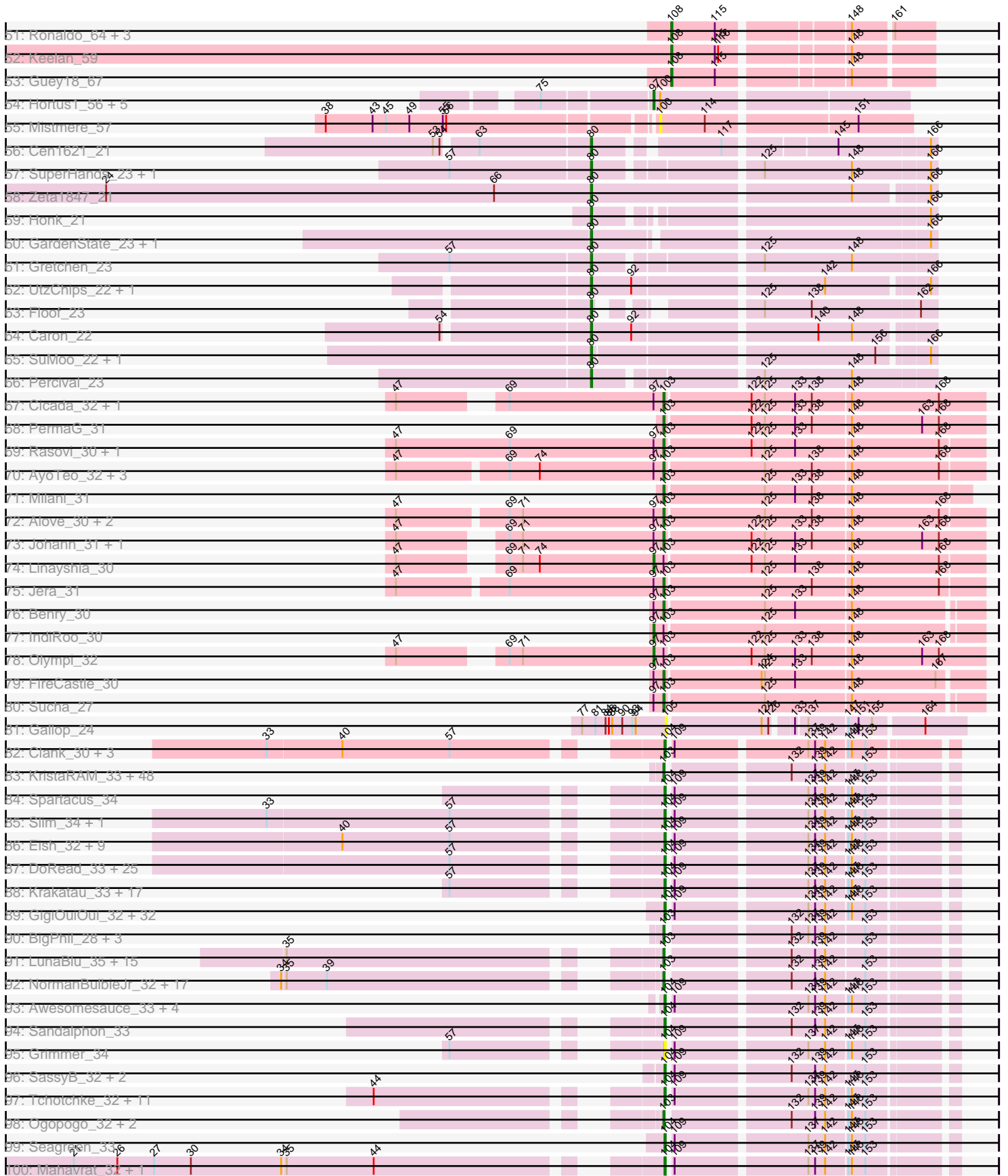


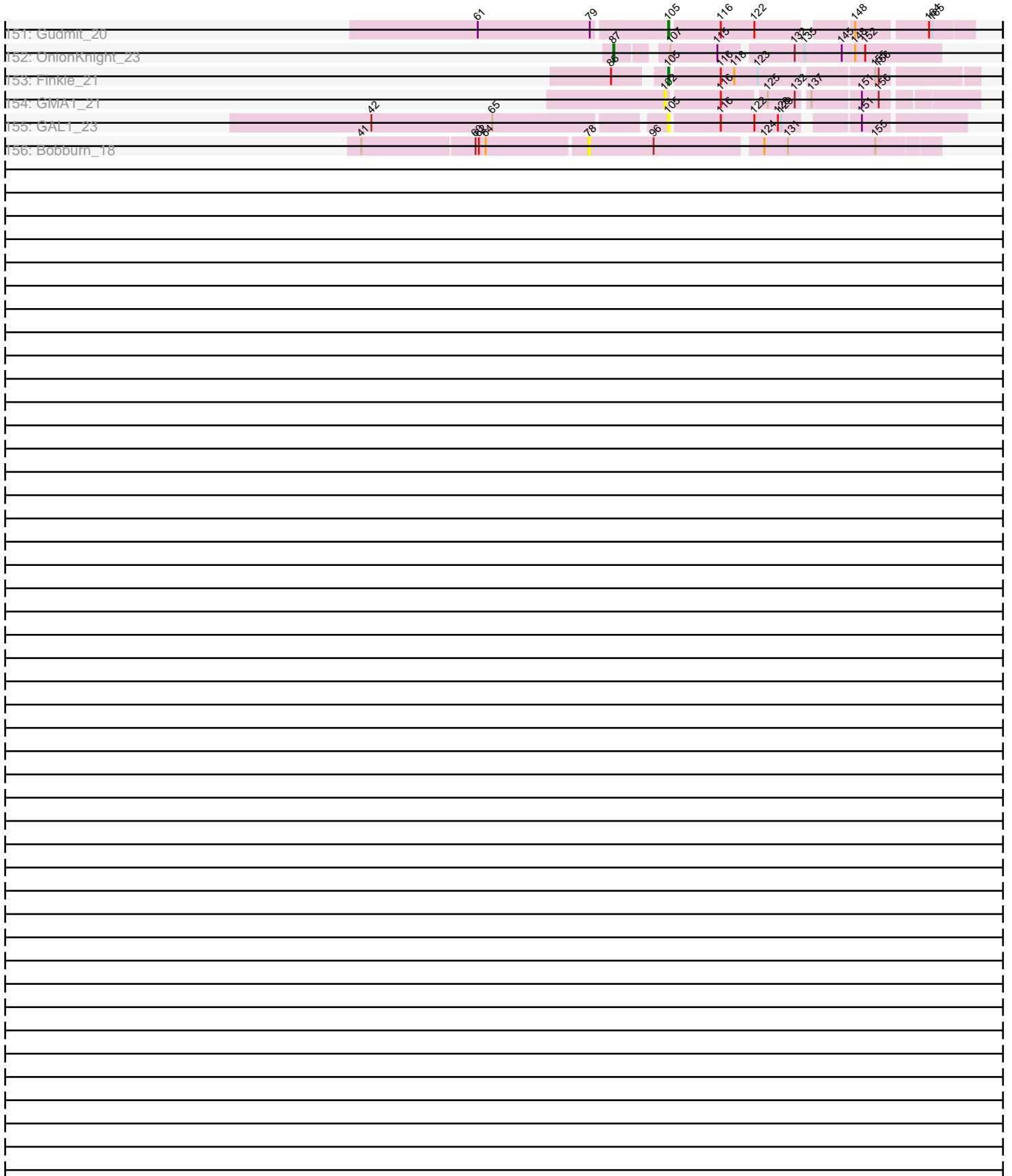


# Zoomed Pham 299735





# Zoomed Pham 299735



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 299735 Report

This analysis was run 06/08/26 on database version 649.

Pham number 299735 has 509 members, 51 are drafts.

Phages represented in each track:

- Track 1 : Causa\_23, StAugustine\_21
- Track 2 : SPB78\_23
- Track 3 : Marsus\_68
- Track 4 : LilMartin\_67, MulchMansion\_67, Angela\_67
- Track 5 : LilSaint\_69, Riptide\_67, Anedea\_68
- Track 6 : Bmoc\_68
- Track 7 : Mildred21\_68
- Track 8 : Warpy\_74, Jay2Jay\_75, Evy\_71, Targaryen\_71
- Track 9 : Wipeout\_70, Quaran19\_72, Spelly\_72, Spilled\_73, Gibbi\_76, MindFlayer\_70, JimJam\_72, Jollison\_71, Brizzy\_71, Bordeaux\_70, Battuta\_70, Birchlyn\_69, Karimac\_71, Amabiko\_72, AcciDwight\_76, SaltySpitooon\_72, KentuckyRacer\_72, PumpkinSpice\_71, CeilingFan\_71, TomSawyer\_70, IchabodCrane\_69, Rikishi\_72, Starbow\_70
- Track 10 : Stanimal\_72, Sollertia\_72, Genie2\_72, BoomerJR\_72, AngryGiraffe\_71, Yaboi\_72
- Track 11 : Mugiwara\_71
- Track 12 : Tomas\_74
- Track 13 : Elmer\_74, Wofford\_71
- Track 14 : LukeCage\_71
- Track 15 : StarPlatinum\_72
- Track 16 : Enygma\_72
- Track 17 : RosePharie\_49
- Track 18 : Manuel\_46
- Track 19 : JPandJE\_50, Romero\_49, ToriToki\_49, HaugeAnator\_49, Percastrophe\_49, Immanuel3\_49, Olicious\_49, ZooBear\_49, Treat\_49
- Track 20 : Stella\_51
- Track 21 : Gremlin23\_49, Geostin\_44, Fabian\_46, RetrieverFever\_49, Vorvolakos\_49, FlowerPower\_49
- Track 22 : Zeigle\_47, WRightOn\_50, Kumquat\_47
- Track 23 : Rideau\_51, Dennebes\_50
- Track 24 : Destructrice\_48
- Track 25 : Muntaha\_47, Wakanda\_47
- Track 26 : Circinus\_48, BillNye\_46
- Track 27 : Chaewon\_50
- Track 28 : G4\_25
- Track 29 : Mahdia\_22
- Track 30 : Gustav\_22

- Track 31 : Morrissey\_23
- Track 32 : Shagrat\_28
- Track 33 : CurlyFries\_25
- Track 34 : RegnumDei\_26
- Track 35 : Lilas\_23, EMsquaredA\_23, Pollux\_23, BritBrat\_23, Bradissa\_23, EnalisNailo\_23, Marteena\_23, Floral\_23
- Track 36 : Confidence\_23
- Track 37 : BeeGee\_23
- Track 38 : Cashline\_23
- Track 39 : Lton\_19
- Track 40 : Pepperoni\_20
- Track 41 : Lamberg\_19, Nettuno\_19, EdnaMode\_19
- Track 42 : Matteo\_19, Pickett\_19
- Track 43 : Denise\_19
- Track 44 : Moosehead\_19, Morkie\_21, InLimbo\_22, PhorbesPhlower\_21
- Track 45 : Faith5x5\_19
- Track 46 : Archimedes\_20
- Track 47 : Chipko\_23
- Track 48 : Coriander\_23, RayTheFireFly\_23, Doggs\_22
- Track 49 : Lucky10\_21
- Track 50 : Ecliptus\_28, ODay\_29
- Track 51 : Ronaldo\_64, Ziko\_64, Fryberger\_61, Volt\_64
- Track 52 : Keelan\_59
- Track 53 : Guey18\_67
- Track 54 : Hortus1\_56, Alleb\_57, Pioneer3\_56, OlinDD\_56, Tandem\_56, Platte\_56
- Track 55 : Mistmere\_57
- Track 56 : Cen1621\_21
- Track 57 : SuperHands\_23, Forester\_23
- Track 58 : Zeta1847\_21
- Track 59 : Honk\_21
- Track 60 : GardenState\_23, IAmGroot\_23
- Track 61 : Gretchen\_23
- Track 62 : UtzChips\_22, Barnstormer\_22
- Track 63 : Floof\_23
- Track 64 : Caron\_22
- Track 65 : SuMoo\_22, Mabodamaca\_23
- Track 66 : Percival\_23
- Track 67 : Cicada\_32, SBlackberry\_30
- Track 68 : PermaG\_31
- Track 69 : Rasovi\_30, Htur\_30
- Track 70 : AyoTeo\_32, Labella\_32, TurboVicky\_30, Typher\_32
- Track 71 : Milani\_31
- Track 72 : Alove\_30, Zanella\_30, Rootkit7\_30
- Track 73 : Johann\_31, Goodman\_31
- Track 74 : Linayshia\_30
- Track 75 : Jera\_31
- Track 76 : Benry\_30
- Track 77 : IndiRoo\_30
- Track 78 : Olympi\_32
- Track 79 : FireCastle\_30
- Track 80 : Sucha\_27
- Track 81 : Gallop\_24
- Track 82 : Clank\_30, Harley\_32, Ibhubesi\_32, Minnie\_34

- Track 83 : KristaRAM\_33, Shauna1\_29, Hegedechwinu\_33, MinionDave\_35, MilleniumForce\_33, Hlubikazi\_33, Whatsapiecost\_33, Eradicator\_32, Melissauren88\_32, Violac\_33, DeadP\_32, Fruitloop\_31, Akhila\_26, Batiatus\_32, WillSterrel\_34, Piper2020\_34, Juice456\_34, Tweety\_32, Mandlovu\_33, Latretium\_33, JalFarm20\_35, IrishSherpFalk\_34, Flathead\_32, Ardmore\_31, Doomslug\_36, Blarby\_41, Brocalys\_27, Strokeseat\_33, OwlsT2W\_33, Ms6\_26, PhesterPhotato\_32, MilanaBonita\_26, NewHope4\_36, Brushbloom\_33, Coco12\_32, Taj\_32, Phanphagia\_29, Pippy\_26, Vivum\_33, SilverChicken\_40, Mutaforma13\_32, Wee\_33, DLane\_32, Beanstalk\_37, Brookers\_30, MulchSalad\_31, Wachhund\_32, Phalconet\_32, Leozinho\_34
- Track 84 : Spartacus\_34
- Track 85 : Slim\_34, Emmaloid\_34
- Track 86 : Eish\_32, KingJulian\_32, Corium\_32, PatoPoderoso\_32, Sabbb\_33, Job42\_36, Fancypants\_32, Moonbeam\_33, DosHalletts\_34, ArcusAngelus\_32
- Track 87 : DoRead\_33, Gorge\_32, Enzomatic\_37, QuickMath\_33, Kimberlium\_34, Quico\_33, Girafales\_33, Saal\_32, Spoonbill\_32, Sparkdehlily\_32, EmiMonkey\_33, DRBy19\_32, James\_32, PhilipPhlop\_33, SeaLumen\_36, Florinda\_32, Mattes\_32, Crumble\_26, Kersh\_31, Okabe\_33, Radiance\_32, BobaPhett\_32, OlympiaSaint\_32, Philus\_32, Polo2Bam\_37, TDanisky\_32
- Track 88 : Krakatau\_33, Peridot\_37, Cornucopia\_33, DillTech15\_32, Fastidio\_34, Mantra\_32, Chuckly\_32, Totinger\_33, LittleShirley\_35, Rockne\_32, Phatniss\_33, UncleRicky\_35, Llij\_32, DotProduct\_32, Drago\_33, PMC\_32, Rialto\_36, XFactor\_32
- Track 89 : GigiOuiOui\_32, Blexus\_32, Empress\_33, Royals2015\_32, Inventum\_32, JoeyJr\_32, OldBen\_32, Phasih\_33, Plumbus\_34, Beakin\_33, SiSi\_32, RockyHorror\_33, Pollywog\_32, RitaG\_33, Veteran\_32, Scottish\_33, Sassafras\_33, Frankie\_36, Zerg\_32, Polka14\_33, Dorothy\_32, GUmble\_32, Mozy\_34, KingMidas\_34, Nitzel\_33, Karhdo\_32, Dante\_32, Daenerys\_32, RedBird\_32, Che8\_34, Alexphander\_35, Mwanjiwa\_33, DaWorst\_34
- Track 90 : BigPhil\_28, Sarma624\_28, Cerasum\_28, Velveteen\_28
- Track 91 : LunaBlu\_35, Jant\_33, Cornie\_32, Emma\_34, Galactic\_34, Renaud18\_32, Filuzino\_32, ShroomBoi\_29, Firehouse51\_33, Mova\_33, Kenuha5\_29, Bobi\_34, SuperGrey\_33, Byougenkin\_32, Bubbles123\_34, Guppsters\_34
- Track 92 : NormanBulbieJr\_32, SwagPigglett\_32, Yorick\_32, Jarcob\_32, LastJedi\_26, Martik\_32, Koella\_26, Maravista\_32, LilMoolah\_32, Lizziana\_32, Hades\_33, Jennelsea\_26, ShiLan\_32, Clifton\_26, Nivrat\_32, ShowerHandel\_32, Burwell21\_32, Zizzle\_32
- Track 93 : Awesomesauce\_33, Misha28\_33, TootsiePop\_33, ChickenDinner\_34, DocMcStuffins\_34
- Track 94 : Sandalphon\_33
- Track 95 : Grimmer\_34
- Track 96 : SassyB\_32, PopTart\_32, Boomer\_34
- Track 97 : Tchotchke\_32, Seabastian\_32, Ochi17\_30, Estave1\_30, Pacc40\_32, OfUltron\_32, Llama\_32, Jinglebell\_31, Modragons\_32, AlpineSix\_33, SimranZ1\_35, Oksu\_33
- Track 98 : Ogopogo\_32, IbOuu\_33, Ramsey\_35
- Track 99 : Seagreen\_33
- Track 100 : Mahavrat\_32, Topiatin\_35
- Track 101 : Ovechkin\_33, StAnnes\_31
- Track 102 : Hamulus\_33, Girr\_34, Ruby\_34, Kingsley\_31, MisterCuddles\_34
- Track 103 : Juniper1\_32
- Track 104 : Rita\_33, Bipolar\_29
- Track 105 : Poenanya\_32, Doomphist\_32
- Track 106 : BuzzLyseyear\_35, Spikelee\_34

- Track 107 : MadMen\_30
- Track 108 : Leperchaun\_32
- Track 109 : Cheese puff\_35
- Track 110 : MulchExplorer\_34, FreddyB\_32
- Track 111 : Enby\_34, SG4\_33, Lorde\_34, EleanorGeorge\_33
- Track 112 : Chevrolet\_33
- Track 113 : Cabrinians\_32, Priscilla\_32
- Track 114 : DaddyRickover\_32, BodEinwohner17\_32, Marker\_33
- Track 115 : Deb65\_32, BlueCrab\_32, Geralt\_32, Nimbo\_32, PHappiness\_32
- Track 116 : DirtMcgirt\_33, Lucia\_33
- Track 117 : Aubs\_33, Donkeykong\_32
- Track 118 : Tootsieroll\_33
- Track 119 : VRedHorse\_32
- Track 120 : Doug\_33
- Track 121 : Nichirin\_33
- Track 122 : CaptainTrips\_33
- Track 123 : Madiba\_30
- Track 124 : Aloeri\_34
- Track 125 : Gandalph\_33
- Track 126 : Whouxphf\_33
- Track 127 : Starcevich\_36
- Track 128 : Stap\_33
- Track 129 : Che9d\_37
- Track 130 : Jabbawokkie\_40, Zapner\_39, Demsculpinboyz\_38, Avani\_37
- Track 131 : Yoshi\_39
- Track 132 : Soul22\_37
- Track 133 : LunaStella\_34, TChen\_32
- Track 134 : ThetaBob\_32
- Track 135 : Toron\_33
- Track 136 : Hum25\_24
- Track 137 : Pitbull\_23
- Track 138 : RomansRevenge\_36, Boise\_35
- Track 139 : Babsiella\_28, HC\_29
- Track 140 : Xula\_26
- Track 141 : QueenHazel\_27
- Track 142 : PaintedDog\_31
- Track 143 : Bluvara\_29
- Track 144 : Phrann\_27, Impisi\_28
- Track 145 : Sonah\_28, Jung\_27, Gavriela\_28, Chubbello\_28, Ksquared\_28, Phegasus\_28, Fishburne\_28, Techage\_28, BronnyJr\_28, Brusacoram\_28, Shipwreck\_30, Pygmy\_30, Jebeks\_28, Etoile\_28, CactusJack\_28, Juniormint\_28, Atcoo\_28, StressBall\_28, Glaske\_28, Bartholomew\_27, Venti\_28, Dynamo\_28, Polkaroo\_28, Necropolis\_28, Mangethe\_28, Majeke\_28, HUHilltop\_28, FirstPlacePfu\_28, Vidya\_28, Megiddo\_28, Zilizebeth\_28, Camster\_28, Kari\_28, KilKor\_28, Phalm\_28, Phineas\_28, Langerak\_28, GreaseLightnin\_28, StevieRay\_28, Bunnies\_28, Donovan\_28, Malithi\_28, Thespis\_28, Arib1\_28, GaloreK\_28
- Track 146 : PeanutPie\_28, Bhagsy\_28
- Track 147 : Xavia\_28
- Track 148 : PhaoMing\_20
- Track 149 : LilSpotty\_33
- Track 150 : MooMoo\_30
- Track 151 : Gudmit\_20
- Track 152 : OnionKnight\_23

- Track 153 : Finkle\_21
- Track 154 : GMA1\_21
- Track 155 : GAL1\_23
- Track 156 : Bobburn\_18

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

The start number called the most often in the published annotations is 104, it was called in 176 of the 458 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AcciDwight\_76, Alexphander\_35, AlpineSix\_33, Amabiko\_72, Anedea\_68, Angela\_67, AngryGiraffe\_71, ArcusAngelus\_32, Aubs\_33, Awesomesauce\_33, Battuta\_70, Beakin\_33, BillNye\_46, Birchlyn\_69, Blexus\_32, BlueCrab\_32, Bmoc\_68, BobaPhett\_32, BoomerJR\_72, Boomer\_34, Bordeaux\_70, Brizzy\_71, Cabrinians\_32, CaptainTrips\_33, CeilingFan\_71, Chaewon\_50, Che8\_34, ChickenDinner\_34, Chuckly\_32, Circinus\_48, Clank\_30, Corium\_32, Cornucopia\_33, Crumble\_26, DRBy19\_32, DaWorst\_34, Daenerys\_32, Dante\_32, Deb65\_32, DillTech15\_32, DirtMcgirt\_33, DoRead\_33, DocMcStuffins\_34, Donkeykong\_32, Doomphist\_32, Dorothy\_32, DosHalletts\_34, DotProduct\_32, Drago\_33, Eish\_32, Elmer\_74, EmiMonkey\_33, Emmaloid\_34, Empress\_33, Enygma\_72, Enzomatic\_37, Estave1\_30, Evy\_71, Fancypants\_32, Fastidio\_34, Florinda\_32, Frankie\_36, GUmbie\_32, Genie2\_72, Geralt\_32, Gibbi\_76, GigiOuiOui\_32, Girafales\_33, Gorge\_32, Grimmer\_34, Harley\_32, Ibhubesi\_32, IchabodCrane\_69, Inventum\_32, James\_32, Jay2Jay\_75, JimJam\_72, Jinglebell\_31, Job42\_36, JoeyJr\_32, Jollison\_71, Juniper1\_32, Karhdo\_32, Karimac\_71, KentuckyRacer\_72, Kersh\_31, Kimberlium\_34, KingJulian\_32, KingMidas\_34, Krakatau\_33, LilMartin\_67, LilSaint\_69, LittleShirley\_35, Llama\_32, Llij\_32, Lucia\_33, LukeCage\_71, Mahavrat\_32, Mantra\_32, Marsus\_68, Mattes\_32, Mildred21\_68, MindFlayer\_70, Minnie\_34, Misha28\_33, Modragons\_32, Moonbeam\_33, Mozy\_34, Mugiwara\_71, MulchMansion\_67, Muntaha\_47, Mwanjiwa\_33, Nichirin\_33, Nimbo\_32, Nitzel\_33, Ochi17\_30, OfUltron\_32, Okabe\_33, Oksu\_33, OldBen\_32, OlympiaSaint\_32, PHappiness\_32, PMC\_32, Pacc40\_32, PatoPoderoso\_32, Peridot\_37, Phasih\_33, Phatniss\_33, Philus\_32, PhlipPhlop\_33, Plumbus\_34, Poenanya\_32, Polka14\_33, Pollywog\_32, Polo2Bam\_37, PopTart\_32, Priscilla\_32, PumpkinSpice\_71, Quarant19\_72, QuickMath\_33, Quico\_33, Radiance\_32, RedBird\_32, Rialto\_36, Rikishi\_72, Riptide\_67, RitaG\_33, Rockne\_32, RockyHorror\_33, Royals2015\_32, Saal\_32, Sabb33\_33, SaltySpittoon\_72, Sandalphon\_33, Sassafras\_33, SassyB\_32, Scottish\_33, SeaLumen\_36, Seabastian\_32, Seagreen\_33, SiSi\_32, SimranZ1\_35, Slim\_34, Sollertia\_72, Sparkdehlily\_32, Spartacus\_34, Spelly\_72, Spilled\_73, Spoonbill\_32, Stanimal\_72, Stap\_33, StarPlatinum\_72, Starbow\_70, Starceovich\_36, TDanisky\_32, Targaryen\_71, Tchotchke\_32, TomSawyer\_70, Tomas\_74, TootsiePop\_33, Tootsieroll\_33, Topiatin\_35, Totinger\_33, UncleRicky\_35, VRedHorse\_32, Veteran\_32, Wakanda\_47, Warpy\_74, Whouxphf\_33, Wipeout\_70, Wofford\_71, XFactor\_32, Yaboi\_72, Zerg\_32,

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

- Aloeri\_34, BodEinwohner17\_32, CheesePuff\_35, Chevrolet\_33, DaddyRickover\_32, FreddyB\_32, Leperchaun\_32, Madiba\_30, Marker\_33, MulchExplorer\_34,

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

• Akhila\_26, Alleb\_57, Alove\_30, Archimedes\_20, Ardmore\_31, Arib1\_28, Atcoo\_28, Avani\_37, AyoTeo\_32, Babsiella\_28, Barnstormer\_22, Bartholomew\_27, Batiatus\_32, Beanstalk\_37, BeeGee\_23, Benry\_30, Bhagsy\_28, BigPhil\_28, Bipolar\_29, Blarby\_41, Bluvara\_29, Bobburn\_18, Bobi\_34, Boise\_35, Bradissa\_23, BritBrat\_23, Brocalys\_27, BronnyJr\_28, Brookers\_30, Brusacoram\_28, Brushbloom\_33, Bubbles123\_34, Bunnies\_28, Burwell21\_32, BuzzLyseyear\_35, Byougenkin\_32, CactusJack\_28, Camster\_28, Caron\_22, Cashline\_23, Causa\_23, Cen1621\_21, Cerasum\_28, Che9d\_37, Chipko\_23, Chubbello\_28, Cicada\_32, Clifton\_26, Coco12\_32, Confidence\_23, Coriander\_23, Cornie\_32, CurlyFries\_25, DLane\_32, DeadP\_32, Demsculpinboyz\_38, Denise\_19, Dennebes\_50, Destructrice\_48, Doggs\_22, Donovan\_28, Doomslug\_36, Doug\_33, Dynamo\_28, EMSquaredA\_23, Ecliptus\_28, EdnaMode\_19, EleanorGeorge\_33, Emma\_34, EnalisNailo\_23, Enby\_34, Eradicator\_32, Etoile\_28, Fabian\_46, Faith5x5\_19, Filuzino\_32, Finkle\_21, FireCastle\_30, Firehouse51\_33, FirstPlacePfu\_28, Fishburne\_28, Flathead\_32, Floof\_23, Floral\_23, FlowerPower\_49, Forester\_23, Fruitloop\_31, Fryberger\_61, G4\_25, GAL1\_23, GMA1\_21, Galactic\_34, Gallop\_24, GaloreK\_28, Gandolph\_33, GardenState\_23, Gavriela\_28, Geostin\_44, Girr\_34, Glaske\_28, Goodman\_31, GreaseLightnin\_28, Gremlin23\_49, Gretchen\_23, Gudmit\_20, Guey18\_67, Guppsters\_34, Gustav\_22, HC\_29, HUHilltop\_28, Hades\_33, Hamulus\_33, HaugeAnator\_49, Hegedechwinu\_33, Hlubikazi\_33, Honk\_21, Hortus1\_56, Htur\_30, Hum25\_24, IAmGroot\_23, IbOuu\_33, Immanuel3\_49, Impisi\_28, InLimbo\_22, IndiRoo\_30, IrishSherpFalk\_34, JPandJE\_50, Jabbawokkie\_40, JalFarm20\_35, Jant\_33, Jarcob\_32, Jebeks\_28, Jennelsea\_26, Jera\_31, Johann\_31, Juice456\_34, Jung\_27, Juniomint\_28, Kari\_28, Keelan\_59, Kenuha5\_29, KilKor\_28, Kingsley\_31, Koella\_26, KristaRAM\_33, Ksquared\_28, Kumquat\_47, Labella\_32, Lamberg\_19, Langerak\_28, LastJedi\_26, Latretium\_33, Leozinho\_34, LilMoolah\_32, LilSpotty\_33, Lilas\_23, Linayshia\_30, Lizziana\_32, Lorde\_34, Lton\_19, Lucky10\_21, LunaBlu\_35, LunaStella\_34, Mabodamaca\_23, MadMen\_30, Mahdia\_22, Majeke\_28, Malithi\_28, Mandlovu\_33, Mangethe\_28, Manuel\_46, Maravista\_32, Marteena\_23, Martik\_32, Matteo\_19, Megiddo\_28, Melissauren88\_32, MilanaBonita\_26, Milani\_31, MilleniumForce\_33, MinionDave\_35, MisterCuddles\_34, Mistmere\_57, MooMoo\_30, Moosehead\_19, Morkie\_21, Morrissey\_23, Mova\_33, Ms6\_26, MulchSalad\_31, Mutaforma13\_32, Necropolis\_28, Nettuno\_19, NewHope4\_36, Nivrat\_32, NormanBulbieJr\_32, ODay\_29, Ogopogo\_32, Olicious\_49, OlinDD\_56, Olympi\_32, OnionKnight\_23, Ovechkin\_33, OwlsT2W\_33, PaintedDog\_31, PeanutPie\_28, Pepperoni\_20, Percastrophe\_49, Percival\_23, PermaG\_31, Phalconet\_32, Phalm\_28, Phanphagia\_29, PhaoMing\_20, Phegasus\_28, PhesterPhotato\_32, Phineas\_28, PhorbesPhlower\_21, Phrann\_27, Pickett\_19, Pioneer3\_56, Piper2020\_34, Pippy\_26, Pitbull\_23, Platte\_56, Polkaroo\_28, Pollux\_23, Pygmy\_30, QueenHazel\_27, Ramsey\_35, Rasovi\_30, RayTheFireFly\_23, RegnumDei\_26, Renaud18\_32, RetrieverFever\_49, Rideau\_51, Rita\_33, RomansRevenge\_36, Romero\_49, Ronaldo\_64, Rootkit7\_30, RosePharie\_49, Ruby\_34, SBlackberry\_30, SG4\_33, SPB78\_23, Sarma624\_28, Shagrat\_28, Shauna1\_29, ShiLan\_32, Shipwreck\_30, ShowerHandel\_32, ShroomBoi\_29, SilverChicken\_40, Sonah\_28, Soul22\_37, Spikelee\_34, StAnnes\_31, StAugustine\_21, Stella\_51, StevieRay\_28, StressBall\_28, Strokeseat\_33, SuMoo\_22, Sucha\_27, SuperGrey\_33, SuperHands\_23, SwagPiggett\_32, TChen\_32, Taj\_32, Tandem\_56, Techage\_28, Thespis\_28, ThetaBob\_32, ToriToki\_49, Toron\_33, Treat\_49, TurboVicky\_30, Tweety\_32, Typher\_32, UtzChips\_22, Velveteen\_28, Venti\_28, Vidya\_28, Violac\_33, Vivum\_33, Volt\_64, Vorvolakos\_49, WRightOn\_50, Wachhund\_32, Wee\_33, Whatsapiecost\_33, WillSterrel\_34, Xavia\_28, Xula\_26, Yorick\_32, Yoshi\_39, Zabella\_30, Zapner\_39, Zeigle\_47, Zeta1847\_21, Ziko\_64, Zilizebeth\_28, Zizzle\_32,

ZooBear\_49,

### Summary by start number:

Start 78:

- Found in 1 of 509 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bobburn\_18 (singleton),

Start 80:

- Found in 15 of 509 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 15 of 458
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnstormer\_22 (EH), Caron\_22 (EH), Cen1621\_21 (EH), Floof\_23 (EH), Forester\_23 (EH), GardenState\_23 (EH), Gretchen\_23 (EH), Honk\_21 (EH), IAmGroot\_23 (EH), Mabodamaca\_23 (EH), Percival\_23 (EH), SuMoo\_22 (EH), SuperHands\_23 (EH), UtzChips\_22 (EH), Zeta1847\_21 (EH),

Start 87:

- Found in 1 of 509 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 458
- Called 100.0% of time when present
- Phage (with cluster) where this start called: OnionKnight\_23 (singleton),

Start 89:

- Found in 1 of 509 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toron\_33 (F6),

Start 94:

- Found in 3 of 509 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 458
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Boise\_35 (FT), RomansRevenge\_36 (FT),

Start 95:

- Found in 2 of 509 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 458
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Causa\_23 (AI), StAugustine\_21 (AI),

Start 97:

- Found in 26 of 509 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 9 of 458
- Called 34.6% of time when present
- Phage (with cluster) where this start called: Alleb\_57 (ED1), Hortus1\_56 (ED1), IndiRoo\_30 (EJ), Linayshia\_30 (EJ), OlinDD\_56 (ED1), Olympi\_32 (EJ), Pioneer3\_56 (ED1), Platte\_56 (ED1), Tandem\_56 (ED1),

Start 98:

- Found in 12 of 509 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 6 of 458
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Girr\_34 (F1), Hamulus\_33 (F1), Kingsley\_31 (F1), MisterCuddles\_34 (F1), Ruby\_34 (F1), Soul22\_37 (F2),

Start 99:

- Found in 13 of 509 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 8 of 458
- Called 61.5% of time when present
- Phage (with cluster) where this start called: Coriander\_23 (DB), Denise\_19 (CZ5), Doggs\_22 (DB), Ecliptus\_28 (DN), Matteo\_19 (CZ2), ODay\_29 (DN), Pickett\_19 (CZ2), RayTheFireFly\_23 (DB),

Start 100:

- Found in 7 of 509 ( 1.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Mistmere\_57 (ED3),

Start 101:

- Found in 4 of 509 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 3 of 458
- Called 75.0% of time when present
- Phage (with cluster) where this start called: LunaStella\_34 (F4), MooMoo\_30 (singleton), TChen\_32 (F4),

Start 102:

- Found in 2 of 509 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: GMA1\_21 (singleton),

Start 103:

- Found in 120 of 509 ( 23.6% ) of genes in pham
- Manual Annotations of this start: 105 of 458
- Called 97.5% of time when present
- Phage (with cluster) where this start called: Akhila\_26 (F1), Alove\_30 (EJ), Ardmore\_31 (F1), AyoTeo\_32 (EJ), Batiatus\_32 (F1), Beanstalk\_37 (F1), Benry\_30 (EJ), BigPhil\_28 (F1), Bipolar\_29 (F1), Blarby\_41 (F), Bobi\_34 (F1), Brocalys\_27 (F1), Brookers\_30 (F1), Brushbloom\_33 (F1), Bubbles123\_34 (F1), Burwell21\_32 (F1), BuzzLyseyear\_35 (F1), Byougenkin\_32 (F1), Cerasum\_28 (F1), Cicada\_32 (EJ), Clifton\_26 (F1), Coco12\_32 (F1), Cornie\_32 (F5), DLane\_32 (F1), DeadP\_32 (F1), Doomslug\_36 (F), Doug\_33 (F1), Emma\_34 (F1), Eradicator\_32 (F1), Filuzino\_32 (F1), FireCastle\_30 (EJ), Firehouse51\_33 (F1), Flathead\_32 (F1), Fruitloop\_31 (F1), G4\_25 (BW), Galactic\_34 (F1), Gandolph\_33 (F1), Goodman\_31 (EJ), Guppsters\_34 (F1), Hades\_33 (F1), Hegedechwinu\_33 (F1), Hlubikazi\_33 (F1), Htur\_30 (EJ), IbOuu\_33 (F1), IrishSherpFalk\_34 (F1), JalFarm20\_35 (F1), Jant\_33 (F1), Jarcob\_32 (F1), Jennelsea\_26 (F1), Jera\_31 (EJ), Johann\_31 (EJ), Juice456\_34 (F1), Kenuha5\_29 (F1), Koella\_26 (F1), KristaRAM\_33 (F1), Labella\_32 (EJ), LastJedi\_26 (F1), Latretium\_33 (F1), Leozinho\_34 (F1), LilMoolah\_32 (F1), Lizziana\_32 (F1), LunaBlu\_35 (F1), MadMen\_30 (F1), Mandlovu\_33 (F1), Maravista\_32 (F1), Martik\_32

(F1), Melissauren88\_32 (F1), MilanaBonita\_26 (F1), Milani\_31 (EJ), MilleniumForce\_33 (F1), MinionDave\_35 (F1), Mova\_33 (F1), Ms6\_26 (F1), MulchSalad\_31 (F7), Mutaforma13\_32 (F1), NewHope4\_36 (F1), Nivrat\_32 (F1), NormanBulbieJr\_32 (F1), Ogopogo\_32 (F1), OwlsT2W\_33 (F1), PermaG\_31 (EJ), Phalconet\_32 (F1), Phanphagia\_29 (F1), PhesterPhotato\_32 (F1), Piper2020\_34 (F1), Pippy\_26 (F1), Ramsey\_35 (F1), Rasovi\_30 (EJ), Renaud18\_32 (F4), Rita\_33 (F1), Rootkit7\_30 (EJ), SBlackberry\_30 (EJ), Sarma624\_28 (F1), Shauna1\_29 (F1), ShiLan\_32 (F1), ShowerHandel\_32 (F1), ShroomBoi\_29 (F1), SilverChicken\_40 (F2), Spikelee\_34 (F1), Strokeseat\_33 (F1), Sucha\_27 (EJ), SuperGrey\_33 (F1), SwagPiggett\_32 (F1), Taj\_32 (F1), TurboVicky\_30 (EJ), Tweety\_32 (F1), Typher\_32 (EJ), Velveteen\_28 (F1), Violac\_33 (F1), Vivum\_33 (F1), Wachhund\_32 (F1), Wee\_33 (F1), Whatsapiecost\_33 (F1), WillSterrel\_34 (F1), Yorick\_32 (F1), Zarella\_30 (EJ), Zizzle\_32 (F1),

Start 104:

- Found in 204 of 509 ( 40.1% ) of genes in pham
- Manual Annotations of this start: 176 of 458
- Called 95.1% of time when present
- Phage (with cluster) where this start called: AcciDwight\_76 (BE2), Alexphander\_35 (F1), AlpineSix\_33 (F1), Amabiko\_72 (BE2), Anedea\_68 (BE1), Angela\_67 (BE1), AngryGiraffe\_71 (BE2), ArcusAngelus\_32 (F1), Aubs\_33 (F1), Awesomesauce\_33 (F1), Battuta\_70 (BE2), Beakin\_33 (F1), BillNye\_46 (BK2), Birchlyn\_69 (BE2), Blexus\_32 (F1), BlueCrab\_32 (F1), Bmoc\_68 (BE1), BobaPhett\_32 (F1), BoomerJR\_72 (BE2), Boomer\_34 (F1), Bordeaux\_70 (BE2), Brizzy\_71 (BE2), Cabrinians\_32 (F1), CaptainTrips\_33 (F1), CeilingFan\_71 (BE2), Chaewon\_50 (BK2), Che8\_34 (F1), ChickenDinner\_34 (F1), Chuckly\_32 (F1), Circinus\_48 (BK2), Clank\_30 (F), Corium\_32 (F1), Cornucopia\_33 (F1), Crumble\_26 (F1), DRBy19\_32 (F1), DaWorst\_34 (F1), Daenerys\_32 (F1), Dante\_32 (F1), Deb65\_32 (F1), DillTech15\_32 (F1), DirtMcgirt\_33 (F1), DoRead\_33 (F1), DocMcStuffins\_34 (F1), Donkeykong\_32 (F1), Doomphist\_32 (F1), Dorothy\_32 (F1), DosHalletts\_34 (F1), DotProduct\_32 (F1), Drago\_33 (F1), Eish\_32 (F1), Elmer\_74 (BE2), EmiMonkey\_33 (F1), Emmaloid\_34 (F1), Empress\_33 (F1), Enygma\_72 (BE2), Enzomatic\_37 (F1), Estave1\_30 (F1), Evy\_71 (BE1), Fancypants\_32 (F1), Fastidio\_34 (F1), Florinda\_32 (F1), Frankie\_36 (F1), GUmbie\_32 (F1), Genie2\_72 (BE2), Geralt\_32 (F1), Gibbi\_76 (BE2), GigiOuiOui\_32 (F1), Girafales\_33 (F1), Gorge\_32 (F1), Grimmer\_34 (F1), Harley\_32 (F1), Ibhubesi\_32 (F1), IchabodCrane\_69 (BE2), Inventum\_32 (F1), James\_32 (F1), Jay2Jay\_75 (BE1), JimJam\_72 (BE2), Jinglebell\_31 (F1), Job42\_36 (F1), JoeyJr\_32 (F1), Jollison\_71 (BE2), Juniper1\_32 (F1), Karhdo\_32 (F1), Karimac\_71 (BE2), KentuckyRacer\_72 (BE2), Kersh\_31 (F1), Kimberlium\_34 (F1), KingJulian\_32 (F1), KingMidas\_34 (F1), Krakatau\_33 (F1), LilMartin\_67 (BE1), LilSaint\_69 (BE1), LittleShirley\_35 (F1), Llama\_32 (F1), Llij\_32 (F1), Lucia\_33 (F1), LukeCage\_71 (BE2), Mahavrat\_32 (F1), Mantra\_32 (F1), Marsus\_68 (BE1), Mattes\_32 (F1), Mildred21\_68 (BE1), MindFlayer\_70 (BE2), Minnie\_34 (F1), Misha28\_33 (F1), Modragons\_32 (F1), Moonbeam\_33 (F1), Mozy\_34 (F1), Mugiwara\_71 (BE2), MulchMansion\_67 (BE1), Muntaha\_47 (BK2), Mwanjiwa\_33 (F1), Nichirin\_33 (F1), Nimbo\_32 (F1), Nitzel\_33 (F1), Ochi17\_30 (F1), OfUltron\_32 (F1), Okabe\_33 (F8), Oksu\_33 (F1), OldBen\_32 (F1), OlympiaSaint\_32 (F1), PHappiness\_32 (F1), PMC\_32 (F1), Pacc40\_32 (F1), PatoPoderoso\_32 (F1), Peridot\_37 (F1), Phasih\_33 (F1), Phatniss\_33 (F1), Philus\_32 (F1), PhilipPhlop\_33 (F1), Plumbus\_34 (F1), Poenanya\_32 (F1), Polka14\_33 (F1), Pollywog\_32 (F1), Polo2Bam\_37 (F1), PopTart\_32 (F1), Priscilla\_32 (F1), PumpkinSpice\_71 (BE2), Quarant19\_72 (BE2), QuickMath\_33 (F1), Quico\_33 (F1), Radiance\_32 (F1), RedBird\_32 (F1), Rialto\_36 (F1), Rikishi\_72 (BE2), Riptide\_67 (BE1), RitaG\_33 (F1),

Rockne\_32 (F1), RockyHorror\_33 (F1), Royals2015\_32 (F1), Saal\_32 (F1), Sabbb\_33 (F1), SaltySpitoon\_72 (BE2), Sandalphon\_33 (F1), Sassafras\_33 (F1), SassyB\_32 (F1), Scottish\_33 (F1), SeaLumen\_36 (F1), Seabastian\_32 (F1), Seagreen\_33 (F1), SiSi\_32 (F1), SimranZ1\_35 (F1), Slim\_34 (F1), Sollertia\_72 (BE2), Sparkdehlily\_32 (F1), Spartacus\_34 (F1), Spelly\_72 (BE2), Spilled\_73 (BE2), Spoonbill\_32 (F1), Stanimal\_72 (BE2), Stap\_33 (F1), StarPlatinum\_72 (BE2), Starbow\_70 (BE2), Starceвич\_36 (F1), TDanisky\_32 (F1), Targaryen\_71 (BE1), Tchochke\_32 (F1), TomSawyer\_70 (BE2), Tomas\_74 (BE2), TootsiePop\_33 (F1), Tootsieroll\_33 (F1), Topiatin\_35 (F1), Totinger\_33 (F1), UncleRicky\_35 (F1), VRedHorse\_32 (F1), Veteran\_32 (F1), Wakanda\_47 (BK2), Warpy\_74 (BE1), Whouxphf\_33 (F1), Wipeout\_70 (BE2), Wofford\_71 (BE2), XFactor\_32 (F1), Yaboi\_72 (BE2), Zerg\_32 (F1),

#### Start 105:

- Found in 45 of 509 ( 8.8% ) of genes in pham
- Manual Annotations of this start: 32 of 458
- Called 82.2% of time when present
- Phage (with cluster) where this start called: Avani\_37 (F2), BeeGee\_23 (CY5), Bradissa\_23 (CY1), BritBrat\_23 (CY2), Cashline\_23 (CY6), Chipko\_23 (DB), Confidence\_23 (CY1), Demsculpinboyz\_38 (F2), EMSquaredA\_23 (CY1), EdnaMode\_19 (CZ2), EnalisNailo\_23 (CY1), Faith5x5\_19 (CZ6), Finkle\_21 (singleton), Floral\_23 (CY1), GAL1\_23 (singleton), Gallop\_24 (ES), Gudmit\_20 (singleton), Gustav\_22 (CD), Hum25\_24 (FQ), InLimbo\_22 (DH), Jabbawokkie\_40 (F2), Lamberg\_19 (CZ2), Lilas\_23 (CY1), Lton\_19 (CZ), Lucky10\_21 (DH), Mahdia\_22 (CD), Marteena\_23 (CY1), Moosehead\_19 (CZ6), Morkie\_21 (DH), Morrissey\_23 (CD), Nettuno\_19 (CZ2), Pepperoni\_20 (CZ), PhaoMing\_20 (UNK), PhorbesPhlower\_21 (DH), Pitbull\_23 (FQ), Pollux\_23 (CY1), Zapner\_39 (F2),

#### Start 106:

- Found in 3 of 509 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 3 of 458
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che9d\_37 (F2), ThetaBob\_32 (F4), Yoshi\_39 (F2),

#### Start 108:

- Found in 81 of 509 ( 15.9% ) of genes in pham
- Manual Annotations of this start: 64 of 458
- Called 91.4% of time when present
- Phage (with cluster) where this start called: Archimedes\_20 (DA), Arib1\_28 (P1), Atcoo\_28 (P1), Babsiella\_28 (I1), Bartholomew\_27 (P1), Bhagsy\_28 (P1), Bluvara\_29 (I3), BronnyJr\_28 (P1), Brusacoram\_28 (P1), Bunnies\_28 (P1), CactusJack\_28 (P1), Camster\_28 (P1), Chubbello\_28 (P1), CurlyFries\_25 (CF), Donovan\_28 (P1), Dynamo\_28 (P1), EleanorGeorge\_33 (F1), Enby\_34 (F1), Etoile\_28 (P1), FirstPlacePfu\_28 (P1), Fishburne\_28 (P1), Fryberger\_61 (DP), GaloreK\_28 (P1), Gavriela\_28 (P1), Glaske\_28 (P1), GreaseLightnin\_28 (P1), Guey18\_67 (DP), HC\_29 (I1), HUHilltop\_28 (P1), Impisi\_28 (N), Jebeks\_28 (P1), Jung\_27 (P1), Juniormint\_28 (P1), Kari\_28 (P1), Keelan\_59 (DP), KilKor\_28 (P1), Ksquared\_28 (P1), Langerak\_28 (P1), LilSpotty\_33 (singleton), Lorde\_34 (F1), Majeke\_28 (P1), Malithi\_28 (P1), Mangethe\_28 (P1), Megiddo\_28 (P1), Necropolis\_28 (P1), Ovechkin\_33 (F1), PaintedDog\_31 (I1), PeanutPie\_28 (P1), Phalm\_28 (P1), Phegasus\_28 (P1), Phineas\_28 (P1), Phrann\_27 (N), Polkaroo\_28 (P1), Pygmy\_30 (P1), QueenHazel\_27 (I1), RegnumDei\_26 (CF), Ronaldo\_64 (DP), SG4\_33 (F1),

SPB78\_23 (BA), Shagrath\_28 (CF), Shipwreck\_30 (P1), Sonah\_28 (P1), StAnnes\_31 (F1), StevieRay\_28 (P1), StressBall\_28 (P1), Techage\_28 (P1), Thespis\_28 (P1), Venti\_28 (P1), Vidya\_28 (P1), Volt\_64 (DP), Xavia\_28 (P3), Xula\_26 (I1), Ziko\_64 (DP), Zilizebeth\_28 (P1),

Start 109:

- Found in 153 of 509 ( 30.1% ) of genes in pham
- Manual Annotations of this start: 10 of 458
- Called 6.5% of time when present
- Phage (with cluster) where this start called: Aloeri\_34 (F1), BodEinwohner17\_32 (F1), Cheesepuff\_35 (F1), Chevrolet\_33 (F1), DaddyRickover\_32 (F1), FreddyB\_32 (F1), Leperchaun\_32 (F1), Madiba\_30 (F1), Marker\_33 (F1), MulchExplorer\_34 (F1),

Start 110:

- Found in 24 of 509 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 23 of 458
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dennebes\_50 (BF), Destructrice\_48 (BF), Fabian\_46 (BF), FlowerPower\_49 (BF), Geostin\_44 (BF), Gremlin23\_49 (BF), HaugeAnator\_49 (BF), Immanuel3\_49 (BF), JPandJE\_50 (BF), Kumquat\_47 (BF), Manuel\_46 (BF), Olicious\_49 (BF), Percastrophe\_49 (BF), RetrieverFever\_49 (BF), Rideau\_51 (BF), Romero\_49 (BF), RosePharie\_49 (BF), Stella\_51 (BF), ToriToki\_49 (BF), Treat\_49 (BF), Vorvolakos\_49 (BF), WRightOn\_50 (BF), Zeigle\_47 (BF), ZooBear\_49 (BF),

### **Summary by clusters:**

There are 44 clusters represented in this pham: DN, FQ, BF, FT, BA, DH, P3, CZ2, CZ6, singleton, DA, ED3, ED1, CZ5, DP, CY6, I1, I3, F, CY2, CY1, P1, EH, CY5, EJ, AI, DB, CF, N, CZ, BK2, UNK, ES, F1, F2, F4, F5, F6, F7, F8, CD, BW, BE2, BE1,

Info for manual annotations of cluster AI:

- Start number 95 was manually annotated 2 times for cluster AI.

Info for manual annotations of cluster BE1:

- Start number 104 was manually annotated 13 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 104 was manually annotated 34 times for cluster BE2.

Info for manual annotations of cluster BF:

- Start number 110 was manually annotated 23 times for cluster BF.

Info for manual annotations of cluster BK2:

- Start number 104 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster BW:

- Start number 103 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster CD:

- Start number 105 was manually annotated 3 times for cluster CD.

Info for manual annotations of cluster CF:

- Start number 108 was manually annotated 3 times for cluster CF.

Info for manual annotations of cluster CY1:

- Start number 105 was manually annotated 8 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 105 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CY5:

- Start number 105 was manually annotated 1 time for cluster CY5.

Info for manual annotations of cluster CY6:

- Start number 105 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CZ:

- Start number 105 was manually annotated 2 times for cluster CZ.

Info for manual annotations of cluster CZ2:

- Start number 99 was manually annotated 2 times for cluster CZ2.
- Start number 105 was manually annotated 3 times for cluster CZ2.

Info for manual annotations of cluster CZ5:

- Start number 99 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ6:

- Start number 105 was manually annotated 2 times for cluster CZ6.

Info for manual annotations of cluster DA:

- Start number 108 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DB:

- Start number 99 was manually annotated 3 times for cluster DB.

Info for manual annotations of cluster DH:

- Start number 105 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster DN:

- Start number 99 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DP:

- Start number 108 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster ED1:

- Start number 97 was manually annotated 6 times for cluster ED1.

Info for manual annotations of cluster EH:

- Start number 80 was manually annotated 15 times for cluster EH.

Info for manual annotations of cluster EJ:

- Start number 97 was manually annotated 3 times for cluster EJ.
- Start number 103 was manually annotated 16 times for cluster EJ.

Info for manual annotations of cluster F1:

- Start number 98 was manually annotated 5 times for cluster F1.
- Start number 103 was manually annotated 86 times for cluster F1.
- Start number 104 was manually annotated 125 times for cluster F1.
- Start number 108 was manually annotated 6 times for cluster F1.
- Start number 109 was manually annotated 10 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 98 was manually annotated 1 time for cluster F2.
- Start number 105 was manually annotated 4 times for cluster F2.
- Start number 106 was manually annotated 2 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 101 was manually annotated 2 times for cluster F4.
- Start number 103 was manually annotated 1 time for cluster F4.
- Start number 106 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 103 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster FQ:

- Start number 105 was manually annotated 2 times for cluster FQ.

Info for manual annotations of cluster FT:

- Start number 94 was manually annotated 1 time for cluster FT.

Info for manual annotations of cluster I1:

- Start number 108 was manually annotated 4 times for cluster I1.

Info for manual annotations of cluster N:

- Start number 108 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster P1:

- Start number 108 was manually annotated 41 times for cluster P1.

Info for manual annotations of cluster P3:

- Start number 108 was manually annotated 1 time for cluster P3.

**Gene Information:**

Gene: AcciDwight\_76 Start: 53084, Stop: 53335, Start Num: 104

Candidate Starts for AcciDwight\_76:

(Start: 104 @53084 has 176 MA's), (123, 53159),

Gene: Akhila\_26 Start: 24607, Stop: 24840, Start Num: 103

Candidate Starts for Akhila\_26:

(Start: 103 @24607 has 105 MA's), (132, 24706), (139, 24727), (142, 24736), (153, 24769),

Gene: Alexphander\_35 Start: 29298, Stop: 29531, Start Num: 104

Candidate Starts for Alexphander\_35:

(Start: 104 @29298 has 176 MA's), (Start: 109 @29301 has 10 MA's), (137, 29412), (139, 29418), (142, 29427), (147, 29445), (148, 29448), (153, 29460),

Gene: Alleb\_57 Start: 35882, Stop: 36097, Start Num: 97

Candidate Starts for Alleb\_57:

(75, 35792), (Start: 97 @35882 has 9 MA's), (100, 35888),

Gene: Aloeri\_34 Start: 29154, Stop: 29384, Start Num: 109

Candidate Starts for Aloeri\_34:

(Start: 104 @29151 has 176 MA's), (Start: 109 @29154 has 10 MA's), (137, 29265), (139, 29271), (142, 29280), (147, 29298), (148, 29301), (153, 29313),

Gene: Alove\_30 Start: 22521, Stop: 22799, Start Num: 103

Candidate Starts for Alove\_30:

(47, 22290), (69, 22383), (71, 22395), (Start: 97 @22512 has 9 MA's), (Start: 103 @22521 has 105 MA's), (125, 22608), (138, 22650), (148, 22683), (168, 22761),

Gene: AlpineSix\_33 Start: 28745, Stop: 28978, Start Num: 104

Candidate Starts for AlpineSix\_33:

(44, 28529), (Start: 104 @28745 has 176 MA's), (Start: 109 @28748 has 10 MA's), (137, 28859), (139, 28865), (142, 28874), (147, 28892), (148, 28895), (153, 28907),

Gene: Amabiko\_72 Start: 53129, Stop: 53380, Start Num: 104

Candidate Starts for Amabiko\_72:

(Start: 104 @53129 has 176 MA's), (123, 53204),

Gene: Anedea\_68 Start: 52701, Stop: 52952, Start Num: 104

Candidate Starts for Anedea\_68:

(Start: 104 @52701 has 176 MA's), (124, 52782), (170, 52929),

Gene: Angela\_67 Start: 52161, Stop: 52412, Start Num: 104

Candidate Starts for Angela\_67:

(Start: 104 @52161 has 176 MA's), (116, 52203),

Gene: AngryGiraffe\_71 Start: 53092, Stop: 53343, Start Num: 104

Candidate Starts for AngryGiraffe\_71:

(Start: 104 @53092 has 176 MA's), (116, 53134), (140, 53212), (170, 53320),

Gene: Archimedes\_20 Start: 18843, Stop: 19064, Start Num: 108

Candidate Starts for Archimedes\_20:

(Start: 108 @18843 has 64 MA's), (120, 18906), (141, 18978), (143, 18984), (148, 19002), (150, 19005),

Gene: ArcusAngelus\_32 Start: 29080, Stop: 29313, Start Num: 104

Candidate Starts for ArcusAngelus\_32:

(40, 28837), (57, 28933), (Start: 104 @29080 has 176 MA's), (Start: 109 @29083 has 10 MA's), (137, 29194), (139, 29200), (142, 29209), (147, 29227), (148, 29230), (153, 29242),

Gene: Ardmore\_31 Start: 28524, Stop: 28757, Start Num: 103

Candidate Starts for Ardmore\_31:

(Start: 103 @28524 has 105 MA's), (132, 28623), (139, 28644), (142, 28653), (153, 28686),

Gene: Arib1\_28 Start: 25246, Stop: 25494, Start Num: 108

Candidate Starts for Arib1\_28:

(Start: 108 @25246 has 64 MA's),

Gene: Atcoo\_28 Start: 25729, Stop: 25977, Start Num: 108

Candidate Starts for Atcoo\_28:

(Start: 108 @25729 has 64 MA's),

Gene: Aubs\_33 Start: 28859, Stop: 29092, Start Num: 104

Candidate Starts for Aubs\_33:

(Start: 104 @28859 has 176 MA's), (132, 28958), (139, 28979), (142, 28988), (153, 29021),

Gene: Avani\_37 Start: 28000, Stop: 28257, Start Num: 105

Candidate Starts for Avani\_37:

(Start: 105 @28000 has 32 MA's), (112, 28018), (122, 28063), (123, 28066), (134, 28105), (140, 28123), (148, 28150), (151, 28156), (152, 28159),

Gene: Awesomesauce\_33 Start: 28413, Stop: 28646, Start Num: 104

Candidate Starts for Awesomesauce\_33:

(Start: 104 @28413 has 176 MA's), (Start: 109 @28416 has 10 MA's), (137, 28527), (139, 28533), (142, 28542), (147, 28560), (148, 28563), (153, 28575),

Gene: AyoTeo\_32 Start: 22645, Stop: 22923, Start Num: 103

Candidate Starts for AyoTeo\_32:

(47, 22414), (69, 22507), (74, 22534), (Start: 97 @22636 has 9 MA's), (Start: 103 @22645 has 105 MA's), (125, 22732), (138, 22774), (148, 22807), (168, 22885),

Gene: Babsiella\_28 Start: 25313, Stop: 25558, Start Num: 108

Candidate Starts for Babsiella\_28:

(1, 23846), (2, 23891), (3, 23966), (4, 24071), (5, 24230), (12, 24476), (18, 24692), (23, 24797), (25, 24815), (76, 25208), (85, 25256), (Start: 108 @25313 has 64 MA's), (134, 25418), (139, 25433),

Gene: Barnstormer\_22 Start: 18840, Stop: 19127, Start Num: 80

Candidate Starts for Barnstormer\_22:

(Start: 80 @18840 has 15 MA's), (92, 18876), (142, 19038), (166, 19122),

Gene: Bartholomew\_27 Start: 25240, Stop: 25488, Start Num: 108

Candidate Starts for Bartholomew\_27:

(Start: 108 @25240 has 64 MA's),

Gene: Batiatus\_32 Start: 28517, Stop: 28750, Start Num: 103

Candidate Starts for Batiatus\_32:

(Start: 103 @28517 has 105 MA's), (132, 28616), (139, 28637), (142, 28646), (153, 28679),

Gene: Battuta\_70 Start: 53103, Stop: 53354, Start Num: 104

Candidate Starts for Battuta\_70:

(Start: 104 @53103 has 176 MA's), (123, 53178),

Gene: Beakin\_33 Start: 28431, Stop: 28664, Start Num: 104

Candidate Starts for Beakin\_33:

(Start: 104 @28431 has 176 MA's), (Start: 109 @28434 has 10 MA's), (137, 28545), (139, 28551), (142, 28560), (147, 28578), (148, 28581), (153, 28593),

Gene: Beanstalk\_37 Start: 28722, Stop: 28955, Start Num: 103

Candidate Starts for Beanstalk\_37:

(Start: 103 @28722 has 105 MA's), (132, 28821), (139, 28842), (142, 28851), (153, 28884),

Gene: BeeGee\_23 Start: 20766, Stop: 21002, Start Num: 105

Candidate Starts for BeeGee\_23:

(31, 20376), (42, 20517), (65, 20625), (Start: 105 @20766 has 32 MA's), (122, 20838), (128, 20859), (129, 20862), (151, 20919),

Gene: Benry\_30 Start: 20899, Stop: 21171, Start Num: 103

Candidate Starts for Benry\_30:

(Start: 97 @20890 has 9 MA's), (Start: 103 @20899 has 105 MA's), (125, 20986), (133, 21013), (148, 21061),

Gene: Bhagsy\_28 Start: 25241, Stop: 25486, Start Num: 108

Candidate Starts for Bhagsy\_28:

(Start: 108 @25241 has 64 MA's), (134, 25346),

Gene: BigPhil\_28 Start: 24741, Stop: 24974, Start Num: 103

Candidate Starts for BigPhil\_28:

(Start: 103 @24741 has 105 MA's), (132, 24840), (137, 24855), (139, 24861), (142, 24870), (153, 24903),

Gene: BillNye\_46 Start: 46091, Stop: 46348, Start Num: 104

Candidate Starts for BillNye\_46:

(83, 46037), (Start: 104 @46091 has 176 MA's), (116, 46133), (168, 46319),

Gene: Bipolar\_29 Start: 27603, Stop: 27836, Start Num: 103

Candidate Starts for Bipolar\_29:

(35, 27315), (Start: 103 @27603 has 105 MA's), (132, 27702), (137, 27717), (139, 27723), (142, 27732), (153, 27765),

Gene: Birchlyn\_69 Start: 50986, Stop: 51237, Start Num: 104

Candidate Starts for Birchlyn\_69:

(Start: 104 @50986 has 176 MA's), (123, 51061),

Gene: Blarby\_41 Start: 28996, Stop: 29229, Start Num: 103

Candidate Starts for Blarby\_41:

(Start: 103 @28996 has 105 MA's), (132, 29095), (139, 29116), (142, 29125), (153, 29158),

Gene: Blexus\_32 Start: 28853, Stop: 29086, Start Num: 104

Candidate Starts for Blexus\_32:

(Start: 104 @28853 has 176 MA's), (Start: 109 @28856 has 10 MA's), (137, 28967), (139, 28973), (142, 28982), (147, 29000), (148, 29003), (153, 29015),

Gene: BlueCrab\_32 Start: 28703, Stop: 28936, Start Num: 104

Candidate Starts for BlueCrab\_32:

(Start: 104 @28703 has 176 MA's), (Start: 109 @28706 has 10 MA's), (137, 28817), (139, 28823), (142, 28832), (147, 28850), (148, 28853), (153, 28865),

Gene: Bluvara\_29 Start: 25643, Stop: 25888, Start Num: 108

Candidate Starts for Bluvara\_29:

(12, 24806), (18, 25022), (23, 25127), (25, 25145), (76, 25538), (85, 25586), (Start: 108 @25643 has 64 MA's), (134, 25748), (139, 25763), (160, 25826), (163, 25856),

Gene: Bmoc\_68 Start: 52505, Stop: 52756, Start Num: 104

Candidate Starts for Bmoc\_68:

(Start: 104 @52505 has 176 MA's), (124, 52586), (131, 52598), (170, 52733),

Gene: BobaPhett\_32 Start: 28723, Stop: 28956, Start Num: 104

Candidate Starts for BobaPhett\_32:

(57, 28576), (Start: 104 @28723 has 176 MA's), (Start: 109 @28726 has 10 MA's), (137, 28837), (139, 28843), (142, 28852), (147, 28870), (148, 28873), (153, 28885),

Gene: Bobburn\_18 Start: 13648, Stop: 13947, Start Num: 78

Candidate Starts for Bobburn\_18:

(41, 13453), (60, 13552), (62, 13555), (64, 13561), (78, 13648), (96, 13705), (124, 13795), (131, 13816), (155, 13894),

Gene: Bobi\_34 Start: 29230, Stop: 29463, Start Num: 103

Candidate Starts for Bobi\_34:

(35, 28942), (Start: 103 @29230 has 105 MA's), (132, 29329), (139, 29350), (142, 29359), (153, 29392),

Gene: BodEinwohner17\_32 Start: 28926, Stop: 29156, Start Num: 109

Candidate Starts for BodEinwohner17\_32:

(Start: 104 @28923 has 176 MA's), (Start: 109 @28926 has 10 MA's), (137, 29037), (139, 29043), (142, 29052), (147, 29070), (148, 29073), (153, 29085),

Gene: Boise\_35 Start: 33483, Stop: 33725, Start Num: 94

Candidate Starts for Boise\_35:

(Start: 94 @33483 has 1 MA's), (124, 33570), (140, 33621), (156, 33669),

Gene: Boomer\_34 Start: 28593, Stop: 28826, Start Num: 104

Candidate Starts for Boomer\_34:

(Start: 104 @28593 has 176 MA's), (Start: 109 @28596 has 10 MA's), (132, 28692), (139, 28713), (142, 28722), (153, 28755),

Gene: BoomerJR\_72 Start: 52981, Stop: 53232, Start Num: 104

Candidate Starts for BoomerJR\_72:

(Start: 104 @52981 has 176 MA's), (116, 53023), (140, 53101), (170, 53209),

Gene: Bordeaux\_70 Start: 53258, Stop: 53509, Start Num: 104

Candidate Starts for Bordeaux\_70:

(Start: 104 @53258 has 176 MA's), (123, 53333),

Gene: Bradissa\_23 Start: 20951, Stop: 21190, Start Num: 105

Candidate Starts for Bradissa\_23:

(72, 20843), (Start: 105 @20951 has 32 MA's), (116, 20993), (128, 21044), (129, 21047), (148, 21098), (151, 21104),

Gene: BritBrat\_23 Start: 20804, Stop: 21043, Start Num: 105

Candidate Starts for BritBrat\_23:

(72, 20696), (Start: 105 @20804 has 32 MA's), (116, 20846), (128, 20897), (129, 20900), (148, 20951), (151, 20957),

Gene: Brizzy\_71 Start: 52777, Stop: 53028, Start Num: 104

Candidate Starts for Brizzy\_71:

(Start: 104 @52777 has 176 MA's), (123, 52852),

Gene: Brocalys\_27 Start: 24320, Stop: 24553, Start Num: 103

Candidate Starts for Brocalys\_27:

(Start: 103 @24320 has 105 MA's), (132, 24419), (139, 24440), (142, 24449), (153, 24482),

Gene: BronnyJr\_28 Start: 25705, Stop: 25953, Start Num: 108

Candidate Starts for BronnyJr\_28:

(Start: 108 @25705 has 64 MA's),

Gene: Brookers\_30 Start: 27466, Stop: 27699, Start Num: 103

Candidate Starts for Brookers\_30:

(Start: 103 @27466 has 105 MA's), (132, 27565), (139, 27586), (142, 27595), (153, 27628),

Gene: Brusacoram\_28 Start: 25235, Stop: 25483, Start Num: 108

Candidate Starts for Brusacoram\_28:

(Start: 108 @25235 has 64 MA's),

Gene: Brushbloom\_33 Start: 28541, Stop: 28774, Start Num: 103

Candidate Starts for Brushbloom\_33:

(Start: 103 @28541 has 105 MA's), (132, 28640), (139, 28661), (142, 28670), (153, 28703),

Gene: Bubbles123\_34 Start: 29508, Stop: 29741, Start Num: 103

Candidate Starts for Bubbles123\_34:

(35, 29220), (Start: 103 @29508 has 105 MA's), (132, 29607), (139, 29628), (142, 29637), (153, 29670),

Gene: Bunnies\_28 Start: 25256, Stop: 25504, Start Num: 108

Candidate Starts for Bunnies\_28:

(Start: 108 @25256 has 64 MA's),

Gene: Burwell21\_32 Start: 28707, Stop: 28940, Start Num: 103

Candidate Starts for Burwell21\_32:

(34, 28416), (35, 28419), (39, 28455), (Start: 103 @28707 has 105 MA's), (132, 28806), (139, 28827), (142, 28836), (153, 28869),

Gene: BuzzLyseyear\_35 Start: 29322, Stop: 29555, Start Num: 103

Candidate Starts for BuzzLyseyear\_35:

(Start: 103 @29322 has 105 MA's), (137, 29436), (139, 29442), (142, 29451), (147, 29469), (148, 29472), (153, 29484),

Gene: Byougenkin\_32 Start: 28605, Stop: 28838, Start Num: 103

Candidate Starts for Byougenkin\_32:

(35, 28317), (Start: 103 @28605 has 105 MA's), (132, 28704), (139, 28725), (142, 28734), (153, 28767),

Gene: Cabrinians\_32 Start: 28785, Stop: 29018, Start Num: 104

Candidate Starts for Cabrinians\_32:

(13, 28071), (14, 28092), (15, 28143), (19, 28233), (21, 28308), (26, 28347), (27, 28380), (30, 28413), (34, 28494), (35, 28497), (Start: 104 @28785 has 176 MA's), (132, 28884), (139, 28905), (142, 28914), (153, 28947),

Gene: CactusJack\_28 Start: 25499, Stop: 25747, Start Num: 108

Candidate Starts for CactusJack\_28:

(Start: 108 @25499 has 64 MA's),

Gene: Camster\_28 Start: 25272, Stop: 25520, Start Num: 108

Candidate Starts for Camster\_28:

(Start: 108 @25272 has 64 MA's),

Gene: CaptainTrips\_33 Start: 28930, Stop: 29163, Start Num: 104

Candidate Starts for CaptainTrips\_33:

(33, 28621), (37, 28669), (57, 28783), (Start: 104 @28930 has 176 MA's), (Start: 109 @28933 has 10 MA's), (137, 29044), (139, 29050), (142, 29059), (147, 29077), (148, 29080), (153, 29092),

Gene: Caron\_22 Start: 18225, Stop: 18512, Start Num: 80

Candidate Starts for Caron\_22:

(54, 18102), (Start: 80 @18225 has 15 MA's), (92, 18261), (140, 18417), (148, 18447),

Gene: Cashline\_23 Start: 20633, Stop: 20869, Start Num: 105

Candidate Starts for Cashline\_23:

(Start: 105 @20633 has 32 MA's), (116, 20675), (122, 20705), (129, 20729), (148, 20780),

Gene: Causa\_23 Start: 16883, Stop: 17179, Start Num: 95

Candidate Starts for Causa\_23:

(Start: 95 @16883 has 2 MA's), (136, 17021), (169, 17129),

Gene: CeilingFan\_71 Start: 53018, Stop: 53269, Start Num: 104

Candidate Starts for CeilingFan\_71:

(Start: 104 @53018 has 176 MA's), (123, 53093),

Gene: Cen1621\_21 Start: 17291, Stop: 17560, Start Num: 80

Candidate Starts for Cen1621\_21:

(53, 17165), (54, 17171), (63, 17198), (Start: 80 @17291 has 15 MA's), (117, 17387), (145, 17477), (166, 17555),

Gene: Cerasum\_28 Start: 24741, Stop: 24974, Start Num: 103

Candidate Starts for Cerasum\_28:

(Start: 103 @24741 has 105 MA's), (132, 24840), (137, 24855), (139, 24861), (142, 24870), (153, 24903),

Gene: Chaewon\_50 Start: 46231, Stop: 46488, Start Num: 104

Candidate Starts for Chaewon\_50:

(83, 46177), (Start: 104 @46231 has 176 MA's), (116, 46273), (164, 46447), (168, 46459),

Gene: Che8\_34 Start: 28974, Stop: 29207, Start Num: 104

Candidate Starts for Che8\_34:

(Start: 104 @28974 has 176 MA's), (Start: 109 @28977 has 10 MA's), (137, 29088), (139, 29094), (142, 29103), (147, 29121), (148, 29124), (153, 29136),

Gene: Che9d\_37 Start: 28009, Stop: 28266, Start Num: 106

Candidate Starts for Che9d\_37:

(Start: 106 @28009 has 3 MA's), (112, 28027), (122, 28072), (123, 28075), (134, 28114), (140, 28132), (148, 28159), (151, 28165), (152, 28168),

Gene: Cheesepuff\_35 Start: 29796, Stop: 30026, Start Num: 109

Candidate Starts for Cheesepuff\_35:

(57, 29646), (Start: 104 @29793 has 176 MA's), (Start: 109 @29796 has 10 MA's), (137, 29907), (139, 29913), (142, 29922), (147, 29940), (148, 29943), (153, 29955),

Gene: Chevrolet\_33 Start: 29084, Stop: 29314, Start Num: 109

Candidate Starts for Chevrolet\_33:

(40, 28838), (57, 28934), (Start: 104 @29081 has 176 MA's), (Start: 109 @29084 has 10 MA's), (137, 29195), (139, 29201), (142, 29210), (147, 29228), (148, 29231), (153, 29243),

Gene: ChickenDinner\_34 Start: 29151, Stop: 29384, Start Num: 104

Candidate Starts for ChickenDinner\_34:

(Start: 104 @29151 has 176 MA's), (Start: 109 @29154 has 10 MA's), (137, 29265), (139, 29271), (142, 29280), (147, 29298), (148, 29301), (153, 29313),

Gene: Chipko\_23 Start: 21360, Stop: 21599, Start Num: 105

Candidate Starts for Chipko\_23:

(7, 20469), (8, 20496), (10, 20559), (11, 20562), (16, 20739), (17, 20742), (20, 20817), (22, 20877), (28, 20964), (32, 21042), (39, 21099), (48, 21165), (Start: 99 @21354 has 8 MA's), (Start: 105 @21360 has 32 MA's), (116, 21402), (122, 21432), (128, 21453), (129, 21456), (148, 21507), (151, 21513), (164, 21567),

Gene: Chubbello\_28 Start: 25239, Stop: 25487, Start Num: 108

Candidate Starts for Chubbello\_28:

(Start: 108 @25239 has 64 MA's),

Gene: Chuckly\_32 Start: 28706, Stop: 28939, Start Num: 104

Candidate Starts for Chuckly\_32:

(57, 28559), (Start: 104 @28706 has 176 MA's), (Start: 109 @28709 has 10 MA's), (137, 28820), (139, 28826), (142, 28835), (147, 28853), (148, 28856), (153, 28868),

Gene: Cicada\_32 Start: 22721, Stop: 23002, Start Num: 103

Candidate Starts for Cicada\_32:

(47, 22508), (69, 22583), (Start: 97 @22712 has 9 MA's), (Start: 103 @22721 has 105 MA's), (122, 22796), (125, 22808), (133, 22835), (138, 22850), (148, 22883), (168, 22961),

Gene: Circinus\_48 Start: 46230, Stop: 46487, Start Num: 104

Candidate Starts for Circinus\_48:

(83, 46176), (Start: 104 @46230 has 176 MA's), (116, 46272), (168, 46458),

Gene: Clank\_30 Start: 27963, Stop: 28196, Start Num: 104

Candidate Starts for Clank\_30:

(33, 27654), (40, 27720), (57, 27816), (Start: 104 @27963 has 176 MA's), (Start: 109 @27966 has 10 MA's), (137, 28077), (139, 28083), (142, 28092), (147, 28110), (148, 28113), (153, 28125),

Gene: Clifton\_26 Start: 24671, Stop: 24904, Start Num: 103

Candidate Starts for Clifton\_26:

(34, 24380), (35, 24383), (39, 24419), (Start: 103 @24671 has 105 MA's), (132, 24770), (139, 24791), (142, 24800), (153, 24833),

Gene: Coco12\_32 Start: 28590, Stop: 28823, Start Num: 103

Candidate Starts for Coco12\_32:

(Start: 103 @28590 has 105 MA's), (132, 28689), (139, 28710), (142, 28719), (153, 28752),

Gene: Confidence\_23 Start: 20796, Stop: 21032, Start Num: 105

Candidate Starts for Confidence\_23:

(31, 20406), (65, 20655), (Start: 105 @20796 has 32 MA's), (122, 20868), (128, 20889), (129, 20892), (151, 20949),

Gene: Coriander\_23 Start: 21339, Stop: 21584, Start Num: 99

Candidate Starts for Coriander\_23:

(Start: 99 @21339 has 8 MA's), (Start: 105 @21345 has 32 MA's), (116, 21387), (122, 21417), (128, 21438), (148, 21492), (164, 21552),

Gene: Corium\_32 Start: 28730, Stop: 28963, Start Num: 104

Candidate Starts for Corium\_32:

(40, 28487), (57, 28583), (Start: 104 @28730 has 176 MA's), (Start: 109 @28733 has 10 MA's), (137, 28844), (139, 28850), (142, 28859), (147, 28877), (148, 28880), (153, 28892),

Gene: Cornie\_32 Start: 29028, Stop: 29261, Start Num: 103

Candidate Starts for Cornie\_32:

(35, 28740), (Start: 103 @29028 has 105 MA's), (132, 29127), (139, 29148), (142, 29157), (153, 29190),

Gene: Cornucopia\_33 Start: 28549, Stop: 28782, Start Num: 104

Candidate Starts for Cornucopia\_33:

(57, 28402), (Start: 104 @28549 has 176 MA's), (Start: 109 @28552 has 10 MA's), (137, 28663), (139, 28669), (142, 28678), (147, 28696), (148, 28699), (153, 28711),

Gene: Crumble\_26 Start: 24720, Stop: 24953, Start Num: 104

Candidate Starts for Crumble\_26:

(57, 24573), (Start: 104 @24720 has 176 MA's), (Start: 109 @24723 has 10 MA's), (137, 24834), (139, 24840), (142, 24849), (147, 24867), (148, 24870), (153, 24882),

Gene: CurlyFries\_25 Start: 25102, Stop: 25317, Start Num: 108

Candidate Starts for CurlyFries\_25:

(Start: 108 @25102 has 64 MA's), (111, 25111), (126, 25180), (156, 25270), (164, 25309),

Gene: DLane\_32 Start: 28494, Stop: 28727, Start Num: 103

Candidate Starts for DLane\_32:

(Start: 103 @28494 has 105 MA's), (132, 28593), (139, 28614), (142, 28623), (153, 28656),

Gene: DRBy19\_32 Start: 28632, Stop: 28865, Start Num: 104

Candidate Starts for DRBy19\_32:

(57, 28485), (Start: 104 @28632 has 176 MA's), (Start: 109 @28635 has 10 MA's), (137, 28746), (139, 28752), (142, 28761), (147, 28779), (148, 28782), (153, 28794),

Gene: DaWorst\_34 Start: 29072, Stop: 29305, Start Num: 104

Candidate Starts for DaWorst\_34:

(Start: 104 @29072 has 176 MA's), (Start: 109 @29075 has 10 MA's), (137, 29186), (139, 29192), (142, 29201), (147, 29219), (148, 29222), (153, 29234),

Gene: DaddyRickover\_32 Start: 28718, Stop: 28948, Start Num: 109

Candidate Starts for DaddyRickover\_32:

(Start: 104 @28715 has 176 MA's), (Start: 109 @28718 has 10 MA's), (137, 28829), (139, 28835), (142, 28844), (147, 28862), (148, 28865), (153, 28877),

Gene: Daenerys\_32 Start: 28536, Stop: 28769, Start Num: 104

Candidate Starts for Daenerys\_32:

(Start: 104 @28536 has 176 MA's), (Start: 109 @28539 has 10 MA's), (137, 28650), (139, 28656), (142, 28665), (147, 28683), (148, 28686), (153, 28698),

Gene: Dante\_32 Start: 28654, Stop: 28887, Start Num: 104

Candidate Starts for Dante\_32:

(Start: 104 @28654 has 176 MA's), (Start: 109 @28657 has 10 MA's), (137, 28768), (139, 28774), (142, 28783), (147, 28801), (148, 28804), (153, 28816),

Gene: DeadP\_32 Start: 28691, Stop: 28924, Start Num: 103

Candidate Starts for DeadP\_32:

(Start: 103 @28691 has 105 MA's), (132, 28790), (139, 28811), (142, 28820), (153, 28853),

Gene: Deb65\_32 Start: 28537, Stop: 28770, Start Num: 104

Candidate Starts for Deb65\_32:

(Start: 104 @28537 has 176 MA's), (Start: 109 @28540 has 10 MA's), (137, 28651), (139, 28657), (142, 28666), (147, 28684), (148, 28687), (153, 28699),

Gene: Demsculpinboyz\_38 Start: 27942, Stop: 28199, Start Num: 105

Candidate Starts for Demsculpinboyz\_38:

(Start: 105 @27942 has 32 MA's), (112, 27960), (122, 28005), (123, 28008), (134, 28047), (140, 28065), (148, 28092), (151, 28098), (152, 28101),

Gene: Denise\_19 Start: 17855, Stop: 18097, Start Num: 99

Candidate Starts for Denise\_19:

(Start: 99 @17855 has 8 MA's), (Start: 105 @17861 has 32 MA's), (116, 17903), (122, 17933), (128, 17954), (129, 17957), (151, 18014),

Gene: Dennebes\_50 Start: 27480, Stop: 27677, Start Num: 110

Candidate Starts for Dennebes\_50:

(73, 27357), (Start: 110 @27480 has 23 MA's), (115, 27513), (124, 27546), (151, 27615), (161, 27642),

Gene: Destructrice\_48 Start: 27852, Stop: 28049, Start Num: 110

Candidate Starts for Destructrice\_48:

(Start: 109 @27849 has 10 MA's), (Start: 110 @27852 has 23 MA's), (115, 27885), (124, 27918),

Gene: DillTech15\_32 Start: 28622, Stop: 28855, Start Num: 104

Candidate Starts for DillTech15\_32:

(57, 28475), (Start: 104 @28622 has 176 MA's), (Start: 109 @28625 has 10 MA's), (137, 28736), (139, 28742), (142, 28751), (147, 28769), (148, 28772), (153, 28784),

Gene: DirtMcgirt\_33 Start: 28357, Stop: 28590, Start Num: 104

Candidate Starts for DirtMcgirt\_33:

(33, 28048), (37, 28096), (40, 28114), (57, 28210), (Start: 104 @28357 has 176 MA's), (Start: 109 @28360 has 10 MA's), (137, 28471), (139, 28477), (142, 28486), (147, 28504), (148, 28507), (153, 28519),

Gene: DoRead\_33 Start: 28766, Stop: 28999, Start Num: 104

Candidate Starts for DoRead\_33:

(57, 28619), (Start: 104 @28766 has 176 MA's), (Start: 109 @28769 has 10 MA's), (137, 28880), (139, 28886), (142, 28895), (147, 28913), (148, 28916), (153, 28928),

Gene: DocMcStuffins\_34 Start: 29151, Stop: 29384, Start Num: 104

Candidate Starts for DocMcStuffins\_34:

(Start: 104 @29151 has 176 MA's), (Start: 109 @29154 has 10 MA's), (137, 29265), (139, 29271), (142, 29280), (147, 29298), (148, 29301), (153, 29313),

Gene: Doggs\_22 Start: 21038, Stop: 21283, Start Num: 99

Candidate Starts for Doggs\_22:

(Start: 99 @21038 has 8 MA's), (Start: 105 @21044 has 32 MA's), (116, 21086), (122, 21116), (128, 21137), (148, 21191), (164, 21251),

Gene: Donkeykong\_32 Start: 28717, Stop: 28950, Start Num: 104

Candidate Starts for Donkeykong\_32:

(Start: 104 @28717 has 176 MA's), (132, 28816), (139, 28837), (142, 28846), (153, 28879),

Gene: Donovan\_28 Start: 25229, Stop: 25477, Start Num: 108

Candidate Starts for Donovan\_28:

(Start: 108 @25229 has 64 MA's),

Gene: Doomphist\_32 Start: 28654, Stop: 28887, Start Num: 104

Candidate Starts for Doomphist\_32:

(Start: 104 @28654 has 176 MA's), (132, 28753), (139, 28774), (142, 28783), (153, 28816),

Gene: Doomslug\_36 Start: 28365, Stop: 28598, Start Num: 103

Candidate Starts for Doomslug\_36:

(Start: 103 @28365 has 105 MA's), (132, 28464), (139, 28485), (142, 28494), (153, 28527),

Gene: Dorothy\_32 Start: 28500, Stop: 28733, Start Num: 104

Candidate Starts for Dorothy\_32:

(Start: 104 @28500 has 176 MA's), (Start: 109 @28503 has 10 MA's), (137, 28614), (139, 28620), (142, 28629), (147, 28647), (148, 28650), (153, 28662),

Gene: DosHalletts\_34 Start: 28918, Stop: 29151, Start Num: 104

Candidate Starts for DosHalletts\_34:

(40, 28675), (57, 28771), (Start: 104 @28918 has 176 MA's), (Start: 109 @28921 has 10 MA's), (137, 29032), (139, 29038), (142, 29047), (147, 29065), (148, 29068), (153, 29080),

Gene: DotProduct\_32 Start: 28523, Stop: 28756, Start Num: 104

Candidate Starts for DotProduct\_32:

(57, 28376), (Start: 104 @28523 has 176 MA's), (Start: 109 @28526 has 10 MA's), (137, 28637), (139, 28643), (142, 28652), (147, 28670), (148, 28673), (153, 28685),

Gene: Doug\_33 Start: 29095, Stop: 29328, Start Num: 103

Candidate Starts for Doug\_33:

(Start: 103 @29095 has 105 MA's), (137, 29209), (139, 29215), (142, 29224), (147, 29242), (148, 29245), (153, 29257),

Gene: Drago\_33 Start: 28350, Stop: 28583, Start Num: 104

Candidate Starts for Drago\_33:

(57, 28203), (Start: 104 @28350 has 176 MA's), (Start: 109 @28353 has 10 MA's), (137, 28464), (139, 28470), (142, 28479), (147, 28497), (148, 28500), (153, 28512),

Gene: Dynamo\_28 Start: 25651, Stop: 25899, Start Num: 108

Candidate Starts for Dynamo\_28:

(Start: 108 @25651 has 64 MA's),

Gene: EMSquaredA\_23 Start: 20804, Stop: 21043, Start Num: 105

Candidate Starts for EMSquaredA\_23:

(72, 20696), (Start: 105 @20804 has 32 MA's), (116, 20846), (128, 20897), (129, 20900), (148, 20951), (151, 20957),

Gene: Ecliptus\_28 Start: 22063, Stop: 22305, Start Num: 99

Candidate Starts for Ecliptus\_28:

(Start: 99 @22063 has 8 MA's), (Start: 105 @22069 has 32 MA's), (116, 22111), (122, 22141), (128, 22162), (129, 22165), (148, 22216), (151, 22222),

Gene: EdnaMode\_19 Start: 17610, Stop: 17849, Start Num: 105

Candidate Starts for EdnaMode\_19:

(65, 17475), (Start: 105 @17610 has 32 MA's), (122, 17682), (151, 17763), (163, 17814), (164, 17817),

Gene: Eish\_32 Start: 29242, Stop: 29475, Start Num: 104

Candidate Starts for Eish\_32:

(40, 28999), (57, 29095), (Start: 104 @29242 has 176 MA's), (Start: 109 @29245 has 10 MA's), (137, 29356), (139, 29362), (142, 29371), (147, 29389), (148, 29392), (153, 29404),

Gene: EleanorGeorge\_33 Start: 29267, Stop: 29500, Start Num: 108

Candidate Starts for EleanorGeorge\_33:

(29, 28832), (59, 29093), (Start: 98 @29258 has 6 MA's), (Start: 108 @29267 has 64 MA's), (Start: 109 @29270 has 10 MA's), (132, 29366), (137, 29381), (139, 29387), (142, 29396), (147, 29414), (148, 29417), (153, 29429),

Gene: Elmer\_74 Start: 54196, Stop: 54447, Start Num: 104

Candidate Starts for Elmer\_74:

(Start: 104 @54196 has 176 MA's), (123, 54271), (137, 54307), (151, 54349), (161, 54376),

Gene: EmiMonkey\_33 Start: 30146, Stop: 30379, Start Num: 104

Candidate Starts for EmiMonkey\_33:

(57, 29999), (Start: 104 @30146 has 176 MA's), (Start: 109 @30149 has 10 MA's), (137, 30260), (139, 30266), (142, 30275), (147, 30293), (148, 30296), (153, 30308),

Gene: Emma\_34 Start: 29135, Stop: 29368, Start Num: 103

Candidate Starts for Emma\_34:

(35, 28847), (Start: 103 @29135 has 105 MA's), (132, 29234), (139, 29255), (142, 29264), (153, 29297),

Gene: Emmaloid\_34 Start: 29915, Stop: 30148, Start Num: 104

Candidate Starts for Emmaloid\_34:

(33, 29606), (57, 29768), (Start: 104 @29915 has 176 MA's), (Start: 109 @29918 has 10 MA's), (137, 30029), (139, 30035), (142, 30044), (147, 30062), (148, 30065), (153, 30077),

Gene: Empress\_33 Start: 29950, Stop: 30183, Start Num: 104

Candidate Starts for Empress\_33:

(Start: 104 @29950 has 176 MA's), (Start: 109 @29953 has 10 MA's), (137, 30064), (139, 30070), (142, 30079), (147, 30097), (148, 30100), (153, 30112),

Gene: EnalisNailo\_23 Start: 20953, Stop: 21192, Start Num: 105

Candidate Starts for EnalisNailo\_23:

(72, 20845), (Start: 105 @20953 has 32 MA's), (116, 20995), (128, 21046), (129, 21049), (148, 21100), (151, 21106),

Gene: Enby\_34 Start: 28796, Stop: 29029, Start Num: 108

Candidate Starts for Enby\_34:

(29, 28361), (59, 28622), (Start: 98 @28787 has 6 MA's), (Start: 108 @28796 has 64 MA's), (Start: 109 @28799 has 10 MA's), (132, 28895), (137, 28910), (139, 28916), (142, 28925), (147, 28943), (148, 28946), (153, 28958),

Gene: Enygma\_72 Start: 54921, Stop: 55172, Start Num: 104

Candidate Starts for Enygma\_72:

(Start: 104 @54921 has 176 MA's), (123, 54996), (133, 55023),

Gene: Enzomatic\_37 Start: 28713, Stop: 28946, Start Num: 104

Candidate Starts for Enzomatic\_37:

(57, 28566), (Start: 104 @28713 has 176 MA's), (Start: 109 @28716 has 10 MA's), (137, 28827), (139, 28833), (142, 28842), (147, 28860), (148, 28863), (153, 28875),

Gene: Eradicator\_32 Start: 28637, Stop: 28870, Start Num: 103

Candidate Starts for Eradicator\_32:

(Start: 103 @28637 has 105 MA's), (132, 28736), (139, 28757), (142, 28766), (153, 28799),

Gene: Estave1\_30 Start: 28054, Stop: 28287, Start Num: 104

Candidate Starts for Estave1\_30:

(44, 27838), (Start: 104 @28054 has 176 MA's), (Start: 109 @28057 has 10 MA's), (137, 28168), (139, 28174), (142, 28183), (147, 28201), (148, 28204), (153, 28216),

Gene: Etoile\_28 Start: 25240, Stop: 25488, Start Num: 108

Candidate Starts for Etoile\_28:

(Start: 108 @25240 has 64 MA's),

Gene: Evy\_71 Start: 53796, Stop: 54047, Start Num: 104

Candidate Starts for Evy\_71:

(Start: 104 @53796 has 176 MA's), (142, 53922),

Gene: Fabian\_46 Start: 27549, Stop: 27746, Start Num: 110

Candidate Starts for Fabian\_46:

(Start: 110 @27549 has 23 MA's), (119, 27600),

Gene: Faith5x5\_19 Start: 17558, Stop: 17797, Start Num: 105

Candidate Starts for Faith5x5\_19:

(31, 17168), (42, 17309), (50, 17345), (65, 17417), (Start: 105 @17558 has 32 MA's), (116, 17600), (122, 17630), (151, 17711),

Gene: Fancypants\_32 Start: 28543, Stop: 28776, Start Num: 104

Candidate Starts for Fancypants\_32:

(40, 28300), (57, 28396), (Start: 104 @28543 has 176 MA's), (Start: 109 @28546 has 10 MA's), (137, 28657), (139, 28663), (142, 28672), (147, 28690), (148, 28693), (153, 28705),

Gene: Fastidio\_34 Start: 28851, Stop: 29084, Start Num: 104

Candidate Starts for Fastidio\_34:

(57, 28704), (Start: 104 @28851 has 176 MA's), (Start: 109 @28854 has 10 MA's), (137, 28965), (139, 28971), (142, 28980), (147, 28998), (148, 29001), (153, 29013),

Gene: Filuzino\_32 Start: 28485, Stop: 28718, Start Num: 103

Candidate Starts for Filuzino\_32:

(35, 28197), (Start: 103 @28485 has 105 MA's), (132, 28584), (139, 28605), (142, 28614), (153, 28647),

Gene: Finkle\_21 Start: 18973, Stop: 19227, Start Num: 105

Candidate Starts for Finkle\_21:

(86, 18934), (Start: 105 @18973 has 32 MA's), (116, 19015), (118, 19027), (123, 19048), (155, 19144), (156, 19147),

Gene: FireCastle\_30 Start: 22475, Stop: 22750, Start Num: 103

Candidate Starts for FireCastle\_30:

(Start: 97 @22466 has 9 MA's), (Start: 103 @22475 has 105 MA's), (124, 22559), (125, 22562), (133, 22589), (148, 22637), (167, 22712),

Gene: Firehouse51\_33 Start: 29324, Stop: 29557, Start Num: 103

Candidate Starts for Firehouse51\_33:

(35, 29036), (Start: 103 @29324 has 105 MA's), (132, 29423), (139, 29444), (142, 29453), (153, 29486),

Gene: FirstPlacePfu\_28 Start: 25240, Stop: 25488, Start Num: 108

Candidate Starts for FirstPlacePfu\_28:

(Start: 108 @25240 has 64 MA's),

Gene: Fishburne\_28 Start: 25240, Stop: 25488, Start Num: 108

Candidate Starts for Fishburne\_28:

(Start: 108 @25240 has 64 MA's),

Gene: Flathead\_32 Start: 29131, Stop: 29364, Start Num: 103

Candidate Starts for Flathead\_32:

(Start: 103 @29131 has 105 MA's), (132, 29230), (139, 29251), (142, 29260), (153, 29293),

Gene: Floof\_23 Start: 18951, Stop: 19205, Start Num: 80

Candidate Starts for Floof\_23:

(Start: 80 @18951 has 15 MA's), (125, 19056), (138, 19098), (162, 19191),

Gene: Floral\_23 Start: 20804, Stop: 21043, Start Num: 105

Candidate Starts for Floral\_23:

(72, 20696), (Start: 105 @20804 has 32 MA's), (116, 20846), (128, 20897), (129, 20900), (148, 20951), (151, 20957),

Gene: Florinda\_32 Start: 28535, Stop: 28768, Start Num: 104

Candidate Starts for Florinda\_32:

(57, 28388), (Start: 104 @28535 has 176 MA's), (Start: 109 @28538 has 10 MA's), (137, 28649), (139, 28655), (142, 28664), (147, 28682), (148, 28685), (153, 28697),

Gene: FlowerPower\_49 Start: 27549, Stop: 27746, Start Num: 110

Candidate Starts for FlowerPower\_49:

(Start: 110 @27549 has 23 MA's), (119, 27600),

Gene: Forester\_23 Start: 20702, Stop: 20983, Start Num: 80

Candidate Starts for Forester\_23:

(57, 20579), (Start: 80 @20702 has 15 MA's), (125, 20834), (148, 20912), (166, 20978),

Gene: Frankie\_36 Start: 29679, Stop: 29912, Start Num: 104

Candidate Starts for Frankie\_36:

(Start: 104 @29679 has 176 MA's), (Start: 109 @29682 has 10 MA's), (137, 29793), (139, 29799), (142, 29808), (147, 29826), (148, 29829), (153, 29841),

Gene: FreddyB\_32 Start: 28802, Stop: 29032, Start Num: 109

Candidate Starts for FreddyB\_32:

(57, 28652), (Start: 104 @28799 has 176 MA's), (Start: 109 @28802 has 10 MA's), (137, 28913), (139, 28919), (142, 28928), (147, 28946), (148, 28949), (153, 28961),

Gene: Fruitloop\_31 Start: 28680, Stop: 28913, Start Num: 103

Candidate Starts for Fruitloop\_31:

(Start: 103 @28680 has 105 MA's), (132, 28779), (139, 28800), (142, 28809), (153, 28842),

Gene: Fryberger\_61 Start: 34752, Stop: 34964, Start Num: 108

Candidate Starts for Fryberger\_61:

(Start: 108 @34752 has 64 MA's), (115, 34791), (148, 34896), (161, 34929),

Gene: G4\_25 Start: 19311, Stop: 19532, Start Num: 103

Candidate Starts for G4\_25:

(Start: 103 @19311 has 105 MA's), (126, 19389), (138, 19416), (148, 19449), (151, 19455), (152, 19458),

Gene: GAL1\_23 Start: 20309, Stop: 20548, Start Num: 105

Candidate Starts for GAL1\_23:

(42, 20060), (65, 20168), (Start: 105 @20309 has 32 MA's), (116, 20351), (122, 20381), (128, 20402), (129, 20405), (151, 20462),

Gene: GMA1\_21 Start: 18613, Stop: 18861, Start Num: 102

Candidate Starts for GMA1\_21:

(102, 18613), (116, 18658), (125, 18694), (132, 18718), (137, 18727), (151, 18769), (156, 18784),

Gene: GUmbie\_32 Start: 28554, Stop: 28787, Start Num: 104

Candidate Starts for GUmbie\_32:

(Start: 104 @28554 has 176 MA's), (Start: 109 @28557 has 10 MA's), (137, 28668), (139, 28674), (142, 28683), (147, 28701), (148, 28704), (153, 28716),

Gene: Galactic\_34 Start: 29372, Stop: 29605, Start Num: 103

Candidate Starts for Galactic\_34:

(35, 29084), (Start: 103 @29372 has 105 MA's), (132, 29471), (139, 29492), (142, 29501), (153, 29534),

Gene: Gallop\_24 Start: 23254, Stop: 23496, Start Num: 105

Candidate Starts for Gallop\_24:

(77, 23179), (81, 23191), (84, 23200), (86, 23203), (88, 23206), (90, 23215), (93, 23224), (Start: 94 @23227 has 1 MA's), (Start: 105 @23254 has 32 MA's), (124, 23335), (126, 23341), (133, 23356), (137, 23365), (147, 23398), (151, 23407), (155, 23419), (164, 23461),

Gene: GaloreK\_28 Start: 25236, Stop: 25484, Start Num: 108

Candidate Starts for GaloreK\_28:

(Start: 108 @25236 has 64 MA's),

Gene: Gandalph\_33 Start: 28870, Stop: 29103, Start Num: 103

Candidate Starts for Gandalph\_33:

(Start: 103 @28870 has 105 MA's), (132, 28969), (139, 28990), (142, 28999), (153, 29032),

Gene: GardenState\_23 Start: 19313, Stop: 19597, Start Num: 80

Candidate Starts for GardenState\_23:

(Start: 80 @19313 has 15 MA's), (166, 19592),

Gene: Gavriela\_28 Start: 25499, Stop: 25747, Start Num: 108

Candidate Starts for Gavriela\_28:

(Start: 108 @25499 has 64 MA's),

Gene: Genie2\_72 Start: 53095, Stop: 53346, Start Num: 104

Candidate Starts for Genie2\_72:

(Start: 104 @53095 has 176 MA's), (116, 53137), (140, 53215), (170, 53323),

Gene: Geostin\_44 Start: 27549, Stop: 27746, Start Num: 110

Candidate Starts for Geostin\_44:

(Start: 110 @27549 has 23 MA's), (119, 27600),

Gene: Geralt\_32 Start: 28536, Stop: 28769, Start Num: 104

Candidate Starts for Geralt\_32:

(Start: 104 @28536 has 176 MA's), (Start: 109 @28539 has 10 MA's), (137, 28650), (139, 28656), (142, 28665), (147, 28683), (148, 28686), (153, 28698),

Gene: Gibbi\_76 Start: 53241, Stop: 53492, Start Num: 104

Candidate Starts for Gibbi\_76:

(Start: 104 @53241 has 176 MA's), (123, 53316),

Gene: GigiOuiOui\_32 Start: 28666, Stop: 28899, Start Num: 104

Candidate Starts for GigiOuiOui\_32:

(Start: 104 @28666 has 176 MA's), (Start: 109 @28669 has 10 MA's), (137, 28780), (139, 28786), (142, 28795), (147, 28813), (148, 28816), (153, 28828),

Gene: Girafales\_33 Start: 28343, Stop: 28576, Start Num: 104

Candidate Starts for Girafales\_33:

(57, 28196), (Start: 104 @28343 has 176 MA's), (Start: 109 @28346 has 10 MA's), (137, 28457), (139, 28463), (142, 28472), (147, 28490), (148, 28493), (153, 28505),

Gene: Girr\_34 Start: 29563, Stop: 29805, Start Num: 98

Candidate Starts for Girr\_34:

(29, 29137), (59, 29398), (Start: 98 @29563 has 6 MA's), (Start: 108 @29572 has 64 MA's), (Start: 109 @29575 has 10 MA's), (137, 29686), (139, 29692), (142, 29701), (147, 29719), (148, 29722), (153, 29734),

Gene: Glaske\_28 Start: 25499, Stop: 25747, Start Num: 108  
Candidate Starts for Glaske\_28:  
(Start: 108 @25499 has 64 MA's),

Gene: Goodman\_31 Start: 22634, Stop: 22915, Start Num: 103  
Candidate Starts for Goodman\_31:  
(47, 22421), (69, 22496), (71, 22508), (Start: 97 @22625 has 9 MA's), (Start: 103 @22634 has 105 MA's), (122, 22709), (125, 22721), (133, 22748), (138, 22763), (148, 22796), (163, 22859), (168, 22874),

Gene: Gorge\_32 Start: 28766, Stop: 28999, Start Num: 104  
Candidate Starts for Gorge\_32:  
(57, 28619), (Start: 104 @28766 has 176 MA's), (Start: 109 @28769 has 10 MA's), (137, 28880), (139, 28886), (142, 28895), (147, 28913), (148, 28916), (153, 28928),

Gene: GreaseLightnin\_28 Start: 25491, Stop: 25739, Start Num: 108  
Candidate Starts for GreaseLightnin\_28:  
(Start: 108 @25491 has 64 MA's),

Gene: Gremlin23\_49 Start: 27549, Stop: 27746, Start Num: 110  
Candidate Starts for Gremlin23\_49:  
(Start: 110 @27549 has 23 MA's), (119, 27600),

Gene: Gretchen\_23 Start: 19981, Stop: 20262, Start Num: 80  
Candidate Starts for Gretchen\_23:  
(57, 19858), (Start: 80 @19981 has 15 MA's), (125, 20113), (148, 20191),

Gene: Grimmer\_34 Start: 29257, Stop: 29490, Start Num: 104  
Candidate Starts for Grimmer\_34:  
(57, 29110), (Start: 104 @29257 has 176 MA's), (Start: 109 @29260 has 10 MA's), (137, 29371), (142, 29386), (147, 29404), (148, 29407), (153, 29419),

Gene: Gudmit\_20 Start: 18449, Stop: 18694, Start Num: 105  
Candidate Starts for Gudmit\_20:  
(61, 18287), (79, 18386), (Start: 105 @18449 has 32 MA's), (116, 18491), (122, 18521), (148, 18596), (164, 18656), (165, 18659),

Gene: Guey18\_67 Start: 36272, Stop: 36484, Start Num: 108  
Candidate Starts for Guey18\_67:  
(Start: 108 @36272 has 64 MA's), (115, 36311), (148, 36416),

Gene: Guppsters\_34 Start: 29052, Stop: 29285, Start Num: 103  
Candidate Starts for Guppsters\_34:  
(35, 28764), (Start: 103 @29052 has 105 MA's), (132, 29151), (139, 29172), (142, 29181), (153, 29214),

Gene: Gustav\_22 Start: 19031, Stop: 19273, Start Num: 105  
Candidate Starts for Gustav\_22:  
(36, 18722), (102, 19028), (Start: 105 @19031 has 32 MA's), (151, 19181), (161, 19208),

Gene: HC\_29 Start: 25369, Stop: 25614, Start Num: 108

Candidate Starts for HC\_29:

(1, 23902), (2, 23947), (3, 24022), (4, 24127), (5, 24286), (12, 24532), (18, 24748), (23, 24853), (25, 24871), (76, 25264), (85, 25312), (Start: 108 @25369 has 64 MA's), (134, 25474), (139, 25489),

Gene: HUHilltop\_28 Start: 25240, Stop: 25488, Start Num: 108

Candidate Starts for HUHilltop\_28:

(Start: 108 @25240 has 64 MA's),

Gene: Hades\_33 Start: 28863, Stop: 29096, Start Num: 103

Candidate Starts for Hades\_33:

(34, 28572), (35, 28575), (39, 28611), (Start: 103 @28863 has 105 MA's), (132, 28962), (139, 28983), (142, 28992), (153, 29025),

Gene: Hamulus\_33 Start: 29517, Stop: 29759, Start Num: 98

Candidate Starts for Hamulus\_33:

(29, 29091), (59, 29352), (Start: 98 @29517 has 6 MA's), (Start: 108 @29526 has 64 MA's), (Start: 109 @29529 has 10 MA's), (137, 29640), (139, 29646), (142, 29655), (147, 29673), (148, 29676), (153, 29688),

Gene: Harley\_32 Start: 28472, Stop: 28705, Start Num: 104

Candidate Starts for Harley\_32:

(33, 28163), (40, 28229), (57, 28325), (Start: 104 @28472 has 176 MA's), (Start: 109 @28475 has 10 MA's), (137, 28586), (139, 28592), (142, 28601), (147, 28619), (148, 28622), (153, 28634),

Gene: HaugeAnator\_49 Start: 27959, Stop: 28156, Start Num: 110

Candidate Starts for HaugeAnator\_49:

(Start: 110 @27959 has 23 MA's), (115, 27992), (124, 28025),

Gene: Hegedechwinu\_33 Start: 28561, Stop: 28794, Start Num: 103

Candidate Starts for Hegedechwinu\_33:

(Start: 103 @28561 has 105 MA's), (132, 28660), (139, 28681), (142, 28690), (153, 28723),

Gene: Hlubikazi\_33 Start: 29358, Stop: 29591, Start Num: 103

Candidate Starts for Hlubikazi\_33:

(Start: 103 @29358 has 105 MA's), (132, 29457), (139, 29478), (142, 29487), (153, 29520),

Gene: Honk\_21 Start: 17157, Stop: 17432, Start Num: 80

Candidate Starts for Honk\_21:

(Start: 80 @17157 has 15 MA's), (166, 17427),

Gene: Hortus1\_56 Start: 35872, Stop: 36087, Start Num: 97

Candidate Starts for Hortus1\_56:

(75, 35782), (Start: 97 @35872 has 9 MA's), (100, 35878),

Gene: Htur\_30 Start: 22726, Stop: 23004, Start Num: 103

Candidate Starts for Htur\_30:

(47, 22486), (69, 22588), (Start: 97 @22717 has 9 MA's), (Start: 103 @22726 has 105 MA's), (122, 22801), (125, 22813), (133, 22840), (148, 22888), (168, 22966),

Gene: Hum25\_24 Start: 17738, Stop: 17992, Start Num: 105

Candidate Starts for Hum25\_24:

(Start: 105 @17738 has 32 MA's), (139, 17864), (147, 17891),

Gene: IAmGroot\_23 Start: 19974, Stop: 20258, Start Num: 80

Candidate Starts for IAmGroot\_23:

(Start: 80 @19974 has 15 MA's), (166, 20253),

Gene: IbOuu\_33 Start: 29111, Stop: 29344, Start Num: 103

Candidate Starts for IbOuu\_33:

(Start: 103 @29111 has 105 MA's), (132, 29210), (139, 29231), (142, 29240), (147, 29258), (148, 29261), (153, 29273),

Gene: Ibhubesi\_32 Start: 28479, Stop: 28712, Start Num: 104

Candidate Starts for Ibhubesi\_32:

(33, 28170), (40, 28236), (57, 28332), (Start: 104 @28479 has 176 MA's), (Start: 109 @28482 has 10 MA's), (137, 28593), (139, 28599), (142, 28608), (147, 28626), (148, 28629), (153, 28641),

Gene: IchabodCrane\_69 Start: 52830, Stop: 53081, Start Num: 104

Candidate Starts for IchabodCrane\_69:

(Start: 104 @52830 has 176 MA's), (123, 52905),

Gene: Immanuel3\_49 Start: 27963, Stop: 28160, Start Num: 110

Candidate Starts for Immanuel3\_49:

(Start: 110 @27963 has 23 MA's), (115, 27996), (124, 28029),

Gene: Impisi\_28 Start: 24168, Stop: 24413, Start Num: 108

Candidate Starts for Impisi\_28:

(6, 23151), (12, 23331), (18, 23547), (23, 23652), (25, 23670), (76, 24063), (85, 24111), (Start: 108 @24168 has 64 MA's), (134, 24273), (139, 24288), (160, 24351), (163, 24381),

Gene: InLimbo\_22 Start: 18439, Stop: 18675, Start Num: 105

Candidate Starts for InLimbo\_22:

(Start: 105 @18439 has 32 MA's), (116, 18481), (122, 18511), (128, 18532), (129, 18535), (148, 18586), (151, 18592),

Gene: IndiRoo\_30 Start: 20923, Stop: 21204, Start Num: 97

Candidate Starts for IndiRoo\_30:

(Start: 97 @20923 has 9 MA's), (Start: 103 @20932 has 105 MA's), (125, 21019), (148, 21094),

Gene: Inventum\_32 Start: 29216, Stop: 29449, Start Num: 104

Candidate Starts for Inventum\_32:

(Start: 104 @29216 has 176 MA's), (Start: 109 @29219 has 10 MA's), (137, 29330), (139, 29336), (142, 29345), (147, 29363), (148, 29366), (153, 29378),

Gene: IrishSherpFalk\_34 Start: 30123, Stop: 30356, Start Num: 103

Candidate Starts for IrishSherpFalk\_34:

(Start: 103 @30123 has 105 MA's), (132, 30222), (139, 30243), (142, 30252), (153, 30285),

Gene: JPandJE\_50 Start: 28427, Stop: 28624, Start Num: 110

Candidate Starts for JPandJE\_50:

(Start: 110 @28427 has 23 MA's), (115, 28460), (124, 28493),

Gene: Jabbawokkie\_40 Start: 29390, Stop: 29647, Start Num: 105

Candidate Starts for Jabbawokkie\_40:

(Start: 105 @29390 has 32 MA's), (112, 29408), (122, 29453), (123, 29456), (134, 29495), (140, 29513), (148, 29540), (151, 29546), (152, 29549),

Gene: JalFarm20\_35 Start: 29611, Stop: 29844, Start Num: 103

Candidate Starts for JalFarm20\_35:

(Start: 103 @29611 has 105 MA's), (132, 29710), (139, 29731), (142, 29740), (153, 29773),

Gene: James\_32 Start: 28723, Stop: 28956, Start Num: 104

Candidate Starts for James\_32:

(57, 28576), (Start: 104 @28723 has 176 MA's), (Start: 109 @28726 has 10 MA's), (137, 28837), (139, 28843), (142, 28852), (147, 28870), (148, 28873), (153, 28885),

Gene: Jant\_33 Start: 28705, Stop: 28938, Start Num: 103

Candidate Starts for Jant\_33:

(35, 28417), (Start: 103 @28705 has 105 MA's), (132, 28804), (139, 28825), (142, 28834), (153, 28867),

Gene: Jarcob\_32 Start: 28759, Stop: 28992, Start Num: 103

Candidate Starts for Jarcob\_32:

(34, 28468), (35, 28471), (39, 28507), (Start: 103 @28759 has 105 MA's), (132, 28858), (139, 28879), (142, 28888), (153, 28921),

Gene: Jay2Jay\_75 Start: 54649, Stop: 54900, Start Num: 104

Candidate Starts for Jay2Jay\_75:

(Start: 104 @54649 has 176 MA's), (142, 54775),

Gene: Jebeks\_28 Start: 25225, Stop: 25473, Start Num: 108

Candidate Starts for Jebeks\_28:

(Start: 108 @25225 has 64 MA's),

Gene: Jennelsea\_26 Start: 24671, Stop: 24904, Start Num: 103

Candidate Starts for Jennelsea\_26:

(34, 24380), (35, 24383), (39, 24419), (Start: 103 @24671 has 105 MA's), (132, 24770), (139, 24791), (142, 24800), (153, 24833),

Gene: Jera\_31 Start: 21768, Stop: 22046, Start Num: 103

Candidate Starts for Jera\_31:

(47, 21537), (69, 21630), (Start: 97 @21759 has 9 MA's), (Start: 103 @21768 has 105 MA's), (125, 21855), (138, 21897), (148, 21930), (168, 22008),

Gene: JimJam\_72 Start: 53204, Stop: 53455, Start Num: 104

Candidate Starts for JimJam\_72:

(Start: 104 @53204 has 176 MA's), (123, 53279),

Gene: Jinglebell\_31 Start: 28744, Stop: 28977, Start Num: 104

Candidate Starts for Jinglebell\_31:

(44, 28528), (Start: 104 @28744 has 176 MA's), (Start: 109 @28747 has 10 MA's), (137, 28858), (139, 28864), (142, 28873), (147, 28891), (148, 28894), (153, 28906),

Gene: Job42\_36 Start: 30532, Stop: 30765, Start Num: 104

Candidate Starts for Job42\_36:

(40, 30289), (57, 30385), (Start: 104 @30532 has 176 MA's), (Start: 109 @30535 has 10 MA's), (137, 30646), (139, 30652), (142, 30661), (147, 30679), (148, 30682), (153, 30694),

Gene: JoeyJr\_32 Start: 28704, Stop: 28937, Start Num: 104

Candidate Starts for JoeyJr\_32:

(Start: 104 @28704 has 176 MA's), (Start: 109 @28707 has 10 MA's), (137, 28818), (139, 28824), (142, 28833), (147, 28851), (148, 28854), (153, 28866),

Gene: Johann\_31 Start: 22634, Stop: 22915, Start Num: 103

Candidate Starts for Johann\_31:

(47, 22421), (69, 22496), (71, 22508), (Start: 97 @22625 has 9 MA's), (Start: 103 @22634 has 105 MA's), (122, 22709), (125, 22721), (133, 22748), (138, 22763), (148, 22796), (163, 22859), (168, 22874),

Gene: Jollison\_71 Start: 53086, Stop: 53337, Start Num: 104

Candidate Starts for Jollison\_71:

(Start: 104 @53086 has 176 MA's), (123, 53161),

Gene: Juice456\_34 Start: 29832, Stop: 30065, Start Num: 103

Candidate Starts for Juice456\_34:

(Start: 103 @29832 has 105 MA's), (132, 29931), (139, 29952), (142, 29961), (153, 29994),

Gene: Jung\_27 Start: 25202, Stop: 25450, Start Num: 108

Candidate Starts for Jung\_27:

(Start: 108 @25202 has 64 MA's),

Gene: Juniormint\_28 Start: 25278, Stop: 25526, Start Num: 108

Candidate Starts for Juniormint\_28:

(Start: 108 @25278 has 64 MA's),

Gene: Juniper1\_32 Start: 28502, Stop: 28735, Start Num: 104

Candidate Starts for Juniper1\_32:

(19, 27944), (21, 28019), (26, 28058), (27, 28091), (30, 28124), (34, 28205), (35, 28208), (44, 28286), (Start: 104 @28502 has 176 MA's), (Start: 109 @28505 has 10 MA's), (137, 28616), (142, 28631), (147, 28649), (148, 28652), (153, 28664),

Gene: Karhdo\_32 Start: 28668, Stop: 28901, Start Num: 104

Candidate Starts for Karhdo\_32:

(Start: 104 @28668 has 176 MA's), (Start: 109 @28671 has 10 MA's), (137, 28782), (139, 28788), (142, 28797), (147, 28815), (148, 28818), (153, 28830),

Gene: Kari\_28 Start: 25237, Stop: 25485, Start Num: 108

Candidate Starts for Kari\_28:

(Start: 108 @25237 has 64 MA's),

Gene: Karimac\_71 Start: 53235, Stop: 53486, Start Num: 104

Candidate Starts for Karimac\_71:

(Start: 104 @53235 has 176 MA's), (123, 53310),

Gene: Keelan\_59 Start: 34992, Stop: 35204, Start Num: 108

Candidate Starts for Keelan\_59:

(Start: 108 @34992 has 64 MA's), (115, 35031), (116, 35034), (148, 35136),

Gene: KentuckyRacer\_72 Start: 53019, Stop: 53270, Start Num: 104

Candidate Starts for KentuckyRacer\_72:

(Start: 104 @53019 has 176 MA's), (123, 53094),

Gene: Kenuha5\_29 Start: 27646, Stop: 27879, Start Num: 103

Candidate Starts for Kenuha5\_29:

(35, 27358), (Start: 103 @27646 has 105 MA's), (132, 27745), (139, 27766), (142, 27775), (153, 27808),

Gene: Kersh\_31 Start: 29742, Stop: 29975, Start Num: 104

Candidate Starts for Kersh\_31:

(57, 29595), (Start: 104 @29742 has 176 MA's), (Start: 109 @29745 has 10 MA's), (137, 29856), (139, 29862), (142, 29871), (147, 29889), (148, 29892), (153, 29904),

Gene: KilKor\_28 Start: 25499, Stop: 25747, Start Num: 108

Candidate Starts for KilKor\_28:

(Start: 108 @25499 has 64 MA's),

Gene: Kimberlium\_34 Start: 29660, Stop: 29893, Start Num: 104

Candidate Starts for Kimberlium\_34:

(57, 29513), (Start: 104 @29660 has 176 MA's), (Start: 109 @29663 has 10 MA's), (137, 29774), (139, 29780), (142, 29789), (147, 29807), (148, 29810), (153, 29822),

Gene: KingJulian\_32 Start: 28730, Stop: 28963, Start Num: 104

Candidate Starts for KingJulian\_32:

(40, 28487), (57, 28583), (Start: 104 @28730 has 176 MA's), (Start: 109 @28733 has 10 MA's), (137, 28844), (139, 28850), (142, 28859), (147, 28877), (148, 28880), (153, 28892),

Gene: KingMidas\_34 Start: 30399, Stop: 30632, Start Num: 104

Candidate Starts for KingMidas\_34:

(Start: 104 @30399 has 176 MA's), (Start: 109 @30402 has 10 MA's), (137, 30513), (139, 30519), (142, 30528), (147, 30546), (148, 30549), (153, 30561),

Gene: Kingsley\_31 Start: 28346, Stop: 28588, Start Num: 98

Candidate Starts for Kingsley\_31:

(29, 27920), (59, 28181), (Start: 98 @28346 has 6 MA's), (Start: 108 @28355 has 64 MA's), (Start: 109 @28358 has 10 MA's), (137, 28469), (139, 28475), (142, 28484), (147, 28502), (148, 28505), (153, 28517),

Gene: Koella\_26 Start: 24683, Stop: 24916, Start Num: 103

Candidate Starts for Koella\_26:

(34, 24392), (35, 24395), (39, 24431), (Start: 103 @24683 has 105 MA's), (132, 24782), (139, 24803), (142, 24812), (153, 24845),

Gene: Krakatau\_33 Start: 29229, Stop: 29462, Start Num: 104

Candidate Starts for Krakatau\_33:

(57, 29082), (Start: 104 @29229 has 176 MA's), (Start: 109 @29232 has 10 MA's), (137, 29343), (139, 29349), (142, 29358), (147, 29376), (148, 29379), (153, 29391),

Gene: KristaRAM\_33 Start: 29355, Stop: 29588, Start Num: 103

Candidate Starts for KristaRAM\_33:

(Start: 103 @29355 has 105 MA's), (132, 29454), (139, 29475), (142, 29484), (153, 29517),

Gene: Ksquared\_28 Start: 25256, Stop: 25504, Start Num: 108

Candidate Starts for Ksquared\_28:

(Start: 108 @25256 has 64 MA's),

Gene: Kumquat\_47 Start: 27506, Stop: 27703, Start Num: 110

Candidate Starts for Kumquat\_47:

(Start: 110 @27506 has 23 MA's), (116, 27542), (130, 27590), (159, 27665),

Gene: Labella\_32 Start: 22644, Stop: 22922, Start Num: 103

Candidate Starts for Labella\_32:

(47, 22413), (69, 22506), (74, 22533), (Start: 97 @22635 has 9 MA's), (Start: 103 @22644 has 105 MA's), (125, 22731), (138, 22773), (148, 22806), (168, 22884),

Gene: Lamberg\_19 Start: 17610, Stop: 17849, Start Num: 105

Candidate Starts for Lamberg\_19:

(65, 17475), (Start: 105 @17610 has 32 MA's), (122, 17682), (151, 17763), (163, 17814), (164, 17817),

Gene: Langerak\_28 Start: 25224, Stop: 25472, Start Num: 108

Candidate Starts for Langerak\_28:

(Start: 108 @25224 has 64 MA's),

Gene: LastJedi\_26 Start: 24714, Stop: 24947, Start Num: 103

Candidate Starts for LastJedi\_26:

(34, 24423), (35, 24426), (39, 24462), (Start: 103 @24714 has 105 MA's), (132, 24813), (139, 24834), (142, 24843), (153, 24876),

Gene: Latretium\_33 Start: 29314, Stop: 29547, Start Num: 103

Candidate Starts for Latretium\_33:

(Start: 103 @29314 has 105 MA's), (132, 29413), (139, 29434), (142, 29443), (153, 29476),

Gene: Leozinho\_34 Start: 28957, Stop: 29190, Start Num: 103

Candidate Starts for Leozinho\_34:

(Start: 103 @28957 has 105 MA's), (132, 29056), (139, 29077), (142, 29086), (153, 29119),

Gene: Leperchaun\_32 Start: 28612, Stop: 28842, Start Num: 109

Candidate Starts for Leperchaun\_32:

(44, 28393), (Start: 104 @28609 has 176 MA's), (Start: 109 @28612 has 10 MA's), (137, 28723), (139, 28729), (142, 28738), (147, 28756), (148, 28759), (153, 28771),

Gene: LilMartin\_67 Start: 52109, Stop: 52360, Start Num: 104

Candidate Starts for LilMartin\_67:

(Start: 104 @52109 has 176 MA's), (116, 52151),

Gene: LilMoolah\_32 Start: 28807, Stop: 29040, Start Num: 103

Candidate Starts for LilMoolah\_32:

(34, 28516), (35, 28519), (39, 28555), (Start: 103 @28807 has 105 MA's), (132, 28906), (139, 28927), (142, 28936), (153, 28969),

Gene: LilSaint\_69 Start: 52373, Stop: 52624, Start Num: 104

Candidate Starts for LilSaint\_69:

(Start: 104 @52373 has 176 MA's), (124, 52454), (170, 52601),

Gene: LilSpotty\_33 Start: 26076, Stop: 26330, Start Num: 108

Candidate Starts for LilSpotty\_33:

(59, 25902), (Start: 99 @26067 has 8 MA's), (Start: 108 @26076 has 64 MA's), (122, 26139), (139, 26196),

Gene: Lilas\_23 Start: 20953, Stop: 21192, Start Num: 105

Candidate Starts for Lilas\_23:

(72, 20845), (Start: 105 @20953 has 32 MA's), (116, 20995), (128, 21046), (129, 21049), (148, 21100), (151, 21106),

Gene: Linayshia\_30 Start: 22682, Stop: 22969, Start Num: 97

Candidate Starts for Linayshia\_30:

(47, 22478), (69, 22553), (71, 22565), (74, 22580), (Start: 97 @22682 has 9 MA's), (Start: 103 @22691 has 105 MA's), (122, 22766), (125, 22778), (133, 22805), (148, 22853), (168, 22931),

Gene: LittleShirley\_35 Start: 30174, Stop: 30407, Start Num: 104

Candidate Starts for LittleShirley\_35:

(57, 30027), (Start: 104 @30174 has 176 MA's), (Start: 109 @30177 has 10 MA's), (137, 30288), (139, 30294), (142, 30303), (147, 30321), (148, 30324), (153, 30336),

Gene: Lizziana\_32 Start: 28682, Stop: 28915, Start Num: 103

Candidate Starts for Lizziana\_32:

(34, 28391), (35, 28394), (39, 28430), (Start: 103 @28682 has 105 MA's), (132, 28781), (139, 28802), (142, 28811), (153, 28844),

Gene: Llama\_32 Start: 28743, Stop: 28976, Start Num: 104

Candidate Starts for Llama\_32:

(44, 28527), (Start: 104 @28743 has 176 MA's), (Start: 109 @28746 has 10 MA's), (137, 28857), (139, 28863), (142, 28872), (147, 28890), (148, 28893), (153, 28905),

Gene: Llij\_32 Start: 28514, Stop: 28747, Start Num: 104

Candidate Starts for Llij\_32:

(57, 28367), (Start: 104 @28514 has 176 MA's), (Start: 109 @28517 has 10 MA's), (137, 28628), (139, 28634), (142, 28643), (147, 28661), (148, 28664), (153, 28676),

Gene: Lorde\_34 Start: 28771, Stop: 29004, Start Num: 108

Candidate Starts for Lorde\_34:

(29, 28336), (59, 28597), (Start: 98 @28762 has 6 MA's), (Start: 108 @28771 has 64 MA's), (Start: 109 @28774 has 10 MA's), (132, 28870), (137, 28885), (139, 28891), (142, 28900), (147, 28918), (148, 28921), (153, 28933),

Gene: Lton\_19 Start: 17639, Stop: 17878, Start Num: 105

Candidate Starts for Lton\_19:

(Start: 105 @17639 has 32 MA's), (122, 17711), (151, 17792), (163, 17843), (164, 17846),

Gene: Lucia\_33 Start: 28645, Stop: 28878, Start Num: 104

Candidate Starts for Lucia\_33:

(33, 28336), (37, 28384), (40, 28402), (57, 28498), (Start: 104 @28645 has 176 MA's), (Start: 109 @28648 has 10 MA's), (137, 28759), (139, 28765), (142, 28774), (147, 28792), (148, 28795), (153, 28807),

Gene: Lucky10\_21 Start: 18592, Stop: 18828, Start Num: 105

Candidate Starts for Lucky10\_21:

(Start: 99 @18586 has 8 MA's), (Start: 105 @18592 has 32 MA's), (116, 18634), (122, 18664), (128, 18685), (129, 18688), (148, 18739), (151, 18745),

Gene: LukeCage\_71 Start: 52989, Stop: 53240, Start Num: 104  
Candidate Starts for LukeCage\_71:  
(Start: 104 @52989 has 176 MA's), (123, 53064), (124, 53070), (164, 53196),

Gene: LunaBlu\_35 Start: 29546, Stop: 29779, Start Num: 103  
Candidate Starts for LunaBlu\_35:  
(35, 29258), (Start: 103 @29546 has 105 MA's), (132, 29645), (139, 29666), (142, 29675), (153, 29708),

Gene: LunaStella\_34 Start: 29277, Stop: 29540, Start Num: 101  
Candidate Starts for LunaStella\_34:  
(52, 29070), (56, 29085), (82, 29220), (Start: 101 @29277 has 3 MA's), (149, 29442), (152, 29448), (154, 29451), (160, 29469), (171, 29526),

Gene: Mabodamaca\_23 Start: 19124, Stop: 19408, Start Num: 80  
Candidate Starts for Mabodamaca\_23:  
(Start: 80 @19124 has 15 MA's), (156, 19364), (166, 19403),

Gene: MadMen\_30 Start: 27967, Stop: 28200, Start Num: 103  
Candidate Starts for MadMen\_30:  
(35, 27679), (Start: 103 @27967 has 105 MA's), (132, 28066), (139, 28087), (142, 28096), (153, 28129),

Gene: Madiba\_30 Start: 27447, Stop: 27677, Start Num: 109  
Candidate Starts for Madiba\_30:  
(33, 27135), (40, 27201), (57, 27297), (Start: 104 @27444 has 176 MA's), (Start: 109 @27447 has 10 MA's), (137, 27558), (139, 27564), (142, 27573), (147, 27591), (148, 27594), (153, 27606),

Gene: Mahavrat\_32 Start: 28574, Stop: 28807, Start Num: 104  
Candidate Starts for Mahavrat\_32:  
(19, 28016), (21, 28091), (26, 28130), (27, 28163), (30, 28196), (34, 28277), (35, 28280), (44, 28358), (Start: 104 @28574 has 176 MA's), (Start: 109 @28577 has 10 MA's), (137, 28688), (139, 28694), (142, 28703), (147, 28721), (148, 28724), (153, 28736),

Gene: Mahdia\_22 Start: 18708, Stop: 18950, Start Num: 105  
Candidate Starts for Mahdia\_22:  
(Start: 105 @18708 has 32 MA's), (142, 18840), (164, 18912),

Gene: Majeke\_28 Start: 25246, Stop: 25494, Start Num: 108  
Candidate Starts for Majeke\_28:  
(Start: 108 @25246 has 64 MA's),

Gene: Malithi\_28 Start: 25165, Stop: 25413, Start Num: 108  
Candidate Starts for Malithi\_28:  
(Start: 108 @25165 has 64 MA's),

Gene: Mandlovu\_33 Start: 29300, Stop: 29533, Start Num: 103  
Candidate Starts for Mandlovu\_33:  
(Start: 103 @29300 has 105 MA's), (132, 29399), (139, 29420), (142, 29429), (153, 29462),

Gene: Mangethe\_28 Start: 25246, Stop: 25494, Start Num: 108  
Candidate Starts for Mangethe\_28:

(Start: 108 @25246 has 64 MA's),

Gene: Mantra\_32 Start: 28633, Stop: 28866, Start Num: 104

Candidate Starts for Mantra\_32:

(57, 28486), (Start: 104 @28633 has 176 MA's), (Start: 109 @28636 has 10 MA's), (137, 28747), (139, 28753), (142, 28762), (147, 28780), (148, 28783), (153, 28795),

Gene: Manuel\_46 Start: 27594, Stop: 27791, Start Num: 110

Candidate Starts for Manuel\_46:

(Start: 108 @27588 has 64 MA's), (Start: 110 @27594 has 23 MA's), (130, 27678), (159, 27753),

Gene: Maravista\_32 Start: 28464, Stop: 28697, Start Num: 103

Candidate Starts for Maravista\_32:

(34, 28173), (35, 28176), (39, 28212), (Start: 103 @28464 has 105 MA's), (132, 28563), (139, 28584), (142, 28593), (153, 28626),

Gene: Marker\_33 Start: 28403, Stop: 28633, Start Num: 109

Candidate Starts for Marker\_33:

(Start: 104 @28400 has 176 MA's), (Start: 109 @28403 has 10 MA's), (137, 28514), (139, 28520), (142, 28529), (147, 28547), (148, 28550), (153, 28562),

Gene: Marsus\_68 Start: 52381, Stop: 52632, Start Num: 104

Candidate Starts for Marsus\_68:

(Start: 104 @52381 has 176 MA's),

Gene: Marteena\_23 Start: 20804, Stop: 21043, Start Num: 105

Candidate Starts for Marteena\_23:

(72, 20696), (Start: 105 @20804 has 32 MA's), (116, 20846), (128, 20897), (129, 20900), (148, 20951), (151, 20957),

Gene: Martik\_32 Start: 28709, Stop: 28942, Start Num: 103

Candidate Starts for Martik\_32:

(34, 28418), (35, 28421), (39, 28457), (Start: 103 @28709 has 105 MA's), (132, 28808), (139, 28829), (142, 28838), (153, 28871),

Gene: Matteo\_19 Start: 17541, Stop: 17786, Start Num: 99

Candidate Starts for Matteo\_19:

(Start: 99 @17541 has 8 MA's), (Start: 105 @17547 has 32 MA's), (122, 17619), (151, 17700), (163, 17751), (164, 17754),

Gene: Mattes\_32 Start: 28723, Stop: 28956, Start Num: 104

Candidate Starts for Mattes\_32:

(57, 28576), (Start: 104 @28723 has 176 MA's), (Start: 109 @28726 has 10 MA's), (137, 28837), (139, 28843), (142, 28852), (147, 28870), (148, 28873), (153, 28885),

Gene: Megiddo\_28 Start: 25499, Stop: 25747, Start Num: 108

Candidate Starts for Megiddo\_28:

(Start: 108 @25499 has 64 MA's),

Gene: Melissauren88\_32 Start: 28676, Stop: 28909, Start Num: 103

Candidate Starts for Melissauren88\_32:

(Start: 103 @28676 has 105 MA's), (132, 28775), (139, 28796), (142, 28805), (153, 28838),

Gene: MilanaBonita\_26 Start: 24607, Stop: 24840, Start Num: 103  
Candidate Starts for MilanaBonita\_26:  
(Start: 103 @24607 has 105 MA's), (132, 24706), (139, 24727), (142, 24736), (153, 24769),

Gene: Milani\_31 Start: 21543, Stop: 21809, Start Num: 103  
Candidate Starts for Milani\_31:  
(Start: 103 @21543 has 105 MA's), (125, 21630), (133, 21657), (138, 21672), (148, 21705),

Gene: Mildred21\_68 Start: 52306, Stop: 52557, Start Num: 104  
Candidate Starts for Mildred21\_68:  
(Start: 104 @52306 has 176 MA's), (161, 52486),

Gene: MilleniumForce\_33 Start: 29468, Stop: 29701, Start Num: 103  
Candidate Starts for MilleniumForce\_33:  
(Start: 103 @29468 has 105 MA's), (132, 29567), (139, 29588), (142, 29597), (153, 29630),

Gene: MindFlayer\_70 Start: 52737, Stop: 52988, Start Num: 104  
Candidate Starts for MindFlayer\_70:  
(Start: 104 @52737 has 176 MA's), (123, 52812),

Gene: MinionDave\_35 Start: 29705, Stop: 29938, Start Num: 103  
Candidate Starts for MinionDave\_35:  
(Start: 103 @29705 has 105 MA's), (132, 29804), (139, 29825), (142, 29834), (153, 29867),

Gene: Minnie\_34 Start: 29518, Stop: 29751, Start Num: 104  
Candidate Starts for Minnie\_34:  
(33, 29209), (40, 29275), (57, 29371), (Start: 104 @29518 has 176 MA's), (Start: 109 @29521 has 10 MA's), (137, 29632), (139, 29638), (142, 29647), (147, 29665), (148, 29668), (153, 29680),

Gene: Misha28\_33 Start: 28418, Stop: 28651, Start Num: 104  
Candidate Starts for Misha28\_33:  
(Start: 104 @28418 has 176 MA's), (Start: 109 @28421 has 10 MA's), (137, 28532), (139, 28538), (142, 28547), (147, 28565), (148, 28568), (153, 28580),

Gene: MisterCuddles\_34 Start: 29563, Stop: 29805, Start Num: 98  
Candidate Starts for MisterCuddles\_34:  
(29, 29137), (59, 29398), (Start: 98 @29563 has 6 MA's), (Start: 108 @29572 has 64 MA's), (Start: 109 @29575 has 10 MA's), (137, 29686), (139, 29692), (142, 29701), (147, 29719), (148, 29722), (153, 29734),

Gene: Mistmere\_57 Start: 34724, Stop: 34936, Start Num: 100  
Candidate Starts for Mistmere\_57:  
(38, 34445), (43, 34487), (45, 34499), (49, 34520), (55, 34550), (56, 34553), (100, 34724), (114, 34763), (151, 34889),

Gene: Modragons\_32 Start: 28588, Stop: 28821, Start Num: 104  
Candidate Starts for Modragons\_32:  
(44, 28372), (Start: 104 @28588 has 176 MA's), (Start: 109 @28591 has 10 MA's), (137, 28702), (139, 28708), (142, 28717), (147, 28735), (148, 28738), (153, 28750),

Gene: MooMoo\_30 Start: 27824, Stop: 28087, Start Num: 101  
Candidate Starts for MooMoo\_30:

(82, 27767), (Start: 101 @27824 has 3 MA's), (149, 27989), (152, 27995), (154, 27998), (160, 28016), (171, 28073),

Gene: Moonbeam\_33 Start: 29222, Stop: 29455, Start Num: 104

Candidate Starts for Moonbeam\_33:

(40, 28979), (57, 29075), (Start: 104 @29222 has 176 MA's), (Start: 109 @29225 has 10 MA's), (137, 29336), (139, 29342), (142, 29351), (147, 29369), (148, 29372), (153, 29384),

Gene: Moosehead\_19 Start: 17566, Stop: 17805, Start Num: 105

Candidate Starts for Moosehead\_19:

(Start: 105 @17566 has 32 MA's), (116, 17608), (122, 17638), (128, 17659), (129, 17662), (148, 17713), (151, 17719),

Gene: Morkie\_21 Start: 18439, Stop: 18675, Start Num: 105

Candidate Starts for Morkie\_21:

(Start: 105 @18439 has 32 MA's), (116, 18481), (122, 18511), (128, 18532), (129, 18535), (148, 18586), (151, 18592),

Gene: Morrissey\_23 Start: 19911, Stop: 20153, Start Num: 105

Candidate Starts for Morrissey\_23:

(Start: 105 @19911 has 32 MA's), (142, 20043), (146, 20052),

Gene: Mova\_33 Start: 28357, Stop: 28590, Start Num: 103

Candidate Starts for Mova\_33:

(35, 28069), (Start: 103 @28357 has 105 MA's), (132, 28456), (139, 28477), (142, 28486), (153, 28519),

Gene: Mozy\_34 Start: 29413, Stop: 29646, Start Num: 104

Candidate Starts for Mozy\_34:

(Start: 104 @29413 has 176 MA's), (Start: 109 @29416 has 10 MA's), (137, 29527), (139, 29533), (142, 29542), (147, 29560), (148, 29563), (153, 29575),

Gene: Ms6\_26 Start: 24139, Stop: 24372, Start Num: 103

Candidate Starts for Ms6\_26:

(Start: 103 @24139 has 105 MA's), (132, 24238), (139, 24259), (142, 24268), (153, 24301),

Gene: Mugiwara\_71 Start: 53488, Stop: 53739, Start Num: 104

Candidate Starts for Mugiwara\_71:

(Start: 104 @53488 has 176 MA's), (116, 53530), (123, 53563), (164, 53695),

Gene: MulchExplorer\_34 Start: 29662, Stop: 29892, Start Num: 109

Candidate Starts for MulchExplorer\_34:

(57, 29512), (Start: 104 @29659 has 176 MA's), (Start: 109 @29662 has 10 MA's), (137, 29773), (139, 29779), (142, 29788), (147, 29806), (148, 29809), (153, 29821),

Gene: MulchMansion\_67 Start: 52109, Stop: 52360, Start Num: 104

Candidate Starts for MulchMansion\_67:

(Start: 104 @52109 has 176 MA's), (116, 52151),

Gene: MulchSalad\_31 Start: 25420, Stop: 25653, Start Num: 103

Candidate Starts for MulchSalad\_31:

(Start: 103 @25420 has 105 MA's), (132, 25519), (139, 25540), (142, 25549), (153, 25582),

Gene: Muntaha\_47 Start: 44490, Stop: 44744, Start Num: 104

Candidate Starts for Muntaha\_47:

(Start: 104 @44490 has 176 MA's), (164, 44703),

Gene: Mutaforma13\_32 Start: 28792, Stop: 29025, Start Num: 103

Candidate Starts for Mutaforma13\_32:

(Start: 103 @28792 has 105 MA's), (132, 28891), (139, 28912), (142, 28921), (153, 28954),

Gene: Mwanjiwa\_33 Start: 28667, Stop: 28900, Start Num: 104

Candidate Starts for Mwanjiwa\_33:

(Start: 104 @28667 has 176 MA's), (Start: 109 @28670 has 10 MA's), (137, 28781), (139, 28787), (142, 28796), (147, 28814), (148, 28817), (153, 28829),

Gene: Necropolis\_28 Start: 25237, Stop: 25485, Start Num: 108

Candidate Starts for Necropolis\_28:

(Start: 108 @25237 has 64 MA's),

Gene: Nettuno\_19 Start: 17613, Stop: 17852, Start Num: 105

Candidate Starts for Nettuno\_19:

(65, 17478), (Start: 105 @17613 has 32 MA's), (122, 17685), (151, 17766), (163, 17817), (164, 17820),

Gene: NewHope4\_36 Start: 29348, Stop: 29581, Start Num: 103

Candidate Starts for NewHope4\_36:

(Start: 103 @29348 has 105 MA's), (132, 29447), (139, 29468), (142, 29477), (153, 29510),

Gene: Nichirin\_33 Start: 28772, Stop: 29005, Start Num: 104

Candidate Starts for Nichirin\_33:

(13, 28052), (14, 28073), (15, 28124), (19, 28214), (21, 28289), (26, 28328), (27, 28361), (30, 28394), (34, 28475), (35, 28478), (44, 28556), (Start: 104 @28772 has 176 MA's), (Start: 109 @28775 has 10 MA's), (137, 28886), (139, 28892), (142, 28901), (147, 28919), (148, 28922), (153, 28934),

Gene: Nimbo\_32 Start: 28540, Stop: 28773, Start Num: 104

Candidate Starts for Nimbo\_32:

(Start: 104 @28540 has 176 MA's), (Start: 109 @28543 has 10 MA's), (137, 28654), (139, 28660), (142, 28669), (147, 28687), (148, 28690), (153, 28702),

Gene: Nitzel\_33 Start: 29256, Stop: 29489, Start Num: 104

Candidate Starts for Nitzel\_33:

(Start: 104 @29256 has 176 MA's), (Start: 109 @29259 has 10 MA's), (137, 29370), (139, 29376), (142, 29385), (147, 29403), (148, 29406), (153, 29418),

Gene: Nivrat\_32 Start: 28681, Stop: 28914, Start Num: 103

Candidate Starts for Nivrat\_32:

(34, 28390), (35, 28393), (39, 28429), (Start: 103 @28681 has 105 MA's), (132, 28780), (139, 28801), (142, 28810), (153, 28843),

Gene: NormanBulbieJr\_32 Start: 28696, Stop: 28929, Start Num: 103

Candidate Starts for NormanBulbieJr\_32:

(34, 28405), (35, 28408), (39, 28444), (Start: 103 @28696 has 105 MA's), (132, 28795), (139, 28816), (142, 28825), (153, 28858),

Gene: ODay\_29 Start: 22346, Stop: 22588, Start Num: 99

Candidate Starts for ODay\_29:

(Start: 99 @22346 has 8 MA's), (Start: 105 @22352 has 32 MA's), (116, 22394), (122, 22424), (128, 22445), (129, 22448), (148, 22499), (151, 22505),

Gene: Ochi17\_30 Start: 28195, Stop: 28428, Start Num: 104

Candidate Starts for Ochi17\_30:

(44, 27979), (Start: 104 @28195 has 176 MA's), (Start: 109 @28198 has 10 MA's), (137, 28309), (139, 28315), (142, 28324), (147, 28342), (148, 28345), (153, 28357),

Gene: OfUltron\_32 Start: 28744, Stop: 28977, Start Num: 104

Candidate Starts for OfUltron\_32:

(44, 28528), (Start: 104 @28744 has 176 MA's), (Start: 109 @28747 has 10 MA's), (137, 28858), (139, 28864), (142, 28873), (147, 28891), (148, 28894), (153, 28906),

Gene: Ogopogo\_32 Start: 27888, Stop: 28121, Start Num: 103

Candidate Starts for Ogopogo\_32:

(Start: 103 @27888 has 105 MA's), (132, 27987), (139, 28008), (142, 28017), (147, 28035), (148, 28038), (153, 28050),

Gene: Okabe\_33 Start: 25582, Stop: 25815, Start Num: 104

Candidate Starts for Okabe\_33:

(57, 25435), (Start: 104 @25582 has 176 MA's), (Start: 109 @25585 has 10 MA's), (137, 25696), (139, 25702), (142, 25711), (147, 25729), (148, 25732), (153, 25744),

Gene: Oksu\_33 Start: 28588, Stop: 28821, Start Num: 104

Candidate Starts for Oksu\_33:

(44, 28372), (Start: 104 @28588 has 176 MA's), (Start: 109 @28591 has 10 MA's), (137, 28702), (139, 28708), (142, 28717), (147, 28735), (148, 28738), (153, 28750),

Gene: OldBen\_32 Start: 28571, Stop: 28804, Start Num: 104

Candidate Starts for OldBen\_32:

(Start: 104 @28571 has 176 MA's), (Start: 109 @28574 has 10 MA's), (137, 28685), (139, 28691), (142, 28700), (147, 28718), (148, 28721), (153, 28733),

Gene: Olicious\_49 Start: 27959, Stop: 28156, Start Num: 110

Candidate Starts for Olicious\_49:

(Start: 110 @27959 has 23 MA's), (115, 27992), (124, 28025),

Gene: OlinDD\_56 Start: 35871, Stop: 36086, Start Num: 97

Candidate Starts for OlinDD\_56:

(75, 35781), (Start: 97 @35871 has 9 MA's), (100, 35877),

Gene: Olympi\_32 Start: 22612, Stop: 22902, Start Num: 97

Candidate Starts for Olympi\_32:

(47, 22408), (69, 22483), (71, 22495), (Start: 97 @22612 has 9 MA's), (Start: 103 @22621 has 105 MA's), (122, 22696), (125, 22708), (133, 22735), (138, 22750), (148, 22783), (163, 22846), (168, 22861),

Gene: OlympiaSaint\_32 Start: 28985, Stop: 29218, Start Num: 104

Candidate Starts for OlympiaSaint\_32:

(57, 28838), (Start: 104 @28985 has 176 MA's), (Start: 109 @28988 has 10 MA's), (137, 29099), (139, 29105), (142, 29114), (147, 29132), (148, 29135), (153, 29147),

Gene: OnionKnight\_23 Start: 18605, Stop: 18871, Start Num: 87

Candidate Starts for OnionKnight\_23:

(Start: 87 @18605 has 1 MA's), (107, 18641), (115, 18683), (132, 18743), (135, 18752), (145, 18785), (148, 18797), (152, 18806),

Gene: Ovechkin\_33 Start: 29544, Stop: 29777, Start Num: 108

Candidate Starts for Ovechkin\_33:

(29, 29109), (59, 29370), (Start: 98 @29535 has 6 MA's), (Start: 108 @29544 has 64 MA's), (Start: 109 @29547 has 10 MA's), (137, 29658), (139, 29664), (142, 29673), (147, 29691), (148, 29694), (153, 29706),

Gene: OwlsT2W\_33 Start: 28960, Stop: 29193, Start Num: 103

Candidate Starts for OwlsT2W\_33:

(Start: 103 @28960 has 105 MA's), (132, 29059), (139, 29080), (142, 29089), (153, 29122),

Gene: PHappiness\_32 Start: 28513, Stop: 28746, Start Num: 104

Candidate Starts for PHappiness\_32:

(Start: 104 @28513 has 176 MA's), (Start: 109 @28516 has 10 MA's), (137, 28627), (139, 28633), (142, 28642), (147, 28660), (148, 28663), (153, 28675),

Gene: PMC\_32 Start: 28514, Stop: 28747, Start Num: 104

Candidate Starts for PMC\_32:

(57, 28367), (Start: 104 @28514 has 176 MA's), (Start: 109 @28517 has 10 MA's), (137, 28628), (139, 28634), (142, 28643), (147, 28661), (148, 28664), (153, 28676),

Gene: Pacc40\_32 Start: 28705, Stop: 28938, Start Num: 104

Candidate Starts for Pacc40\_32:

(44, 28489), (Start: 104 @28705 has 176 MA's), (Start: 109 @28708 has 10 MA's), (137, 28819), (139, 28825), (142, 28834), (147, 28852), (148, 28855), (153, 28867),

Gene: PaintedDog\_31 Start: 27027, Stop: 27272, Start Num: 108

Candidate Starts for PaintedDog\_31:

(9, 26148), (18, 26406), (23, 26511), (25, 26529), (76, 26922), (85, 26970), (Start: 108 @27027 has 64 MA's), (134, 27132), (139, 27147), (159, 27207),

Gene: PatoPoderoso\_32 Start: 28730, Stop: 28963, Start Num: 104

Candidate Starts for PatoPoderoso\_32:

(40, 28487), (57, 28583), (Start: 104 @28730 has 176 MA's), (Start: 109 @28733 has 10 MA's), (137, 28844), (139, 28850), (142, 28859), (147, 28877), (148, 28880), (153, 28892),

Gene: PeanutPie\_28 Start: 25241, Stop: 25486, Start Num: 108

Candidate Starts for PeanutPie\_28:

(Start: 108 @25241 has 64 MA's), (134, 25346),

Gene: Pepperoni\_20 Start: 18419, Stop: 18658, Start Num: 105

Candidate Starts for Pepperoni\_20:

(Start: 99 @18413 has 8 MA's), (Start: 105 @18419 has 32 MA's), (122, 18491), (151, 18572), (163, 18623), (164, 18626),

Gene: Percastrophe\_49 Start: 27893, Stop: 28090, Start Num: 110

Candidate Starts for Percastrophe\_49:

(Start: 110 @27893 has 23 MA's), (115, 27926), (124, 27959),

Gene: Percival\_23 Start: 19815, Stop: 20096, Start Num: 80

Candidate Starts for Percival\_23:  
(Start: 80 @19815 has 15 MA's), (125, 19947), (148, 20025),

Gene: Peridot\_37 Start: 30033, Stop: 30266, Start Num: 104  
Candidate Starts for Peridot\_37:  
(57, 29886), (Start: 104 @30033 has 176 MA's), (Start: 109 @30036 has 10 MA's), (137, 30147), (139, 30153), (142, 30162), (147, 30180), (148, 30183), (153, 30195),

Gene: PermaG\_31 Start: 22670, Stop: 22951, Start Num: 103  
Candidate Starts for PermaG\_31:  
(Start: 103 @22670 has 105 MA's), (122, 22745), (125, 22757), (133, 22784), (138, 22799), (148, 22832), (163, 22895), (168, 22910),

Gene: Phalconet\_32 Start: 28642, Stop: 28875, Start Num: 103  
Candidate Starts for Phalconet\_32:  
(Start: 103 @28642 has 105 MA's), (132, 28741), (139, 28762), (142, 28771), (153, 28804),

Gene: Phalm\_28 Start: 25499, Stop: 25747, Start Num: 108  
Candidate Starts for Phalm\_28:  
(Start: 108 @25499 has 64 MA's),

Gene: Phanphagia\_29 Start: 27665, Stop: 27898, Start Num: 103  
Candidate Starts for Phanphagia\_29:  
(Start: 103 @27665 has 105 MA's), (132, 27764), (139, 27785), (142, 27794), (153, 27827),

Gene: PhaoMing\_20 Start: 19060, Stop: 19296, Start Num: 105  
Candidate Starts for PhaoMing\_20:  
(Start: 99 @19054 has 8 MA's), (Start: 105 @19060 has 32 MA's), (116, 19102), (122, 19132), (128, 19153), (129, 19156),

Gene: Phasih\_33 Start: 29091, Stop: 29324, Start Num: 104  
Candidate Starts for Phasih\_33:  
(Start: 104 @29091 has 176 MA's), (Start: 109 @29094 has 10 MA's), (137, 29205), (139, 29211), (142, 29220), (147, 29238), (148, 29241), (153, 29253),

Gene: Phatniss\_33 Start: 29031, Stop: 29264, Start Num: 104  
Candidate Starts for Phatniss\_33:  
(57, 28884), (Start: 104 @29031 has 176 MA's), (Start: 109 @29034 has 10 MA's), (137, 29145), (139, 29151), (142, 29160), (147, 29178), (148, 29181), (153, 29193),

Gene: Phegasus\_28 Start: 25246, Stop: 25494, Start Num: 108  
Candidate Starts for Phegasus\_28:  
(Start: 108 @25246 has 64 MA's),

Gene: PhesterPhotato\_32 Start: 28562, Stop: 28795, Start Num: 103  
Candidate Starts for PhesterPhotato\_32:  
(Start: 103 @28562 has 105 MA's), (132, 28661), (139, 28682), (142, 28691), (153, 28724),

Gene: Philus\_32 Start: 28608, Stop: 28841, Start Num: 104  
Candidate Starts for Philus\_32:  
(57, 28461), (Start: 104 @28608 has 176 MA's), (Start: 109 @28611 has 10 MA's), (137, 28722), (139, 28728), (142, 28737), (147, 28755), (148, 28758), (153, 28770),

Gene: Phineas\_28 Start: 25611, Stop: 25859, Start Num: 108  
Candidate Starts for Phineas\_28:  
(Start: 108 @25611 has 64 MA's),

Gene: PhlipPhlop\_33 Start: 30146, Stop: 30379, Start Num: 104  
Candidate Starts for PhlipPhlop\_33:  
(57, 29999), (Start: 104 @30146 has 176 MA's), (Start: 109 @30149 has 10 MA's), (137, 30260), (139, 30266), (142, 30275), (147, 30293), (148, 30296), (153, 30308),

Gene: PhorbesPhlower\_21 Start: 18439, Stop: 18675, Start Num: 105  
Candidate Starts for PhorbesPhlower\_21:  
(Start: 105 @18439 has 32 MA's), (116, 18481), (122, 18511), (128, 18532), (129, 18535), (148, 18586), (151, 18592),

Gene: Phrann\_27 Start: 24392, Stop: 24637, Start Num: 108  
Candidate Starts for Phrann\_27:  
(6, 23375), (12, 23555), (18, 23771), (23, 23876), (25, 23894), (76, 24287), (85, 24335), (Start: 108 @24392 has 64 MA's), (134, 24497), (139, 24512), (160, 24575), (163, 24605),

Gene: Pickett\_19 Start: 17534, Stop: 17779, Start Num: 99  
Candidate Starts for Pickett\_19:  
(Start: 99 @17534 has 8 MA's), (Start: 105 @17540 has 32 MA's), (122, 17612), (151, 17693), (163, 17744), (164, 17747),

Gene: Pioneer3\_56 Start: 35879, Stop: 36094, Start Num: 97  
Candidate Starts for Pioneer3\_56:  
(75, 35789), (Start: 97 @35879 has 9 MA's), (100, 35885),

Gene: Piper2020\_34 Start: 29134, Stop: 29367, Start Num: 103  
Candidate Starts for Piper2020\_34:  
(Start: 103 @29134 has 105 MA's), (132, 29233), (139, 29254), (142, 29263), (153, 29296),

Gene: Pippy\_26 Start: 24672, Stop: 24905, Start Num: 103  
Candidate Starts for Pippy\_26:  
(Start: 103 @24672 has 105 MA's), (132, 24771), (139, 24792), (142, 24801), (153, 24834),

Gene: Pitbull\_23 Start: 17606, Stop: 17854, Start Num: 105  
Candidate Starts for Pitbull\_23:  
(Start: 105 @17606 has 32 MA's), (124, 17687), (127, 17696), (139, 17732), (144, 17747), (159, 17792),

Gene: Platte\_56 Start: 35664, Stop: 35879, Start Num: 97  
Candidate Starts for Platte\_56:  
(75, 35574), (Start: 97 @35664 has 9 MA's), (100, 35670),

Gene: Plumbus\_34 Start: 28611, Stop: 28844, Start Num: 104  
Candidate Starts for Plumbus\_34:  
(Start: 104 @28611 has 176 MA's), (Start: 109 @28614 has 10 MA's), (137, 28725), (139, 28731), (142, 28740), (147, 28758), (148, 28761), (153, 28773),

Gene: Poenanya\_32 Start: 28654, Stop: 28887, Start Num: 104  
Candidate Starts for Poenanya\_32:  
(Start: 104 @28654 has 176 MA's), (132, 28753), (139, 28774), (142, 28783), (153, 28816),

Gene: Polka14\_33 Start: 29157, Stop: 29390, Start Num: 104

Candidate Starts for Polka14\_33:

(Start: 104 @29157 has 176 MA's), (Start: 109 @29160 has 10 MA's), (137, 29271), (139, 29277), (142, 29286), (147, 29304), (148, 29307), (153, 29319),

Gene: Polkaroo\_28 Start: 25256, Stop: 25504, Start Num: 108

Candidate Starts for Polkaroo\_28:

(Start: 108 @25256 has 64 MA's),

Gene: Pollux\_23 Start: 20804, Stop: 21043, Start Num: 105

Candidate Starts for Pollux\_23:

(72, 20696), (Start: 105 @20804 has 32 MA's), (116, 20846), (128, 20897), (129, 20900), (148, 20951), (151, 20957),

Gene: Pollywog\_32 Start: 28866, Stop: 29099, Start Num: 104

Candidate Starts for Pollywog\_32:

(Start: 104 @28866 has 176 MA's), (Start: 109 @28869 has 10 MA's), (137, 28980), (139, 28986), (142, 28995), (147, 29013), (148, 29016), (153, 29028),

Gene: Polo2Bam\_37 Start: 28713, Stop: 28946, Start Num: 104

Candidate Starts for Polo2Bam\_37:

(57, 28566), (Start: 104 @28713 has 176 MA's), (Start: 109 @28716 has 10 MA's), (137, 28827), (139, 28833), (142, 28842), (147, 28860), (148, 28863), (153, 28875),

Gene: PopTart\_32 Start: 28847, Stop: 29080, Start Num: 104

Candidate Starts for PopTart\_32:

(Start: 104 @28847 has 176 MA's), (Start: 109 @28850 has 10 MA's), (132, 28946), (139, 28967), (142, 28976), (153, 29009),

Gene: Priscilla\_32 Start: 28794, Stop: 29027, Start Num: 104

Candidate Starts for Priscilla\_32:

(13, 28080), (14, 28101), (15, 28152), (19, 28242), (21, 28317), (26, 28356), (27, 28389), (30, 28422), (34, 28503), (35, 28506), (Start: 104 @28794 has 176 MA's), (132, 28893), (139, 28914), (142, 28923), (153, 28956),

Gene: PumpkinSpice\_71 Start: 53129, Stop: 53380, Start Num: 104

Candidate Starts for PumpkinSpice\_71:

(Start: 104 @53129 has 176 MA's), (123, 53204),

Gene: Pygmy\_30 Start: 27079, Stop: 27327, Start Num: 108

Candidate Starts for Pygmy\_30:

(Start: 108 @27079 has 64 MA's),

Gene: Quaran19\_72 Start: 53120, Stop: 53371, Start Num: 104

Candidate Starts for Quaran19\_72:

(Start: 104 @53120 has 176 MA's), (123, 53195),

Gene: QueenHazel\_27 Start: 25412, Stop: 25657, Start Num: 108

Candidate Starts for QueenHazel\_27:

(12, 24575), (18, 24791), (23, 24896), (25, 24914), (76, 25307), (85, 25355), (Start: 108 @25412 has 64 MA's), (134, 25517), (139, 25532), (163, 25625),

Gene: QuickMath\_33 Start: 29883, Stop: 30116, Start Num: 104

Candidate Starts for QuickMath\_33:

(57, 29736), (Start: 104 @29883 has 176 MA's), (Start: 109 @29886 has 10 MA's), (137, 29997), (139, 30003), (142, 30012), (147, 30030), (148, 30033), (153, 30045),

Gene: Quico\_33 Start: 28343, Stop: 28576, Start Num: 104

Candidate Starts for Quico\_33:

(57, 28196), (Start: 104 @28343 has 176 MA's), (Start: 109 @28346 has 10 MA's), (137, 28457), (139, 28463), (142, 28472), (147, 28490), (148, 28493), (153, 28505),

Gene: Radiance\_32 Start: 28707, Stop: 28940, Start Num: 104

Candidate Starts for Radiance\_32:

(57, 28560), (Start: 104 @28707 has 176 MA's), (Start: 109 @28710 has 10 MA's), (137, 28821), (139, 28827), (142, 28836), (147, 28854), (148, 28857), (153, 28869),

Gene: Ramsey\_35 Start: 29367, Stop: 29600, Start Num: 103

Candidate Starts for Ramsey\_35:

(Start: 103 @29367 has 105 MA's), (132, 29466), (139, 29487), (142, 29496), (147, 29514), (148, 29517), (153, 29529),

Gene: Rasovi\_30 Start: 22726, Stop: 23004, Start Num: 103

Candidate Starts for Rasovi\_30:

(47, 22486), (69, 22588), (Start: 97 @22717 has 9 MA's), (Start: 103 @22726 has 105 MA's), (122, 22801), (125, 22813), (133, 22840), (148, 22888), (168, 22966),

Gene: RayTheFireFly\_23 Start: 21371, Stop: 21616, Start Num: 99

Candidate Starts for RayTheFireFly\_23:

(Start: 99 @21371 has 8 MA's), (Start: 105 @21377 has 32 MA's), (116, 21419), (122, 21449), (128, 21470), (148, 21524), (164, 21584),

Gene: RedBird\_32 Start: 28512, Stop: 28745, Start Num: 104

Candidate Starts for RedBird\_32:

(Start: 104 @28512 has 176 MA's), (Start: 109 @28515 has 10 MA's), (137, 28626), (139, 28632), (142, 28641), (147, 28659), (148, 28662), (153, 28674),

Gene: RegnumDei\_26 Start: 25854, Stop: 26069, Start Num: 108

Candidate Starts for RegnumDei\_26:

(Start: 108 @25854 has 64 MA's), (117, 25899), (121, 25914), (131, 25947), (156, 26022), (164, 26061),

Gene: Renaud18\_32 Start: 28732, Stop: 28965, Start Num: 103

Candidate Starts for Renaud18\_32:

(35, 28444), (Start: 103 @28732 has 105 MA's), (132, 28831), (139, 28852), (142, 28861), (153, 28894),

Gene: RetrieverFever\_49 Start: 27549, Stop: 27746, Start Num: 110

Candidate Starts for RetrieverFever\_49:

(Start: 110 @27549 has 23 MA's), (119, 27600),

Gene: Rialto\_36 Start: 30865, Stop: 31098, Start Num: 104

Candidate Starts for Rialto\_36:

(57, 30718), (Start: 104 @30865 has 176 MA's), (Start: 109 @30868 has 10 MA's), (137, 30979), (139, 30985), (142, 30994), (147, 31012), (148, 31015), (153, 31027),

Gene: Rideau\_51 Start: 27480, Stop: 27677, Start Num: 110  
Candidate Starts for Rideau\_51:  
(73, 27357), (Start: 110 @27480 has 23 MA's), (115, 27513), (124, 27546), (151, 27615), (161, 27642),

Gene: Rikishi\_72 Start: 53035, Stop: 53286, Start Num: 104  
Candidate Starts for Rikishi\_72:  
(Start: 104 @53035 has 176 MA's), (123, 53110),

Gene: Riptide\_67 Start: 51923, Stop: 52174, Start Num: 104  
Candidate Starts for Riptide\_67:  
(Start: 104 @51923 has 176 MA's), (124, 52004), (170, 52151),

Gene: Rita\_33 Start: 28781, Stop: 29014, Start Num: 103  
Candidate Starts for Rita\_33:  
(35, 28493), (Start: 103 @28781 has 105 MA's), (132, 28880), (137, 28895), (139, 28901), (142, 28910), (153, 28943),

Gene: RitaG\_33 Start: 28977, Stop: 29210, Start Num: 104  
Candidate Starts for RitaG\_33:  
(Start: 104 @28977 has 176 MA's), (Start: 109 @28980 has 10 MA's), (137, 29091), (139, 29097), (142, 29106), (147, 29124), (148, 29127), (153, 29139),

Gene: Rockne\_32 Start: 28514, Stop: 28747, Start Num: 104  
Candidate Starts for Rockne\_32:  
(57, 28367), (Start: 104 @28514 has 176 MA's), (Start: 109 @28517 has 10 MA's), (137, 28628), (139, 28634), (142, 28643), (147, 28661), (148, 28664), (153, 28676),

Gene: RockyHorror\_33 Start: 28458, Stop: 28691, Start Num: 104  
Candidate Starts for RockyHorror\_33:  
(Start: 104 @28458 has 176 MA's), (Start: 109 @28461 has 10 MA's), (137, 28572), (139, 28578), (142, 28587), (147, 28605), (148, 28608), (153, 28620),

Gene: RomansRevenge\_36 Start: 33483, Stop: 33725, Start Num: 94  
Candidate Starts for RomansRevenge\_36:  
(Start: 94 @33483 has 1 MA's), (124, 33570), (140, 33621), (156, 33669),

Gene: Romero\_49 Start: 27952, Stop: 28149, Start Num: 110  
Candidate Starts for Romero\_49:  
(Start: 110 @27952 has 23 MA's), (115, 27985), (124, 28018),

Gene: Ronaldo\_64 Start: 35651, Stop: 35863, Start Num: 108  
Candidate Starts for Ronaldo\_64:  
(Start: 108 @35651 has 64 MA's), (115, 35690), (148, 35795), (161, 35828),

Gene: Rootkit7\_30 Start: 22521, Stop: 22799, Start Num: 103  
Candidate Starts for Rootkit7\_30:  
(47, 22290), (69, 22383), (71, 22395), (Start: 97 @22512 has 9 MA's), (Start: 103 @22521 has 105 MA's), (125, 22608), (138, 22650), (148, 22683), (168, 22761),

Gene: RosePharie\_49 Start: 28196, Stop: 28393, Start Num: 110  
Candidate Starts for RosePharie\_49:

(41, 27917), (46, 27941), (51, 27974), (58, 27998), (67, 28043), (68, 28046), (Start: 110 @28196 has 23 MA's), (130, 28280), (159, 28355),

Gene: Royals2015\_32 Start: 28631, Stop: 28864, Start Num: 104

Candidate Starts for Royals2015\_32:

(Start: 104 @28631 has 176 MA's), (Start: 109 @28634 has 10 MA's), (137, 28745), (139, 28751), (142, 28760), (147, 28778), (148, 28781), (153, 28793),

Gene: Ruby\_34 Start: 29563, Stop: 29805, Start Num: 98

Candidate Starts for Ruby\_34:

(29, 29137), (59, 29398), (Start: 98 @29563 has 6 MA's), (Start: 108 @29572 has 64 MA's), (Start: 109 @29575 has 10 MA's), (137, 29686), (139, 29692), (142, 29701), (147, 29719), (148, 29722), (153, 29734),

Gene: SBlackberry\_30 Start: 22499, Stop: 22780, Start Num: 103

Candidate Starts for SBlackberry\_30:

(47, 22286), (69, 22361), (Start: 97 @22490 has 9 MA's), (Start: 103 @22499 has 105 MA's), (122, 22574), (125, 22586), (133, 22613), (138, 22628), (148, 22661), (168, 22739),

Gene: SG4\_33 Start: 29281, Stop: 29514, Start Num: 108

Candidate Starts for SG4\_33:

(29, 28846), (59, 29107), (Start: 98 @29272 has 6 MA's), (Start: 108 @29281 has 64 MA's), (Start: 109 @29284 has 10 MA's), (132, 29380), (137, 29395), (139, 29401), (142, 29410), (147, 29428), (148, 29431), (153, 29443),

Gene: SPB78\_23 Start: 20233, Stop: 20484, Start Num: 108

Candidate Starts for SPB78\_23:

(70, 20095), (Start: 108 @20233 has 64 MA's), (115, 20272), (122, 20296), (124, 20305), (147, 20380), (156, 20404),

Gene: Saal\_32 Start: 28586, Stop: 28819, Start Num: 104

Candidate Starts for Saal\_32:

(57, 28439), (Start: 104 @28586 has 176 MA's), (Start: 109 @28589 has 10 MA's), (137, 28700), (139, 28706), (142, 28715), (147, 28733), (148, 28736), (153, 28748),

Gene: Sabbb\_33 Start: 28931, Stop: 29164, Start Num: 104

Candidate Starts for Sabbb\_33:

(40, 28688), (57, 28784), (Start: 104 @28931 has 176 MA's), (Start: 109 @28934 has 10 MA's), (137, 29045), (139, 29051), (142, 29060), (147, 29078), (148, 29081), (153, 29093),

Gene: SaltySpittoon\_72 Start: 53129, Stop: 53380, Start Num: 104

Candidate Starts for SaltySpittoon\_72:

(Start: 104 @53129 has 176 MA's), (123, 53204),

Gene: Sandalphon\_33 Start: 29315, Stop: 29548, Start Num: 104

Candidate Starts for Sandalphon\_33:

(Start: 104 @29315 has 176 MA's), (132, 29414), (139, 29435), (142, 29444), (153, 29477),

Gene: Sarma624\_28 Start: 24741, Stop: 24974, Start Num: 103

Candidate Starts for Sarma624\_28:

(Start: 103 @24741 has 105 MA's), (132, 24840), (137, 24855), (139, 24861), (142, 24870), (153, 24903),

Gene: Sassafras\_33 Start: 29216, Stop: 29449, Start Num: 104  
Candidate Starts for Sassafras\_33:  
(Start: 104 @29216 has 176 MA's), (Start: 109 @29219 has 10 MA's), (137, 29330), (139, 29336),  
(142, 29345), (147, 29363), (148, 29366), (153, 29378),

Gene: SassyB\_32 Start: 28847, Stop: 29080, Start Num: 104  
Candidate Starts for SassyB\_32:  
(Start: 104 @28847 has 176 MA's), (Start: 109 @28850 has 10 MA's), (132, 28946), (139, 28967),  
(142, 28976), (153, 29009),

Gene: Scottish\_33 Start: 29837, Stop: 30070, Start Num: 104  
Candidate Starts for Scottish\_33:  
(Start: 104 @29837 has 176 MA's), (Start: 109 @29840 has 10 MA's), (137, 29951), (139, 29957),  
(142, 29966), (147, 29984), (148, 29987), (153, 29999),

Gene: SeaLumen\_36 Start: 28713, Stop: 28946, Start Num: 104  
Candidate Starts for SeaLumen\_36:  
(57, 28566), (Start: 104 @28713 has 176 MA's), (Start: 109 @28716 has 10 MA's), (137, 28827), (139,  
28833), (142, 28842), (147, 28860), (148, 28863), (153, 28875),

Gene: Seabastian\_32 Start: 28744, Stop: 28977, Start Num: 104  
Candidate Starts for Seabastian\_32:  
(44, 28528), (Start: 104 @28744 has 176 MA's), (Start: 109 @28747 has 10 MA's), (137, 28858), (139,  
28864), (142, 28873), (147, 28891), (148, 28894), (153, 28906),

Gene: Seagreen\_33 Start: 28654, Stop: 28887, Start Num: 104  
Candidate Starts for Seagreen\_33:  
(Start: 104 @28654 has 176 MA's), (Start: 109 @28657 has 10 MA's), (137, 28768), (142, 28783),  
(147, 28801), (148, 28804), (153, 28816),

Gene: Shagrat\_28 Start: 27081, Stop: 27296, Start Num: 108  
Candidate Starts for Shagrat\_28:  
(Start: 108 @27081 has 64 MA's), (126, 27159), (156, 27249),

Gene: Shauna1\_29 Start: 27668, Stop: 27901, Start Num: 103  
Candidate Starts for Shauna1\_29:  
(Start: 103 @27668 has 105 MA's), (132, 27767), (139, 27788), (142, 27797), (153, 27830),

Gene: ShiLan\_32 Start: 28750, Stop: 28983, Start Num: 103  
Candidate Starts for ShiLan\_32:  
(34, 28459), (35, 28462), (39, 28498), (Start: 103 @28750 has 105 MA's), (132, 28849), (139, 28870),  
(142, 28879), (153, 28912),

Gene: Shipwreck\_30 Start: 27054, Stop: 27302, Start Num: 108  
Candidate Starts for Shipwreck\_30:  
(Start: 108 @27054 has 64 MA's),

Gene: ShowerHandel\_32 Start: 28709, Stop: 28942, Start Num: 103  
Candidate Starts for ShowerHandel\_32:  
(34, 28418), (35, 28421), (39, 28457), (Start: 103 @28709 has 105 MA's), (132, 28808), (139, 28829),  
(142, 28838), (153, 28871),

Gene: ShroomBoi\_29 Start: 27607, Stop: 27840, Start Num: 103

Candidate Starts for ShroomBoi\_29:

(35, 27319), (Start: 103 @27607 has 105 MA's), (132, 27706), (139, 27727), (142, 27736), (153, 27769),

Gene: SiSi\_32 Start: 28515, Stop: 28748, Start Num: 104

Candidate Starts for SiSi\_32:

(Start: 104 @28515 has 176 MA's), (Start: 109 @28518 has 10 MA's), (137, 28629), (139, 28635), (142, 28644), (147, 28662), (148, 28665), (153, 28677),

Gene: SilverChicken\_40 Start: 28433, Stop: 28666, Start Num: 103

Candidate Starts for SilverChicken\_40:

(Start: 103 @28433 has 105 MA's), (132, 28532), (139, 28553), (142, 28562), (153, 28595),

Gene: SimranZ1\_35 Start: 28834, Stop: 29067, Start Num: 104

Candidate Starts for SimranZ1\_35:

(44, 28618), (Start: 104 @28834 has 176 MA's), (Start: 109 @28837 has 10 MA's), (137, 28948), (139, 28954), (142, 28963), (147, 28981), (148, 28984), (153, 28996),

Gene: Slim\_34 Start: 29906, Stop: 30139, Start Num: 104

Candidate Starts for Slim\_34:

(33, 29597), (57, 29759), (Start: 104 @29906 has 176 MA's), (Start: 109 @29909 has 10 MA's), (137, 30020), (139, 30026), (142, 30035), (147, 30053), (148, 30056), (153, 30068),

Gene: Sollertia\_72 Start: 53095, Stop: 53346, Start Num: 104

Candidate Starts for Sollertia\_72:

(Start: 104 @53095 has 176 MA's), (116, 53137), (140, 53215), (170, 53323),

Gene: Sonah\_28 Start: 25227, Stop: 25475, Start Num: 108

Candidate Starts for Sonah\_28:

(Start: 108 @25227 has 64 MA's),

Gene: Soul22\_37 Start: 28902, Stop: 29144, Start Num: 98

Candidate Starts for Soul22\_37:

(Start: 98 @28902 has 6 MA's), (Start: 108 @28911 has 64 MA's), (Start: 109 @28914 has 10 MA's), (137, 29025), (139, 29031), (142, 29040), (147, 29058), (148, 29061), (153, 29073),

Gene: Sparkdehlily\_32 Start: 28632, Stop: 28865, Start Num: 104

Candidate Starts for Sparkdehlily\_32:

(57, 28485), (Start: 104 @28632 has 176 MA's), (Start: 109 @28635 has 10 MA's), (137, 28746), (139, 28752), (142, 28761), (147, 28779), (148, 28782), (153, 28794),

Gene: Spartacus\_34 Start: 29042, Stop: 29275, Start Num: 104

Candidate Starts for Spartacus\_34:

(Start: 104 @29042 has 176 MA's), (Start: 109 @29045 has 10 MA's), (137, 29156), (139, 29162), (142, 29171), (147, 29189), (148, 29192), (153, 29204),

Gene: Spelly\_72 Start: 53084, Stop: 53335, Start Num: 104

Candidate Starts for Spelly\_72:

(Start: 104 @53084 has 176 MA's), (123, 53159),

Gene: Spikelee\_34 Start: 28780, Stop: 29013, Start Num: 103

Candidate Starts for Spikelee\_34:

(Start: 103 @28780 has 105 MA's), (137, 28894), (139, 28900), (142, 28909), (147, 28927), (148, 28930), (153, 28942),

Gene: Spilled\_73 Start: 53201, Stop: 53452, Start Num: 104

Candidate Starts for Spilled\_73:

(Start: 104 @53201 has 176 MA's), (123, 53276),

Gene: Spoonbill\_32 Start: 28796, Stop: 29029, Start Num: 104

Candidate Starts for Spoonbill\_32:

(57, 28649), (Start: 104 @28796 has 176 MA's), (Start: 109 @28799 has 10 MA's), (137, 28910), (139, 28916), (142, 28925), (147, 28943), (148, 28946), (153, 28958),

Gene: StAnnes\_31 Start: 29111, Stop: 29344, Start Num: 108

Candidate Starts for StAnnes\_31:

(29, 28676), (59, 28937), (Start: 98 @29102 has 6 MA's), (Start: 108 @29111 has 64 MA's), (Start: 109 @29114 has 10 MA's), (137, 29225), (139, 29231), (142, 29240), (147, 29258), (148, 29261), (153, 29273),

Gene: StAugustine\_21 Start: 16877, Stop: 17173, Start Num: 95

Candidate Starts for StAugustine\_21:

(Start: 95 @16877 has 2 MA's), (136, 17015), (169, 17123),

Gene: Stanimal\_72 Start: 52984, Stop: 53235, Start Num: 104

Candidate Starts for Stanimal\_72:

(Start: 104 @52984 has 176 MA's), (116, 53026), (140, 53104), (170, 53212),

Gene: Stap\_33 Start: 28688, Stop: 28921, Start Num: 104

Candidate Starts for Stap\_33:

(35, 28397), (Start: 104 @28688 has 176 MA's), (137, 28802), (139, 28808), (142, 28817), (147, 28835), (148, 28838), (153, 28850),

Gene: StarPlatinum\_72 Start: 53629, Stop: 53880, Start Num: 104

Candidate Starts for StarPlatinum\_72:

(Start: 104 @53629 has 176 MA's), (123, 53704), (164, 53836),

Gene: Starbow\_70 Start: 53105, Stop: 53356, Start Num: 104

Candidate Starts for Starbow\_70:

(Start: 104 @53105 has 176 MA's), (123, 53180),

Gene: Starcevich\_36 Start: 29410, Stop: 29643, Start Num: 104

Candidate Starts for Starcevich\_36:

(44, 29200), (Start: 104 @29410 has 176 MA's), (132, 29509), (139, 29530), (142, 29539), (153, 29572),

Gene: Stella\_51 Start: 28187, Stop: 28384, Start Num: 110

Candidate Starts for Stella\_51:

(Start: 110 @28187 has 23 MA's), (115, 28220), (161, 28349),

Gene: StevieRay\_28 Start: 25219, Stop: 25464, Start Num: 108

Candidate Starts for StevieRay\_28:

(Start: 108 @25219 has 64 MA's),

Gene: StressBall\_28 Start: 25499, Stop: 25747, Start Num: 108

Candidate Starts for StressBall\_28:  
(Start: 108 @25499 has 64 MA's),

Gene: Strokeseat\_33 Start: 29357, Stop: 29590, Start Num: 103  
Candidate Starts for Strokeseat\_33:  
(Start: 103 @29357 has 105 MA's), (132, 29456), (139, 29477), (142, 29486), (153, 29519),

Gene: SuMoo\_22 Start: 18079, Stop: 18363, Start Num: 80  
Candidate Starts for SuMoo\_22:  
(Start: 80 @18079 has 15 MA's), (156, 18319), (166, 18358),

Gene: Sucha\_27 Start: 19896, Stop: 20168, Start Num: 103  
Candidate Starts for Sucha\_27:  
(Start: 97 @19887 has 9 MA's), (Start: 103 @19896 has 105 MA's), (125, 19983), (148, 20058),

Gene: SuperGrey\_33 Start: 29503, Stop: 29736, Start Num: 103  
Candidate Starts for SuperGrey\_33:  
(35, 29215), (Start: 103 @29503 has 105 MA's), (132, 29602), (139, 29623), (142, 29632), (153, 29665),

Gene: SuperHands\_23 Start: 20712, Stop: 20993, Start Num: 80  
Candidate Starts for SuperHands\_23:  
(57, 20589), (Start: 80 @20712 has 15 MA's), (125, 20844), (148, 20922), (166, 20988),

Gene: SwagPigglett\_32 Start: 28520, Stop: 28753, Start Num: 103  
Candidate Starts for SwagPigglett\_32:  
(34, 28229), (35, 28232), (39, 28268), (Start: 103 @28520 has 105 MA's), (132, 28619), (139, 28640), (142, 28649), (153, 28682),

Gene: TChen\_32 Start: 29278, Stop: 29541, Start Num: 101  
Candidate Starts for TChen\_32:  
(52, 29071), (56, 29086), (82, 29221), (Start: 101 @29278 has 3 MA's), (149, 29443), (152, 29449), (154, 29452), (160, 29470), (171, 29527),

Gene: TDanisky\_32 Start: 28632, Stop: 28865, Start Num: 104  
Candidate Starts for TDanisky\_32:  
(57, 28485), (Start: 104 @28632 has 176 MA's), (Start: 109 @28635 has 10 MA's), (137, 28746), (139, 28752), (142, 28761), (147, 28779), (148, 28782), (153, 28794),

Gene: Taj\_32 Start: 28693, Stop: 28926, Start Num: 103  
Candidate Starts for Taj\_32:  
(Start: 103 @28693 has 105 MA's), (132, 28792), (139, 28813), (142, 28822), (153, 28855),

Gene: Tandem\_56 Start: 35818, Stop: 36033, Start Num: 97  
Candidate Starts for Tandem\_56:  
(75, 35728), (Start: 97 @35818 has 9 MA's), (100, 35824),

Gene: Targaryen\_71 Start: 54698, Stop: 54949, Start Num: 104  
Candidate Starts for Targaryen\_71:  
(Start: 104 @54698 has 176 MA's), (142, 54824),

Gene: Tchotchke\_32 Start: 28135, Stop: 28368, Start Num: 104  
Candidate Starts for Tchotchke\_32:

(44, 27919), (Start: 104 @28135 has 176 MA's), (Start: 109 @28138 has 10 MA's), (137, 28249), (139, 28255), (142, 28264), (147, 28282), (148, 28285), (153, 28297),

Gene: Techage\_28 Start: 25231, Stop: 25479, Start Num: 108  
Candidate Starts for Techage\_28:  
(Start: 108 @25231 has 64 MA's),

Gene: Thespis\_28 Start: 25235, Stop: 25483, Start Num: 108  
Candidate Starts for Thespis\_28:  
(Start: 108 @25235 has 64 MA's),

Gene: ThetaBob\_32 Start: 28234, Stop: 28491, Start Num: 106  
Candidate Starts for ThetaBob\_32:  
(Start: 106 @28234 has 3 MA's), (115, 28273), (124, 28306), (125, 28309), (142, 28363), (157, 28408), (158, 28411),

Gene: TomSawyer\_70 Start: 52723, Stop: 52974, Start Num: 104  
Candidate Starts for TomSawyer\_70:  
(Start: 104 @52723 has 176 MA's), (123, 52798),

Gene: Tomas\_74 Start: 55444, Stop: 55695, Start Num: 104  
Candidate Starts for Tomas\_74:  
(92, 55414), (Start: 104 @55444 has 176 MA's), (123, 55519), (124, 55525), (170, 55672),

Gene: TootsiePop\_33 Start: 28418, Stop: 28651, Start Num: 104  
Candidate Starts for TootsiePop\_33:  
(Start: 104 @28418 has 176 MA's), (Start: 109 @28421 has 10 MA's), (137, 28532), (139, 28538), (142, 28547), (147, 28565), (148, 28568), (153, 28580),

Gene: Tootsieroll\_33 Start: 28584, Stop: 28817, Start Num: 104  
Candidate Starts for Tootsieroll\_33:  
(35, 28293), (Start: 104 @28584 has 176 MA's), (132, 28683), (139, 28704), (142, 28713), (153, 28746),

Gene: Topiatin\_35 Start: 29220, Stop: 29453, Start Num: 104  
Candidate Starts for Topiatin\_35:  
(19, 28662), (21, 28737), (26, 28776), (27, 28809), (30, 28842), (34, 28923), (35, 28926), (44, 29004), (Start: 104 @29220 has 176 MA's), (Start: 109 @29223 has 10 MA's), (137, 29334), (139, 29340), (142, 29349), (147, 29367), (148, 29370), (153, 29382),

Gene: ToriToki\_49 Start: 27955, Stop: 28152, Start Num: 110  
Candidate Starts for ToriToki\_49:  
(Start: 110 @27955 has 23 MA's), (115, 27988), (124, 28021),

Gene: Toron\_33 Start: 29073, Stop: 29384, Start Num: 89  
Candidate Starts for Toron\_33:  
(82, 29058), (89, 29073), (91, 29088), (Start: 101 @29115 has 3 MA's), (113, 29151), (149, 29286), (152, 29292), (154, 29295), (160, 29313), (171, 29370),

Gene: Totinger\_33 Start: 28516, Stop: 28749, Start Num: 104  
Candidate Starts for Totinger\_33:  
(57, 28369), (Start: 104 @28516 has 176 MA's), (Start: 109 @28519 has 10 MA's), (137, 28630), (139, 28636), (142, 28645), (147, 28663), (148, 28666), (153, 28678),

Gene: Treat\_49 Start: 27896, Stop: 28093, Start Num: 110  
Candidate Starts for Treat\_49:  
(Start: 110 @27896 has 23 MA's), (115, 27929), (124, 27962),

Gene: TurboVicky\_30 Start: 22515, Stop: 22793, Start Num: 103  
Candidate Starts for TurboVicky\_30:  
(47, 22284), (69, 22377), (74, 22404), (Start: 97 @22506 has 9 MA's), (Start: 103 @22515 has 105 MA's), (125, 22602), (138, 22644), (148, 22677), (168, 22755),

Gene: Tweety\_32 Start: 28751, Stop: 28984, Start Num: 103  
Candidate Starts for Tweety\_32:  
(Start: 103 @28751 has 105 MA's), (132, 28850), (139, 28871), (142, 28880), (153, 28913),

Gene: Typher\_32 Start: 22644, Stop: 22922, Start Num: 103  
Candidate Starts for Typher\_32:  
(47, 22413), (69, 22506), (74, 22533), (Start: 97 @22635 has 9 MA's), (Start: 103 @22644 has 105 MA's), (125, 22731), (138, 22773), (148, 22806), (168, 22884),

Gene: UncleRicky\_35 Start: 29847, Stop: 30080, Start Num: 104  
Candidate Starts for UncleRicky\_35:  
(57, 29700), (Start: 104 @29847 has 176 MA's), (Start: 109 @29850 has 10 MA's), (137, 29961), (139, 29967), (142, 29976), (147, 29994), (148, 29997), (153, 30009),

Gene: UtzChips\_22 Start: 18828, Stop: 19115, Start Num: 80  
Candidate Starts for UtzChips\_22:  
(Start: 80 @18828 has 15 MA's), (92, 18864), (142, 19026), (166, 19110),

Gene: VRedHorse\_32 Start: 28705, Stop: 28938, Start Num: 104  
Candidate Starts for VRedHorse\_32:  
(57, 28558), (Start: 104 @28705 has 176 MA's), (Start: 109 @28708 has 10 MA's), (137, 28819), (139, 28825), (142, 28834), (153, 28867),

Gene: Velveteen\_28 Start: 24741, Stop: 24974, Start Num: 103  
Candidate Starts for Velveteen\_28:  
(Start: 103 @24741 has 105 MA's), (132, 24840), (137, 24855), (139, 24861), (142, 24870), (153, 24903),

Gene: Venti\_28 Start: 25240, Stop: 25488, Start Num: 108  
Candidate Starts for Venti\_28:  
(Start: 108 @25240 has 64 MA's),

Gene: Veteran\_32 Start: 28554, Stop: 28787, Start Num: 104  
Candidate Starts for Veteran\_32:  
(Start: 104 @28554 has 176 MA's), (Start: 109 @28557 has 10 MA's), (137, 28668), (139, 28674), (142, 28683), (147, 28701), (148, 28704), (153, 28716),

Gene: Vidya\_28 Start: 25240, Stop: 25488, Start Num: 108  
Candidate Starts for Vidya\_28:  
(Start: 108 @25240 has 64 MA's),

Gene: Violac\_33 Start: 29236, Stop: 29469, Start Num: 103  
Candidate Starts for Violac\_33:

(Start: 103 @29236 has 105 MA's), (132, 29335), (139, 29356), (142, 29365), (153, 29398),

Gene: Vivum\_33 Start: 28532, Stop: 28765, Start Num: 103

Candidate Starts for Vivum\_33:

(Start: 103 @28532 has 105 MA's), (132, 28631), (139, 28652), (142, 28661), (153, 28694),

Gene: Volt\_64 Start: 35815, Stop: 36027, Start Num: 108

Candidate Starts for Volt\_64:

(Start: 108 @35815 has 64 MA's), (115, 35854), (148, 35959), (161, 35992),

Gene: Vorvolakos\_49 Start: 27548, Stop: 27745, Start Num: 110

Candidate Starts for Vorvolakos\_49:

(Start: 110 @27548 has 23 MA's), (119, 27599),

Gene: WRightOn\_50 Start: 27662, Stop: 27859, Start Num: 110

Candidate Starts for WRightOn\_50:

(Start: 110 @27662 has 23 MA's), (116, 27698), (130, 27746), (159, 27821),

Gene: Wachhund\_32 Start: 28708, Stop: 28941, Start Num: 103

Candidate Starts for Wachhund\_32:

(Start: 103 @28708 has 105 MA's), (132, 28807), (139, 28828), (142, 28837), (153, 28870),

Gene: Wakanda\_47 Start: 44427, Stop: 44681, Start Num: 104

Candidate Starts for Wakanda\_47:

(Start: 104 @44427 has 176 MA's), (164, 44640),

Gene: Warpy\_74 Start: 54162, Stop: 54413, Start Num: 104

Candidate Starts for Warpy\_74:

(Start: 104 @54162 has 176 MA's), (142, 54288),

Gene: Wee\_33 Start: 29231, Stop: 29464, Start Num: 103

Candidate Starts for Wee\_33:

(Start: 103 @29231 has 105 MA's), (132, 29330), (139, 29351), (142, 29360), (153, 29393),

Gene: Whatsapiecost\_33 Start: 28967, Stop: 29200, Start Num: 103

Candidate Starts for Whatsapiecost\_33:

(Start: 103 @28967 has 105 MA's), (132, 29066), (139, 29087), (142, 29096), (153, 29129),

Gene: Whouxphf\_33 Start: 29025, Stop: 29258, Start Num: 104

Candidate Starts for Whouxphf\_33:

(33, 28716), (40, 28782), (57, 28878), (Start: 104 @29025 has 176 MA's), (Start: 109 @29028 has 10 MA's), (137, 29139), (139, 29145), (142, 29154), (153, 29187),

Gene: WillSterrel\_34 Start: 30156, Stop: 30389, Start Num: 103

Candidate Starts for WillSterrel\_34:

(Start: 103 @30156 has 105 MA's), (132, 30255), (139, 30276), (142, 30285), (153, 30318),

Gene: Wipeout\_70 Start: 53474, Stop: 53725, Start Num: 104

Candidate Starts for Wipeout\_70:

(Start: 104 @53474 has 176 MA's), (123, 53549),

Gene: Wofford\_71 Start: 54159, Stop: 54410, Start Num: 104

Candidate Starts for Wofford\_71:

(Start: 104 @54159 has 176 MA's), (123, 54234), (137, 54270), (151, 54312), (161, 54339),

Gene: XFactor\_32 Start: 28712, Stop: 28945, Start Num: 104

Candidate Starts for XFactor\_32:

(57, 28565), (Start: 104 @28712 has 176 MA's), (Start: 109 @28715 has 10 MA's), (137, 28826), (139, 28832), (142, 28841), (147, 28859), (148, 28862), (153, 28874),

Gene: Xavia\_28 Start: 25869, Stop: 26114, Start Num: 108

Candidate Starts for Xavia\_28:

(6, 24852), (12, 25032), (18, 25248), (23, 25353), (25, 25371), (76, 25764), (85, 25812), (Start: 108 @25869 has 64 MA's), (134, 25974), (139, 25989), (160, 26052),

Gene: Xula\_26 Start: 24936, Stop: 25181, Start Num: 108

Candidate Starts for Xula\_26:

(12, 24099), (18, 24315), (23, 24420), (25, 24438), (76, 24831), (85, 24879), (Start: 108 @24936 has 64 MA's), (134, 25041), (139, 25056),

Gene: Yaboi\_72 Start: 53072, Stop: 53323, Start Num: 104

Candidate Starts for Yaboi\_72:

(Start: 104 @53072 has 176 MA's), (116, 53114), (140, 53192), (170, 53300),

Gene: Yorick\_32 Start: 28707, Stop: 28940, Start Num: 103

Candidate Starts for Yorick\_32:

(34, 28416), (35, 28419), (39, 28455), (Start: 103 @28707 has 105 MA's), (132, 28806), (139, 28827), (142, 28836), (153, 28869),

Gene: Yoshi\_39 Start: 28311, Stop: 28568, Start Num: 106

Candidate Starts for Yoshi\_39:

(Start: 106 @28311 has 3 MA's), (111, 28320), (124, 28383), (142, 28440), (147, 28458), (157, 28485), (158, 28488), (172, 28557),

Gene: Zanella\_30 Start: 22523, Stop: 22801, Start Num: 103

Candidate Starts for Zanella\_30:

(47, 22292), (69, 22385), (71, 22397), (Start: 97 @22514 has 9 MA's), (Start: 103 @22523 has 105 MA's), (125, 22610), (138, 22652), (148, 22685), (168, 22763),

Gene: Zapner\_39 Start: 29391, Stop: 29648, Start Num: 105

Candidate Starts for Zapner\_39:

(Start: 105 @29391 has 32 MA's), (112, 29409), (122, 29454), (123, 29457), (134, 29496), (140, 29514), (148, 29541), (151, 29547), (152, 29550),

Gene: Zeigle\_47 Start: 27506, Stop: 27703, Start Num: 110

Candidate Starts for Zeigle\_47:

(Start: 110 @27506 has 23 MA's), (116, 27542), (130, 27590), (159, 27665),

Gene: Zerg\_32 Start: 28567, Stop: 28800, Start Num: 104

Candidate Starts for Zerg\_32:

(Start: 104 @28567 has 176 MA's), (Start: 109 @28570 has 10 MA's), (137, 28681), (139, 28687), (142, 28696), (147, 28714), (148, 28717), (153, 28729),

Gene: Zeta1847\_21 Start: 18934, Stop: 19224, Start Num: 80

Candidate Starts for Zeta1847\_21:

(24, 18499), (66, 18847), (Start: 80 @18934 has 15 MA's), (148, 19159), (166, 19219),

Gene: Ziko\_64 Start: 35637, Stop: 35849, Start Num: 108

Candidate Starts for Ziko\_64:

(Start: 108 @35637 has 64 MA's), (115, 35676), (148, 35781), (161, 35814),

Gene: Zilizabeth\_28 Start: 25240, Stop: 25488, Start Num: 108

Candidate Starts for Zilizabeth\_28:

(Start: 108 @25240 has 64 MA's),

Gene: Zizzle\_32 Start: 28651, Stop: 28884, Start Num: 103

Candidate Starts for Zizzle\_32:

(34, 28360), (35, 28363), (39, 28399), (Start: 103 @28651 has 105 MA's), (132, 28750), (139, 28771),  
(142, 28780), (153, 28813),

Gene: ZooBear\_49 Start: 27959, Stop: 28156, Start Num: 110

Candidate Starts for ZooBear\_49:

(Start: 110 @27959 has 23 MA's), (115, 27992), (124, 28025),