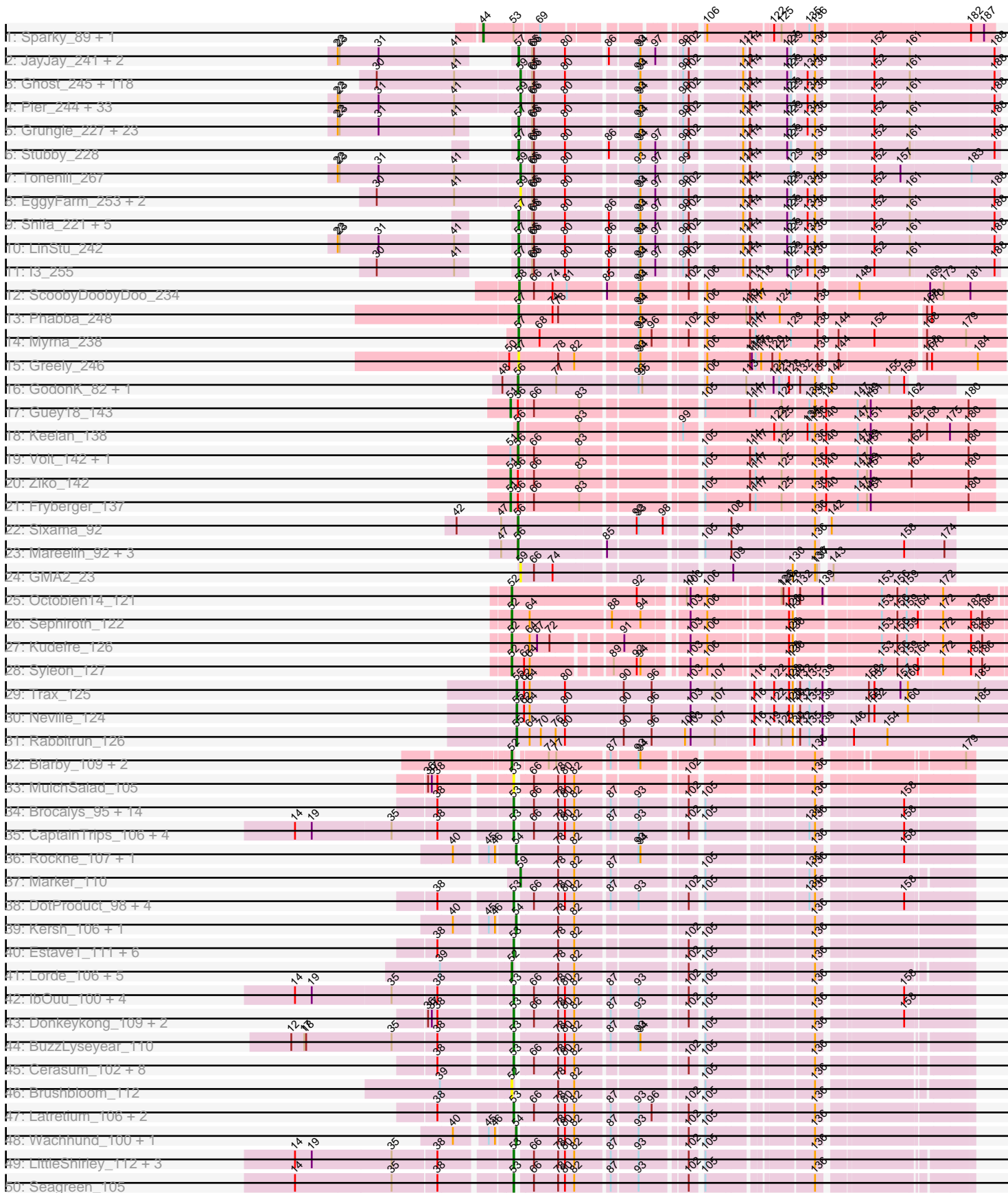
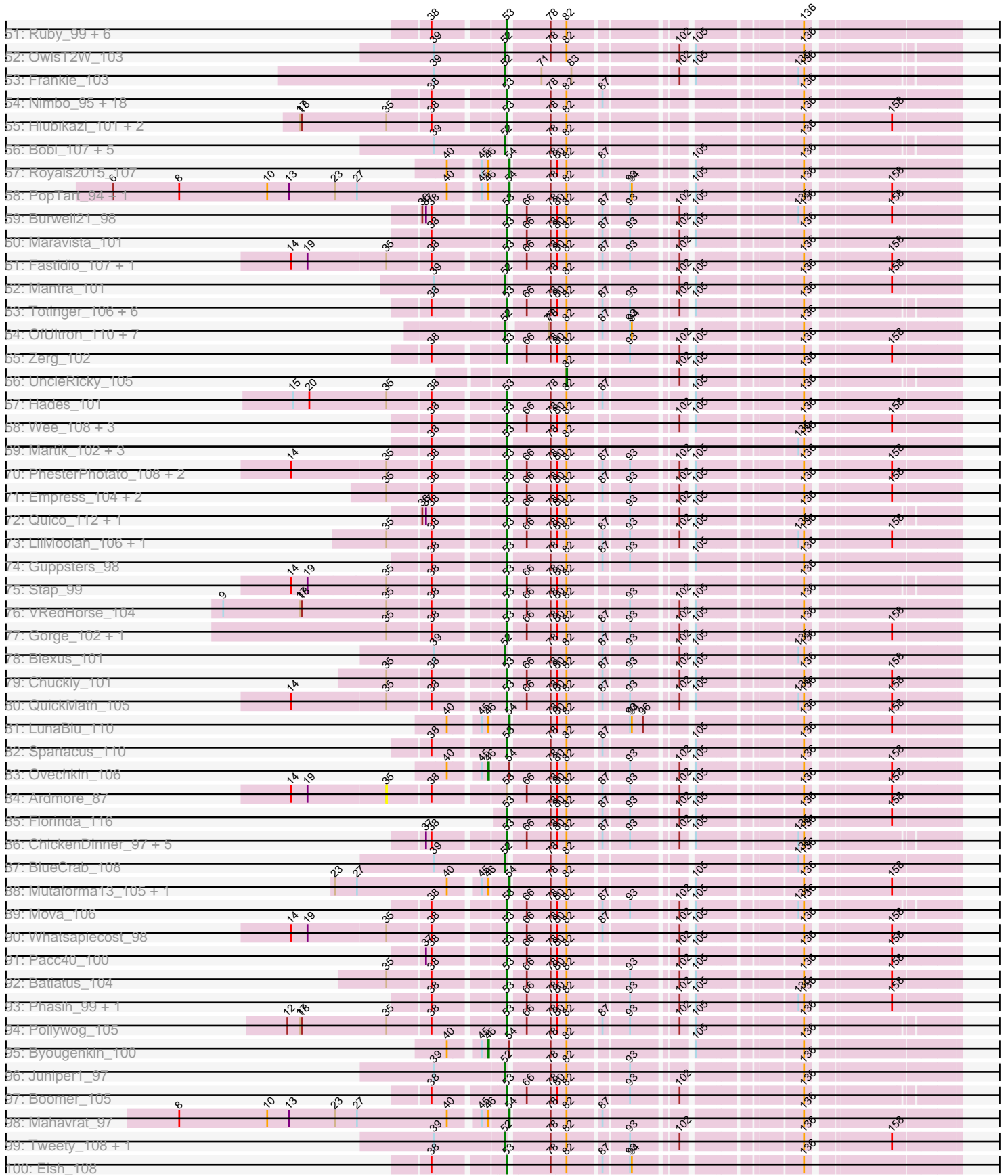


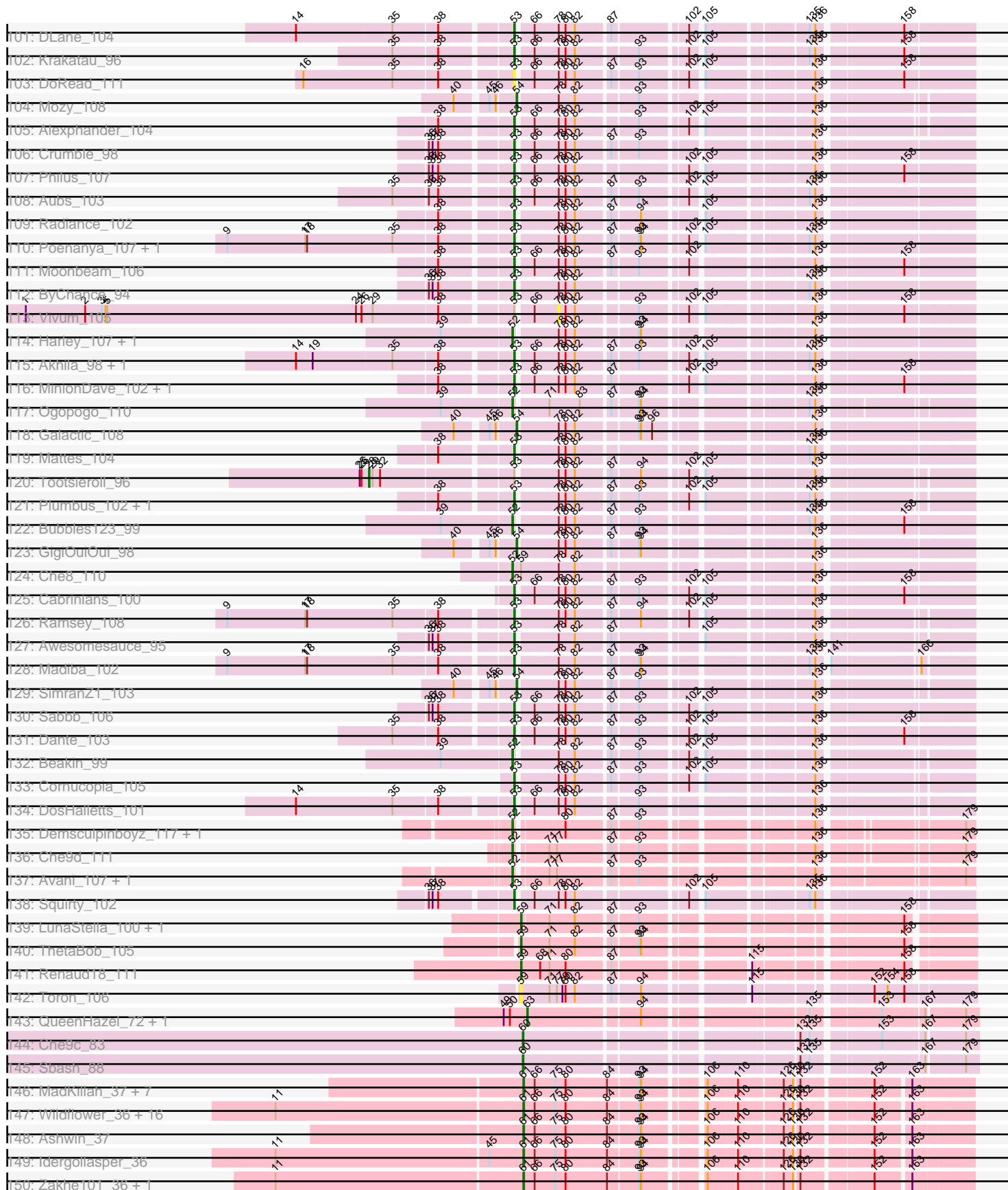
Pham 199886



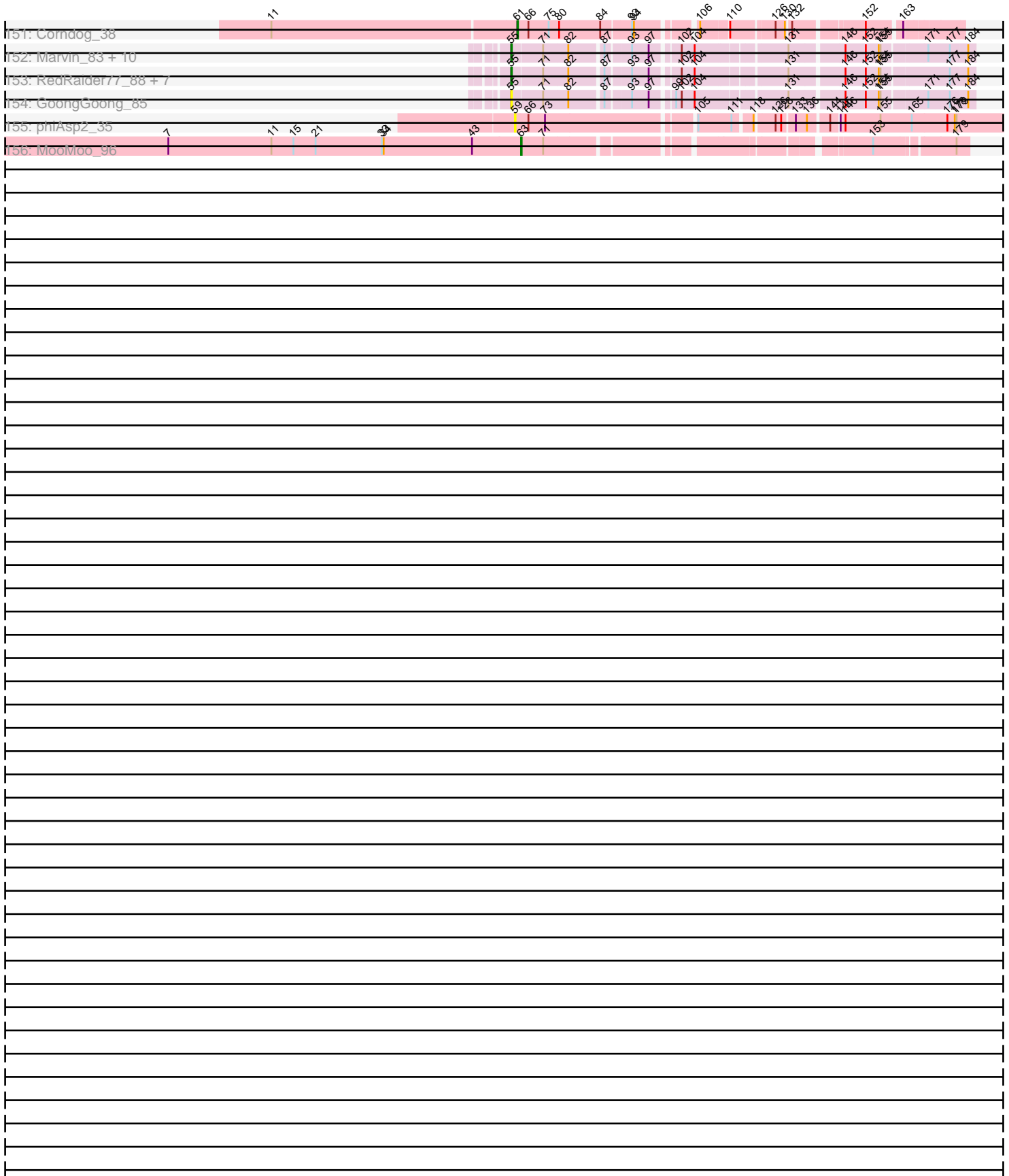
Pham 199886



Pham 199886



Pham 199886



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 199886 Report

This analysis was run 01/18/25 on database version 583.

Pham number 199886 has 519 members, 47 are drafts.

Phages represented in each track:

- Track 1 : Sparky\_89, Farewell\_90
- Track 2 : JayJay\_241, DirtMonster\_234, Sebata\_245
- Track 3 : Ghost\_245, Bxz1\_231, Pivoine\_246, TinyTim\_243, Ablatia\_242, QBert\_237, Naija\_246, Jessibeth14\_245, Kboogie\_249, Delylah\_247, Phusco\_244, Atlantean\_245, Shrimp\_247, Gizmo\_250, Shnickers\_244, Pio\_252, DTDevon\_246, McWolfish\_242, Cali\_235, BananaFence\_242, Janiyra\_248, Shaqnato\_236, JustHall\_239, Astraea\_240, EmmaElysia\_250, Cactojaque\_239, BadAgartude\_239, Khaleesi\_244, CharlieB\_240, Melpomini\_240, Blackdragon\_240, Rizal\_234, Naval22\_250, JulietS\_237, CindyLou\_246, Dietrick\_234, Momo\_247, Quasimodo\_248, ArcherS7\_246, GlutenPhree\_244, Belieber\_237, MoMoMixon\_241, McGee\_246, Jedediah\_247, SmallFry\_246, Trinitium\_241, Rahel\_247, ChickenPhender\_241, Specks\_249, Yucca\_245, Demodog\_251, InigoMontoya\_249, Adlitam\_245, Caravan\_235, BackyardAgain\_240, Bangla1971\_246, FoxtrotP1\_243, NoodleTree\_241, Littleton\_249, Teardrop\_243, BeanWater\_238, ValleyTerrace\_246, Gamgam\_247, JPickles\_242, Lukilu\_234, LRRHood\_237, ShiaLabeouf\_243, EasyJones\_246, Latch\_245, Burrough\_246, Basquiat\_242, Ading\_247, Amataga\_246, Catera\_234, Bread\_241, Tortoise16\_243, Napoleon13\_242, Ngannou\_240, Turret\_236, ChaylaJr\_244, Sprinklers\_243, Jemmno\_245, Pleione\_249, Jaygup\_242, Derek\_241, SVoro\_241, Gabriel\_248, PurduePete\_245, Essence\_243, JigglyPuff\_251, Concombre\_250, LifeSavor\_246, Morizzled23\_242, SilverDipper\_250, Babyland\_248, Matsumoto\_243, Wally\_243, StephanieG\_239, Darko\_244, Maby2021\_245, Guwapp\_241, Sauce\_242, Phlegm\_250, RoMag\_240, IkeLoa\_239, Drazdys\_242, Blackbrain\_243, Erdmann\_246, Chargie21\_242, Audrick\_248, Spud\_237, Fludd\_245, Iota\_242, Asterius\_240, Chomp\_244, ErnieJ\_238, StubbySaigey\_251, Domi\_239, EmToTheThree\_245
- Track 4 : Pier\_244, ET08\_231, Daffodil\_251, Ronan\_241, Bipolarisk\_243, Jezreel\_241, Bonray\_247, Ava3\_242, Phox\_246, YemiJoy2021\_246, DrPhinkDaddy\_242, Capablanca\_250, Megamind\_242, ParkTD\_244, Izajani\_241, Ewok\_244, NedWong\_244, Yassified\_241, Zeenon\_246, Delilah\_243, Lee7\_244, Norm\_245, ZygoTaiga\_241, Salacia\_246, Zalkecks\_244, Roots515\_248, MikeLiesIn\_246, Shelob\_246, Loanshark\_242, Kamryn\_244, Nidhogg\_246, FudgeTart\_240, SrishMeg2525\_242, Willis\_246
- Track 5 : Grungle\_227, LolaVinca\_241, Bigswole\_250, Nappy\_244, Dandelion\_251, Colt\_235, Mikro\_239, Blubba\_232, Cane17\_234, FrayBell\_248, NuevoMundo\_247, Halldule\_237, Koguma\_244, Breeniome\_245, Mangeria\_245, Lethe\_246, Tainan\_245, ScottMcG\_237, InterFolia\_247, Patter\_247, LordLeafolot\_247, Spec\_239, YoungMoneyMata\_245, Tyke\_242

- Track 6 : Stubby\_228
- Track 7 : Tonenili\_267
- Track 8 : EggyFarm\_253, Grasshills\_252, BigCity\_253
- Track 9 : Shifa\_221, Rabinovish\_238, Pinkcreek\_225, HyRo\_230, Alice\_231, Flabslab\_239
- Track 10 : LinStu\_242
- Track 11 : l3\_255
- Track 12 : ScoobyDoobyDoo\_234
- Track 13 : Phabba\_248
- Track 14 : Myrna\_238
- Track 15 : Greely\_246
- Track 16 : GodonK\_82, Phendrix\_80
- Track 17 : Guey18\_143
- Track 18 : Keelan\_138
- Track 19 : Volt\_142, Ronaldo\_139
- Track 20 : Ziko\_142
- Track 21 : Fryberger\_137
- Track 22 : Sixama\_92
- Track 23 : Mareelih\_92, BlueNGold\_93, Forza\_94, Boopy\_94
- Track 24 : GMA2\_23
- Track 25 : Octobien14\_121
- Track 26 : Sephiroth\_122
- Track 27 : Kudrefre\_126
- Track 28 : Syleon\_127
- Track 29 : Trax\_125
- Track 30 : Neville\_124
- Track 31 : Rabbitrun\_126
- Track 32 : Blarby\_109, Zapner\_108, Jabbawokkie\_108
- Track 33 : MulchSalad\_105
- Track 34 : Brocalys\_95, FreddyB\_112, Chevrolet\_108, Whouxphf\_107, Emma\_108, Zizzle\_107, Pippy\_102, NormanBulbieJr\_101, Kenuha5\_95, ArcusAngelus\_104, James\_107, MilleniumForce\_104, ShowerHandel\_106, LastJedi\_94, Bipolar\_105
- Track 35 : CaptainTrips\_106, Fruitloop\_102, Melissauren88\_94, Ms6\_106, SG4\_105
- Track 36 : Rockne\_107, PMC\_103
- Track 37 : Marker\_110
- Track 38 : DotProduct\_98, Phatniss\_100, Gandalph\_103, Rita\_103, Llij\_98
- Track 39 : Kersh\_106, Hegedechwinu\_112
- Track 40 : Estave1\_111, TDanisky\_111, Sparkdehlily\_110, KristaRAM\_112, DRBy19\_103, Minnie\_98, Sandalphon\_102
- Track 41 : Lorde\_106, RockyHorror\_107, DirtMcgirt\_104, Drago\_103, DaWorst\_103, Enby\_107
- Track 42 : IbOuu\_100, StAnnes\_109, Filuzino\_104, Hamulus\_104, IMpilo\_102
- Track 43 : Donkeykong\_109, SuperGrey\_102, OlympiaSaint\_107
- Track 44 : BuzzLyseyear\_110
- Track 45 : Cerasum\_102, BobaPhett\_107, Lizziana\_104, Coco12\_104, SwagPiggett\_105, Sarma624\_105, Kingsley\_112, BigPhil\_100, Velveteen\_100
- Track 46 : Brushbloom\_112
- Track 47 : Latretium\_106, Phanphagia\_108, Shauna1\_105
- Track 48 : Wachhund\_100, Nitzel\_98
- Track 49 : LittleShirley\_112, Juice456\_103, MulchExplorer\_108, Kimberlium\_105
- Track 50 : Seagreen\_105
- Track 51 : Ruby\_99, Fancypants\_110, Doug\_99, Yorick\_99, JalFarm20\_112, Leozinho\_99, Karhdo\_99

- Track 52 : OwlsT2W\_103
- Track 53 : Frankie\_103
- Track 54 : Nimbo\_95, Leperchaun\_105, JoeyJr\_106, PHappiness\_103, Polka14\_107, Daenerys\_101, Geralt\_96, Dorothy\_104, Sassafras\_105, Eradicator\_94, MisterCuddles\_103, RedBird\_104, Inventum\_101, OldBen\_100, Spoonbill\_103, RitaG\_102, Girr\_102, Deb65\_96, DaddyRickover\_105
- Track 55 : Hlubikazi\_101, Mandlovu\_101, Strokeseat\_101
- Track 56 : Bobi\_107, Flathead\_108, WillSterrel\_102, BodEinwohner17\_115, ShroomBoi\_104, IrishSherpFalk\_104
- Track 57 : Royals2015\_107
- Track 58 : PopTart\_94, SassyB\_94
- Track 59 : Burwell21\_98
- Track 60 : Maravista\_101
- Track 61 : Fastidio\_107, DillTech15\_110
- Track 62 : Mantra\_101
- Track 63 : Totinger\_106, Koella\_96, Clifton\_95, Job42\_106, Rialto\_108, Starceвич\_106, Priscilla\_104
- Track 64 : OfUltron\_110, Llama\_110, Ochi17\_109, Jinglebell\_110, Seabastian\_110, Modragons\_106, Oksu\_107, AlpineSix\_101
- Track 65 : Zerg\_102
- Track 66 : UncleRicky\_105
- Track 67 : Hades\_101
- Track 68 : Wee\_108, SiSi\_98, Taj\_109, Veteran\_93
- Track 69 : Martik\_102, ShiLan\_106, Spikelee\_104, Jarcob\_106
- Track 70 : PhesterPhotato\_108, XFactor\_95, Phalconet\_105
- Track 71 : Empress\_104, Scottish\_104, KingMidas\_104
- Track 72 : Quico\_112, Girafales\_112
- Track 73 : LilMoolah\_106, Nivrat\_103
- Track 74 : Guppsters\_98
- Track 75 : Stap\_99
- Track 76 : VRedHorse\_104
- Track 77 : Gorge\_102, Saal\_101
- Track 78 : Blexus\_101
- Track 79 : Chuckly\_101
- Track 80 : QuickMath\_105
- Track 81 : LunaBlu\_110
- Track 82 : Spartacus\_110
- Track 83 : Ovechkin\_106
- Track 84 : Ardmore\_87
- Track 85 : Florinda\_116
- Track 86 : ChickenDinner\_97, DocMcStuffins\_91, Misha28\_93, Piper2020\_98, TootsiePop\_93, Aloeri\_97
- Track 87 : BlueCrab\_108
- Track 88 : Mutaforma13\_105, Firehouse51\_98
- Track 89 : Mova\_106
- Track 90 : Whatsapiecost\_98
- Track 91 : Pacc40\_100
- Track 92 : Batiatus\_104
- Track 93 : Phasih\_99, EleanorGeorge\_107
- Track 94 : Pollywog\_105
- Track 95 : Byougenkin\_100
- Track 96 : Juniper1\_97
- Track 97 : Boomer\_105

- Track 98 : Mahavrat\_97
- Track 99 : Tweety\_108, DeadP\_106
- Track 100 : Eish\_108
- Track 101 : DLane\_104
- Track 102 : Krakatau\_96
- Track 103 : DoRead\_111
- Track 104 : Mozy\_108
- Track 105 : Alexphander\_104
- Track 106 : Crumble\_98
- Track 107 : Philus\_107
- Track 108 : Aubs\_103
- Track 109 : Radiance\_102
- Track 110 : Poenanya\_107, Doomphist\_108
- Track 111 : Moonbeam\_106
- Track 112 : ByChance\_94
- Track 113 : Vivum\_105
- Track 114 : Harley\_107, Ibhubesi\_102
- Track 115 : Akhila\_98, MilanaBonita\_97
- Track 116 : MinionDave\_102, GUmble\_103
- Track 117 : Ogopogo\_110
- Track 118 : Galactic\_108
- Track 119 : Mattes\_104
- Track 120 : Tootsieroll\_96
- Track 121 : Plumbus\_102, MadMen\_108
- Track 122 : Bubbles123\_99
- Track 123 : GigiOuiOui\_98
- Track 124 : Che8\_110
- Track 125 : Cabrinians\_100
- Track 126 : Ramsey\_108
- Track 127 : Awesomesauce\_95
- Track 128 : Madiba\_102
- Track 129 : SimranZ1\_103
- Track 130 : Sabbb\_106
- Track 131 : Dante\_103
- Track 132 : Beakin\_99
- Track 133 : Cornucopia\_105
- Track 134 : DosHalletts\_101
- Track 135 : Demsculpinboyz\_117, Yoshi\_116
- Track 136 : Che9d\_111
- Track 137 : Avani\_107, Soul22\_102
- Track 138 : Squirty\_102
- Track 139 : LunaStella\_100, TChen\_100
- Track 140 : ThetaBob\_105
- Track 141 : Renaud18\_111
- Track 142 : Toron\_106
- Track 143 : QueenHazel\_72, Xula\_73
- Track 144 : Che9c\_83
- Track 145 : Sbash\_88
- Track 146 : MadKillah\_37, TelAviv\_33, Vorrps\_35, Krili\_35, Mori\_35, NiebruSaylor\_35, Murai\_36, Schuy\_37
- Track 147 : Wildflower\_36, Firecracker\_36, SchoolBus\_36, Catdawg\_36, YungJamal\_39, Ryadel\_39, Blessica\_37, Bora\_33, FoulBall\_36, Zebo\_35, Smooch\_38, Shida\_36, Alkhayr\_34, Vagabond\_36, Familton\_37, JangDynasty\_36,



Winget\_37

- Track 148 : Ashwin\_37
- Track 149 : Idergollasper\_36
- Track 150 : Zakhe101\_36, Dylan\_35
- Track 151 : Corndog\_38
- Track 152 : Marvin\_83, Lilbit\_87, FeliMaine\_89, Poise\_89, Beelzebub\_93, Corazon\_84, Clarkson\_90, Huphlepuuff\_91, Blackbeetle\_89, LittleLaf\_87, Pringar\_85
- Track 153 : RedRaider77\_88, Raela\_90, Caprice\_81, JoieB\_89, Gattaca\_86, MosMoris\_83, Tesla\_84, VasuNzinga\_86
- Track 154 : GoongGoong\_85
- Track 155 : phiAsp2\_35
- Track 156 : MooMoo\_96

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

The start number called the most often in the published annotations is 53, it was called in 162 of the 472 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila\_98, Alexphander\_104, Aloeri\_97, ArcusAngelus\_104, Aubs\_103, Awesomesauce\_95, Batiatus\_104, BigPhil\_100, Bipolar\_105, BobaPhett\_107, Boomer\_105, Brocalys\_95, Burwell21\_98, BuzzLyseyear\_110, ByChance\_94, Cabrinians\_100, CaptainTrips\_106, Cerasum\_102, Chevrolet\_108, ChickenDinner\_97, Chuckly\_101, Clifton\_95, Coco12\_104, Cornucopia\_105, Crumble\_98, DLane\_104, DRBy19\_103, DaddyRickover\_105, Daenerys\_101, Dante\_103, Deb65\_96, DillTech15\_110, DoRead\_111, DocMcStuffins\_91, Donkeykong\_109, Doomphist\_108, Dorothy\_104, DosHalletts\_101, DotProduct\_98, Doug\_99, Eish\_108, EleanorGeorge\_107, Emma\_108, Empress\_104, Eradicator\_94, Estave1\_111, Fancypants\_110, Fastidio\_107, Filuzino\_104, Florinda\_116, FreddyB\_112, Fruitloop\_102, GUmbe\_103, Gandalph\_103, Geralt\_96, Girafales\_112, Girr\_102, Gorge\_102, Guppsters\_98, Hades\_101, Hamulus\_104, Hlubikazi\_101, IMpilo\_102, IbOuu\_100, Inventum\_101, JalFarm20\_112, James\_107, Jarcob\_106, Job42\_106, JoeyJr\_106, Juice456\_103, Karhdo\_99, Kenuha5\_95, Kimberlium\_105, KingMidas\_104, Kingsley\_112, Koella\_96, Krakatau\_96, KristaRAM\_112, LastJedi\_94, Latretium\_106, Leozinho\_99, Leperchaun\_105, LilMoolah\_106, LittleShirley\_112, Lizziana\_104, Llij\_98, MadMen\_108, Madiba\_102, Mandlovu\_101, Maravista\_101, Martik\_102, Mattes\_104, Melissauren88\_94, MilanaBonita\_97, MilleniumForce\_104, MinionDave\_102, Minnie\_98, Misha28\_93, MisterCuddles\_103, Moonbeam\_106, Mova\_106, Ms6\_106, MulchExplorer\_108, MulchSalad\_105, Nimbo\_95, Nivrat\_103, NormanBulbieJr\_101, OldBen\_100, OlympiaSaint\_107, PHappiness\_103, Pacc40\_100, Phalconet\_105, Phanphagia\_108, Phasih\_99, Phatniss\_100, PhesterPotato\_108, Philus\_107, Piper2020\_98, Pippy\_102, Plumbus\_102, Poenanya\_107, Polka14\_107, Pollywog\_105, Priscilla\_104, QuickMath\_105, Quico\_112, Radiance\_102, Ramsey\_108, RedBird\_104, Rialto\_108, RitaG\_102, Rita\_103, Ruby\_99, SG4\_105, Saal\_101, Sabbb\_106, Sandalphon\_102, Sarma624\_105, Sassafras\_105, Scottish\_104, Seagreen\_105, Shauna1\_105, ShiLan\_106, ShowerHandel\_106, SiSi\_98, Sparkdehlily\_110, Spartacus\_110, Spikelee\_104, Spoonbill\_103, Squirty\_102, StAnnes\_109, Stap\_99, Starcevich\_106, Strokeseat\_101, SuperGrey\_102, SwagPiggett\_105, TDanisky\_111, Taj\_109, TootsiePop\_93,

Totinger\_106, VRedHorse\_104, Velveteen\_100, Veteran\_93, Wee\_108, Whatsapiecost\_98, Whouxphf\_107, XFactor\_95, Yorick\_99, Zerg\_102, Zizzle\_107,

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

• Ardmore\_87, Farewell\_90, Sparky\_89, Tootsieroll\_96, Vivum\_105,

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

• Ablatia\_242, Ading\_247, Adlitam\_245, Alice\_231, Alkhayr\_34, AlpineSix\_101, Amataga\_246, ArcherS7\_246, Ashwin\_37, Asterius\_240, Astraea\_240, Atlantean\_245, Audrick\_248, Ava3\_242, Avani\_107, Babyland\_248, BackyardAgain\_240, BadAgartude\_239, BananaFence\_242, Bangla1971\_246, Basquiat\_242, Beakin\_99, BeanWater\_238, Beelzebub\_93, Belieber\_237, BigCity\_253, Bigswole\_250, Bipolarisk\_243, Blackbeetle\_89, Blackbrain\_243, Blackdragon\_240, Blarby\_109, Blessica\_37, Blexus\_101, Blubba\_232, BlueCrab\_108, BlueNGold\_93, Bobi\_107, BodEinwohner17\_115, Bonray\_247, Boopy\_94, Bora\_33, Bread\_241, Breeniome\_245, Brushbloom\_112, Bubbles123\_99, Burrough\_246, Bxz1\_231, Byougenkin\_100, Cactojaque\_239, Cali\_235, Cane17\_234, Capablanca\_250, Caprice\_81, Caravan\_235, Catdawg\_36, Catera\_234, Chargie21\_242, CharlieB\_240, ChaylaJr\_244, Che8\_110, Che9c\_83, Che9d\_111, ChickenPhender\_241, Chomp\_244, CindyLou\_246, Clarkson\_90, Colt\_235, Concombre\_250, Corazon\_84, Corndog\_38, DTDevon\_246, DaWorst\_103, Daffodil\_251, Dandelion\_251, Darko\_244, DeadP\_106, Delilah\_243, Delylah\_247, Demodog\_251, Demsculpinboyz\_117, Derek\_241, Dietrick\_234, DirtMcgirt\_104, DirtMonster\_234, Domi\_239, DrPhinkDaddy\_242, Drago\_103, Drazdys\_242, Dylan\_35, ET08\_231, EasyJones\_246, EggyFarm\_253, EmToTheThree\_245, EmmaElysia\_250, Enby\_107, Erdmann\_246, ErnieJ\_238, Essence\_243, Ewok\_244, Familton\_37, FeliMaine\_89, Firecracker\_36, Firehouse51\_98, Flabslab\_239, Flathead\_108, Fludd\_245, Forza\_94, FoulBall\_36, FoxtrotP1\_243, Frankie\_103, FrayBell\_248, Fryberger\_137, FudgeTart\_240, GMA2\_23, Gabriel\_248, Galactic\_108, Gamgam\_247, Gattaca\_86, Ghost\_245, GigiOuiOui\_98, Gizmo\_250, GlutenPhree\_244, GodonK\_82, GoongGoong\_85, Grasshills\_252, Greely\_246, Grungle\_227, Guey18\_143, Guwapp\_241, Halldule\_237, Harley\_107, Hegedechwinu\_112, Huphlepuuff\_91, HyRo\_230, I3\_255, Ibhubesi\_102, Idergollasper\_36, IkeLoa\_239, InigoMontoya\_249, InterFolia\_247, Iota\_242, IrishSherpFalk\_104, Izajani\_241, JPickles\_242, Jabbawokkie\_108, JangDynasty\_36, Janiyra\_248, JayJay\_241, Jaygup\_242, Jediah\_247, Jemmno\_245, Jessibeth14\_245, Jezreel\_241, JigglyPuff\_251, Jinglebell\_110, JoieB\_89, JulietS\_237, Juniper1\_97, JustHall\_239, Kamryn\_244, Kboogie\_249, Keelan\_138, Kersh\_106, Khaleesi\_244, Koguma\_244, Krili\_35, Kudrefre\_126, LRRHood\_237, Latch\_245, Lee7\_244, Letha\_246, LifeSavor\_246, Lilbit\_87, LinStu\_242, LittleLaf\_87, Littleton\_249, Llama\_110, Loanshark\_242, LolaVinca\_241, LordLeafolot\_247, Lorde\_106, Lukilu\_234, LunaBlu\_110, LunaStella\_100, Maby2021\_245, MadKillah\_37, Mahavrat\_97, Mangeria\_245, Mantra\_101, Mareelih\_92, Marker\_110, Marvin\_83, Matsumoto\_243, McGee\_246, McWolfish\_242, Megamind\_242, Melpomini\_240, MikeLiesIn\_246, Mikro\_239, MoMoMixon\_241, Modragons\_106, Momo\_247, MooMoo\_96, Mori\_35, Morizzled23\_242, MosMoris\_83, Mozy\_108, Murai\_36, Mutaforma13\_105, Myrna\_238, Naija\_246, Napoleon13\_242, Nappy\_244, Naval22\_250, NedWong\_244, Neville\_124, Ngannou\_240, Nidhogg\_246, NiebruSaylor\_35, Nitzel\_98, NoodleTree\_241, Norm\_245, NuevoMundo\_247, Ochi17\_109, Octobien14\_121, OfUltron\_110, Ogopogo\_110, Oksu\_107, Ovechkin\_106, OwlsT2W\_103, PMC\_103, ParkTD\_244, Patter\_247, Phabba\_248, Phendrix\_80, Phlegm\_250, Phox\_246, Phusco\_244, Pier\_244, Pinkcreek\_225, Pio\_252, Pivoine\_246, Pleione\_249, Poise\_89, PopTart\_94, Pringar\_85,

PurduePete\_245, QBert\_237, Quasimodo\_248, QueenHazel\_72, Rabbitrun\_126, Rabinovish\_238, Raela\_90, Rahel\_247, RedRaider77\_88, Renaud18\_111, Rizal\_234, RoMag\_240, Rockne\_107, RockyHorror\_107, Ronaldo\_139, Ronan\_241, Roots515\_248, Royals2015\_107, Ryadel\_39, SVoro\_241, Salacia\_246, SassyB\_94, Sauce\_242, Sbash\_88, SchoolBus\_36, Schuy\_37, ScoobyDoobyDoo\_234, ScottMcG\_237, Seabastian\_110, Sebata\_245, Sephiroth\_122, Shaqnato\_236, Shelob\_246, ShiaLabeouf\_243, Shida\_36, Shifa\_221, Shnickers\_244, Shrimp\_247, ShroomBoi\_104, SilverDipper\_250, SimranZ1\_103, Sixama\_92, SmallFry\_246, Smooch\_38, Soul22\_102, Spec\_239, Specks\_249, Sprinklers\_243, Spud\_237, SrishMeg2525\_242, StephanieG\_239, StubbySaigey\_251, Stubby\_228, Syleon\_127, TChen\_100, Tainan\_245, Teardrop\_243, TelAviv\_33, Tesla\_84, ThetaBob\_105, TinyTim\_243, Tonenili\_267, Toron\_106, Tortoise16\_243, Trax\_125, Trinitium\_241, Turret\_236, Tweety\_108, Tyke\_242, UncleRicky\_105, Vagabond\_36, ValleyTerrace\_246, VasuNzinga\_86, Volt\_142, Vorrps\_35, Wachhund\_100, Wally\_243, Wildflower\_36, WillSterrel\_102, Willis\_246, Winget\_37, Xula\_73, Yassified\_241, YemiJoy2021\_246, Yoshi\_116, YoungMoneyMata\_245, Yucca\_245, YungJamal\_39, Zakhe101\_36, Zalkecks\_244, Zapner\_108, Zebo\_35, Zeenon\_246, Ziko\_142, ZygoTaiga\_241, phiAsp2\_35,

### Summary by start number:

#### Start 28:

- Found in 1 of 519 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 472
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tootsieroll\_96 (F1),

#### Start 35:

- Found in 52 of 519 ( 10.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.9% of time when present
- Phage (with cluster) where this start called: Ardmore\_87 (F1),

#### Start 44:

- Found in 2 of 519 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 472
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Farewell\_90 (AF), Sparky\_89 (AF),

#### Start 46:

- Found in 19 of 519 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 2 of 472
- Called 10.5% of time when present
- Phage (with cluster) where this start called: Byougenkin\_100 (F1), Ovechkin\_106 (F1),

#### Start 51:

- Found in 5 of 519 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 3 of 472
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_137 (DP), Guey18\_143 (DP), Ziko\_142 (DP),

Start 52:

- Found in 47 of 519 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 44 of 472
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlpineSix\_101 (F1), Avani\_107 (F2), Beakin\_99 (F1), Blarby\_109 (F), Blexus\_101 (F1), BlueCrab\_108 (F1), Bobi\_107 (F1), BodEinwohner17\_115 (F1), Brushbloom\_112 (F1), Bubbles123\_99 (F1), Che8\_110 (F1), Che9d\_111 (F2), DaWorst\_103 (F1), DeadP\_106 (F1), Demsculpinboyz\_117 (F2), DirtMcgirt\_104 (F1), Drago\_103 (F1), Enby\_107 (F1), Flathead\_108 (F1), Frankie\_103 (F1), Harley\_107 (F1), Ibhubesi\_102 (F1), IrishSherpFalk\_104 (F1), Jabbawokkie\_108 (F2), Jinglebell\_110 (F1), Juniper1\_97 (F1), Kudrefre\_126 (DU1), Llama\_110 (F1), Lorde\_106 (F1), Mantra\_101 (F1), Modragons\_106 (F1), Ochi17\_109 (F1), Octobien14\_121 (DU1), OfUltron\_110 (F1), Ogotogo\_110 (F1), Oksu\_107 (F1), OwlsT2W\_103 (F1), RockyHorror\_107 (F1), Seabastian\_110 (F1), Sephiroth\_122 (DU1), ShroomBoi\_104 (F1), Soul22\_102 (F2), Syleon\_127 (DU1), Tweety\_108 (F1), WillSterrel\_102 (F1), Yoshi\_116 (F2), Zapner\_108 (F2),

Start 53:

- Found in 176 of 519 ( 33.9% ) of genes in pham
- Manual Annotations of this start: 162 of 472
- Called 97.2% of time when present
- Phage (with cluster) where this start called: Akhila\_98 (F1), Alexphander\_104 (F1), Aloeri\_97 (F1), ArcusAngelus\_104 (F1), Aubs\_103 (F1), Awesomesauce\_95 (F1), Batiatus\_104 (F1), BigPhil\_100 (F1), Bipolar\_105 (F1), BobaPhett\_107 (F1), Boomer\_105 (F1), Brocalys\_95 (F1), Burwell21\_98 (F1), BuzzLyseyear\_110 (F1), ByChance\_94 (F1), Cabrinians\_100 (F1), CaptainTrips\_106 (F1), Cerasum\_102 (F1), Chevrolet\_108 (F1), ChickenDinner\_97 (F1), Chuckly\_101 (F1), Clifton\_95 (F1), Coco12\_104 (F1), Cornucopia\_105 (F1), Crumble\_98 (F1), DLane\_104 (F1), DRBy19\_103 (F1), DaddyRickover\_105 (F1), Daenerys\_101 (F1), Dante\_103 (F1), Deb65\_96 (F1), DillTech15\_110 (F1), DoRead\_111 (F1), DocMcStuffins\_91 (F1), Donkeykong\_109 (F1), Doomphist\_108 (F1), Dorothy\_104 (F1), DosHalletts\_101 (F1), DotProduct\_98 (F1), Doug\_99 (F1), Eish\_108 (F1), EleanorGeorge\_107 (F1), Emma\_108 (F1), Empress\_104 (F1), Eradicator\_94 (F1), Estave1\_111 (F1), Fancypants\_110 (F1), Fastidio\_107 (F1), Filuzino\_104 (F1), Florinda\_116 (F1), FreddyB\_112 (F1), Fruitloop\_102 (F1), GUmbe\_103 (F1), Gandalph\_103 (F1), Geralt\_96 (F1), Girafales\_112 (F1), Girr\_102 (F1), Gorge\_102 (F1), Guppsters\_98 (F1), Hades\_101 (F1), Hamulus\_104 (F1), Hlubikazi\_101 (F1), IMpilo\_102 (F1), IbOuu\_100 (F1), Inventum\_101 (F1), JalFarm20\_112 (F1), James\_107 (F1), Jarcob\_106 (F1), Job42\_106 (F1), JoeyJr\_106 (F1), Juice456\_103 (F1), Karhdo\_99 (F1), Kenuha5\_95 (F1), Kimberlium\_105 (F1), KingMidas\_104 (F1), Kingsley\_112 (F1), Koella\_96 (F1), Krakatau\_96 (F1), KristaRAM\_112 (F1), LastJedi\_94 (F1), Latretium\_106 (F1), Leozinho\_99 (F1), Leperchaun\_105 (F1), LilMoolah\_106 (F1), LittleShirley\_112 (F1), Lizziana\_104 (F1), Llij\_98 (F1), MadMen\_108 (F1), Madiba\_102 (F1), Mandlovu\_101 (F1), Maravista\_101 (F1), Martik\_102 (F1), Mattes\_104 (F1), Melissauren88\_94 (F1), MilanaBonita\_97 (F1), MilleniumForce\_104 (F1), MinionDave\_102 (F1), Minnie\_98 (F1), Misha28\_93 (F1), MisterCuddles\_103 (F1), Moonbeam\_106 (F1), Mova\_106 (F1), Ms6\_106 (F1), MulchExplorer\_108 (F1), MulchSalad\_105 (F), Nimbo\_95 (F1), Nivrat\_103 (F1), NormanBulbieJr\_101 (F1), OldBen\_100 (F1), OlympiaSaint\_107 (F1), PHappiness\_103 (F1), Pacc40\_100 (F1), Phalconet\_105 (F1), Phanphagia\_108 (F1), Phasih\_99 (F1), Phatniss\_100 (F1), PhesterPhotato\_108 (F1), Philus\_107 (F1), Piper2020\_98 (F1), Pippy\_102 (F1), Plumbus\_102 (F1), Poenanya\_107 (F1), Polka14\_107 (F1), Pollywog\_105 (F1),

Priscilla\_104 (F1), QuickMath\_105 (F1), Quico\_112 (F1), Radiance\_102 (F1), Ramsey\_108 (F1), RedBird\_104 (F1), Rialto\_108 (F1), RitaG\_102 (F1), Rita\_103 (F1), Ruby\_99 (F1), SG4\_105 (F1), Saal\_101 (F1), Sabbb\_106 (F1), Sandalphon\_102 (F1), Sarma624\_105 (F1), Sassafras\_105 (F1), Scottish\_104 (F1), Seagreen\_105 (F1), Shauna1\_105 (F1), ShiLan\_106 (F1), ShowerHandel\_106 (F1), SiSi\_98 (F1), Sparkdehlily\_110 (F1), Spartacus\_110 (F1), Spikelee\_104 (F1), Spoonbill\_103 (F1), Squirty\_102 (F3), StAnnes\_109 (F1), Stap\_99 (F1), Starceвич\_106 (F1), Strokeseat\_101 (F1), SuperGrey\_102 (F1), SwagPiggett\_105 (F1), TDanisky\_111 (F1), Taj\_109 (F1), TootsiePop\_93 (F1), Totinger\_106 (F1), VRedHorse\_104 (F1), Velveteen\_100 (F1), Veteran\_93 (F1), Wee\_108 (F1), Whatsapiecost\_98 (F1), Whouxphf\_107 (F1), XFactor\_95 (F1), Yorick\_99 (F1), Zerg\_102 (F1), Zizzle\_107 (F1),

#### Start 54:

- Found in 19 of 519 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 17 of 472
- Called 89.5% of time when present
- Phage (with cluster) where this start called: Firehouse51\_98 (F1), Galactic\_108 (F1), GigiOuiOui\_98 (F1), Hegedechwinu\_112 (F1), Kersh\_106 (F1), LunaBlu\_110 (F1), Mahavrat\_97 (F1), Mozy\_108 (F1), Mutaforma13\_105 (F1), Nitzel\_98 (F1), PMC\_103 (F1), PopTart\_94 (F1), Rockne\_107 (F1), Royals2015\_107 (F1), SassyB\_94 (F1), SimranZ1\_103 (F1), Wachhund\_100 (F1),

#### Start 55:

- Found in 23 of 519 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 20 of 472
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beelzebub\_93 (S), Blackbeetle\_89 (S), Caprice\_81 (S), Clarkson\_90 (S), Corazon\_84 (S), FeliMaine\_89 (S), Gattaca\_86 (S), GoongGoong\_85 (S), Huphlepuuff\_91 (S), JoieB\_89 (S), Lilbit\_87 (S), LittleLaf\_87 (S), Marvin\_83 (S), MosMoris\_83 (S), Neville\_124 (DU2), Poise\_89 (S), Pringar\_85 (S), Rabbitrun\_126 (DU2), Raela\_90 (S), RedRaider77\_88 (S), Tesla\_84 (S), Trax\_125 (DU2), VasuNzinga\_86 (S),

#### Start 56:

- Found in 13 of 519 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 10 of 472
- Called 76.9% of time when present
- Phage (with cluster) where this start called: BlueNGold\_93 (DS), Boopy\_94 (DS), Forza\_94 (DS), GodonK\_82 (DK), Keelan\_138 (DP), Mareelih\_92 (DS), Phendrix\_80 (DK), Ronaldo\_139 (DP), Sixama\_92 (DS), Volt\_142 (DP),

#### Start 57:

- Found in 39 of 519 ( 7.5% ) of genes in pham
- Manual Annotations of this start: 32 of 472
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alice\_231 (C1), Bigswole\_250 (C1), Blubba\_232 (C1), Breeniome\_245 (C1), Cane17\_234 (C1), Colt\_235 (C1), Dandelion\_251 (C1), DirtMonster\_234 (C1), Flabslab\_239 (C1), FrayBell\_248 (C1), Greely\_246 (C2), Grungle\_227 (C1), Halldule\_237 (C1), HyRo\_230 (C1), I3\_255 (C1), InterFolia\_247 (C1), JayJay\_241 (C1), Koguma\_244 (C1), Lethe\_246 (C1), LinStu\_242 (C1), LolaVinca\_241 (C1), LordLeafolot\_247 (C1), Mangeria\_245 (C1), Mikro\_239 (C1), Myrna\_238 (C2), Nappy\_244 (C1), NuevoMundo\_247 (C1),

Patter\_247 (C1), Phabba\_248 (C2), Pinkcreek\_225 (C1), Rabinovich\_238 (C1), ScottMcG\_237 (C1), Sebata\_245 (C1), Shifa\_221 (C1), Spec\_239 (C1), Stubby\_228 (C1), Tainan\_245 (C1), Tyke\_242 (C1), YoungMoneyMata\_245 (C1),

Start 58:

- Found in 1 of 519 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 472
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ScoobyDoobyDoo\_234 (C2),

Start 59:

- Found in 166 of 519 ( 32.0% ) of genes in pham
- Manual Annotations of this start: 144 of 472
- Called 99.4% of time when present
- Phage (with cluster) where this start called: Ablatia\_242 (C1), Ading\_247 (C1), Adlitam\_245 (C1), Amataga\_246 (C1), ArcherS7\_246 (C1), Asterius\_240 (C1), Astraea\_240 (C1), Atlantean\_245 (C1), Audrick\_248 (C1), Ava3\_242 (C1), Babyland\_248 (C1), BackyardAgain\_240 (C1), BadAgartude\_239 (C1), BananaFence\_242 (C1), Bangla1971\_246 (C1), Basquiat\_242 (C1), BeanWater\_238 (C1), Belieber\_237 (C1), BigCity\_253 (C1), Bipolarisk\_243 (C1), Blackbrain\_243 (C1), Blackdragon\_240 (C1), Bonray\_247 (C1), Bread\_241 (C1), Burrough\_246 (C1), Bxz1\_231 (C1), Cactojaque\_239 (C1), Cali\_235 (C1), Capablanca\_250 (C1), Caravan\_235 (C1), Catera\_234 (C1), Chargie21\_242 (C1), CharlieB\_240 (C1), ChaylaJr\_244 (C1), ChickenPhender\_241 (C1), Chomp\_244 (C1), CindyLou\_246 (C1), Concombre\_250 (C1), DTDevon\_246 (C1), Daffodil\_251 (C1), Darko\_244 (C1), Delilah\_243 (C1), Delylah\_247 (C1), Demodog\_251 (C1), Derek\_241 (C1), Dietrick\_234 (C1), Domi\_239 (C1), DrPhinkDaddy\_242 (C1), Drazdys\_242 (C1), ET08\_231 (C1), EasyJones\_246 (C1), EggyFarm\_253 (C1), EmToTheThree\_245 (C1), EmmaElysia\_250 (C1), Erdmann\_246 (C1), ErnieJ\_238 (C1), Essence\_243 (C1), Ewok\_244 (C1), Fludd\_245 (C1), FoxtrotP1\_243 (C1), FudgeTart\_240 (C1), GMA2\_23 (DS), Gabriel\_248 (C1), Gamgam\_247 (C1), Ghost\_245 (C1), Gizmo\_250 (C1), GlutenPhree\_244 (C1), Grasshills\_252 (C1), Guwapp\_241 (C1), IkeLoa\_239 (C1), InigoMontoya\_249 (C1), Iota\_242 (C1), Izajani\_241 (C1), JPickles\_242 (C1), Janiyra\_248 (C1), Jaygup\_242 (C1), Jedediah\_247 (C1), Jemmno\_245 (C1), Jessibeth14\_245 (C1), Jezreel\_241 (C1), JigglyPuff\_251 (C1), JulietS\_237 (C1), JustHall\_239 (C1), Kamryn\_244 (C1), Kboogie\_249 (C1), Khaleesi\_244 (C1), LRRHood\_237 (C1), Latch\_245 (C1), Lee7\_244 (C1), LifeSavor\_246 (C1), Littleton\_249 (C1), Loanshark\_242 (C1), Lukilu\_234 (C1), LunaStella\_100 (F4), Maby2021\_245 (C1), Marker\_110 (F1), Matsumoto\_243 (C1), McGee\_246 (C1), McWolfish\_242 (C1), Megamind\_242 (C1), Melpomini\_240 (C1), MikeLiesIn\_246 (C1), MoMoMixon\_241 (C1), Momo\_247 (C1), Morizzled23\_242 (C1), Naija\_246 (C1), Napoleon13\_242 (C1), Naval22\_250 (C1), NedWong\_244 (C1), Ngannou\_240 (C1), Nidhogg\_246 (C1), NoodleTree\_241 (C1), Norm\_245 (C1), ParkTD\_244 (C1), Phlegm\_250 (C1), Phox\_246 (C1), Phusco\_244 (C1), Pier\_244 (C1), Pio\_252 (C1), Pivoine\_246 (C1), Pleione\_249 (C1), PurduePete\_245 (C1), QBert\_237 (C1), Quasimodo\_248 (C1), Rahel\_247 (C1), Renaud18\_111 (F4), Rizal\_234 (C1), RoMag\_240 (C1), Ronan\_241 (C1), Roots515\_248 (C1), SVoro\_241 (C1), Salacia\_246 (C1), Sauce\_242 (C1), Shaqnato\_236 (C1), Shelob\_246 (C1), ShiaLabeouf\_243 (C1), Shnickers\_244 (C1), Shrimp\_247 (C1), SilverDipper\_250 (C1), SmallFry\_246 (C1), Specks\_249 (C1), Sprinklers\_243 (C1), Spud\_237 (C1), SrishMeg2525\_242 (C1), StephanieG\_239 (C1), StubbySaigey\_251 (C1), TChen\_100 (F4), Teardrop\_243 (C1), ThetaBob\_105 (F4), TinyTim\_243 (C1), Tonenili\_267 (C1), Toron\_106 (F6), Tortoise16\_243 (C1), Trinitium\_241 (C1),

Turret\_236 (C1), ValleyTerrace\_246 (C1), Wally\_243 (C1), Willis\_246 (C1), Yassified\_241 (C1), YemiJoy2021\_246 (C1), Yucca\_245 (C1), Zalkecks\_244 (C1), Zeenon\_246 (C1), ZygoTaiga\_241 (C1), phiAsp2\_35 (singleton),

Start 60:

- Found in 2 of 519 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 472
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che9c\_83 (I2), Sbash\_88 (I2),

Start 61:

- Found in 30 of 519 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 28 of 472
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alkhayr\_34 (O), Ashwin\_37 (O), Blessica\_37 (O), Bora\_33 (O), Catdawg\_36 (O), Corndog\_38 (O), Dylan\_35 (O), Familton\_37 (O), Firecracker\_36 (O), FoulBall\_36 (O), Idergollasper\_36 (O), JangDynasty\_36 (O), Krili\_35 (O), MadKillah\_37 (O), Mori\_35 (O), Murai\_36 (O), NiebruSaylor\_35 (O), Ryadel\_39 (O), SchoolBus\_36 (O), Schuy\_37 (O), Shida\_36 (O), Smooch\_38 (O), TelAviv\_33 (O), Vagabond\_36 (O), Vorrps\_35 (O), Wildflower\_36 (O), Winget\_37 (O), YungJamal\_39 (O), Zakhe101\_36 (O), Zebo\_35 (O),

Start 63:

- Found in 3 of 519 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 3 of 472
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MooMoo\_96 (singleton), QueenHazel\_72 (I1), Xula\_73 (I1),

Start 78:

- Found in 229 of 519 ( 44.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.4% of time when present
- Phage (with cluster) where this start called: Vivum\_105 (F1),

Start 82:

- Found in 253 of 519 ( 48.7% ) of genes in pham
- Manual Annotations of this start: 1 of 472
- Called 0.4% of time when present
- Phage (with cluster) where this start called: UncleRicky\_105 (F1),

### Summary by clusters:

There are 19 clusters represented in this pham: F1, singleton, I2, F4, DK, DU2, F, I1, AF, F2, O, F6, S, F3, DU1, C2, C1, DS, DP,

Info for manual annotations of cluster AF:

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

Info for manual annotations of cluster C1:

- Start number 57 was manually annotated 30 times for cluster C1.
- Start number 59 was manually annotated 139 times for cluster C1.

Info for manual annotations of cluster C2:

- Start number 57 was manually annotated 2 times for cluster C2.
- Start number 58 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster DK:

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

Info for manual annotations of cluster DP:

- Start number 51 was manually annotated 3 times for cluster DP.
- Start number 56 was manually annotated 3 times for cluster DP.

Info for manual annotations of cluster DS:

- Start number 56 was manually annotated 5 times for cluster DS.

Info for manual annotations of cluster DU1:

- Start number 52 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 55 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster F1:

- Start number 28 was manually annotated 1 time for cluster F1.
- Start number 46 was manually annotated 2 times for cluster F1.
- Start number 52 was manually annotated 33 times for cluster F1.
- Start number 53 was manually annotated 161 times for cluster F1.
- Start number 54 was manually annotated 17 times for cluster F1.
- Start number 59 was manually annotated 1 time for cluster F1.
- Start number 82 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 52 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 53 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 59 was manually annotated 4 times for cluster F4.

Info for manual annotations of cluster I1:

- Start number 63 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 60 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster O:

- Start number 61 was manually annotated 28 times for cluster O.

Info for manual annotations of cluster S:

- Start number 55 was manually annotated 17 times for cluster S.



**Gene Information:**

Gene: Ablatia\_242 Start: 134720, Stop: 135382, Start Num: 59

Candidate Starts for Ablatia\_242:

(30, 134495), (41, 134618), (Start: 59 @134720 has 144 MA's), (65, 134735), (66, 134738), (80, 134786), (93, 134888), (94, 134891), (99, 134945), (102, 134954), (112, 135023), (114, 135029), (127, 135080), (129, 135086), (134, 135104), (136, 135116), (152, 135191), (161, 135248), (188, 135374),

Gene: Ading\_247 Start: 137153, Stop: 137815, Start Num: 59

Candidate Starts for Ading\_247:

(30, 136928), (41, 137051), (Start: 59 @137153 has 144 MA's), (65, 137168), (66, 137171), (80, 137219), (93, 137321), (94, 137324), (99, 137378), (102, 137387), (112, 137456), (114, 137462), (127, 137513), (129, 137519), (134, 137537), (136, 137549), (152, 137624), (161, 137681), (188, 137807),

Gene: Adlitam\_245 Start: 135757, Stop: 136419, Start Num: 59

Candidate Starts for Adlitam\_245:

(30, 135532), (41, 135655), (Start: 59 @135757 has 144 MA's), (65, 135772), (66, 135775), (80, 135823), (93, 135925), (94, 135928), (99, 135982), (102, 135991), (112, 136060), (114, 136066), (127, 136117), (129, 136123), (134, 136141), (136, 136153), (152, 136228), (161, 136285), (188, 136411),

Gene: Akhila\_98 Start: 55160, Stop: 55783, Start Num: 53

Candidate Starts for Akhila\_98:

(14, 54836), (19, 54863), (35, 54989), (38, 55058), (Start: 53 @55160 has 162 MA's), (66, 55181), (78, 55220), (80, 55229), (Start: 82 @55244 has 1 MA's), (87, 55292), (93, 55331), (102, 55397), (105, 55412), (135, 55550), (136, 55559),

Gene: Alexphander\_104 Start: 57031, Stop: 57642, Start Num: 53

Candidate Starts for Alexphander\_104:

(38, 56929), (Start: 53 @57031 has 162 MA's), (66, 57052), (78, 57091), (80, 57100), (Start: 82 @57115 has 1 MA's), (93, 57202), (102, 57268), (105, 57283), (136, 57430),

Gene: Alice\_231 Start: 132844, Stop: 133506, Start Num: 57

Candidate Starts for Alice\_231:

(Start: 57 @132844 has 32 MA's), (65, 132859), (66, 132862), (80, 132910), (86, 132970), (93, 133012), (94, 133015), (97, 133039), (99, 133069), (102, 133078), (112, 133147), (114, 133153), (127, 133204), (129, 133210), (134, 133228), (136, 133240), (152, 133315), (161, 133372), (188, 133498),

Gene: Alkhayr\_34 Start: 18359, Stop: 18979, Start Num: 61

Candidate Starts for Alkhayr\_34:

(11, 17966), (Start: 61 @18359 has 28 MA's), (66, 18377), (75, 18410), (80, 18425), (84, 18488), (93, 18533), (94, 18536), (106, 18617), (110, 18659), (126, 18722), (130, 18737), (132, 18743), (152, 18845), (163, 18896),

Gene: Aloeri\_97 Start: 55826, Stop: 56437, Start Num: 53

Candidate Starts for Aloeri\_97:

(37, 55715), (38, 55724), (Start: 53 @55826 has 162 MA's), (66, 55847), (78, 55886), (80, 55895), (Start: 82 @55910 has 1 MA's), (87, 55958), (93, 55997), (102, 56063), (105, 56078), (135, 56216), (136, 56225),

Gene: AlpineSix\_101 Start: 55627, Stop: 56250, Start Num: 52

Candidate Starts for AlpineSix\_101:

(Start: 52 @55627 has 44 MA's), (77, 55684), (78, 55687), (Start: 82 @55711 has 1 MA's), (87, 55759), (93, 55798), (94, 55801), (136, 56026),

Gene: Amataga\_246 Start: 134756, Stop: 135418, Start Num: 59

Candidate Starts for Amataga\_246:

(30, 134531), (41, 134654), (Start: 59 @134756 has 144 MA's), (65, 134771), (66, 134774), (80, 134822), (93, 134924), (94, 134927), (99, 134981), (102, 134990), (112, 135059), (114, 135065), (127, 135116), (129, 135122), (134, 135140), (136, 135152), (152, 135227), (161, 135284), (188, 135410),

Gene: ArcherS7\_246 Start: 136501, Stop: 137163, Start Num: 59

Candidate Starts for ArcherS7\_246:

(30, 136276), (41, 136399), (Start: 59 @136501 has 144 MA's), (65, 136516), (66, 136519), (80, 136567), (93, 136669), (94, 136672), (99, 136726), (102, 136735), (112, 136804), (114, 136810), (127, 136861), (129, 136867), (134, 136885), (136, 136897), (152, 136972), (161, 137029), (188, 137155),

Gene: ArcusAngelus\_104 Start: 57478, Stop: 58101, Start Num: 53

Candidate Starts for ArcusAngelus\_104:

(38, 57376), (Start: 53 @57478 has 162 MA's), (66, 57499), (78, 57538), (80, 57547), (Start: 82 @57562 has 1 MA's), (87, 57610), (93, 57649), (102, 57715), (105, 57730), (136, 57877), (158, 58000),

Gene: Ardmore\_87 Start: 50878, Stop: 51672, Start Num: 35

Candidate Starts for Ardmore\_87:

(14, 50725), (19, 50752), (35, 50878), (38, 50947), (Start: 53 @51049 has 162 MA's), (66, 51070), (78, 51109), (80, 51118), (Start: 82 @51133 has 1 MA's), (87, 51181), (93, 51220), (102, 51286), (105, 51301), (136, 51448), (158, 51571),

Gene: Ashwin\_37 Start: 18369, Stop: 18989, Start Num: 61

Candidate Starts for Ashwin\_37:

(Start: 61 @18369 has 28 MA's), (66, 18387), (75, 18420), (80, 18435), (84, 18498), (93, 18543), (94, 18546), (106, 18627), (110, 18669), (126, 18732), (130, 18747), (132, 18753), (152, 18855), (163, 18906),

Gene: Asterius\_240 Start: 135165, Stop: 135827, Start Num: 59

Candidate Starts for Asterius\_240:

(30, 134940), (41, 135063), (Start: 59 @135165 has 144 MA's), (65, 135180), (66, 135183), (80, 135231), (93, 135333), (94, 135336), (99, 135390), (102, 135399), (112, 135468), (114, 135474), (127, 135525), (129, 135531), (134, 135549), (136, 135561), (152, 135636), (161, 135693), (188, 135819),

Gene: Astraea\_240 Start: 134360, Stop: 135022, Start Num: 59

Candidate Starts for Astraea\_240:

(30, 134135), (41, 134258), (Start: 59 @134360 has 144 MA's), (65, 134375), (66, 134378), (80, 134426), (93, 134528), (94, 134531), (99, 134585), (102, 134594), (112, 134663), (114, 134669), (127, 134720), (129, 134726), (134, 134744), (136, 134756), (152, 134831), (161, 134888), (188, 135014),

Gene: Atlantean\_245 Start: 134756, Stop: 135418, Start Num: 59

Candidate Starts for Atlantean\_245:

(30, 134531), (41, 134654), (Start: 59 @134756 has 144 MA's), (65, 134771), (66, 134774), (80, 134822), (93, 134924), (94, 134927), (99, 134981), (102, 134990), (112, 135059), (114, 135065), (127, 135116), (129, 135122), (134, 135140), (136, 135152), (152, 135227), (161, 135284), (188, 135410),

Gene: Aubs\_103 Start: 57575, Stop: 58198, Start Num: 53

Candidate Starts for Aubs\_103:

(35, 57404), (36, 57458), (38, 57473), (Start: 53 @57575 has 162 MA's), (66, 57596), (78, 57635), (80, 57644), (Start: 82 @57659 has 1 MA's), (87, 57707), (93, 57746), (102, 57812), (105, 57827), (135, 57965), (136, 57974),

Gene: Audrick\_248 Start: 134646, Stop: 135308, Start Num: 59

Candidate Starts for Audrick\_248:

(30, 134421), (41, 134544), (Start: 59 @134646 has 144 MA's), (65, 134661), (66, 134664), (80, 134712), (93, 134814), (94, 134817), (99, 134871), (102, 134880), (112, 134949), (114, 134955), (127, 135006), (129, 135012), (134, 135030), (136, 135042), (152, 135117), (161, 135174), (188, 135300),

Gene: Ava3\_242 Start: 135216, Stop: 135878, Start Num: 59

Candidate Starts for Ava3\_242:

(22, 134928), (23, 134931), (31, 134994), (41, 135114), (Start: 59 @135216 has 144 MA's), (65, 135231), (66, 135234), (80, 135282), (93, 135384), (94, 135387), (99, 135441), (102, 135450), (112, 135519), (114, 135525), (127, 135576), (129, 135582), (134, 135600), (136, 135612), (152, 135687), (161, 135744), (188, 135870),

Gene: Avani\_107 Start: 53751, Stop: 54359, Start Num: 52

Candidate Starts for Avani\_107:

(Start: 52 @53751 has 44 MA's), (71, 53796), (77, 53808), (87, 53883), (93, 53922), (136, 54150), (179, 54348),

Gene: Awesomesauce\_95 Start: 56351, Stop: 56962, Start Num: 53

Candidate Starts for Awesomesauce\_95:

(36, 56234), (37, 56240), (38, 56249), (Start: 53 @56351 has 162 MA's), (78, 56411), (Start: 82 @56435 has 1 MA's), (87, 56483), (105, 56603), (136, 56750),

Gene: Babyland\_248 Start: 135533, Stop: 136195, Start Num: 59

Candidate Starts for Babyland\_248:

(30, 135308), (41, 135431), (Start: 59 @135533 has 144 MA's), (65, 135548), (66, 135551), (80, 135599), (93, 135701), (94, 135704), (99, 135758), (102, 135767), (112, 135836), (114, 135842), (127, 135893), (129, 135899), (134, 135917), (136, 135929), (152, 136004), (161, 136061), (188, 136187),

Gene: BackyardAgain\_240 Start: 132906, Stop: 133568, Start Num: 59

Candidate Starts for BackyardAgain\_240:

(30, 132681), (41, 132804), (Start: 59 @132906 has 144 MA's), (65, 132921), (66, 132924), (80, 132972), (93, 133074), (94, 133077), (99, 133131), (102, 133140), (112, 133209), (114, 133215), (127, 133266), (129, 133272), (134, 133290), (136, 133302), (152, 133377), (161, 133434), (188, 133560),

Gene: BadAgartude\_239 Start: 134858, Stop: 135520, Start Num: 59

Candidate Starts for BadAgartude\_239:

(30, 134633), (41, 134756), (Start: 59 @134858 has 144 MA's), (65, 134873), (66, 134876), (80, 134924), (93, 135026), (94, 135029), (99, 135083), (102, 135092), (112, 135161), (114, 135167), (127, 135218), (129, 135224), (134, 135242), (136, 135254), (152, 135329), (161, 135386), (188, 135512),

Gene: BananaFence\_242 Start: 134989, Stop: 135651, Start Num: 59

Candidate Starts for BananaFence\_242:

(30, 134764), (41, 134887), (Start: 59 @134989 has 144 MA's), (65, 135004), (66, 135007), (80, 135055), (93, 135157), (94, 135160), (99, 135214), (102, 135223), (112, 135292), (114, 135298), (127, 135349), (129, 135355), (134, 135373), (136, 135385), (152, 135460), (161, 135517), (188, 135643),

Gene: Bangla1971\_246 Start: 135465, Stop: 136127, Start Num: 59

Candidate Starts for Bangla1971\_246:

(30, 135240), (41, 135363), (Start: 59 @135465 has 144 MA's), (65, 135480), (66, 135483), (80, 135531), (93, 135633), (94, 135636), (99, 135690), (102, 135699), (112, 135768), (114, 135774), (127, 135825), (129, 135831), (134, 135849), (136, 135861), (152, 135936), (161, 135993), (188, 136119),

Gene: Basquiat\_242 Start: 133275, Stop: 133937, Start Num: 59

Candidate Starts for Basquiat\_242:

(30, 133050), (41, 133173), (Start: 59 @133275 has 144 MA's), (65, 133290), (66, 133293), (80, 133341), (93, 133443), (94, 133446), (99, 133500), (102, 133509), (112, 133578), (114, 133584), (127, 133635), (129, 133641), (134, 133659), (136, 133671), (152, 133746), (161, 133803), (188, 133929),

Gene: Batiatus\_104 Start: 56646, Stop: 57269, Start Num: 53

Candidate Starts for Batiatus\_104:

(35, 56475), (38, 56544), (Start: 53 @56646 has 162 MA's), (66, 56667), (78, 56706), (80, 56715), (Start: 82 @56730 has 1 MA's), (93, 56817), (102, 56883), (105, 56898), (136, 57045), (158, 57168),

Gene: Beakin\_99 Start: 54220, Stop: 54834, Start Num: 52

Candidate Starts for Beakin\_99:

(39, 54109), (Start: 52 @54220 has 44 MA's), (78, 54283), (Start: 82 @54307 has 1 MA's), (87, 54355), (93, 54394), (102, 54460), (105, 54475), (136, 54622),

Gene: BeanWater\_238 Start: 134602, Stop: 135264, Start Num: 59

Candidate Starts for BeanWater\_238:

(30, 134377), (41, 134500), (Start: 59 @134602 has 144 MA's), (65, 134617), (66, 134620), (80, 134668), (93, 134770), (94, 134773), (99, 134827), (102, 134836), (112, 134905), (114, 134911), (127, 134962), (129, 134968), (134, 134986), (136, 134998), (152, 135073), (161, 135130), (188, 135256),

Gene: Beelzebub\_93 Start: 47558, Stop: 48220, Start Num: 55

Candidate Starts for Beelzebub\_93:

(Start: 55 @47558 has 20 MA's), (71, 47606), (Start: 82 @47645 has 1 MA's), (87, 47693), (93, 47729), (97, 47756), (102, 47795), (104, 47816), (131, 47945), (146, 48026), (152, 48059), (154, 48080), (155, 48083), (171, 48149), (177, 48182), (184, 48209),

Gene: Belieber\_237 Start: 133402, Stop: 134064, Start Num: 59

Candidate Starts for Belieber\_237:

(30, 133177), (41, 133300), (Start: 59 @133402 has 144 MA's), (65, 133417), (66, 133420), (80, 133468), (93, 133570), (94, 133573), (99, 133627), (102, 133636), (112, 133705), (114, 133711), (127, 133762), (129, 133768), (134, 133786), (136, 133798), (152, 133873), (161, 133930), (188, 134056),

Gene: BigCity\_253 Start: 137362, Stop: 138024, Start Num: 59

Candidate Starts for BigCity\_253:

(30, 137137), (41, 137260), (Start: 59 @137362 has 144 MA's), (65, 137377), (66, 137380), (80, 137428), (93, 137530), (94, 137533), (97, 137557), (99, 137587), (102, 137596), (112, 137665), (114, 137671), (127, 137722), (129, 137728), (134, 137746), (136, 137758), (152, 137833), (161, 137890), (188, 138016),

Gene: BigPhil\_100 Start: 52915, Stop: 53526, Start Num: 53

Candidate Starts for BigPhil\_100:

(38, 52813), (Start: 53 @52915 has 162 MA's), (66, 52936), (78, 52975), (80, 52984), (Start: 82 @52999 has 1 MA's), (102, 53152), (105, 53167), (136, 53314),

Gene: Bigswole\_250 Start: 137267, Stop: 137929, Start Num: 57

Candidate Starts for Bigswole\_250:

(22, 137048), (23, 137051), (31, 137114), (41, 137234), (Start: 57 @137267 has 32 MA's), (65, 137282), (66, 137285), (80, 137333), (93, 137435), (94, 137438), (99, 137492), (102, 137501), (112, 137570), (114, 137576), (127, 137627), (129, 137633), (134, 137651), (136, 137663), (152, 137738), (161, 137795), (188, 137921),

Gene: Bipolar\_105 Start: 57892, Stop: 58515, Start Num: 53

Candidate Starts for Bipolar\_105:

(38, 57790), (Start: 53 @57892 has 162 MA's), (66, 57913), (78, 57952), (80, 57961), (Start: 82 @57976 has 1 MA's), (87, 58024), (93, 58063), (102, 58129), (105, 58144), (136, 58291), (158, 58414),

Gene: Bipolarisk\_243 Start: 135484, Stop: 136146, Start Num: 59

Candidate Starts for Bipolarisk\_243:

(22, 135196), (23, 135199), (31, 135262), (41, 135382), (Start: 59 @135484 has 144 MA's), (65, 135499), (66, 135502), (80, 135550), (93, 135652), (94, 135655), (99, 135709), (102, 135718), (112, 135787), (114, 135793), (127, 135844), (129, 135850), (134, 135868), (136, 135880), (152, 135955), (161, 136012), (188, 136138),

Gene: Blackbeetle\_89 Start: 46919, Stop: 47581, Start Num: 55

Candidate Starts for Blackbeetle\_89:

(Start: 55 @46919 has 20 MA's), (71, 46967), (Start: 82 @47006 has 1 MA's), (87, 47054), (93, 47090), (97, 47117), (102, 47156), (104, 47177), (131, 47306), (146, 47387), (152, 47420), (154, 47441), (155, 47444), (171, 47510), (177, 47543), (184, 47570),

Gene: Blackbrain\_243 Start: 135052, Stop: 135714, Start Num: 59

Candidate Starts for Blackbrain\_243:

(30, 134827), (41, 134950), (Start: 59 @135052 has 144 MA's), (65, 135067), (66, 135070), (80, 135118), (93, 135220), (94, 135223), (99, 135277), (102, 135286), (112, 135355), (114, 135361), (127, 135412), (129, 135418), (134, 135436), (136, 135448), (152, 135523), (161, 135580), (188, 135706),

Gene: Blackdragon\_240 Start: 135089, Stop: 135751, Start Num: 59

Candidate Starts for Blackdragon\_240:

(30, 134864), (41, 134987), (Start: 59 @135089 has 144 MA's), (65, 135104), (66, 135107), (80, 135155), (93, 135257), (94, 135260), (99, 135314), (102, 135323), (112, 135392), (114, 135398), (127, 135449), (129, 135455), (134, 135473), (136, 135485), (152, 135560), (161, 135617), (188, 135743),

Gene: Blarby\_109 Start: 54578, Stop: 55180, Start Num: 52

Candidate Starts for Blarby\_109:

(Start: 52 @54578 has 44 MA's), (71, 54623), (77, 54635), (87, 54710), (93, 54749), (94, 54752), (136, 54977), (179, 55169),

Gene: Blessica\_37 Start: 18760, Stop: 19380, Start Num: 61

Candidate Starts for Blessica\_37:

(11, 18367), (Start: 61 @18760 has 28 MA's), (66, 18778), (75, 18811), (80, 18826), (84, 18889), (93, 18934), (94, 18937), (106, 19018), (110, 19060), (126, 19123), (130, 19138), (132, 19144), (152, 19246), (163, 19297),

Gene: Blexus\_101 Start: 56948, Stop: 57574, Start Num: 52

Candidate Starts for Blexus\_101:

(39, 56837), (Start: 52 @56948 has 44 MA's), (78, 57011), (Start: 82 @57035 has 1 MA's), (87, 57083), (93, 57122), (102, 57188), (105, 57203), (135, 57341), (136, 57350),

Gene: Blubba\_232 Start: 138226, Stop: 138888, Start Num: 57

Candidate Starts for Blubba\_232:

(22, 138007), (23, 138010), (31, 138073), (41, 138193), (Start: 57 @138226 has 32 MA's), (65, 138241), (66, 138244), (80, 138292), (93, 138394), (94, 138397), (99, 138451), (102, 138460), (112, 138529), (114, 138535), (127, 138586), (129, 138592), (134, 138610), (136, 138622), (152, 138697), (161, 138754), (188, 138880),

Gene: BlueCrab\_108 Start: 58043, Stop: 58669, Start Num: 52

Candidate Starts for BlueCrab\_108:

(39, 57932), (Start: 52 @58043 has 44 MA's), (78, 58106), (Start: 82 @58130 has 1 MA's), (135, 58436), (136, 58445),

Gene: BlueNGold\_93 Start: 50776, Stop: 51393, Start Num: 56

Candidate Starts for BlueNGold\_93:

(47, 50749), (Start: 56 @50776 has 10 MA's), (85, 50905), (105, 51031), (108, 51070), (136, 51190), (158, 51319), (174, 51376),

Gene: BobaPhett\_107 Start: 58695, Stop: 59318, Start Num: 53

Candidate Starts for BobaPhett\_107:

(38, 58593), (Start: 53 @58695 has 162 MA's), (66, 58716), (78, 58755), (80, 58764), (Start: 82 @58779 has 1 MA's), (102, 58932), (105, 58947), (136, 59094),

Gene: Bobi\_107 Start: 58473, Stop: 59087, Start Num: 52

Candidate Starts for Bobi\_107:

(39, 58362), (Start: 52 @58473 has 44 MA's), (78, 58536), (Start: 82 @58560 has 1 MA's), (136, 58875),

Gene: BodEinwohner17\_115 Start: 59099, Stop: 59725, Start Num: 52

Candidate Starts for BodEinwohner17\_115:

(39, 58988), (Start: 52 @59099 has 44 MA's), (78, 59162), (Start: 82 @59186 has 1 MA's), (136, 59501),

Gene: Bonray\_247 Start: 136852, Stop: 137514, Start Num: 59

Candidate Starts for Bonray\_247:

(22, 136564), (23, 136567), (31, 136630), (41, 136750), (Start: 59 @136852 has 144 MA's), (65, 136867), (66, 136870), (80, 136918), (93, 137020), (94, 137023), (99, 137077), (102, 137086), (112, 137155), (114, 137161), (127, 137212), (129, 137218), (134, 137236), (136, 137248), (152, 137323), (161, 137380), (188, 137506),

Gene: Boomer\_105 Start: 57336, Stop: 57947, Start Num: 53

Candidate Starts for Boomer\_105:

(38, 57234), (Start: 53 @57336 has 162 MA's), (66, 57357), (78, 57396), (80, 57405), (Start: 82 @57420 has 1 MA's), (93, 57507), (102, 57573), (136, 57735),

Gene: Boopy\_94 Start: 50788, Stop: 51405, Start Num: 56

Candidate Starts for Boopy\_94:

(47, 50761), (Start: 56 @50788 has 10 MA's), (85, 50917), (105, 51043), (108, 51082), (136, 51202), (158, 51331), (174, 51388),

Gene: Bora\_33 Start: 17822, Stop: 18442, Start Num: 61

Candidate Starts for Bora\_33:

(11, 17429), (Start: 61 @17822 has 28 MA's), (66, 17840), (75, 17873), (80, 17888), (84, 17951), (93, 17996), (94, 17999), (106, 18080), (110, 18122), (126, 18185), (130, 18200), (132, 18206), (152, 18308), (163, 18359),

Gene: Bread\_241 Start: 134859, Stop: 135521, Start Num: 59

Candidate Starts for Bread\_241:

(30, 134634), (41, 134757), (Start: 59 @134859 has 144 MA's), (65, 134874), (66, 134877), (80, 134925), (93, 135027), (94, 135030), (99, 135084), (102, 135093), (112, 135162), (114, 135168), (127, 135219), (129, 135225), (134, 135243), (136, 135255), (152, 135330), (161, 135387), (188, 135513),

Gene: Breeniome\_245 Start: 134256, Stop: 134918, Start Num: 57

Candidate Starts for Breeniome\_245:

(22, 134037), (23, 134040), (31, 134103), (41, 134223), (Start: 57 @134256 has 32 MA's), (65, 134271), (66, 134274), (80, 134322), (93, 134424), (94, 134427), (99, 134481), (102, 134490), (112, 134559), (114, 134565), (127, 134616), (129, 134622), (134, 134640), (136, 134652), (152, 134727), (161, 134784), (188, 134910),

Gene: Brocalys\_95 Start: 53660, Stop: 54283, Start Num: 53

Candidate Starts for Brocalys\_95:

(38, 53558), (Start: 53 @53660 has 162 MA's), (66, 53681), (78, 53720), (80, 53729), (Start: 82 @53744 has 1 MA's), (87, 53792), (93, 53831), (102, 53897), (105, 53912), (136, 54059), (158, 54182),

Gene: Brushbloom\_112 Start: 58043, Stop: 58657, Start Num: 52

Candidate Starts for Brushbloom\_112:

(39, 57932), (Start: 52 @58043 has 44 MA's), (78, 58106), (Start: 82 @58130 has 1 MA's), (105, 58298), (136, 58445),

Gene: Bubbles123\_99 Start: 56341, Stop: 56967, Start Num: 52

Candidate Starts for Bubbles123\_99:

(39, 56230), (Start: 52 @56341 has 44 MA's), (78, 56404), (80, 56413), (Start: 82 @56428 has 1 MA's), (87, 56476), (93, 56515), (135, 56734), (136, 56743), (158, 56866),

Gene: Burrough\_246 Start: 136629, Stop: 137291, Start Num: 59

Candidate Starts for Burrough\_246:

(30, 136404), (41, 136527), (Start: 59 @136629 has 144 MA's), (65, 136644), (66, 136647), (80, 136695), (93, 136797), (94, 136800), (99, 136854), (102, 136863), (112, 136932), (114, 136938), (127, 136989), (129, 136995), (134, 137013), (136, 137025), (152, 137100), (161, 137157), (188, 137283),

Gene: Burwell21\_98 Start: 56235, Stop: 56858, Start Num: 53

Candidate Starts for Burwell21\_98:

(36, 56118), (37, 56124), (38, 56133), (Start: 53 @56235 has 162 MA's), (66, 56256), (78, 56295), (80, 56304), (Start: 82 @56319 has 1 MA's), (87, 56367), (93, 56406), (102, 56472), (105, 56487), (135, 56625), (136, 56634), (158, 56757),

Gene: BuzzLyseyear\_110 Start: 58716, Stop: 59327, Start Num: 53

Candidate Starts for BuzzLyseyear\_110:

(12, 58383), (17, 58404), (18, 58407), (35, 58545), (38, 58614), (Start: 53 @58716 has 162 MA's), (78, 58776), (80, 58785), (Start: 82 @58800 has 1 MA's), (87, 58848), (93, 58887), (94, 58890), (105, 58968), (136, 59115),

Gene: Bxz1\_231 Start: 136834, Stop: 137496, Start Num: 59

Candidate Starts for Bxz1\_231:

(30, 136609), (41, 136732), (Start: 59 @136834 has 144 MA's), (65, 136849), (66, 136852), (80, 136900), (93, 137002), (94, 137005), (99, 137059), (102, 137068), (112, 137137), (114, 137143), (127, 137194), (129, 137200), (134, 137218), (136, 137230), (152, 137305), (161, 137362), (188, 137488),

Gene: ByChance\_94 Start: 52032, Stop: 52655, Start Num: 53

Candidate Starts for ByChance\_94:

(36, 51915), (37, 51921), (38, 51930), (Start: 53 @52032 has 162 MA's), (78, 52092), (80, 52101), (Start: 82 @52116 has 1 MA's), (135, 52422), (136, 52431),

Gene: Byougenkin\_100 Start: 53567, Stop: 54217, Start Num: 46

Candidate Starts for Byougenkin\_100:

(40, 53516), (45, 53558), (Start: 46 @53567 has 2 MA's), (Start: 54 @53594 has 17 MA's), (78, 53654), (Start: 82 @53678 has 1 MA's), (105, 53846), (136, 53993),

Gene: Cabrinians\_100 Start: 55579, Stop: 56202, Start Num: 53

Candidate Starts for Cabrinians\_100:

(Start: 53 @55579 has 162 MA's), (66, 55600), (78, 55639), (80, 55648), (Start: 82 @55663 has 1 MA's), (87, 55711), (93, 55750), (102, 55816), (105, 55831), (136, 55978), (158, 56101),

Gene: Cactojaque\_239 Start: 133998, Stop: 134660, Start Num: 59

Candidate Starts for Cactojaque\_239:

(30, 133773), (41, 133896), (Start: 59 @133998 has 144 MA's), (65, 134013), (66, 134016), (80, 134064), (93, 134166), (94, 134169), (99, 134223), (102, 134232), (112, 134301), (114, 134307), (127, 134358), (129, 134364), (134, 134382), (136, 134394), (152, 134469), (161, 134526), (188, 134652),

Gene: Cali\_235 Start: 135227, Stop: 135889, Start Num: 59

Candidate Starts for Cali\_235:

(30, 135002), (41, 135125), (Start: 59 @135227 has 144 MA's), (65, 135242), (66, 135245), (80, 135293), (93, 135395), (94, 135398), (99, 135452), (102, 135461), (112, 135530), (114, 135536), (127, 135587), (129, 135593), (134, 135611), (136, 135623), (152, 135698), (161, 135755), (188, 135881),

Gene: Cane17\_234 Start: 138635, Stop: 139297, Start Num: 57

Candidate Starts for Cane17\_234:

(22, 138416), (23, 138419), (31, 138482), (41, 138602), (Start: 57 @138635 has 32 MA's), (65, 138650), (66, 138653), (80, 138701), (93, 138803), (94, 138806), (99, 138860), (102, 138869), (112, 138938), (114, 138944), (127, 138995), (129, 139001), (134, 139019), (136, 139031), (152, 139106), (161, 139163), (188, 139289),

Gene: Capablanca\_250 Start: 137480, Stop: 138142, Start Num: 59

Candidate Starts for Capablanca\_250:

(22, 137192), (23, 137195), (31, 137258), (41, 137378), (Start: 59 @137480 has 144 MA's), (65, 137495), (66, 137498), (80, 137546), (93, 137648), (94, 137651), (99, 137705), (102, 137714), (112, 137783), (114, 137789), (127, 137840), (129, 137846), (134, 137864), (136, 137876), (152, 137951), (161, 138008), (188, 138134),

Gene: Caprice\_81 Start: 46857, Stop: 47519, Start Num: 55

Candidate Starts for Caprice\_81:

(Start: 55 @46857 has 20 MA's), (71, 46905), (Start: 82 @46944 has 1 MA's), (87, 46992), (93, 47028), (97, 47055), (102, 47094), (104, 47115), (131, 47244), (146, 47325), (152, 47358), (154, 47379), (155, 47382), (177, 47481), (184, 47508),

Gene: CaptainTrips\_106 Start: 56237, Stop: 56860, Start Num: 53

Candidate Starts for CaptainTrips\_106:

(14, 55913), (19, 55940), (35, 56066), (38, 56135), (Start: 53 @56237 has 162 MA's), (66, 56258), (78, 56297), (80, 56306), (Start: 82 @56321 has 1 MA's), (87, 56369), (93, 56408), (102, 56474), (105, 56489), (135, 56627), (136, 56636), (158, 56759),



Gene: Caravan\_235 Start: 135567, Stop: 136229, Start Num: 59

Candidate Starts for Caravan\_235:

(30, 135342), (41, 135465), (Start: 59 @135567 has 144 MA's), (65, 135582), (66, 135585), (80, 135633), (93, 135735), (94, 135738), (99, 135792), (102, 135801), (112, 135870), (114, 135876), (127, 135927), (129, 135933), (134, 135951), (136, 135963), (152, 136038), (161, 136095), (188, 136221),

Gene: Catdawg\_36 Start: 18449, Stop: 19069, Start Num: 61

Candidate Starts for Catdawg\_36:

(11, 18056), (Start: 61 @18449 has 28 MA's), (66, 18467), (75, 18500), (80, 18515), (84, 18578), (93, 18623), (94, 18626), (106, 18707), (110, 18749), (126, 18812), (130, 18827), (132, 18833), (152, 18935), (163, 18986),

Gene: Catera\_234 Start: 133969, Stop: 134631, Start Num: 59

Candidate Starts for Catera\_234:

(30, 133744), (41, 133867), (Start: 59 @133969 has 144 MA's), (65, 133984), (66, 133987), (80, 134035), (93, 134137), (94, 134140), (99, 134194), (102, 134203), (112, 134272), (114, 134278), (127, 134329), (129, 134335), (134, 134353), (136, 134365), (152, 134440), (161, 134497), (188, 134623),

Gene: Cerasum\_102 Start: 52933, Stop: 53544, Start Num: 53

Candidate Starts for Cerasum\_102:

(38, 52831), (Start: 53 @52933 has 162 MA's), (66, 52954), (78, 52993), (80, 53002), (Start: 82 @53017 has 1 MA's), (102, 53170), (105, 53185), (136, 53332),

Gene: Chargie21\_242 Start: 133275, Stop: 133937, Start Num: 59

Candidate Starts for Chargie21\_242:

(30, 133050), (41, 133173), (Start: 59 @133275 has 144 MA's), (65, 133290), (66, 133293), (80, 133341), (93, 133443), (94, 133446), (99, 133500), (102, 133509), (112, 133578), (114, 133584), (127, 133635), (129, 133641), (134, 133659), (136, 133671), (152, 133746), (161, 133803), (188, 133929),

Gene: CharlieB\_240 Start: 134993, Stop: 135655, Start Num: 59

Candidate Starts for CharlieB\_240:

(30, 134768), (41, 134891), (Start: 59 @134993 has 144 MA's), (65, 135008), (66, 135011), (80, 135059), (93, 135161), (94, 135164), (99, 135218), (102, 135227), (112, 135296), (114, 135302), (127, 135353), (129, 135359), (134, 135377), (136, 135389), (152, 135464), (161, 135521), (188, 135647),

Gene: ChaylaJr\_244 Start: 134666, Stop: 135328, Start Num: 59

Candidate Starts for ChaylaJr\_244:

(30, 134441), (41, 134564), (Start: 59 @134666 has 144 MA's), (65, 134681), (66, 134684), (80, 134732), (93, 134834), (94, 134837), (99, 134891), (102, 134900), (112, 134969), (114, 134975), (127, 135026), (129, 135032), (134, 135050), (136, 135062), (152, 135137), (161, 135194), (188, 135320),

Gene: Che8\_110 Start: 58038, Stop: 58673, Start Num: 52

Candidate Starts for Che8\_110:

(Start: 52 @58038 has 44 MA's), (Start: 59 @58050 has 144 MA's), (78, 58110), (Start: 82 @58134 has 1 MA's), (136, 58449),

Gene: Che9c\_83 Start: 56006, Stop: 56632, Start Num: 60

Candidate Starts for Che9c\_83:

(Start: 60 @56006 has 2 MA's), (132, 56390), (135, 56402), (153, 56498), (167, 56558), (179, 56615),

Gene: Che9d\_111 Start: 55563, Stop: 56165, Start Num: 52

Candidate Starts for Che9d\_111:

(Start: 52 @55563 has 44 MA's), (71, 55608), (77, 55620), (87, 55695), (93, 55734), (136, 55962), (179, 56154),

Gene: Chevrolet\_108 Start: 57479, Stop: 58102, Start Num: 53

Candidate Starts for Chevrolet\_108:

(38, 57377), (Start: 53 @57479 has 162 MA's), (66, 57500), (78, 57539), (80, 57548), (Start: 82 @57563 has 1 MA's), (87, 57611), (93, 57650), (102, 57716), (105, 57731), (136, 57878), (158, 58001),

Gene: ChickenDinner\_97 Start: 55826, Stop: 56437, Start Num: 53

Candidate Starts for ChickenDinner\_97:

(37, 55715), (38, 55724), (Start: 53 @55826 has 162 MA's), (66, 55847), (78, 55886), (80, 55895), (Start: 82 @55910 has 1 MA's), (87, 55958), (93, 55997), (102, 56063), (105, 56078), (135, 56216), (136, 56225),

Gene: ChickenPhender\_241 Start: 133422, Stop: 134084, Start Num: 59

Candidate Starts for ChickenPhender\_241:

(30, 133197), (41, 133320), (Start: 59 @133422 has 144 MA's), (65, 133437), (66, 133440), (80, 133488), (93, 133590), (94, 133593), (99, 133647), (102, 133656), (112, 133725), (114, 133731), (127, 133782), (129, 133788), (134, 133806), (136, 133818), (152, 133893), (161, 133950), (188, 134076),

Gene: Chomp\_244 Start: 136858, Stop: 137520, Start Num: 59

Candidate Starts for Chomp\_244:

(30, 136633), (41, 136756), (Start: 59 @136858 has 144 MA's), (65, 136873), (66, 136876), (80, 136924), (93, 137026), (94, 137029), (99, 137083), (102, 137092), (112, 137161), (114, 137167), (127, 137218), (129, 137224), (134, 137242), (136, 137254), (152, 137329), (161, 137386), (188, 137512),

Gene: Chuckly\_101 Start: 53326, Stop: 53949, Start Num: 53

Candidate Starts for Chuckly\_101:

(35, 53155), (38, 53224), (Start: 53 @53326 has 162 MA's), (66, 53347), (78, 53386), (80, 53395), (Start: 82 @53410 has 1 MA's), (87, 53458), (93, 53497), (102, 53563), (105, 53578), (136, 53725), (158, 53848),

Gene: CindyLou\_246 Start: 137118, Stop: 137780, Start Num: 59

Candidate Starts for CindyLou\_246:

(30, 136893), (41, 137016), (Start: 59 @137118 has 144 MA's), (65, 137133), (66, 137136), (80, 137184), (93, 137286), (94, 137289), (99, 137343), (102, 137352), (112, 137421), (114, 137427), (127, 137478), (129, 137484), (134, 137502), (136, 137514), (152, 137589), (161, 137646), (188, 137772),

Gene: Clarkson\_90 Start: 47238, Stop: 47900, Start Num: 55

Candidate Starts for Clarkson\_90:

(Start: 55 @47238 has 20 MA's), (71, 47286), (Start: 82 @47325 has 1 MA's), (87, 47373), (93, 47409), (97, 47436), (102, 47475), (104, 47496), (131, 47625), (146, 47706), (152, 47739), (154, 47760), (155, 47763), (171, 47829), (177, 47862), (184, 47889),

Gene: Clifton\_95 Start: 54635, Stop: 55258, Start Num: 53

Candidate Starts for Clifton\_95:

(38, 54533), (Start: 53 @54635 has 162 MA's), (66, 54656), (78, 54695), (80, 54704), (Start: 82 @54719 has 1 MA's), (87, 54767), (93, 54806), (102, 54872), (105, 54887), (136, 55034),

Gene: Coco12\_104 Start: 56990, Stop: 57601, Start Num: 53

Candidate Starts for Coco12\_104:

(38, 56888), (Start: 53 @56990 has 162 MA's), (66, 57011), (78, 57050), (80, 57059), (Start: 82 @57074 has 1 MA's), (102, 57227), (105, 57242), (136, 57389),

Gene: Colt\_235 Start: 137866, Stop: 138528, Start Num: 57

Candidate Starts for Colt\_235:

(22, 137647), (23, 137650), (31, 137713), (41, 137833), (Start: 57 @137866 has 32 MA's), (65, 137881), (66, 137884), (80, 137932), (93, 138034), (94, 138037), (99, 138091), (102, 138100), (112, 138169), (114, 138175), (127, 138226), (129, 138232), (134, 138250), (136, 138262), (152, 138337), (161, 138394), (188, 138520),

Gene: Concombres\_250 Start: 137014, Stop: 137676, Start Num: 59

Candidate Starts for Concombres\_250:

(30, 136789), (41, 136912), (Start: 59 @137014 has 144 MA's), (65, 137029), (66, 137032), (80, 137080), (93, 137182), (94, 137185), (99, 137239), (102, 137248), (112, 137317), (114, 137323), (127, 137374), (129, 137380), (134, 137398), (136, 137410), (152, 137485), (161, 137542), (188, 137668),

Gene: Corazon\_84 Start: 47432, Stop: 48094, Start Num: 55

Candidate Starts for Corazon\_84:

(Start: 55 @47432 has 20 MA's), (71, 47480), (Start: 82 @47519 has 1 MA's), (87, 47567), (93, 47603), (97, 47630), (102, 47669), (104, 47690), (131, 47819), (146, 47900), (152, 47933), (154, 47954), (155, 47957), (171, 48023), (177, 48056), (184, 48083),

Gene: Corndog\_38 Start: 18907, Stop: 19527, Start Num: 61

Candidate Starts for Corndog\_38:

(11, 18514), (Start: 61 @18907 has 28 MA's), (66, 18925), (75, 18958), (80, 18973), (84, 19036), (93, 19081), (94, 19084), (106, 19165), (110, 19207), (126, 19270), (130, 19285), (132, 19291), (152, 19393), (163, 19444),

Gene: Cornucopia\_105 Start: 54720, Stop: 55331, Start Num: 53

Candidate Starts for Cornucopia\_105:

(Start: 53 @54720 has 162 MA's), (78, 54780), (80, 54789), (Start: 82 @54804 has 1 MA's), (87, 54852), (93, 54891), (102, 54957), (105, 54972), (136, 55119),

Gene: Crumble\_98 Start: 52333, Stop: 52956, Start Num: 53

Candidate Starts for Crumble\_98:

(36, 52216), (37, 52222), (38, 52231), (Start: 53 @52333 has 162 MA's), (66, 52354), (78, 52393), (80, 52402), (Start: 82 @52417 has 1 MA's), (87, 52465), (93, 52504), (136, 52732),

Gene: DLane\_104 Start: 57808, Stop: 58431, Start Num: 53

Candidate Starts for DLane\_104:

(14, 57484), (35, 57637), (38, 57706), (Start: 53 @57808 has 162 MA's), (66, 57829), (78, 57868), (80, 57877), (Start: 82 @57892 has 1 MA's), (87, 57940), (102, 58045), (105, 58060), (135, 58198), (136, 58207), (158, 58330),

Gene: DRBy19\_103 Start: 57276, Stop: 57899, Start Num: 53

Candidate Starts for DRBy19\_103:

(38, 57174), (Start: 53 @57276 has 162 MA's), (78, 57336), (Start: 82 @57360 has 1 MA's), (102, 57513), (105, 57528), (136, 57675),

Gene: DTDevon\_246 Start: 137497, Stop: 138159, Start Num: 59

Candidate Starts for DTDevon\_246:

(30, 137272), (41, 137395), (Start: 59 @137497 has 144 MA's), (65, 137512), (66, 137515), (80, 137563), (93, 137665), (94, 137668), (99, 137722), (102, 137731), (112, 137800), (114, 137806), (127,

137857), (129, 137863), (134, 137881), (136, 137893), (152, 137968), (161, 138025), (188, 138151),

Gene: DaWorst\_103 Start: 56121, Stop: 56735, Start Num: 52

Candidate Starts for DaWorst\_103:

(39, 56010), (Start: 52 @56121 has 44 MA's), (78, 56184), (Start: 82 @56208 has 1 MA's), (102, 56361), (105, 56376), (136, 56523),

Gene: DaddyRickover\_105 Start: 56755, Stop: 57378, Start Num: 53

Candidate Starts for DaddyRickover\_105:

(38, 56653), (Start: 53 @56755 has 162 MA's), (78, 56815), (Start: 82 @56839 has 1 MA's), (87, 56887), (136, 57154),

Gene: Daenerys\_101 Start: 56922, Stop: 57545, Start Num: 53

Candidate Starts for Daenerys\_101:

(38, 56820), (Start: 53 @56922 has 162 MA's), (78, 56982), (Start: 82 @57006 has 1 MA's), (87, 57054), (136, 57321),

Gene: Daffodil\_251 Start: 135784, Stop: 136446, Start Num: 59

Candidate Starts for Daffodil\_251:

(22, 135496), (23, 135499), (31, 135562), (41, 135682), (Start: 59 @135784 has 144 MA's), (65, 135799), (66, 135802), (80, 135850), (93, 135952), (94, 135955), (99, 136009), (102, 136018), (112, 136087), (114, 136093), (127, 136144), (129, 136150), (134, 136168), (136, 136180), (152, 136255), (161, 136312), (188, 136438),

Gene: Dandelion\_251 Start: 138318, Stop: 138980, Start Num: 57

Candidate Starts for Dandelion\_251:

(22, 138099), (23, 138102), (31, 138165), (41, 138285), (Start: 57 @138318 has 32 MA's), (65, 138333), (66, 138336), (80, 138384), (93, 138486), (94, 138489), (99, 138543), (102, 138552), (112, 138621), (114, 138627), (127, 138678), (129, 138684), (134, 138702), (136, 138714), (152, 138789), (161, 138846), (188, 138972),

Gene: Dante\_103 Start: 57783, Stop: 58406, Start Num: 53

Candidate Starts for Dante\_103:

(35, 57612), (38, 57681), (Start: 53 @57783 has 162 MA's), (66, 57804), (78, 57843), (80, 57852), (Start: 82 @57867 has 1 MA's), (87, 57915), (93, 57954), (102, 58020), (105, 58035), (136, 58182), (158, 58305),

Gene: Darko\_244 Start: 134993, Stop: 135655, Start Num: 59

Candidate Starts for Darko\_244:

(30, 134768), (41, 134891), (Start: 59 @134993 has 144 MA's), (65, 135008), (66, 135011), (80, 135059), (93, 135161), (94, 135164), (99, 135218), (102, 135227), (112, 135296), (114, 135302), (127, 135353), (129, 135359), (134, 135377), (136, 135389), (152, 135464), (161, 135521), (188, 135647),

Gene: DeadP\_106 Start: 55368, Stop: 55994, Start Num: 52

Candidate Starts for DeadP\_106:

(39, 55257), (Start: 52 @55368 has 44 MA's), (78, 55431), (Start: 82 @55455 has 1 MA's), (93, 55542), (102, 55608), (136, 55770), (158, 55893),

Gene: Deb65\_96 Start: 54646, Stop: 55269, Start Num: 53

Candidate Starts for Deb65\_96:

(38, 54544), (Start: 53 @54646 has 162 MA's), (78, 54706), (Start: 82 @54730 has 1 MA's), (87, 54778), (136, 55045),

Gene: Delilah\_243 Start: 135877, Stop: 136539, Start Num: 59

Candidate Starts for Delilah\_243:

(22, 135589), (23, 135592), (31, 135655), (41, 135775), (Start: 59 @135877 has 144 MA's), (65, 135892), (66, 135895), (80, 135943), (93, 136045), (94, 136048), (99, 136102), (102, 136111), (112, 136180), (114, 136186), (127, 136237), (129, 136243), (134, 136261), (136, 136273), (152, 136348), (161, 136405), (188, 136531),

Gene: Delylah\_247 Start: 136191, Stop: 136853, Start Num: 59

Candidate Starts for Delylah\_247:

(30, 135966), (41, 136089), (Start: 59 @136191 has 144 MA's), (65, 136206), (66, 136209), (80, 136257), (93, 136359), (94, 136362), (99, 136416), (102, 136425), (112, 136494), (114, 136500), (127, 136551), (129, 136557), (134, 136575), (136, 136587), (152, 136662), (161, 136719), (188, 136845),

Gene: Demodog\_251 Start: 137024, Stop: 137686, Start Num: 59

Candidate Starts for Demodog\_251:

(30, 136799), (41, 136922), (Start: 59 @137024 has 144 MA's), (65, 137039), (66, 137042), (80, 137090), (93, 137192), (94, 137195), (99, 137249), (102, 137258), (112, 137327), (114, 137333), (127, 137384), (129, 137390), (134, 137408), (136, 137420), (152, 137495), (161, 137552), (188, 137678),

Gene: Demsculpinboyz\_117 Start: 56724, Stop: 57326, Start Num: 52

Candidate Starts for Demsculpinboyz\_117:

(Start: 52 @56724 has 44 MA's), (80, 56793), (87, 56856), (93, 56895), (136, 57123), (179, 57315),

Gene: Derek\_241 Start: 136135, Stop: 136797, Start Num: 59

Candidate Starts for Derek\_241:

(30, 135910), (41, 136033), (Start: 59 @136135 has 144 MA's), (65, 136150), (66, 136153), (80, 136201), (93, 136303), (94, 136306), (99, 136360), (102, 136369), (112, 136438), (114, 136444), (127, 136495), (129, 136501), (134, 136519), (136, 136531), (152, 136606), (161, 136663), (188, 136789),

Gene: Dietrick\_234 Start: 133998, Stop: 134660, Start Num: 59

Candidate Starts for Dietrick\_234:

(30, 133773), (41, 133896), (Start: 59 @133998 has 144 MA's), (65, 134013), (66, 134016), (80, 134064), (93, 134166), (94, 134169), (99, 134223), (102, 134232), (112, 134301), (114, 134307), (127, 134358), (129, 134364), (134, 134382), (136, 134394), (152, 134469), (161, 134526), (188, 134652),

Gene: DillTech15\_110 Start: 56707, Stop: 57330, Start Num: 53

Candidate Starts for DillTech15\_110:

(14, 56383), (19, 56410), (35, 56536), (38, 56605), (Start: 53 @56707 has 162 MA's), (66, 56728), (78, 56767), (80, 56776), (Start: 82 @56791 has 1 MA's), (87, 56839), (93, 56878), (102, 56944), (136, 57106), (158, 57229),

Gene: DirtMcgirt\_104 Start: 53690, Stop: 54304, Start Num: 52

Candidate Starts for DirtMcgirt\_104:

(39, 53579), (Start: 52 @53690 has 44 MA's), (78, 53753), (Start: 82 @53777 has 1 MA's), (102, 53930), (105, 53945), (136, 54092),

Gene: DirtMonster\_234 Start: 134731, Stop: 135393, Start Num: 57

Candidate Starts for DirtMonster\_234:

(22, 134512), (23, 134515), (31, 134578), (41, 134698), (Start: 57 @134731 has 32 MA's), (65, 134746), (66, 134749), (80, 134797), (86, 134857), (93, 134899), (94, 134902), (97, 134926), (99, 134956), (102, 134965), (112, 135034), (114, 135040), (127, 135091), (129, 135097), (136, 135127), (152, 135202), (161, 135259), (188, 135385),

Gene: DoRead\_111 Start: 55090, Stop: 55713, Start Num: 53

Candidate Starts for DoRead\_111:

(16, 54775), (35, 54919), (38, 54988), (Start: 53 @55090 has 162 MA's), (66, 55111), (78, 55150), (80, 55159), (Start: 82 @55174 has 1 MA's), (87, 55222), (93, 55261), (102, 55327), (105, 55342), (136, 55489), (158, 55612),

Gene: DocMcStuffins\_91 Start: 57456, Stop: 58067, Start Num: 53

Candidate Starts for DocMcStuffins\_91:

(37, 57345), (38, 57354), (Start: 53 @57456 has 162 MA's), (66, 57477), (78, 57516), (80, 57525), (Start: 82 @57540 has 1 MA's), (87, 57588), (93, 57627), (102, 57693), (105, 57708), (135, 57846), (136, 57855),

Gene: Domi\_239 Start: 135337, Stop: 135999, Start Num: 59

Candidate Starts for Domi\_239:

(30, 135112), (41, 135235), (Start: 59 @135337 has 144 MA's), (65, 135352), (66, 135355), (80, 135403), (93, 135505), (94, 135508), (99, 135562), (102, 135571), (112, 135640), (114, 135646), (127, 135697), (129, 135703), (134, 135721), (136, 135733), (152, 135808), (161, 135865), (188, 135991),

Gene: Donkeykong\_109 Start: 58387, Stop: 59010, Start Num: 53

Candidate Starts for Donkeykong\_109:

(36, 58270), (37, 58276), (38, 58285), (Start: 53 @58387 has 162 MA's), (66, 58408), (78, 58447), (80, 58456), (Start: 82 @58471 has 1 MA's), (87, 58519), (93, 58558), (102, 58624), (105, 58639), (136, 58786), (158, 58909),

Gene: Doomphist\_108 Start: 57575, Stop: 58198, Start Num: 53

Candidate Starts for Doomphist\_108:

(9, 57137), (17, 57263), (18, 57266), (35, 57404), (38, 57473), (Start: 53 @57575 has 162 MA's), (78, 57635), (80, 57644), (Start: 82 @57659 has 1 MA's), (87, 57707), (93, 57746), (94, 57749), (102, 57812), (105, 57827), (135, 57965), (136, 57974),

Gene: Dorothy\_104 Start: 57744, Stop: 58367, Start Num: 53

Candidate Starts for Dorothy\_104:

(38, 57642), (Start: 53 @57744 has 162 MA's), (78, 57804), (Start: 82 @57828 has 1 MA's), (87, 57876), (136, 58143),

Gene: DosHalletts\_101 Start: 56859, Stop: 57470, Start Num: 53

Candidate Starts for DosHalletts\_101:

(14, 56535), (35, 56688), (38, 56757), (Start: 53 @56859 has 162 MA's), (66, 56880), (78, 56919), (80, 56928), (Start: 82 @56943 has 1 MA's), (93, 57030), (136, 57258),

Gene: DotProduct\_98 Start: 54272, Stop: 54895, Start Num: 53

Candidate Starts for DotProduct\_98:

(38, 54170), (Start: 53 @54272 has 162 MA's), (66, 54293), (78, 54332), (80, 54341), (Start: 82 @54356 has 1 MA's), (87, 54404), (93, 54443), (102, 54509), (105, 54524), (135, 54662), (136, 54671), (158, 54794),

Gene: Doug\_99 Start: 57306, Stop: 57929, Start Num: 53

Candidate Starts for Doug\_99:

(38, 57204), (Start: 53 @57306 has 162 MA's), (78, 57366), (Start: 82 @57390 has 1 MA's), (136, 57705),

Gene: DrPhinkDaddy\_242 Start: 136562, Stop: 137224, Start Num: 59

Candidate Starts for DrPhinkDaddy\_242:

(22, 136274), (23, 136277), (31, 136340), (41, 136460), (Start: 59 @136562 has 144 MA's), (65, 136577), (66, 136580), (80, 136628), (93, 136730), (94, 136733), (99, 136787), (102, 136796), (112, 136865), (114, 136871), (127, 136922), (129, 136928), (134, 136946), (136, 136958), (152, 137033), (161, 137090), (188, 137216),

Gene: Drago\_103 Start: 53705, Stop: 54319, Start Num: 52

Candidate Starts for Drago\_103:

(39, 53594), (Start: 52 @53705 has 44 MA's), (78, 53768), (Start: 82 @53792 has 1 MA's), (102, 53945), (105, 53960), (136, 54107),

Gene: Drazdys\_242 Start: 136142, Stop: 136804, Start Num: 59

Candidate Starts for Drazdys\_242:

(30, 135917), (41, 136040), (Start: 59 @136142 has 144 MA's), (65, 136157), (66, 136160), (80, 136208), (93, 136310), (94, 136313), (99, 136367), (102, 136376), (112, 136445), (114, 136451), (127, 136502), (129, 136508), (134, 136526), (136, 136538), (152, 136613), (161, 136670), (188, 136796),

Gene: Dylan\_35 Start: 18174, Stop: 18794, Start Num: 61

Candidate Starts for Dylan\_35:

(11, 17781), (Start: 61 @18174 has 28 MA's), (66, 18192), (75, 18225), (80, 18240), (84, 18303), (93, 18348), (94, 18351), (106, 18432), (110, 18474), (126, 18537), (130, 18552), (132, 18558), (152, 18660), (163, 18711),

Gene: ET08\_231 Start: 134477, Stop: 135139, Start Num: 59

Candidate Starts for ET08\_231:

(22, 134189), (23, 134192), (31, 134255), (41, 134375), (Start: 59 @134477 has 144 MA's), (65, 134492), (66, 134495), (80, 134543), (93, 134645), (94, 134648), (99, 134702), (102, 134711), (112, 134780), (114, 134786), (127, 134837), (129, 134843), (134, 134861), (136, 134873), (152, 134948), (161, 135005), (188, 135131),

Gene: EasyJones\_246 Start: 134518, Stop: 135180, Start Num: 59

Candidate Starts for EasyJones\_246:

(30, 134293), (41, 134416), (Start: 59 @134518 has 144 MA's), (65, 134533), (66, 134536), (80, 134584), (93, 134686), (94, 134689), (99, 134743), (102, 134752), (112, 134821), (114, 134827), (127, 134878), (129, 134884), (134, 134902), (136, 134914), (152, 134989), (161, 135046), (188, 135172),

Gene: EggyFarm\_253 Start: 137363, Stop: 138025, Start Num: 59

Candidate Starts for EggyFarm\_253:

(30, 137138), (41, 137261), (Start: 59 @137363 has 144 MA's), (65, 137378), (66, 137381), (80, 137429), (93, 137531), (94, 137534), (97, 137558), (99, 137588), (102, 137597), (112, 137666), (114, 137672), (127, 137723), (129, 137729), (134, 137747), (136, 137759), (152, 137834), (161, 137891), (188, 138017),

Gene: Eish\_108 Start: 57059, Stop: 57682, Start Num: 53

Candidate Starts for Eish\_108:

(38, 56957), (Start: 53 @57059 has 162 MA's), (78, 57119), (Start: 82 @57143 has 1 MA's), (87, 57191), (93, 57230), (94, 57233), (136, 57458),

Gene: EleanorGeorge\_107 Start: 58392, Stop: 59015, Start Num: 53

Candidate Starts for EleanorGeorge\_107:

(38, 58290), (Start: 53 @58392 has 162 MA's), (66, 58413), (78, 58452), (80, 58461), (Start: 82 @58476 has 1 MA's), (93, 58563), (102, 58629), (105, 58644), (135, 58782), (136, 58791), (158, 58914),

Gene: EmToTheThree\_245 Start: 135901, Stop: 136563, Start Num: 59

Candidate Starts for EmToTheThree\_245:

(30, 135676), (41, 135799), (Start: 59 @135901 has 144 MA's), (65, 135916), (66, 135919), (80, 135967), (93, 136069), (94, 136072), (99, 136126), (102, 136135), (112, 136204), (114, 136210), (127, 136261), (129, 136267), (134, 136285), (136, 136297), (152, 136372), (161, 136429), (188, 136555),

Gene: Emma\_108 Start: 55327, Stop: 55950, Start Num: 53

Candidate Starts for Emma\_108:

(38, 55225), (Start: 53 @55327 has 162 MA's), (66, 55348), (78, 55387), (80, 55396), (Start: 82 @55411 has 1 MA's), (87, 55459), (93, 55498), (102, 55564), (105, 55579), (136, 55726), (158, 55849),

Gene: EmmaElysia\_250 Start: 137013, Stop: 137675, Start Num: 59

Candidate Starts for EmmaElysia\_250:

(30, 136788), (41, 136911), (Start: 59 @137013 has 144 MA's), (65, 137028), (66, 137031), (80, 137079), (93, 137181), (94, 137184), (99, 137238), (102, 137247), (112, 137316), (114, 137322), (127, 137373), (129, 137379), (134, 137397), (136, 137409), (152, 137484), (161, 137541), (188, 137667),

Gene: Empress\_104 Start: 56063, Stop: 56686, Start Num: 53

Candidate Starts for Empress\_104:

(35, 55892), (38, 55961), (Start: 53 @56063 has 162 MA's), (66, 56084), (78, 56123), (80, 56132), (Start: 82 @56147 has 1 MA's), (87, 56195), (93, 56234), (102, 56300), (105, 56315), (136, 56462), (158, 56585),

Gene: Enby\_107 Start: 53981, Stop: 54595, Start Num: 52

Candidate Starts for Enby\_107:

(39, 53870), (Start: 52 @53981 has 44 MA's), (78, 54044), (Start: 82 @54068 has 1 MA's), (102, 54221), (105, 54236), (136, 54383),

Gene: Eradicator\_94 Start: 54608, Stop: 55231, Start Num: 53

Candidate Starts for Eradicator\_94:

(38, 54506), (Start: 53 @54608 has 162 MA's), (78, 54668), (Start: 82 @54692 has 1 MA's), (87, 54740), (136, 55007),

Gene: Erdmann\_246 Start: 135869, Stop: 136531, Start Num: 59

Candidate Starts for Erdmann\_246:

(30, 135644), (41, 135767), (Start: 59 @135869 has 144 MA's), (65, 135884), (66, 135887), (80, 135935), (93, 136037), (94, 136040), (99, 136094), (102, 136103), (112, 136172), (114, 136178), (127, 136229), (129, 136235), (134, 136253), (136, 136265), (152, 136340), (161, 136397), (188, 136523),

Gene: ErnieJ\_238 Start: 132697, Stop: 133359, Start Num: 59

Candidate Starts for ErnieJ\_238:

(30, 132472), (41, 132595), (Start: 59 @132697 has 144 MA's), (65, 132712), (66, 132715), (80, 132763), (93, 132865), (94, 132868), (99, 132922), (102, 132931), (112, 133000), (114, 133006), (127, 133057), (129, 133063), (134, 133081), (136, 133093), (152, 133168), (161, 133225), (188, 133351),

Gene: Essence\_243 Start: 135354, Stop: 136016, Start Num: 59

Candidate Starts for Essence\_243:

(30, 135129), (41, 135252), (Start: 59 @135354 has 144 MA's), (65, 135369), (66, 135372), (80, 135420), (93, 135522), (94, 135525), (99, 135579), (102, 135588), (112, 135657), (114, 135663), (127, 135714), (129, 135720), (134, 135738), (136, 135750), (152, 135825), (161, 135882), (188, 136008),

Gene: Estave1\_111 Start: 59636, Stop: 60259, Start Num: 53



Candidate Starts for Estave1\_111:

(38, 59534), (Start: 53 @59636 has 162 MA's), (78, 59696), (Start: 82 @59720 has 1 MA's), (102, 59873), (105, 59888), (136, 60035),

Gene: Ewok\_244 Start: 135812, Stop: 136474, Start Num: 59

Candidate Starts for Ewok\_244:

(22, 135524), (23, 135527), (31, 135590), (41, 135710), (Start: 59 @135812 has 144 MA's), (65, 135827), (66, 135830), (80, 135878), (93, 135980), (94, 135983), (99, 136037), (102, 136046), (112, 136115), (114, 136121), (127, 136172), (129, 136178), (134, 136196), (136, 136208), (152, 136283), (161, 136340), (188, 136466),

Gene: Familton\_37 Start: 18453, Stop: 19073, Start Num: 61

Candidate Starts for Familton\_37:

(11, 18060), (Start: 61 @18453 has 28 MA's), (66, 18471), (75, 18504), (80, 18519), (84, 18582), (93, 18627), (94, 18630), (106, 18711), (110, 18753), (126, 18816), (130, 18831), (132, 18837), (152, 18939), (163, 18990),

Gene: Fancypants\_110 Start: 59137, Stop: 59760, Start Num: 53

Candidate Starts for Fancypants\_110:

(38, 59035), (Start: 53 @59137 has 162 MA's), (78, 59197), (Start: 82 @59221 has 1 MA's), (136, 59536),

Gene: Farewell\_90 Start: 59442, Stop: 60143, Start Num: 44

Candidate Starts for Farewell\_90:

(Start: 44 @59442 has 2 MA's), (Start: 53 @59490 has 162 MA's), (69, 59526), (106, 59724), (122, 59823), (125, 59835), (135, 59874), (136, 59883), (182, 60105), (187, 60126),

Gene: Fastidio\_107 Start: 54748, Stop: 55371, Start Num: 53

Candidate Starts for Fastidio\_107:

(14, 54424), (19, 54451), (35, 54577), (38, 54646), (Start: 53 @54748 has 162 MA's), (66, 54769), (78, 54808), (80, 54817), (Start: 82 @54832 has 1 MA's), (87, 54880), (93, 54919), (102, 54985), (136, 55147), (158, 55270),

Gene: FeliMaine\_89 Start: 47480, Stop: 48142, Start Num: 55

Candidate Starts for FeliMaine\_89:

(Start: 55 @47480 has 20 MA's), (71, 47528), (Start: 82 @47567 has 1 MA's), (87, 47615), (93, 47651), (97, 47678), (102, 47717), (104, 47738), (131, 47867), (146, 47948), (152, 47981), (154, 48002), (155, 48005), (171, 48071), (177, 48104), (184, 48131),

Gene: Filuzino\_104 Start: 58214, Stop: 58837, Start Num: 53

Candidate Starts for Filuzino\_104:

(14, 57890), (19, 57917), (35, 58043), (38, 58112), (Start: 53 @58214 has 162 MA's), (66, 58235), (78, 58274), (80, 58283), (Start: 82 @58298 has 1 MA's), (87, 58346), (93, 58385), (102, 58451), (105, 58466), (136, 58613), (158, 58736),

Gene: Firecracker\_36 Start: 18072, Stop: 18692, Start Num: 61

Candidate Starts for Firecracker\_36:

(11, 17679), (Start: 61 @18072 has 28 MA's), (66, 18090), (75, 18123), (80, 18138), (84, 18201), (93, 18246), (94, 18249), (106, 18330), (110, 18372), (126, 18435), (130, 18450), (132, 18456), (152, 18558), (163, 18609),

Gene: Firehouse51\_98 Start: 57075, Stop: 57698, Start Num: 54

Candidate Starts for Firehouse51\_98:

(23, 56817), (27, 56853), (40, 56997), (45, 57039), (Start: 46 @57048 has 2 MA's), (Start: 54 @57075 has 17 MA's), (78, 57135), (Start: 82 @57159 has 1 MA's), (105, 57327), (136, 57474), (158, 57597),

Gene: Flabslab\_239 Start: 132299, Stop: 132961, Start Num: 57

Candidate Starts for Flabslab\_239:

(Start: 57 @132299 has 32 MA's), (65, 132314), (66, 132317), (80, 132365), (86, 132425), (93, 132467), (94, 132470), (97, 132494), (99, 132524), (102, 132533), (112, 132602), (114, 132608), (127, 132659), (129, 132665), (134, 132683), (136, 132695), (152, 132770), (161, 132827), (188, 132953),

Gene: Flathead\_108 Start: 56935, Stop: 57549, Start Num: 52

Candidate Starts for Flathead\_108:

(39, 56824), (Start: 52 @56935 has 44 MA's), (78, 56998), (Start: 82 @57022 has 1 MA's), (136, 57337),

Gene: Florinda\_116 Start: 58325, Stop: 58948, Start Num: 53

Candidate Starts for Florinda\_116:

(Start: 53 @58325 has 162 MA's), (78, 58385), (80, 58394), (Start: 82 @58409 has 1 MA's), (87, 58457), (93, 58496), (102, 58562), (105, 58577), (136, 58724), (158, 58847),

Gene: Fludd\_245 Start: 134230, Stop: 134892, Start Num: 59

Candidate Starts for Fludd\_245:

(30, 134005), (41, 134128), (Start: 59 @134230 has 144 MA's), (65, 134245), (66, 134248), (80, 134296), (93, 134398), (94, 134401), (99, 134455), (102, 134464), (112, 134533), (114, 134539), (127, 134590), (129, 134596), (134, 134614), (136, 134626), (152, 134701), (161, 134758), (188, 134884),

Gene: Forza\_94 Start: 50704, Stop: 51321, Start Num: 56

Candidate Starts for Forza\_94:

(47, 50677), (Start: 56 @50704 has 10 MA's), (85, 50833), (105, 50959), (108, 50998), (136, 51118), (158, 51247), (174, 51304),

Gene: FoulBall\_36 Start: 18447, Stop: 19067, Start Num: 61

Candidate Starts for FoulBall\_36:

(11, 18054), (Start: 61 @18447 has 28 MA's), (66, 18465), (75, 18498), (80, 18513), (84, 18576), (93, 18621), (94, 18624), (106, 18705), (110, 18747), (126, 18810), (130, 18825), (132, 18831), (152, 18933), (163, 18984),

Gene: FoxtrotP1\_243 Start: 136455, Stop: 137117, Start Num: 59

Candidate Starts for FoxtrotP1\_243:

(30, 136230), (41, 136353), (Start: 59 @136455 has 144 MA's), (65, 136470), (66, 136473), (80, 136521), (93, 136623), (94, 136626), (99, 136680), (102, 136689), (112, 136758), (114, 136764), (127, 136815), (129, 136821), (134, 136839), (136, 136851), (152, 136926), (161, 136983), (188, 137109),

Gene: Frankie\_103 Start: 56330, Stop: 56944, Start Num: 52

Candidate Starts for Frankie\_103:

(39, 56219), (Start: 52 @56330 has 44 MA's), (71, 56378), (83, 56423), (102, 56570), (105, 56585), (135, 56723), (136, 56732),

Gene: FrayBell\_248 Start: 134361, Stop: 135023, Start Num: 57

Candidate Starts for FrayBell\_248:

(22, 134142), (23, 134145), (31, 134208), (41, 134328), (Start: 57 @134361 has 32 MA's), (65, 134376), (66, 134379), (80, 134427), (93, 134529), (94, 134532), (99, 134586), (102, 134595), (112, 134664), (114, 134670), (127, 134721), (129, 134727), (134, 134745), (136, 134757), (152, 134832), (161, 134889), (188, 135015),

Gene: FreddyB\_112 Start: 57227, Stop: 57850, Start Num: 53

Candidate Starts for FreddyB\_112:

(38, 57125), (Start: 53 @57227 has 162 MA's), (66, 57248), (78, 57287), (80, 57296), (Start: 82 @57311 has 1 MA's), (87, 57359), (93, 57398), (102, 57464), (105, 57479), (136, 57626), (158, 57749),

Gene: Fruitloop\_102 Start: 57379, Stop: 58002, Start Num: 53

Candidate Starts for Fruitloop\_102:

(14, 57055), (19, 57082), (35, 57208), (38, 57277), (Start: 53 @57379 has 162 MA's), (66, 57400), (78, 57439), (80, 57448), (Start: 82 @57463 has 1 MA's), (87, 57511), (93, 57550), (102, 57616), (105, 57631), (135, 57769), (136, 57778), (158, 57901),

Gene: Fryberger\_137 Start: 64405, Stop: 65118, Start Num: 51

Candidate Starts for Fryberger\_137:

(Start: 51 @64405 has 3 MA's), (Start: 56 @64417 has 10 MA's), (66, 64438), (83, 64510), (105, 64672), (114, 64741), (117, 64750), (125, 64789), (136, 64837), (140, 64855), (147, 64906), (149, 64921), (151, 64927), (180, 65080),

Gene: FudgeTart\_240 Start: 134959, Stop: 135621, Start Num: 59

Candidate Starts for FudgeTart\_240:

(22, 134671), (23, 134674), (31, 134737), (41, 134857), (Start: 59 @134959 has 144 MA's), (65, 134974), (66, 134977), (80, 135025), (93, 135127), (94, 135130), (99, 135184), (102, 135193), (112, 135262), (114, 135268), (127, 135319), (129, 135325), (134, 135343), (136, 135355), (152, 135430), (161, 135487), (188, 135613),

Gene: GMA2\_23 Start: 21038, Stop: 21652, Start Num: 59

Candidate Starts for GMA2\_23:

(Start: 59 @21038 has 144 MA's), (66, 21059), (74, 21089), (109, 21332), (130, 21419), (136, 21449), (137, 21452), (143, 21464),

Gene: GUmbie\_103 Start: 56296, Stop: 56919, Start Num: 53

Candidate Starts for GUmbie\_103:

(38, 56194), (Start: 53 @56296 has 162 MA's), (66, 56317), (78, 56356), (80, 56365), (Start: 82 @56380 has 1 MA's), (87, 56428), (102, 56533), (105, 56548), (136, 56695), (158, 56818),

Gene: Gabriel\_248 Start: 134389, Stop: 135051, Start Num: 59

Candidate Starts for Gabriel\_248:

(30, 134164), (41, 134287), (Start: 59 @134389 has 144 MA's), (65, 134404), (66, 134407), (80, 134455), (93, 134557), (94, 134560), (99, 134614), (102, 134623), (112, 134692), (114, 134698), (127, 134749), (129, 134755), (134, 134773), (136, 134785), (152, 134860), (161, 134917), (188, 135043),

Gene: Galactic\_108 Start: 56770, Stop: 57393, Start Num: 54

Candidate Starts for Galactic\_108:

(40, 56692), (45, 56734), (Start: 46 @56743 has 2 MA's), (Start: 54 @56770 has 17 MA's), (78, 56830), (80, 56839), (Start: 82 @56854 has 1 MA's), (93, 56941), (94, 56944), (96, 56962), (136, 57169),

Gene: Gamgam\_247 Start: 134746, Stop: 135408, Start Num: 59

Candidate Starts for Gamgam\_247:

(30, 134521), (41, 134644), (Start: 59 @134746 has 144 MA's), (65, 134761), (66, 134764), (80, 134812), (93, 134914), (94, 134917), (99, 134971), (102, 134980), (112, 135049), (114, 135055), (127, 135106), (129, 135112), (134, 135130), (136, 135142), (152, 135217), (161, 135274), (188, 135400),

Gene: Gandalph\_103 Start: 53883, Stop: 54506, Start Num: 53

Candidate Starts for Gandalph\_103:

(38, 53781), (Start: 53 @53883 has 162 MA's), (66, 53904), (78, 53943), (80, 53952), (Start: 82 @53967 has 1 MA's), (87, 54015), (93, 54054), (102, 54120), (105, 54135), (135, 54273), (136, 54282), (158, 54405),

Gene: Gattaca\_86 Start: 47017, Stop: 47679, Start Num: 55

Candidate Starts for Gattaca\_86:

(Start: 55 @47017 has 20 MA's), (71, 47065), (Start: 82 @47104 has 1 MA's), (87, 47152), (93, 47188), (97, 47215), (102, 47254), (104, 47275), (131, 47404), (146, 47485), (152, 47518), (154, 47539), (155, 47542), (177, 47641), (184, 47668),

Gene: Geralt\_96 Start: 54644, Stop: 55267, Start Num: 53

Candidate Starts for Geralt\_96:

(38, 54542), (Start: 53 @54644 has 162 MA's), (78, 54704), (Start: 82 @54728 has 1 MA's), (87, 54776), (136, 55043),

Gene: Ghost\_245 Start: 135370, Stop: 136032, Start Num: 59

Candidate Starts for Ghost\_245:

(30, 135145), (41, 135268), (Start: 59 @135370 has 144 MA's), (65, 135385), (66, 135388), (80, 135436), (93, 135538), (94, 135541), (99, 135595), (102, 135604), (112, 135673), (114, 135679), (127, 135730), (129, 135736), (134, 135754), (136, 135766), (152, 135841), (161, 135898), (188, 136024),

Gene: GigiOuiOui\_98 Start: 55298, Stop: 55921, Start Num: 54

Candidate Starts for GigiOuiOui\_98:

(40, 55220), (45, 55262), (Start: 46 @55271 has 2 MA's), (Start: 54 @55298 has 17 MA's), (78, 55358), (80, 55367), (Start: 82 @55382 has 1 MA's), (87, 55430), (93, 55469), (94, 55472), (136, 55697),

Gene: Girafales\_112 Start: 57753, Stop: 58364, Start Num: 53

Candidate Starts for Girafales\_112:

(36, 57636), (37, 57642), (38, 57651), (Start: 53 @57753 has 162 MA's), (66, 57774), (78, 57813), (80, 57822), (Start: 82 @57837 has 1 MA's), (93, 57924), (102, 57990), (105, 58005), (136, 58152),

Gene: Girr\_102 Start: 56633, Stop: 57256, Start Num: 53

Candidate Starts for Girr\_102:

(38, 56531), (Start: 53 @56633 has 162 MA's), (78, 56693), (Start: 82 @56717 has 1 MA's), (87, 56765), (136, 57032),

Gene: Gizmo\_250 Start: 137786, Stop: 138448, Start Num: 59

Candidate Starts for Gizmo\_250:

(30, 137561), (41, 137684), (Start: 59 @137786 has 144 MA's), (65, 137801), (66, 137804), (80, 137852), (93, 137954), (94, 137957), (99, 138011), (102, 138020), (112, 138089), (114, 138095), (127, 138146), (129, 138152), (134, 138170), (136, 138182), (152, 138257), (161, 138314), (188, 138440),

Gene: GlutenPhree\_244 Start: 134757, Stop: 135419, Start Num: 59

Candidate Starts for GlutenPhree\_244:

(30, 134532), (41, 134655), (Start: 59 @134757 has 144 MA's), (65, 134772), (66, 134775), (80, 134823), (93, 134925), (94, 134928), (99, 134982), (102, 134991), (112, 135060), (114, 135066), (127, 135117), (129, 135123), (134, 135141), (136, 135153), (152, 135228), (161, 135285), (188, 135411),

Gene: GodonK\_82 Start: 42434, Stop: 43039, Start Num: 56

Candidate Starts for GodonK\_82:

(48, 42410), (Start: 56 @42434 has 10 MA's), (77, 42494), (93, 42608), (95, 42614), (106, 42692), (113, 42752), (121, 42791), (123, 42800), (128, 42812), (132, 42824), (136, 42848), (142, 42860), (155, 42950), (158, 42974),

Gene: GoongGoong\_85 Start: 46822, Stop: 47484, Start Num: 55

Candidate Starts for GoongGoong\_85:

(Start: 55 @46822 has 20 MA's), (71, 46870), (Start: 82 @46909 has 1 MA's), (87, 46957), (93, 46993), (97, 47020), (99, 47050), (102, 47059), (104, 47080), (131, 47209), (146, 47290), (152, 47323), (154, 47344), (155, 47347), (171, 47413), (177, 47446), (184, 47473),

Gene: Gorge\_102 Start: 56864, Stop: 57487, Start Num: 53

Candidate Starts for Gorge\_102:

(35, 56693), (38, 56762), (Start: 53 @56864 has 162 MA's), (66, 56885), (78, 56924), (80, 56933), (Start: 82 @56948 has 1 MA's), (87, 56996), (93, 57035), (102, 57101), (105, 57116), (136, 57263), (158, 57386),

Gene: Grasshills\_252 Start: 137362, Stop: 138024, Start Num: 59

Candidate Starts for Grasshills\_252:

(30, 137137), (41, 137260), (Start: 59 @137362 has 144 MA's), (65, 137377), (66, 137380), (80, 137428), (93, 137530), (94, 137533), (97, 137557), (99, 137587), (102, 137596), (112, 137665), (114, 137671), (127, 137722), (129, 137728), (134, 137746), (136, 137758), (152, 137833), (161, 137890), (188, 138016),

Gene: Greely\_246 Start: 138164, Stop: 138862, Start Num: 57

Candidate Starts for Greely\_246:

(50, 138149), (Start: 57 @138164 has 32 MA's), (78, 138221), (Start: 82 @138245 has 1 MA's), (93, 138332), (94, 138335), (106, 138416), (114, 138482), (115, 138485), (117, 138491), (118, 138500), (120, 138518), (124, 138530), (138, 138590), (144, 138614), (168, 138740), (170, 138746), (184, 138818),

Gene: Grungle\_227 Start: 132635, Stop: 133297, Start Num: 57

Candidate Starts for Grungle\_227:

(22, 132416), (23, 132419), (31, 132482), (41, 132602), (Start: 57 @132635 has 32 MA's), (65, 132650), (66, 132653), (80, 132701), (93, 132803), (94, 132806), (99, 132860), (102, 132869), (112, 132938), (114, 132944), (127, 132995), (129, 133001), (134, 133019), (136, 133031), (152, 133106), (161, 133163), (188, 133289),

Gene: Guey18\_143 Start: 65973, Stop: 66686, Start Num: 51

Candidate Starts for Guey18\_143:

(Start: 51 @65973 has 3 MA's), (Start: 56 @65985 has 10 MA's), (66, 66006), (83, 66078), (105, 66240), (114, 66309), (117, 66318), (125, 66357), (135, 66396), (136, 66405), (140, 66423), (147, 66474), (149, 66489), (151, 66495), (162, 66561), (180, 66648),

Gene: Guppsters\_98 Start: 53744, Stop: 54367, Start Num: 53

Candidate Starts for Guppsters\_98:

(38, 53642), (Start: 53 @53744 has 162 MA's), (78, 53804), (Start: 82 @53828 has 1 MA's), (87, 53876), (93, 53915), (105, 53996), (136, 54143),

Gene: Guwapp\_241 Start: 134204, Stop: 134866, Start Num: 59

Candidate Starts for Guwapp\_241:

(30, 133979), (41, 134102), (Start: 59 @134204 has 144 MA's), (65, 134219), (66, 134222), (80, 134270), (93, 134372), (94, 134375), (99, 134429), (102, 134438), (112, 134507), (114, 134513), (127, 134564), (129, 134570), (134, 134588), (136, 134600), (152, 134675), (161, 134732), (188, 134858),

Gene: Hades\_101 Start: 53895, Stop: 54518, Start Num: 53

Candidate Starts for Hades\_101:

(15, 53571), (20, 53598), (35, 53724), (38, 53793), (Start: 53 @53895 has 162 MA's), (78, 53955), (Start: 82 @53979 has 1 MA's), (87, 54027), (105, 54147), (136, 54294),

Gene: Halldule\_237 Start: 133817, Stop: 134479, Start Num: 57

Candidate Starts for Halldule\_237:

(22, 133598), (23, 133601), (31, 133664), (41, 133784), (Start: 57 @133817 has 32 MA's), (65, 133832), (66, 133835), (80, 133883), (93, 133985), (94, 133988), (99, 134042), (102, 134051), (112, 134120), (114, 134126), (127, 134177), (129, 134183), (134, 134201), (136, 134213), (152, 134288), (161, 134345), (188, 134471),

Gene: Hamulus\_104 Start: 56064, Stop: 56687, Start Num: 53

Candidate Starts for Hamulus\_104:

(14, 55740), (19, 55767), (35, 55893), (38, 55962), (Start: 53 @56064 has 162 MA's), (66, 56085), (78, 56124), (80, 56133), (Start: 82 @56148 has 1 MA's), (87, 56196), (93, 56235), (102, 56301), (105, 56316), (136, 56463), (158, 56586),

Gene: Harley\_107 Start: 57637, Stop: 58263, Start Num: 52

Candidate Starts for Harley\_107:

(39, 57526), (Start: 52 @57637 has 44 MA's), (78, 57700), (80, 57709), (Start: 82 @57724 has 1 MA's), (93, 57811), (94, 57814), (136, 58039),

Gene: Hegedechwinu\_112 Start: 56643, Stop: 57254, Start Num: 54

Candidate Starts for Hegedechwinu\_112:

(40, 56565), (45, 56607), (Start: 46 @56616 has 2 MA's), (Start: 54 @56643 has 17 MA's), (78, 56703), (Start: 82 @56727 has 1 MA's), (136, 57042),

Gene: Hlubikazi\_101 Start: 54379, Stop: 55002, Start Num: 53

Candidate Starts for Hlubikazi\_101:

(17, 54067), (18, 54070), (35, 54208), (38, 54277), (Start: 53 @54379 has 162 MA's), (78, 54439), (Start: 82 @54463 has 1 MA's), (136, 54778), (158, 54901),

Gene: Huphlepuuff\_91 Start: 47043, Stop: 47705, Start Num: 55

Candidate Starts for Huphlepuuff\_91:

(Start: 55 @47043 has 20 MA's), (71, 47091), (Start: 82 @47130 has 1 MA's), (87, 47178), (93, 47214), (97, 47241), (102, 47280), (104, 47301), (131, 47430), (146, 47511), (152, 47544), (154, 47565), (155, 47568), (171, 47634), (177, 47667), (184, 47694),

Gene: HyRo\_230 Start: 134761, Stop: 135423, Start Num: 57

Candidate Starts for HyRo\_230:

(Start: 57 @134761 has 32 MA's), (65, 134776), (66, 134779), (80, 134827), (86, 134887), (93, 134929), (94, 134932), (97, 134956), (99, 134986), (102, 134995), (112, 135064), (114, 135070), (127, 135121), (129, 135127), (134, 135145), (136, 135157), (152, 135232), (161, 135289), (188, 135415),

Gene: I3\_255 Start: 136509, Stop: 137171, Start Num: 57

Candidate Starts for I3\_255:

(30, 136353), (41, 136476), (Start: 57 @136509 has 32 MA's), (65, 136524), (66, 136527), (80, 136575), (86, 136635), (93, 136677), (94, 136680), (97, 136704), (99, 136734), (102, 136743), (112, 136812), (114, 136818), (127, 136869), (129, 136875), (134, 136893), (136, 136905), (152, 136980), (161, 137037), (188, 137163),

Gene: IMpilo\_102 Start: 54842, Stop: 55465, Start Num: 53

Candidate Starts for IMpilo\_102:

(14, 54518), (19, 54545), (35, 54671), (38, 54740), (Start: 53 @54842 has 162 MA's), (66, 54863), (78, 54902), (80, 54911), (Start: 82 @54926 has 1 MA's), (87, 54974), (93, 55013), (102, 55079), (105, 55094), (136, 55241), (158, 55364),

Gene: lbOuu\_100 Start: 54206, Stop: 54829, Start Num: 53

Candidate Starts for lbOuu\_100:

(14, 53882), (19, 53909), (35, 54035), (38, 54104), (Start: 53 @54206 has 162 MA's), (66, 54227), (78, 54266), (80, 54275), (Start: 82 @54290 has 1 MA's), (87, 54338), (93, 54377), (102, 54443), (105, 54458), (136, 54605), (158, 54728),

Gene: lbhubesi\_102 Start: 54506, Stop: 55132, Start Num: 52

Candidate Starts for lbhubesi\_102:

(39, 54395), (Start: 52 @54506 has 44 MA's), (78, 54569), (80, 54578), (Start: 82 @54593 has 1 MA's), (93, 54680), (94, 54683), (136, 54908),

Gene: ldergollasper\_36 Start: 18447, Stop: 19067, Start Num: 61

Candidate Starts for ldergollasper\_36:

(11, 18054), (45, 18393), (Start: 61 @18447 has 28 MA's), (66, 18465), (75, 18498), (80, 18513), (84, 18576), (93, 18621), (94, 18624), (106, 18705), (110, 18747), (126, 18810), (130, 18825), (132, 18831), (152, 18933), (163, 18984),

Gene: IkeLoa\_239 Start: 135102, Stop: 135764, Start Num: 59

Candidate Starts for IkeLoa\_239:

(30, 134877), (41, 135000), (Start: 59 @135102 has 144 MA's), (65, 135117), (66, 135120), (80, 135168), (93, 135270), (94, 135273), (99, 135327), (102, 135336), (112, 135405), (114, 135411), (127, 135462), (129, 135468), (134, 135486), (136, 135498), (152, 135573), (161, 135630), (188, 135756),

Gene: InigoMontoya\_249 Start: 135420, Stop: 136082, Start Num: 59

Candidate Starts for InigoMontoya\_249:

(30, 135195), (41, 135318), (Start: 59 @135420 has 144 MA's), (65, 135435), (66, 135438), (80, 135486), (93, 135588), (94, 135591), (99, 135645), (102, 135654), (112, 135723), (114, 135729), (127, 135780), (129, 135786), (134, 135804), (136, 135816), (152, 135891), (161, 135948), (188, 136074),

Gene: InterFolia\_247 Start: 136166, Stop: 136828, Start Num: 57

Candidate Starts for InterFolia\_247:

(22, 135947), (23, 135950), (31, 136013), (41, 136133), (Start: 57 @136166 has 32 MA's), (65, 136181), (66, 136184), (80, 136232), (93, 136334), (94, 136337), (99, 136391), (102, 136400), (112, 136469), (114, 136475), (127, 136526), (129, 136532), (134, 136550), (136, 136562), (152, 136637), (161, 136694), (188, 136820),

Gene: Inventum\_101 Start: 55932, Stop: 56555, Start Num: 53

Candidate Starts for Inventum\_101:

(38, 55830), (Start: 53 @55932 has 162 MA's), (78, 55992), (Start: 82 @56016 has 1 MA's), (87, 56064), (136, 56331),

Gene: Iota\_242 Start: 135132, Stop: 135794, Start Num: 59

Candidate Starts for Iota\_242:

(30, 134907), (41, 135030), (Start: 59 @135132 has 144 MA's), (65, 135147), (66, 135150), (80, 135198), (93, 135300), (94, 135303), (99, 135357), (102, 135366), (112, 135435), (114, 135441), (127, 135492), (129, 135498), (134, 135516), (136, 135528), (152, 135603), (161, 135660), (188, 135786),

Gene: IrishSherpFalk\_104 Start: 56703, Stop: 57329, Start Num: 52

Candidate Starts for IrishSherpFalk\_104:

(39, 56592), (Start: 52 @56703 has 44 MA's), (78, 56766), (Start: 82 @56790 has 1 MA's), (136, 57105),

Gene: Izajani\_241 Start: 135952, Stop: 136614, Start Num: 59

Candidate Starts for Izajani\_241:

(22, 135664), (23, 135667), (31, 135730), (41, 135850), (Start: 59 @135952 has 144 MA's), (65, 135967), (66, 135970), (80, 136018), (93, 136120), (94, 136123), (99, 136177), (102, 136186), (112, 136255), (114, 136261), (127, 136312), (129, 136318), (134, 136336), (136, 136348), (152, 136423), (161, 136480), (188, 136606),

Gene: JPickles\_242 Start: 134108, Stop: 134770, Start Num: 59

Candidate Starts for JPickles\_242:

(30, 133883), (41, 134006), (Start: 59 @134108 has 144 MA's), (65, 134123), (66, 134126), (80, 134174), (93, 134276), (94, 134279), (99, 134333), (102, 134342), (112, 134411), (114, 134417), (127, 134468), (129, 134474), (134, 134492), (136, 134504), (152, 134579), (161, 134636), (188, 134762),

Gene: Jabbawokkie\_108 Start: 54498, Stop: 55100, Start Num: 52

Candidate Starts for Jabbawokkie\_108:

(Start: 52 @54498 has 44 MA's), (71, 54543), (77, 54555), (87, 54630), (93, 54669), (94, 54672), (136, 54897), (179, 55089),

Gene: JalFarm20\_112 Start: 58065, Stop: 58676, Start Num: 53

Candidate Starts for JalFarm20\_112:

(38, 57963), (Start: 53 @58065 has 162 MA's), (78, 58125), (Start: 82 @58149 has 1 MA's), (136, 58464),

Gene: James\_107 Start: 58525, Stop: 59148, Start Num: 53

Candidate Starts for James\_107:

(38, 58423), (Start: 53 @58525 has 162 MA's), (66, 58546), (78, 58585), (80, 58594), (Start: 82 @58609 has 1 MA's), (87, 58657), (93, 58696), (102, 58762), (105, 58777), (136, 58924), (158, 59047),

Gene: JangDynasty\_36 Start: 18542, Stop: 19162, Start Num: 61

Candidate Starts for JangDynasty\_36:

(11, 18149), (Start: 61 @18542 has 28 MA's), (66, 18560), (75, 18593), (80, 18608), (84, 18671), (93, 18716), (94, 18719), (106, 18800), (110, 18842), (126, 18905), (130, 18920), (132, 18926), (152, 19028), (163, 19079),

Gene: Janiyra\_248 Start: 135645, Stop: 136307, Start Num: 59

Candidate Starts for Janiyra\_248:

(30, 135420), (41, 135543), (Start: 59 @135645 has 144 MA's), (65, 135660), (66, 135663), (80, 135711), (93, 135813), (94, 135816), (99, 135870), (102, 135879), (112, 135948), (114, 135954), (127, 136005), (129, 136011), (134, 136029), (136, 136041), (152, 136116), (161, 136173), (188, 136299),

Gene: Jarcob\_106 Start: 57845, Stop: 58468, Start Num: 53

Candidate Starts for Jarcob\_106:

(38, 57743), (Start: 53 @57845 has 162 MA's), (78, 57905), (Start: 82 @57929 has 1 MA's), (135, 58235), (136, 58244),

Gene: JayJay\_241 Start: 134930, Stop: 135592, Start Num: 57

Candidate Starts for JayJay\_241:



(22, 134711), (23, 134714), (31, 134777), (41, 134897), (Start: 57 @134930 has 32 MA's), (65, 134945), (66, 134948), (80, 134996), (86, 135056), (93, 135098), (94, 135101), (97, 135125), (99, 135155), (102, 135164), (112, 135233), (114, 135239), (127, 135290), (129, 135296), (136, 135326), (152, 135401), (161, 135458), (188, 135584),

Gene: Jaygup\_242 Start: 135279, Stop: 135941, Start Num: 59

Candidate Starts for Jaygup\_242:

(30, 135054), (41, 135177), (Start: 59 @135279 has 144 MA's), (65, 135294), (66, 135297), (80, 135345), (93, 135447), (94, 135450), (99, 135504), (102, 135513), (112, 135582), (114, 135588), (127, 135639), (129, 135645), (134, 135663), (136, 135675), (152, 135750), (161, 135807), (188, 135933),

Gene: Jedediah\_247 Start: 136332, Stop: 136994, Start Num: 59

Candidate Starts for Jedediah\_247:

(30, 136107), (41, 136230), (Start: 59 @136332 has 144 MA's), (65, 136347), (66, 136350), (80, 136398), (93, 136500), (94, 136503), (99, 136557), (102, 136566), (112, 136635), (114, 136641), (127, 136692), (129, 136698), (134, 136716), (136, 136728), (152, 136803), (161, 136860), (188, 136986),

Gene: Jemmno\_245 Start: 135051, Stop: 135713, Start Num: 59

Candidate Starts for Jemmno\_245:

(30, 134826), (41, 134949), (Start: 59 @135051 has 144 MA's), (65, 135066), (66, 135069), (80, 135117), (93, 135219), (94, 135222), (99, 135276), (102, 135285), (112, 135354), (114, 135360), (127, 135411), (129, 135417), (134, 135435), (136, 135447), (152, 135522), (161, 135579), (188, 135705),

Gene: Jessibeth14\_245 Start: 136527, Stop: 137189, Start Num: 59

Candidate Starts for Jessibeth14\_245:

(30, 136302), (41, 136425), (Start: 59 @136527 has 144 MA's), (65, 136542), (66, 136545), (80, 136593), (93, 136695), (94, 136698), (99, 136752), (102, 136761), (112, 136830), (114, 136836), (127, 136887), (129, 136893), (134, 136911), (136, 136923), (152, 136998), (161, 137055), (188, 137181),

Gene: Jezreel\_241 Start: 135596, Stop: 136258, Start Num: 59

Candidate Starts for Jezreel\_241:

(22, 135308), (23, 135311), (31, 135374), (41, 135494), (Start: 59 @135596 has 144 MA's), (65, 135611), (66, 135614), (80, 135662), (93, 135764), (94, 135767), (99, 135821), (102, 135830), (112, 135899), (114, 135905), (127, 135956), (129, 135962), (134, 135980), (136, 135992), (152, 136067), (161, 136124), (188, 136250),

Gene: JigglyPuff\_251 Start: 137022, Stop: 137684, Start Num: 59

Candidate Starts for JigglyPuff\_251:

(30, 136797), (41, 136920), (Start: 59 @137022 has 144 MA's), (65, 137037), (66, 137040), (80, 137088), (93, 137190), (94, 137193), (99, 137247), (102, 137256), (112, 137325), (114, 137331), (127, 137382), (129, 137388), (134, 137406), (136, 137418), (152, 137493), (161, 137550), (188, 137676),

Gene: Jinglebell\_110 Start: 57737, Stop: 58360, Start Num: 52

Candidate Starts for Jinglebell\_110:

(Start: 52 @57737 has 44 MA's), (77, 57794), (78, 57797), (Start: 82 @57821 has 1 MA's), (87, 57869), (93, 57908), (94, 57911), (136, 58136),

Gene: Job42\_106 Start: 58924, Stop: 59535, Start Num: 53

Candidate Starts for Job42\_106:

(38, 58822), (Start: 53 @58924 has 162 MA's), (66, 58945), (78, 58984), (80, 58993), (Start: 82 @59008 has 1 MA's), (87, 59056), (93, 59095), (102, 59161), (105, 59176), (136, 59323),

Gene: JoeyJr\_106 Start: 57840, Stop: 58463, Start Num: 53

Candidate Starts for JoeyJr\_106:

(38, 57738), (Start: 53 @57840 has 162 MA's), (78, 57900), (Start: 82 @57924 has 1 MA's), (87, 57972), (136, 58239),

Gene: JoieB\_89 Start: 47506, Stop: 48168, Start Num: 55

Candidate Starts for JoieB\_89:

(Start: 55 @47506 has 20 MA's), (71, 47554), (Start: 82 @47593 has 1 MA's), (87, 47641), (93, 47677), (97, 47704), (102, 47743), (104, 47764), (131, 47893), (146, 47974), (152, 48007), (154, 48028), (155, 48031), (177, 48130), (184, 48157),

Gene: Juice456\_103 Start: 56024, Stop: 56635, Start Num: 53

Candidate Starts for Juice456\_103:

(14, 55700), (19, 55727), (35, 55853), (38, 55922), (Start: 53 @56024 has 162 MA's), (66, 56045), (78, 56084), (80, 56093), (Start: 82 @56108 has 1 MA's), (87, 56156), (93, 56195), (102, 56261), (105, 56276), (136, 56423),

Gene: JulietS\_237 Start: 132631, Stop: 133293, Start Num: 59

Candidate Starts for JulietS\_237:

(30, 132406), (41, 132529), (Start: 59 @132631 has 144 MA's), (65, 132646), (66, 132649), (80, 132697), (93, 132799), (94, 132802), (99, 132856), (102, 132865), (112, 132934), (114, 132940), (127, 132991), (129, 132997), (134, 133015), (136, 133027), (152, 133102), (161, 133159), (188, 133285),

Gene: Juniper1\_97 Start: 55404, Stop: 56030, Start Num: 52

Candidate Starts for Juniper1\_97:

(39, 55293), (Start: 52 @55404 has 44 MA's), (78, 55467), (Start: 82 @55491 has 1 MA's), (93, 55578), (136, 55806),

Gene: JustHall\_239 Start: 134581, Stop: 135243, Start Num: 59

Candidate Starts for JustHall\_239:

(30, 134356), (41, 134479), (Start: 59 @134581 has 144 MA's), (65, 134596), (66, 134599), (80, 134647), (93, 134749), (94, 134752), (99, 134806), (102, 134815), (112, 134884), (114, 134890), (127, 134941), (129, 134947), (134, 134965), (136, 134977), (152, 135052), (161, 135109), (188, 135235),

Gene: Kamryn\_244 Start: 136171, Stop: 136833, Start Num: 59

Candidate Starts for Kamryn\_244:

(22, 135883), (23, 135886), (31, 135949), (41, 136069), (Start: 59 @136171 has 144 MA's), (65, 136186), (66, 136189), (80, 136237), (93, 136339), (94, 136342), (99, 136396), (102, 136405), (112, 136474), (114, 136480), (127, 136531), (129, 136537), (134, 136555), (136, 136567), (152, 136642), (161, 136699), (188, 136825),

Gene: Karhdo\_99 Start: 54288, Stop: 54911, Start Num: 53

Candidate Starts for Karhdo\_99:

(38, 54186), (Start: 53 @54288 has 162 MA's), (78, 54348), (Start: 82 @54372 has 1 MA's), (136, 54687),

Gene: Kboogie\_249 Start: 135210, Stop: 135872, Start Num: 59

Candidate Starts for Kboogie\_249:

(30, 134985), (41, 135108), (Start: 59 @135210 has 144 MA's), (65, 135225), (66, 135228), (80, 135276), (93, 135378), (94, 135381), (99, 135435), (102, 135444), (112, 135513), (114, 135519), (127, 135570), (129, 135576), (134, 135594), (136, 135606), (152, 135681), (161, 135738), (188, 135864),

Gene: Keelan\_138 Start: 64964, Stop: 65668, Start Num: 56

Candidate Starts for Keelan\_138:

(Start: 56 @64964 has 10 MA's), (83, 65057), (99, 65195), (122, 65324), (125, 65336), (134, 65372), (135, 65375), (136, 65384), (140, 65402), (147, 65453), (151, 65474), (162, 65540), (168, 65561), (175, 65597), (180, 65627),

Gene: Kenuha5\_95 Start: 55412, Stop: 56035, Start Num: 53

Candidate Starts for Kenuha5\_95:

(38, 55310), (Start: 53 @55412 has 162 MA's), (66, 55433), (78, 55472), (80, 55481), (Start: 82 @55496 has 1 MA's), (87, 55544), (93, 55583), (102, 55649), (105, 55664), (136, 55811), (158, 55934),

Gene: Kersh\_106 Start: 59100, Stop: 59723, Start Num: 54

Candidate Starts for Kersh\_106:

(40, 59022), (45, 59064), (Start: 46 @59073 has 2 MA's), (Start: 54 @59100 has 17 MA's), (78, 59160), (Start: 82 @59184 has 1 MA's), (136, 59499),

Gene: Khaleesi\_244 Start: 135994, Stop: 136656, Start Num: 59

Candidate Starts for Khaleesi\_244:

(30, 135769), (41, 135892), (Start: 59 @135994 has 144 MA's), (65, 136009), (66, 136012), (80, 136060), (93, 136162), (94, 136165), (99, 136219), (102, 136228), (112, 136297), (114, 136303), (127, 136354), (129, 136360), (134, 136378), (136, 136390), (152, 136465), (161, 136522), (188, 136648),

Gene: Kimberlium\_105 Start: 56124, Stop: 56735, Start Num: 53

Candidate Starts for Kimberlium\_105:

(14, 55800), (19, 55827), (35, 55953), (38, 56022), (Start: 53 @56124 has 162 MA's), (66, 56145), (78, 56184), (80, 56193), (Start: 82 @56208 has 1 MA's), (87, 56256), (93, 56295), (102, 56361), (105, 56376), (136, 56523),

Gene: KingMidas\_104 Start: 56294, Stop: 56917, Start Num: 53

Candidate Starts for KingMidas\_104:

(35, 56123), (38, 56192), (Start: 53 @56294 has 162 MA's), (66, 56315), (78, 56354), (80, 56363), (Start: 82 @56378 has 1 MA's), (87, 56426), (93, 56465), (102, 56531), (105, 56546), (136, 56693), (158, 56816),

Gene: Kingsley\_112 Start: 59597, Stop: 60208, Start Num: 53

Candidate Starts for Kingsley\_112:

(38, 59495), (Start: 53 @59597 has 162 MA's), (66, 59618), (78, 59657), (80, 59666), (Start: 82 @59681 has 1 MA's), (102, 59834), (105, 59849), (136, 59996),

Gene: Koella\_96 Start: 52998, Stop: 53621, Start Num: 53

Candidate Starts for Koella\_96:

(38, 52896), (Start: 53 @52998 has 162 MA's), (66, 53019), (78, 53058), (80, 53067), (Start: 82 @53082 has 1 MA's), (87, 53130), (93, 53169), (102, 53235), (105, 53250), (136, 53397),

Gene: Koguma\_244 Start: 134794, Stop: 135456, Start Num: 57

Candidate Starts for Koguma\_244:

(22, 134575), (23, 134578), (31, 134641), (41, 134761), (Start: 57 @134794 has 32 MA's), (65, 134809), (66, 134812), (80, 134860), (93, 134962), (94, 134965), (99, 135019), (102, 135028), (112, 135097), (114, 135103), (127, 135154), (129, 135160), (134, 135178), (136, 135190), (152, 135265), (161, 135322), (188, 135448),

Gene: Krakatau\_96 Start: 51967, Stop: 52590, Start Num: 53

Candidate Starts for Krakatau\_96:

(35, 51796), (38, 51865), (Start: 53 @51967 has 162 MA's), (66, 51988), (78, 52027), (80, 52036), (Start: 82 @52051 has 1 MA's), (93, 52138), (102, 52204), (105, 52219), (135, 52357), (136, 52366), (158, 52489),

Gene: Krili\_35 Start: 18175, Stop: 18795, Start Num: 61

Candidate Starts for Krili\_35:

(Start: 61 @18175 has 28 MA's), (66, 18193), (75, 18226), (80, 18241), (84, 18304), (93, 18349), (94, 18352), (106, 18433), (110, 18475), (126, 18538), (130, 18553), (132, 18559), (152, 18661), (163, 18712),

Gene: KristaRAM\_112 Start: 57609, Stop: 58232, Start Num: 53

Candidate Starts for KristaRAM\_112:

(38, 57507), (Start: 53 @57609 has 162 MA's), (78, 57669), (Start: 82 @57693 has 1 MA's), (102, 57846), (105, 57861), (136, 58008),

Gene: Kudrefre\_126 Start: 68200, Stop: 68901, Start Num: 52

Candidate Starts for Kudrefre\_126:

(Start: 52 @68200 has 44 MA's), (64, 68227), (67, 68239), (72, 68257), (91, 68350), (103, 68431), (106, 68458), (128, 68566), (130, 68572), (153, 68695), (156, 68716), (159, 68731), (172, 68785), (182, 68827), (186, 68845),

Gene: LRRHood\_237 Start: 134203, Stop: 134865, Start Num: 59

Candidate Starts for LRRHood\_237:

(30, 133978), (41, 134101), (Start: 59 @134203 has 144 MA's), (65, 134218), (66, 134221), (80, 134269), (93, 134371), (94, 134374), (99, 134428), (102, 134437), (112, 134506), (114, 134512), (127, 134563), (129, 134569), (134, 134587), (136, 134599), (152, 134674), (161, 134731), (188, 134857),

Gene: LastJedi\_94 Start: 54055, Stop: 54678, Start Num: 53

Candidate Starts for LastJedi\_94:

(38, 53953), (Start: 53 @54055 has 162 MA's), (66, 54076), (78, 54115), (80, 54124), (Start: 82 @54139 has 1 MA's), (87, 54187), (93, 54226), (102, 54292), (105, 54307), (136, 54454), (158, 54577),

Gene: Latch\_245 Start: 134756, Stop: 135418, Start Num: 59

Candidate Starts for Latch\_245:

(30, 134531), (41, 134654), (Start: 59 @134756 has 144 MA's), (65, 134771), (66, 134774), (80, 134822), (93, 134924), (94, 134927), (99, 134981), (102, 134990), (112, 135059), (114, 135065), (127, 135116), (129, 135122), (134, 135140), (136, 135152), (152, 135227), (161, 135284), (188, 135410),

Gene: Latretium\_106 Start: 57114, Stop: 57737, Start Num: 53

Candidate Starts for Latretium\_106:

(38, 57012), (Start: 53 @57114 has 162 MA's), (66, 57135), (78, 57174), (80, 57183), (Start: 82 @57198 has 1 MA's), (87, 57246), (93, 57285), (96, 57306), (102, 57351), (105, 57366), (136, 57513),

Gene: Lee7\_244 Start: 137408, Stop: 138070, Start Num: 59

Candidate Starts for Lee7\_244:

(22, 137120), (23, 137123), (31, 137186), (41, 137306), (Start: 59 @137408 has 144 MA's), (65, 137423), (66, 137426), (80, 137474), (93, 137576), (94, 137579), (99, 137633), (102, 137642), (112, 137711), (114, 137717), (127, 137768), (129, 137774), (134, 137792), (136, 137804), (152, 137879), (161, 137936), (188, 138062),

Gene: Leozinho\_99 Start: 53578, Stop: 54189, Start Num: 53

Candidate Starts for Leozinho\_99:

(38, 53476), (Start: 53 @53578 has 162 MA's), (78, 53638), (Start: 82 @53662 has 1 MA's), (136, 53977),

Gene: Leperchaun\_105 Start: 57074, Stop: 57697, Start Num: 53

Candidate Starts for Leperchaun\_105:

(38, 56972), (Start: 53 @57074 has 162 MA's), (78, 57134), (Start: 82 @57158 has 1 MA's), (87, 57206), (136, 57473),

Gene: Lethe\_246 Start: 136578, Stop: 137240, Start Num: 57

Candidate Starts for Lethe\_246:

(22, 136359), (23, 136362), (31, 136425), (41, 136545), (Start: 57 @136578 has 32 MA's), (65, 136593), (66, 136596), (80, 136644), (93, 136746), (94, 136749), (99, 136803), (102, 136812), (112, 136881), (114, 136887), (127, 136938), (129, 136944), (134, 136962), (136, 136974), (152, 137049), (161, 137106), (188, 137232),

Gene: LifeSavor\_246 Start: 135984, Stop: 136646, Start Num: 59

Candidate Starts for LifeSavor\_246:

(30, 135759), (41, 135882), (Start: 59 @135984 has 144 MA's), (65, 135999), (66, 136002), (80, 136050), (93, 136152), (94, 136155), (99, 136209), (102, 136218), (112, 136287), (114, 136293), (127, 136344), (129, 136350), (134, 136368), (136, 136380), (152, 136455), (161, 136512), (188, 136638),

Gene: LilMoolah\_106 Start: 57045, Stop: 57668, Start Num: 53

Candidate Starts for LilMoolah\_106:

(35, 56874), (38, 56943), (Start: 53 @57045 has 162 MA's), (66, 57066), (78, 57105), (80, 57114), (Start: 82 @57129 has 1 MA's), (87, 57177), (93, 57216), (102, 57282), (105, 57297), (135, 57435), (136, 57444), (158, 57567),

Gene: Lilbit\_87 Start: 47603, Stop: 48265, Start Num: 55

Candidate Starts for Lilbit\_87:

(Start: 55 @47603 has 20 MA's), (71, 47651), (Start: 82 @47690 has 1 MA's), (87, 47738), (93, 47774), (97, 47801), (102, 47840), (104, 47861), (131, 47990), (146, 48071), (152, 48104), (154, 48125), (155, 48128), (171, 48194), (177, 48227), (184, 48254),

Gene: LinStu\_242 Start: 134093, Stop: 134755, Start Num: 57

Candidate Starts for LinStu\_242:

(22, 133874), (23, 133877), (31, 133940), (41, 134060), (Start: 57 @134093 has 32 MA's), (65, 134108), (66, 134111), (80, 134159), (86, 134219), (93, 134261), (94, 134264), (97, 134288), (99, 134318), (102, 134327), (112, 134396), (114, 134402), (127, 134453), (129, 134459), (134, 134477), (136, 134489), (152, 134564), (161, 134621), (188, 134747),

Gene: LittleLaf\_87 Start: 47332, Stop: 47994, Start Num: 55

Candidate Starts for LittleLaf\_87:

(Start: 55 @47332 has 20 MA's), (71, 47380), (Start: 82 @47419 has 1 MA's), (87, 47467), (93, 47503), (97, 47530), (102, 47569), (104, 47590), (131, 47719), (146, 47800), (152, 47833), (154, 47854), (155, 47857), (171, 47923), (177, 47956), (184, 47983),

Gene: LittleShirley\_112 Start: 57908, Stop: 58519, Start Num: 53

Candidate Starts for LittleShirley\_112:

(14, 57584), (19, 57611), (35, 57737), (38, 57806), (Start: 53 @57908 has 162 MA's), (66, 57929), (78, 57968), (80, 57977), (Start: 82 @57992 has 1 MA's), (87, 58040), (93, 58079), (102, 58145), (105, 58160), (136, 58307),

Gene: Littleton\_249 Start: 135993, Stop: 136655, Start Num: 59

Candidate Starts for Littleton\_249:

(30, 135768), (41, 135891), (Start: 59 @135993 has 144 MA's), (65, 136008), (66, 136011), (80, 136059), (93, 136161), (94, 136164), (99, 136218), (102, 136227), (112, 136296), (114, 136302), (127, 136353), (129, 136359), (134, 136377), (136, 136389), (152, 136464), (161, 136521), (188, 136647),

Gene: Lizziana\_104 Start: 57303, Stop: 57926, Start Num: 53

Candidate Starts for Lizziana\_104:

(38, 57201), (Start: 53 @57303 has 162 MA's), (66, 57324), (78, 57363), (80, 57372), (Start: 82 @57387 has 1 MA's), (102, 57540), (105, 57555), (136, 57702),

Gene: Llama\_110 Start: 57380, Stop: 58003, Start Num: 52

Candidate Starts for Llama\_110:

(Start: 52 @57380 has 44 MA's), (77, 57437), (78, 57440), (Start: 82 @57464 has 1 MA's), (87, 57512), (93, 57551), (94, 57554), (136, 57779),

Gene: Llij\_98 Start: 54999, Stop: 55622, Start Num: 53

Candidate Starts for Llij\_98:

(38, 54897), (Start: 53 @54999 has 162 MA's), (66, 55020), (78, 55059), (80, 55068), (Start: 82 @55083 has 1 MA's), (87, 55131), (93, 55170), (102, 55236), (105, 55251), (135, 55389), (136, 55398), (158, 55521),

Gene: Loanshark\_242 Start: 135343, Stop: 136005, Start Num: 59

Candidate Starts for Loanshark\_242:

(22, 135055), (23, 135058), (31, 135121), (41, 135241), (Start: 59 @135343 has 144 MA's), (65, 135358), (66, 135361), (80, 135409), (93, 135511), (94, 135514), (99, 135568), (102, 135577), (112, 135646), (114, 135652), (127, 135703), (129, 135709), (134, 135727), (136, 135739), (152, 135814), (161, 135871), (188, 135997),

Gene: LolaVınca\_241 Start: 135596, Stop: 136258, Start Num: 57

Candidate Starts for LolaVınca\_241:

(22, 135377), (23, 135380), (31, 135443), (41, 135563), (Start: 57 @135596 has 32 MA's), (65, 135611), (66, 135614), (80, 135662), (93, 135764), (94, 135767), (99, 135821), (102, 135830), (112, 135899), (114, 135905), (127, 135956), (129, 135962), (134, 135980), (136, 135992), (152, 136067), (161, 136124), (188, 136250),

Gene: LordLeafolot\_247 Start: 135209, Stop: 135871, Start Num: 57

Candidate Starts for LordLeafolot\_247:

(22, 134990), (23, 134993), (31, 135056), (41, 135176), (Start: 57 @135209 has 32 MA's), (65, 135224), (66, 135227), (80, 135275), (93, 135377), (94, 135380), (99, 135434), (102, 135443), (112, 135512), (114, 135518), (127, 135569), (129, 135575), (134, 135593), (136, 135605), (152, 135680), (161, 135737), (188, 135863),

Gene: Lorde\_106 Start: 53146, Stop: 53760, Start Num: 52

Candidate Starts for Lorde\_106:

(39, 53035), (Start: 52 @53146 has 44 MA's), (78, 53209), (Start: 82 @53233 has 1 MA's), (102, 53386), (105, 53401), (136, 53548),

Gene: Lukilu\_234 Start: 136219, Stop: 136881, Start Num: 59

Candidate Starts for Lukilu\_234:

(30, 135994), (41, 136117), (Start: 59 @136219 has 144 MA's), (65, 136234), (66, 136237), (80, 136285), (93, 136387), (94, 136390), (99, 136444), (102, 136453), (112, 136522), (114, 136528), (127, 136579), (129, 136585), (134, 136603), (136, 136615), (152, 136690), (161, 136747), (188, 136873),

Gene: LunaBlu\_110 Start: 58192, Stop: 58815, Start Num: 54

Candidate Starts for LunaBlu\_110:

(40, 58114), (45, 58156), (Start: 46 @58165 has 2 MA's), (Start: 54 @58192 has 17 MA's), (78, 58252), (80, 58261), (Start: 82 @58276 has 1 MA's), (93, 58363), (94, 58366), (96, 58384), (136, 58591), (158, 58714),

Gene: LunaStella\_100 Start: 54660, Stop: 55265, Start Num: 59

Candidate Starts for LunaStella\_100:

(Start: 59 @54660 has 144 MA's), (71, 54702), (Start: 82 @54741 has 1 MA's), (87, 54789), (93, 54828), (158, 55173),

Gene: Maby2021\_245 Start: 136447, Stop: 137109, Start Num: 59

Candidate Starts for Maby2021\_245:

(30, 136222), (41, 136345), (Start: 59 @136447 has 144 MA's), (65, 136462), (66, 136465), (80, 136513), (93, 136615), (94, 136618), (99, 136672), (102, 136681), (112, 136750), (114, 136756), (127, 136807), (129, 136813), (134, 136831), (136, 136843), (152, 136918), (161, 136975), (188, 137101),

Gene: MadKillah\_37 Start: 18385, Stop: 19005, Start Num: 61

Candidate Starts for MadKillah\_37:

(Start: 61 @18385 has 28 MA's), (66, 18403), (75, 18436), (80, 18451), (84, 18514), (93, 18559), (94, 18562), (106, 18643), (110, 18685), (126, 18748), (130, 18763), (132, 18769), (152, 18871), (163, 18922),

Gene: MadMen\_108 Start: 56668, Stop: 57291, Start Num: 53

Candidate Starts for MadMen\_108:

(38, 56566), (Start: 53 @56668 has 162 MA's), (78, 56728), (80, 56737), (Start: 82 @56752 has 1 MA's), (87, 56800), (93, 56839), (102, 56905), (105, 56920), (135, 57058), (136, 57067),

Gene: Madiba\_102 Start: 55353, Stop: 55964, Start Num: 53

Candidate Starts for Madiba\_102:

(9, 54915), (17, 55041), (18, 55044), (35, 55182), (38, 55251), (Start: 53 @55353 has 162 MA's), (78, 55413), (Start: 82 @55437 has 1 MA's), (87, 55485), (93, 55524), (94, 55527), (135, 55743), (136, 55752), (141, 55764), (166, 55890),

Gene: Mahavrat\_97 Start: 54075, Stop: 54698, Start Num: 54

Candidate Starts for Mahavrat\_97:

(8, 53562), (10, 53706), (13, 53742), (23, 53817), (27, 53853), (40, 53997), (45, 54039), (Start: 46 @54048 has 2 MA's), (Start: 54 @54075 has 17 MA's), (78, 54135), (Start: 82 @54159 has 1 MA's), (87, 54207), (136, 54474),

Gene: Mandlovu\_101 Start: 54321, Stop: 54944, Start Num: 53

Candidate Starts for Mandlovu\_101:

(17, 54009), (18, 54012), (35, 54150), (38, 54219), (Start: 53 @54321 has 162 MA's), (78, 54381), (Start: 82 @54405 has 1 MA's), (136, 54720), (158, 54843),

Gene: Mangeria\_245 Start: 136153, Stop: 136815, Start Num: 57

Candidate Starts for Mangeria\_245:

(22, 135934), (23, 135937), (31, 136000), (41, 136120), (Start: 57 @136153 has 32 MA's), (65, 136168), (66, 136171), (80, 136219), (93, 136321), (94, 136324), (99, 136378), (102, 136387), (112, 136456), (114, 136462), (127, 136513), (129, 136519), (134, 136537), (136, 136549), (152, 136624), (161, 136681), (188, 136807),

Gene: Mantra\_101 Start: 55907, Stop: 56533, Start Num: 52

Candidate Starts for Mantra\_101:

(39, 55796), (Start: 52 @55907 has 44 MA's), (78, 55970), (Start: 82 @55994 has 1 MA's), (102, 56147), (105, 56162), (136, 56309), (158, 56432),

Gene: Maravista\_101 Start: 58264, Stop: 58887, Start Num: 53

Candidate Starts for Maravista\_101:

(38, 58150), (Start: 53 @58264 has 162 MA's), (66, 58285), (78, 58324), (80, 58333), (Start: 82 @58348 has 1 MA's), (87, 58396), (93, 58435), (102, 58501), (105, 58516), (136, 58663),

Gene: Mareelih\_92 Start: 50206, Stop: 50823, Start Num: 56

Candidate Starts for Mareelih\_92:

(47, 50179), (Start: 56 @50206 has 10 MA's), (85, 50335), (105, 50461), (108, 50500), (136, 50620), (158, 50749), (174, 50806),

Gene: Marker\_110 Start: 58118, Stop: 58729, Start Num: 59

Candidate Starts for Marker\_110:

(Start: 59 @58118 has 144 MA's), (78, 58178), (Start: 82 @58202 has 1 MA's), (87, 58250), (105, 58370), (135, 58508), (136, 58517),

Gene: Martik\_102 Start: 57764, Stop: 58387, Start Num: 53

Candidate Starts for Martik\_102:

(38, 57662), (Start: 53 @57764 has 162 MA's), (78, 57824), (Start: 82 @57848 has 1 MA's), (135, 58154), (136, 58163),

Gene: Marvin\_83 Start: 47128, Stop: 47790, Start Num: 55

Candidate Starts for Marvin\_83:

(Start: 55 @47128 has 20 MA's), (71, 47176), (Start: 82 @47215 has 1 MA's), (87, 47263), (93, 47299), (97, 47326), (102, 47365), (104, 47386), (131, 47515), (146, 47596), (152, 47629), (154, 47650), (155, 47653), (171, 47719), (177, 47752), (184, 47779),

Gene: Matsumoto\_243 Start: 135198, Stop: 135860, Start Num: 59

Candidate Starts for Matsumoto\_243:

(30, 134973), (41, 135096), (Start: 59 @135198 has 144 MA's), (65, 135213), (66, 135216), (80, 135264), (93, 135366), (94, 135369), (99, 135423), (102, 135432), (112, 135501), (114, 135507), (127, 135558), (129, 135564), (134, 135582), (136, 135594), (152, 135669), (161, 135726), (188, 135852),

Gene: Mattes\_104 Start: 56982, Stop: 57605, Start Num: 53

Candidate Starts for Mattes\_104:

(38, 56880), (Start: 53 @56982 has 162 MA's), (78, 57042), (80, 57051), (Start: 82 @57066 has 1 MA's), (135, 57372), (136, 57381),

Gene: McGee\_246 Start: 135095, Stop: 135757, Start Num: 59

Candidate Starts for McGee\_246:

(30, 134870), (41, 134993), (Start: 59 @135095 has 144 MA's), (65, 135110), (66, 135113), (80, 135161), (93, 135263), (94, 135266), (99, 135320), (102, 135329), (112, 135398), (114, 135404), (127, 135455), (129, 135461), (134, 135479), (136, 135491), (152, 135566), (161, 135623), (188, 135749),

Gene: McWolfish\_242 Start: 135205, Stop: 135867, Start Num: 59

Candidate Starts for McWolfish\_242:

(30, 134980), (41, 135103), (Start: 59 @135205 has 144 MA's), (65, 135220), (66, 135223), (80, 135271), (93, 135373), (94, 135376), (99, 135430), (102, 135439), (112, 135508), (114, 135514), (127, 135565), (129, 135571), (134, 135589), (136, 135601), (152, 135676), (161, 135733), (188, 135859),



Gene: Megamind\_242 Start: 135530, Stop: 136192, Start Num: 59

Candidate Starts for Megamind\_242:

(22, 135242), (23, 135245), (31, 135308), (41, 135428), (Start: 59 @135530 has 144 MA's), (65, 135545), (66, 135548), (80, 135596), (93, 135698), (94, 135701), (99, 135755), (102, 135764), (112, 135833), (114, 135839), (127, 135890), (129, 135896), (134, 135914), (136, 135926), (152, 136001), (161, 136058), (188, 136184),

Gene: Melissauren88\_94 Start: 53264, Stop: 53887, Start Num: 53

Candidate Starts for Melissauren88\_94:

(14, 52940), (19, 52967), (35, 53093), (38, 53162), (Start: 53 @53264 has 162 MA's), (66, 53285), (78, 53324), (80, 53333), (Start: 82 @53348 has 1 MA's), (87, 53396), (93, 53435), (102, 53501), (105, 53516), (135, 53654), (136, 53663), (158, 53786),

Gene: Melpomini\_240 Start: 134290, Stop: 134952, Start Num: 59

Candidate Starts for Melpomini\_240:

(30, 134065), (41, 134188), (Start: 59 @134290 has 144 MA's), (65, 134305), (66, 134308), (80, 134356), (93, 134458), (94, 134461), (99, 134515), (102, 134524), (112, 134593), (114, 134599), (127, 134650), (129, 134656), (134, 134674), (136, 134686), (152, 134761), (161, 134818), (188, 134944),

Gene: MikeLiesIn\_246 Start: 136666, Stop: 137328, Start Num: 59

Candidate Starts for MikeLiesIn\_246:

(22, 136378), (23, 136381), (31, 136444), (41, 136564), (Start: 59 @136666 has 144 MA's), (65, 136681), (66, 136684), (80, 136732), (93, 136834), (94, 136837), (99, 136891), (102, 136900), (112, 136969), (114, 136975), (127, 137026), (129, 137032), (134, 137050), (136, 137062), (152, 137137), (161, 137194), (188, 137320),

Gene: Mikro\_239 Start: 137109, Stop: 137771, Start Num: 57

Candidate Starts for Mikro\_239:

(22, 136890), (23, 136893), (31, 136956), (41, 137076), (Start: 57 @137109 has 32 MA's), (65, 137124), (66, 137127), (80, 137175), (93, 137277), (94, 137280), (99, 137334), (102, 137343), (112, 137412), (114, 137418), (127, 137469), (129, 137475), (134, 137493), (136, 137505), (152, 137580), (161, 137637), (188, 137763),

Gene: MilanaBonita\_97 Start: 55160, Stop: 55783, Start Num: 53

Candidate Starts for MilanaBonita\_97:

(14, 54836), (19, 54863), (35, 54989), (38, 55058), (Start: 53 @55160 has 162 MA's), (66, 55181), (78, 55220), (80, 55229), (Start: 82 @55244 has 1 MA's), (87, 55292), (93, 55331), (102, 55397), (105, 55412), (135, 55550), (136, 55559),

Gene: MilleniumForce\_104 Start: 57015, Stop: 57638, Start Num: 53

Candidate Starts for MilleniumForce\_104:

(38, 56913), (Start: 53 @57015 has 162 MA's), (66, 57036), (78, 57075), (80, 57084), (Start: 82 @57099 has 1 MA's), (87, 57147), (93, 57186), (102, 57252), (105, 57267), (136, 57414), (158, 57537),

Gene: MinionDave\_102 Start: 56936, Stop: 57559, Start Num: 53

Candidate Starts for MinionDave\_102:

(38, 56834), (Start: 53 @56936 has 162 MA's), (66, 56957), (78, 56996), (80, 57005), (Start: 82 @57020 has 1 MA's), (87, 57068), (102, 57173), (105, 57188), (136, 57335), (158, 57458),

Gene: Minnie\_98 Start: 57394, Stop: 58017, Start Num: 53

Candidate Starts for Minnie\_98:

(38, 57292), (Start: 53 @57394 has 162 MA's), (78, 57454), (Start: 82 @57478 has 1 MA's), (102, 57631), (105, 57646), (136, 57793),

Gene: Misha28\_93 Start: 56752, Stop: 57363, Start Num: 53

Candidate Starts for Misha28\_93:

(37, 56641), (38, 56650), (Start: 53 @56752 has 162 MA's), (66, 56773), (78, 56812), (80, 56821), (Start: 82 @56836 has 1 MA's), (87, 56884), (93, 56923), (102, 56989), (105, 57004), (135, 57142), (136, 57151),

Gene: MisterCuddles\_103 Start: 56633, Stop: 57256, Start Num: 53

Candidate Starts for MisterCuddles\_103:

(38, 56531), (Start: 53 @56633 has 162 MA's), (78, 56693), (Start: 82 @56717 has 1 MA's), (87, 56765), (136, 57032),

Gene: MoMoMixon\_241 Start: 135671, Stop: 136333, Start Num: 59

Candidate Starts for MoMoMixon\_241:

(30, 135446), (41, 135569), (Start: 59 @135671 has 144 MA's), (65, 135686), (66, 135689), (80, 135737), (93, 135839), (94, 135842), (99, 135896), (102, 135905), (112, 135974), (114, 135980), (127, 136031), (129, 136037), (134, 136055), (136, 136067), (152, 136142), (161, 136199), (188, 136325),

Gene: Modragons\_106 Start: 57368, Stop: 57991, Start Num: 52

Candidate Starts for Modragons\_106:

(Start: 52 @57368 has 44 MA's), (77, 57425), (78, 57428), (Start: 82 @57452 has 1 MA's), (87, 57500), (93, 57539), (94, 57542), (136, 57767),

Gene: Momo\_247 Start: 134756, Stop: 135418, Start Num: 59

Candidate Starts for Momo\_247:

(30, 134531), (41, 134654), (Start: 59 @134756 has 144 MA's), (65, 134771), (66, 134774), (80, 134822), (93, 134924), (94, 134927), (99, 134981), (102, 134990), (112, 135059), (114, 135065), (127, 135116), (129, 135122), (134, 135140), (136, 135152), (152, 135227), (161, 135284), (188, 135410),

Gene: MooMoo\_96 Start: 54113, Stop: 54733, Start Num: 63

Candidate Starts for MooMoo\_96:

(7, 53540), (11, 53708), (15, 53744), (21, 53780), (33, 53888), (34, 53891), (43, 54035), (Start: 63 @54113 has 3 MA's), (71, 54149), (153, 54599), (179, 54716),

Gene: Moonbeam\_106 Start: 56892, Stop: 57515, Start Num: 53

Candidate Starts for Moonbeam\_106:

(38, 56790), (Start: 53 @56892 has 162 MA's), (66, 56913), (78, 56952), (80, 56961), (Start: 82 @56976 has 1 MA's), (87, 57024), (93, 57063), (102, 57129), (136, 57291), (158, 57414),

Gene: Mori\_35 Start: 18046, Stop: 18666, Start Num: 61

Candidate Starts for Mori\_35:

(Start: 61 @18046 has 28 MA's), (66, 18064), (75, 18097), (80, 18112), (84, 18175), (93, 18220), (94, 18223), (106, 18304), (110, 18346), (126, 18409), (130, 18424), (132, 18430), (152, 18532), (163, 18583),

Gene: Morizzled23\_242 Start: 134123, Stop: 134785, Start Num: 59

Candidate Starts for Morizzled23\_242:

(30, 133898), (41, 134021), (Start: 59 @134123 has 144 MA's), (65, 134138), (66, 134141), (80, 134189), (93, 134291), (94, 134294), (99, 134348), (102, 134357), (112, 134426), (114, 134432), (127, 134483), (129, 134489), (134, 134507), (136, 134519), (152, 134594), (161, 134651), (188, 134777),

Gene: MosMoris\_83 Start: 47023, Stop: 47685, Start Num: 55

Candidate Starts for MosMoris\_83:

(Start: 55 @47023 has 20 MA's), (71, 47071), (Start: 82 @47110 has 1 MA's), (87, 47158), (93, 47194), (97, 47221), (102, 47260), (104, 47281), (131, 47410), (146, 47491), (152, 47524), (154, 47545), (155, 47548), (177, 47647), (184, 47674),

Gene: Mova\_106 Start: 56897, Stop: 57508, Start Num: 53

Candidate Starts for Mova\_106:

(38, 56795), (Start: 53 @56897 has 162 MA's), (66, 56918), (78, 56957), (80, 56966), (Start: 82 @56981 has 1 MA's), (87, 57029), (93, 57068), (102, 57134), (105, 57149), (135, 57287), (136, 57296),

Gene: Mozy\_108 Start: 56575, Stop: 57186, Start Num: 54

Candidate Starts for Mozy\_108:

(40, 56497), (45, 56539), (Start: 46 @56548 has 2 MA's), (Start: 54 @56575 has 17 MA's), (78, 56635), (Start: 82 @56659 has 1 MA's), (93, 56746), (136, 56974),

Gene: Ms6\_106 Start: 53155, Stop: 53778, Start Num: 53

Candidate Starts for Ms6\_106:

(14, 52831), (19, 52858), (35, 52984), (38, 53053), (Start: 53 @53155 has 162 MA's), (66, 53176), (78, 53215), (80, 53224), (Start: 82 @53239 has 1 MA's), (87, 53287), (93, 53326), (102, 53392), (105, 53407), (135, 53545), (136, 53554), (158, 53677),

Gene: MulchExplorer\_108 Start: 55795, Stop: 56406, Start Num: 53

Candidate Starts for MulchExplorer\_108:

(14, 55471), (19, 55498), (35, 55624), (38, 55693), (Start: 53 @55795 has 162 MA's), (66, 55816), (78, 55855), (80, 55864), (Start: 82 @55879 has 1 MA's), (87, 55927), (93, 55966), (102, 56032), (105, 56047), (136, 56194),

Gene: MulchSalad\_105 Start: 57325, Stop: 57948, Start Num: 53

Candidate Starts for MulchSalad\_105:

(36, 57208), (37, 57214), (38, 57223), (Start: 53 @57325 has 162 MA's), (66, 57346), (78, 57385), (80, 57394), (Start: 82 @57409 has 1 MA's), (102, 57562), (136, 57724),

Gene: Murai\_36 Start: 18236, Stop: 18856, Start Num: 61

Candidate Starts for Murai\_36:

(Start: 61 @18236 has 28 MA's), (66, 18254), (75, 18287), (80, 18302), (84, 18365), (93, 18410), (94, 18413), (106, 18494), (110, 18536), (126, 18599), (130, 18614), (132, 18620), (152, 18722), (163, 18773),

Gene: Mutaforma13\_105 Start: 56610, Stop: 57233, Start Num: 54

Candidate Starts for Mutaforma13\_105:

(23, 56352), (27, 56388), (40, 56532), (45, 56574), (Start: 46 @56583 has 2 MA's), (Start: 54 @56610 has 17 MA's), (78, 56670), (Start: 82 @56694 has 1 MA's), (105, 56862), (136, 57009), (158, 57132),

Gene: Myrna\_238 Start: 138139, Stop: 138837, Start Num: 57

Candidate Starts for Myrna\_238:

(Start: 57 @138139 has 32 MA's), (68, 138169), (93, 138307), (94, 138310), (96, 138328), (102, 138373), (106, 138391), (114, 138457), (117, 138466), (129, 138523), (138, 138565), (144, 138589), (152, 138643), (168, 138715), (179, 138775),

Gene: Naija\_246 Start: 135459, Stop: 136121, Start Num: 59

Candidate Starts for Naija\_246:

(30, 135234), (41, 135357), (Start: 59 @135459 has 144 MA's), (65, 135474), (66, 135477), (80, 135525), (93, 135627), (94, 135630), (99, 135684), (102, 135693), (112, 135762), (114, 135768), (127, 135819), (129, 135825), (134, 135843), (136, 135855), (152, 135930), (161, 135987), (188, 136113),

Gene: Napoleon13\_242 Start: 134488, Stop: 135150, Start Num: 59

Candidate Starts for Napoleon13\_242:

(30, 134263), (41, 134386), (Start: 59 @134488 has 144 MA's), (65, 134503), (66, 134506), (80, 134554), (93, 134656), (94, 134659), (99, 134713), (102, 134722), (112, 134791), (114, 134797), (127, 134848), (129, 134854), (134, 134872), (136, 134884), (152, 134959), (161, 135016), (188, 135142),

Gene: Nappy\_244 Start: 136565, Stop: 137227, Start Num: 57

Candidate Starts for Nappy\_244:

(22, 136346), (23, 136349), (31, 136412), (41, 136532), (Start: 57 @136565 has 32 MA's), (65, 136580), (66, 136583), (80, 136631), (93, 136733), (94, 136736), (99, 136790), (102, 136799), (112, 136868), (114, 136874), (127, 136925), (129, 136931), (134, 136949), (136, 136961), (152, 137036), (161, 137093), (188, 137219),

Gene: Naval22\_250 Start: 137239, Stop: 137901, Start Num: 59

Candidate Starts for Naval22\_250:

(30, 137014), (41, 137137), (Start: 59 @137239 has 144 MA's), (65, 137254), (66, 137257), (80, 137305), (93, 137407), (94, 137410), (99, 137464), (102, 137473), (112, 137542), (114, 137548), (127, 137599), (129, 137605), (134, 137623), (136, 137635), (152, 137710), (161, 137767), (188, 137893),

Gene: NedWong\_244 Start: 135917, Stop: 136579, Start Num: 59

Candidate Starts for NedWong\_244:

(22, 135629), (23, 135632), (31, 135695), (41, 135815), (Start: 59 @135917 has 144 MA's), (65, 135932), (66, 135935), (80, 135983), (93, 136085), (94, 136088), (99, 136142), (102, 136151), (112, 136220), (114, 136226), (127, 136277), (129, 136283), (134, 136301), (136, 136313), (152, 136388), (161, 136445), (188, 136571),

Gene: Neville\_124 Start: 69514, Stop: 70278, Start Num: 55

Candidate Starts for Neville\_124:

(Start: 55 @69514 has 20 MA's), (62, 69526), (64, 69535), (80, 69589), (90, 69679), (96, 69724), (103, 69787), (107, 69826), (116, 69880), (122, 69901), (128, 69925), (130, 69931), (132, 69937), (135, 69952), (139, 69973), (150, 70033), (152, 70042), (160, 70096), (185, 70204),

Gene: Ngannou\_240 Start: 134441, Stop: 135103, Start Num: 59

Candidate Starts for Ngannou\_240:

(30, 134216), (41, 134339), (Start: 59 @134441 has 144 MA's), (65, 134456), (66, 134459), (80, 134507), (93, 134609), (94, 134612), (99, 134666), (102, 134675), (112, 134744), (114, 134750), (127, 134801), (129, 134807), (134, 134825), (136, 134837), (152, 134912), (161, 134969), (188, 135095),

Gene: Nidhogg\_246 Start: 136285, Stop: 136947, Start Num: 59

Candidate Starts for Nidhogg\_246:

(22, 135997), (23, 136000), (31, 136063), (41, 136183), (Start: 59 @136285 has 144 MA's), (65, 136300), (66, 136303), (80, 136351), (93, 136453), (94, 136456), (99, 136510), (102, 136519), (112, 136588), (114, 136594), (127, 136645), (129, 136651), (134, 136669), (136, 136681), (152, 136756), (161, 136813), (188, 136939),

Gene: NiebruSaylor\_35 Start: 18047, Stop: 18667, Start Num: 61

Candidate Starts for NiebruSaylor\_35:

(Start: 61 @18047 has 28 MA's), (66, 18065), (75, 18098), (80, 18113), (84, 18176), (93, 18221), (94, 18224), (106, 18305), (110, 18347), (126, 18410), (130, 18425), (132, 18431), (152, 18533), (163,

18584),

Gene: Nimbo\_95 Start: 54646, Stop: 55269, Start Num: 53

Candidate Starts for Nimbo\_95:

(38, 54544), (Start: 53 @54646 has 162 MA's), (78, 54706), (Start: 82 @54730 has 1 MA's), (87, 54778), (136, 55045),

Gene: Nitzel\_98 Start: 53766, Stop: 54389, Start Num: 54

Candidate Starts for Nitzel\_98:

(40, 53688), (45, 53730), (Start: 46 @53739 has 2 MA's), (Start: 54 @53766 has 17 MA's), (78, 53826), (80, 53835), (Start: 82 @53850 has 1 MA's), (87, 53898), (93, 53937), (102, 54003), (105, 54018), (136, 54165),

Gene: Nivrat\_103 Start: 56918, Stop: 57541, Start Num: 53

Candidate Starts for Nivrat\_103:

(35, 56747), (38, 56816), (Start: 53 @56918 has 162 MA's), (66, 56939), (78, 56978), (80, 56987), (Start: 82 @57002 has 1 MA's), (87, 57050), (93, 57089), (102, 57155), (105, 57170), (135, 57308), (136, 57317), (158, 57440),

Gene: NoodleTree\_241 Start: 131036, Stop: 131698, Start Num: 59

Candidate Starts for NoodleTree\_241:

(30, 130811), (41, 130934), (Start: 59 @131036 has 144 MA's), (65, 131051), (66, 131054), (80, 131102), (93, 131204), (94, 131207), (99, 131261), (102, 131270), (112, 131339), (114, 131345), (127, 131396), (129, 131402), (134, 131420), (136, 131432), (152, 131507), (161, 131564), (188, 131690),

Gene: Norm\_245 Start: 136186, Stop: 136848, Start Num: 59

Candidate Starts for Norm\_245:

(22, 135898), (23, 135901), (31, 135964), (41, 136084), (Start: 59 @136186 has 144 MA's), (65, 136201), (66, 136204), (80, 136252), (93, 136354), (94, 136357), (99, 136411), (102, 136420), (112, 136489), (114, 136495), (127, 136546), (129, 136552), (134, 136570), (136, 136582), (152, 136657), (161, 136714), (188, 136840),

Gene: NormanBulbieJr\_101 Start: 57012, Stop: 57635, Start Num: 53

Candidate Starts for NormanBulbieJr\_101:

(38, 56910), (Start: 53 @57012 has 162 MA's), (66, 57033), (78, 57072), (80, 57081), (Start: 82 @57096 has 1 MA's), (87, 57144), (93, 57183), (102, 57249), (105, 57264), (136, 57411), (158, 57534),

Gene: NuevoMundo\_247 Start: 136672, Stop: 137334, Start Num: 57

Candidate Starts for NuevoMundo\_247:

(22, 136453), (23, 136456), (31, 136519), (41, 136639), (Start: 57 @136672 has 32 MA's), (65, 136687), (66, 136690), (80, 136738), (93, 136840), (94, 136843), (99, 136897), (102, 136906), (112, 136975), (114, 136981), (127, 137032), (129, 137038), (134, 137056), (136, 137068), (152, 137143), (161, 137200), (188, 137326),

Gene: Ochi17\_109 Start: 56975, Stop: 57598, Start Num: 52

Candidate Starts for Ochi17\_109:

(Start: 52 @56975 has 44 MA's), (77, 57032), (78, 57035), (Start: 82 @57059 has 1 MA's), (87, 57107), (93, 57146), (94, 57149), (136, 57374),

Gene: Octobien14\_121 Start: 66719, Stop: 67435, Start Num: 52

Candidate Starts for Octobien14\_121:

(Start: 52 @66719 has 44 MA's), (92, 66905), (101, 66962), (103, 66968), (106, 66995), (125, 67091), (126, 67094), (128, 67103), (132, 67115), (139, 67151), (153, 67232), (156, 67253), (159, 67268), (172, 67325),

Gene: OfUltron\_110 Start: 57524, Stop: 58147, Start Num: 52

Candidate Starts for OfUltron\_110:

(Start: 52 @57524 has 44 MA's), (77, 57581), (78, 57584), (Start: 82 @57608 has 1 MA's), (87, 57656), (93, 57695), (94, 57698), (136, 57923),

Gene: Ogopogo\_110 Start: 56130, Stop: 56741, Start Num: 52

Candidate Starts for Ogopogo\_110:

(39, 56019), (Start: 52 @56130 has 44 MA's), (71, 56178), (83, 56223), (87, 56265), (93, 56304), (94, 56307), (135, 56523), (136, 56532),

Gene: Oksu\_107 Start: 58614, Stop: 59225, Start Num: 52

Candidate Starts for Oksu\_107:

(Start: 52 @58614 has 44 MA's), (77, 58671), (78, 58674), (Start: 82 @58698 has 1 MA's), (87, 58746), (93, 58785), (94, 58788), (136, 59013),

Gene: OldBen\_100 Start: 56038, Stop: 56661, Start Num: 53

Candidate Starts for OldBen\_100:

(38, 55936), (Start: 53 @56038 has 162 MA's), (78, 56098), (Start: 82 @56122 has 1 MA's), (87, 56170), (136, 56437),

Gene: OlympiaSaint\_107 Start: 57206, Stop: 57829, Start Num: 53

Candidate Starts for OlympiaSaint\_107:

(36, 57089), (37, 57095), (38, 57104), (Start: 53 @57206 has 162 MA's), (66, 57227), (78, 57266), (80, 57275), (Start: 82 @57290 has 1 MA's), (87, 57338), (93, 57377), (102, 57443), (105, 57458), (136, 57605), (158, 57728),

Gene: Ovechkin\_106 Start: 57220, Stop: 57870, Start Num: 46

Candidate Starts for Ovechkin\_106:

(40, 57169), (45, 57211), (Start: 46 @57220 has 2 MA's), (Start: 54 @57247 has 17 MA's), (78, 57307), (80, 57316), (Start: 82 @57331 has 1 MA's), (93, 57418), (102, 57484), (105, 57499), (136, 57646), (158, 57769),

Gene: OwlsT2W\_103 Start: 55809, Stop: 56423, Start Num: 52

Candidate Starts for OwlsT2W\_103:

(39, 55698), (Start: 52 @55809 has 44 MA's), (78, 55872), (Start: 82 @55896 has 1 MA's), (102, 56049), (105, 56064), (136, 56211),

Gene: PHappiness\_103 Start: 56867, Stop: 57490, Start Num: 53

Candidate Starts for PHappiness\_103:

(38, 56765), (Start: 53 @56867 has 162 MA's), (78, 56927), (Start: 82 @56951 has 1 MA's), (87, 56999), (136, 57266),

Gene: PMC\_103 Start: 55601, Stop: 56224, Start Num: 54

Candidate Starts for PMC\_103:

(40, 55523), (45, 55565), (Start: 46 @55574 has 2 MA's), (Start: 54 @55601 has 17 MA's), (78, 55661), (Start: 82 @55685 has 1 MA's), (93, 55772), (94, 55775), (136, 56000), (158, 56123),

Gene: Pacc40\_100 Start: 57463, Stop: 58086, Start Num: 53

Candidate Starts for Pacc40\_100:

(37, 57352), (38, 57361), (Start: 53 @57463 has 162 MA's), (66, 57484), (78, 57523), (80, 57532), (Start: 82 @57547 has 1 MA's), (102, 57700), (105, 57715), (136, 57862), (158, 57985),

Gene: ParkTD\_244 Start: 135756, Stop: 136418, Start Num: 59

Candidate Starts for ParkTD\_244:

(22, 135468), (23, 135471), (31, 135534), (41, 135654), (Start: 59 @135756 has 144 MA's), (65, 135771), (66, 135774), (80, 135822), (93, 135924), (94, 135927), (99, 135981), (102, 135990), (112, 136059), (114, 136065), (127, 136116), (129, 136122), (134, 136140), (136, 136152), (152, 136227), (161, 136284), (188, 136410),

Gene: Patter\_247 Start: 135416, Stop: 136078, Start Num: 57

Candidate Starts for Patter\_247:

(22, 135197), (23, 135200), (31, 135263), (41, 135383), (Start: 57 @135416 has 32 MA's), (65, 135431), (66, 135434), (80, 135482), (93, 135584), (94, 135587), (99, 135641), (102, 135650), (112, 135719), (114, 135725), (127, 135776), (129, 135782), (134, 135800), (136, 135812), (152, 135887), (161, 135944), (188, 136070),

Gene: Phabba\_248 Start: 137546, Stop: 138244, Start Num: 57

Candidate Starts for Phabba\_248:

(Start: 57 @137546 has 32 MA's), (74, 137594), (78, 137603), (93, 137714), (94, 137717), (106, 137798), (113, 137858), (114, 137864), (117, 137873), (124, 137912), (138, 137972), (168, 138122), (170, 138128),

Gene: Phalconet\_105 Start: 56557, Stop: 57180, Start Num: 53

Candidate Starts for Phalconet\_105:

(14, 56233), (35, 56386), (38, 56455), (Start: 53 @56557 has 162 MA's), (66, 56578), (78, 56617), (80, 56626), (Start: 82 @56641 has 1 MA's), (87, 56689), (93, 56728), (102, 56794), (105, 56809), (136, 56956), (158, 57079),

Gene: Phanphagia\_108 Start: 57836, Stop: 58459, Start Num: 53

Candidate Starts for Phanphagia\_108:

(38, 57734), (Start: 53 @57836 has 162 MA's), (66, 57857), (78, 57896), (80, 57905), (Start: 82 @57920 has 1 MA's), (87, 57968), (93, 58007), (96, 58028), (102, 58073), (105, 58088), (136, 58235),

Gene: Phasih\_99 Start: 55034, Stop: 55657, Start Num: 53

Candidate Starts for Phasih\_99:

(38, 54932), (Start: 53 @55034 has 162 MA's), (66, 55055), (78, 55094), (80, 55103), (Start: 82 @55118 has 1 MA's), (93, 55205), (102, 55271), (105, 55286), (135, 55424), (136, 55433), (158, 55556),

Gene: Phatniss\_100 Start: 55413, Stop: 56036, Start Num: 53

Candidate Starts for Phatniss\_100:

(38, 55311), (Start: 53 @55413 has 162 MA's), (66, 55434), (78, 55473), (80, 55482), (Start: 82 @55497 has 1 MA's), (87, 55545), (93, 55584), (102, 55650), (105, 55665), (135, 55803), (136, 55812), (158, 55935),

Gene: Phendrix\_80 Start: 42302, Stop: 42907, Start Num: 56

Candidate Starts for Phendrix\_80:

(48, 42278), (Start: 56 @42302 has 10 MA's), (77, 42362), (93, 42476), (95, 42482), (106, 42560), (113, 42620), (121, 42659), (123, 42668), (128, 42680), (132, 42692), (136, 42716), (142, 42728), (155, 42818), (158, 42842),

Gene: PhesterPhotato\_108 Start: 56531, Stop: 57154, Start Num: 53

Candidate Starts for PhesterPotato\_108:

(14, 56207), (35, 56360), (38, 56429), (Start: 53 @56531 has 162 MA's), (66, 56552), (78, 56591), (80, 56600), (Start: 82 @56615 has 1 MA's), (87, 56663), (93, 56702), (102, 56768), (105, 56783), (136, 56930), (158, 57053),

Gene: Philus\_107 Start: 58143, Stop: 58766, Start Num: 53

Candidate Starts for Philus\_107:

(36, 58026), (37, 58032), (38, 58041), (Start: 53 @58143 has 162 MA's), (66, 58164), (78, 58203), (80, 58212), (Start: 82 @58227 has 1 MA's), (102, 58380), (105, 58395), (136, 58542), (158, 58665),

Gene: Phlegm\_250 Start: 136162, Stop: 136824, Start Num: 59

Candidate Starts for Phlegm\_250:

(30, 135937), (41, 136060), (Start: 59 @136162 has 144 MA's), (65, 136177), (66, 136180), (80, 136228), (93, 136330), (94, 136333), (99, 136387), (102, 136396), (112, 136465), (114, 136471), (127, 136522), (129, 136528), (134, 136546), (136, 136558), (152, 136633), (161, 136690), (188, 136816),

Gene: Phox\_246 Start: 135411, Stop: 136073, Start Num: 59

Candidate Starts for Phox\_246:

(22, 135123), (23, 135126), (31, 135189), (41, 135309), (Start: 59 @135411 has 144 MA's), (65, 135426), (66, 135429), (80, 135477), (93, 135579), (94, 135582), (99, 135636), (102, 135645), (112, 135714), (114, 135720), (127, 135771), (129, 135777), (134, 135795), (136, 135807), (152, 135882), (161, 135939), (188, 136065),

Gene: Phusco\_244 Start: 134994, Stop: 135656, Start Num: 59

Candidate Starts for Phusco\_244:

(30, 134769), (41, 134892), (Start: 59 @134994 has 144 MA's), (65, 135009), (66, 135012), (80, 135060), (93, 135162), (94, 135165), (99, 135219), (102, 135228), (112, 135297), (114, 135303), (127, 135354), (129, 135360), (134, 135378), (136, 135390), (152, 135465), (161, 135522), (188, 135648),

Gene: Pier\_244 Start: 136287, Stop: 136949, Start Num: 59

Candidate Starts for Pier\_244:

(22, 135999), (23, 136002), (31, 136065), (41, 136185), (Start: 59 @136287 has 144 MA's), (65, 136302), (66, 136305), (80, 136353), (93, 136455), (94, 136458), (99, 136512), (102, 136521), (112, 136590), (114, 136596), (127, 136647), (129, 136653), (134, 136671), (136, 136683), (152, 136758), (161, 136815), (188, 136941),

Gene: Pinkcreek\_225 Start: 132624, Stop: 133286, Start Num: 57

Candidate Starts for Pinkcreek\_225:

(Start: 57 @132624 has 32 MA's), (65, 132639), (66, 132642), (80, 132690), (86, 132750), (93, 132792), (94, 132795), (97, 132819), (99, 132849), (102, 132858), (112, 132927), (114, 132933), (127, 132984), (129, 132990), (134, 133008), (136, 133020), (152, 133095), (161, 133152), (188, 133278),

Gene: Pio\_252 Start: 137490, Stop: 138152, Start Num: 59

Candidate Starts for Pio\_252:

(30, 137265), (41, 137388), (Start: 59 @137490 has 144 MA's), (65, 137505), (66, 137508), (80, 137556), (93, 137658), (94, 137661), (99, 137715), (102, 137724), (112, 137793), (114, 137799), (127, 137850), (129, 137856), (134, 137874), (136, 137886), (152, 137961), (161, 138018), (188, 138144),

Gene: Piper2020\_98 Start: 57000, Stop: 57611, Start Num: 53

Candidate Starts for Piper2020\_98:

(37, 56889), (38, 56898), (Start: 53 @57000 has 162 MA's), (66, 57021), (78, 57060), (80, 57069), (Start: 82 @57084 has 1 MA's), (87, 57132), (93, 57171), (102, 57237), (105, 57252), (135, 57390), (136, 57399),



Gene: Pippy\_102 Start: 55572, Stop: 56195, Start Num: 53

Candidate Starts for Pippy\_102:

(38, 55470), (Start: 53 @55572 has 162 MA's), (66, 55593), (78, 55632), (80, 55641), (Start: 82 @55656 has 1 MA's), (87, 55704), (93, 55743), (102, 55809), (105, 55824), (136, 55971), (158, 56094),

Gene: Pivoine\_246 Start: 135459, Stop: 136121, Start Num: 59

Candidate Starts for Pivoine\_246:

(30, 135234), (41, 135357), (Start: 59 @135459 has 144 MA's), (65, 135474), (66, 135477), (80, 135525), (93, 135627), (94, 135630), (99, 135684), (102, 135693), (112, 135762), (114, 135768), (127, 135819), (129, 135825), (134, 135843), (136, 135855), (152, 135930), (161, 135987), (188, 136113),

Gene: Pleione\_249 Start: 136222, Stop: 136884, Start Num: 59

Candidate Starts for Pleione\_249:

(30, 135997), (41, 136120), (Start: 59 @136222 has 144 MA's), (65, 136237), (66, 136240), (80, 136288), (93, 136390), (94, 136393), (99, 136447), (102, 136456), (112, 136525), (114, 136531), (127, 136582), (129, 136588), (134, 136606), (136, 136618), (152, 136693), (161, 136750), (188, 136876),

Gene: Plumbus\_102 Start: 53766, Stop: 54377, Start Num: 53

Candidate Starts for Plumbus\_102:

(38, 53664), (Start: 53 @53766 has 162 MA's), (78, 53826), (80, 53835), (Start: 82 @53850 has 1 MA's), (87, 53898), (93, 53937), (102, 54003), (105, 54018), (135, 54156), (136, 54165),

Gene: Poenanya\_107 Start: 57575, Stop: 58198, Start Num: 53

Candidate Starts for Poenanya\_107:

(9, 57137), (17, 57263), (18, 57266), (35, 57404), (38, 57473), (Start: 53 @57575 has 162 MA's), (78, 57635), (80, 57644), (Start: 82 @57659 has 1 MA's), (87, 57707), (93, 57746), (94, 57749), (102, 57812), (105, 57827), (135, 57965), (136, 57974),

Gene: Poise\_89 Start: 46919, Stop: 47581, Start Num: 55

Candidate Starts for Poise\_89:

(Start: 55 @46919 has 20 MA's), (71, 46967), (Start: 82 @47006 has 1 MA's), (87, 47054), (93, 47090), (97, 47117), (102, 47156), (104, 47177), (131, 47306), (146, 47387), (152, 47420), (154, 47441), (155, 47444), (171, 47510), (177, 47543), (184, 47570),

Gene: Polka14\_107 Start: 57636, Stop: 58259, Start Num: 53

Candidate Starts for Polka14\_107:

(38, 57534), (Start: 53 @57636 has 162 MA's), (78, 57696), (Start: 82 @57720 has 1 MA's), (87, 57768), (136, 58035),

Gene: Pollywog\_105 Start: 57694, Stop: 58305, Start Num: 53

Candidate Starts for Pollywog\_105:

(12, 57361), (17, 57382), (18, 57385), (35, 57523), (38, 57592), (Start: 53 @57694 has 162 MA's), (66, 57715), (78, 57754), (80, 57763), (Start: 82 @57778 has 1 MA's), (87, 57826), (93, 57865), (102, 57931), (105, 57946), (136, 58093),

Gene: PopTart\_94 Start: 54004, Stop: 54627, Start Num: 54

Candidate Starts for PopTart\_94:

(6, 53383), (8, 53491), (10, 53635), (13, 53671), (23, 53746), (27, 53782), (40, 53926), (45, 53968), (Start: 46 @53977 has 2 MA's), (Start: 54 @54004 has 17 MA's), (78, 54064), (Start: 82 @54088 has 1 MA's), (93, 54175), (94, 54178), (105, 54256), (136, 54403), (158, 54526),

Gene: Pringar\_85 Start: 46844, Stop: 47506, Start Num: 55

Candidate Starts for Pringar\_85:

(Start: 55 @46844 has 20 MA's), (71, 46892), (Start: 82 @46931 has 1 MA's), (87, 46979), (93, 47015), (97, 47042), (102, 47081), (104, 47102), (131, 47231), (146, 47312), (152, 47345), (154, 47366), (155, 47369), (171, 47435), (177, 47468), (184, 47495),

Gene: Priscilla\_104 Start: 57110, Stop: 57733, Start Num: 53

Candidate Starts for Priscilla\_104:

(38, 57008), (Start: 53 @57110 has 162 MA's), (66, 57131), (78, 57170), (80, 57179), (Start: 82 @57194 has 1 MA's), (87, 57242), (93, 57281), (102, 57347), (105, 57362), (136, 57509),

Gene: PurduePete\_245 Start: 136487, Stop: 137149, Start Num: 59

Candidate Starts for PurduePete\_245:

(30, 136262), (41, 136385), (Start: 59 @136487 has 144 MA's), (65, 136502), (66, 136505), (80, 136553), (93, 136655), (94, 136658), (99, 136712), (102, 136721), (112, 136790), (114, 136796), (127, 136847), (129, 136853), (134, 136871), (136, 136883), (152, 136958), (161, 137015), (188, 137141),

Gene: QBert\_237 Start: 133810, Stop: 134472, Start Num: 59

Candidate Starts for QBert\_237:

(30, 133585), (41, 133708), (Start: 59 @133810 has 144 MA's), (65, 133825), (66, 133828), (80, 133876), (93, 133978), (94, 133981), (99, 134035), (102, 134044), (112, 134113), (114, 134119), (127, 134170), (129, 134176), (134, 134194), (136, 134206), (152, 134281), (161, 134338), (188, 134464),

Gene: Quasimodo\_248 Start: 135795, Stop: 136457, Start Num: 59

Candidate Starts for Quasimodo\_248:

(30, 135570), (41, 135693), (Start: 59 @135795 has 144 MA's), (65, 135810), (66, 135813), (80, 135861), (93, 135963), (94, 135966), (99, 136020), (102, 136029), (112, 136098), (114, 136104), (127, 136155), (129, 136161), (134, 136179), (136, 136191), (152, 136266), (161, 136323), (188, 136449),

Gene: QueenHazel\_72 Start: 46990, Stop: 47610, Start Num: 63

Candidate Starts for QueenHazel\_72:

(49, 46954), (50, 46963), (Start: 63 @46990 has 3 MA's), (94, 47155), (135, 47380), (153, 47476), (167, 47536), (179, 47593),

Gene: QuickMath\_105 Start: 56435, Stop: 57058, Start Num: 53

Candidate Starts for QuickMath\_105:

(14, 56111), (35, 56264), (38, 56333), (Start: 53 @56435 has 162 MA's), (66, 56456), (78, 56495), (80, 56504), (Start: 82 @56519 has 1 MA's), (87, 56567), (93, 56606), (102, 56672), (105, 56687), (135, 56825), (136, 56834), (158, 56957),

Gene: Quico\_112 Start: 57968, Stop: 58579, Start Num: 53

Candidate Starts for Quico\_112:

(36, 57851), (37, 57857), (38, 57866), (Start: 53 @57968 has 162 MA's), (66, 57989), (78, 58028), (80, 58037), (Start: 82 @58052 has 1 MA's), (93, 58139), (102, 58205), (105, 58220), (136, 58367),

Gene: Rabbitrun\_126 Start: 71125, Stop: 71904, Start Num: 55

Candidate Starts for Rabbitrun\_126:

(Start: 55 @71125 has 20 MA's), (64, 71146), (70, 71164), (76, 71188), (80, 71203), (90, 71293), (96, 71338), (100, 71392), (103, 71401), (107, 71440), (116, 71494), (119, 71509), (125, 71530), (130, 71548), (132, 71554), (135, 71569), (139, 71590), (146, 71626), (154, 71680),

Gene: Rabinovish\_238 Start: 134299, Stop: 134961, Start Num: 57

Candidate Starts for Rabinovish\_238:

(Start: 57 @134299 has 32 MA's), (65, 134314), (66, 134317), (80, 134365), (86, 134425), (93, 134467), (94, 134470), (97, 134494), (99, 134524), (102, 134533), (112, 134602), (114, 134608), (127, 134659), (129, 134665), (134, 134683), (136, 134695), (152, 134770), (161, 134827), (188, 134953),

Gene: Radiance\_102 Start: 56204, Stop: 56827, Start Num: 53

Candidate Starts for Radiance\_102:

(38, 56102), (Start: 53 @56204 has 162 MA's), (78, 56264), (80, 56273), (Start: 82 @56288 has 1 MA's), (87, 56336), (94, 56378), (105, 56456), (136, 56603),

Gene: Raela\_90 Start: 47470, Stop: 48132, Start Num: 55

Candidate Starts for Raela\_90:

(Start: 55 @47470 has 20 MA's), (71, 47518), (Start: 82 @47557 has 1 MA's), (87, 47605), (93, 47641), (97, 47668), (102, 47707), (104, 47728), (131, 47857), (146, 47938), (152, 47971), (154, 47992), (155, 47995), (177, 48094), (184, 48121),

Gene: Rahel\_247 Start: 135897, Stop: 136559, Start Num: 59

Candidate Starts for Rahel\_247:

(30, 135672), (41, 135795), (Start: 59 @135897 has 144 MA's), (65, 135912), (66, 135915), (80, 135963), (93, 136065), (94, 136068), (99, 136122), (102, 136131), (112, 136200), (114, 136206), (127, 136257), (129, 136263), (134, 136281), (136, 136293), (152, 136368), (161, 136425), (188, 136551),

Gene: Ramsey\_108 Start: 57875, Stop: 58486, Start Num: 53

Candidate Starts for Ramsey\_108:

(9, 57437), (17, 57563), (18, 57566), (35, 57704), (38, 57773), (Start: 53 @57875 has 162 MA's), (78, 57935), (80, 57944), (Start: 82 @57959 has 1 MA's), (87, 58007), (94, 58049), (102, 58112), (105, 58127), (136, 58274),

Gene: RedBird\_104 Start: 57614, Stop: 58237, Start Num: 53

Candidate Starts for RedBird\_104:

(38, 57512), (Start: 53 @57614 has 162 MA's), (78, 57674), (Start: 82 @57698 has 1 MA's), (87, 57746), (136, 58013),

Gene: RedRaider77\_88 Start: 46864, Stop: 47526, Start Num: 55

Candidate Starts for RedRaider77\_88:

(Start: 55 @46864 has 20 MA's), (71, 46912), (Start: 82 @46951 has 1 MA's), (87, 46999), (93, 47035), (97, 47062), (102, 47101), (104, 47122), (131, 47251), (146, 47332), (152, 47365), (154, 47386), (155, 47389), (177, 47488), (184, 47515),

Gene: Renaud18\_111 Start: 56945, Stop: 57553, Start Num: 59

Candidate Starts for Renaud18\_111:

(Start: 59 @56945 has 144 MA's), (68, 56975), (71, 56990), (80, 57014), (87, 57077), (115, 57260), (158, 57461),

Gene: Rialto\_108 Start: 57233, Stop: 57844, Start Num: 53

Candidate Starts for Rialto\_108:

(38, 57131), (Start: 53 @57233 has 162 MA's), (66, 57254), (78, 57293), (80, 57302), (Start: 82 @57317 has 1 MA's), (87, 57365), (93, 57404), (102, 57470), (105, 57485), (136, 57632),

Gene: Rita\_103 Start: 57680, Stop: 58303, Start Num: 53

Candidate Starts for Rita\_103:

(38, 57578), (Start: 53 @57680 has 162 MA's), (66, 57701), (78, 57740), (80, 57749), (Start: 82 @57764 has 1 MA's), (87, 57812), (93, 57851), (102, 57917), (105, 57932), (135, 58070), (136, 58079), (158, 58202),

Gene: RitaG\_102 Start: 56669, Stop: 57292, Start Num: 53

Candidate Starts for RitaG\_102:

(38, 56567), (Start: 53 @56669 has 162 MA's), (78, 56729), (Start: 82 @56753 has 1 MA's), (87, 56801), (136, 57068),

Gene: Rizal\_234 Start: 133712, Stop: 134374, Start Num: 59

Candidate Starts for Rizal\_234:

(30, 133487), (41, 133610), (Start: 59 @133712 has 144 MA's), (65, 133727), (66, 133730), (80, 133778), (93, 133880), (94, 133883), (99, 133937), (102, 133946), (112, 134015), (114, 134021), (127, 134072), (129, 134078), (134, 134096), (136, 134108), (152, 134183), (161, 134240), (188, 134366),

Gene: RoMag\_240 Start: 135493, Stop: 136155, Start Num: 59

Candidate Starts for RoMag\_240:

(30, 135268), (41, 135391), (Start: 59 @135493 has 144 MA's), (65, 135508), (66, 135511), (80, 135559), (93, 135661), (94, 135664), (99, 135718), (102, 135727), (112, 135796), (114, 135802), (127, 135853), (129, 135859), (134, 135877), (136, 135889), (152, 135964), (161, 136021), (188, 136147),

Gene: Rockne\_107 Start: 55613, Stop: 56236, Start Num: 54

Candidate Starts for Rockne\_107:

(40, 55535), (45, 55577), (Start: 46 @55586 has 2 MA's), (Start: 54 @55613 has 17 MA's), (78, 55673), (Start: 82 @55697 has 1 MA's), (93, 55784), (94, 55787), (136, 56012), (158, 56135),

Gene: RockyHorror\_107 Start: 56013, Stop: 56627, Start Num: 52

Candidate Starts for RockyHorror\_107:

(39, 55902), (Start: 52 @56013 has 44 MA's), (78, 56076), (Start: 82 @56100 has 1 MA's), (102, 56253), (105, 56268), (136, 56415),

Gene: Ronaldo\_139 Start: 65479, Stop: 66180, Start Num: 56

Candidate Starts for Ronaldo\_139:

(Start: 51 @65467 has 3 MA's), (Start: 56 @65479 has 10 MA's), (66, 65500), (83, 65572), (105, 65734), (114, 65803), (117, 65812), (125, 65851), (136, 65899), (140, 65917), (147, 65968), (149, 65983), (151, 65989), (162, 66055), (180, 66142),

Gene: Ronan\_241 Start: 133885, Stop: 134547, Start Num: 59

Candidate Starts for Ronan\_241:

(22, 133597), (23, 133600), (31, 133663), (41, 133783), (Start: 59 @133885 has 144 MA's), (65, 133900), (66, 133903), (80, 133951), (93, 134053), (94, 134056), (99, 134110), (102, 134119), (112, 134188), (114, 134194), (127, 134245), (129, 134251), (134, 134269), (136, 134281), (152, 134356), (161, 134413), (188, 134539),

Gene: Roots515\_248 Start: 137038, Stop: 137700, Start Num: 59

Candidate Starts for Roots515\_248:

(22, 136750), (23, 136753), (31, 136816), (41, 136936), (Start: 59 @137038 has 144 MA's), (65, 137053), (66, 137056), (80, 137104), (93, 137206), (94, 137209), (99, 137263), (102, 137272), (112, 137341), (114, 137347), (127, 137398), (129, 137404), (134, 137422), (136, 137434), (152, 137509), (161, 137566), (188, 137692),

Gene: Royals2015\_107 Start: 55484, Stop: 56107, Start Num: 54

Candidate Starts for Royals2015\_107:

(40, 55406), (45, 55448), (Start: 46 @55457 has 2 MA's), (Start: 54 @55484 has 17 MA's), (78, 55544), (80, 55553), (Start: 82 @55568 has 1 MA's), (87, 55616), (105, 55736), (136, 55883),

Gene: Ruby\_99 Start: 56635, Stop: 57258, Start Num: 53

Candidate Starts for Ruby\_99:

(38, 56533), (Start: 53 @56635 has 162 MA's), (78, 56695), (Start: 82 @56719 has 1 MA's), (136, 57034),

Gene: Ryadel\_39 Start: 19263, Stop: 19883, Start Num: 61

Candidate Starts for Ryadel\_39:

(11, 18870), (Start: 61 @19263 has 28 MA's), (66, 19281), (75, 19314), (80, 19329), (84, 19392), (93, 19437), (94, 19440), (106, 19521), (110, 19563), (126, 19626), (130, 19641), (132, 19647), (152, 19749), (163, 19800),

Gene: SG4\_105 Start: 57925, Stop: 58548, Start Num: 53

Candidate Starts for SG4\_105:

(14, 57601), (19, 57628), (35, 57754), (38, 57823), (Start: 53 @57925 has 162 MA's), (66, 57946), (78, 57985), (80, 57994), (Start: 82 @58009 has 1 MA's), (87, 58057), (93, 58096), (102, 58162), (105, 58177), (135, 58315), (136, 58324), (158, 58447),

Gene: SVoro\_241 Start: 135795, Stop: 136457, Start Num: 59

Candidate Starts for SVoro\_241:

(30, 135570), (41, 135693), (Start: 59 @135795 has 144 MA's), (65, 135810), (66, 135813), (80, 135861), (93, 135963), (94, 135966), (99, 136020), (102, 136029), (112, 136098), (114, 136104), (127, 136155), (129, 136161), (134, 136179), (136, 136191), (152, 136266), (161, 136323), (188, 136449),

Gene: Saal\_101 Start: 56684, Stop: 57307, Start Num: 53

Candidate Starts for Saal\_101:

(35, 56513), (38, 56582), (Start: 53 @56684 has 162 MA's), (66, 56705), (78, 56744), (80, 56753), (Start: 82 @56768 has 1 MA's), (87, 56816), (93, 56855), (102, 56921), (105, 56936), (136, 57083), (158, 57206),

Gene: Sabbb\_106 Start: 54640, Stop: 55263, Start Num: 53

Candidate Starts for Sabbb\_106:

(36, 54523), (37, 54529), (38, 54538), (Start: 53 @54640 has 162 MA's), (66, 54661), (78, 54700), (80, 54709), (Start: 82 @54724 has 1 MA's), (87, 54772), (93, 54811), (102, 54877), (105, 54892), (136, 55039),

Gene: Salacia\_246 Start: 136913, Stop: 137575, Start Num: 59

Candidate Starts for Salacia\_246:

(22, 136625), (23, 136628), (31, 136691), (41, 136811), (Start: 59 @136913 has 144 MA's), (65, 136928), (66, 136931), (80, 136979), (93, 137081), (94, 137084), (99, 137138), (102, 137147), (112, 137216), (114, 137222), (127, 137273), (129, 137279), (134, 137297), (136, 137309), (152, 137384), (161, 137441), (188, 137567),

Gene: Sandalphon\_102 Start: 57667, Stop: 58290, Start Num: 53

Candidate Starts for Sandalphon\_102:

(38, 57565), (Start: 53 @57667 has 162 MA's), (78, 57727), (Start: 82 @57751 has 1 MA's), (102, 57904), (105, 57919), (136, 58066),

Gene: Sarma624\_105 Start: 53609, Stop: 54220, Start Num: 53

Candidate Starts for Sarma624\_105:

(38, 53507), (Start: 53 @53609 has 162 MA's), (66, 53630), (78, 53669), (80, 53678), (Start: 82 @53693 has 1 MA's), (102, 53846), (105, 53861), (136, 54008),

Gene: Sassafra\_105 Start: 55931, Stop: 56554, Start Num: 53

Candidate Starts for Sassafras\_105:

(38, 55829), (Start: 53 @55931 has 162 MA's), (78, 55991), (Start: 82 @56015 has 1 MA's), (87, 56063), (136, 56330),

Gene: SassyB\_94 Start: 54004, Stop: 54627, Start Num: 54

Candidate Starts for SassyB\_94:

(6, 53383), (8, 53491), (10, 53635), (13, 53671), (23, 53746), (27, 53782), (40, 53926), (45, 53968), (Start: 46 @53977 has 2 MA's), (Start: 54 @54004 has 17 MA's), (78, 54064), (Start: 82 @54088 has 1 MA's), (93, 54175), (94, 54178), (105, 54256), (136, 54403), (158, 54526),

Gene: Sauce\_242 Start: 135221, Stop: 135883, Start Num: 59

Candidate Starts for Sauce\_242:

(30, 134996), (41, 135119), (Start: 59 @135221 has 144 MA's), (65, 135236), (66, 135239), (80, 135287), (93, 135389), (94, 135392), (99, 135446), (102, 135455), (112, 135524), (114, 135530), (127, 135581), (129, 135587), (134, 135605), (136, 135617), (152, 135692), (161, 135749), (188, 135875),

Gene: Sbash\_88 Start: 54776, Stop: 55402, Start Num: 60

Candidate Starts for Sbash\_88:

(Start: 60 @54776 has 2 MA's), (132, 55160), (135, 55172), (167, 55328), (179, 55385),

Gene: SchoolBus\_36 Start: 18450, Stop: 19070, Start Num: 61

Candidate Starts for SchoolBus\_36:

(11, 18057), (Start: 61 @18450 has 28 MA's), (66, 18468), (75, 18501), (80, 18516), (84, 18579), (93, 18624), (94, 18627), (106, 18708), (110, 18750), (126, 18813), (130, 18828), (132, 18834), (152, 18936), (163, 18987),

Gene: Schuy\_37 Start: 18394, Stop: 19014, Start Num: 61

Candidate Starts for Schuy\_37:

(Start: 61 @18394 has 28 MA's), (66, 18412), (75, 18445), (80, 18460), (84, 18523), (93, 18568), (94, 18571), (106, 18652), (110, 18694), (126, 18757), (130, 18772), (132, 18778), (152, 18880), (163, 18931),

Gene: ScoobyDoobyDoo\_234 Start: 134440, Stop: 135153, Start Num: 58

Candidate Starts for ScoobyDoobyDoo\_234:

(Start: 58 @134440 has 1 MA's), (66, 134464), (74, 134491), (81, 134512), (85, 134566), (93, 134611), (94, 134614), (102, 134677), (106, 134695), (114, 134761), (118, 134779), (129, 134827), (138, 134869), (148, 134923), (169, 135034), (173, 135055), (181, 135097),

Gene: ScottMcG\_237 Start: 134422, Stop: 135084, Start Num: 57

Candidate Starts for ScottMcG\_237:

(22, 134203), (23, 134206), (31, 134269), (41, 134389), (Start: 57 @134422 has 32 MA's), (65, 134437), (66, 134440), (80, 134488), (93, 134590), (94, 134593), (99, 134647), (102, 134656), (112, 134725), (114, 134731), (127, 134782), (129, 134788), (134, 134806), (136, 134818), (152, 134893), (161, 134950), (188, 135076),

Gene: Scottish\_104 Start: 55733, Stop: 56356, Start Num: 53

Candidate Starts for Scottish\_104:

(35, 55562), (38, 55631), (Start: 53 @55733 has 162 MA's), (66, 55754), (78, 55793), (80, 55802), (Start: 82 @55817 has 1 MA's), (87, 55865), (93, 55904), (102, 55970), (105, 55985), (136, 56132), (158, 56255),

Gene: Seabastian\_110 Start: 57525, Stop: 58148, Start Num: 52

Candidate Starts for Seabastian\_110:

(Start: 52 @57525 has 44 MA's), (77, 57582), (78, 57585), (Start: 82 @57609 has 1 MA's), (87, 57657), (93, 57696), (94, 57699), (136, 57924),

Gene: Seagreen\_105 Start: 57063, Stop: 57674, Start Num: 53

Candidate Starts for Seagreen\_105:

(14, 56739), (35, 56892), (38, 56961), (Start: 53 @57063 has 162 MA's), (66, 57084), (78, 57123), (80, 57132), (Start: 82 @57147 has 1 MA's), (87, 57195), (93, 57234), (102, 57300), (105, 57315), (136, 57462),

Gene: Sebata\_245 Start: 136121, Stop: 136783, Start Num: 57

Candidate Starts for Sebata\_245:

(22, 135902), (23, 135905), (31, 135968), (41, 136088), (Start: 57 @136121 has 32 MA's), (65, 136136), (66, 136139), (80, 136187), (86, 136247), (93, 136289), (94, 136292), (97, 136316), (99, 136346), (102, 136355), (112, 136424), (114, 136430), (127, 136481), (129, 136487), (136, 136517), (152, 136592), (161, 136649), (188, 136775),

Gene: Sephiroth\_122 Start: 67955, Stop: 68671, Start Num: 52

Candidate Starts for Sephiroth\_122:

(Start: 52 @67955 has 44 MA's), (64, 67982), (88, 68105), (94, 68144), (103, 68201), (106, 68228), (128, 68336), (130, 68342), (153, 68465), (156, 68486), (159, 68501), (164, 68519), (172, 68555), (182, 68597), (186, 68615),

Gene: Shaqnato\_236 Start: 134631, Stop: 135293, Start Num: 59

Candidate Starts for Shaqnato\_236:

(30, 134406), (41, 134529), (Start: 59 @134631 has 144 MA's), (65, 134646), (66, 134649), (80, 134697), (93, 134799), (94, 134802), (99, 134856), (102, 134865), (112, 134934), (114, 134940), (127, 134991), (129, 134997), (134, 135015), (136, 135027), (152, 135102), (161, 135159), (188, 135285),

Gene: Shauna1\_105 Start: 57452, Stop: 58075, Start Num: 53

Candidate Starts for Shauna1\_105:

(38, 57350), (Start: 53 @57452 has 162 MA's), (66, 57473), (78, 57512), (80, 57521), (Start: 82 @57536 has 1 MA's), (87, 57584), (93, 57623), (96, 57644), (102, 57689), (105, 57704), (136, 57851),

Gene: Shelob\_246 Start: 137356, Stop: 138018, Start Num: 59

Candidate Starts for Shelob\_246:

(22, 137068), (23, 137071), (31, 137134), (41, 137254), (Start: 59 @137356 has 144 MA's), (65, 137371), (66, 137374), (80, 137422), (93, 137524), (94, 137527), (99, 137581), (102, 137590), (112, 137659), (114, 137665), (127, 137716), (129, 137722), (134, 137740), (136, 137752), (152, 137827), (161, 137884), (188, 138010),

Gene: ShiLan\_106 Start: 58701, Stop: 59324, Start Num: 53

Candidate Starts for ShiLan\_106:

(38, 58599), (Start: 53 @58701 has 162 MA's), (78, 58761), (Start: 82 @58785 has 1 MA's), (135, 59091), (136, 59100),

Gene: ShiaLabeouf\_243 Start: 135215, Stop: 135877, Start Num: 59

Candidate Starts for ShiaLabeouf\_243:

(30, 134990), (41, 135113), (Start: 59 @135215 has 144 MA's), (65, 135230), (66, 135233), (80, 135281), (93, 135383), (94, 135386), (99, 135440), (102, 135449), (112, 135518), (114, 135524), (127, 135575), (129, 135581), (134, 135599), (136, 135611), (152, 135686), (161, 135743), (188, 135869),

Gene: Shida\_36 Start: 18301, Stop: 18921, Start Num: 61

Candidate Starts for Shida\_36:

(11, 17908), (Start: 61 @18301 has 28 MA's), (66, 18319), (75, 18352), (80, 18367), (84, 18430), (93, 18475), (94, 18478), (106, 18559), (110, 18601), (126, 18664), (130, 18679), (132, 18685), (152, 18787), (163, 18838),

Gene: Shifa\_221 Start: 134729, Stop: 135391, Start Num: 57

Candidate Starts for Shifa\_221:

(Start: 57 @134729 has 32 MA's), (65, 134744), (66, 134747), (80, 134795), (86, 134855), (93, 134897), (94, 134900), (97, 134924), (99, 134954), (102, 134963), (112, 135032), (114, 135038), (127, 135089), (129, 135095), (134, 135113), (136, 135125), (152, 135200), (161, 135257), (188, 135383),

Gene: Shnickers\_244 Start: 135279, Stop: 135941, Start Num: 59

Candidate Starts for Shnickers\_244:

(30, 135054), (41, 135177), (Start: 59 @135279 has 144 MA's), (65, 135294), (66, 135297), (80, 135345), (93, 135447), (94, 135450), (99, 135504), (102, 135513), (112, 135582), (114, 135588), (127, 135639), (129, 135645), (134, 135663), (136, 135675), (152, 135750), (161, 135807), (188, 135933),

Gene: ShowerHandel\_106 Start: 56470, Stop: 57093, Start Num: 53

Candidate Starts for ShowerHandel\_106:

(38, 56368), (Start: 53 @56470 has 162 MA's), (66, 56491), (78, 56530), (80, 56539), (Start: 82 @56554 has 1 MA's), (87, 56602), (93, 56641), (102, 56707), (105, 56722), (136, 56869), (158, 56992),

Gene: Shrimp\_247 Start: 136524, Stop: 137186, Start Num: 59

Candidate Starts for Shrimp\_247:

(30, 136299), (41, 136422), (Start: 59 @136524 has 144 MA's), (65, 136539), (66, 136542), (80, 136590), (93, 136692), (94, 136695), (99, 136749), (102, 136758), (112, 136827), (114, 136833), (127, 136884), (129, 136890), (134, 136908), (136, 136920), (152, 136995), (161, 137052), (188, 137178),

Gene: ShroomBoi\_104 Start: 57127, Stop: 57753, Start Num: 52

Candidate Starts for ShroomBoi\_104:

(39, 57016), (Start: 52 @57127 has 44 MA's), (78, 57190), (Start: 82 @57214 has 1 MA's), (136, 57529),

Gene: SiSi\_98 Start: 55188, Stop: 55811, Start Num: 53

Candidate Starts for SiSi\_98:

(38, 55086), (Start: 53 @55188 has 162 MA's), (66, 55209), (78, 55248), (80, 55257), (Start: 82 @55272 has 1 MA's), (102, 55425), (105, 55440), (136, 55587), (158, 55710),

Gene: SilverDipper\_250 Start: 136015, Stop: 136677, Start Num: 59

Candidate Starts for SilverDipper\_250:

(30, 135790), (41, 135913), (Start: 59 @136015 has 144 MA's), (65, 136030), (66, 136033), (80, 136081), (93, 136183), (94, 136186), (99, 136240), (102, 136249), (112, 136318), (114, 136324), (127, 136375), (129, 136381), (134, 136399), (136, 136411), (152, 136486), (161, 136543), (188, 136669),

Gene: SimranZ1\_103 Start: 55632, Stop: 56243, Start Num: 54

Candidate Starts for SimranZ1\_103:

(40, 55554), (45, 55596), (Start: 46 @55605 has 2 MA's), (Start: 54 @55632 has 17 MA's), (78, 55692), (80, 55701), (Start: 82 @55716 has 1 MA's), (87, 55764), (93, 55803), (136, 56031),

Gene: Sixama\_92 Start: 50312, Stop: 50929, Start Num: 56

Candidate Starts for Sixama\_92:

(42, 50213), (47, 50285), (Start: 56 @50312 has 10 MA's), (92, 50483), (93, 50486), (98, 50525), (108, 50606), (136, 50726), (142, 50738),



Gene: SmallFry\_246 Start: 135373, Stop: 136035, Start Num: 59

Candidate Starts for SmallFry\_246:

(30, 135148), (41, 135271), (Start: 59 @135373 has 144 MA's), (65, 135388), (66, 135391), (80, 135439), (93, 135541), (94, 135544), (99, 135598), (102, 135607), (112, 135676), (114, 135682), (127, 135733), (129, 135739), (134, 135757), (136, 135769), (152, 135844), (161, 135901), (188, 136027),

Gene: Smooch\_38 Start: 19590, Stop: 20210, Start Num: 61

Candidate Starts for Smooch\_38:

(11, 19197), (Start: 61 @19590 has 28 MA's), (66, 19608), (75, 19641), (80, 19656), (84, 19719), (93, 19764), (94, 19767), (106, 19848), (110, 19890), (126, 19953), (130, 19968), (132, 19974), (152, 20076), (163, 20127),

Gene: Soul22\_102 Start: 54100, Stop: 54702, Start Num: 52

Candidate Starts for Soul22\_102:

(Start: 52 @54100 has 44 MA's), (71, 54145), (77, 54157), (87, 54232), (93, 54271), (136, 54499), (179, 54691),

Gene: Sparkdehlily\_110 Start: 55183, Stop: 55806, Start Num: 53

Candidate Starts for Sparkdehlily\_110:

(38, 55081), (Start: 53 @55183 has 162 MA's), (78, 55243), (Start: 82 @55267 has 1 MA's), (102, 55420), (105, 55435), (136, 55582),

Gene: Sparky\_89 Start: 61036, Stop: 61737, Start Num: 44

Candidate Starts for Sparky\_89:

(Start: 44 @61036 has 2 MA's), (Start: 53 @61084 has 162 MA's), (69, 61120), (106, 61318), (122, 61417), (125, 61429), (135, 61468), (136, 61477), (182, 61699), (187, 61720),

Gene: Spartacus\_110 Start: 59296, Stop: 59919, Start Num: 53

Candidate Starts for Spartacus\_110:

(38, 59194), (Start: 53 @59296 has 162 MA's), (78, 59356), (Start: 82 @59380 has 1 MA's), (87, 59428), (105, 59548), (136, 59695),

Gene: Spec\_239 Start: 135385, Stop: 136047, Start Num: 57

Candidate Starts for Spec\_239:

(22, 135166), (23, 135169), (31, 135232), (41, 135352), (Start: 57 @135385 has 32 MA's), (65, 135400), (66, 135403), (80, 135451), (93, 135553), (94, 135556), (99, 135610), (102, 135619), (112, 135688), (114, 135694), (127, 135745), (129, 135751), (134, 135769), (136, 135781), (152, 135856), (161, 135913), (188, 136039),

Gene: Specks\_249 Start: 135864, Stop: 136526, Start Num: 59

Candidate Starts for Specks\_249:

(30, 135639), (41, 135762), (Start: 59 @135864 has 144 MA's), (65, 135879), (66, 135882), (80, 135930), (93, 136032), (94, 136035), (99, 136089), (102, 136098), (112, 136167), (114, 136173), (127, 136224), (129, 136230), (134, 136248), (136, 136260), (152, 136335), (161, 136392), (188, 136518),

Gene: Spikelee\_104 Start: 57901, Stop: 58512, Start Num: 53

Candidate Starts for Spikelee\_104:

(38, 57799), (Start: 53 @57901 has 162 MA's), (78, 57961), (Start: 82 @57985 has 1 MA's), (135, 58291), (136, 58300),

Gene: Spoonbill\_103 Start: 54614, Stop: 55237, Start Num: 53

Candidate Starts for Spoonbill\_103:

(38, 54512), (Start: 53 @54614 has 162 MA's), (78, 54674), (Start: 82 @54698 has 1 MA's), (87, 54746), (136, 55013),

Gene: Sprinklers\_243 Start: 135121, Stop: 135783, Start Num: 59

Candidate Starts for Sprinklers\_243:

(30, 134896), (41, 135019), (Start: 59 @135121 has 144 MA's), (65, 135136), (66, 135139), (80, 135187), (93, 135289), (94, 135292), (99, 135346), (102, 135355), (112, 135424), (114, 135430), (127, 135481), (129, 135487), (134, 135505), (136, 135517), (152, 135592), (161, 135649), (188, 135775),

Gene: Spud\_237 Start: 134830, Stop: 135492, Start Num: 59

Candidate Starts for Spud\_237:

(30, 134605), (41, 134728), (Start: 59 @134830 has 144 MA's), (65, 134845), (66, 134848), (80, 134896), (93, 134998), (94, 135001), (99, 135055), (102, 135064), (112, 135133), (114, 135139), (127, 135190), (129, 135196), (134, 135214), (136, 135226), (152, 135301), (161, 135358), (188, 135484),

Gene: Squirty\_102 Start: 59582, Stop: 60193, Start Num: 53

Candidate Starts for Squirty\_102:

(36, 59465), (37, 59471), (38, 59480), (Start: 53 @59582 has 162 MA's), (66, 59603), (78, 59642), (80, 59651), (Start: 82 @59666 has 1 MA's), (102, 59819), (105, 59834), (135, 59972), (136, 59981),

Gene: SrishMeg2525\_242 Start: 136019, Stop: 136681, Start Num: 59

Candidate Starts for SrishMeg2525\_242:

(22, 135731), (23, 135734), (31, 135797), (41, 135917), (Start: 59 @136019 has 144 MA's), (65, 136034), (66, 136037), (80, 136085), (93, 136187), (94, 136190), (99, 136244), (102, 136253), (112, 136322), (114, 136328), (127, 136379), (129, 136385), (134, 136403), (136, 136415), (152, 136490), (161, 136547), (188, 136673),

Gene: StAnnes\_109 Start: 58266, Stop: 58889, Start Num: 53

Candidate Starts for StAnnes\_109:

(14, 57942), (19, 57969), (35, 58095), (38, 58164), (Start: 53 @58266 has 162 MA's), (66, 58287), (78, 58326), (80, 58335), (Start: 82 @58350 has 1 MA's), (87, 58398), (93, 58437), (102, 58503), (105, 58518), (136, 58665), (158, 58788),

Gene: Stap\_99 Start: 53692, Stop: 54303, Start Num: 53

Candidate Starts for Stap\_99:

(14, 53368), (19, 53395), (35, 53521), (38, 53590), (Start: 53 @53692 has 162 MA's), (66, 53713), (78, 53752), (80, 53761), (Start: 82 @53776 has 1 MA's), (136, 54091),

Gene: Starcevich\_106 Start: 57571, Stop: 58182, Start Num: 53

Candidate Starts for Starcevich\_106:

(38, 57469), (Start: 53 @57571 has 162 MA's), (66, 57592), (78, 57631), (80, 57640), (Start: 82 @57655 has 1 MA's), (87, 57703), (93, 57742), (102, 57808), (105, 57823), (136, 57970),

Gene: StephanieG\_239 Start: 136016, Stop: 136678, Start Num: 59

Candidate Starts for StephanieG\_239:

(30, 135791), (41, 135914), (Start: 59 @136016 has 144 MA's), (65, 136031), (66, 136034), (80, 136082), (93, 136184), (94, 136187), (99, 136241), (102, 136250), (112, 136319), (114, 136325), (127, 136376), (129, 136382), (134, 136400), (136, 136412), (152, 136487), (161, 136544), (188, 136670),

Gene: Strokeseat\_101 Start: 54378, Stop: 55001, Start Num: 53

Candidate Starts for Strokeseat\_101:

(17, 54066), (18, 54069), (35, 54207), (38, 54276), (Start: 53 @54378 has 162 MA's), (78, 54438), (Start: 82 @54462 has 1 MA's), (136, 54777), (158, 54900),

Gene: Stubby\_228 Start: 132809, Stop: 133471, Start Num: 57

Candidate Starts for Stubby\_228:

(Start: 57 @132809 has 32 MA's), (65, 132824), (66, 132827), (80, 132875), (86, 132935), (93, 132977), (94, 132980), (97, 133004), (99, 133034), (102, 133043), (112, 133112), (114, 133118), (127, 133169), (129, 133175), (136, 133205), (152, 133280), (161, 133337), (188, 133463),

Gene: StubbySaigey\_251 Start: 135549, Stop: 136211, Start Num: 59

Candidate Starts for StubbySaigey\_251:

(30, 135324), (41, 135447), (Start: 59 @135549 has 144 MA's), (65, 135564), (66, 135567), (80, 135615), (93, 135717), (94, 135720), (99, 135774), (102, 135783), (112, 135852), (114, 135858), (127, 135909), (129, 135915), (134, 135933), (136, 135945), (152, 136020), (161, 136077), (188, 136203),

Gene: SuperGrey\_102 Start: 58252, Stop: 58875, Start Num: 53

Candidate Starts for SuperGrey\_102:

(36, 58135), (37, 58141), (38, 58150), (Start: 53 @58252 has 162 MA's), (66, 58273), (78, 58312), (80, 58321), (Start: 82 @58336 has 1 MA's), (87, 58384), (93, 58423), (102, 58489), (105, 58504), (136, 58651), (158, 58774),

Gene: SwagPigglett\_105 Start: 57810, Stop: 58433, Start Num: 53

Candidate Starts for SwagPigglett\_105:

(38, 57708), (Start: 53 @57810 has 162 MA's), (66, 57831), (78, 57870), (80, 57879), (Start: 82 @57894 has 1 MA's), (102, 58047), (105, 58062), (136, 58209),

Gene: Syleon\_127 Start: 68721, Stop: 69422, Start Num: 52

Candidate Starts for Syleon\_127:

(Start: 52 @68721 has 44 MA's), (62, 68739), (64, 68748), (89, 68856), (92, 68889), (94, 68895), (103, 68952), (106, 68979), (128, 69087), (130, 69093), (153, 69216), (156, 69237), (159, 69252), (164, 69270), (172, 69306), (182, 69348), (186, 69366),

Gene: TChen\_100 Start: 56611, Stop: 57216, Start Num: 59

Candidate Starts for TChen\_100:

(Start: 59 @56611 has 144 MA's), (71, 56653), (Start: 82 @56692 has 1 MA's), (87, 56740), (93, 56779), (158, 57124),

Gene: TDanisky\_111 Start: 55183, Stop: 55806, Start Num: 53

Candidate Starts for TDanisky\_111:

(38, 55081), (Start: 53 @55183 has 162 MA's), (78, 55243), (Start: 82 @55267 has 1 MA's), (102, 55420), (105, 55435), (136, 55582),

Gene: Tainan\_245 Start: 134936, Stop: 135598, Start Num: 57

Candidate Starts for Tainan\_245:

(22, 134717), (23, 134720), (31, 134783), (41, 134903), (Start: 57 @134936 has 32 MA's), (65, 134951), (66, 134954), (80, 135002), (93, 135104), (94, 135107), (99, 135161), (102, 135170), (112, 135239), (114, 135245), (127, 135296), (129, 135302), (134, 135320), (136, 135332), (152, 135407), (161, 135464), (188, 135590),

Gene: Taj\_109 Start: 57457, Stop: 58080, Start Num: 53

Candidate Starts for Taj\_109:

(38, 57355), (Start: 53 @57457 has 162 MA's), (66, 57478), (78, 57517), (80, 57526), (Start: 82 @57541 has 1 MA's), (102, 57694), (105, 57709), (136, 57856), (158, 57979),

Gene: Teardrop\_243 Start: 134876, Stop: 135538, Start Num: 59

Candidate Starts for Teardrop\_243:

(30, 134651), (41, 134774), (Start: 59 @134876 has 144 MA's), (65, 134891), (66, 134894), (80, 134942), (93, 135044), (94, 135047), (99, 135101), (102, 135110), (112, 135179), (114, 135185), (127, 135236), (129, 135242), (134, 135260), (136, 135272), (152, 135347), (161, 135404), (188, 135530),

Gene: TelAviv\_33 Start: 18444, Stop: 19064, Start Num: 61

Candidate Starts for TelAviv\_33:

(Start: 61 @18444 has 28 MA's), (66, 18462), (75, 18495), (80, 18510), (84, 18573), (93, 18618), (94, 18621), (106, 18702), (110, 18744), (126, 18807), (130, 18822), (132, 18828), (152, 18930), (163, 18981),

Gene: Tesla\_84 Start: 46713, Stop: 47375, Start Num: 55

Candidate Starts for Tesla\_84:

(Start: 55 @46713 has 20 MA's), (71, 46761), (Start: 82 @46800 has 1 MA's), (87, 46848), (93, 46884), (97, 46911), (102, 46950), (104, 46971), (131, 47100), (146, 47181), (152, 47214), (154, 47235), (155, 47238), (177, 47337), (184, 47364),

Gene: ThetaBob\_105 Start: 55579, Stop: 56187, Start Num: 59

Candidate Starts for ThetaBob\_105:

(Start: 59 @55579 has 144 MA's), (71, 55624), (Start: 82 @55663 has 1 MA's), (87, 55711), (93, 55750), (94, 55753), (158, 56095),

Gene: TinyTim\_243 Start: 134843, Stop: 135505, Start Num: 59

Candidate Starts for TinyTim\_243:

(30, 134618), (41, 134741), (Start: 59 @134843 has 144 MA's), (65, 134858), (66, 134861), (80, 134909), (93, 135011), (94, 135014), (99, 135068), (102, 135077), (112, 135146), (114, 135152), (127, 135203), (129, 135209), (134, 135227), (136, 135239), (152, 135314), (161, 135371), (188, 135497),

Gene: Tonenili\_267 Start: 140669, Stop: 141331, Start Num: 59

Candidate Starts for Tonenili\_267:

(22, 140381), (23, 140384), (31, 140447), (41, 140567), (Start: 59 @140669 has 144 MA's), (65, 140684), (66, 140687), (80, 140735), (93, 140837), (97, 140864), (99, 140894), (112, 140972), (114, 140978), (129, 141035), (136, 141065), (152, 141140), (157, 141182), (183, 141287),

Gene: TootsiePop\_93 Start: 56752, Stop: 57363, Start Num: 53

Candidate Starts for TootsiePop\_93:

(37, 56641), (38, 56650), (Start: 53 @56752 has 162 MA's), (66, 56773), (78, 56812), (80, 56821), (Start: 82 @56836 has 1 MA's), (87, 56884), (93, 56923), (102, 56989), (105, 57004), (135, 57142), (136, 57151),

Gene: Tootsieroll\_96 Start: 56682, Stop: 57503, Start Num: 28

Candidate Starts for Tootsieroll\_96:

(25, 56667), (26, 56670), (Start: 28 @56682 has 1 MA's), (29, 56688), (32, 56700), (Start: 53 @56892 has 162 MA's), (78, 56952), (80, 56961), (Start: 82 @56976 has 1 MA's), (87, 57024), (94, 57066), (102, 57129), (105, 57144), (136, 57291),

Gene: Toron\_106 Start: 58189, Stop: 58803, Start Num: 59

Candidate Starts for Toron\_106:

(Start: 59 @58189 has 144 MA's), (71, 58234), (77, 58246), (79, 58255), (80, 58258), (Start: 82 @58273 has 1 MA's), (87, 58321), (94, 58363), (115, 58504), (152, 58657), (154, 58678), (158, 58705),

Gene: Tortoise16\_243 Start: 135305, Stop: 135967, Start Num: 59

Candidate Starts for Tortoise16\_243:

(30, 135080), (41, 135203), (Start: 59 @135305 has 144 MA's), (65, 135320), (66, 135323), (80, 135371), (93, 135473), (94, 135476), (99, 135530), (102, 135539), (112, 135608), (114, 135614), (127, 135665), (129, 135671), (134, 135689), (136, 135701), (152, 135776), (161, 135833), (188, 135959),

Gene: Totinger\_106 Start: 56746, Stop: 57357, Start Num: 53

Candidate Starts for Totinger\_106:

(38, 56644), (Start: 53 @56746 has 162 MA's), (66, 56767), (78, 56806), (80, 56815), (Start: 82 @56830 has 1 MA's), (87, 56878), (93, 56917), (102, 56983), (105, 56998), (136, 57145),

Gene: Trax\_125 Start: 70334, Stop: 71098, Start Num: 55

Candidate Starts for Trax\_125:

(Start: 55 @70334 has 20 MA's), (62, 70346), (64, 70355), (80, 70409), (90, 70499), (96, 70544), (103, 70607), (107, 70646), (116, 70700), (122, 70721), (128, 70745), (130, 70751), (132, 70757), (135, 70772), (139, 70793), (150, 70853), (152, 70862), (157, 70904), (160, 70916), (185, 71024),

Gene: Trinitium\_241 Start: 133597, Stop: 134259, Start Num: 59

Candidate Starts for Trinitium\_241:

(30, 133372), (41, 133495), (Start: 59 @133597 has 144 MA's), (65, 133612), (66, 133615), (80, 133663), (93, 133765), (94, 133768), (99, 133822), (102, 133831), (112, 133900), (114, 133906), (127, 133957), (129, 133963), (134, 133981), (136, 133993), (152, 134068), (161, 134125), (188, 134251),

Gene: Turret\_236 Start: 133179, Stop: 133841, Start Num: 59

Candidate Starts for Turret\_236:

(30, 132954), (41, 133077), (Start: 59 @133179 has 144 MA's), (65, 133194), (66, 133197), (80, 133245), (93, 133347), (94, 133350), (99, 133404), (102, 133413), (112, 133482), (114, 133488), (127, 133539), (129, 133545), (134, 133563), (136, 133575), (152, 133650), (161, 133707), (188, 133833),

Gene: Tweety\_108 Start: 57599, Stop: 58225, Start Num: 52

Candidate Starts for Tweety\_108:

(39, 57488), (Start: 52 @57599 has 44 MA's), (78, 57662), (Start: 82 @57686 has 1 MA's), (93, 57773), (102, 57839), (136, 58001), (158, 58124),

Gene: Tyke\_242 Start: 137428, Stop: 138090, Start Num: 57

Candidate Starts for Tyke\_242:

(22, 137209), (23, 137212), (31, 137275), (41, 137395), (Start: 57 @137428 has 32 MA's), (65, 137443), (66, 137446), (80, 137494), (93, 137596), (94, 137599), (99, 137653), (102, 137662), (112, 137731), (114, 137737), (127, 137788), (129, 137794), (134, 137812), (136, 137824), (152, 137899), (161, 137956), (188, 138082),

Gene: UncleRicky\_105 Start: 56637, Stop: 57164, Start Num: 82

Candidate Starts for UncleRicky\_105:

(Start: 82 @56637 has 1 MA's), (102, 56790), (105, 56805), (136, 56952),

Gene: VRedHorse\_104 Start: 53708, Stop: 54331, Start Num: 53

Candidate Starts for VRedHorse\_104:

(9, 53270), (17, 53396), (18, 53399), (35, 53537), (38, 53606), (Start: 53 @53708 has 162 MA's), (66, 53729), (78, 53768), (80, 53777), (Start: 82 @53792 has 1 MA's), (93, 53879), (102, 53945), (105, 53960), (136, 54107),

Gene: Vagabond\_36 Start: 18277, Stop: 18897, Start Num: 61

Candidate Starts for Vagabond\_36:

(11, 17884), (Start: 61 @18277 has 28 MA's), (66, 18295), (75, 18328), (80, 18343), (84, 18406), (93, 18451), (94, 18454), (106, 18535), (110, 18577), (126, 18640), (130, 18655), (132, 18661), (152, 18763), (163, 18814),

Gene: ValleyTerrace\_246 Start: 134756, Stop: 135418, Start Num: 59

Candidate Starts for ValleyTerrace\_246:

(30, 134531), (41, 134654), (Start: 59 @134756 has 144 MA's), (65, 134771), (66, 134774), (80, 134822), (93, 134924), (94, 134927), (99, 134981), (102, 134990), (112, 135059), (114, 135065), (127, 135116), (129, 135122), (134, 135140), (136, 135152), (152, 135227), (161, 135284), (188, 135410),

Gene: VasuNzinga\_86 Start: 46802, Stop: 47464, Start Num: 55

Candidate Starts for VasuNzinga\_86:

(Start: 55 @46802 has 20 MA's), (71, 46850), (Start: 82 @46889 has 1 MA's), (87, 46937), (93, 46973), (97, 47000), (102, 47039), (104, 47060), (131, 47189), (146, 47270), (152, 47303), (154, 47324), (155, 47327), (177, 47426), (184, 47453),

Gene: Velveteen\_100 Start: 53609, Stop: 54220, Start Num: 53

Candidate Starts for Velveteen\_100:

(38, 53507), (Start: 53 @53609 has 162 MA's), (66, 53630), (78, 53669), (80, 53678), (Start: 82 @53693 has 1 MA's), (102, 53846), (105, 53861), (136, 54008),

Gene: Veteran\_93 Start: 55056, Stop: 55679, Start Num: 53

Candidate Starts for Veteran\_93:

(38, 54954), (Start: 53 @55056 has 162 MA's), (66, 55077), (78, 55116), (80, 55125), (Start: 82 @55140 has 1 MA's), (102, 55293), (105, 55308), (136, 55455), (158, 55578),

Gene: Vivum\_105 Start: 58106, Stop: 58669, Start Num: 78

Candidate Starts for Vivum\_105:

(1, 57281), (2, 57377), (3, 57404), (4, 57410), (5, 57413), (24, 57815), (26, 57824), (29, 57842), (38, 57944), (Start: 53 @58046 has 162 MA's), (66, 58067), (78, 58106), (80, 58115), (Start: 82 @58130 has 1 MA's), (93, 58217), (102, 58283), (105, 58298), (136, 58445), (158, 58568),

Gene: Volt\_142 Start: 65643, Stop: 66344, Start Num: 56

Candidate Starts for Volt\_142:

(Start: 51 @65631 has 3 MA's), (Start: 56 @65643 has 10 MA's), (66, 65664), (83, 65736), (105, 65898), (114, 65967), (117, 65976), (125, 66015), (136, 66063), (140, 66081), (147, 66132), (149, 66147), (151, 66153), (162, 66219), (180, 66306),

Gene: Vorrrps\_35 Start: 18047, Stop: 18667, Start Num: 61

Candidate Starts for Vorrrps\_35:

(Start: 61 @18047 has 28 MA's), (66, 18065), (75, 18098), (80, 18113), (84, 18176), (93, 18221), (94, 18224), (106, 18305), (110, 18347), (126, 18410), (130, 18425), (132, 18431), (152, 18533), (163, 18584),

Gene: Wachhund\_100 Start: 53423, Stop: 54046, Start Num: 54

Candidate Starts for Wachhund\_100:

(40, 53345), (45, 53387), (Start: 46 @53396 has 2 MA's), (Start: 54 @53423 has 17 MA's), (78, 53483), (80, 53492), (Start: 82 @53507 has 1 MA's), (87, 53555), (93, 53594), (102, 53660), (105, 53675), (136, 53822),

Gene: Wally\_243 Start: 134740, Stop: 135402, Start Num: 59

Candidate Starts for Wally\_243:

(30, 134515), (41, 134638), (Start: 59 @134740 has 144 MA's), (65, 134755), (66, 134758), (80, 134806), (93, 134908), (94, 134911), (99, 134965), (102, 134974), (112, 135043), (114, 135049), (127, 135100), (129, 135106), (134, 135124), (136, 135136), (152, 135211), (161, 135268), (188, 135394),

Gene: Wee\_108 Start: 58140, Stop: 58763, Start Num: 53

Candidate Starts for Wee\_108:

(38, 58038), (Start: 53 @58140 has 162 MA's), (66, 58161), (78, 58200), (80, 58209), (Start: 82 @58224 has 1 MA's), (102, 58377), (105, 58392), (136, 58539), (158, 58662),

Gene: Whatsapiecost\_98 Start: 51735, Stop: 52358, Start Num: 53

Candidate Starts for Whatsapiecost\_98:

(14, 51411), (19, 51438), (35, 51564), (38, 51633), (Start: 53 @51735 has 162 MA's), (66, 51756), (78, 51795), (80, 51804), (Start: 82 @51819 has 1 MA's), (87, 51867), (102, 51972), (105, 51987), (136, 52134), (158, 52257),

Gene: Whouxphf\_107 Start: 58002, Stop: 58625, Start Num: 53

Candidate Starts for Whouxphf\_107:

(38, 57900), (Start: 53 @58002 has 162 MA's), (66, 58023), (78, 58062), (80, 58071), (Start: 82 @58086 has 1 MA's), (87, 58134), (93, 58173), (102, 58239), (105, 58254), (136, 58401), (158, 58524),

Gene: Wildflower\_36 Start: 18033, Stop: 18653, Start Num: 61

Candidate Starts for Wildflower\_36:

(11, 17640), (Start: 61 @18033 has 28 MA's), (66, 18051), (75, 18084), (80, 18099), (84, 18162), (93, 18207), (94, 18210), (106, 18291), (110, 18333), (126, 18396), (130, 18411), (132, 18417), (152, 18519), (163, 18570),

Gene: WillSterrel\_102 Start: 56736, Stop: 57362, Start Num: 52

Candidate Starts for WillSterrel\_102:

(39, 56625), (Start: 52 @56736 has 44 MA's), (78, 56799), (Start: 82 @56823 has 1 MA's), (136, 57138),

Gene: Willis\_246 Start: 135679, Stop: 136341, Start Num: 59

Candidate Starts for Willis\_246:

(22, 135391), (23, 135394), (31, 135457), (41, 135577), (Start: 59 @135679 has 144 MA's), (65, 135694), (66, 135697), (80, 135745), (93, 135847), (94, 135850), (99, 135904), (102, 135913), (112, 135982), (114, 135988), (127, 136039), (129, 136045), (134, 136063), (136, 136075), (152, 136150), (161, 136207), (188, 136333),

Gene: Winget\_37 Start: 18716, Stop: 19336, Start Num: 61

Candidate Starts for Winget\_37:

(11, 18323), (Start: 61 @18716 has 28 MA's), (66, 18734), (75, 18767), (80, 18782), (84, 18845), (93, 18890), (94, 18893), (106, 18974), (110, 19016), (126, 19079), (130, 19094), (132, 19100), (152, 19202), (163, 19253),

Gene: XFactor\_95 Start: 54526, Stop: 55149, Start Num: 53

Candidate Starts for XFactor\_95:

(14, 54202), (35, 54355), (38, 54424), (Start: 53 @54526 has 162 MA's), (66, 54547), (78, 54586), (80, 54595), (Start: 82 @54610 has 1 MA's), (87, 54658), (93, 54697), (102, 54763), (105, 54778), (136, 54925), (158, 55048),

Gene: Xula\_73 Start: 47477, Stop: 48097, Start Num: 63

Candidate Starts for Xula\_73:

(49, 47441), (50, 47450), (Start: 63 @47477 has 3 MA's), (94, 47642), (135, 47867), (153, 47963), (167, 48023), (179, 48080),

Gene: Yassified\_241 Start: 134886, Stop: 135548, Start Num: 59

Candidate Starts for Yassified\_241:

(22, 134598), (23, 134601), (31, 134664), (41, 134784), (Start: 59 @134886 has 144 MA's), (65, 134901), (66, 134904), (80, 134952), (93, 135054), (94, 135057), (99, 135111), (102, 135120), (112, 135189), (114, 135195), (127, 135246), (129, 135252), (134, 135270), (136, 135282), (152, 135357), (161, 135414), (188, 135540),

Gene: YemiJoy2021\_246 Start: 136410, Stop: 137072, Start Num: 59

Candidate Starts for YemiJoy2021\_246:

(22, 136122), (23, 136125), (31, 136188), (41, 136308), (Start: 59 @136410 has 144 MA's), (65, 136425), (66, 136428), (80, 136476), (93, 136578), (94, 136581), (99, 136635), (102, 136644), (112, 136713), (114, 136719), (127, 136770), (129, 136776), (134, 136794), (136, 136806), (152, 136881), (161, 136938), (188, 137064),

Gene: Yorick\_99 Start: 57364, Stop: 57987, Start Num: 53

Candidate Starts for Yorick\_99:

(38, 57262), (Start: 53 @57364 has 162 MA's), (78, 57424), (Start: 82 @57448 has 1 MA's), (136, 57763),

Gene: Yoshi\_116 Start: 58001, Stop: 58603, Start Num: 52

Candidate Starts for Yoshi\_116:

(Start: 52 @58001 has 44 MA's), (80, 58070), (87, 58133), (93, 58172), (136, 58400), (179, 58592),

Gene: YoungMoneyMata\_245 Start: 135871, Stop: 136533, Start Num: 57

Candidate Starts for YoungMoneyMata\_245:

(22, 135652), (23, 135655), (31, 135718), (41, 135838), (Start: 57 @135871 has 32 MA's), (65, 135886), (66, 135889), (80, 135937), (93, 136039), (94, 136042), (99, 136096), (102, 136105), (112, 136174), (114, 136180), (127, 136231), (129, 136237), (134, 136255), (136, 136267), (152, 136342), (161, 136399), (188, 136525),

Gene: Yucca\_245 Start: 136402, Stop: 137064, Start Num: 59

Candidate Starts for Yucca\_245:

(30, 136177), (41, 136300), (Start: 59 @136402 has 144 MA's), (65, 136417), (66, 136420), (80, 136468), (93, 136570), (94, 136573), (99, 136627), (102, 136636), (112, 136705), (114, 136711), (127, 136762), (129, 136768), (134, 136786), (136, 136798), (152, 136873), (161, 136930), (188, 137056),

Gene: YungJamal\_39 Start: 18779, Stop: 19399, Start Num: 61

Candidate Starts for YungJamal\_39:

(11, 18386), (Start: 61 @18779 has 28 MA's), (66, 18797), (75, 18830), (80, 18845), (84, 18908), (93, 18953), (94, 18956), (106, 19037), (110, 19079), (126, 19142), (130, 19157), (132, 19163), (152, 19265), (163, 19316),

Gene: Zakhe101\_36 Start: 18178, Stop: 18798, Start Num: 61

Candidate Starts for Zakhe101\_36:

(11, 17785), (Start: 61 @18178 has 28 MA's), (66, 18196), (75, 18229), (80, 18244), (84, 18307), (93, 18352), (94, 18355), (106, 18436), (110, 18478), (126, 18541), (130, 18556), (132, 18562), (152, 18664), (163, 18715),

Gene: Zalkecks\_244 Start: 135508, Stop: 136170, Start Num: 59

Candidate Starts for Zalkecks\_244:



(22, 135220), (23, 135223), (31, 135286), (41, 135406), (Start: 59 @135508 has 144 MA's), (65, 135523), (66, 135526), (80, 135574), (93, 135676), (94, 135679), (99, 135733), (102, 135742), (112, 135811), (114, 135817), (127, 135868), (129, 135874), (134, 135892), (136, 135904), (152, 135979), (161, 136036), (188, 136162),

Gene: Zapner\_108 Start: 54592, Stop: 55194, Start Num: 52

Candidate Starts for Zapner\_108:

(Start: 52 @54592 has 44 MA's), (71, 54637), (77, 54649), (87, 54724), (93, 54763), (94, 54766), (136, 54991), (179, 55183),

Gene: Zebo\_35 Start: 18450, Stop: 19070, Start Num: 61

Candidate Starts for Zebo\_35:

(11, 18057), (Start: 61 @18450 has 28 MA's), (66, 18468), (75, 18501), (80, 18516), (84, 18579), (93, 18624), (94, 18627), (106, 18708), (110, 18750), (126, 18813), (130, 18828), (132, 18834), (152, 18936), (163, 18987),

Gene: Zeenon\_246 Start: 136042, Stop: 136704, Start Num: 59

Candidate Starts for Zeenon\_246:

(22, 135754), (23, 135757), (31, 135820), (41, 135940), (Start: 59 @136042 has 144 MA's), (65, 136057), (66, 136060), (80, 136108), (93, 136210), (94, 136213), (99, 136267), (102, 136276), (112, 136345), (114, 136351), (127, 136402), (129, 136408), (134, 136426), (136, 136438), (152, 136513), (161, 136570), (188, 136696),

Gene: Zerg\_102 Start: 56214, Stop: 56837, Start Num: 53

Candidate Starts for Zerg\_102:

(38, 56112), (Start: 53 @56214 has 162 MA's), (66, 56235), (78, 56274), (80, 56283), (Start: 82 @56298 has 1 MA's), (93, 56385), (102, 56451), (105, 56466), (136, 56613), (158, 56736),

Gene: Ziko\_142 Start: 65935, Stop: 66648, Start Num: 51

Candidate Starts for Ziko\_142:

(Start: 51 @65935 has 3 MA's), (Start: 56 @65947 has 10 MA's), (66, 65968), (83, 66040), (105, 66202), (114, 66271), (117, 66280), (125, 66319), (136, 66367), (140, 66385), (147, 66436), (149, 66451), (151, 66457), (162, 66523), (180, 66610),

Gene: Zizzle\_107 Start: 58290, Stop: 58913, Start Num: 53

Candidate Starts for Zizzle\_107:

(38, 58188), (Start: 53 @58290 has 162 MA's), (66, 58311), (78, 58350), (80, 58359), (Start: 82 @58374 has 1 MA's), (87, 58422), (93, 58461), (102, 58527), (105, 58542), (136, 58689), (158, 58812),

Gene: ZygoTaiga\_241 Start: 136699, Stop: 137361, Start Num: 59

Candidate Starts for ZygoTaiga\_241:

(22, 136411), (23, 136414), (31, 136477), (41, 136597), (Start: 59 @136699 has 144 MA's), (65, 136714), (66, 136717), (80, 136765), (93, 136867), (94, 136870), (99, 136924), (102, 136933), (112, 137002), (114, 137008), (127, 137059), (129, 137065), (134, 137083), (136, 137095), (152, 137170), (161, 137227), (188, 137353),

Gene: phiAsp2\_35 Start: 30723, Stop: 31466, Start Num: 59

Candidate Starts for phiAsp2\_35:

(Start: 59 @30723 has 144 MA's), (66, 30744), (73, 30771), (105, 30996), (111, 31050), (118, 31077), (126, 31104), (128, 31113), (133, 31131), (136, 31149), (144, 31179), (145, 31191), (146, 31197), (155, 31254), (165, 31305), (176, 31362), (178, 31374), (179, 31377),