), (153, 9613), (168, 9673), (176, 9688),

Gene: Tweety\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Tweety\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Twitch\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Twitch\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Typhonomachy\_11 Start: 6923, Stop: 7264, Start Num: 61

Candidate Starts for Typhonomachy\_11:

(23, 6824), (24, 6827), (27, 6833), (Start: 61 @6923 has 48 MA's), (66, 6932), (79, 6992), (118, 7085), (156, 7187),

Gene: UncleRicky\_9 Start: 6296, Stop: 6625, Start Num: 58

Candidate Starts for UncleRicky\_9:

(Start: 58 @6296 has 207 MA's), (68, 6320), (77, 6359), (84, 6392), (90, 6404), (95, 6425), (97, 6431), (98, 6434), (104, 6452), (123, 6485), (131, 6503), (132, 6509), (150, 6539), (153, 6548), (160, 6572), (165, 6599), (167, 6602), (176, 6620),

Gene: Unicorn\_14 Start: 8347, Stop: 8700, Start Num: 55

Candidate Starts for Unicorn\_14:

(Start: 55 @8347 has 41 MA's), (100, 8485), (124, 8527), (153, 8596), (168, 8656), (176, 8671),

Gene: Urkel\_15 Start: 9306, Stop: 9662, Start Num: 53

Candidate Starts for Urkel\_15:

(Start: 53 @9306 has 165 MA's), (68, 9330), (124, 9489), (153, 9558), (168, 9618), (176, 9633),

Gene: VRedHorse\_8 Start: 6445, Stop: 6774, Start Num: 58

Candidate Starts for VRedHorse\_8:

(7, 6175), (21, 6352), (Start: 58 @6445 has 207 MA's), (68, 6469), (77, 6508), (84, 6541), (95, 6574), (97, 6580), (98, 6583), (104, 6601), (123, 6634), (131, 6652), (132, 6658), (139, 6670), (150, 6688), (153, 6697), (160, 6721), (165, 6748), (167, 6751), (176, 6769),

Gene: Validus\_15 Start: 8355, Stop: 8708, Start Num: 54

Candidate Starts for Validus\_15:

(Start: 54 @8355 has 17 MA's), (68, 8376), (89, 8454), (116, 8517), (124, 8535), (153, 8604), (168, 8664), (176, 8679), (177, 8682),

Gene: Veliki\_15 Start: 9404, Stop: 9760, Start Num: 53

Candidate Starts for Veliki\_15:

(Start: 53 @9404 has 165 MA's), (68, 9428), (91, 9509), (124, 9587), (140, 9626), (153, 9656), (168, 9716), (176, 9731),

Gene: Velveteen\_9 Start: 6295, Stop: 6624, Start Num: 58

Candidate Starts for Velveteen\_9:

(Start: 58 @6295 has 207 MA's), (68, 6319), (84, 6391), (90, 6403), (95, 6424), (97, 6430), (98, 6433), (104, 6451), (123, 6484), (131, 6502), (132, 6508), (139, 6520), (150, 6538), (153, 6547), (160, 6571), (165, 6598), (167, 6601), (176, 6619),

Gene: Veteran\_8 Start: 6460, Stop: 6789, Start Num: 58

Candidate Starts for Veteran\_8:

(7, 6190), (21, 6367), (Start: 58 @6460 has 207 MA's), (68, 6484), (77, 6523), (84, 6556), (90, 6568), (95, 6589), (97, 6595), (98, 6598), (104, 6616), (117, 6637), (123, 6649), (131, 6667), (132, 6673), (150, 6703), (153, 6712), (160, 6736), (165, 6763), (167, 6766), (176, 6784),

Gene: Vine\_11 Start: 7698, Stop: 8039, Start Num: 61

Candidate Starts for Vine\_11:

(Start: 61 @7698 has 48 MA's), (73, 7734), (116, 7857), (123, 7872), (173, 8019),

Gene: Volt\_43 Start: 16656, Stop: 17036, Start Num: 50

Candidate Starts for Volt\_43:

(Start: 50 @16656 has 9 MA's), (87, 16773), (122, 16860), (137, 16899), (155, 16941), (163, 16977), (169, 16995), (174, 17010), (179, 17031),

Gene: Wachhund\_8 Start: 6436, Stop: 6765, Start Num: 58

Candidate Starts for Wachhund\_8:

(Start: 58 @6436 has 207 MA's), (68, 6460), (77, 6499), (84, 6532), (90, 6544), (95, 6565), (97, 6571), (98, 6574), (104, 6592), (123, 6625), (131, 6643), (132, 6649), (139, 6661), (150, 6679), (153, 6688), (160, 6712), (165, 6739), (167, 6742), (176, 6760),

Gene: Waterfoul\_13 Start: 9491, Stop: 9853, Start Num: 53

Candidate Starts for Waterfoul\_13:

(Start: 53 @9491 has 165 MA's), (68, 9512), (91, 9593), (100, 9629), (102, 9635), (116, 9653), (124, 9671), (140, 9710), (153, 9740), (168, 9800), (176, 9815), (177, 9818),

Gene: Wee\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Wee\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (123, 6635), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Whatsapiecost\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for Whatsapiecost\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Whitney\_10 Start: 6480, Stop: 6827, Start Num: 56

Candidate Starts for Whitney\_10:

(43, 6444), (Start: 56 @6480 has 18 MA's), (71, 6519), (79, 6561), (106, 6633), (118, 6654), (119, 6657), (134, 6690), (151, 6735), (164, 6786), (170, 6801), (176, 6816),

Gene: Whouxphf\_8 Start: 6435, Stop: 6764, Start Num: 58

Candidate Starts for Whouxphf\_8:

(Start: 58 @6435 has 207 MA's), (68, 6459), (77, 6498), (84, 6531), (90, 6543), (95, 6564), (97, 6570), (98, 6573), (104, 6591), (123, 6624), (131, 6642), (132, 6648), (150, 6678), (153, 6687), (160, 6711), (165, 6738), (167, 6741), (176, 6759),

Gene: WillSterrel\_8 Start: 6434, Stop: 6766, Start Num: 58

Candidate Starts for WillSterrel\_8:

(Start: 58 @6434 has 207 MA's), (67, 6455), (68, 6458), (77, 6497), (87, 6536), (97, 6569), (98, 6572), (112, 6605), (117, 6611), (131, 6641), (132, 6647), (150, 6677), (160, 6710), (165, 6737), (172, 6749), (176, 6758),

Gene: Wintermute\_16 Start: 10610, Stop: 10966, Start Num: 55

Candidate Starts for Wintermute\_16:

(Start: 55 @10610 has 41 MA's), (91, 10724), (127, 10808), (139, 10838), (153, 10871), (157, 10883), (172, 10937),

Gene: Wrigley\_10 Start: 7328, Stop: 7675, Start Num: 59

Candidate Starts for Wrigley\_10:

(31, 7250), (Start: 59 @7328 has 35 MA's), (91, 7436), (149, 7583), (173, 7655),

Gene: XFactor\_8 Start: 6446, Stop: 6778, Start Num: 58

Candidate Starts for XFactor\_8:

(Start: 58 @6446 has 207 MA's), (68, 6470), (73, 6488), (81, 6527), (87, 6548), (93, 6563), (97, 6581), (103, 6599), (117, 6623), (125, 6641), (131, 6653), (132, 6659), (150, 6689), (160, 6722),

Gene: Ximenita\_15 Start: 8488, Stop: 8841, Start Num: 55

Candidate Starts for Ximenita\_15:

(Start: 55 @8488 has 41 MA's), (68, 8509), (102, 8632), (116, 8650), (124, 8668), (139, 8704), (153, 8737), (168, 8797), (176, 8812),

Gene: Y10\_16 Start: 10610, Stop: 10966, Start Num: 55

Candidate Starts for Y10\_16:

(Start: 55 @10610 has 41 MA's), (91, 10724), (127, 10808), (139, 10838), (153, 10871), (157, 10883), (172, 10937),

Gene: Y2\_16 Start: 10610, Stop: 10966, Start Num: 55

Candidate Starts for Y2\_16:

(Start: 55 @10610 has 41 MA's), (91, 10724), (127, 10808), (139, 10838), (153, 10871), (157, 10883), (172, 10937),

Gene: Yakult\_11 Start: 6834, Stop: 7175, Start Num: 61

Candidate Starts for Yakult\_11:

(27, 6744), (28, 6747), (31, 6753), (Start: 61 @6834 has 48 MA's), (74, 6876), (79, 6906), (89, 6936), (144, 7056), (145, 7059), (173, 7155),

Gene: Yarn\_9 Start: 6935, Stop: 7276, Start Num: 61

Candidate Starts for Yarn\_9:

(Start: 61 @6935 has 48 MA's), (119, 7100), (170, 7250), (173, 7256),

Gene: Yorick\_8 Start: 6443, Stop: 6772, Start Num: 58

Candidate Starts for Yorick\_8:

(7, 6173), (21, 6350), (Start: 58 @6443 has 207 MA's), (68, 6467), (77, 6506), (84, 6539), (90, 6551), (95, 6572), (97, 6578), (98, 6581), (104, 6599), (117, 6620), (123, 6632), (131, 6650), (132, 6656), (139, 6668), (150, 6686), (153, 6695), (160, 6719), (164, 6737), (165, 6746), (167, 6749), (176, 6767),

Gene: Yoshi\_10 Start: 6437, Stop: 6790, Start Num: 59

Candidate Starts for Yoshi\_10:

(40, 6386), (41, 6392), (Start: 59 @6437 has 35 MA's), (70, 6467), (80, 6518), (119, 6623), (127, 6641), (143, 6674), (170, 6764),

Gene: YoureAdopted\_14 Start: 9337, Stop: 9693, Start Num: 53

Candidate Starts for YoureAdopted\_14:

(Start: 53 @9337 has 165 MA's), (68, 9361), (89, 9439), (91, 9442), (94, 9451), (124, 9520), (153, 9589), (168, 9649), (176, 9664),

Gene: Yummy\_11 Start: 6805, Stop: 7146, Start Num: 61

Candidate Starts for Yummy\_11:

(Start: 61 @6805 has 48 MA's), (95, 6928), (156, 7069), (170, 7120), (173, 7126),

Gene: Yuna\_15 Start: 8481, Stop: 8834, Start Num: 55

Candidate Starts for Yuna\_15:

(Start: 55 @8481 has 41 MA's), (68, 8502), (91, 8583), (116, 8643), (124, 8661), (125, 8664), (153, 8730), (168, 8790), (172, 8796), (176, 8805),

Gene: Yunkel11\_15 Start: 8311, Stop: 8670, Start Num: 54

Candidate Starts for Yunkel11\_15:

(Start: 46 @8296 has 1 MA's), (Start: 54 @8311 has 17 MA's), (68, 8338), (89, 8416), (95, 8440), (116, 8479), (124, 8497), (132, 8521), (139, 8533), (153, 8566), (176, 8641),

Gene: Zabiza\_15 Start: 9386, Stop: 9718, Start Num: 68

Candidate Starts for Zabiza\_15:

(Start: 53 @9362 has 165 MA's), (68, 9386), (89, 9464), (91, 9467), (94, 9476), (124, 9545), (153, 9614), (168, 9674), (176, 9689),

Gene: Zapner\_11 Start: 6962, Stop: 7315, Start Num: 59

Candidate Starts for Zapner\_11:

(40, 6911), (41, 6917), (Start: 59 @6962 has 35 MA's), (70, 6992), (80, 7043), (119, 7148), (127, 7166), (143, 7199), (170, 7289),

Gene: Zareef\_14 Start: 7797, Stop: 8171, Start Num: 47

Candidate Starts for Zareef\_14:

(37, 7761), (47, 7797), (Start: 61 @7821 has 48 MA's), (68, 7839), (75, 7863), (79, 7890), (118, 7986), (124, 8001), (138, 8031), (153, 8085), (168, 8142),

Gene: Zavala\_15 Start: 9343, Stop: 9699, Start Num: 53

Candidate Starts for Zavala\_15:

(Start: 53 @9343 has 165 MA's), (68, 9367), (91, 9448), (94, 9457), (124, 9526), (153, 9595), (168, 9655), (176, 9670),

Gene: Zerg\_8 Start: 6444, Stop: 6773, Start Num: 58

Candidate Starts for Zerg\_8:

(7, 6174), (21, 6351), (Start: 58 @6444 has 207 MA's), (68, 6468), (77, 6507), (84, 6540), (95, 6573), (97, 6579), (98, 6582), (104, 6600), (123, 6633), (131, 6651), (132, 6657), (139, 6669), (150, 6687), (153, 6696), (160, 6720), (165, 6747), (167, 6750), (176, 6768),

Gene: Ziko\_44 Start: 16596, Stop: 16976, Start Num: 50

Candidate Starts for Ziko\_44:

(Start: 50 @16596 has 9 MA's), (87, 16713), (122, 16800), (137, 16839), (155, 16881), (163, 16917), (169, 16935), (174, 16950), (179, 16971),

Gene: Zizzle\_8 Start: 6447, Stop: 6776, Start Num: 58

Candidate Starts for Zizzle\_8:

(7, 6177), (21, 6354), (Start: 58 @6447 has 207 MA's), (68, 6471), (77, 6510), (84, 6543), (90, 6555), (95, 6576), (97, 6582), (98, 6585), (104, 6603), (123, 6636), (131, 6654), (132, 6660), (139, 6672), (150, 6690), (153, 6699), (160, 6723), (164, 6741), (165, 6750), (167, 6753), (176, 6771),

Gene: ZoMa\_10 Start: 8811, Stop: 9167, Start Num: 53

Candidate Starts for ZoMa\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),

Gene: ZoeJ\_11 Start: 7310, Stop: 7669, Start Num: 55

Candidate Starts for ZoeJ\_11:

(Start: 55 @7310 has 41 MA's), (69, 7334), (73, 7349), (77, 7370), (91, 7412), (94, 7421), (95, 7433), (124, 7490), (140, 7529), (153, 7559), (168, 7619), (172, 7625), (176, 7634),

Gene: Zombie\_10 Start: 8808, Stop: 9167, Start Num: 51

Candidate Starts for Zombie\_10:

(26, 8745), (Start: 30 @8751 has 2 MA's), (48, 8802), (Start: 51 @8808 has 17 MA's), (Start: 53 @8811 has 165 MA's), (68, 8841), (123, 9000), (124, 9003), (157, 9084), (172, 9138),