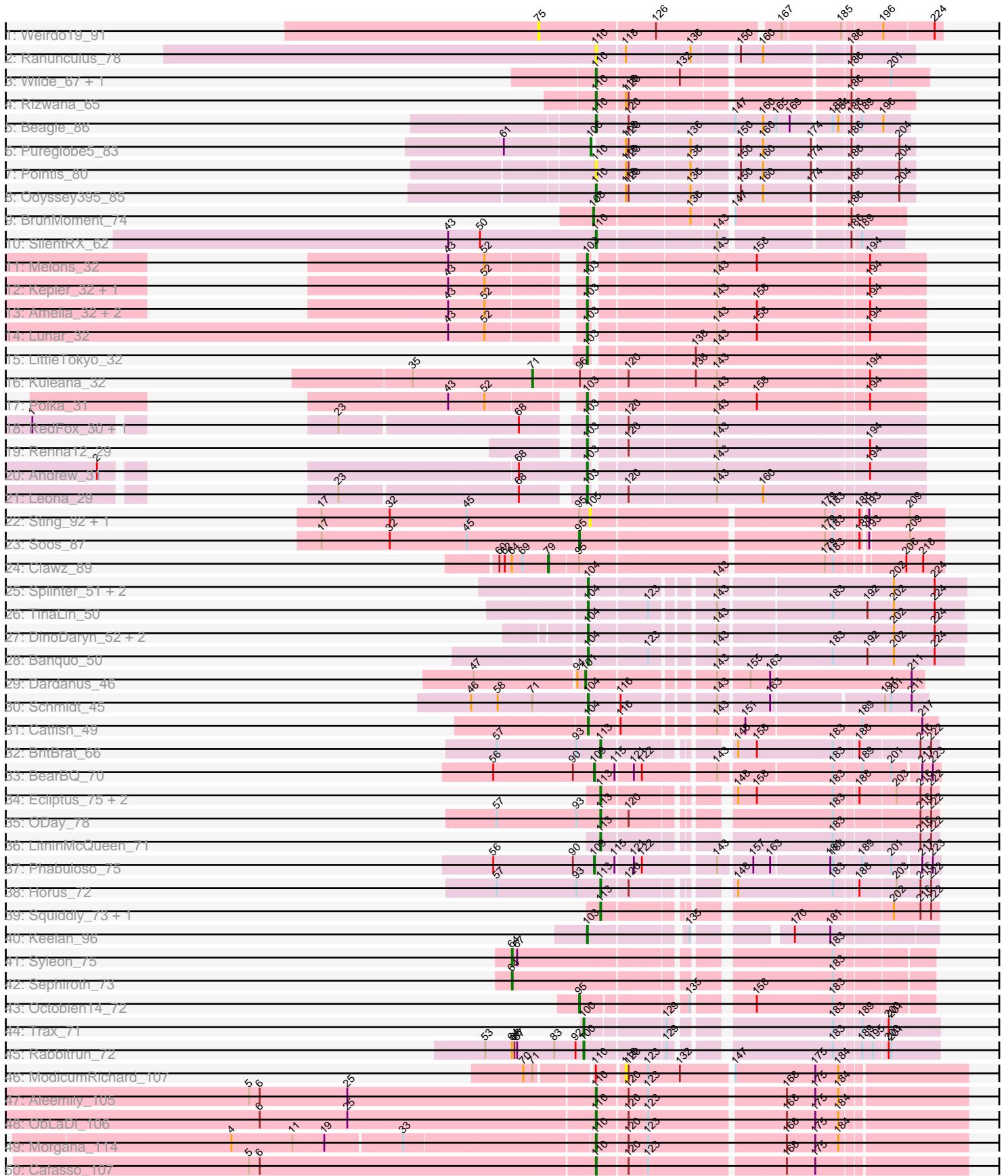
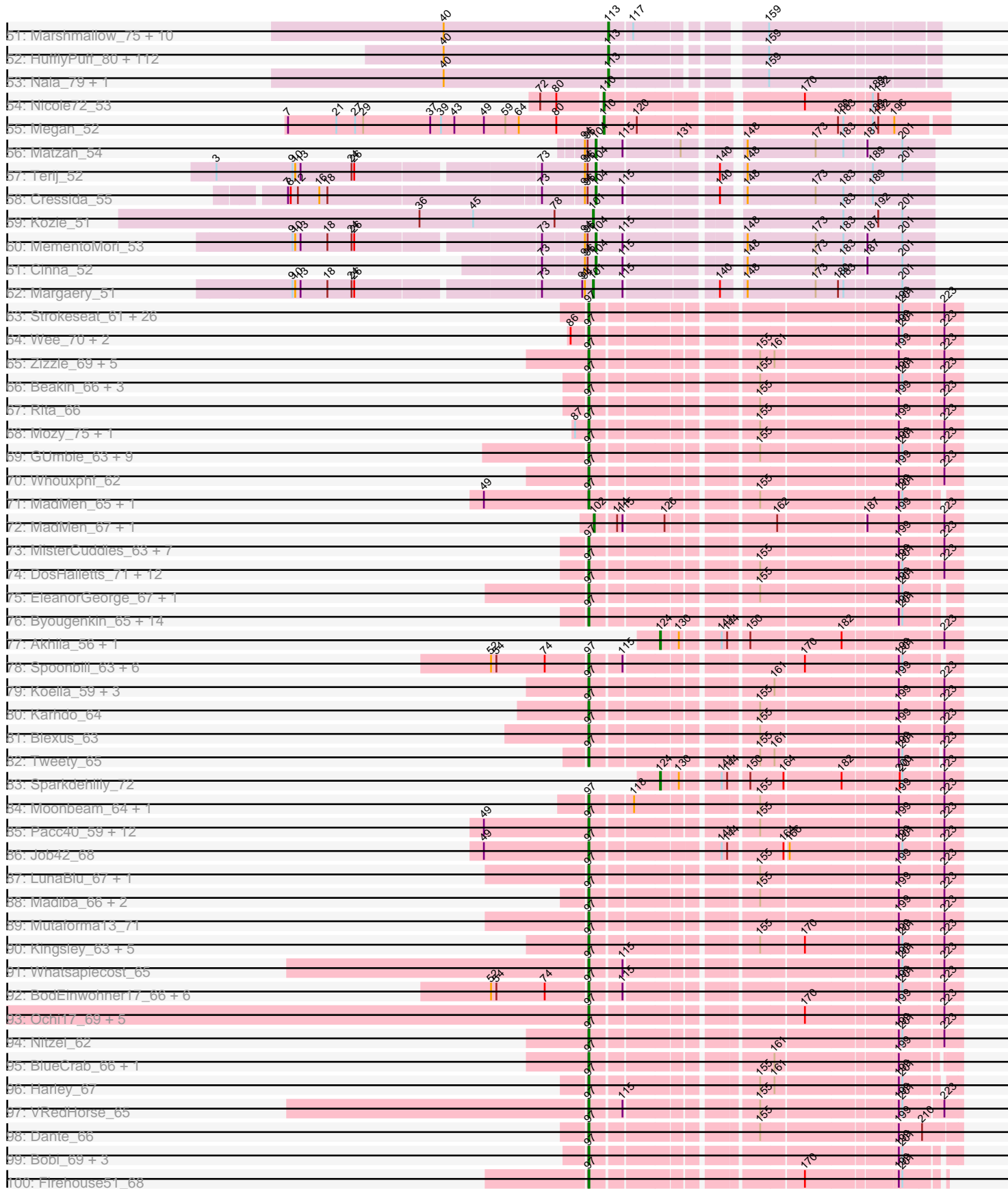


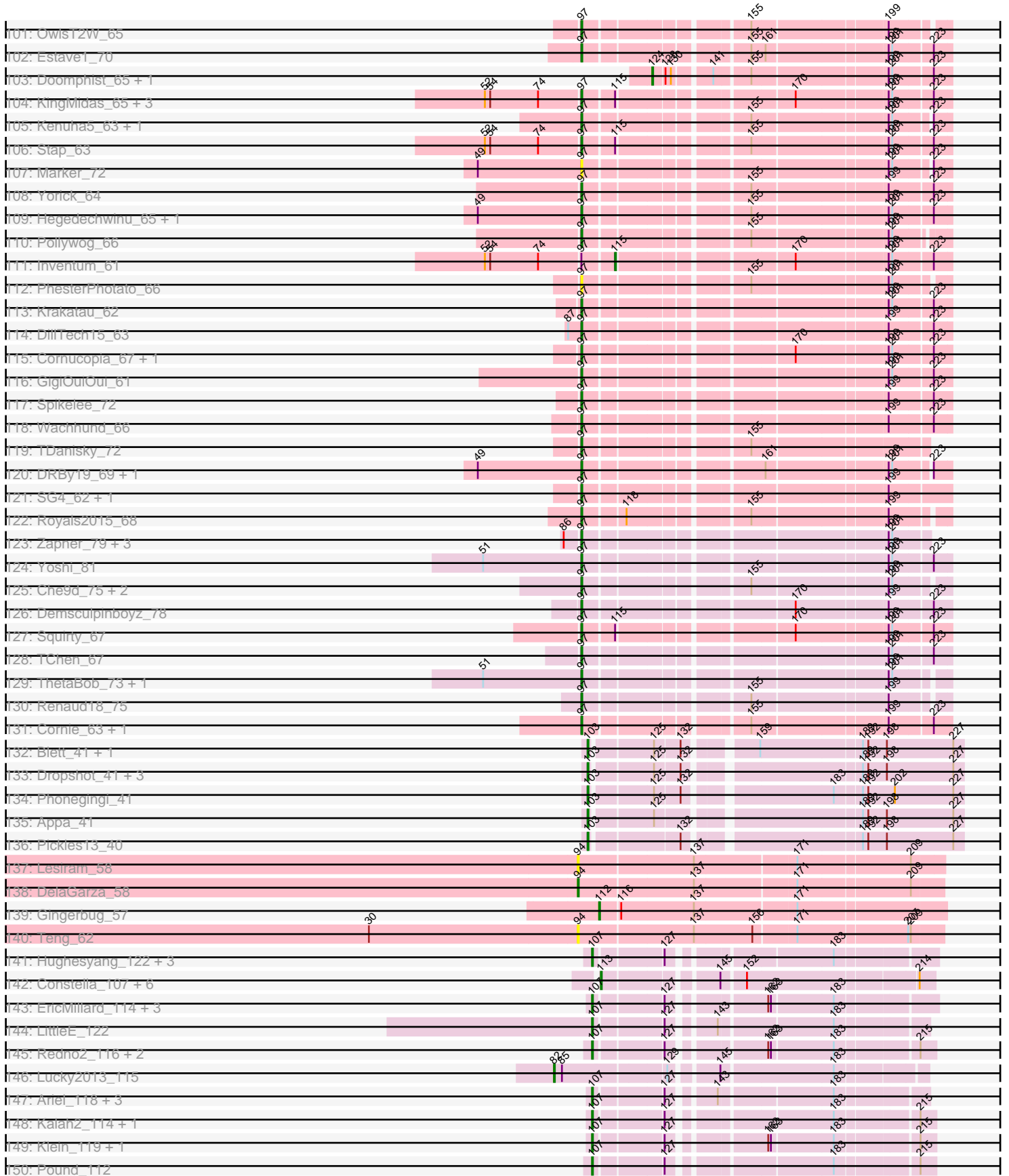
# Pham 157468



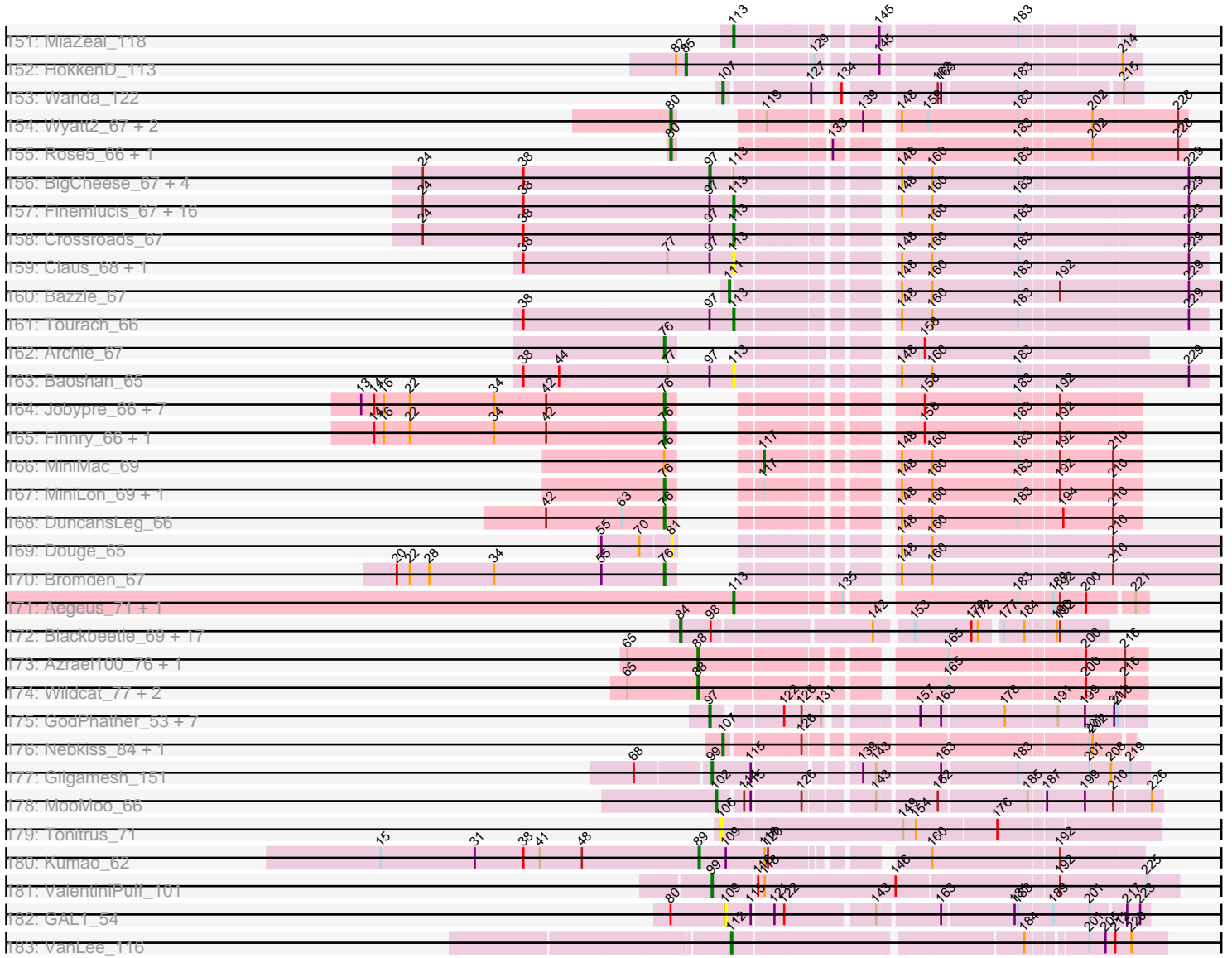
Pham 157468



Pham 157468



Pham 157468



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 157468 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157468 has 548 members, 43 are drafts.

Phages represented in each track:

- Track 1 : Weirdo19\_91
- Track 2 : Ranunculus\_78
- Track 3 : Wilde\_67, Tank\_65
- Track 4 : Rizwana\_65
- Track 5 : Beagle\_86
- Track 6 : Pureglobe5\_83
- Track 7 : Pointis\_80
- Track 8 : Odyssey395\_85
- Track 9 : BruhMoment\_74
- Track 10 : SilentRX\_62
- Track 11 : Melons\_32
- Track 12 : Kepler\_32, Daob\_33
- Track 13 : Amelia\_32, Cote\_33, Coral\_31
- Track 14 : Lunar\_32
- Track 15 : LittleTokyo\_32
- Track 16 : Kuleana\_32
- Track 17 : Polka\_31
- Track 18 : RedFox\_30, Juno112\_29
- Track 19 : Renna12\_29
- Track 20 : Andrew\_31
- Track 21 : Leona\_29
- Track 22 : Sting\_92, DonTron\_90
- Track 23 : Soos\_87
- Track 24 : Clawz\_89
- Track 25 : Splinter\_51, Vendetta\_51, Goib\_52
- Track 26 : TinaLin\_50
- Track 27 : DinoDaryn\_52, TZGordon\_53, Huffy\_52
- Track 28 : Banquo\_50
- Track 29 : Dardanus\_46
- Track 30 : Schmidt\_45
- Track 31 : Catfish\_49
- Track 32 : BritBrat\_66
- Track 33 : BearBQ\_70
- Track 34 : Ecliptus\_75, CheeseTouch\_74, Kuwabara\_72
- Track 35 : ODay\_78
- Track 36 : LitninMcQueen\_71
- Track 37 : Phabuloso\_75

- Track 38 : Horus\_72
- Track 39 : Squiddly\_73, Spooky\_68
- Track 40 : Keelan\_96
- Track 41 : Syleon\_75
- Track 42 : Sephiroth\_73
- Track 43 : Octobien14\_72
- Track 44 : Trax\_71
- Track 45 : Rabbitrun\_72
- Track 46 : ModicumRichard\_107
- Track 47 : Aleemily\_105
- Track 48 : ObLaDi\_106
- Track 49 : Morgana\_114
- Track 50 : Cafasso\_107
- Track 51 : Marshmallow\_75, Cookies\_74, ChotaBhai\_77, Tomaszewski\_72, SirDuracell\_76, Bask21\_77, YassJohnny\_74, Pat3\_75, DoctorDiddles\_76, OrionPax\_76, Amao\_77
- Track 52 : HufflyPuff\_80, Teaspoon\_74, Buck\_78, Petra64142\_81, NoSleep\_78, Highbury\_76, Glexan\_76, TeardropMSU\_73, Lilizi\_78, Thresher\_79, Inca\_74, Kimchi\_81, 244\_78, MISSy\_78, Nimrod\_78, Stank\_81, Gage\_79, Moldemort\_80, Phaja\_75, HanKaySha\_77, Bruin\_74, BilboSwaggins\_76, Bench\_80, Myrale\_77, AmericanBeauty\_84, Manda\_78, Ukulele\_72, Rimmer\_78, Kostya\_77, SophKB\_74, Pumpkin\_80, Stark\_78, IHOP\_75, Icee\_78, Sassay\_72, MPhalcon\_78, Balomoji\_77, Dusk\_74, Kanye\_74, Saints25\_76, Cactus\_80, JeTaime\_77, Simpliphy\_76, BadStone\_74, GooberAzure\_80, PhatBacter\_81, xkcd\_80, Lilpickle\_76, Holt\_82, StellaBean\_73, Murica\_80, Rakim\_78, Adnama\_81, Gemini\_82, MadamMonkfish\_77, Mindy\_76, Mosby\_73, Dumbo\_77, Lilac\_79, Phaux\_79, NelitzaMV\_75, Eureka\_75, TBrady12\_80, BigBubba\_77, Flypotenuse\_73, Hopey\_77, CrystalP\_76, Phrux\_74, Cjw1\_77, Hoonter\_80, Willez\_72, BaboJay\_74, Goku\_75, Asriel\_76, Henry\_75, Barbarian\_76, Xandras\_76, Tuco\_78, Contagion\_73, Quallification\_78, Goldilocks\_80, StolenFromERC\_80, GoldenSpark\_81, Traaww1\_73, Daikon\_79, Easy2Say\_78, Filch\_78, ShamWow\_77, Porky\_76, Czyszczo1\_78, RiverMonster\_77, Sotrice96\_78, Harella\_77, Elph10\_77, Youngblood\_80, Toto\_75, Murphy\_77, Pharsalus\_74, Command613\_79, Gator\_75, Miniwave\_72, Elite2014\_76, Misfit\_78, Maxxinista\_79, ChosenOne\_77, Emmina\_77, Tarkin\_76, Argent26\_81, ABCat\_74, Terminus\_80, Wiggin\_79, DrDrey\_77, Paperbeatsrock\_76
- Track 53 : Nala\_79, FireRed\_81
- Track 54 : Nicole72\_53
- Track 55 : Megan\_52
- Track 56 : Matzah\_54
- Track 57 : Terij\_52
- Track 58 : Cressida\_55
- Track 59 : Kozie\_51
- Track 60 : MementoMori\_53
- Track 61 : Cinna\_52
- Track 62 : Margaery\_51
- Track 63 : Strokeseat\_61, Plumbus\_68, Spartacus\_67, Chevrolet\_73, StAnnes\_63, Hlubikazi\_61, Ovechkin\_65, DotProduct\_60, Donkeykong\_68, Girafales\_73, Florinda\_76, Filuzino\_63, Phanphagia\_61, DLane\_60, Ms6\_62, IrishSherpFalk\_66, PopTart\_59, Shauna1\_63, Rialto\_70, Melissauren88\_63, Seagreen\_64, SassyB\_59, WillSterrel\_66, Phalconet\_63, Flathead\_66, Quico\_73, Mandlovu\_61
- Track 64 : Wee\_70, DeadP\_72, Taj\_70
- Track 65 : Zizzle\_69, Pippy\_64, Maravista\_67, ByChance\_58, ShowerHandel\_66, BobaPhett\_69

- Track 66 : Beakin\_66, Guppsters\_66, Hades\_66, Soul22\_71
- Track 67 : Rita\_66
- Track 68 : Mozy\_75, Fancypants\_68
- Track 69 : GUmbie\_63, James\_69, BuzzLyseyear\_71, Mattes\_69, Gorge\_69, Lizziana\_71, Saal\_67, Che8\_70, OlympiaSaint\_67, Eradicator\_58
- Track 70 : Whouxphf\_62
- Track 71 : MadMen\_65, Martik\_65
- Track 72 : MadMen\_67, Leozinho\_66
- Track 73 : MisterCuddles\_63, XFactor\_63, Zerg\_65, Alexphander\_69, Doug\_67, Girr\_63, RockyHorror\_66, Ruby\_61
- Track 74 : DosHalletts\_71, UncleRicky\_64, ArcusAngelus\_67, Lorde\_65, Phatniss\_63, Eish\_68, Drago\_62, Totinger\_68, DirtMcgirt\_64, Mova\_69, Llij\_61, Radiance\_64, Enby\_66
- Track 75 : EleanorGeorge\_67, Leozinho\_64
- Track 76 : Byougenkin\_65, Rockne\_66, Kimberlium\_70, QuickMath\_69, Hamulus\_65, Chuckly\_68, Juice456\_66, JalFarm20\_78, PMC\_62, Boomer\_70, SiSi\_63, Ardmore\_57, KristaRAM\_68, Starcevich\_65, Avani\_73
- Track 77 : Akhila\_56, MilanaBonita\_55
- Track 78 : Spoonbill\_63, Polka14\_64, JoeyJr\_61, PHappiness\_61, Leperchaun\_58, RitaG\_61, Daenerys\_60
- Track 79 : Koella\_59, NormanBulbieJr\_65, Cabrinians\_66, Priscilla\_65
- Track 80 : Karhdo\_64
- Track 81 : Blexus\_63
- Track 82 : Tweety\_65
- Track 83 : Sparkdehlily\_72
- Track 84 : Moonbeam\_64, Emma\_67
- Track 85 : Pacc40\_59, LastJedi\_59, Minnie\_68, MinionDave\_64, CaptainTrips\_63, LilMoolah\_64, Clifton\_60, Brocalys\_60, Aubs\_65, Burwell21\_63, SwagPiggett\_70, Nivrat\_62, Sandalphon\_66
- Track 86 : Job42\_68
- Track 87 : LunaBlu\_67, Galactic\_64
- Track 88 : Madiba\_66, Ramsey\_64, DaWorst\_65
- Track 89 : Mutaforma13\_71
- Track 90 : Kingsley\_63, Coco12\_65, Sarma624\_64, Cerasum\_62, Velveteen\_61, BigPhil\_62
- Track 91 : Whatsapiecost\_65
- Track 92 : BodEinwohner17\_66, Geralt\_60, Empress\_64, Nimbo\_59, IbOuu\_67, Scottish\_64, OldBen\_63
- Track 93 : Ochi17\_69, Modragons\_69, OfUltron\_71, Llama\_70, AlpineSix\_71, Seabastian\_71
- Track 94 : Nitzel\_62
- Track 95 : BlueCrab\_66, FreddyB\_66
- Track 96 : Harley\_67
- Track 97 : VRedHorse\_65
- Track 98 : Dante\_66
- Track 99 : Bobi\_69, Batiatus\_63, MilleniumForce\_68, Ibhubesi\_65
- Track 100 : Firehouse51\_68
- Track 101 : OwlsT2W\_65
- Track 102 : Estave1\_70
- Track 103 : Doomphist\_65, Poenanya\_65
- Track 104 : KingMidas\_65, Sassafras\_64, RedBird\_64, Dorothy\_64
- Track 105 : Kenuha5\_63, SuperGrey\_69
- Track 106 : Stap\_63

- Track 107 : Marker\_72
- Track 108 : Yorick\_64
- Track 109 : Hegedechwinu\_65, Gandalph\_68
- Track 110 : Pollywog\_66
- Track 111 : Inventum\_61
- Track 112 : PhesterPhotato\_66
- Track 113 : Krakatau\_62
- Track 114 : DillTech15\_63
- Track 115 : Cornucopia\_67, Veteran\_62
- Track 116 : GigiOuiOui\_61
- Track 117 : Spikelee\_72
- Track 118 : Wachhund\_66
- Track 119 : TDanisky\_72
- Track 120 : DRBy19\_69, Philus\_69
- Track 121 : SG4\_62, Mahavrat\_62
- Track 122 : Royals2015\_68
- Track 123 : Zapner\_79, Jabbawokkie\_80, Blarby\_78, Mantra\_62
- Track 124 : Yoshi\_81
- Track 125 : Che9d\_75, ShiLan\_64, Kersh\_67
- Track 126 : Demsculpinboyz\_78
- Track 127 : Squirty\_67
- Track 128 : TChen\_67
- Track 129 : ThetaBob\_73, Ogopogo\_71
- Track 130 : Renaud18\_75
- Track 131 : Cornie\_63, Bipolar\_65
- Track 132 : Blett\_41, Bush\_43
- Track 133 : Dropshot\_41, Warren\_41, Antuna\_42, MenE\_45
- Track 134 : Phonegingi\_41
- Track 135 : Appa\_41
- Track 136 : Pickles13\_40
- Track 137 : Lesiram\_58
- Track 138 : DelaGarza\_58
- Track 139 : Gingerbug\_57
- Track 140 : Teng\_62
- Track 141 : Hughesyang\_122, Zelink\_117, Minerva\_120, ThreeRngTarjay\_118
- Track 142 : Constella\_107, JuicyJay\_120, Phoebus\_124, Dallas\_124, Thibault\_106, Beem\_125, NihilNomen\_125
- Track 143 : EricMillard\_114, Duke13\_117, Optimus\_113, BAKA\_122
- Track 144 : LittleE\_122
- Track 145 : Redno2\_116, Halley\_125, Ejimix\_117
- Track 146 : Lucky2013\_115
- Track 147 : Ariel\_118, Squint\_116, Courthouse\_113, Superphikiman\_115
- Track 148 : Kalah2\_114, DmpstrDiver\_123
- Track 149 : Klein\_119, Bobby\_115
- Track 150 : Pound\_112
- Track 151 : MiaZeal\_118
- Track 152 : HokkenD\_113
- Track 153 : Wanda\_122
- Track 154 : Wyatt2\_67, AvadaKedavra\_66, Tyson\_67
- Track 155 : Rose5\_66, Wamburgrxpress\_66
- Track 156 : BigCheese\_67, Vetrix\_67, BobsGarage\_67, Nicholasp3\_67, Lewan\_68
- Track 157 : Finemlucis\_67, GuuelaD\_66, Itos\_66, Rumpelstiltskin\_66, Winky\_67, Wigglewiggles\_67, Zakai\_68, Gardann\_68, Breezona\_67, LilDestine\_67, Wilder\_68,



Kahlid\_67, Miley16\_67, MkaliMitinis3\_68, Loadrie\_66, Gabriela\_64, Hafay\_69

- Track 158 : Crossroads\_67
- Track 159 : Claus\_68, ZhongYanYuan\_66
- Track 160 : Bazzle\_67
- Track 161 : Tourach\_66
- Track 162 : Archie\_67
- Track 163 : Baoshan\_65
- Track 164 : Jobypre\_66, MsGreen\_66, Snenia\_65, Jubie\_65, Lumos\_67, Krypton555\_67, Clautastrophe\_65, Whirlwind\_66
- Track 165 : Finnry\_66, Samty\_66
- Track 166 : MiniMac\_69
- Track 167 : MiniLon\_69, Lolly9\_65
- Track 168 : DuncansLeg\_66
- Track 169 : Douge\_65
- Track 170 : Bromden\_67
- Track 171 : Aegeus\_71, Baudelaire\_71
- Track 172 : Blackbeetle\_69, Pringar\_68, VasuNzinga\_68, MosMoris\_66, Clarkson\_70, Tesla\_66, JoieB\_70, Poise\_69, Gattaca\_67, Raela\_69, Beelzebub\_73, Caprice\_64, Lilbit\_69, LittleLaf\_69, Corazon\_67, RedRaider77\_68, Marvin\_65, Huphlepuuff\_71
- Track 173 : Azrael100\_76, Cosmo\_77
- Track 174 : Wildcat\_77, MaryV\_77, EniyanLRS\_168
- Track 175 : GodPhather\_53, PR\_52, Megabear\_52, Jeon\_52, Cepens\_52, D12\_51, Argie\_53, Taptic\_52
- Track 176 : Nebkiss\_84, Gaia\_85
- Track 177 : Gilgamesh\_151
- Track 178 : MooMoo\_66
- Track 179 : Tonitrus\_71
- Track 180 : Kumao\_62
- Track 181 : ValentiniPuff\_101
- Track 182 : GAL1\_54
- Track 183 : VanLee\_116

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

The start number called the most often in the published annotations is 97, it was called in 207 of the 505 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_69, AlpineSix\_71, ArcusAngelus\_67, Ardmore\_57, Argie\_53, Aubs\_65, Avani\_73, Batiatus\_63, Beakin\_66, BigCheese\_67, BigPhil\_62, Bipolar\_65, Blarby\_78, Blexus\_63, BlueCrab\_66, BobaPhett\_69, Bobi\_69, BobsGarage\_67, BodEinwohner17\_66, Boomer\_70, Brocalys\_60, Burwell21\_63, BuzzLyseyear\_71, ByChance\_58, Byougenkin\_65, Cabrinians\_66, CaptainTrips\_63, Cepens\_52, Cerasum\_62, Che8\_70, Che9d\_75, Chevrolet\_73, Chuckly\_68, Clifton\_60, Coco12\_65, Cornie\_63, Cornucopia\_67, D12\_51, DLane\_60, DRBy19\_69, DaWorst\_65, Daenerys\_60, Dante\_66, DeadP\_72, Demsculpinboyz\_78, DillTech15\_63, DirtMcgirt\_64, Donkeykong\_68, Dorothy\_64, DosHalletts\_71, DotProduct\_60, Doug\_67, Drago\_62, Eish\_68, EleanorGeorge\_67, Emma\_67, Empress\_64, Enby\_66, Eradicator\_58, Estave1\_70, Fancypants\_68, Filuzino\_63,

Firehouse51\_68, Flathead\_66, Florinda\_76, FreddyB\_66, GUmbie\_63, Galactic\_64, Gandolph\_68, Geralt\_60, GigiOuiOui\_61, Girafales\_73, Girr\_63, GodPhather\_53, Gorge\_69, Guppsters\_66, Hades\_66, Hamulus\_65, Harley\_67, Hegedechwinu\_65, Hlubikazi\_61, IbOuu\_67, Ibhubesi\_65, IrishSherpFalk\_66, Jabbawokkie\_80, JalFarm20\_78, James\_69, Jeon\_52, Job42\_68, JoeyJr\_61, Juice456\_66, Karhdo\_64, Kenuha5\_63, Kersh\_67, Kimberlium\_70, KingMidas\_65, Kingsley\_63, Koella\_59, Krakatau\_62, KristaRAM\_68, LastJedi\_59, Leozinho\_64, Leperchaun\_58, Lewan\_68, LilMoolah\_64, Lizziana\_71, Llama\_70, Llij\_61, Lorde\_65, LunaBlu\_67, MadMen\_65, Madiba\_66, Mahavrat\_62, Mandlovu\_61, Mantra\_62, Maravista\_67, Marker\_72, Martik\_65, Mattes\_69, Megabear\_52, Melissauren88\_63, MilleniumForce\_68, MinionDave\_64, Minnie\_68, MisterCuddles\_63, Modragons\_69, Moonbeam\_64, Mova\_69, Mozy\_75, Ms6\_62, Mutaforma13\_71, Nicholasp3\_67, Nimbo\_59, Nitzel\_62, Nivrat\_62, NormanBulbieJr\_65, Ochi17\_69, OfUltron\_71, Ogoopogo\_71, OldBen\_63, OlympiaSaint\_67, Ovechkin\_65, OwlsT2W\_65, PHappiness\_61, PMC\_62, PR\_52, Pacc40\_59, Phalconet\_63, Phanphagia\_61, Phatniss\_63, PhesterPhotato\_66, Philus\_69, Pippy\_64, Plumbus\_68, Polka14\_64, Pollywog\_66, PopTart\_59, Priscilla\_65, QuickMath\_69, Quico\_73, Radiance\_64, Ramsey\_64, RedBird\_64, Renaud18\_75, Rialto\_70, RitaG\_61, Rita\_66, Rockne\_66, RockyHorror\_66, Royals2015\_68, Ruby\_61, SG4\_62, Saal\_67, Sandalphon\_66, Sarma624\_64, Sassafras\_64, SassyB\_59, Scottish\_64, Seabastian\_71, Seagreen\_64, Shauna1\_63, ShiLan\_64, ShowerHandel\_66, SiSi\_63, Soul22\_71, Spartacus\_67, Spikelee\_72, Spoonbill\_63, Squirty\_67, StAnnes\_63, Stap\_63, Starcevich\_65, Strokeseat\_61, SuperGrey\_69, SwagPigglett\_70, TChen\_67, TDanisky\_72, Taj\_70, Taptic\_52, ThetaBob\_73, Totinger\_68, Tweety\_65, UncleRicky\_64, VRedHorse\_65, Velveteen\_61, Veteran\_62, Vetrix\_67, Wachhund\_66, Wee\_70, Whatsapiecost\_65, Whouxphf\_62, WillSterrel\_66, XFactor\_63, Yorick\_64, Yoshi\_81, Zapner\_79, Zerg\_65, Zizzle\_69,

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

- Baoshan\_65, Breezona\_67, Claus\_68, Crossroads\_67, Finemlucis\_67, Gabriela\_64, Gardann\_68, GuuelaD\_66, Hafay\_69, Inventum\_61, Itos\_66, Kahlid\_67, LilDestine\_67, Loadrie\_66, Miley16\_67, MkaliMitinis3\_68, Rumpelstiltskin\_66, Tourach\_66, Wigglewiggles\_67, Wilder\_68, Winky\_67, Zakai\_68, ZhongYanYuan\_66,

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

- 244\_78, ABCat\_74, Adnama\_81, Aegeus\_71, Akhila\_56, Aleemily\_105, Amao\_77, Amelia\_32, AmericanBeauty\_84, Andrew\_31, Antuna\_42, Appa\_41, Archie\_67, Argent26\_81, Ariel\_118, Asriel\_76, AvadaKedavra\_66, Azrael100\_76, BAKA\_122, BaboJay\_74, BadStone\_74, Balomoji\_77, Banquo\_50, Barbarian\_76, Bask21\_77, Baudelaire\_71, Bazzle\_67, Beagle\_86, BearBQ\_70, Beelzebub\_73, Beem\_125, Bench\_80, BigBubba\_77, BilboSwaggins\_76, Blackbeetle\_69, Blett\_41, Bobby\_115, BritBrat\_66, Bromden\_67, BruhMoment\_74, Bruin\_74, Buck\_78, Bush\_43, Cactus\_80, Cafasso\_107, Caprice\_64, Catfish\_49, CheeseTouch\_74, ChosenOne\_77, ChotaBhai\_77, Cinna\_52, Cjw1\_77, Clarkson\_70, Clautastrophe\_65, Clawz\_89, Command613\_79, Constella\_107, Contagion\_73, Cookies\_74, Coral\_31, Corazon\_67, Cosmo\_77, Cote\_33, Courthouse\_113, Cressida\_55, CrystalP\_76, Czczszon1\_78, Daikon\_79, Dallas\_124, Daob\_33, Dardanus\_46, DelaGarza\_58, DinoDaryn\_52, DmpstrDiver\_123, DoctorDiddles\_76, DonTron\_90, Doomphist\_65, Douge\_65, DrDrey\_77, Dropshot\_41, Duke13\_117, Dumbo\_77, DuncansLeg\_66, Dusk\_74, Easy2Say\_78, Ecliptus\_75, Ejimix\_117, Elite2014\_76, Elph10\_77, Emmina\_77, EniyanLRS\_168, EricMillard\_114, Eureka\_75, Filch\_78, Finnry\_66, FireRed\_81, Flypotenuse\_73, GAL1\_54, Gage\_79, Gaia\_85,

Gator\_75, Gattaca\_67, Gemini\_82, Gilgamesh\_151, Gingerbug\_57, Glexan\_76, Goib\_52, Goku\_75, GoldenSpark\_81, Goldilocks\_80, GooberAzure\_80, Halley\_125, HanKaySha\_77, Harella\_77, Henry\_75, Highbury\_76, HokkenD\_113, Holt\_82, Hoonter\_80, Hopey\_77, Horus\_72, HufflyPuff\_80, Huffy\_52, Hughesyang\_122, Huphlepuuff\_71, IHOP\_75, Icee\_78, Inca\_74, JeTaimie\_77, Jobypre\_66, JoieB\_70, Jubie\_65, JuicyJay\_120, Juno112\_29, Kalah2\_114, Kanye\_74, Keelan\_96, Kepler\_32, Kimchi\_81, Klein\_119, Kostya\_77, Kozie\_51, Krypton555\_67, Kuleana\_32, Kumao\_62, Kuwabara\_72, Leona\_29, Leozinho\_66, Lesiram\_58, Lilac\_79, Lilbit\_69, Lilizi\_78, Lilpickle\_76, LitninMcQueen\_71, LittleE\_122, LittleLaf\_69, LittleTokyo\_32, Lolly9\_65, Lucky2013\_115, Lumos\_67, Lunar\_32, MISSy\_78, MPhalcon\_78, MadMen\_67, MadamMonkfish\_77, Manda\_78, Margaery\_51, Marshmallow\_75, Marvin\_65, MaryV\_77, Matzah\_54, Maxxinista\_79, Megan\_52, Melons\_32, MementoMori\_53, MenE\_45, MiaZeal\_118, MilanaBonita\_55, Mindy\_76, Minerva\_120, MiniLon\_69, MiniMac\_69, Miniwave\_72, Misfit\_78, ModicumRichard\_107, Moldemort\_80, MooMoo\_66, Morgana\_114, MosMoris\_66, Mosby\_73, MsGreen\_66, Murica\_80, Murphy\_77, Myrale\_77, Nala\_79, Nebkiss\_84, NelitzaMV\_75, Nicole72\_53, NihilNomen\_125, Nimrod\_78, NoSleep\_78, ODay\_78, ObLaDi\_106, Octobien14\_72, Odyssey395\_85, Optimus\_113, OrionPax\_76, Paperbeatsrock\_76, Pat3\_75, Petra64142\_81, Phabuloso\_75, Phaja\_75, Pharsalus\_74, PhatBacter\_81, Phaux\_79, Phoebus\_124, Phonegingi\_41, Phrux\_74, Pickles13\_40, Poenanya\_65, Pointis\_80, Poise\_69, Polka\_31, Porky\_76, Pound\_112, Pringar\_68, Pumpkin\_80, Pureglobe5\_83, Quallification\_78, Rabbitrun\_72, Raela\_69, Rakim\_78, Ranunculus\_78, RedFox\_30, RedRaider77\_68, Redno2\_116, Renna12\_29, Rimmer\_78, RiverMonster\_77, Rizwana\_65, Rose5\_66, Saints25\_76, Samty\_66, Sassay\_72, Schmidt\_45, Sephiroth\_73, ShamWow\_77, SilentRX\_62, Simpliphy\_76, SirDuracell\_76, Snenia\_65, Soos\_87, SophKB\_74, Sotrice96\_78, Sparkdehlily\_72, Splinter\_51, Spooky\_68, Squiddly\_73, Squint\_116, Stank\_81, Stark\_78, StellaBean\_73, Sting\_92, StolenFromERC\_80, Superphikiman\_115, Syleon\_75, TBrady12\_80, TZGordon\_53, Tank\_65, Tarkin\_76, TeardropMSU\_73, Teaspoon\_74, Teng\_62, Terij\_52, Terminus\_80, Tesla\_66, Thibault\_106, ThreeRngTarjay\_118, Thresher\_79, TinaLin\_50, Tomaszewski\_72, Tonitrus\_71, Toto\_75, Traaww1\_73, Trax\_71, Tuco\_78, Tyson\_67, Ukulele\_72, ValentiniPuff\_101, VanLee\_116, VasuNzinga\_68, Vendetta\_51, Wamburggrxpress\_66, Wanda\_122, Warren\_41, Weirdo19\_91, Whirlwind\_66, Wiggin\_79, Wildcat\_77, Wilde\_67, Willez\_72, Wyatt2\_67, Xandras\_76, YassJohnny\_74, Youngblood\_80, Zelink\_117, xkcd\_80,

### Summary by start number:

#### Start 64:

- Found in 5 of 548 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 505
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Sephiroth\_73 (DU1), Syleon\_75 (DU1),

#### Start 71:

- Found in 3 of 548 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Kuleana\_32 (AS2),

#### Start 75:

- Found in 1 of 548 ( 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: Weirido19\_91 (AH),

#### Start 76:

- Found in 16 of 548 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 14 of 505
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Archie\_67 (L2), Bromden\_67 (L4), Clautastrophe\_65 (L3), DuncansLeg\_66 (L3), Finnry\_66 (L3), Jobypre\_66 (L3), Jubie\_65 (L3), Krypton555\_67 (L3), Lolly9\_65 (L3), Lumos\_67 (L3), MiniLon\_69 (L3), MsGreen\_66 (L3), Samty\_66 (L3), Snenia\_65 (L3), Whirlwind\_66 (L3),

#### Start 79:

- Found in 1 of 548 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clawz\_89 (CP),

#### Start 80:

- Found in 8 of 548 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 5 of 505
- Called 62.5% of time when present
- Phage (with cluster) where this start called: AvadaKedavra\_66 (L1), Rose5\_66 (L1), Tyson\_67 (L1), Wamburgxpress\_66 (L1), Wyatt2\_67 (L1),

#### Start 81:

- Found in 1 of 548 ( 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: Douge\_65 (L4),

#### Start 82:

- Found in 2 of 548 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Lucky2013\_115 (J),

#### Start 84:

- Found in 18 of 548 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 16 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beelzebub\_73 (S), Blackbeetle\_69 (S), Caprice\_64 (S), Clarkson\_70 (S), Corazon\_67 (S), Gattaca\_67 (S), Huphlepuuff\_71 (S), JoieB\_70 (S), Lilbit\_69 (S), LittleLaf\_69 (S), Marvin\_65 (S), MosMoris\_66 (S), Poise\_69 (S), Pringar\_68 (S), Raela\_69 (S), RedRaider77\_68 (S), Tesla\_66 (S), VasuNzinga\_68 (S),

#### Start 85:

- Found in 2 of 548 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 50.0% of time when present
- Phage (with cluster) where this start called: HokkenD\_113 (J),

Start 88:

- Found in 5 of 548 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 5 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azrael100\_76 (V), Cosmo\_77 (V), EniyanLRS\_168 (V), MaryV\_77 (V), Wildcat\_77 (V),

Start 89:

- Found in 1 of 548 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumao\_62 (singleton),

Start 94:

- Found in 10 of 548 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 30.0% of time when present
- Phage (with cluster) where this start called: DelaGarza\_58 (GF), Lesiram\_58 (GF), Teng\_62 (GF),

Start 95:

- Found in 5 of 548 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 505
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Octobien14\_72 (DU1), Soos\_87 (CP),

Start 97:

- Found in 241 of 548 ( 44.0% ) of genes in pham
- Manual Annotations of this start: 207 of 505
- Called 90.5% of time when present
- Phage (with cluster) where this start called: Alexphander\_69 (F1), AlpineSix\_71 (F1), ArcusAngelus\_67 (F1), Ardmore\_57 (F1), Argie\_53 (W), Aubs\_65 (F1), Avani\_73 (F2), Batiatus\_63 (F1), Beakin\_66 (F1), BigCheese\_67 (L2), BigPhil\_62 (F1), Bipolar\_65 (F1), Blarby\_78 (F), Blexus\_63 (F1), BlueCrab\_66 (F1), BobaPhett\_69 (F1), Bobi\_69 (F1), BobsGarage\_67 (L2), BodEinwohner17\_66 (F1), Boomer\_70 (F1), Brocalys\_60 (F1), Burwell21\_63 (F1), BuzzLyseyear\_71 (F1), ByChance\_58 (F1), Byougenkin\_65 (F1), Cabrinians\_66 (F1), CaptainTrips\_63 (F1), Cepens\_52 (W), Cerasum\_62 (F1), Che8\_70 (F1), Che9d\_75 (F2), Chevrolet\_73 (F1), Chuckly\_68 (F1), Clifton\_60 (F1), Coco12\_65 (F1), Cornie\_63 (F5), Cornucopia\_67 (F1), D12\_51 (W), DLane\_60 (F1), DRBy19\_69 (F1), DaWorst\_65 (F1), Daenerys\_60 (F1), Dante\_66 (F1), DeadP\_72 (F1), Demsculpinboyz\_78 (F2), DillTech15\_63 (F1), DirtMcgirt\_64 (F1), Donkeykong\_68 (F1), Dorothy\_64 (F1), DosHalletts\_71 (F1), DotProduct\_60 (F1), Doug\_67 (F1), Drago\_62 (F1), Eish\_68 (F1), EleanorGeorge\_67 (F1), Emma\_67 (F1), Empress\_64 (F1), Enby\_66 (F1), Eradicator\_58 (F1), Estave1\_70 (F1), Fancypants\_68 (F1), Filuzino\_63 (F1), Firehouse51\_68 (F1), Flathead\_66 (F1), Florinda\_76 (F1), FreddyB\_66 (F1), GUmbe\_63 (F1), Galactic\_64 (F1), Gandolph\_68 (F1), Geralt\_60 (F1), GigiOuiOui\_61 (F1), Girafales\_73 (F1), Girr\_63 (F1), GodPhather\_53 (W), Gorge\_69 (F1), Guppsters\_66 (F1), Hades\_66 (F1), Hamulus\_65 (F1), Harley\_67 (F1), Hegedechwinu\_65 (F1), Hlubikazi\_61 (F1), IbOuu\_67 (F1), Ibhubesi\_65 (F1), IrishSherpFalk\_66 (F1), Jabbawokkie\_80 (F2), JalFarm20\_78 (F1), James\_69 (F1), Jeon\_52 (W), Job42\_68 (F1), JoeyJr\_61 (F1), Juice456\_66 (F1), Karhdo\_64 (F1),

Kenuha5\_63 (F1), Kersh\_67 (F1), Kimberlium\_70 (F1), KingMidas\_65 (F1), Kingsley\_63 (F1), Koella\_59 (F1), Krakatau\_62 (F1), KristaRAM\_68 (F1), LastJedi\_59 (F1), Leozinho\_64 (F1), Leperchaun\_58 (F1), Lewan\_68 (L2), LilMoolah\_64 (F1), Lizziana\_71 (F1), Llama\_70 (F1), Llij\_61 (F1), Lorde\_65 (F1), LunaBlu\_67 (F1), MadMen\_65 (F1), Madiba\_66 (F1), Mahavrat\_62 (F1), Mandlovu\_61 (F1), Mantra\_62 (F1), Maravista\_67 (F1), Marker\_72 (F1), Martik\_65 (F1), Mattes\_69 (F1), Megabear\_52 (W), Melissauren88\_63 (F1), MilleniumForce\_68 (F1), MinionDave\_64 (F1), Minnie\_68 (F1), MisterCuddles\_63 (F1), Modragons\_69 (F1), Moonbeam\_64 (F1), Mova\_69 (F1), Mozy\_75 (F1), Ms6\_62 (F1), Mutaforma13\_71 (F1), Nicholasp3\_67 (L2), Nimbo\_59 (F1), Nitzel\_62 (F1), Nivrat\_62 (F1), NormanBulbieJr\_65 (F1), Ochi17\_69 (F1), OfUltron\_71 (F1), Ogopogo\_71 (F1), OldBen\_63 (F1), OlympiaSaint\_67 (F1), Ovechkin\_65 (F1), OwlsT2W\_65 (F1), PHappiness\_61 (F1), PMC\_62 (F1), PR\_52 (W), Pacc40\_59 (F1), Phalconet\_63 (F1), Phanphagia\_61 (F1), Phatniss\_63 (F1), PhesterPotato\_66 (F1), Philus\_69 (F1), Pippy\_64 (F1), Plumbus\_68 (F1), Polka14\_64 (F1), Pollywog\_66 (F1), PopTart\_59 (F1), Priscilla\_65 (F1), QuickMath\_69 (F1), Quico\_73 (F1), Radiance\_64 (F1), Ramsey\_64 (F1), RedBird\_64 (F1), Renaud18\_75 (F4), Rialto\_70 (F1), RitaG\_61 (F1), Rita\_66 (F1), Rockne\_66 (F1), RockyHorror\_66 (F1), Royals2015\_68 (F1), Ruby\_61 (F1), SG4\_62 (F1), Saal\_67 (F1), Sandalphon\_66 (F1), Sarma624\_64 (F1), Sassafras\_64 (F1), SassyB\_59 (F1), Scottish\_64 (F1), Seabastian\_71 (F1), Seagreen\_64 (F1), Shauna1\_63 (F1), ShiLan\_64 (F1), ShowerHandel\_66 (F1), SiSi\_63 (F1), Soul22\_71 (F2), Spartacus\_67 (F1), Spikelee\_72 (F1), Spoonbill\_63 (F1), Squirty\_67 (F3), StAnnes\_63 (F1), Stap\_63 (F1), Starcevich\_65 (F1), Strokeseat\_61 (F1), SuperGrey\_69 (F1), SwagPigglett\_70 (F1), TChen\_67 (F4), TDanisky\_72 (F1), Taj\_70 (F1), Taptic\_52 (W), ThetaBob\_73 (F4), Totinger\_68 (F1), Tweety\_65 (F1), UncleRicky\_64 (F1), VRedHorse\_65 (F1), Velveteen\_61 (F1), Veteran\_62 (F1), Vetrix\_67 (L2), Wachhund\_66 (F1), Wee\_70 (F1), Whatsapiecost\_65 (F1), Whouxphf\_62 (F1), WillSterrel\_66 (F1), XFactor\_63 (F1), Yorick\_64 (F1), Yoshi\_81 (F2), Zapner\_79 (F2), Zerg\_65 (F1), Zizzle\_69 (F1),

Start 99:

- Found in 2 of 548 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gilgamesh\_151 (singleton), ValentiniPuff\_101 (singleton),

Start 100:

- Found in 2 of 548 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rabbitrun\_72 (DU2), Trax\_71 (DU2),

Start 101:

- Found in 3 of 548 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 3 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dardanus\_46 (CU3), Kozie\_51 (EI), Margaery\_51 (EI),

Start 102:

- Found in 3 of 548 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 3 of 505

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Leozinho\_66 (F1), MadMen\_67 (F1), MooMoo\_66 (singleton),

#### Start 103:

- Found in 24 of 548 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 21 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amelia\_32 (AS2), Andrew\_31 (AS3), Antuna\_42 (GA), Appa\_41 (GA), Blett\_41 (GA), Bush\_43 (GA), Coral\_31 (AS2), Cote\_33 (AS2), Daob\_33 (AS2), Dropshot\_41 (GA), Juno112\_29 (AS3), Keelan\_96 (DP), Kepler\_32 (AS2), Leona\_29 (AS3), LittleTokyo\_32 (AS2), Lunar\_32 (AS2), Melons\_32 (AS2), MenE\_45 (GA), Phonegingi\_41 (GA), Pickles13\_40 (GA), Polka\_31 (AS2), RedFox\_30 (AS3), Renna12\_29 (AS3), Warren\_41 (GA),

#### Start 104:

- Found in 15 of 548 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 15 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo\_50 (CU1), Catfish\_49 (CU5), Cinna\_52 (EI), Cressida\_55 (EI), DinoDaryn\_52 (CU1), Goib\_52 (CU1), Huffy\_52 (CU1), Matzah\_54 (EI), MementoMori\_53 (EI), Schmidt\_45 (CU4), Splinter\_51 (CU1), TZGordon\_53 (CU1), Terij\_52 (EI), TinaLin\_50 (CU1), Vendetta\_51 (CU1),

#### Start 105:

- Found in 2 of 548 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DonTron\_90 (CP), Sting\_92 (CP),

#### Start 106:

- Found in 2 of 548 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pureglobe5\_83 (AP2), Tonitrus\_71 (singleton),

#### Start 107:

- Found in 24 of 548 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 24 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel\_118 (J), BAKA\_122 (J), Bobby\_115 (J), Courthouse\_113 (J), DmpstrDiver\_123 (J), Duke13\_117 (J), Ejimix\_117 (J), EricMillard\_114 (J), Gaia\_85 (X), Halley\_125 (J), Hughesyang\_122 (J), Kalah2\_114 (J), Klein\_119 (J), LittleE\_122 (J), Minerva\_120 (J), Nebkiss\_84 (X), Optimus\_113 (J), Pound\_112 (J), Redno2\_116 (J), Squint\_116 (J), Superphikiman\_115 (J), ThreeRngTarjay\_118 (J), Wanda\_122 (J), Zelink\_117 (J),

#### Start 108:

- Found in 1 of 548 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BruhMoment\_74 (AP3),

Start 109:

- Found in 4 of 548 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 505
- Called 75.0% of time when present
- Phage (with cluster) where this start called: BearBQ\_70 (DN), GAL1\_54 (singleton), Phabuloso\_75 (DN1),

Start 110:

- Found in 15 of 548 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 12 of 505
- Called 93.3% of time when present
- Phage (with cluster) where this start called: Aleemily\_105 (DZ), Beagle\_86 (AP2), Cafasso\_107 (DZ), Megan\_52 (EC), Morgana\_114 (DZ), Nicole72\_53 (EC), ObLaDi\_106 (DZ), Odyssey395\_85 (AP2), Pointis\_80 (AP2), Ranunculus\_78 (AP), Rizwana\_65 (AP1), SilentRX\_62 (AP4), Tank\_65 (AP1), Wilde\_67 (AP1),

Start 111:

- Found in 1 of 548 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bazzle\_67 (L2),

Start 112:

- Found in 2 of 548 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gingerbug\_57 (GF), VanLee\_116 (singleton),

Start 113:

- Found in 172 of 548 ( 31.4% ) of genes in pham
- Manual Annotations of this start: 152 of 505
- Called 97.1% of time when present
- Phage (with cluster) where this start called: 244\_78 (E), ABCat\_74 (E), Adnama\_81 (E), Aegeus\_71 (L5), Amao\_77 (E), AmericanBeauty\_84 (E), Argent26\_81 (E), Asriel\_76 (E), BaboJay\_74 (E), BadStone\_74 (E), Balomoji\_77 (E), Baoshan\_65 (L2), Barbarian\_76 (E), Bask21\_77 (E), Baudelaire\_71 (L5), Beem\_125 (J), Bench\_80 (E), BigBubba\_77 (E), BilboSwaggins\_76 (E), Breezona\_67 (L2), BritBrat\_66 (CY2), Bruin\_74 (E), Buck\_78 (E), Cactus\_80 (E), CheeseTouch\_74 (DN1), ChosenOne\_77 (E), ChotaBhai\_77 (E), Cjw1\_77 (E), Claus\_68 (L2), Command613\_79 (E), Constella\_107 (J), Contagion\_73 (E), Cookies\_74 (E), Crossroads\_67 (L2), CrystalP\_76 (E), Czysty\_78 (E), Daikon\_79 (E), Dallas\_124 (J), DoctorDiddles\_76 (E), DrDrey\_77 (E), Dumbo\_77 (E), Dusk\_74 (E), Easy2Say\_78 (E), Ecliptus\_75 (DN), Elite2014\_76 (E), Elph10\_77 (E), Emmina\_77 (E), Eureka\_75 (E), Filch\_78 (E), Finemlucis\_67 (L2), FireRed\_81 (E), Flypotenuse\_73 (E), Gabriela\_64 (L2), Gage\_79 (E), Gardann\_68 (L2), Gator\_75 (E), Gemini\_82 (E), Glexan\_76 (E), Goku\_75 (E), GoldenSpark\_81 (E), Goldilocks\_80 (E), GooberAzure\_80 (E), GuuelaD\_66 (L2), Hafay\_69 (L2), HanKaySha\_77 (E), Harella\_77 (E), Henry\_75 (E), Highbury\_76 (E), Holt\_82 (E), Hoonter\_80 (E), Hopey\_77 (E), Horus\_72 (DN1), HuffyPuff\_80 (E), IHOP\_75 (E), Icee\_78 (E), Inca\_74 (E), Itos\_66 (L2), JeTaime\_77 (E), JuicyJay\_120 (J), Kahlid\_67 (L2), Kanye\_74 (E), Kimchi\_81 (E), Kostya\_77 (E), Kuwabara\_72 (DN4), LilDestine\_67



(L2), Lilac\_79 (E), Lilizi\_78 (E), Lilpickle\_76 (E), LitninMcQueen\_71 (DN1), Loadrie\_66 (L2), MISSy\_78 (E), MPhalcon\_78 (E), MadamMonkfish\_77 (E), Manda\_78 (E), Marshmallow\_75 (E), Maxxinista\_79 (E), MiaZeal\_118 (J), Miley16\_67 (L2), Mindy\_76 (E), Miniwave\_72 (E), Misfit\_78 (E), MkaliMitinis3\_68 (L2), Moldemort\_80 (E), Mosby\_73 (E), Murica\_80 (E), Murphy\_77 (E), Myrale\_77 (E), Nala\_79 (E), NelitzaMV\_75 (E), NihilNomen\_125 (J), Nimrod\_78 (E), NoSleep\_78 (E), ODay\_78 (DN), OrionPax\_76 (E), Paperbeatsrock\_76 (E), Pat3\_75 (E), Petra64142\_81 (E), Phaja\_75 (E), Pharsalus\_74 (E), PhatBacter\_81 (E), Phaux\_79 (E), Phoebus\_124 (J), Phrux\_74 (E), Porky\_76 (E), Pumpkin\_80 (E), Quallification\_78 (E), Rakim\_78 (E), Rimmer\_78 (E), RiverMonster\_77 (E), Rumpelstiltskin\_66 (L2), Saints25\_76 (E), Sassay\_72 (E), ShamWow\_77 (E), Simpliphy\_76 (E), SirDuracell\_76 (E), SophKB\_74 (E), Sotrice96\_78 (E), Spooky\_68 (DN2), Squiddly\_73 (DN2), Stank\_81 (E), Stark\_78 (E), StellaBean\_73 (E), StolenFromERC\_80 (E), TBrady12\_80 (E), Tarkin\_76 (E), TeardropMSU\_73 (E), Teaspoon\_74 (E), Terminus\_80 (E), Thibault\_106 (J), Thresher\_79 (E), Tomaszewski\_72 (E), Toto\_75 (E), Tourach\_66 (L2), Traaww1\_73 (E), Tuco\_78 (E), Ukulele\_72 (E), Wiggin\_79 (E), Wigglewiggles\_67 (L2), Wilder\_68 (L2), Willez\_72 (E), Winky\_67 (L2), Xandras\_76 (E), YassJohnny\_74 (E), Youngblood\_80 (E), Zakai\_68 (L2), ZhongYanYuan\_66 (L2), xkcd\_80 (E),

#### Start 115:

- Found in 35 of 548 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 2.9% of time when present
- Phage (with cluster) where this start called: Inventum\_61 (F1),

#### Start 117:

- Found in 14 of 548 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 1 of 505
- Called 7.1% of time when present
- Phage (with cluster) where this start called: MiniMac\_69 (L3),

#### Start 118:

- Found in 11 of 548 ( 2.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 9.1% of time when present
- Phage (with cluster) where this start called: ModicumRichard\_107 (DZ),

#### Start 124:

- Found in 5 of 548 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 5 of 505
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akhila\_56 (F1), Doomphist\_65 (F1), MilanaBonita\_55 (F1), Poenanya\_65 (F1), Sparkdehlily\_72 (F1),

### Summary by clusters:

There are 44 clusters represented in this pham: DN, singleton, GA, CY2, AP2, AP3, V, AP4, DZ, EI, DP, CU5, CU4, CU3, CU1, DN4, DN1, DN2, DU1, DU2, AS3, AS2, AP1, E, F, AH, J, EC, GF, L4, L5, L2, L3, W, L1, X, CP, F1, F2, F3, F4, F5, AP, S,

Info for manual annotations of cluster AP1:

- Start number 110 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 106 was manually annotated 1 time for cluster AP2.
- Start number 110 was manually annotated 2 times for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 108 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:

- Start number 110 was manually annotated 1 time for cluster AP4.

Info for manual annotations of cluster AS2:

- Start number 71 was manually annotated 1 time for cluster AS2.
- Start number 103 was manually annotated 9 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 103 was manually annotated 4 times for cluster AS3.

Info for manual annotations of cluster CP:

- Start number 79 was manually annotated 1 time for cluster CP.
- Start number 95 was manually annotated 1 time for cluster CP.

Info for manual annotations of cluster CU1:

- Start number 104 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 101 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 104 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 104 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CY2:

- Start number 113 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster DN:

- Start number 109 was manually annotated 1 time for cluster DN.
- Start number 113 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 109 was manually annotated 1 time for cluster DN1.
- Start number 113 was manually annotated 3 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 113 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN4:

- Start number 113 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DP:

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

Info for manual annotations of cluster DU1:

- Start number 64 was manually annotated 2 times for cluster DU1.
- Start number 95 was manually annotated 1 time for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 100 was manually annotated 2 times for cluster DU2.

Info for manual annotations of cluster DZ:

- Start number 110 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster E:

- Start number 113 was manually annotated 115 times for cluster E.

Info for manual annotations of cluster EC:

- Start number 110 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster EI:

- Start number 101 was manually annotated 2 times for cluster EI.
- Start number 104 was manually annotated 5 times for cluster EI.

Info for manual annotations of cluster F1:

- Start number 97 was manually annotated 182 times for cluster F1.
- Start number 102 was manually annotated 2 times for cluster F1.
- Start number 115 was manually annotated 1 time for cluster F1.
- Start number 124 was manually annotated 5 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 97 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 97 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 97 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 97 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster GA:

- Start number 103 was manually annotated 7 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 94 was manually annotated 1 time for cluster GF.
- Start number 112 was manually annotated 1 time for cluster GF.

Info for manual annotations of cluster J:

- Start number 82 was manually annotated 1 time for cluster J.
- Start number 85 was manually annotated 1 time for cluster J.
- Start number 107 was manually annotated 22 times for cluster J.

- Start number 113 was manually annotated 8 times for cluster J.

Info for manual annotations of cluster L1:

- Start number 80 was manually annotated 5 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 76 was manually annotated 1 time for cluster L2.
- Start number 97 was manually annotated 5 times for cluster L2.
- Start number 111 was manually annotated 1 time for cluster L2.
- Start number 113 was manually annotated 18 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 76 was manually annotated 12 times for cluster L3.
- Start number 117 was manually annotated 1 time for cluster L3.

Info for manual annotations of cluster L4:

- Start number 76 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster L5:

- Start number 113 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster S:

- Start number 84 was manually annotated 16 times for cluster S.

Info for manual annotations of cluster V:

- Start number 88 was manually annotated 5 times for cluster V.

Info for manual annotations of cluster W:

- Start number 97 was manually annotated 8 times for cluster W.

Info for manual annotations of cluster X:

- Start number 107 was manually annotated 2 times for cluster X.

### ***Gene Information:***

Gene: 244\_78 Start: 48609, Stop: 48926, Start Num: 113

Candidate Starts for 244\_78:

(40, 48426), (Start: 113 @48609 has 152 MA's), (159, 48750),

Gene: ABCat\_74 Start: 48962, Stop: 49279, Start Num: 113

Candidate Starts for ABCat\_74:

(40, 48779), (Start: 113 @48962 has 152 MA's), (159, 49103),

Gene: Adnama\_81 Start: 48988, Stop: 49305, Start Num: 113

Candidate Starts for Adnama\_81:

(40, 48805), (Start: 113 @48988 has 152 MA's), (159, 49129),

Gene: Aegeus\_71 Start: 46495, Stop: 46824, Start Num: 113

Candidate Starts for Aegeus\_71:

(Start: 113 @46495 has 152 MA's), (135, 46579), (183, 46717), (189, 46744), (192, 46750), (200, 46774), (221, 46813),

Gene: Akhila\_56 Start: 38018, Stop: 38311, Start Num: 124

Candidate Starts for Akhila\_56:

(Start: 124 @38018 has 5 MA's), (130, 38036), (141, 38072), (144, 38078), (150, 38096), (182, 38192), (223, 38294),

Gene: Aleemily\_105 Start: 59933, Stop: 60322, Start Num: 110

Candidate Starts for Aleemily\_105:

(5, 59546), (6, 59558), (25, 59657), (Start: 110 @59933 has 12 MA's), (120, 59966), (123, 59987), (168, 60134), (175, 60164), (184, 60188),

Gene: Alexphander\_69 Start: 42282, Stop: 42644, Start Num: 97

Candidate Starts for Alexphander\_69:

(Start: 97 @42282 has 207 MA's), (199, 42582), (223, 42627),

Gene: AlpineSix\_71 Start: 45319, Stop: 45681, Start Num: 97

Candidate Starts for AlpineSix\_71:

(Start: 97 @45319 has 207 MA's), (170, 45523), (199, 45619), (223, 45664),

Gene: Amao\_77 Start: 48382, Stop: 48699, Start Num: 113

Candidate Starts for Amao\_77:

(40, 48199), (Start: 113 @48382 has 152 MA's), (Start: 117 @48406 has 1 MA's), (159, 48523),

Gene: Amelia\_32 Start: 21518, Stop: 21165, Start Num: 103

Candidate Starts for Amelia\_32:

(43, 21644), (52, 21605), (Start: 103 @21518 has 21 MA's), (143, 21389), (158, 21344), (194, 21224),

Gene: AmericanBeauty\_84 Start: 49131, Stop: 49448, Start Num: 113

Candidate Starts for AmericanBeauty\_84:

(40, 48948), (Start: 113 @49131 has 152 MA's), (159, 49272),

Gene: Andrew\_31 Start: 20815, Stop: 20462, Start Num: 103

Candidate Starts for Andrew\_31:

(2, 21166), (68, 20890), (Start: 103 @20815 has 21 MA's), (143, 20686), (194, 20521),

Gene: Antuna\_42 Start: 25698, Stop: 26075, Start Num: 103

Candidate Starts for Antuna\_42:

(Start: 103 @25698 has 21 MA's), (125, 25761), (132, 25788), (189, 25962), (192, 25968), (198, 25989), (227, 26064),

Gene: Appa\_41 Start: 25620, Stop: 25997, Start Num: 103

Candidate Starts for Appa\_41:

(Start: 103 @25620 has 21 MA's), (125, 25683), (189, 25884), (192, 25890), (198, 25911), (227, 25986),

Gene: Archie\_67 Start: 46551, Stop: 46892, Start Num: 76

Candidate Starts for Archie\_67:

(Start: 76 @46551 has 14 MA's), (158, 46698),

Gene: ArcusAngelus\_67 Start: 42632, Stop: 42994, Start Num: 97

Candidate Starts for ArcusAngelus\_67:

(Start: 97 @42632 has 207 MA's), (155, 42791), (199, 42932), (201, 42935), (223, 42977),

Gene: Ardmore\_57 Start: 40049, Stop: 40405, Start Num: 97  
Candidate Starts for Ardmore\_57:  
(Start: 97 @40049 has 207 MA's), (199, 40349), (201, 40352),

Gene: Argent26\_81 Start: 48769, Stop: 49086, Start Num: 113  
Candidate Starts for Argent26\_81:  
(40, 48586), (Start: 113 @48769 has 152 MA's), (159, 48910),

Gene: Argie\_53 Start: 44207, Stop: 44548, Start Num: 97  
Candidate Starts for Argie\_53:  
(Start: 97 @44207 has 207 MA's), (122, 44261), (126, 44276), (131, 44294), (157, 44360), (163, 44378), (178, 44432), (191, 44477), (199, 44498), (211, 44522), (213, 44525),

Gene: Ariel\_118 Start: 64179, Stop: 64499, Start Num: 107  
Candidate Starts for Ariel\_118:  
(Start: 107 @64179 has 24 MA's), (127, 64248), (143, 64290), (183, 64407),

Gene: Asriel\_76 Start: 47325, Stop: 47642, Start Num: 113  
Candidate Starts for Asriel\_76:  
(40, 47142), (Start: 113 @47325 has 152 MA's), (159, 47466),

Gene: Aubs\_65 Start: 42690, Stop: 43052, Start Num: 97  
Candidate Starts for Aubs\_65:  
(49, 42573), (Start: 97 @42690 has 207 MA's), (155, 42849), (199, 42990), (223, 43035),

Gene: AvadaKedavra\_66 Start: 45153, Stop: 45521, Start Num: 80  
Candidate Starts for AvadaKedavra\_66:  
(Start: 80 @45153 has 5 MA's), (119, 45180), (139, 45249), (148, 45270), (159, 45294), (183, 45375), (202, 45438), (228, 45513),

Gene: Avani\_73 Start: 42666, Stop: 43022, Start Num: 97  
Candidate Starts for Avani\_73:  
(Start: 97 @42666 has 207 MA's), (199, 42966), (201, 42969),

Gene: Azrael100\_76 Start: 48787, Stop: 49152, Start Num: 88  
Candidate Starts for Azrael100\_76:  
(65, 48724), (Start: 88 @48787 has 5 MA's), (165, 48979), (200, 49099), (216, 49132),

Gene: BAKA\_122 Start: 67774, Stop: 68106, Start Num: 107  
Candidate Starts for BAKA\_122:  
(Start: 107 @67774 has 24 MA's), (127, 67843), (162, 67933), (163, 67936), (183, 68002),

Gene: BaboJay\_74 Start: 48162, Stop: 48479, Start Num: 113  
Candidate Starts for BaboJay\_74:  
(40, 47979), (Start: 113 @48162 has 152 MA's), (159, 48303),

Gene: BadStone\_74 Start: 48531, Stop: 48848, Start Num: 113  
Candidate Starts for BadStone\_74:  
(40, 48348), (Start: 113 @48531 has 152 MA's), (159, 48672),

Gene: Balomoji\_77 Start: 49092, Stop: 49409, Start Num: 113  
Candidate Starts for Balomoji\_77:  
(40, 48909), (Start: 113 @49092 has 152 MA's), (159, 49233),

Gene: Banquo\_50 Start: 32516, Stop: 32896, Start Num: 104  
Candidate Starts for Banquo\_50:  
(Start: 104 @32516 has 15 MA's), (123, 32579), (143, 32639), (183, 32756), (192, 32795), (202, 32822), (224, 32864),

Gene: Baoshan\_65 Start: 46306, Stop: 46692, Start Num: 113  
Candidate Starts for Baoshan\_65:  
(38, 46120), (44, 46153), (77, 46249), (Start: 97 @46288 has 207 MA's), (Start: 113 @46306 has 152 MA's), (148, 46423), (160, 46450), (183, 46528), (229, 46675),

Gene: Barbarian\_76 Start: 47325, Stop: 47642, Start Num: 113  
Candidate Starts for Barbarian\_76:  
(40, 47142), (Start: 113 @47325 has 152 MA's), (159, 47466),

Gene: Bask21\_77 Start: 47945, Stop: 48262, Start Num: 113  
Candidate Starts for Bask21\_77:  
(40, 47762), (Start: 113 @47945 has 152 MA's), (Start: 117 @47969 has 1 MA's), (159, 48086),

Gene: Batiatus\_63 Start: 41925, Stop: 42281, Start Num: 97  
Candidate Starts for Batiatus\_63:  
(Start: 97 @41925 has 207 MA's), (199, 42225), (201, 42228),

Gene: Baudelaire\_71 Start: 46495, Stop: 46824, Start Num: 113  
Candidate Starts for Baudelaire\_71:  
(Start: 113 @46495 has 152 MA's), (135, 46579), (183, 46717), (189, 46744), (192, 46750), (200, 46774), (221, 46813),

Gene: Bazzle\_67 Start: 46701, Stop: 47099, Start Num: 111  
Candidate Starts for Bazzle\_67:  
(Start: 111 @46701 has 1 MA's), (148, 46818), (160, 46845), (183, 46923), (192, 46956), (229, 47070),

Gene: Beagle\_86 Start: 50592, Stop: 50260, Start Num: 110  
Candidate Starts for Beagle\_86:  
(Start: 110 @50592 has 12 MA's), (120, 50559), (147, 50442), (160, 50412), (165, 50397), (169, 50382), (183, 50340), (184, 50334), (186, 50322), (189, 50313), (196, 50289),

Gene: Beakin\_66 Start: 41229, Stop: 41591, Start Num: 97  
Candidate Starts for Beakin\_66:  
(Start: 97 @41229 has 207 MA's), (155, 41388), (199, 41529), (201, 41532), (223, 41574),

Gene: BearBQ\_70 Start: 44365, Stop: 44712, Start Num: 109  
Candidate Starts for BearBQ\_70:  
(56, 44251), (90, 44341), (Start: 109 @44365 has 2 MA's), (Start: 115 @44386 has 1 MA's), (121, 44404), (122, 44413), (143, 44488), (183, 44605), (189, 44635), (201, 44665), (217, 44692), (223, 44704),

Gene: Beelzebub\_73 Start: 40109, Stop: 40462, Start Num: 84  
Candidate Starts for Beelzebub\_73:  
(Start: 84 @40109 has 16 MA's), (98, 40136), (142, 40271), (153, 40301), (170, 40352), (172, 40358), (177, 40373), (184, 40391), (190, 40415), (192, 40418),

Gene: Beem\_125 Start: 69590, Stop: 69922, Start Num: 113  
Candidate Starts for Beem\_125:  
(Start: 113 @69590 has 152 MA's), (145, 69701), (152, 69725), (214, 69905),

Gene: Bench\_80 Start: 48629, Stop: 48946, Start Num: 113  
Candidate Starts for Bench\_80:  
(40, 48446), (Start: 113 @48629 has 152 MA's), (159, 48770),

Gene: BigBubba\_77 Start: 48341, Stop: 48658, Start Num: 113  
Candidate Starts for BigBubba\_77:  
(40, 48158), (Start: 113 @48341 has 152 MA's), (159, 48482),

Gene: BigCheese\_67 Start: 46345, Stop: 46764, Start Num: 97  
Candidate Starts for BigCheese\_67:  
(24, 46084), (38, 46177), (Start: 97 @46345 has 207 MA's), (Start: 113 @46363 has 152 MA's), (148, 46480), (160, 46507), (183, 46585), (229, 46732),

Gene: BigPhil\_62 Start: 39148, Stop: 39510, Start Num: 97  
Candidate Starts for BigPhil\_62:  
(Start: 97 @39148 has 207 MA's), (155, 39307), (170, 39352), (199, 39448), (201, 39451), (223, 39493),

Gene: BilboSwaggins\_76 Start: 48970, Stop: 49287, Start Num: 113  
Candidate Starts for BilboSwaggins\_76:  
(40, 48787), (Start: 113 @48970 has 152 MA's), (159, 49111),

Gene: Bipolar\_65 Start: 42690, Stop: 43052, Start Num: 97  
Candidate Starts for Bipolar\_65:  
(Start: 97 @42690 has 207 MA's), (155, 42849), (199, 42990), (223, 43035),

Gene: Blackbeetle\_69 Start: 39121, Stop: 39474, Start Num: 84  
Candidate Starts for Blackbeetle\_69:  
(Start: 84 @39121 has 16 MA's), (98, 39148), (142, 39283), (153, 39313), (170, 39364), (172, 39370), (177, 39385), (184, 39403), (190, 39427), (192, 39430),

Gene: Blarby\_78 Start: 44162, Stop: 44503, Start Num: 97  
Candidate Starts for Blarby\_78:  
(86, 44147), (Start: 97 @44162 has 207 MA's), (199, 44462), (201, 44465),

Gene: Blett\_41 Start: 25800, Stop: 26177, Start Num: 103  
Candidate Starts for Blett\_41:  
(Start: 103 @25800 has 21 MA's), (125, 25863), (132, 25890), (159, 25956), (189, 26064), (192, 26070), (198, 26091), (227, 26166),

Gene: Blexus\_63 Start: 42819, Stop: 43181, Start Num: 97  
Candidate Starts for Blexus\_63:  
(Start: 97 @42819 has 207 MA's), (155, 42978), (199, 43119), (223, 43164),

Gene: BlueCrab\_66 Start: 43528, Stop: 43884, Start Num: 97  
Candidate Starts for BlueCrab\_66:  
(Start: 97 @43528 has 207 MA's), (161, 43702), (199, 43828),

Gene: BobaPhett\_69 Start: 45114, Stop: 45476, Start Num: 97



Candidate Starts for BobaPhett\_69:

(Start: 97 @45114 has 207 MA's), (155, 45273), (161, 45288), (199, 45414), (223, 45459),

Gene: Bobby\_115 Start: 69193, Stop: 69522, Start Num: 107

Candidate Starts for Bobby\_115:

(Start: 107 @69193 has 24 MA's), (127, 69262), (162, 69352), (163, 69355), (183, 69421), (215, 69505),

Gene: Bobi\_69 Start: 43528, Stop: 43884, Start Num: 97

Candidate Starts for Bobi\_69:

(Start: 97 @43528 has 207 MA's), (199, 43828), (201, 43831),

Gene: BobsGarage\_67 Start: 46345, Stop: 46764, Start Num: 97

Candidate Starts for BobsGarage\_67:

(24, 46084), (38, 46177), (Start: 97 @46345 has 207 MA's), (Start: 113 @46363 has 152 MA's), (148, 46480), (160, 46507), (183, 46585), (229, 46732),

Gene: BodEinwohner17\_66 Start: 42524, Stop: 42886, Start Num: 97

Candidate Starts for BodEinwohner17\_66:

(52, 42419), (54, 42425), (74, 42479), (Start: 97 @42524 has 207 MA's), (Start: 115 @42557 has 1 MA's), (199, 42824), (201, 42827), (223, 42869),

Gene: Boomer\_70 Start: 44186, Stop: 44542, Start Num: 97

Candidate Starts for Boomer\_70:

(Start: 97 @44186 has 207 MA's), (199, 44486), (201, 44489),

Gene: Breezona\_67 Start: 46363, Stop: 46764, Start Num: 113

Candidate Starts for Breezona\_67:

(24, 46084), (38, 46177), (Start: 97 @46345 has 207 MA's), (Start: 113 @46363 has 152 MA's), (148, 46480), (160, 46507), (183, 46585), (229, 46732),

Gene: BritBrat\_66 Start: 43849, Stop: 44178, Start Num: 113

Candidate Starts for BritBrat\_66:

(57, 43735), (93, 43825), (Start: 113 @43849 has 152 MA's), (148, 43963), (158, 43984), (183, 44068), (188, 44092), (216, 44158), (222, 44170),

Gene: Brocalys\_60 Start: 39296, Stop: 39658, Start Num: 97

Candidate Starts for Brocalys\_60:

(49, 39179), (Start: 97 @39296 has 207 MA's), (155, 39455), (199, 39596), (223, 39641),

Gene: Bromden\_67 Start: 46292, Stop: 46696, Start Num: 76

Candidate Starts for Bromden\_67:

(20, 46049), (22, 46061), (28, 46079), (34, 46139), (55, 46238), (Start: 76 @46292 has 14 MA's), (148, 46415), (160, 46442), (210, 46601),

Gene: BruhMoment\_74 Start: 49610, Stop: 49293, Start Num: 108

Candidate Starts for BruhMoment\_74:

(Start: 108 @49610 has 1 MA's), (136, 49508), (147, 49469), (186, 49349),

Gene: Bruin\_74 Start: 47505, Stop: 47822, Start Num: 113

Candidate Starts for Bruin\_74:

(40, 47322), (Start: 113 @47505 has 152 MA's), (159, 47646),

Gene: Buck\_78 Start: 49210, Stop: 49527, Start Num: 113

Candidate Starts for Buck\_78:

(40, 49027), (Start: 113 @49210 has 152 MA's), (159, 49351),

Gene: Burwell21\_63 Start: 42397, Stop: 42759, Start Num: 97

Candidate Starts for Burwell21\_63:

(49, 42280), (Start: 97 @42397 has 207 MA's), (155, 42556), (199, 42697), (223, 42742),

Gene: Bush\_43 Start: 25748, Stop: 26125, Start Num: 103

Candidate Starts for Bush\_43:

(Start: 103 @25748 has 21 MA's), (125, 25811), (132, 25838), (159, 25904), (189, 26012), (192, 26018), (198, 26039), (227, 26114),

Gene: BuzzLyseyear\_71 Start: 43599, Stop: 43961, Start Num: 97

Candidate Starts for BuzzLyseyear\_71:

(Start: 97 @43599 has 207 MA's), (155, 43758), (199, 43899), (201, 43902), (223, 43944),

Gene: ByChance\_58 Start: 38456, Stop: 38818, Start Num: 97

Candidate Starts for ByChance\_58:

(Start: 97 @38456 has 207 MA's), (155, 38615), (161, 38630), (199, 38756), (223, 38801),

Gene: Byougenkin\_65 Start: 42188, Stop: 42544, Start Num: 97

Candidate Starts for Byougenkin\_65:

(Start: 97 @42188 has 207 MA's), (199, 42488), (201, 42491),

Gene: Cabrinians\_66 Start: 42475, Stop: 42837, Start Num: 97

Candidate Starts for Cabrinians\_66:

(Start: 97 @42475 has 207 MA's), (161, 42649), (199, 42775), (223, 42820),

Gene: Cactus\_80 Start: 47986, Stop: 48303, Start Num: 113

Candidate Starts for Cactus\_80:

(40, 47803), (Start: 113 @47986 has 152 MA's), (159, 48127),

Gene: Cafasso\_107 Start: 60484, Stop: 60873, Start Num: 110

Candidate Starts for Cafasso\_107:

(5, 60097), (6, 60109), (Start: 110 @60484 has 12 MA's), (120, 60517), (123, 60538), (168, 60685), (175, 60715),

Gene: Caprice\_64 Start: 39435, Stop: 39788, Start Num: 84

Candidate Starts for Caprice\_64:

(Start: 84 @39435 has 16 MA's), (98, 39462), (142, 39597), (153, 39627), (170, 39678), (172, 39684), (177, 39699), (184, 39717), (190, 39741), (192, 39744),

Gene: CaptainTrips\_63 Start: 42210, Stop: 42572, Start Num: 97

Candidate Starts for CaptainTrips\_63:

(49, 42093), (Start: 97 @42210 has 207 MA's), (155, 42369), (199, 42510), (223, 42555),

Gene: Catfish\_49 Start: 34051, Stop: 34401, Start Num: 104

Candidate Starts for Catfish\_49:

(Start: 104 @34051 has 15 MA's), (116, 34084), (143, 34174), (151, 34198), (189, 34324), (217, 34384),

Gene: Cepens\_52 Start: 43922, Stop: 44263, Start Num: 97

Candidate Starts for Cepens\_52:

(Start: 97 @43922 has 207 MA's), (122, 43976), (126, 43991), (131, 44009), (157, 44075), (163, 44093), (178, 44147), (191, 44192), (199, 44213), (211, 44237), (213, 44240),

Gene: Cerasum\_62 Start: 39166, Stop: 39528, Start Num: 97

Candidate Starts for Cerasum\_62:

(Start: 97 @39166 has 207 MA's), (155, 39325), (170, 39370), (199, 39466), (201, 39469), (223, 39511),

Gene: Che8\_70 Start: 45095, Stop: 45457, Start Num: 97

Candidate Starts for Che8\_70:

(Start: 97 @45095 has 207 MA's), (155, 45254), (199, 45395), (201, 45398), (223, 45440),

Gene: Che9d\_75 Start: 42864, Stop: 43220, Start Num: 97

Candidate Starts for Che9d\_75:

(Start: 97 @42864 has 207 MA's), (155, 43023), (199, 43164), (201, 43167),

Gene: CheeseTouch\_74 Start: 39429, Stop: 39758, Start Num: 113

Candidate Starts for CheeseTouch\_74:

(Start: 113 @39429 has 152 MA's), (148, 39543), (158, 39564), (183, 39648), (188, 39672), (203, 39711), (216, 39738), (222, 39750),

Gene: Chevrolet\_73 Start: 42633, Stop: 42995, Start Num: 97

Candidate Starts for Chevrolet\_73:

(Start: 97 @42633 has 207 MA's), (199, 42933), (201, 42936), (223, 42978),

Gene: ChosenOne\_77 Start: 47986, Stop: 48303, Start Num: 113

Candidate Starts for ChosenOne\_77:

(40, 47803), (Start: 113 @47986 has 152 MA's), (159, 48127),

Gene: ChotaBhai\_77 Start: 48310, Stop: 48627, Start Num: 113

Candidate Starts for ChotaBhai\_77:

(40, 48127), (Start: 113 @48310 has 152 MA's), (Start: 117 @48334 has 1 MA's), (159, 48451),

Gene: Chuckly\_68 Start: 42655, Stop: 43011, Start Num: 97

Candidate Starts for Chuckly\_68:

(Start: 97 @42655 has 207 MA's), (199, 42955), (201, 42958),

Gene: Cinna\_52 Start: 36948, Stop: 37283, Start Num: 104

Candidate Starts for Cinna\_52:

(73, 36891), (Start: 94 @36936 has 1 MA's), (96, 36939), (Start: 104 @36948 has 15 MA's), (Start: 115 @36975 has 1 MA's), (148, 37083), (173, 37158), (183, 37188), (187, 37209), (201, 37248),

Gene: Cjw1\_77 Start: 49683, Stop: 50000, Start Num: 113

Candidate Starts for Cjw1\_77:

(40, 49500), (Start: 113 @49683 has 152 MA's), (159, 49824),

Gene: Clarkson\_70 Start: 39837, Stop: 40190, Start Num: 84

Candidate Starts for Clarkson\_70:

(Start: 84 @39837 has 16 MA's), (98, 39864), (142, 39999), (153, 40029), (170, 40080), (172, 40086), (177, 40101), (184, 40119), (190, 40143), (192, 40146),

Gene: Claus\_68 Start: 46444, Stop: 46830, Start Num: 113

Candidate Starts for Claus\_68:

(38, 46258), (77, 46387), (Start: 97 @46426 has 207 MA's), (Start: 113 @46444 has 152 MA's), (148, 46561), (160, 46588), (183, 46666), (229, 46813),

Gene: Clautastrophe\_65 Start: 46467, Stop: 46799, Start Num: 76

Candidate Starts for Clautastrophe\_65:

(13, 46191), (14, 46203), (16, 46212), (22, 46236), (34, 46314), (42, 46362), (Start: 76 @46467 has 14 MA's), (158, 46611), (183, 46695), (192, 46728),

Gene: Clawz\_89 Start: 57153, Stop: 57563, Start Num: 79

Candidate Starts for Clawz\_89:

(60, 57102), (62, 57108), (Start: 64 @57114 has 2 MA's), (69, 57126), (Start: 79 @57153 has 1 MA's), (Start: 95 @57183 has 2 MA's), (179, 57444), (183, 57453), (206, 57522), (218, 57540),

Gene: Clifton\_60 Start: 39647, Stop: 40009, Start Num: 97

Candidate Starts for Clifton\_60:

(49, 39530), (Start: 97 @39647 has 207 MA's), (155, 39806), (199, 39947), (223, 39992),

Gene: Coco12\_65 Start: 43223, Stop: 43585, Start Num: 97

Candidate Starts for Coco12\_65:

(Start: 97 @43223 has 207 MA's), (155, 43382), (170, 43427), (199, 43523), (201, 43526), (223, 43568),

Gene: Command613\_79 Start: 49025, Stop: 49342, Start Num: 113

Candidate Starts for Command613\_79:

(40, 48842), (Start: 113 @49025 has 152 MA's), (159, 49166),

Gene: Constella\_107 Start: 63055, Stop: 63387, Start Num: 113

Candidate Starts for Constella\_107:

(Start: 113 @63055 has 152 MA's), (145, 63166), (152, 63190), (214, 63370),

Gene: Contagion\_73 Start: 47786, Stop: 48103, Start Num: 113

Candidate Starts for Contagion\_73:

(40, 47603), (Start: 113 @47786 has 152 MA's), (159, 47927),

Gene: Cookies\_74 Start: 48167, Stop: 48484, Start Num: 113

Candidate Starts for Cookies\_74:

(40, 47984), (Start: 113 @48167 has 152 MA's), (Start: 117 @48191 has 1 MA's), (159, 48308),

Gene: Coral\_31 Start: 21357, Stop: 21004, Start Num: 103

Candidate Starts for Coral\_31:

(43, 21483), (52, 21444), (Start: 103 @21357 has 21 MA's), (143, 21228), (158, 21183), (194, 21063),

Gene: Corazon\_67 Start: 40031, Stop: 40384, Start Num: 84

Candidate Starts for Corazon\_67:

(Start: 84 @40031 has 16 MA's), (98, 40058), (142, 40193), (153, 40223), (170, 40274), (172, 40280), (177, 40295), (184, 40313), (190, 40337), (192, 40340),

Gene: Cornie\_63 Start: 40942, Stop: 41304, Start Num: 97

Candidate Starts for Cornie\_63:

(Start: 97 @40942 has 207 MA's), (155, 41101), (199, 41242), (223, 41287),

Gene: Cornucopia\_67 Start: 42579, Stop: 42941, Start Num: 97

Candidate Starts for Cornucopia\_67:

(Start: 97 @42579 has 207 MA's), (170, 42783), (199, 42879), (201, 42882), (223, 42924),

Gene: Cosmo\_77 Start: 48788, Stop: 49153, Start Num: 88

Candidate Starts for Cosmo\_77:

(65, 48725), (Start: 88 @48788 has 5 MA's), (165, 48980), (200, 49100), (216, 49133),

Gene: Cote\_33 Start: 21834, Stop: 21481, Start Num: 103

Candidate Starts for Cote\_33:

(43, 21960), (52, 21921), (Start: 103 @21834 has 21 MA's), (143, 21705), (158, 21660), (194, 21540),

Gene: Courthouse\_113 Start: 63779, Stop: 64099, Start Num: 107

Candidate Starts for Courthouse\_113:

(Start: 107 @63779 has 24 MA's), (127, 63848), (143, 63890), (183, 64007),

Gene: Cressida\_55 Start: 36599, Stop: 36934, Start Num: 104

Candidate Starts for Cressida\_55:

(7, 36272), (8, 36275), (12, 36281), (16, 36305), (18, 36314), (73, 36542), (Start: 94 @36587 has 1 MA's), (96, 36590), (Start: 104 @36599 has 15 MA's), (Start: 115 @36626 has 1 MA's), (140, 36716), (148, 36734), (173, 36809), (183, 36839), (189, 36866),

Gene: Crossroads\_67 Start: 46441, Stop: 46839, Start Num: 113

Candidate Starts for Crossroads\_67:

(24, 46162), (38, 46255), (Start: 97 @46423 has 207 MA's), (Start: 113 @46441 has 152 MA's), (160, 46585), (183, 46663), (229, 46810),

Gene: CrystalP\_76 Start: 48970, Stop: 49287, Start Num: 113

Candidate Starts for CrystalP\_76:

(40, 48787), (Start: 113 @48970 has 152 MA's), (159, 49111),

Gene: Czyszczone1\_78 Start: 48492, Stop: 48809, Start Num: 113

Candidate Starts for Czyszczone1\_78:

(40, 48309), (Start: 113 @48492 has 152 MA's), (159, 48633),

Gene: D12\_51 Start: 44470, Stop: 44811, Start Num: 97

Candidate Starts for D12\_51:

(Start: 97 @44470 has 207 MA's), (122, 44524), (126, 44539), (131, 44557), (157, 44623), (163, 44641), (178, 44695), (191, 44740), (199, 44761), (211, 44785), (213, 44788),

Gene: DLane\_60 Start: 40555, Stop: 40917, Start Num: 97

Candidate Starts for DLane\_60:

(Start: 97 @40555 has 207 MA's), (199, 40855), (201, 40858), (223, 40900),

Gene: DRBy19\_69 Start: 43907, Stop: 44263, Start Num: 97

Candidate Starts for DRBy19\_69:

(49, 43790), (Start: 97 @43907 has 207 MA's), (161, 44081), (199, 44207), (201, 44210), (223, 44246),

Gene: DaWorst\_65 Start: 42022, Stop: 42384, Start Num: 97

Candidate Starts for DaWorst\_65:

(Start: 97 @42022 has 207 MA's), (155, 42181), (199, 42322), (223, 42367),

Gene: Daenerys\_60 Start: 41329, Stop: 41685, Start Num: 97

Candidate Starts for Daenerys\_60:  
(52, 41224), (54, 41230), (74, 41284), (Start: 97 @41329 has 207 MA's), (Start: 115 @41362 has 1 MA's), (170, 41533), (199, 41629), (201, 41632),

Gene: Daikon\_79 Start: 49113, Stop: 49430, Start Num: 113  
Candidate Starts for Daikon\_79:  
(40, 48930), (Start: 113 @49113 has 152 MA's), (159, 49254),

Gene: Dallas\_124 Start: 69105, Stop: 69437, Start Num: 113  
Candidate Starts for Dallas\_124:  
(Start: 113 @69105 has 152 MA's), (145, 69216), (152, 69240), (214, 69420),

Gene: Dante\_66 Start: 41796, Stop: 42161, Start Num: 97  
Candidate Starts for Dante\_66:  
(Start: 97 @41796 has 207 MA's), (155, 41955), (199, 42096), (210, 42120),

Gene: Daob\_33 Start: 21852, Stop: 21499, Start Num: 103  
Candidate Starts for Daob\_33:  
(43, 21978), (52, 21939), (Start: 103 @21852 has 21 MA's), (143, 21723), (194, 21558),

Gene: Dardanus\_46 Start: 31283, Stop: 31621, Start Num: 101  
Candidate Starts for Dardanus\_46:  
(47, 31163), (Start: 94 @31274 has 1 MA's), (Start: 101 @31283 has 3 MA's), (143, 31409), (155, 31439), (163, 31460), (211, 31610),

Gene: DeadP\_72 Start: 44907, Stop: 45269, Start Num: 97  
Candidate Starts for DeadP\_72:  
(86, 44892), (Start: 97 @44907 has 207 MA's), (199, 45207), (201, 45210), (223, 45252),

Gene: DelaGarza\_58 Start: 33298, Stop: 33687, Start Num: 94  
Candidate Starts for DelaGarza\_58:  
(Start: 94 @33298 has 1 MA's), (137, 33424), (171, 33532), (209, 33652),

Gene: Demsculpinboyz\_78 Start: 42611, Stop: 42973, Start Num: 97  
Candidate Starts for Demsculpinboyz\_78:  
(Start: 97 @42611 has 207 MA's), (170, 42815), (199, 42911), (223, 42956),

Gene: DillTech15\_63 Start: 40922, Stop: 41284, Start Num: 97  
Candidate Starts for DillTech15\_63:  
(87, 40907), (Start: 97 @40922 has 207 MA's), (199, 41222), (223, 41267),

Gene: DinoDaryn\_52 Start: 33048, Stop: 33431, Start Num: 104  
Candidate Starts for DinoDaryn\_52:  
(Start: 104 @33048 has 15 MA's), (143, 33171), (202, 33354), (224, 33396),

Gene: DirtMcgirt\_64 Start: 40554, Stop: 40916, Start Num: 97  
Candidate Starts for DirtMcgirt\_64:  
(Start: 97 @40554 has 207 MA's), (155, 40713), (199, 40854), (201, 40857), (223, 40899),

Gene: DmpstrDiver\_123 Start: 68024, Stop: 68353, Start Num: 107  
Candidate Starts for DmpstrDiver\_123:  
(Start: 107 @68024 has 24 MA's), (127, 68093), (183, 68252), (215, 68336),

Gene: DoctorDiddles\_76 Start: 48354, Stop: 48671, Start Num: 113  
Candidate Starts for DoctorDiddles\_76:  
(40, 48171), (Start: 113 @48354 has 152 MA's), (Start: 117 @48378 has 1 MA's), (159, 48495),

Gene: DonTron\_90 Start: 57720, Stop: 58088, Start Num: 105  
Candidate Starts for DonTron\_90:  
(17, 57420), (32, 57495), (45, 57582), (Start: 95 @57708 has 2 MA's), (105, 57720), (179, 57969),  
(183, 57978), (188, 58002), (193, 58008), (209, 58050),

Gene: Donkeykong\_68 Start: 44468, Stop: 44830, Start Num: 97  
Candidate Starts for Donkeykong\_68:  
(Start: 97 @44468 has 207 MA's), (199, 44768), (201, 44771), (223, 44813),

Gene: Doomphist\_65 Start: 43033, Stop: 43326, Start Num: 124  
Candidate Starts for Doomphist\_65:  
(Start: 124 @43033 has 5 MA's), (128, 43045), (130, 43051), (141, 43087), (155, 43123), (199,  
43264), (201, 43267), (223, 43309),

Gene: Dorothy\_64 Start: 42261, Stop: 42623, Start Num: 97  
Candidate Starts for Dorothy\_64:  
(52, 42156), (54, 42162), (74, 42216), (Start: 97 @42261 has 207 MA's), (Start: 115 @42294 has 1  
MA's), (170, 42465), (199, 42561), (201, 42564), (223, 42606),

Gene: DosHalletts\_71 Start: 43303, Stop: 43665, Start Num: 97  
Candidate Starts for DosHalletts\_71:  
(Start: 97 @43303 has 207 MA's), (155, 43462), (199, 43603), (201, 43606), (223, 43648),

Gene: DotProduct\_60 Start: 40802, Stop: 41164, Start Num: 97  
Candidate Starts for DotProduct\_60:  
(Start: 97 @40802 has 207 MA's), (199, 41102), (201, 41105), (223, 41147),

Gene: Doug\_67 Start: 42635, Stop: 42997, Start Num: 97  
Candidate Starts for Doug\_67:  
(Start: 97 @42635 has 207 MA's), (199, 42935), (223, 42980),

Gene: Douge\_65 Start: 45034, Stop: 45432, Start Num: 81  
Candidate Starts for Douge\_65:  
(55, 44974), (70, 45007), (81, 45034), (148, 45151), (160, 45178), (210, 45337),

Gene: DrDrey\_77 Start: 49411, Stop: 49728, Start Num: 113  
Candidate Starts for DrDrey\_77:  
(40, 49228), (Start: 113 @49411 has 152 MA's), (159, 49552),

Gene: Drago\_62 Start: 40557, Stop: 40919, Start Num: 97  
Candidate Starts for Drago\_62:  
(Start: 97 @40557 has 207 MA's), (155, 40716), (199, 40857), (201, 40860), (223, 40902),

Gene: Dropshot\_41 Start: 25455, Stop: 25832, Start Num: 103  
Candidate Starts for Dropshot\_41:  
(Start: 103 @25455 has 21 MA's), (125, 25518), (132, 25545), (189, 25719), (192, 25725), (198,  
25746), (227, 25821),

Gene: Duke13\_117 Start: 65442, Stop: 65774, Start Num: 107

Candidate Starts for Duke13\_117:

(Start: 107 @65442 has 24 MA's), (127, 65511), (162, 65601), (163, 65604), (183, 65670),

Gene: Dumbo\_77 Start: 47891, Stop: 48208, Start Num: 113

Candidate Starts for Dumbo\_77:

(40, 47708), (Start: 113 @47891 has 152 MA's), (159, 48032),

Gene: DuncansLeg\_66 Start: 46503, Stop: 46835, Start Num: 76

Candidate Starts for DuncansLeg\_66:

(42, 46398), (63, 46464), (Start: 76 @46503 has 14 MA's), (148, 46626), (160, 46653), (183, 46731), (194, 46767), (210, 46812),

Gene: Dusk\_74 Start: 48191, Stop: 48508, Start Num: 113

Candidate Starts for Dusk\_74:

(40, 48008), (Start: 113 @48191 has 152 MA's), (159, 48332),

Gene: Easy2Say\_78 Start: 49435, Stop: 49752, Start Num: 113

Candidate Starts for Easy2Say\_78:

(40, 49252), (Start: 113 @49435 has 152 MA's), (159, 49576),

Gene: Ecliptus\_75 Start: 44750, Stop: 45079, Start Num: 113

Candidate Starts for Ecliptus\_75:

(Start: 113 @44750 has 152 MA's), (148, 44864), (158, 44885), (183, 44969), (188, 44993), (203, 45032), (216, 45059), (222, 45071),

Gene: Eish\_68 Start: 42537, Stop: 42899, Start Num: 97

Candidate Starts for Eish\_68:

(Start: 97 @42537 has 207 MA's), (155, 42696), (199, 42837), (201, 42840), (223, 42882),

Gene: Ejimix\_117 Start: 69176, Stop: 69505, Start Num: 107

Candidate Starts for Ejimix\_117:

(Start: 107 @69176 has 24 MA's), (127, 69245), (162, 69335), (163, 69338), (183, 69404), (215, 69488),

Gene: EleanorGeorge\_67 Start: 43317, Stop: 43673, Start Num: 97

Candidate Starts for EleanorGeorge\_67:

(Start: 97 @43317 has 207 MA's), (155, 43476), (199, 43617), (201, 43620),

Gene: Elite2014\_76 Start: 47985, Stop: 48302, Start Num: 113

Candidate Starts for Elite2014\_76:

(40, 47802), (Start: 113 @47985 has 152 MA's), (159, 48126),

Gene: Elph10\_77 Start: 47990, Stop: 48307, Start Num: 113

Candidate Starts for Elph10\_77:

(40, 47807), (Start: 113 @47990 has 152 MA's), (159, 48131),

Gene: Emma\_67 Start: 42045, Stop: 42407, Start Num: 97

Candidate Starts for Emma\_67:

(Start: 97 @42045 has 207 MA's), (118, 42087), (155, 42204), (199, 42345), (223, 42390),

Gene: Emmina\_77 Start: 47892, Stop: 48209, Start Num: 113

Candidate Starts for Emmina\_77:

(40, 47709), (Start: 113 @47892 has 152 MA's), (159, 48033),



Gene: Empress\_64 Start: 42743, Stop: 43105, Start Num: 97  
Candidate Starts for Empress\_64:  
(52, 42638), (54, 42644), (74, 42698), (Start: 97 @42743 has 207 MA's), (Start: 115 @42776 has 1 MA's), (199, 43043), (201, 43046), (223, 43088),

Gene: Enby\_66 Start: 40833, Stop: 41195, Start Num: 97  
Candidate Starts for Enby\_66:  
(Start: 97 @40833 has 207 MA's), (155, 40992), (199, 41133), (201, 41136), (223, 41178),

Gene: EniyanLRS\_168 Start: 48527, Stop: 48892, Start Num: 88  
Candidate Starts for EniyanLRS\_168:  
(65, 48464), (Start: 88 @48527 has 5 MA's), (165, 48719), (200, 48839), (216, 48872),

Gene: Eradicator\_58 Start: 40449, Stop: 40811, Start Num: 97  
Candidate Starts for Eradicator\_58:  
(Start: 97 @40449 has 207 MA's), (155, 40608), (199, 40749), (201, 40752), (223, 40794),

Gene: EricMillard\_114 Start: 67411, Stop: 67743, Start Num: 107  
Candidate Starts for EricMillard\_114:  
(Start: 107 @67411 has 24 MA's), (127, 67480), (162, 67570), (163, 67573), (183, 67639),

Gene: Estave1\_70 Start: 44873, Stop: 45235, Start Num: 97  
Candidate Starts for Estave1\_70:  
(Start: 97 @44873 has 207 MA's), (155, 45032), (161, 45047), (199, 45173), (201, 45176), (223, 45218),

Gene: Eureka\_75 Start: 48456, Stop: 48773, Start Num: 113  
Candidate Starts for Eureka\_75:  
(40, 48273), (Start: 113 @48456 has 152 MA's), (159, 48597),

Gene: Fancypants\_68 Start: 43057, Stop: 43419, Start Num: 97  
Candidate Starts for Fancypants\_68:  
(87, 43042), (Start: 97 @43057 has 207 MA's), (155, 43216), (199, 43357), (223, 43402),

Gene: Filch\_78 Start: 47917, Stop: 48234, Start Num: 113  
Candidate Starts for Filch\_78:  
(40, 47734), (Start: 113 @47917 has 152 MA's), (159, 48058),

Gene: Filuzino\_63 Start: 40860, Stop: 41222, Start Num: 97  
Candidate Starts for Filuzino\_63:  
(Start: 97 @40860 has 207 MA's), (199, 41160), (201, 41163), (223, 41205),

Gene: Finemlucis\_67 Start: 46684, Stop: 47085, Start Num: 113  
Candidate Starts for Finemlucis\_67:  
(24, 46405), (38, 46498), (Start: 97 @46666 has 207 MA's), (Start: 113 @46684 has 152 MA's), (148, 46801), (160, 46828), (183, 46906), (229, 47053),

Gene: Finnry\_66 Start: 46731, Stop: 47063, Start Num: 76  
Candidate Starts for Finnry\_66:  
(14, 46467), (16, 46476), (22, 46500), (34, 46578), (42, 46626), (Start: 76 @46731 has 14 MA's), (158, 46875), (183, 46959), (192, 46992),

Gene: FireRed\_81 Start: 49479, Stop: 49796, Start Num: 113  
Candidate Starts for FireRed\_81:  
(40, 49296), (Start: 113 @49479 has 152 MA's), (159, 49620),

Gene: Firehouse51\_68 Start: 46363, Stop: 46704, Start Num: 97  
Candidate Starts for Firehouse51\_68:  
(Start: 97 @46363 has 207 MA's), (170, 46567), (199, 46663), (201, 46666),

Gene: Flathead\_66 Start: 42514, Stop: 42876, Start Num: 97  
Candidate Starts for Flathead\_66:  
(Start: 97 @42514 has 207 MA's), (199, 42814), (201, 42817), (223, 42859),

Gene: Florinda\_76 Start: 43974, Stop: 44336, Start Num: 97  
Candidate Starts for Florinda\_76:  
(Start: 97 @43974 has 207 MA's), (199, 44274), (201, 44277), (223, 44319),

Gene: Flypotenuse\_73 Start: 47976, Stop: 48293, Start Num: 113  
Candidate Starts for Flypotenuse\_73:  
(40, 47793), (Start: 113 @47976 has 152 MA's), (159, 48117),

Gene: FreddyB\_66 Start: 41323, Stop: 41679, Start Num: 97  
Candidate Starts for FreddyB\_66:  
(Start: 97 @41323 has 207 MA's), (161, 41497), (199, 41623),

Gene: GAL1\_54 Start: 37553, Stop: 37900, Start Num: 109  
Candidate Starts for GAL1\_54:  
(Start: 80 @37502 has 5 MA's), (Start: 109 @37553 has 2 MA's), (Start: 115 @37574 has 1 MA's),  
(121, 37592), (122, 37601), (143, 37676), (163, 37727), (181, 37790), (183, 37793), (189, 37823),  
(201, 37853), (217, 37880), (223, 37892),

Gene: GUmbie\_63 Start: 41676, Stop: 42038, Start Num: 97  
Candidate Starts for GUmbie\_63:  
(Start: 97 @41676 has 207 MA's), (155, 41835), (199, 41976), (201, 41979), (223, 42021),

Gene: Gabriela\_64 Start: 44813, Stop: 45211, Start Num: 113  
Candidate Starts for Gabriela\_64:  
(24, 44534), (38, 44627), (Start: 97 @44795 has 207 MA's), (Start: 113 @44813 has 152 MA's), (148,  
44930), (160, 44957), (183, 45035), (229, 45182),

Gene: Gage\_79 Start: 48769, Stop: 49086, Start Num: 113  
Candidate Starts for Gage\_79:  
(40, 48586), (Start: 113 @48769 has 152 MA's), (159, 48910),

Gene: Gaia\_85 Start: 50308, Stop: 50631, Start Num: 107  
Candidate Starts for Gaia\_85:  
(Start: 107 @50308 has 24 MA's), (126, 50371), (201, 50596), (202, 50599),

Gene: Galactic\_64 Start: 41833, Stop: 42195, Start Num: 97  
Candidate Starts for Galactic\_64:  
(Start: 97 @41833 has 207 MA's), (155, 41992), (199, 42133), (223, 42178),

Gene: Gandalph\_68 Start: 42720, Stop: 43082, Start Num: 97  
Candidate Starts for Gandalph\_68:

(49, 42603), (Start: 97 @42720 has 207 MA's), (155, 42879), (199, 43020), (201, 43023), (223, 43065),

Gene: Gardann\_68 Start: 46399, Stop: 46797, Start Num: 113

Candidate Starts for Gardann\_68:

(24, 46120), (38, 46213), (Start: 97 @46381 has 207 MA's), (Start: 113 @46399 has 152 MA's), (148, 46516), (160, 46543), (183, 46621), (229, 46768),

Gene: Gator\_75 Start: 48822, Stop: 49139, Start Num: 113

Candidate Starts for Gator\_75:

(40, 48639), (Start: 113 @48822 has 152 MA's), (159, 48963),

Gene: Gattaca\_67 Start: 39225, Stop: 39578, Start Num: 84

Candidate Starts for Gattaca\_67:

(Start: 84 @39225 has 16 MA's), (98, 39252), (142, 39387), (153, 39417), (170, 39468), (172, 39474), (177, 39489), (184, 39507), (190, 39531), (192, 39534),

Gene: Gemini\_82 Start: 49286, Stop: 49603, Start Num: 113

Candidate Starts for Gemini\_82:

(40, 49103), (Start: 113 @49286 has 152 MA's), (159, 49427),

Gene: Geralt\_60 Start: 41298, Stop: 41660, Start Num: 97

Candidate Starts for Geralt\_60:

(52, 41193), (54, 41199), (74, 41253), (Start: 97 @41298 has 207 MA's), (Start: 115 @41331 has 1 MA's), (199, 41598), (201, 41601), (223, 41643),

Gene: GigiOuiOui\_61 Start: 40822, Stop: 41184, Start Num: 97

Candidate Starts for GigiOuiOui\_61:

(Start: 97 @40822 has 207 MA's), (199, 41122), (201, 41125), (223, 41167),

Gene: Gilgamesh\_151 Start: 125936, Stop: 126292, Start Num: 99

Candidate Starts for Gilgamesh\_151:

(68, 125873), (Start: 99 @125936 has 2 MA's), (Start: 115 @125972 has 1 MA's), (139, 126053), (143, 126065), (163, 126116), (183, 126182), (201, 126242), (208, 126260), (219, 126275),

Gene: Gingerbug\_57 Start: 33770, Stop: 34138, Start Num: 112

Candidate Starts for Gingerbug\_57:

(Start: 112 @33770 has 2 MA's), (116, 33791), (137, 33872), (171, 33980),

Gene: Girafales\_73 Start: 43765, Stop: 44127, Start Num: 97

Candidate Starts for Girafales\_73:

(Start: 97 @43765 has 207 MA's), (199, 44065), (201, 44068), (223, 44110),

Gene: Girr\_63 Start: 41692, Stop: 42054, Start Num: 97

Candidate Starts for Girr\_63:

(Start: 97 @41692 has 207 MA's), (199, 41992), (223, 42037),

Gene: Glexan\_76 Start: 49106, Stop: 49423, Start Num: 113

Candidate Starts for Glexan\_76:

(40, 48923), (Start: 113 @49106 has 152 MA's), (159, 49247),

Gene: GodPhather\_53 Start: 44710, Stop: 45051, Start Num: 97

Candidate Starts for GodPhather\_53:

(Start: 97 @44710 has 207 MA's), (122, 44764), (126, 44779), (131, 44797), (157, 44863), (163, 44881), (178, 44935), (191, 44980), (199, 45001), (211, 45025), (213, 45028),

Gene: Goib\_52 Start: 33585, Stop: 33968, Start Num: 104

Candidate Starts for Goib\_52:

(Start: 104 @33585 has 15 MA's), (143, 33708), (202, 33891), (224, 33933),

Gene: Goku\_75 Start: 48185, Stop: 48502, Start Num: 113

Candidate Starts for Goku\_75:

(40, 48002), (Start: 113 @48185 has 152 MA's), (159, 48326),

Gene: GoldenSpark\_81 Start: 48769, Stop: 49086, Start Num: 113

Candidate Starts for GoldenSpark\_81:

(40, 48586), (Start: 113 @48769 has 152 MA's), (159, 48910),

Gene: Goldilocks\_80 Start: 48267, Stop: 48584, Start Num: 113

Candidate Starts for Goldilocks\_80:

(40, 48084), (Start: 113 @48267 has 152 MA's), (159, 48408),

Gene: GooberAzure\_80 Start: 48769, Stop: 49086, Start Num: 113

Candidate Starts for GooberAzure\_80:

(40, 48586), (Start: 113 @48769 has 152 MA's), (159, 48910),

Gene: Gorge\_69 Start: 43618, Stop: 43980, Start Num: 97

Candidate Starts for Gorge\_69:

(Start: 97 @43618 has 207 MA's), (155, 43777), (199, 43918), (201, 43921), (223, 43963),

Gene: Guppsters\_66 Start: 41977, Stop: 42339, Start Num: 97

Candidate Starts for Guppsters\_66:

(Start: 97 @41977 has 207 MA's), (155, 42136), (199, 42277), (201, 42280), (223, 42322),

Gene: GuuelaD\_66 Start: 46478, Stop: 46879, Start Num: 113

Candidate Starts for GuuelaD\_66:

(24, 46199), (38, 46292), (Start: 97 @46460 has 207 MA's), (Start: 113 @46478 has 152 MA's), (148, 46595), (160, 46622), (183, 46700), (229, 46847),

Gene: Hades\_66 Start: 42692, Stop: 43054, Start Num: 97

Candidate Starts for Hades\_66:

(Start: 97 @42692 has 207 MA's), (155, 42851), (199, 42992), (201, 42995), (223, 43037),

Gene: Hafay\_69 Start: 46467, Stop: 46868, Start Num: 113

Candidate Starts for Hafay\_69:

(24, 46188), (38, 46281), (Start: 97 @46449 has 207 MA's), (Start: 113 @46467 has 152 MA's), (148, 46584), (160, 46611), (183, 46689), (229, 46836),

Gene: Halley\_125 Start: 69492, Stop: 69821, Start Num: 107

Candidate Starts for Halley\_125:

(Start: 107 @69492 has 24 MA's), (127, 69561), (162, 69651), (163, 69654), (183, 69720), (215, 69804),

Gene: Hamulus\_65 Start: 42334, Stop: 42690, Start Num: 97

Candidate Starts for Hamulus\_65:

(Start: 97 @42334 has 207 MA's), (199, 42634), (201, 42637),

Gene: HanKaySha\_77 Start: 48070, Stop: 48387, Start Num: 113

Candidate Starts for HanKaySha\_77:

(40, 47887), (Start: 113 @48070 has 152 MA's), (159, 48211),

Gene: Harella\_77 Start: 49622, Stop: 49939, Start Num: 113

Candidate Starts for Harella\_77:

(40, 49439), (Start: 113 @49622 has 152 MA's), (159, 49763),

Gene: Harley\_67 Start: 42941, Stop: 43297, Start Num: 97

Candidate Starts for Harley\_67:

(Start: 97 @42941 has 207 MA's), (155, 43100), (161, 43115), (199, 43241), (201, 43244),

Gene: Hegedechwinu\_65 Start: 41510, Stop: 41872, Start Num: 97

Candidate Starts for Hegedechwinu\_65:

(49, 41393), (Start: 97 @41510 has 207 MA's), (155, 41669), (199, 41810), (201, 41813), (223, 41855),

Gene: Henry\_75 Start: 48410, Stop: 48727, Start Num: 113

Candidate Starts for Henry\_75:

(40, 48227), (Start: 113 @48410 has 152 MA's), (159, 48551),

Gene: Highbury\_76 Start: 48058, Stop: 48375, Start Num: 113

Candidate Starts for Highbury\_76:

(40, 47875), (Start: 113 @48058 has 152 MA's), (159, 48199),

Gene: Hlubikazi\_61 Start: 39912, Stop: 40274, Start Num: 97

Candidate Starts for Hlubikazi\_61:

(Start: 97 @39912 has 207 MA's), (199, 40212), (201, 40215), (223, 40257),

Gene: HokkenD\_113 Start: 67777, Stop: 68151, Start Num: 85

Candidate Starts for HokkenD\_113:

(Start: 82 @67768 has 1 MA's), (Start: 85 @67777 has 1 MA's), (129, 67885), (145, 67930), (214, 68134),

Gene: Holt\_82 Start: 49183, Stop: 49500, Start Num: 113

Candidate Starts for Holt\_82:

(40, 49000), (Start: 113 @49183 has 152 MA's), (159, 49324),

Gene: Hoonter\_80 Start: 48769, Stop: 49086, Start Num: 113

Candidate Starts for Hoonter\_80:

(40, 48586), (Start: 113 @48769 has 152 MA's), (159, 48910),

Gene: Hopecy\_77 Start: 48602, Stop: 48919, Start Num: 113

Candidate Starts for Hopecy\_77:

(40, 48419), (Start: 113 @48602 has 152 MA's), (159, 48743),

Gene: Horus\_72 Start: 44321, Stop: 44650, Start Num: 113

Candidate Starts for Horus\_72:

(57, 44207), (93, 44297), (Start: 113 @44321 has 152 MA's), (120, 44348), (148, 44435), (183, 44540), (188, 44564), (203, 44603), (216, 44630), (222, 44642),

Gene: HuffyPuff\_80 Start: 49435, Stop: 49752, Start Num: 113

Candidate Starts for HufflyPuff\_80:

(40, 49252), (Start: 113 @49435 has 152 MA's), (159, 49576),

Gene: Huffly\_52 Start: 33048, Stop: 33431, Start Num: 104

Candidate Starts for Huffly\_52:

(Start: 104 @33048 has 15 MA's), (143, 33171), (202, 33354), (224, 33396),

Gene: Hughesyang\_122 Start: 68948, Stop: 69280, Start Num: 107

Candidate Starts for Hughesyang\_122:

(Start: 107 @68948 has 24 MA's), (127, 69017), (183, 69176),

Gene: Huphlepuuff\_71 Start: 39642, Stop: 39995, Start Num: 84

Candidate Starts for Huphlepuuff\_71:

(Start: 84 @39642 has 16 MA's), (98, 39669), (142, 39804), (153, 39834), (170, 39885), (172, 39891), (177, 39906), (184, 39924), (190, 39948), (192, 39951),

Gene: IHOP\_75 Start: 48534, Stop: 48851, Start Num: 113

Candidate Starts for IHOP\_75:

(40, 48351), (Start: 113 @48534 has 152 MA's), (159, 48675),

Gene: lbOuu\_67 Start: 43348, Stop: 43710, Start Num: 97

Candidate Starts for lbOuu\_67:

(52, 43243), (54, 43249), (74, 43303), (Start: 97 @43348 has 207 MA's), (Start: 115 @43381 has 1 MA's), (199, 43648), (201, 43651), (223, 43693),

Gene: lbhubesi\_65 Start: 41957, Stop: 42313, Start Num: 97

Candidate Starts for lbhubesi\_65:

(Start: 97 @41957 has 207 MA's), (199, 42257), (201, 42260),

Gene: lcee\_78 Start: 48433, Stop: 48750, Start Num: 113

Candidate Starts for lcee\_78:

(40, 48250), (Start: 113 @48433 has 152 MA's), (159, 48574),

Gene: Inca\_74 Start: 47059, Stop: 47376, Start Num: 113

Candidate Starts for Inca\_74:

(40, 46876), (Start: 113 @47059 has 152 MA's), (159, 47200),

Gene: Inventum\_61 Start: 42492, Stop: 42821, Start Num: 115

Candidate Starts for Inventum\_61:

(52, 42354), (54, 42360), (74, 42414), (Start: 97 @42459 has 207 MA's), (Start: 115 @42492 has 1 MA's), (170, 42663), (199, 42759), (201, 42762), (223, 42804),

Gene: IrishSherpFalk\_66 Start: 43547, Stop: 43909, Start Num: 97

Candidate Starts for IrishSherpFalk\_66:

(Start: 97 @43547 has 207 MA's), (199, 43847), (201, 43850), (223, 43892),

Gene: Itos\_66 Start: 45269, Stop: 45670, Start Num: 113

Candidate Starts for Itos\_66:

(24, 44990), (38, 45083), (Start: 97 @45251 has 207 MA's), (Start: 113 @45269 has 152 MA's), (148, 45386), (160, 45413), (183, 45491), (229, 45638),

Gene: Jabbawokkie\_80 Start: 44082, Stop: 44423, Start Num: 97

Candidate Starts for Jabbawokkie\_80:

(86, 44067), (Start: 97 @44082 has 207 MA's), (199, 44382), (201, 44385),

Gene: JalFarm20\_78 Start: 46016, Stop: 46372, Start Num: 97

Candidate Starts for JalFarm20\_78:

(Start: 97 @46016 has 207 MA's), (199, 46316), (201, 46319),

Gene: James\_69 Start: 43743, Stop: 44105, Start Num: 97

Candidate Starts for James\_69:

(Start: 97 @43743 has 207 MA's), (155, 43902), (199, 44043), (201, 44046), (223, 44088),

Gene: JeTaime\_77 Start: 49251, Stop: 49568, Start Num: 113

Candidate Starts for JeTaime\_77:

(40, 49068), (Start: 113 @49251 has 152 MA's), (159, 49392),

Gene: Jeon\_52 Start: 44452, Stop: 44793, Start Num: 97

Candidate Starts for Jeon\_52:

(Start: 97 @44452 has 207 MA's), (122, 44506), (126, 44521), (131, 44539), (157, 44605), (163, 44623), (178, 44677), (191, 44722), (199, 44743), (211, 44767), (213, 44770),

Gene: Job42\_68 Start: 44715, Stop: 45080, Start Num: 97

Candidate Starts for Job42\_68:

(49, 44598), (Start: 97 @44715 has 207 MA's), (141, 44841), (144, 44847), (164, 44901), (166, 44904), (199, 45018), (201, 45021), (223, 45063),

Gene: Jobypre\_66 Start: 46467, Stop: 46799, Start Num: 76

Candidate Starts for Jobypre\_66:

(13, 46191), (14, 46203), (16, 46212), (22, 46236), (34, 46314), (42, 46362), (Start: 76 @46467 has 14 MA's), (158, 46611), (183, 46695), (192, 46728),

Gene: JoeyJr\_61 Start: 41497, Stop: 41853, Start Num: 97

Candidate Starts for JoeyJr\_61:

(52, 41392), (54, 41398), (74, 41452), (Start: 97 @41497 has 207 MA's), (Start: 115 @41530 has 1 MA's), (170, 41701), (199, 41797), (201, 41800),

Gene: JoieB\_70 Start: 40075, Stop: 40428, Start Num: 84

Candidate Starts for JoieB\_70:

(Start: 84 @40075 has 16 MA's), (98, 40102), (142, 40237), (153, 40267), (170, 40318), (172, 40324), (177, 40339), (184, 40357), (190, 40381), (192, 40384),

Gene: Jubie\_65 Start: 46602, Stop: 46934, Start Num: 76

Candidate Starts for Jubie\_65:

(13, 46326), (14, 46338), (16, 46347), (22, 46371), (34, 46449), (42, 46497), (Start: 76 @46602 has 14 MA's), (158, 46746), (183, 46830), (192, 46863),

Gene: Juice456\_66 Start: 43972, Stop: 44328, Start Num: 97

Candidate Starts for Juice456\_66:

(Start: 97 @43972 has 207 MA's), (199, 44272), (201, 44275),

Gene: JuicyJay\_120 Start: 70726, Stop: 71058, Start Num: 113

Candidate Starts for JuicyJay\_120:

(Start: 113 @70726 has 152 MA's), (145, 70837), (152, 70861), (214, 71041),

Gene: Juno112\_29 Start: 20872, Stop: 20519, Start Num: 103

Candidate Starts for Juno112\_29:

(1, 21274), (23, 21124), (68, 20929), (Start: 103 @20872 has 21 MA's), (120, 20839), (143, 20743),

Gene: Kahlid\_67 Start: 46369, Stop: 46770, Start Num: 113

Candidate Starts for Kahlid\_67:

(24, 46090), (38, 46183), (Start: 97 @46351 has 207 MA's), (Start: 113 @46369 has 152 MA's), (148, 46486), (160, 46513), (183, 46591), (229, 46738),

Gene: Kalah2\_114 Start: 67637, Stop: 67966, Start Num: 107

Candidate Starts for Kalah2\_114:

(Start: 107 @67637 has 24 MA's), (127, 67706), (183, 67865), (215, 67949),

Gene: Kanye\_74 Start: 48115, Stop: 48432, Start Num: 113

Candidate Starts for Kanye\_74:

(40, 47932), (Start: 113 @48115 has 152 MA's), (159, 48256),

Gene: Karhdo\_64 Start: 43305, Stop: 43667, Start Num: 97

Candidate Starts for Karhdo\_64:

(Start: 97 @43305 has 207 MA's), (155, 43464), (199, 43605), (223, 43650),

Gene: Keelan\_96 Start: 49018, Stop: 49347, Start Num: 103

Candidate Starts for Keelan\_96:

(Start: 103 @49018 has 21 MA's), (135, 49114), (170, 49198), (181, 49237),

Gene: Kenuha5\_63 Start: 41295, Stop: 41651, Start Num: 97

Candidate Starts for Kenuha5\_63:

(Start: 97 @41295 has 207 MA's), (155, 41454), (199, 41595), (201, 41598), (223, 41634),

Gene: Kepler\_32 Start: 21801, Stop: 21448, Start Num: 103

Candidate Starts for Kepler\_32:

(43, 21927), (52, 21888), (Start: 103 @21801 has 21 MA's), (143, 21672), (194, 21507),

Gene: Kersh\_67 Start: 44741, Stop: 45097, Start Num: 97

Candidate Starts for Kersh\_67:

(Start: 97 @44741 has 207 MA's), (155, 44900), (199, 45041), (201, 45044),

Gene: Kimberlium\_70 Start: 44253, Stop: 44594, Start Num: 97

Candidate Starts for Kimberlium\_70:

(Start: 97 @44253 has 207 MA's), (199, 44553), (201, 44556),

Gene: Kimchi\_81 Start: 48772, Stop: 49089, Start Num: 113

Candidate Starts for Kimchi\_81:

(40, 48589), (Start: 113 @48772 has 152 MA's), (159, 48913),

Gene: KingMidas\_65 Start: 43159, Stop: 43521, Start Num: 97

Candidate Starts for KingMidas\_65:

(52, 43054), (54, 43060), (74, 43114), (Start: 97 @43159 has 207 MA's), (Start: 115 @43192 has 1 MA's), (170, 43363), (199, 43459), (201, 43462), (223, 43504),

Gene: Kingsley\_63 Start: 41956, Stop: 42318, Start Num: 97

Candidate Starts for Kingsley\_63:

(Start: 97 @41956 has 207 MA's), (155, 42115), (170, 42160), (199, 42256), (201, 42259), (223, 42301),



Gene: Klein\_119 Start: 65994, Stop: 66323, Start Num: 107

Candidate Starts for Klein\_119:

(Start: 107 @65994 has 24 MA's), (127, 66063), (162, 66153), (163, 66156), (183, 66222), (215, 66306),

Gene: Koella\_59 Start: 38373, Stop: 38735, Start Num: 97

Candidate Starts for Koella\_59:

(Start: 97 @38373 has 207 MA's), (161, 38547), (199, 38673), (223, 38718),

Gene: Kostya\_77 Start: 48633, Stop: 48950, Start Num: 113

Candidate Starts for Kostya\_77:

(40, 48450), (Start: 113 @48633 has 152 MA's), (159, 48774),

Gene: Kozie\_51 Start: 36191, Stop: 36532, Start Num: 101

Candidate Starts for Kozie\_51:

(36, 35999), (45, 36059), (78, 36149), (Start: 101 @36191 has 3 MA's), (183, 36437), (192, 36470), (201, 36497),

Gene: Krakatau\_62 Start: 41145, Stop: 41507, Start Num: 97

Candidate Starts for Krakatau\_62:

(Start: 97 @41145 has 207 MA's), (199, 41445), (201, 41448), (223, 41490),

Gene: KristaRAM\_68 Start: 44341, Stop: 44697, Start Num: 97

Candidate Starts for KristaRAM\_68:

(Start: 97 @44341 has 207 MA's), (199, 44641), (201, 44644),

Gene: Krypton555\_67 Start: 46693, Stop: 47025, Start Num: 76

Candidate Starts for Krypton555\_67:

(13, 46417), (14, 46429), (16, 46438), (22, 46462), (34, 46540), (42, 46588), (Start: 76 @46693 has 14 MA's), (158, 46837), (183, 46921), (192, 46954),

Gene: Kuleana\_32 Start: 21579, Stop: 21160, Start Num: 71

Candidate Starts for Kuleana\_32:

(35, 21714), (Start: 71 @21579 has 1 MA's), (96, 21528), (120, 21480), (138, 21408), (143, 21384), (194, 21219),

Gene: Kumao\_62 Start: 44058, Stop: 44420, Start Num: 89

Candidate Starts for Kumao\_62:

(15, 43764), (31, 43851), (38, 43896), (41, 43911), (48, 43950), (Start: 89 @44058 has 1 MA's), (Start: 109 @44082 has 2 MA's), (118, 44118), (120, 44121), (160, 44235), (192, 44346),

Gene: Kuwabara\_72 Start: 44078, Stop: 44407, Start Num: 113

Candidate Starts for Kuwabara\_72:

(Start: 113 @44078 has 152 MA's), (148, 44192), (158, 44213), (183, 44297), (188, 44321), (203, 44360), (216, 44387), (222, 44399),

Gene: LastJedi\_59 Start: 39690, Stop: 40052, Start Num: 97

Candidate Starts for LastJedi\_59:

(49, 39573), (Start: 97 @39690 has 207 MA's), (155, 39849), (199, 39990), (223, 40035),

Gene: Leona\_29 Start: 20943, Stop: 20590, Start Num: 103

Candidate Starts for Leona\_29:

(23, 21195), (68, 21000), (Start: 103 @20943 has 21 MA's), (120, 20910), (143, 20814), (160, 20763),

Gene: Leozinho\_64 Start: 41151, Stop: 41507, Start Num: 97

Candidate Starts for Leozinho\_64:

(Start: 97 @41151 has 207 MA's), (155, 41310), (199, 41451), (201, 41454),

Gene: Leozinho\_66 Start: 42196, Stop: 42552, Start Num: 102

Candidate Starts for Leozinho\_66:

(Start: 102 @42196 has 3 MA's), (114, 42217), (Start: 115 @42223 has 1 MA's), (126, 42265), (162, 42367), (187, 42457), (199, 42490), (223, 42535),

Gene: Leperchaun\_58 Start: 40727, Stop: 41083, Start Num: 97

Candidate Starts for Leperchaun\_58:

(52, 40622), (54, 40628), (74, 40682), (Start: 97 @40727 has 207 MA's), (Start: 115 @40760 has 1 MA's), (170, 40931), (199, 41027), (201, 41030),

Gene: Lesiram\_58 Start: 33428, Stop: 33817, Start Num: 94

Candidate Starts for Lesiram\_58:

(Start: 94 @33428 has 1 MA's), (137, 33554), (171, 33662), (209, 33782),

Gene: Lewan\_68 Start: 46405, Stop: 46821, Start Num: 97

Candidate Starts for Lewan\_68:

(24, 46144), (38, 46237), (Start: 97 @46405 has 207 MA's), (Start: 113 @46423 has 152 MA's), (148, 46540), (160, 46567), (183, 46645), (229, 46792),

Gene: LilDestine\_67 Start: 46396, Stop: 46797, Start Num: 113

Candidate Starts for LilDestine\_67:

(24, 46117), (38, 46210), (Start: 97 @46378 has 207 MA's), (Start: 113 @46396 has 152 MA's), (148, 46513), (160, 46540), (183, 46618), (229, 46765),

Gene: LilMoolah\_64 Start: 42220, Stop: 42582, Start Num: 97

Candidate Starts for LilMoolah\_64:

(49, 42103), (Start: 97 @42220 has 207 MA's), (155, 42379), (199, 42520), (223, 42565),

Gene: Lilac\_79 Start: 48387, Stop: 48704, Start Num: 113

Candidate Starts for Lilac\_79:

(40, 48204), (Start: 113 @48387 has 152 MA's), (159, 48528),

Gene: Lilbit\_69 Start: 39805, Stop: 40158, Start Num: 84

Candidate Starts for Lilbit\_69:

(Start: 84 @39805 has 16 MA's), (98, 39832), (142, 39967), (153, 39997), (170, 40048), (172, 40054), (177, 40069), (184, 40087), (190, 40111), (192, 40114),

Gene: Lilizi\_78 Start: 48100, Stop: 48417, Start Num: 113

Candidate Starts for Lilizi\_78:

(40, 47917), (Start: 113 @48100 has 152 MA's), (159, 48241),

Gene: Lilpickle\_76 Start: 47985, Stop: 48302, Start Num: 113

Candidate Starts for Lilpickle\_76:

(40, 47802), (Start: 113 @47985 has 152 MA's), (159, 48126),

Gene: LitninMcQueen\_71 Start: 42944, Stop: 43273, Start Num: 113

Candidate Starts for LitninMcQueen\_71:

(Start: 113 @42944 has 152 MA's), (183, 43163), (216, 43253), (222, 43265),

Gene: LittleE\_122 Start: 67384, Stop: 67704, Start Num: 107

Candidate Starts for LittleE\_122:

(Start: 107 @67384 has 24 MA's), (127, 67453), (143, 67495), (183, 67612),

Gene: LittleLaf\_69 Start: 39534, Stop: 39887, Start Num: 84

Candidate Starts for LittleLaf\_69:

(Start: 84 @39534 has 16 MA's), (98, 39561), (142, 39696), (153, 39726), (170, 39777), (172, 39783), (177, 39798), (184, 39816), (190, 39840), (192, 39843),

Gene: LittleTokyo\_32 Start: 21633, Stop: 21280, Start Num: 103

Candidate Starts for LittleTokyo\_32:

(Start: 103 @21633 has 21 MA's), (138, 21528), (143, 21504),

Gene: Lizziana\_71 Start: 43224, Stop: 43586, Start Num: 97

Candidate Starts for Lizziana\_71:

(Start: 97 @43224 has 207 MA's), (155, 43383), (199, 43524), (201, 43527), (223, 43569),

Gene: Llama\_70 Start: 45173, Stop: 45535, Start Num: 97

Candidate Starts for Llama\_70:

(Start: 97 @45173 has 207 MA's), (170, 45377), (199, 45473), (223, 45518),

Gene: Llij\_61 Start: 40711, Stop: 41073, Start Num: 97

Candidate Starts for Llij\_61:

(Start: 97 @40711 has 207 MA's), (155, 40870), (199, 41011), (201, 41014), (223, 41056),

Gene: Loadrie\_66 Start: 46451, Stop: 46849, Start Num: 113

Candidate Starts for Loadrie\_66:

(24, 46172), (38, 46265), (Start: 97 @46433 has 207 MA's), (Start: 113 @46451 has 152 MA's), (148, 46568), (160, 46595), (183, 46673), (229, 46820),

Gene: Lolly9\_65 Start: 46290, Stop: 46622, Start Num: 76

Candidate Starts for Lolly9\_65:

(Start: 76 @46290 has 14 MA's), (Start: 117 @46320 has 1 MA's), (148, 46413), (160, 46440), (183, 46518), (192, 46551), (210, 46599),

Gene: Lorde\_65 Start: 39998, Stop: 40360, Start Num: 97

Candidate Starts for Lorde\_65:

(Start: 97 @39998 has 207 MA's), (155, 40157), (199, 40298), (201, 40301), (223, 40343),

Gene: Lucky2013\_115 Start: 64045, Stop: 64419, Start Num: 82

Candidate Starts for Lucky2013\_115:

(Start: 82 @64045 has 1 MA's), (Start: 85 @64054 has 1 MA's), (129, 64162), (145, 64207), (183, 64327),

Gene: Lumos\_67 Start: 46464, Stop: 46796, Start Num: 76

Candidate Starts for Lumos\_67:

(13, 46188), (14, 46200), (16, 46209), (22, 46233), (34, 46311), (42, 46359), (Start: 76 @46464 has 14 MA's), (158, 46608), (183, 46692), (192, 46725),

Gene: LunaBlu\_67 Start: 42492, Stop: 42854, Start Num: 97

Candidate Starts for LunaBlu\_67:

(Start: 97 @42492 has 207 MA's), (155, 42651), (199, 42792), (223, 42837),

Gene: Lunar\_32 Start: 21502, Stop: 21149, Start Num: 103

Candidate Starts for Lunar\_32:

(43, 21628), (52, 21589), (Start: 103 @21502 has 21 MA's), (143, 21373), (158, 21328), (194, 21208),

Gene: MISSy\_78 Start: 48491, Stop: 48808, Start Num: 113

Candidate Starts for MISSy\_78:

(40, 48308), (Start: 113 @48491 has 152 MA's), (159, 48632),

Gene: MPhalcon\_78 Start: 48484, Stop: 48801, Start Num: 113

Candidate Starts for MPhalcon\_78:

(40, 48301), (Start: 113 @48484 has 152 MA's), (159, 48625),

Gene: MadMen\_65 Start: 42619, Stop: 42975, Start Num: 97

Candidate Starts for MadMen\_65:

(49, 42502), (Start: 97 @42619 has 207 MA's), (155, 42778), (199, 42919), (201, 42922),

Gene: MadMen\_67 Start: 43664, Stop: 44020, Start Num: 102

Candidate Starts for MadMen\_67:

(Start: 102 @43664 has 3 MA's), (114, 43685), (Start: 115 @43691 has 1 MA's), (126, 43733), (162, 43835), (187, 43925), (199, 43958), (223, 44003),

Gene: MadamMonkfish\_77 Start: 47709, Stop: 48026, Start Num: 113

Candidate Starts for MadamMonkfish\_77:

(40, 47526), (Start: 113 @47709 has 152 MA's), (159, 47850),

Gene: Madiba\_66 Start: 41725, Stop: 42087, Start Num: 97

Candidate Starts for Madiba\_66:

(Start: 97 @41725 has 207 MA's), (155, 41884), (199, 42025), (223, 42070),

Gene: Mahavrat\_62 Start: 41431, Stop: 41787, Start Num: 97

Candidate Starts for Mahavrat\_62:

(Start: 97 @41431 has 207 MA's), (199, 41731),

Gene: Manda\_78 Start: 49571, Stop: 49888, Start Num: 113

Candidate Starts for Manda\_78:

(40, 49388), (Start: 113 @49571 has 152 MA's), (159, 49712),

Gene: Mandlovu\_61 Start: 39854, Stop: 40216, Start Num: 97

Candidate Starts for Mandlovu\_61:

(Start: 97 @39854 has 207 MA's), (199, 40154), (201, 40157), (223, 40199),

Gene: Mantra\_62 Start: 41207, Stop: 41563, Start Num: 97

Candidate Starts for Mantra\_62:

(86, 41192), (Start: 97 @41207 has 207 MA's), (199, 41507), (201, 41510),

Gene: Maravista\_67 Start: 44362, Stop: 44724, Start Num: 97

Candidate Starts for Maravista\_67:

(Start: 97 @44362 has 207 MA's), (155, 44521), (161, 44536), (199, 44662), (223, 44707),

Gene: Margaery\_51 Start: 36177, Stop: 36518, Start Num: 101

Candidate Starts for Margaery\_51:

(9, 35859), (10, 35862), (13, 35868), (18, 35898), (24, 35925), (26, 35928), (73, 36120), (91, 36165), (Start: 94 @36168 has 1 MA's), (Start: 101 @36177 has 3 MA's), (Start: 115 @36210 has 1 MA's), (140, 36300), (148, 36318), (173, 36393), (180, 36417), (183, 36423), (201, 36483),

Gene: Marker\_72 Start: 42458, Stop: 42814, Start Num: 97

Candidate Starts for Marker\_72:

(49, 42341), (Start: 97 @42458 has 207 MA's), (199, 42758), (201, 42761), (223, 42797),

Gene: Marshmallow\_75 Start: 49264, Stop: 49581, Start Num: 113

Candidate Starts for Marshmallow\_75:

(40, 49081), (Start: 113 @49264 has 152 MA's), (Start: 117 @49288 has 1 MA's), (159, 49405),

Gene: Martik\_65 Start: 42396, Stop: 42752, Start Num: 97

Candidate Starts for Martik\_65:

(49, 42279), (Start: 97 @42396 has 207 MA's), (155, 42555), (199, 42696), (201, 42699),

Gene: Marvin\_65 Start: 39295, Stop: 39648, Start Num: 84

Candidate Starts for Marvin\_65:

(Start: 84 @39295 has 16 MA's), (98, 39322), (142, 39457), (153, 39487), (170, 39538), (172, 39544), (177, 39559), (184, 39577), (190, 39601), (192, 39604),

Gene: MaryV\_77 Start: 48609, Stop: 48974, Start Num: 88

Candidate Starts for MaryV\_77:

(65, 48546), (Start: 88 @48609 has 5 MA's), (165, 48801), (200, 48921), (216, 48954),

Gene: Mattes\_69 Start: 43743, Stop: 44105, Start Num: 97

Candidate Starts for Mattes\_69:

(Start: 97 @43743 has 207 MA's), (155, 43902), (199, 44043), (201, 44046), (223, 44088),

Gene: Matzah\_54 Start: 37029, Stop: 37364, Start Num: 104

Candidate Starts for Matzah\_54:

(Start: 94 @37017 has 1 MA's), (96, 37020), (Start: 104 @37029 has 15 MA's), (Start: 115 @37056 has 1 MA's), (131, 37113), (148, 37164), (173, 37239), (183, 37269), (187, 37290), (201, 37329),

Gene: Maxxinista\_79 Start: 48360, Stop: 48677, Start Num: 113

Candidate Starts for Maxxinista\_79:

(40, 48177), (Start: 113 @48360 has 152 MA's), (159, 48501),

Gene: Megabear\_52 Start: 43843, Stop: 44184, Start Num: 97

Candidate Starts for Megabear\_52:

(Start: 97 @43843 has 207 MA's), (122, 43897), (126, 43912), (131, 43930), (157, 43996), (163, 44014), (178, 44068), (191, 44113), (199, 44134), (211, 44158), (213, 44161),

Gene: Megan\_52 Start: 39265, Stop: 39606, Start Num: 110

Candidate Starts for Megan\_52:

(7, 38917), (21, 38971), (27, 38992), (29, 39001), (37, 39076), (39, 39088), (43, 39103), (49, 39136), (59, 39160), (Start: 64 @39175 has 2 MA's), (Start: 80 @39217 has 5 MA's), (Start: 110 @39265 has 12 MA's), (120, 39298), (180, 39493), (183, 39499), (189, 39526), (192, 39532), (196, 39550),

Gene: Melissauren88\_63 Start: 41372, Stop: 41734, Start Num: 97

Candidate Starts for Melissauren88\_63:

(Start: 97 @41372 has 207 MA's), (199, 41672), (201, 41675), (223, 41717),

Gene: Melons\_32 Start: 21502, Stop: 21149, Start Num: 103  
Candidate Starts for Melons\_32:  
(43, 21628), (52, 21589), (Start: 103 @21502 has 21 MA's), (143, 21373), (158, 21328), (194, 21208),

Gene: MementoMori\_53 Start: 36606, Stop: 36941, Start Num: 104  
Candidate Starts for MementoMori\_53:  
(9, 36288), (10, 36291), (13, 36297), (18, 36327), (24, 36354), (26, 36357), (73, 36549), (Start: 94 @36594 has 1 MA's), (96, 36597), (Start: 104 @36606 has 15 MA's), (Start: 115 @36633 has 1 MA's), (148, 36741), (173, 36816), (183, 36846), (187, 36867), (201, 36906),

Gene: MenE\_45 Start: 25720, Stop: 26097, Start Num: 103  
Candidate Starts for MenE\_45:  
(Start: 103 @25720 has 21 MA's), (125, 25783), (132, 25810), (189, 25984), (192, 25990), (198, 26011), (227, 26086),

Gene: MiaZeal\_118 Start: 64854, Stop: 65177, Start Num: 113  
Candidate Starts for MiaZeal\_118:  
(Start: 113 @64854 has 152 MA's), (145, 64965), (183, 65085),

Gene: MilanaBonita\_55 Start: 38018, Stop: 38311, Start Num: 124  
Candidate Starts for MilanaBonita\_55:  
(Start: 124 @38018 has 5 MA's), (130, 38036), (141, 38072), (144, 38078), (150, 38096), (182, 38192), (223, 38294),

Gene: Miley16\_67 Start: 46363, Stop: 46764, Start Num: 113  
Candidate Starts for Miley16\_67:  
(24, 46084), (38, 46177), (Start: 97 @46345 has 207 MA's), (Start: 113 @46363 has 152 MA's), (148, 46480), (160, 46507), (183, 46585), (229, 46732),

Gene: MilleniumForce\_68 Start: 44060, Stop: 44416, Start Num: 97  
Candidate Starts for MilleniumForce\_68:  
(Start: 97 @44060 has 207 MA's), (199, 44360), (201, 44363),

Gene: Mindy\_76 Start: 47576, Stop: 47893, Start Num: 113  
Candidate Starts for Mindy\_76:  
(40, 47393), (Start: 113 @47576 has 152 MA's), (159, 47717),

Gene: Minerva\_120 Start: 67549, Stop: 67881, Start Num: 107  
Candidate Starts for Minerva\_120:  
(Start: 107 @67549 has 24 MA's), (127, 67618), (183, 67777),

Gene: MiniLon\_69 Start: 46291, Stop: 46623, Start Num: 76  
Candidate Starts for MiniLon\_69:  
(Start: 76 @46291 has 14 MA's), (Start: 117 @46321 has 1 MA's), (148, 46414), (160, 46441), (183, 46519), (192, 46552), (210, 46600),

Gene: MiniMac\_69 Start: 46319, Stop: 46621, Start Num: 117  
Candidate Starts for MiniMac\_69:  
(Start: 76 @46289 has 14 MA's), (Start: 117 @46319 has 1 MA's), (148, 46412), (160, 46439), (183, 46517), (192, 46550), (210, 46598),

Gene: MinionDave\_64 Start: 42746, Stop: 43108, Start Num: 97  
Candidate Starts for MinionDave\_64:

(49, 42629), (Start: 97 @42746 has 207 MA's), (155, 42905), (199, 43046), (223, 43091),

Gene: Miniwave\_72 Start: 48029, Stop: 48346, Start Num: 113

Candidate Starts for Miniwave\_72:

(40, 47846), (Start: 113 @48029 has 152 MA's), (159, 48170),

Gene: Minnie\_68 Start: 43966, Stop: 44328, Start Num: 97

Candidate Starts for Minnie\_68:

(49, 43849), (Start: 97 @43966 has 207 MA's), (155, 44125), (199, 44266), (223, 44311),

Gene: Misfit\_78 Start: 49503, Stop: 49820, Start Num: 113

Candidate Starts for Misfit\_78:

(40, 49320), (Start: 113 @49503 has 152 MA's), (159, 49644),

Gene: MisterCuddles\_63 Start: 41692, Stop: 42054, Start Num: 97

Candidate Starts for MisterCuddles\_63:

(Start: 97 @41692 has 207 MA's), (199, 41992), (223, 42037),

Gene: MkaliMitinis3\_68 Start: 46435, Stop: 46833, Start Num: 113

Candidate Starts for MkaliMitinis3\_68:

(24, 46156), (38, 46249), (Start: 97 @46417 has 207 MA's), (Start: 113 @46435 has 152 MA's), (148, 46552), (160, 46579), (183, 46657), (229, 46804),

Gene: ModicumRichard\_107 Start: 60796, Stop: 61155, Start Num: 118

Candidate Starts for ModicumRichard\_107:

(70, 60703), (Start: 71 @60712 has 1 MA's), (Start: 110 @60769 has 12 MA's), (118, 60796), (120, 60799), (123, 60820), (132, 60856), (147, 60910), (175, 60997), (184, 61021),

Gene: Modragons\_69 Start: 45162, Stop: 45524, Start Num: 97

Candidate Starts for Modragons\_69:

(Start: 97 @45162 has 207 MA's), (170, 45366), (199, 45462), (223, 45507),

Gene: Moldemort\_80 Start: 48588, Stop: 48905, Start Num: 113

Candidate Starts for Moldemort\_80:

(40, 48405), (Start: 113 @48588 has 152 MA's), (159, 48729),

Gene: MooMoo\_66 Start: 43589, Stop: 43945, Start Num: 102

Candidate Starts for MooMoo\_66:

(Start: 102 @43589 has 3 MA's), (114, 43610), (Start: 115 @43616 has 1 MA's), (126, 43658), (143, 43712), (162, 43760), (185, 43838), (187, 43850), (199, 43883), (210, 43907), (226, 43937),

Gene: Moonbeam\_64 Start: 41974, Stop: 42336, Start Num: 97

Candidate Starts for Moonbeam\_64:

(Start: 97 @41974 has 207 MA's), (118, 42016), (155, 42133), (199, 42274), (223, 42319),

Gene: Morgana\_114 Start: 62857, Stop: 63246, Start Num: 110

Candidate Starts for Morgana\_114:

(4, 62464), (11, 62533), (19, 62569), (33, 62653), (Start: 110 @62857 has 12 MA's), (120, 62890), (123, 62911), (168, 63058), (175, 63088), (184, 63112),

Gene: MosMoris\_66 Start: 39225, Stop: 39578, Start Num: 84

Candidate Starts for MosMoris\_66:

(Start: 84 @39225 has 16 MA's), (98, 39252), (142, 39387), (153, 39417), (170, 39468), (172, 39474), (177, 39489), (184, 39507), (190, 39531), (192, 39534),

Gene: Mosby\_73 Start: 47786, Stop: 48103, Start Num: 113  
Candidate Starts for Mosby\_73:  
(40, 47603), (Start: 113 @47786 has 152 MA's), (159, 47927),

Gene: Mova\_69 Start: 42229, Stop: 42585, Start Num: 97  
Candidate Starts for Mova\_69:  
(Start: 97 @42229 has 207 MA's), (155, 42388), (199, 42529), (201, 42532), (223, 42568),

Gene: Mozy\_75 Start: 44841, Stop: 45203, Start Num: 97  
Candidate Starts for Mozy\_75:  
(87, 44826), (Start: 97 @44841 has 207 MA's), (155, 45000), (199, 45141), (223, 45186),

Gene: Ms6\_62 Start: 37737, Stop: 38099, Start Num: 97  
Candidate Starts for Ms6\_62:  
(Start: 97 @37737 has 207 MA's), (199, 38037), (201, 38040), (223, 38082),

Gene: MsGreen\_66 Start: 46467, Stop: 46799, Start Num: 76  
Candidate Starts for MsGreen\_66:  
(13, 46191), (14, 46203), (16, 46212), (22, 46236), (34, 46314), (42, 46362), (Start: 76 @46467 has 14 MA's), (158, 46611), (183, 46695), (192, 46728),

Gene: Murica\_80 Start: 49435, Stop: 49752, Start Num: 113  
Candidate Starts for Murica\_80:  
(40, 49252), (Start: 113 @49435 has 152 MA's), (159, 49576),

Gene: Murphy\_77 Start: 48872, Stop: 49189, Start Num: 113  
Candidate Starts for Murphy\_77:  
(40, 48689), (Start: 113 @48872 has 152 MA's), (159, 49013),

Gene: Mutaforma13\_71 Start: 45673, Stop: 46035, Start Num: 97  
Candidate Starts for Mutaforma13\_71:  
(Start: 97 @45673 has 207 MA's), (199, 45973), (223, 46018),

Gene: Myrale\_77 Start: 49129, Stop: 49446, Start Num: 113  
Candidate Starts for Myrale\_77:  
(40, 48946), (Start: 113 @49129 has 152 MA's), (159, 49270),

Gene: Nala\_79 Start: 48993, Stop: 49310, Start Num: 113  
Candidate Starts for Nala\_79:  
(40, 48810), (Start: 113 @48993 has 152 MA's), (159, 49134),

Gene: Nebkiss\_84 Start: 48920, Stop: 49243, Start Num: 107  
Candidate Starts for Nebkiss\_84:  
(Start: 107 @48920 has 24 MA's), (126, 48983), (201, 49208), (202, 49211),

Gene: NelitzaMV\_75 Start: 48075, Stop: 48392, Start Num: 113  
Candidate Starts for NelitzaMV\_75:  
(40, 47892), (Start: 113 @48075 has 152 MA's), (159, 48216),

Gene: Nicholasp3\_67 Start: 46381, Stop: 46797, Start Num: 97



Candidate Starts for Nicholasp3\_67:

(24, 46120), (38, 46213), (Start: 97 @46381 has 207 MA's), (Start: 113 @46399 has 152 MA's), (148, 46516), (160, 46543), (183, 46621), (229, 46768),

Gene: Nicole72\_53 Start: 39892, Stop: 40239, Start Num: 110

Candidate Starts for Nicole72\_53:

(72, 39826), (Start: 80 @39844 has 5 MA's), (Start: 110 @39892 has 12 MA's), (170, 40084), (189, 40153), (192, 40159),

Gene: NihilNomen\_125 Start: 68678, Stop: 69010, Start Num: 113

Candidate Starts for NihilNomen\_125:

(Start: 113 @68678 has 152 MA's), (145, 68789), (152, 68813), (214, 68993),

Gene: Nimbo\_59 Start: 41301, Stop: 41663, Start Num: 97

Candidate Starts for Nimbo\_59:

(52, 41196), (54, 41202), (74, 41256), (Start: 97 @41301 has 207 MA's), (Start: 115 @41334 has 1 MA's), (199, 41601), (201, 41604), (223, 41646),

Gene: Nimrod\_78 Start: 49696, Stop: 50013, Start Num: 113

Candidate Starts for Nimrod\_78:

(40, 49513), (Start: 113 @49696 has 152 MA's), (159, 49837),

Gene: Nitzel\_62 Start: 41489, Stop: 41851, Start Num: 97

Candidate Starts for Nitzel\_62:

(Start: 97 @41489 has 207 MA's), (199, 41789), (201, 41792), (223, 41834),

Gene: Nivrat\_62 Start: 42093, Stop: 42455, Start Num: 97

Candidate Starts for Nivrat\_62:

(49, 41976), (Start: 97 @42093 has 207 MA's), (155, 42252), (199, 42393), (223, 42438),

Gene: NoSleep\_78 Start: 48330, Stop: 48647, Start Num: 113

Candidate Starts for NoSleep\_78:

(40, 48147), (Start: 113 @48330 has 152 MA's), (159, 48471),

Gene: NormanBulbieJr\_65 Start: 42386, Stop: 42748, Start Num: 97

Candidate Starts for NormanBulbieJr\_65:

(Start: 97 @42386 has 207 MA's), (161, 42560), (199, 42686), (223, 42731),

Gene: ODay\_78 Start: 45557, Stop: 45886, Start Num: 113

Candidate Starts for ODay\_78:

(57, 45443), (93, 45533), (Start: 113 @45557 has 152 MA's), (120, 45584), (183, 45776), (216, 45866), (222, 45878),

Gene: ObLaDi\_106 Start: 60168, Stop: 60557, Start Num: 110

Candidate Starts for ObLaDi\_106:

(6, 59793), (25, 59892), (Start: 110 @60168 has 12 MA's), (120, 60201), (123, 60222), (168, 60369), (175, 60399), (184, 60423),

Gene: Ochi17\_69 Start: 44769, Stop: 45131, Start Num: 97

Candidate Starts for Ochi17\_69:

(Start: 97 @44769 has 207 MA's), (170, 44973), (199, 45069), (223, 45114),

Gene: Octobien14\_72 Start: 45181, Stop: 45522, Start Num: 95

Candidate Starts for Octobien14\_72:

(Start: 95 @45181 has 2 MA's), (135, 45283), (158, 45337), (183, 45421),

Gene: Odyssey395\_85 Start: 50318, Stop: 49992, Start Num: 110

Candidate Starts for Odyssey395\_85:

(Start: 110 @50318 has 12 MA's), (118, 50288), (120, 50285), (136, 50219), (150, 50174), (160, 50150), (174, 50096), (186, 50060), (204, 50009),

Gene: OfUltron\_71 Start: 45318, Stop: 45680, Start Num: 97

Candidate Starts for OfUltron\_71:

(Start: 97 @45318 has 207 MA's), (170, 45522), (199, 45618), (223, 45663),

Gene: Ogopogo\_71 Start: 42797, Stop: 43153, Start Num: 97

Candidate Starts for Ogopogo\_71:

(51, 42686), (Start: 97 @42797 has 207 MA's), (199, 43097), (201, 43100),

Gene: OldBen\_63 Start: 42694, Stop: 43056, Start Num: 97

Candidate Starts for OldBen\_63:

(52, 42589), (54, 42595), (74, 42649), (Start: 97 @42694 has 207 MA's), (Start: 115 @42727 has 1 MA's), (199, 42994), (201, 42997), (223, 43039),

Gene: OlympiaSaint\_67 Start: 42685, Stop: 43047, Start Num: 97

Candidate Starts for OlympiaSaint\_67:

(Start: 97 @42685 has 207 MA's), (155, 42844), (199, 42985), (201, 42988), (223, 43030),

Gene: Optimus\_113 Start: 65945, Stop: 66277, Start Num: 107

Candidate Starts for Optimus\_113:

(Start: 107 @65945 has 24 MA's), (127, 66014), (162, 66104), (163, 66107), (183, 66173),

Gene: OrionPax\_76 Start: 48081, Stop: 48398, Start Num: 113

Candidate Starts for OrionPax\_76:

(40, 47898), (Start: 113 @48081 has 152 MA's), (Start: 117 @48105 has 1 MA's), (159, 48222),

Gene: Ovechkin\_65 Start: 42688, Stop: 43050, Start Num: 97

Candidate Starts for Ovechkin\_65:

(Start: 97 @42688 has 207 MA's), (199, 42988), (201, 42991), (223, 43033),

Gene: OwlsT2W\_65 Start: 42020, Stop: 42376, Start Num: 97

Candidate Starts for OwlsT2W\_65:

(Start: 97 @42020 has 207 MA's), (155, 42179), (199, 42320),

Gene: PHappiness\_61 Start: 41273, Stop: 41629, Start Num: 97

Candidate Starts for PHappiness\_61:

(52, 41168), (54, 41174), (74, 41228), (Start: 97 @41273 has 207 MA's), (Start: 115 @41306 has 1 MA's), (170, 41477), (199, 41573), (201, 41576),

Gene: PMC\_62 Start: 42410, Stop: 42766, Start Num: 97

Candidate Starts for PMC\_62:

(Start: 97 @42410 has 207 MA's), (199, 42710), (201, 42713),

Gene: PR\_52 Start: 44447, Stop: 44788, Start Num: 97

Candidate Starts for PR\_52:

(Start: 97 @44447 has 207 MA's), (122, 44501), (126, 44516), (131, 44534), (157, 44600), (163, 44618), (178, 44672), (191, 44717), (199, 44738), (211, 44762), (213, 44765),

Gene: Pacc40\_59 Start: 40742, Stop: 41104, Start Num: 97

Candidate Starts for Pacc40\_59:

(49, 40625), (Start: 97 @40742 has 207 MA's), (155, 40901), (199, 41042), (223, 41087),

Gene: Paperbeatsrock\_76 Start: 48707, Stop: 49024, Start Num: 113

Candidate Starts for Paperbeatsrock\_76:

(40, 48524), (Start: 113 @48707 has 152 MA's), (159, 48848),

Gene: Pat3\_75 Start: 47239, Stop: 47556, Start Num: 113

Candidate Starts for Pat3\_75:

(40, 47056), (Start: 113 @47239 has 152 MA's), (Start: 117 @47263 has 1 MA's), (159, 47380),

Gene: Petra64142\_81 Start: 49926, Stop: 50243, Start Num: 113

Candidate Starts for Petra64142\_81:

(40, 49743), (Start: 113 @49926 has 152 MA's), (159, 50067),

Gene: Phabuloso\_75 Start: 43819, Stop: 44166, Start Num: 109

Candidate Starts for Phabuloso\_75:

(56, 43705), (90, 43795), (Start: 109 @43819 has 2 MA's), (Start: 115 @43840 has 1 MA's), (121, 43858), (122, 43867), (143, 43942), (157, 43975), (163, 43993), (181, 44056), (183, 44059), (189, 44089), (201, 44119), (217, 44146), (223, 44158),

Gene: Phaja\_75 Start: 48533, Stop: 48850, Start Num: 113

Candidate Starts for Phaja\_75:

(40, 48350), (Start: 113 @48533 has 152 MA's), (159, 48674),

Gene: Phalconet\_63 Start: 40623, Stop: 40985, Start Num: 97

Candidate Starts for Phalconet\_63:

(Start: 97 @40623 has 207 MA's), (199, 40923), (201, 40926), (223, 40968),

Gene: Phanphagia\_61 Start: 42234, Stop: 42596, Start Num: 97

Candidate Starts for Phanphagia\_61:

(Start: 97 @42234 has 207 MA's), (199, 42534), (201, 42537), (223, 42579),

Gene: Pharsalus\_74 Start: 48507, Stop: 48824, Start Num: 113

Candidate Starts for Pharsalus\_74:

(40, 48324), (Start: 113 @48507 has 152 MA's), (159, 48648),

Gene: PhatBacter\_81 Start: 49479, Stop: 49796, Start Num: 113

Candidate Starts for PhatBacter\_81:

(40, 49296), (Start: 113 @49479 has 152 MA's), (159, 49620),

Gene: Phatniss\_63 Start: 41806, Stop: 42168, Start Num: 97

Candidate Starts for Phatniss\_63:

(Start: 97 @41806 has 207 MA's), (155, 41965), (199, 42106), (201, 42109), (223, 42151),

Gene: Phaux\_79 Start: 49474, Stop: 49791, Start Num: 113

Candidate Starts for Phaux\_79:

(40, 49291), (Start: 113 @49474 has 152 MA's), (159, 49615),

Gene: PhesterPhotato\_66 Start: 41443, Stop: 41799, Start Num: 97

Candidate Starts for PhesterPhotato\_66:

(Start: 97 @41443 has 207 MA's), (155, 41602), (199, 41743), (201, 41746),

Gene: Philus\_69 Start: 43883, Stop: 44239, Start Num: 97

Candidate Starts for Philus\_69:

(49, 43766), (Start: 97 @43883 has 207 MA's), (161, 44057), (199, 44183), (201, 44186), (223, 44222),

Gene: Phoebus\_124 Start: 70535, Stop: 70867, Start Num: 113

Candidate Starts for Phoebus\_124:

(Start: 113 @70535 has 152 MA's), (145, 70646), (152, 70670), (214, 70850),

Gene: Phonegingi\_41 Start: 25666, Stop: 26043, Start Num: 103

Candidate Starts for Phonegingi\_41:

(Start: 103 @25666 has 21 MA's), (125, 25729), (132, 25756), (183, 25903), (189, 25930), (192, 25936), (202, 25966), (227, 26032),

Gene: Phrux\_74 Start: 48070, Stop: 48387, Start Num: 113

Candidate Starts for Phrux\_74:

(40, 47887), (Start: 113 @48070 has 152 MA's), (159, 48211),

Gene: Pickles13\_40 Start: 25930, Stop: 26307, Start Num: 103

Candidate Starts for Pickles13\_40:

(Start: 103 @25930 has 21 MA's), (132, 26020), (189, 26194), (192, 26200), (198, 26221), (227, 26296),

Gene: Pippy\_64 Start: 41724, Stop: 42086, Start Num: 97

Candidate Starts for Pippy\_64:

(Start: 97 @41724 has 207 MA's), (155, 41883), (161, 41898), (199, 42024), (223, 42069),

Gene: Plumbus\_68 Start: 42573, Stop: 42935, Start Num: 97

Candidate Starts for Plumbus\_68:

(Start: 97 @42573 has 207 MA's), (199, 42873), (201, 42876), (223, 42918),

Gene: Poenanya\_65 Start: 43033, Stop: 43326, Start Num: 124

Candidate Starts for Poenanya\_65:

(Start: 124 @43033 has 5 MA's), (128, 43045), (130, 43051), (141, 43087), (155, 43123), (199, 43264), (201, 43267), (223, 43309),

Gene: Pointis\_80 Start: 49894, Stop: 49568, Start Num: 110

Candidate Starts for Pointis\_80:

(Start: 110 @49894 has 12 MA's), (118, 49864), (120, 49861), (136, 49795), (150, 49750), (160, 49726), (174, 49672), (186, 49636), (204, 49585),

Gene: Poise\_69 Start: 39121, Stop: 39474, Start Num: 84

Candidate Starts for Poise\_69:

(Start: 84 @39121 has 16 MA's), (98, 39148), (142, 39283), (153, 39313), (170, 39364), (172, 39370), (177, 39385), (184, 39403), (190, 39427), (192, 39430),

Gene: Polka\_31 Start: 21366, Stop: 21013, Start Num: 103

Candidate Starts for Polka\_31:

(43, 21492), (52, 21453), (Start: 103 @21366 has 21 MA's), (143, 21237), (158, 21192), (194, 21072),

Gene: Polka14\_64 Start: 42337, Stop: 42693, Start Num: 97  
Candidate Starts for Polka14\_64:  
(52, 42232), (54, 42238), (74, 42292), (Start: 97 @42337 has 207 MA's), (Start: 115 @42370 has 1 MA's), (170, 42541), (199, 42637), (201, 42640),

Gene: Pollywog\_66 Start: 43003, Stop: 43359, Start Num: 97  
Candidate Starts for Pollywog\_66:  
(Start: 97 @43003 has 207 MA's), (155, 43162), (199, 43303), (201, 43306),

Gene: PopTart\_59 Start: 40248, Stop: 40610, Start Num: 97  
Candidate Starts for PopTart\_59:  
(Start: 97 @40248 has 207 MA's), (199, 40548), (201, 40551), (223, 40593),

Gene: Porky\_76 Start: 47900, Stop: 48217, Start Num: 113  
Candidate Starts for Porky\_76:  
(40, 47717), (Start: 113 @47900 has 152 MA's), (159, 48041),

Gene: Pound\_112 Start: 66568, Stop: 66897, Start Num: 107  
Candidate Starts for Pound\_112:  
(Start: 107 @66568 has 24 MA's), (127, 66637), (183, 66796), (215, 66880),

Gene: Pringar\_68 Start: 39443, Stop: 39796, Start Num: 84  
Candidate Starts for Pringar\_68:  
(Start: 84 @39443 has 16 MA's), (98, 39470), (142, 39605), (153, 39635), (170, 39686), (172, 39692), (177, 39707), (184, 39725), (190, 39749), (192, 39752),

Gene: Priscilla\_65 Start: 42485, Stop: 42847, Start Num: 97  
Candidate Starts for Priscilla\_65:  
(Start: 97 @42485 has 207 MA's), (161, 42659), (199, 42785), (223, 42830),

Gene: Pumpkin\_80 Start: 49128, Stop: 49445, Start Num: 113  
Candidate Starts for Pumpkin\_80:  
(40, 48945), (Start: 113 @49128 has 152 MA's), (159, 49269),

Gene: Pureglobe5\_83 Start: 50341, Stop: 50015, Start Num: 106  
Candidate Starts for Pureglobe5\_83:  
(61, 50434), (Start: 106 @50341 has 1 MA's), (118, 50311), (120, 50308), (136, 50242), (150, 50197), (160, 50173), (174, 50119), (186, 50083), (204, 50032),

Gene: Qualification\_78 Start: 49115, Stop: 49432, Start Num: 113  
Candidate Starts for Qualification\_78:  
(40, 48932), (Start: 113 @49115 has 152 MA's), (159, 49256),

Gene: QuickMath\_69 Start: 44476, Stop: 44817, Start Num: 97  
Candidate Starts for QuickMath\_69:  
(Start: 97 @44476 has 207 MA's), (199, 44776), (201, 44779),

Gene: Quico\_73 Start: 43794, Stop: 44156, Start Num: 97  
Candidate Starts for Quico\_73:  
(Start: 97 @43794 has 207 MA's), (199, 44094), (201, 44097), (223, 44139),

Gene: Rabbitrun\_72 Start: 44571, Stop: 44918, Start Num: 100

Candidate Starts for Rabbitrun\_72:

(53, 44460), (Start: 64 @44490 has 2 MA's), (66, 44493), (67, 44496), (83, 44538), (92, 44562), (Start: 100 @44571 has 2 MA's), (129, 44652), (183, 44808), (189, 44835), (195, 44847), (200, 44862), (201, 44865),

Gene: Radiance\_64 Start: 41901, Stop: 42263, Start Num: 97

Candidate Starts for Radiance\_64:

(Start: 97 @41901 has 207 MA's), (155, 42060), (199, 42201), (201, 42204), (223, 42246),

Gene: Raela\_69 Start: 39678, Stop: 40031, Start Num: 84

Candidate Starts for Raela\_69:

(Start: 84 @39678 has 16 MA's), (98, 39705), (142, 39840), (153, 39870), (170, 39921), (172, 39927), (177, 39942), (184, 39960), (190, 39984), (192, 39987),

Gene: Rakim\_78 Start: 48584, Stop: 48901, Start Num: 113

Candidate Starts for Rakim\_78:

(40, 48401), (Start: 113 @48584 has 152 MA's), (159, 48725),

Gene: Ramsey\_64 Start: 42214, Stop: 42576, Start Num: 97

Candidate Starts for Ramsey\_64:

(Start: 97 @42214 has 207 MA's), (155, 42373), (199, 42514), (223, 42559),

Gene: Ranunculus\_78 Start: 52647, Stop: 52321, Start Num: 110

Candidate Starts for Ranunculus\_78:

(Start: 110 @52647 has 12 MA's), (118, 52617), (136, 52548), (150, 52503), (160, 52479), (186, 52389),

Gene: RedBird\_64 Start: 42140, Stop: 42502, Start Num: 97

Candidate Starts for RedBird\_64:

(52, 42035), (54, 42041), (74, 42095), (Start: 97 @42140 has 207 MA's), (Start: 115 @42173 has 1 MA's), (170, 42344), (199, 42440), (201, 42443), (223, 42485),

Gene: RedFox\_30 Start: 20869, Stop: 20516, Start Num: 103

Candidate Starts for RedFox\_30:

(1, 21271), (23, 21121), (68, 20926), (Start: 103 @20869 has 21 MA's), (120, 20836), (143, 20740),

Gene: RedRaider77\_68 Start: 39066, Stop: 39419, Start Num: 84

Candidate Starts for RedRaider77\_68:

(Start: 84 @39066 has 16 MA's), (98, 39093), (142, 39228), (153, 39258), (170, 39309), (172, 39315), (177, 39330), (184, 39348), (190, 39372), (192, 39375),

Gene: Redno2\_116 Start: 66004, Stop: 66333, Start Num: 107

Candidate Starts for Redno2\_116:

(Start: 107 @66004 has 24 MA's), (127, 66073), (162, 66163), (163, 66166), (183, 66232), (215, 66316),

Gene: Renaud18\_75 Start: 44207, Stop: 44563, Start Num: 97

Candidate Starts for Renaud18\_75:

(Start: 97 @44207 has 207 MA's), (155, 44366), (199, 44507),

Gene: Renna12\_29 Start: 20890, Stop: 20534, Start Num: 103

Candidate Starts for Renna12\_29:

(Start: 103 @20890 has 21 MA's), (120, 20857), (143, 20761), (194, 20596),

Gene: Rialto\_70 Start: 44435, Stop: 44797, Start Num: 97  
Candidate Starts for Rialto\_70:  
(Start: 97 @44435 has 207 MA's), (199, 44735), (201, 44738), (223, 44780),

Gene: Rimmer\_78 Start: 48820, Stop: 49137, Start Num: 113  
Candidate Starts for Rimmer\_78:  
(40, 48637), (Start: 113 @48820 has 152 MA's), (159, 48961),

Gene: Rita\_66 Start: 40513, Stop: 40875, Start Num: 97  
Candidate Starts for Rita\_66:  
(Start: 97 @40513 has 207 MA's), (155, 40672), (199, 40813), (223, 40858),

Gene: RitaG\_61 Start: 41618, Stop: 41974, Start Num: 97  
Candidate Starts for RitaG\_61:  
(52, 41513), (54, 41519), (74, 41573), (Start: 97 @41618 has 207 MA's), (Start: 115 @41651 has 1 MA's), (170, 41822), (199, 41918), (201, 41921),

Gene: RiverMonster\_77 Start: 48648, Stop: 48965, Start Num: 113  
Candidate Starts for RiverMonster\_77:  
(40, 48465), (Start: 113 @48648 has 152 MA's), (159, 48789),

Gene: Rizwana\_65 Start: 46684, Stop: 46358, Start Num: 110  
Candidate Starts for Rizwana\_65:  
(Start: 110 @46684 has 12 MA's), (118, 46654), (120, 46651), (186, 46426),

Gene: Rockne\_66 Start: 42422, Stop: 42778, Start Num: 97  
Candidate Starts for Rockne\_66:  
(Start: 97 @42422 has 207 MA's), (199, 42722), (201, 42725),

Gene: RockyHorror\_66 Start: 41564, Stop: 41926, Start Num: 97  
Candidate Starts for RockyHorror\_66:  
(Start: 97 @41564 has 207 MA's), (199, 41864), (223, 41909),

Gene: Rose5\_66 Start: 45488, Stop: 45859, Start Num: 80  
Candidate Starts for Rose5\_66:  
(Start: 80 @45488 has 5 MA's), (133, 45566), (183, 45713), (202, 45776), (228, 45851),

Gene: Royals2015\_68 Start: 42421, Stop: 42777, Start Num: 97  
Candidate Starts for Royals2015\_68:  
(Start: 97 @42421 has 207 MA's), (118, 42463), (155, 42580), (199, 42721),

Gene: Ruby\_61 Start: 41693, Stop: 42055, Start Num: 97  
Candidate Starts for Ruby\_61:  
(Start: 97 @41693 has 207 MA's), (199, 41993), (223, 42038),

Gene: Rumpelstiltskin\_66 Start: 45792, Stop: 46190, Start Num: 113  
Candidate Starts for Rumpelstiltskin\_66:  
(24, 45513), (38, 45606), (Start: 97 @45774 has 207 MA's), (Start: 113 @45792 has 152 MA's), (148, 45909), (160, 45936), (183, 46014), (229, 46161),

Gene: SG4\_62 Start: 41300, Stop: 41665, Start Num: 97  
Candidate Starts for SG4\_62:

(Start: 97 @41300 has 207 MA's), (199, 41600),

Gene: Saal\_67 Start: 43437, Stop: 43799, Start Num: 97

Candidate Starts for Saal\_67:

(Start: 97 @43437 has 207 MA's), (155, 43596), (199, 43737), (201, 43740), (223, 43782),

Gene: Saints25\_76 Start: 48058, Stop: 48375, Start Num: 113

Candidate Starts for Saints25\_76:

(40, 47875), (Start: 113 @48058 has 152 MA's), (159, 48199),

Gene: Samty\_66 Start: 46475, Stop: 46807, Start Num: 76

Candidate Starts for Samty\_66:

(14, 46211), (16, 46220), (22, 46244), (34, 46322), (42, 46370), (Start: 76 @46475 has 14 MA's), (158, 46619), (183, 46703), (192, 46736),

Gene: Sandalphon\_66 Start: 42944, Stop: 43306, Start Num: 97

Candidate Starts for Sandalphon\_66:

(49, 42827), (Start: 97 @42944 has 207 MA's), (155, 43103), (199, 43244), (223, 43289),

Gene: Sarma624\_64 Start: 39148, Stop: 39510, Start Num: 97

Candidate Starts for Sarma624\_64:

(Start: 97 @39148 has 207 MA's), (155, 39307), (170, 39352), (199, 39448), (201, 39451), (223, 39493),

Gene: Sassafras\_64 Start: 42458, Stop: 42820, Start Num: 97

Candidate Starts for Sassafras\_64:

(52, 42353), (54, 42359), (74, 42413), (Start: 97 @42458 has 207 MA's), (Start: 115 @42491 has 1 MA's), (170, 42662), (199, 42758), (201, 42761), (223, 42803),

Gene: Sassay\_72 Start: 46748, Stop: 47065, Start Num: 113

Candidate Starts for Sassay\_72:

(40, 46565), (Start: 113 @46748 has 152 MA's), (159, 46889),

Gene: SassyB\_59 Start: 40248, Stop: 40610, Start Num: 97

Candidate Starts for SassyB\_59:

(Start: 97 @40248 has 207 MA's), (199, 40548), (201, 40551), (223, 40593),

Gene: Schmidt\_45 Start: 30353, Stop: 30685, Start Num: 104

Candidate Starts for Schmidt\_45:

(46, 30221), (58, 30251), (Start: 71 @30290 has 1 MA's), (Start: 104 @30353 has 15 MA's), (116, 30386), (143, 30476), (163, 30527), (197, 30644), (201, 30650), (211, 30671),

Gene: Scottish\_64 Start: 42414, Stop: 42776, Start Num: 97

Candidate Starts for Scottish\_64:

(52, 42309), (54, 42315), (74, 42369), (Start: 97 @42414 has 207 MA's), (Start: 115 @42447 has 1 MA's), (199, 42714), (201, 42717), (223, 42759),

Gene: Seabastian\_71 Start: 45319, Stop: 45681, Start Num: 97

Candidate Starts for Seabastian\_71:

(Start: 97 @45319 has 207 MA's), (170, 45523), (199, 45619), (223, 45664),

Gene: Seagreen\_64 Start: 41603, Stop: 41965, Start Num: 97

Candidate Starts for Seagreen\_64:



(Start: 97 @41603 has 207 MA's), (199, 41903), (201, 41906), (223, 41948),

Gene: Sephiroth\_73 Start: 45931, Stop: 46353, Start Num: 64

Candidate Starts for Sephiroth\_73:

(Start: 64 @45931 has 2 MA's), (183, 46252),

Gene: ShamWow\_77 Start: 48970, Stop: 49287, Start Num: 113

Candidate Starts for ShamWow\_77:

(40, 48787), (Start: 113 @48970 has 152 MA's), (159, 49111),

Gene: Shauna1\_63 Start: 42143, Stop: 42505, Start Num: 97

Candidate Starts for Shauna1\_63:

(Start: 97 @42143 has 207 MA's), (199, 42443), (201, 42446), (223, 42488),

Gene: ShiLan\_64 Start: 42432, Stop: 42788, Start Num: 97

Candidate Starts for ShiLan\_64:

(Start: 97 @42432 has 207 MA's), (155, 42591), (199, 42732), (201, 42735),

Gene: ShowerHandel\_66 Start: 42396, Stop: 42758, Start Num: 97

Candidate Starts for ShowerHandel\_66:

(Start: 97 @42396 has 207 MA's), (155, 42555), (161, 42570), (199, 42696), (223, 42741),

Gene: SiSi\_63 Start: 41202, Stop: 41558, Start Num: 97

Candidate Starts for SiSi\_63:

(Start: 97 @41202 has 207 MA's), (199, 41502), (201, 41505),

Gene: SilentRX\_62 Start: 45416, Stop: 45102, Start Num: 110

Candidate Starts for SilentRX\_62:

(43, 45581), (50, 45545), (Start: 110 @45416 has 12 MA's), (143, 45290), (186, 45158), (189, 45149),

Gene: Simpliphy\_76 Start: 48048, Stop: 48365, Start Num: 113

Candidate Starts for Simpliphy\_76:

(40, 47865), (Start: 113 @48048 has 152 MA's), (159, 48189),

Gene: SirDuracell\_76 Start: 47334, Stop: 47651, Start Num: 113

Candidate Starts for SirDuracell\_76:

(40, 47151), (Start: 113 @47334 has 152 MA's), (Start: 117 @47358 has 1 MA's), (159, 47475),

Gene: Snenia\_65 Start: 46468, Stop: 46800, Start Num: 76

Candidate Starts for Snenia\_65:

(13, 46192), (14, 46204), (16, 46213), (22, 46237), (34, 46315), (42, 46363), (Start: 76 @46468 has 14 MA's), (158, 46612), (183, 46696), (192, 46729),

Gene: Soos\_87 Start: 57034, Stop: 57414, Start Num: 95

Candidate Starts for Soos\_87:

(17, 56746), (32, 56821), (45, 56908), (Start: 95 @57034 has 2 MA's), (179, 57295), (183, 57304), (188, 57328), (193, 57334), (209, 57376),

Gene: SophKB\_74 Start: 47726, Stop: 48043, Start Num: 113

Candidate Starts for SophKB\_74:

(40, 47543), (Start: 113 @47726 has 152 MA's), (159, 47867),

Gene: Sotrice96\_78 Start: 48729, Stop: 49046, Start Num: 113

Candidate Starts for Sotrice96\_78:

(40, 48546), (Start: 113 @48729 has 152 MA's), (159, 48870),

Gene: Soul22\_71 Start: 43477, Stop: 43839, Start Num: 97

Candidate Starts for Soul22\_71:

(Start: 97 @43477 has 207 MA's), (155, 43636), (199, 43777), (201, 43780), (223, 43822),

Gene: Sparkdehlily\_72 Start: 43335, Stop: 43628, Start Num: 124

Candidate Starts for Sparkdehlily\_72:

(Start: 124 @43335 has 5 MA's), (130, 43353), (141, 43389), (144, 43395), (150, 43413), (164, 43449), (182, 43509), (200, 43566), (201, 43569), (223, 43611),

Gene: Spartacus\_67 Start: 42463, Stop: 42825, Start Num: 97

Candidate Starts for Spartacus\_67:

(Start: 97 @42463 has 207 MA's), (199, 42763), (201, 42766), (223, 42808),

Gene: Spikelee\_72 Start: 44062, Stop: 44424, Start Num: 97

Candidate Starts for Spikelee\_72:

(Start: 97 @44062 has 207 MA's), (199, 44362), (223, 44407),

Gene: Splinter\_51 Start: 33608, Stop: 33991, Start Num: 104

Candidate Starts for Splinter\_51:

(Start: 104 @33608 has 15 MA's), (143, 33731), (202, 33914), (224, 33956),

Gene: Spooky\_68 Start: 42098, Stop: 42427, Start Num: 113

Candidate Starts for Spooky\_68:

(Start: 113 @42098 has 152 MA's), (202, 42377), (216, 42407), (222, 42419),

Gene: Spoonbill\_63 Start: 41578, Stop: 41934, Start Num: 97

Candidate Starts for Spoonbill\_63:

(52, 41473), (54, 41479), (74, 41533), (Start: 97 @41578 has 207 MA's), (Start: 115 @41611 has 1 MA's), (170, 41782), (199, 41878), (201, 41881),

Gene: Squiddly\_73 Start: 46416, Stop: 46745, Start Num: 113

Candidate Starts for Squiddly\_73:

(Start: 113 @46416 has 152 MA's), (202, 46695), (216, 46725), (222, 46737),

Gene: Squint\_116 Start: 64970, Stop: 65290, Start Num: 107

Candidate Starts for Squint\_116:

(Start: 107 @64970 has 24 MA's), (127, 65039), (143, 65081), (183, 65198),

Gene: Squirty\_67 Start: 43396, Stop: 43758, Start Num: 97

Candidate Starts for Squirty\_67:

(Start: 97 @43396 has 207 MA's), (Start: 115 @43429 has 1 MA's), (170, 43600), (199, 43696), (201, 43699), (223, 43741),

Gene: StAnnes\_63 Start: 42321, Stop: 42683, Start Num: 97

Candidate Starts for StAnnes\_63:

(Start: 97 @42321 has 207 MA's), (199, 42621), (201, 42624), (223, 42666),

Gene: Stank\_81 Start: 48987, Stop: 49304, Start Num: 113

Candidate Starts for Stank\_81:

(40, 48804), (Start: 113 @48987 has 152 MA's), (159, 49128),

Gene: Stap\_63 Start: 42347, Stop: 42709, Start Num: 97

Candidate Starts for Stap\_63:

(52, 42242), (54, 42248), (74, 42302), (Start: 97 @42347 has 207 MA's), (Start: 115 @42380 has 1 MA's), (155, 42506), (199, 42647), (201, 42650), (223, 42692),

Gene: Starcevich\_65 Start: 41944, Stop: 42300, Start Num: 97

Candidate Starts for Starcevich\_65:

(Start: 97 @41944 has 207 MA's), (199, 42244), (201, 42247),

Gene: Stark\_78 Start: 48531, Stop: 48848, Start Num: 113

Candidate Starts for Stark\_78:

(40, 48348), (Start: 113 @48531 has 152 MA's), (159, 48672),

Gene: StellaBean\_73 Start: 48294, Stop: 48611, Start Num: 113

Candidate Starts for StellaBean\_73:

(40, 48111), (Start: 113 @48294 has 152 MA's), (159, 48435),

Gene: Sting\_92 Start: 57485, Stop: 57853, Start Num: 105

Candidate Starts for Sting\_92:

(17, 57185), (32, 57260), (45, 57347), (Start: 95 @57473 has 2 MA's), (105, 57485), (179, 57734), (183, 57743), (188, 57767), (193, 57773), (209, 57815),

Gene: StolenFromERC\_80 Start: 48769, Stop: 49086, Start Num: 113

Candidate Starts for StolenFromERC\_80:

(40, 48586), (Start: 113 @48769 has 152 MA's), (159, 48910),

Gene: Strokeseat\_61 Start: 39911, Stop: 40273, Start Num: 97

Candidate Starts for Strokeseat\_61:

(Start: 97 @39911 has 207 MA's), (199, 40211), (201, 40214), (223, 40256),

Gene: SuperGrey\_69 Start: 44472, Stop: 44828, Start Num: 97

Candidate Starts for SuperGrey\_69:

(Start: 97 @44472 has 207 MA's), (155, 44631), (199, 44772), (201, 44775), (223, 44811),

Gene: Superphikiman\_115 Start: 64061, Stop: 64381, Start Num: 107

Candidate Starts for Superphikiman\_115:

(Start: 107 @64061 has 24 MA's), (127, 64130), (143, 64172), (183, 64289),

Gene: SwagPigglett\_70 Start: 44704, Stop: 45066, Start Num: 97

Candidate Starts for SwagPigglett\_70:

(49, 44587), (Start: 97 @44704 has 207 MA's), (155, 44863), (199, 45004), (223, 45049),

Gene: Syleon\_75 Start: 45869, Stop: 46291, Start Num: 64

Candidate Starts for Syleon\_75:

(Start: 64 @45869 has 2 MA's), (67, 45875), (183, 46190),

Gene: TBrady12\_80 Start: 48468, Stop: 48785, Start Num: 113

Candidate Starts for TBrady12\_80:

(40, 48285), (Start: 113 @48468 has 152 MA's), (159, 48609),

Gene: TChen\_67 Start: 44519, Stop: 44881, Start Num: 97

Candidate Starts for TChen\_67:

(Start: 97 @44519 has 207 MA's), (199, 44819), (201, 44822), (223, 44864),

Gene: TDanisky\_72 Start: 43265, Stop: 43606, Start Num: 97

Candidate Starts for TDanisky\_72:

(Start: 97 @43265 has 207 MA's), (155, 43424),

Gene: TZGordon\_53 Start: 32954, Stop: 33337, Start Num: 104

Candidate Starts for TZGordon\_53:

(Start: 104 @32954 has 15 MA's), (143, 33077), (202, 33260), (224, 33302),

Gene: Taj\_70 Start: 44021, Stop: 44383, Start Num: 97

Candidate Starts for Taj\_70:

(86, 44006), (Start: 97 @44021 has 207 MA's), (199, 44321), (201, 44324), (223, 44366),

Gene: Tank\_65 Start: 46679, Stop: 46338, Start Num: 110

Candidate Starts for Tank\_65:

(Start: 110 @46679 has 12 MA's), (132, 46592), (186, 46421), (201, 46379),

Gene: Taptic\_52 Start: 43843, Stop: 44184, Start Num: 97

Candidate Starts for Taptic\_52:

(Start: 97 @43843 has 207 MA's), (122, 43897), (126, 43912), (131, 43930), (157, 43996), (163, 44014), (178, 44068), (191, 44113), (199, 44134), (211, 44158), (213, 44161),

Gene: Tarkin\_76 Start: 48716, Stop: 49033, Start Num: 113

Candidate Starts for Tarkin\_76:

(40, 48533), (Start: 113 @48716 has 152 MA's), (159, 48857),

Gene: TeardropMSU\_73 Start: 47716, Stop: 48033, Start Num: 113

Candidate Starts for TeardropMSU\_73:

(40, 47533), (Start: 113 @47716 has 152 MA's), (159, 47857),

Gene: Teaspoon\_74 Start: 48610, Stop: 48927, Start Num: 113

Candidate Starts for Teaspoon\_74:

(40, 48427), (Start: 113 @48610 has 152 MA's), (159, 48751),

Gene: Teng\_62 Start: 33271, Stop: 33660, Start Num: 94

Candidate Starts for Teng\_62:

(30, 33037), (Start: 94 @33271 has 1 MA's), (137, 33397), (156, 33460), (171, 33505), (207, 33622), (209, 33625),

Gene: Terij\_52 Start: 35668, Stop: 36003, Start Num: 104

Candidate Starts for Terij\_52:

(3, 35263), (9, 35347), (10, 35350), (13, 35356), (24, 35413), (26, 35416), (73, 35608), (Start: 94 @35656 has 1 MA's), (96, 35659), (Start: 104 @35668 has 15 MA's), (140, 35785), (148, 35803), (189, 35935), (201, 35968),

Gene: Terminus\_80 Start: 49503, Stop: 49820, Start Num: 113

Candidate Starts for Terminus\_80:

(40, 49320), (Start: 113 @49503 has 152 MA's), (159, 49644),

Gene: Tesla\_66 Start: 38915, Stop: 39268, Start Num: 84

Candidate Starts for Tesla\_66:

(Start: 84 @38915 has 16 MA's), (98, 38942), (142, 39077), (153, 39107), (170, 39158), (172, 39164), (177, 39179), (184, 39197), (190, 39221), (192, 39224),

Gene: ThetaBob\_73 Start: 44248, Stop: 44604, Start Num: 97

Candidate Starts for ThetaBob\_73:

(51, 44137), (Start: 97 @44248 has 207 MA's), (199, 44548), (201, 44551),

Gene: Thibault\_106 Start: 63336, Stop: 63668, Start Num: 113

Candidate Starts for Thibault\_106:

(Start: 113 @63336 has 152 MA's), (145, 63447), (152, 63471), (214, 63651),

Gene: ThreeRngTarjay\_118 Start: 68893, Stop: 69225, Start Num: 107

Candidate Starts for ThreeRngTarjay\_118:

(Start: 107 @68893 has 24 MA's), (127, 68962), (183, 69121),

Gene: Thresher\_79 Start: 49590, Stop: 49907, Start Num: 113

Candidate Starts for Thresher\_79:

(40, 49407), (Start: 113 @49590 has 152 MA's), (159, 49731),

Gene: TinaLin\_50 Start: 32410, Stop: 32790, Start Num: 104

Candidate Starts for TinaLin\_50:

(Start: 104 @32410 has 15 MA's), (123, 32473), (143, 32533), (183, 32650), (192, 32689), (202, 32716), (224, 32758),

Gene: Tomaszewski\_72 Start: 47879, Stop: 48196, Start Num: 113

Candidate Starts for Tomaszewski\_72:

(40, 47696), (Start: 113 @47879 has 152 MA's), (Start: 117 @47903 has 1 MA's), (159, 48020),

Gene: Tonitrus\_71 Start: 51892, Stop: 52272, Start Num: 106

Candidate Starts for Tonitrus\_71:

(Start: 106 @51892 has 1 MA's), (149, 52051), (154, 52063), (176, 52135),

Gene: Totinger\_68 Start: 41519, Stop: 41875, Start Num: 97

Candidate Starts for Totinger\_68:

(Start: 97 @41519 has 207 MA's), (155, 41678), (199, 41819), (201, 41822), (223, 41858),

Gene: Toto\_75 Start: 48970, Stop: 49287, Start Num: 113

Candidate Starts for Toto\_75:

(40, 48787), (Start: 113 @48970 has 152 MA's), (159, 49111),

Gene: Tourach\_66 Start: 46445, Stop: 46831, Start Num: 113

Candidate Starts for Tourach\_66:

(38, 46259), (Start: 97 @46427 has 207 MA's), (Start: 113 @46445 has 152 MA's), (148, 46562), (160, 46589), (183, 46667), (229, 46814),

Gene: Traaww1\_73 Start: 48154, Stop: 48471, Start Num: 113

Candidate Starts for Traaww1\_73:

(40, 47971), (Start: 113 @48154 has 152 MA's), (159, 48295),

Gene: Trax\_71 Start: 44944, Stop: 45291, Start Num: 100

Candidate Starts for Trax\_71:

(Start: 100 @44944 has 2 MA's), (129, 45025), (183, 45181), (189, 45208), (200, 45235), (201, 45238),

Gene: Tuco\_78 Start: 49478, Stop: 49795, Start Num: 113

Candidate Starts for Tuco\_78:

(40, 49295), (Start: 113 @49478 has 152 MA's), (159, 49619),

Gene: Tweety\_65 Start: 43115, Stop: 43471, Start Num: 97

Candidate Starts for Tweety\_65:

(Start: 97 @43115 has 207 MA's), (155, 43274), (161, 43289), (199, 43415), (201, 43418), (223, 43454),

Gene: Tyson\_67 Start: 45417, Stop: 45785, Start Num: 80

Candidate Starts for Tyson\_67:

(Start: 80 @45417 has 5 MA's), (119, 45444), (139, 45513), (148, 45534), (159, 45558), (183, 45639), (202, 45702), (228, 45777),

Gene: Ukulele\_72 Start: 47861, Stop: 48178, Start Num: 113

Candidate Starts for Ukulele\_72:

(40, 47678), (Start: 113 @47861 has 152 MA's), (159, 48002),

Gene: UncleRicky\_64 Start: 42054, Stop: 42416, Start Num: 97

Candidate Starts for UncleRicky\_64:

(Start: 97 @42054 has 207 MA's), (155, 42213), (199, 42354), (201, 42357), (223, 42399),

Gene: VRedHorse\_65 Start: 41397, Stop: 41759, Start Num: 97

Candidate Starts for VRedHorse\_65:

(Start: 97 @41397 has 207 MA's), (Start: 115 @41430 has 1 MA's), (155, 41556), (199, 41697), (201, 41700), (223, 41742),

Gene: ValentiniPuff\_101 Start: 57583, Stop: 57990, Start Num: 99

Candidate Starts for ValentiniPuff\_101:

(Start: 99 @57583 has 2 MA's), (116, 57622), (118, 57628), (146, 57748), (192, 57883), (225, 57961),

Gene: VanLee\_116 Start: 60612, Stop: 60974, Start Num: 112

Candidate Starts for VanLee\_116:

(Start: 112 @60612 has 2 MA's), (184, 60858), (201, 60903), (205, 60918), (212, 60927), (220, 60942),

Gene: VasuNzinga\_68 Start: 39017, Stop: 39370, Start Num: 84

Candidate Starts for VasuNzinga\_68:

(Start: 84 @39017 has 16 MA's), (98, 39044), (142, 39179), (153, 39209), (170, 39260), (172, 39266), (177, 39281), (184, 39299), (190, 39323), (192, 39326),

Gene: Velveteen\_61 Start: 39148, Stop: 39510, Start Num: 97

Candidate Starts for Velveteen\_61:

(Start: 97 @39148 has 207 MA's), (155, 39307), (170, 39352), (199, 39448), (201, 39451), (223, 39493),

Gene: Vendetta\_51 Start: 33608, Stop: 33991, Start Num: 104

Candidate Starts for Vendetta\_51:

(Start: 104 @33608 has 15 MA's), (143, 33731), (202, 33914), (224, 33956),

Gene: Veteran\_62 Start: 40798, Stop: 41154, Start Num: 97

Candidate Starts for Veteran\_62:

(Start: 97 @40798 has 207 MA's), (170, 41002), (199, 41098), (201, 41101), (223, 41137),

Gene: Vetrrix\_67 Start: 46385, Stop: 46804, Start Num: 97

Candidate Starts for Vetrrix\_67:

(24, 46124), (38, 46217), (Start: 97 @46385 has 207 MA's), (Start: 113 @46403 has 152 MA's), (148, 46520), (160, 46547), (183, 46625), (229, 46772),

Gene: Wachhund\_66 Start: 42028, Stop: 42390, Start Num: 97

Candidate Starts for Wachhund\_66:

(Start: 97 @42028 has 207 MA's), (199, 42328), (223, 42373),

Gene: Wamburgexpress\_66 Start: 45044, Stop: 45415, Start Num: 80

Candidate Starts for Wamburgexpress\_66:

(Start: 80 @45044 has 5 MA's), (133, 45122), (183, 45269), (202, 45332), (228, 45407),

Gene: Wanda\_122 Start: 66271, Stop: 66600, Start Num: 107

Candidate Starts for Wanda\_122:

(Start: 107 @66271 has 24 MA's), (127, 66340), (134, 66358), (162, 66430), (163, 66433), (183, 66499), (215, 66583),

Gene: Warren\_41 Start: 25673, Stop: 26050, Start Num: 103

Candidate Starts for Warren\_41:

(Start: 103 @25673 has 21 MA's), (125, 25736), (132, 25763), (189, 25937), (192, 25943), (198, 25964), (227, 26039),

Gene: Wee\_70 Start: 44097, Stop: 44459, Start Num: 97

Candidate Starts for Wee\_70:

(86, 44082), (Start: 97 @44097 has 207 MA's), (199, 44397), (201, 44400), (223, 44442),

Gene: Weirido19\_91 Start: 53190, Stop: 53612, Start Num: 75

Candidate Starts for Weirido19\_91:

(75, 53190), (126, 53316), (167, 53445), (185, 53508), (196, 53550), (224, 53604),

Gene: Whatsapiecost\_65 Start: 41324, Stop: 41686, Start Num: 97

Candidate Starts for Whatsapiecost\_65:

(Start: 97 @41324 has 207 MA's), (Start: 115 @41357 has 1 MA's), (199, 41624), (201, 41627), (223, 41669),

Gene: Whirlwind\_66 Start: 46283, Stop: 46615, Start Num: 76

Candidate Starts for Whirlwind\_66:

(13, 46007), (14, 46019), (16, 46028), (22, 46052), (34, 46130), (42, 46178), (Start: 76 @46283 has 14 MA's), (158, 46427), (183, 46511), (192, 46544),

Gene: Whouxphf\_62 Start: 42311, Stop: 42673, Start Num: 97

Candidate Starts for Whouxphf\_62:

(Start: 97 @42311 has 207 MA's), (199, 42611), (223, 42656),

Gene: Wiggin\_79 Start: 48555, Stop: 48872, Start Num: 113

Candidate Starts for Wiggin\_79:

(40, 48372), (Start: 113 @48555 has 152 MA's), (159, 48696),

Gene: Wigglewigggle\_67 Start: 46423, Stop: 46821, Start Num: 113

Candidate Starts for Wigglewigggle\_67:

(24, 46144), (38, 46237), (Start: 97 @46405 has 207 MA's), (Start: 113 @46423 has 152 MA's), (148, 46540), (160, 46567), (183, 46645), (229, 46792),

Gene: Wildcat\_77 Start: 48619, Stop: 48984, Start Num: 88

Candidate Starts for Wildcat\_77:

(65, 48556), (Start: 88 @48619 has 5 MA's), (165, 48811), (200, 48931), (216, 48964),

Gene: Wilde\_67 Start: 46978, Stop: 46637, Start Num: 110

Candidate Starts for Wilde\_67:

(Start: 110 @46978 has 12 MA's), (132, 46891), (186, 46720), (201, 46678),

Gene: Wilder\_68 Start: 46369, Stop: 46770, Start Num: 113

Candidate Starts for Wilder\_68:

(24, 46090), (38, 46183), (Start: 97 @46351 has 207 MA's), (Start: 113 @46369 has 152 MA's), (148, 46486), (160, 46513), (183, 46591), (229, 46738),

Gene: WillSterrel\_66 Start: 43580, Stop: 43942, Start Num: 97

Candidate Starts for WillSterrel\_66:

(Start: 97 @43580 has 207 MA's), (199, 43880), (201, 43883), (223, 43925),

Gene: Willez\_72 Start: 46748, Stop: 47065, Start Num: 113

Candidate Starts for Willez\_72:

(40, 46565), (Start: 113 @46748 has 152 MA's), (159, 46889),

Gene: Winky\_67 Start: 46363, Stop: 46764, Start Num: 113

Candidate Starts for Winky\_67:

(24, 46084), (38, 46177), (Start: 97 @46345 has 207 MA's), (Start: 113 @46363 has 152 MA's), (148, 46480), (160, 46507), (183, 46585), (229, 46732),

Gene: Wyatt2\_67 Start: 45415, Stop: 45783, Start Num: 80

Candidate Starts for Wyatt2\_67:

(Start: 80 @45415 has 5 MA's), (119, 45442), (139, 45511), (148, 45532), (159, 45556), (183, 45637), (202, 45700), (228, 45775),

Gene: XFactor\_63 Start: 40832, Stop: 41194, Start Num: 97

Candidate Starts for XFactor\_63:

(Start: 97 @40832 has 207 MA's), (199, 41132), (223, 41177),

Gene: Xandras\_76 Start: 47963, Stop: 48280, Start Num: 113

Candidate Starts for Xandras\_76:

(40, 47780), (Start: 113 @47963 has 152 MA's), (159, 48104),

Gene: YassJohnny\_74 Start: 47918, Stop: 48235, Start Num: 113

Candidate Starts for YassJohnny\_74:

(40, 47735), (Start: 113 @47918 has 152 MA's), (Start: 117 @47942 has 1 MA's), (159, 48059),

Gene: Yorick\_64 Start: 42551, Stop: 42913, Start Num: 97

Candidate Starts for Yorick\_64:

(Start: 97 @42551 has 207 MA's), (155, 42710), (199, 42851), (223, 42896),

Gene: Yoshi\_81 Start: 44512, Stop: 44874, Start Num: 97

Candidate Starts for Yoshi\_81:

(51, 44401), (Start: 97 @44512 has 207 MA's), (199, 44812), (201, 44815), (223, 44857),



Gene: Youngblood\_80 Start: 49430, Stop: 49747, Start Num: 113

Candidate Starts for Youngblood\_80:

(40, 49247), (Start: 113 @49430 has 152 MA's), (159, 49571),

Gene: Zakai\_68 Start: 46689, Stop: 47090, Start Num: 113

Candidate Starts for Zakai\_68:

(24, 46410), (38, 46503), (Start: 97 @46671 has 207 MA's), (Start: 113 @46689 has 152 MA's), (148, 46806), (160, 46833), (183, 46911), (229, 47058),

Gene: Zapner\_79 Start: 44176, Stop: 44517, Start Num: 97

Candidate Starts for Zapner\_79:

(86, 44161), (Start: 97 @44176 has 207 MA's), (199, 44476), (201, 44479),

Gene: Zelink\_117 Start: 68840, Stop: 69172, Start Num: 107

Candidate Starts for Zelink\_117:

(Start: 107 @68840 has 24 MA's), (127, 68909), (183, 69068),

Gene: Zerg\_65 Start: 41676, Stop: 42038, Start Num: 97

Candidate Starts for Zerg\_65:

(Start: 97 @41676 has 207 MA's), (199, 41976), (223, 42021),

Gene: ZhongYanYuan\_66 Start: 46258, Stop: 46644, Start Num: 113

Candidate Starts for ZhongYanYuan\_66:

(38, 46072), (77, 46201), (Start: 97 @46240 has 207 MA's), (Start: 113 @46258 has 152 MA's), (148, 46375), (160, 46402), (183, 46480), (229, 46627),

Gene: Zizzle\_69 Start: 44029, Stop: 44391, Start Num: 97

Candidate Starts for Zizzle\_69:

(Start: 97 @44029 has 207 MA's), (155, 44188), (161, 44203), (199, 44329), (223, 44374),

Gene: xkcd\_80 Start: 49620, Stop: 49937, Start Num: 113

Candidate Starts for xkcd\_80:

(40, 49437), (Start: 113 @49620 has 152 MA's), (159, 49761),